

FEA Preview Solver Verification Report V4

Code verification by manufactured solution, element-operator sweep, seeded differential testing, production recovery, robustness, and the scaling ladder to one million elements with a timed same-host CPU/Double baseline.

PASS — verified within the stated scope

RUN	20260917T124621Z-v4
COMMIT	fa0e0c55b494ca637c82e8c0f147d58dda057e16
PINNED OBJECT	8234aa0b72aacd5ae747c67f154b259c19c261aa (fea-preview-vv-v4-20260917T124621Z-v4)
ACCEPTANCE SHA-256	76eba38535276657c8e0e8b8b25d276e6056a88fe2650b9bc8290477e6528666
CONFIGURATION	release · metal_host_orchestrated_persistent_vectors
DEVICE	Apple M5 Pro · macOS 26.5 (25F71)
OUTCOME	496 PASS · 0 FAIL · 0 PARTIAL · 0 NOT SUPPORTED · 10305 gates evaluated · 0 NOT_RUN
LARGEST SOLVED	1,000,188 elements · 3,108,864 DOF

This report describes one solver route under one stated scope. Every number in it was read from machine-generated evidence in the run directory named above. Acceptance thresholds are Lattiform release criteria frozen before the run. No physical measurement was taken, so no physical validation is claimed. Nothing here is a certification by ASME, NAFEMS or any other standards body, and no equivalence to ANSYS, NASTRAN or another commercial code is claimed or implied.

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Executive summary

This report is the fourth verification report for the shipping FEA Preview solver route: a regular axis-aligned nodal HEXA8 element with six incompatible shear modes, solved on the packaged Metal backend (metal_host_orchestrated_persistent_vectors) with a CPU/Double reference (swift_double_cpu). It does not replace V3. V3 remains the report of record for the external correlations against NASA SP-224 and the MSC Nastran Verification Guide; V4 adds the experiments V3 did not have and measures two things V3 inferred. Every acceptance decision is a named gate frozen in acceptance-v4.json before the run; a gate that did not run is NOT_RUN and never counts as a pass; a row carrying one is PARTIAL, never PASS; any failing row blocks publication.

1.1 Headline results

Table 1.1 — lane summary. Status is FAIL if any row failed, PARTIAL if any row carries a NOT_RUN gate.

Lane	Experiment	Rows	Gates	NOT_RUN	Status	Key result
0	V3 reconciliation (SP-224 1-8-1 at three tolerances)	6	155	0	PASS	minimum discretisation order 1.997; tight-vs-release change on 40×16×4: 0.0334 %
1	Manufactured solution, 7 grids	22	280	0	PASS	orders: u L2 2.001, σ L2 0.999; finest u L2 error 0.13 %
2	Element operator sweep	168	1848	0	PASS	168 (E, v, h) combinations; worst symmetry 2.9e-17; worst independent-condensation gap 1.4e-16
3	Differential testing (DIFFERENTIAL, not validation)	201	6483	0	PASS	160 seeds, 40 property rows; worst u L2 parity 3.1e-05; failed seeds 0
4	Production recovery	47	977	0	PASS	9 uniform states, 36 face loads; worst σ component error 5.7e-05; fixture PASS
5	Robustness	48	462	0	PASS	5 guard probes, 4 sacrificial processes, 39 sweep rows
6	Scaling ladder with CPU baseline	4	100	0	PASS	1M: 1,000,188 elements, warm median 511 ms, CPU 34,929 ms

1.2 What changed from V3, and what V4 resolves

- V3 §11.2 reported that tightening the solver residual ~1783× on the 40×16×4 SP-224 1-8-1 mesh moved the published-value error from 0.0046 % to 0.00452 % — essentially unchanged — while V3's frozen contract text attributed the remaining error to solver truncation. V4 lane 0 re-solves all five grids at 2e-5 (Metal), 1e-8 (Metal) and 1e-10 (CPU/Double). Measured: the 1e-10 ladder falls with refinement at observed orders no lower than 1.997 (Table 6.2), and the tight probe on 40×16×4 changes the error by 0.0334 %. The residual error is discretisation error, converging at the element's expected rate; the solver-truncation attribution is contradicted by measurement and is superseded here. V3's contract text is left as frozen.
- V3 page 13 froze a same-host CPU/Double baseline at the 100k target as the only permitted basis for a speed statement, while V3 §17 said no baseline was measured. Both were true in a narrow sense: the V3 harness ran the baseline (547 iterations, displacement hash recorded) but stored its wall time as NaN, because its timing field was read from the Metal execution record. V4 times the baseline with the harness wall clock on every rung (Table 12.1) and publishes the ratio as a two-backend comparison only.
- The 1,000,188-element evidence: V3's summary reported largestSolvedElements = 1000188 on a 252×63×63 grid (252·63·63 = 1,000,188; 253·64·64·3 = 3,108,864 DOF) with ten bitwise-identical timed repeats; the V3 report's narrative did not tabulate the per-repeat rows. V4 solves the same rung in its own process and prints every sample (Table 12.3), so the count, the hash identity across first-use and warm repeats, the independent Double residual and the per-process peak resident memory are all on the page.

- V3 §16.3 declared a coverage gap: the host-memory budget was enforced in preflight alone. V4 adds a guard below preflight in FEASolver.solve and measures it (lane 5); the V3 row whose bypass probe was NOT_RUN is now run and refuses before allocating.
- V3 recorded behaviour on a missing or corrupt Metal library as NOT_SUPPORTED. V4 exercises it in sacrificial child processes: missing, corrupt and truncated libraries produce the typed refusal metal_unavailable:device_queue_or_package_library with no result, no runtime compilation and no fallback; an unpackaged byte-identical copy solves but reports packagedMetalUsed = false, which the route gates catch.

1.3 Backend integrity and provenance

Release rows with execution evidence	308, all on the packaged metallib, none by runtime source compilation, zero fallbacks (publication gate)
Packaged metallib SHA-256	b2c09510f650e9f6cafd53263976a6009eb4cfe6e8ff998a89028285d001399a
Packaged bridge dylib SHA-256	ba71e875092a554249cdf2b19b64c63a92170153a5a94e8ee17ef51c065c2ed1
Bridge build manifest SHA-256	182f4312ebf2969ed7fa0ff1fd6cbbd2f9962428529f410c4c461d8b86438203
Product sources digest	80f645b407e3100d9d624ec950712bba194223c1896a608065341dbdc19a1d8c (367 files)
Source checkout	dirty (13 paths); measured worktree clean at the pinned object
Toolchain	swift-driver version: 1.148.6 Apple Swift version 6.3.3 (swiftlang-6.3.3.1.3 clang-2100.1.1.101)
Xcode	Xcode 26.6 · Build version 17F113

1.4 Scale and performance

Table 1.2 — scaling ladder, one process per rung. 'Metal/CPU' is warm Metal median over the same-host CPU/Double baseline at the same requested tolerance; both are harness wall times. It compares two Lattiform backends and nothing else.

Target	Elements	DOF	Iter.	First use (ms)	Warm median (ms)	CPU/Double (ms)	CPU iter.	Metal/CPU	Peak RSS	Bitwise
100k	108,000	348,843	32	253.9	76.37	1,880	516	0.0406	350 MiB	yes
250k	256,000	811,923	21	332.9	112.1	5,768	689	0.0194	671 MiB	yes
500k	500,000	1,568,403	29	718.2	263.9	13,224	861	0.02	1.24 GiB	yes
1M	1,000,188	3,108,864	29	1,311	511	34,929	1085	0.0146	2.4 GiB	yes

1.5 What is proved, and what is not

- PROVED (code verification): on a smooth manufactured field the discrete solution converges to the exact one at the measured orders in Table 7.2, with the body force integrated independently of the stiffness matrix. This is evidence that the element and assembly are implemented as the formulation intends.
- PROVED (solution verification, reconciliation): the published-value error on SP-224 1-8-1 is discretisation-limited and falls at the orders in Table 6.2.
- PROVED (operator): the condensed element matrix is symmetric, has exactly six rigid modes, rank 18, no negative energy, agrees with an independent condensation and is permutation- and reflection-consistent over the swept E, v and element aspects.
- MEASURED (differential): the packaged Metal route agrees with the tighter CPU/Double route on 160 seeded problems within the frozen parity limits, and satisfies superposition, sign reversal, load and modulus scaling, Maxwell–Betti reciprocity, axis permutation and reflection. Agreement between two Lattiform backends is not validation.

- **PROVED** (recovery): the application-route results — components, principals, von Mises, Tresca shear, strains, energies, reactions, |u|, factor of safety and the field statistics — match closed forms on nine uniform stress states; force and moment balance from the published reactions on 36 face loads.
- **NOT PROVED**: physical validation. No experiment was performed and no measured data were compared; the external correlations in V3 are against published benchmark values, not measurements. **NOT PROVED**: any behaviour outside the stated scope (nonlinearity, contact, dynamics, distorted or unstructured meshes, prescribed non-zero displacement). **NOT CLAIMED**: equivalence to any other code; certification by any body; any speed statement other than the two-backend ratio in Table 1.2.

Diligence page — raw evidence and reproduction

Everything on this page is a path or a hash. The evidence directory is 20260917T124621Z-v4 under bench/results/fea_preview_vv_v4/. The report reads only these files.

Table 2.1 — raw evidence files.

File	Contents
provenance.json	host, toolchain, device, pinned object, artifact hashes
acceptance-v4.json / acceptance-v4.sha256	the frozen contract and its hash
verification.json / verification.csv	every case, gate, metric, note and residual history
gate-ledger.csv	one row per gate with disposition, observed, comparator, limit
convergence.csv	every convergence study level with observed order
residual-history.csv	solver residual samples per case
performance-scaling.csv	every scaling sample: pipeline warm-up, first use, warm repeats, CPU baseline
performance-cold.csv	three fresh-process cold ladders
lane-3-seeds.json / lane-3-failed-seeds.json	every differential seed definition; failed seeds listed separately
lane-0.json ... lane-6-scaling-1M.json	per-lane raw output as written by each process
summary.json	counts, scaling statistics and claims
product-sources.sha256 / metal-kernel-sources.sha256	per-file hashes of the product sources and Metal kernels
published-fixtures.sha256 / vv-lane-files.sha256	benchmark fixture hashes; the V4 harness, scripts and contract hashes
packaged-bridge-check.txt	the bridge validation transcript (warning-free)
pages/	every PDF page rendered to PNG with ink coverage in pages.json, and contact sheets
evidence-manifest.sha256	SHA-256 of every file above, written last

Pinned object	8234aa0b72aacd5ae747c67f154b259c19c261aa
Tag	fea-preview-vv-v4-20260917T124621Z-v4
Pin method	dirty_tree_pinned_commit_object
Acceptance SHA-256	76eba38535276657c8e0e8b8b25d276e6056a88fe2650b9bc8290477e6528666
Metallib SHA-256	b2c09510f650e9f6caf53263976a6009eb4cfe6e8ff998a89028285d001399a
Bridge dylib SHA-256	ba71e875092a554249cdf2b19b64c63a92170153a5a94e8ee17ef51c065c2ed1
Sources digest	80f645b407e3100d9d624ec950712bba194223c1896a608065341dbdc19a1d8c
Reproduce	git checkout fea-preview-vv-v4-20260917T124621Z-v4 && FEA_VV_PYTHON=<python-with-pypdf> bash scripts/ run_fea_preview_vv_v4.sh
Rows / gates	496 rows · 10305 gates declared · 10305 evaluated · 0 NOT_RUN

The V3 report, its harness, contract, QA and evidence are not modified by this run; the final QA verifies their hashes against `bench/fea_preview_vv_v4/v3-baseline.sha256` and refuses publication if any changed.

Methods and terminology

The vocabulary follows ASME V&V 10-2019 (Standard for Verification and Validation in Computational Solid Mechanics) and its illustration V&V 10.1-2012. Code verification asks whether the software solves the equations of the formulation correctly; its strongest tool is a manufactured solution with a measured order of accuracy (Roache; the NAFEMS R0135 code-verification exemplars). Solution verification asks how large the numerical error is for a given problem and mesh, by systematic refinement, observed orders and an asymptotic-range check, as the Sierra/SolidMechanics verification manual does for its nightly analytic and convergence tests. Validation asks whether the model represents physical reality, and requires measured data; none was taken here, so no validation and no validation uncertainty is claimed. Uncertainty in this report is numerical only: measured error against exact or reference fields, and the release-tolerance excess over the $1e-10$ reference.

code verification	Method of manufactured solutions (Roache 1998; ASME V&V 10-2019 §3.2; NAFEMS R0135 code-verification exemplars): the exact field is chosen, its source term derived analytically and integrated with a $4 \times 4 \times 4$ Gauss rule per element onto the trilinear shape functions, and the observed order between adjacent grids is $p = \ln(e_1/e_2)/\ln(h_1/h_2)$. Orders are computed from solves at $1e-10$ on CPU/Double so that only discretisation error is measured; the release tolerance's contribution is measured separately.
differential testing	Two implementations of the same formulation compared on seeded random inputs; labelled DIFFERENTIAL throughout because agreement between two Lattiform backends is not validation.
iterative error isolation	A tolerance probe (release $2e-5$ on Metal, $1e-8$ on Metal, $1e-10$ on CPU/Double) on every grid of every convergence ladder. The iterative share is gated only where the discretisation error is at least one hundred times the requested tolerance; below that it is reported as a metric and no gate is declared, because the ratio of two quantities of one order measures nothing.
solution verification	Systematic refinement with observed orders and an explicit asymptotic-range criterion (adjacent orders within a band on the last three grids), in the sense of ASME V&V 10-2019 §3.3 and the Sierra/SolidMechanics verification manual's nightly convergence checks.
uncertainty	No physical measurement was taken; no validation uncertainty is quantified. Numerical uncertainty is reported as measured error against exact or reference fields and as the release-tolerance excess over the $1e-10$ reference.

3.1 References

- ASME V&V 10-2019 (R2025), Standard for Verification and Validation in Computational Solid Mechanics; ASME V&V 10.1-2012 (R2022), An Illustration of the Concepts of Verification and Validation in Computational Solid Mechanics. asme.org/codes-standards.
- NAFEMS R0135, Code Verification Exemplars in Computational Solid Mechanics. nafems.org/publications/resource_center/r0135/. NAFEMS P18, The Standard NAFEMS Benchmarks.

- Sierra/SolidMechanics Verification Tests Manual (Sandia National Laboratories, SAND reports; e.g. the 5.22 manual, OSTI 2480105): nightly analytic-solution tests with mesh-convergence checks and regression comparison.
- P. J. Roache, Verification and Validation in Computational Science and Engineering, Hermosa, 1998 (method of manufactured solutions; grid convergence).
- W. L. Oberkampf and C. J. Roy, Verification and Validation in Scientific Computing, Cambridge, 2010.
- NASA SP-224(03), NASTRAN Demonstration Problem Manual, problem 1-8-1 (as adapted in the V3 report and held in docs/Lattiform_Strength_Solver_Verification_Corpus_2026.pdf).

3.2 Gate semantics

- A gate is a named comparison (observed, comparator, limit) frozen before the run. EVALUATED gates carry a measured observation; NOT_RUN gates carry NaN and passed = false by construction.
- A row is FAIL if any evaluated gate failed, PARTIAL if all evaluated gates passed but at least one gate is NOT_RUN, PASS only if every gate ran and passed. NOT_SUPPORTED rows set their status directly and carry no gates.
- FAIL, PARTIAL, NOT_RUN and NOT_SUPPORTED are never mapped to PASS anywhere: not in the summary, not in the claims, not in this report.
- The iterative-share and release-excess gates on convergence ladders are evaluated only on levels whose discretisation error is at least one hundred times the requested tolerance; on finer levels the same quantity is reported as a metric and the gate is NOT_RUN with its reason, which makes the row PARTIAL.

Frozen acceptance contract

Reproduced from acceptance-v4.json (SHA-256

76eba38535276657c8e0e8b8b25d276e6056a88fe2650b9bc8290477e6528666). Rationale entries are the contract's own words.

4.1 Solution checks on every solved row

Criterion	Frozen value
displacement must be finite	1
energy identity relative error max	5.000e-04
fallback count max	0
force equilibrium relative error max	5.000e-04
independent double relative residual max	5.000e-05
maximum iterations	4096
moment equilibrium relative error max	0.002
reference backend relative residual max	1.000e-08
reference backend relative tolerance	1.000e-10
requested relative tolerance	2.000e-05
rigid body constraint rank required	6
solver relative residual max	2.000e-05
stress must be finite	1

4.2 Route provenance gates

Criterion	Frozen value
metal fallback count max	0
operator backend must be packaged host pcg	1
packaged metallib required	1
persistent metal vector buffers required	1
runtime source compilation forbidden	1

4.3 Lane 0 — reconciliation

Criterion	Frozen value
discretisation order floor every adjacent pair	1.5
iterative share gate applicability	Declared only on levels whose 1e-10 reference error is at least 100 x the requested tolerance; on other levels the share is a metric and no gate is declared (iterative_share_gated = 0).
iterative share gated only when reference error at least	100 x requested tolerance (2e-3)
problem	NASA SP-224(03) 1-8-1 structured-grid adaptation, the five V3 grids (10x4x1 ... 50x20x5)
rationale	V3 §11.2 reported the 40x16x4 published-value error moving from 0.0046 % to 0.00452 % under a ~1783x tighter residual while the frozen contract attributed the remaining error to solver truncation. If the remaining error were iterative it would fall with the residual; if it is discretisation it falls with refinement at a measurable order and not with the residual. The floors freeze that test.
release iterative share max where gated	0.1
tolerances probed	[2e-5 metal (release), 1e-8 metal, 1e-10 cpu_double (reference)]
v3 probe mesh 40x16x4 tight versus release change max	0.1

4.4 Lane 1 — manufactured solution

Criterion	Frozen value
asymptotic order band	0.35
displacement l2 finest pair order min	1.8
displacement norms	[volume L2 (3x3x3 Gauss, trilinear interpolant), nodal L-infinity]
field	$u_i = A_i \sin(\pi x/L_x) \sin(\pi y/L_y) \sin(\pi z/L_z)$, $L = (0.24, 0.15, 0.12)$ m, $A = (1.0, 0.7, 0.4)$ mm, $E = 70$ GPa, $\nu = 0.3$, all faces held
finest displacement l2 reference max	0.005
grids	[4x2x2, 8x4x4, 12x6x6, 16x8x8, 24x12x12, 32x16x16, 48x24x24]
load integration	analytical body force $-\text{div } \sigma(u)$, 4x4x4 Gauss per element onto trilinear shape functions; never K u_exact
rationale	Trilinear hexahedra with incompatible modes converge at second order in the displacement L2 norm and first order in the energy (stress) norm for a smooth solution; the floors are 0.2 and 0.1 below theory to absorb pre-asymptotic behaviour on a seven-grid ladder. The excess gates measure what the 2e-5 release solve adds to the discretisation error where the latter dominates.
release error excess over reference max where gated	0.1
release excess gate applicability	Declared only on grids whose 1e-10 reference displacement L2 error is at least 100 x the requested tolerance; on other grids the excess is a metric and no gate is declared (release_excess_gated = 0).
stress l2 finest pair order min	0.9

Criterion	Frozen value
stress norms	[Gauss-point L2 over the product's eight recovered points per element, Gauss-point L-infinity]
tight probe excess over reference max	0.01

4.5 Lane 2 — element operator

Criterion	Frozen value
axis permutation relative gap max	1.000e-12
axis reflection relative gap max	1.000e-12
element sizes	[[1, 1, 1], [2, 1, 1], [1, 3, 1], [1, 1, 5], [0.01, 0.01, 0.01], [10, 1, 0.1], [0.011, 0.009, 0.013]]
independent condensation relative gap max	1.000e-11
minimum eigenvalue ratio min	-1.000e-12
moduli pa	[1.000e+06, 7.000e+10, 2.100e+11, 1.000e+13]
modulus scaling relative gap max	1.000e-13
null space dimension required	6
poisson ratios	[0, 0.2, 0.3, 0.45, 0.49, 0.499]
random energy ratio min	-1.000e-12
rank required	18
rank tolerance relative to largest eigenvalue	1.000e-10
rationale	All limits are round-off bounds on a 24x24 double-precision matrix: the operator is checked as a matrix, not solved. The independent condensation assembles the 30x30 augmented stiffness from this harness's own shape-function derivatives and eliminates the internal block by Gauss-Jordan rather than the product's Cholesky path.
rigid mode force ratio max	1.000e-11
symmetry relative max	1.000e-12

4.6 Lane 3 — differential

Criterion	Frozen value
asymmetric property subset	every fourth seed (40)
element size range m	1e-3..1e-1 base with per-axis aspect up to ~8
exact scaling max	1.000e-12
failed seeds required	0
grid range	2.8 elements per axis, at most 400 elements
maxwell betti cpu max	1.000e-08
maxwell betti metal max	0.002
modulus scaling max	1.000e-09
modulus scaling rationale	Doubling E does not double the condensed element stiffness exactly: the incompatible-mode condensation takes a Cholesky square root, so 2E gives 2K only to round-off, which the solve amplifies by its conditioning. Exploratory pass (revision 2): worst 3.4e-11 over 40 seeds on both backends; 1e-9 leaves a 30x margin below any effect a defect would show.
parity displacement relative I2 max	0.001
parity displacement relative linf max	0.002
parity reaction relative I2 max	0.002
parity reaction relative linf max	0.005
parity strain energy relative error max	0.001
parity stress relative I2 max	0.003

Criterion	Frozen value
parity stress relative linf max	0.006
poisson range	0..0.49
rationale	Parity limits are V3's frozen values. Sign reversal and power-of-two scalings are exact in IEEE arithmetic (1e-12). Superposition, reciprocity and the axis transformations compare two release-tolerance solves of the same physics, so their bound is twice the iterative error at 2e-5 on Metal (0.002) and 1e-8 on the 1e-10 CPU reference. Every seed is retained; a failed seed is retained and listed, never regenerated.
seeds	160
superposition cpu max	1.000e-08
superposition metal max	0.002
transformation cpu max	1.000e-08
transformation metal max	0.002
voids	30 % of seeds carry one interior void box (density 0, ersatz stiffness ratio 1e-6)
youngs modulus range pa	1e6..1e12

4.7 Lane 4 — production recovery

Criterion	Frozen value
box	6x6x6 elements of 5 mm, aluminium 6061-T6 (E 69 GPa, nu 0.33, yield 240 MPa), tractions sigma.n on all six faces, minimal rigid-mode supports
displacement relative error max	5.000e-04
energy relative error max	0.002
face load force equilibrium max	5.000e-04
face load moment equilibrium max	0.002
face loads	6 faces x (+-X, +-Y, +-Z) = 36 rows, opposite face fixed, 1 kN total force
field accessor agreement max	1.000e-12
principal relative error max	0.002
rationale	A uniform stress state is in the trial space of every conforming element, so the product's recovered components, principals, von Mises, strains, energies, reactions, u and factor of safety are compared against closed forms at the release tolerance's precision (V3's manufactured-patch limits on Metal). The 36 face-load rows take force AND moment from the published nodal reaction field.
reaction relative error max	5.000e-04
statistics relative error max	0.002
stress relative error max	0.002
uniform states	[uniaxial_x, uniaxial_y, uniaxial_z, shear_xy, shear_xz, shear_yz, hydrostatic, biaxial, general]
unit authoring	5 mm/69 GPa/1 kN/240 MPa vs 0.005 m/69000 MPa/1000 N/0.24 GPa vs inch/psi/lbf; SI gap mm-vs-m 1e-15, inch 1e-9; CPU-reference displacement gap inch-vs-m 1e-6
zero stress component ratio max	0.01

4.8 Reference fixture

Criterion	Frozen value
active elements	512
description	40 x 20 x 10 mm box written as binary STL, imported through FEAPreviewVM.importGeometry as a new study, re-meshed to 2.5 mm, fixed X- face, 200 N on X+, preflighted, solved on the packaged Metal route.
displacement sha256	eeddd61ceb0bc9d4cb88f86aa640dcaa71ae73ad374987d467c897eb16ae83ae
element counts	[18, 10, 6]

Criterion	Frozen value
element size m	0.0025
frozen after	exploratory release run explore-20260917T123838Z (worktree at fa0e0c55b4), revision 2
iterations	76
maximum displacement m	1.248e-05
maximum von mises pa	1.094e+07
stl sha256	35a9828d3534f63bdbece8da3ffcb749582ae7672ff00f2beab04e46d0b753db

4.9 Lane 5 — robustness

Criterion	Frozen value
aspect ratio closed form gate ceiling	60
axial displacement relative error max	0.03
axial stress relative error max	0.03
memory guard	FEASolver.solve re-checks the preflight estimate against the budget below preflight, whether or not preflight ran; probes: by_policy (16x4x4 vs 256 KiB), beyond_host (400x200x200 vs 64 MiB), boundary -1 %, +1 %, exact
poisson closed form gate ceiling	0.499
rationale	Every sweep row must converge-or-refuse and never publish an unconverged field; closed-form accuracy is gated inside the frozen region (V3's ceilings) and reported beyond it. Degradation and refusal are outcomes, not failures.
sacrificial processes	[missing_metallib, corrupt_metallib, truncated_metallib, unpackaged_copy_metallib]
sacrificial required refusal	metal_unavailable:device_queue_or_packaged_library, no result, no runtime source compilation, no fallback
sweeps	{aspect: [1, 5, 20, 60, 200, 800]; load_n: [1.000e-06, 1, 1.000e+06, 1.000e+12]; poisson: [0.4, 0.45, 0.49, 0.499, 0.4999, 0.5]; scale_section_m: [1.000e-05, 0.001, 0.1, 10]; size_elements_along_axis: [10, 20, 40, 80, 160, 320]; stiffness_pa: [1000, 1.000e+06, 1.000e+09, 1.000e+12, 1.000e+15]; tolerance: [0.01, 0.001, 1.000e-04, 2.000e-05, 1.000e-06, 1.000e-08, 1.000e-10]}
tolerance sensitivity minimum factor	10

4.10 Performance

Criterion	Frozen value
achieved elements fraction of target min	0.9
cpu baseline independent residual max	5.000e-05
cpu baseline versus metal displacement relative l2 max	0.002
cpu baseline wall time measured by harness	1
cpu versus metal rationale	Two solves at the same 2e-5 tolerance on different backends differ by at most twice the iterative error; 0.002 is the same bound the differential lane uses.
first use and every warm repeat bitwise identical	1
independent double residual at scale max	5.000e-05
one process per rung	1
phases	[pipeline_warmup (8x2x2), first_use (operator and hierarchy built), warm x10, cpu_baseline at the same requested tolerance]
speed statement policy	The only ratio published is warm Metal median over the same-host, same-problem CPU/Double baseline at the same requested tolerance, both timed by the harness wall clock; it compares two Lattiform backends and nothing else. V3 ran this baseline at 100k but did not time it.

Criterion	Frozen value
targets	{cpu_repeats: 2; grid: [120, 30, 30]; label: 100k; target_elements: 1e+05; timed_repeats: 10} {cpu_repeats: 2; grid: [160, 40, 40]; label: 250k; target_elements: 2.5e+05; timed_repeats: 10} {cpu_repeats: 1; grid: [200, 50, 50]; label: 500k; target_elements: 5e+05; timed_repeats: 10} {cpu_repeats: 1; grid: [252, 63, 63]; label: 1M; target_elements: 1.000e+06; timed_repeats: 10}

4.11 Evidence integrity

Criterion	Frozen value
every seed and sample retained	1
fail partial not run not supported never mapped to pass	1
failing row blocks publication	1
not run gate may never pass	1
row with not run gate is partial not pass	1

4.12 Revision history

Rev.	Date	Note
1	2026-09-17	Pre-registered before the exploratory pass. Limits inherited from V3 are unchanged; V4-specific floors are set from theory (orders) and IEEE round-off (operator, exact scalings). reference_fixture values are placeholders until the exploratory run records them.
2	2026-09-17	After the exploratory pass (release build, worktree at fa0e0c55b4), before any final run. (a) modulus_scaling_max 1e-12 -> 1e-9: the pre-registered 'exact in IEEE arithmetic' assumption was wrong for E because the element condensation takes a square root; 19 of 40 property rows exceeded 1e-12 with a worst of 3.4e-11 on both backends. (b) The iterative-share and release-excess gates are declared only where their applicability rule holds instead of being declared NOT_RUN elsewhere; a rule that does not apply is not a coverage hole. Every other limit is unchanged. Exploratory numbers: manufactured u-L2 orders 2.10/2.02/2.01/2.01/2.00/2.00, sigma-L2 orders 0.98/0.98/0.99/1.00/1.00/1.00; SP-224 1-8-1 discretisation orders 1.997/1.998/1.999/1.999; 40x16x4 tight-vs-release change 0.03 %.

Provenance

5.1 Host and device

Hardware:	· Hardware Overview:	· Model Name: MacBook Pro · Model Identifier: Mac17,8 · Model Number: MGEA4B/A · Chip: Apple M5 Pro · Total Number of Cores: 18 (6 Super and 12 Performance) · Memory: 24 GB · System Firmware Version: 18000.120.36 · OS Loader Version: 18000.120.36 · Activation Lock Status: Enabled · Graphics/Displays:	· Apple M5 Pro: · Chipset Model: Apple M5 Pro · Type: GPU · Bus: Built-In · Total Number of Cores: 20 · Vendor: Apple (0x106b) · Metal Support: Metal 4 · Displays:	· Color LCD: · Display Type: Built-in Liquid Retina XDR Display · Resolution: 3456 x 2234 Retina · Main Display: Yes
macOS	26.5 (25F71)			
Host memory	24 GiB			
CPU topology (P / E / total)	6 / 12 / 18			
Metal device	Apple M5 Pro			
Swift	swift-driver version: 1.148.6 Apple Swift version 6.3.3 (swiftlang-6.3.3.1.3 clang-2100.1.1.101)			

5.2 Code under test

Branch / commit	HEAD / fa0e0c55b494ca637c82e8c0f147d58dda057e16
Pin	The source checkout was dirty (13 modified or untracked paths, listed in git-status.txt). It was captured atomically as git commit object 8234aa0b72aacd5ae747c67f154b259c19c261aa through a temporary index; the user's own index, working tree and stash are untouched. Evidence was produced from a separate clean worktree at that object. Reproduce with: git checkout fea-preview-vv-v4-20260917T124621Z-v4
Packaged bridge check	clean
Runtime source compilation	forbidden (LATTIFORM_HEXAS8_ALLOW_RUNTIME_SOURCE_COMPILE=0)

5.3 Harness files

SHA-256	File
0d01bc63090af0466489803391fbcdb0c3c0d6d9095df8c05bb57d9ddaca59de	ui_mac/LattiformMac/Tests/FEAPreviewLaunchValidationV4Tests.swift
ae8e90271e58387cbcd28840cf4e8ff168dcc6005cfc699a36d06f02cd34663c	ui_mac/LattiformMac/Tests/FEAPreviewLaunchValidationV4Tests+Differential.swift
e59394f6cda288e8982f44941c5c1db378334443237521bdfccf7a9efe4bfc19	ui_mac/LattiformMac/Tests/FEAPreviewLaunchValidationV4Tests+Recovery.swift
ec639e98272fe74c1304549863efbc342515a38d0bd0c6bd51259f41ccb7e6d2	ui_mac/LattiformMac/Tests/FEAPreviewLaunchValidationV4Tests+Robustness.swift
ff648fec35c103c83973e1ea5d2b8ff06e0be6308f6a888370e521942cf46d85	ui_mac/LattiformMac/Tests/FEAPreviewLaunchValidationV4Tests+Scaling.swift
8ecce496d5f8a74bafbd4aff4e5cfd9be8f4c246e212f2ea43d8e20e4ed0c61a	scripts/FEAPreviewVVReportV4.swift
17b54f866eca28a9d9832badad4cf7ae63318b863bb0c3aa8baee491d3e9d828	scripts/run_fea_preview_vv_v4.sh
cfbdd1cc622e6c92869799fa58d15b4680b1cd91b44ef0429171e52b9e475e65	scripts/publish_fea_preview_vv_v4.sh
d8dd97686d9713f806734654d543842a23a5f49a0482f755ce461c9b8fbb0958	scripts/fea_preview_vv_v4_qa.py
f348a2c77b2c9f62a8d9e674648ece6fb13bdb62129bcf2bd27dced107bcef22	scripts/fea_preview_vv_v4_render_pages.swift
76eba38535276657c8e0e8b8b25d276e6056a88fe2650b9bc8290477e6528666	bench/fea_preview_vv_v4/acceptance-v4.json
adf0ba901bd1c918bbde674e8bf0c300567e48ddf0b78adc3cf3540fd5e7939	bench/fea_preview_vv_v4/v3-baseline.sha256

Lane 0 • Reconciliation of V3 §11.2 (NASA SP-224 1-8-1)

The same five structured-grid adaptations of NASA SP-224(03) problem 1-8-1 that V3 solved, each solved three times: at the release tolerance 2e-5 on the packaged Metal route, at 1e-8 on the same route, and at 1e-10 on the CPU/Double route. The 1e-10 solve's published-station error is the discretisation error to five more digits than the release solve can resolve; the difference between the release and reference rows is the iterative contribution.

Table 6.1 — maximum relative error over the five published u_y stations at three tolerances. Iterative share = |release – reference| / reference.

Grid	DOF	Error @2e-5 Metal	Error @1e-8 Metal	Error @1e-10 CPU	Iterative share	Share gate	Iter. 2e-5	Iter. 1e-10	Status
10×4×1	330	0.072 %	0.072 %	0.072 %	0.00241 %	reported	1	63	PASS
20×8×2	1,701	0.018 %	0.018 %	0.018 %	0.27 %	reported	10	126	PASS
30×12×3	4,836	0.008 %	0.00802 %	0.00802 %	0.295 %	reported	13	194	PASS
40×16×4	10,455	0.00452 %	0.00452 %	0.00452 %	0.0325 %	reported	13	260	PASS

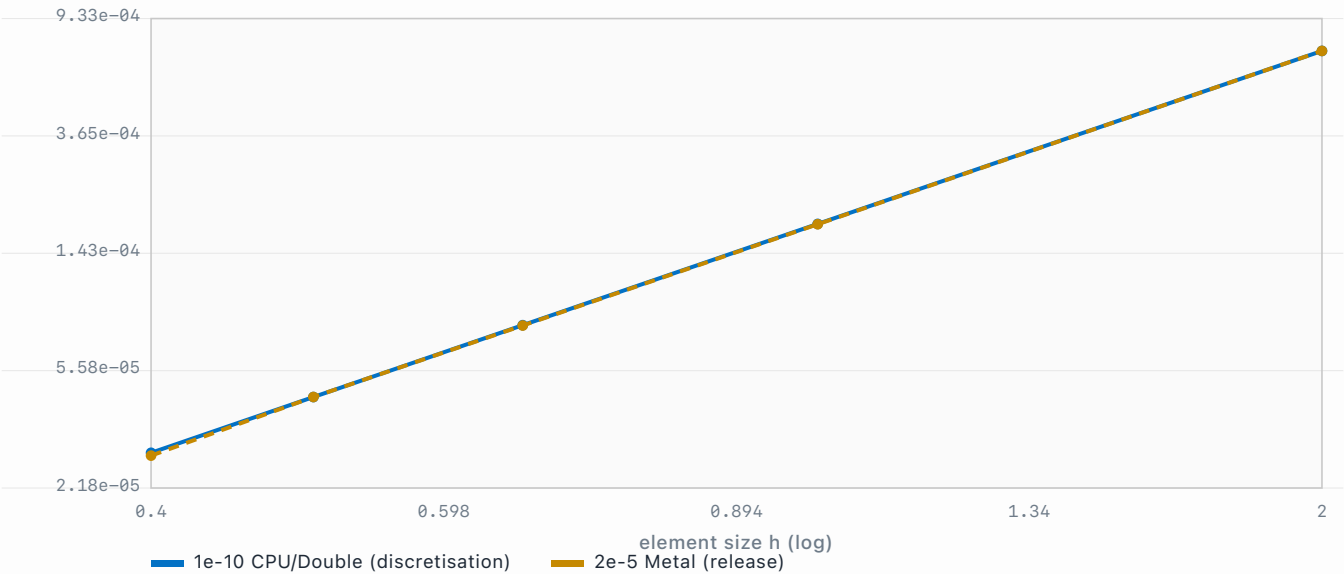
Grid	DOF	Error @2e-5 Metal	Error @1e-8 Metal	Error @1e-10 CPU	Iterative share	Share gate	Iter. 2e-5	Iter. 1e-10	Status
50×20×5	19,278	0.00283 %	0.00289 %	0.00289 %	2.25 %	reported	18	327	PASS

Table 6.2 — discretisation ladder from the 1e-10 CPU/Double solves; order between adjacent levels, $p = \ln(e_1/e_2)/\ln(h_1/h_2)$.

Level	Grid	h (x)	Error @1e-10	Observed order
1	10×4×1	2	0.072 %	—
2	20×8×2	1	0.018 %	2
3	30×12×3	0.667	0.00802 %	2
4	40×16×4	0.5	0.00452 %	2
5	50×20×5	0.4	0.00289 %	2

SP-224 1-8-1 published-station error against element size

max station error (log)



Generated from convergence.csv.

6.1 Verdict on V3 §11.2

Gate	Observed		Limit	Result
reference_error_falls_monotonically	1	==	1	PASS
reference_finetest_pair_observed_order	1.999	>=	1.5	PASS
reference_minimum_observed_order	1.997	>=	1.5	PASS
v3_probe_mesh_40x16x4_tight_versus_release_change	3.336e-04	<=	0.1	PASS
v3_solver_truncation_attribution_is_contradicted	1	==	1	PASS

V3 §11.2 (Table 11.3) reported that tightening the residual by ~1783x on the 40x16x4 mesh changed the published-value error from 0.0046 % to 0.00452 % — that is, left it essentially unchanged — while V3's frozen contract text attributed the remaining error to solver truncation. Those two statements cannot both hold.

Resolution: the error that remains after a tight solve is discretisation error. The ladder solved at 1e-10 on CPU/Double falls with refinement at the observed orders in the convergence table, and the release-tolerance error differs from it by the recorded iterative share.

V3's contract text is left as it was frozen; this row is the measurement that supersedes its interpretation in V4.

V3 §11.2 numbers on 40×16×4: release 0.0046 %, tight 0.00452 %. V4 on the same mesh: release 0.00452 %, tight 0.00452 %, reference 0.00452 %. Change from tightening: 0.0334 %. Minimum observed discretisation order over the ladder: 1.997.

Lane 1 · Manufactured solution

The exact field $u = A \sin(\pi x/L_x) \sin(\pi y/L_y) \sin(\pi z/L_z)$ on a $0.24 \times 0.15 \times 0.12$ m box ($E = 70$ GPa, $\nu = 0.3$), zero on every face, is not in the trilinear trial space at any level. Its body force $f = -\text{div } \sigma(u)$ is derived analytically and integrated onto the nodes with a $4 \times 4 \times 4$ Gauss rule and the trilinear shape functions — the stiffness matrix plays no part in forming the load. Seven grids from $4 \times 2 \times 2$ to $48 \times 24 \times 24$ (elements 1.25:1:1). Displacement error is a volume L2 norm using a $3 \times 3 \times 3$ Gauss rule per element and a nodal L_∞ ; stress error is over the product's own eight recovered Gauss points per element. Orders are taken from $1e-10$ CPU/Double solves so that only discretisation error is measured; the release-tolerance and $1e-8$ Metal solves on the same grids quantify what the iterative solver adds.

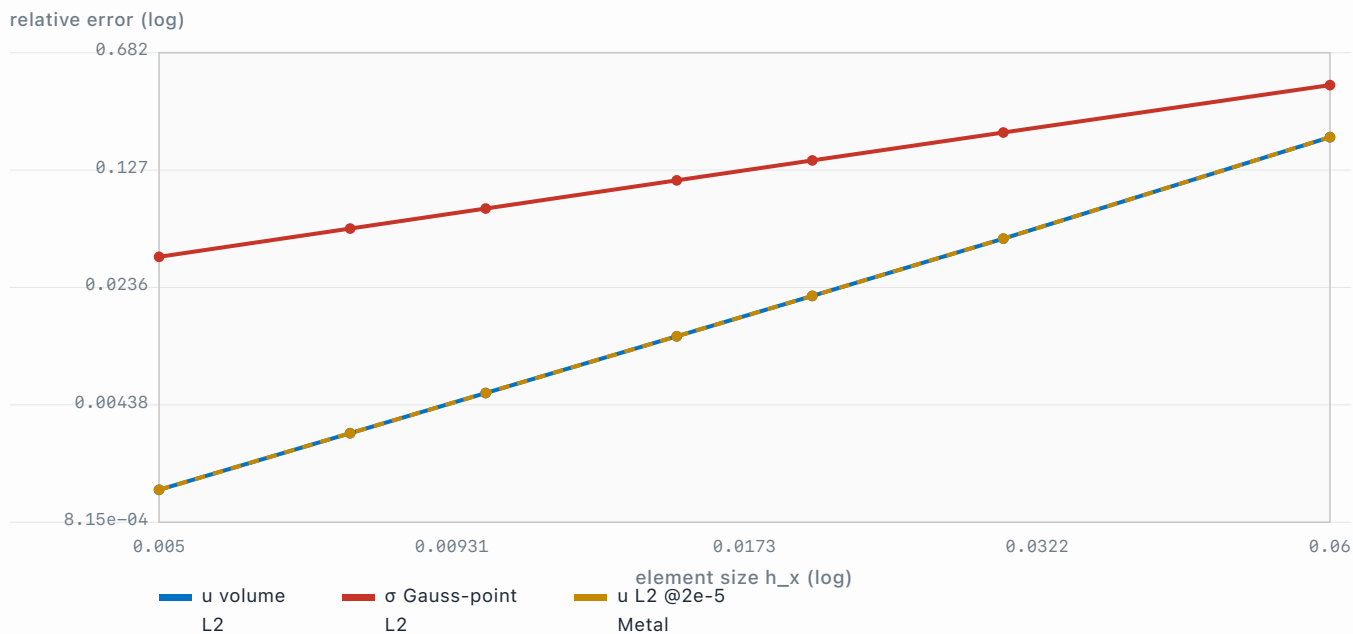
Table 7.1 — relative errors against the exact manufactured field. 'ref' = $1e-10$ CPU/Double; excess = $(\text{release} - \text{ref})/\text{ref}$.

Grid	DOF	u L2 (ref)	u L ∞ (ref)	σ L2 (ref)	σ L ∞ (ref)	u L2 @2e-5	release excess	1e-8 excess	iter 1e-10	iter 2e-5
4×2×2	135	0.203	0.385	0.429	0.679	0.203	-2.36e-06 %	1.37e-14 %	3	1
8×4×4	675	0.0475	0.0855	0.217	0.419	0.0475	0.000337 %	-6.49e-08 %	25	10
12×6×6	1,911	0.0209	0.0372	0.146	0.293	0.0209	0.00073 %	-2.29e-08 %	39	10
16×8×8	4,131	0.0117	0.0207	0.109	0.223	0.0117	0.000633 %	5.41e-07 %	53	13
24×12×12	12,675	0.00519	0.00917	0.0731	0.15	0.00519	0.000504 %	2.74e-07 %	81	13
32×16×16	28,611	0.00292	0.00515	0.0548	0.113	0.00292	-0.00137 %	4.86e-07 %	109	14
48×24×24	91,875	0.0013	0.00228	0.0366	0.0758	0.0013	0.000404 %	-5.93e-08 %	166	15

Table 7.2 — observed orders between adjacent grids. 'Asymptotic' = the last three adjacent orders lie within 0.35 of each other.

Quantity	L1→2	L2→3	L3→4	L4→5	L5→6	L6→7	Asymptotic
u L2	—	2.1	2.02	2.01	2.01	2	2 yes
u L ∞	—	2.17	2.05	2.03	2.01	2.01	2 yes
σ L2	—	0.98	0.987	0.993	0.996	0.998	0.999 yes
σ L ∞	—	0.695	0.887	0.944	0.971	0.986	0.993 yes
u L2 @2e-5	—	2.1	2.02	2.01	2.01	2	2 yes
σ L2 @2e-5	—	0.98	0.987	0.993	0.996	0.998	0.999 yes

Manufactured solution — relative error against element size (1e-10 CPU/Double)



7.1 Gates on the ladder

Gate	Observed		Limit	Result
refinement_levels	7	$\geq$	5	PASS
displacement_l2_finetest_pair_order	2.001	$\geq$	1.8	PASS
stress_l2_finetest_pair_order	0.999	$\geq$	0.9	PASS
displacement_l2_asymptotic_range_reached	1	$=$	1	PASS
stress_l2_asymptotic_range_reached	1	$=$	1	PASS
displacement_l2_error_falls_monotonically	1	$=$	1	PASS
finest_displacement_l2_reference	0.001296	$\leq$	0.005	PASS
worst_gated_release_displacement_l2_excess_over_reference	7.301e-06	$\leq$	0.1	PASS
worst_tight_displacement_l2_excess_over_reference	5.412e-09	$\leq$	0.01	PASS

Code verification by the method of manufactured solutions (Roache; ASME V&V 10-2019 §3; NAFEMS R0135 exemplars): an exact solution is chosen, its source term is derived analytically, and the discrete solution's convergence to it is measured at systematic refinement.

Orders are taken from the 1e-10 CPU/Double solves so that only discretisation error is measured; the release-tolerance rows quantify what the 2e-5 Metal solve adds.

Theory for the trilinear-plus-incompatible-mode hexahedron on a smooth solution: second order in the displacement L2 norm, first order in the energy (stress) norm. The frozen floors are 1.8 and 0.9.

Lower-layer disclosure: FEASTudy cannot express a body-force field, so this lane poses the problem to StrengthHexa8NodalProductAnalysisAdapter.solve, the layer FEASTudySolver.solve calls; every release row carries the route-provenance gates.

Lane 2 · Element operator sweep

The condensed 24×24 stiffness of one element, checked as a matrix over 168 combinations of Young's modulus, Poisson's ratio and element size. Symmetry, six rigid modes (three translations, three rotations about the centroid), null-space dimension and rank from this harness's cyclic Jacobi eigenvalues, non-negativity of the spectrum and of random quadratic forms, an independent condensation (30×30 augmented assembly with the harness's own shape-function derivatives, internal block eliminated by Gauss–Jordan), cyclic axis permutation, x-reflection and exact scaling with E.

Table 8.1 — worst value per Poisson's ratio over all moduli and sizes.

v	Rows	Worst symmetry	Worst rigid ratio	Rank / null	Min λ ratio	Worst indep. gap	Permutation	Reflection	E scaling	Status
0.0	28	2.2e-17	5.7e-17	18 / 6	-2.0e-16	1.0e-16	1.9e-16	2.2e-16	9.3e-17	PASS
0.2	28	1.8e-17	6.6e-17	18 / 6	-1.7e-16	1.1e-16	1.9e-16	2.2e-16	1.0e-16	PASS
0.3	28	2.9e-17	7.1e-17	18 / 6	-1.3e-16	1.0e-16	1.7e-16	2.0e-16	1.2e-16	PASS
0.45	28	2.0e-17	9.9e-17	18 / 6	-2.0e-16	1.4e-16	1.5e-16	1.6e-16	8.7e-17	PASS
0.49	28	2.4e-17	1.1e-16	18 / 6	-2.0e-16	8.8e-17	1.4e-16	2.1e-16	7.8e-17	PASS
0.499	28	2.7e-17	8.5e-17	18 / 6	-2.1e-16	1.4e-16	1.3e-16	1.7e-16	8.5e-17	PASS

Table 8.2 — worst value per element aspect ratio over all moduli and Poisson's ratios (eigenvalues in Pa·m).

Aspect	Rows	Worst symmetry	Worst rigid ratio	Worst indep. gap	Smallest $\lambda > 0$	Largest λ	Status
1	48	2.2e-17	6.1e-17	9.9e-17	556	2.50e+15	PASS
1.444	24	2.9e-17	6.1e-17	1.4e-16	388	2.85e+13	PASS
2	24	1.8e-17	6.2e-17	1.1e-16	2.78e+04	3.75e+15	PASS
3	24	1.8e-17	7.0e-17	1.0e-16	1.85e+04	5.28e+15	PASS
5	24	2.1e-17	6.6e-17	1.0e-16	1.11e+04	8.51e+15	PASS
100	24	2.1e-17	1.1e-16	8.0e-17	21.8	8.44e+16	PASS

Lane 3 · Differential testing

DIFFERENTIAL TESTING. Every row in this lane compares the packaged Metal route at the release tolerance with the CPU/Double route at 1e-10 on the same assembled problem. Agreement between two Lattiform backends is not validation: a formulation defect shared by both would pass every row here. Its value is in what it can detect — a backend-specific defect in the gather, the reductions, the double-single recurrence, the constraint projection or the recovery — on inputs no hand-written case would have chosen.

160 seeded problems: grids 2 to 8 elements per axis up to 400 elements, per-axis element sizes with aspect up to about 8, E from 1e6 to 1e12 Pa, Poisson's ratio from 0 to 0.49, one to three supports with random component masks, one to three loads mixing face tractions, point loads and uniform nodal loads, and an interior void box on 30 % of seeds. Every seed definition is in lane-3-seeds.json.

Table 9.1 — parity statistics over all seeds.

Quantity	Median	Worst	Frozen limit	Worst seed
u relative L2	2.87e-07	3.10e-05	0.001	11
u relative L ∞	3.98e-07	1.44e-05	0.002	11
reaction L2	3.61e-07	1.26e-05	0.002	130

Quantity	Median	Worst	Frozen limit	Worst seed
reaction L_{∞}	4.67e-07	1.29e-05	0.005	130
σ relative L2	1.57e-06	2.10e-05	0.003	16
σ relative L_{∞}	1.38e-06	1.59e-05	0.006	73
strain energy	5.49e-08	1.83e-06	0.001	43

Table 9.2 — the twelve seeds with the largest displacement parity gap.

Seed	Grid	E (Pa)	ν	Aspect	Void	u L2	σ L2	CPU iter.	Metal iter.	Status
11	6×4×8	1.1e+11	0.264	7.2	yes	3.10e-05	1.83e-05	135	45	PASS
22	5×7×4	2.6e+06	0.257	3.9	no	1.89e-05	1.39e-05	120	32	PASS
16	8×6×8	3.8e+11	0.394	5.4	no	1.60e-05	2.10e-05	165	55	PASS
141	4×7×4	2.8e+07	0.0604	2.2	no	1.52e-05	1.54e-05	59	16	PASS
43	5×7×3	1.1e+06	0.347	6	no	1.37e-05	1.30e-05	115	34	PASS
110	5×7×6	1.1e+10	0.404	3.8	no	1.26e-05	1.53e-05	105	38	PASS
104	6×6×5	2.8e+06	0.00472	5.8	yes	9.49e-06	1.24e-05	91	28	PASS
14	7×5×7	1.4e+10	0.314	2.1	yes	9.42e-06	1.02e-05	103	21	PASS
12	8×5×8	2.1e+08	0.286	2.1	yes	9.37e-06	1.17e-05	94	17	PASS
126	7×3×7	2.1e+09	0.0542	3.4	no	9.35e-06	1.16e-05	62	19	PASS
128	4×8×3	4.1e+06	0.283	6	no	9.03e-06	1.31e-05	112	32	PASS
37	8×7×6	2.5e+11	0.464	2.5	no	8.99e-06	1.14e-05	259	55	PASS

9.1 Linearity, reciprocity and transformation properties

Table 9.3 — worst value over 40 asymmetric seeds. Sign reversal was bitwise exact on Metal for 40 of 40.

Property	Worst Metal	Metal limit	Worst CPU	CPU limit
superposition (u)	1.34e-05	0.002	1.67e-10	1.00e-08
superposition (σ)	1.73e-05	0.002	1.31e-10	1.00e-08
sign reversal	0	1.00e-12	0	1.00e-12
load ×2	0	1.00e-12	0	1.00e-12
E ×2	7.55e-12	1.00e-09	3.44e-11	1.00e-09
Maxwell–Betti	0.00117	0.002	1.97e-09	1.00e-08
axis permutation	2.15e-06	0.002	5.18e-11	1.00e-08
x-reflection	1.01e-05	0.002	3.66e-11	1.00e-08

Every seed is retained in lane-3-seeds.json; failed seeds, if any, are also listed in lane-3-failed-seeds.json and are never dropped or regenerated.

Lane 4 • Production recovery on the application route

Every quantity in this lane is read from FEASTudyResult exactly as the application reads it — elementMechanics, elementValue(_:element:), factorOfSafety(element:), statistics and the reaction resultants — never from a helper written for the test.

10.1 Uniform stress states

Table 10.1 — relative errors against closed forms on a 6×6×6 box (5 mm, Al 6061-T6) carrying each uniform stress through face tractions.

State	σ_{vM} (Pa)	$u_{L\infty}$	$\sigma_{\text{comp.}}$	σ_{zero}	von Mises	principals	strain	energy	FOS	reaction	Status
uniaxial_x	5.00e+07	1.1e-05	1.1e-05	1.8e-05	1.6e-05	2.2e-05	3.1e-05	2.0e-08	1.6e-05	8.0e-07	PASS
uniaxial_y	4.00e+07	3.3e-05	2.1e-05	3.0e-05	2.0e-05	3.7e-05	4.7e-05	8.1e-08	2.0e-05	7.4e-07	PASS
uniaxial_z	3.00e+07	7.2e-06	9.9e-06	1.3e-05	5.7e-06	1.9e-05	1.8e-05	1.3e-08	5.7e-06	2.0e-07	PASS
shear_xy	3.46e+07	8.4e-06	7.5e-06	3.1e-05	7.5e-06	2.7e-05	2.0e-05	2.1e-07	7.5e-06	1.2e-07	PASS
shear_xz	2.60e+07	5.7e-06	9.6e-06	2.5e-05	9.6e-06	2.5e-05	1.6e-05	8.8e-08	9.6e-06	1.0e-07	PASS
shear_yz	4.33e+07	7.7e-06	1.2e-05	4.1e-05	1.2e-05	4.1e-05	1.5e-05	1.3e-07	1.2e-05	1.1e-07	PASS
hydrostatic	0	2.0e-05	2.0e-05	1.1e-05	2.9e-05	2.5e-05	8.9e-05	5.2e-08	0	8.2e-08	PASS
biaxial	6.95e+07	8.9e-06	2.3e-05	1.6e-05	9.3e-06	1.8e-05	2.3e-05	2.2e-08	9.3e-06	1.2e-07	PASS
general	7.00e+07	8.9e-06	5.7e-05	0	1.2e-05	2.4e-05	2.6e-05	1.7e-08	1.2e-05	2.5e-07	PASS

10.2 Six faces × ±XYZ

Table 10.2 — force and moment balance from the published nodal reaction field, 1 kN on one face with the opposite face fixed.

Face / load	Applied F (N)	Force error	Moment error	Held nodes	Iter.	max u (m)	Status
xMin_load_plus_x	1e+03, 0, 0	1.2e-06	8.6e-07	49	11	4.80e-07	PASS
xMin_load_minus_x	-1e+03, 0, 0	1.2e-06	8.6e-07	49	11	4.80e-07	PASS
xMin_load_plus_y	0, 1e+03, 0	7.3e-07	6.0e-07	49	15	3.64e-06	PASS
xMin_load_minus_y	0, -1e+03, 0	7.3e-07	6.0e-07	49	15	3.64e-06	PASS
xMin_load_plus_z	0, 0, 1e+03	5.6e-07	4.9e-07	49	15	3.64e-06	PASS
xMin_load_minus_z	0, 0, -1e+03	5.6e-07	4.9e-07	49	15	3.64e-06	PASS
xMax_load_plus_x	1e+03, 0, 0	1.2e-06	8.7e-07	49	11	4.80e-07	PASS
xMax_load_minus_x	-1e+03, 0, 0	1.2e-06	8.7e-07	49	11	4.80e-07	PASS
xMax_load_plus_y	0, 1e+03, 0	7.3e-07	4.4e-07	49	15	3.64e-06	PASS
xMax_load_minus_y	0, -1e+03, 0	7.3e-07	4.4e-07	49	15	3.64e-06	PASS
xMax_load_plus_z	0, 0, 1e+03	7.0e-07	4.2e-07	49	15	3.64e-06	PASS
xMax_load_minus_z	0, 0, -1e+03	7.0e-07	4.2e-07	49	15	3.64e-06	PASS
yMin_load_plus_x	1e+03, 0, 0	7.3e-07	5.2e-07	49	15	3.64e-06	PASS
yMin_load_minus_x	-1e+03, 0, 0	7.3e-07	5.2e-07	49	15	3.64e-06	PASS
yMin_load_plus_y	0, 1e+03, 0	1.2e-06	8.7e-07	49	11	4.80e-07	PASS
yMin_load_minus_y	0, -1e+03, 0	1.2e-06	8.7e-07	49	11	4.80e-07	PASS
yMin_load_plus_z	0, 0, 1e+03	7.1e-07	5.4e-07	49	15	3.64e-06	PASS
yMin_load_minus_z	0, 0, -1e+03	7.1e-07	5.4e-07	49	15	3.64e-06	PASS

Face / load	Applied F (N)	Force error	Moment error	Held nodes	Iter.	max u (m)	Status
yMax_load_plus_x	1e+03, 0, 0	7.6e-07	4.5e-07	49	15	3.64e-06	PASS
yMax_load_minus_x	-1e+03, 0, 0	7.6e-07	4.5e-07	49	15	3.64e-06	PASS
yMax_load_plus_y	0, 1e+03, 0	1.2e-06	8.8e-07	49	11	4.80e-07	PASS
yMax_load_minus_y	0, -1e+03, 0	1.2e-06	8.8e-07	49	11	4.80e-07	PASS
yMax_load_plus_z	0, 0, 1e+03	7.8e-07	4.6e-07	49	15	3.64e-06	PASS
yMax_load_minus_z	0, 0, -1e+03	7.8e-07	4.6e-07	49	15	3.64e-06	PASS
zMin_load_plus_x	1e+03, 0, 0	7.3e-07	4.8e-07	49	15	3.64e-06	PASS
zMin_load_minus_x	-1e+03, 0, 0	7.3e-07	4.8e-07	49	15	3.64e-06	PASS
zMin_load_plus_y	0, 1e+03, 0	7.7e-07	6.0e-07	49	15	3.64e-06	PASS
zMin_load_minus_y	0, -1e+03, 0	7.7e-07	6.0e-07	49	15	3.64e-06	PASS
zMin_load_plus_z	0, 0, 1e+03	1.2e-06	8.6e-07	49	11	4.80e-07	PASS
zMin_load_minus_z	0, 0, -1e+03	1.2e-06	8.6e-07	49	11	4.80e-07	PASS
zMax_load_plus_x	1e+03, 0, 0	7.5e-07	4.6e-07	49	15	3.64e-06	PASS
zMax_load_minus_x	-1e+03, 0, 0	7.5e-07	4.6e-07	49	15	3.64e-06	PASS
zMax_load_plus_y	0, 1e+03, 0	6.3e-07	3.2e-07	49	15	3.64e-06	PASS
zMax_load_minus_y	0, -1e+03, 0	6.3e-07	3.2e-07	49	15	3.64e-06	PASS
zMax_load_plus_z	0, 0, 1e+03	1.3e-06	9.2e-07	49	11	4.80e-07	PASS
zMax_load_minus_z	0, 0, -1e+03	1.3e-06	9.2e-07	49	11	4.80e-07	PASS

10.3 Unit-equivalent authoring

Gate	Observed		Limit	Result
converged	1	==	1	PASS
solver_relative_residual	8.538e-06	<=	2.000e-05	PASS
rigid_body_constraint_rank	6	==	6	PASS
force_equilibrium_relative_error	5.036e-08	<=	5.000e-04	PASS
moment_equilibrium_relative_error	4.679e-08	<=	0.002	PASS
energy_identity_relative_error	5.776e-08	<=	5.000e-04	PASS
displacement_all_finite	1	==	1	PASS
requested_release_backend	1	==	1	PASS
operator_backend_is_packaged_host_pcg	1	==	1	PASS
packaged_metallib_used	1	==	1	PASS
no_runtime_source_compilation	1	==	1	PASS
fallback_count	0	==	0	PASS
si_inputs_relative_gap_mm_versus_m_authoring	0	<=	1.000e-15	PASS
si_inputs_relative_gap_inch_versus_m_authoring	3.538e-15	<=	1.000e-09	PASS
displacement_sha256_identical_for_bitwise_identical_si_inputs	1	==	1	PASS
metal_displacement_relative_l2_mm_versus_m_authoring	0	<=	0	PASS
cpu_reference_displacement_relative_l2_inch_versus_m_authoring	4.226e-13	<=	1.000e-06	PASS
factor_of_safety_relative_gap_mm_versus_m_authoring	0	<=	0	PASS

The same cantilever authored three ways through the product's unit parser: 5 mm / 69 GPa / 1 kN / 240 MPa; 0.005 m / 69000 MPa / 1000 N / 0.24 GPa; and inch / psi / lbf equivalents.

FEAStudy stores SI only, so unit equivalence is a property of FEAUnitLiteral: the SI values must agree, and identical SI bits must give an identical solve.

10.4 Frozen import → prepared geometry → study → preflight → Metal → results fixture

Gate	Observed		Limit	Result
converged	1	==	1	PASS
solver_relative_residual	1.410e-05	<=	2.000e-05	PASS
rigid_body_constraint_rank	6	==	6	PASS
force_equilibrium_relative_error	5.007e-08	<=	5.000e-04	PASS
moment_equilibrium_relative_error	1.753e-07	<=	0.002	PASS
energy_identity_relative_error	7.786e-08	<=	5.000e-04	PASS
displacement_all_finite	1	==	1	PASS
requested_release_backend	1	==	1	PASS
operator_backend_is_packaged_host_pcg	1	==	1	PASS
packaged_metallib_used	1	==	1	PASS
no_runtime_source_compilation	1	==	1	PASS
fallback_count	0	==	0	PASS
import_accepted_by_product_path	1	==	1	PASS
preflight_has_no_blocking_diagnostic	1	==	1	PASS
part_extent_matches_stl_millimetres	2.235e-08	<=	1.000e-06	PASS
imported_geometry_carries_a_mask	1	==	1	PASS
active_elements_equal_part_volume_over_element_volume	512	==	512	PASS
stl_sha256_matches_frozen_contract	1	==	1	PASS
fitted_grid_matches_frozen_contract	1	==	1	PASS
active_elements_match_frozen_contract	512	==	512	PASS
displacement_sha256_matches_frozen_contract	1	==	1	PASS
maximum_displacement_matches_frozen_contract	0	<=	1.000e-09	PASS
maximum_von_mises_matches_frozen_contract	0	<=	1.000e-09	PASS

Reference fixture: a 40 × 20 × 10 mm box written as binary STL (SHA-256

35a9828d3534f63bdbece8da3ffcb749582ae7672ff00f2beab04e46d0b753db) is imported through the FEA Preview view model as a new study, re-meshed to 2.5 mm, given a fixed X– face and a 200 N tip load on X+, preflighted, solved on the packaged Metal route and read back.

Observed: grid [18, 10, 6], 512 active elements, displacement SHA-256

eeddd61ceb0bc9d4cb88f86aa640dcaa71ae73ad374987d467c897eb16ae83ae, max |u| 1.2481350404580514e-05 m, max σ_{vM} 10937829.936278535 Pa.

The contract freezes the STL hash, the fitted grid, the active element count, the displacement hash and the two maxima; a change in any stage of the pipeline changes at least one of them.

Lane 5 · Robustness: memory guard, Metal library integrity, sweeps

11.1 Host-memory guard below preflight

Table 11.1 — the guard in FEAStudySolver.solve, evaluated whether or not preflight ran.

Probe	Grid	Budget	Estimate	Expected	Default path	Preflight bypassed	Typed guard	RSS growth	Status
exceeded_by_policy	16×4×4	256 KiB	2.42 MiB	refuse	refused	refused	yes	256 KiB	PASS
exceeded_beyond_host	400×200×200	64 MiB	19.6 GiB	refuse	refused	refused	yes	—	PASS
boundary_below	16×4×4	2.4 MiB	2.42 MiB	refuse	refused	refused	yes	—	PASS
boundary_above	16×4×4	2.45 MiB	2.42 MiB	solve	solved	solved	—	13.4 MiB	PASS
boundary_exact	16×4×4	2.42 MiB	2.42 MiB	solve	solved	solved	—	32 KiB	PASS

The guard closes the V3 §16.3 finding for the FEA Preview route only. The product adapter and the solvers below it remain unguarded and are called by other product routes; that scope is disclosed, not closed.

11.2 Sacrificial Metal-library processes

Table 11.2 — each variant ran in a separate xctest process pointed at the library through LATTIFORM_STRENGTH_METALLIB_PATH with runtime compilation forbidden.

Variant	Outcome	Typed refusal	Packaged lib used	Runtime compile	Fallbacks	Child exit	Status
missing_metallib	refused	yes	no	no	0	0	PASS
corrupt_metallib	refused	yes	no	no	0	0	PASS
truncated_metallib	refused	yes	no	no	0	0	PASS
unpackaged_copy_metallib	solved	no	no	no	0	0	PASS

missing_metallib: The library path points at a file that does not exist. A separate xctest process was pointed at the library through LATTIFORM_STRENGTH_METALLIB_PATH with runtime source compilation forbidden, so the parent's own Metal context is never touched. Child outcome: refused The solver stopped during analysis.
nodal_hexa8_solver_failure:metal_unavailable:device_queue_or_packaged_library.

corrupt_metallib: The library is 64 KiB of seeded random bytes. A separate xctest process was pointed at the library through LATTIFORM_STRENGTH_METALLIB_PATH with runtime source compilation forbidden, so the parent's own Metal context is never touched. Child outcome: refused The solver stopped during analysis.
nodal_hexa8_solver_failure:metal_unavailable:device_queue_or_packaged_library.

truncated_metallib: The library is the first half of the packaged metallib. A separate xctest process was pointed at the library through LATTIFORM_STRENGTH_METALLIB_PATH with runtime source compilation forbidden, so the parent's own Metal context is never touched. Child outcome: refused The solver stopped during analysis.
nodal_hexa8_solver_failure:metal_unavailable:device_queue_or_packaged_library.

unpackaged_copy_metallib: A byte-identical copy of the packaged metallib outside the packaged directory: the kernels load, but the build-manifest match cannot be established, so the route must report packagedMetallibUsed = false. A separate xctest process was pointed at the library through LATTIFORM_STRENGTH_METALLIB_PATH with runtime source compilation forbidden, so the parent's own Metal context is never touched. Child outcome: solved .

11.3 Parameter sweeps on the closed-form bar

Table 11.3 (sweep poisson) — roller-symmetry bar, $F \cdot L / (A \cdot E)$ closed form.

requested tolerance	Grid	Outcome	Iter.	Residual	Indep. residual	u error	σ error	Closed form	Status
2.000e-05	10×10×10	solved	43	1.4e-05	1.4e-05	3.8e-09	2.5e-09	gated	PASS
2.000e-05	10×10×10	solved	45	1.7e-05	1.7e-05	8.1e-08	8.4e-08	gated	PASS
2.000e-05	10×10×10	solved	53	1.9e-05	1.9e-05	1.6e-09	1.7e-10	gated	PASS
2.000e-05	10×10×10	solved	44	1.6e-05	1.6e-05	2.3e-08	4.2e-08	gated	PASS
2.000e-05	10×10×10	solved	52	1.8e-05	1.8e-05	9.9e-09	2.8e-08	reported	PASS
2.000e-05	10×10×10	solved	254	1.8e-05	1.8e-05	5.2e-10	1.0e-07	reported	PASS

Table 11.3 (sweep aspect ratio) — roller-symmetry bar, $F \cdot L / (A \cdot E)$ closed form.

element aspect ratio	Grid	Outcome	Iter.	Residual	Indep. residual	u error	σ error	Closed form	Status
1	10×4×4	solved	9	8.6e-06	8.6e-06	1.3e-08	5.4e-08	gated	PASS
5	10×4×4	solved	20	1.3e-05	1.3e-05	1.8e-08	2.4e-08	gated	PASS
20	10×4×4	solved	43	1.8e-05	1.8e-05	4.1e-09	5.0e-09	gated	PASS
60	10×4×4	solved	66	1.9e-05	1.9e-05	4.6e-09	2.4e-10	gated	PASS
200	10×4×4	solved	106	1.7e-05	1.7e-05	9.2e-10	5.9e-10	reported	PASS
800	10×4×4	solved	64	1.9e-05	1.9e-05	6.2e-09	6.2e-09	reported	PASS

Table 11.3 (sweep geometric scale) — roller-symmetry bar, $F \cdot L / (A \cdot E)$ closed form.

requested tolerance	Grid	Outcome	Iter.	Residual	Indep. residual	u error	σ error	Closed form	Status
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	1.1e-08	3.9e-09	gated	PASS
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	9.7e-09	6.1e-09	gated	PASS
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	6.7e-09	8.3e-09	gated	PASS
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	6.4e-09	9.5e-09	gated	PASS

Table 11.3 (sweep stiffness) — roller-symmetry bar, $F \cdot L / (A \cdot E)$ closed form.

requested tolerance	Grid	Outcome	Iter.	Residual	Indep. residual	u error	σ error	Closed form	Status
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	7.0e-09	9.6e-09	gated	PASS
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	6.8e-09	9.8e-09	gated	PASS
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	6.2e-09	1.0e-08	gated	PASS
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	6.8e-09	9.8e-09	gated	PASS
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	6.8e-09	9.8e-09	gated	PASS

Table 11.3 (sweep load) — roller-symmetry bar, $F \cdot L / (A \cdot E)$ closed form.

requested tolerance	Grid	Outcome	Iter.	Residual	Indep. residual	u error	σ error	Closed form	Status
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	8.6e-10	1.3e-08	gated	PASS
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	1.6e-08	3.1e-08	gated	PASS
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	7.3e-09	7.4e-09	gated	PASS
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	6.1e-09	9.7e-09	gated	PASS

Table 11.3 (sweep tolerance) — roller-symmetry bar, F·L/(A·E) closed form.

requested tolerance	Grid	Outcome	Iter.	Residual	Indep. residual	u error	σ error	Closed form	Status
0.01	10×10×10	solved	4	0.008	0.008	5.9e-07	1.7e-06	reported	PASS
0.001	10×10×10	solved	14	8.0e-04	8.0e-04	9.6e-08	4.7e-07	gated	PASS
1.000e-04	10×10×10	solved	27	8.5e-05	8.5e-05	1.2e-08	1.4e-08	gated	PASS
2.000e-05	10×10×10	solved	36	1.8e-05	1.8e-05	6.9e-09	9.6e-09	gated	PASS
1.000e-06	10×10×10	solved	52	8.3e-07	8.3e-07	3.5e-09	2.7e-09	gated	PASS
1.000e-08	10×10×10	solved	76	8.9e-09	8.9e-09	3.3e-11	4.5e-11	gated	PASS
1.000e-10	10×10×10	solved	1335	9.4e-11	9.4e-11	1.5e-12	1.6e-12	gated	PASS

Table 11.3 (sweep problem size) — roller-symmetry bar, F·L/(A·E) closed form.

requested tolerance	Grid	Outcome	Iter.	Residual	Indep. residual	u error	σ error	Closed form	Status
2.000e-05	10×4×4	solved	17	1.8e-05	1.8e-05	2.2e-08	3.2e-08	gated	PASS
2.000e-05	20×4×4	solved	18	1.4e-05	1.4e-05	1.2e-08	1.2e-08	gated	PASS
2.000e-05	40×4×4	solved	18	1.8e-05	1.8e-05	5.9e-09	1.0e-08	gated	PASS
2.000e-05	80×4×4	solved	18	1.8e-05	1.8e-05	1.1e-08	4.1e-09	gated	PASS
2.000e-05	160×4×4	solved	18	1.9e-05	1.9e-05	2.1e-10	2.8e-09	gated	PASS
2.000e-05	320×4×4	solved	31	1.4e-05	1.4e-05	2.9e-08	3.0e-08	gated	PASS

11.4 Tolerance sensitivity

requested 2e-5 → achieved independent residual 1.77e-05 in 36 iterations
requested 1e-6 8.32e-07 in 52
requested 1e-8 8.86e-09 in 76
reduction factor 1997 → PASS

Lane 6 · Scaling ladder with a timed CPU/Double baseline

Four frozen targets, each solved in its own xctest process: a pipeline warm-up on 8×2×2, then the first use of the rung's grid (operator and hierarchy built), then ten warm repeats, then the CPU/Double baseline at the same requested tolerance of 2.0e-05. Every timing is a harness wall clock; Metal setup, solve and GPU components are also recorded. Peak resident memory is read from the kernel and is the rung's own process high-water mark.

Table 12.1 — Metal route per rung, one process each. First use includes operator and hierarchy construction; warm setup and solve components are in performance-scaling.csv.

Target	Elements	DOF	Iter.	First use (ms)	Warm median (ms)	p10 – p90	GPU (ms)	Metal buffers	Peak RSS	Indep. residual	Preconditioner
100k (120x30x30)	108,000	348,843	32	253.9	76.37	75.51 – 76.89	51.55	31 MiB	350 MiB	1.48e-05	recursive multigrid
250k (160x40x40)	256,000	811,923	21	332.9	112.1	110.5 – 115.6	62.39	62.2 MiB	671 MiB	1.24e-05	recursive multigrid
500k (200x50x50)	500,000	1,568,403	29	718.2	263.9	260.7 – 270.3	162	123 MiB	1.24 GiB	1.57e-05	recursive multigrid
1M (252x63x63)	1,000,188	3,108,864	29	1,311	511	507.1 – 522.4	303.3	240 MiB	2.4 GiB	1.43e-05	recursive multigrid

Table 12.2 — same-host, same-problem, same-requested-tolerance CPU/Double baseline. The ratio is a comparison of two Lattiform backends; no comparison with any other product is made or implied. Concurrent work on the host was not excluded; these are shared-host measurements.

Target	Metal iter.	Metal warm median (ms)	CPU iter.	CPU/Double median (ms)	Metal / CPU
100k	32	76.37	516	1,880	0.0406
250k	21	112.1	689	5,768	0.0194
500k	29	263.9	861	13,224	0.02
1M	29	511	1085	34,929	0.0146

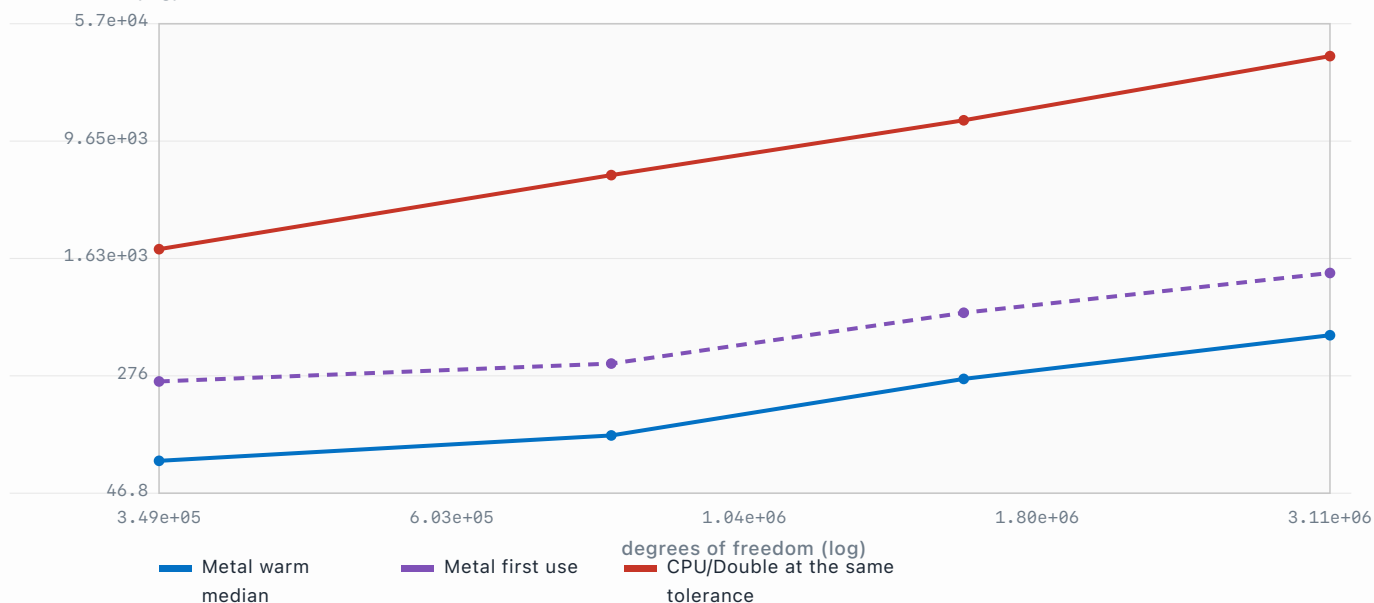
12.1 The one-million-element rung, every sample

Table 12.3 — every sample of the 1M rung from performance-scaling.csv. $252 \cdot 63 \cdot 63 = 1,000,188$ elements; $253 \cdot 64 \cdot 64 \cdot 3 = 3,108,864$ DOF. The displacement hash prefix is identical on first use and on every warm repeat.

Kind	Backend	Rep.	Grid	Elements	Iter.	Residual	Indep. residual	Wall (ms)	Peak RSS	u hash	Tip u_y (m)
pipeline_warmup	Metal	-1	8x2x2	32	2	1.12e-09	—	55.04	130 MiB	c06c8e8a3030	-5.95042e-05
first_use	Metal	0	252x63x63	1,000,188	29	1.43e-05	1.43e-05	1,311	1.51 GiB	cfec69671525	-6.29245e-05
warm	Metal	1	252x63x63	1,000,188	29	1.43e-05	1.43e-05	521.4	1.55 GiB	cfec69671525	-6.29245e-05
warm	Metal	2	252x63x63	1,000,188	29	1.43e-05	—	531.8	2.4 GiB	cfec69671525	-6.29245e-05
warm	Metal	3	252x63x63	1,000,188	29	1.43e-05	—	513.6	2.4 GiB	cfec69671525	-6.29245e-05
warm	Metal	4	252x63x63	1,000,188	29	1.43e-05	—	511.7	2.4 GiB	cfec69671525	-6.29245e-05
warm	Metal	5	252x63x63	1,000,188	29	1.43e-05	—	508.4	2.4 GiB	cfec69671525	-6.29245e-05
warm	Metal	6	252x63x63	1,000,188	29	1.43e-05	—	512	2.4 GiB	cfec69671525	-6.29245e-05
warm	Metal	7	252x63x63	1,000,188	29	1.43e-05	—	510.4	2.4 GiB	cfec69671525	-6.29245e-05
warm	Metal	8	252x63x63	1,000,188	29	1.43e-05	—	507.5	2.4 GiB	cfec69671525	-6.29245e-05
warm	Metal	9	252x63x63	1,000,188	29	1.43e-05	—	507.3	2.4 GiB	cfec69671525	-6.29245e-05
warm	Metal	10	252x63x63	1,000,188	29	1.43e-05	—	506.1	2.4 GiB	cfec69671525	-6.29245e-05
cpu_baseline	CPU	1	252x63x63	1,000,188	1085	1.93e-05	1.93e-05	34,929	2.4 GiB	3ae90c71fcd4	-6.29245e-05

Wall time against degrees of freedom

milliseconds (log)



12.2 Cold ladder on the application route

Table 12.4 — three fresh xctest processes each walk the ladder once; the first grid in each process absorbs the one-off Metal pipeline build.

Grid	DOF	Kind	n	Median (ms)	Min	Max	Iter.	Same hash
16x4x4	1275	cold_first_solve_in_process	3	65.54	64.61	67.81	16	yes
24x6x6	3675	fresh_process_subsequent	3	33.69	27.41	36.18	17	yes
32x8x8	8019	fresh_process_subsequent	3	43.02	41.09	43.97	17	yes
40x10x10	14883	fresh_process_subsequent	3	40.78	40.32	45.32	21	yes
56x14x14	38475	fresh_process_subsequent	3	54.62	52.09	55.55	25	yes

Limitations and future experiments

- No physical validation: no experiment, no measured data, no validation uncertainty. Everything here is verification of the software against its own formulation, exact fields and published benchmark values.
- The manufactured field is smooth and has homogeneous Dirichlet boundaries; it does not exercise traction boundaries, singularities or void boundaries. A second manufactured field with Neumann faces and one with a material interface are the next code-verification experiments.
- Lanes 1 and 3 run below FEASTudy (the adapter layer) because FEASTudy cannot express body forces or arbitrary component constraints; the application route is covered by lanes 4, 5 and the cold ladder.
- Differential testing compares two Lattiform backends; it cannot detect a formulation defect shared by both. The external correlations against published values remain in V3.
- The host-memory guard covers FEASTudySolver.solve only; the adapter and solvers below it are unguarded for other product routes.
- Timings are shared-host measurements; other processes were not excluded. The Metal/CPU ratio is a two-backend comparison at one requested tolerance and says nothing about other codes.

- Future experiments: a manufactured solution with traction boundaries; a randomised void-topology differential lane; a stress-recovery superconvergence study at the Gauss points; a repeat of the scaling ladder on a quiet host with CPU affinity; a solver-tolerance/accuracy budget that chooses the tolerance from the mesh so the release-tolerance excess stays below a stated fraction on every grid; external correlations that this route can reproduce exactly (NAFEMS P18 LE-class problems on box geometry).

Appendix A · Claims and evidence manifest

Capability	Classification	Basis
Code verification: manufactured smooth solution converges at the theoretical orders on the packaged route	VERIFIED_ORDER	Seven systematic grids, body force integrated independently of the stiffness matrix, orders taken from 1e-10 CPU/Double solves, release-tolerance excess measured separately.
V3 §11.2 reconciliation: the residual SP-224 1-8-1 error is discretisation, not solver truncation	MEASURED	Five grids at three tolerances; the 1e-10 ladder falls at the measured orders and the 40x16x4 tight probe changes the error by the recorded fraction.
Element operator: symmetric, six rigid modes, rank 18, non-negative, independent condensation, permutation and reflection consistent over E, ν and aspect	VERIFIED	Every combination in lane 2 checked as a matrix.
Differential agreement of the packaged Metal route with the CPU/Double reference on seeded random problems, with linearity, reciprocity and transformation properties	DIFFERENTIAL_PASS	160 retained seeds; agreement between two Lattiform backends is not validation.
Production recovery (components, principals, von Mises, strains, energy, reactions, J_I , factor of safety) on the application route	VERIFIED_CLOSED_FORM	Nine uniform stress states with exact fields, thirty-six face-load force and moment balances, unit-equivalent authoring, and a frozen import fixture.
Host-memory guard below preflight; typed refusal on a missing or corrupt Metal library; degradation and refusal reported across parameter sweeps	VERIFIED	Guard rows, four sacrificial child processes, and thirty-eight sweep rows.
Solving to one million HEXA8 elements on the packaged Metal route on this host, with a same-host CPU/Double baseline on every rung	SUPPORTED	Four frozen targets, each in its own process with first-use and warm timings, ten timed repeats, and a timed CPU baseline at the same requested tolerance.
Physical validation against measured experimental data; equivalence to any commercial code; certification by any standards body	NOT_CLAIMED	No physical measurement was taken in this campaign. External correlations against published benchmark values remain in the V3 report and are not re-asserted here.

A.1 Published fixture hashes

SHA-256	Fixture
d687cd00c7969ac807778257490d23462b4fe87c26a99fb2b5c9c7f4c0145717	future_generative_resolve_reference_manifest.json
c626255b4c3302a4fe332ddca5964cf6e32fdd2b4752c8e4f545561fbfc8936f	future_modal_buckling_reference_manifest.json
3b6fcf4f0fddeccc0fa1e252c51482e32bf0cb5f13e3677041eaf3ba2386f49d	macneal_patch_2d_membrane_constant_stress.json
b9fd5daf306d4c4247a1253b2c83b64ae5443b97547c90c7b96567d965fc5588	macneal_patch_3d_solid_cube_constant_stress.json
fdfd9a9f16a8ecc769ee9f3327cb0b13a1185cf21b85c0df4bb58ed13703c64e	mssc_verifman_macneal_straight_cantilever_beam.json
ee97207f3ab8da7a5497bad06326eb5ea9cc184c56cddb8c512ebb3d81033c7d	nafems_le10_thick_plate_pressure.json
66b5463df72e7a7010f3ada2cca8d62ab94eb520622543f686fa27f5d53088a4	nafems_le11_thermal_solid.json
61b6d27854c5209b998b1ef5260a8db01d1b2acd0a8b472a8d676a6a280cb3b2	nasa_sp224_hexa1_bending_beam.json
00b6ad9f2f63801cbbc5f99a715b15a1e670aaa250340f8fb0164a7463ff8887	nasa_sp224_hexa2_axial_uniform_stress.json
9910a0eb63aab1b90f694e1076b94126f40bbb9ef895d46d3cd83ed62bac856a	nasa_sp224_hexa2_uniform_thermal_expansion.json

Appendix B • Complete case ledger

One row per evidence case. Nothing is filtered.

Case	Lane	Group	Status	Grid	DOF	Gates	NOT _RUN
reconcile_sp224_1_8_1_level_10x4x1	0	reconciliation	PASS	10×4×1	330	30	0
reconcile_sp224_1_8_1_level_20x8x2	0	reconciliation	PASS	20×8×2	1701	30	0
reconcile_sp224_1_8_1_level_30x12x3	0	reconciliation	PASS	30×12×3	4836	30	0
reconcile_sp224_1_8_1_level_40x16x4	0	reconciliation	PASS	40×16×4	10455	30	0
reconcile_sp224_1_8_1_level_50x20x5	0	reconciliation	PASS	50×20×5	19278	30	0
reconcile_sp224_1_8_1_v3_section_11_2	0	reconciliation	PASS	50×20×5	19278	5	0
manufactured_4x2x2_reference_1e-10_cpu	1	manufactured_solution	PASS	4×2×2	135	12	0
manufactured_4x2x2_release_2e-5_metal	1	manufactured_solution	PASS	4×2×2	135	18	0
manufactured_4x2x2_tight_1e-8_metal	1	manufactured_solution	PASS	4×2×2	135	9	0
manufactured_8x4x4_reference_1e-10_cpu	1	manufactured_solution	PASS	8×4×4	675	12	0
manufactured_8x4x4_release_2e-5_metal	1	manufactured_solution	PASS	8×4×4	675	18	0
manufactured_8x4x4_tight_1e-8_metal	1	manufactured_solution	PASS	8×4×4	675	9	0
manufactured_12x6x6_reference_1e-10_cpu	1	manufactured_solution	PASS	12×6×6	1911	12	0
manufactured_12x6x6_release_2e-5_metal	1	manufactured_solution	PASS	12×6×6	1911	18	0
manufactured_12x6x6_tight_1e-8_metal	1	manufactured_solution	PASS	12×6×6	1911	9	0
manufactured_16x8x8_reference_1e-10_cpu	1	manufactured_solution	PASS	16×8×8	4131	12	0
manufactured_16x8x8_release_2e-5_metal	1	manufactured_solution	PASS	16×8×8	4131	18	0
manufactured_16x8x8_tight_1e-8_metal	1	manufactured_solution	PASS	16×8×8	4131	9	0
manufactured_24x12x12_reference_1e-10_cpu	1	manufactured_solution	PASS	24×12×12	12675	12	0
manufactured_24x12x12_release_2e-5_metal	1	manufactured_solution	PASS	24×12×12	12675	18	0
manufactured_24x12x12_tight_1e-8_metal	1	manufactured_solution	PASS	24×12×12	12675	9	0
manufactured_32x16x16_reference_1e-10_cpu	1	manufactured_solution	PASS	32×16×16	28611	12	0
manufactured_32x16x16_release_2e-5_metal	1	manufactured_solution	PASS	32×16×16	28611	18	0
manufactured_32x16x16_tight_1e-8_metal	1	manufactured_solution	PASS	32×16×16	28611	9	0
manufactured_48x24x24_reference_1e-10_cpu	1	manufactured_solution	PASS	48×24×24	91875	12	0
manufactured_48x24x24_release_2e-5_metal	1	manufactured_solution	PASS	48×24×24	91875	16	0
manufactured_48x24x24_tight_1e-8_metal	1	manufactured_solution	PASS	48×24×24	91875	9	0
manufactured_convergence_summary	1	manufactured_solution	PASS	48×24×24	91875	9	0
operator_E1e06_nu0.000_h1x1x1	2	element_operator	PASS	1×1×1	24	11	0
operator_E1e06_nu0.000_h2x1x1	2	element_operator	PASS	1×1×1	24	11	0
operator_E1e06_nu0.000_h1x3x1	2	element_operator	PASS	1×1×1	24	11	0
operator_E1e06_nu0.000_h1x1x5	2	element_operator	PASS	1×1×1	24	11	0
operator_E1e06_nu0.000_h0.01x0.01x0.01	2	element_operator	PASS	1×1×1	24	11	0
operator_E1e06_nu0.000_h10x1x0.1	2	element_operator	PASS	1×1×1	24	11	0
operator_E1e06_nu0.000_h0.011x0.009x0.013	2	element_operator	PASS	1×1×1	24	11	0
operator_E1e06_nu0.200_h1x1x1	2	element_operator	PASS	1×1×1	24	11	0
operator_E1e06_nu0.200_h2x1x1	2	element_operator	PASS	1×1×1	24	11	0
operator_E1e06_nu0.200_h1x3x1	2	element_operator	PASS	1×1×1	24	11	0
operator_E1e06_nu0.200_h1x1x5	2	element_operator	PASS	1×1×1	24	11	0

Case	Lane	Group	Status	Grid	DOF	Gates	NOT _RU N
operator_E1e06_nu0.200_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.200_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.200_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.300_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.300_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.300_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.300_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.300_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.300_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.300_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.450_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.450_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.450_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.450_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.450_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.450_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.450_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.490_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.490_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.490_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.490_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.490_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.490_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.490_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.499_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.499_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.499_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.499_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.499_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.499_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e06_nu0.499_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.000_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.000_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.000_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.000_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.000_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.000_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.000_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.200_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.200_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.200_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.200_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.200_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0

Case	Lane	Group	Status	Grid	DOF	Gates	NOT _RU N
operator_E7e10_nu0.200_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.200_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.300_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.300_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.300_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.300_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.300_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.300_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.300_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.450_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.450_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.450_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.450_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.450_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.450_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.450_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.490_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.490_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.490_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.490_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.490_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.490_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.490_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.499_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.499_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.499_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.499_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.499_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.499_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E7e10_nu0.499_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.000_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.000_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.000_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.000_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.000_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.000_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.000_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.200_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.200_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.200_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.200_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.200_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.200_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0

Case	Lane	Group	Status	Grid	DOF	Gates	NOT _RU N
operator_E2e11_nu0.200_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.300_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.300_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.300_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.300_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.300_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.300_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.300_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.450_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.450_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.450_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.450_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.450_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.450_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.450_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.490_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.490_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.490_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.490_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.490_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.490_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.490_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.499_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.499_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.499_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.499_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.499_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.499_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E2e11_nu0.499_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.000_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.000_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.000_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.000_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.000_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.000_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.000_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.200_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.200_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.200_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.200_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.200_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.200_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.200_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0

Case	Lane	Group	Status	Grid	DOF	Gates	NOT _RU N
operator_E1e13_nu0.300_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.300_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.300_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.300_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.300_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.300_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.300_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.450_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.450_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.450_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.450_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.450_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.450_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.450_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.490_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.490_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.490_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.490_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.490_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.490_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.490_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.499_h1x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.499_h2x1x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.499_h1x3x1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.499_h1x1x5	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.499_h0.01x0.01x0.01	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.499_h10x1x0.1	2	element_operator	PASS	1x1x1	24	11	0
operator_E1e13_nu0.499_h0.011x0.009x0.013	2	element_operator	PASS	1x1x1	24	11	0
differential_seed_001	3	differential	PASS	6x6x2	441	36	0
differential_seed_002	3	differential	PASS	7x7x6	1344	36	0
differential_seed_003	3	differential	PASS	2x6x3	252	36	0
differential_seed_004	3	differential	PASS	8x4x7	1080	36	0
differential_properties_seed_004	3	differential_properties	PASS	8x4x7	1080	18	0
differential_seed_005	3	differential	PASS	5x6x3	504	36	0
differential_seed_006	3	differential	PASS	7x8x5	1296	36	0
differential_seed_007	3	differential	PASS	5x5x3	432	36	0
differential_seed_008	3	differential	PASS	4x4x6	525	36	0
differential_properties_seed_008	3	differential_properties	PASS	4x4x6	525	18	0
differential_seed_009	3	differential	PASS	6x2x3	252	36	0
differential_seed_010	3	differential	PASS	4x2x6	315	36	0
differential_seed_011	3	differential	PASS	6x4x8	945	36	0
differential_seed_012	3	differential	PASS	8x5x8	1458	36	0
differential_properties_seed_012	3	differential_properties	PASS	8x5x8	1458	18	0

Case	Lane	Group	Status	Grid	DOF	Gates	NOT _RU N
differential_seed_013	3	differential	PASS	4×3×4	300	36	0
differential_seed_014	3	differential	PASS	7×5×7	1152	36	0
differential_seed_015	3	differential	PASS	2×6×2	189	36	0
differential_seed_016	3	differential	PASS	8×6×8	1701	36	0
differential_properties_seed_016	3	differential_properties	PASS	8×6×8	1701	18	0
differential_seed_017	3	differential	PASS	2×6×5	378	36	0
differential_seed_018	3	differential	PASS	4×7×2	360	36	0
differential_seed_019	3	differential	PASS	8×3×2	324	36	0
differential_seed_020	3	differential	PASS	4×8×4	675	36	0
differential_properties_seed_020	3	differential_properties	PASS	4×8×4	675	18	0
differential_seed_021	3	differential	PASS	4×4×2	225	36	0
differential_seed_022	3	differential	PASS	5×7×4	720	36	0
differential_seed_023	3	differential	PASS	4×5×2	270	36	0
differential_seed_024	3	differential	PASS	2×4×5	270	36	0
differential_properties_seed_024	3	differential_properties	PASS	2×4×5	270	18	0
differential_seed_025	3	differential	PASS	3×8×6	756	36	0
differential_seed_026	3	differential	PASS	8×6×8	1701	36	0
differential_seed_027	3	differential	PASS	6×2×5	378	36	0
differential_seed_028	3	differential	PASS	8×8×6	1701	36	0
differential_properties_seed_028	3	differential_properties	PASS	8×8×6	1701	18	0
differential_seed_029	3	differential	PASS	3×7×4	480	36	0
differential_seed_030	3	differential	PASS	7×5×8	1296	36	0
differential_seed_031	3	differential	PASS	4×7×6	840	36	0
differential_seed_032	3	differential	PASS	2×6×7	504	36	0
differential_properties_seed_032	3	differential_properties	PASS	2×6×7	504	18	0
differential_seed_033	3	differential	PASS	2×3×4	180	36	0
differential_seed_034	3	differential	PASS	2×8×4	405	36	0
differential_seed_035	3	differential	PASS	8×6×3	756	36	0
differential_seed_036	3	differential	PASS	4×7×8	1080	36	0
differential_properties_seed_036	3	differential_properties	PASS	4×7×8	1080	18	0
differential_seed_037	3	differential	PASS	8×7×6	1512	36	0
differential_seed_038	3	differential	PASS	3×8×7	864	36	0
differential_seed_039	3	differential	PASS	8×6×4	945	36	0
differential_seed_040	3	differential	PASS	8×2×5	486	36	0
differential_properties_seed_040	3	differential_properties	PASS	8×2×5	486	18	0
differential_seed_041	3	differential	PASS	3×5×5	432	36	0
differential_seed_042	3	differential	PASS	2×8×4	405	36	0
differential_seed_043	3	differential	PASS	5×7×3	576	36	0
differential_seed_044	3	differential	PASS	8×5×4	810	36	0
differential_properties_seed_044	3	differential_properties	PASS	8×5×4	810	18	0
differential_seed_045	3	differential	PASS	7×2×2	216	36	0
differential_seed_046	3	differential	PASS	4×2×8	405	36	0
differential_seed_047	3	differential	PASS	8×6×5	1134	36	0

Case	Lane	Group	Status	Grid	DOF	Gates	NOT RUN
differential_seed_048	3	differential	PASS	8×2×8	729	36	0
differential_properties_seed_048	3	differential_properties	PASS	8×2×8	729	18	0
differential_seed_049	3	differential	PASS	6×3×7	672	36	0
differential_seed_050	3	differential	PASS	2×7×3	288	36	0
differential_seed_051	3	differential	PASS	7×3×6	672	36	0
differential_seed_052	3	differential	PASS	2×6×3	252	36	0
differential_properties_seed_052	3	differential_properties	PASS	2×6×3	252	18	0
differential_seed_053	3	differential	PASS	3×3×2	144	36	0
differential_seed_054	3	differential	PASS	2×2×6	189	36	0
differential_seed_055	3	differential	PASS	5×7×3	576	36	0
differential_seed_056	3	differential	PASS	7×2×7	576	36	0
differential_properties_seed_056	3	differential_properties	PASS	7×2×7	576	18	0
differential_seed_057	3	differential	PASS	3×3×3	192	36	0
differential_seed_058	3	differential	PASS	2×3×2	108	36	0
differential_seed_059	3	differential	PASS	7×6×3	672	36	0
differential_seed_060	3	differential	PASS	4×3×6	420	36	0
differential_properties_seed_060	3	differential_properties	PASS	4×3×6	420	18	0
differential_seed_061	3	differential	PASS	6×7×7	1344	36	0
differential_seed_062	3	differential	PASS	6×8×2	567	36	0
differential_seed_063	3	differential	PASS	4×2×2	135	36	0
differential_seed_064	3	differential	PASS	2×6×7	504	36	0
differential_properties_seed_064	3	differential_properties	PASS	2×6×7	504	18	0
differential_seed_065	3	differential	PASS	7×7×8	1728	36	0
differential_seed_066	3	differential	PASS	2×2×7	216	36	0
differential_seed_067	3	differential	PASS	4×6×2	315	36	0
differential_seed_068	3	differential	PASS	7×3×4	480	36	0
differential_properties_seed_068	3	differential_properties	PASS	7×3×4	480	18	0
differential_seed_069	3	differential	PASS	6×7×5	1008	36	0
differential_seed_070	3	differential	PASS	4×7×8	1080	36	0
differential_seed_071	3	differential	PASS	8×3×7	864	36	0
differential_seed_072	3	differential	PASS	3×4×2	180	36	0
differential_properties_seed_072	3	differential_properties	PASS	3×4×2	180	18	0
differential_seed_073	3	differential	PASS	8×6×5	1134	36	0
differential_seed_074	3	differential	PASS	2×7×7	576	36	0
differential_seed_075	3	differential	PASS	3×6×4	420	36	0
differential_seed_076	3	differential	PASS	7×2×7	576	36	0
differential_properties_seed_076	3	differential_properties	PASS	7×2×7	576	18	0
differential_seed_077	3	differential	PASS	6×6×7	1176	36	0
differential_seed_078	3	differential	PASS	3×6×6	588	36	0
differential_seed_079	3	differential	PASS	5×4×3	360	36	0
differential_seed_080	3	differential	PASS	2×2×3	108	36	0
differential_properties_seed_080	3	differential_properties	PASS	2×2×3	108	18	0
differential_seed_081	3	differential	PASS	6×2×7	504	36	0

Case	Lane	Group	Status	Grid	DOF	Gates	NOT _RUN
differential_seed_082	3	differential	PASS	5×4×8	810	36	0
differential_seed_083	3	differential	PASS	8×6×5	1134	36	0
differential_seed_084	3	differential	PASS	2×6×3	252	36	0
differential_properties_seed_084	3	differential_properties	PASS	2×6×3	252	18	0
differential_seed_085	3	differential	PASS	6×7×2	504	36	0
differential_seed_086	3	differential	PASS	8×7×7	1728	36	0
differential_seed_087	3	differential	PASS	3×7×2	288	36	0
differential_seed_088	3	differential	PASS	6×3×6	588	36	0
differential_properties_seed_088	3	differential_properties	PASS	6×3×6	588	18	0
differential_seed_089	3	differential	PASS	2×8×7	648	36	0
differential_seed_090	3	differential	PASS	3×4×6	420	36	0
differential_seed_091	3	differential	PASS	2×2×6	189	36	0
differential_seed_092	3	differential	PASS	2×5×2	162	36	0
differential_properties_seed_092	3	differential_properties	PASS	2×5×2	162	18	0
differential_seed_093	3	differential	PASS	3×4×2	180	36	0
differential_seed_094	3	differential	PASS	4×5×4	450	36	0
differential_seed_095	3	differential	PASS	4×5×4	450	36	0
differential_seed_096	3	differential	PASS	7×2×3	288	36	0
differential_properties_seed_096	3	differential_properties	PASS	7×2×3	288	18	0
differential_seed_097	3	differential	PASS	6×4×6	735	36	0
differential_seed_098	3	differential	PASS	5×7×4	720	36	0
differential_seed_099	3	differential	PASS	6×2×6	441	36	0
differential_seed_100	3	differential	PASS	7×7×7	1536	36	0
differential_properties_seed_100	3	differential_properties	PASS	7×7×7	1536	18	0
differential_seed_101	3	differential	PASS	3×3×4	240	36	0
differential_seed_102	3	differential	PASS	8×5×2	486	36	0
differential_seed_103	3	differential	PASS	2×8×4	405	36	0
differential_seed_104	3	differential	PASS	6×6×5	882	36	0
differential_properties_seed_104	3	differential_properties	PASS	6×6×5	882	18	0
differential_seed_105	3	differential	PASS	6×2×8	567	36	0
differential_seed_106	3	differential	PASS	2×7×2	216	36	0
differential_seed_107	3	differential	PASS	2×8×7	648	36	0
differential_seed_108	3	differential	PASS	6×4×7	840	36	0
differential_properties_seed_108	3	differential_properties	PASS	6×4×7	840	18	0
differential_seed_109	3	differential	PASS	6×8×6	1323	36	0
differential_seed_110	3	differential	PASS	5×7×6	1008	36	0
differential_seed_111	3	differential	PASS	5×4×4	450	36	0
differential_seed_112	3	differential	PASS	4×5×4	450	36	0
differential_properties_seed_112	3	differential_properties	PASS	4×5×4	450	18	0
differential_seed_113	3	differential	PASS	6×2×8	567	36	0
differential_seed_114	3	differential	PASS	6×2×8	567	36	0
differential_seed_115	3	differential	PASS	6×6×8	1323	36	0
differential_seed_116	3	differential	PASS	2×5×5	324	36	0

Case	Lane	Group	Status	Grid	DOF	Gates	NOT _RUN
differential_properties_seed_116	3	differential_properties	PASS	2×5×5	324	18	0
differential_seed_117	3	differential	PASS	2×6×8	567	36	0
differential_seed_118	3	differential	PASS	5×5×7	864	36	0
differential_seed_119	3	differential	PASS	4×6×7	840	36	0
differential_seed_120	3	differential	PASS	2×7×3	288	36	0
differential_properties_seed_120	3	differential_properties	PASS	2×7×3	288	18	0
differential_seed_121	3	differential	PASS	6×6×7	1176	36	0
differential_seed_122	3	differential	PASS	3×6×6	588	36	0
differential_seed_123	3	differential	PASS	4×4×3	300	36	0
differential_seed_124	3	differential	PASS	4×4×5	450	36	0
differential_properties_seed_124	3	differential_properties	PASS	4×4×5	450	18	0
differential_seed_125	3	differential	PASS	2×6×6	441	36	0
differential_seed_126	3	differential	PASS	7×3×7	768	36	0
differential_seed_127	3	differential	PASS	3×4×5	360	36	0
differential_seed_128	3	differential	PASS	4×8×3	540	36	0
differential_properties_seed_128	3	differential_properties	PASS	4×8×3	540	18	0
differential_seed_129	3	differential	PASS	2×2×3	108	36	0
differential_seed_130	3	differential	PASS	4×4×6	525	36	0
differential_seed_131	3	differential	PASS	8×5×7	1296	36	0
differential_seed_132	3	differential	PASS	3×6×3	336	36	0
differential_properties_seed_132	3	differential_properties	PASS	3×6×3	336	18	0
differential_seed_133	3	differential	PASS	2×8×6	567	36	0
differential_seed_134	3	differential	PASS	2×7×4	360	36	0
differential_seed_135	3	differential	PASS	4×4×7	600	36	0
differential_seed_136	3	differential	PASS	4×5×8	810	36	0
differential_properties_seed_136	3	differential_properties	PASS	4×5×8	810	18	0
differential_seed_137	3	differential	PASS	8×7×2	648	36	0
differential_seed_138	3	differential	PASS	4×3×2	180	36	0
differential_seed_139	3	differential	PASS	4×3×2	180	36	0
differential_seed_140	3	differential	PASS	3×8×3	432	36	0
differential_properties_seed_140	3	differential_properties	PASS	3×8×3	432	18	0
differential_seed_141	3	differential	PASS	4×7×4	600	36	0
differential_seed_142	3	differential	PASS	4×2×2	135	36	0
differential_seed_143	3	differential	PASS	3×7×7	768	36	0
differential_seed_144	3	differential	PASS	8×6×5	1134	36	0
differential_properties_seed_144	3	differential_properties	PASS	8×6×5	1134	18	0
differential_seed_145	3	differential	PASS	5×5×5	648	36	0
differential_seed_146	3	differential	PASS	2×8×6	567	36	0
differential_seed_147	3	differential	PASS	2×6×4	315	36	0
differential_seed_148	3	differential	PASS	4×3×3	240	36	0
differential_properties_seed_148	3	differential_properties	PASS	4×3×3	240	18	0
differential_seed_149	3	differential	PASS	5×6×2	378	36	0
differential_seed_150	3	differential	PASS	8×2×8	729	36	0

Case	Lane	Group	Status	Grid	DOF	Gates	NOT _RUN
differential_seed_151	3	differential	PASS	3×8×2	324	36	0
differential_seed_152	3	differential	PASS	5×5×2	324	36	0
differential_properties_seed_152	3	differential_properties	PASS	5×5×2	324	18	0
differential_seed_153	3	differential	PASS	5×3×6	504	36	0
differential_seed_154	3	differential	PASS	6×2×6	441	36	0
differential_seed_155	3	differential	PASS	5×7×4	720	36	0
differential_seed_156	3	differential	PASS	3×3×5	288	36	0
differential_properties_seed_156	3	differential_properties	PASS	3×3×5	288	18	0
differential_seed_157	3	differential	PASS	8×7×5	1296	36	0
differential_seed_158	3	differential	PASS	8×5×5	972	36	0
differential_seed_159	3	differential	PASS	4×5×4	450	36	0
differential_seed_160	3	differential	PASS	7×3×4	480	36	0
differential_properties_seed_160	3	differential_properties	PASS	7×3×4	480	18	0
differential_summary	3	differential	PASS	—	0	3	0
recovery_uniform_uniaxial_x	4	production_recovery	PASS	6×6×6	1029	32	0
recovery_uniform_uniaxial_y	4	production_recovery	PASS	6×6×6	1029	32	0
recovery_uniform_uniaxial_z	4	production_recovery	PASS	6×6×6	1029	32	0
recovery_uniform_shear_xy	4	production_recovery	PASS	6×6×6	1029	32	0
recovery_uniform_shear_xz	4	production_recovery	PASS	6×6×6	1029	32	0
recovery_uniform_shear_yz	4	production_recovery	PASS	6×6×6	1029	32	0
recovery_uniform_hydrostatic	4	production_recovery	PASS	6×6×6	1029	32	0
recovery_uniform_biaxial	4	production_recovery	PASS	6×6×6	1029	32	0
recovery_uniform_general	4	production_recovery	PASS	6×6×6	1029	32	0
recovery_face_xMin_load_plus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_xMin_load_minus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_xMin_load_plus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_xMin_load_minus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_xMin_load_plus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_xMin_load_minus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_xMax_load_plus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_xMax_load_minus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_xMax_load_plus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_xMax_load_minus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_xMax_load_plus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_xMax_load_minus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_yMin_load_plus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_yMin_load_minus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_yMin_load_plus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_yMin_load_minus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_yMin_load_plus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_yMin_load_minus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_yMax_load_plus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_yMax_load_minus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0

Case	Lane	Group	Status	Grid	DOF	Gates	NOT _RUN
recovery_face_yMax_load_plus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_yMax_load_minus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_yMax_load_plus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_yMax_load_minus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMin_load_plus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMin_load_minus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMin_load_plus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMin_load_minus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMin_load_plus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMin_load_minus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMax_load_plus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMax_load_minus_x	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMax_load_plus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMax_load_minus_y	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMax_load_plus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_face_zMax_load_minus_z	4	face_load_equilibrium	PASS	6×6×6	1029	18	0
recovery_unit_equivalent_authoring	4	units	PASS	12×3×3	624	18	0
recovery_frozen_import_fixture	4	reference_fixture	PASS	18×10×6	4389	23	0
robustness_memory_budget_exceeded_by_policy	5	memory_guard	PASS	16×4×4	0	6	0
robustness_memory_budget_exceeded_beyond_host	5	memory_guard	PASS	400×200×200	0	6	0
robustness_memory_budget_boundary_below	5	memory_guard	PASS	16×4×4	0	6	0
robustness_memory_budget_boundary_above	5	memory_guard	PASS	16×4×4	0	4	0
robustness_memory_budget_boundary_exact	5	memory_guard	PASS	16×4×4	0	4	0
robustness_sacrificial_missing_metallib	5	metal_library_integrity	PASS	8×2×2	135	7	0
robustness_sacrificial_corrupt_metallib	5	metal_library_integrity	PASS	8×2×2	135	7	0
robustness_sacrificial_truncated_metallib	5	metal_library_integrity	PASS	8×2×2	135	7	0
robustness_sacrificial_unpackaged_copy_metallib	5	metal_library_integrity	PASS	8×2×2	135	6	0
robustness_sweep_poisson_0_40000	5	sweep_poisson	PASS	10×10×10	3993	11	0
robustness_sweep_poisson_0_45000	5	sweep_poisson	PASS	10×10×10	3993	11	0
robustness_sweep_poisson_0_49000	5	sweep_poisson	PASS	10×10×10	3993	11	0
robustness_sweep_poisson_0_49900	5	sweep_poisson	PASS	10×10×10	3993	11	0
robustness_sweep_poisson_0_49990	5	sweep_poisson	PASS	10×10×10	3993	9	0
robustness_sweep_poisson_0_49999	5	sweep_poisson	PASS	10×10×10	3993	9	0
robustness_sweep_aspect_1	5	sweep_aspect_ratio	PASS	10×4×4	825	11	0
robustness_sweep_aspect_5	5	sweep_aspect_ratio	PASS	10×4×4	825	11	0
robustness_sweep_aspect_20	5	sweep_aspect_ratio	PASS	10×4×4	825	11	0
robustness_sweep_aspect_60	5	sweep_aspect_ratio	PASS	10×4×4	825	11	0
robustness_sweep_aspect_200	5	sweep_aspect_ratio	PASS	10×4×4	825	9	0
robustness_sweep_aspect_800	5	sweep_aspect_ratio	PASS	10×4×4	825	9	0
robustness_sweep_scale_1e-05	5	sweep_geometric_scale	PASS	10×10×10	3993	11	0
robustness_sweep_scale_1e-03	5	sweep_geometric_scale	PASS	10×10×10	3993	11	0
robustness_sweep_scale_1e-01	5	sweep_geometric_scale	PASS	10×10×10	3993	11	0

Case	Lane	Group	Status	Grid	DOF	Gates	NOT_RUN
robustness_sweep_scale_1e01	5	sweep_geometric_scale	PASS	10×10×10	3993	11	0
robustness_sweep_stiffness_1e03	5	sweep_stiffness	PASS	10×10×10	3993	11	0
robustness_sweep_stiffness_1e06	5	sweep_stiffness	PASS	10×10×10	3993	11	0
robustness_sweep_stiffness_1e09	5	sweep_stiffness	PASS	10×10×10	3993	11	0
robustness_sweep_stiffness_1e12	5	sweep_stiffness	PASS	10×10×10	3993	11	0
robustness_sweep_stiffness_1e15	5	sweep_stiffness	PASS	10×10×10	3993	11	0
robustness_sweep_load_1e-06	5	sweep_load	PASS	10×10×10	3993	11	0
robustness_sweep_load_1e00	5	sweep_load	PASS	10×10×10	3993	11	0
robustness_sweep_load_1e06	5	sweep_load	PASS	10×10×10	3993	11	0
robustness_sweep_load_1e12	5	sweep_load	PASS	10×10×10	3993	11	0
robustness_sweep_tolerance_1e-02	5	sweep_tolerance	PASS	10×10×10	3993	9	0
robustness_sweep_tolerance_1e-03	5	sweep_tolerance	PASS	10×10×10	3993	11	0
robustness_sweep_tolerance_1e-04	5	sweep_tolerance	PASS	10×10×10	3993	11	0
robustness_sweep_tolerance_2e-05	5	sweep_tolerance	PASS	10×10×10	3993	11	0
robustness_sweep_tolerance_1e-06	5	sweep_tolerance	PASS	10×10×10	3993	10	0
robustness_sweep_tolerance_1e-08	5	sweep_tolerance	PASS	10×10×10	3993	10	0
robustness_sweep_tolerance_1e-10	5	sweep_tolerance	PASS	10×10×10	3993	10	0
robustness_sweep_size_10	5	sweep_problem_size	PASS	10×4×4	825	11	0
robustness_sweep_size_20	5	sweep_problem_size	PASS	20×4×4	1575	11	0
robustness_sweep_size_40	5	sweep_problem_size	PASS	40×4×4	3075	11	0
robustness_sweep_size_80	5	sweep_problem_size	PASS	80×4×4	6075	11	0
robustness_sweep_size_160	5	sweep_problem_size	PASS	160×4×4	12075	11	0
robustness_sweep_size_320	5	sweep_problem_size	PASS	320×4×4	24075	11	0
robustness_solver_tolerance_sensitivity	5	sweep_tolerance	PASS	10×10×10	3993	4	0
performance_scaling_100k_120x30x30	6	performance_scaling	PASS	120×30×30	348843	25	0
performance_scaling_250k_160x40x40	6	performance_scaling	PASS	160×40×40	811923	25	0
performance_scaling_500k_200x50x50	6	performance_scaling	PASS	200×50×50	1568403	25	0
performance_scaling_1M_252x63x63	6	performance_scaling	PASS	252×63×63	3108864	25	0

Appendix C • Complete gate ledger

Every gate of every case: observed, comparator, limit and disposition. NOT_RUN gates show their reason in gate-ledger.csv.

Two ledgers side by side (10305 gates). Observed values and comparators are in gate-ledger.csv; long identifiers are abbreviated with an ellipsis only in this appendix.

Case	Gate	Observed	Result	Case	Gate	Observed	Result
reconcile_sp224_1_8_1_level_10x4x1	converged	1	PASS	differential_seed_072	stress_all_finite	1	PASS
reconcile_sp224_1_8_1_level_10x4x1	solver_relative_residual	3.68e-06	PASS	differential_seed_072	fallback_count	0	PASS
reconcile_sp224_1_8_1_level_10x4x1	independent_double_relative_residual	3.68e-06	PASS	differential_seed_072	metal_execution_evidence_present	1	PASS
reconcile_sp224_1_8_1_level_10x4x1	rigid_body_constraint_rank	6	PASS	differential_seed_072	operator_backend_is_packaged_host_p...	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
reconcile_sp224_1_8_1_le vel_10x4x1	force_equilibrium_relative_ error	1.49e-07	PASS	differential_seed_072	persistent_metal_vector_b uffers	1	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	moment_equilibrium_relati ve_error	6.09e-07	PASS	differential_seed_072	packaged_metallib_used	1	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	energy_identity_relative_er ror	3.33e-08	PASS	differential_seed_072	no_runtime_source_compil ation	1	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	displacement_all_finite	1	PASS	differential_seed_072	metal_fallback_count	0	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	stress_all_finite	1	PASS	differential_seed_072	converged	1	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	fallback_count	0	PASS	differential_seed_072	solver_relative_residual	2.83e-11	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	metal_execution_evidence _present	1	PASS	differential_seed_072	independent_double_relati ve_residual	2.83e-11	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_072	rigid_body_constraint_ran k	6	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	persistent_metal_vector_b uffers	1	PASS	differential_seed_072	force_equilibrium_relative_ error	2.77e-14	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	packaged_metallib_used	1	PASS	differential_seed_072	moment_equilibrium_relati ve_error	4.36e-14	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	no_runtime_source_compil ation	1	PASS	differential_seed_072	energy_identity_relative_er ror	4.50e-14	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	metal_fallback_count	0	PASS	differential_seed_072	displacement_all_finite	1	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	converged	1	PASS	differential_seed_072	stress_all_finite	1	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	solver_relative_residual	6.96e-11	PASS	differential_seed_072	fallback_count	0	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	independent_double_relati ve_residual	6.96e-11	PASS	differential_seed_072	reference_route_is_cpu_d ouble	1	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	rigid_body_constraint_ran k	6	PASS	differential_seed_072	reference_route_no_fallba ck	1	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	force_equilibrium_relative_ error	5.40e-12	PASS	differential_seed_072	parity_displacement_relati ve_l2	1.09e-09	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	moment_equilibrium_relati ve_error	7.09e-12	PASS	differential_seed_072	parity_displacement_relati ve_linf	1.13e-09	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	energy_identity_relative_er ror	5.07e-13	PASS	differential_seed_072	parity_reaction_relative_l2	2.15e-09	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	displacement_all_finite	1	PASS	differential_seed_072	parity_reaction_relative_lin f	2.43e-09	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	stress_all_finite	1	PASS	differential_seed_072	parity_stress_relative_l2	7.75e-09	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	fallback_count	0	PASS	differential_seed_072	parity_stress_relative_linf	6.90e-09	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	reference_route_is_cpu_d ouble	1	PASS	differential_seed_072	parity_strain_energy_relati ve_error	3.68e-09	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	reference_route_no_fallba ck	1	PASS	differential_seed_072	zero_fallback_on_both_ba ckends	0	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	tight_probe_converged	1	PASS	differential_properties_se ed_072	metal_all_property_solves _converged	1	PASS
reconcile_sp224_1_8_1_le vel_10x4x1	release_versus_reference_ displaceme...	4.30e-08	PASS	differential_properties_se ed_072	metal_displacement_super position	1.36e-08	PASS
reconcile_sp224_1_8_1_le vel_20x8x2	converged	1	PASS	differential_properties_se ed_072	metal_stress_superpositio n	1.58e-08	PASS
reconcile_sp224_1_8_1_le vel_20x8x2	solver_relative_residual	1.47e-05	PASS	differential_properties_se ed_072	metal_sign_reversal	0	PASS
reconcile_sp224_1_8_1_le vel_20x8x2	independent_double_relati ve_residual	1.47e-05	PASS	differential_properties_se ed_072	metal_load_scaling_by_tw o	0	PASS
reconcile_sp224_1_8_1_le vel_20x8x2	rigid_body_constraint_ran k	6	PASS	differential_properties_se ed_072	metal_modulus_scaling_by _two	0	PASS
reconcile_sp224_1_8_1_le vel_20x8x2	force_equilibrium_relative_ error	8.19e-07	PASS	differential_properties_se ed_072	metal_maxwell_betti_recip rocity	1.61e-08	PASS
reconcile_sp224_1_8_1_le vel_20x8x2	moment_equilibrium_relati ve_error	1.73e-07	PASS	differential_properties_se ed_072	metal_axis_permutation	3.63e-11	PASS
reconcile_sp224_1_8_1_le vel_20x8x2	energy_identity_relative_er ror	1.42e-09	PASS	differential_properties_se ed_072	metal_axis_reflection	4.45e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
reconcile_sp224_1_8_1_level_20x8x2	displacement_all_finite	1	PASS	differential_properties_seed_072	cpu_all_property_solves_converged	1	PASS
reconcile_sp224_1_8_1_level_20x8x2	stress_all_finite	1	PASS	differential_properties_seed_072	cpu_displacement_superposition	1.71e-13	PASS
reconcile_sp224_1_8_1_level_20x8x2	fallback_count	0	PASS	differential_properties_seed_072	cpu_stress_superposition	8.17e-12	PASS
reconcile_sp224_1_8_1_level_20x8x2	metal_execution_evidence_present	1	PASS	differential_properties_seed_072	cpu_sign_reversal	0	PASS
reconcile_sp224_1_8_1_level_20x8x2	operator_backend_is_packed_host_ports	1	PASS	differential_properties_seed_072	cpu_load_scaling_by_two	0	PASS
reconcile_sp224_1_8_1_level_20x8x2	persistent_metal_vector_buffers	1	PASS	differential_properties_seed_072	cpu_modulus_scaling_by_two	1.31e-13	PASS
reconcile_sp224_1_8_1_level_20x8x2	packaged_metallib_used	1	PASS	differential_properties_seed_072	cpu_maxwell_betti_reciprocity	9.53e-14	PASS
reconcile_sp224_1_8_1_level_20x8x2	no_runtime_source_compilation	1	PASS	differential_properties_seed_072	cpu_axis_permutation	5.12e-13	PASS
reconcile_sp224_1_8_1_level_20x8x2	metal_fallback_count	0	PASS	differential_properties_seed_072	cpu_axis_reflection	1.88e-14	PASS
reconcile_sp224_1_8_1_level_20x8x2	converged	1	PASS	differential_seed_073	converged	1	PASS
reconcile_sp224_1_8_1_level_20x8x2	solver_relative_residual	9.36e-11	PASS	differential_seed_073	solver_relative_residual	1.83e-05	PASS
reconcile_sp224_1_8_1_level_20x8x2	independent_double_relative_residual	9.36e-11	PASS	differential_seed_073	independent_double_relative_residual	1.83e-05	PASS
reconcile_sp224_1_8_1_level_20x8x2	rigid_body_constraint_rank	6	PASS	differential_seed_073	rigid_body_constraint_rank	6	PASS
reconcile_sp224_1_8_1_level_20x8x2	force_equilibrium_relative_error	1.77e-11	PASS	differential_seed_073	force_equilibrium_relative_error	2.54e-06	PASS
reconcile_sp224_1_8_1_level_20x8x2	moment_equilibrium_relative_error	5.40e-11	PASS	differential_seed_073	moment_equilibrium_relative_error	2.96e-06	PASS
reconcile_sp224_1_8_1_level_20x8x2	energy_identity_relative_error	1.90e-13	PASS	differential_seed_073	energy_identity_relative_error	2.42e-09	PASS
reconcile_sp224_1_8_1_level_20x8x2	displacement_all_finite	1	PASS	differential_seed_073	displacement_all_finite	1	PASS
reconcile_sp224_1_8_1_level_20x8x2	stress_all_finite	1	PASS	differential_seed_073	stress_all_finite	1	PASS
reconcile_sp224_1_8_1_level_20x8x2	fallback_count	0	PASS	differential_seed_073	fallback_count	0	PASS
reconcile_sp224_1_8_1_level_20x8x2	reference_route_is_cpu_double	1	PASS	differential_seed_073	metal_execution_evidence_present	1	PASS
reconcile_sp224_1_8_1_level_20x8x2	reference_route_no_fallback	1	PASS	differential_seed_073	operator_backend_is_packed_host_ports	1	PASS
reconcile_sp224_1_8_1_level_20x8x2	tight_probe_converged	1	PASS	differential_seed_073	persistent_metal_vector_buffers	1	PASS
reconcile_sp224_1_8_1_level_20x8x2	release_versus_reference_displacement	5.21e-07	PASS	differential_seed_073	packaged_metallib_used	1	PASS
reconcile_sp224_8_1_level_30x12x3	converged	1	PASS	differential_seed_073	no_runtime_source_compilation	1	PASS
reconcile_sp224_8_1_level_30x12x3	solver_relative_residual	1.85e-05	PASS	differential_seed_073	metal_fallback_count	0	PASS
reconcile_sp224_8_1_level_30x12x3	independent_double_relative_residual	1.85e-05	PASS	differential_seed_073	converged	1	PASS
reconcile_sp224_8_1_level_30x12x3	rigid_body_constraint_rank	6	PASS	differential_seed_073	solver_relative_residual	8.99e-11	PASS
reconcile_sp224_8_1_level_30x12x3	force_equilibrium_relative_error	1.51e-06	PASS	differential_seed_073	independent_double_relative_residual	8.99e-11	PASS
reconcile_sp224_8_1_level_30x12x3	moment_equilibrium_relative_error	1.66e-06	PASS	differential_seed_073	rigid_body_constraint_rank	6	PASS
reconcile_sp224_8_1_level_30x12x3	energy_identity_relative_error	5.49e-09	PASS	differential_seed_073	force_equilibrium_relative_error	8.37e-12	PASS
reconcile_sp224_8_1_level_30x12x3	displacement_all_finite	1	PASS	differential_seed_073	moment_equilibrium_relative_error	9.83e-12	PASS
reconcile_sp224_8_1_level_30x12x3	stress_all_finite	1	PASS	differential_seed_073	energy_identity_relative_error	6.91e-16	PASS
reconcile_sp224_8_1_level_30x12x3	fallback_count	0	PASS	differential_seed_073	displacement_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
reconcile_sp224_.... 8_1_level_30x12x3	metal_execution_evidence _present	1	PASS	differential_seed_073	stress_all_finite	1	PASS
reconcile_sp224_.... 8_1_level_30x12x3	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_073	fallback_count	0	PASS
reconcile_sp224_.... 8_1_level_30x12x3	persistent_metal_vector_b uffers	1	PASS	differential_seed_073	reference_route_is_cpu_d ouble	1	PASS
reconcile_sp224_.... 8_1_level_30x12x3	packaged_metallib_used	1	PASS	differential_seed_073	reference_route_no_fallba ck	1	PASS
reconcile_sp224_.... 8_1_level_30x12x3	no_runtime_source_compil ation	1	PASS	differential_seed_073	parity_displacement_relati ve_l2	5.00e-06	PASS
reconcile_sp224_.... 8_1_level_30x12x3	metal_fallback_count	0	PASS	differential_seed_073	parity_displacement_relati ve_linf	5.98e-06	PASS
reconcile_sp224_.... 8_1_level_30x12x3	converged	1	PASS	differential_seed_073	parity_reaction_relative_l2	4.72e-06	PASS
reconcile_sp224_.... 8_1_level_30x12x3	solver_relative_residual	9.58e-11	PASS	differential_seed_073	parity_reaction_relative_lin f	6.14e-06	PASS
reconcile_sp224_.... 8_1_level_30x12x3	independent_double_relati ve_residual	9.58e-11	PASS	differential_seed_073	parity_stress_relative_l2	8.36e-06	PASS
reconcile_sp224_.... 8_1_level_30x12x3	rigid_body_constraint_ran k	6	PASS	differential_seed_073	parity_stress_relative_linf	1.59e-05	PASS
reconcile_sp224_.... 8_1_level_30x12x3	force_equilibrium_relative_ error	7.63e-12	PASS	differential_seed_073	parity_strain_energy_relati ve_error	4.77e-09	PASS
reconcile_sp224_.... 8_1_level_30x12x3	moment_equilibrium_relati ve_error	6.38e-11	PASS	differential_seed_073	zero_fallback_on_both_ba ckends	0	PASS
reconcile_sp224_.... 8_1_level_30x12x3	energy_identity_relative_er ror	2.47e-14	PASS	differential_seed_074	converged	1	PASS
reconcile_sp224_.... 8_1_level_30x12x3	displacement_all_finite	1	PASS	differential_seed_074	solver_relative_residual	1.06e-05	PASS
reconcile_sp224_.... 8_1_level_30x12x3	stress_all_finite	1	PASS	differential_seed_074	independent_double_relati ve_residual	1.06e-05	PASS
reconcile_sp224_.... 8_1_level_30x12x3	fallback_count	0	PASS	differential_seed_074	rigid_body_constraint_ran k	6	PASS
reconcile_sp224_.... 8_1_level_30x12x3	reference_route_is_cpu_d ouble	1	PASS	differential_seed_074	force_equilibrium_relative_ error	3.25e-07	PASS
reconcile_sp224_.... 8_1_level_30x12x3	reference_route_no_fallba ck	1	PASS	differential_seed_074	moment_equilibrium_relati ve_error	4.31e-07	PASS
reconcile_sp224_.... 8_1_level_30x12x3	tight_probe_converged	1	PASS	differential_seed_074	energy_identity_relative_er ror	1.23e-08	PASS
reconcile_sp224_.... 8_1_level_30x12x3	release_versus_reference_ displaceme...	3.00e-07	PASS	differential_seed_074	displacement_all_finite	1	PASS
reconcile_sp224_.... 8_1_level_40x16x4	converged	1	PASS	differential_seed_074	stress_all_finite	1	PASS
reconcile_sp224_.... 8_1_level_40x16x4	solver_relative_residual	7.43e-06	PASS	differential_seed_074	fallback_count	0	PASS
reconcile_sp224_.... 8_1_level_40x16x4	independent_double_relati ve_residual	7.43e-06	PASS	differential_seed_074	metal_execution_evidence _present	1	PASS
reconcile_sp224_.... 8_1_level_40x16x4	rigid_body_constraint_ran k	6	PASS	differential_seed_074	operator_backend_is_pack aged_host_p...	1	PASS
reconcile_sp224_.... 8_1_level_40x16x4	force_equilibrium_relative_ error	1.26e-06	PASS	differential_seed_074	persistent_metal_vector_b uffers	1	PASS
reconcile_sp224_.... 8_1_level_40x16x4	moment_equilibrium_relati ve_error	3.01e-06	PASS	differential_seed_074	packaged_metallib_used	1	PASS
reconcile_sp224_.... 8_1_level_40x16x4	energy_identity_relative_er ror	1.37e-09	PASS	differential_seed_074	no_runtime_source_compil ation	1	PASS
reconcile_sp224_.... 8_1_level_40x16x4	displacement_all_finite	1	PASS	differential_seed_074	metal_fallback_count	0	PASS
reconcile_sp224_.... 8_1_level_40x16x4	stress_all_finite	1	PASS	differential_seed_074	converged	1	PASS
reconcile_sp224_.... 8_1_level_40x16x4	fallback_count	0	PASS	differential_seed_074	solver_relative_residual	9.32e-11	PASS
reconcile_sp224_.... 8_1_level_40x16x4	metal_execution_evidence _present	1	PASS	differential_seed_074	independent_double_relati ve_residual	9.32e-11	PASS
reconcile_sp224_.... 8_1_level_40x16x4	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_074	rigid_body_constraint_ran k	6	PASS
reconcile_sp224_.... 8_1_level_40x16x4	persistent_metal_vector_b uffers	1	PASS	differential_seed_074	force_equilibrium_relative_ error	6.54e-12	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
reconcile_sp224____ 8_1_level_40x16x4	packaged_metallib_used	1	PASS	differential_seed_074	moment_equilibrium_relative_error	6.39e-12	PASS
reconcile_sp224____ 8_1_level_40x16x4	no_runtime_source_compilation	1	PASS	differential_seed_074	energy_identity_relative_error	6.04e-15	PASS
reconcile_sp224____ 8_1_level_40x16x4	metal_fallback_count	0	PASS	differential_seed_074	displacement_all_finite	1	PASS
reconcile_sp224____ 8_1_level_40x16x4	converged	1	PASS	differential_seed_074	stress_all_finite	1	PASS
reconcile_sp224____ 8_1_level_40x16x4	solver_relative_residual	9.49e-11	PASS	differential_seed_074	fallback_count	0	PASS
reconcile_sp224____ 8_1_level_40x16x4	independent_double_relative_residual	9.49e-11	PASS	differential_seed_074	reference_route_is_cpu_double	1	PASS
reconcile_sp224____ 8_1_level_40x16x4	rigid_body_constraint_rank	6	PASS	differential_seed_074	reference_route_no_fallback	1	PASS
reconcile_sp224____ 8_1_level_40x16x4	force_equilibrium_relative_error	2.30e-11	PASS	differential_seed_074	parity_displacement_relative_I2	2.17e-07	PASS
reconcile_sp224____ 8_1_level_40x16x4	moment_equilibrium_relative_error	5.62e-11	PASS	differential_seed_074	parity_displacement_relative_linf	2.18e-07	PASS
reconcile_sp224____ 8_1_level_40x16x4	energy_identity_relative_error	2.29e-14	PASS	differential_seed_074	parity_reaction_relative_I2	1.67e-06	PASS
reconcile_sp224____ 8_1_level_40x16x4	displacement_all_finite	1	PASS	differential_seed_074	parity_reaction_relative_linf	2.22e-06	PASS
reconcile_sp224____ 8_1_level_40x16x4	stress_all_finite	1	PASS	differential_seed_074	parity_stress_relative_I2	1.89e-06	PASS
reconcile_sp224____ 8_1_level_40x16x4	fallback_count	0	PASS	differential_seed_074	parity_stress_relative_linf	1.64e-06	PASS
reconcile_sp224____ 8_1_level_40x16x4	reference_route_is_cpu_double	1	PASS	differential_seed_074	parity_strain_energy_relative_error	2.47e-08	PASS
reconcile_sp224____ 8_1_level_40x16x4	reference_route_no_fallback	1	PASS	differential_seed_074	zero_fallback_on_both_backends	0	PASS
reconcile_sp224____ 8_1_level_40x16x4	tight_probe_converged	1	PASS	differential_seed_075	converged	1	PASS
reconcile_sp224____ 8_1_level_40x16x4	release_versus_reference_displacement	5.17e-08	PASS	differential_seed_075	solver_relative_residual	1.62e-07	PASS
reconcile_sp224____ 8_1_level_50x20x5	converged	1	PASS	differential_seed_075	independent_double_relative_residual	1.62e-07	PASS
reconcile_sp224____ 8_1_level_50x20x5	solver_relative_residual	1.78e-05	PASS	differential_seed_075	rigid_body_constraint_rank	6	PASS
reconcile_sp224____ 8_1_level_50x20x5	independent_double_relative_residual	1.78e-05	PASS	differential_seed_075	force_equilibrium_relative_error	3.45e-09	PASS
reconcile_sp224____ 8_1_level_50x20x5	rigid_body_constraint_rank	6	PASS	differential_seed_075	moment_equilibrium_relative_error	3.13e-09	PASS
reconcile_sp224____ 8_1_level_50x20x5	force_equilibrium_relative_error	1.42e-06	PASS	differential_seed_075	energy_identity_relative_error	7.64e-09	PASS
reconcile_sp224____ 8_1_level_50x20x5	moment_equilibrium_relative_error	3.13e-06	PASS	differential_seed_075	displacement_all_finite	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	energy_identity_relative_error	5.41e-09	PASS	differential_seed_075	stress_all_finite	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	displacement_all_finite	1	PASS	differential_seed_075	fallback_count	0	PASS
reconcile_sp224____ 8_1_level_50x20x5	stress_all_finite	1	PASS	differential_seed_075	metal_execution_evidence_present	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	fallback_count	0	PASS	differential_seed_075	operator_backend_is_packaged_host_processes	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	metal_execution_evidence_present	1	PASS	differential_seed_075	persistent_metal_vector_buffers	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	operator_backend_is_packaged_host_processes	1	PASS	differential_seed_075	packaged_metallib_used	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	persistent_metal_vector_buffers	1	PASS	differential_seed_075	no_runtime_source_compilation	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	packaged_metallib_used	1	PASS	differential_seed_075	metal_fallback_count	0	PASS
reconcile_sp224____ 8_1_level_50x20x5	no_runtime_source_compilation	1	PASS	differential_seed_075	converged	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	metal_fallback_count	0	PASS	differential_seed_075	solver_relative_residual	9.77e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
reconcile_sp224____ 8_1_level_50x20x5	converged	1	PASS	differential_seed_075	independent_double_relati ve_residual	9.77e-11	PASS
reconcile_sp224____ 8_1_level_50x20x5	solver_relative_residual	8.10e-11	PASS	differential_seed_075	rigid_body_constraint_ran k	6	PASS
reconcile_sp224____ 8_1_level_50x20x5	independent_double_relati ve_residual	8.10e-11	PASS	differential_seed_075	force_equilibrium_relative_ error	3.88e-13	PASS
reconcile_sp224____ 8_1_level_50x20x5	rigid_body_constraint_ran k	6	PASS	differential_seed_075	moment_equilibrium_relati ve_error	1.92e-13	PASS
reconcile_sp224____ 8_1_level_50x20x5	force_equilibrium_relative_ error	2.31e-11	PASS	differential_seed_075	energy_identity_relative_er ror	5.99e-15	PASS
reconcile_sp224____ 8_1_level_50x20x5	moment_equilibrium_relati ve_error	5.45e-11	PASS	differential_seed_075	displacement_all_finite	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	energy_identity_relative_er ror	3.17e-13	PASS	differential_seed_075	stress_all_finite	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	displacement_all_finite	1	PASS	differential_seed_075	fallback_count	0	PASS
reconcile_sp224____ 8_1_level_50x20x5	stress_all_finite	1	PASS	differential_seed_075	reference_route_is_cpu_d ouble	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	fallback_count	0	PASS	differential_seed_075	reference_route_no_fallba ck	1	PASS
reconcile_sp224____ 8_1_level_50x20x5	reference_route_is_cpu_d ouble	1	PASS	differential_seed_075	parity_displacement_relati ve_l2	7.12e-09	PASS
reconcile_sp224____ 8_1_level_50x20x5	reference_route_no_fallba ck	1	PASS	differential_seed_075	parity_displacement_relati ve_linf	6.07e-09	PASS
reconcile_sp224____ 8_1_level_50x20x5	tight_probe_converged	1	PASS	differential_seed_075	parity_reaction_relative_l2	9.54e-09	PASS
reconcile_sp224____ 8_1_level_50x20x5	release_versus_reference_ displaceme...	7.67e-07	PASS	differential_seed_075	parity_reaction_relative_lin f	1.02e-08	PASS
reconcile_sp224____ 1_v3_section_11_2	reference_error_falls_mon otonically	1	PASS	differential_seed_075	parity_stress_relative_l2	9.64e-09	PASS
reconcile_sp224____ 1_v3_section_11_2	reference_finetest_pair_obs erved_order	2	PASS	differential_seed_075	parity_stress_relative_linf	9.58e-09	PASS
reconcile_sp224____ 1_v3_section_11_2	reference_minimum_observ ed_order	2	PASS	differential_seed_075	parity_strain_energy_relati ve_error	1.53e-08	PASS
reconcile_sp224____ 1_v3_section_11_2	v3_probe_mesh_40x16x4_ tight_versus...	3.34e-04	PASS	differential_seed_075	zero_fallback_on_both_ba ckends	0	PASS
reconcile_sp224____ 1_v3_section_11_2	v3_solver_truncation_attri bution_is...	1	PASS	differential_seed_076	converged	1	PASS
manufactured_4x2____ ference_1e-10_cpu	converged	1	PASS	differential_seed_076	solver_relative_residual	1.46e-05	PASS
manufactured_4x2____ ference_1e-10_cpu	solver_relative_residual	1.32e-16	PASS	differential_seed_076	independent_double_relati ve_residual	1.46e-05	PASS
manufactured_4x2____ ference_1e-10_cpu	independent_double_relati ve_residual	1.32e-16	PASS	differential_seed_076	rigid_body_constraint_ran k	6	PASS
manufactured_4x2____ ference_1e-10_cpu	rigid_body_constraint_ran k	6	PASS	differential_seed_076	force_equilibrium_relative_ error	1.22e-06	PASS
manufactured_4x2____ ference_1e-10_cpu	force_equilibrium_relative_ error	2.47e-16	PASS	differential_seed_076	moment_equilibrium_relati ve_error	1.90e-06	PASS
manufactured_4x2____ ference_1e-10_cpu	moment_equilibrium_relati ve_error	5.92e-17	PASS	differential_seed_076	energy_identity_relative_er ror	8.39e-08	PASS
manufactured_4x2____ ference_1e-10_cpu	energy_identity_relative_er ror	0	PASS	differential_seed_076	displacement_all_finite	1	PASS
manufactured_4x2____ ference_1e-10_cpu	displacement_all_finite	1	PASS	differential_seed_076	stress_all_finite	1	PASS
manufactured_4x2____ ference_1e-10_cpu	stress_all_finite	1	PASS	differential_seed_076	fallback_count	0	PASS
manufactured_4x2____ ference_1e-10_cpu	fallback_count	0	PASS	differential_seed_076	metal_execution_evidence _present	1	PASS
manufactured_4x2____ ference_1e-10_cpu	reference_route_is_cpu_d ouble	1	PASS	differential_seed_076	operator_backend_is_pack aged_host_p...	1	PASS
manufactured_4x2____ ference_1e-10_cpu	reference_route_no_fallba ck	1	PASS	differential_seed_076	persistent_metal_vector_b uffers	1	PASS
manufactured_4x2____ elease_2e-5_metal	converged	1	PASS	differential_seed_076	packaged_metallib_used	1	PASS
manufactured_4x2____ elease_2e-5_metal	solver_relative_residual	4.66e-08	PASS	differential_seed_076	no_runtime_source_compil ation	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
manufactured_4x2... elease_2e-5_metal	independent_double_relati ve_residual	4.66e-08	PASS	differential_seed_076	metal_fallback_count	0	PASS
manufactured_4x2... elease_2e-5_metal	rigid_body_constraint_ran k	6	PASS	differential_seed_076	converged	1	PASS
manufactured_4x2... elease_2e-5_metal	force_equilibrium_relative_ error	3.83e-09	PASS	differential_seed_076	solver_relative_residual	8.27e-11	PASS
manufactured_4x2... elease_2e-5_metal	moment_equilibrium_relati ve_error	3.39e-09	PASS	differential_seed_076	independent_double_relati ve_residual	8.27e-11	PASS
manufactured_4x2... elease_2e-5_metal	energy_identity_relative_er ror	7.50e-09	PASS	differential_seed_076	rigid_body_constraint_ran k	6	PASS
manufactured_4x2... elease_2e-5_metal	displacement_all_finite	1	PASS	differential_seed_076	force_equilibrium_relative_ error	4.57e-12	PASS
manufactured_4x2... elease_2e-5_metal	stress_all_finite	1	PASS	differential_seed_076	moment_equilibrium_relati ve_error	7.17e-12	PASS
manufactured_4x2... elease_2e-5_metal	fallback_count	0	PASS	differential_seed_076	energy_identity_relative_er ror	1.19e-13	PASS
manufactured_4x2... elease_2e-5_metal	metal_execution_evidence_ _present	1	PASS	differential_seed_076	displacement_all_finite	1	PASS
manufactured_4x2... elease_2e-5_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_076	stress_all_finite	1	PASS
manufactured_4x2... elease_2e-5_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_076	fallback_count	0	PASS
manufactured_4x2... elease_2e-5_metal	packaged_metallib_used	1	PASS	differential_seed_076	reference_route_is_cpu_d ouble	1	PASS
manufactured_4x2... elease_2e-5_metal	no_runtime_source_compil ation	1	PASS	differential_seed_076	reference_route_no_fallba ck	1	PASS
manufactured_4x2... elease_2e-5_metal	metal_fallback_count	0	PASS	differential_seed_076	parity_displacement_relati ve_l2	6.84e-06	PASS
manufactured_4x2... elease_2e-5_metal	release_displacement_l2_e xcess_over...	-2.36e-08	PASS	differential_seed_076	parity_displacement_relati ve_linf	7.12e-06	PASS
manufactured_4x2... elease_2e-5_metal	release_stress_l2_excess_ over_refer...	-1.64e-09	PASS	differential_seed_076	parity_reaction_relative_l2	2.66e-06	PASS
manufactured_4x2... _tight_1e-8_metal	converged	1	PASS	differential_seed_076	parity_reaction_relative_lin f	1.64e-06	PASS
manufactured_4x2... _tight_1e-8_metal	displacement_all_finite	1	PASS	differential_seed_076	parity_stress_relative_l2	1.42e-05	PASS
manufactured_4x2... _tight_1e-8_metal	metal_execution_evidence_ _present	1	PASS	differential_seed_076	parity_stress_relative_linf	7.43e-06	PASS
manufactured_4x2... _tight_1e-8_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_076	parity_strain_energy_relati ve_error	1.68e-07	PASS
manufactured_4x2... _tight_1e-8_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_076	zero_fallback_on_both_ba ckends	0	PASS
manufactured_4x2... _tight_1e-8_metal	packaged_metallib_used	1	PASS	differential_properties_se ed_076	metal_all_property_solves_ _converged	1	PASS
manufactured_4x2... _tight_1e-8_metal	no_runtime_source_compil ation	1	PASS	differential_properties_se ed_076	metal_displacement_super position	4.03e-06	PASS
manufactured_4x2... _tight_1e-8_metal	metal_fallback_count	0	PASS	differential_properties_se ed_076	metal_stress_superpositio n	1.13e-05	PASS
manufactured_4x2... _tight_1e-8_metal	tight_displacement_l2_exc ess_over_f...	1.37e-16	PASS	differential_properties_se ed_076	metal_sign_reversal	0	PASS
manufactured_8x4... ference_1e-10_cpu	converged	1	PASS	differential_properties_se ed_076	metal_load_scaling_by_tw o	0	PASS
manufactured_8x4... ference_1e-10_cpu	solver_relative_residual	3.11e-11	PASS	differential_properties_se ed_076	metal_modulus_scaling_by_ _two	0	PASS
manufactured_8x4... ference_1e-10_cpu	independent_double_relati ve_residual	3.11e-11	PASS	differential_properties_se ed_076	metal_maxwell_betti_recip rocity	5.82e-04	PASS
manufactured_8x4... ference_1e-10_cpu	rigid_body_constraint_ran k	6	PASS	differential_properties_se ed_076	metal_axis_permutation	2.48e-07	PASS
manufactured_8x4... ference_1e-10_cpu	force_equilibrium_relative_ error	2.68e-12	PASS	differential_properties_se ed_076	metal_axis_reflection	1.01e-05	PASS
manufactured_8x4... ference_1e-10_cpu	moment_equilibrium_relati ve_error	4.62e-12	PASS	differential_properties_se ed_076	cpu_all_property_solves_c onverged	1	PASS
manufactured_8x4... ference_1e-10_cpu	energy_identity_relative_er ror	4.59e-16	PASS	differential_properties_se ed_076	cpu_displacement_superp osition	1.15e-11	PASS
manufactured_8x4... ference_1e-10_cpu	displacement_all_finite	1	PASS	differential_properties_se ed_076	cpu_stress_superposition	6.28e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
manufactured_8x4... ference_1e-10_cpu	stress_all_finite	1	PASS	differential_properties_se ed_076	cpu_sign_reversal	0	PASS
manufactured_8x4... ference_1e-10_cpu	fallback_count	0	PASS	differential_properties_se ed_076	cpu_load_scaling_by_two	0	PASS
manufactured_8x4... ference_1e-10_cpu	reference_route_is_cpu_d ouble	1	PASS	differential_properties_se ed_076	cpu_modulus_scaling_by_t wo	6.74e-12	PASS
manufactured_8x4... ference_1e-10_cpu	reference_route_no_fallba ck	1	PASS	differential_properties_se ed_076	cpu_maxwell_betti_recipro city	1.66e-09	PASS
manufactured_8x4... elease_2e-5_metal	converged	1	PASS	differential_properties_se ed_076	cpu_axis_permutation	6.61e-12	PASS
manufactured_8x4... elease_2e-5_metal	solver_relative_residual	4.03e-06	PASS	differential_properties_se ed_076	cpu_axis_reflection	5.82e-12	PASS
manufactured_8x4... elease_2e-5_metal	independent_double_relati ve_residual	4.03e-06	PASS	differential_seed_077	converged	1	PASS
manufactured_8x4... elease_2e-5_metal	rigid_body_constraint_ran k	6	PASS	differential_seed_077	solver_relative_residual	1.42e-05	PASS
manufactured_8x4... elease_2e-5_metal	force_equilibrium_relative_ error	4.75e-07	PASS	differential_seed_077	independent_double_relati ve_residual	1.42e-05	PASS
manufactured_8x4... elease_2e-5_metal	moment_equilibrium_relati ve_error	7.53e-07	PASS	differential_seed_077	rigid_body_constraint_ran k	6	PASS
manufactured_8x4... elease_2e-5_metal	energy_identity_relative_er ror	3.56e-08	PASS	differential_seed_077	force_equilibrium_relative_ error	5.78e-07	PASS
manufactured_8x4... elease_2e-5_metal	displacement_all_finite	1	PASS	differential_seed_077	moment_equilibrium_relati ve_error	1.20e-06	PASS
manufactured_8x4... elease_2e-5_metal	stress_all_finite	1	PASS	differential_seed_077	energy_identity_relative_er ror	1.43e-07	PASS
manufactured_8x4... elease_2e-5_metal	fallback_count	0	PASS	differential_seed_077	displacement_all_finite	1	PASS
manufactured_8x4... elease_2e-5_metal	metal_execution_evidence_ _present	1	PASS	differential_seed_077	stress_all_finite	1	PASS
manufactured_8x4... elease_2e-5_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_077	fallback_count	0	PASS
manufactured_8x4... elease_2e-5_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_077	metal_execution_evidence_ _present	1	PASS
manufactured_8x4... elease_2e-5_metal	packaged_metallib_used	1	PASS	differential_seed_077	operator_backend_is_pack aged_host_p...	1	PASS
manufactured_8x4... elease_2e-5_metal	no_runtime_source_compil ation	1	PASS	differential_seed_077	persistent_metal_vector_b uffers	1	PASS
manufactured_8x4... elease_2e-5_metal	metal_fallback_count	0	PASS	differential_seed_077	packaged_metallib_used	1	PASS
manufactured_8x4... elease_2e-5_metal	release_displacement_l2_e xcess_over...	3.37e-06	PASS	differential_seed_077	no_runtime_source_compil ation	1	PASS
manufactured_8x4... elease_2e-5_metal	release_stress_l2_excess_ over_refer...	-2.91e-09	PASS	differential_seed_077	metal_fallback_count	0	PASS
manufactured_8x4... _tight_1e-8_metal	converged	1	PASS	differential_seed_077	converged	1	PASS
manufactured_8x4... _tight_1e-8_metal	displacement_all_finite	1	PASS	differential_seed_077	solver_relative_residual	8.51e-11	PASS
manufactured_8x4... _tight_1e-8_metal	metal_execution_evidence_ _present	1	PASS	differential_seed_077	independent_double_relati ve_residual	8.51e-11	PASS
manufactured_8x4... _tight_1e-8_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_077	rigid_body_constraint_ran k	6	PASS
manufactured_8x4... _tight_1e-8_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_077	force_equilibrium_relative_ error	3.26e-12	PASS
manufactured_8x4... _tight_1e-8_metal	packaged_metallib_used	1	PASS	differential_seed_077	moment_equilibrium_relati ve_error	1.71e-12	PASS
manufactured_8x4... _tight_1e-8_metal	no_runtime_source_compil ation	1	PASS	differential_seed_077	energy_identity_relative_er ror	2.98e-14	PASS
manufactured_8x4... _tight_1e-8_metal	metal_fallback_count	0	PASS	differential_seed_077	displacement_all_finite	1	PASS
manufactured_8x4... _tight_1e-8_metal	tight_displacement_l2_exc ess_over_r...	-6.49e-10	PASS	differential_seed_077	stress_all_finite	1	PASS
manufactured_12x... ference_1e-10_cpu	converged	1	PASS	differential_seed_077	fallback_count	0	PASS
manufactured_12x... ference_1e-10_cpu	solver_relative_residual	4.88e-11	PASS	differential_seed_077	reference_route_is_cpu_d ouble	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
manufactured_12x... ference_1e-10_cpu	independent_double_relati ve_residual	4.88e-11	PASS	differential_seed_077	reference_route_no_fallba ck	1	PASS
manufactured_12x... ference_1e-10_cpu	rigid_body_constraint_ran k	6	PASS	differential_seed_077	parity_displacement_relati ve_I2	1.01e-06	PASS
manufactured_12x... ference_1e-10_cpu	force_equilibrium_relative_ error	1.28e-12	PASS	differential_seed_077	parity_displacement_relati ve_linf	2.23e-06	PASS
manufactured_12x... ference_1e-10_cpu	moment_equilibrium_relati ve_error	2.05e-12	PASS	differential_seed_077	parity_reaction_relative_I2	2.74e-06	PASS
manufactured_12x... ference_1e-10_cpu	energy_identity_relative_er ror	1.50e-16	PASS	differential_seed_077	parity_reaction_relative_lin f	2.12e-06	PASS
manufactured_12x... ference_1e-10_cpu	displacement_all_finite	1	PASS	differential_seed_077	parity_stress_relative_I2	7.86e-06	PASS
manufactured_12x... ference_1e-10_cpu	stress_all_finite	1	PASS	differential_seed_077	parity_stress_relative_linf	3.98e-06	PASS
manufactured_12x... ference_1e-10_cpu	fallback_count	0	PASS	differential_seed_077	parity_strain_energy_relati ve_error	2.85e-07	PASS
manufactured_12x... ference_1e-10_cpu	reference_route_is_cpu_d ouble	1	PASS	differential_seed_077	zero_fallback_on_both_ba ckends	0	PASS
manufactured_12x... ference_1e-10_cpu	reference_route_no_fallba ck	1	PASS	differential_seed_078	converged	1	PASS
manufactured_12x... elease_2e-5_metal	converged	1	PASS	differential_seed_078	solver_relative_residual	1.55e-05	PASS
manufactured_12x... elease_2e-5_metal	solver_relative_residual	1.78e-05	PASS	differential_seed_078	independent_double_relati ve_residual	1.55e-05	PASS
manufactured_12x... elease_2e-5_metal	independent_double_relati ve_residual	1.78e-05	PASS	differential_seed_078	rigid_body_constraint_ran k	6	PASS
manufactured_12x... elease_2e-5_metal	rigid_body_constraint_ran k	6	PASS	differential_seed_078	force_equilibrium_relative_ error	5.56e-07	PASS
manufactured_12x... elease_2e-5_metal	force_equilibrium_relative_ error	1.72e-06	PASS	differential_seed_078	moment_equilibrium_relati ve_error	1.74e-06	PASS
manufactured_12x... elease_2e-5_metal	moment_equilibrium_relati ve_error	2.00e-06	PASS	differential_seed_078	energy_identity_relative_er ror	2.45e-08	PASS
manufactured_12x... elease_2e-5_metal	energy_identity_relative_er ror	8.52e-09	PASS	differential_seed_078	displacement_all_finite	1	PASS
manufactured_12x... elease_2e-5_metal	displacement_all_finite	1	PASS	differential_seed_078	stress_all_finite	1	PASS
manufactured_12x... elease_2e-5_metal	stress_all_finite	1	PASS	differential_seed_078	fallback_count	0	PASS
manufactured_12x... elease_2e-5_metal	fallback_count	0	PASS	differential_seed_078	metal_execution_evidence_ _present	1	PASS
manufactured_12x... elease_2e-5_metal	metal_execution_evidence_ _present	1	PASS	differential_seed_078	operator_backend_is_pack aged_host_p...	1	PASS
manufactured_12x... elease_2e-5_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_078	persistent_metal_vector_b uffers	1	PASS
manufactured_12x... elease_2e-5_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_078	packaged_metallib_used	1	PASS
manufactured_12x... elease_2e-5_metal	packaged_metallib_used	1	PASS	differential_seed_078	no_runtime_source_compil ation	1	PASS
manufactured_12x... elease_2e-5_metal	no_runtime_source_compil ation	1	PASS	differential_seed_078	metal_fallback_count	0	PASS
manufactured_12x... elease_2e-5_metal	metal_fallback_count	0	PASS	differential_seed_078	converged	1	PASS
manufactured_12x... elease_2e-5_metal	release_displacement_I2_e xcess_over...	7.30e-06	PASS	differential_seed_078	solver_relative_residual	6.36e-11	PASS
manufactured_12x... elease_2e-5_metal	release_stress_I2_excess_ over_refer...	-2.67e-07	PASS	differential_seed_078	independent_double_relati ve_residual	6.36e-11	PASS
manufactured_12x... _tight_1e-8_metal	converged	1	PASS	differential_seed_078	rigid_body_constraint_ran k	6	PASS
manufactured_12x... _tight_1e-8_metal	displacement_all_finite	1	PASS	differential_seed_078	force_equilibrium_relative_ error	2.70e-12	PASS
manufactured_12x... _tight_1e-8_metal	metal_execution_evidence_ _present	1	PASS	differential_seed_078	moment_equilibrium_relati ve_error	3.11e-12	PASS
manufactured_12x... _tight_1e-8_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_078	energy_identity_relative_er ror	1.98e-13	PASS
manufactured_12x... _tight_1e-8_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_078	displacement_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
manufactured_12x... _tight_1e-8_metal	packaged_metallib_used	1	PASS	differential_seed_078	stress_all_finite	1	PASS
manufactured_12x... _tight_1e-8_metal	no_runtime_source_compilation	1	PASS	differential_seed_078	fallback_count	0	PASS
manufactured_12x... _tight_1e-8_metal	metal_fallback_count	0	PASS	differential_seed_078	reference_route_is_cpu_double	1	PASS
manufactured_12x... _tight_1e-8_metal	tight_displacement_l2_excess_over_r...	-2.29e-10	PASS	differential_seed_078	reference_route_no_fallback	1	PASS
manufactured_16x... ference_1e-10_cpu	converged	1	PASS	differential_seed_078	parity_displacement_relative_l2	2.57e-06	PASS
manufactured_16x... ference_1e-10_cpu	solver_relative_residual	6.50e-11	PASS	differential_seed_078	parity_displacement_relative_linf	2.11e-06	PASS
manufactured_16x... ference_1e-10_cpu	independent_double_relative_residual	6.50e-11	PASS	differential_seed_078	parity_reaction_relative_l2	2.42e-06	PASS
manufactured_16x... ference_1e-10_cpu	rigid_body_constraint_rank	6	PASS	differential_seed_078	parity_reaction_relative_linf	1.29e-06	PASS
manufactured_16x... ference_1e-10_cpu	force_equilibrium_relative_error	3.81e-12	PASS	differential_seed_078	parity_stress_relative_l2	7.19e-06	PASS
manufactured_16x... ference_1e-10_cpu	moment_equilibrium_relative_error	6.67e-12	PASS	differential_seed_078	parity_stress_relative_linf	1.76e-06	PASS
manufactured_16x... ference_1e-10_cpu	energy_identity_relative_error	3.58e-15	PASS	differential_seed_078	parity_strain_energy_relative_error	4.90e-08	PASS
manufactured_16x... ference_1e-10_cpu	displacement_all_finite	1	PASS	differential_seed_078	zero_fallback_on_both_backends	0	PASS
manufactured_16x... ference_1e-10_cpu	stress_all_finite	1	PASS	differential_seed_079	converged	1	PASS
manufactured_16x... ference_1e-10_cpu	fallback_count	0	PASS	differential_seed_079	solver_relative_residual	1.38e-06	PASS
manufactured_16x... ference_1e-10_cpu	reference_route_is_cpu_double	1	PASS	differential_seed_079	independent_double_relative_residual	1.38e-06	PASS
manufactured_16x... ference_1e-10_cpu	reference_route_no_fallback	1	PASS	differential_seed_079	rigid_body_constraint_rank	6	PASS
manufactured_16x... elease_2e-5_metal	converged	1	PASS	differential_seed_079	force_equilibrium_relative_error	5.21e-08	PASS
manufactured_16x... elease_2e-5_metal	solver_relative_residual	1.08e-05	PASS	differential_seed_079	moment_equilibrium_relative_error	5.80e-08	PASS
manufactured_16x... elease_2e-5_metal	independent_double_relative_residual	1.08e-05	PASS	differential_seed_079	energy_identity_relative_error	1.19e-07	PASS
manufactured_16x... elease_2e-5_metal	rigid_body_constraint_rank	6	PASS	differential_seed_079	displacement_all_finite	1	PASS
manufactured_16x... elease_2e-5_metal	force_equilibrium_relative_error	6.27e-07	PASS	differential_seed_079	stress_all_finite	1	PASS
manufactured_16x... elease_2e-5_metal	moment_equilibrium_relative_error	1.02e-06	PASS	differential_seed_079	fallback_count	0	PASS
manufactured_16x... elease_2e-5_metal	energy_identity_relative_error	2.49e-10	PASS	differential_seed_079	metal_execution_evidence_present	1	PASS
manufactured_16x... elease_2e-5_metal	displacement_all_finite	1	PASS	differential_seed_079	operator_backend_is_packaged_host_p...	1	PASS
manufactured_16x... elease_2e-5_metal	stress_all_finite	1	PASS	differential_seed_079	persistent_metal_vector_buffers	1	PASS
manufactured_16x... elease_2e-5_metal	fallback_count	0	PASS	differential_seed_079	packaged_metallib_used	1	PASS
manufactured_16x... elease_2e-5_metal	metal_execution_evidence_present	1	PASS	differential_seed_079	no_runtime_source_compilation	1	PASS
manufactured_16x... elease_2e-5_metal	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_079	metal_fallback_count	0	PASS
manufactured_16x... elease_2e-5_metal	persistent_metal_vector_buffers	1	PASS	differential_seed_079	converged	1	PASS
manufactured_16x... elease_2e-5_metal	packaged_metallib_used	1	PASS	differential_seed_079	solver_relative_residual	7.99e-11	PASS
manufactured_16x... elease_2e-5_metal	no_runtime_source_compilation	1	PASS	differential_seed_079	independent_double_relative_residual	7.99e-11	PASS
manufactured_16x... elease_2e-5_metal	metal_fallback_count	0	PASS	differential_seed_079	rigid_body_constraint_rank	6	PASS
manufactured_16x... elease_2e-5_metal	release_displacement_l2_excess_over...	6.33e-06	PASS	differential_seed_079	force_equilibrium_relative_error	2.42e-12	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
manufactured_16x... elease_2e-5_metal	release_stress_l2_excess_ over_refer...	2.26e-08	PASS	differential_seed_079	moment_equilibrium_relati ve_error	3.06e-12	PASS
manufactured_16x... _tight_1e-8_metal	converged	1	PASS	differential_seed_079	energy_identity_relative_er ror	2.90e-13	PASS
manufactured_16x... _tight_1e-8_metal	displacement_all_finite	1	PASS	differential_seed_079	displacement_all_finite	1	PASS
manufactured_16x... _tight_1e-8_metal	metal_execution_evidence _present	1	PASS	differential_seed_079	stress_all_finite	1	PASS
manufactured_16x... _tight_1e-8_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_079	fallback_count	0	PASS
manufactured_16x... _tight_1e-8_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_079	reference_route_is_cpu_d ouble	1	PASS
manufactured_16x... _tight_1e-8_metal	packaged_metallib_used	1	PASS	differential_seed_079	reference_route_no_fallba ck	1	PASS
manufactured_16x... _tight_1e-8_metal	no_runtime_source_compil ation	1	PASS	differential_seed_079	parity_displacement_relati ve_l2	4.73e-07	PASS
manufactured_16x... _tight_1e-8_metal	metal_fallback_count	0	PASS	differential_seed_079	parity_displacement_relati ve_linf	9.46e-07	PASS
manufactured_16x... _tight_1e-8_metal	tight_displacement_l2_exc ess_over_r...	5.41e-09	PASS	differential_seed_079	parity_reaction_relative_l2	1.98e-07	PASS
manufactured_24x... ference_1e-10_cpu	converged	1	PASS	differential_seed_079	parity_reaction_relative_lin f	2.26e-07	PASS
manufactured_24x... ference_1e-10_cpu	solver_relative_residual	8.13e-11	PASS	differential_seed_079	parity_stress_relative_l2	7.16e-07	PASS
manufactured_24x... ference_1e-10_cpu	independent_double_relati ve_residual	8.13e-11	PASS	differential_seed_079	parity_stress_relative_linf	6.61e-07	PASS
manufactured_24x... ference_1e-10_cpu	rigid_body_constraint_ran k	6	PASS	differential_seed_079	parity_strain_energy_relati ve_error	2.38e-07	PASS
manufactured_24x... ference_1e-10_cpu	force_equilibrium_relative_ error	5.02e-12	PASS	differential_seed_079	zero_fallback_on_both_ba ckends	0	PASS
manufactured_24x... ference_1e-10_cpu	moment_equilibrium_relati ve_error	6.97e-12	PASS	differential_seed_080	converged	1	PASS
manufactured_24x... ference_1e-10_cpu	energy_identity_relative_er ror	4.61e-15	PASS	differential_seed_080	solver_relative_residual	9.95e-07	PASS
manufactured_24x... ference_1e-10_cpu	displacement_all_finite	1	PASS	differential_seed_080	independent_double_relati ve_residual	9.95e-07	PASS
manufactured_24x... ference_1e-10_cpu	stress_all_finite	1	PASS	differential_seed_080	rigid_body_constraint_ran k	6	PASS
manufactured_24x... ference_1e-10_cpu	fallback_count	0	PASS	differential_seed_080	force_equilibrium_relative_ error	5.59e-08	PASS
manufactured_24x... ference_1e-10_cpu	reference_route_is_cpu_d ouble	1	PASS	differential_seed_080	moment_equilibrium_relati ve_error	5.49e-08	PASS
manufactured_24x... ference_1e-10_cpu	reference_route_no_fallba ck	1	PASS	differential_seed_080	energy_identity_relative_er ror	3.18e-08	PASS
manufactured_24x... elease_2e-5_metal	converged	1	PASS	differential_seed_080	displacement_all_finite	1	PASS
manufactured_24x... elease_2e-5_metal	solver_relative_residual	1.67e-05	PASS	differential_seed_080	stress_all_finite	1	PASS
manufactured_24x... elease_2e-5_metal	independent_double_relati ve_residual	1.67e-05	PASS	differential_seed_080	fallback_count	0	PASS
manufactured_24x... elease_2e-5_metal	rigid_body_constraint_ran k	6	PASS	differential_seed_080	metal_execution_evidence _present	1	PASS
manufactured_24x... elease_2e-5_metal	force_equilibrium_relative_ error	2.74e-07	PASS	differential_seed_080	operator_backend_is_pack aged_host_p...	1	PASS
manufactured_24x... elease_2e-5_metal	moment_equilibrium_relati ve_error	3.13e-07	PASS	differential_seed_080	persistent_metal_vector_b uffers	1	PASS
manufactured_24x... elease_2e-5_metal	energy_identity_relative_er ror	7.25e-10	PASS	differential_seed_080	packaged_metallib_used	1	PASS
manufactured_24x... elease_2e-5_metal	displacement_all_finite	1	PASS	differential_seed_080	no_runtime_source_compil ation	1	PASS
manufactured_24x... elease_2e-5_metal	stress_all_finite	1	PASS	differential_seed_080	metal_fallback_count	0	PASS
manufactured_24x... elease_2e-5_metal	fallback_count	0	PASS	differential_seed_080	converged	1	PASS
manufactured_24x... elease_2e-5_metal	metal_execution_evidence _present	1	PASS	differential_seed_080	solver_relative_residual	7.50e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
manufactured_24x... elease_2e-5_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_080	independent_double_relati ve_residual	7.50e-11	PASS
manufactured_24x... elease_2e-5_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_080	rigid_body_constraint_ran k	6	PASS
manufactured_24x... elease_2e-5_metal	packaged_metallib_used	1	PASS	differential_seed_080	force_equilibrium_relative_ error	1.60e-11	PASS
manufactured_24x... elease_2e-5_metal	no_runtime_source_compil ation	1	PASS	differential_seed_080	moment_equilibrium_relati ve_error	2.17e-11	PASS
manufactured_24x... elease_2e-5_metal	metal_fallback_count	0	PASS	differential_seed_080	energy_identity_relative_er ror	2.27e-13	PASS
manufactured_24x... elease_2e-5_metal	release_displacement_l2_e xcess_over...	5.04e-06	PASS	differential_seed_080	displacement_all_finite	1	PASS
manufactured_24x... elease_2e-5_metal	release_stress_l2_excess_ over_refer...	4.52e-08	PASS	differential_seed_080	stress_all_finite	1	PASS
manufactured_24x... _tight_1e-8_metal	converged	1	PASS	differential_seed_080	fallback_count	0	PASS
manufactured_24x... _tight_1e-8_metal	displacement_all_finite	1	PASS	differential_seed_080	reference_route_is_cpu_d ouble	1	PASS
manufactured_24x... _tight_1e-8_metal	metal_execution_evidence _present	1	PASS	differential_seed_080	reference_route_no_fallba ck	1	PASS
manufactured_24x... _tight_1e-8_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_080	parity_displacement_relati ve_l2	2.31e-07	PASS
manufactured_24x... _tight_1e-8_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_080	parity_displacement_relati ve_linf	2.12e-07	PASS
manufactured_24x... _tight_1e-8_metal	packaged_metallib_used	1	PASS	differential_seed_080	parity_reaction_relative_l2	6.80e-08	PASS
manufactured_24x... _tight_1e-8_metal	no_runtime_source_compil ation	1	PASS	differential_seed_080	parity_reaction_relative_lin f	8.29e-08	PASS
manufactured_24x... _tight_1e-8_metal	metal_fallback_count	0	PASS	differential_seed_080	parity_stress_relative_l2	4.02e-07	PASS
manufactured_24x... _tight_1e-8_metal	tight_displacement_l2_exc ess_over_r...	2.74e-09	PASS	differential_seed_080	parity_stress_relative_linf	3.80e-07	PASS
manufactured_32x... ference_1e-10_cpu	converged	1	PASS	differential_seed_080	parity_strain_energy_relati ve_error	6.35e-08	PASS
manufactured_32x... ference_1e-10_cpu	solver_relative_residual	9.78e-11	PASS	differential_seed_080	zero_fallback_on_both_ba ckends	0	PASS
manufactured_32x... ference_1e-10_cpu	independent_double_relati ve_residual	9.78e-11	PASS	differential_properties_se ed_080	metal_all_property_solves _converged	1	PASS
manufactured_32x... ference_1e-10_cpu	rigid_body_constraint_ran k	6	PASS	differential_properties_se ed_080	metal_displacement_super position	1.00e-07	PASS
manufactured_32x... ference_1e-10_cpu	force_equilibrium_relative_ error	6.40e-12	PASS	differential_properties_se ed_080	metal_stress_superpositio n	1.65e-07	PASS
manufactured_32x... ference_1e-10_cpu	moment_equilibrium_relati ve_error	7.07e-12	PASS	differential_properties_se ed_080	metal_sign_reversal	0	PASS
manufactured_32x... ference_1e-10_cpu	energy_identity_relative_er ror	6.09e-15	PASS	differential_properties_se ed_080	metal_load_scaling_by_tw o	0	PASS
manufactured_32x... ference_1e-10_cpu	displacement_all_finite	1	PASS	differential_properties_se ed_080	metal_modulus_scaling_by _two	0	PASS
manufactured_32x... ference_1e-10_cpu	stress_all_finite	1	PASS	differential_properties_se ed_080	metal_maxwell_betti_recip rocity	2.47e-07	PASS
manufactured_32x... ference_1e-10_cpu	fallback_count	0	PASS	differential_properties_se ed_080	metal_axis_permutation	1.45e-07	PASS
manufactured_32x... ference_1e-10_cpu	reference_route_is_cpu_d ouble	1	PASS	differential_properties_se ed_080	metal_axis_reflection	2.02e-07	PASS
manufactured_32x... ference_1e-10_cpu	reference_route_no_fallba ck	1	PASS	differential_properties_se ed_080	cpu_all_property_solves_c onverged	1	PASS
manufactured_32x... elease_2e-5_metal	converged	1	PASS	differential_properties_se ed_080	cpu_displacement_superp osition	4.70e-11	PASS
manufactured_32x... elease_2e-5_metal	solver_relative_residual	1.53e-05	PASS	differential_properties_se ed_080	cpu_stress_superposition	6.65e-11	PASS
manufactured_32x... elease_2e-5_metal	independent_double_relati ve_residual	1.53e-05	PASS	differential_properties_se ed_080	cpu_sign_reversal	0	PASS
manufactured_32x... elease_2e-5_metal	rigid_body_constraint_ran k	6	PASS	differential_properties_se ed_080	cpu_load_scaling_by_two	0	PASS
manufactured_32x... elease_2e-5_metal	force_equilibrium_relative_ error	7.35e-07	PASS	differential_properties_se ed_080	cpu_modulus_scaling_by_t wo	1.55e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
manufactured_32x... elease_2e-5_metal	moment_equilibrium_relati ve_error	5.97e-07	PASS	differential_properties_se ed_080	cpu_maxwell_betti_recipro city	5.62e-10	PASS
manufactured_32x... elease_2e-5_metal	energy_identity_relative_er ror	1.47e-09	PASS	differential_properties_se ed_080	cpu_axis_permutation	2.32e-12	PASS
manufactured_32x... elease_2e-5_metal	displacement_all_finite	1	PASS	differential_properties_se ed_080	cpu_axis_reflection	1.12e-11	PASS
manufactured_32x... elease_2e-5_metal	stress_all_finite	1	PASS	differential_seed_081	converged	1	PASS
manufactured_32x... elease_2e-5_metal	fallback_count	0	PASS	differential_seed_081	solver_relative_residual	1.03e-06	PASS
manufactured_32x... elease_2e-5_metal	metal_execution_evidence _present	1	PASS	differential_seed_081	independent_double_relati ve_residual	1.03e-06	PASS
manufactured_32x... elease_2e-5_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_081	rigid_body_constraint_ran k	6	PASS
manufactured_32x... elease_2e-5_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_081	force_equilibrium_relative_ error	3.59e-08	PASS
manufactured_32x... elease_2e-5_metal	packaged_metallib_used	1	PASS	differential_seed_081	moment_equilibrium_relati ve_error	2.48e-08	PASS
manufactured_32x... elease_2e-5_metal	no_runtime_source_compil ation	1	PASS	differential_seed_081	energy_identity_relative_er ror	2.74e-08	PASS
manufactured_32x... elease_2e-5_metal	metal_fallback_count	0	PASS	differential_seed_081	displacement_all_finite	1	PASS
manufactured_32x... elease_2e-5_metal	release_displacement_l2_e xcess_over...	-1.37e-05	PASS	differential_seed_081	stress_all_finite	1	PASS
manufactured_32x... elease_2e-5_metal	release_stress_l2_excess_ over_refer...	2.39e-08	PASS	differential_seed_081	fallback_count	0	PASS
manufactured_32x... _tight_1e-8_metal	converged	1	PASS	differential_seed_081	metal_execution_evidence _present	1	PASS
manufactured_32x... _tight_1e-8_metal	displacement_all_finite	1	PASS	differential_seed_081	operator_backend_is_pack aged_host_p...	1	PASS
manufactured_32x... _tight_1e-8_metal	metal_execution_evidence _present	1	PASS	differential_seed_081	persistent_metal_vector_b uffers	1	PASS
manufactured_32x... _tight_1e-8_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_081	packaged_metallib_used	1	PASS
manufactured_32x... _tight_1e-8_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_081	no_runtime_source_compil ation	1	PASS
manufactured_32x... _tight_1e-8_metal	packaged_metallib_used	1	PASS	differential_seed_081	metal_fallback_count	0	PASS
manufactured_32x... _tight_1e-8_metal	no_runtime_source_compil ation	1	PASS	differential_seed_081	converged	1	PASS
manufactured_32x... _tight_1e-8_metal	metal_fallback_count	0	PASS	differential_seed_081	solver_relative_residual	7.25e-11	PASS
manufactured_32x... _tight_1e-8_metal	tight_displacement_l2_exc ess_over_r...	4.86e-09	PASS	differential_seed_081	independent_double_relati ve_residual	7.25e-11	PASS
manufactured_48x... ference_1e-10_cpu	converged	1	PASS	differential_seed_081	rigid_body_constraint_ran k	6	PASS
manufactured_48x... ference_1e-10_cpu	solver_relative_residual	9.99e-11	PASS	differential_seed_081	force_equilibrium_relative_ error	4.96e-12	PASS
manufactured_48x... ference_1e-10_cpu	independent_double_relati ve_residual	9.99e-11	PASS	differential_seed_081	moment_equilibrium_relati ve_error	2.65e-12	PASS
manufactured_48x... ference_1e-10_cpu	rigid_body_constraint_ran k	6	PASS	differential_seed_081	energy_identity_relative_er ror	5.81e-14	PASS
manufactured_48x... ference_1e-10_cpu	force_equilibrium_relative_ error	6.62e-12	PASS	differential_seed_081	displacement_all_finite	1	PASS
manufactured_48x... ference_1e-10_cpu	moment_equilibrium_relati ve_error	6.09e-12	PASS	differential_seed_081	stress_all_finite	1	PASS
manufactured_48x... ference_1e-10_cpu	energy_identity_relative_er ror	5.93e-16	PASS	differential_seed_081	fallback_count	0	PASS
manufactured_48x... ference_1e-10_cpu	displacement_all_finite	1	PASS	differential_seed_081	reference_route_is_cpu_d ouble	1	PASS
manufactured_48x... ference_1e-10_cpu	stress_all_finite	1	PASS	differential_seed_081	reference_route_no_fallba ck	1	PASS
manufactured_48x... ference_1e-10_cpu	fallback_count	0	PASS	differential_seed_081	parity_displacement_relati ve_l2	2.25e-07	PASS
manufactured_48x... ference_1e-10_cpu	reference_route_is_cpu_d ouble	1	PASS	differential_seed_081	parity_displacement_relati ve_linf	5.61e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
manufactured_48x... ference_1e-10_cpu	reference_route_no_fallba ck	1	PASS	differential_seed_081	parity_reaction_relative_l2	1.48e-07	PASS
manufactured_48x... elease_2e-5_metal	converged	1	PASS	differential_seed_081	parity_reaction_relative_lin f	2.32e-07	PASS
manufactured_48x... elease_2e-5_metal	solver_relative_residual	1.49e-05	PASS	differential_seed_081	parity_stress_relative_l2	7.82e-07	PASS
manufactured_48x... elease_2e-5_metal	independent_double_relati ve_residual	1.49e-05	PASS	differential_seed_081	parity_stress_relative_linf	1.11e-06	PASS
manufactured_48x... elease_2e-5_metal	rigid_body_constraint_ran k	6	PASS	differential_seed_081	parity_strain_energy_relati ve_error	5.48e-08	PASS
manufactured_48x... elease_2e-5_metal	force_equilibrium_relative_ error	2.87e-07	PASS	differential_seed_081	zero_fallback_on_both_ba ckends	0	PASS
manufactured_48x... elease_2e-5_metal	moment_equilibrium_relati ve_error	4.35e-07	PASS	differential_seed_082	converged	1	PASS
manufactured_48x... elease_2e-5_metal	energy_identity_relative_er ror	1.79e-10	PASS	differential_seed_082	solver_relative_residual	1.60e-05	PASS
manufactured_48x... elease_2e-5_metal	displacement_all_finite	1	PASS	differential_seed_082	independent_double_relati ve_residual	1.60e-05	PASS
manufactured_48x... elease_2e-5_metal	stress_all_finite	1	PASS	differential_seed_082	rigid_body_constraint_ran k	6	PASS
manufactured_48x... elease_2e-5_metal	fallback_count	0	PASS	differential_seed_082	force_equilibrium_relative_ error	4.05e-07	PASS
manufactured_48x... elease_2e-5_metal	metal_execution_evidence_ _present	1	PASS	differential_seed_082	moment_equilibrium_relati ve_error	8.45e-07	PASS
manufactured_48x... elease_2e-5_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_082	energy_identity_relative_er ror	5.81e-08	PASS
manufactured_48x... elease_2e-5_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_082	displacement_all_finite	1	PASS
manufactured_48x... elease_2e-5_metal	packaged_metallib_used	1	PASS	differential_seed_082	stress_all_finite	1	PASS
manufactured_48x... elease_2e-5_metal	no_runtime_source_compil ation	1	PASS	differential_seed_082	fallback_count	0	PASS
manufactured_48x... elease_2e-5_metal	metal_fallback_count	0	PASS	differential_seed_082	metal_execution_evidence_ _present	1	PASS
manufactured_48x... _tight_1e-8_metal	converged	1	PASS	differential_seed_082	operator_backend_is_pack aged_host_p...	1	PASS
manufactured_48x... _tight_1e-8_metal	displacement_all_finite	1	PASS	differential_seed_082	persistent_metal_vector_b uffers	1	PASS
manufactured_48x... _tight_1e-8_metal	metal_execution_evidence_ _present	1	PASS	differential_seed_082	packaged_metallib_used	1	PASS
manufactured_48x... _tight_1e-8_metal	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_082	no_runtime_source_compil ation	1	PASS
manufactured_48x... _tight_1e-8_metal	persistent_metal_vector_b uffers	1	PASS	differential_seed_082	metal_fallback_count	0	PASS
manufactured_48x... _tight_1e-8_metal	packaged_metallib_used	1	PASS	differential_seed_082	converged	1	PASS
manufactured_48x... _tight_1e-8_metal	no_runtime_source_compil ation	1	PASS	differential_seed_082	solver_relative_residual	6.43e-11	PASS
manufactured_48x... _tight_1e-8_metal	metal_fallback_count	0	PASS	differential_seed_082	independent_double_relati ve_residual	6.43e-11	PASS
manufactured_48x... _tight_1e-8_metal	tight_displacement_l2_exc ess_over_r...	-5.93e-10	PASS	differential_seed_082	rigid_body_constraint_ran k	6	PASS
manufactured_convergen ce_summary	refinement_levels	7	PASS	differential_seed_082	force_equilibrium_relative_ error	2.99e-12	PASS
manufactured_convergen ce_summary	displacement_l2_finetest_p air_order	2	PASS	differential_seed_082	moment_equilibrium_relati ve_error	7.04e-12	PASS
manufactured_convergen ce_summary	stress_l2_finetest_pair_orde r	0.999	PASS	differential_seed_082	energy_identity_relative_er ror	8.06e-15	PASS
manufactured_convergen ce_summary	displacement_l2_asymptot ic_range_re...	1	PASS	differential_seed_082	displacement_all_finite	1	PASS
manufactured_convergen ce_summary	stress_l2_asymptotic_rang e_reached	1	PASS	differential_seed_082	stress_all_finite	1	PASS
manufactured_convergen ce_summary	displacement_l2_error_fall s_monoton...	1	PASS	differential_seed_082	fallback_count	0	PASS
manufactured_convergen ce_summary	finest_displacement_l2_ref erence	0.0013	PASS	differential_seed_082	reference_route_is_cpu_d ouble	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
manufactured_convergence_summary	worst_gated_release_displacement_I2...	7.30e-06	PASS	differential_seed_082	reference_route_no_fallback	1	PASS
manufactured_convergence_summary	worst_tight_displacement_I2_excess_...	5.41e-09	PASS	differential_seed_082	parity_displacement_relative_I2	8.99e-06	PASS
operator_E1e06_nu0.000_h1x1x1	entries_finite	1	PASS	differential_seed_082	parity_displacement_relative_linf	1.30e-05	PASS
operator_E1e06_nu0.000_h1x1x1	symmetry_relative	2.15e-17	PASS	differential_seed_082	parity_reaction_relative_I2	3.93e-06	PASS
operator_E1e06_nu0.000_h1x1x1	rigid_mode_force_ratio	3.96e-17	PASS	differential_seed_082	parity_reaction_relative_linf	4.97e-06	PASS
operator_E1e06_nu0.000_h1x1x1	null_space_dimension	6	PASS	differential_seed_082	parity_stress_relative_I2	1.37e-05	PASS
operator_E1e06_nu0.000_h1x1x1	rank	18	PASS	differential_seed_082	parity_stress_relative_linf	1.53e-05	PASS
operator_E1e06_nu0.000_h1x1x1	minimum_eigenvalue_ratio	-1.12e-16	PASS	differential_seed_082	parity_strain_energy_relative_error	1.16e-07	PASS
operator_E1e06_nu0.000_h1x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_082	zero_fallback_on_both_backends	0	PASS
operator_E1e06_nu0.000_h1x1x1	independent_condensation_relative_g...	8.57e-17	PASS	differential_seed_083	converged	1	PASS
operator_E1e06_nu0.000_h1x1x1	axis_permutation_relative_gap	1.88e-16	PASS	differential_seed_083	solver_relative_residual	1.17e-05	PASS
operator_E1e06_nu0.000_h1x1x1	axis_reflection_relative_gap	2.24e-16	PASS	differential_seed_083	independent_double_relative_residual	1.17e-05	PASS
operator_E1e06_nu0.000_h1x1x1	modulus_scaling_relative_gap	8.61e-17	PASS	differential_seed_083	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.000_h2x1x1	entries_finite	1	PASS	differential_seed_083	force_equilibrium_relative_error	2.33e-07	PASS
operator_E1e06_nu0.000_h2x1x1	symmetry_relative	1.35e-17	PASS	differential_seed_083	moment_equilibrium_relative_error	2.05e-07	PASS
operator_E1e06_nu0.000_h2x1x1	rigid_mode_force_ratio	3.89e-17	PASS	differential_seed_083	energy_identity_relative_error	3.25e-08	PASS
operator_E1e06_nu0.000_h2x1x1	null_space_dimension	6	PASS	differential_seed_083	displacement_all_finite	1	PASS
operator_E1e06_nu0.000_h2x1x1	rank	18	PASS	differential_seed_083	stress_all_finite	1	PASS
operator_E1e06_nu0.000_h2x1x1	minimum_eigenvalue_ratio	-1.14e-16	PASS	differential_seed_083	fallback_count	0	PASS
operator_E1e06_nu0.000_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_083	metal_execution_evidence_present	1	PASS
operator_E1e06_nu0.000_h2x1x1	independent_condensation_relative_g...	6.71e-17	PASS	differential_seed_083	operator_backend_is_packaged_host_p...	1	PASS
operator_E1e06_nu0.000_h2x1x1	axis_permutation_relative_gap	1.37e-16	PASS	differential_seed_083	persistent_metal_vector_buffers	1	PASS
operator_E1e06_nu0.000_h2x1x1	axis_reflection_relative_gap	1.60e-16	PASS	differential_seed_083	packaged_metallib_used	1	PASS
operator_E1e06_nu0.000_h2x1x1	modulus_scaling_relative_gap	3.37e-17	PASS	differential_seed_083	no_runtime_source_compilation	1	PASS
operator_E1e06_nu0.000_h1x3x1	entries_finite	1	PASS	differential_seed_083	metal_fallback_count	0	PASS
operator_E1e06_nu0.000_h1x3x1	symmetry_relative	9.25e-18	PASS	differential_seed_083	converged	1	PASS
operator_E1e06_nu0.000_h1x3x1	rigid_mode_force_ratio	4.04e-17	PASS	differential_seed_083	solver_relative_residual	9.72e-11	PASS
operator_E1e06_nu0.000_h1x3x1	null_space_dimension	6	PASS	differential_seed_083	independent_double_relative_residual	9.72e-11	PASS
operator_E1e06_nu0.000_h1x3x1	rank	18	PASS	differential_seed_083	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.000_h1x3x1	minimum_eigenvalue_ratio	-6.61e-17	PASS	differential_seed_083	force_equilibrium_relative_error	1.92e-12	PASS
operator_E1e06_nu0.000_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_083	moment_equilibrium_relative_error	3.17e-12	PASS
operator_E1e06_nu0.000_h1x3x1	independent_condensation_relative_g...	4.44e-17	PASS	differential_seed_083	energy_identity_relative_error	1.35e-15	PASS
operator_E1e06_nu0.000_h1x3x1	axis_permutation_relative_gap	1.40e-16	PASS	differential_seed_083	displacement_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_nu0.000_h1x3x1	axis_reflection_relative_gap	1.18e-16	PASS	differential_seed_083	stress_all_finite	1	PASS
operator_E1e06_nu0.000_h1x3x1	modulus_scaling_relative_gap	7.40e-17	PASS	differential_seed_083	fallback_count	0	PASS
operator_E1e06_nu0.000_h1x1x5	entries_finite	1	PASS	differential_seed_083	reference_route_is_cpu_double	1	PASS
operator_E1e06_nu0.000_h1x1x5	symmetry_relative	2.81e-18	PASS	differential_seed_083	reference_route_no_fallback	1	PASS
operator_E1e06_nu0.000_h1x1x5	rigid_mode_force_ratio	3.50e-17	PASS	differential_seed_083	parity_displacement_relative_l2	5.77e-07	PASS
operator_E1e06_nu0.000_h1x1x5	null_space_dimension	6	PASS	differential_seed_083	parity_displacement_relative_linf	1.89e-06	PASS
operator_E1e06_nu0.000_h1x1x5	rank	18	PASS	differential_seed_083	parity_reaction_relative_l2	6.57e-07	PASS
operator_E1e06_nu0.000_h1x1x5	minimum_eigenvalue_ratio	-1.52e-16	PASS	differential_seed_083	parity_reaction_relative_linf	5.08e-07	PASS
operator_E1e06_nu0.000_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_083	parity_stress_relative_l2	2.75e-06	PASS
operator_E1e06_nu0.000_h1x1x5	independent_condensation_relative_g...	1.27e-17	PASS	differential_seed_083	parity_stress_relative_linf	2.38e-06	PASS
operator_E1e06_nu0.000_h1x1x5	axis_permutation_relative_gap	1.41e-16	PASS	differential_seed_083	parity_strain_energy_relative_error	6.49e-08	PASS
operator_E1e06_nu0.000_h1x1x5	axis_reflection_relative_gap	1.25e-16	PASS	differential_seed_083	zero_fallback_on_both_backends	0	PASS
operator_E1e06_nu0.000_h1x1x5	modulus_scaling_relative_gap	4.50e-17	PASS	differential_seed_084	converged	1	PASS
operator_E1e06_nu0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_084	solver_relative_residual	7.60e-07	PASS
operator_E1e06_nu0.01x0.01x0.01	symmetry_relative	4.20e-18	PASS	differential_seed_084	independent_double_relative_residual	7.60e-07	PASS
operator_E1e06_nu0.01x0.01x0.01	rigid_mode_force_ratio	2.23e-17	PASS	differential_seed_084	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_084	force_equilibrium_relative_error	9.05e-08	PASS
operator_E1e06_nu0.01x0.01x0.01	rank	18	PASS	differential_seed_084	moment_equilibrium_relative_error	6.56e-08	PASS
operator_E1e06_nu0.01x0.01x0.01	minimum_eigenvalue_ratio	-1.98e-16	PASS	differential_seed_084	energy_identity_relative_error	5.37e-08	PASS
operator_E1e06_nu0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_084	displacement_all_finite	1	PASS
operator_E1e06_nu0.01x0.01x0.01	independent_condensation_relative_g...	2.27e-17	PASS	differential_seed_084	stress_all_finite	1	PASS
operator_E1e06_nu0.01x0.01x0.01	axis_permutation_relative_gap	8.52e-17	PASS	differential_seed_084	fallback_count	0	PASS
operator_E1e06_nu0.01x0.01x0.01	axis_reflection_relative_gap	9.46e-17	PASS	differential_seed_084	metal_execution_evidence_present	1	PASS
operator_E1e06_nu0.01x0.01x0.01	modulus_scaling_relative_gap	5.04e-17	PASS	differential_seed_084	operator_backend_is_packaged_host_p...	1	PASS
operator_E1e06_nu0.000_h10x1x0.1	entries_finite	1	PASS	differential_seed_084	persistent_metal_vector_buffers	1	PASS
operator_E1e06_nu0.000_h10x1x0.1	symmetry_relative	1.39e-17	PASS	differential_seed_084	packaged_metallib_used	1	PASS
operator_E1e06_nu0.000_h10x1x0.1	rigid_mode_force_ratio	4.02e-17	PASS	differential_seed_084	no_runtime_source_compilation	1	PASS
operator_E1e06_nu0.000_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_084	metal_fallback_count	0	PASS
operator_E1e06_nu0.000_h10x1x0.1	rank	18	PASS	differential_seed_084	converged	1	PASS
operator_E1e06_nu0.000_h10x1x0.1	minimum_eigenvalue_ratio	-8.54e-17	PASS	differential_seed_084	solver_relative_residual	6.33e-11	PASS
operator_E1e06_nu0.000_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_084	independent_double_relative_residual	6.33e-11	PASS
operator_E1e06_nu0.000_h10x1x0.1	independent_condensation_relative_g...	7.98e-17	PASS	differential_seed_084	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.000_h10x1x0.1	axis_permutation_relative_gap	1.35e-16	PASS	differential_seed_084	force_equilibrium_relative_error	5.94e-12	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_nu0.000_h10x1x0.1	axis_reflection_relative_gap	1.66e-16	PASS	differential_seed_084	moment_equilibrium_relative_error	1.37e-11	PASS
operator_E1e06_nu0.000_h10x1x0.1	modulus_scaling_relative_gap	8.32e-17	PASS	differential_seed_084	energy_identity_relative_error	4.26e-14	PASS
operator_E1e06_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_084	displacement_all_finite	1	PASS
operator_E1e06_nu0.011x0.009x0.013	symmetry_relative	1.44e-17	PASS	differential_seed_084	stress_all_finite	1	PASS
operator_E1e06_nu0.011x0.009x0.013	rigid_mode_force_ratio	5.52e-17	PASS	differential_seed_084	fallback_count	0	PASS
operator_E1e06_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_084	reference_route_is_cpu_double	1	PASS
operator_E1e06_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_084	reference_route_no_fallback	1	PASS
operator_E1e06_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-7.96e-17	PASS	differential_seed_084	parity_displacement_relative_I2	1.40e-07	PASS
operator_E1e06_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_084	parity_displacement_relative_linf	1.57e-07	PASS
operator_E1e06_nu0.011x0.009x0.013	independent_condensation_relative_g...	9.29e-17	PASS	differential_seed_084	parity_reaction_relative_I2	1.33e-07	PASS
operator_E1e06_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.40e-16	PASS	differential_seed_084	parity_reaction_relative_linf	1.09e-07	PASS
operator_E1e06_nu0.011x0.009x0.013	axis_reflection_relative_gap	1.45e-16	PASS	differential_seed_084	parity_stress_relative_I2	3.11e-07	PASS
operator_E1e06_nu0.011x0.009x0.013	modulus_scaling_relative_gap	8.63e-17	PASS	differential_seed_084	parity_stress_relative_linf	2.49e-07	PASS
operator_E1e06_nu0.200_h1x1x1	entries_finite	1	PASS	differential_seed_084	parity_strain_energy_relative_error	1.07e-07	PASS
operator_E1e06_nu0.200_h1x1x1	symmetry_relative	1.05e-17	PASS	differential_seed_084	zero_fallback_on_both_backends	0	PASS
operator_E1e06_nu0.200_h1x1x1	rigid_mode_force_ratio	4.81e-17	PASS	differential_properties_see_084	metal_all_property_solves_converged	1	PASS
operator_E1e06_nu0.200_h1x1x1	null_space_dimension	6	PASS	differential_properties_see_084	metal_displacement_superposition	1.19e-07	PASS
operator_E1e06_nu0.200_h1x1x1	rank	18	PASS	differential_properties_see_084	metal_stress_superposition	2.55e-07	PASS
operator_E1e06_nu0.200_h1x1x1	minimum_eigenvalue_ratio	-1.10e-16	PASS	differential_properties_see_084	metal_sign_reversal	0	PASS
operator_E1e06_nu0.200_h1x1x1	random_energy_ratio_minimum	0	PASS	differential_properties_see_084	metal_load_scaling_by_two	0	PASS
operator_E1e06_nu0.200_h1x1x1	independent_condensation_relative_g...	7.97e-17	PASS	differential_properties_see_084	metal_modulus_scaling_by_two	0	PASS
operator_E1e06_nu0.200_h1x1x1	axis_permutation_relative_gap	1.16e-16	PASS	differential_properties_see_084	metal_maxwell_betti_reciprocity	1.10e-07	PASS
operator_E1e06_nu0.200_h1x1x1	axis_reflection_relative_gap	1.09e-16	PASS	differential_properties_see_084	metal_axis_permutation	1.17e-07	PASS
operator_E1e06_nu0.200_h1x1x1	modulus_scaling_relative_gap	4.22e-17	PASS	differential_properties_see_084	metal_axis_reflection	2.60e-07	PASS
operator_E1e06_nu0.200_h2x1x1	entries_finite	1	PASS	differential_properties_see_084	cpu_all_property_solves_converged	1	PASS
operator_E1e06_nu0.200_h2x1x1	symmetry_relative	1.32e-17	PASS	differential_properties_see_084	cpu_displacement_superposition	5.92e-11	PASS
operator_E1e06_nu0.200_h2x1x1	rigid_mode_force_ratio	2.30e-17	PASS	differential_properties_see_084	cpu_stress_superposition	7.41e-11	PASS
operator_E1e06_nu0.200_h2x1x1	null_space_dimension	6	PASS	differential_properties_see_084	cpu_sign_reversal	0	PASS
operator_E1e06_nu0.200_h2x1x1	rank	18	PASS	differential_properties_see_084	cpu_load_scaling_by_two	0	PASS
operator_E1e06_nu0.200_h2x1x1	minimum_eigenvalue_ratio	-4.41e-17	PASS	differential_properties_see_084	cpu_modulus_scaling_by_two	3.44e-11	PASS
operator_E1e06_nu0.200_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_properties_see_084	cpu_maxwell_betti_reciprocity	3.80e-11	PASS
operator_E1e06_nu0.200_h2x1x1	independent_condensation_relative_g...	1.13e-16	PASS	differential_properties_see_084	cpu_axis_permutation	3.37e-11	PASS
operator_E1e06_nu0.200_h2x1x1	axis_permutation_relative_gap	1.21e-16	PASS	differential_properties_see_084	cpu_axis_reflection	3.66e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_nu0.200_h2x1x1	axis_reflection_relative_gap	1.24e-16	PASS	differential_seed_085	converged	1	PASS
operator_E1e06_nu0.200_h2x1x1	modulus_scaling_relative_gap	3.95e-17	PASS	differential_seed_085	solver_relative_residual	1.07e-08	PASS
operator_E1e06_nu0.200_h1x3x1	entries_finite	1	PASS	differential_seed_085	independent_double_relative_residual	1.07e-08	PASS
operator_E1e06_nu0.200_h1x3x1	symmetry_relative	1.81e-17	PASS	differential_seed_085	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.200_h1x3x1	rigid_mode_force_ratio	4.29e-17	PASS	differential_seed_085	force_equilibrium_relative_error	3.34e-09	PASS
operator_E1e06_nu0.200_h1x3x1	null_space_dimension	6	PASS	differential_seed_085	moment_equilibrium_relative_error	4.27e-09	PASS
operator_E1e06_nu0.200_h1x3x1	rank	18	PASS	differential_seed_085	energy_identity_relative_error	3.04e-09	PASS
operator_E1e06_nu0.200_h1x3x1	minimum_eigenvalue_ratio	-4.95e-17	PASS	differential_seed_085	displacement_all_finite	1	PASS
operator_E1e06_nu0.200_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_085	stress_all_finite	1	PASS
operator_E1e06_nu0.200_h1x3x1	independent_condensation_relative_gap	6.68e-17	PASS	differential_seed_085	fallback_count	0	PASS
operator_E1e06_nu0.200_h1x3x1	axis_permutation_relative_gap	1.64e-16	PASS	differential_seed_085	metal_execution_evidence_present	1	PASS
operator_E1e06_nu0.200_h1x3x1	axis_reflection_relative_gap	1.50e-16	PASS	differential_seed_085	operator_backend_is_packaged_host_process	1	PASS
operator_E1e06_nu0.200_h1x3x1	modulus_scaling_relative_gap	7.23e-17	PASS	differential_seed_085	persistent_metal_vector_buffers	1	PASS
operator_E1e06_nu0.200_h1x1x5	entries_finite	1	PASS	differential_seed_085	packaged_metallib_used	1	PASS
operator_E1e06_nu0.200_h1x1x5	symmetry_relative	1.10e-17	PASS	differential_seed_085	no_runtime_source_compilation	1	PASS
operator_E1e06_nu0.200_h1x1x5	rigid_mode_force_ratio	4.58e-17	PASS	differential_seed_085	metal_fallback_count	0	PASS
operator_E1e06_nu0.200_h1x1x5	null_space_dimension	6	PASS	differential_seed_085	converged	1	PASS
operator_E1e06_nu0.200_h1x1x5	rank	18	PASS	differential_seed_085	solver_relative_residual	9.60e-11	PASS
operator_E1e06_nu0.200_h1x1x5	minimum_eigenvalue_ratio	-8.01e-17	PASS	differential_seed_085	independent_double_relative_residual	9.60e-11	PASS
operator_E1e06_nu0.200_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_085	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.200_h1x1x5	independent_condensation_relative_gap	6.58e-17	PASS	differential_seed_085	force_equilibrium_relative_error	1.59e-12	PASS
operator_E1e06_nu0.200_h1x1x5	axis_permutation_relative_gap	1.18e-16	PASS	differential_seed_085	moment_equilibrium_relative_error	2.61e-12	PASS
operator_E1e06_nu0.200_h1x1x5	axis_reflection_relative_gap	1.16e-16	PASS	differential_seed_085	energy_identity_relative_error	4.69e-15	PASS
operator_E1e06_nu0.200_h1x1x5	modulus_scaling_relative_gap	2.19e-17	PASS	differential_seed_085	displacement_all_finite	1	PASS
operator_E1e06_nu0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_085	stress_all_finite	1	PASS
operator_E1e06_nu0.01x0.01x0.01	symmetry_relative	8.24e-18	PASS	differential_seed_085	fallback_count	0	PASS
operator_E1e06_nu0.01x0.01x0.01	rigid_mode_force_ratio	2.62e-17	PASS	differential_seed_085	reference_route_is_cpu_double	1	PASS
operator_E1e06_nu0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_085	reference_route_no_fallback	1	PASS
operator_E1e06_nu0.01x0.01x0.01	rank	18	PASS	differential_seed_085	parity_displacement_relative_l2	3.08e-09	PASS
operator_E1e06_nu0.01x0.01x0.01	minimum_eigenvalue_ratio	-2.43e-17	PASS	differential_seed_085	parity_displacement_relative_linf	3.30e-09	PASS
operator_E1e06_nu0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_085	parity_reaction_relative_l2	4.60e-09	PASS
operator_E1e06_nu0.01x0.01x0.01	independent_condensation_relative_gap	9.94e-17	PASS	differential_seed_085	parity_reaction_relative_linf	4.28e-09	PASS
operator_E1e06_nu0.01x0.01x0.01	axis_permutation_relative_gap	1.08e-16	PASS	differential_seed_085	parity_stress_relative_l2	5.35e-09	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_n... 0_h0.01x0.01x0.01	axis_reflection_relative_ga p	1.58e-16	PASS	differential_seed_085	parity_stress_relative_linf	4.81e-09	PASS
operator_E1e06_n... 0_h0.01x0.01x0.01	modulus_scaling_relative_ gap	6.59e-17	PASS	differential_seed_085	parity_strain_energy_relati ve_error	6.08e-09	PASS
operator_E1e06_nu0.200_ h10x1x0.1	entries_finite	1	PASS	differential_seed_085	zero_fallback_on_both_ba ckends	0	PASS
operator_E1e06_nu0.200_ h10x1x0.1	symmetry_relative	1.34e-17	PASS	differential_seed_086	converged	1	PASS
operator_E1e06_nu0.200_ h10x1x0.1	rigid_mode_force_ratio	5.28e-17	PASS	differential_seed_086	solver_relative_residual	1.80e-05	PASS
operator_E1e06_nu0.200_ h10x1x0.1	null_space_dimension	6	PASS	differential_seed_086	independent_double_relati ve_residual	1.80e-05	PASS
operator_E1e06_nu0.200_ h10x1x0.1	rank	18	PASS	differential_seed_086	rigid_body_constraint_ran k	6	PASS
operator_E1e06_nu0.200_ h10x1x0.1	minimum_eigenvalue_ratio	-1.04e-16	PASS	differential_seed_086	force_equilibrium_relative_ error	2.71e-07	PASS
operator_E1e06_nu0.200_ h10x1x0.1	random_energy_ratio_mini mum	0	PASS	differential_seed_086	moment_equilibrium_relati ve_error	4.68e-07	PASS
operator_E1e06_nu0.200_ h10x1x0.1	independent_condensation _relative_g...	6.70e-17	PASS	differential_seed_086	energy_identity_relative_er ror	5.48e-08	PASS
operator_E1e06_nu0.200_ h10x1x0.1	axis_permutation_relative_ gap	1.12e-16	PASS	differential_seed_086	displacement_all_finite	1	PASS
operator_E1e06_nu0.200_ h10x1x0.1	axis_reflection_relative_ga p	1.18e-16	PASS	differential_seed_086	stress_all_finite	1	PASS
operator_E1e06_nu0.200_ h10x1x0.1	modulus_scaling_relative_ gap	5.38e-17	PASS	differential_seed_086	fallback_count	0	PASS
operator_E1e06_n... 0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_086	metal_execution_evidence _present	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	symmetry_relative	1.41e-17	PASS	differential_seed_086	operator_backend_is_pack aged_host_p...	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	rigid_mode_force_ratio	4.12e-17	PASS	differential_seed_086	persistent_metal_vector_b uffers	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_086	packaged_metallib_used	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	rank	18	PASS	differential_seed_086	no_runtime_source_compil ation	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	minimum_eigenvalue_ratio	-1.27e-16	PASS	differential_seed_086	metal_fallback_count	0	PASS
operator_E1e06_n... 0.011x0.009x0.013	random_energy_ratio_mini mum	0	PASS	differential_seed_086	converged	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	independent_condensation _relative_g...	8.23e-17	PASS	differential_seed_086	solver_relative_residual	8.98e-11	PASS
operator_E1e06_n... 0.011x0.009x0.013	axis_permutation_relative_ gap	1.42e-16	PASS	differential_seed_086	independent_double_relati ve_residual	8.98e-11	PASS
operator_E1e06_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.13e-16	PASS	differential_seed_086	rigid_body_constraint_ran k	6	PASS
operator_E1e06_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	5.64e-17	PASS	differential_seed_086	force_equilibrium_relative_ error	1.35e-12	PASS
operator_E1e06_nu0.300_ h1x1x1	entries_finite	1	PASS	differential_seed_086	moment_equilibrium_relati ve_error	1.85e-12	PASS
operator_E1e06_nu0.300_ h1x1x1	symmetry_relative	8.74e-18	PASS	differential_seed_086	energy_identity_relative_er ror	3.80e-14	PASS
operator_E1e06_nu0.300_ h1x1x1	rigid_mode_force_ratio	3.43e-17	PASS	differential_seed_086	displacement_all_finite	1	PASS
operator_E1e06_nu0.300_ h1x1x1	null_space_dimension	6	PASS	differential_seed_086	stress_all_finite	1	PASS
operator_E1e06_nu0.300_ h1x1x1	rank	18	PASS	differential_seed_086	fallback_count	0	PASS
operator_E1e06_nu0.300_ h1x1x1	minimum_eigenvalue_ratio	-4.98e-17	PASS	differential_seed_086	reference_route_is_cpu_d ouble	1	PASS
operator_E1e06_nu0.300_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_086	reference_route_no_fallba ck	1	PASS
operator_E1e06_nu0.300_ h1x1x1	independent_condensation _relative_g...	2.04e-17	PASS	differential_seed_086	parity_displacement_relati ve_l2	4.49e-07	PASS
operator_E1e06_nu0.300_ h1x1x1	axis_permutation_relative_ gap	1.32e-16	PASS	differential_seed_086	parity_displacement_relati ve_linf	3.99e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_nu0.300_h1x1x1	axis_reflection_relative_gap	1.58e-16	PASS	differential_seed_086	parity_reaction_relative_l2	1.11e-06	PASS
operator_E1e06_nu0.300_h1x1x1	modulus_scaling_relative_gap	5.24e-17	PASS	differential_seed_086	parity_reaction_relative_linf	1.00e-06	PASS
operator_E1e06_nu0.300_h2x1x1	entries_finite	1	PASS	differential_seed_086	parity_stress_relative_l2	2.76e-06	PASS
operator_E1e06_nu0.300_h2x1x1	symmetry_relative	2.75e-18	PASS	differential_seed_086	parity_stress_relative_linf	1.90e-06	PASS
operator_E1e06_nu0.300_h2x1x1	rigid_mode_force_ratio	4.92e-17	PASS	differential_seed_086	parity_strain_energy_relative_error	1.10e-07	PASS
operator_E1e06_nu0.300_h2x1x1	null_space_dimension	6	PASS	differential_seed_086	zero_fallback_on_both_backends	0	PASS
operator_E1e06_nu0.300_h2x1x1	rank	18	PASS	differential_seed_087	converged	1	PASS
operator_E1e06_nu0.300_h2x1x1	minimum_eigenvalue_ratio	-5.82e-17	PASS	differential_seed_087	solver_relative_residual	3.64e-07	PASS
operator_E1e06_nu0.300_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_087	independent_double_relative_residual	3.64e-07	PASS
operator_E1e06_nu0.300_h2x1x1	independent_condensation_relative_gap	6.27e-17	PASS	differential_seed_087	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.300_h2x1x1	axis_permutation_relative_gap	1.23e-16	PASS	differential_seed_087	force_equilibrium_relative_error	1.95e-08	PASS
operator_E1e06_nu0.300_h2x1x1	axis_reflection_relative_gap	1.89e-16	PASS	differential_seed_087	moment_equilibrium_relative_error	2.17e-08	PASS
operator_E1e06_nu0.300_h2x1x1	modulus_scaling_relative_gap	4.40e-17	PASS	differential_seed_087	energy_identity_relative_error	2.01e-08	PASS
operator_E1e06_nu0.300_h1x3x1	entries_finite	1	PASS	differential_seed_087	displacement_all_finite	1	PASS
operator_E1e06_nu0.300_h1x3x1	symmetry_relative	7.58e-18	PASS	differential_seed_087	stress_all_finite	1	PASS
operator_E1e06_nu0.300_h1x3x1	rigid_mode_force_ratio	3.84e-17	PASS	differential_seed_087	fallback_count	0	PASS
operator_E1e06_nu0.300_h1x3x1	null_space_dimension	6	PASS	differential_seed_087	metal_execution_evidence_present	1	PASS
operator_E1e06_nu0.300_h1x3x1	rank	18	PASS	differential_seed_087	operator_backend_is_packaged_host_process	1	PASS
operator_E1e06_nu0.300_h1x3x1	minimum_eigenvalue_ratio	-5.85e-17	PASS	differential_seed_087	persistent_metal_vector_buffers	1	PASS
operator_E1e06_nu0.300_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_087	packaged_metallib_used	1	PASS
operator_E1e06_nu0.300_h1x3x1	independent_condensation_relative_gap	4.40e-17	PASS	differential_seed_087	no_runtime_source_compilation	1	PASS
operator_E1e06_nu0.300_h1x3x1	axis_permutation_relative_gap	1.07e-16	PASS	differential_seed_087	metal_fallback_count	0	PASS
operator_E1e06_nu0.300_h1x3x1	axis_reflection_relative_gap	1.31e-16	PASS	differential_seed_087	converged	1	PASS
operator_E1e06_nu0.300_h1x3x1	modulus_scaling_relative_gap	3.03e-17	PASS	differential_seed_087	solver_relative_residual	4.63e-11	PASS
operator_E1e06_nu0.300_h1x1x5	entries_finite	1	PASS	differential_seed_087	independent_double_relative_residual	4.63e-11	PASS
operator_E1e06_nu0.300_h1x1x5	symmetry_relative	9.23e-18	PASS	differential_seed_087	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.300_h1x1x5	rigid_mode_force_ratio	3.85e-17	PASS	differential_seed_087	force_equilibrium_relative_error	8.04e-12	PASS
operator_E1e06_nu0.300_h1x1x5	null_space_dimension	6	PASS	differential_seed_087	moment_equilibrium_relative_error	6.32e-12	PASS
operator_E1e06_nu0.300_h1x1x5	rank	18	PASS	differential_seed_087	energy_identity_relative_error	4.11e-16	PASS
operator_E1e06_nu0.300_h1x1x5	minimum_eigenvalue_ratio	-3.42e-17	PASS	differential_seed_087	displacement_all_finite	1	PASS
operator_E1e06_nu0.300_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_087	stress_all_finite	1	PASS
operator_E1e06_nu0.300_h1x1x5	independent_condensation_relative_gap	4.67e-17	PASS	differential_seed_087	fallback_count	0	PASS
operator_E1e06_nu0.300_h1x1x5	axis_permutation_relative_gap	1.29e-16	PASS	differential_seed_087	reference_route_is_cpu_double	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_nu0.300_h1x1x5	axis_reflection_relative_gap	1.28e-16	PASS	differential_seed_087	reference_route_no_fallback	1	PASS
operator_E1e06_nu0.300_h1x1x5	modulus_scaling_relative_gap	3.69e-17	PASS	differential_seed_087	parity_displacement_relative_I2	1.34e-07	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_087	parity_displacement_relative_linf	1.55e-07	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	symmetry_relative	1.36e-17	PASS	differential_seed_087	parity_reaction_relative_I2	8.48e-08	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	rigid_mode_force_ratio	3.12e-17	PASS	differential_seed_087	parity_reaction_relative_linf	9.96e-08	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_087	parity_stress_relative_I2	2.46e-07	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	rank	18	PASS	differential_seed_087	parity_stress_relative_linf	4.45e-07	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-7.94e-17	PASS	differential_seed_087	parity_strain_energy_relative_error	4.02e-08	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_087	zero_fallback_on_both_backends	0	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	independent_condensation_relative_gap	4.11e-17	PASS	differential_seed_088	converged	1	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	axis_permutation_relative_gap	1.07e-16	PASS	differential_seed_088	solver_relative_residual	1.56e-05	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	axis_reflection_relative_gap	1.25e-16	PASS	differential_seed_088	independent_double_relative_residual	1.56e-05	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	modulus_scaling_relative_gap	2.73e-17	PASS	differential_seed_088	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.300_h10x1x0.1	entries_finite	1	PASS	differential_seed_088	force_equilibrium_relative_error	4.85e-07	PASS
operator_E1e06_nu0.300_h10x1x0.1	symmetry_relative	5.80e-18	PASS	differential_seed_088	moment_equilibrium_relative_error	5.41e-07	PASS
operator_E1e06_nu0.300_h10x1x0.1	rigid_mode_force_ratio	4.29e-17	PASS	differential_seed_088	energy_identity_relative_error	7.22e-08	PASS
operator_E1e06_nu0.300_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_088	displacement_all_finite	1	PASS
operator_E1e06_nu0.300_h10x1x0.1	rank	18	PASS	differential_seed_088	stress_all_finite	1	PASS
operator_E1e06_nu0.300_h10x1x0.1	minimum_eigenvalue_ratio	-6.50e-17	PASS	differential_seed_088	fallback_count	0	PASS
operator_E1e06_nu0.300_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_088	metal_execution_evidence_present	1	PASS
operator_E1e06_nu0.300_h10x1x0.1	independent_condensation_relative_gap	3.56e-17	PASS	differential_seed_088	operator_backend_is_packaged_host_process	1	PASS
operator_E1e06_nu0.300_h10x1x0.1	axis_permutation_relative_gap	7.23e-17	PASS	differential_seed_088	persistent_metal_vector_buffers	1	PASS
operator_E1e06_nu0.300_h10x1x0.1	axis_reflection_relative_gap	1.20e-16	PASS	differential_seed_088	packaged_metallib_used	1	PASS
operator_E1e06_nu0.300_h10x1x0.1	modulus_scaling_relative_gap	4.64e-17	PASS	differential_seed_088	no_runtime_source_compilation	1	PASS
operator_E1e06_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_088	metal_fallback_count	0	PASS
operator_E1e06_nu0.011x0.009x0.013	symmetry_relative	1.17e-17	PASS	differential_seed_088	converged	1	PASS
operator_E1e06_nu0.011x0.009x0.013	rigid_mode_force_ratio	4.33e-17	PASS	differential_seed_088	solver_relative_residual	5.93e-11	PASS
operator_E1e06_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_088	independent_double_relative_residual	5.93e-11	PASS
operator_E1e06_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_088	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-5.19e-17	PASS	differential_seed_088	force_equilibrium_relative_error	3.42e-12	PASS
operator_E1e06_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_088	moment_equilibrium_relative_error	5.26e-12	PASS
operator_E1e06_nu0.011x0.009x0.013	independent_condensation_relative_gap	8.82e-17	PASS	differential_seed_088	energy_identity_relative_error	6.28e-15	PASS
operator_E1e06_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.25e-16	PASS	differential_seed_088	displacement_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_nu0.011x0.009x0.013	axis_reflection_relative_gap	1.39e-16	PASS	differential_seed_088	stress_all_finite	1	PASS
operator_E1e06_nu0.011x0.009x0.013	modulus_scaling_relative_gap	2.34e-17	PASS	differential_seed_088	fallback_count	0	PASS
operator_E1e06_nu0.450_h1x1x1	entries_finite	1	PASS	differential_seed_088	reference_route_is_cpu_double	1	PASS
operator_E1e06_nu0.450_h1x1x1	symmetry_relative	5.33e-18	PASS	differential_seed_088	reference_route_no_fallback	1	PASS
operator_E1e06_nu0.450_h1x1x1	rigid_mode_force_ratio	2.59e-17	PASS	differential_seed_088	parity_displacement_relative_l2	4.24e-06	PASS
operator_E1e06_nu0.450_h1x1x1	null_space_dimension	6	PASS	differential_seed_088	parity_displacement_relative_linf	4.03e-06	PASS
operator_E1e06_nu0.450_h1x1x1	rank	18	PASS	differential_seed_088	parity_reaction_relative_l2	3.86e-06	PASS
operator_E1e06_nu0.450_h1x1x1	minimum_eigenvalue_ratio	-3.47e-17	PASS	differential_seed_088	parity_reaction_relative_linf	4.08e-06	PASS
operator_E1e06_nu0.450_h1x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_088	parity_stress_relative_l2	7.11e-06	PASS
operator_E1e06_nu0.450_h1x1x1	independent_condensation_relative_gap	1.43e-17	PASS	differential_seed_088	parity_stress_relative_linf	2.97e-06	PASS
operator_E1e06_nu0.450_h1x1x1	axis_permutation_relative_gap	8.99e-17	PASS	differential_seed_088	parity_strain_energy_relative_error	1.44e-07	PASS
operator_E1e06_nu0.450_h1x1x1	axis_reflection_relative_gap	1.10e-16	PASS	differential_seed_088	zero_fallback_on_both_backs	0	PASS
operator_E1e06_nu0.450_h1x1x1	modulus_scaling_relative_gap	3.20e-17	PASS	differential_properties_seed_088	metal_all_property_solves_converged	1	PASS
operator_E1e06_nu0.450_h2x1x1	entries_finite	1	PASS	differential_properties_seed_088	metal_displacement_superposition	2.07e-06	PASS
operator_E1e06_nu0.450_h2x1x1	symmetry_relative	6.97e-18	PASS	differential_properties_seed_088	metal_stress_superposition	4.45e-06	PASS
operator_E1e06_nu0.450_h2x1x1	rigid_mode_force_ratio	3.07e-17	PASS	differential_properties_seed_088	metal_sign_reversal	0	PASS
operator_E1e06_nu0.450_h2x1x1	null_space_dimension	6	PASS	differential_properties_seed_088	metal_load_scaling_by_two	0	PASS
operator_E1e06_nu0.450_h2x1x1	rank	18	PASS	differential_properties_seed_088	metal_modulus_scaling_by_two	0	PASS
operator_E1e06_nu0.450_h2x1x1	minimum_eigenvalue_ratio	-1.44e-17	PASS	differential_properties_seed_088	metal_maxwell_betti_reciprocity	2.59e-05	PASS
operator_E1e06_nu0.450_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_properties_seed_088	metal_axis_permutation	4.07e-08	PASS
operator_E1e06_nu0.450_h2x1x1	independent_condensation_relative_gap	2.05e-17	PASS	differential_properties_seed_088	metal_axis_reflection	3.94e-07	PASS
operator_E1e06_nu0.450_h2x1x1	axis_permutation_relative_gap	8.43e-17	PASS	differential_properties_seed_088	cpu_all_property_solves_converged	1	PASS
operator_E1e06_nu0.450_h2x1x1	axis_reflection_relative_gap	1.24e-16	PASS	differential_properties_seed_088	cpu_displacement_superposition	7.88e-12	PASS
operator_E1e06_nu0.450_h2x1x1	modulus_scaling_relative_gap	4.18e-17	PASS	differential_properties_seed_088	cpu_stress_superposition	2.22e-11	PASS
operator_E1e06_nu0.450_h1x3x1	entries_finite	1	PASS	differential_properties_seed_088	cpu_sign_reversal	0	PASS
operator_E1e06_nu0.450_h1x3x1	symmetry_relative	9.79e-18	PASS	differential_properties_seed_088	cpu_load_scaling_by_two	0	PASS
operator_E1e06_nu0.450_h1x3x1	rigid_mode_force_ratio	3.21e-17	PASS	differential_properties_seed_088	cpu_modulus_scaling_by_two	1.21e-11	PASS
operator_E1e06_nu0.450_h1x3x1	null_space_dimension	6	PASS	differential_properties_seed_088	cpu_maxwell_betti_reciprocity	7.46e-11	PASS
operator_E1e06_nu0.450_h1x3x1	rank	18	PASS	differential_properties_seed_088	cpu_axis_permutation	4.79e-13	PASS
operator_E1e06_nu0.450_h1x3x1	minimum_eigenvalue_ratio	-4.35e-17	PASS	differential_properties_seed_088	cpu_axis_reflection	1.36e-11	PASS
operator_E1e06_nu0.450_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_089	converged	1	PASS
operator_E1e06_nu0.450_h1x3x1	independent_condensation_relative_gap	5.32e-17	PASS	differential_seed_089	solver_relative_residual	7.40e-06	PASS
operator_E1e06_nu0.450_h1x3x1	axis_permutation_relative_gap	1.25e-16	PASS	differential_seed_089	independent_double_relative_residual	7.40e-06	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_nu0.450_h1x3x1	axis_reflection_relative_gap	1.20e-16	PASS	differential_seed_089	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.450_h1x3x1	modulus_scaling_relative_gap	5.87e-17	PASS	differential_seed_089	force_equilibrium_relative_error	1.49e-06	PASS
operator_E1e06_nu0.450_h1x1x5	entries_finite	1	PASS	differential_seed_089	moment_equilibrium_relative_error	1.24e-06	PASS
operator_E1e06_nu0.450_h1x1x5	symmetry_relative	1.21e-17	PASS	differential_seed_089	energy_identity_relative_error	5.38e-10	PASS
operator_E1e06_nu0.450_h1x1x5	rigid_mode_force_ratio	3.88e-17	PASS	differential_seed_089	displacement_all_finite	1	PASS
operator_E1e06_nu0.450_h1x1x5	null_space_dimension	6	PASS	differential_seed_089	stress_all_finite	1	PASS
operator_E1e06_nu0.450_h1x1x5	rank	18	PASS	differential_seed_089	fallback_count	0	PASS
operator_E1e06_nu0.450_h1x1x5	minimum_eigenvalue_ratio	-5.24e-17	PASS	differential_seed_089	metal_execution_evidence_present	1	PASS
operator_E1e06_nu0.450_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_089	operator_backend_is_packaged_host_p...	1	PASS
operator_E1e06_nu0.450_h1x1x5	independent_condensation_relative_g...	3.15e-17	PASS	differential_seed_089	persistent_metal_vector_buffers	1	PASS
operator_E1e06_nu0.450_h1x1x5	axis_permutation_relative_gap	1.12e-16	PASS	differential_seed_089	packaged_metallib_used	1	PASS
operator_E1e06_nu0.450_h1x1x5	axis_reflection_relative_gap	1.21e-16	PASS	differential_seed_089	no_runtime_source_compilation	1	PASS
operator_E1e06_nu0.450_h1x1x5	modulus_scaling_relative_gap	7.24e-17	PASS	differential_seed_089	metal_fallback_count	0	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_089	converged	1	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	symmetry_relative	0	PASS	differential_seed_089	solver_relative_residual	5.70e-11	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	rigid_mode_force_ratio	3.03e-17	PASS	differential_seed_089	independent_double_relative_residual	5.70e-11	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_089	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	rank	18	PASS	differential_seed_089	force_equilibrium_relative_error	3.39e-12	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-8.93e-18	PASS	differential_seed_089	moment_equilibrium_relative_error	5.30e-12	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_089	energy_identity_relative_error	1.50e-16	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	independent_condensation_relative_g...	1.18e-17	PASS	differential_seed_089	displacement_all_finite	1	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	axis_permutation_relative_gap	1.18e-16	PASS	differential_seed_089	stress_all_finite	1	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	axis_reflection_relative_gap	1.28e-16	PASS	differential_seed_089	fallback_count	0	PASS
operator_E1e06_nu0_h0.01x0.01x0.01	modulus_scaling_relative_gap	4.99e-17	PASS	differential_seed_089	reference_route_is_cpu_double	1	PASS
operator_E1e06_nu0.450_h10x1x0.1	entries_finite	1	PASS	differential_seed_089	reference_route_no_fallback	1	PASS
operator_E1e06_nu0.450_h10x1x0.1	symmetry_relative	8.72e-18	PASS	differential_seed_089	parity_displacement_relative_l2	1.74e-06	PASS
operator_E1e06_nu0.450_h10x1x0.1	rigid_mode_force_ratio	5.13e-17	PASS	differential_seed_089	parity_displacement_relative_linf	1.17e-06	PASS
operator_E1e06_nu0.450_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_089	parity_reaction_relative_l2	1.64e-06	PASS
operator_E1e06_nu0.450_h10x1x0.1	rank	18	PASS	differential_seed_089	parity_reaction_relative_linf	1.95e-06	PASS
operator_E1e06_nu0.450_h10x1x0.1	minimum_eigenvalue_ratio	-1.16e-16	PASS	differential_seed_089	parity_stress_relative_l2	3.64e-06	PASS
operator_E1e06_nu0.450_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_089	parity_stress_relative_linf	2.00e-06	PASS
operator_E1e06_nu0.450_h10x1x0.1	independent_condensation_relative_g...	3.42e-17	PASS	differential_seed_089	parity_strain_energy_relative_error	1.06e-09	PASS
operator_E1e06_nu0.450_h10x1x0.1	axis_permutation_relative_gap	1.41e-16	PASS	differential_seed_089	zero_fallback_on_both_backends	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_nu0.450_h10x1x0.1	axis_reflection_relative_gap	1.44e-16	PASS	differential_seed_090	converged	1	PASS
operator_E1e06_nu0.450_h10x1x0.1	modulus_scaling_relative_gap	5.23e-17	PASS	differential_seed_090	solver_relative_residual	1.86e-06	PASS
operator_E1e06_n...0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_090	independent_double_relative_residual	1.86e-06	PASS
operator_E1e06_n...0.011x0.009x0.013	symmetry_relative	1.45e-17	PASS	differential_seed_090	rigid_body_constraint_rank	6	PASS
operator_E1e06_n...0.011x0.009x0.013	rigid_mode_force_ratio	3.16e-17	PASS	differential_seed_090	force_equilibrium_relative_error	1.63e-08	PASS
operator_E1e06_n...0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_090	moment_equilibrium_relative_error	8.78e-09	PASS
operator_E1e06_n...0.011x0.009x0.013	rank	18	PASS	differential_seed_090	energy_identity_relative_error	5.17e-08	PASS
operator_E1e06_n...0.011x0.009x0.013	minimum_eigenvalue_ratio	-2.53e-17	PASS	differential_seed_090	displacement_all_finite	1	PASS
operator_E1e06_n...0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_090	stress_all_finite	1	PASS
operator_E1e06_n...0.011x0.009x0.013	independent_condensation_relative_g...	9.81e-17	PASS	differential_seed_090	fallback_count	0	PASS
operator_E1e06_n...0.011x0.009x0.013	axis_permutation_relative_gap	1.09e-16	PASS	differential_seed_090	metal_execution_evidence_present	1	PASS
operator_E1e06_n...0.011x0.009x0.013	axis_reflection_relative_gap	1.40e-16	PASS	differential_seed_090	operator_backend_is_packaged_host_p...	1	PASS
operator_E1e06_n...0.011x0.009x0.013	modulus_scaling_relative_gap	2.90e-17	PASS	differential_seed_090	persistent_metal_vector_buffers	1	PASS
operator_E1e06_nu0.490_h1x1x1	entries_finite	1	PASS	differential_seed_090	packaged_metallib_used	1	PASS
operator_E1e06_nu0.490_h1x1x1	symmetry_relative	4.33e-18	PASS	differential_seed_090	no_runtime_source_compilation	1	PASS
operator_E1e06_nu0.490_h1x1x1	rigid_mode_force_ratio	2.77e-17	PASS	differential_seed_090	metal_fallback_count	0	PASS
operator_E1e06_nu0.490_h1x1x1	null_space_dimension	6	PASS	differential_seed_090	converged	1	PASS
operator_E1e06_nu0.490_h1x1x1	rank	18	PASS	differential_seed_090	solver_relative_residual	9.73e-11	PASS
operator_E1e06_nu0.490_h1x1x1	minimum_eigenvalue_ratio	-4.53e-17	PASS	differential_seed_090	independent_double_relative_residual	9.73e-11	PASS
operator_E1e06_nu0.490_h1x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_090	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.490_h1x1x1	independent_condensation_relative_g...	2.45e-17	PASS	differential_seed_090	force_equilibrium_relative_error	1.14e-11	PASS
operator_E1e06_nu0.490_h1x1x1	axis_permutation_relative_gap	9.06e-17	PASS	differential_seed_090	moment_equilibrium_relative_error	8.94e-12	PASS
operator_E1e06_nu0.490_h1x1x1	axis_reflection_relative_gap	1.24e-16	PASS	differential_seed_090	energy_identity_relative_error	2.90e-15	PASS
operator_E1e06_nu0.490_h1x1x1	modulus_scaling_relative_gap	1.73e-17	PASS	differential_seed_090	displacement_all_finite	1	PASS
operator_E1e06_nu0.490_h2x1x1	entries_finite	1	PASS	differential_seed_090	stress_all_finite	1	PASS
operator_E1e06_nu0.490_h2x1x1	symmetry_relative	5.73e-18	PASS	differential_seed_090	fallback_count	0	PASS
operator_E1e06_nu0.490_h2x1x1	rigid_mode_force_ratio	3.21e-17	PASS	differential_seed_090	reference_route_is_cpu_double	1	PASS
operator_E1e06_nu0.490_h2x1x1	null_space_dimension	6	PASS	differential_seed_090	reference_route_no_fallback	1	PASS
operator_E1e06_nu0.490_h2x1x1	rank	18	PASS	differential_seed_090	parity_displacement_relative_l2	1.13e-07	PASS
operator_E1e06_nu0.490_h2x1x1	minimum_eigenvalue_ratio	-5.63e-17	PASS	differential_seed_090	parity_displacement_relative_linf	1.65e-07	PASS
operator_E1e06_nu0.490_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_090	parity_reaction_relative_l2	6.58e-08	PASS
operator_E1e06_nu0.490_h2x1x1	independent_condensation_relative_g...	2.38e-17	PASS	differential_seed_090	parity_reaction_relative_linf	5.08e-08	PASS
operator_E1e06_nu0.490_h2x1x1	axis_permutation_relative_gap	9.11e-17	PASS	differential_seed_090	parity_stress_relative_l2	8.89e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_nu0.490_h2x1x1	axis_reflection_relative_gap	1.38e-16	PASS	differential_seed_090	parity_stress_relative_linf	6.80e-07	PASS
operator_E1e06_nu0.490_h2x1x1	modulus_scaling_relative_gap	2.29e-17	PASS	differential_seed_090	parity_strain_energy_relative_error	1.03e-07	PASS
operator_E1e06_nu0.490_h1x3x1	entries_finite	1	PASS	differential_seed_090	zero_fallback_on_both_ba ckends	0	PASS
operator_E1e06_nu0.490_h1x3x1	symmetry_relative	8.12e-18	PASS	differential_seed_091	converged	1	PASS
operator_E1e06_nu0.490_h1x3x1	rigid_mode_force_ratio	5.68e-17	PASS	differential_seed_091	solver_relative_residual	8.45e-08	PASS
operator_E1e06_nu0.490_h1x3x1	null_space_dimension	6	PASS	differential_seed_091	independent_double_relati ve_residual	8.45e-08	PASS
operator_E1e06_nu0.490_h1x3x1	rank	18	PASS	differential_seed_091	rigid_body_constraint_ran k	6	PASS
operator_E1e06_nu0.490_h1x3x1	minimum_eigenvalue_ratio	-3.93e-17	PASS	differential_seed_091	force_equilibrium_relative_ error	4.66e-09	PASS
operator_E1e06_nu0.490_h1x3x1	random_energy_ratio_mini mum	0	PASS	differential_seed_091	moment_equilibrium_relati ve_error	8.12e-11	PASS
operator_E1e06_nu0.490_h1x3x1	independent_condensation _relative_g...	3.01e-17	PASS	differential_seed_091	energy_identity_relative_er ror	4.22e-09	PASS
operator_E1e06_nu0.490_h1x3x1	axis_permutation_relative_ gap	1.02e-16	PASS	differential_seed_091	displacement_all_finite	1	PASS
operator_E1e06_nu0.490_h1x3x1	axis_reflection_relative_gap	1.50e-16	PASS	differential_seed_091	stress_all_finite	1	PASS
operator_E1e06_nu0.490_h1x3x1	modulus_scaling_relative_ gap	3.25e-17	PASS	differential_seed_091	fallback_count	0	PASS
operator_E1e06_nu0.490_h1x1x5	entries_finite	1	PASS	differential_seed_091	metal_execution_evidence _present	1	PASS
operator_E1e06_nu0.490_h1x1x5	symmetry_relative	1.01e-17	PASS	differential_seed_091	operator_backend_is_pack aged_host_p...	1	PASS
operator_E1e06_nu0.490_h1x1x5	rigid_mode_force_ratio	4.15e-17	PASS	differential_seed_091	persistent_metal_vector_b uffers	1	PASS
operator_E1e06_nu0.490_h1x1x5	null_space_dimension	6	PASS	differential_seed_091	packaged_metallib_used	1	PASS
operator_E1e06_nu0.490_h1x1x5	rank	18	PASS	differential_seed_091	no_runtime_source_compil ation	1	PASS
operator_E1e06_nu0.490_h1x1x5	minimum_eigenvalue_ratio	-5.90e-17	PASS	differential_seed_091	metal_fallback_count	0	PASS
operator_E1e06_nu0.490_h1x1x5	random_energy_ratio_mini mum	0	PASS	differential_seed_091	converged	1	PASS
operator_E1e06_nu0.490_h1x1x5	independent_condensation _relative_g...	2.84e-17	PASS	differential_seed_091	solver_relative_residual	2.23e-11	PASS
operator_E1e06_nu0.490_h1x1x5	axis_permutation_relative_ gap	1.07e-16	PASS	differential_seed_091	independent_double_relati ve_residual	2.23e-11	PASS
operator_E1e06_nu0.490_h1x1x5	axis_reflection_relative_gap	1.28e-16	PASS	differential_seed_091	rigid_body_constraint_ran k	6	PASS
operator_E1e06_nu0.490_h1x1x5	modulus_scaling_relative_ gap	2.01e-17	PASS	differential_seed_091	force_equilibrium_relative_ error	3.40e-14	PASS
operator_E1e06_nu0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_091	moment_equilibrium_relati ve_error	3.39e-14	PASS
operator_E1e06_nu0.01x0.01x0.01	symmetry_relative	0	PASS	differential_seed_091	energy_identity_relative_er ror	1.17e-13	PASS
operator_E1e06_nu0.01x0.01x0.01	rigid_mode_force_ratio	3.03e-17	PASS	differential_seed_091	displacement_all_finite	1	PASS
operator_E1e06_nu0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_091	stress_all_finite	1	PASS
operator_E1e06_nu0.01x0.01x0.01	rank	18	PASS	differential_seed_091	fallback_count	0	PASS
operator_E1e06_nu0.01x0.01x0.01	minimum_eigenvalue_ratio	-5.83e-17	PASS	differential_seed_091	reference_route_is_cpu_d ouble	1	PASS
operator_E1e06_nu0.01x0.01x0.01	random_energy_ratio_mini mum	0	PASS	differential_seed_091	reference_route_no_fallba ck	1	PASS
operator_E1e06_nu0.01x0.01x0.01	independent_condensation _relative_g...	0	PASS	differential_seed_091	parity_displacement_relati ve_l2	5.57e-09	PASS
operator_E1e06_nu0.01x0.01x0.01	axis_permutation_relative_ gap	1.01e-16	PASS	differential_seed_091	parity_displacement_relati ve_linf	4.79e-09	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_n... 0_h0.01x0.01x0.01	axis_reflection_relative_ga p	1.24e-16	PASS	differential_seed_091	parity_reaction_relative_l2	4.98e-09	PASS
operator_E1e06_n... 0_h0.01x0.01x0.01	modulus_scaling_relative_ gap	2.71e-17	PASS	differential_seed_091	parity_reaction_relative_lin f	2.16e-09	PASS
operator_E1e06_nu0.490_ h10x1x0.1	entries_finite	1	PASS	differential_seed_091	parity_stress_relative_l2	1.21e-08	PASS
operator_E1e06_nu0.490_ h10x1x0.1	symmetry_relative	3.88e-18	PASS	differential_seed_091	parity_stress_relative_linf	1.09e-08	PASS
operator_E1e06_nu0.490_ h10x1x0.1	rigid_mode_force_ratio	1.07e-16	PASS	differential_seed_091	parity_strain_energy_relati ve_error	8.45e-09	PASS
operator_E1e06_nu0.490_ h10x1x0.1	null_space_dimension	6	PASS	differential_seed_091	zero_fallback_on_both_ba ckends	0	PASS
operator_E1e06_nu0.490_ h10x1x0.1	rank	18	PASS	differential_seed_092	converged	1	PASS
operator_E1e06_nu0.490_ h10x1x0.1	minimum_eigenvalue_ratio	-2.05e-16	PASS	differential_seed_092	solver_relative_residual	1.76e-06	PASS
operator_E1e06_nu0.490_ h10x1x0.1	random_energy_ratio_mini mum	0	PASS	differential_seed_092	independent_double_relati ve_residual	1.76e-06	PASS
operator_E1e06_nu0.490_ h10x1x0.1	independent_condensation _relative_g...	2.05e-17	PASS	differential_seed_092	rigid_body_constraint_ran k	6	PASS
operator_E1e06_nu0.490_ h10x1x0.1	axis_permutation_relative_ gap	9.32e-17	PASS	differential_seed_092	force_equilibrium_relative_ error	3.94e-08	PASS
operator_E1e06_nu0.490_ h10x1x0.1	axis_reflection_relative_ga p	7.84e-17	PASS	differential_seed_092	moment_equilibrium_relati ve_error	9.55e-08	PASS
operator_E1e06_nu0.490_ h10x1x0.1	modulus_scaling_relative_ gap	3.11e-17	PASS	differential_seed_092	energy_identity_relative_er ror	7.75e-09	PASS
operator_E1e06_n... 0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_092	displacement_all_finite	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	symmetry_relative	2.37e-17	PASS	differential_seed_092	stress_all_finite	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	rigid_mode_force_ratio	2.83e-17	PASS	differential_seed_092	fallback_count	0	PASS
operator_E1e06_n... 0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_092	metal_execution_evidence _present	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	rank	18	PASS	differential_seed_092	operator_backend_is_pack aged_host_p...	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	minimum_eigenvalue_ratio	-1.99e-17	PASS	differential_seed_092	persistent_metal_vector_b uffers	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	random_energy_ratio_mini mum	0	PASS	differential_seed_092	packaged_metallib_used	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	independent_condensation _relative_g...	8.85e-17	PASS	differential_seed_092	no_runtime_source_compil ation	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	axis_permutation_relative_ gap	1.03e-16	PASS	differential_seed_092	metal_fallback_count	0	PASS
operator_E1e06_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.26e-16	PASS	differential_seed_092	converged	1	PASS
operator_E1e06_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	2.37e-17	PASS	differential_seed_092	solver_relative_residual	8.47e-11	PASS
operator_E1e06_nu0.499_ h1x1x1	entries_finite	1	PASS	differential_seed_092	independent_double_relati ve_residual	8.47e-11	PASS
operator_E1e06_nu0.499_ h1x1x1	symmetry_relative	0	PASS	differential_seed_092	rigid_body_constraint_ran k	6	PASS
operator_E1e06_nu0.499_ h1x1x1	rigid_mode_force_ratio	2.82e-17	PASS	differential_seed_092	force_equilibrium_relative_ error	1.00e-11	PASS
operator_E1e06_nu0.499_ h1x1x1	null_space_dimension	6	PASS	differential_seed_092	moment_equilibrium_relati ve_error	1.50e-11	PASS
operator_E1e06_nu0.499_ h1x1x1	rank	18	PASS	differential_seed_092	energy_identity_relative_er ror	2.43e-15	PASS
operator_E1e06_nu0.499_ h1x1x1	minimum_eigenvalue_ratio	-4.39e-17	PASS	differential_seed_092	displacement_all_finite	1	PASS
operator_E1e06_nu0.499_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_092	stress_all_finite	1	PASS
operator_E1e06_nu0.499_ h1x1x1	independent_condensation _relative_g...	0	PASS	differential_seed_092	fallback_count	0	PASS
operator_E1e06_nu0.499_ h1x1x1	axis_permutation_relative_ gap	1.10e-16	PASS	differential_seed_092	reference_route_is_cpu_d ouble	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_nu0.499_h1x1x1	axis_reflection_relative_gap	1.30e-16	PASS	differential_seed_092	reference_route_no_fallback	1	PASS
operator_E1e06_nu0.499_h1x1x1	modulus_scaling_relative_gap	2.78e-17	PASS	differential_seed_092	parity_displacement_relative_I2	1.01e-07	PASS
operator_E1e06_nu0.499_h2x1x1	entries_finite	1	PASS	differential_seed_092	parity_displacement_relative_linf	1.95e-07	PASS
operator_E1e06_nu0.499_h2x1x1	symmetry_relative	0	PASS	differential_seed_092	parity_reaction_relative_I2	1.69e-07	PASS
operator_E1e06_nu0.499_h2x1x1	rigid_mode_force_ratio	4.75e-17	PASS	differential_seed_092	parity_reaction_relative_linf	1.51e-07	PASS
operator_E1e06_nu0.499_h2x1x1	null_space_dimension	6	PASS	differential_seed_092	parity_stress_relative_I2	4.28e-07	PASS
operator_E1e06_nu0.499_h2x1x1	rank	18	PASS	differential_seed_092	parity_stress_relative_linf	4.07e-07	PASS
operator_E1e06_nu0.499_h2x1x1	minimum_eigenvalue_ratio	-5.15e-17	PASS	differential_seed_092	parity_strain_energy_relative_error	1.55e-08	PASS
operator_E1e06_nu0.499_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_092	zero_fallback_on_both_backsends	0	PASS
operator_E1e06_nu0.499_h2x1x1	independent_condensation_relative_g...	0	PASS	differential_properties_see	metal_all_property_solves_converged	1	PASS
operator_E1e06_nu0.499_h2x1x1	axis_permutation_relative_gap	1.17e-16	PASS	differential_properties_see	metal_displacement_superposition	7.24e-08	PASS
operator_E1e06_nu0.499_h2x1x1	axis_reflection_relative_gap	1.39e-16	PASS	differential_properties_see	metal_stress_superposition	2.73e-07	PASS
operator_E1e06_nu0.499_h2x1x1	modulus_scaling_relative_gap	5.53e-17	PASS	differential_properties_see	metal_sign_reversal	0	PASS
operator_E1e06_nu0.499_h1x3x1	entries_finite	1	PASS	differential_properties_see	metal_load_scaling_by_two	0	PASS
operator_E1e06_nu0.499_h1x3x1	symmetry_relative	3.27e-18	PASS	differential_properties_see	metal_modulus_scaling_by_two	0	PASS
operator_E1e06_nu0.499_h1x3x1	rigid_mode_force_ratio	4.37e-17	PASS	differential_properties_see	metal_maxwell_betti_reciprocity	3.41e-08	PASS
operator_E1e06_nu0.499_h1x3x1	null_space_dimension	6	PASS	differential_properties_see	metal_axis_permutation	1.39e-07	PASS
operator_E1e06_nu0.499_h1x3x1	rank	18	PASS	differential_properties_see	metal_axis_reflection	1.07e-07	PASS
operator_E1e06_nu0.499_h1x3x1	minimum_eigenvalue_ratio	-8.56e-17	PASS	differential_properties_see	cpu_all_property_solves_converged	1	PASS
operator_E1e06_nu0.499_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_properties_see	cpu_displacement_superposition	1.00e-11	PASS
operator_E1e06_nu0.499_h1x3x1	independent_condensation_relative_g...	1.01e-17	PASS	differential_properties_see	cpu_stress_superposition	2.88e-11	PASS
operator_E1e06_nu0.499_h1x3x1	axis_permutation_relative_gap	8.69e-17	PASS	differential_properties_see	cpu_sign_reversal	0	PASS
operator_E1e06_nu0.499_h1x3x1	axis_reflection_relative_gap	1.17e-16	PASS	differential_properties_see	cpu_load_scaling_by_two	0	PASS
operator_E1e06_nu0.499_h1x3x1	modulus_scaling_relative_gap	6.53e-17	PASS	differential_properties_see	cpu_modulus_scaling_by_two	1.74e-13	PASS
operator_E1e06_nu0.499_h1x1x5	entries_finite	1	PASS	differential_properties_see	cpu_maxwell_betti_reciprocity	4.48e-12	PASS
operator_E1e06_nu0.499_h1x1x5	symmetry_relative	4.05e-18	PASS	differential_properties_see	cpu_axis_permutation	6.44e-14	PASS
operator_E1e06_nu0.499_h1x1x5	rigid_mode_force_ratio	4.87e-17	PASS	differential_properties_see	cpu_axis_reflection	9.31e-14	PASS
operator_E1e06_nu0.499_h1x1x5	null_space_dimension	6	PASS	differential_seed_093	converged	1	PASS
operator_E1e06_nu0.499_h1x1x5	rank	18	PASS	differential_seed_093	solver_relative_residual	5.66e-07	PASS
operator_E1e06_nu0.499_h1x1x5	minimum_eigenvalue_ratio	-6.15e-17	PASS	differential_seed_093	independent_double_relative_residual	5.66e-07	PASS
operator_E1e06_nu0.499_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_093	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.499_h1x1x5	independent_condensation_relative_g...	2.40e-17	PASS	differential_seed_093	force_equilibrium_relative_error	1.63e-08	PASS
operator_E1e06_nu0.499_h1x1x5	axis_permutation_relative_gap	9.92e-17	PASS	differential_seed_093	moment_equilibrium_relative_error	1.60e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_nu0.499_h1x1x5	axis_reflection_relative_gap	1.23e-16	PASS	differential_seed_093	energy_identity_relative_error	6.55e-08	PASS
operator_E1e06_nu0.499_h1x1x5	modulus_scaling_relative_gap	4.05e-17	PASS	differential_seed_093	displacement_all_finite	1	PASS
operator_E1e06_nu0.499_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_093	stress_all_finite	1	PASS
operator_E1e06_nu0.499_h0.01x0.01x0.01	symmetry_relative	5.42e-18	PASS	differential_seed_093	fallback_count	0	PASS
operator_E1e06_nu0.499_h0.01x0.01x0.01	rigid_mode_force_ratio	3.43e-17	PASS	differential_seed_093	metal_execution_evidence_present	1	PASS
operator_E1e06_nu0.499_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_093	operator_backend_is_packaged_host_process	1	PASS
operator_E1e06_nu0.499_h0.01x0.01x0.01	rank	18	PASS	differential_seed_093	persistent_metal_vector_buffers	1	PASS
operator_E1e06_nu0.499_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-4.28e-17	PASS	differential_seed_093	packaged_metallib_used	1	PASS
operator_E1e06_nu0.499_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_093	no_runtime_source_compilation	1	PASS
operator_E1e06_nu0.499_h0.01x0.01x0.01	independent_condensation_relative_gap	3.76e-17	PASS	differential_seed_093	metal_fallback_count	0	PASS
operator_E1e06_nu0.499_h0.01x0.01x0.01	axis_permutation_relative_gap	1.28e-16	PASS	differential_seed_093	converged	1	PASS
operator_E1e06_nu0.499_h0.01x0.01x0.01	axis_reflection_relative_gap	1.50e-16	PASS	differential_seed_093	solver_relative_residual	4.66e-11	PASS
operator_E1e06_nu0.499_h0.01x0.01x0.01	modulus_scaling_relative_gap	6.51e-17	PASS	differential_seed_093	independent_double_relative_residual	4.66e-11	PASS
operator_E1e06_nu0.499_h10x1x0.1	entries_finite	1	PASS	differential_seed_093	rigid_body_constraint_rank	6	PASS
operator_E1e06_nu0.499_h10x1x0.1	symmetry_relative	1.27e-17	PASS	differential_seed_093	force_equilibrium_relative_error	2.88e-11	PASS
operator_E1e06_nu0.499_h10x1x0.1	rigid_mode_force_ratio	7.07e-17	PASS	differential_seed_093	moment_equilibrium_relative_error	2.54e-11	PASS
operator_E1e06_nu0.499_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_093	energy_identity_relative_error	3.35e-14	PASS
operator_E1e06_nu0.499_h10x1x0.1	rank	18	PASS	differential_seed_093	displacement_all_finite	1	PASS
operator_E1e06_nu0.499_h10x1x0.1	minimum_eigenvalue_ratio	-1.50e-16	PASS	differential_seed_093	stress_all_finite	1	PASS
operator_E1e06_nu0.499_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_093	fallback_count	0	PASS
operator_E1e06_nu0.499_h10x1x0.1	independent_condensation_relative_gap	4.73e-17	PASS	differential_seed_093	reference_route_is_cpu_double	1	PASS
operator_E1e06_nu0.499_h10x1x0.1	axis_permutation_relative_gap	7.12e-17	PASS	differential_seed_093	reference_route_no_fallback	1	PASS
operator_E1e06_nu0.499_h10x1x0.1	axis_reflection_relative_gap	8.33e-17	PASS	differential_seed_093	parity_displacement_relative_l2	8.86e-08	PASS
operator_E1e06_nu0.499_h10x1x0.1	modulus_scaling_relative_gap	5.09e-17	PASS	differential_seed_093	parity_displacement_relative_linf	8.20e-08	PASS
operator_E1e06_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_093	parity_reaction_relative_l2	1.02e-07	PASS
operator_E1e06_nu0.011x0.009x0.013	symmetry_relative	9.51e-18	PASS	differential_seed_093	parity_reaction_relative_linf	9.61e-08	PASS
operator_E1e06_nu0.011x0.009x0.013	rigid_mode_force_ratio	3.54e-17	PASS	differential_seed_093	parity_stress_relative_l2	1.80e-07	PASS
operator_E1e06_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_093	parity_stress_relative_linf	1.45e-07	PASS
operator_E1e06_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_093	parity_strain_energy_relative_error	1.31e-07	PASS
operator_E1e06_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-4.75e-17	PASS	differential_seed_093	zero_fallback_on_both_backends	0	PASS
operator_E1e06_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_094	converged	1	PASS
operator_E1e06_nu0.011x0.009x0.013	independent_condensation_relative_gap	7.06e-17	PASS	differential_seed_094	solver_relative_residual	2.45e-07	PASS
operator_E1e06_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.13e-16	PASS	differential_seed_094	independent_double_relative_residual	2.45e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e06_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.34e-16	PASS	differential_seed_094	rigid_body_constraint_ran k	6	PASS
operator_E1e06_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	5.71e-17	PASS	differential_seed_094	force_equilibrium_relative_ error	2.99e-08	PASS
operator_E7e10_nu0.000_ h1x1x1	entries_finite	1	PASS	differential_seed_094	moment_equilibrium_relati ve_error	2.73e-08	PASS
operator_E7e10_nu0.000_ h1x1x1	symmetry_relative	1.01e-17	PASS	differential_seed_094	energy_identity_relative_er ror	2.73e-08	PASS
operator_E7e10_nu0.000_ h1x1x1	rigid_mode_force_ratio	3.54e-17	PASS	differential_seed_094	displacement_all_finite	1	PASS
operator_E7e10_nu0.000_ h1x1x1	null_space_dimension	6	PASS	differential_seed_094	stress_all_finite	1	PASS
operator_E7e10_nu0.000_ h1x1x1	rank	18	PASS	differential_seed_094	fallback_count	0	PASS
operator_E7e10_nu0.000_ h1x1x1	minimum_eigenvalue_ratio	-9.18e-17	PASS	differential_seed_094	metal_execution_evidence_ _present	1	PASS
operator_E7e10_nu0.000_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_094	operator_backend_is_pack aged_host_p...	1	PASS
operator_E7e10_nu0.000_ h1x1x1	independent_condensation_ _relative_g...	6.11e-17	PASS	differential_seed_094	persistent_metal_vector_b uffers	1	PASS
operator_E7e10_nu0.000_ h1x1x1	axis_permutation_relative_ gap	1.22e-16	PASS	differential_seed_094	packaged_metalliclib_used	1	PASS
operator_E7e10_nu0.000_ h1x1x1	axis_reflection_relative_ga p	1.48e-16	PASS	differential_seed_094	no_runtime_source_compil ation	1	PASS
operator_E7e10_nu0.000_ h1x1x1	modulus_scaling_relative_ gap	6.04e-17	PASS	differential_seed_094	metal_fallback_count	0	PASS
operator_E7e10_nu0.000_ h2x1x1	entries_finite	1	PASS	differential_seed_094	converged	1	PASS
operator_E7e10_nu0.000_ h2x1x1	symmetry_relative	1.26e-17	PASS	differential_seed_094	solver_relative_residual	9.36e-11	PASS
operator_E7e10_nu0.000_ h2x1x1	rigid_mode_force_ratio	3.33e-17	PASS	differential_seed_094	independent_double_relati ve_residual	9.36e-11	PASS
operator_E7e10_nu0.000_ h2x1x1	null_space_dimension	6	PASS	differential_seed_094	rigid_body_constraint_ran k	6	PASS
operator_E7e10_nu0.000_ h2x1x1	rank	18	PASS	differential_seed_094	force_equilibrium_relative_ error	2.60e-11	PASS
operator_E7e10_nu0.000_ h2x1x1	minimum_eigenvalue_ratio	-1.71e-16	PASS	differential_seed_094	moment_equilibrium_relati ve_error	3.71e-11	PASS
operator_E7e10_nu0.000_ h2x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_094	energy_identity_relative_er ror	2.31e-16	PASS
operator_E7e10_nu0.000_ h2x1x1	independent_condensation_ _relative_g...	6.59e-17	PASS	differential_seed_094	displacement_all_finite	1	PASS
operator_E7e10_nu0.000_ h2x1x1	axis_permutation_relative_ gap	1.21e-16	PASS	differential_seed_094	stress_all_finite	1	PASS
operator_E7e10_nu0.000_ h2x1x1	axis_reflection_relative_ga p	1.41e-16	PASS	differential_seed_094	fallback_count	0	PASS
operator_E7e10_nu0.000_ h2x1x1	modulus_scaling_relative_ gap	6.31e-17	PASS	differential_seed_094	reference_route_is_cpu_d ouble	1	PASS
operator_E7e10_nu0.000_ h1x3x1	entries_finite	1	PASS	differential_seed_094	reference_route_no_fallba ck	1	PASS
operator_E7e10_nu0.000_ h1x3x1	symmetry_relative	1.73e-17	PASS	differential_seed_094	parity_displacement_relati ve_l2	7.08e-08	PASS
operator_E7e10_nu0.000_ h1x3x1	rigid_mode_force_ratio	4.01e-17	PASS	differential_seed_094	parity_displacement_relati ve_linf	1.11e-07	PASS
operator_E7e10_nu0.000_ h1x3x1	null_space_dimension	6	PASS	differential_seed_094	parity_reaction_relative_l2	2.99e-08	PASS
operator_E7e10_nu0.000_ h1x3x1	rank	18	PASS	differential_seed_094	parity_reaction_relative_lin f	4.19e-08	PASS
operator_E7e10_nu0.000_ h1x3x1	minimum_eigenvalue_ratio	-4.67e-17	PASS	differential_seed_094	parity_stress_relative_l2	1.34e-07	PASS
operator_E7e10_nu0.000_ h1x3x1	random_energy_ratio_mini mum	0	PASS	differential_seed_094	parity_stress_relative_linf	1.97e-07	PASS
operator_E7e10_nu0.000_ h1x3x1	independent_condensation_ _relative_g...	8.11e-17	PASS	differential_seed_094	parity_strain_energy_relati ve_error	5.46e-08	PASS
operator_E7e10_nu0.000_ h1x3x1	axis_permutation_relative_ gap	1.23e-16	PASS	differential_seed_094	zero_fallback_on_both_ba ckends	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_nu0.000_h1x3x1	axis_reflection_relative_gap	1.33e-16	PASS	differential_seed_095	converged	1	PASS
operator_E7e10_nu0.000_h1x3x1	modulus_scaling_relative_gap	3.46e-17	PASS	differential_seed_095	solver_relative_residual	1.34e-06	PASS
operator_E7e10_nu0.000_h1x1x5	entries_finite	1	PASS	differential_seed_095	independent_double_relative_residual	1.34e-06	PASS
operator_E7e10_nu0.000_h1x1x5	symmetry_relative	2.11e-17	PASS	differential_seed_095	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.000_h1x1x5	rigid_mode_force_ratio	3.71e-17	PASS	differential_seed_095	force_equilibrium_relative_error	1.69e-07	PASS
operator_E7e10_nu0.000_h1x1x5	null_space_dimension	6	PASS	differential_seed_095	moment_equilibrium_relative_error	1.52e-07	PASS
operator_E7e10_nu0.000_h1x1x5	rank	18	PASS	differential_seed_095	energy_identity_relative_error	1.05e-08	PASS
operator_E7e10_nu0.000_h1x1x5	minimum_eigenvalue_ratio	-4.41e-17	PASS	differential_seed_095	displacement_all_finite	1	PASS
operator_E7e10_nu0.000_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_095	stress_all_finite	1	PASS
operator_E7e10_nu0.000_h1x1x5	independent_condensation_relative_gap	7.40e-17	PASS	differential_seed_095	fallback_count	0	PASS
operator_E7e10_nu0.000_h1x1x5	axis_permutation_relative_gap	1.15e-16	PASS	differential_seed_095	metal_execution_evidence_present	1	PASS
operator_E7e10_nu0.000_h1x1x5	axis_reflection_relative_gap	1.19e-16	PASS	differential_seed_095	operator_backend_is_packaged_host_process	1	PASS
operator_E7e10_nu0.000_h1x1x5	modulus_scaling_relative_gap	4.21e-17	PASS	differential_seed_095	persistent_metal_vector_buffers	1	PASS
operator_E7e10_nu0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_095	packaged_metallib_used	1	PASS
operator_E7e10_nu0.01x0.01x0.01	symmetry_relative	7.87e-18	PASS	differential_seed_095	no_runtime_source_compilation	1	PASS
operator_E7e10_nu0.01x0.01x0.01	rigid_mode_force_ratio	3.93e-17	PASS	differential_seed_095	metal_fallback_count	0	PASS
operator_E7e10_nu0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_095	converged	1	PASS
operator_E7e10_nu0.01x0.01x0.01	rank	18	PASS	differential_seed_095	solver_relative_residual	8.69e-11	PASS
operator_E7e10_nu0.01x0.01x0.01	minimum_eigenvalue_ratio	-1.51e-16	PASS	differential_seed_095	independent_double_relative_residual	8.69e-11	PASS
operator_E7e10_nu0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_095	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.01x0.01x0.01	independent_condensation_relative_gap	2.85e-17	PASS	differential_seed_095	force_equilibrium_relative_error	2.25e-11	PASS
operator_E7e10_nu0.01x0.01x0.01	axis_permutation_relative_gap	1.34e-16	PASS	differential_seed_095	moment_equilibrium_relative_error	2.68e-11	PASS
operator_E7e10_nu0.01x0.01x0.01	axis_reflection_relative_gap	1.65e-16	PASS	differential_seed_095	energy_identity_relative_error	1.32e-15	PASS
operator_E7e10_nu0.01x0.01x0.01	modulus_scaling_relative_gap	3.15e-17	PASS	differential_seed_095	displacement_all_finite	1	PASS
operator_E7e10_nu0.000_h10x1x0.1	entries_finite	1	PASS	differential_seed_095	stress_all_finite	1	PASS
operator_E7e10_nu0.000_h10x1x0.1	symmetry_relative	6.49e-18	PASS	differential_seed_095	fallback_count	0	PASS
operator_E7e10_nu0.000_h10x1x0.1	rigid_mode_force_ratio	4.89e-17	PASS	differential_seed_095	reference_route_is_cpu_double	1	PASS
operator_E7e10_nu0.000_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_095	reference_route_no_fallback	1	PASS
operator_E7e10_nu0.000_h10x1x0.1	rank	18	PASS	differential_seed_095	parity_displacement_relative_l2	3.94e-07	PASS
operator_E7e10_nu0.000_h10x1x0.1	minimum_eigenvalue_ratio	-9.49e-17	PASS	differential_seed_095	parity_displacement_relative_linf	3.74e-07	PASS
operator_E7e10_nu0.000_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_095	parity_reaction_relative_l2	1.82e-07	PASS
operator_E7e10_nu0.000_h10x1x0.1	independent_condensation_relative_gap	6.06e-17	PASS	differential_seed_095	parity_reaction_relative_linf	1.55e-07	PASS
operator_E7e10_nu0.000_h10x1x0.1	axis_permutation_relative_gap	1.16e-16	PASS	differential_seed_095	parity_stress_relative_l2	8.37e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_nu0.000_h10x1x0.1	axis_reflection_relative_gap	1.59e-16	PASS	differential_seed_095	parity_stress_relative_linf	9.96e-07	PASS
operator_E7e10_nu0.000_h10x1x0.1	modulus_scaling_relative_gap	7.79e-17	PASS	differential_seed_095	parity_strain_energy_relative_error	2.11e-08	PASS
operator_E7e10_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_095	zero_fallback_on_both_ba ckends	0	PASS
operator_E7e10_nu0.011x0.009x0.013	symmetry_relative	6.73e-18	PASS	differential_seed_096	converged	1	PASS
operator_E7e10_nu0.011x0.009x0.013	rigid_mode_force_ratio	4.70e-17	PASS	differential_seed_096	solver_relative_residual	1.40e-06	PASS
operator_E7e10_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_096	independent_double_relati ve_residual	1.40e-06	PASS
operator_E7e10_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_096	rigid_body_constraint_ran k	6	PASS
operator_E7e10_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-1.15e-16	PASS	differential_seed_096	force_equilibrium_relative_ error	1.60e-07	PASS
operator_E7e10_nu0.011x0.009x0.013	random_energy_ratio_mini mum	0	PASS	differential_seed_096	moment_equilibrium_relati ve_error	2.47e-07	PASS
operator_E7e10_nu0.011x0.009x0.013	independent_condensation _relative_g...	8.23e-17	PASS	differential_seed_096	energy_identity_relative_er ror	1.07e-07	PASS
operator_E7e10_nu0.011x0.009x0.013	axis_permutation_relative_ gap	1.55e-16	PASS	differential_seed_096	displacement_all_finite	1	PASS
operator_E7e10_nu0.011x0.009x0.013	axis_reflection_relative_ga p	1.29e-16	PASS	differential_seed_096	stress_all_finite	1	PASS
operator_E7e10_nu0.011x0.009x0.013	modulus_scaling_relative_ gap	8.08e-17	PASS	differential_seed_096	fallback_count	0	PASS
operator_E7e10_nu0.200_h1x1x1	entries_finite	1	PASS	differential_seed_096	metal_execution_evidence _present	1	PASS
operator_E7e10_nu0.200_h1x1x1	symmetry_relative	0	PASS	differential_seed_096	operator_backend_is_pack aged_host_p...	1	PASS
operator_E7e10_nu0.200_h1x1x1	rigid_mode_force_ratio	3.38e-17	PASS	differential_seed_096	persistent_metal_vector_b uffers	1	PASS
operator_E7e10_nu0.200_h1x1x1	null_space_dimension	6	PASS	differential_seed_096	packaged_metallib_used	1	PASS
operator_E7e10_nu0.200_h1x1x1	rank	18	PASS	differential_seed_096	no_runtime_source_compil ation	1	PASS
operator_E7e10_nu0.200_h1x1x1	minimum_eigenvalue_ratio	-1.45e-16	PASS	differential_seed_096	metal_fallback_count	0	PASS
operator_E7e10_nu0.200_h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_096	converged	1	PASS
operator_E7e10_nu0.200_h1x1x1	independent_condensation _relative_g...	8.47e-17	PASS	differential_seed_096	solver_relative_residual	9.60e-11	PASS
operator_E7e10_nu0.200_h1x1x1	axis_permutation_relative_ gap	9.41e-17	PASS	differential_seed_096	independent_double_relati ve_residual	9.60e-11	PASS
operator_E7e10_nu0.200_h1x1x1	axis_reflection_relative_ga p	1.02e-16	PASS	differential_seed_096	rigid_body_constraint_ran k	6	PASS
operator_E7e10_nu0.200_h1x1x1	modulus_scaling_relative_ gap	3.95e-17	PASS	differential_seed_096	force_equilibrium_relative_ error	7.83e-12	PASS
operator_E7e10_nu0.200_h2x1x1	entries_finite	1	PASS	differential_seed_096	moment_equilibrium_relati ve_error	1.60e-11	PASS
operator_E7e10_nu0.200_h2x1x1	symmetry_relative	0	PASS	differential_seed_096	energy_identity_relative_er ror	5.79e-14	PASS
operator_E7e10_nu0.200_h2x1x1	rigid_mode_force_ratio	3.91e-17	PASS	differential_seed_096	displacement_all_finite	1	PASS
operator_E7e10_nu0.200_h2x1x1	null_space_dimension	6	PASS	differential_seed_096	stress_all_finite	1	PASS
operator_E7e10_nu0.200_h2x1x1	rank	18	PASS	differential_seed_096	fallback_count	0	PASS
operator_E7e10_nu0.200_h2x1x1	minimum_eigenvalue_ratio	-2.81e-17	PASS	differential_seed_096	reference_route_is_cpu_d ouble	1	PASS
operator_E7e10_nu0.200_h2x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_096	reference_route_no_fallba ck	1	PASS
operator_E7e10_nu0.200_h2x1x1	independent_condensation _relative_g...	1.33e-18	PASS	differential_seed_096	parity_displacement_relati ve_l2	2.95e-07	PASS
operator_E7e10_nu0.200_h2x1x1	axis_permutation_relative_ gap	9.46e-17	PASS	differential_seed_096	parity_displacement_relati ve_linf	1.62e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_nu0.200_h2x1x1	axis_reflection_relative_gap	1.25e-16	PASS	differential_seed_096	parity_reaction_relative_l2	2.73e-07	PASS
operator_E7e10_nu0.200_h2x1x1	modulus_scaling_relative_gap	4.93e-17	PASS	differential_seed_096	parity_reaction_relative_linf	2.66e-07	PASS
operator_E7e10_nu0.200_h1x3x1	entries_finite	1	PASS	differential_seed_096	parity_stress_relative_l2	8.35e-07	PASS
operator_E7e10_nu0.200_h1x3x1	symmetry_relative	1.69e-17	PASS	differential_seed_096	parity_stress_relative_linf	3.06e-07	PASS
operator_E7e10_nu0.200_h1x3x1	rigid_mode_force_ratio	5.18e-17	PASS	differential_seed_096	parity_strain_energy_relative_error	2.15e-07	PASS
operator_E7e10_nu0.200_h1x3x1	null_space_dimension	6	PASS	differential_seed_096	zero_fallback_on_both_basckends	0	PASS
operator_E7e10_nu0.200_h1x3x1	rank	18	PASS	differential_properties_seed_096	metal_all_property_solves_converged	1	PASS
operator_E7e10_nu0.200_h1x3x1	minimum_eigenvalue_ratio	-1.02e-16	PASS	differential_properties_seed_096	metal_displacement_superposition	1.81e-07	PASS
operator_E7e10_nu0.200_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_properties_seed_096	metal_stress_superposition	6.77e-07	PASS
operator_E7e10_nu0.200_h1x3x1	independent_condensation_relative_g...	4.80e-17	PASS	differential_properties_seed_096	metal_sign_reversal	0	PASS
operator_E7e10_nu0.200_h1x3x1	axis_permutation_relative_gap	1.87e-16	PASS	differential_properties_seed_096	metal_load_scaling_by_two	0	PASS
operator_E7e10_nu0.200_h1x3x1	axis_reflection_relative_gap	2.21e-16	PASS	differential_properties_seed_096	metal_modulus_scaling_by_two	0	PASS
operator_E7e10_nu0.200_h1x3x1	modulus_scaling_relative_gap	6.77e-17	PASS	differential_properties_seed_096	metal_maxwell_betti_reciprocity	6.86e-07	PASS
operator_E7e10_nu0.200_h1x1x5	entries_finite	1	PASS	differential_properties_seed_096	metal_axis_permutation	3.10e-07	PASS
operator_E7e10_nu0.200_h1x1x5	symmetry_relative	1.03e-17	PASS	differential_properties_seed_096	metal_axis_reflection	4.34e-07	PASS
operator_E7e10_nu0.200_h1x1x5	rigid_mode_force_ratio	6.15e-17	PASS	differential_properties_seed_096	cpu_all_property_solves_converged	1	PASS
operator_E7e10_nu0.200_h1x1x5	null_space_dimension	6	PASS	differential_properties_seed_096	cpu_displacement_superposition	3.02e-11	PASS
operator_E7e10_nu0.200_h1x1x5	rank	18	PASS	differential_properties_seed_096	cpu_stress_superposition	6.95e-11	PASS
operator_E7e10_nu0.200_h1x1x5	minimum_eigenvalue_ratio	-1.69e-16	PASS	differential_properties_seed_096	cpu_sign_reversal	0	PASS
operator_E7e10_nu0.200_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_properties_seed_096	cpu_load_scaling_by_two	0	PASS
operator_E7e10_nu0.200_h1x1x5	independent_condensation_relative_g...	4.88e-17	PASS	differential_properties_seed_096	cpu_modulus_scaling_by_two	1.59e-12	PASS
operator_E7e10_nu0.200_h1x1x5	axis_permutation_relative_gap	1.28e-16	PASS	differential_properties_seed_096	cpu_maxwell_betti_reciprocity	2.84e-11	PASS
operator_E7e10_nu0.200_h1x1x5	axis_reflection_relative_gap	1.65e-16	PASS	differential_properties_seed_096	cpu_axis_permutation	6.84e-12	PASS
operator_E7e10_nu0.200_h1x1x5	modulus_scaling_relative_gap	4.11e-17	PASS	differential_properties_seed_096	cpu_axis_reflection	7.03e-12	PASS
operator_E7e10_nu0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_097	converged	1	PASS
operator_E7e10_nu0.01x0.01x0.01	symmetry_relative	7.72e-18	PASS	differential_seed_097	solver_relative_residual	1.72e-05	PASS
operator_E7e10_nu0.01x0.01x0.01	rigid_mode_force_ratio	4.73e-17	PASS	differential_seed_097	independent_double_relative_residual	1.72e-05	PASS
operator_E7e10_nu0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_097	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.01x0.01x0.01	rank	18	PASS	differential_seed_097	force_equilibrium_relative_error	7.43e-07	PASS
operator_E7e10_nu0.01x0.01x0.01	minimum_eigenvalue_ratio	-1.20e-16	PASS	differential_seed_097	moment_equilibrium_relative_error	1.11e-06	PASS
operator_E7e10_nu0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_097	energy_identity_relative_error	1.59e-07	PASS
operator_E7e10_nu0.01x0.01x0.01	independent_condensation_relative_g...	3.49e-17	PASS	differential_seed_097	displacement_all_finite	1	PASS
operator_E7e10_nu0.01x0.01x0.01	axis_permutation_relative_gap	1.38e-16	PASS	differential_seed_097	stress_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_n... 0_h0.01x0.01x0.01	axis_reflection_relative_ga p	1.49e-16	PASS	differential_seed_097	fallback_count	0	PASS
operator_E7e10_n... 0_h0.01x0.01x0.01	modulus_scaling_relative_ gap	6.17e-17	PASS	differential_seed_097	metal_execution_evidence _present	1	PASS
operator_E7e10_nu0.200_ h10x1x0.1	entries_finite	1	PASS	differential_seed_097	operator_backend_is_pack aged_host_p...	1	PASS
operator_E7e10_nu0.200_ h10x1x0.1	symmetry_relative	6.29e-18	PASS	differential_seed_097	persistent_metal_vector_b uffers	1	PASS
operator_E7e10_nu0.200_ h10x1x0.1	rigid_mode_force_ratio	4.36e-17	PASS	differential_seed_097	packaged_metallib_used	1	PASS
operator_E7e10_nu0.200_ h10x1x0.1	null_space_dimension	6	PASS	differential_seed_097	no_runtime_source_compil ation	1	PASS
operator_E7e10_nu0.200_ h10x1x0.1	rank	18	PASS	differential_seed_097	metal_fallback_count	0	PASS
operator_E7e10_nu0.200_ h10x1x0.1	minimum_eigenvalue_ratio	-1.90e-17	PASS	differential_seed_097	converged	1	PASS
operator_E7e10_nu0.200_ h10x1x0.1	random_energy_ratio_mini mum	0	PASS	differential_seed_097	solver_relative_residual	8.47e-11	PASS
operator_E7e10_nu0.200_ h10x1x0.1	independent_condensation _relative_g...	3.84e-17	PASS	differential_seed_097	independent_double_relati ve_residual	8.47e-11	PASS
operator_E7e10_nu0.200_ h10x1x0.1	axis_permutation_relative_ gap	1.07e-16	PASS	differential_seed_097	rigid_body_constraint_ran k	6	PASS
operator_E7e10_nu0.200_ h10x1x0.1	axis_reflection_relative_ga p	1.33e-16	PASS	differential_seed_097	force_equilibrium_relative_ error	1.32e-11	PASS
operator_E7e10_nu0.200_ h10x1x0.1	modulus_scaling_relative_ gap	3.77e-17	PASS	differential_seed_097	moment_equilibrium_relati ve_error	7.99e-12	PASS
operator_E7e10_n... 0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_097	energy_identity_relative_er ror	4.24e-14	PASS
operator_E7e10_n... 0.011x0.009x0.013	symmetry_relative	1.32e-17	PASS	differential_seed_097	displacement_all_finite	1	PASS
operator_E7e10_n... 0.011x0.009x0.013	rigid_mode_force_ratio	3.76e-17	PASS	differential_seed_097	stress_all_finite	1	PASS
operator_E7e10_n... 0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_097	fallback_count	0	PASS
operator_E7e10_n... 0.011x0.009x0.013	rank	18	PASS	differential_seed_097	reference_route_is_cpu_d ouble	1	PASS
operator_E7e10_n... 0.011x0.009x0.013	minimum_eigenvalue_ratio	-7.31e-17	PASS	differential_seed_097	reference_route_no_fallba ck	1	PASS
operator_E7e10_n... 0.011x0.009x0.013	random_energy_ratio_mini mum	0	PASS	differential_seed_097	parity_displacement_relati ve_l2	5.69e-06	PASS
operator_E7e10_n... 0.011x0.009x0.013	independent_condensation _relative_g...	6.54e-17	PASS	differential_seed_097	parity_displacement_relati ve_linf	2.76e-06	PASS
operator_E7e10_n... 0.011x0.009x0.013	axis_permutation_relative_ gap	1.43e-16	PASS	differential_seed_097	parity_reaction_relative_l2	3.16e-06	PASS
operator_E7e10_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.34e-16	PASS	differential_seed_097	parity_reaction_relative_lin f	2.08e-06	PASS
operator_E7e10_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	7.91e-17	PASS	differential_seed_097	parity_stress_relative_l2	1.11e-05	PASS
operator_E7e10_nu0.300_ h1x1x1	entries_finite	1	PASS	differential_seed_097	parity_stress_relative_linf	3.49e-06	PASS
operator_E7e10_nu0.300_ h1x1x1	symmetry_relative	8.18e-18	PASS	differential_seed_097	parity_strain_energy_relati ve_error	3.19e-07	PASS
operator_E7e10_nu0.300_ h1x1x1	rigid_mode_force_ratio	2.40e-17	PASS	differential_seed_097	zero_fallback_on_both_ba ckends	0	PASS
operator_E7e10_nu0.300_ h1x1x1	null_space_dimension	6	PASS	differential_seed_098	converged	1	PASS
operator_E7e10_nu0.300_ h1x1x1	rank	18	PASS	differential_seed_098	solver_relative_residual	1.26e-05	PASS
operator_E7e10_nu0.300_ h1x1x1	minimum_eigenvalue_ratio	-4.65e-17	PASS	differential_seed_098	independent_double_relati ve_residual	1.26e-05	PASS
operator_E7e10_nu0.300_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_098	rigid_body_constraint_ran k	6	PASS
operator_E7e10_nu0.300_ h1x1x1	independent_condensation _relative_g...	2.31e-17	PASS	differential_seed_098	force_equilibrium_relative_ error	3.59e-06	PASS
operator_E7e10_nu0.300_ h1x1x1	axis_permutation_relative_ gap	9.35e-17	PASS	differential_seed_098	moment_equilibrium_relati ve_error	3.20e-06	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_nu0.300_h1x1x1	axis_reflection_relative_gap	7.29e-17	PASS	differential_seed_098	energy_identity_relative_error	1.50e-07	PASS
operator_E7e10_nu0.300_h1x1x1	modulus_scaling_relative_gap	3.27e-17	PASS	differential_seed_098	displacement_all_finite	1	PASS
operator_E7e10_nu0.300_h2x1x1	entries_finite	1	PASS	differential_seed_098	stress_all_finite	1	PASS
operator_E7e10_nu0.300_h2x1x1	symmetry_relative	1.03e-17	PASS	differential_seed_098	fallback_count	0	PASS
operator_E7e10_nu0.300_h2x1x1	rigid_mode_force_ratio	3.57e-17	PASS	differential_seed_098	metal_execution_evidence_present	1	PASS
operator_E7e10_nu0.300_h2x1x1	null_space_dimension	6	PASS	differential_seed_098	operator_backend_is_packaged_host_p...	1	PASS
operator_E7e10_nu0.300_h2x1x1	rank	18	PASS	differential_seed_098	persistent_metal_vector_buffers	1	PASS
operator_E7e10_nu0.300_h2x1x1	minimum_eigenvalue_ratio	-5.29e-17	PASS	differential_seed_098	packaged_metallic_used	1	PASS
operator_E7e10_nu0.300_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_098	no_runtime_source_compilation	1	PASS
operator_E7e10_nu0.300_h2x1x1	independent_condensation_relative_g...	5.86e-17	PASS	differential_seed_098	metal_fallback_count	0	PASS
operator_E7e10_nu0.300_h2x1x1	axis_permutation_relative_gap	1.69e-16	PASS	differential_seed_098	converged	1	PASS
operator_E7e10_nu0.300_h2x1x1	axis_reflection_relative_gap	1.67e-16	PASS	differential_seed_098	solver_relative_residual	8.80e-11	PASS
operator_E7e10_nu0.300_h2x1x1	modulus_scaling_relative_gap	4.12e-17	PASS	differential_seed_098	independent_double_relative_residual	8.80e-11	PASS
operator_E7e10_nu0.300_h1x3x1	entries_finite	1	PASS	differential_seed_098	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.300_h1x3x1	symmetry_relative	7.10e-18	PASS	differential_seed_098	force_equilibrium_relative_error	4.67e-12	PASS
operator_E7e10_nu0.300_h1x3x1	rigid_mode_force_ratio	5.25e-17	PASS	differential_seed_098	moment_equilibrium_relative_error	2.38e-11	PASS
operator_E7e10_nu0.300_h1x3x1	null_space_dimension	6	PASS	differential_seed_098	energy_identity_relative_error	1.08e-13	PASS
operator_E7e10_nu0.300_h1x3x1	rank	18	PASS	differential_seed_098	displacement_all_finite	1	PASS
operator_E7e10_nu0.300_h1x3x1	minimum_eigenvalue_ratio	-5.27e-18	PASS	differential_seed_098	stress_all_finite	1	PASS
operator_E7e10_nu0.300_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_098	fallback_count	0	PASS
operator_E7e10_nu0.300_h1x3x1	independent_condensation_relative_g...	1.78e-17	PASS	differential_seed_098	reference_route_is_cpu_double	1	PASS
operator_E7e10_nu0.300_h1x3x1	axis_permutation_relative_gap	1.25e-16	PASS	differential_seed_098	reference_route_no_fallback	1	PASS
operator_E7e10_nu0.300_h1x3x1	axis_reflection_relative_gap	1.08e-16	PASS	differential_seed_098	parity_displacement_relative_l2	7.90e-06	PASS
operator_E7e10_nu0.300_h1x3x1	modulus_scaling_relative_gap	5.68e-17	PASS	differential_seed_098	parity_displacement_relative_linf	6.56e-06	PASS
operator_E7e10_nu0.300_h1x1x5	entries_finite	1	PASS	differential_seed_098	parity_reaction_relative_l2	5.11e-06	PASS
operator_E7e10_nu0.300_h1x1x5	symmetry_relative	1.73e-17	PASS	differential_seed_098	parity_reaction_relative_linf	2.49e-06	PASS
operator_E7e10_nu0.300_h1x1x5	rigid_mode_force_ratio	3.70e-17	PASS	differential_seed_098	parity_stress_relative_l2	1.22e-05	PASS
operator_E7e10_nu0.300_h1x1x5	null_space_dimension	6	PASS	differential_seed_098	parity_stress_relative_linf	4.18e-06	PASS
operator_E7e10_nu0.300_h1x1x5	rank	18	PASS	differential_seed_098	parity_strain_energy_relative_error	2.99e-07	PASS
operator_E7e10_nu0.300_h1x1x5	minimum_eigenvalue_ratio	-5.23e-17	PASS	differential_seed_098	zero_fallback_on_both_backends	0	PASS
operator_E7e10_nu0.300_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_099	converged	1	PASS
operator_E7e10_nu0.300_h1x1x5	independent_condensation_relative_g...	7.17e-17	PASS	differential_seed_099	solver_relative_residual	9.05e-07	PASS
operator_E7e10_nu0.300_h1x1x5	axis_permutation_relative_gap	1.38e-16	PASS	differential_seed_099	independent_double_relative_residual	9.05e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_nu0.300_h1x1x5	axis_reflection_relative_gap	1.34e-16	PASS	differential_seed_099	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.300_h1x1x5	modulus_scaling_relative_gap	5.18e-17	PASS	differential_seed_099	force_equilibrium_relative_error	2.16e-08	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_099	moment_equilibrium_relative_error	1.04e-08	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	symmetry_relative	1.28e-17	PASS	differential_seed_099	energy_identity_relative_error	3.39e-08	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	rigid_mode_force_ratio	2.54e-17	PASS	differential_seed_099	displacement_all_finite	1	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_099	stress_all_finite	1	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	rank	18	PASS	differential_seed_099	fallback_count	0	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-6.66e-17	PASS	differential_seed_099	metal_execution_evidence_present	1	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_099	operator_backend_is_packaged_host_process	1	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	independent_condensation_relative_gap	5.93e-17	PASS	differential_seed_099	persistent_metal_vector_buffers	1	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	axis_permutation_relative_gap	1.32e-16	PASS	differential_seed_099	packaged_metallic_used	1	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	axis_reflection_relative_gap	1.41e-16	PASS	differential_seed_099	no_runtime_source_compilation	1	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	modulus_scaling_relative_gap	5.11e-17	PASS	differential_seed_099	metal_fallback_count	0	PASS
operator_E7e10_nu0.300_h10x1x0.1	entries_finite	1	PASS	differential_seed_099	converged	1	PASS
operator_E7e10_nu0.300_h10x1x0.1	symmetry_relative	1.09e-17	PASS	differential_seed_099	solver_relative_residual	5.81e-11	PASS
operator_E7e10_nu0.300_h10x1x0.1	rigid_mode_force_ratio	7.08e-17	PASS	differential_seed_099	independent_double_relative_residual	5.81e-11	PASS
operator_E7e10_nu0.300_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_099	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.300_h10x1x0.1	rank	18	PASS	differential_seed_099	force_equilibrium_relative_error	2.39e-12	PASS
operator_E7e10_nu0.300_h10x1x0.1	minimum_eigenvalue_ratio	-3.09e-17	PASS	differential_seed_099	moment_equilibrium_relative_error	3.13e-12	PASS
operator_E7e10_nu0.300_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_099	energy_identity_relative_error	1.95e-16	PASS
operator_E7e10_nu0.300_h10x1x0.1	independent_condensation_relative_gap	4.92e-17	PASS	differential_seed_099	displacement_all_finite	1	PASS
operator_E7e10_nu0.300_h10x1x0.1	axis_permutation_relative_gap	1.08e-16	PASS	differential_seed_099	stress_all_finite	1	PASS
operator_E7e10_nu0.300_h10x1x0.1	axis_reflection_relative_gap	1.27e-16	PASS	differential_seed_099	fallback_count	0	PASS
operator_E7e10_nu0.300_h10x1x0.1	modulus_scaling_relative_gap	8.68e-17	PASS	differential_seed_099	reference_route_is_cpu_double	1	PASS
operator_E7e10_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_099	reference_route_no_fallback	1	PASS
operator_E7e10_nu0.011x0.009x0.013	symmetry_relative	1.10e-17	PASS	differential_seed_099	parity_displacement_relative_l2	1.71e-07	PASS
operator_E7e10_nu0.011x0.009x0.013	rigid_mode_force_ratio	6.08e-17	PASS	differential_seed_099	parity_displacement_relative_linf	4.61e-07	PASS
operator_E7e10_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_099	parity_reaction_relative_l2	1.52e-07	PASS
operator_E7e10_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_099	parity_reaction_relative_linf	3.29e-07	PASS
operator_E7e10_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-4.73e-17	PASS	differential_seed_099	parity_stress_relative_l2	7.28e-07	PASS
operator_E7e10_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_099	parity_stress_relative_linf	2.07e-06	PASS
operator_E7e10_nu0.011x0.009x0.013	independent_condensation_relative_gap	5.67e-17	PASS	differential_seed_099	parity_strain_energy_relative_error	6.78e-08	PASS
operator_E7e10_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.44e-16	PASS	differential_seed_099	zero_fallback_on_both_backends	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_nu0.011x0.009x0.013	axis_reflection_relative_gap	1.76e-16	PASS	differential_seed_100	converged	1	PASS
operator_E7e10_nu0.011x0.009x0.013	modulus_scaling_relative_gap	4.39e-17	PASS	differential_seed_100	solver_relative_residual	1.66e-05	PASS
operator_E7e10_nu0.450_h1x1x1	entries_finite	1	PASS	differential_seed_100	independent_double_relative_residual	1.66e-05	PASS
operator_E7e10_nu0.450_h1x1x1	symmetry_relative	4.99e-18	PASS	differential_seed_100	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.450_h1x1x1	rigid_mode_force_ratio	2.28e-17	PASS	differential_seed_100	force_equilibrium_relative_error	2.75e-07	PASS
operator_E7e10_nu0.450_h1x1x1	null_space_dimension	6	PASS	differential_seed_100	moment_equilibrium_relative_error	7.10e-08	PASS
operator_E7e10_nu0.450_h1x1x1	rank	18	PASS	differential_seed_100	energy_identity_relative_error	7.17e-09	PASS
operator_E7e10_nu0.450_h1x1x1	minimum_eigenvalue_ratio	-3.67e-17	PASS	differential_seed_100	displacement_all_finite	1	PASS
operator_E7e10_nu0.450_h1x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_100	stress_all_finite	1	PASS
operator_E7e10_nu0.450_h1x1x1	independent_condensation_relative_gap	2.31e-17	PASS	differential_seed_100	fallback_count	0	PASS
operator_E7e10_nu0.450_h1x1x1	axis_permutation_relative_gap	1.14e-16	PASS	differential_seed_100	metal_execution_evidence_present	1	PASS
operator_E7e10_nu0.450_h1x1x1	axis_reflection_relative_gap	1.26e-16	PASS	differential_seed_100	operator_backend_is_packaged_host_process	1	PASS
operator_E7e10_nu0.450_h1x1x1	modulus_scaling_relative_gap	2.00e-17	PASS	differential_seed_100	persistent_metal_vector_buffers	1	PASS
operator_E7e10_nu0.450_h2x1x1	entries_finite	1	PASS	differential_seed_100	packaged_metallib_used	1	PASS
operator_E7e10_nu0.450_h2x1x1	symmetry_relative	6.52e-18	PASS	differential_seed_100	no_runtime_source_compilation	1	PASS
operator_E7e10_nu0.450_h2x1x1	rigid_mode_force_ratio	2.89e-17	PASS	differential_seed_100	metal_fallback_count	0	PASS
operator_E7e10_nu0.450_h2x1x1	null_space_dimension	6	PASS	differential_seed_100	converged	1	PASS
operator_E7e10_nu0.450_h2x1x1	rank	18	PASS	differential_seed_100	solver_relative_residual	9.93e-11	PASS
operator_E7e10_nu0.450_h2x1x1	minimum_eigenvalue_ratio	-3.74e-17	PASS	differential_seed_100	independent_double_relative_residual	9.93e-11	PASS
operator_E7e10_nu0.450_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_100	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.450_h2x1x1	independent_condensation_relative_gap	1.73e-17	PASS	differential_seed_100	force_equilibrium_relative_error	1.94e-12	PASS
operator_E7e10_nu0.450_h2x1x1	axis_permutation_relative_gap	1.01e-16	PASS	differential_seed_100	moment_equilibrium_relative_error	3.54e-12	PASS
operator_E7e10_nu0.450_h2x1x1	axis_reflection_relative_gap	1.29e-16	PASS	differential_seed_100	energy_identity_relative_error	2.58e-15	PASS
operator_E7e10_nu0.450_h2x1x1	modulus_scaling_relative_gap	3.91e-17	PASS	differential_seed_100	displacement_all_finite	1	PASS
operator_E7e10_nu0.450_h1x3x1	entries_finite	1	PASS	differential_seed_100	stress_all_finite	1	PASS
operator_E7e10_nu0.450_h1x3x1	symmetry_relative	9.16e-18	PASS	differential_seed_100	fallback_count	0	PASS
operator_E7e10_nu0.450_h1x3x1	rigid_mode_force_ratio	4.12e-17	PASS	differential_seed_100	reference_route_is_cpu_double	1	PASS
operator_E7e10_nu0.450_h1x3x1	null_space_dimension	6	PASS	differential_seed_100	reference_route_no_fallback	1	PASS
operator_E7e10_nu0.450_h1x3x1	rank	18	PASS	differential_seed_100	parity_displacement_relative_l2	5.60e-07	PASS
operator_E7e10_nu0.450_h1x3x1	minimum_eigenvalue_ratio	-4.34e-17	PASS	differential_seed_100	parity_displacement_relative_linf	1.25e-06	PASS
operator_E7e10_nu0.450_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_100	parity_reaction_relative_l2	1.50e-06	PASS
operator_E7e10_nu0.450_h1x3x1	independent_condensation_relative_gap	3.53e-17	PASS	differential_seed_100	parity_reaction_relative_linf	1.51e-06	PASS
operator_E7e10_nu0.450_h1x3x1	axis_permutation_relative_gap	1.17e-16	PASS	differential_seed_100	parity_stress_relative_l2	3.46e-06	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_nu0.450_h1x3x1	axis_reflection_relative_gap	1.08e-16	PASS	differential_seed_100	parity_stress_relative_inf	4.18e-06	PASS
operator_E7e10_nu0.450_h1x3x1	modulus_scaling_relative_gap	5.50e-17	PASS	differential_seed_100	parity_strain_energy_relative_error	1.43e-08	PASS
operator_E7e10_nu0.450_h1x1x5	entries_finite	1	PASS	differential_seed_100	zero_fallback_on_both_backends	0	PASS
operator_E7e10_nu0.450_h1x1x5	symmetry_relative	1.13e-17	PASS	differential_properties_see_d_100	metal_all_property_solves_converged	1	PASS
operator_E7e10_nu0.450_h1x1x5	rigid_mode_force_ratio	4.18e-17	PASS	differential_properties_see_d_100	metal_displacement_superposition	8.14e-08	PASS
operator_E7e10_nu0.450_h1x1x5	null_space_dimension	6	PASS	differential_properties_see_d_100	metal_stress_superposition	1.08e-06	PASS
operator_E7e10_nu0.450_h1x1x5	rank	18	PASS	differential_properties_see_d_100	metal_sign_reversal	0	PASS
operator_E7e10_nu0.450_h1x1x5	minimum_eigenvalue_ratio	-4.89e-18	PASS	differential_properties_see_d_100	metal_load_scaling_by_two	0	PASS
operator_E7e10_nu0.450_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_properties_see_d_100	metal_modulus_scaling_by_two	0	PASS
operator_E7e10_nu0.450_h1x1x5	independent_condensation_relative_g...	3.07e-17	PASS	differential_properties_see_d_100	metal_maxwell_betti_reciprocity	3.50e-05	PASS
operator_E7e10_nu0.450_h1x1x5	axis_permutation_relative_gap	1.02e-16	PASS	differential_properties_see_d_100	metal_axis_permutation	9.00e-08	PASS
operator_E7e10_nu0.450_h1x1x5	axis_reflection_relative_gap	1.09e-16	PASS	differential_properties_see_d_100	metal_axis_reflection	1.44e-07	PASS
operator_E7e10_nu0.450_h1x1x5	modulus_scaling_relative_gap	6.78e-17	PASS	differential_properties_see_d_100	cpu_all_property_solves_converged	1	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	entries_finite	1	PASS	differential_properties_see_d_100	cpu_displacement_superposition	4.85e-12	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	symmetry_relative	7.79e-18	PASS	differential_properties_see_d_100	cpu_stress_superposition	1.97e-11	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	rigid_mode_force_ratio	2.47e-17	PASS	differential_properties_see_d_100	cpu_sign_reversal	0	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_properties_see_d_100	cpu_load_scaling_by_two	0	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	rank	18	PASS	differential_properties_see_d_100	cpu_modulus_scaling_by_two	9.59e-14	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-3.23e-17	PASS	differential_properties_see_d_100	cpu_maxwell_betti_reciprocity	1.07e-10	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_properties_see_d_100	cpu_axis_permutation	8.46e-13	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	independent_condensation_relative_g...	4.08e-17	PASS	differential_properties_see_d_100	cpu_axis_reflection	7.87e-13	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	axis_permutation_relative_gap	1.19e-16	PASS	differential_seed_101	converged	1	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	axis_reflection_relative_gap	1.47e-16	PASS	differential_seed_101	solver_relative_residual	8.81e-07	PASS
operator_E7e10_nu0_h0.01x0.01x0.01	modulus_scaling_relative_gap	4.68e-17	PASS	differential_seed_101	independent_double_relative_residual	8.81e-07	PASS
operator_E7e10_nu0.450_h10x1x0.1	entries_finite	1	PASS	differential_seed_101	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.450_h10x1x0.1	symmetry_relative	2.04e-18	PASS	differential_seed_101	force_equilibrium_relative_error	2.25e-08	PASS
operator_E7e10_nu0.450_h10x1x0.1	rigid_mode_force_ratio	3.94e-17	PASS	differential_seed_101	moment_equilibrium_relative_error	2.76e-08	PASS
operator_E7e10_nu0.450_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_101	energy_identity_relative_error	1.65e-08	PASS
operator_E7e10_nu0.450_h10x1x0.1	rank	18	PASS	differential_seed_101	displacement_all_finite	1	PASS
operator_E7e10_nu0.450_h10x1x0.1	minimum_eigenvalue_ratio	-1.98e-16	PASS	differential_seed_101	stress_all_finite	1	PASS
operator_E7e10_nu0.450_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_101	fallback_count	0	PASS
operator_E7e10_nu0.450_h10x1x0.1	independent_condensation_relative_g...	1.20e-17	PASS	differential_seed_101	metal_execution_evidence_present	1	PASS
operator_E7e10_nu0.450_h10x1x0.1	axis_permutation_relative_gap	1.10e-16	PASS	differential_seed_101	operator_backend_is_packaged_host_p...	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_nu0.450_h10x1x0.1	axis_reflection_relative_gap	1.32e-16	PASS	differential_seed_101	persistent_metal_vector_buffers	1	PASS
operator_E7e10_nu0.450_h10x1x0.1	modulus_scaling_relative_gap	4.90e-17	PASS	differential_seed_101	packaged_metallib_used	1	PASS
operator_E7e10_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_101	no_runtime_source_compilation	1	PASS
operator_E7e10_nu0.011x0.009x0.013	symmetry_relative	2.04e-17	PASS	differential_seed_101	metal_fallback_count	0	PASS
operator_E7e10_nu0.011x0.009x0.013	rigid_mode_force_ratio	4.67e-17	PASS	differential_seed_101	converged	1	PASS
operator_E7e10_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_101	solver_relative_residual	5.93e-11	PASS
operator_E7e10_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_101	independent_double_relative_residual	5.93e-11	PASS
operator_E7e10_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-3.19e-17	PASS	differential_seed_101	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_101	force_equilibrium_relative_error	3.19e-12	PASS
operator_E7e10_nu0.011x0.009x0.013	independent_condensation_relative_gap	1.38e-16	PASS	differential_seed_101	moment_equilibrium_relative_error	2.37e-12	PASS
operator_E7e10_nu0.011x0.009x0.013	axis_permutation_relative_gap	9.72e-17	PASS	differential_seed_101	energy_identity_relative_error	1.25e-13	PASS
operator_E7e10_nu0.011x0.009x0.013	axis_reflection_relative_gap	1.20e-16	PASS	differential_seed_101	displacement_all_finite	1	PASS
operator_E7e10_nu0.011x0.009x0.013	modulus_scaling_relative_gap	2.72e-17	PASS	differential_seed_101	stress_all_finite	1	PASS
operator_E7e10_nu0.490_h1x1x1	entries_finite	1	PASS	differential_seed_101	fallback_count	0	PASS
operator_E7e10_nu0.490_h1x1x1	symmetry_relative	8.11e-18	PASS	differential_seed_101	reference_route_is_cpu_double	1	PASS
operator_E7e10_nu0.490_h1x1x1	rigid_mode_force_ratio	3.47e-17	PASS	differential_seed_101	reference_route_no_fallback	1	PASS
operator_E7e10_nu0.490_h1x1x1	null_space_dimension	6	PASS	differential_seed_101	parity_displacement_relative_l2	6.16e-08	PASS
operator_E7e10_nu0.490_h1x1x1	rank	18	PASS	differential_seed_101	parity_displacement_relative_linf	1.12e-07	PASS
operator_E7e10_nu0.490_h1x1x1	minimum_eigenvalue_ratio	-7.68e-17	PASS	differential_seed_101	parity_reaction_relative_l2	1.37e-07	PASS
operator_E7e10_nu0.490_h1x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_101	parity_reaction_relative_linf	1.76e-07	PASS
operator_E7e10_nu0.490_h1x1x1	independent_condensation_relative_gap	5.44e-17	PASS	differential_seed_101	parity_stress_relative_l2	3.03e-07	PASS
operator_E7e10_nu0.490_h1x1x1	axis_permutation_relative_gap	9.70e-17	PASS	differential_seed_101	parity_stress_relative_linf	2.86e-07	PASS
operator_E7e10_nu0.490_h1x1x1	axis_reflection_relative_gap	1.25e-16	PASS	differential_seed_101	parity_strain_energy_relative_error	3.31e-08	PASS
operator_E7e10_nu0.490_h1x1x1	modulus_scaling_relative_gap	4.06e-17	PASS	differential_seed_101	zero_fallback_on_both_backends	0	PASS
operator_E7e10_nu0.490_h2x1x1	entries_finite	1	PASS	differential_seed_102	converged	1	PASS
operator_E7e10_nu0.490_h2x1x1	symmetry_relative	1.07e-17	PASS	differential_seed_102	solver_relative_residual	1.29e-06	PASS
operator_E7e10_nu0.490_h2x1x1	rigid_mode_force_ratio	3.84e-17	PASS	differential_seed_102	independent_double_relative_residual	1.29e-06	PASS
operator_E7e10_nu0.490_h2x1x1	null_space_dimension	6	PASS	differential_seed_102	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.490_h2x1x1	rank	18	PASS	differential_seed_102	force_equilibrium_relative_error	2.52e-08	PASS
operator_E7e10_nu0.490_h2x1x1	minimum_eigenvalue_ratio	-3.35e-17	PASS	differential_seed_102	moment_equilibrium_relative_error	2.97e-08	PASS
operator_E7e10_nu0.490_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_102	energy_identity_relative_error	2.75e-08	PASS
operator_E7e10_nu0.490_h2x1x1	independent_condensation_relative_gap	5.34e-17	PASS	differential_seed_102	displacement_all_finite	1	PASS
operator_E7e10_nu0.490_h2x1x1	axis_permutation_relative_gap	9.69e-17	PASS	differential_seed_102	stress_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_nu0.490_h2x1x1	axis_reflection_relative_gap	1.17e-16	PASS	differential_seed_102	fallback_count	0	PASS
operator_E7e10_nu0.490_h2x1x1	modulus_scaling_relative_gap	4.30e-17	PASS	differential_seed_102	metal_execution_evidence_present	1	PASS
operator_E7e10_nu0.490_h1x3x1	entries_finite	1	PASS	differential_seed_102	operator_backend_is_packaged_host_p...	1	PASS
operator_E7e10_nu0.490_h1x3x1	symmetry_relative	1.52e-17	PASS	differential_seed_102	persistent_metal_vector_buffers	1	PASS
operator_E7e10_nu0.490_h1x3x1	rigid_mode_force_ratio	3.88e-17	PASS	differential_seed_102	packaged_metallib_used	1	PASS
operator_E7e10_nu0.490_h1x3x1	null_space_dimension	6	PASS	differential_seed_102	no_runtime_source_compilation	1	PASS
operator_E7e10_nu0.490_h1x3x1	rank	18	PASS	differential_seed_102	metal_fallback_count	0	PASS
operator_E7e10_nu0.490_h1x3x1	minimum_eigenvalue_ratio	-4.76e-17	PASS	differential_seed_102	converged	1	PASS
operator_E7e10_nu0.490_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_102	solver_relative_residual	7.62e-11	PASS
operator_E7e10_nu0.490_h1x3x1	independent_condensation_relative_g...	5.19e-17	PASS	differential_seed_102	independent_double_relative_residual	7.62e-11	PASS
operator_E7e10_nu0.490_h1x3x1	axis_permutation_relative_gap	1.21e-16	PASS	differential_seed_102	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.490_h1x3x1	axis_reflection_relative_gap	1.30e-16	PASS	differential_seed_102	force_equilibrium_relative_error	1.36e-11	PASS
operator_E7e10_nu0.490_h1x3x1	modulus_scaling_relative_gap	4.56e-17	PASS	differential_seed_102	moment_equilibrium_relative_error	3.40e-11	PASS
operator_E7e10_nu0.490_h1x1x5	entries_finite	1	PASS	differential_seed_102	energy_identity_relative_error	2.26e-14	PASS
operator_E7e10_nu0.490_h1x1x5	symmetry_relative	9.41e-18	PASS	differential_seed_102	displacement_all_finite	1	PASS
operator_E7e10_nu0.490_h1x1x5	rigid_mode_force_ratio	4.28e-17	PASS	differential_seed_102	stress_all_finite	1	PASS
operator_E7e10_nu0.490_h1x1x5	null_space_dimension	6	PASS	differential_seed_102	fallback_count	0	PASS
operator_E7e10_nu0.490_h1x1x5	rank	18	PASS	differential_seed_102	reference_route_is_cpu_double	1	PASS
operator_E7e10_nu0.490_h1x1x5	minimum_eigenvalue_ratio	-3.01e-17	PASS	differential_seed_102	reference_route_no_fallback	1	PASS
operator_E7e10_nu0.490_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_102	parity_displacement_relative_l2	6.29e-08	PASS
operator_E7e10_nu0.490_h1x1x5	independent_condensation_relative_g...	3.79e-17	PASS	differential_seed_102	parity_displacement_relative_linf	8.79e-08	PASS
operator_E7e10_nu0.490_h1x1x5	axis_permutation_relative_gap	8.84e-17	PASS	differential_seed_102	parity_reaction_relative_l2	1.71e-07	PASS
operator_E7e10_nu0.490_h1x1x5	axis_reflection_relative_gap	1.31e-16	PASS	differential_seed_102	parity_reaction_relative_linf	1.69e-07	PASS
operator_E7e10_nu0.490_h1x1x5	modulus_scaling_relative_gap	5.65e-17	PASS	differential_seed_102	parity_stress_relative_l2	5.54e-07	PASS
operator_E7e10_nu0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_102	parity_stress_relative_linf	4.79e-07	PASS
operator_E7e10_nu0.01x0.01x0.01	symmetry_relative	1.27e-17	PASS	differential_seed_102	parity_strain_energy_relative_error	5.49e-08	PASS
operator_E7e10_nu0.01x0.01x0.01	rigid_mode_force_ratio	3.61e-17	PASS	differential_seed_102	zero_fallback_on_both_backends	0	PASS
operator_E7e10_nu0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_103	converged	1	PASS
operator_E7e10_nu0.01x0.01x0.01	rank	18	PASS	differential_seed_103	solver_relative_residual	1.99e-08	PASS
operator_E7e10_nu0.01x0.01x0.01	minimum_eigenvalue_ratio	-1.48e-17	PASS	differential_seed_103	independent_double_relative_residual	1.99e-08	PASS
operator_E7e10_nu0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_103	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.01x0.01x0.01	independent_condensation_relative_g...	6.82e-17	PASS	differential_seed_103	force_equilibrium_relative_error	7.75e-09	PASS
operator_E7e10_nu0.01x0.01x0.01	axis_permutation_relative_gap	9.01e-17	PASS	differential_seed_103	moment_equilibrium_relative_error	1.21e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_n... 0_h0.01x0.01x0.01	axis_reflection_relative_ga p	8.83e-17	PASS	differential_seed_103	energy_identity_relative_er ror	3.26e-08	PASS
operator_E7e10_n... 0_h0.01x0.01x0.01	modulus_scaling_relative_ gap	2.53e-17	PASS	differential_seed_103	displacement_all_finite	1	PASS
operator_E7e10_nu0.490_ h10x1x0.1	entries_finite	1	PASS	differential_seed_103	stress_all_finite	1	PASS
operator_E7e10_nu0.490_ h10x1x0.1	symmetry_relative	1.45e-17	PASS	differential_seed_103	fallback_count	0	PASS
operator_E7e10_nu0.490_ h10x1x0.1	rigid_mode_force_ratio	6.33e-17	PASS	differential_seed_103	metal_execution_evidence_ _present	1	PASS
operator_E7e10_nu0.490_ h10x1x0.1	null_space_dimension	6	PASS	differential_seed_103	operator_backend_is_pack aged_host_p...	1	PASS
operator_E7e10_nu0.490_ h10x1x0.1	rank	18	PASS	differential_seed_103	persistent_metal_vector_b uffers	1	PASS
operator_E7e10_nu0.490_ h10x1x0.1	minimum_eigenvalue_ratio	-6.47e-17	PASS	differential_seed_103	packaged_metallib_used	1	PASS
operator_E7e10_nu0.490_ h10x1x0.1	random_energy_ratio_mini mum	0	PASS	differential_seed_103	no_runtime_source_compil ation	1	PASS
operator_E7e10_nu0.490_ h10x1x0.1	independent_condensation_ _relative_g...	3.14e-17	PASS	differential_seed_103	metal_fallback_count	0	PASS
operator_E7e10_nu0.490_ h10x1x0.1	axis_permutation_relative_ gap	1.09e-16	PASS	differential_seed_103	converged	1	PASS
operator_E7e10_nu0.490_ h10x1x0.1	axis_reflection_relative_ga p	1.06e-16	PASS	differential_seed_103	solver_relative_residual	5.72e-11	PASS
operator_E7e10_nu0.490_ h10x1x0.1	modulus_scaling_relative_ gap	2.91e-17	PASS	differential_seed_103	independent_double_relati ve_residual	5.72e-11	PASS
operator_E7e10_n... 0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_103	rigid_body_constraint_ran k	6	PASS
operator_E7e10_n... 0.011x0.009x0.013	symmetry_relative	1.11e-17	PASS	differential_seed_103	force_equilibrium_relative_ error	1.72e-12	PASS
operator_E7e10_n... 0.011x0.009x0.013	rigid_mode_force_ratio	3.99e-17	PASS	differential_seed_103	moment_equilibrium_relati ve_error	2.25e-12	PASS
operator_E7e10_n... 0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_103	energy_identity_relative_er ror	1.51e-14	PASS
operator_E7e10_n... 0.011x0.009x0.013	rank	18	PASS	differential_seed_103	displacement_all_finite	1	PASS
operator_E7e10_n... 0.011x0.009x0.013	minimum_eigenvalue_ratio	-3.09e-17	PASS	differential_seed_103	stress_all_finite	1	PASS
operator_E7e10_n... 0.011x0.009x0.013	random_energy_ratio_mini mum	0	PASS	differential_seed_103	fallback_count	0	PASS
operator_E7e10_n... 0.011x0.009x0.013	independent_condensation_ _relative_g...	5.86e-17	PASS	differential_seed_103	reference_route_is_cpu_d ouble	1	PASS
operator_E7e10_n... 0.011x0.009x0.013	axis_permutation_relative_ gap	1.07e-16	PASS	differential_seed_103	reference_route_no_fallba ck	1	PASS
operator_E7e10_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.16e-16	PASS	differential_seed_103	parity_displacement_relati ve_l2	6.53e-08	PASS
operator_E7e10_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	6.66e-17	PASS	differential_seed_103	parity_displacement_relati ve_linf	6.54e-08	PASS
operator_E7e10_nu0.499_ h1x1x1	entries_finite	1	PASS	differential_seed_103	parity_reaction_relative_l2	4.64e-08	PASS
operator_E7e10_nu0.499_ h1x1x1	symmetry_relative	6.50e-18	PASS	differential_seed_103	parity_reaction_relative_lin f	7.41e-08	PASS
operator_E7e10_nu0.499_ h1x1x1	rigid_mode_force_ratio	3.96e-17	PASS	differential_seed_103	parity_stress_relative_l2	4.50e-08	PASS
operator_E7e10_nu0.499_ h1x1x1	null_space_dimension	6	PASS	differential_seed_103	parity_stress_relative_linf	5.13e-08	PASS
operator_E7e10_nu0.499_ h1x1x1	rank	18	PASS	differential_seed_103	parity_strain_energy_relati ve_error	6.52e-08	PASS
operator_E7e10_nu0.499_ h1x1x1	minimum_eigenvalue_ratio	-1.02e-17	PASS	differential_seed_103	zero_fallback_on_both_ba ckends	0	PASS
operator_E7e10_nu0.499_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_104	converged	1	PASS
operator_E7e10_nu0.499_ h1x1x1	independent_condensation_ _relative_g...	3.56e-17	PASS	differential_seed_104	solver_relative_residual	1.82e-05	PASS
operator_E7e10_nu0.499_ h1x1x1	axis_permutation_relative_ gap	1.30e-16	PASS	differential_seed_104	independent_double_relati ve_residual	1.82e-05	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_nu0.499_h1x1x1	axis_reflection_relative_gap	1.45e-16	PASS	differential_seed_104	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.499_h1x1x1	modulus_scaling_relative_gap	5.20e-17	PASS	differential_seed_104	force_equilibrium_relative_error	7.76e-07	PASS
operator_E7e10_nu0.499_h2x1x1	entries_finite	1	PASS	differential_seed_104	moment_equilibrium_relative_error	1.11e-06	PASS
operator_E7e10_nu0.499_h2x1x1	symmetry_relative	8.63e-18	PASS	differential_seed_104	energy_identity_relative_error	5.66e-08	PASS
operator_E7e10_nu0.499_h2x1x1	rigid_mode_force_ratio	3.88e-17	PASS	differential_seed_104	displacement_all_finite	1	PASS
operator_E7e10_nu0.499_h2x1x1	null_space_dimension	6	PASS	differential_seed_104	stress_all_finite	1	PASS
operator_E7e10_nu0.499_h2x1x1	rank	18	PASS	differential_seed_104	fallback_count	0	PASS
operator_E7e10_nu0.499_h2x1x1	minimum_eigenvalue_ratio	-4.29e-17	PASS	differential_seed_104	metal_execution_evidence_present	1	PASS
operator_E7e10_nu0.499_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_104	operator_backend_is_packaged_host_process	1	PASS
operator_E7e10_nu0.499_h2x1x1	independent_condensation_relative_gap	3.85e-17	PASS	differential_seed_104	persistent_metal_vector_buffers	1	PASS
operator_E7e10_nu0.499_h2x1x1	axis_permutation_relative_gap	1.21e-16	PASS	differential_seed_104	packaged_metallib_used	1	PASS
operator_E7e10_nu0.499_h2x1x1	axis_reflection_relative_gap	1.19e-16	PASS	differential_seed_104	no_runtime_source_compilation	1	PASS
operator_E7e10_nu0.499_h2x1x1	modulus_scaling_relative_gap	3.45e-17	PASS	differential_seed_104	metal_fallback_count	0	PASS
operator_E7e10_nu0.499_h1x3x1	entries_finite	1	PASS	differential_seed_104	converged	1	PASS
operator_E7e10_nu0.499_h1x3x1	symmetry_relative	6.11e-18	PASS	differential_seed_104	solver_relative_residual	9.45e-11	PASS
operator_E7e10_nu0.499_h1x3x1	rigid_mode_force_ratio	4.55e-17	PASS	differential_seed_104	independent_double_relative_residual	9.45e-11	PASS
operator_E7e10_nu0.499_h1x3x1	null_space_dimension	6	PASS	differential_seed_104	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.499_h1x3x1	rank	18	PASS	differential_seed_104	force_equilibrium_relative_error	1.33e-11	PASS
operator_E7e10_nu0.499_h1x3x1	minimum_eigenvalue_ratio	-4.02e-17	PASS	differential_seed_104	moment_equilibrium_relative_error	2.17e-11	PASS
operator_E7e10_nu0.499_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_104	energy_identity_relative_error	3.71e-15	PASS
operator_E7e10_nu0.499_h1x3x1	independent_condensation_relative_gap	1.99e-17	PASS	differential_seed_104	displacement_all_finite	1	PASS
operator_E7e10_nu0.499_h1x3x1	axis_permutation_relative_gap	1.04e-16	PASS	differential_seed_104	stress_all_finite	1	PASS
operator_E7e10_nu0.499_h1x3x1	axis_reflection_relative_gap	1.14e-16	PASS	differential_seed_104	fallback_count	0	PASS
operator_E7e10_nu0.499_h1x3x1	modulus_scaling_relative_gap	2.45e-17	PASS	differential_seed_104	reference_route_is_cpu_double	1	PASS
operator_E7e10_nu0.499_h1x1x5	entries_finite	1	PASS	differential_seed_104	reference_route_no_fallback	1	PASS
operator_E7e10_nu0.499_h1x1x5	symmetry_relative	7.58e-18	PASS	differential_seed_104	parity_displacement_relative_l2	9.49e-06	PASS
operator_E7e10_nu0.499_h1x1x5	rigid_mode_force_ratio	4.54e-17	PASS	differential_seed_104	parity_displacement_relative_linf	1.18e-05	PASS
operator_E7e10_nu0.499_h1x1x5	null_space_dimension	6	PASS	differential_seed_104	parity_reaction_relative_l2	3.53e-06	PASS
operator_E7e10_nu0.499_h1x1x5	rank	18	PASS	differential_seed_104	parity_reaction_relative_linf	6.89e-06	PASS
operator_E7e10_nu0.499_h1x1x5	minimum_eigenvalue_ratio	-1.35e-17	PASS	differential_seed_104	parity_stress_relative_l2	1.24e-05	PASS
operator_E7e10_nu0.499_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_104	parity_stress_relative_linf	1.20e-05	PASS
operator_E7e10_nu0.499_h1x1x5	independent_condensation_relative_gap	3.94e-17	PASS	differential_seed_104	parity_strain_energy_relative_error	1.13e-07	PASS
operator_E7e10_nu0.499_h1x1x5	axis_permutation_relative_gap	1.10e-16	PASS	differential_seed_104	zero_fallback_on_both_backends	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_nu0.499_h1x1x5	axis_reflection_relative_gap	1.28e-16	PASS	differential_properties_seed_104	metal_all_property_solves_converged	1	PASS
operator_E7e10_nu0.499_h1x1x5	modulus_scaling_relative_gap	4.55e-17	PASS	differential_properties_seed_104	metal_displacement_superposition	8.30e-06	PASS
operator_E7e10_nu0.499_h0.01x0.01x0.01	entries_finite	1	PASS	differential_properties_seed_104	metal_stress_superposition	1.31e-05	PASS
operator_E7e10_nu0.499_h0.01x0.01x0.01	symmetry_relative	0	PASS	differential_properties_seed_104	metal_sign_reversal	0	PASS
operator_E7e10_nu0.499_h0.01x0.01x0.01	rigid_mode_force_ratio	3.27e-17	PASS	differential_properties_seed_104	metal_load_scaling_by_two	0	PASS
operator_E7e10_nu0.499_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_properties_seed_104	metal_modulus_scaling_by_two	0	PASS
operator_E7e10_nu0.499_h0.01x0.01x0.01	rank	18	PASS	differential_properties_seed_104	metal_maxwell_betti_reciprocity	3.10e-05	PASS
operator_E7e10_nu0.499_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-2.66e-17	PASS	differential_properties_seed_104	metal_axis_permutation	1.43e-07	PASS
operator_E7e10_nu0.499_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_properties_seed_104	metal_axis_reflection	3.29e-07	PASS
operator_E7e10_nu0.499_h0.01x0.01x0.01	independent_condensation_relative_gap	0	PASS	differential_properties_seed_104	cpu_all_property_solves_converged	1	PASS
operator_E7e10_nu0.499_h0.01x0.01x0.01	axis_permutation_relative_gap	1.09e-16	PASS	differential_properties_seed_104	cpu_displacement_superposition	2.42e-11	PASS
operator_E7e10_nu0.499_h0.01x0.01x0.01	axis_reflection_relative_gap	1.34e-16	PASS	differential_properties_seed_104	cpu_stress_superposition	3.47e-11	PASS
operator_E7e10_nu0.499_h0.01x0.01x0.01	modulus_scaling_relative_gap	2.03e-17	PASS	differential_properties_seed_104	cpu_sign_reversal	0	PASS
operator_E7e10_nu0.499_h10x1x0.1	entries_finite	1	PASS	differential_properties_seed_104	cpu_load_scaling_by_two	0	PASS
operator_E7e10_nu0.499_h10x1x0.1	symmetry_relative	1.19e-17	PASS	differential_properties_seed_104	cpu_modulus_scaling_by_two	2.61e-13	PASS
operator_E7e10_nu0.499_h10x1x0.1	rigid_mode_force_ratio	7.34e-17	PASS	differential_properties_seed_104	cpu_maxwell_betti_reciprocity	1.47e-10	PASS
operator_E7e10_nu0.499_h10x1x0.1	null_space_dimension	6	PASS	differential_properties_seed_104	cpu_axis_permutation	4.52e-13	PASS
operator_E7e10_nu0.499_h10x1x0.1	rank	18	PASS	differential_properties_seed_104	cpu_axis_reflection	6.94e-13	PASS
operator_E7e10_nu0.499_h10x1x0.1	minimum_eigenvalue_ratio	-7.08e-18	PASS	differential_seed_105	converged	1	PASS
operator_E7e10_nu0.499_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_105	solver_relative_residual	1.15e-05	PASS
operator_E7e10_nu0.499_h10x1x0.1	independent_condensation_relative_gap	4.28e-17	PASS	differential_seed_105	independent_double_relative_residual	1.15e-05	PASS
operator_E7e10_nu0.499_h10x1x0.1	axis_permutation_relative_gap	7.53e-17	PASS	differential_seed_105	rigid_body_constraint_rank	6	PASS
operator_E7e10_nu0.499_h10x1x0.1	axis_reflection_relative_gap	8.85e-17	PASS	differential_seed_105	force_equilibrium_relative_error	2.52e-07	PASS
operator_E7e10_nu0.499_h10x1x0.1	modulus_scaling_relative_gap	4.77e-17	PASS	differential_seed_105	moment_equilibrium_relative_error	3.39e-07	PASS
operator_E7e10_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_105	energy_identity_relative_error	4.34e-08	PASS
operator_E7e10_nu0.011x0.009x0.013	symmetry_relative	2.67e-17	PASS	differential_seed_105	displacement_all_finite	1	PASS
operator_E7e10_nu0.011x0.009x0.013	rigid_mode_force_ratio	4.08e-17	PASS	differential_seed_105	stress_all_finite	1	PASS
operator_E7e10_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_105	fallback_count	0	PASS
operator_E7e10_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_105	metal_execution_evidence_present	1	PASS
operator_E7e10_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-3.94e-17	PASS	differential_seed_105	operator_backend_is_packaged_host_process	1	PASS
operator_E7e10_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_105	persistent_metal_vector_buffers	1	PASS
operator_E7e10_nu0.011x0.009x0.013	independent_condensation_relative_gap	1.39e-16	PASS	differential_seed_105	packaged_metallob_used	1	PASS
operator_E7e10_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.12e-16	PASS	differential_seed_105	no_runtime_source_compilation	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E7e10_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.52e-16	PASS	differential_seed_105	metal_fallback_count	0	PASS
operator_E7e10_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	7.12e-17	PASS	differential_seed_105	converged	1	PASS
operator_E2e11_nu0.000_ h1x1x1	entries_finite	1	PASS	differential_seed_105	solver_relative_residual	8.73e-11	PASS
operator_E2e11_nu0.000_ h1x1x1	symmetry_relative	6.72e-18	PASS	differential_seed_105	independent_double_relati ve_residual	8.73e-11	PASS
operator_E2e11_nu0.000_ h1x1x1	rigid_mode_force_ratio	4.36e-17	PASS	differential_seed_105	rigid_body_constraint_ran k	6	PASS
operator_E2e11_nu0.000_ h1x1x1	null_space_dimension	6	PASS	differential_seed_105	force_equilibrium_relative_ error	2.29e-12	PASS
operator_E2e11_nu0.000_ h1x1x1	rank	18	PASS	differential_seed_105	moment_equilibrium_relati ve_error	7.61e-12	PASS
operator_E2e11_nu0.000_ h1x1x1	minimum_eigenvalue_ratio	-7.62e-17	PASS	differential_seed_105	energy_identity_relative_er ror	5.67e-15	PASS
operator_E2e11_nu0.000_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_105	displacement_all_finite	1	PASS
operator_E2e11_nu0.000_ h1x1x1	independent_condensation _relative_g...	5.58e-17	PASS	differential_seed_105	stress_all_finite	1	PASS
operator_E2e11_nu0.000_ h1x1x1	axis_permutation_relative_ gap	1.48e-16	PASS	differential_seed_105	fallback_count	0	PASS
operator_E2e11_nu0.000_ h1x1x1	axis_reflection_relative_ga p	2.06e-16	PASS	differential_seed_105	reference_route_is_cpu_d ouble	1	PASS
operator_E2e11_nu0.000_ h1x1x1	modulus_scaling_relative_ gap	5.37e-17	PASS	differential_seed_105	reference_route_no_fallba ck	1	PASS
operator_E2e11_nu0.000_ h2x1x1	entries_finite	1	PASS	differential_seed_105	parity_displacement_relati ve_l2	2.51e-07	PASS
operator_E2e11_nu0.000_ h2x1x1	symmetry_relative	8.41e-18	PASS	differential_seed_105	parity_displacement_relati ve_linf	2.78e-07	PASS
operator_E2e11_nu0.000_ h2x1x1	rigid_mode_force_ratio	5.56e-17	PASS	differential_seed_105	parity_reaction_relative_l2	1.28e-06	PASS
operator_E2e11_nu0.000_ h2x1x1	null_space_dimension	6	PASS	differential_seed_105	parity_reaction_relative_lin f	1.30e-06	PASS
operator_E2e11_nu0.000_ h2x1x1	rank	18	PASS	differential_seed_105	parity_stress_relative_l2	3.55e-06	PASS
operator_E2e11_nu0.000_ h2x1x1	minimum_eigenvalue_ratio	-4.01e-17	PASS	differential_seed_105	parity_stress_relative_linf	2.78e-06	PASS
operator_E2e11_nu0.000_ h2x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_105	parity_strain_energy_relati ve_error	8.68e-08	PASS
operator_E2e11_nu0.000_ h2x1x1	independent_condensation _relative_g...	6.76e-17	PASS	differential_seed_105	zero_fallback_on_both_ba ckends	0	PASS
operator_E2e11_nu0.000_ h2x1x1	axis_permutation_relative_ gap	1.28e-16	PASS	differential_seed_106	converged	1	PASS
operator_E2e11_nu0.000_ h2x1x1	axis_reflection_relative_ga p	1.70e-16	PASS	differential_seed_106	solver_relative_residual	3.04e-06	PASS
operator_E2e11_nu0.000_ h2x1x1	modulus_scaling_relative_ gap	6.73e-17	PASS	differential_seed_106	independent_double_relati ve_residual	3.04e-06	PASS
operator_E2e11_nu0.000_ h1x3x1	entries_finite	1	PASS	differential_seed_106	rigid_body_constraint_ran k	6	PASS
operator_E2e11_nu0.000_ h1x3x1	symmetry_relative	1.15e-17	PASS	differential_seed_106	force_equilibrium_relative_ error	5.65e-07	PASS
operator_E2e11_nu0.000_ h1x3x1	rigid_mode_force_ratio	3.52e-17	PASS	differential_seed_106	moment_equilibrium_relati ve_error	1.69e-06	PASS
operator_E2e11_nu0.000_ h1x3x1	null_space_dimension	6	PASS	differential_seed_106	energy_identity_relative_er ror	1.57e-07	PASS
operator_E2e11_nu0.000_ h1x3x1	rank	18	PASS	differential_seed_106	displacement_all_finite	1	PASS
operator_E2e11_nu0.000_ h1x3x1	minimum_eigenvalue_ratio	-5.25e-17	PASS	differential_seed_106	stress_all_finite	1	PASS
operator_E2e11_nu0.000_ h1x3x1	random_energy_ratio_mini mum	0	PASS	differential_seed_106	fallback_count	0	PASS
operator_E2e11_nu0.000_ h1x3x1	independent_condensation _relative_g...	5.52e-17	PASS	differential_seed_106	metal_execution_evidence _present	1	PASS
operator_E2e11_nu0.000_ h1x3x1	axis_permutation_relative_ gap	1.22e-16	PASS	differential_seed_106	operator_backend_is_pack aged_host_p...	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_nu0.000_h1x3x1	axis_reflection_relative_gap	1.51e-16	PASS	differential_seed_106	persistent_metal_vector_buffers	1	PASS
operator_E2e11_nu0.000_h1x3x1	modulus_scaling_relative_gap	4.62e-17	PASS	differential_seed_106	packaged_metallib_used	1	PASS
operator_E2e11_nu0.000_h1x1x5	entries_finite	1	PASS	differential_seed_106	no_runtime_source_compilation	1	PASS
operator_E2e11_nu0.000_h1x1x5	symmetry_relative	1.40e-17	PASS	differential_seed_106	metal_fallback_count	0	PASS
operator_E2e11_nu0.000_h1x1x5	rigid_mode_force_ratio	3.08e-17	PASS	differential_seed_106	converged	1	PASS
operator_E2e11_nu0.000_h1x1x5	null_space_dimension	6	PASS	differential_seed_106	solver_relative_residual	5.25e-11	PASS
operator_E2e11_nu0.000_h1x1x5	rank	18	PASS	differential_seed_106	independent_double_relative_residual	5.25e-11	PASS
operator_E2e11_nu0.000_h1x1x5	minimum_eigenvalue_ratio	-1.53e-17	PASS	differential_seed_106	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.000_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_106	force_equilibrium_relative_error	7.82e-12	PASS
operator_E2e11_nu0.000_h1x1x5	independent_condensation_relative_g...	5.77e-17	PASS	differential_seed_106	moment_equilibrium_relative_error	2.24e-11	PASS
operator_E2e11_nu0.000_h1x1x5	axis_permutation_relative_gap	1.18e-16	PASS	differential_seed_106	energy_identity_relative_error	1.97e-14	PASS
operator_E2e11_nu0.000_h1x1x5	axis_reflection_relative_gap	1.08e-16	PASS	differential_seed_106	displacement_all_finite	1	PASS
operator_E2e11_nu0.000_h1x1x5	modulus_scaling_relative_gap	4.21e-17	PASS	differential_seed_106	stress_all_finite	1	PASS
operator_E2e11_nu0.000_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_106	fallback_count	0	PASS
operator_E2e11_nu0.000_h0.01x0.01x0.01	symmetry_relative	1.05e-17	PASS	differential_seed_106	reference_route_is_cpu_double	1	PASS
operator_E2e11_nu0.000_h0.01x0.01x0.01	rigid_mode_force_ratio	5.68e-17	PASS	differential_seed_106	reference_route_no_fallback	1	PASS
operator_E2e11_nu0.000_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_106	parity_displacement_relative_l2	3.08e-07	PASS
operator_E2e11_nu0.000_h0.01x0.01x0.01	rank	18	PASS	differential_seed_106	parity_displacement_relative_linf	5.79e-07	PASS
operator_E2e11_nu0.000_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-8.32e-17	PASS	differential_seed_106	parity_reaction_relative_l2	1.01e-06	PASS
operator_E2e11_nu0.000_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_106	parity_reaction_relative_linf	1.33e-06	PASS
operator_E2e11_nu0.000_h0.01x0.01x0.01	independent_condensation_relative_g...	4.81e-17	PASS	differential_seed_106	parity_stress_relative_l2	1.64e-06	PASS
operator_E2e11_nu0.000_h0.01x0.01x0.01	axis_permutation_relative_gap	1.20e-16	PASS	differential_seed_106	parity_stress_relative_linf	1.40e-06	PASS
operator_E2e11_nu0.000_h0.01x0.01x0.01	axis_reflection_relative_gap	1.18e-16	PASS	differential_seed_106	parity_strain_energy_relative_error	3.14e-07	PASS
operator_E2e11_nu0.000_h0.01x0.01x0.01	modulus_scaling_relative_gap	6.30e-17	PASS	differential_seed_106	zero_fallback_on_both_backends	0	PASS
operator_E2e11_nu0.000_h10x1x0.1	entries_finite	1	PASS	differential_seed_107	converged	1	PASS
operator_E2e11_nu0.000_h10x1x0.1	symmetry_relative	1.73e-17	PASS	differential_seed_107	solver_relative_residual	1.68e-05	PASS
operator_E2e11_nu0.000_h10x1x0.1	rigid_mode_force_ratio	4.51e-17	PASS	differential_seed_107	independent_double_relative_residual	1.68e-05	PASS
operator_E2e11_nu0.000_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_107	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.000_h10x1x0.1	rank	18	PASS	differential_seed_107	force_equilibrium_relative_error	1.94e-06	PASS
operator_E2e11_nu0.000_h10x1x0.1	minimum_eigenvalue_ratio	-1.11e-16	PASS	differential_seed_107	moment_equilibrium_relative_error	3.03e-06	PASS
operator_E2e11_nu0.000_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_107	energy_identity_relative_error	1.40e-08	PASS
operator_E2e11_nu0.000_h10x1x0.1	independent_condensation_relative_g...	7.39e-17	PASS	differential_seed_107	displacement_all_finite	1	PASS
operator_E2e11_nu0.000_h10x1x0.1	axis_permutation_relative_gap	1.55e-16	PASS	differential_seed_107	stress_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_nu0.000_h10x1x0.1	axis_reflection_relative_gap	1.74e-16	PASS	differential_seed_107	fallback_count	0	PASS
operator_E2e11_nu0.000_h10x1x0.1	modulus_scaling_relative_gap	5.19e-17	PASS	differential_seed_107	metal_execution_evidence_present	1	PASS
operator_E2e11_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_107	operator_backend_is_packaged_host_p...	1	PASS
operator_E2e11_nu0.011x0.009x0.013	symmetry_relative	1.35e-17	PASS	differential_seed_107	persistent_metal_vector_buffers	1	PASS
operator_E2e11_nu0.011x0.009x0.013	rigid_mode_force_ratio	4.06e-17	PASS	differential_seed_107	packaged_metallib_used	1	PASS
operator_E2e11_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_107	no_runtime_source_compilation	1	PASS
operator_E2e11_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_107	metal_fallback_count	0	PASS
operator_E2e11_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-7.04e-17	PASS	differential_seed_107	converged	1	PASS
operator_E2e11_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_107	solver_relative_residual	7.42e-11	PASS
operator_E2e11_nu0.011x0.009x0.013	independent_condensation_relative_g...	8.53e-17	PASS	differential_seed_107	independent_double_relative_residual	7.42e-11	PASS
operator_E2e11_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.22e-16	PASS	differential_seed_107	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.011x0.009x0.013	axis_reflection_relative_gap	9.74e-17	PASS	differential_seed_107	force_equilibrium_relative_error	3.56e-11	PASS
operator_E2e11_nu0.011x0.009x0.013	modulus_scaling_relative_gap	3.59e-17	PASS	differential_seed_107	moment_equilibrium_relative_error	7.70e-11	PASS
operator_E2e11_nu0.200_h1x1x1	entries_finite	1	PASS	differential_seed_107	energy_identity_relative_error	9.89e-14	PASS
operator_E2e11_nu0.200_h1x1x1	symmetry_relative	6.58e-18	PASS	differential_seed_107	displacement_all_finite	1	PASS
operator_E2e11_nu0.200_h1x1x1	rigid_mode_force_ratio	3.06e-17	PASS	differential_seed_107	stress_all_finite	1	PASS
operator_E2e11_nu0.200_h1x1x1	null_space_dimension	6	PASS	differential_seed_107	fallback_count	0	PASS
operator_E2e11_nu0.200_h1x1x1	rank	18	PASS	differential_seed_107	reference_route_is_cpu_double	1	PASS
operator_E2e11_nu0.200_h1x1x1	minimum_eigenvalue_ratio	-9.07e-17	PASS	differential_seed_107	reference_route_no_fallback	1	PASS
operator_E2e11_nu0.200_h1x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_107	parity_displacement_relative_l2	6.37e-06	PASS
operator_E2e11_nu0.200_h1x1x1	independent_condensation_relative_g...	2.61e-17	PASS	differential_seed_107	parity_displacement_relative_linf	4.98e-06	PASS
operator_E2e11_nu0.200_h1x1x1	axis_permutation_relative_gap	1.17e-16	PASS	differential_seed_107	parity_reaction_relative_l2	3.71e-06	PASS
operator_E2e11_nu0.200_h1x1x1	axis_reflection_relative_gap	9.22e-17	PASS	differential_seed_107	parity_reaction_relative_linf	1.25e-06	PASS
operator_E2e11_nu0.200_h1x1x1	modulus_scaling_relative_gap	5.27e-17	PASS	differential_seed_107	parity_stress_relative_l2	1.20e-05	PASS
operator_E2e11_nu0.200_h2x1x1	entries_finite	1	PASS	differential_seed_107	parity_stress_relative_linf	5.14e-06	PASS
operator_E2e11_nu0.200_h2x1x1	symmetry_relative	1.03e-18	PASS	differential_seed_107	parity_strain_energy_relative_error	2.82e-08	PASS
operator_E2e11_nu0.200_h2x1x1	rigid_mode_force_ratio	4.49e-17	PASS	differential_seed_107	zero_fallback_on_both_backends	0	PASS
operator_E2e11_nu0.200_h2x1x1	null_space_dimension	6	PASS	differential_seed_108	converged	1	PASS
operator_E2e11_nu0.200_h2x1x1	rank	18	PASS	differential_seed_108	solver_relative_residual	1.34e-05	PASS
operator_E2e11_nu0.200_h2x1x1	minimum_eigenvalue_ratio	-6.53e-17	PASS	differential_seed_108	independent_double_relative_residual	1.34e-05	PASS
operator_E2e11_nu0.200_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_108	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.200_h2x1x1	independent_condensation_relative_g...	1.26e-18	PASS	differential_seed_108	force_equilibrium_relative_error	2.86e-07	PASS
operator_E2e11_nu0.200_h2x1x1	axis_permutation_relative_gap	1.17e-16	PASS	differential_seed_108	moment_equilibrium_relative_error	8.88e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_nu0.200_h2x1x1	axis_reflection_relative_gap	1.34e-16	PASS	differential_seed_108	energy_identity_relative_error	2.84e-08	PASS
operator_E2e11_nu0.200_h2x1x1	modulus_scaling_relative_gap	6.58e-17	PASS	differential_seed_108	displacement_all_finite	1	PASS
operator_E2e11_nu0.200_h1x3x1	entries_finite	1	PASS	differential_seed_108	stress_all_finite	1	PASS
operator_E2e11_nu0.200_h1x3x1	symmetry_relative	1.13e-17	PASS	differential_seed_108	fallback_count	0	PASS
operator_E2e11_nu0.200_h1x3x1	rigid_mode_force_ratio	4.24e-17	PASS	differential_seed_108	metal_execution_evidence_present	1	PASS
operator_E2e11_nu0.200_h1x3x1	null_space_dimension	6	PASS	differential_seed_108	operator_backend_is_packaged_host_p...	1	PASS
operator_E2e11_nu0.200_h1x3x1	rank	18	PASS	differential_seed_108	persistent_metal_vector_buffers	1	PASS
operator_E2e11_nu0.200_h1x3x1	minimum_eigenvalue_ratio	-1.41e-16	PASS	differential_seed_108	packaged_metallib_used	1	PASS
operator_E2e11_nu0.200_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_108	no_runtime_source_compilation	1	PASS
operator_E2e11_nu0.200_h1x3x1	independent_condensation_relative_g...	8.69e-17	PASS	differential_seed_108	metal_fallback_count	0	PASS
operator_E2e11_nu0.200_h1x3x1	axis_permutation_relative_gap	1.47e-16	PASS	differential_seed_108	converged	1	PASS
operator_E2e11_nu0.200_h1x3x1	axis_reflection_relative_gap	1.68e-16	PASS	differential_seed_108	solver_relative_residual	9.07e-11	PASS
operator_E2e11_nu0.200_h1x3x1	modulus_scaling_relative_gap	6.77e-17	PASS	differential_seed_108	independent_double_relative_residual	9.07e-11	PASS
operator_E2e11_nu0.200_h1x1x5	entries_finite	1	PASS	differential_seed_108	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.200_h1x1x5	symmetry_relative	6.85e-18	PASS	differential_seed_108	force_equilibrium_relative_error	1.80e-12	PASS
operator_E2e11_nu0.200_h1x1x5	rigid_mode_force_ratio	6.58e-17	PASS	differential_seed_108	moment_equilibrium_relative_error	1.15e-11	PASS
operator_E2e11_nu0.200_h1x1x5	null_space_dimension	6	PASS	differential_seed_108	energy_identity_relative_error	2.80e-14	PASS
operator_E2e11_nu0.200_h1x1x5	rank	18	PASS	differential_seed_108	displacement_all_finite	1	PASS
operator_E2e11_nu0.200_h1x1x5	minimum_eigenvalue_ratio	-5.93e-17	PASS	differential_seed_108	stress_all_finite	1	PASS
operator_E2e11_nu0.200_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_108	fallback_count	0	PASS
operator_E2e11_nu0.200_h1x1x5	independent_condensation_relative_g...	3.28e-17	PASS	differential_seed_108	reference_route_is_cpu_double	1	PASS
operator_E2e11_nu0.200_h1x1x5	axis_permutation_relative_gap	1.38e-16	PASS	differential_seed_108	reference_route_no_fallback	1	PASS
operator_E2e11_nu0.200_h1x1x5	axis_reflection_relative_gap	1.30e-16	PASS	differential_seed_108	parity_displacement_relative_l2	2.24e-06	PASS
operator_E2e11_nu0.200_h1x1x5	modulus_scaling_relative_gap	5.48e-17	PASS	differential_seed_108	parity_displacement_relative_linf	1.63e-06	PASS
operator_E2e11_nu0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_108	parity_reaction_relative_l2	1.28e-06	PASS
operator_E2e11_nu0.01x0.01x0.01	symmetry_relative	2.57e-18	PASS	differential_seed_108	parity_reaction_relative_linf	8.23e-07	PASS
operator_E2e11_nu0.01x0.01x0.01	rigid_mode_force_ratio	6.10e-17	PASS	differential_seed_108	parity_stress_relative_l2	6.27e-06	PASS
operator_E2e11_nu0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_108	parity_stress_relative_linf	2.49e-06	PASS
operator_E2e11_nu0.01x0.01x0.01	rank	18	PASS	differential_seed_108	parity_strain_energy_relative_error	5.68e-08	PASS
operator_E2e11_nu0.01x0.01x0.01	minimum_eigenvalue_ratio	-9.56e-17	PASS	differential_seed_108	zero_fallback_on_both_backends	0	PASS
operator_E2e11_nu0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_properties_seeded_108	metal_all_property_solves_converged	1	PASS
operator_E2e11_nu0.01x0.01x0.01	independent_condensation_relative_g...	8.10e-17	PASS	differential_properties_seeded_108	metal_displacement_superposition	1.08e-06	PASS
operator_E2e11_nu0.01x0.01x0.01	axis_permutation_relative_gap	1.25e-16	PASS	differential_properties_seeded_108	metal_stress_superposition	3.17e-06	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_n... 0_h0.01x0.01x0.01	axis_reflection_relative_ga p	1.32e-16	PASS	differential_properties_se ed_108	metal_sign_reversal	0	PASS
operator_E2e11_n... 0_h0.01x0.01x0.01	modulus_scaling_relative_ gap	4.12e-17	PASS	differential_properties_se ed_108	metal_load_scaling_by_tw o	0	PASS
operator_E2e11_nu0.200_ h10x1x0.1	entries_finite	1	PASS	differential_properties_se ed_108	metal_modulus_scaling_by _two	0	PASS
operator_E2e11_nu0.200_ h10x1x0.1	symmetry_relative	1.68e-17	PASS	differential_properties_se ed_108	metal_maxwell_betti_recip rocity	9.54e-07	PASS
operator_E2e11_nu0.200_ h10x1x0.1	rigid_mode_force_ratio	6.42e-17	PASS	differential_properties_se ed_108	metal_axis_permutation	3.80e-08	PASS
operator_E2e11_nu0.200_ h10x1x0.1	null_space_dimension	6	PASS	differential_properties_se ed_108	metal_axis_reflection	4.50e-08	PASS
operator_E2e11_nu0.200_ h10x1x0.1	rank	18	PASS	differential_properties_se ed_108	cpu_all_property_solves_c onverged	1	PASS
operator_E2e11_nu0.200_ h10x1x0.1	minimum_eigenvalue_ratio	-1.27e-16	PASS	differential_properties_se ed_108	cpu_displacement_superp osition	1.10e-11	PASS
operator_E2e11_nu0.200_ h10x1x0.1	random_energy_ratio_mini mum	0	PASS	differential_properties_se ed_108	cpu_stress_superposition	3.41e-11	PASS
operator_E2e11_nu0.200_ h10x1x0.1	independent_condensation _relative_g...	5.70e-17	PASS	differential_properties_se ed_108	cpu_sign_reversal	0	PASS
operator_E2e11_nu0.200_ h10x1x0.1	axis_permutation_relative_ gap	1.18e-16	PASS	differential_properties_se ed_108	cpu_load_scaling_by_two	0	PASS
operator_E2e11_nu0.200_ h10x1x0.1	axis_reflection_relative_ga p	1.08e-16	PASS	differential_properties_se ed_108	cpu_modulus_scaling_by_t wo	7.93e-13	PASS
operator_E2e11_nu0.200_ h10x1x0.1	modulus_scaling_relative_ gap	1.01e-16	PASS	differential_properties_se ed_108	cpu_maxwell_betti_recipro city	1.54e-11	PASS
operator_E2e11_n... 0.011x0.009x0.013	entries_finite	1	PASS	differential_properties_se ed_108	cpu_axis_permutation	5.38e-13	PASS
operator_E2e11_n... 0.011x0.009x0.013	symmetry_relative	8.79e-18	PASS	differential_properties_se ed_108	cpu_axis_reflection	5.23e-13	PASS
operator_E2e11_n... 0.011x0.009x0.013	rigid_mode_force_ratio	3.65e-17	PASS	differential_seed_109	converged	1	PASS
operator_E2e11_n... 0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_109	solver_relative_residual	1.77e-05	PASS
operator_E2e11_n... 0.011x0.009x0.013	rank	18	PASS	differential_seed_109	independent_double_relati ve_residual	1.77e-05	PASS
operator_E2e11_n... 0.011x0.009x0.013	minimum_eigenvalue_ratio	-9.63e-17	PASS	differential_seed_109	rigid_body_constraint_ran k	6	PASS
operator_E2e11_n... 0.011x0.009x0.013	random_energy_ratio_mini mum	0	PASS	differential_seed_109	force_equilibrium_relative_ error	2.52e-06	PASS
operator_E2e11_n... 0.011x0.009x0.013	independent_condensation _relative_g...	6.91e-17	PASS	differential_seed_109	moment_equilibrium_relati ve_error	3.22e-06	PASS
operator_E2e11_n... 0.011x0.009x0.013	axis_permutation_relative_ gap	1.27e-16	PASS	differential_seed_109	energy_identity_relative_er ror	2.37e-09	PASS
operator_E2e11_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.07e-16	PASS	differential_seed_109	displacement_all_finite	1	PASS
operator_E2e11_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	5.28e-17	PASS	differential_seed_109	stress_all_finite	1	PASS
operator_E2e11_nu0.300_ h1x1x1	entries_finite	1	PASS	differential_seed_109	fallback_count	0	PASS
operator_E2e11_nu0.300_ h1x1x1	symmetry_relative	1.09e-17	PASS	differential_seed_109	metal_execution_evidence _present	1	PASS
operator_E2e11_nu0.300_ h1x1x1	rigid_mode_force_ratio	4.38e-17	PASS	differential_seed_109	operator_backend_is_pack aged_host_p...	1	PASS
operator_E2e11_nu0.300_ h1x1x1	null_space_dimension	6	PASS	differential_seed_109	persistent_metal_vector_b uffers	1	PASS
operator_E2e11_nu0.300_ h1x1x1	rank	18	PASS	differential_seed_109	packaged_metallib_used	1	PASS
operator_E2e11_nu0.300_ h1x1x1	minimum_eigenvalue_ratio	-1.15e-17	PASS	differential_seed_109	no_runtime_source_compil ation	1	PASS
operator_E2e11_nu0.300_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_109	metal_fallback_count	0	PASS
operator_E2e11_nu0.300_ h1x1x1	independent_condensation _relative_g...	7.43e-17	PASS	differential_seed_109	converged	1	PASS
operator_E2e11_nu0.300_ h1x1x1	axis_permutation_relative_ gap	1.50e-16	PASS	differential_seed_109	solver_relative_residual	9.22e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_nu0.300_h1x1x1	axis_reflection_relative_gap	1.72e-16	PASS	differential_seed_109	independent_double_relative_residual	9.22e-11	PASS
operator_E2e11_nu0.300_h1x1x1	modulus_scaling_relative_gap	6.54e-17	PASS	differential_seed_109	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.300_h2x1x1	entries_finite	1	PASS	differential_seed_109	force_equilibrium_relative_error	1.64e-11	PASS
operator_E2e11_nu0.300_h2x1x1	symmetry_relative	1.37e-17	PASS	differential_seed_109	moment_equilibrium_relative_error	3.44e-11	PASS
operator_E2e11_nu0.300_h2x1x1	rigid_mode_force_ratio	6.16e-17	PASS	differential_seed_109	energy_identity_relative_error	1.06e-13	PASS
operator_E2e11_nu0.300_h2x1x1	null_space_dimension	6	PASS	differential_seed_109	displacement_all_finite	1	PASS
operator_E2e11_nu0.300_h2x1x1	rank	18	PASS	differential_seed_109	stress_all_finite	1	PASS
operator_E2e11_nu0.300_h2x1x1	minimum_eigenvalue_ratio	-7.28e-17	PASS	differential_seed_109	fallback_count	0	PASS
operator_E2e11_nu0.300_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_109	reference_route_is_cpu_double	1	PASS
operator_E2e11_nu0.300_h2x1x1	independent_condensation_relative_gap	9.01e-17	PASS	differential_seed_109	reference_route_no_fallback	1	PASS
operator_E2e11_nu0.300_h2x1x1	axis_permutation_relative_gap	1.34e-16	PASS	differential_seed_109	parity_displacement_relative_l2	4.04e-06	PASS
operator_E2e11_nu0.300_h2x1x1	axis_reflection_relative_gap	2.02e-16	PASS	differential_seed_109	parity_displacement_relative_linf	4.50e-06	PASS
operator_E2e11_nu0.300_h2x1x1	modulus_scaling_relative_gap	4.12e-17	PASS	differential_seed_109	parity_reaction_relative_l2	3.03e-06	PASS
operator_E2e11_nu0.300_h1x3x1	entries_finite	1	PASS	differential_seed_109	parity_reaction_relative_linf	1.58e-06	PASS
operator_E2e11_nu0.300_h1x3x1	symmetry_relative	9.46e-18	PASS	differential_seed_109	parity_stress_relative_l2	1.34e-05	PASS
operator_E2e11_nu0.300_h1x3x1	rigid_mode_force_ratio	6.96e-17	PASS	differential_seed_109	parity_stress_relative_linf	4.38e-06	PASS
operator_E2e11_nu0.300_h1x3x1	null_space_dimension	6	PASS	differential_seed_109	parity_strain_energy_relative_error	4.92e-09	PASS
operator_E2e11_nu0.300_h1x3x1	rank	18	PASS	differential_seed_109	zero_fallback_on_both_backends	0	PASS
operator_E2e11_nu0.300_h1x3x1	minimum_eigenvalue_ratio	-1.32e-17	PASS	differential_seed_110	converged	1	PASS
operator_E2e11_nu0.300_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_110	solver_relative_residual	1.74e-05	PASS
operator_E2e11_nu0.300_h1x3x1	independent_condensation_relative_gap	7.82e-17	PASS	differential_seed_110	independent_double_relative_residual	1.74e-05	PASS
operator_E2e11_nu0.300_h1x3x1	axis_permutation_relative_gap	1.13e-16	PASS	differential_seed_110	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.300_h1x3x1	axis_reflection_relative_gap	1.07e-16	PASS	differential_seed_110	force_equilibrium_relative_error	6.06e-07	PASS
operator_E2e11_nu0.300_h1x3x1	modulus_scaling_relative_gap	5.68e-17	PASS	differential_seed_110	moment_equilibrium_relative_error	1.89e-06	PASS
operator_E2e11_nu0.300_h1x1x5	entries_finite	1	PASS	differential_seed_110	energy_identity_relative_error	1.25e-08	PASS
operator_E2e11_nu0.300_h1x1x5	symmetry_relative	1.15e-17	PASS	differential_seed_110	displacement_all_finite	1	PASS
operator_E2e11_nu0.300_h1x1x5	rigid_mode_force_ratio	3.40e-17	PASS	differential_seed_110	stress_all_finite	1	PASS
operator_E2e11_nu0.300_h1x1x5	null_space_dimension	6	PASS	differential_seed_110	fallback_count	0	PASS
operator_E2e11_nu0.300_h1x1x5	rank	18	PASS	differential_seed_110	metal_execution_evidence_present	1	PASS
operator_E2e11_nu0.300_h1x1x5	minimum_eigenvalue_ratio	-2.50e-17	PASS	differential_seed_110	operator_backend_is_packaged_host_process	1	PASS
operator_E2e11_nu0.300_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_110	persistent_metal_vector_buffers	1	PASS
operator_E2e11_nu0.300_h1x1x5	independent_condensation_relative_gap	3.56e-17	PASS	differential_seed_110	packaged_metallib_used	1	PASS
operator_E2e11_nu0.300_h1x1x5	axis_permutation_relative_gap	1.37e-16	PASS	differential_seed_110	no_runtime_source_compilation	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_nu0.300_h1x1x5	axis_reflection_relative_gap	1.14e-16	PASS	differential_seed_110	metal_fallback_count	0	PASS
operator_E2e11_nu0.300_h1x1x5	modulus_scaling_relative_gap	4.61e-17	PASS	differential_seed_110	converged	1	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_110	solver_relative_residual	9.17e-11	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	symmetry_relative	0	PASS	differential_seed_110	independent_double_relative_residual	9.17e-11	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	rigid_mode_force_ratio	2.54e-17	PASS	differential_seed_110	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_110	force_equilibrium_relative_error	2.31e-11	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	rank	18	PASS	differential_seed_110	moment_equilibrium_relative_error	3.23e-11	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-9.26e-17	PASS	differential_seed_110	energy_identity_relative_error	4.21e-14	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_110	displacement_all_finite	1	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	independent_condensation_relative_gap	0	PASS	differential_seed_110	stress_all_finite	1	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	axis_permutation_relative_gap	1.25e-16	PASS	differential_seed_110	fallback_count	0	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	axis_reflection_relative_gap	1.40e-16	PASS	differential_seed_110	reference_route_is_cpu_double	1	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	modulus_scaling_relative_gap	1.70e-17	PASS	differential_seed_110	reference_route_no_fallback	1	PASS
operator_E2e11_nu0.300_h10x1x0.1	entries_finite	1	PASS	differential_seed_110	parity_displacement_relative_l2	1.26e-05	PASS
operator_E2e11_nu0.300_h10x1x0.1	symmetry_relative	7.24e-18	PASS	differential_seed_110	parity_displacement_relative_linf	9.53e-06	PASS
operator_E2e11_nu0.300_h10x1x0.1	rigid_mode_force_ratio	6.49e-17	PASS	differential_seed_110	parity_reaction_relative_l2	7.70e-06	PASS
operator_E2e11_nu0.300_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_110	parity_reaction_relative_linf	1.05e-05	PASS
operator_E2e11_nu0.300_h10x1x0.1	rank	18	PASS	differential_seed_110	parity_stress_relative_l2	1.53e-05	PASS
operator_E2e11_nu0.300_h10x1x0.1	minimum_eigenvalue_ratio	-2.99e-17	PASS	differential_seed_110	parity_stress_relative_linf	6.46e-06	PASS
operator_E2e11_nu0.300_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_110	parity_strain_energy_relative_error	2.48e-08	PASS
operator_E2e11_nu0.300_h10x1x0.1	independent_condensation_relative_gap	5.27e-17	PASS	differential_seed_110	zero_fallback_on_both_backends	0	PASS
operator_E2e11_nu0.300_h10x1x0.1	axis_permutation_relative_gap	9.09e-17	PASS	differential_seed_111	converged	1	PASS
operator_E2e11_nu0.300_h10x1x0.1	axis_reflection_relative_gap	1.54e-16	PASS	differential_seed_111	solver_relative_residual	3.71e-07	PASS
operator_E2e11_nu0.300_h10x1x0.1	modulus_scaling_relative_gap	1.16e-16	PASS	differential_seed_111	independent_double_relative_residual	3.71e-07	PASS
operator_E2e11_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_111	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.011x0.009x0.013	symmetry_relative	7.31e-18	PASS	differential_seed_111	force_equilibrium_relative_error	7.16e-08	PASS
operator_E2e11_nu0.011x0.009x0.013	rigid_mode_force_ratio	2.72e-17	PASS	differential_seed_111	moment_equilibrium_relative_error	1.02e-07	PASS
operator_E2e11_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_111	energy_identity_relative_error	1.22e-07	PASS
operator_E2e11_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_111	displacement_all_finite	1	PASS
operator_E2e11_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-4.11e-17	PASS	differential_seed_111	stress_all_finite	1	PASS
operator_E2e11_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_111	fallback_count	0	PASS
operator_E2e11_nu0.011x0.009x0.013	independent_condensation_relative_gap	4.51e-17	PASS	differential_seed_111	metal_execution_evidence_present	1	PASS
operator_E2e11_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.03e-16	PASS	differential_seed_111	operator_backend_is_packaged_host_process	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.58e-16	PASS	differential_seed_111	persistent_metal_vector_b uffers	1	PASS
operator_E2e11_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	5.85e-17	PASS	differential_seed_111	packaged_metallib_used	1	PASS
operator_E2e11_nu0.450_ h1x1x1	entries_finite	1	PASS	differential_seed_111	no_runtime_source_compil ation	1	PASS
operator_E2e11_nu0.450_ h1x1x1	symmetry_relative	3.33e-18	PASS	differential_seed_111	metal_fallback_count	0	PASS
operator_E2e11_nu0.450_ h1x1x1	rigid_mode_force_ratio	4.28e-17	PASS	differential_seed_111	converged	1	PASS
operator_E2e11_nu0.450_ h1x1x1	null_space_dimension	6	PASS	differential_seed_111	solver_relative_residual	7.40e-11	PASS
operator_E2e11_nu0.450_ h1x1x1	rank	18	PASS	differential_seed_111	independent_double_relati ve_residual	7.40e-11	PASS
operator_E2e11_nu0.450_ h1x1x1	minimum_eigenvalue_ratio	-6.66e-17	PASS	differential_seed_111	rigid_body_constraint_ran k	6	PASS
operator_E2e11_nu0.450_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_111	force_equilibrium_relative_ error	2.43e-11	PASS
operator_E2e11_nu0.450_ h1x1x1	independent_condensation _relative_g...	1.45e-17	PASS	differential_seed_111	moment_equilibrium_relati ve_error	3.77e-11	PASS
operator_E2e11_nu0.450_ h1x1x1	axis_permutation_relative_ gap	9.74e-17	PASS	differential_seed_111	energy_identity_relative_er ror	3.37e-13	PASS
operator_E2e11_nu0.450_ h1x1x1	axis_reflection_relative_ga p	1.31e-16	PASS	differential_seed_111	displacement_all_finite	1	PASS
operator_E2e11_nu0.450_ h1x1x1	modulus_scaling_relative_ gap	2.66e-17	PASS	differential_seed_111	stress_all_finite	1	PASS
operator_E2e11_nu0.450_ h2x1x1	entries_finite	1	PASS	differential_seed_111	fallback_count	0	PASS
operator_E2e11_nu0.450_ h2x1x1	symmetry_relative	2.17e-18	PASS	differential_seed_111	reference_route_is_cpu_d ouble	1	PASS
operator_E2e11_nu0.450_ h2x1x1	rigid_mode_force_ratio	4.71e-17	PASS	differential_seed_111	reference_route_no_fallba ck	1	PASS
operator_E2e11_nu0.450_ h2x1x1	null_space_dimension	6	PASS	differential_seed_111	parity_displacement_relati ve_l2	2.63e-07	PASS
operator_E2e11_nu0.450_ h2x1x1	rank	18	PASS	differential_seed_111	parity_displacement_relati ve_linf	2.99e-07	PASS
operator_E2e11_nu0.450_ h2x1x1	minimum_eigenvalue_ratio	-6.50e-17	PASS	differential_seed_111	parity_reaction_relative_l2	8.63e-08	PASS
operator_E2e11_nu0.450_ h2x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_111	parity_reaction_relative_lin f	7.31e-08	PASS
operator_E2e11_nu0.450_ h2x1x1	independent_condensation _relative_g...	1.31e-17	PASS	differential_seed_111	parity_stress_relative_l2	2.85e-07	PASS
operator_E2e11_nu0.450_ h2x1x1	axis_permutation_relative_ gap	9.74e-17	PASS	differential_seed_111	parity_stress_relative_linf	3.16e-07	PASS
operator_E2e11_nu0.450_ h2x1x1	axis_reflection_relative_ga p	1.51e-16	PASS	differential_seed_111	parity_strain_energy_relati ve_error	2.43e-07	PASS
operator_E2e11_nu0.450_ h2x1x1	modulus_scaling_relative_ gap	3.48e-17	PASS	differential_seed_111	zero_fallback_on_both_ba ckends	0	PASS
operator_E2e11_nu0.450_ h1x3x1	entries_finite	1	PASS	differential_seed_112	converged	1	PASS
operator_E2e11_nu0.450_ h1x3x1	symmetry_relative	6.11e-18	PASS	differential_seed_112	solver_relative_residual	3.89e-08	PASS
operator_E2e11_nu0.450_ h1x3x1	rigid_mode_force_ratio	5.18e-17	PASS	differential_seed_112	independent_double_relati ve_residual	3.89e-08	PASS
operator_E2e11_nu0.450_ h1x3x1	null_space_dimension	6	PASS	differential_seed_112	rigid_body_constraint_ran k	6	PASS
operator_E2e11_nu0.450_ h1x3x1	rank	18	PASS	differential_seed_112	force_equilibrium_relative_ error	7.57e-09	PASS
operator_E2e11_nu0.450_ h1x3x1	minimum_eigenvalue_ratio	-2.03e-17	PASS	differential_seed_112	moment_equilibrium_relati ve_error	8.10e-09	PASS
operator_E2e11_nu0.450_ h1x3x1	random_energy_ratio_mini mum	0	PASS	differential_seed_112	energy_identity_relative_er ror	8.91e-09	PASS
operator_E2e11_nu0.450_ h1x3x1	independent_condensation _relative_g...	2.28e-17	PASS	differential_seed_112	displacement_all_finite	1	PASS
operator_E2e11_nu0.450_ h1x3x1	axis_permutation_relative_ gap	1.13e-16	PASS	differential_seed_112	stress_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_nu0.450_h1x3x1	axis_reflection_relative_gap	1.14e-16	PASS	differential_seed_112	fallback_count	0	PASS
operator_E2e11_nu0.450_h1x3x1	modulus_scaling_relative_gap	3.67e-17	PASS	differential_seed_112	metal_execution_evidence_present	1	PASS
operator_E2e11_nu0.450_h1x1x5	entries_finite	1	PASS	differential_seed_112	operator_backend_is_packaged_host_p...	1	PASS
operator_E2e11_nu0.450_h1x1x5	symmetry_relative	9.41e-19	PASS	differential_seed_112	persistent_metal_vector_buffers	1	PASS
operator_E2e11_nu0.450_h1x1x5	rigid_mode_force_ratio	4.23e-17	PASS	differential_seed_112	packaged_metallib_used	1	PASS
operator_E2e11_nu0.450_h1x1x5	null_space_dimension	6	PASS	differential_seed_112	no_runtime_source_compilation	1	PASS
operator_E2e11_nu0.450_h1x1x5	rank	18	PASS	differential_seed_112	metal_fallback_count	0	PASS
operator_E2e11_nu0.450_h1x1x5	minimum_eigenvalue_ratio	-3.25e-17	PASS	differential_seed_112	converged	1	PASS
operator_E2e11_nu0.450_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_112	solver_relative_residual	6.21e-11	PASS
operator_E2e11_nu0.450_h1x1x5	independent_condensation_relative_g...	3.91e-17	PASS	differential_seed_112	independent_double_relative_residual	6.21e-11	PASS
operator_E2e11_nu0.450_h1x1x5	axis_permutation_relative_gap	1.08e-16	PASS	differential_seed_112	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.450_h1x1x5	axis_reflection_relative_gap	1.05e-16	PASS	differential_seed_112	force_equilibrium_relative_error	5.59e-12	PASS
operator_E2e11_nu0.450_h1x1x5	modulus_scaling_relative_gap	4.52e-17	PASS	differential_seed_112	moment_equilibrium_relative_error	8.11e-12	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_112	energy_identity_relative_error	8.81e-14	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	symmetry_relative	1.04e-17	PASS	differential_seed_112	displacement_all_finite	1	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	rigid_mode_force_ratio	3.16e-17	PASS	differential_seed_112	stress_all_finite	1	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_112	fallback_count	0	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	rank	18	PASS	differential_seed_112	reference_route_is_cpu_double	1	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	minimum_eigenvalue_ratio	3.37e-18	PASS	differential_seed_112	reference_route_no_fallback	1	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_112	parity_displacement_relative_l2	1.02e-08	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	independent_condensation_relative_g...	5.75e-17	PASS	differential_seed_112	parity_displacement_relative_linf	2.45e-08	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	axis_permutation_relative_gap	1.02e-16	PASS	differential_seed_112	parity_reaction_relative_l2	9.61e-09	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	axis_reflection_relative_gap	1.26e-16	PASS	differential_seed_112	parity_reaction_relative_linf	6.98e-09	PASS
operator_E2e11_nu0_h0.01x0.01x0.01	modulus_scaling_relative_gap	3.12e-17	PASS	differential_seed_112	parity_stress_relative_l2	2.89e-08	PASS
operator_E2e11_nu0.450_h10x1x0.1	entries_finite	1	PASS	differential_seed_112	parity_stress_relative_linf	4.62e-08	PASS
operator_E2e11_nu0.450_h10x1x0.1	symmetry_relative	1.36e-18	PASS	differential_seed_112	parity_strain_energy_relative_error	1.78e-08	PASS
operator_E2e11_nu0.450_h10x1x0.1	rigid_mode_force_ratio	6.14e-17	PASS	differential_seed_112	zero_fallback_on_both_backends	0	PASS
operator_E2e11_nu0.450_h10x1x0.1	null_space_dimension	6	PASS	differential_properties_seeded_112	metal_all_property_solves_converged	1	PASS
operator_E2e11_nu0.450_h10x1x0.1	rank	18	PASS	differential_properties_seeded_112	metal_displacement_superposition	2.47e-08	PASS
operator_E2e11_nu0.450_h10x1x0.1	minimum_eigenvalue_ratio	-1.63e-16	PASS	differential_properties_seeded_112	metal_stress_superposition	3.93e-07	PASS
operator_E2e11_nu0.450_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_properties_seeded_112	metal_sign_reversal	0	PASS
operator_E2e11_nu0.450_h10x1x0.1	independent_condensation_relative_g...	1.14e-17	PASS	differential_properties_seeded_112	metal_load_scaling_by_two	0	PASS
operator_E2e11_nu0.450_h10x1x0.1	axis_permutation_relative_gap	1.16e-16	PASS	differential_properties_seeded_112	metal_modulus_scaling_by_two	1.96e-14	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_nu0.450_h10x1x0.1	axis_reflection_relative_gap	8.03e-17	PASS	differential_properties_seed_112	metal_maxwell_betti_reciprocity	3.50e-08	PASS
operator_E2e11_nu0.450_h10x1x0.1	modulus_scaling_relative_gap	8.71e-17	PASS	differential_properties_seed_112	metal_axis_permutation	6.95e-12	PASS
operator_E2e11_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_properties_seed_112	metal_axis_reflection	3.40e-07	PASS
operator_E2e11_nu0.011x0.009x0.013	symmetry_relative	1.81e-17	PASS	differential_properties_seed_112	cpu_all_property_solves_converged	1	PASS
operator_E2e11_nu0.011x0.009x0.013	rigid_mode_force_ratio	4.62e-17	PASS	differential_properties_seed_112	cpu_displacement_superposition	8.25e-12	PASS
operator_E2e11_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_properties_seed_112	cpu_stress_superposition	2.79e-11	PASS
operator_E2e11_nu0.011x0.009x0.013	rank	18	PASS	differential_properties_seed_112	cpu_sign_reversal	0	PASS
operator_E2e11_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-6.70e-17	PASS	differential_properties_seed_112	cpu_load_scaling_by_two	0	PASS
operator_E2e11_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_properties_seed_112	cpu_modulus_scaling_by_two	2.20e-12	PASS
operator_E2e11_nu0.011x0.009x0.013	independent_condensation_relative_gap	1.15e-16	PASS	differential_properties_seed_112	cpu_maxwell_betti_reciprocity	2.45e-12	PASS
operator_E2e11_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.12e-16	PASS	differential_properties_seed_112	cpu_axis_permutation	1.66e-12	PASS
operator_E2e11_nu0.011x0.009x0.013	axis_reflection_relative_gap	1.64e-16	PASS	differential_properties_seed_112	cpu_axis_reflection	3.61e-12	PASS
operator_E2e11_nu0.011x0.009x0.013	modulus_scaling_relative_gap	5.43e-17	PASS	differential_seed_113	converged	1	PASS
operator_E2e11_nu0.490_h1x1x1	entries_finite	1	PASS	differential_seed_113	solver_relative_residual	1.25e-05	PASS
operator_E2e11_nu0.490_h1x1x1	symmetry_relative	5.41e-18	PASS	differential_seed_113	independent_double_relative_residual	1.25e-05	PASS
operator_E2e11_nu0.490_h1x1x1	rigid_mode_force_ratio	3.51e-17	PASS	differential_seed_113	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.490_h1x1x1	null_space_dimension	6	PASS	differential_seed_113	force_equilibrium_relative_error	9.62e-07	PASS
operator_E2e11_nu0.490_h1x1x1	rank	18	PASS	differential_seed_113	moment_equilibrium_relative_error	1.43e-06	PASS
operator_E2e11_nu0.490_h1x1x1	minimum_eigenvalue_ratio	-4.51e-17	PASS	differential_seed_113	energy_identity_relative_error	6.41e-08	PASS
operator_E2e11_nu0.490_h1x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_113	displacement_all_finite	1	PASS
operator_E2e11_nu0.490_h1x1x1	independent_condensation_relative_gap	3.46e-17	PASS	differential_seed_113	stress_all_finite	1	PASS
operator_E2e11_nu0.490_h1x1x1	axis_permutation_relative_gap	1.16e-16	PASS	differential_seed_113	fallback_count	0	PASS
operator_E2e11_nu0.490_h1x1x1	axis_reflection_relative_gap	1.47e-16	PASS	differential_seed_113	metal_execution_evidence_present	1	PASS
operator_E2e11_nu0.490_h1x1x1	modulus_scaling_relative_gap	2.16e-17	PASS	differential_seed_113	operator_backend_is_packaged_host_process	1	PASS
operator_E2e11_nu0.490_h2x1x1	entries_finite	1	PASS	differential_seed_113	persistent_metal_vector_buffers	1	PASS
operator_E2e11_nu0.490_h2x1x1	symmetry_relative	1.43e-17	PASS	differential_seed_113	packaged_metallib_used	1	PASS
operator_E2e11_nu0.490_h2x1x1	rigid_mode_force_ratio	3.46e-17	PASS	differential_seed_113	no_runtime_source_compilation	1	PASS
operator_E2e11_nu0.490_h2x1x1	null_space_dimension	6	PASS	differential_seed_113	metal_fallback_count	0	PASS
operator_E2e11_nu0.490_h2x1x1	rank	18	PASS	differential_seed_113	converged	1	PASS
operator_E2e11_nu0.490_h2x1x1	minimum_eigenvalue_ratio	-5.35e-17	PASS	differential_seed_113	solver_relative_residual	7.63e-11	PASS
operator_E2e11_nu0.490_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_113	independent_double_relative_residual	7.63e-11	PASS
operator_E2e11_nu0.490_h2x1x1	independent_condensation_relative_gap	4.03e-17	PASS	differential_seed_113	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.490_h2x1x1	axis_permutation_relative_gap	1.19e-16	PASS	differential_seed_113	force_equilibrium_relative_error	4.41e-12	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_nu0.490_h2x1x1	axis_reflection_relative_gap	1.80e-16	PASS	differential_seed_113	moment_equilibrium_relative_error	1.31e-11	PASS
operator_E2e11_nu0.490_h2x1x1	modulus_scaling_relative_gap	4.30e-17	PASS	differential_seed_113	energy_identity_relative_error	1.86e-15	PASS
operator_E2e11_nu0.490_h1x3x1	entries_finite	1	PASS	differential_seed_113	displacement_all_finite	1	PASS
operator_E2e11_nu0.490_h1x3x1	symmetry_relative	1.01e-17	PASS	differential_seed_113	stress_all_finite	1	PASS
operator_E2e11_nu0.490_h1x3x1	rigid_mode_force_ratio	4.20e-17	PASS	differential_seed_113	fallback_count	0	PASS
operator_E2e11_nu0.490_h1x3x1	null_space_dimension	6	PASS	differential_seed_113	reference_route_is_cpu_double	1	PASS
operator_E2e11_nu0.490_h1x3x1	rank	18	PASS	differential_seed_113	reference_route_no_fallback	1	PASS
operator_E2e11_nu0.490_h1x3x1	minimum_eigenvalue_ratio	-8.49e-17	PASS	differential_seed_113	parity_displacement_relative_I2	1.05e-06	PASS
operator_E2e11_nu0.490_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_113	parity_displacement_relative_linf	1.58e-06	PASS
operator_E2e11_nu0.490_h1x3x1	independent_condensation_relative_gap	4.47e-17	PASS	differential_seed_113	parity_reaction_relative_I2	2.95e-06	PASS
operator_E2e11_nu0.490_h1x3x1	axis_permutation_relative_gap	1.12e-16	PASS	differential_seed_113	parity_reaction_relative_linf	2.77e-06	PASS
operator_E2e11_nu0.490_h1x3x1	axis_reflection_relative_gap	1.36e-16	PASS	differential_seed_113	parity_stress_relative_I2	4.50e-06	PASS
operator_E2e11_nu0.490_h1x3x1	modulus_scaling_relative_gap	4.05e-17	PASS	differential_seed_113	parity_stress_relative_linf	3.04e-06	PASS
operator_E2e11_nu0.490_h1x1x5	entries_finite	1	PASS	differential_seed_113	parity_strain_energy_relative_error	1.28e-07	PASS
operator_E2e11_nu0.490_h1x1x5	symmetry_relative	6.27e-18	PASS	differential_seed_113	zero_fallback_on_both_backends	0	PASS
operator_E2e11_nu0.490_h1x1x5	rigid_mode_force_ratio	3.77e-17	PASS	differential_seed_114	converged	1	PASS
operator_E2e11_nu0.490_h1x1x5	null_space_dimension	6	PASS	differential_seed_114	solver_relative_residual	1.69e-05	PASS
operator_E2e11_nu0.490_h1x1x5	rank	18	PASS	differential_seed_114	independent_double_relative_residual	1.69e-05	PASS
operator_E2e11_nu0.490_h1x1x5	minimum_eigenvalue_ratio	-2.07e-17	PASS	differential_seed_114	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.490_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_114	force_equilibrium_relative_error	2.30e-07	PASS
operator_E2e11_nu0.490_h1x1x5	independent_condensation_relative_gap	2.53e-17	PASS	differential_seed_114	moment_equilibrium_relative_error	6.48e-07	PASS
operator_E2e11_nu0.490_h1x1x5	axis_permutation_relative_gap	9.52e-17	PASS	differential_seed_114	energy_identity_relative_error	6.51e-07	PASS
operator_E2e11_nu0.490_h1x1x5	axis_reflection_relative_gap	1.06e-16	PASS	differential_seed_114	displacement_all_finite	1	PASS
operator_E2e11_nu0.490_h1x1x5	modulus_scaling_relative_gap	3.76e-17	PASS	differential_seed_114	stress_all_finite	1	PASS
operator_E2e11_nu0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_114	fallback_count	0	PASS
operator_E2e11_nu0.01x0.01x0.01	symmetry_relative	1.69e-17	PASS	differential_seed_114	metal_execution_evidence_present	1	PASS
operator_E2e11_nu0.01x0.01x0.01	rigid_mode_force_ratio	3.67e-17	PASS	differential_seed_114	operator_backend_is_packaged_host_process	1	PASS
operator_E2e11_nu0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_114	persistent_metal_vector_buffers	1	PASS
operator_E2e11_nu0.01x0.01x0.01	rank	18	PASS	differential_seed_114	packaged_metallib_used	1	PASS
operator_E2e11_nu0.01x0.01x0.01	minimum_eigenvalue_ratio	-2.29e-17	PASS	differential_seed_114	no_runtime_source_compilation	1	PASS
operator_E2e11_nu0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_114	metal_fallback_count	0	PASS
operator_E2e11_nu0.01x0.01x0.01	independent_condensation_relative_gap	8.43e-17	PASS	differential_seed_114	converged	1	PASS
operator_E2e11_nu0.01x0.01x0.01	axis_permutation_relative_gap	1.22e-16	PASS	differential_seed_114	solver_relative_residual	9.29e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_n... 0_h0.01x0.01x0.01	axis_reflection_relative_ga p	1.45e-16	PASS	differential_seed_114	independent_double_relati ve_residual	9.29e-11	PASS
operator_E2e11_n... 0_h0.01x0.01x0.01	modulus_scaling_relative_ gap	4.22e-17	PASS	differential_seed_114	rigid_body_constraint_ran k	6	PASS
operator_E2e11_nu0.490_ h10x1x0.1	entries_finite	1	PASS	differential_seed_114	force_equilibrium_relative_ error	7.83e-12	PASS
operator_E2e11_nu0.490_ h10x1x0.1	symmetry_relative	2.42e-18	PASS	differential_seed_114	moment_equilibrium_relati ve_error	5.18e-12	PASS
operator_E2e11_nu0.490_ h10x1x0.1	rigid_mode_force_ratio	7.14e-17	PASS	differential_seed_114	energy_identity_relative_er ror	2.61e-14	PASS
operator_E2e11_nu0.490_ h10x1x0.1	null_space_dimension	6	PASS	differential_seed_114	displacement_all_finite	1	PASS
operator_E2e11_nu0.490_ h10x1x0.1	rank	18	PASS	differential_seed_114	stress_all_finite	1	PASS
operator_E2e11_nu0.490_ h10x1x0.1	minimum_eigenvalue_ratio	-1.32e-16	PASS	differential_seed_114	fallback_count	0	PASS
operator_E2e11_nu0.490_ h10x1x0.1	random_energy_ratio_mini mum	0	PASS	differential_seed_114	reference_route_is_cpu_d ouble	1	PASS
operator_E2e11_nu0.490_ h10x1x0.1	independent_condensation _relative_g...	9.43e-18	PASS	differential_seed_114	reference_route_no_fallba ck	1	PASS
operator_E2e11_nu0.490_ h10x1x0.1	axis_permutation_relative_ gap	1.45e-16	PASS	differential_seed_114	parity_displacement_relati ve_l2	1.20e-06	PASS
operator_E2e11_nu0.490_ h10x1x0.1	axis_reflection_relative_ga p	2.06e-16	PASS	differential_seed_114	parity_displacement_relati ve_linf	1.32e-06	PASS
operator_E2e11_nu0.490_ h10x1x0.1	modulus_scaling_relative_ gap	3.88e-17	PASS	differential_seed_114	parity_reaction_relative_l2	1.96e-06	PASS
operator_E2e11_n... 0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_114	parity_reaction_relative_lin f	1.27e-06	PASS
operator_E2e11_n... 0.011x0.009x0.013	symmetry_relative	7.40e-18	PASS	differential_seed_114	parity_stress_relative_l2	5.93e-06	PASS
operator_E2e11_n... 0.011x0.009x0.013	rigid_mode_force_ratio	4.02e-17	PASS	differential_seed_114	parity_stress_relative_linf	4.37e-06	PASS
operator_E2e11_n... 0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_114	parity_strain_energy_relati ve_error	1.30e-06	PASS
operator_E2e11_n... 0.011x0.009x0.013	rank	18	PASS	differential_seed_114	zero_fallback_on_both_ba ckends	0	PASS
operator_E2e11_n... 0.011x0.009x0.013	minimum_eigenvalue_ratio	-3.95e-17	PASS	differential_seed_115	converged	1	PASS
operator_E2e11_n... 0.011x0.009x0.013	random_energy_ratio_mini mum	0	PASS	differential_seed_115	solver_relative_residual	1.84e-05	PASS
operator_E2e11_n... 0.011x0.009x0.013	independent_condensation _relative_g...	4.71e-17	PASS	differential_seed_115	independent_double_relati ve_residual	1.84e-05	PASS
operator_E2e11_n... 0.011x0.009x0.013	axis_permutation_relative_ gap	9.61e-17	PASS	differential_seed_115	rigid_body_constraint_ran k	6	PASS
operator_E2e11_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.29e-16	PASS	differential_seed_115	force_equilibrium_relative_ error	1.88e-08	PASS
operator_E2e11_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	2.96e-17	PASS	differential_seed_115	moment_equilibrium_relati ve_error	2.85e-08	PASS
operator_E2e11_nu0.499_ h1x1x1	entries_finite	1	PASS	differential_seed_115	energy_identity_relative_er ror	1.05e-07	PASS
operator_E2e11_nu0.499_ h1x1x1	symmetry_relative	8.66e-18	PASS	differential_seed_115	displacement_all_finite	1	PASS
operator_E2e11_nu0.499_ h1x1x1	rigid_mode_force_ratio	3.20e-17	PASS	differential_seed_115	stress_all_finite	1	PASS
operator_E2e11_nu0.499_ h1x1x1	null_space_dimension	6	PASS	differential_seed_115	fallback_count	0	PASS
operator_E2e11_nu0.499_ h1x1x1	rank	18	PASS	differential_seed_115	metal_execution_evidence _present	1	PASS
operator_E2e11_nu0.499_ h1x1x1	minimum_eigenvalue_ratio	-3.07e-17	PASS	differential_seed_115	operator_backend_is_pack aged_host_p...	1	PASS
operator_E2e11_nu0.499_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_115	persistent_metal_vector_b uffers	1	PASS
operator_E2e11_nu0.499_ h1x1x1	independent_condensation _relative_g...	4.02e-17	PASS	differential_seed_115	packaged_metallib_used	1	PASS
operator_E2e11_nu0.499_ h1x1x1	axis_permutation_relative_ gap	1.02e-16	PASS	differential_seed_115	no_runtime_source_compil ation	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_nu0.499_h1x1x1	axis_reflection_relative_gap	1.21e-16	PASS	differential_seed_115	metal_fallback_count	0	PASS
operator_E2e11_nu0.499_h1x1x1	modulus_scaling_relative_gap	4.33e-17	PASS	differential_seed_115	converged	1	PASS
operator_E2e11_nu0.499_h2x1x1	entries_finite	1	PASS	differential_seed_115	solver_relative_residual	9.77e-11	PASS
operator_E2e11_nu0.499_h2x1x1	symmetry_relative	1.15e-17	PASS	differential_seed_115	independent_double_relative_residual	9.77e-11	PASS
operator_E2e11_nu0.499_h2x1x1	rigid_mode_force_ratio	3.40e-17	PASS	differential_seed_115	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.499_h2x1x1	null_space_dimension	6	PASS	differential_seed_115	force_equilibrium_relative_error	3.50e-13	PASS
operator_E2e11_nu0.499_h2x1x1	rank	18	PASS	differential_seed_115	moment_equilibrium_relative_error	6.57e-13	PASS
operator_E2e11_nu0.499_h2x1x1	minimum_eigenvalue_ratio	-2.12e-17	PASS	differential_seed_115	energy_identity_relative_error	6.19e-14	PASS
operator_E2e11_nu0.499_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_115	displacement_all_finite	1	PASS
operator_E2e11_nu0.499_h2x1x1	independent_condensation_relative_gap	4.24e-17	PASS	differential_seed_115	stress_all_finite	1	PASS
operator_E2e11_nu0.499_h2x1x1	axis_permutation_relative_gap	1.09e-16	PASS	differential_seed_115	fallback_count	0	PASS
operator_E2e11_nu0.499_h2x1x1	axis_reflection_relative_gap	1.29e-16	PASS	differential_seed_115	reference_route_is_cpu_double	1	PASS
operator_E2e11_nu0.499_h2x1x1	modulus_scaling_relative_gap	4.60e-17	PASS	differential_seed_115	reference_route_no_fallback	1	PASS
operator_E2e11_nu0.499_h1x3x1	entries_finite	1	PASS	differential_seed_115	parity_displacement_relative_l2	1.20e-07	PASS
operator_E2e11_nu0.499_h1x3x1	symmetry_relative	8.15e-18	PASS	differential_seed_115	parity_displacement_relative_linf	1.22e-07	PASS
operator_E2e11_nu0.499_h1x3x1	rigid_mode_force_ratio	4.65e-17	PASS	differential_seed_115	parity_reaction_relative_l2	2.28e-07	PASS
operator_E2e11_nu0.499_h1x3x1	null_space_dimension	6	PASS	differential_seed_115	parity_reaction_relative_linf	2.46e-07	PASS
operator_E2e11_nu0.499_h1x3x1	rank	18	PASS	differential_seed_115	parity_stress_relative_l2	6.75e-07	PASS
operator_E2e11_nu0.499_h1x3x1	minimum_eigenvalue_ratio	-1.00e-17	PASS	differential_seed_115	parity_stress_relative_linf	3.89e-07	PASS
operator_E2e11_nu0.499_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_115	parity_strain_energy_relative_error	2.10e-07	PASS
operator_E2e11_nu0.499_h1x3x1	independent_condensation_relative_gap	3.72e-17	PASS	differential_seed_115	zero_fallback_on_both_backends	0	PASS
operator_E2e11_nu0.499_h1x3x1	axis_permutation_relative_gap	7.85e-17	PASS	differential_seed_116	converged	1	PASS
operator_E2e11_nu0.499_h1x3x1	axis_reflection_relative_gap	8.20e-17	PASS	differential_seed_116	solver_relative_residual	3.50e-07	PASS
operator_E2e11_nu0.499_h1x3x1	modulus_scaling_relative_gap	3.26e-17	PASS	differential_seed_116	independent_double_relative_residual	3.50e-07	PASS
operator_E2e11_nu0.499_h1x1x5	entries_finite	1	PASS	differential_seed_116	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.499_h1x1x5	symmetry_relative	1.01e-17	PASS	differential_seed_116	force_equilibrium_relative_error	7.25e-08	PASS
operator_E2e11_nu0.499_h1x1x5	rigid_mode_force_ratio	2.48e-17	PASS	differential_seed_116	moment_equilibrium_relative_error	4.93e-08	PASS
operator_E2e11_nu0.499_h1x1x5	null_space_dimension	6	PASS	differential_seed_116	energy_identity_relative_error	1.76e-09	PASS
operator_E2e11_nu0.499_h1x1x5	rank	18	PASS	differential_seed_116	displacement_all_finite	1	PASS
operator_E2e11_nu0.499_h1x1x5	minimum_eigenvalue_ratio	-3.55e-17	PASS	differential_seed_116	stress_all_finite	1	PASS
operator_E2e11_nu0.499_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_116	fallback_count	0	PASS
operator_E2e11_nu0.499_h1x1x5	independent_condensation_relative_gap	4.44e-17	PASS	differential_seed_116	metal_execution_evidence_present	1	PASS
operator_E2e11_nu0.499_h1x1x5	axis_permutation_relative_gap	1.28e-16	PASS	differential_seed_116	operator_backend_is_packaged_host_process	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_nu0.499_h1x1x5	axis_reflection_relative_gap	1.67e-16	PASS	differential_seed_116	persistent_metal_vector_buffers	1	PASS
operator_E2e11_nu0.499_h1x1x5	modulus_scaling_relative_gap	4.04e-17	PASS	differential_seed_116	packaged_metallib_used	1	PASS
operator_E2e11_nu0.499_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_116	no_runtime_source_compilation	1	PASS
operator_E2e11_nu0.499_h0.01x0.01x0.01	symmetry_relative	6.77e-18	PASS	differential_seed_116	metal_fallback_count	0	PASS
operator_E2e11_nu0.499_h0.01x0.01x0.01	rigid_mode_force_ratio	2.64e-17	PASS	differential_seed_116	converged	1	PASS
operator_E2e11_nu0.499_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_116	solver_relative_residual	8.66e-11	PASS
operator_E2e11_nu0.499_h0.01x0.01x0.01	rank	18	PASS	differential_seed_116	independent_double_relative_residual	8.66e-11	PASS
operator_E2e11_nu0.499_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-2.76e-17	PASS	differential_seed_116	rigid_body_constraint_rank	6	PASS
operator_E2e11_nu0.499_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_116	force_equilibrium_relative_error	3.39e-11	PASS
operator_E2e11_nu0.499_h0.01x0.01x0.01	independent_condensation_relative_gap	2.39e-17	PASS	differential_seed_116	moment_equilibrium_relative_error	6.31e-11	PASS
operator_E2e11_nu0.499_h0.01x0.01x0.01	axis_permutation_relative_gap	1.11e-16	PASS	differential_seed_116	energy_identity_relative_error	7.70e-14	PASS
operator_E2e11_nu0.499_h0.01x0.01x0.01	axis_reflection_relative_gap	1.30e-16	PASS	differential_seed_116	displacement_all_finite	1	PASS
operator_E2e11_nu0.499_h0.01x0.01x0.01	modulus_scaling_relative_gap	5.41e-17	PASS	differential_seed_116	stress_all_finite	1	PASS
operator_E2e11_nu0.499_h10x1x0.1	entries_finite	1	PASS	differential_seed_116	fallback_count	0	PASS
operator_E2e11_nu0.499_h10x1x0.1	symmetry_relative	1.99e-18	PASS	differential_seed_116	reference_route_is_cpu_double	1	PASS
operator_E2e11_nu0.499_h10x1x0.1	rigid_mode_force_ratio	8.46e-17	PASS	differential_seed_116	reference_route_no_fallback	1	PASS
operator_E2e11_nu0.499_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_116	parity_displacement_relative_l2	6.00e-08	PASS
operator_E2e11_nu0.499_h10x1x0.1	rank	18	PASS	differential_seed_116	parity_displacement_relative_linf	6.97e-08	PASS
operator_E2e11_nu0.499_h10x1x0.1	minimum_eigenvalue_ratio	-1.85e-17	PASS	differential_seed_116	parity_reaction_relative_l2	8.64e-08	PASS
operator_E2e11_nu0.499_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_116	parity_reaction_relative_linf	1.38e-07	PASS
operator_E2e11_nu0.499_h10x1x0.1	independent_condensation_relative_gap	1.78e-17	PASS	differential_seed_116	parity_stress_relative_l2	2.03e-07	PASS
operator_E2e11_nu0.499_h10x1x0.1	axis_permutation_relative_gap	8.17e-17	PASS	differential_seed_116	parity_stress_relative_linf	2.92e-07	PASS
operator_E2e11_nu0.499_h10x1x0.1	axis_reflection_relative_gap	1.01e-16	PASS	differential_seed_116	parity_strain_energy_relative_error	3.53e-09	PASS
operator_E2e11_nu0.499_h10x1x0.1	modulus_scaling_relative_gap	6.35e-17	PASS	differential_seed_116	zero_fallback_on_both_backends	0	PASS
operator_E2e11_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_properties_seeded_116	metal_all_property_solves_converged	1	PASS
operator_E2e11_nu0.011x0.009x0.013	symmetry_relative	1.19e-17	PASS	differential_properties_seeded_116	metal_displacement_superposition	6.66e-08	PASS
operator_E2e11_nu0.011x0.009x0.013	rigid_mode_force_ratio	3.22e-17	PASS	differential_properties_seeded_116	metal_stress_superposition	1.40e-07	PASS
operator_E2e11_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_properties_seeded_116	metal_sign_reversal	0	PASS
operator_E2e11_nu0.011x0.009x0.013	rank	18	PASS	differential_properties_seeded_116	metal_load_scaling_by_two	0	PASS
operator_E2e11_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-3.14e-17	PASS	differential_properties_seeded_116	metal_modulus_scaling_by_two	0	PASS
operator_E2e11_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_properties_seeded_116	metal_maxwell_betti_reciprocity	1.73e-07	PASS
operator_E2e11_nu0.011x0.009x0.013	independent_condensation_relative_gap	5.05e-17	PASS	differential_properties_seeded_116	metal_axis_permutation	4.76e-08	PASS
operator_E2e11_nu0.011x0.009x0.013	axis_permutation_relative_gap	8.88e-17	PASS	differential_properties_seeded_116	metal_axis_reflection	2.54e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E2e11_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.05e-16	PASS	differential_properties_se ed_116	cpu_all_property_solves_c onverged	1	PASS
operator_E2e11_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	5.94e-17	PASS	differential_properties_se ed_116	cpu_displacement_superp osition	2.38e-11	PASS
operator_E1e13_nu0.000_ h1x1x1	entries_finite	1	PASS	differential_properties_se ed_116	cpu_stress_superposition	4.04e-11	PASS
operator_E1e13_nu0.000_ h1x1x1	symmetry_relative	9.03e-18	PASS	differential_properties_se ed_116	cpu_sign_reversal	0	PASS
operator_E1e13_nu0.000_ h1x1x1	rigid_mode_force_ratio	3.55e-17	PASS	differential_properties_se ed_116	cpu_load_scaling_by_two	0	PASS
operator_E1e13_nu0.000_ h1x1x1	null_space_dimension	6	PASS	differential_properties_se ed_116	cpu_modulus_scaling_by_t wo	9.18e-12	PASS
operator_E1e13_nu0.000_ h1x1x1	rank	18	PASS	differential_properties_se ed_116	cpu_maxwell_betti_recipro city	5.03e-10	PASS
operator_E1e13_nu0.000_ h1x1x1	minimum_eigenvalue_ratio	-1.57e-16	PASS	differential_properties_se ed_116	cpu_axis_permutation	1.61e-12	PASS
operator_E1e13_nu0.000_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_properties_se ed_116	cpu_axis_reflection	4.18e-12	PASS
operator_E1e13_nu0.000_ h1x1x1	independent_condensation _relative_g...	6.19e-17	PASS	differential_seed_117	converged	1	PASS
operator_E1e13_nu0.000_ h1x1x1	axis_permutation_relative_ gap	1.42e-16	PASS	differential_seed_117	solver_relative_residual	1.35e-05	PASS
operator_E1e13_nu0.000_ h1x1x1	axis_reflection_relative_ga p	1.56e-16	PASS	differential_seed_117	independent_double_relati ve_residual	1.35e-05	PASS
operator_E1e13_nu0.000_ h1x1x1	modulus_scaling_relative_ gap	7.22e-17	PASS	differential_seed_117	rigid_body_constraint_ran k	6	PASS
operator_E1e13_nu0.000_ h2x1x1	entries_finite	1	PASS	differential_seed_117	force_equilibrium_relative_ error	3.43e-07	PASS
operator_E1e13_nu0.000_ h2x1x1	symmetry_relative	1.13e-17	PASS	differential_seed_117	moment_equilibrium_relati ve_error	3.83e-07	PASS
operator_E1e13_nu0.000_ h2x1x1	rigid_mode_force_ratio	4.59e-17	PASS	differential_seed_117	energy_identity_relative_er ror	2.21e-08	PASS
operator_E1e13_nu0.000_ h2x1x1	null_space_dimension	6	PASS	differential_seed_117	displacement_all_finite	1	PASS
operator_E1e13_nu0.000_ h2x1x1	rank	18	PASS	differential_seed_117	stress_all_finite	1	PASS
operator_E1e13_nu0.000_ h2x1x1	minimum_eigenvalue_ratio	-1.36e-16	PASS	differential_seed_117	fallback_count	0	PASS
operator_E1e13_nu0.000_ h2x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_117	metal_execution_evidence _present	1	PASS
operator_E1e13_nu0.000_ h2x1x1	independent_condensation _relative_g...	6.99e-17	PASS	differential_seed_117	operator_backend_is_pack aged_host_p...	1	PASS
operator_E1e13_nu0.000_ h2x1x1	axis_permutation_relative_ gap	1.28e-16	PASS	differential_seed_117	persistent_metal_vector_b uffers	1	PASS
operator_E1e13_nu0.000_ h2x1x1	axis_reflection_relative_ga p	1.80e-16	PASS	differential_seed_117	packaged_metallib_used	1	PASS
operator_E1e13_nu0.000_ h2x1x1	modulus_scaling_relative_ gap	4.52e-17	PASS	differential_seed_117	no_runtime_source_compil ation	1	PASS
operator_E1e13_nu0.000_ h1x3x1	entries_finite	1	PASS	differential_seed_117	metal_fallback_count	0	PASS
operator_E1e13_nu0.000_ h1x3x1	symmetry_relative	1.55e-17	PASS	differential_seed_117	converged	1	PASS
operator_E1e13_nu0.000_ h1x3x1	rigid_mode_force_ratio	4.16e-17	PASS	differential_seed_117	solver_relative_residual	7.53e-11	PASS
operator_E1e13_nu0.000_ h1x3x1	null_space_dimension	6	PASS	differential_seed_117	independent_double_relati ve_residual	7.53e-11	PASS
operator_E1e13_nu0.000_ h1x3x1	rank	18	PASS	differential_seed_117	rigid_body_constraint_ran k	6	PASS
operator_E1e13_nu0.000_ h1x3x1	minimum_eigenvalue_ratio	-1.59e-16	PASS	differential_seed_117	force_equilibrium_relative_ error	2.17e-12	PASS
operator_E1e13_nu0.000_ h1x3x1	random_energy_ratio_mini mum	0	PASS	differential_seed_117	moment_equilibrium_relati ve_error	1.83e-12	PASS
operator_E1e13_nu0.000_ h1x3x1	independent_condensation _relative_g...	7.48e-17	PASS	differential_seed_117	energy_identity_relative_er ror	1.58e-14	PASS
operator_E1e13_nu0.000_ h1x3x1	axis_permutation_relative_ gap	1.19e-16	PASS	differential_seed_117	displacement_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_nu0.000_h1x3x1	axis_reflection_relative_gap	1.49e-16	PASS	differential_seed_117	stress_all_finite	1	PASS
operator_E1e13_nu0.000_h1x3x1	modulus_scaling_relative_gap	9.31e-17	PASS	differential_seed_117	fallback_count	0	PASS
operator_E1e13_nu0.000_h1x1x5	entries_finite	1	PASS	differential_seed_117	reference_route_is_cpu_double	1	PASS
operator_E1e13_nu0.000_h1x1x5	symmetry_relative	1.89e-17	PASS	differential_seed_117	reference_route_no_fallback	1	PASS
operator_E1e13_nu0.000_h1x1x5	rigid_mode_force_ratio	4.09e-17	PASS	differential_seed_117	parity_displacement_relative_l2	1.14e-06	PASS
operator_E1e13_nu0.000_h1x1x5	null_space_dimension	6	PASS	differential_seed_117	parity_displacement_relative_linf	1.79e-06	PASS
operator_E1e13_nu0.000_h1x1x5	rank	18	PASS	differential_seed_117	parity_reaction_relative_l2	9.83e-07	PASS
operator_E1e13_nu0.000_h1x1x5	minimum_eigenvalue_ratio	-6.22e-17	PASS	differential_seed_117	parity_reaction_relative_linf	6.50e-07	PASS
operator_E1e13_nu0.000_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_117	parity_stress_relative_l2	5.19e-06	PASS
operator_E1e13_nu0.000_h1x1x5	independent_condensation_relative_g...	1.02e-16	PASS	differential_seed_117	parity_stress_relative_linf	6.72e-06	PASS
operator_E1e13_nu0.000_h1x1x5	axis_permutation_relative_gap	1.13e-16	PASS	differential_seed_117	parity_strain_energy_relative_error	4.43e-08	PASS
operator_E1e13_nu0.000_h1x1x5	axis_reflection_relative_gap	1.45e-16	PASS	differential_seed_117	zero_fallback_on_both_backends	0	PASS
operator_E1e13_nu0.000_h1x1x5	modulus_scaling_relative_gap	5.66e-17	PASS	differential_seed_118	converged	1	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_118	solver_relative_residual	1.38e-05	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	symmetry_relative	3.53e-18	PASS	differential_seed_118	independent_double_relative_residual	1.38e-05	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	rigid_mode_force_ratio	4.53e-17	PASS	differential_seed_118	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_118	force_equilibrium_relative_error	1.99e-06	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	rank	18	PASS	differential_seed_118	moment_equilibrium_relative_error	2.93e-06	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-1.09e-16	PASS	differential_seed_118	energy_identity_relative_error	7.30e-07	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_118	displacement_all_finite	1	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	independent_condensation_relative_g...	3.13e-17	PASS	differential_seed_118	stress_all_finite	1	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	axis_permutation_relative_gap	1.15e-16	PASS	differential_seed_118	fallback_count	0	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	axis_reflection_relative_gap	1.30e-16	PASS	differential_seed_118	metal_execution_evidence_present	1	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	modulus_scaling_relative_gap	2.82e-17	PASS	differential_seed_118	operator_backend_is_packaged_host_p...	1	PASS
operator_E1e13_nu0.000_h10x1x0.1	entries_finite	1	PASS	differential_seed_118	persistent_metal_vector_buffers	1	PASS
operator_E1e13_nu0.000_h10x1x0.1	symmetry_relative	1.16e-17	PASS	differential_seed_118	packaged_metallib_used	1	PASS
operator_E1e13_nu0.000_h10x1x0.1	rigid_mode_force_ratio	4.99e-17	PASS	differential_seed_118	no_runtime_source_compilation	1	PASS
operator_E1e13_nu0.000_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_118	metal_fallback_count	0	PASS
operator_E1e13_nu0.000_h10x1x0.1	rank	18	PASS	differential_seed_118	converged	1	PASS
operator_E1e13_nu0.000_h10x1x0.1	minimum_eigenvalue_ratio	-1.63e-16	PASS	differential_seed_118	solver_relative_residual	6.32e-11	PASS
operator_E1e13_nu0.000_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_118	independent_double_relative_residual	6.32e-11	PASS
operator_E1e13_nu0.000_h10x1x0.1	independent_condensation_relative_g...	6.90e-17	PASS	differential_seed_118	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.000_h10x1x0.1	axis_permutation_relative_gap	9.89e-17	PASS	differential_seed_118	force_equilibrium_relative_error	3.78e-12	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_nu0.000_h10x1x0.1	axis_reflection_relative_gap	1.26e-16	PASS	differential_seed_118	moment_equilibrium_relative_error	2.89e-12	PASS
operator_E1e13_nu0.000_h10x1x0.1	modulus_scaling_relative_gap	4.65e-17	PASS	differential_seed_118	energy_identity_relative_error	4.93e-15	PASS
operator_E1e13_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_118	displacement_all_finite	1	PASS
operator_E1e13_nu0.011x0.009x0.013	symmetry_relative	1.21e-17	PASS	differential_seed_118	stress_all_finite	1	PASS
operator_E1e13_nu0.011x0.009x0.013	rigid_mode_force_ratio	4.03e-17	PASS	differential_seed_118	fallback_count	0	PASS
operator_E1e13_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_118	reference_route_is_cpu_double	1	PASS
operator_E1e13_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_118	reference_route_no_fallback	1	PASS
operator_E1e13_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-1.54e-16	PASS	differential_seed_118	parity_displacement_relative_I2	4.60e-06	PASS
operator_E1e13_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_118	parity_displacement_relative_linf	5.39e-06	PASS
operator_E1e13_nu0.011x0.009x0.013	independent_condensation_relative_gap	5.72e-17	PASS	differential_seed_118	parity_reaction_relative_I2	4.93e-06	PASS
operator_E1e13_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.31e-16	PASS	differential_seed_118	parity_reaction_relative_linf	5.98e-06	PASS
operator_E1e13_nu0.011x0.009x0.013	axis_reflection_relative_gap	1.32e-16	PASS	differential_seed_118	parity_stress_relative_I2	6.65e-06	PASS
operator_E1e13_nu0.011x0.009x0.013	modulus_scaling_relative_gap	4.83e-17	PASS	differential_seed_118	parity_stress_relative_linf	8.27e-06	PASS
operator_E1e13_nu0.200_h1x1x1	entries_finite	1	PASS	differential_seed_118	parity_strain_energy_relative_error	1.46e-06	PASS
operator_E1e13_nu0.200_h1x1x1	symmetry_relative	1.77e-17	PASS	differential_seed_118	zero_fallback_on_both_backends	0	PASS
operator_E1e13_nu0.200_h1x1x1	rigid_mode_force_ratio	3.74e-17	PASS	differential_seed_119	converged	1	PASS
operator_E1e13_nu0.200_h1x1x1	null_space_dimension	6	PASS	differential_seed_119	solver_relative_residual	1.56e-05	PASS
operator_E1e13_nu0.200_h1x1x1	rank	18	PASS	differential_seed_119	independent_double_relative_residual	1.56e-05	PASS
operator_E1e13_nu0.200_h1x1x1	minimum_eigenvalue_ratio	-7.00e-18	PASS	differential_seed_119	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.200_h1x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_119	force_equilibrium_relative_error	5.24e-07	PASS
operator_E1e13_nu0.200_h1x1x1	independent_condensation_relative_gap	5.04e-17	PASS	differential_seed_119	moment_equilibrium_relative_error	5.41e-07	PASS
operator_E1e13_nu0.200_h1x1x1	axis_permutation_relative_gap	9.68e-17	PASS	differential_seed_119	energy_identity_relative_error	9.94e-08	PASS
operator_E1e13_nu0.200_h1x1x1	axis_reflection_relative_gap	1.32e-16	PASS	differential_seed_119	displacement_all_finite	1	PASS
operator_E1e13_nu0.200_h1x1x1	modulus_scaling_relative_gap	3.54e-17	PASS	differential_seed_119	stress_all_finite	1	PASS
operator_E1e13_nu0.200_h2x1x1	entries_finite	1	PASS	differential_seed_119	fallback_count	0	PASS
operator_E1e13_nu0.200_h2x1x1	symmetry_relative	1.10e-17	PASS	differential_seed_119	metal_execution_evidence_present	1	PASS
operator_E1e13_nu0.200_h2x1x1	rigid_mode_force_ratio	4.05e-17	PASS	differential_seed_119	operator_backend_is_packaged_host_process	1	PASS
operator_E1e13_nu0.200_h2x1x1	null_space_dimension	6	PASS	differential_seed_119	persistent_metal_vector_buffers	1	PASS
operator_E1e13_nu0.200_h2x1x1	rank	18	PASS	differential_seed_119	packaged_metallib_used	1	PASS
operator_E1e13_nu0.200_h2x1x1	minimum_eigenvalue_ratio	-9.58e-17	PASS	differential_seed_119	no_runtime_source_compilation	1	PASS
operator_E1e13_nu0.200_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_119	metal_fallback_count	0	PASS
operator_E1e13_nu0.200_h2x1x1	independent_condensation_relative_gap	6.05e-17	PASS	differential_seed_119	converged	1	PASS
operator_E1e13_nu0.200_h2x1x1	axis_permutation_relative_gap	1.29e-16	PASS	differential_seed_119	solver_relative_residual	8.69e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_nu0.200_h2x1x1	axis_reflection_relative_gap	1.11e-16	PASS	differential_seed_119	independent_double_relative_residual	8.69e-11	PASS
operator_E1e13_nu0.200_h2x1x1	modulus_scaling_relative_gap	3.31e-17	PASS	differential_seed_119	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.200_h1x3x1	entries_finite	1	PASS	differential_seed_119	force_equilibrium_relative_error	4.46e-12	PASS
operator_E1e13_nu0.200_h1x3x1	symmetry_relative	1.52e-17	PASS	differential_seed_119	moment_equilibrium_relative_error	1.02e-11	PASS
operator_E1e13_nu0.200_h1x3x1	rigid_mode_force_ratio	6.27e-17	PASS	differential_seed_119	energy_identity_relative_error	2.40e-14	PASS
operator_E1e13_nu0.200_h1x3x1	null_space_dimension	6	PASS	differential_seed_119	displacement_all_finite	1	PASS
operator_E1e13_nu0.200_h1x3x1	rank	18	PASS	differential_seed_119	stress_all_finite	1	PASS
operator_E1e13_nu0.200_h1x3x1	minimum_eigenvalue_ratio	-1.09e-17	PASS	differential_seed_119	fallback_count	0	PASS
operator_E1e13_nu0.200_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_119	reference_route_is_cpu_double	1	PASS
operator_E1e13_nu0.200_h1x3x1	independent_condensation_relative_gap	5.34e-17	PASS	differential_seed_119	reference_route_no_fallback	1	PASS
operator_E1e13_nu0.200_h1x3x1	axis_permutation_relative_gap	1.10e-16	PASS	differential_seed_119	parity_displacement_relative_l2	5.95e-07	PASS
operator_E1e13_nu0.200_h1x3x1	axis_reflection_relative_gap	1.71e-16	PASS	differential_seed_119	parity_displacement_relative_linf	1.15e-06	PASS
operator_E1e13_nu0.200_h1x3x1	modulus_scaling_relative_gap	4.55e-17	PASS	differential_seed_119	parity_reaction_relative_l2	2.94e-06	PASS
operator_E1e13_nu0.200_h1x1x5	entries_finite	1	PASS	differential_seed_119	parity_reaction_relative_linf	1.70e-06	PASS
operator_E1e13_nu0.200_h1x1x5	symmetry_relative	1.84e-17	PASS	differential_seed_119	parity_stress_relative_l2	6.29e-06	PASS
operator_E1e13_nu0.200_h1x1x5	rigid_mode_force_ratio	3.57e-17	PASS	differential_seed_119	parity_stress_relative_linf	2.74e-06	PASS
operator_E1e13_nu0.200_h1x1x5	null_space_dimension	6	PASS	differential_seed_119	parity_strain_energy_relative_error	1.99e-07	PASS
operator_E1e13_nu0.200_h1x1x5	rank	18	PASS	differential_seed_119	zero_fallback_on_both_backends	0	PASS
operator_E1e13_nu0.200_h1x1x5	minimum_eigenvalue_ratio	-3.91e-17	PASS	differential_seed_120	converged	1	PASS
operator_E1e13_nu0.200_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_120	solver_relative_residual	4.00e-06	PASS
operator_E1e13_nu0.200_h1x1x5	independent_condensation_relative_gap	6.98e-17	PASS	differential_seed_120	independent_double_relative_residual	4.00e-06	PASS
operator_E1e13_nu0.200_h1x1x5	axis_permutation_relative_gap	1.28e-16	PASS	differential_seed_120	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.200_h1x1x5	axis_reflection_relative_gap	1.60e-16	PASS	differential_seed_120	force_equilibrium_relative_error	8.07e-08	PASS
operator_E1e13_nu0.200_h1x1x5	modulus_scaling_relative_gap	3.68e-17	PASS	differential_seed_120	moment_equilibrium_relative_error	9.05e-08	PASS
operator_E1e13_nu0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_120	energy_identity_relative_error	3.49e-08	PASS
operator_E1e13_nu0.01x0.01x0.01	symmetry_relative	0	PASS	differential_seed_120	displacement_all_finite	1	PASS
operator_E1e13_nu0.01x0.01x0.01	rigid_mode_force_ratio	5.17e-17	PASS	differential_seed_120	stress_all_finite	1	PASS
operator_E1e13_nu0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_120	fallback_count	0	PASS
operator_E1e13_nu0.01x0.01x0.01	rank	18	PASS	differential_seed_120	metal_execution_evidence_present	1	PASS
operator_E1e13_nu0.01x0.01x0.01	minimum_eigenvalue_ratio	-2.38e-17	PASS	differential_seed_120	operator_backend_is_packaged_host_process	1	PASS
operator_E1e13_nu0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_120	persistent_metal_vector_buffers	1	PASS
operator_E1e13_nu0.01x0.01x0.01	independent_condensation_relative_gap	4.80e-17	PASS	differential_seed_120	packaged_metallib_used	1	PASS
operator_E1e13_nu0.01x0.01x0.01	axis_permutation_relative_gap	1.34e-16	PASS	differential_seed_120	no_runtime_source_compilation	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_n... 0_h0.01x0.01x0.01	axis_reflection_relative_ga p	1.42e-16	PASS	differential_seed_120	metal_fallback_count	0	PASS
operator_E1e13_n... 0_h0.01x0.01x0.01	modulus_scaling_relative_ gap	5.53e-17	PASS	differential_seed_120	converged	1	PASS
operator_E1e13_nu0.200_ h10x1x0.1	entries_finite	1	PASS	differential_seed_120	solver_relative_residual	4.75e-11	PASS
operator_E1e13_nu0.200_ h10x1x0.1	symmetry_relative	7.05e-19	PASS	differential_seed_120	independent_double_relati ve_residual	4.75e-11	PASS
operator_E1e13_nu0.200_ h10x1x0.1	rigid_mode_force_ratio	4.32e-17	PASS	differential_seed_120	rigid_body_constraint_ran k	6	PASS
operator_E1e13_nu0.200_ h10x1x0.1	null_space_dimension	6	PASS	differential_seed_120	force_equilibrium_relative_ error	3.55e-12	PASS
operator_E1e13_nu0.200_ h10x1x0.1	rank	18	PASS	differential_seed_120	moment_equilibrium_relati ve_error	4.86e-12	PASS
operator_E1e13_nu0.200_ h10x1x0.1	minimum_eigenvalue_ratio	-1.73e-16	PASS	differential_seed_120	energy_identity_relative_er ror	1.92e-15	PASS
operator_E1e13_nu0.200_ h10x1x0.1	random_energy_ratio_mini mum	0	PASS	differential_seed_120	displacement_all_finite	1	PASS
operator_E1e13_nu0.200_ h10x1x0.1	independent_condensation _relative_g...	3.38e-17	PASS	differential_seed_120	stress_all_finite	1	PASS
operator_E1e13_nu0.200_ h10x1x0.1	axis_permutation_relative_ gap	7.93e-17	PASS	differential_seed_120	fallback_count	0	PASS
operator_E1e13_nu0.200_ h10x1x0.1	axis_reflection_relative_ga p	1.20e-16	PASS	differential_seed_120	reference_route_is_cpu_d ouble	1	PASS
operator_E1e13_nu0.200_ h10x1x0.1	modulus_scaling_relative_ gap	6.76e-17	PASS	differential_seed_120	reference_route_no_fallba ck	1	PASS
operator_E1e13_n... 0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_120	parity_displacement_relati ve_l2	2.11e-07	PASS
operator_E1e13_n... 0.011x0.009x0.013	symmetry_relative	1.18e-17	PASS	differential_seed_120	parity_displacement_relati ve_linf	2.49e-07	PASS
operator_E1e13_n... 0.011x0.009x0.013	rigid_mode_force_ratio	4.84e-17	PASS	differential_seed_120	parity_reaction_relative_l2	1.06e-07	PASS
operator_E1e13_n... 0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_120	parity_reaction_relative_lin f	5.96e-08	PASS
operator_E1e13_n... 0.011x0.009x0.013	rank	18	PASS	differential_seed_120	parity_stress_relative_l2	1.51e-06	PASS
operator_E1e13_n... 0.011x0.009x0.013	minimum_eigenvalue_ratio	-1.09e-16	PASS	differential_seed_120	parity_stress_relative_linf	1.01e-06	PASS
operator_E1e13_n... 0.011x0.009x0.013	random_energy_ratio_mini mum	0	PASS	differential_seed_120	parity_strain_energy_relati ve_error	6.98e-08	PASS
operator_E1e13_n... 0.011x0.009x0.013	independent_condensation _relative_g...	8.05e-17	PASS	differential_seed_120	zero_fallback_on_both_ba ckends	0	PASS
operator_E1e13_n... 0.011x0.009x0.013	axis_permutation_relative_ gap	1.36e-16	PASS	differential_properties_se ed_120	metal_all_property_solves _converged	1	PASS
operator_E1e13_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.04e-16	PASS	differential_properties_se ed_120	metal_displacement_super position	2.97e-07	PASS
operator_E1e13_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	7.09e-17	PASS	differential_properties_se ed_120	metal_stress_superpositio n	1.20e-06	PASS
operator_E1e13_nu0.300_ h1x1x1	entries_finite	1	PASS	differential_properties_se ed_120	metal_sign_reversal	0	PASS
operator_E1e13_nu0.300_ h1x1x1	symmetry_relative	7.33e-18	PASS	differential_properties_se ed_120	metal_load_scaling_by_tw o	0	PASS
operator_E1e13_nu0.300_ h1x1x1	rigid_mode_force_ratio	3.09e-17	PASS	differential_properties_se ed_120	metal_modulus_scaling_by _two	0	PASS
operator_E1e13_nu0.300_ h1x1x1	null_space_dimension	6	PASS	differential_properties_se ed_120	metal_maxwell_betti_recip rocity	2.01e-07	PASS
operator_E1e13_nu0.300_ h1x1x1	rank	18	PASS	differential_properties_se ed_120	metal_axis_permutation	2.03e-07	PASS
operator_E1e13_nu0.300_ h1x1x1	minimum_eigenvalue_ratio	-3.56e-17	PASS	differential_properties_se ed_120	metal_axis_reflection	2.66e-07	PASS
operator_E1e13_nu0.300_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_properties_se ed_120	cpu_all_property_solves_c onverged	1	PASS
operator_E1e13_nu0.300_ h1x1x1	independent_condensation _relative_g...	8.31e-17	PASS	differential_properties_se ed_120	cpu_displacement_superp osition	1.49e-11	PASS
operator_E1e13_nu0.300_ h1x1x1	axis_permutation_relative_ gap	1.01e-16	PASS	differential_properties_se ed_120	cpu_stress_superposition	5.33e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_nu0.300_h1x1x1	axis_reflection_relative_gap	1.36e-16	PASS	differential_properties_seed_120	cpu_sign_reversal	0	PASS
operator_E1e13_nu0.300_h1x1x1	modulus_scaling_relative_gap	2.93e-17	PASS	differential_properties_seed_120	cpu_load_scaling_by_two	0	PASS
operator_E1e13_nu0.300_h2x1x1	entries_finite	1	PASS	differential_properties_seed_120	cpu_modulus_scaling_by_two	9.42e-15	PASS
operator_E1e13_nu0.300_h2x1x1	symmetry_relative	1.85e-17	PASS	differential_properties_seed_120	cpu_maxwell_betti_reciprocity	3.50e-11	PASS
operator_E1e13_nu0.300_h2x1x1	rigid_mode_force_ratio	4.40e-17	PASS	differential_properties_seed_120	cpu_axis_permutation	7.15e-15	PASS
operator_E1e13_nu0.300_h2x1x1	null_space_dimension	6	PASS	differential_properties_seed_120	cpu_axis_reflection	6.28e-15	PASS
operator_E1e13_nu0.300_h2x1x1	rank	18	PASS	differential_seed_121	converged	1	PASS
operator_E1e13_nu0.300_h2x1x1	minimum_eigenvalue_ratio	-6.38e-17	PASS	differential_seed_121	solver_relative_residual	1.07e-05	PASS
operator_E1e13_nu0.300_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_121	independent_double_relative_residual	1.07e-05	PASS
operator_E1e13_nu0.300_h2x1x1	independent_condensation_relative_gap	8.03e-17	PASS	differential_seed_121	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.300_h2x1x1	axis_permutation_relative_gap	1.39e-16	PASS	differential_seed_121	force_equilibrium_relative_error	3.67e-06	PASS
operator_E1e13_nu0.300_h2x1x1	axis_reflection_relative_gap	1.67e-16	PASS	differential_seed_121	moment_equilibrium_relative_error	6.50e-06	PASS
operator_E1e13_nu0.300_h2x1x1	modulus_scaling_relative_gap	5.54e-17	PASS	differential_seed_121	energy_identity_relative_error	3.03e-08	PASS
operator_E1e13_nu0.300_h1x3x1	entries_finite	1	PASS	differential_seed_121	displacement_all_finite	1	PASS
operator_E1e13_nu0.300_h1x3x1	symmetry_relative	1.27e-17	PASS	differential_seed_121	stress_all_finite	1	PASS
operator_E1e13_nu0.300_h1x3x1	rigid_mode_force_ratio	3.71e-17	PASS	differential_seed_121	fallback_count	0	PASS
operator_E1e13_nu0.300_h1x3x1	null_space_dimension	6	PASS	differential_seed_121	metal_execution_evidence_present	1	PASS
operator_E1e13_nu0.300_h1x3x1	rank	18	PASS	differential_seed_121	operator_backend_is_packaged_host_process	1	PASS
operator_E1e13_nu0.300_h1x3x1	minimum_eigenvalue_ratio	-6.56e-17	PASS	differential_seed_121	persistent_metal_vector_buffers	1	PASS
operator_E1e13_nu0.300_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_121	packaged_metallib_used	1	PASS
operator_E1e13_nu0.300_h1x3x1	independent_condensation_relative_gap	1.00e-16	PASS	differential_seed_121	no_runtime_source_compilation	1	PASS
operator_E1e13_nu0.300_h1x3x1	axis_permutation_relative_gap	9.61e-17	PASS	differential_seed_121	metal_fallback_count	0	PASS
operator_E1e13_nu0.300_h1x3x1	axis_reflection_relative_gap	1.04e-16	PASS	differential_seed_121	converged	1	PASS
operator_E1e13_nu0.300_h1x3x1	modulus_scaling_relative_gap	5.09e-17	PASS	differential_seed_121	solver_relative_residual	9.38e-11	PASS
operator_E1e13_nu0.300_h1x1x5	entries_finite	1	PASS	differential_seed_121	independent_double_relative_residual	9.38e-11	PASS
operator_E1e13_nu0.300_h1x1x5	symmetry_relative	1.55e-17	PASS	differential_seed_121	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.300_h1x1x5	rigid_mode_force_ratio	4.72e-17	PASS	differential_seed_121	force_equilibrium_relative_error	6.02e-11	PASS
operator_E1e13_nu0.300_h1x1x5	null_space_dimension	6	PASS	differential_seed_121	moment_equilibrium_relative_error	1.14e-10	PASS
operator_E1e13_nu0.300_h1x1x5	rank	18	PASS	differential_seed_121	energy_identity_relative_error	1.07e-13	PASS
operator_E1e13_nu0.300_h1x1x5	minimum_eigenvalue_ratio	-8.19e-17	PASS	differential_seed_121	displacement_all_finite	1	PASS
operator_E1e13_nu0.300_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_121	stress_all_finite	1	PASS
operator_E1e13_nu0.300_h1x1x5	independent_condensation_relative_gap	5.28e-17	PASS	differential_seed_121	fallback_count	0	PASS
operator_E1e13_nu0.300_h1x1x5	axis_permutation_relative_gap	1.53e-16	PASS	differential_seed_121	reference_route_is_cpu_double	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_nu0.300_h1x1x5	axis_reflection_relative_gap	1.32e-16	PASS	differential_seed_121	reference_route_no_fallback	1	PASS
operator_E1e13_nu0.300_h1x1x5	modulus_scaling_relative_gap	3.10e-17	PASS	differential_seed_121	parity_displacement_relative_I2	6.48e-06	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_121	parity_displacement_relative_linf	3.29e-06	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	symmetry_relative	5.72e-18	PASS	differential_seed_121	parity_reaction_relative_I2	2.21e-06	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	rigid_mode_force_ratio	2.02e-17	PASS	differential_seed_121	parity_reaction_relative_linf	7.68e-07	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_121	parity_stress_relative_I2	8.34e-06	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	rank	18	PASS	differential_seed_121	parity_stress_relative_linf	2.41e-06	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-1.99e-17	PASS	differential_seed_121	parity_strain_energy_relative_error	6.06e-08	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_121	zero_fallback_on_both_backends	0	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	independent_condensation_relative_g...	2.74e-17	PASS	differential_seed_122	converged	1	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	axis_permutation_relative_gap	7.83e-17	PASS	differential_seed_122	solver_relative_residual	1.83e-05	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	axis_reflection_relative_gap	9.00e-17	PASS	differential_seed_122	independent_double_relative_residual	1.83e-05	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	modulus_scaling_relative_gap	4.58e-17	PASS	differential_seed_122	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.300_h10x1x0.1	entries_finite	1	PASS	differential_seed_122	force_equilibrium_relative_error	7.54e-08	PASS
operator_E1e13_nu0.300_h10x1x0.1	symmetry_relative	1.95e-17	PASS	differential_seed_122	moment_equilibrium_relative_error	1.20e-07	PASS
operator_E1e13_nu0.300_h10x1x0.1	rigid_mode_force_ratio	5.57e-17	PASS	differential_seed_122	energy_identity_relative_error	7.90e-09	PASS
operator_E1e13_nu0.300_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_122	displacement_all_finite	1	PASS
operator_E1e13_nu0.300_h10x1x0.1	rank	18	PASS	differential_seed_122	stress_all_finite	1	PASS
operator_E1e13_nu0.300_h10x1x0.1	minimum_eigenvalue_ratio	-1.35e-16	PASS	differential_seed_122	fallback_count	0	PASS
operator_E1e13_nu0.300_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_122	metal_execution_evidence_present	1	PASS
operator_E1e13_nu0.300_h10x1x0.1	independent_condensation_relative_g...	6.80e-17	PASS	differential_seed_122	operator_backend_is_packaged_host_p...	1	PASS
operator_E1e13_nu0.300_h10x1x0.1	axis_permutation_relative_gap	1.32e-16	PASS	differential_seed_122	persistent_metal_vector_buffers	1	PASS
operator_E1e13_nu0.300_h10x1x0.1	axis_reflection_relative_gap	1.21e-16	PASS	differential_seed_122	packaged_metallib_used	1	PASS
operator_E1e13_nu0.300_h10x1x0.1	modulus_scaling_relative_gap	7.78e-17	PASS	differential_seed_122	no_runtime_source_compilation	1	PASS
operator_E1e13_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_122	metal_fallback_count	0	PASS
operator_E1e13_nu0.011x0.009x0.013	symmetry_relative	2.95e-17	PASS	differential_seed_122	converged	1	PASS
operator_E1e13_nu0.011x0.009x0.013	rigid_mode_force_ratio	4.02e-17	PASS	differential_seed_122	solver_relative_residual	8.24e-11	PASS
operator_E1e13_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_122	independent_double_relative_residual	8.24e-11	PASS
operator_E1e13_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_122	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-5.87e-17	PASS	differential_seed_122	force_equilibrium_relative_error	6.05e-13	PASS
operator_E1e13_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_122	moment_equilibrium_relative_error	1.83e-13	PASS
operator_E1e13_nu0.011x0.009x0.013	independent_condensation_relative_g...	9.80e-17	PASS	differential_seed_122	energy_identity_relative_error	3.84e-14	PASS
operator_E1e13_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.25e-16	PASS	differential_seed_122	displacement_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.67e-16	PASS	differential_seed_122	stress_all_finite	1	PASS
operator_E1e13_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	3.93e-17	PASS	differential_seed_122	fallback_count	0	PASS
operator_E1e13_nu0.450_ h1x1x1	entries_finite	1	PASS	differential_seed_122	reference_route_is_cpu_d ouble	1	PASS
operator_E1e13_nu0.450_ h1x1x1	symmetry_relative	8.94e-18	PASS	differential_seed_122	reference_route_no_fallba ck	1	PASS
operator_E1e13_nu0.450_ h1x1x1	rigid_mode_force_ratio	3.54e-17	PASS	differential_seed_122	parity_displacement_relati ve_l2	1.88e-07	PASS
operator_E1e13_nu0.450_ h1x1x1	null_space_dimension	6	PASS	differential_seed_122	parity_displacement_relati ve_linf	3.07e-07	PASS
operator_E1e13_nu0.450_ h1x1x1	rank	18	PASS	differential_seed_122	parity_reaction_relative_l2	5.25e-07	PASS
operator_E1e13_nu0.450_ h1x1x1	minimum_eigenvalue_ratio	-6.08e-17	PASS	differential_seed_122	parity_reaction_relative_lin f	6.97e-07	PASS
operator_E1e13_nu0.450_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_122	parity_stress_relative_l2	1.84e-06	PASS
operator_E1e13_nu0.450_ h1x1x1	independent_condensation _relative_g...	5.08e-17	PASS	differential_seed_122	parity_stress_relative_linf	1.12e-06	PASS
operator_E1e13_nu0.450_ h1x1x1	axis_permutation_relative_ gap	1.07e-16	PASS	differential_seed_122	parity_strain_energy_relati ve_error	1.58e-08	PASS
operator_E1e13_nu0.450_ h1x1x1	axis_reflection_relative_ga p	1.34e-16	PASS	differential_seed_122	zero_fallback_on_both_ba ckends	0	PASS
operator_E1e13_nu0.450_ h1x1x1	modulus_scaling_relative_ gap	7.15e-17	PASS	differential_seed_123	converged	1	PASS
operator_E1e13_nu0.450_ h2x1x1	entries_finite	1	PASS	differential_seed_123	solver_relative_residual	7.78e-07	PASS
operator_E1e13_nu0.450_ h2x1x1	symmetry_relative	1.17e-17	PASS	differential_seed_123	independent_double_relati ve_residual	7.78e-07	PASS
operator_E1e13_nu0.450_ h2x1x1	rigid_mode_force_ratio	3.32e-17	PASS	differential_seed_123	rigid_body_constraint_ran k	6	PASS
operator_E1e13_nu0.450_ h2x1x1	null_space_dimension	6	PASS	differential_seed_123	force_equilibrium_relative_ error	5.72e-08	PASS
operator_E1e13_nu0.450_ h2x1x1	rank	18	PASS	differential_seed_123	moment_equilibrium_relati ve_error	8.70e-08	PASS
operator_E1e13_nu0.450_ h2x1x1	minimum_eigenvalue_ratio	-5.53e-17	PASS	differential_seed_123	energy_identity_relative_er ror	6.50e-09	PASS
operator_E1e13_nu0.450_ h2x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_123	displacement_all_finite	1	PASS
operator_E1e13_nu0.450_ h2x1x1	independent_condensation _relative_g...	5.27e-17	PASS	differential_seed_123	stress_all_finite	1	PASS
operator_E1e13_nu0.450_ h2x1x1	axis_permutation_relative_ gap	1.03e-16	PASS	differential_seed_123	fallback_count	0	PASS
operator_E1e13_nu0.450_ h2x1x1	axis_reflection_relative_ga p	1.16e-16	PASS	differential_seed_123	metal_execution_evidence _present	1	PASS
operator_E1e13_nu0.450_ h2x1x1	modulus_scaling_relative_ gap	4.67e-17	PASS	differential_seed_123	operator_backend_is_pack aged_host_p...	1	PASS
operator_E1e13_nu0.450_ h1x3x1	entries_finite	1	PASS	differential_seed_123	persistent_metal_vector_b uffers	1	PASS
operator_E1e13_nu0.450_ h1x3x1	symmetry_relative	8.21e-18	PASS	differential_seed_123	packaged_metallib_used	1	PASS
operator_E1e13_nu0.450_ h1x3x1	rigid_mode_force_ratio	3.04e-17	PASS	differential_seed_123	no_runtime_source_compil ation	1	PASS
operator_E1e13_nu0.450_ h1x3x1	null_space_dimension	6	PASS	differential_seed_123	metal_fallback_count	0	PASS
operator_E1e13_nu0.450_ h1x3x1	rank	18	PASS	differential_seed_123	converged	1	PASS
operator_E1e13_nu0.450_ h1x3x1	minimum_eigenvalue_ratio	-4.19e-17	PASS	differential_seed_123	solver_relative_residual	8.83e-11	PASS
operator_E1e13_nu0.450_ h1x3x1	random_energy_ratio_mini mum	0	PASS	differential_seed_123	independent_double_relati ve_residual	8.83e-11	PASS
operator_E1e13_nu0.450_ h1x3x1	independent_condensation _relative_g...	6.49e-17	PASS	differential_seed_123	rigid_body_constraint_ran k	6	PASS
operator_E1e13_nu0.450_ h1x3x1	axis_permutation_relative_ gap	8.39e-17	PASS	differential_seed_123	force_equilibrium_relative_ error	2.90e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_nu0.450_h1x3x1	axis_reflection_relative_gap	9.89e-17	PASS	differential_seed_123	moment_equilibrium_relative_error	1.33e-11	PASS
operator_E1e13_nu0.450_h1x3x1	modulus_scaling_relative_gap	6.57e-17	PASS	differential_seed_123	energy_identity_relative_error	3.50e-13	PASS
operator_E1e13_nu0.450_h1x1x5	entries_finite	1	PASS	differential_seed_123	displacement_all_finite	1	PASS
operator_E1e13_nu0.450_h1x1x5	symmetry_relative	1.01e-17	PASS	differential_seed_123	stress_all_finite	1	PASS
operator_E1e13_nu0.450_h1x1x5	rigid_mode_force_ratio	3.66e-17	PASS	differential_seed_123	fallback_count	0	PASS
operator_E1e13_nu0.450_h1x1x5	null_space_dimension	6	PASS	differential_seed_123	reference_route_is_cpu_double	1	PASS
operator_E1e13_nu0.450_h1x1x5	rank	18	PASS	differential_seed_123	reference_route_no_fallback	1	PASS
operator_E1e13_nu0.450_h1x1x5	minimum_eigenvalue_ratio	-3.32e-17	PASS	differential_seed_123	parity_displacement_relative_I2	9.21e-08	PASS
operator_E1e13_nu0.450_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_123	parity_displacement_relative_linf	5.69e-08	PASS
operator_E1e13_nu0.450_h1x1x5	independent_condensation_relative_g...	4.83e-17	PASS	differential_seed_123	parity_reaction_relative_I2	1.49e-07	PASS
operator_E1e13_nu0.450_h1x1x5	axis_permutation_relative_gap	1.47e-16	PASS	differential_seed_123	parity_reaction_relative_linf	5.10e-08	PASS
operator_E1e13_nu0.450_h1x1x5	axis_reflection_relative_gap	9.17e-17	PASS	differential_seed_123	parity_stress_relative_I2	4.27e-07	PASS
operator_E1e13_nu0.450_h1x1x5	modulus_scaling_relative_gap	6.07e-17	PASS	differential_seed_123	parity_stress_relative_linf	2.04e-07	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_123	parity_strain_energy_relative_error	1.30e-08	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	symmetry_relative	6.98e-18	PASS	differential_seed_123	zero_fallback_on_both_backends	0	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	rigid_mode_force_ratio	4.60e-17	PASS	differential_seed_124	converged	1	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_124	solver_relative_residual	1.99e-06	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	rank	18	PASS	differential_seed_124	independent_double_relative_residual	1.99e-06	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	minimum_eigenvalue_ratio	5.71e-18	PASS	differential_seed_124	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_124	force_equilibrium_relative_error	3.12e-08	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	independent_condensation_relative_g...	4.05e-17	PASS	differential_seed_124	moment_equilibrium_relative_error	4.25e-08	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	axis_permutation_relative_gap	1.22e-16	PASS	differential_seed_124	energy_identity_relative_error	8.11e-08	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	axis_reflection_relative_gap	1.46e-16	PASS	differential_seed_124	displacement_all_finite	1	PASS
operator_E1e13_nu0_h0.01x0.01x0.01	modulus_scaling_relative_gap	4.19e-17	PASS	differential_seed_124	stress_all_finite	1	PASS
operator_E1e13_nu0.450_h10x1x0.1	entries_finite	1	PASS	differential_seed_124	fallback_count	0	PASS
operator_E1e13_nu0.450_h10x1x0.1	symmetry_relative	1.46e-17	PASS	differential_seed_124	metal_execution_evidence_present	1	PASS
operator_E1e13_nu0.450_h10x1x0.1	rigid_mode_force_ratio	9.90e-17	PASS	differential_seed_124	operator_backend_is_packaged_host_p...	1	PASS
operator_E1e13_nu0.450_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_124	persistent_metal_vector_buffers	1	PASS
operator_E1e13_nu0.450_h10x1x0.1	rank	18	PASS	differential_seed_124	packaged_metallib_used	1	PASS
operator_E1e13_nu0.450_h10x1x0.1	minimum_eigenvalue_ratio	-1.09e-16	PASS	differential_seed_124	no_runtime_source_compilation	1	PASS
operator_E1e13_nu0.450_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_124	metal_fallback_count	0	PASS
operator_E1e13_nu0.450_h10x1x0.1	independent_condensation_relative_g...	6.39e-17	PASS	differential_seed_124	converged	1	PASS
operator_E1e13_nu0.450_h10x1x0.1	axis_permutation_relative_gap	1.23e-16	PASS	differential_seed_124	solver_relative_residual	9.47e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_nu0.450_h10x1x0.1	axis_reflection_relative_gap	1.46e-16	PASS	differential_seed_124	independent_double_relative_residual	9.47e-11	PASS
operator_E1e13_nu0.450_h10x1x0.1	modulus_scaling_relative_gap	5.85e-17	PASS	differential_seed_124	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_124	force_equilibrium_relative_error	5.95e-11	PASS
operator_E1e13_nu0.011x0.009x0.013	symmetry_relative	1.22e-17	PASS	differential_seed_124	moment_equilibrium_relative_error	8.59e-11	PASS
operator_E1e13_nu0.011x0.009x0.013	rigid_mode_force_ratio	4.05e-17	PASS	differential_seed_124	energy_identity_relative_error	8.45e-14	PASS
operator_E1e13_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_124	displacement_all_finite	1	PASS
operator_E1e13_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_124	stress_all_finite	1	PASS
operator_E1e13_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-3.08e-17	PASS	differential_seed_124	fallback_count	0	PASS
operator_E1e13_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_124	reference_route_is_cpu_double	1	PASS
operator_E1e13_nu0.011x0.009x0.013	independent_condensation_relative_gap	8.45e-17	PASS	differential_seed_124	reference_route_no_fallback	1	PASS
operator_E1e13_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.11e-16	PASS	differential_seed_124	parity_displacement_relative_l2	3.32e-07	PASS
operator_E1e13_nu0.011x0.009x0.013	axis_reflection_relative_gap	1.29e-16	PASS	differential_seed_124	parity_displacement_relative_linf	4.86e-07	PASS
operator_E1e13_nu0.011x0.009x0.013	modulus_scaling_relative_gap	4.87e-17	PASS	differential_seed_124	parity_reaction_relative_l2	1.78e-07	PASS
operator_E1e13_nu0.490_h1x1x1	entries_finite	1	PASS	differential_seed_124	parity_reaction_relative_linf	1.48e-07	PASS
operator_E1e13_nu0.490_h1x1x1	symmetry_relative	1.45e-17	PASS	differential_seed_124	parity_stress_relative_l2	9.63e-07	PASS
operator_E1e13_nu0.490_h1x1x1	rigid_mode_force_ratio	3.64e-17	PASS	differential_seed_124	parity_stress_relative_linf	8.10e-07	PASS
operator_E1e13_nu0.490_h1x1x1	null_space_dimension	6	PASS	differential_seed_124	parity_strain_energy_relative_error	1.62e-07	PASS
operator_E1e13_nu0.490_h1x1x1	rank	18	PASS	differential_seed_124	zero_fallback_on_both_backends	0	PASS
operator_E1e13_nu0.490_h1x1x1	minimum_eigenvalue_ratio	-4.71e-17	PASS	differential_properties_seed_124	metal_all_property_solves_converged	1	PASS
operator_E1e13_nu0.490_h1x1x1	random_energy_ratio_minimum	0	PASS	differential_properties_seed_124	metal_displacement_superposition	6.28e-07	PASS
operator_E1e13_nu0.490_h1x1x1	independent_condensation_relative_gap	5.39e-17	PASS	differential_properties_seed_124	metal_stress_superposition	1.09e-06	PASS
operator_E1e13_nu0.490_h1x1x1	axis_permutation_relative_gap	1.06e-16	PASS	differential_properties_seed_124	metal_sign_reversal	0	PASS
operator_E1e13_nu0.490_h1x1x1	axis_reflection_relative_gap	1.29e-16	PASS	differential_properties_seed_124	metal_load_scaling_by_two	0	PASS
operator_E1e13_nu0.490_h1x1x1	modulus_scaling_relative_gap	2.91e-17	PASS	differential_properties_seed_124	metal_modulus_scaling_by_two	0	PASS
operator_E1e13_nu0.490_h2x1x1	entries_finite	1	PASS	differential_properties_seed_124	metal_maxwell_betti_reciprocity	3.12e-07	PASS
operator_E1e13_nu0.490_h2x1x1	symmetry_relative	9.62e-18	PASS	differential_properties_seed_124	metal_axis_permutation	2.96e-07	PASS
operator_E1e13_nu0.490_h2x1x1	rigid_mode_force_ratio	4.08e-17	PASS	differential_properties_seed_124	metal_axis_reflection	3.94e-07	PASS
operator_E1e13_nu0.490_h2x1x1	null_space_dimension	6	PASS	differential_properties_seed_124	cpu_all_property_solves_converged	1	PASS
operator_E1e13_nu0.490_h2x1x1	rank	18	PASS	differential_properties_seed_124	cpu_displacement_superposition	1.25e-10	PASS
operator_E1e13_nu0.490_h2x1x1	minimum_eigenvalue_ratio	-3.73e-17	PASS	differential_properties_seed_124	cpu_stress_superposition	1.20e-10	PASS
operator_E1e13_nu0.490_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_properties_seed_124	cpu_sign_reversal	0	PASS
operator_E1e13_nu0.490_h2x1x1	independent_condensation_relative_gap	4.92e-17	PASS	differential_properties_seed_124	cpu_load_scaling_by_two	0	PASS
operator_E1e13_nu0.490_h2x1x1	axis_permutation_relative_gap	1.12e-16	PASS	differential_properties_seed_124	cpu_modulus_scaling_by_two	1.89e-12	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_nu0.490_h2x1x1	axis_reflection_relative_gap	1.19e-16	PASS	differential_properties_seed_124	cpu_maxwell_betti_reciprocity	5.96e-11	PASS
operator_E1e13_nu0.490_h2x1x1	modulus_scaling_relative_gap	2.89e-17	PASS	differential_properties_seed_124	cpu_axis_permutation	5.18e-11	PASS
operator_E1e13_nu0.490_h1x3x1	entries_finite	1	PASS	differential_properties_seed_124	cpu_axis_reflection	2.84e-13	PASS
operator_E1e13_nu0.490_h1x3x1	symmetry_relative	1.36e-17	PASS	differential_seed_125	converged	1	PASS
operator_E1e13_nu0.490_h1x3x1	rigid_mode_force_ratio	3.85e-17	PASS	differential_seed_125	solver_relative_residual	2.72e-06	PASS
operator_E1e13_nu0.490_h1x3x1	null_space_dimension	6	PASS	differential_seed_125	independent_double_relative_residual	2.72e-06	PASS
operator_E1e13_nu0.490_h1x3x1	rank	18	PASS	differential_seed_125	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.490_h1x3x1	minimum_eigenvalue_ratio	-6.58e-17	PASS	differential_seed_125	force_equilibrium_relative_error	2.15e-07	PASS
operator_E1e13_nu0.490_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_125	moment_equilibrium_relative_error	2.15e-07	PASS
operator_E1e13_nu0.490_h1x3x1	independent_condensation_relative_gap	6.21e-17	PASS	differential_seed_125	energy_identity_relative_error	1.56e-07	PASS
operator_E1e13_nu0.490_h1x3x1	axis_permutation_relative_gap	9.12e-17	PASS	differential_seed_125	displacement_all_finite	1	PASS
operator_E1e13_nu0.490_h1x3x1	axis_reflection_relative_gap	1.02e-16	PASS	differential_seed_125	stress_all_finite	1	PASS
operator_E1e13_nu0.490_h1x3x1	modulus_scaling_relative_gap	2.72e-17	PASS	differential_seed_125	fallback_count	0	PASS
operator_E1e13_nu0.490_h1x1x5	entries_finite	1	PASS	differential_seed_125	metal_execution_evidence_present	1	PASS
operator_E1e13_nu0.490_h1x1x5	symmetry_relative	8.43e-18	PASS	differential_seed_125	operator_backend_is_packaged_host_process	1	PASS
operator_E1e13_nu0.490_h1x1x5	rigid_mode_force_ratio	2.59e-17	PASS	differential_seed_125	persistent_metal_vector_buffers	1	PASS
operator_E1e13_nu0.490_h1x1x5	null_space_dimension	6	PASS	differential_seed_125	packaged_metallib_used	1	PASS
operator_E1e13_nu0.490_h1x1x5	rank	18	PASS	differential_seed_125	no_runtime_source_compilation	1	PASS
operator_E1e13_nu0.490_h1x1x5	minimum_eigenvalue_ratio	-4.14e-17	PASS	differential_seed_125	metal_fallback_count	0	PASS
operator_E1e13_nu0.490_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_125	converged	1	PASS
operator_E1e13_nu0.490_h1x1x5	independent_condensation_relative_gap	2.62e-17	PASS	differential_seed_125	solver_relative_residual	8.69e-11	PASS
operator_E1e13_nu0.490_h1x1x5	axis_permutation_relative_gap	9.81e-17	PASS	differential_seed_125	independent_double_relative_residual	8.69e-11	PASS
operator_E1e13_nu0.490_h1x1x5	axis_reflection_relative_gap	9.74e-17	PASS	differential_seed_125	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.490_h1x1x5	modulus_scaling_relative_gap	3.37e-17	PASS	differential_seed_125	force_equilibrium_relative_error	7.12e-12	PASS
operator_E1e13_nu0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_125	moment_equilibrium_relative_error	1.23e-11	PASS
operator_E1e13_nu0.01x0.01x0.01	symmetry_relative	1.14e-17	PASS	differential_seed_125	energy_identity_relative_error	1.48e-14	PASS
operator_E1e13_nu0.01x0.01x0.01	rigid_mode_force_ratio	5.11e-17	PASS	differential_seed_125	displacement_all_finite	1	PASS
operator_E1e13_nu0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_125	stress_all_finite	1	PASS
operator_E1e13_nu0.01x0.01x0.01	rank	18	PASS	differential_seed_125	fallback_count	0	PASS
operator_E1e13_nu0.01x0.01x0.01	minimum_eigenvalue_ratio	-1.26e-17	PASS	differential_seed_125	reference_route_is_cpu_double	1	PASS
operator_E1e13_nu0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_125	reference_route_no_fallback	1	PASS
operator_E1e13_nu0.01x0.01x0.01	independent_condensation_relative_gap	7.23e-17	PASS	differential_seed_125	parity_displacement_relative_l2	5.41e-07	PASS
operator_E1e13_nu0.01x0.01x0.01	axis_permutation_relative_gap	1.19e-16	PASS	differential_seed_125	parity_displacement_relative_linf	7.71e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_n... 0_h0.01x0.01x0.01	axis_reflection_relative_ga p	1.51e-16	PASS	differential_seed_125	parity_reaction_relative_l2	3.04e-07	PASS
operator_E1e13_n... 0_h0.01x0.01x0.01	modulus_scaling_relative_ gap	2.27e-17	PASS	differential_seed_125	parity_reaction_relative_lin f	2.02e-07	PASS
operator_E1e13_nu0.490_ h10x1x0.1	entries_finite	1	PASS	differential_seed_125	parity_stress_relative_l2	1.61e-06	PASS
operator_E1e13_nu0.490_ h10x1x0.1	symmetry_relative	1.63e-18	PASS	differential_seed_125	parity_stress_relative_linf	1.36e-06	PASS
operator_E1e13_nu0.490_ h10x1x0.1	rigid_mode_force_ratio	3.61e-17	PASS	differential_seed_125	parity_strain_energy_relati ve_error	3.11e-07	PASS
operator_E1e13_nu0.490_ h10x1x0.1	null_space_dimension	6	PASS	differential_seed_125	zero_fallback_on_both_ba ckends	0	PASS
operator_E1e13_nu0.490_ h10x1x0.1	rank	18	PASS	differential_seed_126	converged	1	PASS
operator_E1e13_nu0.490_ h10x1x0.1	minimum_eigenvalue_ratio	-4.28e-18	PASS	differential_seed_126	solver_relative_residual	1.78e-05	PASS
operator_E1e13_nu0.490_ h10x1x0.1	random_energy_ratio_mini mum	0	PASS	differential_seed_126	independent_double_relati ve_residual	1.78e-05	PASS
operator_E1e13_nu0.490_ h10x1x0.1	independent_condensation _relative_g...	9.21e-18	PASS	differential_seed_126	rigid_body_constraint_ran k	6	PASS
operator_E1e13_nu0.490_ h10x1x0.1	axis_permutation_relative_ gap	8.31e-17	PASS	differential_seed_126	force_equilibrium_relative_ error	7.49e-07	PASS
operator_E1e13_nu0.490_ h10x1x0.1	axis_reflection_relative_ga p	9.44e-17	PASS	differential_seed_126	moment_equilibrium_relati ve_error	2.38e-06	PASS
operator_E1e13_nu0.490_ h10x1x0.1	modulus_scaling_relative_ gap	7.82e-17	PASS	differential_seed_126	energy_identity_relative_er ror	1.02e-07	PASS
operator_E1e13_n... 0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_126	displacement_all_finite	1	PASS
operator_E1e13_n... 0.011x0.009x0.013	symmetry_relative	9.95e-18	PASS	differential_seed_126	stress_all_finite	1	PASS
operator_E1e13_n... 0.011x0.009x0.013	rigid_mode_force_ratio	3.48e-17	PASS	differential_seed_126	fallback_count	0	PASS
operator_E1e13_n... 0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_126	metal_execution_evidence _present	1	PASS
operator_E1e13_n... 0.011x0.009x0.013	rank	18	PASS	differential_seed_126	operator_backend_is_pack aged_host_p...	1	PASS
operator_E1e13_n... 0.011x0.009x0.013	minimum_eigenvalue_ratio	-1.43e-17	PASS	differential_seed_126	persistent_metal_vector_b uffers	1	PASS
operator_E1e13_n... 0.011x0.009x0.013	random_energy_ratio_mini mum	0	PASS	differential_seed_126	packaged_metallib_used	1	PASS
operator_E1e13_n... 0.011x0.009x0.013	independent_condensation _relative_g...	8.30e-17	PASS	differential_seed_126	no_runtime_source_compil ation	1	PASS
operator_E1e13_n... 0.011x0.009x0.013	axis_permutation_relative_ gap	1.23e-16	PASS	differential_seed_126	metal_fallback_count	0	PASS
operator_E1e13_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.66e-16	PASS	differential_seed_126	converged	1	PASS
operator_E1e13_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	3.98e-17	PASS	differential_seed_126	solver_relative_residual	6.41e-11	PASS
operator_E1e13_nu0.499_ h1x1x1	entries_finite	1	PASS	differential_seed_126	independent_double_relati ve_residual	6.41e-11	PASS
operator_E1e13_nu0.499_ h1x1x1	symmetry_relative	5.82e-18	PASS	differential_seed_126	rigid_body_constraint_ran k	6	PASS
operator_E1e13_nu0.499_ h1x1x1	rigid_mode_force_ratio	2.91e-17	PASS	differential_seed_126	force_equilibrium_relative_ error	1.34e-11	PASS
operator_E1e13_nu0.499_ h1x1x1	null_space_dimension	6	PASS	differential_seed_126	moment_equilibrium_relati ve_error	2.01e-11	PASS
operator_E1e13_nu0.499_ h1x1x1	rank	18	PASS	differential_seed_126	energy_identity_relative_er ror	1.01e-15	PASS
operator_E1e13_nu0.499_ h1x1x1	minimum_eigenvalue_ratio	-3.97e-17	PASS	differential_seed_126	displacement_all_finite	1	PASS
operator_E1e13_nu0.499_ h1x1x1	random_energy_ratio_mini mum	0	PASS	differential_seed_126	stress_all_finite	1	PASS
operator_E1e13_nu0.499_ h1x1x1	independent_condensation _relative_g...	5.37e-17	PASS	differential_seed_126	fallback_count	0	PASS
operator_E1e13_nu0.499_ h1x1x1	axis_permutation_relative_ gap	1.05e-16	PASS	differential_seed_126	reference_route_is_cpu_d ouble	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_nu0.499_h1x1x1	axis_reflection_relative_gap	1.23e-16	PASS	differential_seed_126	reference_route_no_fallback	1	PASS
operator_E1e13_nu0.499_h1x1x1	modulus_scaling_relative_gap	3.49e-17	PASS	differential_seed_126	parity_displacement_relative_I2	9.35e-06	PASS
operator_E1e13_nu0.499_h2x1x1	entries_finite	1	PASS	differential_seed_126	parity_displacement_relative_linf	2.38e-06	PASS
operator_E1e13_nu0.499_h2x1x1	symmetry_relative	7.73e-18	PASS	differential_seed_126	parity_reaction_relative_I2	3.54e-06	PASS
operator_E1e13_nu0.499_h2x1x1	rigid_mode_force_ratio	5.30e-17	PASS	differential_seed_126	parity_reaction_relative_linf	1.36e-06	PASS
operator_E1e13_nu0.499_h2x1x1	null_space_dimension	6	PASS	differential_seed_126	parity_stress_relative_I2	1.16e-05	PASS
operator_E1e13_nu0.499_h2x1x1	rank	18	PASS	differential_seed_126	parity_stress_relative_linf	1.66e-06	PASS
operator_E1e13_nu0.499_h2x1x1	minimum_eigenvalue_ratio	-9.68e-17	PASS	differential_seed_126	parity_strain_energy_relative_error	2.04e-07	PASS
operator_E1e13_nu0.499_h2x1x1	random_energy_ratio_minimum	0	PASS	differential_seed_126	zero_fallback_on_both_backends	0	PASS
operator_E1e13_nu0.499_h2x1x1	independent_condensation_relative_gap	5.24e-17	PASS	differential_seed_127	converged	1	PASS
operator_E1e13_nu0.499_h2x1x1	axis_permutation_relative_gap	9.40e-17	PASS	differential_seed_127	solver_relative_residual	4.55e-07	PASS
operator_E1e13_nu0.499_h2x1x1	axis_reflection_relative_gap	1.54e-16	PASS	differential_seed_127	independent_double_relative_residual	4.55e-07	PASS
operator_E1e13_nu0.499_h2x1x1	modulus_scaling_relative_gap	3.09e-17	PASS	differential_seed_127	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.499_h1x3x1	entries_finite	1	PASS	differential_seed_127	force_equilibrium_relative_error	5.54e-08	PASS
operator_E1e13_nu0.499_h1x3x1	symmetry_relative	1.10e-17	PASS	differential_seed_127	moment_equilibrium_relative_error	5.45e-08	PASS
operator_E1e13_nu0.499_h1x3x1	rigid_mode_force_ratio	4.55e-17	PASS	differential_seed_127	energy_identity_relative_error	7.12e-08	PASS
operator_E1e13_nu0.499_h1x3x1	null_space_dimension	6	PASS	differential_seed_127	displacement_all_finite	1	PASS
operator_E1e13_nu0.499_h1x3x1	rank	18	PASS	differential_seed_127	stress_all_finite	1	PASS
operator_E1e13_nu0.499_h1x3x1	minimum_eigenvalue_ratio	-4.50e-17	PASS	differential_seed_127	fallback_count	0	PASS
operator_E1e13_nu0.499_h1x3x1	random_energy_ratio_minimum	0	PASS	differential_seed_127	metal_execution_evidence_present	1	PASS
operator_E1e13_nu0.499_h1x3x1	independent_condensation_relative_gap	6.44e-17	PASS	differential_seed_127	operator_backend_is_packaged_host_process	1	PASS
operator_E1e13_nu0.499_h1x3x1	axis_permutation_relative_gap	8.50e-17	PASS	differential_seed_127	persistent_metal_vector_buffers	1	PASS
operator_E1e13_nu0.499_h1x3x1	axis_reflection_relative_gap	1.11e-16	PASS	differential_seed_127	packaged_metallib_used	1	PASS
operator_E1e13_nu0.499_h1x3x1	modulus_scaling_relative_gap	2.19e-17	PASS	differential_seed_127	no_runtime_source_compilation	1	PASS
operator_E1e13_nu0.499_h1x1x5	entries_finite	1	PASS	differential_seed_127	metal_fallback_count	0	PASS
operator_E1e13_nu0.499_h1x1x5	symmetry_relative	1.36e-17	PASS	differential_seed_127	converged	1	PASS
operator_E1e13_nu0.499_h1x1x5	rigid_mode_force_ratio	3.47e-17	PASS	differential_seed_127	solver_relative_residual	6.01e-11	PASS
operator_E1e13_nu0.499_h1x1x5	null_space_dimension	6	PASS	differential_seed_127	independent_double_relative_residual	6.01e-11	PASS
operator_E1e13_nu0.499_h1x1x5	rank	18	PASS	differential_seed_127	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.499_h1x1x5	minimum_eigenvalue_ratio	-5.95e-17	PASS	differential_seed_127	force_equilibrium_relative_error	1.38e-11	PASS
operator_E1e13_nu0.499_h1x1x5	random_energy_ratio_minimum	0	PASS	differential_seed_127	moment_equilibrium_relative_error	1.01e-11	PASS
operator_E1e13_nu0.499_h1x1x5	independent_condensation_relative_gap	5.89e-17	PASS	differential_seed_127	energy_identity_relative_error	1.98e-14	PASS
operator_E1e13_nu0.499_h1x1x5	axis_permutation_relative_gap	1.15e-16	PASS	differential_seed_127	displacement_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_nu0.499_h1x1x5	axis_reflection_relative_gap	1.23e-16	PASS	differential_seed_127	stress_all_finite	1	PASS
operator_E1e13_nu0.499_h1x1x5	modulus_scaling_relative_gap	3.40e-17	PASS	differential_seed_127	fallback_count	0	PASS
operator_E1e13_nu0.499_h0.01x0.01x0.01	entries_finite	1	PASS	differential_seed_127	reference_route_is_cpu_double	1	PASS
operator_E1e13_nu0.499_h0.01x0.01x0.01	symmetry_relative	9.10e-18	PASS	differential_seed_127	reference_route_no_fallback	1	PASS
operator_E1e13_nu0.499_h0.01x0.01x0.01	rigid_mode_force_ratio	3.82e-17	PASS	differential_seed_127	parity_displacement_relative_l2	1.36e-07	PASS
operator_E1e13_nu0.499_h0.01x0.01x0.01	null_space_dimension	6	PASS	differential_seed_127	parity_displacement_relative_linf	1.56e-07	PASS
operator_E1e13_nu0.499_h0.01x0.01x0.01	rank	18	PASS	differential_seed_127	parity_reaction_relative_l2	5.41e-08	PASS
operator_E1e13_nu0.499_h0.01x0.01x0.01	minimum_eigenvalue_ratio	-2.86e-17	PASS	differential_seed_127	parity_reaction_relative_linf	5.75e-08	PASS
operator_E1e13_nu0.499_h0.01x0.01x0.01	random_energy_ratio_minimum	0	PASS	differential_seed_127	parity_stress_relative_l2	2.49e-07	PASS
operator_E1e13_nu0.499_h0.01x0.01x0.01	independent_condensation_relative_gap	4.90e-17	PASS	differential_seed_127	parity_stress_relative_linf	3.23e-07	PASS
operator_E1e13_nu0.499_h0.01x0.01x0.01	axis_permutation_relative_gap	9.61e-17	PASS	differential_seed_127	parity_strain_energy_relative_error	1.42e-07	PASS
operator_E1e13_nu0.499_h0.01x0.01x0.01	axis_reflection_relative_gap	1.17e-16	PASS	differential_seed_127	zero_fallback_on_both_backends	0	PASS
operator_E1e13_nu0.499_h0.01x0.01x0.01	modulus_scaling_relative_gap	3.64e-17	PASS	differential_seed_128	converged	1	PASS
operator_E1e13_nu0.499_h10x1x0.1	entries_finite	1	PASS	differential_seed_128	solver_relative_residual	1.65e-05	PASS
operator_E1e13_nu0.499_h10x1x0.1	symmetry_relative	2.13e-17	PASS	differential_seed_128	independent_double_relative_residual	1.65e-05	PASS
operator_E1e13_nu0.499_h10x1x0.1	rigid_mode_force_ratio	3.83e-17	PASS	differential_seed_128	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.499_h10x1x0.1	null_space_dimension	6	PASS	differential_seed_128	force_equilibrium_relative_error	2.16e-06	PASS
operator_E1e13_nu0.499_h10x1x0.1	rank	18	PASS	differential_seed_128	moment_equilibrium_relative_error	2.16e-06	PASS
operator_E1e13_nu0.499_h10x1x0.1	minimum_eigenvalue_ratio	-2.11e-16	PASS	differential_seed_128	energy_identity_relative_error	2.69e-08	PASS
operator_E1e13_nu0.499_h10x1x0.1	random_energy_ratio_minimum	0	PASS	differential_seed_128	displacement_all_finite	1	PASS
operator_E1e13_nu0.499_h10x1x0.1	independent_condensation_relative_gap	5.31e-17	PASS	differential_seed_128	stress_all_finite	1	PASS
operator_E1e13_nu0.499_h10x1x0.1	axis_permutation_relative_gap	9.27e-17	PASS	differential_seed_128	fallback_count	0	PASS
operator_E1e13_nu0.499_h10x1x0.1	axis_reflection_relative_gap	9.80e-17	PASS	differential_seed_128	metal_execution_evidence_present	1	PASS
operator_E1e13_nu0.499_h10x1x0.1	modulus_scaling_relative_gap	8.54e-17	PASS	differential_seed_128	operator_backend_is_packaged_host_process	1	PASS
operator_E1e13_nu0.011x0.009x0.013	entries_finite	1	PASS	differential_seed_128	persistent_metal_vector_buffers	1	PASS
operator_E1e13_nu0.011x0.009x0.013	symmetry_relative	1.60e-17	PASS	differential_seed_128	packaged_metallib_used	1	PASS
operator_E1e13_nu0.011x0.009x0.013	rigid_mode_force_ratio	3.01e-17	PASS	differential_seed_128	no_runtime_source_compilation	1	PASS
operator_E1e13_nu0.011x0.009x0.013	null_space_dimension	6	PASS	differential_seed_128	metal_fallback_count	0	PASS
operator_E1e13_nu0.011x0.009x0.013	rank	18	PASS	differential_seed_128	converged	1	PASS
operator_E1e13_nu0.011x0.009x0.013	minimum_eigenvalue_ratio	-5.44e-17	PASS	differential_seed_128	solver_relative_residual	8.68e-11	PASS
operator_E1e13_nu0.011x0.009x0.013	random_energy_ratio_minimum	0	PASS	differential_seed_128	independent_double_relative_residual	8.68e-11	PASS
operator_E1e13_nu0.011x0.009x0.013	independent_condensation_relative_gap	1.09e-16	PASS	differential_seed_128	rigid_body_constraint_rank	6	PASS
operator_E1e13_nu0.011x0.009x0.013	axis_permutation_relative_gap	1.09e-16	PASS	differential_seed_128	force_equilibrium_relative_error	5.68e-12	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
operator_E1e13_n... 0.011x0.009x0.013	axis_reflection_relative_ga p	1.43e-16	PASS	differential_seed_128	moment_equilibrium_relati ve_error	1.46e-11	PASS
operator_E1e13_n... 0.011x0.009x0.013	modulus_scaling_relative_ gap	6.38e-17	PASS	differential_seed_128	energy_identity_relative_er ror	1.48e-14	PASS
differential_seed_001	converged	1	PASS	differential_seed_128	displacement_all_finite	1	PASS
differential_seed_001	solver_relative_residual	5.97e-07	PASS	differential_seed_128	stress_all_finite	1	PASS
differential_seed_001	independent_double_relati ve_residual	5.97e-07	PASS	differential_seed_128	fallback_count	0	PASS
differential_seed_001	rigid_body_constraint_ran k	6	PASS	differential_seed_128	reference_route_is_cpu_d ouble	1	PASS
differential_seed_001	force_equilibrium_relative_ error	5.34e-08	PASS	differential_seed_128	reference_route_no_fallba ck	1	PASS
differential_seed_001	moment_equilibrium_relati ve_error	9.15e-08	PASS	differential_seed_128	parity_displacement_relati ve_l2	9.03e-06	PASS
differential_seed_001	energy_identity_relative_er ror	2.85e-08	PASS	differential_seed_128	parity_displacement_relati ve_linf	4.60e-06	PASS
differential_seed_001	displacement_all_finite	1	PASS	differential_seed_128	parity_reaction_relative_l2	6.24e-06	PASS
differential_seed_001	stress_all_finite	1	PASS	differential_seed_128	parity_reaction_relative_lin f	4.82e-06	PASS
differential_seed_001	fallback_count	0	PASS	differential_seed_128	parity_stress_relative_l2	1.31e-05	PASS
differential_seed_001	metal_execution_evidence_ _present	1	PASS	differential_seed_128	parity_stress_relative_linf	5.90e-06	PASS
differential_seed_001	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_128	parity_strain_energy_relati ve_error	5.36e-08	PASS
differential_seed_001	persistent_metal_vector_b uffers	1	PASS	differential_seed_128	zero_fallback_on_both_ba ckends	0	PASS
differential_seed_001	packaged_metallib_used	1	PASS	differential_properties_se ed_128	metal_all_property_solves_ _converged	1	PASS
differential_seed_001	no_runtime_source_compil ation	1	PASS	differential_properties_se ed_128	metal_displacement_super position	7.14e-06	PASS
differential_seed_001	metal_fallback_count	0	PASS	differential_properties_se ed_128	metal_stress_superpositio n	1.21e-05	PASS
differential_seed_001	converged	1	PASS	differential_properties_se ed_128	metal_sign_reversal	0	PASS
differential_seed_001	solver_relative_residual	7.28e-11	PASS	differential_properties_se ed_128	metal_load_scaling_by_tw o	0	PASS
differential_seed_001	independent_double_relati ve_residual	7.28e-11	PASS	differential_properties_se ed_128	metal_modulus_scaling_by_ _two	0	PASS
differential_seed_001	rigid_body_constraint_ran k	6	PASS	differential_properties_se ed_128	metal_maxwell_betti_recip rocity	8.68e-05	PASS
differential_seed_001	force_equilibrium_relative_ error	5.72e-12	PASS	differential_properties_se ed_128	metal_axis_permutation	3.20e-08	PASS
differential_seed_001	moment_equilibrium_relati ve_error	1.20e-11	PASS	differential_properties_se ed_128	metal_axis_reflection	2.92e-08	PASS
differential_seed_001	energy_identity_relative_er ror	4.33e-14	PASS	differential_properties_se ed_128	cpu_all_property_solves_c onverged	1	PASS
differential_seed_001	displacement_all_finite	1	PASS	differential_properties_se ed_128	cpu_displacement_superp osition	4.11e-11	PASS
differential_seed_001	stress_all_finite	1	PASS	differential_properties_se ed_128	cpu_stress_superposition	7.77e-11	PASS
differential_seed_001	fallback_count	0	PASS	differential_properties_se ed_128	cpu_sign_reversal	0	PASS
differential_seed_001	reference_route_is_cpu_d ouble	1	PASS	differential_properties_se ed_128	cpu_load_scaling_by_two	0	PASS
differential_seed_001	reference_route_no_fallba ck	1	PASS	differential_properties_se ed_128	cpu_modulus_scaling_by_t wo	7.87e-12	PASS
differential_seed_001	parity_displacement_relati ve_l2	2.04e-07	PASS	differential_properties_se ed_128	cpu_maxwell_betti_recipro city	5.44e-10	PASS
differential_seed_001	parity_displacement_relati ve_linf	4.37e-07	PASS	differential_properties_se ed_128	cpu_axis_permutation	1.13e-12	PASS
differential_seed_001	parity_reaction_relative_l2	1.11e-07	PASS	differential_properties_se ed_128	cpu_axis_reflection	8.52e-12	PASS
differential_seed_001	parity_reaction_relative_lin f	1.85e-07	PASS	differential_seed_129	converged	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_001	parity_stress_relative_l2	4.37e-07	PASS	differential_seed_129	solver_relative_residual	1.21e-07	PASS
differential_seed_001	parity_stress_relative_linf	7.40e-07	PASS	differential_seed_129	independent_double_relative_residual	1.21e-07	PASS
differential_seed_001	parity_strain_energy_relative_error	5.69e-08	PASS	differential_seed_129	rigid_body_constraint_rank	6	PASS
differential_seed_001	zero_fallback_on_both_backends	0	PASS	differential_seed_129	force_equilibrium_relative_error	1.22e-08	PASS
differential_seed_002	converged	1	PASS	differential_seed_129	moment_equilibrium_relative_error	9.28e-09	PASS
differential_seed_002	solver_relative_residual	1.62e-05	PASS	differential_seed_129	energy_identity_relative_error	4.80e-08	PASS
differential_seed_002	independent_double_relative_residual	1.62e-05	PASS	differential_seed_129	displacement_all_finite	1	PASS
differential_seed_002	rigid_body_constraint_rank	6	PASS	differential_seed_129	stress_all_finite	1	PASS
differential_seed_002	force_equilibrium_relative_error	6.00e-07	PASS	differential_seed_129	fallback_count	0	PASS
differential_seed_002	moment_equilibrium_relative_error	8.66e-07	PASS	differential_seed_129	metal_execution_evidence_present	1	PASS
differential_seed_002	energy_identity_relative_error	9.60e-08	PASS	differential_seed_129	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_002	displacement_all_finite	1	PASS	differential_seed_129	persistent_metal_vector_buffers	1	PASS
differential_seed_002	stress_all_finite	1	PASS	differential_seed_129	packaged_metallib_used	1	PASS
differential_seed_002	fallback_count	0	PASS	differential_seed_129	no_runtime_source_compilation	1	PASS
differential_seed_002	metal_execution_evidence_present	1	PASS	differential_seed_129	metal_fallback_count	0	PASS
differential_seed_002	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_129	converged	1	PASS
differential_seed_002	persistent_metal_vector_buffers	1	PASS	differential_seed_129	solver_relative_residual	6.12e-11	PASS
differential_seed_002	packaged_metallib_used	1	PASS	differential_seed_129	independent_double_relative_residual	6.12e-11	PASS
differential_seed_002	no_runtime_source_compilation	1	PASS	differential_seed_129	rigid_body_constraint_rank	6	PASS
differential_seed_002	metal_fallback_count	0	PASS	differential_seed_129	force_equilibrium_relative_error	2.15e-12	PASS
differential_seed_002	converged	1	PASS	differential_seed_129	moment_equilibrium_relative_error	2.98e-12	PASS
differential_seed_002	solver_relative_residual	9.83e-11	PASS	differential_seed_129	energy_identity_relative_error	4.06e-13	PASS
differential_seed_002	independent_double_relative_residual	9.83e-11	PASS	differential_seed_129	displacement_all_finite	1	PASS
differential_seed_002	rigid_body_constraint_rank	6	PASS	differential_seed_129	stress_all_finite	1	PASS
differential_seed_002	force_equilibrium_relative_error	6.72e-12	PASS	differential_seed_129	fallback_count	0	PASS
differential_seed_002	moment_equilibrium_relative_error	1.08e-11	PASS	differential_seed_129	reference_route_is_cpu_double	1	PASS
differential_seed_002	energy_identity_relative_error	2.76e-15	PASS	differential_seed_129	reference_route_no_fallback	1	PASS
differential_seed_002	displacement_all_finite	1	PASS	differential_seed_129	parity_displacement_relative_l2	9.28e-08	PASS
differential_seed_002	stress_all_finite	1	PASS	differential_seed_129	parity_displacement_relative_linf	1.02e-07	PASS
differential_seed_002	fallback_count	0	PASS	differential_seed_129	parity_reaction_relative_l2	3.22e-08	PASS
differential_seed_002	reference_route_is_cpu_double	1	PASS	differential_seed_129	parity_reaction_relative_linf	4.64e-08	PASS
differential_seed_002	reference_route_no_fallback	1	PASS	differential_seed_129	parity_stress_relative_l2	1.06e-07	PASS
differential_seed_002	parity_displacement_relative_l2	1.47e-06	PASS	differential_seed_129	parity_stress_relative_linf	1.68e-07	PASS
differential_seed_002	parity_displacement_relative_linf	1.62e-06	PASS	differential_seed_129	parity_strain_energy_relative_error	9.60e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_002	parity_reaction_relative_l2	3.58e-06	PASS	differential_seed_129	zero_fallback_on_both_ba ckends	0	PASS
differential_seed_002	parity_reaction_relative_lin f	5.18e-06	PASS	differential_seed_130	converged	1	PASS
differential_seed_002	parity_stress_relative_l2	5.88e-06	PASS	differential_seed_130	solver_relative_residual	1.87e-05	PASS
differential_seed_002	parity_stress_relative_linf	3.11e-06	PASS	differential_seed_130	independent_double_relati ve_residual	1.87e-05	PASS
differential_seed_002	parity_strain_energy_relati ve_error	1.92e-07	PASS	differential_seed_130	rigid_body_constraint_ran k	6	PASS
differential_seed_002	zero_fallback_on_both_ba ckends	0	PASS	differential_seed_130	force_equilibrium_relative_ error	6.42e-07	PASS
differential_seed_003	converged	1	PASS	differential_seed_130	moment_equilibrium_relati ve_error	1.98e-06	PASS
differential_seed_003	solver_relative_residual	1.02e-05	PASS	differential_seed_130	energy_identity_relative_er ror	6.86e-09	PASS
differential_seed_003	independent_double_relati ve_residual	1.02e-05	PASS	differential_seed_130	displacement_all_finite	1	PASS
differential_seed_003	rigid_body_constraint_ran k	6	PASS	differential_seed_130	stress_all_finite	1	PASS
differential_seed_003	force_equilibrium_relative_ error	3.81e-08	PASS	differential_seed_130	fallback_count	0	PASS
differential_seed_003	moment_equilibrium_relati ve_error	8.68e-09	PASS	differential_seed_130	metal_execution_evidence_ _present	1	PASS
differential_seed_003	energy_identity_relative_er ror	8.87e-08	PASS	differential_seed_130	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_003	displacement_all_finite	1	PASS	differential_seed_130	persistent_metal_vector_b uffers	1	PASS
differential_seed_003	stress_all_finite	1	PASS	differential_seed_130	packaged_metallib_used	1	PASS
differential_seed_003	fallback_count	0	PASS	differential_seed_130	no_runtime_source_compil ation	1	PASS
differential_seed_003	metal_execution_evidence_ _present	1	PASS	differential_seed_130	metal_fallback_count	0	PASS
differential_seed_003	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_130	converged	1	PASS
differential_seed_003	persistent_metal_vector_b uffers	1	PASS	differential_seed_130	solver_relative_residual	9.04e-11	PASS
differential_seed_003	packaged_metallib_used	1	PASS	differential_seed_130	independent_double_relati ve_residual	9.04e-11	PASS
differential_seed_003	no_runtime_source_compil ation	1	PASS	differential_seed_130	rigid_body_constraint_ran k	6	PASS
differential_seed_003	metal_fallback_count	0	PASS	differential_seed_130	force_equilibrium_relative_ error	1.68e-11	PASS
differential_seed_003	converged	1	PASS	differential_seed_130	moment_equilibrium_relati ve_error	1.05e-11	PASS
differential_seed_003	solver_relative_residual	7.30e-11	PASS	differential_seed_130	energy_identity_relative_er ror	7.30e-14	PASS
differential_seed_003	independent_double_relati ve_residual	7.30e-11	PASS	differential_seed_130	displacement_all_finite	1	PASS
differential_seed_003	rigid_body_constraint_ran k	6	PASS	differential_seed_130	stress_all_finite	1	PASS
differential_seed_003	force_equilibrium_relative_ error	1.17e-12	PASS	differential_seed_130	fallback_count	0	PASS
differential_seed_003	moment_equilibrium_relati ve_error	2.01e-12	PASS	differential_seed_130	reference_route_is_cpu_d ouble	1	PASS
differential_seed_003	energy_identity_relative_er ror	1.38e-15	PASS	differential_seed_130	reference_route_no_fallba ck	1	PASS
differential_seed_003	displacement_all_finite	1	PASS	differential_seed_130	parity_displacement_relati ve_l2	1.74e-06	PASS
differential_seed_003	stress_all_finite	1	PASS	differential_seed_130	parity_displacement_relati ve_linf	1.90e-06	PASS
differential_seed_003	fallback_count	0	PASS	differential_seed_130	parity_reaction_relative_l2	1.26e-05	PASS
differential_seed_003	reference_route_is_cpu_d ouble	1	PASS	differential_seed_130	parity_reaction_relative_lin f	1.29e-05	PASS
differential_seed_003	reference_route_no_fallba ck	1	PASS	differential_seed_130	parity_stress_relative_l2	1.43e-05	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_003	parity_displacement_relative_l2	1.84e-07	PASS	differential_seed_130	parity_stress_relative_linf	7.24e-06	PASS
differential_seed_003	parity_displacement_relative_linf	3.30e-07	PASS	differential_seed_130	parity_strain_energy_relative_error	1.37e-08	PASS
differential_seed_003	parity_reaction_relative_l2	3.22e-07	PASS	differential_seed_130	zero_fallback_on_both_backends	0	PASS
differential_seed_003	parity_reaction_relative_linf	3.79e-07	PASS	differential_seed_131	converged	1	PASS
differential_seed_003	parity_stress_relative_l2	2.12e-06	PASS	differential_seed_131	solver_relative_residual	1.62e-05	PASS
differential_seed_003	parity_stress_relative_linf	1.51e-06	PASS	differential_seed_131	independent_double_relative_residual	1.62e-05	PASS
differential_seed_003	parity_strain_energy_relative_error	1.77e-07	PASS	differential_seed_131	rigid_body_constraint_rank	6	PASS
differential_seed_003	zero_fallback_on_both_backends	0	PASS	differential_seed_131	force_equilibrium_relative_error	1.01e-06	PASS
differential_seed_004	converged	1	PASS	differential_seed_131	moment_equilibrium_relative_error	1.87e-06	PASS
differential_seed_004	solver_relative_residual	1.90e-05	PASS	differential_seed_131	energy_identity_relative_error	5.25e-07	PASS
differential_seed_004	independent_double_relative_residual	1.90e-05	PASS	differential_seed_131	displacement_all_finite	1	PASS
differential_seed_004	rigid_body_constraint_rank	6	PASS	differential_seed_131	stress_all_finite	1	PASS
differential_seed_004	force_equilibrium_relative_error	1.50e-07	PASS	differential_seed_131	fallback_count	0	PASS
differential_seed_004	moment_equilibrium_relative_error	1.49e-07	PASS	differential_seed_131	metal_execution_evidence_present	1	PASS
differential_seed_004	energy_identity_relative_error	1.87e-07	PASS	differential_seed_131	operator_backend_is_packaged_host_process	1	PASS
differential_seed_004	displacement_all_finite	1	PASS	differential_seed_131	persistent_metal_vector_buffers	1	PASS
differential_seed_004	stress_all_finite	1	PASS	differential_seed_131	packaged_metallib_used	1	PASS
differential_seed_004	fallback_count	0	PASS	differential_seed_131	no_runtime_source_compilation	1	PASS
differential_seed_004	metal_execution_evidence_present	1	PASS	differential_seed_131	metal_fallback_count	0	PASS
differential_seed_004	operator_backend_is_packaged_host_process	1	PASS	differential_seed_131	converged	1	PASS
differential_seed_004	persistent_metal_vector_buffers	1	PASS	differential_seed_131	solver_relative_residual	9.05e-11	PASS
differential_seed_004	packaged_metallib_used	1	PASS	differential_seed_131	independent_double_relative_residual	9.05e-11	PASS
differential_seed_004	no_runtime_source_compilation	1	PASS	differential_seed_131	rigid_body_constraint_rank	6	PASS
differential_seed_004	metal_fallback_count	0	PASS	differential_seed_131	force_equilibrium_relative_error	1.10e-11	PASS
differential_seed_004	converged	1	PASS	differential_seed_131	moment_equilibrium_relative_error	1.93e-11	PASS
differential_seed_004	solver_relative_residual	9.01e-11	PASS	differential_seed_131	energy_identity_relative_error	4.72e-14	PASS
differential_seed_004	independent_double_relative_residual	9.01e-11	PASS	differential_seed_131	displacement_all_finite	1	PASS
differential_seed_004	rigid_body_constraint_rank	6	PASS	differential_seed_131	stress_all_finite	1	PASS
differential_seed_004	force_equilibrium_relative_error	1.27e-12	PASS	differential_seed_131	fallback_count	0	PASS
differential_seed_004	moment_equilibrium_relative_error	1.26e-12	PASS	differential_seed_131	reference_route_is_cpu_double	1	PASS
differential_seed_004	energy_identity_relative_error	6.54e-16	PASS	differential_seed_131	reference_route_no_fallback	1	PASS
differential_seed_004	displacement_all_finite	1	PASS	differential_seed_131	parity_displacement_relative_l2	1.83e-06	PASS
differential_seed_004	stress_all_finite	1	PASS	differential_seed_131	parity_displacement_relative_linf	2.67e-06	PASS
differential_seed_004	fallback_count	0	PASS	differential_seed_131	parity_reaction_relative_l2	3.09e-06	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_004	reference_route_is_cpu_double	1	PASS	differential_seed_131	parity_reaction_relative_inf	1.68e-06	PASS
differential_seed_004	reference_route_no_fallback	1	PASS	differential_seed_131	parity_stress_relative_I2	1.11e-05	PASS
differential_seed_004	parity_displacement_relative_I2	3.01e-07	PASS	differential_seed_131	parity_stress_relative_inf	3.21e-06	PASS
differential_seed_004	parity_displacement_relative_inf	3.91e-07	PASS	differential_seed_131	parity_strain_energy_relative_error	1.05e-06	PASS
differential_seed_004	parity_reaction_relative_I2	1.06e-06	PASS	differential_seed_131	zero_fallback_on_both_backends	0	PASS
differential_seed_004	parity_reaction_relative_inf	1.31e-06	PASS	differential_seed_132	converged	1	PASS
differential_seed_004	parity_stress_relative_I2	1.83e-06	PASS	differential_seed_132	solver_relative_residual	1.78e-07	PASS
differential_seed_004	parity_stress_relative_inf	1.24e-06	PASS	differential_seed_132	independent_double_relative_residual	1.78e-07	PASS
differential_seed_004	parity_strain_energy_relative_error	3.74e-07	PASS	differential_seed_132	rigid_body_constraint_rank	6	PASS
differential_seed_004	zero_fallback_on_both_backends	0	PASS	differential_seed_132	force_equilibrium_relative_error	3.58e-08	PASS
differential_properties_seed_004	metal_all_property_solves_converged	1	PASS	differential_seed_132	moment_equilibrium_relative_error	3.67e-08	PASS
differential_properties_seed_004	metal_displacement_superposition	2.39e-07	PASS	differential_seed_132	energy_identity_relative_error	2.06e-08	PASS
differential_properties_seed_004	metal_stress_superposition	1.60e-06	PASS	differential_seed_132	displacement_all_finite	1	PASS
differential_properties_seed_004	metal_sign_reversal	0	PASS	differential_seed_132	stress_all_finite	1	PASS
differential_properties_seed_004	metal_load_scaling_by_two	0	PASS	differential_seed_132	fallback_count	0	PASS
differential_properties_seed_004	metal_modulus_scaling_by_two	2.32e-12	PASS	differential_seed_132	metal_execution_evidence_present	1	PASS
differential_properties_seed_004	metal_maxwell_betti_reciprocity	7.24e-07	PASS	differential_seed_132	operator_backend_is_packaged_host_packages	1	PASS
differential_properties_seed_004	metal_axis_permutation	2.82e-07	PASS	differential_seed_132	persistent_metal_vector_buffers	1	PASS
differential_properties_seed_004	metal_axis_reflection	1.57e-07	PASS	differential_seed_132	packaged_metallib_used	1	PASS
differential_properties_seed_004	cpu_all_property_solves_converged	1	PASS	differential_seed_132	no_runtime_source_compilation	1	PASS
differential_properties_seed_004	cpu_displacement_superposition	7.42e-13	PASS	differential_seed_132	metal_fallback_count	0	PASS
differential_properties_seed_004	cpu_stress_superposition	9.93e-12	PASS	differential_seed_132	converged	1	PASS
differential_properties_seed_004	cpu_sign_reversal	0	PASS	differential_seed_132	solver_relative_residual	7.03e-11	PASS
differential_properties_seed_004	cpu_load_scaling_by_two	0	PASS	differential_seed_132	independent_double_relative_residual	7.03e-11	PASS
differential_properties_seed_004	cpu_modulus_scaling_by_two	3.47e-13	PASS	differential_seed_132	rigid_body_constraint_rank	6	PASS
differential_properties_seed_004	cpu_maxwell_betti_reciprocity	2.14e-13	PASS	differential_seed_132	force_equilibrium_relative_error	1.22e-10	PASS
differential_properties_seed_004	cpu_axis_permutation	1.09e-13	PASS	differential_seed_132	moment_equilibrium_relative_error	1.27e-10	PASS
differential_properties_seed_004	cpu_axis_reflection	3.54e-13	PASS	differential_seed_132	energy_identity_relative_error	2.38e-16	PASS
differential_seed_005	converged	1	PASS	differential_seed_132	displacement_all_finite	1	PASS
differential_seed_005	solver_relative_residual	3.35e-08	PASS	differential_seed_132	stress_all_finite	1	PASS
differential_seed_005	independent_double_relative_residual	3.35e-08	PASS	differential_seed_132	fallback_count	0	PASS
differential_seed_005	rigid_body_constraint_rank	6	PASS	differential_seed_132	reference_route_is_cpu_double	1	PASS
differential_seed_005	force_equilibrium_relative_error	4.85e-09	PASS	differential_seed_132	reference_route_no_fallback	1	PASS
differential_seed_005	moment_equilibrium_relative_error	4.07e-09	PASS	differential_seed_132	parity_displacement_relative_I2	5.85e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_005	energy_identity_relative_error	1.61e-08	PASS	differential_seed_132	parity_displacement_relative_linf	3.27e-08	PASS
differential_seed_005	displacement_all_finite	1	PASS	differential_seed_132	parity_reaction_relative_l2	3.22e-08	PASS
differential_seed_005	stress_all_finite	1	PASS	differential_seed_132	parity_reaction_relative_linf	2.04e-08	PASS
differential_seed_005	fallback_count	0	PASS	differential_seed_132	parity_stress_relative_l2	1.12e-07	PASS
differential_seed_005	metal_execution_evidence_present	1	PASS	differential_seed_132	parity_stress_relative_linf	1.05e-07	PASS
differential_seed_005	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_132	parity_strain_energy_relative_error	4.12e-08	PASS
differential_seed_005	persistent_metal_vector_buffers	1	PASS	differential_seed_132	zero_fallback_on_both_backends	0	PASS
differential_seed_005	packaged_metallib_used	1	PASS	differential_properties_seed_132	metal_all_property_solves_converged	1	PASS
differential_seed_005	no_runtime_source_compilation	1	PASS	differential_properties_seed_132	metal_displacement_superposition	1.10e-07	PASS
differential_seed_005	metal_fallback_count	0	PASS	differential_properties_seed_132	metal_stress_superposition	1.76e-07	PASS
differential_seed_005	converged	1	PASS	differential_properties_seed_132	metal_sign_reversal	0	PASS
differential_seed_005	solver_relative_residual	9.99e-11	PASS	differential_properties_seed_132	metal_load_scaling_by_two	0	PASS
differential_seed_005	independent_double_relative_residual	9.99e-11	PASS	differential_properties_seed_132	metal_modulus_scaling_by_two	0	PASS
differential_seed_005	rigid_body_constraint_rank	6	PASS	differential_properties_seed_132	metal_maxwell_betti_reciprocity	7.01e-08	PASS
differential_seed_005	force_equilibrium_relative_error	1.32e-12	PASS	differential_properties_seed_132	metal_axis_permutation	5.46e-08	PASS
differential_seed_005	moment_equilibrium_relative_error	1.19e-12	PASS	differential_properties_seed_132	metal_axis_reflection	0	PASS
differential_seed_005	energy_identity_relative_error	6.67e-15	PASS	differential_properties_seed_132	cpu_all_property_solves_converged	1	PASS
differential_seed_005	displacement_all_finite	1	PASS	differential_properties_seed_132	cpu_displacement_superposition	3.29e-11	PASS
differential_seed_005	stress_all_finite	1	PASS	differential_properties_seed_132	cpu_stress_superposition	5.41e-11	PASS
differential_seed_005	fallback_count	0	PASS	differential_properties_seed_132	cpu_sign_reversal	0	PASS
differential_seed_005	reference_route_is_cpu_double	1	PASS	differential_properties_seed_132	cpu_load_scaling_by_two	0	PASS
differential_seed_005	reference_route_no_fallback	1	PASS	differential_properties_seed_132	cpu_modulus_scaling_by_two	8.63e-15	PASS
differential_seed_005	parity_displacement_relative_l2	1.64e-08	PASS	differential_properties_seed_132	cpu_maxwell_betti_reciprocity	5.91e-11	PASS
differential_seed_005	parity_displacement_relative_linf	1.64e-08	PASS	differential_properties_seed_132	cpu_axis_permutation	8.15e-14	PASS
differential_seed_005	parity_reaction_relative_l2	1.54e-08	PASS	differential_properties_seed_132	cpu_axis_reflection	3.06e-14	PASS
differential_seed_005	parity_reaction_relative_linf	1.70e-08	PASS	differential_seed_133	converged	1	PASS
differential_seed_005	parity_stress_relative_l2	2.08e-08	PASS	differential_seed_133	solver_relative_residual	1.81e-05	PASS
differential_seed_005	parity_stress_relative_linf	1.65e-08	PASS	differential_seed_133	independent_double_relative_residual	1.81e-05	PASS
differential_seed_005	parity_strain_energy_relative_error	3.22e-08	PASS	differential_seed_133	rigid_body_constraint_rank	6	PASS
differential_seed_005	zero_fallback_on_both_backends	0	PASS	differential_seed_133	force_equilibrium_relative_error	5.18e-07	PASS
differential_seed_006	converged	1	PASS	differential_seed_133	moment_equilibrium_relative_error	9.45e-07	PASS
differential_seed_006	solver_relative_residual	1.56e-05	PASS	differential_seed_133	energy_identity_relative_error	4.32e-07	PASS
differential_seed_006	independent_double_relative_residual	1.56e-05	PASS	differential_seed_133	displacement_all_finite	1	PASS
differential_seed_006	rigid_body_constraint_rank	6	PASS	differential_seed_133	stress_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_006	force_equilibrium_relative_error	2.02e-06	PASS	differential_seed_133	fallback_count	0	PASS
differential_seed_006	moment_equilibrium_relative_error	2.54e-06	PASS	differential_seed_133	metal_execution_evidence_present	1	PASS
differential_seed_006	energy_identity_relative_error	6.27e-08	PASS	differential_seed_133	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_006	displacement_all_finite	1	PASS	differential_seed_133	persistent_metal_vector_buffers	1	PASS
differential_seed_006	stress_all_finite	1	PASS	differential_seed_133	packaged_metallib_used	1	PASS
differential_seed_006	fallback_count	0	PASS	differential_seed_133	no_runtime_source_compilation	1	PASS
differential_seed_006	metal_execution_evidence_present	1	PASS	differential_seed_133	metal_fallback_count	0	PASS
differential_seed_006	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_133	converged	1	PASS
differential_seed_006	persistent_metal_vector_buffers	1	PASS	differential_seed_133	solver_relative_residual	9.40e-11	PASS
differential_seed_006	packaged_metallib_used	1	PASS	differential_seed_133	independent_double_relative_residual	9.40e-11	PASS
differential_seed_006	no_runtime_source_compilation	1	PASS	differential_seed_133	rigid_body_constraint_rank	6	PASS
differential_seed_006	metal_fallback_count	0	PASS	differential_seed_133	force_equilibrium_relative_error	5.12e-12	PASS
differential_seed_006	converged	1	PASS	differential_seed_133	moment_equilibrium_relative_error	1.38e-11	PASS
differential_seed_006	solver_relative_residual	9.22e-11	PASS	differential_seed_133	energy_identity_relative_error	2.46e-15	PASS
differential_seed_006	independent_double_relative_residual	9.22e-11	PASS	differential_seed_133	displacement_all_finite	1	PASS
differential_seed_006	rigid_body_constraint_rank	6	PASS	differential_seed_133	stress_all_finite	1	PASS
differential_seed_006	force_equilibrium_relative_error	9.38e-12	PASS	differential_seed_133	fallback_count	0	PASS
differential_seed_006	moment_equilibrium_relative_error	1.64e-11	PASS	differential_seed_133	reference_route_is_cpu_double	1	PASS
differential_seed_006	energy_identity_relative_error	1.18e-13	PASS	differential_seed_133	reference_route_no_fallback	1	PASS
differential_seed_006	displacement_all_finite	1	PASS	differential_seed_133	parity_displacement_relative_l2	1.51e-06	PASS
differential_seed_006	stress_all_finite	1	PASS	differential_seed_133	parity_displacement_relative_linf	2.12e-06	PASS
differential_seed_006	fallback_count	0	PASS	differential_seed_133	parity_reaction_relative_l2	6.12e-06	PASS
differential_seed_006	reference_route_is_cpu_double	1	PASS	differential_seed_133	parity_reaction_relative_linf	9.18e-06	PASS
differential_seed_006	reference_route_no_fallback	1	PASS	differential_seed_133	parity_stress_relative_l2	9.29e-06	PASS
differential_seed_006	parity_displacement_relative_l2	1.71e-06	PASS	differential_seed_133	parity_stress_relative_linf	5.32e-06	PASS
differential_seed_006	parity_displacement_relative_linf	2.19e-06	PASS	differential_seed_133	parity_strain_energy_relative_error	8.65e-07	PASS
differential_seed_006	parity_reaction_relative_l2	3.12e-06	PASS	differential_seed_133	zero_fallback_on_both_backends	0	PASS
differential_seed_006	parity_reaction_relative_linf	7.15e-07	PASS	differential_seed_134	converged	1	PASS
differential_seed_006	parity_stress_relative_l2	1.24e-05	PASS	differential_seed_134	solver_relative_residual	6.72e-06	PASS
differential_seed_006	parity_stress_relative_linf	4.17e-06	PASS	differential_seed_134	independent_double_relative_residual	6.72e-06	PASS
differential_seed_006	parity_strain_energy_relative_error	1.26e-07	PASS	differential_seed_134	rigid_body_constraint_rank	6	PASS
differential_seed_006	zero_fallback_on_both_backends	0	PASS	differential_seed_134	force_equilibrium_relative_error	2.38e-08	PASS
differential_seed_007	converged	1	PASS	differential_seed_134	moment_equilibrium_relative_error	4.89e-08	PASS
differential_seed_007	solver_relative_residual	1.23e-06	PASS	differential_seed_134	energy_identity_relative_error	1.87e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_007	independent_double_relative_residual	1.23e-06	PASS	differential_seed_134	displacement_all_finite	1	PASS
differential_seed_007	rigid_body_constraint_rank	6	PASS	differential_seed_134	stress_all_finite	1	PASS
differential_seed_007	force_equilibrium_relative_error	4.51e-08	PASS	differential_seed_134	fallback_count	0	PASS
differential_seed_007	moment_equilibrium_relative_error	5.08e-08	PASS	differential_seed_134	metal_execution_evidence_present	1	PASS
differential_seed_007	energy_identity_relative_error	1.35e-07	PASS	differential_seed_134	operator_backend_is_packaged_host_packages	1	PASS
differential_seed_007	displacement_all_finite	1	PASS	differential_seed_134	persistent_metal_vector_buffers	1	PASS
differential_seed_007	stress_all_finite	1	PASS	differential_seed_134	packaged_metallib_used	1	PASS
differential_seed_007	fallback_count	0	PASS	differential_seed_134	no_runtime_source_compilation	1	PASS
differential_seed_007	metal_execution_evidence_present	1	PASS	differential_seed_134	metal_fallback_count	0	PASS
differential_seed_007	operator_backend_is_packaged_host_packages	1	PASS	differential_seed_134	converged	1	PASS
differential_seed_007	persistent_metal_vector_buffers	1	PASS	differential_seed_134	solver_relative_residual	5.84e-11	PASS
differential_seed_007	packaged_metallib_used	1	PASS	differential_seed_134	independent_double_relative_residual	5.84e-11	PASS
differential_seed_007	no_runtime_source_compilation	1	PASS	differential_seed_134	rigid_body_constraint_rank	6	PASS
differential_seed_007	metal_fallback_count	0	PASS	differential_seed_134	force_equilibrium_relative_error	1.78e-12	PASS
differential_seed_007	converged	1	PASS	differential_seed_134	moment_equilibrium_relative_error	3.40e-12	PASS
differential_seed_007	solver_relative_residual	9.97e-11	PASS	differential_seed_134	energy_identity_relative_error	2.23e-14	PASS
differential_seed_007	independent_double_relative_residual	9.97e-11	PASS	differential_seed_134	displacement_all_finite	1	PASS
differential_seed_007	rigid_body_constraint_rank	6	PASS	differential_seed_134	stress_all_finite	1	PASS
differential_seed_007	force_equilibrium_relative_error	4.88e-12	PASS	differential_seed_134	fallback_count	0	PASS
differential_seed_007	moment_equilibrium_relative_error	1.44e-11	PASS	differential_seed_134	reference_route_is_cpu_double	1	PASS
differential_seed_007	energy_identity_relative_error	1.01e-13	PASS	differential_seed_134	reference_route_no_fallback	1	PASS
differential_seed_007	displacement_all_finite	1	PASS	differential_seed_134	parity_displacement_relative_l2	1.05e-07	PASS
differential_seed_007	stress_all_finite	1	PASS	differential_seed_134	parity_displacement_relative_linf	1.69e-07	PASS
differential_seed_007	fallback_count	0	PASS	differential_seed_134	parity_reaction_relative_l2	5.02e-08	PASS
differential_seed_007	reference_route_is_cpu_double	1	PASS	differential_seed_134	parity_reaction_relative_linf	4.82e-08	PASS
differential_seed_007	reference_route_no_fallback	1	PASS	differential_seed_134	parity_stress_relative_l2	1.41e-06	PASS
differential_seed_007	parity_displacement_relative_l2	1.63e-07	PASS	differential_seed_134	parity_stress_relative_linf	1.62e-06	PASS
differential_seed_007	parity_displacement_relative_linf	1.95e-07	PASS	differential_seed_134	parity_strain_energy_relative_error	3.73e-08	PASS
differential_seed_007	parity_reaction_relative_l2	8.89e-08	PASS	differential_seed_134	zero_fallback_on_both_backends	0	PASS
differential_seed_007	parity_reaction_relative_linf	8.98e-08	PASS	differential_seed_135	converged	1	PASS
differential_seed_007	parity_stress_relative_l2	6.33e-07	PASS	differential_seed_135	solver_relative_residual	1.36e-05	PASS
differential_seed_007	parity_stress_relative_linf	4.50e-07	PASS	differential_seed_135	independent_double_relative_residual	1.36e-05	PASS
differential_seed_007	parity_strain_energy_relative_error	2.70e-07	PASS	differential_seed_135	rigid_body_constraint_rank	6	PASS
differential_seed_007	zero_fallback_on_both_backends	0	PASS	differential_seed_135	force_equilibrium_relative_error	3.72e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_008	converged	1	PASS	differential_seed_135	moment_equilibrium_relative_error	4.11e-07	PASS
differential_seed_008	solver_relative_residual	1.58e-05	PASS	differential_seed_135	energy_identity_relative_error	1.83e-08	PASS
differential_seed_008	independent_double_relative_residual	1.58e-05	PASS	differential_seed_135	displacement_all_finite	1	PASS
differential_seed_008	rigid_body_constraint_rank	6	PASS	differential_seed_135	stress_all_finite	1	PASS
differential_seed_008	force_equilibrium_relative_error	2.17e-06	PASS	differential_seed_135	fallback_count	0	PASS
differential_seed_008	moment_equilibrium_relative_error	2.69e-06	PASS	differential_seed_135	metal_execution_evidence_present	1	PASS
differential_seed_008	energy_identity_relative_error	1.55e-08	PASS	differential_seed_135	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_008	displacement_all_finite	1	PASS	differential_seed_135	persistent_metal_vector_buffers	1	PASS
differential_seed_008	stress_all_finite	1	PASS	differential_seed_135	packaged_metallib_used	1	PASS
differential_seed_008	fallback_count	0	PASS	differential_seed_135	no_runtime_source_compilation	1	PASS
differential_seed_008	metal_execution_evidence_present	1	PASS	differential_seed_135	metal_fallback_count	0	PASS
differential_seed_008	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_135	converged	1	PASS
differential_seed_008	persistent_metal_vector_buffers	1	PASS	differential_seed_135	solver_relative_residual	7.58e-11	PASS
differential_seed_008	packaged_metallib_used	1	PASS	differential_seed_135	independent_double_relative_residual	7.58e-11	PASS
differential_seed_008	no_runtime_source_compilation	1	PASS	differential_seed_135	rigid_body_constraint_rank	6	PASS
differential_seed_008	metal_fallback_count	0	PASS	differential_seed_135	force_equilibrium_relative_error	5.23e-12	PASS
differential_seed_008	converged	1	PASS	differential_seed_135	moment_equilibrium_relative_error	4.82e-12	PASS
differential_seed_008	solver_relative_residual	9.79e-11	PASS	differential_seed_135	energy_identity_relative_error	5.04e-15	PASS
differential_seed_008	independent_double_relative_residual	9.79e-11	PASS	differential_seed_135	displacement_all_finite	1	PASS
differential_seed_008	rigid_body_constraint_rank	6	PASS	differential_seed_135	stress_all_finite	1	PASS
differential_seed_008	force_equilibrium_relative_error	1.97e-11	PASS	differential_seed_135	fallback_count	0	PASS
differential_seed_008	moment_equilibrium_relative_error	1.88e-11	PASS	differential_seed_135	reference_route_is_cpu_double	1	PASS
differential_seed_008	energy_identity_relative_error	1.54e-14	PASS	differential_seed_135	reference_route_no_fallback	1	PASS
differential_seed_008	displacement_all_finite	1	PASS	differential_seed_135	parity_displacement_relative_I2	1.46e-06	PASS
differential_seed_008	stress_all_finite	1	PASS	differential_seed_135	parity_displacement_relative_linf	1.92e-06	PASS
differential_seed_008	fallback_count	0	PASS	differential_seed_135	parity_reaction_relative_I2	1.61e-06	PASS
differential_seed_008	reference_route_is_cpu_double	1	PASS	differential_seed_135	parity_reaction_relative_linf	1.50e-06	PASS
differential_seed_008	reference_route_no_fallback	1	PASS	differential_seed_135	parity_stress_relative_I2	4.37e-06	PASS
differential_seed_008	parity_displacement_relative_I2	2.40e-06	PASS	differential_seed_135	parity_stress_relative_linf	1.96e-06	PASS
differential_seed_008	parity_displacement_relative_linf	2.53e-06	PASS	differential_seed_135	parity_strain_energy_relative_error	3.67e-08	PASS
differential_seed_008	parity_reaction_relative_I2	2.64e-06	PASS	differential_seed_135	zero_fallback_on_both_backends	0	PASS
differential_seed_008	parity_reaction_relative_linf	2.89e-06	PASS	differential_seed_136	converged	1	PASS
differential_seed_008	parity_stress_relative_I2	8.16e-06	PASS	differential_seed_136	solver_relative_residual	1.20e-05	PASS
differential_seed_008	parity_stress_relative_linf	4.94e-06	PASS	differential_seed_136	independent_double_relative_residual	1.20e-05	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_008	parity_strain_energy_relative_error	3.09e-08	PASS	differential_seed_136	rigid_body_constraint_rank	6	PASS
differential_seed_008	zero_fallback_on_both_backends	0	PASS	differential_seed_136	force_equilibrium_relative_error	1.46e-06	PASS
differential_properties_seed_008	metal_all_property_solves_converged	1	PASS	differential_seed_136	moment_equilibrium_relative_error	1.88e-06	PASS
differential_properties_seed_008	metal_displacement_superposition	9.95e-07	PASS	differential_seed_136	energy_identity_relative_error	3.01e-08	PASS
differential_properties_seed_008	metal_stress_superposition	3.70e-06	PASS	differential_seed_136	displacement_all_finite	1	PASS
differential_properties_seed_008	metal_sign_reversal	0	PASS	differential_seed_136	stress_all_finite	1	PASS
differential_properties_seed_008	metal_load_scaling_by_two	0	PASS	differential_seed_136	fallback_count	0	PASS
differential_properties_seed_008	metal_modulus_scaling_by_two	0	PASS	differential_seed_136	metal_execution_evidence_present	1	PASS
differential_properties_seed_008	metal_maxwell_betti_reciprocity	9.29e-06	PASS	differential_seed_136	operator_backend_is_packaged_host_p...	1	PASS
differential_properties_seed_008	metal_axis_permutation	1.47e-08	PASS	differential_seed_136	persistent_metal_vector_buffers	1	PASS
differential_properties_seed_008	metal_axis_reflection	1.87e-08	PASS	differential_seed_136	packaged_metallib_used	1	PASS
differential_properties_seed_008	cpu_all_property_solves_converged	1	PASS	differential_seed_136	no_runtime_source_compilation	1	PASS
differential_properties_seed_008	cpu_displacement_superposition	6.66e-12	PASS	differential_seed_136	metal_fallback_count	0	PASS
differential_properties_seed_008	cpu_stress_superposition	2.92e-11	PASS	differential_seed_136	converged	1	PASS
differential_properties_seed_008	cpu_sign_reversal	0	PASS	differential_seed_136	solver_relative_residual	6.97e-11	PASS
differential_properties_seed_008	cpu_load_scaling_by_two	0	PASS	differential_seed_136	independent_double_relative_residual	6.97e-11	PASS
differential_properties_seed_008	cpu_modulus_scaling_by_two	8.72e-13	PASS	differential_seed_136	rigid_body_constraint_rank	6	PASS
differential_properties_seed_008	cpu_maxwell_betti_reciprocity	9.01e-11	PASS	differential_seed_136	force_equilibrium_relative_error	5.78e-11	PASS
differential_properties_seed_008	cpu_axis_permutation	7.45e-13	PASS	differential_seed_136	moment_equilibrium_relative_error	3.63e-11	PASS
differential_properties_seed_008	cpu_axis_reflection	3.42e-12	PASS	differential_seed_136	energy_identity_relative_error	1.60e-14	PASS
differential_seed_009	converged	1	PASS	differential_seed_136	displacement_all_finite	1	PASS
differential_seed_009	solver_relative_residual	3.32e-08	PASS	differential_seed_136	stress_all_finite	1	PASS
differential_seed_009	independent_double_relative_residual	3.32e-08	PASS	differential_seed_136	fallback_count	0	PASS
differential_seed_009	rigid_body_constraint_rank	6	PASS	differential_seed_136	reference_route_is_cpu_double	1	PASS
differential_seed_009	force_equilibrium_relative_error	1.40e-09	PASS	differential_seed_136	reference_route_no_fallback	1	PASS
differential_seed_009	moment_equilibrium_relative_error	6.23e-09	PASS	differential_seed_136	parity_displacement_relative_l2	7.45e-06	PASS
differential_seed_009	energy_identity_relative_error	5.27e-09	PASS	differential_seed_136	parity_displacement_relative_linf	4.84e-06	PASS
differential_seed_009	displacement_all_finite	1	PASS	differential_seed_136	parity_reaction_relative_l2	1.75e-06	PASS
differential_seed_009	stress_all_finite	1	PASS	differential_seed_136	parity_reaction_relative_linf	7.25e-07	PASS
differential_seed_009	fallback_count	0	PASS	differential_seed_136	parity_stress_relative_l2	1.31e-05	PASS
differential_seed_009	metal_execution_evidence_present	1	PASS	differential_seed_136	parity_stress_relative_linf	5.01e-06	PASS
differential_seed_009	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_136	parity_strain_energy_relative_error	6.04e-08	PASS
differential_seed_009	persistent_metal_vector_buffers	1	PASS	differential_seed_136	zero_fallback_on_both_backends	0	PASS
differential_seed_009	packaged_metallib_used	1	PASS	differential_properties_seed_136	metal_all_property_solves_converged	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_009	no_runtime_source_compilation	1	PASS	differential_properties_seed_136	metal_displacement_superposition	1.34e-05	PASS
differential_seed_009	metal_fallback_count	0	PASS	differential_properties_seed_136	metal_stress_superposition	1.52e-05	PASS
differential_seed_009	converged	1	PASS	differential_properties_seed_136	metal_sign_reversal	0	PASS
differential_seed_009	solver_relative_residual	8.54e-11	PASS	differential_properties_seed_136	metal_load_scaling_by_two	0	PASS
differential_seed_009	independent_double_relative_residual	8.54e-11	PASS	differential_properties_seed_136	metal_modulus_scaling_by_two	0	PASS
differential_seed_009	rigid_body_constraint_rank	6	PASS	differential_properties_seed_136	metal_maxwell_betti_reciprocity	5.58e-05	PASS
differential_seed_009	force_equilibrium_relative_error	2.23e-12	PASS	differential_properties_seed_136	metal_axis_permutation	2.05e-07	PASS
differential_seed_009	moment_equilibrium_relative_error	3.79e-12	PASS	differential_properties_seed_136	metal_axis_reflection	1.72e-07	PASS
differential_seed_009	energy_identity_relative_error	2.96e-14	PASS	differential_properties_seed_136	cpu_all_property_solves_converged	1	PASS
differential_seed_009	displacement_all_finite	1	PASS	differential_properties_seed_136	cpu_displacement_superposition	1.03e-10	PASS
differential_seed_009	stress_all_finite	1	PASS	differential_properties_seed_136	cpu_stress_superposition	9.09e-11	PASS
differential_seed_009	fallback_count	0	PASS	differential_properties_seed_136	cpu_sign_reversal	0	PASS
differential_seed_009	reference_route_is_cpu_double	1	PASS	differential_properties_seed_136	cpu_load_scaling_by_two	0	PASS
differential_seed_009	reference_route_no_fallback	1	PASS	differential_properties_seed_136	cpu_modulus_scaling_by_two	8.78e-13	PASS
differential_seed_009	parity_displacement_relative_l2	1.38e-08	PASS	differential_properties_seed_136	cpu_maxwell_betti_reciprocity	4.08e-10	PASS
differential_seed_009	parity_displacement_relative_linf	1.47e-08	PASS	differential_properties_seed_136	cpu_axis_permutation	3.23e-12	PASS
differential_seed_009	parity_reaction_relative_l2	1.01e-08	PASS	differential_properties_seed_136	cpu_axis_reflection	2.45e-11	PASS
differential_seed_009	parity_reaction_relative_linf	9.96e-09	PASS	differential_seed_137	converged	1	PASS
differential_seed_009	parity_stress_relative_l2	1.84e-08	PASS	differential_seed_137	solver_relative_residual	1.53e-05	PASS
differential_seed_009	parity_stress_relative_linf	2.87e-08	PASS	differential_seed_137	independent_double_relative_residual	1.53e-05	PASS
differential_seed_009	parity_strain_energy_relative_error	1.05e-08	PASS	differential_seed_137	rigid_body_constraint_rank	6	PASS
differential_seed_009	zero_fallback_on_both_backends	0	PASS	differential_seed_137	force_equilibrium_relative_error	2.49e-06	PASS
differential_seed_010	converged	1	PASS	differential_seed_137	moment_equilibrium_relative_error	1.48e-06	PASS
differential_seed_010	solver_relative_residual	6.38e-09	PASS	differential_seed_137	energy_identity_relative_error	6.66e-07	PASS
differential_seed_010	independent_double_relative_residual	6.38e-09	PASS	differential_seed_137	displacement_all_finite	1	PASS
differential_seed_010	rigid_body_constraint_rank	6	PASS	differential_seed_137	stress_all_finite	1	PASS
differential_seed_010	force_equilibrium_relative_error	1.24e-09	PASS	differential_seed_137	fallback_count	0	PASS
differential_seed_010	moment_equilibrium_relative_error	1.02e-09	PASS	differential_seed_137	metal_execution_evidence_present	1	PASS
differential_seed_010	energy_identity_relative_error	1.39e-08	PASS	differential_seed_137	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_010	displacement_all_finite	1	PASS	differential_seed_137	persistent_metal_vector_buffers	1	PASS
differential_seed_010	stress_all_finite	1	PASS	differential_seed_137	packaged_metallib_used	1	PASS
differential_seed_010	fallback_count	0	PASS	differential_seed_137	no_runtime_source_compilation	1	PASS
differential_seed_010	metal_execution_evidence_present	1	PASS	differential_seed_137	metal_fallback_count	0	PASS
differential_seed_010	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_137	converged	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_010	persistent_metal_vector_buffers	1	PASS	differential_seed_137	solver_relative_residual	9.43e-11	PASS
differential_seed_010	packaged_metallib_used	1	PASS	differential_seed_137	independent_double_relative_residual	9.43e-11	PASS
differential_seed_010	no_runtime_source_compilation	1	PASS	differential_seed_137	rigid_body_constraint_rank	6	PASS
differential_seed_010	metal_fallback_count	0	PASS	differential_seed_137	force_equilibrium_relative_error	6.86e-12	PASS
differential_seed_010	converged	1	PASS	differential_seed_137	moment_equilibrium_relative_error	5.93e-12	PASS
differential_seed_010	solver_relative_residual	6.81e-11	PASS	differential_seed_137	energy_identity_relative_error	3.65e-13	PASS
differential_seed_010	independent_double_relative_residual	6.81e-11	PASS	differential_seed_137	displacement_all_finite	1	PASS
differential_seed_010	rigid_body_constraint_rank	6	PASS	differential_seed_137	stress_all_finite	1	PASS
differential_seed_010	force_equilibrium_relative_error	7.56e-12	PASS	differential_seed_137	fallback_count	0	PASS
differential_seed_010	moment_equilibrium_relative_error	8.61e-12	PASS	differential_seed_137	reference_route_is_cpu_double	1	PASS
differential_seed_010	energy_identity_relative_error	3.52e-14	PASS	differential_seed_137	reference_route_no_fallback	1	PASS
differential_seed_010	displacement_all_finite	1	PASS	differential_seed_137	parity_displacement_relative_l2	2.64e-06	PASS
differential_seed_010	stress_all_finite	1	PASS	differential_seed_137	parity_displacement_relative_linf	3.35e-06	PASS
differential_seed_010	fallback_count	0	PASS	differential_seed_137	parity_reaction_relative_l2	3.17e-06	PASS
differential_seed_010	reference_route_is_cpu_double	1	PASS	differential_seed_137	parity_reaction_relative_linf	2.05e-06	PASS
differential_seed_010	reference_route_no_fallback	1	PASS	differential_seed_137	parity_stress_relative_l2	5.94e-06	PASS
differential_seed_010	parity_displacement_relative_l2	1.84e-08	PASS	differential_seed_137	parity_stress_relative_linf	3.29e-06	PASS
differential_seed_010	parity_displacement_relative_linf	1.69e-08	PASS	differential_seed_137	parity_strain_energy_relative_error	1.33e-06	PASS
differential_seed_010	parity_reaction_relative_l2	1.07e-08	PASS	differential_seed_137	zero_fallback_on_both_backends	0	PASS
differential_seed_010	parity_reaction_relative_linf	7.58e-09	PASS	differential_seed_138	converged	1	PASS
differential_seed_010	parity_stress_relative_l2	1.65e-08	PASS	differential_seed_138	solver_relative_residual	5.16e-07	PASS
differential_seed_010	parity_stress_relative_linf	1.45e-08	PASS	differential_seed_138	independent_double_relative_residual	5.16e-07	PASS
differential_seed_010	parity_strain_energy_relative_error	2.78e-08	PASS	differential_seed_138	rigid_body_constraint_rank	6	PASS
differential_seed_010	zero_fallback_on_both_backends	0	PASS	differential_seed_138	force_equilibrium_relative_error	2.15e-08	PASS
differential_seed_011	converged	1	PASS	differential_seed_138	moment_equilibrium_relative_error	3.72e-08	PASS
differential_seed_011	solver_relative_residual	1.38e-05	PASS	differential_seed_138	energy_identity_relative_error	4.50e-08	PASS
differential_seed_011	independent_double_relative_residual	1.38e-05	PASS	differential_seed_138	displacement_all_finite	1	PASS
differential_seed_011	rigid_body_constraint_rank	6	PASS	differential_seed_138	stress_all_finite	1	PASS
differential_seed_011	force_equilibrium_relative_error	1.31e-06	PASS	differential_seed_138	fallback_count	0	PASS
differential_seed_011	moment_equilibrium_relative_error	1.81e-06	PASS	differential_seed_138	metal_execution_evidence_present	1	PASS
differential_seed_011	energy_identity_relative_error	8.79e-08	PASS	differential_seed_138	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_011	displacement_all_finite	1	PASS	differential_seed_138	persistent_metal_vector_buffers	1	PASS
differential_seed_011	stress_all_finite	1	PASS	differential_seed_138	packaged_metallib_used	1	PASS
differential_seed_011	fallback_count	0	PASS	differential_seed_138	no_runtime_source_compilation	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_011	metal_execution_evidence_present	1	PASS	differential_seed_138	metal_fallback_count	0	PASS
differential_seed_011	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_138	converged	1	PASS
differential_seed_011	persistent_metal_vector_buffers	1	PASS	differential_seed_138	solver_relative_residual	4.86e-11	PASS
differential_seed_011	packaged_metallic_used	1	PASS	differential_seed_138	independent_double_relative_residual	4.86e-11	PASS
differential_seed_011	no_runtime_source_compilation	1	PASS	differential_seed_138	rigid_body_constraint_rank	6	PASS
differential_seed_011	metal_fallback_count	0	PASS	differential_seed_138	force_equilibrium_relative_error	3.09e-12	PASS
differential_seed_011	converged	1	PASS	differential_seed_138	moment_equilibrium_relative_error	7.61e-12	PASS
differential_seed_011	solver_relative_residual	8.13e-11	PASS	differential_seed_138	energy_identity_relative_error	2.53e-15	PASS
differential_seed_011	independent_double_relative_residual	8.13e-11	PASS	differential_seed_138	displacement_all_finite	1	PASS
differential_seed_011	rigid_body_constraint_rank	6	PASS	differential_seed_138	stress_all_finite	1	PASS
differential_seed_011	force_equilibrium_relative_error	7.83e-11	PASS	differential_seed_138	fallback_count	0	PASS
differential_seed_011	moment_equilibrium_relative_error	7.48e-11	PASS	differential_seed_138	reference_route_is_cpu_double	1	PASS
differential_seed_011	energy_identity_relative_error	8.43e-15	PASS	differential_seed_138	reference_route_no_fallback	1	PASS
differential_seed_011	displacement_all_finite	1	PASS	differential_seed_138	parity_displacement_relative_l2	2.15e-07	PASS
differential_seed_011	stress_all_finite	1	PASS	differential_seed_138	parity_displacement_relative_linf	2.38e-07	PASS
differential_seed_011	fallback_count	0	PASS	differential_seed_138	parity_reaction_relative_l2	1.31e-07	PASS
differential_seed_011	reference_route_is_cpu_double	1	PASS	differential_seed_138	parity_reaction_relative_linf	1.35e-07	PASS
differential_seed_011	reference_route_no_fallback	1	PASS	differential_seed_138	parity_stress_relative_l2	3.13e-07	PASS
differential_seed_011	parity_displacement_relative_l2	3.10e-05	PASS	differential_seed_138	parity_stress_relative_linf	1.83e-07	PASS
differential_seed_011	parity_displacement_relative_linf	1.44e-05	PASS	differential_seed_138	parity_strain_energy_relative_error	9.01e-08	PASS
differential_seed_011	parity_reaction_relative_l2	5.91e-06	PASS	differential_seed_138	zero_fallback_on_both_backends	0	PASS
differential_seed_011	parity_reaction_relative_linf	3.09e-06	PASS	differential_seed_139	converged	1	PASS
differential_seed_011	parity_stress_relative_l2	1.83e-05	PASS	differential_seed_139	solver_relative_residual	2.88e-07	PASS
differential_seed_011	parity_stress_relative_linf	5.56e-06	PASS	differential_seed_139	independent_double_relative_residual	2.88e-07	PASS
differential_seed_011	parity_strain_energy_relative_error	1.75e-07	PASS	differential_seed_139	rigid_body_constraint_rank	6	PASS
differential_seed_011	zero_fallback_on_both_backends	0	PASS	differential_seed_139	force_equilibrium_relative_error	1.81e-08	PASS
differential_seed_012	converged	1	PASS	differential_seed_139	moment_equilibrium_relative_error	1.12e-08	PASS
differential_seed_012	solver_relative_residual	1.21e-05	PASS	differential_seed_139	energy_identity_relative_error	2.71e-08	PASS
differential_seed_012	independent_double_relative_residual	1.21e-05	PASS	differential_seed_139	displacement_all_finite	1	PASS
differential_seed_012	rigid_body_constraint_rank	6	PASS	differential_seed_139	stress_all_finite	1	PASS
differential_seed_012	force_equilibrium_relative_error	1.71e-06	PASS	differential_seed_139	fallback_count	0	PASS
differential_seed_012	moment_equilibrium_relative_error	1.54e-06	PASS	differential_seed_139	metal_execution_evidence_present	1	PASS
differential_seed_012	energy_identity_relative_error	3.06e-08	PASS	differential_seed_139	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_012	displacement_all_finite	1	PASS	differential_seed_139	persistent_metal_vector_buffers	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_012	stress_all_finite	1	PASS	differential_seed_139	packaged_metallib_used	1	PASS
differential_seed_012	fallback_count	0	PASS	differential_seed_139	no_runtime_source_compilation	1	PASS
differential_seed_012	metal_execution_evidence_present	1	PASS	differential_seed_139	metal_fallback_count	0	PASS
differential_seed_012	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_139	converged	1	PASS
differential_seed_012	persistent_metal_vector_buffers	1	PASS	differential_seed_139	solver_relative_residual	5.42e-11	PASS
differential_seed_012	packaged_metallib_used	1	PASS	differential_seed_139	independent_double_relative_residual	5.42e-11	PASS
differential_seed_012	no_runtime_source_compilation	1	PASS	differential_seed_139	rigid_body_constraint_rank	6	PASS
differential_seed_012	metal_fallback_count	0	PASS	differential_seed_139	force_equilibrium_relative_error	7.67e-12	PASS
differential_seed_012	converged	1	PASS	differential_seed_139	moment_equilibrium_relative_error	2.80e-11	PASS
differential_seed_012	solver_relative_residual	7.74e-11	PASS	differential_seed_139	energy_identity_relative_error	1.39e-13	PASS
differential_seed_012	independent_double_relative_residual	7.74e-11	PASS	differential_seed_139	displacement_all_finite	1	PASS
differential_seed_012	rigid_body_constraint_rank	6	PASS	differential_seed_139	stress_all_finite	1	PASS
differential_seed_012	force_equilibrium_relative_error	1.58e-11	PASS	differential_seed_139	fallback_count	0	PASS
differential_seed_012	moment_equilibrium_relative_error	4.75e-11	PASS	differential_seed_139	reference_route_is_cpu_double	1	PASS
differential_seed_012	energy_identity_relative_error	3.20e-15	PASS	differential_seed_139	reference_route_no_fallback	1	PASS
differential_seed_012	displacement_all_finite	1	PASS	differential_seed_139	parity_displacement_relative_l2	5.25e-08	PASS
differential_seed_012	stress_all_finite	1	PASS	differential_seed_139	parity_displacement_relative_linf	3.94e-08	PASS
differential_seed_012	fallback_count	0	PASS	differential_seed_139	parity_reaction_relative_l2	4.25e-08	PASS
differential_seed_012	reference_route_is_cpu_double	1	PASS	differential_seed_139	parity_reaction_relative_linf	4.82e-08	PASS
differential_seed_012	reference_route_no_fallback	1	PASS	differential_seed_139	parity_stress_relative_l2	1.19e-07	PASS
differential_seed_012	parity_displacement_relative_l2	9.37e-06	PASS	differential_seed_139	parity_stress_relative_linf	8.78e-08	PASS
differential_seed_012	parity_displacement_relative_linf	4.45e-06	PASS	differential_seed_139	parity_strain_energy_relative_error	5.41e-08	PASS
differential_seed_012	parity_reaction_relative_l2	3.47e-06	PASS	differential_seed_139	zero_fallback_on_both_backends	0	PASS
differential_seed_012	parity_reaction_relative_linf	2.33e-06	PASS	differential_seed_140	converged	1	PASS
differential_seed_012	parity_stress_relative_l2	1.17e-05	PASS	differential_seed_140	solver_relative_residual	7.50e-07	PASS
differential_seed_012	parity_stress_relative_linf	3.47e-06	PASS	differential_seed_140	independent_double_relative_residual	7.50e-07	PASS
differential_seed_012	parity_strain_energy_relative_error	6.14e-08	PASS	differential_seed_140	rigid_body_constraint_rank	6	PASS
differential_seed_012	zero_fallback_on_both_backends	0	PASS	differential_seed_140	force_equilibrium_relative_error	2.06e-08	PASS
differential_properties_seed_012	metal_all_property_solves_converged	1	PASS	differential_seed_140	moment_equilibrium_relative_error	3.07e-08	PASS
differential_properties_seed_012	metal_displacement_superposition	5.37e-06	PASS	differential_seed_140	energy_identity_relative_error	4.28e-08	PASS
differential_properties_seed_012	metal_stress_superposition	5.67e-06	PASS	differential_seed_140	displacement_all_finite	1	PASS
differential_properties_seed_012	metal_sign_reversal	0	PASS	differential_seed_140	stress_all_finite	1	PASS
differential_properties_seed_012	metal_load_scaling_by_two	0	PASS	differential_seed_140	fallback_count	0	PASS
differential_properties_seed_012	metal_modulus_scaling_by_two	0	PASS	differential_seed_140	metal_execution_evidence_present	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_properties_se ed_012	metal_maxwell_betti_recip rocity	6.92e-05	PASS	differential_seed_140	operator_backend_is_pack aged_host_p...	1	PASS
differential_properties_se ed_012	metal_axis_permutation	4.00e-07	PASS	differential_seed_140	persistent_metal_vector_b uffers	1	PASS
differential_properties_se ed_012	metal_axis_reflection	4.97e-07	PASS	differential_seed_140	packaged_metallib_used	1	PASS
differential_properties_se ed_012	cpu_all_property_solves_c onverged	1	PASS	differential_seed_140	no_runtime_source_compil ation	1	PASS
differential_properties_se ed_012	cpu_displacement_superp osition	1.35e-10	PASS	differential_seed_140	metal_fallback_count	0	PASS
differential_properties_se ed_012	cpu_stress_superposition	1.11e-10	PASS	differential_seed_140	converged	1	PASS
differential_properties_se ed_012	cpu_sign_reversal	0	PASS	differential_seed_140	solver_relative_residual	8.48e-11	PASS
differential_properties_se ed_012	cpu_load_scaling_by_two	0	PASS	differential_seed_140	independent_double_relati ve_residual	8.48e-11	PASS
differential_properties_se ed_012	cpu_modulus_scaling_by_t wo	3.32e-13	PASS	differential_seed_140	rigid_body_constraint_ran k	6	PASS
differential_properties_se ed_012	cpu_maxwell_betti_recipro city	3.91e-10	PASS	differential_seed_140	force_equilibrium_relative_ error	1.83e-11	PASS
differential_properties_se ed_012	cpu_axis_permutation	1.75e-12	PASS	differential_seed_140	moment_equilibrium_relati ve_error	2.58e-11	PASS
differential_properties_se ed_012	cpu_axis_reflection	5.87e-13	PASS	differential_seed_140	energy_identity_relative_er ror	1.19e-13	PASS
differential_seed_013	converged	1	PASS	differential_seed_140	displacement_all_finite	1	PASS
differential_seed_013	solver_relative_residual	6.88e-07	PASS	differential_seed_140	stress_all_finite	1	PASS
differential_seed_013	independent_double_relati ve_residual	6.88e-07	PASS	differential_seed_140	fallback_count	0	PASS
differential_seed_013	rigid_body_constraint_ran k	6	PASS	differential_seed_140	reference_route_is_cpu_d ouble	1	PASS
differential_seed_013	force_equilibrium_relative_ error	1.46e-08	PASS	differential_seed_140	reference_route_no_fallba ck	1	PASS
differential_seed_013	moment_equilibrium_relati ve_error	1.72e-08	PASS	differential_seed_140	parity_displacement_relati ve_l2	6.69e-08	PASS
differential_seed_013	energy_identity_relative_er ror	1.00e-08	PASS	differential_seed_140	parity_displacement_relati ve_linf	1.14e-07	PASS
differential_seed_013	displacement_all_finite	1	PASS	differential_seed_140	parity_reaction_relative_l2	7.99e-08	PASS
differential_seed_013	stress_all_finite	1	PASS	differential_seed_140	parity_reaction_relative_lin f	5.38e-08	PASS
differential_seed_013	fallback_count	0	PASS	differential_seed_140	parity_stress_relative_l2	4.38e-07	PASS
differential_seed_013	metal_execution_evidence_ _present	1	PASS	differential_seed_140	parity_stress_relative_linf	4.80e-07	PASS
differential_seed_013	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_140	parity_strain_energy_relati ve_error	8.56e-08	PASS
differential_seed_013	persistent_metal_vector_b uffers	1	PASS	differential_seed_140	zero_fallback_on_both_ba ckends	0	PASS
differential_seed_013	packaged_metallib_used	1	PASS	differential_properties_se ed_140	metal_all_property_solves_ _converged	1	PASS
differential_seed_013	no_runtime_source_compil ation	1	PASS	differential_properties_se ed_140	metal_displacement_super position	1.46e-07	PASS
differential_seed_013	metal_fallback_count	0	PASS	differential_properties_se ed_140	metal_stress_superpositio n	3.81e-07	PASS
differential_seed_013	converged	1	PASS	differential_properties_se ed_140	metal_sign_reversal	0	PASS
differential_seed_013	solver_relative_residual	7.05e-11	PASS	differential_properties_se ed_140	metal_load_scaling_by_tw o	0	PASS
differential_seed_013	independent_double_relati ve_residual	7.05e-11	PASS	differential_properties_se ed_140	metal_modulus_scaling_by_ _two	0	PASS
differential_seed_013	rigid_body_constraint_ran k	6	PASS	differential_properties_se ed_140	metal_maxwell_betti_recip rocity	7.04e-09	PASS
differential_seed_013	force_equilibrium_relative_ error	2.55e-11	PASS	differential_properties_se ed_140	metal_axis_permutation	1.39e-07	PASS
differential_seed_013	moment_equilibrium_relati ve_error	3.00e-11	PASS	differential_properties_se ed_140	metal_axis_reflection	5.03e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_013	energy_identity_relative_error	1.10e-13	PASS	differential_properties_seed_140	cpu_all_property_solves_converged	1	PASS
differential_seed_013	displacement_all_finite	1	PASS	differential_properties_seed_140	cpu_displacement_superposition	4.68e-11	PASS
differential_seed_013	stress_all_finite	1	PASS	differential_properties_seed_140	cpu_stress_superposition	8.47e-11	PASS
differential_seed_013	fallback_count	0	PASS	differential_properties_seed_140	cpu_sign_reversal	0	PASS
differential_seed_013	reference_route_is_cpu_double	1	PASS	differential_properties_seed_140	cpu_load_scaling_by_two	0	PASS
differential_seed_013	reference_route_no_fallback	1	PASS	differential_properties_seed_140	cpu_modulus_scaling_by_two	1.58e-12	PASS
differential_seed_013	parity_displacement_relative_l2	8.42e-08	PASS	differential_properties_seed_140	cpu_maxwell_betti_reciprocity	8.56e-11	PASS
differential_seed_013	parity_displacement_relative_linf	1.63e-07	PASS	differential_properties_seed_140	cpu_axis_permutation	3.91e-12	PASS
differential_seed_013	parity_reaction_relative_l2	5.82e-08	PASS	differential_properties_seed_140	cpu_axis_reflection	5.05e-12	PASS
differential_seed_013	parity_reaction_relative_linf	7.99e-08	PASS	differential_seed_141	converged	1	PASS
differential_seed_013	parity_stress_relative_l2	3.19e-07	PASS	differential_seed_141	solver_relative_residual	1.60e-05	PASS
differential_seed_013	parity_stress_relative_linf	4.61e-07	PASS	differential_seed_141	independent_double_relative_residual	1.60e-05	PASS
differential_seed_013	parity_strain_energy_relative_error	2.00e-08	PASS	differential_seed_141	rigid_body_constraint_rank	6	PASS
differential_seed_013	zero_fallback_on_both_backends	0	PASS	differential_seed_141	force_equilibrium_relative_error	3.85e-06	PASS
differential_seed_014	converged	1	PASS	differential_seed_141	moment_equilibrium_relative_error	6.35e-06	PASS
differential_seed_014	solver_relative_residual	1.22e-05	PASS	differential_seed_141	energy_identity_relative_error	7.42e-09	PASS
differential_seed_014	independent_double_relative_residual	1.22e-05	PASS	differential_seed_141	displacement_all_finite	1	PASS
differential_seed_014	rigid_body_constraint_rank	6	PASS	differential_seed_141	stress_all_finite	1	PASS
differential_seed_014	force_equilibrium_relative_error	9.14e-07	PASS	differential_seed_141	fallback_count	0	PASS
differential_seed_014	moment_equilibrium_relative_error	2.32e-06	PASS	differential_seed_141	metal_execution_evidence_present	1	PASS
differential_seed_014	energy_identity_relative_error	3.57e-08	PASS	differential_seed_141	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_014	displacement_all_finite	1	PASS	differential_seed_141	persistent_metal_vector_buffers	1	PASS
differential_seed_014	stress_all_finite	1	PASS	differential_seed_141	packaged_metallib_used	1	PASS
differential_seed_014	fallback_count	0	PASS	differential_seed_141	no_runtime_source_compilation	1	PASS
differential_seed_014	metal_execution_evidence_present	1	PASS	differential_seed_141	metal_fallback_count	0	PASS
differential_seed_014	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_141	converged	1	PASS
differential_seed_014	persistent_metal_vector_buffers	1	PASS	differential_seed_141	solver_relative_residual	8.08e-11	PASS
differential_seed_014	packaged_metallib_used	1	PASS	differential_seed_141	independent_double_relative_residual	8.08e-11	PASS
differential_seed_014	no_runtime_source_compilation	1	PASS	differential_seed_141	rigid_body_constraint_rank	6	PASS
differential_seed_014	metal_fallback_count	0	PASS	differential_seed_141	force_equilibrium_relative_error	2.71e-11	PASS
differential_seed_014	converged	1	PASS	differential_seed_141	moment_equilibrium_relative_error	7.51e-11	PASS
differential_seed_014	solver_relative_residual	8.86e-11	PASS	differential_seed_141	energy_identity_relative_error	6.45e-15	PASS
differential_seed_014	independent_double_relative_residual	8.86e-11	PASS	differential_seed_141	displacement_all_finite	1	PASS
differential_seed_014	rigid_body_constraint_rank	6	PASS	differential_seed_141	stress_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_014	force_equilibrium_relative_error	6.51e-11	PASS	differential_seed_141	fallback_count	0	PASS
differential_seed_014	moment_equilibrium_relative_error	8.59e-11	PASS	differential_seed_141	reference_route_is_cpu_double	1	PASS
differential_seed_014	energy_identity_relative_error	3.53e-14	PASS	differential_seed_141	reference_route_no_fallback	1	PASS
differential_seed_014	displacement_all_finite	1	PASS	differential_seed_141	parity_displacement_relative_I2	1.52e-05	PASS
differential_seed_014	stress_all_finite	1	PASS	differential_seed_141	parity_displacement_relative_linf	7.44e-06	PASS
differential_seed_014	fallback_count	0	PASS	differential_seed_141	parity_reaction_relative_I2	4.46e-06	PASS
differential_seed_014	reference_route_is_cpu_double	1	PASS	differential_seed_141	parity_reaction_relative_linf	4.79e-06	PASS
differential_seed_014	reference_route_no_fallback	1	PASS	differential_seed_141	parity_stress_relative_I2	1.54e-05	PASS
differential_seed_014	parity_displacement_relative_I2	9.42e-06	PASS	differential_seed_141	parity_stress_relative_linf	6.93e-06	PASS
differential_seed_014	parity_displacement_relative_linf	7.34e-06	PASS	differential_seed_141	parity_strain_energy_relative_error	1.51e-08	PASS
differential_seed_014	parity_reaction_relative_I2	3.48e-06	PASS	differential_seed_141	zero_fallback_on_both_backends	0	PASS
differential_seed_014	parity_reaction_relative_linf	1.62e-06	PASS	differential_seed_142	converged	1	PASS
differential_seed_014	parity_stress_relative_I2	1.02e-05	PASS	differential_seed_142	solver_relative_residual	4.64e-07	PASS
differential_seed_014	parity_stress_relative_linf	3.68e-06	PASS	differential_seed_142	independent_double_relative_residual	4.64e-07	PASS
differential_seed_014	parity_strain_energy_relative_error	7.16e-08	PASS	differential_seed_142	rigid_body_constraint_rank	6	PASS
differential_seed_014	zero_fallback_on_both_backends	0	PASS	differential_seed_142	force_equilibrium_relative_error	4.17e-08	PASS
differential_seed_015	converged	1	PASS	differential_seed_142	moment_equilibrium_relative_error	2.63e-08	PASS
differential_seed_015	solver_relative_residual	6.88e-07	PASS	differential_seed_142	energy_identity_relative_error	1.03e-07	PASS
differential_seed_015	independent_double_relative_residual	6.88e-07	PASS	differential_seed_142	displacement_all_finite	1	PASS
differential_seed_015	rigid_body_constraint_rank	6	PASS	differential_seed_142	stress_all_finite	1	PASS
differential_seed_015	force_equilibrium_relative_error	6.48e-08	PASS	differential_seed_142	fallback_count	0	PASS
differential_seed_015	moment_equilibrium_relative_error	7.30e-08	PASS	differential_seed_142	metal_execution_evidence_present	1	PASS
differential_seed_015	energy_identity_relative_error	8.13e-09	PASS	differential_seed_142	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_015	displacement_all_finite	1	PASS	differential_seed_142	persistent_metal_vector_buffers	1	PASS
differential_seed_015	stress_all_finite	1	PASS	differential_seed_142	packaged_metallib_used	1	PASS
differential_seed_015	fallback_count	0	PASS	differential_seed_142	no_runtime_source_compilation	1	PASS
differential_seed_015	metal_execution_evidence_present	1	PASS	differential_seed_142	metal_fallback_count	0	PASS
differential_seed_015	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_142	converged	1	PASS
differential_seed_015	persistent_metal_vector_buffers	1	PASS	differential_seed_142	solver_relative_residual	7.69e-11	PASS
differential_seed_015	packaged_metallib_used	1	PASS	differential_seed_142	independent_double_relative_residual	7.69e-11	PASS
differential_seed_015	no_runtime_source_compilation	1	PASS	differential_seed_142	rigid_body_constraint_rank	6	PASS
differential_seed_015	metal_fallback_count	0	PASS	differential_seed_142	force_equilibrium_relative_error	8.82e-12	PASS
differential_seed_015	converged	1	PASS	differential_seed_142	moment_equilibrium_relative_error	7.18e-12	PASS
differential_seed_015	solver_relative_residual	9.54e-11	PASS	differential_seed_142	energy_identity_relative_error	5.26e-13	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_015	independent_double_relative_residual	9.54e-11	PASS	differential_seed_142	displacement_all_finite	1	PASS
differential_seed_015	rigid_body_constraint_rank	6	PASS	differential_seed_142	stress_all_finite	1	PASS
differential_seed_015	force_equilibrium_relative_error	2.42e-11	PASS	differential_seed_142	fallback_count	0	PASS
differential_seed_015	moment_equilibrium_relative_error	3.71e-11	PASS	differential_seed_142	reference_route_is_cpu_double	1	PASS
differential_seed_015	energy_identity_relative_error	1.57e-12	PASS	differential_seed_142	reference_route_no_fallback	1	PASS
differential_seed_015	displacement_all_finite	1	PASS	differential_seed_142	parity_displacement_relative_l2	1.30e-07	PASS
differential_seed_015	stress_all_finite	1	PASS	differential_seed_142	parity_displacement_relative_linf	1.58e-07	PASS
differential_seed_015	fallback_count	0	PASS	differential_seed_142	parity_reaction_relative_l2	1.42e-07	PASS
differential_seed_015	reference_route_is_cpu_double	1	PASS	differential_seed_142	parity_reaction_relative_linf	1.41e-07	PASS
differential_seed_015	reference_route_no_fallback	1	PASS	differential_seed_142	parity_stress_relative_l2	3.02e-07	PASS
differential_seed_015	parity_displacement_relative_l2	3.06e-07	PASS	differential_seed_142	parity_stress_relative_linf	4.46e-07	PASS
differential_seed_015	parity_displacement_relative_linf	4.49e-07	PASS	differential_seed_142	parity_strain_energy_relative_error	2.05e-07	PASS
differential_seed_015	parity_reaction_relative_l2	1.11e-07	PASS	differential_seed_142	zero_fallback_on_both_backends	0	PASS
differential_seed_015	parity_reaction_relative_linf	1.03e-07	PASS	differential_seed_143	converged	1	PASS
differential_seed_015	parity_stress_relative_l2	5.22e-07	PASS	differential_seed_143	solver_relative_residual	1.18e-05	PASS
differential_seed_015	parity_stress_relative_linf	4.97e-07	PASS	differential_seed_143	independent_double_relative_residual	1.18e-05	PASS
differential_seed_015	parity_strain_energy_relative_error	1.63e-08	PASS	differential_seed_143	rigid_body_constraint_rank	6	PASS
differential_seed_015	zero_fallback_on_both_backends	0	PASS	differential_seed_143	force_equilibrium_relative_error	8.61e-08	PASS
differential_seed_016	converged	1	PASS	differential_seed_143	moment_equilibrium_relative_error	1.69e-07	PASS
differential_seed_016	solver_relative_residual	1.86e-05	PASS	differential_seed_143	energy_identity_relative_error	2.94e-08	PASS
differential_seed_016	independent_double_relative_residual	1.86e-05	PASS	differential_seed_143	displacement_all_finite	1	PASS
differential_seed_016	rigid_body_constraint_rank	6	PASS	differential_seed_143	stress_all_finite	1	PASS
differential_seed_016	force_equilibrium_relative_error	4.69e-06	PASS	differential_seed_143	fallback_count	0	PASS
differential_seed_016	moment_equilibrium_relative_error	3.18e-06	PASS	differential_seed_143	metal_execution_evidence_present	1	PASS
differential_seed_016	energy_identity_relative_error	7.13e-07	PASS	differential_seed_143	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_016	displacement_all_finite	1	PASS	differential_seed_143	persistent_metal_vector_buffers	1	PASS
differential_seed_016	stress_all_finite	1	PASS	differential_seed_143	packaged_metallib_used	1	PASS
differential_seed_016	fallback_count	0	PASS	differential_seed_143	no_runtime_source_compilation	1	PASS
differential_seed_016	metal_execution_evidence_present	1	PASS	differential_seed_143	metal_fallback_count	0	PASS
differential_seed_016	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_143	converged	1	PASS
differential_seed_016	persistent_metal_vector_buffers	1	PASS	differential_seed_143	solver_relative_residual	5.88e-11	PASS
differential_seed_016	packaged_metallib_used	1	PASS	differential_seed_143	independent_double_relative_residual	5.88e-11	PASS
differential_seed_016	no_runtime_source_compilation	1	PASS	differential_seed_143	rigid_body_constraint_rank	6	PASS
differential_seed_016	metal_fallback_count	0	PASS	differential_seed_143	force_equilibrium_relative_error	2.47e-12	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_016	converged	1	PASS	differential_seed_143	moment_equilibrium_relative_error	3.26e-12	PASS
differential_seed_016	solver_relative_residual	9.28e-11	PASS	differential_seed_143	energy_identity_relative_error	1.15e-15	PASS
differential_seed_016	independent_double_relative_residual	9.28e-11	PASS	differential_seed_143	displacement_all_finite	1	PASS
differential_seed_016	rigid_body_constraint_rank	6	PASS	differential_seed_143	stress_all_finite	1	PASS
differential_seed_016	force_equilibrium_relative_error	2.08e-11	PASS	differential_seed_143	fallback_count	0	PASS
differential_seed_016	moment_equilibrium_relative_error	1.65e-11	PASS	differential_seed_143	reference_route_is_cpu_double	1	PASS
differential_seed_016	energy_identity_relative_error	4.47e-14	PASS	differential_seed_143	reference_route_no_fallback	1	PASS
differential_seed_016	displacement_all_finite	1	PASS	differential_seed_143	parity_displacement_relative_l2	1.62e-06	PASS
differential_seed_016	stress_all_finite	1	PASS	differential_seed_143	parity_displacement_relative_linf	3.22e-06	PASS
differential_seed_016	fallback_count	0	PASS	differential_seed_143	parity_reaction_relative_l2	1.50e-06	PASS
differential_seed_016	reference_route_is_cpu_double	1	PASS	differential_seed_143	parity_reaction_relative_linf	2.95e-06	PASS
differential_seed_016	reference_route_no_fallback	1	PASS	differential_seed_143	parity_stress_relative_l2	4.03e-06	PASS
differential_seed_016	parity_displacement_relative_l2	1.60e-05	PASS	differential_seed_143	parity_stress_relative_linf	3.45e-06	PASS
differential_seed_016	parity_displacement_relative_linf	1.43e-05	PASS	differential_seed_143	parity_strain_energy_relative_error	5.87e-08	PASS
differential_seed_016	parity_reaction_relative_l2	5.53e-06	PASS	differential_seed_143	zero_fallback_on_both_backends	0	PASS
differential_seed_016	parity_reaction_relative_linf	3.00e-06	PASS	differential_seed_144	converged	1	PASS
differential_seed_016	parity_stress_relative_l2	2.10e-05	PASS	differential_seed_144	solver_relative_residual	1.14e-05	PASS
differential_seed_016	parity_stress_relative_linf	6.60e-06	PASS	differential_seed_144	independent_double_relative_residual	1.14e-05	PASS
differential_seed_016	parity_strain_energy_relative_error	1.43e-06	PASS	differential_seed_144	rigid_body_constraint_rank	6	PASS
differential_seed_016	zero_fallback_on_both_backends	0	PASS	differential_seed_144	force_equilibrium_relative_error	3.13e-06	PASS
differential_properties_seed_016	metal_all_property_solves_converged	1	PASS	differential_seed_144	moment_equilibrium_relative_error	5.54e-06	PASS
differential_properties_seed_016	metal_displacement_superposition	6.07e-06	PASS	differential_seed_144	energy_identity_relative_error	2.46e-09	PASS
differential_properties_seed_016	metal_stress_superposition	8.88e-06	PASS	differential_seed_144	displacement_all_finite	1	PASS
differential_properties_seed_016	metal_sign_reversal	0	PASS	differential_seed_144	stress_all_finite	1	PASS
differential_properties_seed_016	metal_load_scaling_by_two	0	PASS	differential_seed_144	fallback_count	0	PASS
differential_properties_seed_016	metal_modulus_scaling_by_two	0	PASS	differential_seed_144	metal_execution_evidence_present	1	PASS
differential_properties_seed_016	metal_maxwell_betti_reciprocity	5.95e-05	PASS	differential_seed_144	operator_backend_is_packaged_host_process	1	PASS
differential_properties_seed_016	metal_axis_permutation	2.15e-06	PASS	differential_seed_144	persistent_metal_vector_buffers	1	PASS
differential_properties_seed_016	metal_axis_reflection	2.22e-06	PASS	differential_seed_144	packaged_metallib_used	1	PASS
differential_properties_seed_016	cpu_all_property_solves_converged	1	PASS	differential_seed_144	no_runtime_source_compilation	1	PASS
differential_properties_seed_016	cpu_displacement_superposition	3.94e-11	PASS	differential_seed_144	metal_fallback_count	0	PASS
differential_properties_seed_016	cpu_stress_superposition	5.63e-11	PASS	differential_seed_144	converged	1	PASS
differential_properties_seed_016	cpu_sign_reversal	0	PASS	differential_seed_144	solver_relative_residual	9.54e-11	PASS
differential_properties_seed_016	cpu_load_scaling_by_two	0	PASS	differential_seed_144	independent_double_relative_residual	9.54e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_properties_se ed_016	cpu_modulus_scaling_by_t wo	8.48e-12	PASS	differential_seed_144	rigid_body_constraint_ran k	6	PASS
differential_properties_se ed_016	cpu_maxwell_betti_recipro city	1.49e-10	PASS	differential_seed_144	force_equilibrium_relative_ error	7.49e-11	PASS
differential_properties_se ed_016	cpu_axis_permutation	1.32e-12	PASS	differential_seed_144	moment_equilibrium_relati ve_error	1.02e-10	PASS
differential_properties_se ed_016	cpu_axis_reflection	1.90e-12	PASS	differential_seed_144	energy_identity_relative_er ror	4.27e-13	PASS
differential_seed_017	converged	1	PASS	differential_seed_144	displacement_all_finite	1	PASS
differential_seed_017	solver_relative_residual	7.76e-07	PASS	differential_seed_144	stress_all_finite	1	PASS
differential_seed_017	independent_double_relati ve_residual	7.76e-07	PASS	differential_seed_144	fallback_count	0	PASS
differential_seed_017	rigid_body_constraint_ran k	6	PASS	differential_seed_144	reference_route_is_cpu_d ouble	1	PASS
differential_seed_017	force_equilibrium_relative_ error	4.61e-09	PASS	differential_seed_144	reference_route_no_fallba ck	1	PASS
differential_seed_017	moment_equilibrium_relati ve_error	6.63e-09	PASS	differential_seed_144	parity_displacement_relati ve_l2	6.29e-06	PASS
differential_seed_017	energy_identity_relative_er ror	9.32e-10	PASS	differential_seed_144	parity_displacement_relati ve_linf	2.85e-06	PASS
differential_seed_017	displacement_all_finite	1	PASS	differential_seed_144	parity_reaction_relative_l2	2.98e-06	PASS
differential_seed_017	stress_all_finite	1	PASS	differential_seed_144	parity_reaction_relative_lin f	1.56e-06	PASS
differential_seed_017	fallback_count	0	PASS	differential_seed_144	parity_stress_relative_l2	9.23e-06	PASS
differential_seed_017	metal_execution_evidence_ _present	1	PASS	differential_seed_144	parity_stress_relative_linf	2.93e-06	PASS
differential_seed_017	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_144	parity_strain_energy_relati ve_error	5.01e-09	PASS
differential_seed_017	persistent_metal_vector_b uffers	1	PASS	differential_seed_144	zero_fallback_on_both_ba ckends	0	PASS
differential_seed_017	packaged_metalib_used	1	PASS	differential_properties_se ed_144	metal_all_property_solves_ _converged	1	PASS
differential_seed_017	no_runtime_source_compil ation	1	PASS	differential_properties_se ed_144	metal_displacement_super position	9.19e-06	PASS
differential_seed_017	metal_fallback_count	0	PASS	differential_properties_se ed_144	metal_stress_superpositio n	1.19e-05	PASS
differential_seed_017	converged	1	PASS	differential_properties_se ed_144	metal_sign_reversal	0	PASS
differential_seed_017	solver_relative_residual	8.66e-11	PASS	differential_properties_se ed_144	metal_load_scaling_by_tw o	0	PASS
differential_seed_017	independent_double_relati ve_residual	8.66e-11	PASS	differential_properties_se ed_144	metal_modulus_scaling_by_ _two	0	PASS
differential_seed_017	rigid_body_constraint_ran k	6	PASS	differential_properties_se ed_144	metal_maxwell_betti_recip rocity	3.37e-06	PASS
differential_seed_017	force_equilibrium_relative_ error	2.13e-11	PASS	differential_properties_se ed_144	metal_axis_permutation	8.85e-08	PASS
differential_seed_017	moment_equilibrium_relati ve_error	1.38e-11	PASS	differential_properties_se ed_144	metal_axis_reflection	8.32e-08	PASS
differential_seed_017	energy_identity_relative_er ror	1.39e-13	PASS	differential_properties_se ed_144	cpu_all_property_solves_c onverged	1	PASS
differential_seed_017	displacement_all_finite	1	PASS	differential_properties_se ed_144	cpu_displacement_superp osition	1.19e-10	PASS
differential_seed_017	stress_all_finite	1	PASS	differential_properties_se ed_144	cpu_stress_superposition	1.06e-10	PASS
differential_seed_017	fallback_count	0	PASS	differential_properties_se ed_144	cpu_sign_reversal	0	PASS
differential_seed_017	reference_route_is_cpu_d ouble	1	PASS	differential_properties_se ed_144	cpu_load_scaling_by_two	0	PASS
differential_seed_017	reference_route_no_fallba ck	1	PASS	differential_properties_se ed_144	cpu_modulus_scaling_by_t wo	1.04e-11	PASS
differential_seed_017	parity_displacement_relati ve_l2	1.29e-07	PASS	differential_properties_se ed_144	cpu_maxwell_betti_recipro city	2.03e-11	PASS
differential_seed_017	parity_displacement_relati ve_linf	2.27e-07	PASS	differential_properties_se ed_144	cpu_axis_permutation	1.33e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_017	parity_reaction_relative_l2	1.01e-07	PASS	differential_properties_se ed_144	cpu_axis_reflection	1.31e-11	PASS
differential_seed_017	parity_reaction_relative_lin f	1.05e-07	PASS	differential_seed_145	converged	1	PASS
differential_seed_017	parity_stress_relative_l2	3.53e-07	PASS	differential_seed_145	solver_relative_residual	1.52e-05	PASS
differential_seed_017	parity_stress_relative_linf	5.63e-07	PASS	differential_seed_145	independent_double_relati ve_residual	1.52e-05	PASS
differential_seed_017	parity_strain_energy_relati ve_error	1.86e-09	PASS	differential_seed_145	rigid_body_constraint_ran k	6	PASS
differential_seed_017	zero_fallback_on_both_ba ckends	0	PASS	differential_seed_145	force_equilibrium_relative_ error	2.21e-06	PASS
differential_seed_018	converged	1	PASS	differential_seed_145	moment_equilibrium_relati ve_error	1.43e-06	PASS
differential_seed_018	solver_relative_residual	2.78e-06	PASS	differential_seed_145	energy_identity_relative_er ror	1.64e-08	PASS
differential_seed_018	independent_double_relati ve_residual	2.78e-06	PASS	differential_seed_145	displacement_all_finite	1	PASS
differential_seed_018	rigid_body_constraint_ran k	6	PASS	differential_seed_145	stress_all_finite	1	PASS
differential_seed_018	force_equilibrium_relative_ error	8.91e-08	PASS	differential_seed_145	fallback_count	0	PASS
differential_seed_018	moment_equilibrium_relati ve_error	6.73e-08	PASS	differential_seed_145	metal_execution_evidence_ _present	1	PASS
differential_seed_018	energy_identity_relative_er ror	1.10e-07	PASS	differential_seed_145	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_018	displacement_all_finite	1	PASS	differential_seed_145	persistent_metal_vector_b uffers	1	PASS
differential_seed_018	stress_all_finite	1	PASS	differential_seed_145	packaged_metallib_used	1	PASS
differential_seed_018	fallback_count	0	PASS	differential_seed_145	no_runtime_source_compil ation	1	PASS
differential_seed_018	metal_execution_evidence_ _present	1	PASS	differential_seed_145	metal_fallback_count	0	PASS
differential_seed_018	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_145	converged	1	PASS
differential_seed_018	persistent_metal_vector_b uffers	1	PASS	differential_seed_145	solver_relative_residual	8.29e-11	PASS
differential_seed_018	packaged_metallib_used	1	PASS	differential_seed_145	independent_double_relati ve_residual	8.29e-11	PASS
differential_seed_018	no_runtime_source_compil ation	1	PASS	differential_seed_145	rigid_body_constraint_ran k	6	PASS
differential_seed_018	metal_fallback_count	0	PASS	differential_seed_145	force_equilibrium_relative_ error	3.31e-11	PASS
differential_seed_018	converged	1	PASS	differential_seed_145	moment_equilibrium_relati ve_error	3.85e-11	PASS
differential_seed_018	solver_relative_residual	7.59e-11	PASS	differential_seed_145	energy_identity_relative_er ror	3.21e-14	PASS
differential_seed_018	independent_double_relati ve_residual	7.59e-11	PASS	differential_seed_145	displacement_all_finite	1	PASS
differential_seed_018	rigid_body_constraint_ran k	6	PASS	differential_seed_145	stress_all_finite	1	PASS
differential_seed_018	force_equilibrium_relative_ error	1.12e-11	PASS	differential_seed_145	fallback_count	0	PASS
differential_seed_018	moment_equilibrium_relati ve_error	6.61e-12	PASS	differential_seed_145	reference_route_is_cpu_d ouble	1	PASS
differential_seed_018	energy_identity_relative_er ror	3.85e-13	PASS	differential_seed_145	reference_route_no_fallba ck	1	PASS
differential_seed_018	displacement_all_finite	1	PASS	differential_seed_145	parity_displacement_relati ve_l2	2.63e-06	PASS
differential_seed_018	stress_all_finite	1	PASS	differential_seed_145	parity_displacement_relati ve_linf	1.67e-06	PASS
differential_seed_018	fallback_count	0	PASS	differential_seed_145	parity_reaction_relative_l2	5.17e-06	PASS
differential_seed_018	reference_route_is_cpu_d ouble	1	PASS	differential_seed_145	parity_reaction_relative_lin f	5.91e-06	PASS
differential_seed_018	reference_route_no_fallba ck	1	PASS	differential_seed_145	parity_stress_relative_l2	7.52e-06	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_018	parity_displacement_relative_l2	2.87e-07	PASS	differential_seed_145	parity_stress_relative_linf	2.57e-06	PASS
differential_seed_018	parity_displacement_relative_linf	4.71e-07	PASS	differential_seed_145	parity_strain_energy_relative_error	3.28e-08	PASS
differential_seed_018	parity_reaction_relative_l2	1.71e-07	PASS	differential_seed_145	zero_fallback_on_both_backends	0	PASS
differential_seed_018	parity_reaction_relative_linf	1.90e-07	PASS	differential_seed_146	converged	1	PASS
differential_seed_018	parity_stress_relative_l2	1.40e-06	PASS	differential_seed_146	solver_relative_residual	1.24e-05	PASS
differential_seed_018	parity_stress_relative_linf	9.81e-07	PASS	differential_seed_146	independent_double_relative_residual	1.24e-05	PASS
differential_seed_018	parity_strain_energy_relative_error	2.20e-07	PASS	differential_seed_146	rigid_body_constraint_rank	6	PASS
differential_seed_018	zero_fallback_on_both_backends	0	PASS	differential_seed_146	force_equilibrium_relative_error	1.14e-06	PASS
differential_seed_019	converged	1	PASS	differential_seed_146	moment_equilibrium_relative_error	1.16e-06	PASS
differential_seed_019	solver_relative_residual	1.89e-08	PASS	differential_seed_146	energy_identity_relative_error	8.09e-10	PASS
differential_seed_019	independent_double_relative_residual	1.89e-08	PASS	differential_seed_146	displacement_all_finite	1	PASS
differential_seed_019	rigid_body_constraint_rank	6	PASS	differential_seed_146	stress_all_finite	1	PASS
differential_seed_019	force_equilibrium_relative_error	1.54e-09	PASS	differential_seed_146	fallback_count	0	PASS
differential_seed_019	moment_equilibrium_relative_error	3.73e-09	PASS	differential_seed_146	metal_execution_evidence_present	1	PASS
differential_seed_019	energy_identity_relative_error	6.31e-09	PASS	differential_seed_146	operator_backend_is_packaged_host_process	1	PASS
differential_seed_019	displacement_all_finite	1	PASS	differential_seed_146	persistent_metal_vector_buffers	1	PASS
differential_seed_019	stress_all_finite	1	PASS	differential_seed_146	packaged_metallib_used	1	PASS
differential_seed_019	fallback_count	0	PASS	differential_seed_146	no_runtime_source_compilation	1	PASS
differential_seed_019	metal_execution_evidence_present	1	PASS	differential_seed_146	metal_fallback_count	0	PASS
differential_seed_019	operator_backend_is_packaged_host_process	1	PASS	differential_seed_146	converged	1	PASS
differential_seed_019	persistent_metal_vector_buffers	1	PASS	differential_seed_146	solver_relative_residual	7.34e-11	PASS
differential_seed_019	packaged_metallib_used	1	PASS	differential_seed_146	independent_double_relative_residual	7.34e-11	PASS
differential_seed_019	no_runtime_source_compilation	1	PASS	differential_seed_146	rigid_body_constraint_rank	6	PASS
differential_seed_019	metal_fallback_count	0	PASS	differential_seed_146	force_equilibrium_relative_error	3.88e-12	PASS
differential_seed_019	converged	1	PASS	differential_seed_146	moment_equilibrium_relative_error	3.76e-12	PASS
differential_seed_019	solver_relative_residual	7.50e-11	PASS	differential_seed_146	energy_identity_relative_error	1.30e-13	PASS
differential_seed_019	independent_double_relative_residual	7.50e-11	PASS	differential_seed_146	displacement_all_finite	1	PASS
differential_seed_019	rigid_body_constraint_rank	6	PASS	differential_seed_146	stress_all_finite	1	PASS
differential_seed_019	force_equilibrium_relative_error	3.73e-12	PASS	differential_seed_146	fallback_count	0	PASS
differential_seed_019	moment_equilibrium_relative_error	6.13e-12	PASS	differential_seed_146	reference_route_is_cpu_double	1	PASS
differential_seed_019	energy_identity_relative_error	1.52e-15	PASS	differential_seed_146	reference_route_no_fallback	1	PASS
differential_seed_019	displacement_all_finite	1	PASS	differential_seed_146	parity_displacement_relative_l2	2.07e-06	PASS
differential_seed_019	stress_all_finite	1	PASS	differential_seed_146	parity_displacement_relative_linf	3.32e-06	PASS
differential_seed_019	fallback_count	0	PASS	differential_seed_146	parity_reaction_relative_l2	2.60e-06	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_019	reference_route_is_cpu_double	1	PASS	differential_seed_146	parity_reaction_relative_inf	1.90e-06	PASS
differential_seed_019	reference_route_no_fallback	1	PASS	differential_seed_146	parity_stress_relative_l2	7.10e-06	PASS
differential_seed_019	parity_displacement_relative_l2	6.34e-09	PASS	differential_seed_146	parity_stress_relative_inf	3.73e-06	PASS
differential_seed_019	parity_displacement_relative_inf	6.47e-09	PASS	differential_seed_146	parity_strain_energy_relative_error	1.57e-09	PASS
differential_seed_019	parity_reaction_relative_l2	6.05e-09	PASS	differential_seed_146	zero_fallback_on_both_backends	0	PASS
differential_seed_019	parity_reaction_relative_inf	6.31e-09	PASS	differential_seed_147	converged	1	PASS
differential_seed_019	parity_stress_relative_l2	6.38e-09	PASS	differential_seed_147	solver_relative_residual	1.52e-05	PASS
differential_seed_019	parity_stress_relative_inf	6.44e-09	PASS	differential_seed_147	independent_double_relative_residual	1.52e-05	PASS
differential_seed_019	parity_strain_energy_relative_error	1.26e-08	PASS	differential_seed_147	rigid_body_constraint_rank	6	PASS
differential_seed_019	zero_fallback_on_both_backends	0	PASS	differential_seed_147	force_equilibrium_relative_error	5.86e-08	PASS
differential_seed_020	converged	1	PASS	differential_seed_147	moment_equilibrium_relative_error	2.37e-08	PASS
differential_seed_020	solver_relative_residual	1.48e-05	PASS	differential_seed_147	energy_identity_relative_error	1.88e-08	PASS
differential_seed_020	independent_double_relative_residual	1.48e-05	PASS	differential_seed_147	displacement_all_finite	1	PASS
differential_seed_020	rigid_body_constraint_rank	6	PASS	differential_seed_147	stress_all_finite	1	PASS
differential_seed_020	force_equilibrium_relative_error	5.37e-07	PASS	differential_seed_147	fallback_count	0	PASS
differential_seed_020	moment_equilibrium_relative_error	5.51e-07	PASS	differential_seed_147	metal_execution_evidence_present	1	PASS
differential_seed_020	energy_identity_relative_error	8.16e-09	PASS	differential_seed_147	operator_backend_is_packaged_host_processor	1	PASS
differential_seed_020	displacement_all_finite	1	PASS	differential_seed_147	persistent_metal_vector_buffers	1	PASS
differential_seed_020	stress_all_finite	1	PASS	differential_seed_147	packaged_metallib_used	1	PASS
differential_seed_020	fallback_count	0	PASS	differential_seed_147	no_runtime_source_compilation	1	PASS
differential_seed_020	metal_execution_evidence_present	1	PASS	differential_seed_147	metal_fallback_count	0	PASS
differential_seed_020	operator_backend_is_packaged_host_processor	1	PASS	differential_seed_147	converged	1	PASS
differential_seed_020	persistent_metal_vector_buffers	1	PASS	differential_seed_147	solver_relative_residual	6.62e-11	PASS
differential_seed_020	packaged_metallib_used	1	PASS	differential_seed_147	independent_double_relative_residual	6.62e-11	PASS
differential_seed_020	no_runtime_source_compilation	1	PASS	differential_seed_147	rigid_body_constraint_rank	6	PASS
differential_seed_020	metal_fallback_count	0	PASS	differential_seed_147	force_equilibrium_relative_error	8.76e-13	PASS
differential_seed_020	converged	1	PASS	differential_seed_147	moment_equilibrium_relative_error	1.39e-12	PASS
differential_seed_020	solver_relative_residual	8.63e-11	PASS	differential_seed_147	energy_identity_relative_error	5.59e-13	PASS
differential_seed_020	independent_double_relative_residual	8.63e-11	PASS	differential_seed_147	displacement_all_finite	1	PASS
differential_seed_020	rigid_body_constraint_rank	6	PASS	differential_seed_147	stress_all_finite	1	PASS
differential_seed_020	force_equilibrium_relative_error	3.65e-12	PASS	differential_seed_147	fallback_count	0	PASS
differential_seed_020	moment_equilibrium_relative_error	4.42e-12	PASS	differential_seed_147	reference_route_is_cpu_double	1	PASS
differential_seed_020	energy_identity_relative_error	1.50e-14	PASS	differential_seed_147	reference_route_no_fallback	1	PASS
differential_seed_020	displacement_all_finite	1	PASS	differential_seed_147	parity_displacement_relative_l2	8.20e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_020	stress_all_finite	1	PASS	differential_seed_147	parity_displacement_relative_linf	1.44e-07	PASS
differential_seed_020	fallback_count	0	PASS	differential_seed_147	parity_reaction_relative_l2	2.44e-07	PASS
differential_seed_020	reference_route_is_cpu_double	1	PASS	differential_seed_147	parity_reaction_relative_linf	3.10e-07	PASS
differential_seed_020	reference_route_no_fallback	1	PASS	differential_seed_147	parity_stress_relative_l2	3.50e-06	PASS
differential_seed_020	parity_displacement_relative_l2	6.06e-07	PASS	differential_seed_147	parity_stress_relative_linf	3.13e-06	PASS
differential_seed_020	parity_displacement_relative_linf	1.10e-06	PASS	differential_seed_147	parity_strain_energy_relative_error	3.76e-08	PASS
differential_seed_020	parity_reaction_relative_l2	3.30e-06	PASS	differential_seed_147	zero_fallback_on_both_backends	0	PASS
differential_seed_020	parity_reaction_relative_linf	4.96e-06	PASS	differential_seed_148	converged	1	PASS
differential_seed_020	parity_stress_relative_l2	4.42e-06	PASS	differential_seed_148	solver_relative_residual	6.09e-07	PASS
differential_seed_020	parity_stress_relative_linf	5.62e-06	PASS	differential_seed_148	independent_double_relative_residual	6.09e-07	PASS
differential_seed_020	parity_strain_energy_relative_error	1.63e-08	PASS	differential_seed_148	rigid_body_constraint_rank	6	PASS
differential_seed_020	zero_fallback_on_both_backends	0	PASS	differential_seed_148	force_equilibrium_relative_error	3.13e-08	PASS
differential_properties_seed_020	metal_all_property_solves_converged	1	PASS	differential_seed_148	moment_equilibrium_relative_error	4.46e-08	PASS
differential_properties_seed_020	metal_displacement_superposition	4.01e-07	PASS	differential_seed_148	energy_identity_relative_error	6.94e-08	PASS
differential_properties_seed_020	metal_stress_superposition	2.31e-06	PASS	differential_seed_148	displacement_all_finite	1	PASS
differential_properties_seed_020	metal_sign_reversal	0	PASS	differential_seed_148	stress_all_finite	1	PASS
differential_properties_seed_020	metal_load_scaling_by_two	0	PASS	differential_seed_148	fallback_count	0	PASS
differential_properties_seed_020	metal_modulus_scaling_by_two	0	PASS	differential_seed_148	metal_execution_evidence_present	1	PASS
differential_properties_seed_020	metal_maxwell_betti_reciprocity	2.47e-06	PASS	differential_seed_148	operator_backend_is_packaged_host_process	1	PASS
differential_properties_seed_020	metal_axis_permutation	4.83e-09	PASS	differential_seed_148	persistent_metal_vector_buffers	1	PASS
differential_properties_seed_020	metal_axis_reflection	6.56e-09	PASS	differential_seed_148	packaged_metallib_used	1	PASS
differential_properties_seed_020	cpu_all_property_solves_converged	1	PASS	differential_seed_148	no_runtime_source_compilation	1	PASS
differential_properties_seed_020	cpu_displacement_superposition	2.87e-12	PASS	differential_seed_148	metal_fallback_count	0	PASS
differential_properties_seed_020	cpu_stress_superposition	2.84e-11	PASS	differential_seed_148	converged	1	PASS
differential_properties_seed_020	cpu_sign_reversal	0	PASS	differential_seed_148	solver_relative_residual	9.50e-11	PASS
differential_properties_seed_020	cpu_load_scaling_by_two	0	PASS	differential_seed_148	independent_double_relative_residual	9.50e-11	PASS
differential_properties_seed_020	cpu_modulus_scaling_by_two	2.57e-13	PASS	differential_seed_148	rigid_body_constraint_rank	6	PASS
differential_properties_seed_020	cpu_maxwell_betti_reciprocity	5.19e-11	PASS	differential_seed_148	force_equilibrium_relative_error	2.31e-11	PASS
differential_properties_seed_020	cpu_axis_permutation	1.34e-12	PASS	differential_seed_148	moment_equilibrium_relative_error	3.50e-11	PASS
differential_properties_seed_020	cpu_axis_reflection	4.79e-13	PASS	differential_seed_148	energy_identity_relative_error	1.07e-15	PASS
differential_seed_021	converged	1	PASS	differential_seed_148	displacement_all_finite	1	PASS
differential_seed_021	solver_relative_residual	5.23e-07	PASS	differential_seed_148	stress_all_finite	1	PASS
differential_seed_021	independent_double_relative_residual	5.23e-07	PASS	differential_seed_148	fallback_count	0	PASS
differential_seed_021	rigid_body_constraint_rank	6	PASS	differential_seed_148	reference_route_is_cpu_double	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_021	force_equilibrium_relative_error	6.22e-08	PASS	differential_seed_148	reference_route_no_fallback	1	PASS
differential_seed_021	moment_equilibrium_relative_error	5.18e-08	PASS	differential_seed_148	parity_displacement_relative_l2	1.86e-07	PASS
differential_seed_021	energy_identity_relative_error	3.09e-08	PASS	differential_seed_148	parity_displacement_relative_linf	1.71e-07	PASS
differential_seed_021	displacement_all_finite	1	PASS	differential_seed_148	parity_reaction_relative_l2	1.05e-07	PASS
differential_seed_021	stress_all_finite	1	PASS	differential_seed_148	parity_reaction_relative_linf	9.28e-08	PASS
differential_seed_021	fallback_count	0	PASS	differential_seed_148	parity_stress_relative_l2	4.23e-07	PASS
differential_seed_021	metal_execution_evidence_present	1	PASS	differential_seed_148	parity_stress_relative_linf	4.58e-07	PASS
differential_seed_021	operator_backend_is_packaged_host_processor	1	PASS	differential_seed_148	parity_strain_energy_relative_error	1.39e-07	PASS
differential_seed_021	persistent_metal_vector_buffers	1	PASS	differential_seed_148	zero_fallback_on_both_backends	0	PASS
differential_seed_021	packaged_metalib_used	1	PASS	differential_properties_seed_148	metal_all_property_solves_converged	1	PASS
differential_seed_021	no_runtime_source_compilation	1	PASS	differential_properties_seed_148	metal_displacement_superposition	2.45e-07	PASS
differential_seed_021	metal_fallback_count	0	PASS	differential_properties_seed_148	metal_stress_superposition	4.77e-07	PASS
differential_seed_021	converged	1	PASS	differential_properties_seed_148	metal_sign_reversal	0	PASS
differential_seed_021	solver_relative_residual	7.67e-11	PASS	differential_properties_seed_148	metal_load_scaling_by_two	0	PASS
differential_seed_021	independent_double_relative_residual	7.67e-11	PASS	differential_properties_seed_148	metal_modulus_scaling_by_two	0	PASS
differential_seed_021	rigid_body_constraint_rank	6	PASS	differential_properties_seed_148	metal_maxwell_betti_reciprocity	3.01e-07	PASS
differential_seed_021	force_equilibrium_relative_error	1.54e-11	PASS	differential_properties_seed_148	metal_axis_permutation	2.26e-07	PASS
differential_seed_021	moment_equilibrium_relative_error	1.06e-11	PASS	differential_properties_seed_148	metal_axis_reflection	3.13e-07	PASS
differential_seed_021	energy_identity_relative_error	3.59e-13	PASS	differential_properties_seed_148	cpu_all_property_solves_converged	1	PASS
differential_seed_021	displacement_all_finite	1	PASS	differential_properties_seed_148	cpu_displacement_superposition	1.67e-10	PASS
differential_seed_021	stress_all_finite	1	PASS	differential_properties_seed_148	cpu_stress_superposition	1.31e-10	PASS
differential_seed_021	fallback_count	0	PASS	differential_properties_seed_148	cpu_sign_reversal	0	PASS
differential_seed_021	reference_route_is_cpu_double	1	PASS	differential_properties_seed_148	cpu_load_scaling_by_two	0	PASS
differential_seed_021	reference_route_no_fallback	1	PASS	differential_properties_seed_148	cpu_modulus_scaling_by_two	1.06e-14	PASS
differential_seed_021	parity_displacement_relative_l2	1.26e-07	PASS	differential_properties_seed_148	cpu_maxwell_betti_reciprocity	1.11e-09	PASS
differential_seed_021	parity_displacement_relative_linf	8.54e-08	PASS	differential_properties_seed_148	cpu_axis_permutation	1.91e-14	PASS
differential_seed_021	parity_reaction_relative_l2	1.16e-07	PASS	differential_properties_seed_148	cpu_axis_reflection	8.58e-15	PASS
differential_seed_021	parity_reaction_relative_linf	9.99e-08	PASS	differential_seed_149	converged	1	PASS
differential_seed_021	parity_stress_relative_l2	2.96e-07	PASS	differential_seed_149	solver_relative_residual	2.55e-07	PASS
differential_seed_021	parity_stress_relative_linf	3.39e-07	PASS	differential_seed_149	independent_double_relative_residual	2.55e-07	PASS
differential_seed_021	parity_strain_energy_relative_error	6.18e-08	PASS	differential_seed_149	rigid_body_constraint_rank	6	PASS
differential_seed_021	zero_fallback_on_both_backends	0	PASS	differential_seed_149	force_equilibrium_relative_error	1.20e-08	PASS
differential_seed_022	converged	1	PASS	differential_seed_149	moment_equilibrium_relative_error	1.74e-08	PASS
differential_seed_022	solver_relative_residual	1.34e-05	PASS	differential_seed_149	energy_identity_relative_error	5.41e-09	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_022	independent_double_relative_residual	1.34e-05	PASS	differential_seed_149	displacement_all_finite	1	PASS
differential_seed_022	rigid_body_constraint_rank	6	PASS	differential_seed_149	stress_all_finite	1	PASS
differential_seed_022	force_equilibrium_relative_error	4.12e-06	PASS	differential_seed_149	fallback_count	0	PASS
differential_seed_022	moment_equilibrium_relative_error	2.09e-05	PASS	differential_seed_149	metal_execution_evidence_present	1	PASS
differential_seed_022	energy_identity_relative_error	2.04e-07	PASS	differential_seed_149	operator_backend_is_packaged_host_process	1	PASS
differential_seed_022	displacement_all_finite	1	PASS	differential_seed_149	persistent_metal_vector_buffers	1	PASS
differential_seed_022	stress_all_finite	1	PASS	differential_seed_149	packaged_metallib_used	1	PASS
differential_seed_022	fallback_count	0	PASS	differential_seed_149	no_runtime_source_compilation	1	PASS
differential_seed_022	metal_execution_evidence_present	1	PASS	differential_seed_149	metal_fallback_count	0	PASS
differential_seed_022	operator_backend_is_packaged_host_process	1	PASS	differential_seed_149	converged	1	PASS
differential_seed_022	persistent_metal_vector_buffers	1	PASS	differential_seed_149	solver_relative_residual	5.60e-11	PASS
differential_seed_022	packaged_metallib_used	1	PASS	differential_seed_149	independent_double_relative_residual	5.60e-11	PASS
differential_seed_022	no_runtime_source_compilation	1	PASS	differential_seed_149	rigid_body_constraint_rank	6	PASS
differential_seed_022	metal_fallback_count	0	PASS	differential_seed_149	force_equilibrium_relative_error	1.09e-11	PASS
differential_seed_022	converged	1	PASS	differential_seed_149	moment_equilibrium_relative_error	2.33e-11	PASS
differential_seed_022	solver_relative_residual	8.42e-11	PASS	differential_seed_149	energy_identity_relative_error	1.48e-16	PASS
differential_seed_022	independent_double_relative_residual	8.42e-11	PASS	differential_seed_149	displacement_all_finite	1	PASS
differential_seed_022	rigid_body_constraint_rank	6	PASS	differential_seed_149	stress_all_finite	1	PASS
differential_seed_022	force_equilibrium_relative_error	2.99e-11	PASS	differential_seed_149	fallback_count	0	PASS
differential_seed_022	moment_equilibrium_relative_error	7.36e-11	PASS	differential_seed_149	reference_route_is_cpu_double	1	PASS
differential_seed_022	energy_identity_relative_error	2.46e-14	PASS	differential_seed_149	reference_route_no_fallback	1	PASS
differential_seed_022	displacement_all_finite	1	PASS	differential_seed_149	parity_displacement_relative_l2	1.41e-07	PASS
differential_seed_022	stress_all_finite	1	PASS	differential_seed_149	parity_displacement_relative_linf	2.32e-07	PASS
differential_seed_022	fallback_count	0	PASS	differential_seed_149	parity_reaction_relative_l2	6.85e-08	PASS
differential_seed_022	reference_route_is_cpu_double	1	PASS	differential_seed_149	parity_reaction_relative_linf	7.87e-08	PASS
differential_seed_022	reference_route_no_fallback	1	PASS	differential_seed_149	parity_stress_relative_l2	2.55e-07	PASS
differential_seed_022	parity_displacement_relative_l2	1.89e-05	PASS	differential_seed_149	parity_stress_relative_linf	4.66e-07	PASS
differential_seed_022	parity_displacement_relative_linf	7.56e-06	PASS	differential_seed_149	parity_strain_energy_relative_error	1.08e-08	PASS
differential_seed_022	parity_reaction_relative_l2	3.44e-06	PASS	differential_seed_149	zero_fallback_on_both_backends	0	PASS
differential_seed_022	parity_reaction_relative_linf	1.55e-06	PASS	differential_seed_150	converged	1	PASS
differential_seed_022	parity_stress_relative_l2	1.39e-05	PASS	differential_seed_150	solver_relative_residual	1.74e-05	PASS
differential_seed_022	parity_stress_relative_linf	3.04e-06	PASS	differential_seed_150	independent_double_relative_residual	1.74e-05	PASS
differential_seed_022	parity_strain_energy_relative_error	4.09e-07	PASS	differential_seed_150	rigid_body_constraint_rank	6	PASS
differential_seed_022	zero_fallback_on_both_backends	0	PASS	differential_seed_150	force_equilibrium_relative_error	1.77e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_023	converged	1	PASS	differential_seed_150	moment_equilibrium_relative_error	3.27e-07	PASS
differential_seed_023	solver_relative_residual	1.70e-07	PASS	differential_seed_150	energy_identity_relative_error	7.66e-08	PASS
differential_seed_023	independent_double_relative_residual	1.70e-07	PASS	differential_seed_150	displacement_all_finite	1	PASS
differential_seed_023	rigid_body_constraint_rank	6	PASS	differential_seed_150	stress_all_finite	1	PASS
differential_seed_023	force_equilibrium_relative_error	1.11e-08	PASS	differential_seed_150	fallback_count	0	PASS
differential_seed_023	moment_equilibrium_relative_error	1.77e-08	PASS	differential_seed_150	metal_execution_evidence_present	1	PASS
differential_seed_023	energy_identity_relative_error	2.72e-08	PASS	differential_seed_150	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_023	displacement_all_finite	1	PASS	differential_seed_150	persistent_metal_vector_buffers	1	PASS
differential_seed_023	stress_all_finite	1	PASS	differential_seed_150	packaged_metallib_used	1	PASS
differential_seed_023	fallback_count	0	PASS	differential_seed_150	no_runtime_source_compilation	1	PASS
differential_seed_023	metal_execution_evidence_present	1	PASS	differential_seed_150	metal_fallback_count	0	PASS
differential_seed_023	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_150	converged	1	PASS
differential_seed_023	persistent_metal_vector_buffers	1	PASS	differential_seed_150	solver_relative_residual	9.96e-11	PASS
differential_seed_023	packaged_metallib_used	1	PASS	differential_seed_150	independent_double_relative_residual	9.96e-11	PASS
differential_seed_023	no_runtime_source_compilation	1	PASS	differential_seed_150	rigid_body_constraint_rank	6	PASS
differential_seed_023	metal_fallback_count	0	PASS	differential_seed_150	force_equilibrium_relative_error	3.30e-12	PASS
differential_seed_023	converged	1	PASS	differential_seed_150	moment_equilibrium_relative_error	2.88e-12	PASS
differential_seed_023	solver_relative_residual	8.00e-11	PASS	differential_seed_150	energy_identity_relative_error	7.31e-13	PASS
differential_seed_023	independent_double_relative_residual	8.00e-11	PASS	differential_seed_150	displacement_all_finite	1	PASS
differential_seed_023	rigid_body_constraint_rank	6	PASS	differential_seed_150	stress_all_finite	1	PASS
differential_seed_023	force_equilibrium_relative_error	1.35e-11	PASS	differential_seed_150	fallback_count	0	PASS
differential_seed_023	moment_equilibrium_relative_error	1.15e-11	PASS	differential_seed_150	reference_route_is_cpu_double	1	PASS
differential_seed_023	energy_identity_relative_error	3.67e-14	PASS	differential_seed_150	reference_route_no_fallback	1	PASS
differential_seed_023	displacement_all_finite	1	PASS	differential_seed_150	parity_displacement_relative_l2	4.66e-07	PASS
differential_seed_023	stress_all_finite	1	PASS	differential_seed_150	parity_displacement_relative_linf	5.74e-07	PASS
differential_seed_023	fallback_count	0	PASS	differential_seed_150	parity_reaction_relative_l2	1.43e-06	PASS
differential_seed_023	reference_route_is_cpu_double	1	PASS	differential_seed_150	parity_reaction_relative_linf	1.42e-06	PASS
differential_seed_023	reference_route_no_fallback	1	PASS	differential_seed_150	parity_stress_relative_l2	3.12e-06	PASS
differential_seed_023	parity_displacement_relative_l2	6.43e-08	PASS	differential_seed_150	parity_stress_relative_linf	1.93e-06	PASS
differential_seed_023	parity_displacement_relative_linf	7.39e-08	PASS	differential_seed_150	parity_strain_energy_relative_error	1.53e-07	PASS
differential_seed_023	parity_reaction_relative_l2	1.97e-08	PASS	differential_seed_150	zero_fallback_on_both_backends	0	PASS
differential_seed_023	parity_reaction_relative_linf	3.03e-08	PASS	differential_seed_151	converged	1	PASS
differential_seed_023	parity_stress_relative_l2	9.60e-08	PASS	differential_seed_151	solver_relative_residual	2.65e-08	PASS
differential_seed_023	parity_stress_relative_linf	4.54e-08	PASS	differential_seed_151	independent_double_relative_residual	2.65e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_023	parity_strain_energy_relative_error	5.44e-08	PASS	differential_seed_151	rigid_body_constraint_rank	6	PASS
differential_seed_023	zero_fallback_on_both_backends	0	PASS	differential_seed_151	force_equilibrium_relative_error	6.52e-09	PASS
differential_seed_024	converged	1	PASS	differential_seed_151	moment_equilibrium_relative_error	7.75e-09	PASS
differential_seed_024	solver_relative_residual	8.45e-07	PASS	differential_seed_151	energy_identity_relative_error	3.43e-09	PASS
differential_seed_024	independent_double_relative_residual	8.45e-07	PASS	differential_seed_151	displacement_all_finite	1	PASS
differential_seed_024	rigid_body_constraint_rank	6	PASS	differential_seed_151	stress_all_finite	1	PASS
differential_seed_024	force_equilibrium_relative_error	1.67e-07	PASS	differential_seed_151	fallback_count	0	PASS
differential_seed_024	moment_equilibrium_relative_error	2.15e-07	PASS	differential_seed_151	metal_execution_evidence_present	1	PASS
differential_seed_024	energy_identity_relative_error	1.30e-07	PASS	differential_seed_151	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_024	displacement_all_finite	1	PASS	differential_seed_151	persistent_metal_vector_buffers	1	PASS
differential_seed_024	stress_all_finite	1	PASS	differential_seed_151	packaged_metallib_used	1	PASS
differential_seed_024	fallback_count	0	PASS	differential_seed_151	no_runtime_source_compilation	1	PASS
differential_seed_024	metal_execution_evidence_present	1	PASS	differential_seed_151	metal_fallback_count	0	PASS
differential_seed_024	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_151	converged	1	PASS
differential_seed_024	persistent_metal_vector_buffers	1	PASS	differential_seed_151	solver_relative_residual	9.47e-11	PASS
differential_seed_024	packaged_metallib_used	1	PASS	differential_seed_151	independent_double_relative_residual	9.47e-11	PASS
differential_seed_024	no_runtime_source_compilation	1	PASS	differential_seed_151	rigid_body_constraint_rank	6	PASS
differential_seed_024	metal_fallback_count	0	PASS	differential_seed_151	force_equilibrium_relative_error	1.39e-12	PASS
differential_seed_024	converged	1	PASS	differential_seed_151	moment_equilibrium_relative_error	1.62e-12	PASS
differential_seed_024	solver_relative_residual	7.91e-11	PASS	differential_seed_151	energy_identity_relative_error	2.75e-16	PASS
differential_seed_024	independent_double_relative_residual	7.91e-11	PASS	differential_seed_151	displacement_all_finite	1	PASS
differential_seed_024	rigid_body_constraint_rank	6	PASS	differential_seed_151	stress_all_finite	1	PASS
differential_seed_024	force_equilibrium_relative_error	4.22e-11	PASS	differential_seed_151	fallback_count	0	PASS
differential_seed_024	moment_equilibrium_relative_error	2.12e-11	PASS	differential_seed_151	reference_route_is_cpu_double	1	PASS
differential_seed_024	energy_identity_relative_error	1.46e-13	PASS	differential_seed_151	reference_route_no_fallback	1	PASS
differential_seed_024	displacement_all_finite	1	PASS	differential_seed_151	parity_displacement_relative_l2	1.77e-08	PASS
differential_seed_024	stress_all_finite	1	PASS	differential_seed_151	parity_displacement_relative_linf	2.04e-08	PASS
differential_seed_024	fallback_count	0	PASS	differential_seed_151	parity_reaction_relative_l2	1.63e-08	PASS
differential_seed_024	reference_route_is_cpu_double	1	PASS	differential_seed_151	parity_reaction_relative_linf	1.69e-08	PASS
differential_seed_024	reference_route_no_fallback	1	PASS	differential_seed_151	parity_stress_relative_l2	1.80e-08	PASS
differential_seed_024	parity_displacement_relative_l2	1.67e-07	PASS	differential_seed_151	parity_stress_relative_linf	1.73e-08	PASS
differential_seed_024	parity_displacement_relative_linf	2.05e-07	PASS	differential_seed_151	parity_strain_energy_relative_error	6.86e-09	PASS
differential_seed_024	parity_reaction_relative_l2	1.80e-07	PASS	differential_seed_151	zero_fallback_on_both_backends	0	PASS
differential_seed_024	parity_reaction_relative_linf	1.60e-07	PASS	differential_seed_152	converged	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_024	parity_stress_relative_l2	4.12e-07	PASS	differential_seed_152	solver_relative_residual	3.19e-07	PASS
differential_seed_024	parity_stress_relative_linf	2.83e-07	PASS	differential_seed_152	independent_double_relative_residual	3.19e-07	PASS
differential_seed_024	parity_strain_energy_relative_error	2.60e-07	PASS	differential_seed_152	rigid_body_constraint_rank	6	PASS
differential_seed_024	zero_fallback_on_both_backends	0	PASS	differential_seed_152	force_equilibrium_relative_error	1.11e-09	PASS
differential_properties_seed_024	metal_all_property_solves_converged	1	PASS	differential_seed_152	moment_equilibrium_relative_error	2.96e-09	PASS
differential_properties_seed_024	metal_displacement_superposition	1.60e-07	PASS	differential_seed_152	energy_identity_relative_error	1.81e-08	PASS
differential_properties_seed_024	metal_stress_superposition	5.18e-07	PASS	differential_seed_152	displacement_all_finite	1	PASS
differential_properties_seed_024	metal_sign_reversal	0	PASS	differential_seed_152	stress_all_finite	1	PASS
differential_properties_seed_024	metal_load_scaling_by_two	0	PASS	differential_seed_152	fallback_count	0	PASS
differential_properties_seed_024	metal_modulus_scaling_by_two	0	PASS	differential_seed_152	metal_execution_evidence_present	1	PASS
differential_properties_seed_024	metal_maxwell_betti_reciprocity	8.09e-08	PASS	differential_seed_152	operator_backend_is_packaged_host_p...	1	PASS
differential_properties_seed_024	metal_axis_permutation	1.79e-07	PASS	differential_seed_152	persistent_metal_vector_buffers	1	PASS
differential_properties_seed_024	metal_axis_reflection	2.21e-07	PASS	differential_seed_152	packaged_metallib_used	1	PASS
differential_properties_seed_024	cpu_all_property_solves_converged	1	PASS	differential_seed_152	no_runtime_source_compilation	1	PASS
differential_properties_seed_024	cpu_displacement_superposition	1.62e-11	PASS	differential_seed_152	metal_fallback_count	0	PASS
differential_properties_seed_024	cpu_stress_superposition	4.19e-11	PASS	differential_seed_152	converged	1	PASS
differential_properties_seed_024	cpu_sign_reversal	0	PASS	differential_seed_152	solver_relative_residual	9.06e-11	PASS
differential_properties_seed_024	cpu_load_scaling_by_two	0	PASS	differential_seed_152	independent_double_relative_residual	9.06e-11	PASS
differential_properties_seed_024	cpu_modulus_scaling_by_two	5.04e-12	PASS	differential_seed_152	rigid_body_constraint_rank	6	PASS
differential_properties_seed_024	cpu_maxwell_betti_reciprocity	1.63e-10	PASS	differential_seed_152	force_equilibrium_relative_error	1.42e-12	PASS
differential_properties_seed_024	cpu_axis_permutation	5.02e-12	PASS	differential_seed_152	moment_equilibrium_relative_error	4.48e-12	PASS
differential_properties_seed_024	cpu_axis_reflection	5.01e-12	PASS	differential_seed_152	energy_identity_relative_error	6.56e-13	PASS
differential_seed_025	converged	1	PASS	differential_seed_152	displacement_all_finite	1	PASS
differential_seed_025	solver_relative_residual	1.34e-05	PASS	differential_seed_152	stress_all_finite	1	PASS
differential_seed_025	independent_double_relative_residual	1.34e-05	PASS	differential_seed_152	fallback_count	0	PASS
differential_seed_025	rigid_body_constraint_rank	6	PASS	differential_seed_152	reference_route_is_cpu_double	1	PASS
differential_seed_025	force_equilibrium_relative_error	1.16e-06	PASS	differential_seed_152	reference_route_no_fallback	1	PASS
differential_seed_025	moment_equilibrium_relative_error	1.23e-06	PASS	differential_seed_152	parity_displacement_relative_l2	1.74e-08	PASS
differential_seed_025	energy_identity_relative_error	4.67e-09	PASS	differential_seed_152	parity_displacement_relative_linf	1.83e-08	PASS
differential_seed_025	displacement_all_finite	1	PASS	differential_seed_152	parity_reaction_relative_l2	1.80e-08	PASS
differential_seed_025	stress_all_finite	1	PASS	differential_seed_152	parity_reaction_relative_linf	1.91e-08	PASS
differential_seed_025	fallback_count	0	PASS	differential_seed_152	parity_stress_relative_l2	1.86e-08	PASS
differential_seed_025	metal_execution_evidence_present	1	PASS	differential_seed_152	parity_stress_relative_linf	1.96e-08	PASS
differential_seed_025	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_152	parity_strain_energy_relative_error	3.61e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_025	persistent_metal_vector_b uffers	1	PASS	differential_seed_152	zero_fallback_on_both_ba ckends	0	PASS
differential_seed_025	packaged_metallib_used	1	PASS	differential_properties_se ed_152	metal_all_property_solves _converged	1	PASS
differential_seed_025	no_runtime_source_compil ation	1	PASS	differential_properties_se ed_152	metal_displacement_super position	3.10e-11	PASS
differential_seed_025	metal_fallback_count	0	PASS	differential_properties_se ed_152	metal_stress_superpositio n	4.94e-09	PASS
differential_seed_025	converged	1	PASS	differential_properties_se ed_152	metal_sign_reversal	0	PASS
differential_seed_025	solver_relative_residual	9.44e-11	PASS	differential_properties_se ed_152	metal_load_scaling_by_tw o	0	PASS
differential_seed_025	independent_double_relati ve_residual	9.44e-11	PASS	differential_properties_se ed_152	metal_modulus_scaling_by _two	7.55e-12	PASS
differential_seed_025	rigid_body_constraint_ran k	6	PASS	differential_properties_se ed_152	metal_maxwell_betti_recip rocity	3.72e-08	PASS
differential_seed_025	force_equilibrium_relative_ error	3.36e-12	PASS	differential_properties_se ed_152	metal_axis_permutation	2.73e-10	PASS
differential_seed_025	moment_equilibrium_relati ve_error	4.62e-12	PASS	differential_properties_se ed_152	metal_axis_reflection	3.05e-11	PASS
differential_seed_025	energy_identity_relative_er ror	2.07e-14	PASS	differential_properties_se ed_152	cpu_all_property_solves_c onverged	1	PASS
differential_seed_025	displacement_all_finite	1	PASS	differential_properties_se ed_152	cpu_displacement_superp osition	6.65e-14	PASS
differential_seed_025	stress_all_finite	1	PASS	differential_properties_se ed_152	cpu_stress_superposition	2.80e-12	PASS
differential_seed_025	fallback_count	0	PASS	differential_properties_se ed_152	cpu_sign_reversal	0	PASS
differential_seed_025	reference_route_is_cpu_d ouble	1	PASS	differential_properties_se ed_152	cpu_load_scaling_by_two	0	PASS
differential_seed_025	reference_route_no_fallba ck	1	PASS	differential_properties_se ed_152	cpu_modulus_scaling_by_t wo	1.33e-12	PASS
differential_seed_025	parity_displacement_relati ve_l2	2.09e-06	PASS	differential_properties_se ed_152	cpu_maxwell_betti_recipro city	6.33e-13	PASS
differential_seed_025	parity_displacement_relati ve_linf	2.84e-06	PASS	differential_properties_se ed_152	cpu_axis_permutation	5.66e-13	PASS
differential_seed_025	parity_reaction_relative_l2	3.17e-06	PASS	differential_properties_se ed_152	cpu_axis_reflection	4.93e-14	PASS
differential_seed_025	parity_reaction_relative_lin f	3.44e-06	PASS	differential_seed_153	converged	1	PASS
differential_seed_025	parity_stress_relative_l2	7.22e-06	PASS	differential_seed_153	solver_relative_residual	1.07e-06	PASS
differential_seed_025	parity_stress_relative_linf	6.69e-06	PASS	differential_seed_153	independent_double_relati ve_residual	1.07e-06	PASS
differential_seed_025	parity_strain_energy_relati ve_error	9.38e-09	PASS	differential_seed_153	rigid_body_constraint_ran k	6	PASS
differential_seed_025	zero_fallback_on_both_ba ckends	0	PASS	differential_seed_153	force_equilibrium_relative_ error	1.04e-08	PASS
differential_seed_026	converged	1	PASS	differential_seed_153	moment_equilibrium_relati ve_error	1.68e-08	PASS
differential_seed_026	solver_relative_residual	1.35e-05	PASS	differential_seed_153	energy_identity_relative_er ror	3.51e-09	PASS
differential_seed_026	independent_double_relati ve_residual	1.35e-05	PASS	differential_seed_153	displacement_all_finite	1	PASS
differential_seed_026	rigid_body_constraint_ran k	6	PASS	differential_seed_153	stress_all_finite	1	PASS
differential_seed_026	force_equilibrium_relative_ error	3.54e-07	PASS	differential_seed_153	fallback_count	0	PASS
differential_seed_026	moment_equilibrium_relati ve_error	1.70e-07	PASS	differential_seed_153	metal_execution_evidence _present	1	PASS
differential_seed_026	energy_identity_relative_er ror	9.36e-09	PASS	differential_seed_153	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_026	displacement_all_finite	1	PASS	differential_seed_153	persistent_metal_vector_b uffers	1	PASS
differential_seed_026	stress_all_finite	1	PASS	differential_seed_153	packaged_metallib_used	1	PASS
differential_seed_026	fallback_count	0	PASS	differential_seed_153	no_runtime_source_compil ation	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_026	metal_execution_evidence_present	1	PASS	differential_seed_153	metal_fallback_count	0	PASS
differential_seed_026	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_153	converged	1	PASS
differential_seed_026	persistent_metal_vector_buffers	1	PASS	differential_seed_153	solver_relative_residual	8.47e-11	PASS
differential_seed_026	packaged_metallic_used	1	PASS	differential_seed_153	independent_double_relative_residual	8.47e-11	PASS
differential_seed_026	no_runtime_source_compilation	1	PASS	differential_seed_153	rigid_body_constraint_rank	6	PASS
differential_seed_026	metal_fallback_count	0	PASS	differential_seed_153	force_equilibrium_relative_error	4.30e-12	PASS
differential_seed_026	converged	1	PASS	differential_seed_153	moment_equilibrium_relative_error	8.98e-12	PASS
differential_seed_026	solver_relative_residual	7.68e-11	PASS	differential_seed_153	energy_identity_relative_error	2.93e-14	PASS
differential_seed_026	independent_double_relative_residual	7.68e-11	PASS	differential_seed_153	displacement_all_finite	1	PASS
differential_seed_026	rigid_body_constraint_rank	6	PASS	differential_seed_153	stress_all_finite	1	PASS
differential_seed_026	force_equilibrium_relative_error	4.10e-12	PASS	differential_seed_153	fallback_count	0	PASS
differential_seed_026	moment_equilibrium_relative_error	2.02e-12	PASS	differential_seed_153	reference_route_is_cpu_double	1	PASS
differential_seed_026	energy_identity_relative_error	2.22e-15	PASS	differential_seed_153	reference_route_no_fallback	1	PASS
differential_seed_026	displacement_all_finite	1	PASS	differential_seed_153	parity_displacement_relative_l2	1.54e-07	PASS
differential_seed_026	stress_all_finite	1	PASS	differential_seed_153	parity_displacement_relative_linf	2.73e-07	PASS
differential_seed_026	fallback_count	0	PASS	differential_seed_153	parity_reaction_relative_l2	8.27e-08	PASS
differential_seed_026	reference_route_is_cpu_double	1	PASS	differential_seed_153	parity_reaction_relative_linf	1.05e-07	PASS
differential_seed_026	reference_route_no_fallback	1	PASS	differential_seed_153	parity_stress_relative_l2	4.64e-07	PASS
differential_seed_026	parity_displacement_relative_l2	2.37e-07	PASS	differential_seed_153	parity_stress_relative_linf	1.14e-06	PASS
differential_seed_026	parity_displacement_relative_linf	3.68e-07	PASS	differential_seed_153	parity_strain_energy_relative_error	7.02e-09	PASS
differential_seed_026	parity_reaction_relative_l2	1.06e-06	PASS	differential_seed_153	zero_fallback_on_both_backends	0	PASS
differential_seed_026	parity_reaction_relative_linf	5.10e-07	PASS	differential_seed_154	converged	1	PASS
differential_seed_026	parity_stress_relative_l2	4.29e-06	PASS	differential_seed_154	solver_relative_residual	9.26e-07	PASS
differential_seed_026	parity_stress_relative_linf	3.58e-06	PASS	differential_seed_154	independent_double_relative_residual	9.26e-07	PASS
differential_seed_026	parity_strain_energy_relative_error	1.87e-08	PASS	differential_seed_154	rigid_body_constraint_rank	6	PASS
differential_seed_026	zero_fallback_on_both_backends	0	PASS	differential_seed_154	force_equilibrium_relative_error	2.89e-08	PASS
differential_seed_027	converged	1	PASS	differential_seed_154	moment_equilibrium_relative_error	4.10e-08	PASS
differential_seed_027	solver_relative_residual	8.04e-06	PASS	differential_seed_154	energy_identity_relative_error	1.01e-07	PASS
differential_seed_027	independent_double_relative_residual	8.04e-06	PASS	differential_seed_154	displacement_all_finite	1	PASS
differential_seed_027	rigid_body_constraint_rank	6	PASS	differential_seed_154	stress_all_finite	1	PASS
differential_seed_027	force_equilibrium_relative_error	4.85e-08	PASS	differential_seed_154	fallback_count	0	PASS
differential_seed_027	moment_equilibrium_relative_error	2.08e-08	PASS	differential_seed_154	metal_execution_evidence_present	1	PASS
differential_seed_027	energy_identity_relative_error	8.46e-08	PASS	differential_seed_154	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_027	displacement_all_finite	1	PASS	differential_seed_154	persistent_metal_vector_buffers	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_027	stress_all_finite	1	PASS	differential_seed_154	packaged_metallib_used	1	PASS
differential_seed_027	fallback_count	0	PASS	differential_seed_154	no_runtime_source_compilation	1	PASS
differential_seed_027	metal_execution_evidence_present	1	PASS	differential_seed_154	metal_fallback_count	0	PASS
differential_seed_027	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_154	converged	1	PASS
differential_seed_027	persistent_metal_vector_buffers	1	PASS	differential_seed_154	solver_relative_residual	7.33e-11	PASS
differential_seed_027	packaged_metallib_used	1	PASS	differential_seed_154	independent_double_relative_residual	7.33e-11	PASS
differential_seed_027	no_runtime_source_compilation	1	PASS	differential_seed_154	rigid_body_constraint_rank	6	PASS
differential_seed_027	metal_fallback_count	0	PASS	differential_seed_154	force_equilibrium_relative_error	1.00e-11	PASS
differential_seed_027	converged	1	PASS	differential_seed_154	moment_equilibrium_relative_error	1.52e-11	PASS
differential_seed_027	solver_relative_residual	7.60e-11	PASS	differential_seed_154	energy_identity_relative_error	2.82e-14	PASS
differential_seed_027	independent_double_relative_residual	7.60e-11	PASS	differential_seed_154	displacement_all_finite	1	PASS
differential_seed_027	rigid_body_constraint_rank	6	PASS	differential_seed_154	stress_all_finite	1	PASS
differential_seed_027	force_equilibrium_relative_error	2.58e-12	PASS	differential_seed_154	fallback_count	0	PASS
differential_seed_027	moment_equilibrium_relative_error	1.49e-12	PASS	differential_seed_154	reference_route_is_cpu_double	1	PASS
differential_seed_027	energy_identity_relative_error	2.26e-15	PASS	differential_seed_154	reference_route_no_fallback	1	PASS
differential_seed_027	displacement_all_finite	1	PASS	differential_seed_154	parity_displacement_relative_l2	1.38e-07	PASS
differential_seed_027	stress_all_finite	1	PASS	differential_seed_154	parity_displacement_relative_linf	8.52e-08	PASS
differential_seed_027	fallback_count	0	PASS	differential_seed_154	parity_reaction_relative_l2	1.02e-07	PASS
differential_seed_027	reference_route_is_cpu_double	1	PASS	differential_seed_154	parity_reaction_relative_linf	1.05e-07	PASS
differential_seed_027	reference_route_no_fallback	1	PASS	differential_seed_154	parity_stress_relative_l2	3.87e-07	PASS
differential_seed_027	parity_displacement_relative_l2	1.27e-07	PASS	differential_seed_154	parity_stress_relative_linf	1.69e-07	PASS
differential_seed_027	parity_displacement_relative_linf	1.62e-07	PASS	differential_seed_154	parity_strain_energy_relative_error	2.01e-07	PASS
differential_seed_027	parity_reaction_relative_l2	6.64e-07	PASS	differential_seed_154	zero_fallback_on_both_backends	0	PASS
differential_seed_027	parity_reaction_relative_linf	7.87e-07	PASS	differential_seed_155	converged	1	PASS
differential_seed_027	parity_stress_relative_l2	1.81e-06	PASS	differential_seed_155	solver_relative_residual	1.43e-05	PASS
differential_seed_027	parity_stress_relative_linf	1.53e-06	PASS	differential_seed_155	independent_double_relative_residual	1.43e-05	PASS
differential_seed_027	parity_strain_energy_relative_error	1.69e-07	PASS	differential_seed_155	rigid_body_constraint_rank	6	PASS
differential_seed_027	zero_fallback_on_both_backends	0	PASS	differential_seed_155	force_equilibrium_relative_error	1.54e-06	PASS
differential_seed_028	converged	1	PASS	differential_seed_155	moment_equilibrium_relative_error	2.26e-06	PASS
differential_seed_028	solver_relative_residual	1.83e-05	PASS	differential_seed_155	energy_identity_relative_error	9.81e-08	PASS
differential_seed_028	independent_double_relative_residual	1.83e-05	PASS	differential_seed_155	displacement_all_finite	1	PASS
differential_seed_028	rigid_body_constraint_rank	6	PASS	differential_seed_155	stress_all_finite	1	PASS
differential_seed_028	force_equilibrium_relative_error	1.15e-06	PASS	differential_seed_155	fallback_count	0	PASS
differential_seed_028	moment_equilibrium_relative_error	2.57e-06	PASS	differential_seed_155	metal_execution_evidence_present	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_028	energy_identity_relative_error	4.90e-09	PASS	differential_seed_155	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_028	displacement_all_finite	1	PASS	differential_seed_155	persistent_metal_vector_buffers	1	PASS
differential_seed_028	stress_all_finite	1	PASS	differential_seed_155	packaged_metallib_used	1	PASS
differential_seed_028	fallback_count	0	PASS	differential_seed_155	no_runtime_source_compilation	1	PASS
differential_seed_028	metal_execution_evidence_present	1	PASS	differential_seed_155	metal_fallback_count	0	PASS
differential_seed_028	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_155	converged	1	PASS
differential_seed_028	persistent_metal_vector_buffers	1	PASS	differential_seed_155	solver_relative_residual	6.99e-11	PASS
differential_seed_028	packaged_metallib_used	1	PASS	differential_seed_155	independent_double_relative_residual	6.99e-11	PASS
differential_seed_028	no_runtime_source_compilation	1	PASS	differential_seed_155	rigid_body_constraint_rank	6	PASS
differential_seed_028	metal_fallback_count	0	PASS	differential_seed_155	force_equilibrium_relative_error	8.57e-12	PASS
differential_seed_028	converged	1	PASS	differential_seed_155	moment_equilibrium_relative_error	1.21e-11	PASS
differential_seed_028	solver_relative_residual	9.99e-11	PASS	differential_seed_155	energy_identity_relative_error	7.68e-15	PASS
differential_seed_028	independent_double_relative_residual	9.99e-11	PASS	differential_seed_155	displacement_all_finite	1	PASS
differential_seed_028	rigid_body_constraint_rank	6	PASS	differential_seed_155	stress_all_finite	1	PASS
differential_seed_028	force_equilibrium_relative_error	1.25e-11	PASS	differential_seed_155	fallback_count	0	PASS
differential_seed_028	moment_equilibrium_relative_error	1.83e-11	PASS	differential_seed_155	reference_route_is_cpu_double	1	PASS
differential_seed_028	energy_identity_relative_error	6.34e-14	PASS	differential_seed_155	reference_route_no_fallback	1	PASS
differential_seed_028	displacement_all_finite	1	PASS	differential_seed_155	parity_displacement_relative_I2	2.22e-06	PASS
differential_seed_028	stress_all_finite	1	PASS	differential_seed_155	parity_displacement_relative_linf	3.27e-06	PASS
differential_seed_028	fallback_count	0	PASS	differential_seed_155	parity_reaction_relative_I2	2.84e-06	PASS
differential_seed_028	reference_route_is_cpu_double	1	PASS	differential_seed_155	parity_reaction_relative_linf	4.04e-06	PASS
differential_seed_028	reference_route_no_fallback	1	PASS	differential_seed_155	parity_stress_relative_I2	8.75e-06	PASS
differential_seed_028	parity_displacement_relative_I2	1.23e-06	PASS	differential_seed_155	parity_stress_relative_linf	4.41e-06	PASS
differential_seed_028	parity_displacement_relative_linf	2.23e-06	PASS	differential_seed_155	parity_strain_energy_relative_error	1.96e-07	PASS
differential_seed_028	parity_reaction_relative_I2	1.77e-06	PASS	differential_seed_155	zero_fallback_on_both_backends	0	PASS
differential_seed_028	parity_reaction_relative_linf	9.12e-07	PASS	differential_seed_156	converged	1	PASS
differential_seed_028	parity_stress_relative_I2	1.15e-05	PASS	differential_seed_156	solver_relative_residual	1.38e-06	PASS
differential_seed_028	parity_stress_relative_linf	8.09e-06	PASS	differential_seed_156	independent_double_relative_residual	1.38e-06	PASS
differential_seed_028	parity_strain_energy_relative_error	9.68e-09	PASS	differential_seed_156	rigid_body_constraint_rank	6	PASS
differential_seed_028	zero_fallback_on_both_backends	0	PASS	differential_seed_156	force_equilibrium_relative_error	1.36e-08	PASS
differential_properties_seed_028	metal_all_property_solves_converged	1	PASS	differential_seed_156	moment_equilibrium_relative_error	4.99e-09	PASS
differential_properties_seed_028	metal_displacement_superposition	5.09e-07	PASS	differential_seed_156	energy_identity_relative_error	5.55e-10	PASS
differential_properties_seed_028	metal_stress_superposition	7.90e-06	PASS	differential_seed_156	displacement_all_finite	1	PASS
differential_properties_seed_028	metal_sign_reversal	0	PASS	differential_seed_156	stress_all_finite	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_properties_se ed_028	metal_load_scaling_by_tw o	0	PASS	differential_seed_156	fallback_count	0	PASS
differential_properties_se ed_028	metal_modulus_scaling_by _two	0	PASS	differential_seed_156	metal_execution_evidence _present	1	PASS
differential_properties_se ed_028	metal_maxwell_betti_recip rocity	5.49e-07	PASS	differential_seed_156	operator_backend_is_pack aged_host_p...	1	PASS
differential_properties_se ed_028	metal_axis_permutation	1.10e-08	PASS	differential_seed_156	persistent_metal_vector_b uffers	1	PASS
differential_properties_se ed_028	metal_axis_reflection	1.65e-08	PASS	differential_seed_156	packaged_metallib_used	1	PASS
differential_properties_se ed_028	cpu_all_property_solves_c onverged	1	PASS	differential_seed_156	no_runtime_source_compil ation	1	PASS
differential_properties_se ed_028	cpu_displacement_superp osition	8.47e-12	PASS	differential_seed_156	metal_fallback_count	0	PASS
differential_properties_se ed_028	cpu_stress_superposition	5.63e-11	PASS	differential_seed_156	converged	1	PASS
differential_properties_se ed_028	cpu_sign_reversal	0	PASS	differential_seed_156	solver_relative_residual	5.83e-11	PASS
differential_properties_se ed_028	cpu_load_scaling_by_two	0	PASS	differential_seed_156	independent_double_relati ve_residual	5.83e-11	PASS
differential_properties_se ed_028	cpu_modulus_scaling_by_t wo	1.86e-13	PASS	differential_seed_156	rigid_body_constraint_ran k	6	PASS
differential_properties_se ed_028	cpu_maxwell_betti_recipro city	2.93e-12	PASS	differential_seed_156	force_equilibrium_relative_ error	2.89e-12	PASS
differential_properties_se ed_028	cpu_axis_permutation	2.25e-13	PASS	differential_seed_156	moment_equilibrium_relati ve_error	3.08e-12	PASS
differential_properties_se ed_028	cpu_axis_reflection	3.20e-12	PASS	differential_seed_156	energy_identity_relative_er ror	3.24e-14	PASS
differential_seed_029	converged	1	PASS	differential_seed_156	displacement_all_finite	1	PASS
differential_seed_029	solver_relative_residual	2.43e-06	PASS	differential_seed_156	stress_all_finite	1	PASS
differential_seed_029	independent_double_relati ve_residual	2.43e-06	PASS	differential_seed_156	fallback_count	0	PASS
differential_seed_029	rigid_body_constraint_ran k	6	PASS	differential_seed_156	reference_route_is_cpu_d ouble	1	PASS
differential_seed_029	force_equilibrium_relative_ error	9.42e-08	PASS	differential_seed_156	reference_route_no_fallba ck	1	PASS
differential_seed_029	moment_equilibrium_relati ve_error	9.65e-08	PASS	differential_seed_156	parity_displacement_relati ve_l2	3.57e-08	PASS
differential_seed_029	energy_identity_relative_er ror	2.96e-08	PASS	differential_seed_156	parity_displacement_relati ve_linf	3.88e-08	PASS
differential_seed_029	displacement_all_finite	1	PASS	differential_seed_156	parity_reaction_relative_l2	6.47e-08	PASS
differential_seed_029	stress_all_finite	1	PASS	differential_seed_156	parity_reaction_relative_lin f	7.21e-08	PASS
differential_seed_029	fallback_count	0	PASS	differential_seed_156	parity_stress_relative_l2	3.05e-07	PASS
differential_seed_029	metal_execution_evidence _present	1	PASS	differential_seed_156	parity_stress_relative_linf	2.49e-07	PASS
differential_seed_029	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_156	parity_strain_energy_relati ve_error	1.11e-09	PASS
differential_seed_029	persistent_metal_vector_b uffers	1	PASS	differential_seed_156	zero_fallback_on_both_ba ckends	0	PASS
differential_seed_029	packaged_metallib_used	1	PASS	differential_properties_se ed_156	metal_all_property_solves _converged	1	PASS
differential_seed_029	no_runtime_source_compil ation	1	PASS	differential_properties_se ed_156	metal_displacement_super position	6.76e-08	PASS
differential_seed_029	metal_fallback_count	0	PASS	differential_properties_se ed_156	metal_stress_superpositio n	3.97e-07	PASS
differential_seed_029	converged	1	PASS	differential_properties_se ed_156	metal_sign_reversal	0	PASS
differential_seed_029	solver_relative_residual	8.28e-11	PASS	differential_properties_se ed_156	metal_load_scaling_by_tw o	0	PASS
differential_seed_029	independent_double_relati ve_residual	8.28e-11	PASS	differential_properties_se ed_156	metal_modulus_scaling_by _two	0	PASS
differential_seed_029	rigid_body_constraint_ran k	6	PASS	differential_properties_se ed_156	metal_maxwell_betti_recip rocity	1.78e-06	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_029	force_equilibrium_relative_error	9.03e-12	PASS	differential_properties_seed_156	metal_axis_permutation	8.09e-08	PASS
differential_seed_029	moment_equilibrium_relative_error	1.76e-11	PASS	differential_properties_seed_156	metal_axis_reflection	1.30e-07	PASS
differential_seed_029	energy_identity_relative_error	2.31e-13	PASS	differential_properties_seed_156	cpu_all_property_solves_converged	1	PASS
differential_seed_029	displacement_all_finite	1	PASS	differential_properties_seed_156	cpu_displacement_superposition	6.75e-12	PASS
differential_seed_029	stress_all_finite	1	PASS	differential_properties_seed_156	cpu_stress_superposition	3.70e-11	PASS
differential_seed_029	fallback_count	0	PASS	differential_properties_seed_156	cpu_sign_reversal	0	PASS
differential_seed_029	reference_route_is_cpu_double	1	PASS	differential_properties_seed_156	cpu_load_scaling_by_two	0	PASS
differential_seed_029	reference_route_no_fallback	1	PASS	differential_properties_seed_156	cpu_modulus_scaling_by_two	5.52e-13	PASS
differential_seed_029	parity_displacement_relative_l2	2.87e-07	PASS	differential_properties_seed_156	cpu_maxwell_betti_reciprocity	3.29e-10	PASS
differential_seed_029	parity_displacement_relative_inf	4.42e-07	PASS	differential_properties_seed_156	cpu_axis_permutation	2.09e-13	PASS
differential_seed_029	parity_reaction_relative_l2	2.32e-07	PASS	differential_properties_seed_156	cpu_axis_reflection	6.14e-13	PASS
differential_seed_029	parity_reaction_relative_inf	4.95e-07	PASS	differential_seed_157	converged	1	PASS
differential_seed_029	parity_stress_relative_l2	1.12e-06	PASS	differential_seed_157	solver_relative_residual	8.72e-06	PASS
differential_seed_029	parity_stress_relative_inf	1.26e-06	PASS	differential_seed_157	independent_double_relative_residual	8.72e-06	PASS
differential_seed_029	parity_strain_energy_relative_error	5.92e-08	PASS	differential_seed_157	rigid_body_constraint_rank	6	PASS
differential_seed_029	zero_fallback_on_both_backends	0	PASS	differential_seed_157	force_equilibrium_relative_error	7.18e-08	PASS
differential_seed_030	converged	1	PASS	differential_seed_157	moment_equilibrium_relative_error	1.66e-07	PASS
differential_seed_030	solver_relative_residual	1.27e-05	PASS	differential_seed_157	energy_identity_relative_error	2.33e-09	PASS
differential_seed_030	independent_double_relative_residual	1.27e-05	PASS	differential_seed_157	displacement_all_finite	1	PASS
differential_seed_030	rigid_body_constraint_rank	6	PASS	differential_seed_157	stress_all_finite	1	PASS
differential_seed_030	force_equilibrium_relative_error	1.95e-07	PASS	differential_seed_157	fallback_count	0	PASS
differential_seed_030	moment_equilibrium_relative_error	5.25e-07	PASS	differential_seed_157	metal_execution_evidence_present	1	PASS
differential_seed_030	energy_identity_relative_error	1.09e-09	PASS	differential_seed_157	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_030	displacement_all_finite	1	PASS	differential_seed_157	persistent_metal_vector_buffers	1	PASS
differential_seed_030	stress_all_finite	1	PASS	differential_seed_157	packaged_metallib_used	1	PASS
differential_seed_030	fallback_count	0	PASS	differential_seed_157	no_runtime_source_compilation	1	PASS
differential_seed_030	metal_execution_evidence_present	1	PASS	differential_seed_157	metal_fallback_count	0	PASS
differential_seed_030	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_157	converged	1	PASS
differential_seed_030	persistent_metal_vector_buffers	1	PASS	differential_seed_157	solver_relative_residual	7.76e-11	PASS
differential_seed_030	packaged_metallib_used	1	PASS	differential_seed_157	independent_double_relative_residual	7.76e-11	PASS
differential_seed_030	no_runtime_source_compilation	1	PASS	differential_seed_157	rigid_body_constraint_rank	6	PASS
differential_seed_030	metal_fallback_count	0	PASS	differential_seed_157	force_equilibrium_relative_error	4.04e-12	PASS
differential_seed_030	converged	1	PASS	differential_seed_157	moment_equilibrium_relative_error	4.50e-12	PASS
differential_seed_030	solver_relative_residual	7.44e-11	PASS	differential_seed_157	energy_identity_relative_error	2.41e-15	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_030	independent_double_relative_residual	7.44e-11	PASS	differential_seed_157	displacement_all_finite	1	PASS
differential_seed_030	rigid_body_constraint_rank	6	PASS	differential_seed_157	stress_all_finite	1	PASS
differential_seed_030	force_equilibrium_relative_error	8.11e-12	PASS	differential_seed_157	fallback_count	0	PASS
differential_seed_030	moment_equilibrium_relative_error	2.14e-12	PASS	differential_seed_157	reference_route_is_cpu_double	1	PASS
differential_seed_030	energy_identity_relative_error	3.52e-14	PASS	differential_seed_157	reference_route_no_fallback	1	PASS
differential_seed_030	displacement_all_finite	1	PASS	differential_seed_157	parity_displacement_relative_l2	1.28e-07	PASS
differential_seed_030	stress_all_finite	1	PASS	differential_seed_157	parity_displacement_relative_linf	1.95e-07	PASS
differential_seed_030	fallback_count	0	PASS	differential_seed_157	parity_reaction_relative_l2	3.72e-07	PASS
differential_seed_030	reference_route_is_cpu_double	1	PASS	differential_seed_157	parity_reaction_relative_linf	3.66e-07	PASS
differential_seed_030	reference_route_no_fallback	1	PASS	differential_seed_157	parity_stress_relative_l2	1.27e-06	PASS
differential_seed_030	parity_displacement_relative_l2	2.00e-06	PASS	differential_seed_157	parity_stress_relative_linf	8.52e-07	PASS
differential_seed_030	parity_displacement_relative_linf	3.30e-06	PASS	differential_seed_157	parity_strain_energy_relative_error	4.67e-09	PASS
differential_seed_030	parity_reaction_relative_l2	9.34e-07	PASS	differential_seed_157	zero_fallback_on_both_backends	0	PASS
differential_seed_030	parity_reaction_relative_linf	3.78e-07	PASS	differential_seed_158	converged	1	PASS
differential_seed_030	parity_stress_relative_l2	9.38e-06	PASS	differential_seed_158	solver_relative_residual	1.57e-05	PASS
differential_seed_030	parity_stress_relative_linf	3.31e-06	PASS	differential_seed_158	independent_double_relative_residual	1.57e-05	PASS
differential_seed_030	parity_strain_energy_relative_error	2.10e-09	PASS	differential_seed_158	rigid_body_constraint_rank	6	PASS
differential_seed_030	zero_fallback_on_both_backends	0	PASS	differential_seed_158	force_equilibrium_relative_error	2.94e-07	PASS
differential_seed_031	converged	1	PASS	differential_seed_158	moment_equilibrium_relative_error	3.73e-07	PASS
differential_seed_031	solver_relative_residual	9.07e-06	PASS	differential_seed_158	energy_identity_relative_error	1.43e-07	PASS
differential_seed_031	independent_double_relative_residual	9.07e-06	PASS	differential_seed_158	displacement_all_finite	1	PASS
differential_seed_031	rigid_body_constraint_rank	6	PASS	differential_seed_158	stress_all_finite	1	PASS
differential_seed_031	force_equilibrium_relative_error	7.11e-07	PASS	differential_seed_158	fallback_count	0	PASS
differential_seed_031	moment_equilibrium_relative_error	1.04e-06	PASS	differential_seed_158	metal_execution_evidence_present	1	PASS
differential_seed_031	energy_identity_relative_error	3.45e-08	PASS	differential_seed_158	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_031	displacement_all_finite	1	PASS	differential_seed_158	persistent_metal_vector_buffers	1	PASS
differential_seed_031	stress_all_finite	1	PASS	differential_seed_158	packaged_metallib_used	1	PASS
differential_seed_031	fallback_count	0	PASS	differential_seed_158	no_runtime_source_compilation	1	PASS
differential_seed_031	metal_execution_evidence_present	1	PASS	differential_seed_158	metal_fallback_count	0	PASS
differential_seed_031	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_158	converged	1	PASS
differential_seed_031	persistent_metal_vector_buffers	1	PASS	differential_seed_158	solver_relative_residual	9.76e-11	PASS
differential_seed_031	packaged_metallib_used	1	PASS	differential_seed_158	independent_double_relative_residual	9.76e-11	PASS
differential_seed_031	no_runtime_source_compilation	1	PASS	differential_seed_158	rigid_body_constraint_rank	6	PASS
differential_seed_031	metal_fallback_count	0	PASS	differential_seed_158	force_equilibrium_relative_error	2.04e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_031	converged	1	PASS	differential_seed_158	moment_equilibrium_relative_error	3.01e-11	PASS
differential_seed_031	solver_relative_residual	6.01e-11	PASS	differential_seed_158	energy_identity_relative_error	5.37e-14	PASS
differential_seed_031	independent_double_relative_residual	6.01e-11	PASS	differential_seed_158	displacement_all_finite	1	PASS
differential_seed_031	rigid_body_constraint_rank	6	PASS	differential_seed_158	stress_all_finite	1	PASS
differential_seed_031	force_equilibrium_relative_error	7.40e-12	PASS	differential_seed_158	fallback_count	0	PASS
differential_seed_031	moment_equilibrium_relative_error	1.12e-11	PASS	differential_seed_158	reference_route_is_cpu_double	1	PASS
differential_seed_031	energy_identity_relative_error	1.40e-14	PASS	differential_seed_158	reference_route_no_fallback	1	PASS
differential_seed_031	displacement_all_finite	1	PASS	differential_seed_158	parity_displacement_relative_l2	1.51e-06	PASS
differential_seed_031	stress_all_finite	1	PASS	differential_seed_158	parity_displacement_relative_linf	2.33e-06	PASS
differential_seed_031	fallback_count	0	PASS	differential_seed_158	parity_reaction_relative_l2	2.61e-06	PASS
differential_seed_031	reference_route_is_cpu_double	1	PASS	differential_seed_158	parity_reaction_relative_linf	4.22e-06	PASS
differential_seed_031	reference_route_no_fallback	1	PASS	differential_seed_158	parity_stress_relative_l2	8.78e-06	PASS
differential_seed_031	parity_displacement_relative_l2	4.71e-07	PASS	differential_seed_158	parity_stress_relative_linf	4.57e-06	PASS
differential_seed_031	parity_displacement_relative_linf	1.03e-06	PASS	differential_seed_158	parity_strain_energy_relative_error	2.86e-07	PASS
differential_seed_031	parity_reaction_relative_l2	1.48e-06	PASS	differential_seed_158	zero_fallback_on_both_backends	0	PASS
differential_seed_031	parity_reaction_relative_linf	9.88e-07	PASS	differential_seed_159	converged	1	PASS
differential_seed_031	parity_stress_relative_l2	4.27e-06	PASS	differential_seed_159	solver_relative_residual	1.20e-06	PASS
differential_seed_031	parity_stress_relative_linf	2.31e-06	PASS	differential_seed_159	independent_double_relative_residual	1.20e-06	PASS
differential_seed_031	parity_strain_energy_relative_error	6.90e-08	PASS	differential_seed_159	rigid_body_constraint_rank	6	PASS
differential_seed_031	zero_fallback_on_both_backends	0	PASS	differential_seed_159	force_equilibrium_relative_error	2.79e-08	PASS
differential_seed_032	converged	1	PASS	differential_seed_159	moment_equilibrium_relative_error	1.42e-08	PASS
differential_seed_032	solver_relative_residual	9.04e-08	PASS	differential_seed_159	energy_identity_relative_error	3.57e-08	PASS
differential_seed_032	independent_double_relative_residual	9.04e-08	PASS	differential_seed_159	displacement_all_finite	1	PASS
differential_seed_032	rigid_body_constraint_rank	6	PASS	differential_seed_159	stress_all_finite	1	PASS
differential_seed_032	force_equilibrium_relative_error	9.99e-10	PASS	differential_seed_159	fallback_count	0	PASS
differential_seed_032	moment_equilibrium_relative_error	1.17e-09	PASS	differential_seed_159	metal_execution_evidence_present	1	PASS
differential_seed_032	energy_identity_relative_error	4.79e-09	PASS	differential_seed_159	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_032	displacement_all_finite	1	PASS	differential_seed_159	persistent_metal_vector_buffers	1	PASS
differential_seed_032	stress_all_finite	1	PASS	differential_seed_159	packaged_metallib_used	1	PASS
differential_seed_032	fallback_count	0	PASS	differential_seed_159	no_runtime_source_compilation	1	PASS
differential_seed_032	metal_execution_evidence_present	1	PASS	differential_seed_159	metal_fallback_count	0	PASS
differential_seed_032	operator_backend_is_packaged_host_p...	1	PASS	differential_seed_159	converged	1	PASS
differential_seed_032	persistent_metal_vector_buffers	1	PASS	differential_seed_159	solver_relative_residual	8.03e-11	PASS
differential_seed_032	packaged_metallib_used	1	PASS	differential_seed_159	independent_double_relative_residual	8.03e-11	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_032	no_runtime_source_compilation	1	PASS	differential_seed_159	rigid_body_constraint_rank	6	PASS
differential_seed_032	metal_fallback_count	0	PASS	differential_seed_159	force_equilibrium_relative_error	1.93e-12	PASS
differential_seed_032	converged	1	PASS	differential_seed_159	moment_equilibrium_relative_error	8.56e-12	PASS
differential_seed_032	solver_relative_residual	9.18e-11	PASS	differential_seed_159	energy_identity_relative_error	6.00e-14	PASS
differential_seed_032	independent_double_relative_residual	9.18e-11	PASS	differential_seed_159	displacement_all_finite	1	PASS
differential_seed_032	rigid_body_constraint_rank	6	PASS	differential_seed_159	stress_all_finite	1	PASS
differential_seed_032	force_equilibrium_relative_error	2.27e-13	PASS	differential_seed_159	fallback_count	0	PASS
differential_seed_032	moment_equilibrium_relative_error	6.25e-13	PASS	differential_seed_159	reference_route_is_cpu_double	1	PASS
differential_seed_032	energy_identity_relative_error	3.70e-14	PASS	differential_seed_159	reference_route_no_fallback	1	PASS
differential_seed_032	displacement_all_finite	1	PASS	differential_seed_159	parity_displacement_relative_l2	1.87e-07	PASS
differential_seed_032	stress_all_finite	1	PASS	differential_seed_159	parity_displacement_relative_linf	3.69e-07	PASS
differential_seed_032	fallback_count	0	PASS	differential_seed_159	parity_reaction_relative_l2	1.37e-07	PASS
differential_seed_032	reference_route_is_cpu_double	1	PASS	differential_seed_159	parity_reaction_relative_linf	2.07e-07	PASS
differential_seed_032	reference_route_no_fallback	1	PASS	differential_seed_159	parity_stress_relative_l2	4.52e-07	PASS
differential_seed_032	parity_displacement_relative_l2	5.85e-09	PASS	differential_seed_159	parity_stress_relative_linf	1.31e-06	PASS
differential_seed_032	parity_displacement_relative_linf	6.58e-09	PASS	differential_seed_159	parity_strain_energy_relative_error	7.15e-08	PASS
differential_seed_032	parity_reaction_relative_l2	6.01e-09	PASS	differential_seed_159	zero_fallback_on_both_backends	0	PASS
differential_seed_032	parity_reaction_relative_linf	6.91e-09	PASS	differential_seed_160	converged	1	PASS
differential_seed_032	parity_stress_relative_l2	6.09e-09	PASS	differential_seed_160	solver_relative_residual	2.94e-08	PASS
differential_seed_032	parity_stress_relative_linf	4.64e-09	PASS	differential_seed_160	independent_double_relative_residual	2.94e-08	PASS
differential_seed_032	parity_strain_energy_relative_error	9.59e-09	PASS	differential_seed_160	rigid_body_constraint_rank	6	PASS
differential_seed_032	zero_fallback_on_both_backends	0	PASS	differential_seed_160	force_equilibrium_relative_error	6.36e-09	PASS
differential_properties_seed_032	metal_all_property_solves_converged	1	PASS	differential_seed_160	moment_equilibrium_relative_error	3.21e-09	PASS
differential_properties_seed_032	metal_displacement_superposition	5.70e-10	PASS	differential_seed_160	energy_identity_relative_error	1.22e-08	PASS
differential_properties_seed_032	metal_stress_superposition	2.86e-09	PASS	differential_seed_160	displacement_all_finite	1	PASS
differential_properties_seed_032	metal_sign_reversal	0	PASS	differential_seed_160	stress_all_finite	1	PASS
differential_properties_seed_032	metal_load_scaling_by_two	0	PASS	differential_seed_160	fallback_count	0	PASS
differential_properties_seed_032	metal_modulus_scaling_by_two	1.46e-12	PASS	differential_seed_160	metal_execution_evidence_present	1	PASS
differential_properties_seed_032	metal_maxwell_betti_reciprocity	1.23e-08	PASS	differential_seed_160	operator_backend_is_packaged_host_process	1	PASS
differential_properties_seed_032	metal_axis_permutation	9.96e-11	PASS	differential_seed_160	persistent_metal_vector_buffers	1	PASS
differential_properties_seed_032	metal_axis_reflection	3.15e-11	PASS	differential_seed_160	packaged_metalib_used	1	PASS
differential_properties_seed_032	cpu_all_property_solves_converged	1	PASS	differential_seed_160	no_runtime_source_compilation	1	PASS
differential_properties_seed_032	cpu_displacement_superposition	2.12e-13	PASS	differential_seed_160	metal_fallback_count	0	PASS
differential_properties_seed_032	cpu_stress_superposition	7.43e-12	PASS	differential_seed_160	converged	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_properties_se ed_032	cpu_sign_reversal	0	PASS	differential_seed_160	solver_relative_residual	8.67e-11	PASS
differential_properties_se ed_032	cpu_load_scaling_by_two	0	PASS	differential_seed_160	independent_double_relati ve_residual	8.67e-11	PASS
differential_properties_se ed_032	cpu_modulus_scaling_by_t wo	4.78e-14	PASS	differential_seed_160	rigid_body_constraint_ran k	6	PASS
differential_properties_se ed_032	cpu_maxwell_betti_recipro city	2.88e-14	PASS	differential_seed_160	force_equilibrium_relative_ error	1.31e-12	PASS
differential_properties_se ed_032	cpu_axis_permutation	8.87e-13	PASS	differential_seed_160	moment_equilibrium_relati ve_error	6.17e-13	PASS
differential_properties_se ed_032	cpu_axis_reflection	1.33e-13	PASS	differential_seed_160	energy_identity_relative_er ror	2.20e-15	PASS
differential_seed_033	converged	1	PASS	differential_seed_160	displacement_all_finite	1	PASS
differential_seed_033	solver_relative_residual	2.36e-06	PASS	differential_seed_160	stress_all_finite	1	PASS
differential_seed_033	independent_double_relati ve_residual	2.36e-06	PASS	differential_seed_160	fallback_count	0	PASS
differential_seed_033	rigid_body_constraint_ran k	6	PASS	differential_seed_160	reference_route_is_cpu_d ouble	1	PASS
differential_seed_033	force_equilibrium_relative_ error	3.95e-08	PASS	differential_seed_160	reference_route_no_fallba ck	1	PASS
differential_seed_033	moment_equilibrium_relati ve_error	2.21e-08	PASS	differential_seed_160	parity_displacement_relati ve_l2	1.43e-08	PASS
differential_seed_033	energy_identity_relative_er ror	4.99e-09	PASS	differential_seed_160	parity_displacement_relati ve_linf	1.50e-08	PASS
differential_seed_033	displacement_all_finite	1	PASS	differential_seed_160	parity_reaction_relative_l2	1.55e-08	PASS
differential_seed_033	stress_all_finite	1	PASS	differential_seed_160	parity_reaction_relative_lin f	1.59e-08	PASS
differential_seed_033	fallback_count	0	PASS	differential_seed_160	parity_stress_relative_l2	1.88e-08	PASS
differential_seed_033	metal_execution_evidence_ _present	1	PASS	differential_seed_160	parity_stress_relative_linf	2.37e-08	PASS
differential_seed_033	operator_backend_is_pack aged_host_p...	1	PASS	differential_seed_160	parity_strain_energy_relati ve_error	2.44e-08	PASS
differential_seed_033	persistent_metal_vector_b uffers	1	PASS	differential_seed_160	zero_fallback_on_both_ba ckends	0	PASS
differential_seed_033	packaged_metallib_used	1	PASS	differential_properties_se ed_160	metal_all_property_solves_ _converged	1	PASS
differential_seed_033	no_runtime_source_compil ation	1	PASS	differential_properties_se ed_160	metal_displacement_super position	1.04e-08	PASS
differential_seed_033	metal_fallback_count	0	PASS	differential_properties_se ed_160	metal_stress_superpositio n	4.00e-07	PASS
differential_seed_033	converged	1	PASS	differential_properties_se ed_160	metal_sign_reversal	0	PASS
differential_seed_033	solver_relative_residual	7.65e-11	PASS	differential_properties_se ed_160	metal_load_scaling_by_tw o	0	PASS
differential_seed_033	independent_double_relati ve_residual	7.65e-11	PASS	differential_properties_se ed_160	metal_modulus_scaling_by_ _two	0	PASS
differential_seed_033	rigid_body_constraint_ran k	6	PASS	differential_properties_se ed_160	metal_maxwell_betti_recip rocity	1.25e-07	PASS
differential_seed_033	force_equilibrium_relative_ error	3.54e-12	PASS	differential_properties_se ed_160	metal_axis_permutation	2.59e-11	PASS
differential_seed_033	moment_equilibrium_relati ve_error	6.57e-12	PASS	differential_properties_se ed_160	metal_axis_reflection	2.76e-11	PASS
differential_seed_033	energy_identity_relative_er ror	1.05e-13	PASS	differential_properties_se ed_160	cpu_all_property_solves_c onverged	1	PASS
differential_seed_033	displacement_all_finite	1	PASS	differential_properties_se ed_160	cpu_displacement_superp osition	4.69e-12	PASS
differential_seed_033	stress_all_finite	1	PASS	differential_properties_se ed_160	cpu_stress_superposition	3.08e-11	PASS
differential_seed_033	fallback_count	0	PASS	differential_properties_se ed_160	cpu_sign_reversal	0	PASS
differential_seed_033	reference_route_is_cpu_d ouble	1	PASS	differential_properties_se ed_160	cpu_load_scaling_by_two	0	PASS
differential_seed_033	reference_route_no_fallba ck	1	PASS	differential_properties_se ed_160	cpu_modulus_scaling_by_t wo	1.30e-13	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_033	parity_displacement_relative_l2	1.22e-07	PASS	differential_properties_seeded_160	cpu_maxwell_betti_reciprocity	1.63e-11	PASS
differential_seed_033	parity_displacement_relative_linf	1.09e-07	PASS	differential_properties_seeded_160	cpu_axis_permutation	2.01e-13	PASS
differential_seed_033	parity_reaction_relative_l2	1.06e-07	PASS	differential_properties_seeded_160	cpu_axis_reflection	2.27e-12	PASS
differential_seed_033	parity_reaction_relative_linf	8.24e-08	PASS	differential_summary	seeded_cases	160	PASS
differential_seed_033	parity_stress_relative_l2	7.35e-07	PASS	differential_summary	failed_seeds	0	PASS
differential_seed_033	parity_stress_relative_linf	5.80e-07	PASS	differential_summary	asymmetric_property_cases	40	PASS
differential_seed_033	parity_strain_energy_relative_error	9.98e-09	PASS	recovery_uniform_uniaxial_x	converged	1	PASS
differential_seed_033	zero_fallback_on_both_backends	0	PASS	recovery_uniform_uniaxial_x	solver_relative_residual	1.56e-05	PASS
differential_seed_034	converged	1	PASS	recovery_uniform_uniaxial_x	rigid_body_constraint_rank	6	PASS
differential_seed_034	solver_relative_residual	5.73e-06	PASS	recovery_uniform_uniaxial_x	force_equilibrium_relative_error	8.03e-07	PASS
differential_seed_034	independent_double_relative_residual	5.73e-06	PASS	recovery_uniform_uniaxial_x	moment_equilibrium_relative_error	6.57e-07	PASS
differential_seed_034	rigid_body_constraint_rank	6	PASS	recovery_uniform_uniaxial_x	energy_identity_relative_error	9.94e-09	PASS
differential_seed_034	force_equilibrium_relative_error	2.67e-08	PASS	recovery_uniform_uniaxial_x	displacement_all_finite	1	PASS
differential_seed_034	moment_equilibrium_relative_error	7.08e-08	PASS	recovery_uniform_uniaxial_x	requested_release_backend	1	PASS
differential_seed_034	energy_identity_relative_error	7.14e-08	PASS	recovery_uniform_uniaxial_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_034	displacement_all_finite	1	PASS	recovery_uniform_uniaxial_x	packaged_metallib_used	1	PASS
differential_seed_034	stress_all_finite	1	PASS	recovery_uniform_uniaxial_x	no_runtime_source_compilation	1	PASS
differential_seed_034	fallback_count	0	PASS	recovery_uniform_uniaxial_x	fallback_count	0	PASS
differential_seed_034	metal_execution_evidence_present	1	PASS	recovery_uniform_uniaxial_x	displacement_relative_linf_nodal	1.13e-05	PASS
differential_seed_034	operator_backend_is_packaged_host_p...	1	PASS	recovery_uniform_uniaxial_x	displacement_relative_l2_nodal	5.80e-06	PASS
differential_seed_034	persistent_metal_vector_buffers	1	PASS	recovery_uniform_uniaxial_x	displacement_magnitude_field_relati...	6.02e-06	PASS
differential_seed_034	packaged_metallib_used	1	PASS	recovery_uniform_uniaxial_x	stress_component_relative_error	1.15e-05	PASS
differential_seed_034	no_runtime_source_compilation	1	PASS	recovery_uniform_uniaxial_x	stress_zero_component_ratio	1.83e-05	PASS
differential_seed_034	metal_fallback_count	0	PASS	recovery_uniform_uniaxial_x	von_mises_relative_error	1.55e-05	PASS
differential_seed_034	converged	1	PASS	recovery_uniform_uniaxial_x	principal_stress_relative_error	2.20e-05	PASS
differential_seed_034	solver_relative_residual	7.20e-11	PASS	recovery_uniform_uniaxial_x	maximum_shear_relative_error	1.24e-05	PASS
differential_seed_034	independent_double_relative_residual	7.20e-11	PASS	recovery_uniform_uniaxial_x	strain_component_relative_error	3.09e-05	PASS
differential_seed_034	rigid_body_constraint_rank	6	PASS	recovery_uniform_uniaxial_x	principal_strain_relative_error	2.23e-05	PASS
differential_seed_034	force_equilibrium_relative_error	3.20e-12	PASS	recovery_uniform_uniaxial_x	element_strain_energy_relative_error	1.32e-05	PASS
differential_seed_034	moment_equilibrium_relative_error	4.30e-12	PASS	recovery_uniform_uniaxial_x	strain_energy_density_relative_error	1.32e-05	PASS
differential_seed_034	energy_identity_relative_error	1.33e-15	PASS	recovery_uniform_uniaxial_x	integrated_strain_energy_relative_e...	1.98e-08	PASS
differential_seed_034	displacement_all_finite	1	PASS	recovery_uniform_uniaxial_x	solver_strain_energy_relative_error	1.98e-08	PASS
differential_seed_034	stress_all_finite	1	PASS	recovery_uniform_uniaxial_x	factor_of_safety_relative_error	1.55e-05	PASS
differential_seed_034	fallback_count	0	PASS	recovery_uniform_uniaxial_x	result_field_accessor_agrees_with_m...	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_034	reference_route_is_cpu_double	1	PASS	recovery_uniform_uniaxial_x	reaction_balances_applied_tractions	8.03e-07	PASS
differential_seed_034	reference_route_no_fallback	1	PASS	recovery_uniform_uniaxial_x	von_mises_statistics_maximum_relati...	1.55e-05	PASS
differential_seed_034	parity_displacement_relative_l2	3.07e-07	PASS	recovery_uniform_uniaxial_x	displacement_magnitude_statistics_m...	5.58e-06	PASS
differential_seed_034	parity_displacement_relative_linf	3.98e-07	PASS	recovery_uniform_uniaxial_x	active_element_count	216	PASS
differential_seed_034	parity_reaction_relative_l2	1.80e-07	PASS	recovery_uniform_uniaxial_y	converged	1	PASS
differential_seed_034	parity_reaction_relative_linf	1.45e-07	PASS	recovery_uniform_uniaxial_y	solver_relative_residual	1.72e-05	PASS
differential_seed_034	parity_stress_relative_l2	1.35e-06	PASS	recovery_uniform_uniaxial_y	rigid_body_constraint_rank	6	PASS
differential_seed_034	parity_stress_relative_linf	9.35e-07	PASS	recovery_uniform_uniaxial_y	force_equilibrium_relative_error	7.40e-07	PASS
differential_seed_034	parity_strain_energy_relative_error	1.43e-07	PASS	recovery_uniform_uniaxial_y	moment_equilibrium_relative_error	5.47e-07	PASS
differential_seed_034	zero_fallback_on_both_backends	0	PASS	recovery_uniform_uniaxial_y	energy_identity_relative_error	4.07e-08	PASS
differential_seed_035	converged	1	PASS	recovery_uniform_uniaxial_y	displacement_all_finite	1	PASS
differential_seed_035	solver_relative_residual	1.39e-05	PASS	recovery_uniform_uniaxial_y	requested_release_backend	1	PASS
differential_seed_035	independent_double_relative_residual	1.39e-05	PASS	recovery_uniform_uniaxial_y	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_035	rigid_body_constraint_rank	6	PASS	recovery_uniform_uniaxial_y	packaged_metallib_used	1	PASS
differential_seed_035	force_equilibrium_relative_error	7.51e-07	PASS	recovery_uniform_uniaxial_y	no_runtime_source_compilation	1	PASS
differential_seed_035	moment_equilibrium_relative_error	1.38e-06	PASS	recovery_uniform_uniaxial_y	fallback_count	0	PASS
differential_seed_035	energy_identity_relative_error	4.49e-08	PASS	recovery_uniform_uniaxial_y	displacement_relative_linf_nodal	3.28e-05	PASS
differential_seed_035	displacement_all_finite	1	PASS	recovery_uniform_uniaxial_y	displacement_relative_l2_nodal	3.44e-05	PASS
differential_seed_035	stress_all_finite	1	PASS	recovery_uniform_uniaxial_y	displacement_magnitude_field_relati...	2.79e-05	PASS
differential_seed_035	fallback_count	0	PASS	recovery_uniform_uniaxial_y	stress_component_relative_error	2.10e-05	PASS
differential_seed_035	metal_execution_evidence_present	1	PASS	recovery_uniform_uniaxial_y	stress_zero_component_ratio	2.97e-05	PASS
differential_seed_035	operator_backend_is_packaged_host_p...	1	PASS	recovery_uniform_uniaxial_y	von_mises_relative_error	2.03e-05	PASS
differential_seed_035	persistent_metal_vector_buffers	1	PASS	recovery_uniform_uniaxial_y	principal_stress_relative_error	3.66e-05	PASS
differential_seed_035	packaged_metallib_used	1	PASS	recovery_uniform_uniaxial_y	maximum_shear_relative_error	1.82e-05	PASS
differential_seed_035	no_runtime_source_compilation	1	PASS	recovery_uniform_uniaxial_y	strain_component_relative_error	4.71e-05	PASS
differential_seed_035	metal_fallback_count	0	PASS	recovery_uniform_uniaxial_y	principal_strain_relative_error	3.74e-05	PASS
differential_seed_035	converged	1	PASS	recovery_uniform_uniaxial_y	element_strain_energy_relative_error	2.08e-05	PASS
differential_seed_035	solver_relative_residual	8.37e-11	PASS	recovery_uniform_uniaxial_y	strain_energy_density_relative_error	2.08e-05	PASS
differential_seed_035	independent_double_relative_residual	8.37e-11	PASS	recovery_uniform_uniaxial_y	integrated_strain_energy_relative_e...	8.13e-08	PASS
differential_seed_035	rigid_body_constraint_rank	6	PASS	recovery_uniform_uniaxial_y	solver_strain_energy_relative_error	8.13e-08	PASS
differential_seed_035	force_equilibrium_relative_error	2.07e-12	PASS	recovery_uniform_uniaxial_y	factor_of_safety_relative_error	2.03e-05	PASS
differential_seed_035	moment_equilibrium_relative_error	3.18e-12	PASS	recovery_uniform_uniaxial_y	result_field_accessor_agrees_with_m...	0	PASS
differential_seed_035	energy_identity_relative_error	2.19e-14	PASS	recovery_uniform_uniaxial_y	reaction_balances_applied_tractions	7.40e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_035	displacement_all_finite	1	PASS	recovery_uniform_uniaxial_z	von_mises_statistics_maximum_relati...	2.03e-05	PASS
differential_seed_035	stress_all_finite	1	PASS	recovery_uniform_uniaxial_z	displacement_magnitude_statistics_m...	4.17e-06	PASS
differential_seed_035	fallback_count	0	PASS	recovery_uniform_uniaxial_z	active_element_count	216	PASS
differential_seed_035	reference_route_is_cpu_double	1	PASS	recovery_uniform_uniaxial_z	converged	1	PASS
differential_seed_035	reference_route_no_fallback	1	PASS	recovery_uniform_uniaxial_z	solver_relative_residual	1.48e-05	PASS
differential_seed_035	parity_displacement_relative_l2	3.83e-07	PASS	recovery_uniform_uniaxial_z	rigid_body_constraint_rank	6	PASS
differential_seed_035	parity_displacement_relative_linf	4.52e-07	PASS	recovery_uniform_uniaxial_z	force_equilibrium_relative_error	2.00e-07	PASS
differential_seed_035	parity_reaction_relative_l2	1.82e-06	PASS	recovery_uniform_uniaxial_z	moment_equilibrium_relative_error	1.26e-07	PASS
differential_seed_035	parity_reaction_relative_linf	1.16e-06	PASS	recovery_uniform_uniaxial_z	energy_identity_relative_error	6.46e-09	PASS
differential_seed_035	parity_stress_relative_l2	4.30e-06	PASS	recovery_uniform_uniaxial_z	displacement_all_finite	1	PASS
differential_seed_035	parity_stress_relative_linf	2.65e-06	PASS	recovery_uniform_uniaxial_z	requested_release_backend	1	PASS
differential_seed_035	parity_strain_energy_relative_error	8.98e-08	PASS	recovery_uniform_uniaxial_z	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_035	zero_fallback_on_both_backends	0	PASS	recovery_uniform_uniaxial_z	packaged_metallib_used	1	PASS
differential_seed_036	converged	1	PASS	recovery_uniform_uniaxial_z	no_runtime_source_compilation	1	PASS
differential_seed_036	solver_relative_residual	1.57e-05	PASS	recovery_uniform_uniaxial_z	fallback_count	0	PASS
differential_seed_036	independent_double_relative_residual	1.57e-05	PASS	recovery_uniform_uniaxial_z	displacement_relative_linf_nodal	7.23e-06	PASS
differential_seed_036	rigid_body_constraint_rank	6	PASS	recovery_uniform_uniaxial_z	displacement_relative_l2_nodal	6.21e-06	PASS
differential_seed_036	force_equilibrium_relative_error	1.25e-06	PASS	recovery_uniform_uniaxial_z	displacement_magnitude_field_relati...	4.57e-06	PASS
differential_seed_036	moment_equilibrium_relative_error	1.14e-06	PASS	recovery_uniform_uniaxial_z	stress_component_relative_error	9.93e-06	PASS
differential_seed_036	energy_identity_relative_error	1.56e-07	PASS	recovery_uniform_uniaxial_z	stress_zero_component_ratio	1.32e-05	PASS
differential_seed_036	displacement_all_finite	1	PASS	recovery_uniform_uniaxial_z	von_mises_relative_error	5.69e-06	PASS
differential_seed_036	stress_all_finite	1	PASS	recovery_uniform_uniaxial_z	principal_stress_relative_error	1.94e-05	PASS
differential_seed_036	fallback_count	0	PASS	recovery_uniform_uniaxial_z	maximum_shear_relative_error	4.72e-06	PASS
differential_seed_036	metal_execution_evidence_present	1	PASS	recovery_uniform_uniaxial_z	strain_component_relative_error	1.81e-05	PASS
differential_seed_036	operator_backend_is_packaged_host_p...	1	PASS	recovery_uniform_uniaxial_z	principal_strain_relative_error	1.42e-05	PASS
differential_seed_036	persistent_metal_vector_buffers	1	PASS	recovery_uniform_uniaxial_z	element_strain_energy_relative_error	7.96e-06	PASS
differential_seed_036	packaged_metallib_used	1	PASS	recovery_uniform_uniaxial_z	strain_energy_density_relative_error	7.96e-06	PASS
differential_seed_036	no_runtime_source_compilation	1	PASS	recovery_uniform_uniaxial_z	integrated_strain_energy_relative_e...	1.29e-08	PASS
differential_seed_036	metal_fallback_count	0	PASS	recovery_uniform_uniaxial_z	solver_strain_energy_relative_error	1.29e-08	PASS
differential_seed_036	converged	1	PASS	recovery_uniform_uniaxial_z	factor_of_safety_relative_error	5.69e-06	PASS
differential_seed_036	solver_relative_residual	8.92e-11	PASS	recovery_uniform_uniaxial_z	result_field_accessor_agrees_with_m...	0	PASS
differential_seed_036	independent_double_relative_residual	8.92e-11	PASS	recovery_uniform_uniaxial_z	reaction_balances_applied_tractions	2.00e-07	PASS
differential_seed_036	rigid_body_constraint_rank	6	PASS	recovery_uniform_uniaxial_z	von_mises_statistics_maximum_relati...	5.69e-06	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_036	force_equilibrium_relative_error	1.75e-11	PASS	recovery_uniform_uniaxial_z	displacement_magnitude_statistics_m...	6.29e-07	PASS
differential_seed_036	moment_equilibrium_relative_error	2.13e-11	PASS	recovery_uniform_uniaxial_z	active_element_count	216	PASS
differential_seed_036	energy_identity_relative_error	1.67e-13	PASS	recovery_uniform_shear_xy	converged	1	PASS
differential_seed_036	displacement_all_finite	1	PASS	recovery_uniform_shear_xy	solver_relative_residual	1.58e-05	PASS
differential_seed_036	stress_all_finite	1	PASS	recovery_uniform_shear_xy	rigid_body_constraint_rank	6	PASS
differential_seed_036	fallback_count	0	PASS	recovery_uniform_shear_xy	force_equilibrium_relative_error	1.23e-07	PASS
differential_seed_036	reference_route_is_cpu_double	1	PASS	recovery_uniform_shear_xy	moment_equilibrium_relative_error	1.39e-07	PASS
differential_seed_036	reference_route_no_fallback	1	PASS	recovery_uniform_shear_xy	energy_identity_relative_error	1.04e-07	PASS
differential_seed_036	parity_displacement_relative_l2	1.81e-06	PASS	recovery_uniform_shear_xy	displacement_all_finite	1	PASS
differential_seed_036	parity_displacement_relative_linf	1.12e-06	PASS	recovery_uniform_shear_xy	requested_release_backend	1	PASS
differential_seed_036	parity_reaction_relative_l2	8.91e-06	PASS	recovery_uniform_shear_xy	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_036	parity_reaction_relative_linf	6.08e-06	PASS	recovery_uniform_shear_xy	packaged_metallib_used	1	PASS
differential_seed_036	parity_stress_relative_l2	7.67e-06	PASS	recovery_uniform_shear_xy	no_runtime_source_compilation	1	PASS
differential_seed_036	parity_stress_relative_linf	2.42e-06	PASS	recovery_uniform_shear_xy	fallback_count	0	PASS
differential_seed_036	parity_strain_energy_relative_error	3.13e-07	PASS	recovery_uniform_shear_xy	displacement_relative_linf_nodal	8.41e-06	PASS
differential_seed_036	zero_fallback_on_both_backends	0	PASS	recovery_uniform_shear_xy	displacement_relative_l2_nodal	3.56e-06	PASS
differential_properties_seed_036	metal_all_property_solves_converged	1	PASS	recovery_uniform_shear_xy	displacement_magnitude_field_relati...	8.41e-06	PASS
differential_properties_seed_036	metal_displacement_superposition	1.94e-06	PASS	recovery_uniform_shear_xy	stress_component_relative_error	7.49e-06	PASS
differential_properties_seed_036	metal_stress_superposition	7.73e-06	PASS	recovery_uniform_shear_xy	stress_zero_component_ratio	3.14e-05	PASS
differential_properties_seed_036	metal_sign_reversal	0	PASS	recovery_uniform_shear_xy	von_mises_relative_error	7.49e-06	PASS
differential_properties_seed_036	metal_load_scaling_by_two	0	PASS	recovery_uniform_shear_xy	principal_stress_relative_error	2.74e-05	PASS
differential_properties_seed_036	metal_modulus_scaling_by_two	0	PASS	recovery_uniform_shear_xy	maximum_shear_relative_error	7.49e-06	PASS
differential_properties_seed_036	metal_maxwell_betti_reciprocity	1.05e-06	PASS	recovery_uniform_shear_xy	strain_component_relative_error	1.98e-05	PASS
differential_properties_seed_036	metal_axis_permutation	2.04e-07	PASS	recovery_uniform_shear_xy	principal_strain_relative_error	1.69e-05	PASS
differential_properties_seed_036	metal_axis_reflection	1.48e-07	PASS	recovery_uniform_shear_xy	element_strain_energy_relative_error	1.96e-05	PASS
differential_properties_seed_036	cpu_all_property_solves_converged	1	PASS	recovery_uniform_shear_xy	strain_energy_density_relative_error	1.96e-05	PASS
differential_properties_seed_036	cpu_displacement_superposition	8.07e-12	PASS	recovery_uniform_shear_xy	integrated_strain_energy_relative_e...	2.09e-07	PASS
differential_properties_seed_036	cpu_stress_superposition	4.18e-11	PASS	recovery_uniform_shear_xy	solver_strain_energy_relative_error	2.09e-07	PASS
differential_properties_seed_036	cpu_sign_reversal	0	PASS	recovery_uniform_shear_xy	factor_of_safety_relative_error	7.49e-06	PASS
differential_properties_seed_036	cpu_load_scaling_by_two	0	PASS	recovery_uniform_shear_xy	result_field_accessor_agrees_with_m...	0	PASS
differential_properties_seed_036	cpu_modulus_scaling_by_two	1.03e-12	PASS	recovery_uniform_shear_xy	reaction_balances_applied_tractions	1.17e-07	PASS
differential_properties_seed_036	cpu_maxwell_betti_reciprocity	9.37e-12	PASS	recovery_uniform_shear_xy	von_mises_statistics_maximum_relati...	7.49e-06	PASS
differential_properties_seed_036	cpu_axis_permutation	1.10e-12	PASS	recovery_uniform_shear_xy	displacement_magnitude_statistics_m...	7.12e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_properties_se ed_036	cpu_axis_reflection	1.10e-12	PASS	recovery_uniform_shear_x y	active_element_count	216	PASS
differential_seed_037	converged	1	PASS	recovery_uniform_shear_x z	converged	1	PASS
differential_seed_037	solver_relative_residual	1.83e-05	PASS	recovery_uniform_shear_x z	solver_relative_residual	1.34e-05	PASS
differential_seed_037	independent_double_relati ve_residual	1.83e-05	PASS	recovery_uniform_shear_x z	rigid_body_constraint_ran k	6	PASS
differential_seed_037	rigid_body_constraint_ran k	6	PASS	recovery_uniform_shear_x z	force_equilibrium_relative_ error	1.06e-07	PASS
differential_seed_037	force_equilibrium_relative_ error	9.51e-07	PASS	recovery_uniform_shear_x z	moment_equilibrium_relati ve_error	1.01e-07	PASS
differential_seed_037	moment_equilibrium_relati ve_error	3.08e-07	PASS	recovery_uniform_shear_x z	energy_identity_relative_er ror	4.40e-08	PASS
differential_seed_037	energy_identity_relative_er ror	5.65e-08	PASS	recovery_uniform_shear_x z	displacement_all_finite	1	PASS
differential_seed_037	displacement_all_finite	1	PASS	recovery_uniform_shear_x z	requested_release_backen d	1	PASS
differential_seed_037	stress_all_finite	1	PASS	recovery_uniform_shear_x z	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_037	fallback_count	0	PASS	recovery_uniform_shear_x z	packaged_metallib_used	1	PASS
differential_seed_037	metal_execution_evidence_ _present	1	PASS	recovery_uniform_shear_x z	no_runtime_source_compil ation	1	PASS
differential_seed_037	operator_backend_is_pack aged_host_p...	1	PASS	recovery_uniform_shear_x z	fallback_count	0	PASS
differential_seed_037	persistent_metal_vector_b uffers	1	PASS	recovery_uniform_shear_x z	displacement_relative_linf _nodal	5.65e-06	PASS
differential_seed_037	packaged_metallib_used	1	PASS	recovery_uniform_shear_x z	displacement_relative_l2_ nodal	3.04e-06	PASS
differential_seed_037	no_runtime_source_compil ation	1	PASS	recovery_uniform_shear_x z	displacement_magnitude_f ield_relati...	4.24e-06	PASS
differential_seed_037	metal_fallback_count	0	PASS	recovery_uniform_shear_x z	stress_component_relative_ _error	9.55e-06	PASS
differential_seed_037	converged	1	PASS	recovery_uniform_shear_x z	stress_zero_component_ra tio	2.53e-05	PASS
differential_seed_037	solver_relative_residual	9.27e-11	PASS	recovery_uniform_shear_x z	von_mises_relative_error	9.55e-06	PASS
differential_seed_037	independent_double_relati ve_residual	9.27e-11	PASS	recovery_uniform_shear_x z	principal_stress_relative_e rror	2.53e-05	PASS
differential_seed_037	rigid_body_constraint_ran k	6	PASS	recovery_uniform_shear_x z	maximum_shear_relative_e rror	9.55e-06	PASS
differential_seed_037	force_equilibrium_relative_ error	3.03e-11	PASS	recovery_uniform_shear_x z	strain_component_relative_ _error	1.61e-05	PASS
differential_seed_037	moment_equilibrium_relati ve_error	9.25e-12	PASS	recovery_uniform_shear_x z	principal_strain_relative_e rror	1.64e-05	PASS
differential_seed_037	energy_identity_relative_er ror	1.46e-14	PASS	recovery_uniform_shear_x z	element_strain_energy_rel ative_error	1.21e-05	PASS
differential_seed_037	displacement_all_finite	1	PASS	recovery_uniform_shear_x z	strain_energy_density_rela tive_error	1.21e-05	PASS
differential_seed_037	stress_all_finite	1	PASS	recovery_uniform_shear_x z	integrated_strain_energy_r elative_e...	8.81e-08	PASS
differential_seed_037	fallback_count	0	PASS	recovery_uniform_shear_x z	solver_strain_energy_relati ve_error	8.81e-08	PASS
differential_seed_037	reference_route_is_cpu_d ouble	1	PASS	recovery_uniform_shear_x z	factor_of_safety_relative_e rror	9.55e-06	PASS
differential_seed_037	reference_route_no_fallba ck	1	PASS	recovery_uniform_shear_x z	result_field_accessor_agre es_with_m...	0	PASS
differential_seed_037	parity_displacement_relati ve_l2	8.99e-06	PASS	recovery_uniform_shear_x z	reaction_balances_applied_ _tractions	1.00e-07	PASS
differential_seed_037	parity_displacement_relati ve_linf	8.88e-06	PASS	recovery_uniform_shear_x z	von_mises_statistics_maxi mum_relati...	9.55e-06	PASS
differential_seed_037	parity_reaction_relative_l2	3.29e-06	PASS	recovery_uniform_shear_x z	displacement_magnitude_ statistics_m...	2.60e-06	PASS
differential_seed_037	parity_reaction_relative_linf	2.78e-06	PASS	recovery_uniform_shear_x z	active_element_count	216	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_037	parity_stress_relative_l2	1.14e-05	PASS	recovery_uniform_shear_yz	converged	1	PASS
differential_seed_037	parity_stress_relative_linf	3.05e-06	PASS	recovery_uniform_shear_yz	solver_relative_residual	1.37e-05	PASS
differential_seed_037	parity_strain_energy_relative_error	1.13e-07	PASS	recovery_uniform_shear_yz	rigid_body_constraint_rank	6	PASS
differential_seed_037	zero_fallback_on_both_backends	0	PASS	recovery_uniform_shear_yz	force_equilibrium_relative_error	1.21e-07	PASS
differential_seed_038	converged	1	PASS	recovery_uniform_shear_yz	moment_equilibrium_relative_error	1.26e-07	PASS
differential_seed_038	solver_relative_residual	6.88e-06	PASS	recovery_uniform_shear_yz	energy_identity_relative_error	6.44e-08	PASS
differential_seed_038	independent_double_relative_residual	6.88e-06	PASS	recovery_uniform_shear_yz	displacement_all_finite	1	PASS
differential_seed_038	rigid_body_constraint_rank	6	PASS	recovery_uniform_shear_yz	requested_release_backend	1	PASS
differential_seed_038	force_equilibrium_relative_error	2.32e-08	PASS	recovery_uniform_shear_yz	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_038	moment_equilibrium_relative_error	3.30e-08	PASS	recovery_uniform_shear_yz	packaged_metallib_used	1	PASS
differential_seed_038	energy_identity_relative_error	4.54e-09	PASS	recovery_uniform_shear_yz	no_runtime_source_compilation	1	PASS
differential_seed_038	displacement_all_finite	1	PASS	recovery_uniform_shear_yz	fallback_count	0	PASS
differential_seed_038	stress_all_finite	1	PASS	recovery_uniform_shear_yz	displacement_relative_linf_nodal	7.74e-06	PASS
differential_seed_038	fallback_count	0	PASS	recovery_uniform_shear_yz	displacement_relative_l2_nodal	4.19e-06	PASS
differential_seed_038	metal_execution_evidence_present	1	PASS	recovery_uniform_shear_yz	displacement_magnitude_field_relati...	3.88e-06	PASS
differential_seed_038	operator_backend_is_packaged_host_p...	1	PASS	recovery_uniform_shear_yz	stress_component_relative_error	1.19e-05	PASS
differential_seed_038	persistent_metal_vector_buffers	1	PASS	recovery_uniform_shear_yz	stress_zero_component_ratio	4.10e-05	PASS
differential_seed_038	packaged_metallib_used	1	PASS	recovery_uniform_shear_yz	von_mises_relative_error	1.19e-05	PASS
differential_seed_038	no_runtime_source_compilation	1	PASS	recovery_uniform_shear_yz	principal_stress_relative_error	4.10e-05	PASS
differential_seed_038	metal_fallback_count	0	PASS	recovery_uniform_shear_yz	maximum_shear_relative_error	1.19e-05	PASS
differential_seed_038	converged	1	PASS	recovery_uniform_shear_yz	strain_component_relative_error	1.47e-05	PASS
differential_seed_038	solver_relative_residual	5.70e-11	PASS	recovery_uniform_shear_yz	principal_strain_relative_error	2.35e-05	PASS
differential_seed_038	independent_double_relative_residual	5.70e-11	PASS	recovery_uniform_shear_yz	element_strain_energy_relative_error	1.79e-05	PASS
differential_seed_038	rigid_body_constraint_rank	6	PASS	recovery_uniform_shear_yz	strain_energy_density_relative_error	1.79e-05	PASS
differential_seed_038	force_equilibrium_relative_error	4.50e-13	PASS	recovery_uniform_shear_yz	integrated_strain_energy_relative_e...	1.29e-07	PASS
differential_seed_038	moment_equilibrium_relative_error	6.63e-13	PASS	recovery_uniform_shear_yz	solver_strain_energy_relative_error	1.29e-07	PASS
differential_seed_038	energy_identity_relative_error	1.75e-15	PASS	recovery_uniform_shear_yz	factor_of_safety_relative_error	1.19e-05	PASS
differential_seed_038	displacement_all_finite	1	PASS	recovery_uniform_shear_yz	result_field_accessor_agrees_with_m...	0	PASS
differential_seed_038	stress_all_finite	1	PASS	recovery_uniform_shear_yz	reaction_balances_applied_tractions	1.15e-07	PASS
differential_seed_038	fallback_count	0	PASS	recovery_uniform_shear_yz	von_mises_statistics_maximum_relati...	1.19e-05	PASS
differential_seed_038	reference_route_is_cpu_double	1	PASS	recovery_uniform_shear_yz	displacement_magnitude_statistics_m...	1.16e-06	PASS
differential_seed_038	reference_route_no_fallback	1	PASS	recovery_uniform_shear_yz	active_element_count	216	PASS
differential_seed_038	parity_displacement_relative_l2	4.96e-08	PASS	recovery_uniform_hydrostatic	converged	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_038	parity_displacement_relative_linf	6.51e-08	PASS	recovery_uniform_hydrostatic	solver_relative_residual	1.07e-05	PASS
differential_seed_038	parity_reaction_relative_l2	1.04e-07	PASS	recovery_uniform_hydrostatic	rigid_body_constraint_rank	6	PASS
differential_seed_038	parity_reaction_relative_linf	9.07e-08	PASS	recovery_uniform_hydrostatic	force_equilibrium_relative_error	9.02e-08	PASS
differential_seed_038	parity_stress_relative_l2	6.87e-07	PASS	recovery_uniform_hydrostatic	moment_equilibrium_relative_error	6.55e-08	PASS
differential_seed_038	parity_stress_relative_linf	3.73e-07	PASS	recovery_uniform_hydrostatic	energy_identity_relative_error	2.61e-08	PASS
differential_seed_038	parity_strain_energy_relative_error	9.07e-09	PASS	recovery_uniform_hydrostatic	displacement_all_finite	1	PASS
differential_seed_038	zero_fallback_on_both_backends	0	PASS	recovery_uniform_hydrostatic	requested_release_backend	1	PASS
differential_seed_039	converged	1	PASS	recovery_uniform_hydrostatic	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_039	solver_relative_residual	1.49e-05	PASS	recovery_uniform_hydrostatic	packaged_metallib_used	1	PASS
differential_seed_039	independent_double_relative_residual	1.49e-05	PASS	recovery_uniform_hydrostatic	no_runtime_source_compilation	1	PASS
differential_seed_039	rigid_body_constraint_rank	6	PASS	recovery_uniform_hydrostatic	fallback_count	0	PASS
differential_seed_039	force_equilibrium_relative_error	2.12e-06	PASS	recovery_uniform_hydrostatic	displacement_relative_linf_nodal	2.02e-05	PASS
differential_seed_039	moment_equilibrium_relative_error	3.73e-06	PASS	recovery_uniform_hydrostatic	displacement_relative_l2_nodal	8.48e-06	PASS
differential_seed_039	energy_identity_relative_error	2.07e-08	PASS	recovery_uniform_hydrostatic	displacement_magnitude_field_relati...	1.31e-05	PASS
differential_seed_039	displacement_all_finite	1	PASS	recovery_uniform_hydrostatic	stress_component_relative_error	2.04e-05	PASS
differential_seed_039	stress_all_finite	1	PASS	recovery_uniform_hydrostatic	stress_zero_component_ratio	1.13e-05	PASS
differential_seed_039	fallback_count	0	PASS	recovery_uniform_hydrostatic	von_mises_relative_error	2.88e-05	PASS
differential_seed_039	metal_execution_evidence_present	1	PASS	recovery_uniform_hydrostatic	principal_stress_relative_error	2.52e-05	PASS
differential_seed_039	operator_backend_is_packaged_host_p...	1	PASS	recovery_uniform_hydrostatic	maximum_shear_relative_error	1.65e-05	PASS
differential_seed_039	persistent_metal_vector_buffers	1	PASS	recovery_uniform_hydrostatic	strain_component_relative_error	8.87e-05	PASS
differential_seed_039	packaged_metallib_used	1	PASS	recovery_uniform_hydrostatic	principal_strain_relative_error	7.78e-05	PASS
differential_seed_039	no_runtime_source_compilation	1	PASS	recovery_uniform_hydrostatic	element_strain_energy_relative_error	1.69e-05	PASS
differential_seed_039	metal_fallback_count	0	PASS	recovery_uniform_hydrostatic	strain_energy_density_relative_error	1.69e-05	PASS
differential_seed_039	converged	1	PASS	recovery_uniform_hydrostatic	integrated_strain_energy_relative_e...	5.21e-08	PASS
differential_seed_039	solver_relative_residual	8.63e-11	PASS	recovery_uniform_hydrostatic	solver_strain_energy_relative_error	5.21e-08	PASS
differential_seed_039	independent_double_relative_residual	8.63e-11	PASS	recovery_uniform_hydrostatic	factor_of_safety_at_zero_von_mises_...	0.00288	PASS
differential_seed_039	rigid_body_constraint_rank	6	PASS	recovery_uniform_hydrostatic	result_field_accessor_agrees_with_m...	0	PASS
differential_seed_039	force_equilibrium_relative_error	2.81e-11	PASS	recovery_uniform_hydrostatic	reaction_balances_applied_tractions	8.18e-08	PASS
differential_seed_039	moment_equilibrium_relative_error	2.20e-11	PASS	recovery_uniform_hydrostatic	von_mises_statistics_maximum_relati...	2.88e-05	PASS
differential_seed_039	energy_identity_relative_error	3.35e-13	PASS	recovery_uniform_hydrostatic	displacement_magnitude_statistics_m...	3.78e-06	PASS
differential_seed_039	displacement_all_finite	1	PASS	recovery_uniform_hydrostatic	active_element_count	216	PASS
differential_seed_039	stress_all_finite	1	PASS	recovery_uniform_biaxial	converged	1	PASS
differential_seed_039	fallback_count	0	PASS	recovery_uniform_biaxial	solver_relative_residual	9.95e-06	PASS
differential_seed_039	reference_route_is_cpu_double	1	PASS	recovery_uniform_biaxial	rigid_body_constraint_rank	6	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_039	reference_route_no_fallback	1	PASS	recovery_uniform_biaxial	force_equilibrium_relative_error	1.29e-07	PASS
differential_seed_039	parity_displacement_relative_l2	6.20e-06	PASS	recovery_uniform_biaxial	moment_equilibrium_relative_error	5.53e-08	PASS
differential_seed_039	parity_displacement_relative_linf	3.93e-06	PASS	recovery_uniform_biaxial	energy_identity_relative_error	1.10e-08	PASS
differential_seed_039	parity_reaction_relative_l2	2.67e-06	PASS	recovery_uniform_biaxial	displacement_all_finite	1	PASS
differential_seed_039	parity_reaction_relative_linf	1.23e-06	PASS	recovery_uniform_biaxial	requested_release_backend	1	PASS
differential_seed_039	parity_stress_relative_l2	1.20e-05	PASS	recovery_uniform_biaxial	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_039	parity_stress_relative_linf	5.45e-06	PASS	recovery_uniform_biaxial	packaged_metallib_used	1	PASS
differential_seed_039	parity_strain_energy_relative_error	4.15e-08	PASS	recovery_uniform_biaxial	no_runtime_source_compilation	1	PASS
differential_seed_039	zero_fallback_on_both_backends	0	PASS	recovery_uniform_biaxial	fallback_count	0	PASS
differential_seed_040	converged	1	PASS	recovery_uniform_biaxial	displacement_relative_linf_nodal	8.85e-06	PASS
differential_seed_040	solver_relative_residual	2.35e-07	PASS	recovery_uniform_biaxial	displacement_relative_l2_nodal	3.20e-06	PASS
differential_seed_040	independent_double_relative_residual	2.35e-07	PASS	recovery_uniform_biaxial	displacement_magnitude_field_relati...	6.97e-06	PASS
differential_seed_040	rigid_body_constraint_rank	6	PASS	recovery_uniform_biaxial	stress_component_relative_error	2.32e-05	PASS
differential_seed_040	force_equilibrium_relative_error	2.57e-09	PASS	recovery_uniform_biaxial	stress_zero_component_ratio	1.61e-05	PASS
differential_seed_040	moment_equilibrium_relative_error	2.19e-09	PASS	recovery_uniform_biaxial	von_mises_relative_error	9.29e-06	PASS
differential_seed_040	energy_identity_relative_error	1.48e-08	PASS	recovery_uniform_biaxial	principal_stress_relative_error	1.81e-05	PASS
differential_seed_040	displacement_all_finite	1	PASS	recovery_uniform_biaxial	maximum_shear_relative_error	8.08e-06	PASS
differential_seed_040	stress_all_finite	1	PASS	recovery_uniform_biaxial	strain_component_relative_error	2.34e-05	PASS
differential_seed_040	fallback_count	0	PASS	recovery_uniform_biaxial	principal_strain_relative_error	1.02e-05	PASS
differential_seed_040	metal_execution_evidence_present	1	PASS	recovery_uniform_biaxial	element_strain_energy_relative_error	1.10e-05	PASS
differential_seed_040	operator_backend_is_packaged_host_p...	1	PASS	recovery_uniform_biaxial	strain_energy_density_relative_error	1.10e-05	PASS
differential_seed_040	persistent_metal_vector_buffers	1	PASS	recovery_uniform_biaxial	integrated_strain_energy_relative_e...	2.21e-08	PASS
differential_seed_040	packaged_metallib_used	1	PASS	recovery_uniform_biaxial	solver_strain_energy_relative_error	2.21e-08	PASS
differential_seed_040	no_runtime_source_compilation	1	PASS	recovery_uniform_biaxial	factor_of_safety_relative_error	9.29e-06	PASS
differential_seed_040	metal_fallback_count	0	PASS	recovery_uniform_biaxial	result_field_accessor_agrees_with_m...	0	PASS
differential_seed_040	converged	1	PASS	recovery_uniform_biaxial	reaction_balances_applied_tractions	1.23e-07	PASS
differential_seed_040	solver_relative_residual	6.37e-11	PASS	recovery_uniform_biaxial	von_mises_statistics_maximum_relati...	9.29e-06	PASS
differential_seed_040	independent_double_relative_residual	6.37e-11	PASS	recovery_uniform_biaxial	displacement_magnitude_statistics_m...	1.79e-06	PASS
differential_seed_040	rigid_body_constraint_rank	6	PASS	recovery_uniform_biaxial	active_element_count	216	PASS
differential_seed_040	force_equilibrium_relative_error	2.28e-13	PASS	recovery_uniform_general	converged	1	PASS
differential_seed_040	moment_equilibrium_relative_error	2.50e-13	PASS	recovery_uniform_general	solver_relative_residual	1.08e-05	PASS
differential_seed_040	energy_identity_relative_error	3.67e-14	PASS	recovery_uniform_general	rigid_body_constraint_rank	6	PASS
differential_seed_040	displacement_all_finite	1	PASS	recovery_uniform_general	force_equilibrium_relative_error	2.77e-07	PASS
differential_seed_040	stress_all_finite	1	PASS	recovery_uniform_general	moment_equilibrium_relative_error	2.80e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_040	fallback_count	0	PASS	recovery_uniform_general	energy_identity_relative_error	8.36e-09	PASS
differential_seed_040	reference_route_is_cpu_double	1	PASS	recovery_uniform_general	displacement_all_finite	1	PASS
differential_seed_040	reference_route_no_fallback	1	PASS	recovery_uniform_general	requested_release_backend	1	PASS
differential_seed_040	parity_displacement_relative_l2	1.54e-08	PASS	recovery_uniform_general	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_040	parity_displacement_relative_linf	1.39e-08	PASS	recovery_uniform_general	packaged_metallib_used	1	PASS
differential_seed_040	parity_reaction_relative_l2	1.76e-08	PASS	recovery_uniform_general	no_runtime_source_compilation	1	PASS
differential_seed_040	parity_reaction_relative_linf	1.60e-08	PASS	recovery_uniform_general	fallback_count	0	PASS
differential_seed_040	parity_stress_relative_l2	1.80e-08	PASS	recovery_uniform_general	displacement_relative_linf_nodal	8.90e-06	PASS
differential_seed_040	parity_stress_relative_linf	1.42e-08	PASS	recovery_uniform_general	displacement_relative_l2_nodal	3.69e-06	PASS
differential_seed_040	parity_strain_energy_relative_error	2.95e-08	PASS	recovery_uniform_general	displacement_magnitude_field_relati...	7.19e-06	PASS
differential_seed_040	zero_fallback_on_both_backends	0	PASS	recovery_uniform_general	stress_component_relative_error	5.68e-05	PASS
differential_properties_seed_040	metal_all_property_solves_converged	1	PASS	recovery_uniform_general	stress_zero_component_ratio	0	PASS
differential_properties_seed_040	metal_displacement_superposition	1.27e-09	PASS	recovery_uniform_general	von_mises_relative_error	1.20e-05	PASS
differential_properties_seed_040	metal_stress_superposition	1.08e-08	PASS	recovery_uniform_general	principal_stress_relative_error	2.44e-05	PASS
differential_properties_seed_040	metal_sign_reversal	0	PASS	recovery_uniform_general	maximum_shear_relative_error	9.15e-06	PASS
differential_properties_seed_040	metal_load_scaling_by_two	0	PASS	recovery_uniform_general	strain_component_relative_error	2.55e-05	PASS
differential_properties_seed_040	metal_modulus_scaling_by_two	0	PASS	recovery_uniform_general	principal_strain_relative_error	1.60e-05	PASS
differential_properties_seed_040	metal_maxwell_betti_reciprocity	3.90e-08	PASS	recovery_uniform_general	element_strain_energy_relative_error	1.76e-05	PASS
differential_properties_seed_040	metal_axis_permutation	2.15e-10	PASS	recovery_uniform_general	strain_energy_density_relative_error	1.76e-05	PASS
differential_properties_seed_040	metal_axis_reflection	3.17e-10	PASS	recovery_uniform_general	integrated_strain_energy_relative_e...	1.67e-08	PASS
differential_properties_seed_040	cpu_all_property_solves_converged	1	PASS	recovery_uniform_general	solver_strain_energy_relative_error	1.67e-08	PASS
differential_properties_seed_040	cpu_displacement_superposition	1.53e-13	PASS	recovery_uniform_general	factor_of_safety_relative_error	1.20e-05	PASS
differential_properties_seed_040	cpu_stress_superposition	4.37e-12	PASS	recovery_uniform_general	result_field_accessor_agrees_with_m...	0	PASS
differential_properties_seed_040	cpu_sign_reversal	0	PASS	recovery_uniform_general	reaction_balances_applied_tractions	2.51e-07	PASS
differential_properties_seed_040	cpu_load_scaling_by_two	0	PASS	recovery_uniform_general	von_mises_statistics_maximum_relati...	1.20e-05	PASS
differential_properties_seed_040	cpu_modulus_scaling_by_two	3.78e-14	PASS	recovery_uniform_general	displacement_magnitude_statistics_m...	1.39e-06	PASS
differential_properties_seed_040	cpu_maxwell_betti_reciprocity	1.39e-15	PASS	recovery_uniform_general	active_element_count	216	PASS
differential_properties_seed_040	cpu_axis_permutation	2.56e-12	PASS	recovery_face_xMin_load_plus_x	converged	1	PASS
differential_properties_seed_040	cpu_axis_reflection	1.20e-13	PASS	recovery_face_xMin_load_plus_x	solver_relative_residual	1.05e-05	PASS
differential_seed_041	converged	1	PASS	recovery_face_xMin_load_plus_x	rigid_body_constraint_rank	6	PASS
differential_seed_041	solver_relative_residual	1.78e-06	PASS	recovery_face_xMin_load_plus_x	force_equilibrium_relative_error	1.17e-06	PASS
differential_seed_041	independent_double_relative_residual	1.78e-06	PASS	recovery_face_xMin_load_plus_x	moment_equilibrium_relative_error	1.11e-06	PASS
differential_seed_041	rigid_body_constraint_rank	6	PASS	recovery_face_xMin_load_plus_x	energy_identity_relative_error	1.94e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_041	force_equilibrium_relative_error	9.65e-08	PASS	recovery_face_xMin_load_plus_x	displacement_all_finite	1	PASS
differential_seed_041	moment_equilibrium_relative_error	1.14e-07	PASS	recovery_face_xMin_load_plus_x	requested_release_backend	1	PASS
differential_seed_041	energy_identity_relative_error	2.57e-08	PASS	recovery_face_xMin_load_plus_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_041	displacement_all_finite	1	PASS	recovery_face_xMin_load_plus_x	packaged_metallib_used	1	PASS
differential_seed_041	stress_all_finite	1	PASS	recovery_face_xMin_load_plus_x	no_runtime_source_compilation	1	PASS
differential_seed_041	fallback_count	0	PASS	recovery_face_xMin_load_plus_x	fallback_count	0	PASS
differential_seed_041	metal_execution_evidence_present	1	PASS	recovery_face_xMin_load_plus_x	force_equilibrium_from_published_re...	1.23e-06	PASS
differential_seed_041	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_xMin_load_plus_x	moment_equilibrium_from_published_f...	8.55e-07	PASS
differential_seed_041	persistent_metal_vector_buffers	1	PASS	recovery_face_xMin_load_plus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_041	packaged_metallib_used	1	PASS	recovery_face_xMin_load_plus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_041	no_runtime_source_compilation	1	PASS	recovery_face_xMin_load_plus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_041	metal_fallback_count	0	PASS	recovery_face_xMin_load_plus_x	rigid_body_constraint_rank	6	PASS
differential_seed_041	converged	1	PASS	recovery_face_xMin_load_minus_x	converged	1	PASS
differential_seed_041	solver_relative_residual	6.26e-11	PASS	recovery_face_xMin_load_minus_x	solver_relative_residual	1.05e-05	PASS
differential_seed_041	independent_double_relative_residual	6.26e-11	PASS	recovery_face_xMin_load_minus_x	rigid_body_constraint_rank	6	PASS
differential_seed_041	rigid_body_constraint_rank	6	PASS	recovery_face_xMin_load_minus_x	force_equilibrium_relative_error	1.17e-06	PASS
differential_seed_041	force_equilibrium_relative_error	1.83e-11	PASS	recovery_face_xMin_load_minus_x	moment_equilibrium_relative_error	1.11e-06	PASS
differential_seed_041	moment_equilibrium_relative_error	2.01e-11	PASS	recovery_face_xMin_load_minus_x	energy_identity_relative_error	1.94e-08	PASS
differential_seed_041	energy_identity_relative_error	1.11e-15	PASS	recovery_face_xMin_load_minus_x	displacement_all_finite	1	PASS
differential_seed_041	displacement_all_finite	1	PASS	recovery_face_xMin_load_minus_x	requested_release_backend	1	PASS
differential_seed_041	stress_all_finite	1	PASS	recovery_face_xMin_load_minus_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_041	fallback_count	0	PASS	recovery_face_xMin_load_minus_x	packaged_metallib_used	1	PASS
differential_seed_041	reference_route_is_cpu_double	1	PASS	recovery_face_xMin_load_minus_x	no_runtime_source_compilation	1	PASS
differential_seed_041	reference_route_no_fallback	1	PASS	recovery_face_xMin_load_minus_x	fallback_count	0	PASS
differential_seed_041	parity_displacement_relative_l2	1.94e-07	PASS	recovery_face_xMin_load_minus_x	force_equilibrium_from_published_re...	1.23e-06	PASS
differential_seed_041	parity_displacement_relative_linf	3.44e-07	PASS	recovery_face_xMin_load_minus_x	moment_equilibrium_from_published_f...	8.55e-07	PASS
differential_seed_041	parity_reaction_relative_l2	1.69e-07	PASS	recovery_face_xMin_load_minus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_041	parity_reaction_relative_linf	2.62e-07	PASS	recovery_face_xMin_load_minus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_041	parity_stress_relative_l2	7.18e-07	PASS	recovery_face_xMin_load_minus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_041	parity_stress_relative_linf	1.02e-06	PASS	recovery_face_xMin_load_minus_x	rigid_body_constraint_rank	6	PASS
differential_seed_041	parity_strain_energy_relative_error	5.14e-08	PASS	recovery_face_xMin_load_plus_y	converged	1	PASS
differential_seed_041	zero_fallback_on_both_backends	0	PASS	recovery_face_xMin_load_plus_y	solver_relative_residual	8.62e-06	PASS
differential_seed_042	converged	1	PASS	recovery_face_xMin_load_plus_y	rigid_body_constraint_rank	6	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_042	solver_relative_residual	1.66e-08	PASS	recovery_face_xMin_load_plus_y	force_equilibrium_relative_error	2.42e-07	PASS
differential_seed_042	independent_double_relative_residual	1.66e-08	PASS	recovery_face_xMin_load_plus_y	moment_equilibrium_relative_error	2.79e-07	PASS
differential_seed_042	rigid_body_constraint_rank	6	PASS	recovery_face_xMin_load_plus_y	energy_identity_relative_error	5.63e-09	PASS
differential_seed_042	force_equilibrium_relative_error	7.25e-09	PASS	recovery_face_xMin_load_plus_y	displacement_all_finite	1	PASS
differential_seed_042	moment_equilibrium_relative_error	8.07e-09	PASS	recovery_face_xMin_load_plus_y	requested_release_backend	1	PASS
differential_seed_042	energy_identity_relative_error	5.66e-09	PASS	recovery_face_xMin_load_plus_y	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_042	displacement_all_finite	1	PASS	recovery_face_xMin_load_plus_y	packaged_metallib_used	1	PASS
differential_seed_042	stress_all_finite	1	PASS	recovery_face_xMin_load_plus_y	no_runtime_source_compilation	1	PASS
differential_seed_042	fallback_count	0	PASS	recovery_face_xMin_load_plus_y	fallback_count	0	PASS
differential_seed_042	metal_execution_evidence_present	1	PASS	recovery_face_xMin_load_plus_y	force_equilibrium_from_published_re...	7.28e-07	PASS
differential_seed_042	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_xMin_load_plus_y	moment_equilibrium_from_published_r...	5.98e-07	PASS
differential_seed_042	persistent_metal_vector_buffers	1	PASS	recovery_face_xMin_load_plus_y	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_042	packaged_metallib_used	1	PASS	recovery_face_xMin_load_plus_y	constrained_node_count_is_one_face	49	PASS
differential_seed_042	no_runtime_source_compilation	1	PASS	recovery_face_xMin_load_plus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_042	metal_fallback_count	0	PASS	recovery_face_xMin_load_plus_y	rigid_body_constraint_rank	6	PASS
differential_seed_042	converged	1	PASS	recovery_face_xMin_load_minus_y	converged	1	PASS
differential_seed_042	solver_relative_residual	9.92e-11	PASS	recovery_face_xMin_load_minus_y	solver_relative_residual	8.62e-06	PASS
differential_seed_042	independent_double_relative_residual	9.92e-11	PASS	recovery_face_xMin_load_minus_y	rigid_body_constraint_rank	6	PASS
differential_seed_042	rigid_body_constraint_rank	6	PASS	recovery_face_xMin_load_minus_y	force_equilibrium_relative_error	2.42e-07	PASS
differential_seed_042	force_equilibrium_relative_error	9.95e-13	PASS	recovery_face_xMin_load_minus_y	moment_equilibrium_relative_error	2.79e-07	PASS
differential_seed_042	moment_equilibrium_relative_error	1.58e-12	PASS	recovery_face_xMin_load_minus_y	energy_identity_relative_error	5.63e-09	PASS
differential_seed_042	energy_identity_relative_error	6.63e-15	PASS	recovery_face_xMin_load_minus_y	displacement_all_finite	1	PASS
differential_seed_042	displacement_all_finite	1	PASS	recovery_face_xMin_load_minus_y	requested_release_backend	1	PASS
differential_seed_042	stress_all_finite	1	PASS	recovery_face_xMin_load_minus_y	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_042	fallback_count	0	PASS	recovery_face_xMin_load_minus_y	packaged_metallib_used	1	PASS
differential_seed_042	reference_route_is_cpu_double	1	PASS	recovery_face_xMin_load_minus_y	no_runtime_source_compilation	1	PASS
differential_seed_042	reference_route_no_fallback	1	PASS	recovery_face_xMin_load_minus_y	fallback_count	0	PASS
differential_seed_042	parity_displacement_relative_l2	1.36e-08	PASS	recovery_face_xMin_load_minus_y	force_equilibrium_from_published_re...	7.28e-07	PASS
differential_seed_042	parity_displacement_relative_linf	1.34e-08	PASS	recovery_face_xMin_load_minus_y	moment_equilibrium_from_published_r...	5.98e-07	PASS
differential_seed_042	parity_reaction_relative_l2	1.42e-08	PASS	recovery_face_xMin_load_minus_y	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_042	parity_reaction_relative_linf	1.54e-08	PASS	recovery_face_xMin_load_minus_y	constrained_node_count_is_one_face	49	PASS
differential_seed_042	parity_stress_relative_l2	1.50e-08	PASS	recovery_face_xMin_load_minus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_042	parity_stress_relative_linf	1.52e-08	PASS	recovery_face_xMin_load_minus_y	rigid_body_constraint_rank	6	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_042	parity_strain_energy_relative_error	1.13e-08	PASS	recovery_face_xMin_load_plus_z	converged	1	PASS
differential_seed_042	zero_fallback_on_both_backends	0	PASS	recovery_face_xMin_load_plus_z	solver_relative_residual	8.70e-06	PASS
differential_seed_043	converged	1	PASS	recovery_face_xMin_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_043	solver_relative_residual	1.39e-05	PASS	recovery_face_xMin_load_plus_z	force_equilibrium_relative_error	1.86e-07	PASS
differential_seed_043	independent_double_relative_residual	1.39e-05	PASS	recovery_face_xMin_load_plus_z	moment_equilibrium_relative_error	2.30e-07	PASS
differential_seed_043	rigid_body_constraint_rank	6	PASS	recovery_face_xMin_load_plus_z	energy_identity_relative_error	1.01e-07	PASS
differential_seed_043	force_equilibrium_relative_error	8.26e-07	PASS	recovery_face_xMin_load_plus_z	displacement_all_finite	1	PASS
differential_seed_043	moment_equilibrium_relative_error	1.12e-06	PASS	recovery_face_xMin_load_plus_z	requested_release_backend	1	PASS
differential_seed_043	energy_identity_relative_error	9.14e-07	PASS	recovery_face_xMin_load_plus_z	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_043	displacement_all_finite	1	PASS	recovery_face_xMin_load_plus_z	packaged_metallib_used	1	PASS
differential_seed_043	stress_all_finite	1	PASS	recovery_face_xMin_load_plus_z	no_runtime_source_compilation	1	PASS
differential_seed_043	fallback_count	0	PASS	recovery_face_xMin_load_plus_z	fallback_count	0	PASS
differential_seed_043	metal_execution_evidence_present	1	PASS	recovery_face_xMin_load_plus_z	force_equilibrium_from_published_re...	5.60e-07	PASS
differential_seed_043	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_xMin_load_plus_z	moment_equilibrium_from_published_f...	4.94e-07	PASS
differential_seed_043	persistent_metal_vector_buffers	1	PASS	recovery_face_xMin_load_plus_z	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_043	packaged_metallib_used	1	PASS	recovery_face_xMin_load_plus_z	constrained_node_count_is_one_face	49	PASS
differential_seed_043	no_runtime_source_compilation	1	PASS	recovery_face_xMin_load_plus_z	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_043	metal_fallback_count	0	PASS	recovery_face_xMin_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_043	converged	1	PASS	recovery_face_xMin_load_minus_z	converged	1	PASS
differential_seed_043	solver_relative_residual	8.78e-11	PASS	recovery_face_xMin_load_minus_z	solver_relative_residual	8.70e-06	PASS
differential_seed_043	independent_double_relative_residual	8.78e-11	PASS	recovery_face_xMin_load_minus_z	rigid_body_constraint_rank	6	PASS
differential_seed_043	rigid_body_constraint_rank	6	PASS	recovery_face_xMin_load_minus_z	force_equilibrium_relative_error	1.86e-07	PASS
differential_seed_043	force_equilibrium_relative_error	1.56e-11	PASS	recovery_face_xMin_load_minus_z	moment_equilibrium_relative_error	2.30e-07	PASS
differential_seed_043	moment_equilibrium_relative_error	1.51e-11	PASS	recovery_face_xMin_load_minus_z	energy_identity_relative_error	1.01e-07	PASS
differential_seed_043	energy_identity_relative_error	5.24e-14	PASS	recovery_face_xMin_load_minus_z	displacement_all_finite	1	PASS
differential_seed_043	displacement_all_finite	1	PASS	recovery_face_xMin_load_minus_z	requested_release_backend	1	PASS
differential_seed_043	stress_all_finite	1	PASS	recovery_face_xMin_load_minus_z	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_043	fallback_count	0	PASS	recovery_face_xMin_load_minus_z	packaged_metallib_used	1	PASS
differential_seed_043	reference_route_is_cpu_double	1	PASS	recovery_face_xMin_load_minus_z	no_runtime_source_compilation	1	PASS
differential_seed_043	reference_route_no_fallback	1	PASS	recovery_face_xMin_load_minus_z	fallback_count	0	PASS
differential_seed_043	parity_displacement_relative_l2	1.37e-05	PASS	recovery_face_xMin_load_minus_z	force_equilibrium_from_published_re...	5.60e-07	PASS
differential_seed_043	parity_displacement_relative_linf	6.14e-06	PASS	recovery_face_xMin_load_minus_z	moment_equilibrium_from_published_f...	4.94e-07	PASS
differential_seed_043	parity_reaction_relative_l2	6.10e-06	PASS	recovery_face_xMin_load_minus_z	published_applied_resultant_matches...	9.09e-16	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_043	parity_reaction_relative_linf	3.68e-06	PASS	recovery_face_xMin_load_minus_z	constrained_node_count_is_one_face	49	PASS
differential_seed_043	parity_stress_relative_l2	1.30e-05	PASS	recovery_face_xMin_load_minus_z	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_043	parity_stress_relative_linf	3.58e-06	PASS	recovery_face_xMin_load_minus_z	rigid_body_constraint_rank	6	PASS
differential_seed_043	parity_strain_energy_relative_error	1.83e-06	PASS	recovery_face_xMax_load_plus_x	converged	1	PASS
differential_seed_043	zero_fallback_on_both_backends	0	PASS	recovery_face_xMax_load_plus_x	solver_relative_residual	1.05e-05	PASS
differential_seed_044	converged	1	PASS	recovery_face_xMax_load_plus_x	rigid_body_constraint_rank	6	PASS
differential_seed_044	solver_relative_residual	1.86e-05	PASS	recovery_face_xMax_load_plus_x	force_equilibrium_relative_error	1.16e-06	PASS
differential_seed_044	independent_double_relative_residual	1.86e-05	PASS	recovery_face_xMax_load_plus_x	moment_equilibrium_relative_error	1.09e-06	PASS
differential_seed_044	rigid_body_constraint_rank	6	PASS	recovery_face_xMax_load_plus_x	energy_identity_relative_error	2.73e-08	PASS
differential_seed_044	force_equilibrium_relative_error	4.29e-08	PASS	recovery_face_xMax_load_plus_x	displacement_all_finite	1	PASS
differential_seed_044	moment_equilibrium_relative_error	1.12e-07	PASS	recovery_face_xMax_load_plus_x	requested_release_backend	1	PASS
differential_seed_044	energy_identity_relative_error	2.15e-08	PASS	recovery_face_xMax_load_plus_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_044	displacement_all_finite	1	PASS	recovery_face_xMax_load_plus_x	packaged_metallib_used	1	PASS
differential_seed_044	stress_all_finite	1	PASS	recovery_face_xMax_load_plus_x	no_runtime_source_compilation	1	PASS
differential_seed_044	fallback_count	0	PASS	recovery_face_xMax_load_plus_x	fallback_count	0	PASS
differential_seed_044	metal_execution_evidence_present	1	PASS	recovery_face_xMax_load_plus_x	force_equilibrium_from_published_re...	1.22e-06	PASS
differential_seed_044	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_xMax_load_plus_x	moment_equilibrium_from_published_r...	8.65e-07	PASS
differential_seed_044	persistent_metal_vector_buffers	1	PASS	recovery_face_xMax_load_plus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_044	packaged_metallib_used	1	PASS	recovery_face_xMax_load_plus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_044	no_runtime_source_compilation	1	PASS	recovery_face_xMax_load_plus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_044	metal_fallback_count	0	PASS	recovery_face_xMax_load_plus_x	rigid_body_constraint_rank	6	PASS
differential_seed_044	converged	1	PASS	recovery_face_xMax_load_minus_x	converged	1	PASS
differential_seed_044	solver_relative_residual	9.21e-11	PASS	recovery_face_xMax_load_minus_x	solver_relative_residual	1.05e-05	PASS
differential_seed_044	independent_double_relative_residual	9.21e-11	PASS	recovery_face_xMax_load_minus_x	rigid_body_constraint_rank	6	PASS
differential_seed_044	rigid_body_constraint_rank	6	PASS	recovery_face_xMax_load_minus_x	force_equilibrium_relative_error	1.16e-06	PASS
differential_seed_044	force_equilibrium_relative_error	6.69e-12	PASS	recovery_face_xMax_load_minus_x	moment_equilibrium_relative_error	1.09e-06	PASS
differential_seed_044	moment_equilibrium_relative_error	1.29e-11	PASS	recovery_face_xMax_load_minus_x	energy_identity_relative_error	2.73e-08	PASS
differential_seed_044	energy_identity_relative_error	3.39e-15	PASS	recovery_face_xMax_load_minus_x	displacement_all_finite	1	PASS
differential_seed_044	displacement_all_finite	1	PASS	recovery_face_xMax_load_minus_x	requested_release_backend	1	PASS
differential_seed_044	stress_all_finite	1	PASS	recovery_face_xMax_load_minus_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_044	fallback_count	0	PASS	recovery_face_xMax_load_minus_x	packaged_metallib_used	1	PASS
differential_seed_044	reference_route_is_cpu_double	1	PASS	recovery_face_xMax_load_minus_x	no_runtime_source_compilation	1	PASS
differential_seed_044	reference_route_no_fallback	1	PASS	recovery_face_xMax_load_minus_x	fallback_count	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_044	parity_displacement_relative_l2	5.00e-06	PASS	recovery_face_xMax_load_minus_x	force_equilibrium_from_published_re...	1.22e-06	PASS
differential_seed_044	parity_displacement_relative_linf	4.01e-06	PASS	recovery_face_xMax_load_minus_x	moment_equilibrium_from_published_f...	8.65e-07	PASS
differential_seed_044	parity_reaction_relative_l2	5.25e-06	PASS	recovery_face_xMax_load_minus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_044	parity_reaction_relative_linf	5.39e-06	PASS	recovery_face_xMax_load_minus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_044	parity_stress_relative_l2	1.72e-05	PASS	recovery_face_xMax_load_minus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_044	parity_stress_relative_linf	1.13e-05	PASS	recovery_face_xMax_load_minus_x	rigid_body_constraint_rank	6	PASS
differential_seed_044	parity_strain_energy_relative_error	4.31e-08	PASS	recovery_face_xMax_load_plus_y	converged	1	PASS
differential_seed_044	zero_fallback_on_both_backends	0	PASS	recovery_face_xMax_load_plus_y	solver_relative_residual	8.54e-06	PASS
differential_properties_seed_044	metal_all_property_solves_converged	1	PASS	recovery_face_xMax_load_plus_y	rigid_body_constraint_rank	6	PASS
differential_properties_seed_044	metal_displacement_superposition	2.07e-06	PASS	recovery_face_xMax_load_plus_y	force_equilibrium_relative_error	2.41e-07	PASS
differential_properties_seed_044	metal_stress_superposition	1.73e-05	PASS	recovery_face_xMax_load_plus_y	moment_equilibrium_relative_error	2.17e-07	PASS
differential_properties_seed_044	metal_sign_reversal	0	PASS	recovery_face_xMax_load_plus_y	energy_identity_relative_error	2.03e-08	PASS
differential_properties_seed_044	metal_load_scaling_by_two	0	PASS	recovery_face_xMax_load_plus_y	displacement_all_finite	1	PASS
differential_properties_seed_044	metal_modulus_scaling_by_two	0	PASS	recovery_face_xMax_load_plus_y	requested_release_backend	1	PASS
differential_properties_seed_044	metal_maxwell_betti_reciprocity	0.00117	PASS	recovery_face_xMax_load_plus_y	operator_backend_is_packaged_host_p...	1	PASS
differential_properties_seed_044	metal_axis_permutation	8.61e-08	PASS	recovery_face_xMax_load_plus_y	packaged_metallib_used	1	PASS
differential_properties_seed_044	metal_axis_reflection	1.92e-07	PASS	recovery_face_xMax_load_plus_y	no_runtime_source_compilation	1	PASS
differential_properties_seed_044	cpu_all_property_solves_converged	1	PASS	recovery_face_xMax_load_plus_y	fallback_count	0	PASS
differential_properties_seed_044	cpu_displacement_superposition	1.09e-11	PASS	recovery_face_xMax_load_plus_y	force_equilibrium_from_published_re...	7.25e-07	PASS
differential_properties_seed_044	cpu_stress_superposition	5.70e-11	PASS	recovery_face_xMax_load_plus_y	moment_equilibrium_from_published_f...	4.38e-07	PASS
differential_properties_seed_044	cpu_sign_reversal	0	PASS	recovery_face_xMax_load_plus_y	published_applied_resultant_matches...	9.09e-16	PASS
differential_properties_seed_044	cpu_load_scaling_by_two	0	PASS	recovery_face_xMax_load_plus_y	constrained_node_count_is_one_face	49	PASS
differential_properties_seed_044	cpu_modulus_scaling_by_two	4.64e-13	PASS	recovery_face_xMax_load_plus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_properties_seed_044	cpu_maxwell_betti_reciprocity	1.97e-09	PASS	recovery_face_xMax_load_plus_y	rigid_body_constraint_rank	6	PASS
differential_properties_seed_044	cpu_axis_permutation	7.15e-13	PASS	recovery_face_xMax_load_minus_y	converged	1	PASS
differential_properties_seed_044	cpu_axis_reflection	9.51e-12	PASS	recovery_face_xMax_load_minus_y	solver_relative_residual	8.54e-06	PASS
differential_seed_045	converged	1	PASS	recovery_face_xMax_load_minus_y	rigid_body_constraint_rank	6	PASS
differential_seed_045	solver_relative_residual	2.49e-06	PASS	recovery_face_xMax_load_minus_y	force_equilibrium_relative_error	2.41e-07	PASS
differential_seed_045	independent_double_relative_residual	2.49e-06	PASS	recovery_face_xMax_load_minus_y	moment_equilibrium_relative_error	2.17e-07	PASS
differential_seed_045	rigid_body_constraint_rank	6	PASS	recovery_face_xMax_load_minus_y	energy_identity_relative_error	2.03e-08	PASS
differential_seed_045	force_equilibrium_relative_error	3.48e-08	PASS	recovery_face_xMax_load_minus_y	displacement_all_finite	1	PASS
differential_seed_045	moment_equilibrium_relative_error	8.95e-08	PASS	recovery_face_xMax_load_minus_y	requested_release_backend	1	PASS
differential_seed_045	energy_identity_relative_error	3.89e-08	PASS	recovery_face_xMax_load_minus_y	operator_backend_is_packaged_host_p...	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_045	displacement_all_finite	1	PASS	recovery_face_xMax_load_minus_y	packaged_metallib_used	1	PASS
differential_seed_045	stress_all_finite	1	PASS	recovery_face_xMax_load_minus_y	no_runtime_source_compilation	1	PASS
differential_seed_045	fallback_count	0	PASS	recovery_face_xMax_load_minus_y	fallback_count	0	PASS
differential_seed_045	metal_execution_evidence_present	1	PASS	recovery_face_xMax_load_minus_y	force_equilibrium_from_published_re...	7.25e-07	PASS
differential_seed_045	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_xMax_load_minus_y	moment_equilibrium_from_published_r...	4.38e-07	PASS
differential_seed_045	persistent_metal_vector_buffers	1	PASS	recovery_face_xMax_load_minus_y	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_045	packaged_metallib_used	1	PASS	recovery_face_xMax_load_minus_y	constrained_node_count_is_one_face	49	PASS
differential_seed_045	no_runtime_source_compilation	1	PASS	recovery_face_xMax_load_minus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_045	metal_fallback_count	0	PASS	recovery_face_xMax_load_minus_y	rigid_body_constraint_rank	6	PASS
differential_seed_045	converged	1	PASS	recovery_face_xMax_load_plus_z	converged	1	PASS
differential_seed_045	solver_relative_residual	4.94e-11	PASS	recovery_face_xMax_load_plus_z	solver_relative_residual	8.51e-06	PASS
differential_seed_045	independent_double_relative_residual	4.94e-11	PASS	recovery_face_xMax_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_045	rigid_body_constraint_rank	6	PASS	recovery_face_xMax_load_plus_z	force_equilibrium_relative_error	2.34e-07	PASS
differential_seed_045	force_equilibrium_relative_error	1.23e-12	PASS	recovery_face_xMax_load_plus_z	moment_equilibrium_relative_error	2.06e-07	PASS
differential_seed_045	moment_equilibrium_relative_error	3.10e-12	PASS	recovery_face_xMax_load_plus_z	energy_identity_relative_error	4.21e-09	PASS
differential_seed_045	energy_identity_relative_error	1.08e-13	PASS	recovery_face_xMax_load_plus_z	displacement_all_finite	1	PASS
differential_seed_045	displacement_all_finite	1	PASS	recovery_face_xMax_load_plus_z	requested_release_backend	1	PASS
differential_seed_045	stress_all_finite	1	PASS	recovery_face_xMax_load_plus_z	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_045	fallback_count	0	PASS	recovery_face_xMax_load_plus_z	packaged_metallib_used	1	PASS
differential_seed_045	reference_route_is_cpu_double	1	PASS	recovery_face_xMax_load_plus_z	no_runtime_source_compilation	1	PASS
differential_seed_045	reference_route_no_fallback	1	PASS	recovery_face_xMax_load_plus_z	fallback_count	0	PASS
differential_seed_045	parity_displacement_relative_l2	1.57e-07	PASS	recovery_face_xMax_load_plus_z	force_equilibrium_from_published_re...	7.04e-07	PASS
differential_seed_045	parity_displacement_relative_linf	3.16e-07	PASS	recovery_face_xMax_load_plus_z	moment_equilibrium_from_published_r...	4.15e-07	PASS
differential_seed_045	parity_reaction_relative_l2	2.44e-07	PASS	recovery_face_xMax_load_plus_z	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_045	parity_reaction_relative_linf	2.72e-07	PASS	recovery_face_xMax_load_plus_z	constrained_node_count_is_one_face	49	PASS
differential_seed_045	parity_stress_relative_l2	6.68e-07	PASS	recovery_face_xMax_load_plus_z	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_045	parity_stress_relative_linf	1.12e-06	PASS	recovery_face_xMax_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_045	parity_strain_energy_relative_error	7.78e-08	PASS	recovery_face_xMax_load_minus_z	converged	1	PASS
differential_seed_045	zero_fallback_on_both_backends	0	PASS	recovery_face_xMax_load_minus_z	solver_relative_residual	8.51e-06	PASS
differential_seed_046	converged	1	PASS	recovery_face_xMax_load_minus_z	rigid_body_constraint_rank	6	PASS
differential_seed_046	solver_relative_residual	7.29e-07	PASS	recovery_face_xMax_load_minus_z	force_equilibrium_relative_error	2.34e-07	PASS
differential_seed_046	independent_double_relative_residual	7.29e-07	PASS	recovery_face_xMax_load_minus_z	moment_equilibrium_relative_error	2.06e-07	PASS
differential_seed_046	rigid_body_constraint_rank	6	PASS	recovery_face_xMax_load_minus_z	energy_identity_relative_error	4.21e-09	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_046	force_equilibrium_relative_error	8.55e-08	PASS	recovery_face_xMax_load_minus_z	displacement_all_finite	1	PASS
differential_seed_046	moment_equilibrium_relative_error	3.34e-08	PASS	recovery_face_xMax_load_minus_z	requested_release_backend	1	PASS
differential_seed_046	energy_identity_relative_error	4.38e-08	PASS	recovery_face_xMax_load_minus_z	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_046	displacement_all_finite	1	PASS	recovery_face_xMax_load_minus_z	packaged_metallib_used	1	PASS
differential_seed_046	stress_all_finite	1	PASS	recovery_face_xMax_load_minus_z	no_runtime_source_compilation	1	PASS
differential_seed_046	fallback_count	0	PASS	recovery_face_xMax_load_minus_z	fallback_count	0	PASS
differential_seed_046	metal_execution_evidence_present	1	PASS	recovery_face_xMax_load_minus_z	force_equilibrium_from_published_re...	7.04e-07	PASS
differential_seed_046	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_xMax_load_minus_z	moment_equilibrium_from_published_f...	4.15e-07	PASS
differential_seed_046	persistent_metal_vector_buffers	1	PASS	recovery_face_xMax_load_minus_z	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_046	packaged_metallib_used	1	PASS	recovery_face_xMax_load_minus_z	constrained_node_count_is_one_face	49	PASS
differential_seed_046	no_runtime_source_compilation	1	PASS	recovery_face_xMax_load_minus_z	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_046	metal_fallback_count	0	PASS	recovery_face_xMax_load_minus_z	rigid_body_constraint_rank	6	PASS
differential_seed_046	converged	1	PASS	recovery_face_yMin_load_plus_x	converged	1	PASS
differential_seed_046	solver_relative_residual	4.80e-11	PASS	recovery_face_yMin_load_plus_x	solver_relative_residual	8.86e-06	PASS
differential_seed_046	independent_double_relative_residual	4.80e-11	PASS	recovery_face_yMin_load_plus_x	rigid_body_constraint_rank	6	PASS
differential_seed_046	rigid_body_constraint_rank	6	PASS	recovery_face_yMin_load_plus_x	force_equilibrium_relative_error	2.42e-07	PASS
differential_seed_046	force_equilibrium_relative_error	4.39e-12	PASS	recovery_face_yMin_load_plus_x	moment_equilibrium_relative_error	2.40e-07	PASS
differential_seed_046	moment_equilibrium_relative_error	5.60e-12	PASS	recovery_face_yMin_load_plus_x	energy_identity_relative_error	4.83e-08	PASS
differential_seed_046	energy_identity_relative_error	1.59e-16	PASS	recovery_face_yMin_load_plus_x	displacement_all_finite	1	PASS
differential_seed_046	displacement_all_finite	1	PASS	recovery_face_yMin_load_plus_x	requested_release_backend	1	PASS
differential_seed_046	stress_all_finite	1	PASS	recovery_face_yMin_load_plus_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_046	fallback_count	0	PASS	recovery_face_yMin_load_plus_x	packaged_metallib_used	1	PASS
differential_seed_046	reference_route_is_cpu_double	1	PASS	recovery_face_yMin_load_plus_x	no_runtime_source_compilation	1	PASS
differential_seed_046	reference_route_no_fallback	1	PASS	recovery_face_yMin_load_plus_x	fallback_count	0	PASS
differential_seed_046	parity_displacement_relative_l2	2.20e-07	PASS	recovery_face_yMin_load_plus_x	force_equilibrium_from_published_re...	7.29e-07	PASS
differential_seed_046	parity_displacement_relative_linf	1.94e-07	PASS	recovery_face_yMin_load_plus_x	moment_equilibrium_from_published_f...	5.16e-07	PASS
differential_seed_046	parity_reaction_relative_l2	1.23e-07	PASS	recovery_face_yMin_load_plus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_046	parity_reaction_relative_linf	2.02e-07	PASS	recovery_face_yMin_load_plus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_046	parity_stress_relative_l2	4.30e-07	PASS	recovery_face_yMin_load_plus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_046	parity_stress_relative_linf	6.57e-07	PASS	recovery_face_yMin_load_plus_x	rigid_body_constraint_rank	6	PASS
differential_seed_046	parity_strain_energy_relative_error	8.76e-08	PASS	recovery_face_yMin_load_minus_x	converged	1	PASS
differential_seed_046	zero_fallback_on_both_backends	0	PASS	recovery_face_yMin_load_minus_x	solver_relative_residual	8.86e-06	PASS
differential_seed_047	converged	1	PASS	recovery_face_yMin_load_minus_x	rigid_body_constraint_rank	6	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_047	solver_relative_residual	1.64e-05	PASS	recovery_face_yMin_load_minus_x	force_equilibrium_relative_error	2.42e-07	PASS
differential_seed_047	independent_double_relative_residual	1.64e-05	PASS	recovery_face_yMin_load_minus_x	moment_equilibrium_relative_error	2.40e-07	PASS
differential_seed_047	rigid_body_constraint_rank	6	PASS	recovery_face_yMin_load_minus_x	energy_identity_relative_error	4.83e-08	PASS
differential_seed_047	force_equilibrium_relative_error	3.26e-07	PASS	recovery_face_yMin_load_minus_x	displacement_all_finite	1	PASS
differential_seed_047	moment_equilibrium_relative_error	3.34e-07	PASS	recovery_face_yMin_load_minus_x	requested_release_backend	1	PASS
differential_seed_047	energy_identity_relative_error	3.57e-08	PASS	recovery_face_yMin_load_minus_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_047	displacement_all_finite	1	PASS	recovery_face_yMin_load_minus_x	packaged_metallib_used	1	PASS
differential_seed_047	stress_all_finite	1	PASS	recovery_face_yMin_load_minus_x	no_runtime_source_compilation	1	PASS
differential_seed_047	fallback_count	0	PASS	recovery_face_yMin_load_minus_x	fallback_count	0	PASS
differential_seed_047	metal_execution_evidence_present	1	PASS	recovery_face_yMin_load_minus_x	force_equilibrium_from_published_re...	7.29e-07	PASS
differential_seed_047	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_yMin_load_minus_x	moment_equilibrium_from_published_r...	5.16e-07	PASS
differential_seed_047	persistent_metal_vector_buffers	1	PASS	recovery_face_yMin_load_minus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_047	packaged_metallib_used	1	PASS	recovery_face_yMin_load_minus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_047	no_runtime_source_compilation	1	PASS	recovery_face_yMin_load_minus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_047	metal_fallback_count	0	PASS	recovery_face_yMin_load_minus_x	rigid_body_constraint_rank	6	PASS
differential_seed_047	converged	1	PASS	recovery_face_yMin_load_plus_y	converged	1	PASS
differential_seed_047	solver_relative_residual	7.13e-11	PASS	recovery_face_yMin_load_plus_y	solver_relative_residual	1.05e-05	PASS
differential_seed_047	independent_double_relative_residual	7.13e-11	PASS	recovery_face_yMin_load_plus_y	rigid_body_constraint_rank	6	PASS
differential_seed_047	rigid_body_constraint_rank	6	PASS	recovery_face_yMin_load_plus_y	force_equilibrium_relative_error	1.19e-06	PASS
differential_seed_047	force_equilibrium_relative_error	8.36e-12	PASS	recovery_face_yMin_load_plus_y	moment_equilibrium_relative_error	1.13e-06	PASS
differential_seed_047	moment_equilibrium_relative_error	1.09e-11	PASS	recovery_face_yMin_load_plus_y	energy_identity_relative_error	3.00e-08	PASS
differential_seed_047	energy_identity_relative_error	3.29e-15	PASS	recovery_face_yMin_load_plus_y	displacement_all_finite	1	PASS
differential_seed_047	displacement_all_finite	1	PASS	recovery_face_yMin_load_plus_y	requested_release_backend	1	PASS
differential_seed_047	stress_all_finite	1	PASS	recovery_face_yMin_load_plus_y	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_047	fallback_count	0	PASS	recovery_face_yMin_load_plus_y	packaged_metallib_used	1	PASS
differential_seed_047	reference_route_is_cpu_double	1	PASS	recovery_face_yMin_load_plus_y	no_runtime_source_compilation	1	PASS
differential_seed_047	reference_route_no_fallback	1	PASS	recovery_face_yMin_load_plus_y	fallback_count	0	PASS
differential_seed_047	parity_displacement_relative_l2	7.51e-06	PASS	recovery_face_yMin_load_plus_y	force_equilibrium_from_published_re...	1.24e-06	PASS
differential_seed_047	parity_displacement_relative_linf	7.26e-06	PASS	recovery_face_yMin_load_plus_y	moment_equilibrium_from_published_r...	8.66e-07	PASS
differential_seed_047	parity_reaction_relative_l2	5.04e-06	PASS	recovery_face_yMin_load_plus_y	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_047	parity_reaction_relative_linf	8.49e-06	PASS	recovery_face_yMin_load_plus_y	constrained_node_count_is_one_face	49	PASS
differential_seed_047	parity_stress_relative_l2	1.24e-05	PASS	recovery_face_yMin_load_plus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_047	parity_stress_relative_linf	1.46e-05	PASS	recovery_face_yMin_load_plus_y	rigid_body_constraint_rank	6	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_047	parity_strain_energy_relative_error	7.16e-08	PASS	recovery_face_yMin_load_minus_y	converged	1	PASS
differential_seed_047	zero_fallback_on_both_backends	0	PASS	recovery_face_yMin_load_minus_y	solver_relative_residual	1.05e-05	PASS
differential_seed_048	converged	1	PASS	recovery_face_yMin_load_minus_y	rigid_body_constraint_rank	6	PASS
differential_seed_048	solver_relative_residual	1.78e-05	PASS	recovery_face_yMin_load_minus_y	force_equilibrium_relative_error	1.19e-06	PASS
differential_seed_048	independent_double_relative_residual	1.78e-05	PASS	recovery_face_yMin_load_minus_y	moment_equilibrium_relative_error	1.13e-06	PASS
differential_seed_048	rigid_body_constraint_rank	6	PASS	recovery_face_yMin_load_minus_y	energy_identity_relative_error	3.00e-08	PASS
differential_seed_048	force_equilibrium_relative_error	1.56e-06	PASS	recovery_face_yMin_load_minus_y	displacement_all_finite	1	PASS
differential_seed_048	moment_equilibrium_relative_error	2.19e-06	PASS	recovery_face_yMin_load_minus_y	requested_release_backend	1	PASS
differential_seed_048	energy_identity_relative_error	8.61e-09	PASS	recovery_face_yMin_load_minus_y	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_048	displacement_all_finite	1	PASS	recovery_face_yMin_load_minus_y	packaged_metallib_used	1	PASS
differential_seed_048	stress_all_finite	1	PASS	recovery_face_yMin_load_minus_y	no_runtime_source_compilation	1	PASS
differential_seed_048	fallback_count	0	PASS	recovery_face_yMin_load_minus_y	fallback_count	0	PASS
differential_seed_048	metal_execution_evidence_present	1	PASS	recovery_face_yMin_load_minus_y	force_equilibrium_from_published_re...	1.24e-06	PASS
differential_seed_048	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_yMin_load_minus_y	moment_equilibrium_from_published_f...	8.66e-07	PASS
differential_seed_048	persistent_metal_vector_buffers	1	PASS	recovery_face_yMin_load_minus_y	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_048	packaged_metallib_used	1	PASS	recovery_face_yMin_load_minus_y	constrained_node_count_is_one_face	49	PASS
differential_seed_048	no_runtime_source_compilation	1	PASS	recovery_face_yMin_load_minus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_048	metal_fallback_count	0	PASS	recovery_face_yMin_load_minus_y	rigid_body_constraint_rank	6	PASS
differential_seed_048	converged	1	PASS	recovery_face_yMin_load_plus_z	converged	1	PASS
differential_seed_048	solver_relative_residual	7.14e-11	PASS	recovery_face_yMin_load_plus_z	solver_relative_residual	8.91e-06	PASS
differential_seed_048	independent_double_relative_residual	7.14e-11	PASS	recovery_face_yMin_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_048	rigid_body_constraint_rank	6	PASS	recovery_face_yMin_load_plus_z	force_equilibrium_relative_error	2.36e-07	PASS
differential_seed_048	force_equilibrium_relative_error	8.89e-12	PASS	recovery_face_yMin_load_plus_z	moment_equilibrium_relative_error	2.51e-07	PASS
differential_seed_048	moment_equilibrium_relative_error	1.99e-11	PASS	recovery_face_yMin_load_plus_z	energy_identity_relative_error	2.02e-08	PASS
differential_seed_048	energy_identity_relative_error	1.73e-13	PASS	recovery_face_yMin_load_plus_z	displacement_all_finite	1	PASS
differential_seed_048	displacement_all_finite	1	PASS	recovery_face_yMin_load_plus_z	requested_release_backend	1	PASS
differential_seed_048	stress_all_finite	1	PASS	recovery_face_yMin_load_plus_z	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_048	fallback_count	0	PASS	recovery_face_yMin_load_plus_z	packaged_metallib_used	1	PASS
differential_seed_048	reference_route_is_cpu_double	1	PASS	recovery_face_yMin_load_plus_z	no_runtime_source_compilation	1	PASS
differential_seed_048	reference_route_no_fallback	1	PASS	recovery_face_yMin_load_plus_z	fallback_count	0	PASS
differential_seed_048	parity_displacement_relative_l2	3.94e-06	PASS	recovery_face_yMin_load_plus_z	force_equilibrium_from_published_re...	7.10e-07	PASS
differential_seed_048	parity_displacement_relative_linf	5.17e-06	PASS	recovery_face_yMin_load_plus_z	moment_equilibrium_from_published_f...	5.38e-07	PASS
differential_seed_048	parity_reaction_relative_l2	4.15e-06	PASS	recovery_face_yMin_load_plus_z	published_applied_resultant_matches...	9.09e-16	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_048	parity_reaction_relative_linf	3.68e-06	PASS	recovery_face_yMin_load_plus_z	constrained_node_count_is_one_face	49	PASS
differential_seed_048	parity_stress_relative_l2	8.79e-06	PASS	recovery_face_yMin_load_plus_z	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_048	parity_stress_relative_linf	5.84e-06	PASS	recovery_face_yMin_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_048	parity_strain_energy_relative_error	1.73e-08	PASS	recovery_face_yMin_load_minus_z	converged	1	PASS
differential_seed_048	zero_fallback_on_both_backends	0	PASS	recovery_face_yMin_load_minus_z	solver_relative_residual	8.91e-06	PASS
differential_properties_seed_048	metal_all_property_solves_converged	1	PASS	recovery_face_yMin_load_minus_z	rigid_body_constraint_rank	6	PASS
differential_properties_seed_048	metal_displacement_superposition	1.87e-06	PASS	recovery_face_yMin_load_minus_z	force_equilibrium_relative_error	2.36e-07	PASS
differential_properties_seed_048	metal_stress_superposition	4.00e-06	PASS	recovery_face_yMin_load_minus_z	moment_equilibrium_relative_error	2.51e-07	PASS
differential_properties_seed_048	metal_sign_reversal	0	PASS	recovery_face_yMin_load_minus_z	energy_identity_relative_error	2.02e-08	PASS
differential_properties_seed_048	metal_load_scaling_by_two	0	PASS	recovery_face_yMin_load_minus_z	displacement_all_finite	1	PASS
differential_properties_seed_048	metal_modulus_scaling_by_two	0	PASS	recovery_face_yMin_load_minus_z	requested_release_backend	1	PASS
differential_properties_seed_048	metal_maxwell_betti_reciprocity	5.81e-07	PASS	recovery_face_yMin_load_minus_z	operator_backend_is_packaged_host_p...	1	PASS
differential_properties_seed_048	metal_axis_permutation	8.37e-09	PASS	recovery_face_yMin_load_minus_z	packaged_metallib_used	1	PASS
differential_properties_seed_048	metal_axis_reflection	1.08e-08	PASS	recovery_face_yMin_load_minus_z	no_runtime_source_compilation	1	PASS
differential_properties_seed_048	cpu_all_property_solves_converged	1	PASS	recovery_face_yMin_load_minus_z	fallback_count	0	PASS
differential_properties_seed_048	cpu_displacement_superposition	1.08e-11	PASS	recovery_face_yMin_load_minus_z	force_equilibrium_from_published_re...	7.10e-07	PASS
differential_properties_seed_048	cpu_stress_superposition	2.44e-11	PASS	recovery_face_yMin_load_minus_z	moment_equilibrium_from_published_r...	5.38e-07	PASS
differential_properties_seed_048	cpu_sign_reversal	0	PASS	recovery_face_yMin_load_minus_z	published_applied_resultant_matches...	9.09e-16	PASS
differential_properties_seed_048	cpu_load_scaling_by_two	0	PASS	recovery_face_yMin_load_minus_z	constrained_node_count_is_one_face	49	PASS
differential_properties_seed_048	cpu_modulus_scaling_by_two	8.14e-13	PASS	recovery_face_yMin_load_minus_z	support_mask_is_xyz_on_every_constr...	1	PASS
differential_properties_seed_048	cpu_maxwell_betti_reciprocity	1.47e-10	PASS	recovery_face_yMin_load_minus_z	rigid_body_constraint_rank	6	PASS
differential_properties_seed_048	cpu_axis_permutation	2.96e-13	PASS	recovery_face_yMax_load_plus_x	converged	1	PASS
differential_properties_seed_048	cpu_axis_reflection	2.16e-12	PASS	recovery_face_yMax_load_plus_x	solver_relative_residual	8.62e-06	PASS
differential_seed_049	converged	1	PASS	recovery_face_yMax_load_plus_x	rigid_body_constraint_rank	6	PASS
differential_seed_049	solver_relative_residual	1.51e-05	PASS	recovery_face_yMax_load_plus_x	force_equilibrium_relative_error	2.53e-07	PASS
differential_seed_049	independent_double_relative_residual	1.51e-05	PASS	recovery_face_yMax_load_plus_x	moment_equilibrium_relative_error	2.24e-07	PASS
differential_seed_049	rigid_body_constraint_rank	6	PASS	recovery_face_yMax_load_plus_x	energy_identity_relative_error	2.30e-08	PASS
differential_seed_049	force_equilibrium_relative_error	3.54e-07	PASS	recovery_face_yMax_load_plus_x	displacement_all_finite	1	PASS
differential_seed_049	moment_equilibrium_relative_error	2.22e-07	PASS	recovery_face_yMax_load_plus_x	requested_release_backend	1	PASS
differential_seed_049	energy_identity_relative_error	3.76e-09	PASS	recovery_face_yMax_load_plus_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_049	displacement_all_finite	1	PASS	recovery_face_yMax_load_plus_x	packaged_metallib_used	1	PASS
differential_seed_049	stress_all_finite	1	PASS	recovery_face_yMax_load_plus_x	no_runtime_source_compilation	1	PASS
differential_seed_049	fallback_count	0	PASS	recovery_face_yMax_load_plus_x	fallback_count	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_049	metal_execution_evidence_present	1	PASS	recovery_face_yMax_load_plus_x	force_equilibrium_from_published_re...	7.60e-07	PASS
differential_seed_049	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_yMax_load_plus_x	moment_equilibrium_from_published_f...	4.51e-07	PASS
differential_seed_049	persistent_metal_vector_buffers	1	PASS	recovery_face_yMax_load_plus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_049	packaged_metallib_used	1	PASS	recovery_face_yMax_load_plus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_049	no_runtime_source_compilation	1	PASS	recovery_face_yMax_load_plus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_049	metal_fallback_count	0	PASS	recovery_face_yMax_load_plus_x	rigid_body_constraint_rank	6	PASS
differential_seed_049	converged	1	PASS	recovery_face_yMax_load_minus_x	converged	1	PASS
differential_seed_049	solver_relative_residual	5.86e-11	PASS	recovery_face_yMax_load_minus_x	solver_relative_residual	8.62e-06	PASS
differential_seed_049	independent_double_relative_residual	5.86e-11	PASS	recovery_face_yMax_load_minus_x	rigid_body_constraint_rank	6	PASS
differential_seed_049	rigid_body_constraint_rank	6	PASS	recovery_face_yMax_load_minus_x	force_equilibrium_relative_error	2.53e-07	PASS
differential_seed_049	force_equilibrium_relative_error	2.37e-12	PASS	recovery_face_yMax_load_minus_x	moment_equilibrium_relative_error	2.24e-07	PASS
differential_seed_049	moment_equilibrium_relative_error	2.28e-12	PASS	recovery_face_yMax_load_minus_x	energy_identity_relative_error	2.30e-08	PASS
differential_seed_049	energy_identity_relative_error	4.16e-16	PASS	recovery_face_yMax_load_minus_x	displacement_all_finite	1	PASS
differential_seed_049	displacement_all_finite	1	PASS	recovery_face_yMax_load_minus_x	requested_release_backend	1	PASS
differential_seed_049	stress_all_finite	1	PASS	recovery_face_yMax_load_minus_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_049	fallback_count	0	PASS	recovery_face_yMax_load_minus_x	packaged_metallib_used	1	PASS
differential_seed_049	reference_route_is_cpu_double	1	PASS	recovery_face_yMax_load_minus_x	no_runtime_source_compilation	1	PASS
differential_seed_049	reference_route_no_fallback	1	PASS	recovery_face_yMax_load_minus_x	fallback_count	0	PASS
differential_seed_049	parity_displacement_relative_l2	1.29e-06	PASS	recovery_face_yMax_load_minus_x	force_equilibrium_from_published_re...	7.60e-07	PASS
differential_seed_049	parity_displacement_relative_linf	3.37e-06	PASS	recovery_face_yMax_load_minus_x	moment_equilibrium_from_published_f...	4.51e-07	PASS
differential_seed_049	parity_reaction_relative_l2	8.71e-07	PASS	recovery_face_yMax_load_minus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_049	parity_reaction_relative_linf	7.27e-07	PASS	recovery_face_yMax_load_minus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_049	parity_stress_relative_l2	3.69e-06	PASS	recovery_face_yMax_load_minus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_049	parity_stress_relative_linf	3.99e-06	PASS	recovery_face_yMax_load_minus_x	rigid_body_constraint_rank	6	PASS
differential_seed_049	parity_strain_energy_relative_error	7.54e-09	PASS	recovery_face_yMax_load_plus_y	converged	1	PASS
differential_seed_049	zero_fallback_on_both_backends	0	PASS	recovery_face_yMax_load_plus_y	solver_relative_residual	1.05e-05	PASS
differential_seed_050	converged	1	PASS	recovery_face_yMax_load_plus_y	rigid_body_constraint_rank	6	PASS
differential_seed_050	solver_relative_residual	7.03e-08	PASS	recovery_face_yMax_load_plus_y	force_equilibrium_relative_error	1.19e-06	PASS
differential_seed_050	independent_double_relative_residual	7.03e-08	PASS	recovery_face_yMax_load_plus_y	moment_equilibrium_relative_error	1.11e-06	PASS
differential_seed_050	rigid_body_constraint_rank	6	PASS	recovery_face_yMax_load_plus_y	energy_identity_relative_error	1.25e-08	PASS
differential_seed_050	force_equilibrium_relative_error	1.70e-08	PASS	recovery_face_yMax_load_plus_y	displacement_all_finite	1	PASS
differential_seed_050	moment_equilibrium_relative_error	2.44e-08	PASS	recovery_face_yMax_load_plus_y	requested_release_backend	1	PASS
differential_seed_050	energy_identity_relative_error	2.09e-08	PASS	recovery_face_yMax_load_plus_y	operator_backend_is_packaged_host_p...	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_050	displacement_all_finite	1	PASS	recovery_face_yMax_load_plus_y	packaged_metallib_used	1	PASS
differential_seed_050	stress_all_finite	1	PASS	recovery_face_yMax_load_plus_y	no_runtime_source_compilation	1	PASS
differential_seed_050	fallback_count	0	PASS	recovery_face_yMax_load_plus_y	fallback_count	0	PASS
differential_seed_050	metal_execution_evidence_present	1	PASS	recovery_face_yMax_load_plus_y	force_equilibrium_from_published_re...	1.24e-06	PASS
differential_seed_050	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_yMax_load_plus_y	moment_equilibrium_from_published_r...	8.76e-07	PASS
differential_seed_050	persistent_metal_vector_buffers	1	PASS	recovery_face_yMax_load_plus_y	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_050	packaged_metallib_used	1	PASS	recovery_face_yMax_load_plus_y	constrained_node_count_is_one_face	49	PASS
differential_seed_050	no_runtime_source_compilation	1	PASS	recovery_face_yMax_load_plus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_050	metal_fallback_count	0	PASS	recovery_face_yMax_load_plus_y	rigid_body_constraint_rank	6	PASS
differential_seed_050	converged	1	PASS	recovery_face_yMax_load_minus_y	converged	1	PASS
differential_seed_050	solver_relative_residual	7.93e-11	PASS	recovery_face_yMax_load_minus_y	solver_relative_residual	1.05e-05	PASS
differential_seed_050	independent_double_relative_residual	7.93e-11	PASS	recovery_face_yMax_load_minus_y	rigid_body_constraint_rank	6	PASS
differential_seed_050	rigid_body_constraint_rank	6	PASS	recovery_face_yMax_load_minus_y	force_equilibrium_relative_error	1.19e-06	PASS
differential_seed_050	force_equilibrium_relative_error	1.96e-11	PASS	recovery_face_yMax_load_minus_y	moment_equilibrium_relative_error	1.11e-06	PASS
differential_seed_050	moment_equilibrium_relative_error	2.96e-11	PASS	recovery_face_yMax_load_minus_y	energy_identity_relative_error	1.25e-08	PASS
differential_seed_050	energy_identity_relative_error	1.64e-15	PASS	recovery_face_yMax_load_minus_y	displacement_all_finite	1	PASS
differential_seed_050	displacement_all_finite	1	PASS	recovery_face_yMax_load_minus_y	requested_release_backend	1	PASS
differential_seed_050	stress_all_finite	1	PASS	recovery_face_yMax_load_minus_y	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_050	fallback_count	0	PASS	recovery_face_yMax_load_minus_y	packaged_metallib_used	1	PASS
differential_seed_050	reference_route_is_cpu_double	1	PASS	recovery_face_yMax_load_minus_y	no_runtime_source_compilation	1	PASS
differential_seed_050	reference_route_no_fallback	1	PASS	recovery_face_yMax_load_minus_y	fallback_count	0	PASS
differential_seed_050	parity_displacement_relative_l2	4.86e-08	PASS	recovery_face_yMax_load_minus_y	force_equilibrium_from_published_re...	1.24e-06	PASS
differential_seed_050	parity_displacement_relative_linf	7.04e-08	PASS	recovery_face_yMax_load_minus_y	moment_equilibrium_from_published_r...	8.76e-07	PASS
differential_seed_050	parity_reaction_relative_l2	1.21e-08	PASS	recovery_face_yMax_load_minus_y	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_050	parity_reaction_relative_linf	7.21e-09	PASS	recovery_face_yMax_load_minus_y	constrained_node_count_is_one_face	49	PASS
differential_seed_050	parity_stress_relative_l2	6.74e-08	PASS	recovery_face_yMax_load_minus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_050	parity_stress_relative_linf	7.55e-08	PASS	recovery_face_yMax_load_minus_y	rigid_body_constraint_rank	6	PASS
differential_seed_050	parity_strain_energy_relative_error	4.18e-08	PASS	recovery_face_yMax_load_plus_z	converged	1	PASS
differential_seed_050	zero_fallback_on_both_backends	0	PASS	recovery_face_yMax_load_plus_z	solver_relative_residual	8.60e-06	PASS
differential_seed_051	converged	1	PASS	recovery_face_yMax_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_051	solver_relative_residual	1.59e-05	PASS	recovery_face_yMax_load_plus_z	force_equilibrium_relative_error	2.60e-07	PASS
differential_seed_051	independent_double_relative_residual	1.59e-05	PASS	recovery_face_yMax_load_plus_z	moment_equilibrium_relative_error	2.28e-07	PASS
differential_seed_051	rigid_body_constraint_rank	6	PASS	recovery_face_yMax_load_plus_z	energy_identity_relative_error	3.03e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_051	force_equilibrium_relative_error	6.96e-08	PASS	recovery_face_yMax_load_plus_z	displacement_all_finite	1	PASS
differential_seed_051	moment_equilibrium_relative_error	1.23e-07	PASS	recovery_face_yMax_load_plus_z	requested_release_backend	1	PASS
differential_seed_051	energy_identity_relative_error	1.64e-08	PASS	recovery_face_yMax_load_plus_z	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_051	displacement_all_finite	1	PASS	recovery_face_yMax_load_plus_z	packaged_metallib_used	1	PASS
differential_seed_051	stress_all_finite	1	PASS	recovery_face_yMax_load_plus_z	no_runtime_source_compilation	1	PASS
differential_seed_051	fallback_count	0	PASS	recovery_face_yMax_load_plus_z	fallback_count	0	PASS
differential_seed_051	metal_execution_evidence_present	1	PASS	recovery_face_yMax_load_plus_z	force_equilibrium_from_published_re...	7.81e-07	PASS
differential_seed_051	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_yMax_load_plus_z	moment_equilibrium_from_published_f...	4.60e-07	PASS
differential_seed_051	persistent_metal_vector_buffers	1	PASS	recovery_face_yMax_load_plus_z	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_051	packaged_metallib_used	1	PASS	recovery_face_yMax_load_plus_z	constrained_node_count_is_one_face	49	PASS
differential_seed_051	no_runtime_source_compilation	1	PASS	recovery_face_yMax_load_plus_z	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_051	metal_fallback_count	0	PASS	recovery_face_yMax_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_051	converged	1	PASS	recovery_face_yMax_load_minus_z	converged	1	PASS
differential_seed_051	solver_relative_residual	7.05e-11	PASS	recovery_face_yMax_load_minus_z	solver_relative_residual	8.60e-06	PASS
differential_seed_051	independent_double_relative_residual	7.05e-11	PASS	recovery_face_yMax_load_minus_z	rigid_body_constraint_rank	6	PASS
differential_seed_051	rigid_body_constraint_rank	6	PASS	recovery_face_yMax_load_minus_z	force_equilibrium_relative_error	2.60e-07	PASS
differential_seed_051	force_equilibrium_relative_error	1.73e-13	PASS	recovery_face_yMax_load_minus_z	moment_equilibrium_relative_error	2.28e-07	PASS
differential_seed_051	moment_equilibrium_relative_error	2.42e-13	PASS	recovery_face_yMax_load_minus_z	energy_identity_relative_error	3.03e-08	PASS
differential_seed_051	energy_identity_relative_error	6.17e-14	PASS	recovery_face_yMax_load_minus_z	displacement_all_finite	1	PASS
differential_seed_051	displacement_all_finite	1	PASS	recovery_face_yMax_load_minus_z	requested_release_backend	1	PASS
differential_seed_051	stress_all_finite	1	PASS	recovery_face_yMax_load_minus_z	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_051	fallback_count	0	PASS	recovery_face_yMax_load_minus_z	packaged_metallib_used	1	PASS
differential_seed_051	reference_route_is_cpu_double	1	PASS	recovery_face_yMax_load_minus_z	no_runtime_source_compilation	1	PASS
differential_seed_051	reference_route_no_fallback	1	PASS	recovery_face_yMax_load_minus_z	fallback_count	0	PASS
differential_seed_051	parity_displacement_relative_l2	8.78e-08	PASS	recovery_face_yMax_load_minus_z	force_equilibrium_from_published_re...	7.81e-07	PASS
differential_seed_051	parity_displacement_relative_linf	1.01e-07	PASS	recovery_face_yMax_load_minus_z	moment_equilibrium_from_published_f...	4.60e-07	PASS
differential_seed_051	parity_reaction_relative_l2	5.42e-07	PASS	recovery_face_yMax_load_minus_z	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_051	parity_reaction_relative_linf	5.94e-07	PASS	recovery_face_yMax_load_minus_z	constrained_node_count_is_one_face	49	PASS
differential_seed_051	parity_stress_relative_l2	1.09e-06	PASS	recovery_face_yMax_load_minus_z	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_051	parity_stress_relative_linf	6.73e-07	PASS	recovery_face_yMax_load_minus_z	rigid_body_constraint_rank	6	PASS
differential_seed_051	parity_strain_energy_relative_error	3.27e-08	PASS	recovery_face_zMin_load_plus_x	converged	1	PASS
differential_seed_051	zero_fallback_on_both_backends	0	PASS	recovery_face_zMin_load_plus_x	solver_relative_residual	8.75e-06	PASS
differential_seed_052	converged	1	PASS	recovery_face_zMin_load_plus_x	rigid_body_constraint_rank	6	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_052	solver_relative_residual	8.14e-07	PASS	recovery_face_zMin_load_plus_x	force_equilibrium_relative_error	2.44e-07	PASS
differential_seed_052	independent_double_relative_residual	8.14e-07	PASS	recovery_face_zMin_load_plus_x	moment_equilibrium_relative_error	2.24e-07	PASS
differential_seed_052	rigid_body_constraint_rank	6	PASS	recovery_face_zMin_load_plus_x	energy_identity_relative_error	4.79e-08	PASS
differential_seed_052	force_equilibrium_relative_error	2.88e-08	PASS	recovery_face_zMin_load_plus_x	displacement_all_finite	1	PASS
differential_seed_052	moment_equilibrium_relative_error	1.53e-08	PASS	recovery_face_zMin_load_plus_x	requested_release_backend	1	PASS
differential_seed_052	energy_identity_relative_error	5.03e-09	PASS	recovery_face_zMin_load_plus_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_052	displacement_all_finite	1	PASS	recovery_face_zMin_load_plus_x	packaged_metallib_used	1	PASS
differential_seed_052	stress_all_finite	1	PASS	recovery_face_zMin_load_plus_x	no_runtime_source_compilation	1	PASS
differential_seed_052	fallback_count	0	PASS	recovery_face_zMin_load_plus_x	fallback_count	0	PASS
differential_seed_052	metal_execution_evidence_present	1	PASS	recovery_face_zMin_load_plus_x	force_equilibrium_from_published_re...	7.33e-07	PASS
differential_seed_052	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_zMin_load_plus_x	moment_equilibrium_from_published_r...	4.81e-07	PASS
differential_seed_052	persistent_metal_vector_buffers	1	PASS	recovery_face_zMin_load_plus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_052	packaged_metallib_used	1	PASS	recovery_face_zMin_load_plus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_052	no_runtime_source_compilation	1	PASS	recovery_face_zMin_load_plus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_052	metal_fallback_count	0	PASS	recovery_face_zMin_load_plus_x	rigid_body_constraint_rank	6	PASS
differential_seed_052	converged	1	PASS	recovery_face_zMin_load_minus_x	converged	1	PASS
differential_seed_052	solver_relative_residual	6.84e-11	PASS	recovery_face_zMin_load_minus_x	solver_relative_residual	8.75e-06	PASS
differential_seed_052	independent_double_relative_residual	6.84e-11	PASS	recovery_face_zMin_load_minus_x	rigid_body_constraint_rank	6	PASS
differential_seed_052	rigid_body_constraint_rank	6	PASS	recovery_face_zMin_load_minus_x	force_equilibrium_relative_error	2.44e-07	PASS
differential_seed_052	force_equilibrium_relative_error	1.55e-11	PASS	recovery_face_zMin_load_minus_x	moment_equilibrium_relative_error	2.24e-07	PASS
differential_seed_052	moment_equilibrium_relative_error	2.60e-11	PASS	recovery_face_zMin_load_minus_x	energy_identity_relative_error	4.79e-08	PASS
differential_seed_052	energy_identity_relative_error	3.61e-14	PASS	recovery_face_zMin_load_minus_x	displacement_all_finite	1	PASS
differential_seed_052	displacement_all_finite	1	PASS	recovery_face_zMin_load_minus_x	requested_release_backend	1	PASS
differential_seed_052	stress_all_finite	1	PASS	recovery_face_zMin_load_minus_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_052	fallback_count	0	PASS	recovery_face_zMin_load_minus_x	packaged_metallib_used	1	PASS
differential_seed_052	reference_route_is_cpu_double	1	PASS	recovery_face_zMin_load_minus_x	no_runtime_source_compilation	1	PASS
differential_seed_052	reference_route_no_fallback	1	PASS	recovery_face_zMin_load_minus_x	fallback_count	0	PASS
differential_seed_052	parity_displacement_relative_l2	7.46e-08	PASS	recovery_face_zMin_load_minus_x	force_equilibrium_from_published_re...	7.33e-07	PASS
differential_seed_052	parity_displacement_relative_linf	1.12e-07	PASS	recovery_face_zMin_load_minus_x	moment_equilibrium_from_published_r...	4.81e-07	PASS
differential_seed_052	parity_reaction_relative_l2	1.04e-07	PASS	recovery_face_zMin_load_minus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_052	parity_reaction_relative_linf	9.31e-08	PASS	recovery_face_zMin_load_minus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_052	parity_stress_relative_l2	3.09e-07	PASS	recovery_face_zMin_load_minus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_052	parity_stress_relative_linf	4.17e-07	PASS	recovery_face_zMin_load_minus_x	rigid_body_constraint_rank	6	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_052	parity_strain_energy_relative_error	1.01e-08	PASS	recovery_face_zMin_load_plus_y	converged	1	PASS
differential_seed_052	zero_fallback_on_both_backends	0	PASS	recovery_face_zMin_load_plus_y	solver_relative_residual	8.86e-06	PASS
differential_properties_seed_052	metal_all_property_solves_converged	1	PASS	recovery_face_zMin_load_plus_y	rigid_body_constraint_rank	6	PASS
differential_properties_seed_052	metal_displacement_superposition	3.97e-08	PASS	recovery_face_zMin_load_plus_y	force_equilibrium_relative_error	2.56e-07	PASS
differential_properties_seed_052	metal_stress_superposition	2.08e-07	PASS	recovery_face_zMin_load_plus_y	moment_equilibrium_relative_error	2.78e-07	PASS
differential_properties_seed_052	metal_sign_reversal	0	PASS	recovery_face_zMin_load_plus_y	energy_identity_relative_error	1.65e-09	PASS
differential_properties_seed_052	metal_load_scaling_by_two	0	PASS	recovery_face_zMin_load_plus_y	displacement_all_finite	1	PASS
differential_properties_seed_052	metal_modulus_scaling_by_two	0	PASS	recovery_face_zMin_load_plus_y	requested_release_backend	1	PASS
differential_properties_seed_052	metal_maxwell_betti_reciprocity	8.30e-09	PASS	recovery_face_zMin_load_plus_y	operator_backend_is_packaged_host_p...	1	PASS
differential_properties_seed_052	metal_axis_permutation	7.24e-08	PASS	recovery_face_zMin_load_plus_y	packaged_metallib_used	1	PASS
differential_properties_seed_052	metal_axis_reflection	1.32e-07	PASS	recovery_face_zMin_load_plus_y	no_runtime_source_compilation	1	PASS
differential_properties_seed_052	cpu_all_property_solves_converged	1	PASS	recovery_face_zMin_load_plus_y	fallback_count	0	PASS
differential_properties_seed_052	cpu_displacement_superposition	9.05e-12	PASS	recovery_face_zMin_load_plus_y	force_equilibrium_from_published_re...	7.70e-07	PASS
differential_properties_seed_052	cpu_stress_superposition	2.19e-11	PASS	recovery_face_zMin_load_plus_y	moment_equilibrium_from_published_f...	5.97e-07	PASS
differential_properties_seed_052	cpu_sign_reversal	0	PASS	recovery_face_zMin_load_plus_y	published_applied_resultant_matches...	9.09e-16	PASS
differential_properties_seed_052	cpu_load_scaling_by_two	0	PASS	recovery_face_zMin_load_plus_y	constrained_node_count_is_one_face	49	PASS
differential_properties_seed_052	cpu_modulus_scaling_by_two	1.78e-13	PASS	recovery_face_zMin_load_plus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_properties_seed_052	cpu_maxwell_betti_reciprocity	2.33e-12	PASS	recovery_face_zMin_load_plus_y	rigid_body_constraint_rank	6	PASS
differential_properties_seed_052	cpu_axis_permutation	1.32e-13	PASS	recovery_face_zMin_load_minus_y	converged	1	PASS
differential_properties_seed_052	cpu_axis_reflection	1.67e-13	PASS	recovery_face_zMin_load_minus_y	solver_relative_residual	8.86e-06	PASS
differential_seed_053	converged	1	PASS	recovery_face_zMin_load_minus_y	rigid_body_constraint_rank	6	PASS
differential_seed_053	solver_relative_residual	5.47e-07	PASS	recovery_face_zMin_load_minus_y	force_equilibrium_relative_error	2.56e-07	PASS
differential_seed_053	independent_double_relative_residual	5.47e-07	PASS	recovery_face_zMin_load_minus_y	moment_equilibrium_relative_error	2.78e-07	PASS
differential_seed_053	rigid_body_constraint_rank	6	PASS	recovery_face_zMin_load_minus_y	energy_identity_relative_error	1.65e-09	PASS
differential_seed_053	force_equilibrium_relative_error	1.40e-08	PASS	recovery_face_zMin_load_minus_y	displacement_all_finite	1	PASS
differential_seed_053	moment_equilibrium_relative_error	2.74e-08	PASS	recovery_face_zMin_load_minus_y	requested_release_backend	1	PASS
differential_seed_053	energy_identity_relative_error	4.83e-09	PASS	recovery_face_zMin_load_minus_y	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_053	displacement_all_finite	1	PASS	recovery_face_zMin_load_minus_y	packaged_metallib_used	1	PASS
differential_seed_053	stress_all_finite	1	PASS	recovery_face_zMin_load_minus_y	no_runtime_source_compilation	1	PASS
differential_seed_053	fallback_count	0	PASS	recovery_face_zMin_load_minus_y	fallback_count	0	PASS
differential_seed_053	metal_execution_evidence_present	1	PASS	recovery_face_zMin_load_minus_y	force_equilibrium_from_published_re...	7.70e-07	PASS
differential_seed_053	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_zMin_load_minus_y	moment_equilibrium_from_published_f...	5.97e-07	PASS
differential_seed_053	persistent_metal_vector_buffers	1	PASS	recovery_face_zMin_load_minus_y	published_applied_resultant_matches...	9.09e-16	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_053	packaged_metallib_used	1	PASS	recovery_face_zMin_load_minus_y	constrained_node_count_is_one_face	49	PASS
differential_seed_053	no_runtime_source_compilation	1	PASS	recovery_face_zMin_load_minus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_053	metal_fallback_count	0	PASS	recovery_face_zMin_load_minus_y	rigid_body_constraint_rank	6	PASS
differential_seed_053	converged	1	PASS	recovery_face_zMin_load_plus_z	converged	1	PASS
differential_seed_053	solver_relative_residual	5.10e-11	PASS	recovery_face_zMin_load_plus_z	solver_relative_residual	1.05e-05	PASS
differential_seed_053	independent_double_relative_residual	5.10e-11	PASS	recovery_face_zMin_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_053	rigid_body_constraint_rank	6	PASS	recovery_face_zMin_load_plus_z	force_equilibrium_relative_error	1.17e-06	PASS
differential_seed_053	force_equilibrium_relative_error	7.64e-12	PASS	recovery_face_zMin_load_plus_z	moment_equilibrium_relative_error	1.12e-06	PASS
differential_seed_053	moment_equilibrium_relative_error	6.67e-12	PASS	recovery_face_zMin_load_plus_z	energy_identity_relative_error	3.16e-08	PASS
differential_seed_053	energy_identity_relative_error	1.43e-13	PASS	recovery_face_zMin_load_plus_z	displacement_all_finite	1	PASS
differential_seed_053	displacement_all_finite	1	PASS	recovery_face_zMin_load_plus_z	requested_release_backend	1	PASS
differential_seed_053	stress_all_finite	1	PASS	recovery_face_zMin_load_plus_z	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_053	fallback_count	0	PASS	recovery_face_zMin_load_plus_z	packaged_metallib_used	1	PASS
differential_seed_053	reference_route_is_cpu_double	1	PASS	recovery_face_zMin_load_plus_z	no_runtime_source_compilation	1	PASS
differential_seed_053	reference_route_no_fallback	1	PASS	recovery_face_zMin_load_plus_z	fallback_count	0	PASS
differential_seed_053	parity_displacement_relative_l2	6.96e-08	PASS	recovery_face_zMin_load_plus_z	force_equilibrium_from_published_re...	1.23e-06	PASS
differential_seed_053	parity_displacement_relative_linf	1.38e-07	PASS	recovery_face_zMin_load_plus_z	moment_equilibrium_from_published_r...	8.59e-07	PASS
differential_seed_053	parity_reaction_relative_l2	3.65e-08	PASS	recovery_face_zMin_load_plus_z	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_053	parity_reaction_relative_linf	4.63e-08	PASS	recovery_face_zMin_load_plus_z	constrained_node_count_is_one_face	49	PASS
differential_seed_053	parity_stress_relative_l2	3.01e-07	PASS	recovery_face_zMin_load_plus_z	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_053	parity_stress_relative_linf	5.57e-07	PASS	recovery_face_zMin_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_053	parity_strain_energy_relative_error	9.66e-09	PASS	recovery_face_zMin_load_minus_z	converged	1	PASS
differential_seed_053	zero_fallback_on_both_backends	0	PASS	recovery_face_zMin_load_minus_z	solver_relative_residual	1.05e-05	PASS
differential_seed_054	converged	1	PASS	recovery_face_zMin_load_minus_z	rigid_body_constraint_rank	6	PASS
differential_seed_054	solver_relative_residual	3.30e-06	PASS	recovery_face_zMin_load_minus_z	force_equilibrium_relative_error	1.17e-06	PASS
differential_seed_054	independent_double_relative_residual	3.30e-06	PASS	recovery_face_zMin_load_minus_z	moment_equilibrium_relative_error	1.12e-06	PASS
differential_seed_054	rigid_body_constraint_rank	6	PASS	recovery_face_zMin_load_minus_z	energy_identity_relative_error	3.16e-08	PASS
differential_seed_054	force_equilibrium_relative_error	4.88e-08	PASS	recovery_face_zMin_load_minus_z	displacement_all_finite	1	PASS
differential_seed_054	moment_equilibrium_relative_error	5.79e-08	PASS	recovery_face_zMin_load_minus_z	requested_release_backend	1	PASS
differential_seed_054	energy_identity_relative_error	1.33e-08	PASS	recovery_face_zMin_load_minus_z	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_054	displacement_all_finite	1	PASS	recovery_face_zMin_load_minus_z	packaged_metallib_used	1	PASS
differential_seed_054	stress_all_finite	1	PASS	recovery_face_zMin_load_minus_z	no_runtime_source_compilation	1	PASS
differential_seed_054	fallback_count	0	PASS	recovery_face_zMin_load_minus_z	fallback_count	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_054	metal_execution_evidence_present	1	PASS	recovery_face_zMin_load_minus_z	force_equilibrium_from_published_re...	1.23e-06	PASS
differential_seed_054	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_zMin_load_minus_z	moment_equilibrium_from_published_f...	8.59e-07	PASS
differential_seed_054	persistent_metal_vector_buffers	1	PASS	recovery_face_zMin_load_minus_z	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_054	packaged_metallib_used	1	PASS	recovery_face_zMin_load_minus_z	constrained_node_count_is_one_face	49	PASS
differential_seed_054	no_runtime_source_compilation	1	PASS	recovery_face_zMin_load_minus_z	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_054	metal_fallback_count	0	PASS	recovery_face_zMin_load_minus_z	rigid_body_constraint_rank	6	PASS
differential_seed_054	converged	1	PASS	recovery_face_zMax_load_plus_x	converged	1	PASS
differential_seed_054	solver_relative_residual	4.68e-11	PASS	recovery_face_zMax_load_plus_x	solver_relative_residual	8.67e-06	PASS
differential_seed_054	independent_double_relative_residual	4.68e-11	PASS	recovery_face_zMax_load_plus_x	rigid_body_constraint_rank	6	PASS
differential_seed_054	rigid_body_constraint_rank	6	PASS	recovery_face_zMax_load_plus_x	force_equilibrium_relative_error	2.50e-07	PASS
differential_seed_054	force_equilibrium_relative_error	1.46e-12	PASS	recovery_face_zMax_load_plus_x	moment_equilibrium_relative_error	2.26e-07	PASS
differential_seed_054	moment_equilibrium_relative_error	1.52e-12	PASS	recovery_face_zMax_load_plus_x	energy_identity_relative_error	1.32e-08	PASS
differential_seed_054	energy_identity_relative_error	1.62e-13	PASS	recovery_face_zMax_load_plus_x	displacement_all_finite	1	PASS
differential_seed_054	displacement_all_finite	1	PASS	recovery_face_zMax_load_plus_x	requested_release_backend	1	PASS
differential_seed_054	stress_all_finite	1	PASS	recovery_face_zMax_load_plus_x	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_054	fallback_count	0	PASS	recovery_face_zMax_load_plus_x	packaged_metallib_used	1	PASS
differential_seed_054	reference_route_is_cpu_double	1	PASS	recovery_face_zMax_load_plus_x	no_runtime_source_compilation	1	PASS
differential_seed_054	reference_route_no_fallback	1	PASS	recovery_face_zMax_load_plus_x	fallback_count	0	PASS
differential_seed_054	parity_displacement_relative_l2	9.11e-08	PASS	recovery_face_zMax_load_plus_x	force_equilibrium_from_published_re...	7.53e-07	PASS
differential_seed_054	parity_displacement_relative_linf	1.24e-07	PASS	recovery_face_zMax_load_plus_x	moment_equilibrium_from_published_f...	4.56e-07	PASS
differential_seed_054	parity_reaction_relative_l2	1.53e-07	PASS	recovery_face_zMax_load_plus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_054	parity_reaction_relative_linf	1.82e-07	PASS	recovery_face_zMax_load_plus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_054	parity_stress_relative_l2	5.98e-07	PASS	recovery_face_zMax_load_plus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_054	parity_stress_relative_linf	6.50e-07	PASS	recovery_face_zMax_load_plus_x	rigid_body_constraint_rank	6	PASS
differential_seed_054	parity_strain_energy_relative_error	2.66e-08	PASS	recovery_face_zMax_load_minus_x	converged	1	PASS
differential_seed_054	zero_fallback_on_both_backends	0	PASS	recovery_face_zMax_load_minus_x	solver_relative_residual	8.67e-06	PASS
differential_seed_055	converged	1	PASS	recovery_face_zMax_load_minus_x	rigid_body_constraint_rank	6	PASS
differential_seed_055	solver_relative_residual	1.39e-05	PASS	recovery_face_zMax_load_minus_x	force_equilibrium_relative_error	2.50e-07	PASS
differential_seed_055	independent_double_relative_residual	1.39e-05	PASS	recovery_face_zMax_load_minus_x	moment_equilibrium_relative_error	2.26e-07	PASS
differential_seed_055	rigid_body_constraint_rank	6	PASS	recovery_face_zMax_load_minus_x	energy_identity_relative_error	1.32e-08	PASS
differential_seed_055	force_equilibrium_relative_error	5.51e-07	PASS	recovery_face_zMax_load_minus_x	displacement_all_finite	1	PASS
differential_seed_055	moment_equilibrium_relative_error	7.82e-07	PASS	recovery_face_zMax_load_minus_x	requested_release_backend	1	PASS
differential_seed_055	energy_identity_relative_error	5.29e-08	PASS	recovery_face_zMax_load_minus_x	operator_backend_is_packaged_host_p...	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_055	displacement_all_finite	1	PASS	recovery_face_zMax_load_minus_x	packaged_metallib_used	1	PASS
differential_seed_055	stress_all_finite	1	PASS	recovery_face_zMax_load_minus_x	no_runtime_source_compilation	1	PASS
differential_seed_055	fallback_count	0	PASS	recovery_face_zMax_load_minus_x	fallback_count	0	PASS
differential_seed_055	metal_execution_evidence_present	1	PASS	recovery_face_zMax_load_minus_x	force_equilibrium_from_published_re...	7.53e-07	PASS
differential_seed_055	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_zMax_load_minus_x	moment_equilibrium_from_published_r...	4.56e-07	PASS
differential_seed_055	persistent_metal_vector_buffers	1	PASS	recovery_face_zMax_load_minus_x	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_055	packaged_metallib_used	1	PASS	recovery_face_zMax_load_minus_x	constrained_node_count_is_one_face	49	PASS
differential_seed_055	no_runtime_source_compilation	1	PASS	recovery_face_zMax_load_minus_x	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_055	metal_fallback_count	0	PASS	recovery_face_zMax_load_minus_x	rigid_body_constraint_rank	6	PASS
differential_seed_055	converged	1	PASS	recovery_face_zMax_load_plus_y	converged	1	PASS
differential_seed_055	solver_relative_residual	7.40e-11	PASS	recovery_face_zMax_load_plus_y	solver_relative_residual	8.61e-06	PASS
differential_seed_055	independent_double_relative_residual	7.40e-11	PASS	recovery_face_zMax_load_plus_y	rigid_body_constraint_rank	6	PASS
differential_seed_055	rigid_body_constraint_rank	6	PASS	recovery_face_zMax_load_plus_y	force_equilibrium_relative_error	2.09e-07	PASS
differential_seed_055	force_equilibrium_relative_error	1.71e-11	PASS	recovery_face_zMax_load_plus_y	moment_equilibrium_relative_error	1.61e-07	PASS
differential_seed_055	moment_equilibrium_relative_error	1.28e-11	PASS	recovery_face_zMax_load_plus_y	energy_identity_relative_error	9.16e-08	PASS
differential_seed_055	energy_identity_relative_error	4.66e-13	PASS	recovery_face_zMax_load_plus_y	displacement_all_finite	1	PASS
differential_seed_055	displacement_all_finite	1	PASS	recovery_face_zMax_load_plus_y	requested_release_backend	1	PASS
differential_seed_055	stress_all_finite	1	PASS	recovery_face_zMax_load_plus_y	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_055	fallback_count	0	PASS	recovery_face_zMax_load_plus_y	packaged_metallib_used	1	PASS
differential_seed_055	reference_route_is_cpu_double	1	PASS	recovery_face_zMax_load_plus_y	no_runtime_source_compilation	1	PASS
differential_seed_055	reference_route_no_fallback	1	PASS	recovery_face_zMax_load_plus_y	fallback_count	0	PASS
differential_seed_055	parity_displacement_relative_l2	5.95e-06	PASS	recovery_face_zMax_load_plus_y	force_equilibrium_from_published_re...	6.29e-07	PASS
differential_seed_055	parity_displacement_relative_linf	7.31e-06	PASS	recovery_face_zMax_load_plus_y	moment_equilibrium_from_published_r...	3.25e-07	PASS
differential_seed_055	parity_reaction_relative_l2	3.03e-06	PASS	recovery_face_zMax_load_plus_y	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_055	parity_reaction_relative_linf	5.36e-06	PASS	recovery_face_zMax_load_plus_y	constrained_node_count_is_one_face	49	PASS
differential_seed_055	parity_stress_relative_l2	1.07e-05	PASS	recovery_face_zMax_load_plus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_055	parity_stress_relative_linf	1.32e-05	PASS	recovery_face_zMax_load_plus_y	rigid_body_constraint_rank	6	PASS
differential_seed_055	parity_strain_energy_relative_error	1.06e-07	PASS	recovery_face_zMax_load_minus_y	converged	1	PASS
differential_seed_055	zero_fallback_on_both_backends	0	PASS	recovery_face_zMax_load_minus_y	solver_relative_residual	8.61e-06	PASS
differential_seed_056	converged	1	PASS	recovery_face_zMax_load_minus_y	rigid_body_constraint_rank	6	PASS
differential_seed_056	solver_relative_residual	1.60e-05	PASS	recovery_face_zMax_load_minus_y	force_equilibrium_relative_error	2.09e-07	PASS
differential_seed_056	independent_double_relative_residual	1.60e-05	PASS	recovery_face_zMax_load_minus_y	moment_equilibrium_relative_error	1.61e-07	PASS
differential_seed_056	rigid_body_constraint_rank	6	PASS	recovery_face_zMax_load_minus_y	energy_identity_relative_error	9.16e-08	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_056	force_equilibrium_relative_error	3.30e-07	PASS	recovery_face_zMax_load_minus_y	displacement_all_finite	1	PASS
differential_seed_056	moment_equilibrium_relative_error	6.43e-07	PASS	recovery_face_zMax_load_minus_y	requested_release_backend	1	PASS
differential_seed_056	energy_identity_relative_error	1.26e-07	PASS	recovery_face_zMax_load_minus_y	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_056	displacement_all_finite	1	PASS	recovery_face_zMax_load_minus_y	packaged_metallib_used	1	PASS
differential_seed_056	stress_all_finite	1	PASS	recovery_face_zMax_load_minus_y	no_runtime_source_compilation	1	PASS
differential_seed_056	fallback_count	0	PASS	recovery_face_zMax_load_minus_y	fallback_count	0	PASS
differential_seed_056	metal_execution_evidence_present	1	PASS	recovery_face_zMax_load_minus_y	force_equilibrium_from_published_re...	6.29e-07	PASS
differential_seed_056	operator_backend_is_packaged_host_p...	1	PASS	recovery_face_zMax_load_minus_y	moment_equilibrium_from_published_f...	3.25e-07	PASS
differential_seed_056	persistent_metal_vector_buffers	1	PASS	recovery_face_zMax_load_minus_y	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_056	packaged_metallib_used	1	PASS	recovery_face_zMax_load_minus_y	constrained_node_count_is_one_face	49	PASS
differential_seed_056	no_runtime_source_compilation	1	PASS	recovery_face_zMax_load_minus_y	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_056	metal_fallback_count	0	PASS	recovery_face_zMax_load_minus_y	rigid_body_constraint_rank	6	PASS
differential_seed_056	converged	1	PASS	recovery_face_zMax_load_plus_z	converged	1	PASS
differential_seed_056	solver_relative_residual	8.01e-11	PASS	recovery_face_zMax_load_plus_z	solver_relative_residual	1.05e-05	PASS
differential_seed_056	independent_double_relative_residual	8.01e-11	PASS	recovery_face_zMax_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_056	rigid_body_constraint_rank	6	PASS	recovery_face_zMax_load_plus_z	force_equilibrium_relative_error	1.25e-06	PASS
differential_seed_056	force_equilibrium_relative_error	1.07e-11	PASS	recovery_face_zMax_load_plus_z	moment_equilibrium_relative_error	1.16e-06	PASS
differential_seed_056	moment_equilibrium_relative_error	1.49e-12	PASS	recovery_face_zMax_load_plus_z	energy_identity_relative_error	2.55e-08	PASS
differential_seed_056	energy_identity_relative_error	3.14e-15	PASS	recovery_face_zMax_load_plus_z	displacement_all_finite	1	PASS
differential_seed_056	displacement_all_finite	1	PASS	recovery_face_zMax_load_plus_z	requested_release_backend	1	PASS
differential_seed_056	stress_all_finite	1	PASS	recovery_face_zMax_load_plus_z	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_056	fallback_count	0	PASS	recovery_face_zMax_load_plus_z	packaged_metallib_used	1	PASS
differential_seed_056	reference_route_is_cpu_double	1	PASS	recovery_face_zMax_load_plus_z	no_runtime_source_compilation	1	PASS
differential_seed_056	reference_route_no_fallback	1	PASS	recovery_face_zMax_load_plus_z	fallback_count	0	PASS
differential_seed_056	parity_displacement_relative_l2	5.38e-06	PASS	recovery_face_zMax_load_plus_z	force_equilibrium_from_published_re...	1.31e-06	PASS
differential_seed_056	parity_displacement_relative_linf	5.45e-06	PASS	recovery_face_zMax_load_plus_z	moment_equilibrium_from_published_f...	9.18e-07	PASS
differential_seed_056	parity_reaction_relative_l2	3.90e-06	PASS	recovery_face_zMax_load_plus_z	published_applied_resultant_matches...	9.09e-16	PASS
differential_seed_056	parity_reaction_relative_linf	2.48e-06	PASS	recovery_face_zMax_load_plus_z	constrained_node_count_is_one_face	49	PASS
differential_seed_056	parity_stress_relative_l2	7.47e-06	PASS	recovery_face_zMax_load_plus_z	support_mask_is_xyz_on_every_constr...	1	PASS
differential_seed_056	parity_stress_relative_linf	4.63e-06	PASS	recovery_face_zMax_load_plus_z	rigid_body_constraint_rank	6	PASS
differential_seed_056	parity_strain_energy_relative_error	2.52e-07	PASS	recovery_face_zMax_load_minus_z	converged	1	PASS
differential_seed_056	zero_fallback_on_both_backends	0	PASS	recovery_face_zMax_load_minus_z	solver_relative_residual	1.05e-05	PASS
differential_properties_seed_056	metal_all_property_solves_converged	1	PASS	recovery_face_zMax_load_minus_z	rigid_body_constraint_rank	6	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_properties_se ed_056	metal_displacement_super position	3.73e-06	PASS	recovery_face_zMax_load _minus_z	force_equilibrium_relative_ error	1.25e-06	PASS
differential_properties_se ed_056	metal_stress_superpositio n	4.72e-06	PASS	recovery_face_zMax_load _minus_z	moment_equilibrium_relati ve_error	1.16e-06	PASS
differential_properties_se ed_056	metal_sign_reversal	0	PASS	recovery_face_zMax_load _minus_z	energy_identity_relative_er ror	2.55e-08	PASS
differential_properties_se ed_056	metal_load_scaling_by_tw o	0	PASS	recovery_face_zMax_load _minus_z	displacement_all_finite	1	PASS
differential_properties_se ed_056	metal_modulus_scaling_by _two	0	PASS	recovery_face_zMax_load _minus_z	requested_release_backen d	1	PASS
differential_properties_se ed_056	metal_maxwell_betti_recip rocity	1.09e-04	PASS	recovery_face_zMax_load _minus_z	operator_backend_is_pack aged_host_p...	1	PASS
differential_properties_se ed_056	metal_axis_permutation	3.78e-07	PASS	recovery_face_zMax_load _minus_z	packaged_metallib_used	1	PASS
differential_properties_se ed_056	metal_axis_reflection	1.36e-06	PASS	recovery_face_zMax_load _minus_z	no_runtime_source_compil ation	1	PASS
differential_properties_se ed_056	cpu_all_property_solves_c onverged	1	PASS	recovery_face_zMax_load _minus_z	fallback_count	0	PASS
differential_properties_se ed_056	cpu_displacement_superp osition	1.31e-11	PASS	recovery_face_zMax_load _minus_z	force_equilibrium_from_pu blished_re...	1.31e-06	PASS
differential_properties_se ed_056	cpu_stress_superposition	2.94e-11	PASS	recovery_face_zMax_load _minus_z	moment_equilibrium_from _published_r...	9.18e-07	PASS
differential_properties_se ed_056	cpu_sign_reversal	0	PASS	recovery_face_zMax_load _minus_z	published_applied_resulta nt_matches...	9.09e-16	PASS
differential_properties_se ed_056	cpu_load_scaling_by_two	0	PASS	recovery_face_zMax_load _minus_z	constrained_node_count_i s_one_face	49	PASS
differential_properties_se ed_056	cpu_modulus_scaling_by_t wo	2.65e-13	PASS	recovery_face_zMax_load _minus_z	support_mask_is_xyz_on_ every_constr...	1	PASS
differential_properties_se ed_056	cpu_maxwell_betti_recipro city	1.34e-10	PASS	recovery_face_zMax_load _minus_z	rigid_body_constraint_ran k	6	PASS
differential_properties_se ed_056	cpu_axis_permutation	3.14e-13	PASS	recovery_unit_equivalent_ authoring	converged	1	PASS
differential_properties_se ed_056	cpu_axis_reflection	2.85e-13	PASS	recovery_unit_equivalent_ authoring	solver_relative_residual	8.54e-06	PASS
differential_seed_057	converged	1	PASS	recovery_unit_equivalent_ authoring	rigid_body_constraint_ran k	6	PASS
differential_seed_057	solver_relative_residual	1.27e-08	PASS	recovery_unit_equivalent_ authoring	force_equilibrium_relative_ error	5.04e-08	PASS
differential_seed_057	independent_double_relati ve_residual	1.27e-08	PASS	recovery_unit_equivalent_ authoring	moment_equilibrium_relati ve_error	4.68e-08	PASS
differential_seed_057	rigid_body_constraint_ran k	6	PASS	recovery_unit_equivalent_ authoring	energy_identity_relative_er ror	5.78e-08	PASS
differential_seed_057	force_equilibrium_relative_ error	4.49e-09	PASS	recovery_unit_equivalent_ authoring	displacement_all_finite	1	PASS
differential_seed_057	moment_equilibrium_relati ve_error	2.47e-09	PASS	recovery_unit_equivalent_ authoring	requested_release_backen d	1	PASS
differential_seed_057	energy_identity_relative_er ror	5.75e-09	PASS	recovery_unit_equivalent_ authoring	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_057	displacement_all_finite	1	PASS	recovery_unit_equivalent_ authoring	packaged_metallib_used	1	PASS
differential_seed_057	stress_all_finite	1	PASS	recovery_unit_equivalent_ authoring	no_runtime_source_compil ation	1	PASS
differential_seed_057	fallback_count	0	PASS	recovery_unit_equivalent_ authoring	fallback_count	0	PASS
differential_seed_057	metal_execution_evidence_ _present	1	PASS	recovery_unit_equivalent_ authoring	si_inputs_relative_gap_mm _versus_m...	0	PASS
differential_seed_057	operator_backend_is_pack aged_host_p...	1	PASS	recovery_unit_equivalent_ authoring	si_inputs_relative_gap_inc h_versus...	3.54e-15	PASS
differential_seed_057	persistent_metal_vector_b uffers	1	PASS	recovery_unit_equivalent_ authoring	displacement_sha256_ide ntical_for_b...	1	PASS
differential_seed_057	packaged_metallib_used	1	PASS	recovery_unit_equivalent_ authoring	metal_displacement_relati ve_l2_mm_v...	0	PASS
differential_seed_057	no_runtime_source_compil ation	1	PASS	recovery_unit_equivalent_ authoring	cpu_reference_displaceme nt_relative...	4.23e-13	PASS
differential_seed_057	metal_fallback_count	0	PASS	recovery_unit_equivalent_ authoring	factor_of_safety_relative_ gap_mm_ve...	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_057	converged	1	PASS	recovery_frozen_import_fi xture	converged	1	PASS
differential_seed_057	solver_relative_residual	7.07e-11	PASS	recovery_frozen_import_fi xture	solver_relative_residual	1.41e-05	PASS
differential_seed_057	independent_double_relati ve_residual	7.07e-11	PASS	recovery_frozen_import_fi xture	rigid_body_constraint_ran k	6	PASS
differential_seed_057	rigid_body_constraint_ran k	6	PASS	recovery_frozen_import_fi xture	force_equilibrium_relative_ error	5.01e-08	PASS
differential_seed_057	force_equilibrium_relative_ error	8.69e-13	PASS	recovery_frozen_import_fi xture	moment_equilibrium_relati ve_error	1.75e-07	PASS
differential_seed_057	moment_equilibrium_relati ve_error	2.54e-12	PASS	recovery_frozen_import_fi xture	energy_identity_relative_er ror	7.79e-08	PASS
differential_seed_057	energy_identity_relative_er ror	9.29e-15	PASS	recovery_frozen_import_fi xture	displacement_all_finite	1	PASS
differential_seed_057	displacement_all_finite	1	PASS	recovery_frozen_import_fi xture	requested_release_backen d	1	PASS
differential_seed_057	stress_all_finite	1	PASS	recovery_frozen_import_fi xture	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_057	fallback_count	0	PASS	recovery_frozen_import_fi xture	packaged_metallib_used	1	PASS
differential_seed_057	reference_route_is_cpu_d ouble	1	PASS	recovery_frozen_import_fi xture	no_runtime_source_compil ation	1	PASS
differential_seed_057	reference_route_no_fallba ck	1	PASS	recovery_frozen_import_fi xture	fallback_count	0	PASS
differential_seed_057	parity_displacement_relati ve_l2	1.67e-08	PASS	recovery_frozen_import_fi xture	import_accepted_by_prod uct_path	1	PASS
differential_seed_057	parity_displacement_relati ve_linf	1.66e-08	PASS	recovery_frozen_import_fi xture	preflight_has_no_blocking _diagnostic	1	PASS
differential_seed_057	parity_reaction_relative_l2	1.61e-08	PASS	recovery_frozen_import_fi xture	part_extent_matches_stl_ millimetres	2.24e-08	PASS
differential_seed_057	parity_reaction_relative_lin f	1.13e-08	PASS	recovery_frozen_import_fi xture	imported_geometry_carrie s_a_mask	1	PASS
differential_seed_057	parity_stress_relative_l2	1.56e-08	PASS	recovery_frozen_import_fi xture	active_elements_equal_pa rt_volume_o...	512	PASS
differential_seed_057	parity_stress_relative_linf	1.27e-08	PASS	recovery_frozen_import_fi xture	stl_sha256_matches_froze n_contract	1	PASS
differential_seed_057	parity_strain_energy_relati ve_error	1.15e-08	PASS	recovery_frozen_import_fi xture	fitted_grid_matches_froze n_contract	1	PASS
differential_seed_057	zero_fallback_on_both_ba ckends	0	PASS	recovery_frozen_import_fi xture	active_elements_match_fr ozen_contra...	512	PASS
differential_seed_058	converged	1	PASS	recovery_frozen_import_fi xture	displacement_sha256_mat ches_frozen_...	1	PASS
differential_seed_058	solver_relative_residual	1.40e-08	PASS	recovery_frozen_import_fi xture	maximum_displacement_m atches_frozen...	0	PASS
differential_seed_058	independent_double_relati ve_residual	1.40e-08	PASS	recovery_frozen_import_fi xture	maximum_von_mises_mat ches_frozen_co...	0	PASS
differential_seed_058	rigid_body_constraint_ran k	6	PASS	robustness_memor... xceeded_by_policy	default_path_refuses_whe n_over_budg...	1	PASS
differential_seed_058	force_equilibrium_relative_ error	4.37e-09	PASS	robustness_memor... xceeded_by_policy	engine_refuses_below_pre flight_when...	1	PASS
differential_seed_058	moment_equilibrium_relati ve_error	5.03e-09	PASS	robustness_memor... xceeded_by_policy	no_nonfinite_result_when_ preflight_...	1	PASS
differential_seed_058	energy_identity_relative_er ror	2.30e-08	PASS	robustness_memor... xceeded_by_policy	engine_refusal_is_typed_h ost_memory...	1	PASS
differential_seed_058	displacement_all_finite	1	PASS	robustness_memor... xceeded_by_policy	default_refusal_is_prefligh t_blocked	1	PASS
differential_seed_058	stress_all_finite	1	PASS	robustness_memor... xceeded_by_policy	resident_growth_stays_bel ow_budget_...	2.62e+05	PASS
differential_seed_058	fallback_count	0	PASS	robustness_memor... eeded_beyond_host	default_path_refuses_whe n_over_budg...	1	PASS
differential_seed_058	metal_execution_evidence_ _present	1	PASS	robustness_memor... eeded_beyond_host	engine_refuses_below_pre flight_when...	1	PASS
differential_seed_058	operator_backend_is_pack aged_host_p...	1	PASS	robustness_memor... eeded_beyond_host	no_nonfinite_result_when_ preflight_...	1	PASS
differential_seed_058	persistent_metal_vector_b uffers	1	PASS	robustness_memor... eeded_beyond_host	engine_refusal_is_typed_h ost_memory...	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_058	packaged_metallib_used	1	PASS	robustness_memor... eeded_beyond_host	default_refusal_is_preflight_blocked	1	PASS
differential_seed_058	no_runtime_source_compilation	1	PASS	robustness_memor... eeded_beyond_host	resident_growth_stays_below_budget_...	0	PASS
differential_seed_058	metal_fallback_count	0	PASS	robustness_memor... et_boundary_below	default_path_refuses_when_over_budg...	1	PASS
differential_seed_058	converged	1	PASS	robustness_memor... et_boundary_below	engine_refuses_below_pre-flight_when...	1	PASS
differential_seed_058	solver_relative_residual	9.20e-11	PASS	robustness_memor... et_boundary_below	no_nonfinite_result_when_pre-flight_...	1	PASS
differential_seed_058	independent_double_relative_residual	9.20e-11	PASS	robustness_memor... et_boundary_below	engine_refusal_is_typed_host_memory...	1	PASS
differential_seed_058	rigid_body_constraint_rank	6	PASS	robustness_memor... et_boundary_below	default_refusal_is_preflight_blocked	1	PASS
differential_seed_058	force_equilibrium_relative_error	1.99e-12	PASS	robustness_memor... et_boundary_below	resident_growth_stays_below_budget_...	0	PASS
differential_seed_058	moment_equilibrium_relative_error	3.85e-12	PASS	robustness_memor... et_boundary_above	default_path_refuses_when_over_budg...	1	PASS
differential_seed_058	energy_identity_relative_error	7.15e-15	PASS	robustness_memor... et_boundary_above	engine_refuses_below_pre-flight_when...	1	PASS
differential_seed_058	displacement_all_finite	1	PASS	robustness_memor... et_boundary_above	no_nonfinite_result_when_pre-flight_...	1	PASS
differential_seed_058	stress_all_finite	1	PASS	robustness_memor... et_boundary_above	engine_solves_within_budget_when_pr...	1	PASS
differential_seed_058	fallback_count	0	PASS	robustness_memor... et_boundary_exact	default_path_refuses_when_over_budg...	1	PASS
differential_seed_058	reference_route_is_cpu_double	1	PASS	robustness_memor... et_boundary_exact	engine_refuses_below_pre-flight_when...	1	PASS
differential_seed_058	reference_route_no_fallback	1	PASS	robustness_memor... et_boundary_exact	no_nonfinite_result_when_pre-flight_...	1	PASS
differential_seed_058	parity_displacement_relative_l2	2.87e-08	PASS	robustness_memor... et_boundary_exact	engine_solves_within_budget_when_pr...	1	PASS
differential_seed_058	parity_displacement_relative_linf	2.90e-08	PASS	robustness_sacri... _missing_metallib	child_process_wrote_a_report	1	PASS
differential_seed_058	parity_reaction_relative_l2	2.34e-08	PASS	robustness_sacri... _missing_metallib	child_test_was_matched	1	PASS
differential_seed_058	parity_reaction_relative_linf	2.53e-08	PASS	robustness_sacri... _missing_metallib	no_runtime_source_compilation	1	PASS
differential_seed_058	parity_stress_relative_l2	2.49e-08	PASS	robustness_sacri... _missing_metallib	child_reported_no_fallback	1	PASS
differential_seed_058	parity_stress_relative_linf	2.18e-08	PASS	robustness_sacri... _missing_metallib	solve_refused	1	PASS
differential_seed_058	parity_strain_energy_relative_error	4.60e-08	PASS	robustness_sacri... _missing_metallib	refusal_is_typed_metal_unavailable_...	1	PASS
differential_seed_058	zero_fallback_on_both_backends	0	PASS	robustness_sacri... _missing_metallib	no_result_published	1	PASS
differential_seed_059	converged	1	PASS	robustness_sacri... _corrupt_metallib	child_process_wrote_a_report	1	PASS
differential_seed_059	solver_relative_residual	1.79e-05	PASS	robustness_sacri... _corrupt_metallib	child_test_was_matched	1	PASS
differential_seed_059	independent_double_relative_residual	1.79e-05	PASS	robustness_sacri... _corrupt_metallib	no_runtime_source_compilation	1	PASS
differential_seed_059	rigid_body_constraint_rank	6	PASS	robustness_sacri... _corrupt_metallib	child_reported_no_fallback	1	PASS
differential_seed_059	force_equilibrium_relative_error	1.19e-06	PASS	robustness_sacri... _corrupt_metallib	solve_refused	1	PASS
differential_seed_059	moment_equilibrium_relative_error	4.45e-07	PASS	robustness_sacri... _corrupt_metallib	refusal_is_typed_metal_unavailable_...	1	PASS
differential_seed_059	energy_identity_relative_error	1.99e-08	PASS	robustness_sacri... _corrupt_metallib	no_result_published	1	PASS
differential_seed_059	displacement_all_finite	1	PASS	robustness_sacri... runcated_metallib	child_process_wrote_a_report	1	PASS
differential_seed_059	stress_all_finite	1	PASS	robustness_sacri... runcated_metallib	child_test_was_matched	1	PASS
differential_seed_059	fallback_count	0	PASS	robustness_sacri... runcated_metallib	no_runtime_source_compilation	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_059	metal_execution_evidence_present	1	PASS	robustness_sacri... runcated_metallib	child_reported_no_fallbac k	1	PASS
differential_seed_059	operator_backend_is_pack aged_host_p...	1	PASS	robustness_sacri... runcated_metallib	solve_refused	1	PASS
differential_seed_059	persistent_metal_vector_b uffers	1	PASS	robustness_sacri... runcated_metallib	refusal_is_typed_metal_un available_...	1	PASS
differential_seed_059	packaged_metallib_used	1	PASS	robustness_sacri... runcated_metallib	no_result_published	1	PASS
differential_seed_059	no_runtime_source_compil ation	1	PASS	robustness_sacri... ged_copy_metallib	child_process_wrote_a_re port	1	PASS
differential_seed_059	metal_fallback_count	0	PASS	robustness_sacri... ged_copy_metallib	child_test_was_matched	1	PASS
differential_seed_059	converged	1	PASS	robustness_sacri... ged_copy_metallib	no_runtime_source_compil ation	1	PASS
differential_seed_059	solver_relative_residual	8.05e-11	PASS	robustness_sacri... ged_copy_metallib	child_reported_no_fallbac k	1	PASS
differential_seed_059	independent_double_relati ve_residual	8.05e-11	PASS	robustness_sacri... ged_copy_metallib	solve_completed_on_the_ unpackaged_c...	1	PASS
differential_seed_059	rigid_body_constraint_ran k	6	PASS	robustness_sacri... ged_copy_metallib	route_reports_packaged_ metallib_not...	1	PASS
differential_seed_059	force_equilibrium_relative_ error	3.08e-12	PASS	robustness_sweep_poisso n_0_40000	converged_or_refused_nev er_publishe...	1	PASS
differential_seed_059	moment_equilibrium_relati ve_error	1.99e-12	PASS	robustness_sweep_poisso n_0_40000	solver_relative_residual	1.40e-05	PASS
differential_seed_059	energy_identity_relative_er ror	2.71e-14	PASS	robustness_sweep_poisso n_0_40000	independent_double_relati ve_residual	1.40e-05	PASS
differential_seed_059	displacement_all_finite	1	PASS	robustness_sweep_poisso n_0_40000	metal_execution_evidence _present	1	PASS
differential_seed_059	stress_all_finite	1	PASS	robustness_sweep_poisso n_0_40000	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_059	fallback_count	0	PASS	robustness_sweep_poisso n_0_40000	persistent_metal_vector_b uffers	1	PASS
differential_seed_059	reference_route_is_cpu_d ouble	1	PASS	robustness_sweep_poisso n_0_40000	packaged_metallib_used	1	PASS
differential_seed_059	reference_route_no_fallba ck	1	PASS	robustness_sweep_poisso n_0_40000	no_runtime_source_compil ation	1	PASS
differential_seed_059	parity_displacement_relati ve_l2	2.41e-06	PASS	robustness_sweep_poisso n_0_40000	metal_fallback_count	0	PASS
differential_seed_059	parity_displacement_relati ve_linf	3.24e-06	PASS	robustness_sweep_poisso n_0_40000	axial_displacement_relativ e_error	3.83e-09	PASS
differential_seed_059	parity_reaction_relative_l2	4.12e-06	PASS	robustness_sweep_poisso n_0_40000	axial_stress_relative_error	2.45e-09	PASS
differential_seed_059	parity_reaction_relative_lin f	4.16e-06	PASS	robustness_sweep_poisso n_0_45000	converged_or_refused_nev er_publishe...	1	PASS
differential_seed_059	parity_stress_relative_l2	6.57e-06	PASS	robustness_sweep_poisso n_0_45000	solver_relative_residual	1.74e-05	PASS
differential_seed_059	parity_stress_relative_linf	4.09e-06	PASS	robustness_sweep_poisso n_0_45000	independent_double_relati ve_residual	1.74e-05	PASS
differential_seed_059	parity_strain_energy_relati ve_error	3.99e-08	PASS	robustness_sweep_poisso n_0_45000	metal_execution_evidence _present	1	PASS
differential_seed_059	zero_fallback_on_both_ba ckends	0	PASS	robustness_sweep_poisso n_0_45000	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_060	converged	1	PASS	robustness_sweep_poisso n_0_45000	persistent_metal_vector_b uffers	1	PASS
differential_seed_060	solver_relative_residual	1.41e-06	PASS	robustness_sweep_poisso n_0_45000	packaged_metallib_used	1	PASS
differential_seed_060	independent_double_relati ve_residual	1.41e-06	PASS	robustness_sweep_poisso n_0_45000	no_runtime_source_compil ation	1	PASS
differential_seed_060	rigid_body_constraint_ran k	6	PASS	robustness_sweep_poisso n_0_45000	metal_fallback_count	0	PASS
differential_seed_060	force_equilibrium_relative_ error	3.71e-08	PASS	robustness_sweep_poisso n_0_45000	axial_displacement_relativ e_error	8.05e-08	PASS
differential_seed_060	moment_equilibrium_relati ve_error	4.66e-08	PASS	robustness_sweep_poisso n_0_45000	axial_stress_relative_error	8.42e-08	PASS
differential_seed_060	energy_identity_relative_er ror	5.93e-08	PASS	robustness_sweep_poisso n_0_49000	converged_or_refused_nev er_publishe...	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_060	displacement_all_finite	1	PASS	robustness_sweep_poisson_0_49000	solver_relative_residual	1.86e-05	PASS
differential_seed_060	stress_all_finite	1	PASS	robustness_sweep_poisson_0_49000	independent_double_relative_residual	1.86e-05	PASS
differential_seed_060	fallback_count	0	PASS	robustness_sweep_poisson_0_49000	metal_execution_evidence_present	1	PASS
differential_seed_060	metal_execution_evidence_present	1	PASS	robustness_sweep_poisson_0_49000	operator_backend_is_packaged_host_packages	1	PASS
differential_seed_060	operator_backend_is_packaged_host_packages	1	PASS	robustness_sweep_poisson_0_49000	persistent_metal_vector_buffers	1	PASS
differential_seed_060	persistent_metal_vector_buffers	1	PASS	robustness_sweep_poisson_0_49000	packaged_metallib_used	1	PASS
differential_seed_060	packaged_metallib_used	1	PASS	robustness_sweep_poisson_0_49000	no_runtime_source_compilation	1	PASS
differential_seed_060	no_runtime_source_compilation	1	PASS	robustness_sweep_poisson_0_49000	metal_fallback_count	0	PASS
differential_seed_060	metal_fallback_count	0	PASS	robustness_sweep_poisson_0_49000	axial_displacement_relative_error	1.56e-09	PASS
differential_seed_060	converged	1	PASS	robustness_sweep_poisson_0_49000	axial_stress_relative_error	1.66e-10	PASS
differential_seed_060	solver_relative_residual	7.80e-11	PASS	robustness_sweep_poisson_0_49900	converged_or_refused_never_published	1	PASS
differential_seed_060	independent_double_relative_residual	7.80e-11	PASS	robustness_sweep_poisson_0_49900	solver_relative_residual	1.65e-05	PASS
differential_seed_060	rigid_body_constraint_rank	6	PASS	robustness_sweep_poisson_0_49900	independent_double_relative_residual	1.65e-05	PASS
differential_seed_060	force_equilibrium_relative_error	3.79e-12	PASS	robustness_sweep_poisson_0_49900	metal_execution_evidence_present	1	PASS
differential_seed_060	moment_equilibrium_relative_error	1.79e-12	PASS	robustness_sweep_poisson_0_49900	operator_backend_is_packaged_host_packages	1	PASS
differential_seed_060	energy_identity_relative_error	2.80e-13	PASS	robustness_sweep_poisson_0_49900	persistent_metal_vector_buffers	1	PASS
differential_seed_060	displacement_all_finite	1	PASS	robustness_sweep_poisson_0_49900	packaged_metallib_used	1	PASS
differential_seed_060	stress_all_finite	1	PASS	robustness_sweep_poisson_0_49900	no_runtime_source_compilation	1	PASS
differential_seed_060	fallback_count	0	PASS	robustness_sweep_poisson_0_49900	metal_fallback_count	0	PASS
differential_seed_060	reference_route_is_cpu_double	1	PASS	robustness_sweep_poisson_0_49900	axial_displacement_relative_error	2.29e-08	PASS
differential_seed_060	reference_route_no_fallback	1	PASS	robustness_sweep_poisson_0_49900	axial_stress_relative_error	4.19e-08	PASS
differential_seed_060	parity_displacement_relative_l2	1.82e-07	PASS	robustness_sweep_poisson_0_49990	converged_or_refused_never_published	1	PASS
differential_seed_060	parity_displacement_relative_linf	2.51e-07	PASS	robustness_sweep_poisson_0_49990	solver_relative_residual	1.79e-05	PASS
differential_seed_060	parity_reaction_relative_l2	1.34e-07	PASS	robustness_sweep_poisson_0_49990	independent_double_relative_residual	1.79e-05	PASS
differential_seed_060	parity_reaction_relative_linf	1.08e-07	PASS	robustness_sweep_poisson_0_49990	metal_execution_evidence_present	1	PASS
differential_seed_060	parity_stress_relative_l2	6.61e-07	PASS	robustness_sweep_poisson_0_49990	operator_backend_is_packaged_host_packages	1	PASS
differential_seed_060	parity_stress_relative_linf	4.54e-07	PASS	robustness_sweep_poisson_0_49990	persistent_metal_vector_buffers	1	PASS
differential_seed_060	parity_strain_energy_relative_error	1.19e-07	PASS	robustness_sweep_poisson_0_49990	packaged_metallib_used	1	PASS
differential_seed_060	zero_fallback_on_both_backends	0	PASS	robustness_sweep_poisson_0_49990	no_runtime_source_compilation	1	PASS
differential_properties_seed_060	metal_all_property_solves_converged	1	PASS	robustness_sweep_poisson_0_49990	metal_fallback_count	0	PASS
differential_properties_seed_060	metal_displacement_superposition	2.11e-07	PASS	robustness_sweep_poisson_0_49999	converged_or_refused_never_published	1	PASS
differential_properties_seed_060	metal_stress_superposition	6.50e-07	PASS	robustness_sweep_poisson_0_49999	solver_relative_residual	1.83e-05	PASS
differential_properties_seed_060	metal_sign_reversal	0	PASS	robustness_sweep_poisson_0_49999	independent_double_relative_residual	1.83e-05	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_properties_se ed_060	metal_load_scaling_by_tw o	0	PASS	robustness_sweep_poisso n_0_49999	metal_execution_evidence _present	1	PASS
differential_properties_se ed_060	metal_modulus_scaling_by _two	0	PASS	robustness_sweep_poisso n_0_49999	operator_backend_is_pack aged_host_p...	1	PASS
differential_properties_se ed_060	metal_maxwell_betti_recip rocity	7.06e-09	PASS	robustness_sweep_poisso n_0_49999	persistent_metal_vector_b uffers	1	PASS
differential_properties_se ed_060	metal_axis_permutation	1.78e-07	PASS	robustness_sweep_poisso n_0_49999	packaged_metallib_used	1	PASS
differential_properties_se ed_060	metal_axis_reflection	2.27e-07	PASS	robustness_sweep_poisso n_0_49999	no_runtime_source_compil ation	1	PASS
differential_properties_se ed_060	cpu_all_property_solves_c onverged	1	PASS	robustness_sweep_poisso n_0_49999	metal_fallback_count	0	PASS
differential_properties_se ed_060	cpu_displacement_superp osition	1.28e-11	PASS	robustness_sweep_aspect _1	converged_or_refused_nev er_publishe...	1	PASS
differential_properties_se ed_060	cpu_stress_superposition	3.46e-11	PASS	robustness_sweep_aspect _1	solver_relative_residual	8.64e-06	PASS
differential_properties_se ed_060	cpu_sign_reversal	0	PASS	robustness_sweep_aspect _1	independent_double_relati ve_residual	8.64e-06	PASS
differential_properties_se ed_060	cpu_load_scaling_by_two	0	PASS	robustness_sweep_aspect _1	metal_execution_evidence _present	1	PASS
differential_properties_se ed_060	cpu_modulus_scaling_by_t wo	2.58e-12	PASS	robustness_sweep_aspect _1	operator_backend_is_pack aged_host_p...	1	PASS
differential_properties_se ed_060	cpu_maxwell_betti_recipro city	4.70e-11	PASS	robustness_sweep_aspect _1	persistent_metal_vector_b uffers	1	PASS
differential_properties_se ed_060	cpu_axis_permutation	1.94e-12	PASS	robustness_sweep_aspect _1	packaged_metallib_used	1	PASS
differential_properties_se ed_060	cpu_axis_reflection	6.88e-12	PASS	robustness_sweep_aspect _1	no_runtime_source_compil ation	1	PASS
differential_seed_061	converged	1	PASS	robustness_sweep_aspect _1	metal_fallback_count	0	PASS
differential_seed_061	solver_relative_residual	1.68e-05	PASS	robustness_sweep_aspect _1	axial_displacement_relativ e_error	1.33e-08	PASS
differential_seed_061	independent_double_relati ve_residual	1.68e-05	PASS	robustness_sweep_aspect _1	axial_stress_relative_error	5.40e-08	PASS
differential_seed_061	rigid_body_constraint_ran k	6	PASS	robustness_sweep_aspect _5	converged_or_refused_nev er_publishe...	1	PASS
differential_seed_061	force_equilibrium_relative_ error	4.44e-06	PASS	robustness_sweep_aspect _5	solver_relative_residual	1.28e-05	PASS
differential_seed_061	moment_equilibrium_relati ve_error	6.34e-06	PASS	robustness_sweep_aspect _5	independent_double_relati ve_residual	1.28e-05	PASS
differential_seed_061	energy_identity_relative_er ror	2.62e-08	PASS	robustness_sweep_aspect _5	metal_execution_evidence _present	1	PASS
differential_seed_061	displacement_all_finite	1	PASS	robustness_sweep_aspect _5	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_061	stress_all_finite	1	PASS	robustness_sweep_aspect _5	persistent_metal_vector_b uffers	1	PASS
differential_seed_061	fallback_count	0	PASS	robustness_sweep_aspect _5	packaged_metallib_used	1	PASS
differential_seed_061	metal_execution_evidence _present	1	PASS	robustness_sweep_aspect _5	no_runtime_source_compil ation	1	PASS
differential_seed_061	operator_backend_is_pack aged_host_p...	1	PASS	robustness_sweep_aspect _5	metal_fallback_count	0	PASS
differential_seed_061	persistent_metal_vector_b uffers	1	PASS	robustness_sweep_aspect _5	axial_displacement_relativ e_error	1.79e-08	PASS
differential_seed_061	packaged_metallib_used	1	PASS	robustness_sweep_aspect _5	axial_stress_relative_error	2.36e-08	PASS
differential_seed_061	no_runtime_source_compil ation	1	PASS	robustness_sweep_aspect _20	converged_or_refused_nev er_publishe...	1	PASS
differential_seed_061	metal_fallback_count	0	PASS	robustness_sweep_aspect _20	solver_relative_residual	1.83e-05	PASS
differential_seed_061	converged	1	PASS	robustness_sweep_aspect _20	independent_double_relati ve_residual	1.83e-05	PASS
differential_seed_061	solver_relative_residual	9.23e-11	PASS	robustness_sweep_aspect _20	metal_execution_evidence _present	1	PASS
differential_seed_061	independent_double_relati ve_residual	9.23e-11	PASS	robustness_sweep_aspect _20	operator_backend_is_pack aged_host_p...	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_061	rigid_body_constraint_rank	6	PASS	robustness_sweep_aspect_20	persistent_metal_vector_buffers	1	PASS
differential_seed_061	force_equilibrium_relative_error	8.57e-11	PASS	robustness_sweep_aspect_20	packaged_metallib_used	1	PASS
differential_seed_061	moment_equilibrium_relative_error	1.35e-10	PASS	robustness_sweep_aspect_20	no_runtime_source_compilation	1	PASS
differential_seed_061	energy_identity_relative_error	1.47e-14	PASS	robustness_sweep_aspect_20	metal_fallback_count	0	PASS
differential_seed_061	displacement_all_finite	1	PASS	robustness_sweep_aspect_20	axial_displacement_relative_error	4.09e-09	PASS
differential_seed_061	stress_all_finite	1	PASS	robustness_sweep_aspect_20	axial_stress_relative_error	4.98e-09	PASS
differential_seed_061	fallback_count	0	PASS	robustness_sweep_aspect_60	converged_or_refused_never_published	1	PASS
differential_seed_061	reference_route_is_cpu_double	1	PASS	robustness_sweep_aspect_60	solver_relative_residual	1.86e-05	PASS
differential_seed_061	reference_route_no_fallback	1	PASS	robustness_sweep_aspect_60	independent_double_relative_residual	1.86e-05	PASS
differential_seed_061	parity_displacement_relative_l2	4.05e-06	PASS	robustness_sweep_aspect_60	metal_execution_evidence_present	1	PASS
differential_seed_061	parity_displacement_relative_inf	1.48e-06	PASS	robustness_sweep_aspect_60	operator_backend_is_packaged_host_process	1	PASS
differential_seed_061	parity_reaction_relative_l2	4.15e-06	PASS	robustness_sweep_aspect_60	persistent_metal_vector_buffers	1	PASS
differential_seed_061	parity_reaction_relative_inf	3.13e-06	PASS	robustness_sweep_aspect_60	packaged_metallib_used	1	PASS
differential_seed_061	parity_stress_relative_l2	9.85e-06	PASS	robustness_sweep_aspect_60	no_runtime_source_compilation	1	PASS
differential_seed_061	parity_stress_relative_inf	5.69e-06	PASS	robustness_sweep_aspect_60	metal_fallback_count	0	PASS
differential_seed_061	parity_strain_energy_relative_error	5.23e-08	PASS	robustness_sweep_aspect_60	axial_displacement_relative_error	4.58e-09	PASS
differential_seed_061	zero_fallback_on_both_backends	0	PASS	robustness_sweep_aspect_60	axial_stress_relative_error	2.35e-10	PASS
differential_seed_062	converged	1	PASS	robustness_sweep_aspect_200	converged_or_refused_never_published	1	PASS
differential_seed_062	solver_relative_residual	1.47e-05	PASS	robustness_sweep_aspect_200	solver_relative_residual	1.67e-05	PASS
differential_seed_062	independent_double_relative_residual	1.47e-05	PASS	robustness_sweep_aspect_200	independent_double_relative_residual	1.67e-05	PASS
differential_seed_062	rigid_body_constraint_rank	6	PASS	robustness_sweep_aspect_200	metal_execution_evidence_present	1	PASS
differential_seed_062	force_equilibrium_relative_error	7.15e-07	PASS	robustness_sweep_aspect_200	operator_backend_is_packaged_host_process	1	PASS
differential_seed_062	moment_equilibrium_relative_error	6.58e-07	PASS	robustness_sweep_aspect_200	persistent_metal_vector_buffers	1	PASS
differential_seed_062	energy_identity_relative_error	9.18e-09	PASS	robustness_sweep_aspect_200	packaged_metallib_used	1	PASS
differential_seed_062	displacement_all_finite	1	PASS	robustness_sweep_aspect_200	no_runtime_source_compilation	1	PASS
differential_seed_062	stress_all_finite	1	PASS	robustness_sweep_aspect_200	metal_fallback_count	0	PASS
differential_seed_062	fallback_count	0	PASS	robustness_sweep_aspect_800	converged_or_refused_never_published	1	PASS
differential_seed_062	metal_execution_evidence_present	1	PASS	robustness_sweep_aspect_800	solver_relative_residual	1.85e-05	PASS
differential_seed_062	operator_backend_is_packaged_host_process	1	PASS	robustness_sweep_aspect_800	independent_double_relative_residual	1.85e-05	PASS
differential_seed_062	persistent_metal_vector_buffers	1	PASS	robustness_sweep_aspect_800	metal_execution_evidence_present	1	PASS
differential_seed_062	packaged_metallib_used	1	PASS	robustness_sweep_aspect_800	operator_backend_is_packaged_host_process	1	PASS
differential_seed_062	no_runtime_source_compilation	1	PASS	robustness_sweep_aspect_800	persistent_metal_vector_buffers	1	PASS
differential_seed_062	metal_fallback_count	0	PASS	robustness_sweep_aspect_800	packaged_metallib_used	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_062	converged	1	PASS	robustness_sweep_aspect_800	no_runtime_source_compilation	1	PASS
differential_seed_062	solver_relative_residual	7.07e-11	PASS	robustness_sweep_aspect_800	metal_fallback_count	0	PASS
differential_seed_062	independent_double_relative_residual	7.07e-11	PASS	robustness_sweep_scale_1e-05	converged_or_refused_never_published	1	PASS
differential_seed_062	rigid_body_constraint_rank	6	PASS	robustness_sweep_scale_1e-05	solver_relative_residual	1.76e-05	PASS
differential_seed_062	force_equilibrium_relative_error	1.51e-12	PASS	robustness_sweep_scale_1e-05	independent_double_relative_residual	1.76e-05	PASS
differential_seed_062	moment_equilibrium_relative_error	9.59e-13	PASS	robustness_sweep_scale_1e-05	metal_execution_evidence_present	1	PASS
differential_seed_062	energy_identity_relative_error	3.54e-15	PASS	robustness_sweep_scale_1e-05	operator_backend_is_packaged_host_process	1	PASS
differential_seed_062	displacement_all_finite	1	PASS	robustness_sweep_scale_1e-05	persistent_metal_vector_buffers	1	PASS
differential_seed_062	stress_all_finite	1	PASS	robustness_sweep_scale_1e-05	packaged_metallib_used	1	PASS
differential_seed_062	fallback_count	0	PASS	robustness_sweep_scale_1e-05	no_runtime_source_compilation	1	PASS
differential_seed_062	reference_route_is_cpu_double	1	PASS	robustness_sweep_scale_1e-05	metal_fallback_count	0	PASS
differential_seed_062	reference_route_no_fallback	1	PASS	robustness_sweep_scale_1e-05	axial_displacement_relative_error	1.08e-08	PASS
differential_seed_062	parity_displacement_relative_l2	2.19e-06	PASS	robustness_sweep_scale_1e-05	axial_stress_relative_error	3.90e-09	PASS
differential_seed_062	parity_displacement_relative_linf	4.96e-06	PASS	robustness_sweep_scale_1e-03	converged_or_refused_never_published	1	PASS
differential_seed_062	parity_reaction_relative_l2	2.28e-06	PASS	robustness_sweep_scale_1e-03	solver_relative_residual	1.77e-05	PASS
differential_seed_062	parity_reaction_relative_linf	2.67e-06	PASS	robustness_sweep_scale_1e-03	independent_double_relative_residual	1.77e-05	PASS
differential_seed_062	parity_stress_relative_l2	6.25e-06	PASS	robustness_sweep_scale_1e-03	metal_execution_evidence_present	1	PASS
differential_seed_062	parity_stress_relative_linf	5.75e-06	PASS	robustness_sweep_scale_1e-03	operator_backend_is_packaged_host_process	1	PASS
differential_seed_062	parity_strain_energy_relative_error	1.83e-08	PASS	robustness_sweep_scale_1e-03	persistent_metal_vector_buffers	1	PASS
differential_seed_062	zero_fallback_on_both_backends	0	PASS	robustness_sweep_scale_1e-03	packaged_metallib_used	1	PASS
differential_seed_063	converged	1	PASS	robustness_sweep_scale_1e-03	no_runtime_source_compilation	1	PASS
differential_seed_063	solver_relative_residual	8.08e-06	PASS	robustness_sweep_scale_1e-03	metal_fallback_count	0	PASS
differential_seed_063	independent_double_relative_residual	8.08e-06	PASS	robustness_sweep_scale_1e-03	axial_displacement_relative_error	9.73e-09	PASS
differential_seed_063	rigid_body_constraint_rank	6	PASS	robustness_sweep_scale_1e-03	axial_stress_relative_error	6.08e-09	PASS
differential_seed_063	force_equilibrium_relative_error	7.96e-08	PASS	robustness_sweep_scale_1e-01	converged_or_refused_never_published	1	PASS
differential_seed_063	moment_equilibrium_relative_error	7.77e-08	PASS	robustness_sweep_scale_1e-01	solver_relative_residual	1.77e-05	PASS
differential_seed_063	energy_identity_relative_error	3.74e-08	PASS	robustness_sweep_scale_1e-01	independent_double_relative_residual	1.77e-05	PASS
differential_seed_063	displacement_all_finite	1	PASS	robustness_sweep_scale_1e-01	metal_execution_evidence_present	1	PASS
differential_seed_063	stress_all_finite	1	PASS	robustness_sweep_scale_1e-01	operator_backend_is_packaged_host_process	1	PASS
differential_seed_063	fallback_count	0	PASS	robustness_sweep_scale_1e-01	persistent_metal_vector_buffers	1	PASS
differential_seed_063	metal_execution_evidence_present	1	PASS	robustness_sweep_scale_1e-01	packaged_metallib_used	1	PASS
differential_seed_063	operator_backend_is_packaged_host_process	1	PASS	robustness_sweep_scale_1e-01	no_runtime_source_compilation	1	PASS
differential_seed_063	persistent_metal_vector_buffers	1	PASS	robustness_sweep_scale_1e-01	metal_fallback_count	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_063	packaged_metallib_used	1	PASS	robustness_sweep_scale_1e-01	axial_displacement_relative_error	6.74e-09	PASS
differential_seed_063	no_runtime_source_compilation	1	PASS	robustness_sweep_scale_1e-01	axial_stress_relative_error	8.35e-09	PASS
differential_seed_063	metal_fallback_count	0	PASS	robustness_sweep_scale_1e01	converged_or_refused_never_published	1	PASS
differential_seed_063	converged	1	PASS	robustness_sweep_scale_1e01	solver_relative_residual	1.77e-05	PASS
differential_seed_063	solver_relative_residual	8.84e-11	PASS	robustness_sweep_scale_1e01	independent_double_relative_residual	1.77e-05	PASS
differential_seed_063	independent_double_relative_residual	8.84e-11	PASS	robustness_sweep_scale_1e01	metal_execution_evidence_present	1	PASS
differential_seed_063	rigid_body_constraint_rank	6	PASS	robustness_sweep_scale_1e01	operator_backend_is_packaged_host_process	1	PASS
differential_seed_063	force_equilibrium_relative_error	7.09e-13	PASS	robustness_sweep_scale_1e01	persistent_metal_vector_buffers	1	PASS
differential_seed_063	moment_equilibrium_relative_error	5.78e-13	PASS	robustness_sweep_scale_1e01	packaged_metallib_used	1	PASS
differential_seed_063	energy_identity_relative_error	1.62e-15	PASS	robustness_sweep_scale_1e01	no_runtime_source_compilation	1	PASS
differential_seed_063	displacement_all_finite	1	PASS	robustness_sweep_scale_1e01	metal_fallback_count	0	PASS
differential_seed_063	stress_all_finite	1	PASS	robustness_sweep_scale_1e01	axial_displacement_relative_error	6.36e-09	PASS
differential_seed_063	fallback_count	0	PASS	robustness_sweep_scale_1e01	axial_stress_relative_error	9.47e-09	PASS
differential_seed_063	reference_route_is_cpu_double	1	PASS	robustness_sweep_stiffness_1e03	converged_or_refused_never_published	1	PASS
differential_seed_063	reference_route_no_fallback	1	PASS	robustness_sweep_stiffness_1e03	solver_relative_residual	1.77e-05	PASS
differential_seed_063	parity_displacement_relative_l2	1.05e-07	PASS	robustness_sweep_stiffness_1e03	independent_double_relative_residual	1.77e-05	PASS
differential_seed_063	parity_displacement_relative_linf	2.15e-07	PASS	robustness_sweep_stiffness_1e03	metal_execution_evidence_present	1	PASS
differential_seed_063	parity_reaction_relative_l2	3.49e-07	PASS	robustness_sweep_stiffness_1e03	operator_backend_is_packaged_host_process	1	PASS
differential_seed_063	parity_reaction_relative_linf	4.87e-07	PASS	robustness_sweep_stiffness_1e03	persistent_metal_vector_buffers	1	PASS
differential_seed_063	parity_stress_relative_l2	1.02e-06	PASS	robustness_sweep_stiffness_1e03	packaged_metallib_used	1	PASS
differential_seed_063	parity_stress_relative_linf	1.76e-06	PASS	robustness_sweep_stiffness_1e03	no_runtime_source_compilation	1	PASS
differential_seed_063	parity_strain_energy_relative_error	7.47e-08	PASS	robustness_sweep_stiffness_1e03	metal_fallback_count	0	PASS
differential_seed_063	zero_fallback_on_both_backends	0	PASS	robustness_sweep_stiffness_1e03	axial_displacement_relative_error	7.02e-09	PASS
differential_seed_064	converged	1	PASS	robustness_sweep_stiffness_1e03	axial_stress_relative_error	9.56e-09	PASS
differential_seed_064	solver_relative_residual	3.41e-07	PASS	robustness_sweep_stiffness_1e06	converged_or_refused_never_published	1	PASS
differential_seed_064	independent_double_relative_residual	3.41e-07	PASS	robustness_sweep_stiffness_1e06	solver_relative_residual	1.77e-05	PASS
differential_seed_064	rigid_body_constraint_rank	6	PASS	robustness_sweep_stiffness_1e06	independent_double_relative_residual	1.77e-05	PASS
differential_seed_064	force_equilibrium_relative_error	1.50e-08	PASS	robustness_sweep_stiffness_1e06	metal_execution_evidence_present	1	PASS
differential_seed_064	moment_equilibrium_relative_error	1.27e-08	PASS	robustness_sweep_stiffness_1e06	operator_backend_is_packaged_host_process	1	PASS
differential_seed_064	energy_identity_relative_error	2.00e-08	PASS	robustness_sweep_stiffness_1e06	persistent_metal_vector_buffers	1	PASS
differential_seed_064	displacement_all_finite	1	PASS	robustness_sweep_stiffness_1e06	packaged_metallib_used	1	PASS
differential_seed_064	stress_all_finite	1	PASS	robustness_sweep_stiffness_1e06	no_runtime_source_compilation	1	PASS
differential_seed_064	fallback_count	0	PASS	robustness_sweep_stiffness_1e06	metal_fallback_count	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_064	metal_execution_evidence_present	1	PASS	robustness_sweep_stiffness_1e06	axial_displacement_relative_error	6.77e-09	PASS
differential_seed_064	operator_backend_is_packaged_host_p...	1	PASS	robustness_sweep_stiffness_1e06	axial_stress_relative_error	9.81e-09	PASS
differential_seed_064	persistent_metal_vector_buffers	1	PASS	robustness_sweep_stiffness_1e09	converged_or_refused_never_published...	1	PASS
differential_seed_064	packaged_metallib_used	1	PASS	robustness_sweep_stiffness_1e09	solver_relative_residual	1.77e-05	PASS
differential_seed_064	no_runtime_source_compilation	1	PASS	robustness_sweep_stiffness_1e09	independent_double_relative_residual	1.77e-05	PASS
differential_seed_064	metal_fallback_count	0	PASS	robustness_sweep_stiffness_1e09	metal_execution_evidence_present	1	PASS
differential_seed_064	converged	1	PASS	robustness_sweep_stiffness_1e09	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_064	solver_relative_residual	8.03e-11	PASS	robustness_sweep_stiffness_1e09	persistent_metal_vector_buffers	1	PASS
differential_seed_064	independent_double_relative_residual	8.03e-11	PASS	robustness_sweep_stiffness_1e09	packaged_metallib_used	1	PASS
differential_seed_064	rigid_body_constraint_rank	6	PASS	robustness_sweep_stiffness_1e09	no_runtime_source_compilation	1	PASS
differential_seed_064	force_equilibrium_relative_error	2.00e-11	PASS	robustness_sweep_stiffness_1e09	metal_fallback_count	0	PASS
differential_seed_064	moment_equilibrium_relative_error	1.04e-11	PASS	robustness_sweep_stiffness_1e09	axial_displacement_relative_error	6.21e-09	PASS
differential_seed_064	energy_identity_relative_error	1.57e-13	PASS	robustness_sweep_stiffness_1e09	axial_stress_relative_error	1.04e-08	PASS
differential_seed_064	displacement_all_finite	1	PASS	robustness_sweep_stiffness_1e12	converged_or_refused_never_published...	1	PASS
differential_seed_064	stress_all_finite	1	PASS	robustness_sweep_stiffness_1e12	solver_relative_residual	1.77e-05	PASS
differential_seed_064	fallback_count	0	PASS	robustness_sweep_stiffness_1e12	independent_double_relative_residual	1.77e-05	PASS
differential_seed_064	reference_route_is_cpu_double	1	PASS	robustness_sweep_stiffness_1e12	metal_execution_evidence_present	1	PASS
differential_seed_064	reference_route_no_fallback	1	PASS	robustness_sweep_stiffness_1e12	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_064	parity_displacement_relative_l2	6.66e-08	PASS	robustness_sweep_stiffness_1e12	persistent_metal_vector_buffers	1	PASS
differential_seed_064	parity_displacement_relative_linf	6.70e-08	PASS	robustness_sweep_stiffness_1e12	packaged_metallib_used	1	PASS
differential_seed_064	parity_reaction_relative_l2	4.94e-08	PASS	robustness_sweep_stiffness_1e12	no_runtime_source_compilation	1	PASS
differential_seed_064	parity_reaction_relative_linf	3.36e-08	PASS	robustness_sweep_stiffness_1e12	metal_fallback_count	0	PASS
differential_seed_064	parity_stress_relative_l2	1.53e-07	PASS	robustness_sweep_stiffness_1e12	axial_displacement_relative_error	6.82e-09	PASS
differential_seed_064	parity_stress_relative_linf	1.64e-07	PASS	robustness_sweep_stiffness_1e12	axial_stress_relative_error	9.80e-09	PASS
differential_seed_064	parity_strain_energy_relative_error	3.99e-08	PASS	robustness_sweep_stiffness_1e15	converged_or_refused_never_published...	1	PASS
differential_seed_064	zero_fallback_on_both_backends	0	PASS	robustness_sweep_stiffness_1e15	solver_relative_residual	1.77e-05	PASS
differential_properties_seed_064	metal_all_property_solves_converged	1	PASS	robustness_sweep_stiffness_1e15	independent_double_relative_residual	1.77e-05	PASS
differential_properties_seed_064	metal_displacement_superposition	1.51e-07	PASS	robustness_sweep_stiffness_1e15	metal_execution_evidence_present	1	PASS
differential_properties_seed_064	metal_stress_superposition	1.74e-07	PASS	robustness_sweep_stiffness_1e15	operator_backend_is_packaged_host_p...	1	PASS
differential_properties_seed_064	metal_sign_reversal	0	PASS	robustness_sweep_stiffness_1e15	persistent_metal_vector_buffers	1	PASS
differential_properties_seed_064	metal_load_scaling_by_two	0	PASS	robustness_sweep_stiffness_1e15	packaged_metallib_used	1	PASS
differential_properties_seed_064	metal_modulus_scaling_by_two	0	PASS	robustness_sweep_stiffness_1e15	no_runtime_source_compilation	1	PASS
differential_properties_seed_064	metal_maxwell_betti_reciprocity	1.76e-08	PASS	robustness_sweep_stiffness_1e15	metal_fallback_count	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_properties_se ed_064	metal_axis_permutation	1.93e-07	PASS	robustness_sweep_stiffne ss_1e15	axial_displacement_relativ e_error	6.77e-09	PASS
differential_properties_se ed_064	metal_axis_reflection	0	PASS	robustness_sweep_stiffne ss_1e15	axial_stress_relative_error	9.81e-09	PASS
differential_properties_se ed_064	cpu_all_property_solves_c onverged	1	PASS	robustness_sweep_load_1 e-06	converged_or_refused_nev er_publishe...	1	PASS
differential_properties_se ed_064	cpu_displacement_superp osition	5.65e-11	PASS	robustness_sweep_load_1 e-06	solver_relative_residual	1.76e-05	PASS
differential_properties_se ed_064	cpu_stress_superposition	5.51e-11	PASS	robustness_sweep_load_1 e-06	independent_double_relati ve_residual	1.76e-05	PASS
differential_properties_se ed_064	cpu_sign_reversal	0	PASS	robustness_sweep_load_1 e-06	metal_execution_evidence _present	1	PASS
differential_properties_se ed_064	cpu_load_scaling_by_two	0	PASS	robustness_sweep_load_1 e-06	operator_backend_is_pack aged_host_p...	1	PASS
differential_properties_se ed_064	cpu_modulus_scaling_by_t wo	6.66e-12	PASS	robustness_sweep_load_1 e-06	persistent_metal_vector_b uffers	1	PASS
differential_properties_se ed_064	cpu_maxwell_betti_recipro city	9.38e-12	PASS	robustness_sweep_load_1 e-06	packaged_metallib_used	1	PASS
differential_properties_se ed_064	cpu_axis_permutation	1.41e-12	PASS	robustness_sweep_load_1 e-06	no_runtime_source_compil ation	1	PASS
differential_properties_se ed_064	cpu_axis_reflection	6.89e-12	PASS	robustness_sweep_load_1 e-06	metal_fallback_count	0	PASS
differential_seed_065	converged	1	PASS	robustness_sweep_load_1 e-06	axial_displacement_relativ e_error	8.56e-10	PASS
differential_seed_065	solver_relative_residual	1.80e-05	PASS	robustness_sweep_load_1 e-06	axial_stress_relative_error	1.27e-08	PASS
differential_seed_065	independent_double_relati ve_residual	1.80e-05	PASS	robustness_sweep_load_1 e00	converged_or_refused_nev er_publishe...	1	PASS
differential_seed_065	rigid_body_constraint_ran k	6	PASS	robustness_sweep_load_1 e00	solver_relative_residual	1.76e-05	PASS
differential_seed_065	force_equilibrium_relative_ error	1.05e-06	PASS	robustness_sweep_load_1 e00	independent_double_relati ve_residual	1.76e-05	PASS
differential_seed_065	moment_equilibrium_relati ve_error	1.71e-06	PASS	robustness_sweep_load_1 e00	metal_execution_evidence _present	1	PASS
differential_seed_065	energy_identity_relative_er ror	2.92e-09	PASS	robustness_sweep_load_1 e00	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_065	displacement_all_finite	1	PASS	robustness_sweep_load_1 e00	persistent_metal_vector_b uffers	1	PASS
differential_seed_065	stress_all_finite	1	PASS	robustness_sweep_load_1 e00	packaged_metallib_used	1	PASS
differential_seed_065	fallback_count	0	PASS	robustness_sweep_load_1 e00	no_runtime_source_compil ation	1	PASS
differential_seed_065	metal_execution_evidence _present	1	PASS	robustness_sweep_load_1 e00	metal_fallback_count	0	PASS
differential_seed_065	operator_backend_is_pack aged_host_p...	1	PASS	robustness_sweep_load_1 e00	axial_displacement_relativ e_error	1.62e-08	PASS
differential_seed_065	persistent_metal_vector_b uffers	1	PASS	robustness_sweep_load_1 e00	axial_stress_relative_error	3.10e-08	PASS
differential_seed_065	packaged_metallib_used	1	PASS	robustness_sweep_load_1 e06	converged_or_refused_nev er_publishe...	1	PASS
differential_seed_065	no_runtime_source_compil ation	1	PASS	robustness_sweep_load_1 e06	solver_relative_residual	1.76e-05	PASS
differential_seed_065	metal_fallback_count	0	PASS	robustness_sweep_load_1 e06	independent_double_relati ve_residual	1.76e-05	PASS
differential_seed_065	converged	1	PASS	robustness_sweep_load_1 e06	metal_execution_evidence _present	1	PASS
differential_seed_065	solver_relative_residual	7.89e-11	PASS	robustness_sweep_load_1 e06	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_065	independent_double_relati ve_residual	7.89e-11	PASS	robustness_sweep_load_1 e06	persistent_metal_vector_b uffers	1	PASS
differential_seed_065	rigid_body_constraint_ran k	6	PASS	robustness_sweep_load_1 e06	packaged_metallib_used	1	PASS
differential_seed_065	force_equilibrium_relative_ error	9.78e-12	PASS	robustness_sweep_load_1 e06	no_runtime_source_compil ation	1	PASS
differential_seed_065	moment_equilibrium_relati ve_error	1.29e-11	PASS	robustness_sweep_load_1 e06	metal_fallback_count	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_065	energy_identity_relative_error	3.18e-14	PASS	robustness_sweep_load_1e06	axial_displacement_relative_error	7.30e-09	PASS
differential_seed_065	displacement_all_finite	1	PASS	robustness_sweep_load_1e06	axial_stress_relative_error	7.36e-09	PASS
differential_seed_065	stress_all_finite	1	PASS	robustness_sweep_load_1e12	converged_or_refused_never_published	1	PASS
differential_seed_065	fallback_count	0	PASS	robustness_sweep_load_1e12	solver_relative_residual	1.77e-05	PASS
differential_seed_065	reference_route_is_cpu_double	1	PASS	robustness_sweep_load_1e12	independent_double_relative_residual	1.77e-05	PASS
differential_seed_065	reference_route_no_fallback	1	PASS	robustness_sweep_load_1e12	metal_execution_evidence_present	1	PASS
differential_seed_065	parity_displacement_relative_l2	5.89e-06	PASS	robustness_sweep_load_1e12	operator_backend_is_packaged_host_process	1	PASS
differential_seed_065	parity_displacement_relative_linf	1.81e-06	PASS	robustness_sweep_load_1e12	persistent_metal_vector_buffers	1	PASS
differential_seed_065	parity_reaction_relative_l2	2.18e-06	PASS	robustness_sweep_load_1e12	packaged_metallib_used	1	PASS
differential_seed_065	parity_reaction_relative_linf	9.23e-07	PASS	robustness_sweep_load_1e12	no_runtime_source_compilation	1	PASS
differential_seed_065	parity_stress_relative_l2	9.61e-06	PASS	robustness_sweep_load_1e12	metal_fallback_count	0	PASS
differential_seed_065	parity_stress_relative_linf	1.93e-06	PASS	robustness_sweep_load_1e12	axial_displacement_relative_error	6.13e-09	PASS
differential_seed_065	parity_strain_energy_relative_error	5.74e-09	PASS	robustness_sweep_load_1e12	axial_stress_relative_error	9.67e-09	PASS
differential_seed_065	zero_fallback_on_both_backends	0	PASS	robustness_sweep_tolerance_1e-02	converged_or_refused_never_published	1	PASS
differential_seed_066	converged	1	PASS	robustness_sweep_tolerance_1e-02	solver_relative_residual	0.00799	PASS
differential_seed_066	solver_relative_residual	6.83e-07	PASS	robustness_sweep_tolerance_1e-02	independent_double_relative_residual	0.00799	PASS
differential_seed_066	independent_double_relative_residual	6.83e-07	PASS	robustness_sweep_tolerance_1e-02	metal_execution_evidence_present	1	PASS
differential_seed_066	rigid_body_constraint_rank	6	PASS	robustness_sweep_tolerance_1e-02	operator_backend_is_packaged_host_process	1	PASS
differential_seed_066	force_equilibrium_relative_error	8.32e-08	PASS	robustness_sweep_tolerance_1e-02	persistent_metal_vector_buffers	1	PASS
differential_seed_066	moment_equilibrium_relative_error	1.55e-07	PASS	robustness_sweep_tolerance_1e-02	packaged_metallib_used	1	PASS
differential_seed_066	energy_identity_relative_error	3.02e-08	PASS	robustness_sweep_tolerance_1e-02	no_runtime_source_compilation	1	PASS
differential_seed_066	displacement_all_finite	1	PASS	robustness_sweep_tolerance_1e-02	metal_fallback_count	0	PASS
differential_seed_066	stress_all_finite	1	PASS	robustness_sweep_tolerance_1e-03	converged_or_refused_never_published	1	PASS
differential_seed_066	fallback_count	0	PASS	robustness_sweep_tolerance_1e-03	solver_relative_residual	7.97e-04	PASS
differential_seed_066	metal_execution_evidence_present	1	PASS	robustness_sweep_tolerance_1e-03	independent_double_relative_residual	7.97e-04	PASS
differential_seed_066	operator_backend_is_packaged_host_process	1	PASS	robustness_sweep_tolerance_1e-03	metal_execution_evidence_present	1	PASS
differential_seed_066	persistent_metal_vector_buffers	1	PASS	robustness_sweep_tolerance_1e-03	operator_backend_is_packaged_host_process	1	PASS
differential_seed_066	packaged_metallib_used	1	PASS	robustness_sweep_tolerance_1e-03	persistent_metal_vector_buffers	1	PASS
differential_seed_066	no_runtime_source_compilation	1	PASS	robustness_sweep_tolerance_1e-03	packaged_metallib_used	1	PASS
differential_seed_066	metal_fallback_count	0	PASS	robustness_sweep_tolerance_1e-03	no_runtime_source_compilation	1	PASS
differential_seed_066	converged	1	PASS	robustness_sweep_tolerance_1e-03	metal_fallback_count	0	PASS
differential_seed_066	solver_relative_residual	6.29e-11	PASS	robustness_sweep_tolerance_1e-03	axial_displacement_relative_error	9.59e-08	PASS
differential_seed_066	independent_double_relative_residual	6.29e-11	PASS	robustness_sweep_tolerance_1e-03	axial_stress_relative_error	4.74e-07	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_066	rigid_body_constraint_rank	6	PASS	robustness_sweep_tolerance_1e-04	converged_or_refused_never_published	1	PASS
differential_seed_066	force_equilibrium_relative_error	7.06e-12	PASS	robustness_sweep_tolerance_1e-04	solver_relative_residual	8.53e-05	PASS
differential_seed_066	moment_equilibrium_relative_error	7.05e-12	PASS	robustness_sweep_tolerance_1e-04	independent_double_relative_residual	8.53e-05	PASS
differential_seed_066	energy_identity_relative_error	3.85e-14	PASS	robustness_sweep_tolerance_1e-04	metal_execution_evidence_present	1	PASS
differential_seed_066	displacement_all_finite	1	PASS	robustness_sweep_tolerance_1e-04	operator_backend_is_packaged_host_process	1	PASS
differential_seed_066	stress_all_finite	1	PASS	robustness_sweep_tolerance_1e-04	persistent_metal_vector_buffers	1	PASS
differential_seed_066	fallback_count	0	PASS	robustness_sweep_tolerance_1e-04	packaged_metallib_used	1	PASS
differential_seed_066	reference_route_is_cpu_double	1	PASS	robustness_sweep_tolerance_1e-04	no_runtime_source_compilation	1	PASS
differential_seed_066	reference_route_no_fallback	1	PASS	robustness_sweep_tolerance_1e-04	metal_fallback_count	0	PASS
differential_seed_066	parity_displacement_relative_l2	2.13e-07	PASS	robustness_sweep_tolerance_1e-04	axial_displacement_relative_error	1.22e-08	PASS
differential_seed_066	parity_displacement_relative_inf	1.89e-07	PASS	robustness_sweep_tolerance_1e-04	axial_stress_relative_error	1.35e-08	PASS
differential_seed_066	parity_reaction_relative_l2	1.87e-07	PASS	robustness_sweep_tolerance_2e-05	converged_or_refused_never_published	1	PASS
differential_seed_066	parity_reaction_relative_inf	4.48e-07	PASS	robustness_sweep_tolerance_2e-05	solver_relative_residual	1.77e-05	PASS
differential_seed_066	parity_stress_relative_l2	3.68e-07	PASS	robustness_sweep_tolerance_2e-05	independent_double_relative_residual	1.77e-05	PASS
differential_seed_066	parity_stress_relative_inf	3.02e-07	PASS	robustness_sweep_tolerance_2e-05	metal_execution_evidence_present	1	PASS
differential_seed_066	parity_strain_energy_relative_error	6.04e-08	PASS	robustness_sweep_tolerance_2e-05	operator_backend_is_packaged_host_process	1	PASS
differential_seed_066	zero_fallback_on_both_backends	0	PASS	robustness_sweep_tolerance_2e-05	persistent_metal_vector_buffers	1	PASS
differential_seed_067	converged	1	PASS	robustness_sweep_tolerance_2e-05	packaged_metallib_used	1	PASS
differential_seed_067	solver_relative_residual	4.99e-06	PASS	robustness_sweep_tolerance_2e-05	no_runtime_source_compilation	1	PASS
differential_seed_067	independent_double_relative_residual	4.99e-06	PASS	robustness_sweep_tolerance_2e-05	metal_fallback_count	0	PASS
differential_seed_067	rigid_body_constraint_rank	6	PASS	robustness_sweep_tolerance_2e-05	axial_displacement_relative_error	6.93e-09	PASS
differential_seed_067	force_equilibrium_relative_error	6.94e-07	PASS	robustness_sweep_tolerance_2e-05	axial_stress_relative_error	9.63e-09	PASS
differential_seed_067	moment_equilibrium_relative_error	8.20e-07	PASS	robustness_sweep_tolerance_1e-06	converged_or_refused_never_published	1	PASS
differential_seed_067	energy_identity_relative_error	2.57e-08	PASS	robustness_sweep_tolerance_1e-06	solver_relative_residual	8.32e-07	PASS
differential_seed_067	displacement_all_finite	1	PASS	robustness_sweep_tolerance_1e-06	metal_execution_evidence_present	1	PASS
differential_seed_067	stress_all_finite	1	PASS	robustness_sweep_tolerance_1e-06	operator_backend_is_packaged_host_process	1	PASS
differential_seed_067	fallback_count	0	PASS	robustness_sweep_tolerance_1e-06	persistent_metal_vector_buffers	1	PASS
differential_seed_067	metal_execution_evidence_present	1	PASS	robustness_sweep_tolerance_1e-06	packaged_metallib_used	1	PASS
differential_seed_067	operator_backend_is_packaged_host_process	1	PASS	robustness_sweep_tolerance_1e-06	no_runtime_source_compilation	1	PASS
differential_seed_067	persistent_metal_vector_buffers	1	PASS	robustness_sweep_tolerance_1e-06	metal_fallback_count	0	PASS
differential_seed_067	packaged_metallib_used	1	PASS	robustness_sweep_tolerance_1e-06	axial_displacement_relative_error	3.54e-09	PASS
differential_seed_067	no_runtime_source_compilation	1	PASS	robustness_sweep_tolerance_1e-06	axial_stress_relative_error	2.71e-09	PASS
differential_seed_067	metal_fallback_count	0	PASS	robustness_sweep_tolerance_1e-08	converged_or_refused_never_published	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_067	converged	1	PASS	robustness_sweep_tolerance_1e-08	solver_relative_residual	8.86e-09	PASS
differential_seed_067	solver_relative_residual	8.56e-11	PASS	robustness_sweep_tolerance_1e-08	metal_execution_evidence_present	1	PASS
differential_seed_067	independent_double_relative_residual	8.56e-11	PASS	robustness_sweep_tolerance_1e-08	operator_backend_is_packaged_host_processes	1	PASS
differential_seed_067	rigid_body_constraint_rank	6	PASS	robustness_sweep_tolerance_1e-08	persistent_metal_vector_buffers	1	PASS
differential_seed_067	force_equilibrium_relative_error	1.51e-11	PASS	robustness_sweep_tolerance_1e-08	packaged_metallib_used	1	PASS
differential_seed_067	moment_equilibrium_relative_error	2.30e-11	PASS	robustness_sweep_tolerance_1e-08	no_runtime_source_compilation	1	PASS
differential_seed_067	energy_identity_relative_error	5.69e-15	PASS	robustness_sweep_tolerance_1e-08	metal_fallback_count	0	PASS
differential_seed_067	displacement_all_finite	1	PASS	robustness_sweep_tolerance_1e-08	axial_displacement_relative_error	3.35e-11	PASS
differential_seed_067	stress_all_finite	1	PASS	robustness_sweep_tolerance_1e-08	axial_stress_relative_error	4.49e-11	PASS
differential_seed_067	fallback_count	0	PASS	robustness_sweep_tolerance_1e-10	converged_or_refused_never_published	1	PASS
differential_seed_067	reference_route_is_cpu_double	1	PASS	robustness_sweep_tolerance_1e-10	solver_relative_residual	9.44e-11	PASS
differential_seed_067	reference_route_no_fallback	1	PASS	robustness_sweep_tolerance_1e-10	metal_execution_evidence_present	1	PASS
differential_seed_067	parity_displacement_relative_l2	7.77e-08	PASS	robustness_sweep_tolerance_1e-10	operator_backend_is_packaged_host_processes	1	PASS
differential_seed_067	parity_displacement_relative_inf	1.44e-07	PASS	robustness_sweep_tolerance_1e-10	persistent_metal_vector_buffers	1	PASS
differential_seed_067	parity_reaction_relative_l2	1.38e-06	PASS	robustness_sweep_tolerance_1e-10	packaged_metallib_used	1	PASS
differential_seed_067	parity_reaction_relative_inf	1.61e-06	PASS	robustness_sweep_tolerance_1e-10	no_runtime_source_compilation	1	PASS
differential_seed_067	parity_stress_relative_l2	1.53e-06	PASS	robustness_sweep_tolerance_1e-10	metal_fallback_count	0	PASS
differential_seed_067	parity_stress_relative_inf	1.65e-06	PASS	robustness_sweep_tolerance_1e-10	axial_displacement_relative_error	1.46e-12	PASS
differential_seed_067	parity_strain_energy_relative_error	5.15e-08	PASS	robustness_sweep_tolerance_1e-10	axial_stress_relative_error	1.58e-12	PASS
differential_seed_067	zero_fallback_on_both_backends	0	PASS	robustness_sweep_size_10	converged_or_refused_never_published	1	PASS
differential_seed_068	converged	1	PASS	robustness_sweep_size_10	solver_relative_residual	1.80e-05	PASS
differential_seed_068	solver_relative_residual	2.49e-06	PASS	robustness_sweep_size_10	independent_double_relative_residual	1.80e-05	PASS
differential_seed_068	independent_double_relative_residual	2.49e-06	PASS	robustness_sweep_size_10	metal_execution_evidence_present	1	PASS
differential_seed_068	rigid_body_constraint_rank	6	PASS	robustness_sweep_size_10	operator_backend_is_packaged_host_processes	1	PASS
differential_seed_068	force_equilibrium_relative_error	1.50e-08	PASS	robustness_sweep_size_10	persistent_metal_vector_buffers	1	PASS
differential_seed_068	moment_equilibrium_relative_error	2.16e-08	PASS	robustness_sweep_size_10	packaged_metallib_used	1	PASS
differential_seed_068	energy_identity_relative_error	3.11e-08	PASS	robustness_sweep_size_10	no_runtime_source_compilation	1	PASS
differential_seed_068	displacement_all_finite	1	PASS	robustness_sweep_size_10	metal_fallback_count	0	PASS
differential_seed_068	stress_all_finite	1	PASS	robustness_sweep_size_10	axial_displacement_relative_error	2.18e-08	PASS
differential_seed_068	fallback_count	0	PASS	robustness_sweep_size_10	axial_stress_relative_error	3.18e-08	PASS
differential_seed_068	metal_execution_evidence_present	1	PASS	robustness_sweep_size_20	converged_or_refused_never_published	1	PASS
differential_seed_068	operator_backend_is_packaged_host_processes	1	PASS	robustness_sweep_size_20	solver_relative_residual	1.44e-05	PASS
differential_seed_068	persistent_metal_vector_buffers	1	PASS	robustness_sweep_size_20	independent_double_relative_residual	1.44e-05	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_068	packaged_metallib_used	1	PASS	robustness_sweep_size_20	metal_execution_evidence_present	1	PASS
differential_seed_068	no_runtime_source_compilation	1	PASS	robustness_sweep_size_20	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_068	metal_fallback_count	0	PASS	robustness_sweep_size_20	persistent_metal_vector_buffers	1	PASS
differential_seed_068	converged	1	PASS	robustness_sweep_size_20	packaged_metallib_used	1	PASS
differential_seed_068	solver_relative_residual	7.57e-11	PASS	robustness_sweep_size_20	no_runtime_source_compilation	1	PASS
differential_seed_068	independent_double_relative_residual	7.57e-11	PASS	robustness_sweep_size_20	metal_fallback_count	0	PASS
differential_seed_068	rigid_body_constraint_rank	6	PASS	robustness_sweep_size_20	axial_displacement_relative_error	1.22e-08	PASS
differential_seed_068	force_equilibrium_relative_error	5.49e-12	PASS	robustness_sweep_size_20	axial_stress_relative_error	1.19e-08	PASS
differential_seed_068	moment_equilibrium_relative_error	1.16e-11	PASS	robustness_sweep_size_40	converged_or_refused_never_published	1	PASS
differential_seed_068	energy_identity_relative_error	7.46e-15	PASS	robustness_sweep_size_40	solver_relative_residual	1.84e-05	PASS
differential_seed_068	displacement_all_finite	1	PASS	robustness_sweep_size_40	independent_double_relative_residual	1.84e-05	PASS
differential_seed_068	stress_all_finite	1	PASS	robustness_sweep_size_40	metal_execution_evidence_present	1	PASS
differential_seed_068	fallback_count	0	PASS	robustness_sweep_size_40	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_068	reference_route_is_cpu_double	1	PASS	robustness_sweep_size_40	persistent_metal_vector_buffers	1	PASS
differential_seed_068	reference_route_no_fallback	1	PASS	robustness_sweep_size_40	packaged_metallib_used	1	PASS
differential_seed_068	parity_displacement_relative_l2	9.92e-08	PASS	robustness_sweep_size_40	no_runtime_source_compilation	1	PASS
differential_seed_068	parity_displacement_relative_linf	2.07e-07	PASS	robustness_sweep_size_40	metal_fallback_count	0	PASS
differential_seed_068	parity_reaction_relative_l2	1.82e-07	PASS	robustness_sweep_size_40	axial_displacement_relative_error	5.88e-09	PASS
differential_seed_068	parity_reaction_relative_linf	2.09e-07	PASS	robustness_sweep_size_40	axial_stress_relative_error	1.05e-08	PASS
differential_seed_068	parity_stress_relative_l2	5.80e-07	PASS	robustness_sweep_size_80	converged_or_refused_never_published	1	PASS
differential_seed_068	parity_stress_relative_linf	6.51e-07	PASS	robustness_sweep_size_80	solver_relative_residual	1.76e-05	PASS
differential_seed_068	parity_strain_energy_relative_error	6.22e-08	PASS	robustness_sweep_size_80	independent_double_relative_residual	1.76e-05	PASS
differential_seed_068	zero_fallback_on_both_backends	0	PASS	robustness_sweep_size_80	metal_execution_evidence_present	1	PASS
differential_properties_seed_068	metal_all_property_solves_converged	1	PASS	robustness_sweep_size_80	operator_backend_is_packaged_host_p...	1	PASS
differential_properties_seed_068	metal_displacement_superposition	6.91e-08	PASS	robustness_sweep_size_80	persistent_metal_vector_buffers	1	PASS
differential_properties_seed_068	metal_stress_superposition	4.47e-07	PASS	robustness_sweep_size_80	packaged_metallib_used	1	PASS
differential_properties_seed_068	metal_sign_reversal	0	PASS	robustness_sweep_size_80	no_runtime_source_compilation	1	PASS
differential_properties_seed_068	metal_load_scaling_by_two	0	PASS	robustness_sweep_size_80	metal_fallback_count	0	PASS
differential_properties_seed_068	metal_modulus_scaling_by_two	0	PASS	robustness_sweep_size_80	axial_displacement_relative_error	1.09e-08	PASS
differential_properties_seed_068	metal_maxwell_betti_reciprocity	3.35e-07	PASS	robustness_sweep_size_80	axial_stress_relative_error	4.13e-09	PASS
differential_properties_seed_068	metal_axis_permutation	1.19e-07	PASS	robustness_sweep_size_160	converged_or_refused_never_published	1	PASS
differential_properties_seed_068	metal_axis_reflection	1.51e-07	PASS	robustness_sweep_size_160	solver_relative_residual	1.90e-05	PASS
differential_properties_seed_068	cpu_all_property_solves_converged	1	PASS	robustness_sweep_size_160	independent_double_relative_residual	1.90e-05	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_properties_se ed_068	cpu_displacement_superp osition	1.08e-11	PASS	robustness_sweep_size_1 60	metal_execution_evidence _present	1	PASS
differential_properties_se ed_068	cpu_stress_superposition	3.46e-11	PASS	robustness_sweep_size_1 60	operator_backend_is_pack aged_host_p...	1	PASS
differential_properties_se ed_068	cpu_sign_reversal	0	PASS	robustness_sweep_size_1 60	persistent_metal_vector_b uffers	1	PASS
differential_properties_se ed_068	cpu_load_scaling_by_two	0	PASS	robustness_sweep_size_1 60	packaged_metallib_used	1	PASS
differential_properties_se ed_068	cpu_modulus_scaling_by_t wo	3.64e-13	PASS	robustness_sweep_size_1 60	no_runtime_source_compil ation	1	PASS
differential_properties_se ed_068	cpu_maxwell_betti_recipro city	5.46e-11	PASS	robustness_sweep_size_1 60	metal_fallback_count	0	PASS
differential_properties_se ed_068	cpu_axis_permutation	2.66e-12	PASS	robustness_sweep_size_1 60	axial_displacement_relativ e_error	2.14e-10	PASS
differential_properties_se ed_068	cpu_axis_reflection	6.31e-13	PASS	robustness_sweep_size_1 60	axial_stress_relative_error	2.83e-09	PASS
differential_seed_069	converged	1	PASS	robustness_sweep_size_3 20	converged_or_refused_nev er_publishe...	1	PASS
differential_seed_069	solver_relative_residual	1.66e-05	PASS	robustness_sweep_size_3 20	solver_relative_residual	1.40e-05	PASS
differential_seed_069	independent_double_relati ve_residual	1.66e-05	PASS	robustness_sweep_size_3 20	independent_double_relati ve_residual	1.40e-05	PASS
differential_seed_069	rigid_body_constraint_ran k	6	PASS	robustness_sweep_size_3 20	metal_execution_evidence _present	1	PASS
differential_seed_069	force_equilibrium_relative_ error	2.00e-06	PASS	robustness_sweep_size_3 20	operator_backend_is_pack aged_host_p...	1	PASS
differential_seed_069	moment_equilibrium_relati ve_error	4.56e-07	PASS	robustness_sweep_size_3 20	persistent_metal_vector_b uffers	1	PASS
differential_seed_069	energy_identity_relative_er ror	5.81e-09	PASS	robustness_sweep_size_3 20	packaged_metallib_used	1	PASS
differential_seed_069	displacement_all_finite	1	PASS	robustness_sweep_size_3 20	no_runtime_source_compil ation	1	PASS
differential_seed_069	stress_all_finite	1	PASS	robustness_sweep_size_3 20	metal_fallback_count	0	PASS
differential_seed_069	fallback_count	0	PASS	robustness_sweep_size_3 20	axial_displacement_relativ e_error	2.94e-08	PASS
differential_seed_069	metal_execution_evidence _present	1	PASS	robustness_sweep_size_3 20	axial_stress_relative_error	2.98e-08	PASS
differential_seed_069	operator_backend_is_pack aged_host_p...	1	PASS	robustness_solve... rance_sensitivity	every_tolerance_converge d	1	PASS
differential_seed_069	persistent_metal_vector_b uffers	1	PASS	robustness_solve... rance_sensitivity	tightening_the_request_lo wers_the_i...	1	PASS
differential_seed_069	packaged_metallib_used	1	PASS	robustness_solve... rance_sensitivity	independent_residual_red uction_fact...	2e+03	PASS
differential_seed_069	no_runtime_source_compil ation	1	PASS	robustness_solve... rance_sensitivity	iteration_count_grows_wit h_a_tighte...	1	PASS
differential_seed_069	metal_fallback_count	0	PASS	performance_scaling_100 k_120x30x30	converged	1	PASS
differential_seed_069	converged	1	PASS	performance_scaling_100 k_120x30x30	solver_relative_residual	1.48e-05	PASS
differential_seed_069	solver_relative_residual	8.64e-11	PASS	performance_scaling_100 k_120x30x30	independent_double_relati ve_residual	1.48e-05	PASS
differential_seed_069	independent_double_relati ve_residual	8.64e-11	PASS	performance_scaling_100 k_120x30x30	rigid_body_constraint_ran k	6	PASS
differential_seed_069	rigid_body_constraint_ran k	6	PASS	performance_scaling_100 k_120x30x30	force_equilibrium_relative_ error	3.14e-08	PASS
differential_seed_069	force_equilibrium_relative_ error	8.17e-12	PASS	performance_scaling_100 k_120x30x30	moment_equilibrium_relati ve_error	2.32e-08	PASS
differential_seed_069	moment_equilibrium_relati ve_error	7.90e-12	PASS	performance_scaling_100 k_120x30x30	energy_identity_relative_er ror	5.96e-08	PASS
differential_seed_069	energy_identity_relative_er ror	4.40e-14	PASS	performance_scaling_100 k_120x30x30	displacement_all_finite	1	PASS
differential_seed_069	displacement_all_finite	1	PASS	performance_scaling_100 k_120x30x30	stress_all_finite	1	PASS
differential_seed_069	stress_all_finite	1	PASS	performance_scaling_100 k_120x30x30	fallback_count	0	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_069	fallback_count	0	PASS	performance_scaling_100_k_120x30x30	metal_execution_evidence_present	1	PASS
differential_seed_069	reference_route_is_cpu_double	1	PASS	performance_scaling_100_k_120x30x30	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_069	reference_route_no_fallback	1	PASS	performance_scaling_100_k_120x30x30	persistent_metal_vector_buffers	1	PASS
differential_seed_069	parity_displacement_relative_l2	2.05e-06	PASS	performance_scaling_100_k_120x30x30	packaged_metallib_used	1	PASS
differential_seed_069	parity_displacement_relative_linf	7.31e-07	PASS	performance_scaling_100_k_120x30x30	no_runtime_source_compilation	1	PASS
differential_seed_069	parity_reaction_relative_l2	3.47e-06	PASS	performance_scaling_100_k_120x30x30	metal_fallback_count	0	PASS
differential_seed_069	parity_reaction_relative_linf	1.26e-06	PASS	performance_scaling_100_k_120x30x30	timed_repeats	10	PASS
differential_seed_069	parity_stress_relative_l2	7.09e-06	PASS	performance_scaling_100_k_120x30x30	first_use_and_every_warm_repeat_bit...	1	PASS
differential_seed_069	parity_stress_relative_linf	1.10e-06	PASS	performance_scaling_100_k_120x30x30	achieved_elements_fraction_of_target	1.08	PASS
differential_seed_069	parity_strain_energy_relative_error	1.16e-08	PASS	performance_scaling_100_k_120x30x30	independent_double_relative_residual	1.48e-05	PASS
differential_seed_069	zero_fallback_on_both_backends	0	PASS	performance_scaling_100_k_120x30x30	cpu_baseline_converged_at_release_t...	1	PASS
differential_seed_070	converged	1	PASS	performance_scaling_100_k_120x30x30	cpu_baseline_wall_time_measured	1	PASS
differential_seed_070	solver_relative_residual	1.23e-05	PASS	performance_scaling_100_k_120x30x30	cpu_baseline_repeats	2	PASS
differential_seed_070	independent_double_relative_residual	1.23e-05	PASS	performance_scaling_100_k_120x30x30	cpu_baseline_independent_double_rel...	1.92e-05	PASS
differential_seed_070	rigid_body_constraint_rank	6	PASS	performance_scaling_100_k_120x30x30	cpu_baseline_versus_metal_displacem...	6.16e-08	PASS
differential_seed_070	force_equilibrium_relative_error	2.59e-06	PASS	performance_scaling_250_k_160x40x40	converged	1	PASS
differential_seed_070	moment_equilibrium_relative_error	3.53e-06	PASS	performance_scaling_250_k_160x40x40	solver_relative_residual	1.24e-05	PASS
differential_seed_070	energy_identity_relative_error	1.36e-08	PASS	performance_scaling_250_k_160x40x40	independent_double_relative_residual	1.24e-05	PASS
differential_seed_070	displacement_all_finite	1	PASS	performance_scaling_250_k_160x40x40	rigid_body_constraint_rank	6	PASS
differential_seed_070	stress_all_finite	1	PASS	performance_scaling_250_k_160x40x40	force_equilibrium_relative_error	1.92e-08	PASS
differential_seed_070	fallback_count	0	PASS	performance_scaling_250_k_160x40x40	moment_equilibrium_relative_error	1.16e-08	PASS
differential_seed_070	metal_execution_evidence_present	1	PASS	performance_scaling_250_k_160x40x40	energy_identity_relative_error	1.01e-09	PASS
differential_seed_070	operator_backend_is_packaged_host_p...	1	PASS	performance_scaling_250_k_160x40x40	displacement_all_finite	1	PASS
differential_seed_070	persistent_metal_vector_buffers	1	PASS	performance_scaling_250_k_160x40x40	stress_all_finite	1	PASS
differential_seed_070	packaged_metallib_used	1	PASS	performance_scaling_250_k_160x40x40	fallback_count	0	PASS
differential_seed_070	no_runtime_source_compilation	1	PASS	performance_scaling_250_k_160x40x40	metal_execution_evidence_present	1	PASS
differential_seed_070	metal_fallback_count	0	PASS	performance_scaling_250_k_160x40x40	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_070	converged	1	PASS	performance_scaling_250_k_160x40x40	persistent_metal_vector_buffers	1	PASS
differential_seed_070	solver_relative_residual	8.36e-11	PASS	performance_scaling_250_k_160x40x40	packaged_metallib_used	1	PASS
differential_seed_070	independent_double_relative_residual	8.36e-11	PASS	performance_scaling_250_k_160x40x40	no_runtime_source_compilation	1	PASS
differential_seed_070	rigid_body_constraint_rank	6	PASS	performance_scaling_250_k_160x40x40	metal_fallback_count	0	PASS
differential_seed_070	force_equilibrium_relative_error	5.09e-11	PASS	performance_scaling_250_k_160x40x40	timed_repeats	10	PASS
differential_seed_070	moment_equilibrium_relative_error	4.29e-11	PASS	performance_scaling_250_k_160x40x40	first_use_and_every_warm_repeat_bit...	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_070	energy_identity_relative_error	1.38e-15	PASS	performance_scaling_250k_160x40x40	achieved_elements_fraction_of_target	1.02	PASS
differential_seed_070	displacement_all_finite	1	PASS	performance_scaling_250k_160x40x40	independent_double_relative_residual	1.24e-05	PASS
differential_seed_070	stress_all_finite	1	PASS	performance_scaling_250k_160x40x40	cpu_baseline_converged_at_release_time	1	PASS
differential_seed_070	fallback_count	0	PASS	performance_scaling_250k_160x40x40	cpu_baseline_wall_time_measured	1	PASS
differential_seed_070	reference_route_is_cpu_double	1	PASS	performance_scaling_250k_160x40x40	cpu_baseline_repeats	2	PASS
differential_seed_070	reference_route_no_fallback	1	PASS	performance_scaling_250k_160x40x40	cpu_baseline_independent_double_relative_residual	1.98e-05	PASS
differential_seed_070	parity_displacement_relative_l2	7.05e-06	PASS	performance_scaling_250k_160x40x40	cpu_baseline_versus_metal_displacement	9.99e-09	PASS
differential_seed_070	parity_displacement_relative_inf	3.58e-06	PASS	performance_scaling_500k_200x50x50	converged	1	PASS
differential_seed_070	parity_reaction_relative_l2	2.53e-06	PASS	performance_scaling_500k_200x50x50	solver_relative_residual	1.57e-05	PASS
differential_seed_070	parity_reaction_relative_inf	1.16e-06	PASS	performance_scaling_500k_200x50x50	independent_double_relative_residual	1.57e-05	PASS
differential_seed_070	parity_stress_relative_l2	1.04e-05	PASS	performance_scaling_500k_200x50x50	rigid_body_constraint_rank	6	PASS
differential_seed_070	parity_stress_relative_inf	2.41e-06	PASS	performance_scaling_500k_200x50x50	force_equilibrium_relative_error	1.60e-08	PASS
differential_seed_070	parity_strain_energy_relative_error	2.70e-08	PASS	performance_scaling_500k_200x50x50	moment_equilibrium_relative_error	1.23e-08	PASS
differential_seed_070	zero_fallback_on_both_backends	0	PASS	performance_scaling_500k_200x50x50	energy_identity_relative_error	2.22e-08	PASS
differential_seed_071	converged	1	PASS	performance_scaling_500k_200x50x50	displacement_all_finite	1	PASS
differential_seed_071	solver_relative_residual	1.88e-05	PASS	performance_scaling_500k_200x50x50	stress_all_finite	1	PASS
differential_seed_071	independent_double_relative_residual	1.88e-05	PASS	performance_scaling_500k_200x50x50	fallback_count	0	PASS
differential_seed_071	rigid_body_constraint_rank	6	PASS	performance_scaling_500k_200x50x50	metal_execution_evidence_present	1	PASS
differential_seed_071	force_equilibrium_relative_error	3.48e-07	PASS	performance_scaling_500k_200x50x50	operator_backend_is_packaged_host_process	1	PASS
differential_seed_071	moment_equilibrium_relative_error	5.22e-07	PASS	performance_scaling_500k_200x50x50	persistent_metal_vector_buffers	1	PASS
differential_seed_071	energy_identity_relative_error	3.69e-08	PASS	performance_scaling_500k_200x50x50	packaged_metallib_used	1	PASS
differential_seed_071	displacement_all_finite	1	PASS	performance_scaling_500k_200x50x50	no_runtime_source_compilation	1	PASS
differential_seed_071	stress_all_finite	1	PASS	performance_scaling_500k_200x50x50	metal_fallback_count	0	PASS
differential_seed_071	fallback_count	0	PASS	performance_scaling_500k_200x50x50	timed_repeats	10	PASS
differential_seed_071	metal_execution_evidence_present	1	PASS	performance_scaling_500k_200x50x50	first_use_and_every_warm_repeat_bit	1	PASS
differential_seed_071	operator_backend_is_packaged_host_process	1	PASS	performance_scaling_500k_200x50x50	achieved_elements_fraction_of_target	1	PASS
differential_seed_071	persistent_metal_vector_buffers	1	PASS	performance_scaling_500k_200x50x50	independent_double_relative_residual	1.57e-05	PASS
differential_seed_071	packaged_metallib_used	1	PASS	performance_scaling_500k_200x50x50	cpu_baseline_converged_at_release_time	1	PASS
differential_seed_071	no_runtime_source_compilation	1	PASS	performance_scaling_500k_200x50x50	cpu_baseline_wall_time_measured	1	PASS
differential_seed_071	metal_fallback_count	0	PASS	performance_scaling_500k_200x50x50	cpu_baseline_repeats	1	PASS
differential_seed_071	converged	1	PASS	performance_scaling_500k_200x50x50	cpu_baseline_independent_double_relative_residual	1.95e-05	PASS
differential_seed_071	solver_relative_residual	8.49e-11	PASS	performance_scaling_500k_200x50x50	cpu_baseline_versus_metal_displacement	2.96e-08	PASS
differential_seed_071	independent_double_relative_residual	8.49e-11	PASS	performance_scaling_1M_252x63x63	converged	1	PASS

Case	Gate	Observed	Result	Case	Gate	Observed	Result
differential_seed_071	rigid_body_constraint_rank	6	PASS	performance_scaling_1M_252x63x63	solver_relative_residual	1.43e-05	PASS
differential_seed_071	force_equilibrium_relative_error	1.55e-12	PASS	performance_scaling_1M_252x63x63	independent_double_relative_residual	1.43e-05	PASS
differential_seed_071	moment_equilibrium_relative_error	1.17e-12	PASS	performance_scaling_1M_252x63x63	rigid_body_constraint_rank	6	PASS
differential_seed_071	energy_identity_relative_error	9.13e-14	PASS	performance_scaling_1M_252x63x63	force_equilibrium_relative_error	1.49e-08	PASS
differential_seed_071	displacement_all_finite	1	PASS	performance_scaling_1M_252x63x63	moment_equilibrium_relative_error	2.96e-08	PASS
differential_seed_071	stress_all_finite	1	PASS	performance_scaling_1M_252x63x63	energy_identity_relative_error	5.84e-08	PASS
differential_seed_071	fallback_count	0	PASS	performance_scaling_1M_252x63x63	displacement_all_finite	1	PASS
differential_seed_071	reference_route_is_cpu_double	1	PASS	performance_scaling_1M_252x63x63	stress_all_finite	1	PASS
differential_seed_071	reference_route_no_fallback	1	PASS	performance_scaling_1M_252x63x63	fallback_count	0	PASS
differential_seed_071	parity_displacement_relative_l2	1.30e-06	PASS	performance_scaling_1M_252x63x63	metal_execution_evidence_present	1	PASS
differential_seed_071	parity_displacement_relative_linf	2.41e-06	PASS	performance_scaling_1M_252x63x63	operator_backend_is_packaged_host_p...	1	PASS
differential_seed_071	parity_reaction_relative_l2	1.69e-06	PASS	performance_scaling_1M_252x63x63	persistent_metal_vector_buffers	1	PASS
differential_seed_071	parity_reaction_relative_linf	1.01e-06	PASS	performance_scaling_1M_252x63x63	packaged_metallib_used	1	PASS
differential_seed_071	parity_stress_relative_l2	7.03e-06	PASS	performance_scaling_1M_252x63x63	no_runtime_source_compilation	1	PASS
differential_seed_071	parity_stress_relative_linf	2.90e-06	PASS	performance_scaling_1M_252x63x63	metal_fallback_count	0	PASS
differential_seed_071	parity_strain_energy_relative_error	7.39e-08	PASS	performance_scaling_1M_252x63x63	timed_repeats	10	PASS
differential_seed_071	zero_fallback_on_both_backends	0	PASS	performance_scaling_1M_252x63x63	first_use_and_every_warm_repeat_bit...	1	PASS
differential_seed_072	converged	1	PASS	performance_scaling_1M_252x63x63	achieved_elements_fraction_of_target	1	PASS
differential_seed_072	solver_relative_residual	7.06e-08	PASS	performance_scaling_1M_252x63x63	independent_double_relative_residua...	1.43e-05	PASS
differential_seed_072	independent_double_relative_residual	7.06e-08	PASS	performance_scaling_1M_252x63x63	cpu_baseline_converged_at_release_t...	1	PASS
differential_seed_072	rigid_body_constraint_rank	6	PASS	performance_scaling_1M_252x63x63	cpu_baseline_wall_time_measured	1	PASS
differential_seed_072	force_equilibrium_relative_error	1.15e-09	PASS	performance_scaling_1M_252x63x63	cpu_baseline_repeats	1	PASS
differential_seed_072	moment_equilibrium_relative_error	2.14e-10	PASS	performance_scaling_1M_252x63x63	cpu_baseline_independent_double_rel...	1.93e-05	PASS
differential_seed_072	energy_identity_relative_error	1.84e-09	PASS	performance_scaling_1M_252x63x63	cpu_baseline_versus_metal_displacem...	5.92e-08	PASS
differential_seed_072	displacement_all_finite	1	PASS				

Appendix D · Convergence studies, every level

`reconcile_sp224_1_8_1_discretisation_error —`
`max_relative_error_over_five_published_stations_at_1e-10_cpu`

NASA SP-224(03) 1-8-1 published u_y stations; solver tolerance 1e-10 on CPU/Double so the iterative error is below 1e-9 of the value

Level	Grid	DOF	h	Value	Reference	Relative error	Observed order
1	10×4×1	330	2	7.2025e-04	0	7.202e-04	—
2	20×8×2	1701	1	1.8043e-04	0	1.804e-04	2
3	30×12×3	4836	0.667	8.0245e-05	0	8.025e-05	2
4	40×16×4	10455	0.5	4.5151e-05	0	4.515e-05	2
5	50×20×5	19278	0.4	2.8901e-05	0	2.890e-05	2

The value column is already an error, so the reference column is zero and the observed order is that of the published-value error itself.

Because the solver error has been driven to 1e-10, this ladder's observed order is a discretisation order. V3's frozen rationale said the ladder was 'not resolution limited' and that 'the whole of the measured error is solver truncation'; this study measures otherwise.

`reconcile_sp224_1_8_1_release_error —`
`max_relative_error_over_five_published_stations_at_2e-5_metal`

Same stations, release tolerance on the packaged Metal route (the ladder V3 published)

Level	Grid	DOF	h	Value	Reference	Relative error	Observed order
1	10×4×1	330	2	7.2026e-04	0	7.203e-04	—
2	20×8×2	1701	1	1.7995e-04	0	1.799e-04	2
3	30×12×3	4836	0.667	8.0008e-05	0	8.001e-05	2
4	40×16×4	10455	0.5	4.5166e-05	0	4.517e-05	1.99
5	50×20×5	19278	0.4	2.8251e-05	0	2.825e-05	2.1

Reported beside the reference ladder so the two can be compared level by level.

`manufactured_displacement_l2_reference — displacement_relative_l2_volume_at_1e-10_cpu`

Exact manufactured field; CPU/Double at 1e-10 so the iterative error is negligible

Level	Grid	DOF	h	Value	Reference	Relative error	Observed order
1	4×2×2	135	0.06	0.20322	0	0.2032	—
2	8×4×4	675	0.03	0.047461	0	0.04746	2.1
3	12×6×6	1911	0.02	0.020882	0	0.02088	2.02
4	16×8×8	4131	0.015	0.011707	0	0.01171	2.01
5	24×12×12	12675	0.01	0.0051916	0	0.005192	2.01
6	32×16×16	28611	0.0075	0.002918	0	0.002918	2
7	48×24×24	91875	0.005	0.0012962	0	0.001296	2

Value column is already a relative error; reference is therefore zero.

Observed order is between adjacent grids; 'asymptotic' means the last three adjacent orders lie within 0.35 of each other.

manufactured_displacement_linf_reference — displacement_relative_linf_nodal_at_1e-10_cpu

Exact manufactured field, sampled at every node

Level	Grid	DOF	h	Value	Reference	Relative error	Observed order
1	4×2×2	135	0.06	0.385	0	0.385	—
2	8×4×4	675	0.03	0.08548	0	0.08548	2.17
3	12×6×6	1911	0.02	0.037177	0	0.03718	2.05
4	16×8×8	4131	0.015	0.02075	0	0.02075	2.03
5	24×12×12	12675	0.01	0.0091704	0	0.00917	2.01
6	32×16×16	28611	0.0075	0.0051481	0	0.005148	2.01
7	48×24×24	91875	0.005	0.0022848	0	0.002285	2

Value column is already a relative error; reference is therefore zero.

Observed order is between adjacent grids; 'asymptotic' means the last three adjacent orders lie within 0.35 of each other.

manufactured_stress_l2_reference — stress_relative_l2_gauss_at_1e-10_cpu

Exact manufactured stress at the product's Gauss points

Level	Grid	DOF	h	Value	Reference	Relative error	Observed order
1	4×2×2	135	0.06	0.4287	0	0.4287	—
2	8×4×4	675	0.03	0.21734	0	0.2173	0.98
3	12×6×6	1911	0.02	0.14566	0	0.1457	0.987
4	16×8×8	4131	0.015	0.10947	0	0.1095	0.993
5	24×12×12	12675	0.01	0.073089	0	0.07309	0.996
6	32×16×16	28611	0.0075	0.054847	0	0.05485	0.998
7	48×24×24	91875	0.005	0.036579	0	0.03658	0.999

Value column is already a relative error; reference is therefore zero.

Observed order is between adjacent grids; 'asymptotic' means the last three adjacent orders lie within 0.35 of each other.

manufactured_stress_linf_reference — stress_relative_linf_gauss_at_1e-10_cpu

Exact manufactured stress, sampled at every Gauss point

Level	Grid	DOF	h	Value	Reference	Relative error	Observed order
1	4×2×2	135	0.06	0.67879	0	0.6788	—
2	8×4×4	675	0.03	0.41933	0	0.4193	0.695
3	12×6×6	1911	0.02	0.29272	0	0.2927	0.887
4	16×8×8	4131	0.015	0.22312	0	0.2231	0.944
5	24×12×12	12675	0.01	0.15048	0	0.1505	0.971
6	32×16×16	28611	0.0075	0.11332	0	0.1133	0.986
7	48×24×24	91875	0.005	0.075767	0	0.07577	0.993

Value column is already a relative error; reference is therefore zero.

Observed order is between adjacent grids; 'asymptotic' means the last three adjacent orders lie within 0.35 of each other.

manufactured_displacement_l2_release — displacement_relative_l2_volume_at_2e-5_metal

Exact manufactured field; the packaged Metal route at the release tolerance

Level	Grid	DOF	h	Value	Reference	Relative error	Observed order
1	4×2×2	135	0.06	0.20322	0	0.2032	—
2	8×4×4	675	0.03	0.047462	0	0.04746	2.1
3	12×6×6	1911	0.02	0.020882	0	0.02088	2.02
4	16×8×8	4131	0.015	0.011708	0	0.01171	2.01
5	24×12×12	12675	0.01	0.0051916	0	0.005192	2.01
6	32×16×16	28611	0.0075	0.002918	0	0.002918	2
7	48×24×24	91875	0.005	0.0012962	0	0.001296	2

Value column is already a relative error; reference is therefore zero.

Observed order is between adjacent grids; 'asymptotic' means the last three adjacent orders lie within 0.35 of each other.

manufactured_stress_l2_release — stress_relative_l2_gauss_at_2e-5_metal

Exact manufactured stress; the packaged Metal route at the release tolerance

Level	Grid	DOF	h	Value	Reference	Relative error	Observed order
1	4×2×2	135	0.06	0.4287	0	0.4287	—
2	8×4×4	675	0.03	0.21734	0	0.2173	0.98
3	12×6×6	1911	0.02	0.14566	0	0.1457	0.987
4	16×8×8	4131	0.015	0.10947	0	0.1095	0.993
5	24×12×12	12675	0.01	0.073089	0	0.07309	0.996
6	32×16×16	28611	0.0075	0.054847	0	0.05485	0.998
7	48×24×24	91875	0.005	0.036579	0	0.03658	0.999

Value column is already a relative error; reference is therefore zero.

Observed order is between adjacent grids; 'asymptotic' means the last three adjacent orders lie within 0.35 of each other.

Appendix E · Residual histories

Per case: the number of residual samples the solver published, the first and last relative residuals, and the kind of the final sample. The full series is in residual-history.csv.

Case	Samples	First iter.	First residual	Last iter.	Last residual	Kind
reconcile_sp224_1_8_1_level_10x4x1	3	0	1	1	3.68e-06	authoritative_double
reconcile_sp224_1_8_1_level_20x8x2	3	0	1	10	1.47e-05	authoritative_double
reconcile_sp224_1_8_1_level_30x12x3	3	0	1	13	1.85e-05	authoritative_double
reconcile_sp224_1_8_1_level_40x16x4	3	0	1	13	7.43e-06	authoritative_double
reconcile_sp224_1_8_1_level_50x20x5	4	0	1	18	1.78e-05	authoritative_double

Case	Samples	First iter.	First residual	Last iter.	Last residual	Kind
manufactured_4x2x2_reference_1e-10_cpu	5	0	1	3	1.32e-16	authoritative_double
manufactured_4x2x2_release_2e-5_metal	3	0	1	1	4.66e-08	authoritative_double
manufactured_4x2x2_tight_1e-8_metal	5	0	1	3	1.99e-15	authoritative_double
manufactured_8x4x4_reference_1e-10_cpu	27	0	1	25	3.11e-11	authoritative_double
manufactured_8x4x4_release_2e-5_metal	3	0	1	10	4.03e-06	authoritative_double
manufactured_8x4x4_tight_1e-8_metal	5	0	1	20	4.89e-10	authoritative_double
manufactured_12x6x6_reference_1e-10_cpu	41	0	1	39	4.88e-11	authoritative_double
manufactured_12x6x6_release_2e-5_metal	3	0	1	10	1.78e-05	authoritative_double
manufactured_12x6x6_tight_1e-8_metal	6	0	1	23	8.64e-10	authoritative_double
manufactured_16x8x8_reference_1e-10_cpu	55	0	1	53	6.50e-11	authoritative_double
manufactured_16x8x8_release_2e-5_metal	3	0	1	13	1.08e-05	authoritative_double
manufactured_16x8x8_tight_1e-8_metal	6	0	1	24	2.33e-09	authoritative_double
manufactured_24x12x12_reference_1e-10_cpu	83	0	1	81	8.13e-11	authoritative_double
manufactured_24x12x12_release_2e-5_metal	3	0	1	13	1.67e-05	authoritative_double
manufactured_24x12x12_tight_1e-8_metal	6	0	1	26	1.18e-09	authoritative_double
manufactured_32x16x16_reference_1e-10_cpu	111	0	1	109	9.78e-11	authoritative_double
manufactured_32x16x16_release_2e-5_metal	3	0	1	14	1.53e-05	authoritative_double
manufactured_32x16x16_tight_1e-8_metal	6	0	1	28	1.22e-09	authoritative_double
manufactured_48x24x24_reference_1e-10_cpu	168	0	1	166	9.99e-11	authoritative_double
manufactured_48x24x24_release_2e-5_metal	3	0	1	15	1.49e-05	authoritative_double
manufactured_48x24x24_tight_1e-8_metal	6	0	1	29	1.45e-09	authoritative_double
differential_seed_001	3	0	1	1	5.97e-07	authoritative_double
differential_seed_002	7	0	1	79	1.62e-05	authoritative_double
differential_seed_003	3	0	1	1	1.02e-05	authoritative_double
differential_seed_004	6	0	1	53	1.90e-05	authoritative_double
differential_properties_seed_004	6	0	1	53	1.90e-05	authoritative_double
differential_seed_005	3	0	1	2	3.35e-08	authoritative_double
differential_seed_006	5	0	1	45	1.56e-05	authoritative_double
differential_seed_007	3	0	1	1	1.23e-06	authoritative_double
differential_seed_008	4	0	1	32	1.58e-05	authoritative_double

Case	Samples	First iter.	First residual	Last iter.	Last residual	Kind
differential_properties_seed_008	4	0	1	32	1.58e-05	authoritative_double
differential_seed_009	3	0	1	2	3.32e-08	authoritative_double
differential_seed_010	3	0	1	2	6.38e-09	authoritative_double
differential_seed_011	5	0	1	45	1.38e-05	authoritative_double
differential_seed_012	4	0	1	17	1.21e-05	authoritative_double
differential_properties_seed_012	4	0	1	17	1.21e-05	authoritative_double
differential_seed_013	3	0	1	1	6.88e-07	authoritative_double
differential_seed_014	4	0	1	21	1.22e-05	authoritative_double
differential_seed_015	3	0	1	1	6.88e-07	authoritative_double
differential_seed_016	6	0	1	55	1.86e-05	authoritative_double
differential_properties_seed_016	6	0	1	55	1.86e-05	authoritative_double
differential_seed_017	3	0	1	1	7.76e-07	authoritative_double
differential_seed_018	3	0	1	1	2.78e-06	authoritative_double
differential_seed_019	3	0	1	2	1.89e-08	authoritative_double
differential_seed_020	4	0	1	22	1.48e-05	authoritative_double
differential_properties_seed_020	4	0	1	22	1.48e-05	authoritative_double
differential_seed_021	3	0	1	1	5.23e-07	authoritative_double
differential_seed_022	4	0	1	32	1.34e-05	authoritative_double
differential_seed_023	3	0	1	1	1.70e-07	authoritative_double
differential_seed_024	3	0	1	1	8.45e-07	authoritative_double
differential_properties_seed_024	3	0	1	1	8.45e-07	authoritative_double
differential_seed_025	4	0	1	20	1.34e-05	authoritative_double
differential_seed_026	4	0	1	28	1.35e-05	authoritative_double
differential_seed_027	3	0	1	1	8.04e-06	authoritative_double
differential_seed_028	4	0	1	29	1.83e-05	authoritative_double
differential_properties_seed_028	4	0	1	29	1.83e-05	authoritative_double
differential_seed_029	3	0	1	1	2.43e-06	authoritative_double
differential_seed_030	3	0	1	12	1.27e-05	authoritative_double
differential_seed_031	3	0	1	13	9.07e-06	authoritative_double
differential_seed_032	3	0	1	2	9.04e-08	authoritative_double

Case	Samples	First iter.	First residual	Last iter.	Last residual	Kind
differential_properties_seed_032	3	0	1	2	9.04e-08	authoritative_double
differential_seed_033	3	0	1	1	2.36e-06	authoritative_double
differential_seed_034	3	0	1	1	5.73e-06	authoritative_double
differential_seed_035	5	0	1	42	1.39e-05	authoritative_double
differential_seed_036	5	0	1	37	1.57e-05	authoritative_double
differential_properties_seed_036	5	0	1	37	1.57e-05	authoritative_double
differential_seed_037	6	0	1	55	1.83e-05	authoritative_double
differential_seed_038	3	0	1	13	6.88e-06	authoritative_double
differential_seed_039	4	0	1	21	1.49e-05	authoritative_double
differential_seed_040	3	0	1	2	2.35e-07	authoritative_double
differential_properties_seed_040	3	0	1	2	2.35e-07	authoritative_double
differential_seed_041	3	0	1	1	1.78e-06	authoritative_double
differential_seed_042	3	0	1	2	1.66e-08	authoritative_double
differential_seed_043	5	0	1	34	1.39e-05	authoritative_double
differential_seed_044	6	0	1	61	1.86e-05	authoritative_double
differential_properties_seed_044	6	0	1	61	1.86e-05	authoritative_double
differential_seed_045	3	0	1	1	2.49e-06	authoritative_double
differential_seed_046	3	0	1	1	7.29e-07	authoritative_double
differential_seed_047	5	0	1	33	1.64e-05	authoritative_double
differential_seed_048	4	0	1	18	1.78e-05	authoritative_double
differential_properties_seed_048	4	0	1	18	1.78e-05	authoritative_double
differential_seed_049	3	0	1	11	1.51e-05	authoritative_double
differential_seed_050	3	0	1	1	7.03e-08	authoritative_double
differential_seed_051	5	0	1	48	1.59e-05	authoritative_double
differential_seed_052	3	0	1	1	8.14e-07	authoritative_double
differential_properties_seed_052	3	0	1	1	8.14e-07	authoritative_double
differential_seed_053	3	0	1	1	5.47e-07	authoritative_double
differential_seed_054	3	0	1	1	3.30e-06	authoritative_double
differential_seed_055	3	0	1	16	1.39e-05	authoritative_double
differential_seed_056	4	0	1	31	1.60e-05	authoritative_double

Case	Samples	First iter.	First residual	Last iter.	Last residual	Kind
differential_properties_seed_056	4	0	1	31	1.60e-05	authoritative_double
differential_seed_057	3	0	1	2	1.27e-08	authoritative_double
differential_seed_058	3	0	1	2	1.40e-08	authoritative_double
differential_seed_059	4	0	1	22	1.79e-05	authoritative_double
differential_seed_060	3	0	1	1	1.41e-06	authoritative_double
differential_properties_seed_060	3	0	1	1	1.41e-06	authoritative_double
differential_seed_061	4	0	1	23	1.68e-05	authoritative_double
differential_seed_062	4	0	1	31	1.47e-05	authoritative_double
differential_seed_063	3	0	1	1	8.08e-06	authoritative_double
differential_seed_064	3	0	1	1	3.41e-07	authoritative_double
differential_properties_seed_064	3	0	1	1	3.41e-07	authoritative_double
differential_seed_065	3	0	1	13	1.80e-05	authoritative_double
differential_seed_066	3	0	1	1	6.83e-07	authoritative_double
differential_seed_067	3	0	1	1	4.99e-06	authoritative_double
differential_seed_068	3	0	1	1	2.49e-06	authoritative_double
differential_properties_seed_068	3	0	1	1	2.49e-06	authoritative_double
differential_seed_069	3	0	1	12	1.66e-05	authoritative_double
differential_seed_070	3	0	1	16	1.23e-05	authoritative_double
differential_seed_071	4	0	1	20	1.88e-05	authoritative_double
differential_seed_072	3	0	1	2	7.06e-08	authoritative_double
differential_properties_seed_072	3	0	1	2	7.06e-08	authoritative_double
differential_seed_073	5	0	1	37	1.83e-05	authoritative_double
differential_seed_074	4	0	1	20	1.06e-05	authoritative_double
differential_seed_075	3	0	1	2	1.62e-07	authoritative_double
differential_seed_076	4	0	1	26	1.46e-05	authoritative_double
differential_properties_seed_076	4	0	1	26	1.46e-05	authoritative_double
differential_seed_077	5	0	1	34	1.42e-05	authoritative_double
differential_seed_078	4	0	1	18	1.55e-05	authoritative_double
differential_seed_079	3	0	1	1	1.38e-06	authoritative_double
differential_seed_080	3	0	1	1	9.95e-07	authoritative_double

Case	Samples	First iter.	First residual	Last iter.	Last residual	Kind
differential_properties_seed_080	3	0	1	1	9.95e-07	authoritative_double
differential_seed_081	3	0	1	1	1.03e-06	authoritative_double
differential_seed_082	6	0	1	57	1.60e-05	authoritative_double
differential_seed_083	3	0	1	13	1.17e-05	authoritative_double
differential_seed_084	3	0	1	1	7.60e-07	authoritative_double
differential_properties_seed_084	3	0	1	1	7.60e-07	authoritative_double
differential_seed_085	3	0	1	2	1.07e-08	authoritative_double
differential_seed_086	7	0	1	76	1.80e-05	authoritative_double
differential_seed_087	3	0	1	1	3.64e-07	authoritative_double
differential_seed_088	4	0	1	30	1.56e-05	authoritative_double
differential_properties_seed_088	4	0	1	30	1.56e-05	authoritative_double
differential_seed_089	3	0	1	13	7.40e-06	authoritative_double
differential_seed_090	3	0	1	1	1.86e-06	authoritative_double
differential_seed_091	3	0	1	2	8.45e-08	authoritative_double
differential_seed_092	3	0	1	1	1.76e-06	authoritative_double
differential_properties_seed_092	3	0	1	1	1.76e-06	authoritative_double
differential_seed_093	3	0	1	1	5.66e-07	authoritative_double
differential_seed_094	3	0	1	1	2.45e-07	authoritative_double
differential_seed_095	3	0	1	1	1.34e-06	authoritative_double
differential_seed_096	3	0	1	1	1.40e-06	authoritative_double
differential_properties_seed_096	3	0	1	1	1.40e-06	authoritative_double
differential_seed_097	5	0	1	39	1.72e-05	authoritative_double
differential_seed_098	5	0	1	46	1.26e-05	authoritative_double
differential_seed_099	3	0	1	1	9.05e-07	authoritative_double
differential_seed_100	7	0	1	76	1.66e-05	authoritative_double
differential_properties_seed_100	7	0	1	76	1.66e-05	authoritative_double
differential_seed_101	3	0	1	1	8.81e-07	authoritative_double
differential_seed_102	3	0	1	1	1.29e-06	authoritative_double
differential_seed_103	3	0	1	2	1.99e-08	authoritative_double
differential_seed_104	4	0	1	28	1.82e-05	authoritative_double

Case	Samples	First iter.	First residual	Last iter.	Last residual	Kind
differential_properties_seed_104	4	0	1	28	1.82e-05	authoritative_double
differential_seed_105	4	0	1	26	1.15e-05	authoritative_double
differential_seed_106	3	0	1	1	3.04e-06	authoritative_double
differential_seed_107	4	0	1	27	1.68e-05	authoritative_double
differential_seed_108	4	0	1	19	1.34e-05	authoritative_double
differential_properties_seed_108	4	0	1	19	1.34e-05	authoritative_double
differential_seed_109	4	0	1	21	1.77e-05	authoritative_double
differential_seed_110	5	0	1	38	1.74e-05	authoritative_double
differential_seed_111	3	0	1	1	3.71e-07	authoritative_double
differential_seed_112	3	0	1	2	3.89e-08	authoritative_double
differential_properties_seed_112	3	0	1	2	3.89e-08	authoritative_double
differential_seed_113	3	0	1	14	1.25e-05	authoritative_double
differential_seed_114	4	0	1	27	1.69e-05	authoritative_double
differential_seed_115	9	0	1	112	1.84e-05	authoritative_double
differential_seed_116	3	0	1	1	3.50e-07	authoritative_double
differential_properties_seed_116	3	0	1	1	3.50e-07	authoritative_double
differential_seed_117	3	0	1	15	1.35e-05	authoritative_double
differential_seed_118	3	0	1	14	1.38e-05	authoritative_double
differential_seed_119	4	0	1	21	1.56e-05	authoritative_double
differential_seed_120	3	0	1	1	4.00e-06	authoritative_double
differential_properties_seed_120	3	0	1	1	4.00e-06	authoritative_double
differential_seed_121	4	0	1	17	1.07e-05	authoritative_double
differential_seed_122	4	0	1	23	1.83e-05	authoritative_double
differential_seed_123	3	0	1	1	7.78e-07	authoritative_double
differential_seed_124	3	0	1	1	1.99e-06	authoritative_double
differential_properties_seed_124	3	0	1	1	1.99e-06	authoritative_double
differential_seed_125	3	0	1	1	2.72e-06	authoritative_double
differential_seed_126	4	0	1	19	1.78e-05	authoritative_double
differential_seed_127	3	0	1	1	4.55e-07	authoritative_double
differential_seed_128	4	0	1	32	1.65e-05	authoritative_double

Case	Samples	First iter.	First residual	Last iter.	Last residual	Kind
differential_properties_seed_128	4	0	1	32	1.65e-05	authoritative_double
differential_seed_129	3	0	1	1	1.21e-07	authoritative_double
differential_seed_130	6	0	1	52	1.87e-05	authoritative_double
differential_seed_131	5	0	1	40	1.62e-05	authoritative_double
differential_seed_132	3	0	1	1	1.78e-07	authoritative_double
differential_properties_seed_132	3	0	1	1	1.78e-07	authoritative_double
differential_seed_133	5	0	1	43	1.81e-05	authoritative_double
differential_seed_134	3	0	1	1	6.72e-06	authoritative_double
differential_seed_135	6	0	1	55	1.36e-05	authoritative_double
differential_seed_136	4	0	1	17	1.20e-05	authoritative_double
differential_properties_seed_136	4	0	1	17	1.20e-05	authoritative_double
differential_seed_137	4	0	1	23	1.53e-05	authoritative_double
differential_seed_138	3	0	1	1	5.16e-07	authoritative_double
differential_seed_139	3	0	1	1	2.88e-07	authoritative_double
differential_seed_140	3	0	1	1	7.50e-07	authoritative_double
differential_properties_seed_140	3	0	1	1	7.50e-07	authoritative_double
differential_seed_141	3	0	1	16	1.60e-05	authoritative_double
differential_seed_142	3	0	1	1	4.64e-07	authoritative_double
differential_seed_143	4	0	1	19	1.18e-05	authoritative_double
differential_seed_144	3	0	1	15	1.14e-05	authoritative_double
differential_properties_seed_144	3	0	1	15	1.14e-05	authoritative_double
differential_seed_145	4	0	1	29	1.52e-05	authoritative_double
differential_seed_146	5	0	1	40	1.24e-05	authoritative_double
differential_seed_147	3	0	1	1	1.52e-05	authoritative_double
differential_seed_148	3	0	1	1	6.09e-07	authoritative_double
differential_properties_seed_148	3	0	1	1	6.09e-07	authoritative_double
differential_seed_149	3	0	1	1	2.55e-07	authoritative_double
differential_seed_150	10	0	1	116	1.74e-05	authoritative_double
differential_seed_151	3	0	1	2	2.65e-08	authoritative_double
differential_seed_152	3	0	1	2	3.19e-07	authoritative_double

Case	Samples	First iter.	First residual	Last iter.	Last residual	Kind
differential_properties_seed_152	3	0	1	2	3.19e-07	authoritative_double
differential_seed_153	3	0	1	1	1.07e-06	authoritative_double
differential_seed_154	3	0	1	1	9.26e-07	authoritative_double
differential_seed_155	4	0	1	23	1.43e-05	authoritative_double
differential_seed_156	3	0	1	1	1.38e-06	authoritative_double
differential_properties_seed_156	3	0	1	1	1.38e-06	authoritative_double
differential_seed_157	4	0	1	19	8.72e-06	authoritative_double
differential_seed_158	4	0	1	25	1.57e-05	authoritative_double
differential_seed_159	3	0	1	1	1.20e-06	authoritative_double
differential_seed_160	3	0	1	2	2.94e-08	authoritative_double
differential_properties_seed_160	3	0	1	2	2.94e-08	authoritative_double
recovery_uniform_uniaxial_x	3	0	1	11	1.56e-05	authoritative_double
recovery_uniform_uniaxial_y	3	0	1	11	1.72e-05	authoritative_double
recovery_uniform_uniaxial_z	3	0	1	9	1.48e-05	authoritative_double
recovery_uniform_shear_xy	3	0	1	11	1.58e-05	authoritative_double
recovery_uniform_shear_xz	3	0	1	11	1.34e-05	authoritative_double
recovery_uniform_shear_yz	3	0	1	11	1.37e-05	authoritative_double
recovery_uniform_hydrostatic	3	0	1	12	1.07e-05	authoritative_double
recovery_uniform_biaxial	3	0	1	12	9.95e-06	authoritative_double
recovery_uniform_general	3	0	1	12	1.08e-05	authoritative_double
robustness_sweep_poisson_0_40000	5	0	1	43	1.40e-05	authoritative_double
robustness_sweep_poisson_0_45000	5	0	1	45	1.74e-05	authoritative_double
robustness_sweep_poisson_0_49000	6	0	1	53	1.86e-05	authoritative_double
robustness_sweep_poisson_0_49900	5	0	1	44	1.65e-05	authoritative_double
robustness_sweep_poisson_0_49990	6	0	1	52	1.79e-05	authoritative_double
robustness_sweep_poisson_0_49999	18	0	1	254	1.83e-05	authoritative_double
robustness_sweep_aspect_1	3	0	1	9	8.64e-06	authoritative_double
robustness_sweep_aspect_5	4	0	1	20	1.28e-05	authoritative_double
robustness_sweep_aspect_20	5	0	1	43	1.83e-05	authoritative_double
robustness_sweep_aspect_60	7	0	1	66	1.86e-05	authoritative_double

Case	Samples	First iter.	First residual	Last iter.	Last residual	Kind
robustness_sweep_aspect_200	9	0	1	106	1.67e-05	authoritative_double
robustness_sweep_aspect_800	6	0	1	64	1.85e-05	authoritative_double
robustness_sweep_scale_1e-05	5	0	1	36	1.76e-05	authoritative_double
robustness_sweep_scale_1e-03	5	0	1	36	1.77e-05	authoritative_double
robustness_sweep_scale_1e-01	5	0	1	36	1.77e-05	authoritative_double
robustness_sweep_scale_1e01	5	0	1	36	1.77e-05	authoritative_double
robustness_sweep_stiffness_1e03	5	0	1	36	1.77e-05	authoritative_double
robustness_sweep_stiffness_1e06	5	0	1	36	1.77e-05	authoritative_double
robustness_sweep_stiffness_1e09	5	0	1	36	1.77e-05	authoritative_double
robustness_sweep_stiffness_1e12	5	0	1	36	1.77e-05	authoritative_double
robustness_sweep_stiffness_1e15	5	0	1	36	1.77e-05	authoritative_double
robustness_sweep_load_1e-06	5	0	1	36	1.76e-05	authoritative_double
robustness_sweep_load_1e00	5	0	1	36	1.76e-05	authoritative_double
robustness_sweep_load_1e06	5	0	1	36	1.76e-05	authoritative_double
robustness_sweep_load_1e12	5	0	1	36	1.77e-05	authoritative_double
robustness_sweep_tolerance_1e-02	3	0	1	4	0.00799	authoritative_double
robustness_sweep_tolerance_1e-03	3	0	1	14	7.97e-04	authoritative_double
robustness_sweep_tolerance_1e-04	4	0	1	27	8.53e-05	authoritative_double
robustness_sweep_tolerance_2e-05	5	0	1	36	1.77e-05	authoritative_double
robustness_sweep_tolerance_1e-06	6	0	1	52	8.32e-07	authoritative_double
robustness_sweep_tolerance_1e-08	7	0	1	76	8.86e-09	authoritative_double
robustness_sweep_tolerance_1e-10	86	0	1	1335	9.44e-11	authoritative_double
robustness_sweep_size_10	4	0	1	17	1.80e-05	authoritative_double
robustness_sweep_size_20	4	0	1	18	1.44e-05	authoritative_double
robustness_sweep_size_40	4	0	1	18	1.84e-05	authoritative_double
robustness_sweep_size_80	4	0	1	18	1.76e-05	authoritative_double
robustness_sweep_size_160	4	0	1	18	1.90e-05	authoritative_double
robustness_sweep_size_320	4	0	1	31	1.40e-05	authoritative_double
performance_scaling_100k_120x30x30	4	0	1	32	1.48e-05	authoritative_double
performance_scaling_250k_160x40x40	4	0	1	21	1.24e-05	authoritative_double

Case	Samples	First iter.	First residual	Last iter.	Last residual	Kind
performance_scaling_500k_200x50x50	4	0	1	29	1.57e-05	authoritative_double
performance_scaling_1M_252x63x63	4	0	1	29	1.43e-05	authoritative_double

Appendix F • Scaling samples

Target	Kind	Backend	Rep.	Iter.	Residual	Wall (ms)	Setup	GPU	Peak RSS	u hash
100k	pipeline_warmup	Metal	-1	2	1.12e-09	45.16	36.1	1.247	60.1 MiB	c06c8e8a30
100k	first_use	Metal	0	32	1.48e-05	253.9	163	62.79	249 MiB	ae8a1290e1
100k	warm	Metal	1	32	1.48e-05	75.99	3.41	51.34	255 MiB	ae8a1290e1
100k	warm	Metal	2	32	1.48e-05	76.75	3.41	51.21	349 MiB	ae8a1290e1
100k	warm	Metal	3	32	1.48e-05	74.58	3.37	51.26	349 MiB	ae8a1290e1
100k	warm	Metal	4	32	1.48e-05	76.37	3.4	52.05	349 MiB	ae8a1290e1
100k	warm	Metal	5	32	1.48e-05	76.38	3.41	51.48	349 MiB	ae8a1290e1
100k	warm	Metal	6	32	1.48e-05	77.4	3.39	51.66	349 MiB	ae8a1290e1
100k	warm	Metal	7	32	1.48e-05	76.84	3.39	51.56	349 MiB	ae8a1290e1
100k	warm	Metal	8	32	1.48e-05	75.65	3.36	51.75	349 MiB	ae8a1290e1
100k	warm	Metal	9	32	1.48e-05	76.64	3.39	51.86	349 MiB	ae8a1290e1
100k	warm	Metal	10	32	1.48e-05	75.61	3.36	51.55	349 MiB	ae8a1290e1
100k	cpu_baseline	CPU	1	516	1.92e-05	1,879	—	—	350 MiB	6e752bb789
100k	cpu_baseline	CPU	2	516	1.92e-05	1,882	—	—	350 MiB	6e752bb789
250k	pipeline_warmup	Metal	-1	2	1.12e-09	49.61	40	1.36	71.8 MiB	c06c8e8a30
250k	first_use	Metal	0	21	1.24e-05	332.9	206	73.4	435 MiB	e363413c20
250k	warm	Metal	1	21	1.24e-05	114.1	7.91	62.11	448 MiB	e363413c20
250k	warm	Metal	2	21	1.24e-05	115.4	7.82	62.68	670 MiB	e363413c20
250k	warm	Metal	3	21	1.24e-05	110.5	7.8	62.41	670 MiB	e363413c20
250k	warm	Metal	4	21	1.24e-05	111.6	7.81	62.54	670 MiB	e363413c20
250k	warm	Metal	5	21	1.24e-05	111.6	7.71	62.37	670 MiB	e363413c20
250k	warm	Metal	6	21	1.24e-05	110.3	7.89	62.37	670 MiB	e363413c20
250k	warm	Metal	7	21	1.24e-05	111.3	7.81	62.28	670 MiB	e363413c20
250k	warm	Metal	8	21	1.24e-05	117.5	7.82	62.54	670 MiB	e363413c20

Target	Kind	Backend	Rep.	Iter.	Residual	Wall (ms)	Setup	GPU	Peak RSS	u hash
250k	warm	Metal	9	21	1.24e-05	112.7	7.86	62.29	670 MiB	e363413c20
250k	warm	Metal	10	21	1.24e-05	114.9	7.86	62.69	670 MiB	e363413c20
250k	cpu_baseline	CPU	1	689	1.98e-05	5,752	—	—	671 MiB	d13b166afa
250k	cpu_baseline	CPU	2	689	1.98e-05	5,783	—	—	671 MiB	d13b166afa
500k	pipeline_warmup	Metal	-1	2	1.12e-09	47.9	38.8	1.172	90.8 MiB	c06c8e8a30
500k	first_use	Metal	0	29	1.57e-05	718.2	440	174.3	810 MiB	1d5366bf09
500k	warm	Metal	1	29	1.57e-05	266.2	15.5	163.3	834 MiB	1d5366bf09
500k	warm	Metal	2	29	1.57e-05	275.8	15.3	162.1	1.24 GiB	1d5366bf09
500k	warm	Metal	3	29	1.57e-05	269.7	15.2	164.4	1.24 GiB	1d5366bf09
500k	warm	Metal	4	29	1.57e-05	264.2	15.9	162.6	1.24 GiB	1d5366bf09
500k	warm	Metal	5	29	1.57e-05	260.2	15.4	161.9	1.24 GiB	1d5366bf09
500k	warm	Metal	6	29	1.57e-05	261.4	15.4	161.8	1.24 GiB	1d5366bf09
500k	warm	Metal	7	29	1.57e-05	260.8	15.1	162.2	1.24 GiB	1d5366bf09
500k	warm	Metal	8	29	1.57e-05	263.6	15.2	161.7	1.24 GiB	1d5366bf09
500k	warm	Metal	9	29	1.57e-05	262.8	14.9	161.4	1.24 GiB	1d5366bf09
500k	warm	Metal	10	29	1.57e-05	264.2	15.1	161.6	1.24 GiB	1d5366bf09
500k	cpu_baseline	CPU	1	861	1.95e-05	13,224	—	—	1.24 GiB	7e021ba93a
1M	pipeline_warmup	Metal	-1	2	1.12e-09	55.04	45.2	1.349	130 MiB	c06c8e8a30
1M	first_use	Metal	0	29	1.43e-05	1,311	812	312.1	1.51 GiB	cfec696715
1M	warm	Metal	1	29	1.43e-05	521.4	30.6	313.6	1.55 GiB	cfec696715
1M	warm	Metal	2	29	1.43e-05	531.8	30.3	312.7	2.4 GiB	cfec696715
1M	warm	Metal	3	29	1.43e-05	513.6	30.9	306.6	2.4 GiB	cfec696715
1M	warm	Metal	4	29	1.43e-05	511.7	31.2	303.7	2.4 GiB	cfec696715
1M	warm	Metal	5	29	1.43e-05	508.4	30.1	303.3	2.4 GiB	cfec696715
1M	warm	Metal	6	29	1.43e-05	512	31.3	303.2	2.4 GiB	cfec696715
1M	warm	Metal	7	29	1.43e-05	510.4	31	302.9	2.4 GiB	cfec696715
1M	warm	Metal	8	29	1.43e-05	507.5	29.8	303.2	2.4 GiB	cfec696715
1M	warm	Metal	9	29	1.43e-05	507.3	31.3	303	2.4 GiB	cfec696715
1M	warm	Metal	10	29	1.43e-05	506.1	30.5	303	2.4 GiB	cfec696715
1M	cpu_baseline	CPU	1	1085	1.93e-05	34,929	—	—	2.4 GiB	3ae90c71fc