

SUBCRITICAL SYSTEMS · JOB OPPORTUNITY

Electrical Engineer – Cryomodule



Department *Engineering*

Posted *September 24, 2026*

Location *Austin, TX*

Employment *Full Time*

ABOUT SUBCRITICAL SYSTEMS

Subcritical Systems, Inc. is a venture-backed startup in Austin, Texas building the accelerator driven systems and the only US commercial manufacturer of accelerator cavities. What Space X did for rockets, we plan to do for accelerator cavities and commercialize across applications of power production, medical isotopes, semiconductors and waste transmutation.

We are in the process of building the Energy Amplifier — a novel nuclear fission system in which a particle accelerator drives a subcritical core, making meltdown physically impossible for clean power production. Due to its inherent safety, our system has a more streamlined licensing process. Our founding team includes successful entrepreneurs with a track record of building several multibillion dollar companies in deep-tech, and scientists who were leading U.S. national labs with deep experience in accelerator & nuclear technologies.

We are actively hiring to expand our team as we work toward licensing, regulatory submissions, and construction of our first energy amplifier. More information is available at subcritical.com.

ROLE SUMMARY

This role leads the electrical engineering of Subcritical Systems' AI driven SRF cryomodules encompassing the radio-frequency, magnet, diagnostics, and instrumentation systems that power, focus, and monitor the beam through our superconducting cavities. These systems include high-power RF delivery and fundamental power couplers matched to high-Q resonant cavities, superconducting focusing magnets with their current leads and DC power supplies, cold beam position monitors, and cryomodule instrumentation along with the interlocks that protect this hardware in operation. You will be the technical authority for cryomodule electrical systems, working closely with SRF, cryogenic, mechanical, controls, and manufacturing engineers to carry designs from concept through fabrication, cold testing, and commissioning.

You'll also feed your engineering judgment, physical constraints, and test data into ATLAS, our internal AI-assisted engineering platform, and review its outputs before they reach detailed design or the shop floor.

KEY RESPONSIBILITIES

- Own the cryomodule's electrical engineering scope: design, fabrication, AI implementation, assembly and commissioning.
- Design and specify high-power RF systems.

- Specify superconducting magnets, current leads, DC power supplies, and quench protection for the cryomodule.
- Develop beam position monitors and cryomodule instrumentation, including signal chains, cold cabling and feedthroughs, and readout electronics.
- Define interlocks and equipment protection for couplers, cavities, and magnets; and integrate these systems with LLRF and the control system.
- Develop schematics, specifications, and test procedures; commission and troubleshoot hardware; and feed results back into future designs.
- Translate validated models and test data into ATLAS, review its design outputs before they proceed to fabrication or testing, and promote a proactive safety culture, including electrical safety and LOTO.

QUALIFICATIONS

Required

- Bachelor's degree in Electrical Engineering, Physics, or a related discipline; master's degree preferred.
- 3+ years of electrical engineering experience on accelerator, RF, or power systems, or 6+ years of broader professional electrical engineering experience.
- System-level expertise in at least one of: high-power RF and couplers, Low Level RF, magnet power supplies and power conversion, or beam diagnostics electronics.
- Working knowledge of resonant cavity coupling, transmission lines, and analog and digital circuit design.
- Hands-on use of RF and electronic test equipment (network and spectrum analyzers, oscilloscopes, power meters) and the ability to work from schematics and interface documents.
- Understanding of high-voltage and RF safety and LOTO, and the ability to produce clear specifications, design reports, and test plans.

Preferred

- Experience with SRF cavities, magnets, cryomodules, or particle accelerators, including couplers, tuners and piezo control, and/or cryogenic beam position monitors.
- Experience with FPGA firmware (VHDL/Verilog, Xilinx), and Python or C++ for instrumentation and data acquisition.
- Experience with PLC-based interlocks and equipment protection, and EPICS or similar control systems.
- Familiarity with computational design tools, simulation-driven optimization, or AI-assisted engineering workflows, including evaluating their outputs with sound engineering judgment.

BENEFITS

Benefits: We offer health, dental, and vision insurance.

LOCATION & WORK POLICY

This role is fully in person in Austin, Texas. Our facility is located next to Austin Airport.

HOW TO APPLY

Apply on LinkedIn or submit your resume and a brief cover letter to careers@subcritical.com with the subject line "Electrical Engineer – Cryomodule - Application". Applications are reviewed on a rolling basis.