***Covid-19 Notice: Our current and future employees' health and safety, and that of their families, is paramount. With the continuing impacts of COVID-19 worldwide, we are taking action to protect the health and well-being of our team members and the communities where we operate. As a federal contractor, and consistent with *Executive Order 14042*, we require all newly hired employees in the United States to be fully vaccinated by their start date, subject to approved ADA, EEO, or Title VII exemptions. ****

# Electrical Power Engineer or Experimental Physicist

# w/ Emphasis in Radio Frequency (RF) Power

Ad Astra Rocket Company is looking for a full-time Electrical Power Engineer or qualified Experimental Physicist to support the VASIMR® Technology Maturation Program at its Webster, TX, location. Candidates must be US Citizens or Permanent Residents and must have demonstrated the ability to work as a member of a diverse and multidisciplinary team. The position requires leadership, initiative, organization, attention to detail, motivation, and ability to address a diverse set of tasks with diligence, efficiency, and enthusiasm. The R&D nature of Ad Astra's operation calls for a great deal of creativity and flexibility solving engineering problems in materials, thermal management, and radio frequency (RF) wave coupling in fully-magnetized plasmas. Collaboration and teamwork are essential attributes in a small research team environment with a collective approach to problem-solving.

**Benefits:**

- PTO starting at 120 hours
- 8 scheduled holidays plus the 4 business days between Christmas & New Year's Day
- Jury duty leave, bereavement leave, voting leave, and coronavirus leave all covered
- Medical Insurance
- Dental Insurance
- Basic Life and Accidental Death & Dismemberment (AD&D) Insurance,
- Long-Term Disability (LTD) Insurance.
- Aflac Supplemental Insurance for Critical Illness & Accident Event.
- Health Savings Option (HSA)
- 401(k) Plan with company match up to 3% of the employee's annual salary
- Tuition Reimbursement

**Applicants must meet the following minimum requirements:**

- MS in Electrical Engineering, Experimental Plasma Physics or other equivalent degree or higher (BS accepted with 7 years of experience)
- More than 3 years of experience, preferably working in a RF power development or RF plasma physics environment
- Experience with high-voltage DC and AC circuits

- Knowledge and experience in electrical safety, best practices, and protocols
- Thorough familiarity with RF circuits and Smith Charts
- Knowledge of specialized tools and methods related to RF circuit design and testing
- Proficiency with analog circuits
- Experience with electrical schematic software. Able to read and create new schematics for electrical systems and maintain old schematics using various software programs
- Hands-on experience with laboratory diagnostics, test equipment, and hand tools
- Thorough familiarity with best engineering practices for aerospace grounding, shielding of wire harnesses, and EMI/EMC.
- Excellent written and verbal English communication skills
- Must be a US Citizen or Permanent Resident
- Must provide 2 references from a previous employer or employers
- Must be proficient in MS Word, Excel, PowerPoint, Gmail, Google calendar as well as the general suite of scientific and engineering computer tools (i.e. LabVIEW, MATLAB, etc.)

**Additional desired skills:**

- Soldering experience
- Digital circuit and/or FPGA experience
- Printed circuit board (PCB) layout
- General familiarity with PCB assembly design tools, methods, quality standards and relevant documentation
- Experience working with or around laboratory plasmas, RF discharges, and matching circuits
- Familiarity with low-temperature and high-temperature superconducting systems
- Experience with cryogenic systems engineering, operation, best practices, and maintenance
- Design experience for vacuum systems and the space environment
- Integrate measuring instruments such as sensors and displays into instrumentation control systems
- Familiarity with processes and systems related to product lifecycle and product data management would be considered an asset.
- Spaceflight or aircraft hardware experience is highly desirable.
- Familiarity with US Export Control and International Trade in Arms Regulation (ITAR) requirements

**Main Responsibilities:**

- Install, maintain, tune, and test high-power laboratory RF equipment.
- Design integrating elements of the company's high-power RF systems and oversee their fabrication and test.
- Become familiar and support all laboratory equipment and instrumentation operations and contribute to the development of high power (100 kW and greater) radio frequency driven plasma devices for the space environment.

- Aid in providing innovative solutions to the company's research and development efforts on high-power RF-driven plasma rockets and associated technologies (including arc protection methods), design new or modify existing RF matching circuits, and work with state-of-the-art solid-state RF hardware.
- Work closely with, or in some cases lead, elements of the design team. The work environment will be highly integrated and cross-disciplinary, calling for coordinated work with other team members developing electrical, mechanical, and software modules as well as project managers, suppliers and contract manufacturers during design and delivery of prototypes and custom equipment.

*This is not an exhaustive list of all duties and responsibilities. Ad Astra Rocket Company reserves the right to amend and change responsibilities to meet business and organizational needs as necessary.*

**Physical Requirements:**

- Ability to lift up to 50 lbs. (i.e. instruments, books, equipment, small devices, and supplies)
- Ability to stand or be seated for long periods of time
- Stooping, reaching, climbing, working on a ladder, and bending may be periodically required

**Company Overview:**

Ad Astra Rocket Company (Ad Astra) is a small US R&D company dedicated to the development of advanced plasma rocket technology for in-space transportation. The company headquarters and main laboratory are located in the city of Webster, TX. Ad Astra also owns and operates a small subsidiary, located in Costa Rica, that is primarily focused on developing and implementing clean energy solutions for both stationary and mobile applications. Although our company is small it does manage an international presence with renewable energy projects growing all throughout Latin America and our well-established professional relationships with the global space community.

Our team culture is collaborative, family-like and collegial in its interactions. We thrive on mutual respect and professionalism and offer ample opportunity for career growth. We are passionate about our mission and believe deeply in the value of the technology we are developing. If you value hard work and collaborating with people who are very enthusiastic about what they do, look no further.