

Research Engineer

GENERAL DESCRIPTION

Ad Astra Rocket Company is testing its prototype 200 kW VASIMR[®] engine inside the company's large vacuum chamber. This position will support several aspects of those engine tests in an engineering and laboratory environment including its high-power RF generators. Other engineering, research and development efforts will also be required. The company follows an iterative team approach for research and development with strong consideration for all aspects of design, manufacturing and testing.

ESSENTIAL JOB FUNCTIONS

- Working effectively in a team environment with other engineers, physicists, and manufacturing experts to ensure that parts and systems can be effectively designed, manufactured, assembled, and tested.
- Compliance with, and assistance in the establishment of safe operating practices in the laboratory.
- Assisting with design, implementation, and monitoring of RF power coupling components and the RF generators for prototype VASIMR[®] engines. These duties will involve both electrical and thermal evaluation. Electrical testing will require the use of an Agilent network analyzer and Smith Charts. Open and/or closed loop feedback control may be required using various communication protocols.
- Assisting with the design and monitoring of plasma and thrust diagnostics for operation inside the large vacuum chamber during test firings of prototype VASIMR[®] engines.
- Creating and maintaining electrical schematic documentation for the laboratory.
- Managing and maintaining cable labeling and routing standards.
- Collecting and analyzing laboratory data and implementing systems control primarily using LabView and Matlab.
- Writing and maintaining technical documentation.
- Finding and assisting with the development of new contract opportunities for the company including the development of the statement of work and cost estimates for those contracts.
- Ad Astra is a small company and all employees must be willing to do a wide variety of jobs ranging from technical work to public relations to mopping floors when necessary to meet company goals.

KNOWLEDGE, SKILLS AND ABILITIES

- Excellent organizational skill, with software configuration control.
- Schematic capture software experience.
- Familiarity with RF or power electronics.
- Experience with National Instruments data acquisition and control hardware.
- 2+ years of industrial or laboratory experience Vacuum systems knowledge and skills.
- Creative, innovative thinking and solutions oriented-team member

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.

WORKING CONDITIONS

Physical Demands:

- In general, the following physical demands are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to allow differently-abled individuals to perform the essential functions of the job.
- Must be able to lift large objects more than 50 pounds, bend, stretch and stand for extended periods of time, climb stairs, reach, twist, sit, walk, and/or run.

Work Environment:

- In general, the following conditions of the work environment are representative of those that an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to allow differently-abled individuals to perform the essential functions of the job within the environment.
- Specific vision abilities required include close vision, distance vision, color perception, depth perceptions, and the ability to adjust focus.
- Hazards such as those encountered in substation environments, such as the presence of high voltage, and other sources of electrical shock may be encountered. May be required to use Personal Protection Equipment (PPE): hard hats, safety boots, ear protection, safety glasses, fall restraint, and FR clothing.

EDUCATION

- Bachelors or Master's degree in electrical engineering, physics or related sciences.
- 2+ years of industrial or laboratory experience.

Ad Astra Rocket Company provides equal employment opportunities to all employees and applicants for employment without regard to race, color, religion, gender, sexual orientation, nationality or origin, age or disability.