



Job Title: Intern, Ion Source Development

Location: Schlumberger Doll Research (SDR), Cambridge, MA, USA

Duration: minimum 3 months, possible maximum of 6 months

Job Description

The proposed internship will assist us in the development of a microwave driven ion source for the next generation of pulsed neutron generators (PNGs) for the downhole logging environment. This compact highly efficient source will ionize hydrogen gas and produce an ion beam which will be accelerated to 100 keV and undergo nuclear fusion reactions on a target. The resulting high energy neutrons are used for a suite of formation evaluation measurements.

We are in the development phase of this technology and there are interesting opportunities for candidates with various competencies. The following are potential projects for interns, although other projects are possible. An experimental physicist is needed for the design and testing of the magnetic field configuration. A plasma theorist is needed to develop a simulation to describe the electron cyclotron resonance process and rf-plasma interaction in this compact source. An electrical engineer is required for the design and development of the microwave drive circuit. Finally, a mechanical engineer may be required for evaluation of the source performance under downhole and logging conditions (high temperature, shock and vibration).

Responsibilities

- Magnetic field design and evaluation
- Plasma-rf interaction modelling
- Design of the microwave drive board
- Mechanical design of the downhole source

Qualifications

- MS or PhD in Physics, Electrical Engineering or Mechanical Engineering is required.
- A background in microwave electronics or plasma physics desirable for some of the responsibilities.

About Schlumberger

Schlumberger Doll Research (SDR) is a premiere research institute of Schlumberger Ltd. Located in Cambridge, Massachusetts, a major hub of science and technological innovation in the US, SDR is in close proximity to MIT and Harvard as well as many other academic and private institutions working at the forefront of numerous disciplines. The associated project is supported in the Sensor Physics Department where numerous technologies are being developed, including devices based on nuclear, plasma, NMR, acoustic and electromagnetic techniques.

Schlumberger is the world's leading supplier of technology, integrated project management and information solutions to customers working in the oil and gas industry worldwide. Employing more than 105,000 people representing over 140 nationalities and working in approximately 85 countries, Schlumberger provides the industry's widest range of products and services from exploration through production. Schlumberger has always invested significant time and money on R&E as a long-term strategy to support and grow its technology leadership. Schlumberger invests more each year in R&E than all other oilfield services companies combined.

Schlumberger is an equal employment opportunity employer. Qualified applicants are considered without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability, status as a protected veteran or other characteristics protected by law.

Schlumberger is a VEVRAA Federal Contractor – priority referral Protected Veterans requested.

Contact

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