2024.03.25

JOB DESCRIPTION

High-Energy Laser Engineer

LOCATION

Carlsbad, California (with temporary initial activities in Austin, Texas)

IMPACT

TAU Systems is growing and looking for a high-energy laser engineer to develop laser systems operating at high energies, high peak powers, and/or high average powers incorporating new physics models and new technologies. As a high-energy laser engineer, you will work in a fast-paced environment to design, develop, and test high-energy lasers for various applications, including laser-driven particle acceleration and free-electron lasers. You will have the opportunity to work closely with a team of experienced engineers in one of the most innovative companies in the field of laser-driven particle accelerators, where you can contribute to the development of a technology that has the potential to transform scientific research and industrial applications.

RESPONSIBILITIES

- Support the company's development of high-energy laser systems.
- Lead the hands-on construction and development of prototype laser systems.
- Simulate pulse propagation in ASLD, Miró, fiberdesk or homemade MATLAB or Python programs. Develop optical sub-systems using Zemax software.
- Operate, maintain, and upgrade ultrashort pulse laser systems.
- Interact with key suppliers on custom laser systems development.
- Collaborate with our laser wakefield acceleration scientists, engineers, and theory and computational team, to develop integrated company products and services.

REQUIRED QUALIFICATIONS

- Bachelor's degree or higher in Physics, Electrical Engineering, or a related field.
- Experience with pulsed, high-power, and high-energy laser systems (preferably CPA systems), their associated pump sources.
- Proficiency in lasers alignment and hands-on optical system setup, as well as experience in pulsed laser diagnostics for qualification and optimization.

- Experience in using high-level software tools like Zemax, CodeV, ASLD, fiberdesk or Miró for lens design as part of an optical systems and simulating light propagation and amplification in matter.
- Ability to work in an interdisciplinary team and communicate technical concepts effectively.
- Willingness to work on-site most of the time.
- Excellent verbal and written communication skills.
- Authorized to work in the USA.

DESIRED ADDITIONAL SKILLS

- Chirped-Pulse Amplification system design and setup (stretcher/compressor and amplifiers).
- Hands on experience with vacuum systems, cryogenic cooling, electronic data acquisition, laser stabilization or pulse-picking (RF technologies).
- Experience in simulations and programming with Python, Matlab, COMSOL or CAD programs (for opto-mechanical design FreeCAD, Autodesk Inventor or Solidworks).

ADDITIONAL INFORMATION

- This is a full-time appointment.
- TAU Systems offers a comprehensive compensation and benefit package with stock options, holidays and paid time off, medical, dental, vision, and life insurance and 401(k) retirement plan with company matching.
- Base annual salary range: $70,000 to $200,000.
- TAU Systems is an Equal Opportunity Employer.
- Send resume and cover letter to careers@tausystems.com