

Job Description

THz Research Associate - Experimental

Job ID

4501

Location

SLAC - Menlo Park, CA

Full/Part Time

Full-Time

Regular/Temporary

Temporary

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SLAC Job Postings

Position Overview:

The Accelerator Directorate (AD) of the SLAC National Accelerator Laboratory has an opening for a research associate to work on the effective coupling of high-repetition rate accelerator-based THz sources with X-rays on LCLS-II. In particular, the position will focus on the design, implementation and testing of optical subsystems and novel waveguides in a laser lab using laser-based THz sources, with the goal of demonstrating the efficient transport of radiation between 3 to 30 THz over long distances (tens to hundreds of meters) for LCLS-II. There are also opportunities to participate in onsite THz and FEL experiments and to design the long transport of THz radiation from a dedicated THz wiggler to the LCLS-II experimental stations. This position offers the opportunity to gain valuable experience in the intersecting disciplines of accelerator science, THz, X-ray and optical lasers. The position is a 2-year term that may be renewed for the third year contingent on project funding.

Note: Due to COVID-19 related curtailment of on-site activities, the job duties for this position may be required to be performed from home until full site-access is restored. Given the nature of this position, SLAC is open to both telecommuting and remote work options.

The main responsibilities of this role are:

- Support the design and perform simulations of optical guide and Iris-lined waveguide for THz transport modules.
- Support the laser and diagnostics upgrades of a laser lab for THz sources and studies.
- Perform the tasks necessary to carry out the experimental characterizations of these two types of THz transport methods in the laser lab.
- Perform analysis of all data collected.
- Disseminate results through publication, presentation and conference participation.
- Connect the studies to the future plans of building long THz transport modules from the LCLS Undulator Hall to the Near and Far Experimental Halls.
- Any additional duties as may reasonably be required within the general scope of the position.

To be successful in this position you will bring:

- Ph.D. in physics, or related field.
- Strong background in lasers, optics and accelerators as demonstrated through publication and conference history.
- Demonstrated knowledge with waveguides and microwaves or with far-infrared radiation.
- Demonstrated knowledge with Gaussian optics and numerical codes such as VirtualLab Fusion or Zemax.
- Commitment to developing expertise in FELs and photon science.
- Ability to learn and understand a broad range of hardware and software.
- Excellent data processing and analysis skills.
- Flexibility to travel and work off-shift hours when required.
- Good communication, organization and interpersonal skills.
- Ability to work well in a large, multi-disciplinary team focused on laser and accelerator physics, operation and development.

SLAC employee competencies:

- **Effective Decisions:** Uses job knowledge and solid judgment to make quality decisions in a timely manner.
- **Self-Development:** Pursues a variety of venues and opportunities to continue learning and developing.
- **Dependability:** Can be counted on to deliver results with a sense of personal responsibility for expected outcomes.
- **Initiative:** Pursues work and interactions proactively with optimism, positive energy, and motivation to move things forward.
- **Adaptability:** Flexes as needed when change occurs, maintains an open outlook while adjusting and accommodating changes.
- **Communication:** Ensures effective information flow to various audiences and creates and delivers clear, appropriate written, spoken, presented messages
- **Relationships:** Builds relationships to foster trust, collaboration, and a positive climate to achieve.

Physical requirements and Working conditions:

- Consistent with its obligations under the law, the University will provide reasonable accommodation to any employee with a disability who requires accommodation to perform the essential functions of his or her job.

Work standards:

- **Interpersonal Skills:** Demonstrates the ability to work well with Stanford colleagues and clients and with external organizations.
- **Promote Culture of Safety:** Demonstrates commitment to personal responsibility and value for environment, safety and security; communicates related concerns; uses and promotes safe behaviors based on training and lessons learned. Meets the applicable roles and responsibilities as described in the ESH Manual, Chapter 1—General Policy and Responsibilities: <http://www-group.slac.stanford.edu/esh/eshmanual/pdfs/ESHch01.pdf>
- Subject to and expected to comply with all applicable University policies and procedures, including but not limited to the personnel policies and other policies found in the University's Administrative Guide, <http://adminguide.stanford.edu>

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**Classification Title:** Research Associate-Experimental

**Grade:** NA

**Job code:** 0127

**Duration:** Fixed Term