Elettra Sincrotrone Trieste

Postdoctoral Research Associate Position at EIS-TIMER Beamline

Deadline: 31 January 2024
Ref: DB/23/47

Background

Elettra Sincrotrone Trieste is an international multidisciplinary research center operated as a user facility, featuring a 2.0/2.4 GeV, third-generation synchrotron light source (Elettra), a new free-electron laser light source (FERMI) and a variety of support laboratories. The extremely high quality of the machines and beamlines has set new performance records and has been producing results of great scientific and technological interest. In order to allow the laboratory to remain competitive in the next 20 years, an entirely new source - Elettra 2.0 - belonging to the new generation of storage rings (DLSR or Diffraction Limited Storage Ring) is being developed. Existing beamlines will have to be upgraded and new beamlines developed to take full advantage of the characteristics of Elettra 2.0. The new machine is scheduled for commissioning in the second half of 2026. See http://www.elettra.eu for more information.

Beamline/Activity/Project description

The EIS-TIMER beamline, located at the FERMI FEL, is purposely designed for performing transient grating (TG) experiments in the extreme ultraviolet (EUV) and soft x-ray range, with the aim of investigating condensed matter dynamics at the nanoscale and the outlook of developing a broader set of soft x-ray four wave mixing (XFWM) spectroscopies. Comprehensive information on the beamline can be found at: www.elettra.eu/lightsources/fermi/fermi-beamlines/eis-timer/eis-timer.html .

The user community and the staff of the beamline have a strong record of publishing high profile scientific results. At present the main topics are, ultrafast magnetic dynamics, phonons and thermal transport at the nanoscale.

Job description

The postdoctoral position at the EIS-TIMER beamline offers a unique opportunity for researchers aiming to make significant contributions to experimental research in EUV TG. Possible research projects, recently started via explorative EUV TG measurements, encompass the development of self-diffraction spectroscopy and the study of the nonlinear mechanical response of surfaces and thin films. The role demands a proactive approach to supporting beamline users through every phase of their activity at the beamline, from preparing the experimental set-up to conducting complex data analysis and writing scientific manuscripts. Active participation in maintenance and upgrade activities of the beamline and experimental end-stations is expected. In addition the postdoctoral researcher is expected to develop his/her own original research projects, mainly based on (but not limited to) EUV TG.

Qualifications

A Ph.D. in Physics, Chemistry or a related discipline is required. The candidate must not have more than 6-years of total postdoctoral experience in academic institutions or private companies. Applications will be considered also from candidates who have completed a doctoral course of studies and for whom the defense has been scheduled. In any case, the Ph.D. must be awarded by the end of February 2024.

A solid background in FEL or synchrotron experimental methods, EUV/x-ray instrumentation, or table-top time-resolved methods based on optical lasers, supported by a publication record commensurate with career advancement, is expected.

Any of the following qualifications will be considered as an additional asset (please indicate relevant publications or thesis):

- Research experience in the fields of transport processes, non-linear optics, magnetism, strongly correlated materials or amorphous solids (especially dynamics).

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- Use and basic maintenance of pulsed laser systems and optical setups.
- Participation in experimental campaigns at synchrotron/FEL user facilities, or table-top laser experiments.
- Programming skills in Python or Matlab, including interfacing of instruments.
- Demonstrated ability in computational physics or data processing.

The successful candidate should possess strong interpersonal skills favoring collaborative research programs in a team-oriented environment.

Good time management skills and ability to prioritize are expected, together with the ability to interact with the facility staff and international users at all levels, and to work as part of a multi-disciplinary team.

Good oral and written communication skills in English are essential.

The deadline for the submission of the application is January 31, 2024.

The appointment will be a fixed term contract with an initial duration of 12 months. The salary will be commensurate with previous experience and qualifications of the candidate.

Applications should include the candidate's full curriculum vitae, the names and contact information (including electronic mail) of up to two persons who have agreed to provide references.

In accordance with the provisions of article 21 of the Italian legislative decree no. 39/2013 and in conjunction with article 53 (subsection16ter) of Italian legislative decree no. 165/2001, employees or former employees of any Italian Public Entity who have exercised authority over Elettra Sincrotrone Trieste S.C.p.A. or have negotiated with Elettra - Sincrotrone Trieste S.C.p.A. within the last three years will be excluded from the present selection procedure.We thank all applicants in advance.
For more information, please contact Filippo Bencivenga (email: filippo.bencivenga@elettra.eu).

To apply for this position please visit the following link:
https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=3682