Elettra Sincrotrone Trieste

Postdoctoral Research Associate at BaDElPh

Deadline: 18 February 2024
Ref: DB/23/45

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. The new source will exhibit a major increase in the brilliance and coherence fraction of the photon beams. The Elettra 2.0 optics is based on our enhanced symmetric six bend achromat structure (S6BA-E) with a 12-fold symmetry and an emittance of 200 pm-rad at 2.4 GeV. The new structure creates also straight sections in the arcs permitting the installation of additional insertion devices, thus increasing the number of beamlines. 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 BaDElPh beamline at Elettra provides photons in the 4.6 - 40 eV energy range with high flux and energy resolution, and variable linear polarization. The beamline end-station is primarily devoted to high-resolution, angle-resolved photoelectron spectroscopy (ARPES).

The research carried out by the beamline staff focuses on the study of the electronic structure and many-body effects in solid materials using bulk-sensitive photoemission and ARPES with high energy and high momentum resolution. These activities are performed by exploiting the capabilities presently offered by the beamline and by further developing the instrumentation in order to accomplish the most challenging experimental needs.

Seehttp://www.elettra.eu/elettra-beamlines/badelph.htmlfor more information

Job description

The successful candidate will work in close collaboration with the beamline staff on research subjects such as the electronic structure of 2D materials, high Tc superconductors and topological insulators. It is expected and encouraged that she/he contributes actively to the in-house and external user research. Further, she/he will be involved in the operation, maintenance and upgrade of the BaDElPh beamline and experimental station.

Qualifications

A Ph.D. in Physics or 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 December2023.

Proven experience in the following techniques is required:

- high-resolution angle-resolved photoemission spectroscopy (ARPES) and/or Spin-resolved ARPES

The following additional qualifications will be positively evaluated:

- Previous participation in experiments at synchrotron radiation facilities
- Experience in VUV/soft-X-ray photoelectron spectroscopy

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- Experience in surface science preparation techniques and thin film growth
- Experience in the operation and construction of scientific equipment relevant to UHV systems or for synchrotron beamlines
- Programming skills in LabView and/or Igor Pro, with demonstrated ability in 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.

General information

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 a full curriculum vitae, the names and contact information (including electronic mail) of up to three persons who have agreed to provide references.

The interviews may be held via video conferencing.

The deadline for the submission of the application is February 18, 2024.

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 Luca Petaccia (email: luca.petaccia@elettra.eu).

To apply for this position please visit the following link:
https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=3661