



Elettra Sincrotrone Trieste

Magnet Physicist/Engineer Position

Deadline: 9 March 2021

Ref: GA/21/3

Company description

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. See <http://www.elettra.eu> for more information.

Beamline/Activity/Project description

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 as compared with the present. The Elettra 2.0 optics is based on our enhanced symmetric six bend achromat structure (S6BA-E) with 12-fold symmetry and an emittance of 200 pm-rad at 2.4 GeV. The new lattice creates additional 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.

Job description

The selected candidate will be part of the team in charge of the definition, development, prototyping and measurement of the magnets of Elettra 2.0. He/she will participate in all activities related to the characterization of the field strength, alignment and quality of prototype and series magnets. This will involve organizing and maintaining the measurement equipment, taking care of the different systems involved: mechanical, electromechanical and electronic ones. He/she will collaborate in the magnetic measurements and post processing of the results and data analysis. All activities will be done in close collaboration with magnet designers, manufacturers and beam physics specialists.

Qualifications

A university degree in Electronic Engineering, Mechanical Engineering, Mechatronic Engineering or Physics is required.

The following technical skills are essential:

- sound knowledge of low frequency electromagnetism;
- knowledge of measurements techniques (electromagnetic field components);
- familiarity with metrology techniques or mechanical mapping.

The following technical skills would be considered an advantage:

- familiarity with accelerator physics or electronics;
- proven experience in serial magnetic measurement activities related to the supply of batches of magnets for accelerators, including the use of alignment systems (laser tracker and 3D survey);
- good skills in programming and automation systems;
- familiarity with programming language as Matlab and Python and with the main CAD tools and simulation software tools.

Elettra - Sincrotrone Trieste S.C.p.A.

S.S. 14 Km 163,5 in Area Science Park
34149 Basovizza, Trieste, Italy
T. +39 040 37581
F. +39 040 938 0903

P.IVA e C.F. IT00697920320
Cap. Soc. € 47.632.663,00 i.v.
PEC: sincrotrone.trieste.elettra@legalmail.it
www.elettra.eu

Iscritta al Registro delle Imprese di Trieste
Società di interesse nazionale
ai sensi dell'art. 10, comma 4,
L. 19 ottobre 1999 n. 370

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

Good oral and written communication skills in English are essential.

Good oral and written communication knowledge of the Italian language is highly desirable, but it is not required.

The type of contract (permanent or fixed term), duration, level and remuneration will depend on the qualifications of the selected candidate.

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

The deadline for the submission of the application is March 9, 2021.

In accordance with the provisions of article 21 of the Italian legislative decree no. 39/2013 and in conjunction with article 53 (subsection 16ter) 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 Davide Castronovo (email: davide.castronovo@elettra.eu).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=1721>

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