Accelerators | Photon Science | Particle Physics

Deutsches Elektronen-Synchrotron
A Research Centre of the Helmholtz Association

INTERSTELLAR MATTER.

DESY, Hamburg location, is seeking:
PhD. Student (f/m) Ultrafast dynamics studies using free electron lasers

DESY
DESY is one of the world's leading research centres for photon science, particle and astroparticle physics as well as accelerator physics.

We are seeking a PhD candidate for investigating photo-reactions of organic molecules, which were discovered in interstellar space. The interstellar medium is a highly reactive environment, as the molecules are exposed to strong ionizing radiation. Fragmentation and formation of molecules are competing processes. This interstellar chemistry is important for the understanding of galactic dust clouds, the precursors of stars. The aim will be to perform lab-based experiments to probe molecular re-arrangement and fragmentation processes of these molecules, which typically occur on femtosecond timescales after ionization. Our experiments are performed at free electron laser facilities, for example the Free- Electron laser at Hamburg (FLASH). To study the underlying molecular dynamics of these molecules time resolved pump-probe type experiments are carried out. Using ultrafast lasers femtosecond time resolution is achieved and which allows to follow the molecular dynamics in real-time. The study is a collaborative effort between the DESY groups FS-LA: Laser Science and Technology and FS-SMP: Spectroscopy of Molecular Processes.

The position
- Conduct femtosecond pump probe experiments at Free-Electron lasers in large international collaborations
- Analyse and interpret the experimental data and publish the results
- Develop experimental setups at the soft x-ray Free-Electron Laser FLASH

Requirements
- Master degree in Physics or Physical Chemistry
- Knowledge of nonlinear optics, molecular physics, experimental physics
- Beneficial: Experience in time-resolved pump-probe experiments and data analysis techniques
- Ability to communicate efficiently in English

For further information please contact Dr. Bastian Manschwetus +49-40-8998-6093 (bastian.manschwetus@desy.de).

The position is limited to 3 years.
Salary and benefits are commensurate with those of public service organisations in Germany. Classification is based upon qualifications and assigned duties. Handicapped persons will be given preference to other equally qualified applicants. DESY operates flexible work schemes. DESY is an equal opportunity, affirmative action employer and encourages applications from women. Vacant positions at DESY are in general open to part-time-work. During each application procedure DESY will assess whether the post can be filled with part-time employees. There is a bilingual kindergarten on the DESY site.

We are looking forward to your application quoting the reference code preferably via our electronic application System: Online-Application
Deutsches Elektronen-Synchrotron DESY
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Email: recruitment@desy.de
Deadline for applications: 22 November 2017
www.desy.de