

Vacancy

Reg.-No. 318/2018

Deadline: 30.11.2018



**FRIEDRICH-SCHILLER-
UNIVERSITÄT
JENA**

At the Institute of Applied Physics of the Physics and Astronomy Faculty at the Friedrich Schiller University Jena the following position concerning

Multispectral XUV Imaging
is to be filled as soon as possible:

Research Assistant, PhD (male/female) (TV-L E13, 75%)

The combination of high photon flux high harmonic sources and coherent diffractive imaging techniques have recently enabled high-resolution imaging, which is of interest for many applications in physics, engineering and life-sciences. Unfortunately, coherent diffractive imaging requires monochromatic illumination. Thus, a large fraction of the broadband high order harmonics usually remains unused. Fourier-Transform Spectroscopy (FTS) will change this situation completely, since it will allow utilizing the complete harmonic spectrum for nanoscale imaging. This will dramatically reduce the measurement times, due to the Multiplex advantage of FTS, and at the same time provide spectral information about the samples on a few-ten nanometer scale. For this purpose, an XUV-Fourier-Transform Spectrometer will be setup and combined with a dedicated broadband XUV coherent imaging end-station.

With this unique apparatus nanoscale mapping of the chemical composition of complex samples will be feasible due to the multiple characteristic absorption edges in the XUV and soft X-ray region. It will enable unique insights into complex nano-scale samples, such as modern nanomaterials, integrated circuits or biological cells. In future, this method will be extended to 3D and time-resolved imaging.

The successful candidate will work at the Institute of Applied Physics in close collaboration with the Helmholtz Institute Jena. The available infrastructure includes world-leading XUV sources, nanoscale imaging systems and the corresponding instrumentation.

Prerequisite is a diploma or master's degree in physics, ideally combined with first experience in the field of atomic physics, laser physics, strong field physics, imaging, digital optics or related fields. Social skills and the ability to work in a team are mandatory.

We offer:

This Ph.D. topic offers you the opportunity to explore fascinating physics with cutting-edge technology. The developed techniques will find applications in many fields of science and technology. Furthermore, we can offer the following:

- an exciting field of activity with creative leeway
- attractive fringe benefits, e.g. Capital Assets, Job Ticket (benefits for public transport), occupational pensions (VBL)
- the pay scale follows the wage agreements for public employees of federal German states (TV-L E13, 75%)
- university health promotion and a family-friendly working environment with flexible working hours

The position is initially limited to 3 years. The university aims to increase the proportion of women. Qualified women are therefore explicitly invited to apply. Severely disabled applicants with equal qualification and aptitude are given preferential consideration. Please send your application with the usual documents (CV, transcripts, letter of motivation, references, list of publication, etc.) by mentioning the registration number **318/2018** until latest November 30th 2018 to:

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In the case of an application by letter we ask you to submit your documents only as copies, as those are properly destroyed after the application process. Please also note our application hints at: www.uni-jena.de/stellenmarkt_hinweis.html Please also note the information about the collection of personal data: www.uni-jena.de/Universität/Stellenmarkt/Datenschutzhinweis.html