

We invite applications for a

PhD Student Position,

(fare based on german 3/4 E13 TV-L FU) in experimental solid-state physics, limited until 31. December 2025. The position is assigned to the workgroup of Prof. W. Kuch, which has experience investigating ultrathin magnetic films, surfaces, adsorbed molecules, and nanostructures that may become relevant in a future spin-based electronics. Besides unconventional spin structures at surfaces, the focus is also on spin and magnetization dynamics. Experiments are carried out both by laboratory-based techniques as well as by using synchrotron radiation.

The position is part of project A07 of the collaborative research center/transregio 227 "Ultrafast Spin Dynamics". The PhD work will involve X-ray spectroscopy investigations of magnetization dynamics in ultrafast optical excitation of bilayers consisting of anti-ferromagnetic and ferromagnetic materials to gain insight into the interplay of ultrafast demagnetization, spin currents, and thermal effects. Pump-probe measurements will be employed to follow the magnetization dynamics after ultrashort infrared-laser excitation. Of particular interest is the behavior of the antiferromagnetic spin structure, which is explored by linear magnetic dichroism in resonant x-ray reflectivity.

We provide excellent conditions for motivated experimentalists. Extensive equipment for X-ray spectroscopy and state-of-the-art surface science analysis tools can be used. While sample preparation and characterization will be carried out at the Physics department of the Freie Universität, time-resolved measurements will be conducted at synchrotron radiation sources, for example at BESSY II in Berlin.

A master's degree is required with a master thesis in experimental physics or equivalent. We are seeking a motivated candidate with team spirit and ability for independent work. Experience in one or more of the following is of advantage: Magnetization dynamics, ultrafast pump-probe experiments, surface science, ultra-high vacuum, x-ray absorption spectroscopy.

More information can be obtained from Prof. Dr. Wolfgang Kuch, e-mail: magnetism@physik.fu-berlin.de, Tel.: +49-30-838-52098, or at <https://www.physik.fu-berlin.de/~ag-kuch>.

Applications quoting the reference code **PhyKu_01/22** must include a complete CV, an abstract (max. one page) of the master thesis, as well as names and addresses (postal and e-mail) of two or three persons willing to provide confidential letters of reference. Only complete applications will be considered. Send your applications by e-mail or postal mail to be received not later than **23. May 2022** to:

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The Freie Universität is an equal opportunity employer. Women are strongly encouraged to apply. Applicants with a disability are given preference in case of equal qualification.