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Physikalischen Kolloquium
Montag, 13.02.2017
16:15 Uhr in N24/H13

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Zernike Institute for Advanced Materials
University of Groningen
Groningen, The Netherlands

See atoms move in real time: ultrafast electron diffraction

Time-resolved electron diffraction is a unique tool for providing direct and detailed information on the structural dynamics of solid surfaces, nano-sized materials, molecules and atomically thin layers, thanks to the high cross section for interaction between electron and matter. Femtosecond lasers are used to generate ultrashort light and electron pulses. Light initiates a process in the sample - a phase transition, an electronic excitation or simply a temperature jump - and by recording snapshots of the electrons diffracted from the sample in a stroboscopic fashion, one can image the photo-induced motion of the structure.
In this talk I shall try to give a taste of the immense possibilities of ultrafast electron diffraction, illustrating how this novel technique opens the door to physical understanding of many aspects of light-matter interaction such as out of equilibrium structural phase transitions, melting, controlled nanoscale mechanical phenomena, and creation of coherent phonons.

Ab 16.00 Uhr Kaffee, Tee und Kekse vor dem Hörsaal H13
Organisation: Prof. Dr. F. Jelezko, Tel. 23750, Host: Prof. Dr. U. Kaiser, Tel. 22950, off.: 22951