DPG-Frühjahrstagung, Dresden, 13. - 18. März 2011

Symposium

New Developments in Transmission Electron Microscopy of Materials

Over the past decade remarkable progress has been achieved in various fields of transmission electron microscopy (TEM). Advances in instrumentation, like aberration correction, new electron sources, improved energy filters and fast detector systems, have not only pushed the limits of spatial and energy resolution to values hardly conceivable before. Novel types of experiments have become feasible, e.g. in the fields of 3D analysis and in-situ microscopy, supported by new tools and techniques for TEM sample preparation and manipulation. The way TEM can contribute not only to a structural characterization of materials and nanostructures but also to a deeper understanding of their properties and processes is more and more recognized and appreciated. The goal of the symposium is to bring together and stimulate discussion among researchers from various disciplines (materials science, physics, chemistry, mineralogy) who develop or apply advanced TEM techniques in their research.

See also: http://www.dpg-physik.de/dpg/gliederung/fv/mm/themen.html

Symposium Organizers:

Prof. Dr. Erdmann Spiecker
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Invited speakers (confirmed):

Juri Barthel (Aachen)
„Quantification of instrumental properties in high-resolution transmission electron microscopy”

Rafal Dunin-Borkowski (Kopenhagen)
„In situ transmission electron microscopy of growth processes and chemical reactions”

Rolf Erni (EMPA)
„Advanced electron microscopy and first-principles calculations: new insights into materials science on the atomic scale”

Chunlin Jia (Jülich)
„Picometer Electron Microscopy”

Christian Joos (Göttingen)
„In-situ TEM studies of electrochemical properties in oxide perovskites”

Chritian Kübel (Karlsruhe)
„Electron tomography - towards quantitative nanoscale imaging in 3D”

Hannes Lichte (Dresden)
„Electron Holography for structures and fields at a nanoscale”

Jannik Meyer (Wien)
„The physics and chemistry of nano-carbons explored by atomic resolution transmission electron microscopy”

Andreas Rosenauer (Bremen)
„Quantitative STEM: Composition mapping in InGaN”

Christina Scheu (München)
„In-situ TEM: Atomistic Insights into Crystallisation”