



TRR 80 Sonderseminar

Am Montag, den 20. Juni um 11:00 Uhr

spricht

Dr. Lena Fitting Kourkoutis

Cornell University, USA

über das Thema

Spectroscopic imaging of atomically engineered materials by aberration corrected electron microscopy

The presence of interfaces between different materials is an important feature of all nanoscale structures and can greatly affect the macroscopic properties of the system. Interfaces between complex oxides are of particular interest as exotic new phases not found in bulk can be stabilized. Key to understanding the properties of such systems is the ability to determine the atomic-scale structure, elemental distribution and electronic structure at these interfaces. Spectroscopic-imaging in a new generation aberration-corrected scanning transmission electron microscope enables two-dimensional element- and valence-sensitive imaging at atomic resolution [1]. Using these techniques microscopic inhomogeneities, atomic-scale interdiffusion and bonding changes can now readily be characterized and correlated with the macroscopic properties of the structure [2].

[1] D. A. Muller, L. F. Kourkoutis, M. Murfitt, J. H. Song, H. Y. Hwang, J. Silcox, N. Dellby, O. L. Krivanek, *Science* 319, 1073 (2008).

[2] L. F. Kourkoutis, J. H. Song, H. Y. Hwang, D. A. Muller, *Proc. Natl. Acad. Sci.* 107, 11682 (2010).

Gäste sind herzlich willkommen.

Der Vortrag findet im R-242/ Physikgebäude Nord, Universität Augsburg statt.

Gastgeber: Prof. Dr. Jochen Mannhart
www.trr80.de