TECHNISCHE UNIVERSITÄT WIEN
Vienna University of Technology

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IAP-SEMINAR

EINLADUNG

Termin: **Dienstag, 5.11.2013 um 16:00 Uhr**
Ort: **Technische Universität Wien,**
Institut für Angewandte Physik,
Seminarraum 134A, Turm B (gelbe Leitfarbe), 5. OG
1040 Wien, Wiedner Hauptstraße 8-10

Vortragender: **Dr. Juan de la Figuera**
Instituto de Química Física Rocasolano, Madrid/Spain

Thema: Initial stages of the growth of iron oxides on Ru(0001)

Kurzfassung

Magnetite is the most strongly magnetized material found in nature. A revival of interest in magnetite for spintronic applications has been spurred by its multiferroic and half-metal character, together with its high Curie temperature. Magnetite has been grown on several metal subsrates substrates, such as Pt(111) or Ru(0001). In the first stage, a FeO wetting layer is grown, and only on a second stage magnetite islands nucleate. In this work we present our observations of the growth of iron oxide on Ru by oxygen assisted MBE [1-4], by a combination of traditional surface science techniques (STM, XPS, LEED) together with low-energy electron-based microscopies (low energy electron microscopy, spin-polarized low-energy electron microscopy and photoemission electron microscopy). In the latter case the surface morphology can be followed in real time during the growth. We determine that nanometer-thick magnetite islands present stable magnetization patterns at room temperature and above.

[1] B. Santos et al., J. Phys. Cond. Matt., 21 (2009) 314011
[2] M. Monti, et al., Phys. Rev. B 85 (2012) 020404R
[3] M. Monti et al., J. Phys. Chem C 116 (2012)11539
[4] I. Palacio et al, J. Phys. Cond. Matt. (2013), in press. arxiv 1301.2519

Alle interessierten Kolleginnen und Kollegen sind zu diesem Seminar
(45 min mit anschließender gemeinsamer Diskussion) herzlich eingeladen.

U. Diebold e.h.
(Seminar-Chairperson)

H. Störi e.h.
(LVA-Leiter)