Volker Rose

Postdoctoral Fellow

Theme: Electronic and Magnetic Materials & Devices
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Research Interests:

- Magnetic nanostructures
- Metal/oxide systems
- High-resolution element-selective microscopy using X-ray enhanced scanning tunneling microscopy

Education/Experience:

- 2006 - present: Postdoctoral Fellow, Center for Nanoscale Materials and Advanced Photon Source, Argonne National Laboratory, Argonne, IL
- Mar-Apr 2005 and Aug-Nov 2004: Thesis-Part Appointments, Materials Science Division, Argonne National Laboratory, Argonne, IL
- 2001 – 2006: Research Assistant, Institute for Surfaces and Interfaces (ISG3), Research Center Jülich, Germany
- Doctoral degree (Dr.rer.nat.), RWTH Aachen University, Germany, 2005
- M.Sc. in Physics (Dipl. Phys.), RWTH Aachen University, Germany, 2002

Recent Publications (2006/07):

1. V. Podgursky, **V. Rose**, I. Costina, R. Franchy, "*Study of phase transitions within alumina grown on top of CoAl(100) surface*", Surf. Sci. (2007), doi:10.1016/j.susc.2007.06.03.
2. R.F. Wang, J. Li, W. McConville, C. Nisoli, X. Ke, J.W. Freeland, **V. Rose**, M. Grimsditch, P. Lammert, V.H. Crespi, P. Schiffer, "*Demagnetization protocols for frustrated interacting nanomagnet arrays*", J. Appl. Phys. 101 (2007) 09J104.
3. **V. Rose**, R. Franchy, "*Thermal stability of Co-core-CoO-shell nanoparticles on an ultrathin θ-Al_2O_3 film support*", J. Appl. Phys. (Communications) 101 (2007) 086104.
4. **V. Rose**, K. Brüggemann, R. David, R. Franchy, "*Two-Dimensional Surface Magnetism in the Bulk Paramagnetic Intermetallic Alloy CoAl(100)*", Phys. Rev. Lett. 98 (2007) 037202.
5. **V. Rose**, V. Podgursky, R. David, and R. Franchy, "*Growth of Co nanoparticles on a nanostructured theta-Al_2O_3 film on CoAl(1 0 0)*", Surf. Sci. 601 (2007) 786-791.
6. V. Podgursky, **V. Rose**, I. Costina, and R. Franchy, "*Step flow observed on top of oxidized CoAl(100) surface*", Appl. Surf. Sci. 253 (2006) 1796-1800.
7. V. Podgursky, **V. Rose**, I. Costina, and R. Franchy, "*The coexistence of gamma(gamma') and theta alumina observed by STM and LEED on top of oxide layer grown on CoAl(100)*", Appl. Surf. Sci. 252 (2006) 8394-8398.
8. **V. Rose**, K. Buchanan, S.-H. Chung, M. Grimsditch, V. Metlushko, A. Hoffmann, V. Novosad, S.D. Bader, and H. Ibach, "*Frustrated magnetic vortices in a triad of permalloy rings: Magneto-optical Kerr effect, magnetic force microscopy, and micromagnetic simulations*", Phys. Rev. B 73 (2006) 094442.

Invited Guest Lectureships:

- Universidad del Valle, Cali, Colombia (June 09-20, 2007 – 10 lectures)
  "*Magnetism on the Nanoscale - lectures on the challenge to understand and control magnetism on very small length scales and in reduced dimensions*"