

AG Kuch
Scientific Activity Report 2011

Scientists:

Bernien, Matthias

Chang, Yin-Ming

Erkovan, Mustafa (since 20.06.)

Hermanns, Ch. Felix

Khan, Yaqoob

Krüger, Alex

Kuch, Wolfgang

Kurde, Julia (until 30.06.)

Mazalova, Victoria (18.05.–17.06. and 16.09.–14.12.)

Sandig, Oliver (since 21.03.)

Sandow, Barbara (until 07.02.)

Shokr, Yasser (since 01.04.)

Song, Jiaming (since 06.10.)

Wu, Chii-Bin

Zhang, Bin

Bachelor, Master, and Diploma students:

Bruch, Anton (since 09.05. until 11.07.)

Kreft, Stefanie (since 22.02. until 26.04.)

Nickel, Fabian (until 05.01.)

Reineking, Niklas (since 09.05. until 11.07.)

Schiestl, Daniela (since 01.12.)

Walter, Waldemar (since 01.07.)

Publications:

J. Kurde, J. Miguel, D. Bayer, J. Sánchez-Barriga, F. Kronast, M. Aeschlimann, H. A. Dürr, and W. Kuch

Magnetostatic coupling of 90° domain walls in Fe₁₉Ni₈₁/Cu/Co trilayers
New J. Phys. **13**, 033015-1–13 (2011).

W. Kuch, K. Fukumoto, J. Wang, F. Nolting, C. Quitmann, and T. Ramsvik

Thermal melting of magnetic stripe domains
Phys. Rev. B **83**, 172406-1–4 (2011).

J. Miguel, C. F. Hermanns, M. Bernien, A. Krüger, and W. Kuch

Reversible manipulation of the magnetic coupling of single molecular spins in Fe-porphyrins to a ferromagnetic substrate

J. Phys. Chem. Lett. **2**, 1455–1459 (2011).

Presentations:

a) invited talks

W. Kuch

X-ray spectroscopic investigations of adsorbed switchable molecules
Physikalisches Kolloquium der Universität Stuttgart und der Max-Planck-Institute, Stuttgart, 10.05.2011.

W. Kuch

X-ray imaging and microscopy
SOLEIL Synchrotron School on X-ray Microscopy (SOLEMIO School 2011), Saint Aubin (France), 02.–06.05.2011.

W. Kuch

Magnetic properties of antiferromagnetic/ferromagnetic thin film systems and paramagnetic molecules adsorbed on ferromagnetic thin films
Sfb-Kolloquium des Sfb 491, Ruhr-Universität Bochum, 05.05.2011.

W. Kuch

X-ray spectroscopic investigations of adsorbed switchable molecules
Universidad Autónoma de Madrid, Madrid, 03.06.2011.

W. Kuch

Controlling the magnetization of magnetic molecules on surfaces
Workshop „Structure and Dynamics at the Water Interface“, Berlin, 06.–07.09.2011.

b) contributed talks

Ch. F. Hermanns, J. Miguel, M. Bernien, A. Krüger, and W. Kuch

Reversible chemical manipulation of the magnetic properties of Fe-porphyrin molecules on a ferromagnetic substrate

75th Annual Meeting and combined DPG Spring Meeting, Dresden, 13.–18.03.2011.

Ch. F. Hermanns, J. Miguel, M. Bernien, A. Krüger, and W. Kuch
Reversible chemical manipulation of the magnetic properties of Fe-porphyrin molecules on a ferromagnetic substrate
European Conference on Surface Science (ECOSS28), Wrocław (Poland), 28.08.–02.09.2011.

M. Y. Khan, W. A. A. Macedo, P. L. Gastelois, J. Miguel, M. D. Martins, and W. Kuch
Growth, structure, and magnetic properties of epitaxial $\text{Ni}_x\text{Mn}_{100-x}$ single layers and $\text{Co/Ni}_x\text{Mn}_{100-x}$ bilayers on $\text{Cu}_3\text{Au}(100)$
75th Annual Meeting and combined DPG Spring Meeting, Dresden, 13.–18.03.2011.

J. Kurde, J. Miguel, D. Bayer, J. Sánchez-Barriga, F. Kronast, M. Aeschlimann, H. A. Dürr, and W. Kuch
Magnetostatic coupling of 90° domain walls in FeNi/Cu/Co trilayers
75th Annual Meeting and combined DPG Spring Meeting, Dresden, 13.–18.03.2011.

W. A. A. Macedo, W. Kuch, P. L. Gastelois, J. Miguel, M. D. Martins, and M. Y. Khan
Structure and magnetism of epitaxial NiMn single layers and Co/NiMn bilayers on $\text{Cu}_3\text{Au}(100)$
March Meeting 2011 of The American Physical Society, Dallas (U.S.A.), 21.–25.03.2011.

J. Miguel, M. Bernien, C. F. Hermanns, A. Krüger, and W. Kuch
Reversible chemical manipulation of the magnetic properties of Fe-porphyrin molecules on a ferromagnetic substrate
Diamond Synchrotron User Meeting 2011, Didcot (U.K.), 07.–08.09.2011.

c) posters

C. F. Hermanns, M. Bernien, A. Krüger, J. Miguel, and W. Kuch
Switching the electronic properties of Co octaethyl-porphyrin molecules on oxygen-covered Ni films by NO adsorption
Third Joint BER II and BESSY II Users Meeting, Berlin, 30.11.–02.12.2011.

A. Krüger, M. Piantek, Ch. F. Hermanns, J. Miguel, M. Bernien, K. Hermann, and W. Kuch
Substrate- and temperature-dependent adsorption studies of spiropyran molecules
75th Annual Meeting and combined DPG Spring Meeting, Dresden, 13.–18.03.2011.

A. Krüger, M. Bernien, C. F. Hermanns, and W. Kuch
Adsorption of azobenzene molecules on Bi(111)
Third Joint BER II and BESSY II Users Meeting, Berlin, 30.11.–02.12.2011.

J. Kurde, J. Miguel, D. Bayer, J. Sánchez-Barriga, F. Kronast, M. Aeschlimann, H. A. Dürr, and W. Kuch
A new sample holder for time-resolved magnetization dynamics measurements at the Elmitec SP-PEEM
Third Joint BER II and BESSY II Users Meeting, Berlin, 30.11.–02.12.2011.

O. Sandig
Imaging the magnetization dynamics of coupled thin magnetic layers after optical laser excitation by PEEM
The European School on Magnetism – 2011 School: Time-dependent phenomena in magnetism, Targoviste (Romania), 22.08.–02.09.2011.

T. R. Umbach, Ch. F. Hermanns, A. Krüger, Z. Yang, I. Fernández-Torrente, N. Krane, M. Bernien, C. Czekelius, K. J. Franke, J. I. Pascual, and W. Kuch
Structure and magnetism of Mn-tetrapyrrolyl porphyrin molecules on Ag(111)
75th Annual Meeting and combined DPG Spring Meeting, Dresden, 13.–18.03.2011.

C.-B. Wu and W. Kuch
The spin structure of Mn on Co/Cu(001) studied by spin-polarized scanning tunneling microscopy with bulk Cr tip
493. WE-Heraeus-Seminar “Latest developments in Scanning Probe Techniques focused on Nanotechnology”, Bad Honnef, 28.11.–01.12.2011.

B. Zhang, O. Sandig, J. Kurde, F. Kronast, and W. Kuch
Laser-induced precessional magnetization dynamics of epitaxial Co/Ni bilayers on Cu(001)
Third Joint BER II and BESSY II Users Meeting, Berlin, 30.11.–02.12.2011.

Degrees:

Bruch, Anton
Magnetische Kopplung von Eisen-Porphyrinen an ferromagnetische Nickelfilme mit einer Zwischenschicht Graphen
Bachelor degree, Freie Universität Berlin, July 2011.

Kreft, Stefanie
Measurement on ultra-thin antiferromagnetic and ferromagnetic films
Bachelor degree, Freie Universität Berlin, April 2011.

Nickel, Fabian
Röntgenphotoelektronenspektroskopie zur Untersuchung der Adsorption von Gas-Molekülen an Kobalt-Porphyrin auf Au(111)
Bachelor degree, Freie Universität Berlin, January 2011.

Reineking, Niklas
Modifikation von Oberflächen mit Adamantanthiol zur Entkopplung von adsorbierten, schaltbaren Molekülen
Bachelor degree, Freie Universität Berlin, July 2011.