

Programme



28. Workshop

on

Novel materials and superconductivity

PLANNERALM

9. - 16. Feb. 2013

Sponsored by TU Wien

Location:	Planneralm , Ennstal (Steiermark) A-8953 Donnersbach
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Date:	Arrival: Saturday, February 9, 2013
	Departure: Saturday, February 16, 2013

Chairman: **Univ.Prof. Karlheinz Schwarz**
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Programme committee:

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K.Schwarz	P.Weinberger	

World Wide Web: www.wien2k.at/theochem/planneralm/

Plenary Lectures

Sunday, Feb.10, 2013 (Chair: Karlheinz Schwarz)

9:00	Karlheinz Schwarz (TU Wien): <i>Opening, 28th workshop</i>
9:10	Bertram Batlogg (ETH Zürich, Switzerland): <i>High temperature Fe-based superconductors in very high magnetic fields</i>
10:20	Coffee Break
10:40	Ralf Röhlsberger (DESY Hamburg, Germany): <i>Photon polarization precession spectroscopy: A new technique for the study of magnetic excitations</i>

Monday, Feb.11, 2013 (Chair: Frank Kubel)

9:00	Helmut Ehrenberg (KIT Karlsruhe, Germany): <i>Lithium ion batteries: challenge for materials science and perspective</i>
10:00	Coffee Break
10:30	Berthold Stöger (TU Wien): <i>Structure determination by diffraction methods</i>

Tuesday, Feb.12, 2013 (Chair: Rudi Hackl)

9:00	Thomas Peter Devereaux (Stanford University, USA): <i>Understanding non-equilibrium behavior of driven electronic systems</i>
10:00	Coffee Break
10:30	Gernot Güntherodt (RWTH Aachen, Germany): <i>Spin transport in grapheme – towards long spin relaxation times</i>

Wednesday, Feb.13, 2013 (Chair: Wilfried Schranz)

9:00 Ekhard K.H. **Salje** (Cambridge University, UK):
Functional interfaces in ferroelastic crystals

10:00 **Coffee Break**

10:30 Andreas **Tröster** (TU Wien):
Finite strain Landau theory

Thursday, Feb.14, 2013 (Chair: Wolfgang Lang)

9:00 Andrey **Zheludev** (ETH Zürich, Switzerland):
The end of the quantum spin ladder problem (almost)

10:00 **Coffee Break**

10:30 Hermann **Suderow** (Univ. Autonoma de Madrid, Spain):
The vortex lattice viewed by very low temperature scanning tunnelling microscopy and spectroscopy

Friday, Feb.15, 2013 (Chair: Peter Blaha)

9:00 Mehrdad **Baghaie Yazdi** (TU-Darmstadt, Germany):
Investigation of the Verwey transition in magnetite thin films

10:00 **Coffee Break**

10:30 Gareth S. **Parkinson** (TU Wien):
Templated adsorption and the Fe_3O_4 (001) surface

Evening sessions

Sunday, Feb.10, 2013 (Chair: Frank Kubel)

19:00	D.Rennetwander, Ch.A.Geiger, Georg Amthauer (Univ. Salzburg): <i>Crystal chemistry and properties of Ga- and Fe-bearing Li-oxide garnets</i>
19:30	Johannes Richter (Univ. Magdeburg, Germany): <i>The paramagnetic J_1-J_2 models: Quantum phase transitions and low-temperature thermodynamics of frustrated quantum spin systems</i>
20:00	Martin W. Pieper , T.Ali, H.Michor (Univ. Graz): <i>An NMR view on the quaternary superconductor $La_3Ni_2B_2N_3$</i>

Monday, Feb.11, 2013 (Chair: Peter Knoll)

19:00	Helge Rosner , O.Janson, D.Kasinathan, S.Lebernegg (MPI CPfS Dresden): <i>New and unique magnetic materials: how to discover, unveil, and understand them</i>
19:30	Zoltán Németh , A.Szabó, K.Knížek, M.Sikora, R.Chernikov, N.Sas, C.Bodgán, D.I.Nagy, G.Vánko (Wigner Research Center, Budapest, Hungary): <i>Magneto-electronic phase separation in doped cobaltate perovskites</i>
20:00	Stefan Lebernegg , A.Tsirlin, C.Janson, M.Schmitt, H.Rosner (MPI CPfS Dresden): <i>Magnetism of CuX_2 frustrated chains ($X = F, Cl, Br$): The role of covalency: A DFT and quantum chemistry study</i>

Tuesday, Feb.12, 2013 (social evening: "Faschingsdienstag") P.Weinberger

19:00	Martin Priessner (TU Wien): <i>The exploration of the new world</i>
19:40	Andrey Zheludev (ETH Zürich, Switzerland): <i>Butterfly collecting</i>

Wednesday, Feb13, 2013 (Chair: Peter Blaha)

19:00	Micro Poster Presentation: <i>Each poster can be briefly presented in 3 minutes PowerPoint presentations need to be arranged with the organizer.</i>
19:30	POSTER SESSION

Thursday, Feb.14, 2013 (Chair: Bertram Batlogg)

19:00	Wilfried Schranz (Univ. Wien): <i>Elastic and inelastic behavior of crystals near phase transitions</i>
19:30	Thomas Greber (Univ. Zürich, Switzerland): <i>Spin shuttles on surfaces</i>
20:00	Wolfgang Lang , G.Zechner, I.Puica, K.Siraj (Univ. Wien): <i>Non-linear electrical transport as a possible probe for the pseudogap in underdoped cuprates</i>

Friday, Feb.15, 2013 (Chair: Helge Rosner)

19:00	Beth Nowadnik , S.Johnston, B.Moritz, R.TT.Scalletar, T.P.Devereaux (Stanford University, USA): <i>Phase competition in strongly correlated materials with electron-phonon coupling</i>
19:30	Zhicheng Zhong , A.Toth, K.Held (TU Wien): <i>Theory of spin-orbit coupling at LaAlO₃/SrTiO₃ surfaces</i>
20.00	H.Das, G.Sabgiovanni, Angelo Valli , K.Held, T.Saha-Dasgoupta (TU Wien): <i>Size control of charge-orbital order in half-doped manganite La_{0.5}Ca_{0.5}MnO₃</i>

Posters

- Markus **Aichhorn** (TU Graz)
Iron chalcogenides: Strongly-correlated metals far from Mott
- Olga **Arinicheva** A.Lileev, A.A.Lukin, M.Reissner (TU Wien)
Influence of heat treatment on magnetic properties of NdFeB permanent magnets
- P.Wissgott, Elias **Assmann**, J.Kunes, A.Toschi, P.Blaha, K.Held (TU Wien)
woptic: optical conductivity with Wannier functions and adaptive k-mesh refinement
- Andreas **Baum**, B.Muschler, F.Kretzschmar, L.Boeri, J.G.Analytis, J.-H.Chu, I.R.Fisher, R.Hackl (Walther-Meissner-Institut, Garching)
Lattice dynamics in detwinned BaFe₂As₂ as observed via Raman scattering
- David **Beck**, G.Hilscher, F.Kubel, P.Weinberger (TU Wien)
Synthesis and characterization of Fe(II) spin crossover complexes with asymmetric ditetrazole bridging ligands
- Bernhard **Bichler**, B.Stöger, K.Kirchner (TU Wien)
Iron pincer complexes
- Hans-Martin **Eiter**, P.Jaschke, R.Hackl, A.Bauer, Ch. Pfeleiderer (Walther-Meissner-Institut, Garching, Germany)
The chiral magnet MnSi
- Alexander F. **Kemper**, H-M.Eiter, M.Lavagnini, R.Hackl, E.A.Nowadnick, T.P.Devereaux, J-H.Chu, J.G.Analytis, I.R.Fisher, L.Degiorgi (Lawrence Berkeley National Laboratory, USA)
A novel mechanism behind the formation of charge- density waves
- Christian **Knoll**, D.Müller, G.Steinhasuer, B.Stöger, P.Weinberger (TU Wien)
Am(III) doped Tb(III) complexes of 5,5'-zobis{tetrazolide} as an example for overcoming the Gd-break in lanthide coordination chemistry
- J.Weber, F.Shahzad, H.Krenn, Peter **Knoll**, K.Ettinger, I.Letofsky-Papst (Univ. Graz)

- *Analysis of magnetic hysteresis loops in NiO nano particles*
- J.Grünwald, J.Reynvaan, Ch.Taubner, K.Grünwald, Peter **Knoll** (Univ. Graz)
Creation and analysis of reactive plasmas for sample preparation
- Frank **Kubel** (TU Wien)
Ferroelastic switching in AlF_3 and a possible “coin flip” structure
- Peter **Lackner**, D.Pajic, N.Novosel, K.Zadro, M.Reissner, M.Stöger-Pollach (TU Wien)
Influence of SiO_2 coating on the magnetic behaviour of amorphous FeNiB nanoparticles
- Franz **Renz**, R. Saadat (Univ. Hannover, Germany)
Smart drugs for diagnosis and therapy based on magnetic nanoparticles
- Franz **Renz**, R.Lehmann, P.Homenya, G.Klingelhöfer, M.Blumers, F.Rull, KLIMT Science team (Univ. Hannover, Germany)
How science uncovers a hidden Klimt masterpiece
- Mohammad **Rezek**, S.Katircioglu (Palestine Techn.Univ.)
Electrical and structural property relations of GaP nano wires
- Thomas **Ruh**, Ch.Hametner, E.Horkel, H.Thiele, M.Niemitz, J.Fröhlich (TU Wien)
Computer assisted interpretation of NMR spectra
- Diana Vogel, C.Spiel, Robert Schlögl, Yuri Suchorski, Günther **Rupprechter** (TU Wien)
Spatially-resolved kinetics by PEEM in catalytic CO oxidation on low-index Pt and Pd surfaces
- György **Vankó** (Wigner Research Center, Budapest, Hungary):
Hard x-ray studies of spin-state changes in Fe complexes: From static to ultrafast
- D.Müller, C.Knoll, B.Stöger, W.Artner, M.Reissner, Peter **Weinberger** (TU Wien)
 $[Fe(3ditz)_3](BF_4)_2$: A rare example of a strongly cooperative spin transition behavior of a 1D—chain-type coordination polymer using a per se flexible ligand
- Tobias **Zolles**, H.Grothe, B.Pummer, K.Whitmore (TU Wien)
Heterogeneous ice nucleation on mineral dust particles

Main SPEAKERS

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