

## 16 Publications

### 16.1 Elementary particles and their interactions

#### 16.1.1 ArDM

##### Articles

- **Luminescence quenching of the triplet excimer state by air traces in gaseous argon**  
C. Amsler *et al.*, Journal of Instrumentation **3** (2008) P02001.
- **Detection of VUV scintillation light in one ton of liquid argon**  
C. Regenfus, Proc. of the 6th Int. Workshop on the Identification of Dark Matter (IDM2006), Rhodes, World Scientific (2007) 325.

##### Invited Lectures

- V. Boccone: **Assembly and test of the light readout for the ArDM WIMP-detector**  
Swiss Physical Society, Geneva, 26 March 2008.
- C. Regenfus: **Search for WIMPs with one ton of LAr – the ArDM experiment**  
Seminar zum Graduiertenkolleg – Physik an Hadron-Beschleunigern, Freiburg i.B., 27 June 2007.
- C. Regenfus: **Status of the Argon Dark Matter Experiment**  
CHIPP-Plenary Meeting, PSI, Villigen, 15 October 2007.

#### 16.1.2 ATHENA

##### Articles

- **Protonium production in ATHENA**  
L. Venturelli *et al.*, Nucl. Instr. Meth. in Phys. Research **B 261** (2007) 40.
- **Production of slow protonium in vacuum**  
N. Zurlo *et al.*, Proc. of the TCP 06 Conf., Hyperfine Int., Springer Verlag, 2007.

## 16.1.3 CDMS

## Talks

- T. Bruch: **New Results from the CDMS-II experiment**  
Contributed Talk, University of Freiburg, March 3, 2008.
- T. Bruch: **Cryogenic Dark Matter Search**  
Seminar, ETH Zürich, September 14, 2007.
- T. Bruch: **Cryogenic Dark Matter Search**  
Seminar, RWTH Aachen, July 9, 2007.
- T. Bruch: **Cryogenic Dark Matter Search experiment status and future: CDMS to SuperCDMS**  
Plenary Talk, Imperial College London, July 5, 2007.

## 16.1.4 CMS

## Articles

- **Design and performance of the silicon sensors for the CMS barrel pixel detector**  
Y. Allkofer *et al.*, Nucl. Instrum. Meth. A **584** (2008) 25.
- **CMS Technical Design Report, Volume II : Physics Performance**  
J. Phys. G: Nucl. Part. Phys. **34** (2007) 993.
- **Summary of Session 2 : Data Analysis - Algorithms and Tools**  
T. Speer, Proc. of XI Int. Workshop on Advanced Computing and Analysis Techniques in Physics Research, Amsterdam, Proc. of Science, PoS(ACAT) 089 (2007).
- **The ATLAS and CMS detectors and triggers for B-physics**  
T. Speer, Nucl. Phys. Proc. Suppl. **167** (2007) 165.

## Articles in press

- **The Compact Muon Solenoid Detector at LHC**  
CMS Collaboration, Journal of Instrumentation (2008).
- **The CMS Tracker Operation and Performance at the Magnet Test and Cosmic Challenge**  
W. Adam *et al.*, Journal of Instrumentation (2008).
- **The CMS pixel detector: from production to commissioning**  
V. Chiochia, Proc. 10th ICATPP Conf. on Astroparticle, Particle, Space Physics, Detectors and Medical Physics Applications, Como, e-Print: arXiv:0710.5120 (physics.ins-det).
- **B physics at CMS**  
T. Speer, Proc. 2007 Eur. Conf. on High Energy Physics, Manchester, Journal of Physics: Conference Series.

## Public Notes

- **Lorentz angle calibration for the barrel pixel detector**  
Lotte Wilke, CMS NOTE-2008-012.
- **A new technique for the reconstruction, validation and simulation of hits in the CMS pixel detector**  
M. Swartz *et al.*, CMS NOTE-2007-033.

## Invited Lectures

- E. Alagöz: **Position resolution of the pixel detector for the CMS experiment**  
Turkish Physical Society, Malatya, 29 August 2007.
- E. Alagöz: **Testbeam study of the irradiated pixel barrel sensors for the CMS experiment**  
Swiss Physical Society, Geneva, 27 March 2008.
- V. Chiochia: **The CMS pixel detector: from production to commissioning**  
10th ICATPP Conf. on Astroparticle, Particle, Space Physics, Detectors and Medical Physics Applications, Como, 10 October 2007.
- T. Rommerskirchen: **Study of the discovery potential of supersymmetric final states at CMS**  
German Physical Society, Freiburg i.B., 5 March 2008.
- T. Rommerskirchen: **Study of the discovery potential of supersymmetry with final states with missing energy, multiple jets and b-jets at the CMS detector**  
Swiss Physical Society, Geneva, 27 March 2008.
- A. Schmidt: **b-Quark-Jet Identifikation in CMS**  
German Physical Society, Freiburg i.B., 5 March 2008.
- T. Speer: **Data analysis and reconstruction algorithms**  
XI Int. Workshop on Advanced Computing and Analysis Techniques in Physics Research (ACAT), Amsterdam, 25 April 2007.
- T. Speer: **B-Physics at CMS**  
Institute for High Energy Physics of the Austrian Academy of Sciences, Vienna, Austria, 22 June 2007.
- T. Speer: **B-Physics at CMS**  
2007 Eur. Conf. on High Energy Physics, Manchester, 20 July 2007.
- L. Wilke: **Flavour Physics**  
Plenary CMS invited talk, 21 June 2007.
- L. Wilke: **Lorentz angle calibration for the CMS barrel pixel detector**  
German Physical Society, Freiburg i.B., 6 March 2008.

## 16.1.5 CRYSTAL BARREL

Article in press

- **Partial wave analysis of  $\bar{p}p$  annihilation at rest into  $2\pi^+2\pi^-\eta$**   
C. Amsler *et al.*, Eur. J. Phys.

## 16.1.6 DIRAC

Article

- **A novel aerogel Čerenkov detector for DIRAC-II**  
Y. Allkofer *et al.*, Nucl. Instr. Meth. in Phys. Research **A 582** (2007) 497.

Articles in press

- **A new aerogel Cherenkov detector for DIRAC-II**  
Y. Allkofer *et al.*, Nucl. Instrum. Meth. in Phys. Research **A** (2008).
- **The C4F10 Cherenkov detector for DIRAC-II**  
S. Horikawa *et al.*, Nucl. Instrum. Meth. in Phys. Research **A** (2008).
- **Search for  $\pi K$ -atoms with DIRAC II**  
Y. Allkofer *et al.*, Proc. of XII Int. Conf. on Hadron Spectroscopy (Hadron07), Frascati (2007), Physics Series, Vol. XLVI (2008).

Invited Lectures

- Y. Allkofer: **Search for  $\pi K$ -atoms with DIRAC II**  
XII Int. Conf. on Hadron Spectroscopy (Hadron07), Frascati, 7 October 2007
- Y. Allkofer: **Search for  $\pi K$ -atoms with DIRAC II**  
CHIPP-plenary meeting, PSI, Villigen, 15 October 2007.
- S. Horikawa: **A new aerogel Cherenkov detector design for DIRAC-II**  
6th Int. Workshop on Ring Imaging Cherenkov Counters (RICH2007), Trieste, 18 October 2007.
- S. Horikawa: **The DIRAC C4F10 Cherenkov Detector**  
6th Int. Workshop on Ring Imaging Cherenkov Counters (RICH2007), Trieste, 19 October 2007.

## 16.1.7 D0

## Articles

- **Search for squarks and gluinos in events with jets and missing transverse energy using 2.1 fb<sup>-1</sup> of ppbar collision data at  $\sqrt{s}=1.96$  TeV**  
V. M. Abazov *et al.*, Phys. Lett. B **660**, 449 (2008).
- **Measurement of the  $p\bar{p} \rightarrow WZ + X$  cross-section at  $\sqrt{s} = 1.96$ -TeV and limits on WWZ trilinear gauge couplings**  
V. M. Abazov *et al.*, Phys. Rev. D **76**, 111104 (2007).
- **Search for the lightest scalar top quark in events with two leptons in  $p\bar{p}$  collisions at  $\sqrt{s} = 1.96$ -TeV**  
V. M. Abazov *et al.*, Phys. Lett. B **659**, 500 (2008).
- **Search for  $B_s \rightarrow \mu^+\mu^-$  at D0**  
V. M. Abazov *et al.*, Phys. Rev. D **76**, 092001 (2007).
- **Direct observation of the strange  $b$  baryon  $X_{i_b}^-$**   
V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 052001 (2007).
- **Measurement of the  $\Lambda_b^0$  lifetime using semileptonic decays**  
V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 182001 (2007).
- **Search for stopped gluinos from  $p\bar{p}$  collisions at  $\sqrt{s} = 1.96$ -TeV**  
V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 131801 (2007).
- **$Z\gamma$  production and limits on anomalous  $ZZ\gamma$  and  $Z\gamma\gamma$  couplings in  $p\bar{p}$  collisions at  $\sqrt{s} = 1.96$  TeV**  
V. M. Abazov *et al.*, Phys. Lett. B **653**, 378 (2007).
- **Measurement of the  $\Lambda_b$  lifetime in the exclusive decay  $\Lambda_b \rightarrow J/\psi\Lambda$**   
V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 142001 (2007).
- **Search for production of single top quarks via flavor-changing neutral currents at the Tevatron**  
V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 191802 (2007).
- **Lifetime difference and CP-violating phase in the  $B_s^0$  system**  
V. M. Abazov *et al.*, Phys. Rev. Lett. **98**, 121801 (2007).

## 16.1.8 H1

## Articles

- **Three- and Four-jet Production at Low x at HERA**  
F. D. Aaron *et al.*, Eur. Phys. J. C **54**, 389-409 (2008).
- **Measurement of Isolated Photon Production in Deep-Inelastic Scattering at HERA**  
F. D. Aaron *et al.*, Eur. Phys. J. C **54**, 371-387 (2008).

- **Measurement of Deeply Virtual Compton Scattering and its  $t$ -dependence at HERA**  
F. D. Aaron *et al.*, Phys. Lett. B **659**, 796 (2008).
- **Dijet Cross Sections and Parton Densities in Diffractive DIS at HERA**  
A. Aktas *et al.*, JHEP **0710**, 042 (2007).
- **Charged Particle Production in High  $Q^2$  Deep-Inelastic Scattering at HERA**  
F. D. Aaron *et al.*, Phys. Lett. B **654**, 148 (2007).
- **Measurement of Inclusive Jet Production in Deep-Inelastic Scattering at High  $Q^2$  and Determination of the Strong Coupling**  
A. Aktas *et al.*, Phys. Lett. B **653**, 134 (2007).
- **Search for baryonic resonances decaying to  $\Xi$   $\pi$  in deep-inelastic scattering at HERA**  
A. Aktas *et al.*, Eur. Phys. J. C **52**, 507 (2007).
- **Search for lepton flavour violation in  $e$   $p$  collisions at HERA**  
A. Aktas *et al.*, Eur. Phys. J. C **52**, 833 (2007).
- **Tests of QCD factorisation in the diffractive production of dijets in deep-inelastic scattering and photo-production at HERA**  
A. Aktas *et al.*, Eur. Phys. J. C **51**, 549 (2007).

#### PhD Thesis

- **Isolated Photon Production in Deep-Inelastic Scattering at HERA**  
C. Schmitz, PhD Thesis, Universität Zürich, October 2007.

#### Conference contributions and invited talks

- **Isolated Photons at HERA**  
U. Straumann, Europhysics Conference on High Energy Physics, Manchester, England, 19-25 July 2007.
- **Isolated Photons in DIS at HERA (H1)**  
K. Müller, XV International Workshop on Deep-Inelastic Scattering and related Subjects, 16.-10.4.07 Munich, 2007.
- **Hadronic final states and spectroscopy in  $ep$  collisions at HERA**  
C. Schmitz, 42nd Rencontres de Moriond on QCD and High Energy Hadronic Interactions, March 17-24 2007, La Thuile, Aosta Valley, Italy, arXiv:0705.4625 (hep-ex).

## 16.1.9 HERA-B

## Articles

- **Measurement of  $D^0, D^+, D_s^+$  and  $D^{*+}$  Production in Fixed Target 920 GeV Proton-Nucleus Collisions**  
I. Abt *et al.*, Phys. J. C **52**, 531 (2007).
- **Luminosity determination at HERA-B**  
I. Abt *et al.*, Nucl. Instrum. Meth. A **582**, 401 (2007).
- **Bottom production cross section from double muonic decays of b-hadrons in 920-GeV proton nucleus collision**  
I. Abt *et al.*, Phys. Lett. B **650**, 103 (2007).
- **A measurement of the  $\psi' \rightarrow J/\psi$  production ratio in 920-GeV proton nucleus interactions**  
I. Abt *et al.*, Phys. J. C **49**, 545 (2007).
- **$K0^*$  and  $\phi$  meson production in proton nucleus interactions at  $\sqrt{s} = 41.6$  GeV**  
I. Abt *et al.*, Eur. Phys. J. C **50**, 315 (2007).

## 16.1.10 LHCb

## PhD Thesis

- **The Trigger Tracker and a Monte Carlo Study of the  $B_S \rightarrow J/\psi\eta'$  Decay in the LHCb Experiment**  
Dmytro Volyansky, PhD Thesis, Universität Zürich, October 2007.

## Collaboration notes

- **Design and development of the control board for the LHCb silicon tracker**  
D. Esperante Pereira and A. Vollhardt, CERN-LHCB-2007-153(2008).
- **Updated channel numbering and readout partitioning for the Silicon Tracker**  
M. Needham and O. Steinkamp, CERN-LHCB-2007-137(2007).
- **The LHCb silicon tracker**  
R. P. Bernhard *et al.*, CERN-LHCB-2007-126(2007).
- **Radiation monitoring system for the LHCb inner tracker**  
M. Agari *et al.*, CERN-LHCB-2007-062(2007).
- **The trajectory model for track fitting and alignment**  
E. Bos, M. Merk, G. Raven, E. Rodrigues and J. van Tilburg, CERN-LHCB-2007-008(2007).
- **Selection of the  $B_s^0 \rightarrow J/\psi(\mu^+\mu^-)\eta'(\rho_0\gamma)$  decay at LHCb and its sensitivity to the  $B_s^0$  mixing phase  $\phi(s)$**   
D. Volyansky and J. van Tilburg, CERN-LHCB-2007-027(2007).

- **Performance of the track matching**

M. Needham and J. van Tilburg, CERN-LHCb-2007-020(2007).

### 16.1.11 Ultracold neutrons

#### Articles

- **Direct Experimental Verification of Neutron Acceleration by the Material Optical Potential of Solid  $2H_2$**

I. Altarev *et al.*, Phys. Rev. Lett. **100**, 014801 (2008).

- **Surface characterization of diamond-like carbon for ultracold neutron storage**

F. Atchison *et al.*, Nucl. Instr. Meth. A **587**, 82-88 (2008).

- **Cold Neutron Energy Dependent Production of Ultracold Neutrons in Solid Deuterium**

F. Atchison *et al.*, Phys. Rev. Lett. **99**, 262502 (2007).

- **Direct Experimental Limit on Neutron  $\rightarrow$  Mirror-Neutron Oscillations**

G. Ban *et al.*, Phys. Rev. Lett. **99**, 161603 (2007).

- **Diamond-like carbon coated ultracold neutron guides**

S. Heule *et al.*, Applied Surface Science **253**, 8245 - 8249 (2007).

- **Measurement of the Fermi potential of diamond-like carbon and other materials**

F. Atchison *et al.*, Nucl. Instr. Meth. B **260**, 647-656 (2007).

- **Structural characterization of diamond-like carbon coatings for ultracold neutron applications**

F. Atchison *et al.*, Diamond and Related Materials **16**, 334 (2007).

- **Loss and spinflip probabilities for ultracold neutrons interacting with diamondlike carbon and beryllium surfaces**

F. Atchison *et al.*, Phys. Rev. C **76**, 044001 (2007).

#### Conference contributions and invited talks

- **A Direct Experimental Limit on Neutron  $\rightarrow$  Mirror Neutron Oscillations**

A. Knecht, Annual meeting of the Swiss Physical Society, Geneva, 26. March 2008.

- **A direct experimental limit on neutron  $\rightarrow$  mirror neutron oscillations**

A. Knecht, International Workshop on Search for Baryon and Lepton Number Violations, 20-22 September 2007, Berkeley, USA.

- **Amorphous carbon coating for ultracold neutron experiments**

S. Heule, E-MRS Spring meeting, Symposium P, 1. June 2007, Strasbourg, France.



## 16.1.12 XENON

## Talks

- R. Santorelli: **The XENON Dark Matter Project**  
Plenary Talk, Rencontres de Moriond EW 2008, La Thuile, March 6, 2008.
- M. Haffke: **Backgrounds of the XENON10 Experiment at the Gran Sasso Underground Laboratory**  
Contributed Talk, University of Freiburg, March 3, 2008.
- A. Askin: **Material Screening Measurements of XENON100 Detector with GATOR Setup at LNGS**  
Contributed Talk, University of Freiburg, March 3, 2008.
- A. Kish: **Background predictions for the XENON100 Experiment at the Gran Sasso Underground Laboratory**  
Contributed Talk, University of Freiburg, March 3, 2008.
- A. Manalaysay: **The Latest from XENON10 at the Gran Sasso Underground Lab**  
Plenary Talk, Eighth UCLA Symposium, Marina del rey, February 22, 2008.
- L. Baudis: **Direct Dark Matter Searches with Liquid Xenon Detectors**  
Seminar, Karlsruhe Institute of Technology, January 22, 2008.
- L. Baudis: **First results from the XENON10 Experiment at the Gran Sasso Underground Lab and Status of XENON100**  
Plenary Talk, SPP Seminar, CEA Saclay, November 12, 2007.
- E. Tziaferi: **Hunting WIMPs - the XENON experiment**  
Plenary Talk, 11th Meeting of german female physicists, Osnabrück, November 1, 2007.
- L. Baudis: **Results from the XENON10 Experiment**  
Plenary Talk, PSI, October 15, 2007.
- A. Manalaysay: **XENON10 Dark Matter Results: Past, Present, Future**  
Seminar, ETH Zürich, September 14, 2007.
- A. D. Ferella: **Results from the XENON10 Dark Matter search experiment at Gran Sasso Laboratories**  
Plenary Talk, Imperial College London, July 5, 2007.
- L. Baudis: **First results on WIMP-nucleon interactions from the XENON10 Experiment at the Gran Sasso Underground Laboratory**  
Plenary Talk, University of Patras, June 20, 2007.
- A. Manalaysay: **First Results from the XENON10 Experiment at the Gran Sasso Underground Lab**  
Seminar, RWTH Aachen, May 25, 2007.
- A. Manalaysay: **Nuclear Recoil Discrimination in the XENON10 Detector**  
Contributed Talk, Annual April Meeting of the APS, Jacksonville Florida, April 14, 2007.

## 16.1.13 Miscellaneous

## Articles

- **Myonen und Pionen in Teilchenphysik und Anwendungen, 30 Jahre experimentelle Forschung an der Schweizer Mesonenfabrik in Villigen**  
Peter Truöl, Neujahrsblatt der Naturforschenden Gesellschaft in Zürich auf das Jahr 2008, ISSN 0379-1327.

## Articles in press

- **Review of Particle Physics**  
C. Amsler *et al.* (Particle Data Group), to appear in Summer 2008.
- **Quark Model**  
C. Amsler, T. DeGrand, B. Krusche, Review of Particle Physics, to appear in Summer 2008.
- **The  $\eta(1405)$ ,  $\eta(1475)$ ,  $f_1(1420)$ , and  $f_1(1510)$**   
C. Amsler and A. Masoni, Review of Particle Physics, to appear in Summer 2008.
- **Note on scalar mesons**  
S. Spanier, N.A. Törnqvist, and C. Amsler, Review of Particle Physics, to appear in Summer 2008.
- **$B$ ,  $D$  and  $K$  decays**  
M. Artuso *et al.*, Eur. J. Phys. (2008), e-Print: arXiv:0801.1833.
- **Flavour physics of leptons and dipole moments**  
M. Raidal and A. van der Schaaf *et al.*, report of the CERN series of workshops on FLAVOUR IN THE ERA OF THE LHC, November 2005 - March 2007, to appear in Eur. Phys. J.
- **Physics at a future Neutrino Factory and super-beam facility**  
A. Bandyopadhyay *et al.* (ISS Physics Working Group), to appear in Reports on Progress in Physics (IOP).

## Talks

- L. Baudis: **Direct Dark Matter Searches with Underground Detectors**  
Physics Colloquium, University of Basel, November 23, 2007.
- L. Baudis: **Direct Detection of Dark Matter**  
Plenary Talk, SUSY 2007, Karlsruhe, August 1, 2007.
- L. Baudis: **Direct Detection of Cold Relics with Underground Detectors**  
Plenary Talk, XIXemes Rencontres de Blois, Matter and Energy in the Universe, May 21, 2007.

## 16.2 Condensed matter

### 16.2.1 Biological systems

#### Article

- **Solution to the twin image in holography**  
T. Latychevskaia and H.-W. Fink, Phys. Rev. Lett. 98, 233901 (2007).

#### Talks

- T. Latychevskaia and Elvira Steinwand: **Hologram presentation**  
experimental presentation, Nacht der Forschung, Zürichhorn, 28 September 2007.
- M. Germann: **Alignment of set of holograms**  
SIBMAR meeting, Jena, Germany, 13 - 15 December 2007.
- T. Latychevskaia: **Theory of hologram alignment method**  
SIBMAR meeting, Jena, Germany, 13 - 15 December 2007.
- H.-W. Fink: **Transmission or no transmission through graphene membranes**  
SIBMAR meeting, Jena, Germany, 13 - 15 December 2007.
- E. Steinwand and J.-N. Longchamp: **Low Energy Electron Coherent Diffraction Microscopy**  
SIBMAR meeting, Jena, Germany, 13 - 15 December 2007.
- T. Latychevskaia: **Holography with Low Energy Electrons, A new Tool for Structural Biology**  
American Physics Society March meeting, New Orleans, March 2008.

#### Semesterarbeit

- **Freezedryer, Thermal Desorption Spectroscopy**  
M. Thomann, HS 07

#### Poster

- **On the Energetics of Individual DNA-Molecules**  
C. Escher and H.-W. Fink, ICN+T 07, Stockholm, 2 - 6 Juli 2007.

## 16.2.2 Phase transitions and superconducting photon detectors

## Articles

- **Energy resolution and sensitivity of a superconducting quantum detector**  
A. Semenov, P. Haas, K. Il'in, H.-W. Hübers, M. Siegel, A. Engel, A. Smirnov,  
Physica C, **460-462**, (2007) 1491.
- **Spectral Sensitivity and Spectral Resolution of Superconducting Single-Photon Detectors**  
P. Haas, A. Semenov, H.-W. Hübers, J. Beyer, A. Kirste, T. Schurig, K. Il'in, M. Siegel, A. Engel,  
A. Smirnov, IEEE Trans. Appl. Supercon., **17**, (2007) 298.
- **Ultra-thin NbN films on Si: crystalline and superconducting properties**  
K. Il'in, R. Schneider, D. Gerthsen, A. Engel, H. Bartolf, A. Schilling, A. Semenov, H.-W. Hübers,  
B. Freitag, M. Siegel, J. Phys.: Conf. Ser., **97**, (2008) 012045.
- **Temperature- and field-dependence of critical currents in NbN microbridges**  
A. Engel, B. Holger, A. Schilling, K. Il'in, M. Siegel, A. Semenov, H.-W. Hübers,  
J. Phys.: Conf. Ser., **97**, (2008) 012152.

## Articles in press

- **Fabrication of metallic structures with lateral dimensions less than 15 nm and  $j_c(T)$ -measurements in NbN micro- and nanobridges**  
H. Bartolf, A. Engel, A. Schilling, K. Il'in, M. Siegel, to be published in Phys. C
- **Current-Induced Critical State in NbN Thin-Film Structures**  
K. Il'in, M. Siegel, A. Engel, H. Bartolf, A. Schilling, A. Semenov, H.-W. Hübers,  
to be published in J. Low Temp. Phys.

## Master thesis

- **Effect of vortex shaking on the resistivity of type-II superconductors**  
Stefan J. Menzi, Physik-Institut Universität Zürich, 2007.

## Contributed Conference Presentations

- **Fabrication of metallic structures with spatial dimensions of about 10 nm and  $j_c(T)$  measurements in NbN micro- and nanobridges (poster)**  
H. Bartolf, A. Engel, A. Schilling, K. Il'in, M. Siegel, Vortex Matter in Nanostructured Superconductors (Vortex V), Rhodes, Greece, 8.-14.9.2007.
- **Temperature- and Field-Dependence of Critical Currents in NbN Microbridges (poster)**  
A. Engel, H. Bartolf, A. Schilling, K. Il'in, M. Siegel, A. Semenov, H.-W. Hübers, European Conference for Applied Superconductivity EUCAS 2007, Brussels, Belgium, 16.-20.9.2007.
- **Magnetic Vortices in Superconducting Photon Detectors**  
A. Engel, H. Bartolf, A. Schilling, K. Il'in, M. Siegel, P. Haas, A. Semenov, H.-W. Hübers,  
Single Photon Workshop 2007, Torino, Italy, 25.-28.9.2007.

- **Temperature- and Field-Dependence of Critical Currents in NbN Microbridges (poster)**  
A. Engel, H. Bartolf, A. Schilling, K. Il'in, M. Siegel, A. Semenov, H.-W. Hübers, 2007 Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, Switzerland, 28.-30.9.2007.
- **Process development for the fabrication of metallic structures with lateral dimensions of about 10 nm and superconducting nm-sized meander structures (poster)**  
H. Bartolf, A. Engel, A. Schilling, K. Il'in, M. Siegel, 2007 Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, Switzerland, 28.-30.9.2007.
- **Unexpected temperature-dependence of the critical current in NbN-microbridges (poster)**  
A. Engel, H. Bartolf, L. Gómez, A. Schilling, K. Il'in, M. Siegel, A. Semenov, H.-W. Hübers, Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Berlin, Deutschland, 25.-29.2.2008.
- **Fabrication process of superconducting nanostructures and  $R(T, B)$  measurements of their electronic phase transition (poster)**  
H. Bartolf, A. Engel, L. Gómez, A. Schilling, K. Il'in, M. Siegel, Swiss Physical Society Meeting, Geneva, Switzerland, 26.-27.3.2008.

#### Invited Lectures

- A. Schilling: **Phase diagrams of superconductors, populated with peaks, steps and crossovers**  
Highly correlated Electron Systems and Superconductivity Symposium in Honor of Prof. Hans-Ruedi Ott, Zürich, Switzerland, 11.05.07.
- A. Schilling: **Transition-metal oxide perovskites: still any hope for new superconductors?**  
MaNEP Project 4 Internal Workshop 2008, Neuchâtel, Switzerland, 16.01.08.
- A. Engel: **Superconducting Nanostructures – Single-Photon Detector**  
Manep Project 5 Internal Workshop 2008, Neuchâtel, Switzerland, 17.1.2008.

### 16.2.3 Superconductivity and Magnetism

#### Articles

- **Influence of  $Ti^{4+}$  on the magnetic state of  $CaRu_{1-x}Ti_xO_3$**   
A. Zorkovská, A. Baran, I. Bradarić, I. Savić, J. Šebek, E. Šantavá, D. Marinčev, S. Kohout, H. Keller, and A. Feher, *Journal of Magnetism and Magnetic Materials* **316**, e699-e702 (2007).
- **Polaron Effects in High-Temperature Cuprate Superconductors**  
A. Bussmann-Holder and H. Keller, in *Polarons in Advanced Materials*, ed. A.S. Alexandrov (Springer Series in Materials Science 103, Canopus Publishing, Bristol 2007), pp. 599-621.
- **Real and marginal isotope effects in cuprate superconductors**  
A.R. Bishop, A. Bussmann-Holder, O.V. Dolgov, A. Furrer, H. Kamimura, H. Keller, R. Khasanov, R.K. Kremer, D. Manske, K.A. Müller, and A. Simon, *J. Supercond. Nov. Magn.* **20**, 393-396 (2007).

- **High  $T_c$  Superconductors and Related Transition Metal Oxides**  
A. Bussmann-Holder and H. Keller, editors (Springer, Berlin, 2007).
- **Electronic phase separation and unusual isotope effects in  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  observed by electron paramagnetic resonance**  
A. Shengelaya, B.I. Kochelaev, K. Conder, and H. Keller,  
in **High  $T_c$  Superconductors and Related Transition Metal Oxides**, eds. A. Bussmann-Holder and H. Keller (Springer-Verlag, Berlin, Heidelberg, 2007), pp. 287-302.
- **Two types of  $H_{c_2}(T)$  dependences in  $\text{Bi}_2\text{Sr}_2\text{Ca}_{1-x}\text{Y}_x\text{Cu}_2\text{O}_{8+\delta}$  with different Yttrium content**  
I.L. Landau and H. Keller, *Physica C* **458**, 38-42 (2007).
- **Surface nanomagnetism of  $\text{La}_2\text{CuO}_4$  particles**  
R.V. Yusupov, V. Kabanov, D. Mihailovic, K. Conder, H. Keller, and K.A. Müller,  
*Physica C* **460-462**, 801-802 (2007).
- **Oxygen isotope effect on the polaronic infrared photo-induced absorption spectra of  $\text{La}_2\text{CuO}_4$**   
R.V. Yusupov, T. Mertelj, D. Mihailovic, K. Conder, H. Keller, and K.A. Müller,  
*Physica C* **460-462**, 920-921 (2007).
- **On the interpretation of muon-spin-rotation experiments in the mixed state of type-II superconductors**  
I.L. Landau and H. Keller, *Physica C* **466**, 131-141 (2007).
- **Spontaneous ferromagnetic spin ordering at the surface of  $\text{La}_2\text{CuO}_4$**   
R.V. Yusupov, V.V. Kabanov, D. Mihailovic, K. Conder, K. A. Müller, and H. Keller,  
*Phys. Rev. B* **76**, 024428-1-9 (2007).
- **Entscheidende Rolle des Gitters**  
A. Bussmann-Holder, H. Keller, and K.A. Müller, *Physik Journal* **6**, 16 (2007).
- **Study of the critical current and irreversibility line of  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$  thin films irradiated with low-energy  $\text{Co}^+$  and  $\text{Fe}^+$  ions**  
N. Panarina, A. Bukharaev, Yu. Talanov, V. Petukhov, G. Gumarov, A. Validov, and R. Khasanov,  
*Physica C* **467**, 85-90 (2007).
- **Dual character of the electronic structure in  $\text{YBa}_2\text{Cu}_4\text{O}_8$ : conduction bands of  $\text{CuO}_2$  planes and  $\text{CuO}$  chains**  
T. Kondo, R. Khasanov, J. Karpinski, S.M. Kazakov, N.D. Zhigadlo, T. Ohta, H.M. Fretwell, A.D. Palczewski, J.D. Koll, J. Mesot, E. Rotenberg, H. Keller, and A. Kaminski,  
*Phys. Rev. Lett.* **98**, 157002-1-4 (2007).
- **On the occurrence of Berezinskii-Kosterlitz-Thouless behavior in highly anisotropic cuprate superconductors**  
T. Schneider, *Europhys. Lett.* **78**, 47003-1-4 (2007).
- **Evidence for three-dimensional XY critical properties in underdoped  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$**   
T. Schneider, *Phys. Rev. B* **75**, 174517-1-10 (2007).
- **Magnetic-field-induced 3D-to-1D crossover in  $\text{La}_{0.9}\text{La}_{0.1}\text{CuO}_2$**   
T. Schneider, *Europhys. Lett.* **79**, 57005-1-4 (2007).
- **Vortex states and magnetic anisotropy in single-crystal  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  studied by torque magnetometry**  
S. Kohout, T. Schneider, J. Roos, H. Keller, T. Sasagawa, and H. Takagi,  
*Phys. Rev. B* **76**, 064513-1-7 (2007).

- **On the superconductivity in hole doped cuprates**  
K.A. Müller, J. Phys. C: Condens. Matter **19**, 251002-1-12 (2007).
- **$^{139}\text{La}$  NMR and NQR investigations of the superconductor  $\text{LaBa}_2\text{Cu}_3\text{O}_{7-\delta}$**   
S. Strässle, J. Roos, M. Mali, K. Conder, E. Pomjakushina, and H. Keller, Physica C **460-462**, 890-891 (2007).
- **$^{11}\text{B}$  NMR study of single-crystal  $\text{MgB}_2$  in the normal conducting phase**  
S. Strässle, J. Roos, M. Mali, H. Keller, and J. Karpinski, Physica C **466**, 168-173 (2007).
- **Electroluminescence in  $\text{SrTiO}_3\text{:Cr}$  single-crystal nonvolatile memory cells**  
S.F. Alvarado, F. La Mattina, and J.G. Bednorz, Appl. Phys. A **89**, 85-89 (2007).
- **Multiple Gap Symmetries for the Order Parameter of Cuprate Superconductors from Penetration Depth Measurements**  
R. Khasanov, S. Strässle, D. Di Castro, T. Masui, S. Miyasaka, S. Tajima, A. Bussmann-Holder, and H. Keller, Phys. Rev. Lett. **99**, 237601-1-4 (2007).
- **In-plane magnetic penetration depth  $\lambda_{ab}$  in  $\text{Ca}_{2-x}\text{Na}_x\text{CuO}_2\text{Cl}_2$  : Role of the apical sites**  
R. Khasanov, N.D. Zhigadlo, J. Karpinski, and H. Keller, Phys. Rev. B **76**, 094505-1-8 (2007).
- **Formation of Hydrogen Impurity States in Silicon and Insulators at Low Implantation Energies**  
T. Prokscha, E. Morenzoni, D.G. Eshchenko, N. Garifanov, H. Glückler, R. Khasanov, H. Luetkens, and A. Suter, Phys. Rev. Lett **98**, 227401-1-4 (2007).
- **Two-gap superconductivity in the cuprate superconductor  $\text{La}_{1.83}\text{Sr}_{0.17}\text{CuO}_4$**   
R. Khasanov, A. Shengelaya, A. Bussmann-Holder, and H. Keller, Invited paper to the volume "High Tc Superconductors and Related Transition Metal Oxides", eds. A. Bussmann-Holder and H. Keller (Springer, Berlin, 2007), pp. 177-190.
- **$\mu\text{SR}$  studies of hydrogen-bonded ferroelectrics and antiferroelectrics**  
E. Morenzoni, H. Luetkens, A. Suter, D. Eshchenko, R. Khasanov, A. Amato, T. Prokscha, and R. Scheuermann, Physica B **388**, 274-277 (2007).
- **$s$ -wave symmetry along the  $c$ -axis and  $s + d$  in-plane superconductivity in bulk  $\text{YBa}_2\text{Cu}_4\text{O}_8$**   
R. Khasanov, A. Shengelaya, A. Bussmann-Holder, J. Karpinski, H. Keller, and K.A. Müller, J. Supercond. Nov. Magn. **21**, 81-85 (2008).
- **Correlation between the transition temperature and the superfluid density in BCS superconductor  $\text{NbB}_{2+x}$**   
R. Khasanov, A. Shengelaya, A. Maisuradze, D. Di Castro, R. Escamilla, and H. Keller, Phys. Rev. B **77**, 064506-1-9 (2008).
- **Finite gap behaviour in the superconductivity of the 'infinite layer' n-doped high- $T_c$  superconductor  $\text{Sr}_{0.9}\text{La}_{0.1}\text{CuO}_2$**   
J.S. White, E.M. Forgan, M. Laver, P.S. Häfliger, R. Khasanov, R. Cubitt, C.D. Dewhurst, M.-S. Park, D.-J. Jang, H.-G. Lee, and S.-I. Lee, J. Phys.: Condens. Matter **20**, 104237-1-5 (2008).
- **Probing superconductivity in  $\text{MgB}_2$  confined to magnetic field tuned cylinders by means of critical fluctuations**  
S. Weyeneth, T. Schneider, N.D. Zhigadlo, J. Karpinski, and H. Keller, J. Phys.: Condens. Matter **20**, 135208-1-8 (2008).

- **Synthesis and bulk properties of oxychloride superconductor  $\text{Ca}_{2-x}\text{Na}_x\text{CuO}_2\text{Cl}_2$**   
N.D. Zhigadlo, J. Karpinski, S. Weyeneth, R. Khasanov, S. Katrych, P. Wägli, and H. Keller,  
J. Phys.: Conf. Ser. **97**, 012121-1-6 (2008).
- **Resonant soft x-ray powder diffraction study to determine the orbital ordering in A-site-ordered  $\text{SmBaMn}_2\text{O}_6$**   
M. Garca-Fernández, U. Staub, Y. Bodenthin, S.M. Lawrence, A.M. Mulders, C.E. Buckley,  
S. Weyeneth, E. Pomjakushina, and K. Conder, Phys. Rev. B **77**, 060402(R)-1-4 (2008).
- **Universal correlations of isotope effects in  $\text{Y}_{1-x}\text{Pr}_x\text{Ba}_2\text{Cu}_3\text{O}_{7-\delta}$**   
R. Khasanov, S. Strässle, K. Conder, E. Pomjakushina, A. Bussmann-Holder, and H. Keller,  
Phys. Rev. B **77**, 104530-1-5 (2008).

Article in press

- **Depth dependent spin dynamics of canonical spin glass films: A low-energy muon spin rotation study**  
E. Morenzoni, H. Luetkens, T. Prokscha, A. Suter, S. Vongtragool, F. Galli, M.B.S. Hesselberth,  
N. Garifianov, and R. Khasanov, to appear in Phys. Rev. Lett.

Conference reports

- **Depth dependent  $\mu\text{SR}$  studies of YBCO/PBCO/YBCO tri-layers**  
B.M. Wojek, E. Morenzoni, D.G. Eshchenko, T. Prokscha, A. Suter, E. Koller, E. Treboux, Ø. Fischer, and H. Keller, NCCR MaNEP - Review Panel Meeting, Genève, June 14, 2007.
- **Evidence of charge transfer processes in resistive memory switching of Cr-doped  $\text{SrTiO}_3$**   
F. La Mattina, S. F. Alvarado, J.G. Bednorz, and H. Keller,  
6th PSI Summer School, Zuoz, August 18-25, 2007.
- **Superconductivity and magnetism in cuprate tri-layers**  
B.M. Wojek, E. Morenzoni, D.G. Eshchenko, A. Suter, T. Prokscha, E. Koller, E. Treboux, Ø. Fischer, and H. Keller,  
6th PSI Summer School on Condensed Matter Research, Zuoz, August 18-25, 2007.
- **Depth resolved investigations of superconductivity and magnetism in cuprate multilayers**  
E. Morenzoni, B.M. Wojek, D.G. Eshchenko, A. Suter, T. Prokscha, E. Koller, E. Treboux, Ø. Fischer, and H. Keller, Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, 28-30 September, 2007.
- **$^{139}\text{La}$  NMR/NQR study of the cuprate superconductor  $\text{LaBa}_2\text{Cu}_3\text{O}_{7-\delta}$**   
S. Strässle, J. Roos, M. Mali, K. Conder, E. Pomjakushina, and H. Keller, Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, 28-30 September, 2007.
- **EPR study of Oxygen Isotope Effect on spin lattice relaxation rate of  $\text{Yb}^{3+}$  in  $\text{YBa}_2\text{Cu}_3\text{O}_x$**   
A. Maisuradze, A. Shengelaya, B.I. Kochelaev, E. Pomjakushina, K. Conder, K.A. Müller, and H. Keller, Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, 28-30 September, 2007.
- **Electron traps and resistive memory switching in  $\text{SrTiO}_3$**   
F. La Mattina, S. F. Alvarado, J. G. Bednorz, S. Karg, A. Shengelaya, and H. Keller,



Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, 28-30 September, 2007.

- **Superconductivity confined to magnetic field tuned cylinders by means of critical fluctuations**  
S. Weyeneth, T. Schneider, N.D. Zhigadlo, J. Karpinski, and H. Keller, Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, 28-30 September, 2007.
- **Superconductivity and magnetism in cuprate multi-layers**  
B.M. Wojek, E. Morenzoni, D.G. Eshchenko, A. Suter, T. Prokscha, E. Koller, E. Treboux, Ø. Fischer, and H. Keller, Annual meeting of the Swiss Physical Society, Genève, March 26-27, 2008.
- <sup>139</sup>**La NMR/NQR study of the cuprate superconductor  $\text{LaBa}_2\text{Cu}_3\text{O}_{7-\delta}$**   
S. Strässle, M. Mali, B. Granelli, J. Roos, K. Conder, E. Pomjakushina, and H. Keller, Annual meeting of the Swiss Physical Society, Genève, March 26-27, 2008.
- **Evidence of coexisting superconducting and magnetic phases in  $\text{YBa}_2\text{Cu}_3\text{O}_x$  near antiferromagnetic to superconducting boundary detected by  $\text{Yb}^{3+}$  EPR probe**  
A. Maisuradze, A. Shengelaya, B.I. Kochelaev, E. Pomjakushina, K. Conder, and H. Keller, Annual meeting of the Swiss Physical Society, Genève, 26-27 March, 2008.
- **Superconductivity confined to magnetic field tuned cylinders by means of critical fluctuations**  
S. Weyeneth, T. Schneider, N.D. Zhigadlo, J. Karpinski, and H. Keller, Annual meeting of the Swiss Physical Society, Genève, 26-27 March, 2008.

#### Invited lectures

- H. Keller: **Unconventional isotope effects in cuprate superconductors - are they real?**  
Dynamical Energy Landscapes and Functional Systems, Port Jefferson, New York, U.S.A., May 23-26, 2007.
- R. Khasanov: **Evidence for complex order parameters in cuprate superconductors**  
Dynamical Energy Landscapes and Functional Systems, Port Jefferson, New York, U.S.A., May 23-26, 2007.
- R. Khasanov:  **$\mu$ SR observation of multiple order parameters in cuprate superconductors**  
LMU seminar, PSI, 16 August, 2007.
- H. Keller: **Introduction to superconductivity**  
Correlated Electron Materials, 6th PSI Summer School on Condensed Matter Research, Lyceum Alpinum, Zuoz, Switzerland, August 18-25, 2007.
- H. Keller: **Experimental evidence for mixed order parameter symmetries in cuprate superconductors**  
5th CoMePhS Meeting, University of Groningen, Groningen, The Netherlands, September 13-14, 2007.
- R. Khasanov: **Evidence for complex order parameter in cuprate high-temperature superconductors**  
Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, 28-30 September, 2007.
- H. Keller: **Unconventional isotope effects in cuprate superconductors - what do they tell us?**  
High-temperature Superconductivity in Cuprates Original Concept and Developments, Tbilisi, Georgia, 8-11 October, 2007.

- R. Khasanov: **Multiple order parameters in cuprate superconductors**  
Conference on High-Temperature Superconductivity in Cuprates: Original Concept and New Developments, Tbilisi, Georgia, 8-11 October, 2007.
- T. Schneider: **Magnetic field induced 3D to 1D crossover in type-II superconductors**  
Conference on High-Temperature Superconductivity in Cuprates: Original Concept and New Developments, Tbilisi, Georgia, 8-11 October, 2007.
- A. Maisuradze: **Investigation of relaxation mechanisms and insulator to superconductor transition of  $\text{YBa}_2\text{Cu}_3\text{O}_x$  by  $\text{Yb}^{3+}$  EPR probe**  
Conference on High-Temperature Superconductivity in Cuprates: Original Concept and New Developments, Tbilisi, Georgia, 8-11 October, 2007.
- H. Keller: **Unconventional isotope effects and multicomponent superconductivity in cuprates**  
International Symposium on Lattice Effects in Cuprate High Temperature Superconductors - Spin, phonon or third way?, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan, October 31 - November 3, 2007.
- H. Keller: **Hochtemperatur-Supraleitung - 20 Jahre nach der Entdeckung**  
Physikalische Gesellschaft Zürich, ETH Zürich, Zürich, Switzerland, November 22, 2007.
- H. Keller: **Unconventional isotope effects in cuprate superconductors - what do they tell us?**  
PSI Condensed Matter Colloquium, Paul Scherrer Institute, Villigen, Switzerland, November 30, 2007.
- R. Khasanov: **Partially superconducting "Fermi surface" in  $(\text{BiPb})_2(\text{SrLa})_2\text{CuO}_{6+\delta}$ : competition between superconductivity and pseudogap**  
MICuO: Metal Insulator transition in Cuprates, Parma (Italy), March 18, 2008.
- Alexander Maisuradze: **Analysis of  $\mu\text{SR}$  spectra in the vortex state of type-II superconductors**  
Seminar at Paul Scherrer Institut, Villigen, Switzerland, 28 February 2008.
- H. Keller: **Von Positronen zu Myonen**  
Mini-Symposium (Dr. Dierk Herlach), Paul Scherrer Institute, Villigen, Switzerland, March 28, 2008.

#### 16.2.4 Surface Physics

##### Articles

- **Boron nitride nanomesh: functionality from a corrugated monolayer**  
S. Berner, M. Corso, R. Widmer, O. Groening, R. Laskowski, P. Blaha, K. Schwarz, A. Goriachko, H. Over, S. Gsell, M. Schreck, H. Sachdev, T. Greber, J. Osterwalder,  
Angew. Chem. Int. Ed. 46, 5115-5119 (2007).
- **Electrolytic in situ STM investigation of h-BN nanomesh**  
R. Widmer, S. Berner, O. Groening, T. Brugger, J. Osterwalder, T. Greber,  
Electrochemistry Commun. 9, 2484-2488 (2007).

- **Hidden surface states on pristine and H-passivated Ni(111): angle-resolved photoemission and density-functional calculations**  
J. Lobo-Checa, T. Okuda, M. Hengsberger, L. Patthey, T. Greber, P. Blaha, J. Osterwalder, Phys. Rev. B 77, 075415-1-8 (2008).
- **Photoemission momentum mapping and wave function analysis of surface and bulk states on flat Cu(111) and stepped Cu(443) surfaces: a two-photon photoemission study**  
M. Hengsberger, F. Baumberger, H. J. Neff, T. Greber, J. Osterwalder, Phys. Rev. B 77, 085425-1-10 (2008).
- **Electronic structure at the C<sub>60</sub>/metal interface: an angle-resolved photoemission and first principles study**  
A. Tamai, A. P. Seitsonen, F. Baumberger, M. Hengsberger, Z.-X. Shen, T. Greber, J. Osterwalder, Phys. Rev. B 77, 075134-1-8 (2008).
- **Surface trapping of atoms and molecules with dipole rings**  
H. Dil, J. Lobo-Checa, R. Laskowski, P. Blaha, S. Berner, J. Osterwalder, T. Greber, Science 319, 1824-1826 (2008).

#### Articles in press

- **Comparative electron diffraction study of the diamond nucleation layer on Ir(001)**  
S. Gsell, S. Berner, T. Brugger, M. Schreck, R. Brescia, M. Fischer, J. Osterwalder, B. Stritzker, Diamond Relat. Mater., in press (2008).
- **Quantitative vectorial spin analysis in ARPES: Bi/Ag(111) and Pb/Ag(111)**  
F. Meier, H. Dil, J. Lobo-Checa, L. Patthey, J. Osterwalder, Phys. Rev. B, in press (2008).

#### Master and Bachelor theses

- **Alignment and characterisation of an optical parametric amplifier**  
Silvan Roth, Bachelor Thesis, Physik-Institut, Universität Zürich, 2007.
- **Towards silicon nanowire field-effect transistors**  
Martin Enderlein, Master Thesis, Physik-Institut, Universität Zürich, 2008  
(work carried out at the IBM Research Laboratory, Rüschlikon).

#### Contributed conference presentations

- **Corannulene molecules on a magnetic surface**  
L. Brandenberger, Swiss Molecules on Surfaces (molCHsurf) Discussion Meeting, Bern, 19.6.07.
- **Catching molecules in nanomesh pores**  
S. Berner, Swiss Molecules on Surfaces (molCHsurf) Discussion Meeting, Bern, 19.6.07.
- **Nanomesh in liquids (Poster)**  
T. Greber, Bunsen Discussion Meeting "Out of the Vacuum", Heidelberg, Germany, 29.6.07.
- **Boron nitride nanomesh: functionality from a corrugated monolayer**  
S. Berner, 17th International Vacuum Congress, Stockholm, Sweden, 3.7.07.

- **Hidden surface states on Ni(111) pristine and hydrogen passivated surfaces**  
J. Lobo-Checa, 17th International Vacuum Congress, Stockholm, Sweden, 6.7.07.
- **Quantum size effects and Rashba splitting in thin metal films**  
J. H. Dil, SLS Symposium on Surface Science, PSI, Villigen, 3.7.07.
- **Boron nitride nanomesh: functionality from a corrugated monolayer**  
S. Berner, International Conference on Trends in Nanotechnology 2007, San Sebastian, Spain, 5.9.07.
- **Determining the nanoscale energy landscape of the h-BN nanomesh (Poster)**  
J. H. Dil, International Conference on Trends in Nanotechnology 2007, San Sebastian, Spain, 5.9.07.
- **Rashba spin-orbit splitting of quantum well states in thin Pb layers (Poster)**  
J. H. Dil, SLS Users Meeting, PSI, Villigen, 11.9.07.
- **The power of COPHEE**  
J. H. Dil, SLS Workshop on Spectroscopy of Novel Materials, Rigi, 10.1.08.
- **Trapping molecules in dipole rings**  
T. Greber, Symposium on Surface Science 2008, St. Christoph, Austria, 4.3.08.
- **Understanding and tuning the electron spin on surfaces**  
J. H. Dil, Symposium on Surface Science 2008, St. Christoph, Austria, 7.3.08.
- **Spin-orbit splitting of quantum well states in ultrathin Pb layers (Poster)**  
J. H. Dil, Swiss Physical Society Meeting, Geneva, 26./27.3.08.
- **Quantitative vectorial spin analysis in spin and angle resolved photoemission: Bi/Ag(111) and Pb/Ag(111) (Poster)**  
F. Meier, Swiss Physical Society Meeting, Geneva, 26./27.3.08.

#### Invited lectures

- M. Hengsberger: **(Brief) review of techniques and recent progress in laser-based photoelectron spectroscopy**  
International Seminar and Workshop on Strong Correlations and Angle-Resolved Photoelectron Spectroscopy (CORPES 07), MPI für Physik komplexer Systeme, Dresden, Germany, 7.5.07.
- M. Hengsberger: **Time-resolved photoelectron spectroscopy from h-BN/Ni(111)**  
International Seminar and Workshop on Strong Correlations and Angle-Resolved Photoelectron Spectroscopy (CORPES 07), MPI für Physik komplexer Systeme, Dresden, Germany, 8.5.07.
- J. Osterwalder: **Robust nanotemplates from hexagonal boron nitride monolayers on transition metal surfaces**  
Seminar, IBM Research Laboratory, Rüschlikon, 22.5.07.
- T. Greber: **Single layer hexagonal boron nitride: from flat films to nanomesh**  
Chemie Kolloquium, Universität Hannover, Germany, 25.6.07.
- J. Osterwalder: **Monolayer films of hexagonal boron nitride on transition metal surfaces**  
17th International Vacuum Congress, Stockholm, Sweden, 5.7.07.

- T. Greber: **Formation of single sheet boron nitrides on transition metals**  
Workshop on Elementary Reactive Processes at Surfaces (ERPS 07), Donostia, San Sebastian, Spain, 30.8.07.
- J. H. Dil: **Rashba spin-orbit splitting in Pb quantum well states and on Bi/Ag(111) and Pb/Ag(111) surface alloys**  
Seminar, Arbeitsgruppe S. Blügel, Institut für Festkörperforschung, Forschungszentrum Jülich, Germany, 29.10.07.
- T. Greber: **Single sheets of hexagonal boron nitride: from flat layers to nanomesh**  
Kolloquium, Departement für Chemie und Biochemie, LMU München, 19.2.08.
- T. Greber: **PEARL: an update**  
SLS Quo Vadis Meeting on Magnetism and Magnetic Materials, Unterwasser, 11.1.08.
- T. Greber: **Hexagonal boron nitride nanomesh as a template for molecular arrays**  
Marie-Curie Network NANOMATCH Workshop, Universität Zürich, 13.2.08.

### 16.2.5 Miscellaneous

#### Article

- **Stability of Skyrmions in discrete arrays of spins with Heisenberg and truncated RKKY-interaction and single-spin anisotropy**  
Franz Waldner, Journal of Magnetism and Magnetic Materials **320** (2008) 379-385.

#### Invited lecture

- H. Keller: **Was ist Licht?**  
Kinderuniversität, Universität Zürich, Zürich, Switzerland, May 9, 2007.