14 Publications

Research group of Prof. C. Amsler

Articles

- **Study of $K\bar{K}$ resonances in $\bar{p}p \to K^+K^-\pi^0$ at 900 and 1640 MeV/c**
  C. Amsler et al. (CRYSTAL BARREL Collaboration), Phys. Lett. **B 639** (2006) 165.

- **Search for Laser-Induced Formation of Antihydrogen Atoms**
  M. Amoretti et al. (ATHENA Collaboration), Phys. Rev. Lett. **97** (2006) 213401.

- **Evidence For The Production Of Slow Antiprotonic Hydrogen In Vacuum**
  N. Zurlo et al. (ATHENA Collaboration), Phys. Rev. Lett. **97** (2006) 153401.

- **Progress with cold antihydrogen**
  M. Amoretti et al. (ATHENA Collaboration),
  Nucl. Instr. Meth. in Phys. Research **247** (2006) 133.

- **Review of Particle Physics**
  W.-M. Yao et al. (Particle Data Group), J. Phys. G : Nucl. and Part. Phys. **33** (2006) 1.

- **Particle Physics Booklet**
  W.-M. Yao et al. (Particle Data Group), Institute of Physics Publishing (2006).

- **Quark Model**
  C. Amsler, T. DeGrand and B. Krusche, J. Phys. G : Nucl. and Part. Phys. **33** (2006) 165.

- **The η (1405), η (1475), $f_1(1420)$, and $f_1(1510)$**
  C. Amsler and A. Masoni, J. Phys. G : Nucl. and Part. Phys. **33** (2006) 591.

- **Non $q\bar{q}$-Mesons**
  C. Amsler, J. Phys. G : Nucl. and Part. Phys. **33** (2006) 949.

- **The CMS high level trigger**
  W. Adam et al. (CMS Collaboration), Eur. Phys. J. **C 46** (2006) 605.

- **A Gaussian sum - Filter for vertex reconstruction**
  T. Speer, R. Frühwirth, Comp. Phys. Comm. **174** (2006) 935.

- **Track reconstruction in the CMS tracker**
  T. Speer et al., Nucl. Instr. Meth. in Phys. Research **A 559** (2006) 143.

- **Robust vertex fitters**
  T. Speer et al., Nucl. Instr. Meth. in Phys. Research **A 566** (2006) 149.

- **A double junction model of irradiated silicon pixel sensors for LHC**
  V. Chiochia et al., Nucl. Instr. Meth. in Phys. Research **A 568** (2006) 51.

- **Simulation and hit reconstruction of irradiated pixel sensors for the CMS experiment**
  E. Alagöz, V. Chiochia, M. Swartz, Nucl. Instr. Meth. in Phys. Research **A 566** (2006) 40.

- **Sensor simulation and position calibration for the CMS pixel detector**
  V. Chiochia, E. Alagöz, M. Swartz, Nucl. Instr. Meth. in Phys. Research **A 569** (2006) 132.
- **Extraction of electric field in heavily irradiated silicon pixel sensors**
  A. Dorokhov et al., Nucl. Instr. Meth. in Phys. Research **A 560** (2006) 112.
- **Observation, modeling and temperature dependence of doubly peaked electric fields in irradiated silicon pixel sensors**
  M. Swartz et al., Nucl. Instr. Meth. in Phys. Research **A 565** (2006) 212.
- **The control and readout systems of the CMS pixel barrel detector**
  D. Kotlinski et al., Nucl. Instr. Meth. in Phys. Research **A 565** (2006) 73.
- **Assembly of the CMS pixel barrel modules**
  S. König et al., Nucl. Instr. Meth. in Phys. Research **A 565** (2006) 62.
- **Design and performance of the CMS pixel detector readout chip**
  H. Chr. Kästli et al., Nucl. Instr. Meth. in Phys. Research **A 565** (2006) 188.
- **Impact of CMS silicon tracker misalignment on track and vertex reconstruction**
  L. Barbone et al., Nucl. Instr. Meth. in Phys. Research **A 566** (2006) 45.
- **CMS Physics technical design report, Volume I : Detector Performance and Software**
  CMS Collaboration, CMS - TDR - 8.1 CERN/LHCC-2006-001
  http://cmsdoc.cern.ch/cms/cpt/tdr/ .
- **CMS Physics technical Design Report, Volume II : Physics Performance**
  CMS Collaboration , CMS-TDR-8.2, CERN/LHCC 2006-021
  http://cmsdoc.cern.ch/cms/cpt/tdr/ .
- **Prospects for B physics at CMS**
  T. Speer, Nucl. Phys. **B (Proc. Suppl.) 163** (2007) 159.
- **Study of the $B_s \to J/\psi\,\phi\,\mu^+\mu^-K^+K^-$ channel with CMS**
  V. Ciulli et al., Nucl. Phys. **B (Proc. Suppl.) 156** (2006) 109.

Thesis

- **Design and Performance of the Silicon Pixel Detector Modules for the CMS Experiment**
  C. Hörmann, PhD Thesis, Universität Zürich, 2006.

Book

- **Kern-und Teichenphysik**
  C. Amsler, UTB, Uni-Taschenbücher, Stuttgart, vdf Hochschulverlag AG, ETHZ.

Articles in press

- **Partial wave analysis of $\bar{p}p$ annihilation at rest into $2\pi^+2\pi^-\eta$**
  C. Amsler et al. (Crystal Barrel Collaboration), Eur. J. Phys.
- **Design and performatnce of silicon sensors for the CMS barrel pixel detector**
  Y. Allkofer et al., Nucl. Instr. Meth. in Phys. Research **A**.
- **A new aerogel Čerenkov detector with wavelength shifter**
  Y. Allkofer et al., Nucl. Instr. Meth. in Phys. Research **A**.
- **The ATLAS and CMS Detectors and Triggers for B-Physics**
  T. Speer, Nucl. Phys. **B**.
- **Protonium production in ATHENA at CERN**
  L. Venturelli et al., Nucl. Instr. Meth. in Phys. Research **B**.
- **Detection VUV scintillation light in one ton of liquid argon**
  C. Regenfus, World Scientific.

Invited Lectures

- C. Amsler: **Status of the DIRAC experiment**
  CHIPP plenary meeting, PSI, 2 October 2006.
- V. Boccone: **Light readout for the ArDM WIMP-detector**
  Swiss Physical Society, Zürich, 21 February 2006.
- V. Chiochia: **Sensor simulation and position calibration for the CMS pixel detector**
  8th RD50 Workshop on Radiation Hard Semiconductor Devices for Very High Luminosity Colliders, 25 June 2006.
- C. Regenfus: **Detecting light from WIMPS in 1 ton liquid argon (ArDM)**
  6th Int. Workshop on the Identification of Dark Matter, IDM06, Rhode Island , 13 September 2006.
- C. Regenfus: **The ArDM experiment**
  CHIPP Workshop on Neutrino Physics, Bern, 20 October 2006.
- T. Speer: **B-Physics at CMS**
  First Workshop on Theory, Phenomenology and Experiments in Heavy Flavour Physics, Capri, 31 May 2006.
- T. Speer: **The ATLAS and CMS Detectors and Triggers for B Physics**
  7th Int. Conf. on Hyperons, Charm and Beauty Hadrons (BEACH 2006), Lancaster 7 July 2006.
- L. Wilke: **Extracting $\Delta\Gamma$ in the B_s-system from angular distributions of the $B_s \to (J/\psi)\phi$ decay with the CMS detector**
  Swiss Physical Society, Zürich, 21 February 2006.

- L. Wilke: **Study of the Decay $B_s \to (J/\psi)\phi$ with the CMS Detector**
  Flavor Workshop in the Era of the LHC, 10 October 2006.

ATHENA Collaboration (2006):

M. Amoretti, C. Amsler, G. Bonomi, P. Bowe, C. Canali, C. Carraro, C. L. Cesar, M. Charlton, M. Doser, A. Fontana, M. C. Fujiwara, R. Funakoshi, P. Genova, J. S. Hangst, R. S. Hayano, L. V. Joergensen, I. Johnson, A. Kellerbauer, V. Lagomarsino, R. Landua, E. Lodi Rizzini, M. Macri, N. Madsen, G. Manuzio, D. Mitchard, P. Montagna, H. Pruys, C. Regenfus, J. Rochet, A. Rotondi, G. Testera, A. Variola, L. Venturelli, D. P. van der Werf, Y. Yamazaki, N. Zurlo

CRYSTAL BARREL Collaboration (2006):

C. Amsler, C. A. Baker, B. M. Barnett, C. J. Batty, M. Benayoun, P. Blüm, K. Braune, V. Credé, K. M. Crowe, M. Doser, W. Dünnweber, D. Engelhardt, M. A. Faessler, R. P. Haddock, F. H. Heinsius, N. P. Hessey, P. Hidas, D. Jamnik, H. Kalinowsky, P. Kammel, J. Kisiel, E. Klempt, H. Koch, M. Kunze, U. Kurilla, R. Landua, H. Matthäy, C. A. Meyer, F. Meyer-Wildhagen, R. Ouared, K. Peters, B. Pick, M. Ratajczak, C. Regenfus, U. Strohbusch, M. Suffert, U. Thoma, I. Uman, S. Wallis-Plachner, D. Walther, U. Wiedner, B. S. Zou, Č. Zupančič

PARTICLE DATA Group (2006):

W.-M. Yao, C. Amsler, D. Asner, K.S. Babu, R.M. Barnett, J. Beringer, P.R. Burchat, C.D. Carone, C. Caso, O. Dahl, G. D'Ambrosio, A.D. Gouvea, M. Doser, S. Eidelman, J.L. Feng, T. Gherghetta, M. Goodman, C. Grab, D.E. Groom, A. Gurtu, K. Hagiwara, K.G. Hayes, J.J. Hernandez-Rey, K. Hikasa, H. Jawahery, C. Kolda, Y. Kwon, M.L. Mangano, A.V. Manohar, A. Masoni, R. Miquel, K. Mönig, H. Murayama, K. Nakamura, S. Navas, K.A. Olive, L. Pape, C. Patrignani, A. Piepke, G. Punzi, G. Raffelt, J.G. Smith, M. Tanabashi, J. Terning, N.A. Törnqvist, T.G. Trippe, P. Vogel, T. Watari C.G. Wohl, R.L. Workman, P.A. Zyla

DIRAC Collaboration (2006):

B. Adeva, L. Afanas'ev, Y. Allkofer, C. Amsler, D. Bartos, A. Benelli, V. Brekhovskikh, A. Caragheorgheopol, T. Cechak, M. Chiba, S. Constantinescu, C.O. Curceanu, C. Detraz, D. Dreossi, D. Drijard, A. Dudarev, I. Evangelou, J. L. Fungueirino Pazos, J. Gerndt, P. Gianotti, G. Giolu, O. Gorchakov, K. Gritsay, C. Guaraldo, M. Hansroul, S. Horikawa, M. Iliescu, V. Karpukhin, J. Kluson, M. Kobayashi, P. Kokkas, V. Komarov, L. Kruglova, V. Kruglov, A. Kulikov, A. Kuptsov, K. I. Kuroda, A. Lamberto, A. Lanaro, V. Lapchine, R. Lednicky, P. Levi Sandri, L. Lopez Aguera, V. Lucherini, N. Manthos, C. Marinas Pardo, L. Nemenov, M. Nikitin, K. Okada, V. Ol'shevskiy, M. Pentia, A. Penzo, M. Plo, T.C. Ponta, Z. Pustylnik, G.F. Rappazzo, J. Rochet, A. Romero Vidal, J. J. Saborido Silva, J. Schacher, F. Takeutchi, A. Tarasov, L. Tauscher, F. A. Triantis, T. Trojek, S. Trusov, J. Smolik, S. Sugimoto, A. Ryazantsev, V. Rykalin, O. Vazquez Doce, T. Vrba, V. Yaz'kov, M. Zhabitskiy, P. Zrelov

Research group of Prof. H.-W. Fink

Articles

- **Vacuum Ion Emission from Solid Electrolytes**
  C. Escher, S. Thomann, C. Andreoli, H.-W. Fink, J. Toquant and D. Pohl,
  Applied Physics Letters 89, 053513 (2006).

- **Direct Evidence for Conduction Pathways in Solid Electrolytes**
  C. Escher, T. Latychevskaia, H.-W. Fink and D. Pohl, Phys.Rev.Lett.97, 136601 (2006).

- **Zupfen am Lebensfaden: Experimente mit einzelnen DNA Molekülen**
  C. Escher und H.-W. Fink, Physik in unserer Zeit, Wiley-VCH Verlag, Heft 4 (2007).

Article in print

- **Solution of the Twin Image Problem in Holography**
  T. Latychevskaia and H.-W. Fink, Phys.Rev.Lett.

Invited talks

- H.-W. Fink: **From Field Ion Microscopy to Holography of Individual Bio-Molecules**
  Gert Ehrlich Symposium, University of Illinois at Urbana Champaign, May 31, 2006.

- C. Escher: **Direct Microscopic Insight into the Conduction Mechanism of a Solid Electrolyte**
  International Conference on Nanoscience and Technology (ICN+T), 30.07 - 4.08.2006, Basel

- T. Latychevskaia: **Electron Holography of an Individual Virus**
  International Conference on Nanoscience and Technology (ICN+T), 30.07 - 4.08.2006, Basel

- T. Latychevskaia and C. Escher: **Conformational and Structural Studies on Single Bio-Molecules**
  Swiss Physical Society Meeting 2007, 20-21.02.2007, University Zürich.

Research group of Prof. H. Keller

Articles

- **Effect of Pressure on the Ginzburg-Landau Parameter $\kappa = \lambda/\xi$ in YB_6**
  R. Khasanov, P.S. Häfliger, N. Shitsevalova, A. Dukhnenko, and H. Keller,
  Phys. Rev. Lett. **97**, 157002-1-4 (2006).

- **Muonium in InSb: Shallow acceptor versus deep trap or recombination center**
  V.G. Storchak, D.G. Eshchenko, J.H. Brewer, S.P. Cottrell, and R L. Lichti,
  Phys. Rev. B **73**, 081203-1-4 (2006).

- **Pseudogap of the high-temperature superconductor $La_{1.96-x}Sr_xHo_{0.04}CuO_4$ as observed by neutron crystal-field spectroscopy**
  Petra S. Häfliger, A. Podlesnyak, K. Conder, E. Pomjakushina, and A. Furrer,
  Phys. Rev. B **74**, 184520-1-13 (2006).

- **Muon-spin-rotation measurements of the penetration depth in Li_2Pd_3B**
  R. Khasanov, I.L. Landau, C. Baines, F. La Mattina, A. Maisuradze, K. Togano, and H. Keller,
  Phys. Rev. B **73**, 214528-1-6 (2006).

- **Quantum diffusion of muonium atoms in solids: Localization vs. band-like propagation**
  V.G. Storchak, D.G. Eshchenko, and J.H. Brewer, Physica B **374-375**, 347-350 (2006).

- **Formation and dynamics of muonium centers in semiconductors**
  V.G. Storchak, D.G. Eshchenko, J.H. Brewer, and S.P. Cottrel,
  Physica B **374-375**, 398-401 (2006).

- **Room temperature ferromagnetism in III-V and II-IV-V2 dilute magnetic semiconductors**
  V.G. Storchak, D.G. Eshchenko, H. Luetkens, E. Morenzoni, R.L. Lichti, S.F. Marenkin, O.N. Pashkova, and J.H. Brewer, Physica B **374-375**, 430-432 (2006).

- **Correlation between oxygen isotope effects on transition temperature and magnetic penetration depth in high-temperature superconductors close to optimal doping**
  R. Khasanov, A. Shengelaya, K. Conder, E. Morenzoni, I.M. Savić, J. Karpinski, and H. Keller,
  Phys. Rev. B **74**, 064504-1-6 (2006).

- **Nonlocal Meissner screening**
  A. Suter, E. Morenzoni, N. Garifianov, R. Khasanov, E. Kirk, H. Luetkens, T. Prokscha, and M. Horisberger, Physica B **374-375**, 243-246 (2006).

- **The oxygen isotope effect on the infrared photo-induced absorption spectra of La_2SrCuO_4**
  R.V. Yusupov, K. Conder, T. Mertelj, D. Mihailovic, K.A. Müller, and H. Keller,
  Eur. Phys. J. B **54** 465-469 (2006).

- **Mixed order parameter symmetries in cuprate superconductors**
  A. Bussmann-Holder, R. Khasanov, A. Shengelaya, A. Maisuradze, F. La Mattina, H. Keller, and K.A. Müller, Europhys. Lett. **77**, 27002-p1-p4 (2007).

- **Temperature dependences of the upper critical field and the Ginzburg-Landau parameter of Li_2Pd_3B from magnetization measurements**
  I.L. Landau, R. Khasanov, K. Togano, and H. Keller, Physica C **451**, 134-138 (2007).

- **Experimental evidence for two gaps in the high-temperature $La_{1.83}Sr_{0.17}CuO_4$ superconductor**
  R. Khasanov, A. Shengelaya, A. Maisuradze, F. La Mattina, A. Bussmann-Holder, H. Keller, and K.A. Müller, Phys. Rev. Lett. **98**, 057007-1-4 (2007).

- **Magnetic field dependence of the oxygen isotope effect on the magnetic penetration depth in hole-doped cuprate superconductors**

R. Khasanov, A. Shengelaya, D. Di Castro, D.G. Eshchenko, I.M. Savić, K. Conder, E. Pomjakushina, J. Karpinski, S. Kazakov, and H. Keller,
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- **Electric-field-effect modulation of the transition temperature, mobile carrier density, and in-plane penetration depth of $NdBa_2Cu_3O_7$ thin films**
D. Matthey, N. Reyren, and J.-M. Triscone, and T. Schneider,
Phys. Rev. Lett. **98**, 057002-1-4 (2007).

- **Novel sensor design for torque magnetometry**
S. Kohout, J. Roos, and H. Keller, Rev. Sci. Instrum. **78**, 013903-1-5 (2007).

Articles in press

- **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.

- **Polaron Effects in High-Temperature Cuprate Superconductors**
A. Bussmann-Holder and H. Keller, in *Polarons in Advanced Materials*, ed. A.S. Alexandrov, Canopus Publishing Bristol (2007).

- **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, Journal of Superconductivity (2007).

- **High T_c Superconductors and Related Transition Metal Oxides**
A. Bussmann-Holder and H. Keller, editors (Springer, Berlin, 2007).

- **Two-gap superconductivity in the cuprate superconductor $La_{1.83}Sr_{0.17}CuO_4$**
R. Khasanov, A. Shengelaya, A. Bussmann-Holder, and H. Keller,
in *High T_c Superconductors and Related Transition Metal Oxides*, eds. A. Bussmann-Holder and H. Keller (Springer, Berlin, 2007).

- **Electronic phase separation and unusual isotope effects in $La_{2-x}Sr_xCuO_4$ 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, Berlin, 2007).

- **^{139}La NMR and NQR investigations of the superconductor $LaBa_2Cu_3O_{7-\delta}$**
S. Strässle, J. Roos, M. Mali, K. Conder, E. Pomjakushina, and H. Keller, Physica C.

- **Dual character of the electronic structure in $YBa_2Cu_4O_8$: conduction bands of CuO_2 planes and 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.

- **View point: On the superconductivity in hole doped cuprates**
K.A. Müller, J. Phys.: Condens. Matter.

PhD thesis

- **Torque Magnetometry in Novel Superconductors: I Torque Apparatus Developments II Correlation Lengths and Anisotropy**
  St. Kohout, PhD Thesis, Universität Zürich, 2005/2006.

Master thesis

- **Untersuchungen von $YBa_2(Cu_{1-x}Fe_x)_4O_{8+\delta}$**
  R. Kuhn, Master Thesis, Universität Zürich, 2007.

Conference reports

- **^{139}La NMR investigations of the superconductor $LaBa_2Cu_3O_{7-\delta}$**
  S. Strässle, J. Roos, M. Mali, K. Conder, E. Pomjakushina, and H. Keller,
  M2S-HTSC VIII, Dresden, 9-14 July, 2006.

- **EPR study of the spin-lattice relaxation of Yb^{3+} doped YBCO**
  A. Maisuradze, A. Shengelaya, K. Pomjakushina, K. Conder, K. A. Müller, and H. Keller,
  M2S-HTSC VIII, Dresden, 9-14 July, 2006.

- **On the Nature of the Insulator-to-Metal Transition in reduced Cr-doped $SrTiO_3$.**
  F. La Mattina, S. Alvarado, J.G. Bednorz, A. Shengelaya, and H. Keller,
  XIII International Workshop on Oxide Electronics, Ischia (Italy), October 8-11, 2006.

- **EPR and Optical investigation on charge transfer processes in Cr-doped $SrTiO_3$**
  F. La Mattina, S. Alvarado, J.G. Bednorz, A. Shengelaya, and H. Keller,
  Annual meeting of the Swiss Physical Society, Zürich, 20-21 February, 2007.

- **Upper critical field anisotropy of MgB_2 and $Al_{0.16}Mg_{0.84}B_2$**
  S. Weyeneth, C. Duttwyler, R. Puzniak, S. Kohout, N.D. Zhigadlo, J. Karpinski, and H. Keller,
  Annual meeting of the Swiss Physical Society, Zürich, 20-21 February, 2007.

- **Torque magnetometry with highly sensitive piezoresistive sensors**
  S. Weyeneth, C. Duttwyler, S. Kohout, J. Roos, and H. Keller,
  Annual meeting of the Swiss Physical Society, Zürich, 20-21 February, 2007.

- **^{139}La NMR study of the cuprate superconductor $LaBa_2Cu_3O_{7-\delta}$**
  S. Strässle, J. Roos, M. Mali, K. Conder, E. Pomjakushina, and H. Keller,
  Annual meeting of the Swiss Physical Society, Zürich, 20-21 February, 2007.

- **EPR study of Oxygen Isotope Effect on spin lattice relaxation rate of Yb^{3+} in YBCO**
  A. Maisuradze, A. Shengelaya, B Kochelaev, K. Pomjakushina, K. Conder, K.A. Müller, and H. Keller, Annual meeting of the Swiss Physical Society, Zürich, 20-21 February, 2007.

- **^{63,65}Cu Nuclear quadrupole resonance (NQR) study of $YBa_2(Cu_{1-x}Fe_x)_4O_{8+\delta}$**
  R. Kuhn, S. Strässle, A. Maisuradze, B. Graneli, J. Roos, and H. Keller,
  Annual meeting of the Swiss Physical Society, Zürich, 20-21 February, 2007.

Invited lectures/talks

- Petra S. Häfliger: **Muon-Spin Rotation Measurements of the Penetration Depth in the Noncentrosymmetric Superconductors $Li_2(Pd/Pt)_3B$**
  Condensed Matter Physics Seminar, Institute for Theoretical Physics, ETH Zürich, Zürich, Switzerland, September 27, 2006.

- Petra S. Häfliger: **Aspects of Unconventional Superconductivity: (A) The Pseudogap in LSCO-Type High-Temperature Superconductors (B) Possible Occurrence of Spin-Triplet States in $Li_2(Pd/Pt)_3B$**
  Seminar at FRM-II, Neutrons and their Use in Science and Industry, Technische Universität München, München, Germany, December 4, 2006.

- H. Keller: **Unconventional isotope effects in cuprate superconductors - what can we learn from them?**
  Conference on *Lattice Effects in Superconductors*, Santa Fe, USA, April 17-20, 2006.

- H. Keller: **Unconventional isotope effects in cuprate superconductors**
  Third Meeting of CoMePhS, Paris, France, June 17-19, 2006.

- H. Keller: **Wie entsteht ein Ton?**
  Kinderuniversität, Universität Zürich, Zürich, Switzerland, May 10, 2006.

- H. Keller: **Unconventional isotope effects in cuprate high-temperature superconductors**
  8th International Conference on Materials and Mechanisms of Superconductivity and High Temperature Superconductors (M2S 2006 Dresden), Dresden, Germany, July 9-14, 2006.

- H. Keller: **Vortex matter and unconventional isotope effects in cuprate superconductors**
  First Swiss-Japanese workshop on the applications and on new developments in muon spectroscopy on novel materials, KEK, Tsukuba, Japan, September 28-30, 2006.

- H. Keller: **Unconventional isotope effects in cuprate high-temperature superconductors**
  Miniworkshop on Isotope Effect in HTSC Cuprates: Experiment vs. Theory, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan September 29, 2006.

- H. Keller: **Unconventional isotope effects in cuprate high-temperature superconductors**
  The Hong Kong University of Science and Technology, Hong Kong, China, October 4, 2006.

- H. Keller: **Grundlagenforschung, wozu? - Bildung und Wissenschaft, kostbare "Rohstoffe" der Schweiz**
  Kiwanis Klub Rapperswil-Jona, Rapperswil-Jona, Switzerland, November 23, 2006.

- H. Keller: **Experimental evidence for two gaps in cuprate high-temeprature superconductors**
  Sixth International Conference on New Theories, Discoveries, and Applications of Superconductors and Related Materials, Sydney, Australia, January 9-11, 2007.

Research group of Prof. J. Osterwalder

Articles

- **Single layer hexagonal boron nitride films on Ni(110)**
  T. Greber, L. Brandenberger, M. Corso, A. Tamai, J. Osterwalder,
  e-J. Surf. Sci. Nanotech., 4, 410-413 (2006).
- **Spin-polarized photoemission**
  J. Osterwalder, in *Magnetism: Synchrotron Radiation Approach*, chapter 5, Lecture Notes in Physics, Volume 697, E. Beaurepaire, H. Bulou, F. Scheurer, J.-P. Kappler, eds. (Springer, Berlin, Heidelberg, New York 2006) 95-120.
- **Observation of a Mott insulating ground state for Sn/Ge(111) at low temperature**
  R. Cortés, A. Tejeda, J. Lobo, C. Didiot, B. Kierren, D. Malterre, E. G. Michel, A. Mascaraque, Phys. Rev. Lett. 96, 126103-1-4 (2006).
- **Matrix element effects in angle-resolved valence band photoemission with polarized light from the Ni(111) surface**
  M. Mulazzi, M. Hochstrasser, M. Corso, I. Vobornik, J. Fujii, J. Osterwalder, J. Henk, G. Rossi, Phys. Rev. B 74, 035118-1-8 (2006).
- **Large dispersion of incoherent spectral features in highly ordered C_{60} chains**
  A. Tamai, A. P. Seitsonen, T. Greber, J. Osterwalder, Phys. Rev. B 74, 085407-1-5 (2006).
- **Electronic structure of C_{60} on Au(887)**
  F. Schiller, M. Ruiz-Osés, J. E. Ortega, P. Segovia, J. Martínez-Blanco, B. Doyle, V. Pérez-Dieste, J. Lobo, N. Néel, R. Berndt, J. Kröger, J. Chem. Phys. 125, 144719-1-6 (2006).
- **Formation of single-layer h-BN on Pd(111)**
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- **Photoelectron diffraction for a look inside nanostructures**
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- **Energetics and dynamics of unoccupied electronic states at the h-BN/Ni(111) interface**
  M. Muntwiler, M. Hengsberger, A. Dolocan, H. Neff, T. Greber, J. Osterwalder,
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- **Surface x-ray diffraction study of boron-nitride nanomesh in air**
  O. Bunk, M. Corso, D. Martoccia, R. Herger, P. R. Willmott, B. D. Patterson, J. Osterwalder, J. F. van der Veen, T. Greber, Surf. Sci. 601, L7-L10 (2007).
- **Tunable self-assembly of one-dimensional nanostructures with orthogonal directions**
  M. P. Allan, S. Berner, M. Corso, T. Greber, J. Osterwalder, Nanoscale Res. Lett. 2, 94-99 (2007).
- **Self-assembly of a hexagonal boron nitride nanomesh on Ru(0001)**
  A. Goriachko, Y. He, M. Knapp, H. Over, M. Corso, T. Brugger, S. Berner, J. Osterwalder, T. Greber, Langmuir 23, 2928-2931 (2007).
- **Probing enantioselectivity with x-ray photoelectron spectroscopy and density functional theory**
  R. Schillinger, Z. Sljivancanin, B. Hammer, T. Greber, Phys. Rev. Lett. 98, 136102-1-4 (2007).

Article in press

- **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.

Theses

- **Tilting corannulene molecules on surfaces**
  Louis Brandenberger, Diploma Thesis, Physik-Institut, Universität Zürich, 2006.
- **Time-resolved low-energy electron diffraction and photoemission pump-probe experiments**
  Andrei D. Dolocan, Ph. D. Thesis, Physik-Institut, Universität Zürich, 2006.
- **Dynamics of space-charge and molecules on surfaces investigated by means of picosecond low-energy electron diffraction**
  Claudio Cirelli, Ph. D. Thesis, Physik-Institut, Universität Zürich, 2006.
- **Boron-nitride nanostructures on transition metals: flat layers and nanomesh**
  Martina Corso, Ph. D. Thesis, Physik-Institut, Universität Zürich, 2006.
- **Time-resolved photoemission from h-BN/Ni(111) across the ferromagnetic transition**
  Dominik Leuenberger, Master Thesis, Physik-Institut, Universität Zürich, 2007.
- **Nanomesh on Rh(111) thin films on Si(111) and its possible technical applications**
  Thomas Mattle, Bachelor Thesis, Physik-Institut, Universität Zürich, 2007.

Contributed conference presentations

- **Time-resolved two-photon photoemission experiments on the boron nitride nanomesh**
  A. Dolocan, 5th Symposium on Ultra-Fast Surface Dynamics, Abashiri, Japan, 22.5.06.
- **Detecting enantiomers by x-ray photoemission spectroscopy: cysteine on Au(17 11 9)^S**
  R. Schillinger, International Conference on Nano-Structures Self-Assembling, Aix-en-Provence, France, 4.7.06.
- **Co clusters on h-BN/Rh(111) (Poster)**
  T. Brugger, Summer School on Metal Clusters on Surfaces, Pisa, Italia, 6.7.06.
- **Activity boost of a biomimetic oxidation catalyst by immobilisation onto a gold surface**
  S. Berner, International Conference on Nanoscience and Technology, Basel, 31.7.06.
- **Trapping single molecules in boron nitride nanomesh pores**
  S. Berner, International Conference on Nanoscience and Technology, Basel, 4.8.06.
- **Is short-range order detrimental to long-range order in large-scale self assembly ?**
  M. Corso, International Conference on Nanoscience and Technology, Basel, 4.8.06.

- **Co clusters on h-BN/Rh(111) (Poster)**
  T. Brugger, NanoMesh Workshop, Braunwald, 18.9.06

- **Nanomesh on Rh(111) thin films on Si(111) (Poster)**
  T. Mattle, NanoMesh Workshop, Braunwald, 18.9.06.

- **Formation of single-layer h-BN on Pd(111) (Poster)**
  M. Morscher, NanoMesh Workshop, Braunwald, 18.9.06.

- **Is short-range order detrimental to long-range order in large-scale self assembly ?**
  M. Corso, NanoMesh Workshop, Braunwald, 18.9.06.

- **One-dimensional boron and boron-nitride nanostructures on the (110) surface of molybdenum (Poster)**
  M. P. Allan, NanoMesh Workshop, Braunwald, 18.9.06.

- **Trapping single molecules in boron nitride nanomesh pores**
  S. Berner, NanoMesh Workshop, Braunwald, 19.9.06.

- **Growth of molecular arrays by trapping single molecules in boron nitride nanomesh pores**
  S. Berner, Jahrestreffen der Schweizerischen Arbeitsgemeinschaft für Oberflächen und Grenzflächen (SAOG), Universität Fribourg, 26.1.07.

- **Hidden surface states on pristine and hydrogen-passivated Ni(111)**
  J. Lobo-Checa, Swiss Physical Society Meeting, Zürich, 20.2.07.

- **Boron-nitride nanomesh: a peculiar structure with functionality**
  S. Berner, Swiss Physical Society Meeting, Zürich, 20.2.07.

- **Cobalt clusters on h-BN/Rh(111) (Poster)**
  T. Brugger, Swiss Physical Society Meeting, Zürich, 20.2.07.

- **Temperature-dependent and time-resolved photoemission on a ferromagnetic surface**
  D. Leuenberger, Swiss Physical Society Meeting, Zürich, 21.2.07.

- **Dynamics of space-charge and molecules on surfaces investigated by means of picosecond low-energy electron diffraction**
  C. Cirelli, Swiss Physical Society Meeting, Zürich, 21.2.07.

- **Self-assembled thiol-functionalized cobalt porphyrines: boosted catalytic activity by immobilization onto a gold surface**
  S. Berner, Swiss Physical Society Meeting, Zürich, 21.2.07.

- **Hydrogen in C_{60} (Poster)**
  T. Greber, Symposium on Surface Science (3S), Les Arcs, France, 13.3.07.

- **Co clusters on the boron nitride nanomesh**
  T. Brugger, Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Regensburg, 27.3.07.

Invited lectures

- J. Lobo-Checa: **Estructura electronica en superficies metálicas vecinales**
  Consejo nacional de investigaciones cientificas y técnicas, Santa Fe, Argentina, 12.4.06.
- J. Osterwalder: **Hexagonal boron nitride layers as nanotemplates**
  Seminar, Max-Planck-Institut für Festkörperforschung, Stuttgart, 26.4.06.
- J. Osterwalder: **Valence band photoemission (6 hours of lectures)**
  School on Synchrotron Radiation, International Centre for Theoretical Physics, Trieste, 18.-22.5.06.
- A. Dolocan: **Time-resolved low-energy electron diffraction and photoemission pump-probe experiments**
  Seminar, Physics Department, University of Tsukuba, Japan, 26.5.06.
- M. Hengsberger: **Zwei-Photonen-Photoemissionsexperimente auf Bornitridfilmen**
  Seminar, Physikalisches Institut der Universität Würzburg, 4.7.06.
- T. Greber: **Monolayers of boron nitride with and without holes**
  International Conference on Nano-Structures Self-Assembling, Aix-en-Provence, France, 4.7.06.
- T. Greber: **The near-node photoelectron holography endstation at the Swiss Light Source**
  1st MolCH-Surf Discussion Meeting, Schweizerischer Nationalfonds, Bern, 12.7.06.
- J. Lobo-Checa: **Electronic structure of vicinal noble-metal surfaces**
  Seminar, ALBA CELLS (Barcelona Synchrotron), Bellaterra, Spain, 18.7.06.
- J. Osterwalder: **Hexagonal boron-nitride monolayers: a versatile skin for metal surfaces**
  Condensed Matter Colloquium, Paul-Scherrer-Institut, 8.9.06.
- T. Greber: **Assembling boron-nitride nanostructures**
  NanoMesh Workshop, Braunwald, 18.9.06.
- J. Lobo-Checa: **Electronic and magnetic properties of surface states**
  Seminar, Physikalisches Institut, Universität Basel, 21.9.06.
- J. Osterwalder: **Photoemission from valence bands: band mapping and Fermi surface mapping**
  Mainz-MATCOR Summer School on Photoemission, Mainz, 25.-29.9.06.
- T. Greber: **Flat and textured boron nitride layers on transition metals: new materials at the nanometer scale**
  Workshop of the INTERREG IIIA Slowenian-Italian Project, Trieste, 23.9.06.
- J. Osterwalder: **Hexagonal boron-nitride layers on transition metal surfaces**
  13th International Conference on Solid Films and Surfaces, San Carlo de Bariloche, Argentina, 8.11.06.
- C. Cirelli:
  Dynamics of space-charge and molecules on surfaces investigated by means of picosecond LEED
  Group-Seminar, Swiss Light Source, Paul-Scherrer-Institut, 13.11.06.
- C. Cirelli:
  Dynamics of space-charge and molecules on surfaces investigated by means of picosecond LEED
  Group-Seminar, Ultrafast Laser Group, ETH Zürich, 1.12.06.

- C. Cirelli:
  Dynamics of space-charge and molecules on surfaces investigated by means of picosecond LEED
  Seminar, Center of Applied Photonics, Universität Konstanz, 6.12.06.

- A. Dolocan: **Time-resolved low-energy electron diffraction and photoemission pump-probe experiments**
  Seminar, Physics Department, University of Stony Brook, USA, 9.1.07.

- J. Lobo-Checa: **Surface states of Ni(111) and H/Ni(111)**
  SLS/SIS Spectroscopy on Novel Materials Workshop, Rigi, 11.1.07.

- J. H. Dil: **Electron localization in thin metal films: structure, morphology and interactions**
  SLS/SIS Spectroscopy on Novel Materials Workshop, Rigi, 11.1.07.

- A. Dolocan: **Time-resolved low-energy electron diffraction and photoemission pump-probe experiments**
  Seminar, Brookhaven National Laboratory, USA, 11.1.07.

- T. Greber: **PEARL: a new beamline**
  SLS/SIM Workshop, Unterwasser, 12.1.07.

- A. Dolocan: **Time-resolved low-energy electron diffraction and photoemission pump-probe experiments**
  Seminar, Physics Department, Columbia University, New York City, USA, 17.1.07.

- J. Osterwalder:
  Hexagonal boron-nitride monolayers on metal surfaces: growth, properties and applications
  Festkörper-Kolloquium, Universität Erlangen, 25.1.07.

- A. Dolocan: **Time-resolved low-energy electron diffraction and photoemission pump-probe experiments**
  Seminar, Physics Department, City College of New York, USA, 25.1.07.

- T. Greber: **Monolayers of boron nitride on transition metals with and without misfit dislocations: from flat layers to nanomesh**
  22nd Workshop on Novel Materials and Superconductivity, Planneralm, Österreich, 15.2.07.

- T. Greber: **Do dipole rings explain the bonding in nanomesh ?**
  NanoMesh Steering Committee Meeting, Wien, 23.3.07.

- J. Osterwalder: **The electronic structure of a liquid Pb film**
  March Meeting of the American Physical Society, Invited Session on *Exotic electronic structures of complex materials and phases*, Denver, Colorado, 9.3.07.

- J. Osterwalder: **Surface science: application of synchrotron radiation techniques (4 hours of lectures)**
  HERCULES School at SOLEIL, St. Aubin, France, 19./20.3.07

Research group of Prof. A. Schilling

Articles

- **Fluctuation effects in superconducting nanostrips**
  A. Engel, A. Semenov, H.-W. Hübers, K. Il'in, M. Siegel, Physica C, **444**, (2006) 12-18.

- **Superconducting Single Photon Detectors**
  H. Bartolf, A. Engel, A. Schilling, in Electron beam applications at ETH Zürich, F. Robin, Raith Application Note 2006, Raith GmbH (2006).
- **Electric noise and local photon-induced nonequilibrium states in a current-carrying nanostructured superconductor**
  A. Engel, A. Semenov, H.-W. Hübers, K. Il'in, and M. Siegel, in Progress in Superconductivity Research, edited by B. P. Martins, Nova Science Publishers, Inc., (2006) 153-189.
- **Low-temperature differential-thermal analysis to measure variations in entropy**
  A. Schilling and M. Reibelt, Rev. Sci. Instrum. **78**, 033904 (2007).

Articles in press

- **Spectral Sensitivity and Spectral Resolution of Superconducting Single-Photon Detectors**
  P. Haas, A. Semenov, H.-W. Hübers, J. Beyer, A. Kirste, T. Schurig, K. Ilin, M. Siegel, A. Engel, A. Smirnov, IEEE Trans. Supercond.

Diploma thesis

- **Construction of NMR equipment to be used in the Physical Properties Measurement System (PPMS, Quantum Design)**
  Alexander Gafner, Diplomarbeit, Physik-Institut, Universität Zürich, 2006.

Contributed Conference Presentations

- **Lift-off technique for the fabrication of superconducting nanostructures (poster)**
  H. Bartolf, A. Engel, A. Schilling, Kryoelektronische Bauelemente 2006, Ilmenau, Germany, 3.-5.10.2006.
- **Lift-off technique for the fabrication of nanostructures**
  H. Bartolf, SPS Jahrestagung 2007, Zürich, 20.-21.2.2007.
- **Exploration of new materials for superconducting single-photon detectors (poster)**
  A. Engel, H. Bartolf, A. Schilling, B. J. Ruck, C. Portesi, SPS Jahrestagung 2007, Zürich, 20.-21.2.2007.

Invited Lectures

- A. Engel: **Superconducting Single Photon Detectors – Chances & Challenges**
  Istituto Nazionale di Ricerca Metrologica I.N.RI.M, Torino, Italy, 20.6.2006.

- A. Engel: **Superconducting Single-Photon Detectors**
  Victoria University, Wellington, New Zealand, 22.8.2006.
- A. Engel: **Superconducting Nanostructures – Single-Photon Detector**
  Manep Project 5 Internal Workshop 2007, Neuchâtel, Switzerland, 17.1.2007.

Research group Prof. U. Straumann (for H1 publications see further below)

Articles

- **A measurement of Newton's gravitational constant**
  S. Schlamminger, E. Holzschuh, W. Kundig, F. Nolting, R. E. Pixley, J. Schurr and U. Straumann, Phys. Rev. D **74**, 082001 (2006).
- **Storage of ultracold neutrons in a volume coated with diamondlike carbon**
  F. Atchison et al., Phys. Rev. C **74**, 055501 (2006).
- **Structural characterization of diamond-like carbon coatings for ultracold neutron applications**
  F. Atchison, T. Brys, M. Daum, P. Fierlinger, A. Foelske, M. Gupta, R. Henneck, S. Heule, M. Kasprzak, K. Kirch et al., Diamond and Related Materials 16 (2007) 334.
- **Performance of long ladders for the LHCb silicon tracker**
  O. Steinkamp, Nucl. Instr. Meth. A 569 (2006) 84-87.
- **Silicon sensor probing and radiation studies for the LHCb silicon tracker**
  C.Lois, Nucl. Instr. Meth. A 568 (2006) 277-283.
- **Design and performance of the LHCb silicon tracker**
  K. Vervink, on behalf of the LHCb Silicon Tracker group, Nucl. Instr. Meth. A 566 (2006) 170-173.
- **Long term performance studies of the silicon strip detectors of the LHCb Silicon Tracker**
  S.Köstner and H.Voss, Nucl. Instr. Meth. A 563 (2006) 259-262.
- **Tracking in high multiplicity environments**
  J. Gassner, F. Lehner, M. Needham, O. Steinkamp, U. Straumann and A. Vollhardt, Proceedings of the 1st Workshop TIME 2005, Zuerich, Switzerland, October 3-7, 2005, Nucl. Instr. Meth. A 566 (2006).
- **The LHCb silicon tracker project**
  M. Agari et al., Nucl. Phys. Proc. Suppl. **150**, 114 (2006).
- **Storage of ultracold neutrons in a volume coated with diamondlike carbon**
  F. Atchison, B. Blau, M. Daum, P. Fierlinger, A. Foelske, P. Geltenbort, R. Henneck, S. Heule, M. Kasprzak et al., Phys. Rev. C74 (2006), 055501.
- **LHCb silicon tracker performance studies**
  S. Köstner et al., IEEE Trans. Nucl. Sci. **53**, 2440 (2006).
- **Design and performance of the LHCb silicon tracker**
  K. Vervink et al., Nucl. Instrum. Meth. A **566**, 170 (2006).

- **Measurement of the $t\bar{t}$ production cross section in $p\overline{p}$ collisions at $\sqrt{s}$=1.96 TeV using secondary vertex b tagging**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. D **74**, 112004 (2006).

- **Measurement of the CP-violation parameter of B0 mixing and decay with p $\bar{p} \rightarrow \mu\mu X$ data**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. D **74**, 092001 (2006).

- **Measurement of the W boson helicity in top quark decay at D0**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. D **75**, 031102 (2007).

- **Measurement of the top quark mass in the lepton + jets final state with the matrix element method**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. D **74**, 092005 (2006).

- **Limits on anomalous trilinear gauge couplings from $WW \rightarrow e^+e^-$, $WW \rightarrow e^{\pm}\mu^{\mp}$, and $WW \rightarrow \mu^+\mu^-$ events from $p\bar{p}$ collisions at $\sqrt{s}$ = 1.96-TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. D **74**, 057101 (2006).

- **Search for pair production of scalar bottom quarks in $p\bar{p}$ collisions at $\sqrt{s} =$ 1.96-TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. Lett. **97**, 171806 (2006).

- **Experimental discrimination between charge $2e/3$ top quark and charge 4e/3 exotic quark production scenarios**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. Lett. **98**, 041801 (2007).

- **Search for scalar leptoquarks in the acoplanar jet topology in $p\overline{p}$ collisions at $\sqrt{s}$=1.96 TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Lett. B **640**, 230 (2006).

- **Search for the standard model Higgs boson in the $p\overline{p} \rightarrow$Z H$\rightarrow \nu\overline{\nu}b\bar{b}$ channel**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. Lett. **97**, 161803 (2006).

- **Search for neutral, long-lived particles decaying into two muons in $p\overline{p}$ collisions at $\sqrt{s}$=1.96 TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. Lett. **97**, 161802 (2006).

- **Search for associated Higgs boson production W H$\rightarrow$ W W W* $\rightarrow l^{\pm}\nu l'^{\pm}\nu' + X$ in $p\overline{p}$ collisions at $\sqrt{s}$=1.96 TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. Lett. **97**, 151804 (2006).

- **Search for W' boson production in the top quark decay channel**
  V. M. Abazov et al. (D0 Collaboration), Phys. Lett. B **641**, 423 (2006).

- **Search for a heavy resonance decaying into a Z + jet final state in $p\overline{p}$ collisions at $\sqrt{s}$=1.96 TeV using the D0 detector**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. D **74**, 011104 (2006).

- **Search for R-parity violating supersymmetry via the LLE couplings Λ_{121}, Λ_{122} or Λ_{133} in $p\overline{p}$ collisions at $\sqrt{s}$=1.96 TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Lett. B **638**, 441 (2006).

- **Search for neutral Higgs bosons decaying to tau pairs in $p\overline{p}$ collisions at $\sqrt{s}$=1.96 TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. Lett. **97**, 121802 (2006).

- **Search for resonant second generation slepton production at the Tevatron**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. Lett. **97**, 111801 (2006).

- **Search for particles decaying into a Z boson and a photon in $p\overline{p}$ collisions at $\sqrt{s}$=1.96 TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Lett. B $\mathbf{641}$, 415 (2006).

- **Search for the rare decay $B_s^0 \to \Phi\mu + \mu-$ with the D0 detector**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. D $\mathbf{74}$, 031107 (2006).

- **Search for squarks and gluinos in events with jets and missing transverse energy in $p\overline{p}$ collisions at $\sqrt{s}$=1.96 TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Lett. B $\mathbf{638}$, 119 (2006).

- **Search for excited muons in $p\overline{p}$ collisions at $\sqrt{s}$=1.96 TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. D $\mathbf{73}$, 111102 (2006).

- **A precise measurement of the B_s^0 lifetime**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. Lett. $\mathbf{97}$, 241801 (2006).

- **Measurement of $B(t \to Wb)/B(t \to Wq)$ at $\sqrt{s} =$ 1.96-TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Lett. B $\mathbf{639}$, 616 (2006).

- **First direct two-sided bound on the B_s^0 oscillation frequency**
  V. M. Abazov et al. (D0 Collaboration), Phys. Rev. Lett. $\mathbf{97}$, 021802 (2006).

- **Search for pair production of second generation scalar leptoquarks in $p\overline{p}$ collisions at $\sqrt{s} =$ 1.96-TeV**
  V. M. Abazov et al. (D0 Collaboration), Phys. Lett. B $\mathbf{636}$, 183 (2006).

Article in press

- **Diamond-like carbon coatings for Ultracold neutron guides**
  F. Atchison, M. Daum, A. Foelske, R. Henneck, S. Heule, M. Kasprzak et al.,
  Symposium H of the E-MRS 2006 conference, Applied Surface Science.

Theses

- **Flavor-Changing Neutral Currents at Hadron Colliders**
  F. Lehner, Habilitation, Universität Zürich, Mai 2006.

- **Search for Lepton Flavour Violation with the H1 Experiment at HERA**
  L. Lindfeld, Dissertation, Universität Zürich, August 2006.

- **Thermal and Mechanical Characterization of the TT Detector for the LHCb Experiment**
  A. Büchler, Master Thesis, Universität Zürich, March 2007.

- **Observation for the $B_s^0 \to \psi(2S)\phi$ decay with the D0 Experiment**
  Christophe Salzmann, Master Thesis, Universität Zürich, December 2006.

- **LHCb TT Module Properties**
  V. Hangartner, Bachelor Thesis, Universität Zürich, March 2007.

- **The LHCb TT production database and an overview of quality characteristics of the detector modules**
  N. Chiapolini, Bachelor Thesis, Universität Zürich, March 2007.

Conference contributions and invited seminars

- J. van Tilburg: **γ determination from tree decays ($B \to DK$) with LHCb**
  Lake Louise Winter Institute 2007, 19-24 February 2007, Alberta, Canada.

- D. Volyanskyy: **Selection of the decay $B_s^0 \to J/\psi\, \eta'$ at LHCb and its sensitivity to B_s^0 mixing parameters**
  Annual meeting of the Swiss Physical Society, 21. February 2007.

- C. Salzmann: **Observation of the decay $B_s^0 \to \psi(2S)\phi$**
  Annual meeting of the Swiss Physical Society, 21. February 2007.

- F. Lehner: **Semileptonic B decays at Tevatron**
  4th International Workshop on the CKM Unitarity Triangle, December 12 - 16, 2006, Nagoya, Japan.

- R. P. Bernhard: **Search for rare decays of the B_s meson at the Tevatron**
  41st Rencontres de Moriond: QCD and Hadronic Interactions, La Thuile, Italy, 18-25 Mar 2006, arXiv:hep-ex/0605065, to appear in the proceedings.

- A. Büchler: **Construction of the LHCb Trigger Tracker station**
  Annual meeting of the Swiss Physical Society, 21. February 2007.

- S. Heule: **Storage and guide materials for PSI ultracold neutron source**
  Annual meeting of the Swiss Physical Society, 21. February 2007.

- A. Knecht: **Systematic Effects in the Neutron EDM Experiment**
  Annual meeting of the Swiss Physical Society, 21. February 2007.

- U. Straumann: **Status and prospects of the LHCb Experiment**
  Colloquium, PSI, Villigen, Switzerland, 4. Januar 2007.

- O. Steinkamp: **Design and Production of the LHCb Silicon Tracker**
  11th Vienna Conference on Instrumentation (VCI 2007) Vienna, Austria, February 19-24, 2007.

- O. Steinkamp: **Design and Production of the LHCb Silicon Tracker**
  6th International "Hiroshima" Symposium on the Development and Application of Semiconductor Tracking Detectors (STD6), Carmel, California, USA, September 11-15, 2006.

- O. Steinkamp: **Tracking In High Multiplicity Environments**
  Colloquium, NIKHEF, Amsterdam, The Netherlands, April 5, 2006.

- U. Straumann: **Forces: Fundamental Interactions in Particle Physics**
  Vortrag für die Swiss Physics Olympiad Teilnehmer, Aarau, 25. March 2006.

Collaboration notes for LHCb[11]

- **Selection of the $B_s^0 \to J/\psi(\mu^+\mu^-)\,\eta'(\rho^0\gamma)$ decay at LHCb and its sensitivity to the B_s^0 mixing phase ϕ_s**
  D. Volyanskyy and J. van Tilburg, LHCb-2007-027.
- **Performance of the track matching**
  M. Needham and J. van Tilburg, LHCb-2007-020.
- **Design and Production of Detector Modules for the LHCb Silicon Tracker**
  Proceedings VCI 2007, Vienna, Sep 18-24, 2007 O. Steinkamp et al., LHCb-2007-009.
- **Design and Production of Detector Modules for the LHCb Silicon Tracker**
  Proceedings STD6, Carmel, Sep 11-15, 2006 O. Steinkamp et al., LHCb-2006-063.
- **Updated geometry description for the LHCb Trigger Tracker**
  M. Needham, D. Volyanskyy, LHCb-2006-032.
- **Radiation tests of the VELO ECS and analogue repeater mezzanines**
  L. Eklund, R. Frei, A. Vollhardt and A. van der Gracht, CERN-LHCB-2006-001.
- **Der Bachelor- und Masterstudiengang in Physik an der Universität Zürich**
  U. Straumann, Bulletin der Vereinigung Schweizerischer Hochschuldozenten, 32. Jahrgang, Heft Nr. 4, November 2006, 15.

H1 Publications by the groups of Straumann and Truöl

Articles

- **Forward Jet-Production in Deep Inelastic Scattering at HERA**
  H1-Collaboration**, A. Aktas *et al.*,
  DESY 05 – 135, hep-ex/0508055, Eur.Phys.J.**C46** (2006), 27 - 42.
- **Elastic J/ψ Production at HERA**
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- K. Nowak: **Prompt Photons in Photoproduction**
  Spring conference of the German Physical Society, 7. March 2007.

- K. Nowak: **Prompt Photons in Photoproduction**
  Annual meeting of the Swiss Physical Society, 21. February 2007.

- L. Lindfeld: **Exotic (non-SUSY) Searches at HERA**
  SUSY06, 14th International Conference on Supersymmetry and the Unification of Fundamental Interactions, 12-17 June 2006, Irvine, USA.

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Articles

- **A Search for $\mu - e$ Conversion in Muonic Gold**
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- **Studies on Wrapping Materials and Light Collection Geometries in Plastic Scintillators**
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Invited Lectures

- A. van der Schaaf: **Two new $\pi \to e\nu$ experiments**
  Workshop on Flavour in the era of the LHC, 3rd meeting, CERN, May 15-17 2006.
- A. van der Schaaf: **LFV experiments and lepton universality**
  Workshop on Flavour in the era of the LHC, 4th meeting, CERN, March 26-28 2007.

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