

## 17 Publications

### 17.1 Research group of Prof. C. Amsler

#### Articles

- Study of  $f_0$  decays into four neutral pions  
A. Abele et al. (Crystal Barrel Collaboration)  
Eur. Phys. Journal C 19 (2001) 667
- $4\pi$ -decays of scalar and vector mesons  
A. Abele et al. (Crystal Barrel Collaboration)  
Eur. Phys. Journal C 21 (2001) 261
- Branching ratios for  $\bar{p}p$  annihilation at rest into two-body final states  
A. Abele et al. (Crystal Barrel Collaboration)  
Nucl. Phys A 679 (2001) 563
- A High Resolution Search for the Tensor Glueball Candidate  $\xi(2230)$   
C. Amsler et al. (Crystal Barrel Collaboration)  
Phys. Lett. B 520 (2001) 175
- Proton-antiproton annihilation at 900 MeV/c into  $\pi^0\pi^0\pi^0$ ,  $\pi^0\pi^0\eta$  and  $\pi^0\eta\eta$   
C. Amsler et al. (Crystal Barrel Collaboration)  
Eur. Phys. J. C 23 (2002) 29
- Design and test of pixel sensors for the CMS experiment  
G. Bolla et al.  
Nucl. Instr. Meth. in Physics Research A 461 (2001) 182
- Lorentz-angle in irradiated silicon  
B. Henrich, R. Kaufmann  
Nucl. Instr. Meth. in Physics Research A 477 (2002) 304
- Antihydrogen Production and Precision Spectroscopy with ATHENA / AD1  
C. Amsler et al. (ATHENA Collaboration)  
"The Hydrogen Atom, Precision Physics of Simple Atomic Systems", ed. S.G. Karshenboim et al., Springer Lecture Notes in Physics, Berlin 2001, p. 469-488
- Proton-antiproton annihilation into  $\pi^0\pi^0\pi^0$ ,  $\pi^0\pi^0\eta$  and  $\pi^0\eta\eta$  at 900 MeV/c  
C. Amsler  
Proc. of the Int. Workshop XXIX on Gross Properties of Nuclei and Nuclear Excitations, Hirschegg, ed. H. Feldmeier et al., GSI Pub. 2001, p. 18
- The ATHENA Antihydrogen Detector  
C. Amsler  
Proc. Int. Conf. on High Energy Physics, Budapest, Journal of High Energy Physics PRHEP-hep2001 (2001) 174
- New Results in Proton-Antiproton Annihilation and the Status of Glueballs  
C. Amsler  
Proc. Int. Conf. on High Energy Physics, Budapest, Journal of High Energy Physics PRHEP-hep2001 (2001) 270
- Detection of Antihydrogen with a Si- $\mu$ -strip and CsI-Crystal Detector at Cryogenic Temperature  
C. Regenfus  
Proc. of the XXXth Int. Conf. on High Energy Physics, Osaka, ed. C.S. Lim and T. Yamanaka, World Scientific (2001) 1225

**Articles in press**

- A high resolution silicon beam telescope  
C. Amsler et al.  
Nucl. Instr. Meth. in Physics Research A 480 (2002) 499
- Temperature dependence of pure CsI: scintillation light yield and decay time  
C. Amsler et al.  
Nucl. Instr. Meth. in Physics Research A 480 (2002) 492
- Meson Resonances in Proton-Antiproton Annihilation  
C. Amsler  
Proc. Int. Conf. on the Structure and Interactions of the Photon (PHOTON 2001),  
Ascona, World Scientific, 2001
- Comment on “Protonium annihilation into  $\pi^0\pi^0$  at rest in a liquid hydrogen target”  
C. Amsler et al. (Crystal Barrel Collaboration)  
Phys. Rev. D (2002)
- Sub MeV Particle Detection and Identification in the MUNU Detector  
M. Avenier et al.  
Nucl. Instr. Meth. in Physics Research A (2002)
- Non- $q\bar{q}$  mesons  
C. Amsler  
Eur. Phys. Journal (2002)
- The  $\eta(1440)$ ,  $f_1(1420)$ , and  $f_1(1510)$   
M. Aguilar/Benitez, C. Amsler and A. Masoni  
Eur. Phys. Journal (2002)
- Producing Slow Antihydrogen for a Test of CPT Symmetry with ATHENA  
M.C. Fujiwara et al. (ATHENA Collaboration)  
Preprint nucl-ex/0202020  
Journal of Hyperfine Interactions (2002)
- Design, construction and performance of the cryogenic antihydrogen detector for ATHENA  
C. Regenfus  
Proc. 10th Int. Workshop on vertex detectors (VERTEX 2001), Brunnen, Switzerland,  
2001

**Diploma and PhD theses**

- Development of Radiation Hard Pixel Sensors for the CMS Experiment  
R. Kaufmann  
Dissertation, Universität Zürich, 2001
- Temperature Dependence of Pure CsI between 77 K and 165 K and the Performance  
of Wavelength Shifters  
D. Grögler  
Diplomarbeit, Universität Zürich, 2001

**Invited Lectures**

- C. Amsler  
Contributed talk, Int. Conf. on High Energy Physics, Budapest, 13.7.01  
“The ATHENA Antihydrogen Detector”

- C. Amsler  
Contributed talk, Int. Conf. on High Energy Physics, Budapest, 13.7.01  
“New Results in Proton-Antiproton Annihilation and the Status of Glueballs”
- C. Amsler  
Invited talk, Int. Conf. on the Structure and Interactions of the Photon (PHOTON 2001), Ascona, 6.9.01  
“Meson resonances in  $\bar{p}p$  annihilation”
- N. Madsen  
Contributed talk, 3rd Euroconf. on Atomic Physics at Accelerators (APAC01), Aarhus, 10.9.01  
“Vertical blow up in a low current, stored, laser-cooled ion beam”
- C. Regenfus  
10th Int. Workshop on vertex detectors (VERTEX 2001), Brunnen, 24.9.01  
“Design, construction and performance of the cryogenic antihydrogen detector for ATHENA”
- C. Regenfus  
Seminar, ETHZ, 20.11.01  
“Detection of antihydrogen in the ATHENA experiment with a cold Si-microstrip and a pure CsI detector”

#### **ATHENA Collaboration (2002):**

M. Amoretti, C. Amsler, G. Bendiscioli, G. Bonomi, A. Bouchta, P. Bowe, C. Carraro, M. Charlton, M. Collier, M. Doser, V. Filippini, A. Fontana, M.C. Fujiwara, R. Funakoshi, P. Genova, A. Glauser, J. Hangst, R.S. Hayano, H. Higaki, M.H. Holzscheiter, O. Iannarelli, L. Jorgensen, D. Kleppner, V. Lagomarsino, R. Landua, C. Lenz Cesar, D. Lindelf, E. Lodi-Rizzini, M. Macri, N. Madsen, G. Manuzio, M. Marchesotti, P. Montagna, H. Pruys, C. Regenfus, P. Riedler, A. Rotondi, G. Rouleau, P. Salvini, G. Testera, D.P. van der Werf, A. Variola, T. Watson, T. Yamazaki, Y. Yamazaki

#### **CRYSTAL BARREL Collaboration (2001):**

C. Amsler, C.A. Baker, B.M. Barnett, C.J. Batty, M. Benayoun, A. Berdoz, P. Blüm, K. Braune, T. Case, K.M. Crowe, M. Doser, W. Dünnweber, D. Engelhardt, M.A. Faessler, P. Giarritta, R.P. Haddock, F.H. Heinsius, M. Heinzelmann, N.P. Hessey, P. Hidas, D. Jamnik, H. Kalinowsk, B. Kämmle, P. Kammel, J. Kisiel, E. Klempt, H. Koch, M. Kunze, U. Kurilla, M. Lakata, R. Landua, H. Matthyä, C.A. Meyer, F. Meyer-Wildhagen, L. Montanet, R. Ouared, K. Peters, B. Pick, M. Ratajczak, C. Regenfus, W. Roethel, U. Strohbusch, M. Suffert, J.S. Suh, U. Thoma, I. Uman, S. Wallis-Plachner, D. Walther, U. Wiedner, K. Wittmack, Č. Zupančič.

## **17.2 Research group of Prof. H. Keller**

### **Articles**

- The phase diagram of high- $T_c$  superconductors in the presence of dynamic stripes  
A. Bussmann-Holder, A.R. Bishop, H. Büttner, T. Egami, R. Micnas, and K.A. Müller  
*J. Phys.: Condens. Matter* **13**, L545-L551 (2001)
- Isotope effects in underdoped cuprate superconductors: A quantum critical phenomenon  
T. Schneider and H. Keller  
*Phys. Rev. Lett.* **86**, 4899-4902 (2001)

- An unusual phase transition to a second liquid vortex phase in the superconductor  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$   
F. Bouquet, C. Marcenat, E. Steep, R. Calemczuk, W.K. Kwok, U. Welp, G.W. Crabtree, R.A. Fisher, N.E. Phillips, and A. Schilling  
*Nature* **411**, 448-451 (2001)
- Influence of Sr substitution on the structure, charge distribution and critical temperature of  $\text{Y}(\text{Ba}_{1-x}\text{Sr}_x)_2\text{Cu}_4\text{O}_8$  single crystals  
J. Karpinski, S. Kazakov, M. Angst, A. Miranov, M. Mali, and J. Roos  
*Phys. Rev. B* **64**, 094518-1-12 (2001)
- Tilting mode relaxation in the electron paramagnetic resonance of isotope substituted  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ :  $\text{Mn}^{2+}$   
A. Shengelaya, H. Keller, K.A. Müller, B.I. Kochelaev, and K. Conder  
*Phys. Rev. B* **63**, 144513-1-9 (2001)
- Magnetic properties of  $\text{RuSr}_2\text{RECu}_2\text{O}_8$  ( $\text{RE} = \text{Gd}, \text{Eu}$ ) and  $\text{Ru}_{1-x}\text{Sr}_2\text{GdCu}_{2+x}\text{O}_{8-y}$  superconductors  
P.W. Klamut, B. Dabrowski, S.M. Mini, M. Maxwell, S. Kolesnik, J. Mais, A. Shengelaya, R. Khasanov, I. Savic, H. Keller, T. Gruber, J. Gebhardt, P.J. Viccaro, and Y. Xiao  
*Physica C* **364-365**, 313-319 (2001)
- Bulk experimental evidence of half-metallic ferromagnetism in doped manganites  
Guo-meng Zhao, H. Keller, W. Prellier, and D.J. Kang  
*Phys. Rev. B* **63**, 172411-1-4 (2001)
- Isotope effects and possible pairing mechanism in optimally doped cuprate superconductors  
Guo-meng Zhao, V. Kirtikar, and D.E. Morris  
*Phys. Rev. B (Rapid Communications)* **63**, 220506-1-4 (2001)
- Evidence for novel polaronic Fermi-liquid in doped manganites  
A.S. Alexandrov, Guo-meng Zhao, H. Keller, B. Lorenz, Y.S. Wang, and C.W. Chu  
*Phys. Rev. B (Rapid Communications)* **64**, 140404-1-7 (2001)
- Identification of the bulk pairing symmetry in high-temperature superconductors: Evidence for an extended  $s$  wave with eight line nodes  
Guo-meng Zhao  
*Phys. Rev. B* **64**, 024503-1-10 (2001)
- Unconventional isotope effects in the high-temperature cuprate superconductors  
Guo-meng Zhao, H. Keller, and K. Conder  
*J. Physics: Condens. Matter* **13**, R569 - R587 (2001)
- The attainable superconducting  $T_c$  in a model of phase coherence by percolating  
D. Mihailovic, V.V. Kabanov, and K.A. Müller  
*Europhys. Lett.* **57**, 254-259 (2002)
- Vortex-lattice melting in untwinned  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$  for  $H \perp c$   
A. Schilling, U. Welp, W.K. Kwok, and G.W. Crabtree  
*Phys. Rev. B* **65** 054505-1-7 (2002)
- $^{25}\text{Mg}$  NMR study of the  $\text{MgB}_2$  superconductor  
M. Mali, J. Roos, A. Shengelaya, and H. Keller  
*Phys. Rev. B (Rapid Communications)* **65**, 100518-1-4 (2002)

### Articles in press

- On the macroscopic *s*- and *d*-wave symmetry in cuprate superconductors  
K.A. Müller  
Philosophical Magazine
- High-temperature superconductors: Results and relations  
K.A. Müller  
Applied Physics A
- Implantation studies of keV positive muons in thin metallic films  
E. Morenzoni, H. Glöckler, T. Prokscha, R. Khasanov, H. Luetkens, M. Birke, E.M. Forgan, Ch. Niedermayer, and M. Pleines  
Nuclear Instruments and Methods B
- Oxygen isotope effect of the plane-copper NQR frequency in  $\text{YBa}_2\text{Cu}_4\text{O}_8$   
M. Mali, J. Roos, H. Keller, J. Karpinski, and K. Conder  
Phys. Rev. B
- EPR of rare-earth-ions in the underdoped  $\text{YBaCuO}$ -compound  
V.A. Ivanshin, M.R. Gafurov, I.N. Kurkin, M.P. Rodionova, and H. Keller  
The Physics of Metals and Metallography
- Temperature and field dependence of the anisotropy of  $\text{MgB}_2$   
M. Angst, R. Puzniak, A. Wisniewski, J. Jun, S.M. Kazakov, J. Karpinski, J. Roos, and H. Keller  
Phys. Rev. Lett.

### Diploma and PhD theses

- Aufbau eines Differential-Thermoanalyse Kalorimeters für tiefe Temperaturen  
Peter Morf  
Diplomarbeit, Physik-Institut, Universität Zürich, 2001
- Reare-earth ion size dependencies of oxygen isotope effects on the charge ordering and superconducting transition temperatures in single-layer cuprates  
Roland Renggli  
Diploma thesis, Physik-Institut, Universität Zürich, 2001
- Search for Lutetium NQR in  $\text{Y}_{1-x}\text{Lu}_x\text{Ba}_2\text{Cu}_4\text{O}_8$  compounds  
Philipp Schneider  
Diploma thesis, Physik-Institut, Universität Zürich, 2001

### Conference reports

- EPR studies in  $\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$ . Experiment and theory  
V.A. Ivanshin, M.V. Eremin, R.M. Eremina, H.-A. Krug von Nidda, T. Kurz, A. Loidl, and H. Keller  
Specialized Colloque Ampere "ESR and Solid State NMR in High Magnetic Fields", Stuttgart, Germany, July 22-26, 2001
- Oxygen-isotope effect on the in-plane penetration depth in underdoped  $\text{Y}_{1-x}\text{Pr}_x\text{Ba}_2\text{Cu}_3\text{O}_{7-\delta}$  as revealed by muon-spin rotation  
R. Khasanov, A. Shengelaya, E. Morenzoni, I.M. Savic, K. Conder, and H. Keller  
2001 Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, Switzerland, October 1-3, 2001

- Oxygen isotope ( $^{16}\text{O}/^{18}\text{O}$ ) effect on stripe formation and structural phase transitions in LaSrCuO compounds  
M. Mali, R. Renggli, J. Roos, A. Schilling, Guo-meng Zhao, K. Conder, and H. Keller  
2001 Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, Switzerland, October 1-3, 2001
- Oxygen isotope ( $^{16}\text{O}/^{18}\text{O}$ ) effect of the spin-pseudogap in  $\text{YBa}_2\text{Cu}_4\text{O}_8$   
M. Mali, J. Roos, H. Keller, K. Conder, and J. Karpinski  
2001 Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, Switzerland, October 1-3, 2001
- Oxygen isotope effect of the plane-copper NQR frequency in  $\text{YBa}_2\text{Cu}_4\text{O}_8$   
M. Mali, J. Roos, H. Keller, J. Karpinski, and K. Conder  
Annual meeeting of the Swiss Physical Society, Lausanne, Switzerland, February 28-March 3, 2002
- Microtorque magnetometry on  $\text{YBa}_2\text{Cu}_4\text{O}_8$   
S. Kohout, J. Roos, H. Keller, and J. Karpinski  
Annual meeeting of the Swiss Physical Society, Lausanne, Switzerland, February 28-March 3, 2002

### Invited Lectures

- H. Keller  
Probing high-temperature superconductivity with muons  
Meson Science Laboratory, Institute of Material Structure Science, High Energy Accelerator Research Organization (KEK)  
Tsukuba, Ibaraki, Japan, September 11, 2001
- H. Keller  
Unconventional isotope effects in high-temperature cuprate superconductors and magnetoresistive doped manganites  
Department of Applied Physics, University of Tokyo, Japan, September 14, 2001
- H. Keller  
Probing high-temperature superconductivity with muons  
Department of Advanced Materials Sciences, University of Tokyo, Japan, September 21, 2001
- H. Keller  
Unconventional isotope effects in high-temperature cuprate superconductors  
The Institute of Physical and Chemical Research (RIKEN), Wako, Saitama, Japan, September 22, 2001
- H. Keller  
Unconventional isotope effects in high-temperature cuprate superconductors  
Department of Physics, Graduate School of Science, Kyoto University, Japan, September 25, 2001
- H. Keller  
Investigation of microscopic magnetic properties of high-temperature superconductors and magnetic systems with positive muons  
*The 8th Workshop on Oxide Electronics*  
Osaka University, Japan, September 27 - 28, 2001

- H. Keller  
Unconventional isotope effects in high-temperature cuprate superconductors  
Department of Physics, Faculty of Science, Kochi University, Japan, October 5, 2001
- H. Keller  
Unconventional isotope effects in high-temperature cuprate superconductors  
Department of Physics, Faculty of Engineering, Tokushima University, Japan, October 12, 2001
- H. Keller  
Unconventional isotope effects in high-temperature cuprate superconductors and magnetoresistive doped manganites  
*10 Lectures as guest professor*  
Department of Physics, Faculty of Engineering, Tokushima University, Japan, October 1 -12, 2001
- H. Keller  
Investigation of microscopic magnetic properties of high-temperature superconductors and magnetic systems with positive muons  
*MRS 2001 Fall Meeting Boston*  
Boston, USA, November 26 - 30, 2001
- A. Schilling  
Specific heat of  $\text{YBa}_2\text{Cu}_3\text{O}_7$  near  $H//ab$  and in low magnetic fields  
*Critical Properties of Vortex Matter*  
Loen, Norway, June 21 - 24, 2001

### 17.3 Research group of Prof. P. F. Meier

#### Articles

- Analysis of NMR data on cuprate superconductors based on calculated hyperfine coupling energies  
P. F. Meier  
*Physica C* 364-365 (2001) 411
- First-Principles Calculation of Electric Field Gradients and Hyperfine Couplings in  $\text{YBa}_2\text{Cu}_3\text{O}_7$   
S. Renold, S. Pliberšek, E. P. Stoll, T. A. Claxton, and P. F. Meier  
*Eur. Phys. J. B* 23 (2001) 3
- Electric field gradients from first-principles and point-ion calculations  
E. P. Stoll, T. A. Claxton, and P. F. Meier  
*Phys. Rev. B* 65 (2002) 064532
- Parallel random number generator for inexpensive configurable hardware cells  
J. Ackermann, U. Tangen, B. Bödekker, J. Breyer, E. Stoll, and J. S. McCaskill  
*Computer Physics Communications* 140 (2001) 293
- An efficient algorithm to determine fractal dimensions of point sets  
R. M. Füchsli, Y. Shen, P. F. Meier  
*Phys. Lett. A* 285 (2001) 69

**Diploma and PhD theses**

- First-principles investigations of electronic, magnetic and structural properties of high-temperature superconductors  
S. Pliberšek  
PhD-thesis, University of Zurich (2001)

**17.4 Research group of Prof. J. Osterwalder****Articles**

- Surface states on clean and adsorbate-covered metal surfaces  
J. Osterwalder, T. Greber, J. Kröger, J. Wider, H.-J. Neff, F. Baumberger  
M. Hoesch, W. Auwärter, R. Fasel, P. Aebi  
in *Physics of Low Dimensional Systems*, J. L. Morán-López, ed.  
(Kluwer Academic / Plenum Publishers, 2001), p.245-255
- Influence of an atomic grating on a magnetic Fermi surface  
T. Greber, W. Auwärter, J. Osterwalder  
in *Physics of Low Dimensional Systems*, J. L. Morán-López, ed.  
(Kluwer Academic / Plenum Publishers, 2001), p.411-417
- Electronic and atomic structure of the Cu/Si(111) ‘quasi-5x5’ overlayer  
M. De Santis, M. Muntwiler, J. Osterwalder, G. Rossi, F. Sirotti, A. Stuck,  
L. Schlapbach  
Surf. Sci. 477 (2001) 179-190
- Coexisting inequivalent orientations of C<sub>60</sub> on Ag(001)  
C. Cepek, R. Fasel, M. Sancrotti, T. Greber, J. Osterwalder  
Phys. Rev. B 63 (2001) 125406-1-5
- Correlation effects and magnetism in 3d transition metals  
J. Osterwalder  
J. Electron Spectrosc. Relat. Phenom. 117-118 (2001) 71-88
- Temperature-dependent Fermi gap opening in the c(6x2)-C<sub>60</sub>/Ag(001) two-dimensional superstructure  
C. Cepek, I. Voborník, A. Goldoni, E. Magnano, G. Selvaggi, J. Kröger, G. Panaccione,  
G. Rossi, M. Sancrotti  
Phys. Rev. Lett. 86 (2001) 3001-3004
- Probing the electronic states of band ferromagnets with photoemission  
T. Greber  
in *Band Ferromagnetism - Ground-State and Finite-Temperature Phenomena*, K. Baberschke, M. Donath, W. Nolting, eds.  
Springer Lecture Notes in Physics 580 (2001), p. 94-110
- Fermi surfaces of the two-dimensional surface states on vicinal Cu(111)  
F. Baumberger, T. Greber, J. Osterwalder  
Phys. Rev. B 64 (2001) 195411-1-8
- Orientation of chiral heptahelicene C<sub>30</sub>H<sub>18</sub> on copper surfaces: an x-ray photoelectron diffraction study  
R. Fasel, A. Cossy, K.-H. Ernst, F. Baumberger, T. Greber, J. Osterwalder  
J. Chem. Phys. 115 (2001) 1020-1027

- Design of a miniature picosecond low-energy electron gun for time-resolved scattering experiments  
R. Karrer, H. Neff, M. Hengsberger, T. Greber, J. Osterwalder  
Rev. Sci. Instrum. 72 (2001) 4404-4407
- Exploiting the photoelectron source wave with near-node photoelectron holography  
T. Greber  
J. Phys.: Condens. Matter 13 (2001) 10561-10576
- Räumliche Bilder von Atomen  
J. Wider, T. Greber  
Neue Zürcher Zeitung, Nr. 112 (2001) 75
- Imaging atom sites with near-node photoelectron holography  
T. Greber, J. Wider, A. Verdini, A. Morgante, J. Osterwalder  
Euro Phys. News 32 (2001) 172-175
- High-resolution photoemission study of the discommensurate (5.55x5.55) Cu/Si(111) surface layer  
H.-J. Neff, I. Matsuda, M. Hengsberger, F. Baumberger, T. Greber, J. Osterwalder  
Phys. Rev. B 64 (2001) 235415-1-9
- Binding and ordering of  $C_{60}$  on Pd(110): investigations at the local and mesoscopic scale  
J. Weckesser, C. Cepek, R. Fasel, J. V. Barth, F. Baumberger, T. Greber, K. Kern  
J. Chem. Phys. 115 (2001) 9001-9009

### Articles in press

- The Fermi surface in a magnetic metal-insulator interface  
T. Greber, W. Auwärter, M. Hoesch, G. Grad, P. Blaha, J. Osterwalder  
Surf. Rev. Lett. (2002)
- Reduction of the magnetic moment at the  $h$ -BN/Ni(111) interface  
T. Greber, W. Auwärter, G. Grad, P. Blaha, J. Osterwalder  
Proceedings of the *Conference on Atomic Level Characterization (ALC'01)*, Nara, Japan (2002)
- Spin-polarized Fermi surface mapping  
M. Hoesch, T. Greber, V. N. Petrov, M. Muntwiler, M. Hengsberger, W. Auwärter, J. Osterwalder  
J. Electron Spectrosc. Relat. Phenom. (2002)
- Co on  $h$ -BN/Ni(111): from island to island-chain formation and Co intercalation  
W. Auwärter, M. Muntwiler, T. Greber, J. Osterwalder  
Surf. Sci. (2002)

### Diploma and PhD Theses

- Applications and Developments in x-ray photoelectron diffraction: oxygen on rhodium and near-node photoelectron holography experiments  
Joachim Wider  
Ph. D. Thesis, Physik-Institut, Universität Zürich, 2001
- Electronic and structural aspects of metal on semiconductor surfaces and development of a time-resolved surface-structure probe  
Hansjörg Neff  
Ph. D. Thesis, Physik-Institut, Universität Zürich, 2001

**Contributed conference presentations**

- Surface state bands on vicinal Cu  
F. Baumberger, M. Hengsberger (Poster)  
Workshop on *Two-dimensional conductivity in surface states and monolayers*, Bad Honnef, Germany, 5.3.01
- L-gap surface states on vicinal Cu(111)  
T. Greber  
American Physical Society March Meeting, Seattle, USA, 15.3.01
- Atomically resolved three-dimensional images from surfaces  
J. Wider  
American Physical Society March Meeting, Seattle, USA, 15.3.01
- Electronic structure study of the Si(111) (5.55x5.55)-Cu surface by the Fermi surface mapping method  
I. Matsuda  
Japanese Physical Society Meeting, Tokyo, Japan, 27.3.01
- Design and testing of a picosecond low-energy electron gun  
R. Karrer  
SPG Jahrestagung, EMPA Dübendorf, 3.5.01
- Characterizing interfaces within nanostructures  
T. Greber  
SPG Jahrestagung, EMPA Dübendorf, 3.5.01
- Co on  $h - BN/Ni(111)$ : from island to island-chain formation and Co intercalation  
W. Auwärter (Poster)  
*Scanning Tunneling Microscopy Conference (STM'01)*, Vancouver, Canada, 16.7.01
- Design of a complete photoemission experiment  
M. Hoesch, M. Muntwiler, M. Hengsberger, T. Greber, J. Osterwalder (Poster)  
8th International Conference on *Vacuum Ultraviolet Radiation Physics* (VUV-XIII), Trieste, Italy, 24.7.01
- Electronic structure of the Si(001) (5x3.2)-Au surface  
I. Matsuda  
8th International Conference on *Vacuum Ultraviolet Radiation Physics* (VUV-XIII), Trieste, Italy, 25.7.01

**Invited Lectures**

- T. Greber  
Probing the dissociation of  $O_2$  and  $N_2O$  on alkali metal surfaces with exoemission  
Physical Chemistry Seminar, UCSD, San Diego, USA, 20.3.01
- T. Greber  
Über die Benutzung von Photoelektronenwellen: von Vorwärtsstreuung bis zu Holographie mit atomarer Auflösung  
Seminar am Institut für Experimentalphysik, TU Wien, 8.5.01
- T. Greber  
Angle-scanned photoemission: from x-ray photoelectron diffraction (XPD) to near-node photoelectron holography and Fermi surface mapping  
Seminar am MPI Stuttgart, 9.5.01

- M. Hoesch  
COPHEE, the complete photoemission experiment  
Journée photoémission de spin, LURE, Orsay, France, 18.5.01
- T. Greber  
Untersuchung der magnetischen Tunnelbarriere  $h-BN/Ni(111)$  mittels winkelaufgelöster Photoemission  
Seminar im SFB *Grenzflächenbestimmte Materialien*, Universität des Saarlandes, Saarbrücken, 29.5.01
- J. Wider  
Anwendungen und Entwicklungen in der Photoelektronenbeugung  
Festkörperphysik-Seminar, ETH Zürich, 3.7.01
- F. Baumberger  
Surface electronic structure of vicinal Cu(111): step-induced one-dimensional states and step-modified two-dimensional states  
Workshop on Stepped Surfaces, Universität Erlangen-Nürnberg, 25.7.01
- T. Greber  
k-resolved one- and two-photon photoemission around the Fermi level  
8th International Conference on *Vacuum Ultraviolet Radiation Physics* (VUV-XIII), Trieste, Italy, 26.7.01
- I. Matsuda  
Electronic structure of the nano-structures (monolayer, quantum film, quantum wire) formed by noble metals on Si surfaces  
Seminar am Institut de Physique, Université de Fribourg, 21.8.01
- J. Osterwalder  
Interface and manybody effects in the electronic structure of Ni and Co: photoemission results  
Seminar am MPI für Mikrostrukturforschung, Halle, Germany, 23.10.01
- M. Hoesch  
Spin-polarized Fermi surface mapping  
Experimental Science Discussion (XSD), SLS, PSI, 24.10.01
- T. Greber  
Untersuchung mikroskopischer Prozesse mit Elektronen  
Physik-Kolloquium, TU München, 25.10.01
- T. Greber  
Exploring the Fermi surface of a magnetic metal-insulator interface with angle-resolved photoemission  
Physics Seminar, Tokyo University, Japan, 6.11.01
- T. Greber  
Metal adsorption and intercalation on  $h - BN/Ni(111)$   
Physics Seminar, Waseda University, Tokyo, Japan, 8.11.01
- T. Greber  
Investigations on a ferromagnetic, atomically sharp interface:  $h - BN$  on Ni(111)  
International Conference on *Atomic Level Characterization*, Nara, Japan, 12.11.01
- T. Greber  
L'exploration de la durée des processus microscopiques et - und was können wir darüber mit Elektronen lernen  
Physik-Kolloquium, Université de Fribourg, 26.11.01

- T. Greber  
Untersuchungen der Elektronenbewegung an einer spintronischen Grenzfläche  
Physik-Kolloquium, Universität Kiel, 8.1.02
- T. Greber  
From  $2\pi$  x-ray photoelectron diffraction to near-node photoelectron holography  
Journée des surfaces et interfaces, Toulouse, France, 1.2.02

### 17.5 Research group of Prof. U. Straumann (for H1 publications see group of Prof. P. Truöl, Sec. 17.6)

#### Articles

- A triple GEM detector with two-dimensional readout  
M. Ziegler, P. Sievers, U. Straumann  
NIM **A** 471 (2001) 260-263
- Study of  $CP$ -Violating Asymmetries in  $B^0 \rightarrow \pi^+\pi^-, K^+\pi^-$  Decays.  
B. Aubert et al., Phys. Rev. D 65 (2002) 051502
- Direct  $CP$  Violation Searches in Charmless Hadronic  $B$  Meson Decays.  
B. Aubert et al., Phys. Rev. D 65 (2002) 051101
- Measurement of the Branching Fractions for  $\psi(2S) \rightarrow e^+e^-$  and  $\psi(2S) \rightarrow \mu^+\mu^-$ .  
B. Aubert et al., Phys. Rev. D 65 (2002) 031101
- Measurement of Branching Fractions for Exclusive  $B$  Decays to Charmonium Final States.  
B. Aubert et al., Phys. Rev. D 65 (2002) 032001
- Search for the Decay  $B^0 \rightarrow \gamma\gamma$ .  
B. Aubert et al., Phys. Rev. Lett. 87 (2001) 241803
- Measurement of the  $B \rightarrow J/\psi K^*(892)$  Decay Amplitudes.  
B. Aubert et al., Phys. Rev. Lett. 87 (2001) 241801
- Measurements of the Branching Fractions of Exclusive Charmless  $B$  Meson Decays with  $\eta'$  or  $\omega$  Mesons.  
B. Aubert et al., Phys. Rev. Lett. 87 (2001) 221802
- Measurement of the  $B^0$  and  $B^+$  Meson Lifetimes with Fully Reconstructed Hadronic Final States.  
B. Aubert et al., Phys. Rev. Lett. 87 (2001) 201803
- Measurement of  $J/\psi$  Production in Continuum  $e^+e^-$  Annihilations near  $\sqrt{s} = 10.6$  GeV.  
B. Aubert et al., Phys. Rev. Lett. 87 (2001) 162002
- Measurement of Branching Fractions and Search for  $CP$ -Violating Charge Asymmetries in Charmless Two-Body  $B$  Decays into Pions and Kaons.  
B. Aubert et al., Phys. Rev. Lett. 87 (2001) 151802
- Measurement of the Decays  $B \rightarrow \pi K$  and  $B \rightarrow \pi K^*$ .  
B. Aubert et al., Phys. Rev. Lett. 87 (2001) 151801
- Observation of  $CP$  Violation in the  $B^0$  Meson System.  
B. Aubert et al., Phys. Rev. Lett. 87 (2001) 091801
- Measurement of  $CP$ -Violating Asymmetries in  $B^0$  Decays to  $CP$  Eigenstates.  
B. Aubert et al., Phys. Rev. Lett. 86 (2001) 2515
- Search for R-parity violating supersymmetry in dimuon and four-jets channel  
V. M. Abazov *et al.*, hep-ex/0111053

- Search for leptoquark pairs decaying to nu nu + jets in p anti-p collisions at  $s^{**}(1/2) = 1.8\text{-TeV}$   
V. M. Abazov *et al.*, hep-ex/0111047
- The inclusive jet cross-section in p anti-p collisions at  $s^{**}(1/2) = 1.8\text{-TeV}$  using the k(T) algorithm  
V. M. Abazov *et al.*, Phys. Lett. B **525** (2002) 211
- Subjet multiplicity of gluon and quark jets reconstructed with the k(T) algorithm in p anti-p collisions  
V. M. Abazov *et al.*, Phys. Rev. D **65** (2002) 052008
- A search for the scalar top quark in p anti-p collisions at  $s^{**}(1/2) = 1.8\text{-TeV}$   
V. M. Abazov *et al.*, hep-ex/0108018
- Measurement of the ratio of differential cross sections for W and Z boson production as a function of transverse momentum in p anti-p collisions at  $s^{**}(1/2) = 1.8\text{-TeV}$   
V. M. Abazov *et al.*, Phys. Lett. B **517** (2001) 299
- A study of multiple jet production at transverse energy near 20-GeV  
V. M. Abazov *et al.*, hep-ex/0106072
- Search for leptoquark pairs decaying to nu nu + jets in p anti-p collisions at  $s^{**}(1/2) = 1.8\text{-TeV}$   
V. M. Abazov *et al.*, hep-ex/0106065.
- Search for single top quark production at D0 using neural networks  
V. M. Abazov *et al.*, Phys. Lett. B **517** (2001) 282
- Search for new physics using QUAERO: A general interface to D0 event data  
V. M. Abazov *et al.*, Phys. Rev. Lett. **87** (2001) 231801
- The inclusive jet cross section in p anti-p collisions at  $s^{**}(1/2) = 1.8\text{-TeV}$  using the k(T) algorithm  
V. M. Abazov *et al.*, hep-ex/0106032
- The ratio of the isolated photon cross sections at  $s^{**}(1/2) = 630\text{-GeV}$  and  $1800\text{-GeV}$   
V. M. Abazov *et al.*, Phys. Rev. Lett. **87** (2001) 251805
- Improved D0 W boson mass determination  
V. M. Abazov *et al.*, hep-ex/0106018
- Search for first-generation scalar and vector leptoquarks  
V. M. Abazov *et al.*, Phys. Rev. D **64** (2001) 092004
- Search for heavy particles decaying into electron positron pairs in p anti-p collisions  
V. M. Abazov *et al.*, Phys. Rev. Lett. **87** (2001) 061802, Int. J. Mod. Phys. A **16S1B** (2001) 866
- Direct search for charged Higgs bosons in decays of top quarks  
V. M. Abazov *et al.*, hep-ex/0102039
- A quasi-model-independent search for new high p(T) physics at D0  
B. Abbott *et al.*, Phys. Rev. Lett. **86** (2001) 3712

### Articles in press

- Compact Frontend-Electronics and Bidirectional 3.3 Gbps Optical Datalink for Fast Proportional Chamber Readout  
S. Lüders, R. Baldinger, D. Baumeister, K. Bösiger, R. Eichler, M. Feuerstack-Raible, C. Grab, S. Löchner, B. Meier, B.A. Schmid, U. Stange, S. Steiner, U. Straumann, S.

Streuli, K. Szeker, and P. Truöl  
hep-ex 0107064  
Nuclear Instruments and Methods in Physics Research A

### LHCb and D0 notes

- Test Beam Results on Inner Tracker Silicon Prototype Sensors  
C.Bauer, T.Glebe, A.Ludwig, V.Pugatch, F.Sanchez, M.Schmelling (MPI für Kernphysik, Heidelberg)  
F.Lehner, P.Sievers, O.Steinkamp, U.Straumann, A.Vollhardt, M.Ziegler (Universität Zürich)  
LHCb public note 2001-135, November 2001
- Investigations of the thermal properties of the LHCb Inner Tracker silicon ladders by infinite element analysis  
Jacek Beloki (Institute for Nuclear Physics, Cracow)  
F.Lehner (Universität Zürich)  
LHCb public note 2001-128, October 2001
- Characterization of Inner Tracker silicon Prototype Sensors Using a 106 Ru-source and a 1083 nm Laser System  
C.Bauer, T.Glebe, V.Pugatch, M.Schmelling, B.Schwingenheuer (MPI für Kernphysik Heidelberg)  
P.Sievers (Universität Zürich)  
LHCb internal note 2001-121, September 2001
- First results from LHCb inner tracker performance studies using new digitization software  
A.Polouektov, O.Steinkamp, U.Straumann  
LHCb internal note 2001-118, September 2001
- Revised z positions for tracking stations  
O.Steinkamp  
LHCb internal note 2001-115, September 2001
- Layout of a cross-shaped inner tracker  
O.Steinkamp  
LHCb internal note 2001-114, September 2001
- Description and Characterization of Inner Tracker Silicon Prototype Sensors  
F.Lehner, P.Sievers, O.Steinkamp, U.Straumann, M.Ziegler (Universität Zürich)  
V.Pugatch (MPI für Kernphysik Heidelberg)  
LHCb public note 2001-036, April 2001
- First irradiation of Inner Tracker Prototype Sensors  
V.Pugatch, F.Sanchez, M.Schmelling (MPI für Kernphysik)  
P.Sievers, O.Steinkamp (Universität Zürich)  
LHCb internal note 2001-035, March 2001
- The construction and performance of the 6-chip silicon ladders for the DZERO silicon main tracker  
F. Lehner  
D0-note-003846, March 2001
- Leakage currents and noise expectations for Run2b  
F. Lehner  
D0-note-003844, March 2001

### Conference reports

- Quality Assurance for the D0 silicon detector  
Frank Lehner  
1<sup>st</sup> Workshop on Quality Assurance Issues in Silicon Detectors  
May 17-18, 2001, CERN, Geneva, Switzerland
- The LHCb Silicon Inner Tracker  
P. Sievers  
5th International Conference on Large Scale Applications and Radiation Hardness of Semiconductor Detectors  
Firenze, July 04-06, 2001.  
LHCb public note 2001-108, submitted to Nucl. Intr. and Meth. Research, A
- The D0 silicon microstrip tracker  
Frank Lehner  
10th International Workshop on Vertex Detectors 'Vertex 2001'  
September 23-28, Brunnen, Switzerland
- CDF/D0 Run2b upgrade silicon projects  
Frank Lehner  
10th International Workshop on Vertex Detectors 'Vertex 2001'  
September 23-28, Brunnen, Switzerland
- The LHCb Silicon Inner Tracker  
U. Straumann  
10th International Workshop on Vertex Detectors 'Vertex 2001'  
September 23-28, Brunnen, Switzerland,

### Invited Lectures

- Status of the LHCb experiment  
U. Straumann  
9th International Symposium on Heavy Flavor Physics  
Sept. 10-13, 2001, Caltech, Pasadena, Ca.  
Proceedings in press.
- St. Schlamminger  
The Zürich Big G Experiment from the Comparators Point of View,  
METAS (Swiss Federal Office of Metrology and Accreditation), December 4, 2001.
- St. Schlamminger  
Determination of the Gravitational Constant  
Open User Meeting, Paul Scherrer Institut (PSI), Villigen, January 8, 2002.
- St. Schlamminger  
Determination of the Gravitational Constant Using a Beam Balance  
Nuclear Physics Laboratory, University of Washington, Seattle, January 29, 2002.
- St. Schlamminger  
Determination of the Gravitational Constant Using a Beam Balance  
University of California, Irvine, January 31, 2002.
- The H1 Experiment at HERA  
U. Straumann  
Frühjahrstagung der Schweiz. Physikalischen Gesellschaft  
Lausanne, 28. Februar 2002

- The Silicon Inner Tracker for LHCb  
O. Steinkamp  
8th international conference on instrumentation for colliding beam physics  
Novosibirsk, Feb. 28 - Mar. 6, 2002  
LHCb public note 2002-019  
submitted to Elsevier Science to be published in NIM

### Diploma and PhD Theses

- Development of a triple GEM detector for the LHCb experiment  
Marcus Ziegler  
Dissertation, Physik-institut, Universität Zürich, Januar 2002

## 17.6 Research group of Prof. P. Truöl (incl. H1 publications of group Prof. U. Straumann)

### Articles

- Di-jet Production in Charged and Neutral Current  $e^+p$  Interactions at High  $Q^2$   
H1-Collaboration\*\*, C. Adloff *et al.*  
DESY 00 – 143, hep-ex 0010016  
The European Physical Journal **C19** (2001), 429 - 440
- Measurement and QCD Analysis of Jet Cross Sections in Deep-Inelastic Positron-Proton Collisions at  $\sqrt{s}$  of 300 GeV  
H1-Collaboration\*\*, C. Adloff *et al.*  
DESY 00 – 145, hep-ex 0010054  
The European Physical Journal **C19** (2001), 289 - 311
- Diffractive Jet-Production in Deep-Inelastic  $e^+p$  Collisions at HERA  
H1-Collaboration\*\*, C. Adloff *et al.*  
DESY 00 – 174, hep-ex 0012051  
The European Physical Journal **C20** (2001), 29 - 49
- Deep-Inelastic Inclusive  $ep$  Scattering at Low  $x$  and a Determination of  $\alpha_s$   
H1-Collaboration\*\*, C. Adloff *et al.*  
DESY 00 – 181, hep-ex 0012053  
The European Physical Journal **C21** (2001), 33 - 61
- Measurement of Neutral and Charged Current Cross Sections in Electron-proton Collisions at High  $Q^2$  at HERA  
H1-Collaboration\*\*, C. Adloff *et al.*  
DESY 00 – 187, hep-ex 0012052  
The European Physical Journal **C19** (2001), 269 - 288
- A Large Acceptance, High Resolution Detector for Rare  $K^+$ -decay Experiments  
E865-Collaboration†, R. Appel *et al.*  
Nuclear Instruments and Methods in Physics Research **A479** (2002), 340 - 406
- Searches at HERA for Squarks in R-Parity Violating Supersymmetry  
H1-Collaboration\*\*, C. Adloff *et al.*  
DESY 01 – 021, hep-ex 0102050  
The European Physical Journal **C20** (2001), 639 - 657

- A New Measurement of  $K_{e4}^+$  Decay and the  $s$ -Wave  $\pi\pi$  Scattering Length  
E865-Collaboration<sup>†</sup>, S. Pislak *et al.*  
hep-ex 0106071  
Physical Review Letters **87** (2001), 221801-1 - 221801-4
- Photoproduction with a Leading Proton at HERA  
H1-Collaboration<sup>\*\*</sup>, C. Adloff *et al.*  
DESY 01 – 062, hep-ex 0106070  
Nuclear Physics **B619** (2001), 3 - 21
- Three-Jet Production in Deep-Inelastic Scattering at HERA  
H1-Collaboration<sup>\*\*</sup>, C. Adloff *et al.*  
DESY 01 – 073, hep-ex 0106078  
Physics Letters **B515** (2001), 17 - 29
- First Measurement of the Cross Section for Deeply Virtual Compton Scattering  
H1-Collaboration<sup>\*\*</sup>, C. Adloff *et al.*  
DESY 01 – 093, hep-ex 0107005  
Physics Letters **B517** (2001), 47 -58
- Measurement of Open Beauty Production at HERA  
H1-Collaboration<sup>\*\*</sup>, C. Adloff *et al.*  
Physics Letters **B518** (2001), 331 - 332; erratum to Physics Letters **B467** (1999), 156 - 164
- A Search for Leptoquark Bosons in  $e^-p$  Collisions at HERA  
H1-Collaboration<sup>\*\*</sup>, C. Adloff *et al.*  
DESY 01 – 094, hep-ex 0107038  
Physics Letters **B523** (2001), 234 - 242
- On the Rise of the Proton Structure Function  $F_2$  towards Low  $x$   
H1-Collaboration<sup>\*\*</sup>, C. Adloff *et al.*  
DESY 01 – 104, hep-ex 0108035  
Physics Letters **B520** (2001), 183 - 190
- Measurement of  $D^{*\pm}$ -Meson Production and  $F_2^c$  in Deep-Inelastic Scattering at HERA  
H1-Collaboration<sup>\*\*</sup>, C. Adloff *et al.*  
DESY 01 – 100, hep-ex 0108039  
Physics Letters **B528** (2002), 199 -215
- $D^{*\pm}$  Meson Production in Deep-Inelastic Diffractive Interactions at HERA  
H1-Collaboration<sup>\*\*</sup>, C. Adloff *et al.*  
DESY 01 – 105, hep-ex 0108047  
Physics Letters **B520** (2001), 191 - 203
- Muon Capture by  $^{11}\text{B}$  and the Hyperfine Effect  
V. Wiaux, R. Prieels, J. Deutsch, J. Govaerts, V. Brudanin, S. Egorov, C. Petitjean and P. Truöl  
Physical Review **C65** (2002), 025503-1 - 025503-8
- Search for Excited Neutrinos at HERA  
H1-Collaboration<sup>\*\*</sup>, C. Adloff *et al.*  
DESY 01 – 145, hep-ex 0110037  
Physics Letters **B525** (2002), 9 - 16
- New Results on Rare and Forbidden Semileptonic  $K^+$  Decays  
P. Truöl  
HQ2K, 5<sup>th</sup> International Workshop on Heavy Quarks at Fixed Target, Centro Brasileiro

de Pesquisas Fisicas, Rio de Janeiro - Brazil, October 2000  
 hep-ex 0012012

Proc. eds. I. Bediaga, J. Miranda, and A. Reis, Frascati Physics Series Vol. XX (INFN Frascati 2001), p. 49 - 63

### Articles in press

- Compact Frontend-Electronics and Bidirectional 3.3 Gbps Optical Datalink for Fast Proportional Chamber Readout  
 S. Lüders, R. Baldinger, D. Baumeister, K. Bösiger, R. Eichler, M. Feuerstack-Raible, C. Grab, S. Löchner, B. Meier, B.A. Schmid, U. Stange, S. Steiner, U. Straumann, S. Streuli, K. Szeker, and P. Truöl  
 hep-ex 0107064  
 Nuclear Instruments and Methods in Physics Research **A** (2001)
- Measurement of Dijet Electroproduction at Small Jet Separation  
 H1-Collaboration\*\*, C. Adloff *et al.*  
 DESY 01 – 178, hep-ex 0111006  
 The European Physical Journal **C** (2002)
- Measurement of Dijet Cross Sections in Photoproduction at HERA  
 H1-Collaboration\*\*, C. Adloff *et al.*  
 DESY 01 – 225, hep-ex 0201006  
 The European Physical Journal **C** (2002)
- Studies of Aging and HV Breakdown Problems during Development and Operation of MSGC and GEM Detectors for the Inner Tracking System of HERA-B  
 Y. Bagaturia, O. Baruth, H.B. Dreis, F. Eisele, I. Gorbunov, S. Gradl, W. Gradl, S. Hausmann, M. Hildebrandt, T. Hott, S. Keller, C. Krauss, B. Lomonosov, M. Negodaev, C. Richter, P. Robmann, B. Schmidt, U. Straumann, P. Truöl, S. Visbeck, T. Walter, C. Werner, U. Werthenbach, G. Zech, T. Zeuner, M. Ziegler  
 hep-ex 0204011  
 Nuclear Instruments and Methods in Physics Research **A** (2002)
- Physics with Low-Energy Muons at a Neutrino Factory Complex  
 J. Aysto, A. Baldini, A. Blondel, A. de Gouvea, J.R. Ellis, W. Fettscher, G.F. Giudice, K. Jungmann, S. Lola, V. Palladino, K. Tobe, A. Vacchi, A. van der Schaaf, K. Zuber Report of the Stopped Muons Working Group for the ECFA - CERN study on Neutrino Factory and Muon Storage Rings at CERN; CERN-TH-2001-231 (Sept. 2001), hep-ph/0109217.
- Energy Flow and Rapidity Gaps between Jets in Photoproduction at HERA  
 H1-Collaboration\*\*, C. Adloff *et al.*  
 DESY 02 – 023, hep-ex 0203011  
 submitted to The European Physical Journal **C** (2002)
- A Measurement of the  $t$  dependence of the Helicity Strcuture of Diffractive  $\rho$  Meson Electroproduction at HERA  
 H1-Collaboration\*\*, C. Adloff *et al.*  
 DESY 02 – 027, hep-ex/0203022  
 submitted to Physics Letters **B** (2002)
- Experimental Study of the Radiative Decays  $K^+ \rightarrow \mu^+ \nu_\mu e^+ e^-$  and  $K^+ \rightarrow e^+ \nu_e e^+ e^-$   
 E865-Collaboration<sup>†</sup>, A.A. Poblaguev *et al.*

hep-ex/0204006  
 submitted to Physical Review Letters (2002)

### Invited lectures

- A. van der Schaaf  
 Summary WG2, *Short-baseline Neutrino Physics and Rare Processes*  
 Proc. Int. Workshop on Neutrino factories based on Muon Storage Rings (Nufact'01),  
 Tsukuba, Japan (May 24-30 2001), to appear in Nucl.Instr.Meth.A
- A. van der Schaaf  
 Searching for  $\mu$ -e Conversion  
 Seminar at ICEPP, University of Tokyo, May 31 2001
- A. van der Schaaf  
 SINDRUM II  
 Seminar at ETHZ, June 4 2001
- A. van der Schaaf  
 Testing Lepton Flavor Conservation  
 Proc. Int. Conf. on CP Violation (KAON 2001), Pisa, Italy, June 12 - 17 2001
- F. Sefkow  
 Open beauty production  
 Proc. Workshop on New Trends in HERA Physics 2001, Ringberg Castle, Tegernsee,  
 Germany (June 2001); hep-ex/0109038.
- P. Truöl  
 A new measurement of Ke4 decay and the s-wave  $\pi\pi$  scattering length  
 CERN, June 22, 2001
- A. van der Schaaf  
 Report and Plans of the Slow Muons WG,  
 ECFA Plenary Meeting, CERN, October 15-18 2001
- P. Truöl  
 Neuere experimentelle Resultate des Experiments E865 in Brookhaven  
 Institut für theoretische Physik, Universität Bern, January 15, 2002

### Conference reports

- Open beauty production at HERA  
 J. Kroseberg  
 hep-ex/0108052, Proc. 9<sup>th</sup> Int. Workshop on Deep Inelastic Scattering (DIS 2001),  
 Bologna, Italy, 27 Apr - 1 May 2001
- The Gluon Distribution  $xg$  and the Strong Coupling Constant  $\alpha_s$  from Inclusive DIS  
 data by H1  
 R. Wallny  
 Proc. 9<sup>th</sup> Int. Workshop on Deep-Inelastic Scattering (DIS2001), Bologna, Italy (May  
 2001)
- SINDRUM II  
 A. van der Schaaf  
 Proc. Int. Workshop on Neutrino factories based on Muon Storage Rings (Nufact'01),  
 Tsukuba, Japan, May 24-30 2001

- Measurement and QCD interpretation of the deep inelastic  $ep$  scattering cross section by H1  
R. Wallny  
Proc. Int. Europhysics Conf. on High-Energy Physics (HEP 2001), Budapest, Hungary (July 2001), D. Horvath et. al. eds., The Journal of High-Energy Physics (JHEP, <http://jhep.sissa.it/>), Proc. Sec. PRHEP-hep2001/008
- A New Measurement of  $K^+ \rightarrow \pi^+\pi^-e^+\nu_e$  ( $K_{e4}$ ) Decay and the  $\pi\pi$  *s*-wave Scattering Length  
P. Truöl  
Proc. Int. Europhysics Conf. on High-Energy Physics (HEP 2001), Budapest, Hungary (July 2001), D. Horvath et. al. eds., The Journal of High-Energy Physics (JHEP, <http://jhep.sissa.it/>), Proc. Sec. PRHEP-hep2001/175.
- Heavy quark production in deep-inelastic scattering  
F. Sefkow  
Proc. Int. Europhysics Conf. on High-Energy Physics (HEP 2001), Budapest, Hungary (July 2001), D. Horvath et. al. eds., The Journal of High-Energy Physics (JHEP, <http://jhep.sissa.it/>), Proc. Sec. PRHEP-hep2001/021, hep-ex/0110036.
- Search for muon - electron conversion on gold  
W. Bertl for the SINDRUM collaboration  
Proc. Int. Europhysics Conf. on High-Energy Physics (HEP 2001), Budapest, Hungary (July 2001), D. Horvath et. al. eds., The Journal of High-Energy Physics (JHEP, <http://jhep.sissa.it/>), Proc. Sec. PRHEP-hep2001/155.
- Aging Tests with GEM-MSGC  
M. Hildebrandt  
Proc. Int. Workshop on Aging Phenomena in Gaseous Detectors, DESY, Hamburg (October 2001), Nuclear Instruments and Methods in Physics Research **A**, in print
- Open Heavy Flavour Production at HERA  
J. Kroseberg  
Proc. Lake Louise Winter Institute on Fundamental Interactions, Lake Louise, Alberta, Canada (February 2002)
- Das Triggersystem der CIP Kammer bei H1  
M. Urban  
Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Fachverband Teilchenphysik, Leipzig (May 2002)

## PhD Theses

- Deep-Inelastic Inclusive  $ep$  Scattering at Low  $x$  and a Determination of  $\alpha_s$   
Rainer Wallny  
Ph.D Thesis, Physik-Institut, Universität Zürich, 2001

† E865-collaboration:

R. Appel<sup>8,6</sup>, G.S. Atoyan<sup>2,8</sup>, B. Bassaleck<sup>5</sup>, D.R. Bergman<sup>8</sup>, N. Cheung<sup>6</sup>, S. Dhawan<sup>8</sup>, H. Do<sup>8</sup>, J. Egger<sup>3</sup>, S. Eilerts<sup>5</sup>, W.D. Herold<sup>3</sup>, V.V. Isakov<sup>2,8</sup>, H. Kaspar<sup>3</sup>, D. Kraus<sup>6</sup>, D. Lazarus<sup>1</sup>, P. Lichard, J. Lowe<sup>5</sup>, J. Lozano<sup>8</sup>, H. Ma<sup>1</sup>, W. Majid<sup>8</sup>, S. Pislik<sup>7,8</sup>, A.A. Pobladuev<sup>2,8</sup>, P. Rehak<sup>1</sup>, A. Sher<sup>6</sup>, J.A. Thompson<sup>6</sup>, P. Truöl<sup>7,8</sup>, M.E. Zeller<sup>8</sup>

<sup>3</sup> Paul Scherrer Institut, Villigen

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