

## 7.5.1 Publications with peer review: Years 1 – 4

This section lists articles published or to be published in journals with peer review. The list includes the four year of MaNEP activities. The publications of Year 4 are in dark green while the one from Year 1 to Year 3 are in black (indication of the Year is provided for all entries in the list). An asterisk marks the most important publications. Another qualifier is the journal in which the papers are published: articles in *Nature*, *Science* and *Physical Review Letters* are outlined in yellow.

The publications are sorted by MaNEP projects. First are the publications resulting from the work of one project only. Then collaborative works involving two MaNEP projects are listed. Finally, publications from three and four projects are provided.

### a) \*\*\*\*\* Publications involving ONE project \*\*\*\*\*

#### Project 1, M. Büttiker, UniGE

W. BELZIG, P. SAMUELSSON  
**Full counting statistics of incoherent Andreev transport**  
*Europhys. Lett.* **64**, 253 (2003)  
Yr-3

M. BÜTTIKER, A. N. JORDAN  
**Ground State Entanglement Energetics**  
*quant-ph/0501018*  
Tbp

M. BÜTTIKER, P. SAMUELSSON  
**Hanbury Brown-Twiss effects in channel mixing normal-superconducting systems**  
*Proceedings of the XXIII Conference on Low Temperature Physics, Hiroshima, Japan, Aug. 20 - 27, 2002. Physica E (unpublished)*  
Tbp

M. BÜTTIKER, P. SAMUELSSON, E.V. SUKHORUKOV  
**Entangled Hanbury Brown Twiss effects with edge states**  
*Physica E* **20**, 33 (2003)  
Yr-3

M.-S. CHOI, D. SÁNCHEZ, R. LÓPEZ  
**Kondo effect in a quantum dot coupled to ferromagnetic leads : A numerical renormalization group analysis**  
*Phys. Rev. Lett.* **92**, 056601 (2004)  
Yr-3

G. JOHANSSON, P. SAMUELSSON, Å. INGERMAN  
**Full counting statistics of multiple Andreev reflection**  
*Phys. Rev. Lett.* **91**, 187002 (2003)  
Yr-3

R. LÓPEZ, R. AGUADO, G. PLATERO

**Shot noise in strongly correlated double quantum dots**  
*Submitted to Phys. Rev. B (2004)*  
Tbp

K.E. NAGAEV, P. SAMUELSSON, S. PILGRAM  
**Cascade approach to current fluctuations in a chaotic cavity**  
*Phys. Rev. B* **66**, 195318 (2002)  
Yr-2

S. PILGRAM, P. SAMUELSSON  
**Noise and full counting statistics of incoherent multiple Andreev reflection**  
*Phs. Rev. Lett.* **94**, 086806 (2005)  
Yr-4

P. SAMUELSSON  
**Energy dependent counting statistics in superconducting tunnel junctions**  
*Phys. Rev. B*, to appear  
Tbp

P. SAMUELSSON, W. BELZIG, YU. V. NAZAROV  
**Andreev reflection eigenvalue density in mesoscopic conductors**  
*Phys. Rev. Lett.*, **92**, 196807 (2004)  
Yr-4

\* P. SAMUELSSON, M. BÜTTIKER  
**Chaotic dot-superconductor analog of the Hanbury Brown-Twiss effect**  
*Phys. Rev. Lett.* **89**, 046601(4 pages) (2002)  
Yr-2

P. SAMUELSSON, M. BÜTTIKER  
**Semiclassical theory of current correlations in chaotic dot-superconductor systems**  
*Phys. Rev. B* **66**, 201306 (2002)  
Yr-2

P. SAMUELSSON, M. BÜTTIKER  
**Dynamic generation of orbital quasiparticle entanglement in mesoscopic conductor**  
*cond-mat/041058*  
Tbp

P. SAMUELSSON, Å. INGERMAN, G. JOHANSSON, E.V. BEZUGLYI, V.S. SHUMEIKO, G. WENDIN, R. KÜRSTEN, A. RICHTER, T. MATSUYAMA, U. MERKT  
**Coherent current transport in wide ballistic Josephson junctions**  
*Phys. Rev. B, 70, 212505 (2004)*  
Yr-4

\* P. SAMUELSSON, E.V. SUKHORUKOV, M. BÜTTIKER  
**Two-particle Aharonov-Bohm effect and Entanglement in the electronic Hanbury Brown - Twiss set-up**  
*Phys. Rev. Lett 92, 026805 (2004)*  
Yr-3

P. SAMUELSSON, E.V. SUKHORUKOV, M. BÜTTIKER

**Orbital entanglement and violation of Bell inequalities in mesoscopic conductors**  
*Phys. Rev. Lett. 91, 157002 (2003)*  
Yr-3

P. SAMUELSSON, E.V. SUKHORUKOV, M. BÜTTIKER  
**Orbital entanglement and violation of Bell inequalities in the presence of dephasing**  
*Turk. J. Phys. 27, 481 (2003)*  
Yr-3

P. SAMUELSSON, E.V. SUKHORUKOV, M. BÜTTIKER  
**Electrical current noise of a beam-splitter as a test of spin entanglement**  
*Phys. Rev. B 70, 115330 (2004)*  
Yr-4

D. SANCHEZ, R. LÓPEZ, P. SAMUELSSON, M. BÜTTIKER  
**Andreev drag effect in ferromagnetic-normal-superconducting systems,**  
*Phys. Rev. B 68, 214501 (2003)*  
Yr-3

## Project 2, Ø. Fischer, UniGE

L. ANTOGNAZZA, M. DECROUX, S. REYMOND, E. DE CHAMBRIER, W. PAUL, M. CHEN, Ø. FISCHER  
**Simulation of the behavior of superconducting YBCO lines at high current densities**  
*Physica C 372-376, 1684-1687(2002)*  
Yr-2

L. ANTOGNAZZA, M. DECROUX, M. THERASSE, M. ABPLANALP, AND Ø. FISCHER,  
**Test of YBCO thin films based Fault Current Limiter with a newly designed meander**  
*Submitted to IEEE Trans. On Applied Superconductivity.*  
Tbp

S. S. BANERJEE, A. SOIBEL, Y. MYASOEDOV, M. RAPPAPORT, E. ZELDOV, M. MENGHINI, Y. FASANO, F. DE LA CRUZ, C. J. VAN DER BEEK, M. KONCZYKOWSKI, T. TAMEGAI  
**Porous' vortex matter**  
*Physica C 408-410, 495-498 (2004)*  
Yr-4

C. BAUMANN, C. HESS, P. REUTLER, B. BÜCHNER, A. REVCOLEVSCHI  
**Phonon thermal conductivity in single layered manganites**  
*Accepted for publication in J. Magn. Magn. Mater.*  
Tbp

M. DECROUX, L. ANTOGNAZZA, S. REYMOND, W. PAUL, M. CHEN, Ø. FISCHER

**Studies of YBCO strip lines under voltage pulses: optimisation of the design of fault current limiters**  
*IEEE Trans. On Applied Superconductivity, Vol.13, 1988 (2003)*  
Yr-3

F. DE LA CRUZ, YANINA FASANO, M. DE SETA, M. MENGHINI H. PASTORIZA,  
**Plastic and Elastic Symmetry Transformations Induced in the Vortex Lattice of Anisotropic and Layered Superconductors**  
*Journal of Low Temperature Physics 135, 99 (2004)*  
Yr-4

Y. FASANO, M. MENGHINI, F. DE LA CRUZ  
**Imaging of artificially induced vortex structures**  
*Physica C 408-410, 474-477 (2004)*  
Yr-4

Y. FASANO, M. DE SETA, M. MENGHINI, H. PASTORIZA, F. DE LA CRUZ  
**Symmetry transformation of the three-dimensional vortex system induced by two-dimensional square pinning potentials**  
*Physica C 408-410, 520-521 (2004)*  
Yr-4

Y. FASANO, M. DE SETA, M. MENGHINI, H. PASTORIZA, F. DE LA CRUZ  
**Commensurability and stability in non-periodic systems**  
*PNAS 10.1073/pnas.0408016102 (2005)*  
Yr-4

Y. FASANO, M. DE SETA, M. MENGHINI, H. PASTORIZA, F. DE LA CRUZ  
**Effect of vortex dimensionality on elastic and plastic symmetry transformations induced in vortex matter**

Accepted in the *Journal of Physics and Chemistry of Solids*  
Tbp

B. GRÉVIN, I. MAGGIO-APRILE, A. BENTZEN, O. KUFFER, I. JOUMARD, Ø. FISCHER  
**Scanning tunneling potentiometry search for mesoscopic phase separation in  $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$**   
*Appl. Phys. Lett.* **80**, 3979 - 3981 (2002)  
Yr-2

C. HESS, C. BAUMANN, B. BÜCHNER  
**Scattering Processes and Magnon Thermal Conductivity in  $\text{La}_5\text{Ca}_9\text{Cu}_{24}\text{O}_{41}$**   
Accepted for publication in *J. Magn. Magn. Mater*  
Tbp

C. HESS, B. BÜCHNER  
**Thermal conductivity of doped  $\text{La}_2\text{CuO}_4$  as an example for heat transport by optical phonons in complex materials**  
*Eur. Phys. J. B* **38**, 37 (2004)  
Yr-4

\* C. HESS, H. EL HAES, B. BÜCHNER, U. AMMERHAHL, M. HÜCKER, A. REVCOLEVSCHI  
**Magnon-Hole Scattering and Charge Order in  $\text{Sr}_{14-x}\text{Ca}_x\text{Cu}_{24}\text{O}_{41}$**   
*Phys. Rev. Lett.* **93**, 027005 (2004)  
Yr-4

O. KUFFER, Ø. FISCHER  
**Low temperature growth of pseudocubic perovskites by off-axis rf magnetron sputtering for the realization of epitaxial ferroelectric-based perovskites**  
*J. Appl. Phys.* **97**, 014103 (2005)  
Yr-4

O. KUFFER, I. MAGGIO-APRILE, Ø. FISCHER  
**Nanoscale ferroelectric field effect writing and reading using scanning tunneling spectroscopy**  
To be published at *Nature Mater.* (2005)  
Tbp

G. LEVY, M. KUGLER, A.A. MANUEL, Ø. FISCHER  
**Four-fold structure of vortex core states in  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$**   
Submitted to *Phys. Rev. Lett.* (2004)  
Tbp

M. MENGHINI, YANINA FASANO F. DE LA CRUZ, S.S. BANERJEE, Y. MYASOEDOV, E. ZELDOV, C. J. VAN DER BEEK, M. KONCZYKOWSKI, T. TAMEGAI

**First-order vortex liquid-solid transition without symmetry change**  
*Journal of Low Temperature Physics* **135**, 139 (2004)  
Yr-4

C. PANAGOPOULOS, M. MAJOROS, A. P. PETROVIC  
**Thermal hysteresis in the normal-state magnetization of  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$**   
*Phys. Rev. B* **69**, 144508 (2004)  
Yr-4

C. PANAGOPOULOS, A. P. PETROVIC, A. D. HILLIER, J. L. TALLON, C. A. SCOTT, B. D. RAINFORD  
**Exposing the spin-glass ground state of the nonsuperconducting  $\text{La}_{2-x}\text{Sr}_x\text{Cu}_{1-y}\text{ZnyO}_4$  high- $T_c$  oxide**  
*Phys. Rev. B* **69**, 144510 (2004)  
Yr-4

S. REYMOND, L. ANTOGNAZZA, M. DECROUX, Ø. FISCHER  
**Simulation of the initial response of a high  $T_c$  superconducting film submitted to a voltage source**  
*Superconducting Science and Technology* **17**, 522 (2004)  
Yr-3

S. REYMOND, Ø. FISCHER  
**Low temperature scanning contact potentiometry**  
*Review of Scientific instrument* **75**, 694 (2004)  
Yr-3

S. REYMOND, L. ANTOGNAZZA, M. DECROUX, E. KOLLER, P. REINERT, Ø. FISCHER  
**Current-induced highly dissipative domains in high- $T_c$  thin films**  
*Phys. Rev. B* **66**, 14522 (7pages) (2002)  
Yr-2

P. RIBEIRO, C. HESS, P. REUTLER, G. ROTH, B. BÜCHNER  
**Heat Transport in Doped  $\text{SrCuO}_2$**   
Accepted for publication in *J. Magn. Magn. Mater.*  
Tbp

M. SALLUZZO, C. ARUTA, M.G. MAGLIONE, F. RICCI, F. NATALI, E. KOLLER, Ø. FISCHER, N.L. SAINI  
**Evidence of local structural transition during oxidation process of RBCO epitaxial films using time resolved RefleXafs measurements.**  
Submitted to *European Physical Journal B*, December 2001  
Tbp

## Project 3, R. Flükiger, UniGE

V. ABÄCHERLI, D. UGLIETTI, B. SEEBER, R. FLÜKIGER

**(Nb,Ta,Ti)<sub>3</sub>Sn multifilamentary wires using Osprey bronze with high tin content and NbTa/NbTi composite filaments**

*Physica C* **372-376**, 1325-1328 (2002)

Yr-2

N. CLAYTON, N. MUSOLINO, E. GIANNINI, V. GARNIER, R. FLÜKIGER

**Lower Critical Field and Mixed State**

**Magnetisation of Single Crystal Bi<sub>2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>3</sub>O<sub>10</sub>**

Submitted to *Europhysics Letters*, January 2004

Tbp

N. CLAYTON, N. MUSOLINO, E. GIANNINI, V. GARNIER, R. FLÜKIGER

**Growth and superconducting properties of Bi<sub>2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>3</sub>O<sub>10</sub> single crystals**

*Supercond. Sci. Technol.* **17** (2004) S563 - S567

Yr-4

M. COSTA BOUZO, F. GRILLI, Y. YANG  
**Modelling of Coupling Between Superconductors of Finite Length Using an Integral Formulation**

*Superconductor Science and Technology* **17** (2004) 1103-1112

Yr-4

M. COSTA, E. MARTÍNEZ, C. BEDUZ, Y. YANG, F. GRILLI, B. DUTOIT, E. VINOT, P. TIXADOR

**3D modelling of coupling between superconducting filaments via resistive matrix in AC magnetic field**

*IEEE Trans. Appl. Supercond.* (2003) to appear

Tbp

J. DURON, F. GRILLI, B. DUTOIT, S. STAVREV  
**Modelling the E-J relation of high-T<sub>c</sub>**

**superconductors in an arbitrary current range**

*Physica C* **401**, 231-235 (2004)

Yr-3

R. FLÜKIGER, P. LEZZA, C. BENEDEUCE, N. MUSOLINO, H. L. SUO

**Improved transport critical current and irreversibility fields in mono- and multifilamentary Fe/MgB<sub>2</sub> tapes and wires using fine powders**

*Supercond. Sci. Technol.* **16**, 264-270 (2003)

Yr-2

R. FLÜKIGER, H. L. SUO, N. MUSOLINO, C. BENEDEUCE, P. TOULEMONDE, P. LEZZA

**Superconducting properties of MgB<sub>2</sub> tapes and wires**

*Physica C* **385** (1-2) 286-305 (2003)

Yr-2

and *Physica C* **387** (3-4) 419 (2003)

Yr-3

H. FUJI, V. GARNIER, E. GIANNINI, R. FLÜKIGER

**Effect of hot uniaxial pressing on the microstructure and critical current density of (Bi,Pb)-2223 tapes**

*Supercond. Sci. Technol.* **17** (2004) pp. 263-268

Yr-4

V. GARNIER, E. GIANNINI, S. HUGI, B. SEEBER, R. FLÜKIGER

**New apparatus for DTA at 2000 bar: thermodynamic studies on Au, Ag, Al and HTSC oxides**

*Supercond. Sci. Technol.* **17** (2004) pp. 395-400

Yr-4

V. GARNIER, R. PASSERINI, E. GIANNINI, R. FLÜKIGER

**New understanding of the role of Ag at underformed Ag/Bi,Pb (2223) interface: texturing and outgrowths**

*Supercond. Sci. Technol.* **16**, 820-826 (2003)

Yr-3

E. GIANNINI, V. GARNIER, R. GLADYSHEVSKII, R. FLÜKIGER

**Growth and characterization of Bi<sub>2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>3</sub>O<sub>10</sub> and (BiPb)<sub>2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>3</sub>O<sub>10-δ</sub> single crystals**

*Supercond. Sci. Technol.* **17**, 220-226 (2004)

Yr-3

E. GIANNINI, V. GARNIER, N. CLAYTON, N. MUSOLINO, R. GLADYSHEVSKII, R. FLÜKIGER

**Growth, structure and superconducting properties of Bi<sub>2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>3</sub>O<sub>10</sub> and (Bi,Pb)<sub>2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>3</sub>O<sub>10-y</sub> crystals**

*Cryst. Res. Technol.* **39**, No 10, 926 – 931 (2004)

Yr-4

E. GIANNINI, V. GARNIER, I. SAVYSYUK, R. PASSERINI, G. WITZ, X.D. SU, B. SEEBER, L. HUA, R. FLÜKIGER

**Partial melting and HIP processing of Bi(2223): bulk and tapes**

*IEEE Transactions on Applied Superconductivity*, **13** (2) 3008-3013 (2003)

Yr-3

E. GIANNINI, I. SAVYSYUK, V. GARNIER, R. PASSERINI, P. TOULEMONDE, R. FLÜKIGER

**Reversible melting and equilibrium phase formation of (Bi,Pb)<sub>2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>3</sub>O<sub>10+δ</sub>**

*Supercond. Sci. Technol.* **15**, 1577-1586 (2002)

Yr-2

E. GIANNINI, R. PASSERINI, P. TOULEMONDE, E. WALKER, M. LOMELLO-TAFIN, D. HEPTYAKOV, R. FLÜKIGER

**Bi,Pb(2223) equilibrium and decomposition: in situ high-temperature neutron diffraction study**

*Physica C* **372-376**, 895-898 (2002)

Yr-2

R. GLADYSHEVSKII, N. MUSOLINO, R. CERNY, E. WALKER AND R. FLÜKIGER

**Crystal Structure of modulation-free Bi,Pb-2212**  
Submitted to *Acta Cryst.*, January (2004)  
Tbp

R. GLADYSHEVSKII, N. MUSOLINO, R. FLÜKIGER  
**Structural origin of the low superconducting anisotropy of Bi<sub>1.7</sub>Pb<sub>0.4</sub>Sr<sub>2</sub>Ca<sub>0.9</sub>Cu<sub>2</sub>O<sub>8</sub> crystals**  
*Physical Review B* **70**, 184522 (2004)  
Yr-4

F. GRILLI, M. COSTA BOUZO, Y. YANG, C. BEDUZ, B. DUTOIT  
**Finite element method analysis of the coupling effect between superconducting filaments of different aspect ratio**  
*Superconductor Science and Technology* **16**, 1228-1234 (2003)  
Yr-3

F. GRILLI, M. SJÖSTRÖM  
**Prediction of resistive and hysteretic losses in a multi-layer high-T<sub>c</sub> superconducting cable**  
*Superconductor Science and Technology* **17**, 409-416 (2004)  
Yr-3

F. GRILLI, S. STAVREV, B. DUTOIT, S. SPREAFICO  
**Numerical Analysis of the Effects of the Magnetic Self-field on the Transport Properties of a Multi-layer HTS Cable**  
*IEEE Trans. Applied Superconductivity*, **14** (2004) 94-102  
Yr-4

F. GRILLI, S. STAVREV, Y. LE FLOCH, M. COSTA, E. VINOT, I. KLUTSCH, G. MEUNIER, P. PIXADOR, B. DUTOIT  
**Finite-Element Method Modeling of Superconductors: from 2-D to 3-D**  
*IEEE Trans. Applied Superconductivity*, **15** (2005) to be published in the March issue  
Tbp

F. GRILLI, S. STAVREV, B. DUTOIT, S. SPREAFICO  
**Numerical analysis of the effects of the magnetic self-field on the transport properties of a multi-layer HTS cable**  
*IEEE Trans. Applied Superconductivity* **14** (2004) to be published  
Tbp

F. GRILLI, S. STAVREV, B. DUTOIT, S. SPREAFICO  
**Numerical Modelling of a HTS Cable**  
*IEEE Trans. Applied Superconductivity* **13**, 1886-1889 (2003)  
Yr-3

F. GRILLI, S. STAVREV, B. DUTOIT, S. SPREAFICO, R. TEBANO, G. COLETTA, F. GÖMÖRY, J. ŠOUC  
**Numerical modelling of a HTS cable in AC regime**  
*Physica C* **401**, 176-181 (2004)

Yr-3

P. LEZZA, V. ABÄCHERLI, N. CLAYTON, C. SENATORE, D. UGLIETTI, H.L. SUO, R. FLÜKIGER  
**Transport properties and exponential n-values of Fe/MgB<sub>2</sub> tapes with various MgB<sub>2</sub> particle sizes**  
*Physica C* **401**, 305-309 (2004)  
Yr-3

N. MUSOLINO, S. BALS, G. VAN TENDELOO, N. CLAYTON, E. WALKER AND R. FLÜKIGER  
**Modulation-free phase in heavily Pb-doped (Bi,Pb) 2212 crystals**  
*Physica C* **399**, 1-7 (2003)  
Yr-3

N. MUSOLINO, S. BALS, G. VAN TENDELOO, N. CLAYTON, E. WALKER, R. FLÜKIGER  
**Investigation of (Bi,Pb) 2212 crystals: observation of modulation-free phase**  
*Physica C* **401**, 270-272 (2004)  
Yr-3

N. NIBBIO, S. STAVREV, B. DUTOIT  
**Finite element method simulation of ac loss in HTS tapes with B-dependent E-J power law**  
*IEEE Transactions on Applied Superconductivity*, Vol. **11**, Nr. 1, 2631-2634 (2001)  
Yr-1

N. NIBBIO, S. STAVREV  
**Effect of the geometry of HTS on AC loss by using finite element method simulation with B-dependent E-J power law**  
*IEEE Transactions on Applied Superconductivity*, Vol. **11**, Nr. 1, 2627-2630 (2001)  
Yr-1

R. PASSERINI, M. DHALLÉ, E. GIANNINI, R. FLÜKIGER  
**SEM investigation of outgrowths formation mechanism in Ag-sheathed Bi,Pb(2223) tapes**  
*Supercond. Sci. Technol.* **15**, 1203-1212 (2002)  
Yr-2

R. PASSERINI, M. DHALLÉ, B. SEEBER, AND R. FLÜKIGER  
**Mechanical properties of Bi,Pb(2223) single filaments and I<sub>c</sub>(ε) behaviour in longitudinally strained tapes**  
*Supercond. Sci. Technol.* **15**, 1507-1511(2002)  
Yr-2

B. SEEBER, D. UGLIETTI, V. ABÄCHERLI, D. ECKERT, P. LEZZA, A. POLLINI, R. FLÜKIGER  
**Critical current vs. Strain measurement up to 1000 A of long length superconducting wires and tapes**  
submitted to *Supercond. Sci. Technol.*, October 2003  
Tbp

C. SENATORE, M. POLICHETTI, N. CLAYTON, R. FLÜKIGER, S. PACE  
**Non-linear magnetic response of MgB<sub>2</sub> bulk**

**superconductors**

*Physica C* **401**, 182-186 (2004)  
Yr-3

M. SJÖSTRÖM, B. DUTOIT, J. DURON  
**Equivalent Circuit Model for Superconductors**  
*IEEE Trans. Applied Superconductivity* **13**, 1890-1893 (2003)  
Yr-3

S. STAVREV, B. DUTOIT  
**Geometry considerations for transport current applications of Bi-2223 conductors with anisotropic  $J_c(B)$  in external magnetic field**  
*EUCAS 2001, 26-30 August, Copenhagen, Submitted to Physica C*  
Tbp

S. STAVREV, B. DUTOIT, F. GRILLI  
**Self-field and geometry effects in transport current applications of multifilamentary Bi-2223/Ag conductors**  
*IEEE Trans. Applied Superconductivity* **13**, 3807 – 3813 (2003)  
Yr-3

S. STAVREV, B. DUTOIT, P. LOMBARD  
**Numerical modelling and AC losses in multifilamentary Bi-2223/Ag conductors with various geometry and filament arrangement**  
*Physica C* **384**, 19-31 (2003)  
Yr-2

S. STAVREV, B. DUTOIT, P. LOMBARD  
**AC Losses of Multifilamentary Bi-2223/Ag Conductors with Different Geometry and Filament Arrangement**  
*IEEE Trans. Applied Superconductivity* **13**, 3561-3665 (2003)  
Yr-3

S. STAVREV, B. DUTOIT, N. NIBBIO  
**Geometry considerations for use of Bi-2223/Ag tapes and wires with different models of  $J_c(B)$**   
*IEEE Trans. Appl. Supercond.*, vol. **12**, no. 3 1857-1865 (2002)  
Yr-2

S. STAVREV, Y. YANG, B. DUTOIT  
**Modelling and AC losses of BSCCO conductors with anisotropic and position-dependent  $J_c$**   
*Physica C* **378-381**, 1091-1096 (2002)  
Yr-2

S. STAVREV, I. KLUTSCH, P. SKOV-HANSEN, F. GRILLI, E. VINOT, J. B. HANSEN, B. DUTOIT, P. TIXADOR, G. MEUNIER  
**Numerical modelling of Bi-2223 multifilamentary tapes with position-dependent  $J_c$**   
*Physica C* **372-376**, 1800-1805 (2002)  
Yr-2

S. STAVREV, E. VINOT, Y. YANG, F. GRILLI, I. KLUTSCH, E. MARTINEZ, B. DUTOIT, G. MEUNIER, N. NIBBIO, P. TIXADOR  
**Comparison of numerical methods for modelling of superconductors**

*IEEE Trans. Magn.* Vol. **38**, no.2 849-852 (2002)  
Yr-2

X.D. SU, G. WITZ, K. KWASNITZA, R. FLÜKIGER  
**Fabrication of square and round Ag/Bi(2223) wires and their ac loss behaviour**  
*Supercond. Sci. Technol.* **15**, 1184-1189 (2002)  
Yr-3 ?

H.L. SUO, C. BENEDEUCE, M. DHALLÉ, N. MUSOLINO, X.D. SU, R. FLÜKIGER  
**High transport and inductive critical currents in dense Fe- and Ni-Clad  $MgB_2$  tapes using fine powder**  
*Advances in Cryogenic Engineering Materials, volume 488*, 872-879  
Yr-2

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Tbp

T. SHIBAUCHI, L. KRUSIN-ELBAUM, G. BLATTER,  
C.H. MIELKE  
**Uncovering large quantum fluctuations in overdoped Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+y</sub>**  
*Phys. Rev. B* **67**, 064514-1/6 (2003)  
Yr-3

M.A. SKVORTSOV, D.A. IVANOV, G. BLATTER  
**Vortex viscosity in the moderately clean limit of layered superconductors**  
*Phys. Rev. B* **67**, 014521 (11 pages) (2003)  
Yr-2

V.K. THORSMØLLE, R.D. AVERITT, M.P. MALEY,  
L.N. BULAEVSKII, C. HELM, A.J. TAYLOR  
**Josephson plasma resonance in Tl<sub>2</sub>Ba<sub>2</sub>CaCu<sub>2</sub>O<sub>8</sub> in a magnetic field measured using THz spectroscopy**  
*Physica B* **312**, 84-85 (2002)  
Yr-2

S. WUERTZ, H. G. KATZGRABER  
**Precise finite-sample quantiles of the Jarque-Bera adjusted Lagrange multiplier test**  
*Submitted to Econophysics Letters*  
Tbp

A. P. YOUNG, H. G. KATZGRABER  
**Absence of an Almeida-Thouless line in Three-Dimensional Spin Glasses**  
*Phys. Rev. Lett.* **93**, 207203 (2004)  
Yr-4

## Project 7, R. Nesper, ETHZ

F. BIERI, F. KRUMEICH, H.J. MUHR, R. NESPER  
**The first Vanadium Oxide Nanotube containing an Aromatic Amine as Template**  
*Preprint*  
Tbp

T.J. GELDBACH, C. J DEN REIJER, M. WÖRLE,  
P. PREGOSIN  
**Protonation and NMR studies on C-13-acetate enriched Ru (OAc)<sub>2</sub> (Binap) Acetate as a source of water in P-C bond splitting**  
*Inorg. Chim. Acta*, **330**, 155-160 (2002)  
Yr-2

J. HABERRECHT, F. KRUMEICH, R. NESPER  
**High yield molecular borazine-precursors for Si-B-N-C ceramics**  
*Chem. Mater.* **16**, **3**, 418-423 (2003)  
Yr-3

J. HABERRECHT, A. KRUMMLAND, F. BREHER, B. GEBHARDT, H. RÜEGGER, R. NESPER, H. GRÜTZMACHER  
**Functionalized Borazines as Precursors for New Silica-Gels**  
*Dalton Trans.* **11**, 2126-2132 (2003)  
Yr-3

K. HEGETSCHWEILER, R. C. FINN, R.S. RARIG,  
J. SANDER, S. STEINHAUSER, M. WÖRLE, R. ZUBIETA

**1,3,5-triamono-1,3,5-trideoxy-cis-inositol, a ligand with a remarkable versatility for metal ions**  
*Inorg. Chim. Acta* **337**, 39 (2002)  
Yr-2

L. KAVAN, M. KALBAC, M. ZUKALOVA, R. NESPER ET AL.  
**Lithium Storage in Nanostructures TiO<sub>2</sub> made by hydrothermal growth**  
*Chem. Mater.* **16**, **3**, 477-485 (2004)  
Yr-3

F. KRUMEICH, K.S. PILLAI, M. NIEDERBERGER, R. NESPER  
**Neuartige Vanadiumoxid-Nanoröhren mit ungewöhnlicher Wandstruktur**  
*Z. Kristallogr. Supp* **18**, S.62 (2001)  
Yr-1

E. LEONTIDIS, M. ORFANOU, T. KYPRIANIDOU-LEODIDOU, F. KRUMEICH, W. CASERI  
**Composite Nanotubes Formed by Self-Assembly of PbS Nanoparticles**  
*Nanoletters* **3**, 569-572 (2003)  
Yr-3

A. MICHAILOVSKY, F. KRUMEICH, G. PATZKE  
**Solvothermal Morphology Studies: Alkali/Alkaline Earth Molybdates**  
*Helv. Chim. Acta* (accepted) (2003)  
Tbp

A. MICHAILOVSKI, F. KRUMEICH, G. PATZKE  
**Hierarchical growth of mixed ammonium molybdenum/ tungsten bronze nanorods**  
*Chem. Mater.* **16**, 1433 (2004)  
Yr-4

A. MICHAILOVSKI, F. KRUMEICH, G. R. PATZKE  
**Solvothermal synthesis of hierarchically structured pyrochlore ammonium tungstate nanospheres**  
*Mater. Res. Bull.* **39**, 887 (2004),  
Yr-4

A. MICHAILOVSKI, F. KRUMEICH, G. R. PATZKE  
**Solvothermal Morphology Studies: Alkali and Alkaline Earth Molybdates**  
*Helv. Chim. Acta* **87**, 1029 (2004)  
Yr-4

R. NESPER, G. PATZKE  
**Nanotubes – Functional particles of the 21st century?**  
*Nachrichten aus der Chemie* **49**, 886 (2001)  
Yr-1

M. NIEDERBERGER, G. GARNWEITNER, F. KRUMEICH, R. NESPER, H. CÖLFEN, M. ANTONIETTI  
**Tailoring the Surface and Solubility Properties of Nanocrystalline Titania by a Nonaqueous in Situ Functionalization Process**  
*Chem. Mater.* **16**, 7, 1202-1208 (2004)  
Yr-4

M. NIEDERBERGER, F. KRUMEICH, H.-J. MUHR, M. MÜLLER, R. NESPER  
**Synthesis and Characterization of Novel Nanoscopic Molybdenum Oxide Fibres**  
*J. Mater. Chem.* **11**, 1941-1945 (2001)  
Yr-1

M. NIEDERBERGER, F. KRUMEICH, K. HEGETSCHWEILER, R. NESPER  
**An iron polyolate complex as a precursor for the controlled synthesis of monodispersed iron oxide colloids**  
*Chemistry of Materials* **14**, 78-82 (2002)  
Yr-2

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**Oxidic Nanotubes and Nanorods – Anisotropic Modules for a Future Nanotechnology**  
*Angew. Chem. Int. Ed.* **41**, 2446-2461 (2002)  
Yr-2

G. R. PATZKE, A. MICHAILOVSKI, F. KRUMEICH, R. NESPER, J.-D. GRUNWALDT, A. BAIKER  
**One-step synthesis submicrometer fibers of MoO<sub>3</sub>**  
*Chem. Mater.* **16**, 1126 (2004)  
Yr-4

K.S. PILLAI, F. KRUMEICH, H.-J. MUHR, M. NIEDERBERGER, R. NESPER,  
**The first oxide nanotubes with alternating inter-layer distances**

*Solid State Ionics* **141**, 185-190 (2001)  
Yr-1

V. SEPELAK, M. MENZEL, K. BECKE, F. KRUMEICH  
**Mechanochemical Reduction of Magnesium Ferrite**  
*J. Phys. Chem. B* **106**, 6672-6678 (2002)  
Yr-2

S. WEBSTER, R. CZERW, R. NESPER, J. DIMAIO, J. XU, J. BALLATO, D. CAROLL  
**Optical Properties of Vanadium Oxide Nanotubes**  
*Journal of Nanoscience and Nanotechnology*, **4**, 3, 260-264 (2004)  
Yr-4

M. WÖRLE, F. KRUMEICH, F. BIERI, H.-J. MUH, R. NESPER  
**Flexible V<sub>7</sub>O<sub>16</sub> Layers as the Common Structural Element of Vanadium Oxide Nanotubes and a New Crystalline Vanadate**  
*Z. Anorg. Allg. Chemie* **628**, 2778-2784 (2002)  
Yr-2

Q. X. XIE. R. NESPER  
**Crystal structure of dieuropium and distrontium di(lithium, magnesium) trigermanide, M<sub>2</sub>Li<sub>x</sub>Mg<sub>2-x</sub>Ge<sub>3</sub> (M= Eu, x= 1.16; M= Sr, x= 0.94),**  
*Kristallogr. NCS* **219**, 83-84 (2004)  
Yr-4

Q. X. XIE. R. NESPER  
**Crystal structure of dieuropium lithium trigermanide, Eu<sub>2</sub>LiGe<sub>3</sub>**  
*Z. Kristallogr. NCS* **219**, 79-80 (2004)  
Yr-4

Q. X. XIE. R. NESPER  
**Crystal structure of ytterbium lithium digermanide, YbLiGe<sub>2</sub>**  
*Z. Kristallogr. NCS* **219**, 81-82 (2004)  
Yr-4

\* F. XU, R. CZERW, S. WEBSTER, D. L. CARROLL, J. BALLATO, R. NESPER  
**Nonlinear optical transmission in VO<sub>x</sub> nanotubes and VO<sub>x</sub> nanotube composites**  
*Appl. Phys. Lett.* **81**, 1711-1713 (2002)  
Yr-3 ?

F. ZÜRCHER, R. NESPER  
**Cationic Channels with Partial Anion Occupation in the Zintl Phases Ba<sub>2</sub>Mg<sub>12</sub>Ge<sub>7.33</sub> and Ba<sub>6</sub>Mg<sub>17.4</sub>Li<sub>2.6</sub>Ge<sub>12</sub>O<sub>0.64</sub>**  
*Z. Anorg. Allg. Chemie* **628**, 1581-1589 (2002)  
Yr-2

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**Novel Silica Nanotubes with a High Aspect Ratio - Synthesis and Structural Characterization**  
*Adv. Mater.* **15**, 18, 1538-1541 (2003)  
Yr-3

## Project 8, H. R. Ott, ETHZ

M. ANGST, R. PUZNAK, A. WISNIEWSKI, J. JUN,  
S. M. KAZAKOV, J. KARPINSKI

**Disorder-induced phase transition of vortex  
matter in  $MgB_2$**

*Phys. Rev. B* **67**, 012502 (2003)

Yr-3

S. BRODERICK, L. DEGIORGI, H.R. OTT, J.L.  
SARRAO, Z. FISK

**Giant magneto-optical response of erromagnetic  
 $EuB_6$**

*Eur. Phys. J. B* **27** (6 pages) (2002)

Yr-2

S. BRODERICK, L. DEGIORGI, H.R. OTT, J.L.  
SARRAO, Z. FISK

**Polar Kerr rotation of the ferromagnet  $EuB_6$**

*Eur. Phys. J.B.* **33**, 47-54 (2003)

Yr-3

M. BRÜHWILER, B. BATLOGG, S.M. KAZAKOV, J.  
KARPINSKI

**Evidence for two electronic components in  
 $Na_xCoO_2$  ( $x = 0.7-0.75$ )**

submitted to PRB, cond-mat/0309311

Tbp

M. BRÜHWILER, S. M. KAZAKOV, N. D.  
ZHIGADLO, J. KARPINSKI, B. BATLOGG

**Superconductivity in the geometrically  
frustrated pyrochlore  $RbOs_2O_6$**

*Phys. Rev. B* **70**, 020503(R) (2004)

Yr-4

YU BUKHANTSEV, B. KUNDYS, A. NABIALEK, S.  
VASILIEV, A. WISNIEWSKI, J. JUN, S.M.  
KAZAKOV, J. KARPINSKI, H. SZYMCZAK

**The correlation between the transverse and  
longitudinal magnetostriction in a polycrystalline  
 $MgB_2$  superconductor**

*Supercond. Sci. Technol.* **16**, 707 (2003)

Yr-3

YU BUKHANTSEV, A. NABIALEK, B. KUNDYS, S.  
VASILIEV, A. WISNIEWSKI, J. JUN, S.M.  
KAZAKOV, J. KARPINSKI, A. SZEWCZYK, H.  
SZYMCZAK

**Pinning induced magnetostriction in  
superconducting  $MgB_2$  ceramics**

*Phys. Stat. Sol. (a)* No.1, 82 (2003)

Yr-3

G. CAIMI, S. BRODERICK, H.R. OTT, L.  
DEGIORGI, A.D. BIANCHI, Z. FISK

**Magneto-optical Kerr effect in  $Eu_{1-x}Ca_xB_6$**

*Phys. Rev. B* **69**, 012406 (2004)

Yr-3

G. CAIMI, L. DEGIORGI, N.N. KOVALEVA, P.  
LEMMENS, F. C. CHOU

**Infrared optical properties of the spin-1/2  
quantum magnet  $TiOCl$**

*Physical Review B* **69**, 125108 (2004)

Yr-4

G. CAIMI, L. DEGIORGI, P. LEMMENS, F.C. CHOU

**Analysis of the phonon spectrum in the titanium  
oxyhalide  $TiOBr_{0.7}$**

*Institute of Physics Publishing, J. Phys.: Condens.  
Matter* **16**, 5583-5596 (2004)

Yr-4

A. CARRINGTON, P.J. MEESON, J.R. COOPER, L.  
BALICAS, N.E. HUSSEY, E.A. YELLAND, S. LEE,  
A. YAMAMOTO, S. TAJIMA, S.M. KAZAKOV, J.  
KARPINSKI

**Determination of the Fermi Surface of  $MgB_2$  by  
the de Haas-van Alphen Effect**

*Phys. Rev. Lett.* **91**, 037003 (2003)

Yr-3

A. CARRINGTON, P.J. MEESON, J.R. COOPER, L.  
BALICAS, N.E. HUSSEY, E.A. YELLAND, S. LEE,  
A. YAMAMOTO, S. TAJIMA, S.M. KAZAKOV, J.  
KARPINSKI

**Determination of the Fermi surface of  $MgB_2$  by  
the de Haas-van Alphen effect**

*Physica C*, in print

Tbp

V. CHABANENKO, R. PUZNAK, A. NABIALEK, S.  
VASILIEV, V. RUSAKOV, L. HUANQUAN, R.  
SZYMCZAK, H. SZYMCZAK, J. JUN, J.  
KARPINSKI, V. FINLEL

**Flux jumps and H-T diagram of instability for  
 $MgB_2$**

*Journal of Low Temp.* **3-4**, 175-191 (2003)

Yr-3

M.A. CHERNIKOV, C. BEELI, E. FELDER, S.  
BÜCHI, H.R. OTT

**Spin freezing in the decagonal phase of the A1-  
Mn-Pd alloy system**

*Physical Review B* **68**, 094202 (2003)

Yr-3

M. CHIAO, S.S. SAXENA, J.L. GAVILANO, D. RAU,  
H.R. OTT

**Tuning of magnetic order in  $CePd_2In$**

*J. Magn. Magn. Mat.* **272-276**, 77 (2004)

Yr-4

M. CHIAO, G. WIGGER, CH. BERGEMANN, H.R.  
OTT, S.S. SAXENA, A.D. BIANCHI

**Tuning of Magnetic Moment in  $Eu_{(1-x)}Ca_xB_6$**

*Acta Physics Pol.*, B **34**, 1441 (2003)

Yr-3

J.R. COOPER, A. CARRINGTON, P.J. MEESON,  
E.A. YELLAND, N.E. HUSSEY, L. BALICAS, S.  
TAJIMA, S. LEE, S.M. KAZAKOV, J. KARPINSKI

**de Haas-van Alphen effect in MgB<sub>2</sub> crystals**

*Physica C* **385**, 75-85 (2003)

Yr-3

D. DAGHERO, R.S. GONNELLI, G.A. UMMARINO, V.A. STEPANOV, J. JUN, S.M. KAZAKOV, J. KARPINSKI

**Point-contact spectroscopy in MgB<sub>2</sub> single crystals in magnetic field**

*Physica C* **385**, 255-264 (2003)

Yr-3

L. DEGIORGI, S. BRODERICK, H.R. OTT, J.L. SARRAO, Z. FISK

**The ferromagnetic phase transition in EuB<sub>6</sub>: optical evidence for quasiparticle undressing**

*Physica B* **312**, 327-328 (2002)

Yr-2

L. DEGIORGI, S. BRODERICK, B. RUZICKA, H.R. OTT, J.L. SARRAO, Z. FISK

**Scaling between magnetization and Drude weight in EuB<sub>6</sub>**

*Phys. Rev. B (Rapid Commun.)*, in press.

Tbp

T.B. DOYLE, A. WISNIEWSKI, M. ZEHATMAYER, H.W. WEBER, J. KARPINSKI

**Equilibrium behaviour and vortex pinning in MgB<sub>2</sub> single crystals**

*Physica C* **408-410**, 526 (2004)

Yr-4

D. DVORSEK, V.V. KABANOV, J. DEMSAR, J. KARPINSKI, S.M. KAZAKOV, D. MIHAIOVIC

**Femtosecond pump-probe polarization dependent investigation of relaxation dynamics in YBa<sub>2</sub>Cu<sub>4</sub>O<sub>8</sub>**

*J. Superconductivity* **17** (1) 89 (2004)

Yr-4

Z. FISK, H.R. OTT, V. BARZYKIN, L.P. GOR'KOV

**The emerging picture of ferromagnetism in the divalent hexaborides**

*Physica B* **312**, 808-810 (2002)

Yr-2

J.D. FLETCHER, A. CARRINGTON, S.M. KAZAKOV, J. KARPINSKI

**Damping of the de Haas-van Alphen oscillations in the superconducting state of MgB<sub>2</sub>**

*Phys. Rev. B* **70**, 144501 (2004)

Yr-4

S. GALAMBOSI ET AL.

**Inelastic x-ray scattering study of collective excitations in MgB<sub>2</sub>**

submitted to PRL

Tbp

J.L. GAVILANO, S. MUSHKOLAJ, D. RAU, H.R. OTT, A. BIANCHI, D.P. YOUNG, Z. FISK

**<sup>11</sup>B-NMR in CaB<sub>6</sub>**

*Physica B* **312**, 813-814 (2002)

Yr-2

J.L. GAVILANO, S. MUSHKOLAJ, D. RAU, H.R. OTT, A. BIANCHI, D.P. YOUNG, Z. FISK

**NMR studies of YbB<sub>6</sub>**

*Physica B* **326-333**, 570-571 (2003)

Yr-3

J.L. GAVILANO, D. RAU, C. BEELI, M. WELLER, H.R. OTT, A.P. TSAI

**Magnetic properties of amorphous and quasicrystalline Al<sub>75</sub> Cu<sub>15</sub> V<sub>10</sub>**

*J. Magn. Magn. Mat.* **272-276**, 1304 (2004)

Yr-4

J.L. GAVILANO, D. RAU, B. PEDRINI, J. HINDERER, H.R. OTT, S. KAZAKOV AND J. KARPINSKI

**Unconventional charge Ordering in Na<sub>0.7</sub>CoO<sub>2</sub> below 300 K**

*Phys. Rev. B*, **69**, 100404 (R)(2004)

Yr-4

J.L. GAVILANO, D. RAU, B. PEDRINI, K. MAGISHI, M. WELLER, J. HINDERER, H.R. OTT, S.M. KAZAKOV, J. KARPINSKI

**Unconventional charge ordering in Na<sub>0.7</sub>CoO<sub>2</sub> below 300 K?**

*Physica B*, in print

Tbp

K. GIANNÒ, A.V. SOLOGUBENKO, H.R. OTT, A.D. BIANCHI, Z. FISK

**Low-temperature thermal conductivity of CaB<sub>6</sub> and EuB<sub>6</sub>**

*J. Phys.: Condens. Matter* **15**, 6739-6748 (2003)

Yr-3

R.S. GONNELLI, D. DAGHERO, A. CALZOLARI, G.A. UMMARINO, VALERIA DELLAROCCHA, V.A. STEPANOV, J. JUN, S.M. KAZAKOV, J. KARPINSKI

**The Magnetic-field Dependence of the Gaps in a Two-band Superconductor: A Point-contact Study of MgB<sub>2</sub> Single Crystals**

*Phys. Rev. B* **69**, 100504 (R)(2004)

Yr-4

R.S. GONNELLI, D. DAGHERO, A. CALZOLARI, G.A. UMMARINO, V. DELLAROCCHA, V.A. STEPANOV, S.M. KAZAKOV, J. KARPINSKI, C. PORTESI, E. MONTICONE, V. FERRANDO, C. FERDEGHINI

**Point-Contact Spectroscopy in MgB<sub>2</sub>: from Fundamental Physics to Thin-Film Characterization**

*Supercond. Sci. Technol.* **17**, S1-S8 (2004)

Yr-3

R.S. GONNELLI, D. DAGHERO, G.A. UMMARINO, V. DELLAROCCHA, A. CALZOLARI, V.A. STEPANOV, J. JUN, S.M. KAZAKOV, J. KARPINSKI

**Directional point-contact spectroscopy of MgB<sub>2</sub> single crystals in magnetic field: two-band superconductivity and critical fields**

*Supercond. Sci. Technol.* **17**, S1-S8 (2004)

Yr-3

R.S. GONNELLI, D. DAGHERO, G.A. UMMARINO, V. DELLAROCCHA, A. CALZOLARI, V.A. STEPANOV, J. JUN, S.M. KAZAKOV, J. KARPINSKI

**Directional point-contact spectroscopy of MgB<sub>2</sub> single crystals in magnetic field: two-band superconductivity and critical fields**

*Supercond. Sci. Technol.* **17**, S1-S8 (2004)

Yr-3

Physics C **408-410**, 796 (2004)

Yr-4

R.S. GONNELLI, D. DAGHERO, G.A. UMMARINO,  
V.A. STEPANOV, J. JUN, S.M. KAZAKOV, J.  
KARPINSKI

**Independent determination of the two gaps by  
directional point-contact spectroscopy in MgB<sub>2</sub>  
single crystals**

Sup.Sci.Techn. **16**, 171-175 (2003)

Yr-3

R.S. GONNELLI, D. DAGHERO, G.A. UMMARINO,  
A. CALZOLARI, V. DELLAROCCHA, V.A.  
STEPANOV, S.M. KAZAKOV, J. JUN, J.  
KARPINSKI

**A point contact study of the superconducting  
gaps in Al-substituted and C-substituted MgB<sub>2</sub>  
single crystals**

submitted

Tbp

R.S. GONNELLI, D. DAGHERO, G.A. UMMARINO,  
A. CALZOLARI, V. DELLAROCCHA, V.A.  
STEPANOV, S.M. KAZAKOV, J. JUN, J.  
KARPINSKI

**Evidence for single-gap superconductivity in  
Mg(B<sub>1-x</sub>C<sub>x</sub>)<sub>2</sub> single crystals with x=0.132 from  
point contact spectroscopy**

Phys. Rev. B Rapid Comm. in print.

Tbp

V. KARGL, A. MIRMELSTEIN, P. BÖNI, D.  
SHEPTYAKOV, A. AMATO, S. KAZAKOV, J.  
KARPINSKI, A. ERB.

**Neutron diffraction, specific heat and  $\mu$ SR study  
of the spin-chain compounds Ca<sub>2+x</sub>Y<sub>2-x</sub>Cu<sub>5</sub>O<sub>10</sub>**

Physica B **350** (1-3), Supplement 1, E257-E259.

(2004)

Yr-4

J. KARPINSKI, S.M. KAZAKOV, J. JUN, M. ANGST,

R. PUZNIAK, A. WISNIEWSKI, P. BORDET

**Single crystal growth of MgB<sub>2</sub> and  
thermodynamics of Mg-B-N system at high  
pressure**

Physica C **385**, 42-48 (2003)

Yr-3

J. KARPINSKI, S.M. KAZAKOV, J. JUN, N.D.  
ZHIGADLO, M. ANGST, R. PUZNIAK, A.  
WISNIEWSKI

**MgB<sub>2</sub> and Mg<sub>1-x</sub>Al<sub>x</sub>B<sub>2</sub> single crystals: high-  
pressure growth and physical properties**

Physica C **408-410**, 81 (2004)

Yr-4

J. KARPINSKI, N. D. ZHIGADLO, G. SCHUCK, S.  
M. KAZAKOV, B. BATLOGG, K. ROGACKI, R.  
PUZNIAK, J. JUN, E. MÜLLER, P. WÄGLI

**Al substitution in MgB<sub>2</sub> crystals: influence on  
superconducting and structural properties**

submitted to PRB, cond-mat/0411449

Tbp

S.M. KAZAKOV, J. KARPINSKI, J. JUN, P.  
GEISER, N.D. ZHIGADLO, R. PUZNIAK, A.V.  
MIRONOV

**Single crystal growth and properties of MgB<sub>2</sub> and  
Mg(B<sub>1-x</sub>C<sub>x</sub>)<sub>2</sub>**

Physica C **408-410**, 123 (2004)

Yr-4

S.M. KAZAKOV, R. PUZNIAK, A.V. MIRONOV, J.  
JUN, N.D. ZHIGADLO, J. KARPINSKI

**Impact of carbon substitution on structural and  
superconducting properties of MgB<sub>2</sub> single  
crystals**

to be submitted to Phys. Rev. B

Tbp

S.M. KAZAKOV, R. PUZNIAK, A.V. MIRONOV, J.  
JUN, N.D. ZHIGADLO, J. KARPINSKI

**Carbon substitution in MgB<sub>2</sub> single crystals:  
Structural and superconducting properties**

Phys. Rev. B **71**, 1 (2005)

Yr-4

S.M. KAZAKOV, N.D. ZHIGADLO, M. BRÜHWILER,  
B. BATLOGG, J. KARPINSKI

**Synthesis of superconducting pyrochlore  
RbOs<sub>2</sub>O<sub>6</sub>**

Supercond. Science Technol. **17**, 1169-1172 (2004)

Yr-4

A. KOHEN, F. GIUBILEO, F. BOBBA, TH.  
PROSLIER, N. ZHIGADLO, S.M. KAZAKOV, J.  
KLEIN, J. KARPINSKI, A.M. CUCOLO, D.  
RODITCHEV

**“Lazy Fisherman” Method of vortex analysis:  
application to MgB<sub>2</sub>**

submitted

Tbp

A. KOHEN, F. GIUBILEO, TH. PROSLIER, F.  
BOBBA, Y. NOAT, A. TROIANOVSKI, A.M.  
CUCOLO, W. SACKS, J. KLEIN, D. RODITCHEV

**Two regimes in the magnetic field response of  
superconducting MgB<sub>2</sub>**

submitted to EPL

Tbp

G. LAMURA, A. GAUZZI, S.M. KAZAKOV, J.  
KARPINSKI, A. ANDREONE

**High resolution measurements of the magnetic  
penetration depth on Yba<sub>2</sub>Cu<sub>4</sub>O<sub>8</sub> single crystals**

submitted

Tbp

I.L. LANDAU, H.R. OTT

**Temperature dependence of the upper critical  
field of type-II superconductors from isothermal**

**magnetization data: Application to high-temperature superconductors**

Phys. Rev. B **66**, 144506 (8 pages) (2002)  
Yr-2

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Yr-2

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Yr-3

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Physica C **385**, 544-550 (2003)  
Yr-3

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**Equilibrium magnetization of high- $T_c$  superconductors below the irreversibility line**

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Yr-3

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Yr-4

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J. Low Temp. Phys., in print  
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Physical Review B **68**, 132506 (2003)  
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submitted to *Phys. Rev. B*

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**Symmetry dependent Mn magnetism in**

**Al<sub>69.8</sub>Mn<sub>18.1</sub>Pd<sub>12.1</sub>**

*Eur. Phys. J. B*, submitted

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D. RAU, J.L. GAVILANO, SH. MUSHKOLAJ, C. BEELI, M.A. CHERNIKOV, H.R. OTT

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*Physica B* **329-333**, 1103-1104 (2003)

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*J. Phys.: Condens. Matter* **15**, S2501 (2003)

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*Phys. Rev. B* **66**, 014504 (8 pages) (2002)

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*Phys. Rev. B* **65**, 180505 (4 pages) (2002)

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*Physica C* **388-389**, 133-134 (2003)

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**Diffusive energy transport in the S=1 Haldane chain compound AgVP<sub>2</sub>S<sub>6</sub>**

*Physical Review B* **68**, 094432 (2003)

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**BaCu<sub>2</sub>Si<sub>2</sub>O<sub>7</sub> as an example**

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*Physical Review Letters*, **PRL 93**, 266602 (2004)

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*Physica C* **385**, 177-179 (2003)

Yr-3

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*Phys. Rev. B*, submitted

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*Eur. Phys. J. B*, submitted

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**Kondo behaviour of U in  $CaB_6$**

*Europhys. Lett.* **68**, 685 (2004)

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*Physica C* **408-410**, 111 (2004)

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irradiation and annealing effects in  
superconducting  $YBa_2Cu_3O_{7-x}$ ,  $Y_2Ba_4Cu_8O_{16}$  and  
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**The electrical properties of  $Cd_2Re_2O_7$  under pressure**

*Physical Review B* **67**, 245112 (2003)

Yr-3

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*Submitted to Phys. Rev. B, Rapid Communications*

Tbp

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**Tunneling spectroscopy of  $Bi_2Sr_2CaCu_2O_7$  High  $T_c$  superconductor with disorder**

*Submitted*

Tbp

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*New Journal of Physics*, **6** (2004) 144-161  
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*Surf. Sci.* **566-568**, 1047-1051 (2004)  
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Yr-4

D. VAN DER MAREL  
**Optical spectroscopy of plasmons and excitons in cuprate superconductors**  
*Journal of Superconductivity: Incorporating Novel Magnetism*, **17**, 559-577 (2004)  
Yr-4

\* D. VAN DER MAREL, H. J. A. MOLEGRAAF, J. ZAAANEN, Z. NUSSINOV, F. CARBONE, A. DAMASCELLI, H. EISAKI, M. GREVEN, P. H. KES, M. LI  
**Quantum critical behaviour in a high- $T_c$  superconductor**  
*Nature* **425**, 271-274 (2003)  
Yr-3

## Project 18, T. Giamarchi, UniGE

C. BOLECH, T. GIAMARCHI  
**Point-contact tunneling involving spin-triplet superconductors**  
*Phys. Rev. Lett.* **92**, 127001 (2004)  
Yr-4

C. BOLECH, T. GIAMARCHI  
**Keldysh study of point-contact tunnelling between superconductors**  
*To be published in Phys. Rev. B cond-mat/0409425 (2005)*  
Tbp

M.A. CAZALILLA, A.F. HO, T. GIAMARCHI  
**Spin  $\frac{1}{2}$  fermions on spin-dependent highly anisotropic lattices**  
*Submitted to Phys. Rev. Lett. cond-mat/0502487 (2005)*  
Tbp

R. CHITRA, T. GIAMARCHI  
**Zero field Wigner crystal**  
*Submitted to Europhys. J. B cond-mat/0409187 (2004)*  
Tbp

R. CITRO, E. ORIGNAC AND T. GIAMARCHI  
**Adiabatic-antiadiabatic crossover in a spin-Peierls chain**  
*Submitted to Phys. Rev. B (2004), cond-mat/0411256*  
Tbp

M. DRESSEL, K. PETUKHOV, B. SALAMEH, P. ZORNOZA T. GIAMARCHI  
**Scaling behavior of the longitudinal and transverse transport in quasi-one dimensional organic conductors**  
*Submitted to Phys. Rev. B cond-mat/0409322 (2004)*  
Tbp

T. GIAMARCHI  
**Theoretical framework for one dimensional systems**  
*Chemical Reviews* **104**, 5037 (2004)  
Yr-4

T. GIAMARCHI, E. ORIGNAC, D. POILBLANC  
**Les échelles quantiques**  
*Pour la science* **305**, 58 – 65 (2003)  
Yr-2

A.F. HO, M.A. CAZALILLA, T. GIAMARCHI  
**Deconfinement in a 2D optical lattice of coupled 1D boson systems**  
*Phys. Rev. Lett.* **92**, 130405 (2004)  
Yr-4

T. NATTERMANN, T. GIAMARCHI, P. LE DOUSSAL  
**Quantum creep in one dimensional charge density waves and Luttinger liquids**  
*Submitted to PRL (March 2003)*  
Tbp

T. NATTERMANN, T. GIAMARCHI, P. LE DOUSSAL  
**Variable-range hopping and quantum creep in one dimension**  
*Phys. Rev. Lett.* **91**, 056603 (2003)  
Yr-3

E. OLIVE, J.C. SORET, P. LE DOUSSAL, T. GIAMARCHI  
**Numerical simulation evidence of dynamical transverse Meissner effect and moving Bose glass phase**  
*Phys. Rev. Lett.* **91**, 037005 (2003)  
Yr-3

A. ROSSO, T. GIAMARCHI

**X-ray diffraction of a disordered charge density wave**

Phys. Rev. B **68**, 140201(R) (2003)  
Yr-3

G. SCHEHR, T. GIAMARCHI, P. LE DOUSSAL  
**Specific heat of the quantum Bragg glass**  
Submitted to PRL (Dec 2002)  
Tbp

G. SCHEHR, T. GIAMARCHI, P. LE DOUSSAL  
**Specific heat of classical disordered elastic systems**  
Phys. Rev. Lett. **91**, 11700. (2003)

Yr-3

G. SCHEHR, T. GIAMARCHI, P. LE DOUSSAL  
**Specific heat of the quantum Bragg Glass**  
Europhys. Lett. **66** 538 (2004)  
Yr-4

G. SCHEHR, T. GIAMARCHI, P. LE DOUSSAL  
**Specific heat of quantum elastic systems pinned by disorder**  
Submitted to Europhys. J. B (2004), cond-mat/0411227  
Tbp

**b) \*\*\*\*\* Publications involving TWO projects \*\*\*\*\***

**Projects: 1, M. Büttiker & 9, M. Sigrist**

A.N. JORDAN, E. V. SUKHORUKOV, S. PILGRAM  
**Fluctuation statistics in networks: A stochastic path integral approach**  
J. Math. Phys. **45**, 4386 (2004)  
Yr-4

K. E. NAGAEV, S. PILGRAM, M. BUTTIKER  
**Frequency Scales for Current Statistics of Mesoscopic Conductors**  
Phys. Rev. Lett. **92**, 176804 (2004)  
Yr-4

S. PILGRAM, K. E. NAGAEV, M. BUTTIKER  
**Frequency-dependent third cumulant of Current in diffusive conductors**  
Phys. Rev. B **70**, 045304 (2004)

Yr-4

S. PILGRAM, P. SAMUELSSON  
**Noise and Full Counting Statistics of Incoherent Multiple Andreev Reflection**  
Cond-mat/0407029  
Tbp

E. V. SUKHORUKOV, A. N. JORDAN, S. PILGRAM  
**Stochastic Field Theory for Transport Statistics In Diffusive Systems**  
Cond-mat/0410754  
Tbp

**Projects: 2, Ø. Fischer & 3, R. Flükiger**

E. GIANNINI, R. GLADYSHEVSKII, N. CLAYTON, N. MUSOLINO, V. GARNIER, A. PIRIOU, R. FLÜKIGER  
**Growth, structure and physical properties of single crystals of pure and Pb-doped Bi-based high  $T_c$  superconductors**  
To be published at a special issue of Current Applied Physics (2005)  
Tbp

E. GIANNINI, N. CLAYTON, N. MUSOLINO, A. PIRIOU, R. GLADYSHEVSKII, R. FLÜKIGER  
**Growth and superconducting properties of Pb-free and Pb-doped Bi-2223 crystals**  
To be published at IEEE Transactions of Applied Superconductivity (2005)

Tbp

\* B. W. HOOGENBOOM, K. KADOWAKI, B. REVAZ, M. LI, CH. RENNER, Ø. FISCHER  
**Linear and field-independent relation between vortex core state energy and gap in  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$**   
Phys. Rev. Lett. **87**, 267001 (2001)  
Yr-1

B. W. HOOGENBOOM, K. KADOWAKI, B. REVAZ, Ø. FISCHER  
**Homogeneous samples of  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+d}$**   
Physica C **391**, 376 (2003)  
Yr-3

M. KUGLER, G. LEVY DE CASTRO, E. GIANNINI,  
A. PIRIOU, A.A. MANUEL, C. HESS, Ø. FISCHER  
**First Scanning Tunneling Spectroscopy on**  
 **$\text{Bi}_2\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_{10+\delta}$**

Submitted to *J. Phys. Chem. Solids* (2004)  
Tbp

## Projects: 2, Ø. Fischer & 4, A. Junod

B. W. HOOGENBOOM, C. BERTHOD, M. PETER,  
Ø. FISCHER, A. A. KORDYUK  
**Modeling scanning tunneling spectra of**  
 **$\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+d}$**   
*Phys. Rev. B* **67**, 224502 (2003)  
Yr-3

*cond-mat/0212329*  
Tbp

A. JUNOD, Y. WANG, F. BOUQUET, I. SHEIKIN, P.  
TOULEMONDE, M. R. ESKILDSEN, M. EISTERER,  
H. W. WEBER, S. LEE, S. TAJIMA  
**Specific heat of ceramic and single crystal  $\text{MgB}_2$**   
*Physica C*, **388-389**, 107-108 (2003)  
Yr-3

B. W. HOOGENBOOM, C. BERTHOD, M. PETER,  
Ø. FISCHER, A. A. KORDYUK  
**Modeling scanning tunneling spectra of**  
 **$\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+d}$**

## Projects: 2, Ø. Fischer & 8, H.- R. Ott

R. CUBITT, M. R. ESKILDSEN, C. D. DEWHURST,  
J. JUN, S. M. KAZAKOV, J. KARPINSKI  
**Effects of Two-Band Superconductivity on the**  
**Flux Line Lattice in Magnesium Diboride**  
*Phys. Rev. Lett.* **91**, 047002 (2003)  
Yr-3

Yr-3

\* M. R. ESKILDSEN, M. KUGLER, S. TANAKA, J.  
JUN, S. M. KAZAKOV, J. KARPINSKI, Ø. FISCHER  
**Vortex Imaging in the  $\pi$ -Band of Magnesium**  
**Diboride**  
*Phys. Rev. Lett.* **89**, 187003 (4pages) (2002)  
Yr-2

R. CUBITT, C.D. DEWHURST, M.R. ESKILDSEN,  
S.J. LEVETT, A. MATADEEN, J. JUN, S.M.  
KAZAKOV, J. KARPINSKI, S.L. BUD'KO, N.E.  
ANDERSON, P.C. CANFIELD  
**Penetration depth anisotropy in  $\text{MgB}_2$  single**  
**crystals and powders**  
Submitted  
Tbp

M. R. ESKILDSEN, M. KUGLER, G. LEVY, S.  
TANAKA, J. JUN, S. M. KAZAKOV, J. KARPINSKI,  
Ø. FISCHER  
**Scanning Tunneling Spectroscopy on Single**  
**Crystal  $\text{MgB}_2$**   
*Physica C* **385**, 169-176 (2003)  
Yr-2

C.D. DEWHURST, R. CUBITT, M.R. ESKILDSEN,  
J. JUN, S.M. KAZAKOV, J. KARPINSKI  
**Vortex lattice reorientation and anisotropy in**  
 **$\text{MgB}_2$  - effects of two-band superconductivity**  
*Physica C* **404** (1-4) 135 (2004)  
Yr-4

M. R. ESKILDSEN, M. KUGLER, G. LEVY, S.  
TANAKA, J. JUN, S. M. KAZAKOV, J. KARPINSKI,  
Ø. FISCHER  
**Vortex lattice imaging in single crystal  $\text{MgB}_2$  by**  
**scanning tunneling spectroscopy**  
*Physica C* **388-389**, 143 (2003)  
Yr-3

M. R. ESKILDSEN, C. D. DEWHURST, B. W.  
HOOGENBOOM, C. PETROVIC AND P. C.  
CANFIELD  
**Hexagonal and Square Flux Line Lattices in**  
 **$\text{CeCoIn}_5$**   
Submitted to *Phys. Rev. Lett.* (*cond-mat/0211585*)  
Tbp

N. JENKINS, M.R. ESKILDSEN, M. KUGLER, O.  
FISCHER, J. JUN, S.M. KAZAKOV, J. KARPINSKI  
**Shrinking of the  $\pi$  band in  $\text{MgB}_2$  by aluminium**  
**doping**  
submitted  
Tbp

M.R. ESKILDSEN, N. JENKINS, G. LEVY, M.  
KUGLER, Ø. FISCHER, J. JUN, S.M. KAZAKOV, J.  
KARPINSKI  
**Vortex Imaging in Magnesium Diboride with  $H_c$**   
*Physical Rev.B* **68**, 100508 (2003)

N. JENKINS, M.R. ESKILDSEN, M. KUGLER, O.  
FISCHER, J. JUN, S.M. KAZAKOV, J. KARPINSKI  
**Shrinking of the  $\pi$  band in  $\text{MgB}_2$  by aluminium**  
**doping**  
submitted to *Phys. Rev. Lett.*  
Tbp

## Projects: 3, R. Flükiger & 4, A. Junod

D. UGLIETTI, B. SEEBER, V. ABÄCHERLI, Y.X. WANG, A. JUNOD, R. FLÜKIGER  
**Critical current, electro-mechanical properties and specific heat of bronze Nb<sub>3</sub>Sn conductors**

*Proceedings of the Workshop on Accelerator Magnet Superconductors WAMS 2004, 22-24 March 2004, Archamps (France)*  
Yr-4

## Projects: 4, A. Junod & 8, H.-R. Ott

T. PLACKOWSKI, C. SULKOWSKI, J. KARPINSKI, J. JUN, S.M. KAZAKOV  
**Magneto-thermopower of single-crystal MgB<sub>2</sub>: Evidence for strong electron-phonon coupling anisotropy**

*Phys. Rev. B* **69**, 104528 (2004)  
Yr-4

## Projects: 5, J.- M. Triscone & 10, P. Martinoli

A. RÜFENACHT, P. CHAPPATTE, S. GARIGLIO, C. LEEMANN, J. FOMPEYRINE, J.-P. LOCQUET, P. MARTINOLI  
**Growth of single unit-cell superconducting**

**La<sub>2-x</sub>Sr<sub>x</sub>CuO<sub>4</sub> films**  
*Solid State Electronics* **47**, 2167 (2003)  
Yr-3

## Projects: 5, J.- M. Triscone & 14, P. Aebi

L. DESPONT, C. LICHTENSTEIGER, F. CLERC, C. KOITZSCH, D. NAUMOVIC, M.G. GARNIER, F.J. GARCIA DE ABAJO, M.A. VAN HOVE, J.-M. TRISCONI, P. AEBI

**Study of the ferroelectric polarization of ultra-thin films of PbTiO<sub>3</sub> by X-ray photoelectron diffraction**  
*Phys. Rev. B*, submitted  
Tbp

## Projects: 5, J.- M. Triscone & 18, T. Giamarchi

P. PARUCH, T. GIAMARCHI, J.-M. TRISCONI  
**Domain wall creep in mixed c-a axis PbZr<sub>0.2</sub>Ti<sub>0.8</sub>O<sub>3</sub> thin films**  
*Annalen der Physik* **13**, 95 (2004)  
Yr-3

\* P. PARUCH, T. GIAMARCHI, J.-M. TRISCONI  
**Domain wall roughness in epitaxial ferroelectric PbZr<sub>0.2</sub>Ti<sub>0.8</sub>O<sub>3</sub> thin films**  
*Submitted to Physical Review Letters, Cond-mat/0412470*  
Tbp

P. PARUCH, T. GIAMARCHI, T. TYBELL, J.-M. TRISCONI.  
**Nanoscale studies of domain wall motion in epitaxial ferroelectric thin films**  
cond-mat/0411178 / Submitted to Journal of Applied Physics  
Tbp

\* T. TYBELL, P. PARUCH, T. GIAMARCHI, J.-M. TRISCONI  
**Domain wall creep in epitaxial ferroelectric  $Pb(Zr_{0.2}Ti_{0.8})O_3$  thin films**  
*Phys. Rev. Lett.* **89**, 097601 (4 pages) (2002)  
Yr-2

## Projects 6, G. Blatter & 9, M. Sigrist

S. WEHRLI, C. HELM  
**Interface Steps in field effect devices**

*J. Appl. Phys* **95**, 10, 5621 (2004)  
Yr-4

## Projects: 8, H.-R. Ott & 9, M. Sigrist

J.L. GAVILANO, D. RAU, S. MUSHKOLAJ, H.R. OTT, P. MILLET, F. MILA  
**DC-susceptibility and NMR response of a low-dimensional quantum magnet:  $Na_2V_3O_7$**   
*Physica B* **312**, 622-623 (2002)  
Yr-2

J.L. GAVILANO, D. RAU, SH. MUSHKOLAJ, H.R. OTT, F. MILA, P. MILLET  
**Low-temperature NMR studies of  $Na_2V_3O_7$**   
*Physica B* **329-333**, 703-704 (2003)  
Yr-3

J.L. GAVILANO, D. RAU, S. MUSHKOLAJ, H.R. OTT, P. MILLET, F. MILA  
**A low-dimensional spin  $S=1/2$  system at the quantum critical limit:  $Na_2V_3O_7$**   
*Physical Review Letters*, Vol. **90**, 167202 (2003)  
Yr-3

B. PEDRINI, J.L. GAVILANO, D. RAU, H.R. OTT, S.M. KAZAKOV, J. KARPINSKI, S. WESSEL  
**NMR and dc susceptibility studies of  $NaVGe_2O_6$**   
*Physical Review B* **70**, 024421 (2004)  
Yr-4

J.L. GAVILANO, E. FELDER, D. RAU, H.R. OTT, P. MILLET, F. MILA, T. CICHOREK, A.C. MOTA  
**Unusual magnetic properties of the low-dimensional quantum magnet  $Na_2V_3O_7$**   
*Phys. Rev. B*, submitted  
Tbp

P. VONLANTHEN, K.B. TANAKA, A. GOTO, W.G. CLARK, P. MILLET, J.Y. HENRY, J.L. GAVILANO, H.R. OTT, F. MILA, C. BERTHIER, M. HORVATIC, Y. TOKUNAGA, P. KUHN, A.P. REYES, W.G. MOULTON  
**High-magnetic-field NMR studies of  $LiVGe_2O_6$ : A quasi-one-dimensional spin  $S=1$  system**  
*Phys. Rev. B* **65**, 214413 (10 pages) (2002)  
Yr-2

## Projects: 8, H.-R. Ott & 12, G. Margaritondo

E. ANNESE, J.-P. RUEFF, G. VANKO, M. GRIONI, L. BRAICOVICH, L. DEGIORGI, R. GUSMEROL, C. DALLERA  
**The valence of  $YbS$  under pressure: a resonant x-ray emission study**  
*Phys. Rev. B* **70**, 075117 (2004)  
Yr-4

**Infrared spectroscopy of tetrahedral quantum spin systems  $Cu_2Te_2O_5X_2$  ( $X = Br$  and  $Cl$ )**  
*Eur. Phys. J. B.* **38**, 65-70 (2004)  
Yr-4

A. PERUCCHI, L. DEGIORGI, H. BERGER, P. MILLET

A.V. SOLOGUBENKO, I.L. LANDAU, H.R. OTT, A. BILUSIC, A. SMONTARA, H. BERGER  
**Unusual Magnetic-Field-Induced Phase Transition in the Mixed State of Superconducting  $NbSe_2$**   
*Physical Review Letters*, Vol. **91**, 197005 (2003)  
Yr-3

## Projects: 8, H.-R. Ott & 13, H. Keller

M. ANGST, D. DI CASTRO, D.G. ESHCHENKO, R. KHASANOV, S. KOHOUT, I.M. SAVIC, A. SHENGELAYA, S.L. BUD'KO, P.C. CANFIELD, J. JUN, J. KARPINSKI, S.M. KAZAKOV, R.A. RIBEIRO, H. KELLER

**Anisotropy and internal field distribution of  $MgB_2$  in the mixed state at low temperatures**

*Phys. Rev. B* **70**, 224513 (2004)

Yr-4

M. ANGST, D. DI CASTRO, R. PUZNIAK, A. WISNIEWSKI, J. JUN, S.M. KAZAKOV, J. KARPINSKI, S. KOHOUT, H. KELLER

**Anisotropic properties of  $MgB_2$  by torque magnetometry**

*Physica C* **408-410**, 88 (2004)

Yr-4

M. ANGST, R. PUZINIAK, A. WISNIEWSKI, J. ROOS, H. KELLER, J. KARPINSKI

**Comments on "Superconducting anisotropy and evidence for intrinsic pinning in single crystalline  $MgB_2$ "**

*Physical Review B* **70**, 226501-1 (2004)

Yr-4

M. ANGST, R. PUZNIAK, A. WISNIEWSKI, J. ROOS, H. KELLER, P. MIRANOVIC, J. JUN, S.M. KAZAKOV, J. KARPINSKI

**Anisotropy of the superconducting state properties and phase diagram of  $MgB_2$  by torque magnetometry on single crystals**

*Physica C* **385**, 143-154 (2003)

Yr-3

D. D. CASTRO, M. ANGST, D. G. ESHCHENKO, R. KHASANOV, J. ROOS, I.M. SAVIC, A. SHENGELAYA, S.L. BUDKO, P.C. CANFIELD, K. CONDER, J. KARPINSKI, S.M. KAZAKOV, R. A. RIBEIRO, H. KELLER

**Absence of a boron isotope effect in the magnetic penetration depth of  $MgB_2$**

*Phys. Rev. B* **70**, 014519 (2004)

Yr-4

D. DI CASTRO, R. KHASANOV, C. GRIMALDI, J. KARPINSKI, S.M. KAZAKOV, H. KELLER

**Study of pressure effect on the magnetic penetration depth in  $MgB_2$**

submitted

Tbp

R. KHASANOV, D.G. ESHCHENKO, D. DI CASTRO, A. SHENGELAYA, F. LA MATTINA, A. MAISURADZE, C. BAINES, H. LUETKANS, J. KARPINSKI, S.M. KAZAKOV, H. KELLER

**On the mechanism of superconductivity in  $RbOs_2O_6$**

submitted to PRB

Tbp

R. KHASANOV, D.G. ESHCHENKO, J. KARPINSKI, S.M. KAZAKOV, N.D. ZHIGADLO, R. BRÜTSCH, D. GAVILLET, H. KELLER

**Pressure effects on the transition temperature and the magnetic field penetration depth in the pyrochlore superconductor  $RbOs_2O_6$**

*Phys. Rev. Lett.* **93**, 157004 (2004)

Yr-4

R. KHASANOV, J. KARPINSKI, H. KELLER

**Pressure effect on the in-plane penetration depth in  $YBa_2Cu_4O_8$**

submitted to PRL

Tbp

R. KHASANOV, T. SCHNEIDER, R. BRÜTSCH, D. GAVILLET, J. KARPINSKI, H. KELLER

**Finite-size and pressure effects in  $Yba_2Cu_4O_8$  probed by magnetic-field penetration-depth measurements**

*Phys. Rev. B* **70**, 144515 (2004)

Yr-4

T. SCHNEIDER, R. KHASANOV, J. KARPINSKI, S.M. KAZAKOV, R. BRÜTSCH, H. KELLER

**Evidence for charged critical behaviour in the pyrochlore superconductor  $RbOs_2O_6$**

Submitted

Tbp

## Projects: 9, M. Sigrist & 10, P. Martinoli

L. BENFATTO, S. G. SHARAPOV, H. BECK

**Effect of orbital currents on the restricted optical sum rule**

*Eur. Phys. J. B* **39**, 469 (2004)

Yr-4

L. BENFATTO, S. SHARAPOV, N. ANDRENACCI, H. BECK

*Ward identity and optical-conductivity sum rule in the d-density wave state*  
cond-mat/0407443, to appear in *Phys. Rev. B* (2005)

Tbp

## Projects: 9, M. Sigrist & 11, L. Forró

K. PENC, M. MAMBRINI, P. FAZEKAS, F. MILA  
**Quantum phase transition in the SU(4) spin-orbital model on the triangular lattice**  
*Phys. Rev. B* **68**, 012408-012411 (2003)  
Yr-2

F. VERNAY, K. PENC, P. FAZEKAS, F. MILA  
**Orbital degeneracy as a source of frustration in LiNiO<sub>2</sub>**  
Submitted to *Phys. Rev. B*.  
Tbp

## Projects: 9, M. Sigrist & 12, G. Margaritondo

L. PERFETTI, T.A. GLOOR, F. MILA, H. BERGER, M. GRIONI  
**Evidence for a fluctuating order parameter in the quasi-two-dimensional Mott insulator 1T-TaS<sub>2</sub>**  
*Phys. Rev. B*, in press.  
Tbp

L. PERFETTI, T. A. GLOOR, F. MILA, H. BERGER, M. GRIONI  
**Unexpected periodicity in the quasi-two-dimensional Mott insulator 1T-TaS<sub>2</sub> revealed by angle-resolved photoemission**  
submitted to *Phys. Rev. B*.  
Tbp

## Projects: 9, M. Sigrist & 18, T. Giamarchi

M. TERNES, C. WEBER, M. PIVETTA, F. PATTHEY, J. P. PELZ, T. GIAMARCHI, F. MILA, W. D. SCHNEIDER  
**Scanning-Tunneling Spectroscopy of Surface-State Electrons Scattered by a Slightly**

**Disordered Two-Dimensional Dilute "Solid": Ce on Ag (111)**  
*Phys. Rev. Lett.* **93**, 146805 (2004)  
Yr-4

## Projects: 11, L. Forró & 12, G. Margaritondo

H. BERGER, S. F. LEE, S. H. HUANG, H. W. CHANG, T. M. CHUANG, Y. LIOU, Y. D. YAO, Y. HWU, D. ARIOSA, R. GAAL, A. SALEH, G. MARGARITONDO, L. V. GASPAROV, D. B. TANNER  
**Coexistence of ferromagnetism and high-temperature superconductivity in Dy-doped BiPbSrCaCuO**  
*Surf. Rev. Lett.* **9**, 1109 (2002)  
Yr-2

**Femtosecond "snapshots" of gap-forming charge-density-wave correlations in quasi-two-dimensional dichalcogenides 1T-TaS<sub>2</sub> and 2H-TaSe<sub>2</sub>**  
*Phys. Rev. B* **66**, 041101 (2002)  
Yr-2

J. DEMSAR, L. FORRÓ, H. BERGER, D. MIHAILOVIC

P. FAZEKAS, K. PENC, H. BERGER, L. FORRÓ, S. CSONKA, I. KEZSMARKI, G. MIHALI  
**BaVS<sub>3</sub>: from spin gap insulator to non-Fermi-liquid**  
*Physica B* **312**, 694 (2002)  
Yr-2

L. V. GASPAROV, K. G. BROWN, A. C. WINT, D. B. TANNER, H. BERGER, G. MARGARITONDO, R. GAÁL, L. FORRÓ  
**Phonon anomaly at the charge ordering transition in 1T-TaS<sub>2</sub>**  
*Phys. Rev. B* **66**, 094301 (2002)  
Yr-2

A.A. KORDYUK, S. V. BORISENKO, M. S. GOLDEN, S. LEGNER, K. A. NENKOV, M. KNUPFER, J. FINK, H. BERGER, L. FORRÓ, R. FOLLATH  
**Doping dependence of the Fermi surface in (Pb,Bi)<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+δ</sub>**  
*Phys. Rev. B* **66**, 014502 (2002)  
Yr-2

I. KEZSMARKI, G. MIHALY, R. GAAL, N. BARISIC, H. BERGER, L. FORRO, C.C. HOMES, L. MIHALY  
**Pressure induced suppression of the spin-gapped insulator phase in BaVS<sub>3</sub>: an infrared optical study**  
*Submitted to Phys. Rev. Lett.*  
Tbp

D. MIHAJLOVIC, D. DVORSEK, V.V. KABANOV, J. DEMSAR, J. STEFAN, L. FORRÓ, H. BERGER  
**Femtosecond data storage, processing and search using collective excitations of a macroscopic quantum state**  
*Appl. Phys. Lett.* **80**, 871 (2002)  
Yr-2

S. MITROVIC, P. FAZEKAS, C. SONDERGAARD, D. ARIOSA, N. BARISIC, H. BERGER, D. CLOETTA, L. FORRO, H. HOCHST, I. KUPCIC, D. PAVUNA, G. MARGARITONDO  
**Experimental Electronic Structure and Interband Nesting in BaBS<sub>3</sub>**  
*Submitted to Phys. Rev. Lett.*  
Yr-4

Z. V. POPOVIC, G. MIHÁLI, I. KEZSMÁRKI, H. BERGER, L. FORRÓ, V. V. MOSHCHALOV  
**Phonon and spin dynamics in BaVS<sub>3</sub> single crystal**  
*Phys. Rev. B* **65**, 132301 (2002)  
Yr-2

## Projects: 12, G. Margaritondo & 14, P. Aebi

\* M. BOVET, D. POPOVIC, F. CLERC, C. KOITZSCH, U. PROBST, E. BUCHER, H. BERGER, D. NAUMOVIC, P. AEBI  
**Pseudogapped Fermi surfaces of 1T-TaS<sub>2</sub> and 1T-TaSe<sub>2</sub>: A charge density wave effect**  
*Phys. Rev. B* **69**, 12511711-12511719 (2004)  
Yr-4

F. CLERC, M. BOVET, H. BERGER, L. DESPONT, C. KOITZSCH, M.G. GARNIER, P. AEBI  
**Charge density waves in 1T-TaS<sub>2</sub>: An angle-resolved photoemission study**

*Physica B: Condensed Matter* **351**, (3-4) 245-249 (2004)  
Yr-4

F. CLERC, M. BOVET, H. BERGER, L. DESPONT, C. KOITZSCH, O. GALLUS, L. PATTHEY, M. SHI, J. KREMPASKI, M. G. GARNIER, P. AEBI  
**Spin-orbit splitting in the valence bands of 1T-TaS<sub>2</sub> and 1T-TaSe<sub>2</sub>**  
*J. Phys.: Condens. Matter* **16**, 3271–3278 (2004)  
Yr-4

## Projects: 12, G. Margaritondo & 16, A. Furrer

\* O. ZAHARKO, A. DAOUD-ALADINE, S. STREULE, J. MESOT, P.-J. BROWN, H. BERGER  
**Incommensurate magnetic ordering in Cu<sub>2</sub>Te<sub>2</sub>O<sub>5</sub>X<sub>2</sub> (X=Cl, Br) studied by neutron diffraction,**  
*Phys. Rev. Lett.* **93**, 217206/1-4 (2004)  
Yr-4

O. ZAHARKO, H.M. RONNOW, A. DAOUD-ALADINE, S. STREULE, F. JURANYI, J. MESOT, H. BERGER, P.J. BROWN  
**Incommensurate magnetism in the coupled spin tetrahedra system Cu<sub>2</sub>Te<sub>2</sub>O<sub>5</sub>Cl<sub>2</sub>**  
*J. Low Temp. Phys.*, submitted.  
Tbp

## Projects: 13, H. Keller & 16, A. Furrer

T. SCHNEIDER, R. KHASANOV, K. CONDER, E. POMJAKUSHINA, R. BRUETSCH, H. KELLER

**Evidence for charged critical fluctuations in underdoped YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-δ</sub>**  
*J. Phys.: Condens. Matter*, **16**, L437-L442 (2004)

## Projects: 14, P. Aebi & 15, L. Schlapbach

J. HAYOZ, C. KOITZSCH, M. BOVET, D. NAUMOVIC, L. SCHLAPBACH, P. AEBI  
**Electronic Structure of the  $YH_3$  phase from Angle-Resolved Photoemission Spectroscopy**  
*Phys. Rev. Lett.* **90**, 196804 (2003)  
Yr-3

\* D. NAUMOVIC, P. AEBI, L. SCHLAPBACH, C. BEELI, K. KUNZE, T.A. LOGRASSO, D.W. DELANEY  
**Formation of a stable Decagonal Quasicrystalline Al-Pd-Mn Surface Layer**  
*Phys. Rev. Lett.* **87**, 195506-1 – 195506-4 (2001)  
Yr-1

### c) \*\*\*\*\* Publications involving THREE projects \*\*\*\*\*

## Projects: 2. Ø. Fischer & 8, H.-R. Ott & 13, H. Keller

J. KARPINSKI, M. ANGST, J. JUN, S. M. KAZAKOV, R. PUZNIAK, A. WISNIEWSKI, J. ROOS, H. KELLER, A. PERUCCHI, L. DEGIORGI, M. R. ESKILDSEN, P. BORDET, L. VINNIKOV, A. MIRONOV

**$MgB_2$  single crystals: high pressure growth and physical properties**  
*Supercond. Sci. Technol.* **16**, (2003) 221-230  
Yr-3

## Projects: 3, R. Flükiger & 4, A. Junod & 8, H.-R. Ott

Y. WANG, F. BOUQUET, I. SHEIKIN, P. TOULEMONDE, B. REVAZ, M. EISTERER, H.W. WEBER, J. HINDERER, A. JUNOD  
**Specific heat of  $MgB_2$  after irradiation**

*J. Phys.: Cond. Matter* **15**, 883-893 (2003)  
Yr-2

## Projects: 3, R. Flükiger & 11, L. Forró & 12, G. Margaritondo

F. VENTURINI, M. OPEL, H. BERGER, L. FORRÓ, B. REVAZ  
**Doping dependence of the electronic Raman spectra in cuprates**  
*J. Phys. Chem. Solids* **63**, 2345 (2002)  
Yr-2

F. VENTURINI, M. OPEL, T. P. DEVEREAUX, J. K. FREERICKS, I. TÛTTO, B. REVAZ, E. WALKER, H. BERGER, L. FORRÓ, R. HACKL  
**Observation of an unconventional metal-insulator transition in overdoped  $CuO_2$  compounds**  
*Phys. Rev. Lett.* **89**, 107003 (2002)  
Yr-2

## Projects: 8, H.-R. Ott & 11, L. Forró & 12, G. Margaritondo

G. CAIMI, L. DEGIORGI, H. BERGER, N. BARISIC,  
L. FORRÓ, F. BUSSY

**Optical evidence for the proximity to a spin-density-wave metallic state in  $\text{Na}_{0.7}\text{CoO}_2$**

*Eur. Phys. J. B.* **40**, 231-234 (2004)

Yr-4

S.V. DORDEVI, D.N. BASO, R.C. DYNE, B. RUZICKA, V. VESCOLI, L. DEGIORGI, H. BERGER, R. GAAL, L. FORRÓ, E. BUCHER

**Optical properties of the quasi-two-dimensional dichalcogenides  $2\text{H-TaSe}_2$  and  $2\text{H-NbSe}_2$**

*Eur. Phys. J. B* **33**, 15 (2003)

Yr-3

S. MITROVIC, L. PERFETTI, C. SONDERGAARD, G. MARGARITONDO, M. GRIONI, N. BARISIC, L. FORRÓ, L. DEGIORGI

**Electronic structure of a quasi-one-dimensional insulator : The molybdenum red bronze**

$\text{K}_{0.33}\text{MOO}_3$

*Phys. Rev. B* **69**, 035102 (2004)

Yr-3

L. PERFETTI, S. MITROVIC, G. MARGARITONDO, M. GRIONI, L. FORRÓ, L. DEGIORGI, H. HOECHST

**Mobile small polarons and the Peierls transition in the quasi-one-dimensional conductor  $\text{K}_{0.3}\text{MoO}_3$**

*Phys. Rev. B* **66**, 075107 (8 pages) (2002)

Yr-2

A. PERUCCI, C. SONDERGAARD, S. MITROVIC, M. GRIONI, N. BARISIC, H. BERGER, L. FORRO, L. DEGIORGI

**Spectroscopic and dc-transport investigations of the electronic properties of  $\text{TaSe}_3$**

*Eur. Phys. J. B* **39**, 433-440 (2004)

Yr-4

### d) \*\*\*\*\* Publications involving FOUR projects \*\*\*\*\*

## Projects: 11, L. Forró & 12. G. Margaritondo & 14, P. Aebi & 15, L. Schlapbach

M. BOVET, S. VAN SMAALEN, H. BERGER, R. GAÁL, L. FORRÓ, L. SCHLAPBACH, P. AEBI

**Interplane coupling in the quasi-two-dimensional  $1\text{T-TaS}_2$**

*Phys. Rev. B* **67**, 125105 (2003)

Yr-2

## 7.5.2 Publications without peer review – Year 1 - 4

### Project 3, R. Flükiger

A. BRUNIGER, R. FLÜKIGER  
**Internationale Zusammenarbeit  
bei der Hochtemperatur supraleitung  
im Energiebereich**  
SEVIVSE Bulletin 02.011.01

R. FLUKIGER, E. GIANNINI  
**Bi, Pb(2223) tapes: present and future**  
Scenet Newsletter, No. 3, 7-10 (2003)

### Project 5, J.-M. Triscone

P. PARUCH, N. STUCKI, C. LICHTENSTEIGER, M.  
DAWBER, S. KUMAR, S. GARIGLIO, D.  
MATTHEY, K. TAKAHASHI, J.-M. TRISCONÉ  
**Nanoscale ferroelectrics**  
MaNEP Newsletter Nr. 6, Spring 2004

### Project 6, J.W. Blatter

C. HELM, L.N. BULAEVSKII  
**Optics with Spatial Dispersion Josephson  
Plasma Resonance, Online Proceedings of  
"Future Perspectives of Superconducting  
Josephson Devices"**  
Online Proceeding, Pommersfelden 29.6.-4.7.2002,  
<http://www.physik.uni-erlangen.de/PI3/intrinsic/>.

H.G. KATZGRABER, G. FRIEDMAN, G.T. ZIMANYI  
**Fingerprinting hysteresis**  
Cond-mat/0307178

H.G. KATZGRABER, I. CAMPBELL  
**Critical properties of the three- and four-  
dimensional gauge glass**  
Cond-mat/0310100

L. KRUSIN-ELBAUM, T. SHIBAUCHI, G. BLATTER,  
C.H. MIELKE, M. LI, M.P. MALEY, P.H. KES  
**Pseudogap state in overdoped  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+y}$**   
Proceedings of the US-Polish Workshop,  
Ladek Zdroj, Poland, July 14-16 (2002),  
eds. P.W. Klamut and G.W. Crabtree, Physica C  
387, 169-174 (2003)

### Project 7, R. Nesper

C. KUBATA, A. KRÄNZLIN, M. WÖRLE, R.  
NESPER

**$\text{Eu}_5\text{Mg}_{18}\text{Si}_{13}$  - a new phase in the  $\text{EuMg/Si}$ -  
system**  
Chimia 56, 395 (2002)

KRUMEICH, M. STALDER, R. NESPER, L. REN M.  
WARK  
**A new ytterbium silicide with a modulated  
structure**  
13th European Microscopy congress, Antwerpen  
august 2004

F. KRUMEICH, R. NESPER  
**Characterization of oxidic nanotubes**  
EELS Workshop Lausanne, september 2004

F. KRUMEICH, M. WÖRLE, C. KUBATA, R.  
NESPER  
**Superstructure variants of  $\text{YbSi}_{1.4}$**   
SCG Fall Meeting, Lausanne 2004

C. KUBATA, F. KRUMEICH, M. WÖRLE, R.  
NESPER  
**A New Phase in the  $\text{Yb/Si}$ -System**  
Chimia 56, 395 (2002)

IVANTCHENKO, F. KRUMEICH, R. NESPER  
**New Reactions of Sodium Acetylde**  
Chimia 56, 393 (2002)

A. MICHAILOVSKI, G. PATZKE  
**A systematic approach towards novel alkali  
molybdates**  
SCG Fall Meeting, Lausanne 2004

G. R. PATZKE, A. MICHAILOVSKI, F.  
KRUMEICH, R. NESPER  
**Oxidic Nanotubes and Nanorods**  
International Conference on High Pressure –  
Science and Technology, Bordeaux, 2003

G. R. PATZKE, A. MICHAILOVSKI, F.  
KRUMEICH, R. NESPER  
**Solvothermal Morphology Design of Transition  
Metal Oxides**  
6th International Conference on Materials  
Chemistry: Frontiers and Interfaces, Sheffield, 2003

G. R. PATZKE, A. MICHAILOVSKI, F.  
KRUMEICH, R. NESPER  
**Solvothermal Morphology Design: Nanoscale  
Tungsten Oxides**  
Euromat 2003, Lausanne, 2003

S. PIOTTO PIOTTO, A. ZÜRN, R. NESPER  
**CURVIS – A Computer program to analyze phase  
transition**  
Chimia 349, 2056 (2002)

X. QINGXING, M. WÖRLE, R. NESPER  
**A New Zintl Phase synthesized via Thermal  
Decomposition**  
Chimia 56, 405 (2002)

J. WILLEMS, R. NESPER  
**Zintl Phase Double Salts: An Overview (Poster)**  
*Chimia* **56**, 405 (2002)

A. ZÜRN, S. PIOTTO PIOTTO, C. MENSING, B. RÜTTIMANN, R. NESPER, W. UHLIG  
**New media for teaching inorganic chemistry**  
*Chimia* **56**, 406 (2002)

## Project 9, M. Sigrist

Y. ASANO, T. HIRAI, Y. TANAKA, J. INOUE, M. SIGRIST, S. KASHIWAYA  
**Effects of spin-orbit scattering on Josephson current between s-wave superconductor and  $Sr_2RuO_4$**   
*Physica C* **388**, 505-506 (2003)

L. BENFATTO, A. TOSCHI, S. CAPRARA, C. CASTELLANI  
**Coherence length in superconductors from weak to strong coupling**  
*cond-mat/0109486*

S. FRATINI, B. VALENZUELA AND D. BAERISWYL  
**Variational wave function for generalized Wigner lattices in one dimension**  
*Proc. Int. Workshop on Electronic Crystals, J. Phys. (France) IV* **12**, Pr9-69 (2002)

N. HASSELMANN, A.H. CASTRO NETO AND C. MORAIS SMITH  
**Charge density wave formation in the low-temperature- tetragonal phase of cuprates**  
*Cond-mat/0112029*

C. HONERKAMP, T.M. RICE  
**Single band model for the unconventional superconductivity in both cuprates and ruthenates**  
*Physica C* **388**, 11-14 (2003)

A. KOGA, N. KAWAKAMI, T.M. RICE, M. SIGRIST  
**Kido izon Mott tenii**  
*Kotai-Butsuri* **39**, 461 (2004)

H. KUSUNOSE, M. SIGRIST  
**Penetration Depth in  $Sr_2RuO_4$  : Nonlocal Effects in a Multi Orbital Superconductor**  
*ETH preprint*

S. MIYAHARA, F. MILA  
**Effect of spin-orbit interaction in  $LaTiO_3$**   
*Prog. Theor. Phys. Suppl.* **145** (2002) 266-271

M. RACZKOWSKI, B. NORMAND AND A. M. OLES  
**Vertical and Diagonal Stripes in the Extended Hubbard Model**  
*To appear in Phys. Stat. Sol. (cond-mat/0205437)*

T.M. RICE  
**Superfluid Helium-3 has a metallic partner**  
*Science* **306**, 1142 (2004)

M. SIGRIST  
**The complex interplay of spin and orbital degrees of freedom**  
*Proceedings: Magnetism, Lecture Notes of the 1st Summer School on Condensed Matter Research*

M. SIGRIST  
**Ruthenates: unconventional superconductivity and magnetic properties**  
*Proceedings: Hvar workshop on Strongly correlated electrons*

M. SIGRIST  
**Superconductivity deprived of key symmetries**  
*News and Comments for J.Phys.Soc.Jpn.* **73**  
(<http://www.ipap.jp/jpsj/index.htm>)

## Project 12, G. Margaritondo

M. ABRECHT, D. ARIOSIA, D. CLOETTA, G. MARGARITONDO, D. PAVUNA  
**Electronic Properties of High Temperature Superconducting Thin Films Grown by Pulsed Laser Deposition, published in Oxide Physics and NanoEngineering V**  
*In proceedings of SPIE volume 4811: "Superconducting and Nano-engineering IV", I. Bozovic, D. Pavuna (eds) p.102 (2002)*

C. DALLERA, M. GRIONI, A. SHUKLA, G. VANKO, J.L. SARRAO, J.-P. RUEFF, D.L. COX  
**Intermediate valence and Kondo energy-scale probed by resonant inelastic x-ray scattering**  
*ESRF Highlights 2002*, p. 51-52

M. GRIONI, H. BERGER, L. PERFETTI, S. MITROVIC, A. REGINELLI, H. HOECHST  
**Band features and strong correlations in 1D Peierls systems**  
*J. Phys. IV France* **12**, p. 9-33 (2002)

D. PAVUNA, M. ABRECHT, D. CLOETTA, X. X. XI, G. MARGARITONDO, D. ARIOSIA  
**Systematic studies of (magneto)transport, structural and electronic properties of ultra-thin films of high- $T_c$  cuprates and related layered oxides**  
*Current Appl. Phys.* **2** (4) 345-348 (2002)

M.L. SCHNEIDER, S. RAST, M. ONELLION, J. DEMSAR, A.J. TAYLOR, Y. GLINKA, N.H. TOLK, Y.H. REN, G. LÜPKE, A. KLIMOV, Y. XU, R. SOBOLEWSKI, WEIDONG SI, X.H. ZENG, A. SOUKIASSIAN, X.X. XI, M. ABRECHT, D. ARIOSIA, D. PAVUNA, R. MANZKE, J.O. PRINTZ, D.K. PARKHURST, K.E. DOWNUM, P. GUPTASARMA, I. BOZOVIC  
**Femtosecond optical studies of cuprates**  
*In proceedings of SPIE volume 4811: "Superconducting and Nano-engineering IV", I. Bozovic, D. Pavuna (eds) p.174 (2002)*

G. MARGARITONDO  
**A historically correct didactic first step in the quantum world: stressing the interplay of**

**relativity, thermodynamics and quantum physics**

*European J. Phys* **24**, 15 (2003)

G. MARGARITONDO

**The Future of X-ray Sources: New Ideas and New Plans**

*Synchrotron Rad. in Natural Sci.* **2**, 10 (2003)

*Journal de Physique IV* **114**, 23 (2004)

T. NATTERMANN, T. GIAMARCHI, P. LE DOUSSAL

**Variable range hopping and quantum creep in one dimension**

*Cond-mat/0303233* (5 pages) (2003)

## Project 13, H. Keller

A. SEMENOV, A. ENGEL, H.-W. HÜBERS, K. IL'IN, M. SIEGEL

**Spectral response of an infrared superconducting quantum detector**

*Optical Sensing, Proc. SPIE Int. Soc. Opt. Eng.*, **5459**, 237-245 (2004)

A. SEMENOV, A. ENGEL, H.-W. HÜBERS, K. IL'IN, M. SIEGEL

**Energy resolution of a superconductor quantum detector**

*Optical and Infrared Detectors for Astronomy, Proc. SPIE Int. Soc. Opt. Eng.*, **5499**, 310-315 (2004)

## Project 15, L. Schlapbach

O. GRÖNING, L. NILSSON, P. GRÖNING, L. SCHLAPBACH

**From Diamond to Carbon Nanotube Field Emitter**

*Mat. Res. Soc. Symp. Proc.* **675**, W6.1.1-12 (2001)

O. GRÖNING, R. CLERGERAUX, L. NILSSON, P. RUFFIEUX, L. SCHLAPBACH, P. GRÖNING

**Carbon Nanotubes for Future Field Electron Emission Devices**

*Proceeding of the Electrochemical Society 2002-18 "Cold Cathodes II"*, p. 45 (2002)

R. FASEL, M. PARSCHAU, K.-H. ERNST

**Exploring the Mechanism of Molecular Chirality Transfer via STM. Pico**

*The Omicron Nanotechnology Newsletter*, **8**, 4 (2004)

## Project 18, T. Giamarchi

T. GIAMARCHI, R. CHITRA, P. LE DOUSSAL

**Disordered elastic systems and electronic crystals**

*J. Phys IV (France)* **12**, 277-282 (2002)

T. GIAMARCHI, S. BIERMANN, A. GEORGES, A. LICHTENSTEIN,

**Dimensional crossover and deconfinement in Bechgaard salts**

*Proceedings of the ISCOM 2003 conference, Port-Bourgenay, Sept 2003;*

## 7.5.3 Books and scientific articles in anthologies – Year 1 - 4

### a) \*\*\*\*\* Publications involving ONE project \*\*\*\*\*

#### MaNEP Management

\* M. KUGLER, O. KUFFER (EDITORS)

##### **MaNEP Facilities**

Editor MaNEP, 110 pages, April 2003

MaNEP management

#### Project 2, Ø. Fischer

Ø. FISCHER

##### **Vortices seen by scanning tunneling spectroscopy**

In: *Superconductivity: Physics and Applications*, by K. Fosshem and A. SudbØ, Wiley, p. 388-391 (2004)

Ø. FISCHER, C. BERTHOD, M. KUGLER, I. MAGGIO-APRILE, C. RENNER

##### **Electron tunnelling spectroscopy of high-temperature superconductors**

To be published in *Review of Modern Physics in July 2005*

B. W. HOOGENBOOM, CH. RENNER, I. MAGGIO-APRILE, Ø. FISCHER

##### **Scanning tunneling spectroscopy on vortex cores in high- $T_c$ superconductors**

In: *Vortices in unconventional superconductors and superfluids*, R. P. Huebener, N. Schophohl and G. E. Volovik (eds.), Springer series in solid-state science **132** (2002) 269-282

#### Project 3, R. Flükiger

E. BELLINGERI, R. FLÜKIGER

##### **The compound TIBCCO**

(Chapter C3) of "Handbook of Superconducting Materials", Volume 1, Superconductivity, Materials and Processes, edited by D. Cardwell and D. Ginley, IOP Publishing Ltd, Bristol and Philadelphia

R. FLÜKIGER, W. KLOSE

##### **Superconductors, transition temperature and characterisation of elements, alloys and components**

In: Subvolume 21 E: Ti...Zr, Landolt-Bornstein, New Series, Springer-Verlag, (eds.) (2002)

R. FLÜKIGER

##### **Growth of A15 type single crystals and polycrystals and their physical properties**

(Chapter B2.5) of "Handbook of Superconducting Materials", Volume 1, Superconductivity, Materials and Processes, edited by D. Cardwell and D. Ginley, IOP Publishing Ltd, Bristol and Philadelphia, 391-406 (2003)

R. FLÜKIGER

##### **Overview of low $T_c$ materials for conductor applications**

(Chapter B3.3.1) of "Handbook of Superconducting Materials", Volume 1, Superconductivity, Materials and Processes, edited by D. Cardwell and D. Ginley, IOP Publishing Ltd, Bristol and Philadelphia, 585-602 (2003)

B. SEEBER

##### **Processing of low $T_c$ conductors: the compounds $PbMo_6S_8$ and $SnMo_6S_8$**

(Chapter B3.3.5) of "Handbook of Superconducting Materials", Volume 1, Superconductivity, Materials and Processes, edited by D. Cardwell and D. Ginley, IOP Publishing Ltd, Bristol and Philadelphia, 685-706 (2003)

C. SENATORE, M. POLICHETTI, N. CLAYTON, R. FLÜKIGER, S. PACE

##### **Detection of the Vortex Dynamic Regimes in $MgB_2$ by Third Harmonic AG susceptibility Measurements**

In: "Horizons in Superconductivity", to be published in 2004

H. SUO, P. TOULEMONDE, R. FLÜKIGER

##### **Processing of low $T_c$ conductors: the compound $MgB_2$**

(Chapter B3.3.6) of "Handbook of Superconducting Materials", Volume 1, Superconductivity, Materials and Processes, edited by D. Cardwell and D. Ginley, IOP Publishing Ltd, Bristol and Philadelphia, 707-719 (2003)

#### Project, 4, Junod

A. JUNOD, Y. WANG, F. BOUQUET, P. TOULEMONDE

##### **Specific heat of the 38-K superconductor $MgB_2$ in the normal and superconducting state: bulk evidence for a double gap**

In: *Studies of High Temperature Superconductors*, Ed. A. Narlikar, Nova Publishers, Commack (N.Y.) **38**, 179, cond-mat/0106394 (2002)

#### Project 6, J.W. Blatter

\* G. BLATTER, V.B. GESHKENBEIN  
**Vortex Matter**  
In: *The Physics of Superconductors, Vol. 1, Conventional and High- $T_c$  superconductors*, eds. K.H. Bennemann and Ketterson (Springer, Berlin, 2003) 726 – 936

## Project 7, R. Nesper

R. NESPER  
**Structural and Electronic Systematics in Zintl Phases of the Tetrrels**  
In: *Silicon Chemistry*, ed. Jutzi, P. & Schubert, U. Wiley, p. 171-180 (2004)

## Project 8, H.R. Ott

L. DEGIORGI  
**Optical properties of correlated systems**  
In "Concepts in Electron Correlation", Proceedings of the ARW NATO Workshop Hvar, Croatia, page 363, October 2002, Eds. A.C. Hewson and V. Zlatic, Kluwer Academic Publishers (2003)

L. DEGIORGI  
**Electrodynamic response in ,one-dimensional' chains**  
Chapter 6 in „Strong Interactions in Low Dimensions“ *Physics and Chemistry of Materials with Low-Dimensional Structures, Vol. 25*, Kluwer Academic, p. 165, Dordrecht (2004)

H.R. OTT  
**High- $T_c$  Superconductivity**  
In: *The Physics of Superconductors Vol. I*, eds. K.H. Bennemann and J.B. Ketterson (Springer, Berlin, 385-494 (2003)

H.R. OTT  
**Aspects of Magnetism and Superconductivity in Metals**  
In: *Proc. Int. School of Physics "Enrico Fermi", Course CLVII, "The Electron Liquid Paradigm in Condensed Matter Physics"* eds. G. F. Giuliani and G. Vignale, Societa Italiana di Fisica, Bologna, p. 385 (2004)

A. V. SOLOGUBENKO, H.R. OTT  
**Energy transport in one-dimensional spin systems**  
In: *Strong interactions in Low Dimensions*, eds. D. Baeriswyl and L. Degiorgi, Kluwer, Dordrecht, p. 383 (2004)

## Project 9, M. Sigrist

M. ANSELMINO, F. MILA, J. SOFFER (EDITORS)  
**Spin in Physics**  
(Frontier Group 2003)

A.H. CASTRO NETO, C. MORAIS SMITH  
**Charge inhomogeneities in strongly correlated systems**  
In: "Strong interactions in low dimensions", ed. By D. Baeriswyl and L. Degiorgi, Kluwer Acad. Pub. in print (2003)

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