

9.3 Publications over the last period

The following lists cover the period from April 1st, 2008 to March 31st, 2009:

1. Scientific articles in journals with peer review
2. Scientific articles in journals without peer review
3. Publications from lists 1 and 2 involving several groups

The first two lists are sorted by the name of the group leaders. The most important publications are outlined by a red mark.

9.3.1 Scientific articles in journals with peer review

Group of Ph. Aebi

- ▶ C. MONNEY, H. CERCELLIER, C. BATTAGLIA, E. F. SCHWIER, C. DIDOT, M. G. GARNIER, H. BECK, AND P. AEBI

Temperature dependence of the excitonic insulator phase model in 1T–TiSe₂

Physica B **404**, 3172 (2009).

Group(s): Aebi / Project(s): 7

- C. BATTAGLIA, G. ONIDA, K. GAÁL-NAGY, AND P. AEBI

Structure and stability of the Si(331)-(12×1) surface reconstruction investigated with first-principles density functional theory

Physical Review B **80**, 214102 (2009).

Group(s): Aebi / Project(s): 7

- C. MONNEY, H. CERCELLIER, F. CLERC, C. BATTAGLIA, E. F. SCHWIER, C. DIDOT, M. G. GARNIER, H. BECK, P. AEBI, H. BERGER, L. FORRÓ, AND L. PATHEY

Spontaneous exciton condensation in 1T–TiSe₂: BCS-like approach

Physical Review B **79**, 045116 (2009).

Group(s): Aebi, Forró / Project(s): 7

- M. HOESCH, X. CUI, K. SHIMADA, C. BATTAGLIA, S.-I. FUJIMORI, AND H. BERGER

Splitting in the Fermi surface of ZrTe₃: A surface charge density wave system

Physical Review B **80**, 075423 (2009).

Group(s): Aebi, Forró / Project(s): 7

Group of D. Baeriswyl

- D. BAERISWYL, D. EICHENBERGER, AND M. MENTESHASHVILI

Variational ground states of the two-dimensional Hubbard model

New Journal of Physics **11**, 075010 (2009).

Group(s): Baeriswyl / Project(s): 4

- ▶ D. EICHENBERGER AND D. BAERISWYL
- Electron doping and superconductivity in the two-dimensional Hubbard model*

Physical Review B **79**, 100510(R) (2009).

Group(s): Baeriswyl / Project(s): 4

- L. TINCANI, R. M. NOACK, AND D. BAERISWYL

Critical properties of the band-insulator-to-Mott-insulator transition in the strong-coupling limit of the ionic Hubbard model

Physical Review B **79**, 165109 (2009).

Group(s): Baeriswyl / Project(s): 5

Group of B. Batlogg

- ▶ M. P. WALSER, W. L. KALB, T. MATHIS, T. J. BRENNER, AND B. BATLOGG

Stable complementary inverters with organic field-effect transistors on Cytop fluoropolymer gate dielectric

Applied Physics Letters **94**, 053303 (2009).

Group(s): Batlogg / Project(s): 4

- ▶ J. KARPINSKI, N. D. ZHIGADLO, S. KATRYCH, Z. BUKOWSKI, P. MOLL, S. WEYENETH, H. KELLER, R. PUZNIAK, M. TORTELLO, D. DAGHERO, R. GONNELLI, I. MAGGIO-APRILE, Y. FASANO, Ø. FISCHER, K. RO-GACKI, AND B. BATLOGG

Single crystals of $\text{LnFeAsO}_{1-x}\text{F}_x$ ($\text{Ln} = \text{La, Pr, Nd, Sm, Gd}$) and $\text{Ba}_{1-x}\text{Rb}_x\text{Fe}_2\text{As}_2$: Growth, structure and superconducting properties

Physica C **469**, 370 (2009).

Group(s): Batlogg, Fischer, Karpinski, Keller / Project(s): 4

A. BELOUSOV, S. KATRYCH, J. JUN, J. ZHANG, D. GÜNTHER, R. SOBOLEWSKI, J. KARPINSKI, AND B. BATLOGG

Bulk single-crystal growth of ternary $\text{Al}_x\text{Ga}_{1-x}\text{N}$ from solution in gallium under high pressure

Journal of Crystal Growth **311**, 3971 (2009).

Group(s): Batlogg, Karpinski / Project(s): 4

- ▶ Z. BUKOWSKI, S. WEYENETH, R. PUZNIAK, P. MOLL, S. KATRYCH, N. D. ZHIGADLO, J. KARPINSKI, H. KELLER, AND B. BATLOGG

Superconductivity at 23 K and low anisotropy in Rb-substituted BaFe_2As_2 single crystals

Physical Review B **79**, 104521 (2009).

Group(s): Batlogg, Karpinski, Keller / Project(s): 4

Group of Ch. Bernhard

N. OJHA, V. K. MALIK, C. BERNHARD, AND G. D. VARMA

Enhanced superconducting properties of Eu_2O_3 -doped MgB_2

Physica C **469**, 846 (2009).

Group(s): Bernhard / Project(s): 4

- ▶ J. CHALOUPKA, C. BERNHARD, AND D. MUNZAR

Microscopic gauge-invariant theory of the c-axis infrared response of the bilayer cuprate superconductors and the origin of superconductivity-induced absorption bands

Physical Review B **79**, 184513 (2009).

Group(s): Bernhard / Project(s): 4

- ▶ S. S. A. SEO, M. J. HAN, G. W. J. HASSINK, W. S. CHOI, S. J. MOON, J. S. KIM, T. SUSAKI,

Y. S. LEE, J. YU, C. BERNHARD, H. Y. HWANG, G. RIJNDERS, D. H. A. BLANK, B. KEIMER, AND T. W. NOH

Two-dimensional confinement of $3d^1$ electrons in $\text{LaTiO}_3/\text{LaAlO}_3$ multilayers

Physical Review Letters **104**, 036401 (2010).

Group(s): Bernhard / Project(s): 1

N. OJHA, V. K. MALIK, R. SINGLA, C. BERNHARD, AND G. D. VARMA

The effect of citric and oxalic acid doping on the superconducting properties of MgB_2

Superconductor Science & Technology **22**, 125014 (2009).

Group(s): Bernhard / Project(s): 4

- ▶ A. DUBROKA, M. RÖSSLE, K. W. KIM, V. K. MALIK, L. SCHULZ, S. THIEL, C. W. SCHNEIDER, J. MANNHART, G. HERRANZ, O. COPIE, M. BIBES, A. BARTHÉLÉMY, AND C. BERNHARD

Dynamical Response and confinement of the electrons at the $\text{LaAlO}_3/\text{SrTiO}_3$ interface

to be published in Physical Review Letters (2010).

Group(s): Bernhard / Project(s): 1

- ▶ J. HOPPLER, J. STAHN, C. NIEDERMAYER, V. K. MALIK, H. BOUYANFIE, A. J. DREW, M. RÖSSLE, A. BUZDIN, G. CRISTIANI, H.-U. HABERMEIER, B. KEIMER, AND C. BERNHARD

Giant superconductivity-induced modulation of the ferromagnetic magnetization in a cuprate-manganite superlattice

Nature Materials **8**, 315 (2009).

Group(s): Bernhard, Niedermayer / Project(s): 1

- ▶ A. J. DREW, C. NIEDERMAYER, P. J. BAKER, F. L. PRATT, S. J. BLUNDELL, T. LANCASTER, R. H. LIU, G. WU, X. H. CHEN, I. WATANABE, V. K. MALIK, A. DUBROKA, M. RÖSSLE, K. W. KIM, C. BAINES, AND C. BERNHARD

Coexistence of static magnetism and superconductivity in $\text{SmFeAsO}_{1-x}\text{F}_x$ as revealed by muon spin rotation

Nature Materials **8**, 310 (2009).

Group(s): Bernhard, Niedermayer / Project(s): 4

C. BERNHARD, A. J. DREW, L. SCHULZ, V. K. MALIK, M. RÖSSLE, C. NIEDERMAYER, T. WOLF, G. D. VARMA, G. MU, H.-H. WEN, G. WU, AND X. H. CHEN

Muon spin rotation study of magnetism and superconductivity in $\text{BaFe}_{2-x}\text{Co}_x\text{As}_2$ and $\text{Pr}_{1-x}\text{Sr}_x\text{FeAsO}$

New Journal of Physics **11**, 055050 (2009).

Group(s): Bernhard, Niedermayer / Project(s): 4

J. STAHN, C. NIEDERMAYER, J. HOPPLER, AND

C. BERNHARD
PNR studies of proximity and coupling effects in $\text{YBa}_2\text{Cu}_3\text{O}_7/\text{La}_{2/3}\text{Ca}_{1/3}\text{MnO}_3$ superlattices
 Neutron News **20**, 13 (2009).
 Group(s): Bernhard, Niedermayer / Project(s): 1

Group of G. Blatter

F. HASSLER AND S. D. HUBER
Coherent pumping of a Mott insulator: Fermi golden rule versus Rabi oscillations
 Physical Review A **79**, 021607(R) (2009).
 Group(s): Blatter / Project(s): 8

A. U. THOMANN, V. B. GESHKENBEIN, AND G. BLATTER
Quantum instability in a dc SQUID with strongly asymmetric dynamical parameters
 Physical Review B **79**, 184515 (2009).
 Group(s): Blatter / Project(s): 5

S. D. HUBER AND G. BLATTER
Mesoscopic aspects of strongly interacting cold atoms
 Physical Review B **79**, 174504 (2009).
 Group(s): Blatter / Project(s): 8

► S. SCHMIDT AND G. BLATTER
Strong Coupling Theory for the Jaynes-Cummings-Hubbard Model
 Physical Review Letters **103**, 086403 (2009).
 Group(s): Blatter / Project(s): 8

► S. D. HUBER AND A. RÜEGG
Dynamically Generated Double Occupancy as a Probe of Cold Atom Systems
 Physical Review Letters **102**, 065301 (2009).
 Group(s): Blatter / Project(s): 8

Group of M. Büttiker

M. MOSKALETS AND M. BÜTTIKER
Heat production and current noise for single- and double-cavity quantum capacitors
 Physical Review B **80**, 081302 (2009).
 Group(s): Büttiker / Project(s): 2

► J. SPLETTSTOESSER, M. MOSKALETS, AND M. BÜTTIKER
Two-Particle Nonlocal Aharonov-Bohm Effect from Two Single-Particle Emitters
 Physical Review Letters **103**, 076804 (2009).
 Group(s): Büttiker / Project(s): 2

► S. E. NIGG AND M. BÜTTIKER
Universal Detector Efficiency of a Mesoscopic Capacitor
 Physical Review Letters **102**, 236801 (2009).
 Group(s): Büttiker / Project(s): 2

► P. SAMUELSSON, I. NEDER, AND M. BÜTTIKER
Reduced and Projected Two-Particle Entanglement at Finite Temperatures
 Physical Review Letters **102**, 106804 (2009).
 Group(s): Büttiker / Project(s): 2

Group of M. Decroux

► L. ANTOGNAZZA, M. THERASSE, M. DECROUX, F. ROY, B. DUTOIT, M. ABPLANALP, AND Ø. FISCHER
Comparison between the behavior of HTS thin film grown on sapphire and coated conductors for fault current limiter applications
 IEEE Transactions on Applied Superconductivity **19**, 1960 (2009).
 Group(s): Abplanalp, Decroux, Fischer / Project(s): 3

F. ROY, M. THERASSE, B. DUTOIT, F. SIROIS, L. ANTOGNAZZA, AND M. DECROUX
Numerical studies of the quench propagation in coated conductors for fault current limiters
 IEEE Transactions on Applied Superconductivity **19**, 2496 (2009).
 Group(s): Decroux / Project(s): 3

F. ROY, S. PÉREZ, M. THERASSE, B. DUTOIT, F. SIROIS, M. DECROUX, AND L. ANTOGNAZZA
Quench propagation in coated conductors for fault current limiters
 Physica C **469**, 1462 (2009).
 Group(s): Decroux / Project(s): 3

N. CURTZ, E. KOLLER, H. ZBINDEN, M. DECROUX, L. ANTOGNAZZA, Ø. FISCHER, AND N. GISIN
Patterning of ultrathin YBCO nanowires using a new focused-ion-beam process
 Superconductor Science & Technology **23**, 045015 (2010).
 Group(s): Decroux, Fischer / Project(s): 3

Group of L. Degiorgi

F. PFUNER, L. DEGIORGI, T. I. BATURINA, V. M. VINOKUR, AND M. R. BAKLANOV
Optical properties of TiN thin films close to the superconductor-insulator transition
 New Journal of Physics **11**, 113017 (2009).
 Group(s): Degiorgi / Project(s): 7

F. PFUNER, L. DEGIORGI, J.-H. CHU, N. RU, K. Y. SHIN, AND I. R. FISHER
Optical properties of the charge-density-wave rare-earth tri-telluride compounds: A view on PrTe_3

Physica B **404**, 533 (2009).

Group(s): Degiorgi / Project(s): 7

- ▶ M. LAVAGNINI, A. SACCHETTI, C. MARINI, M. VALENTINI, R. SOPRACASE, A. PERUCCHI, P. POSTORINO, S. LUPI, J.-H. CHU, I. R. FISHER, AND L. DEGIORGI

Pressure dependence of the single particle excitation in the charge-density-wave CeTe₃ system

Physical Review B **79**, 075117 (2009).

Group(s): Degiorgi / Project(s): 7

- ▶ F. PFUNER, J. G. ANALYTIS, J.-H. CHU, I. R. FISHER, AND L. DEGIORGI

Charge dynamics of the spin-density-wave state in BaFe₂As₂

The European Physical Journal B **67**, 513 (2009).

Group(s): Degiorgi / Project(s): 7

F. PFUNER, L. DEGIORGI, H. BERGER, AND L. FORRÓ

Infrared investigation of the phonon spectrum in the frustrated spin cluster compound FeTe₂O₅Cl

Journal of Physics: Condensed Matter **21**, 375401 (2009).

Group(s): Degiorgi, Forró / Project(s): 6, 7

- ▶ A. SACCHETTI, C. L. CONDRON, S. N. GVASALIYA, F. PFUNER, M. LAVAGNINI, M. BALDINI, M. F. TONEY, M. MERLINI, M. HANFLAND, J. MESOT, J.-H. CHU, I. R. FISHER, P. POSTORINO, AND L. DEGIORGI

Pressure-induced quenching of the charge-density-wave state in rare-earth tritellurides observed by x-ray diffraction

Physical Review B **79**, 201101(R) (2009).

Group(s): Degiorgi, Mesot / Project(s): 7

Group of Ø. Fischer

- ▶ L. ANTOGNAZZA, M. THERASSE, M. DECROUX, F. ROY, B. DUTOIT, M. ABPLANALP, AND Ø. FISCHER

Comparison between the behavior of HTS thin film grown on sapphire and coated conductors for fault current limiter applications

IEEE Transactions on Applied Superconductivity **19**, 1960 (2009).

Group(s): Abplanalp, Decroux, Fischer / Project(s): 3

- ▶ J. KARPINSKI, N. D. ZHIGADLO, S. KATRYCH, Z. BUKOWSKI, P. MOLL, S. WEYENETH, H. KELLER, R. PUZNIAK, M. TORTELLO, D. DAGHERO, R. GONNELLI, I. MAGGIO-APRILE, Y. FASANO, Ø. FISCHER, K. ROGACKI, AND B. BATLOGG

Single crystals of LnFeAsO_{1-x}F_x (Ln = La, Pr, Nd, Sm, Gd) and Ba_{1-x}Rb_xFe₂As₂: Growth, structure and superconducting properties

Physica C **469**, 370 (2009).

Group(s): Batlogg, Fischer, Karpinski, Keller / Project(s): 4

N. CURTZ, E. KOLLER, H. ZBINDEN, M. DECROUX, L. ANTOGNAZZA, Ø. FISCHER, AND N. GISIN

Patterning of ultrathin YBCO nanowires using a new focused-ion-beam process

Superconductor Science & Technology **23**, 045015 (2010).

Group(s): Decroux, Fischer / Project(s): 3

- ▶ A. P. PETROVIĆ, Y. FASANO, R. LORTZ, C. SENATORE, A. DEMUER, A. B. ANTUNES, A. PARÉ, D. SALLOUM, P. GOUGEON, M. POTTEL, AND Ø. FISCHER

Real-Space Vortex Glass Imaging and the Vortex Phase Diagram of SnMo₆S₈

Physical Review Letters **103**, 257001 (2009).

Group(s): Fischer, Flükiger / Project(s): 7

- ▶ N. JENKINS, Y. FASANO, C. BERTHOD, I. MAGGIO-APRILE, A. PIRIOU, E. GIANNINI, B. W. HOOGENBOOM, C. HESS, T. CREN, AND Ø. FISCHER

Imaging the Essential Role of Spin Fluctuations in High-T_c Superconductivity

Physical Review Letters **103**, 227001 (2009).

Group(s): Fischer, Giamarchi, Giannini / Project(s): 4

- ▶ B. M. WOJEK, E. MORENZONI, D. G. ESHCHENKO, A. SUTER, T. PROKSCHA, E. KOLLER, E. TREBOUX, O. FISCHER, AND H. KELLER

Magnetism and superconductivity in cuprate heterostructures studied by low energy μ SR

Physica B **404**, 720 (2009).

Group(s): Fischer, Keller, Morenzoni / Project(s): 1, 4

P. S. HÄFLIGER, R. KHASANOV, R. LORTZ, A. PETROVIĆ, K. TOGANO, C. BAINES, B. GRANALI, AND H. KELLER

Muon-Spin Rotation Study of the Ternary Noncentrosymmetric Superconductors Li₂Pd_xPt_{3-x}B

Journal of Superconductivity and Novel Magnetism **22**, 337 (2009).

Group(s): Keller, Fischer / Project(s): 4

Group of R. Flükiger

- ▶ A. P. PETROVIĆ, Y. FASANO, R. LORTZ, C. SENATORE, A. DEMUER, A. B. ANTUNES, A. PARÉ, D. SALLOUM, P. GOUGEON, M. POTTEL, AND Ø. FISCHER

- Real-Space Vortex Glass Imaging and the Vortex Phase Diagram of SnMo_6S_8*
Physical Review Letters **103**, 257001 (2009).
Group(s): Fischer, Flükiger / Project(s): 7
- C. SCHEUERLEIN, M. DI MICHIEL, AND F. BUTA
Synchrotron Radiation Techniques for the Characterization of Nb_3Sn Superconductors
IEEE Transactions on Applied Superconductivity **19**, 2653 (2009).
Group(s): Flükiger / Project(s): 3
- T. BOUTBOUL, L. OBERLI, A. DEN OUDEN, D. PEDRINI, B. SEEBER, AND G. VOLPINI
Heat Treatment Optimization Studies on PIT Nb_3Sn Strand for the NED Project
IEEE Transactions on Applied Superconductivity **19**, 2564 (2009).
Group(s): Flükiger / Project(s): 3
- J. LU, K. HAN, R. P. WALSH, I. DIXON, A. FERRERA, AND B. SEEBER
Characterization of High J_c Nb_3Sn Strands for the Series-Connected Hybrid Magnet
IEEE Transactions on Applied Superconductivity **19**, 2615 (2009).
Group(s): Flükiger / Project(s): 6
- N. N. MARTOVETSKY, D. R. HATFIELD, J. R. MILLER, C. Y. GUNG, J. S. SCHULTZ, N. CHEGGOUR, L. F. GOODRICH, P. BRUZZONE, B. STEPANOV, R. WESCHE, AND B. SEEBER
Test Results of the First US ITER TF Conductor in SULTAN
IEEE Transactions on Applied Superconductivity **19**, 1478 (2009).
Group(s): Flükiger / Project(s): 3
- L. THILLY, C. SCHEUERLEIN, U. STUHR, B. BORDINI, AND B. SEEBER
Residual Strain in a Nb_3Sn Strand Mounted on a Barrel for Critical Current Measurements
IEEE Transactions on Applied Superconductivity **19**, 2645 (2009).
Group(s): Flükiger / Project(s): 3
- R. FLÜKIGER, M. S. A. HOSSAIN, AND C. SENATORE
Strong enhancement of J_c and B_{irr} in binary in situ MgB_2 wires after cold high pressure densification
Superconductor Science & Technology **22**, 085002 (2009).
Group(s): Flükiger / Project(s): 3
- M. S. A. HOSSAIN, C. SENATORE, R. FLÜKIGER, M. A. RINDFLEISCH, M. J. TOMSIC, J. H. KIM, AND S. X. DOU
The enhanced J_c and B_{irr} of in situ MgB_2 wires and tapes alloyed with $\text{C}_4\text{H}_6\text{O}_5$ (malic acid) after cold high pressure densification
Superconductor Science & Technology **22**, 095004 (2009).
Group(s): Flükiger / Project(s): 3
- C. SENATORE AND R. FLÜKIGER
Correlation between superconducting transition width and relaxation rates in various industrial Y123-coated conductors
Superconductor Science & Technology **22**, 095016 (2009).
Group(s): Flükiger / Project(s): 3
- S. R. GHORBANI, X. L. WANG, M. S. A. HOSSAIN, S. X. DOU, AND S. I. LEE
Coexistence of the δI and δT_c flux pinning mechanisms in nano-Si-doped MgB_2
Superconductor Science & Technology **23**, 025019 (2010).
Group(s): Flükiger / Project(s): 3
- A. UBALDINI, E. GIANNINI, C. SENATORE, AND D. VAN DER MAREL
 BiOCuS : A new superconducting compound with oxypnictide-related structure
Physica C (2010), doi:10.1016/j.physc.2009.11.164.
Group(s): Flükiger, Giannini, van der Marel / Project(s): 4
- Group of L. Forró**
- C. MONNEY, H. CERCELLIER, F. CLERC, C. BATTAGLIA, E. F. SCHWIER, C. DIDIOT, M. G. GARNIER, H. BECK, P. AEBI, H. BERGER, L. FORRÓ, AND L. PATTHEY
Spontaneous exciton condensation in $1T\text{-TiSe}_2$: BCS-like approach
Physical Review B **79**, 045116 (2009).
Group(s): Aebi, Forró / Project(s): 7
- M. HOESCH, X. CUI, K. SHIMADA, C. BATTAGLIA, S.-I. FUJIMORI, AND H. BERGER
Splitting in the Fermi surface of ZrTe_3 : A surface charge density wave system
Physical Review B **80**, 075423 (2009).
Group(s): Aebi, Forró / Project(s): 7
- F. PFUNER, L. DEGIORGI, H. BERGER, AND L. FORRÓ
Infrared investigation of the phonon spectrum in the frustrated spin cluster compound $\text{FeTe}_2\text{O}_5\text{Cl}$
Journal of Physics: Condensed Matter **21**, 375401 (2009).
Group(s): Degiorgi, Forró / Project(s): 6,7

- D. ZHANG, M. JOHNSON, H. BERGER, R. K. KREMER, D. WULFERDING, AND P. LEMMENS
Separation of the Oxide and Halide Part in the Oxohalide $Fe_3Te_3O_{10}Cl$ Due to High Lewis Acidity of the Cations
Inorganic Chemistry **48**, 6599 (2009).
Group(s): Forró / Project(s): 6
- L. GASPAROV, A. RUSH, T. PEKAREK, N. PATEL, AND H. BERGER
Raman studies of doped magnetite above and below the Verwey transition
Journal of Applied Physics **105**, 07E109 (2009).
Group(s): Forró / Project(s): 6
- R. FLEURIER, S. BHATTACHARYYA, M. L. SABOUNGI, N. RAIMBOUX, P. SIMON, J. KLI-AVA, A. MAGREZ, T. FEHER, L. FORRÓ, AND J. P. SALVETAT
Increase in the Curie temperature and magnetic anisotropy in FePd/Pt-iron oxide core-shell nanoparticles
Journal of Applied Physics **106**, 073903 (2009).
Group(s): Forró / Project(s): 6
- I. ŽIVKOVIĆ, K. PRŠA, O. ZAHARKO, AND H. BERGER
 Ni_3TeO_6 -a collinear antiferromagnet with ferromagnetic honeycomb planes
Journal of Physics: Condensed Matter **22**, 056002 (2010).
Group(s): Forró / Project(s): 6
- J. L. HER, Y. H. MATSUDA, K. SUGA, K. KINDO, S. TAKEYAMA, H. BERGER, AND H. D. YANG
High-field magnetization of a two-dimensional spin frustration system, $Ni_5(TeO_3)_4X_2$ ($X = Br, Cl$)
Journal of Physics: Condensed Matter **21**, 436005 (2009).
Group(s): Forró / Project(s): 6
- L. ĆIRIĆ, A. SIENKIEWICZ, B. NÁFRÁDI, M. MIONIĆ, A. MAGREZ, AND L. FORRÓ
Towards electron spin resonance of mechanically exfoliated graphene
Physica Status Solidi (b) **246**, 2558 (2009).
Group(s): Forró / Project(s): 2
- K.-Y. CHOI, D. WULFERDING, H. BERGER, AND P. LEMMENS
Interplay of electronic correlations and lattice instabilities in $BaVS_3$
Physical Review B **80**, 245108 (2009).
Group(s): Forró / Project(s): 7
- C. P. SUN, C. C. LIN, J. L. HER, C. J. HO, S. TARAN, H. BERGER, B. K. CHAUDHURI, AND H. D. YANG
Field-dependent dielectric and magnetic properties in multiferroic $CdCr_2S_4$
Physical Review B **79**, 214116 (2009).
Group(s): Forró / Project(s): 6
- L. V. GASPAROV, A. RUSH, G. GÜENTHERODT, AND H. BERGER
Electronic Raman scattering in magnetite: Spin versus charge gap
Physical Review B **79**, 144303 (2009).
Group(s): Forró / Project(s): 6
- M. PRESTER, I. ŽIVKOVIĆ, O. ZAHARKO, D. PAJIĆ, P. TREGENNA-PIGGOTT, AND H. BERGER
Ferromagnetism in $Co_7(TeO_3)_4Br_6$: A byproduct of complex antiferromagnetic order and single-ion anisotropy
Physical Review B **79**, 144433 (2009).
Group(s): Forró / Project(s): 6
- K. L. NAGY, B. NÁFRÁDI, N. D. KUSHCH, E. B. YAGUBSKII, E. HERDTWECK, T. FEHÉR, L. F. KISS, L. FORRÓ, AND A. JÁNOSSY
Multifrequency ESR in $ET_2MnCu[N(CN)_2]_4$: A radical cation salt with quasi-two-dimensional magnetic layers in a three-dimensional polymeric structure
Physical Review B **80**, 104407 (2009).
Group(s): Forró / Project(s): 7
- A. PALLINGER, B. SAS, G. KRIZA, K. VAD, L. FORRÓ, H. BERGER, F. PORTIER, AND F. I. B. WILLIAMS
Metastability of two-dimensional vortex glass in $Bi_2Sr_2CaCu_2O_{8+\delta}$
Physical Review B **80**, 024206 (2009).
Group(s): Forró / Project(s): 7
- ▶ A. F. KUSMARTSEVA, B. SIPOS, H. BERGER, L. FORRÓ, AND E. TUTIŠ
Pressure Induced Superconductivity in Pristine $1T-TiSe_2$
Physical Review Letters **103**, 236401 (2009).
Group(s): Forró / Project(s): 7
- ▶ M. PREGELJ, O. ZAHARKO, A. ZORKO, Z. KUTNJAK, P. JEGLIČ, P. J. BROWN, M. JAGODIČ, Z. JAGLIČIĆ, H. BERGER, AND D. ARČON
Spin Amplitude Modulation Driven Magnetolectric Coupling in the New Multiferroic $FeTe_2O_5Br$
Physical Review Letters **103**, 147202 (2009).
Group(s): Forró / Project(s): 6
- ▶ S. V. BORISENKO, A. A. KORDYUK, V. B. ZABOLOTNYY, D. S. INOSOV, D. EVTUSHINSKY, B. BÜCHNER, A. N. YARESKO,

A. VARYKHALOV, R. FOLLATH, W. EBERHARDT, L. PATTHEY, AND H. BERGER

Two Energy Gaps and Fermi-Surface "Arcs" in NbSe₂

Physical Review Letters **102**, 166402 (2009).

Group(s): Forró / Project(s): 7

G. GHIRINGHELLI, A. PIAZZALUNGA, X. WANG, A. BENDOUNAN, H. BERGER, F. BOTTEGONI, N. CHRISTENSEN, C. DALLERA, M. GRIONI, J.-C. GRIVEL, M. MORETTI SALA, L. PATTHEY, J. SCHLAPPA, T. SCHMITT, V. STROCOV, AND L. BRAICOVICH

Crystal field and low-energy excitations measured by high resolution RIXS at the L₃ edge of Cu, Ni and Mn

The European Physical Journal – Special Topics **169**, 199 (2009).

Group(s): Forró, Grioni / Project(s): 7

B. SIPOS, M. DUCHAMP, A. MAGREZ, L. FORRÓ, N. BARIŠIĆ, A. KIS, J. W. SEO, F. BIERI, F. KRUMEICH, R. NESPER, AND G. R. PATZKE

Mechanical and electronic properties of vanadium oxide nanotubes

Journal of Applied Physics **105**, 074317 (2009).

Group(s): Forró, Patzke / Project(s): 7, 3

Group of T. Giamarchi

- ▶ N. JENKINS, Y. FASANO, C. BERTHOD, I. MAGGIO-APRILE, A. PIRIOU, E. GIANNINI, B. W. HOOGENBOOM, C. HESS, T. CREN, AND Ø. FISCHER

Imaging the Essential Role of Spin Fluctuations in High-T_c Superconductivity

Physical Review Letters **103**, 227001 (2009).

Group(s): Fischer, Giamarchi, Giannini / Project(s): 4

- ▶ T. JARLBORG

Mechanisms for higher T_c in copper oxide superconductors: Ideas from band calculations

Applied Physics Letters **94**, 212503 (2009).

Group(s): Giamarchi / Project(s): 4

- ▶ T. JARLBORG

Q-dependence of spin excitations in high-T_c cuprates from spin-phonon coupling

Journal of Physics: Condensed Matter **21**, 142202 (2009).

Group(s): Giamarchi / Project(s): 4

M. B. ZVONAREV, V. V. CHEIANOV, AND T. GIAMARCHI

The time-dependent correlation function of the Jordan-Wigner operator as a Fredholm determinant

Journal of Statistical Mechanics p. P07035 (2009).

Group(s): Giamarchi / Project(s): 8

- ▶ T. JARLBORG

Properties of high-T_c Copper Oxides from Band Models of Spin-Phonon Coupling

Journal of Superconductivity and Novel Magnetism **22**, 247 (2009).

Group(s): Giamarchi / Project(s): 4

- ▶ P. CHUDZINSKI, M. GABAY, AND T. GIAMARCHI

Influence of non-magnetic impurities on hole-doped two-leg Cu-O Hubbard ladders

New Journal of Physics **11**, 055059 (2009).

Group(s): Giamarchi / Project(s): 7

G. ORSO, A. IUCCI, M. A. CAZALILLA, AND T. GIAMARCHI

Lattice modulation spectroscopy of strongly interacting bosons in disordered and quasiperiodic optical lattices

Physical Review A **80**, 033625 (2009).

Group(s): Giamarchi / Project(s): 8

A. F. HO, M. A. CAZALILLA, AND T. GIAMARCHI

Quantum simulation of the Hubbard model: The attractive route

Physical Review A **79**, 033620 (2009).

Group(s): Giamarchi / Project(s): 8

- ▶ A. M. LOBOS, A. IUCCI, M. MÜLLER, AND T. GIAMARCHI

Dissipation-driven phase transitions in superconducting wires

Physical Review B **80**, 214515 (2009).

Group(s): Giamarchi / Project(s): 2

L. BENFATTO, C. CASTELLANI, AND T. GIAMARCHI

Broadening of the Beresinskii-Kosterlitz-Thouless superconducting transition by inhomogeneity and finite-size effects

Physical Review B **80**, 214506 (2009).

Group(s): Giamarchi / Project(s): 1

M. B. ZVONAREV, V. V. CHEIANOV, AND T. GIAMARCHI

Edge exponent in the dynamic spin structure factor of the Yang-Gaudin model

Physical Review B **80**, 201102(R) (2009).

Group(s): Giamarchi / Project(s): 8

V. LECOMTE, S. E. BARNES, J.-P. ECKMANN, AND T. GIAMARCHI

Depinning of domain walls with an internal degree of freedom

Physical Review B **80**, 054413 (2009).

Group(s): Giamarchi / Project(s): 1

A. B. KOLTON, A. ROSSO, T. GIAMARCHI,
AND W. KRAUTH

Creep dynamics of elastic manifolds via exact transition pathways

Physical Review B **79**, 184207 (2009).

Group(s): Giamarchi / Project(s): 1

► T. JARLBORG

Spin-phonon coupling and q-dependence of spin excitations and high- T_C superconductivity from band models

Physical Review B **79**, 094530 (2009).

Group(s): Giamarchi / Project(s): 4

► M. B. ZVONAREV, V. V. CHEIANOV, AND
T. GIAMARCHI

Dynamical Properties of the One-Dimensional Spin-1/2 Bose-Hubbard Model near a Mott-Insulator to Ferromagnetic-Liquid Transition

Physical Review Letters **103**, 110401 (2009).

Group(s): Giamarchi / Project(s): 8

► T. JARLBORG

Supercell Band Calculations and Correlation for High- T_C Copper Oxide Superconductors

Advances in Condensed Matter Physics **2010**, 912067 (2009).

Group(s): Giamarchi / Project(s): 4

Group of E. Giannini

► N. JENKINS, Y. FASANO, C. BERTHOD,
I. MAGGIO-APRILE, A. PIRIOU, E. GIANNINI,
B. W. HOOGENBOOM, C. HESS, T. CREN, AND
Ø. FISCHER

Imaging the Essential Role of Spin Fluctuations in High- T_c Superconductivity

Physical Review Letters **103**, 227001 (2009).

Group(s): Fischer, Giamarchi, Giannini / Project(s): 4

A. UBALDINI, E. GIANNINI, C. SENATORE,
AND D. VAN DER MAREL

BiOCuS: A new superconducting compound with oxypnictide-related structure

Physica C (2010),
doi:10.1016/j.physc.2009.11.164.

Group(s): Flükiger, Giannini, van der Marel / Project(s): 4

S. WEYENETH, T. SCHNEIDER, AND E. GIANNINI

Evidence for Kosterlitz-Thouless and three-dimensional XY critical behavior in $Bi_2Sr_2CaCu_2O_{8+\delta}$

Physical Review B **79**, 214504 (2009).

Group(s): Giannini / Project(s): 4

M. WEIGAND, M. EISTERER, E. GIANNINI,
AND H. W. WEBER

Mixed state properties of $Bi_2Sr_2Ca_2Cu_3O_{10+\delta}$ single crystals before and after neutron irradiation

Physical Review B **81**, 014516 (2010).

Group(s): Giannini / Project(s): 4

R. VIENNOIS, E. GIANNINI, J. TEYSSIER,
J. ELIA, J. DEISENHOFER, AND D. VAN DER
MAREL

Two-dimensional orbital ordering in d^1 Mott insulator Sr_2VO_4

Journal of Physics: Conference Series **200**, 012219 (2010).

Group(s): Giannini, van der Marel / Project(s): 4

J. TEYSSIER, R. VIENNOIS, V. GURITANU,
E. GIANNINI, AND D. VAN DER MAREL

Kondo effect and quantum critical point in $Mn_{(1-x)}Co_xSi$

Journal of Physics: Conference Series **200**, 032076 (2010).

Group(s): Giannini, van der Marel / Project(s): 5

R. VIENNOIS, E. GIANNINI, D. VAN DER
MAREL, AND R. ČERNÝ

Effect of Fe excess on Structural, Magnetic and Superconducting Properties of Single-Crystalline $Fe_{1+x}Te_{1-y}Se_y$

Journal of Solid State Chemistry (2010),
doi:10.1016/j.jssc.2010.01.024.

Group(s): Giannini, van der Marel / Project(s): 4

R. VIENNOIS, E. GIANNINI, D. VAN DER
MAREL, AND R. ČERNÝ

Phase diagram of single-crystalline tetragonal iron chalcogenides

Physica C (2010),
doi:10.1016/j.physc.2009.11.126.

Group(s): Giannini, van der Marel / Project(s): 4

I. PALLECCHI, G. LAMURA, M. TROPEANO,
M. PUTTI, R. VIENNOIS, E. GIANNINI, AND
D. VAN DER MAREL

Seebeck effect in $Fe_{1+x}Te_{1-y}Se_y$ single crystals

Physical Review B **80**, 214511 (2009).

Group(s): Giannini, van der Marel / Project(s): 4

Group of M. Gioni

G. GHIRINGHELLI, A. PIAZZALUNGA,
X. WANG, A. BENDOUNAN, H. BERGER,
F. BOTTEGONI, N. CHRISTENSEN,
C. DALLERA, M. GRIONI, J.-C. GRIVEL,
M. MORETTI SALA, L. PATTHEY,
J. SCHLAPPA, T. SCHMITT, V. STROCOV,
AND L. BRAICOVICH

Crystal field and low-energy excitations measured by high resolution RIXS at the L_3 edge of Cu, Ni and Mn

The European Physical Journal – Special Topics **169**, 199 (2009).

Group(s): Forró, Grioni / Project(s): 7

H. BENTMANN, F. FORSTER, G. BIHLMAYER, E. V. CHULKOV, L. MORESCHINI, M. GRIONI, AND F. REINERT

Origin and manipulation of the Rashba splitting in surface alloys

Europhysics Letters **87**, 37003 (2009).

Group(s): Grioni / Project(s): 7

E. FRANTZESKAKIS, S. PONS, AND M. GRIONI
Giant spin-orbit splitting in a surface alloy grown on a Si substrate: BiAg₂/Ag/Si(111)

Physica B **404**, 419 (2009).

Group(s): Grioni / Project(s): 7

L. MORESCHINI, A. BENDOUNAN, I. GIERZ, C. R. AST, H. MIRHOSSEINI, H. HÖCHST, K. KERN, J. HENK, A. ERNST, S. OStanIN, F. REINERT, AND M. GRIONI

Assessing the atomic contribution to the Rashba spin-orbit splitting in surface alloys: Sb/Ag(111)

Physical Review B **79**, 075424 (2009).

Group(s): Grioni / Project(s): 7

- ▶ L. MORESCHINI, A. BENDOUNAN, H. BENTMANN, M. ASSIG, K. KERN, F. REINERT, J. HENK, C. R. AST, AND M. GRIONI

Influence of the substrate on the spin-orbit splitting in surface alloys on (111) noble-metal surfaces

Physical Review B **80**, 035438 (2009).

Group(s): Grioni / Project(s): 7

- ▶ I. GIERZ, T. SUZUKI, E. FRANTZESKAKIS, S. PONS, S. OStanIN, A. ERNST, J. HENK, M. GRIONI, K. KERN, AND C. R. AST

Silicon Surface with Giant Spin Splitting

Physical Review Letters **103**, 046803 (2009).

Group(s): Grioni / Project(s): 7

E. FRANTZESKAKIS, L. MORESCHINI, M. C. FALUB, M. GRIONI, S. PONS, C. R. AST, D. PACILÉ, AND M. PAPAGNO

New Mechanism for Spin-Orbit Splitting of Conduction States in Surface Alloys

e-Journal of Surface Science and Nanotechnology **7**, 264 (2009).

Group(s): Grioni / Project(s): 7

M. MEDARDE, C. DALLERA, M. GRIONI, B. DELLEY, F. VERNAY, J. MESOT, M. SIKORA, J. A. ALONSO, AND M. J. MARTÍNEZ-LOPE

Charge disproportionation in RNiO₃ perovskites (R = rare earth) from high-resolution x-ray absorption spectroscopy

Physical Review B **80**, 245105 (2009).

Group(s): Grioni, Mesot / Project(s): 7

Group of V. Gritsev

- ▶ A. IMAMBEKOV, I. E. MAZETS, D. S. PETROV, V. GRITSEV, S. MANZ, S. HOFFERBERTH, T. SCHUMM, E. DEMLER, AND J. SCHMIED-MAYER

Density ripples in expanding low-dimensional gases as a probe of correlations

Physical Review A **80**, 033604 (2009).

Group(s): Gritsev / Project(s): 8

- ▶ P. BARMETTLER, M. PUNK, V. GRITSEV, E. DEMLER, AND E. ALTMAN

Relaxation of Antiferromagnetic Order in Spin-1/2 Chains Following a Quantum Quench

Physical Review Letters **102**, 130603 (2009).

Group(s): Gritsev / Project(s): 8

- ▶ A. IMAMBEKOV, A. A. LUKYANOV, L. I. GLAZMAN, AND V. GRITSEV

Exact Solution for 1D Spin-Polarized Fermions with Resonant Interactions

Physical Review Letters **104**, 040402 (2010).

Group(s): Gritsev / Project(s): 8

Group of D. Jaccard

- ▶ N. REYREN, S. GARIGLIO, A. D. CAVIGLIA, D. JACCARD, T. SCHNEIDER, AND J.-M. TRISCONI

Anisotropy of the superconducting transport properties of the LaAlO₃/SrTiO₃ interface

Applied Physics Letters **94**, 112506 (2009).

Group(s): Jaccard, Triscone (JM) / Project(s): 1

Group of J. Karpinski

- ▶ J. KARPINSKI, N. D. ZHIGADLO, S. KATRYCH, Z. BUKOWSKI, P. MOLL, S. WEYENETH, H. KELLER, R. PUZNIAK, M. TORTELLO, D. DAGHERO, R. GONNELLI, I. MAGGIO-APRILE, Y. FASANO, Ø. FISCHER, K. RO-GACKI, AND B. BATLOGG

Single crystals of LnFeAsO_{1-x}F_x (Ln = La, Pr, Nd, Sm, Gd) and Ba_{1-x}Rb_xFe₂As₂: Growth, structure and superconducting properties

Physica C **469**, 370 (2009).

Group(s): Batlogg, Fischer, Karpinski, Keller / Project(s): 4

A. BELOUSOV, S. KATRYCH, J. JUN, J. ZHANG, D. GÜNTHER, R. SOBOLEWSKI, J. KARPINSKI,

AND B. BATLOGG

Bulk single-crystal growth of ternary $Al_xGa_{1-x}N$ from solution in gallium under high pressure

Journal of Crystal Growth **311**, 3971 (2009).

Group(s): Batlogg, Karpinski / Project(s): 4

- Z. BUKOWSKI, S. WEYENETH, R. PUZNIAK, P. MOLL, S. KATRYCH, N. D. ZHIGADLO, J. KARPINSKI, H. KELLER, AND B. BATLOGG
Superconductivity at 23 K and low anisotropy in Rb-substituted $BaFe_2As_2$ single crystals

Physical Review B **79**, 104521 (2009).

Group(s): Batlogg, Karpinski, Keller / Project(s): 4

L. Y. VINNIKOV, T. M. ARTEMOVA, I. S. VESHCHUNOV, N. D. ZHIGADLO, J. KARPINSKI, P. POPOVICH, D. L. SUN, C. LIN, AND A. V. BORIS

Vortex Structure in Superconducting Iron Pnictide Single Crystals

Journal of Experimental and Theoretical Physics Letters **90**, 299 (2009).

Group(s): Karpinski / Project(s): 4

T. MERTELJ, V. V. KABANOV, C. GADERMAIER, N. D. ZHIGADLO, S. KATRYCH, Z. BUKOWSKI, J. KARPINSKI, AND D. MIHAILOVIC

Photoinduced Quasiparticle Relaxation Dynamics in Near-optimally Doped $SmFeAsO_{0.8}F_{0.2}$ Single Crystals

Journal of Superconductivity and Novel Magnetism **22**, 575 (2009).

Group(s): Karpinski / Project(s): 4

D. DAGHERO, M. TORTELLO, R. S. GONNELLI, V. A. STEPANOV, N. D. ZHIGADLO, AND J. KARPINSKI

Possible Multigap Superconductivity in $SmFeAsO_{0.8}F_{0.2}$: A Point-contact Andreev-reflection Spectroscopy Study

Journal of Superconductivity and Novel Magnetism **22**, 543 (2009).

Group(s): Karpinski / Project(s): 4

R. S. GONNELLI, D. DAGHERO, M. TORTELLO, G. A. UMMARINO, V. A. STEPANOV, R. K. KREMER, J. S. KIM, N. D. ZHIGADLO, AND J. KARPINSKI

Point-contact Andreev-reflection spectroscopy in $ReFeAsO_{1-x}F_x$ ($Re = La, Sm$): Possible evidence for two nodeless gaps

Physica C **469**, 512 (2009).

Group(s): Karpinski / Project(s): 4

Y. J. JO, J. JAROSZYNSKI, A. YAMAMOTO, A. GUREVICH, S. C. RIGGS, G. S. BOEBINGER, D. LARBALESTIER, H. H. WEN,

N. D. ZHIGADLO, S. KATRYCH, Z. BUKOWSKI, J. KARPINSKI, R. H. LIU, H. CHEN, X. H. CHEN, AND L. BALICAS

High-field phase-diagram of Fe arsenide superconductors

Physica C **469**, 566 (2009).

Group(s): Karpinski / Project(s): 4

Z. BUKOWSKI, S. WEYENETH, R. PUZNIAK, J. KARPINSKI, AND B. BATLOGG

Bulk Superconductivity at 2.6 K in Undoped $RbFe_2As_2$

Physica C (2010), doi:10.1016/j.physc.2009.11.103.

Group(s): Karpinski / Project(s): 4

M. MATUSIAK, T. PLACKOWSKI, Z. BUKOWSKI, N. D. ZHIGADLO, AND J. KARPINSKI

Evidence of spin-density-wave order in $RFeAsO_{1-x}F_x$ from measurements of thermoelectric power

Physical Review B **79**, 212502 (2009).

Group(s): Karpinski / Project(s): 4

D. DAGHERO, M. TORTELLO, R. S. GONNELLI, V. A. STEPANOV, N. D. ZHIGADLO, AND J. KARPINSKI

Evidence for two-gap nodeless superconductivity in $SmFeAsO_{1-x}F_x$ from point-contact Andreev-reflection spectroscopy

Physical Review B **80**, 060502 (2009).

Group(s): Karpinski / Project(s): 4

M. CALAMIOTOU, A. GANTIS, E. SIRANIDI, D. LAMPAKIS, J. KARPINSKI, AND E. LIAROKAPIS

Pressure-induced lattice instabilities and superconductivity in $YBa_2Cu_4O_8$ and optimally doped $YBa_2Cu_3O_{7-\delta}$

Physical Review B **80**, 214517 (2009).

Group(s): Karpinski / Project(s): 4

N. D. ZHIGADLO, S. KATRYCH, J. KARPINSKI, B. BATLOGG, F. BERNARDINI, S. MASSIDDA, AND R. PUZNIAK

Influence of Mg deficiency on crystal structure and superconducting properties in MgB_2 single crystals

Physical Review B **81**, 054520 (2010).

Group(s): Karpinski / Project(s): 4

M. MATUSIAK, Z. BUKOWSKI, AND J. KARPINSKI

Nernst effect in single crystals of the pnictide superconductor $CaFe_{1.92}Co_{0.08}As_2$ and parent compound $CaFe_2As_2$

Physical Review B **81**, 020510(R) (2010).

Group(s): Karpinski / Project(s): 4

- ▶ V. MOSHCHALOV, M. MENGHINI, T. NISHIO, Q. H. CHEN, A. V. SILHANEK, V. H. DAO, L. F. CHIBOTARU, N. D. ZHIGADLO, AND J. KARPINSKI
Type-1.5 Superconductivity
Physical Review Letters **102**, 117001 (2009).
Group(s): Karpinski / Project(s): 4
- ▶ T. KONDO, R. KHASANOV, Y. SASSA, A. BENDOUNAN, S. PAILHES, J. CHANG, J. MESOT, H. KELLER, N. D. ZHIGADLO, M. SHI, Z. BUKOWSKI, J. KARPINSKI, AND A. KAMINSKI
Anomalous asymmetry in the Fermi surface of the high-temperature superconductor $YBa_2Cu_4O_8$ revealed by angle-resolved photoemission spectroscopy
Physical Review B **80**, 100505 (2009).
Group(s): Karpinski, Keller, Mesot / Project(s): 4
- M. LE TACON, T. R. FORREST, C. RÜEGG, A. BOSAK, A. C. WALTERS, R. MITTAL, H. M. RØNNOW, N. D. ZHIGADLO, S. KATRYCH, J. KARPINSKI, J. P. HILL, M. KRISCH, AND D. F. MCMORROW
Inelastic x-ray scattering study of superconducting $SmFeAsO_{1-x}F_y$ single crystals: Evidence for strong momentum-dependent doping-induced renormalizations of optical phonons
Physical Review B **80**, 220504 (2009).
Group(s): Karpinski, Rønnow / Project(s): 4, 6
- Group of H. Keller**
- ▶ J. KARPINSKI, N. D. ZHIGADLO, S. KATRYCH, Z. BUKOWSKI, P. MOLL, S. WEYENETH, H. KELLER, R. PUZNIAK, M. TORTELLO, D. DAGHERO, R. GONNELLI, I. MAGGIO-APRILE, Y. FASANO, Ø. FISCHER, K. RO-GACKI, AND B. BATLOGG
Single crystals of $LnFeAsO_{1-x}F_x$ ($Ln = La, Pr, Nd, Sm, Gd$) and $Ba_{1-x}Rb_xFe_2As_2$: Growth, structure and superconducting properties
Physica C **469**, 370 (2009).
Group(s): Batlogg, Fischer, Karpinski, Keller / Project(s): 4
- ▶ Z. BUKOWSKI, S. WEYENETH, R. PUZNIAK, P. MOLL, S. KATRYCH, N. D. ZHIGADLO, J. KARPINSKI, H. KELLER, AND B. BATLOGG
Superconductivity at 23 K and low anisotropy in Rb-substituted $BaFe_2As_2$ single crystals
Physical Review B **79**, 104521 (2009).
Group(s): Batlogg, Karpinski, Keller / Project(s): 4
- ▶ B. M. WOJEK, E. MORENZONI, D. G. ESHCHENKO, A. SUTER, T. PROKSCHA, E. KOLLER, E. TREBOUX, O. FISCHER, AND H. KELLER
Magnetism and superconductivity in cuprate heterostructures studied by low energy μ SR
Physica B **404**, 720 (2009).
Group(s): Fischer, Keller, Morenzoni / Project(s): 1, 4
- ▶ T. KONDO, R. KHASANOV, Y. SASSA, A. BENDOUNAN, S. PAILHES, J. CHANG, J. MESOT, H. KELLER, N. D. ZHIGADLO, M. SHI, Z. BUKOWSKI, J. KARPINSKI, AND A. KAMINSKI
Anomalous asymmetry in the Fermi surface of the high-temperature superconductor $YBa_2Cu_4O_8$ revealed by angle-resolved photoemission spectroscopy
Physical Review B **80**, 100505 (2009).
Group(s): Karpinski, Keller, Mesot / Project(s): 4
- ▶ A. MAISURADZE, R. KHASANOV, A. SHENGE-LAYA, AND H. KELLER
Comparison of different methods for analyzing μ SR line shapes in the vortex state of type-II superconductors
Journal of Physics: Condensed Matter **21**, 075701 (2009).
Group(s): Keller / Project(s): 4
- ▶ A. BUSSMANN-HOLDER AND H. KELLER
Evidence for Polaron Formation in High-Temperature Superconducting Cuprates: Experiments and Theory
Journal of Superconductivity and Novel Magnetism **22**, 123 (2009).
Group(s): Keller / Project(s): 4
- S. STRÄSSLE, R. KHASANOV, T. KONDO, D. O. G. HERON, A. KAMINSKI, H. KELLER, S. L. LEE, AND T. TAKEUCHI
Superfluid Density and Angular Dependence of the Energy Gap in Optimally Doped $(BiPb)_2(SrLa)_2CuO_{6+\delta}$
Journal of Superconductivity and Novel Magnetism **22**, 189 (2009).
Group(s): Keller / Project(s): 4
- ▶ A. BUSSMANN-HOLDER, A. SIMON, H. KELLER, AND A. R. BISHOP
Superconductivity in Fe and As Based Compounds: A Bridge Between MgB_2 and Cuprates
Journal of Superconductivity and Novel Magnetism **23**, 365 (2010).
Group(s): Keller / Project(s): 4
- ▶ A. MAISURADZE, A. SHENGE-LAYA, B. I. KOCHELAEV, E. POMJAKUSHINA, K. CONDER, H. KELLER, AND K. A. MÜLLER
Probing the Yb^{3+} spin relaxation in $Y_{0.98}Yb_{0.02}Ba_2Cu_3O_x$ by electron paramagnetic resonance
Physical Review B **79**, 054519 (2009).

Group(s): Keller / Project(s): 4

- ▶ R. KHASANOV, T. KONDO, S. STRÄSSLE, D. O. G. HERON, A. KAMINSKI, H. KELLER, S. L. LEE, AND T. TAKEUCHI
Zero-field superfluid density in a d-wave superconductor evaluated from muon-spin-rotation experiments in the vortex state

Physical Review B **79**, 180507(R) (2009).

Group(s): Keller / Project(s): 4

- ▶ F. LA MATTINA, J. G. BEDNORZ, S. F. ALVARADO, A. SHENGELAYA, K. A. MÜLLER, AND H. KELLER
Controlled oxygen vacancies and space correlation with Cr³⁺ in SrTiO₃

Physical Review B **80**, 075122 (2009).

Group(s): Keller / Project(s): 4

- ▶ H. KELLER AND A. BUSSMANN-HOLDER
Local Electron-Lattice Interactions in High-Temperature Cuprate Superconductors

Advances in Condensed Matter Physics **2010**, 393526 (2009).

Group(s): Keller / Project(s): 4

- P. S. HÄFLIGER, R. KHASANOV, R. LORTZ, A. PETROVIĆ, K. TOGANO, C. BAINES, B. GRANELL, AND H. KELLER
Muon-Spin Rotation Study of the Ternary Noncentrosymmetric Superconductors Li₂Pd_xPt_{3-x}B

Journal of Superconductivity and Novel Magnetism **22**, 337 (2009).

Group(s): Keller, Fischer / Project(s): 4

- ▶ R. KHASANOV, M. BENDELE, A. AMATO, P. BABKEVICH, A. T. BOOTHROYD, A. CERVELLINO, K. CONDER, S. N. GVASALIYA, H. KELLER, H.-H. KLAUSS, H. LUETKENS, V. POMJAKUSHIN, E. POMJAKUSHINA, AND B. ROESSLI
Coexistence of incommensurate magnetism and superconductivity in Fe_{1+y}Se_xTe_{1-x}

Physical Review B **80**, 140511(R) (2009).

Group(s): Keller, Kenzelmann / Project(s): 4, 5

Group of M. Kenzelmann

- ▶ R. KHASANOV, M. BENDELE, A. AMATO, P. BABKEVICH, A. T. BOOTHROYD, A. CERVELLINO, K. CONDER, S. N. GVASALIYA, H. KELLER, H.-H. KLAUSS, H. LUETKENS, V. POMJAKUSHIN, E. POMJAKUSHINA, AND B. ROESSLI
Coexistence of incommensurate magnetism and superconductivity in Fe_{1+y}Se_xTe_{1-x}

Physical Review B **80**, 140511(R) (2009).

Group(s): Keller, Kenzelmann / Project(s): 4, 5

M. SCHNEIDER, J. STAHN, AND P. BÖNI

Focusing of cold neutrons: Performance of a laterally graded and parabolically bent multilayer

Nuclear Instruments and Methods in Physics Research A **610**, 530 (2009).

Group(s): Kenzelmann / Project(s): 3

- E. POMJAKUSHINA, K. CONDER, V. POMJAKUSHIN, M. BENDELE, AND R. KHASANOV
Synthesis, crystal structure, and chemical stability of the superconductor FeSe_{1-x}

Physical Review B **80**, 024517 (2009).

Group(s): Kenzelmann / Project(s): 4, 5

- C. SCHANZER, P. BÖNI, AND M. SCHNEIDER
High Performance Supermirrors on Metallic Substrates

to be published in Journal of Physics: Conference Series (2010).

Group(s): Kenzelmann / Project(s): 3

Group of D. van de Marel

A. UBALDINI, E. GIANNINI, C. SENATORE, AND D. VAN DER MAREL

BiOCuS: A new superconducting compound with oxypnictide-related structure

Physica C (2010), doi:10.1016/j.physc.2009.11.164.

Group(s): Flükiger, Giannini, van der Marel / Project(s): 4

R. VIENNOIS, E. GIANNINI, J. TEYSSIER, J. ELIA, J. DEISENHOFER, AND D. VAN DER MAREL

Two-dimensional orbital ordering in d¹ Mott insulator Sr₂VO₄

Journal of Physics: Conference Series **200**, 012219 (2010).

Group(s): Giannini, van der Marel / Project(s): 4

J. TEYSSIER, R. VIENNOIS, V. GURITANU, E. GIANNINI, AND D. VAN DER MAREL
Kondo effect and quantum critical point in Mn_(1-x)Co_xSi

Journal of Physics: Conference Series **200**, 032076 (2010).

Group(s): Giannini, van der Marel / Project(s): 5

R. VIENNOIS, E. GIANNINI, D. VAN DER MAREL, AND R. ČERNÝ

Effect of Fe excess on Structural, Magnetic and Superconducting Properties of Single-Crystalline Fe_{1+x}Te_{1-y}Se_y

Journal of Solid State Chemistry (2010), doi:10.1016/j.jssc.2010.01.024.

Group(s): Giannini, van der Marel / Project(s): 4

R. VIENNOIS, E. GIANNINI, D. VAN DER MAREL, AND R. ČERNÝ

- Phase diagram of single-crystalline tetragonal iron chalcogenides*
 Physica C (2010), doi:10.1016/j.physc.2009.11.126.
 Group(s): Giannini, van der Marel / Project(s): 4
- I. PALLECCHI, G. LAMURA, M. TROPEANO, M. PUTTI, R. VIENNOIS, E. GIANNINI, AND D. VAN DER MAREL
Seebeck effect in $Fe_{1+x}Te_{1-y}Se_y$ single crystals
 Physical Review B **80**, 214511 (2009).
 Group(s): Giannini, van der Marel / Project(s): 4
- H. J. A. MOLEGRAAF, J. HOFFMAN, C. A. F. VAZ, S. GARIGLIO, D. VAN DER MAREL, C. H. AHN, AND J. M. TRISCONE
Magnetoelectric Effects in Complex Oxides with Competing Ground States
 Advanced Materials **21**, 3470 (2009).
 Group(s): Triscone (JM), van der Marel / Project(s): 1
- E. VAN HEUMEN, A. B. KUZMENKO, AND D. VAN DER MAREL
Optics clues to pairing glues in high T_c cuprates
 Journal of Physics: Conference Series **150**, 052278 (2009).
 Group(s): van der Marel / Project(s): 4
- W. MEEVASANA, X. J. ZHOU, B. MORITZ, C.-C. CHEN, R. H. HE, S.-I. FUJIMORI, D. H. LU, S.-K. MO, R. G. MOORE, F. BAUMBERGER, T. P. DEVEREAUX, D. VAN DER MAREL, N. NAGAOSA, J. ZAAENEN, AND Z.-X. SHEN
Strong energy-momentum dispersion of phonon-dressed carriers in the lightly doped band insulator $SrTiO_3$
 New Journal of Physics **12**, 023004 (2010).
 Group(s): van der Marel / Project(s): 4
- J. N. HANCOCK, G. CHABOT-COUTURE, AND M. GREVEN
Lattice coupling and Franck-Condon effects in K -edge resonant inelastic x -ray scattering
 New Journal of Physics **12**, 033001 (2010).
 Group(s): van der Marel / Project(s): 5
- E. VAN HEUMEN, W. MEEVASANA, A. B. KUZMENKO, H. EISAKI, AND D. VAN DER MAREL
Doping-dependent optical properties of $Bi2201$
 New Journal of Physics **11**, 055067 (2009).
 Group(s): van der Marel / Project(s): 4
- ▶ A. B. KUZMENKO, E. VAN HEUMEN, D. VAN DER MAREL, P. LERCH, P. BLAKE, K. S. NOVOSELOV, AND A. K. GEIM
Infrared spectroscopy of electronic bands in bilayer graphene
 Physical Review B **79**, 115441 (2009).
 Group(s): van der Marel / Project(s): 2
- ▶ A. B. KUZMENKO, I. CRASSEE, D. VAN DER MAREL, P. BLAKE, AND K. S. NOVOSELOV
Determination of the gate-tunable band gap and tight-binding parameters in bilayer graphene using infrared spectroscopy
 Physical Review B **80**, 165406 (2009).
 Group(s): van der Marel / Project(s): 2
- E. VAN HEUMEN, E. MUHLEHALER, A. B. KUZMENKO, H. EISAKI, W. MEEVASANA, M. GREVEN, AND D. VAN DER MAREL
Optical determination of the relation between the electron-boson coupling function and the critical temperature in high- T_c cuprates
 Physical Review B **79**, 184512 (2009).
 Group(s): van der Marel / Project(s): 4
- ▶ R. TEDIOSI, F. CARBONE, A. B. KUZMENKO, J. TEYSSIER, D. VAN DER MAREL, AND J. A. MYDOSH
Evidence for strongly coupled charge-density-wave ordering in three-dimensional $R_5Ir_4Si_{10}$ compounds from optical measurements
 Physical Review B **80**, 035107 (2009).
 Group(s): van der Marel / Project(s): 5
- ▶ A. B. KUZMENKO, L. BENFATTO, E. CAPPELLUTI, I. CRASSEE, D. VAN DER MAREL, P. BLAKE, K. S. NOVOSELOV, AND A. K. GEIM
Gate Tunable Infrared Phonon Anomalies in Bilayer Graphene
 Physical Review Letters **103**, 116804 (2009).
 Group(s): van der Marel / Project(s): 2
- J. T. DEVREESE, S. N. KLIMIN, J. L. M. VAN MECHELEN, AND D. VAN DER MAREL
Many-body large polaron optical conductivity in $SrTi_{1-x}Nb_xO_3$
 Physical Review B **81**, 125119 (2010).
 Group(s): van der Marel / Project(s): 4
- Group of J. Mesot**
- ▶ A. SACCHETTI, C. L. CONDRON, S. N. GVASALIYA, F. PFUNER, M. LAVAGNINI, M. BALDINI, M. F. TONEY, M. MERLINI, M. HANFLAND, J. MESOT, J.-H. CHU, I. R. FISHER, P. POSTORINO, AND L. DEGIORGI
Pressure-induced quenching of the charge-density-wave state in rare-earth tritellurides observed by x -ray diffraction
 Physical Review B **79**, 201101(R) (2009).
 Group(s): Degiorgi, Mesot / Project(s): 7
- M. MEDARDE, C. DALLERA, M. GRIONI, B. DELLEY, F. VERNAY, J. MESOT, M. SIKORA,

J. A. ALONSO, AND M. J. MARTÍNEZ-LOPE
Charge disproportionation in RNiO₃ perovskites (R = rare earth) from high-resolution x-ray absorption spectroscopy

Physical Review B **80**, 245105 (2009).

Group(s): Grioni, Mesot / Project(s): 7

- ▶ T. KONDO, R. KHASANOV, Y. SASSA, A. BENDOUNAN, S. PAILHES, J. CHANG, J. MESOT, H. KELLER, N. D. ZHIGADLO, M. SHI, Z. BUKOWSKI, J. KARPINSKI, AND A. KAMINSKI

Anomalous asymmetry in the Fermi surface of the high-temperature superconductor YBa₂Cu₄O₈ revealed by angle-resolved photoemission spectroscopy

Physical Review B **80**, 100505 (2009).

Group(s): Karpinski, Keller, Mesot / Project(s): 4

- ▶ M. SHI, A. BENDOUNAN, E. RAZZOLI, S. ROSENKRANZ, M. R. NORMAN, J. C. CAMPUZANO, J. CHANG, M. MÅNSSON, Y. SASSA, T. CLAESSION, O. TJERNBERG, L. PATTHEY, N. MOMONO, M. ODA, M. IDO, S. GUERRERO, C. MUDRY, AND J. MESOT

Spectroscopic evidence for preformed Cooper pairs in the pseudogap phase of cuprates

Europhysics Letters **88**, 27008 (2009).

Group(s): Mesot / Project(s): 4

- ▶ U. CHATTERJEE, M. SHI, D. AI, J. ZHAO, A. KANIGEL, S. ROSENKRANZ, H. RAFFY, Z. Z. LI, K. KADOWAKI, D. G. HINKS, Z. J. XU, J. S. WEN, G. GU, C. T. LIN, H. CLAUS, M. R. NORMAN, M. RANDEIRA, AND J. C. CAMPUZANO

Observation of a d-wave nodal liquid in highly underdoped Bi₂Sr₂CaCu₂O_{8-δ}

Nature Physics **6**, 99 (2010).

Group(s): Mesot / Project(s): 4

T. CLAESSION, M. MÅNSSON, A. ÖNSTEN, M. SHI, Y. SASSA, S. PAILHÉS, J. CHANG, A. BENDOUNAN, L. PATTHEY, J. MESOT, T. MURO, T. MATSUSHITA, T. KINOSHITA, T. NAKAMURA, N. MOMONO, M. ODA, M. IDO, AND O. TJERNBERG

Electronic structure of La_{1.48}Nd_{0.4}Sr_{0.12}CuO₄ probed by high- and low-energy angle-resolved photoelectron spectroscopy

Physical Review B **80**, 094503 (2009).

Group(s): Mesot / Project(s): 4

- ▶ D. HAUG, V. HINKOV, A. SUCHANECK, D. S. INOSOV, N. B. CHRISTENSEN, C. NIEDERMAYER, P. BOURGES, Y. SIDIS, J. T. PARK, A. IVANOV, C. T. LIN, J. MESOT, AND B. KEIMER

Magnetic-Field-Enhanced Incommensurate Magnetic Order in the Underdoped High-Temperature Superconductor YBa₂Cu₃O_{6.45}

Physical Review Letters **103**, 017001 (2009).

Group(s): Mesot, Niedermayer / Project(s): 4

- ▶ J. CHANG, N. B. CHRISTENSEN, C. NIEDERMAYER, K. LEFMANN, H. M. RØNNOW, D. F. MCMORROW, A. SCHNEIDEWIND, P. LINK, A. HIESS, M. BOEHM, R. MOTTI, S. PAILHÉS, N. MOMONO, M. ODA, M. IDO, AND J. MESOT

Magnetic-Field-Induced Soft-Mode Quantum Phase Transition in the High-Temperature Superconductor La_{1.855}Sr_{0.145}CuO₄: An Inelastic Neutron-Scattering Study

Physical Review Letters **102**, 177006 (2009).

Group(s): Mesot, Niedermayer, Rønnow / Project(s): 4, 6

- ▶ J. SCHLAPPA, T. SCHMITT, F. VERNAY, V. N. STROCOV, V. ILAKOVAC, B. THIELEMANN, H. M. RØNNOW, S. VANISHRI, A. PIAZZALUNGA, X. WANG, L. BRAICOVICH, G. GHIRINGHELLI, C. MARIN, J. MESOT, B. DELLEY, AND L. PATTHEY

Collective Magnetic Excitations in the Spin Ladder Sr₁₄Cu₂₄O₄₁ Measured Using High-Resolution Resonant Inelastic X-Ray Scattering

Physical Review Letters **103**, 047401 (2009).

Group(s): Mesot, Rønnow / Project(s): 6

- ▶ B. THIELEMANN, C. RÜEGG, H. M. RØNNOW, A. M. LÄUCHLI, J.-S. CAUX, B. NORMAND, D. BINER, K. W. KRÄMER, H.-U. GÜDEL, J. STAHN, K. HABICHT, K. KIEFER, M. BOEHM, D. F. MCMORROW, AND J. MESOT

Direct Observation of Magnon Fractionalization in the Quantum Spin Ladder

Physical Review Letters **102**, 107204 (2009).

Group(s): Mesot, Rønnow / Project(s): 6

Group of F. Mila

V. LANTE, I. ROUSOCHATZAKIS, K. PENC, O. WALDMANN, AND F. MILA

Spin-Peierls instabilities of antiferromagnetic rings in a magnetic field

Physical Review B **79**, 180412(R) (2009).

Group(s): Mila / Project(s): 6

- ▶ I. ROUSOCHATZAKIS, S. R. MANMANA, A. M. LÄUCHLI, B. NORMAND, AND F. MILA
- Dzyaloshinskii-Moriya anisotropy and non-magnetic impurities in the $s = \frac{1}{2}$ kagome system ZnCu₃(OH)₆Cl₂*

Physical Review B **79**, 214415 (2009).

Group(s): Mila / Project(s): 6

- S. CAPPONI, D. POILBLANC, AND F. MILA
Theory of the Raman spectra of the Shastry-Sutherland antiferromagnet $\text{SrCu}_2(\text{BO}_3)_2$ doped with nonmagnetic impurities
Physical Review B **80**, 094407 (2009).
Group(s): Mila / Project(s): 6
- F. MICHAUD, T. COLETTA, S. R. MANMANA, J.-D. PICON, AND F. MILA
Frustration-induced plateaus in $S \geq \frac{1}{2}$ Heisenberg spin ladders
Physical Review B **81**, 014407 (2010).
Group(s): Mila / Project(s): 6
- N. LAFLORENCIE AND F. MILA
Theory of the Field-Induced BEC in the Frustrated Spin- $\frac{1}{2}$ Dimer Compound $\text{BaCuSi}_2\text{O}_6$
Physical Review Letters **102**, 060602 (2009).
Group(s): Mila / Project(s): 6
- Group of E. Morenzoni**
- B. M. WOJEK, E. MORENZONI, D. G. ESHCHENKO, A. SUTER, T. PROKSCHA, E. KOLLER, E. TREBOUX, O. FISCHER, AND H. KELLER
Magnetism and superconductivity in cuprate heterostructures studied by low energy μSR
Physica B **404**, 720 (2009).
Group(s): Fischer, Keller, Morenzoni / Project(s): 1, 4
- E. MORENZONI
A (closer) look below surfaces and at heterostructures with polarized muons
Physica B **404**, 577 (2009).
Group(s): Morenzoni / Project(s): 1
- D. G. ESHCHENKO, V. G. STORCHAK, E. MORENZONI, T. PROKSCHA, A. SUTER, X. LIU, AND J. K. FURDYNA
Low energy μSR studies of semiconductor interfaces
Physica B **404**, 873 (2009).
Group(s): Morenzoni / Project(s): 1
- V. G. STORCHAK, O. E. PARFENOV, J. H. BREWER, P. L. RUSSO, S. L. STUBBS, R. L. LICHTI, D. G. ESHCHENKO, E. MORENZONI, S. P. COTTRELL, J. S. LORD, T. G. AMINOV, V. P. ZLOMANOV, A. A. VINOKUROV, R. L. KALLAHER, AND S. VON MOLNÁR
Electron localization into magnetic polaron in EuS
Physica B **404**, 896 (2009).
Group(s): Morenzoni / Project(s): 1
- V. G. STORCHAK, O. E. PARFENOV, J. H. BREWER, P. L. RUSSO, S. L. STUBBS, R. L. LICHTI, D. G. ESHCHENKO, E. MORENZONI, V. P. ZLOMANOV, A. A. VINOKUROV, AND V. G. BAMBUIROV
Novel muonium centers—magnetic polarons—in magnetic semiconductors
Physica B **404**, 899 (2009).
Group(s): Morenzoni / Project(s): 1
- D. G. ESHCHENKO, V. G. STORCHAK, E. MORENZONI, AND D. ANDREICA
High-pressure muon spin rotation studies of magnetic semiconductors: EuS
Physica B **404**, 903 (2009).
Group(s): Morenzoni / Project(s): 1
- V. G. STORCHAK, J. H. BREWER, D. J. ARSENEAU, S. L. STUBBS, O. E. PARFENOV, D. G. ESHCHENKO, E. MORENZONI, AND T. G. AMINOV
Magnetic polaron bound to the positive muon in SmS: Exchange-driven formation of a mixed-valence state
Physical Review B **79**, 193205 (2009).
Group(s): Morenzoni / Project(s): 1
- M. SHAY, A. KEREN, G. KOREN, A. KANIGEL, O. SHAFIR, L. MARCIPAR, G. NIEUWENHUIS, E. MORENZONI, A. SUTER, T. PROKSCHA, M. DUBMAN, AND D. PODOLSKY
Interaction between the magnetic and superconducting order parameters in a $\text{La}_{1.94}\text{Sr}_{0.06}\text{CuO}_4$ wire studied via muon spin rotation
Physical Review B **80**, 144511 (2009).
Group(s): Morenzoni / Project(s): 1
- V. G. STORCHAK, O. E. PARFENOV, J. H. BREWER, P. L. RUSSO, S. L. STUBBS, R. L. LICHTI, D. G. ESHCHENKO, E. MORENZONI, T. G. AMINOV, V. P. ZLOMANOV, A. A. VINOKUROV, R. L. KALLAHER, AND S. VON MOLNÁR
Direct observation of the magnetic polaron
Physical Review B **80**, 235203 (2009).
Group(s): Morenzoni / Project(s): 1
- D. G. ESHCHENKO, V. G. STORCHAK, S. P. COTTRELL, AND E. MORENZONI
Electric-Field-Enhanced Neutralization of Deep Centers in GaAs
Physical Review Letters **103**, 216601 (2009).
Group(s): Morenzoni / Project(s): 1
- Group of A. Morpurgo**
- T. KAJI, T. TAKENOBU, A. F. MORPURGO, AND Y. IWASA
Organic Single-Crystal Schottky Gate Transistors

- Advanced Materials **21**, 3689 (2009).
Group(s): Morpurgo / Project(s): 2
- S. RUSSO, M. F. CRACIUN, M. YAMAMOTO, S. TARUCHA, AND A. F. MORPURGO
Double-gated graphene-based devices
New Journal of Physics **11**, 095018 (2009).
Group(s): Morpurgo / Project(s): 2
- ▶ H. XIE, H. ALVES, AND A. F. MORPURGO
Quantitative analysis of density-dependent transport in tetramethyltetraselenafulvalene single-crystal transistors: Intrinsic properties and trapping
Physical Review B **80**, 245305 (2009).
Group(s): Morpurgo / Project(s): 2
- X. LIU, J. B. OOSTINGA, A. F. MORPURGO, AND L. M. K. VANDERSYPEN
Electrostatic confinement of electrons in graphene nanoribbons
Physical Review B **80**, 121407 (2009).
Group(s): Morpurgo / Project(s): 2
- ▶ I. GUTIÉRREZ LEZAMA AND A. F. MORPURGO
Threshold Voltage and Space Charge in Organic Transistors
Physical Review Letters **103**, 066803 (2009).
Group(s): Morpurgo / Project(s): 2
- R. DANNEAU, F. WU, M. F. CRACIUN, S. RUSSO, M. Y. TOMI, J. SALMILEHTO, A. F. MORPURGO, AND P. J. HAKONEN
Shot noise measurements in graphene
Solid State Communications **149**, 1050 (2009).
Group(s): Morpurgo / Project(s): 2
- ▶ M. F. CRACIUN, S. RUSSO, M. YAMAMOTO, J. B. OOSTINGA, A. F. MORPURGO, AND S. TARUCHA
Trilayer graphene is a semimetal with a gate-tunable band overlap
Nature Nanotechnology **4**, 383 (2009).
Group(s): Morpurgo / Project(s): 2
- Group of Ch. Niedermayer**
- ▶ J. HOPPLER, J. STAHN, C. NIEDERMAYER, V. K. MALIK, H. BOUYANFIF, A. J. DREW, M. RÖSSLE, A. BUZDIN, G. CRISTIANI, H.-U. HABERMEIER, B. KEIMER, AND C. BERNHARD
Giant superconductivity-induced modulation of the ferromagnetic magnetization in a cuprate-manganite superlattice
Nature Materials **8**, 315 (2009).
Group(s): Bernhard, Niedermayer / Project(s): 1
- ▶ A. J. DREW, C. NIEDERMAYER, P. J. BAKER, F. L. PRATT, S. J. BLUNDELL, T. LANCASTER, R. H. LIU, G. WU, X. H. CHEN, I. WATANABE, V. K. MALIK, A. DUBROKA, M. RÖSSLE, K. W. KIM, C. BAINES, AND C. BERNHARD
Coexistence of static magnetism and superconductivity in $\text{SmFeAsO}_{1-x}\text{F}_x$ as revealed by muon spin rotation
Nature Materials **8**, 310 (2009).
Group(s): Bernhard, Niedermayer / Project(s): 4
- C. BERNHARD, A. J. DREW, L. SCHULZ, V. K. MALIK, M. RÖSSLE, C. NIEDERMAYER, T. WOLF, G. D. VARMA, G. MU, H.-H. WEN, G. WU, AND X. H. CHEN
Muon spin rotation study of magnetism and superconductivity in $\text{BaFe}_{2-x}\text{Co}_x\text{As}_2$ and $\text{Pr}_{1-x}\text{Sr}_x\text{FeAsO}$
New Journal of Physics **11**, 055050 (2009).
Group(s): Bernhard, Niedermayer / Project(s): 4
- J. STAHN, C. NIEDERMAYER, J. HOPPLER, AND C. BERNHARD
PNR studies of proximity and coupling effects in $\text{YBa}_2\text{Cu}_3\text{O}_7/\text{La}_{2/3}\text{Ca}_{1/3}\text{MnO}_3$ superlattices
Neutron News **20**, 13 (2009).
Group(s): Bernhard, Niedermayer / Project(s): 1
- ▶ D. HAUG, V. HINKOV, A. SUCHANECK, D. S. INOSOV, N. B. CHRISTENSEN, C. NIEDERMAYER, P. BOURGES, Y. SIDIS, J. T. PARK, A. IVANOV, C. T. LIN, J. MESOT, AND B. KEIMER
Magnetic-Field-Enhanced Incommensurate Magnetic Order in the Underdoped High-Temperature Superconductor $\text{YBa}_2\text{Cu}_3\text{O}_{6.45}$
Physical Review Letters **103**, 017001 (2009).
Group(s): Mesot, Niedermayer / Project(s): 4
- ▶ J. CHANG, N. B. CHRISTENSEN, C. NIEDERMAYER, K. LEFMANN, H. M. RÖNNOW, D. F. MCMORROW, A. SCHNEIDEWIND, P. LINK, A. HIESS, M. BOEHM, R. MOTTL, S. PAILHÉS, N. MOMONO, M. ODA, M. IDO, AND J. MESOT
Magnetic-Field-Induced Soft-Mode Quantum Phase Transition in the High-Temperature Superconductor $\text{La}_{1.855}\text{Sr}_{0.145}\text{CuO}_4$: An Inelastic Neutron-Scattering Study
Physical Review Letters **102**, 177006 (2009).
Group(s): Mesot, Niedermayer, Rønnow / Project(s): 4, 6
- L. UDBY, N. H. ANDERSEN, F. C. CHOU, N. B. CHRISTENSEN, S. B. EMERY, K. LEFMANN, J. W. LYNN, H. E. MOHOTTALA, C. NIEDERMAYER, AND B. O. WELLS
Magnetic ordering in electronically phase-separated $\text{La}_{2-x}\text{Sr}_x\text{CuO}_{4+y}$: Neutron diffraction experiments
Physical Review B **80**, 014505 (2009).
Group(s): Niedermayer / Project(s): 4

D. S. INOSOV, A. LEINWEBER, X. YANG, J. T. PARK, N. B. CHRISTENSEN, R. DINNEBIER, G. L. SUN, C. NIEDERMAYER, D. HAUG, P. W. STEPHENS, J. STAHN, O. KHVOSTIKOVA, C. T. LIN, O. K. ANDERSEN, B. KEIMER, AND V. HINKOV

Suppression of the structural phase transition and lattice softening in slightly underdoped $Ba_{1-x}K_xFe_2As_2$ with electronic phase separation

Physical Review B **79**, 224503 (2009).

Group(s): Niedermayer / Project(s): 4

- ▶ R. KHASANOV, D. V. EVTUSHINSKY, A. AMATO, H.-H. KLAUSS, H. LUETKENS, C. NIEDERMAYER, B. BÜCHNER, G. L. SUN, C. T. LIN, J. T. PARK, D. S. INOSOV, AND V. HINKOV

Two-Gap Superconductivity in $Ba_{1-x}K_xFe_2As_2$: A Complementary Study of the Magnetic Penetration Depth by Muon-Spin Rotation and Angle-Resolved Photoemission

Physical Review Letters **102**, 187005 (2009).

Group(s): Niedermayer / Project(s): 4

- ▶ J. T. PARK, D. S. INOSOV, C. NIEDERMAYER, G. L. SUN, D. HAUG, N. B. CHRISTENSEN, R. DINNEBIER, A. V. BORIS, A. J. DREW, L. SCHULZ, T. SHAPOVAL, U. WOLFF, V. NEU, X. YANG, C. T. LIN, B. KEIMER, AND V. HINKOV

Electronic Phase Separation in the Slightly Underdoped Iron Pnictide Superconductor $Ba_{1-x}K_xFe_2As_2$

Physical Review Letters **102**, 117006 (2009).

Group(s): Niedermayer / Project(s): 4

Group of H.-R. Ott

Z. FISK, H.-R. OTT, AND J. D. THOMPSON
Superconducting materials: What the record tells us

Philosophical Magazine **89**, 2111 (2009).

Group(s): Ott / Project(s): 6

Group of P. Paruch

- ▶ N. DIX, R. MURALIDHARAN, J. GUYONNET, B. WAROT-FONROSE, M. VARELA, P. PARUCH, F. SÁNCHEZ, AND J. FONTCUBERTA
On the strain coupling across vertical interfaces of switchable $BiFeO_3$ - $CoFe_2O_4$ multiferroic nanostructures

Applied Physics Letters **95**, 062907 (2009).

Group(s): Paruch / Project(s): 1

H. BÉA AND P. PARUCH
Multiferroics: A way forward along domain walls

Nature Materials **8**, 168 (2009).

Group(s): Paruch / Project(s): 1

- ▶ J. GUYONNET, H. BÉA, AND P. PARUCH
Lateral piezoelectric response across ferroelectric domain walls in thin films to be published in Journal of Applied Physics (2010).

Group(s): Paruch / Project(s): 1

- ▶ J. GUYONNET, H. BÉA, F. GUY, S. GARIGLIO, S. FUSIL, K. BOUZEHOANE, J.-M. TRISCONE, AND P. PARUCH

Shear effects in lateral piezoresponse force microscopy at 180° ferroelectric domain walls

Applied Physics Letters **95**, 132902 (2009).

Group(s): Paruch, Triscone (JM) / Project(s): 1

Group of G. Patzke

B. SIPOS, M. DUCHAMP, A. MAGREZ, L. FORRÓ, N. BARIŠIĆ, A. KIS, J. W. SEO, F. BIERI, F. KRUMEICH, R. NESPER, AND G. R. PATZKE

Mechanical and electronic properties of vanadium oxide nanotubes

Journal of Applied Physics **105**, 074317 (2009).

Group(s): Forró, Patzke / Project(s): 7, 3

- ▶ Y. ZHOU, K. VUILLE, A. HEEL, AND G. R. PATZKE

Studies on Nanostructured Bi_2WO_6 : Convenient Hydrothermal and TiO_2 -Coating Pathways

Zeitschrift für Anorganische und Allgemeine Chemie **635**, 1848 (2009).

Group(s): Patzke / Project(s): 3

Y. ZHOU, K. VUILLE, A. HEEL, B. PROBST, R. KONTIC, AND G. R. PATZKE

An inorganic hydrothermal route to photocatalytically active bismuth vanadate

Applied Catalysis A **375**, 140 (2010).

Group(s): Patzke / Project(s): 3

- ▶ Y. ZHOU, N. PIENACK, W. BENSCH, AND G. R. PATZKE

The Interplay of Crystallization Kinetics and Morphology in Nanostructured W/Mo Oxide Formation: An in situ Diffraction Study

Small **5**, 1978 (2009).

Group(s): Patzke / Project(s): 3

Group of Ch. Renner

J. H. G. OWEN
Competing interactions in molecular adsorption: NH_3 on $Si(001)$

Journal of Physics: Condensed Matter **21**, 443001 (2009).

Group(s): Renner / Project(s): 7

J. H. G. OWEN AND D. R. BOWLER

The origin of inter-dimer-row correlated adsorption for NH₃ on Si(001)

Surface Science **603**, 2902 (2009).

Group(s): Renner / Project(s): 7

Group of T. M. Rice

K. Y. YANG, H. B. YANG, P. D. JOHNSON, T. M. RICE, AND F. C. ZHANG

Quasiparticles in the pseudogap phase of underdoped cuprate

Europhysics Letters **86**, 37002 (2009).

Group(s): Rice, Sigrist / Project(s): 4

K. Y. YANG, W. Q. CHEN, T. M. RICE, M. SIGRIST, AND F. C. ZHANG

Nature of stripes in the generalized $t - J$ model applied to the cuprate superconductors

New Journal of Physics **11**, 055053 (2009).

Group(s): Rice, Sigrist / Project(s): 4, 5

▶ K. Y. YANG, W. Q. CHEN, T. M. RICE, AND F. C. ZHANG

Origin of the checkerboard pattern in scanning tunneling microscopy maps of underdoped cuprate superconductors

Physical Review B **80**, 174505 (2009).

Group(s): Rice, Sigrist / Project(s): 4

Group of N. de Rooij

D. ISARAKORN, A. SAMBRI, P. JANPHUANG, D. BRIAND, S. GARIGLIO, J.-M. TRISCONE, F. GUY, J. W. REINER, C. H. AHN, AND N. F. DE ROOIJ

Epitaxial piezoelectric MEMS on silicon

to be published in Journal of Micromechanics and Microengineering (2010).

Group(s): de Rooij, Triscone (JM) / Project(s): 1

Group of H. M. Rønnow

M. LE TACON, T. R. FORREST, C. RÜEGG, A. BOSAK, A. C. WALTERS, R. MITTAL, H. M. RØNNOW, N. D. ZHIGADLO, S. KATRYCH, J. KARPINSKI, J. P. HILL, M. KRISCH, AND D. F. MCMORROW

Inelastic x-ray scattering study of superconducting SmFeAsO_{1-x}F_y single crystals: Evidence for strong momentum-dependent doping-induced renormalizations of optical phonons

Physical Review B **80**, 220504 (2009).

Group(s): Karpinski, Rønnow / Project(s): 4, 6

▶ J. CHANG, N. B. CHRISTENSEN, C. NIEDERMAYER, K. LEFMAN, H. M. RØNNOW, D. F. MCMORROW, A. SCHNEIDEWIND, P. LINK, A. HIESS, M. BOEHM, R. MOTTL, S. PAILHÉS, N. MOMONO, M. ODA, M. IDO, AND J. MESOT

Magnetic-Field-Induced Soft-Mode Quantum Phase Transition in the High-Temperature Superconductor La_{1.855}Sr_{0.145}CuO₄: An Inelastic Neutron-Scattering Study

Physical Review Letters **102**, 177006 (2009).

Group(s): Mesot, Niedermayer, Rønnow / Project(s): 4, 6

▶ J. SCHLAPPA, T. SCHMITT, F. VERNAY, V. N. STROCOV, V. ILAKOVAC, B. THIELEMANN, H. M. RØNNOW, S. VANISHRI, A. PIAZZALUNGA, X. WANG, L. BRAICOVICH, G. GHIRINGHELLI, C. MARIN, J. MESOT, B. DELLEY, AND L. PATTHEY

Collective Magnetic Excitations in the Spin Ladder Sr₁₄Cu₂₄O₄₁ Measured Using High-Resolution Resonant Inelastic X-Ray Scattering

Physical Review Letters **103**, 047401 (2009).

Group(s): Mesot, Rønnow / Project(s): 6

▶ B. THIELEMANN, C. RÜEGG, H. M. RØNNOW, A. M. LÄUCHLI, J.-S. CAUX, B. NORMAND, D. BINER, K. W. KRÄMER, H.-U. GÜDEL, J. STAHN, K. HABICHT, K. KIEFER, M. BOEHM, D. F. MCMORROW, AND J. MESOT

Direct Observation of Magnon Fractionalization in the Quantum Spin Ladder

Physical Review Letters **102**, 107204 (2009).

Group(s): Mesot, Rønnow / Project(s): 6

Group of M. Sigrist

K. Y. YANG, H. B. YANG, P. D. JOHNSON, T. M. RICE, AND F. C. ZHANG

Quasiparticles in the pseudogap phase of underdoped cuprate

Europhysics Letters **86**, 37002 (2009).

Group(s): Rice, Sigrist / Project(s): 4

K. Y. YANG, W. Q. CHEN, T. M. RICE, M. SIGRIST, AND F. C. ZHANG

Nature of stripes in the generalized $t - J$ model applied to the cuprate superconductors

New Journal of Physics **11**, 055053 (2009).

Group(s): Rice, Sigrist / Project(s): 4, 5

▶ K. Y. YANG, W. Q. CHEN, T. M. RICE, AND F. C. ZHANG

Origin of the checkerboard pattern in scanning tunneling microscopy maps of underdoped cuprate superconductors

Physical Review B **80**, 174505 (2009).

Group(s): Rice, Sigrist / Project(s): 4

- P. M. R. BRYDON, C. INIOTAKIS, D. MANSKE, AND M. SIGRIST
Consequences of Broken Time-Reversal Symmetry in Triplet Josephson Junctions
Journal of Physics: Conference Series **150**, 052026 (2009).
Group(s): Sigris / Project(s): 4
- Y. YANASE AND M. SIGRIST
Antiferromagnetic order in the FFLO state
Journal of Physics: Conference Series **150**, 052287 (2009).
Group(s): Sigris / Project(s): 5
- ▶ Y. YANASE AND M. SIGRIST
Antiferromagnetic Order and π -triplet Pairing in the Fulde-Ferrel-Larkin-Ovchinnikov State
Journal of the Physical Society of Japan **78**, 114715 (2009).
Group(s): Sigris / Project(s): 5
- K. WAKABAYASHI, Y. TAKANE, M. YAMAMOTO, AND M. SIGRIST
Electronic transport properties of graphene nanoribbons
New Journal of Physics **11**, 095016 (2009).
Group(s): Sigris / Project(s): 2
- C. F. MICLEA, A. C. MOTA, M. SIGRIST, F. STEGLICH, T. A. SAYLES, B. J. TAYLOR, C. A. MCÉLROY, AND M. B. MAPLE
Vortex avalanches in the noncentrosymmetric superconductor $\text{Li}_2\text{Pt}_3\text{B}$
Physical Review B **80**, 132502 (2009).
Group(s): Sigris / Project(s): 5
- H. ADACHI AND M. SIGRIST
Probing the $d_{x^2-y^2}$ -wave Pomeranchuk instability by ultrasound
Physical Review B **80**, 155123 (2009).
Group(s): Sigris / Project(s): 5
- C. F. MICLEA, A. C. MOTA, M. NICKLAS, R. CARDOSO, F. STEGLICH, M. SIGRIST, A. PROKOFIEV, AND E. BAUER
Extreme vortex pinning in the noncentrosymmetric superconductor CePt_3Si
Physical Review B **81**, 014527 (2010).
Group(s): Sigris / Project(s): 5
- ▶ M. H. FISCHER AND M. SIGRIST
Effect of a staggered spin-orbit coupling on the occurrence of a nematic phase in $\text{Sr}_3\text{Ru}_2\text{O}_7$
Physical Review B **81**, 064435 (2010).
Group(s): Sigris / Project(s): 5
- ▶ D. F. AGTERBERG, M. SIGRIST, AND H. TSUNETSUGU
Order Parameter and Vortices in the Superconducting Q Phase of CeCoIn_5
Physical Review Letters **102**, 207004 (2009).
Group(s): Sigris / Project(s): 5
- A. RÜEGG AND M. SIGRIST
Role of Multiple Subband Renormalization in the Electronic Transport of Correlated Oxide Superlattices
in *Properties and Applications of Thermoelectric Materials - The Search for New Materials for Thermoelectric Devices*, V. ZLATIC AND A. C. HEWSON, eds. (Springer, Dordrecht, 2009), NATO Science for Peace and Security Series B: Physics and Biophysics, p. 181.
Group(s): Sigris / Project(s): 1
- Group of U. Staub**
- ▶ U. STAUB, Y. BODENTHIN, C. PIAMONTEZE, M. GARCÍA-FERNÁNDEZ, V. SCAGNOLI, M. GARGANOURAKIS, S. KOOHPAYEH, D. FORT, AND S. W. LOVESEY
Parity- and time-odd atomic multipoles in magnetoelectric GaFeO_3 as seen via soft x-ray Bragg diffraction
Physical Review B **80**, 140410 (2009).
Group(s): Staub / Project(s): 6
- ▶ U. STAUB, M. GARCÍA-FERNÁNDEZ, Y. BODENTHIN, V. SCAGNOLI, R. A. DE SOUZA, M. GARGANOURAKIS, E. POMJAKUSHINA, AND K. CONDER
Orbital and magnetic ordering in $\text{Pr}_{1-x}\text{Ca}_x\text{MnO}_3$ and $\text{Nd}_{1-x}\text{Sr}_x\text{MnO}_3$ manganites near half doping studied by resonant soft x-ray powder diffraction
Physical Review B **79**, 224419 (2009).
Group(s): Staub / Project(s): 6
- ▶ M. GARCÍA-FERNÁNDEZ, U. STAUB, Y. BODENTHIN, V. SCAGNOLI, V. POMJAKUSHIN, S. W. LOVESEY, A. MIRONE, J. HERREROMARTÍN, C. PIAMONTEZE, AND E. POMJAKUSHINA
Orbital Order at Mn and O Sites and Absence of Zener Polaron Formation in Manganites
Physical Review Letters **103**, 097205 (2009).
Group(s): Staub / Project(s): 6
- ▶ A. M. MULDER, S. M. LAWRENCE, U. STAUB, M. GARCÍA-FERNÁNDEZ, V. SCAGNOLI, C. MAZZOLI, E. POMJAKUSHINA, K. CONDER, AND Y. WANG
Direct Observation of Charge Order and an Orbital Glass State in Multiferroic LuFe_2O_4
Physical Review Letters **103**, 077602 (2009).
Group(s): Staub / Project(s): 6

Group of J.-M. Triscone

D. ISARAKORN, A. SAMBRI, P. JANPHUANG, D. BRIAND, S. GARIGLIO, J.-M. TRISCONE, F. GUY, J. W. REINER, C. H. AHN, AND N. F. DE ROOIJ

Epitaxial piezoelectric MEMS on silicon to be published in Journal of Micromechanics and Microengineering (2010).

Group(s): de Rooij, Triscone (JM) / Project(s): 1

- ▶ N. REYREN, S. GARIGLIO, A. D. CAVIGLIA, D. JACCARD, T. SCHNEIDER, AND J.-M. TRISCONE

Anisotropy of the superconducting transport properties of the LaAlO₃/SrTiO₃ interface
Applied Physics Letters **94**, 112506 (2009).

Group(s): Jaccard, Triscone (JM) / Project(s): 1

- ▶ J. GUYONNET, H. BÉA, F. GUY, S. GARIGLIO, S. FUSIL, K. BOUZEHOANE, J.-M. TRISCONE, AND P. PARUCH

Shear effects in lateral piezoresponse force microscopy at 180° ferroelectric domain walls
Applied Physics Letters **95**, 132902 (2009).

Group(s): Paruch, Triscone (JM) / Project(s): 1

- ▶ R. SCHERWITZL, P. ZUBKO, C. LICHTENSTEIGER, AND J.-M. TRISCONE

Electric-field tuning of the metal-insulator transition in ultrathin films of LaNiO₃
Applied Physics Letters **95**, 222114 (2009).

Group(s): Triscone (JM) / Project(s): 1

- ▶ S. GARIGLIO, N. REYREN, A. D. CAVIGLIA, AND J.-M. TRISCONE

Superconductivity at the LaAlO₃/SrTiO₃ interface
Journal of Physics: Condensed Matter **21**, 164213 (2009).

Group(s): Triscone (JM) / Project(s): 1

P. ZUBKO AND J.-M. TRISCONE

Applied physics: A leak of information
Nature **460**, 45 (2009).

Group(s): Triscone (JM) / Project(s): 1

T. SCHNEIDER, A. D. CAVIGLIA, S. GARIGLIO, N. REYREN, AND J.-M. TRISCONE

Electrostatically-tuned superconductor-metal-insulator quantum transition at the LaAlO₃/SrTiO₃ interface
Physical Review B **79**, 184502 (2009).

Group(s): Triscone (JM) / Project(s): 1

I. PALLECCHI, M. CODDA, E. GALLEANI D'AGLIANO, D. MARRÉ, A. D. CAVIGLIA, N. REYREN, S. GARIGLIO, AND J.-M. TRISCONE

Seebeck effect in the conducting LaAlO₃/SrTiO₃ interface

Physical Review B **81**, 085414 (2010).

Group(s): Triscone (JM) / Project(s): 1

- ▶ A. D. CAVIGLIA, M. GABAY, S. GARIGLIO, N. REYREN, C. CANCELLIERI, AND J.-M. TRISCONE

Tunable Rashba spin-orbit interaction at oxide interfaces

Physical Review Letters **104**, 126803 (2010).

Group(s): Triscone (JM) / Project(s): 1

S. GARIGLIO, M. GABAY, AND J.-M. TRISCONE
Oxide Materials: Superconductivity on the other side

Nature Nanotechnology **5**, 13 (2010).

Group(s): Triscone (JM) / Project(s): 1

H. J. A. MOLEGRAAF, J. HOFFMAN, C. A. F. VAZ, S. GARIGLIO, D. VAN DER MAREL, C. H. AHN, AND J. M. TRISCONE

Magnetoelectric Effects in Complex Oxides with Competing Ground States

Advanced Materials **21**, 3470 (2009).

Group(s): Triscone (JM), van der Marel / Project(s): 1

Group of M. Troyer

C. GILS

Ashkin–Teller universality in a quantum double model of Ising anyons

Journal of Statistical Mechanics p. P07019 (2009).

Group(s): Troyer / Project(s): 5

- ▶ B. BAUER, G. VIDAL, AND M. TROYER
Assessing the accuracy of projected entangled-pair states on infinite lattices

Journal of Statistical Mechanics p. P09006 (2009).

Group(s): Troyer / Project(s): 6

B. BAUER, E. GULL, S. TREBST, M. TROYER, AND D. A. HUSE

Optimized broad-histogram simulations for strong first-order phase transitions: droplet transitions in the large-Q Potts model

Journal of Statistical Mechanics p. P01020 (2010).

Group(s): Troyer / Project(s): 8

- ▶ C. GILS, S. TREBST, A. KITAEV, A. W. W. LUDWIG, M. TROYER, AND Z. WANG

Topology-driven quantum phase transitions in time-reversal-invariant anyonic quantum liquids

Nature Physics **5**, 834 (2009).

Group(s): Troyer / Project(s): 5

- S. V. ISAKOV, K. SENGUPTA, AND Y. B. KIM
Bose-Hubbard model on a star lattice
Physical Review B **80**, 214503 (2009).
Group(s): Troyer / Project(s): 6
- B. BAUER, M. TROYER, V. W. SCAROLA, AND K. B. WHALEY
Distinguishing phases with ansatz wave functions
Physical Review B **81**, 085118 (2010).
Group(s): Troyer / Project(s): 5, 6, 8
- V. GURARIE, L. POLLET, N. V. PROKOF'EV, B. V. SVISTUNOV, AND M. TROYER
Phase diagram of the disordered Bose-Hubbard model
Physical Review B **80**, 214519 (2009).
Group(s): Troyer / Project(s): 8
- V. W. SCAROLA, K. B. WHALEY, AND M. TROYER
Thermal canting of spin-bond order
Physical Review B **79**, 085113 (2009).
Group(s): Troyer / Project(s): 6
- A. F. ALBUQUERQUE, H. G. KATZGRABER, AND M. TROYER
ENCORE: An extended contractor renormalization algorithm
Physical Review E **79**, 046712 (2009).
Group(s): Troyer / Project(s): 6
- ▶ L. POLLET, N. V. PROKOF'EV, B. V. SVISTUNOV, AND M. TROYER
Absence of a Direct Superfluid to Mott Insulator Transition in Disordered Bose Systems
Physical Review Letters **103**, 140402 (2009).
Group(s): Troyer / Project(s): 8
- ▶ C. GILS, E. ARDONNE, S. TREBST, A. W. W. LUDWIG, M. TROYER, AND Z. WANG
Collective States of Interacting Anyons, Edge States, and the Nucleation of Topological Liquids
Physical Review Letters **103**, 070401 (2009).
Group(s): Troyer / Project(s): 5
- V. W. SCAROLA, L. POLLET, J. OITMAA, AND M. TROYER
Discerning Incompressible and Compressible Phases of Cold Atoms in Optical Lattices
Physical Review Letters **102**, 135302 (2009).
Group(s): Troyer / Project(s): 8
- ▶ I. V. KUKUSHKIN, J. H. SMET, V. W. SCAROLA, V. UMANSKY, AND K. VON KLITZING
Dispersion of the Excitations of Fractional Quantum Hall States
Science **324**, 1044 (2009).
Group(s): Troyer / Project(s): 5
- V. AMBEGAOKAR AND M. TROYER
Estimating errors reliably in Monte Carlo simulations of the Ehrenfest model
American Journal of Physics **78**, 150 (2010).
Group(s): Troyer / Project(s): 8
- Group of Ph. Willmott**
- ▶ M. SING, G. BERNER, K. GOSS, A. MÜLLER, A. RUFF, A. WETSCHEREK, S. THIEL, J. MANNHART, S. A. PAULI, C. W. SCHNEIDER, P. R. WILLMOTT, M. GORGOI, F. SCHÄFERS, AND R. CLAESSEN
Profiling the Interface Electron Gas of LaAlO₃/SrTiO₃ Heterostructures with Hard X-Ray Photoelectron Spectroscopy
Physical Review Letters **102**, 176805 (2009).
Group(s): Willmott / Project(s): 1
- D. MARTOCCIA, S. A. PAULI, T. BRUGGER, T. GREBER, B. D. PATTERSON, AND P. R. WILLMOTT
h-BN on Rh(111): Persistence of a commensurate 13-on-12 superstructure up to high temperatures
Surface Science **604**, L9 (2010).
Group(s): Willmott / Project(s): 1
- D. MARTOCCIA, T. BRUGGER, M. BJÖRCK, C. M. SCHLEPÜTZ, S. A. PAULI, T. GREBER, B. D. PATTERSON, AND P. R. WILLMOTT
h-BN/Ru(0001) nanomesh: A 14-on-13 superstructure with 3.5 nm periodicity
Surface Science **604**, L16 (2010).
Group(s): Willmott / Project(s): 1
- Group of A. Zheludev**
- ▶ T. HONG, A. ZHELUDEV, H. MANAKA, AND L.-P. REGNAULT
Evidence for a magnetic Bose glass in (CH₃)₂CHNH₃Cu(Cl_{0.95}Br_{0.05})₃ from neutron diffraction
Physical Review B **81**, 060410(R) (2010).
Group(s): Zheludev / Project(s): 6
- T. HONG, R. CUSTELCEAN, B. C. SALES, B. ROESSLI, D. K. SINGH, AND A. ZHELUDEV
Synthesis and structural characterization of 2Dioxane·2H₂O·CuCl₂: Metal-organic compound with Heisenberg antiferromagnetic S = 1/2 chains
Physical Review B **80**, 132404 (2009).
Group(s): Zheludev / Project(s): 6

- ▶ A. ZHELUDEV, V. O. GARLEA, A. TSVELIK, L.-P. REGNAULT, K. HABICHT, K. KIEFER, AND B. ROESSLI
Excitations from a chiral magnetized state of a frustrated quantum spin liquid
Physical Review B **80**, 214413 (2009).
Group(s): Zheludev / Project(s): 6

9.3.2 Scientific articles in journals without peer review

Group of Ph. Aebi

- ▶ C. MONNEY, E. F. SCHWIER, C. BATTAGLIA, M. G. GARNIER, N. MARIOTTI, C. DIDOT, H. BECK, P. AEBI, H. CERCELLIER, J. MARCUS, H. BERGER, AND A. N. TITOV

Temperature dependent photoemission on 1T-TiSe₂: Interpretation within the exciton condensate phase model

arXiv:0911.0327 (2009).

Group(s): Aebi / Project(s): 7

Group of G. Blatter

- A. U. THOMANN, V. B. GESHKENBEIN, AND G. BLATTER

Münchhausen effect: tunneling in an asymmetric SQUID

in *Advances in Theoretical Physics, Landau Memorial Conference*, V. LEBEDEV AND M. FEIGEL'MAN, eds. (American Institute of Physics, New York, 2009), AIP Conference Proceedings Vol. 1134, p. 63.

Group(s): Blatter / Project(s): 5

- F. HASSLER, B. KÜNG, G. B. LESOVIK, AND G. BLATTER

Single-Particle Excitations Generated by Voltage Pulses

in *Advances in Theoretical Physics, Landau Memorial Conference*, V. LEBEDEV AND M. FEIGEL'MAN, eds. (American Institute of Physics, New York, 2009), AIP Conference Proceedings Vol. 1134, p. 113.

Group(s): Blatter / Project(s): 2

- A. RÜEGG, S. D. HUBER, AND M. SIGRIST

A Z₂-slave-spin theory for strongly correlated fermions

arXiv:0912.3801 (2009).

Group(s): Sigrist, Blatter / Project(s): 4, 5, 8

Group of M. Büttiker

- M. BÜTTIKER

Edge-State Physics Without Magnetic Fields

Science **325**, 278 (2009).

Group(s): Büttiker / Project(s): 2

Group of L. Degiorgi

- ▶ M. LAVAGNINI, H.-M. EITER, L. TASSINI, B. MUSCHLER, R. HACKL, R. MONNIER, J.-H. CHU, I. R. FISHER, AND L. DEGIORGI

Raman scattering evidence for a cascade-like evolution of the charge-density-wave collective amplitude mode

arXiv:0909.1289 (2009).

Group(s): Degiorgi / Project(s): 7

Group of T. Esslinger

- ▶ N. STROHMAIER, D. GREIF, R. JÖRDENS, L. TARRUELL, H. MORITZ, T. ESSLINGER, R. SENSARMA, D. PEKKER, E. ALTMAN, AND E. DEMLER

Observation of elastic doublon decay in the Fermi-Hubbard model

arXiv:0905.2963 (2009).

Group(s): Esslinger / Project(s): 8

- ▶ R. JÖRDENS, L. TARRUELL, D. GREIF, T. UEHLINGER, N. STROHMAIER, H. MORITZ, T. ESSLINGER, L. DE LEO, C. KOLLATH, A. GEORGES, V. SCAROLA, L. POLLET, E. BUROVSKI, E. KOZIK, AND M. TROYER

Quantitative Determination of Temperature in the Approach to Magnetic Order of Ultracold Fermions in an Optical Lattice

arXiv:0912.3790 (2009).

Group(s): Esslinger, Troyer / Project(s): 8

Group of L. Forró

- ▶ N. P. ARMITAGE, R. TEDIOSI, F. LÉVY, E. GIANNINI, L. FORRÓ, AND D. VAN DER MAREL

An avoided Lifshitz-type semimetal-semiconductor transition: Infrared conductivity of elemental bismuth under pressure

arXiv:1002.4206 (2010).

Group(s): Forró, Giannini, van der Marel / Project(s): 5

Group of T. Giamarchi

- S. BUSTINGORRY, A. B. KOLTON, A. ROSSO, W. KRAUTH, AND T. GIAMARCHI

Thermal effects in the dynamics of disordered elastic systems

Physica B **404**, 444 (2009).

Group(s): Giamarchi / Project(s): 1

- T. GIAMARCHI

Deconstructing the electron

Physics **2**, 78 (2009).

Group(s): Giamarchi / Project(s): 7

Group of E. Giannini

- ▶ N. P. ARMITAGE, R. TEDIOSI, F. LÉVY, E. GIANNINI, L. FORRÓ, AND D. VAN DER MAREL
An avoided Lifshitz-type semimetal-semiconductor transition: Infrared conductivity of elemental bismuth under pressure
arXiv:1002.4206 (2010).
Group(s): Forró, Giannini, van der Marel / Project(s): 5

Group of V. Gritsev

- V. GRITSEV, T. ROSTUNOV, AND E. DEMLER
Exact methods in analysis of nonequilibrium dynamics of integrable models: application to the study of correlation functions in nonequilibrium 1D Bose gas
arXiv:0904.3221 (2009).
Group(s): Gritsev / Project(s): 8

- V. GRITSEV, P. BARMETTLER, AND E. DEMLER
Scaling approach to quantum non-equilibrium dynamics of many-body systems
arXiv:0912.2744 (2009).
Group(s): Gritsev / Project(s): 8

- T. KITAGAWA, S. PIELAWA, A. IMAMBEKOV, J. SCHMIEDMAYER, V. GRITSEV, AND E. DEMLER
Ramsey interference in one dimensional systems: The full distribution function of fringe contrast as a probe of many-body dynamics
arXiv:0912.4643 (2009).
Group(s): Gritsev / Project(s): 8

Group of D. van der Marel

- C.-C. CHEN, B. MORITZ, F. VERNAY, J. N. HANCOCK, S. JOHNSTON, C. J. JIA, G. CHABOT-COUTURE, M. GREVEN, I. ELFI-MOV, G. A. SAWATZKY, AND T. P. DEVEREAUX
Unraveling the Nature of Charge Excitations in La_2CuO_4 with Momentum-Resolved Cu K-edge Resonant Inelastic X-ray Scattering
arXiv:1002.4683 (2010).
Group(s): van der Marel / Project(s): 4
- ▶ N. P. ARMITAGE, R. TEDIOSI, F. LÉVY, E. GIANNINI, L. FORRÓ, AND D. VAN DER MAREL
An avoided Lifshitz-type semimetal-semiconductor transition: Infrared conductivity of elemental bismuth under pressure
arXiv:1002.4206 (2010).
Group(s): Forró, Giannini, van der Marel / Project(s): 5
- ▶ E. VAN HEUMEN, Y. HUANG, S. DE JONG, A. B. KUZMENKO, M. S. GOLDEN, AND D. VAN DER MAREL

- Optical properties of $\text{BaFe}_{2-x}\text{Co}_x\text{As}_2$*
arXiv:0912.0636 (2009).
Group(s): van der Marel / Project(s): 4

Group of A. Morpurgo

- A. F. MORPURGO
Dirac electrons broken to pieces
Nature **462**, 170 (2009).
Group(s): Morpurgo / Project(s): 2

Group of P. Paruch

- H. BÉA, P. PARUCH, M. BIBES, AND A. BARTHÉLÉMY
Nanoscale polarization switching mechanisms in multiferroic BiFeO_3 thin films
arXiv:0907.4568 (2009).
Group(s): Paruch / Project(s): 1

Group of Ch. Renner

- C. RENNER
Hands-on inspiration for science
Nature Materials **8**, 245 (2009).
Group(s): Renner / Project(s): Education

Group of H. M. Rønnow

- ▶ G. J. NILSEN, F. C. COOMER, M. A. DE VRIES, J. R. STEWART, P. P. DEEN, A. HARRISON, AND H. M. RØNNOW
Excitations and Short Range Order in the Quasi-Kagome Antiferromagnet Volborthite
arXiv:1001.2462 (2010).
Group(s): Rønnow / Project(s): 6

Group of M. Sigrist

- P. M. R. BRYDON, C. INIOTAKIS, D. MANSKE, AND M. SIGRIST
Functional superconductor interfaces from broken time-reversal symmetry
arXiv:0908.2975 (2009).
Group(s): Sigrist / Project(s): 4
- A. BOUHON AND M. SIGRIST
Influence of the domain walls on the Josephson effect in Sr_2RuO_4
arXiv:0909.3535 (2009).
Group(s): Sigrist / Project(s): 4
- H. KANEYASU AND M. SIGRIST
Nucleation of Vortex State in Ru-inclusion in Eutectic Ruthenium Oxide $\text{Sr}_2\text{RuO}_4\text{-Ru}$
arXiv:1002.4793 (2010).
Group(s): Sigrist / Project(s): 5

A. RÜEGG, S. D. HUBER, AND M. SIGRIST
A Z_2 -slave-spin theory for strongly correlated fermions

arXiv:0912.3801 (2009).

Group(s): Sigrist, Blatter / Project(s): 4, 5, 8

Group of M. Troyer

► S. TROTZKY, L. POLLET, F. GERBIER, U. SCHNORRBERGER, I. BLOCH, N. V. PROKOF'EV, B. SVISTUNOV, AND M. TROYER
Suppression of the critical temperature for superfluidity near the Mott transition: validating a quantum simulator

arXiv:0905.4882 (2009).

Group(s): Troyer / Project(s): 8

► L. POLLET, J. D. PICON, H. P. BÜCHLER, AND M. TROYER
Supersolid phase with cold polar molecules on a triangular lattice

arXiv:0906.2126 (2009).

Group(s): Troyer / Project(s): 8

► E. KOZIK, K. VAN HOUCKE, E. GULL, L. POLLET, N. PROKOF'EV, B. SVISTUNOV, AND M. TROYER
Diagrammatic Monte Carlo for Correlated Fermions

arXiv:0907.0863 (2009).

Group(s): Troyer / Project(s): 5, 8

► B. CAPOGROSSO-SANSONE, S. GIORGINI, S. PILATI, L. POLLET, N. PROKOF'EV, B. SVISTUNOV, AND M. TROYER

Beliaev technique for a weakly interacting Bose gas

arXiv:0911.5383 (2009).

Group(s): Troyer / Project(s): 8

► R. JÖRDENS, L. TARRUELL, D. GREIF, T. UEHLINGER, N. STROHMAIER, H. MORITZ, T. ESSLINGER, L. DE LEO, C. KOLLATH, A. GEORGES, V. SCAROLA, L. POLLET, E. BUROVSKI, E. KOZIK, AND M. TROYER

Quantitative Determination of Temperature in the Approach to Magnetic Order of Ultracold Fermions in an Optical Lattice

arXiv:0912.3790 (2009).

Group(s): Esslinger, Troyer / Project(s): 8

Group of Ph. Willmott

D. MARTOCCIA, M. BJÖRCK, C. M. SCHLEPÜTZ, T. BRUGGER, S. A. PAULI, B. D. PATTERSON, T. GREBER, AND P. R. WILLMOTT

Graphene on Ru(0001): A corrugated and chiral structure

arXiv:0908.4517 (2009).

Group(s): Willmott / Project(s): 1