

Low Temperature Physics Division Fachverband Tiefe Temperaturen (TT)

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Overview of Invited Talks and Sessions

(Lecture rooms H 0104, H 2053, H3010, EB 202; Poster B)

Invited Talks

TT 3.5	Mon	10:30–11:00	H 2053	Noise and current cross-correlations in nano-electromechanical systems — ●CHRISTOPH BRUDER
TT 3.6	Mon	11:00–11:30	H 2053	Nonlinear dynamics and cooling in optomechanical systems — ●FLORIAN MARQUARDT
TT 4.1	Mon	9:30–10:00	H 3010	Can nuclear spins reveal the nature of tunneling systems in glasses? — ●ANDREAS FLEISCHMANN
TT 9.3	Mon	14:30–15:00	H 2053	Coherent Oscillations in Josephson Phase Qubits — ●JÜRGEN LISENFELD, ALEXANDER LUKASHENKO, ALEXEY V. USTINOV
TT 11.1	Mon	15:15–15:45	H 3010	Superconducting Quantum Interference Filters — ●NILS SCHOPOHL
TT 17.3	Tue	14:30–15:00	H 2053	The centennial of helium liquefaction - a century of low temperature physics — ●DIETRICH EINZEL
TT 20.1	Tue	14:00–14:30	EB 202	Adiabatic pumping in nanostructures — ●MICHELE GOVERNALE
TT 29.8	Thu	11:30–12:00	H 3010	Charge redistribution at YBCO-metal interfaces — ●UDO SCHWINGENSCHLÖGL, COSIMA SCHUSTER
TT 31.3	Thu	12:15–12:45	EB 202	Electronic transport through nanostructures — ●PETER SCHMITTECKERT
TT 39.1	Fri	10:15–10:45	EB 202	EuO_{1-x} Epitaxially Integrated with Silicon — ●ANDREAS SCHMEHL, STEFAN THIEL, CHRISTOPH RICHTER, ROSS ULBRICHT, TASSILO HEEG, MARCO LIBERATI, MARTIN RÖCKERATH, SEBASTIAN MÜHLBAUER, PETER BÖNI, YURI BARASH, JÜRGEN SCHUBERT, YVES IDZERDA, JOCHEN MANNHART, DARRELL G. SCHLOM

TT 2: Internal Symposium High Magnetic Field Phenomena in Low Dimensional Magnets

TT 2.1	Mon	9:30–10:00	H 0104	High magnetic fields with low dimensional magnets — ●ALAN TENNANT
TT 2.2	Mon	10:00–10:30	H 0104	High Field NMR in Low Dimensional Quantum Antiferromagnets — ●CLAUDE BERTHIER, HADRIEN MAYAFFRE, MARTIN KLANJŠEK, STEFFEN KRÄMER, MLADEN HORVATIĆ
TT 2.3	Mon	10:30–11:00	H 0104	Exotic ground states in high magnetic fields — ●ANDREAS LÄUCHLI
TT 2.4	Mon	11:00–11:15	H 0104	High-field properties of a critical frustrated chain cuprate: Li₂ZrCuO₄ — ●STEFAN-LUDWIG DRECHSLER, RÜDIGER KLINGELER, NATALIA TRISTAN, NORMAN LEPS, JOHANNES RICHTER, THOMAS LORENZ, OLGA VOLKOVA, ALEXANDER VASILIEV, BERND BÜCHNER
TT 2.5	Mon	11:30–12:00	H 0104	Dimensional Reduction at a Quantum Critical Point — ●CRISTIAN BATISTA
TT 2.6	Mon	12:00–12:15	H 0104	Excitation hierarchy of the spin-1 large-D system NiCl₂-4SC(NH₂)₂ — ●S.A. ZVYAGIN, J. WOSNITZA, C.D. BATISTA, J. KRZYSZEK, V.S. ZAPF, M. JAIME, A. PADUAN-FILHO, M. TSUKAMOTO, N. KAWASHIMA
TT 2.7	Mon	12:15–12:45	H 0104	Exploring field-induced quantum phase transitions in molecule-based magnets — ●MICHAEL LANG, KATARINA REMOVIC-LANGER, YEEKIN TSUI, ULRICH TUTSCH, BERND WOLF, ANDREI PROKOFIEV, WOLF ASSMUS, ROSER VALENTI, ANDREAS HONECKER, MATTHIAS WAGNER, STEFAN WESSEL

TT 2.8 Mon 12:45–13:00 H 0104 **Diverging low-temperature thermal expansion of the spin-ladder system $(\text{C}_5\text{H}_{12}\text{N})_2\text{CuBr}_4$** — •THOMAS LORENZ, OLIVER HEYER, MARKUS GARST, FABRIZIO ANFUSO, ACHIM ROSCH, CHRISTIAN RÜEGG, KARL KRÄMER

TT 12: Internal Symposium Cryodetectors and SQUID

TT 12.1 Tue 9:30–10:00 H 0104 **SQUID multiplexers for low-temperature detectors** — •K.D. IRWIN, J.A. BEALL, H.M. CHO, W.B. DORIESE, W.D. DUNCAN, G.C. HILTON, R. HORANSKY, N. JETHAVA, J.A.B. MATES, C.D. REINTSEMA, D. SCHMIDT, J.N. ULLOM, L.R. VALE, Y. XU, K. YOON

TT 12.2 Tue 10:00–10:30 H 0104 **Transition Edge Sensor and Kinetic Inductance Detector Developments for Astronomy Applications** — •PIET DE KORTE

TT 12.3 Tue 10:30–11:00 H 0104 **Metallic magnetic calorimeters for high resolution x-ray spectroscopy and particle detection** — •LOREDANA FLEISCHMANN

TT 12.4 Tue 11:15–11:45 H 0104 **Methode zur berührungslosen, induktiven Messung der lokalen Übergangstemperatur supraleitender, dünner Wolframfilme** — •KAROLINE SCHÄFFNER, GODEHARD ANGLOHER, IRINA BAVYKINA, ANTONIO BENTO, DIETER HAUFF, PATRICK HUFF, MICHAEL KIEFER, RAFAEL LANG, EMILJA PANTIC, FEDERICA PETRICCA, FRANZ PRÖBST, JENS SCHMALER, WOLFGANG SEIDEL, HANS SEITZ, LEO STODOLSKY

TT 12.5 Tue 11:45–12:00 H 0104 **SQUID series array current sensor for measuring dc currents** — •JÖRN BEYER, DIETMAR DRUNG

TT 12.6 Tue 12:00–12:15 H 0104 **Relaxationsmessungen mit SQUID Gradiometern** — •FRANK SCHMIDL, MARKUS BÜTTNER, CHRISTOPH BECKER, ALEXANDER STEPPKE, PETER KOSSEBAU, STEFAN PRASS, PAUL SEIDEL

TT 12.7 Tue 12:15–12:30 H 0104 **Scanning THz-Microscopy of microwave devices with a Josephson-Cantilever** — •CHRISTIAN BRENDEL, FELIX STEWING, MEINHARD SCHILLING

TT 12.8 Tue 12:30–12:45 H 0104 **Highly sensitive and easy-to-use SQUID sensors** — •FRANK RUEDE, CORNELIA ASSMANN, JÖRN BEYER, DIETMAR DRUNG, ALEXANDER KIRSTE, MARGRET PETERS, THOMAS SCHURIG

TT 16: Internal Symposium Efficient Classical Simulation of Strongly Correlated Quantum Systems

TT 16.1 Tue 14:00–14:45 H 0104 **Density matrix renormalization meets quantum information** — •ULRICH SCHOLLWÖCK

TT 16.2 Tue 14:45–15:15 H 0104 **Time-dependent DMRG: Applications to cold atoms in optical lattices** — •CORINNA KOLLATH, ANDREAS LAEUCHLI, EHUD ALTMAN

TT 16.3 Tue 15:15–15:45 H 0104 **A Renormalisation-Group Algorithm for Eigenvalue Density Functions of Interacting Quantum Systems** — •TOBIAS OSBORNE

TT 16.4 Tue 16:00–16:30 H 0104 **Projected Entangled Pair States: status and prospects** — •FRANK VERSTRAETE

TT 16.5 Tue 16:30–17:00 H 0104 **DMRG and quantum impurity models** — •ANDREAS WEICHELBAUM, JAN VON DELFT

TT 16.6 Tue 17:00–17:30 H 0104 **Unitary networks to describe quantum many-body systems** — •JENS EISERT, CHRIS DAWSON, TOBIAS OSBORNE, FRANK VERSTRAETE

TT 16.7 Tue 17:30–17:45 H 0104 **Optimized ensembles in quantum Monte Carlo simulations** — •STEFAN WESSEL, NORBERT STOOP, EMANUEL GULL, SIMON TREBST, MATTHIAS TROYER

TT 27: Internal Symposium Circuit QED

TT 27.1 Thu 9:30–10:00 H 0104 **Single artificial-atom maser** — •YASUNOBU NAKAMURA, OLEG ASTAFIEV, KUNIHIRO INOMATA, ANTTI O. NISKANEN, TSUYOSHI YAMAMOTO, YURI A. PASHKIN, JAW-SHEN TSAI

TT 27.2 Thu 10:00–10:30 H 0104 **Sisyphus cooling and amplification by a superconducting qubit** — •EVGENI IL'ICHEV, M. GRAJCAR, S.H.W. VAN DER PLOEG, A. IZMALKOV, H.-G. MEYER, A. FEDOROV, A. SHNIRMAN, GERD SCHOEN

TT 27.3	Thu	10:30–10:55	H 0104	Quantum Computation and Quantum Optics with circuit QED — •JENS KOCH
TT 27.4	Thu	10:55–11:20	H 0104	Engineering coherent quantum states in superconducting systems — •RAYMOND W SIMMONDS
TT 27.5	Thu	11:35–12:00	H 0104	Observation of Berry’s Phase in a Superconducting Qubit Embedded in a Cavity — •PETER LEEK, JOHANNES FINK, ALEXANDRE BLAIS, ROMEO BIANCHETTI, MARTIN GOEPL, JAY GAMBETTA, DAVID SCHUSTER, LUIGI FRUNZIO, ROBERT SCHOELKOPF, ANDREAS WALLRAFF
TT 27.6	Thu	12:00–12:15	H 0104	Strong squeezing in a solid state system — •MICHAEL MARTHALER, ALEXANDER SHNIRMAN, GERD SCHÖN
TT 27.7	Thu	12:15–12:30	H 0104	Dissipation in circuit QED — •STEPHAN ANDRÉ, VALENTINA BROSCO, GERD SCHÖN, ALEXANDER SHNIRMAN
TT 27.8	Thu	12:30–12:45	H 0104	Quantum Zeno Effect in Detection of Itinerant Microwave Photons — •FERDINAND HELMER, MATTEO MARIANTONI, ENRIQUE SOLANO, FLORIAN MARQUARDT
TT 27.9	Thu	12:45–13:00	H 0104	Single Photon Generation in Superconducting Microwave Cavities — •GIUSEPPE MANGANO, JENS SIEWERT, GIUSEPPE FALCI

TT 33: Internal Symposium High-Temperature Superconductivity

TT 33.1	Thu	14:00–14:30	H 0104	Transport Evidence for Quantum Criticality in Electron-doped Cuprates — •RICHARD GREENE
TT 33.2	Thu	14:30–14:45	H 0104	Signatures of non-monotonic d-wave gap in electron-doped cuprates — •ILYA EREMIN, EVELINA TSONCHEVA, ANDREY CHUBUKOV
TT 33.3	Thu	14:45–15:15	H 0104	Superconductivity in the Hubbard model and the two gap energy scales in high-temperature superconductors — •MARKUS AICHHORN, ENRICO ARRIGONI, MICHAEL POTTHOFF, ZHONG BING HUANG, WERNER HANKE
TT 33.4	Thu	15:30–15:55	H 0104	Momentum-resolved electron-phonon coupling and self-energy effects in $\text{YBa}_2\text{Cu}_3\text{O}_7$: an LDA study — •ROLF HEID, KLAUS-PETER BOHNEN, ROLAND ZEYHER, DIRK MANSKE
TT 33.5	Thu	15:55–16:10	H 0104	The phonon buckling mode in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ measured by inelastic neutron scattering — •MARKUS RAICHLE, DMITRY REZNIK, MOHAMMED BAKR, VLADIMIR HINKOV, KLAUDIA HRADIL, DANIEL LAMAGO, CLEMENS ULRICH, MARKUS BRÖLL, PHILIPPE BOURGES, YVAN SIDIS, CHENGTIAN LIN, BERNHARD KEIMER
TT 33.6	Thu	16:10–16:35	H 0104	d-wave stripes in cuprates: Valence bond order coexisting with nodal quasiparticles — •MATTHIAS VOJTA
TT 33.7	Thu	16:35–16:50	H 0104	Charge order in $\text{La}_{1.8-x}\text{Eu}_{0.2}\text{Sr}_x\text{CuO}_4$ studied by resonant soft X-ray diffraction — •J. FINK, E. WESCHKE, E. SCHIERLE, J. GECK, H. HAWTHORN, H. WIDATI, H.-H. HU, H. DÜRR, B. BÜCHNER, G. A. SAWATZKY
TT 33.8	Thu	16:50–17:05	H 0104	q-dependence of the giant bond-stretching phonon anomaly in the stripe compound $\text{La}_{1.48}\text{Nd}_{0.4}\text{Sr}_{0.12}\text{CuO}_4$ measured by IXS — •DANIEL LAMAGO, DMITRY REZNIK, T. FUKUDA, K. YAMADA, A.Q.R. BARON
TT 33.9	Thu	17:05–17:30	H 0104	Charge ordering phenomena and superconductivity in cuprates — •LEONARDO TASSINI, BERNHARD MUSCHLER, WOLFGANG PRESTEL, RUDI HACKL, MICHAEL LAMBACHER, ANDREAS ERB
TT 33.10	Thu	17:45–18:10	H 0104	Electronic liquid crystal state in a strongly underdoped high-temperature superconductor — •V. HINKOV, D. HAUG, B. FAUQUE, Y. SIDIS, P. BOURGES, A. IVANOV, C. BERNHARD, CT. LIN, B. KEIMER
TT 33.11	Thu	18:10–18:25	H 0104	ARPES of Bi-cuprates: Did we mix up apples and oranges? — •LENART DUDY, OLAF LÜBBEN, BEATE MÜLLER, ALICA KRAPP, HELMUT DWELK, CHRISTOPH JANOWITZ, RECARDO MANZKE
TT 33.12	Thu	18:25–18:40	H 0104	Effects of out-of-plane disorder on the superconductivity of $\text{Bi}_2\text{Sr}_{2-x}\text{La}_x\text{CuO}_{6+\delta}$ — •JÜRGEN RÖHLER, CHRISTOPH TRABANT, JOHANNA FRIELINGS DORF, RABIA DJEMOUR, VICTOR MARTOVITSKY, LENART DUDY, HELMUT DWELK, ALICA KRAPP
TT 33.13	Thu	18:40–19:10	H 0104	Indications on fluctuation origin of the recently observed giant Nernst effect in superconductors above T_c — •A.A. VARLAMOV

Sessions

TT 1.1–1.3	Sun	14:00–17:00	EW 201	Tutorial: Quantum Shot Noise
TT 2.1–2.8	Mon	9:30–13:00	H 0104	Symposium: High Magnetic Field Phenomena in Low Dimensional Magnets
TT 3.1–3.11	Mon	9:30–13:00	H 2053	Transport: Fluctuations and Noise
TT 4.1–4.6	Mon	9:30–11:15	H 3010	Matter at Low Temperature: Materials
TT 5.1–5.5	Mon	11:30–13:00	H 3010	Superconductivity - Cryodetectors
TT 6.1–6.12	Mon	9:30–12:45	EB 202	Correlated Electrons: Heavy Fermions
TT 7.1–7.23	Mon	14:00–18:00	Poster B	Matter at Low Temperature: Poster Session
TT 8.1–8.14	Mon	14:00–18:00	H 0104	Correlated Electrons: Spin Systems and Itinerant Magnets 1
TT 9.1–9.15	Mon	14:00–18:15	H 2053	Transport: Quantum Coherence and Quantum Information Systems
TT 10.1–10.4	Mon	14:00–15:00	H 3010	Superconductivity: Fabrication and Characterization
TT 11.1–11.9	Mon	15:15–18:00	H 3010	Superconductivity: Tunneling, Josephson Junctions, SQUIDS
TT 12.1–12.8	Tue	9:30–12:45	H 0104	Symposium: Cryodetectors and SQUID
TT 13.1–13.13	Tue	9:30–13:00	H 2053	Correlated Electrons: Low-dimensional Systems - Materials 1
TT 14.1–14.13	Tue	9:30–13:00	H 3010	Transport: Nanoelectronics III - Molecular Electronics
TT 15.1–15.57	Tue	14:00–18:00	Poster B	Superconductivity: Poster Session
TT 16.1–16.7	Tue	14:00–17:45	H 0104	Symposium: Efficient Classical Simulation of Strongly Correlated Quantum Systems
TT 17.1–17.3	Tue	14:00–15:00	H 2053	Matter at Low Temperature: Measuring Devices, Cryotechnique
TT 18.1–18.13	Tue	15:15–18:45	H 2053	Correlated Electrons: Low-dimensional Systems - Materials 2
TT 19.1–19.16	Tue	14:00–18:30	H 3010	Correlated Electrons: Quantum-Critical Phenomena
TT 20.1–20.5	Tue	14:00–15:30	EB 202	Transport: Nanoelectronics I - Quantum Dots, Wires, Point Contacts 1
TT 21.1–21.12	Tue	15:45–19:00	EB 202	Transport: Graphene and Carbon Nanotubes
TT 22.1–22.63	Wed	14:00–18:00	Poster B	Transport: Poster Session
TT 23.1–23.17	Wed	14:00–18:45	H 0104	Correlated Electrons: (General) Theory
TT 24.1–24.18	Wed	14:00–19:00	H 2053	Correlated Electrons: Low-dimensional Systems - Models
TT 25.1–25.6	Wed	14:00–15:30	H 3010	Superconductivity: Heterostructures, Andreev Scattering, Proximity Effect, Coexistence
TT 26.1–26.9	Wed	15:45–18:15	H 3010	Superconductivity: Vortex Dynamics, Vortex Phases, Pinning
TT 27.1–27.9	Thu	9:30–13:00	H 0104	Symposium: Circuit QED
TT 28.1–28.12	Thu	9:30–12:45	H 2053	Correlated Electrons: Metal-Insulator Transition 1
TT 29.1–29.12	Thu	9:30–13:00	H 3010	Superconductivity: Mechanisms, Phase Diagram, Competing Order
TT 30.1–30.4	Thu	10:30–11:30	EB 202	Correlated Electrons: Spin Systems and Itinerant Magnets 2
TT 31.1–31.4	Thu	11:45–13:00	EB 202	Transport: Nanoelectronics I - Quantum Dots, Wires, Point Contacts 2
TT 32.1–32.88	Thu	14:00–18:00	Poster B	Correlated Electrons: Poster Session
TT 33.1–33.13	Thu	14:00–19:10	H 0104	Symposium: High-Temperature Superconductivity
TT 34.1–34.18	Thu	14:00–19:00	H 2053	Correlated Electrons: Metal-Insulator Transition 2
TT 35.1–35.16	Thu	14:00–18:30	H 3010	Transport: Nanoelectronics I - Quantum Dots, Wires, Point Contacts 3
TT 36.1–36.10	Fri	10:15–13:00	H 0104	Superconductivity: Properties, Electronic Structure, Order Parameter
TT 37.1–37.10	Fri	10:15–13:00	H 2053	Correlated Electrons: Quantum Impurities, Kondo Physics
TT 38.1–38.10	Fri	10:15–13:00	H 3010	Matter At Low Temperature: Quantum Liquids, Bose-Einstein Condensates, Ultra-cold Atoms, ...
TT 39.1–39.9	Fri	10:15–13:00	EB 202	Transport: Nanoelectronics II - Spintronics and Magnetotransport

The posters can be fixed to the posterboards already in the morning. The actual poster sessions will start at 14:00.

Annual General Meeting of the Low Temperature Physics Division

Donnerstag 19:30–20:30 Raum H 3010