

Low Temperature Physics Division Fachverband Tiefe Temperaturen (TT)

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Overview of Invited Talks and Sessions

(Lecture halls H3, H10, H22, and H23; Poster P1)

Plenary Talk

PLV I Mon 8:30– 9:15 H1 **Intrinsic Josephson junctions in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$: Generation of Terahertz radiation and beyond** — ●REINHOLD KLEINER

Invited Talks

TT 1.1	Mon	9:30–10:00	H10	Stability of Floquet Majorana box qubits — ●ANNE MATTHIES
TT 5.1	Mon	15:00–15:30	H10	Dynamics of visons and thermal Hall effect in perturbed Kitaev models — ●APREM JOY
TT 10.1	Tue	9:30–10:00	H3	Two-fold symmetric superconductivity in few-layer NbSe_2 — ●VLAD PRIBIAG
TT 10.2	Tue	10:00–10:30	H3	Spin-orbit coupling and triplet pairing in mesoscopic superconductors — ●MARCO APRILI
TT 10.3	Tue	10:30–11:00	H3	Supercurrent diode effect in few-layer NbSe_2 — ●NICOLA PARADISO
TT 10.4	Tue	11:15–11:45	H3	Superconducting devices in magic-angle twisted bilayer graphene — ●FOLKERT DE VRIES
TT 10.5	Tue	11:45–12:15	H3	Minigap and Andreev bound states in ballistic graphene — ●LUCA BANSZERUS
TT 16.1	Wed	9:30–10:00	H10	Multimethod, multimessenger approaches to models of strong correlations — ●THOMAS SCHÄFER
TT 22.1	Wed	15:00–15:30	H10	Evidence for orbital loop current magnetism in Sr_2RuO_4 — ●A. DI BERNARDO
TT 22.8	Wed	17:15–17:45	H10	Role of the film geometry in the electronic reconstruction of infinite-layer nickelates on $\text{SrTiO}_3(001)$ — ●BENJAMIN GEISLER
TT 25.1	Thu	9:30–10:00	H3	Topology: Open and with diverse backgrounds — ●TOBIAS MENG
TT 28.5	Thu	10:30–11:00	H23	Towards an <i>ab-initio</i> theory of Anderson localization for correlated electrons — ●LIVIU CHIONCEL
TT 32.1	Thu	15:00–15:30	H10	Supercurrents in HgTe-based topological nanowires — ●DIETER WEISS
TT 32.2	Thu	15:30–16:00	H10	Majorana bound states and non-reciprocal transport in topological insulator nanowire devices — ●HENRY LEGG
TT 32.3	Thu	16:00–16:30	H10	Integration of topological insulator Josephson junctions in superconducting qubit circuits — ●TOBIAS W. SCHMITT
TT 32.4	Thu	16:45–17:15	H10	Universal fluctuations of the induced superconducting gap in an elemental nanowire — ●MATTHIEU DELBECQ
TT 32.5	Thu	17:15–17:45	H10	Exploring the full potential of edge channel transport in HgTe based two-dimensional topological insulators — ●SAQUIB SHAMIM
TT 36.1	Fri	9:30–10:00	H10	Coherent control of lattice and electronic states — ●STEVEN JOHNSON
TT 36.2	Fri	10:00–10:30	H10	New opportunities for light-matter control of quantum materials — ●MICHAEL SENTEF
TT 36.3	Fri	10:30–11:00	H10	Coherent electronic control of an insulator-to-metal transition — ●CLAUDIO GIANNETTI
TT 36.4	Fri	11:15–11:45	H10	Nanoscale transient magnetization dynamics: A comprehensive EUV TG study — ●LAURA FOGLIA
TT 36.5	Fri	11:45–12:15	H10	Ultrafast magnetism of antiferromagnets — ●ALEXEY KIMEL

Invited Talks of the joint Symposium Frontiers of Orbital Physics: Statics, Dynamics, and Transport of Orbital Angular Momentum (SYOP)

See SYOP for the full program of the symposium.

SYOP 1.1	Mon	9:30–10:00	H1	Orbital degeneracy in transition metal compounds: Jahn-Teller effect, spin-orbit coupling and quantum effects — ●DANIEL KHOMSKII
SYOP 1.2	Mon	10:00–10:30	H1	Orbital magnetism out of equilibrium: driving orbital motion with fluctuations, fields and currents — ●YURIY MOKROUSOV
SYOP 1.3	Mon	10:30–11:00	H1	Orbitronics: new torques and magnetoresistance effects — ●MATHIAS KLÄUI
SYOP 1.4	Mon	11:15–11:45	H1	Orbital and total angular momenta dichroism of the THz vortex beams at the antiferromagnetic resonances — ●ANDREI SIRENKO
SYOP 1.5	Mon	11:45–12:15	H1	Observation of the orbital Hall effect in a light metal Ti — ●GYUNG-MIN CHOI

Invited Talks of the joint Symposium SKM Dissertation Prize 2022 (SYSD)

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	10:15–10:45	H2	Charge localisation in halide perovskites from bulk to nano for efficient optoelectronic applications — ●SASCHA FELDMANN
SYSD 1.2	Mon	10:45–11:15	H2	Nonequilibrium Transport and Dynamics in Conventional and Topological Superconducting Junctions — ●RAFFAEL L. KLEES
SYSD 1.3	Mon	11:15–11:45	H2	Probing magnetostatic and magnetotransport properties of the antiferromagnetic iron oxide hematite — ●ANDREW ROSS
SYSD 1.4	Mon	11:45–12:15	H2	Quantum dot optomechanics with surface acoustic waves — ●MATTHIAS WEISS

Invited Talks of the joint Symposium United Kingdom as Guest of Honor (SYUK)

See SYUK for the full program of the symposium.

SYUK 1.1	Wed	9:30–10:00	H2	Structure and Dynamics of Interfacial Water — ●ANGELOS MICHAELIDES
SYUK 1.2	Wed	10:00–10:30	H2	A molecular view of the water interface — ●MISCHA BONN
SYUK 1.3	Wed	10:30–11:00	H2	Motile cilia waves: creating and responding to flow — ●PIETRO CICUTA
SYUK 1.4	Wed	11:00–11:30	H2	Cilia and flagella: Building blocks of life and a physicist's playground — ●OLIVER BÄUMCHEN
SYUK 1.5	Wed	11:45–12:15	H2	Computational modelling of the physics of rare earth - transition metal permanent magnets from SmCo_5 to $\text{Nd}_2\text{Fe}_{14}\text{B}$ — ●JULIE STAUNTON
SYUK 2.1	Wed	15:00–15:30	H2	Hysteresis Design of Magnetic Materials for Efficient Energy Conversion — ●OLIVER GUTFLEISCH
SYUK 2.2	Wed	15:30–16:00	H2	Non-equilibrium dynamics of many-body quantum systems versus quantum technologies — ●IRENE D'AMICO
SYUK 2.3	Wed	16:00–16:30	H2	Quantum computing with trapped ions — ●FERDINAND SCHMIDT-KALER
SYUK 2.4	Wed	16:45–17:15	H2	Breaking the millikelvin barrier in cooling nanoelectronic devices — ●RICHARD HALEY
SYUK 2.5	Wed	17:15–17:45	H2	Superconducting Quantum Interference Devices for applications at mK temperatures — ●SEBASTIAN KEMPF

Invited Talks of the joint Symposium Complexity and Topology in Quantum Matter (SYQM)

See SYQM for the full program of the symposium.

SYQM 1.1	Fri	9:30–10:00	H1	The role of crystalline symmetries in topological materials: the topological materials database — ●MAIA VERGNIORY
SYQM 1.2	Fri	10:00–10:30	H1	Microwave Bulk and Edge Transport in HgTe-Based 2D Topological Insulators — ●ERWANN BOCQUILLON
SYQM 1.3	Fri	10:30–11:00	H1	Spectral Sensitivity of Non-Hermitian Topological Systems — ●JAN CARL BUDICH
SYQM 1.4	Fri	11:15–11:45	H1	Topological photonics and topological lasers with coupled vertical resonators — ●SEBASTIAN KLEMBT
SYQM 1.5	Fri	11:45–12:15	H1	Spectroscopic Studies of the Topological Magnon Band Structure in a Skyrmion Lattice — ●MARKUS GARST

Sessions

TT 1.1–1.13	Mon	9:30–13:15	H10	Topology: Majorana Physics
TT 2.1–2.14	Mon	9:30–13:15	H22	Nanotubes, Nanoribbons and Graphene
TT 3.1–3.13	Mon	9:30–13:00	H23	Superconductivity: Properties and Electronic Structure
TT 4.1–4.10	Mon	10:00–12:45	H20	Many-Body Quantum Dynamics 1 (joint session DY/TT)
TT 5.1–5.7	Mon	15:00–17:00	H10	Frustrated Magnets – Spin Liquids
TT 6.1–6.12	Mon	15:00–18:15	H22	Kondo Physics, f-Electron Systems and Heavy Fermions
TT 7.1–7.11	Mon	15:00–18:00	H23	Fluctuations, Noise, Magnetotransport, and Related Topics
TT 8.1–8.7	Mon	17:15–19:00	H10	Frustrated Magnets – Strong Spin-Orbit Coupling
TT 9.1–9.5	Mon	18:00–19:15	H23	Cold Atomic Gases and Superfluids
TT 10.1–10.9	Tue	9:30–13:15	H3	Focus Session: Superconductivity in 2d-Materials and their Heterostructures
TT 11.1–11.11	Tue	9:30–12:30	H10	Topology: Quantum Hall Systems
TT 12.1–12.13	Tue	9:30–13:00	H22	Correlated Electrons: Materials
TT 13.1–13.6	Tue	9:30–11:00	H23	Quantum Dots, Quantum Wires, Point Contacts
TT 14.1–14.6	Tue	11:30–13:00	H20	Many-Body Quantum Dynamics 2 (joint session DY/TT)
TT 15.1–15.6	Tue	11:15–12:45	H23	Nano- and Optomechanics
TT 16.1–16.13	Wed	9:30–13:15	H10	Correlated Electrons: Method Development
TT 17.1–17.9	Wed	9:30–12:00	H22	Cryogenic Detectors and Cryotechnique
TT 18.1–18.9	Wed	9:30–11:45	H23	Topological Insulators
TT 19.1–19.5	Wed	11:45–13:00	H23	Topological Superconductors
TT 20.1–20.11	Wed	15:00–18:00	P1	Topology: Poster Session
TT 21.1–21.38	Wed	15:00–18:00	P1	Correlated Electrons: Poster Session
TT 22.1–22.14	Wed	15:00–19:15	H10	Unconventional Superconductors
TT 23.1–23.13	Wed	15:00–18:30	H22	Frustrated Magnets - General
TT 24.1–24.15	Wed	15:00–19:00	H23	Quantum-Critical Phenomena
TT 25.1–25.13	Thu	9:30–13:15	H3	Topological Semimetals
TT 26.1–26.13	Thu	9:30–13:00	H10	Superconductivity: Tunnelling and Josephson Junctions
TT 27.1–27.11	Thu	9:30–12:30	H22	Quantum Coherence and Quantum Information Systems (joint session TT/DY)
TT 28.1–28.12	Thu	9:30–13:00	H23	Correlated Electrons: Theory 1
TT 29.1–29.18	Thu	15:00–18:00	P1	Transport: Poster Session
TT 30.1–30.24	Thu	15:00–18:00	P1	Superconductivity: Poster Session
TT 31.1–31.26	Thu	15:00–18:00	P1	Superconducting Electronics and Cryogenics: Poster Session
TT 32.1–32.8	Thu	15:00–18:30	H10	Focus Session: Topological Devices (joint session TT/KFM)
TT 33.1–33.12	Thu	15:00–18:15	H22	Nonequilibrium Quantum Many-Body Systems (joint session TT/DY)
TT 34.1–34.14	Thu	15:00–18:45	H23	Correlated Electrons: Theory 2
TT 35	Thu	19:00–20:00	H22	Members' Assembly
TT 36.1–36.5	Fri	9:30–12:15	H10	Focus Session: Ultrafast Spin, Lattice and Charge Dynamics of Solids
TT 37.1–37.14	Fri	9:30–13:15	H22	Superconducting Electronics: SQUIDs, Qubits, Circuit QED
TT 38.1–38.6	Fri	9:30–11:00	H23	Superconductivity: Theory
TT 39.1–39.8	Fri	11:15–13:15	H23	Correlated Electrons: Charge Order

Members' Assembly of the Low Temperature Physics Division

Thursday 19:00–20:00 H22

- Bericht
- Verschiedenes

I gratefully acknowledge the invaluable support of R. Hott in composing the program. Many thanks to the former divisional spokespersons C. Enss and U. Eckern for their careful cross reading and advice.