Low Temperature Physics Division
Fachverband Tiefe Temperaturen (TT)

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Program Overview

(Lecture Halls H31, H32, H33, H36 and Poster P3 and P4)

Plenary Talks Chaired by the Low Temperature Physics Division

PLV VI	Wed	14:00–14:45	H1	**Topological spin-textures – from domain walls to Hopfions: Current innovations and future challenges** — •Stefan Blügel
PLV XI	Fri	8:30– 9:15	H1	**Exploring correlated phases and topology in van der Waals platforms** — •Roser Valenti

Symposia Coorganized by the Low Temperature Physics Division

Invited Talks of the joint SKM Dissertationspreis 2025 (SYSD)

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	9:30–10:00	H2	**Nanoscale Chemical Analysis of Ferroic Materials and Phenomena** — •Kasper Aas Hunnestad
SYSD 1.2	Mon	10:00–10:30	H2	**Advanced Excitation Schemes for Semiconductor Quantum Dots** — •Yusuf Karli
SYSD 1.3	Mon	10:30–11:00	H2	**Aspects and Probes of Strongly Correlated Electrons in Two-Dimensional Semiconductors** — •Clemens Kuhlenkamp
SYSD 1.4	Mon	11:00–11:30	H2	**Mean back relaxation and mechanical fingerprints: simplifying the study of active intracellular mechanics** — •Till Münker
SYSD 1.5	Mon	11:30–12:00	H2	**Coherent Dynamics of Atomic Spins on a Surface** — •Lukas Veldman

Invited Talks of the joint Symposium Spins in Molecular Systems: Strategies and Effects of Hyperpolarization (SYMS)

See SYMS for the full program of the symposium.

SYMS 1.1	Wed	15:00–15:30	H1	**Exploring the Non-Perturbative Magnetic Resonance Drive Regime with spin selection rules in a π-Conjugated Polymer** — •Christoph Boehme
SYMS 1.2	Wed	15:30–16:00	H1	**The puzzle of spin and charge transport in the chirality induced spin selectivity effect** — •Bart van Wees
SYMS 1.3	Wed	16:00–16:30	H1	**Nano- and Microscale NMR spectroscopy with spin qubits in diamond** — •Nabeel Aslam
SYMS 1.4	Wed	16:45–17:15	H1	**Spin effects in adsorbed organometallic complexes** — •Richard Berndt
SYMS 1.5	Wed	17:15–17:45	H1	**Quantum Computing with Molecules** — •Mario Ruben

Invited Talks of the joint Symposium Nonequilibrium Collective Behavior in Open Classical and Quantum Systems (SYQS)

See SYQS for the full program of the symposium.

SYQS 1.1	Thu	15:00–15:30	H1	**Active quantum flocks** — •Markus Heyl
SYQS 1.2	Thu	15:30–16:00	H1	**Robust dynamics and function in stochastic topological systems** — •Evelyn Tang
SYQS 1.3	Thu	16:00–16:30	H1	**Nonequilibrium Dynamics of Disorder-Driven Ultracold Fermi Gases** — •Artur Widera
SYQS 1.4	Thu	16:45–17:15	H1	**Topological classification of driven-dissipative nonlinear systems** — •Oded Zilberberg
SYQS 1.5	Thu	17:15–17:45	H1	**Learning dynamical behaviors in physical systems** — •Vincenzo Vitelli

Invited Talks of the joint Symposium Electronic Structure Theory for Quantum Technology: From Complex Magnetism to Topological Superconductors and Spintronics (SYES)

See SYES for the full program of the symposium.

SYES 1.1	Fri	9:30–10:00	H1	**Ab-initio Design of superconductors** — •Lilia Boeri
SYES 1.2	Fri	10:00–10:30	H1	**Topological superconductivity from first principles** — •László Szunyogh
SYES 1.3	Fri	10:30–11:00	H1	**First-principles study and mesoscopic modeling of two-dimensional spin and orbital fluctuations in FeSe** — •Myrta Grüning
SYES 1.4	Fri	11:15–11:45	H1	**Non-collinear magnetism in 2D materials from first principles: Multiferroic order and magnetoelectric effects.** — •Thomas Olsen
SYES 1.5	Fri	11:45–12:15	H1	**Spin-phonon and magnon-phonon interactions from first principles** — •Marco Bernardi

Invited Talks in Focus Sessions

Invited Talks of the Focus Session "Magnetic Phenomena from Phonon Chirality and Angular Momentum" (joint session MA/TT)

TT 1.1	Mon	9:30–10:00	H20	**Driving Coherent Phonon-Phonon Angular Momentum Transfer via Lattice Anharmonicity** — •Sebastian Maehrlein
TT 1.2	Mon	10:00–10:30	H20	**Chiral phonons, phono-magnetism, and spin-rotation coupling** — •Matthias Geilhufe
TT 1.3	Mon	10:30–11:00	H20	**Geometry of temporal chiral structures and photoinduced chirality-spin coupling** — •Olga Smirnova
TT 1.4	Mon	11:15–11:45	H20	**Phonon thermal Hall effect** — •Kamran Behnia
TT 1.5	Mon	11:45–12:15	H20	**Giant effective magnetic moment of chiral phonons** — •Swati Chaudhary

Invited Talks of the Focus Session "Many-Body Phenomena in Nanomagnets: Kondo, Spinons, Spinarons and Beyond" (joint session O/TT)

TT 6.1	Mon	15:00–15:30	H24	**Kondo and Yu-Shiba-Rusinov resonances: transport and coupling** — •Laëtitia Farinacci
TT 6.2	Mon	15:30–16:00	H24	**Electron delocalization in a 2D Mott insulator** — •Amadeo L. Vazquez de Parga
TT 6.3	Mon	16:00–16:30	H24	**Kondo or no Kondo, that is the question** — •Alexander Weismann
TT 6.4	Mon	16:30–17:00	H24	**Evidence for spinarons in Co atoms on noble metal (111) surfaces** — •Artem Odobesko
TT 6.5	Mon	17:00–17:30	H24	**Spinarons: A new view on emerging spin-driven many-body phenomena in nanostructures** — •Samir Lounis

Invited Talks of the Focus Session "Strongly Correlated Quantum States in Moire Heterostructures" (joint session TT/HL/MA)

TT 18.1	Tue	9:30–10:00	H36	**The Thermoelectric Effect and Its Natural Heavy Fermion Explanation in Twisted Bilayer and Trilayer Graphene** — •Bogdan Andrei Bernevig
TT 18.2	Tue	10:00–10:30	H36	**Angle-Tuned Chiral Phase Transition in Twisted Bilayer Graphene** — •Laura Classen
TT 18.3	Tue	10:30–11:00	H36	**Quantum Optics of Semiconductor Moire Materials** — •Atac Imamoglu
TT 18.4	Tue	11:15–11:45	H36	**Probing the Band Structures of Multilayer Graphene Using the Quantum Twisting Microscope** — •Martin Lee
TT 18.5	Tue	11:45–12:15	H36	**Gate-Tunable Bose-Fermi Mixture in a Strongly Correlated Moiré Bilayer Electron System** — •Nathan Wilson

Invited Talks of the Focus Session "Nonlinear Spectroscopy of Collective Excitations in Quantum Magnets" (joint session TT/MA)

TT 27.1	Wed	9:30–10:00	H36	**Detecting Anyons Using Nonlinear Pump-Probe Spectroscopy** — •Max McGinley
TT 27.2	Wed	10:00–10:30	H36	**Two-Dimensional Nonlinear Dynamic Response of Frustrated Magnets** — •Wolfram Brenig
TT 27.3	Wed	10:30–11:00	H36	**Imaging Magnetization Dynamics and Collective Spin Excitations in Compensated Magnets on Ultrafast Timescales** — •Benjamin Stadtmüller
TT 27.4	Wed	11:15–11:45	H36	**Revealing Dynamics of Hidden Sectors with Nonlinear Spectroscopy** — •Yoshito Watanabe
TT 27.5	Wed	11:45–12:15	H36	**Theory of Nonlinear Spectroscopy of Quantum Magnets** — •Stefan Birnkammer

Invited Talks of the Focus Session "Ising Superconductivity in Monolayer Transition Metal Dichalcogenides" (joint session TT/HL/MA)

TT 44.1	Thu	9:30–10:00	H36	**Evidence of Unconventional Superconductivity in Monolayer and Bulk van der Waals Material TaS_2** — •Somesh Chandra Ganguli
TT 44.2	Thu	10:00–10:30	H36	**Signatures of Unconventional Superconductivity in Transition Metal Dichalcogenides** — •Miguel Ugeda
TT 44.3	Thu	10:30–11:00	H36	**Friedel Oscillations and Chiral Superconductivity in Monolayer $NbSe_2$** — •Magdalena Marganska
TT 44.4	Thu	11:15–11:45	H36	**Unconventional Pairing in Ising Superconductors** — •Andreas Kreisel
TT 44.5	Thu	11:45–12:15	H36	**High-Field Study of Ising Superconductivity in TMDs** — •Oleksandr Zheliuk

Individual Invited Talks

TT 15.1	Tue	9:30–10:00	H31	**Solving Many-Body Problems on Quantum Computers** — •Benedikt Fauseweh
TT 24.1	Wed	9:30–10:00	H31	**Possible Origin of High-Field Reentrant Superconductivity in UTe_2** — •Toni Helm
TT 24.7	Wed	11:30–12:00	H31	**Unconventional Superconductivity in Epitaxial $KTaO_3$-Based Heterostructures** — •Denis Maryenko
TT 31.1	Wed	15:00–15:30	H31	**Quantum Skyrmion Hall Effect** — •Ashley Cook
TT 33.8	Wed	17:00–17:30	H33	**Emergent Dynamical Gauge Fields in Generic Kitaev Spin Liquids: From Monolayer to Multilayers** — •Aprem Joy
TT 48.1	Thu	15:00–15:30	H32	**Optical Conductivity as a Probe for Chiral Majorana Edge Modes** — •Lina Johnsen Kamra

All Sessions

TT 1.1–1.8	Mon	9:30–13:00	H20	**Focus Session: Magnetic Phenomena from Phonon Chirality and Angular Momentum I (joint session MA/TT)**
TT 2.1–2.11	Mon	9:30–12:30	H31	**Nonequilibrium Quantum Systems (joint session TT/DY)**
TT 3.1–3.12	Mon	9:30–12:45	H32	**Correlated Magnetism – General**
TT 4.1–4.13	Mon	9:30–13:00	H33	**Topological Insulators**
TT 5.1–5.13	Mon	9:30–13:00	H36	**Superconductivity: Properties and Electronic Structure I**
TT 6.1–6.8	Mon	15:00–18:15	H24	**Focus Session Many-Body Phenomena in Nanomagnets: Kondo, Spinons, Spinarons and Beyond (joint session O/TT)**
TT 7.1–7.11	Mon	15:00–18:00	H31	**Correlated Electrons: Electronic Structure Calculations**
TT 8.1–8.10	Mon	15:00–17:45	H32	**Measurement Technology and Cryogenics**
TT 9.1–9.12	Mon	15:00–18:15	H33	**Correlated Magnetism – Low-Dimensional Systems**
TT 10.1–10.10	Mon	15:00–17:45	H36	**Topological Semimetals**
TT 11.1–11.67	Mon	15:00–18:00	P4	**Superconductivity: Poster**
TT 12.1–12.6	Mon	16:45–18:15	H15	**Quantum Transport and Quantum Hall Effects (joint session HL/TT)**
TT 13.1–13.12	Tue	9:30–12:45	H16	**Focus Session: Magnetic Phenomena from Phonon Chirality and Angular Momentum II (joint session MA/TT)**
TT 14.1–14.14	Tue	9:30–13:15	H18	**Spin Transport and Orbitronics, Spin-Hall Effects I (joint session MA/TT)**
TT 15.1–15.13	Tue	9:30–13:15	H31	**Quantum Coherence and Quantum Information Systems (joint session TT/DY)**
TT 16.1–16.12	Tue	9:30–12:45	H32	**Superconductivity: Properties and Electronic Structure II**
TT 17.1–17.14	Tue	9:30–13:15	H33	**Correlated Electrons: Method Development**
TT 18.1–18.9	Tue	9:30–13:15	H36	**Focus Session: Strongly Correlated Quantum States in Moiré Heterostructures (joint session TT/HL/MA)**
TT 19.1–19.13	Tue	9:30–13:00	H37	**Many-body Quantum Dynamics I (joint session DY/TT)**
TT 20.1–20.10	Tue	10:30–13:00	H8	**2D Materials: Electronic Structure and Exitations I (joint session O/HL/TT)**
TT 21.1–21.7	Tue	11:15–13:00	H13	**Quantum Dots and Wires: Transport (joint session HL/TT)**
TT 22.1–22.6	Tue	14:00–15:30	H37	**Many-body Systems: Equilibration, Chaos, and Localization (joint session DY/TT)**
TT 23	Tue	14:15–15:45	H33	**Members' Assembly**
TT 24.1–24.11	Wed	9:30–13:00	H31	**Unconventional Superconductors**
TT 25.1–25.11	Wed	9:30–12:30	H32	**Superconductivity: Supercurrent Diode Effect**
TT 26.1–26.12	Wed	9:30–12:45	H33	**Correlated Magnetism – Frustrated Systems**
TT 27.1–27.7	Wed	9:30–12:45	H36	**Focus Session: Nonlinear Spectroscopy of Collective Excitations in Quantum Magnets (joint session TT/MA)**
TT 28.1–28.13	Wed	9:30–13:00	H37	**Many-body Quantum Dynamics II (joint session DY/TT)**
TT 29.1–29.8	Wed	10:30–12:45	H11	**2D Materials: Electronic Structure and Exitations II (joint session O/HL/TT)**
TT 30.1–30.3	Wed	15:00–15:45	H17	**Nanomechanical systems (joint session HL/TT)**
TT 31.1–31.6	Wed	15:00–16:45	H31	**Topology: Quantum Hall Systems**
TT 32.1–32.6	Wed	15:00–16:30	H32	**Superconductivity: Yu-Shiba-Rusinov and Andreev Physics**
TT 33.1–33.11	Wed	15:00–18:15	H33	**Correlated Magnetism – Spin Liquids**
TT 34.1–34.13	Wed	15:00–18:30	H36	**Superconductivity: Theory**
TT 35.1–35.9	Wed	15:00–18:00	P3	**Topology: Poster**
TT 36.1–36.9	Wed	15:00–18:00	P3	**Nanotubes, BEC, Cryocoolers: Poster**
TT 37.1–37.62	Wed	15:00–18:00	P4	**Correlated Electrons: Poster**
TT 38.1–38.7	Wed	16:45–18:30	H32	**Superconducting Electronics: SQUIDs, Qubits, Circuit QED I**
TT 39.1–39.6	Wed	17:00–18:30	H31	**Twisted Materials / Systems (joint session TT/HL)**
TT 40.1–40.6	Wed	17:30–19:00	H19	**Spin Transport and Orbitronics, Spin-Hall Effects II (joint session MA/TT)**
TT 41.1–41.12	Thu	9:30–12:45	H31	**Quantum-Critical Phenomena (joint session TT/DY)**
TT 42.1–42.14	Thu	9:30–13:15	H32	**Superconductivity: Tunneling and Josephson Junctions**
TT 43.1–43.13	Thu	9:30–13:00	H33	**Correlated Electrons: Other Theoretical Topics**

TT 44.1–44.7	Thu	9:30–12:45	H36	**Focus Session: Ising Superconductivity in Monolayer Transition Metal Dichalcogenides (joint session TT/HL/MA)**
TT 45.1–45.8	Thu	10:30–12:30	H11	**2D Materials: Electronic Structure and Exitations III (joint session O/HL/TT)**
TT 46.1–46.8	Thu	15:00–17:15	H13	**Transport Properties (joint session HL/TT)**
TT 47.1–47.13	Thu	15:00–18:30	H31	**Fluctuations, Noise and Other Transport Topics (joint session TT/DY)**
TT 48.1–48.5	Thu	15:00–16:30	H32	**Topology: Majorana Physics**
TT 49.1–49.13	Thu	15:00–18:30	H33	**Graphene and 2D Materials (joint session TT/HL)**
TT 50.1–50.13	Thu	15:00–18:30	H36	**Superconducting Electronics: SQUIDs, Qubits, Circuit QED II**
TT 51.1–51.6	Thu	16:45–18:15	H32	**Topological Superconductors**
TT 52.1–52.7	Fri	9:30–11:15	H31	**Nickelates and Other Complex Oxides**
TT 53.1–53.12	Fri	9:30–12:45	H32	**Topology: Other Topics**
TT 54.1–54.12	Fri	9:30–12:45	H33	**Correlated Electrons: Charge Order**
TT 55.1–55.13	Fri	9:30–13:00	H36	**Superconducting Electronics: SQUIDs, Qubits, Circuit QED III**
TT 56.1–56.7	Fri	9:30–11:15	H37	**Quantum Dynamics, Decoherence, and Quantum Information (joint session DY/TT)**
TT 57.1–57.7	Fri	10:30–12:15	H25	**Topology and Symmetry-protected Materials (joint session O/TT)**
TT 58.1–58.6	Fri	11:30–13:00	H31	**f-Electron Systems and Heavy Fermions**
TT 59.1–59.6	Fri	11:30–13:00	H37	**Quantum Chaos (joint session DY/TT)**

Members' Assembly of the Low Temperature Physics Division

Tuesday 14:15–15:45 H33

- Report
- Outlook 2025
- Miscellaneous