

Crystalline Solids and their Microstructure Division

Fachverband Kristalline Festkörper und deren Mikrostruktur (KFM)

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Overview of Invited Talks and Sessions

(Lecture halls H5 and H7; Poster P2)

Invited Talks

KFM 2.1	Mon	9:30–10:00	H5	Domain-wall engineering in multiferroic materials — ●GUILLAUME NATAF
KFM 2.5	Mon	11:15–11:45	H5	Charged Higher Order Topologies in Room Temperature Magnetoelectric Multiferroic Thin Films — ●SHELLY CONROY, KALANI MOORE, SINEAD GRIFFIN, LYNETTE KEENEY, EOGHAN O'CONNELL
KFM 7.1	Mon	15:00–15:30	H5	Multiferroic coupling on the level of domain walls — ●MADS C. WEBER, YANNIK ZEMP, MARCELA GIRALDO, EHSAN HASSANPOUR, QUINTIN MEIER, YUSUKE TOKUNAGA, YOSHINORI TOKURA, SANG-WOOK CHEONG, NICOLA N. SPALDIN, THOMAS LOTTERMOSER, MANFRED FIEBIG
KFM 10.2	Tue	10:00–10:30	H5	Negative capacitance and voltage amplification in ferroelectric heterostructures — ●JORGE INIGUEZ
KFM 10.4	Tue	11:15–11:45	H5	Magnetization processes in SmFeO_3 — ●THOMAS SCHREFL, ALEXANDER KOVACS, ROMAN BEIGELBECK, HUBERT BRÜCKL, SHIXUN CAO, WEI REN
KFM 18.1	Wed	15:00–15:30	H5	Deep understanding of advanced optical and dielectric materials for fusion diagnostic applications — ●ANATOLI I. POPOV, E KOTOMIN, V KUZOVKOV, A LUSHCHIK, THEO A SCHERER

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 SmCo₅ to Nd₂Fe₁₄B** — ●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

Sessions

KFM 1.1–1.3 Sun 16:00–18:15 H3 **Tutorial: Functional Ferroics (joint session KFM/TUT)**
 KFM 2.1–2.7 Mon 9:30–12:25 H5 **Focus Session: Defects and Interfaces in Multiferroics 1**
 KFM 3.1–3.4 Mon 9:30–10:50 H7 **Microscopy and Tomography with X-ray, Photons, Electrons, Ions and Positrons**
 KFM 4.1–4.11 Mon 9:30–12:45 H34 **Perovskite and Photovoltaics 1 (joint session HL/ CPP/ KFM)**
 KFM 5.1–5.9 Mon 10:30–13:00 S053 **New Methods and Developments: Scanning Probe Techniques 1 (joint session O/ KFM)**
 KFM 6.1–6.4 Mon 11:05–12:25 H7 **Instrumentation and Methods for Micro- and Nanoanalysis**
 KFM 7.1–7.6 Mon 15:00–17:25 H5 **Focus Session: Defects and Interfaces in Multiferroics 2**
 KFM 8.1–8.6 Mon 15:00–17:15 H7 **Crystallography in Materials Science, Microstructure and Dielectric Properties**
 KFM 9.1–9.5 Mon 15:00–16:15 S053 **New Methods and Developments: Scanning Probe Techniques 2 (joint session O/ KFM)**
 KFM 10.1–10.6 Tue 9:30–12:25 H5 **Focus session: Polar Materials Meet Energy demands**
 KFM 11.1–11.5 Tue 9:30–11:10 H7 **Crystal Structure Defects / Real Structure / Microstructure**
 KFM 12.1–12.12 Tue 9:30–12:45 H37 **Skyrmions 1 (joint session MA/ KFM)**
 KFM 13.1–13.5 Tue 10:15–11:30 H46 **Materials for Storage and Conversion of Energy (joint session MM/ KFM)**
 KFM 14.1–14.7 Wed 9:30–12:05 H5 **Ferroics – Domains and Domain Walls 1**
 KFM 15.1–15.7 Wed 9:30–12:05 H7 **Materials for Energy Storage (joint session KFM/ CPP)**
 KFM 16.1–16.11 Wed 9:30–12:30 H33 **Oxide Semiconductors (joint session HL/ KFM)**
 KFM 17.1–17.10 Wed 15:00–18:30 H3 **Focus Session: Surfaces and Interfaces of (Incipient) Ferroelectrics (joint session O/ KFM)**
 KFM 18.1–18.5 Wed 15:00–16:50 H5 **Focus Session: Diamond and related dielectric materials**
 KFM 19.1–19.3 Wed 15:00–16:00 H7 **Ferroics – Domains and Domain Walls 2**
 KFM 20.1–20.11 Wed 15:00–18:15 H34 **Perovskite and Photovoltaics 2 (joint session HL/ CPP/ KFM)**
 KFM 21.1–21.12 Wed 15:00–18:30 H36 **Functional semiconductors for renewable energy solutions (joint session HL/ KFM)**
 KFM 22 Wed 17:00–18:00 H5 **Members’ Assembly**
 KFM 23.1–23.13 Thu 9:30–12:45 H37 **Skyrmions 2 (joint session MA/ KFM)**
 KFM 24.1–24.7 Thu 10:30–12:30 H6 **New Methods and Developments: Spectroscopies, Diffraction and Others (joint session O/ KFM)**
 KFM 25.1–25.21 Thu 15:00–18:00 P2 **Poster**
 KFM 26.1–26.8 Thu 15:00–18:30 H10 **Focus Session: Topological Devices (joint session TT/ KFM)**

KFM 27.1–27.6	Thu	15:00–16:30	H31	Perovskite and Photovoltaics 3 (joint session HL/CPP/KFM)
KFM 28.1–28.10	Thu	15:00–17:45	H37	Topological Insulators (joint session MA/KFM)
KFM 29.1–29.7	Thu	15:00–16:45	H47	Multiferroics and Magnetoelectric Coupling (joint session MA/KFM)
KFM 30.1–30.13	Fri	9:30–12:45	H37	Skyrmions 3 (joint session MA/KFM)
KFM 31.1–31.4	Fri	11:30–12:30	H38	Electrical, Dielectrical and Optical Properties of Thin Films (joint session CPP/KFM)

Members' Assembly of the Crystalline Solids and their Microstructure Division

Wednesday 17:00–18:00 H5