

Workshop on Topology in Magnetic Materials

22-24 November 2022
Herzberg, Switzerland



Report of Contributions

Contribution ID: 1

Type: **not specified**

Welcome

Tuesday, November 22, 2022 9:00 AM (15 minutes)

Contribution ID: 4

Type: **not specified**

Magnetism in topological materials from insulators to metals

Tuesday, November 22, 2022 9:15 AM (1 hour)

Presenter: BATISTA, Cristian

Session Classification: SESSION 1: Introductory Lectures

Contribution ID: 5

Type: **not specified**

Experimental perspective on the field of magnetism in bulk topological materials

Tuesday, November 22, 2022 11:00 AM (1 hour)

Presenter: CHECKELSKY, Joseph

Session Classification: SESSION 1: Introductory Lectures

Contribution ID: 6

Type: **not specified**

Topological Quantum Chemistry procedure for magnetic systems

Tuesday, November 22, 2022 2:15 PM (45 minutes)

Presenter: VERGNIORY, Maia

Session Classification: SESSION 2: Theory and Symmetry of Topological Materials

Contribution ID: 7

Type: **not specified**

Exploring materials space at the speed of ICT: quantum spin Hall insulators, Weyl semimetals, and spin-layer-locking FETs

Tuesday, November 22, 2022 5:30 PM (45 minutes)

Presenter: MARZARI, Nicola

Session Classification: SESSION 2: Theory and Symmetry of Topological Materials

Contribution ID: 8

Type: **not specified**

Topology in condensed matter: electrons, spins, and their interplay

Tuesday, November 22, 2022 1:30 PM (45 minutes)

In this tutorial talk I will review notions of topology and their various incarnations in condensed matter: topological Bloch bands, or defects in order parameter configurations, such as vortices or skyrmions. I will discuss some instances of how the latter may influence the former.

Presenter: MÜLLER, Markus

Session Classification: SESSION 2: Theory and Symmetry of Topological Materials

Contribution ID: 9

Type: **not specified**

Neutron and x-ray scattering studies of magnetic order in topological metals, semimetals and insulators

Wednesday, November 23, 2022 8:30 AM (45 minutes)

Presenter: BOOTHROYD, Andrew

Session Classification: SESSION 3: Experiments and Methodology

Contribution ID: **10**

Type: **not specified**

Bulk measurements, electrical and thermal transport

Wednesday, November 23, 2022 9:15 AM (45 minutes)

Presenter: HIRSCHBERGER, Max

Session Classification: SESSION 3: Experiments and Methodology

Contribution ID: 11

Type: **not specified**

Magneto-optical study on topological magnets

Wednesday, November 23, 2022 10:30 AM (45 minutes)

Presenter: TAKAHASHI, Youtarou

Session Classification: SESSION 3: Experiments and Methodology

Contribution ID: 12

Type: **not specified**

Quantitative magnetic imaging of skyrmions using transmission electron microscopy

Wednesday, November 23, 2022 11:15 AM (45 minutes)

Presenter: KOVACS, Andras

Session Classification: SESSION 3: Experiments and Methodology

Contribution ID: 13

Type: **not specified**

Beyond skyrmions: review & perspectives of alternative magnetic nano-objects

Wednesday, November 23, 2022 2:00 PM (45 minutes)

Presenter: GÖBEL, Börge

Session Classification: SESSION 4: Multi-k spin textures, merons, skyrmions...

Contribution ID: 14

Type: **not specified**

Latest discoveries of new skyrmion materials

Wednesday, November 23, 2022 2:45 PM (45 minutes)

Presenter: SEKI, Shinichiro

Session Classification: SESSION 4: Multi-k spin textures, merons, skyrmions...

Contribution ID: 15

Type: **not specified**

Skyrmion fluid and bimeron glass, competition with a chiral spin liquid

Wednesday, November 23, 2022 4:10 PM (45 minutes)

Presenter: JAUBERT, Ludovic

Session Classification: SESSION 4: Multi-k spin textures, merons, skyrmions...

Contribution ID: 16

Type: **not specified**

X-ray resonant magnetic scattering and imaging

Wednesday, November 23, 2022 8:50 PM (40 minutes)

Presenter: UKLEEV, Victor

Session Classification: TUTORIAL SESSION: Multi-k spin textures, merons, skyrmions...

Contribution ID: 17

Type: **not specified**

Multi-k from neutron single diffraction + SANS

Wednesday, November 23, 2022 8:10 PM (40 minutes)

Presenter: SIMETH, Wolfgang

Session Classification: TUTORIAL SESSION: Multi-k spin textures, merons, skyrmions...

Contribution ID: **18**

Type: **not specified**

Magnetic symmetry for multi-k structure models

Wednesday, November 23, 2022 7:30 PM (40 minutes)

Presenter: POMJAKUSHIN, Vladimir

Session Classification: TUTORIAL SESSION: Multi-k spin textures, merons, skyrmions...

Contribution ID: 19

Type: **not specified**

Topological magnons

Thursday, November 24, 2022 8:30 AM (45 minutes)

Presenter: MCCLARTY, Paul

Session Classification: SESSION 5: Novel electronic responses due to complex magnetism

Contribution ID: 20

Type: **not specified**

Correlation and topology induced exotic transport phenomena in magnetic pyrochlore and half-Heusler compounds

Thursday, November 24, 2022 11:00 AM (45 minutes)

Presenter: UEDA, Kentaro

Session Classification: SESSION 5: Novel electronic responses due to complex magnetism

Contribution ID: 21

Type: **not specified**

Emergent transport phenomena and phase transitions in topological chiral magnets

Thursday, November 24, 2022 9:35 AM (45 minutes)

Presenter: FUJISHIRO, Yukako

Session Classification: SESSION 5: Novel electronic responses due to complex magnetism

Contribution ID: 22

Type: **not specified**

Future perspective on experimental phenomena involving topology and magnetism

Thursday, November 24, 2022 2:40 PM (45 minutes)

Presenter: TOKURA, Yoshinori

Session Classification: CLOSING SESSION: perspectives and new directions

Contribution ID: 23

Type: **not specified**

Future theoretical perspective on phenomena involving topology and magnetism

Thursday, November 24, 2022 3:25 PM (45 minutes)

Presenter: SPALDIN, Nicola

Session Classification: CLOSING SESSION: perspectives and new directions

Contribution ID: 25

Type: **not specified**

Magnetoelectric Classification of Skyrmions

Tuesday, November 22, 2022 3:00 PM (20 minutes)

Presenter: BHOWAL, Sayantika

Session Classification: SESSION 2: Theory and Symmetry of Topological Materials

Contribution ID: 26

Type: **not specified**

Charge order and superconductivity in kagome materials

Tuesday, November 22, 2022 4:45 PM (45 minutes)

Presenter: NEUPERT, Titus

Session Classification: SESSION 2: Theory and Symmetry of Topological Materials

Contribution ID: 27

Type: **not specified**

High-resolution magnetic imaging of skyrmions in 3D

Wednesday, November 23, 2022 12:00 PM (20 minutes)

Presenter: RELINGHAUS, Bernd

Session Classification: SESSION 3: Experiments and Methodology

Contribution ID: 28

Type: **not specified**

Zero-field magnetic hedgehogs in a triangular Kondo lattice $\text{CePtAl}_4\text{Ge}_2$

Wednesday, November 23, 2022 5:25 PM (20 minutes)

Presenter: SHIN, Soohyeon

Session Classification: SESSION 4: Multi-k spin textures, merons, skyrmions...

Contribution ID: 31

Type: **not specified**

Thermal Evolution of Dirac Magnons in the Honeycomb Ferromagnet CrBr₃

Thursday, November 24, 2022 9:15 AM (20 minutes)

Presenter: NIKITIN, Stanislav

Session Classification: SESSION 5: Novel electronic responses due to complex magnetism

Contribution ID: 32

Type: **not specified**

Magneto-optical Detection of Topological Contributions to the Anom. Hall Effect

Thursday, November 24, 2022 10:20 AM (20 minutes)

Presenter: BORDACS, Sandor

Session Classification: SESSION 5: Novel electronic responses due to complex magnetism

Contribution ID: 33

Type: **not specified**

Muon spin rotation insight into the topological kagome magnets & superconductors

Thursday, November 24, 2022 11:45 AM (45 minutes)

Presenter: GUGUCHIA, Zurab

Session Classification: SESSION 5: Novel electronic responses due to complex magnetism

Contribution ID: 34

Type: **not specified**

muSR studies of spin fluctuations and critical behavior in (Mn,Fe)Si & MnGe

Wednesday, November 23, 2022 4:55 PM (30 minutes)

Presenter: UEMURA, Yasutomo

Session Classification: SESSION 4: Multi-k spin textures, merons, skyrmions...

Contribution ID: 35

Type: **not specified**

Recent advances in DFT calculations of topological magnetic materials

Tuesday, November 22, 2022 4:00 PM (45 minutes)

Presenter: ARITA, Ryotaro

Session Classification: SESSION 2: Theory and Symmetry of Topological Materials

Contribution ID: 36

Type: **not specified**

Untangling twin domains and discovery of unconventional quasiparticle in Fe₃Sn₂: Laser ARPES perspective

Thursday, November 24, 2022 2:00 PM (20 minutes)

Presenter: EKAHANA, Sandy

Session Classification: SESSION 5: Novel electronic responses due to complex magnetism

Contribution ID: 37

Type: **not specified**

Observation of vortex rings in a bulk micromagnet using X-ray tomography

Thursday, November 24, 2022 2:20 PM (20 minutes)

Presenter: GLIGA, Sebastian

Session Classification: SESSION 5: Novel electronic responses due to complex magnetism