

Joint Workshop IFW Dresden – S.N. Bose National Center for Basic Sciences „Novel Magnetic and Topological Quantum Materials“

30th August – 1st September 2022
IFW Dresden A1E.10

PROGRAM

Organizers: Bernd Büchner (IFW) & Thirupathaiah Setti (SNBNCBS)

▶ Aug
30th

- 08:40 Registration
- 09:10 Presentation of IFW (Bernd Büchner, IFW Scientific Director)
- 09:25 Presentation of SNBNCBS (Tanusri Saha-Dasgupta, SNBNCBS Director)
- 09:40 Disorder and Topology in WTe_2 (Joseph Dufouleur, IFF/IFW)
- 10:20 Coffee break (Atrium)
- 11:00 Duality, vortex strings, and fermion pairing (Amitabha Lahiri, SNBNCBS)
- 11:40 Clarifying the origin of CDW and finding the routes to superconductivity in Ti-Se systems (Andrii Kuibarov, IFF/IFW)
- 12:20 Lunch break (IFW Restaurant)
- 13:30 Electronic Properties of Some Topological Systems (Thirupathaiah Setti, SNBNCBS)
- 14:10 The fate of density waves in the presence of a higher order van Hove singularity (Dmitriy Efremov, IFF/IFW)
- 14:50 Coffee break (Atrium)
- 15:30 Metastable low energy states in TiS_2 , $TiSe_2$, $TiTe_2$ systems predicted with evolutionary algorithms (Oleh Feia, IFF/IFW) t.b.c.
- 16:10 Lab tours & Small-group discussions



Leibniz Institute
for Solid State and
Materials Research
Dresden



PROGRAM

▶ Aug
31st

- 09:00 A Tale of Two Nickelates (Tanusri Saha-Dasgupta, SNBNCBS)
09:40 About single particle (ARPES) and two particle (EELS) excitations in simple and correlated metals (Jörg Fink, IFF/IFW)
10:20 Coffee break (Atrium)
11:00 On the growth and characterization of $\text{SmOFe}_{1-x}\text{Co}_x\text{As}$ single crystals and how they differ from their polycrystalline counterparts (Felix Anger, IFF/IFW)
11:40 Insights into the magnetism of van der Waals compounds: from magnetic topological insulators to transition-metal phosphorus sulfides (Laura Corredor Bohórquez, IFF/IFW)
12:20 Lunch break (IFW Restaurant)
13:30 Transport phenomena in nano-scale devices to atomic-scale junctions (Atindra Nath Pal, SNBNCBS)
14:10 Functional atoms and molecules on surfaces: experimental advances and theoretical insights (Stanislav Avdoshenko, IFF/IFW)
14:50 Coffee break (Atrium)
15:30 Kondo interactions of helical edge channels with charge puddles (Saquib Shamim, Julius-Maximilians-Universität Würzburg)
16:10 Non-Hermitian physics without gain or loss: the skin effect of reflected waves (Cosma Fulga, ITF/IFW)
Joint dinner in Dresden's old town from 19:00

▶ Sept
1st

- 09:00 Quantum phase transitions in frustrated trimers (Manorajan Kumar, SNBNCBS)
09:40 Interplay of disorder and Heisenberg interactions in a Kitaev magnet (Ayushi Singhania, ITF/IFW)
10:20 Coffee break (Atrium)
11:00 Band-structure calculations for correlated magnetic insulators (Oleg Janson, ITF/IFW)
11:40 Spin dynamics of the layered van der Waals magnets probed by the multifrequency electron spin resonance spectroscopy (Alexey Alfonsov, IFF/IFW)
12:20 NMR on the 2D van der Waals Magnets ABP_2S_6 with $\text{AB} = \text{Ni}_2, \text{Mn}_2, \text{Fe}_2,$ and CuCr (Hans-Joachim Grafe, IFF/IFW)
13:00 Lunch break (IFW Restaurant)
14:00 Round table discussion & coffee (closed door session in A2E.04)