

**Day 1 (9.30)**

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| <b>Registration</b>                    |  | 8:30-8:50   |
| Nanlin Wang, and<br>Bernhard Keimer    | <b>Opening remarks</b>   | 8:50-9:00   |
| <b>Session chair: Andreas Schnyder</b> |  |             |
| Xincheng Xie                           | Toward dissipationless topotronics   | 9:00-9:30   |
| Qingfeng Sun                           | Theory of chiral-induced spin selectivity in chiral molecule systems   | 9:30-10:00  |
| Niclas Heinsdorf                       | Altermagnetic Instabilities from Quantum Geometry  | 10:00-10:15 |
| (Group Photo & Coffee Break)           |  | 10:15-10:45 |
| <b>Session chair: Xincheng Xie</b>     |  |             |
| Andreas Schnyder                       | Quantum metrics, Berry curvature, and (non-linear) Hall effects in topological magnets   | 10:45-11:15 |
| Ryuichi Shindou                        | Quasi-localization phenomena in chiral symmetry classes  | 11:15-11:45 |
| Pengwei Zhao                           | Fractionalization and topological orders in dipoler systems  | 11:45-12:00 |
| (Lunch)                                |  | 12:00-13:30 |
| <b>Session chair: Stefan Kaiser</b>    |  |             |
| Jian Wang                              | High-temperature field-free superconducting diode effect in high-T <sub>c</sub> cuprates   | 13:30-14:00 |
| Yingying Peng                          | Time-resolved X-ray scattering study of charge order in cuprates and TiSe <sub>2</sub>   | 14:00-14:30 |
| Yiran Liu                              | Spectroscopic study of charge order and pseudogap in the homogeneous cuprate superconductor YBa <sub>2</sub> Cu <sub>4</sub> O <sub>8</sub>      | 14:30-14:45 |
| Xiaowen Zhang                          | Resolving phonons in superconductor Bi <sub>2</sub> Sr <sub>2</sub> CaCu <sub>2</sub> O <sub>8+δ</sub> at sub-unit-cell resolution               | 14:45-15:00 |
| (Coffee Break)                         |  | 15:00-15:30 |
| <b>Session chair: Jian Wang</b>        |  |             |
| Nanlin Wang                            | Nonequilibrium and nonlinear Terahertz spectroscopy study on Higgs and other collective modes in conventional and unconventional superconductors | 15:30-16:00 |
| Stefan Kaiser                          | Higgs spectroscopy on superconductors via phase-resolved THz-THG   | 16:00-16:30 |
| Dirk Manske                            | Theory of Higgs spectroscopy for superconductors: latest results   | 16:30-17:00 |
| Junhan Wang                            | Terahertz field induced both inversion and time-reversal symmetry breaking in PbTe   | 17:00-17:15 |
| Jiawei Zhang                           | Stacking-selective self-intercalation in Nb <sub>1+x</sub> Se <sub>2</sub>   | 17:15-17:30 |

**Day 2 (10.1)**

|  |   |             |
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| <b>Session chair: Dirk Manske</b>  |   |             |
| Xiongjun Liu   | Symmetry-protected topological quantum computing: theory and experiment   | 9:00-9:30   |
| Jianjun Zhang  | Silicon-based nanostructures for quantum computing and photonics  | 9:30-10:00  |
| Anatoly Obzhirov   | Constructing gauge-invariant lattice models for cavity Quantum Electrodynamics  | 10:00-10:15 |
| (Coffee Break)   |   | 10:15-10:45 |
| <b>Session chair: Bernhard Keimer</b>  |   |             |
| Dennis Huang   | Visualizing p-orbital texture in the charge density wave of CeSbTe  | 10:45-11:15 |
| Shuang Jia   | Giant anomalous Hall and Nernst effects in Ce-based heavy fermions  | 11:15-11:45 |
| Lukas Debbeler   | Marginal Fermi liquid behavior at flat hot spots at the onset of incommensurate density wave order  | 11:45-12:00 |
| (Lunch)  |   | 12:00-13:30 |
| <b>Session chair: Gang Chen</b>  |   |             |
| Bernhard Keimer  | Strain modulation of quantum materials -- status and perspectives   | 13:30-14:00 |
| Yuan Li  | Investigation of multi-q magnetic orders and transitions in frustrated honeycomb cobalt oxides  | 14:00-14:30 |
| Xianghong Jin  | Robust triple-q magnetic order with trainable spin vorticity in $\text{Na}_2\text{Co}_2\text{TeO}_6$  | 14:30-14:45 |
| (Coffee Break)   |   | 14:45-15:15 |
| <b>Session chair: Yuan Li</b>  |   |             |
| Gang Chen  | SSH stacking, surface fractionalization and anomaly in cluster Mott insulator 1T-TaS <sub>2</sub> , and emergent BKT and Kugel-Khomskii physics in bilayer cobaltates | 15:15-15:45 |
| Fa Wang  | Corrected nonlinear spin wave theory  | 15:45-16:15 |
| Giovanni Li Manni  | Taming Transition-Metal Clusters: A Theoretical Journey into Many-Unpaired-Electron Systems   | 16:15-16:45 |
| <b>Poster Session</b><br>(the poster should hang for the entire meeting at <i>the Hall of the Physics Building</i> ) |   | 16:45-18:00 |

**Day 3 (10.2)**

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| <b>Session chair: Nanlin Wang</b>       |  |             |
| Matthias Heptings                       | New spectroscopic insights into nickelate superconductors  | 9:00-9:30   |
| Yi Lu                                   | Dual instability of superconductivity from oxygen defects in $\text{La}_3\text{Ni}_2\text{O}_7$                        | 9:30-10:00  |
| Shilong Zhang                           | Distinct orbital contributions to electronic and magnetic structures in $\text{La}_4\text{Ni}_3\text{O}_{10}$          | 10:00-10:15 |
| (Coffee Break)                          |  | 10:15-10:45 |
| <b>Session chair: Fa Wang</b>           |  |             |
| Xiaobo Lu                               | Fractional Chern insulators in Moire graphene  | 10:45-11:15 |
| Zhida Song                              | Heavy fermion and Hundness in graphene Moire systems   | 11:15-11:45 |
| Renfei Wang                             | A quantitative investigation of Laughlin pumping in quantum Hall effects   | 11:45-12:00 |
| (Lunch)                                 |  | 12:00-13:30 |
| <b>Session chair: Matthias Heptings</b> |  |             |
| Christian Ast                           | New Quantum Limits in Scanning Tunneling Microscopy: From Dynamical Coulomb Blockade to Cavity Quantum Electrodynamics | 13:30-14:00 |
| Yan Zhang                               | Exotic correlated electronic states in $1\text{T-TaS}_2/\text{TaSe}_2$   | 14:00-14:30 |
| Lichen Wang                             | Uniaxial strain control of magnetism in ruthenate  | 14:30-15:00 |
| Wenlu Lin                               | The interaction between nuclear spin and electron Wigner crystal   | 15:00-15:15 |
| Closing Remarks                         |  | 15:15-15:25 |
| Free Discussion                         |  | 15:25-19:00 |