Workshop 1: Quantum Phases and Ordering

Workshop Chairs: Ana Milosavljević[a], Yann Gallais[b], Myrsini Kaitatzi[c], Igor Vaskivskyi[d]

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The workshop Quantum Phases and Ordering explores the rich and diverse landscape of strongly correlated materials, focusing on emergent quantum phases and ordering phenomena. As part of the DYNAMIQS project (Dynamics of CDW Transition in Strained Quasi-1D Systems), funded by the Science Fund of the Republic of Serbia, these sessions bring together researchers investigating charge density waves, unconventional superconductivity, and topological or metastable quantum states. The program includes both experimental and theoretical contributions, addressing quantum criticality, symmetry breaking, ultrafast dynamics, and the interplay between electronic and lattice degrees of freedom. Special emphasis is placed on the effects of strain and reduced dimensionality in tuning and stabilizing novel phases. The workshop aims to foster discussion on how these intertwined factors drive complex behavior in correlated quantum systems.

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Project: *Dynamics of CDW Transition in Strained Quasi-1D Systems*

Acronym: DYNAMIQS

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Tuesday, May 20th — Start time: 9:00 am

Workshop 1:	**Quantum Phases and Ordering**	**Session 1**
Chair:	Ana Milosavljević	
9:00 – 09:30	Thickness dependence of the CrI_3 dielectric function	Andres Cantarero, Universidad de Valencia, Spain
9:30 – 10:00	Surface Charge Density Wave in UTe_2	Herman Suderow, Universidad Autonoma de Madrid, Spain
10:00 – 10:30	Ultrafast Raman scattering in quantum materials	Yann Gallais, Université Paris Cité, France
10:30 – 10:50	Coffee break	
Chair:	Yann Gallais	
10:50 – 11:20	The stress-strain relationship of quantum materials: New method developments and application to Sr_2RuO_4	Caitlin O'Neil, Max-Planck-Institut für Chemische Physik fester Stoffe, Germany
11:20 – 11:50	Coexistence of Superconductivity and Chiral Charge Density Wave in $TiSe_2$	Goran Karapetrov, Drexel University, United States
11:50 – 12:20	Sur Elasticity of Charge Density Wave Superlattice in Low-dimensional Materials	Zhenzhong Shi, Soochow University, Taiwan

Thursday, May 22nd — Start time: 9:00 am

Workshop 1:	**Quantum Phases and Ordering**	**Session 2**
Chair:	Myrsini Kaitatzi	
9:00 – 09:30	Anisotropic Strain Response in FeSe	Ana Milosavljević, Institute of Physics Belgrade, Serbia
9:30 – 10:00	Electron and Lattice Dynamics During Transition to a Metastable Hidden State	Igor Vaskivskyi, Jozef Stefan Institute, Slovenia
10:00 – 10:30	Imaging of electrically controlled van der Waals layer stacking in 1T-TaS_2	Corinna Burri, Paul Scherrer Institute/ETH Zurich, Switzerland
10:30 – 10:50	Coffee break	
Chair:	Igor Vaskivskyi	
10:50 – 11:20	Charge density waves and superconductivity in Vanadium based Kagome metals	Tobias Ritschel, Institute of solid state and materials physics, Germany
11:20 – 11:50	Evidence of spin density wave gap in $La_3Ni_2O_7$	Ge He, Beijing Institute of Technology, China
11:50 – 12:20	Electronically-Driven Local Lattice Distortions in Molecule-Intercalated Iron-Chalcogenide Superconductors	Myrsini Kaitatzi, Foundation for Research and Technology - Hellas (FORTH), Greece