

WORKSHOP PROGRAM

Sunday, 16. 6. 2024

18h ~ 21h Welcome apero, botanical garden, pavillon PER 06 (Chemin du Musee 6, 1700 Fribourg)

Monday, 17. 6. 2024

Talks take place in room G140 of building PER 21 (Boulevard de Perolles 90, 1700 Fribourg)

8h30 - 8h45 Welcome

Session 1 Chair: M. Sigrist (ETH)

8h45 - 9h15 Y. Yanase (Kyoto University)
NONRECIPROCAL PHENOMENA IN SUPERCONDUCTORS: EXOTIC PAIRING, TOPOLOGICAL SUPERCONDUCTIVITY, AND NONEQUILIBRIUM DIODE EFFECT

9h15 - 9h45 K. Kudo (Kyushu University)
DISORDER-INDUCED TOPOLOGICAL SUPERCONDUCTIVITY IN A QUANTUM-HALL-SUPERCONDUCTOR HYBRID

9h45 - 10h15 N. Tsuji (UTokyo)
QUANTUM MANY-BODY SCARS WITH UNCONVENTIONAL SUPERCONDUCTING PAIRINGS

10h15 - 11h Coffee break

Session 2 Chair: H. Tsunetsugu (UTokyo)

11h - 11h30 C. Aron (EPFL & Ecole Normale Superieure)
QUANTUM AVALANCHE IN CORRELATED INSULATORS DRIVEN BY DC FIELDS

11h30 - 12h J. Yan (University of Fribourg)
SPIN CORRELATIONS IN THE BI-LAYER STACK OF HUBBARD MODEL: A TWO-PARTICLE SELF-CONSISTENT STUDY

12h - 12h30 B. Normand (PSI)
NONEQUILIBRIUM QUANTUM MAGNETISM BY PULSED MAGNETOPHONONICS

12h30 - 13h45 Lunch break

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Session 3 Chair: Y. Nomura (Tohoku University)

13h45 - 14h15 K. Shiozaki (Kyoto University)
ON THE UNIQUENESS OF SYMMETRIC WANNIER FUNCTION

14h15 - 14h45 H. Shinaoka (Saitama University)
APPLICATIONS OF QUANTICS TENSOR CROSS INTERPOLATION TO QUANTUM MANY-BODY PHYSICS

14h45 - 15h30 Coffee break

Session 4 Chair: F. Mila (EPFL)

15h30 - 16h A. Ramires (PSI)
IMPROPER ORDERS IN NONSYMMORPHIC SYSTEMS

16h - 16h30 O. Aksoy (MIT)
QUANTUM PHASE TRANSITIONS IN SPIN CHAINS WITH EXACT NON-INVERTIBLE SYMMETRIES

16h30 - 17h H. Kusunose (Meiji University)
SYMMETRY ADAPTED MODELING AND QUANTIFICATION OF CHIRALITY

Tuesday, 18. 6. 2024

Talks take place in room G140 of building PER 21 (Boulevard de Perolles 90, 1700 Fribourg)

Session 5 Chair: A. Laeuchli (PSI)

8h45 - 9h15 N. Yoshioka (UTokyo)
EARLY FAULT-TOLERANT QUANTUM COMPUTATION IN PRACTICE

9h15 - 9h45 Y. Nomura (Tohoku University)
ANALYZING STRONGLY CORRELATED ELECTRON SYSTEMS USING ARTIFICIAL NEURAL NETWORKS

9h45 - 10h15 C. Hotta (UTokyo)
FRAMEWORK FOR ENGINEERING EXACT QUANTUM MANY-BODY GROUND STATES IN ONE AND TWO DIMENSIONS

10h15-11h Coffee break

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- Session 6 Chair: A. Furusaki (RIKEN)
- 11h - 11h30 T. Neupert (University of Zurich)
REALIZING HIGHER ORDER TOPOLOGY
- 11h30 - 12h K. Sone (Tsukuba University & Tokyo University)
NONLINEARITY-INDUCED TOPOLOGICAL PHASE TRANSITION CHARACTERIZED BY THE NONLINEAR CHERN NUMBER
- 12h - 12h30 T. Bzdusek (University of Zurich)
SPECTRA AND TOPOLOGICAL NUMBERS IN HYPERBOLIC LATTICES
- 12h30 - 13h45 Lunch break
- 13h45 - 16h Poster session (PER 21, ground floor)
- 16h - 18h30 Leisurely hike (weather permitting)
- 18h30 ~ 20h Conference dinner at Restaurant - Brasserie de l'Epee (Planche Superieure 37/39, Fribourg)

Wednesday, 19. 6. 2024

Talks take place in room G140 of building PER 21 (Boulevard de Perolles 90, 1700 Fribourg)

- Session 7 Chair: T. Giamarchi (University of Geneva)
- 8h45 - 9h15 T. Yoshida (Kyoto University)
NON-HERMITIAN SKIN EFFECTS IN A BOSONIC CHAIN WITH STRONG CORRELATIONS
- 9h15 - 9h45 A. Rufino (EPFL)
QUANTIZED KASTELEYN TRANSITION IN A FRUSTRATED ISING MODEL ON THE KAGOME LATTICE
- 9h45 - 10h15 A. Laeuchli (PSI)
SPECTRA OF QUANTUM CRITICAL POINTS ON THE TORUS AND THE SPHERE: FINGERPRINTS AND SCALING DIMENSIONS
- 10h15 - 11h Coffee break

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- Session 8 Chair: N. Tsuji (UTokyo)
- 11h - 11h30 R. Kaneko (Sophia University and Waseda University)
PREDICTING LONG-TIME DYNAMICS OF QUANTUM MANY-BODY SYSTEMS BY DYNAMIC MODE DECOMPOSITION
- 11h30 - 12h S. Ray (University of Fribourg)
PHOTO-INDUCED HIDDEN PHASES IN MULTI-ORBITAL HUBBARD MODELS: A STEADY STATE APPROACH
- 12h - 12h30 S. Hoshino (Saitama University)
DERIVATION OF A GENERALIZED LLG EQUATION USING ELECTRON-PHONON COUPLING
- 12h30 - 13h45 Lunch break
- Session 9 Chair: T. Neupert (University of Zurich)
- 13h45-14h15 L. Rademaker (University of Geneva)
MOIRÉ IS DIFFERENT: METAL-INSULATOR TRANSITIONS, KONDO LATTICE PHYSICS AND CHIRAL SPIN LIQUIDS IN TRANSITION-METAL DICHALCOGENIDE BILAYERS
- 14h15 - 14h45 A. Koga (Tokyo Institute of Technology)
HYPERUNIFORMITY IN THE TWO-DIMENSIONAL PERIODIC AND QUASIPERIODIC LATTICES
- 14h45 - 15h15 A. Ueda (University of Ghent)
INTERACTING CHIRAL FERMIONS ON THE LATTICE WITH MATRIX PRODUCT OPERATOR NORMS
- 15h15 - 16h Coffee break
- Session 10 Chair: M. Oshikawa (UTokyo)
- 16h - 16h30 S. Takayoshi (Konan University)
SCANNING TUNNELING MICROSCOPY IN KITAEV QUANTUM SPIN LIQUID
- 16h30 - 17h H. Suwa (Tokyo University)
MAGNETIC EXCITATIONS OF WEAK MOTT INSULATOR
- 17h - 17h30 T. Giamarchi (University of Geneva)
LOW DIMENSIONAL QUANTUM MAGNETS: FROM QUANTUM PHASE TRANSITIONS TO QUANTUM SIMULATIONS
- 17h30 - 17h45 Closing