

KITP Conference: Dynamical Response and Transport in Quantum Magnets

(Aug 28-31, 2023)

Coordinators: Cristian Batista, Natalia Perkins and Lucile Savary

Monday, Aug 28, 2023

Transport, Chair: Oleg Starykh (Utah)

8:50am Lars Bildsten (KITP)	Welcome[Video][CC]
9:00am Leon Balents (KITP)	On transport and dynamical response in quantum magnets[Video][CC]
9:45am Hidenori Takagi (MPI-FKF)	Thermal transport in quantum magnets[Video][CC]
10:30am	Morning Break
11:00am Satoru Nakatsuji (U. Tokyo)	Anomalous transport and its electrical and strain manipulation in chiral Antiferromagnetic State[Video][CC]
11:45am Léo Mangeolle (ENS Lyon)	Phonon Thermal Hall Conductivity from Scattering with Collective Fluctuations[Slides][Video]
12:30pm	Lunch Break

Novel phenomena in 1D magnets, Chair: Urban Seifert (KITP)

2:00pm Lia Izabella Lovas (KITP)	Bound state formation in the excitation spectrum of quantum Ising chain CoNb₂O₆ in low transverse field[Slides][Video][CC]
2:45pm Alan Tennant (Tennessee)	Kardar Parisi Zhang Dynamics in the Heisenberg Chain[Slides][Video][CC]
3:30pm	Afternoon Break
4:00pm Elena Hassinger (MPI-CPFS)	Large magnetic heat transport and plateau phases in spin-chain compound YbAlO₃[Video][CC]
4:45pm Masaki Oshikawa (ISSP-Tokyo)	Spin dynamics near the field-induced gap-closing transition in 1D magnets[Video][CC]
5:30pm	SHUTTLE TO BWSCI

Tuesday, Aug 29, 2023

Triangular Lattice Systems, Chair: Lucile Savary (ENS Lyon)

9:00am Stanislav Nikitin (PSI)	Complete spectral response of the triangular lattice Heisenberg antiferromagnet[Video][CC]
9:45am Luis Manuel (IFIR)	Evidence of two-spinon bound states in the magnetic spectrum of Ba₃CoSb₂O₉[Slides][Video][CC]
10:30am	Morning Break
11:00am Andrey Zhedulev (ETH, Zurich)	Plateaux, spin density waves and Zeeman ladder in a planar distorted triangular lattice magnet[Video][CC]
11:45am Martin Mourigal (Georgia Tech)	Magnon pairing, interactions, and decay in iodine-based triangular spin-orbit magnets[Slides][Video][CC]
12:30pm	Lunch Break

Driven magnets, chirality and dynamics, Chair: Léo Mangeolle (ENS Lyon)

2:00pm Achim Rosch (U Cologne)	Archimedean screws, time crystals and flying domain walls[Video][CC]
2:45pm Max Hirschberger (RIKEN)	Detecting spin chirality by the thermal Hall effect[Embargoed]
3:30pm	Afternoon Break

4:00pm Wolfram Brenig (TU Braunschweig) [Second Order Spectroscopy of Kitaev Magnets - How'd you like your Continua: Broad or Sharp\[Video\]\[CC\]](#)
4:45pm POSTER SESSION
5:30pm RECEPTION
6:00pm SPECIAL EVENTS DINNER
8:00pm SHUTTLE TO BWSCI

Wednesday, Aug 30, 2023

Probes of quantum magnets, Chair: Natalia Perkins (Minnesota)

9:00am Mengxing Ye (U Utah) [Ultrafast Dynamics in Quantum Magnets\[Video\]\[CC\]](#)
9:45am N. Peter Armitage (Johns Hopkins) [Bond direction interactions in cobalt based magnets\[Video\]\[CC\]](#)
10:30am Morning Break
11:00am Natalia Drichko (Johns Hopkins) [Magnetism and bands topology in Nd₂Ir₂O₇ probed by Raman scattering spectroscopy\[Video\]\[CC\]](#)
11:45am Gábor Halász (Oak Ridge NL) [Thermal anyon interferometry in phonon-coupled Kitaev spin liquids\[Video\]\[CC\]](#)
12:30pm Lunch Break

Dynamics of Fractionalized Excitations

2:00pm Tessa Cookmeyer (KITP) [Dynamic correlators for Kitaev materials: a mean-field approach\[Slides\]\[Video\]\[CC\]](#)
2:45pm Radu Coldea (Oxford) Exploration of rare-earth candidate Kitaev quantum magnets[Embargoed]
3:30pm Afternoon Break
4:00pm Simon Trebst (U Cologne) [Monitored Kitaev Spin Liquids\[Slides\]\[Video\]\[CC\]](#)
4:45pm Roser Valenti (Goethe-Universität Frankfurt) [Designing Ru-based quantum spin liquid candidates and beyond: microscopic modelling and experimental signatures\[Video\]\[CC\]](#)
5:30pm RECEPTION
6:00pm SPECIAL EVENTS DINNER
8:00pm SHUTTLE TO BWSCI

Thursday, Aug 31, 2023

Frustration and Moiré Materials, Chair: Tessa Cookmeyer (KITP)

9:00am Kin Fai Mak (Cornell) [Tunable moire Kondo lattice physics\[Video\]](#)
9:45am Urban Seifert (KITP) [Moiré-Mott insulators in transition metal dichalcogenides: Spin liquids and doping\[Video\]](#)
10:30am Morning Break
11:00am Sung Bin Lee (KAIST) [Exotic magnetism in quasicrystals\[Video\]\[CC\]](#)
11:45am Itamar Kimchi (Georgia Tech) [Disorder and entanglement in quantum magnets\[Slides\]\[Video\]\[CC\]](#)
12:30pm Lunch Break

Frustration and Moiré Materials, Chair: Cristian Batista (Tennessee)

2:00pm Sasha Chernyshev (UCI) [J1-J2-J3. count with me: Nematic and other quantum phases in ferro-antiferromagnets\[Slides\]\[Video\]\[CC\]](#)

2:45pm Federico Becca (U Trieste)

[Frustrated heisenberg models, possibly treated with neural-network wave functions](#)[\[Slides\]](#)[\[Video\]](#)[\[CC\]](#)

3:30pm

Afternoon Break

4:00pm Liang Fu (MIT)

[Magnetism, Topology and the Fractional Quantum Anomalous Hall Effect](#)[\[Slides\]](#)[\[Video\]](#)[\[CC\]](#)

4:45pm Andrey Chubukov (Minnesota)

[Spin and isospin magnetism in twisted and un-twisted bilayer graphene](#)[\[Video\]](#)[\[CC\]](#)

5:30pm **CONFERENCE END SHUTTLE TO BWSCI *Also available to SB Airport and SB Airbus, Goleta location. (See Registration Desk BEFORE THURSDAY to sign up.)**