

SHINES Workshop on Spins and Heat at Palm Springs (01/12-01/13/2017)

Day 1: January 12, Thursday (UCR Palm Desert Center)

7:45-8:25am Registration and breakfast at UCR Palm Desert Center

8:25-8:30am Opening remarks (Jing Shi)

1. Spin currents, spin Hall effect, and spin-orbit torques (Chair: Roger Lake)

8:30-9:00am Chia-Ling Chen (Johns Hopkins University):

Zero-Field Switching of a Ferromagnetic Layer with Perpendicular Anisotropy

9:00-9:30am Mingzhong Wu (Colorado State University):

Spin-Orbit Torque-Assisted Switching in Magnetic Insulator Thin Films with Perpendicular Magnetic Anisotropy

9:30-10:00am Sadamichi Maekawa (Adv. Sci. Res. Ctr., Japan Atomic Energy Agency):

Spin Transport in a Variety of Systems

10:00-10:30am **Coffee/tea break**

2. Magnonic condensate and spin superfluidity (Chair: Igor Barsukov)

10:30-11:00am Ilya Krivorotov (UC Irvine):

Condensation of Magnons Driven by Thermal Gradients

11:00-11:30am Jeanie Lau (UC Riverside):

Topological Phases and Spin Transport in Graphene

11:30-12:00pm Allan MacDonald (UT Austin):

Theory of Exciton and Spin Superfluidity

12:00-1:30 Lunch break

3. Topological spintronics (Chair: Gen Yin)

1:30-2:00pm Kang L. Wang (UC Los Angeles):

Manipulating the Topological Order in TI and Magnet Heterostructures

2:00-2:30pm Jiadong Zang (University of New Hampshire):

Symmetry Analysis of Chiral Magnets

2:30-2:50pm Peng Wei (UC Riverside):

Topological Superconductivity and Triplet Pairing in the Surface State of Gold Heterostructures

3:00-3:30pm Coffee/tea/photo break

4. Phonons and magnons (Chair: Alex Khitun)

3:30-4:00pm Pengcheng Dai (Rice University):

Electron-Lattice-Magnetism Interactions in Iron Pnictide Superconductors

4:00-4:20pm Chen Li (UC Riverside):

Anisotropic Thermal Transport and Spin-Phonon Interaction in CrSb₂

4:20-4:40pm Rich Wilson (UC Riverside):

Ultrafast Dynamics of Magnetic Metals Following Picosecond Electrical Heating

4:40-5:00pm Sinisa Coh (UC Riverside):

Interplay of Electron-Phonon Interaction and Anti-Ferromagnetism in FeSe

6:30 pm Dinner at JW Marriott

Day 2: January 13, Friday (UCR Palm Desert Center)

7:45-8:30am Breakfast at UCR Palm Desert Center

5. Phonon and spin transport in nanostructures (Chair: Jianlin Liu)

8:30-9:00am David Cahill (University of Illinois at Urbana-Champaign):

Picosecond Spin Caloritronics

9:00-9:30am Li Shi (UT Austin):

Weakly Coupled Transport in Some Low-Dimensional and Complex Materials

9:30-10:00am Alex Balandin (UC Riverside):

Inelastic Light Scattering Spectroscopy of Phonons and Magnons

10:00-10:30am Coffee/Tea break

6. Spintronic materials and devices (Chair: Javier Garay)

10:30-11:00am Chris Palmstrom (UC Santa Barbara):

Molecular Beam Epitaxial Growth of Heusler Compounds for Spintronics

11:00-11:30am Ruqian Wu (UC Irvine):

Theoretical Studies of Quantum Spin Hall Effect and Quantum Anomalous Hall Effect

11:30-12:00pm Jing Shi (UC Riverside):

Garnet-Based Ferrimagnetic Insulator Thin Films and Heterostructures

12:00-1:30pm Lunch break

7. Spectroscopy/microscopy for spins and heat (Chair: Tingyong Chen)

1:30-2:00pm Peter Fischer (Lawrence Berkeley National Lab):

Recent Advances and Future Opportunities with Magnetic X-ray Spectro-Microscopies

2:00-2:20pm Yongtao Cui (UC Riverside):

Imaging Edge Conduction in Quantum Spin Hall Systems

2:20-2:50pm Nathan Gabor (UC Riverside):

Three-Body Electronic Interactions in Two-Dimensional Materials

2:50 pm Adjourn

Addresses:

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