Mini-symposium C1
Progress in Valleytronics – Physics and Materials

Organizers:

Giovanni Vignale
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Chair: X. C. Xie

Sat - 10 Jan 2015 | 11:00 – 12:30 | Room 05-98, Block S16

C1-01 Keynote
Valley contrasting chiral phonons in monolayer hexagonal lattices
Qian Niu
Department of Physics, University of Texas, Austin, USA

C1-02 Invited
Valley Physics Back to Three Dimensions
Fan Zhang
1Department of Physics, University of Austin, Dallas TX, USA
2Department of Physics, University of Pennsylvania, Philadelphia PA, USA

12:00 C1-03 Invited
Intervalley coupling by quantum dot confinement potentials in transition metal dichalcogenide monolayer
Gui-Bin Liu
School of physics, Beijing Institute of Technology, Beijing 100081, China;
2Department of physics and center of theoretical and computational physics, The University of Hong Kong, Hong Kong, China

Chair: Fan Zhang

Sat - 10 Jan 2015 | 14:00 – 15:30 | Room 05-98, Block S16

C1-04 Keynote
Goos-Hänchen shift and Imbert-Fedorov shift in Weyl semimetals
X. C. Xie
International Center for Quantum Materials, School of Physics, Peking University, Beijing 100871, China

C1-05 Invited
Charge and Spin Transport in 2D carbon allotropes and other layered compounds
Mathias Klaui
1Institute of Physics, Johannes Gutenberg University Mainz, 55099 Mainz, Germany;
2Graduate School of Excellence Materials Science in Mainz, Staudinger Weg 9, 55128 Mainz, Germany

15:00 C1-06 Invited
Scanning Tunneling Spectroscopy of Transition Metal Dichalcogenides: Quasiparticle Gap, Critical Point Energies and Heterojunction Band Offsets
Chendong Zhang
Yuxuan Chen
Amber Johnson
Ming-Yang Li
Jing-Kai Huang
Chih-Piao Chuu
Mei-Yin Chou
Chih-Kang Shih
1Department of Physics, The University of Texas at Austin
2Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan

Chair: Inti Sodemann

Sat - 10 Jan 2015 | 16:00 – 18:00 | Room 05-98, Block S16

C1-07 Keynote
Broken SU(4) Symmetry and The Fractional Quantum Hall Effect in Graphene
Inti Sodemann
1Department of Physics, Massachusetts Institute of Technology, 2Department of Physics, University of Texas at Austin

C1-08 Invited
Valley Splitting and Polarization by the Zeeman Effect in Monolayer MoSe
Yilei Li
Jonathan Ludwig
Tony Low
Alexey Chernikov
Xu Cui
Ghidewon Arefe
Arend van der Zande
Albert Rigosi
Heather H. Hill
Suk Hyun Kim
James Hone
Zhiquang Li
Dmitry Smirnov
Tony F. Heinz
1Columbia University, New York, NY 10027
2National High Magnetic Field Lab, Tallahassee, FL 32312

C1-09 Invited
Pseudo magnetic field and valley transport in strained graphene
Kai Chang
Institute of Semiconductors, Chinese Academy of Sciences, China

C1-10 Invited
Correlation effect in topological phase transitions
Hsiang-Hsuan Hung
Department of Physics, University of Texas at Austin, USA