

## Lu Li

Department of Physics, University of Michigan  
257 West Hall, 450 Church Street, Ann Arbor, MI 48109 USA

*Office:* (734)-647-9434 *E-mail:* luli@umich.edu

*Webpage:* <http://research.physics.lsa.umich.edu/Li-Lab/>

*Google Scholar Page:* <https://scholar.google.com/citations?user=NtjEJmIAAAAJ&hl=en>

### Research Vision

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To study novel electronic and magnetic phases in strongly correlated materials, such as high temperature superconductors, quantum magnets, complex oxide interfaces, and topological Kondo insulators. The primary objective is to develop novel experimental methods to probe these materials in extreme conditions. The new tools include high resolution magnetometry, sensitive transport property such as the Nernst effect and the thermal Hall effect, and capacitance spectroscopy.

### Education

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**Princeton University**, Princeton, NJ 2008  
Ph.D. in Physics      Advisor: Prof. Nai Phuan Ong

**University of Science and Technology of China (USTC)**, Hefei, China 2002  
B.S. in Physics      Advisor: Prof. Xianhui Chen

### Appointment

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**University of Michigan**, Ann Arbor, MI 2011 - current  
*Assistant Professor in Department of Physics*

**Massachusetts Institute of Technology**, Cambridge, MA 2008 - 2011  
*Pappalardo Fellow in Physics*      *Supervisor: Prof. Raymond Ashoori*

### Honors and Awards

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- **Office or Naval Research Young Investigator Award**, 2015
- **Lee Osheroff Richardson North American Science Prize**, Oxford Instruments, 2013
- **Department of Energy Early Career Award**, 2012 - present
- **Pappalardo Fellowship**, MIT, 2008 - 2011
- **First Year Fellowship in Science and Engineering**, Princeton University, 2002 - 2003
- **First Year Joseph Taylor Merit Prize**, Princeton University, 2002 - 2003
- **Outstanding Undergraduate Thesis Award**, USTC, 2002

### Teaching Experience

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- Physics 340 *Waves, Light and Heat* Winter 2015
- Physics 341 *Waves, Light and Heat Lab* Winter 2014
- Physics 340 *Waves, Light and Heat* Fall 2013
- Physics 341 *Waves, Light and Heat Lab* Winter 2013
- Physics 106 *Everyday Physics* Winter 2012

- Physics 341 *Waves, Light and Heat Lab*

Fall 2011

## Synergistic Activity

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- Member of American Physical Society 2002 - present time
- Mentor of 16 undergraduate students in past 4 years
- Mentor of 5 graduate students, 2 visiting graduate students and 1 postdoctoral fellow
- Referees for *Science*, *Nature Physics*, *Nature Communications*, *Science Advance*, *Scientific Report*, *Physical Review Letters*, *Physical Review B*, *Physics Review X*, *Journal of Physics:Condensed Matter*
- Proposal reviewer for Department of Energy
- Reviewer and Panelist for National Science Foundation
- User representative in the NSF review of the National High Magnetic Field Laboratory 2011
- co-organizer of Conference “Correlated Topological Insulators: SmB<sub>6</sub> and Beyond”
- Founding member of the department “Condensed Matter Theory” Seminar Series

## Group members

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### Postdoctoral Fellows

Gang Li

### Graudate Students

Ben Lawson, Tomoya Asaba, Fan Yu, Colin Tinsman, Lu Chen

### Visting Graudate Students

Ziji Xiang, Peng Cai

### Undergraduate Students

Adam Berkley, Tong Gao, Wudi Wang, Sheng Wang, Dou Liu, Timothy Barasa, Alexa Rakoski, Jia Li, Ilya Beskin, Erik Loyd, Eric Larson, Paul Corbae, Ahmed Zaid, Caroline Su, Zhen Su, Hongjie Ning

## Departmental Services

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- Faculty Search Committee *2015 - 2016*
- Organizing department CM/AMO seminar series *2015 - 2016*
- LSA instrument shop oversight committee *2015 - 2016*
- Faculty Search Committee *2014 - 2015*
- Graduate student admission committee *2013 - 2014*
- Organizing department CM/AMO seminar series *2013 - 2014*
- Graduate student admission committee *2012 - 2013*
- LSA instrument shop oversight committee *2012 - 2013*
- Department IT oversight committee *2011 - 2012*

## Invited Talks, Seminars, Colloquia and Public Talks

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- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, KITP Program: New Phases and Emergent Phenomena in Correlated Materials with Strong Spin-Orbit Coupling, University of California, Santa Barbara 2015
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, 1st Conference on Condensed Matter Physics (1st-CCMP), Beijing, China 2015
- “*Tutorial on Quantum Oscillations in Strongly Correlated Materials*”, Tsinghua University, 2015
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, 52nd Design Automation Conference, San Francisco CA 2015
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, ICAM-I2CAM: Strongly Correlated Topological Insulators:  $SrB_6$  and Beyond, Ann Arbor MI 2015
- “*Electrons and Topology in Solids*”, Saturday Morning Physics, University of Michigan 2015
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, APS March Meeting, San Antonio TX 2015
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, Los Alamos National Laboratory 2014
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, Massachusetts Institute of Technology 2014
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, Texas A & M University 2014
- “*Colloquium: Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, Oakland University 2014
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, Georgia Institute of Technology 2014
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, University of Wisconsin 2014
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, Asia-Pacific Workshop on Strongly Correlated System, Beijing, China 2014
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, European Materials Research Society (E-MRS) meeting, Warsaw, Poland 2014
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, The 21st International Conference on High Magnetic Fields in Semiconductor Physics, Panama City Beach, Florida 2014
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, University of British Columbia, Canada 2014
- “*Magnetism of  $LaAlO_3/SrTiO_3$  heterostructure interfaces*”, University of Minnesota 2014
- “*Colloquium: Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, University of Chicago 2014
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, Aspen Center of Physics 2014
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, Topological Materials Workshop, Mathematical Sciences Center, Tsinghua University 2013
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, University of Maryland 2013
- “*Quantum Oscillations in Kondo Insulator  $SrB_6$* ”, Aspen Center of Physics 2013
- “*Magnetism of  $LaAlO_3/SrTiO_3$  heterostructure interfaces*”, Peking University, China 2013
- “*Magnetism of  $LaAlO_3/SrTiO_3$  heterostructure interfaces*”, University of Science and Technology of China, China 2013
- “*Magnetism of  $LaAlO_3/SrTiO_3$  heterostructure interfaces*”, Lee Osheroff Richardson Prize Reception Talk, APS March Meeting, Baltimore, MA 2013
- “*Magnetism of  $LaAlO_3/SrTiO_3$  heterostructure interfaces*”, University of Notre Dame, 2013

- “*Diamagnetism and pairing in hole-doped high  $T_c$  superconductor*”, Energy Materials Nanotechnology (EMN) West Workshop, Houston 2013
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, Tsinghua University 2012
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, Institute of Advanced Studies (IAS) Asia Pacific Workshop, University of Science and Technology, Hong Kong 2012
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, Michigan State University 2012
- “*Colloquium: Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, Georgetown University 2012
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, University of Pennsylvania 2012
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, Ohio State University 2012
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, Aspen Center of Physics 2012
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, Princeton University 2011
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, National High Magnetic Field Lab 2011
- “*Magnetism and electronic compressibility at  $\text{LaAlO}_3/\text{SrTiO}_3$  interfaces*”, Argonne National Lab 2011
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, Indiana University 2011
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, University of Illinois 2011
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, The 19th International Conference on Electronic Properties of Two-Dimensional Systems (EP2DS 19), Tallahassee, FL 2011
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, University of Colorado 2011
- “*Magnetism of  $\text{LaAlO}_3/\text{SrTiO}_3$  heterostructure interfaces*”, Penn State University 2011
- “*Oxide interface: a chance for new electronics*”, Pappalardo Symposium, MIT, Cambridge MA 2011
- “*Magnetism and electronic compressibility at  $\text{LaAlO}_3/\text{SrTiO}_3$  interfaces*”, Tulane University, New Orleans, LA 2011
- “*Magnetism and electronic compressibility at  $\text{LaAlO}_3/\text{SrTiO}_3$  interfaces*”, University of California, Irvine CA 2011
- “*Magnetism and electronic compressibility at  $\text{LaAlO}_3/\text{SrTiO}_3$  interfaces*”, University of Arkansas, Fayetteville AR 2011
- “*Magnetism and electronic compressibility at  $\text{LaAlO}_3/\text{SrTiO}_3$  interfaces*”, Stanford University, Stanford CA 2011
- “*Magnetism and electronic compressibility at  $\text{LaAlO}_3/\text{SrTiO}_3$  interfaces*”, University of Connecticut, Storrs, CT 2011
- “*Magnetism and electronic compressibility at  $\text{LaAlO}_3/\text{SrTiO}_3$  interfaces*”, McGill University, Montreal, Canada 2011
- “*Magnetism and electronic compressibility at  $\text{LaAlO}_3/\text{SrTiO}_3$  interfaces*”, Columbia University, New York, NY 2011
- “*Magnetism and electronic compressibility at  $\text{LaAlO}_3/\text{SrTiO}_3$  interfaces*”, University of Michigan, Ann Arbor, MI 2011
- “*Phase transitions of Dirac electrons in Bismuth*”, Physical Phenomena at High Magnetic Fields (PPHMF-VII), Tallahassee, FL 2010

- “*Electronic compressibility and magnetism at LaAlO<sub>3</sub>/SrTiO<sub>3</sub> interfaces*”, Brookhaven National Laboratory, Upton, NY 2010
- “*Electronic compressibility and magnetism at LaAlO<sub>3</sub>/SrTiO<sub>3</sub> interfaces*”, Harvard University, Cambridge MA 2010
- “*Phase transitions of Dirac electrons in Bismuth*”, 19th International Conference on the Application of High Magnetic Fields in Semiconductor Physics and Nanotechnology (HMF-19), Fukuoka, Japan 2010
- “*Electronic compressibility and magnetism at LaAlO<sub>3</sub>/SrTiO<sub>3</sub> interfaces*”, Univ. Tokyo, Japan 2010
- “*Negative electronic compressibility at the LaAlO<sub>3</sub>/SrTiO<sub>3</sub> interface*”, 2010 Villa Conference on Complex Oxide Heterostructures, Santorini, Greece 2010
- “*Diamagnetism and pairing in hole-doped high T<sub>c</sub> superconductors*”, Boston college, Boston, MA 2010
- “*Electronic compressibility and magnetism at LaAlO<sub>3</sub>/SrTiO<sub>3</sub> interfaces*”, MIT, Cambridge MA 2010
- “*Torque Magnetometry in high T<sub>c</sub> superconductors and Oxide Interfaces*”, Caltech, Pasadena, CA 2010
- “*Nernst effect and diamagnetism in pseudogap state*”, Quantum Vortices and Fluctuations in Superconductors and Superfluids, Aspen Center for Physics, Aspen CO 2009
- “*Diamagnetism and pairing above T<sub>c</sub> in hole-doped high T<sub>c</sub> superconductors*”, Seminar, National High Magnetic Field Lab, Florida State University, Tallahassee FL 2009
- “*Mystery of high T<sub>c</sub> superconductors*”, Pappalardo Symposium, MIT, Cambridge MA 2009
- “*Torque Magnetometry in hole-doped high T<sub>c</sub> superconductors*”, Faculty Lunch Meeting, MIT, Cambridge MA 2009
- “*Phase transitions of Dirac electrons in Bismuth*”, APS March Meeting, Pittsburgh PA 2009
- “*Phase transitions of Dirac electrons in Bismuth*”, Staff Meeting, MIT, Cambridge MA 2008

## Conference Presentation

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- “*Coexistence of Superconductivity and magnetism at the LaAlO<sub>3</sub>/SrTiO<sub>3</sub> interface*”, APS March Meeting, Boston MA 2012
- “*Magnetism at the LaAlO<sub>3</sub>/SrTiO<sub>3</sub> interface*”, APS March Meeting, Dallas TX 2011
- “*Unusual Nernst effect suggestive of time-reversal violation in the striped cuprate La<sub>2-x</sub>Ba<sub>x</sub>CuO<sub>4</sub>*”, APS March Meeting, Dallas TX 2011
- “*Negative electronic compressibility at the LaAlO<sub>3</sub>/SrTiO<sub>3</sub> interface*”, APS March Meeting, Portland OR 2010
- “*Negative electronic compressibility at the LaAlO<sub>3</sub>/SrTiO<sub>3</sub> interface*”, Exotic Insulating States of Matter, Johns Hopkins University, Baltimore MD 2010
- “*Phase transitions of Dirac electrons in Bismuth*”, Gordon Conference, Biddeford ME 2008
- “*Unusual diamagnetic response in p-wave superconductors Sr<sub>2</sub>RuO<sub>4</sub>*”, APS March Meeting, New Orleans LA 2008
- “*The low-temperature vortex liquid in La<sub>2-x</sub>Sr<sub>x</sub>CuO<sub>4</sub> and Bi<sub>2</sub>Sr<sub>2-y</sub>La<sub>y</sub>CuO<sub>6</sub>*”, APS March Meeting, Denver CO 2007
- “*Magnetization curves in underdoped cuprates measured at low T in fields up to 45 Tesla*”, APS March Meeting, Baltimore MD 2006

- “*Fractional-exponent behavior of magnetization near  $T_c$  in  $Bi_2Sr_2CaCu_2O_8$* ”, APS March Meeting, Los Angeles CA 2005

### Student Conference Presentations from my group

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- Gang Li, Colin Tinsman, Benjamin Lawson, Fan Yu, Tomoya Asaba, Xiangfeng Wang, Johnpierre Paglione and Lu Li, “*Quantum oscillations in magnetically doped  $SmB_6$* ”, APS March Meeting, San Antonio TX 2015
- Colin Tinsman, Gang Li, Benjamin Lawson, Fan Yu, Tomoya Asaba, Xiangfeng Wang, Johnpierre Paglione and Lu Li, “*Torque magnetometry study of Fe and Ni doped  $SmB_6$* ”, APS March Meeting, San Antonio TX 2015
- Benjamin Lawson, Gang Li, Colin Tinsman, Fan Yu, Tomoya Asaba, Xiangfeng Wang, Johnpierre Paglione and Lu Li, “*High field magnetization of Half-Heusler compound  $LuPdBi$* ”, APS March Meeting, San Antonio TX 2015
- Tomoya Asaba, Fan Yu, Gang Li, Benjamin Lawson, Colin Tinsman, Jochen Mannhart and Lu Li, “*Electric field control of thermoelectric effect in oxide interface  $LaAlO_3/SrTiO_3$* ”, APS March Meeting, San Antonio TX 2015
- F. Yu, G. Li, T. Asaba, B. Lawson, P. Kai, C. Tinsman, M. Hirschberger, J. Singleton, T. Lowe, B. Keimer, N. P. Ong and Lu Li, “*Measurement of diamagnetic signal on UD YBCO*”, APS March Meeting, Denver CO 2014
- G. Li, Z. Xiang, F. Yu, T. Asaba, B. Lawson, P. Kai, C. Tinsman, A. Berkeley, S. Wolgast, Y. S. Eo, D. J. Kim, . Kurdak, K. Sun, J. W. Allen, X. H. Chen, Y. Y. Wang, Z. Fisk, and Lu Li, “*Two dimensional Fermi surfaces in Kondo insulator  $SmB_6$* ”, APS March Meeting, Denver CO 2014
- C. Tinsman, G. Li, Z. Xiang, F. Yu, T. Asaba, B. Lawson, P. Kai, A. Berkeley, S. Wolgast, Y. S. Eo, D. J. Kim, . Kurdak, K. Sun, J. W. Allen, X. H. Chen, Y. Y. Wang, Z. Fisk, and Lu Li, “*High Field Torque Magnetometry of  $SmB_6$* ”, APS March Meeting, Denver CO 2014
- B. J. Lawson, G. Li, T. Asaba, F. Yu, Z. Xiang, C. Tinsman, Y. S. Hor, and Lu Li “*Quantum oscillations in  $Cu_xBi_2Se_3$ ” intense magnetic field*”, APS March Meeting, Denver CO 2014
- Lu Li, T. Asaba, T. Han, B. J. Lawson, F. Yu, C. Tinsman, G. Li, and Y. S. Lee “*Magnetic Field Driven Phase Transitions in  $S = Kagome$  Lattice Antiferromagnet  $ZnCu_3(OH)_6Cl_2$* ”, APS March Meeting, Denver CO 2014
- T. Asaba, G. Li, B. J. Lawson, F. Yu, Z. Xiang, C. Tinsman, H. Hwang, J. Mannhart, and Lu Li “*Magnetic ordering temperatures at oxide interface  $LaAlO_3/SrTiO_3$* ”, APS March Meeting, Denver CO 2014
- B. J. Lawson, Y. S. Hor, and Lu Li “*Quantum oscillations in topological superconductor candidate  $Cu_xBi_2Se_3$* ”, Autumn School on Correlated Electrons: Emergent Phenomena in Correlated Matter, Forschungszentrum Jlich Germany
- T. Asaba, G. Li, B. J. Lawson, F. Yu, Z. Xiang, P. Cai, C. Tinsman, T. Han, Y. S. Lee, and Lu Li “*High field magnetic studies of Herbertsmithite  $ZnCu_3(OH)_6Cl_2$* ”, Autumn School on Correlated Electrons: Emergent Phenomena in Correlated Matter, Forschungszentrum Jlich Germany
- B. J. Lawson, G. Li, Y. S. Hor, and Lu Li “*Quantum oscillations in topological superconductor candidate  $Cu_xBi_2Se_3$* ”, APS March Meeting, Baltimore MD 2013
- T. Asaba, G. Li, B. J. Lawson, F. Yu, Z. Xiang, P. Cai, C. Tinsman, T. Han, Y. S. Lee, and Lu Li “*High field magnetic studies of  $S=1/2$  Kagome lattice single crystalline Herbertsmithite*”, APS March Meeting, Baltimore MD 2013

## Publications

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2700+ citation, H-index = 19

★ marks the postdoctoral fellow and visiting students I advised.

\* marks the graduate students I advised.

\*\* marks the undergraduate students I advised.

### Papers in preprint

- Fan Yu\*, Max Hirschberger, Toshinao Loew, Gang Li\*, Benjamin J. Lawson\*, Tomoya Asaba\*, J. B. Kemper, Tian Liang, Juan Porras, G. S. Boebinger, J. Singleton, B. Keimer, Lu Li, and N. P. Ong, “Diamagnetic response in under-doped  $YBa_2Cu_3O_{6.6}$  in high magnetic fields”, arXiv:1402.7371(2014)

### Journal Publication

1. S. Wolgast, Y. S. Eo, T. Ozturk, G. Li\*, Z. Xiang\*, C. Tinsman\*, T. Asaba\*, B. Lawson\*, F. Yu\*, J. W. Allen, K. Sun, **Lu Li**, C. Kurdak, D.-J. Kim, and Z. Fisk. “Magnetotransport measurements of the surface states of samarium hexaboride using Corbino structures”, Physical Review B, **92**, 115110 (2015)
2. G. Li\*, Z. Xiang\*, F. Yu\*, T. Asaba\*, B. J. Lawson\*, P. Cai\*, C. Tinsman\*, A. Berkley\*\*, S. Wolgast, Y. S. Eo, Dae-Jeong Kim, C. Kurdak, J. W. Allen, K. Sun, X. H. Chen, Y. Y. Wang, Z. Fisk, and **Lu Li**. “Two-dimensional Fermi surfaces in Kondo insulator  $SmB_6$ ”, Science, **346**, 1208 (2014)
3. B.J. Lawson\*, G. Li\*, F. Yu\*, T. Asaba\*, C. Tinsman\*, T. Gao\*, W. Wang\*, YS Hor, and **Lu Li**. “Quantum oscillations in  $Cu_{0.25}Bi_2Se_3$  in High Magnetic Fields”, Physical Review B, **90**, 195141 (2014)
4. Tomoya Asaba\*, Tian-Heng Han, B. J. Lawson\*, F Yu\*, C Tinsman\*, Z Xiang\*, G Li\*, Young S Lee, and **Lu Li**. “High-field magnetic ground state in  $S=\frac{1}{2}$  kagome lattice antiferromagnet  $ZnCu_3(OH)_6Cl_2$ ”, Physical Review B, **90**, 064417 (2014)
5. **Lu Li**, Y. Wang, and N. P. Ong “Reply to ‘Comment on Diamagnetism and Cooper pairing above  $T_c$  in cuprates’ ” Physical Review B, **87**, 056502 (2013)
6. B. J. Lawson\*, Y. S. Hor, and **Lu Li** “Quantum oscillations in topological superconductor candidate  $Cu_{0.25}Bi_2Se_3$ ” Physical Review Letters, **109**, 226406 (2012)
7. J. G. Checkelsky, R. Thomale, **Lu Li**, G. F. Chen, J. L. Luo, N. L. Wang, and N. P. Ong “Thermal Hall conductivity as a probe of gap structure in multiband superconductors: The case of  $Ba_{1-x}K_xFe_2As_2$ ” Physical Review B, **86**, 180502 (2012)
8. **Lu Li**, N. Alidoust, J. M. Tranquada, G. D. Gu, and N. P. Ong “Unusual Nernst effect suggestive of time-reversal violation in the striped cuprate  $La_{2-x}Ba_xCuO_4$ ” Physical Review Letters, **107**, 277001 (2011)
9. **Lu Li**, C. Richter, J. Mannhart, and R. C. Ashoori “Coexistence of magnetic order and two-dimensional superconductivity at  $LaAlO_3/SrTiO_3$  interfaces”, Nature Physics, **7**, 762 (2011)
10. **Lu Li**, C. Richter, S. Paetel, T. Kopp, J. Mannhart, and R. C. Ashoori “Very large capacitance enhancement in a two-dimensional electron system”, Science, **332**, 825 (2011)
11. **Lu Li**, Y. Wang, S. Komiyama, S. Ono, Y. Ando, G. D. Gu, and N. P. Ong “Diamagnetism and Cooper pairing above  $T_c$  in cuprates”, Physical Review B, **81**, 054510 (2010)
12. J. G. Checkelsky, **Lu Li**, and N. P. Ong “Divergent resistance at the Dirac point in graphene: Evidence for a transition in a high magnetic field”, Physical Review B, **79**, 115434 (2009)
13. L. Wray, D. Qian, Y. Xia, **Lu Li**, J. G. Checkelsky, A. Pasupathy, K. K. Gomes, C. V. Parker, A. V. Fedorov, G. F. Chen, J. L. Luo, A. Yazdani, N. P. Ong, N. L. Wang, and M. Z. Hasan “Momentum dependence of superconducting gap, strong-coupling dispersion kink, and tightly bound Cooper pairs in the high- $T_c$   $(Sr, Ba)_{1-x}(K, Na)_xFe_2As_2$  superconductors”, Physical Review B, **78**, 184508 (2008)

14. **Lu Li**, J. G. Checkelsky, Y. S. Hor, R. J. Cava, C. Uher, A. F. Hebard, and N. P. Ong “Phase transitions of Dirac electrons in bismuth”, Science **321**, 547-550 (2008)
15. J. G. Checkelsky, **Lu Li**, and N. P. Ong “Zero-Energy state of graphene in a high magnetic field”, Physical Review Letters, **100**, 206801 (2008)
16. K. L. Holman, E. Morosan, P. A. Casey, **Lu Li**, N. P. Ong, T. Klimczuk, C. Felser, and R. J. Cava “Crystal structure and physical properties of  $Mg_6Cu_{16}Si_7$ -type  $M_6Ni_{16}Si_7$ , for  $M = Mg, Sc, Ti, Nb$ , and  $Ta$ ”, Materials Research Bulletin, **43**, 9-15 (2007)
17. Y. Onose, **Lu Li**, C. Petronic and N. P. Ong “Anomalous thermopower and Nernst effect in  $CeCoIn_5$ : Loss of entropy current in precursor state”, Europhysics Letters, **79**, 17006 (2007)
18. **Lu Li**, J. G. Checkelsky, S. Komiya, Y. Ando and N. P. Ong “Low-temperature vortex liquid in  $La_{2-x}Sr_xCuO_4$ ”, Nature Physics, **3**, 311-314 (2007)
19. E. Morosan, H. W. Zandbergen, **Lu Li**, M. Lee, J. G. Checkelsky, M. Heinrich, T. Siegrist, N. P. Ong and R. J. Cava “Sharp switching of the magnetization in  $Fe_{1/4}TaS_2$ ”, Physical Review B, **75**, 104401 (2007)
20. E. Morosan, **Lu Li**, N. P. Ong and R. J. Cava “Anisotropic properties of the layered superconductor  $Cu_{0.07}TiSe_2$ ”, Physical Review B, **75**, 10505 (2007)
21. N. P. Ong, Y. Y. Wang, **Lu Li** and M. J. Naughton “Comment on ‘Field-Enhanced diamagnetism in the pseudogap state of the cuprate  $Bi_2Sr_2CaCu_2O_{8+\delta}$  superconductor in an intense magnetic field’ - Ong et al. reply”, Physical Review Letters, **98**, 119702 (2007)
22. M. Lee, L. Viciu, **Lu Li**, Y. Wang, M. L. Foo, S. Watauchi, R. A. Pascal, R. J. Cava and N. P. Ong “Large enhancement of the thermopower in  $Na_xCoO_2$  at high Na doping”, Nature Materials, **5**, 537-540 (2006)
23. Y. Wang, **Lu Li** and N. P. Ong “Nernst effect in high- $T_c$  superconductors”, Physical Review B, **73**, 024510 (2006)
24. Y. Wang, **Lu Li**, M. J. Naughton, G. Gu, S. Uchida and N. P. Ong “Field-enhanced diamagnetism in the pseudogap state of the cuprate  $Bi_2Sr_2CaCu_2O_{8+\delta}$  superconductor in an intense magnetic field”, Physical Review Letters, **95**, 247002 (2005)
25. **Lu Li**, Y. Wang, M. J. Naughton, S. Ono, Y. Ando and N. P. Ong “Strongly nonlinear magnetization above  $T_c$  in  $Bi_2Sr_2CaCu_2O_{8+\delta}$ ”, Europhysics Letters, **72**, 451-457 (2005)
26. M. L. Foo, T. Klimczuk, **Lu Li**, N. P. Ong and R. J. Cava “Superconductivity in three-layer  $Na_{0.3}CoO_2 \cdot 1.3H_2O$ ”, Solid State Communications, **133**, 407-410 (2005)
27. Y. M. Xiong, **Lu Li**, X. G. Luo, H. T. Zhang, C. H. Wang, S. Y. Li and X. H. Chen “Transport properties of Ru-doped  $La_{1.85}Sr_{0.15}CuO_4$  and the effect of carrier concentration compensation”, Journal of Physics - Condensed Matter, **15**, 1693-1704 (2003)
28. Z. Sun, X. H. Chen, R. Fan, X. G. Luo and **Lu Li** “Structure and magnetic properties of perovskite  $Sr_2CuNbO_{6-\delta}$ ”, Journal of Physics and Chemistry of Solids, **64**, 59-62 (2003)
29. S. Y. Li, Y. M. Xiong, M. Q. Mo, R. Fan, C. H. Wang, X. G. Luo, Z. Sun, H. T. Zhang, **Lu Li**, L. Z. Cao and X. H. Chen “Alkali metal substitution effects in  $Mg_{1-x}A_xB_2$  ( $A = Li$  and  $Na$ )”, Physica C, **363**, 219-223 (2001)
30. S. Y. Li, R. Fan, X. H. Chen, C. H. Wang, W. Q. Mo, K. Q. Ruan, Y. M. Xiong, X. G. Luo, H. T. Zhang, **Lu Li**, Z. Sun and L. Z. Cao “Normal state resistivity, upper critical field, and Hall effect in superconducting perovskite  $MgCNi_3$ ”, Physical Review B, **64**, 132505 (2001)

### Conference Proceedings



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