

Curriculum Vitae

Xia Hong

Department of Physics and Astronomy	Phone:	(402) 472-2779 (office)
University of Nebraska-Lincoln		
310J Theodore Jorgensen Hall	Website:	www.personal.psu.edu/xxh13
Lincoln, NE 68588-0299	Email:	xhong@phys.psu.edu

Education

Ph.D.	Engineering and Applied Science, Yale University Charles Ahn group	2006
B.S.	Electronics, Peking University	1998

Professional Preparation and Appointment

Assistant Professor	Physics and Astronomy, University of Nebraska-Lincoln	2011-present
Postdoctoral Associate	Physics, The Pennsylvania State University Jun Zhu group	2006-2010

Fellowships and Awards

- *Albert P. Gagnebin Fellowship*, Yale University (1999)
- *Graduate School Fellowship; Faculty of Engineering Fellowship*, Yale University (1998-1999)
- *Beijing City Distinguished Graduate Award; Peking University Distinguished Graduate Award* (1998)

Research Interests

- Transport phenomena in nanoscale and low dimensional systems, including correlated oxides and graphene
- Epitaxial growth of complex oxide thin films and heterostructures using high vacuum physical vapor deposition techniques
- Nanostructure fabrication
- Nanoscale scanning probe microscopy, including atomic force and piezo-response force microscopies

Professional Activities and Services

- *Microelectronics Fabrication Cleanroom Committee*, Center of Microelectronics Materials and Structures, Yale University 2000-2006
- *Physics Department Climate Committee*, Penn State University 2009

Publications

Peer Reviewed:

1. X. Hong, S.-H. Cheng, C. Herding, and J. Zhu, “Colossal negative magnetoresistance in dilute fluorinated graphene”, *Phys. Rev. B* (accepted).
2. K. Zou, X. Hong, D. Keefer, and J. Zhu, “Deposition of high-quality HfO₂ on graphene and the effect of remote substrate phonon scattering”, *Phys. Rev. Lett.* **105**, 126601 (2010).
3. X. Hong, J. Hoffman, A. Posadas, K. Zou, C.H. Ahn, and J. Zhu “Unusual resistance hysteresis in *n*-layer graphene field effect transistors fabricated on ferroelectric Pb(Zr_{0.2}Ti_{0.8})O₃”, *Appl. Phys. Lett.* **97**, 033114 (2010).
4. X. Hong, K. Zou, and J. Zhu, “Quantum scattering time and its implications on scattering sources in graphene”, *Phys. Rev. B* **80**, 241415 (*Rapid Communications*) (2009).
5. N. Naftalis, Y. Bason, J. Hoffman, X. Hong, C. H. Ahn, and L. Klein, "Anisotropic magnetoresistance and planar Hall effect in epitaxial films of La_{0.7}Ca_{0.3}MnO₃", *J. Appl. Phys.* **106**, 023916 (2009).
6. X. Hong, A. Posadas, K. Zou, C. H. Ahn, and J. Zhu, “High-mobility few-layer graphene field effect transistors fabricated on epitaxial ferroelectric gate oxides”, *Phys. Rev. Lett.* **102**, 136808 (2009).
7. J.-B. Yau, X. Hong, A. Posadas, W. Gao, E. Altman, C. H. Ahn, Y. Bason, L. Klein, M. Sidorov, and Z. Krivokapic, “Anisotropic magnetoresistance in colossal magnetoresistive La_{1-x}Sr_xMnO₃ thin films”, *J. Appl. Phys.* **102**, 103901 (2007).
8. Y. Bason, L. Klein, H. Q. Wang, J. Hoffman, X. Hong, V. E. Henrich, and C. H. Ahn, “Planar Hall effect in epitaxial thin films of magnetite”, *J. Appl. Phys.* **101**, 09J507 (2007).
9. X. Hong, J.-B. Yau, J. D. Hoffman, C. H. Ahn, Y. Bason, and L. Klein, “The effect of electric field doping on the anisotropic magnetoresistance of doped manganites”, *Phys. Rev. B* **74**, 174406 (2006).
10. Y. Bason, L. Klein, J.-B. Yau, X. Hong, J. D. Hoffman, and C. H. Ahn, “Planar Hall effect magnetic random access memory”, *J. Appl. Phys.* **99**, 08R701 (2006).
11. T. C. Kaspar, T. Droubay, V. Shutthanandan, S. M. Heald, C. M. Wang, D. E. McCready, S. Thevuthasan, J. D. Bryan, D. R. Gamelin, A. J. Kellock, M. F. Toney, X. Hong, C. H. Ahn, and S. A. Chambers “Ferromagnetism and structure of epitaxial Cr-doped anatase TiO₂ thin films”, *Phys. Rev. B* **73**, 155327 (2006).
12. X. Hong, A. Posadas, and C. H. Ahn, “Examining the screening limit of field effect devices via the metal-insulator transition”, *Appl. Phys. Lett.* **86**, 142501 (2005).
13. X. Hong, F. Xiao, J. W. Reiner, A. Posadas, and C. H. Ahn, “Growth and characterization of La_{0.8}Sr_{0.2}MnO₃/Pb(Zr_{0.2}Ti_{0.8})O₃/La_{0.8}Sr_{0.2}MnO₃ heterostructures for three-dimensional circuit studies”, *Ann. Phys.* **13**, 15 (2004).
14. Y. Bason, L. Klein, J.-B. Yau, **X. Hong**, and C. H. Ahn, “Giant planar Hall effect in colossal magnetoresistive La_{0.84}Sr_{0.16}MnO₃ thin films”, *Appl. Phys. Lett.* **84**, 2593 (2004).
15. Y. Bason, L. Klein, J.-B. Yau, **X. Hong**, and C. H. Ahn, “Characterization of the magnetic anisotropy of La_{1-x}Sr_xMnO₃ using the planar Hall effect”, *Phys. Stat. Sol. C* **1**, 3336, (2004).
16. X. Hong, A. Posadas, A. Lin, and C. H. Ahn, “Ferroelectric-field-induced tuning of magnetism in the colossal magnetoresistive oxide La_{1-x}Sr_xMnO₃”, *Phys. Rev. B* **68**, 134415 (2003).
17. A. Lin, X. Hong, V. Wood, A. A. Verevkin, C. H. Ahn, R. A. McKee, F. J. Walker, and E. D. Specht, “Epitaxial growth of Pb(Zr_{0.2}Ti_{0.8})O₃ on Si and its nanoscale piezoelectric properties”, *Appl. Phys. Lett.* **78**, 2034 (2001).

Patent

“Magnetoelectronic devices based on colossal magnetoresistive thin films”, United States Patent 7684147, Charles Ahn, Lior Klein, Yosef Bason, Xia Hong, Jeng-bang Yau.

Colloquia and Seminars

<i>Colloquium</i> , Department of Physics, Missouri University of Science and Technology	Rolla, MO	Mar. 25, 2010
<i>Colloquium</i> , Department of Physics and Astronomy, University of Kentucky	Lexington KY	Feb. 24, 2010
<i>Colloquium</i> , Department of Physics and Astronomy, University of Nebraska, Lincoln	Lincoln, NE	Feb. 18, 2010
<i>Colloquium</i> , Department of Physics, Lehigh University	Bethlehem, PA	Feb. 11, 2010
<i>Condensed Matter Seminar 290 K</i> , University of California, Berkeley	Berkeley, CA	Feb. 1, 2010
<i>Colloquium, Physics Department</i> , West Virginia University	Morgantown, WV	Jan. 21, 2010
<i>Colloquium, Physics Department</i> , Northeastern University	Boston, MA	Nov. 16, 2009
<i>Seminar</i> , IBM Watson Research Center	Yorktown, NY	May 24, 2006
<i>CRISP Seminar</i> , MRSEC Center, Yale University	New Haven, CT	May, 2006
<i>Seminar</i> , Department of Physics, Penn State University	State College, PA	May 1, 2006
<i>Seminar</i> , Department of Physics, Rutgers University	Piscataway, NJ	Apr. 20, 2006
<i>Monday Evening Seminar</i> , Department of Applied Physics, Yale University	New Haven, CT	Feb. 27, 2006
<i>SRC Seminar</i> , Advanced Micro Devices	Sunnyvale, CA	Oct. 3, 2005
<i>SRC Seminar</i> , Advanced Micro Devices	Sunnyvale, CA	Sep. 22, 2004
<i>Monday Evening Seminar</i> , Department of Applied Physics, Yale University	New Haven, CT	Jan. 12, 2004

Conference Oral Presentations

<i>APS March Meeting</i>	Portland, OR	Mar. 17, 2010
<i>APS March Meeting</i>	Portland, OR	Mar. 17, 2010
<i>Invited talk</i> , 21 st International Symposium on Integrated Ferroelectrics and Functionalities	Colorado Springs, CO	Sep. 29, 2009
<i>APS March Meeting</i>	Pittsburgh, PA	Mar. 17, 2009
<i>15th International Workshop on Oxide Electronics</i>	Estes Park, CO	Sep. 17, 2008
<i>APS March Meeting</i>	New Orleans, LA	Mar. 12, 2008
<i>MRS Fall Meeting</i>	Boston, MA	Nov. 30, 2006
<i>MRS Fall Meeting</i>	Boston, MA	Nov. 30, 2005
<i>12th International Workshop on Oxide Electronics</i>	Cape Cod, MA	Oct. 5, 2005

<i>APS March Meeting</i>	Montreal, Canada	Mar. 24, 2004
<i>MRS Fall Meeting</i>	Boston, MA	Dec. 3, 2002
<i>9th International Workshop on Oxide Electronics</i>	St. Pete Beach, FL	Oct. 22, 2002
<i>APS March Meeting</i>	Indianapolis, IN	Mar. 19, 2002

Poster Presentations

Graphene Week	College Park, MA	Apr. 22, 2010
Materials Day	University Park, PA	Mar. 31, 2010
Nanostructure Fabrication, <i>Gordon Research Conference</i>	Tilton, NH,	July 13-18, 2008

Journal Reviews

Physical Review Letters
Physical Review B

Professional Affiliations

American Physical Society
Materials Research Society