

# Jiandi Zhang

[\[Personal data\]](#) [\[Education\]](#) [\[Research & Academic Experience\]](#) [\[Honors & Awards\]](#) [\[Professional Activities\]](#)  
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## PERSONAL DATA

Born Nov. 15, 1962  
NanAn County, Fujian Province, P.R. China

## EDUCATION

1994	Syracuse University	Physics Ph.D.
1986	Chinese Academy of Science, P.R. China	Physics M.S.
1982	Nanjing University of Science & Technology	Physics B.S.

## RESEARCH & ACADEMIC EXPERIENCE

1/2009-	Professor of Physics and Astronomy, Louisiana State University
8/2007-Visiting	Professor, Institute of Physics, Chinese Academy of Sciences
5/2004	Guest Scientist, Oak Ridge National Lab
9/2004 -12/2008	Associate Professor of Physics, Florida International University
9/1998 - 8/2004	Assistant Professor of Physics, Florida International Univ.
9/1997 - 8/1998	Research Staff, Oak Ridge National Lab
3/1996 – 8/1997	Research Associate, University of Tennessee-Knoxville
3/1995 - 2/1996	Research Assistant Professor, University of Nebraska -Lincoln
9/1989 - 3/1994	Research/Teaching Assistant, Syracuse University
9/1986 - 8/1989	Assistant Professor of Physics, Shanghai Jiao Tong University

## HONORS & AWARDS

CAREER Award, National Science Foundation	2004
FIU Excellence in Research Award	2003
FIU Art & Science Summer Research Award	2003
Outstanding Graduate Student Award, Sigma Xi Society	1994

## PROFESSIONAL ACTIVITIES

Member, Advisory committee, State Key Laboratory for Surface Sciences, Chinese Academy of Science  
Visiting Professor, Institute of Physics, Chinese Academy of Science  
Member, Innovation Team for the Functional Oxide Materials and the Application, NIMTE, Chinese Academy of Science  
Member, Executive Committee, Florida American Vacuum Society, 9/2002-8/2005  
Visiting Scientist, Condensed Matter Sciences Division, Oak Ridge National Laboratory  
Member, American Physical Society (APS)  
Member, American Vacuum Society (AVS)

## DEPARTMENT & OTHER SERVICE

Chair, College Library Committee, Art & Science College, FIU	2007-
Physics Department Undergraduate Recruitment and Curriculum Committee	1999-
Physics Department Shop Committee	1998-

**REFEREED PUBLICATIONS (Refereed Journals)**

1. P.L. Russo, J. Sugiyama, J.H. Brewer, E.J. Ansaldo, S.L. Stubbs, K.H. Chow, R. Jin, H. Sha, and Jiandi Zhang, *Muon Spin Rotation/relaxation Study of Ba<sub>2</sub>CoO<sub>4</sub>*, Phys. Rev. B, accepted.
2. *Anomalous Large Anisotropic Magnetoresistance in a Perovskite Manganite* (with R.-W. Li, H. Wang, X. Wang, X.Z. Yu, Y. Matsui, Z.-H Cheng, B.-G. Shen, E.W. Plummer), *PNAS*, 106, 14224 (2009).
3. Latha Kumari, Wenzhi Li, Jianmin Xu, Roger Leblanc, Dezhi Wang, Yi Li, Haizhong Guo, and Jiandi Zhang, "*Controlled Hydrothermal Synthesis of Zirconium Oxide Nanostructures and Their Optical Properties*", *Crystal Growth & Design*, in press.
4. *Surface Geometric and Electronic Structures of BaFe<sub>2</sub>As<sub>2</sub>(001)* (with V. B. Nascimento, A. Li, D. R. Jayasundara, Y. Xuan, J. O'Neal, S. Pan, T. Y. Chien, B. Hu, X. B. He, G. Li, A. S. Sefat, M. A. McGuire, B. C. Sales, D. Mandrus, M. H. Pan, R. Jin, and E. W. Plummer), *Phys. Rev. Lett.* **103**, 076104 (2009).
5. Haizhong Guo, Arunava Gupta, Maria Varela, Stephen Pennycook, and Jiandi Zhang, *Local valence and magnetic characteristics of La<sub>2</sub>NiMnO<sub>6</sub>*, *Phys. Rev. B* **79**, 172402 (2009).
6. Rob. G. Moore, M.D. Lumsden, M.B. Stone, Jiandi Zhang, Y. Chen, J.W. Lynn, R. Jin, D. Mandrus, and E.W. Plummer, *Phonon softening and Anomalous Mode near the x<sub>c</sub> = 0.5 Quantum Critical Point in Ca<sub>1.4</sub>Sr<sub>0.6</sub>RuO<sub>4</sub>*. *Phys. Rev. B* **79**, 172301 (2009).
7. K. Zhao, K.-J. Jin, H.-B Lu, M. He, Y. -H Huang, G.-Z. Yang, and Jiandi Zhang, *Electrical-Modulated Magnetoresistance in Multi-p-n Heterojunctions of La<sub>0.9</sub>Sr<sub>0.1</sub>MnO<sub>3</sub> and Oxygen-Vacant SrTiO<sub>3.δ</sub> on Si Substrates*, *Appl. Phys. Lett.* **93**, 252110(2008).
8. H. Sha, F. Ye, P. Dai, J.A. Fernandez-Baca, D. Mesa, J.W. Lynn, Y. Tomioka, Y. Tokura, and Jiandi Zhang, *Signature of Magnetic Phase separation in the Ground State of Pr<sub>1-x</sub>Ca<sub>x</sub>MnO<sub>3</sub>*, *Phys. Rev. B* **78**, 052410 (2008).
9. Ning Wu, R.F. Sabirianov, C.-G. Duan, W. N. Mei, David Wisbey, Ya. B. Losovyj, M. Manno, L. Wang, C. Leighton, En Cai, and Jiandi Zhang and P. A. Dowben, *Surface Stability of CoS<sub>2</sub>(100)*, *J. Phys.: Condens. Matter* **20**, 215231 (2008).
10. Ya. B. Losovyj, Melanie Klinke, En Cai, Idaykis Rodriguez, Jiandi Zhang, L. Makinistian, A. G. Petukhov, E. A. Albanesi, P. Galiy and Ya. Fiyala Lviv, Jing Liu and P.A. Dowben, *The Electronic Structure of Surface Chains in the Layered Semoconductor In<sub>4</sub>Se<sub>3</sub>(100)*, *Appl. Phys. Lett.*, **92**, 122107 (2008).
1. R. G. Moore, Jiandi Zhang, V.B. Nascimento, J. Rundgren, R. Jin, D. Mandrus, and E. W. Plummer, *Manifestations of Broken Symmetry: The Surface Phases of Ca<sub>2-x</sub>Sr<sub>x</sub>RuO<sub>4</sub>*, *Phys. Rev. Lett.* **100**, 066102 (2008).
2. H. Z. Guo, A. Gupta, Jiandi Zhang, M. Varela, and S. J. Pennycook, *Effect of Oxygen Concentration on the Magnetic Properties of La<sub>2</sub>CoMnO<sub>6</sub> Thin Films*, *Appl. Phys. Lett.* **91**, 202509 (2007)
3. R. G. Moore, Jiandi Zhang, V. B. Nascimento, R. Jin, Jiandong Guo, G.T. Wang, Z. Fang, D. Mandrus, and E. W. Plummer, *A Surface Tailored Purely Electronic Mott Insulator-to-Metal Transition*, *Science* **318**, 615 (2007).
4. Jiandi Zhang, F. Ye, Hao Sha, Pengcheng Dai, J.A. Fernandez-Beca, and E.W. Plummer, *Magnons in ferromagnetic Metallic Manganites*, *J. Phys. Condens. Matter* **19**, 315204 (2007).
5. Lei Cai, Xuewen Wang, Y. Darici, Jiandi Zhang, and P.A. Dowben, *Energetics of the Dipole Flip-Flop Motion in a Ferroelectric Polymer Chain*, *J. Chem. Phys.* **126**, 124908 (2007).
6. V.B. Nascimento, R.G. Moore, J. Rundgren, Jiandi Zhang, Lei Cai, R. Jin, D. Mandrus, and E.W. Plummer, *LEED on Metal Oxides: Ca<sub>1.5</sub>Sr<sub>0.5</sub>RuO<sub>4</sub> (001) Surface*, *Phys. Rev. B* **75**, 035408 (2007).
7. R. Jin, Hao Sha, P. Khalifah, R.E. Sykora, B.C. Sale, D. Mandrus, and Jiandi Zhang, *Ba<sub>2</sub>CoO<sub>4</sub>: Crystal growth, Structure Refinement, and Physical Properties*, *Phys. Rev. B* **73**, 174404 (2006).
8. J. Xiao, L.G. Rosa, M. Poulsen, D-Q Feng, S.D. Reddy, J.M. Takacs, Lei Cai, Jiandi Zhang, S. Ducharme, and P.A. Dowben, *Comparison of the Electronic Structure of Two Polymers with Strong Dipole Ordering*, *J. Phys.: Condens. Matt.* **18**, L155 (2006).

9. Jiandi Zhang, Ismail, R.G. Moore, S.-C. Wang, H. Ding, R. Jin, D. G. Mandrus, and E. W. Plummer, *Dopant-Induced Nanoscale Electronic Inhomogeneity in  $Ca_{2-x}Sr_xRuO_4$* , Phys. Rev. Lett. **96**, 066401 (2006).
10. F. Ye, Pengcheng Dai, J.A. Fernandez-Baca, Hao Sha, J.W. Lynn, H. Kawano-Furukawa, Y. Tomioka, Y. Tokura, and Jiandi Zhang, *Evolution of Spin-Wave Excitations in Ferromagnetic Metallic Manganites*, Phys. Rev. Lett. **96**, 047204 (2006).
11. C.C. Ilie, S. Balaz, L.G. Rosa, Jiandi Zhang, P. Lunca-Popa, C. Bianchetti, R. Tittsworth, J.I. Brand, R. Doudin, P.A. Dowben, *The coadsorption and Interaction of Molecular Icosahedra with Mercury*, Appl. Phys. A **81**, 1613 (2005).
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14. Lei Cai, Hongwei Qu, Chenxi Lu, S. Ducharme, P.A. Dowben and Jiandi Zhang, *Surface Structure of Ultrathin Copolymer Films of Ferroelectric Vinylidene Fluoride (70%) with Trifluoroethylene (30%) on Graphite*, Phys. Rev. B **70**, 155411 (2004).
15. Chenxi Lu, Jiandi Zhang, R. Jin, Hongwei Qu, J. He, D. Mandrus, Ku-Ding Tsuei, Chuan-Tze Tzeng, Li-Cheng Lin, and E. W. Plummer, *An Imperfection-Driven Phase Transition at 120 K in  $Cd_2Re_2O_7$* , Phys. Rev. B **70**, 092506 (2004).
16. Rob G. Moore, Jiandi Zhang, S.V. Kalinin, Ismail, A.P. Baddorf, R. Jin, D.G. Mandrus, and E.W. Plummer, *Surface Dynamics of Layered Ruthenates  $Ca_{1.9}Sr_{0.1}RuO_4$* , Phys. Stat. Sol. **241**, 2363 (2004).
17. Hongwei Qu, W. Yao, T. Garcia, Jiandi Zhang, S. Ducharme, P. A. Dowben, A. V. Sorokin, and V. M. Fridkin, *Nanoscale Polarization Manipulation and Conductance Switching in Ultrathin Films of a Ferroelectric Copolymer*, Appl. Phys. Lett. **82**, 4322 (2003).
18. Ismail, L. Petersen, Jiandi Zhang, R. Jin, D. G. Mandrus, and E. W. Plummer, *The surface of Mo-doped  $Sr_2RuO_4$ : a LEED and STM Study*, Surf. Sci. **529**, 151 (2003).
19. Ismail, Jiandi Zhang, R. Matzdorf, E. W. Plummer, T. Kimura, and Y. Tokura, *Surface Lattice Dynamics of layered Transition-Metal Oxides:  $Sr_2RuO_4$  and  $La_{0.5}Sr_{1.5}MnO_4$* , Phys. Rev. B **67**, 035407 (2003).
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23. I. N. Yakovkin, Jiandi Zhang, and P. A. Dowben, *Interplay Between Plasmons and the Band Structure for the Mo(112) Surface*, Phys. Rev. B **63**, 115408 (2001).
24. E. W. Plummer, Ismail, R. Matzdorf, A. V. Melechko, and Jiandi Zhang, *The Next Twenty Five Years of Surface Physics*, Prog. Surf. Sci. **67**, 17 (2001).
25. R. Matzdorf, Z. Fang, Ismail, Jiandi Zhang, T. Kimura, Y. Tokura, K. Terakura, and E. W. Plummer, *Ferromagnetism Stabilized by Lattice Distortion at the Surface of p-Wave Superconductor:  $Sr_2RuO_4$* , Science **289**, 746 (2000).
26. P. Dai, Jiandi Zhang, J. A. Fernandez-Baca, H. Y. Hwang, Y. Tomioka, and Y. Tokura, *Magnon Damping by Magnon-Phonon Coupling in Manganese Perovskites*, Phys. Rev. B **61**, 9553 (2000).
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35. Jiandi Zhang and E. W. Plummer, *The Surface Phonons of  $La_{1-x}Ca_xMnO_3$* , Surf. Sci. **393**, 64 (1997).
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38. D. N. McIlroy, C. Waldfried, Jiandi Zhang, J.-W. Choi, F. Foong, S. H. Liou, and P. A. Dowben, *A Comparison of the Temperature Dependent Electronic Structure of the Perovskites  $La_{0.65}A_{0.35}MnO_3$  ( $A = Ca, Ba$ )*, Phys. Rev. B **54**, 17438 (1996).
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40. P. Dai, Jiandi Zhang, H. A. Mook, S.-H. Liou, P. A. Dowben, and E. W. Plummer, *Lattice and Static/Dynamic Jahn-Teller Effects in  $La_{1-x}Ca_xMnO_3$* , Solid State Commun. **100**, 865 (1996).
41. P. Dai, Jiandi Zhang, H. A. Mook, S.-H. Liou, P. A. Dowben, and E. W. Plummer, *Experimental Evidence for the Dynamic Jahn-Teller Effect in  $La_{0.65}Ca_{0.35}MnO_3$* , Phys. Rev. B **54**, R3694 (1996).
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43. D. Welipitiya, P. A. Dowben, Jiandi Zhang, W. W. Pai, and J. F. Wendelken, *The Adsorption and Desorption of Ferrocene on Ag(100)*, Surf. Sci. **367**, 20 (1996).
44. D. Welipitiya, A. Green, J. P. Woods, P. A. Dowben, B. W. Robertson, D. Byun, Jiandi Zhang, *Ultraviolet and Electron Radiation Induced Fragmentation of Adsorbed Ferrocene*, J. Appl. Phys. **79**, 8730 (1996).
45. Jiandi Zhang, D. N. McIlroy, P. A. Dowben, S. H. Liou, R. F. Sabirianov, and S. S. Jaswal, *The Valence-Band Structure of  $La_{1-x}Ca_xMnO_3$* , Solid. State Commun. **97**, 39 (1996).
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47. D. N. McIlroy, Jiandi Zhang, S. H. Liou, and P. A. Dowben, *Changes in Screening and Electron Density Across the Coupled Metallic-Magnetic Phase Transition of  $La_{1-x}Ca_xMnO_3$* , Phys. Lett. A **207**, 367 (1995).
48. Jiandi Zhang, D. N. McIlroy, and P. A. Dowben, *The Correlation between Screening and Effective Mass across the Metal-Nonmetal Transition in Ultrathin Films*, Phys. Rev. B **52**, 11380 (1995).
49. D. N. McIlroy, Jiandi Zhang, P. A. Dowben, P. Xu, and D. Heskett, *The Coadsorption of Metals and Molecular Icosahedra on Cu(100)*, Surf. Sci. **328**, 47 (1995).
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51. P. A. Dowben, D. Li, Jiandi Zhang, and M. Onellion, *Resonant Photoemission Studies of Thickness Dependence of the Unoccupied Gd 5d Bands*, J. Vac. Sci. Technol. A **13**, 1549 (1995).
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54. D. Byun, S. Hwang, Jiandi Zhang, H. Zeng, F. K. Perkins, G. Vidali, and P. A. Dowben, *Synchrotron Radiation Induced Decomposition of Closo-1, 2-dicabododecaborane*, Jpn. J. Appl. Phys. **34**, L941 (1995).
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56. D. Byun, S. Lee, Y. -F. Hu, G. M. Bancroft, S.-D. Hwang, J. A. Glass Jr., Jiandi Zhang, J.T. Spencer, Jian Ma, and P.A. Dowben, *Photoemission from Gaseous and Condensed Molecular Carborane Cluster Molecules*, J. Electrosc. Relat. Phenom. **69**, 111 (1994).
57. H. Zeng, D. Byun, Jiandi Zhang, G. Vidali, M. Onellion, and P. A. Dowben, *Adsorption and Bonding of Molecular Icosahedra on Cu(100)*, Surf. Sci. **313**, 239 (1994).
58. Jiandi Zhang, D. Li, and P. A. Dowben, *Layer by Layer Growth of Hg on W(110)*, J. Vac. Sci. Technol. A **12**, 2190 (1994).
59. Jiandi Zhang, D. Li, and P. A. Dowben, *The Electronic Properties of Metallic Mercury Monolayers on W(110) Surface*, J. Phys.: Condens. Matter **6**, 33 (1993).
60. Jiandi Zhang, D. Li, and P. A. Dowben, *The Metal-Nonmetal Transition in Surface Islands on Metal Surface*, Phys. Lett. A **173**, 183 (1993).
61. D. Li, Jiandi Zhang, and P.A. Dowben, *Altering the Gd(0001) Surface Electronic Structure with Hydrogen Adsorption*, Phys. Rev. B **48**, 5612 (1993).
62. D. Li, Jiandi Zhang, P. A. Dowben, M. Onellion, K. Garrison, P. D. Johnson, H. Tang, T. G. Walker, H. Hopster, J. C. Scott, D. Weller, and D. P. Pappas, *Canted Magnetic Moments at the Gd(0001) Surface*, Mat. Res. Soc. Symp. **313**, 451 (1993).
63. D. Li, Jiandi Zhang, K. Garrison and P. A. Dowben, *Evidence for Imperfect Ferromagnetic Coupling between the Gd(0001) Surface and Bulk*, J. Phys.: Condens. Matter **5**, L73 (1993).
64. D. Li, Jiandi Zhang, P. A. Dowben, and M. Onellion, *Temperature-Dependent Electronic Structure in a Localized-Magnetic-Moment System: Gadolinium*, Phys. Rev. B **45**, 7272 (1992).
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### **CONFERENCE PROCEEDINGS & REPORTS**

1. Ismail, R. Matzdorf, L. Petersen, Jiandi Zhang, T. Kimura, Y. Tokura, and E.W. Plummer, *Surface Structure of Layered Perovskites: A-LEED I-V Study*, Progress Report, Condensed Matter Sciences Division, Oak Ridge National Laboratory, ORNL-6969, 115 (2002).
2. Jiandi Zhang, P. Dai, J.A. Fernandez-Beca, E.W. Plummer, Y. Tomioka, and Y. Tokura, *Jahn-Teller Phonon Anomaly in CMR Manganites*, Progress Report, Condensed Matter Sciences Division, Oak Ridge National Laboratory, ORNL-6969, 98

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3. A. V. Melechko, H.H. Weitering, J. Braun, Jiandi Zhang, J.M. Carpinelli, M. Bartkowiak, and E.W. Plummer, *Defect-Mediated Condensation of a Charge Density Wave*, Progress Report, Solid State Division, Oak Ridge National Laboratory, ORNL-6964, 115 (1999).
  4. J.A. Fernandez-Beca, P. Dai, Jiandi Zhang, H.Y. Hwang, C. Kloc, S.-W. Cheong, Y. Tomioka, and Y. Tokura, *Evolution of Spin Dynamics in the CMR Manganites*, Progress Report, Solid State Division, Oak Ridge National Laboratory, ORNL-6964, 36 (1999).
  5. E.W. Plummer, Jiandi Zhang, and Larry Pai, *Novel Applications of the STM*, 5<sup>th</sup> JRCAT International Symposium on Atom Technology, 353 (1997).
  6. Jiandi Zhang, E.W. Plummer, J. Choi, S.-H. Liou, and P.A. Dowben, *The Surface Composition of the Perovskites  $La_{1-x}Ca_xMnO_3$* , 5<sup>th</sup> JRCAT International Symposium on Atom Technology, 349 (1997).
  7. J.M. Carpinelli, A.P. Baddorf, H.H. Weitering, V.Jahns, Jiandi Zhang, R. Stumpf, and E.W. Plummer, *Surface Charge Density Wave Transition in the Alpha Phase Sn or Pb on Ge (111)*, Progress Report, Solid State Division, Oak Ridge National Laboratory, ORNL-6934, 157 (1997).
  8. W.W. Pai, Z. Zhang, Jiandi Zhang, and J.F. Wendelken, *Manipulation of Molecular Radicals at Room Temperature*, Progress Report, Solid State Division, Oak Ridge National Laboratory, ORNL-6934, 156 (1997).
  9. Ismail, Jiandi Zhang, R. Matzdorf, R. Jin, D. G. Mandrus, and E.W. Plummer, *Surface Lattice Dynamics of Single-Layered Transition Metal Oxides:  $Sr_2RuO_4$  and  $La_{0.5}Sr_{1.5}MnO_4$* , Progress Report, Condensed Matter Sciences Division, Oak Ridge National Laboratory, ORNL-6969, 116 (2002).
  10. Jiandi Zhang and P. Li, *How to Explain the Puzzling Positron Peak in Heavy-Ion Collisions*, Proc. 7th Chinese Conf. Nucl. Phys., Nanjing, China, 1988.
  11. Jiandi Zhang and X. Qiu, *A Quark-Meson Model of Baryons*, Proc. 7th Chinese Conf. Nucl. Phys., Nanjing, China, 1988.
  12. Jiandi Zhang and X. Qiu, *Chiral Soliton Model with Quark-Quark Self-Consistent Interaction*, Ann. Rep., Ins. Nucl. Research, Academy of Science of China, Vol. 6, 29 (1986).

### **INVITED TALKS**

1. "Spin Waves in ferromagnetic Manganites", NIMTE, Ningbo, China (07/08/2009).
2. "Signature of Magnetic Phase Separation probed by Neutron Scattering", NIMTE, Ningbo, China (07/07/2009).
3. "Nanoscale twist for a Ferroelectric Polymer Material", NIMTE, Ningbo, China (07/06/2009).
4. "Anomalously large anisotropic magnetoresistance in perovskite manganite and its possible origin", Beijing National Laboratory for Condensed Matter Physics and the Institute of Physics, Chinese Academy of science, Beijing, China (06/02/2009).
5. "Spin-Lattice Coupling in the Crystals of Manganites", International Workshop of Functional Oxides and Applications, NIMTE, Ningbo, China (12/18/2008)
6. "Spin-Lattice Coupling in the Crystals of Manganites", Zhong Guan Chun Forum Talk, Institute of Physics, Beijing, China (11/03/2008)
7. "Emergent Phenomena of Transition-Metal Oxides: from Bulk to Surface/Interface", NIMTE, Ningbo, China (07/01/2008)
8. "Emergent Phenomena of Transition-Metal Oxides: from Bulk to Surface/Interface", Louisiana State University, Baton Rouge, LA (04/30/2008)
9. "The Manifestations of Broken Symmetry: Surfaces of Ruthenates," University of Miami, Maimi, FL (09/14/07)
10. "Magnons in Colossal magnetoresistive Materials," Institute of Physics, Beijing, China (06/15/07)
11. "The Manifestations of Broken Symmetry: Surfaces of Transition-Metal Oxides", Tsing Hua University (06/14/07)
12. "The Manifestations of Broken Symmetry: Surfaces of Transition-Metal Oxides," RenMin University of China, Beijing, China (06/12/07)
13. "Nanoscale Twist of a Copolymer Material," ChinaNano 2007, Beijing, China (06/05/07)
14. "Magnons in Manganites" SMEC2007 Conference, Miami Beach, FL (04/18/07).
15. "Life at the Edge: Emergent Phenomena at Surfaces/Interfaces of Transition-Metal Oxides" Physics, Department, University of South Florida, Tampa, FL (03/30/07)

16. *"The Depressed Density of States: Pseudo-Gap in Rethenate?"*, Invited lecture three, Workshop on "Correlated Electronics", China Center of Advanced Science and Technology, Beijing, China (11/18/06)
17. *"New Properties at the Surface of Transition-Metal Oxides: Surface Tailored Mott Transition"*, Invited lecture two, Workshop on "Correlated Electronics", China Center of Advanced Science and Technology, Beijing, China (11/17/06)
18. *"Emergent Phenomena in Correlated Electron Materials"*, Invited lecture one, Workshop on "Correlated Electronics", China Center of Advanced Science and Technology, Beijing, China (11/17/06)
19. *"Life at the Edge: Emergent Phenomena at the Surfaces and Interfaces of Transition-Metal Oxides"*, International Center for Young Scientists, National Institute for Materials Science, Tsukuba, Japan (07/07/06)
20. *"Life at the Edge: Emergent Phenomena at the Surfaces and Interfaces of Transition-Metal Oxides"*, Shanghai Institute of Applied Physics, Shanghai, China (07/02/06)
21. *"Scanning Tunneling Spectroscopy of the Surfaces of Ruthenates"*, 5<sup>th</sup> OCPA International Conference, Taipei, Taiwan, R. China (06/27/06)
22. *"Life at the Edge: Surfaces and Interfaces of Transition-Metal Oxides"*, The State Key Laboratory of Surface Physics, Institute of Physics, Chinese Academy of Science, Beijing, China (06/07/06)
23. *"The Manifestation of Broken Symmetry: The Surface Phases of Ruthenates"*, The 6<sup>th</sup> Annual Workshop, International Center for Quantum Structures, Institute of Physics, Chinese Academy of Science, Beijing, China (06/06/06)
24. *"Emergent Phenomena in Colossal Magnetoresistive Materials"*, Fudan University, Shanghai, China (06/01/06)
25. *"Emergent Phenomena in Correlated Electron Materials"*, Nanjing University of Posts and Telecommunications, Nanjing, China (05/30/06)
26. *"Emergent Phenomena in Correlated Electron Materials"*, Nanjing University of Science and Technology, Nanjing, China (05/30/06)
27. *"Life at the Edge: Emergent Phenomena at the Surfaces and Interfaces of Transition-Metal Oxides"*, National Laboratory of Solid State Microstructures, Nanjing University, Nanjing, China (05/29/06)
28. *"Life at the Edge: Surfaces/Interfaces of Transition-Metal Oxides"*, Department of Physics, Florida Atlantic University, Boca Raton, FL (03/24/06)
29. *"New Phases at the Surface of Layered Ruthenates"*, Workshop on Novel Electronic Materials, University of Kentucky, Lexington, KY (4/26/05).
30. *"The Surface of Transition-Metal Oxides: Correlation Electron Systems with reduced Dimensionality and Broken Symmetry"*, Department of Physics, University of Miami, Miami (4/15/05).
31. *"The Surface of Transition-Metal Oxides: Correlation Electron Systems with reduced Dimensionality and Broken Symmetry"*, Engineering College, Georgia Tech, Atlanta (2/22/05).
32. *"New Phases at the Surface of Transition-Metal Oxides"*, 4<sup>th</sup> OCPA International Conference, Shanghai, China (7/1/2004).
33. *"Frontier Physics with Correlated Electrons in Reduced Dimensionality"*, Nanjing University of Science and Technology, Nanjing, China (6/24/2004).
34. *"Play with Molecular Dipoles: A Nanoscale Approach to Polymer Materials"*, Jimei University, Jimei, Fujian Province, China (6/17/2004).
35. *"Play with Molecular Dipoles: A Nanoscale Approach to Polymer Materials"*, Xiamen University, Xiamen, China (6/16/2004).
36. *"Nanoscale Polarization Manipulation and Conductance Switching in Ultrathin Films of a Ferroelectric Copolymer"*, 2003-2004 Florida AVS/Florida Microscopy Society Meeting, University of Central Florida, Orlando, FL (3/9/2004).
37. *"New Surface Phases of Single Crystal Ruthenates"* SMEC2003 Conference, Kovens Conference Center, Miami, FL (03/25/03).
38. *"The close coupling between lattice and electronic structure on the surface of  $Ca_{2-x}Sr_xRuO_4$  ( $0 \leq x \leq 2$ )"* 2002-2003 Florida AVS/Florida Microscopy Society Meeting, University of Central Florida, Orlando, FL (3/17/2003).
39. *"Nanoscale Polarization Manipulation and Conductance Switching in a Ultra Thin Ferroelectric Copolymer Film: P(VDF-TrFE)"*, Solid State Division, Oak Ridge National Laboratory, Oak Ridge, TN (07/11/02).
40. *"Exciting Physics in Transition Metal Oxides: From Bulk to Surface"*, Dept. Physics, Boston College, Boston, MA (07/09/02).
41. *"Exciting Physics in Transition Metal Oxides: From Bulk to Surface"*, 2001-2002 Florida AVS/Florida Microscopy Society

- Meeting, University of Central Florida, Orlando, FL (03/12/2002).
42. “*Exciting Physics in Transition Metal Oxides: From Bulk to Surface*”, Dept. of Physics, Florida Atlantic University, Boca Raton, FL (08/31/2001).
  43. “*Exciting Physics in Transition Metal Oxides: From Bulk to Surface*”, Dept. of Physics, Montana State University, Bozeman, MT (07/12/2001).
  44. “*Nano-Scale Phase Separation in Transition Metal Oxides: From Bulk to Surface*”, Institute of Physics, Chinese Academy of Science, Beijing, China (5/30/2001).
  45. “*Nano-Scale Phase Separation in Transition Metal Oxides: From Bulk to Surface*”, Tianjing University, Tianjing, China (05/28/2001).
  46. “*Nano-Scale Phase Separation in Transition Metal Oxides: From Bulk to Surface*”, National Symposium on Nanoscience and Surface Science, Beijing University, Beijing, China (5/25/2001).
  47. “*Surface of  $Sr_2RuO_4$ : An Example of New Physics at Surfaces of Layered Transition Metal Oxides (TMOs)*”, 2nd Annual Workshop of ICQS, Tsinghua University, Beijing, China (05/24/2001).
  48. “*Jahn-Teller Phonon Anomaly and Dynamic Phase Fluctuations in  $La_{0.7}Ca_{0.3}MnO_3$* ”, the APS March Meeting, 2001, Seattle, WA (03/12/2001).
  49. “*Nano-Phase Inhomogeneities and Fluctuations in Doped Transition Metal Oxides (TMOs)*”, Institute of Physics and Center for Condensed Matter Physics, Chinese Academy of Science, Beijing, China (10/27/00).
  50. “*Surfaces of Layered Transition-Metal Oxides (TMOs): Physics with Broken Symmetry in Reduced Dimensionality*”, Asia-Pacific Surface & Interface Analysis Conference, Beijing, China (10/24/00).
  51. “*Unusual Magnon and Phonon Behavior of Manganites*”, 2000, Dept. of Physics and Astronomy, Michigan State University, East Lansing, MI (03/16/2000).
  52. “*Exotic Properties in Colossal Magnetoresistance Materials*”, 1999, Dept. of Physics, University of Miami, Miami, FL (04/03/1999).
  53. “*Spin Dynamics in Colossal Magnetoresistance Materials*”, 1998, Solid State Division, Oak Ridge National Laboratory, TN (11/02/98).
  54. “*Unusual Magnon Behavior in Manganites*”, 1998 JRCAT Workshop on Phase Control of Colossal Magnetoresistive Oxides, Maui, Hawaii, USA (06/26/1998).
  55. “*Spin Dynamics in the Ferromagnetic Phase of CMR Materials*”, International Conference & Workshops on CMR-Related Phenomena in Transition Metal Oxides: Fundamental Concepts and Their Experimental Consequences, The University of Melbourne, Melbourne, Australia (06/08/1998).
  56. “*Exotic properties of Complex Materials*”, Dept. of Physics, Florida International University, Miami, FL (04/10/1998).
  57. “*Exotic Properties of Complex Materials*”, Dept. of Physics, University of Florida, Gainesville, FL (02/23/1998).
  58. “*The Surface properties of Provkites*”, 5th JRCAT International Symposium on Atom Technology, Komaba Eminence, Tokyo, Japan (11/26/1997).
  59. “*Surface Composition of  $La_{1-x}Ca_xMnO_3$* ”, Institute of Industrial Science, University of Tokyo, Tokyo, Japan (11/25/1997).
  60. “*The Surface of  $La_{1-x}Ca_xMnO_3$* ”, Workshop on “The physics of Manganites, Ruthenates and Related Materials”, NHMFL/FSU, Tallahassee, FL (11/11/1997).
  61. “*Exotic Materials in Reduced Dimensionality*”, Dept. of Physics & Atmospheric Science, Drexel University (04/07/1997).
  62. “*Correlation of Bulk and Surface Phase Transitions in Complex Compounds*”, Synchrotron Radiation Research Center, Hsinchu, Taiwan (12/06/1996).
  63. “*Correlation of Bulk and Surface Phase Transitions in Complex Materials*”, Solid State Division, Oak Ridge National Lab (11/04/1996).
  64. “*Bulk and Surface Lattice Dynamics of Perovskites*”, 1996 JRCAT Workshop on Spin-Charge-Lattice Coupled Phenomena in Perovskites, Tsukuba, Japan (05/30/1996).
  65. “*The Dynamic Lattice Distortion and Electronic Structure across the Nonmetal-Metal Transition in  $La_{0.65}Ca_{0.35}MnO_3$* ”, Naval Research Laboratory (12/20/1995).

### **CONTRIBUTED PRESENTATIONS (1998-present, incomplete)**



1. “Surface Geometric and Electronic Structure of  $BaFe_2As_2(001)$ ”, V.B. Nascimento *et al.*, The 69<sup>th</sup> PEC meeting, New Brunswick, NJ(06/17/2009).
2. “Surface-Enhanced Raman Scattering Of  $\lambda$ -DNA”, Diane Alvarez *et al.*, APS March Meeting, Pittsburgh, PA (03/20/2009).
3. “Spin Glass Behavior in the New Cobaltite Series  $(Ba,Sr)_{4-x}La_xCo_4O_{15}$ ”, O. Garlea *et al.*, APS March Meeting, Pittsburgh, PA (03/19/2009).
4. “Dimensionality and Doping Effect on the Core-Level X-ray Photoemission satellites in layered Ruthenates”, H. Guo *et al.*, APS March Meeting, Pittsburgh, PA (03/19/2009).
5. “Core-Level Study of high Temperature Superconductivity Iron Arsenide”, Yi Li *et al.*, APS March Meeting, Pittsburgh, PA (03/18/2009).
6. “Small Dissimilarity in Lattice Distortion Triggers Anomalously Large Anisotropic Magnetoresistance in Manganite Perovskite”, R. Li *et al.*, APS March Meeting, Pittsburgh, PA (03/18/2009).
7. “Temperature Dependence of a Zero Bias Anomaly in Scanning Tunneling Spectra of  $Sr_4Ru_3O_{10}$ ”, R. Matzdorf, *et al.*, APS March Meeting, New Orleans, LA (03/14/2008).
8. “Signature of Magnetic Phase Separation in  $Pr_{1-x}Ca_xMnO_3$ ”, D. Mesa, *et al.*, APS March Meeting, New Orleans, LA (03/13/2008).
9. “Magnetic and Structural Properties of Sr-Doped  $Ba_{2-x}Sr_xCoO_4$ ”, H. Sha, *et al.*, APS March Meeting, New Orleans, LA (03/13/2008).
10. “Phonon Anomaly across Charge/orbital Ordering Transition in  $Pr_{0.65}Ca_{0.35}MnO_3$ ”, J. Zhang, *et al.*, APS March Meeting, New Orleans, LA (03/13/2008).
11. “Phonon Anomaly in  $Bi_2Sr_2CaCuO_{8+\delta}$ ”, J. Guo, *et al.*, APS March Meeting, New Orleans, LA (03/13/2008).
12. “Influence of Oxygen Concentration on the Magnetic Properties of Multifunctional  $La_2CoMnO_6$  Thin Films”, H. Guo, *et al.*, APS March Meeting, New Orleans, LA (03/12/2008).
13. “Electronic and Magnetic Structures of Double Perovskite Multifunctional  $La_2NiMnO_6$  Thin Films”, A. Gupta, *et al.*, APS March Meeting, New Orleans, LA (03/12/2008).
14. “Inciting High-School Interest in Physics”, J. Zhang, APS March Meeting, New Orleans, LA (03/11/2008).
15. “The Semiconducting Surface of  $In_4Se_3$  Surface”, M. Klinke, *et al.*, APS March Meeting, New Orleans, LA (03/11/2008).
16. “Growth of Co Nanoclusters on Rutile  $TiO_2(110)$  Surface”, E. Cai, *et al.*, APS March Meeting, New Orleans, LA (03/10/2008).
17. “Dopant-Induced Nanoscale Inhomogeneity in  $Ca_{2-x}Sr_xRuO_4$ ”, Jiandi Zhang *et al.*, APS March Meeting, Denver, CO (03/05/2007).
18. “Surface Structural Properties of  $Ca_{2-x}Sr_xRuO_4$ ”, R.G. Moore *et al.*, APS March Meeting, Denver, CO (03/05/2007).
19. “Tuning Physical Properties via Isovalent Doping in  $Ba_{2-x}Sr_xCoO_4$ ”, Hao Sha *et al.*, APS March Meeting, Denver, CO (03/05/2007).
20. “Additional Mode of  $PbZr_xTi_{1-x}O_3$  films” Chi Yat Yau *et al.*, APS March Meeting, Denver, CO (03/05/2007)
21. “ $Ba_2CoO_4$ : Crystal Growth, Structural Refinement, and Physical Properties”, R. Jin *et al.*, APS March Meeting, Baltimore, MD (03/17/2006).
22. “Energetic Study of the Flip-Flop Motion of P(VDF-TrFE)”, Lei Cai *et al.*, APS March Meeting, Baltimore, MD (03/16/2006).
23. “Evolution of Spin-Wave Excitations in Ferromagnetic Metallic Manganites”, Jiandi Zhang *et al.*, APS March Meeting, Baltimore, MD (03/16/2006).
24. “Zero-Bias Anomaly in the Low-Temperature Scanning Tunneling Spectra of  $Sr_3Ru_2O_7$ ”, R. Matzdorf *et al.*, APS

- March Meeting, Baltimore, MD (03/14/2006).
25. “*LEED Study of the Surface Structure of Transition-Metal Oxides (TMOs)*”, V.B. Nascimento *et al.*, APS March Meeting, Baltimore, MD (03/14/2006).
  26. “*Surface Structural Phases of  $Ca_{2-x}Sr_xRuO_4$* ”, R. Moore *et al.*, APS March Meeting, Baltimore, MD (03/14/2006).
  27. “*Perpendicular Anisotropy in Cobalt-Nanodots on Rutile  $TiO_2$  (110)*”, N. Widjaja *et al.*, APS March Meeting, Baltimore, MD (03/13/2006).
  28. “*Microscopic Ferromagnetic and Antiferromagnetic Clusters in  $Pr_{0.7}Ca_{0.3}MnO_3$* ”, H. Sha *et al.*, APS March Meeting, Baltimore, MD (03/13/2006).
  29. “*Surface Phases of  $Ca_{2-x}Sr_xRuO_4$ : A Low Energy Electron Diffraction Study*”, R. Moore *et al.* The 8<sup>th</sup> International Conference on Surface Structure, Munich, Germany (07/21/2005).
  30. “*Fermi Surface Topology of  $Ca_{2-x}Sr_xRuO_4$  Determined by Angle-Resolved Photoelectron Spectroscopy*” H. Yang, *et al.*, APS March Meeting, Los Angeles (03/24/05).
  31. “*Temperature dependence of DOS at the surface of  $Na_{0.75}CoO_2$* ”, L. Cai, Chenxi Lu, Jiandi Zhang, R. Jin, B.C. Sales, D.G. Mandrus, APS March Meeting, Los Angeles (03/21/05).
  32. “ *$\Sigma_4$  Phonon Instability in  $Ca_{1.4}Sr_{0.6}RuO_4$* ”– Rob G. Moore, M. Lumsden, R. Jin, J. Zhang,, D. Mandrus, and E.W. Plummer, APS March Meeting, Los Angeles (03/22/05).
  33. “*Doping Dependence of the Electronic Inhomogeneities of  $Ca_{2-x}Sr_xRuO_4$* ”, Jiandi Zhang, Ismail, S.-C. Wang, H.-B. Yang, H. Ding, R. Jin, D. G. Mandrus, and E. W. Plummer, APS March Meeting, Montreal, Quebec, Canada (03/24/04).
  34. “*A STM Study on the Structure and Manipulation of Ultra-Thin P(VDF-TrFE) Copolymer Films on Graphite*”, Lei Cai, Hongwei Qu, Chenxi Lu, A.V. Sorokin, S. Ducharme, P.A. Dowben, and Jiandi Zhang, APS March Meeting, Montreal, Quebec, Canada (03/26/04).
  35. “*Surface Study of the Single Crystal  $Na_xCoO_2$* ”, Chenxi Lu, Lei Cai, R. Jin, D.G. Mandrus, and Jiandi Zhang, APS March Meeting, Montreal, Quebec, Canada (03/23/04).
  36. “*An unusual Mott Transition at the surface of  $Ca_{1.9}Sr_{0.1}RuO_4$* ”, R.G. Moore, Jiandi Zhang, Ismail, S.V. Kalinin, J. Guo, R. Jin, D. Mandrus, A.P. Baddorf, and E.W. Plummer, APS March Meeting, Montreal, Quebec, Canada (03/23/04).
  37. “*Electronic Structure of  $Ca_{1.5}Sr_{0.5}RuO_4$  from ARPES*”, Shancai Wang, Hongbo Yang, A.K.P Sekharan, Hong Ding, H Souma, H. Matsui, T. Sato, T. Takahashi, Chenxi Lu, Jiandi Zhang, R. Jin, D. Mandrus, and E.W. Plummer, APS March Meeting, Montreal, Quebec, Canada (03/22/04).
  38. “*Doping Dependence of the Surface Lattice Structure and Electronic Inhomogeneity of  $Ca_{2-x}Sr_xRuO_4$* ”, Ismail, Jiandi Zhang, Rongying Jin, D.G. Mandrus and E.W. Plummer, APS March Meeting, Austin, TX (03/07/03).
  39. “*ARPES study of the Electronic Structure Evolution in  $Ca_{2-x}Sr_xRuO_4$* ” S.-C. Wang, H. –B. Yang, A. Sekharan, H. Ding, C.X. Lu, Jiandi Zhang, Rongying Jin, D.G. Mandrus, and E.W. Plummer, APS March Meeting, Austin, TX (03/07/03).
  40. “*Defect Ordering Transition on the Surface of Single Crystal  $Sr_3Ru_2O_7$* ” L. Petersen, Ismail, Jiandi Zhang, Rongying Jin, D.G. Mandrus, and E.W. Plummer, APS March Meeting, Austin, TX (03/06/03).
  41. “ *$Sr_2Ru_{0.9}Mo_{0.1}O_4$ : a LEED and STM Study*” L. Petersen, Ismail, Jiandi Zhang, Rongying Jin, D.G. Mandrus, and E.W. Plummer, APS March Meeting, Austin, TX (03/05/03).
  42. “*Characterization on the Surface of  $Cd_2Re_2O_7$  with Variable Temperature STM*” Chenxi Lu, Hongwei Qu, Jian He, Rongying Jin, D.G. Mandrus, E.W. Plummer and Jiandi Zhang, APS March Meeting, Austin, TX (03/05/03).
  43. “*Unusual Surface Metal-Insulator Transition of Single Crystal  $Ca_{1.9}Sr_{0.1}RuO_4$* ” Jiandi Zhang, Ismail, Rongying Jin, D.G. Mandrus, and E.W. Plummer, APS March Meeting, Austin, TX (03/05/03).
  44. “*Surface of the Layered Perovskite  $La_{0.5}Sr_{1.5}MnO_4$ : A LEED I-V study*” Ismail, R. Matzdorf, L. Petersen, Jiandi

- Zhang, T. Kimura, Y. Tokura, and E.W. Plummer, Physical Electronic Conference, Atlanta, GA (06/14/02).
45. “*Imaging and Writing of Polarization Domain Patterns on Ultrathin Langmuir Blodgett Films of Polyvinylidene Fluoride Trifluoroethylene (70:30) Copolymers*”, Hongwei Qu, T. Garcia, Wei Yao, Jiandi Zhang, S. Ducharme, P.A. Dowben, A.V. Sorokin, and V.M. Fridkin, APS March Meeting, Indianapolis, IN (18-22, March, 2002).
  46. “*Spontaneous Writing and Imaging of Nanoscale Polarization Domains on Ultrathin Ferroelectric Copolymer Film: P(VDF-TrFE)*”, Hongwei Qu, Wei Yao, Jiandi Zhang, S. Ducharme, P.A. Dowben, A.V. Sorokin, and V.M. Fridkin, 2001-2002 Florida AVS/Florida Microscopy Society Meeting, University of Central Florida, Orlando, FL (3/12/2002).
  47. “*Magnons and Phonons in the CMR manganites*” J.A. Fernandez-Baca, P. Dai, Jiandi Zhang, Y. Tomioka, and Y. Tokura, APS March Meeting, Minneapolis, MN (20-24, March, 2000).
  48. “*Magnon and Phonon Anomaly and Phase Inhomogeneities in Manganites*”, Jiandi Zhang, P. Dai, J.A. Fernandez-Baca, E.W. Plummer, Y. Tomioka, and Y. Tokura, Poster, in Correlated Electrons Gordon Conference, Plymouth State College, Plymouth, NH (25-30, June, 2000).
  49. “*The surface Structure of Cleaved  $Sr_2RuO_4$* ”, Ismail, R. Matzdorf, E.W. Plummer, Jiandi Zhang, T. Kimura, and Y. Tokura, APS March Meeting, Minneapolis, MN (20-24, March, 2000).
  50. “*Surface Phonon Dispersion of the Layered Transition Metal oxides*”, Jiandi Zhang, Ismail, R. Matzdorf, E.W. Plummer, T. Kimura, and Y. Tokura, APS March Meeting, Minneapolis, MN (20-24, March, 2000).
  51. “*A core-Level Study of CDW Transition for  $\alpha$ -Phase Sn on Ge(111)*”, E.W. Plummer, Jiandi Zhang, W. -S. Lo, Ku-Ding Tsuei, C.T. Chen, and C.T. Tzeng, APS Centennial-March Meeting, Atlanta, GA (20-26, March, 1999).
  52. “*The periodic Lattice Distortion Accompanying the Charge Density Wave Transition for Sn/Ge(111)*”, Ismail, Jiandi Zhang, A. P. Baddorf, E. W. Plummer, and P.J. Rous, the APS Centennial-March Meeting, Atlanta, GA (20-26, March, 1999).
  53. “*Evolution of the Spin Dynamics of the CMR Manganites  $Ln_{1-x}A_xMnO_3$  near  $x = 1/3$* ”, J. A. Fernandez-Baca, P. Dai, Jiandi Zhang, H.Y. Hwang, C. Kloc, S.-W. Cheong, Y. Tokura, and Y. Tomioka, the APS Centennial-March Meeting, Atlanta, GA (20-26, March, 1999).
  54. “*Unusual Phonon Behavior in LCMO Manganites*”, Jiandi Zhang, P. Dai, J.A. Fernandez-Baca, Y. Tomioka, and Y. Tokura, the APS Centennial-March Meeting, Atlanta, GA (20-26, March, 1999).
  55. “*Spin Dynamics in Colossal Magnetoresistance Materials*”, Jiandi Zhang, P. Dai, J. A. Fernandez-Baca, Y. Tomioka, and Y. Tokura, SESAPS regional Meeting Miami, Florida (November 13-15, 1998).
  56. “*Lattice Dynamics of CMR Materials*”, BESAC Review meeting of HFIR, Oak Ridge, TN (08/31/1998).