

Resume of Emil S. Bozin

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Education

- 2003 **Ph.D.** in Experimental Solid State Physics, *Michigan State University*
2001 **M.S.** in Electrical Engineering, Materials and Devices, *Michigan State University*
1999 **M.S.** in Physics, *Michigan State University*
1995 **B.Sc.** in Theoretical Physics, *University of Belgrade*

Experience

- 8/04-present **Research Associate**, Department of Physics & Astronomy, Michigan State University, *East Lansing, Michigan*
5/04- present **Research Fellow**, Solid State Physics Laboratory, Institute of Nuclear Sciences, *Vinca, Serbia*
11/03-5/04 **Physics Lecturer**, Department of Physics, Military Academy, *Belgrade, Serbia*
5/03-8/03 **Research Associate**, Department of Physics & Astronomy, Michigan State University, *East Lansing, Michigan*
1/97-5/03 **Research Assistant**, Department of Physics & Astronomy, Michigan State University, *East Lansing, Michigan*
8/95-12/96 **Teaching Assistant**, Department of Physics & Astronomy, Michigan State University, *East Lansing, Michigan*
4/95-6/95 **Physics Lecturer**, Medical High School, *Belgrade, Serbia*
1/95-6/95 **Independent Researcher**, Institute of Physics, *Belgrade, Serbia*

Honors/Awards

- 2005 **20th Louis Rosen Prize**, 7th LANSCE User Group Meeting, Los Alamos National Laboratory, Los Alamos, NM
2004 **Excellence in Teaching Honor**, outstanding teaching achievements award, Military Academy, Belgrade
2003 **Sherwood K. Haynes Graduate Physics Award**, outstanding graduate student, Dept. of Physics, MSU
2003 **Tracy A. Hammer Graduate Student Award for Professional Development**, College of Natural Science, MSU
2001 **Student Award**, "Chemistry, Physics and Biology at the Nanoscale CFMR symposium", *East Lansing, Michigan*
1999 **Selected Participant**, National School on Neutron and X-ray Scattering, Argonne National Laboratory, *Argonne, Illinois*
1999 **Pauling Prize**, Annual Meeting of American Crystallographic Association (ACA), *Buffalo, New York*
1998 **Student Award**, "Fundamentals of Sensor Science CFMR symposium", *East Lansing, Michigan*
1995 **Outstanding B.Sc. Thesis Award**, Department of Physics, University of Belgrade, *Belgrade, Serbia*
1993-1994 **Outstanding Undergraduate Student Fellowship**, Serbian Academy of Sciences and Arts, *Belgrade, Serbia*

Invited Presentations

- 2007 "Studying structure at the nanoscale in complex materials", Department of Complex Matter, Institute "Jožef Stefan", Ljubljana, Slovenia, 30th of October 2007
2007 "Studying structure at the nanoscale in disordered materials", Department of Earth Sciences, University of Milan, Milano, Italy, 25th of October 2007
2007 "Crystallography on a nanoscale", plenary lecture, XIV Conference of the Serbian Crystallographic Society, Vršac, Serbia, 28th of June 2007
2007 "Understanding the insulating phase in CMR manganites: Shortening of the Jahn-Teller long-bond across the phase diagram of $La_{1-x}Ca_xMnO_3$ "
Inhomogeneous and Strongly Correlated Materials with Advanced Functions Symposium, Study of Matter at Extreme Conditions, SMEC 2007, Miami Beach, Florida, 19th of April 2007
2006 "'Cold Case Files: Is colossal magnetoresistance due to nano-phase separation?'"
Fall 2006 Colloquium Series, Department of Physics, New Mexico State University, Las Cruces, New Mexico, 17th of November 2006
2006 "The secret life of high- T_C CMR manganites from total scattering analysis perspective"
10th European Powder Diffraction Conference, EPDIC-10, Geveva, Switzerland, 2nd of September 2006
2006 "Studies of nanostructure using neutron diffraction"
DOE Review Panel Meeting, Intense Neutron Pulsed Source, Argonne National Laboratory, Argonne, Illinois, 5th of April 2006

- 2006** *"Local atomic structure and the electronic properties of correlated electron oxides"*
DOE Review Panel Meeting, Manuel Lujan Jr. Neutron Scattering Center,
Los Alamos National Laboratory, Los Alamos, New Mexico, 21st of March 2006
- 2005** *"Local atomic structure and the electronic properties of correlated electron oxides"*
7th LANSCE User Group Meeting, Manuel Lujan Jr. Neutron Scattering Center,
Los Alamos National Laboratory, Los Alamos, New Mexico, 13th of September 2005
- 2004** *"Structure and (Dis)order From Atomic Pair Distribution Function Studies"*
Solid State Physics and Theoretical Physics Center, "Vinca" Institute of Nuclear Sciences
Vinca, Belgrade, Serbia, 17th of February 2004
- 2002** *"Structure and (Dis)order From Atomic Pair Distribution Function Studies"*
Manuel Lujan Jr. Neutron Scattering Center, Los Alamos Neutron Scattering Center
Los Alamos National Laboratory, Los Alamos, New Mexico 20th of August 2002
- 2002** *"Atomic Pair Distribution Function Perspective: Atomic Ordering in Nanostructural $V_2O_5 \cdot nH_2O$ Xerogel"*
American Crystallographic Association 2002 Annual Meeting, San Antonio, Texas 27th of May 2002
- 1997** *"Neutron Powder Diffraction Measurements and Determination of the Local Structure of $La_{2-x}A_xCuO_4$ ($A=Ba,Sr$)"*
Department of Physics, University of Belgrade, Serbia 15th of October 1997
- 1997** *"The Role of the Local Structure in the Second Order Structural Phase Transition of $La_{2-x}A_xCuO_4$ ($A=Ba,Sr$)"*
Institute of Physics, Belgrade, Serbia 9th of October 1997

Grants

- 1998-present** Principal Investigator (PI) and co-PI on over 30 experiment proposals resulted in over 90 days of the beam-time granted in a peer-review process under highly competitive conditions in national laboratories (LANSCE at Los Alamos National Laboratory, IPNS and APS at Argonne National Laboratory).
- 2002** Young Scientist Grant, Los Alamos National Laboratory LANSCE STONE program, Los Alamos, New Mexico
- 2002** Young Scientist Grant, American Crystallographic Association 2002 Annual Meeting, San Antonio, Texas
- 2001** Young Scientist Grant, American Crystallographic Association 2001 Annual Meeting, Los Angeles, California
- 2000** Young Scientist Grant, 6th International Conference on Materials and Mechanisms of Superconductivity and High Temperature Superconductors M2S-HTSC-VI, Houston, Texas
- 1998** Young Scientist Grant, 6th European Powder Diffraction Conference EPDIC 6, Budapest, Hungary
- 1997** Young Scientist Grant, International Conference on Neutron Scattering ICNS 97, Toronto, Canada

Scientific Interests

Investigating the relationship between the local structure and the physical properties of various complex functional materials. Scientific scope includes characterization of nanoscale inhomogeneities and establishing the role that these play in systems such as strongly correlated electron oxides and related compounds with colossal responses, charge density wave materials, novel thermoelectric systems, and other structurally disordered and crystallographically challenged materials, such as novel nanoscale materials. On technical side, my interests include pushing the boundaries of the available applicable tools and development of new ones for structural studies on a nanoscale.

Experimental Skills

Neutron and x-ray powder diffraction, atomic pair distribution function analysis, solid state synthesis, SQUID magnetometry, 4-probe transport, experience in laser induced fluorescence, various data processing and analysis software experience (GSAS, PDFFIT, PDFgetN/X, DISCUS etc)

Teaching Experience

Principal instructor for ISP 209L The Mystery of the Physical World Laboratory, MSU, spring semester 2007
Lecturer for several Physics courses at the Serbian Military Academy, fall semester 2003, spring semester 2004
Teaching assistant for PHY 232, Introductory Physics II, MSU, fall semester 1996
Teaching assistant for PHY 183B, Physics for Scientists and Engineers I-CBI, MSU, summer semester 1996
Teaching assistant for PHY 431, Optics I, MSU, spring semester 1996
Teaching assistant for PHY 231, Introductory Physics I, MSU, fall semester 1995
Teacher substitute, senior grade high school Physics, Medical high school, Belgrade, spring semester 1995

Management

- 2007 - present Project Manager, “research group (FRG) project”, Department of Physics and Astronomy grant fraction at Michigan State University
- 2006 - present Project Manager, “Distributed Data Analysis for Neutron Scattering Experiments (DANSE)-Diffraction” Department of Physics and Astronomy grant fraction at Michigan State University
- 2004 - 2007 Grant Project Manager, “Structure of Nanocrystals” NSF Nanotechnology and Interdisciplinary Research Initiative, Department of Physics and Astronomy grant fraction at Michigan State University
- 2004 - 2007 Graduate Research Mentor, managed graduate projects and served as a research mentor for four PhD graduate students (H.J. Kim, H. Lin, M. T. Shatnawi, A. S. Masadeh)

Professional Service

Referee for the American Institute of Physics (AIP) and the American Physical Society (APS) journals

Conference coordinator, “Competing Interactions and Colossal Responses in Transition Metal Compounds”, 16-21 July 2006, Telluride, CO

Conference coordinator, “Structure of Nanocrystals”, 5-8 December 2004, Tempe, AZ

Workshop organizer, “PDF structural studies-Workshop”, 29 March 2005, Michigan State University, East Lansing, MI

Workshop speaker, “7th Canadian Powder Diffraction Workshop”, 16-18 May 2007, Université du Québec à Trois-Rivières, Québec, Canada

Memberships American Physical Society, American Crystallographic Association, Neutron Scattering Society of America, Sigma Xi

References

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Dr. Thomas E. Proffen

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Dr. Subhendra D. Mahanti

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Dr. Gianluca Paglia

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Journal Articles

29. H. Lin, E.S. Božin, S.J.L. Billinge, J. Androulakis, C.H. Lin and M.G. Kanatzidis, “Phase separation and nanostructuring in the thermoelectric material $PbTe_{1-x}S_x$ ”, Phys. Rev. B, submitted (2007).
28. E.S. Božin, A. Sartbaeva, H. Zheng, S. A. Wells, F. Mitchell, Th. Proffen, M. F. Thorpe, and S. J. L. Billinge, “Structure of $CaMnO_3$ in the range $10K < T < 550K$ from neutron time-of-flight total scattering”, J. Phys. Chem. Solids, accepted (2007).
27. E.S. Božin, X. Qiu, R.J. Worhatch, G. Paglia, M. Schmidt, J.F. Mitchell, T. Chatterji, P.G. Radaelli, Th. Proffen and S.J.L. Billinge, “Atomic pair distribution function study of the Jahn-Teller transition in $La_{1-x}Ca_xMnO_3$ ”, Z. Kristallogr. **26**, 429 (2007).
26. G. Campi, T. Proffen, X. Qiu, E.S. Božin, S.J.L. Billinge, S. Agrestini, N.L. Saini, and A. Bianconi, “Local Lattice Dynamics in the $Mg_{0.5}Al_{0.5}B_2$ Superconductor”, J. Supercond. Nov. Magn., **20**, 505 (2007).
25. A. Sartbaeva, S.A. Wells, M.F. Thorpe, E.S. Božin, and S.J.L. Billinge, “Quadrupolar ordering in $LaMnO_3$ revealed from scattering data and geometric modeling”, Phys. Rev. Lett. **99**, 155503 (2007).
24. A.S. Masadeh, E.S. Božin, C.L. Farrow, G. Paglia, P. Juhas, A. Karkamkar, M.G. Kanatzidis and S.J.L. Billinge, “Quantitative size-dependent structure and strain determination of CdSe nanoparticles using atomic pair distribution function analysis”, Phys. Rev. B **76**, 134103 (2007).
23. C.L. Farrow, P. Juhas, J.W. Liu, D. Bryndin, E.S. Božin, J. Bloch, Th. Proffen and S.J.L. Billinge, “PDFfit2 and PDFgui: Computer programs for studying nanostructure in crystals”, J. Phys.: Condens. Matter **19**, 335219 (2007).
22. H.J. Kim, E.S. Božin, S.M. Haile, G.J. Snyder and S.J.L. Billinge, “Presence of nano-scale α -structural domains in the phonon-glass thermoelectric material β - Zn_4Sb_3 ”, Phys. Rev. B **75**, 134103 (2007).
21. E.S. Božin, M. Schmidt, A.J. DeConinck, G. Paglia, J.F. Mitchell, T. Chatterji, P.G. Radaelli, Th. Proffen and S.J.L. Billinge, “Understanding the insulating phase in CMR manganites: Shortening of the Jahn-Teller long-bond across the phase diagram of $La_{1-x}Ca_xMnO_3$ ”, Phys. Rev. Lett. **98**, 137203 (2007).
20. E.S. Božin, X. Qiu, M. Schmidt, G. Paglia, J.F. Mitchell, P.G. Radaelli, Th. Proffen and S.J.L. Billinge, “Local structural aspects of the orthorhombic to pseudo-cubic phase transformation in $La_{1-x}Ca_xMnO_3$ ”, Physica B **385**, 110 (2006).
19. A. Sartbaeva, S.A. Wells, M.F. Thorpe, E.S. Božin, and S.J.L. Billinge, “Geometric simulation of perovskite frameworks with Jahn-Teller distortions: Applications to the cubic manganites”, Phys. Rev. Lett. **97**, 065501 (2006).
18. G. Campi, E. Cappelluti, Th. Proffen, X. Qiu, E.S. Božin, S.J.L. Billinge, S. Agrestini, N.L. Saini, and A. Bianconi, “Study of temperature dependent atomic correlations in MgB_2 ”, Eur. Phys. J. B **52**, 15 (2006).
17. G. Paglia, E.S. Božin, and S.J.L. Billinge, “Fine-scale nanostructure in γ - Al_2O_3 ”, Chemistry of Materials **18**, 3242 (2006).
16. G. Paglia, E.S. Božin, D. Vengust, D. Mihailovic, and S.J.L. Billinge, “Accurate structure determination of $Mo_6S_7I_2$ nanowires from PDF analysis”, Chemistry of Materials **18**, 100 (2006).
15. H. Lin, E.S. Božin, S.J.L. Billinge, E. Quarez, and M.G. Kanatzidis, “Nanoscale clusters in the high performance thermoelectric $AgPb_mSbTe_{m+2}$ ”, Phys. Rev. B **72**, 174113 (2005).
14. E.S. Božin and S.J.L. Billinge, “Nominal doping and partition of doped holes between planar and apical orbitals in $La_{2-x}Sr_xCuO_4$ ”, Phys. Rev. B **72**, 174427 (2005).
13. X. Qiu, E. S. Božin, P. Juhas, Th. Proffen, and S. J. L. Billinge, “Reciprocal space instrumental effects on the real space neutron atomic pair distribution function”, J. Appl. Crystallogr. **37**, 110-116 (2004).

12. E.S. Božin, V. Petkov, P. W. Barnes, P. M. Woodward, T. Vogt, S. D. Mahanti, and S.J.L. Billinge, "Total scattering local structural study of $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ ", *J. Phys: Condens. Matter* **16**, S5091-S5102 (2004).
11. S.J.L. Billinge, M. Gutmann, and E.S. Božin, "Structural response to local charge order in underdoped but superconducting $\text{La}_{2-x}(\text{Sr},\text{Ba})_x\text{CuO}_4$ ", *Intl. J. of Modern Physics B* **17**, 3640 (2003).
10. P.F. Peterson, E.S. Božin, Th. Proffen, and S.J.L. Billinge, "Improved measures of atomic pair distribution function quality", *J. Appl. Cryst.* **36**, 53 (2003).
09. M. Gutmann, E.S. Božin, S.J.L. Billinge, N.A. Babushkina, L.M. Belova, A.R. Kaul, and O.Yu. Gorbenko, "Temperature evolution of the local atomic structure in oxygen isotope substituted $\text{Pr}_{0.525}\text{La}_{0.175}\text{Ca}_{0.3}\text{MnO}_3$ ", *Appl. Phys. A* **74**, 892 (2002).
08. V. Petkov, P.N. Trikalitis, E.S. Božin, S.J.L. Billinge, T. Vogt, and M.G. Kanatzidis, "Structure of $\text{V}_2\text{O}_5 \cdot n\text{H}_2\text{O}$ xerogel solved by the atomic pair distribution function technique", *J. Am. Chem. Soc.* **124**, 10157 (2002).
07. S.J.L. Billinge, E.S. Božin, M. Gutmann, and H. Takagi, "Microscopic charge inhomogeneities in underdoped $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$: local structural evidence", *Journal of Superconductivity* **13**, 713 (2000).
06. S.J.L. Billinge, M. Gutmann, and E.S. Božin, "Local structure as a probe of stripes and its relation to T^* ", *Physica C* **341-348**, 1795 (2000).
05. E.S. Božin, S.J.L. Billinge, G.H. Kwei, and H. Takagi, "Local structural evidence for inhomogeneous charge distribution in CuO_2 planes of superconducting $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ ", *Physica C* **341-348**, 1793 (2000).
04. E.S. Božin, G.H. Kwei, H. Takagi, and S.J.L. Billinge, "Neutron diffraction evidence of microscopic charge inhomogeneities in the CuO_2 plane of superconducting $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ ($0 < x < 0.30$)", *Phys. Rev. Lett.* **84**, 5856 (2000).
03. E.S. Božin, S.J.L. Billinge, G.H. Kwei, and H. Takagi, "Charge-Stripe Ordering From Local Octahedral Tilts: Underdoped and Superconducting $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ ($0 < x < 0.30$)", *Phys. Rev. B* **59**, 4445 (1999).
02. E.S. Božin, S.J.L. Billinge, and G.H. Kwei, "Understanding the Role of the Local Structure in the Second Order Structural Phase Transition of $\text{La}_{2-x}\text{A}_x\text{CuO}_4$ ($\text{A}=\text{Ba},\text{Sr}$)", *Solid State Phenomena*, **61-62**, 271 (1998), Trans. Tech. Publications, Switzerland.
01. E.S. Božin, S.J.L. Billinge, and G.H. Kwei, "Reexamination of the Second Order Structural Phase Transition in $\text{La}_{2-x}\text{A}_x\text{CuO}_4$ ($\text{A}=\text{Ba},\text{Sr}$)", *Physica B* **241-243**, 795 (1997).

Contributed Talks

- 2007** "Understanding the insulating phase in CMR manganites: Shortening of the Jahn-Teller long-bond across the phase diagram of $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ ", PDF Powder Diffraction Workshop: Total scattering Pair Distribution Function analysis using X-rays and neutrons: powder diffraction and complementary techniques, ESRF, Grenoble, France, 23rd of October 2007
- 2006** "Atomic PDF study of size and structure of CdSe nanoparticles"
American Physical Society 2006 March Meeting, Baltimore, MD, 17th of March 2006
- 2006** "Evolution of the local Jahn-Teller distortion across the phase diagram of $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ ($0 < x < 0.5$)"
American Physical Society 2006 March Meeting, Baltimore, MD, 16th of March 2006
- 2006** "Presence of a phase domains in the phonon-glass thermoelectric $\beta\text{-Zn}_4\text{Sb}_3$ from atomic PDF analysis"
American Physical Society 2006 March Meeting, Baltimore, MD, 15th of March 2006
- 2006** "Evidence for high temperature orbital fluctuations in $\text{La}_4\text{Ru}_2\text{O}_{10}$ "
American Physical Society 2006 March Meeting, Baltimore, MD, 14th of March 2006
- 2006** "A fine-scale nanostructure in gamma-alumina"
American Physical Society 2006 March Meeting, Baltimore, MD, 13th of March 2006
- 2006** "Nanoscale clusters in the thermoelectric $\text{AgPb}_m\text{SbTe}_{m+2}$ and $\text{Ag}_n\text{Sn}_m\text{Sb}_n\text{Te}_{m+2n}$ materials"
American Physical Society 2006 March Meeting, Baltimore, MD, 13th of March 2006
- 2003** "Total scattering local structural study of $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ "
American Physical Society 2003 March Meeting, Austin, TX, 6th of March 2003
- 2003** "Partition of doped holes between planar and apical orbitals in $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ "
American Physical Society 2003 March Meeting, Austin, TX, 3rd of March 2003
- 2002** "Atomic Ordering in Nanostructural $\text{V}_2\text{O}_5 \cdot n\text{H}_2\text{O}$ Observed by the Atomic Pair Distribution Function Technique"
American Physical Society 2002 March Meeting, Indianapolis, IN, 22nd of March 2002

- 2001 "Neutron Powder Diffraction Study of Low Temperature Charge Inhomogeneities in Cuprate Superconductors"
American Crystallographic Association 2001 Annual Meeting, Los Angeles, CA, 23rd of July 2001
- 2001 "Structural Response to Local Charge Order in Underdoped but Superconducting $La_{2-x}A_xCuO_4$ ($A=Sr,Ba$)"
American Physical Society 2001 March Meeting, Seattle, WA, 15th of March 2001
- 2000 "Structural Response to Local Charge Order in 214 HTS Cuprates: T-Dependence"
Department of Physics and Astronomy, Michigan State University, East Lansing, MI, 26th of October 2000
- 1999 "Neutrons, Superconductors and Stripes"
Department of Physics and Astronomy, Michigan State Univ., East Lansing, MI, 5th of November 1999
- 1999 "Are There Local Charge-Stripes in Superconducting Phase of $La_{2-x}Sr_xCuO_4$ ($0 < x < 0.30$)?"
American Crystallographic Association 1999 Annual Meeting, Buffalo, NY, 24th of May 1999
- 1999 "Inhomogeneous Charge Distribution in Doped La_2CuO_4 Materials Evidenced From Local Octahedral Tilt Disorder"
American Physical Society 1999 March Meeting, Atlanta, GA, 26th of March 1999
- 1998 "Measuring Local Octahedral Tilts in Charge-Stripe and Related Materials"
American Physical Society 1998 March Meeting, Los Angeles, CA, 20th of March 1998

Conference Abstracts (in chronological order)

- **E.S. Bozin**, S.J.L. Billinge and G.H. Kwei, "The Role of the Local Octahedral Tilts in the Second Order Structural Phase Transition of $La_{2-x}A_xCuO_4$ ($A=Ba,Sr$)", 11th Annual CFMR Symposium "Electronic Oxides: Properties and Applications", East Lansing, Michigan, (1997).
- **E.S. Bozin**, S.J.L. Billinge and G.H. Kwei, "Reexamination of the Second Order Structural Phase Transition in $La_{2-x}A_xCuO_4$ ($A=Ba,Sr$)", International Conference on Neutron Scattering, Toronto, Ontario, Canada, (1997).
- **E.S. Bozin**, S.J.L. Billinge and G.H. Kwei, "Measuring Local Octahedral Tilts in Charge-Stripe and Related Materials", American Physical Society 1998 March Meeting, Los Angeles, California, (1998).
- **E.S. Bozin**, S.J.L. Billinge and G.H. Kwei, "Understanding the Role of the Local Structure in the Second Order Structural Phase Transition of $La_{2-x}A_xCuO_4$ ($A=Ba,Sr$)", Symposium on Condensed Matter Physics, SFKM 97, Kladovo, Serbia (1997).
- **E.S. Bozin**, S.J.L. Billinge and G.H. Kwei, "Investigation of Local Octahedral Tilt Patterns in Charge-Stripe and Related Materials", 12th Annual CFMR Symposium "Fundamentals of Sensor Science", East Lansing, Michigan, (1998).
- **E.S. Bozin**, S.J.L. Billinge and G.H. Kwei, "Search For Polaronic and Charge-Stripe Formations in the Local Structure of Cuprates Using Neutron Powder Diffraction" 6th European Powder Diffraction Conference, EPDIC - 6, Budapest, Hungary, (1998).
- **E.S. Bozin**, S.J.L. Billinge and G.H. Kwei, "Evidence for Charge Stripes in Cuprates From the Local Atomic Structure", Joint Midwest Solid State Conference and Solid State Theory Conference, Iowa State University, Ames, Iowa, (1998).
- **E.S. Bozin**, S.J.L. Billinge, G.H. Kwei and H.Takagi, "Tilt Disorder and Stripe-like Charge Inhomogeneities in the Local Structure of Superconducting $La_{2-x}Sr_xCuO_4$ ", 13th An. CFMR Symposium "Crystal Engineering: Research and Applications", E. Lansing, Michigan, (1999).
- **E.S. Bozin**, S.J.L. Billinge, G.H. Kwei and H.Takagi, "Inhomogeneous Charge Distribution in Doped La_2CuO_4 Materials Evidenced From Local Octahedral Tilt Disorder", American Physical Society 1999 March Meeting, Atlanta, Georgia, (1999).
- **E.S. Bozin**, S.J.L. Billinge, G.H. Kwei and H.Takagi, "Are There Local Charge-Stripes in Superconducting Phase of $La_{2-x}Sr_xCuO_4$ ($0 < x < 0.30$)?" American Crystallographic Association 1999 Annual Meeting Buffalo, New York, (1999).
- S.J.L. Billinge, M. Gutmann and **E.S. Bozin**, "Local structure as a probe of stripes and its relation to T^* ", 6th International Conference on Materials and Mechanisms of Superconductivity and High-Temperature Superconductors M2S-HTSC-VI, Houston, Texas, (2000).
- **E.S. Bozin**, S.J.L. Billinge, G.H. Kwei and H.Takagi, "Evidence For Inhomogeneous Charge Distribution in CuO_2 Planes of Superconducting $La_{2-x}Sr_xCuO_4$ and Related Compounds From Pair Distribution Function Analysis of Neutron Powder Diffraction Data", M2S-HTSC-VI, Houston, Texas, (2000).
- **E.S. Bozin**, S.J.L. Billinge, G.H. Kwei and H.Takagi, "On Bimodal Planar Cu-O Bondlength Distribution and Other Pair Distribution Function Evidence Supporting the Presence of Stripe-like Charge Inhomogeneities in the Local Structure of Superconducting $La_{2-x}Sr_xCuO_4$ ", 14th Annual CFMR Symposium "Polymers and Biopolymers: Nanostructure and Adhesion", East Lansing, Michigan, (2000).
- S.J.L. Billinge, **E.S. Bozin** and M. Gutmann, "Microscopic Charge Inhomogeneities in Underdoped Cuprates: Local Structural Evidence", 3rd Internatl. Conference on New Theories, Discoveries and Applications of Superconductors and Related Materials, Honolulu, Hawaii, (2001).

- **E.S. Bozin**, M. Gutmann, and S.J.L. Billinge, "*Structural Response to Local Charge Order in Underdoped but Superconducting $La_{2-x}A_xCuO_4$ ($A=Sr,Ba$)*", American Physical Society 2001 March Meeting, Seattle, Washington, (2001).
- **E.S. Bozin**, M. Gutmann, and S.J.L. Billinge, "*Nanostructural Effects and Charge Ordering in High Temperature Superconductors From Atomic Pair Distribution Function Study*", 15th Annual CFMR Symposium "Chemistry, Physics and Biology at the Nanoscale", East Lansing, Michigan, (2001).
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