Curriculum Vitae

Feng Ye

E-mail: yef1@ornl.gov
ORCID ID: 0000-0001-7477-4648

Education

Ph.D. in Physics, University of California, Santa Cruz, California, USA, 2003
Thesis : " *Random-Field Ising Ordering above Magnetic Vacancy Percolation*"
Thesis advisor: Prof. David Belanger
M.S. in Physics, University of Science and Technology of China, Hefei, China, 1999
B.S. in Physics, University of Science and Technology of China, Hefei, China, 1997

Professional experience

2021-present: Senior Research Staff, Neutron Sciences/Neutron Scattering Division, Oak Ridge National Laboratory
2008-2021: Research Staff, Neutron Sciences/Neutron Scattering Division, Oak Ridge National Laboratory
2003-2008: Postdoctoral Fellow, Solid State Division, Oak Ridge National Laboratory
Supervisor: Dr. Jaime Fernandez-Baca

Research interests:

Probing novel magnetic order in strongly correlated electron systems and spin-orbit coupled systems, phase transition, spin-lattice coupling in multiferroic systems. Using diffuse scattering to reveal the structural and magnetic disorder in quantum materials.

Professional activities

- In-depth expertise in the use of neutron and X-ray scattering to study condensed matter physics.
- Lead instrument scientist of Corelli single crystal diffuse scattering diffractometer at the Spallation Neutron Source at ORNL (since 2008).
- Adjunct Professor at the Physics Department, University of Kentucky, (2012-2016).

Service to the scientific community

Responsible for the design, construction, commission of the single crystal diffuse scattering diffractometer at Spallation Neutron Source. The unique cross-correlation chopper allows separation of the elastic signal from the inelastic scattering processes. The instrument enables an efficient collection of diffuse scattering data over large volumes of reciprocal space. Since the beginning of the instrument commissioning, Ye have organized a number of diffuse scattering workshops to train potential users and to educate advance software tools.

Reviewing activities

- American Physical Society's Physical Review B (PRB), Physical Review Letters (PRL), Physical Review Materials (PRM), and Physical Review X (PRX)
- IOP-Science's Journal of Physics: Condensed Matter
- AIP's Journal of Applied Physics
- Journal of magnetism and magnetic materials
- NIST Center for Neutron Research (NCNR)
- National Synchrotron Radiation Research Center, Taiwan (NSRRC)
- Grant from Department of Energy, USA

Conference organization

- Organizing Committee Chair for the Focus Topic, "Emergent Properties of Complex Oxides Bulk, Films and Heterostructures", American Physical Society March Meeting 2023
- Organizing Committee Member for the Focus Topic, "Emergent Properties of Complex Oxides Bulk, Films and Heterostructures", American Physical Society March Meeting 2022
- Organizing Committee Member, "Introduction to Diffuse Scattering Analysis from Single Crystal Neutron Diffraction", 70th Annual Meeting of the American Crystallographic Association
- Local Organizing Committee Member, "Symmetry and Superspace Approach to Modulated Structures" Oct 2019, Oak Ridge National Laboratory
- Local Organizing Committee Member, "First integrated workshop on neutron diffuse scattering from single crystals", June 2019, Oak Ridge National Laboratory
- Local Organizing Committee Member, "US School on Total Scattering Analysis", May 2017, Oak Ridge National Laboratory
- Organizer, "Diffuse Scattering workshop", May 2016, American Conference on Neutron Scattering
- Local Organizer, "Diffuse Scattering workshop", May 2015, Oak Ridge National Laboratory

Professional Societies

- American Physical Society
- American Crystallographic Association
- Neutron Scattering Society of America

Honors and Awards

- Outstanding award for SNS-instrument Next Generation-II project, Oak Ridge National Lab, 2014
- Regent Fellowship, University of California, Santa Cruz, 1999
- Presidential Scholarship, Chinese Academy of Science, 1999
- Excellent Student Scholarship, University of Science and Technology of China, 1993, 1994

Selected Publications (full list at https://scholar.google.com/citations?user=4Zw1x9AAAAAJ&hl=en)

1. "*Direct Evidence of a Zigzag Spin-Chain Structure in the Honeycomb Lattice: A Neutron and x-Ray Diffraction Investigation of Single-Crystal Na_2IrO_3*" **F. Ye**, S. Chi, H. Cao, B. C. Chakoumakos, J. A. Fernandez-Baca, R. Custelcean, T. F. Qi, O. B. Korneta, and G. Cao, Phys. Rev. B **85**, 180403 (2012).
2. "*Magnetic and Crystal Structures of Sr_2IrO_4: A Neutron Diffraction Study*" **F. Ye**, S. Chi, B. C. Chakoumakos, J. A. Fernandez-Baca, T. Qi, and G. Cao, Phys. Rev. B **87**, 140406 (2013). 204 citations
3. "*Structure Symmetry Determination and Magnetic Evolution in $Sr_2Ir_{1-x}Rh_xO_4$*" **F. Ye**, X. Wang, C. Hoffmann, J. Wang, S. Chi, M. Matsuda, B. C. Chakoumakos, J. A. Fernandez-Baca, and G. Cao, Phys. Rev. B **92**, 201112 (2015).
4. "*Pseudospin-Lattice Coupling and Electric Control of the Square-Lattice Iridate Sr_2IrO_4*" **F. Ye**, C. Hoffmann, W. Tian, H. Zhao, and G. Cao, Phys. Rev. B **102**, 115120 (2020).
5. "*Spontaneous Spin-Lattice Coupling in the Geometrically Frustrated Triangular Lattice Antiferromagnet $CuFeO_2$*" **F. Ye**, Y. Ren, Q. Huang, J. A. Fernandez-Baca, P. Dai, J. W. Lynn, and T. Kimura, Phys. Rev. B **73**, 220404 (2006).
6. "*Magnetic Interactions in the Geometrically Frustrated Triangular Lattice Antiferromagnet $CuFeO_2$*" **F. Ye**, J. A. Fernandez-Baca, R. S. Fishman, Y. Ren, H. J. Kang, Y. Qiu, and T. Kimura, Phys. Rev. Lett. **99**, 157201 (2007).
7. "*Multiferroic Phase of Doped Delafossite $CuFeO_2$ Identified Using Inelastic Neutron Scattering*", J. T. Haraldsen, **F. Ye**, R. S. Fishman, J. A. Fernandez-Baca, Y. Yamaguchi, K. Kimura, and T. Kimura, Phys. Rev. B **82**, 020404 (2010).
8. "*Long-Range Magnetic Interactions in the Multiferroic Antiferromagnet $MnWO_4$*" **F. Ye**, R. S. Fishman, J. A. Fernandez-Baca, A. A. Podlesnyak, G. Ehlers, H. A. Mook, Y. Wang, B. Lorenz, and C. W. Chu, Phys. Rev. B **83**, 140401 (2011).
9. "*Magnetic Switching and Phase Competition in the Multiferroic Antiferromagnet $Mn_{1-x}Fe_xWO_4$*" **F. Ye**, Y. Ren, J. A. Fernandez-Baca, H. A. Mook, J. W. Lynn, R. P. Chaudhury, Y.-Q. Wang, B. Lorenz, and C. W. Chu, Phys. Rev. B **78**, 193101 (2008).

10. "*Magnetic Order and Spin-Flop Transitions in the Cobalt-Doped Multiferroic $Mn_{1-x}Co_xWO_4$*" **F. Ye**, S. Chi, J. A. Fernandez-Baca, H. Cao, K.-C. Liang, Y. Wang, B. Lorenz, and C. W. Chu, Phys. Rev. B **86**, 094429 (2012).

Editor's suggestion papers

1. "*Formation of Short-Range Magnetic Order and Avoided Ferromagnetic Quantum Criticality in Pressurized $LaCrGe_3$*", E. Gati, J. M. Wilde, R. Khasanov, L. Xiang, S. Dissanayake, R. Gupta, M. Matsuda, **F. Ye**, B. Haberl, U. Kaluarachchi, R. J. McQueeney, A. Kreyssig, S. L. Bud'ko, and P. C. Canfield, Phys. Rev. B **103**, 075111 (2021).
2. "*The Relation of Local Order to Material Properties in Relaxor Ferroelectrics*" M. J. Krogstad, P. M. Gehring, S. Rosenkranz, R. Osborn, **F. Ye**, Y. Liu, J. P. C. Ruff, W. Chen, J. M. Wozniak, H. Luo, O. Chmaissem, Z.-G. Ye, and D. Phelan, Nat. Mater. **17**, 718 (2018).
3. "*Origin of the net magnetic moment in $LaCoO_3$*", G. M. Kaminsky, D. P. Belanger, **F. Ye**, J. A. Fernandez-Baca, J. Wang, M. Matsuda, and J.-Q. Yan, Phys. Rev. B **97**, 24418 (2018).
4. "*Long-Range Magnetic Interactions in the Multiferroic Antiferromagnet $MnWO_4$*", **F. Ye**, R. S. Fishman, J. A. Fernandez-Baca, A. A. Podlesnyak, G. Ehlers, H. A. Mook, Y. Wang, B. Lorenz, and C. W. Chu, Phys. Rev. B **83**, 140401 (2011).
5. "*Robust Ferroelectric State in Multiferroic $Mn_{1-x}Zn_xWO_4$*", R. P. Chaudhury, **F. Ye**, J. A. Fernandez-Baca, B. Lorenz, Y. Q. Wang, Y. Y. Sun, H. A. Mook, and C. W. Chu, Phys. Rev. B **83**, 014401 (2011).
6. "*Multiferroic Phase of Doped Delafossite $CuFeO_2$ Identified Using Inelastic Neutron Scattering*", J. T. Haraldsen, **F. Ye**, R. S. Fishman, J. A. Fernandez-Baca, Y. Yamaguchi, K. Kimura, and T. Kimura, Phys. Rev. B **82**, 020404 (2010).

Invited presentations at international conferences

1. "*Electric control of the physics properties of the spin-orbit coupled 4d/5d oxides*", Competing Telluride workshop on Interactions and Colossal Responses in Transition Metal Compounds, Telluride, CO, June 25-29, 2019
2. "*High Pressure Neutron Diffraction Studies of the Multiferroic $Mn_{1-x}Co_xWO_4$*", Gordon Research Conference: Multiferroic and Magnetoelectric Materials, Lewiston, ME, August 7-12, 2016
3. "*Magnetic and crystal structures of the honeycomb lattice Na_2IrO_3 and square lattice Sr_2IrO_4*", Light and Particle Beams in Materials Science, Tsukuba, Japan, August 28-31, 2013
4. *"Magnetic and crystal structures of the honeycomb lattice Na_2IrO_3 and single layer Sr2IrO4"* Telluride workshop on Interactions and Colossal Responses in Transition Metal Compounds, Telluride, CO, July 14-20, 2013
5. "*Magnetic and crystal structures of the honeycomb lattice Na_2IrO_3 and single layer Sr_2IrO_4*", American Physics Society March meeting, Baltimore, MD March 17-22, 2013.
6. "*Direct evidence of a zigzag spin chain structure in the honeycomb lattice: A neutron and x-ray diffraction investigation on single crystal Na_2IrO_3*", 2012 Kentucky condensed matter physics symposium: the iridates, April 28-29, 2012
7. "*Spin dynamics in the multiferroic materials*", 56th Annual Conference on Magnetism and Magnetic Materials, Scottsdale, Arizona, October 30-November 3, 2011
8. "*Inelastic neutron scattering measurements on the triangular lattice antiferromagnet $CuFe_{1-x}Ga_xO_2$ in the paraelectric and multiferroic phases*", American Physics Society March meeting, Dallas, TX March 21-25, 2011.
9. "*Spin Dynamics in the Multiferroic Triangular Lattice Antiferromagnet $CuFeO_2$*", American Conference on Neutron Scattering, Ottawa, Canada, June 25–30, 2010.
10. "*Evolution of charge/orbital and magnetic correlations in the single layer manganites $Pr_{1-x}Ca_{1+x}MnO_4$ near half doping*", Study of Matter at Extreme Conditions, Miami, FL, April 15-19, 2007.
11. "*Electronically smectic-like phase in a nearly half-doped manganite*", American Physics Society March meeting, Baltimore, MD, March 13-17, 2006.
12. "*Neutron scattering of critical Line Shapes of the Random-Field Ising System*", American Conference on Neutron Scattering, Knoxville, Tennessee, June 23–27, 2002.