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## Yan Wu

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### Education

09.2002-07.2006, Northwest University, China, Bachelor degree in Physics

**Thesis project:** Theoretical calculations of carbon clusters with Hartree-Fock theory using *Gaussian 98*.

09.2006-12.2008, Fujian Institute of Research on Structure of Matters, Chinese Academy of Science, China, Master degree in Condensed Matter Physics

**Thesis project:** Theoretical research on interaction of  $\text{Cd}^{2+}$  with DNA and RNA molecules, *ab initio* calculation using Density function theory.

01.2009-05.2016, Louisiana State University, Ph.D. degree in Physics

**Thesis project:** Interactions between local magnetic moments and itinerant charge carriers in Fe-based systems.

### Publication:

- **Y. Wu**, Kun Zhai, Shipeng Shen et al., Giant magnetoelectric effects achieved by tuning spin cone symmetry in Y-type hexaferrites, *Nature Comm.* 2017, 8(519).
- **Y. Wu** et al., Spin density wave instability in a ferromagnet, *Scientific reports* 2018, 8(5225).
- J. H. Mendez, C. E. Ekuma, **Y. Wu** et al. , Competing magnetic states, disorder, and magnetic character of  $\text{Fe}_3\text{Ga}_4$ , *Phys. Rev. B* 2015, 91(144409).
- Z.Y. Zhao, **Y. Wu** et al., Three-dimensional magnetic interactions in quasi-two-dimensional  $\text{PdAs}_2\text{O}_6$ , *J. Phys.: Cond. Mat.* 2017, 29(235801).
- Bianca Haberl, Sachith Dissanayake, **Y. Wu** et al, Next-generation diamond cell and applications to single-crystal neutron diffraction, *Review of Scientific Instruments*, 2018, 89 (092902).
- Huibo Cao, Bryan Chakoumakos, Katie Andrews, **Y. Wu** et al, DEMAND, a Dimensional Extreme Magnetic Neutron Diffractometer at High Flux Isotope Reactor, *Crystals*, 2019, 9(5).
- C. Heikes, I-Lin Liu, T. Metz, C. Eckberg, P. Neves, **Y. Wu** et al, Mechanical control of crystal symmetry and superconductivity in Weyl semimetal  $\text{MoTe}_2$ , *Phys. Rev. Materials*, 2018, 2(074202).
- **Y. Wu** et al., Theoretical studies on the bonding of  $\text{Cd}^{2+}$  to adenine and thymine: Tautomeric equilibrium and metalation in base pairing, *Chem. Phys. Lett.* 2010, 467(387).

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- Xudong Shen, Long Zhou, Yisheng Chai, **Y. Wu** et al., Large Linear Magnetoelectric Effect and Field-Induced Ferromagnetic Ferroelectricity with Huge Magnetic Moment in  $\text{DyCrO}_4$ , *NPG Asia Materials*, 2019, 11(50)
- J.-Q. Yan, S. Okamoto, **Y. Wu**, Q. Zheng, H. D. Zhou, H. B. Cao, and M. A. McGuire, Magnetic order in single crystals of  $\text{Na}_3\text{Co}_2\text{SbO}_6$  with a honeycomb arrangement of  $3d^7\text{Co}^{2+}$  ions, *Phys. Rev. Materials*, 2019, 3(074405)
- J. Y. Liu, P. F Liu, K. Gordon, E. Emmanouilidou, J. Xing, D. Graf, B. C. Chakoumakos, **Y. Wu**, H. B Cao, D. Dessau, Q. H. Liu, and Ni Ni, Nontrivial topology in the layered Dirac nodal-line semimetal candidate  $\text{SrZnSb}_2$  with distorted Sb square nets, *Phys. Rev. B*, 2019, 100(195123)
- S. K. Karna, F. N. Womack, R. Chapai, D. P. Young, M. Marshall, W.W. Xie, D. Graf, **Y. Wu**, H.B. Cao, L. DeBeer-Schmitt, P. W. Adams, R. Jin, and J. F. DiTusa, Consequences of magnetic ordering in chiral  $\text{Mn}_{1/3}\text{NbS}_2$ , *Phys. Rev. B*, 2019, 100(184413)
- J.-Q. Yan, Y. H. Liu, D. S. Parker, **Y. Wu**, A. A. Aczel, M. Matsuda, M. A. McGuire, and B. C. Sales, A-type antiferromagnetic order in  $\text{MnBi}_4\text{Te}_7$  and  $\text{MnBi}_6\text{Te}_{10}$  single crystals, *Phys. Rev. Materials*, 2020, 4(054202)
- L. Ding, M. Lee, E. S. Choi, J. Zhang, **Y. Wu** et al, Large spin-driven dielectric response and magnetoelectric coupling in the buckled honeycomb  $\text{Fe}_4\text{Nb}_2\text{O}_9$ , *Phys. Rev. Materials*, 2020, 4(084403)
- B. Haberl, M.-E. Donnelly, **Y. Wu**, E. Kroll, M. Frontzek, J. Molaison and G. Granroth, Synthesis and characterization of metastable crystalline st12 germanium, *Acta Cryst.*, 2020, 76(131)
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- K. Lu, D. Sapkota, L. DeBeer-Schmitt, **Y. Wu** et al, Canted antiferromagnetic order in the monoaxial chiral magnets  $\text{V}_{1/3}\text{TaS}_2$  and  $\text{V}_{1/3}\text{NbS}_2$ , *Phys. Rev. Materials*, 2020, 4(054416)
- Y. H. Liu, L. L. Wang, Q. Zheng, Z. L. Huang, X. P. Wang, M. F. Chi, **Y. Wu** et al, Site Mixing for Engineering Magnetic Topological Insulators, *Phys.Rev. X*, 2021, 11(021033)
- S. K. Karna, D. Tristant, J. K. Hebert, G. Cao, R. Chapai, W. A. Phelan, Q. Zhang, **Y. Wu** et al., Helical magnetic order and Fermi surface nesting in noncentrosymmetric  $\text{ScFeGe}$ , *Phys.Rev. B*, 2021, 103(014443)
- T. Hong, T. Ying, Q. Huang, S. E. Dissanayake, Y. M. Qiu, M. M. Turnbull, A. A. Podlesnyak, **Y. Wu** et al, Evidence for pressure induced unconventional quantum criticality in the coupled spin ladder antiferromagnet  $\text{C}_9\text{H}_8\text{N}_2\text{CuBr}_4$ , *Nature Commun*, 2022,13(3073).
- M-E. Donnelly, **Y. Wu**, E. Kroll, J. J. Molaison, M. Frontzek and B. Haberl, High pressure neutron diffraction on WAND2 with a Paris-Edinburgh press, *High Pressure Research*, 2022, 42(213).
- Y. Wan, J. L. Jiao, G. T. Lin, **Y. Wu** et al, The Orbital Effect on the Anomalous Magnetism and Evolution in  $\text{La}_x\text{Y}_{1-x}\text{VO}_3$  ( $0 \leq x \leq 0.2$ ) Single Crystals, *Journal of Alloys and Compounds*, 2023, 932(167526).
- J.T. Wu, J.S. Li, Z. Zhang, C.L. Liu, Y. H. Gao, E.X. Feng, ..., **Y. Wu**, et al,

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Magnetic field effects on the quantum spin liquid behaviors of NaYbS<sub>2</sub>, *Quantum Frontiers*, 2022, 1(22).

- C. Dhital, R. L. Dally, R. Ruvalcaba, R. Gonzalez-Hernandez, J. Guerrero-Sanchez, H. B. Cao, Q. Zhang, W. Tian, **Y. Wu** et al, Multi-*k* magnetic structure and large anomalous Hall effect in candidate magnetic Weyl semimetal NdAlGe, *Phys.Rev. B*, 2023, 107(224414)

## Work Experience

- 01/08/2010-05/15/2011 Louisiana State University, Teaching Assistant in Department of Physics for teaching non-physics major general physics lab 2108 and 2109.

- 05/16/2011-05/13/2016 Louisiana State University, Research Assistant in Department of Physics in Lab of Dr. John DiTusa.

- 06/27/2016-05/30/2019 Oak Ridge National Laboratory, Postdoc Associate working with Dr. Huibo Cao and carrying 25% of the HB-3A beamline local contact tasks. -

06/01/2019-present Oak Ridge National Laboratory, Neutron scattering scientist working on neutron instruments DEMAND and WAND<sup>2</sup> at HFIR.

## Awards

- Louisiana State University Graduate School Enhancement Award, Jan 2009

- LaSigma Leadership Graduate Student Supplement Award, Dec 2013

- 2021 NSD award: "Doing it better"

- 2022 NSD award: Best experiment

## Language

Chinese(Native Proficiency), English(Full Professional Proficiency)

## Reference

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