



Yu Song

Research Experience

- Sept 2020–Present **Tenure-track Assistant Professor**, *Zhejiang University*, Hangzhou.
- Aug 2017–Sept 2020 **Postdoctoral Scholar**, *University of California*, Berkeley.
Apr 2017–Jul 2017 **RCQM Postdoctoral Fellow**, *Rice University*, Houston.
- Aug 2013–Apr 2017 **Research Assistant**, *Rice University*, Houston.
- Aug 2011–Jul 2013 **Research Assistant**, *University of Tennessee*, Knoxville.
- 2011–present **Regular user of neutron scattering research facilities.**

Education

- Aug 2013–Apr 2017 **PhD**, *Rice University*, Houston.
Advisor: Pengcheng Dai
- Aug 2010–Jul 2013 **PhD candidate**, *University of Tennessee*, Knoxville.
Advisor: Pengcheng Dai
- Aug 2006–Jul 2010 **Bachelor of Science**, *Zhejiang University*, Hangzhou.

Honors and Awards

- 2nd Place, 2009 Zhejiang Provincial Collegiate Programming Contest
- National First Prize, 2008 China Undergraduate Mathematical Contest in Modeling

Research Interest

- Using scattering techniques to probe the physics of quantum materials, such as unconventional superconductors and low-dimensional magnets
- Synthesis and characterization of novel materials

Professional Skills

Neutron spectroscopy using triple-axes and time-of-flight chopper spectrometers.

For measuring magnetic excitations and phonons in materials in the energy range ~ 0.1 meV to ~ 1 eV

Neutron single crystal and powder diffraction .

Determination of the crystal and magnetic structure of novel materials and characterizing structural and magnetic phase transitions

Spherical and longitudinal neutron polarimetry .

Using polarized neutrons to separate magnetic and nuclear signals, and to extract detailed polarization dependence of magnetic excitations in materials

Synchrotron X-ray Scattering techniques (RIXS, IXS, REXS).

Studying of phonons, electronic and magnetic excitations in iron pnictides and cuprates using resonant and non-resonant X-ray scattering

Materials synthesis using flux and Bridgeman methods.

Characterization of materials' physical properties using transport, magnetization and X-ray diffraction methods.

Invited Talks

- Jan. 19, 2021 **Nematicity in a Local-Moment Iron-Chalcogenide.**
Symposium on Fe-based Superconductivity
- Nov. 3, 2019 **Dispersion of the spin resonance mode in CeCoIn₅ and its evolution under applied field.**
Heavy Fermion Forum, Central South University (China)
- May. 9, 2019 **Intertwined Magnetism and Nematicity in Semiconducting KFe_{0.8}Ag_{1.2}Te₂.**
Condensed Matter Physics seminar, Los Alamos National Laboratory
- Nov. 8, 2016 **Antiferromagnetic order and excitations in insulating NaFe_{1-x}Cu_xAs.**
Condensed Matter Physics seminar, University of California, Berkeley, Department of Physics
- Dec. 21, 2015 **Neutron Scattering in NaFe_{1-x}(Co,Ni,Cu)_xAs.**
Condensed Matter Physics seminar, Zhejiang University, Department of Physics
- Dec. 5, 2015 **Nature of the Neutron Resonance Mode in Ce_{1-x}Yb_xCoIn₅.**
Heavy Fermion Forum, Zhejiang University Center for Correlated Matter
- Nov. 20, 2015 **Correlation Induced Insulating Behavior and Antiferromagnetic Order in NaFe_{1-x}Cu_xAs.**
Workshop on Strongly Correlated Electron Materials, Rice Center for Quantum Materials
- Oct. 24, 2012 **Neutron Scattering in Iron-Based Superconductors.**
Condensed Matter Physics Seminar, Triple-Axis Group, Helmholtz Zentrum Berlin

Book Chapters

High-Temperature Superconductors.

Book Chapter in "Neutron Scattering-Magnetic and Quantum Phenomena" Edited by Felix Fenandez-Alonso and David L. Price, Volume 48 in Experimental Methods in the Physical Sciences (ISBN: 978-0-12-802049-4 ISSN: 1079-4042), pages 145-201 (2015).

Publications

82 peer-reviewed publications since 2011, 1 in Nature Physics, 8 in Nature Communications, 2 in Physical Review X, 9 in Physical Review Letters, 4 in npj Quantum Materials, 1 in Communications Physics, 1 in Sci. China-Phys. Mech. Astron., 1 in Physical Review Research and 47 in Physical Review B .

1. Microscopic origin of the spin-reorientation transition in the kagome topological magnet TbMn_6Sn_6 .

Zhentao Huang, Wei Wang, Huiqing Ye, Song Bao, Yanyan Shangguan, Junbo Liao, Saizheng Cao, Ryoichi Kajimoto, Kazuhiko Ikeuchi, Guochu Deng, Michael Smidman, **Yu Song**, Shun-Li Yu, Jian-Xin Li, and Jinsheng Wen
Phys. Rev. B **109**, 014434 (2024)

2. Superstructures and magnetic order in heavily Cu-substituted $(\text{Fe}_{1-x}\text{Cu}_x)_{1+y}\text{Te}$.

Saizheng Cao, Xin Ma, Dongsheng Yuan, Zhen Tao, Xiang Chen, Yu He, Patrick N. Valdivia, Shan Wu, Hang Su, Wei Tian, Adam A. Aczel, Yaohua Liu, Xiaoping Wang, Zhijun Xu, Huiqiu Yuan, Edith Bourret-Courchesne, Chao Cao, Xingye Lu, Robert Birgeneau, and **Yu Song**
Phys. Rev. B **109**, 045142 (2024)

3. In-plane uniaxial-strain tuning of superconductivity and charge-density wave in CsV_3Sb_5 .

Xiaoran Yang, Qi Tang, Qiuyun Zhou, Huaiping Wang, Yi Li, Xue Fu, Jiawen Zhang, **Yu Song**, Huiqiu Yuan, Pengcheng Dai, and Xingye Lu
Chin. Phys. B **32**, 127101 (2023)

4. Electronic band reconstruction across the insulator-metal transition in colossally magnetoresistive EuCd_2P_2 .

Huali Zhang, Feng Du, Xiaoying Zheng, Shuaishuai Luo, Yi Wu, Hao Zheng, Shengtao Cui, Zhe Sun, Zhengtai Liu, Dawei Shen, Michael Smidman, **Yu Song**, Ming Shi, Zhicheng Zhong, Chao Cao, Huiqiu Yuan, and Yang Liu
Phys. Rev. B **108**, L241115 (2023)

5. The superconducting order parameter and high-pressure studies of the V-based kagome materials AV_3Sb_5 (A=K, Rb, Cs).

Dongting Zhang, Shuaishuai Luo, Weiyin Duan, **Yu Song**, Xin Lu, Huiqiu Yuan
Sci. Sin.: Phys. Mech. Astron. **53**, 127411 (2023)

6. Competing charge-density wave instabilities in the kagome metal ScV_6Sn_6 .

Saizheng Cao, Chenchao Xu, Hiroshi Fukui, Taishun Manjo, Ying Dong, Ming Shi, Yang Liu, Chao Cao, and **Yu Song**
Nat. Commun. **14**, 7671 (2023)

7. Colossal magnetoresistance and topological phase transition in EuZn_2As_2 .

Shuaishuai Luo, Yongkang Xu, Feng Du, Lin Yang, Yuxin Chen, Chao Cao, **Yu Song**, and Huiqiu Yuan
Phys. Rev. B **108**, 205140 (2023)

8. Phonon softening and slowing-down of charge density wave fluctuations in BaNi_2As_2 .

Yu Song, Shan Wu, Xiang Chen, Yu He, Hiroshi Uchiyama, Baizhuo Li, Saizheng Cao, Jiayu Guo, Guanghan Cao, and Robert Birgeneau
Phys. Rev. B **107**, L041113 (2023)

9. Nodeless superconductivity in the topological nodal-line semimetal CaSb_2 .

Weiyin Duan, Jiawen Zhang, Rohit Kumar, Hang Su, Yuwei Zhou, Zhiyong Nie, Ye Chen, Michael Smidman, Chao Cao, **Yu Song**, and Huiqiu Yuan
Phys. Rev. B **106**, 214521 (2022)

10. Quasiparticle characteristics of the weakly ferromagnetic Hund metal MnSi .

Yuan Fang, Huali Zhang, Ding Wang, Guowei Yang, Yi Wu, Peng Li, Zhiguang Xiao, Tianyun Lin, Hao Zheng, Xiao-Long Li, Huan-Hua Wang, Fanny Rodolakis, **Yu Song**, Yilin Wang, Chao Cao, and Yang Liu
Phys. Rev. B **106**, L161112 (2022)

11. Nodeless superconductivity in topologically nontrivial materials HfRuP and ZrRuAs .

Weiyin Duan, Zhiyong Nie, Dayu Yan, Hang Su, Yuxin Chen, Ye Chen, Youguo Shi, **Yu Song**, and Huiqiu Yuan
Journal of Physics: Condensed Matter **34**, 455601 (2022)

12. Muon spin relaxation study of the layered kagome superconductor CsV_3Sb_5 .

Zhaoyang Shan, Pabitra K. Biswas, Sudeep K. Ghosh, T. Tula, Adrian D. Hillier, Devashibhai Adroja, Stephen Cottrell, Guang-Han Cao, Yi Liu, Xiaofeng Xu, **Yu Song**, Huiqiu Yuan, and Michael Smidman
Phys. Rev. Research **4**, 033145 (2022)

13. Superconductivity modulated by structural phase transitions in pressurized vanadium-based kagome metals.

Feng Du, Rui Li, Shuaishuai Luo, Yu Gong, Yanchun Li, Sheng Jiang, Brenden R. Ortiz, Yi Liu, Xiaofeng Xu, Stephen D. Wilson, Chao Cao, **Yu Song**, and Huiqiu Yuan

Phys. Rev. B **106**, 024516 (2022)

14. Consecutive topological phase transitions and colossal magnetoresistance in a magnetic topological semimetal.

Feng Du, Lin Yang, Zhiyong Nie, Ninghua Wu, Yong Li, Shuaishuai Luo, Ye Chen, Dajun Su, Michael Smidman, Youguo Shi, Chao Cao, Frank Steglich, **Yu Song**, and Huiqiu Yuan

npj Quantum Materials **7**, 65 (2022)

15. Spin-excitation anisotropy in the nematic state of detwinned FeSe.

Xingye Lu, Wenliang Zhang, Yi Tseng, Ruixian Liu, Zhen Tao, Eugenio Paris, Panpan Liu, Tong Chen, Vladimir N. Strocov, **Yu Song**, Rong Yu, Qimiao Si, Pengcheng Dai, and Thorsten Schmitt

Nat. Phys. **18**, 806-812 (2022)

16. Evolution of superconductivity and charge order in pressurized RbV₃Sb₅.

Feng Du, Shuaishuai Luo, Rui Li, Brenden R. Ortiz, Ye Chen, Stephen D. Wilson, **Yu Song**, and Huiqiu Yuan

Chinese Phys. B **31**, 017404 (2022)

17. Strain-sensitive superconductivity in the kagome metals KV₃Sb₅ and CsV₃Sb₅ probed by point-contact spectroscopy.

Lichang Yin, Dongting Zhang, Chufan Chen, Ge Ye, Fanghang Yu, Brenden R. Ortiz, Shuaishuai Luo, Weiyin Duan, Hang Su, Jianjun Ying, Stephen D. Wilson, Xianhui Chen, Huiqiu Yuan, **Yu Song**, and Xin Lu

Phys. Rev. B **104**, 174507 (2021)

18. RKKY coupled local-moment magnetism in NaFe_{1-x}Cu_xAs.

Yizhou Xin, Ingrid Stolt, **Yu Song**, Pengcheng Dai, and W. P. Halperin

Phys. Rev. B **104**, 144421 (2021)

19. Nodeless superconductivity in the kagome metal CsV₃Sb₅.

W. Duan, Z. Nie, S. Luo, F. Yu, B. R. Ortiz, L. Yin, H. Su, F. Du, A. Wang, Y. Chen, X. Lu, J. Ying, S. D. Wilson, X. Chen, **Y. Song**, and H. Yuan

Sci. China-Phys. Mech. Astron. **64**, 107462 (2021)

20. Tunable room-temperature ferromagnetism in Co-doped two-dimensional van der Waals ZnO.

Rui Chen, Fuchuan Luo, Yuze Liu, **Yu Song**, Yu Dong, Shan Wu, Jinhua Cao, Fuyi Yang, Alpha N'Diaye, Padraic Shafer, Yin Liu, Shuai Lou, Junwei Huang, Xiang Chen, Zixuan Fang, Qingjun Wang, Dafei Jin, Ran Cheng, Hongtao Yuan, Robert J. Birgeneau, and Jie Yao
Nat. Commun. **12**, 3952 (2021)

21. Pressure-induced double superconducting domes and charge instability in the kagome metal KV_3Sb_5 .

Feng Du, Shuaishuai Luo, Brenden R. Ortiz, Ye Chen, Weiyin Duan, Dongting Zhang, Xin Lu, Stephen D. Wilson, **Yu Song**, and Huiqiu Yuan
Phys. Rev. B **103**, L220504 (2021)

22. High-energy magnetic excitations from heavy quasiparticles in $CeCu_2Si_2$.

Yu Song, Weiyi Wang, Chongde Cao, Zahra Yamani, Yuanji Xu, Yutao Sheng, Wolfgang Löser, Yiming Qiu, Yi-feng Yang, Robert J. Birgeneau, Pengcheng Dai
npj Quantum Materials **6**, 60 (2021)

23. Structural and magnetic transitions in the planar antiferromagnet $Ba_4Ir_3O_{10}$.

Xiang Chen, Yu He, Shan Wu, **Yu Song**, Dongsheng Yuan, Edith Bourret-Courchesne, Jacob P. C. Ruff, Zahirul Islam, Alex Frano, and Robert J. Birgeneau
Phys. Rev. B **103**, 224420 (2021)

24. Short-Range Nematic Fluctuations in $Sr_{1-x}Na_xFe_2As_2$ Superconductors.

Shan Wu, **Yu Song**, Yu He, Alex Frano, Ming Yi, Xiang Chen, Hiroshi Uchiyama, Ahmet Alatas, Ayman H. Said, Liran Wang, Thomas Wolf, Christoph Meingast, and Robert J. Birgeneau
Phys. Rev. Lett. **126**, 107001 (2021)

25. Spin dynamics in NaFeAs and $NaFe_{0.53}Cu_{0.47}As$ probed by resonant inelastic x-ray scattering.

Yu Song, Weiyi Wang, Eugenio Paris, Xingye Lu, Jonathan Pellicciari, Yi Tseng, Yaobo Huang, Daniel McNally, Marcus Dantz, Chongde Cao, Rong Yu, Robert J. Birgeneau, Thorsten Schmitt, and Pengcheng Dai
Phys. Rev. B **103**, 075112 (2021)

26. In-plane uniaxial pressure-induced out-of-plane antiferromagnetic moment and critical fluctuations in $BaFe_2As_2$.

Panpan Liu, Mason L. Klemm, Long Tian, Xingye Lu, **Yu Song**, David W. Tam, Karin Schmalzl, J. T. Park, Yu Li, Guotai Tan, Yixi Su, Frédéric Bourdarot, Yang Zhao, Jeffery W. Lynn, Robert J. Birgeneau and Pengcheng Dai
Nat. Commun. **11**, 5728 (2020)

27. Nature of the spin resonance mode in CeCoIn₅.

Yu Song, Weiyi Wang, John S. Van Dyke, Naveen Pouse, Sheng Ran, Duygu Yazici, A. Schneidewind, Petr Čermák, Y. Qiu, M. B. Maple, Dirk K. Morr and Pengcheng Dai
Commun. Phys. **3**, 98 (2020)

28. Stripe antiferromagnetism and disorder in the Mott insulator NaFe_{1-x}Cu_xAs (x ≤ 0.5).

Yizhou Xin, Ingrid Stolt, **Yu Song**, Pengcheng Dai, and W. P. Halperin
Phys. Rev. B **101**, 064410 (2020)

29. Strain-Induced Spin-Nematic State and Nematic Susceptibility Arising from 2 × 2 Fe Clusters in KFe_{0.8}Ag_{1.2}Te₂.

Yu Song, Dongsheng Yuan, Xingye Lu, Zhijun Xu, Edith Bourret-Courchesne, and Robert J. Birgeneau
Phys. Rev. Lett. **123**, 247205 (2019)

30. Flat-band magnetism and helical magnetic order in Ni-doped SrCo₂As₂.

Yu Li, Zhonghao Liu, Zhuang Xu, **Yu Song**, Yaobo Huang, Dawei Shen, Ni Ma, Ang Li, Songxue Chi, Matthias Frontzek, Huibo Cao, Qingzhen Huang, Weiyi Wang, Yaofeng Xie, Rui Zhang, Yan Rong, William A. Shelton, David P. Young, J. F. DiTusa, and Pengcheng Dai
Phys. Rev. B **100**, 094446 (2019)

31. Weaker nematic phase connected to the first order antiferromagnetic phase transition in SrFe₂As₂ compared to BaFe₂As₂.

David W. Tam, Weiyi Wang, Li Zhang, **Yu Song**, Rui Zhang, Scott V. Carr, H. C. Walker, Toby G. Perring, D. T. Adroja, and Pengcheng Dai
Phys. Rev. B **99**, 134519 (2019)

32. Toward the Mott state with magnetic cluster formation in heavily Cu-doped NaFe_{1-x}Cu_xAs.

Yizhou Xin, Ingrid Stolt, Jeongseop A. Lee, **Yu Song**, Pengcheng Dai, and W. P. Halperin
Phys. Rev. B **99**, 155114 (2019)

33. Coexistence of Ferromagnetic and Stripe Antiferromagnetic Spin Fluctuations in SrCo₂As₂.

Yu Li, Zhiping Yin, Zhonghao Liu, Weiyi Wang, Zhuang Xu, **Yu Song**, Long Tian, Yaobo Huang, Dawei Shen, D. L. Abernathy, J. L. Niedziela, R. A. Ewings, T. G. Perring, Daniel M. Pajerowski, Masaaki Matsuda, Philippe Bourges, Enderle Mechthild, Yixi Su, and Pengcheng Dai
Phys. Rev. Lett. **122**, 117204 (2019)

34. Intertwined Magnetic and Nematic Orders in Semiconducting $\text{KFe}_{0.8}\text{Ag}_{1.2}\text{Te}_2$.

Yu Song, Huibo Cao, B. C. Chakoumakos, Yang Zhao, Aifeng Wang, Hechang Lei, C. Petrovic, and Robert J. Birgeneau
Phys. Rev. Lett. **122**, 087201 (2019)

35. *c*-axis pressure-induced antiferromagnetic order in optimally P-doped $\text{BaFe}_2(\text{As}_{0.70}\text{P}_{0.30})_2$ superconductor.

Ding Hu, Weiyi Wang, Wenliang Zhang, Yuan Wei, Dongliang Gong, David W. Tam, Panpan Zhou, Yu Li, Guotai Tan, Yu Song, Robert Georgii, Björn Pedersen, Huibo Cao, Wei Tian, Bertrand Roessli, Zhiping Yin, and Pengcheng Dai
npj Quantum Materials **3**, 47 (2018)

36. Raman scattering study of $\text{NaFe}_{0.53}\text{Cu}_{0.47}\text{As}$.

W.-L. Zhang, Y. Song, W.-Y. Wang, C.-D. Cao, P.-C. Dai, C.-Q. Jin, and G. Blumberg
Phys. Rev. B **98**, 094512 (2018)

37. Unusual suppression of a spin resonance mode by magnetic field in underdoped $\text{NaFe}_{1-x}\text{Co}_x\text{As}$: Evidence for orbital-selective pairing.

Yu Song, Guotai Tan, Chenglin Zhang, Rasmus Toft-Petersen, Rong Yu, and Pengcheng Dai
Phys. Rev. B **98**, 064507 (2018)

38. Local orthorhombic lattice distortions in the paramagnetic tetragonal phase of superconducting $\text{NaFe}_{1-x}\text{Ni}_x\text{As}$.

Weiyi Wang, Yu Song, Chongde Cao, Kuo-Feng Tseng, Thomas Keller, Yu Li, L. W. Harriger, Wei Tian, Songxue Chi, Rong Yu, Andriy H. Nevidomskyy, and Pengcheng Dai
Nature Communications **9**, 3128 (2018)

39. Persistent low-energy phonon broadening near the charge-order *q* vector in the bilayer cuprate $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$.

Y. He, S. Wu, Y. Song, W.-S. Lee, A. H. Said, A. Alatas, A. Bosak, A. Girard, S. M. Souliou, A. Ruiz, M. Hepting, M. Bluschke, E. Schierle, E. Weschke, J.-S. Lee, H. Jang, H. Huang, M. Hashimoto, D.-H. Lu, D. Song, Y. Yoshida, H. Eisaki, Z.-X. Shen, R. J. Birgeneau, M. Yi, and A. Frano
Phys. Rev. B **98**, 035102 (2018)

40. Disentangling superconducting and magnetic orders in $\text{NaFe}_{1-x}\text{Ni}_x\text{As}$ using muon spin rotation.

Sky C. Cheung, Zurab Guguchia, Benjamin A. Frandsen, Zizhou Gong, Kohtaro Yamakawa, Dalson E. Almeida, Ifeanyi J. Onuorah, Pietro Bonfá, Eduardo Miranda, Weiyi Wang, David W. Tam, **Yu Song**, Chongde Cao, Yipeng Cai, Alannah M. Hallas, Murray N. Wilson, Timothy J. S. Munsie, Graeme Luke, Bijuan Chen, Guangyang Dai, Changqing Jin, Shengli Guo, Fanlong Ning, Rafael M. Fernandes, Roberto De Renzi, Pengcheng Dai, and Yasutomo J. Uemura
Phys. Rev. B **97**, 224508 (2018)

41. Dynamic Spin-Lattice Coupling and Nematic Fluctuations in NaFeAs .

Yu Li, Zahra Yamani, **Yu Song**, Weiyi Wang, Chenglin Zhang, David W. Tam, Tong Chen, Ding Hu, Zhuang Xu, Songxue Chi, Ke Xia, Li Zhang, Shifeng Cui, Wenan Guo, Ziming Fang, Yi Liu, and Pengcheng Dai
Phys. Rev. X **8**, 021056 (2018)

42. Spin-isotropic continuum of spin excitations in antiferromagnetically ordered $\text{Fe}_{1.07}\text{Te}$.

Yu Song, Xingye Lu, L.-P. Regnault, Yixi Su, Hsin-Hua Lai, Wen-Jun Hu, Qimiao Si, and Pengcheng Dai
Phys. Rev. B **97**, 024519 (2018)

43. Spin excitation anisotropy in the optimally isovalent-doped superconductor $\text{BaFe}_2(\text{As}_{0.7}\text{P}_{0.3})_2$.

Ding Hu, Wenliang Zhang, Yuan Wei, Bertrand Roessli, Markos Skoulatos, Louis Pierre Regnault, Genfu Chen, **Yu Song**, Huiqian Luo, Shiliang Li, and Pengcheng Dai
Phys. Rev. B **96**, 180503(R) (2017)

44. Temperature and polarization dependence of low-energy magnetic fluctuations in nearly optimally doped $\text{NaFe}_{0.9785}\text{Co}_{0.0215}\text{As}$.

Yu Song, Weiyi Wang, Chenglin Zhang, Yanhong Gu, Xingye Lu, Guotai Tan, Yixi Su, Frédéric Bourdarot, A. D. Christianson, Shiliang Li, and Pengcheng Dai
Phys. Rev. B **96**, 184512 (2017)

45. Correlation-driven metal-insulator transition in proximity to an iron-based superconductor.

A. Charnukha, Z. P. Yin, **Y. Song**, C. D. Cao, Pengcheng Dai, K. Haule, G. Kotliar, and D. N. Basov
Phys. Rev. B **96**, 195121 (2017)

46. Local breaking of fourfold rotational symmetry by short-range magnetic order in heavily overdoped $\text{Ba}(\text{Fe}_{1-x}\text{Cu}_x)_2\text{As}_2$.

Weiyi Wang, **Yu Song**, Ding Hu, Yu Li, Rui Zhang, L. W. Harriger, Wei Tian, Huibo Cao, and Pengcheng Dai
Phys. Rev. B **96**, 161106(R) (2017)

47. Two-Dimensional Massless Dirac Fermions in Antiferromagnetic AFe_2As_2 ($\text{A}=\text{Ba},\text{Sr}$).

Zhi-Guo Chen, Luyang Wang, **Yu Song**, Xingye Lu, Huiqian Luo, Chenglin Zhang, Pengcheng Dai, Zhiping Yin, Kristjan Haule, and Gabriel Kotliar
Phys. Rev. Lett. **119**, 096401 (2017)

48. Spin excitation anisotropy in the paramagnetic tetragonal phase of BaFe_2As_2 .

Yu Li, Weiyi Wang, **Yu Song**, Haoran Man, Xingye Lu, Frédéric Bourdarot, and Pengcheng Dai
Phys. Rev. B **96**, 020404(R) (2017)

49. Orbital selective neutron spin resonance in underdoped superconducting $\text{NaFe}_{0.985}\text{Co}_{0.015}\text{As}$.

Weiyi Wang, J. T. Park, Rong Yu, Yu Li, **Yu Song**, Zongyuan Zhang, Alexandre Ivanov, Jiri Kulda, and Pengcheng Dai
Phys. Rev. B **95**, 094519 (2017)

50. Spin excitations and the Fermi surface of superconducting FeS .

Haoran Man, Jiangang Guo, Rui Zhang, Rico U. Schönemann, Zhiping Yin, Mingxuan Fu, M. B. Stone, Qingzhen Huang, **Yu Song**, Weiyi Wang, David Singh, Felix Lochner, Tillman Hickel, Ilya Eremin, Leland Harriger, Jeffrey W. Lynn, Collin Broholm, Luis Balicas, Qimiao Si, and Pengcheng Dai
npj Quantum Materials **2**, 14 (2017)

51. Uniaxial pressure effect on the magnetic ordered moment and transition temperatures in $\text{BaFe}_{2-x}\text{T}_x\text{As}_2$ ($\text{T}=\text{Co},\text{Ni}$).

David W. Tam, **Yu Song**, Haoran Man, Sky C. Cheung, Zhiping Yin, Xingye Lu, Weiyi Wang, Benjamin A. Frandsen, Lian Liu, Zizhou Gong, Takashi U. Ito, Yipeng Cai, Murray N. Wilson, Shengli Guo, Keisuke Koshiishi, Wei Tian, Bassam Hitti, Alexandre Ivanov, Yang Zhao, Jeffrey W. Lynn, Graeme M. Luke, Tom Berlijn, Thomas A. Maier, Yasutomo J. Uemura, and Pengcheng Dai
Phys. Rev. B **95**, 060505(R) (2017)

52. Strong ferromagnetic exchange interaction under ambient pressure in BaFe_2S_3 .

Meng Wang, S. J. Jin, Ming Yi, **Yu Song**, H. C. Jiang, W. L. Zhang, H. L. Sun, H. Q. Luo, A. D. Christianson, E. Bourret-Courchesne, D. H. Lee, Dao-Xin Yao, and R. J. Birgeneau
Phys. Rev. B **95**, 060502(R) (2017)

53. Phase diagram and neutron spin resonance of superconducting $\text{NaFe}_{1-x}\text{Cu}_x\text{As}$.

Guotai Tan, **Yu Song**, Rui Zhang, Lifang Lin, Zhuang Xu, Long Tian, Songxue Chi, M. K. Graves-Brook, Shiliang Li, and Pengcheng Dai
Phys. Rev. B **95**, 054501 (2017)

54. Lattice distortion and charge density wave in $\text{Na}_2\text{Ti}_2\text{Sb}_2\text{O}$ revealed by scanning tunnelling microscopy.

M. Q. Ren, Y. J. Yan, J. Jiang, S. Y. Tan, J. Miao, C. Chen, **Y. Song**, C. L. Zhang, P. C. Dai, B. P. Xie, T. Zhang, and D. L. Feng
Philosophical Magazine **97**, 527-534 (2017)

55. Spin anisotropy due to spin-orbit coupling in optimally hole-doped $\text{Ba}_{0.67}\text{K}_{0.33}\text{Fe}_2\text{As}_2$.

Yu Song, Haoran Man, Rui Zhang, Xingye Lu, Chenglin Zhang, Meng Wang, Guotai Tan, L.-P. Regnault, Yixi Su, Jian Kang, Rafael M. Fernandes, and Pengcheng Dai
Phys. Rev. B **94**, 214516 (2016)

56. A Mott insulator continuously connected to iron pnictide superconductors.

Yu Song, Zahra Yamani, Chongde Cao, Yu Li, Chenglin Zhang, Justin Chen, Qingzhen Huang, Hui Wu, Jing Tao, Yimei Zhu, Wei Tian, Songxue Chi, Huibo Cao, Yao-Bo Huang, Marcus Dantz, Thorsten Schmitt, Rong Yu, Andriy H. Nevidomskyy, Emilia Morosan, Qimiao Si, Pengcheng Dai
Nature Communications **7**, 13879 (2016)

57. Robust upward dispersion of the neutron spin resonance in the heavy fermion superconductor $\text{Ce}_{1-x}\text{Yb}_x\text{CoIn}_5$.

Yu Song, John Van Dyke, I. K. Lum, B. D. White, Sooyoung Jang, Duygu Yazici, L. Shu, A. Schneidewind, Petr Čermák, Y. Qiu, M. B. Maple, D. K. Morr and Pengcheng Dai
Nature Communications **7**, 12774 (2016)

58. $\text{NaFe}_{0.56}\text{Cu}_{0.44}\text{As}$: A Pnictide Insulating Phase Induced by On-Site Coulomb Interaction.

C. E. Matt, N. Xu, Baiqing Lv, Junzhang Ma, F. Bisti, J. Park, T. Shang, Chongde Cao, **Yu Song**, Andriy H. Nevidomskyy, Pengcheng Dai, L. Patthey, N. C. Plumb, M. Radovic, J. Mesot, and M. Shi
Phys. Rev. Lett. **117**, 097001 (2016)

59. Spin waves and magnetic exchange interactions in the spin-ladder compound RbFe_2Se_3 .

Meng Wang, Ming Yi, Shangjian Jin, Hongchen Jiang, **Yu Song**, Huiqian Luo, A. D. Christianson, C. de la Cruz, E. Bourret-Courchesne, Dao-Xin Yao, D. H. Lee, and R. J. Birgeneau
Phys. Rev. B **94**, 041111(R) (2016)

60. Electron doping evolution of structural and antiferromagnetic phase transitions in $\text{NaFe}_{1-x}\text{Co}_x\text{As}$ iron pnictides.

Guotai Tan, **Yu Song**, Chenglin Zhang, Lifang Lin, Zhuang Xu, Tingting Hou, Wei Tian, Huibo Cao, Shiliang Li, Shiping Feng, and Pengcheng Dai
Phys. Rev. B **94**, 014509 (2016)

61. Electron doping evolution of the magnetic excitations in $\text{NaFe}_{1-x}\text{Co}_x\text{As}$.

Scott V. Carr, Chenglin Zhang, **Yu Song**, Guotai Tan, Yu Li, D. L. Abernathy, M. B. Stone, G. E. Granroth, T. G. Perring, and Pengcheng Dai
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