



## Cheng Peng

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### Publications

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#### PUBLICATIONS

- **Understanding the superconductivity and charge density wave interaction through quasi-static lattice fluctuations.** *Proceedings of the National Academy of Sciences of the United States of America*  
Porter, Z., Shen, L., Plumley, R., Burdet, N. G., Petsch, A. N., Wen, J., Drucker, N. C., Peng, C., Chen, X. M., Fluerasu, A., Blackburn, E., Coslovich, G., Hawthorn, et al  
2024; 121 (50): e2412182121
- **High-pressure characterization of  $\text{Ag}_3\text{AuTe}_2$ : Implications for strain-induced band tuning** *APPLIED PHYSICS LETTERS*  
Won, J., Zhang, R., Peng, C., Kumar, R., Gebre, M. S., Popov, D., Hemley, R. J., Bradlyn, B., Devereaux, T. P., Shoemaker, D. P.  
2024; 125 (21)
- **Particle-Hole Asymmetric Ferromagnetism and Spin Textures in the Triangular Hubbard-Hofstadter Model** *PHYSICAL REVIEW X*  
Ding, J. K., Yang, L., Wang, W. O., Zhu, Z., Peng, C., Mai, P., Huang, E. W., Moritz, B., Phillips, P. W., Feldman, B. E., Devereaux, T. P.  
2024; 14 (4)
- **Kitaev physics in the two-dimensional magnet  $\text{NiPSe}_3$**  *PHYSICAL REVIEW RESEARCH*  
Peng, C., Mardanya, S., Petsch, A. N., Sharma, V., Li, S., Jia, C., Bansil, A., Chowdhury, S., Turner, J. J.  
2024; 6 (3)
- **Emergence of antiferromagnetic correlations and Kondolike features in a model for infinite layer nickelates** *NPJ QUANTUM MATERIALS*  
Liu, F., Peng, C., Huang, E. W., Moritz, B., Jia, C., Devereaux, T. P.  
2024; 9 (1)
- **Machine learning-empowered study of metastable  $\text{#-CsPbI}_3$  under pressure and strain** *JOURNAL OF MATERIALS CHEMISTRY A*  
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2024
- **Exfoliable Transition Metal Chalcogenide Semiconductor  $\text{NbSe}_2\text{I}_2$ .** *Inorganic chemistry*  
Qu, K., Zhang, Y., Peng, C., Riedel, Z. W., Won, J., Zhang, R., Woods, T. J., Devereaux, T., van der Zande, A. M., Shoemaker, D. P.  
2024
- **Charge order and superconductivity in a two-band model for infinite-layer nickelates** *PHYSICAL REVIEW B*  
Peng, C., Jiang, H., Moritz, B., Devereaux, T. P., Jia, C.  
2023; 108 (24)
- **Bayesian experimental design and parameter estimation for ultrafast spin dynamics** *MACHINE LEARNING-SCIENCE AND TECHNOLOGY*  
Chen, Z., Peng, C., Petsch, A. N., Chitturi, S. R., Okullo, A., Chowdhury, S., Yoon, C., Turner, J. J.  
2023; 4 (4)
- **Capturing dynamical correlations using implicit neural representations.** *Nature communications*  
Chitturi, S. R., Ji, Z., Petsch, A. N., Peng, C., Chen, Z., Plumley, R., Dunne, M., Mardanya, S., Chowdhury, S., Chen, H., Bansil, A., Feiguin, A., Kolesnikov, et al  
2023; 14 (1): 5852

- **From Stoner to local moment magnetism in atomically thin Cr<sub>2</sub>Te<sub>3</sub>.** *Nature communications*  
Zhong, Y., Peng, C., Huang, H., Guan, D., Hwang, J., Hsu, K. H., Hu, Y., Jia, C., Moritz, B., Lu, D., Lee, J. S., Jia, J. F., Devereaux, et al  
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- **Traces of electron-phonon coupling in one-dimensional cuprates.** *Nature communications*  
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- **Enhanced superconductivity by near-neighbor attraction in the doped extended Hubbard model** *PHYSICAL REVIEW B*  
Peng, C., Wang, Y., Wen, J., Lee, Y. S., Devereaux, T. P., Jiang, H.  
2023; 107 (20)
- **A Quantum-Inspired Tensor Network Algorithm for Constrained Combinatorial Optimization Problems** *FRONTIERS IN PHYSICS*  
Hao, T., Huang, X., Jia, C., Peng, C.  
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- **Testing the data framework for an AI algorithm in preparation for high data rate X-ray facilities**  
Chen, H., Chitturi, S. R., Plumley, R., Shen, L., Drucker, N. C., Burdet, N., Peng, C., Mardanya, S., Ratner, D., Mishra, A., Yoon, C., Song, S., Chollet, et al  
IEEE.2022: 1-9
- **Gapless spin liquid and pair density wave of the Hubbard model on three-leg triangular cylinders** *NEW JOURNAL OF PHYSICS*  
Peng, C., Jiang, Y., Wang, Y., Jiang, H.  
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- **Precursor of pair-density wave in doping Kitaev spin liquid on the honeycomb lattice** *NPJ QUANTUM MATERIALS*  
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- **Doping Quantum Spin Liquids on the Kagome Lattice** *ADVANCED QUANTUM TECHNOLOGIES*  
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