

## Aaron Sharpe

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### Publications

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#### PUBLICATIONS

- **Directional ballistic magnetotransport in the delafossite metals PdCoO<sub>2</sub> and PtCoO<sub>2</sub>** *NPJ QUANTUM MATERIALS*  
Moravec, M., Baker, G., Bachmann, M. D., Sharpe, A., Nandi, N., Barnard, A. W., Putzke, C., Khim, S., Konig, M., Goldhaber-Gordon, D., Moll, P. J. W., Mackenzie, A. P.  
2026; 11 (1)
- **Topological bands and correlated states in helical trilayer graphene** *NATURE PHYSICS*  
Xia, L., de la Barrera, S. C., Uri, A., Sharpe, A., Kwan, Y. H., Zhu, Z., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D., Fu, L., Devakul, T., Jarillo-Herrero, P.  
2025
- **Deterministic fabrication of graphene hexagonal boron nitride moiré superlattices.** *Proceedings of the National Academy of Sciences of the United States of America*  
Kamat, R. V., Sharpe, A. L., Pendharkar, M., Hu, J., Tran, S. J., Zaborski, G. J., Hocking, M., Finney, J., Watanabe, K., Taniguchi, T., Kastner, M. A., Mannix, A. J., Heinz, et al  
2024; 121 (40): e2410993121
- **Quantitative determination of twist angle and strain in Van der Waals moiré superlattices** *APPLIED PHYSICS LETTERS*  
Tran, S. J., Uslu, J., Pendharkar, M., Finney, J., Sharpe, A. L., Hocking, M., Bittner, N. J., Watanabe, K., Taniguchi, T., Kastner, M. A., Mannix, A. J., Goldhaber-Gordon, D.  
2024; 125 (11)
- **Torsional force microscopy of van der Waals moirés and atomic lattices.** *Proceedings of the National Academy of Sciences of the United States of America*  
Pendharkar, M., Tran, S. J., Zaborski, G., Finney, J., Sharpe, A. L., Kamat, R. V., Kalantre, S. S., Hocking, M., Bittner, N. J., Watanabe, K., Taniguchi, T., Pittenger, B., Newcomb, et al  
2024; 121 (10): e2314083121
- **Unusual magnetotransport in twisted bilayer graphene from strain-induced open Fermi surfaces.** *Proceedings of the National Academy of Sciences of the United States of America*  
Wang, X., Finney, J., Sharpe, A. L., Rodenbach, L. K., Hsueh, C. L., Watanabe, K., Taniguchi, T., Kastner, M. A., Vafek, O., Goldhaber-Gordon, D.  
2023; 120 (34): e2307151120
- **Magnetic Field-Stabilized Wigner Crystal States in a Graphene Moiré Superlattice.** *Nano letters*  
Chen, G., Zhang, Y. H., Sharpe, A., Zhang, Z., Wang, S., Jiang, L., Lyu, B., Li, H., Watanabe, K., Taniguchi, T., Shi, Z., Goldhaber-Gordon, D., Zhang, et al  
2023
- **Directional ballistic transport in the two-dimensional metal PdCoO<sub>2</sub>.** *Nature physics*  
Bachmann, M. D., Sharpe, A. L., Baker, G., Barnard, A. W., Putzke, C., Scaffidi, T., Nandi, N., McGuinness, P. H., Zhakina, E., Moravec, M., Khim, S., König, M., Goldhaber-Gordon, et al  
2022; 18 (7): 819-824
- **Directional ballistic transport in the two-dimensional metal PdCoO<sub>2</sub>** *NATURE PHYSICS*  
Bachmann, M. D., Sharpe, A. L., Baker, G., Barnard, A. W., Putzke, C., Scaffidi, T., Nandi, N., McGuinness, P. H., Zhakina, E., Moravec, M., Khim, S., Konig, M., Goldhaber-Gordon, et al  
2022

- **Unusual magnetotransport in twisted bilayer graphene.** *Proceedings of the National Academy of Sciences of the United States of America*  
Finney, J., Sharpe, A. L., Fox, E. J., Hsueh, C. L., Parker, D. E., Yankowitz, M., Chen, S., Watanabe, K., Taniguchi, T., Dean, C. R., Vishwanath, A., Kastner, M. A., Goldhaber-Gordon, et al  
2022; 119 (16): e2118482119
- **Tunable Orbital Ferromagnetism at Noninteger Filling of a Moire Superlattice.** *Nano letters*  
Chen, G., Sharpe, A. L., Fox, E. J., Wang, S., Lyu, B., Jiang, L., Li, H., Watanabe, K., Taniguchi, T., Crommie, M. F., Kastner, M. A., Shi, Z., Goldhaber-Gordon, et al  
1800
- **Evidence of Orbital Ferromagnetism in Twisted Bilayer Graphene Aligned to Hexagonal Boron Nitride.** *Nano letters*  
Sharpe, A. L., Fox, E. J., Barnard, A. W., Finney, J., Watanabe, K., Taniguchi, T., Kastner, M. A., Goldhaber-Gordon, D.  
2021
- **Tunable correlated Chern insulator and ferromagnetism in a moire superlattice (vol 579, pg 56, 2020) NATURE**  
Chen, G., Sharpe, A. L., Fox, E. J., Zhang, Y., Wang, S., Jiang, L., Lyu, B., Li, H., Watanabe, K., Taniguchi, T., Shi, Z., Senthil, T., Goldhaber-Gordon, et al  
2020: E3
- **Tunable correlated Chern insulator and ferromagnetism in a moire superlattice.** *Nature*  
Chen, G., Sharpe, A. L., Fox, E. J., Zhang, Y., Wang, S., Jiang, L., Lyu, B., Li, H., Watanabe, K., Taniguchi, T., Shi, Z., Senthil, T., Goldhaber-Gordon, et al  
2020; 579 (7797): 56–61
- **Super-geometric electron focusing on the hexagonal Fermi surface of PdCoO<sub>2</sub>.** *Nature communications*  
Bachmann, M. D., Sharpe, A. L., Barnard, A. W., Putzke, C., Konig, M., Khim, S., Goldhaber-Gordon, D., Mackenzie, A. P., Moll, P. J.  
2019; 10 (1): 5081
- **Signatures of tunable superconductivity in a trilayer graphene moire superlattice.** *Nature*  
Chen, G., Sharpe, A. L., Gallagher, P., Rosen, I. T., Fox, E. J., Jiang, L., Lyu, B., Li, H., Watanabe, K., Taniguchi, T., Jung, J., Shi, Z., Goldhaber-Gordon, et al  
2019
- **Emergent ferromagnetism near three-quarters filling in twisted bilayer graphene.** *Science (New York, N.Y.)*  
Sharpe, A. L., Fox, E. J., Barnard, A. W., Finney, J. n., Watanabe, K. n., Taniguchi, T. n., Kastner, M. A., Goldhaber-Gordon, D. n.  
2019
- **Absorptive pinhole collimators for ballistic Dirac fermions in graphene** *NATURE COMMUNICATIONS*  
Barnard, A. W., Hughes, A., Sharpe, A. L., Watanabe, K., Taniguchi, T., Goldhaber-Gordon, D.  
2017; 8