

Donghui Lu

Senior Scientist, Stanford Synchrotron Radiation Lightsource

 Curriculum Vitae available Online

Bio

BIO

Donghui Lu is a senior scientist at SLAC National Accelerator Laboratory. He is the deputy director of the Materials Science Division at the Stanford Synchrotron Radiation Lightsource leading the Soft X-ray Group. His research interests lie in studying quantum materials, such as high temperature superconductors, using high resolution angle-resolved photoemission spectroscopy. He is also an expert in developing modern synchrotron instrumentations, including cutting-edge soft x-ray beamlines and sophisticated endstations with versatile sample environments and materials synthesis capabilities.

INSTITUTE AFFILIATIONS

- Senior Staff Scientist, Stanford Institute for Materials and Energy Sciences

HONORS AND AWARDS

- Fellow, American Physical Society (2019)
- Farrel W. Lytle Award, Stanford Synchrotron Radiation Lightsource (2005)

Publications

PUBLICATIONS

- **Superconducting coherence boosted by outer-layer metallic screening in multilayered cuprates.** *Nature communications*
Jeong, J., Kurokawa, K., Sakai, S., Nakayama, T., Ando, K., Ogane, N., Huh, S., Watson, M. D., Kim, T. K., Cacho, C., Lin, C., Hashimoto, M., Lu, et al
2026
- **Hund's coupling governed orbital-selective superconductivity in Ba_{1-x}K_xFe₂As₂** *PHYSICAL REVIEW B*
Corbae, E., Zhang, R., Li, C., Kihou, K., Lee, C., Hashimoto, M., Devereaux, T., Tjernberg, O., Babaev, E., Lee, D., Grinenko, V., Lu, D., Shen, et al
2026; 113 (22)
- **Room-temperature multistage metastability in a moiré superstructure.** *Nature communications*
Lv, B., Su, Y., Zong, A., Morey, K., Fichera, B. T., Liu, Q., Wu, D., Ma, Y., Zhang, D., Zhou, F., Hashimoto, M., Lu, D. H., Walko, et al
2026
- **BCS-BEC crossover driven by small Fermi pockets of a high-T_c cuprate superconductor.** *Nature communications*
Jeong, J., Enomoto, Y., Kohama, Y., Nakayama, T., Ando, K., Kurokawa, K., Huh, S., Yang, Z., Nomura, T., Watson, M. D., Kim, T. K., Cacho, C., Lin, et al
2026; 17 (1)
- **Electronic Origin of Delicate Antiferromagnetism in Fe_xNbS₂** *PHYSICAL REVIEW LETTERS*
Li, W., Reichenadter, J. T., Wu, S., Oh, J., Basak, R., Haley, S. C., Wang, S., Mata, J., Vescovo, E., Lu, D., Hashimoto, M., Klewe, C., Sarker, et al
2026; 136 (21): 216503
- **Superconductivity suppression and bilayer decoupling in Pr-substituted YBa₂Cu₃O_{7-δ}.** *Proceedings of the National Academy of Sciences of the United States of America*

- Yang, J., Jin, Z., Wang, S., Moir, C. M., Xu, M., Gunn, B., Basak, R., Evans, J. R., Du, X., Kang, Z., Feng, K., Hashimoto, M., Lu, et al
2026; 123 (20): e2536919123
- **Emerging conduction pathways in semiconducting bismuth-antimony alloys.** *Journal of physics. Condensed matter : an Institute of Physics journal*
Sinha, S., You, Z., Smolenski, S., Downey, E., Liu, A., Frisone, S., Birge, A. R., Choi, M., Shawon, A., Chandler, E., Lin, C., Hashimoto, M., Lu, et al
2026
 - **Dichotomy of flat bands in the van der Waals ferromagnet Fe₅GeTe₂** *PHYSICAL REVIEW B*
Wu, H., Huang, J., Hu, C., Chen, L., Hao, Y., Shi, Y., Malinowski, P., Guo, Y., Jang, B., Zhu, J., May, A. F., Werner, T., Wang, et al
2026; 113 (12)
 - **Observation of a d -orbital flat band near the Fermi level realizing a Kondo lattice in a van der Waals material** *COMMUNICATIONS MATERIALS*
Huh, S., Kawaguchi, K., Haze, M., Hasegawa, Y., Dong, Y., Aido, K., Harasawa, A., Smith, B. R. M., Yamagami, K., Fujisawa, Y., Hsu, C., Kuroda, K., Shin, et al
2025; 7 (1)
 - **Sub-tesla On-Chip Nanomagnetic Metamaterial Platform for Angle-Resolved Photoemission Spectroscopy.** *The journal of physical chemistry letters*
Li, W., Wanichwecharungruang, W., Guo, M., Chioar, I., Nandakumaran, N., Ramberger, J., Li, S., Kang, Z., Yang, J., Lu, D., Hashimoto, M., Du, C. R., Leighton, et al
2025: 12947-12956
 - **Nonmonotonic Band Flattening near the Magic Angle of Twisted Bilayer MoTe₂** *PHYSICAL REVIEW X*
Deng, Y., Holtzmann, W., Zhu, Z., Zaklana, T., Majchrzak, P., Taniguchi, T., Watanabe, K., Hashimoto, M., Lu, D., Jozwiak, C., Bostwick, A., Rotenberg, E., Fu, et al
2025; 15 (4)
 - **Anomalous Nodal Gap in a Doped Spin-1/2 Antiferromagnetic Mott Insulator.** *Physical review letters*
Hu, Y., Lane, C., Chen, X., Peng, S., Sun, Z., Hashimoto, M., Lu, D., Wu, T., Markiewicz, R. S., Chen, X., Bansil, A., Wilson, S. D., He, et al
2025; 135 (19): 196403
 - **Flat bands and distinct density wave orders in correlated Kagome superconductor CsCr₃Sb₅** *SCIENCE CHINA-PHYSICS MECHANICS & ASTRONOMY*
Peng, S., Han, Y., Li, Y., Shen, J., Miao, Y., Luo, Y., Huai, L., Ou, Z., Chen, Y., Hu, D., Li, H., Xiang, Z., Liu, et al
2025; 69 (1)
 - **Emergence of a bandgap in nano-scale graphite: A computational and experimental study** *APPLIED SURFACE SCIENCE*
Chaiyachad, S., Vo, T., Jindata, W., Singesen, S., Eknapakul, T., Jaisuk, C., Le Fevre, P., Bertran, F., Lu, D., Huang, Y., Nakajima, H., Liewrian, W., Fongkaew, et al
2025; 708
 - **Macroscopic Uniform 2D Moiré Superlattices with Controllable Angles.** *Journal of the American Chemical Society*
Zaborski, G., Majchrzak, P. E., Lai, S., Johnson, A. C., Li, Q., Saunders, A. P., Zhu, Z., Deng, Y., Lu, D., Hashimoto, M., Shen, Z. X., Liu, F.
2025
 - **Altermagnetic Band Splitting in 10 nm Epitaxial CrSb Thin Films** *ADVANCED MATERIALS*
Santhosh, S., Corbae, P., Yanez-Parreno, W. J., Ghosh, S., Jensen, C. J., Fedorov, A. V., Hashimoto, M., Lu, D., Borchers, J. A., Grutter, A. J., Charlton, T. R., Islam, S., Golovanova, et al
2025: e08977
 - **Spin excitations and flat electronic bands in a Cr-based kagome superconductor.** *Nature communications*
Wang, Z., Guo, Y., Huang, H., Xie, F., Huang, Y., Gao, B., Oh, J. S., Wu, H., Okamoto, J., Channagowdra, G., Chen, C., Ye, F., Lu, et al
2025; 16 (1): 7573
 - **Surface preparation method for investigating the three-dimensional electronic structure of perovskite nickelates** *PHYSICAL REVIEW B*
Zhong, Y., Lee, K., Bhatta, R., Zhang, Y., Lee, Y., Gonzalez, M., Li, J., Wang, R., Hashimoto, M., Lu, D., Mo, S., Jia, C., Hwang, et al
2025; 112 (3)
 - **Observation of two cascading screening processes in an iron-based superconductor** *COMMUNICATIONS MATERIALS*

- Chang, M., Backes, S., Lu, D., Gauthier, N., Hashimoto, M., Chen, G., Wen, H., Mo, S., Shen, Z., Valenti, R., Pfau, H.
2025; 6 (1)
- **Zr₃Mn₃Sn₄Ga: A new hetero-kagome bilayer antiferromagnet** *SCRIPTA MATERIALIA*
Park, J., Cho, B., Oh, J., Lee, J., Rhee, T., Lu, D., Hashimoto, M., Kim, J., Park, K.
2025; 264
 - **Observation of Orbital-Selective Dual Modulations in an Anisotropic Antiferromagnetic Kagome Metal TbTi₃Bi₄** *PHYSICAL REVIEW X*
Zhang, R., Yu, B., Tan, H., Cheng, Y., Shen, F., Yang, J., Mu, D., Han, X., Zong, A., Hu, Q., Chen, X., Hu, Y., Meng, et al
2025; 15 (3)
 - **Disentangling the intertwined orders in a magnetic kagome metal.** *Science advances*
Oh, J. S., Biswas, A., Klemm, M. L., Tan, H., Xie, Y., Gao, B., Hashimoto, M., Lu, D., Yan, B., Dai, P., Birgeneau, R. J., Yi, M.
2025; 11 (27): eadt2195
 - **Introducing new resonant soft x-ray scattering capability in SSRL.** *The Review of scientific instruments*
Kuo, C., Hashimoto, M., Lee, H., Huynh, T. T., Maciel, A., Zhang, Z., Zhang, D., Edwards, B., Kazemifar, F., Kao, C., Lu, D., Lee, J.
2025; 96 (6)
 - **Kramers nodal lines in intercalated TaS₂superconductors.** *Nature communications*
Zhang, Y., Gao, Y., Pulkkinen, A., Guo, X., Huang, J., Guo, Y., Yue, Z., Oh, J. S., Moon, A., Oudah, M., Gao, X., Marmodoro, A., Fedorov, et al
2025; 16 (1): 4984
 - **Band-Selective Spin-Charge Separation across the Charge Density Wave Transition in Quasi-1D NbSe₃** *PHYSICAL REVIEW LETTERS*
Hyun, J., Lee, Y., Lim, C., Lee, G., Cha, J., Ahn, Y., Jho, M., Gim, S., Park, M., Hashimoto, M., Lu, D., Kim, Y., Kim, et al
2025; 134 (20)
 - **Pseudogap and Fermi arc induced by Fermi surface nesting in a centrosymmetric skyrmion magnet.** *Science (New York, N.Y.)*
Dong, Y., Kinoshita, Y., Ochi, M., Nakachi, R., Higashinaka, R., Hayami, S., Wan, Y., Arai, Y., Huh, S., Hashimoto, M., Lu, D., Tokunaga, M., Aoki, et al
2025; 388 (6747): 624-630
 - **One-Dimensional Electron Gas Confined along Nanowrinkles in a Unidirectional Charge Density Wave Material.** *ACS nano*
Kim, E., Lee, S., Yang, H., Hashimoto, M., Lu, D., Park, J., Kim, C., Wulferding, D., Kim, S., Cho, D.
2025
 - **Electron correlation and incipient flat bands in the Kagome superconductor CsCr₃Sb₅.** *Nature communications*
Li, Y., Liu, Y., Du, X., Wu, S., Zhao, W., Zhai, K., Hu, Y., Zhang, S., Chen, H., Liu, J., Yang, Y., Peng, C., Hashimoto, et al
2025; 16 (1): 3229
 - **Near-half-metallic state in the half-Heusler PtMnSb film on a III-V substrate** *PHYSICAL REVIEW MATERIALS*
Nishihaya, S., Jardine, M. J. A., Inbar, H. S., Goswami, A., Dong, J. T., Engel, A. N., Chang, Y., Dempsey, C. P., Hashimoto, M., Lu, D., Marom, N., Palmstrom, C. J.
2025; 9 (4)
 - **Electronic Structure of the Alternating Monolayer-Trilayer Phase of La₃Ni₂O₇.** *Physical review letters*
Abadi, S., Xu, K. J., Lomeli, E. G., Puphal, P., Isobe, M., Zhong, Y., Fedorov, A. V., Mo, S. K., Hashimoto, M., Lu, D. H., Moritz, B., Keimer, B., Devereaux, et al
2025; 134 (12): 126001
 - **Electronic Structure of the Alternating Monolayer-Trilayer Phase of La₃Ni₂O₇** *PHYSICAL REVIEW LETTERS*
Abadi, S., Xu, K., Lomeli, E. G., Puphal, P., Isobe, M., Zhong, Y., Fedorov, A., Mo, S., Hashimoto, M., Lu, D., Moritz, B., Keimer, B., Devereaux, et al
2025; 134 (12)
 - **Floquet-Bloch manipulation of the Dirac gap in a topological antiferromagnet** *NATURE PHYSICS*
Bielinski, N., Chari, R., May-Mann, J., Kim, S., Zwettler, J., Deng, Y., Aishwarya, A., Roychowdhury, S., Shekhar, C., Hashimoto, M., Lu, D., Yan, J., Felser, et al
2025
 - **Pseudogap in electron-doped cuprates: Strong correlation leading to band splitting.** *Proceedings of the National Academy of Sciences of the United States of America*

- Horio, M., Sakai, S., Suzuki, H., Nonaka, Y., Hashimoto, M., Lu, D., Shen, Z., Ohgi, T., Konno, T., Adachi, T., Koike, Y., Imada, M., Fujimori, et al
2025; 122 (1): e2406624122
- **Colossal magnetoresistance from spin-polarized polarons in an Ising system.** *Proceedings of the National Academy of Sciences of the United States of America*
Li, Y. F., Been, E. M., Balguri, S., Jia, C. J., Mahendru, M. B., Wang, Z. C., Cui, Y., Chen, S. D., Hashimoto, M., Lu, D. H., Moritz, B., Zaanen, J., Tafti, et al
2024; 121 (50): e2409846121
 - **Dispersion kinks from electronic correlations in an unconventional iron-based superconductor** *NATURE COMMUNICATIONS*
Chang, M., Backes, S., Lu, D., Gauthier, N., Hashimoto, M., Chen, G., Wen, H., Mo, S., Valenti, R., Pfau, H.
2024; 15 (1): 9958
 - **Observation of flat bands and Dirac cones in a pyrochlore lattice superconductor** *NPJ QUANTUM MATERIALS*
Huang, J., Setty, C., Deng, L., You, J., Liu, H., Shao, S., Oh, J., Guo, Y., Zhang, Y., Yue, Z., Yin, J., Hashimoto, M., Lu, et al
2024; 9 (1)
 - **Coupling Between Electrons and Charge Density Wave Fluctuation and its Possible Role in Superconductivity.** *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*
Lee, Y., Sur, Y., Kim, S., Cha, J., Hyun, J., Lim, C., Hashimoto, M., Lu, D., Kim, Y., Huh, S., Kim, C., Ideta, S., Tanaka, et al
2024: e2406043
 - **Robust Weak Topological Insulator in the Bismuth Halide $\text{Bi}_{1-x}\text{Sb}_x\text{I}_2$.** *Physical review letters*
Noguchi, R., Kobayashi, M., Kawaguchi, K., Yamamori, W., Aido, K., Lin, C., Tanaka, H., Kuroda, K., Harasawa, A., Kandyba, V., Cattelan, M., Barinov, A., Hashimoto, et al
2024; 133 (8): 086602
 - **Anomalous normal-state gap in an electron-doped cuprate.** *Science (New York, N.Y.)*
Xu, K. J., He, J., Chen, S. D., He, Y., Abadi, S. N., Rotundu, C. R., Lee, Y. S., Lu, D. H., Guo, Q., Tjernberg, O., Devereaux, T. P., Lee, D. H., Hashimoto, et al
2024; 385 (6710): 796-800
 - **Fermi Surface Nesting Driving the RKKY Interaction in the Centrosymmetric Skyrmion Magnet Gd_2PdSi_3** *PHYSICAL REVIEW LETTERS*
Dong, Y., Arai, Y., Kuroda, K., Ochi, M., Tanaka, N., Wan, Y., Watson, M. D., Kim, T. K., Cacho, C., Hashimoto, M., Lu, D., Aoki, Y., Matsuda, et al
2024; 133 (1)
 - **Electronic structure and effective mass of pristine and Cl-doped CsPbBr_3** *CHINESE PHYSICS B*
Wei, Z., Wei, Y., Xu, S., Peng, S., Hashimoto, M., Lu, D., Pan, X., Kuang, M., Xiao, Z., He, J.
2024; 33 (5)
 - **Growth and characterization of α -Sn thin films on In- and Sb-rich reconstructions of $\text{InSb}(001)$** *PHYSICAL REVIEW MATERIALS*
Engel, A. N., Dempsey, C. P., Inbar, H. S., Dong, J. T., Nishihaya, S., Chang, Y., V. Fedorov, A., Hashimoto, M., Lu, D., Palmstrom, C. J.
2024; 8 (4)
 - **Beyond Conventional Charge Density Wave for Strongly Enhanced Two-dimensional Superconductivity in 1H-TaS_2 Superlattices.** *Advanced materials (Deerfield Beach, Fla.)*
Li, Z., Lyu, P., Chen, Z., Guan, D., Yu, S., Zhao, J., Huang, P., Zhou, X., Qiu, Z., Fang, H., Hashimoto, M., Lu, D., Song, et al
2024: e2312341
 - **Reversible non-volatile electronic switching in a near-room-temperature van der Waals ferromagnet.** *Nature communications*
Wu, H., Chen, L., Malinowski, P., Jang, B. G., Deng, Q., Scott, K., Huang, J., Ruff, J. P., He, Y., Chen, X., Hu, C., Yue, Z., Oh, et al
2024; 15 (1): 2739
 - **Author Correction: Kondo interaction in FeTe and its potential role in the magnetic order.** *Nature communications*
Kim, Y., Kim, M., Kim, D., Kim, M., Kim, M., Cheng, C., Choi, J., Jung, S., Lu, D., Kim, J. H., Cho, S., Song, D., Oh, et al
2024; 15 (1): 2427
 - **Spontaneous Gap Opening and Potential Excitonic States in an Ideal Dirac Semimetal TaPdTe_5** *PHYSICAL REVIEW X*
Zhang, P., Dong, Y., Yan, D., Jiang, B., Yang, T., Li, J., Guo, Z., Huang, Y., Haobo, Li, Q., Li, Y., Kurokawa, K., Wang, R., et al
2024; 14 (1)

- **Spectral evidence for local-moment ferromagnetism in the van der Waals metals Fe₃GaTe₂ and Fe₃GeTe₂** *PHYSICAL REVIEW B*
Wu, H., Hu, C., Xie, Y., Jang, B., Huang, J., Guo, Y., Wu, S., Hu, C., Yue, Z., Shi, Y., Basak, R., Ren, Z., Yilmaz, et al
2024; 109 (10)
- **Nanoscale visualization and spectral fingerprints of the charge order in ScV₆Sn₆ distinct from other kagome metals** *NPJ QUANTUM MATERIALS*
Cheng, S., Ren, Z., Li, H., Oh, J., Tan, H., Pokharel, G., DeStefano, J. M., Rosenberg, E., Guo, Y., Zhang, Y., Yue, Z., Lee, Y., Gorovikov, et al
2024; 9 (1)
- **Non-Fermi liquid behaviour in a correlated flat-band pyrochlore lattice** *NATURE PHYSICS*
Huang, J., Chen, L., Huang, Y., Setty, C., Gao, B., Shi, Y., Liu, Z., Zhang, Y., Yilmaz, T., Vescovo, E., Hashimoto, M., Lu, D., Yakobson, et al
2024
- **Two-step electronic response to magnetic ordering in a van der Waals ferromagnet** *PHYSICAL REVIEW B*
Wu, H., Zhu, J., Chen, L., Butcher, M. W., Yue, Z., Yuan, D., He, Y., Oh, J., Gao, B., Huang, J., Wu, S., Gong, C., Guo, et al
2024; 109 (4)
- **Bogoliubov quasiparticle on the gossamer Fermi surface in electron-doped cuprates** *NATURE PHYSICS*
Xu, K., Guo, Q., Hashimoto, M., Li, Z., Chen, S., He, J., He, Y., Li, C., Berntsen, M. H., Rotundu, C. R., Lee, Y. S., Devereaux, T. P., Rydh, et al
2023; 19 (12): 1834-+
- **Anomalous excitonic phase diagram in band-gap-tuned Ta₂Ni(Se,S)₅** *Nature communications*
Chen, C., Tang, W., Chen, X., Kang, Z., Ding, S., Scott, K., Wang, S., Li, Z., Ruff, J. P., Hashimoto, M., Lu, D., Jozwiak, C., Bostwick, et al
2023; 14 (1): 7512
- **Ideal weak topological insulator and protected helical saddle points** *PHYSICAL REVIEW B*
Oh, J., Xu, T., Dhale, N., Li, S., Lei, C., Yoon, C., Liu, W., Huang, J., Wu, H., Hashimoto, M., Lu, D., Jozwiak, C., Bostwick, et al
2023; 108 (20)
- **Discovery of Charge Order in the Transition Metal Dichalcogenide Fe_xNbS₂** *Physical review letters*
Wu, S., Basak, R., Li, W., Kim, J., Ryan, P. J., Lu, D., Hashimoto, M., Nelson, C., Acevedo-Esteves, R., Haley, S. C., Analytis, J. G., He, Y., Frano, et al
2023; 131 (18): 186701
- **Tuning the band topology of GdSb by epitaxial strain** *APL MATERIALS*
Inbar, H. S., Ho, D. Q., Chatterjee, S., Engel, A. N., Khalid, S., Dempsey, C. P., Pendharkar, M., Chang, Y., Nishihaya, S., Fedorov, A. V., Lu, D., Hashimoto, M., Read, et al
2023; 11 (11)
- **Role of electron-phonon coupling in excitonic insulator candidate Ta₂NiSe₅** *PHYSICAL REVIEW RESEARCH*
Chen, C., Chen, X., Tang, W., Li, Z., Wang, S., Ding, S., Kang, Z., Jozwiak, C., Bostwick, A., Rotenberg, E., Hashimoto, M., Lu, D., Ruff, et al
2023; 5 (4)
- **Potential Lifshitz transition at optimal substitution in nematic pnictide Ba_{1-x}Sr_xNi₂As₂** *Science advances*
Narayan, D. M., Hao, P., Kurlito, R., Berggren, B. S., Linn, A. G., Eckberg, C., Saraf, P., Collini, J., Zavali, P., Hashimoto, M., Lu, D., Fernandes, R. M., Paglione, et al
2023; 9 (42): eadi4966
- **Charge order induced Dirac pockets in the nonsymmorphic crystal TaTe₄** *PHYSICAL REVIEW B*
Zhang, Y., Zhou, R., Wu, H., Oh, J., Li, S., Huang, J., Denlinger, J. D., Hashimoto, M., Lu, D., Mo, S., Kelly, K. F., Birgeneau, R. J., Lv, et al
2023; 108 (15)
- **Bogoliubov quasiparticle on the gossamer Fermi surface in electron-doped cuprates** *NATURE PHYSICS*
Xu, K., Guo, Q., Hashimoto, M., Li, Z., Chen, S., He, J., He, Y., Li, C., Berntsen, M. H., Rotundu, C. R., Lee, Y. S., Devereaux, T. P., Rydh, et al
2023
- **Weyl nodal ring states and Landau quantization with very large magnetoresistance in square-net magnet EuGa₄** *Nature communications*
Lei, S., Allen, K., Huang, J., Moya, J. M., Wu, T. C., Casas, B., Zhang, Y., Oh, J. S., Hashimoto, M., Lu, D., Denlinger, J., Jozwiak, C., Bostwick, et al
2023; 14 (1): 5812

- **From Stoner to local moment magnetism in atomically thin Cr₂Te₃.** *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
2023; 14 (1): 5340
- **Spectral evidence for unidirectional charge density wave in detwinned BaNi₂As₂** *PHYSICAL REVIEW B*
Guo, Y., Klemm, M., Oh, J., Xie, Y., Lei, B., Moreschini, L., Chen, C., Yue, Z., Gorovikov, S., Pedersen, T., Michiardi, M., Zhdanovich, S., Damascelli, et al
2023; 108 (8)
- **Tunable Van Hove Singularity without Structural Instability in Kagome Metal CsTi₃Bi₅.** *Physical review letters*
Liu, B., Kuang, M., Luo, Y., Li, Y., Hu, C., Liu, J., Xiao, Q., Zheng, X., Huai, L., Peng, S., Wei, Z., Shen, J., Wang, et al
2023; 131 (2): 026701
- **Kondo interaction in FeTe and its potential role in the magnetic order.** *Nature communications*
Kim, Y., Kim, M., Kim, D., Kim, M., Kim, M., Cheng, C., Choi, J., Jung, S., Lu, D., Kim, J. H., Cho, S., Song, D., Oh, et al
2023; 14 (1): 4145
- **A unique van Hove singularity in kagome superconductor CsV₃-xTaxSb₅ with enhanced superconductivity.** *Nature communications*
Luo, Y., Han, Y., Liu, J., Chen, H., Huang, Z., Huai, L., Li, H., Wang, B., Shen, J., Ding, S., Li, Z., Peng, S., Wei, et al
2023; 14 (1): 3819
- **Kramers nodal lines and Weyl fermions in SmAlSi** *COMMUNICATIONS PHYSICS*
Zhang, Y., Gao, Y., Gao, X., Lei, S., Ni, Z., Oh, J., Huang, J., Yue, Z., Zonno, M., Gorovikov, S., Hashimoto, M., Lu, D., Denlinger, et al
2023; 6 (1)
- **Magnetism and charge density wave order in kagome FeGe** *NATURE PHYSICS*
Teng, X., Oh, J., Tan, H., Chen, L., Huang, J., Gao, B., Yin, J., Chu, J., Hashimoto, M., Lu, D., Jozwiak, C., Bostwick, A., Rotenberg, et al
2023
- **Topology Hierarchy of Transition Metal Dichalcogenides Built from Quantum Spin Hall Layers.** *Advanced materials (Deerfield Beach, Fla.)*
Xu, L., Li, Y., Fang, Y., Zheng, H., Shi, W., Chen, C., Pei, D., Lu, D., Hashimoto, M., Wang, M., Yang, L., Feng, X., Zhang, et al
2023: e2300227
- **Epitaxial growth, magnetoresistance, and electronic band structure of GdSb magnetic semimetal films** *PHYSICAL REVIEW MATERIALS*
Inbar, H. S., Ho, D. Q., Chatterjee, S., Pendharkar, M., Engel, A. N., Dong, J. T., Khalid, S., Chang, Y., Guo, T., Fedorov, A., Lu, D., Hashimoto, M., Read, et al
2022; 6 (12)
- **Kondo quasiparticle dynamics observed by resonant inelastic x-ray scattering** *NATURE COMMUNICATIONS*
Rahn, M. C., Kummer, K., Hariki, A., Ahn, K., Kunes, J., Amorese, A., Denlinger, J. D., Lu, D., Hashimoto, M., Rienks, E., Valvidares, M., Haslbeck, F., Byler, et al
2022; 13 (1): 6129
- **Topological electronic structure evolution with symmetry-breaking spin reorientation in (Fe_{1-x}Cox)Sn** *PHYSICAL REVIEW B*
Moore, R. G., Okamoto, S., Li, H., Meier, W. R., Miao, H., Lee, H., Hashimoto, M., Lu, D., Dagotto, E., McGuire, M. A., Sales, B. C.
2022; 106 (11)
- **Uniaxial ferromagnetism in the kagome metal TbV₆Sn₆** *PHYSICAL REVIEW B*
Rosenberg, E., DeStefano, J. M., Guo, Y., Oh, J., Hashimoto, M., Lu, D., Birgeneau, R. J., Lee, Y., Ke, L., Yi, M., Chu, J.
2022; 106 (11)
- **Discovery of charge density wave in a kagome lattice antiferromagnet.** *Nature*
Teng, X., Chen, L., Ye, F., Rosenberg, E., Liu, Z., Yin, J., Jiang, Y., Oh, J. S., Hasan, M. Z., Neubauer, K. J., Gao, B., Xie, Y., Hashimoto, et al
2022; 609 (7927): 490-495
- **Differentiated roles of Lifshitz transition on thermodynamics and superconductivity in La₂-xSrxCuO₄.** *Proceedings of the National Academy of Sciences of the United States of America*
Zhong, Y., Chen, Z., Chen, S., Xu, K., Hashimoto, M., He, Y., Uchida, S., Lu, D., Mo, S., Shen, Z.
2022; 119 (32): e2204630119

- **Electronic states dressed by an out-of-plane supermodulation in the quasi-two-dimensional** *PHYSICAL REVIEW B*
Luo, Y., Peng, S., Teicher, S. M. L., Huai, L., Hu, Y., Han, Y., Ortiz, B. R., Liang, Z., Wei, Z., Shen, J., Ou, Z., Wang, B., Miao, et al
2022; 105 (24)
- **Nematic Fluctuations in the Non-Superconducting Iron Pnictide BaFe_{1.9-x}Ni_{0.1}Cr_xAs₂** *FRONTIERS IN PHYSICS*
Gong, D., Yi, M., Wang, M., Xie, T., Zhang, W., Danilkin, S., Deng, G., Liu, X., Park, J. T., Ikeuchi, K., Kamazawa, K., Mo, S., Hashimoto, et al
2022; 10
- **Electronic nature of the pseudogap in electron-doped Sr₂IrO₄** *NPJ QUANTUM MATERIALS*
Peng, S., Lane, C., Hu, Y., Guo, M., Chen, X., Sun, Z., Hashimoto, M., Lu, D., Shen, Z., Wu, T., Chen, X., Markiewicz, R. S., Wang, et al
2022; 7 (1)
- **Electronic structure of superconducting nickelates probed by resonant photoemission spectroscopy** *MATTER*
Chen, Z., Osada, M., Li, D., Been, E. M., Chen, S., Hashimoto, M., Lu, D., Mo, S., Lee, K., Wang, B., Rodolakis, F., McChesney, J. L., Jia, et al
2022; 5 (6)
- **Strain-controlled evolution of electronic structure indicating topological phase transition in the quasi-one-dimensional superconductor TaSe₃** *PHYSICAL REVIEW B*
Hyun, J., Jeong, M., Jung, M., Lee, Y., Kim, Y., Jung, S., Seok, B., Song, J., Lim, C., Cha, J., Lee, G., An, Y., Hashimoto, et al
2022; 105 (11)
- **Nonsymmorphic symmetry-protected band crossings in a square-net metal PtPb₄** *NPJ QUANTUM MATERIALS*
Wu, H., Hallas, A. M., Cai, X., Huang, J., Oh, J., Loganathan, V., Weiland, A., McCandless, G. T., Chan, J. Y., Mo, S., Lu, D., Hashimoto, M., Denlinger, et al
2022; 7 (1)
- **Large anomalous Hall effect induced by weak ferromagnetism in the noncentrosymmetric antiferromagnet CoNb₃Sn₆** *PHYSICAL REVIEW B*
Tanaka, H., Okazaki, S., Kuroda, K., Noguchi, R., Arai, Y., Minami, S., Ideta, S., Tanaka, K., Lu, D., Hashimoto, M., Kandyba, V., Cattelan, M., Barinov, et al
2022; 105 (12)
- **Correlation-driven electronic reconstruction in FeTe_{1-x}Sex** *COMMUNICATIONS PHYSICS*
Huang, J., Yu, R., Xu, Z., Zhu, J., Oh, J., Jiang, Q., Wang, M., Wu, H., Chen, T., Denlinger, J. D., Mo, S., Hashimoto, M., Michiardi, et al
2022; 5 (1)
- **Unconventional spectral signature of T_c in a pure d-wave superconductor.** *Nature*
Chen, S., Hashimoto, M., He, Y., Song, D., He, J., Li, Y., Ishida, S., Eisaki, H., Zaanen, J., Devereaux, T. P., Lee, D., Lu, D., Shen, et al
1800; 601 (7894): 562-567
- **Unconventional Hysteretic Transition in a Charge Density Wave.** *Physical review letters*
Lv, B. Q., Zong, A., Wu, D., Rozhkov, A. V., Fine, B. V., Chen, S. D., Hashimoto, M., Lu, D. H., Li, M., Huang, Y. B., Ruff, J. P., Walko, D. A., Chen, et al
2022; 128 (3): 036401
- **Realizing Kagome Band Structure in Two-Dimensional Kagome Surface States of RV₆Sn₆ (R = Gd, Ho)** *PHYSICAL REVIEW LETTERS*
Peng, S., Han, Y., Pokharel, G., Shen, J., Li, Z., Hashimoto, M., Lu, D., Ortiz, B. R., Luo, Y., Li, H., Guo, M., Wang, B., Cui, et al
2021; 127 (26)
- **Room-Temperature Topological Phase Transition in Quasi-One-Dimensional Material Bi₄I₄** *PHYSICAL REVIEW X*
Huang, J., Li, S., Yoon, C., Oh, J., Wu, H., Liu, X., Dhale, N., Zhou, Y., Guo, Y., Zhang, Y., Hashimoto, M., Lu, D., Denlinger, et al
2021; 11 (3)
- **Author Correction: Visualization of the strain-induced topological phase transition in a quasi-one-dimensional superconductor TaSe₃.** *Nature materials*
Lin, C., Ochi, M., Noguchi, R., Kuroda, K., Sakoda, M., Nomura, A., Tsubota, M., Zhang, P., Bareille, C., Kurokawa, K., Arai, Y., Kawaguchi, K., Tanaka, et al
2021
- **Visualization of the strain-induced topological phase transition in a quasi-one-dimensional superconductor TaSe₃.** *Nature materials*
Lin, C., Ochi, M., Noguchi, R., Kuroda, K., Sakoda, M., Nomura, A., Tsubota, M., Zhang, P., Bareille, C., Kurokawa, K., Arai, Y., Kawaguchi, K., Tanaka, et al

2021

- **Magic Doping and Robust Superconductivity in Monolayer FeSe on Titanates.** *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*
Jia, T., Chen, Z., Rebec, S. N., Hashimoto, M., Lu, D., Devereaux, T. P., Lee, D. H., Moore, R. G., Shen, Z. X.
2021; 8 (9): 2003454
- **Magic Doping and Robust Superconductivity in Monolayer FeSe on Titanates** *ADVANCED SCIENCE*
Jia, T., Chen, Z., Rebec, S. N., Hashimoto, M., Lu, D., Devereaux, T. P., Lee, D., Moore, R. G., Shen, Z.
2021
- **Evidence for a higher-order topological insulator in a three-dimensional material built from van der Waals stacking of bismuth-halide chains.** *Nature materials*
Noguchi, R., Kobayashi, M., Jiang, Z., Kuroda, K., Takahashi, T., Xu, Z., Lee, D., Hirayama, M., Ochi, M., Shirasawa, T., Zhang, P., Lin, C., Bareille, et al
2021
- **Anomalous strong near-neighbor attraction in doped 1D cuprate chains.** *Science (New York, N.Y.)*
Chen, Z., Wang, Y., Rebec, S. N., Jia, T., Hashimoto, M., Lu, D., Moritz, B., Moore, R. G., Devereaux, T. P., Shen, Z.
2021; 373 (6560): 1235-1239
- **Observation of Topological Electronic Structure in Quasi-1D Superconductor TaSe3** *MATTER*
Chen, C., Liang, A., Liu, S., Nie, S., Huang, J., Wang, M., Li, Y., Pei, D., Yang, H., Zheng, H., Zhang, Y., Lu, D., Hashimoto, et al
2020; 3 (6): 2055-65
- **Emergence of quasiparticles in a doped Mott insulator** *COMMUNICATIONS PHYSICS*
Wang, Y., He, Y., Wohlfeld, K., Hashimoto, M., Huang, E. W., Lu, D., Mo, S., Komiya, S., Jia, C., Moritz, B., Shen, Z., Devereaux, T. P.
2020; 3 (1)
- **Three interaction energy scales in the single-layer high- T_c cuprate $\text{HgBa}_2\text{CuO}_{4+\delta}$** *PHYSICAL REVIEW B*
Sreedhar, S. A., Rossi, A., Nayak, J., Anderson, Z. W., Tang, Y., Gregory, B., Hashimoto, M., Lu, D., Rotenberg, E., Birgeneau, R. J., Greven, M., Yi, M., Vishik, et al
2020; 102 (20)
- **Quantum-well states in fractured crystals of the heavy-fermion material CeCoIn_5** *PHYSICAL REVIEW B*
Gauthier, N., Sobota, J. A., Hashimoto, M., Pfau, H., Lu, D., Bauer, E. D., Ronning, F., Kirchmann, P. S., Shen, Z.
2020; 102 (12)
- **Electronic structure of the Si-containing topological Dirac semimetal CaAl_2Si_2** *PHYSICAL REVIEW B*
Deng, T., Chen, C., Su, H., He, J., Liang, A., Cui, S., Yang, H., Wang, C., Huang, K., Jozwiak, C., Bostwick, A., Rotenberg, E., Lu, et al
2020; 102 (4)
- **Metallic surface states in a correlated d-electron topological Kondo insulator candidate FeSb_2 .** *Proceedings of the National Academy of Sciences of the United States of America*
Xu, K., Chen, S., He, Y., He, J., Tang, S., Jia, C., Ma, E. Y., Mo, S., Lu, D., Hashimoto, M., Devereaux, T. P., Shen, Z.
2020
- **Fermi surface reconstruction in electron-doped cuprates without antiferromagnetic long-range order.** *Proceedings of the National Academy of Sciences of the United States of America*
He, J., Rotundu, C. R., Scheurer, M. S., He, Y., Hashimoto, M., Xu, K., Wang, Y., Huang, E. W., Jia, T., Chen, S., Moritz, B., Lu, D., Lee, et al
2019; 116 (9): 3449-53
- **Fermi surface reconstruction in electron-doped cuprates without antiferromagnetic long-range order** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
He, J., Rotundu, C. R., Scheurer, M. S., He, Y., Hashimoto, M., Xu, K., Wang, Y., Huang, E. W., Jia, T., Chen, S., Moritz, B., Lu, D., Lee, et al
2019; 116 (9): 3449-53
- **Epitaxial growth of $\text{TiSe}_2/\text{TiO}_2$ heterostructure** *2D MATERIALS*
Jia, T., Rebec, S. N., Tang, S., Xu, K., Sohail, H. M., Hashimoto, M., Lu, D., Moore, R. G., Shen, Z.
2019; 6 (1)

- **Soft X-ray spectroscopy with transition-edge sensors at Stanford Synchrotron Radiation Lightsource beamline 10-1.** *The Review of scientific instruments*
 Lee, S. J., Titus, C. J., Alonso Mori, R. n., Baker, M. L., Bennett, D. A., Cho, H. M., Doriese, W. B., Fowler, J. W., Gaffney, K. J., Gallo, A. n., Gard, J. D., Hilton, G. C., Jang, et al
 2019; 90 (11): 113101
- **Incoherent strange metal sharply bounded by a critical doping in Bi2212.** *Science (New York, N.Y.)*
 Chen, S. D., Hashimoto, M. n., He, Y. n., Song, D. n., Xu, K. J., He, J. F., Devereaux, T. P., Eisaki, H. n., Lu, D. H., Zaanen, J. n., Shen, Z. X.
 2019; 366 (6469): 1099–1102
- **Dichotomy of the photo-induced 2-dimensional electron gas on SrTiO3 surface terminations.** *Proceedings of the National Academy of Sciences of the United States of America*
 Rebec, S. N., Jia, T. n., Sohail, H. M., Hashimoto, M. n., Lu, D. n., Shen, Z. X., Moore, R. G.
 2019
- **Controlling the Charge Density Wave Transition in Monolayer TiSe₂: Substrate and Doping Effects** *ADVANCED QUANTUM TECHNOLOGIES*
 Kolekar, S., Bonilla, M., Diaz, H., Hashimoto, M., Lu, D., Batzill, M.
 2018; 1 (3)
- **Phase transition and electronic structure evolution of MoTe2 induced by W substitution** *PHYSICAL REVIEW B*
 Jin, W., Schiros, T., Lin, Y., Ma, J., Lou, R., Dai, Z., Yu, J., Rhodes, D., Sadowski, J. T., Tong, X., Qian, T., Hashimoto, M., Lu, et al
 2018; 98 (14)
- **Electronic structure of monolayer 1T'-MoTe2 grown by molecular beam epitaxy** *APL MATERIALS*
 Tang, S., Zhang, C., Jia, C., Ryu, H., Hwang, C., Hashimoto, M., Lu, D., Liu, Z., Devereaux, T. P., Shen, Z., Mo, S.
 2018; 6 (2)
- **Role of the orbital degree of freedom in iron-based superconductors** *NPJ QUANTUM MATERIALS*
 Yi, M., Zhang, Y., Shen, Z., Lu, D.
 2017; 2
- **Stripes developed at the strong limit of nematicity in FeSe film** *NATURE PHYSICS*
 Li, W., Zhang, Y., Deng, P., Xu, Z., Mo, S., Yi, M., Ding, H., Hashimoto, M., Moore, R. G., Lu, D., Chen, X., Shen, Z., Xue, et al
 2017; 13 (10): 957–+
- **Large thermopower from dressed quasiparticles in the layered cobaltates and rhodates** *PHYSICAL REVIEW B*
 Chen, S., He, Y., Zong, A., Zhang, Y., Hashimoto, M., Zhang, B., Yao, S., Chen, Y., Zhou, J., Chen, Y., Mo, S., Hussain, Z., Lu, et al
 2017; 96 (8)
- **Quantum spin Hall state in monolayer 1T'-WTe2** *NATURE PHYSICS*
 Tang, S., Zhang, C., Wong, D., Pedramrazi, Z., Tsai, H., Jia, C., Moritz, B., Claassen, M., Ryu, H., Kahn, S., Jiang, J., Yan, H., Hashimoto, et al
 2017; 13 (7): 683–+
- **Ubiquitous strong electron-phonon coupling at the interface of FeSe/SrTiO3** *NATURE COMMUNICATIONS*
 Zhang, C., Liu, Z., Chen, Z., Xie, Y., He, R., Tang, S., He, J., Li, W., Jia, T., Rebec, S. N., Ma, E. Y., Yan, H., Hashimoto, et al
 2017; 8
- **. Nature communications**
 Zhang, C., Liu, Z., Chen, Z., Xie, Y., He, R., Tang, S., He, J., Li, W., Jia, T., Rebec, S. N., Ma, E. Y., Yan, H., Hashimoto, et al
 2017; 8: 14468–?
- **Direct spectroscopic evidence for phase competition between the pseudogap and superconductivity in Bi2Sr2CaCu2O8+delta** *NATURE MATERIALS*
 Hashimoto, M., Nowadnick, E. A., He, R., Vishik, I. M., Moritz, B., He, Y., Tanaka, K., Moore, R. G., Lu, D., Yoshida, Y., Ishikado, M., Sasagawa, T., Fujita, et al
 2015; 14 (1): 37–42
- **Orbital character and electron correlation effects on two- and three-dimensional Fermi surfaces in KFe2As2 revealed by angle-resolved photoemission spectroscopy** *FRONTIERS IN PHYSICS*
 Yoshida, T., Ideta, S., Nishi, I., Fujimori, A., Yi, M., Moore, R. G., Mo, S., Lu, D., Shen, Z., Hussain, Z., Kihou, K., Shirage, P. M., Kito, et al

2014; 2

- **Phase competition in trisected superconducting dome** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Vishik, I. M., Hashimoto, M., He, R., Lee, W., Schmitt, F., Lu, D., Moore, R. G., Zhang, C., Meevasana, W., Sasagawa, T., Uchida, S., Fujita, K., Ishida, et al
2012; 109 (45): 18332-18337
- **Angle-Resolved Photoemission Studies of Quantum Materials** *ANNUAL REVIEW OF CONDENSED MATTER PHYSICS, VOL 3*
Lu, D., Vishik, I. M., Yi, M., Chen, Y., Moore, R. G., Shen, Z.
2012; 3: 129-167
- **Symmetry-breaking orbital anisotropy observed for detwinned Ba(Fe_{1-x}Cox)(2)As-2 above the spin density wave transition** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Yi, M., Lu, D., Chu, J., Analytis, J. G., Sorini, A. P., Kemper, A. F., Moritz, B., Mo, S., Moore, R. G., Hashimoto, M., Lee, W., Hussain, Z., Devereaux, et al
2011; 108 (17): 6878-6883
- **Particle-hole symmetry breaking in the pseudogap state of Bi2201** *NATURE PHYSICS*
Hashimoto, M., He, R., Tanaka, K., Testaud, J., Meevasana, W., Moore, R. G., Lu, D., Yao, H., Yoshida, Y., Eisaki, H., Devereaux, T. P., Hussain, Z., Shen, et al
2010; 6 (6): 414-418
- **Anomalous Fermi-surface dependent pairing in a self-doped high-T-c superconductor** *PHYSICAL REVIEW LETTERS*
Chen, Y., Iyo, A., Yang, W., Zhou, X., Lu, D., Eisaki, H., Devereaux, T. P., Hussain, Z., Shen, Z.
2006; 97 (23)