

## Yanwen Sun

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### Publications

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#### PUBLICATIONS

- **Nanoscale ultrafast lattice modulation with a free-electron laser** *NATURE PHYSICS*  
Li, H., Wang, N., Zhang, L., Song, S., Sun, Y., Ng, M., Sato, T., Hanlon, D., Dahal, S., Balcazar, M. D., Esposito, V., She, S., Ornelas-Skarin, et al  
2026
- **Ultrafast low-temperature metal-insulator interface phonon dynamics and heat transport in a Pt/Gd<sub>3</sub>Fe<sub>5</sub>O<sub>12</sub> heterostructure.** *Structural dynamics (Melville, N.Y.)*  
Sri Gyan, D., Li, N., Chen, Z., Geprägs, S., Dietlein, M., Gross, R., Sato, T., Sun, Y., Hoffmann, M. C., Zhu, D., Haskel, D., Stempffer, J., Li, et al  
2025; 12 (6): 065101
- **Terahertz-field activation of polar skyrons.** *Nature communications*  
Wang, H. H., Stoica, V. A., Dai, C., Paściak, M., Das, S., Yang, T., Gonçalves, M. A., Kulda, J., McCarter, M. R., Mangu, A., Cao, Y., Padma, H., Saha, et al  
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- **Impulsive excitation of squeezed phonons in single crystal germanium by an x-ray laser** *APPLIED PHYSICS LETTERS*  
Wang, N., Li, H., Sun, Y., Hanlon, D., Huang, Y., Sun, P., She, B., Ornelas-Skarin, C., Teitelbaum, S. W., Sutton, M., Fuoss, P. H., Hastings, J. B., Sato, et al  
2025; 126 (22)
- **Femtosecond x-ray photon correlation spectroscopy enables direct observations of atomic-scale relaxations of glass forming liquids.** *The Journal of chemical physics*  
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- **Dynamics of nanoscale phase decomposition in laser ablation** *COMMUNICATIONS MATERIALS*  
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2025; 6 (1)
- **Nanofocused attosecond hard x-ray free-electron laser with intensity exceeding 1019 W/cm<sup>2</sup>** *OPTICA*  
Inoue, I., Sato, T., Robles, R., Seaberg, M. H., Sun, Y., Zhu, D., Cesar, D., Ding, Y., Esposito, V., Franz, P., Guo, V., Halavanau, A., Sudar, et al  
2025; 12 (3): 309-310
- **Dynamic motion trajectory control with nanoradian accuracy for multi-element X-ray optical systems via laser interferometry.** *Light, science & applications*  
Koehlenbeck, S. M., Lee, L., Balcazar, M. D., Chen, Y., Esposito, V., Hastings, J., Hoffmann, M. C., Huang, Z., Ng, M. L., Price, S., Sato, T., Seaberg, M., Sun, et al  
2025; 14 (1): 129
- **Hidden domain boundary dynamics toward crystalline perfection.** *Proceedings of the National Academy of Sciences of the United States of America*  
Mangu, A., Stoica, V. A., Zheng, H., Yang, T., Zhang, M., Wang, H. H., Zu, R., Nguyen, Q. L., Song, S., Das, S., Meisenheimer, P., Donoway, E., Chollet, et al  
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- **Direct observation of ultrafast cluster dynamics in supercritical carbon dioxide using X-ray Photon Correlation Spectroscopy.** *Nature communications*

- Majumdar, A., Li, H., Muhunthan, P., Späh, A., Song, S., Sun, Y., Chollet, M., Sokaras, D., Zhu, D., Ihme, M.  
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- **Nanometer-Scale Acoustic Wave Packets Generated by Stochastic Core-Level Photoionization Events** *PHYSICAL REVIEW X*  
Huang, Y., Sun, P., Teitelbaum, S. W., Li, H., Sun, Y., Wang, N., Song, S., Sato, T., Chollet, M., Osaka, T., Inoue, I., Duncan, R. A., Shin, et al  
2024; 14 (4)
  - **In situ coherent x-ray scattering reveals polycrystalline structure and discrete annealing events in strongly coupled nanocrystal superlattices** *PHYSICAL REVIEW RESEARCH*  
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  - **A versatile pressure-cell design for studying ultrafast molecular-dynamics in supercritical fluids using coherent multi-pulse x-ray scattering.** *The Review of scientific instruments*  
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