

Hanfei Yan

List of Publications by Year in descending order

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Version: 2024-02-01

127
papers

16,147
citations

117453

34
h-index

25716

108
g-index

128
all docs

128
docs citations

128
times ranked

17488
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 1 | Probing lattice defects in crystalline battery cathode using hard X-ray nanoprobe with data-driven modeling. <i>Energy Storage Materials</i> , 2022, 45, 647-655. | 9.5 | 7 |
| 2 | Three-dimensional visualization of nanoparticle lattices and multimaterial frameworks. <i>Science</i> , 2022, 376, 203-207. | 6.0 | 27 |
| 3 | Three-dimensional imaging of grain boundaries via quantitative fluorescence X-ray tomography analysis. <i>Communications Materials</i> , 2022, 3, . | 2.9 | 5 |
| 4 | Mapping of the mechanical response in Si/SiGe nanosheet device geometries. , 2022, 1, . | | 4 |
| 5 | X-Ray Induced Chemical Reaction Revealed by In Situ X-Ray Diffraction and Scanning X-Ray Microscopy in 15 nm Resolution. <i>Journal of Electrochemical Energy Conversion and Storage</i> , 2022, 19, . | 1.1 | 0 |
| 6 | Bragg coherent diffraction imaging by simultaneous reconstruction of multiple diffraction peaks. <i>Physical Review B</i> , 2021, 103, . | 1.1 | 11 |
| 7 | Design nanoporous metal thin films <i>via</i> solid state interfacial dealloying. <i>Nanoscale</i> , 2021, 13, 17725-17736. | 2.8 | 9 |
| 8 | Hierarchical nickel valence gradient stabilizes high-nickel content layered cathode materials. <i>Nature Communications</i> , 2021, 12, 2350. | 5.8 | 59 |
| 9 | Selective dopant segregation modulates mesoscale reaction kinetics in layered transition metal oxide. <i>Nano Energy</i> , 2021, 84, 105926. | 8.2 | 42 |
| 10 | Strain-Induced Lateral Heterostructures in Patterned Semiconductor Nanomembranes for Micro- and Optoelectronics. <i>ACS Applied Nano Materials</i> , 2021, 4, 6160-6169. | 2.4 | 2 |
| 11 | Recent advances in nano-scale spatial resolution x-ray microscopy instrumentation at NSLS-II. , 2021, , . | | 2 |
| 12 | Proton distribution visualization in perovskite nickelate devices utilizing nanofocused x rays. <i>Physical Review Materials</i> , 2021, 5, . | 0.9 | 6 |
| 13 | Dislocation microstructure and its influence on corrosion behavior in laser additively manufactured 316L stainless steel. <i>Additive Manufacturing</i> , 2021, 47, 102263. | 1.7 | 15 |
| 14 | Lanthanide-Binding Tags for 3D X-ray Imaging of Proteins in Cells at Nanoscale Resolution. <i>Journal of the American Chemical Society</i> , 2020, 142, 2145-2149. | 6.6 | 27 |
| 15 | Micromachined Silicon Platform for Precise Assembly of 2D Multilayer Laue Lenses for High-Resolution X-ray Microscopy. <i>Micromachines</i> , 2020, 11, 939. | 1.4 | 2 |
| 16 | Multimodal, Multidimensional, and Multiscale X-ray Imaging at the National Synchrotron Light Source II. <i>Synchrotron Radiation News</i> , 2020, 33, 29-36. | 0.2 | 5 |
| 17 | Hierarchical Defect Engineering for LiCoO ₂ through Low-Solubility Trace Element Doping. <i>Chem</i> , 2020, 6, 2759-2769. | 5.8 | 74 |
| 18 | Complete Strain Mapping of Nanosheets of Tantalum Disulfide. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 43173-43179. | 4.0 | 6 |

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|----|--|-----|-----------|
| 19 | High-sensitivity nanoscale chemical imaging with hard x-ray nano-XANES. <i>Science Advances</i> , 2020, 6, . | 4.7 | 41 |
| 20 | Perovskite neural trees. <i>Nature Communications</i> , 2020, 11, 2245. | 5.8 | 38 |
| 21 | Devising novel methods for the controlled synthesis with morphology and size control of scintillator materials. <i>Journal of Materials Chemistry C</i> , 2020, 8, 8622-8634. | 2.7 | 5 |
| 22 | Ptychographic phase retrieval by proximal algorithms. <i>New Journal of Physics</i> , 2020, 22, 023035. | 1.2 | 17 |
| 23 | Nanoscale x-ray and electron tomography. <i>MRS Bulletin</i> , 2020, 45, 264-271. | 1.7 | 12 |
| 24 | Spatially correlated incommensurate lattice modulations in an atomically thin high-temperature BiO_2 . <i>Physical Review Materials</i> , 2020, 4, . | 2.1 | 11 |
| 25 | Ptychographic X-ray speckle tracking with multi-layer Laue lens systems. <i>Journal of Applied Crystallography</i> , 2020, 53, 927-936. | 1.9 | 11 |
| 26 | 2D MEMS-based multilayer Laue lens nanofocusing optics for high-resolution hard x-ray microscopy. <i>Optics Express</i> , 2020, 28, 17660. | 1.7 | 9 |
| 27 | Tunable hard x-ray nanofocusing with Fresnel zone plates fabricated using deep etching. <i>Optica</i> , 2020, 7, 410. | 4.8 | 19 |
| 28 | Studying Catalytically Viable Single-Crystalline Metal Oxide Nanorods Using Synchrotron-Based Scanning Hard X-ray Microscopy. <i>Journal of Physical Chemistry C</i> , 2019, 123, 17185-17195. | 1.5 | 3 |
| 29 | Quantitative Nanoscale 3D Imaging of Intergranular Corrosion of 304ÅStainless Steel Using Hard X-Ray Nanoprobe. <i>Journal of the Electrochemical Society</i> , 2019, 166, C3320-C3325. | 1.3 | 6 |
| 30 | Strain Mapping of CdTe Grains in Photovoltaic Devices. <i>IEEE Journal of Photovoltaics</i> , 2019, 9, 1790-1799. | 1.5 | 20 |
| 31 | Synthesis, Characterization, and Stability Studies of Ge-Based Perovskites of Controllable Mixed Cation Composition, Produced with an Ambient Surfactant-Free Approach. <i>ACS Omega</i> , 2019, 4, 18219-18233. | 1.6 | 33 |
| 32 | Effect of CeO_2 nanomaterial surface functional groups on tissue and subcellular distribution of Ce in tomato (<i>Solanum lycopersicum</i>). <i>Environmental Science: Nano</i> , 2019, 6, 273-285. | 2.2 | 32 |
| 33 | Bi-continuous pattern formation in thin films <i>via</i> solid-state interfacial dealloying studied by multimodal characterization. <i>Materials Horizons</i> , 2019, 6, 1991-2002. | 6.4 | 28 |
| 34 | Multimodal X-ray imaging of grain-level properties and performance in a polycrystalline solar cell. <i>Journal of Synchrotron Radiation</i> , 2019, 26, 1316-1321. | 1.0 | 20 |
| 35 | Resolving 500 nm axial separation by multi-slice X-ray ptychography. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2019, 75, 336-341. | 0.0 | 7 |
| 36 | Extending the depth of field for ptychography using complex-valued wavelets. <i>Optics Letters</i> , 2019, 44, 503. | 1.7 | 2 |

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|----|---|-----|-----------|
| 37 | X-ray microscopy instrumentation developments at NSLS-II: recent progress and future directions. , 2019, , . | | 0 |
| 38 | Focusing of hard x-rays with monolithic two-dimensional multilayer Laue lenses: technical challenges and current status. , 2019, , . | | 0 |
| 39 | Hard x-ray nanoprobe: a scanning hard x-ray microscopy beamline offering multi-modal imaging capabilities at 10 nm. , 2019, , . | | 0 |
| 40 | Measuring Three-Dimensional Strain and Structural Defects in a Single InGaAs Nanowire Using Coherent X-ray Multiangle Bragg Projection Ptychography. Nano Letters, 2018, 18, 811-819. | 4.5 | 80 |
| 41 | Seasonal differences in trace element concentrations and distribution in Spartina alterniflora root tissue. Chemosphere, 2018, 204, 359-370. | 4.2 | 8 |
| 42 | Multimodal hard x-ray imaging with resolution approaching 10 nm for studies in material science. Nano Futures, 2018, 2, 011001. | 1.0 | 89 |
| 43 | High-Performance Multi-Mode Ptychography Reconstruction on Distributed GPUs. , 2018, , . | | 9 |
| 44 | Microscopy Instrumentation and Nanopositioning at NSLS-II: Current Status and Future Directions. Synchrotron Radiation News, 2018, 31, 3-8. | 0.2 | 3 |
| 45 | Nanospectroscopy Captures Nanoscale Compositional Zonation in Barite Solid Solutions. Scientific Reports, 2018, 8, 13041. | 1.6 | 21 |
| 46 | X-ray Fluorescence Nanotomography of Single Bacteria with a Sub-15â€‰nm Beam. Scientific Reports, 2018, 8, 13415. | 1.6 | 28 |
| 47 | Imaging Capabilities, Performance and Applications of the Hard X-ray Nanoprobe Beamline at NSLS-II. Microscopy and Microanalysis, 2018, 24, 196-197. | 0.2 | 0 |
| 48 | High-Resolution and High-Throughput Ptychography with Depth Sensitivity Using Multilayer Laue Lenses. Microscopy and Microanalysis, 2018, 24, 30-31. | 0.2 | 1 |
| 49 | X-ray focusing with efficient high-NA multilayer Laue lenses. Light: Science and Applications, 2018, 7, 17162-17162. | 7.7 | 114 |
| 50 | Dynamic diffraction artefacts in Bragg coherent diffractive imaging. Journal of Applied Crystallography, 2018, 51, 167-174. | 1.9 | 16 |
| 51 | Multi-slice ptychography with large numerical aperture multilayer Laue lenses. Optica, 2018, 5, 601. | 4.8 | 57 |
| 52 | Nanoscale measurement of trace element distributions in Spartina alterniflora root tissue during dormancy. Scientific Reports, 2017, 7, 40420. | 1.6 | 10 |
| 53 | High resolution tip-tilt positioning system for a next generation MLL-based x-ray microscope. Measurement Science and Technology, 2017, 28, 127001. | 1.4 | 5 |
| 54 | Design and performance of an X-ray scanning microscope at the Hard X-ray Nanoprobe beamline of NSLS-II. Journal of Synchrotron Radiation, 2017, 24, 1113-1119. | 1.0 | 84 |

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|----|---|------|-----------|
| 55 | In-situ synchrotron x-ray studies of the microstructure and stability of In ₂ O ₃ epitaxial films. Applied Physics Letters, 2017, 111, 161602. | 1.5 | 11 |
| 56 | Artifact mitigation of ptychography integrated with on-the-fly scanning probe microscopy. Applied Physics Letters, 2017, 111, . | 1.5 | 34 |
| 57 | Electrochemical (de)lithiation of silver ferrite and composites: mechanistic insights from ex situ, in situ, and operando X-ray techniques. Physical Chemistry Chemical Physics, 2017, 19, 22329-22343. | 1.3 | 9 |
| 58 | Performance evaluation of Bragg coherent diffraction imaging. New Journal of Physics, 2017, 19, 103001. | 1.2 | 18 |
| 59 | A Self-Forming Composite Electrolyte for Solid-State Sodium Battery with Ultralong Cycle Life. Advanced Energy Materials, 2017, 7, 1601196. | 10.2 | 231 |
| 60 | Hard x-ray scanning imaging achieved with bonded multilayer Laue lenses. Optics Express, 2017, 25, 8698. | 1.7 | 15 |
| 61 | Achieving diffraction-limited nanometer-scale X-ray point focus with two crossed multilayer Laue lenses: alignment challenges. Optics Express, 2017, 25, 25234. | 1.7 | 38 |
| 62 | PyXRF: Python-based X-ray fluorescence analysis package. , 2017, , . | | 13 |
| 63 | Initial performances of first undulator-based hard x-ray beamlines of NSLS-II compared to simulations. AIP Conference Proceedings, 2016, , . | 0.3 | 3 |
| 64 | Nm-scale spatial resolution X-ray imaging with MLL nanofocusing optics: Instrumentational requirements and challenges. AIP Conference Proceedings, 2016, , . | 0.3 | 3 |
| 65 | Towards a portable open-source tomography toolbox: Containerizing tomography software with docker. AIP Conference Proceedings, 2016, , . | 0.3 | 0 |
| 66 | Development and characterization of monolithic multilayer Laue lens nanofocusing optics. Applied Physics Letters, 2016, 108, . | 1.5 | 32 |
| 67 | Multilayer Laue Lens: A Brief History and Current Status. Synchrotron Radiation News, 2016, 29, 16-20. | 0.2 | 19 |
| 68 | Multimodality hard-x-ray imaging of a chromosome with nanoscale spatial resolution. Scientific Reports, 2016, 6, 20112. | 1.6 | 51 |
| 69 | Correlating sampling and intensity statistics in nanoparticle diffraction experiments. Journal of Applied Crystallography, 2015, 48, 1212-1227. | 1.9 | 7 |
| 70 | Pushing the limits: an instrument for hard X-ray imaging below 20â€¦nm. Journal of Synchrotron Radiation, 2015, 22, 336-341. | 1.0 | 71 |
| 71 | Achieving hard X-ray nanofocusing using a wedged multilayer Laue lens. Optics Express, 2015, 23, 12496. | 1.7 | 27 |
| 72 | Sampling statistics of diffraction from nanoparticle powder aggregates. Journal of Applied Crystallography, 2014, 47, 1016-1025. | 1.9 | 9 |

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|----|---|-----|-----------|
| 73 | Optimization of overlap uniformness for ptychography. Optics Express, 2014, 22, 12634. | 1.7 | 150 |
| 74 | Design and performance of a scanning ptychography microscope. Review of Scientific Instruments, 2014, 85, 033707. | 0.6 | 32 |
| 75 | X-ray dynamical diffraction from single crystals with arbitrary shape and strain field: A universal approach to modeling. Physical Review B, 2014, 89, . | 1.1 | 10 |
| 76 | Hard x-ray nanofocusing by multilayer Laue lenses. Journal Physics D: Applied Physics, 2014, 47, 263001. | 1.3 | 102 |
| 77 | Piezo control for 1 nm spatial resolution synchrotron X-ray microscopy. Journal of Physics: Conference Series, 2014, 493, 012026. | 0.3 | 5 |
| 78 | Oxidation of PtNi nanoparticles studied by a scanning X-ray fluorescence microscope with multi-layer Laue lenses. Nanoscale, 2013, 5, 7184. | 2.8 | 28 |
| 79 | Accelerating Differential Phase Contrast imaging for NSLS-II data analysis. , 2013, , . | | 2 |
| 80 | Optimization of multilayer Laue lenses for a scanning X-ray microscope. Journal of Synchrotron Radiation, 2013, 20, 89-97. | 1.0 | 24 |
| 81 | Performance and characterization of the prototype nm-scale spatial resolution scanning multilayer Laue lenses microscope. Review of Scientific Instruments, 2013, 84, 033701. | 0.6 | 53 |
| 82 | Compact prototype apparatus for reducing the circle of confusion down to 40 nm for x-ray nanotomography. Review of Scientific Instruments, 2013, 84, 035006. | 0.6 | 31 |
| 83 | Ion beam lithography for Fresnel zone plates in X-ray microscopy. Optics Express, 2013, 21, 11747. | 1.7 | 35 |
| 84 | 11 nm hard X-ray focus from a large-aperture multilayer Laue lens. Scientific Reports, 2013, 3, 3562. | 1.6 | 117 |
| 85 | Optomechanical Design of a Multilayer Laue Lens Test Bed for 10-nm Focusing of Hard X-rays. Journal of Physics: Conference Series, 2013, 463, 012029. | 0.3 | 11 |
| 86 | Quantitative x-ray phase imaging at the nanoscale by multilayer Laue lenses. Scientific Reports, 2013, 3, 1307. | 1.6 | 48 |
| 87 | Advanced multilayer Laue lens fabrication at NSLS-II. , 2012, , . | | 6 |
| 88 | Two dimensional hard x-ray nanofocusing with crossed multilayer Laue lenses. Optics Express, 2011, 19, 15069. | 1.7 | 91 |
| 89 | Development of an Advanced Sample Scanning Stage System Prototype for an MLL Based Hard X-ray Nanoprobe. AIP Conference Proceedings, 2011, , . | 0.3 | 3 |
| 90 | Application of partially coherent wavefront propagation calculations for design of coherence-preserving synchrotron radiation beamlines. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 649, 118-122. | 0.7 | 24 |

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|-----|---|-----|-----------|
| 91 | Hard x-ray nano patterning using a sectioned multilayer. Journal of Applied Physics, 2011, 109, 044307-044307-5. | 1.1 | 3 |
| 92 | Full Multilayer Laue Lens for Focusing Hard X-rays. , 2010, , . | | 2 |
| 93 | Performance Optimization for Hard X-ray Microscopy Beamlines Guided by Partially-Coherent Wavefront Propagation Calculations. , 2010, , . | | 2 |
| 94 | Multilayer Laue Lens: A Path Toward One Nanometer X-Ray Focusing. X-Ray Optics and Instrumentation, 2010, 2010, 1-10. | 0.7 | 19 |
| 95 | X-ray nanofocusing by kinoform lenses: A comparative study using different modeling approaches. Physical Review B, 2010, 81, . | 1.1 | 28 |
| 96 | X-ray dynamical diffraction from multilayer Laue lenses with rough interfaces. Physical Review B, 2009, 79, . | 1.1 | 17 |
| 97 | Wedged multilayer Laue lens. Review of Scientific Instruments, 2008, 79, 053104. | 0.6 | 61 |
| 98 | Focusing of hard x-rays to 16 nanometers with a multilayer Laue lens. Applied Physics Letters, 2008, 92, 221114. | 1.5 | 190 |
| 99 | Coherency effects in nanobeam x-ray diffraction analysis. Journal of Applied Physics, 2008, 104, 023506. | 1.1 | 4 |
| 100 | Effects of visible and synchrotron x-ray radiation on the growth of silver nanoplates on n-GaAs wafers: A comparative study. Applied Physics Letters, 2008, 92, 183109. | 1.5 | 9 |
| 101 | A theoretical study of two-dimensional point focusing by two multilayer Laue lenses. , 2008, , . | | 7 |
| 102 | Comparative Study on the Growth of Silver Nanoplates on GaAs Substrates by Electron Microscopy, Synchrotron X-ray Diffraction, and Optical Spectroscopy. Journal of Physical Chemistry C, 2008, 112, 8928-8938. | 1.5 | 16 |
| 103 | Sectioning of multilayers to make a multilayer Laue lens. Review of Scientific Instruments, 2007, 78, 046103. | 0.6 | 35 |
| 104 | Mapping local strain in thin film/substrate systems using x-ray microdiffraction topography. Applied Physics Letters, 2007, 90, 091918. | 1.5 | 21 |
| 105 | Takagi-Taupin description of x-ray dynamical diffraction from diffractive optics with large numerical aperture. Physical Review B, 2007, 76, . | 1.1 | 128 |
| 106 | Mechanics of microelectronics structures as revealed by X-ray diffraction. Powder Diffraction, 2007, 22, 98-102. | 0.4 | 0 |
| 107 | Diffraction profiles of elastically bent single crystals with constant strain gradients. Journal of Applied Crystallography, 2007, 40, 322-331. | 1.9 | 21 |
| 108 | Bonded Multilayer Laue Lens for focusing hard X-rays. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 582, 123-125. | 0.7 | 6 |

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|-----|---|------|-----------|
| 109 | Characterization of a multilayer Laue lens with imperfections. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 582, 126-128. | 0.7 | 16 |
| 110 | Mechanism for increasing dopant incorporation in semiconductors via doped nanostructures. Physical Review B, 2006, 73, . | 1.1 | 10 |
| 111 | Measurement of stress/strain in single-crystal samples using diffraction. Journal of Applied Crystallography, 2006, 39, 320-325. | 1.9 | 17 |
| 112 | Structure of ZnSe/Te system with submonolayer insertion of ZnTe grown by migration enhanced epitaxy. Journal of Applied Physics, 2006, 99, 064913. | 1.1 | 10 |
| 113 | Dynamical diffraction artifacts in Laue microdiffraction images. Journal of Applied Physics, 2005, 98, 073527. | 1.1 | 15 |
| 114 | Optical routing and sensing with nanowire assemblies. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 7800-7805. | 3.3 | 224 |
| 115 | High-resolution strain mapping in heteroepitaxial thin-film features. Journal of Applied Physics, 2005, 98, 013504. | 1.1 | 68 |
| 116 | ZnO Nanoribbon Microcavity Lasers. Advanced Materials, 2003, 15, 1907-1911. | 11.1 | 220 |
| 117 | One-Dimensional Nanostructures: Synthesis, Characterization, and Applications. Advanced Materials, 2003, 15, 353-389. | 11.1 | 8,229 |
| 118 | Growth of Silicon Nanowires by Heating Si Substrate. Chinese Physics Letters, 2002, 19, 240-242. | 1.3 | 17 |
| 119 | Nanowire Ultraviolet Photodetectors and Optical Switches. Advanced Materials, 2002, 14, 158-160. | 11.1 | 2,129 |
| 120 | Controlled Growth of ZnO Nanowires and Their Optical Properties. Advanced Functional Materials, 2002, 12, 323. | 7.8 | 1,690 |
| 121 | Nanowire Ultraviolet Photodetectors and Optical Switches. , 2002, 14, 158. | | 1 |
| 122 | Nanowire Ultraviolet Photodetectors and Optical Switches. , 2002, 14, 158. | | 8 |
| 123 | Controlled Growth of ZnO Nanowires and Their Optical Properties. , 2002, 12, 323. | | 9 |
| 124 | Controlled growth of oriented amorphous silicon nanowires via a solid-liquid-solid (SLS) mechanism. Physica E: Low-Dimensional Systems and Nanostructures, 2001, 9, 305-309. | 1.3 | 135 |
| 125 | Solid-liquid-solid (SLS) growth of coaxial nanocables: silicon carbide sheathed with silicon oxide. Chemical Physics Letters, 2001, 345, 29-32. | 1.2 | 38 |
| 126 | Growth of amorphous silicon nanowires via a solid-liquid-solid mechanism. Chemical Physics Letters, 2000, 323, 224-228. | 1.2 | 233 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 127 | Hard x-ray nanoprobe facility at the National Synchrotron Light Source II. SPIE Newsroom, 0, , . | 0.1 | 3 |