

# Stephan Hruszkewycz

## List of Publications by Year in descending order

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47  
papers

1,234  
citations

394421

19  
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361022

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48  
all docs

48  
docs citations

48  
times ranked

1643  
citing authors

#	ARTICLE	IF	CITATIONS
1	Designing silicon carbide heterostructures for quantum information science: challenges and opportunities. <i>Materials for Quantum Technology</i> , 2022, 2, 023001.	3.1	6
2	Rapid 3D nanoscale coherent imaging via physics-aware deep learning. <i>Applied Physics Reviews</i> , 2021, 8, .	11.3	26
3	Experimental demonstration of coupled multi-peak Bragg coherent diffraction imaging with genetic algorithms. <i>Physical Review B</i> , 2021, 103, .	3.2	3
4	Efficient ptychographic phase retrieval via a matrix-free Levenberg-Marquardt algorithm. <i>Optics Express</i> , 2021, 29, 23019.	3.4	5
5	Nonuniform Flow Dynamics Probed by Nanosecond X-Ray Speckle Visibility Spectroscopy. <i>Physical Review Letters</i> , 2021, 127, 058001.	7.8	9
6	Sub-pixel high-resolution imaging of high-energy x-rays inspired by sub-wavelength optical imaging. <i>Optics Express</i> , 2021, 29, 35003-35021.	3.4	0
7	Optical transient grating pumped X-ray diffraction microscopy for studying mesoscale structural dynamics. <i>Scientific Reports</i> , 2021, 11, 19322.	3.3	3
8	High-Energy Coherent X-Ray Diffraction Microscopy of Polycrystal Grains: Steps Toward a Multiscale Approach. <i>Physical Review Applied</i> , 2020, 14, .	3.8	8
9	Detector Tilt Considerations in Bragg Coherent Diffraction Imaging: A Simulation Study. <i>Crystals</i> , 2020, 10, 1150.	2.2	0
10	The Effect of Intensity Fluctuations on Sequential X-ray Photon Correlation Spectroscopy at the X-ray Free Electron Laser Facilities. <i>Crystals</i> , 2020, 10, 1109.	2.2	3
11	General approaches for shear-correcting coordinate transformations in Bragg coherent diffraction imaging. Part I. <i>Journal of Applied Crystallography</i> , 2020, 53, 393-403.	4.5	12
12	Double-pulse speckle contrast correlations with near Fourier transform limited free-electron laser light using hard X-ray split-and-delay. <i>Scientific Reports</i> , 2020, 10, 5054.	3.3	7
13	Strain Mapping of CdTe Grains in Photovoltaic Devices. <i>IEEE Journal of Photovoltaics</i> , 2019, 9, 1790-1799.	2.5	20
14	Correlated Nanoscale Analysis of the Emission from Wurtzite versus Zincblende (In,Ga)As/GaAs Nanowire Core-Shell Quantum Wells. <i>Nano Letters</i> , 2019, 19, 4448-4457.	9.1	11
15	Phase retrieval for Bragg coherent diffraction imaging at high x-ray energies. <i>Physical Review A</i> , 2019, 99, .	2.5	15
16	Impact and mitigation of angular uncertainties in Bragg coherent x-ray diffraction imaging. <i>Scientific Reports</i> , 2019, 9, 6386.	3.3	10
17	Stabilization of point-defect spin qubits by quantum wells. <i>Nature Communications</i> , 2019, 10, 5607.	12.8	42
18	Gas-Induced Segregation in Pt-Rh Alloy Nanoparticles Observed by <i>In Situ</i> Bragg Coherent Diffraction Imaging. <i>Physical Review Letters</i> , 2019, 123, 246001.	7.8	22

#	ARTICLE	IF	CITATIONS
19	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.	2.4	20
20	Using automatic differentiation as a general framework for ptychographic reconstruction. <i>Optics Express</i> , 2019, 27, 18653.	3.4	54
21	Measuring Three-Dimensional Strain and Structural Defects in a Single InGaAs Nanowire Using Coherent X-ray Multiangle Bragg Projection Ptychography. <i>Nano Letters</i> , 2018, 18, 811-819.	9.1	80
22	Sparse recovery of undersampled intensity patterns for coherent diffraction imaging at high X-ray energies. <i>Scientific Reports</i> , 2018, 8, 4959.	3.3	24
23	Towards ultrafast dynamics with split-pulse X-ray photon correlation spectroscopy at free electron laser sources. <i>Nature Communications</i> , 2018, 9, 1704.	12.8	55
24	Strain annealing of SiC nanoparticles revealed through Bragg coherent diffraction imaging for quantum technologies. <i>Physical Review Materials</i> , 2018, 2, .	2.4	12
25	Three-dimensional imaging of dislocation dynamics during the hydriding phase transformation. <i>Nature Materials</i> , 2017, 16, 565-571.	27.5	81
26	Stability Limits and Defect Dynamics in Ag Nanoparticles Probed by Bragg Coherent Diffractive Imaging. <i>Nano Letters</i> , 2017, 17, 1595-1601.	9.1	29
27	<i>In situ</i> study of annealing-induced strain relaxation in diamond nanoparticles using Bragg coherent diffraction imaging. <i>APL Materials</i> , 2017, 5, .	5.1	18
28	In-situ synchrotron x-ray studies of the microstructure and stability of In <sub>2</sub> O <sub>3</sub> epitaxial films. <i>Applied Physics Letters</i> , 2017, 111, 161602.	3.3	11
29	Identifying Defects with Guided Algorithms in Bragg Coherent Diffractive Imaging. <i>Scientific Reports</i> , 2017, 7, 9920.	3.3	25
30	High-resolution three-dimensional structural microscopy by single-angle Bragg ptychography. <i>Nature Materials</i> , 2017, 16, 244-251.	27.5	97
31	Utilizing broadband X-rays in a Bragg coherent X-ray diffraction imaging experiment. <i>Journal of Synchrotron Radiation</i> , 2016, 23, 1241-1244.	2.4	4
32	Three Dimensional Variable-Wavelength X-Ray Bragg Coherent Diffraction Imaging. <i>Physical Review Letters</i> , 2016, 117, 225501.	7.8	42
33	Coherent diffractive imaging of time-evolving samples with improved temporal resolution. <i>Physical Review B</i> , 2016, 93, .	3.2	10
34	Structural sensitivity of x-ray Bragg projection ptychography to domain patterns in epitaxial thin films. <i>Physical Review A</i> , 2016, 94, .	2.5	8
35	Efficient modeling of Bragg coherent x-ray nanobeam diffraction. <i>Optics Letters</i> , 2015, 40, 3241.	3.3	11
36	Coherent Bragg nanodiffraction at the hard X-ray Nanoprobe beamline. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2014, 372, 20130118.	3.4	8

#	ARTICLE	IF	CITATIONS
37	Octahedral rotations in strained LaAlO <sub>3</sub> /SrTiO <sub>3</sub> (001) heterostructures. APL Materials, 2014, 2, 021102.	5.1	47
38	Strain Imaging of Nanoscale Semiconductor Heterostructures with X-Ray Bragg Projection Ptychography. Physical Review Letters, 2014, 112, 165502.	7.8	56
39	Imaging Local Polarization in Ferroelectric Thin Films by Coherent X-Ray Bragg Projection Ptychography. Physical Review Letters, 2013, 110, 177601.	7.8	67
40	Single shot speckle and coherence analysis of the hard X-ray free electron laser LCLS. Optics Express, 2013, 21, 24647.	3.4	37
41	High Contrast X-ray Speckle from Atomic-Scale Order in Liquids and Glasses. Physical Review Letters, 2012, 109, 185502.	7.8	97
42	Quantitative Nanoscale Imaging of Lattice Distortions in Epitaxial Semiconductor Heterostructures Using Nanofocused X-ray Bragg Projection Ptychography. Nano Letters, 2012, 12, 5148-5154.	9.1	83
43	Framework for three-dimensional coherent diffraction imaging by focused beam x-ray Bragg ptychography. Optics Letters, 2011, 36, 2227.	3.3	12
44	Bragg Coherent Diffraction Imaging of Epitaxial Nanostructures Using Focused Hard X-ray Ptychography. , 2011, , .		2
45	X-ray nanodiffraction of tilted domains in a poled epitaxial BiFeO <sub>3</sub> thin film. Applied Physics Letters, 2011, 99, .	3.3	16
46	Phase stabilization of $\sqrt{5}$ -Bi <sub>2</sub> O <sub>3</sub> nanostructures by epitaxial growth onto single crystal SrTiO <sub>3</sub> or DyScO <sub>3</sub> substrates. Applied Physics Letters, 2010, 96, .	3.3	20
47	The effect of exit beam phase aberrations on parallel beam coherent x-ray reconstructions. Review of Scientific Instruments, 2010, 81, 123706.	1.3	6