Andrej Singer

List of Publications by Year
in descending order

66 papers	2,965 citations	201385 27 h-index	161609 54 g-index
73 all docs	73 docs citations	73 times ranked	4119 citing authors

#	Article	IF	Citations
1	Synchrotron X-ray Analytical Techniques for Studying Materials Electrochemistry in Rechargeable Batteries. Chemical Reviews, 2017, 117, 13123-13186.	23.0	390
2	Topological defect dynamics in operando battery nanoparticles. Science, 2015, 348, 1344-1347.	6.0	309
3	Nucleation of dislocations and their dynamics in layered oxide cathode materials during battery charging. Nature Energy, 2018, 3, 641-647.	19.8	281
4	Electrocatalysis in Alkaline Media and Alkaline Membrane-Based Energy Technologies. Chemical Reviews, 2022, 122, 6117-6321.	23.0	195
5	Coherence Properties of Individual Femtosecond Pulses of an X-Ray Free-Electron Laser. Physical Review Letters, 2011, 107, 144801.	2.9	145
6	Coherence properties of hard x-ray synchrotron sources and x-ray free-electron lasers. New Journal of Physics, 2010, 12, 035004.	1.2	109
7	Spatial and temporal coherence properties of single free-electron laser pulses. Optics Express, 2012, 20, 17480.	1.7	106
8	The soft x-ray instrument for materials studies at the linac coherent light source x-ray free-electron laser. Review of Scientific Instruments, 2012, 83, 043107.	0.6	103
9	Single Particle Nanomechanics in Operando Batteries via Lensless Strain Mapping. Nano Letters, 2014, 14, 5123-5127.	4.5	94
10	Transverse-Coherence Properties of the Free-Electron-Laser FLASH at DESY. Physical Review Letters, 2008, 101, 254801.	2.9	88
11	Avalanching strain dynamics during the hydriding phase transformation in individual palladium nanoparticles. Nature Communications, 2015, 6, 10092.	5.8	87
12	Coherent imaging of biological samples with femtosecond pulses at the free-electron laser FLASH. New Journal of Physics, 2010, 12, 035003.	1.2	75
13	Temporal and spatial coherence properties of free-electron-laser pulses in the extreme ultraviolet regime. Physical Review Special Topics: Accelerators and Beams, 2011, 14, .	1.8	71
14	Nonequilibrium Structural Dynamics of Nanoparticles in LiNi_{1/2}Mn_{3/2}O₄ Cathode under Operando Conditions. Nano Letters, 2014, 14, 5295-5300.	4.5	67
15	Hanbury Brownâ€“Twiss Interferometry at a Free-Electron Laser. Physical Review Letters, 2013, 111, 034802.	2.9	52
16	Limit on sterile neutrino contribution from the Mainz Neutrino Mass Experiment. European Physical Journal C, 2013, 73, 1.	1.4	49
17	Coherent-Pulse 2D Crystallography Using a Free-Electron Laser X-Ray Source. Physical Review Letters, 2009, 102, 035502.	2.9	47
18	Photoinduced Enhancement of the Charge Density Wave Amplitude. Physical Review Letters, 2016, 117, 056401.	2.9	44

#	Article	IF	Citations
19	In situ strain evolution during a disconnection event in a battery nanoparticle. Physical Chemistry Chemical Physics, 2015, 17, 10551-10555.	1.3	40
20	Nonequilibrium Phase Precursors during a Photoexcited Insulator-to-Metal Transition in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi mathvariant="normal">V</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review Letters, 2018, 120, 207601.	2.9	39
21	Bragg coherent x-ray diffractive imaging of a single indium phosphide nanowire. Journal of Optics (United Kingdom), 2016, 18, 064007.	1.0	30
22	Observation of x-ray radiation pressure effects on nanocrystals. Journal of Applied Physics, 2016, 120, 163102.	1.1	30
23	Coherence properties of focused X-ray beams at high-brilliance synchrotron sources. Journal of Synchrotron Radiation, 2014, 21, 5-15.	1.0	29
24	Revealing Three-Dimensional Structure of an Individual Colloidal Crystal Grain by Coherent X-Ray Diffractive Imaging. Physical Review Letters, 2016, 117, 138002.	2.9	29
25	Domain morphology, boundaries, and topological defects in biophotonic gyroid nanostructures of butterfly wing scales. Science Advances, 2016, 2, e1600149.	4.7	29
26	Multilayer Diffraction Reveals That Colloidal Superlattices Approach the Structural Perfection of Single Crystals. ACS Nano, 2021, 15, 6243-6256.	7.3	29
27	Coherence measurements and coherent diffractive imaging at FLASH. Journal of Physics B: Atomic, Molecular and Optical Physics, 2010, 43, 194016.	0.6	27
28	Structural Evolution of Colloidal Crystal Films in the Process of Melting Revealed by Bragg Peak Analysis. Langmuir, 2015, 31, 5274-5283.	1.6	27
29	X-ray cross-correlation analysis of liquid crystal membranes in the vicinity of the hexatic-smectic phase transition. Physical Review E, 2013, 88, 044501.	0.8	26
30	Three-dimensional structure of a single colloidal crystal grain studied by coherent x-ray diffraction. Optics Express, 2012, 20, 4039.	1.7	25
31	Statistical properties of a free-electron laser revealed by Hanbury Brownâ€“Twiss interferometry. Physical Review A, 2017, 95, .	1.0	22
32	Setting Carriers Free: Healing Faulty Interfaces Promotes Delocalization and Transport in Nanocrystal Solids. ACS Nano, 2019, 13, 12774-12786.	7.3	22
33	Characterization of spatial coherence of synchrotronÂradiation with non-redundant arraysÂofÂapertures. Journal of Synchrotron Radiation, 2014, 21, 722-728.	1.0	21
34	Intensity Interferometry of Single X-Ray Pulses from a Synchrotron Storage Ring. Physical Review Letters, 2014, 113, 064801.	2.9	20
35	Preparation of Macroscopic Blockâ€Copolymerâ€Based Gyroidal Mesoscale Single Crystals by Solvent Evaporation. Advanced Materials, 2019, 31, e1902565.	11.1	18
36	Block Copolymer Self-Assembly-Directed and Transient Laser Heating-Enabled Nanostructures toward Phononic and Photonic Quantum Materials. ACS Nano, 2020, 14, 11273-11282.	7.3	16

#	Article	IF	Citations
37	Diffraction based Hanbury Brown and Twiss interferometry at a hard x-ray free-electron laser. Scientific Reports, 2018, 8, 2219.	1.6	15
38	Modelling of partially coherent radiation based on the coherent mode decomposition. , 2011, , .		14
39	Single pulse coherence measurements in the water window at the free-electron laser FLASH. Optics Express, 2013, 21, 13005.	1.7	13
40	Double hexagonal close-packed structure revealed in a single colloidal crystal grain by Bragg rod analysis. Journal of Applied Crystallography, 2014, 47, 1199-1204.	1.9	13
41	X-ray Nanoimaging of Crystal Defects in Single Grains of Solid-State Electrolyte Li_{7â€“3x}Al_xLa₃Zr₂O₁₂. Nano Letters, 2021, 21, 4570-4576.	4.5	13
42	X-ray laser-induced ablation of lead compounds. Proceedings of SPIE, 2011, , .	0.8	10
43	Condensation of collective charge ordering in chromium. Physical Review B, 2015, 91, .	1.1	9
44	An algorithm for Bragg coherent x-ray diffractive imaging of highly strained nanocrystals. New Journal of Physics, 2020, 22, 013021.	1.2	8
45	Dynamics of colloidal crystals studied by pump-probe experiments at FLASH. Physical Review B, 2012, 86, .	1.1	6
46	Coherence Properties of Third-Generation Synchrotron Sources and Free-Electron Lasers. , 2016, , 821-863.		6
47	In situX-ray crystallographic study of the structural evolution of colloidal crystals upon heating. Journal of Applied Crystallography, 2013, 46, 903-907.	1.9	5
48	Phase coexistence and pinning of charge density waves by interfaces in chromium. Physical Review B, 2016, 94, .	1.1	5
49	Femtosecond control of phonon dynamics near a magnetic order critical point. Nature Communications, 2021, 12, 2865.	5.8	5
50	Disorder Dynamics in Battery Nanoparticles During Phase Transitions Revealed by Operando Singleâ€Particle Diffraction. Advanced Energy Materials, 2022, 12, .	10.2	5
51	Ptychographical imaging of the phase vortices in the x-ray beam formed by nanofocusing lenses. Journal of Physics: Conference Series, 2014, 499, 012020.	0.3	4
52	Probing Dynamics in Colloidal Crystals with Pump-Probe Experiments at LCLS: Methodology and Analysis. Applied Sciences (Switzerland), 2017, 7, 519.	1.3	4
53	Direct time-domain determination of electron-phonon coupling strengths in chromium. Physical Review B, 2020, 102, .	1.1	4
54	Coherence Properties of Third-Generation Synchrotron Sources and Free-Electron Lasers. , 2015, , 1-38.		4

#	Article	IF	Citations
55	Intensity interferometry measurements with hard x-ray FEL pulses at the Linac Coherent Light Source. , 2014, , .		3
56	Femtosecond laser produced periodic plasma in a colloidal crystal probed by XFEL radiation. Scientific Reports, 2020, 10, 10780.	1.6	3
57	Coherence Properties of Third-Generation Synchrotron Sources and Free-Electron Lasers. , 2020, , 987-1029.		3
58	A new method for studying sub-pulse dynamics atÂsynchrotron sources. Journal of Synchrotron Radiation, 2015, 22, 1141-1146.	1.0	3
59	Shear displacement gradient in X-ray Bragg coherent diffractive imaging. Journal of Synchrotron Radiation, 2022, 29, 866-870.	1.0	2
60	Coherence Properties of Third-Generation Synchrotron Sources and Free-Electron Lasers. , 2014, , 1-38.		1
61	Coherence Properties of Third-Generation Synchrotron Sources and Free-Electron Lasers. , 2015, , 1-38.		1
62	Structure-Selective Operando X-ray Spectroscopy. ACS Energy Letters, 2022, 7, 261-266.	8.8	1
63	In Situ Nanoscale Dynamics Imaging in a Protonâ€Conducting Solid Oxide for Protonic Ceramic Fuel Cells. Advanced Science, 0, , 2202096.	5.6	1
64	Coherent X-ray Diffractive Imaging of Topological Defects in Operando Energy Storage Materials. Microscopy and Microanalysis, 2018, 24, 6-7.	0.2	0
65	Accurate Structural Refinement of Nanocrystal Superlattices: Look Beyond Your Pattern. , 0, , .		0
66	Phonon-assisted formation of an itinerant electronic density wave. Communications Physics, 2022, 5, .	2.0	0