Anatoly Snigirev

List of Publications by Year
in descending order

137 papers	8,295 citations	53794 45 h-index	46799 89 g-index
138 all docs	138 docs citations	138 times ranked	4783 citing authors

#	Article	IF	Citations
1	On the possibilities of xâ€ray phase contrast microimaging by coherent highâ€energy synchrotron radiation. Review of Scientific Instruments, 1995, 66, 5486-5492.	1.3	1,374
2	A compound refractive lens for focusing high-energy X-rays. Nature, 1996, 384, 49-51.	27.8	1,016
3	Imaging by parabolic refractive lenses in the hard X-ray range. Journal of Synchrotron Radiation, 1999, 6, 1153-1167.	2.4	342
4	A microscope for hard x rays based on parabolic compound refractive lenses. Applied Physics Letters, 1999, 74, 3924-3926.	3.3	282
5	Time Resolved X-Ray Imaging of Dendritic Growth in Binary Alloys. Physical Review Letters, 1999, 83, 5062-5065.	7.8	219
6	Interfacial Melting of Ice in Contact withSiO2. Physical Review Letters, 2004, 92, 205701.	7.8	183
7	Nanofocusing parabolic refractive x-ray lenses. Applied Physics Letters, 2003, 82, 1485-1487.	3.3	178
8	Dark-field X-ray microscopy for multiscale structural characterization. Nature Communications, 2015, 6, 6098.	12.8	167
9	X-ray refractive planar lens with minimized absorption. Applied Physics Letters, 2000, 77, 4058-4060.	3.3	163
10	Terapascal static pressure generation with ultrahigh yield strength nanodiamond. Science Advances, 2016, 2, e1600341.	10.3	161
11	Phaseâ€contrast microtomography with coherent highâ€energy synchrotron x rays. Applied Physics Letters, 1996, 69, 1826-1828.	3.3	157
12	Transmission and gain of singly and doubly focusing refractive x-ray lenses. Journal of Applied Physics, 1998, 84, 5855-5861.	2.5	157
13	X-ray transfocators: focusing devices based on compound refractive lenses. Journal of Synchrotron Radiation, 2011, 18, 125-133.	2.4	147
14	Hard x-ray quantitative non-interferometric phase-contrast microscopy. Journal Physics D: Applied Physics, 1999, 32, 563-567.	2.8	128
15	Self-Assembly of Colloidal Cubes via Vertical Deposition. Langmuir, 2012, 28, 7631-7638.	3.5	125
16	Direct Measurement of Transverse Coherence Length of Hard X Rays from Interference Fringes. Physical Review Letters, 2000, 85, 2745-2748.	7.8	124
17	Refractive x-ray lenses. Journal Physics D: Applied Physics, 2005, 38, A218-A222.	2.8	109
18	Phase-mapping of periodically domain-inverted LiNbO3 with coherent X-rays. Nature, 1998, 392, 690-693.	27.8	97

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19	Microradian X-ray diffraction in colloidal photonic crystals. Journal of Applied Crystallography, 2006, 39, 137-144.	4.5	94
20	The recent development of Braggâ€“Fresnel crystal optics. Experiments and applications at the ESRF (invited). Review of Scientific Instruments, 1995, 66, 2053-2058.	1.3	92
21	Highâ€Resolution Transmission Xâ€ray Microscopy: A New Tool for Mesoscopic Materials. Advanced Materials, 2010, 22, 3256-3259.	21.0	88
22	Microscopic X-ray fluorescence analysis and related methods with laboratory and synchrotron radiation sources. Journal of Analytical Atomic Spectrometry, 1998, 13, 319-331.	3.0	85
23	Synchrotron hard x-ray microprobe: Fluorescence imaging of single cells. Applied Physics Letters, 2001, 78, 3544-3546.	3.3	85
24	Grain to grain slip activity in plastically deformed Zr determined by X-ray micro-diffraction line profile analysis. Acta Materialia, 2007, 55, 1117-1127.	7.9	81
25	A new X-ray transmission-reflection scheme for the study of deeply buried interfaces using high-energy microbeams. Physica B: Condensed Matter, 2003, 336, 46-55.	2.7	75
26	Diffraction theory of imaging with X-ray compound refractive lens. Optics Communications, 2003, 216, 247-260.	2.1	67
27	High-resolution X-ray fluorescence microtomography of homogeneous samples. IEEE Transactions on Nuclear Science, 2000, 47, 2736-2740.	2.0	66
28	The Use of Smallâ€Angle Xâ€Ray Diffraction Studies for the Analysis of Structural Features in Archaeological Samples. Archaeometry, 2001, 43, 117-129.	1.3	64
29	Nanotomography based on hard x-ray microscopy with refractive lenses. Applied Physics Letters, 2002, 81, 1527-1529.	3.3	63
30	Interferometric measurements with hard X-rays using a double slit. Optics Communications, 2001, 191, 91-96.	2.1	62
31	High energy X-ray micro-optics. Comptes Rendus Physique, 2008, 9, 507-516.	0.9	62
32	Microfluidics of soft matter investigated by small-angle X-ray scattering. Journal of Synchrotron Radiation, 2005, 12, 745-750.	2.4	61
33	Quantitative analysis of two-component samples using in-line hard X-ray images. Journal of Synchrotron Radiation, 2002, 9, 148-153.	2.4	55
34	Self-assembly of colloidal hematite cubes: a microradian X-ray diffraction exploration of sedimentary crystals. Soft Matter, 2013, 9, 10729.	2.7	55
35	X-Ray microanalytical techniques based on synchrotron radiation. Journal of Environmental Monitoring, 2006, 8, 33-42.	2.1	54
36	Double Stacking Faults in Convectively Assembled Crystals of Colloidal Spheres. Langmuir, 2009, 25, 10408-10412.	3.5	54

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37	High energy X-ray phase contrast microscopy using a circular Bragg-Fresnel lens. Optics Communications, 1997, 135, 378-384.	2.1	52
38	High-energy-resolution x-ray optics with refractive collimators. Applied Physics Letters, 2000, 77, 31-33.	3.3	51
39	High energy X-ray transfocator based on Al parabolic refractive lenses for focusing and collimation. Journal of Physics: Conference Series, 2009, 186, 012073.	0.4	51
40	Parabolic single-crystal diamond lenses for coherent x-ray imaging. Applied Physics Letters, 2015, 107, .	3.3	51
41	Interferometric characterization of spatial coherence of high energy synchrotron X-rays. Optics Communications, 2001, 198, 293-309.	2.1	50
42	Laser heating setup for diamond anvil cells for in situ synchrotron and in house high and ultra-high pressure studies. Review of Scientific Instruments, 2019, 90, .	1.3	50
43	Retrieval of three-dimensional spatial information from fast in situ two-dimensional synchrotron radiography of solidification microstructure evolution. Acta Materialia, 2014, 81, 241-247.	7.9	49
44	Fabrication and preliminary testing of X-ray lenses in thick SU-8 resist layers. Microsystem Technologies, 2004, 10, 716-721.	2.0	47
45	LIGA fabrication of X-ray Nickel lenses. Microsystem Technologies, 2005, 11, 292-297.	2.0	46
46	Testing of submicrometer fluorescence microprobe based on Braggâ€“Fresnel crystal optics at the ESRF. Review of Scientific Instruments, 1995, 66, 1461-1463.	1.3	44
47	Parabolic refractive X-ray lenses: a breakthrough in X-ray optics. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 467-468, 944-950.	1.6	42
48	X-ray high-resolution diffraction using refractive lenses. Applied Physics Letters, 2005, 86, 014102.	3.3	40
49	Large-acceptance diamond planar refractive lenses manufactured by laser cutting. Journal of Synchrotron Radiation, 2015, 22, 23-28.	2.4	40
50	In situ hard X-ray microscopy of self-assembly in colloidal suspensions. RSC Advances, 2013, 3, 15670.	3.6	38
51	X-ray multilens interferometer based on Si refractive lenses. Optics Express, 2014, 22, 25842.	3.4	37
52	High resolution imaging and lithography with hard x rays using parabolic compound refractive lenses. Review of Scientific Instruments, 2002, 73, 1640-1642.	1.3	36
53	X-ray standing wave microscopy: Chemical microanalysis with atomic resolution. Applied Physics Letters, 2002, 81, 2279-2281.	3.3	36
54	Microscopic imaging with high energy x-rays by Fourier transform holography. Journal of Applied Physics, 2001, 90, 538-544.	2.5	35

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55	The Upgrade Programme for the Structural Biology beamlines at the European Synchrotron Radiation Facility â€“ High throughput sample evaluation and automation. Journal of Physics: Conference Series, 2013, 425, 012001.	0.4	35
56	Zernike phase contrast in high-energy x-ray transmission microscopy based on refractive optics. Ultramicroscopy, 2018, 184, 267-273.	1.9	35
57	X-ray tomographic imaging of the complex refractive index. Applied Physics Letters, 2003, 83, 1480-1482.	3.3	34
58	Linear parabolic single-crystal diamond refractive lenses for synchrotron X-ray sources. Journal of Synchrotron Radiation, 2017, 24, 103-109.	2.4	34
59	Ion implanted Braggâ€“Fresnel lens. Review of Scientific Instruments, 1996, 67, 1733-1736.	1.3	30
60	High-Resolution 3D Imaging Microscopy Using Hard X-Rays. MRS Bulletin, 2004, 29, 157-165.	3.5	30
61	X-ray harmonics rejection on third-generation synchrotron sources using compound refractive lenses. Journal of Synchrotron Radiation, 2014, 21, 484-487.	2.4	30
62	Polymer X-ray refractive nano-lenses fabricated by additive technology. Optics Express, 2017, 25, 14173.	3.4	29
63	Microscopic imaging and holography with hard X-rays using Fresnel zone-plates. Optics Communications, 2000, 180, 233-238.	2.1	28
64	Phase-contrast hard X-ray microtomography by Bragg-Fresnel optics. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1997, 19, 571-576.	0.4	27
65	Mapping trace-metal (Cu, Zn, As) distribution in a single fluid inclusion using a third generation synchrotron light source. Chemical Geology, 2001, 173, 151-158.	3.3	27
66	Diamond X-ray Refractive Lenses with High Acceptance. Physics Procedia, 2016, 84, 213-220.	1.2	26
67	Acoustic excitation of the circular Braggâ€“Fresnel lens in backscattering geometry. Applied Physics Letters, 1997, 70, 829-831.	3.3	25
68	Fourier crystal diffractometry based on refractive optics. Journal of Applied Crystallography, 2013, 46, 1475-1480.	4.5	25
69	Two-step hard X-ray focusing combining Fresnel zone plate and single-bounce ellipsoidal capillary. Journal of Synchrotron Radiation, 2007, 14, 326-330.	2.4	24
70	Efficient focusing of 8â€…keV X-rays with multilayer Fresnel zone plates fabricated by atomic layer deposition and focused ion beam milling. Journal of Synchrotron Radiation, 2013, 20, 433-440.	2.4	24
71	X-ray refractive parabolic axicon lens. Optics Express, 2017, 25, 28469.	3.4	24
72	Lens coupled tunable Youngâ€™s double pinhole system for hard X-ray spatial coherence characterization. Optics Express, 2016, 24, 13679.	3.4	23

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73	Theory of Imaging a Perfect Crystal under the Conditions of X-Ray Spherical Wave Dynamical Diffraction. Physica Status Solidi (B): Basic Research, 2000, 222, 407-423.	1.5	22
74	Determination of local strains in a monocrystalline turbine blade by microbeam X-ray diffraction with synchrotron radiation. Acta Materialia, 2000, 48, 2221-2230.	7.9	22
75	Materials for x-ray refractive lenses minimizing wavefront distortions. MRS Bulletin, 2017, 42, 430-436.	3.5	22
76	Experimental Observation of Fractionated Crystallization in Polydisperse Platelike Colloids. Langmuir, 2010, 26, 6898-6901.	3.5	20
77	High pressure XANES and XMCD in the tender X-ray energy range. High Pressure Research, 2016, 36, 445-457.	1.2	20
78	Asymmetrically cut crystals as optical elements for coherent x-ray beam conditioning. Journal Physics D: Applied Physics, 1999, 32, A184-A192.	2.8	19
79	Xâ€ray imaging of uranium in individual fluid inclusions. Terra Nova, 2000, 12, 84-89.	2.1	19
80	Diffuse scattering in random-stacking hexagonal close-packed crystals of colloidal hard spheres. Phase Transitions, 2010, 83, 107-114.	1.3	19
81	30-Lens interferometer for high-energy X-rays. Journal of Synchrotron Radiation, 2016, 23, 1104-1109.	2.4	19
82	GaN polarity domains spatially resolved by x-ray standing wave microscopy. Journal Physics D: Applied Physics, 2003, 36, A214-A216.	2.8	17
83	Diamond refractive micro-lenses for full-field X-ray imaging and microscopy produced with ion beam lithography. Optics Express, 2020, 28, 4773.	3.4	17
84	Visualization of protein crystals by high-energy phase-contrast X-ray imaging. Acta Crystallographica Section D: Structural Biology, 2019, 75, 947-958.	2.3	16
85	Submicrometer hard X-ray focusing using a single-bounce ellipsoidal capillary combined with a Fresnel zone plate. Journal of Synchrotron Radiation, 2007, 14, 227-228.	2.4	15
86	Optical performance of materials for X-ray refractive optics in the energy range 8â€“100â€…keV. Journal of Synchrotron Radiation, 2016, 23, 1315-1322.	2.4	15
87	CRL-based ultra-compact transfocator for X-ray focusing and microscopy. Journal of Synchrotron Radiation, 2019, 26, 1208-1212.	2.4	15
88	Micro-focus double-crystal X-ray diffractometry on III-V heterostructures grown by selective-area epitaxy. Journal Physics D: Applied Physics, 1995, 28, A200-A205.	2.8	14
89	Quantitative x-ray Bragg diffraction topography of periodically domain-inverted LiNbO3. Journal Physics D: Applied Physics, 1999, 32, A160-A165.	2.8	14
90	X-ray phase-sensitive imaging using a bilens interferometer based on refractive optics. Optics Express, 2020, 28, 21856.	3.4	14

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91	Revealing stacking sequences in inverse opals by microradian X-ray diffraction. Europhysics Letters, 2010, 89, 14002.	2.0	13
92	High-Energy Nanoscale-Resolution X-ray Microscopy Based on Refractive Optics on a Long Beamline. AIP Conference Proceedings, 2011, , .	0.4	13
93	Correcting lateral chromatic aberrations in non-monochromatic X-ray microscopy. Applied Physics Letters, 2016, 109, 054103.	3.3	13
94	X-ray diffraction microscopy based on refractive optics. Optics Communications, 2015, 340, 33-38.	2.1	12
95	Spectral Xâ€Ray Glitches in Monocrystalline Diamond Refractive Lenses. Physica Status Solidi (B): Basic Research, 2018, 255, 1700229.	1.5	12
96	Optical performance and radiation stability of polymer X-ray refractive nano-lenses. Journal of Synchrotron Radiation, 2019, 26, 714-719.	2.4	12
97	Highly porous nanoberyllium for X-ray beam speckle suppression. Journal of Synchrotron Radiation, 2015, 22, 796-800.	2.4	10
98	Hard x-ray single crystal bi-mirror. Optics Letters, 2015, 40, 2205.	3.3	10
99	Non-steady 3D dendrite tip growth under diffusive and weakly convective conditions. Materialia, 2019, 5, 100215.	2.7	10
100	Behavior of the smectic A phase of colloidal goethite in a magnetic field. Soft Matter, 2010, 6, 4895.	2.7	9
101	Reconstruction of an object phase transmission function from in-line X-ray holograms. Optics Communications, 2002, 213, 247-258.	2.1	8
102	Phase-contrast microtomography of thin biomaterials. Journal of Materials Science: Materials in Medicine, 2004, 15, 1053-1057.	3.6	8
103	Colloidal silver nanoparticle gradient layer prepared by drying between two walls of different wettability. Journal of Physics Condensed Matter, 2009, 21, 264012.	1.8	8
104	X-ray reflecto-interferometer based on compound refractive lenses. Journal of Synchrotron Radiation, 2019, 26, 1572-1581.	2.4	8
105	X-ray reflectivity from curved surfaces as illustrated by a graphene layer on molten copper. Journal of Synchrotron Radiation, 2022, 29, 711-720.	2.4	8
106	Emittance monitors based on Braggâ€“Fresnel lenses. Review of Scientific Instruments, 1995, 66, 1978-1980.	1.3	7
107	Impact of beryllium microstructure on the imaging and optical properties of X-ray refractive lenses. Journal of Synchrotron Radiation, 2020, 27, 44-50.	2.4	7
108	Investigation of `glitches' in the energy spectrum induced by single-crystal diamond compound X-ray refractive lenses. Journal of Synchrotron Radiation, 2019, 26, 109-118.	2.4	7

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109	X-ray diagnostics of 2D strain profiles in semiconductor crystals. Semiconductor Science and Technology, 1992, 7, A168-A170.	2.0	6
110	New Features of X-Ray Bragg Diffraction Topography with Coherent Illumination. Physica Status Solidi A, 1999, 172, 3-13.	1.7	6
111	X-ray Optics at the ESRF. Synchrotron Radiation News, 2010, 23, 36-42.	0.8	6
112	Propagation of an X-ray beam modified by a photonic crystal. Journal of Synchrotron Radiation, 2014, 21, 729-735.	2.4	6
113	High-resolution SAXS setup with tuneable resolution in direct and reciprocal space: a new tool to study ordered nanostructures. Journal of Applied Crystallography, 2019, 52, 1095-1103.	4.5	6
114	Diamond x-ray refractive lenses produced by femto-second laser ablation. Proceedings of SPIE, 2016, , .	0.8	5
115	Hard X-ray In-situ Full-field Microscopy for Material Science Applications.. Microscopy and Microanalysis, 2018, 24, 552-553.	0.4	5
116	Towards high-quality nitrogen-doped diamond single crystals for X-ray optics. Journal of Synchrotron Radiation, 2021, 28, 104-110.	2.4	5
117	Determination of the Exact Orientation of Single-Crystal X-ray Optics from Its Glitch Spectrum and Modeling of Glitches for an Arbitrary Configuration. Crystals, 2021, 11, 504.	2.2	5
118	Coherent X-ray beam expander based on a multilens interferometer. Optics Express, 2021, 29, 35038.	3.4	5
119	Diamond X-Ray Refractive Optics. Synchrotron Radiation News, 2021, 34, 12-20.	0.8	5
120	Studying properties of polymer X-ray lenses. Technical Physics Letters, 2012, 38, 251-253.	0.7	4
121	Protective radiolucent aluminium oxide coatings forÂberyllium X-ray optics. Journal of Synchrotron Radiation, 2017, 24, 775-780.	2.4	4
122	X-ray Microscopy Opportunities at ID 15B Beamline at the ESRF.. Microscopy and Microanalysis, 2018, 24, 238-239.	0.4	4
123	Predicting glitches of intensity in single-crystal diamond CRLs. AIP Conference Proceedings, 2020, , .	0.4	4
124	A microscope for hard X-rays based on refractive optics. Synchrotron Radiation News, 1999, 12, 45-45.	0.8	3
125	Mini-Transfocator for X-ray Focusing and Microscopy. Microscopy and Microanalysis, 2018, 24, 294-295.	0.4	3
126	Investigation of glitches induced by single-crystal diamond compound refractive lenses based on crystal orientation. AIP Conference Proceedings, 2019, , .	0.4	3

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127	Suppressing Diffraction-Related Intensity Losses in Transmissive Single-Crystal X-ray Optics. Crystals, 2021, 11, 1561.	2.2	3
128	New approach to the cooling of fixed exit double crystal monochromator at the European Synchrotron Radiation Facility. Review of Scientific Instruments, 1997, 68, 2909-2910.	1.3	2
129	Spatial structure of a focused X-ray beam diffracted from crystals. Journal of Synchrotron Radiation, 2009, 16, 666-671.	2.4	2
130	X-Ray Video Microscopy Studies of Irregular Eutectic Solidification Microstructures in Alâ€“Siâ€“Cu Alloys. ISIJ International, 2010, 50, 1936-1940.	1.4	2
131	Using diffraction losses of X-rays in a single crystal for determination of its lattice parameters as well as for monochromator calibration. Journal of Synchrotron Radiation, 2022, 29, 369-376.	2.4	2
132	X-ray diffraction on Si single crystal with a W-shaped longitudinal groove. Journal of Synchrotron Radiation, 2000, 7, 382-385.	2.4	1
133	Analytical transmission cross-coefficients for pink beam X-ray microscopy based on compound refractive lenses. Ultramicroscopy, 2018, 184, 1-7.	1.9	1
134	10.1063/1.5117786.1. , 2019, , .		0
135	Hard X-ray in-situ full-field microscopy for material science applications. , 2020, , .		0
136	Diamond micro-CRL for Coherent x-ray imaging and microscopy. AIP Conference Proceedings, 2020, , .	0.4	0
137	Deformation field mapping of the X-ray silicon Fresnel Zone Plate. Procedia Structural Integrity, 2022, 40, 40-45.	0.8	0