

Anton Barty

List of Publications by Year in descending order

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129
papers

18,628
citations

17440

63
h-index

12946

131
g-index

134
all docs

134
docs citations

134
times ranked

10841
citing authors

#	ARTICLE	IF	CITATIONS
1	Femtosecond X-ray protein nanocrystallography. <i>Nature</i> , 2011, 470, 73-77.	27.8	1,771
2	Femtosecond diffractive imaging with a soft-X-ray free-electron laser. <i>Nature Physics</i> , 2006, 2, 839-843.	16.7	910
3	Single mimivirus particles intercepted and imaged with an X-ray laser. <i>Nature</i> , 2011, 470, 78-81.	27.8	790
4	High-Resolution Protein Structure Determination by Serial Femtosecond Crystallography. <i>Science</i> , 2012, 337, 362-364.	12.6	758
5	Crystal structure of rhodopsin bound to arrestin by femtosecond X-ray laser. <i>Nature</i> , 2015, 523, 561-567.	27.8	683
6	High-resolution ab initio three-dimensional x-ray diffraction microscopy. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2006, 23, 1179.	1.5	511
7	Lipidic cubic phase injector facilitates membrane protein serial femtosecond crystallography. <i>Nature Communications</i> , 2014, 5, 3309.	12.8	505
8	Quantitative optical phase microscopy. <i>Optics Letters</i> , 1998, 23, 817.	3.3	500
9	Serial Femtosecond Crystallography of G Protein-Coupled Receptors. <i>Science</i> , 2013, 342, 1521-1524.	12.6	424
10	Time-resolved serial crystallography captures high-resolution intermediates of photoactive yellow protein. <i>Science</i> , 2014, 346, 1242-1246.	12.6	418
11	<i>CrystFEL</i> : a software suite for snapshot serial crystallography. <i>Journal of Applied Crystallography</i> , 2012, 45, 335-341.	4.5	410
12	Serial time-resolved crystallography of photosystem II using a femtosecond X-ray laser. <i>Nature</i> , 2014, 513, 261-265.	27.8	403
13	Natively Inhibited <i>Trypanosoma brucei</i> Cathepsin B Structure Determined by Using an X-ray Laser. <i>Science</i> , 2013, 339, 227-230.	12.6	393
14	Ultrafast X-ray probing of water structure below the homogeneous ice nucleation temperature. <i>Nature</i> , 2014, 510, 381-384.	27.8	385
15	<i>Cheetah</i> : software for high-throughput reduction and analysis of serial femtosecond X-ray diffraction data. <i>Journal of Applied Crystallography</i> , 2014, 47, 1118-1131.	4.5	348
16	Femtosecond structural dynamics drives the trans/cis isomerization in photoactive yellow protein. <i>Science</i> , 2016, 352, 725-729.	12.6	348
17	Identification of Phosphorylation Codes for Arrestin Recruitment by G Protein-Coupled Receptors. <i>Cell</i> , 2017, 170, 457-469.e13.	28.9	344
18	Self-terminating diffraction gates femtosecond X-ray nanocrystallography measurements. <i>Nature Photonics</i> , 2012, 6, 35-40.	31.4	292

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19	Three-Dimensional Reconstruction of the Giant Mimivirus Particle with an X-Ray Free-Electron Laser. <i>Physical Review Letters</i> , 2015, 114, 098102.	7.8	284
20	Structures of riboswitch RNA reaction states by mix-and-inject XFEL serial crystallography. <i>Nature</i> , 2017, 541, 242-246.	27.8	251
21	Femtosecond time-delay X-ray holography. <i>Nature</i> , 2007, 448, 676-679.	27.8	238
22	Single Particle X-ray Diffractive Imaging. <i>Nano Letters</i> , 2008, 8, 310-316.	9.1	229
23	Recent developments in <i>CrystFEL</i> . <i>Journal of Applied Crystallography</i> , 2016, 49, 680-689.	4.5	222
24	Ultrafast single-shot diffraction imaging of nanoscale dynamics. <i>Nature Photonics</i> , 2008, 2, 415-419.	31.4	221
25	Room-temperature macromolecular serial crystallography using synchrotron radiation. <i>IUCr</i> , 2014, 1, 204-212.	2.2	221
26	Time-resolved protein nanocrystallography using an X-ray free-electron laser. <i>Optics Express</i> , 2012, 20, 2706.	3.4	219
27	X-Ray Diffraction from Isolated and Strongly Aligned Gas-Phase Molecules with a Free-Electron Laser. <i>Physical Review Letters</i> , 2014, 112, .	7.8	217
28	In vivo protein crystallization opens new routes in structural biology. <i>Nature Methods</i> , 2012, 9, 259-262.	19.0	193
29	Quantitative phase-amplitude microscopy. III. The effects of noise. <i>Journal of Microscopy</i> , 2004, 214, 51-61.	1.8	182
30	Quantitative phase-amplitude microscopy I: optical microscopy. <i>Journal of Microscopy</i> , 2002, 206, 194-203.	1.8	181
31	Quantitative phase-sensitive imaging in a transmission electron microscope. <i>Ultramicroscopy</i> , 2000, 83, 67-73.	1.9	180
32	The linac coherent light source single particle imaging road map. <i>Structural Dynamics</i> , 2015, 2, 041701.	2.3	178
33	Visualizing a protein quake with time-resolved X-ray scattering at a free-electron laser. <i>Nature Methods</i> , 2014, 11, 923-926.	19.0	173
34	Fractal morphology, imaging and mass spectrometry of single aerosol particles in flight. <i>Nature</i> , 2012, 486, 513-517.	27.8	170
35	Fixed-target protein serial microcrystallography with an x-ray free electron laser. <i>Scientific Reports</i> , 2014, 4, 6026.	3.3	169
36	Massively parallel X-ray holography. <i>Nature Photonics</i> , 2008, 2, 560-563.	31.4	168

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37	Radiation damage in protein serial femtosecond crystallography using an x-ray free-electron laser. <i>Physical Review B</i> , 2011, 84, 214111.	3.2	156
38	Molecular Imaging Using X-Ray Free-Electron Lasers. <i>Annual Review of Physical Chemistry</i> , 2013, 64, 415-435.	10.8	156
39	High-throughput imaging of heterogeneous cell organelles with an X-ray laser. <i>Nature Photonics</i> , 2014, 8, 943-949.	31.4	156
40	Imaging single cells in a beam of live cyanobacteria with an X-ray laser. <i>Nature Communications</i> , 2015, 6, 5704.	12.8	156
41	Structural basis for bifunctional peptide recognition at human μ -opioid receptor. <i>Nature Structural and Molecular Biology</i> , 2015, 22, 265-268.	8.2	151
42	Lipidic phase membrane protein serial femtosecond crystallography. <i>Nature Methods</i> , 2012, 9, 263-265.	19.0	135
43	Quantitative phase tomography. <i>Optics Communications</i> , 2000, 175, 329-336.	2.1	133
44	Structure-factor analysis of femtosecond microdiffraction patterns from protein nanocrystals. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2011, 67, 131-140.	0.3	128
45	Macromolecular diffractive imaging using imperfect crystals. <i>Nature</i> , 2016, 530, 202-206.	27.8	123
46	Crystallographic data processing for free-electron laser sources. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2013, 69, 1231-1240.	2.5	122
47	Indications of radiation damage in ferredoxin microcrystals using high-intensity X-FEL beams. <i>Journal of Synchrotron Radiation</i> , 2015, 22, 225-238.	2.4	110
48	Three-Dimensional Coherent X-Ray Diffraction Imaging of a Ceramic Nanofoam: Determination of Structural Deformation Mechanisms. <i>Physical Review Letters</i> , 2008, 101, 055501.	7.8	106
49	Anomalous Behavior of the Homogeneous Ice Nucleation Rate in α -No-Man TM s Land. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 2826-2832.	4.6	102
50	Native phasing of x-ray free-electron laser data for a G protein-coupled receptor. <i>Science Advances</i> , 2016, 2, e1600292.	10.3	97
51	Cryptotomography: Reconstructing 3D Fourier Intensities from Randomly Oriented Single-Shot Diffraction Patterns. <i>Physical Review Letters</i> , 2010, 104, 225501.	7.8	94
52	Structural enzymology using X-ray free electron lasers. <i>Structural Dynamics</i> , 2017, 4, 044003.	2.3	92
53	Unsupervised classification of single-particle X-ray diffraction snapshots by spectral clustering. <i>Optics Express</i> , 2011, 19, 16542.	3.4	91
54	Double-flow focused liquid injector for efficient serial femtosecond crystallography. <i>Scientific Reports</i> , 2017, 7, 44628.	3.3	90

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55	Refractive-index profiling of optical fibers with axial symmetry by use of quantitative phase microscopy. <i>Optics Letters</i> , 2002, 27, 2061.	3.3	89
56	High numerical aperture multilayer Laue lenses. <i>Scientific Reports</i> , 2015, 5, 9892.	3.3	89
57	<i>OnDA</i>: online data analysis and feedback for serial X-ray imaging. <i>Journal of Applied Crystallography</i> , 2016, 49, 1073-1080.	4.5	89
58	Phasing of coherent femtosecond X-ray diffraction from size-varying nanocrystals. <i>Optics Express</i> , 2011, 19, 2866.	3.4	82
59	Single-particle structure determination by correlations of snapshot X-ray diffraction patterns. <i>Nature Communications</i> , 2012, 3, 1276.	12.8	76
60	Structure of a photosynthetic reaction centre determined by serial femtosecond crystallography. <i>Nature Communications</i> , 2013, 4, 2911.	12.8	74
61	Noise-robust coherent diffractive imaging with a single diffraction pattern. <i>Optics Express</i> , 2012, 20, 16650.	3.4	73
62	Lipidic cubic phase injector is a viable crystal delivery system for time-resolved serial crystallography. <i>Nature Communications</i> , 2016, 7, 12314.	12.8	71
63	Accurate determination of segmented X-ray detector geometry. <i>Optics Express</i> , 2015, 23, 28459.	3.4	69
64	CASSâ€™CFEL-ASG software suite. <i>Computer Physics Communications</i> , 2012, 183, 2207-2213.	7.5	65
65	Atomic structure of granulin determined from native nanocrystalline granulovirus using an X-ray free-electron laser. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 2247-2252.	7.1	65
66	Coherent diffraction of single Rice Dwarf virus particles using hard X-rays at the Linac Coherent Light Source. <i>Scientific Data</i> , 2016, 3, 160064.	5.3	64
67	Experimental strategies for imaging bioparticles with femtosecond hard X-ray pulses. <i>IUCr</i> , 2017, 4, 251-262.	2.2	63
68	Predicting the coherent X-ray wavefront focal properties at the Linac Coherent Light Source (LCLS) X-ray free electron laser. <i>Optics Express</i> , 2009, 17, 15508.	3.4	62
69	Serial femtosecond crystallography of soluble proteins in lipidic cubic phase. <i>IUCr</i> , 2015, 2, 545-551.	2.2	61
70	Sacrificial Tamper Slows Down Sample Explosion in FLASH Diffraction Experiments. <i>Physical Review Letters</i> , 2010, 104, 064801.	7.8	59
71	Femtosecond X-ray Fourier holography imaging of free-flying nanoparticles. <i>Nature Photonics</i> , 2018, 12, 150-153.	31.4	58
72	Quantitative characterization of inertial confinement fusion capsules using phase contrast enhanced x-ray imaging. <i>Journal of Applied Physics</i> , 2005, 97, 063103.	2.5	56

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73	Femtosecond free-electron laser x-ray diffraction data sets for algorithm development. <i>Optics Express</i> , 2012, 20, 4149.	3.4	56
74	Coherent soft X-ray diffraction imaging of coliphage PR772 at the Linac coherent light source. <i>Scientific Data</i> , 2017, 4, 170079.	5.3	54
75	X-ray laser diffraction for structure determination of the rhodopsin-arrestin complex. <i>Scientific Data</i> , 2016, 3, 160021.	5.3	51
76	Automated identification and classification of single particle serial femtosecond X-ray diffraction data. <i>Optics Express</i> , 2014, 22, 2497.	3.4	45
77	Noninterferometric quantitative phase imaging with soft x rays. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2000, 17, 1732.	1.5	43
78	Femtosecond diffractive imaging of biological cells. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2010, 43, 194015.	1.5	41
79	Aerosol Imaging with a Soft X-Ray Free Electron Laser. <i>Aerosol Science and Technology</i> , 2010, 44, i-vi.	3.1	40
80	The room temperature crystal structure of a bacterial phytochrome determined by serial femtosecond crystallography. <i>Scientific Reports</i> , 2016, 6, 35279.	3.3	39
81	Femtosecond dark-field imaging with an X-ray free electron laser. <i>Optics Express</i> , 2012, 20, 13501.	3.4	38
82	X-ray imaging of cryogenic deuterium-tritium layers in a beryllium shell. <i>Journal of Applied Physics</i> , 2005, 98, 103105.	2.5	37
83	Camera for coherent diffractive imaging and holography with a soft-x-ray free-electron laser. <i>Applied Optics</i> , 2008, 47, 1673.	2.1	34
84	Femtosecond X-ray coherent diffraction of aligned amyloid fibrils on low background graphene. <i>Nature Communications</i> , 2018, 9, 1836.	12.8	34
85	7 Å... resolution in protein two-dimensional-crystal X-ray diffraction at Linac Coherent Light Source. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2014, 369, 20130500.	4.0	32
86	Ternary structure reveals mechanism of a membrane diacylglycerol kinase. <i>Nature Communications</i> , 2015, 6, 10140.	12.8	30
87	Toward atomic resolution diffractive imaging of isolated molecules with X-ray free-electron lasers. <i>Faraday Discussions</i> , 2014, 171, 393-418.	3.2	29
88	Phasing coherently illuminated nanocrystals bounded by partial unit cells. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2014, 369, 20130331.	4.0	29
89	Mapping the continuous reciprocal space intensity distribution of X-ray serial crystallography. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2014, 369, 20130333.	4.0	29
90	Ultrafast self-gating Bragg diffraction of exploding nanocrystals in an X-ray laser. <i>Optics Express</i> , 2015, 23, 1213.	3.4	29

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91	Actinic inspection of extreme ultraviolet programmed multilayer defects and cross-comparison measurements. <i>Journal of Vacuum Science & Technology B</i> , 2006, 24, 2824.	1.3	28
92	Multipurpose modular experimental station for the DiProl beamline of Fermi@Elettra free electron laser. <i>Review of Scientific Instruments</i> , 2011, 82, 043711.	1.3	28
93	Sensing the wavefront of x-ray free-electron lasers using aerosol spheres. <i>Optics Express</i> , 2013, 21, 12385.	3.4	28
94	Strongly aligned gas-phase molecules at free-electron lasers. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 204002.	1.5	28
95	Ultrafast nonthermal heating of water initiated by an X-ray Free-Electron Laser. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 5652-5657.	7.1	28
96	Towards phasing using high X-ray intensity. <i>IUCr</i> , 2015, 2, 627-634.	2.2	24
97	The holographic twin image problem: a deterministic phase solution. <i>Optics Communications</i> , 2000, 183, 7-14.	2.1	22
98	From Macrocystals to Microcrystals: A Strategy for Membrane Protein Serial Crystallography. <i>Structure</i> , 2017, 25, 1461-1468.e2.	3.3	21
99	Continuous diffraction of molecules and disordered molecular crystals. <i>Journal of Applied Crystallography</i> , 2017, 50, 1084-1103.	4.5	21
100	Damped and thermal motion of laser-aligned hydrated macromolecule beams for diffraction. <i>Journal of Chemical Physics</i> , 2005, 123, 244304.	3.0	20
101	Toward unsupervised single-shot diffractive imaging of heterogeneous particles using X-ray free-electron lasers. <i>Optics Express</i> , 2013, 21, 28729.	3.4	20
102	Electronic damage in S atoms in a native protein crystal induced by an intense X-ray free-electron laser pulse. <i>Structural Dynamics</i> , 2015, 2, 041703.	2.3	20
103	Effects of self-seeding and crystal post-selection on the quality of Monte Carlo-integrated SFX data. <i>Journal of Synchrotron Radiation</i> , 2015, 22, 644-652.	2.4	20
104	Single-shot diffraction data from the Mimivirus particle using an X-ray free-electron laser. <i>Scientific Data</i> , 2016, 3, 160060.	5.3	18
105	Femtosecond X-ray diffraction from an aerosolized beam of protein nanocrystals. <i>Journal of Applied Crystallography</i> , 2018, 51, 133-139.	4.5	18
106	Testing extreme ultraviolet optics with visible-light and extreme ultraviolet interferometry. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2002, 20, 2834.	1.6	17
107	Ultrafast soft X-ray scattering and reference-enhanced diffractive imaging of weakly scattering nanoparticles. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2008, 166-167, 65-73.	1.7	16
108	Time-resolved imaging using x-ray free electron lasers. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2010, 43, 194014.	1.5	16

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109	Analysis of XFEL serial diffraction data from individual crystalline fibrils. IUCr, 2017, 4, 795-811.	2.2	16
110	Sub-wavelength characterisation of optical focal structures. Optics Communications, 1998, 145, 9-14.	2.1	14
111	Single molecule imaging using X-ray free electron lasers. Current Opinion in Structural Biology, 2016, 40, 186-194.	5.7	14
112	Single-shot femtosecond x-ray diffraction from randomly oriented ellipsoidal nanoparticles. Physical Review Special Topics: Accelerators and Beams, 2010, 13, .	1.8	13
113	Explosion dynamics of sucrose nanospheres monitored by time of flight spectrometry and coherent diffractive imaging at the split-and-delay beam line of the FLASH soft X-ray laser. Optics Express, 2014, 22, 28914.	3.4	13
114	Mesoscale morphology of airborne core-shell nanoparticle clusters: x-ray laser coherent diffraction imaging. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 164033.	1.5	12
115	Direct Phasing of Finite Crystals Illuminated with a Free-Electron Laser. Physical Review X, 2015, 5, .	8.9	12
116	Flow-aligned, single-shot fiber diffraction using a femtosecond X-ray free-electron laser. Cytoskeleton, 2017, 74, 472-481.	2.0	12
117	A data set from flash X-ray imaging of carboxysomes. Scientific Data, 2016, 3, 160061.	5.3	11
118	Serial femtosecond crystallography datasets from G protein-coupled receptors. Scientific Data, 2016, 3, 160057.	5.3	10
119	Repair of phase defects in extreme-ultraviolet lithography mask blanks. Journal of Applied Physics, 2004, 96, 6812-6821.	2.5	9
120	Validation of radiographic simulation codes including x-ray phase effects for millimeter-size objects with micrometer structures. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2007, 24, 169.	1.5	8
121	Post-sample aperture for low background diffraction experiments at X-ray free-electron lasers. Journal of Synchrotron Radiation, 2017, 24, 1296-1298.	2.4	8
122	Resolution extension by image summing in serial femtosecond crystallography of two-dimensional membrane-protein crystals. IUCr, 2018, 5, 103-117.	2.2	8
123	Open data set of live cyanobacterial cells imaged using an X-ray laser. Scientific Data, 2016, 3, 160058.	5.3	7
124	Publisher's Note: Cryptotomography: Reconstructing 3D Fourier Intensities from Randomly Oriented Single-Shot Diffraction Patterns [Phys. Rev. Lett.104, 225501 (2010)]. Physical Review Letters, 2010, 104, .	7.8	6
125	Diffraction data of core-shell nanoparticles from an X-ray free electron laser. Scientific Data, 2017, 4, 170048.	5.3	4
126	Supersaturation-controlled microcrystallization and visualization analysis for serial femtosecond crystallography. Scientific Reports, 2018, 8, 2541.	3.3	4

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127	Repairing amplitude defects in multilayer-coated extreme-ultraviolet lithography reticles by use of a focused ion beam. <i>Applied Optics</i> , 2004, 43, 6545.	2.1	3
128	Trace phase detection and strain characterization from serial X-ray free-electron laser crystallography of a Pr _{0.5} Ca _{0.5} MnO ₃ powder. <i>Powder Diffraction</i> , 2015, 30, S25-S30.	0.2	1
129	New Avenues for Structure Determination of Membrane Proteins. <i>Biophysical Journal</i> , 2012, 102, 3a.	0.5	0