

Bastian Pfau

List of Publications by Year in descending order

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77
papers

2,786
citations

218677

26
h-index

175258

52
g-index

80
all docs

80
docs citations

80
times ranked

3208
citing authors

#	ARTICLE	IF	CITATIONS
1	Fast current-driven domain walls and small skyrmions in a compensated ferrimagnet. Nature Nanotechnology, 2018, 13, 1154-1160.	31.5	406
2	Dynamics and inertia of skyrmionic spin structures. Nature Physics, 2015, 11, 225-228.	16.7	304
3	Field-free deterministic ultrafast creation of magnetic skyrmions by spin-orbit torques. Nature Nanotechnology, 2017, 12, 1040-1044.	31.5	215
4	Ultrafast optical demagnetization manipulates nanoscale spin structure in domain walls. Nature Communications, 2012, 3, 1100.	12.8	168
5	Femtosecond Single-Shot Imaging of Nanoscale Ferromagnetic Order in Co/Pd Multilayers Using Resonant X-Ray Holography. Physical Review Letters, 2012, 108, 267403.	7.8	153
6	Imaging Ultrafast Demagnetization Dynamics after a Spatially Localized Optical Excitation. Physical Review Letters, 2014, 112, .	7.8	113
7	Atomic diffusion studied with coherent X-rays. Nature Materials, 2009, 8, 717-720.	27.5	102
8	Sequential femtosecond X-ray imaging. Nature Photonics, 2011, 5, 99-102.	31.4	90
9	Observation of fluctuation-mediated picosecond nucleation of a topological phase. Nature Materials, 2021, 20, 30-37.	27.5	68
10	Single-pulse resonant magnetic scattering using a soft x-ray free-electron laser. Physical Review B, 2010, 81, .	3.2	65
11	Indirect excitation of ultrafast demagnetization. Scientific Reports, 2016, 6, 18970.	3.3	61
12	Origin of magnetic switching field distribution in bit patterned media based on pre-patterned substrates. Applied Physics Letters, 2011, 99, .	3.3	51
13	Coherent-Pulse 2D Crystallography Using a Free-Electron Laser X-Ray Source. Physical Review Letters, 2009, 102, 035502.	7.8	47
14	Holographic soft X-ray omni-microscopy of biological specimens. Optics Express, 2009, 17, 6710.	3.4	44
15	Direct observation of field and temperature induced domain replication in dipolar coupled perpendicular anisotropy films. Physical Review B, 2008, 77, .	3.2	43
16	Microscopic reversal behavior of magnetically capped nanospheres. Physical Review B, 2010, 81, .	3.2	43
17	Breakdown of the X-Ray Resonant Magnetic Scattering Signal during Intense Pulses of Extreme Ultraviolet Free-Electron-Laser Radiation. Physical Review Letters, 2013, 110, 234801.	7.8	37
18	Monolithic focused reference beam X-ray holography. Nature Communications, 2014, 5, 3008.	12.8	37

#	ARTICLE	IF	CITATIONS
19	Resonant magnetic scattering with soft x-ray pulses from a free-electron laser operating at 1.59 nm. Physical Review B, 2009, 79, .	3.2	34
20	Multi-color imaging of magnetic Co/Pt heterostructures. Structural Dynamics, 2017, 4, 014301.	2.3	32
21	Time-resolved study of the crystallization dynamics in a metallic glass. Physical Review B, 2012, 86, .	3.2	31
22	Digital In-line Holography with femtosecond VUV radiation provided by the free-electron laser FLASH. Optics Express, 2009, 17, 8220.	3.4	30
23	Femtosecond pulse x-ray imaging with a large field of view. New Journal of Physics, 2010, 12, 095006.	2.9	30
24	High-resolution magnetic-domain imaging by Fourier transform holography at 21 nm wavelength. New Journal of Physics, 2013, 15, 093042.	2.9	30
25	Magnetic imaging at linearly polarized x-ray sources. Optics Express, 2010, 18, 13608.	3.4	29
26	Generating circularly polarized radiation in the extreme ultraviolet spectral range at the free-electron laser FLASH. Review of Scientific Instruments, 2017, 88, 053903.	1.3	29
27	Influence of stray fields on the switching-field distribution for bit-patterned media based on pre-patterned substrates. Applied Physics Letters, 2014, 105, .	3.3	25
28	Wavefield back-propagation in high-resolution X-ray holography with a movable field of view. Optics Express, 2010, 18, 18922.	3.4	24
29	Imaging Nanometer Phase Coexistence at Defects During the Insulatorâ€“Metal Phase Transformation in VO ₂ Thin Films by Resonant Soft X-ray Holography. Nano Letters, 2018, 18, 3449-3453.	9.1	24
30	Deterministic Generation and Guided Motion of Magnetic Skyrmions by Focused He ⁺ -Ion Irradiation. Nano Letters, 2022, 22, 4028-4035.	9.1	24
31	Application concepts for ultrafast laser-induced skyrmion creation and annihilation. Applied Physics Letters, 2021, 118, .	3.3	23
32	Soft x-ray tomoholography. New Journal of Physics, 2012, 14, 013022.	2.9	21
33	Holographically aided iterative phase retrieval. Optics Express, 2012, 20, 29210.	3.4	19
34	In situ single-shot diffractive fluence mapping for X-ray free-electron laser pulses. Nature Communications, 2018, 9, 214.	12.8	18
35	Magnetic states in low-pinning high-anisotropy material nanostructures suitable for dynamic imaging. Physical Review B, 2013, 87, .	3.2	17
36	Method for Single-Shot Coherent Diffractive Imaging of Magnetic Domains. Physical Review Letters, 2012, 108, 223902.	7.8	16

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37	Transient magnetic gratings on the nanometer scale. Structural Dynamics, 2020, 7, 054501.	2.3	16
38	Extracting depth information of 3-dimensional structures from a single-view X-ray Fourier-transform hologram. Optics Express, 2014, 22, 24959.	3.4	15
39	Holography-guided ptychography with soft X-rays. Optics Express, 2016, 24, 1840.	3.4	15
40	Ultrafast Demagnetization Dominates Fluence Dependence of Magnetic Scattering at Co M Edges. Physical Review Letters, 2020, 125, 127201.	7.8	15
41	A tabletop setup for ultrafast helicity-dependent and element-specific absorption spectroscopy and scattering in the extreme ultraviolet spectral range. Review of Scientific Instruments, 2020, 91, 093001.	1.3	15
42	Exploration of magnetic fluctuations in PdFe films. Journal of Physics Condensed Matter, 2013, 25, 266001.	1.8	14
43	The patterning toolbox FIB-o-mat: Exploiting the full potential of focused helium ions for nanofabrication. Beilstein Journal of Nanotechnology, 2021, 12, 304-318.	2.8	13
44	Nanoscale Imaging of High-Field Magnetic Hysteresis in Meteoritic Metal Using X-Ray Holography. Geochemistry, Geophysics, Geosystems, 2020, 21, e2020GC009044.	2.5	12
45	Achieving diffraction-limited resolution in soft-X-ray Fourier-transform holography. Ultramicroscopy, 2020, 214, 113005.	1.9	12
46	Quantitative hyperspectral coherent diffractive imaging spectroscopy of a solid-state phase transition in vanadium dioxide. Science Advances, 2021, 7, .	10.3	12
47	X-Ray Holography. , 2016, , 1093-1133.		11
48	Morphology of Fe/MgO(001) ultrathin films. Journal of Applied Physics, 2007, 102, 034310.	2.5	10
49	Curved gratings as an integrated photon fluence monitor in x-ray transmission scattering experiments. Optics Express, 2016, 24, 13091.	3.4	10
50	Singleshot polychromatic coherent diffractive imaging with a high-order harmonic source. Optics Express, 2020, 28, 394.	3.4	10
51	Ultrafast Dynamics of Magnetic Domain Structures Probed by Coherent Free-Electron Laser Light. Synchrotron Radiation News, 2013, 26, 27-32.	0.8	9
52	Laser-driven resonant magnetic soft-x-ray scattering for probing ultrafast antiferromagnetic and structural dynamics. Optica, 2021, 8, 1237.	9.3	8
53	Rapid vinculin exchange dynamics at focal adhesions in primary osteoblasts following shear flow stimulation. Journal of Musculoskeletal Neuronal Interactions, 2010, 10, 92-9.	0.1	8
54	Ultrafast element- and depth-resolved magnetization dynamics probed by transverse magneto-optical Kerr effect spectroscopy in the soft x-ray range. Physical Review Research, 2022, 4, .	3.6	8

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55	Experimental evaluation of signal-to-noise in spectro-holography via modified uniformly redundant arrays in the soft x-ray and extreme ultraviolet spectral regime. <i>Journal of Optics (United Kingdom)</i> , 2017, 19, 064002.	2.2	7
56	Coarsening dynamics in elastically anisotropic alloys. <i>Physical Review B</i> , 2006, 73, .	3.2	6
57	Real-time spatial characterization of micrometer-sized X-ray free-electron laser beams focused by bendable mirrors. <i>Optics Express</i> , 2022, 30, 20980.	3.4	6
58	Investigating slow dynamics in alloys using X-ray photon correlation spectroscopy. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2005, 238, 189-191.	1.4	5
59	Detrended fluctuation analysis in x-ray photon correlation spectroscopy for determining coarsening dynamics in alloys. <i>Physical Review E</i> , 2006, 74, 041107.	2.1	5
60	A general approach to obtain soft x-ray transparency for thin films grown on bulk substrates. <i>Review of Scientific Instruments</i> , 2017, 88, 103701.	1.3	5
61	Surface Diffusion and Island Growth. <i>Defect and Diffusion Forum</i> , 0, 263, 177-182.	0.4	4
62	Dynamic redistribution of paxillin in bovine osteoblasts stimulated with adenosine 5â€²-triphosphate. <i>Journal of Molecular Histology</i> , 2012, 43, 571-580.	2.2	4
63	Multi-Color Imaging of Magnetic Co/Pt Multilayers. <i>IEEE Transactions on Magnetics</i> , 2017, 53, 1-5.	2.1	4
64	Three-dimensional characterization of Co/Pd multilayer thin films using resonant soft x-ray scattering. <i>Physical Review B</i> , 2017, 95, .	3.2	4
65	Thermally induced magnetic switching in bit-patterned media. <i>Journal of Applied Physics</i> , 2017, 122, .	2.5	4
66	High-speed spatial encoding of modulated pump-probe signals with slow area detectors. <i>Measurement Science and Technology</i> , 2021, 32, 025901.	2.6	4
67	Photon correlation spectroscopy with heterodyne mixing based on soft x-ray magnetic circular dichroism. <i>Physical Review B</i> , 2022, 105, .	3.2	4
68	Stimulation of primary osteoblasts with ATP induces transient vinculin clustering at sites of high intracellular traction force. <i>Journal of Molecular Histology</i> , 2014, 45, 81-89.	2.2	3
69	Endstation for ultrafast magnetic scattering experiments at the free-electron laser in Hamburg. <i>Review of Scientific Instruments</i> , 2013, 84, 013906.	1.3	2
70	First commissioning results of the KB mirrors at the SCS instrument of the European XFEL. , 2019, , .		1
71	Skyrmions in perpendicular magnetic anisotropy dots: Imaging and simulations. , 2011, , .		0
72	Imaging Non-Local Magnetization Dynamics. <i>Synchrotron Radiation News</i> , 2016, 29, 26-31.	0.8	0

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73	2D and 3D Nanoscale Imaging Using High Repetition Rate Laboratory-Based Soft X-Ray Sources. Springer Proceedings in Physics, 2018, , 265-272.	0.2	0
74	X-Ray Holography. , 2015, , 1-36.		0
75	X-Ray Holography. , 2020, , 1295-1335.		0
76	Laser-driven soft-X-ray source for resonant magnetic scattering. , 2022, , .		0
77	Table-top X-ray magnetic circular dichroism at the Fe L edges. , 2022, , .		0