Alexander Gottwald

List of Publications by Year
in descending order

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85 papers	1,648 citations	304743 22 h-index	345221 36 g-index
85 all docs	85 docs citations	85 times ranked	1683 citing authors

#	Article	IF	Citations
1	Gas detectors for x-ray lasers. Journal of Applied Physics, 2008, 103, .	2.5	147
2	A quarterâ€€century of metrology using synchrotron radiation by PTB in Berlin. Physica Status Solidi (B): Basic Research, 2009, 246, 1415-1434.	1.5	117
3	Measurement of gigawatt radiation pulses from a vacuum and extreme ultraviolet free-electron laser. Applied Physics Letters, 2003, 83, 2970-2972.	3.3	107
4	Exploring three-dimensional orbital imaging with energy-dependent photoemission tomography. Nature Communications, 2015, 6, 8287.	12.8	76
5	The PTB high-accuracy spectral responsivity scale in the VUV and x-ray range. Metrologia, 2006, 43, S125-S129.	1.2	63
6	Experimental search for the low-energy nuclear transition in²²⁹Th with undulator radiation. New Journal of Physics, 2015, 17, 053053.	2.9	60
7	Robust UV/VUV/EUV PureB Photodiode Detector Technology With High CMOS Compatibility. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 306-316.	2.9	58
8	High-accuracy EUV metrology of PTB using synchrotron radiation. , 2001, 4344, 402.		54
9	Ultraviolet and vacuum-ultraviolet detector-based radiometry at the Metrology Light Source. Measurement Science and Technology, 2010, 21, 125101.	2.6	47
10	Metrology of pulsed radiation for 157-nm lithography. Applied Optics, 2002, 41, 7167.	2.1	38
11	Experimental determination of optical constants of MgF2 and AlF3 thin films in the vacuum ultra-violet wavelength region (60â€“124nm), and its application to optical designs. Optics Communications, 2010, 283, 1351-1358.	2.1	38
12	An X-ray gas monitor for free-electron lasers. Journal of Synchrotron Radiation, 2019, 26, 1092-1100.	2.4	37
13	Current capabilities at the Metrology Light Source. Metrologia, 2012, 49, S146-S151.	1.2	36
14	Method based on atomic photoionization for spot-size measurement on focused soft x-ray free-electron laser beams. Applied Physics Letters, 2006, 89, 221114.	3.3	32
15	Kekulene: On-Surface Synthesis, Orbital Structure, and Aromatic Stabilization. ACS Nano, 2020, 14, 15766-15775.	14.6	30
16	Optical performance of B-layer ultra-shallow-junction silicon photodiodes in the VUV spectral range. Procedia Engineering, 2010, 5, 633-636.	1.2	27
17	Molecular contamination mitigation in EUVL by environmental control. Microelectronic Engineering, 2002, 61-62, 65-76.	2.4	26
18	Electrical and Optical Performance Investigation of Si-Based Ultrashallow-Junction $hbox{p}^{+}hbox{-}hbox{n}$ VUV/EUV Photodiodes. IEEE Transactions on Instrumentation and Measurement, 2012, 61, 1268-1277.	4.7	26

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19	4dPhotoionization of Free Singly Charged Xenon Ions. Physical Review Letters, 1999, 82, 2068-2070.	7.8	25
20	Surface-Charge-Collection-Enhanced High-Sensitivity High-Stability Silicon Photodiodes for DUV and VUV Spectral Ranges. IEEE Transactions on Electron Devices, 2012, 59, 2888-2894.	3.0	25
21	Understanding the photoemission distribution of strongly interacting two-dimensional overlayers. Physical Review B, 2017, 96, .	3.2	25
22	Calibration of space instrumentation with synchrotron radiation. Advances in Space Research, 2006, 37, 265-272.	2.6	23
23	Polarizing and non-polarizing mirrors for the hydrogen Lyman-Î± radiation at 121.6 nm. Applied Physics A: Materials Science and Processing, 2011, 102, 641-649.	2.3	22
24	Optical properties of In₂O₃ from experiment and first-principles theory: influence of lattice screening. New Journal of Physics, 2018, 20, 053016.	2.9	20
25	SPICE EUV spectrometer for the Solar Orbiter mission. Proceedings of SPIE, 2013, , .	0.8	18
26	Identifying surface reaction intermediates with photoemission tomography. Nature Communications, 2019, 10, 3189.	12.8	18
27	The Metrology Light Source â€“ The new dedicated electron storage ring of PTB. Nuclear Instruments & Methods in Physics Research B, 2007, 258, 445-452.	1.4	17
28	Temperature-dependent Urbach tail measurements of lutetium aluminum garnet single crystals. Physical Review B, 2010, 81, .	3.2	17
29	Broad-band efficiency calibration of ITER bolometer prototypes using Pt absorbers on SiN membranes. Review of Scientific Instruments, 2013, 84, 123501.	1.3	17
30	Chargeâ€Promoted Selfâ€Metalation of Porphyrins on an Oxide Surface. Angewandte Chemie - International Edition, 2021, 60, 5078-5082.	13.8	17
31	Spatial anisotropy of the exciton level inCaF2at 11.1 eV and its relation to the weak optical anisotropy at 157 nm. Physical Review B, 2003, 67, .	3.2	16
32	AlGaN-on-Si-Based 10-$muhbox{m}$ Pixel-to-Pixel Pitch Hybrid Imagers for the EUV Range. IEEE Electron Device Letters, 2011, 32, 1561-1563.	3.9	15
33	Developments, characterization and proton irradiation damage tests of AlN detectors for VUV solar observations. Nuclear Instruments & Methods in Physics Research B, 2013, 312, 48-53.	1.4	15
34	A synchrotron-radiation-based variable angle ellipsometer for the visible to vacuum ultraviolet spectral range. Review of Scientific Instruments, 2014, 85, 055117.	1.3	15
35	Inner-shell resonances in metastableCa+ions. Physical Review A, 1997, 55, 3941-3944.	2.5	13
36	Irradiation Damage Tests on Backside-Illuminated CMOS APS Prototypes for the Extreme Ultraviolet Imager On-Board Solar Orbiter. IEEE Transactions on Nuclear Science, 2013, 60, 3907-3914.	2.0	13

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37	Angle resolved photoemission from Cu single crystals: Known facts and a few surprises about the photoemission process. Journal of Electron Spectroscopy and Related Phenomena, 2016, 208, 2-10.	1.7	13
38	Temperature-dependent Urbach tail measurements of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>CaF</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:ms crystals. Physical Review B, 2009, 79, .	3.2	12
39	Development of imaging arrays for solar UV observations based on wide band gap materials. , 2004, , .		11
40	Polarization-dependent vacuum-ultraviolet reflectometry using elliptically polarized synchrotron radiation. Applied Optics, 2007, 46, 7797.	2.1	11
41	Optical stability investigation of high-performance silicon-based VUV photodiodes. , 2010, , .		11
42	Electronic properties and morphology of Cu-phthalocyanineâ€”C60 composite mixtures. Journal of Applied Physics, 2014, 115, 033705.	2.5	11
43	The U125 insertion device beamline at the Metrology Light Source. Journal of Synchrotron Radiation, 2019, 26, 535-542.	2.4	11
44	Uncertainty analysis for the determination of B_4C optical constants by angle-dependent reflectance measurement for 40â€‰â€‰nm to 80â€‰â€‰nm wavelength. Applied Optics, 2017, 56, 5768.	1.8	11
45	Quantum efficiency measurements of eROSITA pnCCDs. Proceedings of SPIE, 2010, , .	0.8	10
46	High-sensitivity high-stability silicon photodiodes for DUV, VUV and EUV spectral ranges. Proceedings of SPIE, 2011, , .	0.8	10
47	Characterization of Backside-Illuminated CMOS APS Prototypes for the Extreme Ultraviolet Imager On-Board Solar Orbiter. IEEE Transactions on Electron Devices, 2013, 60, 1701-1708.	3.0	10
48	Where does the Thermospheric Ionospheric GEospheric Research (TIGER) Program go?. Advances in Space Research, 2015, 56, 1547-1577.	2.6	10
49	Angle resolved Photoemission from Ag and Au single crystals: Final state lifetimes in the attosecond range. Journal of Electron Spectroscopy and Related Phenomena, 2018, 224, 84-92.	1.7	10
50	<title>Lifetime testing of EUV optics using intense synchrotron radiation at the PTB Radiometry Laboratory</title>. , 2001, , .		9
51	Gas-Monitor Detector for Intense and Pulsed VUV/EUV Free-Electron Laser Radiation. AIP Conference Proceedings, 2004, , .	0.4	9
52	Degradation assessment of LYRA after 5Âyears on orbit - Technology Demonstration -. Experimental Astronomy, 2015, 39, 29-43.	3.7	9
53	Can photoemission tomography be useful for small, strongly-interacting adsorbate systems?. New Journal of Physics, 2019, 21, 043003.	2.9	9
54	Validation of thin film TiO₂ optical constants by reflectometry and ellipsometry in the VUV spectral range. Measurement Science and Technology, 2019, 30, 045201.	2.6	9

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55	Optical properties of a Cr/4H-SiC photodetector in the spectral range from ultraviolet to extreme ultraviolet. Applied Optics, 2018, 57, 8431.	1.8	9
56	Bilateral NISTâ€“PTB comparison of spectral responsivity in the VUV. Metrologia, 2011, 48, 02001-02001.	1.2	8
57	Irradiation-induced degradation of PTB7 investigated by valence band and S 2pphotoelectron spectroscopy. Nanotechnology, 2016, 27, 324005.	2.6	8
58	Radiometric comparison of the primary source standard â€˜Metrology Light Sourceâ€™ to a primary detector standard. Metrologia, 2011, 48, 219-225.	1.2	7
59	Going beyond Pentacene: Photoemission Tomography of a Heptacene Monolayer on Ag(110). Journal of Physical Chemistry C, 2021, 125, 2918-2925.	3.1	7
60	Hexacene on Cu(110) and Ag(110): Influence of the Substrate on Molecular Orientation and Interfacial Charge Transfer. Journal of Physical Chemistry C, 2022, 126, 5036-5045.	3.1	7
61	Series resistance optimization of high-sensitivity si-based VUV photodiodes. , 2011, , .		6
62	Controlling the electronic and physical coupling on dielectric thin films. Beilstein Journal of Nanotechnology, 2020, 11, 1492-1503.	2.8	6
63	High-accuracy VUV reflectometry at selectable sample temperatures. , 2004, , .		5
64	UV and VUV calibration capabilities at the Metrology Light Source for solar and atmospheric research. AIP Conference Proceedings, 2013, , .	0.4	5
65	Traceable measurements of He, Ne, Ar, Kr, and Xe photoionization cross sections in the EUV spectral range. Journal of Physics B: Atomic, Molecular and Optical Physics, 2018, 51, 135004.	1.5	5
66	Advanced silicon radiation detectors in the vacuum ultraviolet (VUV) and the extreme ultraviolet (EUV) spectral range. , 2014, , 102-123.		4
67	Electronic properties of Mn-phthalocyanineâ€“C60 bulk heterojunctions: Combining photoemission and electron energy-loss spectroscopy. Journal of Applied Physics, 2015, 118, .	2.5	4
68	Calibration of space instruments at the Metrology Light Source. AIP Conference Proceedings, 2016, , .	0.4	4
69	Comparison of Back-Thinned Detector Ultraviolet Quantum Efficiency for Two Commercially Available Passivation Treatments. IEEE Transactions on Nuclear Science, 2020, 67, 1962-1967.	2.0	4
70	Pulse energy measurements of extreme ultraviolet undulator radiation. Measurement Science and Technology, 2004, 15, 437-443.	2.6	3
71	Design and Radiation Hardness of Next Generation Solar UV Radiometers. , 2014, , .		3
72	Developments in calibration of EUV and VUV detectors for solar orbiter instrumentation using synchrotron radiation. , 2016, , .		3

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73	Transverse resonance island buckets for synchrotron-radiation based electron time-of-flight spectroscopy. Review of Scientific Instruments, 2018, 89, 103114.	1.3	3
74	LadungsunterstÃ¼tzte Selbstmetallierung von Porphyrinen auf OxidoberflÃchen. Angewandte Chemie, 2021, 133, 5138-5142.	2.0	3
75	Photoelectron spectroscopy on atomic Pr and Nd in the 4d giant resonance region. Journal of Physics B: Atomic, Molecular and Optical Physics, 1998, 31, 3875-3884.	1.5	2
76	FEL beam metrology with a gas-monitor detector. , 2004, , .		2
77	Stability of vacuum-ultraviolet radiometric transfer standards: Electron cyclotron resonance versus hollow cathode source. Review of Scientific Instruments, 2005, 76, 023101.	1.3	2
78	The Metrology Light Source â€" the New Dedicated Electron Storage Ring of PTB. AIP Conference Proceedings, 2007, , .	0.4	1
79	Advanced silicon radiation detectors in the vacuum ultraviolet and the extreme ultraviolet spectral range. , 2018, , 151-170.		1
80	On the optical anisotropy in the cubic crystal of CaF 2 : scaling arguments and their relation to dispersing absorption. , 2003, , .		0
81	Absolute Measurement Of EUV Radiation From An Undulator. AIP Conference Proceedings, 2004, , .	0.4	0
82	Saturation behaviour of PtSi-photodiodes under 157-nm laser irradiation. , 0, , .		0
83	Absolute measurement of F_2-laser power at 157 nm. Applied Optics, 2006, 45, 3325.	2.1	0
84	Elektronenorbitale in 3D. Physik in Unserer Zeit, 2016, 47, 192-198.	0.0	0
85	The EUI flight instrument of Solar Orbiter: from optical alignment to end-to-end calibration. , 2018, , .		0