

Wayne McKinney

List of Publications by Year in descending order

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108
papers

2,789
citations

279798

23
h-index

197818

49
g-index

110
all docs

110
docs citations

110
times ranked

2369
citing authors

#	ARTICLE	IF	CITATIONS
1	High-power terahertz radiation from relativistic electrons. <i>Nature</i> , 2002, 420, 153-156.	27.8	669
2	IR spectroscopic characteristics of cell cycle and cell death probed by synchrotron radiation based Fourier transform IR spectromicroscopy. <i>Biopolymers</i> , 2000, 57, 329-335.	2.4	205
3	Performance of a high resolution, high flux density SGM undulator beamline at the ALS (invited). <i>Review of Scientific Instruments</i> , 1995, 66, 2037-2040.	1.3	136
4	Observation of Broadband Self-Amplified Spontaneous Coherent Terahertz Synchrotron Radiation in a Storage Ring. <i>Physical Review Letters</i> , 2002, 89, 224801.	7.8	122
5	Dependence of the fundamental band gap of Al _x Ga _{1-x} N on alloy composition and pressure. <i>Journal of Applied Physics</i> , 1999, 85, 8505-8507.	2.5	112
6	Catalysis of PAH Biodegradation by Humic Acid Shown in Synchrotron Infrared Studies. <i>Environmental Science & Technology</i> , 2002, 36, 1276-1280.	10.0	103
7	Suite of three protein crystallography beamlines with single superconducting bend magnet as the source. <i>Journal of Synchrotron Radiation</i> , 2004, 11, 447-455.	2.4	83
8	Synchrotron infrared spectromicroscopy as a novel bioanalytical microprobe for individual living cells: cytotoxicity considerations. <i>Journal of Biomedical Optics</i> , 2002, 7, 417.	2.6	77
9	Tracking Chemical Changes in a Live Cell: Biomedical Applications of SR-FTIR Spectromicroscopy. <i>Spectroscopy</i> , 2003, 17, 139-159.	0.8	56
10	Using a straightness reference in obtaining more accurate surface profiles from a long trace profiler. <i>Review of Scientific Instruments</i> , 1992, 63, 1436-1438.	1.3	53
11	Negligible Sample Heating from Synchrotron Infrared Beam. <i>Applied Spectroscopy</i> , 2001, 55, 111-113.	2.2	44
12	Synchrotron-Based FTIR Spectromicroscopy: Cytotoxicity and Heating Considerations. <i>Journal of Biological Physics</i> , 2003, 29, 275-286.	1.5	44
13	Low-Dose Responses to 2,3,7,8-Tetrachlorodibenzo-p-dioxin in Single Living Human Cells Measured by Synchrotron Infrared Spectromicroscopy. <i>Environmental Science & Technology</i> , 2000, 34, 2513-2517.	10.0	43
14	High-resolution soft X-ray emission spectrograph at advanced light source. <i>Journal of Physics and Chemistry of Solids</i> , 2005, 66, 2173-2178.	4.0	37
15	Development of a high-performance gantry system for a new generation of optical slope measuring profilers. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2013, 710, 31-36.	1.6	35
16	Advanced environmental control as a key component in the development of ultrahigh accuracy <i>ex situ</i> metrology for x-ray optics. <i>Optical Engineering</i> , 2015, 54, 104104.	1.0	30
17	Plasma discharge cleaning of replica gratings contaminated by synchrotron radiation. <i>Nuclear Instruments & Methods in Physics Research</i> , 1982, 195, 371-374.	0.9	29
18	Imaging theory of plane-symmetric varied line-space grating systems. <i>Optical Engineering</i> , 1994, 33, 820.	1.0	29

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19	Optimal tuning and calibration of bendable mirrors with slope-measuring profilers. Optical Engineering, 2009, 48, 083601.	1.0	28
20	The First Synchrotron Infrared Beamlines at the Advanced Light Source: Microspectroscopy and Fast Timing. Materials Research Society Symposia Proceedings, 1998, 524, 11.	0.1	26
21	Performance of the upgraded LTP-II at the ALS Optical Metrology Laboratory. Proceedings of SPIE, 2008, , .	0.8	26
22	Production of high power femtosecond terahertz radiation. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2003, 507, 537-540.	1.6	24
23	Surface roughness of stainless-steel mirrors for focusing soft x rays. Applied Optics, 2006, 45, 4833.	2.1	23
24	Proposal for a universal test mirror for characterization of slope measuring instruments. , 2007, , .		23
25	Binary pseudo-random gratings and arrays for calibration of modulation transfer functions of surface profilometers. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 616, 172-182.	1.6	23
26	Mid-infrared reflectivity of experimental atheromas. Journal of Biomedical Optics, 2008, 13, 030503.	2.6	22
27	Development and calibration of mirrors and gratings for the soft x-ray materials science beamline at the Linac Coherent Light Source free-electron laser. Applied Optics, 2012, 51, 2118.	1.8	21
28	The advanced light source U8 beam line, 20â€“300 eV. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1992, 319, 106-109.	1.6	20
29	Varied lineâ€space gratings and applications (invited). Review of Scientific Instruments, 1992, 63, 1410-1414.	1.3	19
30	A new x-ray optics laboratory (XROL) at the ALS: mission, arrangement, metrology capabilities, performance, and future plans. Proceedings of SPIE, 2014, , .	0.8	19
31	First infrared beamline at the ALS: design, construction, and initial commissioning. Proceedings of SPIE, 1997, 3153, 59.	0.8	18
32	Two-dimensional power spectral density measurements of x-ray optics with the Micromap interferometric microscope. , 2005, , .		18
33	Binary pseudo-random grating as a standard test surface for measurement of modulation transfer function of interferometric microscopes. Proceedings of SPIE, 2007, , .	0.8	18
34	Methodology for optimalin situ alignment and setting of bendable optics for nearly diffraction-limited focusing of soft x-rays. Optical Engineering, 2013, 52, 033603.	1.0	17
35	The first synchrotron infrared beamlines at the advanced light source: Spectromicroscopy and fast timing. Ferroelectrics, 2001, 249, 1-10.	0.6	16
36	CIRCE: a dedicated storage ring for coherent THz synchrotron radiation. Infrared Physics and Technology, 2004, 45, 325-330.	2.9	16

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37	Cross-check of different techniques for two-dimensional power spectral density measurements of x-ray optics. , 2005, , .		16
38	Elliptically Bent X-Ray Mirrors with Active Temperature Stabilization. X-Ray Optics and Instrumentation, 2010, 2010, 1-9.	0.7	16
39	High-peak-power surface high-harmonic generation at extreme ultra-violet wavelengths from a tape. Journal of Applied Physics, 2013, 114, 043106.	2.5	16
40	Noise reduction efforts for the ALS infrared beamlines. Infrared Physics and Technology, 2004, 45, 403-408.	2.9	15
41	Development of pseudorandom binary arrays for calibration of surface profile metrology tools. Journal of Vacuum Science & Technology B, 2009, 27, 3213.	1.3	15
42	Cross-check of ex-situ and in-situ metrology of a bendable temperature stabilized KB mirror. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 635, S58-S63.	1.6	14
43	The developmental long trace profiler (DLTP) optimized for metrology of side-facing optics at the ALS. , 2014, , .		14
44	Air convection noise of pencil-beam interferometer for long trace profiler. , 2006, , .		13
45	High precision tilt stage as a key element to a universal test mirror for characterization and calibration of slope measuring instruments. Review of Scientific Instruments, 2016, 87, 051904.	1.3	13
46	<title>First infrared beamlines at the ALS: final commissioning and new end stations</title>. , 1999, , .		12
47	Individual human cell responses to low doses of chemicals studied by synchrotron infrared spectromicroscopy. , 2000, , .		12
48	New procedures for the adjustment of elliptically bent mirrors with the long trace profiler. Proceedings of SPIE, 2007, 6704, 138.	0.8	12
49	At-wavelength optical metrology development at the ALS. Proceedings of SPIE, 2010, , .	0.8	12
50	Development of in situ, at-wavelength metrology for soft X-ray nano-focusing. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 649, 160-162.	1.6	12
51	Characterization of electron microscopes with binary pseudo-random multilayer test samples. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 649, 150-152.	1.6	12
52	<title>XUV synchrotron optical components for the Advanced Light Source: summary of the requirements and the developmental program</title>. , 1993, , .		11
53	Very High Power THz Radiation Sources. Journal of Biological Physics, 2003, 29, 319-325.	1.5	11
54	Automated suppression of errors in LTP-II slope measurements with x-ray optics. Proceedings of SPIE, 2011, , .	0.8	11

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55	Development of a new generation of optical slope measuring profiler. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 649, 153-155.	1.6	11
56	<title>Imaging equations for spectroscopic systems using Lie transformations: I. Theoretical foundations</title>. , 1998, 3450, 55.		10
57	<title>Imaging equations for spectroscopic systems using Lie transformations: II. Multielement systems</title>. , 1998, 3450, 67.		10
58	In situ fine tuning of bendable soft x-ray mirrors using a lateral shearing interferometer. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 710, 82-86.	1.6	10
59	<i> Ex situ </i> metrology and data analysis for optimization of beamline performance of aspherical pre-shaped x-ray mirrors at the advanced light source. Review of Scientific Instruments, 2019, 90, 021711.	1.3	10
60	Very high power THz radiation at Jefferson Lab. Physics in Medicine and Biology, 2002, 47, 3761-3764.	3.0	9
61	Obtaining three-dimensional height profiles from a two-dimensional slope measuring instrument. Review of Scientific Instruments, 1995, 66, 2108-2111.	1.3	8
62	Design optimization of bendable x-ray mirrors. Proceedings of SPIE, 2011, , .	0.8	8
63	Binary pseudo-random patterned structures for modulation transfer function calibration and resolution characterization of a full-field transmission soft x-ray microscope. Review of Scientific Instruments, 2015, 86, 123702.	1.3	8
64	Equivalence of focusing conditions for holographic and varied line-space grating systems. Applied Optics, 1990, 29, 47.	2.1	7
65	<title>Noise reduction for the infrared beamline at the Advanced Light Source</title>. , 1999, 3775, 58.		7
66	Flat-field calibration of CCD detector for long trace profiler. , 2007, , .		7
67	Binary pseudo-random gratings and arrays for calibration of the modulation transfer function of surface profilometers: recent developments. Proceedings of SPIE, 2009, , .	0.8	7
68	Global High-Accuracy Intercomparison of Slope Measuring Instruments. AIP Conference Proceedings, 2007, , .	0.4	6
69	Metrology for the Advancement of X-ray Optics at the ALS. Synchrotron Radiation News, 2013, 26, 4-12.	0.8	6
70	Experimental methods for optimal tuning of bendable mirrors for diffraction-limited soft x-ray focusing. Journal of Physics: Conference Series, 2013, 425, 152003.	0.4	6
71	Diaboloidal mirrors: algebraic solution and surface shape approximations. Journal of Synchrotron Radiation, 2021, 28, 1031-1040.	2.4	6
72	New twist in the optical schematic of surface slope measuring long trace profiler. , 2017, , .		6

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73	Current schemes for National Synchrotron Light Source UV beamlines. Nuclear Instruments & Methods, 1980, 172, 379-385.	1.2	5
74	An experimental apparatus for diffraction-limited soft x-ray nano-focusing. , 2011, , .		5
75	Ex situ tuning of bendable x-ray mirrors for optimal beamline performance. , 2012, , .		5
76	Ex situ metrology of x-ray diffraction gratings. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 710, 59-66.	1.6	5
77	Water cooled metal optics for the advanced light source. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1992, 319, 179-184.	1.6	4
78	The differential method for grating efficiencies implemented in mathematicaã,,ç. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1994, 347, 216-219.	1.6	4
79	Applications of Synchrotron Infrared Microspectroscopy to the Study of Inorganic-Organic Interactions at the Bacterial- Mineral Interface. Materials Research Society Symposia Proceedings, 1998, 524, 17.	0.1	4
80	<title>Detecting exposure to environmental organic toxins in individual cells: toward development of a microfabricated device</title>. , 1999, , .		4
81	Physics and forensics. Physics World, 2002, 15, 43-46.	0.0	4
82	An Energy-Stabilized Varied-Line-Space-Monochromator Undulator Beam Line for PEEM Illumination and Magnetic Circular Dichroism. AIP Conference Proceedings, 2007, , .	0.4	4
83	Methodology for optimal in situ alignment and setting of bendable optics for diffraction-limited focusing of soft x-rays. , 2012, , .		4
84	Cross comparison of surface slope and height optical metrology with a super-polished plane Si mirror. Proceedings of SPIE, 2012, , .	0.8	4
85	<title>XUV synchrotron optical components for the Advanced Light Source: fabrication and metrology</title>. , 1993, 1740, 161.		3
86	Calibration of the modulation transfer function of surface profilometers with binary pseudo-random test standards: expanding the application range. , 2010, , .		3
87	Development of multi-beam long trace profiler. , 2011, , .		3
88	Bendable Kirkpatrick-Baez mirrors for the ALS micro-diffraction beamline 12.3.2: optimal tuning and alignment for multiple focusing geometries. Journal of Physics: Conference Series, 2013, 425, 152004.	0.4	3
89	1.5â€‰nm fabrication of test patterns for characterization of metrological systems. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2015, 33, .	1.2	3
90	At-wavelength and optical metrology of bendable x-ray optics for nanofocusing at the ALS. , 2009, , .		3

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91	Design Of Grazing Incidence Monochromators Involving Unconventional Gratings. Proceedings of SPIE, 1989, 1055, 332.	0.8	2
92	Water-cooled ion-milled diffraction gratings for the synchrotron radiation community. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1994, 347, 220-225.	1.6	2
93	Efficiency and stray light measurements and calculations of diffraction gratings for the Advanced Light Source. Review of Scientific Instruments, 1995, 66, 2160-2163.	1.3	2
94	<title>Imaging properties of varied-line-space (VLS) gratings with adjustable curvature</title>. , 1998, , .		2
95	2. Grazing-Incidence Monochromators for Third-Generation Synchrotron Radiation Sources. Experimental Methods in the Physical Sciences, 1998, 32, 21-54.	0.1	2
96	Optical path function calculation for an incoming cylindrical wave. , 2009, , .		2
97	Studies in optimal configuration of the LTP. Proceedings of SPIE, 2010, , .	0.8	2
98	Surface Slope Metrology on Deformable Soft X-ray Mirrors. , 2010, , .		2
99	Optimal setting of bendable optics based on FEA calculations. Proceedings of SPIE, 2012, , .	0.8	2
100	Progress of multi-beam long trace-profiler development. Proceedings of SPIE, 2012, , .	0.8	2
101	High precision surface metrology of x-ray optics with an interferometric microscope. Proceedings of SPIE, 2013, , .	0.8	2
102	Development, experimental performance and damage properties of x-ray optics for the LCLS free-electron laser. , 2013, , .		2
103	Derivation of aberration coefficients for single-element plane-symmetric reflecting systems using Mathematica. , 1997, 3150, 97.		1
104	Design of Emission Spectrometers with Resolving Power of 10,000. AIP Conference Proceedings, 2004, , .	0.4	1
105	Status of multi-beam long trace-profiler development. , 2013, , .		1
106	Ex-situ metrology and data processing techniques developed at the ALS for optimization of beamline performance of bendable x-ray mirrors. , 2018, , .		1
107	Aberration analysis calculations for synchrotron radiation beamline design. , 1997, 3150, 105.		0
108	Integration of the Two-Dimensional Power Spectral Density into Specifications for the X-ray Domainâ€™Problems and Opportunities. , 2008, , .		0