Wayne McKinney

List of Publications by Year
in descending order

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	Diaboloidal mirrors: algebraic solution and surface shape approximations. Journal of Synchrotron Radiation, 2021, 28, 1031-1040.	2.4	6
2	Ex situ 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
3	Ex-situ metrology and data processing techniques developed at the ALS for optimization of beamline performance of bendable x-ray mirrors. , 2018, , .		1
4	New twist in the optical schematic of surface slope measuring long trace profiler. , 2017, , .		6
5	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
6	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
7	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
8	Advanced environmental control as a key component in the development of ultrahigh accuracyex situmetrology for x-ray optics. Optical Engineering, 2015, 54, 104104.	1.0	30
9	The developmental long trace profiler (DLTP) optimized for metrology of side-facing optics at the ALS. , 2014, , .		14
10	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
11	High precision surface metrology of x-ray optics with an interferometric microscope. Proceedings of SPIE, 2013, , .	0.8	2
12	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
13	Development of a high-performance gantry system for a new generation of optical slope measuring profilers. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 710, 31-36.	1.6	35
14	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
15	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
16	Methodology for optimalin situalignment and setting of bendable optics for nearly diffraction-limited focusing of soft x-rays. Optical Engineering, 2013, 52, 033603.	1.0	17
17	Development, experimental performance and damage properties of x-ray optics for the LCLS free-electron laser. , 2013, , .		2
18	Metrology for the Advancement of X-ray Optics at the ALS. Synchrotron Radiation News, 2013, 26, 4-12.	0.8	6

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19	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
20	Status of multi-beam long trace-profiler development. , 2013, , .		1
21	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
22	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
23	Methodology for optimal in situ alignment and setting of bendable optics for diffraction-limited focusing of soft x-rays. , 2012, , .		4
24	Cross comparison of surface slope and height optical metrology with a super-polished plane Si mirror. Proceedings of SPIE, 2012, , .	0.8	4
25	Optimal setting of bendable optics based on FEA calculations. Proceedings of SPIE, 2012, , .	0.8	2
26	Ex situ tuning of bendable x-ray mirrors for optimal beamline performance. , 2012, , .		5
27	Progress of multi-beam long trace-profiler development. Proceedings of SPIE, 2012, , .	0.8	2
28	Design optimization of bendable x-ray mirrors. Proceedings of SPIE, 2011, , .	0.8	8
29	Automated suppression of errors in LTP-II slope measurements with x-ray optics. Proceedings of SPIE, 2011, , .	0.8	11
30	Development of multi-beam long trace profiler. , 2011, , .		3
31	An experimental apparatus for diffraction-limited soft x-ray nano-focusing. , 2011, , .		5
32	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
33	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
34	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
35	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
36	Studies in optimal configuration of the LTP. Proceedings of SPIE, 2010, , .	0.8	2

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37	At-wavelength optical metrology development at the ALS. Proceedings of SPIE, 2010, , .	0.8	12
38	Calibration of the modulation transfer function of surface profilometers with binary pseudo-random test standards: expanding the application range. , 2010, , .		3
39	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
40	Surface Slope Metrology on Deformable Soft X-ray Mirrors. , 2010, , .		2
41	Elliptically Bent X-Ray Mirrors with Active Temperature Stabilization. X-Ray Optics and Instrumentation, 2010, 2010, 1-9.	0.7	16
42	Optimal tuning and calibration of bendable mirrors with slope-measuring profilers. Optical Engineering, 2009, 48, 083601.	1.0	28
43	Development of pseudorandom binary arrays for calibration of surface profile metrology tools. Journal of Vacuum Science & Technology B, 2009, 27, 3213.	1.3	15
44	Optical path function calculation for an incoming cylindrical wave. , 2009, , .		2
45	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
46	At-wavelength and optical metrology of bendable x-ray optics for nanofocusing at the ALS. , 2009, , .		3
47	Mid-infrared reflectivity of experimental atheromas. Journal of Biomedical Optics, 2008, 13, 030503.	2.6	22
48	Performance of the upgraded LTP-II at the ALS Optical Metrology Laboratory. Proceedings of SPIE, 2008, , .	0.8	26
49	Integration of the Two-Dimensional Power Spectral Density into Specifications for the X-ray Domainâ€"Problems and Opportunities. , 2008, , .		0
50	An Energy-Stabilized Varied-Line-Space-Monochromator Undulator Beam Line for PEEM Illumination and Magnetic Circular Dichroism. AIP Conference Proceedings, 2007, , .	0.4	4
51	Global High-Accuracy Intercomparison of Slope Measuring Instruments. AIP Conference Proceedings, 2007, , .	0.4	6
52	New procedures for the adjustment of elliptically bent mirrors with the long trace profiler. Proceedings of SPIE, 2007, 6704, 138.	0.8	12
53	Flat-field calibration of CCD detector for long trace profiler. , 2007, , .		7
54	Proposal for a universal test mirror for characterization of slope measuring instruments. , 2007, , .		23

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55	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
56	Surface roughness of stainless-steel mirrors for focusing soft x rays. Applied Optics, 2006, 45, 4833.	2.1	23
57	Air convection noise of pencil-beam interferometer for long trace profiler. , 2006, , .		13
58	High-resolution soft X-ray emission spectrograph at advanced light source. Journal of Physics and Chemistry of Solids, 2005, 66, 2173-2178.	4.0	37
59	Cross-check of different techniques for two-dimensional power spectral density measurements of x-ray optics. , 2005, , .		16
60	Two-dimensional power spectral density measurements of x-ray optics with the Micromap interferometric microscope. , 2005, , .		18
61	Design of Emission Spectrometers with Resolving Power of 10,000. AIP Conference Proceedings, 2004, , .	0.4	1
62	Suite of three protein crystallography beamlines with single superconducting bend magnet as the source. Journal of Synchrotron Radiation, 2004, 11, 447-455.	2.4	83
63	Noise reduction efforts for the ALS infrared beamlines. Infrared Physics and Technology, 2004, 45, 403-408.	2.9	15
64	CIRCE: a dedicated storage ring for coherent THz synchrotron radiation. Infrared Physics and Technology, 2004, 45, 325-330.	2.9	16
65	Synchrotron-Based FTIR Spectromicroscopy: Cytotoxicity and Heating Considerations. Journal of Biological Physics, 2003, 29, 275-286.	1.5	44
66	Very High Power THz Radiation Sources. Journal of Biological Physics, 2003, 29, 319-325.	1.5	11
67	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
68	Tracking Chemical Changes in a Live Cell: Biomedical Applications of SR-FTIR Spectromicroscopy. Spectroscopy, 2003, 17, 139-159.	0.8	56
69	Very high power THz radiation at Jefferson Lab. Physics in Medicine and Biology, 2002, 47, 3761-3764.	3.0	9
70	Synchrotron infrared spectromicroscopy as a novel bioanalytical microprobe for individual living cells: cytotoxicity considerations. Journal of Biomedical Optics, 2002, 7, 417.	2.6	77
71	Physics and forensics. Physics World, 2002, 15, 43-46.	0.0	4
72	Catalysis of PAH Biodegradation by Humic Acid Shown in Synchrotron Infrared Studies. Environmental Science & Technology, 2002, 36, 1276-1280.	10.0	103

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73	Observation of Broadband Self-Amplified Spontaneous Coherent Terahertz Synchrotron Radiation in a Storage Ring. Physical Review Letters, 2002, 89, 224801.	7.8	122
74	High-power terahertz radiation from relativistic electrons. Nature, 2002, 420, 153-156.	27.8	669
75	Negligible Sample Heating from Synchrotron Infrared Beam. Applied Spectroscopy, 2001, 55, 111-113.	2.2	44
76	The first synchrotron infrared beamlines at the advanced light source: Spectromicroscopy and fast timing. Ferroelectrics, 2001, 249, 1-10.	0.6	16
77	Individual human cell responses to low doses of chemicals studied by synchrotron infrared spectromicroscopy. , 2000, , .		12
78	IR spectroscopic characteristics of cell cycle and cell death probed by synchrotron radiation based Fourier transform IR spectromicroscopy. Biopolymers, 2000, 57, 329-335.	2.4	205
79	Low-Dose Responses to 2,3,7,8-Tetrachlorodibenzo-p-dioxin in Single Living Human Cells Measured by Synchrotron Infrared Spectromicroscopy. Environmental Science & Technology, 2000, 34, 2513-2517.	10.0	43
80	Dependence of the fundamental band gap of AlxGa1â^'xN on alloy composition and pressure. Journal of Applied Physics, 1999, 85, 8505-8507.	2.5	112
81	<title>First infrared beamlines at the ALS: final commissioning and new end stations</title>. , 1999, , .		12
82	<title>Detecting exposure to environmental organic toxins in individual cells: toward development of a microfabricated device</title>. , 1999, , .		4
83	<title>Noise reduction for the infrared beamline at the Advanced Light Source</title>. , 1999, 3775, 58.		7
84	<title>Imaging equations for spectroscopic systems using Lie transformations: I. Theoretical foundations</title>. , 1998, 3450, 55.		10
85	<title>Imaging equations for spectroscopic systems using Lie transformations: II. Multielement systems</title>. , 1998, 3450, 67.		10
86	<title>Imaging properties of varied-line-space (VLS) gratings with adjustable curvature</title>. , 1998, , .		2
87	2. Grazing-Incidence Monochromators for Third-Generation Synchrotron Radiation Sources. Experimental Methods in the Physical Sciences, 1998, 32, 21-54.	0.1	2
88	The First Synchrotron Infrared Beamlines at the Advanced Light Source: Microscpectroscopy and Fast Timing. Materials Research Society Symposia Proceedings, 1998, 524, 11.	0.1	26
89	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
90	First infrared beamline at the ALS: design, construction, and initial commissioning. Proceedings of SPIE, 1997, 3153, 59.	0.8	18

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91	Aberration analysis calculations for synchrotron radiation beamline design. , 1997, 3150, 105.		0
92	Derivation of aberration coefficients for single-element plane-symmetric reflecting systems using Mathematica. , 1997, 3150, 97.		1
93	Performance of a high resolution, high flux density SGM undulator beamline at the ALS (invited). Review of Scientific Instruments, 1995, 66, 2037-2040.	1.3	136
94	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
95	Obtaining threeâ€dimensional height profiles from a twoâ€dimensional slope measuring instrument. Review of Scientific Instruments, 1995, 66, 2108-2111.	1.3	8
96	Imaging theory of plane-symmetric varied line-space grating systems. Optical Engineering, 1994, 33, 820.	1.0	29
97	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
98	The differential method for grating efficiencies implemented in mathematicaâ„¢. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1994, 347, 216-219.	1.6	4
99	<title>XUV synchrotron optical components for the Advanced Light Source: fabrication and metrology</title>. , 1993, 1740, 161.		3
100	<title>XUV synchrotron optical components for the Advanced Light Source: summary of the requirements and the developmental program</title>. , 1993, , .		11
101	Using a straightness reference in obtaining more accurate surface profiles from a long trace profiler. Review of Scientific Instruments, 1992, 63, 1436-1438.	1.3	53
102	Varied lineâ€space gratings and applications (invited). Review of Scientific Instruments, 1992, 63, 1410-1414.	1.3	19
103	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
104	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
105	Equivalence of focusing conditions for holographic and varied line-space grating systems. Applied Optics, 1990, 29, 47.	2.1	7
106	Design Of Grazing Incidence Monochromators Involving Unconventional Gratings. Proceedings of SPIE, 1989, 1055, 332.	0.8	2
107	Plasma discharge cleaning of replica gratings contaminated by synchrotron radiation. Nuclear Instruments & Methods in Physics Research, 1982, 195, 371-374.	0.9	29
108	Current schemes for National Synchrotron Light Source UV beamlines. Nuclear Instruments & Methods, 1980, 172, 379-385.	1.2	5