Valeriy V Yashchuk

List of Publications by Year
in descending order

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65 papers	911 citations	567281 15 h-index	552781 26 g-index
65 all docs	65 docs citations	65 times ranked	372 citing authors

#	Article	IF	Citations
1	Simulations of applications using diaboloid mirrors. Journal of Synchrotron Radiation, 2021, 28, 1041-1049.	2.4	6
2	Diaboloidal mirrors: algebraic solution and surface shape approximations. Journal of Synchrotron Radiation, 2021, 28, 1031-1040.	2.4	6
3	Binary pseudo-random array test standard optimized for characterization of interferometric microscopes. , 2021, , .		6
4	Super-resolution surface slope metrology of x-ray mirrors. Review of Scientific Instruments, 2020, 91, 075113.	1.3	10
5	An ultrahigh-resolution soft x-ray microscope for quantitative analysis of chemically heterogeneous nanomaterials. Science Advances, 2020, 6, .	10.3	47
6	Optimization of the size and shape of the scanning aperture in autocollimator-based deflectometric profilometers. Review of Scientific Instruments, 2019, 90, 021717.	1.3	11
7	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
8	Environmental influences on autocollimator-based angle and form metrology. Review of Scientific Instruments, 2019, 90, 021705.	1.3	13
9	Investigation on lateral resolution of surface slope profilers. , 2019, , .		9
10	Transfer of autocollimator calibration for use with scanning gantry profilometers for accurate determination of surface slope and curvature of state-of-the-art x-ray mirrors. , 2019, , .		2
11	Correlation methods in optical metrology with state-of-the-art x-ray mirrors. , 2018, , .		9
12	The ALS OSMS: Optical Surface Measuring System for high accuracy two-dimensional slope metrology with state-of-the-art x-ray mirrors. , 2018, , .		10
13	Ex-situ metrology and data processing techniques developed at the ALS for optimization of beamline performance of bendable x-ray mirrors. , 2018, , .		1
14	Development of a high performance surface slope measuring system for two-dimensional mapping of x-ray optics. , 2017, , .		8
15	New twist in the optical schematic of surface slope measuring long trace profiler. , 2017, , .		6
16	Surface slope metrology of highly curved x-ray optics with an interferometric microscope. , 2017, , .		0
17	DABAM: an open-source database of X-ray mirrors metrology. Journal of Synchrotron Radiation, 2016, 23, 665-678.	2.4	16
18	New operational mode of the pencil beam interferometry based LTP. , 2016, , .		3

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19	Modeling surface topography of state-of-the-art x-ray mirrors as a result of stochastic polishing process: recent developments. Proceedings of SPIE, 2016, , .	0.8	3
20	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
21	Modeling of surface metrology of state-of-the-art x-ray mirrors as a result of stochastic polishing process. Optical Engineering, 2016, 55, 074106.	1.0	8
22	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
23	Performance optimization of a bendable parabolicÂcylinder collimating X-ray mirror for the ALS micro-XAS beamline 10.3.2. Journal of Synchrotron Radiation, 2015, 22, 666-674.	2.4	5
24	Modeling of surface metrology of state-of-the-art x-ray mirrors as a result of stochastic polishing process. Proceedings of SPIE, 2015, , .	0.8	2
25	Specification of x-ray mirrors in terms of system performance: new twist to an old plot. Optical Engineering, 2015, 54, 025108.	1.0	29
26	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
27	Application of the time-invariant linear filter approximation to parametrization of surface metrology with high-quality x-ray optics. Optical Engineering, 2014, 53, 084102.	1.0	11
28	The developmental long trace profiler (DLTP) optimized for metrology of side-facing optics at the ALS. , 2014, , .		14
29	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
30	Specification of x-ray mirrors in terms of system performance: a new twist to an old plot. Proceedings of SPIE, 2014, , .	0.8	6
31	Angular calibration of surface slope measuring profilers with a bendable mirror. , 2014, , .		1
32	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
33	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
34	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
35	Metrology for the Advancement of X-ray Optics at the ALS. Synchrotron Radiation News, 2013, 26, 4-12.	0.8	6
36	Two-foci bendable mirrors for the ALS MAESTRO beamline: design and metrology characterization and optimal tuning of the mirror benders. Proceedings of SPIE, 2013, , .	0.8	2

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37	Application of time-invariant linear filter approximation to parametrization of one- and two-dimensional surface metrology with high quality x-ray optics. Proceedings of SPIE, 2013, , .	0.8	3
38	Correlation analysis of surface slope metrology measurements of high quality x-ray optics. Proceedings of SPIE, 2013, , .	0.8	10
39	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
40	Cross comparison of surface slope and height optical metrology with a super-polished plane Si mirror. Proceedings of SPIE, 2012, , .	0.8	4
41	Ex situ tuning of bendable x-ray mirrors for optimal beamline performance. , 2012, , .		5
42	Design optimization of bendable x-ray mirrors. Proceedings of SPIE, 2011, , .	0.8	8
43	Automated suppression of errors in LTP-II slope measurements with x-ray optics. Proceedings of SPIE, 2011, , .	0.8	11
44	An experimental apparatus for diffraction-limited soft x-ray nano-focusing. , 2011, , .		5
45	Reliable before-fabrication forecasting of expected surface slope distributions for x-ray optics. Proceedings of SPIE, 2011, , .	0.8	3
46	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
47	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
48	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
49	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
50	Developmental long trace profiler using optimally aligned mirror based pentaprism. Proceedings of SPIE, 2010, , .	0.8	3
51	At-wavelength optical metrology development at the ALS. Proceedings of SPIE, 2010, , .	0.8	12
52	Sub-microradian surface slope metrology with the ALS Developmental Long Trace Profiler. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 616, 212-223.	1.6	91
53	Autocollimators for deflectometry: Current status and future progress. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 616, 140-146.	1.6	62
54	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

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55	Elliptically Bent X-Ray Mirrors with Active Temperature Stabilization. X-Ray Optics and Instrumentation, 2010, 2010, 1-9.	0.7	16
56	Optimal measurement strategies for effective suppression of drift errors. Review of Scientific Instruments, 2009, 80, 115101.	1.3	55
57	Development of pseudorandom binary arrays for calibration of surface profile metrology tools. Journal of Vacuum Science & Technology B, 2009, 27, 3213.	1.3	15
58	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
59	Binary pseudorandom grating standard for calibration of surface profilometers. Optical Engineering, 2008, 47, 073602.	1.0	39
60	Performance of the upgraded LTP-II at the ALS Optical Metrology Laboratory. Proceedings of SPIE, 2008, , .	0.8	26
61	Flat-field calibration of CCD detector for long trace profiler. , 2007, , .		7
62	Precision tiltmeter as a reference for slope measuring instruments. Proceedings of SPIE, 2007, 6704, 70.	0.8	7
63	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
64	Surface roughness of stainless-steel mirrors for focusing soft x rays. Applied Optics, 2006, 45, 4833.	2.1	23
65	Air convection noise of pencil-beam interferometer for long trace profiler. , 2006, , .		13