

Valeriy V Yashchuk

List of Publications by Year in descending order

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65
papers

911
citations

567281

15
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552781

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65
all docs

65
docs citations

65
times ranked

372
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	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
3	Optimal measurement strategies for effective suppression of drift errors. Review of Scientific Instruments, 2009, 80, 115101.	1.3	55
4	An ultrahigh-resolution soft x-ray microscope for quantitative analysis of chemically heterogeneous nanomaterials. Science Advances, 2020, 6, .	10.3	47
5	Binary pseudorandom grating standard for calibration of surface profilometers. Optical Engineering, 2008, 47, 073602.	1.0	39
6	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
7	Advanced environmental control as a key component in the development of ultrahigh accuracy <i>ex situ</i> metrology for x-ray optics. Optical Engineering, 2015, 54, 104104.	1.0	30
8	Specification of x-ray mirrors in terms of system performance: new twist to an old plot. Optical Engineering, 2015, 54, 025108.	1.0	29
9	Performance of the upgraded LTP-II at the ALS Optical Metrology Laboratory. Proceedings of SPIE, 2008, , .	0.8	26
10	Surface roughness of stainless-steel mirrors for focusing soft x rays. Applied Optics, 2006, 45, 4833.	2.1	23
11	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
12	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
13	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
14	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
15	Elliptically Bent X-Ray Mirrors with Active Temperature Stabilization. X-Ray Optics and Instrumentation, 2010, 2010, 1-9.	0.7	16
16	DABAM: an open-source database of X-ray mirrors metrology. Journal of Synchrotron Radiation, 2016, 23, 665-678.	2.4	16
17	Development of pseudorandom binary arrays for calibration of surface profile metrology tools. Journal of Vacuum Science & Technology B, 2009, 27, 3213.	1.3	15
18	Cross-check of <i>ex-situ</i> and <i>in-situ</i> 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

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19	The developmental long trace profiler (DLTP) optimized for metrology of side-facing optics at the ALS. , 2014, , .		14
20	Air convection noise of pencil-beam interferometer for long trace profiler. , 2006, , .		13
21	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
22	Environmental influences on autocollimator-based angle and form metrology. Review of Scientific Instruments, 2019, 90, 021705.	1.3	13
23	At-wavelength optical metrology development at the ALS. Proceedings of SPIE, 2010, , .	0.8	12
24	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
25	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
26	Automated suppression of errors in LTP-II slope measurements with x-ray optics. Proceedings of SPIE, 2011, , .	0.8	11
27	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
28	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
29	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
30	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
31	Correlation analysis of surface slope metrology measurements of high quality x-ray optics. Proceedings of SPIE, 2013, , .	0.8	10
32	<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
33	Super-resolution surface slope metrology of x-ray mirrors. Review of Scientific Instruments, 2020, 91, 075113.	1.3	10
34	The ALS OSMS: Optical Surface Measuring System for high accuracy two-dimensional slope metrology with state-of-the-art x-ray mirrors. , 2018, , .		10
35	Correlation methods in optical metrology with state-of-the-art x-ray mirrors. , 2018, , .		9
36	Investigation on lateral resolution of surface slope profilers. , 2019, , .		9

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37	Design optimization of bendable x-ray mirrors. Proceedings of SPIE, 2011, , .	0.8	8
38	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
39	Development of a high performance surface slope measuring system for two-dimensional mapping of x-ray optics. , 2017, , .		8
40	Flat-field calibration of CCD detector for long trace profiler. , 2007, , .		7
41	Precision tiltmeter as a reference for slope measuring instruments. Proceedings of SPIE, 2007, 6704, 70.	0.8	7
42	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
43	Metrology for the Advancement of X-ray Optics at the ALS. Synchrotron Radiation News, 2013, 26, 4-12.	0.8	6
44	Specification of x-ray mirrors in terms of system performance: a new twist to an old plot. Proceedings of SPIE, 2014, , .	0.8	6
45	Simulations of applications using diaboloid mirrors. Journal of Synchrotron Radiation, 2021, 28, 1041-1049.	2.4	6
46	Diaboloidal mirrors: algebraic solution and surface shape approximations. Journal of Synchrotron Radiation, 2021, 28, 1031-1040.	2.4	6
47	Binary pseudo-random array test standard optimized for characterization of interferometric microscopes. , 2021, , .		6
48	New twist in the optical schematic of surface slope measuring long trace profiler. , 2017, , .		6
49	An experimental apparatus for diffraction-limited soft x-ray nano-focusing. , 2011, , .		5
50	Ex situ tuning of bendable x-ray mirrors for optimal beamline performance. , 2012, , .		5
51	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
52	Performance optimization of a bendable parabolic cylinder collimating X-ray mirror for the ALS micro-XAS beamline 10.3.2. Journal of Synchrotron Radiation, 2015, 22, 666-674.	2.4	5
53	Cross comparison of surface slope and height optical metrology with a super-polished plane Si mirror. Proceedings of SPIE, 2012, , .	0.8	4
54	Developmental long trace profiler using optimally aligned mirror based pentaprism. Proceedings of SPIE, 2010, , .	0.8	3

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55	Reliable before-fabrication forecasting of expected surface slope distributions for x-ray optics. Proceedings of SPIE, 2011, , .	0.8	3
56	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
57	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
58	New operational mode of the pencil beam interferometry based LTP. , 2016, , .		3
59	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
60	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
61	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
62	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
63	Angular calibration of surface slope measuring profilers with a bendable mirror. , 2014, , .		1
64	Ex-situ metrology and data processing techniques developed at the ALS for optimization of beamline performance of bendable x-ray mirrors. , 2018, , .		1
65	Surface slope metrology of highly curved x-ray optics with an interferometric microscope. , 2017, , .		0