Vladimir A Aksyuk

List of Publications by Year
in descending order

134 papers	4,779 citations	136740 32 h-index	98622 67 g-index
134 all docs	134 docs citations	134 times ranked	4349 citing authors

#	Article	IF	Citations
1	Exceptional points in lossy media lead to deep polynomial wave penetration with spatially uniform power loss. Nature Nanotechnology, 2022, 17, 583-589.	15.6	12
2	High Throughput Nanoimaging of Thermal Conductivity and Interfacial Thermal Conductance. Nano Letters, 2022, 22, 4325-4332.	4.5	12
3	Laser Cooling Using Metasurface-Enabled Beam Shaping. , 2021, , .		0
4	Exceptional Points in Photonic Grating Band Diagrams Lead to Decay-Free Radiation. , 2021, , .		0
5	Using thermo-optical nonlinearity to robustly separate absorption and radiation losses in nanophotonic resonators. Optics Express, 2021, 29, 6967.	1.7	5
6	Meta-grating outcouplers for optimized beam shaping in the visible. Optics Express, 2021, 29, 14789.	1.7	13
7	Uniformly-Distributed Energy Losses in Photonic Gratings Enabled by Exceptional Points in Band Diagrams. , 2021, , .		0
8	Overcoming thermo-optical dynamics in broadband nanophotonic sensing. Microsystems and Nanoengineering, 2021, 7, 52.	3.4	7
9	Fundamental limits and optimal estimation of the resonance frequency of a linear harmonic oscillator. Communications Physics, 2021, 4, .	2.0	4
10	A dual beam photonic wavelength refernce. Measurement: Sensors, 2021, 18, 100288.	1.3	1
11	Magneto-optical trapping using planar optics. New Journal of Physics, 2021, 23, 013021.	1.2	37
12	Ultra-Thin Reflective Light Modulators Enabled by Electro-Optical Tunable Gap Plasmons. , 2021, , .		0
13	Multi-Beam Integration for On-chip Quantum Devices. , 2021, , .		0
14	Interfacing Photonics to Free-Space via Large-area Inverse-designed Diffraction Elements and Metasurfaces. , 2021, , .		0
15	Electron and X-ray Focused Beam-Induced Cross-Linking in Liquids: Toward Rapid Continuous 3D Nanoprinting and Interfacing using Soft Materials. ACS Nano, 2020, 14, 12982-12992.	7.3	16
16	Visible-Wavelength Beam Shaping using Two-Dimensional Meta-Grating Outcouplers. , 2020, , .		0
17	Frequency Stabilization of Nanomechanical Resonators Using Thermally Invariant Strain Engineering. Nano Letters, 2020, 20, 3050-3057.	4.5	13
18	Frequency Stability of Stress-Engineered Nanomechanical Resonator and its Cramer-Rao Lower Bound. , 2020, , .		0

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19	A system for probing Casimir energy corrections to the condensation energy. Microsystems and Nanoengineering, 2020, 6, 115.	3.4	6
20	Apodized Meta-Gratings for Visible- Wavelength Beam Shaping. , 2020, , .		1
21	Projecting a Wide Surface-Normal Gaussian Beam from an Apodised Grating Supporting Spatially-Broad Standing Wave Resonances. , 2020, , .		0
22	Slow-Light Standing Wave Resonances in an Inverse-Designed Grating for Wide Surface-Normal Free-Space Beam Projection. , 2020, , .		0
23	Thermo-optical Tuning Effects in Photonic Nano-AFM Probe. , 2020, , .		0
24	Nanoâ€“opto-electro-mechanical switches operated at CMOS-level voltages. Science, 2019, 366, 860-864.	6.0	64
25	Metasurface-Integrated Photonic Platform for Versatile Free-Space Beam Projection with Polarization Control. ACS Photonics, 2019, 6, 2902-2909.	3.2	49
26	High NA Free-Space Focusing Using a Metasurface-Integrated Photonic Platform for Atom Trapping. , 2019, , .		3
27	Plasmonic Nano-Electro-Mechanical Systems: from Local Motion Sensing to Powering Mechanical Oscillation. , 2019, , .		1
28	Metasurface-Integrated Photonic Platform for Versatile Free-Space Beam Projection with Polarization Control. ACS Photonics, 2019, 6, .	3.2	1
29	Collimating a Free-Space Gaussian Beam by Means of a Chip-Scale Photonic Extreme Mode Converter. , 2018, , .		5
30	Photonic waveguide to free-space Gaussian beam extreme mode converter. Light: Science and Applications, 2018, 7, 72.	7.7	66
31	Subnanometer localization accuracy in widefield optical microscopy. Light: Science and Applications, 2018, 7, 31.	7.7	32
32	Electrically tunable plasmomechanical oscillators for localized modulation, transduction, and amplification. Optica, 2018, 5, 71.	4.8	18
33	Photonic chip for laser stabilization to an atomic vapor with 10^{âˆ’11} instability. Optica, 2018, 5, 443.	4.8	95
34	Subdiffraction Spatial Mapping of Nanomechanical Modes Using a Plasmomechanical System. ACS Photonics, 2018, 5, 3658-3665.	3.2	8
35	Sensing without power. Nature Nanotechnology, 2017, 12, 940-941.	15.6	15
36	Nanophotonic Atomic Force Microscope Transducers Enable Chemical Composition and Thermal Conductivity Measurements at the Nanoscale. Nano Letters, 2017, 17, 5587-5594.	4.5	93

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37	Quantitative Chemical Analysis at the Nanoscale Using the Photothermal Induced Resonance Technique. Analytical Chemistry, 2017, 89, 13524-13531.	3.2	62
38	Two-dimensional imaging and modification of nanophotonic resonator modes using a focused ion beam. Optica, 2017, 4, 1444.	4.8	10
39	Active electromechanical resonance tuning of localized gap plasmons. , 2017, , .		0
40	Nanolithography Toolbox: Device design at the nanoscale. , 2017, , .		0
41	Electro-Optic Switching and Regenerative Oscillation of a Localized Gap Plasmomechanical Resonator. , 2017, , .		0
42	Fabrication Process for an Optomechanical Transducer Platform with Integrated Actuation. Journal of Research of the National Institute of Standards and Technology, 2016, 121, 507.	0.4	5
43	The Nanolithography Toolbox. Journal of Research of the National Institute of Standards and Technology, 2016, 121, 464.	0.4	54
44	Transfer of motion through a microelectromechanical linkage at nanometer and microradian scales. Microsystems and Nanoengineering, 2016, 2, 16055.	3.4	6
45	Nanomechanical motion transduction with a scalable localized gap plasmon architecture. Nature Communications, 2016, 7, 13746.	5.8	33
46	NIST on a chip with alkali vapor cells: Initial results. , 2016, , .		1
47	Nanoscale Si₃N₄ tuning fork cavity optomechanical sensors with high <i>f_mQ_m</i> product. Proceedings of SPIE, 2016, , .	0.8	0
48	Cantilever array with optomechanical read-out and integrated actuation for simultaneous high sensitivity force detection. , 2016, , .		3
49	NIST on a Chip: Realizing SI units with microfabricated alkali vapour cells. Journal of Physics: Conference Series, 2016, 723, 012056.	0.3	35
50	Imaging nanophotonic modes of microresonators using a focused ion beam. Nature Photonics, 2016, 10, 35-39.	15.6	16
51	Subdiffraction optical motion transduction using a scalable plasmomechanical platform. , 2016, , .		0
52	High-Resolution Imaging and Spectroscopy at High Pressure: A Novel Liquid Cell for the Transmission Electron Microscope. Microscopy and Microanalysis, 2015, 21, 1629-1638.	0.2	31
53	Integrated tuning fork nanocavity optomechanical transducers with high fMQM product and stress-engineered frequency tuning. Applied Physics Letters, 2015, 107, .	1.5	23
54	Characterization of electrothermal actuation with nanometer and microradian precision. , 2015, , .		6

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55	Near-field asymmetries in plasmonic resonators. Nanoscale, 2015, 7, 3634-3644.	2.8	31
56	Compact nanomechanical plasmonic phase modulators. Nature Photonics, 2015, 9, 267-273.	15.6	73
57	Design and modeling of an ultra-compact 2x2 nanomechanical plasmonic switch. Optics Express, 2015, 23, 11404.	1.7	10
58	Diffraction limited focusing and routing of gap plasmons by a metal-dielectric-metal lens. Optics Express, 2015, 23, 21899.	1.7	4
59	Optomechanical transducer-based nanocantilever for atomic force microscopy. , 2015, , .		3
60	High mechanical fMQM product tuning fork cavity optomechanical transducers. , 2015, , .		1
61	Direct imaging of nanophotonic cavity modes using Li ion microscope. , 2014, , .		0
62	Silicon nitride cavity optomechanical transducers. , 2014, , .		0
63	Tuning Fork Cavity Optomechanical Transducers. , 2014, , .		0
64	Integrated silicon optomechanical transducers and their application in atomic force microscopy. , 2014, , .		0
65	Strong Casimir force reduction through metallic surface nanostructuring. Nature Communications, 2013, 4, 2515.	5.8	113
66	MEMS and NEMS with integrated cavity optomechanical readout. , 2013, , .		0
67	Nanoscale Infrared Spectroscopy: Improving the Spectral Range of the Photothermal Induced Resonance Technique. Analytical Chemistry, 2013, 85, 1972-1979.	3.2	84
68	Electromagnetically Induced Transparency and Wideband Wavelength Conversion in Silicon Nitride Microdisk Optomechanical Resonators. Physical Review Letters, 2013, 110, 223603.	2.9	134
69	Nanoscale Imaging of Plasmonic Hot Spots and Dark Modes with the Photothermal-Induced Resonance Technique. Nano Letters, 2013, 13, 3218-3224.	4.5	89
70	A microelectromechanically controlled cavity optomechanical sensing system. New Journal of Physics, 2012, 14, 075015.	1.2	66
71	Wide cantilever stiffness range cavity optomechanical sensors for atomic force microscopy. Optics Express, 2012, 20, 18268.	1.7	59
72	Probing coherence in microcavity frequency combs via optical pulse shaping. Optics Express, 2012, 20, 21033.	1.7	28

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73	Observation of correlation between route to formation, coherence, noise, and communication performance of Kerr combs. Optics Express, 2012, 20, 29284.	1.7	71
74	Time Domain Study of On-Chip Microresonator Frequency Combs. , 2012, , .		0
75	Silicon Micro-Machines for Fun and Profit. Journal of Low Temperature Physics, 2012, 169, 386-399.	0.6	33
76	Integrated cavity optomechanical sensors for atomic force microscopy. , 2012, , .		1
77	Optical communication test of multiple-wavelength comb source from silicon nitride microresonators. , 2012, , .		0
78	On-chip microresonator frequency combs formation: Observation of comb line dependent mutual coherence. , 2012, , .		0
79	Quasianalytical modal approach for computing Casimir interactions in periodic nanostructures. Physical Review A, 2012, 86, .	1.0	19
80	Giant piezoelectricity in PMN-PT thin films: Beyond PZT. MRS Bulletin, 2012, 37, 1022-1029.	1.7	55
81	An Efficient Large-Area Grating Coupler for Surface Plasmon Polaritons. Plasmonics, 2012, 7, 269-277.	1.8	54
82	A MEMS Controlled Cavity Optomechanical Sensing System. , 2012, , .		0
83	Microresonator-Based Optical Frequency Combs: Time-Domain Studies. , 2012, , .		0
84	Wide Stiffness Range Cavity Optomechanical Sensors for Atomic Force Microscopy. , 2012, , .		0
85	Optomechanical Transduction of an Integrated Silicon Cantilever Probe Using a Microdisk Resonator. Nano Letters, 2011, 11, 791-797.	4.5	123
86	Giant Piezoelectricity on Si for Hyperactive MEMS. Science, 2011, 334, 958-961.	6.0	394
87	Cavity optomechanical sensors for atomic force microscopy. , 2011, , .		0
88	Enhanced coupling between light and surface plasmons by nano-structured Fabryâ€“PÃ©rot resonator. Journal of Applied Physics, 2011, 110, 066102.	1.1	6
89	Casimir Force in Micro and Nano Electro Mechanical Systems. Lecture Notes in Physics, 2011, , 287-309.	0.3	16
90	Optomechanical transduction of a cantilever probe using a high-Q Si microdisk cavity. , 2010, , .		0

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91	Integrated MEMS Tunable High Quality Factor Optical Cavity for Optomechanical Transduction. , 2010, , .		2
92	MEMS thermal imager with optical readout. Sensors and Actuators A: Physical, 2009, 155, 47-57.	2.0	27
93	Closed-loop AO demonstration of MEMS SLM with piston, tip, and tilt control. Proceedings of SPIE, 2008, , .	0.8	2
94	High-Density Solder Bump Interconnect for MEMS Hybrid Integration. IEEE Transactions on Advanced Packaging, 2007, 30, 622-628.	1.7	14
95	CMOS-Based MEMS Mirror Driver for Maskless Lithography Systems. , 2007, , .		0
96	Two-dimensional MEMS array for maskless lithography and wavefront modulation. , 2007, , .		6
97	Flexible fabrication of large pixel count piston-tip-tilt mirror arrays for fast spatial light modulators. Microelectronic Engineering, 2007, 84, 1157-1161.	1.1	17
98	MEMS Based Optical Switching. , 2006, , 169-213.		1
99	Wavelength-selective 1/spl times/K switches using free-space optics and MEMS micromirrors: theory, design, and implementation. Journal of Lightwave Technology, 2005, 23, 1620-1630.	2.7	176
100	A Hybrid MEMS-Waveguide Wavelength Selective Cross Connect. IEEE Photonics Technology Letters, 2004, 16, 99-101.	1.3	18
101	MEMS-Based Channelized Dispersion Compensator With Flat Passbands. Journal of Lightwave Technology, 2004, 22, 101-105.	2.7	38
102	256<tex>$,times,$</tex>256 Port Optical Cross-Connect Subsystem. Journal of Lightwave Technology, 2004, 22, 1499-1509.	2.7	48
103	238 x 238 micromechanical optical cross connect. IEEE Photonics Technology Letters, 2003, 15, 587-589.	1.3	59
104	Compact 64 x 64 micromechanical optical cross connect. IEEE Photonics Technology Letters, 2003, 15, 993-995.	1.3	29
105	1100 x 1100 port MEMS-based optical crossconnect with 4-dB maximum loss. IEEE Photonics Technology Letters, 2003, 15, 1537-1539.	1.3	183
106	Control of microelectromechanical systems membrane curvature by silicon ion implantation. Applied Physics Letters, 2003, 83, 2321-2323.	1.5	16
107	MEMS-based 14â€…GHz resolution dynamic optical filter. Electronics Letters, 2003, 39, 1744.	0.5	10
108	Optical MEMS devices for telecom systems. , 2003, , .		10

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109	MEMS mirror array for a wavelength-selective 1xK switch. , 2003, 5116, 445.		5
110	Quantum Mechanical Actuation of Microelectromechanical Systems by the Casimir Force. Science, 2001, 291, 1941-1944.	6.0	782
111	Nonlinear Micromechanical Casimir Oscillator. Physical Review Letters, 2001, 87, 211801.	2.9	417
112	Silicon Micromachines for Lightwave Networks: Little machines with a Big Future (OPN Trends) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 62	0.4	0
113	<title>Design for reliability of MEMS/MOEMS for lightwave telecommunications</title>. , 2001, 4558, 6.		6
114	MEMS for Light-Wave Networks. MRS Bulletin, 2001, 26, 328-329.	1.7	20
115	<title>Mechanical reliability of surface-micromachined self-assembling two-axis MEMS tilting mirrors</title>. , 2000, 4180, 86.		9
116	<title>Electrical and environmental reliability characterization of surface-micromachined MEMS polysilicon test structures</title>. , 2000, 4180, 91.		4
117	<title>MEMS/MOEMS for lightwave networks: Can little machines make it big?</title>. , 2000, 4179, 2.		0
118	<title>MEMS/MOEMS for lightwave networks: Can little machines make it big?</title>. , 2000, 4177, 49.		4
119	<title>MEMS/MOEMS for lightwave networks: Can little machines make it big?</title>. , 2000, , .		0
120	MEMS/MOEMS for lightwave networks: Can little machines make it big?. , 2000, 4175, 2.		4
121	<title>MEMS/MOEMS for lightwave networks: Can little machines make it big?</title>. , 2000, 4176, 2.		0
122	<title>MEMS/MOEMS for lightwave networks: Can little machines make it big?</title>. , 2000, 4178, 2.		2
123	<title>MEMS/MOEMS for lightwave networks: Can little machines make it big?</title>. , 2000, , .		0
124	<title>Lucent Microstar micromirror array technology for large optical crossconnects</title>. , 2000, , .		66
125	Stress-induced curvature engineering in surface-micromachined devices. , 1999, 3680, 984.		23
126	Observation of mesoscopic vortex physics using micromechanical oscillators. Nature, 1999, 399, 43-46.	13.7	100

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127	A silicon MEMS optical switch attenuator and its use in lightwave subsystems. IEEE Journal of Selected Topics in Quantum Electronics, 1999, 5, 18-25.	1.9	86
128	Reconfigurable 16-channel WDM drop module using silicon MEMS optical switches. IEEE Photonics Technology Letters, 1999, 11, 63-65.	1.3	15
129	Wavelength add-drop switching using tilting micromirrors. Journal of Lightwave Technology, 1999, 17, 904-911.	2.7	225
130	Surface normal optical MEMS in dynamic WDM transport networks. , 1999, , .		1
131	Micromechanical "Trampoline" Magnetometers for Use in Large Pulsed Magnetic Fields. Science, 1998, 280, 720-722.	6.0	22
132	<title>Construction of a fully functional NSOM using MUMPs technology</title>. , 1997, , .		3
133	Silicon Micromachines in Optical Communications Networks: Tiny Machines for Large Systems. , 0, , .		0
134	Surface-Normal Free-Space Beam Projection via Slow-Light Standing-Wave Resonance Photonic Gratings. ACS Photonics, 0, , .	3.2	0