Nikita Arnold

List of Publications by Year
in descending order

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85 papers	2,341 citations	257357 24 h-index	223716 46 g-index
85 all docs	85 docs citations	85 times ranked	2162 citing authors

#	Article	IF	Citations
1	RÃ¶ntgenâ€™s electrode-free elastomer actuators without electromechanical pull-in instability. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 4505-4510.	3.3	203
2	Modeling the optical absorption within conjugated polymer/fullerene-based bulk-heterojunction organic solar cells. Solar Energy Materials and Solar Cells, 2003, 80, 105-113.	3.0	173
3	Spherical expansion of the vapor plume into ambient gas: an analytical model. Applied Physics A: Materials Science and Processing, 1999, 69, S87-S93.	1.1	134
4	Capacitive extensometry for transient strain analysis of dielectric elastomer actuators. Applied Physics Letters, 2008, 92, .	1.5	126
5	Model for laser-induced thermal degradation and ablation of polymers. Applied Physics A: Materials Science and Processing, 1999, 68, 615-625.	1.1	100
6	Modeling of optical absorption in conjugated polymer/fullerene bulk-heterojunction plastic solar cells. Thin Solid Films, 2004, 451-452, 589-592.	0.8	83
7	Three-dimensional effects in dry laser cleaning. Applied Physics A: Materials Science and Processing, 2003, 77, 209-215.	1.1	82
8	Spectral and Directional Reshaping of Fluorescence in Large Area Self-Assembled Plasmonicâ€“Photonic Crystals. Nano Letters, 2013, 13, 378-386.	4.5	76
9	Elastocaloric heat pump with specific cooling power of 20.9â€‰Wâ€‰gâ€“1 exploiting snap-through instability and strain-induced crystallization. Nature Energy, 2021, 6, 260-267.	19.8	69
10	Spherical expansion of the vapor plume into ambient gas: an analytical model. Applied Physics A: Materials Science and Processing, 1999, 69, S87-S93.	1.1	68
11	Theoretical description of dry laser cleaning. Applied Surface Science, 2003, 208-209, 15-22.	3.1	60
12	Single-step fabrication of silicon-cone arrays. Applied Physics Letters, 2003, 82, 692-693.	1.5	60
13	A Lesson from Plants: Highâ€Speed Soft Robotic Actuators. Advanced Science, 2020, 7, 1903391.	5.6	55
14	Laser cleaning of polymer surfaces. Applied Physics A: Materials Science and Processing, 2001, 72, 1-6.	1.1	53
15	A fast quantitative modelling of ns laser ablation based on non-stationary averaging technique. Applied Surface Science, 1998, 127-129, 184-192.	3.1	50
16	In situ Analysis of Metal Melts in Metallurgic Vacuum Devices by Laser-Induced Breakdown Spectroscopy. Applied Spectroscopy, 2004, 58, 457-462.	1.2	50
17	Anticorrelation of Photoluminescence from Gold Nanoparticle Dimers with Hot-Spot Intensity. Nano Letters, 2016, 16, 7203-7209.	4.5	48
18	UV-laser ablation of polyimide: from long to ultra-short laser pulses. Nuclear Instruments & Methods in Physics Research B, 1997, 122, 347-355.	0.6	45

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19	Laser-induced thermal degradation and ablation of polymers: bulk model. Applied Surface Science, 1999, 138-139, 212-217.	3.1	42
20	Single-pulse ultraviolet laser-induced surface modification and ablation of polyimide. Applied Physics Letters, 1998, 73, 847-849.	1.5	39
21	The role of excited species in ultraviolet-laser materials ablation III. Non-stationary ablation of organic polymers. Applied Physics A: Materials Science and Processing, 1996, 62, 397-401.	1.1	38
22	Bulk model of laser ablation of polymers. Applied Surface Science, 1998, 127-129, 164-170.	3.1	37
23	Axially symmetric focusing as a cuspoid diffraction catastrophe: Scalar and vector cases and comparison with the theory of Mie. Physical Review B, 2006, 73, .	1.1	30
24	Ablative thresholds in laser cleaning of substrates from particulates. Applied Physics A: Materials Science and Processing, 2004, 79, 729-734.	1.1	28
25	Spasers with retardation and gain saturation: electrodynamic description of fields and optical cross-sections. Optical Materials Express, 2015, 5, 2546.	1.6	26
26	Hybrid parallel tempering and simulated annealing method. Applied Mathematics and Computation, 2009, 212, 216-228.	1.4	25
27	Time-resolved photography of the plasma-plume and ejected particles in laser ablation of polytetrafluoroethylene. Europhysics Letters, 2000, 51, 674-678.	0.7	24
28	Photonic properties of silicon-coated monolayers of colloidal silica microspheres. Applied Physics A: Materials Science and Processing, 2006, 83, 271-275.	1.1	23
29	Photonic properties of silicon-coated colloidal monolayers. Applied Physics A: Materials Science and Processing, 2005, 81, 911-913.	1.1	22
30	The optical tweezer of skyrmions. Npj Computational Materials, 2020, 6, .	3.5	21
31	Simulation of growth in pyrolytic laser-CVD of microstructuresâ€"I. One-dimensional approach. Microelectronic Engineering, 1993, 20, 31-41.	1.1	20
32	Generation and detection of broadband airborne ultrasound with cellular polymer ferroelectrets. Applied Physics Letters, 2007, 91, .	1.5	20
33	Modeling of pyrolytic laser direct writing: Noncoherent structures and instabilities. Journal of Applied Physics, 1997, 82, 1018-1025.	1.1	18
34	Dye-doped spheres with plasmonic semi-shells: Lasing modes and scattering at realistic gain levels. Beilstein Journal of Nanotechnology, 2013, 4, 974-987.	1.5	18
35	Minimal spaser threshold within electrodynamic framework: Shape, size and modes. Annalen Der Physik, 2016, 528, 295-306.	0.9	18
36	Soft Tunable Lenses Based on Zipping Electroactive Polymer Actuators. Advanced Science, 2021, 8, 2003104.	5.6	18

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37	Charge localization instability in a highly deformable dielectric elastomer. Applied Physics Letters, 2014, 104, 022905.	1.5	17
38	Photophysical ablation of organic polymers: the influence of stresses. Applied Surface Science, 1996, 106, 120-125.	3.1	16
39	Influence of the substrate, metal overlayer and lattice neighbors on the focusing properties of colloidal microspheres. Applied Physics A: Materials Science and Processing, 2008, 92, 1005-1012.	1.1	15
40	Plasmonic Skyrmion Lattice Based on the Magnetoelectric Effect. Physical Review Letters, 2020, 125, 227201.	2.9	15
41	Uniform target ablation in pulsed-laser deposition. Applied Physics A: Materials Science and Processing, 1999, 68, 363-367.	1.1	14
42	Dynamic particle removal by nanosecond dry laser cleaning: theory. , 2002, , .		14
43	Resonance and steep fronts effects in nanosecond dry laser cleaning. Applied Surface Science, 2002, 197-198, 904-910.	3.1	14
44	Influence of storage time on laser cleaning of SiO 2 on Si. Applied Physics A: Materials Science and Processing, 2003, 76, 847-849.	1.1	14
45	Acoustic substrate expansion in modelling dry laser cleaning of low absorbing substrates. Applied Physics A: Materials Science and Processing, 2004, 79, 507-514.	1.1	14
46	Conformable large-area position-sensitive photodetectors based on luminescence-collecting silicone waveguides. Journal of Applied Physics, 2010, 107, 123101.	1.1	14
47	Simulation of growth in pyrolytic laser-CVD of microstructuresâ€”II. Two-dimensional approach. Microelectronic Engineering, 1993, 20, 43-54.	1.1	13
48	Laser direct writing and instabilities: a one-dimensional approach. Applied Surface Science, 1995, 86, 457-465.	3.1	13
49	Pyrolytic LCVD of fibers: A theoretical description. Applied Physics A: Materials Science and Processing, 1996, 62, 503-508.	1.1	13
50	DRY LASER CLEANING OF PARTICLES BY NANOSECOND PULSES: THEORY. , 2002, , 51-102.		12
51	In situmonitoring of size distributions and characterization of nanoparticles during W ablation in N2 atmosphere. Journal of Applied Physics, 2003, 94, 2011-2017.	1.1	12
52	iSens: A Fiberâ€Based, Highly Permeable and Imperceptible Sensor Design. Advanced Materials, 2021, 33, e2102736.	11.1	12
53	Bistabilities in pyrolytic laser-CVD of silicon and carbon. Applied Surface Science, 1997, 108, 257-262.	3.1	10
54	<title>Modeling of nanosecond-laser ablation: calculations based on a nonstationary averaging technique (spatial moments)</title>. , 1998, , .		9

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55	Pulsed laser deposition. Applied Physics A: Materials Science and Processing, 1999, 69, S45-S48.	1.1	9
56	Laser microdissection of biological tissues: process optimization. Applied Physics A: Materials Science and Processing, 2005, 80, 55-59.	1.1	9
57	Laser-induced structure formation on stretched polymer foils. Physical Review E, 2007, 75, 041603.	0.8	9
58	Exploring Timeâ€Resolved Multiphysics of Active Plasmonic Systems with Experimentâ€Based Gain Models. Laser and Photonics Reviews, 2019, 13, 1800071.	4.4	9
59	Power Balance and Temperature in Optically Pumped Spasers and Nanolasers. ACS Photonics, 2018, 5, 3695-3703.	3.2	8
60	<title>UV-laser-induced polymer ablation: the role of volatile species</title>. , 1997, , .		7
61	Laser processing with colloid monolayers. , 2004, , .		7
62	Cellular ferroelectrets for flexible touchpads, keyboards and tactile sensors. , 2008, , .		7
63	<title>Photophysical ablation</title>. , 1998, , .		5
64	<title>In situ analysis of steel under reduced ambient pressure by laser-induced breakdown spectroscopy</title>. , 2003, 5120, 588.		4
65	Body Temperature-Triggered Mechanical Instabilities for High-Speed Soft Robots. Soft Robotics, 2022, 9, 128-134.	4.6	4
66	Oscillations in laser direct writing of W from WCl6 and H2: A theoretical analysis. Applied Physics A: Materials Science and Processing, 1995, 61, 347-351.	1.1	3
67	Instabilities in laser direct writing due to non-uniform cross section of stripes. Applied Surface Science, 1996, 93, 359-372.	3.1	3
68	Temperature distributions and their evolution in nonâ€planar energy beam microprocessing: A fast algorithm. Journal of Applied Physics, 1996, 80, 1291-1298.	1.1	3
69	On the spatial confinement in energy beam microprocessing. Journal of Applied Physics, 1995, 78, 4805-4807.	1.1	2
70	Pulsed laser deposition. Applied Physics A: Materials Science and Processing, 1999, 69, S45-S48.	1.1	2
71	Analysis of safe and failure mode regimes of dielectric elastomer actuators. , 2008, , .		2
72	Computational challenges for modeling and simulating biomacromolecular assemblies. Journal of Physics: Conference Series, 2006, 46, 311-315.	0.3	1

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73	Physiological relevance of epithelial geometry: New insights into the standing gradient model and the role of LI cadherin. PLoS ONE, 2018, 13, e0208791.	1.1	1
74	iSens: A Fiberâ€Based, Highly Permeable and Imperceptible Sensor Design (Adv. Mater. 37/2021). Advanced Materials, 2021, 33, 2170293.	11.1	1
75	The role of excited species in ultraviolet-laser materials ablation III. Non-stationary ablation of organic polymers. Applied Physics A: Materials Science and Processing, 1996, 62, 397-401.	1.1	1
76	Pyrolytic LCVD of fibers: A theoretical description. Applied Physics A: Materials Science and Processing, 1996, 62, 503-508.	1.1	1
77	Instabilities and Structure Formation in Laser Processing. Materials Research Society Symposia Proceedings, 1995, 397, 573.	0.1	0
78	Optical resonance and near-field effects: applications for nanopatterning (Plenary Paper). , 2004, 5448, 37.		0
79	Large area self-assembled plasmonic-photonic crystals for spectral and directional reshaping of fluorescence. , 2013, , .		0
80	Reflection, transmission, absorption, diffraction and gain in plasmonic-photonic Ag-capped monolayers of dye-doped nanospheres. , 2013, , .		0
81	Anticorrelation of photoluminescence from d-band holes with hot-spot strength between two gold bipyramids. , 2017, , .		0
82	AXIALLY SYMMETRIC FOCUSING OF LIGHT IN DRY LASER CLEANING AND NANOPATTERNING. , 2007, , 113-132.		0
83	Invited Keynote Talk: Computing P-Values for Peptide Identifications in Mass Spectrometry. Lecture Notes in Computer Science, 2008, , 100-109.	1.0	0
84	Gain-Assisted Surface Plasmon Polaritons: Time Domain Analysis with Experimentally Fitted Organic Dye Models. , 2016, , .		0
85	Oscillations in laser direct writing of W from WCl6 and H2: A theoretical analysis. Applied Physics A: Materials Science and Processing, 1995, 61, 347-351.	1.1	0