Boris Polyakov

List of Publications by Year in descending order

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71	1,101	361296	434063
papers	citations	20 h-index	31 g-index

73	73	73	1413
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Bistable nanoelectromechanical devices. Applied Physics Letters, 2004, 84, 4074-4076.	1.5	74
2	High-Density Arrays of Germanium Nanowire Photoresistors. Advanced Materials, 2006, 18, 1812-1816.	11.1	64
3	Electric and elastic properties of conductive polymeric nanocomposites on macro- and nanoscales. Materials Science and Engineering C, 2002, 19, 15-19.	3.8	61
4	Fast-Response Single-Nanowire Photodetector Based on ZnO/WS₂ Core/Shell Heterostructures. ACS Applied Materials & Interfaces, 2018, 10, 13869-13876.	4.0	60
5	High Density Germanium Nanowire Assemblies:Â Contact Challenges and Electrical Characterization. Journal of Physical Chemistry B, 2006, 110, 820-826.	1.2	55
6	Spatial and Mechanical Properties of Dilute DNA Monolayers on Gold Imaged by AFM. Journal of Physical Chemistry B, 2003, 107, 3591-3597.	1.2	53
7	Conductive films of ordered nanowire arrays. Journal of Materials Chemistry, 2004, 14, 585.	6.7	52
8	Elasticity and yield strength of pentagonal silver nanowires: In situ bending tests. Materials Chemistry and Physics, 2014, 143, 1026-1031.	2.0	50
9	Adhesion and Mechanical Properties of PDMS-Based Materials Probed with AFM: A Review. Reviews on Advanced Materials Science, 2018, 56, 62-78.	1.4	36
10	Au nanowire junction breakup through surface atom diffusion. Nanotechnology, 2018, 29, 015704.	1.3	27
11	Realâ€time manipulation of ZnO nanowires on a flat surface employed for tribological measurements: Experimental methods and modeling. Physica Status Solidi (B): Basic Research, 2013, 250, 305-317.	0.7	26
12	Shape Restoration Effect in Agâ€“SiO₂ Coreâ€“Shell Nanowires. Nano Letters, 2014, 14, 5201-5205.	4.5	26
13	Mechanical and structural characterizations of gamma- and alpha-alumina nanofibers. Materials Characterization, 2015, 107, 119-124.	1.9	25
14	Mechanical characterization of TiO2 nanofibers produced by different electrospinning techniques. Materials Characterization, 2015, 100, 98-103.	1.9	25
15	Manipulation of nanoparticles of different shapes inside a scanning electron microscope. Beilstein Journal of Nanotechnology, 2014, 5, 133-140.	1.5	24
16	The effect of substrate roughness on the static friction of CuO nanowires. Surface Science, 2012, 606, 1393-1399.	0.8	23
17	Real-time measurements of sliding friction and elastic properties of ZnO nanowires inside a scanning electron microscope. Solid State Communications, 2011, 151, 1244-1247.	0.9	22
18	Modeling of kinetic and static friction between an elastically bent nanowire and a flat surface. Journal of Materials Research, 2012, 27, 580-585.	1.2	22

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19	Unexpected Epitaxial Growth of a Few WS₂ Layers on {11Ì...00} Facets of ZnO Nanowires. Journal of Physical Chemistry C, 2016, 120, 21451-21459.	1.5	22
20	In situ measurement of the kinetic friction of ZnO nanowires inside a scanning electron microscope. Applied Surface Science, 2012, 258, 3227-3231.	3.1	21
21	Synthesis and characterization of ZnO/ZnS/MoS2 core-shell nanowires. Journal of Crystal Growth, 2017, 459, 100-104.	0.7	20
22	In situ measurements of ultimate bending strength of CuO and ZnO nanowires. European Physical Journal B, 2012, 85, 1.	0.6	19
23	Complex tribomechanical characterization of ZnO nanowires: nanomanipulations supported by FEM simulations. Nanotechnology, 2016, 27, 335701.	1.3	19
24	Real-time manipulation of gold nanoparticles inside a scanning electron microscope. Solid State Communications, 2011, 151, 688-692.	0.9	17
25	A comparative study of heterostructured CuO/CuWO4 nanowires and thin films. Journal of Crystal Growth, 2017, 480, 78-84.	0.7	17
26	Analysis of static friction and elastic forces in a nanowire bent on a flat surface: A comparative study. Tribology International, 2014, 72, 31-34.	3.0	15
27	Enhanced flexibility and electron-beam-controlled shape recovery in alumina-coated Au and Ag coreâ€“shell nanowires. Nanotechnology, 2017, 28, 505707.	1.3	15
28	Excited States Calculations of MoS2@ZnO and WS2@ZnO Two-Dimensional Nanocomposites for Water-Splitting Applications. Energies, 2022, 15, 150.	1.6	14
29	Synthesis and characterization of GaN/ReS2, ZnS/ReS2 and ZnO/ReS2 core/shell nanowire heterostructures. Applied Surface Science, 2021, 536, 147841.	3.1	13
30	Photoconductivity of Germanium Nanowire Arrays Incorporated in Anodic Aluminum Oxide. Journal of Physics: Conference Series, 2007, 61, 283-287.	0.3	12
31	Crystallization processes of amorphous Si by thermal annealing and pulsed laser processing. IOP Conference Series: Materials Science and Engineering, 2011, 23, 012035.	0.3	12
32	Simultaneous measurement of static and kinetic friction of ZnO nanowires in situ with a scanning electron microscope. Micron, 2012, 43, 1140-1146.	1.1	11
33	Some aspects of formation and tribological properties of silver nanodumbbells. Nanoscale Research Letters, 2014, 9, 186.	3.1	11
34	Electron beam induced growth of silver nanowhiskers. Journal of Crystal Growth, 2015, 410, 63-68.	0.7	11
35	Mechanical properties of solâ€“gel derived SiO₂ nanotubes. Beilstein Journal of Nanotechnology, 2014, 5, 1808-1814.	1.5	9
36	The Impact of CdS Nanoparticles on Ploidy and DNA Damage of Rucola (Eruca sativaMill.) Plants. Journal of Nanomaterials, 2015, 2015, 1-7.	1.5	9

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37	Growth and characterization of PbI2-decorated ZnO nanowires for photodetection applications. Journal of Alloys and Compounds, 2020, 825, 154095.	2.8	9
38	Effect of cobalt doping on the mechanical properties of ZnO nanowires. Materials Characterization, 2016, 121, 40-47.	1.9	8
39	Work function of colloidal semiconducting nanocrystals measured by Kelvin probe. IOP Conference Series: Materials Science and Engineering, 2012, 38, 012048.	0.3	7
40	Target Transportation of Auxin on Mesoporous Au/SiO₂ Nanoparticles as a Method for Somaclonal Variation Increasing in Flax (L. usitatissimum L.). Journal of Nanomaterials, 2017, 2017, 1-9.	1.5	7
41	Mechanical characterisation of pentagonal gold nanowires in three different test configurations: A comparative study. Micron, 2019, 124, 102686.	1.1	7
42	Kinking in Semiconductor Nanowires: A Review. Crystal Growth and Design, 2022, 22, 871-892.	1.4	6
43	Towards metal chalcogenide nanowire-based colour-sensitive photodetectors. Optical Materials, 2018, 75, 501-507.	1.7	5
44	Semiconducting Nanowires: Properties and Architectures. Solid State Phenomena, 2004, 99-100, 109-116.	0.3	4
45	AlGaN-InGaN-GaN Near Ultraviolet Light Emitting Diode. Latvian Journal of Physics and Technical Sciences, 2008, 45, 25-32.	0.4	4
46	Metal nanodumbbells for nanomanipulations and tribological experiments. Physica Scripta, 2015, 90, 094007.	1.2	4
47	Structural factor in bending testing of fivefold twinned nanowires revealed by finite element analysis. Physica Scripta, 2016, 91, 115701.	1.2	4
48	The effect of heat treatment on the morphology and mobility of Au nanoparticles. Beilstein Journal of Nanotechnology, 2020, 11, 61-67.	1.5	4
49	The role of Al2O3 interlayer in the synthesis of ZnS/Al2O3/MoS2 core-shell nanowires. Journal of Alloys and Compounds, 2022, 918, 165648.	2.8	4
50	Study of the High-Frequency Inductive Coupled Discharge Plasma Interaction with Walls. Plasma Processes and Polymers, 2007, 4, S1026-S1029.	1.6	3
51	Object size effect on the contact potential difference measured by scanning Kelvin probe method. EPJ Applied Physics, 2010, 51, 21201.	0.3	3
52	Abrupt elastic-to-plastic transition in pentagonal nanowires under bending. Beilstein Journal of Nanotechnology, 2019, 10, 2468-2476.	1.5	3
53	Understanding the Conversion Process of Magnetron-Deposited Thin Films of Amorphous ReO_x to Crystalline ReO₃ upon Thermal Annealing. Crystal Growth and Design, 2020, 20, 6147-6156.	1.4	3
54	Some aspects of pulsed laser deposition of Si nanocrystalline films. EPJ Applied Physics, 2009, 48, 20502.	0.3	3

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55	Unraveling the Structure and Properties of Layered and Mixed ReO₃â€“WO₃ Thin Films Deposited by Reactive DC Magnetron Sputtering. ACS Omega, 2022, 7, 1827-1837.	1.6	3
56	PATTERNED LASER CRYSTALLIZATION OF a-Si. Latvian Journal of Physics and Technical Sciences, 2009, 46, 50-54.	0.4	2
57	Plasmonic photoluminescence enhancement by silver nanowires. Physica Scripta, 2015, 90, 094008.	1.2	2
58	Nanoscale X-ray detectors based on individual CdS, SnO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e136" altimg="si1.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mi mathvariant="bold">2</mml:mi></mml:mrow></mml:msub></mml:math> and ZnO nanowires. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2021, 1014, 165736.	0.7	2
59	Different strategies for GaN-MoS2 and GaN-WS2 coreâ€“shell nanowire growth. Applied Surface Science, 2022, 590, 153106.	3.1	2
60	Comparative study of WSe2 thin films synthesized via pre-deposited WO3 and W precursor material selenization. Journal of Crystal Growth, 2022, 593, 126764.	0.7	2
61	PbS Nanodots Embedded in ZrO2 Thin Films for Ultraviolet Radiation Dosimetry. IFMBE Proceedings, 2011, , 1307-1310.	0.2	1
62	Structure and characteristics of laser crystallized thin amorphous Si films. Energy Procedia, 2011, 3, 42-45.	1.8	1
63	Low-friction nanojoint prototype. Nanotechnology, 2018, 29, 195707.	1.3	1
64	Tailoring of rhenium oxidation state in ReOx thin films during reactive HiPIMS deposition process and following annealing. Materials Chemistry and Physics, 2022, 289, 126399.	2.0	1
65	Preparation of functional Ga2S3 and Ga2Se3 shells around Ga2O3 nanowires via sulfurization or selenization. Optical Materials, 2022, 131, 112675.	1.7	1
66	Laser ablation for analysis of nanoscale layers. Journal of Physics: Conference Series, 2007, 93, 012043.	0.3	0
67	<title>Formation of deep acceptor centers in AlGaN alloys</title>. , 2008, , .		0
68	Rapid Annealing of Black ZnO Thin Films Prepared by Pulsed Laser Deposition. Latvian Journal of Physics and Technical Sciences, 2009, 46, 44-48.	0.4	0
69	Processing of amorphous Si by pulsed laser irradiation at different wavelengths. IOP Conference Series: Materials Science and Engineering, 2012, 38, 012009.	0.3	0
70	PBS Nanodots for Ultraviolet Radiation Nanosensor. NATO Science for Peace and Security Series A: Chemistry and Biology, 2012, , 361-366.	0.5	0
71	Laser scribing on HOPG for graphene stamp printing on silicon wafer. Open Physics, 2013, 11, .	0.8	0