Andrey Bakin

List of Publications by Year in descending order

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138 papers	2,930 citations	201674 27 h-index	197818 49 g-index
140 all docs	140 docs citations	140 times ranked	3501 citing authors

#	Article	IF	Citations
1	Zinc oxide nanorod based photonic devices: recent progress in growth, light emitting diodes and lasers. Nanotechnology, 2009, 20, 332001.	2.6	572
2	Influence of exciton-phonon coupling on the energy position of the near-band-edge photoluminescence of ZnO nanowires. Applied Physics Letters, 2006, 89, 182107.	3.3	124
3	High temperature chemical vapor deposition of SiC. Applied Physics Letters, 1996, 69, 1456-1458.	3.3	111
4	Dynamics of surface-excitonic emission in ZnO nanowires. Physical Review B, 2006, 74, .	3.2	98
5	Magnetic property investigations on Mn-doped ZnO Layers on sapphire. Applied Physics Letters, 2005, 87, 062501.	3.3	97
6	High-quality ZnO layers grown by MBE on sapphire. Superlattices and Microstructures, 2005, 38, 265-271.	3.1	65
7	Analysis of a conducting channel at the native zinc oxide surface. Superlattices and Microstructures, 2006, 39, 8-16.	3.1	60
8	Second-harmonic generation spectroscopy of excitons in ZnO. Physical Review B, 2013, 88, .	3.2	58
9	GaN nanowire arrays with nonpolar sidewalls for vertically integrated field-effect transistors. Nanotechnology, 2017, 28, 095206.	2.6	58
10	Vertical architecture for enhancement mode power transistors based on GaN nanowires. Applied Physics Letters, 2016, 108, .	3.3	55
11	Determination of the absolute internal quantum efficiency of photoluminescence in GaN co-doped with Si and Zn. Journal of Applied Physics, 2012, 111, .	2.5	47
12	On the difficulties in characterizing ZnO nanowires. Nanotechnology, 2008, 19, 365707.	2.6	45
13	Electrodeposition of ZnO nanorods for device application. Applied Physics A: Materials Science and Processing, 2008, 91, 595-599.	2.3	41
14	Fabrication and characterization of flexible solar cell from electrodeposited Cu2O thin film on plastic substrate. Solar Energy, 2015, 122, 1193-1198.	6.1	41
15	Fabrication and characterization of low cost Cu 2 O/ZnO:Al solar cells for sustainable photovoltaics with earth abundant materials. Solar Energy Materials and Solar Cells, 2016, 145, 454-461.	6.2	40
16	MBE growth of ZnO layers on sapphire employing hydrogen peroxide as an oxidant. Journal of Crystal Growth, 2006, 287, 7-11.	1.5	39
17	Influence of ZnO seed crystals and annealing on the optical quality of low-temperature grown ZnO nanorods. Journal of Applied Physics, 2007, 102, .	2.5	37
18	Catalyst-free vapor-phase transport growth of vertically aligned ZnO nanorods on 6H-SiC and (11-20)Al2O3. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 1046-1050.	0.8	35

#	Article	IF	Citations
19	ZnMgO-ZnO quantum wells embedded in ZnO nanopillars: Towards realisation of nano-LEDs. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 158-161.	0.8	35
20	Determination of the specific resistance of individual freestanding ZnO nanowires with the low energy electron point source microscope. Applied Physics Letters, 2007, 91, 253126.	3.3	34
21	Normally Off Vertical 3-D GaN Nanowire MOSFETs With Inverted <inline-formula> <tex-math notation="LaTeX">${p}$ </tex-math> </inline-formula>-GaN Channel. IEEE Transactions on Electron Devices, 2018, 65, 2439-2445.	3.0	32
22	Top-down GaN nanowire transistors with nearly zero gate hysteresis for parallel vertical electronics. Scientific Reports, 2019, 9, 10301.	3.3	32
23	Photoluminescence properties: Catalyst-free ZnO nanorods and layers versus bulk ZnO. Applied Physics Letters, 2006, 89, 231911.	3.3	31
24	Vapour phase transport growth of ZnO layers and nanostructures. Superlattices and Microstructures, 2007, 42, 33-39.	3.1	30
25	Analysis and Modeling of Thermomechanically Improved Silver-Sintered Die-Attach Layers Modified by Additives. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2011, 1, 1846-1855.	2.5	30
26	The analysis of mass transfer in system Î²-SiCâ€“Î±-SiC under silicon carbide sublimation growth. Journal of Crystal Growth, 1999, 198-199, 1011-1014.	1.5	29
27	Optical and electrical properties of ZnMnO layers grown by peroxide MBE. Superlattices and Microstructures, 2006, 39, 291-298.	3.1	29
28	Optical investigations and exciton localization in high quality Zn1âˆ’xMgxOâ€“ZnO single quantum wells. Applied Physics Letters, 2007, 91, .	3.3	27
29	Magneto-Stark Effect of Excitons as the Origin of Second Harmonic Generation in ZnO. Physical Review Letters, 2013, 110, 116402.	7.8	27
30	Structural characterization of ZnO films grown by molecular beam epitaxy on sapphire with MgO buffer. Journal of Applied Physics, 2006, 100, 103506.	2.5	26
31	Fabrication of ZnO nanorod-based pâ€“n heterojunction on SiC substrate. Superlattices and Microstructures, 2007, 42, 415-420.	3.1	26
32	Fabrication and characterization of n-ZnO on p-SiC heterojunction diodes on 4H-SiC substrates. Superlattices and Microstructures, 2007, 42, 387-391.	3.1	26
33	Controlled low-temperature fabrication of ZnO nanopillars with a wet-chemical approach. Nanotechnology, 2007, 18, 195602.	2.6	25
34	ZnO-GaN Hybrid Heterostructures as Potential Cost-Efficient LED Technology. Proceedings of the IEEE, 2010, 98, 1281-1287.	21.3	25
35	Growth of wide band gap wurtzite ZnMgO layers on (0001) Al2O3 by radical-source molecular beam epitaxy. Superlattices and Microstructures, 2007, 42, 129-133.	3.1	24
36	Homogeneous Large-Area Quasi-Free-Standing Monolayer and Bilayer Graphene on SiC. ACS Applied Nano Materials, 2019, 2, 844-852.	5.0	24

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37	Selective growth of ZnO nanorods in aqueous solution. Superlattices and Microstructures, 2007, 42, 425-430.	3.1	23
38	Effect of Potentiostatic and Galvanostatic Electrodeposition Modes on the Basic Parameters of Solar Cells Based on Cu₂O Thin Films. ECS Journal of Solid State Science and Technology, 2016, 5, Q183-Q187.	1.8	23
39	Growth of ZnO layers for transparent and flexible electronics. Thin Solid Films, 2008, 516, 1401-1404.	1.8	22
40	A morphology study on the epitaxial growth of graphene and its buffer layer. Thin Solid Films, 2018, 659, 7-15.	1.8	22
41	Growth of InP Layers on Nanometer-Scale Patterned Si Substrates. Crystal Growth and Design, 2003, 3, 89-93.	3.0	20
42	Excitonic Properties of ZnO. , 0, , 275-287.		20
43	Demonstration of an ultraviolet ZnO-based optically pumped third order distributed feedback laser. Applied Physics Letters, 2007, 91, 111108.	3.3	20
44	Recombination dynamics and lasing in ZnOâˆ•ZnMgO single quantum well structures. Applied Physics Letters, 2007, 91, 201104.	3.3	19
45	CBE growth of high-quality ZnO epitaxial layers. Physica Status Solidi (B): Basic Research, 2006, 243, 768-772.	1.5	18
46	Magnetic property investigations on ZnMnO. Superlattices and Microstructures, 2006, 39, 381-386.	3.1	18
47	Magnetic characterization of ZnO doped with vanadium. Superlattices and Microstructures, 2007, 42, 236-241.	3.1	18
48	Misfit reduction by a spinel layer formed during the epitaxial growth of ZnO on sapphire using a MgO buffer layer. Journal of Crystal Growth, 2007, 308, 314-320.	1.5	18
49	SnO2 based gas sensitive sensor. Thin Solid Films, 1997, 296, 168-171.	1.8	17
50	Monolithic InGaAsP optoelectronic devices with silicon electronics. IEEE Journal of Quantum Electronics, 2001, 37, 1246-1252.	1.9	17
51	Electrical characterization of ZnO nanorods. Physica Status Solidi (B): Basic Research, 2007, 244, 1473-1477.	1.5	17
52	Spin noise spectroscopy of donor-bound electrons in ZnO. Physical Review B, 2013, 87, .	3.2	17
53	Etch-Pit Density Investigation on Both Polar Faces of ZnO Substrates. Electrochemical and Solid-State Letters, 2007, 10, H357.	2.2	16
54	Cathodoluminescence of single ZnO nanorod heterostructures. Physica Status Solidi (B): Basic Research, 2007, 244, 1458-1461.	1.5	16

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55	Vapour transport growth of ZnO nanorods. Applied Physics A: Materials Science and Processing, 2007, 88, 17-20.	2.3	16
56	Mechanisms for high internal quantum efficiency of ZnO nanorods. Journal of Applied Physics, 2009, 106, .	2.5	16
57	Photoluminescence from ZnO nanowires. Journal of Vacuum Science & Technology B, 2009, 27, 1688.	1.3	16
58	Dye-Sensitized Solar Cells on the Basis of ZnO Nanorods. Journal of the Korean Physical Society, 2008, 53, 115-118.	0.7	16
59	Investigation of ZnO nanopillars fabrication in a new Thomas Swan close coupled showerhead MOCVD reactor. Microelectronics Journal, 2009, 40, 280-282.	2.0	15
60	Compared optical properties of ZnO heteroepitaxial, homoepitaxial 2D layers and nanowires. Journal of Crystal Growth, 2009, 311, 2172-2175.	1.5	15
61	SiC-Die-Attachment for High Temperature Applications. Materials Science Forum, 0, 645-648, 741-744.	0.3	15
62	Fabrication of ZnO Nanorods on MEMS Piezoresistive Silicon Microcantilevers for Environmental Monitoring. Proceedings (mdpi), 2017, 1, .	0.2	15
63	Transparent conductive Gaâ€doped ZnO films fabricated by MOCVD. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 708-713.	1.8	13
64	Vertical 3D gallium nitride field-effect transistors based on fin structures with inverted p-doped channel. Semiconductor Science and Technology, 2021, 36, 014002.	2.0	13
65	Probing the structural transition from buffer layer to quasifreestanding monolayer graphene by Raman spectroscopy. Physical Review B, 2019, 99, .	3.2	13
66	Micromachining of silicon carbide on silicon fabricated by low-pressure chemical vapour deposition. Journal of Micromechanics and Microengineering, 2002, 12, 380-384.	2.6	12
67	Magnetism in V-/Mn-doped ZnO layers fabricated on sapphire. Applied Physics A: Materials Science and Processing, 2007, 88, 161-166.	2.3	12
68	Stress and misoriented area formation under large silicon carbide boule growth. Journal of Crystal Growth, 1999, 198-199, 1015-1018.	1.5	11
69	High performance III/V RTD and PIN diode on a silicon (001) substrate. Applied Physics A: Materials Science and Processing, 2007, 87, 539-544.	2.3	11
70	Demonstration of a ZnO/MgZnO-based one-dimensional photonic crystal multiquantum well laser. Applied Physics Letters, 2008, 93, 101109.	3.3	11
71	Fabrication and characterization of nanoporous ZnO layers for sensing applications. Thin Solid Films, 2012, 520, 4662-4665.	1.8	11
72	Gallium nitride heterostructures on 3D structured silicon. Nanotechnology, 2008, 19, 405301.	2.6	10

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73	Two step deposition method with a high growth rate for ZnO nanowire arrays and its application in photovoltaics. Thin Solid Films, 2012, 520, 4637-4641.	1.8	10
74	Liquid metal intercalation of epitaxial graphene: Large-area gallenene layer fabrication through gallium self-propagation at ambient conditions. Physical Review Materials, 2021, 5, .	2.4	10
75	A two-step obtainment of quantum confinement in ZnO nanorods. Nanotechnology, 2006, 17, 4859-4862.	2.6	9
76	Extremely high absolute internal quantum efficiency of photoluminescence in co-doped GaN:Zn,Si. Applied Physics Letters, 2011, 99, 171110.	3.3	9
77	Growth of III/V resonant tunnelling diode on Si substrate with LP-MOVPE. Journal of Crystal Growth, 2003, 248, 380-383.	1.5	8
78	Layer by layer growth of ZnO on (0001) sapphire substrates by radical-source molecular beam epitaxy. Superlattices and Microstructures, 2007, 42, 158-164.	3.1	8
79	Simulation of the orientationâ€dependent growth of InGaAs/InP by metalorganic vaporâ€phase epitaxy. Journal of Applied Physics, 1994, 76, 4906-4908.	2.5	7
80	Self-actuating and self-sensing ZNO nanorods/chitosan coated piezoresistive silicon microcantilever for humidit Y sensing. , 2018, , .		7
81	Studies of N-Doped p-ZnO Layers Grown on c-Sapphire by Radical Source Molecular Beam Epitaxy. Journal of the Korean Physical Society, 2008, 53, 3016-3020.	0.7	7
82	Swelling Phenomena in Sintered Silver Die Attach Structures at High Temperatures: Reliability Problems and Solutions for an Operation above 350Â°C. Additional Conferences (Device Packaging) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5		
83	Simulation of heat and mass transfer during growth of silicon carbide single crystals. Semiconductors, 1997, 31, 672-676.	0.5	6
84	Hetero-micromachining of epitaxial III/V compound semiconductors. Sensors and Actuators A: Physical, 2000, 85, 324-329.	4.1	6
85	Properties of V-implanted ZnO nanorods. Nanotechnology, 2007, 18, 125609.	2.6	6
86	ZnO Nanostructures and Thin Layers for Device Applications. ECS Transactions, 2009, 16, 107-115.	0.5	6
87	On quantum efficiency of photoluminescence in ZnO layers and nanostructures. Physica B: Condensed Matter, 2009, 404, 4813-4815.	2.7	6
88	Implementation of ZnO/ZnMgO strained-layer superlattice for ZnO heteroepitaxial growth on sapphire. Journal of Crystal Growth, 2011, 323, 111-113.	1.5	6
89	SiC HOMOEPITAXY AND HETEROEPITAXY. International Journal of High Speed Electronics and Systems, 2005, 15, 747-780.	0.7	5
90	Growth kinetics and properties of ZnO/ZnMgO hetero- structures grown by radical-source molecular beam epitaxy. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 154-157.	0.8	5

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91	H2O2-molecular beam epitaxy of high quality ZnO. Applied Physics A: Materials Science and Processing, 2007, 88, 57-60.	2.3	5
92	Properties of Mn-doped ZnO nanopowder. Applied Physics A: Materials Science and Processing, 2008, 91, 375-378.	2.3	5
93	Electroluminescence from a n-ZnO/p-GaN hybrid LED. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 1709-1711.	0.8	5
94	Oxides for sustainable photovoltaics with earth-abundant materials. Proceedings of SPIE, 2014, , .	0.8	5
95	Growth of 3C-SiC on Si(100) by LPCVD and Patterning of the Grown Layers. Materials Science Forum, 2002, 389-393, 327-330.	0.3	4
96	Electrical and structural characterisation of single ZnO nanorods. Microelectronic Engineering, 2008, 85, 1248-1252.	2.4	4
97	GaN and ZnO nanostructures. Physica Status Solidi (B): Basic Research, 2010, 247, 2315-2328.	1.5	4
98	Determination of zinc concentration in GaN:Zn,Si from photoluminescence. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 523-526.	0.8	4
99	Vapour phase epitaxy of Cu2 O on a-plane Al2 O3. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 1284-1287.	0.8	4
100	Surface processing of silicon carbide substrates. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1997, 46, 370-373.	3.5	3
101	Growth of SiC on Si(100) by Low-Pressure MOVPE. Materials Science Forum, 2001, 353-356, 163-166.	0.3	3
102	Design and modelling of a III/V mobile-gate with optical input on a silicon substrate. , 0, , .		3
103	A study of ZnMnO as a material for magneto- and spin-electronics. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 1104-1108.	0.8	3
104	Interpretation of transport measurements in ZnO-thin films. Applied Physics A: Materials Science and Processing, 2011, 102, 161-168.	2.3	3
105	Modelling plexcitons of periodic gold nanorod arrays with molecular components. Nanotechnology, 2017, 28, 195201.	2.6	3
106	Elastic and anelastic properties of Fe-doped InP films on silicon cantilevers. Journal of Applied Physics, 2002, 91, 9031-9038.	2.5	2
107	High-speed InP-based resonant tunnelling diode on silicon substrate. , 0, , .		2
108	MOVPE gallium-nitride nanostructures fabricated on ZnO nanorod templates grown from aqueous chemical solution. IOP Conference Series: Materials Science and Engineering, 2009, 6, 012003.	0.6	2

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109	Development of a Wire-Bond Technology for SiC High Temperature Applications. Materials Science Forum, 2010, 645-648, 749-752.	0.3	2
110	ZnO Epitaxial Growth. , 2011, , 368-395.		2
111	Zn doped GaN for singleâ€photon emission. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 1024-1027.	0.8	2
112	Fabrication of wear-resistant silicon microprobe tips for high-speed surface roughness scanning devices. Proceedings of SPIE, 2015, , .	0.8	2
113	Electrical Properties of ZnO-Based Nanostructures. Journal of the Korean Physical Society, 2008, 53, 119-122.	0.7	2
114	The Pb1â^'xSnxTe gas phase epitaxy. Journal of Crystal Growth, 1989, 94, 651-655.	1.5	1
115	Sizes of crystallites as a function of cooling rate. Scripta Metallurgica Et Materialia, 1994, 31, 1131-1134.	1.0	1
116	Electrical conductivity of ceramics of SiC-AlN, SiC-BeO, Al/sub 2/O/sub 3/ in the temperature range 300-1800 K. , 0, , .		1
117	Silicon carbide as a material for high temperature posistors. , 0, , .		1
118	Semiconductor nanostructures for quantum wire lasers. , 2002, 4748, 476.		1
119	Optical studies of ZnO doped with transition metals. , 2006, , .		1
120	Excitonic spectrum of the ZnO/ZnMgO quantum wells. Semiconductors, 2011, 45, 766-770.	0.5	1
121	Higher than 90% internal quantum efficiency of photoluminescence in GaN:Si,Zn. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 507-510.	0.8	1
122	Surface photovoltage in heavily doped GaN:Si,Zn. , 2014, , .		1
123	Organophosphonate Functionalization of Al₂O₃-Coated Nanopores. , 2019, , .		1
124	Structural and Spectroscopic Properties of a 2 Inch ZnO-on-Sapphire Epiwafer Grown by Using Molecular Beam Epitaxy. Journal of the Korean Physical Society, 2008, 53, 2877-2879.	0.7	1
125	State-of-the-art in defect control of bulk SiC. , 0, , .		0
126	Optically Transparent 6H-Silicon Carbide. Materials Science Forum, 1998, 264-268, 53-56.	0.3	0

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127	6H- and 4H-silicon carbide for device applications. , 0, , .		0
128	Homogeneity of InGaAs/InP nanostructures. , 0, , .		0
129	Intersubband absorption in Î´-doped GaInAs-InP multi quantum wells. , 0, , .		0
130	Influence of substrate preparation on fracture properties of InP cantilevers. , 0, , .		0
131	Mechanical Spectroscopy of Pure and Fe-Doped InP Films on Silicon Cantilevers. Defect and Diffusion Forum, 2002, 206-207, 179-182.	0.4	0
132	Photoluminescence dynamics of surface-related emission in VPE grown ZnO nanowires. AIP Conference Proceedings, 2007, , .	0.4	0
133	Characterization of an optically pumped ZnO-based 3rdorder distributed feedback laser. , 2008, , .		0
134	Spin noise spectroscopy of ZnO. , 2013, , .		0
135	Fabrication of ZnO Nanostructures. , 2014, , 1-42.		0
136	Plasma profiling time-of-flight mass spectrometry for fast elemental analysis of semiconductor structures with depth resolution in the nanometer range. Semiconductor Science and Technology, 2020, 35, 035006.	2.0	0
137	Hetero-Micromachining of Epitaxial III/V Compound Semiconductors. , 2001, , 1-8.		0
138	Microscopic Origin of the Near-Band-Edge Emission in Aqueous Chemically-Grown ZnO Nanorods. Journal of the Korean Physical Society, 2008, 53, 2867-2869.	0.7	0