Nickolay V Sibirev

List of Publications by Year
in descending order

119 papers	2,937 citations	186209 28 h-index	168321 53 g-index
119 all docs	119 docs citations	119 times ranked	1946 citing authors

#	Article	IF	Citations
1	Tailoring Morphology and Vertical Yield of Self-Catalyzed GaP Nanowires on Template-Free Si Substrates. Nanomaterials, 2021, 11, 1949.	1.9	8
2	Kinetic broadening of size distribution in terms of natural versus invariant variables. Physical Review E, 2021, 103, 012112.	0.8	1
3	Crystalline-Phase Switching in Heterostructured Ga(As,P) Nanowires under the Impact of Elastic Strains. Semiconductors, 2020, 54, 1320-1324.	0.2	0
4	A Low-Threshold Miniaturized Plasmonic Nanowire Laser with High-Reflectivity Metal Mirrors. Nanomaterials, 2020, 10, 1928.	1.9	5
5	Monolithic integration of InP on Si by molten alloy driven selective area epitaxial growth. Nanoscale, 2020, 12, 23780-23788.	2.8	5
6	Comparison of GaAs nanowire growth seeded by Ag and Au colloidal nanoparticles on silicon. Nanotechnology, 2020, 31, 374005.	1.3	2
7	Study of Wurtzite Crystal Phase Stabilization in Heterostructured Ga(As,P) Nanowires. Semiconductors, 2020, 54, 1862-1865.	0.2	1
8	Performance Enhancement of Ultra-Thin Nanowire Array Solar Cells by Bottom Reflectivity Engineering. Nanomaterials, 2020, 10, 184.	1.9	9
9	Stabilization of wurtzite crystal phase in arsenide nanowires via elastic stress. , 2020, , .		0
10	Factors influencing the length distributions of vapor-liquid-solid nanowires. , 2020, , .		0
11	Growth and Characterization of GaP/GaPAs Nanowire Heterostructures with Controllable Composition. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900350.	1.2	28
12	Classification of the Morphologies and Related Crystal Phases of IIIâ€“V Nanowires Based on the Surface Energy Analysis. Journal of Physical Chemistry C, 2019, 123, 18693-18701.	1.5	10
13	The Role of Elastic Stresses in the Formation of Nitride Nanowires with Cubic Crystalline Structure. Technical Physics Letters, 2019, 45, 1050-1053.	0.2	1
14	InAs/InP core/shell nanowire gas sensor: Effects of InP shell on sensitivity and long-term stability. Applied Surface Science, 2019, 498, 143756.	3.1	12
15	Growth of GaAs nanowireâ€“graphite nanoplatelet hybrid structures. CrystEngComm, 2019, 21, 6165-6172.	1.3	5
16	The Influence of EL2 Centers on the Photoelectric Response of an Array of Radial GaAs/AlGaAs Nanowires. Technical Physics Letters, 2019, 45, 835-838.	0.2	0
17	Growth of GaN Nanotubes and Nanowires on Auâ€“Ni Catalysts. Technical Physics Letters, 2019, 45, 159-162.	0.2	1
18	On the Mechanism of the Vaporâ€“Solidâ€“Solid Growth of Au-Catalyzed GaAs Nanowires. Semiconductors, 2019, 53, 350-360.	0.2	11

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19	Widening the Length Distributions in Irregular Arrays of Self-Catalyzed IIIâ€“V Nanowires. Semiconductors, 2019, 53, 2068-2071.	0.2	0
20	GaP/Si(111) Nanowire Crystals Synthesized by Molecular-Beam Epitaxy with Switching between the Hexagonal and Cubic Phases. Semiconductors, 2018, 52, 1-5.	0.2	1
21	Photodynamics of Nonlinear Effects of Picosecond Laser Action on CdSe/ZnS QDs Colloidal Solutions. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2018, 125, 716-721.	0.2	1
22	Estimation of Evaporation Rate from Gold-Silicon Alloy Based on the Nucleation Time and Nanowire Length Distributions. Semiconductors, 2018, 52, 2120-2123.	0.2	0
23	Growth Modes of GaN Plasma-Assisted MBE Nanowires. Semiconductors, 2018, 52, 2085-2087.	0.2	1
24	Two Methods of Calculation Ternary Nanowire Composition. Semiconductors, 2018, 52, 2124-2127.	0.2	0
25	Solar Cell Based on Core/Shell Nanowires. Semiconductors, 2018, 52, 1568-1572.	0.2	4
26	Two models of optical limiting by ps- and ns-laser pulses in CdSe/ZnS quantum dots. , 2018, , .		0
27	Transient processes under excitation of ultrashort laser pulses in colloidal solutions of CdSe/ZnS quantum dots. Applied Optics, 2018, 57, 8166.	0.9	9
28	Dopant-stimulated growth of GaN nanotube-like nanostructures on Si(111) by molecular beam epitaxy. Beilstein Journal of Nanotechnology, 2018, 9, 146-154.	1.5	30
29	Narrowing the length distributions of self-assisted III-V nanowires by nucleation antibunching. , 2018, , .		0
30	Model for large-area monolayer coverage of polystyrene nanospheres by spin coating. Scientific Reports, 2017, 7, 40888.	1.6	30
31	Understanding the composition of ternary III-V nanowires and axial nanowire heterostructures in nucleation-limited regime. Materials and Design, 2017, 132, 400-408.	3.3	46
32	Modeling of semiconductor nanowire selective-area MOCVD growth. Journal of Physics: Conference Series, 2017, 917, 032036.	0.3	0
33	Sub-Poissonian length distributions of vaporâ€“liquidâ€“solid nanowires induced by nucleation antibunching. Journal Physics D: Applied Physics, 2017, 50, 254004.	1.3	4
34	Contribution of droplet volume fluctuation to dispersion of nanowire length. Journal of Physics: Conference Series, 2016, 741, 012040.	0.3	0
35	On a new method of heterojunction formation in IIIâ€“V nanowires. Semiconductors, 2016, 50, 1566-1568.	0.2	0
36	Self-induced GaN nanowire growth: surface density determination. Journal of Physics: Conference Series, 2016, 741, 012032.	0.3	0

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37	Broadening of length distributions of Au-catalyzed InAs nanowires. AIP Conference Proceedings, 2016, , .	0.3	1
38	As flux controlled formation of (Al,Ga)As axial nanowire heterostructures. AIP Conference Proceedings, 2016, , .	0.3	1
39	Length distributions of Au-catalyzed and In-catalyzed InAs nanowires. Nanotechnology, 2016, 27, 375602.	1.3	30
40	Regimes of radial growth for Ga-catalyzed GaAs nanowires. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	1.1	4
41	Factors Influencing the Interfacial Abruptness in Axial IIIâ€“V Nanowire Heterostructures. Crystal Growth and Design, 2016, 16, 2019-2023.	1.4	23
42	The influence of liquid drop shape on crystalline structure of nanowires. Technical Physics Letters, 2015, 41, 1189-1191.	0.2	0
43	Self-limiting growth and bimodal size distribution of Au nanoislands on InAs(111)B surface. Journal of Physics: Conference Series, 2015, 643, 012012.	0.3	1
44	Modeling of axial heterostructure formation in ternary III-V nanowires. Journal of Physics: Conference Series, 2015, 643, 012007.	0.3	4
45	Catalyst-free growth of InAs nanowires on Si (111) by CBE. Nanotechnology, 2015, 26, 415604.	1.3	29
46	Analytic scaling function for island-size distributions. Physical Review E, 2015, 91, 042408.	0.8	14
47	Special features of heterojunction formation in whisker nanocrystals. Technical Physics Letters, 2015, 41, 209-212.	0.2	7
48	Self-assembly based nanometer-scale patterning for nanowire growth. , 2015, , .		0
49	Size distributions, scaling properties, and Bartelt-Evans singularities in irreversible growth with size-dependent capture coefficients. Physical Review B, 2014, 89, .	1.1	16
50	Size distributions of fullerene surface clusters. Applied Surface Science, 2014, 307, 46-51.	3.1	13
51	Modeling the nucleation statistics in vaporâ€“liquidâ€“solid nanowires. Journal of Crystal Growth, 2014, 401, 51-55.	0.7	12
52	Composition-Dependent Interfacial Abruptness in Au-Catalyzed Si_{1â€“<i>x</i>}Ge_{<i>x</i>}/Si/Si_{1â€“<i>x</i>}Ge_{<i>x</i>} Nanowire Heterostructures. Nano Letters, 2014, 14, 5140-5147.	4.5	34
53	The initial stage of growth of self-induced GaN nanowires. Technical Physics Letters, 2014, 40, 471-474.	0.2	4
54	Study of the electrical properties of individual (Ga,Mn)As nanowires. Semiconductors, 2014, 48, 344-349.	0.2	2

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55	New method of determining the youngâ€™s Modulus of (Ga,Mn)As nanowhiskers with a scanning electron microscope. Physics of the Solid State, 2013, 55, 2229-2233.	0.2	1
56	Effect of an arsenic flux on the molecular-beam epitaxy of self-catalytic (Ga,Mn)As nanowire crystals. Semiconductors, 2013, 47, 1416-1421.	0.2	2
57	Rate equation approach to understanding the ion-catalyzed formation of peptides. Journal of Chemical Physics, 2013, 138, 244906.	1.2	9
58	Statistics of nucleation associated with the growth of whisker nanocrystals. Technical Physics Letters, 2013, 39, 660-663.	0.2	8
59	Readsorption Assisted Growth of InAs/InSb Heterostructured Nanowire Arrays. Crystal Growth and Design, 2013, 13, 878-882.	1.4	32
60	Cobalt epitaxial nanoparticles on CaF2/Si(111): Growth process, morphology, crystal structure, and magnetic properties. Physical Review B, 2013, 87, .	1.1	11
61	Elastic energy relaxation and critical thickness for plastic deformation in the core-shell InGaAs/GaAs nanopillars. Journal of Applied Physics, 2013, 113, .	1.1	26
62	Effect of diffusion from a lateral surface on the rate of GaN nanowire growth. Semiconductors, 2012, 46, 838-841.	0.2	11
63	Modeling of InAsâ€"InSb nanowires grown by Au-assisted chemical beam epitaxy. Nanotechnology, 2012, 23, 095602.	1.3	36
64	Influence of shadow effect on the growth and shape of InAs nanowires. Journal of Applied Physics, 2012, 111, .	1.1	49
65	Wetting regime of semiconductor nanowhisker growth: Stability and shape of catalyst droplet. Technical Physics Letters, 2012, 38, 221-224.	0.2	2
66	Analytical Study of Elastic Relaxation and Plastic Deformation in Nanostructures on Lattice Mismatched Substrates. Crystal Growth and Design, 2011, 11, 5441-5448.	1.4	69
67	New Mode of Vaporâ^'Liquidâ^'Solid Nanowire Growth. Nano Letters, 2011, 11, 1247-1253.	4.5	132
68	Numerical analysis of the effect of fluctuations on the growth of nuclei during first-order phase transitions. Technical Physics Letters, 2011, 37, 596-600.	0.2	1
69	Self-consistent model of nanowire growth and crystal structure with regard to the adatom diffusion. Technical Physics, 2011, 56, 311-315.	0.2	3
70	Experimental and theoretical investigations on the phase purity of GaAs zincblende nanowires. Semiconductor Science and Technology, 2011, 26, 014034.	1.0	22
71	The initial stage of growth of crystalline nanowhiskers. Semiconductors, 2010, 44, 112-115.	0.2	11
72	Surface energy and crystal structure of nanowhiskers of IIIâ€"V semiconductor compounds. Physics of the Solid State, 2010, 52, 1531-1538.	0.2	81

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73	Stress-Driven Nucleation of Three-Dimensional Crystal Islands: From Quantum Dots to Nanoneedles. Crystal Growth and Design, 2010, 10, 3949-3955.	1.4	52
74	Photoluminescence properties of GaAs nanowire ensembles with zincblende and wurtzite crystal structure. Physica Status Solidi - Rapid Research Letters, 2010, 4, 175-177.	1.2	27
75	Influence of substrate temperature on the shape of GaAs nanowires grown by Au-assisted MOVPE. Journal of Crystal Growth, 2010, 312, 1676-1682.	0.7	11
76	Growth of Inclined GaAs Nanowires by Molecular Beam Epitaxy: Theory and Experiment. Nanoscale Research Letters, 2010, 5, 1692-1697.	3.1	23
77	Critical diameters and temperature domains for MBE growth of IIIâ€“V nanowires on lattice mismatched substrates. Physica Status Solidi - Rapid Research Letters, 2009, 3, 112-114.	1.2	116
78	Effect of nucleation on the crystalline structure of nanowhiskers. Technical Physics Letters, 2009, 35, 380-383.	0.2	10
79	Features of nucleation in nanovolumes. Technical Physics Letters, 2009, 35, 1117-1120.	0.2	6
80	Nonlinear effects during the growth of semiconductor nanowires. Semiconductors, 2009, 43, 1226-1234.	0.2	6
81	On diffusion lengths of Ga adatoms on AlAs(111) and GaAs(111) surfaces. Technical Physics, 2009, 54, 586-589.	0.2	8
82	Gibbs-Thomson and diffusion-induced contributions to the growth rate of Si, InP, and GaAs nanowires. Physical Review B, 2009, 79, .	1.1	163
83	Role of nonlinear effects in nanowire growth and crystal phase. Physical Review B, 2009, 80, .	1.1	90
84	Effect of growth atmosphere on the temperature profile along a nanowhisker. Technical Physics Letters, 2008, 34, 512-515.	0.2	2
85	Hexagonal structures in GaAs nanowhiskers. Technical Physics Letters, 2008, 34, 538-541.	0.2	10
86	Heterostructure formation in nanowhiskers via diffusion mechanism. Technical Physics Letters, 2008, 34, 750-753.	0.2	2
87	Lateral ordering of GaAs nanowhiskers on GaAs(111)As and GaAs (110) surfaces during molecular-beam epitaxy. Semiconductors, 2008, 42, 710-713.	0.2	1
88	Deposition-rate dependence of the height of GaAs-nanowires. Semiconductors, 2008, 42, 1259-1263.	0.2	4
89	Growth thermodynamics of nanowires and its application to polytypism of zinc blende III-V nanowires. Physical Review B, 2008, 77, .	1.1	160
90	Growth kinetics and crystal structure of semiconductor nanowires. Physical Review B, 2008, 78, .	1.1	276

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91	Shape modification of III-V nanowires: The role of nucleation on sidewalls. Physical Review E, 2008, 77, 031606.	0.8	59
92	Diffusion-controlled growth of semiconductor nanowires: Vapor pressure versus high vacuum deposition. Surface Science, 2007, 601, 4395-4401.	0.8	57
93	General form of the dependences of nanowire growth rate on the nanowire radius. Journal of Crystal Growth, 2007, 304, 504-513.	0.7	71
94	Effect of deposition conditions on nanowhisker morphology. Semiconductors, 2007, 41, 865-874.	0.2	5
95	Nucleation at the lateral surface and the shape of whisker nanocrystals. Semiconductors, 2007, 41, 1240-1247.	0.2	2
96	Computer simulation of coherent island growth in Ge/Si and InAs/GaAs systems. Technical Physics Letters, 2007, 33, 490-492.	0.2	3
97	Theoretical analysis of the vapor-liquid-solid mechanism of nanowire growth during molecular beam epitaxy. Physical Review E, 2006, 73, 021603.	0.8	163
98	Influence of MBE growth conditions on the surface morphology of Al(Ga)As nanowhiskers. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 1365-1369.	0.8	5
99	Growth of GaAs nanoscale whiskers by magnetron sputtering deposition. Journal of Crystal Growth, 2006, 289, 31-36.	0.7	52
100	Nanodimensional whisker growth by the generalized vapor-liquid-crystal mechanism. Technical Physics Letters, 2006, 32, 185-187.	0.2	11
101	Temperature profile along a nanowhisker growing in high vacuum. Technical Physics Letters, 2006, 32, 292-295.	0.2	10
102	Growth of GaAs nanowhisker arrays by magnetron sputtering on Si(111) substrates. Technical Physics Letters, 2006, 32, 520-522.	0.2	7
103	Assessing the minimum diameter of nanowhiskers. Technical Physics Letters, 2006, 32, 1047-1050.	0.2	4
104	The band structure and photoluminescence in a Ge0.8Si0.2/Ge0.1Si0.9 superlattice with vertically correlated quantum dots. Semiconductors, 2006, 40, 224-228.	0.2	2
105	The theory of the formation of multilayered thin films on solid surfaces. Semiconductors, 2006, 40, 249-256.	0.2	5
106	The role of surface diffusion of adatoms in the formation of nanowire crystals. Semiconductors, 2006, 40, 1075-1082.	0.2	48
107	A3B5 nanowhiskers: MBE growth and properties. European Physical Journal D, 2006, 56, 13-20.	0.4	10
108	<title>GaAs nanowhiskers grown by molecular beam epitaxy on GaAs(111)B surface activated by Au: theory and experiment</title>. , 2005, 5946, 275.		1

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109	Time Variation of the Mean Quantum Dot Size at the Kinetic Growth Stage. Technical Physics Letters, 2005, 31, 161.	0.2	2
110	Threshold behavior of the formation of nanometer islands in a Ge/Si(100) system in the presence of Sb. Semiconductors, 2005, 39, 547-551.	0.2	9
111	The diffusion mechanism in the formation of GaAs and AlGaAs nanowhiskers during the process of molecular-beam epitaxy. Semiconductors, 2005, 39, 557-564.	0.2	43
112	Diffusion-induced growth of GaAs nanowhiskers during molecular beam epitaxy: Theory and experiment. Physical Review B, 2005, 71, .	1.1	272
113	Kinetic model of the growth of nanodimensional whiskers by the vapor-liquid-crystal mechanism. Technical Physics Letters, 2004, 30, 682-686.	0.2	29
114	A modified Kolmogorov model and the growth rate of a crystal face of arbitrary size. Technical Physics Letters, 2004, 30, 791-794.	0.2	9
115	On the non-monotonic lateral size dependence of the height of GaAs nanowhiskers grown by molecular beam epitaxy at high temperature. Physica Status Solidi (B): Basic Research, 2004, 241, R30-R33.	0.7	45
116	Growth rate of a crystal facet of arbitrary size and growth kinetics of vertical nanowires. Physical Review E, 2004, 70, 031604.	0.8	109
117	Analysis of the dispersion equation for the SchrÃ¶dinger operator on periodic metric graphs. Waves in Random and Complex Media, 2004, 14, 157-183.	1.5	9
118	Asymptotics of localized spectral bands of the periodical waveguide. , 2002, , .		2
119	Description of low-frequency parts of the spectrum of periodical waveguide with screens. , 0, , .		0