Vladimir Dubrovskii

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8180907/publications.pdf

Version: 2024-02-01

298 papers	6,703 citations	50244 46 h-index	82499 72 g-index
300 all docs	300 docs citations	300 times ranked	3381 citing authors

#	Article	IF	Citations
1	Growth kinetics and crystal structure of semiconductor nanowires. Physical Review B, 2008, 78, .	1.1	276
2	Diffusion-induced growth of GaAs nanowhiskers during molecular beam epitaxy: Theory and experiment. Physical Review B, 2005, 71, .	1.1	272
3	Nucleation Theory and Growth of Nanostructures. Nanoscience and Technology, 2014, , .	1.5	198
4	Self-catalyzed, pure zincblende GaAs nanowires grown on Si(111) by molecular beam epitaxy. Physical Review B, 2010, 82, .	1.1	194
5	Theoretical analysis of the vapor-liquid-solid mechanism of nanowire growth during molecular beam epitaxy. Physical Review E, 2006, 73, 021603.	0.8	163
6	Gibbs-Thomson and diffusion-induced contributions to the growth rate of Si, InP, and GaAs nanowires. Physical Review B, 2009, 79, .	1.1	163
7	Growth thermodynamics of nanowires and its application to polytypism of zinc blende III-V nanowires. Physical Review B, 2008, 77, .	1.1	160
8	Semiconductor nanowhiskers: Synthesis, properties, and applications. Semiconductors, 2009, 43, 1539-1584.	0.2	158
9	Au-assisted molecular beam epitaxy of InAs nanowires: Growth and theoretical analysis. Journal of Applied Physics, 2007, 102, 094313.	1.1	136
10	New Mode of Vaporâˆ'Liquidâˆ'Solid Nanowire Growth. Nano Letters, 2011, 11, 1247-1253.	4.5	132
11	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
12	Kinetics of the initial stage of coherent island formation in heteroepitaxial systems. Physical Review B, 2003, 68, .	1.1	112
13	Growth rate of a crystal facet of arbitrary size and growth kinetics of vertical nanowires. Physical Review E, 2004, 70, 031604.	0.8	109
14	Self-Equilibration of the Diameter of Ga-Catalyzed GaAs Nanowires. Nano Letters, 2015, 15, 5580-5584.	4.5	107
15	Template-Assisted Scalable Nanowire Networks. Nano Letters, 2018, 18, 2666-2671.	4.5	92
16	Role of nonlinear effects in nanowire growth and crystal phase. Physical Review B, 2009, 80, .	1.1	90
17	Stopping and Resuming at Will the Growth of GaAs Nanowires. Crystal Growth and Design, 2013, 13, 3976-3984.	1.4	84
18	Phase Selection in Self-catalyzed GaAs Nanowires. Nano Letters, 2020, 20, 1669-1675.	4.5	83

#	Article	IF	Citations
19	Record Pure Zincblende Phase in GaAs Nanowires down to 5 nm in Radius. Nano Letters, 2014, 14, 3938-3944.	4.5	82
20	Surface energy and crystal structure of nanowhiskers of IIIâ€“V semiconductor compounds. Physics of the Solid State, 2010, 52, 1531-1538.	0.2	81
21	Quantitative description for the growth rate of self-induced GaN nanowires. Physical Review B, 2012, 85, .	1.1	80
22	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
23	Influence of the group V element on the chemical potential and crystal structure of Au-catalyzed III-V nanowires. Applied Physics Letters, 2014, 104, 053110.	1.5	69
24	Bistability of Contact Angle and Its Role in Achieving Quantum-Thin Self-Assisted GaAs nanowires. Nano Letters, 2018, 18, 49-57.	4.5	62
25	Self-regulated pulsed nucleation in catalyzed nanowire growth. Physical Review B, 2013, 87, .	1.1	61
26	Scaling growth kinetics of self-induced GaN nanowires. Applied Physics Letters, 2012, 100, .	1.5	60
27	Shape modification of III-V nanowires: The role of nucleation on sidewalls. Physical Review E, 2008, 77, 031606.	0.8	59
28	Growth mechanisms and crystallographic structure of InP nanowires on lattice-mismatched substrates. Journal of Applied Physics, 2008, 104, 044313.	1.1	59
29	Diffusion-controlled growth of semiconductor nanowires: Vapor pressure versus high vacuum deposition. Surface Science, 2007, 601, 4395-4401.	0.8	57
30	Tailoring the diameter and density of self-catalyzed GaAs nanowires on silicon. Nanotechnology, 2015, 26, 105603.	1.3	57
31	Simultaneous Selective-Area and Vaporâ€“Liquidâ€“Solid Growth of InP Nanowire Arrays. Nano Letters, 2016, 16, 4361-4367.	4.5	57
32	Fluctuation-induced spreading of size distribution in condensation kinetics. Journal of Chemical Physics, 2009, 131, 164514.	1.2	55
33	Photovoltaic Properties of p-Doped GaAs Nanowire Arrays Grown on n-Type GaAs(111)B Substrate. Nanoscale Research Letters, 2010, 5, 360-363.	3.1	55
34	Zeldovich Nucleation Rate, Self-Consistency Renormalization, and Crystal Phase of Au-Catalyzed GaAs Nanowires. Crystal Growth and Design, 2015, 15, 340-347.	1.4	55
35	Scaling thermodynamic model for the self-induced nucleation of GaN nanowires. Physical Review B, 2012, 85, .	1.1	53
36	Narrowing the Length Distribution of Ge Nanowires. Physical Review Letters, 2012, 108, 105501.	2.9	53

#	Article	IF	Citations
37	Unconventional Growth Mechanism for Monolithic Integration of IIIâ€“V on Silicon. ACS Nano, 2013, 7, 100-107.	7.3	53
38	Growth of GaAs nanoscale whiskers by magnetron sputtering deposition. Journal of Crystal Growth, 2006, 289, 31-36.	0.7	52
39	Nucleation theory beyond the deterministic limit. I. The nucleation stage. Journal of Chemical Physics, 2010, 132, 114507.	1.2	52
40	Stress-Driven Nucleation of Three-Dimensional Crystal Islands: From Quantum Dots to Nanoneedles. Crystal Growth and Design, 2010, 10, 3949-3955.	1.4	52
41	Formation of InAs quantum dots on a silicon (100) surface. Semiconductor Science and Technology, 1998, 13, 1262-1265.	1.0	50
42	Influence of shadow effect on the growth and shape of InAs nanowires. Journal of Applied Physics, 2012, 111, .	1.1	49
43	Fundamental aspects to localize self-catalyzed III-V nanowires on silicon. Nature Communications, 2019, 10, 869.	5.8	49
44	Nucleation and Growth of Adsorbed Layer Selfâ€Consistent Approach Based on Kolmogoroffâ€Avrami Model. Physica Status Solidi (B): Basic Research, 1992, 171, 345-356.	0.7	48
45	The role of surface diffusion of adatoms in the formation of nanowire crystals. Semiconductors, 2006, 40, 1075-1082.	0.2	48
46	Engineering the Size Distributions of Ordered GaAs Nanowires on Silicon. Nano Letters, 2017, 17, 4101-4108.	4.5	47
47	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
48	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
49	Boron distribution in the core of Si nanowire grown by chemical vapor deposition. Journal of Applied Physics, 2012, 111, 094909.	1.1	44
50	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
51	Diffusion-induced growth of nanowires: Generalized boundary conditions and self-consistent kinetic equation. Journal of Crystal Growth, 2014, 401, 431-440.	0.7	42
52	Origin of Spontaneous Coreâ€“Shell AlGaAs Nanowires Grown by Molecular Beam Epitaxy. Crystal Growth and Design, 2016, 16, 7251-7255.	1.4	42
53	Development of Growth Theory for Vaporâ€“Liquidâ€“Solid Nanowires: Contact Angle, Truncated Facets, and Crystal Phase. Crystal Growth and Design, 2017, 17, 2544-2548.	1.4	41
54	Sub-Poissonian Narrowing of Length Distributions Realized in Ga-Catalyzed GaAs Nanowires. Nano Letters, 2017, 17, 5350-5355.	4.5	39

#	Article	IF	Citations
55	Photoluminescence properties of InAs nanowires grown on GaAs and Si substrates. Nanotechnology, 2010, 21, 335705.	1.3	38
56	Length Distributions of Nanowires Growing by Surface Diffusion. Crystal Growth and Design, 2016, 16, 2167-2172.	1.4	38
57	Understanding the growth and composition evolution of gold-seeded ternary InGaAs nanowires. Nanoscale, 2015, 7, 16266-16272.	2.8	37
58	Modeling of InAsâ€“InSb nanowires grown by Au-assisted chemical beam epitaxy. Nanotechnology, 2012, 23, 095602.	1.3	36
59	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
60	Readsorption Assisted Growth of InAs/InSb Heterostructured Nanowire Arrays. Crystal Growth and Design, 2013, 13, 878-882.	1.4	32
61	Nucleation-limited composition of ternary IIIâ€“V nanowires forming from quaternary gold based liquid alloys. CrystEngComm, 2018, 20, 1649-1655.	1.3	32
62	Refinement of Nucleation Theory for Vaporâ€“Liquidâ€“Solid Nanowires. Crystal Growth and Design, 2017, 17, 2589-2593.	1.4	31
63	Optimizing the yield of A-polar GaAs nanowires to achieve defect-free zinc blende structure and enhanced optical functionality. Nanoscale, 2018, 10, 17080-17091.	2.8	31
64	Fully Analytical Description for the Composition of Ternary Vaporâ€“Liquidâ€“Solid Nanowires. Crystal Growth and Design, 2015, 15, 5738-5743.	1.4	30
65	Length distributions of Au-catalyzed and In-catalyzed InAs nanowires. Nanotechnology, 2016, 27, 375602.	1.3	30
66	Model for large-area monolayer coverage of polystyrene nanospheres by spin coating. Scientific Reports, 2017, 7, 40888.	1.6	30
67	Theory of VLS Growth of Compound Semiconductors. Semiconductors and Semimetals, 2015, 93, 1-78.	0.4	30
68	Kinetic model of the growth of nanodimensional whiskers by the vapor-liquid-crystal mechanism. Technical Physics Letters, 2004, 30, 682-686.	0.2	29
69	Catalyst-free growth of InAs nanowires on Si (111) by CBE. Nanotechnology, 2015, 26, 415604.	1.3	29
70	Control of morphology and crystal purity of InP nanowires by variation of phosphine flux during selective area MOMBE. Nanotechnology, 2015, 26, 085303.	1.3	29
71	Group V sensitive vaporâ€“liquidâ€“solid growth of Au-catalyzed and self-catalyzed IIIâ€“V nanowires. Journal of Crystal Growth, 2016, 440, 62-68.	0.7	29
72	Three-fold Symmetric Doping Mechanism in GaAs Nanowires. Nano Letters, 2017, 17, 5875-5882.	4.5	29

#	Article	IF	Citations
73	Nanoparticle Stability in Axial InAsâ€“InP Nanowire Heterostructures with Atomically Sharp Interfaces. Nano Letters, 2018, 18, 167-174.	4.5	28
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	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
76	Analysis of Incubation Times for the Self-Induced Formation of GaN Nanowires: Influence of the Substrate on the Nucleation Mechanism. Crystal Growth and Design, 2016, 16, 7205-7211.	1.4	26
77	Si Doping of Vaporâ€“Liquidâ€“Solid GaAs Nanowires: n-Type or p-Type?. Nano Letters, 2019, 19, 4498-4504.	4.5	26
78	Kinetics and mechanism of planar nanowire growth. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 152-160.	3.3	25
79	Understanding the vaporâ€“liquidâ€“solid growth and composition of ternary IIIâ€“V nanowires and nanowire heterostructures. Journal Physics D: Applied Physics, 2017, 50, 453001.	1.3	24
80	Growth of Inclined GaAs Nanowires by Molecular Beam Epitaxy: Theory and Experiment. Nanoscale Research Letters, 2010, 5, 1692-1697.	3.1	23
81	Effects of Be doping on InP nanowire growth mechanisms. Applied Physics Letters, 2012, 101, .	1.5	23
82	Conditions for high yield of selective-area epitaxy InAs nanowires on SiO_{<i>x</i>}/Si(111) substrates. Nanotechnology, 2015, 26, 465301.	1.3	23
83	Catalyst Composition Tuning: The Key for the Growth of Straight Axial Nanowire Heterostructures with Group III Interchange. Nano Letters, 2016, 16, 7183-7190.	4.5	23
84	Factors Influencing the Interfacial Abruptness in Axial IIIâ€“V Nanowire Heterostructures. Crystal Growth and Design, 2016, 16, 2019-2023.	1.4	23
85	Experimental and theoretical investigations on the phase purity of GaAs zincblende nanowires. Semiconductor Science and Technology, 2011, 26, 014034.	1.0	22
86	Framed carbon nanostructures: Synthesis and applications in functional SPM tips. Ultramicroscopy, 2015, 148, 151-157.	0.8	22
87	Circumventing the miscibility gap in InGaN nanowires emitting from blue to red. Nanotechnology, 2018, 29, 465602.	1.3	22
88	Mono- and polynucleation, atomistic growth, and crystal phase of III-V nanowires under varying group V flow. Journal of Chemical Physics, 2015, 142, 204702.	1.2	21
89	Scanning thermal microscopy with heat conductive nanowire probes. Ultramicroscopy, 2016, 162, 42-51.	0.8	21
90	Self-narrowing of size distributions of nanostructures by nucleation antibunching. Physical Review Materials, 2017, 1, .	0.9	21

#	Article	IF	Citations
91	Selective Area Growth of GaN Nanowires on Graphene Nanodots. Crystal Growth and Design, 2020, 20, 552-559.	1.4	20
92	Study of processes of self-catalyzed growth of gaas crystal nanowires by molecular-beam epitaxy on modified Si (111) surfaces. Semiconductors, 2011, 45, 431-435.	0.2	19
93	Lateral growth and shape of semiconductor nanowires. Semiconductors, 2013, 47, 50-57.	0.2	18
94	Tuning the morphology of self-assisted GaP nanowires. Nanotechnology, 2018, 29, 225603.	1.3	18
95	Simultaneous Selective Area Growth of Wurtzite and Zincblende Self-Catalyzed GaAs Nanowires on Silicon. Nano Letters, 2021, 21, 3139-3145.	4.5	18
96	Surface energy and modes of catalytic growth of semiconductor nanowhiskers. Technical Physics Letters, 2012, 38, 311-315.	0.2	17
97	Quaternary Chemical Potentials for Gold-Catalyzed Growth of Ternary InGaAs Nanowires. Crystal Growth and Design, 2016, 16, 4526-4530.	1.4	17
98	Dynamics of Gold Droplet Formation on SiO₂/Si(111) Surface. Journal of Physical Chemistry C, 2020, 124, 11946-11951.	1.5	17
99	Formation Mechanism of Twinning Superlattices in Doped GaAs Nanowires. Nano Letters, 2020, 20, 3344-3351.	4.5	17
100	Te incorporation and activation as <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -type dopant in self-catalyzed GaAs nanowires. Physical Review Materials, 2019, 3, .	0.9	17
101	Growth Kinetics of Thin Films Formed by Nucleation during Layer Formation. Semiconductors, 2005, 39, 1267.	0.2	16
102	Calculation of the size-distribution function for quantum dots at the kinetic stage of growth. Semiconductors, 2006, 40, 1123-1130.	0.2	16
103	Size distributions, scaling properties, and Bartelt-Evans singularities in irreversible growth with size-dependent capture coefficients. Physical Review B, 2014, 89, .	1.1	16
104	Determination of the diffusion lengths of Ga adatoms using GaN stripe profiling. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 851-854.	0.8	16
105	Deterministic Switching of the Growth Direction of Self-Catalyzed GaAs Nanowires. Nano Letters, 2019, 19, 82-89.	4.5	16
106	Temperature dependence of the quantum dot lateral size in the Ge/Si(100) system. Physica Status Solidi (B): Basic Research, 2003, 236, R1-R3.	0.7	15
107	CdTe Nanowires by Au-Catalyzed Metalorganic Vapor Phase Epitaxy. Nano Letters, 2017, 17, 4075-4082.	4.5	15
108	A simple route to synchronized nucleation of self-catalyzed GaAs nanowires on silicon for sub-Poissonian length distributions. Nanotechnology, 2018, 29, 504004.	1.3	15

#	Article	IF	Citations
109	Influence of Silicon on the Nucleation Rate of GaAs Nanowires on Silicon Substrates. Journal of Physical Chemistry C, 2018, 122, 19230-19235.	1.5	15
110	Numerical analysis of Ostwald ripening in two-dimensional systems. Journal of Chemical Physics, 2011, 134, 094507.	1.2	14
111	Growth modeling of CdTe nanowires. Nanotechnology, 2012, 23, 485607.	1.3	14
112	Analytic scaling function for island-size distributions. Physical Review E, 2015, 91, 042408.	0.8	14
113	Fabrication of InAs quantum dots on silicon. Technical Physics Letters, 1998, 24, 290-292.	0.2	13
114	Physical consequences of the equivalence of conditions for the steady-state growth of nanowires and the nucleation on triple phase line. Technical Physics Letters, 2011, 37, 53-57.	0.2	13
115	Size distributions of fullerene surface clusters. Applied Surface Science, 2014, 307, 46-51.	3.1	13
116	Be, Te, and Si Doping of GaAs Nanowires: Theory and Experiment. Journal of Physical Chemistry C, 2020, 124, 17299-17307.	1.5	13
117	Droplet epitaxy symmetric InAs/InP quantum dots for quantum emission in the third telecom window: morphology, optical and electronic properties. Nanophotonics, 2022, 11, 1515-1526.	2.9	13
118	Nucleation theory beyond the deterministic limit. II. The growth stage. Journal of Chemical Physics, 2010, 132, 114508.	1.2	12
119	Modeling the nucleation statistics in vaporâ€“liquidâ€“solid nanowires. Journal of Crystal Growth, 2014, 401, 51-55.	0.7	12
120	Length distributions of nanowires: Effects of surface diffusion versus nucleation delay. Journal of Crystal Growth, 2017, 463, 139-144.	0.7	12
121	Self-catalyzed GaAs nanowires on silicon by hydride vapor phase epitaxy. Nanotechnology, 2017, 28, 125602.	1.3	12
122	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
123	Compositional control of homogeneous InGaN nanowires with the In content up to 90%. Nanotechnology, 2019, 30, 044001.	1.3	12
124	GaAs nanoscale membranes: prospects for seamless integration of IIIâ€“Vs on silicon. Nanoscale, 2020, 12, 815-824.	2.8	12
125	Nanodimensional whisker growth by the generalized vapor-liquid-crystal mechanism. Technical Physics Letters, 2006, 32, 185-187.	0.2	11
126	The initial stage of growth of crystalline nanowhiskers. Semiconductors, 2010, 44, 112-115.	0.2	11

#	Article	IF	Citations
127	Effect of diffusion from a lateral surface on the rate of GaN nanowire growth. Semiconductors, 2012, 46, 838-841.	0.2	11
128	Formation of (Ga,Mn)As nanowires and study of their magnetic properties. Semiconductors, 2012, 46, 179-183.	0.2	11
129	Cobalt epitaxial nanoparticles on CaF2/Si(111): Growth process, morphology, crystal structure, and magnetic properties. Physical Review B, 2013, 87, .	1.1	11
130	Transition from thermodynamically to kinetically controlled regime of nucleation in a materially open system. Journal of Physics Condensed Matter, 2004, 16, 6929-6940.	0.7	10
131	Temperature profile along a nanowhisker growing in high vacuum. Technical Physics Letters, 2006, 32, 292-295.	0.2	10
132	A3B5 nanowhiskers: MBE growth and properties. European Physical Journal D, 2006, 56, 13-20.	0.4	10
133	Hexagonal structures in GaAs nanowhiskers. Technical Physics Letters, 2008, 34, 538-541.	0.2	10
134	Effect of nucleation on the crystalline structure of nanowhiskers. Technical Physics Letters, 2009, 35, 380-383.	0.2	10
135	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
136	Formation of wurtzite sections in self-catalyzed GaP nanowires by droplet consumption. Nanotechnology, 2021, 32, 495601.	1.3	10
137	Energetics and kinetics of monolayer formation in vapor-liquid-solid nanowire growth. Physical Review Materials, 2020, 4, .	0.9	10
138	Theory of MBE Growth of Nanowires on Reflecting Substrates. Nanomaterials, 2022, 12, 253.	1.9	10
139	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
140	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
141	Rate equation approach to understanding the ion-catalyzed formation of peptides. Journal of Chemical Physics, 2013, 138, 244906.	1.2	9
142	Heteroepitaxial growth of InAs on Si: A new type of quantum dot. Semiconductors, 1999, 33, 972-975.	0.2	8
143	Suppression of dome-shaped clusters during molecular beam epitaxy of Ge on Si(100). Semiconductors, 2004, 38, 1202-1206.	0.2	8
144	Formation of GaAs nanowhisker arrays by magnetron sputtering deposition. Physics of the Solid State, 2006, 48, 786-791.	0.2	8

#	Article	IF	Citations
145	On diffusion lengths of Ga adatoms on AlAs(111) and GaAs(111) surfaces. Technical Physics, 2009, 54, 586-589.	0.2	8
146	Gallium nitride nanowires and microwires with exceptional length grown by metal organic chemical vapor deposition via titanium film. Journal of Applied Physics, 2015, 117, 024301.	1.1	8
147	A simplified model to estimate thermal resistance between carbon nanotube and sample in scanning thermal microscopy. Journal Physics D: Applied Physics, 2017, 50, 494004.	1.3	8
148	Evolution of the Length and Radius of Catalyst-Free IIIâ€“V Nanowires Grown by Selective Area Epitaxy. ACS Omega, 2019, 4, 8400-8405.	1.6	8
149	Modeling selective-area growth of InAsSb nanowires. Nanotechnology, 2019, 30, 285601.	1.3	8
150	Dependence of structural and optical properties of QD arrays in an InAs/GaAs system on surface temperature and growth rate. Semiconductors, 2004, 38, 329-334.	0.2	7
151	The effective thickness, temperature and growth rate behavior of quantum dot ensembles. Physica Status Solidi (B): Basic Research, 2004, 241, R42-R45.	0.7	7
152	Growth of GaAs nanowhisker arrays by magnetron sputtering on Si(111) substrates. Technical Physics Letters, 2006, 32, 520-522.	0.2	7
153	Molecular beam epitaxy of InAs nanowires in SiO2nanotube templates: challenges and prospects for integration of IIIâ€“Vs on Si. Nanotechnology, 2016, 27, 455601.	1.3	7
154	Compositional control of gold-catalyzed ternary nanowires and axial nanowire heterostructures based on IIIP1âˆ'xAsx. Journal of Crystal Growth, 2018, 498, 179-185.	0.7	7
155	Quasi One-Dimensional Metalâ€“Semiconductor Heterostructures. Nano Letters, 2019, 19, 3892-3897.	4.5	7
156	Effect of Arsenic Depletion on the Silicon Doping of Vaporâ€“Liquidâ€“Solid GaAs Nanowires. Physica Status Solidi - Rapid Research Letters, 2020, 14, 2000129.	1.2	7
157	Selective Area Epitaxy of GaN Nanowires on Si Substrates Using Microsphere Lithography: Experiment and Theory. Nanomaterials, 2022, 12, 2341.	1.9	7
158	Influence of Antimony on the Morphology and Properties of an Array of Geâˆ•Si(100) Quantum Dots. Physics of the Solid State, 2005, 47, 58.	0.2	6
159	The transition from thermodynamically to kinetically controlled formation of quantum dots in an InAs/GaAs(100) system. Semiconductors, 2005, 39, 820-825.	0.2	6
160	Features of nucleation in nanovolumes. Technical Physics Letters, 2009, 35, 1117-1120.	0.2	6
161	Nonlinear effects during the growth of semiconductor nanowires. Semiconductors, 2009, 43, 1226-1234.	0.2	6
162	Growth kinetics of GaAs nanoneedles on silicon and sapphire substrates. Applied Physics Letters, 2011, 98, 153113.	1.5	6

#	Article	IF	Citations
163	Kinetic narrowing of size distribution. Physical Review B, 2016, 93, .	1.1	6
164	Analytic form of the size distribution in irreversible growth of nanoparticles. Physical Review E, 2019, 99, 012105.	0.8	6
165	Surface Diffusion of Gallium as the Origin of Inhomogeneity in Selective Area Growth of GaN Nanowires on Al_{<i>x</i>}O_{<i>y</i>} Nucleation Stripes. Crystal Growth and Design, 2020, 20, 4770-4778.	1.4	6
166	Conformal Growth of Radial InGaAs Quantum Wells in GaAs Nanowires. Journal of Physical Chemistry Letters, 2021, 12, 1275-1283.	2.1	6
167	Vaporâ€“Liquidâ€“Solid Growth of Semiconductor Nanowires. , 2021, , 3-107.		6
168	Kinetically controlled engineering of quantum dot arrays. Physica Status Solidi (B): Basic Research, 2003, 238, R1-R4.	0.7	5
169	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
170	The theory of the formation of multilayered thin films on solid surfaces. Semiconductors, 2006, 40, 249-256.	0.2	5
171	Effect of deposition conditions on nanowhisker morphology. Semiconductors, 2007, 41, 865-874.	0.2	5
172	Surface energy of monolayer formation during nanowire growth by vapor-liquid-solid mechanism. Technical Physics Letters, 2011, 37, 427-430.	0.2	5
173	Tungstate sharpening: A versatile method for extending the profile of ultra sharp tungsten probes. Review of Scientific Instruments, 2013, 84, 035107.	0.6	5
174	Natural scaling of size distributions in homogeneous and heterogeneous rate equations with size-linear capture rates. Journal of Chemical Physics, 2015, 142, 124110.	1.2	5
175	Spontaneous formation of GaN/AlN coreâ€“shell nanowires on sapphire by hydride vapor phase epitaxy. Journal of Crystal Growth, 2016, 454, 1-5.	0.7	5
176	Stabilization of the Morphology and Crystal Phase in Ensembles of Selfâ€Catalyzed GaAs Nanowires. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900301.	1.2	5
177	Impact of droplet composition on the nucleation rate and morphology of vapor-liquid-solid GeSn nanowires. Nanotechnology, 2020, 31, 405602.	1.3	5
178	Formation of voids in selective area growth of InN nanorods in SiN_x on GaN templates. Nano Futures, 2020, 4, 025002.	1.0	5
179	Quantum dots in InAs layers of subcritical thickness on GaAs(100). Technical Physics Letters, 2003, 29, 691-693.	0.2	4
180	Assessing the minimum diameter of nanowhiskers. Technical Physics Letters, 2006, 32, 1047-1050.	0.2	4

#	Article	IF	Citations
181	Deposition-rate dependence of the height of GaAs-nanowires. Semiconductors, 2008, 42, 1259-1263.	0.2	4
182	Modeling GaN nanowire growth on silicon. Technical Physics Letters, 2013, 39, 127-129.	0.2	4
183	Modeling InAs quantum-dot formation on the side surface of GaAs nanowires. Technical Physics Letters, 2013, 39, 1047-1052.	0.2	4
184	The initial stage of growth of self-induced GaN nanowires. Technical Physics Letters, 2014, 40, 471-474.	0.2	4
185	PÃ³lya distribution and its asymptotics in nucleation theory. Technical Physics Letters, 2014, 40, 177-180.	0.2	4
186	Simulation of growth and shape of nanowires in the absence of a catalyst. Technical Physics Letters, 2014, 40, 389-392.	0.2	4
187	The theory of nucleation and polytypism of IIIâ€"V semiconductor nanowires. Technical Physics Letters, 2015, 41, 203-207.	0.2	4
188	Regimes of radial growth for Ga-catalyzed GaAs nanowires. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	1.1	4
189	Oscillations of As Concentration and Electron-to-Hole Ratio in Si-Doped GaAs Nanowires. Nanomaterials, 2020, 10, 833.	1.9	4
190	Long catalyst-free InAs nanowires grown on silicon by HVPE. CrystEngComm, 2021, 23, 378-384.	1.3	4
191	Sub-Poissonian length distributions of vaporâ€"liquidâ€"solid nanowires induced by nucleation antibunching. Journal Physics D: Applied Physics, 2017, 50, 254004.	1.3	4
192	Modeling the dynamics of interface morphology and crystal phase change in self-catalyzed GaAs nanowires. Nanotechnology, 2020, 31, 485602.	1.3	4
193	Analysis of incubation time preceding the Ga-assisted nucleation and growth of GaAs nanowires on Si(111). Physical Review Materials, 2019, 3, .	0.9	4
194	Theory of MBE Growth of Nanowires on Adsorbing Substrates: The Role of the Shadowing Effect on the Diffusion Transport. Nanomaterials, 2022, 12, 1064.	1.9	4
195	Self-organization in two- and three-dimensional adsorbates with attractive lateral interactions. European Physical Journal D, 1997, 47, 389-396.	0.4	3
196	Computer simulation of coherent island growth in Ge/Si and InAs/GaAs systems. Technical Physics Letters, 2007, 33, 490-492.	0.2	3
197	Specific features of formation of GaAs nanowire crystals during molecular beam epitaxy on different silicon surfaces. Semiconductors, 2008, 42, 1445-1449.	0.2	3
198	Self-consistent model of nanowire growth and crystal structure with regard to the adatom diffusion. Technical Physics, 2011, 56, 311-315.	0.2	3

#	Article	IF	Citations
199	Studying the formation of self-assembled (In,Mn)As quantum dots. Technical Physics Letters, 2012, 38, 460-462.	0.2	3
200	Refinement of the Wagner-Ellis formula for the minimum radius and the Givargizov-Chernov formula for the growth rate of nanowire. Technical Physics Letters, 2013, 39, 157-160.	0.2	3
201	Incubation time of heterogeneous growth of islands in the mode of incomplete condensation. Technical Physics Letters, 2016, 42, 1103-1106.	0.2	3
202	A model of axial heterostructure formation in IIIâ€"V semiconductor nanowires. Technical Physics Letters, 2016, 42, 332-335.	0.2	3
203	Does desorption affect the length distributions of nanowires?. Nanotechnology, 2019, 30, 475604.	1.3	3
204	Photovoltaic Light Funnels Grown by GaAs Nanowire Droplet Dynamics. IEEE Journal of Photovoltaics, 2019, 9, 1225-1231.	1.5	3
205	Effect of Elastic Stresses on the Formation of Axial Heterojunctions in Ternary AIIIBV Nanowires. Physics of the Solid State, 2019, 61, 2459-2463.	0.2	3
206	Kinetics of Guided Growth of Horizontal GaN Nanowires on Flat and Faceted Sapphire Surfaces. Nanomaterials, 2021, 11, 624.	1.9	3
207	Improving the yield of GaAs nanowires on silicon by Ga pre-deposition. Nanotechnology, 2021, 32, 265301.	1.3	3
208	Reconsideration of Nanowire Growth Theory at Low Temperatures. Nanomaterials, 2021, 11, 2378.	1.9	3
209	In Situ Monitoring of MBE Growth of a Single Self-Catalyzed GaAs Nanowire by X-ray Diffraction. Journal of Physical Chemistry C, 2021, 125, 22724-22732.	1.5	3
210	Phase Diagram for Twinning Superlattice Te-Doped GaAs Nanowires. Nano Letters, 2022, 22, 1345-1349.	4.5	3
211	Time Variation of the Mean Quantum Dot Size at the Kinetic Growth Stage. Technical Physics Letters, 2005, 31, 161.	0.2	2
212	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
213	MBE GROWTH OF GaAs NANOWHISKERS STIMULATED BY THE ADATOM DIFFUSION. International Journal of Nanoscience, 2007, 06, 225-231.	0.4	2
214	Nucleation at the lateral surface and the shape of whisker nanocrystals. Semiconductors, 2007, 41, 1240-1247.	0.2	2
215	Effect of growth atmosphere on the temperature profile along a nanowhisker. Technical Physics Letters, 2008, 34, 512-515.	0.2	2
216	Heterostructure formation in nanowhiskers via diffusion mechanism. Technical Physics Letters, 2008, 34, 750-753.	0.2	2

#	Article	IF	Citations
217	Blurring of island size distribution function in theory of nucleation. Technical Physics Letters, 2011, 37, 282-286.	0.2	2
218	Wetting regime of semiconductor nanowhisker growth: Stability and shape of catalyst droplet. Technical Physics Letters, 2012, 38, 221-224.	0.2	2
219	Size distributions and scaling relations for heterogeneous nucleation and growth of atomic chains. Journal of Physics: Conference Series, 2014, 541, 012089.	0.3	2
220	Scaling size distribution functions of heterogeneous clusters in a linear capture coefficient model. Technical Physics Letters, 2015, 41, 242-245.	0.2	2
221	Scaling of size distributions of C 60 and C 70 fullerene surface islands. Applied Surface Science, 2017, 407, 117-120.	3.1	2
222	Exactly solvable model for cluster-size distribution in a closed system. Physical Review E, 2017, 95, 012135.	0.8	2
223	MBE-Grown InxGa1 â€“xAs Nanowires with 50% Composition. Semiconductors, 2020, 54, 650-653.	0.2	2
224	Formation of Hexagonal Ge Stripes on the Side Facets of AlGaAs Nanowires: Implications for Near-Infrared Detectors. ACS Applied Nano Materials, 2021, 4, 7289-7294.	2.4	2
225	Gallium Diffusion Flow Direction during Deposition on the Surface with Regular Hole Arrays. Technical Physics Letters, 2021, 47, 601-604.	0.2	2
226	Modeling the Radial Growth of Self-Catalyzed III-V Nanowires. Nanomaterials, 2022, 12, 1698.	1.9	2
227	Pilot studies of an extraction process for reprocessing of spent fuel from fast reactors: Hardware and process details of extractor selection. Atomic Energy, 1992, 72, 428-436.	0.1	1
228	Formation of InGaAs/GaAs nanostructures by submonolayer deposition from molecular beams. Semiconductors, 1997, 31, 768-772.	0.2	1
229	Growth dynamics of a single-component crystalline thin film. Technical Physics, 1997, 42, 1365-1367.	0.2	1
230	Theoretical and experimental study of the effect of InAs growth rate on the properties of QD arrays in InAs/GaAs system. Semiconductors, 2003, 37, 855-860.	0.2	1
231	Temperature variation of the morphology of nanocluster ensembles in the Ge/Si(100) system. Technical Physics Letters, 2003, 29, 721-724.	0.2	1
232	The effect of exposure to arsenic flow on the optical properties of quantum dot arrays in the InAs/GaAs(100) system. Technical Physics Letters, 2004, 30, 272-274.	0.2	1
233	Peculiarities in the morphology of ge island array on Si(100) at a subcritical thickness of the deposited Ge layer. Technical Physics Letters, 2004, 30, 920-923.	0.2	1
234	<title>GaAs nanowhiskers grown by molecular beam epitaxy on GaAs(111)B surface activated by Au: theory and experiment</title>. , 2005, 5946, 275.		1

#	Article	IF	Citations
235	FORMATION OF SEMICONDUCTOR QUANTUM DOTS IN THE SUBCRITICAL THICKNESS RANGE. International Journal of Nanoscience, 2007, 06, 339-343.	0.4	1
236	Criterion for the onset of ostwald ripening stage with allowance for the particle number fluctuations in a nucleus. Technical Physics Letters, 2010, 36, 219-223.	0.2	1
237	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
238	Effect of the vicinal character of substrate on nucleation of nanoislands in lattice-mismatched systems. Technical Physics Letters, 2011, 37, 797-800.	0.2	1
239	Publisher's Note: Scaling thermodynamic model for the self-induced nucleation of GaN nanowires [Phys. Rev. B85, 165317 (2012)]. Physical Review B, 2012, 85, .	1.1	1
240	Growth of semiconductor nanowires at large diffusion lengths. Technical Physics Letters, 2012, 38, 164-167.	0.2	1
241	Calculating GaAs semiconductor nanoneedle size distribution. Technical Physics Letters, 2012, 38, 358-360.	0.2	1
242	Ultra-low density InAs quantum dots. Semiconductors, 2013, 47, 1324-1327.	0.2	1
243	The nucleation site selection of vapourâ€“liquidâ€“solid nanowires. Journal of Physics Condensed Matter, 2013, 25, 215302.	0.7	1
244	Recipes for crystal phase design in Au-catalyzed III-V nanowires. Journal of Physics: Conference Series, 2014, 541, 012001.	0.3	1
245	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
246	Scale invariance of continuum size distribution upon irreversible growth of surface islands. Technical Physics Letters, 2015, 41, 526-528.	0.2	1
247	Broadening of length distributions of Au-catalyzed InAs nanowires. AIP Conference Proceedings, 2016, , .	0.3	1
248	The length distribution function of semiconductor filamentary nanocrystals. Technical Physics Letters, 2016, 42, 682-685.	0.2	1
249	Length distributions of Au-catalyzed III-V nanowires in different regimes of the diffusion-induced growth. Journal of Physics: Conference Series, 2017, 917, 032043.	0.3	1
250	Suppression of miscibility gaps in vapor-liquid-solid InGaAs and InGaN nanowires. Journal of Physics: Conference Series, 2018, 1124, 022031.	0.3	1
251	Limits of IIIâ€“V Nanowire Growth. Technical Physics Letters, 2020, 46, 859-863.	0.2	1
252	Ga₂Se₃ Nanowires via Au-Assisted Heterovalent Exchange Reaction on GaAs. Journal of Physical Chemistry C, 2020, 124, 17783-17794.	1.5	1

#	Article	IF	Citations
253	Growth of Self-Catalyzed InAs/InSb Axial Heterostructured Nanowires: Experiment and Theory. Nanomaterials, 2020, 10, 494.	1.9	1
254	Kinetics of Nucleus Growth from a Nanophase. Technical Physics Letters, 2020, 46, 357-360.	0.2	1
255	Modeling the Shape Evolution of Selective Area Grown Zn₃P₂ Nanoislands. Crystal Growth and Design, 2021, 21, 4732-4737.	1.4	1
256	Kinetic broadening of size distribution in terms of natural versus invariant variables. Physical Review E, 2021, 103, 012112.	0.8	1
257	Nanoisland Shape Variation during Selective Epitaxy. Technical Physics Letters, 2021, 47, 701-704.	0.2	1
258	Spontaneous formation of arrays of three-dimensional islands in epitaxial layers. Technical Physics Letters, 1998, 24, 507-509.	0.2	0
259	Properties of GaAsN nanowires grown by magnetron-sputtering deposition. Semiconductors, 2009, 43, 906-910.	0.2	0
260	Hydride VPE: the unexpected process for the fast growth of GaAs and GaN nanowires with record aspect ratio and polytypism-free crystalline structure. , 2013, , .		0
261	Novel TEM sample preparation using XeF2 selective Etching. Materials Research Society Symposia Proceedings, 2014, 1659, 149-153.	0.1	0
262	Self-consistent renormalization in the theory of binary nucleation in ternary solutions. Technical Physics Letters, 2015, 41, 915-918.	0.2	0
263	Modelling polytypism in III-V nanowires: role of group V and nucleation patterns during the growth. Journal of Physics: Conference Series, 2015, 643, 012017.	0.3	0
264	Model of selective growth of IIIâ€“V nanowires. Technical Physics Letters, 2015, 41, 1136-1138.	0.2	0
265	Self-assembly based nanometer-scale patterning for nanowire growth. , 2015, , .		0
266	Self-equilibration of the radius distribution in self-catalyzed GaAs nanowires. Journal of Physics: Conference Series, 2016, 741, 012033.	0.3	0
267	Contribution of droplet volume fluctuation to dispersion of nanowire length. Journal of Physics: Conference Series, 2016, 741, 012040.	0.3	0
268	On a new method of heterojunction formation in IIIâ€“V nanowires. Semiconductors, 2016, 50, 1566-1568.	0.2	0
269	Self-induced GaN nanowire growth: surface density determination. Journal of Physics: Conference Series, 2016, 741, 012032.	0.3	0
270	Chemical potentials and growth rates of gold-catalyzed ternary InGaAs nanowires. Journal of Physics: Conference Series, 2016, 741, 012010.	0.3	0

#	Article	IF	Citations
271	The initial stage of autocatalytic growth of GaAs filamentary nanocrystals. Technical Physics Letters, 2016, 42, 818-821.	0.2	0
272	Inhomogeneous dopant distribution in IIIâ€“V nanowires. Semiconductors, 2017, 51, 1427-1430.	0.2	0
273	Dispersion of scale-invariant size-distribution functions. Technical Physics Letters, 2017, 43, 413-415.	0.2	0
274	Doping profiles during nanowire growth via the vapor-liquid-solid mechanism. Journal of Physics: Conference Series, 2017, 917, 032025.	0.3	0
275	Nucleation and Growth Modeling of Protein Crystals in Capillaries. Semiconductors, 2018, 52, 2132-2134.	0.2	0
276	Theoretical analysis of the length distributions of Ga-catalyzed GaAs nanowires. Journal of Physics: Conference Series, 2018, 1124, 022039.	0.3	0
277	Length distributions of vapor-liquid-solid nanowires. , 2018, , .		0
278	Bi-stability of contact angle and its role in tuning the morphology of self-assisted GaAs nanowires. , 2018, , .		0
279	Suppression of miscibility gaps in ternary III-V nanowires grown at high supersaturations. , 2018, , .		0
280	Modeling the comosition of ternary III-V nanowires and axial nanowire heterostructures. , 2018, , .		0
281	Narrowing the length distributions of self-assisted III-V nanowires by nucleation antibunching. , 2018, , .		0
282	III-V nanowire heterostructures. , 2018, , .		0
283	Contact angle stability of gold droplets on top of GaAs nanowires in the non-stationary case. Journal of Physics: Conference Series, 2019, 1199, 012024.	0.3	0
284	Nucleation-limited composition of Al_{1-x}In_xAs nanowires. Journal of Physics: Conference Series, 2019, 1199, 012022.	0.3	0
285	Free Energy of Nucleus Formation during Growth of IIIâ€“V Semiconductor Nanowires. Technical Physics Letters, 2020, 46, 889-892.	0.2	0
286	Growth Kinetics of Planar Nanowires. Technical Physics Letters, 2020, 46, 1008-1011.	0.2	0
287	Thermodynamics of the Vaporâ€“Liquidâ€“Solid Growth of Ternary IIIâ€“V Nanowires in the Presence of Silicon. Nanomaterials, 2021, 11, 83.	1.9	0
288	Dynamics of Monolayer Growth in Vaporâ€“Liquidâ€“Solid GaAs Nanowires Based on Surface Energy Minimization. Nanomaterials, 2021, 11, 1681.	1.9	0

#	Article	IF	Citations
289	Low Temperature Growth of Auâ€Catalyzed InAs nanowires: Experiment and Theory. Physica Status Solidi - Rapid Research Letters, 0, , 2100401.	1.2	0
290	Comprehensive model toward optimization of SAG In-rich InGaN nanorods by hydride vapor phase epitaxy. Nanotechnology, 2021, 32, 155601.	1.3	0
291	ELASTIC ENERGY RELAXATION AND CRITICAL THICKNESS FOR PLASTIC DEFORMATION IN CORE-SHELL InGaAs/GaAs NANOPILLARS. , 2013, , .		0
292	Axial heterostructure formation in GaInP nanowires. , 2020, , .		0
293	Stopping effect in growth kinetics of III-V nanowires. , 2020, , .		0
294	Factors influencing the length distributions of vapor-liquid-solid nanowires. , 2020, , .		0
295	Tapering-free monocrystalline Ge nanowires synthesized via plasma-assisted VLS using In and Sn catalysts. Nanotechnology, 2022, , .	1.3	0
296	Understanding the Morphological Evolution of InSb Nanoflags Synthesized in Regular Arrays by Chemical Beam Epitaxy. Nanomaterials, 2022, 12, 1090.	1.9	0
297	Enhancing the incorporation of Sn in vaporâ€"liquidâ€"solid GeSn nanowires by modulation of the droplet composition. Nanotechnology, 2022, 33, 245605.	1.3	0
298	The Dependence of the Growth Rate and Structure of IIIâ€"V Nanowires on the Adatom Collection Area on the Substrate Surface. Technical Physics Letters, 2021, 47, 440-443.	0.2	0