

Alexander A Shklyaev

List of Publications by Year in descending order

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120
papers

1,833
citations

279798

23
h-index

315739

38
g-index

120
all docs

120
docs citations

120
times ranked

802
citing authors

#	ARTICLE	IF	CITATIONS
1	High-density ultrasmall epitaxial Ge islands on Si(111) surfaces with aSiO ₂ coverage. Physical Review B, 2000, 62, 1540-1543.	3.2	166
2	Leed studies of vicinal surfaces of silicon. Surface Science, 1979, 82, 445-452.	1.9	110
3	Phase transitions on clean Si(110) surfaces. Surface Science, 1977, 67, 581-588.	1.9	109
4	LEED investigation of germanium surfaces cleaned by sublimation of sulphide films; structural transitions on clean Ge(110) surface. Surface Science, 1977, 64, 224-236.	1.9	80
5	Title is missing!. Physics-Uspexhi, 2008, 51, 133.	2.2	69
6	Effect of interfaces on quantum confinement in Ge dots grown on Si surfaces with a SiO ₂ coverage. Surface Science, 2002, 514, 19-26.	1.9	61
7	LEED studies of vicinal surfaces of germanium. Surface Science, 1977, 69, 205-217.	1.9	53
8	Three-dimensional Si islands on Si(001) surfaces. Physical Review B, 2001, 65, .	3.2	50
9	Optical Anisotropy of Oxidized Si(001) Surfaces and Its Oscillation in the Layer-By-Layer Oxidation Process. Physical Review Letters, 2001, 87, 037403.	7.8	49
10	Ge islands on Si(111) at coverages near the transition from two-dimensional to three-dimensional growth. Surface Science, 1998, 416, 192-199.	1.9	48
11	Local structure of Ge nanoislands on Si(111) surfaces with a SiO ₂ coverage. Applied Physics Letters, 2001, 78, 2563-2565.	3.3	47
12	Nanometer-scale germanium islands on Si(111) surface windows formed in an ultrathin silicon dioxide film. Applied Physics Letters, 1998, 72, 320-322.	3.3	40
13	Instability of two-dimensional layers in the Stranski-Krastanov growth mode of Ge on Si(111). Physical Review B, 1998, 58, 15647-15651.	3.2	37
14	Visible photoluminescence of Ge dots embedded in Si/SiO ₂ matrices. Applied Physics Letters, 2002, 80, 1432-1434.	3.3	34
15	Photoluminescence of Ge ^δ -Si structures grown on oxidized Si surfaces. Applied Physics Letters, 2006, 88, 121919.	3.3	29
16	Influence of growth and annealing conditions on photoluminescence of Ge/Si layers grown on oxidized Si surfaces. Journal of Physics Condensed Matter, 2007, 19, 136004.	1.8	26
17	Photoluminescence of Si layers grown on oxidized Si surfaces. Journal of Applied Physics, 2007, 101, 033532.	2.5	26
18	Spherical aberration corrected STEM studies of Ge nanodots grown on Si(001) surfaces with an ultrathin SiO ₂ coverage. Applied Surface Science, 2008, 254, 7569-7572.	6.1	26

#	ARTICLE	IF	CITATIONS
19	Surface morphology of Ge layers epitaxially grown on bare and oxidized Si(001) and Si(111) substrates. Surface Science, 2014, 625, 50-56.	1.9	26
20	Raman and photoluminescence spectroscopy of SiGe layer evolution on Si(100) induced by dewetting. Journal of Applied Physics, 2018, 123, .	2.5	26
21	Initial reactive sticking coefficient of O ₂ on Si(111)-7 Å–7 at elevated temperatures. Surface Science, 1996, 351, 64-74.	1.9	24
22	Branching of Critical Conditions for Si(111)-(7Å–7) Oxidation. Physical Review Letters, 1995, 75, 272-275.	7.8	23
23	Properties of three-dimensional structures prepared by Ge dewetting from Si(111) at high temperatures. Journal of Applied Physics, 2015, 117, .	2.5	23
24	Ge deposition on Si(1 0 0) in the conditions close to dynamic equilibrium between islands growth and their decay. Applied Surface Science, 2016, 360, 1023-1029.	6.1	21
25	Defect-related light emission in the 1.4â€“1.7â€“m range from Si layers at room temperature. Journal of Applied Physics, 2009, 105, .	2.5	20
26	Stability of the (0001) surface of the Bi ₂ Se ₃ topological insulator. JETP Letters, 2011, 94, 465-468.	1.4	20
27	Photoconductive gain and quantum efficiency of remotely doped Ge/Si quantum dot photodetectors. Materials Research Express, 2016, 3, 105032.	1.6	20
28	Observation of oscillating behavior in the reflectance difference spectra of oxidized Si(001) surfaces. Journal of Applied Physics, 2002, 91, 3637-3643.	2.5	19
29	Formation of three-dimensional Si islands on Si(111) with a scanning tunneling microscope. Applied Physics Letters, 1999, 74, 2140-2142.	3.3	17
30	Super-dense array of Ge quantum dots grown on Si(100) by low-temperature molecular beam epitaxy. Journal of Applied Physics, 2014, 115, 144306.	2.5	17
31	Critical conditions for SiGe island formation during Ge deposition on Si(100) at high temperatures. Materials Science in Semiconductor Processing, 2017, 57, 18-23.	4.0	17
32	Lateral-electric-field-induced spin polarization in a suspended GaAs quantum point contact. Applied Physics Letters, 2018, 112, .	3.3	17
33	Initial stages of the interaction of nitrous oxide and oxygen with the (100) silicon surface under low pressures. Reactivity of Solids, 1989, 7, 1-18.	0.3	16
34	Piezoelectric Electromechanical Coupling in Nanomechanical Resonators with a Two-Dimensional Electron Gas. Physical Review Letters, 2016, 117, 017702.	7.8	16
35	Photonic metasurface made of array of lens-like SiGe Mie resonators formed on (100) Si substrate via dewetting. Applied Physics Express, 2017, 10, 125501.	2.4	16
36	Monosilane adsorption and initial growth stages of silicon layers on the (100) and oxidized silicon surfaces. Surface Science, 1992, 275, 433-442.	1.9	15

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37	Electroluminescence of dislocation-rich Si layers grown using oxidized Si surfaces. Journal Physics D: Applied Physics, 2011, 44, 025402.	2.8	15
38	Strain-induced Ge segregation on Si at high temperatures. Journal of Crystal Growth, 2015, 413, 94-99.	1.5	15
39	Actuation and transduction of resonant vibrations in GaAs/AlGaAs-based nanoelectromechanical systems containing two-dimensional electron gas. Applied Physics Letters, 2015, 106, 183110.	3.3	15
40	Influence of growth conditions on subsequent submonolayer oxide decomposition on Si(111). Physical Review B, 1996, 54, 10890-10895.	3.2	14
41	Structure and optical properties of Si and SiGe layers grown on SiO ₂ by chemical vapor deposition. Thin Solid Films, 2015, 579, 131-135.	1.8	14
42	Submicron- and micron-sized SiGe island formation on Si(100) by dewetting. Thin Solid Films, 2017, 642, 345-351.	1.8	14
43	Formation of Ge nanoislands using a scanning tunneling microscope. Journal of Applied Physics, 2000, 88, 1397-1400.	2.5	13
44	1.5-1.6 μm photoluminescence of silicon layers with a high density of lattice defects. Semiconductors, 2010, 44, 432-437.	0.5	12
45	Electromigration effect on the surface morphology during the Ge deposition on Si(111) at high temperatures. Applied Surface Science, 2019, 465, 10-14.	6.1	12
46	Dewetting behavior of Ge layers on SiO ₂ under annealing. Scientific Reports, 2020, 10, 13759.	3.3	12
47	Effect of the interface on the local structure of Ge/Si nanostructures. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2002, 20, 1116-1119.	2.1	11
48	Universal building block for (1 1 0)-family silicon and germanium surfaces. Applied Surface Science, 2019, 494, 46-50.	6.1	11
49	Effect of tunneling current on the growth of silicon islands on Si(111) surfaces with a scanning tunneling microscope. Surface Science, 2000, 447, 149-155.	1.9	9
50	Continuous transfer of Ge by the tip of a scanning tunneling microscope for formation of lines. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 103.	1.6	9
51	Surface Morphology Transformation Under High-Temperature Annealing of Ge Layers Deposited on Si(100). Nanoscale Research Letters, 2016, 11, 366.	5.7	9
52	Kinetics and thermodynamics of Si(111) surface nitridation in ammonia. Journal of Crystal Growth, 2016, 441, 12-17.	1.5	9
53	Critical oxide cluster size on Si(111). Surface Science, 1999, 423, 61-69.	1.9	8
54	Nanoscale characterization of photonic metasurface made of lens-like SiGe Mie-resonators formed on Si (100) substrate. Journal of Applied Physics, 2019, 126, 123102.	2.5	8

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55	Effect of deposition conditions on the thermal stability of Ge layers on SiO ₂ and their dewetting behavior. <i>Thin Solid Films</i> , 2020, 693, 137681.	1.8	8
56	Broadband Antireflection Coatings Made of Resonant Submicron- and Micron-Sized SiGe Particles Grown on Si Substrates. <i>IEEE Photonics Journal</i> , 2021, 13, 1-12.	2.0	8
57	Epitaxial Ge Growth on Si(111) Covered with Ultrathin SiO ₂ Films. <i>Journal of Surface Engineered Materials and Advanced Technology</i> , 2013, 03, 195-204.	0.2	8
58	Surface morphology of three-dimensional Si islands on Si(001) surfaces. <i>Surface Science</i> , 2003, 541, 234-241.	1.9	7
59	Formation of lateral nanowires by Ge deposition on Si(111) at high temperatures. <i>Journal of Crystal Growth</i> , 2016, 441, 84-88.	1.5	7
60	Deposition of silica films by the oxidation of silane in oxygen II: The calculation of growth rates in the tube reactor. <i>Thin Solid Films</i> , 1981, 76, 61-68.	1.8	6
61	Instability of 2D Ge layer near the transition to 3D islands on Si (111). <i>Thin Solid Films</i> , 1999, 343-344, 532-536.	1.8	6
62	Electron-beam Initiated Transfer of Ge from Ge Islands on SiO ₂ Surfaces to the Tip of a Scanning Tunneling Microscope. <i>Japanese Journal of Applied Physics</i> , 2001, 40, 3370-3374.	1.5	6
63	Local structure of Ge/Si nanostructures: Uniqueness of XAFS spectroscopy. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2003, 199, 174-178.	1.4	6
64	Luminescence and deep-level transient spectroscopy of grown dislocation-rich Si layers. <i>AIP Advances</i> , 2012, 2, 032152.	1.3	6
65	Structure and stability of Ge cluster on Si(111) surface in the presence of Bi surfactant. <i>Surface Science</i> , 2013, 617, 68-72.	1.9	6
66	Nucleation and growth of ordered groups of SiGe quantum dots. <i>Semiconductors</i> , 2015, 49, 149-153.	0.5	6
67	Formation and study of "n structures based on two-phase hydrogenated silicon with a germanium layer in the i-type region. <i>Semiconductors</i> , 2017, 51, 1370-1376.	0.5	6
68	Suspended quantum point contact with triple channel selectively driven by side gates. <i>Applied Physics Letters</i> , 2019, 115, .	3.3	6
69	Effect of hydrogen on hot electron energy relaxation in SiO ₂ and Si ₃ N ₄ films. <i>Thin Solid Films</i> , 1992, 221, 160-165.	1.8	5
70	Observation and nucleation control of Ge nanoislands on Si(111) surfaces using scanning reflection electron microscopy. <i>Journal of Electron Microscopy</i> , 2000, 49, 217-223.	0.9	5
71	Kinetics of tip-induced island growth on Si(111) with a scanning tunneling microscope. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2000, 18, 2339.	1.6	5
72	Nanostructures on oxidized Si surfaces fabricated with the scanning tunneling microscope tip under electron-beam irradiation. <i>Journal of Vacuum Science & Technology B</i> , 2006, 24, 739.	1.3	5

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73	Characterization of semiconductor nanostructures formed by using ultrathin Si oxide technology. Applied Surface Science, 2008, 255, 669-671.	6.1	5
74	Effect of dislocations on the shape of islands during silicon growth on the oxidized Si(111) surface. JETP Letters, 2011, 94, 442-445.	1.4	5
75	Highly Directive and Broadband Radiation From Photonic Crystals With Partially Disordered Cavities Arrays. Journal of Lightwave Technology, 2014, 32, 4879-4883.	4.6	5
76	Impact ionization of excitons in Ge/Si structures with Ge quantum dots grown on the oxidized Si(100) surfaces. Journal of Applied Physics, 2014, 115, 203702.	2.5	5
77	Crossing and anticrossing of 1D subbands in a quantum point contact with in-plane side gates. Applied Physics Letters, 2021, 118, .	3.3	5
78	Plasma-enhanced reactively evaporated deposition of SiO ₂ films. Applied Surface Science, 1995, 89, 49-55.	6.1	4
79	Kinetics of initial oxidation of the Si(111)-7 Å–7 surface near the critical conditions. Surface Science, 1996, 357-358, 729-732.	1.9	4
80	Title is missing!. Physics-Uspexhi, 2006, 49, 887.	2.2	4
81	Surface morphology of Si layers grown on SiO ₂ . Applied Surface Science, 2013, 267, 40-44.	6.1	4
82	Raman studies of phase and atomic compositions of GeSi nanosystems after pulsed annealing. Optoelectronics, Instrumentation and Data Processing, 2016, 52, 496-500.	0.6	4
83	Atomic structure of high Miller index Si(47 35 7) surface. Surface Science, 2020, 693, 121549.	1.9	4
84	Electrostatic actuation and charge sensing in piezoelectric nanomechanical resonators with a two-dimensional electron gas. Applied Physics Letters, 2021, 118, .	3.3	4
85	Double-Channel Electron Transport in Suspended Quantum Point Contacts with in-Plane Side Gates. Semiconductors, 2020, 54, 1605-1610.	0.5	4
86	Interdisk spacing effect on resonant properties of Ge disk lattices on Si substrates. Scientific Reports, 2022, 12, 8123.	3.3	4
87	Influence of triplet states on the spectrum of collective spin-polaron excitations in a 2D kondo lattice. Physics of the Solid State, 2011, 53, 1997-2000.	0.6	3
88	Formation and structural features of silicon quantum dots in germanium. Optoelectronics, Instrumentation and Data Processing, 2013, 49, 434-439.	0.6	3
89	Resonant photoluminescence of Si layers grown on SiO ₂ . Optics Communications, 2013, 286, 228-232.	2.1	3
90	Low-temperature dissipation and its persistent photoinduced change in AlGaAs/GaAs-based nanomechanical resonators. Applied Physics Letters, 2020, 116, .	3.3	3

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91	Interaction of O ₂ and N ₂ O with Si During the Early Stages of Oxide Formation. , 1998, , 277-287.		3
92	Charge Transport in MOS-Structures with Low-Temperature Silicon Dioxide Films. Physica Status Solidi A, 1991, 125, 387-396.	1.7	2
93	Electrical transport in ultrathin Cs layers on Si(001). Physical Review B, 2005, 72, .	3.2	2
94	Cs-corrected STEM studies of Ge nanodots grown on slightly oxidized Si(001) surfaces. Microscopy and Microanalysis, 2008, 14, 170-171.	0.4	2
95	Formation of Ge clusters at a Si(111)-Bi- $\sqrt{3} \times \sqrt{3}$ surface. JETP Letters, 2011, 93, 661-666.	1.4	2
96	The observation of the Aharonov-Bohm effect in suspended semiconductor ring interferometers. Journal of Physics: Conference Series, 2018, 964, 012008.	0.4	2
97	Kelvin force and Raman microscopies of flat SiGe structures with different compositions grown on Si(111) at high temperatures. Materials Science in Semiconductor Processing, 2018, 83, 107-114.	4.0	2
98	On-Chip Piezoelectric Actuation of Nanomechanical Resonators Containing a Two-Dimensional Electron Gas. JETP Letters, 2019, 109, 261-265.	1.4	2
99	Broadband Antireflection Coatings Composed of Subwavelength-Sized SiGe Particles. Optoelectronics, Instrumentation and Data Processing, 2021, 57, 494-504.	0.6	2
100	Photoluminescence study of energy levels in Ge quantum dots in Si. , 2009, , .		1
101	The effect of spin correlations on a superconducting phase of the spin polarons in 2D Kondo lattice. Journal of Physics: Conference Series, 2010, 200, 012217.	0.4	1
102	Excitation-dependent blue shift of photoluminescence peak in 1.5-1.6 μ m wavelength region from dislocation-rich Si layers. , 2010, , .		1
103	Excitation Dependence of Photoluminescence in the 1.5-1.6 μ m Wavelength Region from Grown Dislocation-Rich Si Layers. Physics Procedia, 2012, 32, 117-126.	1.2	1
104	Shape of epitaxial Ge islands on Si(100) surfaces. , 2013, , .		1
105	SURFACE MORPHOLOGY OF GERMANIUM LAYERS ON SILICON SURFACES AT HIGH TEMPERATURES. , 2017, , 410-413.		1
106	Opto-Electronic Properties of Ge and Si Related Nanostructures on Ultrathin Si Oxide Covered Si Surfaces. Materials Research Society Symposia Proceedings, 2008, 1145, 1.	0.1	0
107	Defect-related luminescence from nanostructured Si layers in the 1.5-1.6 μ m wavelength region. Proceedings of SPIE, 2009, , .	0.8	0
108	Quantum fluctuations in a two-dimensional antiferromagnet with four-spin interaction of cubic symmetry. Physics of the Solid State, 2011, 53, 2061-2066.	0.6	0

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109	Surface morphology formation of Ge layers on Si(111) under high-temperature annealing. , 2014, , .		0
110	Mechanisms of surface morphology formation during Ge growth on Si(100) at high temperatures. , 2015, , .		0
111	Hydrogenated amorphous silicon based p-i-n structures with Si and Ge nanocrystals in i-layers. , 2016, , .		0
112	Surface Morphologies Obtained by Ge Deposition on Bare and Oxidized Silicon Surfaces at Different Temperatures. , 2017, , 325-344.		0
113	Electromechanical coupling in suspended nanomechanical resonators with a two-dimensional electron gas. Journal of Physics: Conference Series, 2017, 864, 012043.	0.4	0
114	Electrically controlled spin polarization in suspended GaAs quantum point contacts. Journal of Physics: Conference Series, 2018, 1124, 061001.	0.4	0
115	Shapes of the Micron-Sized SiGe Islands Grown on Si(100) in Dewetting Conditions. , 2018, , .		0
116	Formation of submicron- and micron-sized SiGe and Ge particles on Si substrates using dewetting. Journal of Physics: Conference Series, 2020, 1461, 012160.	0.4	0
117	The Modification of Optical Properties of the Surfaces by the Glancing Angle Deposition Technique. Siberian Journal of Physics, 2021, 16, 91-100.	0.3	0
118	Electron Spin Resonance in Heterostructures with Ring Molecules of GeSi Quantum Dots. JETP Letters, 2021, 113, 52-56.	1.4	0
119	BROADBAND ANTIREFLECTION COATING COMPOSED OF RESONANT SIGE PARTICLES OF SUBWAVELENGTH SIZE. Avtometriya, 2021, 57, 58-69.	0.0	0
120	Structural Changes in Nanometer-Thick Silicon-on-Insulator Films During High-Temperature Annealing. Semiconductors, 0, , .	0.5	0