

Alexander A Shklyaev

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111
papers

1,596
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h-index

36
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120
ext. papers

1,731
ext. citations

2.5
avg, IF

4.64
L-index

#	Paper	IF	Citations
111	High-density ultrasmall epitaxial Ge islands on Si(111) surfaces with a SiO ₂ coverage. <i>Physical Review B</i> , 2000 , 62, 1540-1543	3.3	159
110	Leed studies of vicinal surfaces of silicon. <i>Surface Science</i> , 1979 , 82, 445-452	1.8	103
109	Phase transitions on clean Si(110) surfaces. <i>Surface Science</i> , 1977 , 67, 581-588	1.8	103
108	LEED investigation of germanium surfaces cleaned by sublimation of sulphide films; structural transitions on clean Ge(110) surface. <i>Surface Science</i> , 1977 , 64, 224-236	1.8	77
107	. <i>Physics-Uspexhi</i> , 2008 , 51, 133	2.8	53
106	Effect of interfaces on quantum confinement in Ge dots grown on Si surfaces with a SiO ₂ coverage. <i>Surface Science</i> , 2002 , 514, 19-26	1.8	52
105	LEED studies of vicinal surfaces of germanium. <i>Surface Science</i> , 1977 , 69, 205-217	1.8	49
104	Optical anisotropy of oxidized Si(001) surfaces and its oscillation in the layer-by-layer oxidation process. <i>Physical Review Letters</i> , 2001 , 87, 037403	7.4	46
103	Three-dimensional Si islands on Si(001) surfaces. <i>Physical Review B</i> , 2001 , 65,	3.3	45
102	Local structure of Ge nanoislands on Si(111) surfaces with a SiO ₂ coverage. <i>Applied Physics Letters</i> , 2001 , 78, 2563-2565	3.4	44
101	Ge islands on Si(111) at coverages near the transition from two-dimensional to three-dimensional growth. <i>Surface Science</i> , 1998 , 416, 192-199	1.8	43
100	Nanometer-scale germanium islands on Si(111) surface windows formed in an ultrathin silicon dioxide film. <i>Applied Physics Letters</i> , 1998 , 72, 320-322	3.4	34
99	Instability of two-dimensional layers in the Stranski-Krastanov growth mode of Ge on Si(111). <i>Physical Review B</i> , 1998 , 58, 15647-15651	3.3	34
98	Visible photoluminescence of Ge dots embedded in Si/SiO ₂ matrices. <i>Applied Physics Letters</i> , 2002 , 80, 1432-1434	3.4	31
97	Photoluminescence of Ge β i structures grown on oxidized Si surfaces. <i>Applied Physics Letters</i> , 2006 , 88, 121919	3.4	27
96	Spherical aberration corrected STEM studies of Ge nanodots grown on Si(001) surfaces with an ultrathin SiO ₂ coverage. <i>Applied Surface Science</i> , 2008 , 254, 7569-7572	6.7	25
95	Photoluminescence of Si layers grown on oxidized Si surfaces. <i>Journal of Applied Physics</i> , 2007 , 101, 033533	5.3	25

94	Surface morphology of Ge layers epitaxially grown on bare and oxidized Si(001) and Si(111) substrates. <i>Surface Science</i> , 2014 , 625, 50-56	1.8	24
93	Branching of critical conditions for Si(111)-(7 x 7) oxidation. <i>Physical Review Letters</i> , 1995 , 75, 272-275	7.4	23
92	Influence of growth and annealing conditions on photoluminescence of Ge/Si layers grown on oxidized Si surfaces. <i>Journal of Physics Condensed Matter</i> , 2007 , 19, 136004	1.8	21
91	Raman and photoluminescence spectroscopy of SiGe layer evolution on Si(100) induced by dewetting. <i>Journal of Applied Physics</i> , 2018 , 123, 015304	2.5	19
90	Ge deposition on Si(1 0 0) in the conditions close to dynamic equilibrium between islands growth and their decay. <i>Applied Surface Science</i> , 2016 , 360, 1023-1029	6.7	19
89	Initial reactive sticking coefficient of O ₂ on Si(111)-7 × 7 at elevated temperatures. <i>Surface Science</i> , 1996 , 351, 64-74	1.8	19
88	Defect-related light emission in the 1.4-1.7 μm range from Si layers at room temperature. <i>Journal of Applied Physics</i> , 2009 , 105, 063513	2.5	18
87	Properties of three-dimensional structures prepared by Ge dewetting from Si(111) at high temperatures. <i>Journal of Applied Physics</i> , 2015 , 117, 205303	2.5	17
86	Observation of oscillating behavior in the reflectance difference spectra of oxidized Si(001) surfaces. <i>Journal of Applied Physics</i> , 2002 , 91, 3637-3643	2.5	17
85	Initial stages of the interaction of nitrous oxide and oxygen with the (100) silicon surface under low pressures. <i>Reactivity of Solids</i> , 1989 , 7, 1-18		16
84	Piezoelectric Electromechanical Coupling in Nanomechanical Resonators with a Two-Dimensional Electron Gas. <i>Physical Review Letters</i> , 2016 , 117, 017702	7.4	15
83	Critical conditions for SiGe island formation during Ge deposition on Si(100) at high temperatures. <i>Materials Science in Semiconductor Processing</i> , 2017 , 57, 18-23	4.3	15
82	Strain-induced Ge segregation on Si at high temperatures. <i>Journal of Crystal Growth</i> , 2015 , 413, 94-99	1.6	15
81	Electroluminescence of dislocation-rich Si layers grown using oxidized Si surfaces. <i>Journal Physics D: Applied Physics</i> , 2011 , 44, 025402	3	15
80	Stability of the (0001) surface of the Bi ₂ Se ₃ topological insulator. <i>JETP Letters</i> , 2011 , 94, 465-468	1.2	15
79	Formation of three-dimensional Si islands on Si(111) with a scanning tunneling microscope. <i>Applied Physics Letters</i> , 1999 , 74, 2140-2142	3.4	15
78	Super-dense array of Ge quantum dots grown on Si(100) by low-temperature molecular beam epitaxy. <i>Journal of Applied Physics</i> , 2014 , 115, 144306	2.5	14
77	Photoconductive gain and quantum efficiency of remotely doped Ge/Si quantum dot photodetectors. <i>Materials Research Express</i> , 2016 , 3, 105032	1.7	14

76	Actuation and transduction of resonant vibrations in GaAs/AlGaAs-based nanoelectromechanical systems containing two-dimensional electron gas. <i>Applied Physics Letters</i> , 2015 , 106, 183110	3.4	13
75	Lateral-electric-field-induced spin polarization in a suspended GaAs quantum point contact. <i>Applied Physics Letters</i> , 2018 , 112, 082102	3.4	13
74	Influence of growth conditions on subsequent submonolayer oxide decomposition on Si(111). <i>Physical Review B</i> , 1996 , 54, 10890-10895	3.3	13
73	Structure and optical properties of Si and SiGe layers grown on SiO ₂ by chemical vapor deposition. <i>Thin Solid Films</i> , 2015 , 579, 131-135	2.2	12
72	Monosilane adsorption and initial growth stages of silicon layers on the (100) and oxidized silicon surfaces. <i>Surface Science</i> , 1992 , 275, 433-442	1.8	12
71	Photonic metasurface made of array of lens-like SiGe Mie resonators formed on (100) Si substrate via dewetting. <i>Applied Physics Express</i> , 2017 , 10, 125501	2.4	11
70	1.5 μm photoluminescence of silicon layers with a high density of lattice defects. <i>Semiconductors</i> , 2010 , 44, 432-437	0.7	11
69	Formation of Ge nanoislands using a scanning tunneling microscope. <i>Journal of Applied Physics</i> , 2000 , 88, 1397-1400	2.5	11
68	Effect of the interface on the local structure of GeSi nanostructures. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2002 , 20, 1116-1119	2.9	10
67	Universal building block for (1 1 0)-family silicon and germanium surfaces. <i>Applied Surface Science</i> , 2019 , 494, 46-50	6.7	9
66	Effect of tunneling current on the growth of silicon islands on Si(111) surfaces with a scanning tunneling microscope. <i>Surface Science</i> , 2000 , 447, 149-155	1.8	9
65	Submicron- and micron-sized SiGe island formation on Si(100) by dewetting. <i>Thin Solid Films</i> , 2017 , 642, 345-351	2.2	8
64	Continuous transfer of Ge by the tip of a scanning tunneling microscope for formation of lines. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2001 , 19, 103		8
63	Electromigration effect on the surface morphology during the Ge deposition on Si(1 1 1) at high temperatures. <i>Applied Surface Science</i> , 2019 , 465, 10-14	6.7	8
62	Surface Morphology Transformation Under High-Temperature Annealing of Ge Layers Deposited on Si(100). <i>Nanoscale Research Letters</i> , 2016 , 11, 366	5	7
61	Surface morphology of three-dimensional Si islands on Si(0 0 1) surfaces. <i>Surface Science</i> , 2003 , 541, 234-241		7
60	Formation of lateral nanowires by Ge deposition on Si(111) at high temperatures. <i>Journal of Crystal Growth</i> , 2016 , 441, 84-88	1.6	6
59	Structure and stability of Ge cluster on Si(111) surface in the presence of Bi surfactant. <i>Surface Science</i> , 2013 , 617, 68-72	1.8	6

58	Luminescence and deep-level transient spectroscopy of grown dislocation-rich Si layers. <i>AIP Advances</i> , 2012 , 2, 032152	1.5	6
57	Local structure of Ge/Si nanostructures: Uniqueness of XAFS spectroscopy. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2003 , 199, 174-178	1.2	6
56	Instability of 2D Ge layer near the transition to 3D islands on Si (111). <i>Thin Solid Films</i> , 1999 , 343-344, 532-536	2.2	6
55	Critical oxide cluster size on Si(111). <i>Surface Science</i> , 1999 , 423, 61-69	1.8	6
54	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	2.2	6
53	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	6
52	Nanoscale characterization of photonic metasurface made of lens-like SiGe Mie-resonators formed on Si (100) substrate. <i>Journal of Applied Physics</i> , 2019 , 126, 123102	2.5	5
51	Highly Directive and Broadband Radiation From Photonic Crystals With Partially Disordered Cavities Arrays. <i>Journal of Lightwave Technology</i> , 2014 , 32, 4879-4883	4	5
50	Impact ionization of excitons in Ge/Si structures with Ge quantum dots grown on the oxidized Si(100) surfaces. <i>Journal of Applied Physics</i> , 2014 , 115, 203702	2.5	5
49	Formation and study of p ⁺ n structures based on two-phase hydrogenated silicon with a germanium layer in the i-type region. <i>Semiconductors</i> , 2017 , 51, 1370-1376	0.7	5
48	Nucleation and growth of ordered groups of SiGe quantum dots. <i>Semiconductors</i> , 2015 , 49, 149-153	0.7	5
47	Effect of dislocations on the shape of islands during silicon growth on the oxidized Si(111) surface. <i>JETP Letters</i> , 2011 , 94, 442-445	1.2	5
46	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		5
45	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	1.4	5
44	Observation and nucleation control of Ge nanoislands on Si(111) surfaces using scanning reflection electron microscopy. <i>Journal of Electron Microscopy</i> , 2000 , 49, 217-23		5
43	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	2.2	5
42	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	2.2	5
41	Dewetting behavior of Ge layers on SiO under annealing. <i>Scientific Reports</i> , 2020 , 10, 13759	4.9	5

40	Kinetics and thermodynamics of Si(111) surface nitridation in ammonia. <i>Journal of Crystal Growth</i> , 2016 , 441, 12-17	1.6	4
39	Characterization of semiconductor nanostructures formed by using ultrathin Si oxide technology. <i>Applied Surface Science</i> , 2008 , 255, 669-671	6.7	4
38	. <i>Physics-Uspekhi</i> , 2006 , 49, 887	2.8	4
37	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		4
36	Plasma-enhanced reactively evaporated deposition of SiO ₂ films. <i>Applied Surface Science</i> , 1995 , 89, 49-55.7		4
35	Kinetics of initial oxidation of the Si(111)-7 × 7 surface near the critical conditions. <i>Surface Science</i> , 1996 , 357-358, 729-732	1.8	4
34	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	1.8	4
33	Surface morphology of Si layers grown on SiO ₂ . <i>Applied Surface Science</i> , 2013 , 267, 40-44	6.7	3
32	Resonant photoluminescence of Si layers grown on SiO ₂ . <i>Optics Communications</i> , 2013 , 286, 228-232	2	3
31	Influence of triplet states on the spectrum of collective spin-polaron excitations in a 2D kondo lattice. <i>Physics of the Solid State</i> , 2011 , 53, 1997-2000	0.8	3
30	Interaction of O ₂ and N ₂ O with Si During the Early Stages of Oxide Formation 1998 , 277-287		3
29	Atomic structure of high Miller index Si(47 35 7) surface. <i>Surface Science</i> , 2020 , 693, 121549	1.8	3
28	Low-temperature dissipation and its persistent photoinduced change in AlGaAs/GaAs-based nanomechanical resonators. <i>Applied Physics Letters</i> , 2020 , 116, 053104	3.4	2
27	Kelvin force and Raman microscopies of flat SiGe structures with different compositions grown on Si(111) at high temperatures. <i>Materials Science in Semiconductor Processing</i> , 2018 , 83, 107-114	4.3	2
26	Formation of Ge clusters at a Si(111)-Bi-(sqrt 3 times sqrt 3) surface. <i>JETP Letters</i> , 2011 , 93, 661-666	1.2	2
25	Cs-corrected STEM studies of Ge nanodots grown on slightly oxidized Si(001) surfaces. <i>Microscopy and Microanalysis</i> , 2008 , 14, 170-171	0.5	2
24	Electrical transport in ultrathin Cs layers on Si(001). <i>Physical Review B</i> , 2005 , 72,	3.3	2
23	Raman studies of phase and atomic compositions of GeSi nanosystems after pulsed annealing. <i>Optoelectronics, Instrumentation and Data Processing</i> , 2016 , 52, 496-500	0.6	2

22	Suspended quantum point contact with triple channel selectively driven by side gates. <i>Applied Physics Letters</i> , 2019 , 115, 152101	3.4	2
21	Formation and structural features of silicon quantum dots in germanium. <i>Optoelectronics, Instrumentation and Data Processing</i> , 2013 , 49, 434-439	0.6	1
20	Excitation-dependent blue shift of photoluminescence peak in 1.5-1.6 μm wavelength region from dislocation-rich Si layers 2010 ,		1
19	The effect of spin correlations on a superconducting phase of the spin polarons in 2D Kondo lattice. <i>Journal of Physics: Conference Series</i> , 2010 , 200, 012217	0.3	1
18	Charge Transport in MOS-Structures with Low-Temperature Silicon Dioxide Films. <i>Physica Status Solidi A</i> , 1991 , 125, 387-396		1
17	Electrostatic actuation and charge sensing in piezoelectric nanomechanical resonators with a two-dimensional electron gas. <i>Applied Physics Letters</i> , 2021 , 118, 183105	3.4	1
16	Crossing and anticrossing of 1D subbands in a quantum point contact with in-plane side gates. <i>Applied Physics Letters</i> , 2021 , 118, 012104	3.4	1
15	The observation of the Aharonov-Bohm effect in suspended semiconductor ring interferometers. <i>Journal of Physics: Conference Series</i> , 2018 , 964, 012008	0.3	1
14	Interdisk spacing effect on resonant properties of Ge disk lattices on Si substrates.. <i>Scientific Reports</i> , 2022 , 12, 8123	4.9	1
13	On-Chip Piezoelectric Actuation of Nanomechanical Resonators Containing a Two-Dimensional Electron Gas. <i>JETP Letters</i> , 2019 , 109, 261-265	1.2	0
12	Double-Channel Electron Transport in Suspended Quantum Point Contacts with in-Plane Side Gates. <i>Semiconductors</i> , 2020 , 54, 1605-1610	0.7	0
11	Broadband Antireflection Coatings Composed of Subwavelength-Sized SiGe Particles. <i>Optoelectronics, Instrumentation and Data Processing</i> , 2021 , 57, 494-504	0.6	0
10	Surface Morphologies Obtained by Ge Deposition on Bare and Oxidized Silicon Surfaces at Different Temperatures 2017 , 325-344		
9	Formation of submicron- and micron-sized SiGe and Ge particles on Si substrates using dewetting. <i>Journal of Physics: Conference Series</i> , 2020 , 1461, 012160	0.3	
8	Electromechanical coupling in suspended nanomechanical resonators with a two-dimensional electron gas. <i>Journal of Physics: Conference Series</i> , 2017 , 864, 012043	0.3	
7	Excitation Dependence of Photoluminescence in the 1.5-1.6 μm Wavelength Region from Grown Dislocation-Rich Si Layers. <i>Physics Procedia</i> , 2012 , 32, 117-126		
6	Quantum fluctuations in a two-dimensional antiferromagnet with four-spin interaction of cubic symmetry. <i>Physics of the Solid State</i> , 2011 , 53, 2061-2066	0.8	
5	Opto-Electronic Properties of Ge and Si Related Nanostructures on Ultrathin Si Oxide Covered Si Surfaces. <i>Materials Research Society Symposia Proceedings</i> , 2008 , 1145, 1		

- 4 BROADBAND ANTIREFLECTION COATING COMPOSED OF RESONANT SILVER PARTICLES OF SUBWAVELENGTH SIZE. *Avtometriya*, **2021**, 57, 58-69 1.5
- 3 The Modification of Optical Properties of the Surfaces by the Glancing Angle Deposition Technique. *Siberian Journal of Physics*, **2021**, 16, 91-100 0
- 2 Electron Spin Resonance in Heterostructures with Ring Molecules of GeSi Quantum Dots. *JETP Letters*, **2021**, 113, 52-56 1.2
- 1 Electrically controlled spin polarization in suspended GaAs quantum point contacts. *Journal of Physics: Conference Series*, **2018**, 1124, 061001 0.3