

# Alexander A Shklyaev

## List of Publications by Year in descending order

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Version: 2024-02-01

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  | Interdisk spacing effect on resonant properties of Ge disk lattices on Si substrates. Scientific Reports, 2022, 12, 8123.   | 3.3 | 4         |
| 2  | 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         |
| 3  | Electron Spin Resonance in Heterostructures with Ring Molecules of GeSi Quantum Dots. JETP Letters, 2021, 113, 52-56.   | 1.4 | 0         |
| 4  | Crossing and anticrossing of 1D subbands in a quantum point contact with in-plane side gates. Applied Physics Letters, 2021, 118, .                                   | 3.3 | 5         |
| 5  | Electrostatic actuation and charge sensing in piezoelectric nanomechanical resonators with a two-dimensional electron gas. Applied Physics Letters, 2021, 118, .      | 3.3 | 4         |
| 6  | Broadband Antireflection Coatings Made of Resonant Submicron- and Micron-Sized SiGe Particles Grown on Si Substrates. IEEE Photonics Journal, 2021, 13, 1-12.         | 2.0 | 8         |
| 7  | BROADBAND ANTIREFLECTION COATING COMPOSED OF RESONANT SIGE PARTICLES OF SUBWAVELENGTH SIZE. Avtometriya, 2021, 57, 58-69.   | 0.0 | 0         |
| 8  | Broadband Antireflection Coatings Composed of Subwavelength-Sized SiGe Particles. Optoelectronics, Instrumentation and Data Processing, 2021, 57, 494-504.            | 0.6 | 2         |
| 9  | Atomic structure of high Miller index Si(47 35 7) surface. Surface Science, 2020, 693, 121549.  | 1.9 | 4         |
| 10 | Effect of deposition conditions on the thermal stability of Ge layers on SiO <sub>2</sub> and their dewetting behavior. Thin Solid Films, 2020, 693, 137681.          | 1.8 | 8         |
| 11 | Dewetting behavior of Ge layers on SiO <sub>2</sub> under annealing. Scientific Reports, 2020, 10, 13759.   | 3.3 | 12        |
| 12 | Low-temperature dissipation and its persistent photoinduced change in AlGaAs/GaAs-based nanomechanical resonators. Applied Physics Letters, 2020, 116, .              | 3.3 | 3         |
| 13 | 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         |
| 14 | Double-Channel Electron Transport in Suspended Quantum Point Contacts with in-Plane Side Gates. Semiconductors, 2020, 54, 1605-1610.                                  | 0.5 | 4         |
| 15 | Universal building block for (1 1 0)-family silicon and germanium surfaces. Applied Surface Science, 2019, 494, 46-50.  | 6.1 | 11        |
| 16 | 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         |
| 17 | On-Chip Piezoelectric Actuation of Nanomechanical Resonators Containing a Two-Dimensional Electron Gas. JETP Letters, 2019, 109, 261-265.                             | 1.4 | 2         |
| 18 | Suspended quantum point contact with triple channel selectively driven by side gates. Applied Physics Letters, 2019, 115, .   | 3.3 | 6         |

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|----|--|-----|-----------|
| 19 | 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        |
| 20 | Lateral-electric-field-induced spin polarization in a suspended GaAs quantum point contact. Applied Physics Letters, 2018, 112, .  | 3.3 | 17        |
| 21 | Raman and photoluminescence spectroscopy of SiGe layer evolution on Si(100) induced by dewetting. Journal of Applied Physics, 2018, 123, .   | 2.5 | 26        |
| 22 | Electrically controlled spin polarization in suspended GaAs quantum point contacts. Journal of Physics: Conference Series, 2018, 1124, 061001.   | 0.4 | 0         |
| 23 | The observation of the Aharonov-Bohm effect in suspended semiconductor ring interferometers. Journal of Physics: Conference Series, 2018, 964, 012008.   | 0.4 | 2         |
| 24 | Shapes of the Micron-Sized SiGe Islands Grown on Si(100) in Dewetting Conditions. , 2018, , .  |     | 0         |
| 25 | 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         |
| 26 | Surface Morphologies Obtained by Ge Deposition on Bare and Oxidized Silicon Surfaces at Different Temperatures. , 2017, , 325-344.   |     | 0         |
| 27 | Submicron- and micron-sized SiGe island formation on Si(100) by dewetting. Thin Solid Films, 2017, 642, 345-351.   | 1.8 | 14        |
| 28 | Formation and study of p-i-n structures based on two-phase hydrogenated silicon with a germanium layer in the i-type region. Semiconductors, 2017, 51, 1370-1376.                                | 0.5 | 6         |
| 29 | 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        |
| 30 | 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        |
| 31 | Electromechanical coupling in suspended nanomechanical resonators with a two-dimensional electron gas. Journal of Physics: Conference Series, 2017, 864, 012043.                                 | 0.4 | 0         |
| 32 | SURFACE MORPHOLOGY OF GERMANIUM LAYERS ON SILICON SURFACES AT HIGH TEMPERATURES. , 2017, , 410-413.  |     | 1         |
| 33 | Hydrogenated amorphous silicon based p-i-n structures with Si and Ge nanocrystals in i-layers. , 2016, , .   |     | 0         |
| 34 | Photoconductive gain and quantum efficiency of remotely doped Ge/Si quantum dot photodetectors. Materials Research Express, 2016, 3, 105032.   | 1.6 | 20        |
| 35 | 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         |
| 36 | Surface Morphology Transformation Under High-Temperature Annealing of Ge Layers Deposited on Si(100). Nanoscale Research Letters, 2016, 11, 366.   | 5.7 | 9         |

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|----|---|-----|-----------|
| 37 | Piezoelectric Electromechanical Coupling in Nanomechanical Resonators with a Two-Dimensional Electron Gas. <i>Physical Review Letters</i> , 2016, 117, 017702.                                    | 7.8 | 16        |
| 38 | 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         |
| 39 | Kinetics and thermodynamics of Si(111) surface nitridation in ammonia. <i>Journal of Crystal Growth</i> , 2016, 441, 12-17.   | 1.5 | 9         |
| 40 | 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.                          | 6.1 | 21        |
| 41 | Nucleation and growth of ordered groups of SiGe quantum dots. <i>Semiconductors</i> , 2015, 49, 149-153.  | 0.5 | 6         |
| 42 | Strain-induced Ge segregation on Si at high temperatures. <i>Journal of Crystal Growth</i> , 2015, 413, 94-99.  | 1.5 | 15        |
| 43 | Structure and optical properties of Si and SiGe layers grown on SiO <sub>2</sub> by chemical vapor deposition. <i>Thin Solid Films</i> , 2015, 579, 131-135.                                      | 1.8 | 14        |
| 44 | 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. | 3.3 | 15        |
| 45 | Properties of three-dimensional structures prepared by Ge dewetting from Si(111) at high temperatures. <i>Journal of Applied Physics</i> , 2015, 117, .   | 2.5 | 23        |
| 46 | Mechanisms of surface morphology formation during Ge growth on Si(100) at high temperatures. , 2015, , .  |     | 0         |
| 47 | 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 | 17        |
| 48 | 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.   | 1.9 | 26        |
| 49 | Highly Directive and Broadband Radiation From Photonic Crystals With Partially Disordered Cavities Arrays. <i>Journal of Lightwave Technology</i> , 2014, 32, 4879-4883.                          | 4.6 | 5         |
| 50 | Surface morphology formation of Ge layers on Si(111) under high-temperature annealing. , 2014, , .  |     | 0         |
| 51 | 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         |
| 52 | 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         |
| 53 | Formation and structural features of silicon quantum dots in germanium. <i>Optoelectronics, Instrumentation and Data Processing</i> , 2013, 49, 434-439.  | 0.6 | 3         |
| 54 | Surface morphology of Si layers grown on SiO <sub>2</sub> . <i>Applied Surface Science</i> , 2013, 267, 40-44.  | 6.1 | 4         |

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|----|--|-----|-----------|
| 55 | Resonant photoluminescence of Si layers grown on SiO <sub>2</sub> . Optics Communications, 2013, 286, 228-232.   | 2.1 | 3         |
| 56 | Shape of epitaxial Ge islands on Si(100) surfaces. , 2013, , .   |     | 1         |
| 57 | Epitaxial Ge Growth on Si(111) Covered with Ultrathin SiO <sub>2</sub> Films. Journal of Surface Engineered Materials and Advanced Technology, 2013, 03, 195-204.                | 0.2 | 8         |
| 58 | Excitation Dependence of Photoluminescence in the 1.5-1.6 $\mu$ m Wavelength Region from Grown Dislocation-Rich Si Layers. Physics Procedia, 2012, 32, 117-126.                  | 1.2 | 1         |
| 59 | Luminescence and deep-level transient spectroscopy of grown dislocation-rich Si layers. AIP Advances, 2012, 2, 032152.   | 1.3 | 6         |
| 60 | Electroluminescence of dislocation-rich Si layers grown using oxidized Si surfaces. Journal Physics D: Applied Physics, 2011, 44, 025402.  | 2.8 | 15        |
| 61 | Formation of Ge clusters at a Si(111)-Bi- $\sqrt{3} \times \sqrt{3}$ surface. JETP Letters, 2011, 93, 661-666.   | 1.4 | 2         |
| 62 | 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         |
| 63 | Stability of the (0001) surface of the Bi <sub>2</sub> Se <sub>3</sub> topological insulator. JETP Letters, 2011, 94, 465-468.   | 1.4 | 20        |
| 64 | 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         |
| 65 | 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         |
| 66 | 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         |
| 67 | 1.5-1.6 $\mu$ m photoluminescence of silicon layers with a high density of lattice defects. Semiconductors, 2010, 44, 432-437.   | 0.5 | 12        |
| 68 | Excitation-dependent blue shift of photoluminescence peak in 1.5-1.6 $\mu$ m wavelength region from dislocation-rich Si layers. , 2010, , .                                      |     | 1         |
| 69 | Defect-related light emission in the 1.4-1.7 $\mu$ m range from Si layers at room temperature. Journal of Applied Physics, 2009, 105, .  | 2.5 | 20        |
| 70 | Photoluminescence study of energy levels in Ge quantum dots in Si. , 2009, , .   |     | 1         |
| 71 | Defect-related luminescence from nanostructured Si layers in the 1.5-1.6 $\mu$ m wavelength region. Proceedings of SPIE, 2009, , .   | 0.8 | 0         |
| 72 | Spherical aberration corrected STEM studies of Ge nanodots grown on Si(001) surfaces with an ultrathin SiO <sub>2</sub> coverage. Applied Surface Science, 2008, 254, 7569-7572. | 6.1 | 26        |

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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 | 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         |
| 75 | Title is missing!. Physics-Usppekhi, 2008, 51, 133.  | 2.2 | 69        |
| 76 | Cs-corrected STEM studies of Ge nanodots grown on slightly oxidized Si(001) surfaces. Microscopy and Microanalysis, 2008, 14, 170-171.   | 0.4 | 2         |
| 77 | 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        |
| 78 | Photoluminescence of Si layers grown on oxidized Si surfaces. Journal of Applied Physics, 2007, 101, 033532.   | 2.5 | 26        |
| 79 | Photoluminescence of Ge <sup>x</sup> Si structures grown on oxidized Si surfaces. Applied Physics Letters, 2006, 88, 121919.   | 3.3 | 29        |
| 80 | Title is missing!. Physics-Usppekhi, 2006, 49, 887.  | 2.2 | 4         |
| 81 | Nanostructures on oxidized Si surfaces fabricated with the scanning tunneling microscope tip under electron-beam irradiation. Journal of Vacuum Science & Technology B, 2006, 24, 739.   | 1.3 | 5         |
| 82 | Electrical transport in ultrathin Cs layers on Si(001). Physical Review B, 2005, 72, .   | 3.2 | 2         |
| 83 | Local structure of Ge/Si nanostructures: Uniqueness of XAFS spectroscopy. Nuclear Instruments & Methods in Physics Research B, 2003, 199, 174-178.   | 1.4 | 6         |
| 84 | Surface morphology of three-dimensional Si islands on Si(001) surfaces. Surface Science, 2003, 541, 234-241.   | 1.9 | 7         |
| 85 | Visible photoluminescence of Ge dots embedded in Si/SiO <sub>2</sub> matrices. Applied Physics Letters, 2002, 80, 1432-1434.   | 3.3 | 34        |
| 86 | Effect of the interface on the local structure of Ge <sup>x</sup> Si nanostructures. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2002, 20, 1116-1119.  | 2.1 | 11        |
| 87 | 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        |
| 88 | Effect of interfaces on quantum confinement in Ge dots grown on Si surfaces with a SiO <sub>2</sub> coverage. Surface Science, 2002, 514, 19-26.   | 1.9 | 61        |
| 89 | 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        |
| 90 | 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         |

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|-----|--|-----|-----------|
| 91  | Electron-beam Initiated Transfer of Ge from Ge Islands on SiO <sub>2</sub> Surfaces to the Tip of a Scanning Tunneling Microscope. Japanese Journal of Applied Physics, 2001, 40, 3370-3374.   | 1.5 | 6         |
| 92  | Local structure of Ge nanoislands on Si(111) surfaces with a SiO <sub>2</sub> coverage. Applied Physics Letters, 2001, 78, 2563-2565.  | 3.3 | 47        |
| 93  | Three-dimensional Si islands on Si(001) surfaces. Physical Review B, 2001, 65, .   | 3.2 | 50        |
| 94  | Observation and nucleation control of Ge nanoislands on Si(111) surfaces using scanning reflection electron microscopy. Journal of Electron Microscopy, 2000, 49, 217-223.   | 0.9 | 5         |
| 95  | Kinetics of tip-induced island growth on Si(111) with a scanning tunneling microscope. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2000, 18, 2339. | 1.6 | 5         |
| 96  | Formation of Ge nanoislands using a scanning tunneling microscope. Journal of Applied Physics, 2000, 88, 1397-1400.  | 2.5 | 13        |
| 97  | High-density ultrasmall epitaxial Ge islands on Si(111) surfaces with a SiO <sub>2</sub> coverage. Physical Review B, 2000, 62, 1540-1543.   | 3.2 | 166       |
| 98  | 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         |
| 99  | Formation of three-dimensional Si islands on Si(111) with a scanning tunneling microscope. Applied Physics Letters, 1999, 74, 2140-2142.   | 3.3 | 17        |
| 100 | Instability of 2D Ge layer near the transition to 3D islands on Si (111). Thin Solid Films, 1999, 343-344, 532-536.  | 1.8 | 6         |
| 101 | Critical oxide cluster size on Si(111). Surface Science, 1999, 423, 61-69.   | 1.9 | 8         |
| 102 | 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        |
| 103 | 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        |
| 104 | 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        |
| 105 | Interaction of O <sub>2</sub> and N <sub>2</sub> O with Si During the Early Stages of Oxide Formation. , 1998, , 277-287.  |     | 3         |
| 106 | Initial reactive sticking coefficient of O <sub>2</sub> on Si(111)-7 Å <sup>-7</sup> at elevated temperatures. Surface Science, 1996, 351, 64-74.  | 1.9 | 24        |
| 107 | Kinetics of initial oxidation of the Si(111)-7 Å <sup>-7</sup> surface near the critical conditions. Surface Science, 1996, 357-358, 729-732.  | 1.9 | 4         |
| 108 | Influence of growth conditions on subsequent submonolayer oxide decomposition on Si(111). Physical Review B, 1996, 54, 10890-10895.  | 3.2 | 14        |

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|-----|---|-----|-----------|
| 109 | Plasma-enhanced reactively evaporated deposition of SiO <sub>2</sub> films. Applied Surface Science, 1995, 89, 49-55.   | 6.1 | 4         |
| 110 | Branching of Critical Conditions for Si(111)-(7 $\times$ 7) Oxidation. Physical Review Letters, 1995, 75, 272-275.  | 7.8 | 23        |
| 111 | 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        |
| 112 | Effect of hydrogen on hot electron energy relaxation in SiO <sub>2</sub> and Si <sub>3</sub> N <sub>4</sub> films. Thin Solid Films, 1992, 221, 160-165.                | 1.8 | 5         |
| 113 | Charge Transport in MOS-Structures with Low-Temperature Silicon Dioxide Films. Physica Status Solidi A, 1991, 125, 387-396.   | 1.7 | 2         |
| 114 | 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        |
| 115 | Deposition of silica films by the oxidation of silane in oxygen II: The calculation of growth rates in the tube reactor. Thin Solid Films, 1981, 76, 61-68.             | 1.8 | 6         |
| 116 | Leed studies of vicinal surfaces of silicon. Surface Science, 1979, 82, 445-452.  | 1.9 | 110       |
| 117 | Phase transitions on clean Si(110) surfaces. Surface Science, 1977, 67, 581-588.  | 1.9 | 109       |
| 118 | LEED studies of vicinal surfaces of germanium. Surface Science, 1977, 69, 205-217.  | 1.9 | 53        |
| 119 | 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        |
| 120 | Structural Changes in Nanometer-Thick Silicon-on-Insulator Films During High-Temperature Annealing. Semiconductors, 0, , .  | 0.5 | 0         |