# Alexander A Shklyaev

## List of Publications by Year in Descending Order



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| 111 papers | 1,596 citations | 20 h-index | 36 g-index |
| 120 ext. papers | 1,731 ext. citations | 2.5 avg, IF | 4.64 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 111 | Interdisk spacing effect on resonant properties of Ge disk lattices on Si substrates.. *Scientific Reports*, **2022**, 12, 8123 | 4.9 | 1 |
| 110 | BROADBAND ANTIREFLECTION COATING COMPOSED OF RESONANT SIGE PARTICLES OF SUBWAVELENGTH SIZE. *Avtometriya*, **2021**, 57, 58-69 | 1.5 | |
| 109 | Electrostatic actuation and charge sensing in piezoelectric nanomechanical resonators with a two-dimensional electron gas. *Applied Physics Letters*, **2021**, 118, 183105 | 3.4 | 1 |
| 108 | Broadband Antireflection Coatings Made of Resonant Submicron- and Micron-Sized SiGe Particles Grown on Si Substrates. *IEEE Photonics Journal*, **2021**, 13, 1-12 | 1.8 | 4 |
| 107 | The Modification of Optical Properties of the Surfaces by the Glancing Angle Deposition Technique. *Siberian Journal of Physics*, **2021**, 16, 91-100 | 0 | |
| 106 | Electron Spin Resonance in Heterostructures with Ring Molecules of GeSi Quantum Dots. *JETP Letters*, **2021**, 113, 52-56 | 1.2 | |
| 105 | Crossing and anticrossing of 1D subbands in a quantum point contact with in-plane side gates. *Applied Physics Letters*, **2021**, 118, 012104 | 3.4 | 1 |
| 104 | Broadband Antireflection Coatings Composed of Subwavelength-Sized SiGe Particles. *Optoelectronics, Instrumentation and Data Processing*, **2021**, 57, 494-504 | 0.6 | 0 |
| 103 | Low-temperature dissipation and its persistent photoinduced change in AlGaAs/GaAs-based nanomechanical resonators. *Applied Physics Letters*, **2020**, 116, 053104 | 3.4 | 2 |
| 102 | Formation of submicron- and micron-sized SiGe and Ge particles on Si substrates using dewetting. *Journal of Physics: Conference Series*, **2020**, 1461, 012160 | 0.3 | |
| 101 | Double-Channel Electron Transport in Suspended Quantum Point Contacts with in-Plane Side Gates. *Semiconductors*, **2020**, 54, 1605-1610 | 0.7 | 0 |
| 100 | Atomic structure of high Miller index Si(47 35 7) surface. *Surface Science*, **2020**, 693, 121549 | 1.8 | 3 |
| 99 | Effect of deposition conditions on the thermal stability of Ge layers on SiO2 and their dewetting behavior. *Thin Solid Films*, **2020**, 693, 137681 | 2.2 | 5 |
| 98 | Dewetting behavior of Ge layers on SiO under annealing. *Scientific Reports*, **2020**, 10, 13759 | 4.9 | 5 |
| 97 | 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 | 5 |
| 96 | On-Chip Piezoelectric Actuation of Nanomechanical Resonators Containing a Two-Dimensional Electron Gas. *JETP Letters*, **2019**, 109, 261-265 | 1.2 | 0 |
| 95 | Universal building block for (1 1 0)-family silicon and germanium surfaces. *Applied Surface Science*, **2019**, 494, 46-50 | 6.7 | 9 |

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| 94 | Suspended quantum point contact with triple channel selectively driven by side gates. *Applied Physics Letters*, **2019**, 115, 152101 | 3.4 | 2 |
| 93 | Electromigration effect on the surface morphology during the Ge deposition on Si(1 1 1) at high temperatures. *Applied Surface Science*, **2019**, 465, 10-14 | 6.7 | 8 |
| 92 | Lateral-electric-field-induced spin polarization in a suspended GaAs quantum point contact. *Applied Physics Letters*, **2018**, 112, 082102 | 3.4 | 13 |
| 91 | Raman and photoluminescence spectroscopy of SiGe layer evolution on Si(100) induced by dewetting. *Journal of Applied Physics*, **2018**, 123, 015304 | 2.5 | 19 |
| 90 | 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 | 4.3 | 2 |
| 89 | Electrically controlled spin polarization in suspended GaAs quantum point contacts. *Journal of Physics: Conference Series*, **2018**, 1124, 061001 | 0.3 | |
| 88 | The observation of the Aharonov-Bohm effect in suspended semiconductor ring interferometers. *Journal of Physics: Conference Series*, **2018**, 964, 012008 | 0.3 | 1 |
| 87 | Surface Morphologies Obtained by Ge Deposition on Bare and Oxidized Silicon Surfaces at Different Temperatures **2017**, 325-344 | | |
| 86 | Submicron- and micron-sized SiGe island formation on Si(100) by dewetting. *Thin Solid Films*, **2017**, 642, 345-351 | 2.2 | 8 |
| 85 | Electromechanical coupling in suspended nanomechanical resonators with a two-dimensional electron gas. *Journal of Physics: Conference Series*, **2017**, 864, 012043 | 0.3 | |
| 84 | Formation and study of pIIn structures based on two-phase hydrogenated silicon with a germanium layer in the i-type region. *Semiconductors*, **2017**, 51, 1370-1376 | 0.7 | 5 |
| 83 | 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 | 11 |
| 82 | Critical conditions for SiGe island formation during Ge deposition on Si(100) at high temperatures. *Materials Science in Semiconductor Processing*, **2017**, 57, 18-23 | 4.3 | 15 |
| 81 | Surface Morphology Transformation Under High-Temperature Annealing of Ge Layers Deposited on Si(100). *Nanoscale Research Letters*, **2016**, 11, 366 | 5 | 7 |
| 80 | Piezoelectric Electromechanical Coupling in Nanomechanical Resonators with a Two-Dimensional Electron Gas. *Physical Review Letters*, **2016**, 117, 017702 | 7.4 | 15 |
| 79 | Formation of lateral nanowires by Ge deposition on Si(111) at high temperatures. *Journal of Crystal Growth*, **2016**, 441, 84-88 | 1.6 | 6 |
| 78 | Kinetics and thermodynamics of Si(111) surface nitridation in ammonia. *Journal of Crystal Growth*, **2016**, 441, 12-17 | 1.6 | 4 |
| 77 | 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 | 6.7 | 19 |

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| 76 | Photoconductive gain and quantum efficiency of remotely doped Ge/Si quantum dot photodetectors. *Materials Research Express*, **2016**, 3, 105032 | 1.7 | 14 |
| 75 | Raman studies of phase and atomic compositions of GeSi nanosystems after pulsed annealing. *Optoelectronics, Instrumentation and Data Processing*, **2016**, 52, 496-500 | 0.6 | 2 |
| 74 | Structure and optical properties of Si and SiGe layers grown on SiO2 by chemical vapor deposition. *Thin Solid Films*, **2015**, 579, 131-135 | 2.2 | 12 |
| 73 | Actuation and transduction of resonant vibrations in GaAs/AlGaAs-based nanoelectromechanical systems containing two-dimensional electron gas. *Applied Physics Letters*, **2015**, 106, 183110 | 3.4 | 13 |
| 72 | Properties of three-dimensional structures prepared by Ge dewetting from Si(111) at high temperatures. *Journal of Applied Physics*, **2015**, 117, 205303 | 2.5 | 17 |
| 71 | Nucleation and growth of ordered groups of SiGe quantum dots. *Semiconductors*, **2015**, 49, 149-153 | 0.7 | 5 |
| 70 | Strain-induced Ge segregation on Si at high temperatures. *Journal of Crystal Growth*, **2015**, 413, 94-99 | 1.6 | 15 |
| 69 | Surface morphology of Ge layers epitaxially grown on bare and oxidized Si(001) and Si(111) substrates. *Surface Science*, **2014**, 625, 50-56 | 1.8 | 24 |
| 68 | Highly Directive and Broadband Radiation From Photonic Crystals With Partially Disordered Cavities Arrays. *Journal of Lightwave Technology*, **2014**, 32, 4879-4883 | 4 | 5 |
| 67 | 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 |
| 66 | 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 | 14 |
| 65 | Structure and stability of Ge cluster on Si(111) surface in the presence of Bi surfactant. *Surface Science*, **2013**, 617, 68-72 | 1.8 | 6 |
| 64 | Formation and structural features of silicon quantum dots in germanium. *Optoelectronics, Instrumentation and Data Processing*, **2013**, 49, 434-439 | 0.6 | 1 |
| 63 | Surface morphology of Si layers grown on SiO2. *Applied Surface Science*, **2013**, 267, 40-44 | 6.7 | 3 |
| 62 | Resonant photoluminescence of Si layers grown on SiO2. *Optics Communications*, **2013**, 286, 228-232 | 2 | 3 |
| 61 | 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 | 6 |
| 60 | Excitation Dependence of Photoluminescence in the 1.5-1.6 Ìm Wavelength Region from Grown Dislocation-Rich Si Layers. *Physics Procedia*, **2012**, 32, 117-126 | | |
| 59 | Luminescence and deep-level transient spectroscopy of grown dislocation-rich Si layers. *AIP Advances*, **2012**, 2, 032152 | 1.5 | 6 |

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| 58 | Electroluminescence of dislocation-rich Si layers grown using oxidized Si surfaces. *Journal Physics D: Applied Physics*, **2011**, 44, 025402 | 3 | 15 |
| 57 | Formation of Ge clusters at a Si(111)-Bi-(sqrt 3 times sqrt 3) surface. *JETP Letters*, **2011**, 93, 661-666 | 1.2 | 2 |
| 56 | Effect of dislocations on the shape of islands during silicon growth on the oxidized Si(111) surface. *JETP Letters*, **2011**, 94, 442-445 | 1.2 | 5 |
| 55 | Stability of the (0001) surface of the Bi2Se3 topological insulator. *JETP Letters*, **2011**, 94, 465-468 | 1.2 | 15 |
| 54 | 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 | 0.8 | 3 |
| 53 | Quantum fluctuations in a two-dimensional antiferromagnet with four-spin interaction of cubic symmetry. *Physics of the Solid State*, **2011**, 53, 2061-2066 | 0.8 | |
| 52 | Excitation-dependent blue shift of photoluminescence peak in 1.5–1.6 μm wavelength region from dislocation-rich Si layers **2010**, | | 1 |
| 51 | 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 | 0.3 | 1 |
| 50 | 1.5–1.6 eV photoluminescence of silicon layers with a high density of lattice defects. *Semiconductors*, **2010**, 44, 432-437 | 0.7 | 11 |
| 49 | Defect-related light emission in the 1.4–1.7 eV range from Si layers at room temperature. *Journal of Applied Physics*, **2009**, 105, 063513 | 2.5 | 18 |
| 48 | Opto-Electronic Properties of Ge and Si Related Nanostructures on Ultrathin Si Oxide Covered Si Surfaces. *Materials Research Society Symposia Proceedings*, **2008**, 1145, 1 | | |
| 47 | . *Physics-Uspekhi*, **2008**, 51, 133 | 2.8 | 53 |
| 46 | Cs-corrected STEM studies of Ge nanodots grown on slightly oxidized Si(001) surfaces. *Microscopy and Microanalysis*, **2008**, 14, 170-171 | 0.5 | 2 |
| 45 | Spherical aberration corrected STEM studies of Ge nanodots grown on Si(001) surfaces with an ultrathin SiO2 coverage. *Applied Surface Science*, **2008**, 254, 7569-7572 | 6.7 | 25 |
| 44 | Characterization of semiconductor nanostructures formed by using ultrathin Si oxide technology. *Applied Surface Science*, **2008**, 255, 669-671 | 6.7 | 4 |
| 43 | 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 | 21 |
| 42 | Photoluminescence of Si layers grown on oxidized Si surfaces. *Journal of Applied Physics*, **2007**, 101, 033532 | 2.5 | 25 |
| 41 | . *Physics-Uspekhi*, **2006**, 49, 887 | 2.8 | 4 |

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| 40 | 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 | | 5 |
| 39 | Photoluminescence of GeSi structures grown on oxidized Si surfaces. *Applied Physics Letters*, **2006**, 88, 121919 | 3.4 | 27 |
| 38 | Electrical transport in ultrathin Cs layers on Si(001). *Physical Review B*, **2005**, 72, | 3.3 | 2 |
| 37 | Local structure of Ge/Si nanostructures: Uniqueness of XAFS spectroscopy. *Nuclear Instruments & Methods in Physics Research B*, **2003**, 199, 174-178 | 1.2 | 6 |
| 36 | Surface morphology of three-dimensional Si islands on Si(0 0 1) surfaces. *Surface Science*, **2003**, 541, 234-241 | 1.8 | 7 |
| 35 | Effect of interfaces on quantum confinement in Ge dots grown on Si surfaces with a SiO2 coverage. *Surface Science*, **2002**, 514, 19-26 | 1.8 | 52 |
| 34 | Visible photoluminescence of Ge dots embedded in Si/SiO2 matrices. *Applied Physics Letters*, **2002**, 80, 1432-1434 | 3.4 | 31 |
| 33 | Effect of the interface on the local structure of GeSi nanostructures. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2002**, 20, 1116-1119 | 2.9 | 10 |
| 32 | Observation of oscillating behavior in the reflectance difference spectra of oxidized Si(001) surfaces. *Journal of Applied Physics*, **2002**, 91, 3637-3643 | 2.5 | 17 |
| 31 | 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 | | 8 |
| 30 | Electron-beam Initiated Transfer of Ge from Ge Islands on SiO2Surfaces to the Tip of a Scanning Tunneling Microscope. *Japanese Journal of Applied Physics*, **2001**, 40, 3370-3374 | 1.4 | 5 |
| 29 | Local structure of Ge nanoislands on Si(111) surfaces with a SiO2 coverage. *Applied Physics Letters*, **2001**, 78, 2563-2565 | 3.4 | 44 |
| 28 | Three-dimensional Si islands on Si(001) surfaces. *Physical Review B*, **2001**, 65, | 3.3 | 45 |
| 27 | Optical anisotropy of oxidized Si(001) surfaces and its oscillation in the layer-by-layer oxidation process. *Physical Review Letters*, **2001**, 87, 037403 | 7.4 | 46 |
| 26 | Observation and nucleation control of Ge nanoislands on Si(111) surfaces using scanning reflection electron microscopy. *Journal of Electron Microscopy*, **2000**, 49, 217-23 | | 5 |
| 25 | 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 | | 4 |
| 24 | Formation of Ge nanoislands using a scanning tunneling microscope. *Journal of Applied Physics*, **2000**, 88, 1397-1400 | 2.5 | 11 |
| 23 | High-density ultrasmall epitaxial Ge islands on Si(111) surfaces with a SiO2 coverage. *Physical Review B*, **2000**, 62, 1540-1543 | 3.3 | 159 |

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| 22 | 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 | 1.8 | 9 |
| 21 | Formation of three-dimensional Si islands on Si(111) with a scanning tunneling microscope. *Applied Physics Letters*, **1999**, 74, 2140-2142 | 3.4 | 15 |
| 20 | Instability of 2D Ge layer near the transition to 3D islands on Si (111). *Thin Solid Films*, **1999**, 343-344, 532-536 | 2.2 | 6 |
| 19 | Critical oxide cluster size on Si(111). *Surface Science*, **1999**, 423, 61-69 | 1.8 | 6 |
| 18 | Ge islands on Si(111) at coverages near the transition from two-dimensional to three-dimensional growth. *Surface Science*, **1998**, 416, 192-199 | 1.8 | 43 |
| 17 | Nanometer-scale germanium islands on Si(111) surface windows formed in an ultrathin silicon dioxide film. *Applied Physics Letters*, **1998**, 72, 320-322 | 3.4 | 34 |
| 16 | Instability of two-dimensional layers in the Stranski-Krastanov growth mode of Ge on Si(111). *Physical Review B*, **1998**, 58, 15647-15651 | 3.3 | 34 |
| 15 | Interaction of O2 and N2O with Si During the Early Stages of Oxide Formation **1998**, 277-287 | | 3 |
| 14 | Initial reactive sticking coefficient of O2 on Si(111)-7 □7 at elevated temperatures. *Surface Science*, **1996**, 351, 64-74 | 1.8 | 19 |
| 13 | Kinetics of initial oxidation of the Si(111)-7 □7 surface near the critical conditions. *Surface Science*, **1996**, 357-358, 729-732 | 1.8 | 4 |
| 12 | Influence of growth conditions on subsequent submonolayer oxide decomposition on Si(111). *Physical Review B*, **1996**, 54, 10890-10895 | 3.3 | 13 |
| 11 | Plasma-enhanced reactively evaporated deposition of SiO2 films. *Applied Surface Science*, **1995**, 89, 49-55 | 5.7 | 4 |
| 10 | Branching of critical conditions for Si(111)-(7 x 7) oxidation. *Physical Review Letters*, **1995**, 75, 272-275 | 7.4 | 23 |
| 9 | Monosilane adsorption and initial growth stages of silicon layers on the (100) and oxidized silicon surfaces. *Surface Science*, **1992**, 275, 433-442 | 1.8 | 12 |
| 8 | Effect of hydrogen on hot electron energy relaxation in SiO2 and Si3N4 films. *Thin Solid Films*, **1992**, 221, 160-165 | 2.2 | 5 |
| 7 | Charge Transport in MOS-Structures with Low-Temperature Silicon Dioxide Films. *Physica Status Solidi A*, **1991**, 125, 387-396 | | 1 |
| 6 | 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 | | 16 |
| 5 | 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 | 2.2 | 6 |

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| 4 | Leed studies of vicinal surfaces of silicon. *Surface Science*, **1979**, 82, 445-452 | 1.8 | 103 |
| 3 | Phase transitions on clean Si(110) surfaces. *Surface Science*, **1977**, 67, 581-588 | 1.8 | 103 |
| 2 | LEED studies of vicinal surfaces of germanium. *Surface Science*, **1977**, 69, 205-217 | 1.8 | 49 |
| 1 | LEED investigation of germanium surfaces cleaned by sublimation of sulphide films; structural transitions on clean Ge(110) surface. *Surface Science*, **1977**, 64, 224-236 | 1.8 | 77 |