Ilya Sychugov

List of Publications by Year
in descending order

77 papers	2,125 citations	279798 23 h-index	233421 45 g-index
77 all docs	77 docs citations	77 times ranked	2406 citing authors

#	Article	IF	Citations
1	Surface Charge Sensitivity of Silicon Nanowires:â€‰ Size Dependence. Nano Letters, 2007, 7, 2608-2612.	9.1	259
2	Narrow Luminescence Linewidth of a Silicon Quantum Dot. Physical Review Letters, 2005, 94, 087405.	7.8	159
3	Optically Transparent Wood: Recent Progress, Opportunities, and Challenges. Advanced Optical Materials, 2018, 6, 1800059.	7.3	135
4	Near-Unity Internal Quantum Efficiency of Luminescent Silicon Nanocrystals with Ligand Passivation. ACS Nano, 2015, 9, 7097-7104.	14.6	118
5	Luminescent Transparent Wood. Advanced Optical Materials, 2017, 5, 1600834.	7.3	116
6	Lasing from Organic Dye Molecules Embedded in Transparent Wood. Advanced Optical Materials, 2017, 5, 1700057.	7.3	87
7	Thickness Dependence of Optical Transmittance of Transparent Wood: Chemical Modification Effects. ACS Applied Materials & Interfaces, 2019, 11, 35451-35457.	8.0	72
8	Ultranarrow Luminescence Linewidth of Silicon Nanocrystals and Influence of Matrix. ACS Photonics, 2014, 1, 998-1005.	6.6	67
9	Evolution of the Ultrafast Photoluminescence of Colloidal Silicon Nanocrystals with Changing Surface Chemistry. ACS Photonics, 2015, 2, 595-605.	6.6	60
10	Light-Converting Polymer/Si Nanocrystal Composites with Stable 60â€“70% Quantum Efficiency and Their Glass Laminates. ACS Applied Materials & Interfaces, 2017, 9, 30267-30272.	8.0	57
11	Luminescence blinking of a Si quantum dot in aSiO2shell. Physical Review B, 2005, 71, .	3.2	52
12	Size-Dependent Phase Transition in Perovskite Nanocrystals. Journal of Physical Chemistry Letters, 2019, 10, 5451-5457.	4.6	48
13	Reversible Dual-Stimuli-Responsive Chromic Transparent Wood Biocomposites for Smart Window Applications. ACS Applied Materials & Interfaces, 2021, 13, 3270-3277.	8.0	47
14	Photodegradation of Organometal Hybrid Perovskite Nanocrystals: Clarifying the Role of Oxygen by Single-Dot Photoluminescence. Journal of Physical Chemistry Letters, 2019, 10, 864-869.	4.6	45
15	Transparent Wood Biocomposites by Fast UV-Curing for Reduced Light-Scattering through Wood/Thiolâ€“ene Interface Design. ACS Applied Materials & Interfaces, 2020, 12, 46914-46922.	8.0	43
16	Probing silicon quantum dots by single-dot techniques. Nanotechnology, 2017, 28, 072002.	2.6	41
17	Single-dot absorption spectroscopy and theory of silicon nanocrystals. Physical Review B, 2016, 93, .	3.2	39
18	Light Scattering by Structurally Anisotropic Media: A Benchmark with Transparent Wood. Advanced Optical Materials, 2018, 6, 1800999.	7.3	39

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19	Highâ€resolution xâ€ray imaging using a structured scintillator. Medical Physics, 2016, 43, 696-701.	3.0	34
20	Influence of the Local Environment on Determining Aspect-Ratio Distributions of Gold Nanorods in Solution Using Gans Theory. Journal of Physical Chemistry C, 2007, 111, 14299-14306.	3.1	31
21	Triplex Glass Laminates with Silicon Quantum Dots for Luminescent Solar Concentrators. Solar Rrl, 2020, 4, 2000195.	5.8	31
22	Thermophoresis-Controlled Size-Dependent DNA Translocation through an Array of Nanopores. ACS Nano, 2018, 12, 4574-4582.	14.6	28
23	Non-exponential decay kinetics: correct assessment and description illustrated by slow luminescence of Si nanostructures. Applied Spectroscopy Reviews, 2019, 54, 758-801.	6.7	27
24	Photostable Polymer/Si Nanocrystal Bulk Hybrids with Tunable Photoluminescence. ACS Photonics, 2016, 3, 1575-1580.	6.6	22
25	Absence of redshift in the direct bandgap of silicon nanocrystals with reduced size. Nature Nanotechnology, 2017, 12, 930-932.	31.5	22
26	Refractive index of delignified wood for transparent biocomposites. RSC Advances, 2020, 10, 40719-40724.	3.6	22
27	Low-Cost Synthesis of Silicon Quantum Dots with Near-Unity Internal Quantum Efficiency. Journal of Physical Chemistry Letters, 2021, 12, 8909-8916.	4.6	21
28	Nanopore arrays in a silicon membrane for parallel single-molecule detection: fabrication. Nanotechnology, 2015, 26, 314001.	2.6	20
29	Biexciton Emission as a Probe of Auger Recombination in Individual Silicon Nanocrystals. Journal of Physical Chemistry C, 2015, 119, 7499-7505.	3.1	20
30	Rapid Trapping as the Origin of Nonradiative Recombination in Semiconductor Nanocrystals. ACS Photonics, 2018, 5, 2990-2996.	6.6	20
31	Analytical description of a luminescent solar concentrator. Optica, 2019, 6, 1046.	9.3	20
32	Light emission from silicon nanocrystals: Probing a single quantum dot. Applied Surface Science, 2006, 252, 5249-5253.	6.1	19
33	Charge Regulated Diffusion of Silica Nanoparticles into Wood for Flame Retardant Transparent Wood. Advanced Sustainable Systems, 2022, 6, .	5.3	19
34	Large-Area Transparent â€œQuantum Dot Glassâ€for Building-Integrated Photovoltaics. ACS Photonics, 2022, 9, 2499-2509.	6.6	19
35	Sub-10 nm crystalline silicon nanostructures by electron beam induced deposition lithography. Nanotechnology, 2010, 21, 285307.	2.6	18
36	Composition Control of Electron Beam Induced Nanodeposits by Surface Pretreatment and Beam Focusing. Journal of Physical Chemistry C, 2009, 113, 21516-21519.	3.1	17

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37	Photoluminescence measurements of zero-phonon optical transitions in silicon nanocrystals. Physical Review B, 2011, 84, .	3.2	17
38	Single dot optical spectroscopy of silicon nanocrystals: low temperature measurements. Optical Materials, 2005, 27, 973-976.	3.6	16
39	Blinking Statistics and Excitation-Dependent Luminescence Yield in Si and CdSe Nanocrystals. Journal of Physical Chemistry C, 2014, 118, 2202-2208.	3.1	15
40	Exciton localization in doped Si nanocrystals from single dot spectroscopy studies. Physical Review B, 2012, 86, .	3.2	14
41	Transition from silicon nanowires to isolated quantum dots: Optical and structural evolution. Physical Review B, 2013, 87, .	3.2	13
42	Nanopore arrays in a silicon membrane for parallel single-molecule detection: DNA translocation. Nanotechnology, 2015, 26, 314002.	2.6	12
43	Geometry effects on luminescence solar concentrator efficiency: analytical treatment. Applied Optics, 2020, 59, 5715.	1.8	12
44	Strong Absorption Enhancement in Si Nanorods. Nano Letters, 2016, 16, 7937-7941.	9.1	11
45	Effect of substrate proximity on luminescence yield from Si nanocrystals. Applied Physics Letters, 2006, 89, 111124.	3.3	10
46	Effect of transparent wood on the polarization degree of light. Optics Letters, 2019, 44, 2962.	3.3	10
47	Effect of photonic bandgap on luminescence from silicon nanocrystals. Optics Letters, 2007, 32, 1878.	3.3	9
48	Photon Walk in Transparent Wood: Scattering and Absorption in Hierarchically Structured Materials. Advanced Optical Materials, 2022, 10, .	7.3	8
49	Influence of swift heavy ion irradiation on the photoluminescence of Si-nanoparticles and defects in SiO2. Nanotechnology, 2017, 28, 375603.	2.6	7
50	Optical absorption cross section and quantum efficiency of a single silicon quantum dot. Proceedings of SPIE, 2013, , .	0.8	6
51	Si-nanoparticle synthesis using ion implantation and MeV ion irradiation. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 1301-1305.	0.8	6
52	Epitaxial lateral overgrowth of Ga<i>_x</i>In_{1â€‰â^ˆ’â€‰<i>x</i>}P toward direct Ga<i>_x</i>In_{1â€‰âˆ’â€‰<i>x</i>}P/Si heterojunction. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1600631.	1.8	6
53	Cation effect on excitons in perovskite nanocrystals from single-dot photoluminescence of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">C</mml:mi><mml:msub><mml:mi mathvariant="normal">H</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mi mathvariant="normal">N</mml:mi><mml:msub><mml:mi mathvariant="normal">H</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:mi>Pb</mml:mi><mml:msub><mml:mi	3.2	6
54	On the role of substrate in light-harvesting experiments. Optics Letters, 2008, 33, 1807.	3.3	5

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55	Oxidation of nanopores in a silicon membrane: self-limiting formation of sub-10 nm circular openings. Nanotechnology, 2014, 25, 355302.	2.6	5
56	Structural imaging of a Si quantum dot: Towards combined PL and TEM characterization. Journal of Luminescence, 2006, 121, 353-355.	3.1	4
57	Modeling tip performance for combined STM-luminescence and aperture-SNOM scanning probe: Spatial resolution and collection efficiency. Applied Surface Science, 2008, 254, 7861-7863.	6.1	4
58	Optical and electrical characterization at the nanoscale with a transparent probe of a scanning tunnelling microscope. Nanotechnology, 2009, 20, 145706.	2.6	4
59	Luminescent benzo- and naphthoquinolines: Synthesis and investigation of photophysical properties. Journal of Luminescence, 2015, 167, 261-267.	3.1	4
60	Wafer-level fabrication of individual solid-state nanopores for sensing single DNAs. Nanotechnology, 2020, 31, 355505.	2.6	4
61	Wafer-scale fabrication of isolated luminescent silicon quantum dots using standard CMOS technology. Nanotechnology, 2020, 31, 505204.	2.6	4
62	Measuring interface electrostatic potential and surface charge in a scanning electron microscope. Journal of Vacuum Science & Technology B, 2009, 27, 2357.	1.3	3
63	X-ray radiation hardness and influence on blinking in Si and CdSe quantum dots. Applied Physics Letters, 2018, 113, .	3.3	3
64	Tight-binding calculations of the optical properties of Si nanocrystals in a SiO2 matrix. Faraday Discussions, 2020, 222, 258-273.	3.2	3
65	Manifold enhancement of electron beam induced deposition rate at grazing incidence. Nanotechnology, 2010, 21, 025303.	2.6	2
66	Effect of Xâ€ray irradiation on the blinking of single silicon nanocrystals. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2692-2695.	1.8	2
67	Luminescence of silicon nanoparticles from oxygen implanted silicon. Materials Science in Semiconductor Processing, 2018, 86, 18-22.	4.0	2
68	The shell matters: one step synthesis of coreâ€"shell silicon nanoparticles with room temperature ultranarrow emission linewidth. Faraday Discussions, 2020, 222, 135-148.	3.2	2
69	MeV ion irradiation effects on the luminescence properties of Si-implanted SiO2 -thin films. Physica Status Solidi C: Current Topics in Solid State Physics, 2016, 13, 921-926.	0.8	1
70	Photoluminescence Intensity Enhancement of Single Silicon Quantum Dots on a Metal Membrane with a Spacer. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900575.	1.8	1
71	Optical detection of two-color-fluorophore barcode for nanopore DNA sensing. , 2015, , .		0
72	Epitaxial lateral overgrowth of Ga<inf>x</inf>In<inf>1â^'x</inf>P towards coherent Ga<inf>x</inf>In<inf>1â^'x</inf>P/Si heterojunction by hydride vapor phase epitaxy. , 2016, , .		0

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73	Transparent Wood: Luminescent Transparent Wood (Advanced Optical Materials 1/2017). Advanced Optical Materials, 2017, 5, .	7.3	0
74	Impact of Hâ€Uptake from Forming Gas Annealing and Ion Implantation on the Photoluminescence of Si Nanoparticles. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700444.	1.8	0
75	Non-stationary analysis of molecule capture and translocation in nanopore arrays. Journal of Chemical Physics, 2019, 150, 084904.	3.0	0
76	Luminescent Silicon Nanocrystals as Downconverters for Photovoltaic and Lighting Applications. , 2016, , .		0
77	All-Optical Intensity Modulation in Polymer Waveguides Doped with Si Quantum Dots. , 2018, , .		0