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	Charge Regulated Diffusion of Silica Nanoparticles into Wood for Flame Retardant Transparent Wood. Advanced Sustainable Systems, 2022, 6, .	5.3	19
2	Photon Walk in Transparent Wood: Scattering and Absorption in Hierarchically Structured Materials. Advanced Optical Materials, 2022, 10, .	7.3	8
3	Large-Area Transparent â€œQuantum Dot Glassâ€•for Building-Integrated Photovoltaics. ACS Photonics, 2022, 9, 2499-2509.	6.6	19
4	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
5	Reversible Dual-Stimuli-Responsive Chromic Transparent Wood Biocomposites for Smart Window Applications. ACS Applied Materials & Interfaces, 2021, 13, 3270-3277.	8.0	47
6	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
7	Tight-binding calculations of the optical properties of Si nanocrystals in a SiO2 matrix. Faraday Discussions, 2020, 222, 258-273.	3.2	3
8	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
9	Refractive index of delignified wood for transparent biocomposites. RSC Advances, 2020, 10, 40719-40724.	3.6	22
10	Wafer-level fabrication of individual solid-state nanopores for sensing single DNAs. Nanotechnology, 2020, 31, 355505.	2.6	4
11	Triplex Glass Laminates with Silicon Quantum Dots for Luminescent Solar Concentrators. Solar Rrl, 2020, 4, 2000195.	5.8	31
12	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
13	Wafer-scale fabrication of isolated luminescent silicon quantum dots using standard CMOS technology. Nanotechnology, 2020, 31, 505204.	2.6	4
14	Geometry effects on luminescence solar concentrator efficiency: analytical treatment. Applied Optics, 2020, 59, 5715.	1.8	12
15	Size-Dependent Phase Transition in Perovskite Nanocrystals. Journal of Physical Chemistry Letters, 2019, 10, 5451-5457.	4.6	48
16	Thickness Dependence of Optical Transmittance of Transparent Wood: Chemical Modification Effects. ACS Applied Materials & Interfaces, 2019, 11, 35451-35457.	8.0	72
17	Non-stationary analysis of molecule capture and translocation in nanopore arrays. Journal of Chemical Physics, 2019, 150, 084904.	3.0	0
18	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

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19	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
20	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
21	Effect of transparent wood on the polarization degree of light. Optics Letters, 2019, 44, 2962.	3.3	10
22	Analytical description of a luminescent solar concentrator. Optica, 2019, 6, 1046.	9.3	20
23	Thermophoresis-Controlled Size-Dependent DNA Translocation through an Array of Nanopores. ACS Nano, 2018, 12, 4574-4582.	14.6	28
24	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
25	X-ray radiation hardness and influence on blinking in Si and CdSe quantum dots. Applied Physics Letters, 2018, 113, .	3.3	3
26	Light Scattering by Structurally Anisotropic Media: A Benchmark with Transparent Wood. Advanced Optical Materials, 2018, 6, 1800999.	7.3	39
27	Luminescence of silicon nanoparticles from oxygen implanted silicon. Materials Science in Semiconductor Processing, 2018, 86, 18-22.	4.0	2
28	Rapid Trapping as the Origin of Nonradiative Recombination in Semiconductor Nanocrystals. ACS Photonics, 2018, 5, 2990-2996.	6.6	20
29	Optically Transparent Wood: Recent Progress, Opportunities, and Challenges. Advanced Optical Materials, 2018, 6, 1800059.	7.3	135
30	All-Optical Intensity Modulation in Polymer Waveguides Doped with Si Quantum Dots. , 2018, , .		0
31	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€‰â ˆ â€‰<i>x</i>}P/Si heterojunction. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1600631.	1.8	6
32	Lasing from Organic Dye Molecules Embedded in Transparent Wood. Advanced Optical Materials, 2017, 5, 1700057.	7.3	87
33	Transparent Wood: Luminescent Transparent Wood (Advanced Optical Materials 1/2017). Advanced Optical Materials, 2017, 5, .	7.3	0
34	Probing silicon quantum dots by single-dot techniques. Nanotechnology, 2017, 28, 072002.	2.6	41
35	Absence of redshift in the direct bandgap of silicon nanocrystals with reduced size. Nature Nanotechnology, 2017, 12, 930-932.	31.5	22
36	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

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37	Influence of swift heavy ion irradiation on the photoluminescence of Si-nanoparticles and defects in SiO2. Nanotechnology, 2017, 28, 375603.	2.6	7
38	Luminescent Transparent Wood. Advanced Optical Materials, 2017, 5, 1600834.	7.3	116
39	Highâ€resolution xâ€ray imaging using a structured scintillator. Medical Physics, 2016, 43, 696-701.	3.0	34
40	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
41	Epitaxial lateral overgrowth of Ga<inf>x</inf>In<inf>1âˆ’x</inf>P towards coherent Ga<inf>x</inf>In<inf>1âˆ’x</inf>P/Si heterojunction by hydride vapor phase epitaxy. , 2016, , .		0
42	Photostable Polymer/Si Nanocrystal Bulk Hybrids with Tunable Photoluminescence. ACS Photonics, 2016, 3, 1575-1580.	6.6	22
43	Single-dot absorption spectroscopy and theory of silicon nanocrystals. Physical Review B, 2016, 93, .	3.2	39
44	Strong Absorption Enhancement in Si Nanorods. Nano Letters, 2016, 16, 7937-7941.	9.1	11
45	Luminescent Silicon Nanocrystals as Downconverters for Photovoltaic and Lighting Applications. , 2016, , .		0
46	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
47	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
48	Luminescent benzo- and naphthoquinolines: Synthesis and investigation of photophysical properties. Journal of Luminescence, 2015, 167, 261-267.	3.1	4
49	Near-Unity Internal Quantum Efficiency of Luminescent Silicon Nanocrystals with Ligand Passivation. ACS Nano, 2015, 9, 7097-7104.	14.6	118
50	Nanopore arrays in a silicon membrane for parallel single-molecule detection: fabrication. Nanotechnology, 2015, 26, 314001.	2.6	20
51	Nanopore arrays in a silicon membrane for parallel single-molecule detection: DNA translocation. Nanotechnology, 2015, 26, 314002.	2.6	12
52	Optical detection of two-color-fluorophore barcode for nanopore DNA sensing. , 2015, , .		0
53	Biexciton Emission as a Probe of Auger Recombination in Individual Silicon Nanocrystals. Journal of Physical Chemistry C, 2015, 119, 7499-7505.	3.1	20
54	Evolution of the Ultrafast Photoluminescence of Colloidal Silicon Nanocrystals with Changing Surface Chemistry. ACS Photonics, 2015, 2, 595-605.	6.6	60

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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	Blinking Statistics and Excitation-Dependent Luminescence Yield in Si and CdSe Nanocrystals. Journal of Physical Chemistry C, 2014, 118, 2202-2208.	3.1	15
57	Ultranarrow Luminescence Linewidth of Silicon Nanocrystals and Influence of Matrix. ACS Photonics, 2014, 1, 998-1005.	6.6	67
58	Optical absorption cross section and quantum efficiency of a single silicon quantum dot. Proceedings of SPIE, 2013, , .	0.8	6
59	Transition from silicon nanowires to isolated quantum dots: Optical and structural evolution. Physical Review B, 2013, 87, .	3.2	13
60	Exciton localization in doped Si nanocrystals from single dot spectroscopy studies. Physical Review B, 2012, 86, .	3.2	14
61	Photoluminescence measurements of zero-phonon optical transitions in silicon nanocrystals. Physical Review B, 2011, 84, .	3.2	17
62	Manifold enhancement of electron beam induced deposition rate at grazing incidence. Nanotechnology, 2010, 21, 025303.	2.6	2
63	Sub-10 nm crystalline silicon nanostructures by electron beam induced deposition lithography. Nanotechnology, 2010, 21, 285307.	2.6	18
64	Measuring interface electrostatic potential and surface charge in a scanning electron microscope. Journal of Vacuum Science & Technology B, 2009, 27, 2357.	1.3	3
65	Optical and electrical characterization at the nanoscale with a transparent probe of a scanning tunnelling microscope. Nanotechnology, 2009, 20, 145706.	2.6	4
66	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
67	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
68	On the role of substrate in light-harvesting experiments. Optics Letters, 2008, 33, 1807.	3.3	5
69	Effect of photonic bandgap on luminescence from silicon nanocrystals. Optics Letters, 2007, 32, 1878.	3.3	9
70	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
71	Surface Charge Sensitivity of Silicon Nanowires:â€‰ Size Dependence. Nano Letters, 2007, 7, 2608-2612.	9.1	259
72	Effect of substrate proximity on luminescence yield from Si nanocrystals. Applied Physics Letters, 2006, 89, 111124.	3.3	10

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73	Light emission from silicon nanocrystals: Probing a single quantum dot. Applied Surface Science, 2006, 252, 5249-5253.	6.1	19
74	Structural imaging of a Si quantum dot: Towards combined PL and TEM characterization. Journal of Luminescence, 2006, 121, 353-355.	3.1	4
75	Single dot optical spectroscopy of silicon nanocrystals: low temperature measurements. Optical Materials, 2005, 27, 973-976.	3.6	16
76	Luminescence blinking of a Si quantum dot in aSiO2shell. Physical Review B, 2005, 71, .	3.2	52
77	Narrow Luminescence Linewidth of a Silicon Quantum Dot. Physical Review Letters, 2005, 94, 087405.	7.8	159