

# Alexander N Poddubny

## List of Publications by Year in descending order

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160  
papers

8,167  
citations

76326

40  
h-index

48315

88  
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162  
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162  
docs citations

162  
times ranked

7585  
citing authors

#	ARTICLE	IF	CITATIONS
1	Transverse magnetic routing of light emission in hybrid plasmonic-semiconductor nanostructures: Towards operation at room temperature. <i>Physical Review Research</i> , 2022, 4, .	3.6	0
2	Enhanced generation of angle correlated photon-pairs in nonlinear metasurfaces. <i>New Journal of Physics</i> , 2022, 24, 035006.	2.9	8
3	Optomechanical Lasing and Domain Walls Driven by Exciton-Phonon Interactions. <i>Journal of Experimental and Theoretical Physics</i> , 2022, 134, 171-182.	0.9	2
4	Photon-pair Generation Via Multiple Bound States in the Continuum in Nonlinear Metasurfaces. , 2021, , .		0
5	Topological and Localized States in Waveguide Quantum Electrodynamics. , 2021, , .		0
6	Plasmon-to-exciton spin conversion in semiconductor-metal hybrid nanostructures. <i>Physical Review B</i> , 2021, 103, .	3.2	2
7	Classification of three-photon states in waveguide quantum electrodynamics. <i>Physical Review A</i> , 2021, 103, .	2.5	9
8	Waveguide bandgap engineering with an array of superconducting qubits. <i>Npj Quantum Materials</i> , 2021, 6, .	5.2	28
9	Quantum Hall phases emerging from atom-photon interactions. <i>Npj Quantum Information</i> , 2021, 7, .	6.7	25
10	Quantum Borrmann effect for dissipation-immune photon-photon correlations. <i>Physical Review A</i> , 2021, 103, .	2.5	5
11	Quantum Chaos Driven by Long-Range Waveguide-Mediated Interactions. <i>Physical Review Letters</i> , 2021, 126, 203602.	7.8	12
12	Toroidal nonreciprocity of optical second harmonic generation. <i>Physical Review B</i> , 2021, 103, .	3.2	9
13	Topological excitations and bound photon pairs in a superconducting quantum metamaterial. <i>Physical Review B</i> , 2021, 103, .	3.2	23
14	Optomechanical amplification driven by interference of phonon-exciton and phonon-photon couplings. <i>Physical Review B</i> , 2021, 104, .	3.2	3
15	Optomechanical circulator with a polaritonic microcavity. <i>Physical Review B</i> , 2021, 104, .	3.2	1
16	Enhanced generation of nondegenerate photon pairs in nonlinear metasurfaces. <i>Advanced Photonics</i> , 2021, 3, .	11.8	62
17	Dimerization of Many-Body Subradiant States in Waveguide Quantum Electrodynamics. <i>Physical Review Letters</i> , 2021, 127, 173601.	7.8	13
18	Ratchet effect in frequency-modulated waveguide-coupled emitter arrays. <i>Physical Review B</i> , 2021, 104, .	3.2	2

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19	Topological Modes in Non-Hermitian Phononic Crystals Optically Induced in a Quantum-Well Array. <i>Physics of the Solid State</i> , 2021, 63, 621-627.	0.6	0
20	Localized multiphonon states in waveguide quantum optomechanics with spontaneously broken $PT$ symmetry. <i>Physical Review A</i> , 2021, 104, .	2.5	0
21	Polarized edge state emission from topological spin phases of trapped Rydberg excitons in $Cu$ $2D$ $2n$ $O$ . <i>Physical Review B</i> , 2020, 102, .	2.5	0
22	Waveguide Quantum Optomechanics: Parity-Time Phase Transitions in Ultrastrong Coupling Regime. <i>Physical Review Letters</i> , 2020, 125, 183601.	7.8	12
23	Doppler-Raman crossover in resonant scattering by a moving layer. <i>Physical Review A</i> , 2020, 102, .	2.5	0
24	Resonant Optomechanical Tension and Crumpling of 2D Crystals. <i>ACS Photonics</i> , 2020, 7, 2547-2554.	6.6	3
25	Photon-Mediated Localization in Two-Level Qubit Arrays. <i>Physical Review Letters</i> , 2020, 124, 093604.	7.8	30
26	Transverse magneto-optical Kerr effect enhanced at the bound states in the continuum. <i>Physical Review A</i> , 2020, 101, .	2.5	21
27	Quasiflat band enabling subradiant two-photon bound states. <i>Physical Review A</i> , 2020, 101, .	2.5	28
28	Radiative topological biphoton states in modulated qubit arrays. <i>Physical Review Research</i> , 2020, 2, .	3.6	13
29	Photon-pair generation via bound states in the continuum in nonlinear metasurfaces. , 2020, , .		1
30	Interaction-induced topological phases of photons interacting with atoms. , 2020, , .		0
31	Distinguishing trivial and topological quadrupolar insulators by Wannier-Stark ladders. <i>Physical Review B</i> , 2019, 100, .	3.2	3
32	Edge states of photon pairs in cavity arrays with spatially modulated nonlinearity. <i>Physical Review A</i> , 2019, 100, .	2.5	1
33	Topological Spin Phases of Trapped Rydberg Excitons in $Cu$ $2D$ $2n$ $O$ . <i>Physical Review Letters</i> , 2019, 123, 126801.	2.5	0
34	Transverse magneto-optical Kerr effect at narrow optical resonances. <i>Nanophotonics</i> , 2019, 8, 287-296.	6.0	19
35	Photonic quadrupole topological phases. <i>Nature Photonics</i> , 2019, 13, 692-696.	31.4	373
36	Inelastic Scattering of Photon Pairs in Qubit Arrays with Subradiant States. <i>Physical Review Letters</i> , 2019, 123, 253601.	7.8	54

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37	Nonlinear light generation in topological nanostructures. Nature Nanotechnology, 2019, 14, 126-130.	31.5	187
38	Optomechanical Kerker Effect. Physical Review X, 2019, 9, .	8.9	19
39	Disorder-Robust Nonlinear Light Generation in Topological Nanostructures. , 2019, , .		1
40	Spontaneous photon-pair generation from a dielectric nanoantenna. Optica, 2019, 6, 1416.	9.3	98
41	Atom-mediated nonlinear photon-pair generation using photonic band-gap modes. , 2019, , .		0
42	Direct characterization of a nonlinear photonic circuit's wave function with laser light. Light: Science and Applications, 2018, 7, 17143-17143.	16.6	27
43	Thermally stimulated exciton emission in Si nanocrystals. Light: Science and Applications, 2018, 7, 17133-17133.	16.6	15
44	Nanoscale Generation of White Light for Ultrabroadband Nanospectroscopy. Nano Letters, 2018, 18, 535-539.	9.1	52
45	Topological interface states due to spontaneous symmetry breaking in a chain of anharmonic oscillators. Journal of Physics: Conference Series, 2018, 1092, 012128.	0.4	0
46	Analogue simulation of two-body quantum dynamics with classical setup. Journal of Physics: Conference Series, 2018, 1092, 012045.	0.4	1
47	Simulation of two-boson bound states using arrays of driven-dissipative coupled linear optical resonators. Physical Review A, 2018, 98, .	2.5	13
48	$PT$ phase transitions of edge states at symmetric interfaces in non-Hermitian topological insulators. Physical Review B, 2018, 98, .	3.2	83
49	Nonlinear Control of Electromagnetic Topological Edge States. Physical Review Letters, 2018, 121, 163901.	7.8	107
50	Routing the emission of a near-surface light source by a magnetic field. Nature Physics, 2018, 14, 1043-1048.	16.7	27
51	Ring Dirac solitons in nonlinear topological systems. Physical Review A, 2018, 98, .	2.5	22
52	Topological interface states mediated by spontaneous symmetry breaking. Physical Review B, 2018, 98, .	3.2	5
53	Optical Properties of AlGaAs/GaAs Resonant Bragg Structure at the Second Quantum State. Semiconductors, 2018, 52, 447-451.	0.5	0
54	Exceptional points for photon pairs bound by nonlinear dissipation in cavity arrays. Optics Letters, 2018, 43, 5917.	3.3	6

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55	Atom-mediated Spontaneous Parametric Down-conversion Using Bandgap Modes in Nonlinear Periodic Waveguides. , 2018, , .		0
56	Sum-Frequency- and Photon-Pair-Generation in AlGaAs Nano-Disks. , 2018, , .		1
57	Relevance of standardizing the process of conducting military (research) tests of exercises for physical training. SloboÅ¼ansĚkij Naukovo-Sportivnij VÅ-snik, 2018, 63, 53-60.	0.2	0
58	Edge States and Topological Phase Transitions in Chains of Dielectric Nanoparticles. Small, 2017, 13, 1603190.	10.0	77
59	Interaction-induced two-photon edge states in an extended Hubbard model realized in a cavity array. Physical Review A, 2017, 95, .	2.5	25
60	Resonant optical properties of AlGaAs/GaAs multiple-quantum-well based Bragg structure at the second quantum state. Journal of Applied Physics, 2017, 121, 103101.	2.5	12
61	Valley and spin splittings in PbSe nanowires. Physical Review B, 2017, 96, .	3.2	4
62	Fano resonances in photonics. Nature Photonics, 2017, 11, 543-554.	31.4	1,240
63	Role of Valley Anisotropy in Optical Absorption of Monodisperse PbS Nanocrystals. Journal of Physical Chemistry C, 2017, 121, 27766-27773.	3.1	7
64	Topological edge states of bound photon pairs. Physical Review A, 2017, 95, .	2.5	57
65	Phononic Crystals with a Synthetic Magnetic Field for an Acoustic Diode. Physical Review Letters, 2017, 118, 156801.	7.8	24
66	Atom-mediated spontaneous parametric down-conversion in periodic waveguides. Optics Letters, 2017, 42, 4724.	3.3	16
67	Sum-Frequency Generation and Photon-Pair Creation in AlGaAs Nano-Scale Resonators. , 2017, , .		5
68	Third-Harmonic Generation from Photonic Topological States in Zigzag Arrays of Silicon Nanodisks. , 2017, , .		2
69	Enhancement of Magnetic Resonance Imaging with Metasurfaces. Advanced Materials, 2016, 28, 1832-1838.	21.0	160
70	Enhanced photonic spin Hall effect with subwavelength topological edge states. Laser and Photonics Reviews, 2016, 10, 656-664.	8.7	44
71	Circular dichroism induced by Fano resonances in planar chiral oligomers. Laser and Photonics Reviews, 2016, 10, 137-146.	8.7	85
72	Multiple Quantum Wells for PT-Symmetric Phononic Crystals. Physical Review Letters, 2016, 117, 224302.	7.8	25

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73	Generation of Photon-Plasmon Quantum States in Nonlinear Hyperbolic Metamaterials. Physical Review Letters, 2016, 117, 123901.	7.8	72
74	Biexciton-mediated superradiant photon blockade. Physical Review A, 2016, 93, .	2.5	18
75	Tuning Optical Properties of Ge Nanocrystals by Si Shell. Journal of Physical Chemistry C, 2016, 120, 18901-18908.	3.1	23
76	Nonradiative and radiative Förster energy transfer between quantum dots. Journal of Experimental and Theoretical Physics, 2016, 122, 531-538.	0.9	22
77	Generation of Photon-Plasmon Quantum Entanglement in Nonlinear Metamaterials. , 2016, , .		0
78	A nonlinear waveguide array with inhomogeneous poling pattern for the generation of photon pairs. , 2016, , .		0
79	Collective Förster energy transfer modified by a planar metallic mirror. Physical Review B, 2015, 92, .	3.2	16
80	Polarization properties of optical metasurfaces of different symmetries. Physical Review B, 2015, 91, .	3.2	27
81	Anomalous polarization conversion in arrays of ultrathin ferromagnetic nanowires. Physical Review B, 2015, 92, .	3.2	8
82	Polariton Resonances for Ultrastrong Coupling Cavity Optomechanics in $\text{GaAs}/\text{AlAs}/\text{GaAs}$ Multiple Quantum Wells. Physical Review Letters, 2015, 115, 267402.	7.8	46
83	An antenna model for the Purcell effect. Scientific Reports, 2015, 5, 12956.	3.3	160
84	Fano Resonance Enhanced Nonreciprocal Absorption and Scattering of Light. Photonics, 2015, 2, 745-757.	2.0	7
85	Topological Edge States of Photons, Plasmons and Photon Pairs in Nanostructures. , 2015, , .		0
86	Mapping plasmonic topological states at the nanoscale. Nanoscale, 2015, 7, 11904-11908.	5.6	78
87	Phase spectroscopy of topological invariants in photonic crystals. Physical Review A, 2015, 91, .	2.5	41
88	Generation of quantum entangled states in nonlinear plasmonic structures and metamaterials (Presentation Recording). , 2015, , .		0
89	Local field corrections to the spontaneous emission in arrays of Si nanocrystals. Journal of Optics (United Kingdom), 2015, 17, 035102.	2.2	4
90	Circular dichroism from Fano resonances in planar chiral oligomers. , 2015, , .		2

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91	Strong Purcell effect in anisotropic $\hat{\mu}$ -near-zero metamaterials. Physical Review B, 2015, 91, .	3.2	44
92	Control of Förster energy transfer in the vicinity of metallic surfaces and hyperbolic metamaterials. Faraday Discussions, 2015, 178, 395-412.	3.2	69
93	Subwavelength Topological Edge States in Optically Resonant Dielectric Structures. Physical Review Letters, 2015, 114, 123901.	7.8	144
94	Compton-Like Polariton Scattering in Hyperbolic Metamaterials. Physical Review Letters, 2015, 114, 185501.	7.8	18
95	Weak lasing in one-dimensional polariton superlattices. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E1516-9.	7.1	49
96	Resonant Energy Transfer in Si Nanocrystal Solids. Journal of Physical Chemistry C, 2015, 119, 19565-19570.	3.1	27
97	Direct band gap silicon quantum dots achieved via electronegative capping. Physical Review B, 2014, 90, .	3.2	45
98	Topological States of Photons in Nanostructures. , 2014, , .		0
99	Resonant Brillouin scattering of excitonic polaritons in multiple-quantum-well structures. Physical Review B, 2014, 89, .	3.2	9
100	Polarization phenomena in periodic metasurfaces at oblique incidence. , 2014, , .		0
101	Radiative Topological States in Resonant Photonic Crystals. Physical Review Letters, 2014, 112, 107403.	7.8	82
102	Phonon decay in silicon nanocrystals: Fast phonon recycling. Physical Review B, 2014, 89, .	3.2	12
103	Photonic spin Hall effect in hyperbolic metamaterials for polarization-controlled routing of subwavelength modes. Nature Communications, 2014, 5, 3226.	12.8	229
104	Magnetic Purcell factor in wire metamaterials. Applied Physics Letters, 2014, 104, .	3.3	33
105	Topological Majorana States in Zigzag Chains of Plasmonic Nanoparticles. ACS Photonics, 2014, 1, 101-105.	6.6	138
106	Effects of discreteness in the Green's function of a hyperbolic medium. Physical Review A, 2014, 90, .	2.5	2
107	Splitting of emission-spectrum lines in an anisotropic medium due to self-induced torque. Physical Review A, 2014, 89, .	2.5	2
108	Self-induced torque in discrete uniaxial metamaterials. Physical Review B, 2014, 90, .	3.2	9

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109	Time-dependent photon correlations for incoherently pumped quantum dot strongly coupled to the cavity mode. <i>Journal of Experimental and Theoretical Physics</i> , 2014, 118, 205-216.	0.9	8
110	Self-Induced Torque in Hyperbolic Metamaterials. <i>Physical Review Letters</i> , 2013, 111, 036804.	7.8	48
111	Resonant diffraction of electromagnetic waves from solids (a review). <i>Physics of the Solid State</i> , 2013, 55, 905-923.	0.6	31
112	Light emission from silicon nanocrystals. <i>Semiconductors</i> , 2013, 47, 183-202.	0.5	40
113	Carrier dynamics in Si nanocrystals in an SiO <sub>2</sub> matrix investigated by transient light absorption. <i>Physical Review B</i> , 2013, 88, .	3.2	17
114	Revisiting the physics of Fano resonances for nanoparticle oligomers. <i>Physical Review A</i> , 2013, 88, .	2.5	119
115	Collective effects in emission of localized excitons strongly coupled to a microcavity photon. <i>New Journal of Physics</i> , 2013, 15, 025016.	2.9	5
116	Hyperbolic metamaterials. <i>Nature Photonics</i> , 2013, 7, 948-957.	31.4	1,763
117	Fano resonances in all-dielectric metamaterials. , 2013, , .		3
118	Purcell effect in wire metamaterials. <i>Physical Review B</i> , 2013, 87, .	3.2	62
119	Surface brightens up Si quantum dots: direct bandgap-like size-tunable emission. <i>Light: Science and Applications</i> , 2013, 2, e47-e47.	16.6	254
120	Light control in Ge <sub>2</sub> Sb <sub>2</sub> Te <sub>5</sub> -coated opaline photonic crystals mediated by interplay of Wood anomalies and 3D Bragg diffraction. <i>Journal of Applied Physics</i> , 2013, 113, 144311.	2.5	5
121	Thermally Activated Emission from Direct Bandgap-Like Silicon Quantum Dots. <i>ECS Journal of Solid State Science and Technology</i> , 2013, 2, R97-R99.	1.8	6
122	Resonant photonic crystals and quasicrystals. , 2012, , .		0
123	Reflection of short polarized optical pulses from periodic and aperiodic multiple quantum well structures. <i>Physical Review B</i> , 2012, 86, .	3.2	11
124	Effect of continuous and pulsed pumping on entangled photon pair generation in semiconductor microcavities. <i>Physical Review B</i> , 2012, 85, .	3.2	5
125	Green function for hyperbolic media. <i>Physical Review A</i> , 2012, 86, .	2.5	60
126	Tailoring and enhancing spontaneous two-photon emission using resonant plasmonic nanostructures. <i>Physical Review A</i> , 2012, 86, .	2.5	34



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127	Microscopic model of Purcell enhancement in hyperbolic metamaterials. <i>Physical Review B</i> , 2012, 86, .	3.2	99
128	Anomalous suppression of valley splittings in lead salt nanocrystals without inversion center. <i>Physical Review B</i> , 2012, 86, .	3.2	26
129	Hyperbolic transmission-line metamaterials. <i>Journal of Applied Physics</i> , 2012, 112, .	2.5	42
130	Multiphonon relaxation of moderately excited carriers in Si/SiO <sub>2</sub> nanocrystals. <i>Physical Review B</i> , 2012, 85, .	3.2	18
131	Fano interference governs wave transport in disordered systems. <i>Nature Communications</i> , 2012, 3, 914.	12.8	89
132	Modeling of hyperbolic metamaterials with two-dimensional transmission lines. , 2012, , .		0
133	Self-trapped exciton state in Si nanocrystals revealed by induced absorption. <i>Physical Review B</i> , 2012, 85, .	3.2	22
134	Spontaneous emission enhancement in metal-dielectric metamaterials. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2012, 376, 185-187.	2.1	97
135	Quasicrystalline Photonic Structures. <i>Series in Optics and Optoelectronics</i> , 2012, , 131-150.	0.0	0
136	Resonant optical reflection by a periodic system of the quantum well excitons at the second quantum state. <i>Applied Physics Letters</i> , 2011, 98, 073112.	3.3	30
137	Spontaneous radiation of a finite-size dipole emitter in hyperbolic media. <i>Physical Review A</i> , 2011, 84, .	2.5	143
138	Purcell factor in small metallic cavities. <i>Physics of the Solid State</i> , 2011, 53, 1753-1760.	0.6	21
139	Theory of nonradiative transitions of hot carriers in Si/SiO <sub>2</sub> nanocrystals. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011, 8, 985-990.	0.8	2
140	Wood anomalies in resonant photonic quasicrystals. <i>Physical Review B</i> , 2011, 83, .	3.2	14
141	Switching of the photonic band gap in three-dimensional film photonic crystals based on opal-VO <sub>2</sub> composites in the 1.3-1.6 μm spectral range. <i>Semiconductors</i> , 2010, 44, 1537-1542.	0.5	9
142	Photonic quasicrystalline and aperiodic structures. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 1871-1895.	2.7	94
143	Electron-phonon interaction in non-polar quantum dots induced by the amorphous polar environment. <i>JETP Letters</i> , 2010, 90, 683-687.	1.4	9
144	Optical transitions and energy relaxation of hot carriers in Si nanocrystals. <i>Applied Physics Letters</i> , 2010, 97, .	3.3	29

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145	Nonlinear emission spectra of quantum dots strongly coupled to a photonic mode. <i>Physical Review B</i> , 2010, 82, .	3.2	25
146	Carrier relaxation in quantum dots. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2009, 41, 969-971.	2.7	3
147	Exciton-polaritonic quasicrystalline and aperiodic structures. <i>Physical Review B</i> , 2009, 80, .	3.2	18
148	Collective modes of quantum dot ensembles in microcavities. <i>Journal of Experimental and Theoretical Physics</i> , 2009, 108, 836-844.	0.9	28
149	One dimensional resonant Fibonacci quasicrystals: noncanonical linear and canonical nonlinear effects. <i>Optics Express</i> , 2009, 17, 6813.	3.4	30
150	Exciton-polaritonic effects in the optical absorption by regular and disordered arrays of quantum wells. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2008, 5, 2451-2455.	0.8	0
151	Low-frequency spectroscopy of superconducting photonic crystals. <i>Solid State Communications</i> , 2008, 146, 143-147.	1.9	25
152	Coherent defect-assisted multiphonon intraband carrier relaxation in semiconductor quantum dots. <i>Physical Review B</i> , 2008, 77, .	3.2	9
153	Resonant Fibonacci quantum well structures in one dimension. <i>Physical Review B</i> , 2008, 77, .	3.2	24
154	Excitonic polaritons in Fibonacci quasicrystals. <i>Optics Express</i> , 2008, 16, 15382.	3.4	44
155	Attempts to grow optically coupled Fibonacci-spaced InGaAs/GaAs quantum wells result in surface gratings. <i>Optics Express</i> , 2008, 16, 21512.	3.4	3
156	Diffraction mechanism of specular reflection of light from photonic crystals. <i>Physics of the Solid State</i> , 2007, 49, 360-365.	0.6	2
157	Specific features in reflectance and absorbance spectra of one-dimensional resonant photonic crystals. <i>Physics of the Solid State</i> , 2007, 49, 1792-1802.	0.6	19
158	Exciton-polariton absorption in periodic and disordered quantum-well chains. <i>Physics of the Solid State</i> , 2007, 49, 1977-1987.	0.6	12
159	Resonant three-dimensional photonic crystals. <i>Physics of the Solid State</i> , 2006, 48, 581-588.	0.6	29
160	Special frequencies in the optical reflectance spectra of resonant Bragg structures. <i>Physics of the Solid State</i> , 2006, 48, 1814-1819.	0.6	8