Alexander I Tartakovskii

List of Publications by Citations

120 papers	6,334 citations	40 h-index	78 g-index
140 ext. papers	7,326 ext. citations	8.4 avg, IF	5.52 L-index

#	Paper	IF	Citations
120	Light-emitting diodes by band-structure engineering in van der Waals heterostructures. *Nature Materials*, **2015**, 14, 301-6	27	1116
119	Resonantly hybridized excitons in moiré superlattices in van der Waals heterostructures. *Nature*, **2019**, 567, 81-86	50.4	367
118	Continuous wave observation of massive polariton redistribution by stimulated scattering in semiconductor microcavities. *Physical Review Letters*, **2000**, 85, 3680-3	7.4	363
117	Exciton-polaritons in van der Waals heterostructures embedded in tunable microcavities. *Nature Communications*, **2015**, 6, 8579	17.4	275
116	Parametric oscillation in a vertical microcavity: A polariton condensate or micro-optical parametric oscillation. *Physical Review B*, **2000**, 62, R16247-R16250	3.3	204
115	Strong-coupling of WSe in ultra-compact plasmonic nanocavities at room temperature. *Nature Communications*, **2017**, 8, 1296	17.4	196
114	WSe Light-Emitting Tunneling Transistors with Enhanced Brightness at Room Temperature. *Nano Letters*, **2015**, 15, 8223-8	11.5	183
113	Nuclear spin effects in semiconductor quantum dots. *Nature Materials*, **2013**, 12, 494-504	27	162
112	Inversion of exciton level splitting in quantum dots. *Physical Review B*, **2005**, 72,	3.3	157
111	Observation of multicharged excitons and biexcitons in a single InGaAs quantum dot. *Physical Review B*, **2001**, 63,	3.3	132
110	Optical investigation of the natural electron doping in thin MoS2 films deposited on dielectric substrates. *Scientific Reports*, **2013**, 3, 3489	4.9	131
109	Relaxation bottleneck and its suppression in semiconductor microcavities. *Physical Review B*, **2000**, 62, R2283-R2286	3.3	131
108	Valley-addressable polaritons in atomically thin semiconductors. *Nature Photonics*, **2017**, 11, 497-501	33.9	127
107	Nuclear spin switch in semiconductor quantum dots. *Physical Review Letters*, **2007**, 98, 026806	7.4	117
106	Two-dimensional metal-chalcogenide films in tunable optical microcavities. *Nano Letters*, **2014**, 14, 7003-8	11.5	109
105	Nonlinear dynamics of polariton scattering in semiconductor microcavity: Bistability vs. stimulated scattering. *Europhysics Letters*, **2004**, 67, 997-1003	1.6	102
104	Quantum-confined Stark shifts of charged exciton complexes in quantum dots. *Physical Review B*, **2004**, 70,	3.3	99

103	All-optical formation of coherent dark states of silicon-vacancy spins in diamond. *Physical Review Letters*, **2014**, 113, 263601	7.4	91
102	Exciton and trion dynamics in atomically thin MoSe2 and WSe2: Effect of localization. *Physical Review B*, **2016**, 94,	3.3	88
101	Direct measurement of the hole-nuclear spin interaction in single InP/GaInP quantum dots using photoluminescence spectroscopy. *Physical Review Letters*, **2011**, 106, 027402	7.4	84
100	Transition from strong to weak coupling and the onset of lasing in semiconductor microcavities. *Physical Review B*, **2002**, 65,	3.3	83
99	Effect of thermal annealing and strain engineering on the fine structure of quantum dot excitons. *Physical Review B*, **2004**, 70,	3.3	73
98	Polariton-polariton scattering in semiconductor microcavities: Distinctive features and similarities to the three-dimensional case. *Physical Review B*, **2000**, 62, R13298-R13301	3.3	71
97	Dynamics of coherent and incoherent spin polarizations in ensembles of quantum dots. *Physical Review Letters*, **2004**, 93, 057401	7.4	66
96	Comparative study of InGaAs quantum dot lasers with different degrees of dot layer confinement. *Applied Physics Letters*, **2002**, 81, 1-3	3.4	64
95	Element-sensitive measurement of the hole–nuclear spin interaction in quantum dots. *Nature Physics*, **2013**, 9, 74-78	16.2	61
94	Imaging of Interlayer Coupling in van der Waals Heterostructures Using a Bright-Field Optical Microscope. *Nano Letters*, **2017**, 17, 5342-5349	11.5	57
93	Continuum transitions and phonon coupling in single self-assembled Stranski-Krastanow quantum dots. *Physical Review B*, **2003**, 68,	3.3	57
92	Electrically pumped single-defect light emitters in WSe 2. *2D Materials*, **2016**, 3, 025038	5.9	56
91	Manipulating molecules with strong coupling: harvesting triplet excitons in organic exciton microcavities. *Chemical Science*, **2020**, 11, 343-354	9.4	55
90	Nonlinear polaritons in a monolayer semiconductor coupled to optical bound states in the continuum. *Light: Science and Applications*, **2020**, 9, 56	16.7	55
89	Pumping of nuclear spins by optical excitation of spin-forbidden transitions in a quantum dot. *Physical Review Letters*, **2010**, 104, 066804	7.4	53
88	Single-photon emitters in GaSe. *2D Materials*, **2017**, 4, 021010	5.9	52
87	On-Chip Waveguide Coupling of a Layered Semiconductor Single-Photon Source. *Nano Letters*, **2017**, 17, 5446-5451	11.5	52
86	Structural analysis of strained quantum dots using nuclear magnetic resonance. *Nature Nanotechnology*, **2012**, 7, 646-50	28.7	52

85	Individual neutral and charged InxGa1−xAs/GaAs quantum dots with strong in-plane optical anisotropy. *Physical Review B*, **2005**, 72,	3.3	52
84	Photoluminescence of two-dimensional GaTe and GaSe films. *2D Materials*, **2015**, 2, 035010	5.9	51
83	Raman scattering in strongly coupled organic semiconductor microcavities. *Physical Review B*, **2001**, 63,	3.3	48
82	Enhanced light-matter interaction in an atomically thin semiconductor coupled with dielectric nano-antennas. *Nature Communications*, **2019**, 10, 5119	17.4	42
81	Optical orientation and control of spin memory in individual InGaAs quantum dots. *Physical Review B*, **2005**, 72,	3.3	42
80	Polariton parametric scattering processes in semiconductor microcavities observed in continuous wave experiments. *Physical Review B*, **2002**, 65,	3.3	38
79	Highly nonlinear trion-polaritons in a monolayer semiconductor. *Nature Communications*, **2020**, 11, 3589	17.4	38
78	Restoring mode degeneracy in H1 photonic crystal cavities by uniaxial strain tuning. *Applied Physics Letters*, **2012**, 100, 121116	3.4	37
77	Valley coherent exciton-polaritons in a monolayer semiconductor. *Nature Communications*, **2018**, 9, 4797	17.4	37
76	Suppression of nuclear spin bath fluctuations in self-assembled quantum dots induced by inhomogeneous strain. *Nature Communications*, **2015**, 6, 6348	17.4	36
75	Nonlinearities in emission from the lower polariton branch of semiconductor microcavities. *Physical Review B*, **1999**, 60, R11293-R11296	3.3	35
74	Exciton-photon coupling in photonic wires. *Physical Review B*, **1998**, 57, R6807-R6810	3.3	33
73	Giant enhancement of polariton relaxation in semiconductor microcavities by polariton-free carrier interaction: Experimental evidence and theory. *Physical Review B*, **2003**, 67,	3.3	32
72	Excitons in 2D heterostructures. *Nature Reviews Physics*, **2020**, 2, 8-9	23.6	30
71	The valley Zeeman effect in inter- and intra-valley trions in monolayer WSe. *Nature Communications* , **2019**, 10, 2330	17.4	29
70	Effect of a GaAsP shell on the optical properties of self-catalyzed GaAs nanowires grown on silicon. *Nano Letters*, **2012**, 12, 5269-74	11.5	28
69	III-V quantum light source and cavity-QED on silicon. *Scientific Reports*, **2013**, 3, 1239	4.9	27
68	Fast control of nuclear spin polarization in an optically pumped single quantum dot. *Nature Materials*, **2011**, 10, 844-8	27	27

67	Dynamics of optically induced nuclear spin polarization in individual InP/GaxIn1−xP quantum dots. *Physical Review B*, **2010**, 81,	3.3	26
66	Overhauser effect in individual InP□GaxIn1−xP dots. *Physical Review B*, **2008**, 77,	3.3	26
65	Suppression of nuclear spin diffusion at a GaAs/AlxGa1−xAs interface measured with a single quantum-dot nanoprobe. *Physical Review B*, **2009**, 79,	3.3	24
64	Long nuclear spin polarization decay times controlled by optical pumping in individual quantum dots. *Physical Review B*, **2008**, 77,	3.3	23
63	Interplay between spin proximity effect and charge-dependent exciton dynamics in MoSe/CrBr van der Waals heterostructures. *Nature Communications*, **2020**, 11, 6021	17.4	22
62	Nonlinear effects in a dense two-dimensional exciton-polariton system in semiconductor microcavities. *Nanotechnology*, **2001**, 12, 475-479	3.4	22
61	Optically tunable nuclear magnetic resonance in a single quantum dot. *Physical Review B*, **2010**, 82,	3.3	19
60	Vanishing electron g factor and long-lived nuclear spin polarization in weakly strained nanohole-filled GaAs/AlGaAs quantum dots. *Physical Review B*, **2016**, 93,	3.3	18
59	Temperature-induced carrier escape processes studied in absorption of individual InxGa1−xAs quantum dots. *Physical Review B*, **2004**, 69,	3.3	17
58	Stark spectroscopy and radiative lifetimes in single self-assembled CdTe quantum dots. *Physical Review B*, **2011**, 83,	3.3	15
57	Nuclear magnetic resonance inverse spectra of InGaAs quantum dots: Atomistic level structural information. *Physical Review B*, **2014**, 90,	3.3	13
56	Control of spontaneous emission from InP single quantum dots in GaInP photonic crystal nanocavities. *Applied Physics Letters*, **2010**, 97, 181104	3.4	13
55	Nuclear spin pumping under resonant optical excitation in a quantum dot. *Applied Physics Letters*, **2008**, 93, 073113	3.4	13
54	Few-second-long correlation times in a quantum dot nuclear spin bath probed by frequency-comb nuclear magnetic resonance spectroscopy. *Nature Physics*, **2016**, 12, 688-693	16.2	12
53	Dynamic nuclear polarization in InGaAs/GaAs and GaAs/AlGaAs quantum dots under nonresonant ultralow-power optical excitation. *Physical Review B*, **2013**, 88,	3.3	12
52	Emergence of Highly Linearly Polarized Interlayer Exciton Emission in MoSe/WSe Heterobilayers with Transfer-Induced Layer Corrugation. *ACS Nano*, **2020**, 14, 11110-11119	16.7	12
51	Large area chemical vapour deposition grown transition metal dichalcogenide monolayers automatically characterized through photoluminescence imaging. *Npj 2D Materials and Applications* , **2020**, 4,	8.8	11
50	Resonantly excited exciton dynamics in two-dimensional MoSe2 monolayers. *Physical Review B*, **2017**, 96,	3.3	11

49	Light-polarization-independent nuclear spin alignment in a quantum dot. *Physical Review B*, **2011**, 83,	3.3	11
48	Dielectric Nanoantennas for Strain Engineering in Atomically Thin Two-Dimensional Semiconductors. *ACS Photonics*, **2020**, 7, 2413-2422	6.3	11
47	Measurement of local optomechanical properties of a direct bandgap 2D semiconductor. *APL Materials*, **2019**, 7, 101126	5.7	10
46	Laser location and manipulation of a single quantum tunneling channel in an InAs quantum dot. *Physical Review Letters*, **2012**, 108, 117402	7.4	10
45	Photoluminescence emission and Raman scattering polarization in birefringent organic microcavities in the strong coupling regime. *Journal of Applied Physics*, **2003**, 93, 5003-5007	2.5	10
44	Polariton□polariton scattering and the nonequilibrium condensation of exciton polaritons in semiconductor microcavities. *Physics-Uspekhi*, **2003**, 46, 967-971	2.8	9
43	Far-field emission pattern and photonic band structure in one-dimensional photonic crystals made from semiconductor microcavities. *Physical Review B*, **1999**, 59, 10251-10254	3.3	9
42	Electrically pumped WSe2-based light-emitting van der Waals heterostructures embedded in monolithic dielectric microcavities. *2D Materials*, **2020**, 7, 031006	5.9	8
41	Charge control in InP/(Ga,In)P single quantum dots embedded in Schottky diodes. *Physical Review B* , **2011**, 84,	3.3	8
40	Threshold power and internal loss in the stimulated scattering of microcavity polaritons. *Physical Review B*, **2002**, 66,	3.3	8
39	Moir□or not. *Nature Materials*, **2020**, 19, 581-582	27	7
38	Bistability of optically induced nuclear spin orientation in quantum dots. *Physical Review B*, **2007**, 76,	3.3	7
37	Influence of nonstimulated polariton relaxation on parametric scattering of microcavity polaritons. *Physical Review B*, **2004**, 70,	3.3	7
36	Precise measurement of the fraction of charged dots in self-assembled quantum dot ensembles using ultrafast pump-probe techniques. *Applied Physics Letters*, **2004**, 85, 2226-2228	3.4	6
35	Voltage-controlled nuclear polarization switching in a single InxGa1□As quantum dot. *Physical Review B*, **2009**, 79,	3.3	5
34	Effect of interparticle interactions on radiative lifetime of photoexcited electron-hole system in GaAs quantum wells. *Journal of Experimental and Theoretical Physics*, **1997**, 85, 195-199	1	5
33	Direct and spatially indirect excitons in GaAs/AlGaAs superlattices in strong magnetic fields. *Journal of Experimental and Theoretical Physics*, **1997**, 85, 601-608	1	5
32	Charging and spin-polarization effects in InAs quantum dots under bipolar carrier injection. *Applied Physics Letters*, **2006**, 88, 111104	3.4	5

31	Exciton fine structure splitting in dot-in-a-well structures. *Applied Physics Letters*, **2006**, 88, 131115	3.4	5
30	Bright single photon emitters with enhanced quantum efficiency in a two-dimensional semiconductor coupled with dielectric nano-antennas. *Nature Communications*, **2021**, 12, 6063	17.4	5
29	Low-dimensional emissive states in non-stoichiometric methylammonium lead halide perovskites. *Journal of Materials Chemistry A*, **2019**, 7, 11104-11116	13	4
28	Magnetophonon resonance in photoluminescence excitation spectra of magnetoexcitons in GaAs/Al0.3Ga0.7As superlattice. *Physical Review B*, **2000**, 62, 2743-2750	3.3	4
27	Strong exciton-photon coupling in large area MoSe2 and WSe2 heterostructures fabricated from two-dimensional materials grown by chemical vapor deposition. *2D Materials*, **2021**, 8, 011002	5.9	4
26	Growth of low density InP/GaInP quantum dots. *Journal of Physics: Conference Series*, **2010**, 245, 012061	0.3	3
25	Exciton-photon interaction in low-dimensional semiconductor microcavities. *Journal of Experimental and Theoretical Physics*, **1998**, 87, 723-730	1	3
24	The dynamics of amplified spontaneous emission in CdSe⁄ZnSe quantum dots. *Journal of Applied Physics*, **2006**, 100, 123510	2.5	3
23	Bipolar charging in quantum dots array. *AIP Conference Proceedings*, **2007**,	0	3
22	Tuning of electronic coupling between self-assembled quantum dots. *Applied Physics Letters*, **2005**, 87, 033104	3.4	3
21	Spin⁄valley dynamics in alloy-based transition metal dichalcogenide heterobilayers. *2D Materials*, **2021**, 8, 025011	5.9	3
20	Voltage-controlled motional narrowing in a semiconductor quantum dot. *New Journal of Physics*, **2009**, 11, 093032	2.9	2
19	Direct and spatially indirect excitons in GaAs/AlGaAs superlattices in strong magnetic fields. *Physics of the Solid State*, **1998**, 40, 767-769	0.8	2
18	High pressure as a tool to tune electronic coupling in self-assembled quantum dot nanostructures. *Physica Status Solidi (B): Basic Research*, **2004**, 241, 3257-3262	1.3	2
17	Dynamics of stimulated emission in InAs quantum-dot laser structures measured in pump-probe experiments. *Applied Physics Letters*, **2002**, 81, 4118-4120	3.4	2
16	Cross sectional STEM imaging and analysis of multilayered two dimensional crystal heterostructure devices. *Microscopy and Microanalysis*, **2015**, 21, 107-108	0.5	1
15	Studies of the hole spin in self-assembled quantum dots using optical techniques63-85		1
14	Holes in quantum dot molecules: structure, symmetry, and spin118-134		1

13	Nuclear spin effects in quantum dot optics237-252		1
12	Optimization of low density InP/GaInP quantum dots for single-dot studies. *Journal of Physics: Conference Series*, **2010**, 245, 012093	0.3	1
11	Angle Resolved Photoluminescence Exciton□Photon Modes in a Microcavity: K-Dependence and Relaxation. *Physica Status Solidi A*, **1997**, 164, 81-84		1
10	Continuous wave stimulation in semiconductor microcavities in the strong coupling limit. *Semiconductor Science and Technology*, **2003**, 18, S301-S310	1.8	1
9	Energy relaxation of excitonlike polaritons in semiconductor microcavities: Effect on the parametric scattering of polaritons. *Journal of Experimental and Theoretical Physics*, **2005**, 100, 126-138	1	1
8	Instability effects in cw FWM of cavity polaritons in planar microcavities. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2005**, 2, 751-754		1
7	Metalorganic vapor phase epitaxy growth, transmission electron microscopy, and magneto-optical spectroscopy of individual InAsxP1□/Ga0.5In0.5P quantum dots. *Physical Review Materials*, **2017**, 1,	3.2	1
6	Electrically operated entangled light sources based on quantum dots319-340		
5	Single semiconductor quantum dots in nanowires: growth, optics, and devices21-40		
4	Exciton Spin-Splitting in InxGa1□As Quantum Wires and Dots. *Physica Status Solidi A*, **1997**, 164, 409-412		
3	Interwell and Intrawell Magnetoexcitons in GaAs/AlGaAs Superlattices. *Physica Status Solidi A*, **1997** , 164, 595-599		
2	High Occupancy Effects and Condensation Phenomena in Semiconductor Microcavities and Bulk Semiconductors. *Nanoscience and Technology*, **2002**, 273-296	0.6	
1	Spin Phenomena in Self-assembled Quantum Dots **2008**, 165-215		