Kirill Kavokin

List of Publications by Year
in descending order

132	3,180	147786 31	161844 54
papers	citations	h-index	g-index

132	132	132	1662
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Low-temperature spin relaxation inn-type GaAs. Physical Review B, 2002, 66, .	3.2	267
2	Direct Observation of the Electron Spin Relaxation Induced by Nuclei in Quantum Dots. Physical Review Letters, 2005, 94, 116601.	7.8	225
3	Polariton-polariton interaction constants in microcavities. Physical Review B, 2010, 82, .	3.2	173
4	Anisotropic exchange interaction of localized conduction-band electrons in semiconductors. Physical Review B, 2001, 64, .	3.2	162
5	Microcavity polariton spin quantum beats without a magnetic field: A manifestation of Coulomb exchange in dense and polarized polariton systems. Physical Review B, 2005, 72, .	3.2	116
6	Quantum Theory of Spin Dynamics of Exciton-Polaritons in Microcavities. Physical Review Letters, 2004, 92, 017401.	7.8	96
7	Build up and pinning of linear polarization in the Bose condensates of exciton polaritons. Physical Review B, 2007, 75, .	3.2	93
8	Spin relaxation of localized electrons in n-type semiconductors. Semiconductor Science and Technology, 2008, 23, 114009.	2.0	72
9	Electron-hole exchange interaction in a negatively charged quantum dot. Physical Review B, 2005, 71, .	3.2	71
10	Fine structure of the quantum-dot trion. Physica Status Solidi A, 2003, 195, 592-595.	1.7	68
11	Semiconductor microcavity as a spin-dependent optoelectronic device. Physical Review B, 2004, 70, .	3.2	68
12	Spin redistribution due to Pauli blocking in quantum dots. Physical Review B, 2001, 64, .	3.2	66
13	Structural analysis of strained quantum dots using nuclear magnetic resonance. Nature Nanotechnology, 2012, 7, 646-650.	31.5	65
14	MultipleMn2+-Spin-Flip Raman Scattering at High Fields via Magnetic Polaron States in Semimagnetic Quantum Wells. Physical Review Letters, 1995, 74, 2567-2570.	7.8	64
15	Symmetry of anisotropic exchange interactions in semiconductor nanostructures. Physical Review B, 2004, 69, .	3.2	63
16	Stimulated emission of terahertz radiation by exciton-polariton lasers. Applied Physics Letters, 2010, 97, .	3.3	63
17	Zero-field spin quantum beats in charged quantum dots. Physical Review B, 2002, 65, .	3.2	62
18	Pumping of Nuclear Spins by Optical Excitation of Spin-Forbidden Transitions in a Quantum Dot. Physical Review Letters, 2010, 104, 066804.	7.8	61

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19	Proposal for a Bosonic Cascade Laser. Physical Review Letters, 2013, 110, 047402.	7.8	61
20	Spin dynamics of interacting exciton polaritons in microcavities. Physical Review B, 2004, 70, .	3.2	52
21	Exciton localization in semimagnetic semiconductors probed by magnetic polarons. Physical Review B, 1999, 60, 16499-16505.	3.2	51
22	Magnetic orientation of garden warblers (Sylvia borin) under 1.4 MHz radiofrequency magnetic field. Journal of the Royal Society Interface, 2014, 11, 20140451.	3.4	44
23	The puzzle of magnetic resonance effect on the magnetic compass of migratory birds. Bioelectromagnetics, 2009, 30, 402-410.	1.6	42
24	Linear polarisation inversion: A signature of Coulomb scattering of cavity polaritons with opposite spins. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 763-767.	0.8	41
25	Theory of two-dimensional magnetic polarons in an external magnetic field. Semiconductor Science and Technology, 1993, 8, 191-196.	2.0	39
26	Suppression of Electron Spin Relaxation in Mn-Doped GaAs. Physical Review Letters, 2008, 101, 076602.	7.8	38
27	Spin noise explores local magnetic fields in a semiconductor. Scientific Reports, 2016, 6, 21062.	3.3	38
28	Two-dimensional magnetic polarons: Anisotropic spin structure of the ground state and magneto-optical properties. Physical Review B, 1995, 52, 1751-1758.	3.2	35
29	Temperature dependence of the breakdown of the quantum Hall effect studied by induced currents. Physical Review B, 2004, 70, .	3.2	33
30	Measurements of nuclear spin dynamics by spin-noise spectroscopy. Applied Physics Letters, 2015, 106, .	3.3	33
31	Fast control of nuclear spin polarization in an optically pumped single quantum dot. Nature Materials, 2011, 10, 844-848.	27.5	31
32	Giant photoinduced Faraday rotation due to the spin-polarized electron gas in an<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>n</mml:mi></mml:math>-GaAs microcavity. Physical Review B, 2012, 85, .	3.2	31
33	Very weak oscillating magnetic field disrupts the magnetic compass of songbird migrants. Journal of the Royal Society Interface, 2017, 14, 20170364.	3.4	29
34	Optical spin polarization and exchange interaction in doubly charged InAs self-assembled quantum dots. Physical Review B, 2005, 72, .	3.2	28
35	Electronic control of the polarization of light emitted by polariton lasers. Applied Physics Letters, 2006, 88, 111118.	3.3	28
36	Picosecond dynamics of magnetic polarons governed by energy transfer to the Zeeman reservoir. Physical Review B, 1997, 56, 9782-9788.	3.2	27

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37	Persistent circular currents of exciton-polaritons in cylindrical pillar microcavities. Physical Review B, 2018, 97, .	3.2	27
38	Multispin Raman paramagnetic resonance: Quantum dynamics of classically large angular momenta. Physical Review B, 1997, 55, R7371-R7374.	3.2	24
39	All-optical NMR in semiconductors provided by resonant cooling of nuclear spins interacting with electrons in the resonant spin amplification regime. Physical Review B, 2014, 90, .	3.2	24
40	Nondestructive Measurement of Nuclear Magnetization by Off-Resonant Faraday Rotation. Physical Review Letters, 2013, 111, 087603.	7.8	23
41	Determination of the sign of the conduction-electron g factor in semiconductor quantum wells by means of the Hanle effect and spin-quantum-beat techniques. Physics of the Solid State, 1997, 39, 681-685.	0.6	21
42	Spin temperature concept verified by optical magnetometry of nuclear spins. Physical Review B, 2018, 97, .	3.2	21
43	Suppression of Dyakonov-Perel Spin Relaxation in High-Mobilityn-GaAs. Physical Review Letters, 2004, 93, 216402.	7.8	20
44	Nuclear spin relaxation in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math>-GaAs: From insulating to metallic regime. Physical Review B, 2017, 95, .	3.2	20
45	Controllable structuring of exciton-polariton condensates in cylindrical pillar microcavities. Physical Review B, 2015, 91, .	3.2	19
46	Exciton magnetic polarons in (100)- and (120)-oriented semimagnetic digital alloys (Cd,Mn)Te. Physical Review B, 1998, 58, 4785-4792.	3.2	16
47	Cavity polaritons: Classical behavior of a quantum parametric oscillator. Physical Review B, 2006, 73, .	3.2	16
48	Exciton Spin Decay Modified by Strong Electron-Hole Exchange Interaction. Physical Review Letters, 2007, 99, 016601.	7.8	16
49	Theoretically possible spatial accuracy of geomagnetic maps used by migrating animals. Journal of the Royal Society Interface, 2017, 14, 20161002.	3.4	16
50	Coherent dynamics of localized spins coupled with a two-dimensional hole gas in diluted-magnetic quantum wells. Physical Review B, 1999, 59, 9822-9825.	3.2	15
51	Polarization properties of multiple Mn2+-spin-flip Raman scattering in semimagnetic quantum wells. Journal of Crystal Growth, 1996, 159, 1001-1004.	1.5	14
52	Nuclear spin warm up in bulk<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math>-GaAs. Physical Review B, 2016, 94, .	3.2	14
53	Dynamics of exciton magnetic polarons in CdMnSe/CdMgSe quantum wells: Effect of self-localization. Physical Review B, 2017, 95, .	3.2	14
54	Ring-shaped polariton lasing in pillar microcavities. Journal of Applied Physics, 2014, 115, 094304.	2.5	13

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55	Electron charge and spin delocalization revealed in the optically probed longitudinal and transverse spin dynamics in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -GaAs. Physical Review B, 2017, 96, .	3.2	13
56	Nanosecond Spin Coherence Time of Nonradiative Excitons in GaAs/AlGaAs Quantum Wells. Physical Review Letters, 2019, 122, 147401.	7.8	13
57	Anisotropic polariton scattering and spin dynamics of cavity polaritons. Solid State Communications, 2005, 134, 117-120.	1.9	12
58	Magnetic compass of garden warblers is not affected by oscillating magnetic fields applied to their eyes. Scientific Reports, 2020, 10, 3473.	3.3	12
59	Luminescence polarization and spontaneous lowering of symmetry caused by magnetic-polaron formation in semimagnetic-semiconductor quantum wells. Physics of the Solid State, 1997, 39, 1859-1863.	0.6	11
60	Optical orientation of hole magnetic polarons in (Cd,Mn)Te/(Cd,Mn,Mg)Te quantum wells. Physical Review B, 2016, 93, .	3.2	11
61	Can a hybrid chemical-ferromagnetic model of the avian compass explain its outstanding sensitivity to magnetic noise?. PLoS ONE, 2017, 12, e0173887.	2.5	11
62	Nuclear Spin relaxation mediated by Fermi-edge electrons in n-type GaAs. JETP Letters, 2014, 99, 37-41.	1.4	10
63	Optical Manifestations of Electron Spin Transport and Relaxation in Semiconductors. Physica Status Solidi A, 2002, 190, 221-227.	1.7	9
64	Quantum Interference Controls the Electron Spin Dynamics in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>n</mml:mi></mml:math> -GaAs. Physical Review X, 2018, 8, .	8.9	9
65	Electron-nuclei interaction in the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>X</mml:mi></mml:math> valley of (In,Al)As/AlAs quantum dots. Physical Review B, 2020, 101, .	3.2	9
66	Hanle effect in (In,Ga)As quantum dots: Role of nuclear spin fluctuations. Physical Review B, 2013, 87, .	3.2	8
67	Dynamic Nuclear Polarization and Nuclear Fields. Springer Series in Solid-state Sciences, 2008, , 309-346.	0.3	8
68	MultipleMn2+-Spin-Flip Raman Scattering at High Fields via Magnetic Polaron States in Semimagnetic Quantum Wells. Physical Review Letters, 1995, 74, 4966-4966.	7.8	7
69	Polarisation rotation in resonant emission of semiconductor microcavities. Physica Status Solidi A, 2003, 195, 579-586.	1.7	7
70	The anomalous Hanle effect in semimagnetic semiconductor quantum wells. Physics of the Solid State, 2003, 45, 1360-1373.	0.6	7
71	Optics of spin-noise-induced gyrotropy of an asymmetric microcavity. Physical Review B, 2014, 89, .	3.2	7
72	Ultra-deep optical cooling of coupled nuclear spin-spin and quadrupole reservoirs in a GaAs/(Al,Ga)As quantum well. Communications Physics, 2021, 4, .	5.3	7

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73	BREAKDOWN OF THE QUANTUM HALL EFFECTS IN HOLE SYSTEMS AT HIGH INDUCED CURRENTS. International Journal of Modern Physics B, 2004, 18, 3537-3540.	2.0	6
74	Bound magnetic polarons in the very dilute regime. Physical Review B, 2008, 77, .	3.2	6
75	Observation of the magnetic soft mode in (Cd,Mn)Te quantum wells using spin-flip Raman scattering. Physical Review B, 2009, 80, .	3.2	6
76	Optical resonance shift spin-noise spectroscopy. Physical Review B, 2020, 101, .	3.2	6
77	Warm-up spectroscopy of quadrupole-split nuclear spins in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -GaAs epitaxial layers. Physical Review B, 2021, 104, .	3.2	6
78	Induced currents, frozen charges and the quantum Hall effect breakdown. Solid State Communications, 2005, 134, 257-259.	1.9	5
79	Nuclear spin cooling by helicity-alternated optical pumping at weak magnetic fields in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -GaAs. Physical Review B, 2017, 96, .	3.2	5
80	Determination of the local field in the nuclear spin system of n-type GaAs. Journal of Physics: Conference Series, 2018, 951, 012006.	0.4	5
81	Magnetoreception in the Retina of the Domestic Pigeon Columbia livia: a Retinographic Search. Journal of Evolutionary Biochemistry and Physiology, 2018, 54, 498-501.	0.6	5
82	Electron-induced nuclear magnetic ordering in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -type semiconductors. Physical Review B, 2021, 103, .	3.2	5
83	Simultaneous measurements of nuclear-spin heat capacity, temperature, and relaxation in GaAs microstructures. Physical Review B, 2022, 105, .	3.2	5
84	Magnetic polarons in semimagnetic-semiconductor-based heterostructures. Physics of the Solid State, 1998, 40, 734-736.	0.6	4
85	Spin dynamics in p-doped InAs/GaAs quantum dots. Physica Status Solidi (B): Basic Research, 2005, 242, 1233-1236.	1.5	4
86	Spin-orbit terms in multi-subband electron systems: a bridge between bulk and two-dimensional Hamiltonians. Semiconductors, 2008, 42, 989-993.	0.5	4
87	Electroretinographic study of the magnetic compass in European robins. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20202507.	2.6	4
88	Raman Investigation of the Mn2+-Mn2+ Interaction in Semimagnetic Semiconductor Quantum Wells. Journal of Raman Spectroscopy, 1996, 27, 281-287.	2.5	3
89	Exciton-polariton spin rotation in microcavities in zero magnetic field. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 1405-1407.	0.8	3
90	Optical spin polarization of holes in negatively charged InAs/GaAs self-assembled quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 21, 1018-1021.	2.7	3

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91	Spin dynamics and hyperfine interaction in InAs semiconductor quantum dots. Physica Status Solidi (B): Basic Research, 2006, 243, 2266-2273.	1.5	3
92	Spin relaxation of positive trions in InAs/GaAs quantum dots: the role of hyperfine interaction. Physica Status Solidi (B): Basic Research, 2006, 243, 3917-3921.	1.5	3
93	On the Suppression of Electron-Hole Exchange Interaction in a Reservoir of Nonradiative Excitons. Semiconductors, 2019, 53, 1170-1174.	0.5	3
94	Relationship between Avian Magnetic Compass and Photoreception: Hypotheses and Unresolved Questions. Biology Bulletin Reviews, 2020, 10, 1-10.	0.9	3
95	Searching for magnetic compass mechanism in pigeon retinal photoreceptors. PLoS ONE, 2020, 15, e0229142.	2.5	3
96	Unveiling the electron-nuclear spin dynamics in an <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -doped InGaAs epilayer by spin noise spectroscopy. Physical Review B, 2022, 106, .	3.2	3
97	Comment on "Theoretical investigation of observed magnetic-polaron energies in quantum wells". Physical Review B, 1996, 53, 2141-2142.	3.2	2
98	Spin Repolarization Due to Pauli Blocking in Quantum Dots. Physica Status Solidi (B): Basic Research, 2000, 221, 71-75.	1.5	2
99	The hanle effect in nonuniformly doped GaAs. Physics of the Solid State, 2003, 45, 2255-2263.	0.6	2
100	HIGH-CURRENT BREAKDOWN OF THE QUANTUM HALL EFFECT. International Journal of Modern Physics B, 2004, 18, 3593-3596.	2.0	2
101	Spin dynamics of electrons and holes in p-doped InAs/GaAs quantum dots. Brazilian Journal of Physics, 2006, 36, 482-487.	1.4	2
102	Direct observation of the electron spin relaxation induced by nuclei in quantum dots. , 2006, , .		2
103	Control of polarization of polariton lasers. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 638-640.	0.8	2
104	Dynamical polarization of nuclear spins by acceptor-bound holes in a zinc-blende semiconductor. Physical Review B, 2013, 88, .	3.2	2
105	Significant photoinduced Kerr rotation achieved in semiconductor microcavities. Physical Review B, 2015, 91, .	3.2	2
106	Controlled switching between quantum states in the excitonâ€“polariton condensate. JETP Letters, 2016, 103, 313-315.	1.4	2
107	High-efficiency optical pumping of nuclear polarization in a GaAs quantum well. Physical Review B, 2017, 96, .	3.2	2
108	Spin-lattice relaxation of optically polarized nuclei in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>p</mml:mi></mml:math> -type GaAs. Physical Review B, 2018, 97, .	3.2	2

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109	Subsecond nuclear spin dynamics in n -GaAs. Physical Review B, 2019, 99, .	3.2	2
110	Coherent Spin Dynamics in Diluted-Magnetic Quantum Wells. , 2000, , 255-268.		2
111	Determination of the Quadrupole Splitting in Bulk n-GaAs by Warm-Up Spectroscopy. Semiconductors, 2020, 54, 1728-1729.	0.5	2
112	<title>Two-dimensional exciton magnetic polaron dynamics in thin CdTe/(Cd,Mn)Te quantum wells</title>. , 1992, , .		1
113	Electron Spin Redistribution Due to Pauli Blocking in Quantum Dots and Quantum Wells. Physica Status Solidi A, 2002, 190, 229-233.	1.7	1
114	Temperature-dependent high-current breakdown of the quantum Hall effect. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 22, 201-204.	2.7	1
115	Breakdown of the Quantum Hall Effects in Hole Systems at High Induced Currents. AIP Conference Proceedings, 2005, , .	0.4	1
116	Spin Relaxation in GaAs Doped with Magnetic (Mn) Atoms. Solid State Phenomena, 2010, 168-169, 47-54.	0.3	1
117	Dynamics of carrier recombination in a semiconductor laser structure. Semiconductors, 2015, 49, 1531-1535.	0.5	1
118	Nonlinear high-frequency magnetic response of magnetoferritin metacrystals governed by spin thermodynamics. Physical Review B, 2020, 102, .	3.2	1
119	Dynamical Redistribution of Mean Electron Spin over the Energy Spectrum of Quantum Dots. Physica Status Solidi (B): Basic Research, 2001, 224, 567-571.	1.5	0
120	<title>Gateable spin memory in InP quantum dots</title>. , 2002, , .		0
121	Nonradiative recombination and kinetics of optically oriented electrons at the GaAs/AlGaAs interface. Physics of the Solid State, 2003, 45, 1644-1647.	0.6	0
122	Optical spin polarization in double charged InAs self-assembled quantum dots. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 387-391.	1.8	0
123	High-Current Breakdown of the Quantum Hall Effect. AIP Conference Proceedings, 2005, , .	0.4	0
124	Spin polarization dynamics and the Hanle effect for a strong exchange interaction in the exciton. Physics of the Solid State, 2007, 49, 1361-1367.	0.6	0
125	Mixing of states in quantum wells for terahertz polariton emitters. Technical Physics Letters, 2013, 39, 694-697.	0.7	0
126	Dynamic Nuclear Polarization and Nuclear Fields. Springer Series in Solid-state Sciences, 2017, , 387-430.	0.3	0

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127	Estimation of the magnitude of the Ruderman-Kittel interaction in 3d and 2d GaAs crystals. Journal of Physics: Conference Series, 2020, 1482, 012001.	0.4	0
128	Asymmetric spin transitions of nonthermalized Mn2+ ions in (Zn,Mn)Se-based quantum wells. Physical Review B, 2020, 101, .	3.2	0
129	BREAKDOWN OF THE QUANTUM HALL EFFECTS IN HOLE SYSTEMS AT HIGH INDUCED CURRENTS. , 2005, , .		0
130	HIGH-CURRENT BREAKDOWN OF THE QUANTUM HALL EFFECT. , 2005, , .		0
131	Exciton energy oscillations induced by quantum beats. Physical Review B, 2020, 102, .	3.2	0
132	Electron Spin Relaxation and Resonant Cooling of Nuclear Spins in GaAs:Mn Structures. Semiconductors, 2021, 55, 726.	0.5	0