

G V Astakhov

List of Publications by Year in descending order

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119
papers

3,288
citations

136950

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161849

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121
all docs

121
docs citations

121
times ranked

2435
citing authors

#	ARTICLE	IF	CITATIONS
1	Fabrication and nanophotonic waveguide integration of silicon carbide colour centres with preserved spin-optical coherence. <i>Nature Materials</i> , 2022, 21, 67-73.	27.5	80
2	Inverted fine structure of a 6H-SiC qubit enabling robust spin-photon interface. <i>Npj Quantum Information</i> , 2022, 8, .	6.7	6
3	Superradiance of Spin Defects in Silicon Carbide for Maser Applications. <i>Frontiers in Photonics</i> , 2022, 3, .	2.4	4
4	Unveiling the Zero-Phonon Line of the Boron Vacancy Center by Cavity-Enhanced Emission. <i>Nano Letters</i> , 2022, 22, 5137-5142.	9.1	18
5	Metal-assisted chemically etched silicon nanopillars hosting telecom photon emitters. <i>Journal of Applied Physics</i> , 2022, 132, .	2.5	10
6	Mapping the Stray Fields of a Micromagnet Using Spin Centers in SiC. <i>IEEE Magnetics Letters</i> , 2021, 12, 1-5.	1.1	1
7	Stress-controlled zero-field spin splitting in silicon carbide. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	12
8	Stress distribution at the AlN/SiC heterointerface probed by Raman spectroscopy. <i>Journal of Applied Physics</i> , 2021, 129, .	2.5	7
9	Microwave-Assisted Spectroscopy of Vacancy-Related Spin Centers in Hexagonal SiC . <i>Physical Review Applied</i> , 2021, 15, .	3.8	4
10	Effect of Mechanical Stress on the Splitting of Spin Sublevels in 4H-SiC. <i>JETP Letters</i> , 2021, 114, 274-278.	1.4	3
11	Acoustically induced coherent spin trapping. <i>Science Advances</i> , 2021, 7, eabj5030.	10.3	6
12	Anisotropic Spin-Acoustic Resonance in Silicon Carbide at Room Temperature. <i>Physical Review Letters</i> , 2020, 125, 107702.	7.8	16
13	Photoluminescence and Raman Spectroscopy Study on Color Centers of Helium Ion-Implanted 4H-SiC. <i>Nanomanufacturing and Metrology</i> , 2020, 3, 205-217.	3.0	17
14	Influence of Irradiation on Defect Spin Coherence in Silicon Carbide. <i>Physical Review Applied</i> , 2020, 13, .	3.8	36
15	Local vibrational modes of Si vacancy spin qubits in SiC. <i>Physical Review B</i> , 2020, 101, .	3.2	25
16	Engineering telecom single-photon emitters in silicon for scalable quantum photonics. <i>Optics Express</i> , 2020, 28, 26111.	3.4	43
17	Optically detected spin-mechanical resonance in silicon carbide membranes. <i>Physical Review B</i> , 2019, 100, .	3.2	14
18	Excitation and coherent control of spin qubit modes in silicon carbide at room temperature. <i>Nature Communications</i> , 2019, 10, 1678.	12.8	65

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19	Highly Efficient Optical Pumping of Spin Defects in Silicon Carbide for Stimulated Microwave Emission. <i>Physical Review Applied</i> , 2018, 9, .	3.8	16
20	Room-Temperature Level Anticrossing and Cross-Relaxation Spectroscopy of Spin Color Centers in SiC Single Crystals and Nanostructures. <i>Applied Magnetic Resonance</i> , 2018, 49, 85-95.	1.2	8
21	Spin and Optical Properties of Silicon Vacancies in Silicon Carbide $\hat{\alpha}$ A Review. <i>Physica Status Solidi (B): Basic Research</i> , 2018, 255, 1700258.	1.5	52
22	Defects for quantum information processing in SiC. , 2018, , 211-240.		5
23	Creation of silicon vacancy in silicon carbide by proton beam writing toward quantum sensing applications. <i>Journal Physics D: Applied Physics</i> , 2018, 51, 333002.	2.8	39
24	All-optical quantum thermometry based on spin-level cross-relaxation and multicenter entanglement under ambient conditions in SiC. <i>AIP Advances</i> , 2018, 8, 085304.	1.3	6
25	Observation of the universal magnetoelectric effect in a 3D topological insulator. <i>Nature Communications</i> , 2017, 8, 15197.	12.8	136
26	Three-Dimensional Proton Beam Writing of Optically Active Coherent Vacancy Spins in Silicon Carbide. <i>Nano Letters</i> , 2017, 17, 2865-2870.	9.1	87
27	Creation and Functionalization of Defects in SiC by Proton Beam Writing. <i>Materials Science Forum</i> , 2017, 897, 233-237.	0.3	7
28	Impact of Interfaces and Laser Repetition Rate on Photocarrier Dynamics in Lead Halide Perovskites. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 4698-4703.	4.6	13
29	Locking of electron spin coherence above 20 ms in natural silicon carbide. <i>Physical Review B</i> , 2017, 95, .	3.2	93
30	All-Optical dc Nanotesla Magnetometry Using Silicon Vacancy Fine Structure in Isotopically Purified Silicon Carbide. <i>Physical Review X</i> , 2016, 6, .	8.9	83
31	An optical quantum magnetometer with submicron resolution based on the level anticrossing phenomenon. <i>Technical Physics Letters</i> , 2016, 42, 618-621.	0.7	2
32	Optical thermometry based on level anticrossing in silicon carbide. <i>Scientific Reports</i> , 2016, 6, 33301.	3.3	87
33	Symmetry properties of n-doped (Cd,Mn)Te quantum well photoluminescence spectra: An exemplary evidence for anisotropy-induced valence-band mixing. <i>Applied Physics Letters</i> , 2016, 108, 191113.	3.3	0
34	Spin Centres in SiC for Quantum Technologies. <i>Applied Magnetic Resonance</i> , 2016, 47, 793-812.	1.2	19
35	Optical power-driven electron spin relaxation regime crossover in Mn-doped bulk GaAs. <i>Physical Review B</i> , 2015, 92, .	3.2	3
36	High-Precision Angle-Resolved Magnetometry with Uniaxial Quantum Centers in Silicon Carbide. <i>Physical Review Applied</i> , 2015, 4, .	3.8	71

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37	Point defects in silicon carbide as a promising basis for spectroscopy of single defects with controllable quantum states at room temperature. <i>Physics of the Solid State</i> , 2015, 57, 891-899.	0.6	4
38	Engineering near-infrared single-photon emitters with optically active spins in ultrapure silicon carbide. <i>Nature Communications</i> , 2015, 6, 7578.	12.8	182
39	Exciton decay dynamics controlled by impurity occupation in strongly Mn-doped and partially compensated bulk GaAs. <i>Physical Review B</i> , 2014, 90, .	3.2	2
40	Excitation and recombination dynamics of vacancy-related spin centers in silicon carbide. <i>Journal of Applied Physics</i> , 2014, 115, .	2.5	57
41	Room-temperature quantum microwave emitters based on spin defects in silicon carbide. <i>Nature Physics</i> , 2014, 10, 157-162.	16.7	193
42	Room-temperature near-infrared silicon carbide nanocrystalline emitters based on optically aligned spin defects. <i>Applied Physics Letters</i> , 2014, 105, .	3.3	47
43	Magnetic field and temperature sensing with atomic-scale spin defects in silicon carbide. <i>Scientific Reports</i> , 2014, 4, 5303.	3.3	145
44	Silicon carbide light-emitting diode as a prospective room temperature source for single photons. <i>Scientific Reports</i> , 2013, 3, 1637.	3.3	108
45	Terahertz quantum Hall effect of Dirac fermions in a topological insulator. <i>Physical Review B</i> , 2013, 87, .	3.2	33
46	Room temperature electrically tunable terahertz Faraday effect. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	32
47	Terahertz magneto-optical spectroscopy in HgTe thin films. <i>Semiconductor Science and Technology</i> , 2012, 27, 124004.	2.0	35
48	Resonant Addressing and Manipulation of Silicon Vacancy Qubits in Silicon Carbide. <i>Physical Review Letters</i> , 2012, 109, 226402.	7.8	148
49	Surface State Charge Dynamics of a High-Mobility Three-Dimensional Topological Insulator. <i>Physical Review Letters</i> , 2011, 107, 136803.	7.8	75
50	Giant Magneto-Optical Faraday Effect in HgTe Thin Films in the Terahertz Spectral Range. <i>Physical Review Letters</i> , 2011, 106, 107404.	7.8	102
51	Nonthermal Photocoercivity Effect in Low-Doped (Ga,Mn)As Ferromagnetic Semiconductor. <i>AIP Conference Proceedings</i> , 2011, , .	0.4	0
52	Publisher's Note: Surface State Charge Dynamics of a High-Mobility Three-Dimensional Topological Insulator [Phys. Rev. Lett. 107, 136803 (2011)]. <i>Physical Review Letters</i> , 2011, 107, .	7.8	1
53	Photoinduced Barkhausen Effect in the Ferromagnetic Semiconductor (Ga,Mn)As. <i>Physical Review Letters</i> , 2011, 106, 037204.	7.8	7
54	Magnetic-field-induced exchange effects between Mn ions and free carriers in ZnSe quantum wells through the intermediate nonmagnetic barrier studied by photoluminescence. <i>Physical Review B</i> , 2011, 83, .	3.2	6

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55	Induced magnetic anisotropy in lifted (Ga,Mn)As thin films. Applied Physics Letters, 2011, 98, 231903.	3.3	2
56	Spin Relaxation in GaAs Doped with Magnetic (Mn) Atoms. Solid State Phenomena, 2010, 168-169, 47-54.	0.3	1
57	Single picojoule pulse switching of magnetization in ferromagnetic (Ga,Mn)As. Applied Physics Letters, 2010, 97, 232503.	3.3	15
58	Interaction between Mn ions and free carriers in quantum wells with asymmetrical semimagnetic barriers. Europhysics Letters, 2010, 91, 67007.	2.0	3
59	Nonthermal Photocoercivity Effect in a Low-Doped (Ga,Mn)As Ferromagnetic Semiconductor. Physical Review Letters, 2009, 102, 187401.	7.8	14
60	Influence of light on spin diffusion in weak magnetic fields. Physical Review B, 2009, 79, .	3.2	6
61	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
62	INVESTIGATION OF SPIN TRANSPORT IN SEMICONDUCTORS BY SPATIALLY RESOLVED TWO-COLOR HANLE-MOKE MEASUREMENTS. International Journal of Modern Physics B, 2009, 23, 2760-2765.	2.0	0
63	Time-resolved and continuous-wave optical spin pumping of semiconductor quantum wells. Semiconductor Science and Technology, 2008, 23, 114001.	2.0	30
64	Suppression of Electron Spin Relaxation in Mn-Doped GaAs. Physical Review Letters, 2008, 101, 076602.	7.8	38
65	Bound magnetic polarons in the very dilute regime. Physical Review B, 2008, 77, .	3.2	6
66	Lateral Spin Diffusion Probed by Two-Color Hanle-MOKE Technique. Acta Physica Polonica A, 2008, 114, 1311-1316.	0.5	1
67	Exciton Spin Decay Modified by Strong Electron-Hole Exchange Interaction. Physical Review Letters, 2007, 99, 016601.	7.8	16
68	Layer-by-layer growth and island formation in CdSe/ZnSe heteroepitaxy. Journal of Crystal Growth, 2007, 301-302, 310-314.	1.5	4
69	CdSe/ZnSe heteroepitaxy: Aspects of growth and self organization of nanostructures. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 3129-3149.	0.8	5
70	Magneto-optics of modulation doped quantum wells based on II-VI semiconductor compounds. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 3310-3323.	0.8	4
71	Optical studies of structural and magnetic anisotropies in epitaxial CdSe/ZnSe quantum dots. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 3324-3333.	0.8	1
72	Influence of liquid-phase synthesis parameters on particle sizes and structural properties of nanocrystalline ZnO powders. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 3260-3269.	0.8	10

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73	Laser controlled magnetization in bulk Zn _{1-x} Mn _x Te. Physica Status Solidi (B): Basic Research, 2007, 244, 1680-1684.	1.5	3
74	Formation mechanism and properties of CdSe quantum dots on ZnSe by low temperature epitaxy and in situ annealing. Applied Physics Letters, 2006, 89, 043102.	3.3	14
75	Circular-to-Linear and Linear-to-Circular Conversion of Optical Polarization by Semiconductor Quantum Dots. Physical Review Letters, 2006, 96, 027402.	7.8	39
76	Optical anisotropy of CdSe/ZnSe quantum dots. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 912-915.	0.8	8
77	Energy relaxation in CdSe/ZnSe quantum dots under the strong exciton-phonon coupling regime. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 924-927.	0.8	2
78	Comparative study of self-assembled CdSe/ZnSe quantum dots grown by variants of conventional MBE. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 928-932.	0.8	4
79	Nanosecond spin memory of electrons in CdTe/CdMgTe quantum wells. Physica Status Solidi (B): Basic Research, 2006, 243, 858-862.	1.5	10
80	Optical spin pumping of modulation-doped electrons probed by a two-color Kerr rotation technique. Physical Review B, 2006, 74, .	3.2	29
81	Anomalous in-plane magneto-optical anisotropy of self-assembled quantum dots. Physical Review B, 2006, 74, .	3.2	11
82	Magneto-optics of two-dimensional electron gases modified by strong Coulomb interactions in ZnSe quantum wells. Physical Review B, 2005, 72, .	3.2	18
83	Observation of Giant Magnetic Linear Dichroism in(Ga,Mn)As. Physical Review Letters, 2005, 94, 227203.	7.8	51
84	Magnetization manipulation in (Ga,Mn)As by subpicosecond optical excitation. Applied Physics Letters, 2005, 86, 152506.	3.3	46
85	Definitive observation of the dark triplet ground state of charged excitons in high magnetic fields. Physical Review B, 2005, 71, .	3.2	31
86	Universal estimation of X- trion binding energy in semiconductor quantum wells. European Physical Journal B, 2005, 47, 541-547.	1.5	22
87	CdSe/ZnSe Quantum Dots Formed by Low Temperature Epitaxy and In-Situ Annealing: Properties and Growth Optimization. Acta Physica Polonica A, 2005, 108, 769-776.	0.5	8
88	Identification of singlet and triplet states of negatively charged excitons in CdTe-based quantum wells. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 551-554.	0.8	5
89	Picosecond Dynamics of the Photoinduced Spin Polarization in Epitaxial (Ga,Mn)As Films. Physical Review Letters, 2004, 92, 237203.	7.8	58
90	Combined exciton-electron optical processes in optical spectra of modulation doped QWs. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 17, 197-200.	2.7	7

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91	Combined Exciton-Electron Optical Processes in Optical Spectra of Modulation Doped QWs. , 2003, , 125-136.		1
92	Optical Studies of Spin Polarized 2Deg in Modulation-Doped (Zn,Mn)Se/(Zn,Be)Se Quantum Wells in High Magnetic Fields. , 2003, , 217-232.		1
93	II-VI Quantum Wells with High Carrier Densities and in High Magnetic Fields. , 2003, , 137-150.		0
94	Positively and Negatively Charged Trions in ZnSe-Based Quantum Wells. , 2003, , 41-62.		0
95	<title>Combined exciton and trion excitations in modulation doped quantum well structures</title>. , 2002, , .		0
96	<title>Singlet and triplet states of charged excitons in ZnSe-based QWs probed by high magnetic fields</title>. , 2002, , .		0
97	Binding energy of charged excitons in ZnSe-based quantum wells. Physical Review B, 2002, 65, .	3.2	101
98	Optical method for the determination of carrier density in modulation-doped quantum wells. Physical Review B, 2002, 65, .	3.2	67
99	Combined Exciton-Electron and Trion-Electron Excitations in ZnSe/ZnMgSSe Modulation-Doped Quantum Wells. Physica Status Solidi (B): Basic Research, 2002, 229, 543-547.	1.5	6
100	High magnetic field optical studies of 2DEG in modulation-doped ZnSe quantum wells. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 12, 512-515.	2.7	3
101	<title>Filling-factor dependence of magneto-luminescence in II-VI QWs with 2DEG</title>. , 2002, , .		1
102	Inhomogeneous broadening of exciton lines in magneto-optical reflection from CdTe/CdMgTe quantum wells. European Physical Journal B, 2001, 24, 7-13.	1.5	7
103	Combined exciton and trion excitations in modulation doped quantum well structures. Physica B: Condensed Matter, 2001, 298, 315-319.	2.7	20
104	Excitons and Trions Modified by Interaction with a Two-Dimensional Electron Gas. Physica Status Solidi (B): Basic Research, 2001, 227, 343-352.	1.5	43
105	Trions in ZnSe-Based Quantum Wells Probed by 50 T Magnetic Fields. Physica Status Solidi (B): Basic Research, 2001, 227, 353-363.	1.5	11
106	Excitons and Trions in II-VI Quantum Wells with Modulation Doping. Physica Status Solidi (B): Basic Research, 2000, 221, 345-348.	1.5	8
107	Charged Exciton Dynamics in ZnSe/ZnMgSSe QWs. Physica Status Solidi A, 2000, 178, 501-505.	1.7	16
108	Magneto-optics of charged excitons in ZnSe/ZnMgSSe quantum wells. Journal of Crystal Growth, 2000, 214-215, 823-826.	1.5	7

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109	Oscillator strength of excitons and charged excitons in ZnSe/ZnMgSSe QWs with a 2DEG of low density. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2000, 6, 187-190.	2.7	2
110	Oscillator strength of trion states in ZnSe-based quantum wells. <i>Physical Review B</i> , 2000, 62, 10345-10352.	3.2	72
111	Magnetic field effect on radiative recombination of localized carriers at GaAs/AlGaAs heterointerface. <i>Semiconductor Science and Technology</i> , 1999, 14, 110-113.	2.0	2
112	Exciton-electron interaction in quantum wells with a two dimensional electron gas of low density. <i>Physics of the Solid State</i> , 1999, 41, 751-756.	0.6	3
113	Photoluminescence of InAs quantum dots grown on disoriented GaAs substrates. <i>Semiconductors</i> , 1999, 33, 988-990.	0.5	0
114	Charged excitons in ZnSe-based quantum wells. <i>Physical Review B</i> , 1999, 60, R8485-R8488.	3.2	85
115	Polariton reflectance spectra from thin ZnSxSe1-x layers. <i>Physics of the Solid State</i> , 1998, 40, 798-799.	0.6	1
116	Magneto-optical study of ZnSe-based quantum wells. <i>Physica B: Condensed Matter</i> , 1998, 256-258, 323-326.	2.7	13
117	Model Study of Inhomogeneous Line Broadening in Excitonic Spectra of Quantum Wells. <i>Acta Physica Polonica A</i> , 1998, 94, 235-239.	0.5	2
118	Point Defects in SiC as a Promising Basis for Single-Defect, Single-Photon Spectroscopy with Room Temperature Controllable Quantum States. <i>Materials Science Forum</i> , 0, 740-742, 425-430.	0.3	9
119	Atomic-Scale Defects in Silicon Carbide for Quantum Sensing Applications. <i>Materials Science Forum</i> , 0, 821-823, 355-358.	0.3	0