

Probing condensed matter physics with magnetometry in diamond

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Tutorial: Magnetic resonance with nitrogen-vacancy centers in diamond—microwave engineering, materials science, and magnetometry. <i>Journal of Applied Physics</i> , 2018, 123, .	1.1	60
2	Scanning SQUID View of Oxide Interfaces. <i>Advanced Materials</i> , 2018, 30, e1706653.	11.1	12
3	Material platforms for spin-based photonic quantum technologies. <i>Nature Reviews Materials</i> , 2018, 3, 38-51.	23.3	453
4	Observation of non-Markovianity at room temperature by prolonging entanglement in solids. <i>Science Bulletin</i> , 2018, 63, 336-339.	4.3	14
5	Density and $\langle T \rangle$ of Surface and Bulk Spins in Diamond in High Magnetic Field Gradients. <i>Physical Review Applied</i> , 2018, 10, .	1.5	4
6	Proposal for dynamic imaging of antiferromagnetic domain wall via quantum-impurity relaxometry. <i>Physical Review B</i> , 2018, 98, .	1.1	16
7	Magnonic noise and Wiedemann-Franz law. <i>Physical Review B</i> , 2018, 98, .	1.1	11
8	Ferromagnetic resonance force microscopy of individual domain wall. <i>Applied Physics Letters</i> , 2018, 113, 122407.	1.5	9
9	Spin Readout Techniques of the Nitrogen-Vacancy Center in Diamond. <i>Micromachines</i> , 2018, 9, 437.	1.4	85
10	Quantum-Impurity Relaxometry of Magnetization Dynamics. <i>Physical Review Letters</i> , 2018, 121, 187204.	2.9	45
11	Probing a Spin Transfer Controlled Magnetic Nanowire with a Single Nitrogen-Vacancy Spin in Bulk Diamond. <i>Nano Letters</i> , 2018, 18, 6494-6499.	4.5	16
12	Spatial mapping of band bending in semiconductor devices using in situ quantum sensors. <i>Nature Electronics</i> , 2018, 1, 502-507.	13.1	77
13	Quantum technologies with optically interfaced solid-state spins. <i>Nature Photonics</i> , 2018, 12, 516-527.	15.6	581
14	The dynamical-decoupling-based spatiotemporal noise spectroscopy. <i>New Journal of Physics</i> , 2019, 21, 043034.	1.2	18
15	Imaging Graphene Field-Effect Transistors on Diamond Using Nitrogen-Vacancy Microscopy. <i>Physical Review Applied</i> , 2019, 12, .	1.5	18
16	Imaging of stray magnetic field vectors from a magnetic particle with an ensemble of nitrogen-vacancy centers in diamond. <i>Japanese Journal of Applied Physics</i> , 2019, 58, S1B20.	0.8	2
17	Silicon integration for quantum sensing. <i>Nature Electronics</i> , 2019, 2, 266-267.	13.1	4
18	Effect of Rare-Earth Element Oxides on Diamond Crystallization in Mg-Based Systems. <i>Crystals</i> , 2019, 9, 300.	1.0	9

#	ARTICLE	IF	CITATIONS
19	On the route towards a facile fluorescent nanodiamonds laser-synthesis. Carbon, 2019, 153, 148-155.	5.4	20
20	Nanometer-precision non-local deformation reconstruction using nanodiamond sensing. Nature Communications, 2019, 10, 3259.	5.8	15
21	Mapping Dynamical Magnetic Responses of Ultrathin Micron-Size Superconducting Films Using Nitrogen-Vacancy Centers in Diamond. Nano Letters, 2019, 19, 5697-5702.	4.5	18
22	Magnetic resonance imaging of single atoms on a surface. Nature Physics, 2019, 15, 1005-1010.	6.5	47
23	Engineering effective Hamiltonians. New Journal of Physics, 2019, 21, 103011.	1.2	16
24	Extending the Quantum Coherence of a Near-Surface Qubit by Coherently Driving the Paramagnetic Surface Environment. Physical Review Letters, 2019, 123, 146804.	2.9	25
25	Magnetoelectric effect of a conducting sphere near a planar topological insulator. Physical Review A, 2019, 100, .	1.0	7
26	Dynamical Decoupling of a Geometric Qubit. Physical Review Applied, 2019, 12, .	1.5	12
27	(111)-oriented, single crystal diamond tips for nanoscale scanning probe imaging of out-of-plane magnetic fields. Applied Physics Letters, 2019, 115, 192401.	1.5	14
28	Reliable Nanofabrication of Single-Crystal Diamond Photonic Nanostructures for Nanoscale Sensing. Micromachines, 2019, 10, 718.	1.4	11
29	Tuning Single-Atom Electron Spin Resonance in a Vector Magnetic Field. Nano Letters, 2019, 19, 8201-8206.	4.5	39
30	Superresolution Multifunctional Sensing with the Nitrogen-Vacancy Center in Diamond. Physical Review Applied, 2019, 12, .	1.5	15
31	Quantitative nanoscale MRI with a wide field of view. Scientific Reports, 2019, 9, 12166.	1.6	29
32	Unified Description of the Classical Hall Viscosity. Physical Review Letters, 2019, 123, 106801.	2.9	35
33	Electrical Charge State Manipulation of Single Silicon Vacancies in a Silicon Carbide Quantum Optoelectronic Device. Nano Letters, 2019, 19, 7173-7180.	4.5	61
34	Comparative study of methodologies to compute the intrinsic Gilbert damping: interrelations, validity and physical consequences. Journal of Physics Condensed Matter, 2019, 31, 255802.	0.7	9
35	Chemical potential of an antiferromagnetic magnon gas. Physical Review B, 2019, 100, .	1.1	13
36	Dynamical Magnetic Field Accompanying the Motion of Ferroelectric Domain Walls. Physical Review Letters, 2019, 123, 127601.	2.9	28

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37	Spin-driven electrical power generation at room temperature. <i>Communications Physics</i> , 2019, 2, .	2.0	9
38	Magnetic hallmarks of viscous electron flow in graphene. <i>Physical Review B</i> , 2019, 99, .	1.1	6
39	Apparent delocalization of the current density in metallic wires observed with diamond nitrogen-vacancy magnetometry. <i>Physical Review B</i> , 2019, 99, .	1.1	14
40	The Accelerating World of Graphdiynes. <i>Advanced Materials</i> , 2019, 31, e1804211.	11.1	86
41	Imaging magnetic 2D crystals with quantum sensors. <i>Science</i> , 2019, 364, 935-935.	6.0	6
42	Detecting spin current noise in quantum magnets with photons. <i>Physical Review B</i> , 2019, 99, .	1.1	3
43	Quantum Sensing in a Physiological-Like Cell Niche Using Fluorescent Nanodiamonds Embedded in Electrospun Polymer Nanofibers. <i>Small</i> , 2019, 15, e1900455.	5.2	18
44	Induced quantum dot probe for material characterization. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	9
45	High-fidelity spin and optical control of single silicon-vacancy centres in silicon carbide. <i>Nature Communications</i> , 2019, 10, 1954.	5.8	167
46	Coherent quantum control of nitrogen-vacancy center spins near 1000 kelvin. <i>Nature Communications</i> , 2019, 10, 1344.	5.8	75
47	Can europium atoms form luminescent centres in diamond: A combined theoretical"experimental study. <i>Diamond and Related Materials</i> , 2019, 94, 233-241.	1.8	27
48	Nanoscale Vector dc Magnetometry via Ancilla-Assisted Frequency Up-Conversion. <i>Physical Review Letters</i> , 2019, 122, 100501.	2.9	30
49	Multi-scale approach to first-principles electron transport beyond 100 nm. <i>Nanoscale</i> , 2019, 11, 6153-6164.	2.8	12
50	Spectrally Stable Defect Qubits with no Inversion Symmetry for Robust Spin-To-Photon Interface. <i>Physical Review Applied</i> , 2019, 11, .	1.5	43
51	Entangling distant spin qubits via a magnetic domain wall. <i>Physical Review B</i> , 2019, 99, .	1.1	21
52	Radiative lifetime of boron-bound excitons in diamond. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	7
53	Nanoscale sensing based on nitrogen vacancy centers in single crystal diamond and nanodiamonds: achievements and challenges. <i>Nano Futures</i> , 2019, 3, 042004.	1.0	41
54	Nitrogen-vacancy centers in diamond for nanoscale magnetic resonance imaging applications. <i>Beilstein Journal of Nanotechnology</i> , 2019, 10, 2128-2151.	1.5	25

#	ARTICLE	IF	CITATIONS
55	Fabrication of micro lens array on diamond surface. AIP Advances, 2019, 9, .	0.6	8
56	Universal correspondence between edge spin accumulation and equilibrium spin currents in nanowires with spin-orbit coupling. Physical Review B, 2019, 100, .	1.1	3
57	Magnetic Sensing inside a Diamond Anvil Cell via Nitrogen-Vacancy Center Spins [*] . Chinese Physics Letters, 2019, 36, 086201.	1.3	21
58	Coherent electrical readout of defect spins in silicon carbide by photo-ionization at ambient conditions. Nature Communications, 2019, 10, 5569.	5.8	43
59	Enhanced precision bound of low-temperature quantum thermometry via dynamical control. Communications Physics, 2019, 2, .	2.0	30
60	Imaging stress and magnetism at high pressures using a nanoscale quantum sensor. Science, 2019, 366, 1349-1354.	6.0	129
61	Highly transparent conductors for optical and microwave access to spin-based quantum systems. Npj Quantum Information, 2019, 5, .	2.8	8
62	Measuring the Lower Critical Field of Superconductors Using Nitrogen-Vacancy Centers in Diamond Optical Magnetometry. Physical Review Applied, 2019, 11, .	1.5	27
63	High-pressure synthesis and characterization of Sn-doped single crystal diamond. Carbon, 2019, 143, 769-775.	5.4	31
64	Evidence for Primal sp^2 Defects at the Diamond Surface: Candidates for Electron Trapping and Noise Sources. Advanced Materials Interfaces, 2019, 6, 1801449.	1.9	75
65	Color Centers in Diamond as Novel Probes of Superconductivity. Journal of Superconductivity and Novel Magnetism, 2019, 32, 85-95.	0.8	18
66	Spin current as a probe of quantum materials. Nature Materials, 2020, 19, 139-152.	13.3	94
67	Building Blocks for Quantum Network Based on Group-IV Split-Vacancy Centers in Diamond. Advanced Quantum Technologies, 2020, 3, 1900069.	1.8	28
68	Spatiotemporal Mapping of a Photocurrent Vortex in Monolayer MoS_2 Using Diamond Quantum Sensors. Physical Review X, 2020, 10, .	2.8	15
69	Nitrogen-Vacancy Centers in Diamond for High-Performance Detection of Vacuum Ultraviolet, Extreme Ultraviolet, and X-rays. ACS Applied Materials & Interfaces, 2020, 12, 3847-3853.	4.0	18
70	Enhancing Spin-Phonon and Spin-Spin Interactions Using Linear Resources in a Hybrid Quantum System. Physical Review Letters, 2020, 125, 153602.	2.9	63
71	On-Chip Single-Layer Integration of Diamond Spins with Microwave and Plasmonic Channels. ACS Photonics, 2020, 7, 2018-2026.	3.2	9
72	Simultaneous wide-field imaging of phase and magnitude of AC magnetic signal using diamond quantum magnetometry. Scientific Reports, 2020, 10, 11611.	1.6	18

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73	The magnetoelectric effect due to a semispherical capacitor surrounded by a spherical topologically insulating shell. <i>Physica Scripta</i> , 2020, 95, 095502.	1.2	0
74	Magnetic resonance imaging of spin-wave transport and interference in a magnetic insulator. <i>Science Advances</i> , 2020, 6, .	4.7	70
75	Local probes for charge-neutral edge states in two-dimensional quantum magnets. <i>Physical Review B</i> , 2020, 102, .	1.1	39
76	Broadband multi-magnon relaxometry using a quantum spin sensor for high frequency ferromagnetic dynamics sensing. <i>Nature Communications</i> , 2020, 11, 5229.	5.8	35
77	Improved Current Density and Magnetization Reconstruction Through Vector Magnetic Field Measurements. <i>Physical Review Applied</i> , 2020, 14, .	1.5	32
78	Emergent phenomena and proximity effects in two-dimensional magnets and heterostructures. <i>Nature Materials</i> , 2020, 19, 1276-1289.	13.3	213
79	Bright Nitrogen-Vacancy Centers in Diamond Inverted Nanocones. <i>ACS Photonics</i> , 2020, 7, 2739-2747.	3.2	23
80	Imaging Domain Reversal in an Ultrathin Van der Waals Ferromagnet. <i>Advanced Materials</i> , 2020, 32, e2003314.	11.1	47
81	Sensing chiral magnetic noise via quantum impurity relaxometry. <i>Physical Review B</i> , 2020, 102, .	1.1	18
82	Nanoscale detection of faint machinery vibration using the NV center in diamond. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2020, 384, 126832.	0.9	3
83	Parabolic Diamond Scanning Probes for Single-Spin Magnetic Field Imaging. <i>Physical Review Applied</i> , 2020, 14, .	1.5	27
84	Sensitive magnetometry in challenging environments. <i>AVS Quantum Science</i> , 2020, 2, .	1.8	56
85	Calibration-Free Vector Magnetometry Using Nitrogen-Vacancy Center in Diamond Integrated with Optical Vortex Beam. <i>Nano Letters</i> , 2020, 20, 8267-8272.	4.5	30
86	Local measurement of interfacial interactions using ferromagnetic resonance force microscopy. <i>Physical Review B</i> , 2020, 101, .	1.1	4
87	Laser-Synthesis of NV-Centers-Enriched Nanodiamonds: Effect of Different Nitrogen Sources. <i>Micromachines</i> , 2020, 11, 579.	1.4	6
88	Isotropic Scalar Quantum Sensing of Magnetic Fields for Industrial Application. <i>Advanced Quantum Technologies</i> , 2020, 3, 2000037.	1.8	9
89	Determination of the Three-Dimensional Magnetic Field Vector Orientation with Nitrogen Vacancy Centers in Diamond. <i>Nano Letters</i> , 2020, 20, 2980-2985.	4.5	16
90	In-gap states of magnetic impurity in quantum spin Hall insulator proximitized to a superconductor. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 235501.	0.7	2

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91	Sensitivity optimization for NV-diamond magnetometry. <i>Reviews of Modern Physics</i> , 2020, 92, .	16.4	496
92	Single-spin scanning magnetic microscopy with radial basis function reconstruction algorithm. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	5
93	Exploiting chemistry and molecular systems for quantum information science. <i>Nature Reviews Chemistry</i> , 2020, 4, 490-504.	13.8	247
94	Analytic calculation for the stray field above Néel and Bloch magnetic domain walls in a rectangular nanoribbon. <i>Journal of Magnetism and Magnetic Materials</i> , 2020, 513, 167164.	1.0	4
95	Spin-torque oscillation in a magnetic insulator probed by a single-spin sensor. <i>Physical Review B</i> , 2020, 102, .	1.1	17
96	Microwave-Assisted Spectroscopy Technique for Studying Charge State in Nitrogen-Vacancy Ensembles in Diamond. <i>Physical Review Applied</i> , 2020, 14, .	1.5	15
97	Laser Modulation of Superconductivity in a Cryogenic Wide-field Nitrogen-Vacancy Microscope. <i>Nano Letters</i> , 2020, 20, 1855-1861.	4.5	28
98	Identification and Control of Electron-Nuclear Spin Defects in Diamond. <i>Physical Review Letters</i> , 2020, 124, 083602.	2.9	18
99	Silicon carbide color centers for quantum applications. <i>JPhys Photonics</i> , 2020, 2, 022001.	2.2	129
100	Construction and operation of a tabletop system for nanoscale magnetometry with single nitrogen-vacancy centers in diamond. <i>AIP Advances</i> , 2020, 10, .	0.6	19
101	YBa ₂ Cu ₃ O ₇ nano superconducting quantum interference devices on MgO bicrystal substrates. <i>Nanoscale</i> , 2020, 12, 5658-5668.	2.8	8
102	Enhanced Widefield Quantum Sensing with Nitrogen-Vacancy Ensembles Using Diamond Nanopillar Arrays. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 13421-13427.	4.0	33
103	Nitrogen in Diamond. <i>Chemical Reviews</i> , 2020, 120, 5745-5794.	23.0	133
104	SQUID-on-tip with single-electron spin sensitivity for high-field and ultra-low temperature nanomagnetic imaging. <i>Nanoscale</i> , 2020, 12, 3174-3182.	2.8	42
105	Phononic-waveguide-assisted steady-state entanglement of silicon-vacancy centers. <i>Physical Review A</i> , 2020, 101, .	1.0	23
106	Magnonic analog of the Edelstein effect in antiferromagnetic insulators. <i>Physical Review B</i> , 2020, 101, .	1.1	10
107	Mapping current profiles of point-contacted graphene devices using single-spin scanning magnetometer. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	6
108	Precise Spectroscopy of High-Frequency Oscillating Fields with a Single-Qubit Sensor. <i>Physical Review Applied</i> , 2021, 15, .	1.5	10

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109	Investigation of High-Density Nitrogen Vacancy Center Ensembles Created in Electron-Irradiated and Vacuum-Annealed Delta-Doped Layers. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2000550.	1.2	6
110	High-SNR Magnetic Field Sensing Using Portable Confocal Magnetometer Probe Based on Nitrogen Vacancy Centers in Diamond. <i>IEEE Sensors Journal</i> , 2021, 21, 24665-24671.	2.4	2
111	Electron spin contrast of high-density and perfectly aligned nitrogen-vacancy centers synthesized by chemical vapor deposition. <i>Applied Physics Express</i> , 2021, 14, 032001.	1.1	7
112	Magnetic Imaging and Microscopy. , 2021, , 1-52.		1
113	A reaction-coordinate perspective of magnetic relaxation. <i>Chemical Society Reviews</i> , 2021, 50, 6684-6699.	18.7	37
114	Nuclear spin assisted magnetic field angle sensing. <i>Npj Quantum Information</i> , 2021, 7, .	2.8	11
115	Equilibrium current vortices in simple metals doped with rare earths. <i>Physical Review B</i> , 2021, 103, .	1.1	2
116	Sn-V centers in diamond activated by ultra high pressure and high temperature treatment. <i>Japanese Journal of Applied Physics</i> , 2021, 60, 035501.	0.8	2
117	Imaging Topological Spin Structures Using Light-Polarization and Magnetic Microscopy. <i>Physical Review Applied</i> , 2021, 15, .	1.5	18
118	Magnetic domains and domain wall pinning in atomically thin CrBr ₃ revealed by nanoscale imaging. <i>Nature Communications</i> , 2021, 12, 1989.	5.8	68
119	Spin-Wave Doppler Shift by Magnon Drag in Magnetic Insulators. <i>Physical Review Letters</i> , 2021, 126, 137202.	2.9	7
120	Characterization of room-temperature in-plane magnetization in thin flakes of Cr_2Te_3 with a single-spin magnetometer. <i>Physical Review Materials</i> , 2021, 5, .		
122	Quantum Sensing of Spin Fluctuations of Magnetic Insulator Films with Perpendicular Anisotropy. <i>Physical Review Applied</i> , 2021, 15, .	1.5	4
123	Quantum Sensing of Insulator-to-Metal Transitions in a Mott Insulator. <i>Advanced Quantum Technologies</i> , 2021, 4, 2000142.	1.8	5
124	Improvement on the manipulation of a single nitrogen-vacancy spin and microwave photon at single-quantum level. <i>Communications in Theoretical Physics</i> , 2021, 73, 065101.	1.1	5
125	Resource-efficient adaptive Bayesian tracking of magnetic fields with a quantum sensor. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 195801.	0.7	4
126	Parallel optically detected magnetic resonance spectrometer for dozens of single nitrogen-vacancy centers using laser-spot lattice. <i>Review of Scientific Instruments</i> , 2021, 92, 045107.	0.6	3
127	Magnonics in collinear magnetic insulating systems. <i>Journal of Applied Physics</i> , 2021, 129, 161101.	1.1	3

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128	Magnetic texture based magnonics. <i>Physics Reports</i> , 2021, 905, 1-59.	10.3	107
129	Femtosecond Laser Writing of Spin Defects in Hexagonal Boron Nitride. <i>ACS Photonics</i> , 2021, 8, 994-1000.	3.2	67
130	Quantum guidelines for solid-state spin defects. <i>Nature Reviews Materials</i> , 2021, 6, 906-925.	23.3	185
131	Creation of Negatively Charged Boron Vacancies in Hexagonal Boron Nitride Crystal by Electron Irradiation and Mechanism of Inhomogeneous Broadening of Boron Vacancy-Related Spin Resonance Lines. <i>Nanomaterials</i> , 2021, 11, 1373.	1.9	25
132	Toward Quantitative Bio-sensing with Nitrogen-Vacancy Center in Diamond. <i>ACS Sensors</i> , 2021, 6, 2077-2107.	4.0	84
133	Adiabatic preparation of maximum entanglement in hybrid quantum systems with the Z_2 symmetry. <i>Quantum Engineering</i> , 2021, 3, e65.	1.2	6
134	Multi-color laser excitation of diamond nitrogen vacancy centers embedded in nanophotonic structures. <i>AIP Advances</i> , 2021, 11, 065006.	0.6	1
135	Magnetic imaging and statistical analysis of the metamagnetic phase transition of FeRh with electron spins in diamond. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	10
136	Quantitative study of the response of a single NV defect in diamond to magnetic noise. <i>Physical Review B</i> , 2021, 103, .	1.1	12
137	Protocol Discovery for the Quantum Control of Majoranas by Differentiable Programming and Natural Evolution Strategies. <i>PRX Quantum</i> , 2021, 2, .	3.5	15
138	Entanglement-enhanced sensing using a chain of qubits with always-on nearest-neighbor interactions. <i>Physical Review A</i> , 2021, 103, .	1.0	5
139	Electrically tunable and reversible magnetoelectric coupling in strained bilayer graphene. <i>Physical Review B</i> , 2021, 103, .	1.1	3
140	Magnetism in curved geometries. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	29
141	Nanoscale Vector AC Magnetometry with a Single Nitrogen-Vacancy Center in Diamond. <i>Nano Letters</i> , 2021, 21, 5143-5150.	4.5	19
142	A magnon scattering platform. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	26
143	Star-topology registers: NMR and quantum information perspectives. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 383002.	0.7	8
144	Materials challenges for quantum technologies based on color centers in diamond. <i>MRS Bulletin</i> , 2021, 46, 623-633.	1.7	19
145	Topological Hall Effects of Magnons in Ferrimagnets. <i>Journal of the Physical Society of Japan</i> , 2021, 90, 081004.	0.7	2

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146	High-Resolution, High-Contrast Optical Interface for Defect Qubits. ACS Photonics, 2021, 8, 2642-2649.	3.2	3
147	Electrically Switchable Entanglement Channel in van der Waals Magnets. Physical Review Applied, 2021, 16, .	1.5	5
148	Scalable Fabrication of Clean Nanodiamonds <i>via</i> Salt-Assisted Air Oxidation: Implications for Sensing and Imaging. ACS Applied Nano Materials, 2021, 4, 9223-9230.	2.4	8
149	Preparing Dicke states in a spin ensemble using phase estimation. Physical Review A, 2021, 104, .	1.0	3
150	Spin Pumping of an Easy-Plane Antiferromagnet Enhanced by Dzyaloshinskii–Moriya Interaction. Physical Review Letters, 2021, 127, 117202.	2.9	28
151	Color centers in wide-bandgap semiconductors for subdiffraction imaging: a review. Advanced Photonics, 2021, 3, .	6.2	11
152	Disorder-induced currents as signatures of chiral superconductivity. Physical Review B, 2021, 104, .	1.1	1
153	High-pressure synthesis and characterization of diamond from europium containing systems. Carbon, 2021, 182, 815-824.	5.4	4
154	Imaging phonon-mediated hydrodynamic flow in WTe ₂ . Nature Physics, 2021, 17, 1216-1220.	6.5	72
155	Reinforcement Learning for Many-Body Ground-State Preparation Inspired by Counterdiabatic Driving. Physical Review X, 2021, 11, .	2.8	29
156	Directional Excitation of a High-Density Magnon Gas Using Coherently Driven Spin Waves. Nano Letters, 2021, 21, 8213-8219.	4.5	10
157	Design and simulation of a strong and uniform microwave antenna for a large volume of nitrogen-vacancy ensembles in diamond. Journal of the Korean Physical Society, 2021, 78, 280-283.	0.3	1
158	Indirect overgrowth as a synthesis route for superior diamond nano sensors. Scientific Reports, 2020, 10, 22404.	1.6	14
159	NV center pumped and enhanced by nanowire ring resonator laser to integrate a 10 μ m-scale spin-based sensor structure. Nanotechnology, 2021, 32, 055502.	1.3	5
160	Predicted strong coupling of solid-state spins via a single magnon mode. Materials for Quantum Technology, 2021, 1, 011001.	1.2	30
161	Quantum hydrodynamics of spin winding. Physical Review B, 2020, 102, .	1.1	7
162	Ferromagnetic Resonance Assisted Optomechanical Magnetometer. Physical Review Letters, 2020, 125, 147201.	2.9	23
163	Magnetic noise from ultrathin abrasively deposited materials on diamond. Physical Review Materials, 2018, 2, .	0.9	10

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164	Orbital magnetic moments of phonons. <i>Physical Review Materials</i> , 2019, 3, .	0.9	80
165	Comparison of different methods of nitrogen-vacancy layer formation in diamond for wide-field quantum microscopy. <i>Physical Review Materials</i> , 2020, 4, .	0.9	14
166	Diamond magnetometer enhanced by ferrite flux concentrators. <i>Physical Review Research</i> , 2020, 2, .	1.3	78
167	Quantum Metrology with Strongly Interacting Spin Systems. <i>Physical Review X</i> , 2020, 10, .	2.8	52
168	Electron-phonon instability in graphene revealed by global and local noise probes. <i>Science</i> , 2019, 364, 154-157.	6.0	47
169	Infrared laser threshold magnetometry with a NV doped diamond intracavity etalon. <i>Optics Express</i> , 2019, 27, 1706.	1.7	22
170	Plasma treatments and photonic nanostructures for shallow nitrogen vacancy centers in diamond. <i>Optical Materials Express</i> , 2019, 9, 4716.	1.6	11
171	All-optical tuning of a diamond micro-disk resonator on silicon. <i>Photonics Research</i> , 2020, 8, 318.	3.4	10
172	Suppression of the Optical Linewidth and Spin Decoherence of a Quantum Spin Center in a p - n Diode. <i>PRX Quantum</i> , 2021, 2, .	3.5	1
173	Widefield quantum microscopy with nitrogen-vacancy centers in diamond: Strengths, limitations, and prospects. <i>Journal of Applied Physics</i> , 2021, 130, .	1.1	46
174	The universal shear conductivity of Fermi liquids and spinon Fermi surface states and its detection via spin qubit noise magnetometry. <i>New Journal of Physics</i> , 2021, 23, 113009.	1.2	11
175	Selective Effects of the Host Matrix in Hydrogenated InGaAsN Alloys: Toward an Integrated Matrix/Defect Engineering Paradigm. <i>Advanced Functional Materials</i> , 2022, 32, 2108862.	7.8	0
176	Opportunities for Long-Range Magnon-Mediated Entanglement of Spin Qubits via On- and Off-Resonant Coupling. <i>PRX Quantum</i> , 2021, 2, .	3.5	46
177	Quantum control of nitrogen-vacancy center in diamond. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2018, 67, 120302.	0.2	3
178	Probing spin waves using single-spin magnetometry. , 2019, , .		0
179	Nitrogen vacancy centre-based diamond microscope for investigating quantum materials. <i>Bulletin of Materials Science</i> , 2021, 44, 1.	0.8	2
180	Imaging Spin-Wave Damping Underneath Metals Using Electron Spins in Diamond. <i>Advanced Quantum Technologies</i> , 2021, 4, 2100094.	1.8	13
181	Higher-order topology and corner triplon excitations in two-dimensional quantum spin-dimer models. <i>Physical Review B</i> , 2021, 104, .	1.1	3

#	ARTICLE	IF	CITATIONS
182	Magnetic Imaging and Microscopy. , 2021, , 1203-1254.		0
183	T-carbon: Experiments, properties, potential applications and derivatives. Nano Today, 2022, 42, 101346.	6.2	23
184	Experimental estimation of the quantum Fisher information from randomized measurements. Physical Review Research, 2021, 3, .	1.3	17
185	Spin-Selective Hole-Exciton Coupling in a V-Doped WSe ₂ Ferromagnetic Semiconductor at Room Temperature. ACS Nano, 2021, 15, 20267-20277.	7.3	13
186	Intrinsic and induced quantum quenches for enhancing qubit-based quantum noise spectroscopy. Nature Communications, 2021, 12, 6528.	5.8	9
187	Domain wall dynamics in two-dimensional van der Waals ferromagnets. Applied Physics Reviews, 2021, 8, .	5.5	16
188	Twist engineering of the two-dimensional magnetism in double bilayer chromium triiodide homostructures. Nature Physics, 2022, 18, 30-36.	6.5	62
189	Imaging oersted field around current flowing wire based on a diamond scanning magnetometer. Current Applied Physics, 2022, 34, 59-63.	1.1	1
190	The 2021 roadmap for noncollinear magnonics. Solid State Physics, 2021, 72, 1-27.	1.3	3
191	A Wideband Balun-Based Microwave Device for Quantum Information Processing With Nitrogen-Vacancy Centers in Diamond. Journal of Lightwave Technology, 2022, 40, 7572-7577.	2.7	5
192	Characterizing two-dimensional superconductivity via nanoscale noise magnetometry with single-spin qubits. Physical Review B, 2022, 105, .	1.1	14
193	Single-spin qubit magnetic spectroscopy of two-dimensional superconductivity. Physical Review Research, 2022, 4, .	1.3	12
194	Variational quantum algorithm for estimating the quantum Fisher information. Physical Review Research, 2022, 4, .	1.3	21
195	Advances in Magnetism Roadmap on Spin-Wave Computing. IEEE Transactions on Magnetics, 2022, 58, 1-72.	1.2	179
196	Towards a quantum interface between spin waves and paramagnetic spin baths. Physical Review B, 2022, 105, .	1.1	11
197	Photon control and coherent interactions via lattice dark states in atomic arrays. Physical Review Research, 2022, 4, .	1.3	23
198	Zero-field magnetometry using hyperfine-biased nitrogen-vacancy centers near diamond surfaces. Physical Review Research, 2022, 4, .	1.3	11
199	Diamond spin quantum sensing under extreme conditions. Wuli Xuebao/Acta Physica Sinica, 2022, 71, 066101.	0.2	1

#	ARTICLE	IF	CITATIONS
200	Observation of magnetic domain patterns with tilted uniaxial anisotropy using a single-spin magnetometer. Physical Review B, 2022, 105, .	1.1	1
201	Magnetic-field-assisted Spectral Decomposition and Imaging of Charge States of N Centers in Diamond. Physical Review Applied, 2022	1.5	1
202	Carbon Nanotube Devices for Quantum Technology. Materials, 2022, 15, 1535.	1.3	22
203	Electric field control of interaction between magnons and quantum spin defects. Physical Review Research, 2022, 4, .	1.3	8
204	Angle Locking of a Levitating Diamond Using Spin Diamagnetism. Physical Review Letters, 2022, 128, 117203.	2.9	5
205	Quantum coherence of a single NV center in a spin-cavity hybrid system. European Physical Journal B, 2022, 95, 1.	0.6	0
206	Orders of Magnitude Improvement in Coherence of Silicon-Vacancy Ensembles in Isotopically Purified H Centers in Diamond. Physical Review Applied, 2022	3.5	3
207	Studying Quantum Materials with Scanning SQUID Microscopy. Annual Review of Condensed Matter Physics, 2022, 13, 385-405.	5.2	17
208	Modified coherence of quantum spins in a damped pure-dephasing model. Physical Review B, 2022, 105, .	1.1	0
209	Revealing room temperature ferromagnetism in exfoliated Fe_5GeTe_2 flakes with quantum magnetic imaging. 2D Materials, 2022, 9, 025017.	2.0	17
210	Dynamics of quantum resources in regular and Majorana fermion systems. Physical Review A, 2022, 105, .	1.0	2
211	Negatively charged boron vacancy center in diamond. Physical Review B, 2022, 105, .	1.1	3
212	Quantum calibrated magnetic force microscopy. Physical Review B, 2021, 104, .	1.1	6
213	Probing Thermal Magnon Current Mediated by Coherent Magnon via Nitrogen-Vacancy Centers in Diamond. Physical Review Applied, 2021, 16, .	1.5	9
214	Bright <i>ab initio</i> photoluminescence of NV in diamond. Journal of Applied Physics, 2021, 130, 234402.	1.1	2
215	An integrated widefield probe for practical diamond nitrogen-vacancy microscopy. Applied Physics Letters, 2021, 119, .	1.5	5
216	Nanoscale spin detection of copper ions using double electron-electron resonance at room temperature. Physical Review B, 2021, 104, .	1.1	1
217	Applications and Techniques for Fast Machine Learning in Science. Frontiers in Big Data, 2022, 5, 787421.	1.8	20

#	ARTICLE	IF	CITATIONS
218	The Magnetic Genome of Two-Dimensional van der Waals Materials. ACS Nano, 2022, 16, 6960-7079.	7.3	149
219	Path Integral Framework for Characterizing and Controlling Decoherence Induced by Nonstationary Environments on a Quantum Probe. PRX Quantum, 2022, 3, .	3.5	2
220	Fast, semianalytical approach to obtain the stray magnetic field above a magnetic skyrmion. Physical Review B, 2022, 105, .	1.1	4
221	Nanoscale solid-state nuclear quadrupole resonance spectroscopy using depth-optimized nitrogen-vacancy ensembles in diamond. Applied Physics Letters, 2022, 120, .	1.5	11
222	Low-Temperature Photophysics of Single Nitrogen-Vacancy Centers in Diamond. Physical Review Letters, 2022, 128, 177401.	2.9	11
223	Optimization of optical spin readout of the nitrogen-vacancy center in diamond based on spin relaxation model. AIP Advances, 2022, 12, 055215.	0.6	0
224	Generalized model of magnon kinetics and subgap magnetic noise. Physical Review B, 2022, 105, .	1.1	3
225	Quantum magnonics: When magnon spintronics meets quantum information science. Physics Reports, 2022, 965, 1-74.	10.3	195
226	Sub-second temporal magnetic field microscopy using quantum defects in diamond. Scientific Reports, 2022, 12, .	1.6	10
227	Generation of Shallow Nitrogen-Vacancy Centers in Diamond with Carbon Ion Implantation. Wuli Xuebao/Acta Physica Sinica, 2022, .	0.2	0
228	Sensing of Arbitrary-Frequency Fields Using a Quantum Mixer. Physical Review X, 2022, 12, .	2.8	16
229	Robust Spin Relaxometry with Fast Adaptive Bayesian Estimation. Physical Review Applied, 2022, 17, .	1.5	9
230	Investigating the size effect on the electrical conductivity at nanoscale with solid spins. Applied Physics Letters, 2022, 121, 014001.	1.5	0
231	Decoherence of V_{B}^{m} spin defects in monoisotopic hexagonal boron nitride. Nature Communications, 2022, 13, .	5.8	31
232	Varied Magnetic Phases in a van der Waals Easy-Plane Antiferromagnet Revealed by Nitrogen-Vacancy Center Microscopy. ACS Nano, 2022, 16, 12580-12589.	7.3	6
233	Toward Deep-Learning-Assisted Spectrally Resolved Imaging of Magnetic Noise. Physical Review Applied, 2022, 18, .	1.5	1
234	Flavors of magnetic noise in quantum materials. Physical Review B, 2022, 106, .	1.1	1
235	Opportunities for nitrogen-vacancy-assisted magnetometry to study magnetism in 2D van der Waals magnets. Applied Physics Letters, 2022, 121, .	1.5	8

#	ARTICLE	IF	CITATIONS
236	Spin-selective tunneling from nanowires of the candidate topological Kondo insulator SmB ₆ . Science, 2022, 377, 1218-1222.	6.0	4
237	Diamond Integrated Quantum Nanophotonics: Spins, Photons and Phonons. Journal of Lightwave Technology, 2022, 40, 7538-7571.	2.7	15
238	Imaging an Elusive Electronic Transition in Graphene. Physics Magazine, 0, 15, .	0.1	0
239	Probing the quantum noise of the spinon Fermi surface with NV centers. Physical Review B, 2022, 106, .	1.1	5
240	Nanoscale electric field imaging with an ambient scanning quantum sensor microscope. Npj Quantum Information, 2022, 8, .	2.8	13
241	Accurate magnetic field imaging using nanodiamond quantum sensors enhanced by machine learning. Scientific Reports, 2022, 12, .	1.6	10
242	Aberration control in quantitative widefield quantum microscopy. AVS Quantum Science, 2022, 4, 034404.	1.8	0
243	Imaging of Curved Magnetic Architectures. Topics in Applied Physics, 2022, , 269-304.	0.4	1
244	Emerging Diamond Quantum Sensing in Bio-Membranes. Membranes, 2022, 12, 957.	1.4	1
245	Inference-Based Quantum Sensing. Physical Review Letters, 2022, 129, .	2.9	6
246	A Multi-Pass Optically Pumped Rubidium Atomic Magnetometer with Free Induction Decay. Sensors, 2022, 22, 7598.	2.1	1
247	Wide-field magnetometry using nitrogen-vacancy color centers with randomly oriented micro-diamonds. Scientific Reports, 2022, 12, .	1.6	5
248	Precession-induced nonclassicality of the free induction decay of NV centers by a dynamical polarized nuclear spin bath. Journal of Physics Condensed Matter, 2022, 34, 505701.	0.7	3
249	Quantum microscopy with van der Waals heterostructures. Nature Physics, 2023, 19, 87-91.	6.5	49
250	dc Quantum Magnetometry below the Ramsey Limit. Physical Review Applied, 2022, 18, .	1.5	3
251	Nanoscale imaging of antiferromagnetic domains in epitaxial films of Cr ₂ O ₃ via scanning diamond magnetic probe microscopy. RSC Advances, 2022, 13, 178-185.	1.7	9
252	Bell-state generation for spin qubits via dissipative coupling. Physical Review B, 2022, 106, .	1.1	15
253	Surface Cooper-Pair Spin Waves in Triplet Superconductors. Physical Review Letters, 2022, 129, .	2.9	3

#	ARTICLE	IF	CITATIONS
254	Sensing the Local Magnetic Environment through Optically Active Defects in a Layered Magnetic Semiconductor. ACS Nano, 2023, 17, 288-299.	7.3	15
255	Untrained Physically Informed Neural Network for Image Reconstruction of Magnetic Field Sources. Physical Review Applied, 2022, 18, .	1.5	6
256	Preparation of metrological states in dipolar-interacting spin systems. Npj Quantum Information, 2022, 8, .	2.8	7
257	Nanoscale quantum sensing with Nitrogen-Vacancy centers in nanodiamonds – A magnetic resonance perspective. Progress in Nuclear Magnetic Resonance Spectroscopy, 2023, 134-135, 20-38.	3.9	11
258	Nanoscale covariance magnetometry with diamond quantum sensors. Science, 2022, 378, 1301-1305.	6.0	13
259	Imaging current control of magnetization in Fe ₃ GeTe ₂ with a widefield nitrogen-vacancy microscope. 2D Materials, 2023, 10, 015023.	2.0	4
260	Local Ferromagnetic Resonance Measurements of Mesoscopically Patterned Ferromagnets Using Deterministically Placed Nanodiamonds. Physical Review Applied, 2022, 18, .	1.5	1
261	Nonreciprocal spin waves in ferrimagnetic domain-wall channels. Physical Review B, 2022, 106, .	1.1	4
262	Magnetic Imaging with Spin Defects in Hexagonal Boron Nitride. Physical Review Applied, 2022, 18, .	1.5	21
263	Recent advances on applications of NV ⁺ magnetometry in condensed matter physics. Photonics Research, 2023, 11, 393.	3.4	10
264	Research progress of two-dimensional magnetic materials. Science China Materials, 2023, 66, 859-876.	3.5	10
265	An integrated and scalable experimental system for nitrogen-vacancy ensemble magnetometry. Review of Scientific Instruments, 2023, 94, .	0.6	1
266	Machine and quantum learning for diamond-based quantum applications. Materials for Quantum Technology, 2023, 3, 012001.	1.2	2
267	Above-Room-Temperature Ferromagnetism in Thin van der Waals Flakes of Cobalt-Substituted Fe ₅ GeTe ₂ . ACS Applied Materials & Interfaces, 2023, 15, 3287-3296.	4.0	11
268	Nanothermometry with Enhanced Sensitivity and Enlarged Working Range Using Diamond Sensors. Accounts of Chemical Research, 2023, 56, 95-105.	7.6	3
269	Emerging multi-frequency surface strain force microscopy. Journal of Applied Physics, 2023, 133, 040901.	1.1	1
270	Broadband microwave detection using electron spins in a hybrid diamond-magnet sensor chip. Nature Communications, 2023, 14, .	5.8	8
271	Enhanced Tripartite Interactions in Spin-Magnon-Mechanical Hybrid Systems. Physical Review Letters, 2023, 130, .	2.9	12

#	ARTICLE	IF	CITATIONS
272	Orientation of the NV centers are determined using the cylindrical vector beam array. Optics Express, 2023, 31, 9299.	1.7	1
273	Quantum sensing tools to characterize physical, chemical and biological processes with magnetic resonance. Journal of Magnetic Resonance Open, 2023, 16-17, 100113.	0.5	1
274	Chirality as generalized spin-orbit interaction in spintronics. Physics Reports, 2023, 1009, 1-115.	10.3	30
275	High-resolution spectroscopy of a single nitrogen-vacancy defect at zero magnetic field. Quantum Science and Technology, 2023, 8, 025011.	2.6	1
276	Two-dimensional spin systems in PECVD-grown diamond with tunable density and long coherence for enhanced quantum sensing and simulation. APL Materials, 2023, 11, .	2.2	2
277	Magnon Interference Tunneling Spectroscopy as a Probe of 2D Magnetism. Physical Review Letters, 2023, 130, .	2.9	5
278	Symmetry of the Hyperfine and Quadrupole Interactions of Boron Vacancies in a Hexagonal Boron Nitride. Journal of Physical Chemistry C, 2023, 127, 3634-3639.	1.5	6
279	Antiferromagnetic insulatronics: Spintronics in insulating 3d metal oxides with antiferromagnetic coupling. Applied Physics Letters, 2023, 122, .	1.5	5
280	Noisy intermediate-scale quantum computers. Frontiers of Physics, 2023, 18, .	2.4	19
281	Directly revealing the electrical annealing of nanoscale conductive networks with solid spins. Applied Physics Letters, 2023, 122, .	1.5	1
282	Quantum enhanced radio detection and ranging with solid spins. Nature Communications, 2023, 14, .	5.8	4
283	Bayesian-Based Hybrid Method for Rapid Optimization of NV Center Sensors. Sensors, 2023, 23, 3244.	2.1	2
284	Spin-Interaction Studies Take on a New Dimension. Physics Magazine, 0, 16, .	0.1	0
285	Magnetic nanostructures. , 2024, , 112-131.		385
286	Magnetic detection under high pressures using designed silicon vacancy centres in silicon carbide. Nature Materials, 2023, 22, 489-494.	13.3	10
287	Sub-micron spin-based magnetic field imaging with an organic light emitting diode. Nature Communications, 2023, 14, .	5.8	2
288	On-chip Diamond MEMS Magnetic Sensing through Multifunctionalized Magnetostrictive Thin Film. Advanced Functional Materials, 2023, 33, .	7.8	3
290	Spin-defect characteristics of single sulfur vacancies in monolayer MoS2. Npj 2D Materials and Applications, 2023, 7, .	3.9	8

#	ARTICLE	IF	CITATIONS
291	High-sensitivity optical-fiber magnetic sensor based on diamond and magnetic flux concentrators. Optics Express, 2023, 31, 14685.	1.7	2
292	Ferrimagnetic Oscillator Magnetometer. Physical Review Applied, 2023, 19, .	1.5	2
300	Dielectrics for Two-Dimensional Transition-Metal Dichalcogenide Applications. ACS Nano, 2023, 17, 9870-9905.	7.3	8
324	Disentangle electronic, structural, and spin dynamics using transient extreme ultraviolet spectroscopy. Journal of Materials Chemistry C, 2023, 11, 12128-12146.	2.7	0
325	Quantum states and intertwining phases in kagome materials. Nature Reviews Physics, 2023, 5, 635-658.	11.9	2
341	Perspective: nanoscale electric sensing and imaging based on quantum sensors. , 2023, 2, .		0
350	Effects of Microwave and Laser Power on Optical Detection Magnetic Resonance of Diamond Nitrogen Vacancy Center. , 2023, , .		0
353	Microwave Sensing and Localization with Solid-State Spins. , 2023, , .		0
367	Challenges in advancing our understanding of atomic-like quantum systems: Theory and experiment. MRS Bulletin, 2024, 49, 256-276.	1.7	0