

# Ren-Bao Liu

## List of Publications by Year in Descending Order

**Source:** <https://exaly.com/author-pdf/2691634/ren-bao-liu-publications-by-year.pdf>

**Version:** 2024-04-25

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

119  
papers

4,235  
citations

35  
h-index

62  
g-index

137  
ext. papers

4,922  
ext. citations

7.5  
avg, IF

5.71  
L-index

#	Paper	IF	Citations
119	Zero-field magnetometry using hyperfine-biased nitrogen-vacancy centers near diamond surfaces. <i>Physical Review Research</i> , <b>2022</b> , 4,	3.9	1
118	Collision-Sensitive Spin Noise. <i>Physical Review Applied</i> , <b>2022</b> , 17,	4.3	1
117	Twenty-three-millisecond electron spin coherence of erbium ions in a natural-abundance crystal.. <i>Science Advances</i> , <b>2021</b> , 7, eabj9786	14.3	3
116	Association of Nanodiamond Rotation Dynamics with Cell Activities by Translation-Rotation Tracking. <i>Nano Letters</i> , <b>2021</b> , 21, 3393-3400	11.5	5
115	Berry phases of higher spins due to internal geometry of Majorana constellation and relation to quantum entanglement. <i>New Journal of Physics</i> , <b>2021</b> , 23, 073020	2.9	0
114	Ultra-sensitive hybrid diamond nanothermometer. <i>National Science Review</i> , <b>2021</b> , 8, nwa194	10.8	9
113	Classical-Noise-Free Sensing Based on Quantum Correlation Measurement*. <i>Chinese Physics Letters</i> , <b>2021</b> , 38, 010301	1.8	3
112	A masing ladder. <i>Science</i> , <b>2021</b> , 371, 780-781	33.3	0
111	Unification of valley and anomalous Hall effects in a strained lattice. <i>Physical Review B</i> , <b>2021</b> , 104,	3.3	2
110	Three-tangle of a general three-qubit state in the representation of Majorana stars. <i>Physical Review A</i> , <b>2020</b> , 101,	2.6	5
109	Cluster correlation expansion for studying decoherence of clock transitions in spin baths. <i>Physical Review B</i> , <b>2020</b> , 102,	3.3	2
108	Hyperfine spectroscopy in a quantum-limited spectrometer. <i>Magnetic Resonance</i> , <b>2020</b> , 1, 315-330	2.9	2
107	Coherent quantum control of nitrogen-vacancy center spins near 1000 kelvin. <i>Nature Communications</i> , <b>2019</b> , 10, 1344	17.4	31
106	High-resolution spectroscopy of single nuclear spins via sequential weak measurements. <i>Nature Communications</i> , <b>2019</b> , 10, 594	17.4	36
105	Characterization of Arbitrary-Order Correlations in Quantum Baths by Weak Measurement. <i>Physical Review Letters</i> , <b>2019</b> , 123, 050603	7.4	10
104	Nanometer-precision non-local deformation reconstruction using nanodiamond sensing. <i>Nature Communications</i> , <b>2019</b> , 10, 3259	17.4	12
103	Sensitivity of parameter estimation near the exceptional point of a non-Hermitian system. <i>New Journal of Physics</i> , <b>2019</b> , 21, 083002	2.9	35

102	Magnetic Criticality Enhanced Hybrid Nanodiamond Thermometer under Ambient Conditions. <i>Physical Review X</i> , <b>2018</b> , 8,	9.1	28
101	A diamond age of masers. <i>Nature</i> , <b>2018</b> , 555, 447-449	50.4	3
100	Phase transitions in sequential weak measurements. <i>Physical Review A</i> , <b>2018</b> , 98,	2.6	7
99	Hybrid nanodiamond quantum sensors enabled by volume phase transitions of hydrogels. <i>Nature Communications</i> , <b>2018</b> , 9, 3188	17.4	44
98	2 + 1 dimensional de Sitter universe emerging from the gauge structure of a nonlinear quantum system. <i>Scientific Reports</i> , <b>2017</b> , 7, 9756	4.9	
97	Dynamical Birefringence: Electron-Hole Recollisions as Probes of Berry Curvature. <i>Physical Review X</i> , <b>2017</b> , 7,	9.1	16
96	Single-Shot Readout of a Nuclear Spin Weakly Coupled to a Nitrogen-Vacancy Center at Room Temperature. <i>Physical Review Letters</i> , <b>2017</b> , 118, 150504	7.4	30
95	Anchored but not internalized: shape dependent endocytosis of nanodiamond. <i>Scientific Reports</i> , <b>2017</b> , 7, 46462	4.9	21
94	Quantum many-body theory for electron spin decoherence in nanoscale nuclear spin baths. <i>Reports on Progress in Physics</i> , <b>2017</b> , 80, 016001	14.4	60
93	Atomic-Scale Positioning of Single Spins via Multiple Nitrogen-Vacancy Centers. <i>Physical Review Applied</i> , <b>2016</b> , 5,	4.3	5
92	Holonomic Quantum Control with Continuous Variable Systems. <i>Physical Review Letters</i> , <b>2016</b> , 116, 140502	7.4	54
91	Mesoscopic Superposition States Generated by Synthetic Spin-Orbit Interaction in Fock-State Lattices. <i>Physical Review Letters</i> , <b>2016</b> , 116, 220502	7.4	16
90	Proposal for Quantum Sensing Based on Two-Dimensional Dynamical Decoupling: NMR Correlation Spectroscopy of Single Molecules. <i>Physical Review Applied</i> , <b>2016</b> , 6,	4.3	10
89	Angstrom-Resolution Magnetic Resonance Imaging of Single Molecules via Wave-Function Fingerprints of Nuclear Spins. <i>Physical Review Applied</i> , <b>2016</b> , 6,	4.3	18
88	Proposal for a room-temperature diamond maser. <i>Nature Communications</i> , <b>2015</b> , 6, 8251	17.4	44
87	Topological phase transitions in superradiance lattices. <i>Optica</i> , <b>2015</b> , 2, 712	8.6	26
86	Magnetic ordering of nitrogen-vacancy centers in diamond via resonator-mediated coupling. <i>EPJ Quantum Technology</i> , <b>2015</b> , 2,	6.9	15
85	Thermodynamic holography. <i>Scientific Reports</i> , <b>2015</b> , 5, 15077	4.9	13

84	Keeping a spin qubit alive in natural silicon: Comparing optimal working points and dynamical decoupling. <i>Physical Review B</i> , <b>2015</b> , 91,	3.3	6
83	Classical nature of nuclear spin noise near clock transitions of Bi donors in silicon. <i>Physical Review B</i> , <b>2015</b> , 92,	3.3	16
82	Storage and retrieval of microwave fields at the single-photon level in a spin ensemble. <i>Physical Review A</i> , <b>2015</b> , 92,	2.6	43
81	Geometric diffusion of quantum trajectories. <i>Scientific Reports</i> , <b>2015</b> , 5, 12109	4.9	5
80	Dynamical-Decoupling-Based Quantum Sensing: Floquet Spectroscopy. <i>Physical Review X</i> , <b>2015</b> , 5,	9.1	21
79	Experimental observation of Lee-Yang zeros. <i>Physical Review Letters</i> , <b>2015</b> , 114, 010601	7.4	85
78	Superradiance lattice. <i>Physical Review Letters</i> , <b>2015</b> , 114, 043602	7.4	40
77	Phase transitions in the complex plane of physical parameters. <i>Scientific Reports</i> , <b>2014</b> , 4, 5202	4.9	42
76	Unambiguous observation of shape effects on cellular fate of nanoparticles. <i>Scientific Reports</i> , <b>2014</b> , 4, 4495	4.9	165
75	Sensing and atomic-scale structure analysis of single nuclear-spin clusters in diamond. <i>Nature Physics</i> , <b>2014</b> , 10, 21-25	16.2	78
74	Theory of low-power ultra-broadband terahertz sideband generation in bi-layer graphene. <i>Nature Communications</i> , <b>2014</b> , 5, 4854	17.4	20
73	Uncovering many-body correlations in nanoscale nuclear spin baths by central spin decoherence. <i>Nature Communications</i> , <b>2014</b> , 5, 4822	17.4	24
72	Strong coupling without touching. <i>National Science Review</i> , <b>2014</b> , 1, 472-473	10.8	
71	Faraday rotation echo spectroscopy and detection of quantum fluctuations. <i>Scientific Reports</i> , <b>2014</b> , 4, 4695	4.9	9
70	Nonlinear optical response induced by non-Abelian Berry curvature in time-reversal-invariant insulators. <i>Physical Review B</i> , <b>2014</b> , 90,	3.3	22
69	Dynamical decoupling design for identifying weakly coupled nuclear spins in a bath. <i>Physical Review A</i> , <b>2014</b> , 90,	2.6	25
68	Optically detected nuclear quadrupolar interaction of N14 in nitrogen-vacancy centers in diamond. <i>Physical Review B</i> , <b>2014</b> , 89,	3.3	20
67	Quantum-coherence-induced second plateau in high-sideband generation. <i>Physical Review B</i> , <b>2014</b> , 89,	3.3	13

66	Giant Faraday rotation induced by the Berry phase in bilayer graphene under strong terahertz fields. <i>New Journal of Physics</i> , <b>2014</b> , 16, 043014	2.9	11
65	Noise-resilient quantum evolution steered by dynamical decoupling. <i>Nature Communications</i> , <b>2013</b> , 4, 2254	17.4	46
64	Suppression of electron spin decoherence of the diamond NV center by a transverse magnetic field. <i>Physical Review B</i> , <b>2013</b> , 88,	3.3	12
63	Terahertz electron-hole recollisions in GaAs/AlGaAs quantum wells: robustness to scattering by optical phonons and thermal fluctuations. <i>Physical Review Letters</i> , <b>2013</b> , 111, 267402	7.4	11
62	Berry phases of quantum trajectories of optically excited electron-hole pairs in semiconductors under strong terahertz fields. <i>New Journal of Physics</i> , <b>2013</b> , 15, 115005	2.9	12
61	Effects of excitation frequency on high-order terahertz sideband generation in semiconductors. <i>New Journal of Physics</i> , <b>2013</b> , 15, 105015	2.9	10
60	No-go theorems and optimization of dynamical decoupling against noise with soft cutoff. <i>Physical Review A</i> , <b>2013</b> , 87,	2.6	6
59	Quantum criticality at high temperature revealed by spin echo. <i>New Journal of Physics</i> , <b>2013</b> , 15, 043032	2.9	9
58	Controllable effects of quantum fluctuations on spin free-induction decay at room temperature. <i>Scientific Reports</i> , <b>2012</b> , 2, 432	4.9	16
57	Lee-Yang zeros and critical times in decoherence of a probe spin coupled to a bath. <i>Physical Review Letters</i> , <b>2012</b> , 109, 185701	7.4	69
56	Sensing single remote nuclear spins. <i>Nature Nanotechnology</i> , <b>2012</b> , 7, 657-62	28.7	184
55	Experimental observation of electron-hole recollisions. <i>Nature</i> , <b>2012</b> , 483, 580-3	50.4	175
54	Decoherence and dynamical decoupling control of nitrogen vacancy center electron spins in nuclear spin baths. <i>Physical Review B</i> , <b>2012</b> , 85,	3.3	108
53	Tuning a spin bath through the quantum-classical transition. <i>Physical Review Letters</i> , <b>2012</b> , 108, 200402	7.4	41
52	Non-Markovian dynamics and strong coupling between atomic transitions and a waveguide continuum edge. <i>Physical Review A</i> , <b>2012</b> , 85,	2.6	1
51	Optical effects of spin currents in semiconductors. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	3
50	Observation of an anomalous decoherence effect in a quantum bath at room temperature. <i>Nature Communications</i> , <b>2011</b> , 2, 570	17.4	68
49	Atomic-scale magnetometry of distant nuclear spin clusters via nitrogen-vacancy spin in diamond. <i>Nature Nanotechnology</i> , <b>2011</b> , 6, 242-6	28.7	128

48	Preserving qubit coherence by dynamical decoupling. <i>Frontiers of Physics</i> , <b>2011</b> , 6, 2-14	3.7	91
47	Quantum noise theory for quantum transport through nanostructures. <i>New Journal of Physics</i> , <b>2011</b> , 13, 013005	2.9	6
46	Anomalous decoherence effect in a quantum bath. <i>Physical Review Letters</i> , <b>2011</b> , 106, 217205	7.4	59
45	Extending quantum control of time-independent systems to time-dependent systems. <i>Physical Review A</i> , <b>2011</b> , 83,	2.6	3
44	Protection of quantum systems by nested dynamical decoupling. <i>Physical Review A</i> , <b>2011</b> , 83,	2.6	49
43	Protection of center-spin coherence by a dynamically polarized nuclear spin core. <i>Physical Review B</i> , <b>2010</b> , 82,	3.3	5
42	Quantum computing by optical control of electron spins. <i>Advances in Physics</i> , <b>2010</b> , 59, 703-802	18.4	84
41	Electrically controllable RKKY interaction in semiconductor quantum wires. <i>Physical Review B</i> , <b>2010</b> , 81,	3.3	20
40	Second-order nonlinear optical effects of spin currents. <i>Physical Review Letters</i> , <b>2010</b> , 104, 256601	7.4	33
39	Dynamics revealed by correlations of time-distributed weak measurements of a single spin. <i>New Journal of Physics</i> , <b>2010</b> , 12, 013018	2.9	15
38	Fisher information in a quantum-critical environment. <i>Physical Review A</i> , <b>2010</b> , 82,	2.6	67
37	Dynamical decoupling for a qubit in telegraphlike noises. <i>Physical Review A</i> , <b>2010</b> , 82,	2.6	8
36	Direct Optical Detection of a Pure Spin Current in Semiconductor. <i>Journal of Superconductivity and Novel Magnetism</i> , <b>2010</b> , 23, 53-56	1.5	1
35	Quantum many-body theory of qubit decoherence in a finite-size spin bath. II. Ensemble dynamics. <i>Physical Review B</i> , <b>2009</b> , 79,	3.3	50
34	Preserving electron spin coherence in solids by optimal dynamical decoupling. <i>Nature</i> , <b>2009</b> , 461, 1265-850.4	50.4	266
33	Exciton absorption in semiconductor superlattices in a strong longitudinal THz field. <i>New Journal of Physics</i> , <b>2009</b> , 11, 083004	2.9	7
32	Proposal for direct measurement of a pure spin current by a polarized light beam. <i>Physical Review Letters</i> , <b>2008</b> , 100, 086603	7.4	22
31	CONTROL OF ELECTRON SPIN DECOHERENCE IN MESOSCOPIC NUCLEAR SPIN BATHS. <i>International Journal of Modern Physics B</i> , <b>2008</b> , 22, 27-32	1.1	

30	Quantum many-body theory for qubit decoherence in a finite-size spin bath <b>2008</b> ,		2
29	Publisher's Note: Quantum many-body theory of qubit decoherence in a finite-size spin bath [Phys. Rev. B 78, 085315 (2008)]. <i>Physical Review B</i> , <b>2008</b> , 78,	3.3	8
28	Decoherence of coupled electron spins via nuclear spin dynamics in quantum dots. <i>Physical Review B</i> , <b>2008</b> , 77,	3.3	15
27	Quantum many-body theory of qubit decoherence in a finite-size spin bath. <i>Physical Review B</i> , <b>2008</b> , 78,	3.3	105
26	Universality of Uhrig dynamical decoupling for suppressing qubit pure dephasing and relaxation. <i>Physical Review Letters</i> , <b>2008</b> , 101, 180403	7.4	133
25	Proposal for geometric generation of a biexciton in a quantum dot using a chirped pulse. <i>Physical Review B</i> , <b>2008</b> , 78,	3.3	22
24	High-order THz-sideband generation in semiconductors. <i>AIP Conference Proceedings</i> , <b>2007</b> ,	0	17
23	Control of electron spin decoherence caused by electron-nuclear spin dynamics in a quantum dot. <i>New Journal of Physics</i> , <b>2007</b> , 9, 226-226	2.9	84
22	Restoring coherence lost to a slow interacting mesoscopic spin bath. <i>Physical Review Letters</i> , <b>2007</b> , 98, 077602	7.4	129
21	Theory of nonlinear optical spectroscopy of electron spin coherence in quantum dots. <i>Physical Review B</i> , <b>2007</b> , 75,	3.3	3
20	Optically manipulating spins in semiconductor quantum dots). <i>Journal of Applied Physics</i> , <b>2007</b> , 101, 081721	2.5	6
19	Publisher's Note: Restoring Coherence Lost to a Slow Interacting Mesoscopic Spin Bath [Phys. Rev. Lett. 98, 077602 (2007)]. <i>Physical Review Letters</i> , <b>2007</b> , 98,	7.4	3
18	Theory of electron spin decoherence by interacting nuclear spins in a quantum dot. <i>Physical Review B</i> , <b>2006</b> , 74,	3.3	236
17	Ultrafast optical control of electron spin coherence in charged GaAs quantum dots. <i>Physical Review B</i> , <b>2006</b> , 74,	3.3	31
16	Theory of control of the spin-photon interface for quantum networks. <i>Physical Review Letters</i> , <b>2005</b> , 95, 030504	7.4	142
15	Stimulated and spontaneous optical generation of electron spin coherence in charged GaAs quantum dots. <i>Physical Review Letters</i> , <b>2005</b> , 94, 227403	7.4	217
14	Theory of control of the dynamics of the interface between stationary and flying qubits. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , <b>2005</b> , 7, S318-S325		10
13	Coherent control of cavity quantum electrodynamics for quantum nondemolition measurements and ultrafast cooling. <i>Physical Review B</i> , <b>2005</b> , 72,	3.3	21

12	Unified theory of consequences of spontaneous emission in a $\mathbb{E}$ system. <i>Physical Review B</i> , <b>2005</b> , 71,	3.3	50
11	Nanodot-cavity electrodynamics and photon entanglement. <i>Physical Review Letters</i> , <b>2004</b> , 92, 217402	7.4	28
10	Tunable terahertz emission from difference frequency in biased superlattices. <i>Applied Physics Letters</i> , <b>2004</b> , 84, 2730-2732	3.4	2
9	Nonlinear optics of semiconductors under an intense terahertz field. <i>Physical Review B</i> , <b>2003</b> , 68,	3.3	4
8	Dynamical quantum interference and its controllability in semiconductors irradiated by an intense terahertz laser. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2003</b> , 17, 191-196	3	
7	Adiabatic stabilization of excitons in an intense terahertz laser. <i>Physical Review B</i> , <b>2002</b> , 66,	3.3	13
6	Dynamic inter-sideband Fano interference of excitons in ac-driven superlattices. <i>Springer Proceedings in Physics</i> , <b>2001</b> , 200-201	0.2	
5	Dynamic Fano resonance of Floquet-state excitons in superlattices. <i>Journal of Physics Condensed Matter</i> , <b>2000</b> , 12, L741-L747	1.8	11
4	Bloch oscillation under a bichromatic laser: Dynamical delocalization and localization, persistent terahertz emission, and harmonics generation. <i>Europhysics Letters</i> , <b>2000</b> , 50, 526-532	1.6	9
3	Degenerate four-wave-mixing signals from a dc- and ac-driven semiconductor superlattice. <i>Physical Review B</i> , <b>1999</b> , 59, 5759-5769	3.3	30
2	Tunneling in double well model of porous silicon. <i>Solid State Communications</i> , <b>1995</b> , 93, 589-594	1.6	3
1	High-order dynamical decoupling 351-375		