

# Brendon Lovett

## List of Publications by Year in descending order

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102  
papers

3,642  
citations

159358

30  
h-index

149479

56  
g-index

103  
all docs

103  
docs citations

103  
times ranked

3486  
citing authors

#	ARTICLE	IF	CITATIONS
1	Analytic expression for the optical exciton transition rates in the polaron frame. <i>Physical Review B</i> , 2022, 105, .	1.1	2
2	Superabsorption in an organic microcavity: Toward a quantum battery. <i>Science Advances</i> , 2022, 8, eabk3160.	4.7	61
3	Exact Dynamics of Nonadditive Environments in Non-Markovian Open Quantum Systems. <i>PRX Quantum</i> , 2022, 3, .	3.5	21
4	Simulation of open quantum systems by automated compression of arbitrary environments. <i>Nature Physics</i> , 2022, 18, 662-668.	6.5	35
5	Avoiding gauge ambiguities in cavity quantum electrodynamics. <i>Scientific Reports</i> , 2021, 11, 4281.	1.6	7
6	Efficient Exploration of Hamiltonian Parameter Space for Optimal Control of Non-Markovian Open Quantum Systems. <i>Physical Review Letters</i> , 2021, 126, 200401.	2.9	33
7	Quantum Heat Statistics with Time-Evolving Matrix Product Operators. <i>PRX Quantum</i> , 2021, 2, .	3.5	21
8	Environmentally Improved Coherent Light Harvesting. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 6143-6151.	2.1	10
9	Unveiling non-Markovian spacetime signaling in open quantum systems with long-range tensor network dynamics. <i>Physical Review A</i> , 2021, 104, .	1.0	8
10	Localisation determines the optimal noise rate for quantum transport. <i>New Journal of Physics</i> , 2021, 23, 123014.	1.2	2
11	Exact quantum dynamics in structured environments. <i>Physical Review Research</i> , 2020, 2, .	1.3	18
12	Optimal power generation using dark states in dimers strongly coupled to their environment. <i>New Journal of Physics</i> , 2019, 21, 063025.	1.2	13
13	Coherence protection in coupled quantum systems. <i>Physical Review A</i> , 2018, 97, .	1.0	4
14	Efficient non-Markovian quantum dynamics using time-evolving matrix product operators. <i>Nature Communications</i> , 2018, 9, 3322.	5.8	187
15	Sub-Doppler laser cooling of $<sup>40</sup>K$ with Raman gray molasses on the $\{D\}_{2}$ line. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2017, 50, 095002.	0.6	16
16	Quantum-Enhanced Capture of Photons Using Optical Ratchet States. <i>Journal of Physical Chemistry C</i> , 2017, 121, 20714-20719.	1.5	24
17	Efficient real-time path integrals for non-Markovian spin-boson models. <i>New Journal of Physics</i> , 2017, 19, 093009.	1.2	28
18	Microwave irradiation and quasiparticles in a superconducting double dot. <i>Physical Review B</i> , 2017, 95, .	1.1	7

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19	Quantum capacitance and charge sensing of a superconducting double dot. Applied Physics Letters, 2016, 109, .	1.5	7
20	Quantum gates with donors in germanium. Physical Review B, 2016, 94, .	1.1	9
21	Designing spin-channel geometries for entanglement distribution. Physical Review A, 2016, 94, .	1.0	2
22	Bath-induced coherence and the secular approximation. Physical Review A, 2016, 94, .	1.0	44
23	Coherent exciton dynamics in a dissipative environment maintained by an off-resonant vibrational mode. Physical Review A, 2016, 93, .	1.0	11
24	Surface code architecture for donors and dots in silicon with imprecise and nonuniform qubit couplings. Physical Review B, 2016, 93, .	1.1	52
25	Photocell Optimization Using Dark State Protection. Physical Review Letters, 2016, 117, 203603.	2.9	29
26	Probing charge fluctuator correlations using quantum dot pairs. Physical Review B, 2015, 91, .	1.1	0
27	Quantum dynamics in a tiered non-Markovian environment. New Journal of Physics, 2015, 17, 023063.	1.2	11
28	Synthesis and investigation of donor-“porphyrin”-acceptor triads with long-lived photo-induced charge-separate states. Chemical Science, 2015, 6, 6468-6481.	3.7	24
29	Probing bath-induced entanglement in a qubit pair by measuring photon correlations. New Journal of Physics, 2014, 16, 103016.	1.2	8
30	Hyperfine Stark effect of shallow donors in silicon. Physical Review B, 2014, 90, .	1.1	41
31	Vibration-assisted resonance in photosynthetic excitation-energy transfer. Physical Review A, 2014, 90, .	1.0	38
32	Coherent and passive one dimensional quantum memory. New Journal of Physics, 2014, 16, 103025.	1.2	1
33	Experimental observation of the breaking and recombination of single Cooper pairs. Physical Review B, 2014, 90, .	1.1	10
34	Superabsorption of light via quantum engineering. Nature Communications, 2014, 5, 4705.	5.8	91
35	Exchange coupling between silicon donors: The crucial role of the central cell and mass anisotropy. Physical Review B, 2014, 89, .	1.1	25
36	Quantum thermometry using the ac Stark shift within the Rabi model. Physical Review B, 2013, 88, .	1.1	24

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37	Practicality of Spin Chain Wiring in Diamond Quantum Technologies. <i>Physical Review Letters</i> , 2013, 110, 100503.	2.9	34
38	A multi-site variational master equation approach to dissipative energy transfer. <i>New Journal of Physics</i> , 2013, 15, 075018.	1.2	56
39	Overcoming phonon-induced dephasing for indistinguishable photon sources. <i>New Journal of Physics</i> , 2012, 14, 113004.	1.2	8
40	Investigating the generality of time-local master equations. <i>Physical Review A</i> , 2012, 86, .	1.0	18
41	A New Type of Radical-Pair-Based Model for Magnetoreception. <i>Biophysical Journal</i> , 2012, 102, 961-968.	0.2	32
42	DEER-Stitch: Combining three- and four-pulse DEER measurements for high sensitivity, deadtime free data. <i>Journal of Magnetic Resonance</i> , 2012, 223, 98-106.	1.2	30
43	Creating nuclear spin entanglement using an optical degree of freedom. <i>Physical Review A</i> , 2011, 84, .	1.0	12
44	A general approach to quantum dynamics using a variational master equation: Application to phonon-damped Rabi rotations in quantum dots. <i>Physical Review B</i> , 2011, 84, .	1.1	113
45	Hybrid Solid-State Qubits: The Powerful Role of Electron Spins. <i>Annual Review of Condensed Matter Physics</i> , 2011, 2, 189-212.	5.2	67
46	Spin qubits feel the strain. <i>Physics Magazine</i> , 2011, 4, .	0.1	2
47	Rapid and Robust Spin State Amplification. <i>Physical Review Letters</i> , 2011, 106, 167204.	2.9	8
48	Publisher's Note: General approach to quantum dynamics using a variational master equation: Application to phonon-damped Rabi rotations in quantum dots [Phys. Rev. B84, 081305(R) (2011)]. <i>Physical Review B</i> , 2011, 84, .	1.1	7
49	Control of the interaction between an Electron and Nuclear Spin in $N^{15}C_{60}$ . <i>Physical Review Letters</i> , 2011, 106, 110504.	2.9	34
50	Effect of detuning on the phonon induced dephasing of optically driven InGaAs/GaAs quantum dots. <i>Journal of Applied Physics</i> , 2011, 109, 102415.	1.1	20
51	Generating distributed entanglement from electron currents. <i>New Journal of Physics</i> , 2011, 13, 103004.	1.2	1
52	Magnetic field sensing using a driven double quantum dot. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 895-898.	1.3	1
53	Spin detection at elevated temperatures using a driven double quantum dot. <i>Physical Review B</i> , 2010, 82, .	1.1	8
54	Quantum metrology with molecular ensembles. <i>Physical Review A</i> , 2010, 82, .	1.0	34

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55	Entangling Remote Nuclear Spins Linked by a Chromophore. <i>Physical Review Letters</i> , 2010, 104, 200501.	2.9	17
56	Phonon-Induced Rabi-Frequency Renormalization of Optically Driven Single Quantum Dots. <i>Physical Review Letters</i> , 2010, 105, 177402.	2.9	172
57	Damping of Exciton Rabi Rotations by Acoustic Phonons in Optically Excited Quantum Dots. <i>Physical Review Letters</i> , 2010, 104, 017402.	2.9	258
58	Spin Lifetimes in Quantum Dots from Noise Measurements. <i>Physical Review Letters</i> , 2009, 102, 016802.	2.9	12
59	Comment on "Multipartite Entanglement Among Single Spins in Diamond". <i>Science</i> , 2009, 323, 1169-1169.	6.0	5
60	Large spin entangled current from a passive device. <i>New Journal of Physics</i> , 2009, 11, 013018.	1.2	3
61	A quantum dot single spin meter. <i>New Journal of Physics</i> , 2009, 11, 043031.	1.2	14
62	Aspects of quantum coherence in nanosystems. <i>European Journal of Physics</i> , 2009, 30, S89-S100.	0.3	3
63	Prospects for measurement-based quantum computing with solid state spins. <i>Laser and Photonics Reviews</i> , 2009, 3, 556-574.	4.4	97
64	Branching spin chain dynamics. <i>Journal of Magnetism and Magnetic Materials</i> , 2009, 321, 949-956.	1.0	0
65	Measurement-based approach to entanglement generation in coupled quantum dots. <i>Physical Review B</i> , 2009, 79, .	1.1	4
66	Creating and preserving multipartite entanglement with spin chains. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2008, 5, 2481-2485.	0.8	2
67	Solid-state quantum memory using the $^{31}\text{P}$ nuclear spin. <i>Nature</i> , 2008, 455, 1085-1088.	13.7	351
68	High-fidelity all-optical control of quantum dot spins: Detailed study of the adiabatic approach. <i>Physical Review B</i> , 2008, 77, .	1.1	33
69	Strategies for entangling remote spins with unequal coupling to an optically active mediator. <i>New Journal of Physics</i> , 2008, 10, 073027.	1.2	8
70	Robust adiabatic approach to optical spin entangling in coupled quantum dots. <i>New Journal of Physics</i> , 2008, 10, 073016.	1.2	21
71	Publisher's Note: High-fidelity all-optical control of quantum dot spins: Detailed study of the adiabatic approach [ <i>Phys. Rev. B</i> 77, 115322 (2008)]. <i>Physical Review B</i> , 2008, 77, .	1.1	0
72	Freezing distributed entanglement in spin chains. <i>Physical Review A</i> , 2007, 76, .	1.0	25

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73	Entanglement distribution for a practical quantum-dot-based quantum processor architecture. <i>New Journal of Physics</i> , 2007, 9, 20-20.	1.2	36
74	Towards a fullerene-based quantum computer. <i>Journal of Physics Condensed Matter</i> , 2006, 18, S867-S883.	0.7	138
75	Atomic-molecular superlattices. <i>Chemical Communications</i> , 2006, , 1944-1946.	2.2	3
76	Qubits in the pink. <i>Nature</i> , 2006, 444, 49-49.	13.7	19
77	Global optical control of a quantum spin chain. <i>New Journal of Physics</i> , 2006, 8, 69-69.	1.2	8
78	All-Optical Measurement-Based Quantum-Information Processing in Quantum Dots. <i>Physical Review Letters</i> , 2006, 97, 250504.	2.9	21
79	Quantum computing with spin qubits interacting through delocalized excitons: Overcoming hole mixing. <i>Physical Review B</i> , 2005, 72, .	1.1	24
80	Anticrossings in Färster coupled quantum dots. <i>Physical Review B</i> , 2005, 71, .	1.1	76
81	Selective Spin Coupling through a Single Exciton. <i>Physical Review Letters</i> , 2004, 93, 150502.	2.9	48
82	Optical quantum computation with perpetually coupled spins. <i>Physical Review A</i> , 2004, 70, .	1.0	17
83	Creating excitonic entanglement in quantum dots through the optical Stark effect. <i>Physical Review A</i> , 2004, 70, .	1.0	35
84	Optical schemes for quantum computation in quantum dot molecules. <i>Physical Review B</i> , 2003, 68, .	1.1	161
85	Resonant transfer of excitons and quantum computation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2003, 315, 136-142.	0.9	34
86	Nanoscale solid-state quantum computing. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2003, 361, 1473-1485.	1.6	52
87	Two Modifications of Layered Cobaltous Terephthalate: Crystal Structures and Magnetic Properties. <i>Journal of Solid State Chemistry</i> , 2001, 159, 343-351.	1.4	137
88	Organic Magnetic Materials Studied by Positive Muons. <i>Hyperfine Interactions</i> , 2001, 133, 169-177.	0.2	9
89	Muon-spin-rotation and magnetization study of metal-organic magnets based on the dicyanamide anion. <i>Journal of Physics Condensed Matter</i> , 2001, 13, 2263-2270.	0.7	9
90	Molecular dynamics in a nematic liquid crystal probed by implanted muons. <i>Physical Review B</i> , 2001, 63, .	1.1	16

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91	Muon radical states in some electron donor and acceptor molecules. Magnetic Resonance in Chemistry, 2000, 38, S27-S32.	1.1	10
92	Spin fluctuations in the spin-Peierls compound MEM(TCNQ) <sub>2</sub> studied using muon spin relaxation. Physical Review B, 2000, 61, 12241-12248.	1.1	30
93	Muon radical states in some electron donor and acceptor molecules. , 2000, 38, S27.		2
94	Muon radical states in some electron donor and acceptor molecules. Magnetic Resonance in Chemistry, 2000, 38, S27-S32.	1.1	1
95	Temperature and doping-level dependence of magnetic order in La <sub>2-x</sub> Sr <sub>x</sub> NiO <sub>4</sub> studied by muon spin rotation. Physical Review B, 1999, 59, 3775-3782.	1.1	28
96	Several Kinds of Aminoxyl Radicals and their Metal Ion Complexes. Molecular Crystals and Liquid Crystals, 1999, 334, 477-486.	0.3	10
97	Muon-spin-relaxation studies of magnetic order and dynamics of the Ruddlesden-Popper phases Sr <sub>2</sub> RMn <sub>2</sub> O <sub>7</sub> (R=Pr, Nd, Sm, Eu, Gd, Tb, Dy, and Ho). Physical Review B, 1999, 60, 12286-12293.	1.1	11
98	Muon study of the spin dynamics in the organic spin-Peierls compound MEM(TCNQ) <sub>2</sub> . Synthetic Metals, 1999, 103, 2034-2037.	2.1	4
99	Stability of the vortex lattice in ET superconductors studied by $\mu$ SR. Synthetic Metals, 1999, 103, 1925-1928.	2.1	9
100	Layered transition metal molecular magnets studied with implanted muons. Synthetic Metals, 1999, 103, 2325-2326.	2.1	5
101	Physical properties of the n=3 Ruddlesden - Popper compound. Journal of Physics Condensed Matter, 1998, 10, L727-L735.	0.7	17
102	Spin dynamics in the spin-gap system studied using muon-spin relaxation. Journal of Physics Condensed Matter, 1998, 10, L259-L263.	0.7	5