

# Paola Cappellaro

## List of Publications by Year in descending order

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Version: 2024-02-01

110  
papers

9,104  
citations

87723

38  
h-index

39575

94  
g-index

114  
all docs

114  
docs citations

114  
times ranked

6352  
citing authors

#	ARTICLE	IF	CITATIONS
1	A synthetic monopole source of Kalb-Ramond field in diamond. <i>Science</i> , 2022, 375, 1017-1020.	6.0	15
2	Bias in Error-Corrected Quantum Sensing. <i>Physical Review Letters</i> , 2022, 128, 140503.	2.9	9
3	SARS-CoV-2 Quantum Sensor Based on Nitrogen-Vacancy Centers in Diamond. <i>Nano Letters</i> , 2022, 22, 43-49.	4.5	46
4	Autonomous Dissipative Maxwell's Demon in a Diamond Spin Qutrit. <i>PRX Quantum</i> , 2022, 3, .	3.5	9
5	Sensing of Arbitrary-Frequency Fields Using a Quantum Mixer. <i>Physical Review X</i> , 2022, 12, .	2.8	16
6	Effective routing design for remote entanglement generation on quantum networks. <i>Npj Quantum Information</i> , 2021, 7, .	2.8	35
7	Observation of the high-order Mollow triplet by quantum mode control with concatenated continuous driving. <i>Physical Review A</i> , 2021, 103, .	1.0	12
8	Prethermal quasiconserved observables in Floquet quantum systems. <i>Physical Review B</i> , 2021, 103, .	1.1	11
9	Nanoscale Vector AC Magnetometry with a Single Nitrogen-Vacancy Center in Diamond. <i>Nano Letters</i> , 2021, 21, 5143-5150.	4.5	19
10	Observation of Symmetry-Protected Selection Rules in Periodically Driven Quantum Systems. <i>Physical Review Letters</i> , 2021, 127, 140604.	2.9	10
11	Floquet prethermalization in dipolar spin chains. <i>Nature Physics</i> , 2021, 17, 444-447.	6.5	64
12	Building quantum ion sensors based on solid-state defects in nanodiamond. , 2021, , .		0
13	High-fidelity Trotter formulas for digital quantum simulation. <i>Physical Review A</i> , 2020, 102, .	1.0	6
14	Quantum Jarzynski Equality in Open Quantum Systems from the One-Time Measurement Scheme. <i>Physical Review Letters</i> , 2020, 125, 060602.	2.9	26
15	Identification and Control of Electron-Nuclear Spin Defects in Diamond. <i>Physical Review Letters</i> , 2020, 124, 083602.	2.9	18
16	Robustness-optimized quantum error correction. <i>Quantum Science and Technology</i> , 2020, 5, 025008.	2.6	1
17	Repetitive readout enhanced by machine learning. <i>Machine Learning: Science and Technology</i> , 2020, 1, 015003.	2.4	24
18	Perturbation Independent Decay of the Loschmidt Echo in a Many-Body System. <i>Physical Review Letters</i> , 2020, 124, 030601.	2.9	43

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19	Improved entanglement detection with subspace witnesses. Physical Review A, 2020, 101, .	1.0	6
20	Quantum Hamiltonian Identifiability via a Similarity Transformation Approach and Beyond. IEEE Transactions on Automatic Control, 2020, 65, 4632-4647.	3.6	26
21	Coherence protection and decay mechanism in qubit ensembles under concatenated continuous driving. New Journal of Physics, 2020, 22, 123045.	1.2	17
22	Efficient Quantum Error Correction of Dephasing Induced by a Common Fluctuator. Physical Review Letters, 2020, 124, 020504.	2.9	14
23	Experimental test of exchange fluctuation relations in an open quantum system. Physical Review Research, 2020, 2, .	1.3	33
24	Quantum Metrology with Strongly Interacting Spin Systems. Physical Review X, 2020, 10, .	2.8	52
25	Telecom photon interface of solid-state quantum nodes. Journal of Physics Communications, 2019, 3, 095016.	0.5	6
26	Environment-assisted Quantum-enhanced Sensing with Electronic Spins in Diamond. Physical Review Applied, 2019, 12, .	1.5	10
27	Emergent Prethermalization Signatures in Out-of-Time Ordered Correlations. Physical Review Letters, 2019, 123, 090605.	2.9	48
28	All-Optical Quantum Sensing of Rotational Brownian Motion of Magnetic Molecules. Nano Letters, 2019, 19, 7342-7348.	4.5	10
29	Photoluminescence Decomposition Analysis: A Technique to Characterize $\langle \mathbf{N} \rangle$ - $\langle \mathbf{V} \rangle$ Creation in Diamond. Physical Review Applied, 2019, 12, 040502.	1.5	25
30	Ancilla-Free Quantum Error Correction Codes for Quantum Metrology. Physical Review Letters, 2019, 122, 040502.	2.9	49
31	Nonclassical correlations for quantum metrology in thermal equilibrium. Physical Review A, 2019, 99, .	1.0	11
32	Cross-Sensor Feedback Stabilization of an Emulated Quantum Spin Gyroscope. Physical Review Applied, 2019, 11, .	1.5	22
33	Nanoscale Vector dc Magnetometry via Ancilla-Assisted Frequency Up-Conversion. Physical Review Letters, 2019, 122, 100501.	2.9	30
34	Comparing many-body localization lengths via nonperturbative construction of local integrals of motion. Physical Review B, 2019, 100, .	1.1	12
35	Selective Decoupling and Hamiltonian Engineering in Dipolar Spin Networks. Physical Review Letters, 2019, 122, 013205.	2.9	8
36	Error-corrected quantum sensing. , 2019, , .		1

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37	Quantum control-enhanced sensing and spectroscopy with NV qubits in diamond. , 2019, , .		2
38	Optimal control of diamond spin qubits for quantum sensing in noisy environments. , 2019, , .		0
39	Exploring Localization in Nuclear Spin Chains. Physical Review Letters, 2018, 120, 070501.	2.9	186
40	Protecting solid-state spins from a strongly coupled environment. New Journal of Physics, 2018, 20, 063011.	1.2	11
41	Noise spectroscopy of a quantum-classical environment with a diamond qubit. Physical Review B, 2018, 98, .	1.1	25
42	Spatial noise filtering through error correction for quantum sensing. Npj Quantum Information, 2018, 4, .	2.8	39
43	Time-optimal control with finite bandwidth. Quantum Information Processing, 2018, 17, 1.	1.0	15
44	Bright nanowire single photon source based on SiV centers in diamond. Optics Express, 2018, 26, 80.	1.7	37
45	Quantifying precision loss in local quantum thermometry via diagonal discord. Physical Review A, 2018, 98, .	1.0	21
46	Optimal Control for One-Qubit Quantum Sensing. Physical Review X, 2018, 8, .	2.8	50
47	Quantum interpolation for high-resolution sensing. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2149-2153.	3.3	25
48	Hamiltonian identifiability assisted by a single-probe measurement. Physical Review A, 2017, 95, .	1.0	50
49	Quantum sensing. Reviews of Modern Physics, 2017, 89, .	16.4	1,911
50	Measurement of the excited-state transverse hyperfine coupling in NV centers via dynamic nuclear polarization. Physical Review B, 2017, 95, .	1.1	18
51	Exact dimension estimation of interacting qubit systems assisted by a single quantum probe. Physical Review A, 2017, 96, .	1.0	25
52	Coherent feedback control of a single qubit in diamond. Nature, 2016, 532, 77-80.	18.7	79
53	NMR technique for determining the depth of shallow nitrogen-vacancy centers in diamond. Physical Review B, 2016, 93, .	1.1	107
54	A bright nanowire single photon source. , 2016, , .		0

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55	Atomic-Scale Nuclear Spin Imaging Using Quantum-Assisted Sensors in Diamond. <i>Physical Review X</i> , 2015, 5, .	2.8	57
56	Polarizing Nuclear Spins in Silicon Carbide. <i>Physics Magazine</i> , 2015, 8, .	0.1	0
57	Algebraic synthesis of time-optimal unitaries in SU(2) with alternating controls. <i>Quantum Information Processing</i> , 2015, 14, 3233-3256.	1.0	4
58	Time-optimal control by a quantum actuator. <i>Physical Review A</i> , 2015, 91, .	1.0	20
59	Measurement of transverse hyperfine interaction by forbidden transitions. <i>Physical Review B</i> , 2015, 92, .	1.1	38
60	Fourier magnetic imaging with nanoscale resolution and compressed sensing speed-up using electronic spins in diamond. <i>Nature Nanotechnology</i> , 2015, 10, 859-864.	15.6	96
61	Time-resolved magnetic sensing with electronic spins in diamond. <i>Nature Communications</i> , 2014, 5, 3141.	5.8	58
62	Implementation of State Transfer Hamiltonians in Spin Chains with Magnetic Resonance Techniques. , 2014, , 183-222.		4
63	Experimentally efficient methods for estimating the performance of quantum measurements. <i>Physical Review A</i> , 2013, 88, .	1.0	3
64	Reconstructing the profile of time-varying magnetic fields with quantum sensors. <i>Physical Review A</i> , 2013, 88, .	1.0	15
65	Perfect quantum transport in arbitrary spin networks. <i>Physical Review B</i> , 2013, 87, .	1.1	16
66	Composite-pulse magnetometry with a solid-state quantum sensor. <i>Nature Communications</i> , 2013, 4, 1419.	5.8	56
67	Quantum Simulation via Filtered Hamiltonian Engineering: Application to Perfect Quantum Transport in Spin Networks. <i>Physical Review Letters</i> , 2013, 110, 220503.	2.9	48
68	Dressed-State Resonant Coupling between Bright and Dark Spins in Diamond. <i>Physical Review Letters</i> , 2013, 110, 157601.	2.9	70
69	Compressing measurements in quantum dynamic parameter estimation. <i>Physical Review A</i> , 2013, 88, .	1.0	11
70	Decay of spin coherences in one-dimensional spin systems. <i>New Journal of Physics</i> , 2013, 15, 093035.	1.2	24
71	Stable three-axis nuclear-spin gyroscope in diamond. <i>Physical Review A</i> , 2012, 86, .	1.0	107
72	Mixed-state quantum transport in correlated spin networks. <i>Physical Review A</i> , 2012, 85, .	1.0	15

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73	Environment-assisted metrology with spin qubits. <i>Physical Review A</i> , 2012, 85, .	1.0	19
74	Spin-bath narrowing with adaptive parameter estimation. <i>Physical Review A</i> , 2012, 85, .	1.0	32
75	Initialization and readout of spin chains for quantum information transport. <i>New Journal of Physics</i> , 2012, 14, 083005.	1.2	14
76	Continuous dynamical decoupling magnetometry. <i>Physical Review A</i> , 2012, 86, .	1.0	46
77	Hamiltonian Control of Quantum Dynamical Semigroups: Stabilization and Convergence Speed. <i>IEEE Transactions on Automatic Control</i> , 2012, 57, 1931-1944.	3.6	26
78	Suppression of spin-bath dynamics for improved coherence of multi-spin-qubit systems. <i>Nature Communications</i> , 2012, 3, 858.	5.8	177
79	Enhanced solid-state multispin metrology using dynamical decoupling. <i>Physical Review B</i> , 2012, 86, .	1.1	98
80	Coherent-state transfer via highly mixed quantum spin chains. <i>Physical Review A</i> , 2011, 83, .	1.0	53
81	Experimental characterization of coherent magnetization transport in a one-dimensional spin system. <i>New Journal of Physics</i> , 2011, 13, 103015.	1.2	46
82	Magnetic field imaging with nitrogen-vacancy ensembles. <i>New Journal of Physics</i> , 2011, 13, 045021.	1.2	228
83	Environment-Assisted Precision Measurement. <i>Physical Review Letters</i> , 2011, 106, 140502.	2.9	75
84	Feedback schemes for radiation damping suppression in NMR: A control-theoretical perspective. <i>Systems and Control Letters</i> , 2010, 59, 782-786.	1.3	5
85	Coherence of nitrogen-vacancy electronic spin ensembles in diamond. <i>Physical Review B</i> , 2010, 82, .	1.1	238
86	Imaging mesoscopic nuclear spin noise with a diamond magnetometer. <i>Journal of Chemical Physics</i> , 2010, 133, 124105.	1.2	82
87	Strong magnetic coupling between an electronic spin qubit and a mechanical resonator. <i>Physical Review B</i> , 2009, 79, .	1.1	329
88	Feedback schemes for radiation damping suppression in NMR: a control-theoretical perspective. , 2009, , .		0
89	Coherence and Control of Quantum Registers Based on Electronic Spin in a Nuclear Spin Bath. <i>Physical Review Letters</i> , 2009, 102, 210502.	2.9	92
90	Quantum correlation in disordered spin systems: Applications to magnetic sensing. <i>Physical Review A</i> , 2009, 80, .	1.0	58

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91	Nanoscale magnetic sensing using spin qubits in diamond. , 2009, , .		2
92	NMR multiple quantum coherences in quasi-one-dimensional spin systems: Comparison with ideal spin-chain dynamics. Physical Review A, 2009, 80, .	1.0	38
93	QUANTUM CONTROL OF SPINS AND PHOTONS AT NANOSCALES. , 2009, , .		0
94	High-sensitivity diamond magnetometer with nanoscale resolution. Nature Physics, 2008, 4, 810-816.	6.5	1,409
95	Nanoscale magnetic sensing with an individual electronic spin in diamond. Nature, 2008, 455, 644-647.	13.7	1,554
96	Coherence of an Optically Illuminated Single Nuclear Spin Qubit. Physical Review Letters, 2008, 100, 073001.	2.9	51
97	Dynamics and control of a quasi-one-dimensional spin system. Physical Review A, 2007, 76, .	1.0	60
98	Experimental implementation of a logical Bell state encoding. Physical Review A, 2007, 75, .	1.0	16
99	Subsystem pseudopure states. Physical Review A, 2007, 75, .	1.0	5
100	Simulations of Information Transport in Spin Chains. Physical Review Letters, 2007, 99, 250506.	2.9	83
101	Control of qubits encoded in decoherence-free subspaces. Laser Physics, 2007, 17, 545-551.	0.6	4
102	Signatures of Incoherence in a Quantum Information Processor. Quantum Information Processing, 2007, 6, 431-444.	1.0	4
103	Principles of control for decoherence-free subsystems. Journal of Chemical Physics, 2006, 125, 044514.	1.2	38
104	Decay of highly correlated spin states in a dipolar-coupled solid: NMR study of CaF <sub>2</sub> . Physical Review B, 2006, 74, .	1.1	44
105	Single Spin Measurement Using Cellular Automata Techniques. Physical Review Letters, 2006, 97, 100501.	2.9	26
106	Quantum Control of Nuclear Spins. , 2006, , .		0
107	Entanglement Assisted Metrology. Physical Review Letters, 2005, 94, 020502.	2.9	73
108	Encoding multiple quantum coherences in non-commuting bases. Chemical Physics Letters, 2003, 369, 311-317.	1.2	32

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109	Pulse error compensating symmetric magic-echo trains. Journal of Magnetic Resonance, 2003, 161, 132-137.	1.2	35
110	Development of an Extended Range Bonner Sphere Spectrometer. , 2001, , 1157-1162.		10