John J L Morton

List of Publications by Year
in descending order

72 papers	6,365 citations	126708 33 h-index	88477 70 g-index
75 all docs	75 docs citations	75 times ranked	4488 citing authors

#	Article	IF	Citations
1	A single-atom electron spin qubit in silicon. Nature, 2012, 489, 541-545.	13.7	666
2	Electron spin coherence exceeding seconds in high-purity silicon. Nature Materials, 2012, 11, 143-147.	13.3	561
3	High-fidelity readout and control of a nuclear spin qubit in silicon. Nature, 2013, 496, 334-338.	13.7	431
4	High-Cooperativity Coupling of Electron-Spin Ensembles to Superconducting Cavities. Physical Review Letters, 2010, 105, 140501.	2.9	398
5	Solid-state quantum memory using the 31P nuclear spin. Nature, 2008, 455, 1085-1088.	13.7	351
6	Room-Temperature Quantum Bit Storage Exceeding 39 Minutes Using Ionized Donors in Silicon-28. Science, 2013, 342, 830-833.	6.0	341
7	Quantum Information Storage for over 180 s Using Donor Spins in a ²⁸ Si â€œSemiconductor Vacuumâ€• Science, 2012, 336, 1280-1283.	6.0	269
8	Sustained Quantum Coherence and Entanglement in the Avian Compass. Physical Review Letters, 2011, 106, 040503.	2.9	255
9	Embracing the quantum limit in silicon computing. Nature, 2011, 479, 345-353.	13.7	228
10	Quantum Computing with an Electron Spin Ensemble. Physical Review Letters, 2009, 103, 070502.	2.9	206
11	Atomic clock transitions in silicon-based spin qubits. Nature Nanotechnology, 2013, 8, 561-564.	15.6	194
12	Spin-enhanced nanodiamond biosensing for ultrasensitive diagnostics. Nature, 2020, 587, 588-593.	13.7	184
13	Storage of Multiple Coherent Microwave Excitations in an Electron Spin Ensemble. Physical Review Letters, 2010, 105, 140503.	2.9	156
14	Reaching the quantum limit of sensitivity in electron spin resonance. Nature Nanotechnology, 2016, 11, 253-257.	15.6	141
15	Entanglement in a solid-state spin ensemble. Nature, 2011, 470, 69-72.	13.7	131
16	Controlling spin relaxation with a cavity. Nature, 2016, 531, 74-77.	13.7	123
17	Coherence of spin qubits in silicon. Journal of Physics Condensed Matter, 2006, 18, S783-S794.	0.7	107
18	Electron spin relaxation of N@C60 in CS2. Journal of Chemical Physics, 2006, 124, 014508.	1.2	99

#	Article	IF	Citations
19	Electron Spin Coherence and Electron Nuclear Double Resonance of Bi Donors in Natural Si. Physical Review Letters, 2010, 105, 067601.	2.9	89
20	Electron spin ensemble strongly coupled to a three-dimensional microwave cavity. Applied Physics Letters, 2011, 98, .	1.5	80
21	Electron spin coherence of phosphorus donors in silicon: Effect of environmental nuclei. Physical Review B, 2010, 82, .	1.1	76
22	Coherent Storage of Microwave Excitations in Rare-Earth Nuclear Spins. Physical Review Letters, 2015, 114, 170503.	2.9	70
23	Inductive-detection electron-spin resonance spectroscopy with 65 spins/Hz sensitivity. Applied Physics Letters, 2017, 111, .	1.5	69
24	Fast, low-power manipulation of spin ensembles in superconducting microresonators. Applied Physics Letters, 2014, 104, .	1.5	63
25	Radio-Frequency Capacitive Gate-Based Sensing. Physical Review Applied, 2018, 10, .	1.5	50
26	Electrical activation and electron spin resonance measurements of implanted bismuth in isotopically enriched silicon-28. Applied Physics Letters, 2012, 100, .	1.5	47
27	A CMOS dynamic random access architecture for radio-frequency readout of quantum devices. Nature Electronics, 2019, 2, 236-242.	13.1	45
28	Geometric phase gates with adiabatic control in electron spin resonance. Physical Review A, 2013, 87, .	1.0	43
29	Fast Gate-Based Readout of Silicon Quantum Dots Using Josephson Parametric Amplification. Physical Review Letters, 2020, 124, 067701.	2.9	42
30	Hyperfine Stark effect of shallow donors in silicon. Physical Review B, 2014, 90, .	1.1	41
31	Electron spin resonance spectroscopy with femtoliter detection volume. Applied Physics Letters, 2020, 116, .	1.5	39
32	Spin Readout of a CMOS Quantum Dot by Gate Reflectometry and Spin-Dependent Tunneling. PRX Quantum, 2021, 2, .	3.5	39
33	Storing quantum information in spins and high-sensitivity ESR. Journal of Magnetic Resonance, 2018, 287, 128-139.	1.2	38
34	Coherent State Transfer between an Electron and Nuclear Spin in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="bold">N</mml:mi><mml:mprescripts /><mml:none /><mml:mn mathvariant="bold">15</mml:mn></mml:mmultiscripts><mml:mo mathvariant="bold">@</mml:mo><mml:msub><mml:mi mathvariant="bold">C</mml:mi><mml:mn mathvariant="bold">60</mml:mn></mml:msub></mml:math>. Physical Review Letters, 2011, 106, 110504.	2.9	34
35	Linear Hyperfine Tuning of Donor Spins in Silicon Using Hydrostatic Strain. Physical Review Letters, 2018, 120, 167701.	2.9	34
36	Davies electron-nuclear double resonance revisited: Enhanced sensitivity and nuclear spin relaxation. Journal of Chemical Physics, 2006, 124, 234508.	1.2	33

#	Article	IF	Citations
37	Conditional Control of Donor Nuclear Spins in Silicon Using Stark Shifts. Physical Review Letters, 2014, 113, 157601.	2.9	32
38	Uncovering many-body correlations in nanoscale nuclear spin baths by central spin decoherence. Nature Communications, 2014, 5, 4822.	5.8	32
39	Quantum-bath-driven decoherence of mixed spin systems. Physical Review B, 2014, 89, .	1.1	30
40	Hybrid opticalâ€“electrical detection of donor electron spins with bound excitons in silicon. Nature Materials, 2015, 14, 490-494.	13.3	29
41	Coherent spin dynamics of ytterbium ions in yttrium orthosilicate. Physical Review B, 2018, 97, .	1.1	28
42	Decoherence mechanisms of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>209</mml:mn></mml:msup></mml:math>Bi donor electron spins in isotopically pure<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>28</mml:mn></mml:msup></mml:math>Si. Physical Review B, 2012, 86, .	1.1	27
43	Using Deep Learning to Understand and Mitigate the Qubit Noise Environment. PRX Quantum, 2021, 2, .	3.5	27
44	Synthesis and investigation of donorâ€“porphyrinâ€“acceptor triads with long-lived photo-induced charge-separate states. Chemical Science, 2015, 6, 6468-6481.	3.7	24
45	Multimode Storage of Quantum Microwave Fields in Electron Spins over 100Âms. Physical Review Letters, 2020, 125, 210505.	2.9	21
46	Classical nature of nuclear spin noise near clock transitions of Bi donors in silicon. Physical Review B, 2015, 92, .	1.1	20
47	Primary thermometry of a single reservoir using cyclic electron tunneling to a quantum dot. Communications Physics, 2018, 1, .	2.0	20
48	High-Cooperativity Coupling of a Rare-Earth Spin Ensemble to a Superconducting Resonator Using Yttrium Orthosilicate as a Substrate. Physical Review Applied, 2019, 11, .	1.5	19
49	A sensitivity leap for X-band EPR using a probehead with a cryogenic preamplifier. Journal of Magnetic Resonance, 2021, 322, 106876.	1.2	19
50	29Si nuclear spins as a resource for donor spin qubits in silicon. New Journal of Physics, 2016, 18, 023021.	1.2	18
51	Pulsed electron spin resonance spectroscopy in the Purcell regime. Journal of Magnetic Resonance, 2020, 310, 106662.	1.2	18
52	Stark shift and field ionization of arsenic donors in 28Si-silicon-on-insulator structures. Applied Physics Letters, 2014, 104, .	1.5	17
53	Tuning high-Q superconducting resonators by magnetic field reorientation. AIP Advances, 2019, 9, .	0.6	17
54	First-principles calculations of hyperfine interaction, binding energy, and quadrupole coupling for shallow donors in silicon. Npj Computational Materials, 2020, 6, .	3.5	17

#	Article	IF	Citations
55	Remote Capacitive Sensing in Two-Dimensional Quantum-Dot Arrays. Nano Letters, 2020, 20, 7123-7128.	4.5	15
56	Radiative cooling of a spin ensemble. Nature Physics, 2020, 16, 751-755.	6.5	15
57	Probing the C ₆₀ triplet state coupling to nuclear spins inside and out. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120475.	1.6	13
58	Functional basis of electron transport within photosynthetic complex I. Nature Communications, 2021, 12, 5387.	5.8	13
59	Spin-Resonance Linewidths of Bismuth Donors in Silicon Coupled to Planar Microresonators. Physical Review Applied, 2020, 14, .	1.5	13
60	Nuclear relaxation effects in Davies ENDOR variants. Journal of Magnetic Resonance, 2008, 191, 315-321.	1.2	12
61	Self-Stimulated Pulse Echo Trains from Inhomogeneously Broadened Spin Ensembles. Physical Review Letters, 2020, 125, 137702.	2.9	12
62	Spin relaxation and donor-acceptor recombination of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msup><mml:mi mathvariant="normal">Se</mml:mi><mml:mo>+</mml:mo></mml:msup></mml:math>in 28-silicon. Physical Review B, 2015, 92, .	1.1	10
63	Spin memories in for the long haul. Nature, 2015, 517, 153-154.	13.7	10
64	A Silicon Surface Code Architecture Resilient Against Leakage Errors. Quantum - the Open Journal for Quantum Science, 0, 3, 212.	0.0	9
65	Hyperfine spectroscopy in a quantum-limited spectrometer. Magnetic Resonance, 2020, 1, 315-330.	0.8	9
66	Host isotope mass effects on the hyperfine interaction of group-V donors in silicon. Physical Review B, 2014, 90, .	1.1	8
67	Dispersive readout of reconfigurable ambipolar quantum dots in a silicon-on-insulator nanowire. Applied Physics Letters, 2021, 118, .	1.5	6
68	Three of diamonds. Nature Nanotechnology, 2014, 9, 167-169.	15.6	5
69	Electron Spin Resonance of P Donors in Isotopically Purified Si Detected by Contactless Photoconductivity. Physical Review Applied, 2019, 11, .	1.5	4
70	A gem of a quantum teleporter. Science, 2014, 345, 510-511.	6.0	1
71	Strain in heterogeneous quantum devices with atomic layer deposition. Materials for Quantum Technology, 0, , .	1.2	1
72	Quantum registers hit the right wavelength. Nature Materials, 2020, 19, 1259-1260.	13.3	0