Fay E Hudson

List of Publications by Year
in descending order

56 papers	4,532 citations	159585 30 h-index	168389 53 g-index
56 all docs	56 docs citations	56 times ranked	2744 citing authors

#	Article	IF	Citations
1	Precision tomography of a three-qubit donor quantum processor in silicon. Nature, 2022, 601, 348-353.	27.8	118
2	Fast Bayesian Tomography of a Two-Qubit Gate Set in Silicon. Physical Review Applied, 2022, 17, .	3.8	9
3	Exchange Coupling in a Linear Chain of Three Quantum-Dot Spin Qubits in Silicon. Nano Letters, 2021, 21, 1517-1522.	9.1	24
4	Pauli Blockade in Silicon Quantum Dots with Spin-Orbit Control. PRX Quantum, 2021, 2, .	9.2	36
5	Bell-state tomography in a silicon many-electron artificial molecule. Nature Communications, 2021, 12, 3228.	12.8	17
6	A High-Sensitivity Charge Sensor for Silicon Qubits above 1 K. Nano Letters, 2021, 21, 6328-6335.	9.1	6
7	Coherent spin qubit transport in silicon. Nature Communications, 2021, 12, 4114.	12.8	53
8	Single-electron spin resonance in a nanoelectronic device using a global field. Science Advances, 2021, 7, .	10.3	31
9	Conditional quantum operation of two exchange-coupled single-donor spin qubits in a MOS-compatible silicon device. Nature Communications, 2021, 12, 181.	12.8	34
10	Electrical control of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>g</mml:mi></mml:math> tensor of the first hole in a silicon MOS quantum dot. Physical Review B, 2021, 104, .	3.2	23
11	A silicon quantum-dot-coupled nuclear spin qubit. Nature Nanotechnology, 2020, 15, 13-17.	31.5	60
12	Coherent electrical control of a single high-spin nucleus in silicon. Nature, 2020, 579, 205-209.	27.8	79
13	Controllable freezing of the nuclear spin bath in a single-atom spin qubit. Science Advances, 2020, 6, .	10.3	19
14	Coherent spin control of s-, p-, d- and f-electrons in a silicon quantum dot. Nature Communications, 2020, 11, 797.	12.8	51
15	Operation of a silicon quantum processor unit cell above one kelvin. Nature, 2020, 580, 350-354.	27.8	214
16	Electron spin relaxation of single phosphorus donors in metal-oxide-semiconductor nanoscale devices. Physical Review B, 2019, 99, .	3.2	22
17	Controlling Spin-Orbit Interactions in Silicon Quantum Dots Using Magnetic Field Direction. Physical Review X, 2019, 9, .	8.9	42
18	Fidelity benchmarks for two-qubit gates in silicon. Nature, 2019, 569, 532-536.	27.8	271

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19	Silicon qubit fidelities approaching incoherent noise limits via pulse engineering. Nature Electronics, 2019, 2, 151-158.	26.0	135
20	Gate-based single-shot readout of spins in silicon. Nature Nanotechnology, 2019, 14, 437-441.	31.5	109
21	Single-spin qubits in isotopically enriched silicon at low magnetic field. Nature Communications, 2019, 10, 5500.	12.8	48
22	Coherent control via weak measurements in P31 single-atom electron and nuclear spin qubits. Physical Review B, 2018, 98, .	3.2	15
23	Assessment of a Silicon Quantum Dot Spin Qubit Environment via Noise Spectroscopy. Physical Review Applied, 2018, 10, .	3.8	85
24	Integrated silicon qubit platform with single-spin addressability, exchange control and single-shot singlet-triplet readout. Nature Communications, 2018, 9, 4370.	12.8	66
25	Spin and orbital structure of the first six holes in a silicon metal-oxide-semiconductor quantum dot. Nature Communications, 2018, 9, 3255.	12.8	42
26	Gigahertz Single-Electron Pumping Mediated by Parasitic States. Nano Letters, 2018, 18, 4141-4147.	9.1	11
27	A single-atom quantum memory in silicon. Quantum Science and Technology, 2017, 2, 015009.	5.8	30
28	Impact of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>g</mml:mi></mml:math> -factors and valleys on spin qubits in a silicon double quantum dot. Physical Review B, 2017, 96, .	3.2	21
29	A dressed spin qubit in silicon. Nature Nanotechnology, 2017, 12, 61-66.	31.5	62
30	Deterministic Atom Placement by Ion Implantation: Few and Single Atom Devices for Quantum Computer Technology. , 2016, , .		4
31	Breaking the rotating wave approximation for a strongly driven dressed single-electron spin. Physical Review B, 2016, 94, .	3.2	31
32	Bell's inequality violation with spins in silicon. Nature Nanotechnology, 2016, 11, 242-246.	31.5	56
33	Spin-orbit coupling and operation of multivalley spin qubits. Physical Review B, 2015, 92, .	3.2	69
34	Silicon Metal-oxide-semiconductor Quantum Dots for Single-electron Pumping. Journal of Visualized Experiments, 2015, , e52852.	0.3	10
35	Single atom devices by ion implantation. Journal of Physics Condensed Matter, 2015, 27, 154204.	1.8	61
36	Electrically controlling single-spin qubits in a continuous microwave field. Science Advances, 2015, 1, e1500022.	10.3	125

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37	A two-qubit logic gate in silicon. Nature, 2015, 526, 410-414.	27.8	700
38	Pauli Spin Blockade of Heavy Holes in a Silicon Double Quantum Dot. Nano Letters, 2015, 15, 7314-7318.	9.1	68
39	Quantifying the quantum gate fidelity of single-atom spin qubits in silicon by randomized benchmarking. Journal of Physics Condensed Matter, 2015, 27, 154205.	1.8	107
40	High-fidelity adiabatic inversion of a ³¹P electron spin qubit in natural silicon. Applied Physics Letters, 2014, 104, 092115.	3.3	24
41	An addressable quantum dot qubit with fault-tolerant control-fidelity. Nature Nanotechnology, 2014, 9, 981-985.	31.5	703
42	Storing quantum information for 30 seconds in a nanoelectronic device. Nature Nanotechnology, 2014, 9, 986-991.	31.5	513
43	Single hole transport in a silicon metal-oxide-semiconductor quantum dot. Applied Physics Letters, 2013, 103, .	3.3	23
44	Charge sharing in multi-electrode devices for deterministic doping studied by IBIC. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 2336-2339.	1.4	5
45	Tailoring spectral position and width of field enhancement by focused ion-beam patterning of plasmonic nanoparticles. Physica Status Solidi - Rapid Research Letters, 2010, 4, 262-264.	2.4	15
46	Measuring the Charge and Spin States ofÂElectrons on Individual Dopant Atoms inÂSilicon. Topics in Applied Physics, 2009, , 169-182.	0.8	1
47	Gate-controlled charge transfer in Si:P double quantum dots. Nanotechnology, 2008, 19, 195402.	2.6	3
48	Scaling of ion implanted Si:P single electron devices. Nanotechnology, 2007, 18, 235401.	2.6	1
49	Thin-film aluminium for superconducting qubits. , 2006, , .		1
50	Coulomb blockade in a nanoscale phosphorus-in-silicon island. Microelectronic Engineering, 2006, 83, 1809-1813.	2.4	6
51	Quantum effects in ion implanted devices. Nuclear Instruments & Methods in Physics Research B, 2006, 249, 221-225.	1.4	6
52	Controlled single electron transfer between Si:P dots. Applied Physics Letters, 2006, 88, 192101.	3.3	25
53	Microsecond Resolution of Quasiparticle Tunneling in the Single-Cooper-Pair Transistor. Physical Review Letters, 2006, 97, 106603.	7.8	53
54	Fabrication of single atom nanoscale devices by ion implantation. , 2006, , .		0

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55	Single atom Si nanoelectronics using controlled single-ion implantation. Microelectronic Engineering, 2005, 78-79, 279-286.	2.4	9
56	Controlled shallow single-ion implantation in silicon using an active substrate for sub-20â€keV ions. Applied Physics Letters, 2005, 86, 202101.	3.3	180