Kohei M Itoh

List of Publications by Year
in descending order

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118 papers	5,471 citations	109321 35 h-index	82547 72 g-index
118 all docs	118 docs citations	118 times ranked	4285 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	Exchange Coupling in a Linear Chain of Three Quantum-Dot Spin Qubits in Silicon. Nano Letters, 2021, 21, 1517-1522.	9.1	24
3	Pauli Blockade in Silicon Quantum Dots with Spin-Orbit Control. PRX Quantum, 2021, 2, .	9.2	36
4	Imaging Topological Spin Structures Using Light-Polarization and Magnetic Microscopy. Physical Review Applied, 2021, 15, .	3.8	18
5	Materials challenges and opportunities for quantum computing hardware. Science, 2021, 372, .	12.6	196
6	Bell-state tomography in a silicon many-electron artificial molecule. Nature Communications, 2021, 12, 3228.	12.8	17
7	Wide-Field Dynamic Magnetic Microscopy Using Double-Double Quantum Driving of a Diamond Defect Ensemble. Physical Review Applied, 2021, 15, .	3.8	10
8	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
9	A silicon quantum-dot-coupled nuclear spin qubit. Nature Nanotechnology, 2020, 15, 13-17.	31.5	60
10	Detection and control of single proton spins in a thin layer of diamond grown by chemical vapor deposition. Applied Physics Letters, 2020, 117, .	3.3	7
11	Effect of fluorine on the suppression of boron diffusion in pre-amorphized silicon. Journal of Applied Physics, 2020, 128, 105701.	2.5	1
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	Spin coherence and depths of single nitrogen-vacancy centers created by ion implantation into diamond via screening masks. Journal of Applied Physics, 2020, 127, 244502.	2.5	4
15	Construction and operation of a tabletop system for nanoscale magnetometry with single nitrogen-vacancy centers in diamond. AIP Advances, 2020, 10, .	1.3	19
16	Oxidation-enhanced Si self-diffusion in isotopically modulated silicon nanopillars. Journal of Applied Physics, 2020, 127, 045704.	2.5	5
17	¹⁻¹ Forefront of Silicon Quantum Computing. , 2020, , .		0
18	Electron spin relaxation of single phosphorus donors in metal-oxide-semiconductor nanoscale devices. Physical Review B, 2019, 99, .	3.2	22

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19	A quantum-dot spin qubit with coherence limited by charge noise and fidelity higher than 99.9%. Nature Nanotechnology, 2018, 13, 102-106.	31.5	574
20	Silicon Isotope Technology for Quantum Computing. , 2018, , .		0
21	Defects for quantum information processing in silicon. , 2018, , 241-263.		0
22	Nitrogen-vacancy centers created by N+ ion implantation through screening SiO2 layers on diamond. Applied Physics Letters, 2017, 110, .	3.3	10
23	Dynamic nuclear polarization enhanced magnetic field sensitivity and decoherence spectroscopy of an ensemble of near-surface nitrogen-vacancy centers in diamond. Applied Physics Letters, 2017, 110, .	3.3	13
24	A single-atom quantum memory in silicon. Quantum Science and Technology, 2017, 2, 015009.	5.8	30
25	Multiple-Quantum Transitions and Charge-Induced Decoherence of Donor Nuclear Spins in Silicon. Physical Review Letters, 2017, 118, 246401.	7.8	3
26	A dressed spin qubit in silicon. Nature Nanotechnology, 2017, 12, 61-66.	31.5	62
27	Suppression of segregation of the phosphorus Î´-doping layer in germanium by incorporation of carbon. Japanese Journal of Applied Physics, 2016, 55, 031304.	1.5	3
28	High density nitrogen-vacancy sensing surface created via He+ ion implantation of 12C diamond. Applied Physics Letters, 2016, 108, .	3.3	63
29	29Si nuclear spins as a resource for donor spin qubits in silicon. New Journal of Physics, 2016, 18, 023021.	2.9	18
30	Electron nuclear double resonance with donor-bound excitons in silicon. Physical Review B, 2016, 94, .	3.2	2
31	Polarization- and frequency-tunable microwave circuit for selective excitation of nitrogen-vacancy spins in diamond. Applied Physics Letters, 2016, 109, .	3.3	23
32	Broadband, large-area microwave antenna for optically detected magnetic resonance of nitrogen-vacancy centers in diamond. Review of Scientific Instruments, 2016, 87, 053904.	1.3	94
33	Quadrupolar effects on nuclear spins of neutral arsenic donors in silicon. Physical Review B, 2016, 93, .	3.2	13
34	Breaking the rotating wave approximation for a strongly driven dressed single-electron spin. Physical Review B, 2016, 94, .	3.2	31
35	Effect of carbon situating at end-of-range defects on silicon self-diffusion investigated using pre-amorphized isotope multilayers. Japanese Journal of Applied Physics, 2016, 55, 036504.	1.5	1
36	Formation of Nitrogen-Vacancy Centers in Homoepitaxial Diamond Thin Films Grown via Microwave Plasma-Assisted Chemical Vapor Deposition. IEEE Nanotechnology Magazine, 2016, 15, 614-618.	2.0	5

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37	Silicon Quantum Information Processing. Lecture Notes in Physics, 2016, , 569-585.	0.7	0
38	Bell's inequality violation with spins in silicon. Nature Nanotechnology, 2016, 11, 242-246.	31.5	56
39	Interaction of Strain and Nuclear Spins in Silicon: Quadrupolar Effects on Ionized Donors. Physical Review Letters, 2015, 115, 057601.	7.8	36
40	Suppression of surface segregation of the phosphorous Î´-doping layer by insertion of an ultra-thin silicon layer for ultra-shallow Ohmic contacts on n-type germanium. Applied Physics Letters, 2015, 107, .	3.3	31
41	Observation of silicon self-diffusion enhanced by the strain originated from end-of-range defects using isotope multilayers. Journal of Applied Physics, 2015, 118, 115706.	2.5	6
42	Submillisecond Hyperpolarization of Nuclear Spins in Silicon. Physical Review Letters, 2015, 114, 117602.	7.8	13
43	Electrically controlling single-spin qubits in a continuous microwave field. Science Advances, 2015, 1, e1500022.	10.3	125
44	Isotope engineering of silicon and diamond for quantum computing and sensing applications. MRS Communications, 2014, 4, 143-157.	1.8	212
45	Spin-dependent recombination at arsenic donors in ion-implanted silicon. Applied Physics Letters, 2014, 105, .	3.3	7
46	Simultaneous observation of the diffusion of self-atoms and co-implanted boron and carbon in silicon investigated by isotope heterostructures. Japanese Journal of Applied Physics, 2014, 53, 071302.	1.5	3
47	Spin-dependent recombination involving oxygen-vacancy complexes in silicon. Physical Review B, 2014, 89, .	3.2	12
48	Investigation of mixing effects of silicon isotopes under shaveâ€off condition using atom probe tomography. Surface and Interface Analysis, 2014, 46, 1200-1203.	1.8	1
49	Storing quantum information for 30 seconds in a nanoelectronic device. Nature Nanotechnology, 2014, 9, 986-991.	31.5	513
50	Position and density control of nitrogen-vacancy centers in diamond using micropatterned substrate for chemical vapor deposition. , 2013, , .		0
51	High-Sensitivity Magnetometry Based on Quantum Beats in Diamond Nitrogen-Vacancy Centers. Physical Review Letters, 2013, 110, 130802.	7.8	119
52	Geometric phase gates with adiabatic control in electron spin resonance. Physical Review A, 2013, 87, .	2.5	43
53	Doping Position Control of Nitrogen-vacancy Centers in Diamond using Nitrogen-doped Chemical Vapor Deposition on Micropatterned Substrate. , 2013, , .		1
54	Rabi oscillation and electron-spin-echo envelope modulation of the photoexcited triplet spin system in silicon. Physical Review B, 2012, 86, .	3.2	10

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55	Violation of a Leggettâ€“Garg inequality with ideal non-invasive measurements. Nature Communications, 2012, 3, 606.	12.8	172
56	Coherent Storage of Photoexcited Triplet States Using<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi>Si</mml:mi><mml:mprescripts /><mml:none /><mml:mn>29</mml:mn></mml:mmultiscripts></mml:math>Nuclear Spins in Silicon. Physical Review Letters, 2012, 108, 097601.	7.8	17
57	Electron spin coherence exceeding seconds in high-purity silicon. Nature Materials, 2012, 11, 143-147.	27.5	561
58	Optical and Spin Coherence Properties of Nitrogen-Vacancy Centers Placed in a 100 nm Thick Isotopically Purified Diamond Layer. Nano Letters, 2012, 12, 2083-2087.	9.1	161
59	Thermal Stability and Surface Passivation of Ge Nanowires Coated by Epitaxial SiGe Shells. Nano Letters, 2012, 12, 1385-1391.	9.1	29
60	Direct-gap photoluminescence from germanium nanowires. Physical Review B, 2012, 86, .	3.2	18
61	Single atom calculation in silicon. , 2011, , .		0
62	Entanglement in a solid-state spin ensemble. Nature, 2011, 470, 69-72.	27.8	131
63	Monte Carlo simulation of silicon atomic displacement and amorphization induced by ion implantation. Journal of Applied Physics, 2011, 109, 123507.	2.5	2
64	Self-diffusion in compressively strained Ge. Journal of Applied Physics, 2011, 110, 034906.	2.5	3
65	Critical Displacement of Host-Atoms for Amorphization in Germanium Induced by Arsenic Implantation. Applied Physics Express, 2010, 3, 071303.	2.4	3
66	Resonant escape over an oscillating barrier in a single-electron ratchet transfer. Physical Review B, 2010, 82, .	3.2	21
67	Storage of Multiple Coherent Microwave Excitations in an Electron Spin Ensemble. Physical Review Letters, 2010, 105, 140503.	7.8	156
68	Electron spin coherence of phosphorus donors in silicon: Effect of environmental nuclei. Physical Review B, 2010, 82, .	3.2	76
69	Dynamic Nuclear Polarization of29Si Nuclei Induced by Li and Liâ€“O Centers in Silicon. Japanese Journal of Applied Physics, 2010, 49, 103001.	1.5	1
70	Behaviors of neutral and charged silicon self-interstitials during transient enhanced diffusion in silicon investigated by isotope superlattices. Journal of Applied Physics, 2009, 105, .	2.5	9
71	Dynamic nuclear polarization of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mtext>S</mml:mtext><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>29</mml:mn></mml:mrow></mml:mmultiscripts><mml:mtext>i</mml:mtext></mml:mrow></mml:math>nuc in isotopically controlled phosphorus doped silicon. Physical Review B, 2009, 80, .	3.2	28
72	Atom probe microscopy of three-dimensional distribution of silicon isotopes in Si28â^•Si30 isotope superlattices with sub-nanometer spatial resolution. Journal of Applied Physics, 2009, 106, .	2.5	32

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73	Quantitative evaluation of germanium displacement induced by arsenic implantation using germanium isotope superlattices. Physica B: Condensed Matter, 2009, 404, 4546-4548.	2.7	8
74	Silicon isotope superlattices: Ideal SIMS standards for shallow junction characterization. Applied Surface Science, 2008, 255, 1345-1347.	6.1	10
75	Film thickness determining method of the silicon isotope superlattices by SIMS. Applied Surface Science, 2008, 255, 1430-1432.	6.1	4
76	Accurate Determination of the Intrinsic Diffusivities of Boron, Phosphorus, and Arsenic in Silicon: The Influence of SiO2Films. Japanese Journal of Applied Physics, 2008, 47, 6205-6207.	1.5	10
77	Escape dynamics of a few electrons in a single-electron ratchet using silicon nanowire metal-oxide-semiconductor field-effect transistor. Applied Physics Letters, 2008, 93, .	3.3	20
78	Generation of excess Si species at Siâˆ•SiO2 interface and their diffusion into SiO2 during Si thermal oxidation. Journal of Applied Physics, 2008, 103, 026101.	2.5	8
79	Charge states of vacancies in germanium investigated by simultaneous observation of germanium self-diffusion and arsenic diffusion. Applied Physics Letters, 2008, 93, .	3.3	56
80	Nuclear magnetic resonance linewidth and spin diffusion in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mtext>S</mml:mtext><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>29</mml:mn></mml:mrow></mml:mmultiscripts><mml:mtext>i</mml:mtext></mml:mrow></mml:math>isot controlled silicon. Physical Review B, 2008, 78, .	3.2	32
81	Self-assembly of periodic nanoclusters of Si and Ge along atomically straight steps of a vicinal Si(111). Journal of Applied Physics, 2007, 101, 081702.	2.5	7
82	One-dimensional ordering of Ge nanoclusters along atomically straight steps of Si(111). Applied Physics Letters, 2007, 90, 013108.	3.3	11
83	Experimental Evidence of the Vacancy-Mediated Silicon Self-Diffusion in Single-Crystalline Silicon. Physical Review Letters, 2007, 98, 095901.	7.8	92
84	Enhanced oxygen exchange near the oxide/silicon interface during silicon thermal oxidation. Thin Solid Films, 2007, 515, 6596-6600.	1.8	10
85	Simultaneous observation of the behavior of impurities and silicon atoms in silicon isotope superlattices. Physica B: Condensed Matter, 2007, 401-402, 597-599.	2.7	5
86	Pulsed EPR study of spin coherence time of P donors in isotopically controlled Si. Physica B: Condensed Matter, 2006, 376-377, 28-31.	2.7	3
87	Enhanced Si and B diffusion in semiconductor-grade SiO2 and the effect of strain on diffusion. Thin Solid Films, 2006, 508, 270-275.	1.8	6
88	Host-isotope effect on the localized vibrational modes of oxygen dimer in isotopically enriched silicon. Physica B: Condensed Matter, 2006, 376-377, 959-962.	2.7	3
89	Growth and characterization of short-period silicon isotope superlattices. Thin Solid Films, 2006, 508, 160-162.	1.8	22
90	Oxygen Self-Diffusion in Silicon Dioxide: Effect of the Si/SiO₂ Interface. Defect and Diffusion Forum, 2006, 258-260, 554-561.	0.4	1

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91	An all-silicon linear chain NMR quantum computer. Solid State Communications, 2005, 133, 747-752.	1.9	47
92	Lattice isotope effects on the widths of optical transitions in silicon. Journal of Physics Condensed Matter, 2005, 17, S2211-S2217.	1.8	1
93	Optical pumping ofSi29nuclear spins in bulk silicon at high magnetic field and liquid helium temperature. Physical Review B, 2005, 71, .	3.2	34
94	Self-Assembly of Parallel Atomic Wires and Periodic Clusters of Silicon on a Vicinal Si(111) Surface. Physical Review Letters, 2005, 95, 106101.	7.8	35
95	Correlated diffusion of silicon and boron in thermally grown SiO2. Applied Physics Letters, 2004, 85, 221-223.	3.3	19
96	Modeling of Si self-diffusion in SiO2: Effect of the Si/SiO2 interface including time-dependent diffusivity. Applied Physics Letters, 2004, 84, 876-878.	3.3	67
97	Effect of Si/SiO2Interface on Silicon and Boron Diffusion in Thermally Grown SiO2. Japanese Journal of Applied Physics, 2004, 43, 7837-7842.	1.5	13
98	Simulation of correlated diffusion of Si and B in thermally grown SiO2. Journal of Applied Physics, 2004, 96, 5513-5519.	2.5	11
99	Electron-spin phase relaxation of phosphorus donors in nuclear-spin-enriched silicon. Physical Review B, 2004, 70, .	3.2	89
100	Effect of the Si/SiO2 interface on self-diffusion of Si in semiconductor-grade SiO2. Applied Physics Letters, 2003, 83, 3897-3899.	3.3	55
101	Host isotope effect on the localized vibrational modes of oxygen in isotopically enriched28Si,29Si,and30Sisingle crystals. Physical Review B, 2003, 68, .	3.2	25
102	Double and single peaks in nuclear magnetic resonance spectra of natural and29Siâˆ'enrichedsingle-crystal silicon. Physical Review B, 2003, 68, .	3.2	28
103	Self-diffusion of Si in thermally grown SiO2 under equilibrium conditions. Journal of Applied Physics, 2003, 93, 3674-3676.	2.5	68
104	High Purity Isotopically Enriched29Si and30Si Single Crystals: Isotope Separation, Purification, and Growth. Japanese Journal of Applied Physics, 2003, 42, 6248-6251.	1.5	72
105	Isotopically engineered semiconductors â€" new media for the investigation of nuclear spin related effects in solids. Physica E: Low-Dimensional Systems and Nanostructures, 2001, 10, 463-466.	2.7	13
106	Donor and acceptor concentration dependence of the electron Hall mobility and the Hall scattering factor in n-type 4Hâ€" and 6Hâ€"SiC. Journal of Applied Physics, 2001, 89, 6228-6234.	2.5	89
107	Metal-Insulator Transition in Doped Semiconductors. Springer Proceedings in Physics, 2001, , 128-131.	0.2	1
108	Critical exponents for the metal-insulator transition of 70Ge:Ga in magnetic fields. Springer Proceedings in Physics, 2001, , 152-153.	0.2	1

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109	Metalâ€“insulator transition of NTD in magnetic fields. Physica B: Condensed Matter, 2000, 284-288, 1677-1678.	2.7	0
110	Localization length and impurity dielectric susceptibility in the critical regime of the metal-insulator transition in homogeneously dopedp-typeGe. Physical Review B, 2000, 62, R2255-R2258.	3.2	10
111	Theory of the anisotropy of the electron Hall mobility in n-type 4Hâ€“ and 6Hâ€“SiC. Journal of Applied Physics, 2000, 88, 1956-1961.	2.5	47
112	Theoretical Calculation of the Electron Hall Mobility in n-Type 4Hâ€“ and 6H-SiC. Materials Science Forum, 2000, 338-342, 729-732.	0.3	11
113	Growth and Characterization of the Isotopically Enriched 28Si Bulk Single Crystal. Japanese Journal of Applied Physics, 1999, 38, L1493-L1495.	1.5	63
114	Metal-insulator transition of isotopically enriched neutron-transmutation-doped70Ge:Gain magnetic fields. Physical Review B, 1999, 60, 15817-15823.	3.2	10
115	Electrical properties of isotopically enriched neutron-transmutation-doped70Ge:Ganear the metal-insulator transition. Physical Review B, 1998, 58, 9851-9857.	3.2	42
116	Calculation of the Anisotropy of the Hall Mobility in n-Type 4H- and 6H-SiC. Materials Science Forum, 1998, 264-268, 295-298.	0.3	17
117	Interstitial oxygen in germanium and silicon. Physical Review B, 1997, 56, 3820-3833.	3.2	55
118	Quantitative Evaluation of Silicon Displacement Induced by Arsenic Implantation Using Silicon Isotope Superlattices. Applied Physics Express, 0, 1, 021401.	2.4	18