

# Kohei Itoh

## List of Publications by Year in descending order

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75  
papers

5,257  
citations

147801

31  
h-index

106344

65  
g-index

75  
all docs

75  
docs citations

75  
times ranked

3509  
citing authors

#	ARTICLE	IF	CITATIONS
1	An addressable quantum dot qubit with fault-tolerant control-fidelity. Nature Nanotechnology, 2014, 9, 981-985.	31.5	703
2	A two-qubit logic gate in silicon. Nature, 2015, 526, 410-414.	27.8	700
3	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
4	Storing quantum information for 30 seconds in a nanoelectronic device. Nature Nanotechnology, 2014, 9, 986-991.	31.5	513
5	Fidelity benchmarks for two-qubit gates in silicon. Nature, 2019, 569, 532-536.	27.8	271
6	Operation of a silicon quantum processor unit cell above one kelvin. Nature, 2020, 580, 350-354.	27.8	214
7	Isotope engineering of silicon and diamond for quantum computing and sensing applications. MRS Communications, 2014, 4, 143-157.	1.8	212
8	Silicon qubit fidelities approaching incoherent noise limits via pulse engineering. Nature Electronics, 2019, 2, 151-158.	26.0	135
9	Electrically controlling single-spin qubits in a continuous microwave field. Science Advances, 2015, 1, e1500022.	10.3	125
10	Precision tomography of a three-qubit donor quantum processor in silicon. Nature, 2022, 601, 348-353.	27.8	118
11	Hopping Conduction and Metal-Insulator Transition in Isotopically Enriched Neutron-Transmutation-Doped $^{70}\text{Ge}:\text{Ga}$ . Physical Review Letters, 1996, 77, 4058-4061.	7.8	108
12	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
13	Experimental Evidence of the Vacancy-Mediated Silicon Self-Diffusion in Single-Crystalline Silicon. Physical Review Letters, 2007, 98, 095901.	7.8	92
14	Donor and acceptor concentration dependence of the electron Hall mobility and the Hall scattering factor in n-type $^4\text{H}\hat{\text{a}}\text{€}^{\text{€}}$ and $^6\text{H}\hat{\text{a}}\text{€}^{\text{€}}\text{SiC}$ . Journal of Applied Physics, 2001, 89, 6228-6234.	2.5	89
15	Electron-spin phase relaxation of phosphorus donors in nuclear-spin-enriched silicon. Physical Review B, 2004, 70, .	3.2	89
16	Coherent electrical control of a single high-spin nucleus in silicon. Nature, 2020, 579, 205-209.	27.8	79
17	A silicon quantum-dot-coupled nuclear spin qubit. Nature Nanotechnology, 2020, 15, 13-17.	31.5	60
18	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

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19	Bell's inequality violation with spins in silicon. <i>Nature Nanotechnology</i> , 2016, 11, 242-246.	31.5	56
20	Coherent spin qubit transport in silicon. <i>Nature Communications</i> , 2021, 12, 4114.	12.8	53
21	Evidence for Uniform Coexistence of Ferromagnetism and Unconventional Superconductivity in UGe <sub>2</sub> : A <sup>73</sup> Ge-NQR Study under Pressure. <i>Journal of the Physical Society of Japan</i> , 2005, 74, 705-711.	1.6	51
22	Coherent spin control of s-, p-, d- and f-electrons in a silicon quantum dot. <i>Nature Communications</i> , 2020, 11, 797.	12.8	51
23	Single-spin qubits in isotopically enriched silicon at low magnetic field. <i>Nature Communications</i> , 2019, 10, 5500.	12.8	48
24	Growth and characterization of <sup>28</sup> Si/ <sup>30</sup> Si isotope superlattices. <i>Applied Physics Letters</i> , 2003, 83, 2318-2320.	3.3	46
25	Observation of two-dimensional hole gas with mobility and carrier density exceeding those of two-dimensional electron gas at room temperature in the SiGe heterostructures. <i>Applied Physics Letters</i> , 2007, 91, .	3.3	44
26	Multiband Superconductivity in Heavy Fermion Compound CePt <sub>3</sub> Si without Inversion Symmetry: An NMR Study on a High-Quality Single Crystal. <i>Journal of the Physical Society of Japan</i> , 2009, 78, 014705.	1.6	40
27	Optically-detected NMR of optically-hyperpolarized <sup>31</sup> P neutral donors in <sup>28</sup> Si. <i>Journal of Applied Physics</i> , 2011, 109, .	2.5	36
28	Phonon Engineering in Isotopically Disordered Silicon Nanowires. <i>Nano Letters</i> , 2015, 15, 3885-3893.	9.1	36
29	Pauli Blockade in Silicon Quantum Dots with Spin-Orbit Control. <i>PRX Quantum</i> , 2021, 2, .	9.2	36
30	Direct observation of the donor nuclear spin in a near-gap bound exciton transition: P <sub>31</sub> in highly enriched <sup>28</sup> Si. <i>Journal of Applied Physics</i> , 2007, 101, 081724.	2.5	34
31	Conditional quantum operation of two exchange-coupled single-donor spin qubits in a MOS-compatible silicon device. <i>Nature Communications</i> , 2021, 12, 181.	12.8	34
32	Optimized electrical control of a Si/SiGe spin qubit in the presence of an induced frequency shift. <i>Npj Quantum Information</i> , 2018, 4, .	6.7	31
33	Complete Scaling Analysis of the Metal-Insulator Transition in Ge:Ga: Effects of Doping-Compensation and Magnetic Field. <i>Journal of the Physical Society of Japan</i> , 2004, 73, 173-183.	1.6	28
34	Experimental evidence for ferromagnetic spin-pairing superconductivity emerging in UGe <sub>2</sub> : A <sup>73</sup> Ge-nuclear-quadrupole-resonance study under pressure. <i>Physical Review B</i> , 2007, 75, .	3.2	28
35	Superconducting Characteristics of Filled Skutterudites LaPt <sub>4</sub> Ge <sub>12</sub> and PrPt <sub>4</sub> Ge <sub>12</sub> : <sup>73</sup> Ge-NQR/NMR Studies. <i>Journal of the Physical Society of Japan</i> , 2010, 79, 063702.	1.6	24
36	Optimized Ge nanowire arrays on Si by modified surfactant mediated epitaxy. <i>Physical Review B</i> , 2007, 75, .	3.2	23

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37	Coherent control of solid state nuclear spin nano-ensembles. Npj Quantum Information, 2018, 4, .	6.7	22
38	Electron spin relaxation of single phosphorus donors in metal-oxide-semiconductor nanoscale devices. Physical Review B, 2019, 99, .	3.2	22
39	Isotope effect on the phonon-drag component of the thermoelectric power of germanium. Physical Review B, 2003, 68, .	3.2	20
40	Cooperative Phenomenon of Ferromagnetism and Unconventional Superconductivity in UGe <sub>2</sub> : A <sup>73</sup> Ge-NQR Study under Pressure. Journal of the Physical Society of Japan, 2005, 74, 2675-2678.	1.6	20
41	Photoluminescence studies of implantation damage centers in Si <sub>3</sub> O. Journal of Applied Physics, 2004, 96, 1754-1756.	2.5	19
42	Controllable freezing of the nuclear spin bath in a single-atom spin qubit. Science Advances, 2020, 6, .	10.3	19
43	Quantitative Evaluation of Silicon Displacement Induced by Arsenic Implantation Using Silicon Isotope Superlattices. Applied Physics Express, 0, 1, 021401.	2.4	18
44	Bell-state tomography in a silicon many-electron artificial molecule. Nature Communications, 2021, 12, 3228.	12.8	17
45	Efficient Discrete Feature Encoding for Variational Quantum Classifier. IEEE Transactions on Quantum Engineering, 2021, 2, 1-14.	4.9	15
46	Solid-State Silicon NMR Quantum Computer. Journal of Superconductivity and Novel Magnetism, 2003, 16, 175-178.	0.5	14
47	A Schottky top-gated two-dimensional electron system in a nuclear spin free Si/SiGe heterostructure. Physica Status Solidi - Rapid Research Letters, 2009, 3, 61-63.	2.4	14
48	Localization length and impurity dielectric susceptibility in the critical regime of the metal-insulator transition in homogeneously doped p-type Ge. Physical Review B, 2000, 62, R2255-R2258.	3.2	10
49	Normal processes of phonon-phonon scattering and the drag thermopower in germanium crystals with isotopic disorder. Journal of Experimental and Theoretical Physics, 2003, 96, 1078-1088.	0.9	10
50	Hyperfine interactions at dangling bonds in amorphous germanium. Physical Review B, 2003, 68, .	3.2	10
51	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
52	Isotope effect for the thermal expansion coefficient of germanium. Journal of Experimental and Theoretical Physics, 1999, 88, 135-137.	0.9	8
53	Generation of excess Si species at Si <sup>*</sup> /SiO <sub>2</sub> interface and their diffusion into SiO <sub>2</sub> during Si thermal oxidation. Journal of Applied Physics, 2008, 103, 026101.	2.5	8
54	Host isotope mass effects on the hyperfine interaction of group-V donors in silicon. Physical Review B, 2014, 90, .	3.2	8

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55	<sup>73</sup> Ge- and <sup>135/137</sup> Ba-NMR Studies of Clathrate Superconductor Ba <sub>24</sub> Ge <sub>100</sub> . Journal of the Physical Society of Japan, 2009, 78, 104710.	1.6	7
56	Electron Spin Coherence of Phosphorus Donors in Isotopically Purified <sup>29</sup> Si. Journal of Superconductivity and Novel Magnetism, 2005, 18, 157-161.	0.5	6
57	Enhancement of room-temperature hole conductivity in narrow and strained Ge quantum well by double-side modulation doping. Applied Physics Letters, 2007, 90, 192108.	3.3	6
58	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
59	Title is missing!. Journal of Materials Science Letters, 1997, 16, 1894-1897.	0.5	5
60	Evidence for Unconventional Superconducting Fluctuations in Heavy-Fermion Compound CeNi <sub>2</sub> Ge <sub>2</sub> . Journal of the Physical Society of Japan, 2006, 75, 043702.	1.6	5
61	Observation of the random-to-correlated transition of the ionized-impurity distribution in compensated semiconductors. Physical Review B, 2002, 65, .	3.2	4
62	Isotopes for nanoelectronic devices. Nature Nanotechnology, 2009, 4, 480-481.	31.5	4
63	Shallow Impurity Absorption Spectroscopy in Isotopically Enriched Silicon. AIP Conference Proceedings, 2007, , .	0.4	2
64	QUANTUM COMPUTATION IN A ONE-DIMENSIONAL CRYSTAL LATTICE WITH NUCLEAR MAGNETIC RESONANCE FORCE MICROSCOPY. , 2002, , .		2
65	Preparation of the atomically straight step-edge Si (111) substrates as templates for nanostructure formation. Materials Research Society Symposia Proceedings, 2004, 832, 51.	0.1	1
66	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
67	Effect of fluorine on the suppression of boron diffusion in pre-amorphized silicon. Journal of Applied Physics, 2020, 128, 105701.	2.5	1
68	Fabrication of a Regular Array of Atomic Silicon Wires on Silicon. Materials Research Society Symposia Proceedings, 2004, 832, 262.	0.1	0
69	Silicon Quantum Computer. AIP Conference Proceedings, 2005, , .	0.4	0
70	Isotopically Engineered Silicon Nanoelectronics. , 2007, , .		0
71	<sup>73</sup> Ge NQR Study of Superconducting Skutterudites MPt <sub>4</sub> Ge <sub>12</sub> (M= Sr, Ba). Journal of the Physical Society of Japan, 2011, 80, SA028.	1.6	0
72	Position and density control of nitrogen-vacancy centers in diamond using micropatterned substrate for chemical vapor deposition. , 2013, , .		0

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73	Comparison of the Effects of the Doping-Compensation and Magnetic-Field on the Metal-Insulator Transition of Ge:Ga. Journal of the Physical Society of Japan, 2003, 72, 181-182.	1.6	0
74	Far-Infrared Spectroscopy of the Coulomb Gap in Compensated Semiconductors. Journal of the Physical Society of Japan, 2003, 72, 215-216.	1.6	0
75	503 Micro fabrication of magnetic materials by pattern transfer of hard Films. The Proceedings of Ibaraki District Conference, 2009, 2009, 123-124.	0.0	0