Sven Rogge

List of Publications by Year
in descending order

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163	5,004	109321	98798
papers	citations	35 h-index	67 g-index

164	164	164	4395
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Time-Resolved Photoionization Detection of a Single Er³⁺ Ion in Silicon. Nano Letters, 2022, 22, 396-401.	9.1	4
2	Single site optical spectroscopy of coupled Er³⁺ ion pairs in silicon. Quantum Science and Technology, 2022, 7, 025019.	5.8	2
3	Valley population of donor states in highly strained silicon. Materials for Quantum Technology, 2022, 2, 025002.	3.1	2
4	Shallow dopant pairs in silicon: An atomistic full configuration interaction study. Physical Review B, 2022, 105, .	3.2	4
5	Spin-Photon Coupling for Atomic Qubit Devices in Silicon. Physical Review Applied, 2022, 17, .	3.8	6
6	Flopping-Mode Electric Dipole Spin Resonance in Phosphorus Donor Qubits in Silicon. Physical Review Applied, 2022, 17, .	3.8	9
7	Zeeman and hyperfine interactions of a single <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Er</mml:mi><mml:none /><mml:mrow><mml:mn>3</mml:mn><mml:mo>+</mml:mo></mml:mrow><mml:mprescripts /><mml:none /><mml:mn>167</mml:mn></mml:mmultiscripts></mml:math> ion in Si. Physical Review B, 2022, 105, .	3.2	5
8	Engineering long spin coherence times of spinâ€“orbit qubits in silicon. Nature Materials, 2021, 20, 38-42.	27.5	40
9	Isotopic enrichment of silicon by high fluence <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msup><mml:mrow /><mml:mn>28</mml:mn></mml:msup><mml:msup><mml:mtext>Si</mml:mtext><mml:mo>â^’</mml:mo></mml:msup></mml:mrow> ion implantation. Physical Review Materials, 2021, 5, .	2.4	3
10	Optimal operation points for ultrafast, highly coherent Ge hole spin-orbit qubits. Npj Quantum Information, 2021, 7, .	6.7	45
11	Ultrashallow Junction Electrodes in Low-Loss Silicon Microring Resonators. Physical Review Applied, 2021, 15, .	3.8	2
12	Novel characterization of dopant-based qubits. MRS Bulletin, 2021, 46, 616-622.	3.5	4
13	Valley interference and spin exchange at the atomic scale in silicon. Nature Communications, 2020, 11, 6124.	12.8	21
14	High-resolution spectroscopy of individual erbium ions in strong magnetic fields. Physical Review B, 2020, 102, .	3.2	6
15	Certification of spin-based quantum simulators. Physical Review A, 2020, 101, .	2.5	0
16	Scanned Single-Electron Probe inside a Silicon Electronic Device. ACS Nano, 2020, 14, 9449-9455.	14.6	6
17	Ultrastrong coupling between a microwave resonator and antiferromagnetic resonances of rare-earth ion spins. Physical Review B, 2020, 101, .	3.2	20
18	Single Rare-Earth Ions as Atomic-Scale Probes in Ultrascaled Transistors. Nano Letters, 2019, 19, 5025-5030.	9.1	16

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19	Hole spin echo envelope modulations. Physical Review B, 2019, 100, .	3.2	6
20	Full-visible multifunctional aluminium metasurfaces by in situ anisotropic thermoplasmonic laser printing. Nanoscale Horizons, 2019, 4, 601-609.	8.0	77
21	Two-electron states of a group-V donor in silicon from atomistic full configuration interactions. Physical Review B, 2018, 97, .	3.2	18
22	Single-Shot Single-Gate rf Spin Readout in Silicon. Physical Review X, 2018, 8, .	8.9	47
23	Readout and control of the spin-orbit states of two coupled acceptor atoms in a silicon transistor. Science Advances, 2018, 4, eaat9199.	10.3	26
24	Valley Filtering in Spatial Maps of Coupling between Silicon Donors and Quantum Dots. Physical Review X, 2018, 8, .	8.9	13
25	Entanglement control and magic angles for acceptor qubits in Si. Applied Physics Letters, 2018, 113, .	3.3	11
26	Gigahertz Single-Electron Pumping Mediated by Parasitic States. Nano Letters, 2018, 18, 4141-4147.	9.1	11
27	A Probabilistic Finite State Logic Machine Realized Experimentally on a Single Dopant Atom. Nano Letters, 2017, 17, 1846-1852.	9.1	9
28	Superadiabatic quantum state transfer in spin chains. Physical Review A, 2017, 95, .	2.5	31
29	Implementation of Multivariable Logic Functions in Parallel by Electrically Addressing a Molecule of Three Dopants in Silicon. ChemPhysChem, 2017, 18, 1790-1797.	2.1	3
30	Dynamics of a single-atom electron pump. Scientific Reports, 2017, 7, 44371.	3.3	8
31	Electronic states and valley-orbit coupling in linear and planar molecules formed by coupled P donors in silicon. Physical Review B, 2017, 95, .	3.2	7
32	Probing the Quantum States of a Single Atom Transistor at Microwave Frequencies. ACS Nano, 2017, 11, 2444-2451.	14.6	19
33	Towards visualisation of central-cell-effects in scanning tunnelling microscope images of subsurface dopant qubits in silicon. Nanoscale, 2017, 9, 17013-17019.	5.6	5
34	Quantum simulation of the Hubbard model with dopant atoms in silicon. Nature Communications, 2016, 7, 11342.	12.8	81
35	Quantum computing with acceptor spins in silicon. Nanotechnology, 2016, 27, 244001.	2.6	31
36	Donor wave functions in Si gauged by STM images. Physical Review B, 2016, 93, .	3.2	18

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37	Charge-Insensitive Single-Atom Spin-Orbit Qubit in Silicon. Physical Review Letters, 2016, 116, 246801.	7.8	44
38	High-Sensitivity Charge Detection with a Single-Lead Quantum Dot for Scalable Quantum Computation. Physical Review Applied, 2016, 6, .	3.8	30
39	Resonant tunneling spectroscopy of valley eigenstates on a donor-quantum dot coupled system. Applied Physics Letters, 2016, 108, 152102.	3.3	6
40	Spatial metrology of dopants in silicon with exact lattice site precision. Nature Nanotechnology, 2016, 11, 763-768.	31.5	45
41	Coherent frequency up-conversion of microwaves to the optical telecommunications band in an Er:YSO crystal. Physical Review A, 2015, 92, .	2.5	84
42	Strain and electric field control of hyperfine interactions for donor spin qubits in silicon. Physical Review B, 2015, 91, .	3.2	17
43	Multivalley envelope function equations and effective potentials for phosphorus impurity in silicon. Physical Review B, 2015, 92, .	3.2	12
44	Charge Dynamics and Spin Blockade in a Hybrid Double Quantum Dot in Silicon. Physical Review X, 2015, 5, .	8.9	29
45	Spatially resolved resonant tunneling on single atoms in silicon. Journal of Physics Condensed Matter, 2015, 27, 154203.	1.8	20
46	Upconversion of Microwave to Optical Photons using Erbium Impurities in a Solid. , 2015, , .		0
47	A surface code quantum computer in silicon. Science Advances, 2015, 1, e1500707.	10.3	193
48	Local Kondo temperatures in atomic chains. Physical Review B, 2015, 91, .	3.2	1
49	Interface-induced heavy-hole/light-hole splitting of acceptors in silicon. Applied Physics Letters, 2015, 106, .	3.3	15
50	Single dopants in semiconductors. Journal of Physics Condensed Matter, 2015, 27, 150301.	1.8	0
51	A planar Al-Si Schottky barrier metalâ€“oxideâ€“semiconductor field effect transistor operated at cryogenic temperatures. Applied Physics Letters, 2015, 107, .	3.3	6
52	Radio frequency reflectometry and charge sensing of a precision placed donor in silicon. Applied Physics Letters, 2015, 107, .	3.3	22
53	Donor hyperfine Stark shift and the role of central-cell corrections in tight-binding theory. Journal of Physics Condensed Matter, 2015, 27, 154207.	1.8	16
54	Radio frequency measurements of tunnel couplings and singletâ€“triplet spin states in Si:P quantum dots. Nature Communications, 2015, 6, 8848.	12.8	49

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55	Charge pumping through isolated dopant atoms. , 2014, , .		0
56	Effects of electrostatic confinement in a silicon single-electron pump. , 2014, , .		0
57	Charge pumping through a single donor atom. New Journal of Physics, 2014, 16, 063036.	2.9	40
58	Radio-frequency dispersive detection of donor atoms in a field-effect transistor. Applied Physics Letters, 2014, 104, 102107.	3.3	16
59	Spatially resolving valley quantum interference of a donor in silicon. Nature Materials, 2014, 13, 605-610.	27.5	90
60	An Accurate Single-Electron Pump Based on a Highly Tunable Silicon Quantum Dot. Nano Letters, 2014, 14, 3405-3411.	9.1	69
61	Probing the Spin States of a Single Acceptor Atom. Nano Letters, 2014, 14, 1492-1496.	9.1	36
62	A silicon single-electron pump with tunable electrostatic confinement. , 2014, , .		0
63	Modeling the pumping of electrons through a single dopant atom in a Si MOSFET. , 2014, , .		0
64	Probing a single acceptor in a silicon nanotransistor. , 2014, , .		0
65	Silicon quantum electronics. Reviews of Modern Physics, 2013, 85, 961-1019.	45.6	892
66	Atomic clocks in the solid state. Nature Nanotechnology, 2013, 8, 544-545.	31.5	1
67	Transport through a single donor in p-type silicon. Applied Physics Letters, 2013, 103, 043106.	3.3	17
68	Magnetic flux tuning of Fano-Kondo interplay in a parallel double quantum dot system. Physical Review B, 2013, 87, .	3.2	5
69	Wave Function Control over a Single Donor Atom. Nano Letters, 2013, 13, 1476-1480.	9.1	28
70	Optical addressing of an individual erbium ion in silicon. Nature, 2013, 497, 91-94.	27.8	149
71	Non-local coupling of two donor-bound electrons. New Journal of Physics, 2013, 15, 033020.	2.9	4
72	Interplay between quantum confinement and dielectric mismatch for ultrashallow dopants. Physical Review B, 2013, 87, .	3.2	18

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73	Circuits with Single-Atom Devices. , 2013, , .		0
74	Orbital Structure and Transport Characteristics of Single Donors. , 2013, , .		0
75	Few electron limit of n-type metal oxide semiconductor single electron transistors. Nanotechnology, 2012, 23, 215204.	2.6	44
76	Mapping of single donors in nano-scale MOSFETs at low temperature. , 2012, , .		0
77	Magnetic-Field Probing of an SU(4) Kondo Resonance in a Single-Atom Transistor. Physical Review Letters, 2012, 108, 046803.	7.8	52
78	Querying a quasi-classical Oracle: One-bit function identification problem implemented in a single atom transistor. Europhysics Letters, 2012, 99, 28004.	2.0	2
79	Photo-ionisation spectra of single erbium centres by charge sensing with a nano transistor. , 2012, , .		0
80	Interface Trap Density Metrology of State-of-the-Art Undoped Si n-FinFETs. IEEE Electron Device Letters, 2011, 32, 440-442.	3.9	10
81	Balanced ternary addition using a gated silicon nanowire. Applied Physics Letters, 2011, 99, 263109.	3.3	8
82	Lifetime-Enhanced Transport in Silicon due to Spin and Valley Blockade. Physical Review Letters, 2011, 107, 136602.	7.8	22
83	Strain Sensitive Effect in a Triangular Lattice Photonic Crystal Hole-Modified Nanocavity. IEEE Sensors Journal, 2011, 11, 2657-2663.	4.7	18
84	Single-Electron Capacitance Spectroscopy of Individual Dopants in Silicon. Nano Letters, 2011, 11, 5208-5212.	9.1	10
85	Mass Production of Silicon MOS-SETs: Can We Live with Nano-Devicesâ€™ Variability?. Procedia Computer Science, 2011, 7, 266-268.	2.0	9
86	Integrated logic circuits using single-atom transistors. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 13969-13972.	7.1	37
87	Engineered valley-orbit splittings in quantum-confined nanostructures in silicon. Physical Review B, 2011, 83, .	3.2	32
88	Publisherâ€™s Note: Engineered valley-orbit splittings in quantum-confined nanostructures in silicon [Phys. Rev. B83, 195323 (2011)]. Physical Review B, 2011, 83, .	3.2	1
89	Electric field reduced charging energies and two-electron bound excited states of single donors in silicon. Physical Review B, 2011, 84, .	3.2	26
90	Interface trap density metrology from sub-threshold transport in highly scaled undoped Si n-FinFETs. Journal of Applied Physics, 2011, 110, 124507.	2.5	6

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91	Sub-threshold study of undoped trigate nFinFET. Thin Solid Films, 2010, 518, 2521-2523.	1.8	0
92	A low temperature surface preparation method for STM nano-lithography on Si(100). Applied Surface Science, 2010, 256, 5042-5045.	6.1	2
93	Single dopants learn their place. Nature Nanotechnology, 2010, 5, 100-101.	31.5	3
94	+Level Spectrum Of Single Gated As Donors. , 2010, , .		0
95	Innovative characterization techniques for ultra-scaled FinFETs. , 2010, , .		0
96	Strain sensitivity of a modified single-defect photonic crystal nanocavity for mechanical sensing. , 2010, , .		1
97	Single dopant impact on electrical characteristics of SOI NMOSFETs with effective length down to 10nm. , 2010, , .		15
98	Ternary logic implemented on a single dopant atom field effect silicon transistor. Applied Physics Letters, 2010, 96, .	3.3	25
99	Coherent transport through a double donor system in silicon. Applied Physics Letters, 2010, 96, 072110.	3.3	9
100	Drain current modulation in a nanoscale field-effect-transistor channel by single dopant implantation. Applied Physics Letters, 2010, 96, .	3.3	25
101	Heterointerface effects on the charging energy of the shallow<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msup><mml:mi>D</mml:mi><mml:mo>â^'</mml:mo></mml:msup></mml:mrow></mml:math>ground state in silicon: Role of dielectric mismatch. Physical Review B, 2010, 82, .	3.2	26
102	Thermionic Emission as a Tool to Study Transport in Undoped nFinFETs. IEEE Electron Device Letters, 2010, 31, 150-152.	3.9	10
103	Single Ion Implantation into Si-Based Devices. ECS Transactions, 2010, 33, 179-189.	0.5	2
104	Photonic crystal Mach-Zehnder interferometer operating in the self-collimation mode of light. Proceedings of SPIE, 2010, , .	0.8	0
105	Compact Mach-Zehnder interferometer based on self-collimation of light in a silicon photonic crystal. Optics Express, 2010, 18, 6437.	3.4	31
106	Tunable Kondo Effect in a Single Donor Atom. Nano Letters, 2010, 10, 455-460.	9.1	37
107	A novel Kondo effect in single atom transistors. , 2010, , .		0
108	Electrically Addressing a Molecule-Like Donor Pair in Silicon: An Atomic Scale Cyclable Full Adder Logic. Journal of Physical Chemistry C, 2010, 114, 20380-20386.	3.1	10

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109	Gate-induced<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>g</mml:mi></mml:math>-factor control and dimensional transition for donors in multivalley semiconductors. Physical Review B, 2009, 80, .	3.2	44
110	Orbital Stark effect and quantum confinement transition of donors in silicon. Physical Review B, 2009, 80, .	3.2	56
111	Evidence for the formation of a Mott state in potassium-intercalated pentacene. Physical Review B, 2009, 79, .	3.2	38
112	Reconfigurable Logic Devices on a Single Dopant Atomâ€"Operation up to a Full Adder by Using Electrical Spectroscopy. ChemPhysChem, 2009, 10, 162-173.	2.1	25
113	Sample variability and time stability in scaled silicon nanowires. , 2009, , .		1
114	Gate-induced quantum-confinement transition of a single dopant atom in a siliconÂFinFET. Nature Physics, 2008, 4, 656-661.	16.7	287
115	Determination of the eigenstates and wavefunctions of a single gated As donor. , 2008, , .		0
116	Level Spectrum of a Single Gated Arsenic Donor in a Three Terminal Geometry. Materials Research Society Symposia Proceedings, 2008, 1117, 103.	0.1	0
117	Atomistic Understanding of a Single Gated Dopant Atom in a MOSFET. Materials Research Society Symposia Proceedings, 2008, 1067, 1.	0.1	2
118	Transport-based dopant metrology in advanced FinFETs. , 2008, , .		6
119	Transmission measurement of the photonic band gap of GaN photonic crystal slabs. Applied Physics Letters, 2008, 93, 051117.	3.3	8
120	Transport spectroscopy of a single atom in a FinFET. Journal of Physics: Conference Series, 2008, 109, 012003.	0.4	0
121	Mach-Zehnder interferometer based on collimation effect of photonic crystal. , 2008, , .		0
122	Subthreshold channels at the edges of nanoscale triple-gate silicon transistors. Applied Physics Letters, 2007, 90, 073502.	3.3	43
123	Controlled Self-Organization of Atom Vacancies in Monatomic Gallium Layers. Physical Review Letters, 2007, 99, 116102.	7.8	10
124	Transcending Binary Logic by Gating Three Coupled Quantum Dots. Nano Letters, 2007, 7, 2795-2799.	9.1	32
125	One-dimensional Sub-threshold Channels In Nanoscale Triple-gate Silicon Transistors. AIP Conference Proceedings, 2007, , .	0.4	1
126	Potassium Phthalocyanine, KPc:Â One-Dimensional Molecular Stacks Bridged by K+Ions. Inorganic Chemistry, 2006, 45, 10472-10478.	4.0	22

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127	Competing Periodicities in Fractionally Filled One-Dimensional Bands. Physical Review Letters, 2006, 96, 076801.	7.8	97
128	Density waves in atomic necklaces. Europhysics News, 2006, 37, 27-30.	0.3	1
129	Electronic Transport through Electron-Doped Metal Phthalocyanine Materials. Advanced Materials, 2006, 18, 320-324.	21.0	91
130	Transport Spectroscopy of a Single Dopant in a Gated Silicon Nanowire. Physical Review Letters, 2006, 97, 206805.	7.8	234
131	Single-dopant spectroscopy and sub-threshold channels at the corners of triple-gate FinFETs. , 2006, , .		4
132	Towards Tunneling Through a Single Dopant Atom. AIP Conference Proceedings, 2005, , .	0.4	0
133	Ambipolar Cu- and Fe-phthalocyanine single-crystal field-effect transistors. Applied Physics Letters, 2005, 86, 262109.	3.3	121
134	Ga-induced atom wire formation and passivation of stepped Si(112). Physical Review B, 2005, 72, .	3.2	17
135	Correlation between Molecular Orbitals and Doping Dependence of the Electrical Conductivity in Electron-Doped Metalâˆ’Phthalocyanine Compounds. Journal of the American Chemical Society, 2005, 127, 12210-12211.	13.7	72
136	Electron transport and tunnelling spectroscopy in alkali doped metal phthalocyanines. European Physical Journal Special Topics, 2004, 114, 607-610.	0.2	6
137	Group-theoretical analysis of double acceptors in a magnetic field: Identification of theSi:B+ground state. Physical Review B, 2004, 69, .	3.2	2
138	Stark effect in shallow impurities inSi. Physical Review B, 2004, 70, .	3.2	40
139	Direct observation by resonant tunneling of theB+level in aÎ´-doped silicon barrier. Physical Review B, 2004, 69, .	3.2	11
140	Formation of Atom Wires on Vicinal Silicon. Physical Review Letters, 2004, 93, 126106.	7.8	37
141	Conductance distribution in nanometer-sized semiconductor devices due to dopant statistics. Physical Review B, 2004, 69, .	3.2	14
142	Gate-induced ionization of single dopant atoms. Physical Review B, 2003, 68, .	3.2	32
143	Single domain transport measurements ofC60films. Physical Review B, 2003, 67, .	3.2	2
144	Enhanced tunneling across nanometer-scale metalâ€“semiconductor interfaces. Applied Physics Letters, 2002, 80, 2568-2570.	3.3	108

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145	Scaling of nano-Schottky-diodes. Applied Physics Letters, 2002, 81, 3852-3854.	3.3	229
146	Scaling of micro-fabricated nanometer-sized Schottky diodes. Microelectronic Engineering, 2002, 64, 429-433.	2.4	21
147	Field-based scanning tunneling microscope manipulation of antimony dimers on Si(001). Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 659.	1.6	8
148	Electrical transport through ultrathin ordered K3C60 films on Si. Carbon, 2000, 38, 1647-1651.	10.3	3
149	Surface polymerization of epitaxial Sb wires on Si(001). Physical Review B, 2000, 62, 15341-15344.	3.2	6
150	Technology for nanoelectronic devices based on ultra-high vacuum scanning tunneling microscopy on the Si(100) surface. Microelectronic Engineering, 1999, 46, 133-136.	2.4	7
151	Specific detection by flow cytometry of histidine-tagged ligands bound to their receptors using a tag-specific monoclonal antibody. Journal of Immunological Methods, 1999, 226, 139-145.	1.4	12
152	Selective Aluminum CVD on Si(100) From DMAH. Materials Research Society Symposia Proceedings, 1999, 580, 141.	0.1	0
153	Contact and alignment marker technology for atomic scale device fabrication. Microelectronic Engineering, 1998, 41-42, 567-570.	2.4	3
154	He3 immersion cell for ultralow temperature study of amorphous solids. Review of Scientific Instruments, 1997, 68, 1831-1834.	1.3	6
155	Nonlinear dielectric response of glasses at low temperature. Physical Review B, 1997, 55, 11256-11262.	3.2	34
156	Nonequilibrium and hysteretic low temperature dielectric response to strain in glasses. Journal of Low Temperature Physics, 1997, 106, 717-725.	1.4	7
157	Interactions between active defects in glasses at low temperatures. European Physical Journal D, 1996, 46, 3295-3302.	0.4	10
158	Anomalous behavior of Îµ(Ï‰) in glasses at low temperature due to bias application. European Physical Journal D, 1996, 46, 2263-2264.	0.4	3
159	Dielectric response of two level systems to strain fields at low temperatures. European Physical Journal D, 1996, 46, 2265-2266.	0.4	2
160	Anomalous dielectric properties of amorphous solids at low temperatures. Physica B: Condensed Matter, 1996, 219-220, 243-246.	2.7	0
161	Evidence for the Importance of Interactions between Active Defects in Glasses. Physical Review Letters, 1996, 76, 3136-3139.	7.8	66
162	Low Temperature ac Dielectric Response of Glasses to High dc Electric Fields. Physical Review Letters, 1994, 73, 268-271.	7.8	76

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163	Low temperature time and electric field dependence of the dielectric constant in amorphous materials. Physica B: Condensed Matter, 1994, 194-196, 407-408.	2.7	4