Simon Gustavsson

List of Publications by Year in Descending Order

73 papers	3,593 citations	28 h-index	59 g-index
81 ext. papers	4,941 ext. citations	9.6 avg, IF	5.31 L-index

#	Paper	IF	Citations
73	Hexagonal boron nitride as a low-loss dielectric for superconducting quantum circuits and qubits.. *Nature Materials*, **2022**,	27	4
72	Quantum transport and localization in 1d and 2d tight-binding lattices. *Npj Quantum Information*, **2022**, 8,	8.6	1
71	Probing quantum information propagation with out-of-time-ordered correlators. *Nature Physics*, **2022**, 18, 172-178	16.2	4
70	Improving qubit coherence using closed-loop feedback.. *Nature Communications*, **2022**, 13, 1932	17.4	0
69	Automated design of superconducting circuits and its application to 4-local couplers. *Npj Quantum Information*, **2021**, 7,	8.6	3
68	Microwave Package Design for Superconducting Quantum Processors. *PRX Quantum*, **2021**, 2,	6.1	9
67	Realization of High-Fidelity CZ and ZZ-Free iSWAP Gates with a Tunable Coupler. *Physical Review X*, **2021**, 11,	9.1	19
66	Multi-level quantum noise spectroscopy. *Nature Communications*, **2021**, 12, 967	17.4	4
65	Quantum interference device for controlled two-qubit operations. *Npj Quantum Information*, **2020**, 6,	8.6	4
64	Characterizing and Optimizing Qubit Coherence Based on SQUID Geometry. *Physical Review Applied* , **2020**, 13,	4.3	15
63	Universal Nonadiabatic Control of Small-Gap Superconducting Qubits. *Physical Review X*, **2020**, 10,	9.1	4
62	Two-Qubit Spectroscopy of Spatiotemporally Correlated Quantum Noise in Superconducting Qubits. *PRX Quantum*, **2020**, 1,	6.1	9
61	Superconducting Qubits: Current State of Play. *Annual Review of Condensed Matter Physics*, **2020**, 11, 369-395	19.7	257
60	Generating spatially entangled itinerant photons with waveguide quantum electrodynamics. *Science Advances*, **2020**, 6,	14.3	9
59	Two-dimensional hard-core Bose–Hubbard model with superconducting qubits. *Npj Quantum Information*, **2020**, 6,	8.6	9
58	Waveguide quantum electrodynamics with superconducting artificial giant atoms. *Nature*, **2020**, 583, 775-779	50.4	40
57	Impact of ionizing radiation on superconducting qubit coherence. *Nature*, **2020**, 584, 551-556	50.4	47

56	Microwave Packaging for Superconducting Qubits **2019**,		4
55	Non-Gaussian noise spectroscopy with a superconducting qubit sensor. *Nature Communications*, **2019**, 10, 3715	17.4	23
54	A quantum engineerâs guide to superconducting qubits. *Applied Physics Reviews*, **2019**, 6, 021318	17.3	358
53	Coherent control of a hybrid superconducting circuit made with graphene-based van der Waals heterostructures. *Nature Nanotechnology*, **2019**, 14, 120-125	28.7	75
52	Tunable Coupling Scheme for Implementing High-Fidelity Two-Qubit Gates. *Physical Review Applied*, **2018**, 10,	4.3	63
51	Distinguishing Coherent and Thermal Photon Noise in a Circuit Quantum Electrodynamical System. *Physical Review Letters*, **2018**, 120, 260504	7.4	27
50	3D integrated superconducting qubits. *Npj Quantum Information*, **2017**, 3,	8.6	81
49	Coherent Coupled Qubits for Quantum Annealing. *Physical Review Applied*, **2017**, 8,	4.3	43
48	The flux qubit revisited to enhance coherence and reproducibility. *Nature Communications*, **2016**, 7, 12964	17.4	243
47	Single-shot read-out of a superconducting qubit using a Josephson parametric oscillator. *Nature Communications*, **2016**, 7, 11417	17.4	42
46	Suppressing relaxation in superconducting qubits by quasiparticle pumping. *Science*, **2016**, 354, 1573-1577	33.3	51
45	Z-Gate Operation on a Superconducting Flux Qubit via its Readout SQUID. *Physical Review Applied*, **2015**, 3,	4.3	2
44	Thermal and Residual Excited-State Population in a 3D Transmon Qubit. *Physical Review Letters*, **2015**, 114, 240501	7.4	77
43	Coherence and decay of higher energy levels of a superconducting transmon qubit. *Physical Review Letters*, **2015**, 114, 010501	7.4	87
42	Flux qubit noise spectroscopy using Rabi oscillations under strong driving conditions. *Physical Review B*, **2014**, 89,	3.3	49
41	Rotating-frame relaxation as a noise spectrum analyser of a superconducting qubit undergoing driven evolution. *Nature Communications*, **2013**, 4, 2337	17.4	65
40	Investigation of nonlinear effects in Josephson parametric oscillators used in circuit quantum electrodynamics. *New Journal of Physics*, **2013**, 15, 105002	2.9	24
39	Time-reversal symmetry and universal conductance fluctuations in a driven two-level system. *Physical Review Letters*, **2013**, 110, 016603	7.4	21

38	Improving quantum gate fidelities by using a qubit to measure microwave pulse distortions. *Physical Review Letters*, **2013**, 110, 040502	7.4	40
37	Dynamical decoupling and dephasing in interacting two-level systems. *Physical Review Letters*, **2012**, 109, 010502	7.4	24
36	Driven dynamics and rotary echo of a qubit tunably coupled to a harmonic oscillator. *Physical Review Letters*, **2012**, 108, 170503	7.4	22
35	Spectroscopy of low-frequency noise and its temperature dependence in a superconducting qubit. *Physical Review B*, **2012**, 85,	3.3	45
34	Double Layer Local Anodic Oxidation Using Atomic Force Microscopy **2011**, 91-127		1
33	Noise spectroscopy through dynamical decoupling with a superconducting flux qubit. *Nature Physics*, **2011**, 7, 565-570	16.2	453
32	Noise correlations in a flux qubit with tunable tunnel coupling. *Physical Review B*, **2011**, 84,	3.3	28
31	Measurement Back-Action in Quantum Point-Contact Charge Sensing. *Entropy*, **2010**, 12, 1721-1732	2.8	4
30	Phonon-mediated back-action of a charge readout on a double quantum dot. *Nanotechnology*, **2010**, 21, 274003	3.4	5
29	A quantum mechanics lab on a chip. *Lab on A Chip*, **2010**, 10, 2199-202	7.2	1
28	Time-resolved charge detection and back-action in quantum circuits. *Physica E: Low-Dimensional Systems and Nanostructures*, **2010**, 42, 803-808	3	2
27	Time-resolved charge detection with cross-correlation techniques. *Physical Review B*, **2009**, 79,	3.3	15
26	Electrons in quantum dots: One by one. *Journal of Applied Physics*, **2009**, 105, 122401	2.5	8
25	Noise-induced spectral shift measured in a double quantum dot. *Physical Review B*, **2009**, 80,	3.3	9
24	Correlated counting of single electrons in a nanowire double quantum dot. *New Journal of Physics*, **2009**, 11, 013005	2.9	13
23	Quantum dots investigated with charge detection techniques. *Solid State Communications*, **2009**, 149, 1419-1426	1.6	29
22	Electron counting in quantum dots. *Surface Science Reports*, **2009**, 64, 191-232	12.9	115
21	Statistical electron excitation in a double quantum dot induced by two independent quantum point contacts. *Physical Review B*, **2009**, 79,	3.3	37

20	Measuring current by counting electrons in a nanowire quantum dot. *Applied Physics Letters*, **2008**, 92, 152101	3.4	25
19	Time-resolved detection of single-electron interference. *Nano Letters*, **2008**, 8, 2547-50	11.5	46
18	Detecting terahertz current fluctuations in a quantum point contact using a nanowire quantum dot. *Physical Review B*, **2008**, 78,	3.3	23
17	Detecting single-electron tunneling involving virtual processes in real time. *Physical Review B*, **2008**, 78,	3.3	20
16	Time-resolved interference experiments in a solid state environment. *Physica E: Low-Dimensional Systems and Nanostructures*, **2008**, 40, 1044-1047	3	2
15	Frequency-selective single-photon detection with a double quantum dot. *Physica E: Low-Dimensional Systems and Nanostructures*, **2008**, 40, 1844-1847	3	4
14	Counting Statistics of Single Electron Transport in a Semiconductor Quantum Dot **2008**, 31-43		2
13	Noise measurements in quantum dots using charge detection techniques. *Physica E: Low-Dimensional Systems and Nanostructures*, **2007**, 40, 103-110	3	4
12	Conditional statistics of electron transport in interacting nanoscale conductors. *Nature Physics*, **2007**, 3, 243-247	16.2	85
11	Measurements of higher-order noise correlations in a quantum dot with a finite bandwidth detector. *Physical Review B*, **2007**, 75,	3.3	67
10	Frequency-selective single-photon detection using a double quantum dot. *Physical Review Letters*, **2007**, 99, 206804	7.4	140
9	Counting statistics and super-Poissonian noise in a quantum dot: Time-resolved measurements of electron transport. *Physical Review B*, **2006**, 74,	3.3	89
8	Cryogenic amplifier for intermediate source impedance with gigahertz bandwidth. *Applied Physics Letters*, **2006**, 88, 153505	3.4	4
7	Counting statistics of single electron transport in a quantum dot. *Physical Review Letters*, **2006**, 96, 076605	7.4	412
6	Few-electron quantum dot fabricated with layered scanning force microscope lithography. *Physica E: Low-Dimensional Systems and Nanostructures*, **2006**, 32, 5-8	3	3
5	Study of the microwave-induced transport through a quantum dot inserted in a 35-GHz loop-gap resonator. *Physica E: Low-Dimensional Systems and Nanostructures*, **2006**, 34, 480-483	3	
4	Design of Q-band loop-gap resonators at frequencies of 34–36GHz for single electron spin spectroscopy in semiconductor nanostructures. *Review of Scientific Instruments*, **2006**, 77, 064702	1.7	17
3	Computational studies of carbon nanotube-hydrocarbon bond strengths at nanotube ends: effect of link heteroatom and hydrocarbon structure. *Chemistry - A European Journal*, **2004**, 10, 2223-7	4.8	6

2	Energy transfer mechanisms in gas–carbon nanotube collisions. *Chemical Physics*, **2003**, 291, 161-170	2.3	8
1	Theoretical Analysis of Ether-Group Derivatization at Carbon Nanotube Ends. *Nano Letters*, **2003**, 3, 265-268	2.3	11