

Mikko MÄJTTÄJENEN

List of Publications by Year in descending order

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151
papers

5,817
citations

81900

39
h-index

82547

72
g-index

153
all docs

153
docs citations

153
times ranked

4061
citing authors

#	ARTICLE	IF	CITATIONS
1	Assessment of weak-coupling approximations on a driven two-level system under dissipation. <i>New Journal of Physics</i> , 2022, 24, 013005.	2.9	3
2	Microwave response of a metallic superconductor subject to a high-voltage gate electrode. <i>Scientific Reports</i> , 2022, 12, 6822.	3.3	8
3	Charge ambiguity and splitting of monopoles. <i>Physical Review Research</i> , 2022, 4, .	3.6	1
4	Single-junction quantum-circuit refrigerator. <i>AIP Advances</i> , 2022, 12, .	1.3	4
5	Path to European quantum unicorns. <i>EPJ Quantum Technology</i> , 2021, 8, 5.	6.3	7
6	Many-body Majorana-like zero modes without gauge symmetry breaking. <i>Physical Review Research</i> , 2021, 3, .	3.6	3
7	Validity of Born-Markov master equations for single- and two-qubit systems. <i>Physical Review B</i> , 2021, 103, .	3.2	8
8	Photon-number-dependent effective Lamb shift. <i>Physical Review Research</i> , 2021, 3, .	3.6	9
9	Charge dynamics in quantum-circuit refrigeration: Thermalization and microwave gain. <i>AVS Quantum Science</i> , 2021, 3, .	4.9	5
10	A low-noise on-chip coherent microwave source. <i>Nature Electronics</i> , 2021, 4, 885-892.	26.0	13
11	Bolometer operating at the threshold for circuit quantum electrodynamics. <i>Nature</i> , 2020, 586, 47-51.	27.8	68
12	Broadband tunable phase shifter for microwaves. <i>AIP Advances</i> , 2020, 10, 065128.	1.3	4
13	Correlation-Picture Approach to Open-Quantum-System Dynamics. <i>Physical Review X</i> , 2020, 10, .	8.9	26
14	Effects of device geometry and material properties on dielectric losses in superconducting coplanar-waveguide resonators. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 405702.	1.8	5
15	Realisation of a quantum current standard at liquid helium temperature with sub-ppm reproducibility. <i>Metrologia</i> , 2020, 57, 025013.	1.2	23
16	Persistence of correlations in many-body localized spin chains. <i>Physical Review Research</i> , 2020, 2, .	3.6	0
17	Evidence for universality of tunable-barrier electron pumps. <i>Metrologia</i> , 2019, 56, 044004.	1.2	40
18	Calibration of cryogenic amplification chains using normal-metal-“insulator”-superconductor junctions. <i>Applied Physics Letters</i> , 2019, 114, .	3.3	11

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19	Controlled creation of a singular spinor vortex by circumventing the Dirac belt trick. Nature Communications, 2019, 10, 4772.	12.8	12
20	Decay of a Quantum Knot. Physical Review Letters, 2019, 123, 163003.	7.8	15
21	Nanobolometer with ultralow noise equivalent power. Communications Physics, 2019, 2, .	5.3	36
22	Reconstruction approach to quantum dynamics of bosonic systems. Physical Review A, 2019, 100, .	2.5	1
23	Reservoir engineering using quantum optimal control for qubit reset. New Journal of Physics, 2019, 21, 093054.	2.9	19
24	Fast control of dissipation in a superconducting resonator. Applied Physics Letters, 2019, 115, 082601.	3.3	19
25	Exceptional points in tunable superconducting resonators. Physical Review B, 2019, 100, .	3.2	35
26	Broadband Lamb shift in an engineered quantum system. Nature Physics, 2019, 15, 533-537.	16.7	26
27	Qubit Measurement by Multichannel Driving. Physical Review Letters, 2019, 122, 080503.	7.8	22
28	Creation of a Dirac monopole-antimonopole pair in a spin-1 Bose-Einstein condensate. Physical Review A, 2019, 99, .	2.5	5
29	System-environment correlations in qubit initialization and control. Physical Review Research, 2019, 1, .	3.6	18
30	Waiting time distributions in a two-level fluctuator coupled to a superconducting charge detector. Physical Review Research, 2019, 1, .	3.6	11
31	Synthetic electromagnetic knot in a three-dimensional skyrmion. Science Advances, 2018, 4, eaao3820.	10.3	47
32	Flux-tunable heat sink for quantum electric circuits. Scientific Reports, 2018, 8, 6325.	3.3	26
33	Observation of microwave absorption and emission from incoherent electron tunneling through a normal-metal-insulator-superconductor junction. Scientific Reports, 2018, 8, 3966.	3.3	13
34	Accelerated stabilization of coherent photon states. New Journal of Physics, 2018, 20, 103047.	2.9	1
35	Three-dimensional splitting dynamics of giant vortices in Bose-Einstein condensates. Physical Review A, 2018, 98, .	2.5	12
36	Three-dimensional skyrmions in spin-2 Bose-Einstein condensates. New Journal of Physics, 2018, 20, 055011.	2.9	17

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37	Gigahertz Single-Electron Pumping Mediated by Parasitic States. Nano Letters, 2018, 18, 4141-4147.	9.1	11
38	Microwave Admittance of Gold-Palladium Nanowires with Proximity-Induced Superconductivity. Advanced Electronic Materials, 2017, 3, 1600227.	5.1	7
39	Quantum-circuit refrigerator. Nature Communications, 2017, 8, 15189.	12.8	85
40	Nanoelectronic Devices: Microwave Admittance of Gold-Palladium Nanowires with Proximity-Induced Superconductivity (Adv. Electron. Mater. 6/2017). Advanced Electronic Materials, 2017, 3, .	5.1	0
41	Counterdiabatic vortex pump in spinor Bose-Einstein condensates. Physical Review A, 2017, 95, .	2.5	10
42	Theory of quantum-circuit refrigeration by photon-assisted electron tunneling. Physical Review B, 2017, 96, .	3.2	27
43	Energy-efficient quantum computing. Npj Quantum Information, 2017, 3, .	6.7	20
44	Efficient protocol for qubit initialization with a tunable environment. Npj Quantum Information, 2017, 3, .	6.7	32
45	Quantum knots in Bose-Einstein condensates created by counterdiabatic control. Physical Review A, 2017, 96, .	2.5	5
46	Flux-tunable phase shifter for microwaves. Scientific Reports, 2017, 7, 14713.	3.3	9
47	Thermal-Error Regime in High-Accuracy Gigahertz Single-Electron Pumping. Physical Review Applied, 2017, 8, .	3.8	37
48	Lumped-element Josephson parametric amplifier at 650 MHz for nano-calorimeter readout. Superconductor Science and Technology, 2017, 30, 085001.	3.5	8
49	Experimental Realization of a Dirac Monopole through the Decay of an Isolated Monopole. Physical Review X, 2017, 7, .	8.9	20
50	Evolution of an isolated monopole in a spin-1 Bose-Einstein condensate. Physical Review A, 2016, 94, .	2.5	4
51	Decay of an isolated monopole into a Dirac monopole configuration. Physical Review A, 2016, 93, .	2.5	12
52	Detection of Zeptojoule Microwave Pulses Using Electrothermal Feedback in Proximity-Induced Josephson Junctions. Physical Review Letters, 2016, 117, 030802.	7.8	72
53	Three-waveform bidirectional pumping of single electrons with a silicon quantum dot. Scientific Reports, 2016, 6, 36381.	3.3	7
54	Tying quantum knots. Nature Physics, 2016, 12, 478-483.	16.7	132

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55	Quantum-limited heat conduction over macroscopic distances. <i>Nature Physics</i> , 2016, 12, 460-464.	16.7	63
56	Quantum treatment of the Bose-Einstein condensation in nonequilibrium systems. <i>Physical Review B</i> , 2015, 92, .	3.2	7
57	Parity measurement of remote qubits using dispersive coupling and photodetection. <i>Physical Review A</i> , 2015, 92, .	2.5	7
58	Silicon Metal-oxide-semiconductor Quantum Dots for Single-electron Pumping. <i>Journal of Visualized Experiments</i> , 2015, , e52852.	0.3	10
59	Electron counting in a silicon single-electron pump. <i>New Journal of Physics</i> , 2015, 17, 103030.	2.9	13
60	Towards measurement and control of single-photon microwave radiation on chip. , 2015, , .		0
61	Fluctuations of work in nearly adiabatically driven open quantum systems. <i>Physical Review E</i> , 2015, 91, 022126.	2.1	19
62	Observation of isolated monopoles in a quantum field. <i>Science</i> , 2015, 348, 544-547.	12.6	87
63	Predictors of Development of Echocardiographic Left Ventricular Diastolic Dysfunction in the Subjects Aged 40 to 59 Years (from the Oulu Project Elucidating Risk of Atherosclerosis Study). <i>American Journal of Cardiology</i> , 2015, 116, 1374-1378.	1.6	8
64	Effects of electrostatic confinement in a silicon single-electron pump. , 2014, , .		0
65	Measurement and control of single-photon microwave radiation on chip. , 2014, , .		0
66	Quantum driving and work. <i>Physical Review E</i> , 2014, 89, 052128.	2.1	26
67	Creation and dynamics of two-dimensional skyrmions in antiferromagnetic spin-1 Bose-Einstein condensates. <i>Physical Review A</i> , 2014, 89, .	2.5	9
68	Microwave nanobolometer based on proximity Josephson junctions. <i>Physical Review B</i> , 2014, 90, .	3.2	30
69	Observation of Dirac monopoles in a synthetic magnetic field. <i>Nature</i> , 2014, 505, 657-660.	27.8	227
70	An Accurate Single-Electron Pump Based on a Highly Tunable Silicon Quantum Dot. <i>Nano Letters</i> , 2014, 14, 3405-3411.	9.1	69
71	A silicon single-electron pump with tunable electrostatic confinement. , 2014, , .		0
72	Highly Controllable Qubit-Bath Coupling Based on a Sequence of Resonators. <i>Journal of Low Temperature Physics</i> , 2013, 173, 152-169.	1.4	6

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73	Distribution of entropy production in a single-electron box. Nature Physics, 2013, 9, 644-648.	16.7	97
74	Single-electron current sources: Toward a refined definition of the ampere. Reviews of Modern Physics, 2013, 85, 1421-1472.	45.6	285
75	Vortex pump for Bose-Einstein condensates utilizing a time-averaged orbiting potential trap. Physical Review A, 2013, 87, .	2.5	8
76	Effects of the rotating-wave and secular approximations on non-Markovianity. Physical Review A, 2013, 88, .	2.5	27
77	Geometric phase gates with adiabatic control in electron spin resonance. Physical Review A, 2013, 87, .	2.5	43
78	Tunable electromagnetic environment for superconducting quantum bits. Scientific Reports, 2013, 3, 1987.	3.3	24
79	Coherent superconducting quantum pump. Physical Review B, 2012, 85, .	3.2	5
80	Tunable single-photon heat conduction in electrical circuits. Physical Review B, 2012, 86, .	3.2	2
81	Quantum effect of inductance on geometric Cooper-pair transport. Physical Review B, 2012, 86, .	3.2	1
82	Test of the Jarzynski and Crooks Fluctuation Relations in an Electronic System. Physical Review Letters, 2012, 109, 180601.	7.8	171
83	Single-photon heat conduction in electrical circuits. Physical Review B, 2012, 85, .	3.2	12
84	Cooper-pair current in the presence of flux noise. Physical Review B, 2012, 85, .	3.2	7
85	Conservation law of operator current in open quantum systems. Physical Review A, 2012, 85, .	2.5	24
86	Stationary states of trapped spin-orbit-coupled Bose-Einstein condensates. Physical Review A, 2012, 86, .	2.5	52
87	Exotic vortex lattices in two-species Bose-Einstein condensates. Physical Review A, 2012, 85, .	2.5	56
88	Radio-frequency transport of single electrons in superconductor-normal-metal tunnel junctions and the quantum metrological triangle. , 2011, , .		0
89	Ground-state Dirac monopole. Physical Review A, 2011, 84, .	2.5	20
90	Superadiabatic theory for Cooper pair pumping under decoherence. Physical Review B, 2011, 84, .	3.2	17

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91	Geometric quantum gates with superconducting qubits. Physical Review B, 2011, 83, .	3.2	26
92	Independent Control of Dot Occupancy and Reservoir Electron Density in a One-electron Quantum Dot. AIP Conference Proceedings, 2011, , .	0.4	0
93	Capacitively Enhanced Thermal Escape in Underdamped Josephson Junctions. Journal of Low Temperature Physics, 2011, 163, 164-169.	1.4	9
94	Measurement scheme for the Lamb shift in a superconducting circuit with broadband environment. Physical Review A, 2011, 84, .	2.5	9
95	Entanglement generation between unstable optically active qubits without photodetectors. Physical Review A, 2011, 84, .	2.5	1
96	Phase transitions in dipolar spin- $\frac{1}{2}$ Bose gases. Physical Review A, 2011, 84, .	2.5	2
97	Size and dynamics of vortex dipoles in dilute Bose-Einstein condensates. Physical Review A, 2011, 83, .	2.5	34
98	Maxwell's demon based on a single-electron pump. Physical Review B, 2011, 84, .	3.2	42
99	Single-electron shuttle based on a silicon quantum dot. Applied Physics Letters, 2011, 98, 212103.	3.3	37
100	Adiabatically steered open quantum systems: Master equation and optimal phase. Physical Review A, 2010, 82, .	2.5	16
101	Stabilization and Pumping of Giant Vortices in Dilute Bose-Einstein Condensates. Journal of Low Temperature Physics, 2010, 161, 561-573.	1.4	20
102	Vortices, Superfluid Dynamics, and Quantum Turbulence. Journal of Low Temperature Physics, 2010, 161, 417-418.	1.4	0
103	Single-shot readout of an electron spin in silicon. Nature, 2010, 467, 687-691.	27.8	623
104	Environment-Assisted Tunneling as an Origin of the Dynes Density of States. Physical Review Letters, 2010, 105, 026803.	7.8	153
105	Development of the sinus turnstile for the quantum metrological triangle. , 2010, , .		5
106	Probe and control of the reservoir density of states in single-electron devices. Physical Review B, 2010, 81, .	3.2	21
107	Non-Abelian geometric phases in ground-state Josephson devices. Physical Review B, 2010, 81, .	3.2	21
108	Ground-state geometric quantum computing in superconducting systems. Physical Review A, 2010, 82, .	2.5	12

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109	Splitting dynamics of giant vortices in dilute Bose-Einstein condensates. Physical Review A, 2010, 81, .	2.5	28
110	Finite-temperature phase transitions in quasi-two-dimensional spin-1 Bose gases. Physical Review A, 2010, 81, .	2.5	10
111	Core sizes and dynamical instabilities of giant vortices in dilute Bose-Einstein condensates. Physical Review A, 2010, 81, .	2.5	21
112	Decoherence in Adiabatic Quantum Evolution: Application to Cooper Pair Pumping. Physical Review Letters, 2010, 105, 030401.	7.8	63
113	Transport Spectroscopy of Single Phosphorus Donors in a Silicon Nanoscale Transistor. Nano Letters, 2010, 10, 11-15.	9.1	120
114	Hybrid single-electron turnstile - Towards a quantum standard of electric current. , 2010, , .		0
115	Decoherence of adiabatically steered quantum systems. Physical Review B, 2010, 82, .	3.2	38
116	Environmentally activated tunneling events in a hybrid single-electron box. Physical Review B, 2010, 82, .	3.2	28
117	Observation of the single-electron regime in a highly tunable silicon quantum dot. Applied Physics Letters, 2009, 95, .	3.3	77
118	Vortex-splitting and phase-separating instabilities of coreless vortices in $F=1$ spinor Bose-Einstein condensates. Physical Review A, 2009, 79, .	2.5	20
119	Non-Abelian Magnetic Monopole in a Bose-Einstein Condensate. Physical Review Letters, 2009, 102, 080403.	7.8	53
120	Quantized current of a hybrid single-electron transistor with superconducting leads and a normal-metal island. European Physical Journal: Special Topics, 2009, 172, 311-321.	2.6	27
121	Electronic Refrigeration at the Quantum Limit. Physical Review Letters, 2009, 102, 200801.	7.8	82
122	Creation of Dirac Monopoles in Spinor Bose-Einstein Condensates. Physical Review Letters, 2009, 103, 030401.	7.8	86
123	Dynamical stability of coreless vortex states in $F=1$ spinor Bose-Einstein condensates. Journal of Physics: Conference Series, 2009, 150, 032103.	0.4	1
124	Hybrid single-electron transistor as a source of quantized electric current. Nature Physics, 2008, 4, 120-124.	16.7	193
125	Towards direct closure of the quantum metrological triangle. , 2008, , .		7
126	Experimental Determination of the Berry Phase in a Superconducting Charge Pump. Physical Review Letters, 2008, 100, 177201.	7.8	96

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145	Transformation of quantum states using uniformly controlled rotations. Quantum Information and Computation, 2005, 5, 467-473.	0.3	61
146	Quantum Circuits for General Multiqubit Gates. Physical Review Letters, 2004, 93, 130502.	7.8	216
147	Efficient Decomposition of Quantum Gates. Physical Review Letters, 2004, 92, 177902.	7.8	135
148	Splitting of a doubly quantized vortex through intertwining in Bose-Einstein condensates. Physical Review A, 2003, 68, .	2.5	79
149	Method to create a vortex in a Bose-Einstein condensate. Physical Review A, 2002, 66, .	2.5	42
150	Continuous creation of a vortex in a Bose-Einstein condensate with hyperfine spin $F=2$. Journal of Physics Condensed Matter, 2002, 14, 13481-13491.	1.8	27
151	Recent Developments in Quantum Circuit Refrigeration. Annalen Der Physik, 0, , 2100543.	2.4	5