Masaya Kataoka

List of Publications by Year
in descending order

83 papers	2,199 citations	201385 27 h-index	233125 45 g-index
84 all docs	84 docs citations	84 times ranked	1240 citing authors

#	Article	IF	Citations
1	On-demand single-electron transfer between distant quantum dots. Nature, 2011, 477, 439-442.	13.7	251
2	Towards a quantum representation of the ampere using single electron pumps. Nature Communications, 2012, 3, 930.	5.8	203
3	Gigahertz quantized charge pumping in graphene quantum dots. Nature Nanotechnology, 2013, 8, 417-420.	15.6	117
4	Clock-Controlled Emission of Single-Electron Wave Packets in a Solid-State Circuit. Physical Review Letters, 2013, 111, 216807.	2.9	112
5	Precision measurement of a potential-profile tunable single-electron pump. Metrologia, 2015, 52, 195-200.	0.6	86
6	Detection of Coulomb Charging around an Antidot in the Quantum Hall Regime. Physical Review Letters, 1999, 83, 160-163.	2.9	67
7	Tunable Nonadiabatic Excitation in a Single-Electron Quantum Dot. Physical Review Letters, 2011, 106, 126801.	2.9	64
8	Time-of-Flight Measurements of Single-Electron Wave Packets in Quantum Hall Edge States. Physical Review Letters, 2016, 116, 126803.	2.9	64
9	Coherent Time Evolution of a Single-Electron Wave Function. Physical Review Letters, 2009, 102, 156801.	2.9	59
10	Kondo Effect from a Tunable Bound State within a Quantum Wire. Physical Review Letters, 2008, 100, 026807.	2.9	57
11	Gigahertz single-electron pumping in silicon with an accuracy better than 9.2 parts in 107. Applied Physics Letters, 2016, 109, .	1.5	57
12	An accurate high-speed single-electron quantum dot pump. New Journal of Physics, 2010, 12, 073013.	1.2	54
13	Stabilization of single-electron pumps by high magnetic fields. Physical Review B, 2012, 86, .	1.1	49
14	Energy-Dependent Tunneling from Few-Electron Dynamic Quantum Dots. Physical Review Letters, 2007, 99, 156802.	2.9	43
15	Measurement and control of electron wave packets from a single-electron source. Physical Review B, 2015, 92, .	1.1	40
16	Evidence for universality of tunable-barrier electron pumps. Metrologia, 2019, 56, 044004.	0.6	40
17	Coulomb blockade of tunneling through compressible rings formed around an antidot: An explanation forh/2eAharonov-Bohm oscillations. Physical Review B, 2000, 62, R4817-R4820.	1.1	37
18	Kondo Effect in a Quantum Antidot. Physical Review Letters, 2002, 89, 226803.	2.9	37

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19	Thermal-Error Regime in High-Accuracy Gigahertz Single-Electron Pumping. Physical Review Applied, 2017, 8, .	1.5	37
20	Single-Electron Population and Depopulation of an Isolated Quantum Dot Using a Surface-Acoustic-Wave Pulse. Physical Review Letters, 2007, 98, 046801.	2.9	35
21	High-accuracy current generation in the nanoampere regime from a silicon single-trap electron pump. Scientific Reports, 2017, 7, 45137.	1.6	34
22	Experimental investigation of the surface acoustic wave electron capture mechanism. Physical Review B, 2006, 74, .	1.1	33
23	Ultrafast Emission and Detection of a Single-Electron Gaussian Wave Packet: A Theoretical Study. Physical Review Letters, 2016, 117, 146802.	2.9	32
24	Ultrafast voltage sampling using single-electron wavepackets. Applied Physics Letters, 2017, 110, .	1.5	29
25	Picosecond coherent electron motion in a silicon single-electron source. Nature Nanotechnology, 2019, 14, 1019-1023.	15.6	29
26	Continuous-variable tomography of solitary electrons. Nature Communications, 2019, 10, 5298.	5.8	29
27	Robust operation of a GaAs tunable barrier electron pump. Metrologia, 2017, 54, 299-306.	0.6	27
28	LO-Phonon Emission Rate of Hot Electrons from an On-Demand Single-Electron Source in a GaAs/AlGaAs Heterostructure. Physical Review Letters, 2018, 121, 137703.	2.9	27
29	Quantum-dot thermometry of electron heating by surface acoustic waves. Applied Physics Letters, 2006, 89, 122104.	1.5	26
30	The effect of pulse-modulated surface acoustic waves on acoustoelectric current quantization. Journal of Applied Physics, 2006, 100, 063710.	1.1	26
31	Surface-acoustic-wave single-electron interferometry. Physical Review B, 2005, 72, .	1.1	25
32	Surface-acoustic-wave-driven luminescence from a lateral p-n junction. Applied Physics Letters, 2006, 89, 243505.	1.5	24
33	Realisation of a quantum current standard at liquid helium temperature with sub-ppm reproducibility. Metrologia, 2020, 57, 025013.	0.6	23
34	Electron interactions in an antidot in the integer quantum Hall regime. Physics Reports, 2008, 456, 127-165.	10.3	22
35	Localized Magnetic Fields in Arbitrary Directions Using Patterned Nanomagnets. Nano Letters, 2010, 10, 1549-1553.	4.5	21
36	Phonon emission and arrival times of electrons from a single-electron source. Physical Review B, 2016, 93, .	1.1	19

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37	Coulomb Blockade and Kondo Effect in a Quantum Hall Antidot. Physical Review Letters, 2003, 91, 266801.	2.9	17
38	Energy relaxation in hot electron quantum optics via acoustic and optical phonon emission. Physical Review B, 2019, 99, .	1.1	16
39	High-resolution error detection in the capture process of a single-electron pump. Applied Physics Letters, 2016, 108, 023502.	1.5	15
40	Rectification in mesoscopic alternating current-gated semiconductor devices. Journal of Applied Physics, 2013, 114, 164505.	1.1	14
41	Examination of surface acoustic wave reflections by observing acoustoelectric current generation under pulse modulation. Applied Physics Letters, 2006, 89, 132102.	1.5	13
42	Numerical investigation of a piezoelectric surface acoustic wave interaction with a one-dimensional channel. Physical Review B, 2006, 74, .	1.1	13
43	Timeâ€resolved singleâ€electron waveâ€packet detection. Physica Status Solidi (B): Basic Research, 2017, 254, 1600547.	0.7	13
44	Noninvasive lateral detection of Coulomb blockade in a quantum dot fabricated using atomic force microscopy. Journal of Applied Physics, 2004, 95, 2557-2559.	1.1	12
45	Comment on â€œAbsence of Compressible Edge Channel Rings in Quantum Antidotsâ€. Physical Review Letters, 2004, 92, 199703; author reply 199704.	2.9	11
46	Single- and few-electron dynamic quantum dots in a perpendicular magnetic field. Journal of Applied Physics, 2011, 109, .	1.1	11
47	Single carrier trapping and de-trapping in scaled silicon complementary metal-oxide-semiconductor field-effect transistors at low temperatures. Semiconductor Science and Technology, 2017, 32, 075001.	1.0	11
48	Selective spin-resolved edge-current injection into a quantum antidot. Physical Review B, 2003, 68, .	1.1	10
49	Quantized acoustoelectric current in an InGaAs quantum well. Journal of Applied Physics, 2008, 103, .	1.1	10
50	Temporal characteristics of surface-acoustic-wave-driven luminescence from a lateral p-n junction. Applied Physics Letters, 2007, 91, .	1.5	9
51	Measurement of Coulomb-energy-dependent tunnelling rates in surface-acoustic-wave-defined dynamic quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 1136-1138.	1.3	9
52	The excitation spectrum of quantum antidots. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 34, 195-198.	1.3	7
53	Examination of multiply reflected surface acoustic waves by observing acoustoelectric current generation under pulse modulation. Physical Review B, 2006, 74, .	1.1	7
54	Single-electron transfer between double quantum dots defined by surface acoustic waves. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 34, 546-549.	1.3	6

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55	Mitigating decoherence in hot electron interferometry. New Journal of Physics, 2020, 22, 103031.	1.2	6
56	Pulse-induced acoustoelectric vibrations in surface-gated GaAs-based quantum devices. Physical Review B, 2007, 75, .	1.1	5
57	Gated-charge force microscopy for imaging a surface-acoustic-wave-induced charge in a depleted one-dimensional channel. Physical Review B, 2008, 78, .	1.1	5
58	Kondo effect of an antidot in the integer quantum Hall regime: a microscopic calculation. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 22, 554-557.	1.3	4
59	Collapse of nonequilibrium charge states in an isolated quantum dot using surface acoustic waves. Physical Review B, 2007, 75, .	1.1	4
60	Investigation of single-electron dynamics in tunnelling between zero- and one-dimensional states. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 1017-1021.	1.3	4
61	Temporal isolation of surface-acoustic-wave-driven luminescence from a lateral pâ€“n junction using pulsed techniques. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 1775-1779.	1.3	4
62	Scanned gate microscopy of surface-acoustic-wave-induced current through a depleted one-dimensional GaAs channel. Physical Review B, 2010, 82, .	1.1	4
63	Redefinition of the Ampere. Measurement and Control, 2014, 47, 315-322.	0.9	4
64	Detection of Coulomb charging around an antidot. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 6, 495-498.	1.3	3
65	Spin-splitting of Aharonovâ€“Bohm oscillations in an antidot. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 12, 782-786.	1.3	3
66	Sub-ppm measurements of single-electron pump currents. , 2014, , .		3
67	Results and model for single-gate ratchet charge pumping. Journal of Applied Physics, 2020, 127, 094301.	1.1	3
68	Scaling the current from a GHz electron pump using a CCC. , 2016, , .		2
69	Single-hole pump in germanium. Journal Physics D: Applied Physics, 2021, 54, 434001.	1.3	2
70	Electron population control of a highly isolated quantum dot using surface-acoustic waves. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 1596-1598.	1.3	1
71	Geometric suppression of single-particle energy spacings in quantum antidots. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 1633-1636.	1.3	1
72	Robustness of potential-profile-tunable electron pump. , 2016, , .		1

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73	Directly Comparing the Current from Two Electron Pumps. , 2020, , .		1
74	Selective spin-resolved edge-current injection into a quantum antidot. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 22, 168-172.	1.3	0
75	Kondo-like behaviour as manifestation of many-body interactions around a quantum antidot. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 22, 558-561.	1.3	0
76	Evidence for a finite compressibility of a quasi-one-dimensional ballistic channel. Microelectronics Journal, 2005, 36, 331-333.	1.1	0
77	The long and winding road. Nature Physics, 2013, 9, 269-270.	6.5	0
78	Precision measurement of potential-profile-tunable electron pump. , 2014, , .		0
79	Measurement and control of single-photon microwave radiation on chip. , 2014, , .		0
80	Non-invasive charge detection in surface-acoustic-wave-defined dynamic quantum dots. Applied Physics Letters, 2016, 109, 183501.	1.5	0
81	Calibration of Sensitive Ammeters Using a Noiseless Electron Pump. , 2020, , .		0
82	Asymmetric arms maximize visibility in hot-electron interferometers. Physical Review B, 2021, 104, .	1.1	0
83	Single-electron sources. Frontiers of Nanoscience, 2021, 20, 101-145.	0.3	0