

# Masaya Kataoka

## List of Publications by Citations

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76  
papers

1,739  
citations

22  
h-index

39  
g-index

84  
ext. papers

1,998  
ext. citations

5.8  
avg, IF

4.22  
L-index

#	Paper	IF	Citations
76	On-demand single-electron transfer between distant quantum dots. <i>Nature</i> , <b>2011</b> , 477, 439-42	50.4	208
75	Towards a quantum representation of the ampere using single electron pumps. <i>Nature Communications</i> , <b>2012</b> , 3, 930	17.4	160
74	Gigahertz quantized charge pumping in graphene quantum dots. <i>Nature Nanotechnology</i> , <b>2013</b> , 8, 417-208.7	208.7	99
73	Clock-controlled emission of single-electron wave packets in a solid-state circuit. <i>Physical Review Letters</i> , <b>2013</b> , 111, 216807	7.4	88
72	Detection of Coulomb Charging around an Antidot in the Quantum Hall Regime. <i>Physical Review Letters</i> , <b>1999</b> , 83, 160-163	7.4	62
71	Precision measurement of a potential-profile tunable single-electron pump. <i>Metrologia</i> , <b>2015</b> , 52, 195-200.1	200.1	58
70	Tunable nonadiabatic excitation in a single-electron quantum dot. <i>Physical Review Letters</i> , <b>2011</b> , 106, 126801	7.4	56
69	Kondo effect from a tunable bound state within a quantum wire. <i>Physical Review Letters</i> , <b>2008</b> , 100, 026807	26807	54
68	Coherent time evolution of a single-electron wave function. <i>Physical Review Letters</i> , <b>2009</b> , 102, 156801	7.4	52
67	An accurate high-speed single-electron quantum dot pump. <i>New Journal of Physics</i> , <b>2010</b> , 12, 073013	2.9	47
66	Time-of-Flight Measurements of Single-Electron Wave Packets in Quantum Hall Edge States. <i>Physical Review Letters</i> , <b>2016</b> , 116, 126803	7.4	44
65	Stabilization of single-electron pumps by high magnetic fields. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	41
64	Energy-dependent tunneling from few-electron dynamic quantum dots. <i>Physical Review Letters</i> , <b>2007</b> , 99, 156802	7.4	41
63	Gigahertz single-electron pumping in silicon with an accuracy better than 9.2 parts in 10 <sup>7</sup> . <i>Applied Physics Letters</i> , <b>2016</b> , 109, 013101	3.4	37
62	Coulomb blockade of tunneling through compressible rings formed around an antidot: An explanation for $h/2e$ Aharonov-Bohm oscillations. <i>Physical Review B</i> , <b>2000</b> , 62, R4817-R4820	3.3	36
61	Kondo effect in a quantum antidot. <i>Physical Review Letters</i> , <b>2002</b> , 89, 226803	7.4	35
60	Single-electron population and depopulation of an isolated quantum dot using a surface-acoustic-wave pulse. <i>Physical Review Letters</i> , <b>2007</b> , 98, 046801	7.4	33

59	Measurement and control of electron wave packets from a single-electron source. <i>Physical Review B</i> , <b>2015</b> , 92,	3.3	31
58	Experimental investigation of the surface acoustic wave electron capture mechanism. <i>Physical Review B</i> , <b>2006</b> , 74,	3.3	30
57	Thermal-Error Regime in High-Accuracy Gigahertz Single-Electron Pumping. <i>Physical Review Applied</i> , <b>2017</b> , 8,	4.3	26
56	Quantum-dot thermometry of electron heating by surface acoustic waves. <i>Applied Physics Letters</i> , <b>2006</b> , 89, 122104	3.4	25
55	Robust operation of a GaAs tunable barrier electron pump. <i>Metrologia</i> , <b>2017</b> , 54, 299-306	2.1	23
54	High-accuracy current generation in the nanoampere regime from a silicon single-trap electron pump. <i>Scientific Reports</i> , <b>2017</b> , 7, 45137	4.9	22
53	Surface-acoustic-wave single-electron interferometry. <i>Physical Review B</i> , <b>2005</b> , 72,	3.3	22
52	The effect of pulse-modulated surface acoustic waves on acoustoelectric current quantization. <i>Journal of Applied Physics</i> , <b>2006</b> , 100, 063710	2.5	21
51	Electron interactions in an antidot in the integer quantum Hall regime. <i>Physics Reports</i> , <b>2008</b> , 456, 127-165.	6.7	20
50	Ultrafast Emission and Detection of a Single-Electron Gaussian Wave Packet: A Theoretical Study. <i>Physical Review Letters</i> , <b>2016</b> , 117, 146802	7.4	20
49	Evidence for universality of tunable-barrier electron pumps. <i>Metrologia</i> , <b>2019</b> , 56, 044004	2.1	19
48	Ultrafast voltage sampling using single-electron wavepackets. <i>Applied Physics Letters</i> , <b>2017</b> , 110, 102105.	3.4	19
47	Surface-acoustic-wave-driven luminescence from a lateral p-n junction. <i>Applied Physics Letters</i> , <b>2006</b> , 89, 243505	3.4	17
46	Localized magnetic fields in arbitrary directions using patterned nanomagnets. <i>Nano Letters</i> , <b>2010</b> , 10, 1549-53	11.5	15
45	Coulomb blockade and kondo effect in a quantum Hall antidot. <i>Physical Review Letters</i> , <b>2003</b> , 91, 26680.	7.4	14
44	LO-Phonon Emission Rate of Hot Electrons from an On-Demand Single-Electron Source in a GaAs/AlGaAs Heterostructure. <i>Physical Review Letters</i> , <b>2018</b> , 121, 137703	7.4	14
43	Phonon emission and arrival times of electrons from a single-electron source. <i>Physical Review B</i> , <b>2016</b> , 93,	3.3	13
42	Continuous-variable tomography of solitary electrons. <i>Nature Communications</i> , <b>2019</b> , 10, 5298	17.4	13

41	Picosecond coherent electron motion in a silicon single-electron source. <i>Nature Nanotechnology</i> , <b>2019</b> , 14, 1019-1023	28.7	12
40	Rectification in mesoscopic alternating current-gated semiconductor devices. <i>Journal of Applied Physics</i> , <b>2013</b> , 114, 164505	2.5	12
39	Examination of surface acoustic wave reflections by observing acoustoelectric current generation under pulse modulation. <i>Applied Physics Letters</i> , <b>2006</b> , 89, 132102	3.4	12
38	Numerical investigation of a piezoelectric surface acoustic wave interaction with a one-dimensional channel. <i>Physical Review B</i> , <b>2006</b> , 74,	3.3	12
37	Noninvasive lateral detection of Coulomb blockade in a quantum dot fabricated using atomic force microscopy. <i>Journal of Applied Physics</i> , <b>2004</b> , 95, 2557-2559	2.5	12
36	High-resolution error detection in the capture process of a single-electron pump. <i>Applied Physics Letters</i> , <b>2016</b> , 108, 023502	3.4	12
35	Time-resolved single-electron wave-packet detection. <i>Physica Status Solidi (B): Basic Research</i> , <b>2017</b> , 254, 1600547	1.3	10
34	Comment on "Absence of compressible edge channel rings in quantum antidots". <i>Physical Review Letters</i> , <b>2004</b> , 92, 199703; author reply 199704	7.4	10
33	Single carrier trapping and de-trapping in scaled silicon complementary metal-oxide-semiconductor field-effect transistors at low temperatures. <i>Semiconductor Science and Technology</i> , <b>2017</b> , 32, 075001	1.8	9
32	Energy relaxation in hot electron quantum optics via acoustic and optical phonon emission. <i>Physical Review B</i> , <b>2019</b> , 99,	3.3	9
31	Single- and few-electron dynamic quantum dots in a perpendicular magnetic field. <i>Journal of Applied Physics</i> , <b>2011</b> , 109, 102422	2.5	9
30	Temporal characteristics of surface-acoustic-wave-driven luminescence from a lateral p-n junction. <i>Applied Physics Letters</i> , <b>2007</b> , 91, 013506	3.4	9
29	Selective spin-resolved edge-current injection into a quantum antidot. <i>Physical Review B</i> , <b>2003</b> , 68,	3.3	9
28	Measurement of Coulomb-energy-dependent tunnelling rates in surface-acoustic-wave-defined dynamic quantum dots. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2008</b> , 40, 1136-1138	3	8
27	Examination of multiply reflected surface acoustic waves by observing acoustoelectric current generation under pulse modulation. <i>Physical Review B</i> , <b>2006</b> , 74,	3.3	7
26	The excitation spectrum of quantum antidots. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2006</b> , 34, 195-198	3	6
25	Single-electron transfer between double quantum dots defined by surface acoustic waves. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2006</b> , 34, 546-549	3	6
24	Realisation of a quantum current standard at liquid helium temperature with sub-ppm reproducibility. <i>Metrologia</i> , <b>2020</b> , 57, 025013	2.1	5

23	Gated-charge force microscopy for imaging a surface-acoustic-wave-induced charge in a depleted one-dimensional channel. <i>Physical Review B</i> , <b>2008</b> , 78,	3.3	5
22	Pulse-induced acoustoelectric vibrations in surface-gated GaAs-based quantum devices. <i>Physical Review B</i> , <b>2007</b> , 75,	3.3	5
21	Scanned gate microscopy of surface-acoustic-wave-induced current through a depleted one-dimensional GaAs channel. <i>Physical Review B</i> , <b>2010</b> , 82,	3.3	4
20	Collapse of nonequilibrium charge states in an isolated quantum dot using surface acoustic waves. <i>Physical Review B</i> , <b>2007</b> , 75,	3.3	4
19	Redefinition of the Ampere. <i>Measurement and Control</i> , <b>2014</b> , 47, 315-322	1.5	3
18	Investigation of single-electron dynamics in tunnelling between zero- and one-dimensional states. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2008</b> , 40, 1017-1021	3	3
17	Temporal isolation of surface-acoustic-wave-driven luminescence from a lateral p $\bar{n}$ junction using pulsed techniques. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2008</b> , 40, 1775-1779	3	3
16	Kondo effect of an antidot in the integer quantum Hall regime: a microscopic calculation. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2004</b> , 22, 554-557	3	3
15	Spin-splitting of Aharonov-Bohm oscillations in an antidot. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2002</b> , 12, 782-786	3	3
14	Detection of Coulomb charging around an antidot. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2000</b> , 6, 495-498	3	3
13	Sub-ppm measurements of single-electron pump currents <b>2014</b> ,		2
12	Scaling the current from a GHz electron pump using a CCC <b>2016</b> ,		2
11	Electron population control of a highly isolated quantum dot using surface-acoustic waves. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2008</b> , 40, 1596-1598	3	1
10	Geometric suppression of single-particle energy spacings in quantum antidots. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2008</b> , 40, 1633-1636	3	1
9	Mitigating decoherence in hot electron interferometry. <i>New Journal of Physics</i> , <b>2020</b> , 22, 103031	2.9	1
8	Results and model for single-gate ratchet charge pumping. <i>Journal of Applied Physics</i> , <b>2020</b> , 127, 094301	2.5	1
7	Selective spin-resolved edge-current injection into a quantum antidot. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2004</b> , 22, 168-172	3	
6	Kondo-like behaviour as manifestation of many-body interactions around a quantum antidot. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2004</b> , 22, 558-561	3	

- 5 Evidence for a finite compressibility of a quasi-one-dimensional ballistic channel. *Microelectronics Journal*, **2005**, 36, 331-333 1.8
- 4 Single-electron sources. *Frontiers of Nanoscience*, **2021**, 20, 101-145 0.7
- 3 Nanosession: Qubit Systems 357-366
- 2 Non-invasive charge detection in surface-acoustic-wave-defined dynamic quantum dots. *Applied Physics Letters*, **2016**, 109, 183501 3.4
- 1 Single-hole pump in germanium. *Journal Physics D: Applied Physics*, **2021**, 54, 434001 3