

Anton Akhmerov

List of Publications by Year in descending order

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Version: 2024-02-01

80
papers

8,491
citations

66343

42
h-index

62596

80
g-index

80
all docs

80
docs citations

80
times ranked

5266
citing authors

#	ARTICLE	IF	CITATIONS
1	Kwant: a software package for quantum transport. New Journal of Physics, 2014, 16, 063065.	2.9	862
2	Majorana Fermions in Equilibrium and in Driven Cold-Atom Quantum Wires. Physical Review Letters, 2011, 106, 220402.	7.8	606
3	Electrically Detected Interferometry of Majorana Fermions in a Topological Insulator. Physical Review Letters, 2009, 102, 216404.	7.8	522
4	Boundary conditions for Dirac fermions on a terminated honeycomb lattice. Physical Review B, 2008, 77, .	3.2	406
5	Splitting of a Cooper Pair by a Pair of Majorana Bound States. Physical Review Letters, 2008, 101, 120403.	7.8	394
6	Majorana fermions emerging from magnetic nanoparticles on a superconductor without spin-orbit coupling. Physical Review B, 2011, 84, .	3.2	333
7	Theory of the Topological Anderson Insulator. Physical Review Letters, 2009, 103, 196805.	7.8	311
8	Coulomb-assisted braiding of Majorana fermions in a Josephson junction array. New Journal of Physics, 2012, 14, 035019.	2.9	257
9	Flux-controlled quantum computation with Majorana fermions. Physical Review B, 2013, 88, .	3.2	253
10	Quantized Conductance at the Majorana Phase Transition in a Disordered Superconducting Wire. Physical Review Letters, 2011, 106, 057001.	7.8	252
11	Quantum point contact as a probe of a topological superconductor. New Journal of Physics, 2011, 13, 053016.	2.9	228
12	Quantum Goos-Hänchen Effect in Graphene. Physical Review Letters, 2009, 102, 146804.	7.8	215
13	Ballistic Josephson junctions in edge-contacted graphene. Nature Nanotechnology, 2015, 10, 761-764.	31.5	194
14	Realization of Microwave Quantum Circuits Using Hybrid Superconducting-Semiconducting Nanowire Josephson Elements. Physical Review Letters, 2015, 115, 127002.	7.8	185
15	Reproducing topological properties with quasi-Majorana states. SciPost Physics, 2019, 7, .	4.9	164
16	Detection of Valley Polarization in Graphene by a Superconducting Contact. Physical Review Letters, 2007, 98, 157003.	7.8	162
17	Theory of the valley-valve effect in graphene nanoribbons. Physical Review B, 2008, 77, .	3.2	161
18	Scattering formula for the topological quantum number of a disordered multimode wire. Physical Review B, 2011, 83, .	3.2	157

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19	Robustness of edge states in graphene quantum dots. Physical Review B, 2010, 82, .	3.2	154
20	Anyonic interferometry without anyons: how a flux qubit can read out a topological qubit. New Journal of Physics, 2010, 12, 125002.	2.9	146
21	Quantized conductance doubling and hard gap in a two-dimensional semiconductor-superconductor heterostructure. Nature Communications, 2016, 7, 12841.	12.8	146
22	Scattering theory of topological insulators and superconductors. Physical Review B, 2012, 85, .	3.2	137
23	Majorana Bound States without Vortices in Topological Superconductors with Electrostatic Defects. Physical Review Letters, 2010, 105, 046803.	7.8	135
24	The top-transmon: a hybrid superconducting qubit for parity-protected quantum computation. New Journal of Physics, 2011, 13, 095004.	2.9	118
25	Coulomb stability of the 4π -periodic Josephson effect of Majorana fermions. Physical Review B, 2011, 84, .	3.2	105
26	Spatially resolved edge currents and guided-wave electronic states in graphene. Nature Physics, 2016, 12, 128-133.	16.7	105
27	Andreev rectifier: A nonlocal conductance signature of topological phase transitions. Physical Review B, 2018, 97, .	3.2	89
28	Topological quantum computation away from the ground state using Majorana fermions. Physical Review B, 2010, 82, .	3.2	84
29	Topological Phases without Crystalline Counterparts. Physical Review Letters, 2019, 123, 196401.	7.8	84
30	Single fermion manipulation via superconducting phase differences in multiterminal Josephson junctions. Physical Review B, 2014, 90, .	3.2	79
31	Adaptive tuning of Majorana fermions in a quantum dot chain. New Journal of Physics, 2013, 15, 045020.	2.9	75
32	Statistical topological insulators. Physical Review B, 2014, 89, .	3.2	71
33	Demonstration of an ac Josephson junction laser. Science, 2017, 355, 939-942.	12.6	71
34	Valley-isospin dependence of the quantum Hall effect in a graphene p - n junction. Physical Review B, 2007, 76, .	3.2	68
35	Orbital effect of magnetic field on the Majorana phase diagram. Physical Review B, 2016, 93, .	3.2	65
36	Effects of the electrostatic environment on the Majorana nanowire devices. New Journal of Physics, 2016, 18, 033013.	2.9	60

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37	Spin-triplet supercurrent carried by quantum Hall edge states through a Josephson junction. Physical Review B, 2011, 83, .	3.2	54
38	Absence of a metallic phase in charge-neutral graphene with a random gap. Physical Review B, 2010, 81, .	3.2	48
39	Zero-bias conductance peak and Josephson effect in graphene-NbTiN junctions. Physical Review B, 2012, 85, .	3.2	45
40	Dirac boundary condition at the reconstructed zigzag edge of graphene. Physical Review B, 2011, 84, .	3.2	43
41	Supercurrent Interference in Few-Mode Nanowire Josephson Junctions. Physical Review Letters, 2017, 119, 187704.	7.8	43
42	Random-matrix theory of Andreev reflection from a topological superconductor. Physical Review B, 2011, 83, .	3.2	42
43	Correspondence between Andreev reflection and Klein tunneling in bipolar graphene. Physical Review B, 2008, 77, .	3.2	41
44	Deterministic Creation and Braiding of Chiral Edge Vortices. Physical Review Letters, 2019, 122, 146803.	7.8	41
45	Pseudodiffusive conduction at the Dirac point of a normal-superconductor junction in graphene. Physical Review B, 2007, 75, .	3.2	34
46	Nonalgebraic length dependence of transmission through a chain of barriers with a Λ -spacing distribution. Physical Review B, 2009, 79, .	3.2	34
47	Domain Wall in a Chiral p -Wave Superconductor: A Pathway for Electrical Current. Physical Review Letters, 2010, 104, 147001.	7.8	34
48	Topological quantum number and critical exponent from conductance fluctuations at the quantum Hall plateau transition. Physical Review B, 2011, 84, .	3.2	34
49	Weyl Josephson circuits. Physical Review Research, 2021, 3, .	3.6	34
50	Enhanced Proximity Effect in Zigzag-Shaped Majorana Josephson Junctions. Physical Review Letters, 2020, 125, 086802.	7.8	31
51	Influence of lattice termination on the edge states of the quantum spin Hall insulator monolayer $\langle T \rangle = 1 + \frac{2.4}{31}$ Physical Review Materials, 2019, 3, .	2.4	31
52	Qsymm: algorithmic symmetry finding and symmetric Hamiltonian generation. New Journal of Physics, 2018, 20, 093026.	2.9	29
53	Robustness of Majorana bound states in the short-junction limit. Physical Review B, 2017, 95, .	3.2	27
54	Majorana-Based Fermionic Quantum Computation. Physical Review Letters, 2018, 120, 220504.	7.8	27

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55	Observation of Electron Coherence and Fabry-Perot Standing Waves at a Graphene Edge. Nano Letters, 2017, 17, 7380-7386.	9.1	26
56	Computation of topological phase diagram of disordered $\text{Pb}_{1-x}\text{Sn}_x$ using the kernel polynomial method. Physical Review Research, 2020, 2, .	3.6	24
57	Thermal metal-insulator transition in a helical topological superconductor. Physical Review B, 2012, 86, .	3.2	23
58	Transmission probability through a $\text{LaAlO}_3/\text{SrTiO}_3$ glass and comparison with a LaAlO_3 walk. Physical Review E, 2012, 85, 021138.	2.1	21
59	Supercurrent-induced Majorana bound states in a planar geometry. SciPost Physics, 2019, 7, .	4.9	21
60	Flat-lens focusing of electrons on the surface of a topological insulator. Physical Review B, 2010, 82, .	3.2	20
61	Theory of non-Abelian Fabry-Perot interferometry in topological insulators. Physical Review B, 2010, 81, .	3.2	20
62	Supercurrent carried by nonequilibrium quasiparticles in a multiterminal Josephson junction. Physical Review B, 2019, 99, .	3.2	19
63	Amorphous topological phases protected by continuous rotation symmetry. SciPost Physics, 2021, 11, .	4.9	19
64	Tailoring supercurrent confinement in graphene bilayer weak links. Nature Communications, 2018, 9, 1722.	12.8	18
65	Detecting Majorana nonlocality using strongly coupled Majorana bound states. Physical Review B, 2016, 94, .	3.2	17
66	Switching of electrical current by spin precession in the first Landau level of an inverted-gap semiconductor. Physical Review B, 2009, 80, .	3.2	16
67	Braiding of non-Abelian anyons using pairwise interactions. Physical Review A, 2013, 87, .	2.5	16
68	Geodesic scattering by surface deformations of a topological insulator. Physical Review B, 2010, 82, .	3.2	13
69	Phase-locked magnetoconductance oscillations as a probe of Majorana edge states. Physical Review B, 2013, 87, .	3.2	13
70	Two-dimensional Josephson vortex lattice and anomalously slow decay of the Fraunhofer oscillations in a ballistic SNS junction with a warped Fermi surface. Physical Review B, 2016, 94, .	3.2	13
71	A general algorithm for computing bound states in infinite tight-binding systems. SciPost Physics, 2018, 4, .	4.9	12
72	Multiplet supercurrent in Josephson tunneling circuits. SciPost Physics, 2022, 12, .	4.9	12

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73	Probing Majorana edge states with a flux qubit. Physical Review B, 2011, 84, .	3.2	10
74	Attractive critical point from weak antilocalization on fractals. Physical Review B, 2016, 94, .	3.2	10
75	Topological Blockade and Measurement of Topological Charge. Physical Review Letters, 2013, 110, 086803.	7.8	9
76	Minimal Zeeman field requirement for a topological transition in superconductors. SciPost Physics, 2021, 10, .	4.9	5
77	Universal temperature dependence of the conductivity of a strongly disordered granular metal. JETP Letters, 2006, 83, 211-216.	1.4	3
78	Breakdown of the Law of Reflection at a Disordered Graphene Edge. Physical Review Letters, 2018, 121, 136803.	7.8	3
79	Pseudodiffusive transmission of nodal Dirac fermions through a clean d -wave superconductor. Physical Review B, 2009, 80, .	3.2	1
80	Effects of disorder on the transmission of nodal fermions through d -wave superconductor. Physical Review B, 2011, 83, .	3.2	1