Karsten Flensberg

List of Publications by Year
in descending order

172	11,078	26630	30922
papers	citations	56 h-index	102 g-index

175	175	175	5249
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Majorana bound state in a coupled quantum-dot hybrid-nanowire system. Science, 2016, 354, 1557-1562.	12.6	816
2	Introduction to topological superconductivity and Majorana fermions. Semiconductor Science and Technology, 2012, 27, 124003.	2.0	676
3	Scalable designs for quasiparticle-poisoning-protected topological quantum computation with Majorana zero modes. Physical Review B, 2017, 95, .	3.2	444
4	Tunneling characteristics of a chain of Majorana bound states. Physical Review B, 2010, 82, .	3.2	428
5	Milestones Toward Majorana-Based Quantum Computing. Physical Review X, 2016, 6, .	8.9	387
6	Scaling of Majorana Zero-Bias Conductance Peaks. Physical Review Letters, 2017, 119, 136803.	7.8	338
7	Quantum transport in carbon nanotubes. Reviews of Modern Physics, 2015, 87, 703-764.	45.6	292
8	Vibrational sidebands and dissipative tunneling in molecular transistors. Physical Review B, 2003, 68, .	3.2	243
9	Majorana box qubits. New Journal of Physics, 2017, 19, 012001.	2.9	227
10	Non-Abelian Operations on Majorana Fermions via Single-Charge Control. Physical Review Letters, 2011, 106, 090503.	7.8	196
11	Subharmonic energy-gap structure in superconducting weak links. Physical Review B, 1988, 38, 8707-8711.	3.2	174
12	Tunneling broadening of vibrational sidebands in molecular transistors. Physical Review B, 2003, 68, .	3.2	160
13	Parity lifetime of bound states in a proximitized semiconductor nanowire. Nature Physics, 2015, 11, 1017-1021.	16.7	160
14	Majorana fermions in superconducting nanowires without spin-orbit coupling. Physical Review B, 2012, 85, .	3.2	159
15	Electrical Manipulation of Spin States in a Single Electrostatically Gated Transition-Metal Complex. Nano Letters, 2010, 10, 105-110.	9.1	157
16	Quantized conductance doubling and hard gap in a two-dimensional semiconductorâ€“superconductor heterostructure. Nature Communications, 2016, 7, 12841.	12.8	146
17	Two-Dimensional Platform for Networks of Majorana Bound States. Physical Review Letters, 2017, 118, 107701.	7.8	145
18	Critical Current 0â^'Ï€ Transition in Designed Josephson Quantum Dot Junctions. Nano Letters, 2007, 7, 2441-2445.	9.1	134

#	Article	IF	Citations
19	Nonlinear thermoelectric properties of molecular junctions with vibrational coupling. Physical Review B, 2010, 82, .	3.2	129
20	Flux-induced topological superconductivity in full-shell nanowires. Science, 2020, 367, .	12.6	129
21	Spin-Orbit Mediated Control of Spin Qubits. Physical Review Letters, 2006, 97, 240501.	7.8	127
22	Relaxation and Dephasing in a Two-Electron<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="bold">C</mml:mi><mml:mprescripts /><mml:none /><mml:mn>13</mml:mn></mml:mmultiscripts></mml:math>Nanotube Double Quantum Dot. Physical Review Letters, 2009, 102, 166802.	7.8	124
23	Gate-dependent spinâ€“orbit coupling in multielectron carbon nanotubes. Nature Physics, 2011, 7, 348-353.	16.7	122
24	Scheme to measure Majorana fermion lifetimes using a quantum dot. Physical Review B, 2011, 84, .	3.2	117
25	Kondo-Enhanced Andreev Tunneling in InAs Nanowire Quantum Dots. Physical Review Letters, 2007, 99, 126603.	7.8	113
26	Strong Polarization-Induced Reduction of Addition Energies in Single-Molecule Nanojunctions. Nano Letters, 2008, 8, 3809-3814.	9.1	112
27	Roadmap to Majorana surface codes. Physical Review B, 2016, 94, .	3.2	106
28	Plasmon enhancement of Coulomb drag in double-quantum-well systems. Physical Review B, 1995, 52, 14796-14808.	3.2	104
29	Quantum Information Transfer between Topological and Spin Qubit Systems. Physical Review Letters, 2011, 107, 210502.	7.8	104
30	Engineered platforms for topological superconductivity and Majorana zero modes. Nature Reviews Materials, 2021, 6, 944-958.	48.7	101
31	Capacitance and conductance of mesoscopic systems connected by quantum point contacts. Physical Review B, 1993, 48, 11156-11166.	3.2	100
32	Scaling of the Coulomb Energy Due to Quantum Fluctuations in the Charge on a Quantum Dot. Physical Review Letters, 1995, 75, 4282-4285.	7.8	100
33	Linear-response theory of Coulomb drag in coupled electron systems. Physical Review B, 1995, 52, 14761-14774.	3.2	100
34	Vibrational Sidebands and the Kondo Effect in Molecular Transistors. Physical Review Letters, 2005, 94, 176801.	7.8	100
35	Electron Transport in Single-Wall Carbon Nanotube Weak Links in the Fabry-Perot Regime. Physical Review Letters, 2006, 96, 207003.	7.8	100
36	Coulomb Drag as a Probe of Coupled Plasmon Modes in Parallel Quantum Wells. Physical Review Letters, 1994, 73, 3572-3575.	7.8	99

#	Article	IF	Citations
37	Number conserving theory for topologically protected degeneracy in one-dimensional fermions. Physical Review B, 2011, 84, .	3.2	98
38	Correlation Effects on the Coupled Plasmon Modes of a Double Quantum Well. Physical Review Letters, 1997, 78, 2204-2207.	7.8	92
39	Majorana Bound States in Two-Channel Time-Reversal-Symmetric Nanowire Systems. Physical Review Letters, 2014, 112, 126402.	7.8	92
40	Spin-Orbit-Induced Strong Coupling of a Single Spin to a Nanomechanical Resonator. Physical Review Letters, 2012, 108, 206811.	7.8	85
41	Parity qubits and poor man's Majorana bound states in double quantum dots. Physical Review B, 2012, 86, .	3.2	84
42	Transport Signatures of Quasiparticle Poisoning in a Majorana Island. Physical Review Letters, 2017, 118, 137701.	7.8	84
43	Bends in nanotubes allow electric spin control and coupling. Physical Review B, 2010, 81, .	3.2	82
44	Hybridization at Superconductor-Semiconductor Interfaces. Physical Review X, 2018, 8, .	8.9	79
45	Three-particle collisions in quantum wires: Corrections to thermopower and conductance. Physical Review B, 2007, 75, .	3.2	73
46	Conductance-Matrix Symmetries of a Three-Terminal Hybrid Device. Physical Review Letters, 2020, 124, 036802.	7.8	72
47	Diffusion equation and spin drag in spin-polarized transport. Physical Review B, 2001, 64, .	3.2	70
48	The anomalous 0.5 and 0.7 conductance plateaus in quantum point contacts. Physica E: Low-Dimensional Systems and Nanostructures, 2001, 10, 97-102.	2.7	69
49	Nonequilibrium theory of Coulomb blockade in open quantum dots. Physical Review B, 2005, 72, .	3.2	66
50	Angle dependence of Andreev scattering at semiconductorâ€“superconductor interfaces. Physical Review B, 1999, 59, 10176-10182.	3.2	63
51	Nonadiabaticity and single-electron transport driven by surface acoustic waves. Physical Review B, 1999, 60, R16291-R16294.	3.2	63
52	Self-organized topological superconductivity in a Yu-Shiba-Rusinov chain. Physical Review B, 2016, 93, .	3.2	63
53	Anomalous Fraunhofer interference in epitaxial superconductor-semiconductor Josephson junctions. Physical Review B, 2017, 95, .	3.2	63
54	Nonlocal Conductance Spectroscopy of Andreev Bound States: Symmetry Relations and BCS Charges. Physical Review Letters, 2020, 124, 036801.	7.8	63

#	Article	IF	Citations
55	Magnetoconductivity of quantum wires with elastic and inelastic scattering. Physical Review B, 1993, 48, 11144-11155.	3.2	60
56	Distinguishing Majorana bound states from localized Andreev bound states by interferometry. Physical Review B, 2018, 97, .	3.2	57
57	Frictional drag between quantum wells mediated by phonon exchange. Physical Review B, 1998, 57, 7085-7102.	3.2	56
58	On the Mott formula for the thermopower of non-interacting electrons in quantum point contacts. Journal of Physics Condensed Matter, 2005, 17, 3879-3884.	1.8	56
59	Magneto-Coulomb Drag: Interplay of Electron-Electron Interactions and Landau Quantization. Physical Review Letters, 1996, 77, 1366-1369.	7.8	54
60	Yu-Shiba-Rusinov states in phase-biased superconductorâ€“quantum dotâ€“superconductor junctions. Physical Review B, 2015, 92, .	3.2	50
61	Coulomb Drag of Luttinger Liquids and Quantum Hall Edges. Physical Review Letters, 1998, 81, 184-187.	7.8	47
62	Superconductivity-enhanced bias spectroscopy in carbon nanotube quantum dots. Physical Review B, 2009, 79, .	3.2	46
63	Nonequilibrium transport via spin-induced subgap states in superconductor/quantum dot/normal metal cotunnel junctions. Physical Review B, 2010, 82, .	3.2	44
64	Josephson current through a molecular transistor in a dissipative environment. Physical Review B, 2005, 72, .	3.2	43
65	Coupling Spin Qubits via Superconductors. Physical Review Letters, 2013, 111, 060501.	7.8	43
66	Spiral magnetic order and topological superconductivity in a chain of magnetic adatoms on a two-dimensional superconductor. Physical Review B, 2016, 94, .	3.2	43
67	Anharmonicity of a superconducting qubit with a few-mode Josephson junction. Physical Review B, 2018, 97, .	3.2	42
68	Interaction-Induced Resonance in Conductance and Thermopower of Quantum Wires. Physical Review Letters, 2006, 97, 256802.	7.8	41
69	Weak Measurement Protocols for Majorana Bound State Identification. Physical Review Letters, 2020, 124, 096801.	7.8	41
70	Gate-dependent tunneling-induced level shifts observed in carbon nanotube quantum dots. Physical Review B, 2008, 77, .	3.2	40
71	Electron Transfer Dynamics of Bistable Single-Molecule Junctions. Nano Letters, 2006, 6, 2184-2190.	9.1	38
72	Conductance of Rashba spin-split systems with ferromagnetic contacts. Physical Review B, 2002, 66, .	3.2	37

#	Article	IF	Citations
73	Image charge effects in single-molecule junctions: Breaking of symmetries and negative-differential resistance in a benzene single-electron transistor. Physical Review B, 2011, 84, .	3.2	37
74	Nonequilibrium Transport through a Spinful Quantum Dot with Superconducting Leads. Physical Review Letters, 2011, 107, 256802.	7.8	35
75	Emerging Dirac and Majorana fermions for carbon nanotubes with proximity-induced pairing and spiral magnetic field. Physical Review B, 2012, 85, .	3.2	35
76	Coupling and braiding Majorana bound states in networks defined in two-dimensional electron gases with proximity-induced superconductivity. Physical Review B, 2017, 96, .	3.2	35
77	Coulomb Drag in Coherent Mesoscopic Systems. Physical Review Letters, 2001, 86, 1841-1844.	7.8	34
78	Electronâ€“electron interaction effects in quantum point contacts. New Journal of Physics, 2009, 11, 023031.	2.9	34
79	Spin-orbit effects in carbon-nanotube double quantum dots. Physical Review B, 2010, 82, .	3.2	34
80	Hybridization of Subgap States in One-Dimensional Superconductor-Semiconductor Coulomb Islands. Physical Review Letters, 2018, 121, 256803.	7.8	34
81	Singletâ€“triplet physics and shell filling in carbon nanotube double quantum dots. Nature Physics, 2008, 4, 536-539.	16.7	33
82	Effects of spin-orbit coupling and spatial symmetries on the Josephson current in SNS junctions. Physical Review B, 2016, 93, .	3.2	33
83	Quantum mechanics of the electromagnetic environment in the single-junction Coulomb blockade. Physica Scripta, 1992, T42, 189-206.	2.5	32
84	Noncollinear magnetoconductance of a quantum dot. Physical Review B, 2005, 72, .	3.2	32
85	Intershell resistance in multiwall carbon nanotubes: A Coulomb drag study. Physical Review B, 2005, 71, .	3.2	32
86	Designing Ï€-stacked molecular structures to control heat transport through molecular junctions. Applied Physics Letters, 2014, 105, .	3.3	32
87	TOWARDS SINGLE-ELECTRON METROLOGY. International Journal of Modern Physics B, 1999, 13, 2651-2687.	2.0	31
88	Resonating-valence-bond state with fermionic charges and bosonic spins: Mean-field theory. Physical Review B, 1989, 40, 850-853.	3.2	30
89	Magnetic-Field Dependence of Tunnel Couplings in Carbon Nanotube Quantum Dots. Physical Review Letters, 2012, 108, 176802.	7.8	30
90	Hybrid topological-spin qubit systems for two-qubit-spin gates. Physical Review B, 2012, 86, .	3.2	29

#	Article	IF	Citations
91	Mesoscopic conductance fluctuations in InAs nanowire-based SNS junctions. New Journal of Physics, 2009, 11, 113025.	2.9	27
92	Conductance spectroscopy on Majorana wires and the inverse proximity effect. Physical Review B, 2017, 96, .	3.2	27
93	Frictional Coulomb drag in strong magnetic fields. Physical Review B, 1997, 56, 10314-10325.	3.2	26
94	Interaction-induced negative differential resistance in asymmetric molecular junctions. Journal of Chemical Physics, 2011, 134, 104107.	3.0	26
95	Interaction-driven topological superconductivity in one dimension. Physical Review B, 2016, 94, .	3.2	26
96	Probing electron-hole components of subgap states in Coulomb blockaded Majorana islands. Physical Review B, 2018, 97, .	3.2	26
97	No-go theorem for a time-reversal invariant topological phase in noninteracting systems coupled to conventional superconductors. Physical Review B, 2016, 94, .	3.2	25
98	Time scales for Majorana manipulation using Coulomb blockade in gate-controlled superconducting nanowires. Physical Review B, 2016, 94, .	3.2	25
99	Local Adiabatic Mixing of Kramers Pairs of Majorana Bound States. Physical Review Letters, 2014, 113, 246401.	7.8	24
100	Parity-to-charge conversion in Majorana qubit readout. Physical Review Research, 2020, 2, .	3.6	24
101	Asymmetry in the normal-metal to high-Tcsuperconductor tunnel junction. Physical Review B, 1988, 38, 841-843.	3.2	23
102	Quantum fluctuations and charging effects in small tunnel junctions. Physical Review B, 1991, 43, 7586-7594.	3.2	23
103	Subharmonic energy-gap structure and heating effects in superconducting niobium point contacts. Physical Review B, 1989, 40, 8693-8699.	3.2	22
104	Capacitance and conductance of dots connected by quantum point contacts. Physica B: Condensed Matter, 1994, 203, 432-439.	2.7	22
105	Coherent-photon-assisted cotunneling in a Coulomb blockade device. Physical Review B, 1997, 55, 13118-13123.	3.2	22
106	Transport via coupled states in a<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mtext>C</mml:mtext><mml:mrow><mml:mn>60</mml:mn></mml:mrow></mml:msub> quantum dot. Physical Review B, 2010, 81, .	3.2	22
107	Phase-tunable Majorana bound states in a topological N-SNS junction. Physical Review B, 2016, 93, .	3.2	22
108	Four-Majorana qubit with charge readout: Dynamics and decoherence. Physical Review B, 2018, 98, .	3.2	22

#	Article	IF	Citations
109	Topological superconductivity in semiconductorâ€“superconductorâ€“magnetic-insulator heterostructures. Physical Review B, 2021, 103, .	3.2	21
110	Rectification in single molecular dimers with strong polaron effect. Physical Review B, 2005, 71, .	3.2	20
111	Electronâ€“vibron coupling in suspended nanotubes. New Journal of Physics, 2006, 8, 5-5.	2.9	20
112	Gate-Dependent Orbital Magnetic Moments in Carbon Nanotubes. Physical Review Letters, 2011, 107, 186802.	7.8	20
113	Spin-Lattice Order in One-Dimensional Conductors: Beyond the RKKY Effect. Physical Review Letters, 2015, 114, 247205.	7.8	20
114	Exchange cotunneling through quantum dots with spin-orbit coupling. Physical Review B, 2010, 82, .	3.2	19
115	Braiding properties of Majorana Kramers pairs. Physical Review B, 2016, 93, .	3.2	18
116	Electron-electron scattering in linear transport in two-dimensional systems. Physical Review B, 1996, 53, 10072-10077.	3.2	17
117	Critical and excess current through an open quantum dot: Temperature and magnetic-field dependence. Physical Review B, 2009, 79, .	3.2	17
118	Interaction effects on proximity-induced superconductivity in semiconducting nanowires. Physical Review B, 2015, 91, .	3.2	16
119	Absence of supercurrent sign reversal in a topological junction with a quantum dot. Physical Review B, 2020, 101, .	3.2	16
120	Evidence for spin-polarized bound states in semiconductorâ€“superconductorâ€“ferromagnetic-insulator islands. Physical Review B, 2022, 105, .	3.2	16
121	Dissipative tunneling and orthogonality catastrophe in molecular transistors. Physical Review B, 2004, 70, .	3.2	15
122	Coulomb Blockade of a Nearly Open Majorana Island. Physical Review Letters, 2019, 122, 016801.	7.8	15
123	Three-phase Majorana zero modes at tiny magnetic fields. Physical Review B, 2021, 103, .	3.2	15
124	Mesoscopic fluctuations of Coulomb drag between quasiballistic one-dimensional wires. Physical Review B, 2002, 65, .	3.2	14
125	Interplay between interference and Coulomb interaction in the ferromagnetic Anderson model with applied magnetic field. Physical Review B, 2009, 79, .	3.2	14
126	Dephasing and hyperfine interaction in carbon nanotubes double quantum dots: Disordered case. Physical Review B, 2012, 85, .	3.2	14

#	Article	IF	Citations
127	Photon-assisted resonant Andreev reflections: Yu-Shiba-Rusinov and Majorana states. Physical Review B, 2020, 102, .	3.2	14
128	Dephasing and hyperfine interaction in carbon nanotube double quantum dots: The clean limit. Physical Review B, 2011, 84, .	3.2	13
129	Squeezing of thermal and quantum fluctuations: Universal features. Physical Review A, 1993, 47, R23-R26.	2.5	12
130	Weak Coulomb Blockade Effect in Quantum Dots. Physical Review Letters, 2005, 94, 136801.	7.8	12
131	Tunnel spectroscopy of Majorana bound states in topological superconductor/quantum dot Josephson junctions. Physical Review B, 2014, 90, .	3.2	12
132	Quantum charge fluctuations of a proximitized nanowire. Physical Review B, 2016, 94, .	3.2	12
133	Current-Induced Gap Opening in Interacting Topological Insulator Surfaces. Physical Review Letters, 2019, 123, 246803.	7.8	12
134	Coulomb blockade in single tunnel-junctions: Quantum mechanical effects of the electromagnetic environment. European Physical Journal B, 1991, 85, 395-403.	1.5	11
135	Electronâ€“electron scattering between closely spaced two-dimensional electron gases. Physica B: Condensed Matter, 1998, 249-251, 868-872.	2.7	11
136	Dephasing in semiconductorâ€“superconductor structures by coupling to a voltage probe. Superlattices and Microstructures, 2000, 28, 67-76.	3.1	10
137	Fidelity and visibility loss in Majorana qubits by entanglement with environmental modes. Physical Review B, 2019, 99, .	3.2	10
138	Timescales for charge transfer based operations on Majorana systems. Physical Review B, 2020, 101, .	3.2	10
139	Renormalization-group calculations of ground-state and transport properties of ultrasmall tunnel junctions. Physical Review B, 1992, 46, 15207-15211.	3.2	9
140	Signatures of Majorana Kramers pairs in superconductor-Luttinger liquid and superconductor-quantum dot-normal lead junctions. Physical Review B, 2016, 94, .	3.2	9
141	Localized plasmons in point contacts. Semiconductor Science and Technology, 1998, 13, A30-A32.	2.0	8
142	Electronic transport in crystalline magnetotunnel junctions: effects of structural disorder. Journal of Computer-Aided Materials Design, 2007, 14, 141-149.	0.7	8
143	Demonstrating Majorana non-Abelian properties using fast adiabatic charge transfer. Physical Review B, 2022, 105, .	3.2	8
144	Conductance enhancement in quantum-point-contact semiconductor-superconductor devices. Physical Review B, 1999, 60, 13762-13769.	3.2	7

#	Article	IF	Citations
145	Sign reversal of drag in bilayer systems with in-plane periodic potential modulation. Physical Review B, 2002, 66, .	3.2	7
146	Contact resistance of quantum tubes. Superlattices and Microstructures, 1999, 26, 351-361.	3.1	6
147	Coulomb blockade of a three-terminal quantum dot. Physical Review B, 2008, 77, .	3.2	6
148	Nonlocal damping of helimagnets in one-dimensional interacting electron systems. Physical Review B, 2015, 92, .	3.2	6
149	Coulomb-interaction-induced Majorana edge modes in nanowires. Physical Review B, 2019, 100, .	3.2	6
150	Spin-orbit induced spin-qubit control in nanowires. Journal of Physics: Conference Series, 2007, 61, 302-306.	0.4	5
151	Crystalline Magnetotunnel Junctions: Fe-mgo-fe, Fe-feomgo-fe And Fe-aumgoau-fe. Molecular Simulation, 2007, 33, 557-561.	2.0	5
152	Cotunneling renormalization in carbon nanotube quantum dots. Physical Review B, 2012, 86, .	3.2	5
153	Finite-bias conductance anomalies at a singlet-triplet crossing. Physical Review B, 2012, 86, .	3.2	5
154	Readout of Parafermionic States by Transport Measurements. Physical Review Letters, 2022, 129, .	7.8	5
155	RVB superconductors and tunnel junctions. Physica C: Superconductivity and Its Applications, 1989, 160, 89-101.	1.2	4
156	Magnetoconductivity in disordered quantum wires. Journal of Physics Condensed Matter, 1992, 4, 9131-9146.	1.8	4
157	Scaling relations for forced oscillators in the transition from a dissipative to a Hamiltonian system. Physical Review E, 1993, 47, 2190-2192.	2.1	4
158	Environmental Coulomb blockade of topological superconductor-normal metal junctions. Physical Review B, 2015, 92, .	3.2	4
159	Multilevel effects in quantum dot based parity-to-charge conversion of Majorana box qubits. Physical Review B, 2021, 103, .	3.2	4
160	Screening, Nonadiabaticity, and Quantized Acoustoelectric Current. Journal of Low Temperature Physics, 2000, 118, 571-577.	1.4	3
161	Frictional drag mediated by acoustic phonons. Physica B: Condensed Matter, 1998, 249-251, 864-867.	2.7	2
162	The flip side of quantum computing. Nature Nanotechnology, 2008, 3, 72-73.	31.5	2

#	Article	IF	Citations
163	Long-distance coherence of Majorana wires. Physical Review B, 2020, 101, .	3.2	2
164	Charging effects in tunnel junctions: A four level study. Solid State Communications, 1991, 77, 917-921.	1.9	1
165	Coulomb Drag in the Mesoscopic Regime. Physica Scripta, 2002, T101, 177.	2.5	1
166	Electronâ€“vibron coupling in suspended nanotubes. New Journal of Physics, 2008, 10, 059801.	2.9	1
167	Magnetotransport in quantum wires.. Physica B: Condensed Matter, 1994, 194-196, 1239-1240.	2.7	0
168	Scaling of the Coulomb blockade. Physica B: Condensed Matter, 1996, 218, 269-271.	2.7	0
169	Microscopic Theory of Transconductivity. VLSI Design, 1998, 6, 87-90.	0.5	0
170	Publisher's Note: Coupling and braiding Majorana bound states in networks defined in two-dimensional electron gases with proximity-induced superconductivity [Phys. Rev. B 96, 035444 (2017)]. Physical Review B, 2017, 96, .	3.2	0
171	Nonlinear Coulomb Frictional Drag In Coupled Quantum Wells And Wires. , 1996, , 261-263.		0
172	Observation of Scaling Behavior in a Coulomb Blockade System. , 1996, , 479-493.		0