

Björn Trauzettel

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

99
papers

4,795
citations

32
h-index

67
g-index

102
ext. papers

5,327
ext. citations

4.7
avg, IF

5.66
L-index

#	Paper	IF	Citations
99	Low Flights due to Anisotropic Disorder in Graphene. <i>Physical Review Letters</i> , 2016 , 117, 046603	7.4	10
98	Strong correlation effects on topological quantum phase transitions in three dimensions. <i>Physical Review B</i> , 2016 , 93,	3.3	26
97	Charge and spin density in the helical Luttinger liquid. <i>Europhysics Letters</i> , 2016 , 113, 37002	1.6	3
96	Flux sensitivity of quantum spin Hall rings. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2016 , 75, 379-384	3	4
95	Chiral anomaly in real space from stable fractional charges at the edge of a quantum spin Hall insulator. <i>Physical Review B</i> , 2016 , 94,	3.3	23
94	Reprint of : Flux sensitivity of quantum spin Hall rings. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2016 , 82, 185-190	3	0
93	Correlation and current anomalies in helical quantum dots. <i>Physical Review B</i> , 2016 , 94,	3.3	4
92	Interplay of topology and interactions in quantum Hall topological insulators: U(1) symmetry, tunable Luttinger liquid, and interaction-induced phase transitions. <i>Physical Review B</i> , 2016 , 94,	3.3	7
91	Coexisting edge states and gapless bulk in topological states of matter. <i>Physical Review Letters</i> , 2015 , 114, 136801	7.4	29
90	Addendum: Group theoretical and topological analysis of the quantum spin Hall effect in silicene. <i>New Journal of Physics</i> , 2015 , 17, 119401	2.9	2
89	Thermal electron spin flip in quantum dots. <i>Physical Review B</i> , 2015 , 92,	3.3	1
88	Gapless topological superconductors: Model Hamiltonian and realization. <i>Physical Review B</i> , 2015 , 92,	3.3	10
87	Quantum interference of edge supercurrents in a two-dimensional topological insulator. <i>Physical Review B</i> , 2015 , 92,	3.3	28
86	Superconducting proximity effect in three-dimensional topological insulators in the presence of a magnetic field. <i>Physical Review B</i> , 2015 , 92,	3.3	40
85	Evidence for broken Galilean invariance at the quantum spin Hall edge. <i>Physical Review B</i> , 2015 , 92,	3.3	6
84	Interacting weak topological insulators and their transition to Dirac semimetal phases. <i>Physical Review B</i> , 2015 , 92,	3.3	6
83	Fractional Wigner Crystal in the Helical Luttinger Liquid. <i>Physical Review Letters</i> , 2015 , 115, 206402	7.4	23

82	Odd-frequency triplet superconductivity at the helical edge of a topological insulator. <i>Physical Review B</i> , 2015 , 92,	3-3	47
81	Equilibration in closed quantum systems: Application to spin qubits. <i>Physical Review B</i> , 2015 , 92,	3-3	8
80	First-order character and observable signatures of topological quantum phase transitions. <i>Physical Review Letters</i> , 2015 , 114, 185701	7-4	66
79	Time reversal symmetric topological exciton condensate in bilayer HgTe quantum wells. <i>Physical Review Letters</i> , 2014 , 112, 146405	7-4	27
78	Transport signatures of superconducting hybrids with mixed singlet and chiral triplet states. <i>Physical Review B</i> , 2014 , 90,	3-3	20
77	Direct proportionality between the Kondo cloud and current cross correlations in helical liquids. <i>Physical Review B</i> , 2014 , 89,	3-3	9
76	Random Rashba spin-orbit coupling at the quantum spin Hall edge. <i>Physical Review B</i> , 2014 , 89,	3-3	31
75	Plasmons due to the interplay of Dirac and Schrödinger fermions. <i>Physical Review Letters</i> , 2014 , 112, 076804	7-4	18
74	Screening properties and plasmons of Hg(Cd)Te quantum wells. <i>Physical Review B</i> , 2014 , 90,	3-3	8
73	Signatures of Majorana bound states in transport properties of hybrid structures based on helical liquids. <i>Physical Review B</i> , 2014 , 89,	3-3	30
72	Parity measurement in topological Josephson junctions. <i>Physical Review Letters</i> , 2014 , 112, 077002	7-4	40
71	Transport properties of double quantum dots with electron-phonon coupling. <i>Physical Review B</i> , 2013 , 88,	3-3	16
70	Group theoretical and topological analysis of the quantum spin Hall effect in silicene. <i>New Journal of Physics</i> , 2013 , 15, 085030	2-9	38
69	Exact results for the Kondo screening cloud of two helical liquids. <i>Physical Review Letters</i> , 2013 , 110, 016602	7-4	24
68	Devices with electrically tunable topological insulating phases. <i>Applied Physics Letters</i> , 2013 , 102, 063503	3-4	29
67	Majorana bound states and nonlocal spin correlations in a quantum wire on an unconventional superconductor. <i>Physical Review Letters</i> , 2013 , 110, 117002	7-4	101
66	\mathbb{Z}_2 Green's function topology of Majorana wires. <i>New Journal of Physics</i> , 2013 , 15, 065006	2-9	4
65	Fluctuation-driven topological Hund insulators. <i>Physical Review B</i> , 2013 , 87,	3-3	50

64	Entanglement of nanoelectromechanical oscillators by Cooper-pair tunneling. <i>Physical Review B</i> , 2013 , 88,	3.3	15
63	Ultralong spin decoherence times in graphene quantum dots with a small number of nuclear spins. <i>Physical Review B</i> , 2013 , 88,	3.3	13
62	Even-odd effects in NSN scattering problems: Application to graphene nanoribbons. <i>Physical Review B</i> , 2013 , 87,	3.3	8
61	Shot noise in lithographically patterned graphene nanoribbons. <i>Physical Review B</i> , 2013 , 88,	3.3	10
60	From the adiabatic theorem of quantum mechanics to topological states of matter. <i>Physica Status Solidi - Rapid Research Letters</i> , 2013 , 7, 109-129	2.5	55
59	Local topological phase transitions in periodic condensed matter systems. <i>European Physical Journal B</i> , 2012 , 85, 1	1.2	1
58	Intact Dirac Cones at Broken Sublattice Symmetry: Photoemission Study of Graphene on Ni and Co. <i>Physical Review X</i> , 2012 , 2,	9.1	49
57	How to distinguish between specular and retroconfigurations for Andreev reflection in graphene rings. <i>Physical Review Letters</i> , 2012 , 108, 106603	7.4	23
56	The Aharonov-Bohm effect in graphene rings. <i>Solid State Communications</i> , 2012 , 152, 1411-1419	1.6	43
55	Renormalization group approach for the scattering off a single Rashba impurity in a helical liquid. <i>Physical Review B</i> , 2012 , 86,	3.3	65
54	Spin-dependent thermoelectric transport in HgTe/CdTe quantum wells. <i>Physical Review B</i> , 2012 , 86,	3.3	29
53	Strain-induced band gaps in bilayer graphene. <i>Physical Review B</i> , 2012 , 85,	3.3	50
52	Failure of protection of Majorana based qubits against decoherence. <i>Physical Review B</i> , 2012 , 85,	3.3	95
51	All-electric qubit control in heavy hole quantum dots via non-Abelian geometric phases. <i>Physical Review B</i> , 2012 , 85,	3.3	13
50	Spin decoherence in graphene quantum dots due to hyperfine interaction. <i>Physical Review B</i> , 2012 , 86,	3.3	14
49	Phonon-induced backscattering in helical edge states. <i>Physical Review Letters</i> , 2012 , 108, 086602	7.4	92
48	Quantum Hall effect in narrow graphene ribbons. <i>Physical Review B</i> , 2012 , 86,	3.3	9
47	Single valley Dirac fermions in zero-gap HgTe quantum wells. <i>Nature Physics</i> , 2011 , 7, 418-422	16.2	201

46	Helical Dirac-Majorana interferometer in a superconductor/topological insulator sandwich structure. <i>Physical Review B</i> , 2011 , 83,	3-3	32
45	Color-dependent conductance of graphene with adatoms. <i>Physical Review Letters</i> , 2011 , 106, 166806	7-4	11
44	Charge-spin duality in nonequilibrium transport of helical liquids. <i>Physical Review B</i> , 2011 , 83,	3-3	47
43	Spin Hall effect at interfaces between HgTe/CdTe quantum wells and metals. <i>Physical Review B</i> , 2011 , 84,	3-3	11
42	Momentum and position detection in nanoelectromechanical systems beyond the Born and Markov approximations. <i>Physical Review B</i> , 2011 , 83,	3-3	4
41	Detecting Majorana bound states by nanomechanics. <i>Physical Review B</i> , 2011 , 84,	3-3	21
40	Entanglement transfer from electrons to photons in quantum dots: an open quantum system approach. <i>Nanotechnology</i> , 2010 , 21, 274001	3-4	7
39	Detection of qubit-oscillator entanglement in nanoelectromechanical systems. <i>Physical Review Letters</i> , 2010 , 104, 177205	7-4	16
38	Special issue on Graphene. <i>Semiconductor Science and Technology</i> , 2010 , 25, 030301	1-8	2
37	Interplay of the Aharonov-Bohm effect and Klein tunneling in graphene. <i>Physical Review B</i> , 2010 , 81,	3-3	46
36	Quantum dots and spin qubits in graphene. <i>Nanotechnology</i> , 2010 , 21, 302001	3-4	122
35	Signatures of topological order in ballistic bulk transport of HgTe quantum wells. <i>Physical Review B</i> , 2010 , 81,	3-3	14
34	Transport properties of a superconducting single-electron transistor coupled to a nanomechanical oscillator. <i>Physical Review B</i> , 2009 , 79,	3-3	8
33	Hyperfine interaction and electron-spin decoherence in graphene and carbon nanotube quantum dots. <i>Physical Review B</i> , 2009 , 80,	3-3	88
32	Bound states and magnetic field induced valley splitting in gate-tunable graphene quantum dots. <i>Physical Review B</i> , 2009 , 79,	3-3	144
31	Optical manipulation of edge-state transport in HgTe quantum wells in the quantum Hall regime. <i>Physical Review B</i> , 2009 , 79,	3-3	31
30	Temperature dependence of the conductivity of ballistic graphene. <i>Physical Review Letters</i> , 2009 , 103, 196801	7-4	50
29	Spin-orbit interaction and anomalous spin relaxation in carbon nanotube quantum dots. <i>Physical Review B</i> , 2008 , 77,	3-3	111

28	Theory of Spin Qubits in Nanostructures. <i>Journal of the Physical Society of Japan</i> , 2008 , 77, 031012	1.5	4
27	Andreev-like reflections with cold atoms. <i>Physical Review Letters</i> , 2008 , 100, 110404	7.4	17
26	ac Magnetization transport and power absorption in nonitinerant spin chains. <i>Physical Review Letters</i> , 2008 , 101, 017202	7.4	32
25	Measuring the momentum of a nanomechanical oscillator through the use of two tunnel junctions. <i>Physical Review Letters</i> , 2008 , 100, 027202	7.4	9
24	Weak-measurement theory of quantum-dot spin qubits. <i>Physical Review B</i> , 2007 , 76,	3.3	8
23	Statistics of charge transfer through impurities in strongly correlated 1D metals. <i>Annalen Der Physik</i> , 2007 , 16, 661-671	2.6	7
22	Spin qubits in graphene quantum dots. <i>Nature Physics</i> , 2007 , 3, 192-196	16.2	804
21	Photon-assisted electron transport in graphene: Scattering theory analysis. <i>Physical Review B</i> , 2007 , 75,	3.3	77
20	Negativity of the excess noise in a quantum wire capacitively coupled to a gate. <i>Physical Review B</i> , 2007 , 75,	3.3	4
19	Improved position measurement of nanoelectromechanical systems using cross correlations. <i>Physical Review B</i> , 2007 , 76,	3.3	9
18	Temperature dependence of coulomb drag between finite-length quantum wires. <i>Physical Review Letters</i> , 2007 , 99, 086404	7.4	8
17	Aharonov-Bohm effect and broken valley degeneracy in graphene rings. <i>Physical Review B</i> , 2007 , 76,	3.3	215
16	Shot-noise detection in a carbon nanotube quantum dot. <i>Physical Review Letters</i> , 2006 , 96, 026803	7.4	111
15	Parity meter for charge qubits: An efficient quantum entangler. <i>Physical Review B</i> , 2006 , 73,	3.3	62
14	Sub-Poissonian shot noise in graphene. <i>Physical Review Letters</i> , 2006 , 96, 246802	7.4	693
13	Optimal spin-entangled electron-hole pair pump. <i>Physical Review Letters</i> , 2005 , 94, 186804	7.4	44
12	Transfer of entanglement from electrons to photons by optical selection rules. <i>New Journal of Physics</i> , 2005 , 7, 186-186	2.9	11
11	Transport properties of single-channel quantum wires with an impurity: Influence of finite length and temperature on average current and noise. <i>Physical Review B</i> , 2005 , 71,	3.3	70

10	Current fluctuations in an interacting quantum dot. <i>Physical Review Letters</i> , 2005 , 94, 166803	7.4	21
9	Emission of polarization-entangled microwave photons from a pair of quantum dots. <i>Physical Review Letters</i> , 2005 , 95, 127401	7.4	27
8	Effect of interactions on the noise of chiral Luttinger liquid systems. <i>Physical Review B</i> , 2004 , 70,	3.3	9
7	Appearance of fractional charge in the noise of nonchiral Luttinger liquids. <i>Physical Review Letters</i> , 2004 , 92, 226405	7.4	57
6	Transport theory of carbon nanotube Y junctions. <i>New Journal of Physics</i> , 2003 , 5, 117-117	2.9	23
5	Oscillatory nonlinear conductance of an interacting quantum wire with an impurity. <i>Physical Review Letters</i> , 2003 , 91, 266402	7.4	31
4	Long-wavelength spatial oscillations of high-frequency current noise in one-dimensional electron systems. <i>Physical Review B</i> , 2003 , 67,	3.3	4
3	How irrelevant operators affect the determination of fractional charge. <i>Physical Review Letters</i> , 2003 , 91, 026801	7.4	5
2	Landauer-type transport theory for interacting quantum wires: application to carbon nanotube y junctions. <i>Physical Review Letters</i> , 2002 , 89, 226404	7.4	56
1	Coulomb drag shot noise in coupled Luttinger liquids. <i>Physical Review Letters</i> , 2002 , 88, 116401	7.4	29