

Duncan Haldane

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.

106
papers

24,925
citations

56
h-index

109
g-index

109
ext. papers

27,533
ext. citations

5.3
avg, IF

7.51
L-index

#	Paper	IF	Citations
106	Gauge-invariant perturbation expansion in powers of electric charge for the density-of-states of a network model for charged-particle motion in a uniform background magnetic flux density. <i>Journal of Mathematical Physics</i> , 2021 , 62, 071901	1.2	
105	Stability of the particle-hole Pfaffian state and the 52-fractional quantum Hall effect. <i>Physical Review B</i> , 2021 , 104,	3.3	5
104	Graviton chirality and topological order in the half-filled Landau level. <i>Physical Review B</i> , 2021 , 104,	3.3	4
103	Non-Abelian statistics in one dimension: Topological momentum spacings and SU(2) level-k fusion rules. <i>Physical Review B</i> , 2019 , 100,	3.3	3
102	Chiral Gravitons in Fractional Quantum Hall Liquids. <i>Physical Review Letters</i> , 2019 , 123, 146801	7.4	11
101	Lattice Monte Carlo for quantum Hall states on a torus. <i>Physical Review B</i> , 2019 , 99,	3.3	9
100	Topological Nodal Cooper Pairing in Doped Weyl Metals. <i>Physical Review Letters</i> , 2018 , 120, 067003	7.4	39
99	Geometry of flux attachment in anisotropic fractional quantum Hall states. <i>Physical Review B</i> , 2018 , 98,	3.3	3
98	A modular-invariant modified Weierstrass sigma-function as a building block for lowest-Landau-level wavefunctions on the torus. <i>Journal of Mathematical Physics</i> , 2018 , 59, 071901	1.2	11
97	The origin of holomorphic states in Landau levels from non-commutative geometry and a new formula for their overlaps on the torus. <i>Journal of Mathematical Physics</i> , 2018 , 59, 081901	1.2	10
96	Berry Phase and Model Wave Function in the Half-Filled Landau Level. <i>Physical Review Letters</i> , 2018 , 121, 147202	7.4	18
95	Pomeranchuk Instability of Composite Fermi Liquids. <i>Physical Review Letters</i> , 2018 , 121, 147601	7.4	13
94	Fractional quantum Hall bilayers at half filling: Tunneling-driven non-Abelian phase. <i>Physical Review B</i> , 2016 , 94,	3.3	17
93	Probing the geometry of the Laughlin state. <i>New Journal of Physics</i> , 2016 , 18, 025011	2.9	20
92	Topological characterization of the non-Abelian Moore-Read state using density-matrix renormalization group. <i>Physical Review B</i> , 2015 , 92,	3.3	14
91	Fractional Quantum Hall States at $\nu=13/5$ and $12/5$ and Their Non-Abelian Nature. <i>Physical Review Letters</i> , 2015 , 115, 126805	7.4	26
90	Entanglement Entropy of the $\nu=1/2$ Composite Fermion Non-Fermi Liquid State. <i>Physical Review Letters</i> , 2015 , 114, 206402	7.4	27

89	Identifying non-Abelian topological order through minimal entangled states. <i>Physical Review Letters</i> , 2014 , 112, 096803	7.4	19
88	Nature of quasielectrons and the continuum of neutral bulk excitations in Laughlin quantum Hall fluids. <i>Physical Review Letters</i> , 2014 , 112, 026804	7.4	13
87	Comment on Weyl fermions and the anomalous Hall effect in metallic ferromagnets \square <i>Physical Review B</i> , 2014 , 89,	3.3	23
86	Guiding-center Hall viscosity and intrinsic dipole moment along edges of incompressible fractional quantum Hall fluids. <i>Physical Review B</i> , 2014 , 90,	3.3	21
85	Minimal entangled states and modular matrix for fractional quantum Hall effect in topological flat bands. <i>Physical Review B</i> , 2013 , 88,	3.3	31
84	Quantum phase transitions and the $\nu=5/2$ fractional Hall state in wide quantum wells. <i>Physical Review Letters</i> , 2012 , 109, 266806	7.4	29
83	Band mass anisotropy and the intrinsic metric of fractional quantum Hall systems. <i>Physical Review B</i> , 2012 , 85,	3.3	72
82	Model wave functions for the collective modes and the magnetoroton theory of the fractional quantum Hall effect. <i>Physical Review Letters</i> , 2012 , 108, 256807	7.4	49
81	Model anisotropic quantum Hall states. <i>Physical Review B</i> , 2012 , 85,	3.3	59
80	Geometrical description of the fractional quantum Hall effect. <i>Physical Review Letters</i> , 2011 , 107, 116807	7.4	180
79	Fractional quantum Hall states at $\nu=13$ and $\nu=52$ filling: Density-matrix renormalization group calculations. <i>Physical Review B</i> , 2011 , 83,	3.3	28
78	The hierarchical structure in the orbital entanglement spectrum of fractional quantum Hall systems. <i>New Journal of Physics</i> , 2011 , 13, 105001	2.9	21
77	Particle-hole symmetry breaking and the $\nu=52$ fractional quantum Hall effect. <i>Physical Review B</i> , 2009 , 80,	3.3	53
76	Mapping the braiding properties of the Moore-Read state. <i>Physical Review B</i> , 2009 , 80,	3.3	30
75	Topological entanglement and clustering of Jain hierarchy states. <i>Physical Review Letters</i> , 2009 , 103, 016801	7.4	89
74	Clustering properties and model wave functions for non-Abelian fractional quantum Hall quasielectrons. <i>Physical Review Letters</i> , 2009 , 102, 066802	7.4	58
73	Model fractional quantum Hall states and Jack polynomials. <i>Physical Review Letters</i> , 2008 , 100, 246802	7.4	202
72	Analogues of quantum-Hall-effect edge states in photonic crystals. <i>Physical Review A</i> , 2008 , 78,	2.6	701

71	Possible realization of directional optical waveguides in photonic crystals with broken time-reversal symmetry. <i>Physical Review Letters</i> , 2008 , 100, 013904	7.4	1480
70	Entanglement spectrum as a generalization of entanglement entropy: identification of topological order in non-Abelian fractional quantum Hall effect states. <i>Physical Review Letters</i> , 2008 , 101, 010504	7.4	931
69	Generalized clustering conditions of Jack polynomials at negative Jack parameter λ . <i>Physical Review B</i> , 2008 , 77,	3.3	73
68	Properties of non-Abelian fractional quantum Hall states at filling $\nu = k/r$. <i>Physical Review Letters</i> , 2008 , 101, 246806	7.4	65
67	Broken-symmetry states of Dirac fermions in graphene with a partially filled high Landau level. <i>Physical Review Letters</i> , 2008 , 100, 116802	7.4	13
66	Odd-integer quantum Hall effect in graphene: interaction and disorder effects. <i>Physical Review Letters</i> , 2007 , 99, 196802	7.4	64
65	Quantum spin-Hall effect and topologically invariant Chern numbers. <i>Physical Review Letters</i> , 2006 , 97, 036808	7.4	413
64	Nondissipative spin Hall effect via quantized edge transport. <i>Physical Review Letters</i> , 2005 , 95, 136602	7.4	162
63	Spin Hall effect and spin transfer in a disordered Rashba model. <i>Physical Review B</i> , 2005 , 72,	3.3	35
62	Mobility gap in fractional quantum Hall liquids: Effects of disorder and layer thickness. <i>Physical Review B</i> , 2005 , 72,	3.3	38
61	Berry curvature on the fermi surface: anomalous Hall effect as a topological fermi-liquid property. <i>Physical Review Letters</i> , 2004 , 93, 206602	7.4	440
60	Exact diagonalization study of domain structure in integer filling factor quantum Hall ferromagnets. <i>Physical Review B</i> , 2003 , 67,	3.3	12
59	Disorder-driven collapse of the mobility gap and transition to an insulator in the fractional quantum Hall effect. <i>Physical Review Letters</i> , 2003 , 90, 256802	7.4	57
58	Wigner crystals in the lowest Landau level at low-filling factors. <i>Physical Review B</i> , 2001 , 64,	3.3	68
57	Stripes and Pairing in the $\nu = 5/2$ Quantum Hall Effect 2001 , 203-213		
56	Spontaneous breakdown of translational symmetry in quantum hall systems: crystalline order in high landau levels. <i>Physical Review Letters</i> , 2000 , 85, 5396-9	7.4	70
55	Incompressible paired hall state, stripe order, and the composite fermion liquid phase in half-filled landau levels. <i>Physical Review Letters</i> , 2000 , 84, 4685-8	7.4	309
54	Charge-Density-Wave Ordering in Half-Filled High Landau Levels. <i>Physical Review Letters</i> , 1999 , 83, 1219-1222	7.4	123

53	Landau Level Mixing and Levitation of Extended States in Two Dimensions. <i>Physical Review Letters</i> , 1997 , 78, 298-301	7.4	43
52	Topological phase transition in the $\nu = 2/3$ quantum Hall effect. <i>Physical Review B</i> , 1996 , 53, 15845-15855	5.3	29
51	Single-particle Green's functions of the Calogero-Sutherland model at couplings $\lambda = 1/2, 1,$ and 2 . <i>Physical Review B</i> , 1995 , 52, 8729-8746	3.3	28
50	Stability of chiral Luttinger liquids and Abelian quantum Hall states. <i>Physical Review Letters</i> , 1995 , 74, 2090-2093	7.4	117
49	Quantized spin currents in two-dimensional chiral magnets. <i>Physical Review B</i> , 1995 , 52, 4223-4225	3.3	37
48	Integrals of motion of the Haldane-Shastry model. <i>Journal of Physics A</i> , 1995 , 28, 2369-2377		22
47	Elementary excitations of one-dimensional t-J model with inverse-square exchange. <i>Physical Review Letters</i> , 1994 , 73, 2887-2890	7.4	36
46	Dynamical $T=0$ correlations of the $S=1/2$ one-dimensional Heisenberg antiferromagnet with $1/r^2$ exchange in a magnetic field. <i>Physical Review B</i> , 1994 , 50, 6889-6899	3.3	28
45	Laughlin state on stretched and squeezed cylinders and edge excitations in the quantum Hall effect. <i>Physical Review B</i> , 1994 , 50, 17199-17207	3.3	89
44	Physics of the Ideal Semion Gas: Spinons and Quantum Symmetries of the Integrable Haldane-Shastry Spin Chain. <i>Springer Series in Solid-state Sciences</i> , 1994 , 3-20	0.4	19
43	Yang-Baxter equation in long-range interacting systems. <i>Journal of Physics A</i> , 1993 , 26, 5219-5236		200
42	Squeezed strings and Yangian symmetry of the Heisenberg chain with long-range interaction. <i>Physical Review B</i> , 1993 , 47, 12459-12469	3.3	33
41	Exact calculation of the ground-state dynamical spin correlation function of a $S=1/2$ antiferromagnetic Heisenberg chain with free spinons. <i>Physical Review Letters</i> , 1993 , 71, 4055-4058	7.4	87
40	Models with inverse-square exchange. <i>Physical Review B</i> , 1992 , 46, 9359-9368	3.3	131
39	Yangian symmetry of integrable quantum chains with long-range interactions and a new description of states in conformal field theory. <i>Physical Review Letters</i> , 1992 , 69, 2021-2025	7.4	245
38	"Fractional statistics" in arbitrary dimensions: A generalization of the Pauli principle. <i>Physical Review Letters</i> , 1991 , 67, 937-940	7.4	755
37	"Spinon gas" description of the $S=1/2$ Heisenberg chain with inverse-square exchange: Exact spectrum and thermodynamics. <i>Physical Review Letters</i> , 1991 , 66, 1529-1532	7.4	252
36	Lowest-order Landau-level mixing corrections for $4 \geq \nu > 2$ quantum Hall effect. <i>Physical Review B</i> , 1990 , 42, 4532-4536	3.3	21

35	Model for a quantum Hall effect without Landau levels: Condensed-matter realization of the "parity anomaly". <i>Physical Review Letters</i> , 1988 , 61, 2015-2018	7.4	3442
34	Exact Jastrow-Gutzwiller resonating-valence-bond ground state of the spin-(1/2 antiferromagnetic Heisenberg chain with 1/r2 exchange. <i>Physical Review Letters</i> , 1988 , 60, 635-638	7.4	668
33	Extended Heisenberg models of antiferromagnetism: Analogies to the fractional quantum Hall effect. <i>Physical Review Letters</i> , 1988 , 60, 531-534	7.4	247
32	Spin-singlet wave function for the half-integral quantum Hall effect. <i>Physical Review Letters</i> , 1988 , 60, 956-959	7.4	265
31	O(3) nonlinear sigma model and the topological distinction between integer- and half-integer-spin antiferromagnets in two dimensions. <i>Physical Review Letters</i> , 1988 , 61, 1029-1032	7.4	424
30	Off-diagonal long-range order in fractional quantum-Hall-effect states. <i>Physical Review Letters</i> , 1988 , 61, 1985-1988	7.4	50
29	Localization, wave-function topology, and the integer quantized Hall effect. <i>Physical Review Letters</i> , 1988 , 60, 619-622	7.4	82
28	Comment on "Observation of Berry's topological phase by use of an optical fiber". <i>Physical Review Letters</i> , 1987 , 59, 1788	7.4	23
27	Critical theory of quantum spin chains. <i>Physical Review B</i> , 1987 , 36, 5291-5300	3.3	465
26	Impurity effect, degeneracy, and topological invariant in the quantum Hall effect. <i>Physical Review B</i> , 1986 , 33, 3844-3850	3.3	66
25	Geometrical interpretation of momentum and crystal momentum of classical and quantum ferromagnetic Heisenberg chains. <i>Physical Review Letters</i> , 1986 , 57, 1488-1491	7.4	72
24	Path dependence of the geometric rotation of polarization in optical fibers. <i>Optics Letters</i> , 1986 , 11, 730-2	3	92
23	Physics and quantum spin chains (abstract). <i>Journal of Applied Physics</i> , 1985 , 57, 3359-3359	2.5	146
22	Quantum dynamics and statistics of vortices in two-dimensional superfluids. <i>Physical Review Letters</i> , 1985 , 55, 2887-2890	7.4	117
21	Periodic Laughlin-Jastrow wave functions for the fractional quantized Hall effect. <i>Physical Review B</i> , 1985 , 31, 2529-2531	3.3	262
20	Incompressible states of the fractionally quantized Hall effect in the presence of impurities: A finite-size study. <i>Physical Review B</i> , 1985 , 32, 6924-6927	3.3	57
19	Finite-size studies of the incompressible state of the fractionally quantized Hall effect and its excitations. <i>Physical Review Letters</i> , 1985 , 54, 237-240	7.4	376
18	Many-particle translational symmetries of two-dimensional electrons at rational Landau-level filling. <i>Physical Review Letters</i> , 1985 , 55, 2095-2098	7.4	246

17	Nonlinear Field Theory of Large-Spin Heisenberg Antiferromagnets: Semiclassically Quantized Solitons of the One-Dimensional Easy-Axis Nöel State. <i>Physical Review Letters</i> , 1983 , 50, 1153-1156	7.4	2766
16	Phase diagrams of surface structures from Bethe-ansatz solutions of the quantum sine-Gordon model. <i>Physical Review B</i> , 1983 , 28, 2743-2745	3.3	79
15	Elementary excitations of the quantum sine-Gordon model in the massless regime $\mu > 8\pi$ Derivation from the XXZ model. <i>Physical Review B</i> , 1983 , 28, 2505-2508	3.3	1
14	Fractional Quantization of the Hall Effect: A Hierarchy of Incompressible Quantum Fluid States. <i>Physical Review Letters</i> , 1983 , 51, 605-608	7.4	1655
13	Effective Harmonic-Fluid Approach to Low-Energy Properties of One-Dimensional Quantum Fluids.. <i>Physical Review Letters</i> , 1982 , 48, 569-569	7.4	11
12	Excitation spectrum of a generalised Heisenberg ferromagnetic spin chain with arbitrary spin. <i>Journal of Physics C: Solid State Physics</i> , 1982 , 15, L1309-L1313		47
11	Quantum field ground state of the sine-Gordon model with finite soliton density: exact results. <i>Journal of Physics A</i> , 1982 , 15, 507-525		45
10	Spontaneous dimerization in the S=1/2 Heisenberg antiferromagnetic chain with competing interactions. <i>Physical Review B</i> , 1982 , 25, 4925-4928	3.3	424
9	The soliton wavenumber cut-off and the excitation spectrum of the 1-D Heisenberg ferromagnet in the semiclassical continuum approximation. <i>Journal of Physics C: Solid State Physics</i> , 1982 , 15, L831-L835		15
8	Effective Harmonic-Fluid Approach to Low-Energy Properties of One-Dimensional Quantum Fluids. <i>Physical Review Letters</i> , 1981 , 47, 1840-1843	7.4	943
7	'Luttinger liquid theory' of one-dimensional quantum fluids. I. Properties of the Luttinger model and their extension to the general 1D interacting spinless Fermi gas. <i>Journal of Physics C: Solid State Physics</i> , 1981 , 14, 2585-2609		1894
6	General Relation of Correlation Exponents and Spectral Properties of One-Dimensional Fermi Systems: Application to the Anisotropic S=1/2 Heisenberg Chain. <i>Physical Review Letters</i> , 1980 , 45, 1358-1362	7.4	645
5	Coupling between charge and spin degrees of freedom in the one-dimensional Fermi gas with backscattering. <i>Journal of Physics C: Solid State Physics</i> , 1979 , 12, 4791-4799		43
4	Scaling Theory of the Asymmetric Anderson Model. <i>Physical Review Letters</i> , 1978 , 40, 416-419	7.4	455
3	Theory of the atomic limit of the Anderson model. I. Perturbation expansions re-examined. <i>Journal of Physics C: Solid State Physics</i> , 1978 , 11, 5015-5034		118
2	Hartree-Fock study of the Anderson model coupled to a boson field; mixed valence states. <i>Physical Review B</i> , 1977 , 15, 281-289	3.3	62
1	New model for the mixed-valence phenomenon in rare-earth materials. <i>Physical Review B</i> , 1977 , 15, 2477-2484	3.3	47