

# J E Avron

## List of Publications by Year in descending order

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139  
papers

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citations

46918

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43802

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141  
all docs

141  
docs citations

141  
times ranked

3997  
citing authors

#	ARTICLE	IF	CITATIONS
1	Entangled Photon Pairs from Semiconductor Quantum Dots. Physical Review Letters, 2006, 96, 130501.	2.9	761
2	Homotopy and Quantization in Condensed Matter Physics. Physical Review Letters, 1983, 51, 51-53.	2.9	486
3	Schrödinger operators with magnetic fields. I. general interactions. Duke Mathematical Journal, 1978, 45, 847.	0.8	366
4	Separation of center of mass in homogeneous magnetic fields. Annals of Physics, 1978, 114, 431-451.	1.0	328
5	Viscosity of Quantum Hall Fluids. Physical Review Letters, 1995, 75, 697-700.	2.9	296
6	Almost periodic Schrödinger operators II. The integrated density of states. Duke Mathematical Journal, 1983, 50, 369.	0.8	230
7	Quantization of the Hall Conductance for General, Multiparticle Schrödinger Hamiltonians. Physical Review Letters, 1985, 54, 259-262.	2.9	221
8	Adiabatic theorems and applications to the quantum hall effect. Communications in Mathematical Physics, 1987, 110, 33-49.	1.0	207
9	Odd Viscosity. Journal of Statistical Physics, 1998, 92, 543-557.	0.5	200
10	Schrödinger operators with magnetic fields. Communications in Mathematical Physics, 1981, 79, 529-572.	1.0	190
11	Spectral and scattering theory of Schrödinger operators related to the stark effect. Communications in Mathematical Physics, 1977, 52, 239-254.	1.0	188
12	Roughening Transition in the He4 Solid-Superfluid Interface. Physical Review Letters, 1980, 45, 814-817.	2.9	183
13	Pushmepullyou: an efficient micro-swimmer. New Journal of Physics, 2005, 7, 234-234.	1.2	180
14	Adiabatic Theorem without a Gap Condition. Communications in Mathematical Physics, 1999, 203, 445-463.	1.0	176
15	Adiabatic quantum transport in multiply connected systems. Reviews of Modern Physics, 1988, 60, 873-915.	16.4	171
16	The Index of a Pair of Projections. Journal of Functional Analysis, 1994, 120, 220-237.	0.7	157
17	A Topological Look at the Quantum Hall Effect. Physics Today, 2003, 56, 38-42.	0.3	152
18	Optimal Swimming at Low Reynolds Numbers. Physical Review Letters, 2004, 93, 186001.	2.9	146

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19	Geometry, statistics, and asymptotics of quantum pumps. <i>Physical Review B</i> , 2000, 62, R10618-R10621.	1.1	135
20	Singular continuous spectrum for a class of almost periodic Jacobi matrices. <i>Bulletin of the American Mathematical Society</i> , 1982, 6, 81-85.	0.8	126
21	Charge deficiency, charge transport and comparison of dimensions. <i>Communications in Mathematical Physics</i> , 1994, 159, 399-422.	1.0	125
22	Optimal Quantum Pumps. <i>Physical Review Letters</i> , 2001, 87, 236601.	2.9	123
23	Almost periodic Schrödinger operators. <i>Communications in Mathematical Physics</i> , 1981, 82, 101-120.	1.0	122
24	Relation between persistent currents and the scattering matrix. <i>Physical Review Letters</i> , 1991, 66, 76-79.	2.9	118
25	Roughening transition, surface tension and equilibrium droplet shapes in a two-dimensional Ising system. <i>Journal of Physics A</i> , 1982, 15, L81-L86.	1.6	117
26	Periodic Schrödinger operators with large gaps and Wannier-Stark ladders. <i>Physical Review Letters</i> , 1994, 72, 896-899.	2.9	113
27	Chern numbers, quaternions, and Berry's phases in Fermi systems. <i>Communications in Mathematical Physics</i> , 1989, 124, 595-627.	1.0	109
28	The lifetime of Wannier ladder states. <i>Annals of Physics</i> , 1982, 143, 33-53.	1.0	92
29	Total surface energy and equilibrium shapes: Exact results for the $d=2$ Ising crystal. <i>Physical Review B</i> , 1982, 25, 2042-2045.	1.1	90
30	Topological Invariants in Fermi Systems with Time-Reversal Invariance. <i>Physical Review Letters</i> , 1988, 61, 1329-1332.	2.9	90
31	Bender-Wu formulas for the Zeeman effect in hydrogen. <i>Annals of Physics</i> , 1981, 131, 73-94.	1.0	88
32	Instability of the continuous spectrum: The Nörlund Stark ladder. <i>Journal of Mathematical Physics</i> , 1977, 18, 918-921.	0.5	87
33	On the measure of the spectrum for the almost Mathieu operator. <i>Communications in Mathematical Physics</i> , 1990, 132, 103-118.	1.0	87
34	A geometric theory of swimming: Purcell's swimmer and its symmetrized cousin. <i>New Journal of Physics</i> , 2008, 10, 063016.	1.2	80
35	Bender-Wu Formula, the $SO(4,2)$ Dynamical Group, and the Zeeman Effect in Hydrogen. <i>Physical Review Letters</i> , 1979, 43, 691-693.	2.9	73
36	Entanglement on Demand through Time Reordering. <i>Physical Review Letters</i> , 2008, 100, 120501.	2.9	73

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37	A frictionless microswimmer. <i>New Journal of Physics</i> , 2007, 9, 145-145.	1.2	67
38	Hofstadter butterfly as quantum phase diagram. <i>Journal of Mathematical Physics</i> , 2001, 42, 5665-5671.	0.5	65
39	The Zeeman effect revisited. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1977, 62, 214-216.	0.9	60
40	Adiabatic Theorems for Generators of Contracting Evolutions. <i>Communications in Mathematical Physics</i> , 2012, 314, 163-191.	1.0	59
41	Transient and recurrent spectrum. <i>Journal of Functional Analysis</i> , 1981, 43, 1-31.	0.7	58
42	Optically Induced Rotation of an Exciton Spin in a Semiconductor Quantum Dot. <i>Physical Review Letters</i> , 2011, 107, 087401.	2.9	55
43	Quantum response of dephasing open systems. <i>New Journal of Physics</i> , 2011, 13, 053042.	1.2	54
44	The asymptotics of the gap in the Mathieu equation. <i>Annals of Physics</i> , 1981, 134, 76-84.	1.0	53
45	Transport and Dissipation in Quantum Pumps. <i>Journal of Statistical Physics</i> , 2004, 116, 425-473.	0.5	51
46	Adiabatic Response for Lindblad Dynamics. <i>Journal of Statistical Physics</i> , 2012, 148, 800-823.	0.5	51
47	The summertop construction: Crystals in a corner. <i>Journal of Statistical Physics</i> , 1988, 50, 727-736.	0.5	49
48	Formation of Negative Ions in Magnetic Fields. <i>Physical Review Letters</i> , 1977, 39, 1068-1070.	2.9	47
49	Analytic properties of band functions. <i>Annals of Physics</i> , 1978, 110, 85-101.	1.0	45
50	Almost Periodic Hill's Equation and the Rings of Saturn. <i>Physical Review Letters</i> , 1981, 46, 1166-1168.	2.9	45
51	Fredholm Determinants and the Statistics of Charge Transport. <i>Communications in Mathematical Physics</i> , 2008, 280, 807-829.	1.0	45
52	Quantum Hall effect and the relative index for projections. <i>Physical Review Letters</i> , 1990, 65, 2185-2188.	2.9	44
53	Strongly bound states of hydrogen in intense magnetic field. <i>Physical Review A</i> , 1979, 20, 2287-2296.	1.0	42
54	Geometry and foams: 2D dynamics and 3D statics. <i>Physical Review Letters</i> , 1992, 69, 208-211.	2.9	39

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55	Model Calculation of Stark Ladder Resonances. <i>Physical Review Letters</i> , 1976, 37, 1568-1571.	2.9	37
56	Hall conductance and adiabatic charge transport of leaky tori. <i>Physical Review Letters</i> , 1992, 69, 128-131.	2.9	36
57	Adiabatic quantum transport in networks with macroscopic components. <i>Annals of Physics</i> , 1991, 206, 440-493.	1.0	33
58	Swimming, pumping and gliding at low Reynolds numbers. <i>New Journal of Physics</i> , 2007, 9, 437-437.	1.2	32
59	Equilibrium shapes of crystals in a gravitational field: Crystals on a table. <i>Journal of Statistical Physics</i> , 1983, 33, 493-522.	0.5	30
60	Spectra of atomic Hamiltonians in DC fields: use of the numerical range to investigate the effect of a dilatation transformation. <i>Journal of Physics B: Atomic and Molecular Physics</i> , 1978, 11, L201-L205.	1.6	28
61	Stability of gaps for periodic potentials under variation of a magnetic field. <i>Journal of Physics A</i> , 1985, 18, 2199-2205.	1.6	28
62	Semiclassical Analysis and the Magnetization of the Hofstadter Model. <i>Physical Review Letters</i> , 2003, 91, 186801.	2.9	28
63	Classification scheme for toroidal molecules. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1995, 91, 4037.	1.7	27
64	Tiling rules for toroidal molecules. <i>Physical Review A</i> , 1995, 51, 1146-1149.	1.0	26
65	Time-energy coherent states and adiabatic scattering. <i>Journal of Mathematical Physics</i> , 2002, 43, 3415-3424.	0.5	26
66	Energy uncertainty in "Stark ladders". <i>Solid State Communications</i> , 1975, 16, 189-191.	0.9	25
67	Paramagnetism for Nonrelativistic Electrons and Euclidean Massless Dirac Particles. <i>Physical Review Letters</i> , 1979, 42, 931-934.	2.9	25
68	Bender-Wu formulas for degenerate eigenvalues. <i>Physical Review A</i> , 1980, 21, 1914-1916.	1.0	25
69	Ground state degeneracy and ferromagnetism in a spin glass. <i>Journal of Statistical Physics</i> , 1981, 26, 25-36.	0.5	24
70	Adiabatic charge pumping in open quantum systems. <i>Communications on Pure and Applied Mathematics</i> , 2004, 57, 528-561.	1.2	24
71	Radiative cascade from quantum dot metastable spin-blockaded biexciton. <i>Physical Review B</i> , 2010, 82, .	1.1	24
72	Diophantine Equation for the Hall Conductance of Interacting Electrons on a Torus. <i>Physical Review Letters</i> , 1986, 56, 2084-2087.	2.9	23

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73	Entanglement and the geometry of two qubits. <i>Annals of Physics</i> , 2009, 324, 470-496.	1.0	23
74	Landau-Zener Tunneling for Dephasing Lindblad Evolutions. <i>Communications in Mathematical Physics</i> , 2011, 305, 633-639.	1.0	22
75	Adiabatic theorems for dense point spectra. <i>Communications in Mathematical Physics</i> , 1990, 128, 497-507.	1.0	21
76	Adiabatic theorem without a gap condition: Two-level system coupled to quantized radiation field. <i>Physical Review A</i> , 1998, 58, 4300-4306.	1.0	21
77	Adiabatic Quantum Transport: Quantization and Fluctuations. <i>Physical Review Letters</i> , 1994, 73, 3255-3257.	2.9	20
78	Fredholm indices and the phase diagram of quantum Hall systems. <i>Journal of Mathematical Physics</i> , 2001, 42, 1-14.	0.5	19
79	Magnetic fingerprints of fractal spectra and the duality of Hofstadter models. <i>New Journal of Physics</i> , 2003, 5, 44-44.	1.2	19
80	Born-Oppenheimer wave function near level crossing. <i>Physical Review A</i> , 2000, 62, .	1.0	18
81	Visualizing two qubits. <i>Journal of Mathematical Physics</i> , 2007, 48, 102107.	0.5	16
82	On the spectrum of $p^2+V(x)+i\mu x$ , with $V$ periodic and $i\mu$ complex. <i>Journal of Physics A</i> , 1979, 12, 2393-2398.	1.6	15
83	Chern numbers and adiabatic transport in networks with leads. <i>Physical Review Letters</i> , 1989, 62, 3082-3084.	2.9	15
84	Hamiltonians in one-electron theory of solids. I. <i>Reports on Mathematical Physics</i> , 1974, 5, 113-120.	0.4	14
85	Optimal time schedule for adiabatic evolution. <i>Physical Review A</i> , 2010, 82, .	1.0	14
86	A counterexample to the paramagnetic conjecture. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1979, 75, 41-42.	0.9	13
87	Piezoelectricity: Quantized Charge Transport Driven by Adiabatic Deformations. <i>Physical Review Letters</i> , 1997, 78, 511-514.	2.9	13
88	Born-Oppenheimer Approximation near Level Crossing. <i>Physical Review Letters</i> , 2000, 85, 34-37.	2.9	13
89	A study of the ambiguity in the solutions to the Diophantine equation for Chern numbers. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2014, 47, 185202.	0.7	13
90	Is the number of photons a classical invariant?. <i>European Journal of Physics</i> , 1999, 20, 153-159.	0.3	12

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91	Quantum response at finite fields and breakdown of Chern numbers. <i>Journal of Physics A</i> , 1999, 32, 6097-6113.	1.6	12
92	Spectral properties of reduced Bloch Hamiltonians. <i>Annals of Physics</i> , 1977, 103, 47-63.	1.0	11
93	Coincident anharmonic oscillators. <i>Physical Review D</i> , 1981, 23, 1316-1320.	1.6	11
94	Swimming in curved space or the Baron and the cat. <i>New Journal of Physics</i> , 2006, 8, 68-68.	1.2	11
95	Comment on "Optimal Stroke Patterns for Purcell's Three-Link Swimmer". <i>Physical Review Letters</i> , 2008, 100, 029801; discussion 029802.	2.9	11
96	Quantum advantage and noise reduction in distributed quantum computing. <i>Physical Review A</i> , 2021, 104, .	1.0	11
97	Stability of band structure for external fields. <i>Physical Review B</i> , 1974, 9, 658-663.	1.1	10
98	The relativistic Kronig-Penney Hamiltonian. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1976, 56, 55-57.	0.9	10
99	Integer charge transport in Josephson junctions. <i>Physical Review B</i> , 1989, 39, 756-758.	1.1	10
100	Quasienergies, Stark Hamiltonians, and growth of energy for driven quantum rings. <i>Physical Review Letters</i> , 1992, 68, 2212-2215.	2.9	10
101	Correlated and entangled pairs of single photons from semiconductor quantum dots. <i>Journal of Applied Physics</i> , 2007, 101, 081712.	1.1	10
102	Distilling entanglement from random cascades with partial "which path" ambiguity. <i>Physical Review A</i> , 2008, 77, .	1.0	10
103	Quantum Conductance in Networks. <i>Physical Review Letters</i> , 1987, 58, 2110-2113.	2.9	9
104	Transmutation of the vicinal surface exponent due to gravity. <i>Physical Review B</i> , 1988, 37, 6611-6614.	1.1	9
105	Generalized Sagnac-Wang-Fizeau formula. <i>Physical Review A</i> , 2016, 94, .	1.0	9
106	From Mathematical Physics to Analysis: A Walk in Barry Simon's Mathematical Garden, II. <i>Notices of the American Mathematical Society</i> , 2016, 63, 878-889.	0.1	8
107	Large coupling behaviour of the Lyapunov exponent for tight binding one-dimensional random systems. <i>Journal of Physics A</i> , 1983, 16, L209-L211.	1.6	7
108	Adiabatic Swimming in an Ideal Quantum Gas. <i>Physical Review Letters</i> , 2006, 96, 130602.	2.9	7

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109	An elementary introduction to the geometry of quantum states with pictures. <i>Reviews in Mathematical Physics</i> , 2020, 32, 2030001.	0.7	7
110	Bender-Wu formulas and classical trajectories: Higher dimensions and degeneracies. <i>International Journal of Quantum Chemistry</i> , 1982, 21, 119-124.	1.0	6
111	The reflection from a semi-infinite crystal of point scatterers. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1983, 94, 42-44.	0.9	5
112	On the quantum Hall effect. <i>Journal of Geometry and Physics</i> , 1984, 1, 13-23.	0.7	5
113	Optimal Rotations of Deformable Bodies and Orbits in Magnetic Fields. <i>Physical Review Letters</i> , 2004, 92, 040201.	2.9	5
114	Avron et al. Reply. <i>Physical Review Letters</i> , 2009, 103, .	2.9	5
115	Lindbladians for controlled stochastic Hamiltonians. <i>New Journal of Physics</i> , 2015, 17, 043009.	1.2	5
116	Binding of one-dimensional Bloch electrons by external fields. <i>Physical Review B</i> , 1977, 16, 711-713.	1.1	4
117	High-temperature expansion for the Coulomb lattice. <i>Annals of Physics</i> , 1977, 108, 448-453.	1.0	4
118	Colored Hofstadter Butterflies. , 2004, , 11-22.		4
119	Adiabatic curvature and the S-matrix. <i>Communications in Mathematical Physics</i> , 1996, 181, 685-702.	1.0	3
120	Braiding fluxes in Pauli Hamiltonian. <i>Annals of Physics</i> , 2014, 349, 325-349.	1.0	3
121	Roughening transition, surface tension and equilibrium droplet shapes in a two-dimensional Ising system. <i>Journal of Physics A</i> , 1982, 15, 1055-1055.	1.6	2
122	Drift and density of states in homogeneous fields without gauge fixing. <i>Physical Review B</i> , 1983, 27, 7763-7764.	1.1	2
123	Geometry and quantum transport. <i>Journal D'Analyse Mathématique</i> , 1992, 58, 1-7.	0.4	2
124	The Longuet-Higgins phase and charge transport in molecular rings. <i>Chemical Physics Letters</i> , 1998, 294, 13-18.	1.2	2
125	An Adiabatic Theorem without a Gap Condition. , 1999, , 3-12.		2
126	Geometric Forces on Point Fluxes in Quantum Hall Fluids. <i>Journal of Statistical Physics</i> , 1998, 92, 1193-1201.	0.5	1



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127	Toroidal Graphitic Molecules. Fullerenes, Nanotubes, and Carbon Nanostructures, 1998, 6, 31-37.	0.6	1
128	Smooth adiabatic evolutions with leaky power tails. Journal of Physics A, 1999, 32, L537-L546.	1.6	1
129	Quantum transport in molecular rings and chains. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 1999, 455, 2729-2750.	1.0	1
130	Entangled photon pairs from radiative cascades in semiconductor quantum dots. Physica Status Solidi (B): Basic Research, 2006, 243, 3900-3904.	0.7	1
131	Relativistically exact eikonal equation for optical fibers with application to adiabatically deforming ring interferometers. Physical Review A, 2016, 94, .	1.0	1
132	The determination of one-dimensional bands by fibres. Journal of Physics A, 1977, 10, 339-342.	1.6	0
133	Recombination in steady supersonic flow in devices for laser isotope separation. Applied Physics Berlin, 1979, 18, 205-209.	1.4	0
134	Entangled photon pairs from radiative cascades in semiconductor quantum dots. , 2006, , .		0
135	The Wigner Medal 2014. Journal of Physics: Conference Series, 2015, 597, 011004.	0.3	0
136	Teleportation for Septuagenarians. Journal of Statistical Physics, 2018, 172, 555-561.	0.5	0
137	Entangled States of Photon Pairs from Radiative Cascades in Semiconductor Quantum Dots. , 2007, , .		0
138	Entanglement on demand through time reordering. , 2008, , .		0
139	The Zeeman Effect Revisited. Current Physics Sources and Comments, 1990, 7, 244-246.	0.0	0