

J E Avron

List of Publications by Year in descending order

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139
papers

8,527
citations

46918

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all docs

141
docs citations

141
times ranked

3997
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum advantage and noise reduction in distributed quantum computing. <i>Physical Review A</i> , 2021, 104, .	1.0	11
2	An elementary introduction to the geometry of quantum states with pictures. <i>Reviews in Mathematical Physics</i> , 2020, 32, 2030001.	0.7	7
3	Teleportation for Septuagenarians. <i>Journal of Statistical Physics</i> , 2018, 172, 555-561.	0.5	0
4	Generalized Sagnac-Wang-Fizeau formula. <i>Physical Review A</i> , 2016, 94, .	1.0	9
5	Relativistically exact eikonal equation for optical fibers with application to adiabatically deforming ring interferometers. <i>Physical Review A</i> , 2016, 94, .	1.0	1
6	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
7	The Wigner Medal 2014. <i>Journal of Physics: Conference Series</i> , 2015, 597, 011004.	0.3	0
8	Lindbladians for controlled stochastic Hamiltonians. <i>New Journal of Physics</i> , 2015, 17, 043009.	1.2	5
9	Braiding fluxes in Pauli Hamiltonian. <i>Annals of Physics</i> , 2014, 349, 325-349.	1.0	3
10	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
11	Adiabatic Theorems for Generators of Contracting Evolutions. <i>Communications in Mathematical Physics</i> , 2012, 314, 163-191.	1.0	59
12	Adiabatic Response for Lindblad Dynamics. <i>Journal of Statistical Physics</i> , 2012, 148, 800-823.	0.5	51
13	Optically Induced Rotation of an Exciton Spin in a Semiconductor Quantum Dot. <i>Physical Review Letters</i> , 2011, 107, 087401.	2.9	55
14	Landau-Zener Tunneling for Dephasing Lindblad Evolutions. <i>Communications in Mathematical Physics</i> , 2011, 305, 633-639.	1.0	22
15	Quantum response of dephasing open systems. <i>New Journal of Physics</i> , 2011, 13, 053042.	1.2	54
16	Optimal time schedule for adiabatic evolution. <i>Physical Review A</i> , 2010, 82, .	1.0	14
17	Radiative cascade from quantum dot metastable spin-blockaded biexciton. <i>Physical Review B</i> , 2010, 82, .	1.1	24
18	Entanglement and the geometry of two qubits. <i>Annals of Physics</i> , 2009, 324, 470-496.	1.0	23

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19	Avron et al. Reply: Physical Review Letters, 2009, 103, .	2.9	5
20	Fredholm Determinants and the Statistics of Charge Transport. Communications in Mathematical Physics, 2008, 280, 807-829.	1.0	45
21	A geometric theory of swimming: Purcell's swimmer and its symmetrized cousin. New Journal of Physics, 2008, 10, 063016.	1.2	80
22	Distilling entanglement from random cascades with partial "which path" ambiguity. Physical Review A, 2008, 77, .	1.0	10
23	Entanglement on Demand through Time Reordering. Physical Review Letters, 2008, 100, 120501.	2.9	73
24	Comment on "Optimal Stroke Patterns for Purcell's Three-Link Swimmer" Physical Review Letters, 2008, 100, 029801; discussion 029802.	2.9	11
25	Entanglement on demand through time reordering. , 2008, , .		0
26	Swimming, pumping and gliding at low Reynolds numbers. New Journal of Physics, 2007, 9, 437-437.	1.2	32
27	A frictionless microswimmer. New Journal of Physics, 2007, 9, 145-145.	1.2	67
28	Visualizing two qubits. Journal of Mathematical Physics, 2007, 48, 102107.	0.5	16
29	Correlated and entangled pairs of single photons from semiconductor quantum dots. Journal of Applied Physics, 2007, 101, 081712.	1.1	10
30	Entangled States of Photon Pairs from Radiative Cascades in Semiconductor Quantum Dots. , 2007, , .		0
31	Adiabatic Swimming in an Ideal Quantum Gas. Physical Review Letters, 2006, 96, 130602.	2.9	7
32	Entangled Photon Pairs from Semiconductor Quantum Dots. Physical Review Letters, 2006, 96, 130501.	2.9	761
33	Entangled photon pairs from radiative cascades in semiconductor quantum dots. Physica Status Solidi (B): Basic Research, 2006, 243, 3900-3904.	0.7	1
34	Swimming in curved space or the Baron and the cat. New Journal of Physics, 2006, 8, 68-68.	1.2	11
35	Entangled photon pairs from radiative cascades in semiconductor quantum dots. , 2006, , .		0
36	Pushmepullyou: an efficient micro-swimmer. New Journal of Physics, 2005, 7, 234-234.	1.2	180

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37	Optimal Rotations of Deformable Bodies and Orbits in Magnetic Fields. Physical Review Letters, 2004, 92, 040201.	2.9	5
38	Transport and Dissipation in Quantum Pumps. Journal of Statistical Physics, 2004, 116, 425-473.	0.5	51
39	Adiabatic charge pumping in open quantum systems. Communications on Pure and Applied Mathematics, 2004, 57, 528-561.	1.2	24
40	Optimal Swimming at Low Reynolds Numbers. Physical Review Letters, 2004, 93, 186001.	2.9	146
41	Colored Hofstadter Butterflies. , 2004, , 11-22.		4
42	A Topological Look at the Quantum Hall Effect. Physics Today, 2003, 56, 38-42.	0.3	152
43	Semiclassical Analysis and the Magnetization of the Hofstadter Model. Physical Review Letters, 2003, 91, 186801.	2.9	28
44	Magnetic fingerprints of fractal spectra and the duality of Hofstadter models. New Journal of Physics, 2003, 5, 44-44.	1.2	19
45	Time-energy coherent states and adiabatic scattering. Journal of Mathematical Physics, 2002, 43, 3415-3424.	0.5	26
46	Hofstadter butterfly as quantum phase diagram. Journal of Mathematical Physics, 2001, 42, 5665-5671.	0.5	65
47	Optimal Quantum Pumps. Physical Review Letters, 2001, 87, 236601.	2.9	123
48	Fredholm indices and the phase diagram of quantum Hall systems. Journal of Mathematical Physics, 2001, 42, 1-14.	0.5	19
49	Born-Oppenheimer wave function near level crossing. Physical Review A, 2000, 62, .	1.0	18
50	Geometry, statistics, and asymptotics of quantum pumps. Physical Review B, 2000, 62, R10618-R10621.	1.1	135
51	Born-Oppenheimer Approximation near Level Crossing. Physical Review Letters, 2000, 85, 34-37.	2.9	13
52	Smooth adiabatic evolutions with leaky power tails. Journal of Physics A, 1999, 32, L537-L546.	1.6	1
53	Is the number of photons a classical invariant?. European Journal of Physics, 1999, 20, 153-159.	0.3	12
54	Quantum response at finite fields and breakdown of Chern numbers. Journal of Physics A, 1999, 32, 6097-6113.	1.6	12

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55	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
56	Adiabatic Theorem without a Gap Condition. Communications in Mathematical Physics, 1999, 203, 445-463.	1.0	176
57	An Adiabatic Theorem without a Gap Condition. , 1999, , 3-12.		2
58	The Longuet-Higgins phase and charge transport in molecular rings. Chemical Physics Letters, 1998, 294, 13-18.	1.2	2
59	Odd Viscosity. Journal of Statistical Physics, 1998, 92, 543-557.	0.5	200
60	Geometric Forces on Point Fluxes in Quantum Hall Fluids. Journal of Statistical Physics, 1998, 92, 1193-1201.	0.5	1
61	Adiabatic theorem without a gap condition: Two-level system coupled to quantized radiation field. Physical Review A, 1998, 58, 4300-4306.	1.0	21
62	Toroidal Graphitic Molecules. Fullerenes, Nanotubes, and Carbon Nanostructures, 1998, 6, 31-37.	0.6	1
63	Piezoelectricity: Quantized Charge Transport Driven by Adiabatic Deformations. Physical Review Letters, 1997, 78, 511-514.	2.9	13
64	Adiabatic curvature and the S-matrix. Communications in Mathematical Physics, 1996, 181, 685-702.	1.0	3
65	Viscosity of Quantum Hall Fluids. Physical Review Letters, 1995, 75, 697-700.	2.9	296
66	Classification scheme for toroidal molecules. Journal of the Chemical Society, Faraday Transactions, 1995, 91, 4037.	1.7	27
67	Tiling rules for toroidal molecules. Physical Review A, 1995, 51, 1146-1149.	1.0	26
68	Adiabatic Quantum Transport: Quantization and Fluctuations. Physical Review Letters, 1994, 73, 3255-3257.	2.9	20
69	Periodic Schrödinger operators with large gaps and Wannier-Stark ladders. Physical Review Letters, 1994, 72, 896-899.	2.9	113
70	Charge deficiency, charge transport and comparison of dimensions. Communications in Mathematical Physics, 1994, 159, 399-422.	1.0	125
71	The Index of a Pair of Projections. Journal of Functional Analysis, 1994, 120, 220-237.	0.7	157
72	Geometry and foams: 2D dynamics and 3D statics. Physical Review Letters, 1992, 69, 208-211.	2.9	39

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73	Hall conductance and adiabatic charge transport of leaky tori. <i>Physical Review Letters</i> , 1992, 69, 128-131.	2.9	36
74	Quasienergies, Stark Hamiltonians, and growth of energy for driven quantum rings. <i>Physical Review Letters</i> , 1992, 68, 2212-2215.	2.9	10
75	Geometry and quantum transport. <i>Journal D'Analyse Mathematique</i> , 1992, 58, 1-7.	0.4	2
76	Adiabatic quantum transport in networks with macroscopic components. <i>Annals of Physics</i> , 1991, 206, 440-493.	1.0	33
77	Relation between persistent currents and the scattering matrix. <i>Physical Review Letters</i> , 1991, 66, 76-79.	2.9	118
78	On the measure of the spectrum for the almost Mathieu operator. <i>Communications in Mathematical Physics</i> , 1990, 132, 103-118.	1.0	87
79	Adiabatic theorems for dense point spectra. <i>Communications in Mathematical Physics</i> , 1990, 128, 497-507.	1.0	21
80	Quantum Hall effect and the relative index for projections. <i>Physical Review Letters</i> , 1990, 65, 2185-2188.	2.9	44
81	The Zeeman Effect Revisited. <i>Current Physics Sources and Comments</i> , 1990, 7, 244-246.	0.0	0
82	Integer charge transport in Josephson junctions. <i>Physical Review B</i> , 1989, 39, 756-758.	1.1	10
83	Chern numbers and adiabatic transport in networks with leads. <i>Physical Review Letters</i> , 1989, 62, 3082-3084.	2.9	15
84	Chern numbers, quaternions, and Berry's phases in Fermi systems. <i>Communications in Mathematical Physics</i> , 1989, 124, 595-627.	1.0	109
85	The summertop construction: Crystals in a corner. <i>Journal of Statistical Physics</i> , 1988, 50, 727-736.	0.5	49
86	Adiabatic quantum transport in multiply connected systems. <i>Reviews of Modern Physics</i> , 1988, 60, 873-915.	16.4	171
87	Topological Invariants in Fermi Systems with Time-Reversal Invariance. <i>Physical Review Letters</i> , 1988, 61, 1329-1332.	2.9	90
88	Transmutation of the vicinal surface exponent due to gravity. <i>Physical Review B</i> , 1988, 37, 6611-6614.	1.1	9
89	Quantum Conductance in Networks. <i>Physical Review Letters</i> , 1987, 58, 2110-2113.	2.9	9
90	Adiabatic theorems and applications to the quantum hall effect. <i>Communications in Mathematical Physics</i> , 1987, 110, 33-49.	1.0	207

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91	Diophantine Equation for the Hall Conductance of Interacting Electrons on a Torus. <i>Physical Review Letters</i> , 1986, 56, 2084-2087.	2.9	23
92	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
93	Quantization of the Hall Conductance for General, Multiparticle Schrödinger Hamiltonians. <i>Physical Review Letters</i> , 1985, 54, 259-262.	2.9	221
94	On the quantum Hall effect. <i>Journal of Geometry and Physics</i> , 1984, 1, 13-23.	0.7	5
95	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
96	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
97	Homotopy and Quantization in Condensed Matter Physics. <i>Physical Review Letters</i> , 1983, 51, 51-53.	2.9	486
98	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
99	Drift and density of states in homogeneous fields without gauge fixing. <i>Physical Review B</i> , 1983, 27, 7763-7764.	1.1	2
100	Almost periodic Schrödinger operators II. The integrated density of states. <i>Duke Mathematical Journal</i> , 1983, 50, 369.	0.8	230
101	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
102	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
103	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
104	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
105	The lifetime of Wannier ladder states. <i>Annals of Physics</i> , 1982, 143, 33-53.	1.0	92
106	Bender-Wu formulas and classical trajectories: Higher dimensions and degeneracies. <i>International Journal of Quantum Chemistry</i> , 1982, 21, 119-124.	1.0	6
107	The asymptotics of the gap in the Mathieu equation. <i>Annals of Physics</i> , 1981, 134, 76-84.	1.0	53
108	Bender-Wu formulas for the Zeeman effect in hydrogen. <i>Annals of Physics</i> , 1981, 131, 73-94.	1.0	88

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109	Ground state degeneracy and ferromagnetism in a spin glass. Journal of Statistical Physics, 1981, 26, 25-36.	0.5	24
110	Almost periodic Schrödinger operators. Communications in Mathematical Physics, 1981, 82, 101-120.	1.0	122
111	Schrödinger operators with magnetic fields. Communications in Mathematical Physics, 1981, 79, 529-572.	1.0	190
112	Transient and recurrent spectrum. Journal of Functional Analysis, 1981, 43, 1-31.	0.7	58
113	Almost Periodic Hill's Equation and the Rings of Saturn. Physical Review Letters, 1981, 46, 1166-1168.	2.9	45
114	Coincident anharmonic oscillators. Physical Review D, 1981, 23, 1316-1320.	1.6	11
115	Bender-Wu formulas for degenerate eigenvalues. Physical Review A, 1980, 21, 1914-1916.	1.0	25
116	Roughening Transition in the He4 Solid-Superfluid Interface. Physical Review Letters, 1980, 45, 814-817.	2.9	183
117	On the spectrum of $p^2 + V(x) + i\mu x$, with V periodic and $i\mu$ complex. Journal of Physics A, 1979, 12, 2393-2398.	1.6	15
118	Paramagnetism for Nonrelativistic Electrons and Euclidean Massless Dirac Particles. Physical Review Letters, 1979, 42, 931-934.	2.9	25
119	A counterexample to the paramagnetic conjecture. Physics Letters, Section A: General, Atomic and Solid State Physics, 1979, 75, 41-42.	0.9	13
120	Recombination in steady supersonic flow in devices for laser isotope separation. Applied Physics Berlin, 1979, 18, 205-209.	1.4	0
121	Bender-Wu Formula, the $SO(4,2)$ Dynamical Group, and the Zeeman Effect in Hydrogen. Physical Review Letters, 1979, 43, 691-693.	2.9	73
122	Strongly bound states of hydrogen in intense magnetic field. Physical Review A, 1979, 20, 2287-2296.	1.0	42
123	Analytic properties of band functions. Annals of Physics, 1978, 110, 85-101.	1.0	45
124	Separation of center of mass in homogeneous magnetic fields. Annals of Physics, 1978, 114, 431-451.	1.0	328
125	Spectra of atomic Hamiltonians in DC fields: use of the numerical range to investigate the effect of a dilatation transformation. Journal of Physics B: Atomic and Molecular Physics, 1978, 11, L201-L205.	1.6	28
126	Schrödinger operators with magnetic fields. I. general interactions. Duke Mathematical Journal, 1978, 45, 847.	0.8	366

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127	The determination of one-dimensional bands by fibres. Journal of Physics A, 1977, 10, 339-342.	1.6	0
128	Binding of one-dimensional Bloch electrons by external fields. Physical Review B, 1977, 16, 711-713.	1.1	4
129	Instability of the continuous spectrum: The Nâ€band Stark ladder. Journal of Mathematical Physics, 1977, 18, 918-921.	0.5	87
130	Formation of Negative Ions in Magnetic Fields. Physical Review Letters, 1977, 39, 1068-1070.	2.9	47
131	The Zeeman effect revisited. Physics Letters, Section A: General, Atomic and Solid State Physics, 1977, 62, 214-216.	0.9	60
132	High-temperature expansion for the Coulomb lattice. Annals of Physics, 1977, 108, 448-453.	1.0	4
133	Spectral properties of reduced Bloch Hamiltonians. Annals of Physics, 1977, 103, 47-63.	1.0	11
134	Spectral and scattering theory of SchrÃdinger operators related to the stark effect. Communications in Mathematical Physics, 1977, 52, 239-254.	1.0	188
135	The relativistic Kronig-Penney Hamiltonian. Physics Letters, Section A: General, Atomic and Solid State Physics, 1976, 56, 55-57.	0.9	10
136	Model Calculation of Stark Ladder Resonances. Physical Review Letters, 1976, 37, 1568-1571.	2.9	37
137	Energy uncertainty in â€œStark laddersâ€. Solid State Communications, 1975, 16, 189-191.	0.9	25
138	Stability of band structure for external fields. Physical Review B, 1974, 9, 658-663.	1.1	10
139	Hamiltonians in one-electron theory of solids. I. Reports on Mathematical Physics, 1974, 5, 113-120.	0.4	14