

Carl M Bender

List of Publications by Year in descending order

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155
papers

19,632
citations

46984

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157
all docs

157
docs citations

157
times ranked

5028
citing authors

#	ARTICLE	IF	CITATIONS
1	Real Spectra in Non-Hermitian Hamiltonians Having PT Symmetry. Physical Review Letters, 1998, 80, 5243-5246.	2.9	5,035
2	Making sense of non-Hermitian Hamiltonians. Reports on Progress in Physics, 2007, 70, 947-1018.	8.1	2,380
3	Parity-time-symmetric whispering-gallery microcavities. Nature Physics, 2014, 10, 394-398.	6.5	1,892
4	Complex Extension of Quantum Mechanics. Physical Review Letters, 2002, 89, 270401.	2.9	1,416
5	PT-symmetric quantum mechanics. Journal of Mathematical Physics, 1999, 40, 2201-2229.	0.5	1,096
6	Anharmonic Oscillator. Physical Review, 1969, 184, 1231-1260.	2.7	976
7	Anharmonic Oscillator. II. A Study of Perturbation Theory in Large Order. Physical Review D, 1973, 7, 1620-1636.	1.6	482
8	Introduction to \mathcal{PT} -symmetric quantum theory. Contemporary Physics, 2005, 46, 277-292.	0.8	349
9	Faster than Hermitian Quantum Mechanics. Physical Review Letters, 2007, 98, 040403.	2.9	320
10	Must a Hamiltonian be Hermitian?. American Journal of Physics, 2003, 71, 1095-1102.	0.3	318
11	No-Ghost Theorem for the Fourth-Order Derivative Pais-Uhlenbeck Oscillator Model. Physical Review Letters, 2008, 100, 110402.	2.9	268
12	Large-Order Behavior of Perturbation Theory. Physical Review Letters, 1971, 27, 461-465.	2.9	267
13	Observation of PT phase transition in a simple mechanical system. American Journal of Physics, 2013, 81, 173-179.	0.3	246
14	Extension of PT-symmetric quantum mechanics to quantum field theory with cubic interaction. Physical Review D, 2004, 70, .	1.6	200
15	Complex periodic potentials with real band spectra. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 252, 272-276.	0.9	166
16	Analytic Structure of Energy Levels in a Field-Theory Model. Physical Review Letters, 1968, 21, 406-409.	2.9	142
17	Exactly solvable \mathcal{PT} -symmetric Hamiltonian having no Hermitian counterpart. Physical Review D, 2008, 78, .	1.6	141
18	Scalar Quantum Field Theory with a Complex Cubic Interaction. Physical Review Letters, 2004, 93, 251601.	2.9	117

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19	Twofold transition in PT -symmetric coupled oscillators. Physical Review A, 2013, 88, 043802.	1.0	116
20	Large-order perturbation theory for a non-Hermitian PT -symmetric Hamiltonian. Journal of Mathematical Physics, 1999, 40, 4616-4621.	1.5	114
21	Quasi-exactly solvable systems and orthogonal polynomials. Journal of Mathematical Physics, 1996, 37, 6-11.	0.5	112
22	Solution of Schwinger-Dyson equations for PT -symmetric quantum field theory. Physical Review D, 2000, 62, .	0.5	111
23	Novel perturbative scheme in quantum field theory. Physical Review D, 1988, 37, 1472-1484.	1.6	90
24	Nonperturbative calculation of symmetry breaking in quantum field theory. Physical Review D, 1997, 55, R3255-R3259.	1.6	89
25	Logarithmic approximations to polynomial Lagrangians. Physical Review Letters, 1987, 58, 2615-2618.	2.9	81
26	Multiple-Scale Analysis of the Quantum Anharmonic Oscillator. Physical Review Letters, 1996, 77, 4114-4117.	2.9	79
27	symmetry and necessary and sufficient conditions for the reality of energy eigenvalues. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 1616-1620.	0.9	78
28	Ghost busting: PT -symmetric interpretation of the Lee model. Physical Review D, 2005, 71, .	1.6	76
29	The Script C operator in Script PT -symmetric quantum theories. Journal of Physics A, 2004, 37, 10139-10165.	1.6	75
30	Equivalence of a complex PT -symmetric quartic Hamiltonian and a Hermitian quartic Hamiltonian with an anomaly. Physical Review D, 2006, 74, .	1.6	75
31	Entropy and temperature of a quantum Carnot engine. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2002, 458, 1519-1526.	1.0	70
32	Hamiltonian for the Zeros of the Riemann Zeta Function. Physical Review Letters, 2017, 118, 130201.	2.9	69
33	Calculation of the hidden symmetry operator in PT -symmetric quantum mechanics. Journal of Physics A, 2003, 36, 1973-1983.	1.6	68
34	Conjecture on the interlacing of zeros in complex Sturm-Liouville problems. Journal of Mathematical Physics, 2000, 41, 6381-6387.	0.5	67
35	Complex WKB analysis of energy-level degeneracies of non-Hermitian Hamiltonians. Journal of Physics A, 2001, 34, L31-L36.	1.6	64

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37	Variational ansatz for \mathcal{P} -symmetric quantum mechanics. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 259, 224-231.	0.9	63
38	Reflectionless potentials and symmetry. Journal of Physics A, 2005, 38, L627-L630.	1.6	62
39	\mathcal{P} -symmetric versus Hermitian formulations of quantum mechanics. Journal of Physics A, 2006, 39, 1657-1668.	1.6	58
40	Multiple-scale analysis of quantum systems. Physical Review D, 1996, 54, 7710-7723.	1.6	57
41	Numerical evidence that the perturbation expansion for a non-Hermitian \mathcal{PT} -symmetric Hamiltonian is Stieltjes. Journal of Mathematical Physics, 2001, 42, 2167.	0.5	56
42	Complex Correspondence Principle. Physical Review Letters, 2010, 104, 061601.	2.9	55
43	Complexified dynamical systems. Journal of Physics A: Mathematical and Theoretical, 2007, 40, F793-F804.	0.7	51
44	\mathcal{PT} -symmetric quantum theory. Journal of Physics: Conference Series, 2015, 631, 012002.	0.3	50
45	Complex square well - a new exactly solvable quantum mechanical model. Journal of Physics A, 1999, 32, 6771-6781.	1.6	49
46	Classical trajectories for complex Hamiltonians. Journal of Physics A, 2006, 39, 4219-4238.	1.6	48
47	Complex trajectories of a simple pendulum. Journal of Physics A: Mathematical and Theoretical, 2007, 40, F81-F89.	0.7	48
48	\mathcal{P} -symmetric extension of the Korteweg-de Vries equation. Journal of Physics A: Mathematical and Theoretical, 2007, 40, F153-F160.	0.7	48
49	Quantum effects in classical systems having complex energy. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 352003.	0.7	46
50	Non-Hermitian extension of gauge theories and implications for neutrino physics. Journal of High Energy Physics, 2015, 2015, 1.	1.6	43
51	A nonunitary version of massless quantum electrodynamics possessing a critical point. Journal of Physics A, 1999, 32, L87-L92.	1.6	42
52	Semiclassical calculation of the operator in \mathcal{P} -symmetric quantum mechanics. Physics Letters, Section A: General, Atomic and Solid State Physics, 2004, 328, 102-109.	0.9	41
53	Continuous Hahn polynomials and the Heisenberg algebra. Journal of Mathematical Physics, 1987, 28, 509-513.	0.5	39
54	Calculation of the hidden symmetry operator for a \mathcal{P} -symmetric square well. Journal of Physics A, 2006, 39, 1945-1953.	1.6	38

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55	Systems of coupled PT -symmetric oscillators. <i>Physical Review A</i> , 2014, 90, .	1.0	37
56	Coupled oscillator systems having partial PT -symmetry. <i>Physical Review A</i> , 2015, 91, .	1.0	37
57	Determination of $f(\hat{z})$ from the asymptotic series for $f(x)$ about $x=0$. <i>Journal of Mathematical Physics</i> , 1994, 35, 1914-1921.	0.5	35
58	Interactions of Hermitian and non-Hermitian Hamiltonians. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2008, 41, 244006.	0.7	34
59	Giving up the ghost. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2008, 41, 304018.	0.7	34
60	The Coperator in PT -symmetric quantum field theory transforms as a Lorentz scalar. <i>Physical Review D</i> , 2005, 71, .	1.6	33
61	New nonperturbative calculation: Renormalization and the triviality of $(\hat{D})^4$ field theory. <i>Physical Review D</i> , 1988, 38, 2526-2529.	1.6	32
62	All Hermitian Hamiltonians have parity. <i>Journal of Physics A</i> , 2003, 36, 1029-1031.	1.6	31
63	Spontaneous breaking of classical PT symmetry. <i>Journal of Mathematical Physics</i> , 2007, 48, 042703.	0.5	31
64	Nonperturbative square-well approximation to a quantum theory. <i>Journal of Mathematical Physics</i> , 1990, 31, 2579-2585.	0.5	30
65	PT -symmetric quantum field theory in D dimensions. <i>Physical Review D</i> , 2018, 98, .	1.6	30
66	Chaotic systems in complex phase space. <i>Pramana - Journal of Physics</i> , 2009, 73, 453-470.	0.9	29
67	PT -symmetric quantum state discrimination. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2013, 371, 20120160.	1.6	28
68	New quasi-exactly solvable sextic polynomial potentials. <i>Journal of Physics A</i> , 2005, 38, 2179-2187.	1.6	27
69	Families of Particles with Different Masses in PT -Symmetric Quantum Field Theory. <i>Physical Review Letters</i> , 2010, 105, 031601.	2.9	26
70	Ordinary versus PT -symmetric quantum field theory in D dimensions. <i>Physical Review D</i> , 2012, 85, .	1.6	24
71	Ordinary versus PT -symmetric fermionic theories in D dimensions. <i>Physical Review A</i> , 2019, 99, .	1.0	23
72	Relativistic brachistochrone. <i>Journal of Mathematical Physics</i> , 1986, 27, 507-511.	0.5	22

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73	Foldy's Wouthuysen transformation for non-Hermitian Hamiltonians. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 185403.	0.7	22
74	Maximum entropy summation of divergent perturbation series. Journal of Mathematical Physics, 1987, 28, 1016-1018.	0.5	21
75	Irreducible representations of the q -deformed Heisenberg algebra. Journal of Mathematical Physics, 2002, 43, 083501.	0.9	21
76	Critical behavior of the PT -symmetric 3 -quantum field theory. Physical Review D, 2013, 87, .	1.6	21
77	PT -symmetric representations of fermionic algebras. Physical Review A, 2011, 84, .	1.0	20
78	Resonances in extreme mass-ratio inspirals: Asymptotic and hyperasymptotic analysis. Journal of Mathematical Physics, 2012, 53, .	0.5	20
79	Two-point Green's function in \mathcal{PT} -symmetric theories. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 302, 286-290.	0.9	19
80	Probability density in the complex plane. Annals of Physics, 2010, 325, 2332-2362.	1.0	19
81	\mathcal{PT} quantum mechanics. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120523.	1.6	18
82	Does the complex deformation of the Riemann equation exhibit shocks?. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 244004.	0.7	17
83	Exact isospectral pairs of \mathcal{PT} symmetric Hamiltonians. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 244005.	0.7	17
84	Nonunique operator in quantum mechanics. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 373, 2670-2674.	0.9	17
85	Classical particle in a complex elliptic potential. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 165201.	0.7	17
86	Quantum tunneling as a classical anomaly. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 372001.	0.7	17
87	Painlevé transcendents and \mathcal{PT} -symmetric Hamiltonians. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 475202.	0.7	17
88	Conduction bands in classical periodic potentials. Pramana - Journal of Physics, 2009, 73, 259-267.	0.9	16
89	Evaluation of Feynman diagrams in the logarithmic approach to quantum field theory. Journal of Mathematical Physics, 1988, 29, 2659-2665.	0.5	15
90	\mathcal{PT} phase transition in multidimensional quantum systems. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 425303.	0.7	15

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91	Multilegged propagators in strong-coupling expansions. <i>Physical Review D</i> , 1979, 20, 1374-1385.	1.6	14
92	Perturbation theory in large order for some elementary systems. <i>International Journal of Quantum Chemistry</i> , 1982, 21, 93-104.	1.0	14
93	Optimal Time Evolution for Hermitian and Non-Hermitian Hamiltonians. <i>Lecture Notes in Physics</i> , 2009, , 341-361.	0.3	14
94	Periodic orbits for classical particles having complex energy. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2011, 375, 3399-3404.	0.9	14
95	Rigorous backbone of $\{P\}$ -symmetric quantum mechanics. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2016, 49, 401002.	0.7	14
96	$\{P\}$ -symmetric interpretation of unstable effective potentials. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2016, 49, 45L01.	0.7	14
97	Behavior of eigenvalues in a region of broken P symmetry. <i>Physical Review A</i> , 2017, 95, .	1.0	13
98	P symmetry in relativistic quantum mechanics. <i>Physical Review D</i> , 2011, 84, .	1.6	12
99	Asymptotic analysis of the Boltzmann equation for dark matter relics. <i>Journal of Mathematical Physics</i> , 2012, 53, 103509.	0.5	12
100	Comment on "On the Lagrangian and Hamiltonian description of the damped linear harmonic oscillator". <i>J. Math. Phys.</i> 48, 032701 (2007)]. <i>Journal of Mathematical Physics</i> , 2016, 57, .	0.5	12
101	Solitary Waves of a P -Symmetric Nonlinear Dirac Equation. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2016, 22, 67-75.	1.9	12
102	Extending $\{P\}$ Symmetry from Heisenberg Algebra to \mathbb{A} Algebra. <i>International Journal of Theoretical Physics</i> , 2011, 50, 955-962.	0.5	11
103	Infinite Class of P -Symmetric Theories from One Timelike Liouville Lagrangian. <i>Physical Review Letters</i> , 2014, 113, 231605.	2.9	11
104	P symmetry and renormalisation in quantum field theory. <i>Journal of Physics: Conference Series</i> , 2021, 2038, 012004.	0.3	11
105	Unbounded $\{C\}$ -symmetries and their nonuniqueness. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2012, 45, 444005.	0.7	10
106	Nonlinear eigenvalue problems for generalized Painlevé equations. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2019, 52, 315202.	0.7	9
107	Nonlinear eigenvalue problems. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2014, 47, 235204.	0.7	8
108	Winding in non-Hermitian systems. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018, 51, 055201.	0.7	8

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109	Small- μ behavior of the non-Hermitian $\{P\}\{T\}$ -symmetric Hamiltonian $H=p^2+x^2(ix)\mu$. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 355301.	0.7	7
110	Complex trajectories in a classical periodic potential. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 455101.	0.7	7
111	WKB analysis of $\{P\}\{T\}$ -symmetric Sturm-Liouville problems. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 444004.	0.7	7
112	Wentzel-Kramers-Brillouin analysis of $\{P\}\{T\}$ -symmetric Sturm-Liouville problems. Physical Review A, 2012, 85, .	1.0	7
113	Analytic structure of eigenvalues of coupled quantum systems. Physica Scripta, 2017, 92, 015201.	1.2	7
114	$\{PT\}$ -symmetric potentials having continuous spectra. Journal of Physics A: Mathematical and Theoretical, 2020, 53, 375302.	0.7	7
115	NON-HERMITIAN QUANTUM FIELD THEORY. International Journal of Modern Physics A, 2005, 20, 4646-4652.	0.5	6
116	Semiclassical analysis of a complex quartic Hamiltonian. Physical Review D, 2006, 73, .	1.6	6
117	$\{P\}\{T\}$ -symmetric interpretation of the electromagnetic self-force. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 34FT01.	0.7	6
118	Nonlinear eigenvalue problems and $\{P\}\{T\}$ -symmetric quantum mechanics. Journal of Physics: Conference Series, 2017, 873, 012002.	0.3	6
119	Two-Dimensional Pulse Propagation without Anomalous Dispersion. Physical Review Letters, 2017, 119, 114301.	2.9	6
120	Asymptotic analysis of the local potential approximation to the Wetterich equation. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 225202.	0.7	6
121	Two- and four-dimensional representations of the $\{PT\}$ -symmetric fermionic algebras. Physical Review A, 2018, 97, .	1.0	6
122	Nonuniqueness of the $\{C\}$ operator in $\{P\}\{T\}$ -symmetric quantum mechanics. Journal of Physics A: Mathematical and Theoretical, 2013, 46, 275306.	0.7	5
123	$\{P\}\{T\}$ -symmetric interpretation of double-scaling. Journal of Physics A: Mathematical and Theoretical, 2013, 46, 102002.	0.7	5
124	Towards perturbative renormalization of $\{P\}\{T\}$ -symmetric quantum field theory. Physical Review D, 2021, 104, .		
125	Effective Potential for $\{P\}\{T\}$ -Symmetric Quantum Field Theories. Foundations of Physics, 2000, 30, 393-411.	0.6	4
126	Double-scaling limit of a broken symmetry quantum field theory in dimensions $D < 2$. Journal of Mathematical Physics, 2001, 42, 1960.	0.5	4

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127	Matrix representation of the time operator. Journal of Mathematical Physics, 2012, 53, 062102.	0.5	4
128	Double-scaling limit of the $O(N)$ -symmetric anharmonic oscillator. Journal of Physics A: Mathematical and Theoretical, 2013, 46, 442001.	0.7	4
129	Complex Classical Motion in Potentials with Poles and Turning Points. Studies in Applied Mathematics, 2014, 133, 318-336.	1.1	4
130	Asymptotic analysis on a pseudo-Hermitian Riemann-zeta Hamiltonian. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 135203.	0.7	4
131	Wilson polynomials and the Lorentz transformation properties of the parity operator. Journal of Mathematical Physics, 2005, 46, 052302.	0.5	3
132	Universal spectral behavior of $\langle \mathcal{P} \rangle$ -symmetric Hamiltonians. Physical Review A, 2012, 86, .	1.0	3
133	Negative-energy \mathcal{P} -symmetric Hamiltonians. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 444003.	0.7	3
134	Asymptotic analysis of the Boltzmann equation for dark matter relics in the presence of a running dilaton and space-time defects. Physical Review D, 2013, 87, .	1.6	3
135	Parity anomaly in a \mathcal{P} -symmetric quartic Hamiltonian. European Physical Journal D, 2006, 56, 1047-1062.	0.4	2
136	PT quantum mechanics - Recent results. , 2012, , .		2
137	\mathcal{P} -symmetric model of immune response. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 035601.	0.7	2
138	Series solutions of \mathcal{P} -symmetric Schrödinger equations. Journal of Physics Communications, 2018, 2, 025012.	0.5	2
139	Scattering off $\langle \mathcal{P} \rangle$ -symmetric upside-down potentials. Physical Review A, 2018, 98, .	1.0	2
140	Operator-valued zeta functions and Fourier analysis. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 345201.	0.7	2
141	Lorentz transformation properties of nonconserved charges. Journal of Mathematical Physics, 1983, 24, 990-995.	0.5	1
142	On higher order computations in strong coupling. Pramana - Journal of Physics, 1984, 23, 695-701.	0.9	1
143	Ghost busting: Making sense of non-Hermitian Hamiltonians. European Physical Journal D, 2005, 55, 1067-1074.	0.4	1
144	Nonlinear eigenvalue problems. , 2017, , 67-89.		1

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145	Two-dimensional, steady-state diffusion of a passive scalar in a flow field. Journal of Mathematical Physics, 1983, 24, 1630-1632.	0.5	0
146	The complex pendulum. , 1998, , .		0
147	NON-HERMITIAN HAMILTONIANS HAVING REAL SPECTRA. , 2002, , .		0
148	Comment on "New ansatz for metric operator calculation in pseudo-Hermitian field theory". Physical Review D, 2009, 80, .	1.6	0
149	Physics in the Complex Domain. Proceedings (mdpi), 2018, 2, .	0.2	0
150	COMPLEX HAMILTONIANS HAVING REAL SPECTRA. , 2002, , .		0
151	UNUSUAL EIGENVALUE PROBLEMS. , 2002, , .		0
152	Complex elliptic pendulum. , 2011, , 1-18.		0
153	PT -symmetric classical mechanics. Journal of Physics: Conference Series, 2021, 2038, 012003.	0.3	0
154	Calculation of Green's Functions in \mathcal{PT} -Symmetric Quantum Field Theory. , 2021, , 121-137.		0
155	Addendum: Painlevé transcendents and \mathcal{PT} -symmetric Hamiltonians (2015 J. Phys. A: Math. Theor. 48) Tj ETQq1_10.784314 rgBT	0.7	0