Carl M Bender

List of Publications by Year in Descending Order

149 papers	**15,660** citations	**45** h-index	**125** g-index
157 ext. papers	**17,807** ext. citations	**3.1** avg, IF	**6.98** L-index

#	Paper	IF	Citations
149	Addendum: Painlevé transcendents and $\mathcal{PT}$-symmetric Hamiltonians (2015 J. Phys. A: Math. Theor. 48 475202). *Journal of Physics A: Mathematical and Theoretical*, **2022**, 55, 109401	2	
148	PT-symmetric classical mechanics. *Journal of Physics: Conference Series*, **2021**, 2038, 012003	0.3	
147	Calculation of Green's Functions in ??-Symmetric Quantum Field Theory **2021**, 121-137		
146	PT symmetry and renormalisation in quantum field theory. *Journal of Physics: Conference Series*, **2021**, 2038, 012004	0.3	0
145	$\boldsymbol{\mathcal{PT}}$-symmetric potentials having continuous spectra. *Journal of Physics A: Mathematical and Theoretical*, **2020**, 53, 375302	2	2
144	Nonlinear eigenvalue problems for generalized Painlevé equations. *Journal of Physics A: Mathematical and Theoretical*, **2019**, 52, 315202	2	4
143	Operator-valued zeta functions and Fourier analysis. *Journal of Physics A: Mathematical and Theoretical*, **2019**, 52, 345201	2	1
142	Relativistic PT-symmetric fermionic theories in 1+1 and 3+1 dimensions. *Physical Review A*, **2019**, 99,	2.6	13
141	Asymptotic analysis on a pseudo-Hermitian Riemann-zeta Hamiltonian. *Journal of Physics A: Mathematical and Theoretical*, **2018**, 51, 135203	2	1
140	Asymptotic analysis of the local potential approximation to the Wetterich equation. *Journal of Physics A: Mathematical and Theoretical*, **2018**, 51, 225202	2	1
139	Two- and four-dimensional representations of the PT- and CPT-symmetric fermionic algebras. *Physical Review A*, **2018**, 97,	2.6	5
138	Series solutions of ${\mathscr{P}}{\mathscr{T}}$-symmetric Schrödinger equations. *Journal of Physics Communications*, **2018**, 2, 025012	1.2	2
137	Winding in non-Hermitian systems. *Journal of Physics A: Mathematical and Theoretical*, **2018**, 51, 055201	2	4
136	Scattering off PT-symmetric upside-down potentials. *Physical Review A*, **2018**, 98,	2.6	1
135	PT-symmetric quantum field theory in D dimensions. *Physical Review D*, **2018**, 98,	4.9	16
134	Physics in the Complex Domain. *Proceedings (mdpi)*, **2018**, 2, 47	0.3	
133	Analytic structure of eigenvalues of coupled quantum systems. *Physica Scripta*, **2017**, 92, 015201	2.6	6

132	Hamiltonian for the Zeros of the Riemann Zeta Function. *Physical Review Letters*, **2017**, 118, 130201	7.4	49
131	$mathcal{P}mathcal{T}$ -symmetric model of immune response. *Journal of Physics A: Mathematical and Theoretical*, **2017**, 50, 035601	2	2
130	Nonlinear eigenvalue problems andPT-symmetric quantum mechanics. *Journal of Physics: Conference Series*, **2017**, 873, 012002	0.3	6
129	Two-Dimensional Pulse Propagation without Anomalous Dispersion. *Physical Review Letters*, **2017**, 119, 114301	7.4	4
128	Behavior of eigenvalues in a region of broken PT symmetry. *Physical Review A*, **2017**, 95,	2.6	7
127	Nonlinear eigenvalue problems **2017**, 67-89		1
126	Rigorous backbone of ${ mathcal P }{ mathcal T }$-symmetric quantum mechanics. *Journal of Physics A: Mathematical and Theoretical*, **2016**, 49, 401002	2	13
125	${ mathcal P }{ mathcal T }$-symmetric interpretation of unstable effective potentials. *Journal of Physics A: Mathematical and Theoretical*, **2016**, 49, 45LT01	2	10
124	Solitary Waves of a $mathcal {P}$ $mathcal {T}$-Symmetric Nonlinear Dirac Equation. *IEEE Journal of Selected Topics in Quantum Electronics*, **2016**, 22, 67-75	3.8	11
123	Comment on □On the Lagrangian and Hamiltonian description of the damped linear harmonic oscillator□[J. Math. Phys. 48, 032701 (2007)]. *Journal of Mathematical Physics*, **2016**, 57, 084101	1.2	9
122	Foldy□Wouthuysen transformation for non-Hermitian Hamiltonians. *Journal of Physics A: Mathematical and Theoretical*, **2015**, 48, 185403	2	16
121	${mathcal{P}}{mathcal{T}}$-symmetric interpretation of the electromagnetic self-force. *Journal of Physics A: Mathematical and Theoretical*, **2015**, 48, 34FT01	2	5
120	PT-symmetric quantum theory. *Journal of Physics: Conference Series*, **2015**, 631, 012002	0.3	33
119	Coupled oscillator systems having partial PT symmetry. *Physical Review A*, **2015**, 91,	2.6	24
118	Non-Hermitian extension of gauge theories and implications for neutrino physics. *Journal of High Energy Physics*, **2015**, 2015, 1	5.4	31
117	Painlev□transcendents and ${mathcal{P}}{mathcal{T}}$-symmetric Hamiltonians. *Journal of Physics A: Mathematical and Theoretical*, **2015**, 48, 475202	2	13
116	Systems of coupled PT-symmetric oscillators. *Physical Review A*, **2014**, 90,	2.6	28
115	Complex Classical Motion in Potentials with Poles and Turning Points. *Studies in Applied Mathematics*, **2014**, 133, 318-336	2.1	3

114	Nonlinear eigenvalue problems. *Journal of Physics A: Mathematical and Theoretical*, **2014**, 47, 235204	2	6
113	Infinite class of PT-symmetric theories from one timelike Liouville Lagrangian. *Physical Review Letters*, **2014**, 113, 231605	7.4	9
112	Parity-time-symmetric whispering-gallery microcavities. *Nature Physics*, **2014**, 10, 394-398	16.2	1394
111	Nonuniqueness of the $\mathcal{C}$ operator in $\mathcal{P}\mathcal{T}$-symmetric quantum mechanics. *Journal of Physics A: Mathematical and Theoretical*, **2013**, 46, 275306	2	4
110	Observation of PT phase transition in a simple mechanical system. *American Journal of Physics*, **2013**, 81, 173-179	0.7	179
109	PT-symmetric quantum state discrimination. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2013**, 371, 20120160	3	17
108	Double-scaling limit of the O(N)-symmetric anharmonic oscillator. *Journal of Physics A: Mathematical and Theoretical*, **2013**, 46, 442001	2	1
107	$\mathcal{P}\mathcal{T}$-symmetric interpretation of double-scaling. *Journal of Physics A: Mathematical and Theoretical*, **2013**, 46, 102002	2	2
106	PT quantum mechanics. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2013**, 371, 20120523	3	15
105	Critical behavior of the PT-symmetric i?3 quantum field theory. *Physical Review D*, **2013**, 87,	4.9	16
104	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,	4.9	3
103	Twofold transition in PT-symmetric coupled oscillators. *Physical Review A*, **2013**, 88,	2.6	100
102	Negative-energy $\mathcal{P}\mathcal{T}$-symmetric Hamiltonians. *Journal of Physics A: Mathematical and Theoretical*, **2012**, 45, 444003	2	3
101	Matrix representation of the time operator. *Journal of Mathematical Physics*, **2012**, 53, 062102	1.2	4
100	Wentzel-Kramers-Brillouin analysis of PT-symmetric Sturm-Liouville problems. *Physical Review A*, **2012**, 85,	2.6	7
99	$\mathcal{P}\mathcal{T}$ phase transition in multidimensional quantum systems. *Journal of Physics A: Mathematical and Theoretical*, **2012**, 45, 425303	2	11
98	Unbounded $\mathcal{C}$-symmetries and their nonuniqueness. *Journal of Physics A: Mathematical and Theoretical*, **2012**, 45, 444005	2	10
97	Asymptotic analysis of the Boltzmann equation for dark matter relics. *Journal of Mathematical Physics*, **2012**, 53, 103509	1.2	10

96	Resonances in extreme mass-ratio inspirals: Asymptotic and hyperasymptotic analysis. *Journal of Mathematical Physics*, **2012**, 53, 032503	1.2	18
95	PT quantum mechanics - Recent results **2012**,		2
94	Complex trajectories in a classical periodic potential. *Journal of Physics A: Mathematical and Theoretical*, **2012**, 45, 455101	2	6
93	Universal spectral behavior of x2(ix) potentials. *Physical Review A*, **2012**, 86,	2.6	3
92	Ordinary versus PT-symmetric ?3 quantum field theory. *Physical Review D*, **2012**, 85,	4.9	18
91	WKB analysis of $mathcal P$$mathcal T$-symmetric Sturm Liouville problems. *Journal of Physics A: Mathematical and Theoretical*, **2012**, 45, 444004	2	6
90	Quantum tunneling as a classical anomaly. *Journal of Physics A: Mathematical and Theoretical*, **2011**, 44, 372001	2	14
89	Periodic orbits for classical particles having complex energy. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2011**, 375, 3399-3404	2.3	13
88	Extending (mathcal{P}mathcal{T}) Symmetry from Heisenberg Algebra to E2 Algebra. *International Journal of Theoretical Physics*, **2011**, 50, 955-962	1.1	11
87	PT symmetry in relativistic quantum mechanics. *Physical Review D*, **2011**, 84,	4.9	6
86	PT-symmetric representations of fermionic algebras. *Physical Review A*, **2011**, 84,	2.6	20
85	Complex elliptic pendulum **2011**, 1-18		
84	Families of particles with different masses in PT-symmetric quantum field theory. *Physical Review Letters*, **2010**, 105, 031601	7.4	21
83	Classical particle in a complex elliptic potential. *Journal of Physics A: Mathematical and Theoretical*, **2010**, 43, 165201	2	16
82	Complex correspondence principle. *Physical Review Letters*, **2010**, 104, 061601	7.4	45
81	Probability density in the complex plane. *Annals of Physics*, **2010**, 325, 2332-2362	2.5	15
80	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	2.3	66
79	Small-? behavior of the non-Hermitian {mathcal{P}}{mathcal{T}} -symmetric HamiltonianH=p2+x2(ix)?. *Journal of Physics A: Mathematical and Theoretical*, **2009**, 42, 355301	2	6

78	Chaotic systems in complex phase space **2009**, 73, 453-470		27
77	Conduction bands in classical periodic potentials **2009**, 73, 259-267		16
76	Compactons in (mathcal{P}mathcal{T})-symmetric generalized Korteweg-de Vries equations **2009**, 73, 375-385		20
75	Nonunique C operator in PT quantum mechanics. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2009**, 373, 2670-2674	2.3	13
74	Optimal Time Evolution for Hermitian and Non-Hermitian Hamiltonians. *Lecture Notes in Physics*, **2009**, 341-361	0.8	11
73	No-ghost theorem for the fourth-order derivative Pais-Uhlenbeck oscillator model. *Physical Review Letters*, **2008**, 100, 110402	7.4	223
72	Exactly solvable PT-symmetric Hamiltonian having no Hermitian counterpart. *Physical Review D*, **2008**, 78,	4.9	119
71	Interactions of Hermitian and non-Hermitian Hamiltonians. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 244006	2	27
70	Giving up the ghost. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 304018	2	32
69	Does the complex deformation of the Riemann equation exhibit shocks?. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 244004	2	16
68	Exact isospectral pairs of {cal P}{cal T} symmetric Hamiltonians. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 244005	2	15
67	Quantum effects in classical systems having complex energy. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 352003	2	40
66	Complex trajectories of a simple pendulum. *Journal of Physics A: Mathematical and Theoretical*, **2007**, 40, F81-F89	2	45
65	Spontaneous breaking of classical PT symmetry. *Journal of Mathematical Physics*, **2007**, 48, 042703	1.2	27
64	Complexified dynamical systems. *Journal of Physics A: Mathematical and Theoretical*, **2007**, 40, F793-F804	2	47
63	-symmetric extension of the Korteweg-de Vries equation. *Journal of Physics A: Mathematical and Theoretical*, **2007**, 40, F153-F160	2	41
62	Making sense of non-Hermitian Hamiltonians. *Reports on Progress in Physics*, **2007**, 70, 947-1018	14.4	1829
61	Faster than Hermitian quantum mechanics. *Physical Review Letters*, **2007**, 98, 040403	7.4	263

60	Calculation of the hidden symmetry operator for a -symmetric square well. *Journal of Physics A*, **2006**, 39, 1945-1953		35
59	Classical trajectories for complex Hamiltonians. *Journal of Physics A*, **2006**, 39, 4219-4238		45
58	-symmetric versus Hermitian formulations of quantum mechanics. *Journal of Physics A*, **2006**, 39, 1657-1668		51
57	Semiclassical analysis of a complex quartic Hamiltonian. *Physical Review D*, **2006**, 73,	4.9	6
56	Equivalence of a complex PT-symmetric quartic Hamiltonian and a Hermitian quartic Hamiltonian with an anomaly. *Physical Review D*, **2006**, 74,	4.9	66
55	Parity anomaly in a (mathcal{P}mathcal{T})-symmetric quartic Hamiltonian. *European Physical Journal D*, **2006**, 56, 1047-1062		2
54	Ghost busting: PT-symmetric interpretation of the Lee model. *Physical Review D*, **2005**, 71,	4.9	66
53	Dual PT-symmetric quantum field theories. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **2005**, 625, 333-340	4.2	99
52	Introduction to ??-symmetric quantum theory. *Contemporary Physics*, **2005**, 46, 277-292	3.3	276
51	Reflectionless potentials and symmetry. *Journal of Physics A*, **2005**, 38, L627-L630		58
50	Ghost busting: Making sense of non-Hermitian Hamiltonians. *European Physical Journal D*, **2005**, 55, 1067-1074		1
49	New quasi-exactly solvable sextic polynomial potentials. *Journal of Physics A*, **2005**, 38, 2179-2187		23
48	Wilson polynomials and the Lorentz transformation properties of the parity operator. *Journal of Mathematical Physics*, **2005**, 46, 052302	1.2	2
47	The C operator in PT-symmetric quantum field theory transforms as a Lorentz scalar. *Physical Review D*, **2005**, 71,	4.9	31
46	NON-HERMITIAN QUANTUM FIELD THEORY. *International Journal of Modern Physics A*, **2005**, 20, 4646-4652		3
45	Extension of PT-symmetric quantum mechanics to quantum field theory with cubic interaction. *Physical Review D*, **2004**, 70,	4.9	172
44	Scalar quantum field theory with a complex cubic interaction. *Physical Review Letters*, **2004**, 93, 251601	7.4	100
43	The Script C operator in Script PScript T-symmetric quantum theories. *Journal of Physics A*, **2004**, 37, 10139-10165		67

42	Semiclassical calculation of the C operator in PT-symmetric quantum mechanics. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2004**, 328, 102-109	2.3	36
41	All Hermitian Hamiltonians have parity. *Journal of Physics A*, **2003**, 36, 1029-1031		28
40	Calculation of the hidden symmetry operator in ˝-symmetric quantum mechanics. *Journal of Physics A*, **2003**, 36, 1973-1983		63
39	Must a Hamiltonian be Hermitian?. *American Journal of Physics*, **2003**, 71, 1095-1102	0.7	266
38	Two-point Green's function in PT-symmetric theories. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2002**, 302, 286-290	2.3	18
37	Entropy and temperature of a quantum Carnot engine. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2002**, 458, 1519-1526	2.4	62
36	Complex extension of quantum mechanics. *Physical Review Letters*, **2002**, 89, 270401	7.4	1124
35	Complex WKB analysis of energy-level degeneracies of non-Hermitian Hamiltonians. *Journal of Physics A*, **2001**, 34, L31-L36		57
34	Numerical evidence that the perturbation expansion for a non-Hermitian PT-symmetric Hamiltonian is Stieltjes. *Journal of Mathematical Physics*, **2001**, 42, 2167	1.2	50
33	Double-scaling limit of a broken symmetry quantum field theory in dimensions D. *Journal of Mathematical Physics*, **2001**, 42, 1960	1.2	4
32	Effective Potential for (mathcal{P}mathcal{T})-Symmetric Quantum Field Theories. *Foundations of Physics*, **2000**, 30, 393-411	1.2	4
31	Conjecture on the interlacing of zeros in complex Sturm Liouville problems. *Journal of Mathematical Physics*, **2000**, 41, 6381-6387	1.2	61
30	Solution of Schwinger-Dyson equations for PT-symmetric quantum field theory. *Physical Review D*, **2000**, 62,	4.9	65
29	A nonunitary version of massless quantum electrodynamics possessing a critical point. *Journal of Physics A*, **1999**, 32, L87-L92		38
28	Complex square well - a new exactly solvable quantum mechanical model. *Journal of Physics A*, **1999**, 32, 6771-6781		43
27	Large-order perturbation theory for a non-Hermitian PT-symmetric Hamiltonian. *Journal of Mathematical Physics*, **1999**, 40, 4616-4621	1.2	102
26	Complex periodic potentials with real band spectra. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1999**, 252, 272-276	2.3	155
25	Variational ansatz for -symmetric quantum mechanics. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1999**, 259, 224-231	2.3	60

24	PT-symmetric quantum mechanics. *Journal of Mathematical Physics*, **1999**, 40, 2201-2229	1.2	904
23	Real Spectra in Non-Hermitian Hamiltonians Having PT Symmetry. *Physical Review Letters*, **1998**, 80, 5243-5246	7.4	3709
22	Nonperturbative calculation of symmetry breaking in quantum field theory. *Physical Review D*, **1997**, 55, R3255-R3259	4.9	85
21	Multiple-Scale Analysis of the Quantum Anharmonic Oscillator. *Physical Review Letters*, **1996**, 77, 4114-4117	7.4	72
20	Quasi-exactly solvable systems and orthogonal polynomials. *Journal of Mathematical Physics*, **1996**, 37, 6-11	1.2	103
19	Multiple-scale analysis of quantum systems. *Physical Review D*, **1996**, 54, 7710-7723	4.9	52
18	Determination of f(∞) from the asymptotic series for f(x) about x=0. *Journal of Mathematical Physics*, **1994**, 35, 1914-1921	1.2	27
17	Nonperturbative square-well approximation to a quantum theory. *Journal of Mathematical Physics*, **1990**, 31, 2579-2585	1.2	14
16	Novel perturbative scheme in quantum field theory. *Physical Review D*, **1988**, 37, 1472-1484	4.9	85
15	New nonperturbative calculation: Renormalization and the triviality of (lambda phi4)4 field theory. *Physical Review D*, **1988**, 38, 2526-2529	4.9	28
14	Evaluation of Feynman diagrams in the logarithmic approach to quantum field theory. *Journal of Mathematical Physics*, **1988**, 29, 2659-2665	1.2	14
13	Maximum entropy summation of divergent perturbation series. *Journal of Mathematical Physics*, **1987**, 28, 1016-1018	1.2	19
12	Logarithmic approximations to polynomial Lagrangians. *Physical Review Letters*, **1987**, 58, 2615-2618	7.4	77
11	Continuous Hahn polynomials and the Heisenberg algebra. *Journal of Mathematical Physics*, **1987**, 28, 509-513	1.2	34
10	Relativistic brachistochrone. *Journal of Mathematical Physics*, **1986**, 27, 507-511	1.2	18
9	On higher order computations in strong coupling **1984**, 23, 695-701		1
8	Two-dimensional, steady-state diffusion of a passive scalar in a flow field. *Journal of Mathematical Physics*, **1983**, 24, 1630-1632	1.2	
7	Lorentz transformation properties of nonconserved charges. *Journal of Mathematical Physics*, **1983**, 24, 990-995	1.2	1

6	Perturbation theory in large order for some elementary systems. *International Journal of Quantum Chemistry*, **1982**, 21, 93-104	2.1	14
5	Multilegged propagators in strong-coupling expansions. *Physical Review D*, **1979**, 20, 1374-1385	4.9	12
4	Anharmonic Oscillator. II. A Study of Perturbation Theory in Large Order. *Physical Review D*, **1973**, 7, 1620-1636	4.9	427
3	Large-Order Behavior of Perturbation Theory. *Physical Review Letters*, **1971**, 27, 461-465	7.4	231
2	Anharmonic Oscillator. *Physical Review*, **1969**, 184, 1231-1260		901
1	Analytic Structure of Energy Levels in a Field-Theory Model. *Physical Review Letters*, **1968**, 21, 406-409	7.4	136