

J Chris Eilbeck

List of Publications by Year in descending order

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94
papers

3,787
citations

126907

33
h-index

128289

60
g-index

94
all docs

94
docs citations

94
times ranked

1071
citing authors

#	ARTICLE	IF	CITATIONS
1	Statistical Evidence for a Helical Nascent Chain. <i>Biomolecules</i> , 2021, 11, 357.	4.0	1
2	Two-dimensional mobile breather scattering in a hexagonal crystal lattice. <i>Physical Review E</i> , 2021, 103, 022212.	2.1	12
3	Quantization of $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si42.gif" display="inline" overflow="scroll" \rangle \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -Fermiâ€™Pastaâ€™Ulam lattice with nearest and next-nearest neighbor interactions. <i>Physica D: Nonlinear Phenomena</i> , 2015, 294, 43-53.	2.8	7
4	Nonlinear propagating localized modes in a 2D hexagonal crystal lattice. <i>Physica D: Nonlinear Phenomena</i> , 2015, 301-302, 8-20.	2.8	39
5	Numerical Simulations of Nonlinear Modes in Mica: Past, Present and Future. <i>Springer Series in Materials Science</i> , 2015, , 35-67.	0.6	13
6	Some new addition formulae for Weierstrass elliptic functions. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2014, 470, 20140051.	2.1	0
7	Abelian functions associated with genus three algebraic curves. <i>LMS Journal of Computation and Mathematics</i> , 2011, 14, 291-326.	0.9	8
8	Addition formulae for Abelian functions associated with specialized curves. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2011, 369, 1245-1263.	3.4	5
9	Abelian Functions for Trigonal Curves of Genus Three. <i>International Mathematics Research Notices</i> , 2010, , .	1.0	19
10	Sigma, tau and Abelian functions of algebraic curves. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2010, 43, 455216.	2.1	14
11	Abelian functions associated with a cyclic tetragonal curve of genus six. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2009, 42, 095210.	2.1	14
12	Abelian functions for cyclic trigonal curves of genus 4. <i>Journal of Geometry and Physics</i> , 2008, 58, 450-467.	1.4	35
13	Evidence for moving breathers in a layered crystal insulator at 300â€™K. <i>Europhysics Letters</i> , 2007, 78, 10004.	2.0	87
14	Spectral Curves of Operators with Elliptic Coefficients. <i>Symmetry, Integrability and Geometry: Methods and Applications (SIGMA)</i> , 2007, , .	0.5	4
15	Fast energy transfer mediated by multi-quanta bound states in a nonlinear quantum lattice. <i>Physica D: Nonlinear Phenomena</i> , 2006, 221, 58-71.	2.8	10
16	Discrete soliton collisions in a waveguide array with saturable nonlinearity. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2006, 358, 15-20.	2.1	30
17	Aharonov-Bohm effect for an exciton in a finite-width nanoring. <i>Physical Review B</i> , 2005, 72, , .	3.2	17
18	A $SL(2)$ covariant theory of genus 2 hyperelliptic functions. <i>Mathematical Proceedings of the Cambridge Philosophical Society</i> , 2004, 136, 269-286.	0.4	5

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19	Dynamical two electron states in a Hubbard-Davydov model. <i>European Physical Journal B</i> , 2004, 42, 95-102.	1.5	11
20	Trapping in quantum chains. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2004, 331, 201-208.	2.1	17
21	Identities for the classical genus two function. <i>Journal of Geometry and Physics</i> , 2003, 48, 354-368.	1.4	8
22	Influence of moving breathers on vacancies migration. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2003, 315, 364-371.	2.1	36
23	The hyperelliptic \hat{T} -function and the integrable massive Thirring model. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2003, 459, 1581-1610.	2.1	9
24	THE DISCRETE NONLINEAR SCHRÖDINGER EQUATION " 20 YEARS ON. , 2003, , .		45
25	Multidimensional Schrödinger equations with Abelian potentials. <i>Journal of Mathematical Physics</i> , 2002, 43, 2858-2881.	1.1	8
26	Ephaptic coupling of myelinated nerve fibers. <i>Physica D: Nonlinear Phenomena</i> , 2001, 148, 159-174.	2.8	60
27	Breathers in cuprate-like lattices. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2001, 281, 21-25.	2.1	56
28	Analytical approach to the Davydov-Scott theory with on-site potential. <i>Physical Review B</i> , 2001, 63, .	3.2	10
29	Interplay between dispersive and non-dispersive modes in the polaron problem. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2000, 266, 160-166.	2.1	15
30	Breathers in systems with intrinsic and extrinsic nonlinearities. <i>Physica D: Nonlinear Phenomena</i> , 2000, 142, 101-112.	2.8	9
31	Moving kinks and nanopterons in the nonlinear Klein-Gordon lattice. <i>Physica D: Nonlinear Phenomena</i> , 2000, 138, 267-281.	2.8	52
32	Quasiperiodic and periodic solutions for vector nonlinear Schrödinger equations. <i>Journal of Mathematical Physics</i> , 2000, 41, 8236-8248.	1.1	34
33	Localized moving breathers in a 2D hexagonal lattice. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1998, 248, 225-229.	2.1	84
34	A breather-like localized mode in a Fermi-Pasta-Ulam lattice interacting with an electron. <i>Journal of Physics Condensed Matter</i> , 1998, 10, 4553-4564.	1.8	7
35	Moving breathers in a chain of magnetic pendulums. <i>Physical Review B</i> , 1997, 55, 6304-6308.	3.2	59
36	Bound states of lattice solitons and their bifurcations. <i>Physica D: Nonlinear Phenomena</i> , 1997, 108, 81-91.	2.8	29

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37	On the Periodic Lotka-Volterra Competition Model. <i>Journal of Mathematical Analysis and Applications</i> , 1997, 210, 58-87.	1.0	15
38	Some applications of computer algebra to problems in theoretical physics. <i>Mathematics and Computers in Simulation</i> , 1996, 40, 443-452.	4.4	1
39	Conditions under which Na ⁺ channels can Boost conduction of small graded potentials. <i>Journal of Theoretical Biology</i> , 1995, 172, 379-386.	1.7	9
40	Mathematical modelling of weakly nonlinear pulses in a retinal neuron. <i>Chaos, Solitons and Fractals</i> , 1995, 5, 407-413.	5.1	3
41	Stationary states in a doubly nonlinear trimer model of optical couplers. <i>Physica Scripta</i> , 1995, 52, 386-387.	2.5	15
42	General method to solve Hamiltonians with infinite-range interactions. <i>Physical Review A</i> , 1994, 50, 553-556.	2.5	7
43	Quantum lattice solitons. <i>Physica D: Nonlinear Phenomena</i> , 1994, 78, 194-213.	2.8	110
44	Coexistence in the Competition Model with Diffusion. <i>Journal of Differential Equations</i> , 1994, 107, 96-139.	2.2	46
45	Elliptic Baker-Akhiezer functions and an application to an integrable dynamical system. <i>Journal of Mathematical Physics</i> , 1994, 35, 1192-1201.	1.1	29
46	Linear r-matrix algebra for systems separable in parabolic coordinates. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1993, 180, 208-214.	2.1	40
47	Soliton bands in anharmonic quantum lattices. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1993, 172, 229-235.	2.1	18
48	Solitons on lattices. <i>Physica D: Nonlinear Phenomena</i> , 1993, 68, 1-11.	2.8	113
49	The quantum discrete self-trapping equation in the Hartree approximation. <i>Physica D: Nonlinear Phenomena</i> , 1993, 69, 18-32.	2.8	76
50	Structure of solution manifolds in a strongly coupled elliptic system. <i>IMA Journal of Numerical Analysis</i> , 1992, 12, 405-428.	2.9	29
51	Membrane conductances involved in amplification of small signals by sodium channels in photoreceptors of drone honey bee. <i>Journal of Physiology</i> , 1992, 456, 303-324.	2.9	30
52	A monotonicity theorem and its application to stationary solutions of the phase field model. <i>IMA Journal of Applied Mathematics</i> , 1992, 49, 61-72.	1.6	8
53	On ultrasonic Davydov solitons and the H ₂ non-Heiles system. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1992, 166, 129-134.	2.1	16
54	There's more than one way to skin Schrödinger's cat. <i>Physica D: Nonlinear Phenomena</i> , 1992, 59, 1-24.	2.8	43

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55	Binding energies for discrete nonlinear Schrödinger equations. <i>Physica Scripta</i> , 1991, 44, 509-516.	2.5	18
56	Solitary waves on a strongly anisotropic KP lattice. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1991, 158, 107-111.	2.1	26
57	Proof of a conjecture by Scott concerning energy levels in the quantum DST equation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1991, 155, 407-409.	2.1	2
58	Calculation of families of solitary waves on discrete lattices. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1990, 149, 200-202.	2.1	90
59	The quantum theory of local modes in a coupled system of nonlinear oscillators. <i>Nonlinearity</i> , 1990, 3, 293-323.	1.4	90
60	Local modes in molecules. <i>Journal of Molecular Liquids</i> , 1989, 41, 105-111.	4.9	5
61	On a stationary state characterization of transition from spinodal decomposition to nucleation behaviour in the Cahn-Hilliard model of phase separation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1989, 135, 272-275.	2.1	18
62	Stationary states associated with phase separation in a pure material. I. The large latent heat case. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1989, 139, 42-46.	2.1	5
63	Energy levels of the quantized discrete self-trapping equation. <i>Journal of Biological Physics</i> , 1989, 17, 1-17.	1.5	29
64	Biomolecular dynamics by computer analysis. <i>Journal of Computational and Applied Mathematics</i> , 1988, 22, 297-299.	2.0	2
65	On the CH stretch overtones of benzene. <i>Chemical Physics Letters</i> , 1986, 132, 23-28.	2.6	72
66	The quantized discrete self-trapping equation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1986, 119, 60-64.	2.1	86
67	A comparison of basis functions for the pseudo-spectral method for a model reaction-diffusion problem. <i>Journal of Computational and Applied Mathematics</i> , 1986, 15, 371-378.	2.0	5
68	Stability of stationary solutions of the discrete self-trapping equation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1985, 109, 201-204.	2.1	67
69	The discrete self-trapping equation. <i>Physica D: Nonlinear Phenomena</i> , 1985, 16, 318-338.	2.8	563
70	Between the local-mode and normal-mode limits. <i>Chemical Physics Letters</i> , 1985, 113, 29-36.	2.6	101
71	Pattern selection and low-dimensional chaos in the driven damped two-dimensional sine-Gordon equation. <i>Journal of Physics C: Solid State Physics</i> , 1985, 18, L511-L517.	1.5	9
72	How good are one-dimensional Josephson junction models?. <i>Journal of Applied Physics</i> , 1985, 57, 997-999.	2.5	5

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73	Comparison between one-dimensional and two-dimensional models for Josephson junctions of overlap type. <i>Journal of Applied Physics</i> , 1985, 57, 861-866.	2.5	36
74	One-dimensional approximations for a quadratic Ikeda map. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1984, 104, 59-62.	2.1	5
75	Soliton structure in crystalline acetanilide. <i>Physical Review B</i> , 1984, 30, 4703-4712.	3.2	224
76	Collocation with Quadratic and Cubic Splines. <i>IMA Journal of Numerical Analysis</i> , 1982, 2, 111-121.	2.9	35
77	Chaos in the inhomogeneously driven sine-Gordon equation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1981, 87, 1-4.	2.1	62
78	A mathematical model for pattern formation in biological systems. <i>Physica D: Nonlinear Phenomena</i> , 1981, 3, 439-456.	2.8	11
79	Internal dynamics of long Josephson junction oscillators. <i>Applied Physics Letters</i> , 1981, 39, 108-110.	3.3	30
80	Multiple frequency generation by bunched solitons in Josephson tunnel junctions. <i>Physical Review B</i> , 1981, 24, 7460-7462.	3.2	13
81	A mathematical model for embryonic cell division based on a surface "cleavage field". <i>Journal of Theoretical Biology</i> , 1978, 75, 123-137.	1.7	5
82	Numerical study of the regularized long-wave equation. II: Interaction of solitary waves. <i>Journal of Computational Physics</i> , 1977, 23, 63-73.	3.8	103
83	Numerical evidence for breakdown of soliton behaviour in solutions of the Maxwell-Bloch equations. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1977, 62, 65-66.	2.1	11
84	Numerical study of the regularized long-wave equation I: Numerical methods. <i>Journal of Computational Physics</i> , 1975, 19, 43-57.	3.8	103
85	A general theory of self-induced transparency. <i>Optical and Quantum Electronics</i> , 1974, 6, 121-140.	3.3	35
86	Solitons in nonlinear optics. I. A more accurate description of the 2π pulse in self-induced transparency. <i>Journal of Physics A: Mathematical Nuclear and General</i> , 1973, 6, 1337-1347.	1.0	157
87	Multiple soliton and bisoliton bound state solutions of the sine-Gordon equation and related equations in nonlinear optics. <i>Journal of Physics A: Mathematical Nuclear and General</i> , 1973, 6, L112-L115.	1.0	17
88	Exact multisoliton solution of the inhomogeneously broadened self-induced transparency equations. <i>Journal of Physics A: Mathematical Nuclear and General</i> , 1973, 6, L53-L56.	1.0	61
89	Exact Multisoliton Solutions of the Self-Induced Transparency and Sine-Gordon Equations. <i>Physical Review Letters</i> , 1973, 30, 237-238.	7.8	111
90	The asymptotic form of the N soliton solution of the Korteweg-de Vries equation. <i>Journal of Physics A: General Physics</i> , 1972, 5, L132-L135.	0.8	10

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91	A possible N soliton solution for a nonlinear optics equation. Journal of Physics A: General Physics, 1972, 5, L122-L124.	0.8	23
92	The method of characteristics in the theory of resonant or nonresonant nonlinear optics. Journal of Physics A: General Physics, 1972, 5, 820-829.	0.8	23
93	Reflection of short pulses in linear optics. Journal of Physics A: General Physics, 1972, 5, 1355-1363.	0.8	41
94	Nonlinear radiation reaction, superradiance, and coherent optical pulse propagation. IEEE Journal of Quantum Electronics, 1972, 8, 568-569.	1.9	1