

Bernard M A G Piette

List of Publications by Year in descending order

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84
papers

1,748
citations

279701

23
h-index

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39
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84
all docs

84
docs citations

84
times ranked

1049
citing authors

#	ARTICLE	IF	CITATIONS
1	Image analysis with two-dimensional continuous wavelet transform. <i>Signal Processing</i> , 1993, 31, 241-272.	2.1	236
2	Multisolitons in a two-dimensional Skyrme model. <i>Zeitschrift für Physik C-Particles and Fields</i> , 1995, 65, 165-174.	1.5	169
3	An ultra-stable gold-coordinated protein cage displaying reversible assembly. <i>Nature</i> , 2019, 569, 438-442.	13.7	124
4	Static solutions of d -dimensional modified nonlinear Schrödinger equation. <i>Nonlinearity</i> , 2003, 16, 1481-1497.	0.6	78
5	Skyrmions and domain walls in dimensions. <i>Nonlinearity</i> , 1998, 11, 783-795.	0.6	56
6	Electron self-trapping in a discrete two-dimensional lattice. <i>Physica D: Nonlinear Phenomena</i> , 2001, 159, 71-90.	1.3	56
7	Skyrme-Maxwell solitons in 2+1 dimensions. <i>Physical Review D</i> , 1996, 53, 844-851.	1.6	52
8	The Origin of Phragmoplast Asymmetry. <i>Current Biology</i> , 2011, 21, 1924-1930.	1.8	41
9	Wobbles and other kink-breather solutions of the sine-Gordon model. <i>Physical Review E</i> , 2008, 77, 036613.	0.8	40
10	Metastable stationary solutions of the radial-dimensional sine-Gordon model. <i>Nonlinearity</i> , 1998, 11, 1103-1110.	0.6	39
11	Static solutions in the $U(1)$ gauged Skyrme model. <i>Physical Review D</i> , 2000, 62, .	1.6	38
12	Soliton scattering in the Skyrme model in $(2+1)$ dimensions. I. Soliton-soliton case. <i>Nonlinearity</i> , 1992, 5, 563-583.	0.6	33
13	Multi-Skyrmion solutions for the sixth order Skyrme model. <i>Physical Review D</i> , 2001, 64, .	1.6	33
14	Phase transition and anisotropic deformations of neutron star matter. <i>Physical Review D</i> , 2012, 85, .	1.6	33
15	Skyrmion dynamics in $(2 + 1)$ dimensions. <i>Chaos, Solitons and Fractals</i> , 1995, 5, 2495-2508.	2.5	32
16	Charge and energy transfer by solitons in low-dimensional nanosystems with helical structure. <i>Chemical Physics</i> , 2006, 324, 259-266.	0.9	31
17	A Compartmental Model Analysis of Integrative and Self-Regulatory Ion Dynamics in Pollen Tube Growth. <i>PLoS ONE</i> , 2010, 5, e13157.	1.1	31
18	Shrinking of solitons in the $(2 + 1)$ -dimensional sigma model. <i>Nonlinearity</i> , 1996, 9, 897-910.	0.6	27

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19	Spherically symmetric solutions of the SU(N) Skyrme models. Journal of Mathematical Physics, 1999, 40, 6223-6233.	0.5	27
20	Scattering of topological solitons on holes and barriers. Journal of Physics A, 2005, 38, 10403-10412.	1.6	26
21	Skyrmion stars and the multilayered rational map ansatz. Physical Review D, 2011, 84, .	1.6	26
22	SU(N) skyrmions and harmonic maps. Journal of Mathematical Physics, 1999, 40, 6353-6365.	0.5	25
23	Towards Skyrmion stars: Large baryon configurations in the Einstein-Skyrme model. Physical Review D, 2007, 75, .	1.6	24
24	Mesons, baryons and waves in the baby Skyrmion model. European Physical Journal C, 1998, 1, 333-341.	1.4	22
25	Scattering of sine-Gordon kinks on potential wells. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 5995-6010.	0.7	22
26	Interactions of Skyrmions with domain walls. Physical Review D, 1999, 61, .	1.6	20
27	Localized solutions in a two-dimensional Landau-Lifshitz model. Physica D: Nonlinear Phenomena, 1998, 119, 314-326.	1.3	18
28	Mass terms in the Skyrme model. Physical Review D, 2006, 73, .	1.6	18
29	scattering in 2+1 dimensions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 180, 119-123.	0.9	17
30	A Peptideâ€™Nucleic Acid Replicator Origin for Life. Trends in Ecology and Evolution, 2020, 35, 397-406.	4.2	16
31	Classical nonlinear Ĩf models on Grassmann manifolds of compact or noncompact type. Journal of Mathematical Physics, 1987, 28, 2753-2762.	0.5	15
32	Spherically symmetric solutions of the sixth order SU(N) Skyrme models. Journal of Mathematical Physics, 2001, 42, 5580-5595.	0.5	15
33	A Thermodynamic Model of Microtubule Assembly and Disassembly. PLoS ONE, 2009, 4, e6378.	1.1	15
34	Soliton scattering in the Skyrme model in (2+1) dimensions. II. More general systems. Nonlinearity, 1992, 5, 585-600.	0.6	14
35	On the integrability of pure Skyrme models in two dimensions. Journal of Mathematical Physics, 1997, 38, 3007-3011.	0.5	14
36	General solutions of the U(3) and U(4) chiral Ĩf models in two dimensions. Nuclear Physics B, 1988, 300, 207-222.	0.9	13

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37	Solutions of Minkowskian sigma models on hyperbolic complex Grassmann manifolds. Classical and Quantum Gravity, 1988, 5, 307-319.	1.5	13
38	A generalised Davydov-Scott model for polarons in linear peptide chains. European Physical Journal B, 2017, 90, 1.	0.6	13
39	Artificial Protein Cage with Unusual Geometry and Regularly Embedded Gold Nanoparticles. Nano Letters, 2022, 22, 3187-3195.	4.5	13
40	Scattering of sine-Gordon breathers on a potential well. Physical Review E, 2009, 79, 046603.	0.8	12
41	Ratchet dynamics of large polarons in asymmetric diatomic molecular chains. Journal of Physics Condensed Matter, 2010, 22, 155105.	0.7	11
42	Solutions of Euclidean \tilde{f} models on noncompact Grassmann manifolds. Journal of Mathematical Physics, 1988, 29, 1687-1697.	0.5	10
43	SOLITON ANTISOLITON SCATTERING IN (2+1) DIMENSIONS. International Journal of Modern Physics C, 1992, 03, 637-660.	0.8	10
44	Spontaneously localized electron states in a discrete anisotropic two-dimensional lattice. Physica D: Nonlinear Phenomena, 2000, 146, 275-288.	1.3	9
45	Skyrmion vibration modes within the rational map ansatz. Physical Review D, 2008, 77, .	1.6	9
46	Ratchet behaviour of polarons in molecular chains. Journal of Physics Condensed Matter, 2008, 20, 255242.	0.7	9
47	Properties of classical solutions of the U(N) chiral \tilde{f} models in two dimensions. Nuclear Physics B, 1988, 300, 223-237.	0.9	8
48	Self-trapped electron states in nanotubes. Physica D: Nonlinear Phenomena, 2007, 228, 130-139.	1.3	8
49	Donor-acceptor electron transport mediated by solitons. Physical Review E, 2014, 90, 052915.	0.8	8
50	Numerical Integration of (2 + 1) Dimensional PDEs for S2Valued Functions. Journal of Computational Physics, 1998, 145, 359-381.	1.9	7
51	Reciprocal Nucleopeptides as the Ancestral Darwinian Self-Replicator. Molecular Biology and Evolution, 2018, 35, 404-416.	3.5	7
52	Long-range donor-acceptor electron transport mediated by $\hat{\Gamma}_{\pm}$ helices. Physical Review E, 2019, 100, 062205.	0.8	7
53	Gravitating monopoles in SU(3) gauge theory. Physical Review D, 2001, 64, .	1.6	6
54	Spontaneous localization of electrons in two-dimensional lattices within the adiabatic approximation. Journal of Mathematical Physics, 2003, 44, 3689.	0.5	6

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55	Skyrme model with different mass terms. Physical Review D, 2008, 77, .	1.6	6
56	Ratchet effect of Davydov's solitons in nonlinear low-dimensional nanosystems. International Journal of Quantum Chemistry, 2010, 110, 25-37.	1.0	6
57	Shape-Morphing of an Artificial Protein Cage with Unusual Geometry Induced by a Single Amino Acid Change. ACS Nanoscience Au, 2022, 2, 404-413.	2.0	6
58	Spectrum-generating algebras for the supersymmetric Morse and Pöschl-Teller Hamiltonians. Physics Letters, Section A: General, Atomic and Solid State Physics, 1987, 125, 380-384.	0.9	5
59	Soliton-like behaviour in a modified sine-Gordon model. Physica D: Nonlinear Phenomena, 1993, 64, 355-364.	1.3	5
60	Planar Skyrmions: vibrational modes and dynamics. Physica D: Nonlinear Phenomena, 2005, 201, 45-55.	1.3	5
61	Thermal enhancement and stochastic resonance of polaron ratchets. Physical Review E, 2014, 89, 062905.	0.8	5
62	Characterization of near-miss connectivity-invariant homogeneous convex polyhedral cages. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2022, 478, 20210679.	1.0	5
63	Explicit solutions of Grassmannian \mathfrak{sl} models. Journal of Mathematical Physics, 1988, 29, 2190-2196.	0.5	4
64	Skyrmion model in 2 + 1 dimensions with soliton bound states. Nuclear Physics B, 1993, 393, 65-78.	0.9	4
65	Electron self-trapping on a nanocircle. Physica D: Nonlinear Phenomena, 2006, 218, 36-55.	1.3	4
66	Effects of Periodic Electromagnetic Field on Charge Transport in Macromolecules. Electromagnetic Biology and Medicine, 2009, 28, 15-27.	0.7	4
67	Interactions of solitons in (2+1) dimensions. , 1991, , 242-249.		4
68	Soliton scattering in the CP2model. Nonlinearity, 1993, 6, 1077-1090.	0.6	3
69	Adiabatic self-trapped states in zigzag nanotubes. Journal of Physics Condensed Matter, 2007, 19, 306205.	0.7	3
70	Davydov's solitons in zigzag carbon nanotubes. International Journal of Quantum Chemistry, 2010, 110, 11-24.	1.0	3
71	Spontaneous polaron transport in biopolymers. Europhysics Letters, 2012, 97, 47005.	0.7	3
72	Some classes of general solutions of the U(N) chiral \mathfrak{sl} models in two dimensions. Journal of Mathematical Physics, 1989, 30, 2233-2237.	0.5	2

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73	Skyrmions and rational maps. Nonlinearity, 2001, 14, C1-C5.	0.6	2
74	Directed polaron propagation in linear polypeptides induced by intramolecular vibrations and external electric pulses. Physical Review E, 2018, 98, 012401.	0.8	2
75	Understanding Skyrmions Using Rational Maps. , 2001, , 469-479.		2
76	Some aspects of the scattering of skyrmions in (2+1) dimensions. Nonlinearity, 1994, 7, 231-244.	0.6	1
77	Soliton-like structures in two spatial dimensions and their properties. Reports on Mathematical Physics, 1997, 40, 313-320.	0.4	1
78	Nontopological Structures in the Baby-Skyrme Model. , 2000, , 309-312.		1
79	Finite energy solutons for (1+1)-dimensional \tilde{f} models. Journal of Mathematical Physics, 1990, 31, 916-923.	0.5	0
80	Instantons in four-dimensional gauged O(5) Skyrme models. Journal of Mathematical Physics, 2001, 42, 4669-4683.	0.5	0
81	Directed Transport of the Davydov Solitons by Unbiased a.c. Forces. NATO Science for Peace and Security Series A: Chemistry and Biology, 2009, , 89-102.	0.5	0
82	Biopolymer hairpin loops sustained by polarons. Physical Review E, 2012, 86, 021910.	0.8	0
83	Some Properties of Solitons. NATO Science for Peace and Security Series A: Chemistry and Biology, 2009, , 103-121.	0.5	0
84	Soliton-Like Structure in (2+1) Dimensions. NATO ASI Series Series B: Physics, 1993, , 73-76.	0.2	0