

# Bernard M A G Piette

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

83  
papers

1,435  
citations

20  
h-index

35  
g-index

84  
ext. papers

1,592  
ext. citations

3.5  
avg, IF

4.34  
L-index

#	Paper	IF	Citations
83	Artificial Protein Cage with Unusual Geometry and Regularly Embedded Gold Nanoparticles.. <i>Nano Letters</i> , <b>2022</b> ,	11.5	2
82	Characterization of near-miss connectivity-invariant homogeneous convex polyhedral cages.. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2022</b> , 478, 20210679 <sup>2.4</sup>	2.4	2
81	A Peptide-Nucleic Acid Replicator Origin for Life. <i>Trends in Ecology and Evolution</i> , <b>2020</b> , 35, 397-406	10.9	8
80	An ultra-stable gold-coordinated protein cage displaying reversible assembly. <i>Nature</i> , <b>2019</b> , 569, 438-443 <sup>50.4</sup>	50.4	72
79	Long-range donor-acceptor electron transport mediated by helices. <i>Physical Review E</i> , <b>2019</b> , 100, 062205 <sup>2.4</sup>	2.4	5
78	Reciprocal Nucleopeptides as the Ancestral Darwinian Self-Replicator. <i>Molecular Biology and Evolution</i> , <b>2018</b> , 35, 404-416	8.3	7
77	Directed polaron propagation in linear polypeptides induced by intramolecular vibrations and external electric pulses. <i>Physical Review E</i> , <b>2018</b> , 98, 012401	2.4	2
76	A generalised Davydov-Scott model for polarons in linear peptide chains. <i>European Physical Journal B</i> , <b>2017</b> , 90, 1	1.2	11
75	Thermal enhancement and stochastic resonance of polaron ratchets. <i>Physical Review E</i> , <b>2014</b> , 89, 062905 <sup>2.4</sup>	2.4	4
74	Donor-acceptor electron transport mediated by solitons. <i>Physical Review E</i> , <b>2014</b> , 90, 052915	2.4	6
73	Biopolymer hairpin loops sustained by polarons. <i>Physical Review E</i> , <b>2012</b> , 86, 021910	2.4	
72	Phase transition and anisotropic deformations of neutron star matter. <i>Physical Review D</i> , <b>2012</b> , 85,	4.9	23
71	Spontaneous polaron transport in biopolymers. <i>Europhysics Letters</i> , <b>2012</b> , 97, 47005	1.6	3
70	The origin of phragmoplast asymmetry. <i>Current Biology</i> , <b>2011</b> , 21, 1924-30	6.3	38
69	Skyrmion stars and the multilayered rational map ansatz. <i>Physical Review D</i> , <b>2011</b> , 84,	4.9	20
68	A compartmental model analysis of integrative and self-regulatory ion dynamics in pollen tube growth. <i>PLoS ONE</i> , <b>2010</b> , 5, e13157	3.7	29
67	Ratchet dynamics of large polarons in asymmetric diatomic molecular chains. <i>Journal of Physics Condensed Matter</i> , <b>2010</b> , 22, 155105	1.8	8

66	Ratchet effect of Davydov solitons in nonlinear low-dimensional nanosystems. <i>International Journal of Quantum Chemistry</i> , <b>2010</b> , 110, 25-37	2.1	6
65	Davydov solitons in zigzag carbon nanotubes. <i>International Journal of Quantum Chemistry</i> , <b>2010</b> , 110, 11-24	2.1	3
64	A thermodynamic model of microtubule assembly and disassembly. <i>PLoS ONE</i> , <b>2009</b> , 4, e6378	3.7	14
63	Scattering of sine-Gordon breathers on a potential well. <i>Physical Review E</i> , <b>2009</b> , 79, 046603	2.4	11
62	Directed Transport of the Davydov Solitons by Unbiased a.c. Forces. <i>NATO Science for Peace and Security Series A: Chemistry and Biology</i> , <b>2009</b> , 89-102	0.1	
61	Effects of periodic electromagnetic field on charge transport in macromolecules. <i>Electromagnetic Biology and Medicine</i> , <b>2009</b> , 28, 15-27	2.2	3
60	Some Properties of Solitons. <i>NATO Science for Peace and Security Series A: Chemistry and Biology</i> , <b>2009</b> , 103-121	0.1	
59	Skyrmion vibration modes within the rational map ansatz. <i>Physical Review D</i> , <b>2008</b> , 77,	4.9	8
58	Skyrme model with different mass terms. <i>Physical Review D</i> , <b>2008</b> , 77,	4.9	6
57	Ratchet behaviour of polarons in molecular chains. <i>Journal of Physics Condensed Matter</i> , <b>2008</b> , 20, 255242.8	4.8	9
56	Wobbles and other kink-breather solutions of the sine-Gordon model. <i>Physical Review E</i> , <b>2008</b> , 77, 036612.4	4.8	35
55	Towards Skyrmion stars: Large baryon configurations in the Einstein-Skyrme model. <i>Physical Review D</i> , <b>2007</b> , 75,	4.9	20
54	Self-trapped electron states in nanotubes. <i>Physica D: Nonlinear Phenomena</i> , <b>2007</b> , 228, 130-139	3.3	7
53	Scattering of sine-Gordon kinks on potential wells. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2007</b> , 40, 5995-6010	2	19
52	Adiabatic self-trapped states in zigzag nanotubes. <i>Journal of Physics Condensed Matter</i> , <b>2007</b> , 19, 306205.8	5.8	3
51	Charge and energy transfer by solitons in low-dimensional nanosystems with helical structure. <i>Chemical Physics</i> , <b>2006</b> , 324, 259-266	2.3	28
50	Mass terms in the Skyrme model. <i>Physical Review D</i> , <b>2006</b> , 73,	4.9	16
49	Electron self-trapping on a nanocircle. <i>Physica D: Nonlinear Phenomena</i> , <b>2006</b> , 218, 36-55	3.3	4

- 48 Planar Skyrmions: vibrational modes and dynamics. *Physica D: Nonlinear Phenomena*, **2005**, 201, 45-55 3:3 4
- 47 Scattering of topological solitons on holes and barriers. *Journal of Physics A*, **2005**, 38, 10403-10412 20
- 46 Static solutions of aD-dimensional modified nonlinear Schrödinger equation. *Nonlinearity*, **2003**, 16, 1481-1497 6:3
- 45 Spontaneous localization of electrons in two-dimensional lattices within the adiabatic approximation. *Journal of Mathematical Physics*, **2003**, 44, 3689 1:2 4
- 44 Electron self-trapping in a discrete two-dimensional lattice. *Physica D: Nonlinear Phenomena*, **2001**, 159, 71-90 3:3 45
- 43 Skyrmions and rational maps. *Nonlinearity*, **2001**, 14, C1-C5 1:7
- 42 Instantons in four-dimensional gauged O(5) Skyrme models. *Journal of Mathematical Physics*, **2001**, 42, 4669-4683 1:2
- 41 Gravitating monopoles in SU(3) gauge theory. *Physical Review D*, **2001**, 64, 4:9 6
- 40 Multi-Skyrmion solutions for the sixth order Skyrme model. *Physical Review D*, **2001**, 64, 4:9 30
- 39 Spherically symmetric solutions of the sixth order SU(N) Skyrme models. *Journal of Mathematical Physics*, **2001**, 42, 5580-5595 1:2 14
- 38 Understanding Skyrmions Using Rational Maps **2001**, 469-479
- 37 Spontaneously localized electron states in a discrete anisotropic two-dimensional lattice. *Physica D: Nonlinear Phenomena*, **2000**, 146, 275-288 3:3 7
- 36 Static solutions in the U(1) gauged Skyrme model. *Physical Review D*, **2000**, 62, 4:9 30
- 35 Nontopological Structures in the Baby-Skyrme Model **2000**, 309-312 1
- 34 Interactions of Skyrmions with domain walls. *Physical Review D*, **1999**, 61, 4:9 16
- 33 SU(N) skyrmions and harmonic maps. *Journal of Mathematical Physics*, **1999**, 40, 6353-6365 1:2 23
- 32 Spherically symmetric solutions of the SU(N) Skyrme models. *Journal of Mathematical Physics*, **1999**, 40, 6223-6233 1:2 23
- 31 Numerical Integration of (2 + 1) Dimensional PDEs for S<sup>2</sup>-Valued Functions. *Journal of Computational Physics*, **1998**, 145, 359-381 4:1 6

30	Localized solutions in a two-dimensional Landau-Lifshitz model. <i>Physica D: Nonlinear Phenomena</i> , <b>1998</b> , 119, 314-326	3.3	18
29	Mesons, baryons and waves in the baby Skyrme model. <i>European Physical Journal C</i> , <b>1998</b> , 1, 333-341	4.2	19
28	Metastable stationary solutions of the radial-dimentional sine-Gordon model. <i>Nonlinearity</i> , <b>1998</b> , 11, 1103-1110	1.7	35
27	Skyrmions and domain walls in dimensions. <i>Nonlinearity</i> , <b>1998</b> , 11, 783-795	1.7	47
26	On the integrability of pure Skyrme models in two dimensions. <i>Journal of Mathematical Physics</i> , <b>1997</b> , 38, 3007-3011	1.2	13
25	Soliton-like structures in two spatial dimensions and their properties. <i>Reports on Mathematical Physics</i> , <b>1997</b> , 40, 313-320	0.8	1
24	Shrinking of solitons in the (2 + 1)-dimensional sigma model. <i>Nonlinearity</i> , <b>1996</b> , 9, 897-910	1.7	24
23	Skyrme-Maxwell solitons in 2+1 dimensions. <i>Physical Review D</i> , <b>1996</b> , 53, 844-851	4.9	43
22	Skyrmion dynamics in (2 + 1) dimensions. <i>Chaos, Solitons and Fractals</i> , <b>1995</b> , 5, 2495-2508	9.3	30
21	Multisolitons in a two-dimensional Skyrme model. <i>Zeitschrift für Physik C-Particles and Fields</i> , <b>1995</b> , 65, 165-174		147
20	Some aspects of the scattering of skyrmions in (2+1) dimensions. <i>Nonlinearity</i> , <b>1994</b> , 7, 231-244	1.7	1
19	Soliton scattering in the CP2 model. <i>Nonlinearity</i> , <b>1993</b> , 6, 1077-1090	1.7	2
18	scattering in 2+1 dimensions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>1993</b> , 180, 119-123	2.3	16
17	Soliton-like behaviour in a modified sine-Gordon model. <i>Physica D: Nonlinear Phenomena</i> , <b>1993</b> , 64, 355-364	3.5	3
16	Image analysis with two-dimensional continuous wavelet transform. <i>Signal Processing</i> , <b>1993</b> , 31, 241-272	4.4	186
15	Skyrmion model in 2 + 1 dimensions with soliton bound states. <i>Nuclear Physics B</i> , <b>1993</b> , 393, 65-78	2.8	4
14	Soliton-Like Structure in (2+1) Dimensions. <i>NATO ASI Series Series B: Physics</i> , <b>1993</b> , 73-76		
13	Soliton scattering in the Skyrme model in (2+1) dimensions. I. Soliton-soliton case. <i>Nonlinearity</i> , <b>1992</b> , 5, 563-583	1.7	33

12	Soliton scattering in the Skyrme model in (2+1) dimensions. II. More general systems. <i>Nonlinearity</i> , <b>1992</b> , 5, 585-600	1.7	12
11	SOLITON ANTISOLITON SCATTERING IN (2+1) DIMENSIONS. <i>International Journal of Modern Physics C</i> , <b>1992</b> , 03, 637-660	1.1	9
10	Interactions of solitons in (2+1) dimensions <b>1991</b> , 242-249		3
9	Finite energy solutons for (1+1)-dimensional $\sigma$ models. <i>Journal of Mathematical Physics</i> , <b>1990</b> , 31, 916-923	1.2	2
8	Some classes of general solutions of the U(N) chiral $\sigma$ models in two dimensions. <i>Journal of Mathematical Physics</i> , <b>1989</b> , 30, 2233-2237	1.2	1
7	General solutions of the U(3) and U(4) chiral $\sigma$ models in two dimensions. <i>Nuclear Physics B</i> , <b>1988</b> , 300, 207-222	2.8	9
6	Properties of classical solutions of the U(N) chiral $\sigma$ models in two dimensions. <i>Nuclear Physics B</i> , <b>1988</b> , 300, 223-237	2.8	8
5	Solutions of Euclidean $\sigma$ models on noncompact Grassmann manifolds. <i>Journal of Mathematical Physics</i> , <b>1988</b> , 29, 1687-1697	1.2	10
4	Explicit solutions of Grassmannian $\sigma$ models. <i>Journal of Mathematical Physics</i> , <b>1988</b> , 29, 2190-2196	1.2	4
3	Solutions of Minkowskian sigma models on hyperbolic complex Grassmann manifolds. <i>Classical and Quantum Gravity</i> , <b>1988</b> , 5, 307-319	3.3	13
2	Classical nonlinear $\sigma$ models on Grassmann manifolds of compact or noncompact type. <i>Journal of Mathematical Physics</i> , <b>1987</b> , 28, 2753-2762	1.2	14
1	Spectrum-generating algebras for the supersymmetric Morse and Pöchl-Teller Hamiltonians. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>1987</b> , 125, 380-384	2.3	5