# Bernard M A G Piette

## List of Publications by Citations

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|---|---|---|---|
| **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 | Image analysis with two-dimensional continuous wavelet transform. *Signal Processing*, **1993**, 31, 241-272 | 4.4 | 186 |
| 82 | Multisolitons in a two-dimensional Skyrme model. *Zeitschrift Für Physik C-Particles and Fields*, **1995**, 65, 165-174 | | 147 |
| 81 | An ultra-stable gold-coordinated protein cage displaying reversible assembly. *Nature*, **2019**, 569, 438-442 | 50.4 | 72 |
| 80 | Static solutions of aD-dimensional modified nonlinear Schrödinger equation. *Nonlinearity*, **2003**, 16, 1481-1497 | 1.7 | 63 |
| 79 | Skyrmions and domain walls in dimensions. *Nonlinearity*, **1998**, 11, 783-795 | 1.7 | 47 |
| 78 | Electron self-trapping in a discrete two-dimensional lattice. *Physica D: Nonlinear Phenomena*, **2001**, 159, 71-90 | 3.3 | 45 |
| 77 | Skyrme-Maxwell solitons in 2+1 dimensions. *Physical Review D*, **1996**, 53, 844-851 | 4.9 | 43 |
| 76 | The origin of phragmoplast asymmetry. *Current Biology*, **2011**, 21, 1924-30 | 6.3 | 38 |
| 75 | Wobbles and other kink-breather solutions of the sine-Gordon model. *Physical Review E*, **2008**, 77, 036613 | 2.4 | 35 |
| 74 | Metastable stationary solutions of the radiald-dimensional sine-Gordon model. *Nonlinearity*, **1998**, 11, 1103-1110 | 1.7 | 35 |
| 73 | Soliton scattering in the Skyrme model in (2+1) dimensions. I. Soliton-soliton case. *Nonlinearity*, **1992**, 5, 563-583 | 1.7 | 33 |
| 72 | Multi-Skyrmion solutions for the sixth order Skyrme model. *Physical Review D*, **2001**, 64, | 4.9 | 30 |
| 71 | Static solutions in the U(1) gauged Skyrme model. *Physical Review D*, **2000**, 62, | 4.9 | 30 |
| 70 | Skyrmion dynamics in (2 + 1) dimensions. *Chaos, Solitons and Fractals*, **1995**, 5, 2495-2508 | 9.3 | 30 |
| 69 | A compartmental model analysis of integrative and self-regulatory ion dynamics in pollen tube growth. *PLoS ONE*, **2010**, 5, e13157 | 3.7 | 29 |
| 68 | Charge and energy transfer by solitons in low-dimensional nanosystems with helical structure. *Chemical Physics*, **2006**, 324, 259-266 | 2.3 | 28 |
| 67 | Shrinking of solitons in the (2 + 1)-dimensional sigma model. *Nonlinearity*, **1996**, 9, 897-910 | 1.7 | 24 |

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| 66 | Phase transition and anisotropic deformations of neutron star matter. *Physical Review D*, **2012**, 85, | 4.9 | 23 |
| 65 | SU(N) skyrmions and harmonic maps. *Journal of Mathematical Physics*, **1999**, 40, 6353-6365 | 1.2 | 23 |
| 64 | Spherically symmetric solutions of the SU(N) Skyrme models. *Journal of Mathematical Physics*, **1999**, 40, 6223-6233 | 1.2 | 23 |
| 63 | Skyrmion stars and the multilayered rational map ansatz. *Physical Review D*, **2011**, 84, | 4.9 | 20 |
| 62 | Towards Skyrmion stars: Large baryon configurations in the Einstein-Skyrme model. *Physical Review D*, **2007**, 75, | 4.9 | 20 |
| 61 | Scattering of topological solitons on holes and barriers. *Journal of Physics A*, **2005**, 38, 10403-10412 | | 20 |
| 60 | Mesons, baryons and waves in the baby Skyrmion model. *European Physical Journal C*, **1998**, 1, 333-341 | 4.2 | 19 |
| 59 | Scattering of sine-Gordon kinks on potential wells. *Journal of Physics A: Mathematical and Theoretical*, **2007**, 40, 5995-6010 | 2 | 19 |
| 58 | Localized solutions in a two-dimensional Landau-Lifshitz model. *Physica D: Nonlinear Phenomena*, **1998**, 119, 314-326 | 3.3 | 18 |
| 57 | Mass terms in the Skyrme model. *Physical Review D*, **2006**, 73, | 4.9 | 16 |
| 56 | Interactions of Skyrmions with domain walls. *Physical Review D*, **1999**, 61, | 4.9 | 16 |
| 55 | scattering in 2+1 dimensions. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1993**, 180, 119-123 | 2.3 | 16 |
| 54 | A thermodynamic model of microtubule assembly and disassembly. *PLoS ONE*, **2009**, 4, e6378 | 3.7 | 14 |
| 53 | Spherically symmetric solutions of the sixth order SU(N) Skyrme models. *Journal of Mathematical Physics*, **2001**, 42, 5580-5595 | 1.2 | 14 |
| 52 | Classical nonlinear models on Grassmann manifolds of compact or noncompact type. *Journal of Mathematical Physics*, **1987**, 28, 2753-2762 | 1.2 | 14 |
| 51 | On the integrability of pure Skyrme models in two dimensions. *Journal of Mathematical Physics*, **1997**, 38, 3007-3011 | 1.2 | 13 |
| 50 | Solutions of Minkowskian sigma models on hyperbolic complex Grassmann manifolds. *Classical and Quantum Gravity*, **1988**, 5, 307-319 | 3.3 | 13 |
| 49 | Soliton scattering in the Skyrme model in (2+1) dimensions. II. More general systems. *Nonlinearity*, **1992**, 5, 585-600 | 1.7 | 12 |

| 48 | A generalised Davydov-Scott model for polarons in linear peptide chains. *European Physical Journal B*, **2017**, 90, 1 | 1.2 | 11 |
| 47 | Scattering of sine-Gordon breathers on a potential well. *Physical Review E*, **2009**, 79, 046603 | 2.4 | 11 |
| 46 | Solutions of Euclidean $\sigma$ models on noncompact Grassmann manifolds. *Journal of Mathematical Physics*, **1988**, 29, 1687-1697 | 1.2 | 10 |
| 45 | Ratchet behaviour of polarons in molecular chains. *Journal of Physics Condensed Matter*, **2008**, 20, 255242 | 2.8 | 9 |
| 44 | SOLITON ANTISOLITON SCATTERING IN (2+1) DIMENSIONS. *International Journal of Modern Physics C*, **1992**, 03, 637-660 | 1.1 | 9 |
| 43 | General solutions of the U(3) and U(4) chiral $\sigma$ models in two dimensions. *Nuclear Physics B*, **1988**, 300, 207-222 | 2.8 | 9 |
| 42 | A Peptide-Nucleic Acid Replicator Origin for Life. *Trends in Ecology and Evolution*, **2020**, 35, 397-406 | 10.9 | 8 |
| 41 | Ratchet dynamics of large polarons in asymmetric diatomic molecular chains. *Journal of Physics Condensed Matter*, **2010**, 22, 155105 | 1.8 | 8 |
| 40 | Skyrmion vibration modes within the rational map ansatz. *Physical Review D*, **2008**, 77, | 4.9 | 8 |
| 39 | Properties of classical solutions of the U(N) chiral $\sigma$ models in two dimensions. *Nuclear Physics B*, **1988**, 300, 223-237 | 2.8 | 8 |
| 38 | Reciprocal Nucleopeptides as the Ancestral Darwinian Self-Replicator. *Molecular Biology and Evolution*, **2018**, 35, 404-416 | 8.3 | 7 |
| 37 | Self-trapped electron states in nanotubes. *Physica D: Nonlinear Phenomena*, **2007**, 228, 130-139 | 3.3 | 7 |
| 36 | Spontaneously localized electron states in a discrete anisotropic two-dimensional lattice. *Physica D: Nonlinear Phenomena*, **2000**, 146, 275-288 | 3.3 | 7 |
| 35 | Donor-acceptor electron transport mediated by solitons. *Physical Review E*, **2014**, 90, 052915 | 2.4 | 6 |
| 34 | Ratchet effect of Davydov solitons in nonlinear low-dimensional nanosystems. *International Journal of Quantum Chemistry*, **2010**, 110, 25-37 | 2.1 | 6 |
| 33 | Numerical Integration of (2 + 1) Dimensional PDEs for S2 Valued Functions. *Journal of Computational Physics*, **1998**, 145, 359-381 | 4.1 | 6 |
| 32 | Skyrme model with different mass terms. *Physical Review D*, **2008**, 77, | 4.9 | 6 |
| 31 | Gravitating monopoles in SU(3) gauge theory. *Physical Review D*, **2001**, 64, | 4.9 | 6 |

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| 30 | 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 | 2.3 | 5 |
| 29 | Long-range donor-acceptor electron transport mediated by α helices. *Physical Review E*, **2019**, 100, 062205 | 2.4 | 5 |
| 28 | Thermal enhancement and stochastic resonance of polaron ratchets. *Physical Review E*, **2014**, 89, 062905 | 2.4 | 4 |
| 27 | Electron self-trapping on a nanocircle. *Physica D: Nonlinear Phenomena*, **2006**, 218, 36-55 | 3.3 | 4 |
| 26 | Spontaneous localization of electrons in two-dimensional lattices within the adiabatic approximation. *Journal of Mathematical Physics*, **2003**, 44, 3689 | 1.2 | 4 |
| 25 | Planar Skyrmions: vibrational modes and dynamics. *Physica D: Nonlinear Phenomena*, **2005**, 201, 45-55 | 3.3 | 4 |
| 24 | Skyrmion model in 2 + 1 dimensions with soliton bound states. *Nuclear Physics B*, **1993**, 393, 65-78 | 2.8 | 4 |
| 23 | Explicit solutions of Grassmannian σ models. *Journal of Mathematical Physics*, **1988**, 29, 2190-2196 | 1.2 | 4 |
| 22 | Spontaneous polaron transport in biopolymers. *Europhysics Letters*, **2012**, 97, 47005 | 1.6 | 3 |
| 21 | Effects of periodic electromagnetic field on charge transport in macromolecules. *Electromagnetic Biology and Medicine*, **2009**, 28, 15-27 | 2.2 | 3 |
| 20 | Davydov's solitons in zigzag carbon nanotubes. *International Journal of Quantum Chemistry*, **2010**, 110, 11-24 | 2.1 | 3 |
| 19 | Adiabatic self-trapped states in zigzag nanotubes. *Journal of Physics Condensed Matter*, **2007**, 19, 306205 | 1.8 | 3 |
| 18 | Soliton-like behaviour in a modified sine-Gordon model. *Physica D: Nonlinear Phenomena*, **1993**, 64, 355-364 | 3.3 | 3 |
| 17 | Interactions of solitons in (2+1) dimensions **1991**, 242-249 | | 3 |
| 16 | Directed polaron propagation in linear polypeptides induced by intramolecular vibrations and external electric pulses. *Physical Review E*, **2018**, 98, 012401 | 2.4 | 2 |
| 15 | Soliton scattering in the CP2 model. *Nonlinearity*, **1993**, 6, 1077-1090 | 1.7 | 2 |
| 14 | Artificial Protein Cage with Unusual Geometry and Regularly Embedded Gold Nanoparticles.. *Nano Letters*, **2022**, | 11.5 | 2 |
| 13 | Characterization of near-miss connectivity-invariant homogeneous convex polyhedral cages.. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2022**, 478, 20210679 | 2.4 | 2 |

| 12 | Soliton-like structures in two spatial dimensions and their properties. *Reports on Mathematical Physics*, **1997**, 40, 313-320 | 0.8 | 1 |

| 11 | Some aspects of the scattering of skyrmions in (2+1) dimensions. *Nonlinearity*, **1994**, 7, 231-244 | 1.7 | 1 |

| 10 | Some classes of general solutions of the U(N) chiral models in two dimensions. *Journal of Mathematical Physics*, **1989**, 30, 2233-2237 | 1.2 | 1 |

| 9 | Nontopological Structures in the Baby-Skyrme Model **2000**, 309-312 | | 1 |

| 8 | Biopolymer hairpin loops sustained by polarons. *Physical Review E*, **2012**, 86, 021910 | 2.4 | |

| 7 | 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 | 0.1 | |

| 6 | Skyrmions and rational maps. *Nonlinearity*, **2001**, 14, C1-C5 | 1.7 | |

| 5 | Instantons in four-dimensional gauged O(5) Skyrme models. *Journal of Mathematical Physics*, **2001**, 42, 4669-4683 | 1.2 | |

| 4 | Finite energy solutons for (1+1)-dimensional models. *Journal of Mathematical Physics*, **1990**, 31, 916-923 | 1.2 | |

| 3 | Understanding Skyrmions Using Rational Maps **2001**, 469-479 | | |

| 2 | Soliton-Like Structure in (2+1) Dimensions. *NATO ASI Series Series B: Physics*, **1993**, 73-76 | | |

| 1 | Some Properties of Solitons. *NATO Science for Peace and Security Series A: Chemistry and Biology*, **2009**, 103-121 | 0.1 | |