

## WOJCIECH JERZY MARIA ZAKRZEWSKI

### List of Publications:

1. Mixing of Regge Poles and Cuts in Perturbation Theory, *Nucl. Phys.* **B5**, 403 (1968).
2. Regge Behaviour of Production Amplitudes in a Field Theory Model, *Nuovo Cimento* **60A**, 263 (1969).
3. The Two Reggeon/Particle Coupling, (with I.T. Drummond and P.V. Landshoff), *Nucl. Phys.* **B11** 383 (1969).
4. Signature in Production Amplitudes, (with I.T. Drummond and P.V. Landshoff), *Phys. Lett.* **28B**, 676 (1969).
5. The Three Reggeon Vertex (with P.V. Landshoff), *Nucl. Phys.* **B12**, 216 (1969).
6. Signature in the Bardakci and Ruegg Model, *Nucl. Phys.* **B12**, 216 (1969).
7. Veneziano Amplitudes for Reggeons and Spinning Particles, (with D.K. Campbell, D.I. Olive), *Nucl. Phys.* **B14**, 318 (1969).
8. A Veneziano Amplitude for Four Spinning Pions (with D.I. Olive), *Phys. Lett.* **30B**, 650 (1969).
9. A Possible Veneziano Amplitude for many Pions, (with D.I. Olive), *Nucl. Phys.* **B21**, 21 (1970)
10. Interference Amplitudes from Dual Models, (with G. Venturi), *Nuovo Cimento* **69A**, 431 (1970).
11. Dual Crossing-Symmetric Amplitude with Mandelstam Analyticity, (with G. Cohen Tannoudji, F. Henyey, and G.L. Kane), *Phys. Rev. Lett.* **26**, 112 (1971).
12. Dual Crossing Symmetric Models with Regge Cuts, (with R. Tucker), *Nucl. Phys.* **40B**, 173 (1972).
13. Enhanced Absorption and Scattering Amplitudes at All Angles (with G. Cohen Tannoudji, F. Henyey, R. Lacaze, G.L. Kane and D. Richards), *Nucl. Phys.* **45B**, 109 (1972).
14. A Pomeron Model Which Needs no Decoupling, (with F. Henyey), *Phys. Lett.* **42B**, 431 (1972).
15. Deep Inelastic Limit in a Model with Regge Cuts, (with R.W. Tucker), *Nuovo Cimento* **16A**, 161 (1973).
16. Helicity Poles in 5 dimensions, (with I.O. Moen), *Phys. Rev.* **D8**, 613 (1973).
17. Helicity or Regge Poles in Inclusive Reactions (with I.O. Moen), *Nucl. Phys.* **B65**, 346 (1973).
18. Multi-Regge Limit of the Neveu-Schwartz Model, (with I.O. Moen and C. Montonen), *Phys. Rev.* **D9**, 1717 (1974).
19. Regge Couplings in Exclusive and Inclusive Reactions, (with I.O. Moen), *Nuovo Cimento* **19A**, 34 (1974).
20. A Multi-Pomeron Model with Zeros in the Couplings, (with I.O. Moen and J. Steinhoff), *Nucl. Phys.* **B80**, 33 (1974).
21. Two-Pomeron Contribution to the Total Cross Section, (with I.O. Moen), *Phys. Rev.* **D11**, 1175 (1975).
22. Unitarity in the Complex Angular Momentum Plane and the Two-Reggeon Cut, (with I.O. Moen), *Phys. Rev.* **D11**, 2562 (1975).

23. Reggeon Field Theory on a Lattice: A Formulation, (with R.C. Brower, J. Ellis, R. Savit), *Nucl. Phys.* **B94**, 460 (1975).
24. Pomeron Intercept in a General Class of Reggeon Field Theories, *Phys. Rev.* **D14**, 1165 (1976).
25. Regge behaviour of the 6-point function and the new trajectories, *Nucl. Phys.* **B130**, 164 (1977).
26. Multi-Regge limit of the Veneziano model and the new trajectories, I (with M. Sarbishaei), *Nucl. Phys.* **B132**, 268 (1978).
27. Multi-Regge limit of the Veneziano model and the new trajectories, II (with C. Barratt and M. Sarbishaei), *Nucl. Phys.* **B132**, 294 (1978).
28. Possible phenomenological implications of the new trajectories on the pion trajectory (with C. Barratt and M. Sarbishaei), *Nucl. Phys.* **B132**, 478 (1978).
29. Mobius invariance and classical solutions of SU(2) gauge theory (with R.W. Tucker), *Nucl. Phys.* **B143**, 424 (1978).
30. Non-perturbative QCD effects at large momentum transfers (with L. Baulieu, J. Ellis and M.K. Gaillard), *Phys. Lett.* **77B**, 290 (1978).
31. Non-perturbative effects in deep inelastic scattering (with L. Baulieu, J. Ellis and M.K. Gaillard), *Phys. Lett.* **81B**, 41 (1979).
32. Non-perturbative effects on factorization in high momentum processes (with J. Ellis and M.K. Gaillard), *Phys. Lett.* **81B**, 224 (1979).
33. Mass corrections to some instanton effects (with A.M. Din, J. Finjord), *Nucl. Phys.* **B153**, 46 (1979).
34. Quantum fluctuations in the one-instanton sector of the  $CP^{n-1}$  model (with A.M. Din and P.Di Vecchia), *Nucl. Phys.* **B155**, 447 (1979).
35. Some instanton effects at large momenta, Quarks, Gluons and Jets - Proceedings of XIV Rencontre de Moriond - Editions Frontieres, France p 167-174, (1979)
36. Stability properties of classical solutions to nonlinear  $\sigma$  models (with A.M. Din), *Nucl. Phys.* **B168**, 173 (1980).
37. Embeddings of classical solutions of  $0(2p+1)$  non-linear  $\sigma$  models in  $CP^{n-1}$  models (with A.M. Din), *Lett. al Nuovo Cimento*, **28**, 121 (1980).
38. Some applications of instantons, *Developments in the Theory of Fundamental Interactions*, Harwood Acad. Publishers, 213 (1980).
39. General classical solutions of the  $CP^{n-1}$  models (with A.M. Din), *Nucl. Phys.* **B174**, 397 (1980).
40. Properties of general classical  $CP^{n-1}$  solutions (with A.M. Din) *Phys. Lett.* **95B**, 419 (1980).
41. General classical solutions of the Euclidean  $CP^{n-1}$  models (with A.M. Din), *Proceedings of XX International Conference on High Energy Physics, Madison, Wisconsin*. AIP 936 (1981).
42. Interpretation and further solutions of general classical  $CP^{n-1}$  models (with A.M. Din), *Nucl. Phys.* **B182**, 151 (1982).
43. Fermion solutions in the supersymmetric  $CP^{n-1}$  model (with A.M. Din), *Phys. Lett.* **101B**, 166 (1981).
44. General classical solutions of a supersymmetric nonlinear coupled boson-fermion model in two dimensions (with A.M. Din and J. Lukierski) *Nucl. Phys.* **B194**, 157 (1982).

45. Classical Solutions in grassmanian models (with A.M. Din), *Lett. in Math. Phys.* **5**, 553 (1981).
46. Classical solutions of  $CP^{n-1}$  models and their generalisations, *Czech. Jour. of Phys.* **B32**, 589 (1982).
47. Decoupling in  $CP^{n-1}$  models with fermions (with A.M. Din), *Nuovo Cimento* **72A**, 214 (1982).
48. Quantum fluctuations around a noninstanton solution (with A.M. Din), *Lett. Math. Phys* **6** 373 (1982).
49. Classical solutions of some field theoretic models, *Proceedings of V-Warsaw Symposium on Elementary particle Physics - Kazimierz*, 289 (1982).
50. Estimating ground-state energies in supersymmetric quantum mechanics (unbroken case) (with R.B. Abbott), *Z. Phys.* **C20**, 227 (1983).
51. Estimates of ground-state energies in supersymmetric quantum mechanics (with R.A. Abbott) *Supersymmetry and Supergravity*, World Scientific, 501 (1983).
52. Further properties of classical solutions in Grassmanian  $\sigma$  models (with A.M. Din), *Nucl. Phys.* **B237**, 461 (1984).
53. The Riemann-Hilbert problem and finite action  $CP^{n-1}$  model solutions (with A.M. Din and Z. Horvath), *Nucl. Phys.* **B233**, 269 (1984).
54. Some properties of classical solutions in grassmanian sigma models (with A.M. Din), *Lett. in Math. Phys.* **7**, 505 (1983).
55. Classical solutions of two-dimensional grassmanian models, *Jour. of Geometry and Physics* **1**, 39-63 (1984).
56. Classical solutions of  $CP^{n-1}$  models 2 + 1 dimensions (with P. Forgacs and Z. Horvath), *Nucl. Phys.* **B248**, 187 (1984).
57. Spin and Statistics of  $CP^1$  skyrmions (with A.M. Din), *Phys. Lett.* **146B**, 341, (1984).
58. The point particle limit of  $CP^1$  skyrmions (with A.M. Din), *Nucl. Phys.* **B253**, 77-92 (1985).
59. Skyrmion Dynamics in 2 + 1 dimensions (with A.M. Din), *Nucl. Phys.* **B259**, 667-678 (1985).
60.  $\sigma$  models in even-dimensional spaces, *Nucl. Phys.* **B262**, 120-132 (1985).
61. Some sigma models in even-dimensional spaces, *Acta Phys. Polonica* **B17**, 351-363 (1986).
62. Simple extended structures based on sigma models, in *Fields and Geometry*, World Scientific, 581-596 (1986).
63. Classical solutions of some  $CP^1$ -like models, *Lett. in Math. Phys.* **12**, 283-290 (1986).
64. On the relevance of discontinuous field configurations in functional integrals (with P. Forgacs), *Phys. Lett.* **174B**, 423-426 (1986).
65. Dynamics of solutions of the  $CP^{N-1}$  models in 2+1 dimensions (with I. Stokoe), *Zeit. Phys.* **C34**, 491-496 (1987).
66. D=1 chiral supersymmetry with a central charge (with J. de Azcarraga), *Zeit. Phys.* **C37**, 381-388 (1988).
67. Euclidean supersymmetrisation of instantons and self-dual monopoles (with J. Lukierski), *Phys. Lett.* **B189**, 99-104 (1987).
68. Some classical solutions of U(N) chiral models, *Skyrmions and Anomalies*, World Scientific, 475-490 (1987).

69. On Stability of Solutions of the  $U(N)$  chiral model in two dimensions (with B. Piette and I. Stokoe), *Zeit. Phys.* **C37**, 449-456 (1988).
70. General solutions of the  $U(3)$  and  $U(4)$  chiral model in 2 dimensions (with B. Piette), *Nucl. Phys.* **B300**, 207-222 (1988).
71. Properties of classical solutions of the  $U(N)$  chiral models in 2 dimensions (with B. Piette), *Nucl. Phys.* **B300**, 223-237 (1988).
72. Solutions of the  $U(N)$  sigma models with the Wess-Zumino term (with B. Piette and R. Zait), *Zeit. Phys.* **C39**, 359-364 (1988).
73. Some classes of the general solutions of the  $U(N)$  chiral sigma models in two dimensions (with B. Piette), *Jour. Math. Phys.* **30**, 2233-37 (1989).
74. Parallel transport along a space curve and related phases (with R. Dandoloff), *Jour. Phys.* **A.22**, L461 (1989).
75. Phases and some quantum systems (with R.Dandoloff) - Los Alamos preprint (1988).
76. Low dimensional sigma models, *Proceedings of the Storrs Meeting*, World Scientific 790, (1989).
77. Solutions of the supersymmetric  $U(N)$   $\sigma$  models with the Wess-Zumino-Witten term (with B. Piette and R.A. Zait), *Zeit. Phys.* **C44**, 111 (1989).
78. Multibaryons in QCD(2) (with Y. Frishman), *Nucl. Phys.* **B**, 328-375 (1989).
79. Explicit expressions for masses and bindings of multibaryons in QCD(2) (with Y. Frishman) *Nucl. Phys.* **B331**, 789 (1990).
80. Finite energy solutions of 1+1 dimensional  $\sigma$  models (with B. Piette), *Jour. Math. Phys.* **31**, 916 (1989).
81. Solutions of a fermion boson model based on the supersymmetric  $U(N)$   $\sigma$  model with the Wess-Zumino-Witten term (with R. Zait), *Zeit. Phys.* **C46**, 647 (1990).
82. Soliton stability in the  $0(3)$   $\sigma$  model in 2+1 dimensions (with R.A. Leese and M. Peyrard), *Nonlinearity* **3**, 387 (1990).
83. Soliton scatterings in some relativistic models in 2+1 dimensions (with R.A. Leese and M. Peyrard), *Nonlinearity* **3**, 773 (1990).
84. Multibaryon wave functions in QCD in two-dimensions (with Y. Frishman), *Proceedings of 25th International Conference on High Energy Physics*, South East Asia Theor. Physics Assoc., 936 (1991)
85. Soliton-like scattering in the  $0(3)$  sigma model in (2+1) dimensions, *Nonlinearity* **4**, 429 (1991).
86. Skyrme-like and topological terms in sigma models (with J.A. de Azcarraga and M.S. Rashid), *Jour. Math. Phys.* **32**, 1921 (1991).
87. Soliton Scattering in the Skyrme model in (2+1) Dimensions. 1. Soliton-Soliton Case (with M. Peyrard and B. Piette), *Nonlinearity* **5**, 563-583 (1992).
88. Soliton Scattering in the Skyrme model in (2+1) Dimensions. 2. More General Systems (with M.Peyrard and B. Piette), *Nonlinearity* **5**, 585-600 (1992).
89. Scattering of skyrmions in (2+1) Dimensions, *Nonlinear and Chaotic Phenomena*, World Scientific, 134 (1991)
90. Models with Hopf terms (with J.A. de Azcarraga and J.M. Izquierdo), *Journ. Math. Phys.* **33**, 1272-1280 (1992)
91. A supergroup based supersigma model (with J.A. de Azcarraga and J.M. Izquierdo), *Jour. Math. Phys.* **33**, 2357-2364 (1992)

92. Skyrmions in (2+1) Dimensions (with M. Peyrard and B. Piette), *Proceedings of 25th International Conference on High Energy Physics*, South East Asia Theor. Physics Assoc., 1415 (1991)
93. Skyrmion Scattering in (2+1) Dimensions (with B. Piette), *Solitons and Chaos*, Springer, 325-329 (1991)
94. Skyrmions and their Scattering in (2+1) Dimensions (with B. Piette), *Nonlinear Fields: Classical, Random, Semiclassical* World Scientific, 225-243 (1991).
95. Models with Solitons in (2+1) Dimensions (with J.M. Izquierdo, M.S. Rashid and B. Piette), *Zeit. Phys.* **C 53** 177-182 (1992).
96. Interactions of Solitons in (2+1) Dimensions (with B. Piette) *Nonlinear Coherent Structures in Physics and Biology*, Springer, 242 (1991)
97. A class of two dimensional models with extended structure solutions (with B. Piette and D.H. Tchrakian), *Zeit. Phys.* **C 54** 497-502 (1992)
98. Soliton Scattering in the  $CP^2$  model (with B. Piette and M.S.S. Rashid), *Nonlinearity* **6** 1077-1090 (1993)
99. Soliton Antisoliton Scattering in (2+1) Dimensions (with B. Piette and P.M. Sutcliffe), *Int. Journ. Mod. Phys. and Comp.* **C3** 637-660 (1992)
100. Soliton-like behaviour in a modified Sine-Gordon model (with M. Peyrard and B. Piette), *Physica* **D 64** 355-364 (1993)
101. Skyrmion Model in (2+1) Dimensions with Soliton Bound States (with B. Piette), *Nucl. Phys.* **B393**, 65-78 (1993)
102. A class of N dimensional models with extended structure solutions (with B. Piette, A. Chakrabarti and D.H. Tchrakian), *Zeit. Phys.* **C 56** 461-468 (1992)
103. Quantum Group  $\sigma$  Models (with Y. Frishman and J. Lukierski), *Journ. Phys.* **A 26**, 301-312 (1993)
104. Conserved quantities of the soliton scatterings in (2+1) dimensions (with B. Piette), *Anales de Fisica, Monografias*, M.O., M.S. and J.M.G. (Eds), CIEMAT/RSEF, Madrid, **Vol. 1**, p.285 (1993)
105. Extended Structures in (2+1) dimensions (with B. Piette) - *Applications of Analytic and Geometric Methods to Nonlinear Differential Equations*, ed. P.A. Clarkson, 47-64, Kluwer Academic Publishers (1993)
106. Soliton-like Structures in (2+1) dimensions (with B. Piette) - *Future Directions of Nonlinear Dynamics in Physical and Biological Systems*, ed. P.L. Christiansen et al, 73-76, Plenum Press (1993)
107. Approximate sine-Gordon Solitons (with G. Stratopoulos), *Zeit. Phys.* **C 59** 307-312 (1993)
108.  $\frac{\pi}{N}$  Scattering in (2+1) Dimensions (with A. Kudryavtsev and B. Piette) - *Phys. Lett.* **A 180** 119-123 (1993)
109. Soliton - Soliton and Soliton - Wave Collisions in skyrme-like  $\sigma$  models (with A. Kudryavtsev and B. Piette) - *Zeit. Phys.* **C 60**, 731-737 (1993)
110. On the solutions of the anisotropic Heisenberg equation (with N.A. Belov and A.N. Leznov) - *J. Phys.* **A 27** 5607-5621 (1994)
111. Skyrmions in (3+1) Dimensions (with G. Stratopoulos) - *Zeit. Phys.* **C 60**, 689-694 (1993)
112. Some aspects of the scattering of skyrmions in (2+1) dimensions (with B. Piette) - *Nonlinearity* **7** 231-244 (1994)

113. Soliton solutions of the  $SU(1,1)$  chiral sigma model (with A.N. Leznov) - Durham University preprint DTP-93/33 (1993)
114. General Scattering in (2+1) Dimensional Models (with B. Piette), *Nonlinear Coherent Structures in Physics and Biology*, ed. K.H. Spatschek and F.G. Mertens, 283-286, Plenum Press (1994)
115. Skyrmion Dynamics in (2+1) Dimensions (with B. Piette) - *Chaos, Solitons and Fractals* Vol. 5, 2495-2508 (1995)
116. Quantum Group  $\sigma$  Models -  $q^N = 1$  case (with Y. Frishman and J. Lukierski), *Int. J. Mod. Phys. A (Proc. Suppl)* **3 A** 354-359 (1993)
117. A modified Mottola-Wipf model with Sphaleron and Instanton fields (with B. Piette, H.J.W. Muller-Kirsten and D.H. Tchrakian), *Phys. Lett.* **B 320** 294-298 (1993)
118. Classical and Quantum Mechanics of Free  $\kappa$ -relativistic Particles (with J. Lukierski, H. Ruegg), *Annals of Physics* **243** 90-116 (1995)
119. Dynamics of Interacting Magnetic Vortices in a Model Landau-Lifshitz Equation (with N. Papanicolaou) - *Physica* **D 80**, 225-245 (1995)
120. Classical and Quantum Mechanics of Free  $\kappa$ -relativistic Systems (with J. Lukierski, H. Ruegg) - *Quantum Groups*, ed. J. Lukierski, Z. Popowicz and J. Sobczyk, 539-554, Polish Scientific Publishers (1995)
121. Multisolitons in a two-dimensional Skyrme Model (with B. Piette and B.J. Schroers), *Zeit. Phys.* **C65** 165-174 (1995)
121. Chern-Simons solitons in a  $CP^1$  model (with B. Piette and D.H. Tchrakian), *Phys. Lett.* **B 339** 95-100 (1994)
123. Dynamics of Baby Skyrmions (with B. Piette and B.J. Schroers), *Nucl. Phys.* **B 439** 205-238 (1995).
124. Generalization of the Toda chain system to the elliptic curve case (with N.A. Belov and A.N. Leznov), *Lett. Math. Phys.* **36** 27-34 (1996)
125. A modified discrete Sine-Gordon model, *Nonlinearity* **8** 517-540 (1995)
126. Discrete Symmetry and Solution of the Principal Chiral Field Problem - (with A.N. Leznov and M.A. Mukhtarov) - *Turkish Journal of Physics* **19** 416-420 (1995)
127. Discrete Symmetry and its Use to Find Multisoliton Solutions of the Equations of Anisotropic Heisenberg Ferromagnets - (with N.A. Belov and A.N. Leznov) - *Jour. Nonlinear Math. Physics* **3**, 319-329 (1996)
128. Kinetics of phase ordering with topological textures (with M. Zapotocky), *Phys. Rev* **E51**, R5189-91 (1995)
129. On the solutions of the  $CP^1$  model in (2+1) dimensions (with A.M. Grundland and P. Winternitz), *J. Math. Phys.* **37**, 1501-1520 (1996)
130. Skyrmions in (2+1) Dimensions (with R.J. Cova) - *Quantum Systems*, ed. A.O. Barut et al, 84-88, World Scientific (1995)
131. Scattering of extended structures in (2+1) dimensional models (with B. Piette), *Topics in Quantum Field Theory*, ed. D.H. Tchrakian, 78-88, World Scientific (1995).
132. Shrinking of Solitons in the 2+1 Dimensional  $S^2$  Sigma Model (with B. Piette), *Nonlinearity* **9** 897-910 (1996)
133. Dynamics of Magnetic Bubbles in a Skyrme Model (with N. Papanicolaou), *Phys Lett* **A 210**, 328 (1996).

134.  $CP^2$  Soliton Scattering: Simulations and Mathematical Underpinning (with J. Burzlaff) - *Nonlinearity* **9** 1317-1324 (1996)
135. Some aspects of soliton unwindings (with B. Piette) - *From Field Theory to Quantum Groups*, ed. B. Jancewicz and J. Sobczyk, 275-285, World Scientific (1996)
136. Mesons, baryons and waves in the Baby Skyrme model (with A. Kudryavtsev and B. Piette) - *European Physical Journ.* **C 1** 333-341 (1998)
137. Extended structures in two dimensions and their properties - *Problems of Quantum Field Theory*, ed. D.V. Shirkov et al, Dubna, 158-164 (1996)
138. Localised solutions in a 2 dimensional Landau-Lifshitz model (with B. Piette) - *Physica* **D 119** 314-326 (1998)
139. On the integrability of pure Skyrme models in (2+1) dimensions (with A.N. Leznov B. Piette) - *J. Math. Phys* **38** 3007-3011 (1997).
140. A Galilean Invariant (2+1) dimensional model with a Chern-Simmons-like term (with J. Lukierski, P. Stichel) - *Annals of Physics* **260** 224-249 (1997).
141. Solutions of (2+1)-dimensional spin systems (with Z. Thomova and P. Winternitz) - *J. Math. Phys.* **39** 3927-3944 (1998)
142. Metastable solutions in the n-dimensional sine-Gordon model (with B. Piette) - *Nonlinearity* **11** 1103-1110 (1998)
143. Dynamical Multiscaling in Quenched Skyrme Systems (with A. Rutenberg and M. Zapotocky) - *Europhysics Letters* **39** 49-54 (1997).
144. Soliton scattering in the  $O(3)$  model on a torus (with R.J. Cova) - *Nonlinearity* **10** 1305-1317 (1997)
145. Soliton-like structures in two spatial dimensions and their properties (with B. Piette) - *Reports in Mathematical Physics*, **40**, 313-340 (1997)
146. A note on Ward's Chiral model (with T. Ioannidou) - *Phys. Lett.* **A 242** 233-238 (1998)
147. Solutions of the modified Chiral model in (2+1) dimensions (with T. Ioannidou) - *J. Math. Phys.* **39** 2693-2701 (1998)
148. Skyrmions and Domain Walls in (2+1) dimensions (with B. Piette and A. Kudryavtsev) - *Nonlinearity* **11** 783-796 (1998)
149. What happens with an initially kicked soliton? (with J. Dziarmaga) - *Phys. Lett.* **A242** 227-232 (1998)
150. Solutions of Ward's Modified Chiral Model (with T. Ioannidou) - - *Proceedings of the International Conference held in Uzgorod, August 13-16 1997* 124-135 (1997)
151. Skyrmions and Domain Walls (with B. Piette) - *Solitons, Properties, Dynamics, Interactions and Applications*, CRM Series in Math. Physics, Springer 187-190, Springer (1999)
152. Nontopological structures in the baby-Skyrme model (with B. Piette) - *Solitons, Properties, Dynamics, Interactions and Applications*, CRM Series in Math. Physics, Springer 309-312, Springer (1999)
153. Numerical Integration of (2+1) dimensional PDE's for  $S^2$  valued functions (with B. Piette) - *Journal of Computational Physics* **145** 359-381 (1998).
154. (2 + 1)-Dimensional Models with a Chern-Simons-Like Term and Noncommutative Geometry (with J. Lukierski and P.C. Stichel) - *Reports in Mathematical Physics* **43** 215-229 (1999)
155. Noise driven diffusion of solitons (with J. Dziarmaga) - *Phys. Lett.* **A 251** 193-198 (1999)

156.  $CP^2$  Soliton scattering; the collective coordinate approximation (with J. Burzlaff) - *Non-linearity* **11** 1311-1320 (1998)
157. Lagrangian Formulation of the General Modified Chiral Model (with T. Ioannidou) - *Phys. Lett.* **A 249** 303-306 (1998)
158. Solutions of Ward's Integrable Model in (2+1) Dimensions (with T. Ioannidou) - Durham preprint - to be published in the Proceedings of the Tiruchirapalli meeting (1998)
159. Solitons of a general gauged  $S^2$  model with a mass term (with I.L. Bogolubsky and B.M.A.G. Piette) - *Phys. Lett.* **B 432** 151-158 (1998)
160. Spontaneously Localised Electron States in a Discrete Anisotropic Two-Dimensional Lattice (with L. Brizhik and B.M.A.G. Piette) - *Physica* **D 146**, 275-288 (2000)
161. Low Energy States in the  $SU(N)$  Skyrme Models (with B. Piette and T. Ioannidou) - Proceedings of ISPM-98, Eds. M. Eliashvili et al 91-123 (1998)
162.  $SU(N)$  Skyrmions and Harmonic Maps (with B. Piette and T. Ioannidou) *Journal of Math. Physics* **40** 6353-6365 (1999)
163. Spherically Symmetric Solutions of the  $SU(N)$  Skyrme Models (with B. Piette and T. Ioannidou), *Journal of Math. Physics* **40** 6223-6233 (1999)
164. Flavoured Multiskyrmions (with V.B. Kopeliovich), *Pisma v ZhETP* **69**, 675-680 (1999); *JETP Lett* **69**, 721 (1999) (hep-ph/9904386)
165. On the interactions of Skyrmions and Domain Walls (with B. Piette and A. Kudryavtsev) - hep-th/9907197 (1999) *Phys. Rev.* **D 61** (2000)
166. Three Dimensional Skyrmions and Harmonic Maps (with B. Piette and T. Ioannidou) - CRM Proceedings and Lecture Notes **29** 273-280, (2001)
167. Multibaryons with strangeness, charm and bottom (with V.B. Kopeliovich) *Eur. Phys. Journal* **C 18** 369-378(2000)
168. Skyrmions from Harmonic Maps - *Turkish Journal of Phys.* **24**, 489-500, (2000)
169.  $SU(N)$  Skyrmions and two dimensional  $CP^N$  Rational Maps (with B. Piette and T. Ioannidou), New Symmetries and Integrable Models, Proceedings of the XIV Max Born meeting in Karpacz, ed. A.Frydryszak, J.Lukierski and Z.Popowicz, World Scientific, 194-205, (2000)
170. Baby Skyrme models for a class of potentials (with P. Eslami and M. Sarbishaei) - *Non-linearity*, **13**, 1867-1881 (2000)
171. Skyrmions from  $SU(3)$  harmonic maps and their quantization (with V.B. Kopeliovich and B.E.Stern), *Phys. Lett.* **B 492**, 39-46 (2000)
172. Translational Chern-Simons Action and New Planar Particle Dynamics (with J. Lukierski and P.C. Stichel), *Phys. Lett.* **B 484**, 315 (2000)
173. From Gauging Nonrelativistic Translations to  $N$ -Body Dynamics (with J. Lukierski and P.C. Stichel), *Annals of Physics.* **288**, 164-198 (2001)
174. Alternative  $SU(N)$  Skyrme Models and Their Solutions (with H.J. Wospakrik), *Journal of Math. Phys.* **42**, 1066-1084 (2001)
175. Skyrmions from Harmonic Maps (with T. Ioannidou and B. Piette), Proceedings of Quarks 2000, Ed. by G.P. Pivovarov, V.A. Matveev and V.A. Rubakov, Institute for Nuclear Research of Russian Academy of Sciences, 310-323 (2002)
176. Skyrmions from Harmonic Maps (with P.M. Sutcliffe), Integrable Hierarchies and Modern Physical Theories, Proceedings of the Nato Workshop ARW-UIC 2000, Ed. H. Aratyn and S. Sorin, 215-241, Kluwer Academic Publ. (2001)



177. Skyrmions and Rational Maps (with T. Ioannidou, B. Piette and P.M. Sutcliffe) - *Nonlinearity* **14**, C1-C5 (2001)
178. Chern-Simons Particles with Nonstandard Gravitational Interaction (with J. Lukierski and P.C. Stichel), *Eur. Phys. J.* **C20** 759-765 (2001)
179. Electron Self-Trapping in Anisotropic Two-Dimensional Lattices: I. Numerical Simulation (with L. Brizhik and B.M.A.G. Piette) - *Ukr. Fiz. Journal* **46**, 503-511 (2001)
180. Possible confinement mechanisms for nonrelativistic particles on a line (with P.C. Stichel), hep-th/0104261, *Mod. Phys. Lett.* **A 16**, 1919-1932 (2001)
181. Weierstrass  $P$ -lumps (with R.J. Cova) - *Eur. Phys. J.* **B23**, 201-209 (2001)
182. Localised Electron States and Nonlinear Schrödinger Equation (with L. Brizhik and B. Piette), New Developments in Fundamental Interaction Theories, Proceedings of 37th Karpacz Winter School, Ed. J. Lukierski and J. Rembielinski, AIP Conference Proceedings 589, 405-415, Melville (2001)
183. Electron Self-Trapping in Discrete Two-Dimensional Lattices: II Analytical Study (with L. Brizhik, A. Eremko and B. Piette), *Ukr. Fiz. Journal* **47**, 890-897 (2002).
184.  $SU(N)$  Skyrmions from Harmonic maps  $S^2 \rightarrow Gr(2, N)$  (with H.J. Wospakrik), *Jour. Math. Phys.* **43**, 1856-74 (2002)
185. The Weierstrass representation for surfaces immersed into  $R^8$  and  $CP^2$  maps (with A.M. Grundland) *Jour. Math. Phys.* **43**, 3352-3362 (2002)
186. Some Geometric Aspects of  $CP^{N-1}$  Maps, *Eur. Phys. Journal* **B 29**, 217-220 (2002)
187. Hermitian Analyticity, IR/UV Mixing and Unitarity of Noncommutative Field Theories (with C-S. Chu and J. Lukierski), *Nucl. Phys.* **B 632** 219-239 (2002).
188. Approximate Analytical Solutions of the Baby Skyrme Model (with T.A. Ioannidou and V.B. Kopeliovich), *JETP*, **95** 572-580 (2002).
189. Electron Self-Trapping in a Discrete Two-Dimensional Lattice, (with L. Brizhik, A. Eremko and B. Piette), *Physica* **D 159**, 71-90 (2001).
190. Spontaneous localisation of electrons in two-dimensional lattices within the adiabatic approximation, (with L. Brizhik, A. Eremko and B. Piette), *Jour. Math. Phys.*, **44**, 3689 (2003)
191. Spontaneous localisation of electrons in lattices with nonlocal interactions, (with L. Brizhik, A. Eremko and B. Piette), *Phys. Rev.*, **B 68**, 104301 (2003)
192.  $CP^2$  based Landau-Lifshitz Model, (with K. Javidan and M. Sarbishaei), preprint 2002
192. Static solutions of a D-dimensional Modified Nonlinear Schrödinger Equation, (with L. Brizhik, A. Eremko and B. Piette), *Nonlinearity*, **16**, 1481-1497 (2003)
193. Scattering of periodic solitons (with R.J. Cova) *Revista Mexicana de Fisica* **50** 527-535 (2005), hep-th/0308161
194. On  $CP^1$  and  $CP^2$  Maps and Weierstrass Representations for surfaces immersed into Multi-dimensional Euclidean Spaces (with A.M. Grundland) *J. Nonlin. Math. Phys.* **10**, 110-135 (2003)
195. On Certain Geometric Aspects of  $CP^N$  Harmonic Maps (with A.M. Grundland) *J. Math. Phys.* **44**, 328-337 (2003)
196. Noncommutative Planar dynamics with Electromagnetic Interactions (with J. Lukierski and P.C. Stichel) - hep-th/0207149 *Ann. Phys.* **306**, 78-95 (2003)
197. Solitonic Electron States and the Modified Nonlinear Schrödinger Equation in 2 and More Dimensions (with L. Brizhik, A. Eremko and B. Piette), to be published in *J. Math. Phys.*

198. Spontaneous Electron Localisation in 2D Lattices (with L. Brizhik, A. Eremko and B. Piette), Prague ERPOS conference proceedings (2002).
199. Solitons and Deformed Lattices (with B. Hartmann), *Journ. of Nonlinear Math. Phys.* **12** 88-104 (2005)
200.  $CP^{N-1}$  Harmonic Maps and the Weierstrass Problem (with A.M. Grundland) - *J. Math. Phys.* **44**, 3370-3382 (2003)
201. Noncommutative Planar Particles: Higher Order Versus First Order Formalism and Supersymmetrization (with J. Lukierski and P.C. Stichel), *Proc 24 International Colloquium on Group Theoretical Methods in Physics*. Eds J.P. Gazeau and R. Kerner, Inst. of Phys. Conf. Series, **173** 451-454 (2003)
202. Solitonic States and Nonlinear Schrödinger Equation in Two and More Dimensions *Ukr. J. Phys.* **48**, 630-637, (2003).
203. Conformal immersion for CMC-Surfaces in 3-Dimensional Euclidean Spaces with the same Gauss Map (with A.M. Grundland) *Proc of Conf Nonlinearity and Integrability NEEDS'02*, Eds M. Ablowitz, M. Boiti, L. Pempinelli and B. Prinari, World Scientific Comp, Singapore (2003).
204. On Geometric aspects of the Weierstrass representations Associated with  $CP^N$  Harmonic Maps. (with A.M. Grundland) *Proc 24 International Colloquium on Group Theoretical Methods in Physics*. Eds J.P. Gazeau and R. Kerner, Inst. of Phys. Conf. Series, **173** 721-724 (2003)
205. A modified Weierstrass representation for CMC-surfaces in Multi-dimensional Euclidean spaces (with A.M. Grundland), *CRM-AMS Proceedings and Lecture Notes* Vol **34**, 77-86, Ed P. Winternitz (2003).
206. Hexagonal Lattices and nanotubes (with B. Hartmann), cond-mat/0304181, *Phys Rev.* **B** **68**, 184302 (2003).
207. A new type of Conformal Dynamics (with P.C. Stichel), *Ann. Phys.* **310**, 158-180 (2003), hep-th/0309038
208. Some nanotube-like systems and their discrete equations - *CRM-AMS Proceedings and Lecture Notes* Vol **39**, 277-283, Ed P. Winternitz (2004).
209.  $CP^{N-1}$  Harmonic Maps and the Weierstrass Problem (with A.M. Grundland) - Proceedings of Institute of Mathematics of NAS of Ukraine, 1314-1321 (2004).
210. Spinning Solitons of a Modified Non-Linear Schrödinger Equation (with Y. Brihaye and B. Hartmann), hep-th/0308155, *Phys. Rev.* **D** **69** 087701 (2004)
211. Gravitating  $SU(N)$  Monopoles from Harmonic Maps (with Y. Brihaye, B. Hartmann and T. Ioannidou), hep-th/0310076, *Class. Quan. Grav.* **21**, 517-526 (2004)
212. Harmonic Map Analysis of  $SU(N)$  Gravitating Skyrmons (with Y. Brihaye, B. Hartmann and T. Ioannidou), hep-th/0311161 *Phys. Rev.* **D** **69** 124035, (2004).
213. Solitons in  $\alpha$ -helical proteins (with L. Brizhik, A. Eremko and B. Piette), *Phys Rev.* **E** **70**, 031914 (2004), cond-mat/0402644.
214. An Improved Harmonic Map Ansatz (with T. Ioannidou and B. Kleihaus), hep-th/0406119, - *Phys. Lett.* **B** **597**, 346-351, (2004)
215. Axially symmetric  $SU(3)$  gravitating Skyrmons (with T. Ioannidou and B. Kleihaus), gr-qc/0407035, *Phys. Lett.* **B** **600**, 116-125 (2004)
216. N=2 Supersymmetric Planar Particles and Magnetic interaction from Noncommutativity, (with J. Lukierski and PC Stichel) - *Phys. Lett.* **B** **602**, 249-254 (2004) hep-th/0407247.

217. Harmonic Maps and Gravitating Monopoles and Skyrmions (with Y. Brihaye, B. Hartmann and T. Ioannidou), Proceedings of the 13th International Seminar, Quarks 2004, Inst. for Nuclear Research, 93-107 (2005).
218. Static configurations of an exciton field in interaction with a deformable two-dimensional hexagonal lattice, (with M.J. Watson) - cond-mat/0410644 (2004)
219. The transition of 2 dimensional solitons to 1 dimensional ones on a Hexagonal lattice, (with B. Hartmann) - cond-mat/0410474, *Jour. Nonlin. Math. Phys.* **13** 111-116 (2006).
220. Laplacians on Lattices - hep-th/0412117, *Jour. Nonlin. Math. Phys* **12**, 530-538 (2005).
221. Electron self trapping on a nano-circle, (with L. Brizhik, A. Eremko and B. Piette), cond-mat/0503366, *Physica D* **218**, 36-55 (2006)
222. Mass terms in the Skyrme model, (with V. Kopeliovich and B. Piette), hep-th/0503127 - *Phys. Rev. D* **73** 014006 (2006)
223. Surfaces immersed in  $suN + 1$  Lie algebras obtained from the  $CP^N$  sigma models, (with A.M. Grundland and A. Strasburger), math.DG/0502482, *J. Phys. A* **39**, 9187-9213 (2006)
224. Conformational transformations induced by the charge-curvature interaction, (with Yu. Gaididei and P.L. Christiansen), *Phys. Rev. E* **74** 021914 (2006)
225. Charge and energy transfer by solitons in low-dimensional nanosystems with helical structure (with L. Brizhik, A. Eremko and B. Piette), *Chem. Phys.* **324**, 259-266 (2006).
226. Scattering of topological solitons on holes and barriers (with J. Brand and B. Piette), - *J. Phys. A* **38**, 10403-10412 (2005)
227. Self-trapped electron states in carbon nanotubes (with L. Bratek, L. Brizhik, A. Eremko, B. Piette and M. Watson), *Physica D* **228** 130-139 (2007); cond-mat/0510338
228. Adiabatic self-trapped states in carbon nanotubes (with L. Brizhik, A. Eremko, B. Piette), cond-mat/0510775, (2005), *J. Phys. Condensed Matter* **19**, 306205 (2007).
- 229 Exotic Galilean conformal symmetry and its dynamical realisations, (with J. Lukierski and PC Stichel), hep-th/0511259, *Phys. Lett. A* **357** 1-5 (2006).
230. Galilean exotic planar supersymmetries and nonrelativistic wave equations (with J. Lukierski, I Prochnicka, and PC Stichel), hep-th/0602198, *Phys. Lett. B* **639**, 389-396, (2006).
231. Modified  $\frac{\pi}{N}$  Scattering on  $T_2$ , (with D. Amundsen and R.J. Cova) - WSEAS Transactions on Mathematics, **3**, 304-311 (2005)
232. Susy  $CP^{N-1}$  model and surfaces in  $R^{N^2-1}$ , (with V. Hussin) math-ph/0606012, *J. Phys. A* **39** 14231-14240 (2006)
233. Soliton solutions of the nonlinear Schrödinger equation with nonlocal Coulomb and Yukawa interactions (with B. Hartmann), hep-th/0608125, *Phys. Lett. A* **366**, 540-544 (2007)
234. Dynamical properties of a Soliton in a Potential Hole (with B. Piette), hep-th/0610095, *J. Phys. A* **40**, 329-346 (2007)
235. Surfaces in  $R^{N^2-1}$  based on harmonic maps  $S^2 \rightarrow CP^{N-1}$ , math.DG/0610589, *J. Math. Phys.* **48**, 113520 (2007)
236. Scattering of Sine-Gordon kinks on potential wells, (with B. Piette), hep-th/0611040, *J. Phys. A* **40**, 5995-6010 (2007)
237. Acceleration-extended Galilean symmetries with central charges and their dynamical realisations (with J. Lukierski and P.C. Stichel), hep-th/0702179 (2007) *Phys. Lett. B* **650** 203 (2007)
238. Mass Terms in the Skyrme Model (with V.B. Kopeliovich and B. Piette) preprint - in the Proceedings of Quarks 2006 (2008)

239. Scattering of Topological Solitons on Barriers and Holes in Two  $\lambda\phi^4$  Models (with J. Al-Alawi), *J. Phys.* **A 40** 11319-11332 (2007); arXiv:0706.1014
240. A simple formula for the conserved charges of soliton theories (with L.A. Ferreira), *JHEP* **09** 015 (2007)
241. Non  $\frac{\pi}{N}$  Scattering of  $CP^1$  solitons, (with D. Amundsen and R.J. Cova) *Can. Jour. Phys.* **85** 1431-1445 (2007), arxiv:0707/1603.
242. Woobles and other kink-breather solutions of the Sine-Gordon model (with L.A. Ferreira and B. Piette) preprint, arxiv:0708/1088 (hep-th), *Phys. Rev.* **E 77** 036613 (2008)
243. Scattering of sine-Gordon kinks and breathers on a finite width well (with B. Piette) Proceedings of the 5th International Conference on Dynamic Systems and Applications, Dynamic Publishers **Vol 5** 394 (2008)
244. Ratchet phenomenon provided by polarons in molecular chains (with L. Brizhik, A. Eremko B. Piette), *Jour. Phys. Cond. Matter* **20**, 255242 (2008)
245. Dynamics of the topological structures in inhomogeneous media (with L.A. Ferreira and B. Piette) *J. Phys.: Conf. Ser.* **128** 012027 (2008)
246. Acceleration-extended symmetries in nonrelativistic space-time with a cosmological constant (with J. Lukierski and P.C. Stichel), arXiv:0710.3093 (hep-th), *Eur. Phys. J. C* **55**, 119-124 (2008)
247. Scattering of sine-Gordon Breathers on Potential Wells (with B. Piette), *Phys. Rev.* **E 79**, 046603 (2009); arXiv:0710.4391 (2007)
248. Scattering of Topological Solitons on Barriers and Holes of Deformed Sine-Gordon Models (with J. Al-Alawi), *J. Phys. A: Math. Theor.* **41** (2008) 315206; arxiv:0802.1939 (hep-th)
249. Skyrme Models with Different Mass Terms (with Bernard Piette), *Phys. Rev.* **D77**, 074009 (2008), arXiv:0801.0657 (hep-th)
250. Some properties of deformed Sine Gordon models (with A. Alibek, R. Myrzhakulov), arXiv0807.2715.nlin
250. Some aspects of dynamics of topological solitons, in Proceedings of the 22 Max Born Symposium 'Quantum, Super and Twistors', Wroclaw 2006.
251. Nonrelativistic dark-energy fluid in a baby universe (with P.C. Stichel) - arXiv:0807.3660 (gr-qc)
252. Thermodynamics of Microtubule Dynamics (with B. Piette, J. Liu, K. Peeters, M. Deeks, A. Smertenko, T. Hawkins, R. Quinlan and P.J. Hussey), *PLoS One* 4(8):e6378 (2009)
253. Scattering of a two skyrmion configuration on potential holes or barriers in a model Landau-Lifshitz equation (with J.C. Collins), *J. Phys. A: Math. Theor.* **42** (2009) 165102; arXiv:0809.0459 (nlin.PS)(2008)
254. Effects of Periodic electromagnetic Field on Charge Transport in Macromolecules (with L. Brizhik, A. Eremko, B. Piette), *Jour. Electromagnetic Biology and Medicine* **28** 15-27 (2009)
255. Field Driven Current in Nonlinear Low-Dimensional Nanosystems (with L. Brizhik, A. Eremko, B. Piette), in *Self Organisation of Molecular Systems*, NATO Science for Peace and Security Series A: Chemistry and Biology, Springer, 165-184, (2009)
256. Nonlinear Mechanism of Charge Transport in Low-Dimensional Nanosystems, (with L. Brizhik, A. Eremko, B. Piette), in proceedings of NATO ARW on "Environmental and Biological Risks of Nanobiotechnology, Nanobionics and Organic-Silicon Nanodevices (Silicon vs Carbon)", Saint-Petersburg, Russia (2009)

257. Some properties of solitons, (with L. Brizhik, A. Eremko, L. Ferreira, B. Piette), in Self Organisation of Molecular Systems, NATO Science for Peace and Security Series A: Chemistry and Biology, Springer, 103-121, (2009)
258. Q-ball scattering on barriers and holes in 1 and 2 Spatial dimensions, (with J.H. Al-Alawi) -*J. Phys. A: Math. Theor.* **42** (2009) 245201; arXiv 902.4358 (math-ph) (2009)
259. Davydov's solitons in zig-zag carbon nanotubes, (with L. Brizhik, A. Eremko, B. Piette), *Int. J. Quan. Chem.* **110**, 11-24 (2010)
260. Can cosmic acceleration be caused by exotic massless particles? (with P.C. Stichel) - arXiv:0904.1375 (astro-ph.CO), *Phys. Rev.*, **D 80** 083513 (2009).
261. The scattering of a skyrmion configuration on asymmetric holes or barriers in a model Landau-Lifshitz equation (with J.C. Collins), arXiv:0907.0324 (nlin.PS) (2009)
262. Ratchet dynamics of large polarons in asymmetric diatomic molecular chains, (with L.S. Brizhik, A.A. Eremko, B.M.A.G. Piette), *J. Phys. Cond. Matter* **22**, 155105, (2010).
263. A class of (1+1) dim models that generalize the Sine-Gordon model and some of their properties, *Yaderna Fisica* **73**, 587-594 (2010)
264. Canonical surfaces associated with projectors in grassmannian sigma models, (with V. Hussin and I. Yurducen), *J. Math. Phys.* **51** 103509 (2010); arXiv: 1002.2690(math-ph math.MP)
265. Directed transport of Davydovs solitons by unbiased a.c. forces, (with L. Brizhik, A. Eremko, and B. Piette) in the Proceedings of NATO ARW Molecular Self-Organization in Micro-, Nano, and Macro Dimensions: From Molecules to Water, to Nanoparticles, DNA and Proteins, NATO Advanced Research Workshop Book Series 89-102, (2009)
266. Ratchet Effect of Davydov's Solitons in Nonlinear Low-Dimensional Nanosystems, (with L. Brizhik, A. Eremko and B. Piette) *Int. J. Quant. Chem.* **110** 25-37, (2010)
267. Self-gravitating darkon fluid with anisotropic scaling (with P.C. Stichel), *Eur. Phys. J. C* **70**, 713-721 (2010); arXiv:1008.1200 (hep-th)
268. Some comments on quasi-integrability, (with L.A. Ferreira), *Rep. Math. Phys.* **67** 197 (2011)
269. The concept of quasi-integrability: a concrete example, (with L.A. Ferreira), *JHEP* **05** 130 (2011) arXiv:1011.2176 (hep-th) (2010),
270. Some (3+1) dimensional vortex solutions of the  $CP^N$  model, (with L.A. Ferreira and P. Klimas), *Phys. Rev.* **D 83**, 105018 (2011), arXiv:1103.0559 (hep-th) (2011)
271. Properties of some (3+1) dimensional vortex solutions of the  $CP^N$  model, (with L.A. Ferreira and P. Klimas), *Phys.Rev.* **D 84** 085022 (2011), arXiv:1108.4401 (hep-th) (2011)
272. Spontaneous Polaron Transport in Biopolymers, (with B. Chakrabarti and B. M. A. G. Piette), *Europhys. Lett.* **97**, 4705 (2012), arXiv:1108.3694 (cond-mat).
273. Some properties of (3+1) dimensional vortex solutions in the extended  $CP^N$  Skyrme Faddeev model, (with L.A. Ferreira and P. Klimas), *JHEP* **1112** 098 (2011); arXiv:1111.2338 (hep-th) (2011)
274. Darkon fluid - a model for the dark sector of the Universe? (with P.C. Stichel), *IJGMMP*, **9**, 1261014 (2012).
275. Attempts to define quasi-integrability (with L.A. Ferreira), *IJGMMP*, **6**, 1261004 (2012).
276. Bio-Polymer Hairpin Loops Sustained by Polarons, (with B. Chakrabarti and B. M. A. G. Piette), *Phys. Rev.* **E 86**, 021910 arXiv:1204.0906 (cond-mat) (2012)

277. The concept of quasi-integrability for modified non-linear Schrödinger models (with L.A. Ferreira and G. Luchini), *JHEP* **09** 103 (2012); arXiv:1206.5808 (hep-th) (2012)
278. Nonstandard approach to gravity for the dark sector of the Universe (with P.C. Stichel), *Entropy* **15**(2), 559-605 (2013); doi:10.3390/e15020559.
279. Constant curvature solutions of Grassmannian sigma models: (1) Holomorphic solutions (with L. Delisle and V. Hussin), *Journal of Geometry and Physics* **66**, 24-36 (2013).
280. Topological duality between vortices and planar skyrmions in BPS theories with APD symmetries (with C. Adam, J. Sanchez-Guillen and A. Wereszczynski), *Phys. Rev.* **D87** 027703 (2013)
281. Constant curvature solutions of Grassmannian sigma models: (2) Non-holomorphic solutions (with L. Delisle and V. Hussin), *Journal of Geometry and Physics* **71** 1-10 (2013).
282. Some aspects of self-duality and generalised BPS (with C. Adam, L.A. Ferreira, E. Da Hora and A. Wereszczynski), arXiv:1305.7239; *JHEP* **08** 062 (2013).
283. A Skyrme-like model with an exact BPS bound (with L.A. Ferreira): arXiv:1307.5856, *JHEP* **09** (097) (2013)
284. The concept of quasi-integrability (with L.A. Ferreira and G. Lucchini): arXiv:1307.7722 AIP Conference Proceedings **1562**, 43 (2013) doi: 10.1063/1.4828681
285. Numerical and analytical tests of quasi-integrability in modified Sine-Gordon models (with L.A. Ferreira) - arXiv:1308.4412, *JHEP* **01** (058), (2014)
286. Collective Coordinate Approximation to the Scattering of Solitons in the (1+1) Dimensional NLS model: (with H.E. Baron and G. Luchini) - arXiv:1308.4072 (2013) *J. Phys.* **A 47** 265201 (2014)
287. Clustering and decomposition for non-BPS solutions of the  $CP^N$  models: (with S. Bolognesi); arXiv:1310.8247, *Phys. Rev.* **D 89**, 065013, (2014).
288. Thermal enhancement and stochastic resonance of polaron ratchets, (with L.S. Brizhik, A.A. Eremko, B.M.A.G. Piette), *Phys. Rev.* **E 89**, 062905, (2014).
289. Constant curvature surfaces of the supersymmetric  $CP^N$  model sigma model: (with L. Delisle, V. Hussin and I. Yurdusen), arXiv:1406.3371v1 [math-physics] (2014), submitted to JMP.
290. Donor-acceptor electron transport mediated by solitons, (with L.S. Brizhik and B.M.A.G. Piette) *Phys. Rev.* **E 90**, 052915, (2014).
291. Breather-like structures in modified sine-Gordon models, (with L.A. Ferreira), arXiv:1404.5812v1 [hep-th] (2014)
292. Baby-Skyrme model, BPS limits and Supersymmetric Extensions, (with S. Bolognesi), arXiv:1407.3140v1 [hep-th] (2014)
293. General relativistic, nonstandard model for the dark sector of the Universe. (with P.C. Stichel), preprint arXiv: 1409.1363 [gr-qc], *Eur. Phys. J.* **C 75** article 9, ISSN: 1434-6044 (Print) 1434-6052 (Online) (2015)
294. Geometry of surfaces associated to grassmannian sigma models, (with L. Delisle, V. Hussin and I. Yurdusen), preprint (2014).
295. Collective Coordinate Approximation to the Scattering of Solitons in modified NLS and sine-Gordon models: (with H.E. Baron) arXiv:1411.3620 (2014) (2014)

Books: Low Dimensional Sigma Models - Adam Hilger 1989.

Standard Model and Beyond (I was the editor) - Adam Hilger 1987.

Solitons, Properties, Dynamics, Interactions, Applications (I was one of 3 editors)  
- Springer 1999.

GROUP 28: Physical and Mathematical Aspects of Symmetry Proceedings of the  
28th International Colloquium on Group-Theoretical Methods in Physics 2630 July 2010,  
Newcastle upon Tyne, UK - (I was one of the editors) - Journal of Physics - Conference  
Series, vol 284 (2011).