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CURRICULUM VITAE

PERSONAL DATA:

Name: Raymond George McLENAGHAN

Present Position: Adjunct Professor
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Fields of Interest: Development of differential geometrical methods in Mathematical Physics

DEGREES:

Degree	Subject	University	Year
B.Sc.	Engineering Physics	Queen's	1961
M.Sc.	Applied Mathematics	Queen's	1964
Ph.D.	Applied Mathematics	Cambridge	1968

ACADEMIC AND OTHER RELEVANT APPOINTMENTS:

Dates	Position	Department	Institution
1966-67	Research Assistant	Mathematics	King's College, London
1967-69	Postdoctoral Fellow	Institut de Mathématique	Université Libre de Bruxelles
1969-70	Research Associate	Mathematics	Queen's University
1970-79	Assistant Professor	Applied Mathematics	University of Waterloo
1977-78	Visiting Professor	Département Mathématique	Université Libre de Bruxelles
1979-84	Associate Professor	Applied Mathematics	University of Waterloo
1984-04	Professor	Applied Mathematics	University of Waterloo
1984-85	Senior Visiting Fellow	Canadian Inst. for Theoretical Astrophysics	University of Toronto

Dates	Position	Department	Institution
1987	Visiting Fellow	School of Mathematics & Computing	Curtin University of Technology, Perth Western Australia
1992-93	Reinhardt Fellow	Canadian Inst. for Theoretical Astrophysics	University of Toronto
1994	DAAD Visiting Professor	Institut Mathematik und Informatik	Pädagogische Hochschule Erfurt/Mühlhausen
1997	Visiting Professor	School of Mathematics and Computing	Deakin University
1997	CNR Visiting Professor	Matematica	Università di Torino
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2002	INAM Visiting Professor	Matematica	Università di Torino
2004	INAM Visiting Professor	Matematica	Università di Torino
2005	INAM Visiting Professor	Matematica	Università di Torino
2007	INAM Visiting Professor	Matematica	Università di Torino
2004-10	Adjunct Professor	Applied Mathematics	University of Waterloo
2006-11	Adjunct Professor	Physics & Astronomy	University of Waterloo
2006-10	Adjunct Professor	Mathematics & Statistics	Dalhousie University

PROFESSIONAL SOCIETIES:

Fellow of the Cambridge Philosophical Society, 1970
Member of the Canadian Mathematical Society, 1990

SCHOLARLY AND PROFESSIONAL ACTIVITIES:

Member of the International Committee on General Relativity and Gravitation, 1998-2007

VOLUMES EDITED:

Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (World Scientific, Singapore, 1994), co-editor with R.B. Mann.

Computer Physics Communications Thematic Issue: Computer Algebra in Physics Research (December 1998), Guest Editor with Professor E. Cheb-Terrab.

PUBLICATIONS:

(a) Papers in refereed journals:

1. M. Cahen et R.G. McLenaghan, "Métriques des espaces lorentziens symétriques á quatre dimensions", *C.R. Acad. Sc. Paris*, **266**, 1968, pp. 1125-1128. (MR 37 no. 6881).

2. R.G. McLenaghan, "An explicit determination of the empty space-times on which the wave equation satisfies Huygens' principle", *Proc. Cambridge Philos. Soc.*, **65**, 1969, pp. 139-155. (MR 38 no. 3016).

3. R.G. McLenaghan and J. Leroy, "Complex recurrent space-times", *Proc. Roy. Soc. London*, **327**, 1972, pp. 229-249. (MR 46 no. 8626).

4. R.G. McLenaghan et A.H. Thompson, "Détermination des espaces-temps récurrents du second ordre", *Bull. Cl. Sc. Acad. Roy. Belg.*, **58**, 1972, pp. 1099-1111. (MR 47 no. 6259).

5. J. Leroy et R.G. McLenaghan, "Sur les espaces-temps contenant un champ de vecteurs isotropes récurrents", *Bull. Cl. Sc. Acad. Roy. Belg.*, **59**, 1973, pp. 584-610. (MR 48 no. 13151).

6. R.G. McLenaghan, "On the validity of Huygens' principle for second order partial differential equations with four independent variables. Part I: derivation of necessary conditions", *Ann. Inst. Henri Poincaré A*, **20**, No. 2, 1974, pp. 153-188. (MR 50 no. 13897). Addendum, *Ann. Inst. Henri Poincaré A*, **26**, 1977, p. 323.

7. R.G. McLenaghan, N. Tariq and B.O.J. Tupper, "Conformally flat solutions of the Einstein-Maxwell equations for null electromagnetic fields", *J. Math. Phys.*, **16**, 1975, pp. 829-831. (MR 51 no. 12275).

8. R.G. McLenaghan and N. Tariq, "A new solution of the Einstein-Maxwell equations", *J. Math. Phys.*, **16**, 1975, pp. 2306-2312. (MR 52 no. 7455).

9. R.G. McLenaghan and N. Tariq, "On a solution of the Einstein-Maxwell equations admitting a nonsingular electromagnetic field", *J. Math. Phys.*, **17**, 1976, pp. 2192-2197. (MR 54 no. 14076).

10. M. Klamkin and R.G. McLenaghan, "An Ellipsoid Inequality", *Math. Mag.*, **50**, 1977, pp. 261-263.

11. N. Tariq and R.G. McLenaghan, "Note on the Bertotti-Robinson electromagnetic universe", *J. Math. Phys.* **19**, 1977, pp. 349-351. (MR 57 no. 2449).

12. B. Carter and R.G. McLenaghan, "Generalized total angular momentum operator for the Dirac equation in curved space-time", *Phys. Rev. D* **19**, 1979, pp. 1093-1097. (MR 80f: 81048).

13. R. Debever, R.G. McLenaghan and N. Tariq, "Riemannian-Maxwellian invertible structures in General Relativity", *Gen. Rel. Grav.* **10**, 1979, pp. 853-879. (MR 80h: 83015).

14. R.G. McLenaghan and Ph. Spindel, "Quantum numbers for Dirac spinor fields on a curved space-time", *Phys. Rev. D* **20**, 1979, pp. 409-413. (MR 80e: 81114).

15. R.G. McLenaghan and Ph. Spindel, "Intégrales premiéres des équations de Dirac en espace courbé", contribution to the volume in honour of Prof. J. Géheniau, *Bull. Soc. Math. Belgique*, **31**, 1979, pp. 65-88.

16. R. Debever and R.G. McLenaghan, "Repéres symétriques de solutions de type D des équations de Maxwell-Einstein avec constante cosmologique", *Bull. Cl. Sc. Acad. Roy. Belg.*, **66**, 1980, pp. 204-222. (MR 81m: 83031).

17. R. Debever and R.G. McLenaghan, "Orthogonal transitivity, invertibility, and null geodesic separability in type D electrovac solutions of Einstein's field equations with cosmological constant", *J. Math. Phys.* **22**, 1981, pp. 1711-1726. (MR 83a: 83031).

18. S. Czapor and R.G. McLenaghan, "Orthogonal transitivity, invertibility and null geodesic separability in type D vacuum solutions of Einstein's field equations with cosmological constant", *J. Math. Phys.* **23**, 1982, pp. 2159-2167.

19. R.G. McLenaghan, "Huygens' principle", *Ann. Inst. Henri Poincaré, A* **37**, 1982, pp. 211-236.

20. R. Debever, N. Kamran and R.G. McLenaghan, "Sur l'integration compléte des équations d'Einstein du vide et de Maxwell-Einstein, en type D", *Bull. Cl. Sci. Acad. R. Belgique* **68**, 1982, pp. 592-611.

21. R. Debever, N. Kamran, and R.G. McLenaghan, "A single expression for the general solution of Einstein's vacuum and electrovac field equation with cosmological constant for Petrov type D admitting a non-singular aligned Maxwell field", *Physics Letters* **93A**, 1983, pp. 399-402.

22. N. Kamran and R.G. McLenaghan, "Separation of variables and quantum numbers for Weyl neutrino field on curved spacetime", *Lett. Math. Phys.* **7**, 1983, pp. 381-386.

23. N. Kamran and R.G. McLenaghan, "Separation of variables and symmetry operators for the neutrino and Dirac equations in the spacetimes admitting a two-parameter abelian orthogonally transitive isometry group and a pair of shearfree null congruences", *J. Math. Phys.* **25**, 1984, pp. 1019-1027.

24. R. Debever, N. Kamran and R.G. McLenaghan, "Exhaustive integration and a single expression for the general solution of the type D vacuum and electrovac field equations with cosmological constant for a non-singular aligned Maxwell field", *J. Math. Phys.* **25**, 1984, pp. 1955-1972.

25. R. Debever, N. Kamran and R.G. McLenaghan, "Sur une nouvelle expression de la solution générale des équations d'Einstein avec champ de Maxwell non-singulier, aligné, sans source et avec constants cosmologique, en type D", *Ann. Inst. Henri Poincaré, A* **41**, 1984, pp. 191-206.

26. N. Kamran and R.G. McLenaghan, "Symmetry operators for neutrino and Dirac fields on curved spacetime", *Phys. Rev. D.* **30**, 1984, pp. 357-362.

27. J. Carminati and R.G. McLenaghan, "Determination of all Petrov type N space-times on which the conformally invariant scalar wave equation satisfies Huygens' principle", *Physics Letters* **105A**, 1984, pp. 351-354.

28. N. Kamran and R.G. McLenaghan, "Separation of variables and constants of the motion for the Dirac equation on curved space-time", *Bull. Cl. Sci. Acad. R. Belgique*, **LXX**, 1984, pp. 596-610.

29. N. Kamran and R.G. McLenaghan, "Separation of variables and symmetry operators for the conformally invariant Klein-Gordon equation on curved space-time", *Lett. Math. Phys.* **9**, 1985, pp. 65-72.

30. J. Carminati and R.G. McLenaghan, "An explicit determination of the Petrov type N space-times on which the conformally invariant scalar wave equation satisfies Huygens' principle", *Ann. Inst. Henri Poincaré Phys. théor.*, **44**, 1986, pp. 115-153.

31. J. Carminati and R.G. McLenaghan, "The validity of Huygens' principle for the conformally invariant scalar wave equation, Maxwell's equations and Weyl's neutrino equation on Petrov type D and type III space-times", *Physics Letters A* **118**, 1986, pp. 322-324.

32. S.R. Czapor and R.G. McLenaghan, "NP: A Maple package for performing calculations in the New-Penrose formalism", *Gen. Rel. Grav.* **19**, 1987, pp. 623-635.

33. J. Carminati and R.G. McLenaghan, "An explicit determination of the space-times on which the conformally invariant scalar wave equation satisfies Huygens' principle. Part II: Petrov type D space-times", *Ann. Inst. Henri Poincaré Phys. théor.* **47**, 1987, pp. 337-354.

34. N. Kamran, M. Légaré, R.G. McLenaghan and P. Winternitz, "The classification of complete sets of operators commuting with the Dirac operator in Minkowski space-time", *J. Math. Phys.*, **29**, 1988, pp. 403-411.

35. J. Carminati and R.G. McLenaghan, "An explicit determination of the space-times on which the conformally invariant scalar wave equation satisfies Huygens' principle. Part III: Petrov type III space-times", *Ann. Inst. Henri Poincaré Phys. théor.*, **48**, 1988, pp. 77-96.

36. F.W. Letniowski and R.G. McLenaghan, "An improved algorithm for quartic equation classification and Petrov classification", *Gen. Rel. Grav.*, **20**, 1988, pp. 463-483.

37. R.G. McLenaghan and T. Walton, "An explicit determination of the non-self-ajoint wave equation on curved space-time that satisfy Huygens' principle. Part I: Petrov type N background space-times", *Ann. Inst. Henri Poincaré Phys. théor.*, **48**, 1988, pp. 267-280.

38. R.G. McLenaghan and G.W. Williams, "An explicit determination of the Petrov type D space-times on which Weyl's neutrino equation and Maxwell's equations satisfy Huygens' principle", *Ann. Inst. Henri Poincaré Phys. théor.*, **53** (1990), pp. 217-223.

39. Y. Choquet-Bruhat and R.G. McLenaghan, "An expression for the diffusion kernel for the wave operators on a 4-dimensional Lorentzian manifold in Bondi coordinates", *C.R. Acad. Sc. Paris, Ser. I*, **311** (1990), pp. 483-486.

40. J. Carminati, S.R. Czapor, R.G. McLenaghan and G.C. Williams, "Consequences of the validity of Huygens' principle for the conformally invariant scalar wave equation, Weyl's neutrino equation and Maxwell's equation on Petrov type II space-times", *Ann. Inst. Henri Poincaré Phys. théor.*, **54** (1991), pp. 9-16.

41. J. Carminati and R.G. McLenaghan, "Algebraic invariants of the Riemann tensor in a 4-dimensional space", *J. Math. Phys.*, **32** (1991), pp. 3135-3140.

42. S.R. Czapor, R.G. McLenaghan and J. Carminati, "The automatic conversion of spinor equations in Dyad Form in Maple", *Gen. Rel. Grav.*, **24**, 1992, pp. 911-928.

43. K.G. Kalnin, R.G. McLenaghan and G.C. Williams, "Symmetry operators for Maxwell's equations on curved space-time, *Proc. Roy. Soc. London*, **A 439**, 1992, pp. 103-113.

44. S.R. Czapor, R.G. McLenaghan and J. Carminati, "The automatic conversion of spinor equations to dyad form in MAPLE", *Gen. Rel. Grav.* **24** (1992), 911-928.

45. W.G. Anderson and R.G. McLenaghan, "On Huygens' principle for relativistic wave equations", *C.R. Math. Rep. Acad. Sci. Canada* **XV** (1993), 41-45.

46. R.G. McLenaghan and N. Van den Bergh, "Space-times admitting Killing two-spinors", *Class. Quantum Grav.*, **10** (1993), 2179-2185.

47. S. Allen, G.F. Fee, A.T. Kachura, F.W. Letniowski and R.G. McLenaghan, "Comparison of algorithms for the symbolic computation of the NP spin coefficients and curvature components", *Gen. Rel. Grav.*, **26** (1994), pp. 21-40.

48. W.G. Anderson and R.G. McLenaghan, "On the validity of Huygens' principle for second order partial differential equations with four independent variables. Part II: a sixth necessary condition", *Ann. Inst. Henri Poincaré Phys. théor.*, **60** (1994), pp. 373-432.

49. R.G. McLenaghan and F. Sasse, "Nonexistence of Petrov type III space-times on which Weyl's neutrino equation or Maxwell's equations satisfy Huygens' principle", *Ann. Inst. Henri Poincaré Phys. théor.*, **60** (1996), pp. 253-271.

50. W.G. Anderson, R.G. McLenaghan and T. Walton, "An explicit determination of the non-self-adjoint wave equations that satisfy Huygens' principle on Petrov type III background space-times", *J. Anal. Appl.* **14** (1997), pp. 37-58.

51. Anderson, W.G., McLenaghan, R.G. and Sasse, F.D., "Huygens' principle for the non-self-adjoint scalar wave operator on Petrov type III space-times", *Ann. Inst. Henri Poincaré Phys. théor.*,**70** (1999), 259-276.

52. S. Czapor, R.G. McLenaghan and F. Sasse, "Complete solution of Hadamard's problem for the scalar wave equation on Petrov type III space-times", *Ann. Inst. Henri Poincar'e Phys. Théor.*, **71** (1999), 595-620.

53. R.G. McLenaghan, S.N. Smith and D.M. Walker, "Symmetry operator for spin $\frac{1}{2}$ relativistic wave equations", *Proc. Roy. Soc. London* **A456** (2000), 2629-2643.

54. R.G. McLenaghan and R.G. Smirnov, "Separability of the Toda Lattice", *Appl. Math. Lett.*, **13** (2000), 77-82.

55. R.G. McLenaghan and R.G. Smirnov, "A class of Liouville-integrable hamiltonian systems with two degrees of freedom", *J. Math. Phys.* **41** (2000), 6879-6889.

56. A.T. Bruce, R.G. McLenaghan and R.G. Smirnov, "A systematic study of the Toda lattice in the context of the Hamilton-Jacobi theory", *J. Appl. Math. Phys.*, **52** (2001), 171-190.

57. A.T. Bruce, R.G. McLenaghan and R.G. Smirnov, "A systematic study of the Toda lattice in the context of the Hamilton-Jacobi theory", *Z. Angew. Math. Phys.*, **52** (2001), 171-190.

58. A.T. Bruce, R.G. McLenaghan and R.G. Smirnov, "A geometrical approach to the problem of integrability of Hamiltonian systems by separation of variables", *J. Geom. Phys.*, **39** (2001), 301-322.]

59. R.G. McLenaghan and R.G. Smirnov, "Benenti's theorem and the method of moving frames", *Rep. Math. Phys.*, **48** (2001), 227-234.

60. J. Carminati, E. Zakhary, R.G. McLenaghan, "On the problem of algebraic completeness for the invariants of the Riemann tensor. II., *J. Math. Phys.* **43** (2002), 492-507.

61. R.G. McLenaghan, R.G. Smirnov and D. The, "Group invariant classification of separable Hamiltonian systems in the Euclidean plane and the $O(4)$-symmetric Yang-Mills theories of Yatsun", *J. Math. Phys.* **43** (2002), 1422-1440.

62. L. Fatibene, M. Ferraris, M. Francaviglia and R.G. McLenaghan, "Generalized symmetries in mechanics and field theories", *J. Math. Phys.* **43** (2002), 3147-3161.

63. S.R. Czapor, R.G. McLenaghan and V. Wünsch, "Conformal C and empty spaces of Petrov type N", *Gen. Relativity Gravitation* **34** (2002), 385-402.

64. R.G. McLenaghan, R.G. Smirnov and D. The, "An extension of the classical theory of algebraic invariants to pseudo-Riemannian geometry and Hamiltonian mechanics", *J. Math. Phys.* **45** (2004) 1070-1120.

65. R.G. McLenaghan, R. Milson and R.G. Smirnov, "Killing tensors as irreducible representations of the general linear group", *C.R. Acad. Sci. Paris, Ser. I* **339** (2004), 621-624.

66. J.T. Horwood, R.G. McLenaghan and R.G. Smirnov, "Invariant classification of orthogonally separable Hamiltonian systems in Euclidean space", *Commun. Math. Phys.*, **259** (2005), 679-709.

67. C. Chanu, L. de Giovanni and R.G. McLenaghan, "Geometrical classification of Killing tensors on bi-dimensional flat manifolds", *J. Math. Phys.* **47** (2006), 073506-1-20.

68. J.T. Horwood and R.G. McLenaghan, "Transformation to pseudo-Cartesian coordinates in locally flat pseudo-Riemannian spaces", *J. Geom. Phys.* **57** (2007), 1435-1440.

69. M. Chanachowicz, C. Chanu and R.G. McLenaghan, "Invariant classification of the rotationally symmetric R-separable webs for the Laplace equation in Euclidean space", *J. Math. Phys.*, **49** (2008), 013511-013531.

70. J.T. Horwood and R.G. McLenaghan, "Orthogonal separation of variables for the Hamilton-Jacobi and wave equations in three-dimensional Minkowski space", *J. Math. Phys.*, **49** (2008), 023501-023548.

71. S.R. Czapor and R.G. Mclenaghan, "Hadamard's problem of diffusion of waves", *Acta Phys. Polon. B*, **1** (2008), 55-75.

(b) Articles in conference proceedings:

1. B. Carter and R.G. McLenaghan, "Generalized master equations for wave equation separation in a Kerr or Kerr-Newman black hole background", contribution to the Proceedings of the Second Marcel Grossman Meeting on the Recent Developments in General Relativity, R. Ruffini (North-Holland, Amsterdam 1982) pp. 575-585.

2. R. Debever, N. Kamran and R.G. McLenaghan, "Sur une expression de la solution générale des équations d'Einstein avec champ de Maxwell non singulier, aligné, sans source et avec constant cosmologique, en type D", Proceedings of the Journées Relativistes 1983, ed. S. Beneti, M. Ferraris, M. Francaviglia (Pitagora Editrice, Bologna, 1985) pp. 111-124.

3. J. Carminati and R.G. McLenaghan, "Some new results on the validity of Huygens' principle for the scalar wave equation on a curved space-time", in the Proceedings of the Journées Relativistes 84, Aussois, France, ed. Laboratoire "Gravitation et Cosmologie Relativistes", Université Pierre et Marie Curie et C.N.R.S., Institute Henri Poincaré, Paris (Springer-Verlag, Lecture Notes in Physics Vol. 212, 1984) pp. 138-142.

4. J. Carminati and R.G. McLenaghan, "Recent results on the validity of Huygens' principle for the scalar wave equation, Maxwell's equation, and Weyl's neutrino equation on curved space-time", in Géométrie et physique, ed. Y. Choquet-Bruhat et al. (Travaux en cours, Hermann, Paris, 1987) pp. 170-173.

5. J. Carminati and R.G. McLenaghan, "The validity of Huygens' principle on type N space-times", in the Proceedings of the 4th Marcel Grossmann Conference on General Relativity, ed. R. Ruffini, (Elsevier Science Publishers B.V., 1986) pp. 911-915.

6. J. Carminati and R.G. McLenaghan, "Some recent results on the validity of Huygens' principle on type D and type III space-times", in the Proceedings of the 5th Marcel Grossmann Conference on General Relativity, ed. R. Ruffini (World Scientific, Singapore, 1989), pp. 409-413.

7. J. Carminati, S.R. Czapor and R.G. McLenaghan, "The validity of Huygens' principle for the wave equation on curved space-time" in Proceedings of the 3rd Canadian Conference on General Relativity and Relativistic Astrophysics, ed. B.O.J. Tupper (World Scientific, Singapore, 1990), pp. 87-92.

8. G.J. Fee and R.G. McLenaghan, "General Ricci tensor in General Relativity" in Proceedings of 3rd Canadian Conference on General Relativity and Relativistic Astrophysics, ed. B.O.J. Tupper (World Scientific, Singapore, 1990) pp. 331-335.

9. R.G. McLenaghan, "Recent results on Huygens' principle", Actes des Journées Relativistes, ed. L. Rozoy, (Institut Fourier, Université de Grenoble, 1990) pp. 301-308.

10. J. Carminati and R.G. McLenaghan, "On the validity of Huygens' principle for the wave equation on curved space-time", to appear in the Proceedings of the International Symposium Huygens' principle 1690-1990: theory and applications, ed. H.A. Ferwerda (Elsevier, Amsterdam, 1992), pp. 435-442.

11. E.G. Kalnins, R.G. McLenaghan and G.C. Williams, "Symmetry operators for Maxwell's equation in curved space-time" to appear in the Proceedings of the 4th Canadian Conference on General Relativity and Relativistic Astrophysics, ed. G. Kunstatter (World Scientific, Singapore, 1992), pp. 129-133.

12. M. Kavian, R.G. McLenaghan and K.O. Geddes, "MapleTensor: a new system for performing indicial and component calculations by computer", in the Proceedings of the 7th Marcel Grossmann Meeting on General Relativity, ed. R. Ruffini (World Scientific, Singapore, 1999), pp. 419.

13. R.G. McLenaghan and F. Sasse, "Huygens' principle for Weyl's neutrino equation and Maxwell's equations in Petrov type III space-times", in the Proceedings of the 7th Marcel Grossmann Meeting on General Relativity", ed. R. Ruffini, (World Scientific, Singapore, 1999), pp. 1149-1150.

14. K. Chu, C.E. Farell, G.J. Fee and R.G. McLenaghan, "General relativity calculations in Maple", to appear in the Proceedings of the 6th Canadian Conference on General Relativity and Relativistic Astrophysics, ed. S.P. Braham, J.D. Gegenberg and R.J. McKellar (Fields Institute Communications, AMS, 1997), pp. 195-199

15. R.G. McLenaghan and D. Walker, "Symmetry operators for the Weyl equation on curved spacetime", in the Proceedings of the 6th Canadian Conference on General Relativity and Relativistic Astrophysics, ed. S.P. Braham, J.D. Gegenberg and R.J. McKellar (Fields Institute Communications, AMS, 1997) pp. 291-295.

16. R.G. McLenaghan and F. Sasse, "Nonexistence of Petrov type III spacetimes on which Weyl's neutrino equation and Maxwell's equations satisfy Huygens' principle", in the Proceedings of the 6th Canadian Conference on General Relativity and Relativistic Astrophysics, ed. S.P. Braham, J.D. Gegenberg and R.J. McKellar (Fields Institute Communications, AMS, 1997), pp. 285-289.

17. M. Kavian, R.G. McLenaghan and K.O. Geddes, "A new system for performing indicial and component tensor calculations by computer", in the 6th Canadian Conference on General Relativity and Relativistic Astrophysics, ed. S.P. Braham, J.D. Gegenberg and R.J. McKellar (Fields Institute Communications, AMS, 1997), pp. 269-272.

18. M. Kavian, R.G. McLenaghan and K.O. Geddes, "MapleTensor: Progress report on a new system for performing indicial and component tensor calculations using symbolic computation", in the Proceedings of the ISSAC '96 Conference, ed. Y.N. Lakshman (ACM Press, N.Y., 1996), pp. 204-211.

19. Kavian, M., Mclenaghan, R.G. and Geddes, K.O., "Application of genetic algorithms to the algebraic simplification of tensor polynomials", In *Proceedings of the 1997 International Symposium on Symbolic and Algebraic Computations*, ed. W.W. Kücklin (ACM Press, N.Y., 1997, 93-100.

20. K.C. Chu, S.R. Czapor and R.G. McLenaghan, "Huygens' principle and maple's NPspinor package", in *Recent Developments in General Relativity*, Proceedings of the 14th Italian Conference on General Relativity and Gravitational Physics (Springer, Milano, 2002).

21. R.G. McLenaghan, R.G. Smirnov and D. The, The 1881 problem of Morera revisited, in Proceedings of the 8th International Conference on Differential Geometry and Its Applications, eds. O. Kowalski, D. Krupka and J. Slovak (Silesian University, Opava, 2003), pp. 333-342; http://gicdga.math.slu.cz/proceedings.html.

22. R.G. McLenaghan, R.G. Smirnov, and D. The, Group invariants of Killing tensors in the Minkowski plane, in Proceedings of the Conference Symmetry and Perturbation Theory – SPT2002, eds. S. Abenda, G. Gaeta and S. Walcher (World Scientific, Singapore, 2003), pp. 153-161.

23. L. Fatibene, R.G. McLenaghan and S.N. Smith, Separation of variables for the Dirac equation on low dimensional spaces, in Proceedings of the International Conference: Advances in General Relativity and Cosmology, ed. G. Ferrarese (Pitagora Editrice Bologna, 2003), pp. 109-127.

24. R.G. McLenaghan, R.G. Smirnov and D. The, "Towards a classification of cubic integrals of motion", in Superintegrability in Classical and Quantum Systems, eds. P. Tem pesta, P. Winternitz, J. Harnad, W. Miller, Jr. and M. Rodriguez, CRM Proceedings and Lecture Notes (AMS, Providence, 2004).

25. R.G. McLenaghan, R.G. Smirnov and D. The, "Group invariant classificaiton of orthogonal coordinate webs", in Recent advances in Riemannian and Lorentzian geometries (Baltimore, MD, 2003), *Contemp. Math.* **337** (2004), 109-120.

26. R.J. Deeley, J.T. Horwood, R.G. McLenaghan and R.G. Smirnov, "Theory of algebraic invariants of vector spaces of Killing tensors: methods for computing the fundamental invariants", in Symmetry in non-linear mathematical physics, Parts 1, 2, 3, *Pr. Inst. Mat. Nats. Alcad. Nauk. Ukr. Mat. Zastos*, **50** (2004), 1079-1086.

27. J.T. Horwood, R.G. McLenaghan, R.G. Smirnov and D. The, "Fundamental covariants in the invariant theory of Killing tensors", in Proceedings of Symmetries and Perturbation Theory – SPT 2004, eds. G. Gaeta, B. Prinari, S. Rauch-Wojciechowski and S. Terracini, 2004 (World Scientific, Singapore, 2005), pp. 124-131.

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