

**1. Personal**

Name: David J. Rowe , 1903-388 Bloor St. East, Toronto, ON, Canada M4W 3W9  
Home phone: (416)-967-0413  
Office address: Department of Physics, 60 St. George St.,  
Toronto, Ontario, Canada M5S 1A7  
Office phone: (416)-978-5206  
Fax: (416)-978-2537  
E-mail: rowe@physics.utoronto.ca  
Date of birth: Feb. 4, 1936  
Citizenship: British and Canadian

**2. Degrees**

B.A., 1959, Cambridge University  
B.A., 1959, Oxford University  
M.A., 1962, Oxford University  
D. Phil., 1962, Oxford University, Experimental nuclear physics. Supervisor: Dr. A.B. Clegg

**3. Employment**

Royal Air Force: Lecturer in electronics at an R.A.F. Radio School, 1955-56  
Niels Bohr Institute, Copenhagen: Ford Foundation Fellow, 1962-63  
Atomic Energy Research Establishment, Harwell: U.K.A.E.A. Fellow, 1963-66  
International Atomic Energy Agency, Centre for Theoretical Physics, Trieste:  
Visiting Lecturer, October and November 1966.  
University of Rochester: Research Associate, 1966-68  
University of Toronto: Associate Professor, 1968-74  
Professor, 1974-98  
Associate Dean, School of Graduate Studies, 1984-87  
Professor Emeritus , 1998-  
Chairman, Commission for Mathematical Physics, IUPAP 1999-2002.

**4. Honours**

Ford Foundation Fellow, 1962-63.  
United Kingdom Atomic Energy Authority Fellow, 1963-66.  
Alfred P. Sloan Fellow, 1970-72.  
Rutherford Memorial Medal and Prize of the Royal Society of Canada, 1983.  
Erskine Fellow 1984.  
Fellow, Royal Society of Canada, 1986 –.  
Fellow, Trinity College, University of Toronto, 1989 –.  
Isaac Walton Killam Senior Research Fellow, 1990-92.  
CAP/CRM Medal and Prize for Theoretical and Mathematical Physics, 1999.

**5. Graduate Students**

21 M.Sc. students, 19 Ph.D. students.

**6. Professional Affiliations**

Member, Canadian Association of Physicists.  
Member, International Association of Mathematical Physicists.  
Fellow, Royal Society of Canada.

**7. Professional Service**

1970-71 Chairman, Theoretical Physics Division, C.A.P.  
1970-71 Member, Steering Committee for Laurence Report on  
Support of Physics Research in Universities

1972	Director, Mont Tremblant International Summer School
1972-73	Member, Organizing committee for NATO Advanced Institute on Relativity, Banff, Alberta
1979-82	Member, NSERC Nuclear Physics Grants Selection Committee
1982	Member, International Organizing Committee for the International Symposium on "Time-Dependent Hartree-Fock and Beyond" at Bad-Honnef, Germany.
1983	Member, Special NSERC Committee to evaluate the Major Installation Grant application "Upgrading of Saskatchewan Acceleration Laboratory".
1983-86	Member, Editorial Board, Physical Review C.
1984	Director, Summer Institute in Theoretical Physics (8-28 July, Kingston, Ont.).
1986	Member, International Advisory Committee for the Conference on "Nuclear Structure, Reactions and Symmetries", Dubrovnik, May 1986.
1986-92	Member, CAP Committee on Summer Institutes
1986-	Review writer for 'Mathematical Reviews'
1987-8	Member, International Advisory Committee for the XVII'th International Colloquium on Group Theoretical Methods in Physics.
1988-89	Director, Summer Institute in Theoretical Physics (June 26-July 7, 1989, Kingston, Ont.)
1988-93	Member, Editorial Board, Journal of Physics G.
1990	Co-Director, 1990 Summer Institute on Theoretical Physics.
1991	Member, International Advisory Committee, Conference on Group Theory and Special Symmetries in Nuclear Physics, Sept. 19-21, 1991.
1992-93	Deputy Editor, Journal of Physics G.
1992-93	Member, Selection Committee for the Foreign Government Awards and Government of Canada Awards Program.
1994-95	International Advisory Committee for the 1995 Wigner Symposium, Guadalajara, Mexico.
1995-96	International Advisory Committee for the conference "Nuclear Dynamics at Long and Short Distances," 8 - 12 April, 1996 at Angra dos Reis, Brazil.
1996-	Elected Member, IUPAP Commission for Mathematical Physics.
1998	Director of the Symposium "Impacts of Nuclear Physics" (Toronto) Nov. 23-24.
1999-2002	Elected Chairman, IUPAP Commission for Mathematical Physics.
1999-2001	Member, Selection Committee for the Rutherford Memorial Medal of the R.S.C.
2002	Chairman, Selection Committee for the Rutherford Memorial Medal of the R.S.C.
2009	Co-Organisor, Mardi Gras Workshop on "Special Symmetries and Ab Initio Methods for Light Nuclei", Light Nuclei", 18-20 February, 2009, Louisiana State University.

### 8. Invited Conference & Summer School Lectures (\* indicates published in full)

1966	40 lectures*	Intl. School	International Centre for Theoretical Physics, Trieste.
1969	Invited talk	Amer. Phys. Soc. Meeting	Rochester, N.Y.
1970	Invited talk*	NATO Advanced Institute	Cagliari, Italy.
1971	4 lectures*	NATO Summer School	Mont Tremblant, Quebec.
1972	5 lectures*	Intl. Symposium	Rio de Janeiro, Brasil.
	Invited lecture	Gordon Conf.	Tilton, New Hampshire, USA.
1973	Invited talk*	Intl. Conf.	Asilomar, California, USA.
1975	Invited talk*	Intl. Conf.	Tucson, Arizona, USA.
	Invited talk*	Intl. Symposium	Balatonfured, Hungary..
1976	Invited talk*	Intl. Colloq.	Montreal, Canada.
1977	Invited talk*	Intl. Colloq.	Tubingen, Germany.
1978	Invited talk	Can. Assoc. Phys.	Annual Conf., London, Ontario.
	Invited talk	Amer. Phys. Soc. Meeting	Rochester, N.Y., USA.

1979	2 lectures*	Intl. Workshop.	Hirschegg, Germany.
	Summary talk	Intl. Workshop	Paris, France.
	Invited talk*	Intl. Symposium	Keszthely, Hungary.
1980	Participant of round table*	Intl. Conf.	New Orleans, Louisiana .
	Invited talk	Queen's Univ. Conference	Kingston, Ontario.
	12 lectures*	Latin American School	Mexico City.
	6 lectures*	Intl. School	Poiana Brasov, Romania.
1982	Invited talk	Can. Assoc. Phys. Meeting	Mt. St. Anne, Quebec.
	Invited talk*	Intl. Conf.	Cocoyoc, Mexico.
	Invited talk*	Intl. Symp.	Bad-Honnef, Germany.
	Invited talk*	Summer Inst.	Kyoto, Japan.
1983	Medalist address*	Annual Meeting,	Roy. Soc. of Canada
1984	Invited talk	Royal Soc. of New Zealand	Christchurch, N.Z.
1985	2 lectures*	Intl. Symp.	Capri, Italy.
	Invited talk*	Topical Meeting	Trieste, Italy.
	Invited talk*	Intl. Seminar	Sorrento, Italy.
1986	Invited talk*	Intl. Conf.	Dubrovnik, Yugoslavia.
	Invited talk	CAP Annual Meeting,	Edmonton, Alberta.
	Invited talk	Gordan Conf.	Tilton, New Hampshire, USA.
	Invited talk	National Meeting Am. Chem. Soc.,	Anaheim, California.
	Round table	National Meeting Am. Chem. Soc.,	Anaheim, California.
1988	Invited talk*	Intl. Colloq.	St. Adèle, Quebec.
	Invited talk*	Intl. Workshop	ORNL, Tennessee.
1989	Invited talk	Amer. Phys. Soc. Meeting	Tuscaloosa, Alabama.
	Invited talk	Can. Assoc. Phys. Summer Inst.,	Kingston, Ontario.
1990	Invited talk*	Intl. Seminar	Ischia, Italy.
	Round table	Intl. Seminar	Ischia, Italy.
	Invited talk	Can. Assoc. Phys. Summer Inst.,	Kingston, Ontario.
	Panel discussion	Can. Assoc. Phys. Summer Inst.,	Kingston, Ontario.
1991	Invited talk*	Wigner Symposium	Goslar, Germany.
	Invited talk*	Intl. Symposium	Ann Arbor, Michigan.
	2 lectures*	Intl. School	Varna, Bulgaria.
	Invited talk*	Symposium	Philadelphia, USA.
	Invited talk	Workshop	Philadelphia, USA.
1992	Invited talk*	Workshop	ORNL, Tennessee.
	Critical review*	Workshop	ORNL, Tennessee.
	Invited talk*	Workshop	College Park, Maryland.
	Invited talk*	Symposium	Bregenz, Austria.
	Invited talk*	Intl. Symp.	Sannibel, Florida, USA.
	Invited talk	Ont. Assoc. of Physics Teachers,	Toronto, Ontario.
1993	Invited talk*	NATO workshop	San Antonio, Texas.
	Invited talk*	Conf.	Rochester, N.Y.
	Invited talk*	Intl. Symp.	Taiwan.
	Invited talk*	Intl. Symp.	Oak Ridge, Tennessee.
	Invited talk*	Intl. Symp.	Copenhagen, Denmark.
	2 Invited talks	Intl. Workshop ECT*	Trento, Italy.
1994	Invited talk	CAP Summer Inst.,	Kingston, Ontario
	Invited talk*	Intl. Colloq.	Toyonaka, Japan.
	Invited talk*	Intl. Colloq.	Padua, Italy.
	Invited talk	Science Teacher's Assoc. Conf.	Toronto, Ontario.

1995	Invited talk* 2 lectures*	Intl. Seminar Intl. Workshop	Ravello, Italy. Bialowieza, Poland.
	Invited talk	Learning Unlimited	Toronto, Canada
1996	Invited talk	Am. Math. Soc. Meeting	Iowa city, USA.
	Invited talk	Math. Workshop Fields Inst.,	Toronto, Canada.
	Invited talk	Intl. Workshop ECT*,	Trento, Italy.
1997	Invited talk*	CRM Symposium	Montreal, Canada.
1998	Invited talk	CAP Annual Congress	Waterloo, Canada.
	Invited talk*	Intl. Conf.	Lewes, UK.
1999	Invited talk*	Intl. Conf.	NAC South Africa.
	Invited talk	CAP Annual Congress	Fredericton, Canada.
	Invited talk*	6'th Intl. Wigner Symposium	Istanbul, Turkey.
2000	Invited talk*	XXIII'rd Int. Coll.	Dubna, Russia.
2001	Invited talk*	XXIV'th Symp. on Nucl. Phys.	Taxco, Mexico.
2002	Invited talk	Int. Symposium	Aizu, Japan.
2003	Invited talk	Int. Conf.	Playa del Carmen, Mexico.
	Invited talk	Int. Conf.	Erice, Italy.
2004	Invited talk*	Intl. Seminar in Nuclear Physics	Paestum, Italy
	Invited talk	CAP Annual Congress	Winnipeg, Canada.
2005	Invited talk*	Int. Conf.	Toruń, Poland.
2006	Invited talk*	Theory Canada 2	Perimeter Inst., Waterloo.
	Invited talk	Workshop	Demokritos Univ., Athens.
2007	Invited talk	CMS Annual Congress	Winnipeg, Canada.
	Invited talk	INT Workshop	Seattle, USA.
2009	Keynote address	Mardi Gras Workshop	Lousiana State University.

**A. Books and chapters of books**

1. “Nuclear Collective Motion: Models and Theory”, Methuen & Co., London, 1970, 340 pages,.
2. D.J. Rowe, L.E.H. Trainor, S.S.M. Wong & T.W. Donnelly (editors), “Dynamic Structure of Nuclear States”, University of Toronto Press, 1972.
3. “The Shell-Model Theory of Nuclear Collective States”, Chap. 4 of the book *Dynamical Groups & Spectrum Generating Algebras, Vol. I* by A. Bohm, Y. Neeman and A.O. Barut et al. (World Scientific; 1988).
4. “Practical Group Theory” (University of Toronto Custom Publishers, 1993; third edition 1997) 327 pages.
5. D.J. Rowe, Mathematical Physics in “Physics 2000 as it Enters a New Millennium”, eds. P.J. Black, G.W.F. Drake, and L. Jossem (I.U.P.A.P.- 36) pages 106-116.
6. D.J. Rowe and J.L. Wood, “Fundamentals of Nuclear Models” (in press).

**B. Refereed Articles**

1. D.J. Rowe, G. Salmon and A.B. Clegg, “Finite geometry corrections for angular correlation measurements”, Nucl. Instr. & Meths. **12** 353-354 (1961).
2. G. Salmon, A.B. Clegg, K. Foley, P.S. Fisher and D.J. Rowe, “Gamma-ray angular correlations in the inelastic scattering of medium energy protons from the first excited state of  $C^{12}$ ”, Proc. Phys. Soc. **79** 14-26 (1962).
3. D.J. Rowe, A.B. Clegg, G. Salmon and P.S. Fisher, “The  $O^{16}(p, p')$  reaction at 150 MeV”, Proc. Phys. Soc. **80** 1205-1217 (1962).
4. D.J. Rowe, A.B. Clegg, G. Salmon and D. Newton, “The  $Ca^{20}(p, p')$  reaction at 150 MeV”, Proc. Phys. Soc. 332-342 (1963).
5. D. Newton, A.B. Clegg, G. Salmon and D.J. Rowe, “The  $B^{11}(p, p')$  reaction at 150 MeV and the Unified Model of  $B^{11}$ ”, Nucl. Phys. **53** 433-448 (1964).
6. D.J. Rowe, A.B. Clegg, G. Salmon and D. Newton, “Distorted wave effects and the impulse approximation of the  $C^{12}(p, p')$  reaction”, Nucl. Phys. **54** 193-220 (1964).
7. D.J. Rowe, “A calculation of some  $\Delta K = \pm 2$  band-mixing effects in the odd-mass nucleus  $W^{183}$ ”, Nucl. Phys. **61** 1-12 (1965).
8. D.J. Rowe, “An interpretation of time-dependent Hartree-Fock Theory”, Nucl. Phys. **80** 209-222 (1966).
9. D.J. Rowe, “Time-dependent Hartree-Fock Theory and Nuclear Vibrational Models”, Nucl. Phys. **85** 365-392 (1966).
10. D.J. Rowe, “Schematic Interactions for Nuclear Random Phase Approximation Calculations”, PhysRev. **162** 866-871 (1967).
11. D.J. Rowe, “General Variational Equations for Stationary and Time-Dependent States”, Nucl. Phys. **A107** 99-105 (1968).
12. D.J. Rowe, “The Equations-of-Motion Method and the Extended Shell Model”, Rev. Mod. Phys. **40** 153-166 (1968).
13. D.J. Rowe, “Methods for Calculating Ground-State Correlations of Vibrational Nuclei”, Phys. Rev. **175** 1283-1292 (1968).
14. J.C. Parikh and D.J. Rowe, “Investigation of Ground-State Correlations for a Model Hamiltonian of the Nucleus”, Phys. Rev. **175** 1293-1300 (1968).
15. D.J. Rowe, “Properties of Overcomplete and Non-Orthogonal Basis Vectors”, J. Math. Phys. **10** 1774-1777 (1969).
16. D.J. Rowe and S.S.M. Wong, “Open-Shell RPA Calculations for the Giant-Dipole Excitations of  $C^{12}$ ”, Phys. Lett. **30B** 147-149 (1969).
17. S.S.M. Wong and D.J. Rowe, “The Giant-Dipole Excitations of  $C^{12}$  in the Open-Shell Tamm-Dancoff Approximation and in the Intermediate-Coupling Shell Model” Phys. Lett. **30B** 150-152 (1969).
18. N. Ullah and D.J. Rowe, “Investigation of Octupole Correlations in  $O^{16}$ ”, Phys. Rev. **188** 1640-1645 (1969).

19. D.J. Rowe, "The Nature of the Hartree-Fock Energy Gap in Finite Nuclei", Nucl. Phys. **A140** 74-80 (1970).
20. D.J. Rowe, "How Do Deformed Nuclei Rotate?", Nucl. Phys. **152** 273-294 (1970).
21. D.J. Rowe and S.S.M. Wong, "The Open-Shell Random-Phase Approximation and the Negative Parity Excitations of  $C^{12}$ ", Nucl. Phys. **A153** 561-585 (1970).
22. D.J. Rowe, N. Ullah, S.S.M. Wong, J.C. Parikh and B. Castel, "Investigations of the 1 Particle-Hole and Projected Hartree-Fock Approximations in  $C^{12}$  and  $O^{16}$ ", Phys. Rev. **C3** 73-78 (1971).
23. N. Ullah and D.J. Rowe, "Properties of Real RPA Matrices and a Simple Diagonalization Procedure", Nucl. Phys. **A163** 257-264 (1971).
24. C. Ngo-Trong and D.J. Rowe, "Isospin Structure of the Giant Dipole Resonance of the Even Isotopes of Nickel: A Microscopic Calculation Based on the Equations-of-Motion Formalism", Phys. Lett. **36B** 553-556 (1971).
25. N. Lo Iudice, D.J. Rowe and S.S.M. Wong, "A Shell-Model Calculation of the Mass 18 Nuclei and the Effective Interaction in the sd-shell", Phys. Lett. **37B** 44-46 (1971).
26. D.J. Rowe, "Is Hartree-Fock Self-Consistency Important in Particle-Hole Calculations", Phys. Lett. **44B** 155-158 (1973).
27. K.K. Gupta, N. Ullah and D.J. Rowe, "Effect of Vibrational Correlations on the Moment of Inertia in a Generalized Skyrme-Levinson Model", Phys. Rev. **C8** 1154-1157 (1973).
28. A.A. Ayad and D.J. Rowe, "Application of Infinite Oscillator Shell Model Calculations to the Description of Nuclear Reactions", Nucl. Phys. **A218** 307-323 (1974).
29. O. Nalcioglu, D.J. Rowe and C. Ngo-Trong, "Excitation of the  $T_>$  components of the Giant Dipole States in  $N > Z$  Nuclei by Muon Capture", Nucl. Phys. **A218** 495-503 (1974).
30. N. Lo Iudice, D.J. Rowe and S.S.M. Wong, "Exact Shell Model Calculations in  $A = 17$  and  $A = 18$  Nuclei and Effective Operators in the  $(2s, 1d)$  Shell", Nucl. Phys. **A219** 171-189 (1974).
31. D.J. Rowe and R. Basserman, "Adiabatic and Non-Adiabatic Cranking Models for the Solution of the Large Amplitude Time-Dependent Hartree-Fock Equations and the Calculations of Nuclear Energy Surfaces", Nucl. Phys. **A220** 404-428 (1974).
32. S.S.M. Wong, D.J. Rowe and J.C. Parikh, "Calculations of the Giant-Dipole Resonance for sd-Shell Nuclei in the Open-Shell Random Phase Approximation", Phys. Lett. **48B** 403-406 (1974).
33. M. Guidetti, D.J. Rowe and H. Chow, "Upper and Lower Bounds for the Quadrupole Moment and Octupole Strength of the First Excited  $3^-$  State in  $^{208}Pb$ ", Nucl. Phys. **A238** 225-239 (1975).
34. N. Lo Iudice, D.J. Rowe and S.S.M. Wong, "Core-Particle Coupling Calculations for  $A = 18$  Nuclei; Non-Perturbative Effective Interactions in the  $(2s, 1d)$  Shell", Nucl. Phys. **A245** 479-508 (1975).
35. D.J. Rowe and C. Ngo-Trong, "Tensor Equations of Motion for the Excitations of Rotationally Invariant or Charge-Independent Systems", Rev. Mod. Phys. **47** 471-485 (1975).
36. T. Suzuki and D.J. Rowe, "Sum rule for the current transition density", Phys. Lett. **61B** 417-419 (1976).
37. G. Rosensteel and D.J. Rowe, "The Algebraic  $CM(3)$  Model", Annals of Phys. **96** 1-42 (1976).
38. G. Rosensteel and D.J. Rowe, "Representations of  $Sl(3, R)$  with Half-Integral Spin Bands", Can. J. Phys. **54** 1114-1123 (1976).
39. P. Gulshani and D.J. Rowe, "Collective Motion in Nuclei and the Spectrum Generating Algebras  $T_5 \times SO(3)$ ,  $GL(3, R)$  and  $CM(3)$ ", Can. J. Phys. **54** 970-996 (1976).
40. D.J. Rowe and R. Basserman, "Coherent State Theory of Large Amplitude Collective Motion", Can. J. Phys. **54** 1941-1968 (1976).
41. G. Rosensteel and D.J. Rowe, "The principal series of  $Sp(n, R)$ ", Int. J. Theor. Phys. **15** 453-461 (1976).
42. D.J. Rowe and G. Rosensteel, "Convergence criteria for the Hartree iterative solution of the general self-consistent field equations", Int. J. Theor. Phys. **15** 501-511 (1976).
43. G. Rosensteel and D.J. Rowe, "Nuclear  $Sp(3, R)$  model", Phys. Rev. Letts. **38** 10-14 (1977).
44. T. Suzuki and D.J. Rowe, "Sum rule for the current density and nuclear hydrodynamic models", Nucl. Phys. **A286** 307-321 (1977).

45. T. Suzuki and D.J. Rowe, "The splitting of giant multipole states of deformed nuclei", Nucl. Phys. **A289** 461-474 (1977).
46. T. Suzuki and D.J. Rowe, "Comments on electroexcitation of deformed nuclei", Nucl. Phys. **A292** 93-106 (1977).
47. H. Zarek, B.O. Pich, T.E. Drake, D.J. Rowe et al., "Discovery of a  $6^-T = 1$  resonance in  $^{24}Mg$  via high-resolution inelastic electron scattering", Phys. Rev. Letts. **38** 750-753 (1977).
48. G. Rosensteel and D.J. Rowe, "The discrete series of  $Sp(n, R)$ ", Int. J. of Theor. Phys. **16** 63-79 (1977).
49. G. Rosensteel and D.J. Rowe, "On the shape of deformed nuclei", Annals of Phys. **104** 143-144 (1977).
50. P. Gulshani and D.J. Rowe, "A current operator for the rotational model", Phys. Letts. **78B** 536-538 (1978).
51. D.J. Rowe, "The two-photon laser as a breathing mode of the electromagnetic field", Can. J. Phys. **56** 442-446 (1978).
52. P. Gulshani and D.J. Rowe, "Quantum mechanics in rotating frames I: the impossibility of rigid flow", Can. J. Phys. **56** 468-479 (1978).
53. P. Gulshani and D.J. Rowe, "Quantum mechanics in rotating frames II: the lattice structure of current circulation for a rotating single-particle fluid", Can. J. Phys. **56** 480-484 (1978).
54. N. Lo Iudice, D.J. Rowe and S.S.M. Wong, "A perturbative analysis of linked and unlinked two-body effective interactions obtained from large matrix diagonalizations", Nucl. Phys. **A297** 35-44 (1978).
55. D.J. Rowe, S.S.M. Wong, H. Chow and J.B. McGrory, "Isovector  $M6$  excitations in the open-shell random phase approximation", Nucl. Phys. **A298** 31-42 (1978).
56. C. Ngo-Trong, T. Suzuki and D.J. Rowe, "The tensor open-shell random phase approximation with application to the even nickel isotopes", Nucl. Phys. **A313** 15-44 (1979).
57. D.J. Rowe and G. Rosensteel, "Geometric derivation of the kinetic energy in collective models", J. Math. Phys. **20** 465-468 (1979).
58. B.G. Giraud and D.J. Rowe, "Curvature of the Slater determinant manifold", Journ. de Physique Lettres **8** 177-180 (1979).
59. B.G. Giraud and D.J. Rowe, "Curvature as a measure of collectivity", Nucl. Phys. **A330** 352-366 (1979).
60. G. Rosensteel and D.J. Rowe, "On the algebraic formulation of collective models I: the mass quadrupole collective model", Annals of Phys. **123** 36-60 (1979).
61. D.J. Rowe and G. Rosensteel, "On the algebraic formulation of collective models II: collective and intrinsic submanifolds", Annals of Phys. **126** 198-233 (1980).
62. G. Rosensteel and D.J. Rowe, "On the algebraic formulation of collective models III: the symplectic shell model of collective motion", Annals of Phys. **126** 343-370 (1980).
63. D.J. Rowe and A.G. Ryman, "Coherent state representation of many-fermion mechanics", Phys. Rev. Letts. **45** 406-409 (1980).
64. D.J. Rowe, A.G. Ryman and G. Rosensteel, "Many-body quantum mechanics as a symplectic dynamical system", Phys. Rev. **A22** 2362-2373 (1980).
65. D.J. Rowe, "The EBBs and flows of the collective tide", Nucl. Phys. **A347** 409-416 (1980).
66. K. Goeke, P.G. Reinhard and D.J. Rowe, "A study of collective paths in the time-dependent Hartree-Fock approach to large amplitude collective nuclear motion", Nucl. Phys. **A359** 408-430 (1981).
67. G. Rosensteel and D.J. Rowe, "Collective rotational states in the symplectic shell model", Phys. Rev. Lett. **46** 1119-1123 (1981).
68. G. Rosensteel and D.J. Rowe, "Nondeterminantal Hartree-Fock theory", Phys. Rev. **A 24** 673-679 (1981).
69. G. Rosensteel and D.J. Rowe, "The  $u(3)$ -boson model of nuclear collective motion", Phys. Rev. Lett. **47** 223-226 (1981).
70. D.J. Rowe and A. Ryman, "Valleys and fall lines on a Riemannian manifold", J. Math. Phys. **23** 732-735 (1982).
71. D.J. Rowe and G. Rosensteel, "Rotational bands in the  $U(3)$ -boson model", Phys. Rev. **C 25** 3236-3238 (1982).

72. M. Vassanji and D.J. Rowe, “The geometric  $SO(3) \times D$  Model”, Phys. Lett. **115 B**, 77-80 (1982).
73. D.J. Rowe, “Constrained quantum mechanics and a coordinate independent theory of the collective path”, Nucl. Phys. A **391** 307-326 (1982).
74. J. Carvalho, P. Park, D.J. Rowe and G. Rosensteel, “Rotational bands in the stretched  $Sp(3,R)$  approximation”, Phys. Lett. **B119** 249-252 (1982).
75. M.G. Vassanji and D.J. Rowe, “Application of the Microscopic  $sp(3,R)$  model to the giant Monopole and quadrupole resonances in  $^{16}O$ ”, Phys. Lett. **125B** 103-105 (1983).
76. M.G. Vassanji and D.J. Rowe, “Application of the  $SO(3) \times D$  Model to the ground-state rotational band of  $^{20}Ne$ ”, Phys. Lett. **B127** 1-4 (1983).
77. D.J. Rowe, M. Vassanji and G. Rosensteel, “Density dynamics: a generalization of Hartree-Fock Theory”, Phys. Rev. A **28** 1951-1956 (1983).
78. D.J. Rowe and F. Iachello, “Group theoretical models of giant resonance splittings in deformed nuclei”, Phys. Lett. **B130** 231-234 (1983).
79. G. Rosensteel and D.J. Rowe, “An Analytic formula for  $U(3)$ -boson matrix elements”, J. Math. Phys. **24** 2461-2463 (1983).
80. D.J. Rowe, “The anatomy of a model”, Trans. Roy. Soc. Can. **21** 125-131 (1983).
81. P. Park, J. Carvalho, M. Vassanji, D.J. Rowe and G. Rosensteel, “The shell-model theory of nuclear rotational states”, Nucl. Phys. A **414** 93-112 (1984).
82. R. Le Blanc, J. Carvalho and D.J. Rowe, “A coupled rotor-vibrator model as the macroscopic limit of the microscopic symplectic model”, Phys. Lett. **B140** 155-158 (1984).
83. D.J. Rowe, G. Rosensteel and R. Carr, “Analytical Expressions for the matrix elements of the non-compact symplectic algebra”, J. Phys. A: Math. Gen. **17** L399-403 (1984).
84. D.J. Rowe, “Coherent state theory of the non-compact symplectic group”, J. Math. Phys. **25** 2662-2671 (1984).
85. M. Vassanji and D.J. Rowe, “The geometric  $SO(3) \times D$  model: a practical microscopic theory of quadrupole collective motion”, Nucl. Phys. A **426** 205-221 (1984).
86. H. Ogura and D.J. Rowe, “An  $Sp(3,R) \times O(N-1)$  basis for the nuclear shell model”, J. Math. Phys. **25** 3545-3550 (1984).
87. D.J. Rowe, G. Rosensteel and R. Gilmore, “Vector Coherent State Representation Theory”: J. Math. Phys. **26** 2787-2791 (1985).
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### C. Invited papers published in conference proceedings

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42. “Vector coherent state representations.” In ‘Coherent States: Past, Present and Future’, (World Scientific, 1994, eds. D.H. Feng, J.R. Klauder, and M.R. Strayer) pp 453-67.
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45. “The pair-coupling model.” In ‘Perspectives for the Interacting Boson Model’ (eds. R.F. Casten et al., World Scientific, 1994) pp 177-88.
46. “Compatible and incompatible symmetries in the theory of nuclear collective motion”, in ‘New Perspectives in Nuclear Structure’ (ed. Aldo Covello, World Scientific, 1995) pp 169-183.
47. “Quantization using vector coherent state methods” in “Quantization, Coherent States and Poisson Structures” (Polisho Scientific Publishers PWN, Warsaw. 1998, eds. A. Strasburger, S.T. Ali, J.-P. Antoine, J.-P. Gazeau and A. Odziejewicz).
48. “The vector coherent state inducing construction”, Symposium in honour of Jiri Patera and Pavel Winternitz for their 60th birthdays, Jan. 9-11, 1997, at the Centre de Recherches Mathématiques, Montréal (to be published in the proceedings, ed. L. Vinet).
49. “Macroscopic and microscopic models of nuclear rotations” in ‘Nuclear Structure at the Extremes’ (published in J. Phys. G: Nuc. Part. **25**, 635-639 (1999))
50. “Quasi-dynamical symmetry — a new use of symmetry in nuclear physics”, 45 minute invited talk at the Intl. Conf. on *The Nucleus; New Physics for the New Millennium*, National Accelerator Centre, South Africa Jan. 18-22, 1999 (eds. F.D. Smit and R. Lindsay, Plenum 1999).
51. “Quasi-dynamical symmetry: a mechanism for organizing emergent collective phenomena”, 30 minute invited talk at the 6<sup>th</sup> International Wigner Symposium, Istanbul, Turkey, 16-22 August, 1999 (Turkish J. of Physics).
52. “Quasi-dynamical symmetry; understanding persistent symmetry”, 45 minute plenary talk at the XXIII<sup>rd</sup> International Colloquium on Group Theoretical Methods in Physics, Dubna, Russia, July 31 - August 5, 2000 (to be published in the proceedings, ed. G. Pogosyan).
53. “Some advances in pairing theory”, 40 minute plenary talk at the XXIV<sup>th</sup> Symposium on Nuclear Physics, Taxco, Mexico, January 3-6, 2001 (Revista Mexican de Fisica, **47** (supp. 2) (2001) 1-6.)
54. “Coherent states, induced representations, geometric quantization, and their vector coherent state extensions”, invited talk at the Workshop on Symmetry in Physics in Memory of Robert Sharp, Sept. 12-14, 2002, Centre ce Recherche Mathematiques, Montreal (CRM Proceedings & Lecture Notes, AMS, eds. P. Winternitz, J. Harnad, C.S. Lam, and J. Patera.)
55. “Competition between the pairing and aligned coupling schemes”, 40 min. invited talk at the International Symposium on “Frontiers of Collective Motions”, Univ. of Aizu, Japan, Nov. 6-9, 2002 (in press).
56. “Quasi-dynamical symmetry”, 40 min. invited talk at the Int. Conference on Computational and Group Theoretical Methods in Nuclear Physics, Feb. 18-21, 2003, Mexico (Computational and Group-Theoretical Methods in Nuclear Physics: Proceedings of the Symposium in Honor of Jerry P. Draayer’s 60th Birthday, eds. Jutta Esche, Octavio Castanos, Jorge G. Hirsch, Stuart Pittel, Gergana Stoitcheva).
57. “Some uses of VCS theory”, 40 min. invited talk at the Int. Conference on Symmetries in Physics, Mar. 23-29, 2003 Erice, Italy (published in the proceedings).
58. “Developments of algebraic models and second-order phase transitions”, 30 min. invited talk published in Proceedings of the 8th International Spring Seminar on Nuclear Physics, Paestum, Italy, May 23-27, 2004 (ed. A. Covello, World Scientific, 2005).
59. M.J. Carvalho, S. D’Agostino, and D.J. Rowe, “Plethysm and Schuropera”, 30 min. invited talk presented by M.J. Carvalho at the Professor Brian G. Wybourne Commemorative Meeting on “Symmetry, Spectroscopy, and Schur”, June 11-14 (2005) Toruń, Poland (eds. R. King and J. Karwowski).
60. “Algebraic solution of unsolvable problems”, 30 min. invited talk at the Professor Brian G. Wybourne

Commemorative Meeting on “Symmetry, Spectroscopy, and Schur”, June 11-14 (2005) Toruń, Poland (eds. R. King and J. Karwowski).

61. “Symmetry, quasi-symmetry, and critical phenomena”, keynote talk at the conference “Theory Canada 2”, Perimeter Institute, Waterloo, Canada, June 7-10 2006 (Can. J. Phys. 2007).

#### **D. Non-Refereed Publications**

1. H. Chow and D.J. Rowe, “FORKS—a program to calculate the nuclear four-current from microscopic wave functions”, Theor. Phys. Report 56 pp., (1976).
2. D.J. Rowe and C. Nash, “Symmetry, Art and Nuclear Physics”, a popular booklet for non-specialists, pp. 59 (1991).