**Curriculum Vitae : Reuben Thieberger**

**Personal**

Born: May 7,1932 in Prague,Czech Republic.

Education: Ph. D. (in Physics) Weizmann Institute,Rehovoth,Israel,1958.

Academic Positions:

1958-59 Research Associate,University of PA,Philadelphia,PA, U.S.A.

1959-60 Assistant Research Physicist,University of CA at San Diego. La Jolla,CA,U.S.A.

1960-62 Physicist,Physics Department,N.R.C. Negev,Israel

1962-63 Physicist,G.A.A.A.,Paris,France.

1963-66 Head, Physics Department,N.R.C. Negev,Israel.

1966-68 Associate Research Physicist,University of CA at San Diego. La Jolla,CA, U.S.A.

1969-1974 Head, Physics Department,N.R.C. Negev,Israel.

1970-75 Joint appointment at Ben-Gurion University,Beer-Sheva,Israel as Associate Professor of Physics.

1975- Professor of Physics,Ben-Gurion University,Beer-Sheva,Israel.

1976-77 Visiting Scholar,Northwestern U.,Evanston,IL,U.S.A.

1980-1984 Chairman,Physics Department,Ben-Gurion University,Beer-Sheva, Israel.

1988-89 Visiting Scientist,Columbia University,New-York,NY,U.S.A.

1994-95 Visiting Scientist,Melbourne University,Victoria,Australia.

1995 Visiting Scientist,Columbia University,New-York,NY,U.S.A.

1998-99 Adjunct Senior Scientist,Columbia University,New-York,NY,U.S.A.

1999-2000 Visiting Scientist, Paris Observatory at Meudon, France.

Teaching Experiance:

Taught undergraduate courses in Thermodynamics,Quantum theory,Calculus, and Solid State. Taught graduate courses in Statistical mechanics,Low temperature physics and Mathematical methods in physics.

Thesis adviser(M.Sc. or Ph.D.) for the following students who completed their requirements: Ilan Zmora,Eytan Domany,Dov Shvarts,Yaakov Rosenfeld, Max Katz,Menahem Giv'on,Said Yasin,Dror Ofer,Jacob Hecht,Dan Oron, On Haran,Yair Srebro.

University Committee Work:

Member, University Nomination Committee 1975-6,1977-81,1984-8.

Member,University Committee for honorary doctorates 1989-1991.

Chairman,University Academic Development Committee 1977-1984.

Non Academic Appointment:

1964 Member of a joint Israel-USA team for studying the feasibility of a dual-purpose Nuclear Power Station. Appointed by the Prime Minister of Israel,L.Eshkol.

## List of Refereed Publications


1. H.J. Lipkin and R. Thieberger, Stability conditions for heterogenous reactors *Proceedings, International Conference on Atomic Energy* **5** 364-366 (United Nations,N.Y. 1956)
2. R. Thieberger and I. Talmi,Lowest states of particle excitation in even-even nuclei, *Phys.Rev.* **102** 923 (1956)
3. I.Talmi and R.Thieberger, Nuclear binding energies in the shell-model, *Phys. Rev.* **103** 718 (1956)
4. R. Thieberger, Calculations in nuclear spectroscopy with the harmonic ascillator shell-model *Nucl. Phys.* **2** 533 (1957)
5. R. Thieberger and A. de-Shalit, Binding energies of heavy nuclei *Phys. Rev.* **108** 378 (1957)
6. R. Thieberger and A. de-Shalit, The 3- level in $A^{40}$ *Nucl. Phys.* **4** 367 (1957)
7. R. Thieberger, On the half life of $O^{20}$ *J. Inorg. and Nucl. Chem.* **4** 367 (1957)
8. R. Thieberger, Phenomenological nuclear interaction derived from binding energies *Phys. Rev.* **116** 713 (1959)
9. K.A. Brueckner and R. Thieberger, Nuclear giant dipole resonance *Phys. Rev. Lett.* **4** 9 (1960)
10. K.A. Brueckner and R. Thieberger, Ground state energy of solid $He^3$ *Phys. Rev.* **178** 362 (1969)
11. I. Aviram and R. Thieberger, Monte Carlo calculations for solid $He^3$ *J. Low Temp. Phys.* **10** 787 (1973)

12. I. Aviram and R. Thieberger, Shell dependent correlation functions for solid $He^3$ *J. Low Temp. Phys.* **12** 146 (1973)

13. E. Domany, M.W. Kirson and R. Thieberger, The ground state energy of solid $He^3$ *Phys. Rev.* **8A** 1937 (1973)

14. I. Zmora and R. Thieberger, The general cluster term for solid $He^3$ *J. Low Temp. Phys.* **13** 497 (1973)

15. B. Horovitz and R. Thieberger, Exchange integral and specific heat of the electron gas *Physica* **71** 99 (1974)

16. Y. Rosenfeld and R. Thieberger, Perturbation calculations of the square well system in the solid phase *J. Chem. Phys.* **60** 3330 (1974)

17. I.Aviram, S. Goshen and R. Thieberger, Monte Carlo calculations for pressure dissociation of $H_2$ *J. Chem. Phys.* **62** 425 (1975)

18. A. Rabinovitch and R. Thieberger, Ground state energy of solid molecular hydrogen at high pressures *Proceedings L.T.* **14(4)** 407-410 (North Holland 1975)

19. Y. Rosenfeld and R. Thieberger, Monte Carlo and perturbation calculations for the square well fluid:dependence on the square well range *J. Chem. Phys.* **63** 1875 (1975)

20. Y. Rosenfeld and R. Thieberger, Freezing structure criterion for hard core potentials *J. Chem. Phys.* **63** 5060 (1976)

21. I. Aviram, S. Goshen, Y. Rosenfeld and R. Thieberger, Calculations of the pressure dissociation of $H_2$ by the Van der Waals one fluid theory *J. Chem. Phys.* **64** 4741 (1976)

22. I. Aviram,S. Goshen, Y. Rosenfeld and R. Thieberger,Comments on pressure dissociation

for $H_2$ *J. Chem. Phys.* **65** 846 (1976)

23. Y. Rosenfeld, J.E. Avron, S. Goshen and R. Thieberger, Variational approach to solid-sand the hard sphere melting law *J. Chem. Phys.* **66** 2758 (1977)

24. Y. Rosenfeld and R, Thieberger, Quantum corrections to the melting curve *Phys. Rev.* **15A** 1269 (1977)

25. M. Friedman, Y. Rosenfeld, A. Rabinovitch and R. Thieberger, Finite element method for solving the two dimensional Schroedinger equation *J. Comp. Phys.* **26** 169-180 (1978)

26. M. Friedman, A. Rabinovitch and R. Thieberger, Application of the finite element method to the hydrogen atom in a box in an electric field *J. Comp. Phys.* **33** 359-368 (1979)

27. I.Aviram, S. Goshen and R. Thieberger, A monte Carlo study of the rotation-libration transition in solid $H_2$ under pressure *J. Low Temp. Phys.* **38** 371-380 (1980)

28. M. Giv'on, Y. Rosenfeld and R. Thieberger, On cell theory in relation to isostructural phase transition due to core collapse *Chem. Phys. Lett.* **70** 553 (1980)

29. I. Aviram, S. Goshen and R. Thieberger, Further Monte Carlo studies of the rotation-libration transition in solid $H_2$ under pressure *J. Low Temp. Phys.* **43** 549-558 (1981)

30. M. Friedman, A. Rabinovitch and R. Thieberger, Stark effect for a confined hydrogen atom *J. Phys. B: At. Mol.* **14** 4737-4742 (1981)

31. I, Aviram, S.Goshen and R. Thieberger,The rotation-libration transition in molecular orth-$D_2$ under pressure *Phys. Lett.* **88A** 410 (1982)

32. I. Aviram, S. Goshen and R. Thieberger, Pressure induced rotation-libration transition

in molecular solid hydrogen. A comparison between interaction potentials *J. Low Temp. Phys.* **52** 397 (1983)

33. M. Friedman, A. Rabinovitch and R. Thieberger, Relation betweenscattering phase shifts and eigenvalues of box problems - application to resonances *J. Phys. B: At. Mol. Phys.* **16** L381-L384 (1983)

34. S. Goshen, M. Friedman, R. Thieberger and J.A. Weil, Models for the hydrogen atom confined within crystalline quartz *J. Chem. Phys.* **79** 4363 (1983)

35. I. Aviram, S. Goshen and R. Thieberger, Influence of a modified Ree-Bender potential on the rotation-libration transition in solid molecular hydrogen *J. Low Temp. Phys.* **55** 349 (1984)

36. M. Friedman, A. Rabinovitch and R. Thieberger, The influence of an electric field on a hydrogen atom confined to boxes of different shapes *Z. fuer Physik* **A316** 1-4 (1984)

37. I. Aviram, S. Goshen and R. Thieberger, Revised results for the pressure induced rotation-libration transition in molecular solid hydrogen J. Chem. Phys. **80** 5337 (1984)

38. A. Rabinovitch, R. Thieberger and M. Friedman, Effective phase shift in the presence of electric fields *J. Phys. B:At. Mol. Phys.* **18** 393-399 (1985)

39. R. Thieberger, M. Friedman and A. Rabinovitch, Three dimensional effective phase shifts in the presence of electric fields *J. Phys. B: At. Mol. Phys* **18** L673-L677(1985)

40. R. Thieberger,On the convergence of the Trotter formula *J. Phys. A:Math and General* **19** 1551-1554 (1986)

41. M. Friedman, A. Rabinovitch and R. Thieberger, Field dependent polaizability calculation in a Debye potential *J. Phys. B:AT. Mol. Phys.* **19** L727-L730 (1986)

42. M. Friedman, A. Rabinovitch, Y. Rosenfeld and R. Thieberger, Thomas-Fermi equation with non spherical boundary conditions *J. Comp. Phys.* **70** 284-294 (1987)

43. A. Rabinovitch and R. Thieberger, Time series analysis of chaotic signals *Physica D* **28** 409-415 (1987)

44. E. Asculai and R. Thieberger, On the randomness of annual average precipitation data *J. Climate and Appl. Meteorology* **26** 1601 (1987)

45. A. Rabinovitch and R. Thieberger, Biological populations obeying a stochastically perturbed logistic difference equation *J. Theor. Biology* **131** 509-514 (1988)

46. R. Thieberger,E.A. Spiegel, and L.A. Smith,The Dimensions of cosmic fractals in *The Ubiquity of Chaos*, S. Krasner, ed. (Am. Assn. Adv. Sci.) pp. 197-217 (1990)

47. S. Goshen and R. Thieberger, Calculating fractal dimensions *Int. J. of Modern Physics* **C 3** 267-277 (1992)

48. A. Rabinovitch and R. Thieberger, Purifying noisy signals *J. of Time Series Analysis* **13** 267-280 (1992)

49. A. Rabinovitch and R. Thieberger, Analysis of noisy signals *Physica* **D58** 284-287 (1992)

50. S. Yasin, M. Friedman, S. Goshen, A. Rabinovitch and R. Thieberger, Intermittency and phase locking of the Bonhoeffer-van der Pol model *J. Theor. Biology* **160** 179-184 (1993)

51. A. Rabinovitch, R. Thieberger and M. Friedman, Forced Bonhoeffer-van der Pol oscillator in its excited mode *Phys. Rev.* **E50** 1572-1578 (1994)

52. A. Rabinovitch, R. Thieberger, M. Friedman and S. Goshen, Resonance Effects in the Bonhoeffer-van der Pol System *Chaos,Solitons and Fractals* **7** 1713-1719 (1996)

53. A. Provenzale, E.A. Spiegel and R. Thieberger, Cosmic Lacunarity *Chaos* **7** 82 (1997)

54. G. Murante, A. Provenzale, E.A. Spiegel and R. Thieberger, Density Singularities and Cosmic Structures *MNRAS* **291** 585-592 (1997)

55. G. Murante, A. Provenzale, E.A. Spiegel and R. Thieberger, Scaling Regimes in the Distribution of Galaxies *Annales of the New York Academy of Sciences* **867** 258-267 (1998)

56. O. Haran, D. Shvarts and R. Thieberger, Transport in Two- Dimensional Scattering Stochastic Media: Simulations and Models. *Phys. Rev. E* **61**, 6183-6189 (2000)

57. J. von Hardenberg, R. Thieberger, A. Provenzale, A box-counting red herring. *Phys. Lett. A* **269**, 303-308 (2000)

58. M.-N. Celerier and R. Thieberger, Relativistic corrections to fractal analyses of the Galaxy Distribution. *A. & A.*, **367**, 449-456 (2001)

59. R. Thieberger and E.A. Spiegel, Luminosity Effects in Projected Fractals *Bull. Astron. Soc. India* **30**,461-471 (2002)

60. R. Thieberger, The use of luminosity effects to calculate scaling regimes in the galaxy distribution *A. & A.*, **397**, 401-403 (2003)

**List of Other Publications**

1. Reuben Thieberger, Atomwissenschaft, *Juden im Deutschen Kulturbereich*, Juedischer Verlag, Berlin (1959) (in German)

2. Reuben Thieberger, Introduction to the theory of nuclear reactors, *Mada* **9** 6 (1965) (in Hebrew). (This article is reprinted in the book: *Selected papers from Mada*, Weizman Press, Jerusalem (1977).)

3. R. Thieberger, Desalination of sea water in Israel, *Zionist Year Book* 1965/1966, The Zionist Federation of G. B. ,London.

4. D. Shvarts, R. Thieberger and E. Greenspan, A general multi-group time moments method for the calculation of the time dependent neutron flux *Transactions Israel Nuclear Society* **1** 27 (1973).

5. A. Rabinovitch and R. Thieberger, Ground state energy of solid molecular hydrogen at high pressures, *Proceedings L.T.* **14** pp.407-410 North Holland, 1975)

6. I. Aviram, S. Goshen and R. Thieberger, On the pressure induced Rotation-Libration Transition in Molecular Solid Hydrogen. *Journal de Physique* Colloque C8, supp. au no. 11, Tome **45** Novembre 1984.

7. A. Rabinovitch, R. Thieberger and M. Friedman, Phase Shift Calculations for General Stark Problems. In *Spectral Line Shapes* Vol. **3**, Editor: F. Rotas, Walter de Gruyter and Co. Berlin, 1985.

8. R. Thieberger, E.A. Spiegel and L.A. Smith, The Dimensions of Cosmic Fractals. In *General Circulation of the Oceans*, edited by Barbara Ewing-DeRemer, WHOI-89-54, Woods Hole, MA Nov. 1989.

9. A. Rabinovitch, R. Thieberger and M. Friedman, Bonhoeffer van der Pol Oscillator Under

Pulse Train Forcing, in *Chaos in Biology and Medicine* edited by W.L. Ditto, SPIE Vol. **2036** 215-219 (1993).

10. Reuben Thieberger, Contribution to Natural Sciences, *The Jews of Czechoslovak Origin in Israel*, Published by the Organization of Czechoslovak Immigrants to Israel, (1998) (in Hebrew)

11. O.Haran, D. Shvarts and R. Thieberger, Transport in Two Dimensional Scattering Stochastic Media. *Trans. Am. Nuc. Soc.* **80** , 112 (1999).