

Bibliography

- [1] A. Akhiezer et P. Pelétminski, *Les méthodes de la physique statistique*, Mir, Moscou, 1980.
- [2] E.L. Andreas and G. Trevino, Using wavelets to detect trends, *Journal of Atmospheric and Oceanic Technology* 14 (1996) 554-564.
- [3] A. Aspect, P. Grangier, and G. Roger, Experimental realization of Eistein-Podolsky-Rosen-Bohm Gedankenexperiment: a new violation of Bell's inequalities, *Phys. Rev. Lett.* **49** (1982) 91-94.
- [4] R. Balescu, *Equilibrium and Nonequilibrium Statistical Mechanics*, Wiley, New York, 1975.
- [5] R.J. Bearman and J.G. Kirkwood, The Statistical Mechanical Theory of Transport Processes. XI. Equations of Transport in Multi-component Systems, *J. Chem. Phys.*, **28** (1958) 136 (și în [33], pag. 153).
- [6] M. Bloom, E. Evans and O.G. Mouritsen, Physical properties of the fluid lipid-bilayer component of cell membranes: a perspective, *Q. Rev. Biophys.*, **24** (1991) 293-307.
- [7] D. Bohm, A suggested interpretation of the quantum theory in terms of hidden variables, *Phys. Rev.* **85** (1952) 166-179.
- [8] F. Bonetto, J.L. Lebowitz and L. Rey-Bellet, Fourier's law: a challenge to theorists, in *Mathematical Physics 2000*, edited by A. Fokas, A. Grigorian, T. Kibble and B. Zegarlinski, Imperial College Press, London, 2000.
- [9] G.E.P. Box and G.M. Jenkins, *Time Analysis: Forecasting and Control*, 2nd ed., Holden Day, San Francisco, 1976.
- [10] P.J. Brockwell and R.A. Davies, *Time Series: Theory and Methods*, 2nd ed., Springer-Verlag, New York, 1991.

-
- [11] S. Chapman and Cowling, *The Mathematical Theory of Non-uniform Gases*, Cambridge University Press, Cambridge, 1953.
- [12] C. Cercignani, *Mathematical Methods in Kinetic Theory*, Plenum, New York, 1990.
- [13] E.G.D. Cohen, Fifty years of kinetic theory, *Physica A*, **194** (1993) 229-257.
- [14] G. Cuniberti and L. Matassini, Liquid markets and market liquids. Collective and single-asset dynamics in financial markets, *Eur. Phys. J. B* **20** (2001) 561-564.
- [15] L. Dragoş, *The Principles of the Continuum Mechanics*, Ed. Tehnică, Bucureşti, 1983 (in Romanian).
- [16] Y. Du, H. Li, and P. Kadanoff, Breakdown of Hydrodynamics in a One-Dimensional System of Inelastic Particles, *Phys. Rev. Lett.* **78** (1995) 1269-1271.
- [17] R.P. Feynman and A.R. Hibbs, *Quantum Mechanics and Path Integrals*, McGraw-Hill Book Company, New York, 1965.
- [18] C.W. Gardiner, *Handbook of Stochastic Methods (for Physics, Chemistry and Natural Science)*, Springer-Verlag, Berlin, 1983.
- [19] I.M. Gel'fand and A.M. Yaglom, Integration in Functional Spaces and its Applications in Quantum Physics, *J. Math. Phys.*, **1** (1960) 48-69.
- [20] S. Ghashghaie, W. Breymann, J. Peinke, P. Talkner, and Y. Dodge, Turbulent cascades in foreign exchange markets, *Nature* **381** (1996) 767-770.
- [21] O. Gherman and L. Saliu, *Statistical Physics*, Ed. Tehnică, Bucureşti, 1976 (in Romanian).
- [22] P. Glansdorff and I. Prigogine, *Thermodynamic Theory of Structure, Stability and Fluctuations*, Wiley, London, 1971.
- [23] I. Goldhirsh and G. Zanetti, Clustering instability in dissipative gases, *Phys. Rev. Lett.*, **70** (1993) 1619-1622.
- [24] P.K. Haff, Grain flow as a fluid-mechanical phenomenon, *J. Fluid Mech.* **134** (1983) 401-430.

- [25] R.C. Haskel, D.C. Petersen and M.W. Johnson, Light-scattering technique for the study of dynamic thickness fluctuations in liquid films, *Phys. Rev. E*, **47** (1993) 439-451.
- [26] W. Helfrich, Steric interaction of fluid membranes in multilayer systems, *Z. Naturforsch.*, **33a** (1978) 305-315.
- [27] J.H. Irving and J.G. Kirkwood, The Statistical Mechanical Theory of Transport Processes. IV. The Equations of Hydrodynamics, *J. Chem. Phys.*, **18** (1950) 817 (și în [33], pag. 52).
- [28] J.T. Jenkins and S.B. Savage, A theory for the rapid flow of identical, smooth, nearly elastic, spherical particles, *J. Fluid Mech.* **130** (1983) 187-202.
- [29] P.D. Jones and M.E. Mann, Climate over past millennia, *Reviews of Geophysics* **42** (2002) RG2002.
- [30] J.B. Keller, Bohm's interpretation of the quantum theory in terms of "hidden" variables, *Phys. Rev* **89** (1953) 1040-41.
- [31] C. Kipnis and C. Landim, *Scaling limits of interacting particles systems*, Springer, Berlin, 1999.
- [32] J.G. Kirkwood, The statistical mechanical theory of transport processes. I. General theory, *J. Phys. Chem.*, **14** (1946) 180-201 (și în [33], pag. 1).
- [33] J.G. Kirkwood, *Selected Topics in Statistical Mechanics*, Edited by R.W. Zwanzig, Gordon and Breach, New York, 1967.
- [34] A. Kolmogorov et S. Fomine, *Eléments de la théorie des fonctions et de l'analyse fonctionnelle*, Mir, Moscou, 1974.
- [35] J. Koplik and J.R. Banavar, Continuum deductions from molecular hydrodynamics, *Annu. Rev. Fluid Mech.*, **27** (1995) 257-292.
- [36] L. Laloux, P. Cizeau, J. Bouchaud and M. Potters, Noise Dressing of Financial Correlation Matrices, *Phys. Rev. Lett.* **83** (1999) 1467-1470.
- [37] R. Lipowsky, The conformation of membranes, *Nature*, **349** (1991) 475-481.
- [38] L. Landau et E. Lifchitz, *Physique théorique*, tome I, Mécanique, Mir, Moscou, 1969.

-
- [39] L. Landau et E. Lifchitz, *Physique théorique*, tome I, Mécanique quantique. Théorie non relativiste, Mir, Moscou, 1974.
- [40] L. Landau and E. Lifchitz, *Statistical Physics*, Ed. Tehnică, București, 1988 (in Romanian).
- [41] L. Landau et E. Lifchitz, *Physique théorique*, tome VI, *Mécanique des fluides*, Mir, Moscou, 1971.
- [42] B.B. Mandelbrot, *Fractals and Scaling in Finance. Discontinuity, Concentration, Risk*, Springer, New York, 1997.
- [43] R.N. Mantegna and H.E. Stanley, Scaling behaviour in the dynamics of an economic index, *Nature* **376** (1995) 46-49.
- [44] R.N. Mantegna and H.E. Stanley, *An Introduction to Econophysics*, Cambridge University Press, Cambridge, 2001.
- [45] J.W. Moffat, A dynamical model of the capital markets, *Physica A* **264** (1999) 532-542.
- [46] I. Müller, *Thermodynamics*, Pitman, Boston, 1985.
- [47] A.J. Murdoch, The motivation of continuum concepts and relations from discrete considerations, *Q. J. Mech. Appl. Math.*, **36** (1983) 163-187.
- [48] A.J. Murdoch, A corpuscular approach to continuum mechanics: basic considerations, *Arch. Rational Mech. Anal.*, **88** (1985) 291-321.
- [49] V. Plerou, P. Gopikrishnan, B. Rosenow, L.N. Amaral and H.E. Stanley, Universal and nonuniversal properties of cross correlations in financial time series, *Phys Rev Lett.* **83** (1999) 1471-1474.
- [50] L.Z. Rumshiski, *Mathematical Processing of the Experimental Data*, Ed. Tehnică, București, 1974 (in Romanian).
- [51] M. Shinbrot, *Lectures on Fluid Mechanics*, Gordon and Breach, London, 1973.
- [52] H. Spohn, *Large Scale Dynamics of Interacting Particles*, Springer, Berlin, 1991.
- [53] L. Peliti and S. Leibler, Effects of thermal fluctuations on systems with small surface tension, *Phys. Rev. Lett.*, **54** (1985) 1690-1693.

- [54] D.B. Percival and A.T. Walden, *Wavelet Methods for Time Series Analysis*, Cambridge University Press, 2000.
- [55] H. Poincaré, *Science and Hypothesis*, Ed. Științifică și enciclopedică, București, 1986 (in Romanian).
- [56] A. Sveshnikov and A. Tikhonov, *The Theory of Functions of a Complex Variable*, Mir Publishers, Moscow, 1978.
- [57] T. Takabayasi, On the Formulation of Quantum Mechanics associated with Classical Pictures, *Progr. Theor. Phys.* 8 (1952) 143-182.
- [58] M. Tarek, D.J. Tobias and M.L. Klein, Molecular dynamics simulation of tetradecyltrimethylammonium bromide monolayers at the air/water interface, *J. Phys. Chem.*, **90** (1995) 1393-1402.
- [59] C. Truesdell and R. Toupin, *The Classical Field Theories*, in *Handbuch der Physik*, III/1, Springer, Berlin, 1960.
- [60] C. Truesdell and W. Noll, *The Non-Linear Field Theories of Mechanics*, in *Handbuch der Physik*, III/3, Springer, Berlin, 1965.
- [61] C. Vamoș, Automatic algorithm for monotone trend removal, *Phys. Rev. E* **75** (2007) 036705.
- [62] C. Vamoș, A. Georgescu, and N. Suciu, Balance equations for the vector fields defined on orientable manifolds, *Tensor N.S.* **54** (1993) 63-67.
- [63] C. Vamoș, A. Georgescu, N. Suciu and I. Turcu, Balance equations for physical systems with corpuscular structure, *Physica A*, **227** (1996) 81-92.
- [64] C. Vamoș, A. Georgescu and N. Suciu, Balance equations for a finite number of particles, *St. Cerc. Mat.*, **48** (1996) 115-127.
- [65] C. Vamoș and T. Petrila, Velocity balance equation for a fluid mixture, *Rev. Roum. Sci. Techn.-Méc. Appl.* **38** (1993) 277-282.
- [66] C. Vamoș, N. Suciu and W. Blaj, Derivation of one-dimensional hydrodynamic model for stock price evolution, *Physica A*, **287** (2000) 461-467.
- [67] C. Vamoș, N. Suciu and A. Georgescu, Hydrodynamic equations for one-dimensional systems of inelastic particles, *Phys. Rev. E*, **55**, (1997) 6277-6280.

-
- [68] C. Vamoş, N. Suci, and M. Peculea, Numerical Modelling of One-Dimensional Diffusion by Random Walk, *Revue d'Analyse Numérique et de Théorie de l'Approximation*, Tome XXVI, Nr. 1-2, (1997) 237-247.
- [69] C. Vamoş, N. Suci, and H. Vereecken, Generalized random walk algorithm for the numerical modeling of complex diffusion processes, *J. Comp. Phys.*, **186** (2003) 527-544.
- [70] J. Voit, *The Statistical Mechanics of Financial Markets*, Springer, Heidelberg, 2001.
- [71] J. von Neumann, *Mathematical Foundations of Quantum Mechanics*, University Press, Princeton, 1955.
- [72] T. Xiang and B.D. Anderson, Molecular distributions in interphases: statistical mechanical theory combined with molecular dynamics simulation of a model lipid bilayer, *Biophys. J.*, **66** (1994) 561-573.
- [73] S. Zhao and G.W. Wei, Jump process for the trend estimation of time series, *Computational Statistics & Data Analysis* **42** (2003) 219-241.