

# NONEXTENSIVE STATISTICAL MECHANICS AND THERMODYNAMICS: BIBLIOGRAPHY \*

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## GENERAL THEORY

Generalized entropy and thermostatics: [1]  
Connection to thermodynamics, ensembles and Jaynes' information theory: [2–43, 45–165, 167–302, 302–364, 366–555, 557–999, 999–1099, 1101–1257, 1259–1621, 1621–1753, 1755–2004, 2006–2104, 2125–2156, 2158–2187, 2189–2270, 2272–2399, 2401–3372]  
H-theorem and irreversibility: [3373–3439]  
Ehrenfest theorem, von Neumann equation: [3, 3440–3446]  
Quantum statistics: [3447–3580]  
Variational and perturbative methods; Bogolyubov inequality; Green functions; Path integral; Boltzmann equation: [3465, 3581–3682]  
Langevin and Fokker-Planck equations: [3377–3399, 3405–3416, 3418–3455, 3659–3662, 3664–3875, 3877–4242]  
Fluctuation-dissipation, Nyquist and Onsager reciprocity theorems, Kubo's linear response theory and Kramers-Kronig relation: [6, 4243–4265]  
Poisson equation: [4266–4282]  
Callen identity: [4283]  
Ising transmissivity: [4284]  
Classical equipartition principle: [4285–4287]  
Connection with quantum uncertainty: [4288–4344]  
Connection with Fisher information measure: [4345–4359]  
Connection with ergodicity, nonlinear dynamical systems, self-organized criticality, cellular automata, fractals: [9, 115–123, 3545, 4360–4582, 4584–4655, 4657–4889]  
Connection with general relativity, cosmology, dark energy, string theory: [4346, 4890–5110]  
Connection with quantum groups and quantum mechanics: [5111–5163]  
Connection with wavelets; Signal processing; EEG: [5164–5275, 5275–5289]  
Connection with quantum correlated many-body problems: [5290–5302]  
Connection with the Gentile and the exclusion Haldane statistics: [5303–5306]  
Connection with finite systems: [4243, 5303]  
Rigorous results (generalized entropy and thermostatics): [4364–4369, 5307–5312]  
Integral transformations (Hilhorst and Prato formulae): [3453, 4243, 5313–5316]

## ONE-BODY SYSTEMS

Two-level system: [1, 5317]  
Harmonic and anharmonic oscillators: [1766–1772, 1774–1789, 5311–5319]  
Free particle: [5320–5325]  
Larmor precession: [3442]

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\*This regularly updated Bibliography (at <http://tsallis.cat.cbpf.br/biblio.htm>) contains 10816 articles from 17812 signing (co)authors. It does *not* address the vast existing literature addressing nonadditive entropies and nonextensive thermodynamical anomalies, but *only* articles including at least one substantial relation with nonadditive entropies, nonextensive statistical mechanics and thermodynamics. It is a fairly complete listing whose classification and indexation are, however, only indicative.

Rigid rotator: [5315–5321, 5326–5329]  
Hydrogen and hydrogen-like atoms: [2001–2006, 2011–2016, 5330–5362]

## MANY-BODY SYSTEMS

Ideal, classical gases, and other toy models: [4243–4285, 5313–5320, 5326–5389]  
Independent spin paramagnet, Landau magnetism: [5117–5123, 5390–5397]  
Black-body radiation and photonic systems: [5398–5462]  
 $d = 1$  Ising ferromagnet: [5463–5467]  
 $d \geq 2$  Ising and other ferromagnets: [4284, 5468–5518]  
Infinite-range Ising ferromagnet: [5519]  
Potts ferromagnet, Molecular field approximation: [4283, 5485–5504, 5509–5523]  
Percolation: [5524–5526]  
Electron-phonon systems; tight-binding-like Hamiltonians; nanosystems; theoretical chemistry: [5527–5583]

## APPLICATIONS

Self-gravitating systems, Stellar polytropes, Vlasov equation, Galaxies, Galaxy clusters: [3641, 4266, 4346, 5584–5775]  
Lévy-like and correlated anomalous diffusion: [19, 3763, 3764, 3837–3865, 3868–3875, 3877–3893, 5776–5841, 5849–5857]  
Turbulence; Granular matter; Viscous fingering; Navier-Stokes equation; Boltzmann equation; Mossbauer effect: [4266, 5821–5850, 5858–6222]  
Solar neutrinos; High energy physics: [6223–6386, 6388–6451, 6453–6529, 6531–6564, 6566? –6988]  
Ferrofluid-like materials, Lennard-Jones and other fluids: [5509, 6978, 6989–7011]  
Solitons: [7012, 7013]  
Plasma (electron velocity distribution, magnetohydrodynamics): [7014–7593]  
Glass, Spin-glass: [7594–7635]  
Superfluid helium; Bose-Einstein condensation: [7636–7661]  
Test of Boltzmann-Gibbs thermostatics: [4920, 5427, 5428]  
Cosmic rays; Elementary particles: [7659–7926]  
Biological systems; Microemulsions; Liquid crystals: [7927–7929, 7931–8075]  
Stochastic resonance; Brownian motors: [8076–8102, 8105, 8107–8122]  
Connection with the Theory of perceptions: [19, 20]  
Connection with the Theory of finances: [8094–8351]  
Consistent testing; Statistical inference; Theory of probabilities: [1160–1166, 1168–1178, 1180–1257, 3637, 8353–8460]  
Theory of functions: [2103–2124, 2129–2156, 2158, 2161–2187, 2189–2202, 2214–2226, 2228, 2229, 2231–2239, 2241–2261, 2298–2317, 2321–2372, 2376–2381, 2395–2413, 2415–2434, 2437, 2438, 2440–2448, 2458–2460, 7199, 8461–8761]  
Simulated annealing and optimization techniques; Monte Carlo (Genetics, Traveling salesman problem, Data fitting curves, Quantum chemistry, Gravity models, Lennard-Jones clusters, Thomson model, spin systems, proteins, nucleic acids): [3660, 5496, 8762–9246]  
Neural and other networks: [1171, 8026, 8027, 9247–9391, 9393–9409]  
Analysis of time series (nonlinear dynamics, epilepsy, earthquakes, economics) and images: [5164–5192, 9410–10158]  
Geophysics: [5191, 5192, 9505, 10159–10262]  
Medicine; Tomography: [5193–5200, 9410–9412, 9804, 10263–10367]  
Symbolic dynamics, linguistics, philology, cognitive sciences, social sciences, hydrology, ecology: [4416–4427, 4429–4451, 4455–4478, 8696, 10368–10576]

## GENERAL READING

Generalized thermostatics; Generalized distributions: [1078, 10577–10735, 10737–10816]

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