GENERAL THEORY

Generalized entropy and thermostatistics: [1]
H-theorem and irreversibility: [1998–2038]
Ehrenfest theorem, von Neumann equation: [3, 2039–2045]
Quantum statistics: [2046–2160]
Variational and perturbative methods; Bogolyubov inequality; Green functions; Path integral; Boltzmann equation: [2060, 2161–2256]
Langevin and Fokker-Planck equations: [2002–2051, 2234–2237, 2239–2694]
Fluctuation-dissipation, Nyquist and Onsager reciprocity theorems, Kubo’s linear response theory and Kramers-Kronig relation: [6, 2695–2714]
Poisson equation: [2715–2724]
Callen identity: [2725]
Ising transmissivity: [2726]
Classical equipartition principle: [2727–2729]
Connection with quantum uncertainty: [2730–2770]
Connection with Fisher information measure: [2771–2783]
Connection with ergodicity, nonlinear dynamical systems, self-organized criticality, cellular automata, fractals: [9, 55–63, 2130, 2784–2798, 2800–3199]
Connection with general relativity, cosmology, dark energy, string theory: [2772, 3200–3319]
Connection with quantum groups and quantum mechanics: [3320–3366]
Connection with wavelets; Signal processing; EEG: [3367–3449]
Connection with quantum correlated many-body problems: [3450–3462]
Connection with the Gentile and the exclusion Haldane statistics: [3463–3466]
Connection with finite systems: [3469, 3463]
Rigorous results (generalized entropy and thermostatistics): [2787–2792, 3467–3472]
Integral transformations (Hilhorst and Prato formulae): [2049, 2695, 3473–3476]

ONE-BODY SYSTEMS

Two-level system: [1, 3477]
Harmonic and anharmonic oscillators: [1019–1029, 3471–3479]
Free particle: [3480]
Larmor precession: [2041]
Rigid rotator: [3475–3483]
Hydrogen and hydrogen-like atoms: [1203–1212, 3484–3510]
MANY-BODY SYSTEMS

Ideal, classical gases, and other toy models: [2695–2727, 3473–3536]
Independent spin paramagnet, Landau magnetism: [3326–3332, 3537–3544]
Black-body radiation and photonic systems: [3545–3599]
$d = 1$ Ising ferromagnet: [3600–3604]
$d ≥ 2$ Ising and other ferromagnets: [2726, 3605–3647]
Infinite-range Ising ferromagnet: [3648]
Potts ferromagnet, Molecular field approximation: [2725, 3622–3652]
Percolation: [3653–3655]
Electron-phonon systems; tight-binding-like Hamiltonians; nanosystems; theoretical chemistry: [3656–3711]

APPLICATIONS

Self-gravitating systems, Stellar polytropes, Vlasov equation, Galaxies, Galaxy clusters: [2216, 2715, 2772, 3712–3857]
Lévy-like and correlated anomalous diffusion: [17, 2324, 2325, 2380–2416, 3858–3918, 3920–3924]
Turbulence; Granular matter; Viscous fingering; Navier-Stokes equation; Boltzmann equation; Mossbauer effect: [2715, 3903–3921, 3925–4197]
Solar neutrinos; High energy physics: [4198–4380, 4382–4724, 4726]
Ferrofluid-like materials, Lennard-Jones and other fluids: [3639, 4725, 4727–4748]
Solitons: [4749, 4750]
Plasma (electron velocity distribution, magnetohydrodynamics): [4751–5168, 5170–5193]
Glass, Spin-glass: [5194–5227]
Superfluid helium; Bose-Einstein condensation: [5228–5249]
Test of Boltzmann-Gibbs thermostatistics: [3204, 3568, 3569]
Cosmic rays; Elementary particles: [4688, 5250–5475]
Biological systems; Microemulsions; Liquid crystals: [5476–5581]
Stochastic resonance; Brownian motors: [5582–5621]
Connection with the Theory of perceptions: [17, 18]
Connection with the Theory of finances: [6, 3926, 5603, 5605–5802]
Consistent testing; Statistical inference; Theory of probabilities: [589–636, 2212, 5804–5863]
Theory of functions; Geometric approaches: [1284, 1285, 1289–1407, 1409–1439, 1441, 1442, 4880, 5864–6096]
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): [2235, 3633, 6097–6120, 6122–6431]
Neural and other networks: [5545, 5546, 6432–6543]
Analysis of time series (nonlinear dynamics, epilepsy, earthquakes, economics) and images: [3367–3391, 6544–7120]
Geophysics: [3390, 3391, 6620, 7121–7193]
Medicine; Tomography: [3392–3399, 6544, 6842, 7194–7249]
Symbolic dynamics, linguistics, philology, cognitive sciences, hydrology, ecology: [2832–2857, 2860–2883, 6043, 7250–7406]

GENERAL READING

Generalized thermostatistics; Generalized distributions: [535, 7407–7577]
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