Chaos, Solitons & Fractals: the interdisciplinary journal of Nonlinear Science, and Nonequilibrium and Complex Phenomena

Aims & Scope

Chaos, Solitons & Fractals aims to be a leading journal in the interdisciplinary field of Nonlinear Science, and Nonequilibrium and Complex Phenomena. It encourages the submission of articles on the following subjects in this field: dynamics; non-equilibrium processes in physics, chemistry and geophysics; complex matter and networks; mathematical models; computational biology; applications to quantum and mesoscopic phenomena; fluctuations and random processes; self-organization; social phenomena; and engineering. Contributions on both fundamental and applied studies are welcome.

Classification list (classifications required upon submission)

10.00 Dynamics
10.01 applications to mechanics of particles and systems
10.02 approximation methods
10.03 bifurcation theory
10.04 celestial mechanics
10.05 cellular automata
10.06 collective behaviour
10.07 computational methods in nonlinear dynamics
10.08 control of chaos
10.09 Hamiltonian systems
10.10 Lagrangian chaos
10.11 Lie groups
10.12 low-dimensional chaos
10.13 maps and coupled lattice maps
10.14 non-linear dynamics
10.15 non-linear ordinary differential equations
10.16 non-linear oscillations
10.17 non-linear partial differential equations
10.18 non-linear waves
10.19 PDE in hydrodynamics
10.20 perturbation theory
10.21 signal processing
10.22 solitons
10.23 space-time chaos
10.24 stability theory
10.25 symmetry breaking
10.26 symplectic mechanics
10.27 synchronization
10.28 vibrations
20.00  Non-equilibrium processes in physics, chemistry and geophysics
20.01  applications to astrophysics
20.02  applications to particle physics and cosmology
20.03  applications to other physics disciplines
20.04  coherent phenomena
20.05  complex matter and networks
20.06  critical phenomena
20.07  decay of particles
20.08  dynamical phenomena
20.09  granular matter
20.10  hydrodynamics
20.11  kinetic and transport theory
20.12  Lévy flight
20.13  microfluidics
20.14  non-equilibrium phase transition
20.15  non-equilibrium quantum field theory
20.16  non-equilibrium statistical physics
20.17  non-equilibrium/irreversible thermodynamics
20.18  seismic fluctuations and geophysical complexity
20.19  self-organized criticality
20.20  spin glasses
20.21  symmetry breaking
20.22  turbulence

30.00  Complex matter and networks
30.01  brain dynamics
30.02  complex matter
30.03  complex networks
30.04  complex systems
30.05  internet dynamics, e-mail communication
30.06  neural networks
30.07  neurophysiological processes
30.08  new materials synthesis

40.00  Mathematical models
40.01  approximation methods
40.02  cellular automata
40.03  dynamical systems
40.04  ergodic and mixing properties
40.05  ergodic theory
40.06  Kolmogorov-Sinai entropy
40.07  Lie groups
40.08  maps and coupled lattice maps
40.09  mathematical physics
40.10  non-linear ordinary differential equations
40.11 non-linear waves
40.12 non-linear partial differential equations
40.13 perturbation theory
40.14 Shannon entropy
40.15 signal processing
40.16 singularity theory
40.17 solitons
40.18 stability theory
40.19 symmetry breaking
40.20 synchronization

50.00 Computational biology
50.01 biodynamics
50.02 biological networks
50.03 biological systems
50.04 cognitive processes
50.05 computational biology
50.06 decision making
50.07 medicine
50.08 neural networks
50.09 neuroscience, brain dynamics

60.00 Applications to quantum and mesoscopic phenomena
60.01 applications to quantum information
60.02 nanotechnology
60.03 nonequilibrium quantum statistical mechanics
60.04 open quantum systems
60.05 quantum chaos
60.06 quantum decoherence
60.07 quantum dynamics
60.08 quantum measurement processes

70.00 Fluctuations and random processes
70.01 fluctuations in physics and biology
70.02 fractional calculus
70.03 kinetic and transport theory in physics and chemistry
70.04 Lévy processes
70.05 random signal processing
70.06 Shannon entropy
70.07 stable processes
70.08 stochastic control
70.09 synchronization
70.10 turbulence

80.00 Self-organization
80.01 complex matter
80.02 fractals
80.03 information theory
80.04 pattern formation
80.05 self-organized criticality
80.06 Shannon entropy

90.00 Social phenomena
90.01 applications to economics
90.02 environmental science
90.03 applications to social sciences
90.04 ecology
90.05 game theory

100.00 Engineering
100.01 applications to engineering
100.02 vibrations in engineering sciences