Levels of Description in Statistical Physics

[nln2]

microscopic level

N-particle phase space

Liouville equation

generalized

Langevin equation

no contraction

deterministic time evolution

kinetic level

1-particle phase space

Boltzmann equation Fokker-Planck equation Langevin equation

some contraction

thermodynamic level

configuration space

hydrodynamic equations master equation

Fokker–Planck equation

Langevin equation

more contraction

probabilistic time evolution