

PHYS 414

Description

A continuation of PHYS 413 -- noninteracting systems, statistical mechanics of solids, liquids, gases, fluctuations, irreversible processes, phase transformations.

Syllabus

applications to noninteracting systems
bosons and fermions
statistical physics of solids; heat capacity
lattice vibrations
liquids and interacting gases
superfluidity
magnetic systems
fluctuation effects
fluctuation-dissipation theorem
cooperative phenomena
irrevocable processes
phase transformations
 critical exponents
 mean field theory
 high temperature expansions
 renormalization group chaos