Laurea Specialistica in Scienze Fisiche
a.a. 2006-2007
Fisica Statistica
Titolare: Prof. Martin Hasenbusch (Docente in rientro)

Programma

Density matrix, von Neumann equation, ensembles, ideal Fermi and Bose gas, the distribution functions, equation of state, phonons in a solid, Debye theory of solids, Bose-Einstein condensation, Liquid He-4, metal electrons; Some examples: white dwarfs, quantum Hall effect, Landau diamagnetism, De Haas-Van Alpine effect, Pauli theory of paramagnetism; Path integral formulation of quantum statistical mechanics; Ising model, quantum spin models; Phase transitions, symmetry breaking, Monte Carlo simulation; disordered systems, spin glasses; Polymers, interfaces and membranes; Meissner effect, Introduction to the BCS theory of superconductivity; Linear response and transport theory