

S0526 Mathematical Physics (II) (0/3)

Partial Differential Equation; Eigenfunctions and Green's Function; Perturbation Theory; Integral Equation; Calculus of Variable; Numerical Methods.

S0569 Electrodynamics (II) (0/3)

Scattering, and Diffraction; Magnetohydrodynamics and Plasma Physics; Special Theory of Relativity; Dynamics of Relativistic Particles and Electromagnetic Fields; Collisions between Charged Particles, Energy Loss, and Scattering; Radiation by Moving Charges; Bremsstrahlung, Method of Virtual Quanta, Radiative Beta Processes; Multipole Fields; Radiation Damping, Self-Fields of a Particle, Scattering and Absorption of Radiation by a Bound System.

S0100 Many-Body Physics (I) (3/0)

introduces the concepts and basic techniques of dealing with systems in which the interactions between particles are included. More precisely, we discuss in this course the variational Hartree-Fock wave functions, the many-particle Green's function, self-energy, perturbation series (via functional derivatives) and the quasi-particle concept.

S0691 Electronic Structure (3/0)

(1) From path-integral to Shrodinger equation; (2) E.S. of uniform electron gas (Slaterdeterminant and Hartree-Fock equation); (3) E.S. of atoms (orbitals); (4) E.S. of molecules (chemical bond); (5) E.S. of solid (band structure); (6) E.S. of surfaces (surface state and workfunction); (7) Analyzing E.S.: LDOS and PDOS.

S0728 X-Ray Physics (0/3)

X-Rays and Their Properties, Electron-Impact X-Rays Sources, Synchrotron Radiation Sources, Interactions of X-Rays with Matter, Absorption Spectra, Emissions Spectra, Scattering.

T0096 Seminar (II) (2/2)

T8000 Thesis (0/6)