武汉物数所理论交叉学术交流系列报告

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Methods of atomic calculations for many-electron atoms motivated by fundamental problems of modern physics

2017年9月21日(周四) 上午10:30-12:00

Abstract:

A brief review of the methods of atomic calculations developed in UNSW is given. The methods combine many different techniqies, such as CI to reat valence-valence corelations; MBPT, PTSCI (perturbation theory in screened Coulomb interaction), and SD CC to treat core-valence corelations; RPA (random phase approximation) to include interaction with external field, etc. The review is illustrated with some examples for energy levels, EDM and PNC for some atoms.

Atomic calculations for fundamental research and search for new physics

2017年9月22日(周五) 上午10:30-12:00

Abstract:

considers specific examples of the use of the atomic calculations for fundamental research. This includes study of PNC and EDM in atoms, time variation of fundamental constants (me/mp, alpha), Local Lorentz invariance and Einstein equivalence principle violation, and interaction of atoms with dark matter.

主办单位:武汉物数所理论与交叉研究部