SSNET 2024



ID de Contribution: 76

Type: Non spécifié

Structure study of transfermium nuclei by the PNC-CSM method

vendredi 8 novembre 2024 11:55 (20 minutes)

The nuclear structure of the transfermium nuclei are studied within the framework of the cranked shell model (CSM) with pairing correlation treated by a particle-number-conserving (PNC) method. The single-particle level structure, high-K isomers, rotational properties and α -decay energies of the transfermium nuclei are investigated. Particular emphasis will be place on the newly obtained Nilsson parameters set of $\kappa \mu$ and their effect on the nuclear shell gap. The single-particle level structure of the light superheavy and superheavy mass region will be discussed in detail. High-order deformation ϵ 6 plays an important role both in the single-particle energy levels is resulted by including ϵ 6 deformation. The octupole correlation is used to explain the rotational properties of the reflection asymmetric nuclei in U and Pu isotopes.

Author: HE, Xiao-Tao (NUAA, Nanjing, China) Orateur: HE, Xiao-Tao (NUAA, Nanjing, China) Classification de Session: Session 16