

**Seminarium Studium Doktoranckiego NCBJ**

**Poniedziałek, 29 października, godzina 9:00, Sala 22 w NCBJ, Hoża 69**

**Speaker: Michał Palczewski (Studium Doktoranckie NCBJ)**

**Title: "Deformed shapes and sizes of high-K states in SHN"**

Abstract: Superheavy elements are highly unstable systems with extremely low production cross sections. As the creation of new ones is very difficult, as a parallel or additional line of study one could try a search for new, long-lived metastable states of already known nuclei.

It is well known that an enhanced stability may result from the K-isomerism phenomenon which is based mainly on the (partial) conservation of the K-quantum number.

To do such studies energies are calculated within the microscopic - macroscopic approach with the deformed Woods-Saxon potential. Configurations are fixed by a standard blocking procedure and their energy found by a subsequent minimization over deformations.

Results of blocking for 2 quasiparticle states (nn or pp) as well as for 4 quasiparticle states (nnpp) will be shown. The relationship between electric quadrupole moments in different isotopes will be discussed next.

Especially some of specific deformation parameters for No isotopes - which are experimentally studied now via laser technique will be demonstrated during the talk. Finally, predictions for Rf and some of heavier elements as: Sg, Hs, Ds and Cn - will be shown.