ID de résumé : **23**

Shapes in the stable Xe isotopic chain

Contenu

Xenon isotopes make one of the longest stable isotopic chains found in the entire nuclide chart and its vicinity is recognised as a region of the so-called „γ-soft" nuclei (axially deformed shapes that are soft with respect to triaxial deformations). The Xe isotopes exhibit a slow transition from vibrational level structures close to the N=82 neutron shell closure (136Xe) to the relatively well-deformed γ-soft isotopes (124Xe and 126Xe). The quadrupole deformation can be studied via E2 transition strengths and the spectroscopic moments. Transition probabilities were measured in Coulomb excitation experiments in 124,126,128,130,132Xe, however, no information on the spectroscopic quadrupole moments of the excited states in the Xe isotopes has been published so far, except for 130Xe[[1]]. To date, the richest set of electromagnetic matrix elements has been extracted from the Coulomb excitation of 128Xe, partially published in [[2]]. The analysis of Coulomb excitation of 128Xe is now being finalised with the new spectroscopic information available for this isotope (i.e., lifetimes of the excited states), and will provide key information on the quadrupole shapes in both the ground and the excited states in this nucleus.

In this talk I will present the results of the Coulomb excitation of 128,130Xe isotopes together with the theoretical predictions of the shape evolution along the Xe isotopic chain.

[1] L. Morrison, K. Hadyńska-Klęk et al., Phys. Rev. C 102, 054304 (2020)
[2] J. Srebrny, P.J. Napiorkowski et al., Nuclear Physics A557 (1993) 663c-672

Auteur principal: Dr HADYNSKA-KLEK, Kasia (Heavy Ion Laboratory University of Warsaw)

Orateur: Dr HADYNSKA-KLEK, Kasia (Heavy Ion Laboratory University of Warsaw)

Déposé par **Dr HADYNSKA-KLEK, Kasia** le **mercredi 30 mars 2022**