

Quadrupole Collectivity in the Cd isotopic chain investigated with Coulomb Excitation

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The cadmium isotopic chain with a proton number of $Z=48$ is one of the most interesting in nuclear structure physics due to the proximity to the proton shell closure at $Z=50$. Performed Coulomb excitation experiments on $^{122-126}\text{Cd}$ exhibit high excitation strengths for the $0_{gs}^+ \rightarrow 2_1^+$ transition. Shell model calculations are not able to reproduce the experimentally found values although the shell closure is near. However, Beyond-Mean-Field calculations agree with the experimental results, taking a prolate deformation into account. In this contribution, the latest results on the investigation of the $B(E2, 0^+ \rightarrow 2_1^+)$ value of ^{128}Cd via Coulomb excitation with MINIBALL at REX-ISOLDE will be presented. We will discuss the experimentally found transition strength considering a non-vanishing quadrupole moment and place it in the overall picture of the behaviour of the $B(E2, 0^+ \rightarrow 2_1^+)$ values of this isotopic chain. Additionally the status of the analysis on the recently performed Coulomb excitation experiment of ^{123}Cd will be presented. These results will give an insight into the onset of collectivity in neutron-rich Cadmium isotopes.

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