Contribution ID: **1** Type: **not specified**

Intermediate-energy Coulomb excitation of $N = 52$ isotones towards ^{100}Sn

Wednesday 3 September 2025 16:00 (20 minutes)

The Sn isotopes, containing the longest chain of isotopes between two doubly-magic nuclei, offer a fundamental testing ground for nuclear theories. Between the $N = 50$ and $N = 82$ shell closures, the 2_1^+ energies of all Sn isotopes are well established and show an almost constant value, as expected in the generalized seniority scheme. Within the same framework, the B(E2) values should resemble an inverted parabola peaking at mid-shell. However, measurements in the most proton-rich Sn isotopes have shown a clear deviation from the expected behavior, with an enhancement of the transition probabilities towards ^{100}Sn.
An experiment to measure for the first time the B(E2) in the $N = 52$ isotones towards ^{100}Sn, was performed at the Radioactive Isotope Beam Factory in Japan using the high-efficiency DALI2+ γ-detector array, composed of 226 NaI(Tl) detectors.
Preliminary results on the Coulomb excitation cross sections and transition probabilities for ^{98}Pd, ^{100}Cd and ^{102}Sn will be presented, and their comparison with shell model and ab-initio calculations will be discussed.

Author: CORTES, Martha Liliana (RIKEN Nishina Center)

Presenter: CORTES, Martha Liliana (RIKEN Nishina Center)