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Investigation of shape evolution in 110Sn through Coulomb excitation

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The systematics of E2 transition probabilities along the Sn isotopic chain has received much attention in both experiment and theory. One of the latest Monte Carlo shell models suggested dynamic shape changes in the Sn isotopes and their excited states, while addressing the enhancement of B(E2) values towards ^{100}Sn. A safe-energy Coulomb excitation of ^{110}Sn was performed with the Miniball spectrometer at CERN HIE-ISOLDE. The beam energy was 4.4 MeV per nucleon, and the target was ^{206}Pb with a thickness of 4 mg/cm^2. High gamma-ray statistics and excitations beyond the first 2^+ state were observed, and a lifetime analysis was carried out with high precision. In addition to the B(E2) value, the intrinsic quadrupole moment of the 2^+ state in ^{110}Sn will be discussed for the first time.
[On behalf of the Miniball collaboration]

Topic

Experiment

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