



Nuclear Experiment

Identification of the slow E3 transition $^{136m}\text{Cs} \rightarrow ^{136}\text{Cs}$ with conversion electrons

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We performed at ISOLDE the spectroscopy of the decay of the 8- isomer in ^{136}Cs by and conversion-electron detection. For the first time the excitation energy of the isomer and the multipolarity of its decay have been measured. The half-life of the isomeric state was remeasured to $T_{1/2} = 17.5(2)$ s. This isomer decays via a very slow 518 keV E3 transition to the ground state. In addition to this, a much weaker decay branch via a 413 keV M4 and a subsequent 105 keV E2 transition has been found. Thus we have found a new level at 105 keV with spin 4+ between the isomeric and the ground state. The results are discussed in comparison to shell model calculations.

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