



Nuclear Experiment

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

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(Submitted on 30 Jun 2011)

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.

Comments: Phys. Rev. C accepted for publication
Subjects: **Nuclear Experiment (nucl-ex)**; Nuclear Theory (nucl-th)
Journal reference: Phys.Rev.C84:014329,2011; Publisher-note C84:029903,2011; Phys.Rev.C84:029903,2011
DOI: [10.1103/PhysRevC.84.014329](https://doi.org/10.1103/PhysRevC.84.014329)
[10.1103/PhysRevC.84.029903](https://doi.org/10.1103/PhysRevC.84.029903)
Cite as: **arXiv:1106.6240 [nucl-ex]**
(or **arXiv:1106.6240v1 [nucl-ex]** for this version)

Submission history

From: Kathrin Wimmer [[view email](#)]
[v1] Thu, 30 Jun 2011 14:22:04 GMT (87kb)

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