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Angular momentum distribution of 132Sn from thermal n-induced fission

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Usually, fission product angular momentum is studied through prompt ɣ emission. A complementary technique is to use the isomeric ratio. This observable is of interest because it preserves the initial angular momentum information resulting from the fission process just after the prompt particle emission.
The coupling of the LOHENGRIN recoil spectrometer (located at the Institut Laue- Langevin, France) with an ionization chamber to count incoming fragments and two clovers of four Ge detectors each to detect decay ɣ-rays permits to measure isomeric ratios of fission products. Recently experimental campaigns achieved at the ILL showed the kinetic energy dependence of isomeric ratios for 132Sn for 235U(nth,f) [1] and 241Pu(nth,f) reactions [2]. A Bayesian assessment of the angular momentum distribution of 132Sn is proposed according to calculations performed with the FIFRELIN code. The similar angular momentum distributions found for both reactions are interpreted with angular momentum generation models.
[1] A. Chebboubi et al., Phys. Lett. B, 775, 190-195 (2017)
[2] J. Nicholson et al., EPJ Web of Conferences 256, 00011 (2021)

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Classification de Session: Isomeric Yield Ratios