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Neutron rich nuclei and fission studies at the IGISOL facility

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The Ion Guide Isotope Separator On-Line (IGISOL) facility at the Accelerator Laboratory of the University of Jyväskylä (JYFL-ACCLAB) has since 1984 utilized particle induced fission as means to produce neutron-rich nuclei for various spectroscopy studies and mass measurements [1]. Committed research work include β - and β - γ spectroscopy, total absorption γ -ray spectroscopy (TAGS), β -delayed neutron spectroscopy, and collinear laser spectroscopy. Examples of each kind studies can be found in references [2-7]. In addition, fission yields (FY) and isomeric yield ratios (IYR) have been measured using the IGISOL facility [8-11].

The presentation gives an overview on the current status of the fission related work at the IGISOL facility, focusing in particular on the recent technical developments such as the commissioning of the Multireflection Time-Of-Flight (MR-TOF) device and structure and performance of the new, sputtered self-sustaining uranium targets [12]. In addition, the developments for fission yield measurements with examples from preliminary analysis of proton induced fission yields of ^{232}Th will be discussed.

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Type of contribution

Regular Abstract

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