

Recent Isomer-Tagging Results using a Dual Multi-Wire Proportional Counter setup and New Extensions to the Technique with a Differential Plunger.

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This talk will give an overview on the status of a programme of research which has focussed on using isomeric states to identify and tag weakly populated nuclei around the proton drip line. The work has been carried out at the University of Jyväskylä in Finland using the RITU and GREAT spectrometers. The technique relies on correlating prompt decays at the target position with delayed decays from isomeric states at the focal plane of RITU. One of the benefits of this technique is that the delayed events are detected in a low-background environment and several new isomers have been identified in this way. The talk will focus on the properties of these isomers and the new information obtained for the states above the isomers. The addition of a dual Multi-Wire Proportional Counter to the Isomer-Tagging setup has improved the efficiency of the technique and the latest results from these experiments will be discussed in the mass 140 and 150 regions. Future measurements of the lifetimes of the states above these isomers using isomer-tagged differential plunger data should be available by the time of the meeting. In addition, possible future developments of the technique will be discussed to access properties of nuclei beyond the drip line.

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