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# ISOMERIC SPECTROSCOPY OF NEUTRON-RICH TERBIUM ISOTOPES

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In-flight fission of a  $^{238}\text{U}^{85+}$  primary beam of energy 345 MeV/nucleon on a 2mm beryllium target has been used to study neutron-rich nuclei around  $^{170}\text{Dy}_{104}$  at the RIBF Facility, RIKEN, Japan. The nuclei of interest were identified event-by-event using the BigRIPS separator and a spectroscopy set-up to correlate decays with ions following both beta and isomeric decay. Discrete  $\gamma$ -ray lines emitted following decays from either metastable states were identified using the 84 HPGe detectors of the EURICA spectrometer [1] which was complemented by 18 additional LaBr<sub>3</sub> fast-timing scintillation detectors from the FATIMA collaboration [2]. The fragments were implanted into the WAS3ABi position sensitive silicon active stopper which allowed pixelated correlations between implants and their subsequent beta-decay. This presentation will discuss the range of nuclei produced and identified in the experiment, with particular focus on previous unreported isomeric decays in the terbium isotopes from A=165-168. These data represent the first information on excited states in these nuclei, which are the most neutron-rich isotopes of terbium (Z=65) studied to date. Possible configurations for the observed isomeric states will be presented by comparison with Blocked BCS-Nilsson calculations.

## REFERENCES

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