

Abstract Submitted
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Commissioning of a new decay-detection array/tape transport station for CARIBU¹ A.J. MITCHELL, C.J. LISTER, P. CHOWDHURY, A.Y. DEO, University of Massachusetts Lowell, J.A. CLARK, B. DIGIOVINE, M.P. CARPENTER, G. SAVARD, D. SEWERYNIAK, S. ZHU, Argonne National Laboratory, E.A. MCCUTCHAN, Brookhaven National Laboratory, S.L. TABOR, R. DUNGAN, Florida State University — The CARIBU facility [1] at Argonne National Laboratory provides a unique opportunity for research in nuclear structure, nuclear astrophysics and applied applications. A new decay-detection array for performing β - γ coincidence measurements is being commissioned for use with exotic stopped beams. The new array consists of the existing “X-array,” with five HPGe detectors for detection of γ rays, and a plastic scintillator for β -particle detection. Two operational modes are possible: “Mode 1” utilizes a stand-alone scintillator chamber; “Mode 2” incorporates a tape transport system into a modified chamber, offering significant contamination removal that would otherwise result from the subsequent decay chain. The design of the tape station has been adopted from a prototype diagnostic system currently installed at CARIBU. Here, a general overview of the apparatus, commissioning runs and analysis of data collected whilst operating in both modes will be discussed.

[1] G. Savard *et al Nuclear Instruments and Methods in Physics Research B* 266 (2008) 4086–4091

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