

Abstract Submitted
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Half-Lives of ground states in Pm and Eu nuclei following the $^{154,152}\text{Sm}$ (p,x) reactions at 25 MeV N.J. WATWOOD, C.W. BEAUSANG, P. HUMBY, A. SIMON, K. GELL, Univ of Richmond — The primary experiment was designed to study low/medium spin states in Sm nuclei following the $^{154,152}\text{Sm}$ (p,x) reactions where x = d or t. During the experiment the Sm target was irradiated by a 25 MeV proton beam, provided by the K150 Cyclotron at Texas A&M University, with an average beam current of ~ 1 nA for about one week. Following the experiment, residual radioactivity in the target was measured in the Environmental Radioactivity Laboratory at the University of Richmond using a 25% efficiency coaxial Ge detector enclosed in a 6-inch thick Pb shield. The gamma ray spectra were internally calibrated using a ^{152}Eu source and the energies of known gamma-rays from the target decays and from long lived environmental radioactivity. The decays of three long lived (~ 1 month or more) mass A ~ 150 nuclei were identified (^{148}Sm , ^{148}Eu , and ^{147}Eu), and half lives for their beta-decay were (re)measured. Work is still in progress and preliminary results will be presented at the APS conference.

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