

Abstract Submitted  
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**Total Absorption Spectroscopy of N=51  $^{85}\text{Se}$**  K.C. GOETZ, UTK-CIRE, K.P. RYKACZEWSKI, ORNL, R.K. GRZYWACZ, UTK, ORNL, M. KARNY, ORNL, ORAU, UW, M. WOLIŃSKA-CICHOCKA, ORNL, A. FIJALKOWSKA, UW, UTK, C.J. GROSS, ORNL, B.C. RASCO, LSU, R. GOANS, ORAU, J. JOHNSON, ORNL, D. MILLER, C. JOST, M. MADURGA, UTK, K. MIERNIK, ORNL, UW, S.V. PAULAUSKAS, M. AL-SHUDIFAT, UTK, E. SPEJEWSKI, ORAU, D. STRACENER, ORNL, E. ZGANJAR, LSU — An experimental campaign utilizing the Modular Total Absorption Spectrometer (MTAS) was conducted at the HRIBF facility in January of 2012. The campaign studied 22 isotopes, many of which were identified as high priority needs for nuclear energy applications in the Nichols et al. report [1]. The case of  $^{85}\text{Se}$  will be discussed.  $^{85}\text{Se}$  is a Z=34, N=51 nucleus, therefore its decay properties are determined by interplay between first forbidden decays of valence neutrons and Gamow-Teller decay. Preliminary analysis indicates a significant modification of the beta strength function when compared with high-resolution spectroscopy data [2]. The modification of the beta-strength function appears as a group of previously undetected levels around 5.5 MeV suggesting previously unobserved core excitations.

[1] A.L. Nichols “Nuclear Data Requirements for Decay Heat Calculation” Workshop 2002

[2] M. Zendel “Decay of  $^{85-88}\text{Se}$  to levels in  $^{85-88}\text{Br}$ ” Nucl.Chem.Vol42, p1387-1395,1980.

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