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Decay study of ^{134}In and the beta-delayed neutron emission mechanism with ISOLDE Decay Station JOSEPH HEIDEMAN, ROBERT GRZYWACZ, MIGUEL MADURGA, ZHENGYU XU, RIN YOKOYAMA, THOMAS KING, University of Tennessee, Knoxville, ALEKSANDRA FIJALKOWSKA, University of Warsaw, RAZVAN LICA, IFIN-HH, MANINDER SINGH, University of Tennessee, Knoxville, ISOLDE DECAY STATION COLLABORATION — Beta-delayed neutron emission in very neutron-rich nuclei plays an essential role in nuclear structure and the understanding of the astrophysical r-process. A leading theory poses the intermediate daughter nucleus to behave as a compound nucleus [1]. The beta-delayed neutron emission of ^{134}In is not well described by the neutron pandemonium hypothesis [2], therein providing a unique case to study neutron emission [3]. Single-particle states populated in ^{133}Sn [4] have dissimilar shell occupancy compared to neutron-hole states in daughter nucleus states populated in Gamow-Teller transitions. A short experiment observing ^{134}In decay was conducted with the ISOLDE Decay Station [5]. Multiple neutron-emitting states in ^{134}Sn populated in beta decay were identified and will be compared with statistical model predictions to establish if the assumption of the "compound nucleus" behavior can be valid for ^{134}In beta-delayed neutron emission. [1] T. Kawano et al., Phys. Rev. C 78, 054601 (2008). [2] J. Hardy et al., Nucl. Phys. A 305, 15 (1978). [3] P. Hoff et al., Phys. Rev. Lett. 77, 1020 (1996). [4] K.L. Jones et al., Nature 465, 454 (2010). [5] Z. Xu et al., this conference.

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