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Investigation of the N=127 nucleus ^{217}Th[1] R. CHEVRIER, WNSL, University of Caen 14000 France, A. HEINZ, J. QIAN, T. AHN, R. CASPERSON, G. ILIE, J.R. TERRY, R. WINKLER, E. WILLIAMS, WNSL, D. MCCARTHY, WNSL, University of Surrey, Guilford, GU2 7XH, U.K., L. KUCUK, G. SUSOY, Istanbul University, Turkey — The evolution of the N=126 neutron shell is interesting, since it can be compared to large-scale shell model calculations and the structure of heavy-proton-rich nuclei exhibit a number of interesting structural phenomena. The recoil decay tagging technique, which provides an extremely clean method for channel selection, is the key to the investigation of heavy nuclei near N=126. Here we report on results of an experiment performed with the gas-filled recoil separator SASSYER which attempted, for the first time, in-beam gamma-ray spectroscopy of the nucleus ^{217}Th with one neutron above the 126-neutron shell.

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