Abstract Submitted
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The β and delayed-neutron decay properties of neutron rich $^{76-79}$Cu[1] S.V. ILYUSHKIN, J.A. WINGER, Mississippi State, K.P. RYKACZEWSKI, C.J. GROSS, D. SHAPIRA, ORNL, R. GRZYWACZ, S.N. LIDDICK, C. MAZZOCCHI, S. PADGETT, M.M. RAJABALI, U. of Tennessee, J.C. BATCHELDER, UNIRIB/ORAU, A. KORGUL, Warsaw University, W. KROLÁS, Polish Academy of Sciences, E.F. ZGANJAR, A. PIECHAZEK, Louisianna State, C. GOODIN, J.H. HAMILTON, Vanderbilt University — Results of studies performed at the HRIBF on the β-decay of $^{76-79}$Cu isotopes are reported. Transmission through a charge exchange cell and isobar separator removed Zn from the ISOL beams and allowed fine tuning to obtain higher Cu concentrations. The β-delayed neutron probabilities of ^{76}Cu and ^{77}Cu were deduced from comparison of the intensities of γ rays in the Zn daughter isotopes and found to be 4(1)% and 38(4)%, respectively. For ^{78}Cu, the yrast decay sequence transitions at 730, 891, and 907 keV suggest the highest feeding is to the 6^+ state with no population of the 8^+ isomer. For the r-process critical nuclide ^{79}Cu we observed for the first time the 730 keV γ ray from the delayed-neutron branch thus solidifying this transition as the $2^+ \rightarrow 0^+$ transition in ^{78}Zn.

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