

Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

Decay properties of neutron-rich ^{74}Co and predictions for ^{78}Co ¹ SHINTARO GO, ROBERT GRZYWACZ, Univ of Tennessee, MAZZOCCHI CHIARA, Univ of Warsaw, SEAN LIDDICK, NSCL/MSU, MOHAMMAD ALSHUDIFAT, Univ of Tennessee, JON BATCHELDER, ORNL, THOMAS BAUMANN, TOM GINTER, NSCL/MSU, CARL GROSS, ORNL, KAROLINA KOLOS, Univ of Tennessee, AGNIESZKA KORGUL, ALEKSANDRA CIEMNY, Univ of Warsaw, STANLEY PAULAUSKAS, Univ of Tennessee, CHRISTOPHER PROKOP, NSCL/MSU, MUSTAFA RAJABALI, TRIUMF, KRZYSZTOF RYKACZEWSKI, ORNL, STEVEN TAYLOR, YONGCHI XIAO, Univ of Tennessee — Experimental studies of doubly magic ^{78}Ni are needed to provide critical data to test the robustness of the nuclear shell structure and model r-process. One of the best ways to investigate the shell structure of ^{78}Ni is the decay of ^{78}Co . While presently it is not possible to produce ^{78}Co with sufficient rates, the decay measurements will be an essential study with new facilities and beam intensity upgrades. We measured the beta-decay properties of ^{74}Co using fragmentation reaction at NSCL. Combining this result and other existing data around ^{78}Ni enabled us to make predictions for the decay properties of ^{78}Co . The half-life and beta-delayed neutron emission probability predicted by shell-model calculations will be presented for the chain of odd-odd cobalt isotopes.

¹This work was funded in part by the U.S. DOE Grant No. DE-FG02-96ER40983 and by the Polish Ministry of Science and Higher Education through Grant No. 0079/DIA/2014/43.

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Date submitted: 06 Jul 2016

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