Abstract Submitted
for the DNP20 Meeting of
The American Physical Society

$\beta-$decay strength distributions of neutron-rich cobalt isotopes for r-process nucleosynthesis[1] S. LYONS, Pacific Northwest National Laboratory, A. SPYROU, S.N. LIDDICK, R.L. LEWIS, B.A. BROWN, K.L. CHILDERS, C. HARRIS, A. PALMISANO, D. RICHMAN, R.T ZEGERS, Michigan State University, M.K. SMITH, NSCL, M. GUTTORMSEN, A.C. LARSEN, Univ. of Oslo, M.R. MUMPOWER, Los Alamos National Laboratory, D.L. BLEUEL, N.D. SCIELZO, Lawrence Livermore National Laboratory, B.P. CRIDER, Miss. State Univ., A. SWEET, UC- Berkeley, J. ENGEL, E.M. NEY, Univ. North Carolina, A.C. DOMBOS, A. SIMON, Univ. of Notre Dame — The r process is known to produce roughly half of the isotopes of heavy elements. Sensitivity studies have shown that the final abundance distributions of r-process nuclei are greatly impacted by uncertainties in β-decay properties, such as half-lives. In order to improve these uncertainties, the technique of total absorption spectroscopy is employed to improve β-decay strength distributions. The decay of several neutron-rich cobalt isotopes were measured using the technique of total absorption spectroscopy at the NSCL. The high Q-value of these isotopes allows for the study of β-decay properties over a broad energy range and the resultant β-decay intensities and deduced Gamow-Teller strengths are compared to theoretical models that are commonly used in r-process network calculations. Impacts of the current findings will be discussed.

[1]This work was supported by the LDRD Program at PNNL, a national laboratory operated by Battelle for the U.S. DOE.

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Date submitted: 25 Jun 2020 Electronic form version 1.4