Abstract Submitted
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Penning trap mass measurement of ^{56}Cu[1] A.A. VALVERDE, M. BRODEUR, University of Notre Dame, G. BOLLEN, Michigan State University, Facility for Rare Isotope Beams, M. EIBACH, Ernst-Moritz-Arndt-Universitt, K. GULYUZ, National Superconducting Cyclotron Laboratory, A. HAMACKER, C. IZZO, W.-J. ONG, D. PUENTES, National Superconducting Cyclotron Laboratory, Michigan State University, M. REDSHAW, National Superconducting Cyclotron Laboratory, Central Michigan University, R. RINGLE, National Superconducting Cyclotron Laboratory, R. SANDLER, National Superconducting Cyclotron Laboratory, Central Michigan University, S. SCHWARZ, C.S. SUMITHRARACHCHI, National Superconducting Cyclotron Laboratory, J. SURBROOK, National Superconducting Cyclotron Laboratory, Michigan State University, A.C.C. VILLARI, Facility for Rare Isotope Beams, I.T. YANDOW, National Superconducting Cyclotron Laboratory, Michigan State University — The doubly-magic nucleus ^{56}Ni is one of the most important waiting point nuclei in the rp-process. While we now know that it is not the endpoint of the rp-process, which continues to the Sn-Sb-Te cycle, the flow around this nucleus is still not well understood. A pathway bypassing ^{56}Ni through the ^{55}Ni(p,γ)^{56}Cu reaction exists, but the rate depends on the Q value of this reaction, which has not been experimentally determined. Mass measurements were undertaken using the LEBIT 9.4T Penning trap mass spectrometer at the National Superconducting Cyclotron Laboratory to rectify this situation.

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