

Abstract Submitted
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Nuclear masses near $N=82$ and their effects on r-process abundances¹ MATTHEW MUMPOWER, University of Notre Dame, REBECCA SURMAN, Union College, DONG-LIANG FANG, Michigan State University, MARY BEARD, ANI APRAHAMIAN, University of Notre Dame — We have performed for the first time a complete r-process mass sensitivity study in the $N=82$ region. We take into account how a change in a single nuclear mass propagates to influence important quantities of neighboring nuclei, including Q -values, neutron capture rates, photo-dissociation rates, beta-decay rates and the probability to emit neutrons. We identify key nuclei in the study whose mass has a substantial impact on final r-process abundances. We show that these nuclei are within reach of future radioactive ion beam measurements.

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