

Abstract Submitted  
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**Exploration of the possible new island of inversion with the production of neutron rich nuclei** T. BAUMANN, O.B. TARASOV, A.M. AMTHOR, L. BANDURA, D. BAZIN, J.S. BERRYMAN, A. GADE, T.N. GINTER, M. HAUSMANN, D.J. MORRISSEY, A. NETTLETON, J. PEREIRA, M. PORTILLO, B.M. SHERRILL, A. STOLZ, C. SUMITHRARACHCHI, M. THOENNESSEN, D. WEISSHAAR, NSCL/MSU, N. FUKUDA, N. INABE, T. KUBO, RIKEN, Japan, G. CHUBARIAN, TA&MU — Recent experiments at the NSCL have demonstrated that fragmentation coupled with two-stage separation technique can be used to explore the properties of very neutron-rich nuclei. Production cross sections for a large number of neutron-rich nuclei produced from the fragmentation of a  $^{76}\text{Ge}$  beam at 132 MeV/u with beryllium and tungsten targets were measured, including 15 new isotopes of the elements  $17 \leq Z \leq 25$ . The higher cross sections of several new nuclei relative to a simple thermal evaporation framework, previously shown to describe similar production cross sections, indicate that nuclei in the region around  $^{62}\text{Ti}$  might be more stable than predicted by current mass models. This could indicate the existence of a new island of inversion. This year, a newly-developed primary beam of  $^{82}\text{Se}$  at 140 MeV/u has been used to extend these measurements of production cross sections to even more neutron-rich isotopes for elements from calcium to cobalt.

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