

Abstract Submitted
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The Oak Ridge Isobar and Isomer Separator and Spectrometer (ORISS) ANDREAS PIECHACZEK, J.C. BATCHELDER, H.K. CARTER, C.A. REED, O. YAIR, UNIRIB, ORAU/ORISE, V. SHCHEPUNOV, Shimadzu Corp., E.F. ZGANJAR, LSU, A. BLALOCK, S. BERRIDGE, R. TODD, RIS Corp., G. ARMSTRONG, Maverick Systems Corp., K. OMOUMI, UT, A.R. FLEURY, Nanticoke High School, Y. HU — ORISS is an electrostatic high-resolution isobar and isomer spectrometer and separator to provide pure beams for decay spectroscopy of exotic nuclei. It consists of an RFQ, low emittance, ion cooler and buncher, a multi-pass time-of-flight spectrometer, and a time-of-flight detector to register time-of-flight spectra, or a Bradbury Nielsen (BN) gate to physically separate isobars and isomers of interest. Presently, ORISS uses an off-line ion source. Ion bunches as short as 8 ns FWHM have been produced in the buncher, and a BN gate with transition times open/closed of 15 ns was built. These results of individual component tests together with ion optical calculations predict a mass resolving power of 400,000 and transmission of 50% for the completed system. In the future, radioactive ions from the Holifield Radioactive Ion Beam Facility at ORNL will be injected. Results of first test measurements of the complete off-line system will be presented.

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