Design and Automation of an Induced Depletion Experiment on
$^{108m}\text{Ag}^1$ I.N. MILLS, G.P. TREES, C.J. SWEENEY, T.A. BALINT, Youngstown State University, S.A. KARAMIAN, JINR, Dubna, J.J. CARROLL, Youngstown State University — Nuclear isomers may be able to store and provide energy for certain applications. To determine if a particular nuclear isomer is a good candidate for such an application, an experiment must demonstrate an induced depletion. This depletion would bypass the slow decay transitions of the metastable state by exciting the nucleus into a shorter-lived, higher-energy intermediate states with a decay branch that leads to the ground state. An experiment is being conducted at Youngstown State University’s X-ray Effects Laboratory as part of the Isomer Physics Project which has been custom designed to test induced depletion of $^{108m}\text{Ag}$ by bremsstrahlung. The poster will cover the design of the experiment, the use and development of an automated control and DAQ system, and initial results.

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