

Abstract Submitted  
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**Particle-gamma studies with the new Hyperion array** R.O. HUGHES, J.T. BURKE, S. FISHER, J. PARKER, S. OTA, A. TING, R.J. CASPERSON, Lawrence Livermore National Laboratory, E. MCCLESKEY, A.B. MCINTOSH, Texas A&M University, C.W. BEAUSANG, E. WILSON, P. HUMBY, University of Richmond — Hyperion is a charged-particle and  $\gamma$ -ray spectroscopy array for low energy nuclear physics studies consisting of a highly segmented silicon telescope for charged particle detection surrounded by up to 14 HPGe “clover”  $\gamma$ -ray detectors. Hyperion was designed and built between March 2014 and May 2015 as a significant upgrade to the existing STARLiTeR array currently at Texas A&M University Cyclotron Institute. The array was installed in May 2015 in preparation for its commissioning runs scheduled for September 2015. Hyperion will offer high particle-gamma and particle-gamma-gamma detection efficiencies and is intended to be used both for low energy structure studies and indirect measurements of neutron cross sections via the surrogate method. Details of the new array and the commissioning experiment focusing on  $^{167,168,169}\text{Tm}$  studies will be presented. This work was performed under the auspices of the US Department of Energy by Lawrence Livermore National Laboratory under Contract No. DE-AC52-07NA27344. Supported by DoE grant numbers DE-FG52-09NA29467 (TAMU), DE-NA0001801, DE-FG02-05ER41379 (UofR).

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