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**Characterization and Optimization of HAGRiD** H. WILLOUGHBY, S. BURCHER, R. GRZYWACZ, K. L. JONES, K. SMITH, M. VOSTINAR, Univ of Tennessee, HAGRID COLLABORATION — The Hybrid Array of Gamma Ray Detectors (HAGRiD) of $LaBr_3$(Ce) scintillators has been designed to study the structure of nuclei by observing coincident gamma-rays with transfer reactions and beta-decays. HAGRiD couples with particle detector systems such as the Oak Ridge Rutgers University Barrel Array (ORRUBA) of silicon detectors, the Versatile Array of Neutron Detectors at Low Energy (VANDLE), and beta detection scintillators. The $LaBr_3$(Ce) crystals provide better resolution and intrinsic efficiency compared to NaI crystals and has reduced infrastructure and increased flexibility over germanium detectors. HAGRiD scintillators and Photo Multiplier Tubes (PMTs) are readout by XIA Pixie16 waveform digitizers. To achieve the best energy and timing resolution, these digitizers need to be optimized for the signals produced by the PMT attached to each HAGRiD crystal. Work to optimize the performance of the digitizer and characterize the performance of HAGRiD will be discussed.

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