

Abstract Submitted  
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**HiRA CsI Detector Response to Low Energy Protons<sup>1</sup>** CHELSEY

MORIEN, Ursinus College and Michigan State University — In the upcoming experiment 05133 at the National Superconducting Cyclotron Laboratory at Michigan State University, the High Resolution Array (HiRA) will detect low energy protons in the range of 1-10 MeV. The HiRA has not previously been used to detect protons of this energy range. Therefore, the response of the CsI detectors to low energy protons must be analyzed. This will aid in the calibration of the detectors and contribute to their resolving capabilities. The testing of the telescopes will be performed using the tandem Van de Graaff Accelerator at Western Michigan University. A 10 MeV proton beam will strike a polypropylene (CH<sub>2</sub>) target, causing proton-proton elastic collisions. The scattered protons will be detected by the telescopes in an angular range of 10-50 degrees from the beam axis. The energies of the scattered protons are known from kinematic calculations for elastic collisions. Using these energies, the output voltages of the telescopes can be calibrated. In addition, the analysis of histograms in conjunction with the angular range of the detectors will measure the energy resolution of the HiRA telescopes for low energy protons.

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Chelsey Morien  
Ursinus College and Michigan State University

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