

Abstract Submitted
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Construction of a New Beamline at the SUNY Geneseo Pelletron Accelerator for Calibrating a Thomson Parabola¹ STEVEN HUPCHER, MEGAN CROSSMAN, CHARLES FREEMAN, SUNY Geneseo, CHRISTIAN STOECKL, Laboratory for Laser Energetics — A newly constructed Thomson Parabola will be used to study the energy spectra of protons and other ions at the Multiterawatt (MTW) laser facility at LLE produced from the illumination of a planar target with an ultra-intense laser light ($>10^{19}$ W/cm²). Charged particles ejected in the forward direction will be spatially separated and recorded on image plates in the parabola. Beams of protons and alpha particles from the tandem pelletron at SUNY Geneseo were used to establish an energy-to-position calibration for the Thomson Parabola, as well as to calibrate the response of the imaging plates to various particle fluxes. A new beamline with a general-purpose scattering chamber was constructed at the SUNY Geneseo 1.7 MV pelletron accelerator laboratory. The beamline is equipped with a general-purpose 28 inch scattering chamber which includes a target manipulator system, faraday cup, and a mounting for a surface barrier detector.

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Charles Freeman
SUNY Geneseo

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