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A Compton Spectrometer Experiment In Support of the NOvA Experiment Calibration

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The NOvA Experiment at Fermilab is a large, segmented liquid scintillator detector. As nu_e interactions are of primary interest to the experiment, the detector must be very sensitive to electromagnetic showers. Because the quenching and Cherenkov response characteristics of the detector are different for muons and electrons, a separate calibration must be done in order to establish an absolute energy scale for these events. The Compton Spectrometer experiment is a way to measure the NOvA liquid scintillator's response to electrons with a well known energy in the range between 0 and 1 MeV. The results from this experiment are then put into a Geant4 simulation and extended to higher energies, photons and positrons.

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