

Abstract Submitted
for the APR16 Meeting of
The American Physical Society

Polarization sensitivity in integrating detectors CIPRIAN GAL,
University of Virginia — Parity violating experiments using a high current electron beam on a fixed target provide an ideal way to test the Standard Model. Using integrating detectors can lead to measurements of asymmetries on the part per billion level. However, integrating detectors can be polarization sensitive due to transverse scattering in the detector, a process that has not been thoroughly studied previously. We simulate such a transverse asymmetry using Geant4. Analyzing powers corresponding to simple Mott scattering model and a two-photon-exchange model are used to describe the polarization sensitive interaction of the electron with the detector. Potential application of these models to parity-violation experiments will be discussed.

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Date submitted: 08 Jan 2016

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