Abstract Submitted
for the DPP13 Meeting of
The American Physical Society

Measurements of the sensitivity of radiochromic film using ion beams J.A. STEIDLE, J.P. SHORTINO, D.M. ELLISON, C.G. FREEMAN, SUNY Geneseo, T.C. SANGSTER, Laboratory for Laser Energetics — Radiochromic film (RCF) is used in several diagnostics as a dosimeter that chromatically responds to incident particles. This response depends on the fluence, energy, and species of the incident particles. A 1.7 MV tandem Pelletron accelerator is used to create a monoenergetic ion beam which is scattered off a thin gold target onto a strip of RCF. A surface barrier detector is positioned behind a small hole in the film to measure the ion fluence on the nearby film. Once the film develops, it is scanned to examine its optical density. A response curve is acquired by fitting a three parameter formula to optical density and dose. These calibration curves can be used to help determine incident doses in a variety of situations.

Jeffrey Steidle
SUNY Geneseo

Date submitted: 12 Jul 2013 Electronic form version 1.4