Abstract Submitted
for the APR06 Meeting of
The American Physical Society

The Search for Target Structure Effects in Elastic Scattering K.W. KEMPER, O.A. MOMOTYUK, B.T. ROEDER, Florida State University, N. KEELEY, CEA-Saclay, DSM/DAPNIA/SPhn, France, K. RUSEK, A. Soltan Institute for Nuclear Studies, Warsaw, Poland — In elastic scattering, the question occurs as to how to separate details of the target structure from those of the projectile when using both standard optical potentials and semi-microscopic potentials in detailed coupled channels calculations. We will show that by graphing the cross section and analyzing power data as a function of momentum transfer rather than scattering angle that it is possible see regions of momentum transfer where effects arise from the projectile alone and regions where the target contribution must be accounted for. For light mass systems, these effects are more easily observed in the data by plotting the scattering cross section with respect to momentum transfer rather than the normally used ratio to Rutherford. The analysis of data for the elastic scattering of polarized ^{7}Li from targets of ^{6}Li, ^{7}Li and ^{12}C will be presented. A similar analysis of previously published data for ^{6}He (1) and ^{6}Li (2) elastic scattering from ^{12}C will also be presented.
(1) V. Lapoux et al. Phys. Rev. C66, 034608 (2002)
(2) A. Nadasen et al. Phys. Rev. C47, 674 (1993)
This work was supported in part by the U.S. National Science Foundation and the State of Florida.

Kirby Kemper
Florida State University

Date submitted: 10 Jan 2006 Electronic form version 1.4