Abstract Submitted
for the PSF16 Meeting of
The American Physical Society

Reflectometry GUI: A MATLAB program for X-Ray reflectivity fitting and analysis CURT DECARO, William Rainey Harper College, LAURENCE LURIO, Northern Illinois University — Reflectometry GUI is a program written for the MATLAB platform that provides multiple functionalities to analyze x-ray reflectivity data. The core function of the program takes a user-defined surface model, calculates the predicted x-ray reflectivity from the model, and fits it to measured reflectivity data by varying the parameters in the user-defined model. The user can define the material, thickness, roughness, and relative density of multiple layers in the model, and fit each independently or together to the measured data. The user can also define fit limits for each parameter. Materials are defined according to their chemical composition and bulk density. We hope that Reflectometry GUI will be a powerful analysis tool for modelling and fitting x-ray reflectivity data. It is intended to enable model analysis of complex, multi-layer surface systems.

Curt DeCaro
William Rainey Harper College

Date submitted: 09 Sep 2016 Electronic form version 1.4