Abstract Submitted for the DNP11 Meeting of The American Physical Society

Determining the Impact Parameter and Cross-Section in Heavy-Ion Collisions<sup>1</sup> ANDIRA RAMOS, Florida International University, WILLIAM LYNCH, BETTY TSANG, RACHEL HODGES, National Superconducting Cyclotron Laboratory, Michigan State University, Physics and Astronomy Department, HIGH RESOLUTION ARRAY (HIRA) TEAM — The collisions of Tin isotopes,  $^{112,118,124}$ Sn +  $^{112,118,124}$ Sn at E/A= 70MeV will be used to constrain the nuclear Equation of State at low densities. To identify central and peripheral collisions, the impact parameters and cross-sections for each reaction were calculated using charged particle multiplicities measured with the MSU Miniball/WU Miniwall array. The array consists of 160 CsI crystals covering around 72% of the solid angle around the target. Each Miniball/Miniwall detector consists of a layer of thin plastic scintillator, followed by a CsI (Tl) scintillator, which is 3 cm thick for the Miniwall and 2 cm thick for the Miniball detectors. The number of charged particles from a collision that hit the Miniball/Miniwall array is defined as the multiplicity for that collision. The methodology for extracting the impact parameter from the multiplicity and the results of the Miniball/Miniwall analysis will be presented in this poster.

<sup>1</sup>This work is supported by the Summer Research Opportunity Program (SROP) at Michigan State University and the National Science Foundation Grant #PHY-0606007.

Andira Ramos Florida International University

Date submitted: 01 Aug 2011

Electronic form version 1.4