

Abstract Submitted  
for the DNP16 Meeting of  
The American Physical Society

**Sensitivity of GRETINA position resolution to hole mobility<sup>1</sup>**

V.S. PRASHER, UMass-Lowell, M. CROMAZ, LBNL, P. CHOWDHURY, E. MERCHANT, C.J. LISTER, UMass-Lowell, H.L. CRAWFORD, C.M. CAMPBELL, A.O. MACCHIAVELLI, LBNL, D.C. RADFORD, ORNL, I.Y. LEE, A. WIENS, LBNL — The GRETINA array has been commissioned and has begun generating physics results. As the community moves towards the proposed full  $4\text{-}\pi$  national gamma-ray energy tracking array GRETA, optimizing algorithms that reconstruct gamma-ray interaction points continues to be an important task. To this end, the sensitivity of the position resolution of the GRETINA array to the hole mobility parameter has been investigated. The chi-square deviations from a “superpulse” exhibit a shallow minimum for hole mobilities  $\approx 15\%$  lower than currently used values. Calibration data on position resolution is analyzed, together with simulations that isolate the signal decomposition dependence from electronics cross-talk. The results of this exercise will be presented and the effect of varying hole mobility on the inferred interaction points will be discussed.

<sup>1</sup>Supported by the U.S. Department of Energy under award DE-FG02-94ER40848 and contract DE-AC02-05CHI1231.

Partha Chowdhury  
University of Massachusetts Lowell

Date submitted: 01 Jul 2016

Electronic form version 1.4