## Abstract Submitted for the DNP16 Meeting of The American Physical Society

Inverted Coaxial HPGe Segmented Point Contact Detector<sup>1</sup> MARCO SALATHE, HEATHER CRAWFORD, REN COOPER, Lawrence Berkeley Natl Lab, DAVID RADFORD, Oak Ridge Natl Lab — The inverted coaxial segmented HPGe point contact detector <sup>2</sup> is a new device being characterized for use in gamma-ray tracking arrays. It is expected to have an excellent position resolution, particularly for simultaneously occurring multiple interactions. However, the characteristic long charge carrier drift path of this technology, combined with trapping and loss of charge carriers, leads to a degradation of the energy resolution. A prototype produced from n-type material, consisting of 20 segments, has been characterized in a lab environment with a variety of collimated and uncollimated sources. Results from this study show that the signal decomposition from this detector not only allows the reconstruction of the interaction positions, but also can be used to correct the degraded energy resolution and restore the characteristic HPGe resolution.

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<sup>2</sup>A novel HPGe detector for gamma-ray tracking and imaging. R.J. Cooper, D.C. Radford, P.A. Hausladen, K. Lagergren. Nucl. Instr. and Meth. A 665 (2011) 25-32

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