Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

Gamma-Gamma Angular Correlation Measurements With GRIFFIN[1] ANDREW MACLEAN, University of Guelph, THE GRIFFIN COLLABORATION — The goal of this work was to explore the sensitivity of the Gamma-Ray Infrastructure For Fundamental Investigations of Nuclei (GRIFFIN) 16 clover-detector γ-ray spectrometer at TRIUMF-ISAC to such $\gamma - \gamma$ angular correlations. The methodology was established using both experimental measurements and Geant4 simulations that were used to create angular correlation templates for the GRIFFIN geometry. Direct comparisons were made between experimental data sets and the simulated angular correlation templates. A first in-beam test of the $\gamma - \gamma$ angular correlation measurements with GRIFFIN was performed with a radioactive beam of ^{66}Ga. Mixing ratios of $\delta = -2.1(2)$ and $\delta = -0.08(3)$ were measured for the $2^+ \rightarrow 2^+ \rightarrow 0^+$ 833-1039 keV and $1^+ \rightarrow 2^+ \rightarrow 0^+$ 2752-1039 keV cascades in the daughter nucleus ^{66}Zn. These results are in good agreement with pervious literature values and the mixing ratio for the 833-1039 keV cascade has a higher precision. Also, the sensitivity to the 1333-1039 keV cascade, with its pronounced $0^+ \rightarrow 2^+ \rightarrow 0^+$ angular correlation, was measured.A test measurement of the superallowed Fermi β emitter ^{62}Ga will also be discussed.

[1]Canada Foundation of Innovation, Natural Sciences and Engineering Research Council of Canada, National Research Council of Canada and Canadian Research Chairs Program.

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Date submitted: 30 Jun 2016 Electronic form version 1.4