Abstract Submitted
for the DNP17 Meeting of
The American Physical Society

**Measurement of 47K Half-Life at GRIFFIN**[1] ZACHARY BEADLE, JENNA SMITH, Reed College — The doubly magic nucleus $^{48}$Ca is both a neutron-rich benchmark for new *ab initio* nuclear structure calculations and a potential neutrinoless double beta decay parent. The adjacent decay of $^{47}$K to $^{47}$Ca is a simpler decay, but requires a more robust nuclear structure calculation. TRIUMF's GRIFFIN (Gamma Ray Infrastructure For Fundamental Investigations of Nuclei) array is a set of 16 HPGe clovers at the ISAC-I accelerator. This setup allows for the analysis of short-lived isotopes by delivering them to GRIFFIN shortly after their production in ISAC-I and measuring their decay radiation with GRIFFIN and associated auxiliary detectors. This poster presents the use of GRIFFIN, with the additional SCEPTAR (SCintillating Electron-Positron Tagging ARray) auxiliary detector, to improve the precision of the half-life of $^{47}$K as part of a more detailed decay spectroscopy investigation.

[1]This study was supported in part by Galakatos Funds and the Science Research Fellowship.

Zachary Beadle
Reed College

Date submitted: 01 Aug 2017 Electronic form version 1.4