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Recent Results in Decay Spectroscopy with GRIFFIN

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The Gamma-Ray Infrastructure For Fundamental Investigations of Nuclei (GRIFFIN) is a new state-of-theart gamma-ray spectrometer. GRIFFIN is composed of 64 large-volume high-purity germanium detectors arranged in 16 clovers and is designed to measure the decay of radioactive-isotopes beams produced by the TRIUMF Isotope Separator and Accelerator (ISAC). The array can be coupled to a variety of auxiliary detectors which detect electrons as well as neutrons, allowing for increased sensitivity by using particle- γ and particle- γ - γ coincidences. In addition, fast-timing scintillators can be used to measure lifetimes of nuclear states. The high efficiency of the array also makes it possible to perform detailed γ -ray angular correlation measurements, making GRIFFIN a powerful tool for nuclear spectroscopy.

Since being installed and commissioned in 2014, the GRIFFIN array has been used in several experimental programs with applications ranging from the astrophysical r-process to tests of ab-initio theory near shell closures. In this talk, I will present the results of several of the first experiments using GRIFFIN and give an outlook for future capabilities.

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