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Developments and prospects for GODDESS at FRIB[1] STEVEN PAIN, KELLY CHIPPS, MICHAEL FEBBRARO, ROBERT VARNER, Oak Ridge National Laboratory, ANDREW RATKIEWICZ, Lawrence Livermore National Laboratory, JOLIE CIZEWSKI, GWENAELLE SEYMOUR, HARRISON SIMS, CHAD UMMEL, Rutgers University, RAJESH GHIMIRE, KATE JONES, University of Tennessee, GODDESS COLLABORATION, ORRUBA COLLABORATION
— GODDESS is a coupling of an upgraded version of the highly-segmented silicon detector array ORRUBA (Oak Ridge Rutgers University Barrel Array) to the large HPGe detector arrays currently in operation the US. The commissioning campaign in 2015 employed Gammasphere for a series of stable-beam experiments; in early 2019, the system has been deployed with GRETINA for a campaign of measurements using stable, re-accelerated and in-flight radioactive beams at ATLAS at ANL for understanding nova and r-process nucleosynthesis. For this campaign, the instrumentation for GODDESS has been upgraded, along with a set of new beam detectors. These provide event-by-event particle identification and tracking of beam-like particles, critical for both the analysis of the experiments as well as real-time diagnostics for tuning radioactive beams. In parallel to these developments, ORRUBA has recently been coupled to the S800 at the NSCL for fast beam experiments with r-process nuclei. A brief summary of the upgrades, and prospects for deployment with GRETA for experiments at FRIB will be presented.

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