

Abstract Submitted  
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**An Internal Scanning Cryostat for High Purity Germanium Detectors**<sup>1</sup> TIM MATHEW, University of Washington, LEGEND COLLABORATION — LEGEND is a next-generation search for neutrinoless double-beta decay ( $0\nu\beta\beta$ ) in  $^{76}\text{Ge}$  incorporating successful technologies from current experiments including the MAJORANA DEMONSTRATOR and GERDA. The  $^{76}\text{Ge}$  high purity germanium (HPGe) detectors use a P-type Point Contact (PPC) geometry. The passivated surfaces on these PPCs make the detectors susceptible to surface backgrounds, such as alpha and beta particles. This can contaminate the  $0\nu\beta\beta$  region of interest at 2039 keV. The Collimated Alphas, Gammas, and Electrons (CAGE) test stand is an internal-source scanning cryostat, using vacuum-side motors to control the position of various radioactive sources above an HPGe detector. CAGE is currently taking data at the University of Washington to understand and characterize detector response to surface background events. The data from CAGE will be essential in identifying characteristics of surface event pulse shapes that can be used for event rejection in both current-generation experiments and LEGEND. This poster will present the current status of the CAGE test stand, as well as preliminary data.

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