Abstract Submitted
for the APR21 Meeting of
The American Physical Society

Internal Scanner for Rapid Characterization of ^{76}Ge detectors used in LEGEND-200[1] AARON ENGELHARDT, University of North Carolina at Chapel Hill, LEGEND COLLABORATION — The LEGEND collaboration is developing an experimental search for neutrinoless double beta decay ($0\nu\beta\beta$) in the ^{76}Ge isotope with a discovery potential of a half-life beyond 10^{28} years. The first phase, Legend-200, is an experimental search using 200 kg of ^{76}Ge-enriched germanium, with data taking beginning in 2021. The search for $0\nu\beta\beta$ requires a precise understanding of the behaviour of germanium detectors, necessitating extensive detector characterization. As characterization for Legend-200 is underway, there is an effort at UNC to develop a scanner for the characterization of the α, β, and γ response on and near the passivated surface of inverted coaxial point-contact detectors (ICPC) to be deployed in the experiment. Scanning a selected sample of points in a low background environment allows for rapid characterization. An ^{241}Am source provides 5.45 MeV αs for measuring the α response on the passivated surface while a ^{137}Cs source provides 625 keV internal conversion electrons for studying the β response. The development and initial results of the internal scanner will be presented.

[1]This material is based upon work supported by the U.S. NSF, DOE-NP, NERSC and through the LANL LDRD program, the Oak Ridge Leadership Computing Facility; the Russian RFBR, the Canadian NSERC and CFI; the German BMBF, DFG and MPG; the Italian INFN; the Polish NCN and Foundation for Polish Science; and the Swiss SNF; the Sanford Underground Research Facility, and the Laboratori Nazionali del Gran Sasso

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Date submitted: 08 Jan 2021 Electronic form version 1.4