Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

Signal Readout Electronics for the LEGEND-200 Experiment[1]
MICHAEL WILLERS, Lawrence Berkeley National Laboratory, LEGEND COLLABORATION — LEGEND (Large Enriched Germanium Experiment for Neutrinoless Double-Beta Decay) is a ton-scale experimental program searching for neutrinoless double beta decay (0vbb) using high-purity germanium detectors enriched in the isotope 76Ge. On-site construction of its first 200-kg stage (LEGEND-200) will start at the Gran Sasso underground laboratory (Laboratori Nazionale del Gran Sasso, LNGS) in early 2020. To achieve the projected half-life sensitivity of $> 10^{27}$ years, ultra-clean low-noise signal readout electronics are essential. In this presentation, the current status of the signal readout electronics for LEGEND-200 as well as the characterization of prototype devices will be presented.

[1]This material is based upon work supported by the U.S. NSF, DOE-NP, NERSCC and through the LANL LDRD program, and 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.

Michael Willers
Lawrence Berkeley National Laboratory

Date submitted: 01 Jul 2019 Electronic form version 1.4