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The background model of LEGEND-200

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The LEGEND-200 experiment at Laboratori Nazionali del Gran Sasso is searching for neutrinoless double beta decay using high-purity germanium (HPGe) detectors enriched in ^{76}Ge , immersed in a liquid argon cryostat instrumented to detect scintillation light. A background model has been developed based on Monte Carlo simulations and data from the first year of science runs –including special background characterization data and results from an ongoing radioassay campaign of the experimental components. This model is informing the planning of future hardware modifications to further reduce background levels. Additionally, a quantitative model of the liquid argon instrumentation data and HPGe pulse shape discrimination is in development, which will enable background characterization after all analysis cuts.

Summary

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Session Classification: Poster session leading into social dinner buffet