

## In-situ measurement of the light attenuation in liquid argon in GERDA

The acronym GERDA emerges from Germanium Detector Array and is an experiment searching for neutrinoless double beta decay in  $^{76}\text{Ge}$ . It uses germanium detectors which are enriched in  $^{76}\text{Ge}$  and operates them naked in liquid argon (LAr), which serves both as a coolant and a shield for external radiation. For Phase II of GERDA it is planned to reach an exposure of  $100 \text{ kg} \cdot \text{yr}$  with a background index (BI) of  $10^{-3} \text{ cts}/(\text{keV} \cdot \text{kg} \cdot \text{yr})$ . One of the major improvements to further reduce the BI is to instrument the LAr to act as an additional background veto. The attenuation of the scintillation light in LAr creates a constraint on the effective active volume of the LAr veto and is therefore a key parameter to characterize the instrumentation.

In order to measure the light attenuation in LAr, a dedicated setup was designed that could be deployed directly into the GERDA cryostat. This setup consists of a movable beta source and a PMT to measure scintillation light at different distances.

The poster will present the setup, the measurement inside the GERDA cryostat and the analysis of the acquired data.

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