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Muon Veto of the LEGEND Experiment

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The **L**arge **E**nriched **G**ermanium **E**xperiment for **N**eutrinoless $\beta\beta$ **D**ecay (LEGEND) is an experimental program searching for the neutrinoless $\beta\beta$ decay of ^{76}Ge. The experiment is designed to reach half-life sensitivity of 10^{28} years. To achieve such rare event rate requires a number of measures to reduce background due to more common phenomena. A Water-Cherenkov-Veto system acts for LEGEND-200 to actively reduce background. It uses photomultiplier tubes as light sensors in a water-tank covered with a reflective foil to increase the light yield inside the water volume. In this poster we present the working principle and data analysis of the current muon veto and discuss plans for its future improvements for the next experimental phase LEGEND-1000.

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Submitted on behalf of a Collaboration?

Yes

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