Contribution ID: **797** Type: **Poster**

Determining cosmic and atmospheric background with (stopping) muons in the SoLid experiment

Friday 31 July 2020 13:33 (3 minutes)

SoLid is a short baseline anti-neutrino experiment that is positioned at the BR2 Nuclear Reactor in Mol, Belgium. The aim of the experiment is to search for short baseline neutrino oscillations and spectral anomalies by detecting electron anti-neutrinos, which are produced in the reactor core, through inverse beta decay (IBD).
One of the most important background signals in the IBD selection are particles with a cosmogenic or atmospheric origin. To reduce the effects of this background on the selection of IBD events, a dedicated study of the variation of this background was made.
This poster will show the dependence of the muon and stopping muon rate on multiple atmospheric variables. Furthermore, it will be demonstrated how this muon rate can be used as a probe for the cosmic and atmospheric background in the IBD selection.

Secondary track (number)

Author: Mr VANDIERENDONCK, Giel (Ghent University)

Presenter: Mr VANDIERENDONCK, Giel (Ghent University)

Session Classification: Neutrino Physics - Posters

Track Classification: 02. Neutrino Physics