Contribution ID: **1302** Type: **Parallel session talk**

First results from the SoLid experiment at BR2

Saturday 20 July 2024 15:00 (15 minutes)

The SoLid experiment has taken data at the 70 MW BR2 reactor (SCK·CEN, Belgium), exploring very short baseline anti-neutrino oscillations. The 1.6-tons detector uses an innovative antineutrino detection technique based on a highly segmented target volume made of PVT cubes and LiF:ZnS screens read by wavelength shifting fibers and MPPCs. The technology has a linear energy response and allows the direct measurement of the positron energy. A robust pulse shape discrimination can distinguish neutrons from positrons, gammas, proton recoil. The main challenge of the experiment has been to operate at very low overburden and with an internal BiPo contamination in the ZnS layers. 280 days of data with reactor in operation and 170 days with reactor off have been recorded. The experiment has a signal to background ratio close to 1/3 with about 120 neutrinos detected per day. An oscillation analysis has been performed and the results using frequentist and bayesian statistics will be presented.

Alternate track

I read the instructions above

Yes

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