



## Poster session 3 – Wednesday 6 July

### P3.059 Analysis of inverse beta decay signatures at the SoLid reactor neutrino experiment

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*on behalf of SoLid collaboration*

The SoLid experiment aims to make a measurement of very short baseline neutrino oscillations using reactor antineutrinos. Key to its sensitivity is the experiment's energy and high spatial resolution, combined with a very suitable reactor source and excellent background rejection. Placed on the surface at just 5m from the reactor core, the cosmic flux and reactor output lead to a challenging environment. The fine segmentation of the detector, 5cm cubes, allows the topology of events to be measured to previously unseen precision. This offers new and unexplored handles for tackling these backgrounds. Using the most recent SoLid prototype (288kg, 10% scale), we present the latest analysis results from the experiment, with emphasis on recent developments for background rejection. This includes descriptions of SoLid signals and backgrounds, and demonstration that the segmented design of the detector, when combined with sophisticated data analysis techniques, leads to gains of orders of magnitude in background rejection.