

SoLid: Latest results and futures plans

The SoLid experiment is a short-baseline (6-9 m) nuclear reactor experiment that targets to measure the antineutrino flux and search for the possible existence of one or more additional neutrino types. SoLid is searching for an oscillation pattern in the energy spectrum of the $\bar{\nu}_e$'s emitted by the SCK.CEN BR2 reactor at Mol in Belgium. This measurement will provide confirmation or exclusion of the so-called reactor anomaly. The SoLid detector is a highly segmented detector of 5 modules of 10 planes of 16×16 cubes that uses a novel technology. The cubes are a combination of PVT and $6\text{LiF}:\text{ZnS}$ scintillators, in a way that two $6\text{LiF}:\text{ZnS}$ sheet layers (of $\sim 250 \mu\text{m}$ thickness) are attached to each PVT cube (of $5 \times 5 \times 5 \text{ cm}^3$). The fine segmentation and the hybrid technology of the detector allows the clear identification of the neutrino signals and reducing backgrounds significantly. The experiment has been taking data for around one year and the analysis of the data is in progress.

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