



## Poster session 3 – Wednesday 6 July

### P3.061 The SoLid experiment

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*on behalf of SoLid collaboration*

The SoLid experiment is a short-baseline project, probing the disappearance of reactor anti-neutrinos using a novel detector design. Installed at a very short distance of  $\sim 5 - 10$  m from the BR2 research reactor at SCK-CEN in Mol (Belgium) it will be able to search for active-to-sterile neutrino oscillations, exploring most of the allowed parameter region. SoLid will make use of a highly segmented detector, built from 5 cm PVT cubes, interleaved with  ${}^6\text{LiF:ZnS(Ag)}$  screens, and read out by optical fibers and Silicon Photomultipliers (SiPMs). The detector granularity allows for the localization of the positron and neutron signals from anti-neutrino interactions and the robust neutron identification capabilities, offered by the  ${}^6\text{LiF:ZnS(Ag)}$  inorganic scintillator, provide background suppression to an unparalleled level. This poster reviews the experimental layout and current status of SoLid. Emphasis is put on the challenges one faces towards this measurement, focusing on the decisions and strategy adapted by the SoLid collaboration. The analysis scheme and the details of the oscillation framework are also presented, highlighting the sensitivity contours and physics potential of SoLid. Finally, other physics topics, such as, reactor monitoring or measurement of the  ${}^{235}\text{U}$  spectrum are also covered.