

# Prototyping the SoLAr LArTPC Technology for Detecting MeV-Scale Neutrinos

*Saturday 20 July 2024 17:15 (15 minutes)*

The SoLAr collaboration proposes to use the liquid argon time projection chamber (LArTPC) technology to detect MeV-scale neutrinos, specifically to search for solar neutrinos, at the Boulby Underground Laboratory in the United Kingdom. SoLAr's innovative approach combines the light and charge readout of LArTPCs onto a combined dual readout anode plane, allowing for better positional resolution in light detection and combined light and charge calorimetry. Two small-scale prototype detectors were built and operated at the University of Bern in 2022 and 2023. Furthermore, simulations have been developed on the performance of various tonne-scale dual readout geometries. The contribution will cover the SoLAr detector concept, preliminary simulations, and the results from the two prototype detectors using cosmic-ray muons.

## Alternate track

1. Detectors for Future Facilities, R&D, Novel Techniques

## I read the instructions above

Yes

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