



Contribution ID: 738

Type: **not specified**

NuDot, R&D testbed for future large-scale neutrino detectors

Wednesday 15 May 2024 14:45 (15 minutes)

NuDot serves as a significant testbed for liquid scintillator research and development, with a primary objective of reducing one of the major challenges encountered in large-scale liquid scintillator neutrinoless double beta decay ($0\nu\beta\beta$) investigations—the solar neutrino background. Utilizing machine learning techniques and high-speed electronics, NuDot aims to showcase its capability in acquiring directional information by isolating prompt Cherenkov radiation from the overall isotropic scintillation emission. This precision separation is facilitated by employing low time-transit-spread photomultiplier tubes with future aims to also include new system-on-a-chip technologies, RFSOCs. The discussion will delve into the NuDot initiative and utilization of machine learning for signal extraction.

Mini Symposia (Invited Talks Only)

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Session Classification: Instrumentation

Track Classification: Instrumentation