

# A $^6\text{Li}$ -doped pulse shape sensitive plastic scintillator for reactor antineutrino detection

*martedì 18 giugno 2024 17:30 (2 ore)*

Large-scale  $^6\text{Li}$ -doped pulse shape sensitive plastic scintillator is one of several technologies under development within the Mobile Antineutrino Demonstrator project. Liquid scintillator with similar capabilities was one of key aspects of the aboveground reactor antineutrino detection demonstration by the PROSPECT experiment. However, a plastic material is considered a requirement for truly mobile above-ground detection systems suited to reactor monitoring for safeguards. The new formulation of plastic scintillator is being developed in partnership with Eljen Technologies and can be obtained in multi-liter single volumes enabling the construction of segments at meter-scale lengths. We will present a summary of measured performance criteria, which include attenuation length, stability, pulse shape sensitivity, and neutron efficiency measurements.

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## Poster prize

No

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LLNL

## Second affiliation

## Collaboration (if any)

Mobile Antineutrino Demonstrator

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**Classifica Sessioni:** Poster session and reception 1

**Classificazione della track:** New technologies for neutrino physics