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Type: **Invited Talk**

Liquid detectors for neutrino detection and rare event searches

Friday 21 February 2025 09:00 (45 minutes)

Liquid detectors have been used since the 1950s for the discovery of neutrinos and today are widely used in neutrino physics, dark matter searches and astroparticle experiments. These detectors mainly use cryogenic noble liquids, water or liquid scintillators as target medium.

To address fundamental open questions in neutrino physics and rare event searches, more sensitive and larger liquid detectors are needed. A dedicated R&D program on instrumentation and technology is being developed, including pixelated TPCs, efficient VUV photon detection systems, low noise cryogenic electronics, new target materials, and large infrastructures and facilities.

In this talk the main technological advances and challenges in liquid detectors will be covered, including ongoing and planned small- and large-scale experiments exploiting liquid targets.

Primary experiment

Presenter: GIL BOTELLA, Ines (Centro de Investigaciones Energéticas Medioambientales y Tecno)

Session Classification: Plenary Neutrino/DM