Contribution ID: **852** Type: **Parallel session talk**

Latest results from the XENONnT dark matter experiment

Thursday 18 July 2024 10:45 (17 minutes)

XENONnT is the current experiment of the XENON dark matter (DM) project, currently in data acquisition at the INFN Laboratori Nazionali del Gran Sasso (Italy). The detector employs a LXe dual-phase TPC with an active target mass of 5.9 t. The TPC is surrounded by two water Cherenkov detectors, which serve as active muon and neutron veto systems.
XENONnT completed its first science run (SR0) with a collected exposure of 1.1 tonne-year. The lowest background level ever achieved with this kind of detectors, allowed for the most sensitive search for solar axions, bosonic DM and WIMP search.
With the subsequent longer science run (SR1), XENONnT improves upon those results, and enables the possibility of directly observing, for the first time, the CEνNS interaction of solar (^8B) neutrinos.
Recently, the NV performances are boosted by doping water with Gadolinium gaining more sensitivity to ultra-rare processes involving DM and neutrino physics.

Alternate track

1. Astro-particle Physics and Cosmology

I read the instructions above

Yes

Author: DI GANGI, Pietro

Presenter: DI GANGI, Pietro

Session Classification: Dark Matter

Track Classification: 09. Dark Matter Detection