Contribution ID: **6** Type: **Contributed talk**

Xenoscope: a vertical demonstrator for the XLZD observatory

Thursday, 21 May 2026 15:30 (15 minutes)

The XLZD (XENON-LZ-DARWIN) collaboration is developing the next-generation observatory for dark matter, neutrino and rare-event physics. The detector will use a dual-phase xenon time projection chamber (TPC) with 60 tonnes of active xenon in a volume of approximately 3 meters in both height and diameter.
Xenoscope, at the University of Zurich, is a vertical demonstrator built to address the technical challenges associated with the large scaling up with respect to current experiments. The facility hosts a 2.6 m tall TPC to study electron drift, diffusion, and light propagation in liquid xenon. It also serves as a test bench for hardware R&D such as characterising different coating materials or photosensor technologies.
In this talk I will present the Xenoscope facility and the results from the commissioning of the TPC and its first run, including the observation of correlated S1–S2 signals from cosmic muons.

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Session Classification: Technology and R&D

Track Classification: Dark Matter