Contribution ID: **362** Type: **Poster**

EFT Searches with the LZ Detector

Thursday 18 July 2024 20:40 (20 minutes)

The LUX-ZEPLIN (LZ) dark matter search experiment, centered on a dual-phase xenon time projection chamber operating at the Sanford Underground Research Facility in Lead, South Dakota, USA, has the world's leading sensitivity to searches for Weakly Interacting Massive Particles (WIMPs). It is comprised of a 10-tonne target mass (7-tonne active) and outfitted with photomultiplier tubes in both the central and the self-shielding regions of the liquid xenon, which is enclosed within an active gadolinium-loaded liquid scintillator veto and all submerged in an ultra-pure water tank veto system. LZ has completed its first science run, collecting data from an exposure of 60 live-days. This talk will provide an overview of LZ's search and sensitivity goals to an Effective Field Theory (EFT) framework that describes several possible dark matter interactions with nucleons. We will highlight the key backgrounds, data analysis techniques, and signal models relevant to this study.

Alternate track

I read the instructions above

Yes

Author: LIPPINCOTT, Hugh (UCSB)

Presenter: LIPPINCOTT, Hugh (UCSB)

Session Classification: Poster Session 1

Track Classification: 09. Dark Matter Detection