DESY
Particle and Astroparticle Physics Colloquium

First Dark Matter Search Results from the LUX-ZEPLIN Experiment and Future Searches.

Tuesday, 20 December, 2022
Auditorium & Webcast 16:00 h

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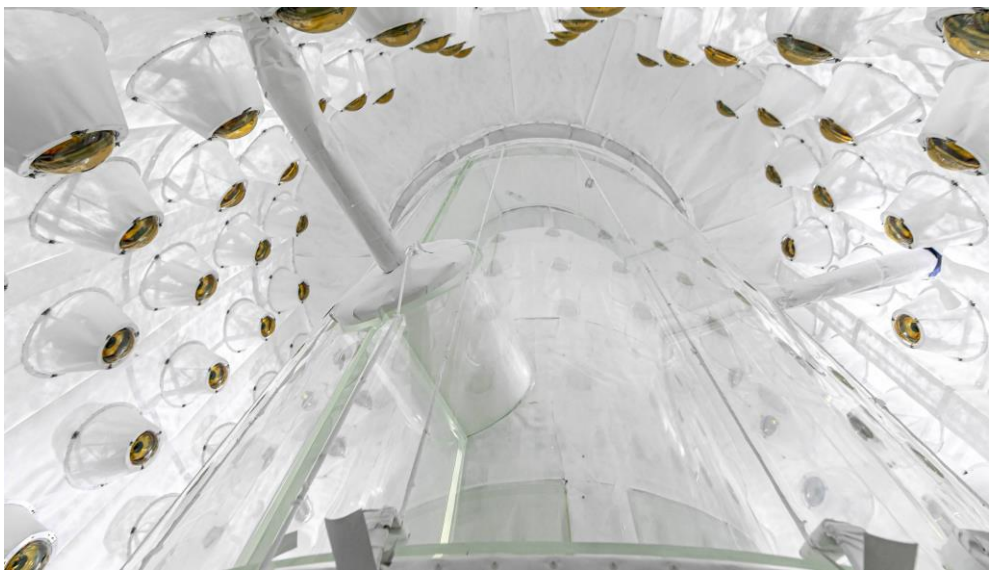
The nature of dark matter (DM) is one of the most important questions in physics. The LUX-Zeplin (LZ) experiment is the most sensitive dark matter search experiment to date, designed to explore much of the parameter space available for the weakly interacting massive particles (WIMPs). LZ is located 1.6 km underground at the Stanford Underground Research Facility. The experiment utilizes a two-phase time projection chamber, containing seven active tonnes of liquefied xenon to search for WIMPs. A liquid scintillator outer detector improves the rejection of unwanted background events. I will review the motivation for DM, the status of the LZ experiment, and present the first results. We will further discuss upcoming searches at LZ and future DM experiments.



Please note:

This is a HYBRID colloquium!

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