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First dark matter search result from the LZ experiment

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The LUX-ZEPLIN (LZ) experiment is a direct dark matter detector hosted at the Sanford Underground Research Facility in Lead, South Dakota. LZ's central detector is a dual-phase time projection chamber containing 7-tonnes of liquid xenon. This is aided by a xenon skin detector and a liquid scintillator-based outer detector to veto events inconsistent with dark matter.

Results from LZ's first search for Weakly Interacting Massive Particles (WIMPs) with an exposure of 60 live days were recently published, with the data being consistent with a background-only hypothesis. This has set new limits on the spin-independent WIMP-nucleon cross-section.

This talk will provide an overview of the experiment and report on its status, including a discussion of the first result.

Collaboration name

LUX ZEPLIN

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