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# First results from the LUX-ZEPLIN (LZ) dark matter experiment

*Monday 5 December 2022 14:00 (20 minutes)*

Dark matter is still one of the greatest mysteries of the Universe. The detection and the properties of dark matter particles, which make up about 86% of the mass of our Universe, are still elusive. LUX-ZEPLIN (LZ) is a direct detection dark matter experiment located at the 4850 ft. level of the Sanford Underground Research Facility in Lead, South Dakota, United States. The LZ experiment employs a dual-phase xenon time projection chamber (TPC), in combination with an active neutron veto, to detect Weakly Interacting Massive Particles (WIMPs), a highly motivated dark matter candidate. With an exposure of 60 live days and a fiducial mass of 5.5 t, LZ has set new limits on the spin-independent WIMP-nucleon cross-sections for WIMP masses above 9 GeV/c^2. This presentation will provide an overview of the detector design and the first dark matter search results.

**Author:** PARVEEN, Nishat (SUNY Albany)

**Presenter:** PARVEEN, Nishat (SUNY Albany)

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