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The LZ Dark Matter experiment

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The LUX-Zeplin (LZ) experiment is the most advanced next-generation direct detection experiment under construction to search for dark matter in the Universe. It contains a dual-phase liquid xenon time projection chamber with a total active mass of 7 tons. LZ is implementing various low background techniques to significantly reduce radioactive background and reach an unprecedented level of sensitivity to spin-independent WIMPs. For a WIMP mass of 40 GeV, a sensitivity of 2.3×10^{-48} cm² is expected in 1,000 days of operation. LZ will be located at the Sanford Underground Research Facility (SURF) in South Dakota, at the same location as the recently completed LUX experiment. In this presentation, an overview of the experimental techniques and science reach will be presented.

Experimental Collaboration

LZ Collaboration

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