

The LUX-ZEPLIN Dark-Matter Experiment

Saturday 7 July 2018 11:40 (20 minutes)

Cosmological and astrophysical evidence for the existence of dark matter in the universe and in the Milky Way itself is compelling, with weakly interacting massive particles (WIMPs) being a leading dark-matter candidate. The LUX-ZEPLIN experiment will search for nuclear recoils from dark matter particles incident on 5.6 tonnes of liquid xenon contained within the fiducial volume of a two-phase time projection chamber. The detector will operate at the Davis Cavern at 4850 ft depth at the Sanford Underground Research Facility in Lead, South Dakota. The baseline spin-independent cross-section sensitivity for 40 GeV WIMPs is $1.6 \times 10^{-48} \text{ cm}^2$ in 1000 days of livetime. An overview and the status of the project will be presented.

Author: Dr LEONARD, S. Douglas (CUP, IBS)

Presenter: Dr LEONARD, S. Douglas (CUP, IBS)

Session Classification: Dark Matter Detection

Track Classification: Dark Matter Detection