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Type: Talk

LUX-ZEPLIN (LZ) - 3 tonne and 20 tonne LXe dark matter direct detection experiments

lundi 26 juillet 2010 14:40 (20 minutes)

It will be possible to push dark matter direct detection sensitivity to a WIMP-nucleon cross-section 10^{-48} cm² (equivalent to 1 event/10 tonne/year) using a liquid xenon TPCs of up to 20 tonnes, surrounded by a combination of liquid scintillator and water shielding. I will report on the design studies and hardware tests, from the new LUX-ZEPLIN (LZ) collaboration, that have been conducted for 3 tonne and 20 tonne detectors. I will also discuss the potential radioactive, cosmogenic and astrophysical backgrounds for large target experiments. The detectors would be deployed in Sanford Lab-DUSEL at Homestake Mine, starting in 2012.

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Classification de Session: Parallel session : Direct Searches 1

Classification de thématique: Dark Matter Direct Searches