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The XENON Dark Matter Project: Latest Results and Future Prospects

Thursday, April 25, 2019 4:45 PM (15 minutes)

The XENON1T experiment searches for weakly interacting massive particles (WIMPs) with a dual-phase xenon time projection chamber (TPC). The latest results come from 278.8 days of collected data in an inner fiducial volume of 1.3 tonnes, corresponding to a $\sim$1 tonne-year of exposure. The main aspects of the experiment and the analysis that led to the best 90% exclusion limit on the cross-section of the spin-independent WIMP interaction above 6 GeV/c^2 will be presented, together with the effort to explore other detection channels. To probe a lower interaction cross-section, the upgraded experiment, XENONnT, is currently being commissioned. The new systems that will allow the XENONnT detector to be the next step in the search for dark matter will also be shown.

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