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【374】 Dark matter search with the XENON1T experiment

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Despite the overwhelming evidence for dark matter from astronomical and cosmological indications at various scales, a clear evidence of a particle which can explain these observations remains absent. XENON1T is a liquid xenon detector capable of exploring a large fraction of the available parameter space for weakly interacting massive particles (WIMPs). The experiment aims to detect WIMP-nucleon interactions using a dual phase time-projection-chamber (TPC) with a total target mass of about 2 tons. The sensitivity to spin-independent WIMP-nucleon cross sections is expected to reach 10^{-47} cm^2 at a WIMP mass of 50 GeV after two ton-years of exposure. In this talk, current status of the experiment will be presented.

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