APR15-2015-000920

Abstract for an Invited Paper
for the APR15 Meeting of
the American Physical Society

XENON1T - Direct Dark Matter Search on the Verge of a New Detector Generation[1]

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The XENON dark matter project aims at finding direct evidence for the scattering of weakly interacting massive dark matter particles (WIMPs) with target nuclei in an ultra-low background liquid xenon detector. After the successful operation of the XENON100 instrument – for many years the world's most sensitive deep underground WIMP detector – the next generation detector XENON1T is presently being built at the Italian Gran Sasso underground facility. The commissioning and first data taking of the experiment are expected to start in 2015. The talk will focus on the special challenges related to a ton-scale liquid xenon detector, provide a comprehensive overview of the ongoing construction phase, and discuss the prospects and projected physics reach of the experiment.

[1]We gratefully acknowledge the continuing support of the XENON dark matter project by the National Science Foundation.