

Direct Dark Matter Detection with the XENON1T Experiment

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Dual-phase time-projection chambers based on noble gases are a very efficient particle detection technology which leads the field of dark matter searches. The XENON collaboration aims at a direct detection of dark matter with experiments based on liquid xenon.

The current step of the research program, the XENON1T experiment, is fully operational since May 2016 and is currently acquiring data. It features 2t of liquid xenon in the target, the ~ 10 m water tank for background reduction via Cherenkov muon veto, and an innovative system for gas storage, liquefaction and purification. In this talk I will discuss the technological aspects of the XENON1T detector, summarise the status and detector performance, and present the results from the first science run.

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Abstract Title

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