



Contribution ID: 136

Type: **not specified**

## Direct Dark Matter Detection with XENON1T

*Wednesday, 13 July 2016 08:30 (20 minutes)*

Observations at cosmological and astronomical scales indicate that the majority of matter in our Universe is in the form of non-relativistic and long-lived dark matter. Its observed relic abundance is consistent with the existence of a neutral, massive particle with little or no self-interaction. A dark matter candidate favoured by extensions of the Standard Model is a Weakly Interacting Massive Particle (WIMP) whose interaction with normal matter can be probed directly via elastic scattering off target nuclei, thus motivating searches through direct detection. XENON1T, a dual-phase time projection chamber using a 1-ton liquid xenon fiducial volume, was recently constructed in the Laboratori Nazionali del Gran Sasso. It aims to observe primarily low-energy nuclear recoils of WIMPs with unprecedented sensitivity. This presentation gives a status of the XENON1T experiment and describes the XENON1T detector, an initial characterization of the detector, and the predicted sensitivity based on Monte Carlo simulations.

### Summary

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**Session Classification:** Parallel III

**Track Classification:** Dark Matter, Dark Energy, Astroparticle