



Contribution ID: **194**

Type: **Talk**

Luca Grandi (U. Chicago): XENONnT on the horizon

Friday 23 February 2018 18:00 (15 minutes)

The XENON1T experiment is a search for dark matter, operating at Laboratori Nazionali del Gran Sasso since about one year and sensitive to possible rare interactions of dark matter particles with ordinary matter. The XENON1T experimental setup and infrastructure were designed to allow for a fast upgrade of its central detector, a two-phase xenon Time Projection Chamber (TPC). The XENONnT project, the next phase of the program, will feature a new TPC with an active target of ~6 tonnes of xenon (4 tonne fiducial) and will implement a series of technological solutions aiming to further suppress the dominant background sources and boost the physics reach of the experiment. With all major infrastructures already commissioned and operated for its predecessor, XENONnT is expected to start the first physics run in the first half of 2019. I will guide you through the status of the proposed upgrade.

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Session Classification: Session 17