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## **Present and Future of Dark Matter direct detection with XENONnT**

*Wednesday, 7 July 2021 09:30 (25 minutes)*

The dual phase Time Projection Chamber detectors exploiting Xenon element is the leading technology in the field of direct Dark Matter searches, as testified by the most stringent upper Limit on WIMP-nucleon cross section set by the XENON1T experiment. The XENONnT experiment, currently, under commissioning at the Gran Sasso underground laboratories, is ready to start its physics program. It will exploit 5.9 tonnes of instrumented liquid xenon and most of the infrastructure already developed for its predecessor. The ultra-low background level reached in XENON1T, will be further reduced in the XENONnT by an improved capability of alpha and beta background-events reduction. Furthermore a new neutron veto system will enable identification of otherwise irreducible neutron backgrounds. This talk is devoted to report the most recent results from XENON1T and the current status of XENONnT commissioning and sensitivity studies on the expected performances of this detector.

**Primary author:** BIONDI, Riccardo (INFN - LNGS)

**Presenter:** BIONDI, Riccardo (INFN - LNGS)

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