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## The XENON Dark Matter Project at Gran Sasso National Laboratory

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The XENON project aims at directly detecting dark matter particles through their interaction in a liquid xenon target. The XENON1T detector, a dual phase Time Projection Chamber with 2 t active mass, has operated at Gran Sasso National Laboratory (Italy) from 2016 to 2018. It collected 1 tonne-year exposure with the lowest electronic recoil background ever achieved by a dark matter detector. The analysis of these data allowed to set the most stringent limit to date on spin-independent WIMP-nucleon cross section for masses greater than 6 GeV. Many other analysis on the same dataset are ongoing, including the search for spin-dependent WIMP-nucleon interactions, WIMP-pion coupling, axion-like particles, super WIMPs and dark photons, WIMP search with Migdal effect, S2-only analysis. A <sup>37</sup>Ar calibration campaign was performed at the end of XENON1T scientific runs, to measure the response of the detector to these monochromatic low energy electronic recoils. The upgrade of XENON1T is ongoing to get to the new generation detector, XENONnT. It will have an active mass (about 4 times larger fiducial volume) and factor 10 background reduction with respect to its forerunner, XENONnT is expected to reach a sensitivity to spin-independent WIMP-nucleon cross section which is about one order of magnitude better than the current best limit with a 20 tonne-year exposure.

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