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## Results of the WIMP search with XENON1T

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Astronomical and cosmological observations indicate that a large amount of the energy content of the Universe is made of dark matter. The most promising dark matter candidates are the so-called WIMPs (Weakly Interacting Massive Particles).

The XENON project, at the Gran Sasso National Laboratory (LNGS), consists of a double-phase time projection chamber (TPCs) using ultra-pure liquid Xenon as both target and detection medium for dark matter particle interactions. The WIMPs can be indeed detected via their elastic scattering off Xenon nuclei.

The XENON Collaboration is now running the XENON1T experiment, the first ton scale liquid Xenon based TPC, with an active mass inside the TPC of about 2 ton. The first results were obtained in a run of 34.2 days acquired between November 2016 and January 2017. The detector achieved the lowest electronic recoil background in a dark matter experiment. Those data allowed to set the most stringent exclusion limits on the spin-independent WIMP-nucleon interaction cross section for WIMP masses above  $10 \text{ GeV}/c^2$ , with a minimum of  $7.7 \times 10^{-47} \text{ cm}^2$  for  $35\text{-GeV}/c^2$  WIMPs at 90% confidence level. After the first run XENON1T continued the data taking with a scientific run ended in February 2018, for a live time of about 250 days of dark matter search. In this contribution we will present the results of the WIMP search with the XENON1T experiment.

### Selected session

Astroparticle Physics

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