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Searching for Dark Matter and Rare Events with XENONnT

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The XENONnT experiment is a dual-phase xenon time projection chamber (TPC) designed for the direct detection of dark matter. It has been operating at the INFN Laboratori Nazionali del Gran Sasso (Italy) since 2020, with a total xenon mass of 8.6 tonnes. During the first two science runs, XENONnT collected data with a total exposure of about 3.5 tonne-years. Thanks to its extremely low background and low-energy threshold, the experiment is sensitive to potential dark matter candidates as well as other rare interactions. A significant achievement demonstrating the detector's capabilities is the first measurement of nuclear recoils from solar ^8B neutrinos via coherent elastic neutrino-nucleus scattering (CEvNS). In this talk, the current status and latest results from XENONnT will be presented.

Collaboration(s)

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