

XeSAT2024 - International Workshop on Application of Noble Gas Xenon to Science and Technology

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XENONnT Data Analysis

Saturday, 25 May 2024 10:30 (30 minutes)

The XENONnT experiment is a multi-ton-scale liquid-xenon detector operated by the XENON Collaboration in search of dark matter and other beyond the standard model phenomena. The dual-phase time projection chamber (TPC) design enables simultaneous measurement of scintillation and ionization signals produced by interactions within the target volume, which can be utilized to reconstruct the energy, position, and type of the interaction for each event. Then by performing event selection, detector response characterization via calibration, and determination of signal and background model, the XENONnT experiment has set world-leading limits on models on WIMP nucleon interaction, solar axions, enhanced neutrino magnetic moment, and bosonic dark matter. This talk will cover the analysis work that goes into arriving at these limits.

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Session Classification: Dark Matter Direct Detection