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# Search for Light Dark Matter with XENONnT

*Wednesday 27 August 2025 16:00 (20 minutes)*

The primary goal of the XENONnT experiment is the direct detection of Weakly Interacting Massive Particles (WIMPs), with a projected sensitivity improvement of an order of magnitude over XENON1T. In this talk, I will present recent results from the search for light dark matter using both scintillation-ionization and ionization-only channels with lowered detection threshold. These complementary analyses set world-leading constraints on dark matter–nucleon and dark matter–electron scattering cross sections. In the relevant mass range, the sensitivity reaches the so-called "neutrino fog"—a regime where coherent neutrino scattering produces irreducible backgrounds that mimic the signal of light dark matter interactions with xenon nuclei.

## Collaboration you are representing

XENON

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