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Kr85 Background Estimation for Solar pp Neutrino Measurement in XENONnT

Wednesday 27 August 2025 18:00 (2 hours)

XENONnT is a direct dark matter search experiment using 8.6 tonnes of Xe. Our observable energy threshold is few keV level, which enables us to search for physics in the low-energy electronic recoils, such as the search for events induced by solar pp neutrinos.
Kr85 is one of the background sources in such low-energy region. To achieve a high significance observation of rare physics events, a precise estimation of Kr85 abundance is required. This poster presents the method and results of the Kr85 background evaluation, and its impact on the sensitivity to solar pp neutrino measurement.

Collaboration you are representing

XENON

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