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Measurement of Solar Boron-8 Neutrinos via Coherent Elastic Neutrino-Nucleus Scattering with XENONnT

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The XENONnT experiment at the INFN Laboratori Nazionali del Gran Sasso aims to detect dark matter candidates—Weakly Interacting Massive Particles (WIMPs)—by observing their interactions with xenon nuclei. An especially intriguing aspect of this search is the potential observation of coherent elastic neutrino-nucleus scattering (CEvNS) from Boron-8 solar neutrinos, which can mimic WIMP signals. In this talk, I will present a search for solar neutrinos via CEvNS using recent XENONnT data, highlighting the detector performance, signal and background modeling, and the statistical methods employed.

Collaboration you are representing

XENONnT

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