

nEXO: a tonne-scale next-generation double-beta decay experiment

Monday, 24 July 2017 17:00 (15 minutes)

The nEXO Collaboration is designing a 5-tonne detector with initial neutrinoless double-beta decay sensitivity close to 10^{28} years. The nEXO detector will be a homogeneous liquid xenon-136 time projection chamber inspired by the very successful EXO-200 detector. Energy resolution, event topology and event localization in the large homogeneous detector will work in concert to measure and eliminate backgrounds. In this talk we will describe the detector design choices and show the sensitivity that the detector can reach, using only materials whose radiopurity has been already demonstrated.

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