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Towards neutrinoless double beta decay in NEXT

Friday, August 5, 2022 2:20 PM (30 minutes)

NEXT (Neutrino Experiment with a Xenon TPC) is an international collaboration with the objective of searching for neutrinoless double beta decay in xenon. After an initial R&D phase in which the TPC technology was developed, it was able to successfully run a small (5 kg of xenon) detector, NEXT-White (2016-2021). The detector was hosted at Laboratorio Subterráneo de Canfranc, an underground facility in the Spanish Pyrenees in the border between Spain and France. During this period it demonstrated the essential features of a neutrinoless double beta experiment, to be discussed in this talk: excellent energy resolution, active background discrimination through the combination of both energy and tracking capabilities, and a reliable measurement of the double beta two neutrino mode half-life of Xe-136.

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The current phase consists of the construction (ongoing) and operation of a larger (100 kg of xenon) detec
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Attendance type

In-person presentation

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