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The importance of LAr TPC in neutrino experiments.

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Presently, neutrinos are one of the most mysterious and interesting particles in physics, they seem to be the ones that can explain different processes of high energy physics, antimatter, conservation of energy and momentum in radioactive decay, and contribute with important data for cosmology and astrophysics. To better understand their different properties such as mass, parity, oscillations, among others, there are several experiments such as ICARUS, MicroBoone, CAPTAIN-MINERVA, NEXT, T2K and currently under construction the Deep Underground Neutrino Experiment (DUNE). The liquid Argon Time Projection Chamber (LAr TPC) is common in these experiments, particularly important for DUNE. A LAr TPC allows to obtain an exact three-dimensional reconstruction of neutrino interactions, provides precise time of each event, has a large sensitive area, a high operational stability, and good light detection systems, among other important performance qualities that make it almost indispensable for neutrino detection. The importance and functioning of LAr TPC in neutrino experiments are summarized in this poster in particular its application in DUNE.

KEYWORDS: liquid argon Time projection chambers (LArTPC), neutrino experiments

Primary author: DELGADO, Maritza

Co-author: GUTIÉRREZ, Rafael M.

Presenters: GUTIÉRREZ, Rafael M.; DELGADO, Maritza

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