Contribution ID: **17** Type: **Regular Talk (15'+5')**

DUNE and the Liquid Argon Software (LArSoft) an overview

Tuesday 29 November 2022 11:00 (20 minutes)

The deep underground neutrino experiment (DUNE) is a neutrino observatory and nucleon decay detector under construction, designed to give answers to modern physics problems like: the neutrino hierarchy and matter-antimatter asymmetry. To do that, in DUNE will be possible to perform precise measurements of neutrino oscillation parameters, in addition DUNE will be able to detect and measure electron neutrino fluxes from a core-collapse supernova within our galaxy and proton decay. In this talk a brief description of the experiment will be presented then a review of the Liquid Argon Software (LArSoft) is given, this framework is an important tool in the simulation and reconstruction of different phenomena across liquid argon time projection chambers. The basic steps for the reconstruction and simulation of events using LarSoft are shown and their main functionalities. Finally, the broad context of application of LarSoft in the DUNE experiment is addressed and some simulation examples will be discussed.

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Session Classification: Neutrino experiments

Track Classification: Neutrinos - Experiments