ID contributo: **86**   Tipo: **Poster**

Angle and energy reconstruction of atmospheric neutrinos in DUNE experiment

venerdì 21 giugno 2024 17:30 (2 ore)

The Deep Underground Neutrino Experiment (DUNE) is a long baseline neutrino experiment for neutrino science and Beyond the Standard Model physics. The experiment will use in the first phase two far detector (FD) modules, 1300 km away from the beamline, installed 1.5 km deep underground. The FD modules will consist of Liquid Argon Time Projection Chambers (LArTPCs) with 17 kt of liquid argon each. Studying atmospheric neutrinos with LArTPCs offers a unique opportunity to probe the neutrino properties with exceptional precision over a wide energy range. In this work, I will present the energy and angle reconstruction algorithms developed for reconstructing atmospheric neutrino interactions. I will present the algorithmic performance evaluation of different reconstruction methods, using simulation data for a small-scale FD detector. Possible ways to improve the present algorithms to enhance DUNE's sensitivity will also be presented.

Poster prize

Yes

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Classifica Sessioni: Poster session and reception 2

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