

DUNE perspectives for atmospheric neutrino detection and studies

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(REMOTE)

The Deep Underground Neutrino Experiment (DUNE) is a flagship neutrino oscillation experiment to be built in the US and operated by a large international collaboration. The DUNE setup is primarily designed as a long-baseline accelerator neutrino experiment to make precise measurements of neutrino oscillations. The DUNE Far Detector (FD) will be constructed as four separate Liquid Argon Time Projection Chamber (LArTPC), with a total LAr mass of 70 kt. It will be placed underground with a rock cover of 1500 m at the Sanford Underground Research Facility, South Dakota, greatly lowering muon background. The LArTPC modules will allow for very high spatial resolution for particle tracking in neutrino interactions, promising excellent neutrino energy and direction reconstruction. These characteristics will enable the DUNE FD to function as an excellent atmospheric neutrino detector. In this contribution, we present some important features and the physics potential of atmospheric neutrino measurements in the DUNE FD.

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