

Muon Radiography with the NOvA Near Detector

Thursday, 30 July 2020 13:30 (3 minutes)

Cosmic muon data accumulated by the NOvA neutrino detector, located 100m underground at Fermilab, allows for study of geological and man-made structures directly contributing to the overburden of the detector. We present results of a muon radiographic analysis of the cosmic ray data, obtained without subtracting the surface muon flux (free sky data). Instead, we use the internal geometrical symmetries of the NOvA fiducial volume to cancel out acceptance effects, thus obtaining differential 2-dimensional radiographic maps of overburden variations.

Secondary track (number)

17

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Session Classification: Operation, Performance and Upgrade of Present Detectors - Posters

Track Classification: 12. Operation, Performance and Upgrade of Present Detectors