

MINERvA-MINOS Muon Energy Scale

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The Main INjector ExpeRiment v-A is neutrino-nucleus scattering experiment that uses the NuMI beamline located at Fermilab with the purpose of study different neutrino interactions with nuclear targets as C, Pb and Fe; and determine the corresponding cross sections of these interactions. Charge-current inclusive is one of the principal neutrino interaction channels and, due to in this channel a muon is produced when the neutrino interacts with the target, MINERvA uses the information of those muons that are contained in the MINOS detector. However, there's an important systematical uncertainty in the reconstruction of this muon energy because of the curvature due to the magnetic field produced by the coil at the center of MINOS. That's why the MINERvA-MINOS muon energy scale is a very important study that helps us to find that systematical uncertainty.

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