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## Direct measurement of the NuMI Flux with Neutrino-Electron Scattering in MINERvA

An accurate neutrino flux prediction is important for neutrino oscillation experiments as well as a normalization for absolute cross-section measurements in MINERvA. A measurement of neutrino-electron scattering provides a constraint on the overall flux normalization and it compliments a flux prediction using external hadron production data. Identification of neutrino-electron scattering relies on the excellent angular resolution in

MINERvA's fine-grained tracker. In addition,  $dE/dx$  at the beginning of electromagnetic showers is used to reject photon background. With the increased statistics this method of direct flux measurement will be more important in the higher energy neutrino beam configuration.

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