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Status of the OPERA experiment

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The OPERA experiment aims to observe tau neutrinos in the CNGS mu-neutrino beam using emulsion films packed into bricks based on the Emulsion Cloud Chambers (ECC) technology.
ECC provides a spatial resolution of tracks and vertices on the level of a micrometer which is sufficient to unambiguously identify tau leptons produced in the primary vertex. An important background to a search for tau lepton is due to charmed particles. A precision measurement of charmed particles in the OPERA experiment is an important step in the verification of the ability of the OPERA experiment to identify tau lepton. Also it provides a better understanding of charm production in the neutrino interactions in few the GeV neutrino energy region. We review the current status of the OPERA experiment, focusing on its potential to improve our knowledge on neutrino nucleon interactions in few GeV region.

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