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OPERA analysis procedures

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The OPERA neutrino detector is an hybrid detector. It consists of a target of bricks made of lead plates interleaved with nuclear emulsion films with micron resolution and electronic detectors (ED) to select the brick containing a neutrino interaction, to time stamp an event, and to measure the momentum and the charge in a magnetic spectrometer for particles leaving the target. The main steps of the ED data analysis will be presented, including the brick finding procedure and the muon track reconstruction from muon neutrino charged current interactions, with the reconstructed muon momentum spectrum. The scanning analysis procedures of the emulsion films for reconstructing the tracks and the vertices in a brick and to search for tau decays will be briefly described. First results for charmed particle decays will be presented, showing the efficient reconstruction of short lived particles and allowing the estimation of an important source of background.

Primary author: Ms LAZZARO, Claudia (ETH Zurich)

Presenter: Ms LAZZARO, Claudia (ETH Zurich)

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