The OPERA experiment: on the way to the direct observation of nu_mu -> nu_tau oscillation

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The OPERA experiment has been designed to prove the existence of nu_mu -> nu_tau oscillations in the atmospheric sector by the direct observation of nu_tau appearance in the CNGS nu_mu beam, produced at CERN.

The detector, installed at Laboratori Nazionali del Gran Sasso (Italy), 730 km away from the neutrino source, consists of a modular target made of lead - nuclear emulsion bricks complemented by electronic trackers and muon spectrometers.

After the short physics run in October 2007, the experiment started full data-taking with 1.25 kt mass in 2008, when about 1700 interactions were collected.

The current status and the first results from the analysis of 2008 data will be presented.

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