

The OPERA Experiment: Latest Results

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The long-baseline neutrino oscillation experiment OPERA has been designed for the direct observation of tau neutrino appearance in the CNGS muon neutrino beam.

The OPERA detector is located at the LNGS underground laboratory, with a distance of 730 km from the neutrino source at CERN. It is built of about 150000 emulsion cloud chamber modules (ECC 'bricks'), providing the micrometric resolution required for the detection of the short-lived tau leptons created in tau neutrino CC interactions. Electronic detector (ED) elements allow for online readout, interaction location, and the measurement of particle charge and momentum.

CNGS beam data taking lasted from 2008 to 2012, amounting to a total of 1.8×10^{20} p.o.t.

The neutrino oscillation analysis is ongoing, and updated results with increased statistics will be presented, including the recent 4th tau neutrino candidate event.

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