

## More results from the OPERA experiment

*Tuesday, 25 July 2017 17:30 (15 minutes)*

The OPERA experiment reached its main goal by proving the appearance of tau-neutrinos in the CNGS muon neutrino beam. A total sample of 5 candidates fulfilling the analysis defined in the proposal was detected with a S/B ratio of about ten allowing to reject the null hypothesis at 5.1 sigma. The search has been extended to nu\_tau-like interactions failing the kinematical analysis defined in the experiment proposal to obtain a statistically enhanced, lower purity, signal sample. One such interesting neutrino interaction with a double vertex topology will be reported with a high probability of being a nu\_tau interaction with charm production. Based on the enlarged data sample the estimation of  $\Delta m^2_{23}$  in appearance mode is presented. The search for nu\_e interactions has been extended over the full data set with a more than twofold increase in statistics with respect to published data. The analysis of the nu\_mu->nu\_e channel is updated and the implications of the electron neutrino sample in the framework of the 3+1 sterile model is discussed. An analysis of nu\_mu -> nu\_tau interactions in the framework of the sterile neutrino model has also been performed.

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**Session Classification:** Neutrino Parallel

**Track Classification:** Neutrinos