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## Results from the OPERA experiment at the CNGS beam

*Friday 7 August 2015 14:00 (18 minutes)*

The OPERA experiment at the Gran Sasso underground laboratory has been designed to study the  $\nu_\mu \rightarrow \nu_\tau$  oscillation in appearance mode in the CNGS neutrino beam. Four  $\nu_\tau$  candidate events have been confirmed so far, using a sub-sample of data from the 2008-2012 runs. Given the number of analysed events and the low background,  $\nu_\mu \rightarrow \nu_\tau$  oscillations have been established with a significance of 4.2 sigma. In the talk we will present results based on an increased sample of scanned emulsion target units (bricks). The  $\nu_\tau$  data analysis will be updated and discussed, with emphasis on the background constraints obtained by using dedicated data-driven control samples. The analysis of the present tau neutrino and electron neutrino samples in the framework of the 3+1 sterile model will be presented.

### Oral or Poster Presentation

Oral

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