

XVI Neutrino Telescopes Workshop
Palazzo Franchetti - Venice, 2-6 March 2015

Poster Session – Submission of Abstract

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Title of the Poster: Energy Measurement of Electromagnetic Showers for the detection of the $\tau \rightarrow e$ Channel in the OPERA Search for Neutrino Oscillations.

Abstract Text: (no longer than 800 characters)

The OPERA (Oscillation Project with Emulsion tRacking Apparatus) experiment is a long baseline neutrino oscillation experiment that was designed to perform a conclusive test of the $\nu_\mu \rightarrow \nu_\tau$ oscillations hypothesis. The main aim of this experiment is a direct observation of τ leptons in ν_τ charged-current interactions. A good electromagnetic shower reconstruction is important for the τ detection in the $\tau \rightarrow e$ decay channel. Reconstruction of electromagnetic showers is one of the fundamental tools needed by neutrino experiments and the estimation of their energy is a crucial issue. This is true for the OPERA experiment where an algorithm has been well developed and tested, in order to evaluate the energy of electron through the identification of its shower for the $\tau \rightarrow e$ decay channel by using the OPERA bricks.

Summary: (no longer than 400 characters. Insert a tag, key word, topic, etc.)

OPERA is a long baseline neutrino oscillation experiment and its main aim is to search for ν_τ appearance in the CNGS beam of ν_μ . To detect the τ particles in the $\tau \rightarrow e$ decay channel, it is important to perform a good electromagnetic shower reconstruction. A tool has been developed for measuring the energy of electromagnetic showers, using the ECC OPERA target bricks.

Key words: neutrino oscillations, τ particles, $\tau \rightarrow e$ decay channel and electromagnetic energy estimation.

Kindly follow the instructions above and send the abstract in a .pdf file to the local organizing committee e-mail address by January 30th. Response will be sent to the submitter's e-mail address indicated above, by February 10th. Posters will be exhibited all week long at the workshop site. Discussion will take place on Thursday 5th, during the Poster Party. At least one author must be available for "question-answer" time. Best 3 posters will be awarded on Friday 6th, during the closing plenary session of the workshop.