Search for CP violation in the T2K long baseline accelerator neutrino experiment

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Title: Search for CP violation in the T2K long baseline accelerator neutrino experiment

Advisor: Boris Popov

Team: Asymétrie Matière-Antimatière ; group T2K

Description:

The LPNHE neutrino group participates in the T2K long baseline accelerator neutrino experiment in Japan. Having obtained first indications of possible maximal CP violation with the current T2K data, the collaboration will continue the data-taking with both neutrino and antineutrino beams along with an upgrade of the near detector in order to improve the experiment sensitivity.

The PhD thesis work will focus on the oscillation analysis with a special emphasis on a joint analysis with atmospheric neutrino measurements in SuperKamiokande. The second part of the PhD project will be devoted to the reduction of systematic uncertainties, in particular due to an improved acceptance of the near detector to become operational in 2021. This part includes also a participation in the construction, calibration and commissioning of the new TPCs at CERN and analysis of first data after their installation in Japan.

Contact: Boris Popov, 33 (0)1 44 27 61 45

Location: LPNHE (Jussieu)

Possible trips: Tokai (Japon) et CERN, Genève