

Neutrino group wish-list

1) CR CNRS position

Justification: Following the recommendations of the LPNHE and IN2P3 Scientific Councils the LPNHE-Neutrino group is currently fully involved in the Japanese neutrino program. This program consists in continuation of the **T2K** experiment (T2K-II project), where we have leading roles in the near detector **ND280 Upgrade**, and in preparation of the **Hyper-Kamiokande** (HK) project, the experiment of the next-generation under construction in Japan.

The group got already involved in the HK experiment with an important technical contribution (clock distribution and time synchronization system).

The new CNRS CR researcher will explore first new data from the upgraded ND280 at J-PARC and will lead the analyses of the T2K-II data, with the goal of reducing the systematic uncertainties in on-going and future long-baseline experiments, also contributing to the joint analyses of T2K with Super-Kamiokande and NOvA measurements.

In addition, the full participation in the HK project will require to enlarge the group experience to the study of solar, atmospheric and supernovae neutrinos. The new group member will play a leading role also in this longer-term activity.

2) Budget request for T2K-upgrade in 2024

We would need about **30 kEuros** for maintenance of the upgraded ND280. About **70 kEuros** would be required for scientific trips to participate in the data-taking at J-PARC.

3) Budget request for Hyper-Kamiokande in 2024

For the start of production of 2nd stage distribution boards we would need about **250 kEuros**. About **50 kEuros** would be required for scientific trips to participate in the HK collaboration meetings and activities on-site.

We will also ask for a **CNRS PhD grant** for T2K-II/HK starting from September, 2024.