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## CP violation and precise PMNS parameter measurements using Long Baseline and Atmospheric neutrino in T2K, Super- and Hyper-Kamiokande

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The oscillations of neutrinos was discovered only 2 decades ago, when the Super-Kamiokande collaboration observed the disappearance of atmospheric neutrinos. In less than two decades, the physics of neutrino oscillations has been the fertile field for tremendous progresses. In 2012 and 2013 respectively, Daya Bay, Reno and T2K (Toka-To-Kamioka) completed the first puzzle of neutrino oscillations by measuring the last mixing angle of the PMNS matrix,  $\theta_{13}$ . Far from closing an era, these experiments opened a more promising one. Their measurements of a non-zero  $\theta_{13}$  allowed the CP symmetry to be violated in the lepton sector and with it, opened the possibility to explain the asymmetry between matter and antimatter that is currently observed in our universe.

Since 2013, T2K and Super-Kamiokande has been the pioneer experiment that tackled this fundamental question, as well as perform the precise measurement of the PMNS matrix parameters. In the first part of this talk, we will present the contributions of these two experiments to these fantastic quests using the long-baseline (accelerator) and atmospheric neutrinos. We will then present the coming successor of these experiments, Hyper-Kamiokande, which aims to take its very first data in 2027. We will present the Hyper-Kamiokande physics potential, which will allow us to completely enter the neutrino precision physics era and hopefully, observe CP violation in the lepton sector for the very first time.

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