Wednesday 6 July, 09:45 – 10:10

Session 9: Determination of the mass ordering and search for CP-invariance violation

The Hyper-Kamiokande experiment

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Hyper-Kamiokande is a next generation underground water Cherenkov detector that is based on the highly successful Super-Kamiokande experiment in Japan. It will serve as a far detector, 295 km away, of a long baseline neutrino experiment for the upgraded J-PARC beam. It will also be a detector capable of observing - far beyond the sensitivity of the Super-Kamiokande detector - proton decay, atmospheric neutrinos, and neutrinos from astronomical sources.

The detector is about one order of magnitude larger than Super-Kamiokande, with the same photocoverage, but largely improved photodetectors. In this talk, we will present a full overview of the cavern and detector design R&D. This is also supported by a description of the upgraded beam and near detector suite. Based on the design of the experiment the expected sensitivity for both beam and atmospheric neutrinos, proton decays, solar and astrophysical neutrinos, non standard physics, etc. is shown.