

SuperKamiokande

Friday 10 May 2024 15:30 (30 minutes)

Title: The Super-Kamiokande and the Hyper-Kamiokande Experiment

The discovery of neutrino oscillation in atmospheric neutrinos by the Super-Kamiokande (Super-K) and solar neutrinos by the Sudbury Neutrino Observatory (SNO) led to the 2015 Nobel Prize in Physics. Super-K has been a long-running neutrino experiment using Water Cherenkov Detector for more than 20 years using ultra-pure water as its neutrino target. Recently it has been upgraded to Super-K-Gd. The new generation of water Cherenkov detectors is also on its way. The Hyper-K detector, which is similar to the Super-K but larger in dimensions and a more improved version, is being built to make precision measurements of neutrino oscillation, and to search for a potentially large CP-violation of neutrinos. This talk will present a brief physics overview of the neutrino oscillation, the Super-Kamiokande Experiment, and the progress towards building the new Hyper-Kamiokande Experiment in Japan, the construction of which is currently in full-swing, and aims to start taking data from 2027, thus boosting the physics searches with neutrinos.

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