

Future neutrino physics with Hyper-Kamiokande

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Hyper-Kamiokande, the next-generation neutrino observatory in Japan, evolves from its predecessors, Kamiokande and Super-Kamiokande, with a significant upgrade to a 260-kton water Cherenkov detector equipped with 20,000 PMTs. Hyper-Kamiokande will host an extremely rich and broad physics program, covering areas from neutrino astrophysics to nucleon decay searches and precision neutrino oscillation measurements. Positioned as the far detector for the JPARC neutrino beam, with a baseline of 295 km, and utilizing near detectors such as the upgraded ND280 detector and INGRID currently used by the T2K experiment, Hyper-Kamiokande will have excellent sensitivity to CP violation signatures in neutrino oscillations. Set to be completed in 2027, this presentation will summarize Hyper-Kamiokande's status and physics program, with an emphasis on its CP violation searches.

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