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## The Hyper-K Experiment: present and R&D for the next decade

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Hyper-Kamiokande (Hyper-K), a proposed one-megaton water Cherenkov detector, is the logical continuation of the highly successful program of neutrino (astro)physics and proton decay using the water Cherenkov technique.

In its baseline design, the Hyper-K detector consists of two cylindrical tanks lying side-by-side, the outer dimensions of each tank being 48m x 54m x 250m. The inner detector region will be instrumented with 99,000 20-inch photo-sensors.

Hyper-K will offer a broad program of physics and astrophysics including precise measurements of the lepton mixing matrix and leptonic CP asymmetry with accelerator and atmospheric neutrinos and searches for nucleon decay.

An international collaboration has been intensively working on the R&D of key components such as optimization of cavern and tank construction, development of high performance photosensor, calibration, readout and trigger systems, J-PARC neutrino beam improvement, and development of simulation and reconstruction software.

In addition new near detectors are being designed that employ novel techniques to maximise the Hyper-K beam physics potential.

An overview of the R&D for Hyper-K and its near detectors will be presented.

### Collaboration

Hyper-Kamiokande proto-Collaboration

### Summary

An overview of R&D and the status of the next generation neutrino observatory in Japan (HYPER-K) will be presented.

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