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Séminaire SPP

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Recent results from Super-Kamiokande and future prospects of Hyper-Kamiokande

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Over nearly twenty years, the Super-Kamiokande (Super-K) detector, a 50 kiloton water Cherenkov detector in Japan, has provided world-leading physics results, such as the discovery of neutrino oscillation with atmospheric neutrino, observation of solar neutrino oscillation, observation of electron neutrino appearance from muon neutrino beam produced at J-PARC accelerator, and proton lifetime limit of $>10^{34}$ years. Based on the success of Super-K, we are proposing its successor, Hyper-Kamiokande (Hyper-K), which will be one megaton water Cherenkov detector. The main goals of Hyper-K include the search for CP violation in the lepton sector and observation of proton decays with one order of magnitude better sensitivity than Super-K. In January 2015, an international proto-collaboration was formed and KEK-IPNS and ICRR signed an MoU for the promotion of the Hyper-K project. In the first half of this seminar, we report recent results from Super-K, mainly focusing on the studies on atmospheric neutrino and the searches for nucleon decays. The goals, status and prospects of the Hyper-K project will be given in the latter half.

Le café sera servi 10 minutes avant.

NB : La présentation d'une pièce d'identité est exigée à l'entrée du centre. Tous les auditeurs extérieurs sont priés de prévenir à l'avance Martine Oger, tél. 01 69 08 23 50, e-mail : `martine.oger@cea.fr`. (U.E. : délai de 24 h, hors U.E. : délai de 4 jours).