

Status of Korean Neutrino Observatory

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The Korean Neutrino Observatory(KNO), consisting of a 260 kton water Cherenkov detector, is proposed to be built in Korea. KNO will be another far detector at a distance of ~ 1100 km from the J-PARC where an off-axis neutrino beam is produced. Because of the KNO located in the second oscillation maximum, KNO will enhance the sensitivity of determining the leptonic CP violation phase and the neutrino mass ordering, compared to the case of two Hyper-Kamiokande detectors at Kamioka. It will also search for nucleon decays up to a lifetime of 10^{35} years. KNO will be the world-largest underground neutrino telescope for a neutrino burst from a core-collapse supernova. A geological survey of candidate sites are complete to estimate the construction cost for a underground facility.

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