Physics Sensitivity Studies at Korean Neutrino Observatory

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The Korean Neutrino Observatory (KNO) is proposed as a next generation underground neutrino detector in Korea. The detector is a 260 kiloton water Cherenkov detector and can serve as the second detector of Hyper-Kamiokande experiment. By detecting J- PARC neutrino beam in these two detectors in Korea and Japan at the same time, the measurement of neutrino oscillation parameters such as leptonic CP phase and the neutrino mass ordering is expected to be improved. Physics sensitivity studies are performed with improved handling of systematic uncertainties compared to the previous study. We present preliminary results on physics sensitivities in various configurations of Hyper-Kamiokande experiment including the KNO configuration.

Author: Dr JEON (SKKU), Sanghoon (SKKU)Presenter: Dr JEON (SKKU), Sanghoon (SKKU)Session Classification: POSTER

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