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Poster Session–Submission of Abstract

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Title of the Poster: Status of RENO-50

Abstract Text:

RENO-50, 18 kton ultra-low-radioactivity liquid scintillator detector is proposed to determine the neutrino mass hierarchy and to make highly precise measurement of θ_{12} , Δm_{21}^2 and Δm_{31}^2 . The detector is located at roughly 50 km away from the Hanbit nuclear power plant in Korea where the neutrino oscillation due to θ_{12} takes place at maximum. The detector is expected to detect not only neutrinos from nuclear reactors but also neutrinos from the Sun, Supernova, the Earth, any possible stellar object and J-PARC neutrino beam. The experimental requirements and the strategy to achieve the main physics goals and sensitivities of RENO-50 are presented.

Summary: neutrino, RENO-50, RENO, reactor, mass hierarchy, θ_{12} , Δm_{21}^2 , Δm_{31}^2