

Latest result of JSNS2 and status of JSNS2-II

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The primary purpose of the JSNS2 (J-PARC Sterile Neutrino Search at the J-PARC Spallation Neutron Source) experiment is to search for neutrino oscillations over a short 24 m baseline with Δm^2 near 1 eV square. Physics run data have been acquired in 2021/2022, corresponding to 23 % of approved Proton On Target (POT) by J-PARC. We also have a plan for using another detector as the 2nd phase of the experiment (JSNS2-II). The 2nd detector will be installed on the far side, 48 m from the target, to observe neutrinos' more apparent oscillation behavior. It will be filled with 32 tons of Gd-LS, and designed with a longer baseline than the near-side detector. Combined analysis using both detectors is expected to reduce systematic uncertainties and provide significantly better sensitivity, especially in the low Δm^2 region. In this presentation, we will summarize the latest results of JSNS2, and the status of JSNS2-II.

Presenter: Dr PARK, Ryeonggyoon (Kyungpook National University)

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