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Latest solar neutrino analysis results from Super-Kamiokande

Super-Kamiokande (SK), a 50 kton water Cherenkov detector in Japan, is observing solar neutrinos studying the effects of both the solar and terrestrial matter density on neutrino oscillations: a distortion of the solar neutrino energy spectrum would be caused by the edge of the Mikheyev-Smirnov-Wolfenstein resonance in the solar core, and terrestrial matter effects would induce a day/night solar neutrino flux asymmetry. On 2018 May, we finished taking data of SK-IV and started the refurbishment work toward SK-Gd. In this poster presentation, we overview the latest solar neutrino results in SK-IV, for example, the precise measurement of 8B solar neutrino flux, its energy spectrum and oscillation parameters. In addition, we discuss the future prospect of the new phase of SK-V (SK-Gd) including the background reduction thanks to the refurbishment work.

Mini-abstract

Solar neutrino results from Super-Kamiokande including data after refurbishment work toward SK-Gd.

Experiment/Collaboration

Super-Kamiokande

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