

# Atmospheric neutrino oscillation and mass hierarchy determination in Super-Kamiokande

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Oscillation of  $\nu_\mu$  to  $\nu_e$  driven by non-zero  $\theta_{13}$  mixing angle is expected to be influenced by matter effect, especially in the multi-GeV energy region. Since matter effect occurs on either neutrino or anti-neutrino depending on mass hierarchy, it is possible to deduce mass hierarchy by investigating  $\nu_e$  oscillation separately for neutrino and anti-neutrino. In this talk, we will report on the study of mass hierarchy determination using atmospheric neutrino data along with the latest oscillation analysis result.

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