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## Atmospheric neutrino flux measurement by Super-Kamiokande

Directional-integrated fluxes of atmospheric electron and muon neutrinos are measured in the energy range from sub-GeV to several TeV using Super-Kamiokande detector.

Super-Kamiokande is the largest detector in the world which has sensitivity in this energy range, and excellent capabilities to distinguish  $\nu_\mu$  and  $\nu_e$  by particle identification of out-going leptons.

The energy spectrum is reconstructed using unfolding technique with the estimation of the systematic uncertainties, and compared with the existing flux calculation models.

We will also discuss about the possible relevant physics which will be available by performing comprehensive analysis including other flux measurements in higher energies.

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