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Atmospheric Heavy Neutrino Decay in Super-Kamiokande

Sterile right-handed neutrinos may exist and take part in neutrino mixing, producing various observable effects depending on the mass-scale. A MeV-scale heavy mass state containing even a small flavoured component would have decay channels that result in observable decay products. Due to copious neutrino production in the atmosphere and its long running period, the Super-Kamiokande water Cherenkov detector is able to perform a search competitive with current limits on sterile neutrino mixing parameters in the 10 to 100 MeV range. The preliminary results of this search are reported.

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