A 3-D CALCULATION OF ATMOSPHERIC NEUTRINO FLUXES

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We present a fully three-dimensional calculation of atmospheric neutrino fluxes using accurate models of the geomagnetic field, hadronic interactions, tracking and decays. Results are presented for the Super-Kamiokande (SK) and Sudbury Neutrino Observatory (SNO) sites. We discuss departures from previous 1-D calculations, particularly with regard to overall fluxes, east-west asymmetries, and the recently reported geometrical enhancement of low energy, horizontal neutrinos(1).

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(1) P. Lipari, hep/ph-0002282 (2000) and hep/ph-0003013 (2000).