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Searching for Prompt Atmospheric Neutrinos at Low Energy

BENNETT BRINSON, MICHAEL LARSON, University of Maryland, College Park,
ICECUBE COLLABORATION — Conventional atmospheric neutrinos are produced from the decay of pions and kaons made by cosmic rays colliding with the earth's atmosphere. The decay of heavier mesons, usually containing charm quarks, is another source of atmospheric neutrinos called prompt atmospheric neutrinos. The prompt atmospheric flux has not yet been observed but may provide a background to measurements of the diffuse astrophysical neutrino flux. This analysis attempts to test whether broadening the energy range to lower energy events will improve sensitivity to the prompt atmospheric and astrophysical fluxes.

Bennett Brinson
University of Maryland, College Park

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