



Poster session 2 – Tuesday 5 July

P2.013 An all-sky search for muon neutrinos coincident with observed gamma ray bursts in IceCube

J Felde and R Maunu

University of Maryland, USA

on behalf of IceCube collaboration

The IceCube Neutrino Observatory is a cubic kilometer ice Cherenkov detector located at the South Pole. With the ability to detect and reconstruct high energy neutrino interactions, IceCube is well suited for searches from suspected astrophysical sources. If hadronic acceleration is present during Gamma Ray Bursts (GRBs), it follows that neutrinos would be produced along with the gamma ray signal. We report on the combined search for a neutrino signal coincident in time and direction to GRBs observed with satellite detectors. Recent analyses have searched for track like events from muon neutrinos over the entire sky. The search for events from the Northern hemisphere has been extended with three additional years of data, and a five year search in the Southern hemisphere has enhanced our sensitivity at high energies where Earth absorption is relevant. These recent analyses have been combined with previous searches for muon neutrinos in the Northern hemisphere and an all flavor search for cascade like events over the entire sky. Thus far, no significant coincidence has been observed. We present our constraints on standard theoretical production models as well as a plan to move these analyses online in order to allow for follow up observations of future coincident events.