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Recent Results from Gamma-ray-burst Neutrino Searches in IceCube NATHAN WHITEHORN, University of Wisconsin - Madison, ICECUBE COLLABORATION — IceCube, a cubic kilometer neutrino detector located in glacial ice at the South Pole, has recently become the first neutrino telescope with a sensitivity below the TeV-PeV neutrino flux predicted from gamma-ray bursts if GRBs are responsible for the observed extragalactic cosmic-ray flux. These neutrinos are produced in interactions between the accelerated cosmic ray protons and the photons present in the burst fireball, allowing neutrino observations to directly constrain or confirm proton acceleration in these sources. Recent results from searches for this flux using the IceCube detector will be presented, as well as implications of this result for cosmic-ray acceleration in GRBs and prospects for future searches.

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