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Search for correlations between gamma ray bursts and muon flux

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Abstract. Recent improvements in the ability to directionally locate gamma ray bursts and the high angular resolution of the Soudan 2 Detector, a deep underground tracking calorimeter, enable a very low background search for correlations between gamma ray bursts and muon flux. We report on such a search using bursts from 1991 to the present. Using reasonable assumptions for the neutrino energy spectrum, we present limits on the possible neutrino flux associated with gamma ray bursts.