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A Search for Southern Sky Neutrino Sources using IceCube Cascade Events STEPHEN SCLAFANI, Drexel University, THE ICECUBE COLLABORATION COLLABORATION — IceCube has discovered a flux of astrophysical neutrinos, and more recently has used muon-neutrino datasets to present evidence for one source; a flaring blazar known as TXS 0506+056. However, the sources responsible for the majority of the astrophysical neutrino flux remain elusive. Opening up new channels for detection can lead to improved sensitivity and increase the chance of a discovery. In this work I present the preliminary sensitivity of a new IceCube neutrino dataset using cascade events produced from NC interactions of all flavors and CC interactions with flavors other than muon-neutrino. Despite the reduced angular resolution of cascade events, the resulting dataset has a lower southern sky energy threshold and a lower background which offers an improved sensitivity to sources in the southern sky when compared to muon-neutrino datasets. This improvement is particularly promising for identifying transient neutrino sources in the southern sky and neutrino production from the galactic plane.

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