

Abstract Submitted
for the APR11 Meeting of
The American Physical Society

Observation of a cosmic ray anisotropy in the southern sky with IceCube MARCOS SANTANDER, University of Wisconsin-Madison, ICECUBE COLLABORATION — IceCube is a kilometer-scale neutrino telescope currently in the final stages of its construction at the geographic South Pole. When complete, the detector will consist of 5160 Digital Optical Modules (DOMs) deployed at depths between 1.5 and 2.5 km over an instrumented volume of 1 km^3 . Although the main scientific goal of IceCube is the detection of astrophysical neutrinos, it also detects tens of billions of muons per year, which are produced by the interaction of TeV cosmic rays with the Earth's atmosphere. Such a high level of statistics has allowed us to probe, for the very first time, the southern sky for anisotropies in the arrival direction of cosmic rays in this energy range. We report on the discovery of a cosmic ray anisotropy over a wide range of angular scales in the sky, which is consistent with anisotropies previously observed in the northern sky by other experiments.

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Date submitted: 14 Dec 2010

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