Contribution ID : **624** Type : **Oral**

Measurement of the atmospheric lepton energy spectra with AMANDA-II

Monday, 9 July 2007 12:05 (0:12)

Abstract content

Potential sources for the ultrahigh energy cosmic ray flux are extragalactic source types such as active galactic nuclei and gama ray busts. With the prediction of hadronic processes in these sources, a diffuse neutrino flux ca be produced together with the charged cosmic ray component. To measure this diffuse neutrino flux is one of the main goals of the Antarctic Muon And Neutrino Detector Array (AMANDA-II). The flux spectrum based on a 4 year data set (2000-2003) will be presented in this talk. The spectrum follows the atmospheric neutrino flux predictions. To verify the analysis method, the used regularized unfolding has been applied to single downgoing muon events. The determined energy spectrum will be presented.

If this papers is presented for a collaboration, please specify the collaboration

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Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 3 (OG part 2), pages 1225-1228

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Session Classification : OG 2.5

Track Classification : OG.2.5