



Contribution ID : 870

Type : Oral

Search for Relativistic Magnetic Monopoles with AMANDA-II

Thursday, 5 July 2007 12:53 (0:12)

Abstract content

Cherenkov emissions of magnetic charges moving through matter will exceed those of electric charges by several orders of magnitude. The AMANDA neutrino telescope is therefore capable of efficiently detecting relativistic magnetic monopoles that pass through its sensitive volume. We present a new limit on the flux of relativistic magnetic monopoles based on the analysis of one year of data taken with AMANDA-II. In contrast to previous analyses, which were restricted to monopoles entering from below the horizon, we also consider monopoles entering from above. The search for down-going monopoles has a lower mass-threshold, since lighter monopoles could penetrate the limited overburden above the detector.

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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. 4 (HE part 1), pages 799-802

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Session Classification : HE 3.4

Track Classification : HE.3.4