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Results from BESS-Polar I 2004 Antarctica Flight

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Abstract content

The Search for Antimatter in the galactic cosmic radiation is one of the main scientific objectives of the BESS-Program. A flatter antiproton spectrum below the secondary production peak at 1 GeV would suggest novel antiproton source, such as evaporating black-holes or decaying supersymmetric particles. The BESS-Polar experiment is designed as a highly transparent magnetic rigidity spectrometer that can precisely detect antiprotons down to energies of 0.1 GeV where a potential excess of antiprotons over the secondary production might be more apparent. The BESS-Polar instrument had its first successful balloon flight in December 2004, from McMurdo Station in Antarctica. During the 8.5-day long flight 900 million events where recorded. In this paper, we discuss the spectra of antiproton and proton as well as the search for antihelium.

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. 2 (OG part 1), pages 67-70

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