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Solar Modulation of Low-Energy Antiproton and Proton Spectra Measured by BESS

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Abstract content

The spectra of low-energy cosmic-ray protons and antiprotons have been measured by BESS in nine high-latitude balloon flights between 1993 and 2004. These measurements span a range of solar activity from the previous solar minimum through solar maximum and the onset of the present solar minimum, as well as a solar magnetic field reversal from positive to negative in 2000. Because protons and antiprotons differ only in charge sign, these simultaneous measurements provide a sensitive probe of charge dependent solar modulation. The antiproton to proton ratio measured by BESS is consistent with simple spherically symmetric models of solar modulation during the Sun's positive polarity phase, but favor charge-sign-dependent drift models during the negative phase. The BESS measurements will be presented and compared to various models of solar modulation.

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

BESS

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. 1 (SH), pages 455-458

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