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Comparing Observations and Expectations of SEP Composition in the Two December 2006 Events.

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Abstract content

In early December 2006, a large active region (number 10930) rotated over the eastern limb of the Sun. As it crossed the disk, it generated 4 X-class flares and at least 3 halo coronal mass ejections. Two large SEP events were generated when the region was at ˜E70 and ˜W25 and were observed by several spacecraft, including ACE and STEREO. We have combined observations from the Solar Isotope Spectrometer (SIS) and the Ultra-Low Energy Isotope Spectrometer (ULEIS) on ACE and the Low Energy Telescope (LET) on STEREO for both SEP events. Using hourly intensities for heavy ions such as O and Fe measured over more than 2 decades in energy, we examine the temporal evolution of the composition and energy spectra. By integrating the SEP data over the duration of each SEP event, the energy spectra for many heavy ion species (including Mg, Si, and Ca) can be analyzed in detail and the elemental SEP composition can be compared for the two events. We present these results in the context of previous cycle 23 SEP events and discuss their implications for current hypotheses regarding the seed population for Fe-rich SEP events.

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

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 95-98

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