

Understanding the Heliosphere Using Temporal Variations of Galactic and Anomalous Cosmic Rays

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Galactic and anomalous cosmic rays contribute significantly to the space environment. The variations in the intensity of these particles are caused by the heliosphere. Hence observations of these variations over the longest available time intervals serve to help unravel basic physical processes involved and to understand Earth's space environment. The last sunspot minimum was anomalously deep and long-lasting and provided an opportunity to extend our knowledge. The intensity of GCR during the minimum exceeded that observed since the beginning of observations in the middle of the last century. On the other hand, the intensity of ACE was quite low in comparison to that in previous sunspot minima. These observations will be shown to provide valuable insights into the physical processes which modulate the GCR and which accelerate ACR.