

Solar Energetic Particles (SEP), Solar Modulation and Space Radiation: New Opportunities in the AMS-02 Era

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Overview of Solar Energetic Particle Event Observations and Open Questions

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Current measurements of solar energetic particles (SEPs) are more comprehensive than ever before, spanning orders of magnitude in energy and intensity, covering electrons and ions from H to Ni, and made at locations throughout the heliosphere and around the Sun. This talk will review the current capabilities and measurement techniques employed to create this wealth of information and illustrate how it is connected to observations on the Sun and at Earth to study the causes and effects of the radiation component of space weather. The specific capability of simultaneous, multi-point SEP observations has raised several questions regarding our understanding of particle acceleration and transport. These open questions will be reviewed and discussed in light of potential contributions from the PAMELA and AMS SEP measurements.

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