



Solar Energetic Particles : A Modern Primer on Understanding Sources, Acceleration and Propagation

By Donald V. Reames

Springer-Verlag GmbH Mrz 2017, 2017. Taschenbuch. Condition: Neu. Neuware - This concise primer introduces the non-specialist reader to the physics of solar energetic particles (SEP) and systematically reviews the evidence for the two main mechanisms which lead to the so-called impulsive and gradual SEP events. More specifically, the timing of the onsets, the longitude distributions, the high-energy spectral shapes, the correlations with other solar phenomena (e.g. coronal mass ejections), as well as the all-important elemental and isotopic abundances of SEPs are investigated. Impulsive SEP events are related to magnetic reconnection in solar flares and jets. The concept of shock acceleration by scattering on self-amplified Alfvén waves is introduced, as is the evidence of reacceleration of impulsive-SEP material in the seed population accessed by the shocks in gradual events. The text then develops processes of transport of ions out to an observer. Finally, a new technique to determine the source plasma temperature in both impulsive and gradual events is demonstrated. Last but not least the role of SEP events as a radiation hazard in space is mentioned and a short discussion of the nature of the main particle telescope designs that have contributed to most of the SEP measurements is given....



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Simply no words and phrases to clarify. It really is full of knowledge and wisdom You wont feel monotony at at any moment of the time (that's what catalogs are for relating to when you question me).

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