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By Andreas Shalchi

Springer-Verlag GmbH Jun 2009, 2009. Buch. Book Condition: Neu. 235x155x16 mm. Neuware - If charged particles move through the interplanetary or interstellar medium, they interact with a large-scale magnetic field such as the magnetic field of the Sun or the Galactic magnetic field. As these background fields are usually nearly constant in time and space, they can be approximated by a homogeneous field. If there are no additional fields, the particle trajectory is a perfect helix along which the particle moves at a constant speed. In reality, however, there are turbulent electric and magnetic fields due to the interstellar or solar wind plasma. These fields lead to scattering of the cosmic rays parallel and perpendicular to the background field. These scattering effects, which usually are of diffusive nature, can be described by spatial diffusion coefficients or, alternatively, by mean free paths. The knowledge of these parameters is essential for describing cosmic ray propagation as well as diffusive shock acceleration. The latter process is responsible for the high cosmic ray energies that have been observed. The layout of this book is as follows. In Chap. 1, the general physical scenario is presented. We discuss fundamental processes such as...

### Reviews

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