

Solar Energetic Particle Fluences from SOHO/ERNE

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Abstract

We have calculated integral fluences of solar protons and helium nuclei at 19 energy thresholds between 1.6 and 90 MeV/n from the SOHO/ERNE measurements during the years 1996-2005. We have also calculated fluences of oxygen and iron in the energy range from 10 up to a few hundred MeV/n for nineteen solar energetic particle (SEP) events. These are the first results of the work aiming at a full employment of the ERNE data in investigating the fluence distributions of SEP events over the entire solar activity cycle 23 and in deriving the total dose received on-board SOHO during its mission. Some instrumental problems are identified and future developments are presented.

Key words: solar energetic particles, particle fluences, space weather.