

Spectral forms of He isotopes and heavy ions in impulsive solar energetic particle events

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Abstract. We report observations of impulsive ^3He -rich solar particle events taken with the Ultra-Low-Energy Isotope Spectrometer (ULEIS) and Solar Isotope Spectrometer (SIS) on ACE during the period August 1997 - April 2001. These instruments measure the energy spectra of ^3He , ^4He and heavy ions over the range 0.1-15 MeV/nucleon, making it possible to explore spectra over a broad enough energy range to distinguish different functional forms. Some events have ^3He

spectra significantly different from ^4He and heavy ions. In some cases, the spectra appear to be better fit by functions of particle rigidity than by power laws in kinetic energy per nucleon. We will compare the observed spectral forms with predictions from current theories for impulsive solar particle acceleration.