

## **ARE SOLAR ENERGETIC PARTICLES AN ACCELERATED SAMPLE OF SOLAR WIND?**

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In the current picture of gradual solar energetic particle (SEP) events, the bulk of the acceleration is believed to take place at a shock driven by a coronal mass ejection (CME) as it moves through the corona and out into the solar wind. It is often assumed that the particles that are accelerated and later observed at 1 AU represent an accelerated sample of solar wind. We compare SEP composition measurements from a variety of spacecraft with recent measurements of the solar wind composition, focusing in particular on a comparison of the fractionation patterns with respect to first ionization potential (FIP). On the basis of several significant differences between the solar wind and SEP compositions, we conclude that most solar energetic particles with energies  $>3$  MeV/nucleon are not simply an accelerated sample of solar wind. Rather, SEPs and fast and slow solar wind appear to be distinct samples of coronal material with significantly different fractionation patterns. This implies that SEPs must be accelerated within a few solar radii of the Sun.