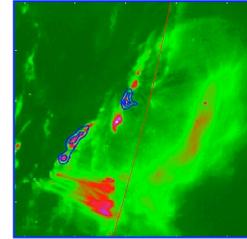


## Working Group 3: Solar Energetic Particles (SEPs)

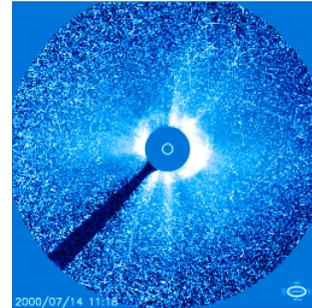
The Solar Energetic Particle Working Group will focus on five areas:

**Campaign Events:** This is a plenary session involving all three working groups. A number of CME and energetic particle events have been selected for particular attention to better foster the collaboration between modeling and observation. Preliminary details can be found at [http://cdaw.gsfc.nasa.gov/CME\\_list/SHINE2003/](http://cdaw.gsfc.nasa.gov/CME_list/SHINE2003/).

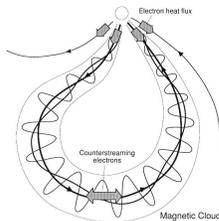


**Particle Acceleration Mechanisms:** This session will focus on recent attempts to understand the observed spectral and compositional variability in energetic particles at CME-driven shocks, both near-Sun and in-situ. The effects of shock-geometry, near-shock wave-particle interactions, seed-population and injection processes will be investigated. The session will also address recent observational challenges for our understanding of ion acceleration at flare sites.

**The Role of Energetic Particles:** This topic will be hosted jointly by Working Groups 1 (Solar) and 3 (SEPs). This joint topic will focus on the acceleration and transport of energetic particles and what we can learn about the relationship between SEP events, CMEs, and flares. What, if any, is the relationship between the particles produced close to the Sun and those seen in interplanetary space? How does the field topology in the corona influence the variability observed in SEP events? Can flare-accelerated particles provide a seed population for further acceleration at a CME-driven shock front? Can we determine where shocks become established in the solar corona and how they evolve as they move outward through the corona?



**Suprathermal Particles:** This joint session with Working Group 2 (Interplanetary) will focus on the nature and implications of suprathermal particle signatures. We plan to discuss a broad range of issues such as ion and electron counterstreaming, flux dropouts, variable properties of electrons with energy, and transport. We will evaluate their usefulness for discerning disconnected fields and implications for magnetic connection of CMEs to the Sun.



**Composition:** A full understanding of SEP acceleration requires knowledge of the source particles' temperature, energy, and rigidity. These may be studied in part by examining elemental, isotopic, and charge state composition in the solar wind, suprathermal ions, and energetic particles. An outstanding question in SEP acceleration is the relative role of solar wind and suprathermals as source material. This session (also joint with Working Group 2) will consider charge state, elemental, and isotopic composition measurements in these three populations. Discussion will concentrate on possible relationships that may be inferred among them in active regions at the Sun or in interplanetary shocks.

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