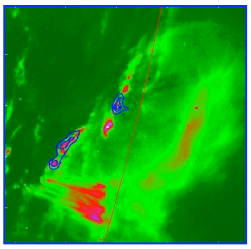
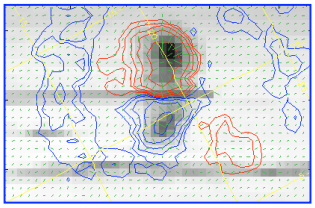
Working Group 1: CME Initiation

The CME Initiation Working Group will be participating in four topical areas emphasizing different aspects of the CME Initiation problem:

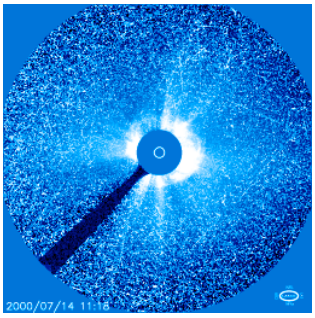


Campaign Events: This is a plenary session involving all three working groups. A number of CME events have been selected for particular attention to better foster the collaboration between modeling and observation. Preliminary details can be found at http://cdaw.gsfc.nasa.gov/CME_list/SHINE2003/.

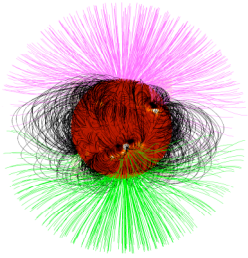
Vector field and photospheric flows: What aspects of the photospheric and coronal evolution are necessary and/or sufficient for an eruption to occur? Is magnetic complexity crucial to CME production? What photospheric motions, or emergence/submergence of flux are required for a CME to be initiated? To address these important CME initiation issues, we will concentrate on the role played by the vector magnetic field and the surface velocity fields in the build-up to a CME.



The role of energetic particles: This topic will be hosted jointly by working groups 1 and 3. 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?



Modeling the evolution of photospheric and coronal magnetic fields: This joint session between working groups 1 and 2 follows on from the dynamic discussions on flux transport models at last years meeting. Can we utilize the models of the evolutionary behavior of the surface magnetic fields to predict solar wind variability? How good are potential field models for large-scale field connectivity and interplanetary connections?



Each of the above sessions will be introduced by an invited plenary speaker and be guided by short invited session-specific talks.

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