

Abstract Submitted
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Connected Events and their Topologies ALAN TITLE, Lockheed Martin Advanced Technology Center — The Atmospheric Imaging Assembly (AIA) on the Solar Dynamics Observatory (SDO) provides 24/7 full Sun coverage with a 12 second cadence, arc second resolution, and span the temperature range from 6000 to 20,000,000 K The Heliospheric and Magnetic Imager (HMI) on SDO provides doppler data every 30 seconds, line-of-sight magnetograms every 45 seconds, and vector magnetograms every 5 minutes. With the SDO data set and observations from the pair of STEREO satellites it has become apparent that many flares, filament eruptions, and CME's have causal connections. These connections often span a hemisphere or more. New numerical simulations indicates that there are several mechanisms for triggering of remote events. Maps of the magnetic topology constructed from the LOS field and a PFSS model indicates both how regions that are connected and their boundaries. Magnetic evolution can change both the shapes of the topological boundaries and the topological structure. Because of the large dynamic range of the AIA images (105) it is possible to directly map the evolution of the magnetic fields on a global scale. Movies of everts and numerical simulations will be presented as well as topological mappings that indicated the zones of connectivity.

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