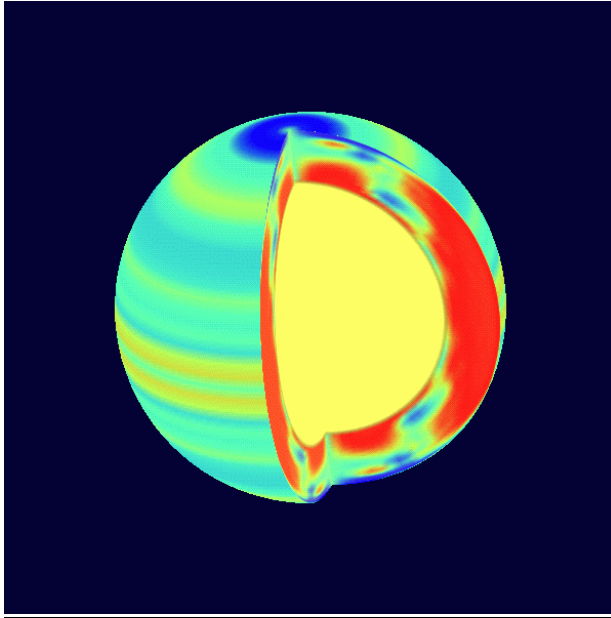
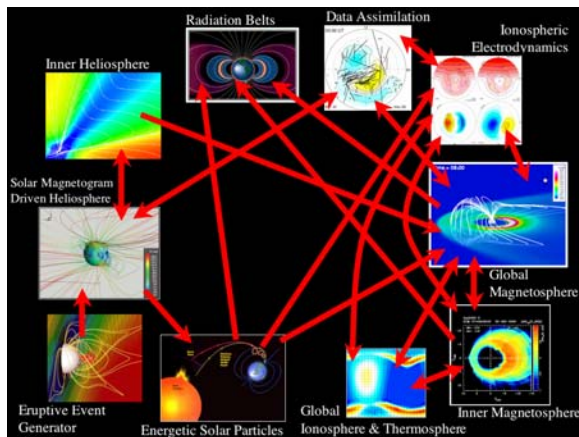


Possible Images for Modeling

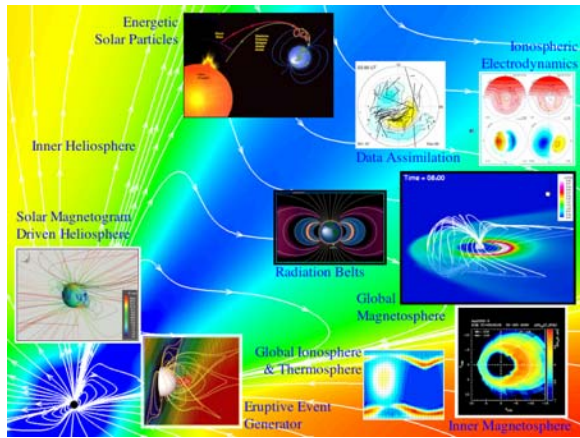


Caption: This image is a result of computations using SOHO/MDI observations taken continuously from May 1996 to May 1997. This false color image represents the difference in speeds between various areas on the Sun, both at the surface and in the interior. Red - yellow is faster than average and blue is slower than average. (Photo Credit: Stanford University)

SWMF modeling coupling figures:

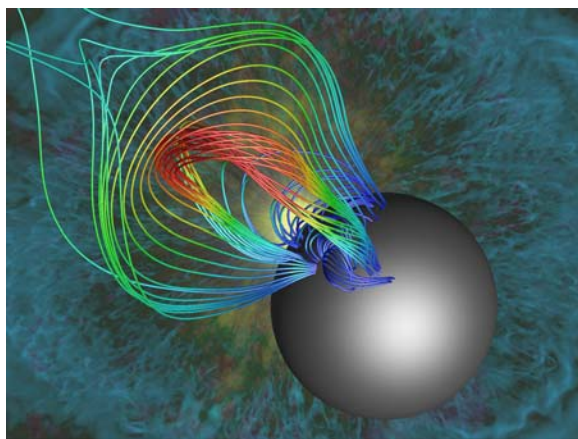


Caption: Physical model components of the Space Weather Modeling Framework, and the interconnection between them.

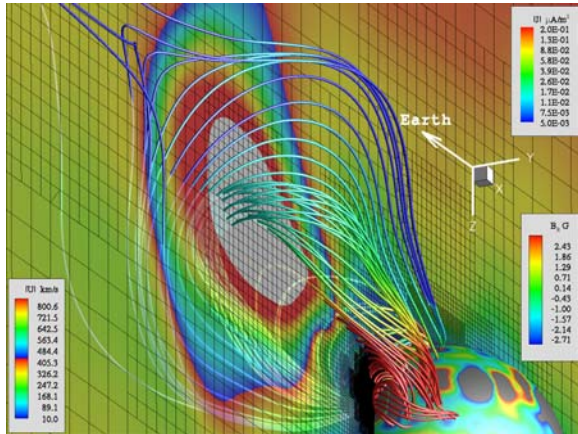


Caption: Physical model components of the Space Weather Modeling Framework, with a heliospheric simulation result in the background.

CME initiation figures:

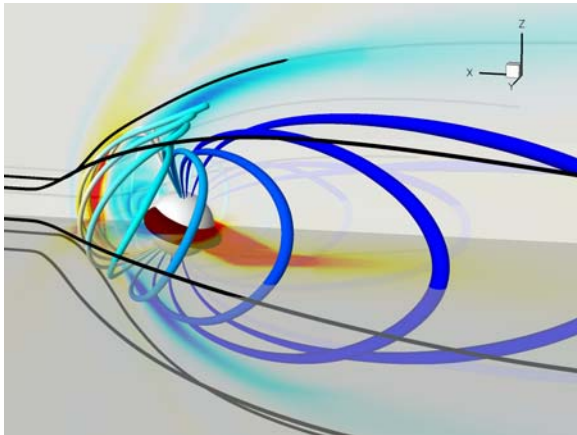
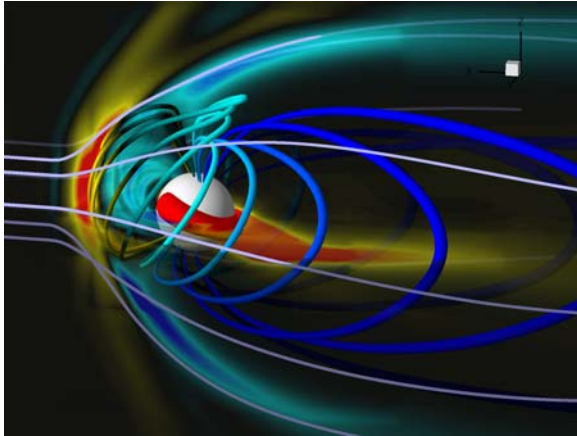


Caption: Three-dimensional view of the CME on May 2, 1998 at 1 hour after the initiation, as modeled by the SWMF. The solid lines are magnetic field lines. The false color shows the magnitude of flow velocity. The Iris Nebula is shown in the background, for artistic perspective. Courtesy of Ilia Roussev, U of Michigan.



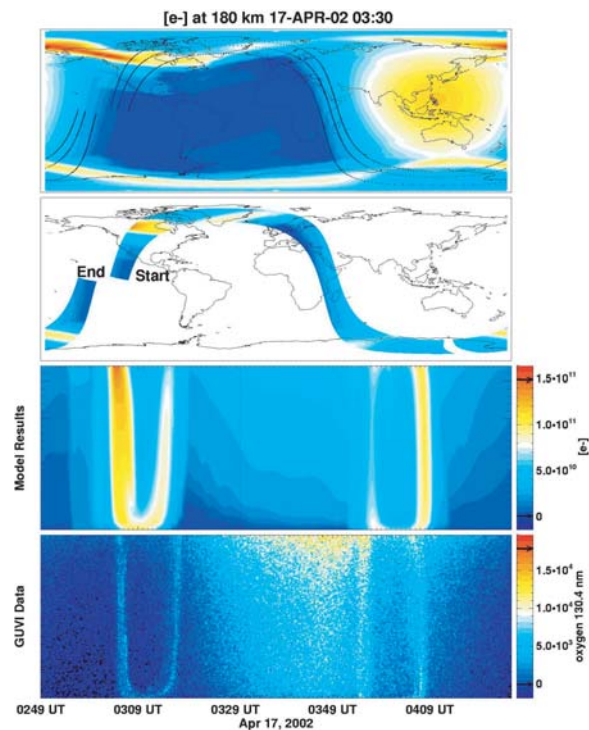
Caption: Three-dimensional view of the CME on May 2, 1998 at 1 hour after the initiation, as modeled by the SWMF. The solid lines are magnetic field lines; the false color shows the magnitude of the current density in units of $\mu\text{A}/\text{m}^2$ (see color legend to the top right). The magnitude of the flow velocity, in units of km/s , is shown on a translucent plane given by: $\{y = 0\}$ (see color legend to the left). Values in excess of $1,000 \text{ km}/\text{s}$ are blanked and shown in light grey. The grid-structure on this plane is also shown as the black frame. The inner sphere corresponds to $\{R = R_{\text{sun}}\}$; the color shows the distribution of radial magnetic field in units of Gauss (see color legend at the bottom right). Regions with radial field strength greater than 3 Gauss are blanked and appear in grey. (Image credit: Ilia Roussev, University of Michigan).

Disturbed magnetosphere figures:



Caption (for both): In a simulation of the Halloween 2003 space storms, the magnetosphere responds to a CME associated with the X-17.2 flare on October 29, as modeled by the SWMF. The visualization shows the last closed magnetic field lines, color-coded with pressure. The gray sphere is located at 3 Earth radii, while the maroon band on that sphere is a 100 nano-Pascals (nPa) pressure isosurface (Image credit: Darren De Zeeuw, University of Michigan).

Data-model comparison figure:



Caption: In a coupled-model simulation of the SWMF, results along satellite trajectories can be extracted for direct comparison with observations. Here TIMED/GUVI airglow measurements are compared against simulated electron densities (a critical determinant of airglow intensity). Courtesy of Aaron Ridley, U of Michigan.