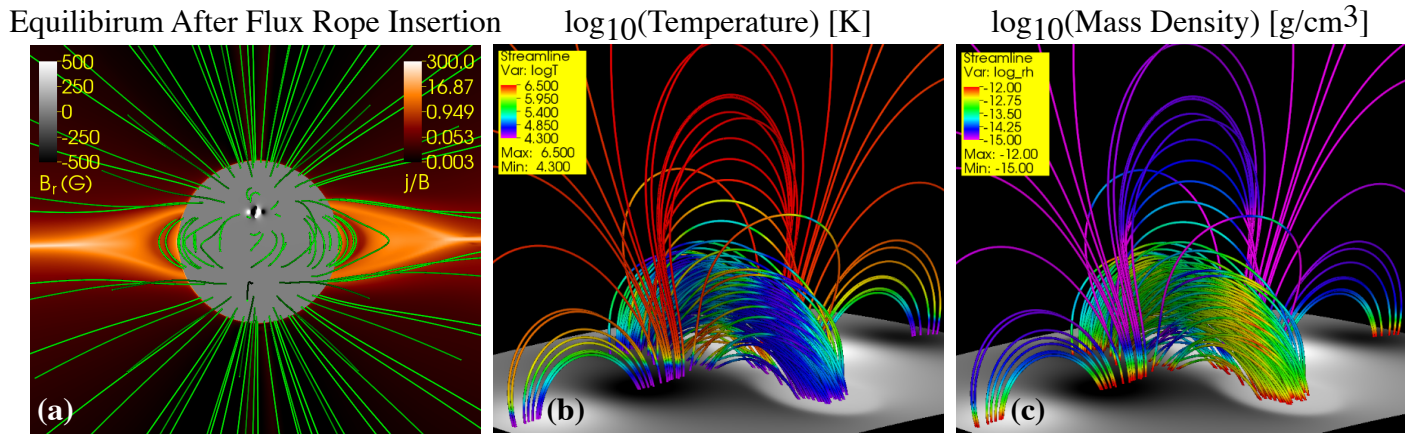
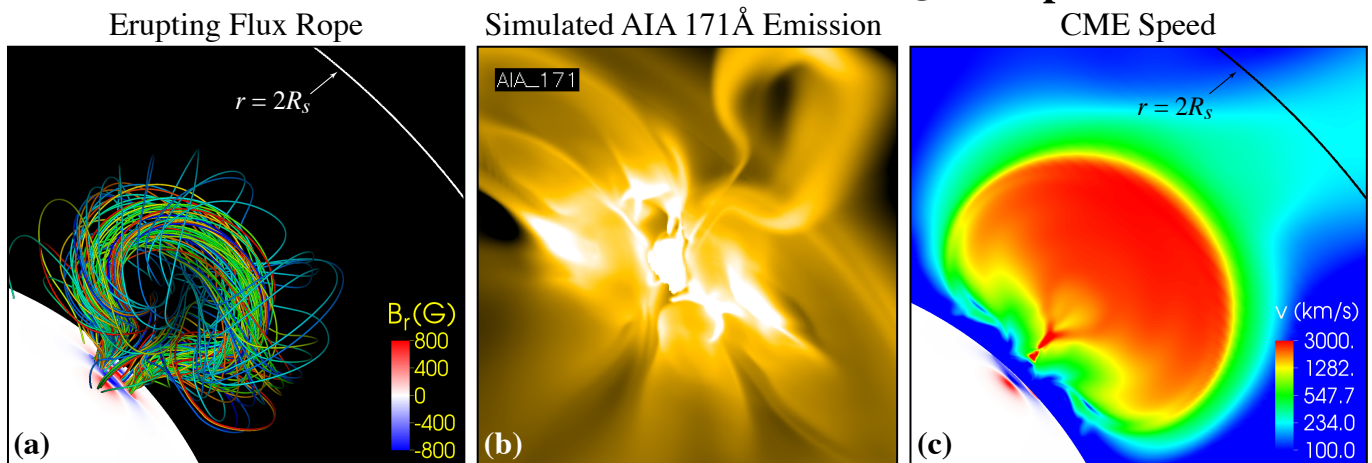


An Energized Flux Rope Equilibrium in a Global Thermodynamic Simulation



Idealized pre-eruptive configuration for a fast CME simulation. (a) The equilibrium after insertion of the flux rope. Magnetic field lines in the stable flux rope before eruption, colored by temperature (b) and mass density (c), showing that a cool and dense prominence has formed.

Simulation of a Fast CME in an Idealized Quadrupolar Field



The simulation of a fast CME in the quadrupolar field shown above using a thermodynamic MHD model. The view a few minutes after the onset of eruption: (a) Magnetic field lines showing the erupting flux rope, (b) simulated EUV emission, and (c) the plasma speed in the plane parallel to the initial flux rope axis.