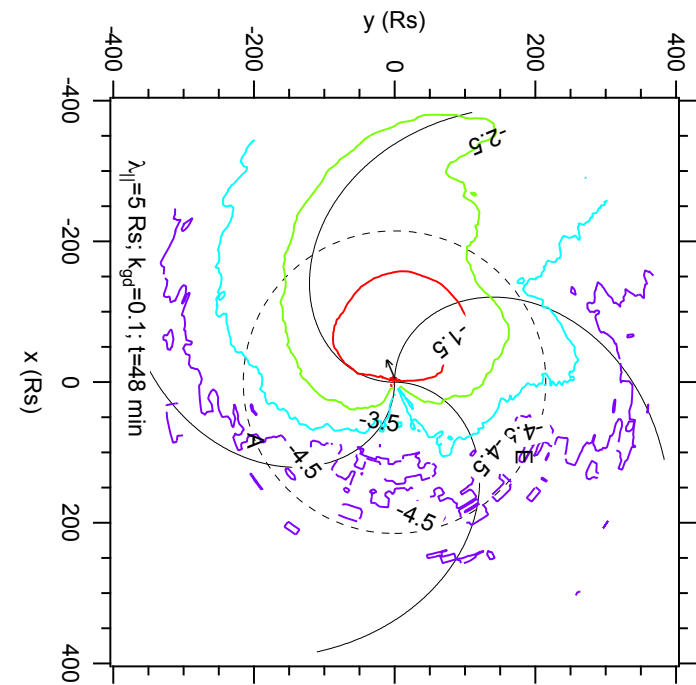
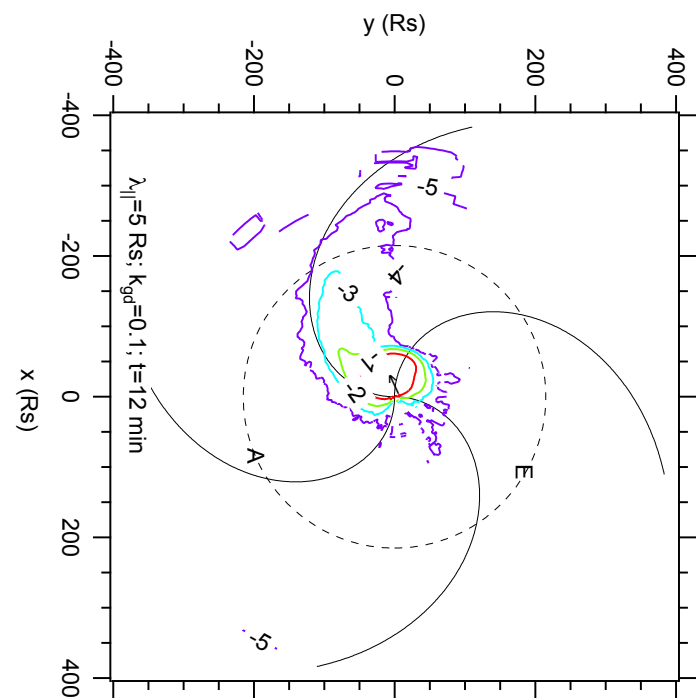
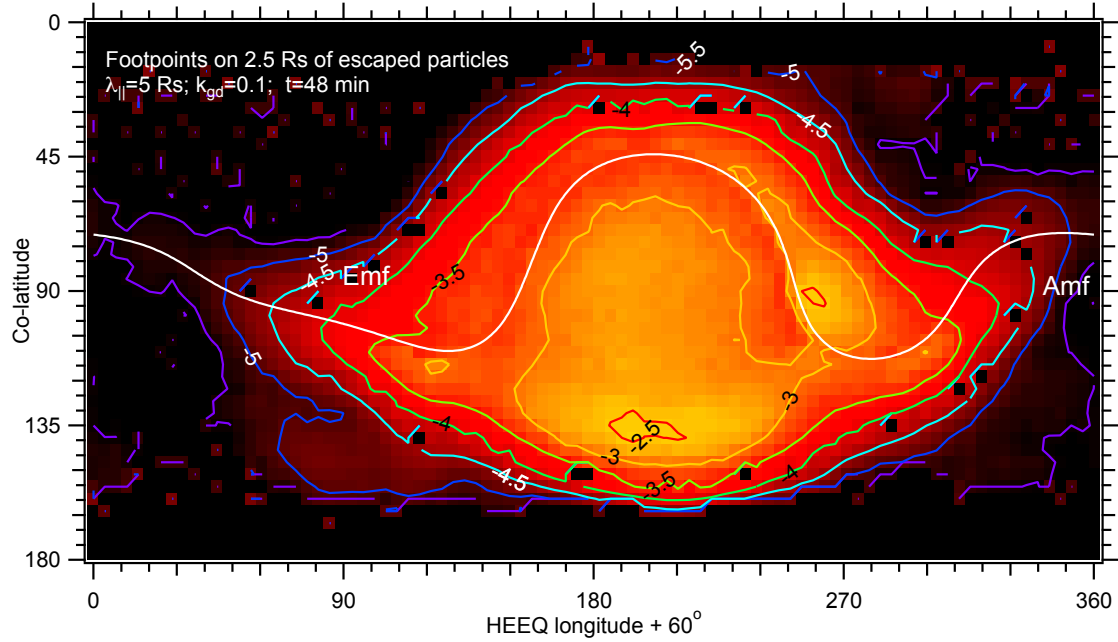
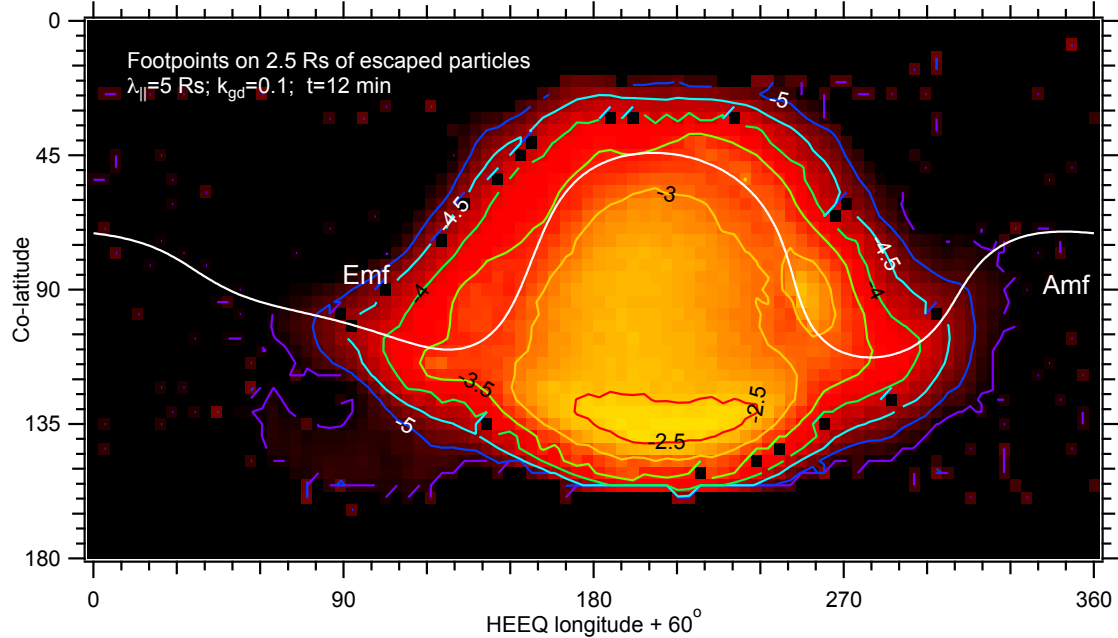


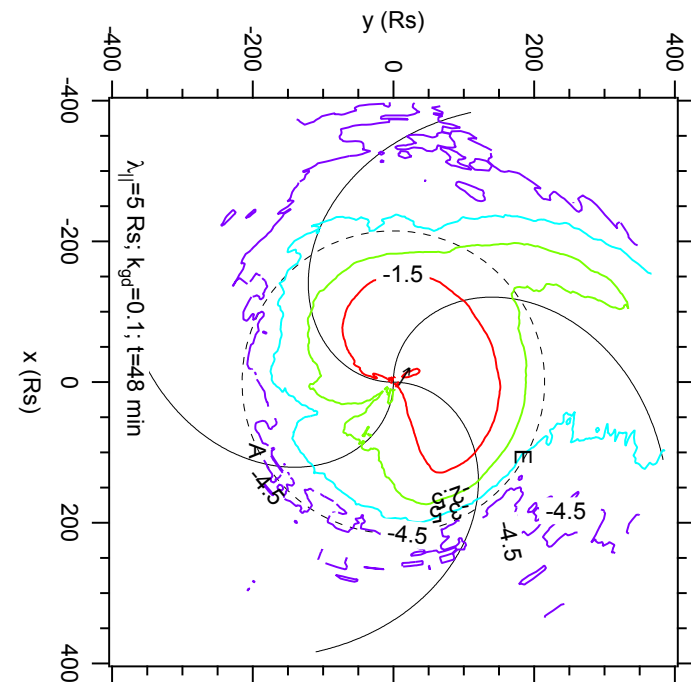
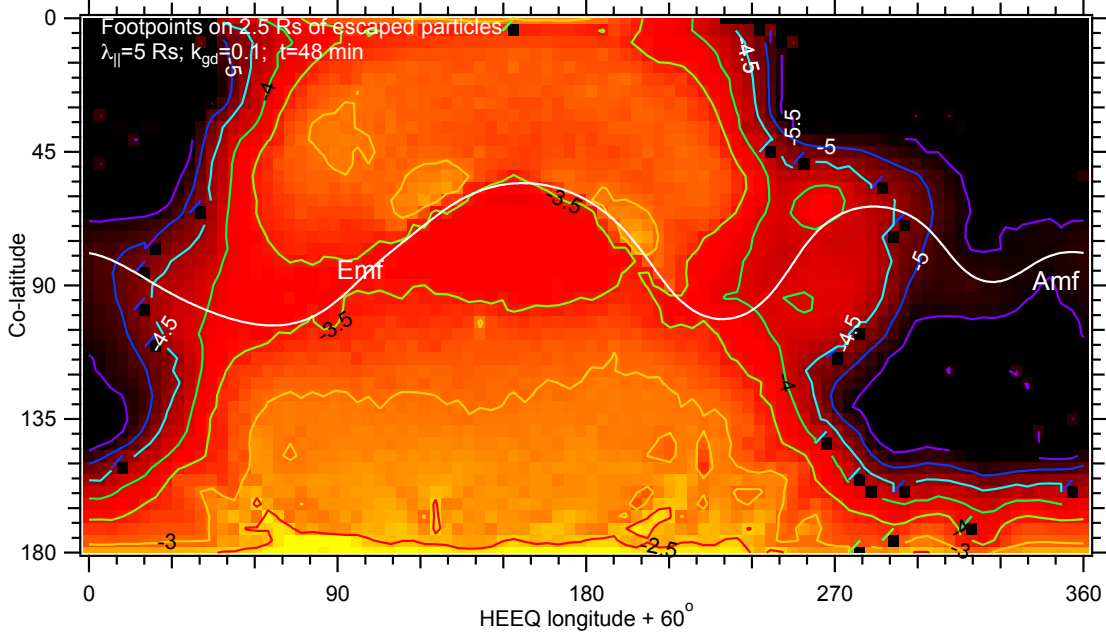
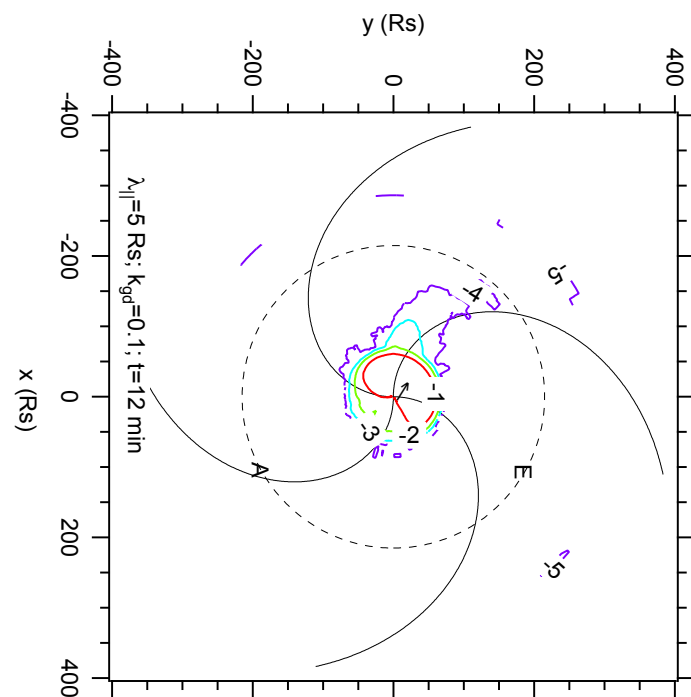
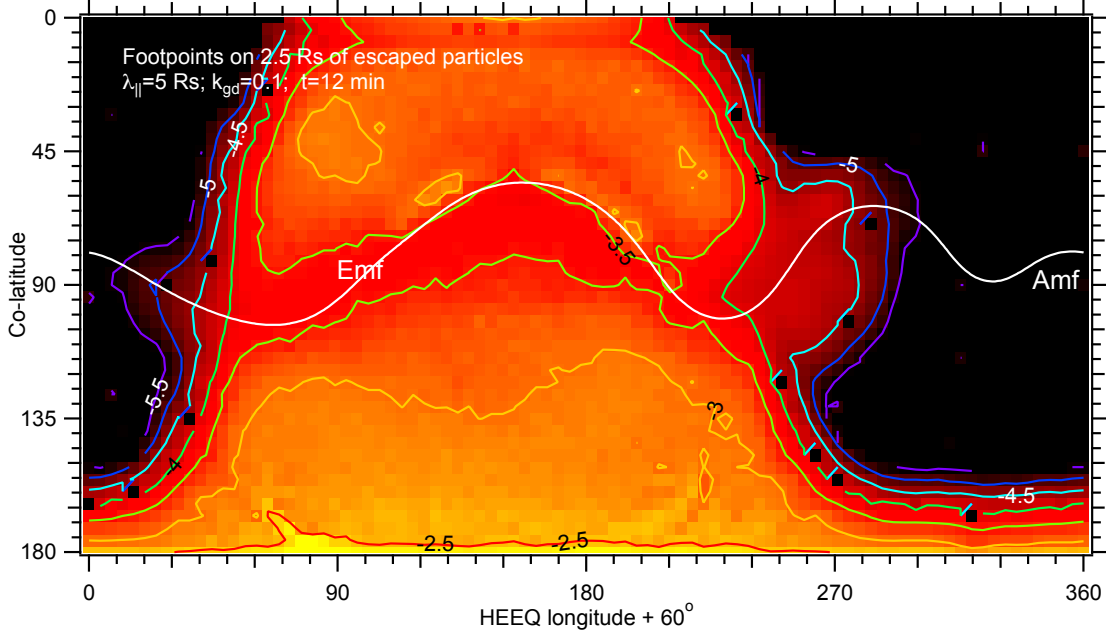
Brief Description of the Model

- PFSS magnetic field model 1-2.5 R_s .
- Parker magnetic field model $>2.5 R_s$ using PFSS boundary condition.
- Le Blanc solar wind model.
- 3-d Focus transport equation:
 - Pitch angle diffusion
 - Perpendicular diffusion using on field line random walk
 - Convection with the solar wind
 - Streaming
 - Gradient/curvature drift
 - Focusing
 - Adiabatic cooling
- Stochastic differential equation solver

2017 July 13 solar event



2017 September 10 solar event



Discussion questions

- How did your optimized run results differ from the initial run?

The runs are not optimized. If the result is not good, it can be rerun with newer mean free paths.

- What aspects of the event does your model capture well, and what aspects were more difficult to capture?

Connection to the source location in the corona. Current version has difficulty predicting onset time and intensity time profile at a particular locations.

- What are the next steps for your modeling technique?

Calculation of particle intensity at observer using backward stochastic different equations.