Contribution ID: **7** Type: **Poster Presentation**

Trajectories of electrons in a realistic model of the Earth's magnetic field

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<p>During the onset of a substorm, a burst of energetic (10-100 keV) electrons is injected into the inner magnetosphere. The subsequent motion of these electrons is dictated by their energy, pitch angle and the Earth's magnetic field geometry. More specifically, if the Earth's magnetic field is not varying rapidly then the three adiabatic invariants associated with each of the electrons' periodic motions (drift, bounce and gyration) are conserved. In this work we study the motion of electrons in the Earth's magnetic field. A realistic magnetic field geometry is employed which depends on conditions in the solar wind by applying time varying magnetic filed calculated from Tsyganenko model. The initial electron source location is presumed to be at L = 9 at midnight. The trajectories of electrons with energies of 10-100 KeV are studied using Tsyganenko model of the magnetosphere. Results are compared with other model simulated .

Level (Hons, MSc,
   PhD, other)?

PhD

Consider for a student
   award (Yes / No)?

yes

Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?

yes

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