Replacing the location of a single reconnection event in the corona is difficult due to observational constraints, although features remotely detected from the precipitation of the field line can be inferred beyond the reconnection site. One such remote feature are outflows in the form of post-reconnection loops, which have been linked to observations of suprathermal electrons behind dipsolarization fronts. These loops have been inferred through remote detection methods using in situ plasma measurements, indicating the presence of post-reconnection magnetic field lines. In simplified terms, we can say that these loops are similar to wakes behind retracting reconnection loops in the magnetosphere (as shown by Runov et al 2011). In simplistic terms, similar wakes should be observed in the corona as well.

**Magnetostructctural Substorms: Triggered by Flux Funnels (BBF), Dipolarization Fronts**

In the Earth's magnetotail, wakes of reconnected flux appear behind dipolarization fronts, which are oftentimes referred to as reconnection loops in the magnetosphere. However, these loops are initially driven by dipsolarization fronts, which are similar to wakes behind retracting reconnection loops in the magnetosphere (as shown by Runov et al 2011). In simplistic terms, similar wakes should be observed in the corona as well.

**SUPRA ARCADE DOWNSPOUTS IN THE EARTH'S MAGNETOTAIL**

Adam Kobelski 1, Sabrina L Savage 1, David M. Malaspina 1

1Department of Physics and Astronomy, West Virginia University, Morgantown, WV, USA

2Center for Space Plasma and Aeronomic Research, University of Alabama in Huntsville, Huntsville, AL, USA

3Marsard Space Flight Center, Huntsville, AL, USA

4Laboratory for Atmospheric and Space Physics, University of Colorado, Boulder, CO, USA

**Abstract**

In order to compare SADs to dipolarization fronts, the remote sensing images are treated as tracings in data by placing pseudo-sunlight in the path of the downflow. In the case of the 2011 Oct 11 event, lightcurves were derived for 20 distinct locations in the suprathermal region. The passage of downflows through these “detection voids” can be dramatically detected using a convolution routine. This detection algorithm works well for instances when the detector hits on-axis, but has a tendency to miss flows that pass between detector locations, which is a natural consequence present in in-situ data collection.

In the Earth's magnetotail, wakes of reconnected flux appear behind dipolarization fronts, which are oftentimes referred to as reconnection loops in the magnetosphere. However, these loops are initially driven by dipsolarization fronts, which are similar to wakes behind retracting reconnection loops in the magnetosphere (as shown by Runov et al 2011). In simplistic terms, similar wakes should be observed in the corona as well.

**CONCLUSIONS**

In the Earth's magnetotail, wakes of reconnected flux appear behind dipolarization fronts, which are oftentimes referred to as reconnection loops in the magnetosphere. However, these loops are initially driven by dipsolarization fronts, which are similar to wakes behind retracting reconnection loops in the magnetosphere (as shown by Runov et al 2011). In simplistic terms, similar wakes should be observed in the corona as well.

**REFERENCES**