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## An investigation of high velocity flows in HF radar data during northward interplanetary magnetic field, non-substorm intervals

*Thursday, 14 July 2011 17:00 (2 hours)*

Several previous studies, including one using early Sanae radar data, have found examples of high speed ionospheric plasma flows on the nightside, mapping to the magnetospheric tail, during periods which were magnetically quiet. These high speed flows were interpreted to be associated with the release of energy from a rapid reconfiguration of tail magnetic field lines due to reconnection. Such events are now known as 'TRINNI's' or 'tail reconnection during IMF northward, non-substorm intervals'. The purpose of this study was to identify further TRINNI events, using SuperDARN data from both hemispheres. In situations where the y-component of the Interplanetary Magnetic Field dominates over the z-component, the directions of both the high speed flows and the underlying convection pattern depend on the direction of the y-component. Some examples of likely TRINNI events for cases where the y-component was positive and negative are presented and discussed. The assumption of a non-substorm interval is justified by magnetometer and GOES satellite data, and the observations are discussed in relation to magnetic reconnection in the magnetotail.

**Level (Hons, MSc, &nbsp; PhD, other)?**

MSc

**Consider for a student &nbsp; award (Yes / No)?**

yes

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

no

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