Geophysical Research Abstracts
Vol. 14, EGU2012-7449, 2012
EGU General Assembly 2012

Solar wind – magnetosphere coupling during steady convection events

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Themis 5 spacecraft observations are used to examine the response of the magnetotail convection to moderately southward and steady IMF and solar wind driving. Over 200 SMC events recorded during the Themis prime mission (2007-2009) are used to examine the temporal evolution of the plasma flows and the magnetic field configuration especially in the inner magnetosphere during these events. The patterns are compared with a randomly selected dataset to highlight the tendency of the higher than average magnetic field stretching especially in the evening sector. The inner and midtail flows show little coherent temporal evolution; the flows occur in bursts with quite moderate speeds, and the flows are more often tailward than during average times. On the other hand, the magnetic field evolution reveals a pattern of continual stretching of the magnetic field toward the end of the event. We discuss the association of the end configuration following the field stretching to the onset of the substorm that typically follows after SMC events.