



## **Oscillatory flow braking in the magnetotail and ionosphere**

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We investigate oscillatory flow behavior observed by the five THEMIS probes during 2008-2009. First, using THEMIS observations of a damped oscillatory flow behavior in the plasma sheet around 10 RE downtail we derive the flow oscillation period, and the damping factor. In addition, an empirical model allowed us to reconstruct the radial plasma sheet entropy profiles and use them for a theoretical estimate of a thin filament oscillation period. A satisfactory agreement between the flow oscillation period and the theoretically predicted one suggests that the damped oscillatory flow behavior is due to oscillation of a thin filament. Second, we use ground all-sky camera and magnetometer observations in order to investigate the corresponding ionospheric response. Auroral streamers appeared during both the earthward flows and their tailward rebounds as the current wedge was modulated by the oscillating flows.