



## **Energetic particle, plasma and field observations in the course of substorm events: First results from THEMIS**

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In this work, we investigate a number of substorm events during major conjunctions of the THEMIS spacecraft for the tail seasons of the mission. We present simultaneous energetic particle, plasma, magnetic field, and wave activity observations from various instruments onboard the THEMIS spacecraft during the events. We focus particularly on events when at least one of the THEMIS spacecraft is found to be adjacent to the neutral sheet where convectional plasma flows usually occur. Our main aim is to examine whether these substorm events show evidence of Earthward high speed plasma flows accompanied with intense wave activity prior to dipolarization signatures. We discuss the implications of the observations in the context of an improved model for substorms. These observations are highly important for current sheet disruption since they can be associated with breakdown of the frozen-in condition in the near-Earth magnetotail.