



## **The interplanetary shock influence on the distant magnetotail dynamics**

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Between November 2003 and January 2004, the Wind spacecraft recorded magnetotail dynamics as a response to solar wind disturbances. During this time, several cases of interplanetary shocks (IP) and Coronal Mass Ejections were observed near the L1 point. Some of these kinds of events cause substorm activity on the Earth surface.

We present a study of the IP shock propagation in the far tail at  $X_{GSM} \approx -230$  RE after which Wind crossed tail lobes and the inner magnetotail regions, observed a plasmoid ejection and the fast tailward plasma flow in the central plasmashet. The regions and their boundary motions are clearly related to the whole tail tilting due to the IP shock passage. The goal of this study is a detailed analysis of the IP shock propagation through the solar wind, its influence on the Earth and investigation of the magnetotail response to this shock. We present our results as a sketch showing how the magnetotail can look under the described moderate substorm activity.