



## **Interaction of sharp interplanetary discontinuities with the magnetopause**

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The largest and the most geoeffective disturbances are usually connected with CMEs and magnetic clouds. Increased dynamic pressure lead to the initial compression of the whole magnetosphere that is followed by an expansion when the upstream conditions return to their usual values. Reported speeds of this motion range from units to several hundreds of km/s. Our MHD modeling shows that the speed of the magnetopause displacement significantly influences the propagation of disturbances through the magnetosheath.

We have concentrated our attention (1) on the speed of the magnetopause motion determined from two-point measurements, comparison of the measured plasma and magnetic field profiles in the magnetopause vicinity with a MHD prediction, and (2) on the processes accompanying the magnetopause displacement. A preliminary analysis of available data suggests an important role of magnetic reconnection and surface waves in a dynamics of a magnetopause re-formation.