

IMF ORIENTATION AND REFORMATION OF MAGNETOPAUSE LAYERS

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The upstream conditions play a significant role in the dayside magnetopause configuration and its motion. Our investigations are focused on the detailed analysis of the magnetopause reformation after sudden changes of the IMF orientation and description of the magnetosheath coupling with magnetopause low-latitude boundary layer under northward and southward IMF B_z components. The observed transients are analyzed, classified and attributed to the corresponding sources. Among them, the sudden rotation of the magnetosheath magnetic field seems to be very frequent. The study is supported with a large-scale comparison between THEMIS in situ plasma and magnetic field observations and the corresponding predictions of a global numerical MHD model.

Interplanetary magnetic field , magnetopause, low-latitude boundary layer

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