

Formation and characteristics of Low Latitude Boundary Layer

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Characteristics of low latitude boundary layer (LLBL) of the magnetosphere of the Earth are investigated using data of Interball/Tail probe observations. The role of different processes of LLBL formation is discussed. The high level of magnetosheath turbulence is taken into account. The condition of the magnetopause/turbulent magnetosheath stress balance is analyzed. It is shown that the turbulent nature of magnetic field and plasma fluctuations in the magnetosheath is one of the main factors determining the structure of LLBL. The thickness of LLBL is determined for the number of cases. The change of LLBL thickness under the influence of the changes of interplanetary magnetic field (IMF) orientation is investigated. The properties of LLBL/plasma sheet interface are analyzed.