



## **Cold, Dense Plasmas at Plasma Sheet - Lobe Boundary in the Near-Earth Magnetotail**

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In this study we report observations of a layer of cold, dense plasmas at the boundary between the plasma sheet and lobe by the Cluster spacecraft. As the Cluster spacecraft pass through the near-Earth magnetotail between the distances  $\sim 12$  and  $\sim 20$  RE from Earth, they observed cold, dense plasmas at the boundary between the plasma sheet and lobe. The plasmas are almost stationary and isotropic. The temperature of the plasmas is much lower than that of the plasma sheet plasmas. On the other hand, the density of the plasmas is much larger than that of the plasma sheet plasmas. These characteristics are very different from those usually observed at the plasma sheet boundary layer (PSBL), which usually consists of ion and electron beams. We will present the observational features of the boundary layer in detail.