



The average current sheet properties of the near Venusian magnetotail

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Although there is no intrinsic magnetic field at Venus, it possesses a well-defined magnetotail as part of the induced magnetosphere. Previous PVO measurements revealed the general features of this current sheet in the distant magnetotail region, mainly 8 to 12 R_v down the tail (McComas et al, 1986). Venus Express provides the unique chance in studying the near Venus wake. Here we follow the same statistical technique from McComas et al (1986) and examine the Venus Express magnetometer data to determine the average structure of the near Venus magnetotail current sheet, 1 to 3 R_v down the tail. We find that the interplanetary magnetic field controls the magnetic configuration in the Venus magnetotail and current sheet is offset in the same way as that in the distant tail region observed by PVO. The near tail current sheet can be fit with a Harris model, but strong thin current sheet is embedded in the central part, indicating a much more dynamic nature of the near tail current sheet in comparison with the distant tail. We found that JxB forces are different for the near and distant tail current sheets, due to the hemispheric asymmetry in magnetic field line draping pattern and magnetic reconnection.