



MMS observations of the dense high speed flow in the magnetotail

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With the MMS observations in the magnetotail, we report an earthward, dense, high speed, bulk flow event. In this event, two dense high speed flows (DHSF) are observed. Compared with the plasma sheet, the DHSF contains much denser and colder plasma. Ion density of DHSFs is about 8 times higher to plasma sheet density, while temperature of DHSFs is several times lower to plasma sheet plasma. Due to the high density, DHSFs can transport mass more effective than BBFs. Such DHSF can be generated by magnetic reconnection, but the generation mechanism is still unclear.