Statistical properties of plasma in the vicinity of magnetic neutral line in the mear-Earth magnetotail

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We studied properties of plasma in the vicinity of magnetic neutral lines in the Earth's magnetotail with GEOTAIL data. We required simultaneous reversals of the 1-min-averaged ion flow velocity and the magnetic field to select the data near the neutral line. From this criterion we could select 6091 samples of the events. In the near tail region, the width of the high occurrence rate region was about 15 RE in the Y direction with its center around +3 RE. In addition, fast dawnward ion flows were frequently observed in the southern plasma sheet boundary layer.We found that the dawnward flows were attributed to a persence of hot ion component in their velocity phase space density.