

Analysis of GEOTAIL Spacecraft Potentials in the Lobe Region

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In the magnetospheric lobe region, the electron density is dilute and its electron temperature is low. In this study, we have examined further the correlation between the GEOTAIL spacecraft potential and the electron density estimated by the lower cut-off frequency of the continuum radiation in the lobe region and found a good correlation in the high range between 35 V - 50 V of the spacecraft potential which corresponds to the electron density 0.02 /cc - 0.005 /cc. We examine a relation between the spacecraft potential and the particle velocity distribution obtained the LEP instrument.