

地球磁気圏ローブ領域の密度と太陽風の関係

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Relationship of density in the tail lobe to the solar wind

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We investigated the density in the tail lobe (plasma $\beta < 0.1$) by using the GEOTAIL data in 1998 -2006. The tail lobe is a region of low temperature and low density in the magnetosphere. The relation between density in this region and solar wind parameters was statistically examined. GEOTAIL LEP measurements have revealed the frequent presence of field-aligned fluxes of a few hundred eV electrons in the geomagnetic tail lobes. In the northern tail lobe these bidirectional fluxes are most prominent when the interplanetary magnetic field is directed away from the sun. We found that the number density in the tail lobe was associated with the number density of solar wind.

GEOTAIL(1998-2006) のデータを用いて地球磁気圏ローブ領域 (plasma $\beta < 0.1$) の密度と太陽風の間関係を調べた。ローブは磁気圏において低温低密度の領域である。この領域で沿磁力線双方向電子 flux が観測されるとき、地球磁場と惑星間空間地場の x 成分に負の相関があることがわかった。また、ローブのプラズマの数密度と太陽風のプラズマの密度に相関があることがわかった。