

Characteristics of daytime east-west geomagnetic variations at mid latitudes

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Characteristics of dayside east-west geomagnetic variations at mid latitudes are examined. At mid latitudes, the eastward component of the geomagnetic field tends to be negative. However, it is not easy to interpret what controls the dayside east-west geomagnetic variations at mid latitudes because various mechanisms contribute to them. We compared them with various parameters. The result implied that the negative disturbances in the afternoon sector are partly controlled by the solar wind dynamic pressure. This is possibly interpreted to indicate that the day-night asymmetry in the magnetospheric magnetic field significantly controls the generation of the Region-2 currents in the afternoon sector. It was also suggested that the negative disturbances in the morning sector and those in the afternoon sector are controlled by different mechanisms.