

Time-frequency behaviour of the field-aligned plasma velocity

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Generally field-aligned plasma motion is believed to be caused by neutral winds.

Time-frequency analysis of the ESR and UHF data from the August 1998 experiments shows correspondingly enhanced power at the tidal frequencies.

No localization in time is seen over the available length of the data records.

However, at higher frequencies the power increases transiently.

A good correlation with geomagnetic activity and electron temperature enhancements is observed, even at low altitudes where diffusion velocities are very small and the plasma should be completely frozen into the neutral gas.