

Meridional wind control of the equatorial spread F occurrence

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To study the Equatorial Spread F (ESF) occurrence triggered by meridional winds, the ESF events captured by GNU-Radio-Beacon-Receiver TEC (GRBR-TEC) were studied with the thermospheric meridional wind. The thermospheric meridional wind is directly linked with the vertical plasma drift which can be derived from the change of the F-region bottom height in time. Thus the meridional neutral wind in a magnetic meridional plane can be estimated by comparison of the ionospheric height change at several locations around the geomagnetic equator. The data used in this work are derived from 5 GRBRs and 3 ionosondes aligned along 100 degree geographic longitude. The field of view of this observational network covers +/- 20 degree geomagnetic latitude including the geomagnetic equator. March and September equinoxes in 2012 and 2013 are the primary targets of this study. This work focuses on the local time period during 18:30 LT and 04:00 LT to avoid an inaccurate estimation of the meridional neutral wind caused by an ionization in E and F regions. The plausible linkage of the meridional wind with triggering of ESF is under investigating and will be presented in the presentation.