



CHARACTERISTICS OF EQUATORIAL PLASMA BUBBLES OBSERVED BY TEC MAP OVER SOUTH AMERICA

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ABSTRACT

Equatorial plasma bubbles (EPBs) are large-scale irregularities that occur in the equatorial ionosphere under particular electro dynamical conditions during the sunset to evening period. Ground-based networks of GNSS receivers have been used to monitor EPBs by mapping the total electron content (TEC map). Using TEC map analysis and keogram for the data obtained during the period from November/2012 to January/2016, it was possible to characteristics of the EPBs as: (1) the latitudinal gradient in both zonal drift velocities and inter-bubble distances, (2) extension and apex height, and (3) inclination against the geomagnetic field lines. Comparison of these characteristics with the Fabry-Perot interferometer data and the HWM14 model showed that they are strongly related to thermospheric wind behavior.