## Area of Continuous Formation of Large-Scale Ionospheric Plasma Irregularities in the Daytime Summer Southern Hemisphere

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The area of continuous formation of large-scale irregularities in the daytime summer ionosphere of Southern hemisphere is studied according to the topside sounding onboard the Interkosmos-19 satellite. This area is characterized by low values of foF2 and especially hmF2 (200-220 km). It covers a broad band of latitudes from the equatorial anomaly crest to  $\sim 70^{\circ}$ S and an interval of longitudes from 180° to 360°. Such anomalous area is never observed in the Northern hemisphere.

The large-scale (200-500 km) ionospheric irregularities are regularly observed during the day time from 10 LT to 19 LT. On the Interkosmos-19 ionograms they usually appear as an additional trace with the critical frequency greater than the frequency of main trace reflected from the background ionosphere. The electron density in the irregularity maximum is sometimes 3 times higher than the background density of the ionosphere.

The ionosphere model taking into account its irregular structure is constructed and on the base of the ray tracing it is shown how the Interkosmos-19 ionograms with the additional trace are formed. The formation mechanism of large-scale irregularities of ionospheric plasma is discussed.



**Figure.** The foF2 and hmF2 distributions in the day time (12-15 LT) Southern hemisphere for local summer conditions. The positions of the most intense plasma irregularities are marked by dots.