SMART SENSING OF MAGNETOSPHERIC PLASMA BY MEANS OF WHISTLER MODE SIGNALS OBSERVED AT A LOW LATITUDE INDIAN GROUND STATION SRINAGAR

(L = 1.28)

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ABSTRACT

The dispersion analysis of the whistlers recorded at our low latitude ground station Srinagar (geomag. lat., 24^{o} $10^{/}$ N; L = 1.2) are used to derive the magnetospheric plasma parameters. The estimated parameters are in agreement with the results reported by other workers. The dispersion analysis of the whistlers recorded at Srinagar is also used to deduce information about ducts and for the determination of maximum electron density at the height of ionosphere. The maximum electron density at the height of ionosphere obtained from whistler dispersion comes out to be higher than that of the background, which is in accordance with characteristics of whistler duct. The equalvient width of the whistler duct at the maximum height of its path is found to be close to the obtained value from satellite and ground based observations. The width of ducts estimated from the diffuseness of the whistler trace observed at Srinagar is found to lie in the range of about 50-150 km.

KEYWORDS: Smart Sensing, Magnetospheric Plasma, Whistler Mode Signals Observed, Low Latitude Indian Ground Station Srinagar, (L = 1.28)