

Effect of the dynamics of the regular ionosphere on the conditions of existence of group delay resonances during vertical radiosounding

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Abstract

The effect of the regular diurnal variations in the nonmonotonous model Ne(h) profile with a valley between the E and F layers on the conditions of existence of group delay resonances has been studied. The performed calculations of the rate of resonance frequency bias and resonance halfwidth indicated that resonances are destroyed due to the Ne(h) profile dynamics even at insignificant (~ 10 kHz) departures from the E layer critical frequency. The number of resonances that can be registered during vertical radiosounding changes from one to three depending on the diurnal variations in the E layer thickness, valley dimensions, and rates of its changes. Copyright © 2004 by MAIK "Nauka/Interperiodica" (Russia).
