

## **Impact of turbulent irregularities on the semi-transparency of the Es layer**

Sherstyukov O., Stenin Y.

*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

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### **Abstract**

The nature of radio reflections in the semi-transparency range of the Es layer at vertical sounding of the ionosphere is considered on the basis of the spectra of turbulent irregularities observed experimentally by the radiometeor method. It is shown that the level of the backscattered signal for the inertial range of the scales of turbulent irregularities cannot explain the Es-layer semi-transparency ranges above 0.5 MHz observed experimentally. The semi-transparency range above 1 MHz may be caused by radiowave reflection from irregularities with dimensions comparable with the first Fresnel zone for the reflected radiowave. These irregularity dimensions correspond to the turbulent fluctuations of the electron concentration in large-scale and Archimedean regions. © 2002 by MAIK "Nauka/Interperiodica" (Russia).

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