



## **Some aspects of magnetospheric response to the ionospheric infrasonic wave**

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Analytical expressions for the reflection coefficient of whistler mode waves, which are incident on the ionosphere from above, are studied. A form of these expressions makes it relatively simple to take into account the effect of different ionospheric factors, e.g., ionospheric infrasonic waves. The reflection coefficient of whistler mode waves from the ionosphere affects the  $Q$  - factor of the magnetospheric resonator. A detailed analysis indicates that the regime of stationary generation hiss-like whistler emissions occurs when the quality of the magnetospheric resonator is comparatively high (under nighttime conditions), whereas the dynamic quasi-periodic regimes take place at a lower  $Q$ -factors (in the dawn and daytime magnetosphere). The results of calculations show that an infrasonic wave with period between 20 and 150 seconds in the daytime conditions can form magnetospheric spatio-temporal structures. These structures are characterised by a wave-like spatio-temporal intensity distribution of the whistler emissions in the magnetosphere and unsteady fluxes of precipitating into the ionosphere and captured in the radiation belts energetic electrons. The modulation of the precipitated electron fluxes is considerably deeper than the modulation of captured electrons fluxes.