VLF emission, excited by electric generator, mounted on IK-24 satellite

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The results of study of VLF signals in the ionosphere excited by electric generator DEP on board INTERCOSMOS-24 satellite are presented. DEP emitted each second pulse duration 250 ms in the range 1.5 to 19.5 kHz. Frequency for each pulse was been changed on 1 kHz. Full range has been emitted successively by four cycles with amplitudes 50, 100, 150, 200 V. Antenna current has been measured and was been equal 1.5 mA at drop of potential 100 V. It was suited to amplitude of low frequency magnetic field near antenna as 0.45 nT. The paper presents observations on orbit orbit 1238 (altitude 920 km, L = 2.3). Derivative the frequency on time df/dt was equal 5kHz/s at f=4 kHz. After any pulses were registered short signals, observed with delays 1.2 s relatively to pulses. Detected, that signal may propagate by whistler mode, therefore they were defended as “artificial whistlers”. These signals have their analogs in nature that allow proposing model for their interpretation, using nonlinear mechanism. It is considered next models: beating of two harmonic of the different amplitudes, propagated by whistler mode at nonlinear phase interaction, appearing of nonlinear carrent at addition of waves by different intencity and frequency , space changes of k at sharp drop of signal frequency.