

## Numerical Experiments for the Purpose of Studying Space-Time Evolution of Various Forms of Pulse Signals in the Collisional Cold Plasma

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**Abstract :** The influence of inhomogeneities of plasma and statistical characteristics on the propagation of signal is very actual in wireless communication systems. While propagating in the media, the deformation and evaluation of the signal in time and space take place and on the receiver we get a deformed signal. The present article is dedicated to studying the space-time evolution of rectangular, sinusoidal, exponential and bi-exponential impulses via numerical experiment in the collisional, cold plasma. The presented method is not based on the Fourier-presentation of the signal. Analytically, we have received the general image depicting the space-time evolution of the radio impulse amplitude that gives an opportunity to analyze the concrete results in the case of primary impulse.

**Keywords :** collisional, cold plasma, rectangular pulse signal, impulse envelope

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