

Simulation of frequency-selective properties of meteor scatter radio links

Sulimov A., Karpov A.

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

Abstract

© 2019 IEEE. The paper describes a method for simulation of frequency-selectivity of meteor scatter channel that takes into account its nonstationarity, nonreciprocity, and stochastic nature. The amplitude-frequency and phase-frequency responses of the channel obtained by averaging large number of single meteor radio reflections modeled for the typical meteor radio link of Moscow-Kazan of 720-km length are presented. A problem of nonsimultaneous detection of radio signals with large frequency diversity is discussed.

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Keywords

Channel frequency response, Diffraction, Meteor burst communications, Meteor radio reflection, Nonreciprocal radio wave propagation

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