

GENERAL CHARACTERISTICS OF NEW, FULL WAVE MODELING METHODS IN THE MAGNETOSPHERIC PROPAGATION

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One of the most important and most effective tools in the investigation and monitoring of the magnetosphere is the sounding of this region by electromagnetic signals traversing / propagating through this magnetized, inhomogeneous, in some cases moving medium. To reach this goal it is necessary to use accurate, full wave propagation models. In these models the media are complex and inhomogeneous; the signals are in most cases UWB signals with general shapes. This presentation will give an overview of the common, general characteristics of these new, accurate and effective models for the computation of the signal propagation in the magnetosphere (and in the atmosphere of other planets, too). These common characteristics are the base of the description of the parameters and dynamics of the magnetosphere deriving by the inversion of the accurate propagation models, and the results depend on the structure and characteristics of the applied model.

UWB, full wave

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