عنوان مقاله:

A Study of Electromagnetic Radiation from Monopole Antennas on Spherical-Lossy Earth Using the Finite-Difference Time-Domain Method

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خلاصه مقاله:

Radiation from monopole antennas on spherical-lossy earth is analyzed by the finitedifference time-domain (FDTD) method in spherical coordinates. A novel generalized perfectly matched layer (PML) has been developed for the truncation of the lossy soil. For having an accurate modeling with less memory requirements, an efficient "non-uniform" mesh generation scheme is used. Also in each time step, computation is limited to that part of the mesh where the radiated pulse is passing (computational window). In this manner, the values of radiated field at far distances can be obtained directly by the FDTD method. The spatial distribution of radiated field and the influence of the ground screen on monopole's admittance are shown in illustrations.

کلمات کلیدی:

FDTD method, Inhomogeneous Media, Electromagnetic Wave Propagation

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