

عنوان مقاله:

Analysis Method for Spherical Dipole Antenna Array

محل انتشار:

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خلاصه مقاله:

Rigorous mathematical Method of Moments (MoM) for analyzing various radiating spherical structures is presented in this paper by using Dyadic Green's Functions (DGF) in conjunction with Mixed Potential Integral Equation (MPIE) formulation. With the aid of linear Rao-Wilton-Glisson (RWG) triangular basis functions and by converting spherical DGF to Cartesian DGF, a conformal dipole antenna over a Perfect Electric Conductor (PEC) sphere is analyzed. Mutual couplings between elements of a conformal dipole antenna array in an unbounded free space and over a conducting sphere are also investigated. Good agreement between the results obtained from the proposed method and asymptotic approximation as well as those of commercial simulator packages shows accuracy and high convergence speed of the presented method.

کلمات کلیدی:

DGFs transformation, dyadic Green's function, method of moment, spherical antennas

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