عنوان مقاله:

Modified Physical Optics Approximation for RCS Calculation of Dielectric Coated PEC with Axial Symmetry

محل انتشار:

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خلاصه مقاله:

This paper presents a method to predict the bistatic Radar Cross Section (RCS) of electrically large objects with Bodies of Revolution (BOR) surfaces. The bodies can becovered by lossy electric and/or magnetic radar absorbing materials (RAMs). These materials can be approximated bythe Fresnel reflection coefficient. The proposed method is used modified Physical Optics (PO) approximation to obtain the scattered field of a BOR surface. The main advantage is the useof Stationary Phase Method (SPM) to solve the PO integral. Because, the SPM reduces significantly the computation timerequired to solve this integral in contrast with numerical integration techniques. Numerical results are presented to verify the accuracy and efficiency of the proposed method compared by commercial FEKO software and to show its ability to reduce the computation time.

کلمات کلیدی:

Asymptotic techniques, Physical Optics (PO) approximation, Radar Cross Section (RCS), Stationary Phase Method (SPM), Radar Absorbing Materials (RAM

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