Abstracts

Long-Wavelength Analysis of Plane Wave Irradiation of an Ellipsoidal Model of Man

H. Massoudi, C.H. Durney and C.C. Johnson. "Long-Wavelength Analysis of Plane Wave Irradiation of an Ellipsoidal Model of Man." 1977 Transactions on Microwave Theory and Techniques 25.1 (Jan. 1977 [T-MTT]): 41-46.

Expressions are derived for the induced eletric fields in an ellipsoidal model of man, and experimental animals irradiated by an electromagnetic (EM) plane wave when the wavelength is long compared to the dimensions of the ellipsoid. Calculations of the power absorbed by an ellipsoidal model of man are given for six different orientations of the ellipsoid with respect to the incident plane wave field vectors. The results show that the induced fields and the absorbed power in the ellipsoid are strong functions of frequency, size, and orientation with respect to the incident EM field vectors. The results for the ellipsoidal model of man are also compared with those of the prolate spheroidal model.

❑ Return to main document.