Abstracts

Transponder Antennas in and Near a Three-Layered Body

R.W.P. King, S. Prasad and B.H. Sandler. "Transponder Antennas in and Near a Three-Layered Body." 1980 Transactions on Microwave Theory and Techniques 28.6 (Jun. 1980 [T-MTT]): 586-596.

The electric field in a three-layered half-space iluminated by an incident plane wave is reviewed and numerical data provided when the layers are skin, fat and muscle. The impedance and voltage across the load of a dipole antenna is discussed when this is located in each of the three layer and in the air near the surface. Bare and insulated antennas are considered over a frequency range up to 3 GHz with layer thicknesses of skin from 0.2 to 1.0 cm, and of fat from 0 to 1.5 cm. The transmitting problem is discussed as well as application of the results to finite bodies.

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