Abstracts

Electromagnetic Energy Deposition Inside a Three-Layer Cylindrical Human Body Model Caused by Near-Field Radiators

P.G. Cottis, G.E. Chatzarakis and N.K. Uzunoglu. "Electromagnetic Energy Deposition Inside a Three-Layer Cylindrical Human Body Model Caused by Near-Field Radiators." 1990 Transactions on Microwave Theory and Techniques 38.8 (Aug. 1990 [T-MTT]): 990-999.

The electromagnetic energy deposition inside a three-layer cylindrical human body model caused by loop or aperture applicators is considered analytically. The complex electromagnetic problem is formulated with the aid of the Green's function theory. The Green's function for the three-layer cylindrical structure is determined as the response to a unit excitation located outside the cylinder. Then the response to the radiators under examination is found. Numerical results are presented for several radiator dimensions and locations. A new applicator with enhanced penetration depth is proposed.

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