Abstracts

Electromagnetic Absorption in Multilayered Cylindrical Models of Man

H. Massoudi, C.H. Durney, P.W. Barber and M.F. Iskander. "Electromagnetic Absorption in Multilayered Cylindrical Models of Man." 1979 Transactions on Microwave Theory and Techniques 27.10 (Oct. 1979 [T-MTT]): 825-830.

The absorption characteristics of multilayered cylindrical models of man irradiated by a normally incident electromagnetic plane wave are investigated. Numerical calculations for a specific skin-fat-muscle cylindrical model of man predict a layering resonance at 1.2 GHz with an average specific absorption rate (SAR) about double that calculated for the corresponding homogeneous model. The layering resonance frequency is found to be the same for incident waves polarized parallel and perpendicular to the cylinder axis. The effects of layers on whole-body absorption by man are determined by averaging the effects obtained for many combinations of skin and fat thicknesses. Absorption effects due to clothing are also investigated.

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