Abstracts

Modeling of Various Kinds of Applicators Used for Microwave Hyperthermia Based on the FDTD Method

J.-C. Camart, D. Despretz, M. Chive and J. Pribetich. "Modeling of Various Kinds of Applicators Used for Microwave Hyperthermia Based on the FDTD Method." 1996 Transactions on Microwave Theory and Techniques 44.10 (Oct. 1996, Part II [T-MTT] (Special Issue on Medical Application and Biological Effects of RF/Microwaves)): 1811-1818.

This paper presents the modeling using the finite difference time domain (FDTD) method of interstitial and endocavitary applicators which have been designed and developed for microwave hyperthermia treatments controlled by microwave radiometry. For each kind of applicators, the numerical results are given concerning the reflection coefficient S/sub 11/, the power deposition, and the heating patterns. These results are compared with the measurements performed on phantom models of human tissues and show a good agreement. Possibilities of future developments are discussed.

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