Abstracts

A Multifrequency Water-Filled Waveguide Applicator: Thermal Dosimetry in Vivo (Short Papers)

G.A. Lovisolo, M. Adami, G. Arcangeli, A. Borrani, G. Calamai, A. Cividalli and F. Mauro. "A Multifrequency Water-Filled Waveguide Applicator: Thermal Dosimetry in Vivo (Short Papers)." 1984 Transactions on Microwave Theory and Techniques 32.8 (Aug. 1984 [T-MTT] (Special Issue on Electromagnetic-Wave Interactions with Biological Systems)): 893-896.

A new horn-shaped waveguide hyperthermia applicator, operating in the range 300-1000 MHz, has been designed. The applicator is filled with deionized water acting as both a dielectric and a cooling fluid. Pretiminary tests indicate that proper heating can be achieved at frequencies of about 340, 440, 560, and 690 MHz. A very low level of enviromental pollution was observed. Thermodosimetry has been carried ont on two young femate sheep. Measurements in vivo have been carried out using up to 5 temperature sensors in different positions. The results indicate the occurrence of different temperature trends if the water is maintained at 15, 23, 30, and 35°C.

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