Abstracts

Development of double-electrode applicator for localized thermal therapy

Y. Kotsuka, E. Hankui, H. Hashimoto and M. Miura. "Development of double-electrode applicator for localized thermal therapy." 2000 Transactions on Microwave Theory and Techniques 48.11 (Nov. 2000, Part I [T-MTT] (Mini-Special Issue on RF/Microwave Applications in Medicine)): 1906-1908.

A double-electrode applicator for localized thermal therapy is developed by breaking through the construction principle of the capacitive applicator. To make the beam of the electric field narrow, a ferrodielectric material is introduced as the sub-electrode. The optimum configuration of the double electrode and the material constant in each part of this applicator are investigated theoretically and experimentally. Good localised deep-heating characteristics are obtained at an operating frequency of 13.56 MHz and an output power 450 W by choosing a ferrodieletric material (BaTiO/sub 3/) with a relative permittivity of 6000 as the sub-electrode.

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