Abstracts

Microwave breast cancer detection

E.C. Fear and M.A. Stuchly. "Microwave breast cancer detection." 2000 MTT-S International Microwave Symposium Digest 00.2 (2000 Vol. II [MWSYM]): 1037-1040.

A system for microwave breast cancer detection is described, further extending ideas from the previously introduced technique of microwave confocal imaging. The breast is immersed in a liquid with electrical properties similar to skin or breast tissue, but of low loss. The characteristics of resistively loaded dipole antennas in the immersion media are investigated. The influences of the number of antennas and immersion medium on reconstructed images are examined. Results indicate successful detection of 6 mm diameter tumors with both immersion media, and larger tumor returns with the system immersed in skin.

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