Abstracts

Thermoacoustic computed tomography of the breast at 434 MHz

R.A. Kruger, W.L. Kiser, D.R. Reinecke, G.A. Kruger and R.L. Eisenhart. "Thermoacoustic computed tomography of the breast at 434 MHz." 1999 MTT-S International Microwave Symposium Digest 99.2 (1999 Vol. II [MWSYM]): 591-594 vol.2.

The authors have constructed a thermoacoustic tomography (TACT) imaging device for mapping the three-dimensional absorption of 434 MHz radiowaves in the human breast. Contrast variations in these images reflect differences in bound water content of the constituent tissues of the breast. As anticipated, initial images have displayed excellent soft tissue differentiation between fatty and fibroglandular tissue with spatial resolution of 1.5-4 mm throughout a 2000 mm/sup 3/ imaging volume using safe levels of 434 MHz radiation. The imaging technique has great potential for breast cancer detection.

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