

A New Measurement Configuration for the Microwave Breast Cancer Imaging

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Abstract

Microwave imaging offers both advantages and challenges as a medical imaging modality. Current research efforts mainly focus on two applications: (i) imaging of breast cancer for early diagnosis and (ii) continuous monitoring of brain after the stroke. As a rapidly evolving technology, medical microwave imaging has matured to reach clinical trials phases. Recent developments in the area are extensively shaped with the clinical outcomes such as increased importance of differential imaging techniques.

In this paper it will be presented a new microwave measurement configuration for the breast cancer imaging. The system consists of 36 modified Vivaldi antennas located circularly in an alumina matching medium. The operating frequency of the system is 0.4-8Ghz. The imaging system is clinically tested with 322 patients and now in the process of medical certification. During the talk the clinical results will be presented as well.