Abstracts

Microwave Radiometry: Its Importance to the Detection of Cancer

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Developments in the application of microwave technology to the solution of medical problems, particularly the detection and treatment of cancer, have been very encouraging. In the treatment of cancer, for example, microwave hyperthermia has been accepted as an adjunctive procedure to radiation therapy in the treatment of superficial lesions. While not as widely reported, the use of microwave radiometry as a noninvasive, passive technique for the early detection of cancer appears very promising. Wider acceptance of these methods, however, awaits fundamental improvements in the ability to focus energy at depth in human tissue, an important and nontrivial antenna problem. Further development in the areas of antennas and antenna arrays is required if microwave technology is to provide a practical solution to the detection and treatment of cancer. This paper discusses developments in the medical uses of microwave radiometry, particularly in relation to the early detection of cancer, as well as the significance of and progress in related antenna technology.

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