

Microwave Radiometry for Medical Thermal Imaging: Theory and Experiment

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To ascertain the capability of multifrequency microwave radiometry for imaging an inhomogeneous temperature distribution inside a cylindrical region of the human body an equivalent cylindrical phantom has been constructed. Experiments have been performed with the use of a four-channel radiometer. The physical equipment is evaluated by comparison between measured and modeled data. The effectiveness of a modified algorithm for the solution of the inverse problem of temperature retrieval from radiometric data is discussed.

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