Abstracts

Water-Immersed Microwave Antennas and Their Application to Microwave Interrogation of Biological Targets

J.H. Jacobi, L.E. Larsen and C.T. Hast. "Water-Immersed Microwave Antennas and Their Application to Microwave Interrogation of Biological Targets." 1979 Transactions on Microwave Theory and Techniques 27.1 (Jan. 1979 [T-MTT]): 70-78.

This paper describes a method of significantly improving the resolution of systems used for interrogating the spatial variation of permittivity of biosystems at S band. The basic principle employed is to contract the wavelength of the interrogating radiation and to reduce the physical aperture of the interrogating probes by immersing the transmitting antenna, receiving antenna, and the target into a material with a high dielectric constant, namely water. The antenna design is described, and line scans employing transmitted and reflected energy are presented.

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