Abstracts

Microwave Power Absorption in a Biological Specimen Inside a Standing-Wave Irradiation Waveguide (Short Papers)

O. Fujiwara and Y. Amemiya. "Microwave Power Absorption in a Biological Specimen Inside a Standing-Wave Irradiation Waveguide (Short Papers)." 1982 Transactions on Microwave Theory and Techniques 30.11 (Nov. 1982 [T-MTT]): 2008-2012.

An irradiation system consisting of a standing-wave in a waveguide is a convenient way to study biological effects of the individual components of the microwave fields. This paper describes microwave power absorption in a biological specimen exposed to standing waves inside the waveguide with a reflection plate. A method is presented to obtain the absorbed power distribution and total power absorption in a prolate spheroidal model of a specimen having small dimensions compared to the guide wavelength. Numerical results on the pupa of Tenebrio molitor are given, and also verified experimentally.

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