Abstracts

Preliminary In-Vo Probe Measurements of Electrical Properties of Tumors in Mice

E.C. Burdette, J. Seals, J.C. Toler, F.L. Cain and R.L. Magin. "Preliminary In-Vivo Probe Measurements of Electrical Properties of Tumors in Mice." 1977 MTT-S International Microwave Symposium Digest 77.1 (1977 [MWSYM]): 344-347.

The induction of hyperthermia into neoplastic tissues using electromagnetic radiation depends significantly upon the electrical properties of the tissues of interest. An in-vivo measurement probe based upon an antenna modelling theorem was designed and a measurement system that is capable of performing accurate in-vivo measurements has been developed and tested on several standard materials. This measurement probe and system were used to perform dielectric measurements on normal and neoplastic tissues from 0.01 to 2.0 GHz. The preliminary results of measurements performed on six malignant tumor types in mice are compared with results obtained on normal muscle tissue and on phantom modelling materials. The trends of the in-vivo measurements show differences that indicate the possibility of using such data and techniques in various types of future cancer research.

❑ Return to main document.