Abstracts

An Exposure System for Variable Electromagnetic-Field Orientation Electrophysiological Studies

J.D. Forster, F.S. Barnes, H. Wachtel, R.R. Bowman, J.W. Frazer and R. Chalker. "An Exposure System for Variable Electromagnetic-Field Orientation Electrophysiological Studies." 1985 Transactions on Microwave Theory and Techniques 33.8 (Aug. 1985 [T-MTT]): 674-680.

A TEM system for exposing isolated nerve cells at 2 GHz is described. The system allows for monitoring of transmembrane potentials by means of microelectrodes and variation of the angle between the electric-field vector and the cell. An S-parameter characterization of the system is included along with temperature profile measurements for the energy distribution within the exposure chamber. Additional data on the transient electrical characteristics of microelectrodes upon exposure to microwave pulses in this system are included along with a few examples of the response of Aplysis pacemaker neurons to microwave fields.

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