Abstracts

Monopoles for Microwave Catheter Ablation of Heart Tissue

S. Labonte, H.O. Ali and L. Roy. "Monopoles for Microwave Catheter Ablation of Heart Tissue." 1995 MTT-S International Microwave Symposium Digest 95.1 (1995 Vol. I [MWSYM]): 303-306.

The finite-element method is applied to the study of monopole antennas for microwave catheter ablation. Three geometries are considered: open-t ip, dielectric-tip and metal-tip. Calculations are made for the magnetic field, tlhe reflection coefficient and the power deposition pattern of the antennas immersed in normal saline. The theoretical results agree with measurements performed on prototypes. The differences between the antennas suggest that the metal-tip monopole best fulfills the requirements of catheter ablation of the endocardium. Optimal dimensions for a metal-tip monopole are also presented.

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