Abstracts

Control of the SAR Pattern within an Interstitial Microwave Array through Variation of Antenna Driving Phase

B.S. Trembly, A.H. Wilson, M.J. Sullivan, A.D. Stein, T.Z. Wong and J.W. Strohbehn. "Control of the SAR Pattern within an Interstitial Microwave Array through Variation of Antenna Driving Phase." 1986 Transactions on Microwave Theory and Techniques 34.5 (May 1986 [T-MTT] (Special Issue on Phased Arrays for Hyperthermia Treatment of Cancer)): 568-571.

The interstitial microwave antenna-array hyperthermia (IMAAH) system produces a pattern of specific absorption rate (SAR) that is nonuniform within a 2-cm square array driven in phase at 915 MHz. Theory and experiment show that the point of phase coherence (maximum SAR) can be shifted to a point where the SAR is small by changing the antenna driving phases. Rapid shifting makes the time-average SAR more uniform in the direction perpendicular to the antennas. In 95 percent of the antenna junction plane, the time-average SAR is constant within 10 percent.

❑ Return to main document.