Abstract

The critical element in the hyperthermia system is an antenna. The quality of the system and performance of antenna determines the electromagnetic energy (EM) deposition into the tissue. This paper presents the design and simulation of two slotted circular microwave based antenna used for hyperthermia applicator. The antenna is designed to operate at a frequency of 2.45GHz which is a designated medical band frequency to be used for hyperthermia applicators. The performance of the two slotted circular microwave antenna is compared with conventional circular microwave antenna. The result shows that slotted antenna offers better gain, high directivity, improved VSWR and an excellent return loss. The design of the proposed two slotted antenna can be used as a single antenna element in future for cancer specific deep region hyperthermia system.

References


Index Terms

Computer Science

Circuits and Systems

Keywords

Hyperthermia, slotted circular antenna, directivity, gain, VSWR, return loss.