Abstract

This paper presents different data represented with specific absorption rate (SAR) and temperature deviation, which obtained by using phantom models of different tissues represented using numerical simulation CST Studio Suite which uses two problem, high frequency problem for evaluating electric field and (SAR), and Thermal Steady State (TSS) problem for evaluating temperature and activating others heat sources. This paper also present classifications for tissues according to ability to energy absorption and heat dissipation. First classification, tissues with low blood flow and high water content, the tissue will absorb the energy (SAR) and cause temperature increasing. Second classification, tissues with low blood flow and low water content, the tissue will absorb some of the energy (SAR) and causing temperature increasing with low energy dissipation. Third classification, tissues with high blood flow and high water content, the tissue will absorb the energy (SAR) and cause minor temperature increasing because of high blood flow.


Index Terms

Computer Science

Applied Sciences

Keywords

Electric field; Water content; Human tissue; Blood flow; CST; SAR; TSS;