

عنوان مقاله:

Evaluating of Magnetic Fluid Hyperthermia in Cylindrical Agar Gel

محل انتشار:

دومین همایش ملی پژوهش های کاربردی در برق، مکانیک و مکاترونیک (سال: 1393)

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خلاصه مقاله:

Magnetic fluid hyperthermia is a treatment method for cancer therapy. This method is based on this fact that if magnetic nano particles are subjected to an alternating magnetic field they will produce heat in tumor tissue. Therefore, if magnetic nano particles are injected into a tumor tissue and get subjected to an alternating magnetic field with high amplitude and frequency, tumor tissue temperature would rise. This could lead to destroying of cancer cells. In this study, at first, magnetic field intensity at different parts of experiment sample has been calculated by software simulation. Then temperature distribution in agar gel with two types of nano fluid and three different concentrations for dispersed and concentrated injections has been evaluated. Results indicate that magnetic field in different parts of gel are not the same but the differences are not much and can be ignored. Temperature distribution for both types of nano fluid in dispersed and concentrated injections has a behavior like a degree three function, also compared to dispersed injection, a higher temperature is observed in concentrated injection

کلمات کلیدی:

Magnetic fluid hyperthermia, Magnetic field simulation, Dispersed and concentrated injection of nano fluid, Magnetic fluid hyperthermia in cylindrical coordination

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