

Optical Penetration Depths and Fluence Distributions in Chicken Breast and Liver Tissues*

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The optical penetration depth is one of the important parameters needed for the calculations of light dosimetry in various medical applications like photodynamic therapy. In this study, the optical penetration depths in chicken breast and liver tissues have been measured by using the LED light sources with the wavelengths of 635 nm and 660 nm. Experimental results of this study have been compared with the ones from the Monte Carlo simulations in order to test the simulation toolkit. Based on the agreement between the experimental and simulated data, it is concluded that tissue optics plug-in interfacing with GAMOS architecture is a reasonable software for investigating the light distribution in biological tissues.

Key words: biological tissues, optical penetration depth, Monte Carlo simulations

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