Optical Methods in Diagnosis

2nd semester, 2015-2016

Homework #2

Program a Monte Carlo model to compute the attenuation of a collimated beam propagating along the +z-axis in an absorbing medium that is 1.0 cm think. Let μ_a = 10 cm^{-1} and $\mu_s = 0$. Test with 5 sets of 10,000 photons for each set. Assume index matched boundary and fixed weight photons.

Graphic output: Plot the number of photons absorbed in each depth interval Δz; select $\Delta z = 0.025$ cm for accumulating the photons. Compare your results to Beer-Lambert Law in the same graph.