Non-invasive scattering anisotropy measurement in turbid materials using non-normal incident illumination

Neel Joshi, Craig Donner, and Henrik Wann Jensen

Department of Computer Science and Engineering, University of California, San Diego
9500 Gilman Drive Dept. 0404, La Jolla, CA 92093-0404

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Many existing methods for the recovery of optical parameters from turbid materials rely on the diffusion approximation, which does not allow the recovery of the degree of anisotropy in the scattering phase function. These methods also make the explicit assumption that light is normally incident at the top surface of the material. In this paper, we demonstrate a steady-state imaging technique that uses nonnormally incident light to determine the anisotropy parameter $g$ by fitting Monte Carlo simulation results to high dynamic range images of the intensity profile of samples. The proposed method is simpler than existing methods and does not rely on thin samples to produce reasonable results. © 2006 Optical Society of America

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