Optical tomography: Image improvement using mixed projection of parallel and fan beam modes

Abstract

Mixed parallel and fan beam projection is a technique used to increase the quality images. This research focuses on enhancing the image quality in optical tomography. Image quality can be defined by measuring the Peak Signal to Noise Ratio (PSNR) and Normalized Mean Square Error (NMSE) parameters. The findings of this research prove that by combining parallel and fan beam projection, theimage quality can be increased by more than 10% in terms of its PSNR value and more than 100% in terms of its NMSE value compared to a single parallel beam.

Keywords