

Sensitivity maps reconstruction for magnetic induction tomography modality using experimental technique

Abstract

Magnetic induction tomography (MIT) is a relatively new non-contacting technique for visualization of passive electrical property distribution inside a media. In any tomography system, the image is reconstructed using image reconstruction algorithm which requires sensitivity maps. There are three methods of acquiring sensitivity maps; finite element technique, analytically or experimentally. This research will focus on the experimentally method. Normally sensitivity map is generated using finite element technique that usually ignore certain parameters in real setup which in turn contribute to errors or blur in the reconstructed image. Thus experimental technique needs to be explored as an improvement as it is based on real parameters exists in the experimental setup. This paper starts with general view of magnetic induction tomography, image reconstruction algorithm and finally on the experimental technique of generating sensitivity maps.

Keywords; Experimental technique; Magnetic induction tomography; Sensitivity maps