

Imaging of a metallic object using magnetic induction tomography

Abstract

This paper describes the metallic imaging results from magnetic induction tomography (MIT) hardware. Copper phantom, representing a high conductivity material, was placed into the measurement region of interest. The initial 16-channel MIT consists of eight excitation coils and eight receiving coils stacked alternately. The measurement was undertaken on single and dual arrangements of copper phantom aligned in random coordinates so that the sensitivity of the excitation and receiving coil sensors could be experimentally observed. The results of the imaging results show that the hardware and algorithm used were capable of processing the data captured by the receiver and are discussed at the end of the paper.

Keywords

Conductivity; Copper phantom; Excitation coil; Magnetic induction tomography; Reconstruction algorithm