1. Record Nr. UNINA9910142671703321

Titolo	2006 IEEE Instrumentation and Measurement Technology Conference
Pubbl/distr/stampa	[Place of publication not identified], : I E E E, 2005
ISBN	9781509091072 1509091076 9780780393608 0780393600
Descrizione fisica	1 online resource (lxviii, 2377 pages) : illustrations
Disciplina	620.0028
Soggetti	Electronic instruments Measurement
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Sommario/riassunto	A particularly difficult case in electromagnetic induction tomography (EMT) is to image internal structure at the centre of the object space when the material at the outer regions is conductive. This is because the outer material acts as an electromagnetic screen, which partially excludes the magnetic field from the interior space and hence reduces the sensitivity at the centre. In this paper, we propose a methodology to image the conductivity distribution of an annular object when internal conductive objects are present. Finite element simulations were carried out to investigate how sensor coil outputs change with factors such as the size of internal object with regards to the external one. Linear and non-linear image reconstruction methods are applied to the tomographic data that are collected from a newly developed EMT system and image results are given in the paper.