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A. Lopes Ribeiro ; Francisco Alegria ; O. Postolache ; H. M. Geirinhas Ramos All Authors

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Abstract: This article presents the results obtained when a Duralumin plate with a slot was scanned with an inductive probe in order to measure the eddy currents' magnetic field. A 3D finite element numeric model was used to preview the eddy current distribution. An analysis of the produced data and of the consequences of using image filters is included.

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Contents

I. Introduction

One method to determine the volume distribution of material conductivity consists in inducing eddy currents inside the conductor under test and measuring the magnetic field produced by those currents. This method has been applied in different areas such as biomedical induction tomography [1] and non-destructive testing of conductive materials [2]. One example of this last application is the non-destructive inspection of metallic structures of aircrafts.

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