

Title (en)

METHOD AND ARRANGEMENT FOR RECONSTRUCTING THE SOURCE OF AN ELECTROMAGNETIC FIELD

Title (de)

VERFAHREN UND ANORDNUNG ZUM REKONSTRUIEREN DER QUELLE EINES ELEKTROMAGNETISCHEN FELDES

Title (fr)

PROCÉDÉ ET ENSEMBLE POUR LA RECONSTITUTION DE LA SOURCE D'UN CHAMP ÉLECTROMAGNÉTIQUE

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Application

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Abstract (en)

[origin: WO2011006480A1] The invention relates to a method for reconstructing the source (10, 23, 25) of an electromagnetic field. First, a measuring chamber (14) separate from the source (10, 23, 25) is selected so that the measuring space (14) is connected to the source (10, 23, 25) by means of a magnetically homogeneous spatial area. Measured values of the electromagnetic field emitted by the source (10, 23, 25) are recorded on the surface of the measuring chamber (14) in such a way that the electromagnetic field in the measuring chamber can be uniquely determined within an error bound resulting from the discreteness of the measured values. A mathematical model of the electromagnetic source (10, 23, 25) having a plurality of unknowns is developed, and a system of equations that relates the unknowns of the model to the measured values is provided. The system of equations is solved in order to determine the characteristics of the electromagnetic source (10, 23, 25). The invention further relates to an arrangement for performing the method. The uncertainty in the reconstruction of electromagnetic sources is reduced by means of the method according to the invention.

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