Title (en)

PASSIVE SHIMMING ASSEMBLY AND METHOD OF DETERMINING SHIM PLACEMENT FOR MR MAGNET

Publication

EP 0272411 B1 19921007 (EN)

Application

EP 87115844 A 19871028

Priority

- US 93729786 A 19861203
- US 93729986 A 19861203

Abstract (en)

[origin: EP0272411A1] A method of predicting the locations and strengths of passive shims in the bore of a magnetic resonance magnet, necessary to attain imaging quality homogeneity in the bore of the magnet is provided. Electromagnetic coils are not needed to provide any shimming. The magnetic field effect of an arc of magnetized steel as a function of its position in the magnetized bore is determined. The locations at which an arc provides the most beneficial shimming effect are next determined. The most promising locations are used as a starting point for an iterative routine which attempts to identify a group of shim locations which will provide a prediction of inhomogeneity within the specified limit. The shims are placed in the magnet bore, the field measured and the result compared to prediction. If improvement is predicted by another iteration with the shim locations fixed, the determined thickness changes are implemented.

IPC 1-7

G01R 33/038; H01F 7/20

IPC 8 full level

G01R 33/3875 (2006.01); **A61B 5/055** (2006.01); **A61B 10/00** (2006.01); **G01R 33/20** (2006.01); **G01R 33/38** (2006.01); **G01R 33/3873** (2006.01); **H01F 7/20** (2006.01)

CPC (source: EP)

H01F 7/20 (2013.01)

Cited by

EP0303880A1; EP0431848A3; US5235284A; GB2235777A; GB2235777B; DE19922652A1; DE19922652C2; DE19901331A1; DE19901331B4; US5323136A; GB2255413A; GB2255413B; GB2414080A; GB2414080B; EP0431849A3; US9778334B2; US6313634B1

Designated contracting state (EPC)

DE FR GB NL

DOCDB simple family (publication)

EP 0272411 A1 19880629; **EP 0272411 B1 19921007**; DE 3782150 D1 19921112; DE 3782150 T2 19930603; JP 2602513 B2 19970423; JP S63177506 A 19880721

DOCDB simple family (application)

EP 87115844 A 19871028; DE 3782150 T 19871028; JP 29543887 A 19871125