

Title (en)

Magnetic field generation means and ECR ion source using the same

Title (de)

Magnetfelderzeugungsvorrichtung und ECR Ionenquelle dafür

Title (fr)

Dispositif pour engendrer un champ magnétique et source ecr comportant ce dispositif

Publication

EP 0813223 A1 19971217 (FR)

Application

EP 97401294 A 19970609

Priority

FR 9607228 A 19960611

Abstract (en)

The plasma confinement field has N axially symmetric assemblies (A1 AN). When N=2, the outer assembly defines a mean axial field and the inner one establishes at least locally a gradient of this axial field. The inner one is divided into two sub-assemblies to establish gradients at each end of the outer assembly. The ratio of the length of the device measured parallel to the common axis of symmetry (MM') to the length of the multipolar assembly (32) is less than 1.5. In a cyclotron, the multipolar structure defines a plasma confinement volume with the target (42) at one end (S1, S2) of the volume, lying opposite a primary beam injector (44).

Abstract (fr)

L'invention concerne un dispositif pour engendrer un champ magnétique B comportant : un ensemble de N(N>=2) systèmes magnétiques (A1, ..., AN) , à symétrie axiale, pour former un champ magnétique axial (Ba), ces N systèmes étant coaxiaux et emboîtés les uns des les autres, un ensemble de moyens magnétiques (32) à structure multipolaire permettant d'obtenir un champ magnétique radial Brad, cet ensemble de moyens magnétiques étant disposé à l'intérieur des N systèmes magnétiques et étant coaxial à ceux-ci. <IMAGE>

IPC 1-7

H01J 27/18

IPC 8 full level

H01J 27/18 (2006.01)

CPC (source: EP)

H01J 27/18 (2013.01)

Citation (search report)

- [DA] EP 0138642 A1 19850424 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
- [DA] SORTAIS P ET AL: "DEVELOPMENTS OF COMPACT PERMANENT MAGNET ECRIS", INTERNATIONAL WORKSHOP ON ECR ION SOURCES, 1995, pages 44 - 52, XP000609281
- [A] ZUQI XIE ET AL: "ENHANCED ECR ION SOURCE PERFORMANCE WITH AN ELECTRON GUN", REVIEW OF SCIENTIFIC INSTRUMENTS, vol. 62, no. 3, 1 March 1991 (1991-03-01), pages 775 - 778, XP000224324
- [DA] GELLER R ET AL: "MICROMAFIOS SOURCE D'IONS MULTICHARGES BASEE SUR LA RESONANCE CYCLOTRONIQUE DES ELECTRONS", REVUE DE PHYSIQUE APPLIQUEE, vol. 15, no. 5, May 1980 (1980-05-01), pages 995 - 1005, XP000608558

Cited by

DE19933762A1; DE19933762C2; WO2011001051A1

Designated contracting state (EPC)

BE DE GB IT NL

DOCDB simple family (publication)

EP 0813223 A1 19971217; EP 0813223 B1 20020410; DE 69711764 D1 20020516; DE 69711764 T2 20021114; FR 2749703 A1 19971212; FR 2749703 B1 19980724

DOCDB simple family (application)

EP 97401294 A 19970609; DE 69711764 T 19970609; FR 9607228 A 19960611