

Title (en)
CURVED BEAM-GUIDING MAGNET WITH SADDLE- AND RACE-TRACK-SHAPED SUPERCONDUCTING COILS AND IRRADIATION UNIT WITH SUCH A MAGNET

Title (de)
GEKRÜMMTER STRAHLFÜHRUNGSMAGNET MIT SATTEL- UND RENNBAHNFÖRMIGEN SUPRALEITENDEN SPULEN UND BESTRAHLUNGSANLAGE MIT EINEM SOLCHEN MAGNETEN

Title (fr)
AIMANT COURBÉ À GUIDAGE DE FAISCEAU À BOBINES SUPRACONDUCTRICES EN FORME DE SELLE ET DE TRAJECTOIRE DE COURSE ET INSTALLATION D'IRRADIATION ÉQUIPÉE D'UN AIMANT DE CE TYPE

Publication
EP 2011127 B1 20110420 (DE)

Application
EP 07712257 A 20070221

Priority
• EP 2007051642 W 20070221
• DE 102006018635 A 20060421

Abstract (en)
[origin: US2009091409A1] A curved beam-guiding magnet is provided. The beam-guiding magnet without ferromagnetic material serves to deflect a beam of electrically charged particles along a curved particle path and incorporates a coil system made of at least six curved superconducting single coils arranged in pairs in mirror-inverted fashion relative to a beam-guiding plane. The coil system comprises two saddle-shaped main coils and two flat, banana-shaped curved secondary coils of the race-track type, each of which encloses a banana-shaped curved auxiliary coil of the race-track type. The beam-guiding magnet is particularly suitable for an irradiation unit of the gantry type.

IPC 8 full level
G21K 1/093 (2006.01); **G21K 5/04** (2006.01); **H05H 7/04** (2006.01)

CPC (source: EP US)
G21K 1/093 (2013.01 - EP US); **G21K 5/04** (2013.01 - EP US); **H05H 7/04** (2013.01 - EP US)

Citation (examination)
PRIANO C. ET AL: "A superconducting magnet for a beam delivery system for carbon ion cancer therapy", IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY, vol. 12, no. 1, March 2002 (2002-03-01), pages 988 - 992, XP011069190

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