Title (en)

ARRANGEMENT FOR A QUICK ELECTRON BEAM X-RAY COMPUTER TOMOGRAPHY

Title (de)

ANORDNUNG ZUR SCHNELLEN ELEKTRONENSTRAHL-RÖNTGENCOMPUTERTOMOGRAPHIE

Title (fr)

DISPOSITIF DE TOMODENSITOMÉTRIE RAPIDE PAR FAISCEAU D'ÉLECTRONS

Publication

EP 2984672 A1 20160217 (DE)

Application

EP 14722085 A 20140402

Priority

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Abstract (en)

[origin: WO2014166468A1] The aim of the invention is to provide an arrangement for an electron beam x-ray computer tomography, said arrangement making do without the considerable axial extension of the electron emitter and largely omitting electron-optical beam guiding elements. According to the invention, an x-ray detector arc (6) and the target (4) are arranged about the examination cross section within an irradiating plane, and an electron beam generated in the electron beam generator (1) is introduced radially into the magnetomotive force region of one or more longitudinal coils and forced into a circular path by means of the magnetic field. By periodically adjusting the field strength, the radius of the circular path is increased, whereby the electron beam hits the target (4) in a focal spot (7) travelling in a tangential manner. Irradiation projections of the object (8) located in the center of the arrangement are received by the x-ray detector (6) surrounding the target. The electron beam generator (1) can be arranged both within as well as outside of the longitudinal coils (3). Furthermore, the target and x-ray detector plane can be arranged with or without an axial offset.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 2014166468A1

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