Title (en)

PARTICLE ACCELERATOR, ACCELERATOR ARRANGEMENT AND METHOD FOR ACCELERATING CHARGED PARTICLES

Title (de)

TEILCHENBESCHLEUNIGER, BESCHLEUNIGERANORDNUNG UND VERFAHREN ZUM BESCHLEUNIGEN GELADENER TEILCHEN

Title (fr)

ACCÉLÉRATEUR DE PARTICULES, ENSEMBLE D'ACCÉLÉRATEUR ET PROCÉDÉ D'ACCÉLÉRATION DE PARTICULES CHARGÉES

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Abstract (en)

[origin: WO2012175381A1] The invention relates to a particle accelerator (100) for accelerating a helical beam (150) of charged particles (151) which each move at a prescribed velocity (v1) rectilinearly along a prescribed axis (101) comprising: - a circular-cylindrical RF cavity (110) having an annular entry gap (113) and an annular exit gap (115), situated opposite the entry gap (113), for the helical particle beam (150), and - an RF generator device (120) for producing a circularly polarized electromagnetic wave (160) within the RF cavity (110), wherein the circularly polarized electromagnetic wave comprises an electrical field (161) which is oriented in the direction of the axis (101) and rotates about the axis (101) in sync with the point of entry of the helical particle beam (150) into the RF cavity (110). In addition, the invention relates to an accelerator arrangement and a method for accelerating a helical beam (150) of charged particles (151).

IPC 8 full level

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