

Title (en)

METHOD AND IRRADIATION INSTALLATION FOR IRRADIATING A TARGET VOLUME

Title (de)

VERFAHREN UND BESTRAHLUNGSAVLAGE ZUR BESTRAHLUNG EINES ZIELVOLUMENS

Title (fr)

PROCÉDÉ ET INSTALLATION D'IRRADIATION D'UN VOLUME CIBLE

Publication

**EP 2822651 A1 20150114 (DE)**

Application

**EP 13709358 A 20130305**

Priority

- DE 102012004170 A 20120305
- EP 2013054361 W 20130305

Abstract (en)

[origin: WO2013131890A1] The invention relates to a method and an irradiation installation for irradiating a moving target volume with an ion beam, particularly for the purpose of tumour therapy. Ion radiography measurements are carried out for said target volume, and the irradiation for the deposition and for the radiography are carried out using the same ion beam but in a temporally consecutive manner, with the power of the ion beam being switched between a higher radiography power and a lower deposition power using, for example, a passive power modulator proximal to the patient.

IPC 8 full level

**A61B 6/00** (2006.01)

CPC (source: EP US)

**A61N 5/1043** (2013.01 - EP US); **A61N 5/1067** (2013.01 - EP US); **A61N 5/107** (2013.01 - EP US); **A61N 2005/1054** (2013.01 - EP US);  
**A61N 2005/1062** (2013.01 - EP US); **A61N 2005/1087** (2013.01 - EP US); **A61N 2005/1095** (2013.01 - EP US)

Citation (search report)

See references of WO 2013131890A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**DE 102012004170 A1 20130905; DE 102012004170 B4 20131107;** CN 104540547 A 20150422; CN 104540547 B 20170811;  
EP 2822651 A1 20150114; EP 3342463 A1 20180704; EP 3342463 B1 20190925; JP 2015510781 A 20150413; JP 2018079341 A 20180524;  
JP 6392125 B2 20180919; US 2015217139 A1 20150806; US 9486649 B2 20161108; WO 2013131890 A1 20130912

DOCDB simple family (application)

**DE 102012004170 A 20120305;** CN 201380023717 A 20130305; EP 13709358 A 20130305; EP 18155862 A 20130305;  
EP 2013054361 W 20130305; JP 2014560330 A 20130305; JP 2018000644 A 20180105; US 201314383306 A 20130305