Title (en)

Method and device for forming flat-top ion pulses from electron beam ion sources

Title (de)

Verfahren und Vorrichtung zur Formierung von Dachionenpulsen aus Elektronenstrahlionenquellen

Title (fr)

Procédé et dispositif de formation d'impulsions d'ions à crêtes aplanies issus de sources d'ions à faisceau d'électrons

Publication

EP 2521427 A1 20121107 (DE)

Application

EP 11165031 A 20110506

Priority

EP 11165031 A 20110506

Abstract (en)

The method involves raising extraction-side trap potential to a preset value for ion collection, and lowering the extraction-side trap potential to another preset value for ion extraction in a time-controlled manner. Opening characteristic (10) of a trap is formed such that the extraction side trap potential is decreased to a time decreasing function course (UB) for electron beam ion sources. Switching times of 10 picoseconds to 100 picoseconds are applied depending on length of inner drift pipes of a trap. A resistor and a capacitor are arranged for smoothing control pulses. An independent claim is also included for a device for forming roof ion pulses from electron beam ion sources.

Abstract (de)

Verfahren und Vorrichtung zur Formierung von Dachionenpulsen aus Elektronenstrahlionenquellen Die Erfindung betrifft ein Verfahren zur Formierung von Dachionenpulsen aus einer Elektronenstrahlionenquelle (1), wobei das extraktionsseitige Fallenpotential zeitgesteuert zur Ionensammlung auf U 0 +U B1 angehoben und zur Ionenextraktion auf U 0 -U B2 abgesenkt wird, dadurch gekennzeichnet, dass die Öffnungscharakteristik der Falle derart gestaltet ist, dass die Absenkung des extraktionsseitigen Fallenpotentials einem zeitlich fallenden Funktionsverlauf von U B folgt. Weiterhin betrifft die Erfindung eine Vorrichtung zur Durchführung des Verfahrens.

IPC 8 full level

H05H 7/02 (2006.01); **H05H 7/08** (2006.01)

CPC (source: EP)

H05H 7/02 (2013.01); **H05H 7/08** (2013.01)

Citation (search report)

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CN112616237A; DE102015104213A1

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)

EP 2521427 A1 20121107

DOCDB simple family (application)

EP 11165031 A 20110506