

Title (en)
Closed ion drift source

Title (de)
Ionenquelle mit geschlossener Elektronendrift

Title (fr)
Source d'ions à dérive fermée d'électrons

Publication
EP 0781921 A1 19970702 (FR)

Application
EP 96402873 A 19961223

Priority
FR 9515718 A 19951229

Abstract (en)
The ion source with a closed flow of electrons comprises a main annular ionisation and acceleration channel (122) which is open at its downstream end. At least one internal wall of this channel is made of an electrically conducting material. Terminal pieces (164,165) are held at a potential which is lower than that of the anode (125) extending the annular channel downstream of the anode. The source of ions comprises a hollow cathode (140). A supply of ionisable gas is associated with the cathode (140) and with the anode (125). A circuit is provided to bias the anode, and a further components are provided to create a magnetic field in the region of the main annular channel (122).

Abstract (fr)
La source d'ions à dérive fermée d'électrons comprend un canal annulaire principal d'ionisation et d'accélération (122) ouvert à son extrémité aval, dont au moins la paroi interne est constituée en un matériau électriquement conducteur. Des pièces terminales (164, 165) portées à un potentiel plus bas que celui d'une anode (125) prolongent le canal annulaire (122) en aval de celui-ci. La source d'ions comprend en outre une cathode creuse (140), des moyens d'alimentation en gaz ionisable associés à la cathode (140) et à l'anode (125), des moyens de polarisation de l'anode (125) et des moyens de création d'un champ magnétique dans le canal annulaire principal (122). Application notamment à des procédés de traitement industriel. <IMAGE>

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F03H 1/00; **H05H 1/54**; **H01J 27/14**

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F03H 1/0075 (2013.01 - EP US); **H01J 27/143** (2013.01 - EP US); **H05H 1/54** (2013.01 - EP US)

Citation (applicant)
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• "23e conference de l'IEPC (IEPC-93-227)", article "Physical Principles of Anode Layer Accelerators"
• "23e conference de l'IEPC (IEPC-93-228)", article "Anode Layer Thruster: State of the Art Perspectives"
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