Title (en)

METHOD OF FEEDING PROPELLANT FOR THE PROPULSION OF A SATELLITE AND SATELLITE PROPULSION MODULE FED ACCORDING TO SAID METHOD

Title (de)

VERFAHREN ZUR TREIBMITTELVERSORGUNG DES ANTRIEBS EINES SATELLITEN UND NACH DIESEM VERFAHREN ANGETRIEBENES SATELLITENANTRIEBSMODUL

Title (fr)

PROCÉDÉ D'ALIMENTATION POUR LA PROPULSION DE SATELLITE ET MODULE DE PROPULSION DE SATELLITE ALIMENTÉ SELON CE PROCÉDÉ

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Application

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Abstract (en)

[origin: WO2017046115A1] The invention aims to produce a consumption of several kilograms of cathode, or even more, as part of a vacuum arc propulsion (VAT). To do this, the invention drives the cathode in a helical movement optimised so as to allow the consumption of substantially all of the usable cathodic material. According to one embodiment, the propulsion module comprises an annular frame (20), with central axis (X'X), in which an annular cathode (2) is arranged, guided by a helical thread/tapping (2L) with said frame (20). A central shaft (2A) has a wall (21A) on which an insulating support (10) is attached, equipped with anodes (1) spaced regularly around the circumference, and optical connections (5) in the vicinity of the anodes (1) for emitting ionising radiation (1p). Energy storage capacitors (4) connect each anode (1) to the cathode (2) in order to supply the discharges after the formation of an initial plasma (2p) and an annular coil (3) is integrated on the external face (20e) of the frame (20) for axially straightening the plasma (3p). A mechanism for rotating (7 to 9) is connected to the cathode (2) to provide it with a movement in connection with the helical guide.

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