Magnetic Fluid Propulsion Capacitor

Does magnetofluid propulsion cause cavitation?

The adsorption concentration of the porous electrode increased with increasing loading voltage and porous electrode thickness and decreased with increasing inlet velocity. Magneto-fluid propulsion technology is a completely new type of marine platform propulsion,which requires almost no mechanical drive components and does not cause cavitation.

What is magneto-fluid propulsion technology?

Magneto-fluid propulsion technology is a completely new type of marine platform propulsion,which requires almost no mechanical drive components and does not cause cavitation. Therefore,it has great potential in noise reduction and acceleration.

What is a magnetohydrodynamic drive?

A magnetohydrodynamic drive or MHD accelerator is a method for propelling vehicles using only electric and magnetic fields with no moving parts,accelerating an electrically conductive propellant (liquid or gas) with magnetohydrodynamics. The fluid is directed to the rear and as a reaction,the vehicle accelerates forward.

How does seawater conductivity affect a magnetic fluid thruster?

The effect of the enhanced conductivity of seawater in the spiral channel on the magnetic fluid thruster is discussed below. At a certain voltage, the increase in seawater conductivity is accompanied by an enhancement in the current density through the seawater and a decrease in the pressure drop across the electrodes.

How do MHD forces affect internal propulsion?

As regards internal propulsion,the MHD forces are applied in a channel (Fig. 1a),inducing a pressure response of the flow. The pressure increases between the inlet and the outlet of the propeller leading to a propulsion by reaction of the ship. The magnetic field and electric current stay confined in the propeller.

How do conductivity enhancement systems affect a magneto-fluid thruster?

In the case of the conductivity enhancement system,the electromagnetic force and thrust of the magneto-fluid thruster tend to increase linearly.

The present invention discloses an apparatus and method for electromagnetic spacecraft propulsion. The apparatus includes capacitor assemblies bracketed by electromagnetic ...

The present invention is a spacecraft electromagnetic propulsion system which provides thrust without expelling propellant. The system includes a multi-element capacitor with rotating...

Asymmetrical Capacitors for Propulsion Francis X. Canning, Cory Melcher, and Edwin Winet Institute for

Scientific Research, Inc. Fairmont, West Virginia 26554 Abstract Asymmetrical Capacitor Thrusters have been proposed as a source of propulsion. For over eighty years it has been known that a thrust results when a high voltage is placed across an asymmetrical ...

Modeling and optimization of a modified iron-yoked electromagnetic propulsion system using the gravitational search algorithm

Magneto-fluid propulsion technology is a completely new type of marine platform propulsion, which requires almost no mechanical drive components and does not cause cavitation. Therefore, it has great potential in ...

This paper deals with the capacitor using magnetic fluid as a magnetic field controlled dielectrics. It is shown, that dielectrics of this capacitor exhibits magnetic field induced...

The Magnetic Ship. Anyone who has played with magnets knows it is possible to push one magnet along by forcing the north or south pole of another close to the same pole of the first. Such a magnetic shove wouldn"t be a bad form of propulsion if there were a way to keep it going. In fact, some Japanese scientists are trying to propel ships ...

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Magneto Hydrodynamic (MHD) propulsion presents an innovative and environmentally friendly alternative to conventional marine propulsion systems. By utilizing ...

The present invention discloses an apparatus and method for electromagnetic spacecraft propulsion. The apparatus includes capacitor assemblies bracketed by electromagnetic solenoids configured in Helmholtz Coil geometries. The action of magnetic fields generated in the solenoids on segmented currents in conductive discharge elements during capacitor discharge produces ...

The electromagnetic field propulsion system according to claim 1, wherein said cores of said at least two field activation coils comprise one or more high relative magnetic permeability materials selected from the group consisting of: ferritic annealed stainless steel, electrical steel, 99.8% pure iron (Fe), 80% Ni-20% Fe alloy, Cobalt-iron high permeability strip material, 70% Ni-16% Fe ...

(Received July 3rd, 2019) This paper describes the design and performance of 100 kW class Magneto Plasma Dynamics Thruster (MPDT) using water as a liquid propellant. In general, ...

Fluid-kinetic propulsive magnetic nozzle model in the fully magnetized limit IEPC-2019-254 Presented at the 36th International Electric Propulsion Conference University of Vienna, ...

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Fluid-kinetic propulsive magnetic nozzle model in the fully magnetized limit IEPC-2019-254 Presented at the 36th International Electric Propulsion Conference University of Vienna, Austria September 15-20, 2019 Judit Nuez, Mario Merinoyand E. Ahedoz Equipo de propulsi on espacial y plasmas (EP2), Universidad Carlos III de Madrid (UC3M), Spain

The 36th International Electric Propulsion Conference, University of Vienna, Austria September 15-20, 2019 1 A thruster using magnetic reconnection to create a high-speed plasma jet IEPC-2019-940 Presented at the 36th International Electric Propulsion Conference University of Vienna o Vienna, Austria September 15-20, 2019 Stephen N. Bathgate 1 and David R. McKenzie. 2 ...

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