

3rd International Conference and Exhibition on

Satellite & Space Missions

May 11-13, 2017 Barcelona, Spain

Flying Vehicles (FV) for air and space medium in which reactive force is generated by acceleration of electrically charged particles in a constant electric field implemented both inside and outside of the FV

Gennady Semenovich Luk'yanchikov

Prokhorov General Physics Institute-RAS, Russia

A new type of FV is proposed called ERELYOT. A special electrode system (the ERE system) is built into ERELYOT. The ERE system initiates the electrical discharge of a special type called the ERE discharge. When the ERE discharge is in outer space, there is a possibility of a mode in which all the emitted particles do not arrive at the electrodes of opposite polarity, but go away into space, thereby creating a reactive force. The power system of ERELYOT consists of the battery of fuel cells and devices, which convert the energy of electromagnetic radiation into the DC power. The purpose of this work is: to develop the design of the ERELYOT; to determine the required parameters of the power system of ERELYOT. A possible design of ERELYOT is presented. It is shown that the use of microwave and solar radiation is possible and extremely advantageous. The main task is the creation of high voltage (tens of kilovolts) battery, operating on oxygen and hydrogen with a minimal ratio of the weight of the battery to its power and low ($\sim 0^\circ\text{C}$) the temperature of the water coming out of the battery. An equally important task is to create the emitter of micro droplets of water with the maximum possible value of q/m (q , m – electric charge and mass of the droplets), and the maximum possible number of droplets emitted from a unit of surface per a unit of time. The greater is the value of q/m , the less the value of U is allowed to be.

Biography

Gennady Semenovich Luk'yanchikov is currently a Senior Researcher in Department of Plasma Physics at Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russia. He completed his Graduation in Department of Electronics at Moscow Power Engineering Institute (National Research University) in 1962 and PhD in Physics-Mathematics in 1977. He has more than 50 publications. His research interests include "Plasma physics, interaction of microwave power with solids".

genluk1@rambler.ru

Notes: