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PACE HYBRID PROPULSION: A COMBINATION OF ELECTRIC AND THERMONUCLEAR
PROPULSION TO OPTIMIZE SATELLITES

Abstract

In the context of current space missions, one of the problems to be solved is the aspect of the propulsion of satellites once placed in space. While you must optimize the use of propellant as you take advantage of the gravitational fields of celestial bodies to achieve the desired position of the artificial satellite. This work proposes a hybrid propulsion system, combining the efficiency and great impulse by the nuclear thermal propulsion system, as well as the longevity of the ionic propulsion operation. As mentioned, it is a prototype developed with the aim of innovating space propulsion for powerful missions. Combining the advantages offered by nuclear thermal propulsion with ionic propulsion, a very good performance is obtained, optimizing the use of each propellant, accelerating the orbit process and reducing the time in which a space mission is carried out. Making way for the development of innovative technologies and bringing them together to optimise propulsion systems opens a great window of opportunity for future space missions.