# Solar power propulsion

Electric Propulsion Options and Trades o Benefits: o Much higher specific impulse o Arcjets - 600s o Hall Thrusters - 1500 - 3000s o Ion thrusters - 2500 - 10,000s o Other concepts (VASIMIR, MPD, PIT) in same range o Higher Isp results in much lower propellant mass o Trades: o Need external source of power and electronics to match to the thruster

Renewable Energy Solutions for Zero Emission Shipping From small powered pleasure craft and ferries to large super-tankers, the limitless energy of the wind and sun can be used in order to help power ships thereby reducing fuel consumption, the emission of greenhouse gases (GHGs) and noxious exhaust emissions. Using a variety of Technologies including the patented ...

Advanced Electric Propulsion System (AEPS) is being developed to support a demonstration of Solar Electric Propulsion (SEP) at the 50 kW power level on the first element of the lunar Gateway - the Power and Propulsion Element (PPE). For higher power applications, such as Mars cargo or Deep Space Transport

Solar Sail Propulsion System Characteristics o ~ 7.3 m Trac booms o 2.5maluminized CP-1 substrate o > 90% reflectivity 27. RWA (Blue Canyon) Solar Sail - Stowed (MSFC) ... Solar Powered Laser Powered Chemical Rocket Limit Nuclear Rocket Limit. Solar Sails: A ...

This study will investigate a new method of "station keeping" - using solar radiation pressure (the propulsion technique used by solar sails) to create the thrust forces needed to keep a solar power satellite in position. o The ...

NASA has sought to utilize high-power solar electric propulsion as means of improving the affordability of in-space transportation for almost 50 years. Early efforts focused on 25 to 50 ...

Both teams hope that Psyche, by using Hall thrusters for the first time beyond lunar orbit, will help push the limits of solar electric propulsion. "Solar electric propulsion ...

NASA has launched the high-power Solar Electric Propulsion Program (SEP) since 2012, and its Glenn Research Center (GRC) and Jet Propulsion Laboratory (JPL) are responsible for 12.5 kW Hall thruster and PPU-related technology development, and will open the 40-kW class SEP development. Due to changing requirements and design

I. What is Solar Electric Propulsion (SEP)? Solar Electric Propulsion (SEP) is a type of propulsion system that uses solar energy to generate electricity, which is then used to power electric thrusters. These thrusters use electric fields to accelerate ions or other propellant particles to generate thrust.

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Researchers say origami could be useful one day in utilizing space solar power for Earth-based purposes. Imagine an orbiting power plant that wirelessly beams power ...

Solar Electric Propulsion (SEP) is commonly used to transfer satellites to their proper orbital locations and keep them on station once there. Energized by the electric power from on-board ...

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