



WALMER ENERGY

Solar drag system





Overview

What is solar & drag sail technology?

Solar and drag sail technology is entering the mainstream for space propulsion applications within NASA and around the world. Solar sails derive propulsion by reflecting sunlight from a large, mirror- like sail made of a lightweight, reflective material.

Can solar and drag sail propulsion be used in space?

Solar and drag sail propulsion technology is no longer merely an interesting theoretical possibility; it has been demonstrated in space and is now a critical technology for science and solar system exploration.

What is a drag sail?

Drag sails increase the aerodynamic drag on Low Earth Orbit (LEO) spacecraft, providing a lightweight and relatively inexpensive approach for end-of-life deorbit and reentry. implementation in space. NASA's Marshall Space Station, Ohio. One of these systems, developed by L'Garde, Inc., is planned for flight in 2015.

What is solar sailing?

Solar sailing is a propulsion method which takes advantage of solar radiation pressure (SRP) as main source of thrust. However, around Earth, other sources also affect the solar-sail dynamics, including planetary radiation pressure (PRP) and atmospheric drag.



Solar drag system

Solar-Drag Spacecraft Formation Control with Particle Swarm

Jul 12, 2024 · This paper presents a new control law that combines solar radiation pressure and atmospheric drag as a forms of actuation with thrusters to reduce the fuel necessary to ...

Solar and Drag Sail Propulsion: from Theory to Mission ...

Abstract interim, NASA MSFC funded the NanoSail-D, a Solar and drag sail technology is entering subscale drag sail system designed for small the mainstream for space propulsion ...

Solar & Drag Sails

CUA designed a system of 6U CubeSat concept called CubeSail-D, based upon CubeSail concepts, but with a focus on Low Earth Orbit (LEO) for deorbit (drag) capabilities. A unique ...

Doing Battle with the Sun: Lessons From LEO and Operating ...

Jun 12, 2024 · View a PDF of the paper titled Doing Battle with the Sun: Lessons From LEO and Operating a Satellite Constellation in the Elevated Atmospheric Drag Environment of Solar ...

Optimal use of electric propulsion for drag compensation in ...

Dec 1, 2023 · Optimal use of electric propulsion for drag compensation in very low earth orbit on satellites with deployable solar panels

Solar-sail Steering Laws to Calibrate the Accelerations ...

Solar sailing is a propulsion method which takes advantage of solar radiation pressure (SRP) as main source of thrust. However, around Earth, other sources also affect the solar-sail ...

M14-3668.pdf

Aug 6, 2020 · The planned altitude is too low for actual solar sailing due to atmospheric drag, but sufficient to allow a demonstration and validation of the sail deployment system and ...

Hybrid Wind

2 days ago · This Simulink model implements a hybrid wind-solar power conversion system supplying a single-phase AC load. A three-phase wind generator feeds a diode bridge rectifier ...

Novel concept of a front-intake solar array wing for atmospheric drag

This study proposes a novel satellite design concept, the front-intake solar array wing (FI-SAW), which consists of solar array panels with rearward-sloping surfaces, intakes installed along the ...

Solar and Drag Sail Propulsion: From Theory to Mission ...

The University of Surrey is building a suite of cubesat class drag and solar sail systems that will be launched beginning in 2015. As the technology matures, solar sails will increasingly be ...



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