

INTRODUCTION

The Solar Sailer is a simulation of a futuristic bulk transport vehicle, that was used by Tron, Flynn and Yori to escape from the Game Grid and reach the MCP. When idle, its sails are translucent, however, for faster speeds, the sails turn opaque and give the solar sailer a tremendous boost in speed.

The Solar Sailer in the original Tron was actually a prototype for a sun-propelled vehicle that Encom was testing with several computer-based calculations and simulations. This was visualized within the virtual world as the vehicle itself.

The basic design might work in reality and manned interstellar spacecraft, has made changes to the model to adapt to the real space respecting as possible the original design.

SAIL TRON

The SailTron incorporates:

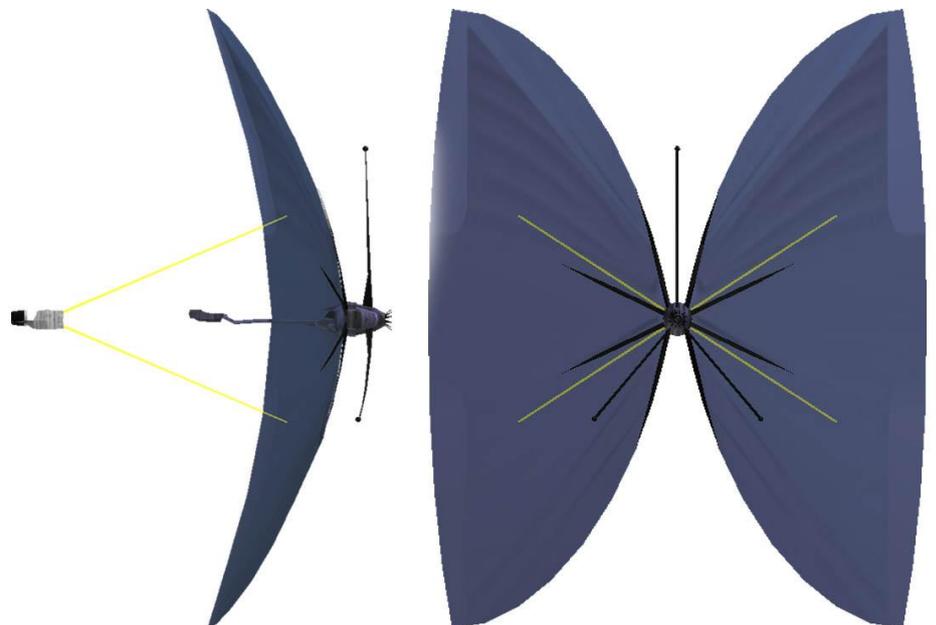
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 The SailTron a thin-film solar array is embedded in the sail blocks of LCD panels are embedded in the sail, whose reflectance can be adjusted for at (2 in key at right) and progress in hibernation with life suspended and photonic drive.

The possibility of producing films using molecular engineering techniques based on networks of nanotubes with cells less than half the wavelength of the light incident on the sail. These materials could weigh less than 0.1 g/m².

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 Progress in hibernation with life suspended
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 Photonic drive.

SPECIFICATIONS

Crew	3
Longitude	4430 m
Height	7060 m
Span	6070 m
Thrust	diverse
S =	37576788 m ²
Mass	18,800 kg



PHYSICS PARAMETERS

Photon Energy $E = c \cdot p$ $E = h \cdot \nu$ $p = \frac{h \cdot \nu}{c}$ $c = \lambda \cdot \nu$

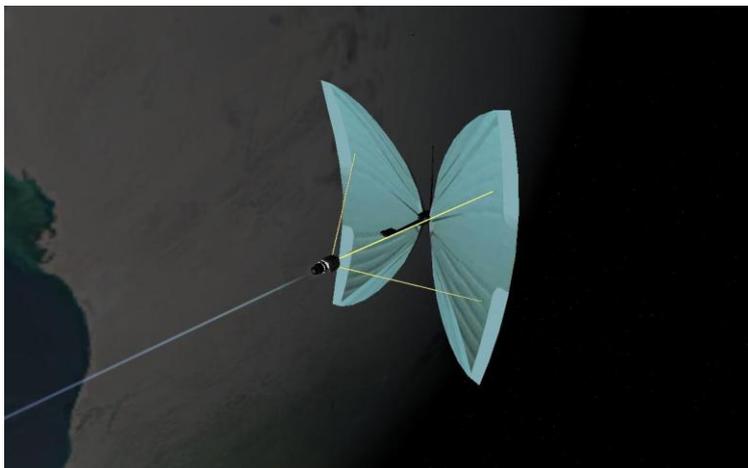
$p = \frac{h}{\lambda}$ $F \equiv \frac{dP}{dt}$ $\lambda = \frac{0.002898}{T}$ $F/S = \sigma AT^4/c$

$h = 6,626 \times 10^{-34}$ $\sigma = 5.67 \times 10^{-8}$ $c = 3 \times 10^8 \text{ m/s}$

Distance U.A.	Distance	Pw/m2	Mass	Kg/m2
1	1.50E+011 m	1.36E+03 w	1.88E+04 Kg	0.0005 Kg/m2
Nw/m2	Thrust	Temperature	Surface	λ
4.56E-06	1.712E+002 Nw	120.71 C°	3.8E+07 m2	2.40E-005 m
T C° input	acc		l square m	Pw. Prop
120.71 C°	9.11E-03 m/s2		8.67E+03 m	4.04E+12 w
Pw. Solar	3.07E+25 w		Temperature Pw.	900.00 C°

FLY MODES

Sails orbit, and therefore do not need to hover or move directly toward or away from the Sun. Almost all missions would use the sail to change orbit, rather than thrusting directly away from



a planet or the Sun. The sail is rotated slowly as the sail orbits around a planet so the thrust is in the direction of the orbital movement to move to a higher orbit or against it to move to a lower orbit. When an orbit is far enough away from a planet, the sail then begins similar manoeuvres in orbit around the Sun.

SOLAR SAIL

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BEAM PROPELLED SAIL

Most theoretical studies of interstellar missions with a solar sail plan to push the sail with a very large laser direct impulse beam. The thrust vector (spatial vector) would therefore be away from the Sun and toward the target.

it would be necessary to give the detached part an accurate optical shape and orientation. This solution is also limited because the lasers used to accelerate or decelerate a sail ship could take years, decades, or centuries to reach the craft, depending on the distance.

PHOTONIC ROCKET

Isp	30425963.49 s-1
Spend	1.73E-04 Kg/s
Mission Speed	14999.64 m/s
Mission Speed	15.00 Km/s
Power Thrust	1.56E+13 Mw
Temperature	1.29E+05 C°

Mode to fast departure planetary orbit. Use a engine laser to create thrust directly limiter to antimatter available in the ship. The sail is used like radiator.

INTERSTELLAR TRAVEL

The radiation source producing light thrust, at first seems to violate the law conservation of momentum, but it is emitting radiation outside.

A phenomenon that corroborates this is the pioneer anomaly. One explanation could be for real radiation thermal slowdown could result in asymmetric pressure thermal radiation of heat from the ship (the effect can not be the radiation pressure from sunlight or radio emissions from the spacecraft because they are too small at this distance, and go in the wrong direction). Possibilities include asymmetric radiation of heat from the RTG (radioisotope generators View) or the electronics of the spacecraft. Even if the RTG own radiate symmetrically, some of the radiation reflected in the rear of the main antenna dish, causing a setback, like sunlight on a solar sail. A point light that radiates equally in all directions will cancel itself out, but part of the light will be reflected back, creating an asymmetric light.

Use a favorable pioneer anomaly so as to allow the propulsion. The idea is use the heat direct generated for the subsystem of the spacecraft. We have a ship that emits no mass to interstellar travel beyond the Sun.

INSTALLATION

Unzip this file into your main Orbiter directory overwriting the existing files. If you are unzipping using WinZip then make sure 'Use folder names' is selected.

Legal: You may use these files in any way you want except for making money. You are free to distribute this package provided you give proper credit.

VESSEL -SPECIFIC FUNCTION

Make sure to enable 'Radiation pressure' in the Launchpad Parameters tab.

STANDARD DISCLAIMER

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I wish to thank Martin Schweiger for Orbiter.

Thanks to all the Orbiter community for their addons and contributions.

Have fun.

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