



SOLAR SAIL PROPULSION FOR SATELLITES

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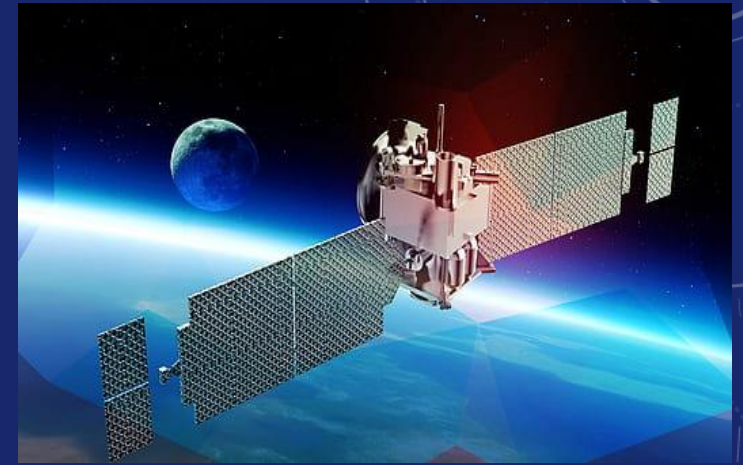
WHAT IS A SATELLITE?

SATELLITE

A satellite or artificial satellite is an object, typically a spacecraft, placed into orbit around a celestial body

HISTORICAL SIGNIFICANCE

The first artificial satellite, Sputnik 1, was launched in 1957 by the Soviet Union, marking a monumental achievement in space exploration.



PROPULSION SYSTEM

A futuristic spacecraft is shown in space, oriented vertically. The spacecraft has a white cylindrical body with a large, glowing blue engine at the top. Two long, dark solar panels extend from the sides. The background is a deep blue space with a bright blue nebula at the bottom left. On the right side, there are several circular technical UI elements, including a large circular scale with numbers from 80 to 200 and a smaller circular scale with numbers from 100 to 160. The overall aesthetic is high-tech and futuristic.

WHAT IS PROPULSION SYSTEM?

Spacecraft propulsion is any method used to accelerate spacecraft and artificial satellites

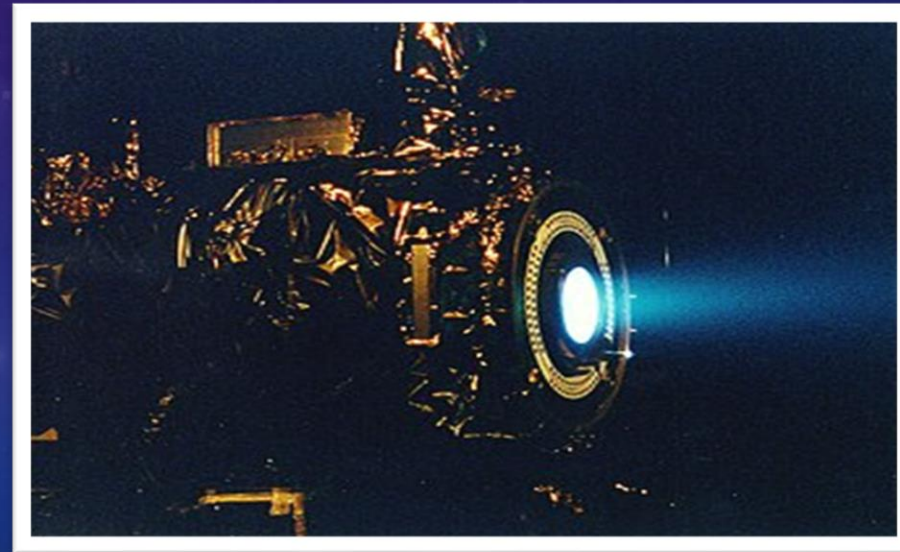
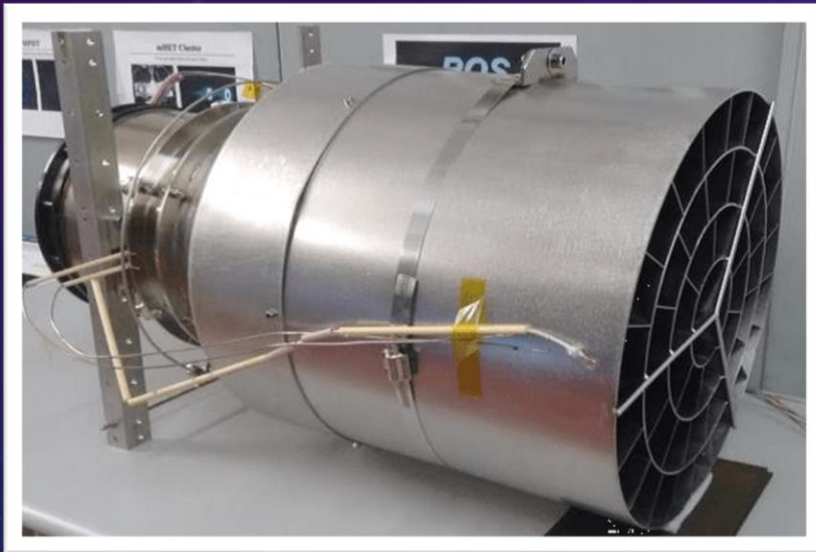
VARIOUS TYPES OF PROPULSION SYSTEM

- CHEMICAL PROPULSION SYSTEM
- ELECTRIC PROPULSION SYSTEM
- OTHER PROPULSION SYSTEM



CHEMICAL PROPULSION SYSTEM

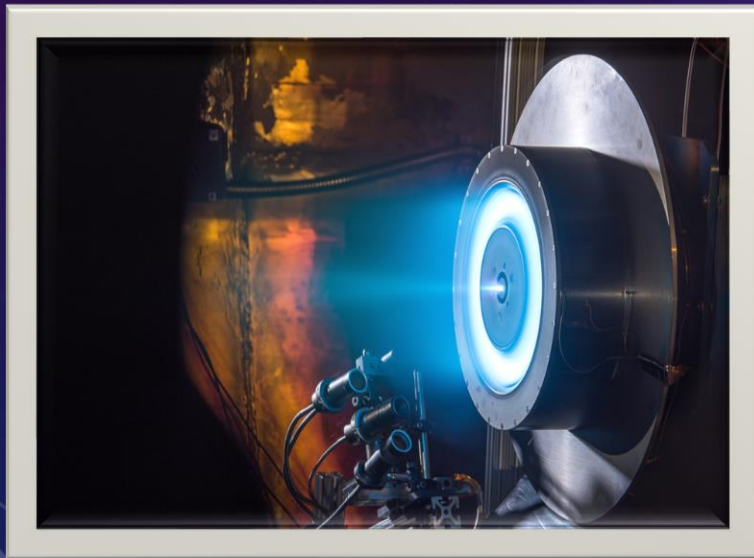
A large fraction of the rocket engines in use today are chemical rocket for example, hydrazine, liquid oxygen, liquid hydrogen, nitrous oxide, and hydrogen peroxide



ELECTRICAL PROPULSION SYSTEM

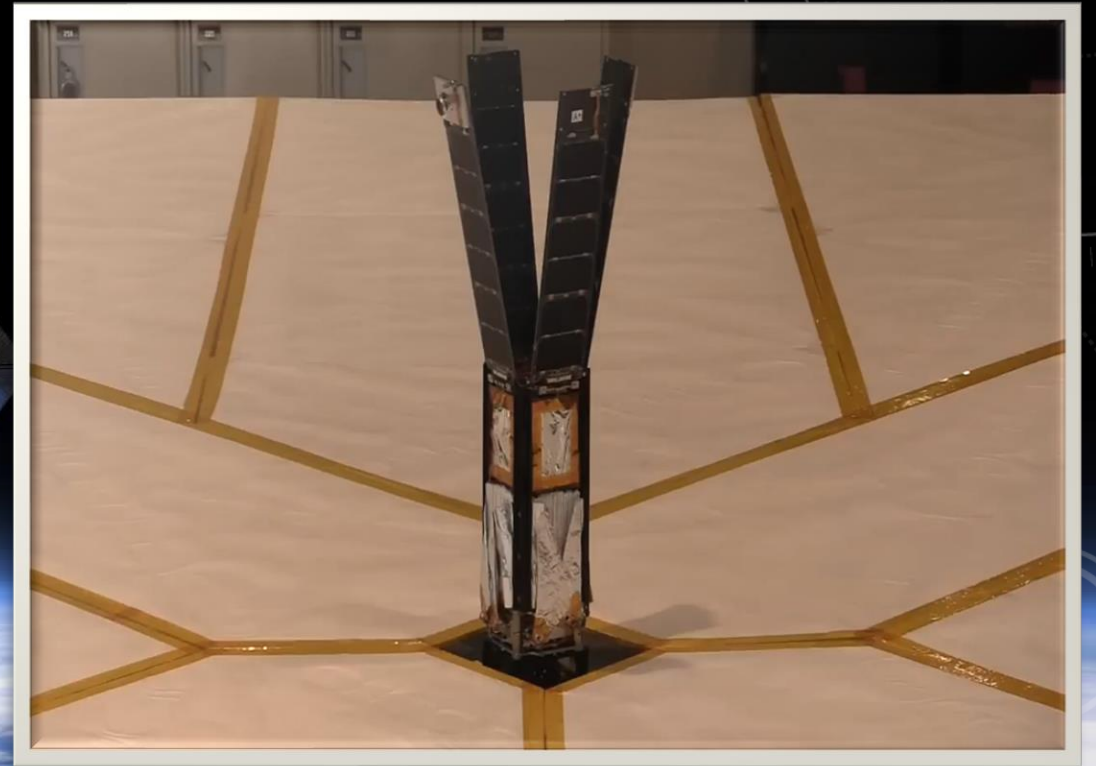
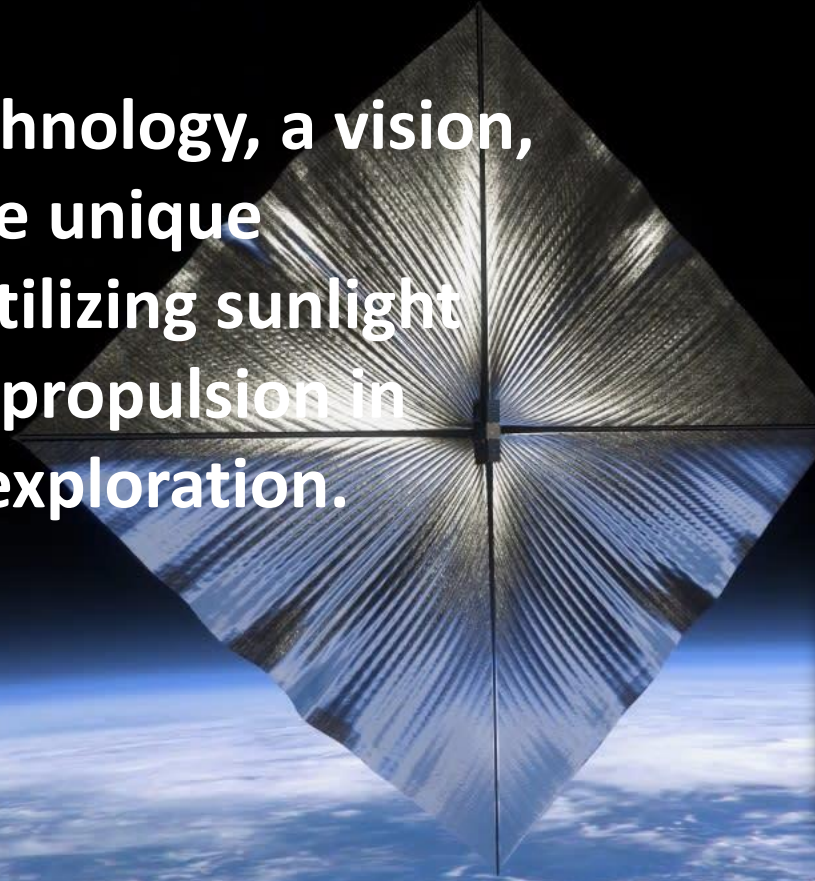
Electric propulsion is commonly used to keep commercial communications satellites

Such an engine typically uses electric power, first to ionize atoms, and then to create a voltage gradient to accelerate the ions to high exhaust velocities

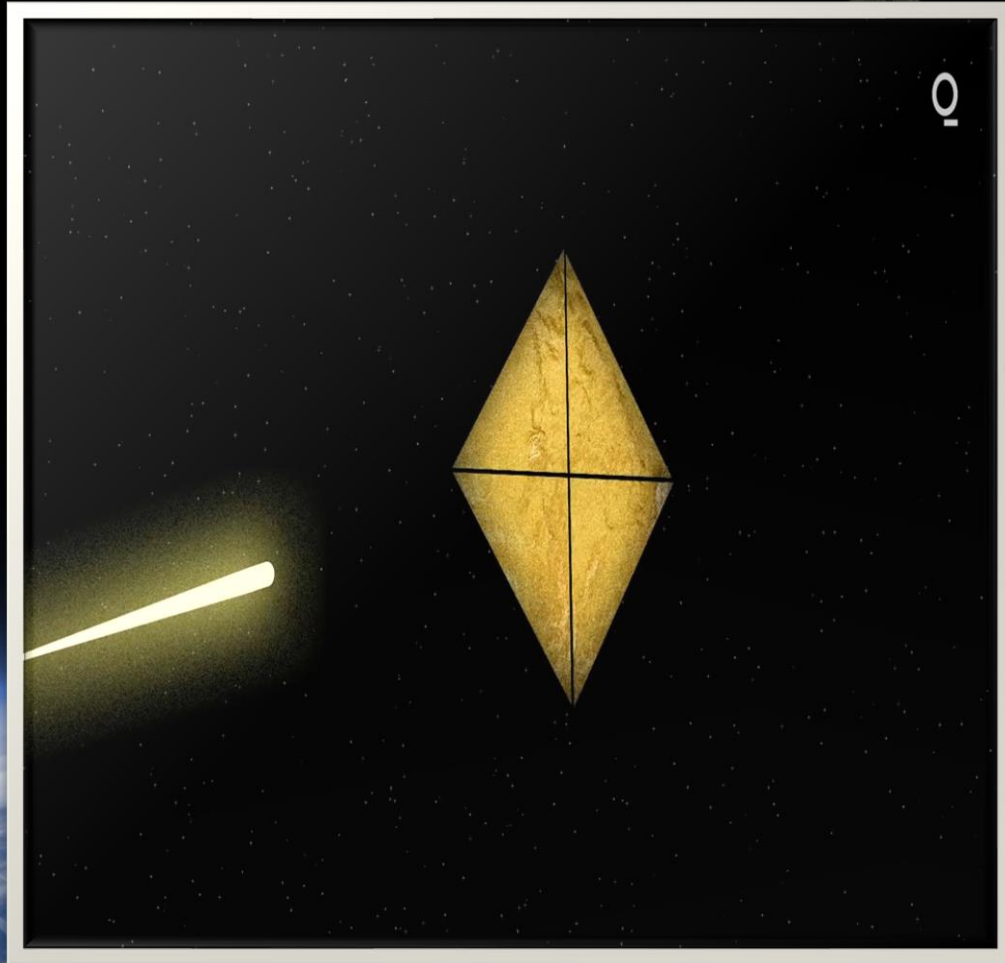


SOLAR SAIL METHOD

Solar sail technology, a vision, embraces the unique concept of utilizing sunlight pressure for propulsion in deep space exploration.



SOLAR SAIL METHOD



DISADVANTAGES OF TRADITIONAL SYSTEMS

CHEMICAL SYSTEM

- Limited Fuel
- Fuel Depletion
- Toxic and Hazardous

ELECTRIC SYSTEM

- Lower Thrust
- Power Source Dependence
- Complexity

SOLAR SAIL SYSTEM

- Lower Thrust
- Dependence on Sun

PROPOSED METHOD

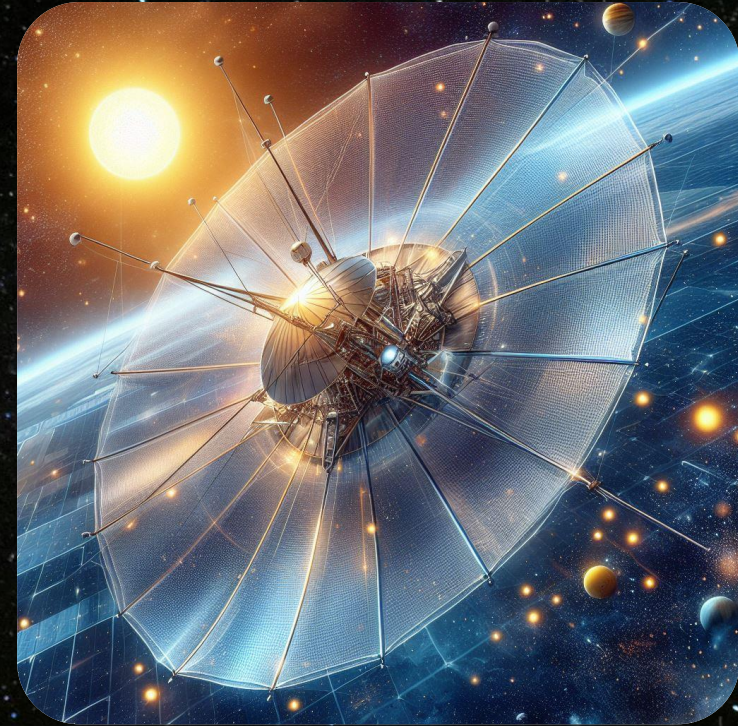


SOURCE: AI GENERATED IMAGE

- **Photon Capture**
- **Thrust Generation**
- **Control and Optimization**
- **Thrust Direction**
- **Continuous Operation**

ADVANTAGES OF ADVANCED SOLAR SAIL SYSTEM:

- **Sustainable Propulsion**
- **Long-term Efficiency**
- **Lightweight Innovation**
- **Low-cost**



SOURCE:AI GENERATED IMAGE

Q/A??

The background is a dark blue gradient with a field of small white stars. Overlaid on this are several technical diagrams in a lighter blue color. In the top right, there is a large circular gauge with a scale from 0 to 210 and a needle pointing towards 180. Below it is a smaller circular diagram with concentric rings and arrows. In the bottom right, there is another circular diagram with concentric rings and arrows. In the bottom left, there is a partial circular diagram with arrows. The text 'Q/A??' is centered in the middle of the image.