Why does Juno use solar power

Does Juno need solar power?

The mission's power needs are modest. Juno has energy-efficient science instruments. Solar power is possibleon Juno due to the energy-efficient instruments and spacecraft,a mission design that can avoid Jupiter's shadow,and a polar orbit that minimizes the total radiation.

Why are Juno solar panels so big?

Juno is the first solar-powered spacecraft designed to operate at such a great distance from the sun,thus its solar panels are quite large to generate sufficient power. The Juno orbit and spacecraft orientation have been carefully designed so that Juno's solar panels face the Sun most of the time (except during engine burns).

Will Juno be a solar-powered spacecraft?

Juno will be the first solar-powered spacecraftdesigned to operate at such a great distance from the sun,which means the surface area of solar panels required to generate adequate power is quite large.

What does a solar technician do on a Juno spacecraft?

Solar panels for the outer solar system. Technicians work on the Juno spacecraft's solar arrays. The Juno spacecraft that just entered orbit around Jupiter passed another milestone last January when it became the furthest-flung spacecraft ever to use solar power.

How does Juno solar work?

Juno can dial down or up on power depending on its distance from the sun so it doesn't overload when close to the sun or become underpowered far from the sun. Similar to the tint on sunglasses,the material in Juno's solar panels picks up different kinds of light- giving them more power than average solar panels.

What is Juno spacecraft?

Juno spacecraft and its science instruments. Juno is the first solar-powered spacecraft designed by NASA to operate at such a great distance from the Sun. Jupiter's orbit is five times farther from the Sun than Earth's,so the giant planet receives 4% as much sunlight as Earth does.

The use of solar power in lieu of grid power, however, offsets the emissions and carbon footprint of production within four years of use. Additionally, solar panels are ultimately ...

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Solar panels draw their energy from the renewable resource that is our sun. Not only does installing a solar energy system reduce your reliance on fossil fuels (which improves your air quality and protects the ...

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Juno"s solar panels consist of 18,698 individual cells, each measuring approximately 9.4 centimetres (3.7 inches) by 5.7 centimetres (2.25) inches. ... an uncrewed probe in development to repeatedly fly past Jupiter"s ...

The Solar Panel is used to convert light from a star and turn it into electricity (battery). If it faces away from the sun, it begins to generate less power, and thus reduces efficiency. It also loses ...

Solar power is possible on Juno due to the energy-efficient instruments and spacecraft, a mission design that can avoid Jupiter"s shadow, and a polar orbit that minimizes the total radiation. The ...

SummaryNamingOverviewScientific instrumentsOperational componentsGalileo plaque and minifiguresScientific resultsGalleryJuno is a NASA space probe orbiting the planet Jupiter. It was built by Lockheed Martin and is operated by NASA"s Jet Propulsion Laboratory. The spacecraft was launched from Cape Canaveral Air Force Station on August 5, 2011 UTC, as part of the New Frontiers program. Juno entered a polar orbit of Jupiter on July 5, 2016, UTC, to begin a scientific investigation of the planet. After completing it...

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