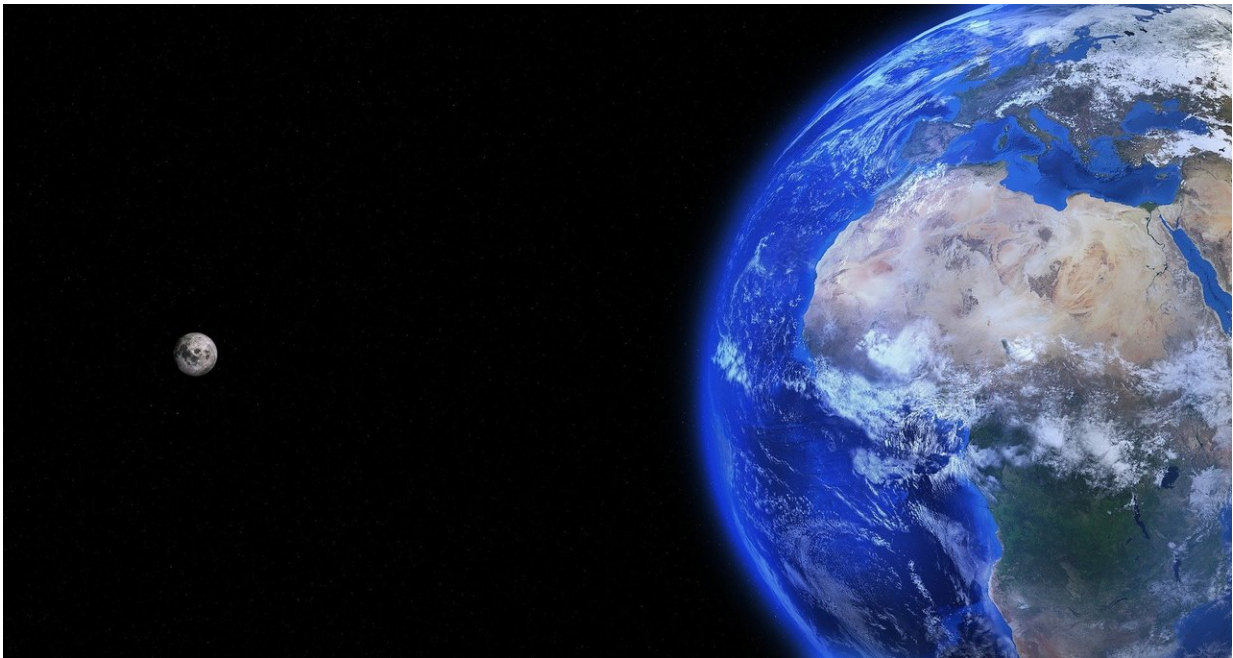


Solar Orbiter flies by Earth before beginning final journey to Sun

November 29 2021



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The Solar Orbiter space probe had a brief encounter with its home planet on Saturday morning when it circled the Earth for the first and last time while executing a gravity assist to slow itself down before setting off for the Sun.

Solar Orbiter launched in February 2020, and has already flown through

the tail of a comet, flown by Venus and captured the most detailed photographs of the Sun ever taken.

On Saturday morning at 5.30 a.m. (CET) the spacecraft flew over the Earth at an altitude of 460 kilometers (285 miles), passing directly over North Africa and the Canary Islands.

According to the ESA, in order to execute the orbits the probe risked impact with the space debris the surrounds Earth. But according to Simon Plum, head of mission operations at the ESA control center in Darmstadt, the risk of collision was minimal.

In a worst case scenario of potential collision, he said, the probe could have initiated an evasive maneuver up to six hours before impact. However, Plum said, this had not been necessary and the orbiter was now on its way back into [deep space](#).

All on board instruments for the next phase of the mission will become operational over the coming weeks. By March, Solar Orbiter will have flown 50 million kilometers (31 million miles), though it will still only be a third of the way to the center of the solar system.

"It has never been this close before," said Plum, anticipating the next photographs the probe will take as it nears the Sun.

The joint ESA-NASA mission cost around \$1.7 billion. The [spacecraft](#), which weighs in at 1.8 tons, is carrying 10 [scientific instruments](#) that researchers hope will give them significant new insights into the sun and its magnetic field.

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Citation: Solar Orbiter flies by Earth before beginning final journey to Sun (2021, November 29)
retrieved 12 April 2024 from

<https://phys.org/news/2021-11-solar-orbiter-flies-earth-journey.html>

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