

# Scientists 'hack' the Solar Orbiter spacecraft camera to see the sun more clearly

The European Space Agency's (ESA) Solar Orbiter spacecraft is conducting a series of long-distance flybys of different planets, with the goal of getting as close as possible to the Sun.

It is expected that Solar Orbiter's final stop will be within 26 million miles to observe the sun at close range, and enter the orbit of Mercury. The spacecraft will act as a mobile camera located in front of the sun, to capture detailed images of all activities of this star as well as its surroundings.

Of course, the spacecraft does not wait until it reaches its destination to start 'getting to work'. During its approach to the Sun, at every favorable position, Solar Orbiter brings scientists interesting observations. Recently, members of the spacecraft's extreme ultraviolet (EUI) camera system team found a new way for the instrument to become more 'sensitive' to ultraviolet light. blur.

The 'hack' happened by accident. During the manufacturing phase of the camera system, engineers modified its safety door system. There are a series of closeable doors on top of the device to protect the component during launch and as it moves through the solar system, and the safety door has an added small weight, called a 'thumb', will hang in front of the brightest part of the Sun's disk, allowing them to detect fainter light coming from the star's atmosphere.

The team tested the idea of using a 'thumb' as a special tool designed to block the strongest light from a star to better see its surroundings. The results obtained are very positive. Previously, camcorders and cameras were separate devices, but this shows that it's possible to have one device that can do both. In the video released by scientists, taking advantage of the 'thumb' allows them to observe details of the Sun's atmosphere, especially deep layers that normally cannot be observed.

Since Solar Orbiter launched into space in February 2020, the ground control team has gradually narrowed the spacecraft's orbit around the Sun. The two preceding perihelions - the closest points to the Sun in the spacecraft's elliptical orbit - are about 77 million km from the Sun or half the Sun-Earth distance. However, Solar Orbiter is aiming for much closer distances.

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