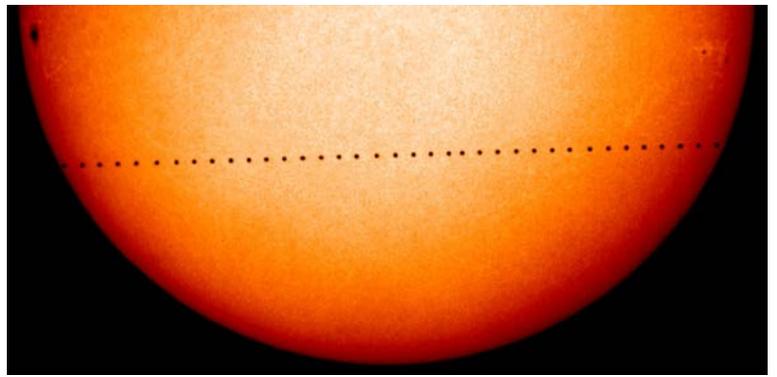


## Mercury makes rare transit across Sun's face

Stargazers have had a rare opportunity to witness Mercury fly directly across the face of the Sun, a sight that unfolds about once every 10 years, as Earth and its smaller neighbouring planet came into perfect alignment.

Mercury was seen through telescopes as a black dot inching over the face of our star, providing a celestial spectacle lasting seven-and-a-half hours. It's rare, because it requires the Sun, Mercury and Earth to be in almost perfect alignment. The ABC News showed NASA vision of Mercury passing in front of the sun.



The planet Mercury is seen in silhouette transiting across the sun's face. This composite image from 2006, as seen by the Soho space telescope

The smallest recognised planet in the Solar System, Mercury completes an orbit every 88 days and passes between the Earth and the Sun every 116 days. But its orbit is tilted in relation to Earth's, which means it usually appears — from our perspective — to pass above or below the Sun. So a transit occurs roughly every ten years only.

The best vantage points to observe this celestial event, known to astronomers as a transit, were eastern North America, South America, western Europe and Africa. In those regions, the entire transit occurred during daylight hours, according to Sky and Telescope magazine.

But Mercury is too small to see without high-powered binoculars or a telescope, and **looking directly at the Sun, even with sunglasses, could cause permanent eye damage**. NASA and astronomy organisations provided virtual ringside seats for the show by live-streaming images of the transit in its entirety and providing expert commentary. **The tiny planet, slightly larger than Earth's moon, started off as a small black dot on the edge of the Sun at 9:12pm AEST (1112 GMT). It travelled 48 kilometres a second across the face of the Sun, which is about 1.39 million kilometres in diameter, or about 109 times larger than Earth.**

Unlike sunspots, which have irregular shapes and grayish borders, Mercury's silhouette was a black and precisely round dot. The event came into view in the western United States after dawn and ended at sunset in parts of Europe, Africa and most of Asia.

The transit of Mercury was first recorded by French astronomer **Pierre Gassendi** in 1631. **Johannes Kepler** had correctly predicted that transit, but died in 1630 before he could witness the event.

**The last Mercury line-up was 10 years ago, and the next will be in 2019, followed by 2032 and 2049.**

Views of the spectacle from space and ground telescopes were also streamed online. They showed Mercury as a tiny black circle, smaller but darker than many sunspots, slowly traversing the Sun's giant yellow disc.

From western Europe, north-western Africa and much of the Americas, Mercury's seven-and-a-half-hour glide across the Sun was visible in its entirety. A further swathe of the planet was able to catch part of the transit, depending on local sunrise and sunset times. The only land masses to miss out completely were Australasia, far eastern Asia and Antarctica.

Because Mercury is so small - just one-third as big as Earth and, from our perspective, 1/150th of the Sun's diameter - its transit could only be glimpsed under serious magnification; the "eclipse glasses" used by thousands of people to view last year's solar eclipse were useless.

Astronomers say this celestial event did not present any novel scientific opportunities - but it was special nonetheless.

It showed people the planet Mercury, which is a hard planet to see.

The NASA Messenger Probe told us a lot about Mercury. But it really told us we don't understand Mercury - because there's a lot of things that just don't stack up. It's an airless body, with lots of craters, but there's been a long history of volcanic activity, fault activity - and the composition is weird. There's very little iron at the surface but it must have an enormous iron core, because it generates a magnetic field - which Venus, Mars and the Moon don't have.

Mercury's transit across the Sun on 9 May 2016



Source: Eclipsewise

BBC

Map of where the transit could be seen, no luck Australia

Mercury has already been visited by two Nasa probes: Mariner 10 flew past in 1974 and 1975 and Messenger spent four years in orbit until its planned crash landing in 2015.

Topographic map of Mercury



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