

# A Martian eclipse, captured by Curiosity

18 September 2012, by Jason Major



Credit: NASA/JPL-Caltech/Malin Space Science Systems. Animation by Jason Major.

Yes, Mars gets eclipses too! This brief animation, made from ten raw subframe images acquired with Curiosity's Mastcam on September 13—the 37th Sol of the mission—show the silhouette of Mars' moon Phobos as it slipped in front of the Sun's limb.

The entire animation spans a real time of about 15 minutes.

As a moon Phobos really is an oddity. In addition to its small size – only 16 miles (27 km) across at its widest – and irregular shape, it also orbits its parent planet at a very low altitude, only 5,840 miles (9,400 km) and thus needs to travel at a relatively [high velocity](#) in order to even stay in orbit. Phobos actually orbits Mars over three times faster than Mars rotates, appearing to rise in Mars' western sky. And its orbit is so low that it can't even be seen from the polar regions!



Phobos orbits Mars at an altitude of about 5,830 miles (9377 km). Credit: Mars Express image

Since Phobos, and its even more petite sibling Deimos, are so small, the [Mars rovers](#) won't ever see a [total solar eclipse](#). In fact these events are often referred to as transits rather than actual eclipses.

This isn't the first time an eclipse was captured by a [Mars Exploration Rover](#); Opportunity witnessed a similar partial [eclipse of the Sun](#) by Phobos in

[December 2010](#), and Spirit caught a lunar (or "Phobal?") eclipse on camera [back in 2005](#), when the moon passed into the shadow of Mars.

Curiosity's find was no accident, either, as mission engineers had the Mastcam already positioned to capture the event. Preparation really pays off!

**More information:** See the latest images and news from the MSL mission [here](#).

Source: [Universe Today](#)

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