

Two Eclipses, One Observed Only by NASA (Forwarded)

Source: <http://sci.tech-archive.net/Archive/sci.astro/2007-03/msg00045.html>

- *From:* Andrew Yee <ayee@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Sat, 3 Mar 2007 00:29:34 GMT
-

Steele Hill
STEREO and SOHO Project

March 1, 2007

Two Eclipses, One Observed Only by NASA

That's right! The Moon is the central figure in two different kinds of eclipses within one week. Here's how. A total lunar eclipse, partly visible from every continent around the world, will occur on March 3 when the Moon will pass into and out of the shadow of Earth. The Moon will appear to glow with a distinct reddish cast. The entire event will be visible from Europe, Africa and western Asia. In eastern Asia, Moonset occurs during various stages of the eclipse. For example, the Moon sets while in total eclipse from central China and southeast Asia. Western Australia catches part of the initial partial phases but the Moon sets before totality. Observers in eastern North and South America will find the Moon already partially or totality eclipsed at Moonrise. From western North America, only the final phases are visible.

Here in the United States, you have to be in the eastern half of the country to see the total eclipse. At the end of the day on Saturday, go outside and face east. As the sun sets in the western skies, a red Moon will rise before your eyes -- fantastic! Maximum eclipse is at 6:21 p.m. EST. The next total lunar eclipse will occur on August 28 this summer.

On Feb. 25, 2007 there was another kind of eclipse of the Moon when it crossed the face of the Sun -- but it could not be seen from Earth. This sight was visible only from the STEREO-B spacecraft in its orbit about the sun, trailing behind the Earth. NASA's STEREO mission consists of two spacecraft launched in October, 2006 to study solar storms. The transit started at 1:56 am EST and continued for 12 hours until 1:57 pm EST. STEREO-B is currently about one million miles from the Earth, 4.4 times farther away from the Moon than we are on Earth. As a result, the Moon will appear 4.4 times smaller than what we are used to. This is still, however, much larger than, say, the planet Venus appeared when it transited the Sun as seen from Earth in 2004. This alignment of STEREO-B and the Moon was not just due to luck. It was arranged with a small tweak

Two Eclipses, One Observed Only by NASA (Forwarded)

to STEREO–B's orbit last December. The transit is quite useful to STEREO scientists for measuring the focus and the amount of scattered light in the STEREO imagers and for determining the pointing of the STEREO coronagraphs. The Sun as it appears in these the images and each frame of the movie is a composite of nearly simultaneous images in four different wavelengths of extreme ultraviolet light that were separated into color channels and then recombined with some level of transparency for each.

[NOTE: Images and weblinks supporting this article are available at http://www.nasa.gov/mission_pages/stereo/news/TotalLunarEclipse07.html]