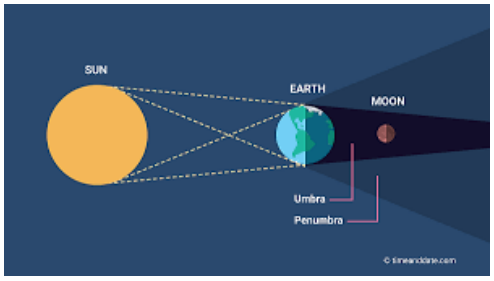
The May 15 Lunar Eclipse

By Fred Ringwald

In any lunar eclipse, Earth casts a shadow on the Moon. A lunar eclipse can't hurt your eyes. This is because during a lunar eclipse, we on Earth are looking away from the Sun. You can hurt your eyes by observing a solar eclipse improperly. In a solar eclipse, the Moon casts a shadow on Earth, so we on Earth are looking toward the Sun. That doesn't happen in a lunar eclipse, so lunar eclipses are safe to observe even through telescopes.

The lunar eclipse of May 15 will likely be a dark one. This is because it will be a total eclipse, with the entire Moon passing through Earth's umbra. The umbra is the darkest part of Earth's shadow, in which the Sun is completely shadowed by Earth. The umbra is noticeably round to the eye. Earth always casts a round shadow on the Moon during a lunar eclipse, so the ancient Greek philosopher Aristotle deduced that Earth must be round.



The May 15 eclipse is also likely to be dark because it will be a central eclipse, with the Moon passing through the center of Earth's shadow. The Moon is therefore likely to turn deep red, called a "Blood Moon," or even very dark red or even black, called a "Black Moon." The red color is because, as Earth casts a shadow on the Moon, the light from the Sun that shines on the Moon will first pass through dust in Earth's atmosphere. This dust is only transparent to red light: this is is the same reason that sunsets are red.

This will also be a supermoon eclipse. This means that the Moon will appear larger than average in the sky, because it will be relatively near us in its elliptical orbit around Earth.

It will be visible in Fresno after Moonrise, which will be at 7:53 p.m. Pacific Daylight Time (PDT).

Penumbral eclipse will begin (P1) at 6:32 p.m. PDT, which is before Moonrise.
Partial eclipse will begin (U1) at 7:28 p.m. PDT., which is before Moonrise.
Sunset will be at 8:00 p.m. PDT.
Total (umbral) eclipse will begin (U2) at 8:29 p.m. PDT.
Greatest (maximum) eclipse will be at 9:12 p.m. PDT.
Total (umbral) eclipse will end (U3) at 9:55 p.m. PDT.
Partial eclipse will end (U4) at 10:56 p.m. PDT.
Penumbral eclipse will end (P4) at 11:52 p.m. PDT, which is before Moonrise.

All these times are for Fresno State's Campus Observatory, on the lawn of the Downing Planetarium with a local time correction of +1m 01.3s to the times from Fred Espenak's EclipseWise.com webpage (linked to his older "Mr. Eclipse" webpage) for this eclipse, here:

http://www.eclipsewise.com/lunar/LEprime/2001-2100/LE2022May16Tprime.html

And of course, I can't predict the weather this far in advance. Whether you will actually see any of this will depend on the weather.