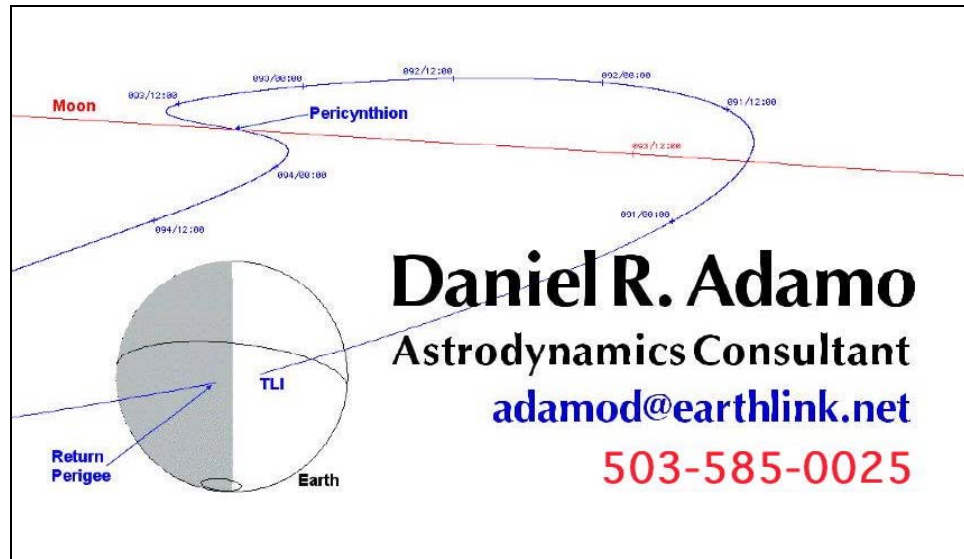
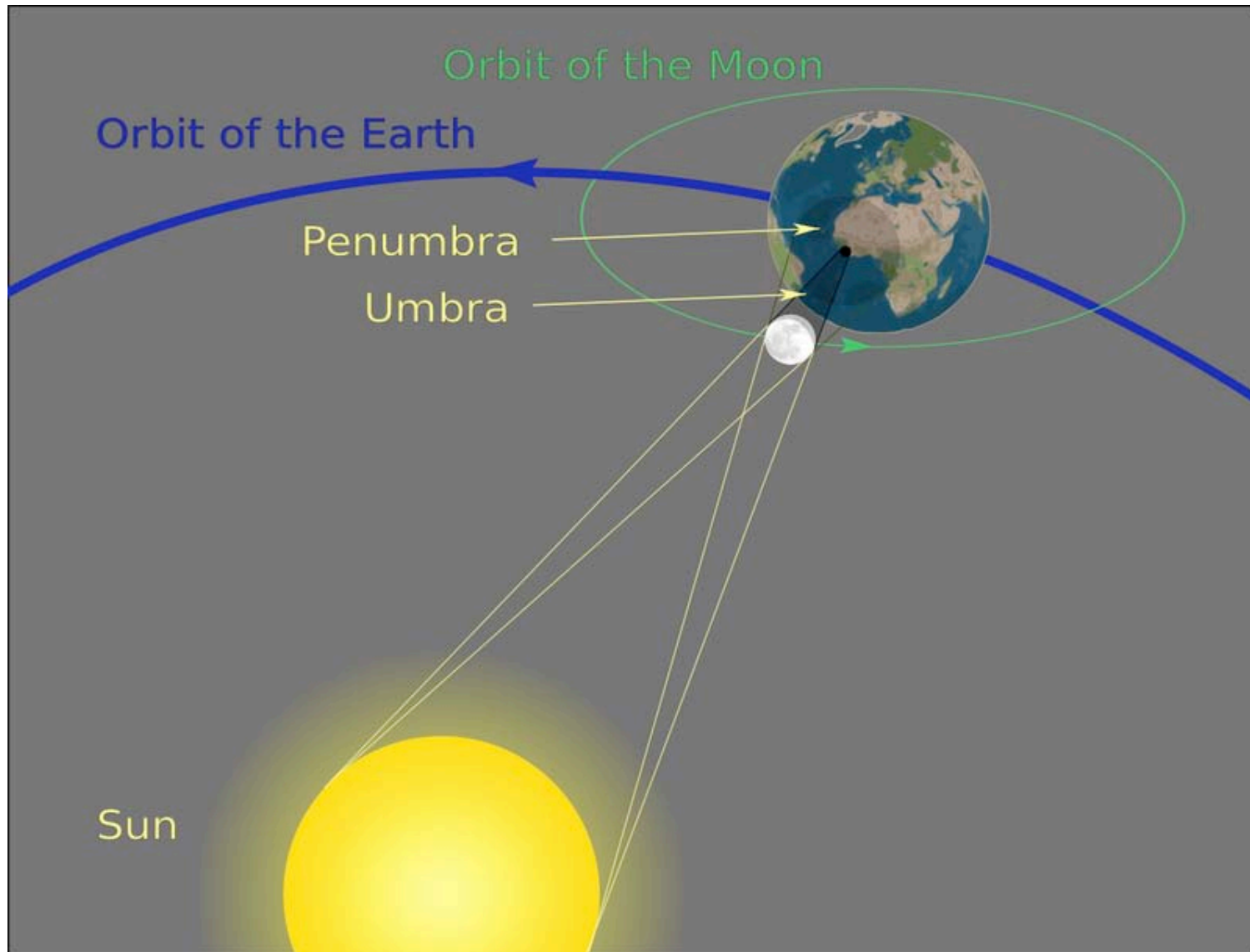


Oregon's 2017 August 21 Total Solar Eclipse



Amity Middle School
24 May 2016

Oregon's 2017 August 21 Total Solar Eclipse



<http://www.vox.com/2015/3/19/8251157/solar-eclipse-how-to-watch>

Oregon's 2017 August 21 Total Solar Eclipse

If the Moon isn't close enough to Earth, its umbra won't reach us. An annular eclipse is seen.



<http://www.forbes.com/sites/ethansiegel/2015/04/06/solar-eclipses-are-slowly-disappearing-and-theres-nothing-we-can-do-to-stop-it/#26094ab57cfc>

Oregon's 2017 August 21 Total Solar Eclipse

WARNING: permanent blindness may result from looking directly at the Sun outside the Moon's umbra. This photograph uses a protective filter.



<http://www.hko.gov.hk/gts/graphics/astron-graphics/astro-photo201012.jpg>

Oregon's 2017 August 21 Total Solar Eclipse

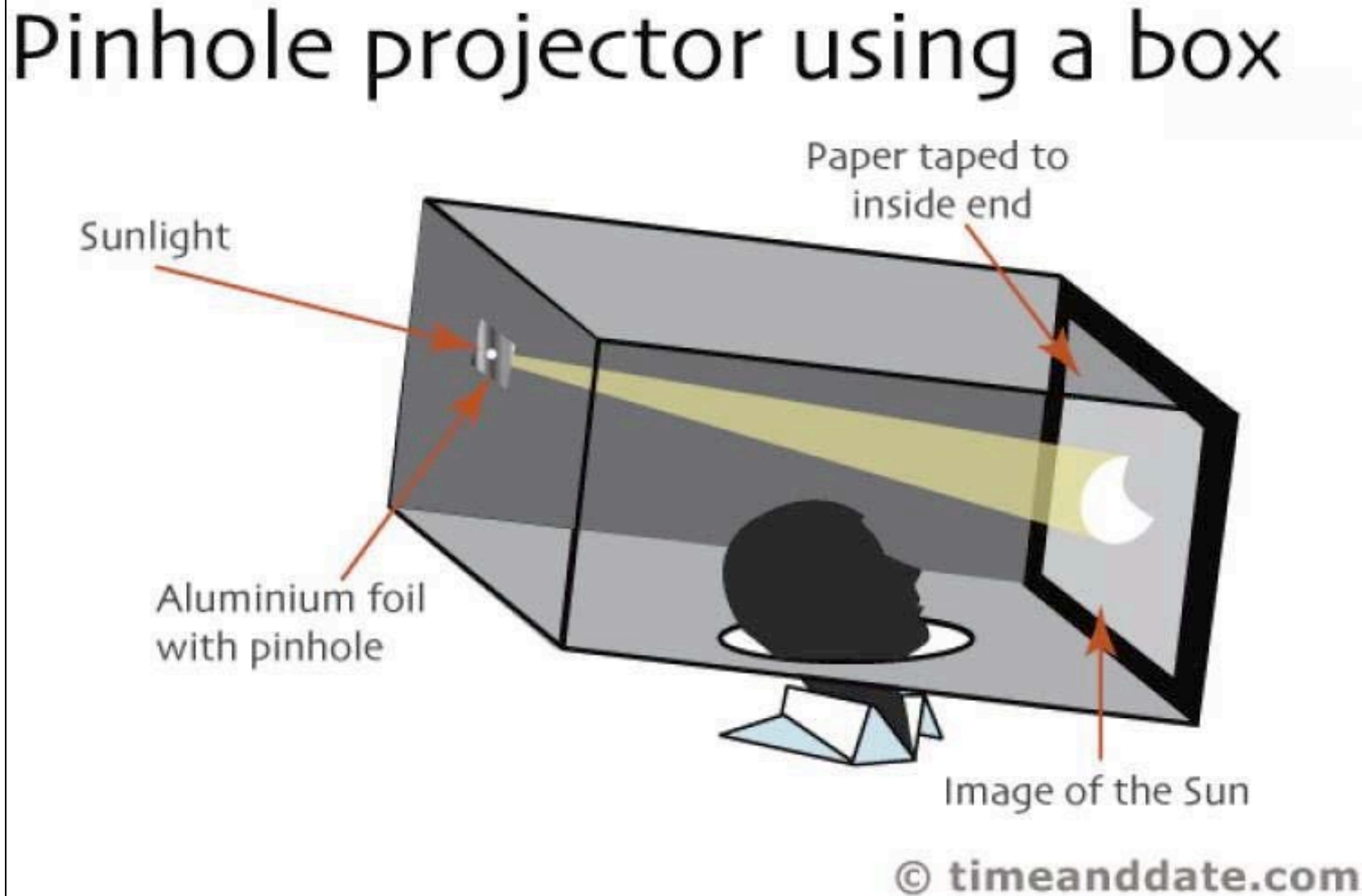
Tree leaves act as "pinhole cameras" to form partial eclipse images for safe viewing.



<http://imageimportant.faith/123databaseimages/solar+eclipse+through+trees>

Oregon's 2017 August 21 Total Solar Eclipse

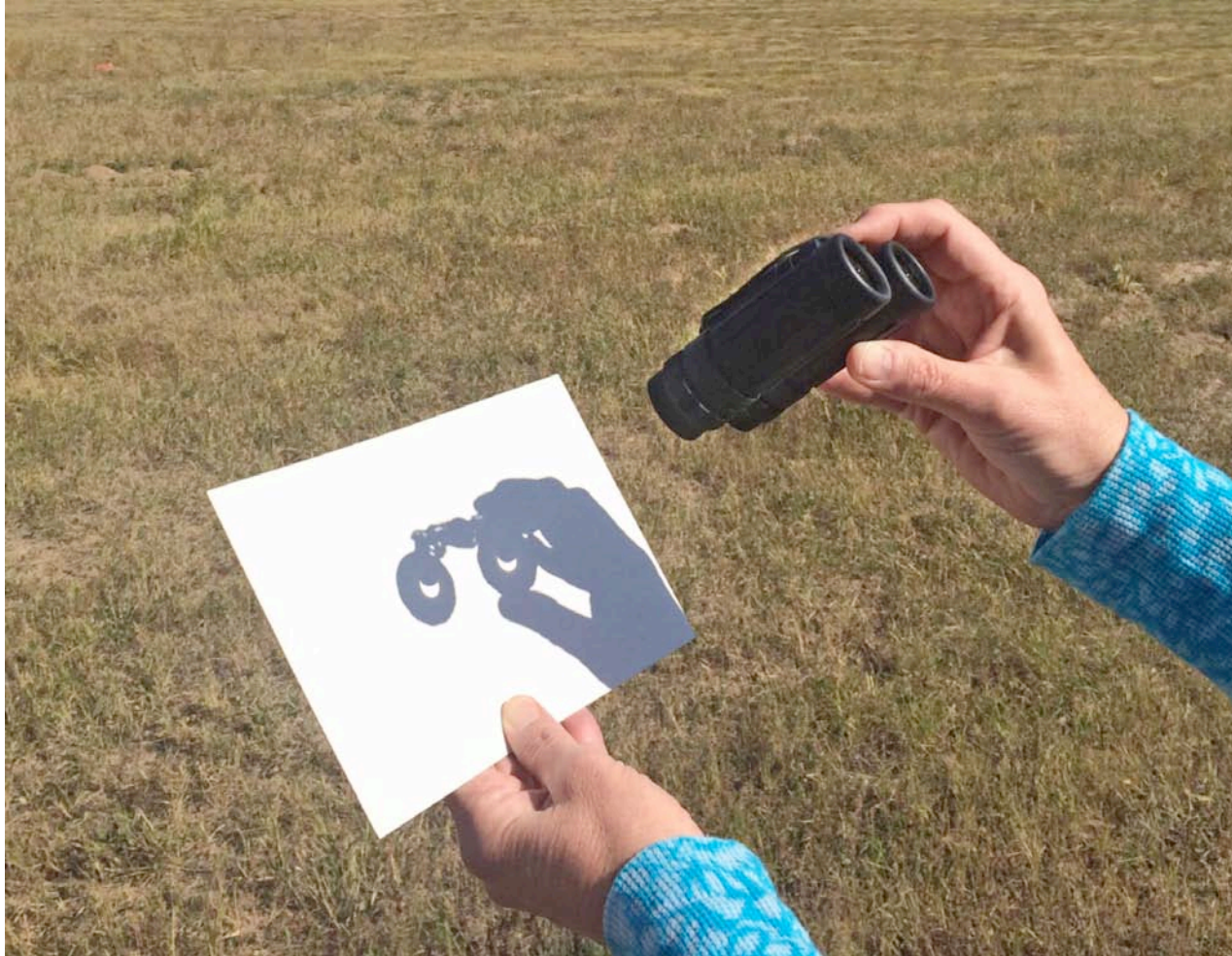
Make your own pinhole camera for safe eclipse viewing.



<http://addins.wvva.com/blogs/weather/2014/10/viewing-the-partial-solar-eclipse>

Oregon's 2017 August 21 Total Solar Eclipse

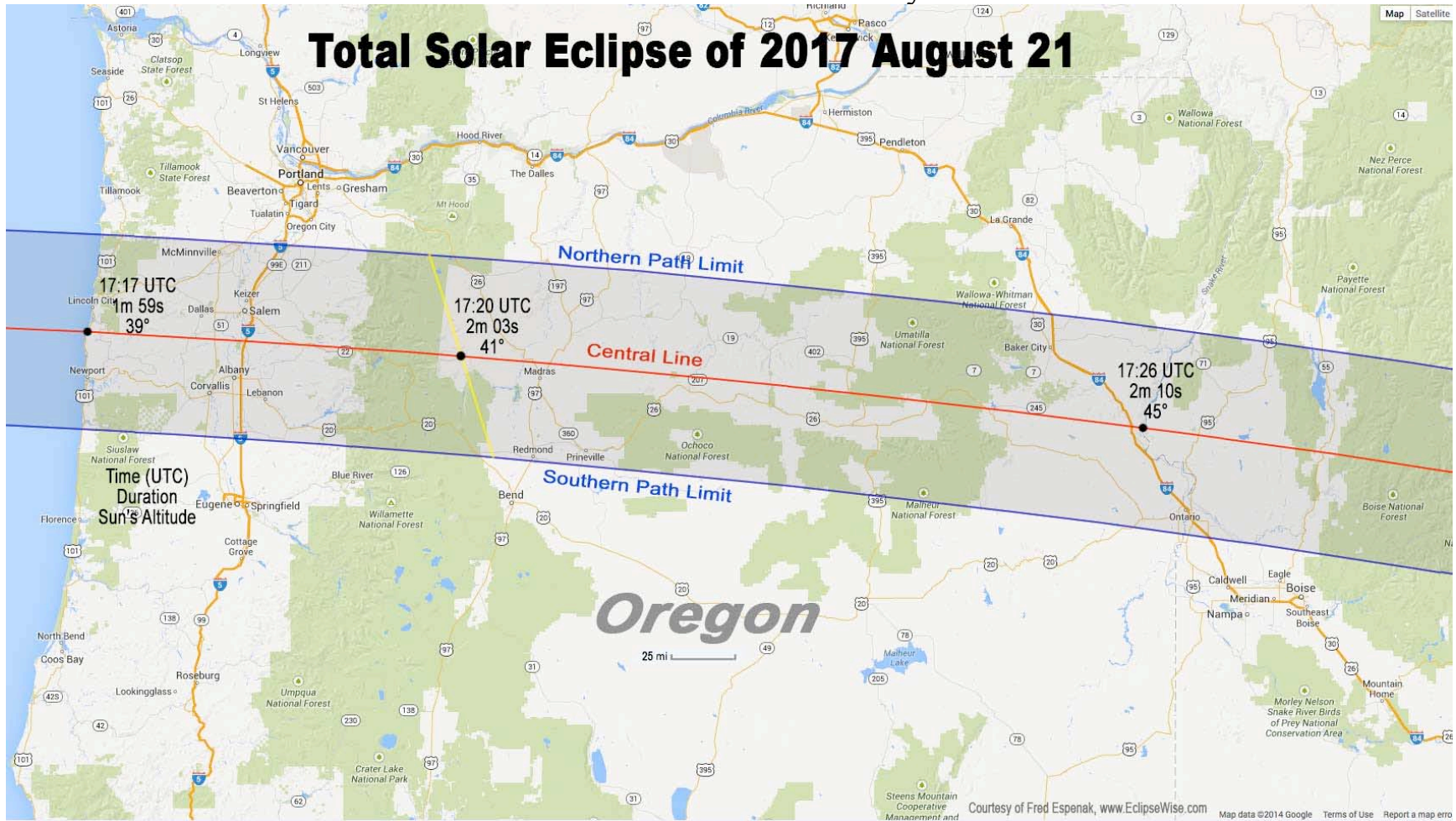
Focus binoculars on distant terrestrial object, then project Sun's image onto white paper for safe eclipse viewing (orient larger lenses toward Sun; eyepieces toward paper). CAUTION: excessive projection intervals will generate heat sufficient to damage binoculars.



<http://www.stgeorgeutah.com/news/archive/2014/10/22/ams-partial-solar-eclipse-steals-afternoon-sky-safety-tips-viewing-locations-where-to-buy-glasses/#.V0I8DCjAVtI>

Oregon's 2017 August 21 Total Solar Eclipse

The Moon's umbra is cast across much of the Willamette Valley.



<http://eclipsewise.com/solar/SEnews/TSE2017/TSE2017fig/TSE2017-01.jpg>

Oregon's 2017 August 21 Total Solar Eclipse

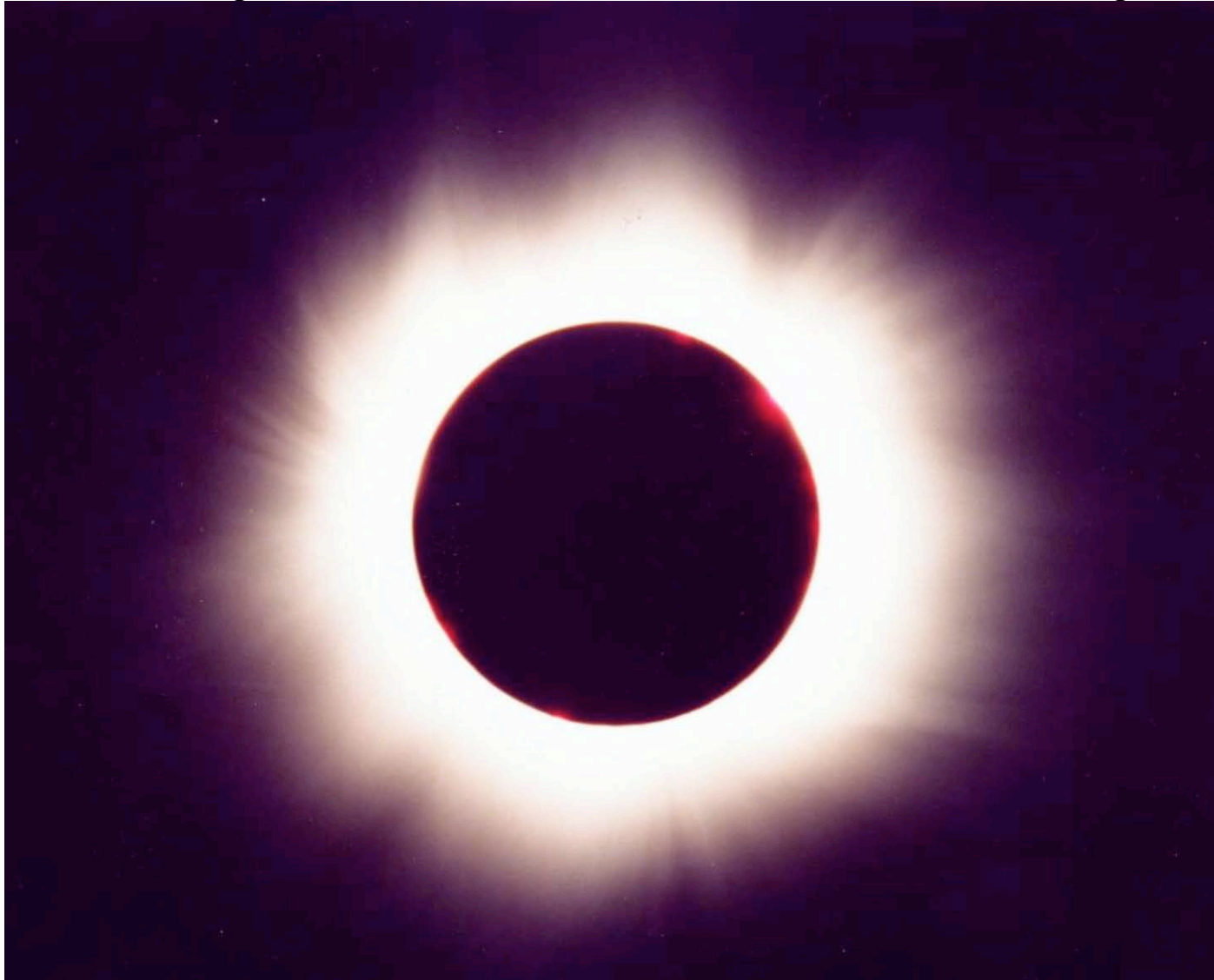
Just outside the Moon's umbra, "Baily's beads" and the Sun's chromosphere are seen.



<http://www.terrastro.com/galleries/solar-eclipse/>

Oregon's 2017 August 21 Total Solar Eclipse

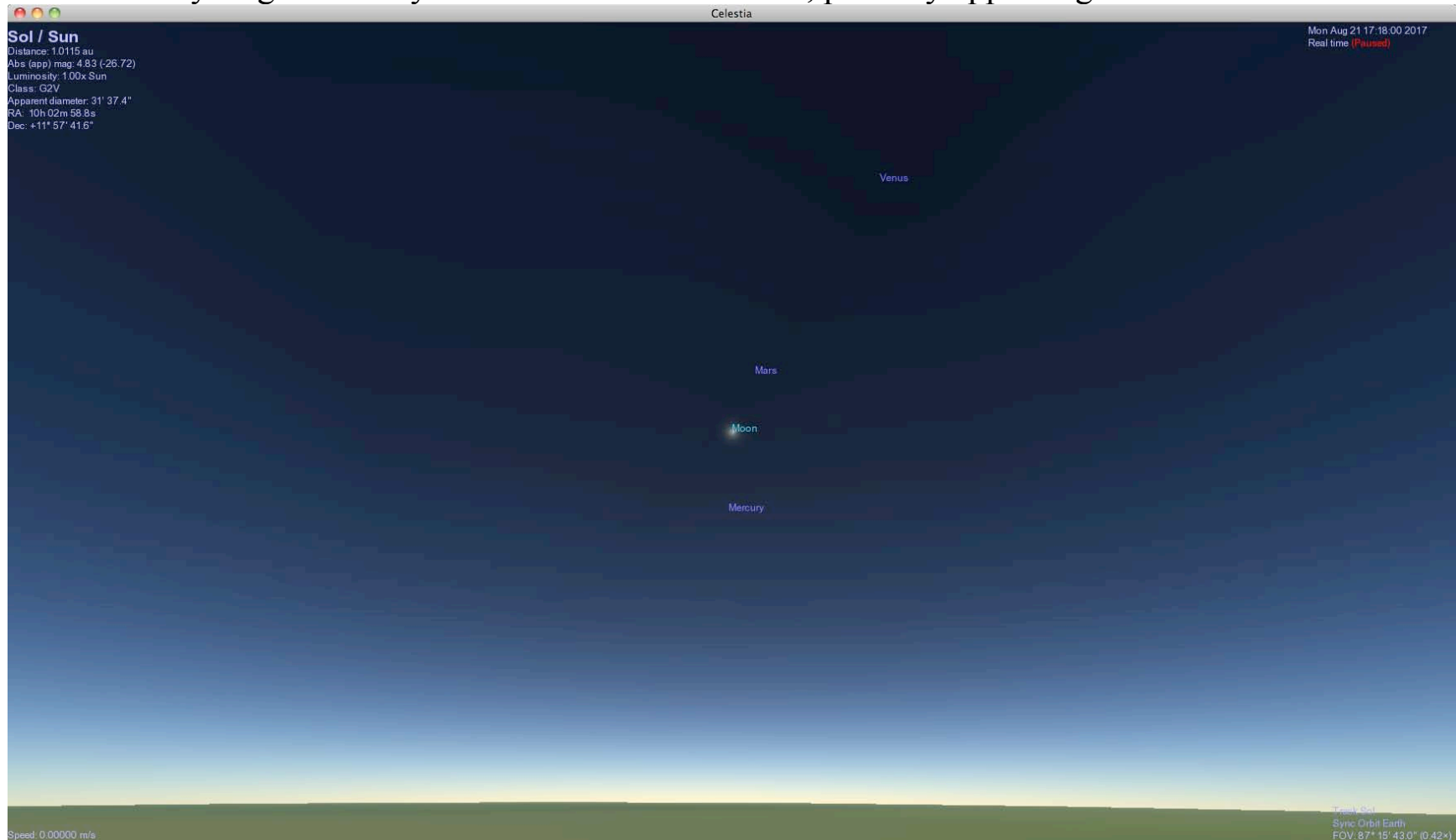
An awesome sight: the Sun's corona surrounds the Moon's silhouette during total eclipse.



<http://www.eclipsetours.com/2001-and-earlier/1999-total-eclipse-in-turkey/>

Oregon's 2017 August 21 Total Solar Eclipse

During total eclipse, look for planets and bright stars as shown in this *Celestia* simulation. The sky will look very bright in every direction near the horizon, possibly appearing like a 360° sunset.



Celestia may be downloaded at <http://www.shatters.net/celestia/>

See a one-minute time-lapse video of this *Celestia* simulation at https://youtu.be/2jHASAyga_Q

Oregon's 2017 August 21 Total Solar Eclipse

Solar Eclipse Computer

**U.S. Naval Observatory
Astronomical Applications Department**

Solar Eclipse of 2017 Aug. 21

Sun in Total Eclipse at this Location

Amity Middle School (Longitude W123° 12' 18.7", Latitude N45° 6' 48.7", Height 50m)

August 21, 2017 Universal Time Delta T: 69.4s

Phenomenon	Day	Universal Time	°Altitude	°Azimuth	°Position Angle	°Vertex Angle
Eclipse Begins	21	16:05:27.4	27.6	101.3	283.9	329.0
Totality Begins	21	17:17:24.1	39.6	116.9	64.7	104.7
Maximum Eclipse	21	17:18:09.3	39.7	117.1		
Totality Ends	21	17:18:56.9	39.8	117.3	326.7	6.5
Eclipse Ends	21	18:37:31.8	50.7	140.0	107.7	135.4

Duration 2h 32m 04.4s

Duration of Totality 1m 32.8s

Magnitude 1.005

Obscuration 100.0%

<http://aa.usno.navy.mil/data/docs/Eclipse2017.php> (input data into Form B)

Oregon's 2017 August 21 Total Solar Eclipse

Solar Eclipse Computer Notes:

- 1) Universal Time is 7 hours ahead of Pacific Daylight Time (PDT).
- 2) The following diagrams approximate Sun/Moon geometry at Eclipse Begins.

