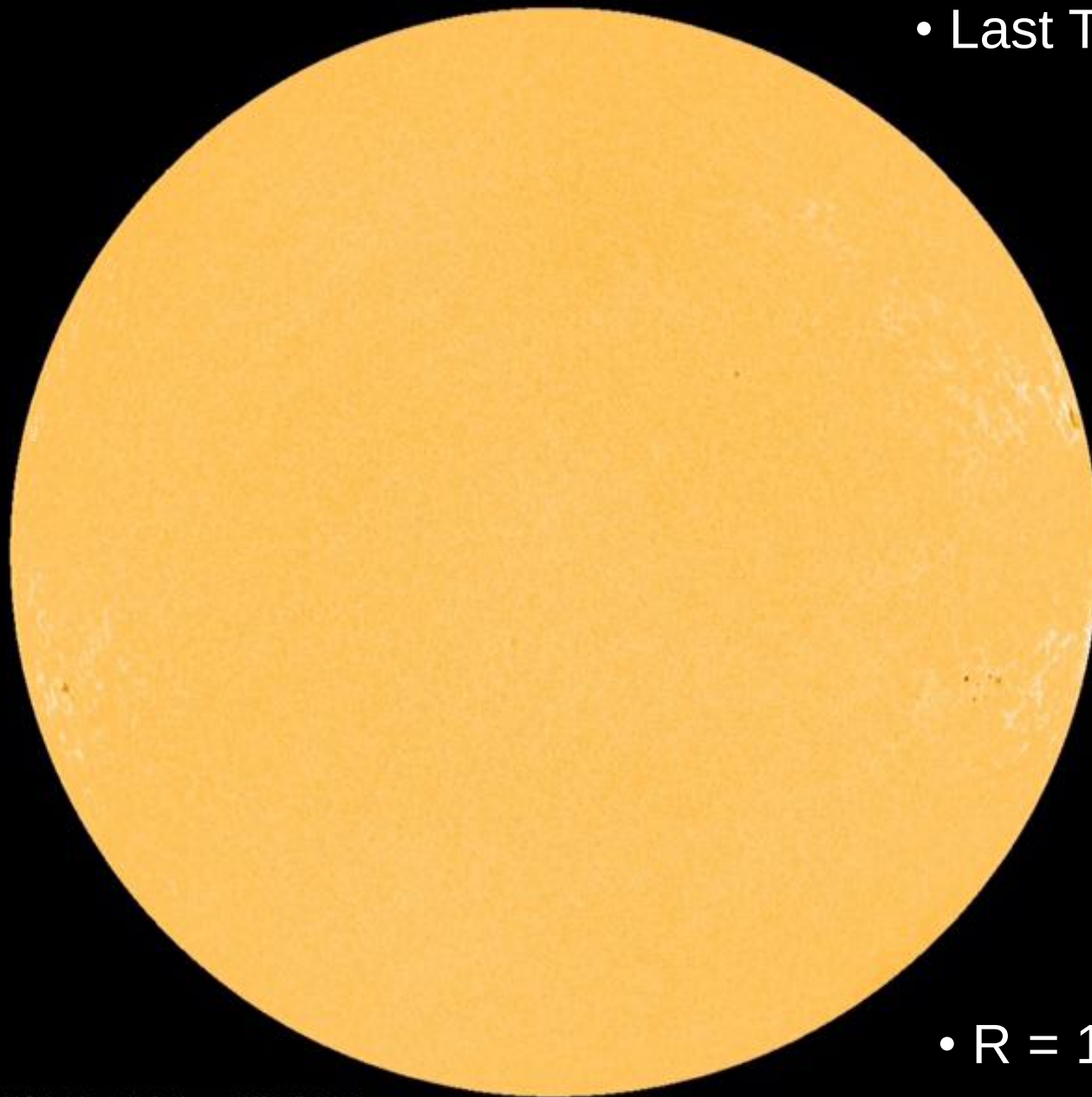


# What's Up?

2025 February 24 to March 24

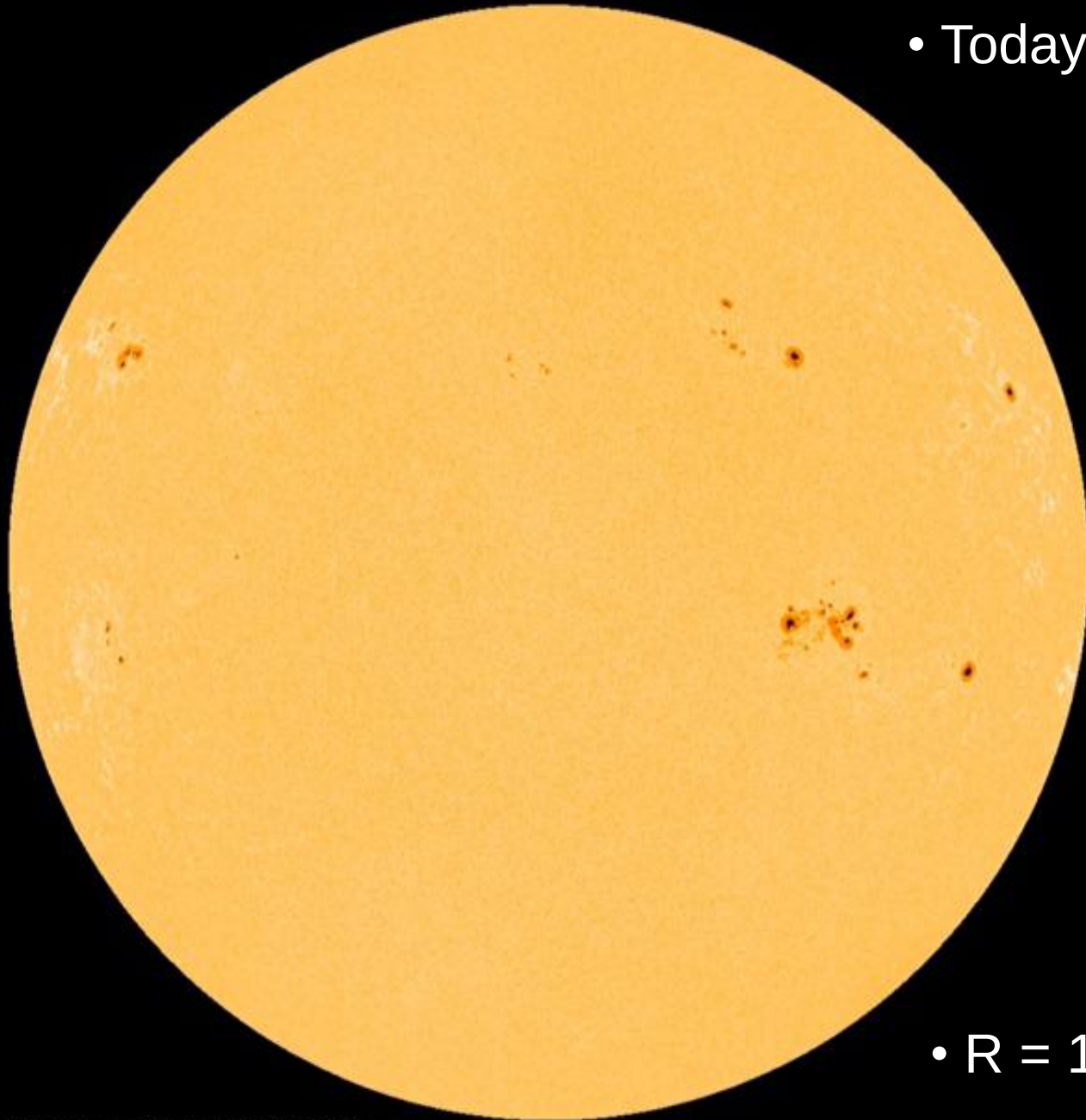
Bill Barton, FRAS

- Last Time



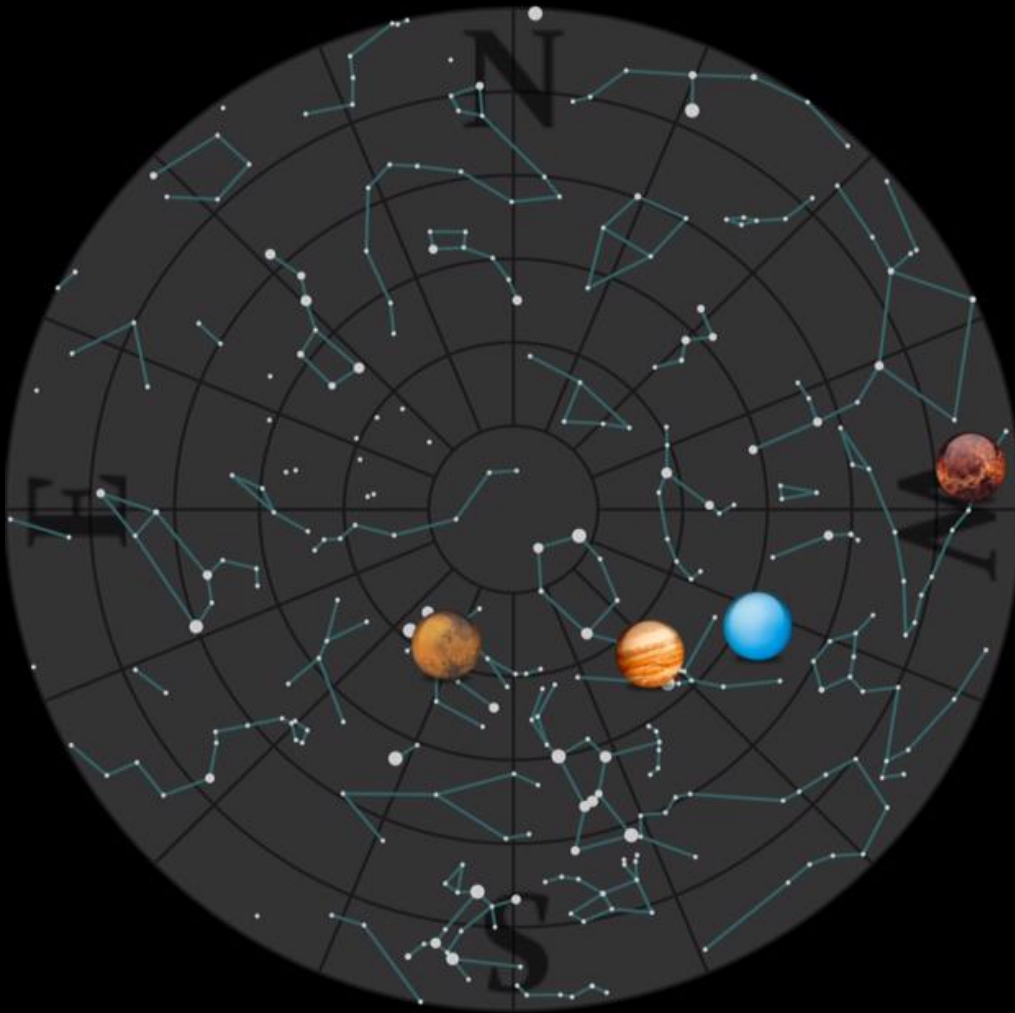
- $R = 140?$

• Today

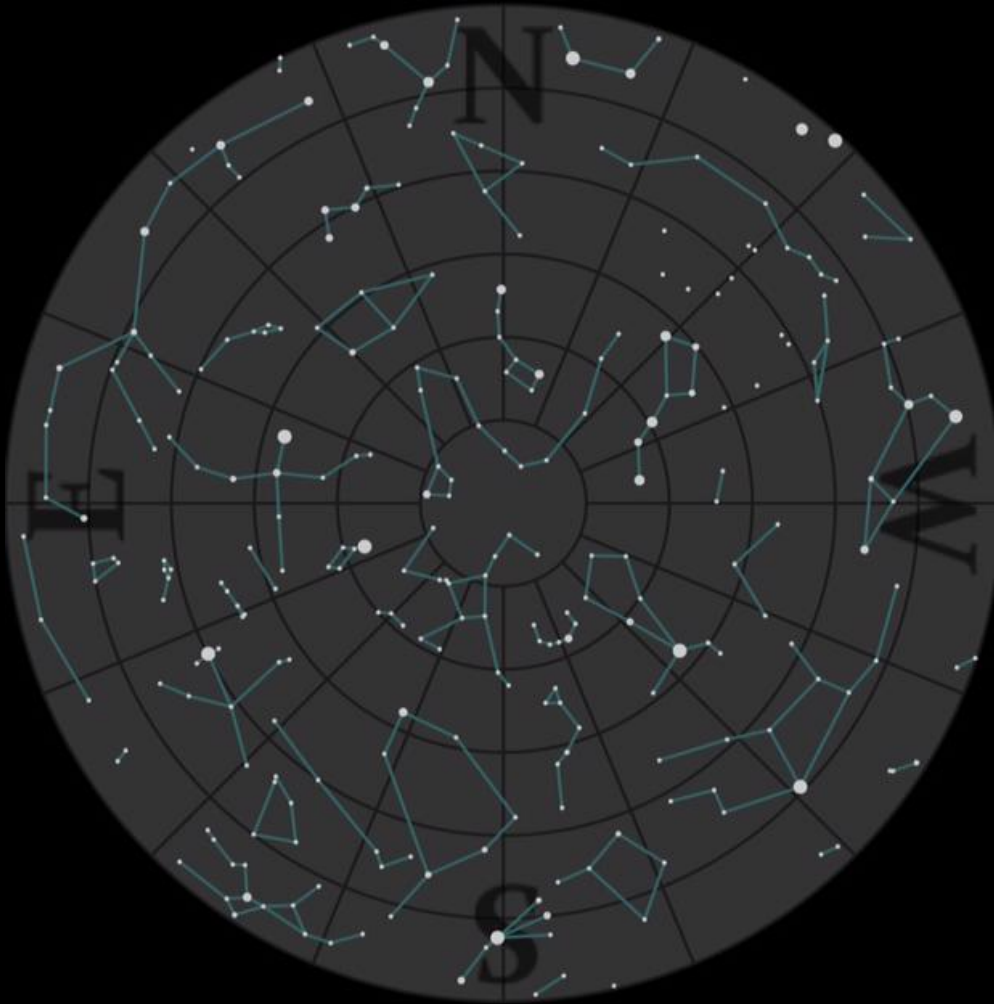


•  $R = 186$

- The Sky 20:00  
Tonight



- The Sky 06:00  
Tomorrow



# Mercury

| event                | date   | elong<br>(deg) | mag  | dia<br>(") | phase |
|----------------------|--------|----------------|------|------------|-------|
| superior conjunction | Feb 09 | 2.0            | -1.6 | 4.8        | 0.998 |
| greatest elongation  | Mar 08 | 18.2           | -0.5 | 7.1        | 0.5   |
| inferior conjunction | Mar 24 | 3.2            | +4.5 | 10.7       | 0.021 |

- “Good evening observing opportunity” ~ early March 2025
  - Setting times
    - February 09, 16:40 (sunset 16:57)
    - March 08, 19:30 (sunset 17:46)
    - March 24, 18:27 (sunset 18:14)

# Inner Solar System

- Sun
  - Declination increasing, equinox March 20
  - Last sunspot min., Apr. 2020, next max., now?
- Mercury
  - Superior conjunction, February 09
  - In the evening sky with greatest elongation on Mar. 08 ( $18^\circ$  ), currently  $13^\circ$  , -1.2 mag
  - Inferior conjunction March 24
  - Today, rise 07:15, transit 12:50, set 18:25
- Venus
  - In the evening sky, greatest elongation January 10, ( $47^\circ$  ) currently  $34^\circ$  , inferior conjunction March 23
  - today, rise 07:10, transit 14:00, set 20:55

# Earth

- Time
  - 00:00UT  $\approx$  10:15ST today
  - Today, sunrise 06:50, transit 12:05, sunset 17:25
  - End of period, sunrise 05:45, transit 12:00, sunset 18:15
  - Equinox March 20, BST begins, 01:00 Sunday March 30
- Moon
  -  New, February 28, & **March 29**
  -  First Quarter, March 6
  -  Full, **March 14** ('Worm or Sap' Moon)
  -  Last Quarter, March 22
- Meteors
  - none of note this period

# Total Lunar Eclipse of 2025 Mar 14

Ecliptic Conjunction = 06:55:48.0 TD (= 06:54:33.5 UT)

Greatest Eclipse = 06:59:56.2 TD (= 06:58:41.7 UT)

Penumbral Magnitude = 2.2595

P. Radius = 1.1899°

Gamma = 0.3484

Umbral Magnitude = 1.1784

U. Radius = 0.6537°

Axis = 0.3171°

Saros Series = 123

Member = 53 of 73

Sun at Greatest Eclipse  
(Geocentric Coordinates)

R.A. = 23h37m46.0s

Dec. = -02°24'16.8"

S.D. = 00°16'05.2"

H.P. = 00°00'08.8"

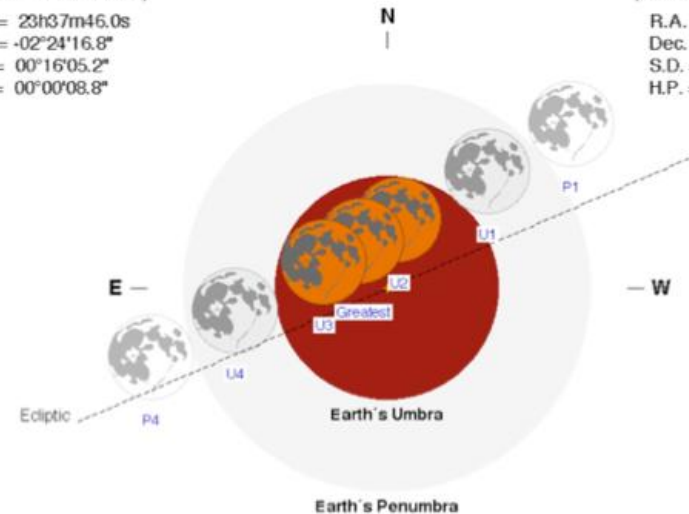
Moon at Greatest Eclipse  
(Geocentric Coordinates)

R.A. = 11h38m23.0s

Dec. = +02°40'54.6"

S.D. = 00°14'52.8"

H.P. = 00°54'36.8"



Eclipse Durations

Penumbral = 06h02m37s

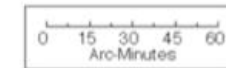
Umbral = 03h38m15s

Total = 01h05m24s

$\Delta T = 75$  s

Rule = CdT (Danjon)

Eph. = VSOP87/ELP2000-85



F. Espenak, NASA's GSFC  
eclipse.gsfc.nasa.gov/eclipse.html

Eclipse Contacts

P1 = 03:57:24 UT

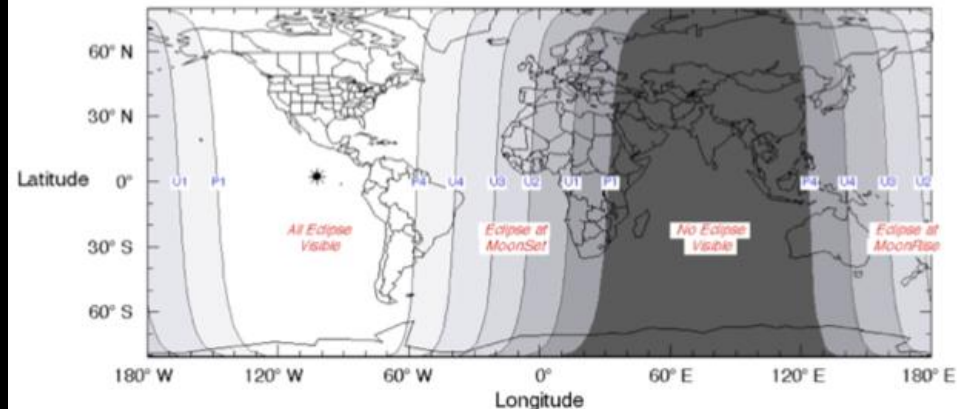
U1 = 05:09:33 UT

U2 = 06:25:59 UT

U3 = 07:31:23 UT

U4 = 08:47:48 UT

P4 = 10:00:01 UT



- Friday, March 14
- Eclipse start, 05:10
- Sunrise, 06:10
- Moonset, 06:20
- Eclipse total, 06:25-07:30
- Eclipse end, 08:45

- Saturday, March 29
- Sunrise, 05:35
- Eclipse start, 10:16
- Eclipse maximum, 11:06 (30%)
- Eclipse end, 11:56
- Sun transit, 11:58

## Partial Solar Eclipse of 2025 Mar 29

Geocentric Conjunction = 11:46:09.2 UT J.D. = 2460763.990384

Greatest Eclipse = 10:47:18.4 UT J.D. = 2460763.949519

Eclipse Magnitude = 0.9361 Gamma = 1.0405

Saros Series = 149 Member = 21 of 71

Sun at Greatest Eclipse  
(Geocentric Coordinates)

R.A. = 00h33m03.1s

Dec. = +03°33'54.8"

S.D. = 00°16'01.1"

H.P. = 00°00'08.8"

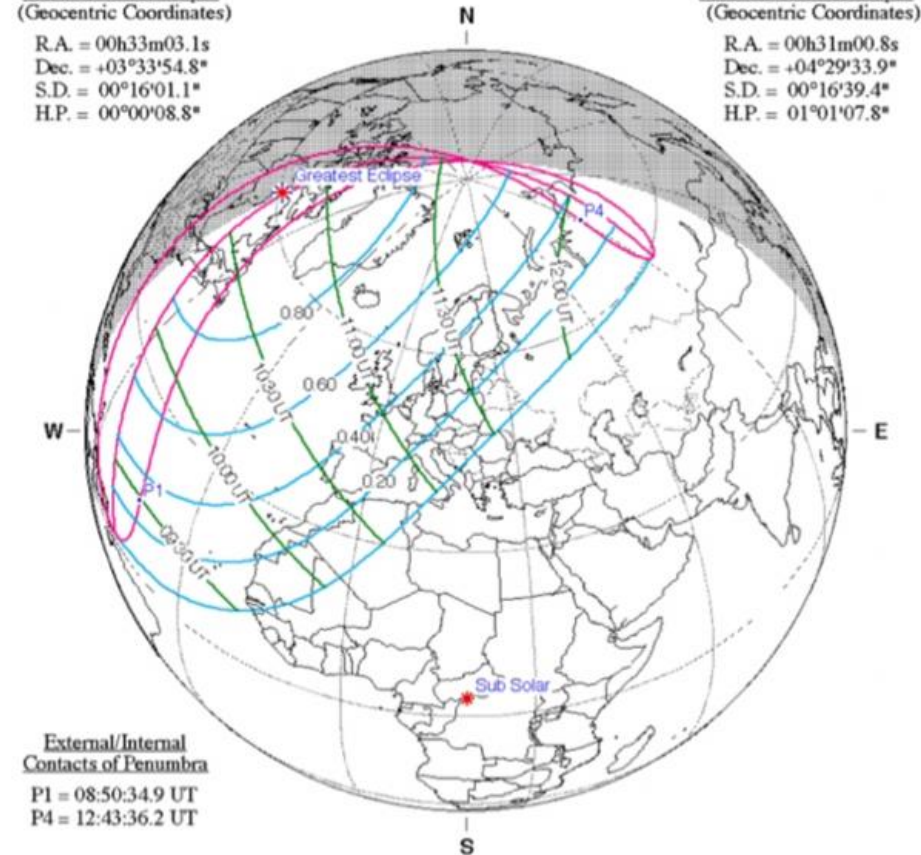
Moon at Greatest Eclipse  
(Geocentric Coordinates)

R.A. = 00h31m00.8s

Dec. = +04°29'33.9"

S.D. = 00°16'39.4"

H.P. = 01°01'07.8"



External/Internal  
Contacts of Penumbra

P1 = 08:50:34.9 UT

P4 = 12:43:36.2 UT

Ephemeris & Constants

Eph. = Newcomb/ILE

$\Delta T = 82.3$  s

$k1 = 0.2724880$

$k2 = 0.2722810$

$\Delta b = 0.0^{\circ}$   $\Delta l = 0.0^{\circ}$

Geocentric Libration  
(Optical + Physical)

$l = -2.00^{\circ}$

$b = -1.35^{\circ}$

$c = -21.73^{\circ}$

Brown Lun. No. = 1265



F. Espenak, NASA's GSFC - Fri, Jul 2,

[sunearth.gsfc.nasa.gov/eclipse/eclipse.html](http://sunearth.gsfc.nasa.gov/eclipse/eclipse.html)

# Outer Solar System

- Mars
  - Opposition January 16. Conjunction January 09, 2026. Today, rise 12:10, transit 20:50, set 05:30. No longer retrograding!
- Jupiter
  - Opposition December 07. Conjunction June 24. Today, rise 10:10, transit 18:10, set 02:20
- Saturn
  - Opposition September 08. Conjunction March 12. Ring plane crossing March 23. Today, rise 07:25, transit 13:00, set 18:35
- Uranus
  - Opposition November 17. Conjunction May 17. Today, rise 09:10, transit 16:55, set 00:40
- Neptune
  - Opposition September 21. Conjunction March 19. Today, rise 07:35, transit 13:30, set 19:25

# OASI Events

- Friday 28 February, from 20:00
  - Committee Meeting, Zoom
- Monday 17 March, from 20:00
  - 'William Herschel - Discoverer of the Deep Sky', Wolfgang Steinicke, Zoom
- Friday 21 March, from 19:45
  - 'The Eye at Night', Mike Culley, The Lantern Room, St. Augustine's Church
- New Phone Number
  - The Orwell Park Observatory mobile phone has a new number, it is now 07749 157843

# Local Societies Events

- DASH (Darsham Village Hall, 7:00pm, Sundays)
  - March 02, observing meeting
  - March 07 & 08, outreach meetings at NT Dunwich Heath
  - March 16, lecture meeting, 'The Gaia Revolution', Dr George Seabroke
- LYRA (Parkhill Hotel, Oulton, 7:30pm, Tuesdays)
  - No information
- AAA (Whepstead Village Hall, 7:30pm, Wednesdays)
  - March 05, Measuring the age of the Universe
  - March 19, TBC
- DAG (Diss)
  - Informal on FaceBook & WhatsApp

# National Events

- The Practical Astronomy Show
  - Saturday March 15, 09:30-16:30
  - Stoneleigh Park, Warwickshire, CV8 2LH
- Institute of Astronomy, Cambridge, Open Afternoon
  - Saturday March 22, 14:00-16:00
- British Astronomical Association, Deep Sky Section Annual Meeting
  - Saturday March 22, 10:00-17:00
  - Goostrey Village Hall, Crewe, CW4 8PE