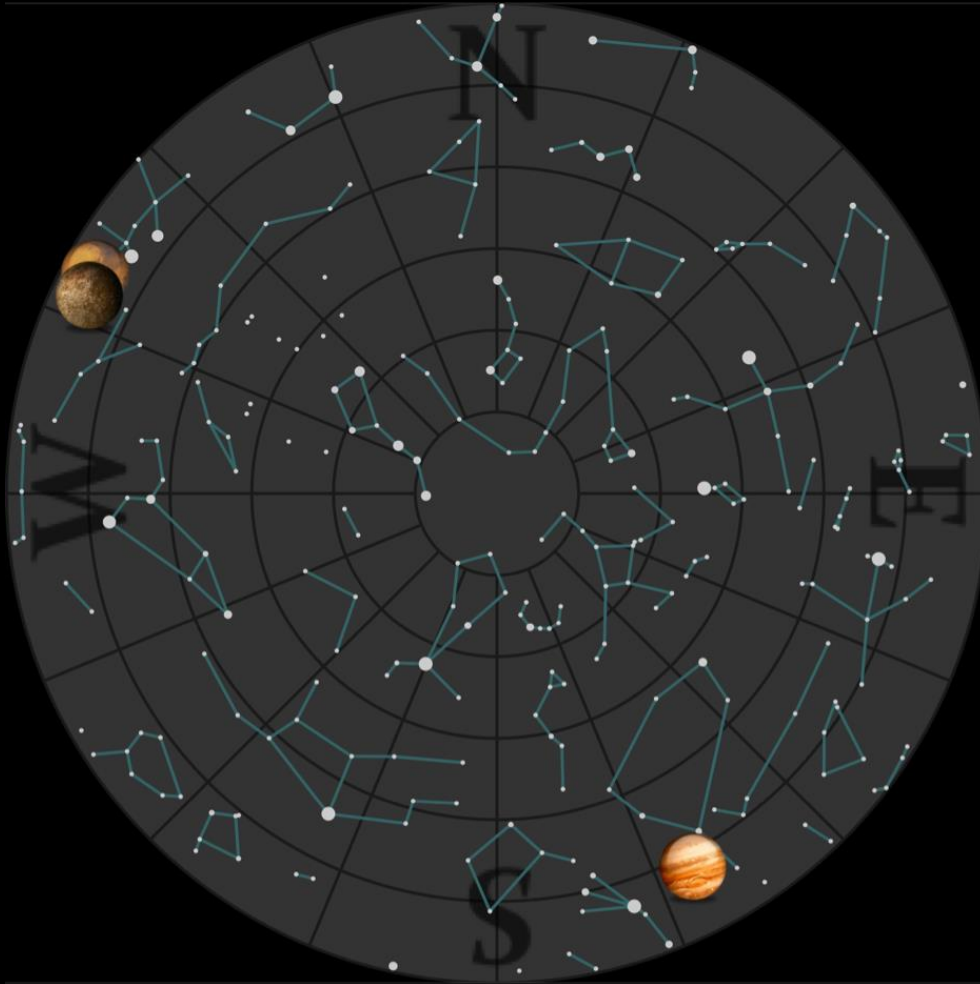


What's Up?

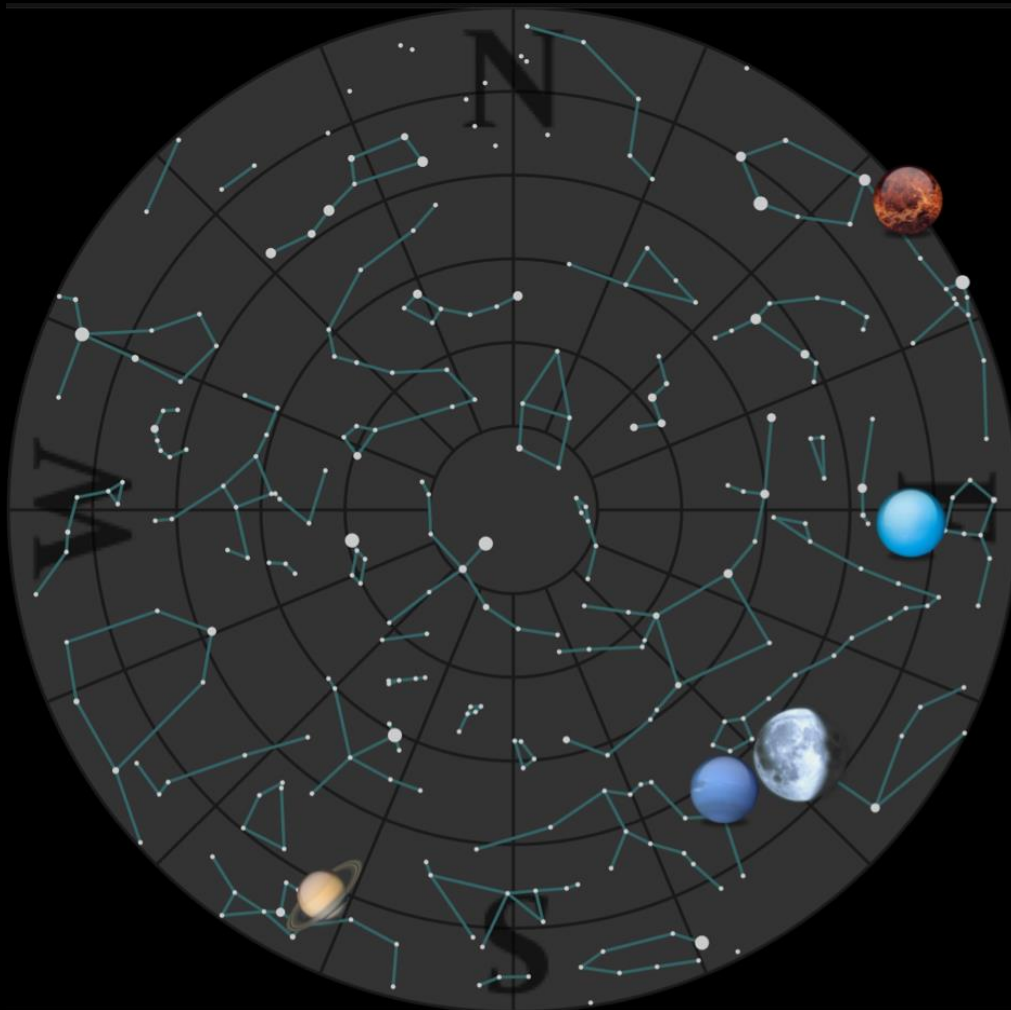
24 June to 22 July 2019

Bill Barton, FRAS

•The Sky 22:00
Tonight







•The Sky 04:00
Tomorrow



Inner Solar System

- Sun
 - Declination decreasing, equinox September 23
 - Solstice was on June 21, aphelion July 04
- Mercury
 - In the evening sky, greatest Eastern elongation June 23 (25°)
 - Inferior conjunction July 21
 - Currently rising 06:40, setting 22:50
 - Best opportunity to see until early July
- Venus
 - In morning sky until superior conjunction on August 14
 - Currently rising 03:40, setting 20:05

Earth

- Time
 - 00:00UT \approx 18:00ST today
 - Today sunrise 04:35, sunset 21:15BST
 - End of period sunrise 05:00, sunset 20:55BST
 - No 'Astronomical Twilight' until July 25, Noctilucent Cloud season
- Moon
 -  Last Quarter, 25
 -  New, 02
 -  First Quarter, 09
 -  Full, 16 (Hay or Thunder)
- Meteors
 - Perseids from July 17 (peak August 13)

Eclipses

- Solar
 - Total
 - July 2, 7:00pm-9:45pm BST
 - Not visible from UK
- Lunar
 - Partial
 - July 16, 9:00pm-midnight BST
 - Eclipse at moonrise

Partial Lunar Eclipse of 2019 Jul 16

Ecliptic Conjunction = 21:39:22.1 TD (= 21:38:10.8 UT)

Greatest Eclipse = 21:31:54.8 TD (= 21:30:43.5 UT)

Penumbral Magnitude = 1.7037 P. Radius = 1.1900° Gamma = -0.6430

Umbral Magnitude = 0.6531 U. Radius = 0.6655° Axis = 0.5890°

Saros Series = 139 Member = 22 of 81

Sun at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 07h43m48.8s

Dec. = +21°17'38.5"

S.D. = 00°15'44.1"

H.P. = 00°00'08.7"

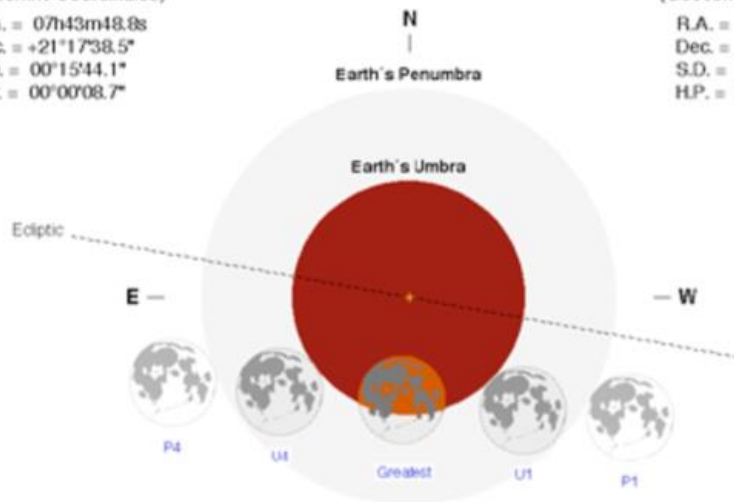
Moon at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 19h44m00.3s

Dec. = -21°52'53.0"

S.D. = 00°14'58.7"

H.P. = 00°54'58.2"



Eclipse Durations

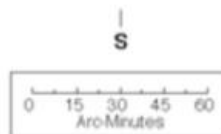
Penumbral = 05h33m43s

Umbral = 02h57m56s

$\Delta T = 71$ s

Rule = CdT (Danjon)

Eph. = VSOP87/ELP2000-85



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

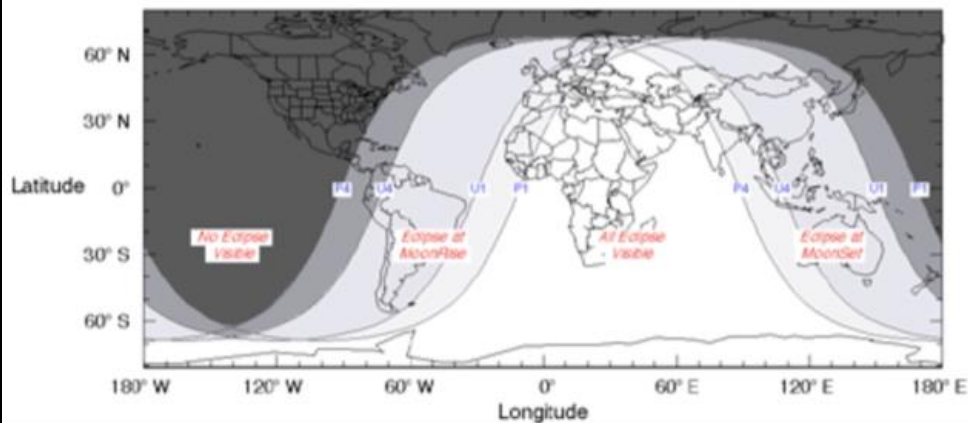
Eclipse Contacts

P1 = 18:43:53 UT

U1 = 20:01:43 UT

U4 = 22:59:39 UT

P4 = 00:17:36 UT



Occultations

- Lunar
 - June 28, ζ^2 Ceti, mag 4.3,
 - Disappearance Bright limb 04:09 BST,
 - Recovery Dark limb 05:10 BST
- Grazing Lunar
 - None this period
- Asteroid
 - None this period

Outer Solar System

- Mars
 - Currently rising 06:20, setting 22:45. Solar Conjunction September 02
- Jupiter
 - Currently rising 19:50, setting 03:50. Opposition was on June 10
- Saturn
 - Currently rising 22:00, setting 06:05. Opposition on July 9
- Uranus
 - Currently rising 01:50, setting 16:10. Opposition on October 28
- Neptune
 - Currently rising 00:30, setting 11:40. Opposition on September 10

Society Events

- Summer BBQ
 - Saturday June 29, from 2:00pm, Newbourne Village Hall
- Outreach Meetings
 - Saturday July 13, Nacton Village Fete
 - Friday July 19, Latitude Festival, Henham Park

Other Events

- RAS
 - ‘Burlington House Courtyard Late’, Friday 19 July, 06:15, 07:15, and 08.15pm, Mark Holborn “Sun and Moon: a story of Astronomy, Photography and Cartography” (free, but ticketed)
- SPA
 - Saturday 27 July, from 2:00pm, Gustav Tuck Lecture Theatre, University College London. Apollo 11 Celebration Meeting

Other Events

- DASH
 - Friday July 12, InMON, Dunwich Heath (weather dependent)
- LYRA
 - Observing Meeting, Tuesday June 25, 07:30pm, Barn Car Park, Parkhill Hotel, Oulton
 - Discussion Meeting, Tuesday July 09, 07:30pm, Parkhill Hotel, Oulton, “Midsummer madness? – Astronomy versus Pseudoscience, Flying Saucers & Conspiracy Theories” Mark Shepherd.

Other Events

- Bury St. Edmunds
 - Bury Town Trust, Monday 01 July, 07:15pm, Unitarian Meeting House, Churchgate St., presentation on the Athenæum Observatory Project.
- Athenæum Astronomical Association
 - Meetings at Nowton Park
 - Thursday June 27, 07:30pm, "Neutron stars, pulsars and black holes"
 - Thursday July 11, 07:30pm, members meeting