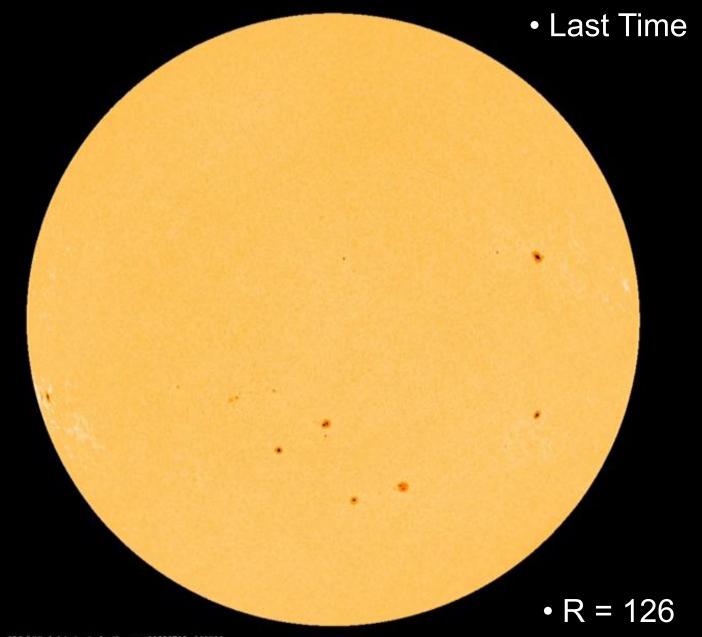
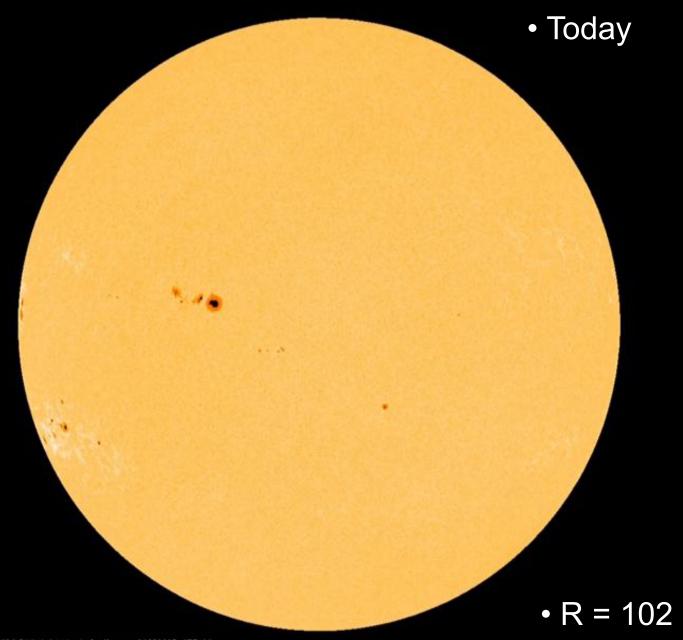
What's Up?

2025 August 25 to September 22

Bill Barton, FRAS





• The Sky 20:00 Tonight

• The Sky 06:00 Tomorrow

Inner Solar System

- Sun
 - Declination decreasing, Equinox September 22
 - Last sunspot min., Apr. 2020, max., now?
- Mercury
 - In the morning sky, greatest elongation August 19 (19°), currently 17°, mag -1.0
 - Superior conjunction September 13
 - 'Good observing opportunity'
 - Today, rise 04:10, transit 11:50, set 19:25
- Venus
 - In the morning sky, greatest elongation May 31, (46°) currently 32°, mag -4?
 - Superior conjunction January 06, 2026
 - today, rise 02:45, transit 10:45, set 18:40

Earth

- Time
 - 00:00UT ≈ 22:20ST today
 - Today, sunrise 05:50, transit 12:55, sunset 20:00
 - End of period, sunrise 06:40, transit 12:45, sunset 18:55
- Moon
 - First Quarter, August 31, & September 29
 - Full, September 07 ('Harvest' Moon?)
 - Last Quarter, September 14
 - New, September 21
- Meteors
 - None of note this period

Lunar Eclipse

- Sunday, September 07
 - Eclipse start, 17:30
 - Moonrise, 19:20
 - Eclipse end, 20:55

Total Lunar Eclipse of 2025 Sep 07 Ecliptic Conjunction = 18:10:03.1 TD (= 18:08:48.3 UT) Greatest Eclipse = 18:12:57.9 TD (= 18:11:43.1 UT) Penumbral Magnitude = 2.3440 P. Radius = 1.2655° Umbral Magnitude = 1.3619 U. Radius = 0.7364° $Axis = 0.2720^{\circ}$ Saros Series = 128 Member = 41 of 71 Sun at Greatest Eclipse Moon at Greatest Eclipse (Geocentric Coordinates) (Geocentric Coordinates) R.A. = 11h06m09.1sR.A. = 23h06m40.4sDec. = $+05^{\circ}45'47.5''$ Dec. = -06°00'08.9" Earth's Penumbra S.D. = 00°15'52.4" S.D. = 00°16'09.8" H.P. = 00°00'08.7" H.P. = 00°59'19.1" Earth's Umbra -wEclipse Durations Eclipse Contacts Penumbral = 05h26m40s P1 = 15:28:21 UT Umbral = 03h29m24s U1 = 16:27:02 UT Total = 01h22m06s U2 = 17:30:41 UT 30 45 U3 = 18:52:47 UT Arc-Minutes $\Delta T = 75 s$ U4 = 19:56:26 UT P4 = 20:55:00 UT Rule = CdT (Danjon) F. Espenak, NASA's GSFC Eph. = VSOP87/ELP2000-85 eclipse.gsfc.nasa.gov/eclipse.html 30° N Latitude 0° 30° S 60° S 180° W 120° W 120° E 180° E Longitude

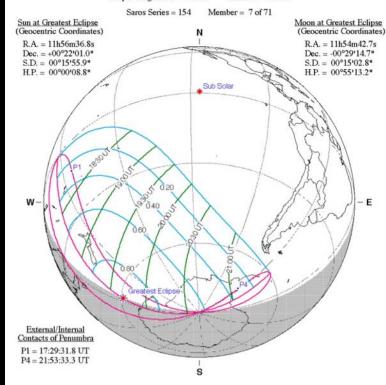
Solar Eclipse

Not visible from the UK

Partial Solar Eclipse of 2025 Sep 21

Geocentric Conjunction = 20:50:18.4 UT J.D. = 2460940,368269 Greatest Eclipse = 19:41:43.6 UT J.D. = 2460940,320643

Eclipse Magnitude = 0.8535 Gamma = -1.0652



Ephemeris & Constants

Eph. = Newcomb/ILE $\Delta T = 82.8 \text{ s}$ k1 = 0.2724880 k2 = 0.2722810 $\Delta b = 0.0$ " $\Delta I = 0.0$ "

0 1000 2000 3000 4000 5000 Kilometers

F. Espenak, NASA's GSFC - Fri, Jul 2, sunearth.gsfc.nasa.gov/eclipse/eclipse.html

Geocentric Libration (Optical + Physical) 1 = 4.15°

 $b = 1.31^{\circ}$ $c = 21.92^{\circ}$

Brown Lun. No. = 1271

Lunar Occultations

- Friday, September 12
 - η Tauri, mag 2.9, disappearance bright limb 22:06, recovery 22:54
 - 27 Tauri, mag 3.6, disappearance bright limb 22:55, recovery 23:08

Outer Solar System

Mars

 Conjunction January 09, 2026. Today, rise 09:35, transit 15:15, set 21:00

Jupiter

 Conjunction June 24, opposition January 10, 2026. Today, rise 01:30, transit 09:50, set 18:00

Saturn

Opposition September 21. Today, rise 20:50, transit 02:40, set 08:30

Uranus

 Opposition November 21. Today, rise 22:40, transit 06:30, set 14:30

Neptune

 Opposition September 23. Today, rise 20:40, transit 02:40, set 08:40

OASI Events

- Sunday September 14, from 20:00
 - Committee Meeting on Zoom
- Monday September 15, from 20:00
 - 'Imaging Black Holes with the Event Horizon Telescope' prerecorded Zoom talk by Ziri Younsi
- Friday/Saturday September TBA
 - Curry Night, Jaipur Restaurant, Penshurst Road

Local Societies Events

- DASH (Darsham Village Hall, 7:00pm, Sundays)
 - September 20-21, Henham Steam Rally
 - September 21, observing meeting
- SAS (Cavendish Memorial Hall, 7:30pm, Tuesdays)
 - September 02, The Achievements of the Hubble Space Telescope, Andrew Green
- AAA (Whepstead Village Hall, 7:30pm, Wednesdays)
 - September 03, TBC, Matt Bothwell
 - September 17, Cosmic Rays, Paul Fellows
- DAG (Diss)
 - Informal on FaceBook & WhatsApp

Interstellar Comet

- 3I/ATLAS
 - C/2025 N1 (ATLAS)
 - Discovered, 1July 2025, 4.5AU, +18 mag
 - Size, 0.2 to 3½ miles diameter
 - Perihelion, 29 October 2025, 1.4AU
 - Perigee, 19 December 2025, 1.8AU
 - best 'seen' September? magnitude +11.5?
 - Previous objects
 - 1I ('Oumuamua), 2017, &
 - 2I (Borisov), 2019

Lunar Occultation of Venus I

- September 14, last quarter Moon
 - Friday September 19
 - Moon 27° ahead of the Sun, phase 0.08. Venus phase 0.88, 11.5" dia
 - Moon rise, 03:35
 - Sun rise, 06:30
 - Moon transit, 11:05
 - Sun transit, 12:50
 - Disappearance (bright limb) 12:55
 - Reappearance (dark limb) 14:13
 - Moon set, 18:16
 - Sun set, 19:00
- New Moon, September 21 (& solar eclipse)

Lunar Occultation of Venus II

- Five occurances since Millennium
 - 2004 May 21 (see OASI News 387 p.7)
 - 2007 June 18
 - 2008 December 01
 - 2023 November 09
 - 2025 September 19
- Can you see Venus during the day without optical aid?