

Crewkerne & District Astronomical Society

Sky Notes : September 2015

All timings are Universal Time. (G.M.T.) (Deduct 1 hour from B.S.T.)

Autumnal Equinox. On the 23rd., when day & night are equal in length.

Moon's Phases

Last Quarter	September	05d. 09h. 54m.	
New	"	13d. 06h. 41m.	
First Quarter	"	21d. 08h. 59m.	
Full	"	28d. 02h. 51m.	
Moon at apogee (furthest from Earth)	Sept.	14d. 11h.	Diam. 29' 23"
Moon at perigee (nearest to Earth)	"	28d. 02h.	" 33' 28"

Total Eclipse of the Moon on Sept. 28th.

The whole event will be visible from the U.K., but only in the early hours ! The following times are B.S.T.

The Moon rises around 18.45 on the 27th. and sets around 07.15 on the 28th.

Partial eclipse starts at 02.07. Totality starts at 03.11. Maximum eclipse occurs at 03.47. Totality ends at 04.23. Partiality ends at 05.27.

The Planets

Mercury : An evening object, but badly placed as it heads for inferior conjunction with the Sun on the 30th. At the start of the month it sets at 19.20, ½ hour after sunset, and by the 19th. at sunset, 18.10. Its greatest E. elongation, 27°, occurs on the 4th. Starting the month in central Virgo, it travels some 6° S.E. to a stationary point, then turns back N.W. 8° - nearly where it started !

Mid month it will be mag. +0.7, 8.5" diam., elongation 23.7° W. and setting at 18.30, 15 minutes after sunset.

Venus : Following solar conjunction last month it is a morning object. On the 1st. it rises at 03.40, 1½ hours before dawn. On the 30th. it rises at 02.10, nearly 4 hours before the Sun. It begins the month in eastern Cancer, close to the border with Leo, and moves a few arc minutes N.W. to a stationary point on the 5th., then turns back S.E., travelling 10° to the end of the month. It crosses into Leo on the 25th. Venus reaches its greatest annual brightness, mag. -4.55 on the 21st.

Mid month it will be 41.9" diam., elong. 36.5° W. and rising at 02.30, 3 hours before dawn.

Mars : Another morning object, which it will be for the rest of the year. At the start of the month rising just before 03.00, a little more than 2 hours before dawn, and by the end at 02.45, ¾ hours before the Sun. It also begins the month in eastern Cancer, close to the border with Leo, and some 10° N.E. of Venus. It travels 20° S.E. to the end of the month, around the 24th/25th. passing 1° N. of Regulus, 1st mag. Alpha Leonis.

Mid month Mars will be mag. +1.8, 3.8" diam., elong. 29° W. and rising at 02.50.

Jupiter : Following solar conjunction on the Aug.26th., it is yet another morning object. It rises at dawn, 05.10, on the 1st. and by the 30th. at 03.30, 2½ hours before the Sun. Yet another object in Leo, and near the border with Sextans, it starts the month 5° S.E. of Regulus, and moves 7° S.E. during the month.

Mid month it will be mag. -1.7, 31" diam., elong. 4° W. and rising at 04.10, 1½ hour before dawn.

Saturn : An evening object at last, but early ! At the beginning of the month it sets at 21.30, 2½ hours after sunset, and by the end at 19.40, 2 hours after the Sun. Remaining in the extreme eastern side of Libra, some 3° from the N.W. corner of Scorpius and near Ophiuchus. During the month it travels 2½° E.S.E., ending it 10° N.W. of Antares, 1st mag. Alpha Scorpii.

Mid month it will be mag. +0.6, disc diam. 16.1", rings 36.5" (inclined at 24.5°), elong. 81° W. and setting at 20.35, 2½ hours after the Sun. Titan, mag. 8.2 & elong. 170". Greatest W. elong. on Sept. 6 & 22. Greatest E. elong. on Sept. 12 & 28.

Uranus : An evening / morning object, well placed as it approaches opposition on Oct. 12th. On the 1st. it rises at 20.00, 1¼ hours after sunset. On the 30th.. at 18.00, 20 minutes after the Sun sets and it sets at 07.00, an hour after dawn. Still in S.E. Pisces, near the Cetus border, it starts the month 0.4° S. of Zeta (86) Piscium and it moves just over 1° S.W. to the end of the month.

Mid month it will be mag. 5.7, 3.7" diam., elong. 153° W. and rising at 19.00, ¾ hour after sunset.

Neptune : At opposition on Sept. 1st., so it is well placed all month and most of the night. On the 1st. rises at sunset, 18.50, and sets at dawn, 05.10. On the 30th. it rises around 17.00, ¾ hour before sunset and sets at 03.10, nearly 3 hours before dawn. Remaining in N.E. Aquarius, it travels 0.8° S.W. during the month, to end it 1.7° N.E. of the mag. 6.4 star 58 Aqu.

Mid month it will be mag. 7.8, 2.4" diam., elong. 165° E. and rising just before 18.00, and setting at 04.00.

Meteors

Piscids : September - October. Two maxima this month at different radiants. The first is on Sept. 9th. Radiant at 00h. 36m., Dec. +07°, 3° S.W. of Delta Piscium. Culmination at 21.00, altitude 21°. Zenith Hourly Rate 10. Moon favourable, 4 days before New, rising at 04.20 on the 10th. The other one is on the 21st., with its radiant at R.A. 00h. 24m. & Dec. 00°, which is 10° S.W. of Delta. Culmination at 00h., altitude 42°. Z.R.H. 5. Moon unfavourable, F.Q., setting at 01.19 on the 22nd.

Double Stars

61 Cygni : A multiple star system with at least 6 known components. Its chief claim to fame was that it was the first star to have its distance measured, by Johann Bessel at Konigsberg Observatory in 1838. He used the parallax method, whereby he measured the tiny apparent shift in position of the star against a distant stellar background from each end of the Earth's orbit. In this case the parallax was 0.3 arc seconds - equivalent to a 2p. coin at a distance of 5 miles ! This parallax gives a distance of 3.4 parsecs, or 11.1 L.Y. One parsec is the distance resulting from a parallax of 1 arc second, and 1 pc. equals 3.26 L.Y. 61 Cyg. is the 12th. nearest star to us. The primary star A. is mag. 5.2, is 29" from 6.0 mag. B. C is mag. 9.8, 5' separation, D is mag. 8.6, sep. 5', E is mag. 8.1, sep. 5', and Aa is mag. 10.5, sep. 2'. You could call it a mini cluster. To find 61 Cygni, start from 2.2 mag. Sadr, Gamma (37) Cyg. Go 8° E. & 1½° S. to 61.

R.A. 21h.07m., Dec. 38°45.

Arthur Davis Aug. 2015