

Crewkerne & District Astronomical Society

Sky Notes : February 2010

All timings are Universal Time.

Moon's Phases

Last Quarter	February	05d. 23h. 48m.
New	“	14d. 02h. 51m.
First Quarter	“	22d. 00h. 42m.
Full	“	28d. 16h. 38m.

Moon at apogee (furthest from Earth)	February	13d. 02h.	Diam. 29' 24"
Moon at perigee (nearest to Earth)	“	27d. 22h.	“ 33' 23"

The Planets

Mercury : A morning object, moving N.E. 45° during the month, out of Sagittarius into Capricornus around the 11th., and just into Aquarius at the very end of the month. Best seen at the start of the month, as its elongation decreases towards conjunction which occurs on the 14th. of March. On the 12th. Feb. at 06.00 it will lie 2°S. of the Moon. It will then be mag. -0.2, 5.5" diameter, elong. 20° W. and rising at 06.45, ½ hour before dawn.

Venus : An evening object for the next 8 months. Currently moving N.E., going out of Capricornus around the 9th. into Aquarius, and entering Pisces at the very end of the month – a total movement of 35°. Following conjunction in January it is still quite close to the Sun. Mid month it will be mag.-3.8, 9.9" diam., elong. 9° E. and setting at 17.50, ¾ hour after sunset..

Mars : A very good evening object, just past opposition and high in the sky. Continuing to move N.W. in Cancer, some 8° during the month.. Around Feb. 7th. it will pass 3° N. of the 'Beehive' open star cluster, M44. At that time it will be mag. -1.1, 13.7" diam., elong. 166° E. and setting at dawn, 07.30. On the 26th. at 05.00 it will lie 5° N. of the F.Q. Moon.

Jupiter : A very early evening object, approaching conjunction with the Sun on Feb. 28th. During the month it travels 7° N.E. in Aquarius, . Mid month it will be mag. -2.0, 33" diam., elong. 10 ° E. and setting at 18.00, 1¼ hours after sunset..

Saturn : Now a late evening object in Virgo and moving 1½° N.W during the month. On the 3rd. at 02.00 it will be 8° N. of the Moon. Mid month it will be mag. +0.7, disc diam. 19.2", rings 43.4" (inclined at 4.3 °), elongation 142 ° W. and rising at 20.30. Titan, mag. 8.4 & elong. 194". Greatest E. elong. on Feb. 7 & 22 ; greatest W. elong. on Feb. 14.

Uranus : Continues to be an early evening object in southern Pisces, moving 1½° N.E. during the month. On the 11th.at 19.00 it will be 6 ° S. of the Moon. . It will then be 1½° due West of mag. 6 star 20 Pisc. at mag. 5.9, 3.2" diam., elong. 29 ° E. and setting at 19.40, 2 hours after sunset

Neptune : With conjunction on February 14th., it passes from being a very early evening object to being a very late morning object and will be difficult to observe. During the month it travels 1° N.E. in northern Capricornus. By the end of the month it will be rising at 06.40, only ¼ hour before the Sun. It will be mag. 8.0, 2.0" diam., and elong. 12 ° W..

Asteroids (Minor Planets)

4 Vesta : Vesta reaches opposition on February 18th., in Leo. The 4th. Minor Planet to be discovered, by Heinrich Olbers on 29th. March 1807. Although not the largest, it is the brightest, at its most favourable opposition reaching mag.5.2 and the only one possible to see with the naked eye. This year it will get within 1.41 Astronomical Units of the Earth and 2.39 A.U. of the Sun. Neither of these distances are at their minima, so the estimated brightness at opposition will be 6.1 Still very easy to see in binoculars.

Vesta has an orbital period of 3.63 years at an average distance from the Sun of 2.36 A.U. and rotates in 5 hours 20 minutes. With an ellipsoidal shape, its dimensions are 580 x 530 x 470 km., and it has a mass 1/33,000 of our Moon.

Through January, February and March it moves N.W. in Leo, to reach a stationary point on 7th. April. On Jan.21/22 it will pass ¼° West of mag. 6.6 star 50 Leonis, when it will be mag. 6.7. On the 16th. Feb. it will just skim N. of the 5th. mag. star 40 Leonis. Two days later, at opposition it will be ½° West of Algieba, Gamma (41) Leonis. Algieba is a great double, with mag. 2.4 & 3.6 components. With a separation of 4.4" a telescope is needed to split them. Vesta will then be mag. 6.1, due S. at midnight at an altitude of 60°.

Around March 6th. it will pass less than ½° S.W. of mag. 5.4 star SAO 81554. It will then be mag. 6.4. When it reaches a stationary point on April 7th. it will lie 1° S. of mag. 3.0 Epsilon (17) Leonis, and will have faded to mag. 6.9.

Variable Stars

Algol (Beta Persei) See October Notes for details. Times of minima observable from the U.K. :- Feb. 05 05.91h., Feb. 08 02.7h. Feb. 10 23.5h., Feb.. 13 .20.3h., Feb. 28 04.4h. R.A. 03h. 08m. 10s., Dec. +40 ° 57' 20".

Deep Sky Objects

M95 (NGC 3351) : A face-on barred spiral galaxy in Leo, discovered by Méchain early in 1781 and observed by Messier shortly afterwards. One of a trio of galaxies including M96 and M105 within a 1½° field. They are part of a cluster known as the Leo Galaxy Group which is moving away from us at 800 m/sec. M95 lies 29 MLY away, with a diam. of 80,000 L.Y. Its apparent size is 6' x 4', with a mag. of 9.7 and a mass of 100,000 solar masses. R.A. 10h. 44m., Dec.+11° 42'.

To find it, start from Regulus, 1st. mag Alpha (32) Leonis. and go 10° E. and slightly S. to 5th. mag. 53 Leo. M95 lies 1½° N.W. of it.

M96 (NGC 3368) : A spiral galaxy also in Leo, discovered at the same time as M95. The disc is inclined at 35°. Slightly larger and brighter than M95 at 7' x 5' and mag. 9.2, with 160,000 solar masses but with a much more condensed core. At the same distance from us. M96 is 42' N.E. of M95. R.A. 10h. 46m., Dec. +11° 46'.

M105 (NGC 3379) : An elliptical galaxy, the third of the trio, discovered by Méchain 5 days after the others. Its size is 4' x 3' and mag. 9.3. Although also the same distance from us, it lies some 400,000 L.Y from them. R.A. 10h. 47m., Dec. +12° 35'.

M105 is 49' N. & 15' E. of M96.