

SPACEWATCH

the newsletter of the Abingdon Astronomical Society

Next Talk
14th December 2015
“The James Webb Space Telescope”
Dr Sarah Kendrew
University of Oxford

THE NIGHT SKY THIS MONTH

by Bob Dryden

Mercury: Superior Conjunction occurs on 17th November after which, technically, Mercury appears in the evening sky. However, it stays very low down, setting very shortly after the Sun, which means it is as good as unobservable at the moment.

Venus: While Venus may be past greatest elongation, it is still 46° from the Sun and rising a good 4 hours before sunrise. This means the planet is 35° above the horizon by the time the Sun appears so you will have no trouble seeing it as it shines at a brilliant -4.2 magnitude. Even by the end of this session on 14th December Venus is still rising 3 hours before the Sun at an elongation of 41°. Telescopically, you will see the phase increase from 50% to 70% over the session and the apparent disc diameter decrease from 21" to 16".

On the 7th December the crescent Moon will be approximately 5° above Venus while the following morning it will be about 5° below it.

Mars: Still in the morning sky, Mars currently rises about 03.00 UT and is 35° above the horizon by sunrise. By the time we reach mid-December, it rises around 02.30 UT and culminates in the south (at 32°) at 07.45 UT, just as the Sun is appearing.

Mars starts at +1.7 magnitude and brightens slightly to +1.4 magnitude by December as it moves amongst the stars of Virgo. By mid-December the apparent size of the disc reaches 5" which is the size usually taken as the point when you can start to visually see in a telescope the surface detail.

On the morning of 6th December the crescent Moon will be approximately 1° below Mars, if you need a guide to find it.

Jupiter: To be found in the constellation of Leo, Jupiter rises around 02.00 UT and reaches a nice height of 43° by sunrise. It is not hard to find as it shines at -1.9 magnitude, so only the Moon and Venus are brighter. By mid-December the planet is rising about midnight and culminates approximately 06.00 UT, when it will be 40° above the southern horizon.

The Last Quarter Moon will be approximately 2° west of Jupiter on the morning of 4th December.

Saturn: Saturn is in conjunction with the Sun on 30th November which means it is not visible this session.

Uranus & Neptune: Both planets are now on view in the evening sky, Uranus in Pisces and Neptune in Aquarius. Shining at +5.7 magnitude, Uranus is 10° above the eastern horizon at sunset in mid-November. It culminates at 22.00 UT at a decent height of 45°, and sets around 05.00 UT. By mid-December it is already 35° high at sunset, culminates at 19.00 UT, and sets at 02.00 UT.

Neptune is fainter, at +7.8 magnitude, and is further west. So in mid-November it culminates at 19.00 UT (at 27°) and has set by 01.00 UT. By the time we reach mid-December the planet is already in the south by sunset and sets about 22.00 UT so you will need to look at it in the early evening if you hope to see it.

Meteors: There are three active meteor showers this time, one of which you probably shouldn't miss.

Ongoing is the Taurid shower, which started on 20th October and ends on 30th November. There are two dates for maximum activity, one on 5th and one on 12th November. With New Moon on the 11th, it means observing conditions are very good although the hourly rate at maximum is just 10, although they are often bright and easy to see.

The Leonids can be seen between 15th and 20th November. The maximum occurs at 07.00 UT on the 18th, with an hourly rate of 20. On the night of maximum, the Moon will be 7 days old and sets at 23.00UT so will not be a problem.

This year is about as good as it can get for viewing the Geminids meteor shower. It starts on 8th December, ends on the 17th December, and reaches maximum on the 14th at 13.00 UT. The Moon will be just 3 days old on the 14th so conditions will be perfect for observations. The hourly rate is 100 which means with a dark sky, you should see plenty of meteors, especially just before dawn on the 14th.

Asteroids: While 1 Ceres is still observable, it is very low down in Capricornus and will not be visible after the end of November. It starts at +9.1 magnitude and fades slightly to +9.2 magnitude by the end of November.

4 Vesta is much brighter, starting at +7.0 magnitude and fading to +7.6 magnitude by sessions end in December. Vesta is crossing the constellation of Cetus.

Within the Square of Pegasus, you can see 15 Eunomia, which fades to +9.0 magnitude by mid-December after starting the session at +8.4 magnitude.

16 Psyche is in Taurus and reaches +9.4 magnitude (its brightest this apparition) after starting at +9.9 magnitude.

Another asteroid getting brighter is 27 Euterpe. Rising to +8.9 magnitude in December (after being +9.9 magnitude in November), this one is moving among the stars of Gemini.

While not very bright (going from +9.0 to +9.9 magnitude) 29 Amphitrite is close to the Messier object M74 in Pisces so it could be interesting to watch it pass by the spiral galaxy in your telescope.

Comets: There might be a reasonably bright comet to look for by December. 2013 US₁₀ Catalina could be around 6th magnitude in November, and may brighten to around +5.5 magnitude by December. How bright a comet will be is hard to predict, so it could be fainter than this, or, even better, brighter. It will be low in the morning sky in Libra to start with, before entering Virgo on 16th November. It will be higher in the sky by mid-December, giving you slightly more time to have a look at it before sunrise. See chart later in newsletter for its location.

LAST MONTH'S TALK

by Gwyneth Hueter

October's talk

This was given by Bob Mizon, who is an experienced observer living in Wimborne, Dorset.

'Ten Targets for light polluted astronomers' has touched a chord with many of you who were there. You probably also sympathised with him when he had a little rant about the lights at Tilsley Park sports' complex. He is one of the driving forces behind the CFDS (Campaign for Dark Skies). Pardon me if I exercise a bit of personal input when I list the Ten. You will see a few comments in parentheses....

Target 1: NGC 752 open cluster in Andromeda.

Between the base of Triangulum and the line of Andromeda. There are pretty star colours. It is mag 5.7 and twice the diameter of the full Moon.

Target 2: γ Andromedae. This double star, known also as Almach, is a true binary about 350 Ly away, with colours hinting of gold and green. Well done if you can work out where the name Almach comes from. It's defeated everyone, as has the name Albireo, another well-known double in Cygnus.

Target 3: Kemble's Cascade in Camelopardalis, a line of stars with the lovely star cluster NGC 1502 at the end (please use averted vision when looking at this cluster if you are using a small aperture, as there's a double star in it which tends to swamp it. You will not regret it). The line of stars is easy to find if you draw out a triangle rightwards with α Persei and the famous double cluster.

Target 4: h3945 in Canis Major, which is a double star with lovely colour contrasts. Go down the spine of the dog and it's to the left of α . It is a line of sight double (i.e. not connected, just optical) mags 4.8 and 6.0 with a 27" separation. The brighter one of the two is 2500 Ly away; the secondary is a 'mere' 250 Ly away.

Target 5: Y Canes Venatici. La Superba, as named by Secchi. This is a deep red carbon star, an old boy which is puffed out to 400 million km in diameter and varies in brightness between about mags 5.2 and 6.6 every 15.7 days. It makes a rough right angled triangle with β and α .

Target 6: NGC 457 in Cassiopeia. This is a star cluster with two foreground stars; φ is one of them and is to the south of δ . The cluster is 7,000 Ly away and is also called the Owl.

Target 7: R and T in Corona Borealis. These are two variable stars. R is a famous carbon star and is usually around mag 6. T is usually around mag 10 but consists of binary novae and can get up to mag 2 when there is a flare up. It is about 2 degrees south of ε CrB.

Target 8: Σ 2398 in Draco, near to the neck of Draco. This is a double star with a high proper motion. It consists of two gravitationally connected red dwarfs which are 15.3" apart and have magnitudes of 8 and 8.5 respectively. They are 11.3 light years away and their proper motion is 2.3" per year.

Target 9: Stock 4, a star cluster in Perseus. It lies between the double cluster in Perseus and Cassiopeia. It has been described as a 'rain of ice crystals'.

Target 10: NGC 7331, an Sc spiral galaxy in Pegasus, visible in small telescopes at mag 9.7 above and to the right of eta and 55 million Ly away.

I can't help adding that we AAS members must have our own favourites, so perhaps we should put them forward and I can make a little list to keep in the library.

FURTHER DISCUSSION

Why not take a look at our website? It's at: www.abingdonastro.org.uk .

If you are not already on our internet mailing list, then why not log on to YahooGroups. The list is called 'abingdonas'. Members use the list to alert each other about celestial events and to chat about amateur astronomy. The list is quite active, with several messages most weeks. To read through previous messages click on:

<http://groups.yahoo.com/group/abingdonas/> .

To join the abingdonas list, please go to <http://www.yahoogroups.com> . You can also unsubscribe from the list here.

To post messages to the list, please send them to abingdonas@yahoogroups.com . Please note that you will need to sign up with a YahooID if you do not already have one. You can do this on the above page.

Further information about the mailing list can be found on the abingdonas webpage at : <http://groups.yahoo.com/group/abingdonas/> .

DATES FOR YOUR DIARY

23rd Nov 8pm Beginners' Meeting in the Main Hall

serving evening: Next Observing evening is the FCN Week Dec 7th -9th at Frilford Heath Golf Driving Range eye on the AAS group mailing list.

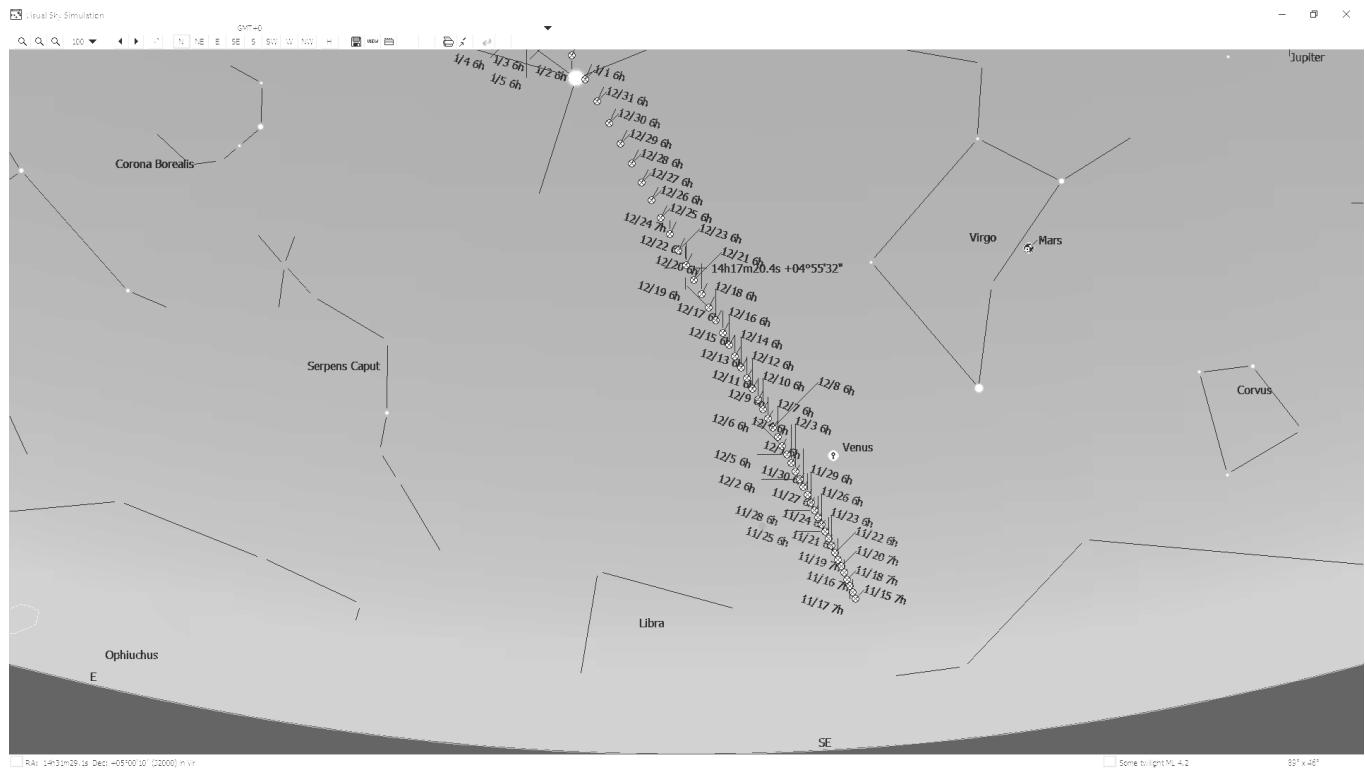
The editor of "SpaceWatch" is Owen Brazell, who would very much appreciate your stories & contributions. In particular whilst many fine images are being posted on the discussion group it would be nice to have some in the SpaceWatch. Please send any news, observations, photos, etc. to:

Mail: Owen Brazell, 15 Spinage Close, Faringdon,
Oxfordshire SN7 7BW
E-mail: owen@online.rednet.co.uk

MOON PHASES:

November 2015						
Sun	Mon	Tues	Wed	Thur	Fri	Sat
1	2	3	4	5	6	7
Sun: 06:59 16:38	Sun: 07:00 16:38	Sun: 07:02 16:34	Sun: 07:04 16:32 Moon: — 13:46	Sun: 07:06 16:31 Moon: 00:23 14:11	Sun: 07:08 16:29	Sun: 07:09 16:27
8	9	10	11	12	13	14
Sun: 07:11 16:26	Sun: 07:13 16:24	Sun: 07:15 16:22	Sun: 07:16 16:21	Sun: 07:18 16:19	Sun: 07:20 16:18	Sun: 07:22 16:16
15	16	17	18	19	20	21
Sun: 07:24 16:15	Sun: 07:25 16:14 Moon: 11:18 20:32	Sun: 07:27 16:12 Moon: 11:58 21:39	Sun: 07:29 16:11	Sun: 07:30 16:10 Moon: 13:06 —	Sun: 07:32 16:09	Sun: 07:34 16:08
22	23	24	25	26	27	28
Sun: 07:35 16:06	Sun: 07:37 16:05	Sun: 07:39 16:04	Sun: 07:40 16:03	Sun: 07:42 16:02	Sun: 07:43 16:02	Sun: 07:45 16:01
29	30	1	2	3	4	5
Sun: 07:46 16:00	Sun: 07:48 15:59 Moon: 21:04 11:15	Sun: 07:49 15:59 Moon: 22:09 11:48	Sun: 07:51 15:58	Sun: 07:52 15:57 Moon: — 12:40	Sun: 07:53 15:57	Sun: 07:54 15:56
6	7	8	9	10	11	12
Sun: 07:56 15:56	Sun: 07:57 15:56	Sun: 07:58 15:55	Sun: 07:59 15:55	Sun: 08:00 15:55	Sun: 08:01 15:55	Sun: 08:02 15:55

COMET 2013 US₁₀ CATALINA



STAR CHART

The night sky at 10 pm (GMT) on Sunday 15th November 2015

