JANUS
THE NEWSLETTER OF EWELL ASTRONOMICAL SOCIETY

November 2021 EDITION

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Editorial

Welcome to the November edition of Janus. Following the pattern of the previous two months, this month's regular meeting will again be a "hybrid" meeting with the option to attend either in person or via Zoom.

For comet watchers, November could be a good month. Comet 67P/Churyumov–Gerasimenko reaches perihelion (closest point to the Sun) on 3 November when it lies 181 million km (1.21 AU) away from the Sun. The comet is at its closest to Earth on 13 November, when it lies 62.8 million km (0.42 AU) from us!

Provided conditions are favourable (i.e. the sky is clear), Churyumov–Gerasimenko should be visible at a decent altitude above the eastern horizon by about midnight GMT before culminating in the small hours. Early this month it tracks eastwards through Gemini, lying 3.3° west of magnitude +4 upsilon Geminorum. The comet then enters Cancer on 12 November, in time for its closest approach to Earth. For accurate positions of 67P/Churyumov–Gerasimenko (or any other comet) for any date and time from your location (ephemerides), log on to the Minor Planet Center website which is at: *minorplanetcenter.net/iau/MPEph/MPEph.html*

Finally, a reminder about contributions for Janus. The newsletter will only ever be as good as the material available to me for inclusion in it. This month's edition is about as small as it gets with only Gary's input plus the other regular items. There have been editions with 4 or 5 times the material in them. Let's see if we can approach this volume again!

John

The Solar System November

MERCURY: begins the month soon to pass behind the Sun. It might be visible in the dawn sky, rising at 05:13 – 1 hour and 41 minutes before the Sun – and reaching an altitude of 10° above the SE horizon before fading from view as dawn breaks around 06:30. As the month progresses, it will become more difficult to see until, by the end of the month, having recently passed behind the Sun at superior solar conjunction, it will not be visible being very close to the Sun, at a separation of 0° from it.

VENUS: is now visible as an evening object, having recently passed greatest elongation east. It will become increasingly observable as the month progresses having begun the month reaching its highest point in the sky during daytime, and being only 7° above the horizon at dusk. By the end of the month, it will become visible around 16:20, 10° above the S horizon, as dusk fades to darkness. It will then sink towards the horizon, setting 2 hours and 37 minutes after the Sun at 18:33.

MARS: having recently passed behind the Sun at solar conjunction, begins the month not readily observable since it is very close to the Sun, at a separation of only 7° from it. By the end of the month, it remains very difficult to observe, reaching its highest point in the sky during daytime and being no higher than 3° above the horizon at dawn.

JUPITER: is currently an early evening object, now receding into evening twilight. It begins the month becoming accessible around 16:58, 18° above the SE horizon, as dusk fades to darkness. It will then reach its highest point in the sky at 18:58, 23° above the S horizon, and will continue to be observable until around 22:39, when it sinks below 7° above the SW horizon. By the end of the month, it becomes accessible around 16:20, 23° above the S horizon, as dusk fades to darkness. It will then reach its highest point in the sky at 17:14, 24° above the S horizon., and will continue to be

observable until around 21:01, when it sinks below 7° above the SW horizon.

SATURN: like Jupiter is currently an early evening object. It begins the month visible in the evening sky, becoming accessible around 17:18, 18° above the SE horizon, as dusk fades to darkness. Reaching its highest point in the sky at 17:54, 19° above the S horizon, it will continue to be observable until around 20:37, when it sinks below 11° above the SW horizon. By the end of the month, receding into evening twilight, it is visible from around 16:44 19° above the S horizon, as dusk fades to darkness. It will then sink towards the horizon, setting at 20:30.

URANUS: begins the month approaching opposition and is visible as a morning object. It will become accessible around 19:01, when it rises to an altitude of 20° above the E horizon. Reaching its highest point in the sky at midnight, 53° above the S horizon, it will become inaccessible around 04:59 when it sinks below 21° above the W horizon. By the end of the month, having passed opposition, it is visible in the evening sky, becoming accessible around 17:24, 25° above the E horizon. It will then reach its highest point in the sky at 21:59, 53° above the S horizon, and will continue to be observable until around 02:56, when it sinks below 21° above the W horizon.

NEPTUNE: is now an early evening object and theoretically visible throughout the month in the evening sky, although it may be difficult to observe. It begins the month becoming accessible around 17:58, 23° above the SE horizon, as dusk fades to darkness. Reaching its highest point in the sky at 20:42, 33° above the S horizon, it will continue to be observable until around 23:41, when it sinks below 22° above the SW horizon. By the end of the month, it becomes accessible around 17:24, 30° above the SE horizon. Reaching its highest point in the sky at 18:48, 33° above the S horizon, it will continue to be observable until around 21:47, when it sinks below 22° above the SW horizon.

MOON PHASES:

Last Quarter	28 Oct
New Moon	4 Nov
First Quarter	11 Nov
Full Moon	19 Nov
Last Quarter	27 Nov

Notable Events:

Observation of some of these events may require a telescope, although some will be visible with the naked eye. More information at *https://in-the-sky.org*

November

3 67P/Churyumov-Gerasimenko at perihelion
4 Uranus at opposition
7 67P/Churyumov-Gerasimenko reaches its brightest
10 Conjunction of the Moon and Saturn
11 Conjunction of the Moon and Jupiter
12 Northern Taurid meteor shower 2021
13 67P/Churyumov-Gerasimenko at perigee
17 Leonid meteor shower 2021
M45 is well placed
19 Partial lunar eclipse - very difficult to see as it will start only minutes before sunrise
21 α-Monocerotid meteor shower 2021
27 1 Ceres at opposition
28 November Orionid meteor shower 2021

Collected Observations (and thoughts) – Gary Walker

Double Shadow Transit of Callisto and Ganymede! - 4 Oct

On the evening of 4th October, I saw the astronomical equivalent of the "two for one" , or "buy one, get one free" deal, when I was able to observe two shadow transits of two of Jupiter's moons, crossing the planet at the same time!

The first shadow, at around 7:20pm, was from Callisto and, by around 8.10pm, I could see the shadows of both Callisto and Ganymede projected upon Jupiter's Southern Equatorial Belt, at the same time.

I got the usual "3D effect" as I could see the shadow of Ganymede appearing above the cloud deck of Jupiter (as, of course, it was anyway).

I found that the shadow of Ganymede was much easier to see than that of Callisto, which is not surprising, considering that Ganymede is the largest of Jupiter's moons.

I got the best views at 166X and 222X magnifications, but they were also just visible at 100X.

The fact that multiple shadow transits are not that common made the observations that much more rewarding.

Venus - 6 Oct

I saw Venus with my scope at about 3pm, on a sunny afternoon on 6th October. It appeared as a half-phase, although my "Astronomy Now" magazine said it was 60% phase, (so, still, slightly gibbous), and was 19.5' arcseconds, in angular size.

This "apparition" of Venus has been a poor one, with Venus being poorly placed and, hence, difficult to see!

Sometimes, as on this day, I have managed to see it in daylight, but as I can't align my scope on stars in this situation, it is very much hit and miss, such that, previously, I have failed to spot it - indeed, I had not seen Venus since July!

Even at 3pm, Venus was low down in the South, but quite a distance to the East of the Sun, at a shallow angle. I could see it using my binoculars.

Astrotourism - 8 Oct

Nigel Bradbury's lecture on 8th October reminded me of a book called "Astronomy Adventures and Vacations" by Timothy Treadwell, published in 2017 by Springer in the Patrick Moore Practical Astronomy Series.

In his book, he describes a several astronomical themed places, tours, and events from all over the world.

One chapter is devoted to the Northern Lights, and has a piece on Aurora flights, in which he mentions Pete Lawrence of the Sky at Night going on these flights (as Nigel Bradbury described too). He also describes Aurora cruises, and trips to Iceland, and many other Northern areas where the Aurora appear.

He also describes observatories all over the world, that can be visited by amateurs, as well as Dark Sky sites. He even goes on to visit Space rocket sites such as Kennedy Space Centre and Star City, in Russia, where one can experience first-hand some of the space training equipment, such as the centrifuge, or the Hydrolab.

Some of us in the Society have also experienced astrotourism in some way or other - for example, going abroad to watch a Total Eclipse of the Sun. In May 2011, a few in the Society visited the Cape Verde Islands to experience the Southern skies, and there was another trip to the Dark Sky site of Exmoor, Devon. More Dark Sky sites have been set up in the UK, for astrotourism, etc.

In recent years, the Society has organised day trips to astronomical observatories such as Mill Hill, in London, Clanfield Observatory, Hampshire, Herstmonceux in Sussex, and the Mullard Space Science Laboratory, all of which I have gone on!

On my own, I went on a ferry into the English Channel, to see the Total Solar Eclipse of 11th August 1999. This was organised by the now defunct "Modern Astronomer" magazine.

Eclipse trips are one of the most common forms of astrotourism around. These usually involve one having go a fair distance abroad, as most such eclipses seem to occur in the most awkward places, possible! [Editor's Note: A friend of my wife is hoping to view the 4 Dec Total Eclipse this year from a ship in the Antarctic Ocean - difficult to envisage a more awkward place than this!]

On a much smaller scale, Timothy Treadwell also writes about telescope shops, "Star Parties" on dark sky sites, and astronomical gatherings, such as the European Astrofest in London, which many of us have been to.

Thus, as amateur astronomers, we can experience much of astronomy, without having to fork out, literally, a King's Ransom, by having to go into Space, not to mention the sheer hassle, involved, in doing so!

Nova Cassopia (yet again!)

On 21st October, I saw that the Nova Cassopia had brightened up again to about magnitude 7, or so. This Nova first appeared on 18th March and is unusual in that it is still going some 7 months later! In this time, it has fluctuated from magnitude 8, up to 7, and occasionally 6, or even the 5th magnitude.

Frustratingly, there has, to date, been no mention of this Nova in any of the astronomical magazines, except in emails from the "Astronomy Ireland" magazine, which I find strange! Even online, virtually all the reports on it date from when it first erupted, and there has been nothing after May and June.

Up Next:

NEXT MEETING: 8pm Friday 12 November 2021 - Nonsuch High School

John Axtell will talk about Sputnik In Context. Attendance via Zoom will also be possible for those members preferring not to attend in person.

Ron Canham will also deliver his Sky at Night presentation for the month to come.

NEXT USER GROUP:

Suspended until further notice.

NEXT DENBIES OBSERVING SESSION:

Suspended until further notice.

AD HOC OBSERVING AT WARREN FARM:

These will be at short notice when the weather is favourable. Please watch our WhatsApp feed for alerts.