JANUS

THE NEWSLETTER OF EWELL ASTRONOMICAL SOCIETY

September 2021 EDITION

Editor: ewellastro.editor@gmail.com
Email: ewellastro@gmail.com
Website: https://www.ewellastronomy.org

Editorial

Welcome to the September edition of Janus and with it the beginning of a “new term”.

First up, some extremely good news. Our first meeting after the summer break will see the first physical meeting since the initial Covid lockdown in March last year; it’s been a long 18 months, but normality has (almost) returned! The meeting will be held at our normal venue - Nonsuch High School for Girls - and, although members will be required to register prior to attendance, and will need to comply with some further Covid related constraints, the chance to resume face-to-face meetings, and to once again have ad-hoc discussions with fellow members will be most welcome.

There are only 2 small pieces in this edition - a reflection, perhaps, of the relatively poor viewing conditions, although there has been some reporting on our social media sites.

An item in a recent edition of Astronomynow (*https://astronomynow.com/2021/08/23/fastest-moving-asteroid-flies-closer-to-sun-than-mercury)* which caught my attention reported that astronomers using the 570-megapixel Dark Energy Camera have found the fastest-moving asteroid yet discovered. Flying closer to the Sun than Mercury, it is a 1-km-wide body that crosses the orbits of Venus and Mercury and passes within just 20 million km of the Sun every 113 days. The asteroid, catalogued as 2021 PH27, heats up to almost 500°C during close approach, which is hot enough to melt lead - interesting, but probably not a viewing target for EAS members!

John

SkyUpdate
What’s up this month?

The Solar System September

MERCURY: begins the month very difficult to see as it will reach its highest point in the sky during daytime and is only just above the horizon at dusk. As the month progresses, approaching inferior solar conjunction, it is not observable – it will reach its highest point in the sky during daytime and is 7° below the horizon at dusk.

VENUS: is emerging into the evening sky as it approaches greatest elongation E. It will be visible although, at times, difficult to see, reaching its highest point in the sky during daytime and being, at best, only 5c or than 6° above the horizon at dusk. The best chance of observing it will be early in the month.

MARS: will soon pass behind the Sun at solar conjunction. It begins the month not readily observable, since it is very close to the Sun, at a separation of only 12° from it. By the end of the month, it remains not readily observable since it is still very closer to the Sun, and at a separation of only 2° from it.

JUPITER: begins the month approaching opposition and is visible as a morning object. between 20:30 and 04:05. It will become accessible around 20:30, when it rises to an altitude of 7° above the SE horizon. It will reach its highest point in the sky at 00:18, 24° above the S horizon, and will become inaccessible around 04:05 when it sinks below 8° above the SW horizon.
By the end of the month, having passed opposition, it is visible in the evening sky, from around 19:07, 12° above the SE horizon, as dusk fades to darkness. It will then reach its highest point in the sky at 22:08, 23° above the S horizon, and will continue to be observable until around 01:49, when it sinks below 7° above the SW horizon.

SATURN: recently passed opposition and begins the month visible in the evening sky, becoming accessible around 20:30, 11° above the SE horizon, as dusk fades to

darkness. Reaching its highest point in the sky at 23:05, 19° above the S horizon, it will continue to be observable until around 01:54, when it sinks below 10° above the SW horizon. By the end of the month, still visible in the evening sky, it becomes accessible around 19:23,15° above the SE horizon, as dusk fades to darkness. It will then reach its highest point in the sky at 21:03, 19° above the S horizon, and will continue to be observable until around 23:49, when it sinks below 10° above the SW horizon.

URANUS: begins the month visible in the dawn sky, rising at 21:47 and reaching an altitude of 54° above the S horizon before fading from view as dawn breaks around 04:46. By the end of the month, approaching opposition, it is still visible as a morning object. Becoming accessible around 22:17, when it reaches an altitude of 21° above the E horizon, it will reach its highest point in the sky at 03:17, 54° above the S horizon. It will be lost to dawn twilight around 05:39, 44° above the SW horizon.

NEPTUNE: is currently approaching opposition and is visible throughout the month as a morning object. It begins the month visible in the morning sky, becoming accessible around 22:53, when it reaches an altitude of 21° above the SE horizon. Reaching its highest point in the sky at 01:57, 34° above the S horizon, it will be lost to dawn twilight around 04:46, 23° above the SW horizon. By the end of the month, it becomes accessible around 20:54, when it rises to an altitude of 21° above the SE horizon, before reaching its highest point in the sky at 23:55, 34° above the S horizon. It will become inaccessible around 02:56 when it sinks below 21° above the SW horizon.

MOON PHASES:

Last Quarter	30 Aug
New Moon	7 Sep
First Quarter	13 Sep
Full Moon	21 Sep
Last Quarter	29 Sep

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*

September

1 Aurigid meteor shower 2021
Mercury at highest altitude in evening sky
9 September ε-Perseid meteor shower 2021
10 Conjunction of the Moon and Venus
4P/Faye at perihelion
11 Asteroid 2 Pallas at opposition
13 Mercury at greatest elongation east
14 Neptune at opposition
17 Conjunction of the Moon and Saturn
18 Mercury at dichotomy (reaches half phase in the sky)
Conjunction of the Moon and Jupiter
22 September equinox
27 Daytime Sextantid meteor shower 2021

Collected Observations (and thoughts) – Gary Walker

During August, Nova Cassiopeia has remained at about magnitude 8.

Another Nova, erupted in this month, RS Ophiuchus, which is an example of a Recurrent Nova. It is normally about magnitude 11 but, roughly every 2 decades, it flares up. It last flared up in 2006.

This time, it flared up to magnitude 5. I saw this one too. By 24th August, it had faded to about magnitude 8. It had an orangey colour to it.

Nobody can have missed Jupiter flaring brightly, now in the late evening sky, with Saturn some degrees to the West of it.

I saw that the Northern Equatorial Belt appeared a strong chocolate brown colour in my scope! The Southern Equatorial Belt was still much thinner.

I saw the Great Red Spot a few times, but it was now not particularly easy to see, so it must have faded again since last year, and has now lost the reddish tinge that was visible then.

I saw part of a Shadow Transit of Ganymede, on Jupiter, on the evening of 22nd August

First steps in astronomy (a fun set of lists) - Adrian Bourne

Do you remember your most early inspiration to follow astronomy? Or perhaps you have recently been helping a young child begin their journey of discovery?

It's amazing what questions they ask, and the way their minds work to make sense of it all. Sometimes we aren't aware of the links in learning that they're missing. I remember watching with my two-year-old grandson from an upstairs window as the gutter cleaning machine made its way noisily down our road; "what's that machine for?" he asked. "It cleans out the gutters", I said. There was a long pause, then he looked at me and asked, "how does it get up there".

There's lots of room for early misunderstandings in the world and sky around the young….and they do keep asking "why" and "how"!

I've been experiencing this with four grandsons, who have very different levels of interest in astronomy and varied ways of questioning. Some of them have the luminous stars stuck on their bedroom ceilings, the "glow in the dark" solar system hanging from the light fitting, and Hubble pictures on the walls. And Philip's Planispheres have been milestone birthday presents (for me, anyway!)

But there's nothing to match the real thing and the human questioning! So, I thought it might be interesting to share three sets of "top five" questions and see if any EAS members (or their young explorers!) want to add or comment.

First set: questions to be ready for!

- Is the Sun really a star?
- Why does the sun go up and down at dawn and sunset?
- Why are there seasons in some parts of the world?
- Why are there tides in the sea
- How do astronauts poo in space ships when they're weightless?

Second set: first sights to spot in the night sky to capture the imagination

- Orion especially Betelgeuse
- The Plough
- Cassiopeia
- The Pleiades
- The Summer triangle
- The ISS (yes, I know that's six sights!)

Third set: the hardest things to explain (even with oranges, apples, and string!)

- Why does the moon look so big on the horizon and much smaller up in the sky?
- Why do we always see the same side of the Moon?
- Why does the Moon go convex (a gibbous moon)?
- Why does a comet's tail (or one of them) stick out the wrong way?
- E = MC squared (!!)

Feel free to send your additions or your own lists to Janus, and any memorable experiences of early explaining and observing with youngsters.

Finally, I'm glad that our generation of grandfathers has google, youtube, NASA etc to answer the questions and APOD, Hubble and Stellarium to kindle the magic and tracking!

Up Next:

NEXT MEETING: 8pm Friday 10 September 2021 - Nonsuch High School

Prof Christopher Owen, of the Space Plasma Physics Group, MSSL will speak about Solar Orbiter. Please register before attending. 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 Whats App feed for alerts.