September

Translation made by AWB Anilkumar Kodali

2023

Our forecasts of astronomical observations – (generally excluding ephemerides)

I present here observation forecasts for the month of September 2023 which are often "unplanned" in the ephemerides. You will find there in particular some beautiful occultations, the Moon and finally long awaited, the appearance of some beautiful comets.

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I wish you good observations from this planet of brutes and if your skies are clear, I invite you to observe some of the wonders that the sky offers us! It's free but... to dream of the stars you have to leave your home!

quarellia

Go - That's what I'm going to do!



For all observations that follow, I am in close contact with organizations of "citizen scientists".

If you want to watch *useful,* Do not hesitate to contact me.

https://astro.aquarellia.com

Astronomie et aquarelle

Astronomy and watercolor

Michel Deconinck

1. The Sun

The current solar cycle has the number 25, the first, historical, having started in August 1755. This first cycle corresponds to the beginning of the regular monitoring of the observation of sunspots.



SILSO graphics (http://sidc.be/silso) Royal Observatory of Belgium, 2023 August 27

As throughout the summer the sun is very active. This is why if you are not a fan of solar observation, its activity will be particularly interesting to follow, and perhaps you will join one of the groups specialized in solar observations (*), such as The GFOES in France, the Observateurs du Ciel du Québec group and internationally the AAVSO and the very official SILSO from which our curves are taken.

On the 88 observation stations of SILSO, (see the curves below), this month of August we were between 25 and 40 observers whose stations are distributed all around the world, obviously the weather is not good everywhere. The small triangles indicate the number of active stations and the yellow balls the number of admitted observations.



Example of rough sketch, it was August 17th.



SILSO graphics (http://sidc.be/silso) Royal Observatory of Belgium 2023 August 23

This curve shows the evolution of solar activity over the past 13 years. This curve, like the previous one, is based solely on the visual estimates of the referenced stations.

For several months, our Sun has been particularly active and it is also particularly variable. As a reminder, the sun is a variable star, our readings show it well, CQFD – (what had to be demonstrated).

PS: Do not hesitate to be part of those who observe the sun in a useful way always <u>using professional filters, but never DIY filters!</u>

(*) Some references :

In French

- GFOES: <u>http://www.astrosurf.com/gfoes/accueil.htm</u>
- Quebec Observer Observer: <u>https://</u> groups.google.com/g/gobserver

in English

- AAVSO:<u>https://www.aavso.org/solar</u>
- SILSO:<u>https://www.sidc.be/SILSO/home</u>

2. The Occultations

1- The asteroid (3389) Sinzot will occult a star of magnitude 10.7 in the PACA region.



September 5 at 23:48 UT, max duration 3.6 sec. Star TYC 6318-01875-1

2- (3134) Kostinsky will occult the star HIP 118019 of magnitude 8.3 also in the PACA region.



September 27 at 5:46 p.m. UT, max duration 4.0 sec. The sun will be only 5° below the horizon but with an 8.3 magnitude star at 88° azimuth this should be playable.

3- An original occultation visible from much of southern Europe and northern Africa.

On September 15, Ganymede, Jupiter's satellite will occult an unfortunately very weak star (UCAC4 526-004998 +15.5), it will be necessary to have a large diameter instrument. The prediction gives a maximum duration of<u>6 minutes</u> !





In October it will also be Callisto's turn to occult another star, we will come back to this.

4- Atmosphere of observation of a star occultation by asteroid in nomadic fashion.



GPSVideo Time Inserter"IOTA" for occultation registration

It is sometimes necessary to move to observe the event with a better chance of being on the theoretical shadow line. But if you are at the edge of the shadow zone, a "no occultation" will specify the diameter of the asteroid, and if you are squarely outside, it gives you the possibility of discovering an asteroid satellite.

For your geographical location, do not hesitate to consult the excellent Occult Watcher software. There are many other possibilities of occultation of a star by an asteroid, by a comet or by a natural satellite. To predict them, it is your location that is important.

If you are interested in observing them from your region, I recommend the Euraster site:

http://www.euraster.net/

It gives you past results and a lot of very useful information.

For the predictions I mainly use the Occult Watcher software which is to be loaded on PC via the website:

http://www.occultwatcher.net/

3. Comets

Comets wake up...

In the ALPO database containing all the cometary images received, we have counted:

- In 2020: 37 comets
- In 2021: 31 comets
- In 2022: 8 comets
- In 2023: 3 comets at the end of August

What a downfall!

On the other hand, there are some good surprises to look for in the periodicals not included in those above.

1-Comet C/2023 P1 (Nishimura)

Those who are subscribers - I specify free - to our alerts, are aware that a pretty comet has appeared in the morning sky recently.

This comet is moving very quickly in a hyperbolic orbit (see our alert). It seems to come from the Oort cloud and would therefore not be an interstellar comet, but this remains to be confirmed. As this is the first and last time this comet will pass near the sun, speculation about its apparent magnitude is rife,

from +4.5 to +2.0, leading optimists to say that it will quickly become visible to the naked eye.

I advise you to try to observe it at the end of August or at the very beginning of September, as it dives towards our star, it may well not survive its passage. It will even pass closer to the sun than Mercury's orbit.



 Comet C/2023 P1 (Nishimura)
 2023/08/26

 Bino Vixen 126mm f5 - 25mm (25x)
 2:45 UTC

 2023P1 2023 08 26:11 B 7.85 1268 5 25 6 4
 ICQ XX DEC

 Mono Vixen 126mm f5 - 10mm (63x)
 SWAN

 2023P1 2023 08 26:12 B 7.85 1268 5 3 5 1 mID ICQ XX DEC
 F.O.S.: 7'

 Https://astro.aguarellia.com
 F.O.S.: 7'

And as you know, our sun, close to the maximum of its cycle, is very active, which is not without effect on a climate which is less talked about, the interplanetary climate.

I have already been able to observe it every two consecutive days, 5 times.

Opposite the last time before publication of this bulletin.



Other of the comets are also worthy of interest:

 - 103P (Hartley) which was planned with a nice +9 magnitude but which remains inaccessible to this day with small instruments. At last news it would have reached magnitude +11. It will be closest to the ground at the end of September. As a reminder, discovered in 1986, this comet was approached by a space probe giving us this superb image.





- Comet 2P (Encke) at most close on September 24, 2023 with a predicted magnitude of +10 and will pass perihelion on October 22 of this year with a predicted magnitude of +7.

Memories of his passage from 2017

I invite you to discover all the cometary images. I obviously only want to talk about images shared with the whole world by amateurs and professionals.

To access it follow the link below:

https://alpo-astronomy.org/gallery3/ index.php/Comet-Images-and-Observations

Comet hunters - Call for papers:

As co-responsible for the

comets section of the ALPO (L'association international organization for the observation of the solar system) directed by Carl Hergenrother, I await your observations, images (photo or sketch) of the comets that you observe.

My address for comets: michel.deconinck@alpo-astronomy.org

4. The Moon

And it's still my association ALPO that offers you the possibility, every two months, of carrying out some interesting challenges, called "Focus-On".

The next challenge will be the Dorsa Smirnov region.

It costs nothing to dream about the future. If the Moon is already the star which allowed the first step of humanity out of its terrestrial cradle, it is also the place where you do everything a second time. It will also perhaps be the place for us to install OUR residence secondary. And when you get used to walking in the regolith, maybe the new challenge will be to climb THE sweet Heights Who cover completely the seas and some of the crests of the ridges. lunar Dorsa Although Smirnov born would not be the first option for а walk. because the stiffness of its ridges, it is ideal for a telescopic visit. It is the most complex and extensive dorsal system on the

Moon. It is located at the eastern end of Mare Serenitatis and is better known as Serpentine Ridge (an old name which also included what is now known as Dorsa Lister). We will visit the structure of Serpentine Ridge, trying to see the topographical details of this fascinating series of elevations. Please check your files for images of these spectacular craters and forward them by October 20, 2023 to Alberto Anunziato and David Teske.

So, these beautiful images, let's not keep them for ourselves, let's share them, we are also waiting for old images of this region.

Please send articles, drawings, images, etc. to Alberto Anunziato (Argentina) and David Teske (USA) by April 20, 2023, for your observations to appear in the May 2023 issue of "The Lunar Observer".

Ideally, the email to be sent must contain the following information:

- Observer name and location
- Object name.
- Date and time of the observation in Universal Time (use the name of the month in English or the format "mm-dd-yyyy-hhmm" or even "yyyy-mm-dd-hhmm")
- Filter (if used)
- Size and type of telescope used. Magnification (for sketches)
- Camera used (for photos and electronic images)
- Image Orientation: (North/South East/West)
- Seeing: 0 to 10 (0-worst 10-best)
- Transparency: 1 to 6
- Feel free to add comments.

It is not necessary to reduce the size of the file, but at least the information in bold is necessary.

Files should be submitted by email to

- David Teske –<u>david.teske@alpo-astronomy.org</u>
- AlbertoAnunziato-albertoanunziato@yahoo.com.ar
- wayne<u>Bailey— wayne.bailey@alpo-astronomy.org</u>

Do not hesitate to leaf through the latest TLO, this monthly magazine now has 134 pages thanks to your images:

https://alpo-astronomy.org/gallery3/var/albums/Lunar/The-Lunar-Observer/2022/tio202209.pdf?m=1661994318

(*) ALPO<u>http://alpo-astronomy.org/index.htm</u>

To get a little ahead here are the future Focus-On's:

- For December 20, 2023: Sinus Iridum

5. Small Atlas of the Lunar Seas

About our marvelous natural satellite, I had my first book published. This is a small atlas of the lunar seas.

It is on sale here: https://merslunaires.com/

6.Contact

Email: Michel Deconinck: <u>contact@aquarellia.com</u> Or for comets:

michel.deconinck@alpo-astronomy.org

Website :

https://astro.aquarellia.com

And for fun or not to miss anything, don't hesitate to watch one of our latest videos like this:

https://youtu.be/0zBSvMfZnR0?si=DPsxf8qsQulqUji5

And,... if you like it, subscribe to one of our two channels **Youtube**, it's fun and it's free.

Astronomy:https://www.youtube.com/@MichelDeconinck And

Journey :<u>https://www.youtube.com/c/Aquarevan</u>

Between watercolor travels and astronomy, other videos will follow.

Good to you all!

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