



# ExoClock Newsletter

Dear ExoClock participants,

We wish you Happy 2020, full of health, prosperity and creativity! The year has started in the best possible way, with the ARIEL Open Conference at ESA (Netherlands). 2020 will be a year full of activities related to ExoClock and ARIEL.


The number of observations is growing, with 81 currently published, thanks to all of you! A **reminder** to those of you who have received feedback on your observations, to upload again your results so we can publish them on the website.

## Updates on the software

Download the new version of HOPS from: <https://exoworldsspies.com/en/software>

As you have asked for, the updated version includes **the peak flux of the selected stars, and other useful information on how to choose comparison stars, during Photometry.** Always double check your comparison stars! The best comparison stars need to be: a) close to your target, b) of similar magnitude to the target, c) of similar colour to the target, d) photometrically stable, i.e. not variables! You can check information on your comparison stars on Simbad: <http://simbad.u-strasbg.fr/simbad/>

Below you can see an example;



### Photometry

Remember, the best comparison stars need to be:  
a) close to your target, b) of similar magnitude to the target,  
c) of similar colour to the target, d) photometrically stable, i.e. not variables!

	X	Y	Peak	Box semi-length
<input checked="" type="radio"/> Target	756.9	809.0	3577	<input type="text" value="20"/>
<input type="radio"/> Comparison 1	696.4	1151.9	9135	<input type="text" value="20"/>
<input type="radio"/> Comparison 2	0	0	0	<input type="text" value="0"/>
<input type="radio"/> Comparison 3	0	0	0	<input type="text" value="0"/>
<input type="radio"/> Comparison 4	0	0	0	<input type="text" value="0"/>
<input type="radio"/> Comparison 5	0	0	0	<input type="text" value="0"/>
<input type="radio"/> Comparison 6	0	0	0	<input type="text" value="0"/>
<input type="radio"/> Comparison 7	0	0	0	<input type="text" value="0"/>
<input type="radio"/> Comparison 8	0	0	0	<input type="text" value="0"/>
<input type="radio"/> Comparison 9	0	0	0	<input type="text" value="0"/>
<input type="radio"/> Comparison 10	0	0	0	<input type="text" value="0"/>

HOPS 2.5.4  
Copyright (c) 2017-2020  
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**HOPS UPDATES & USER MANUAL**

## Observation Alerts!

Some targets are marked as high priority as the uncertainty in their ephemerides are quite high at the moment. Some of these targets have not been observed after their discovery date. When they are observed again and a time shift is found on their ephemerides, they will be flagged for more observations to confirm the time shift. You can see these observations under the “My Schedule” -> “ALERTS” tab (<https://www.exoclock.space/schedule/alerts>) and we will be sending you emails for such targets.

Currently, there is an alert for **K2-30b** and **XO-3b**, so if you have the appropriate equipment and it is clear sky, give it a try!

## ARIEL Open Conference

The first ARIEL Science, Mission and Community Conference took place at ESA ESTEC from 14-16 January 2020. In general, the conference focused on potential collaborations with other missions and communities. Updates were given on different aspects of the mission, including the payload design, instrumental capabilities and data, the NASA CASE contribution and also the ARIEL target sample. Presentations covered topics in exoplanet atmosphere observations, planetary interiors, planetary formation and properties of the host stars.

**ExoClock was presented highlighting the importance of an open and collaborative effort, which includes all interested communities regardless the background.**

This meeting was a significant step for the ARIEL Consortium to engage and involve the planetary and astrophysical communities in the mission. We hope that this conference is only the first of more to come and look forward to future events. Some indicative photos are shown below:



**Image Credits: Bex Coates, Anastasia Kokori**

**Please send us at [exoclockproject@gmail.com](mailto:exoclockproject@gmail.com):**

- Your feedback on the website
- Suggestions for new features
- Questions on the observations or the analysis
- Ideas for topics you would like to see in the newsletters

**And we will reply through the next newsletters!**

Best Wishes for 2020,  
the ExoClock team

### **Educational material on transiting exoplanets**

**CHECK this out!** We are creating a series of educational material on different aspects of transiting exoplanets. In order to organise this more efficiently, we would like to know what you are more interested to learn more from exoplanet observations. We will try to cover as many topics as possible. In every newsletter we will be addressing something new according to your interests. You can update your profile by clicking the most interesting categories for you. Follow this link:

[https://www.exoclock.space/users/my\\_profile/](https://www.exoclock.space/users/my_profile/)