If the newsletter does not look good in your email, check the pdf [here](#)!

News from the front (engineering and DQA)

This week the rear end cap was installed and telescope was rebalanced, of course.

Fixtures are being fabricated to support a test next week to measure directly how much ring girder and instrument move relative to each other and the tube.

An autoguider based on a camera mounted on the finder scope instead of the focal plan is being discussed.

For your amusement here is a recent movie of several complete filter exchanges. Filter order is G, I, G, R, I, G

https://www.dropbox.com/s/kw5td0ml50halax/sept-five_exchanges.mp4?dl=0

We made this to confirm our assessment of how the exchange speed can be improved. The plan is to remove pauses mid-path and instead execute continuous moves, and then to move at uniform speed. You will notice that some moves are faster than others. Finally, while the route taken from stow to instrument has been changed to be direct, it is still following the old indirect route when moving from instrument to stow. We have actually tested both but somehow left the old slower path in place. We are in the process of planning these speed upgrades.

Twitter: help us getting visibility by retweeting ZTF tweets!

We have tweeted three times this week. Help the ZTF18abukavn and ZTF's TDEs get more visibility by retweeting our [tweets](#)!

News from working groups

SNe and relativistic explosions: "The Supernova and Relativistic Explosions group are continuing to follow the fast and luminous transient ZTF18abukavn, which has now evolved to show SN Ic-BL features, possibly similar to what we saw in iPTF16asu. Multiwavelength observations underway, stay tuned! Otherwise we have discussed whether/how to release spectra along with reported classifications, and continue to work on our early science papers."
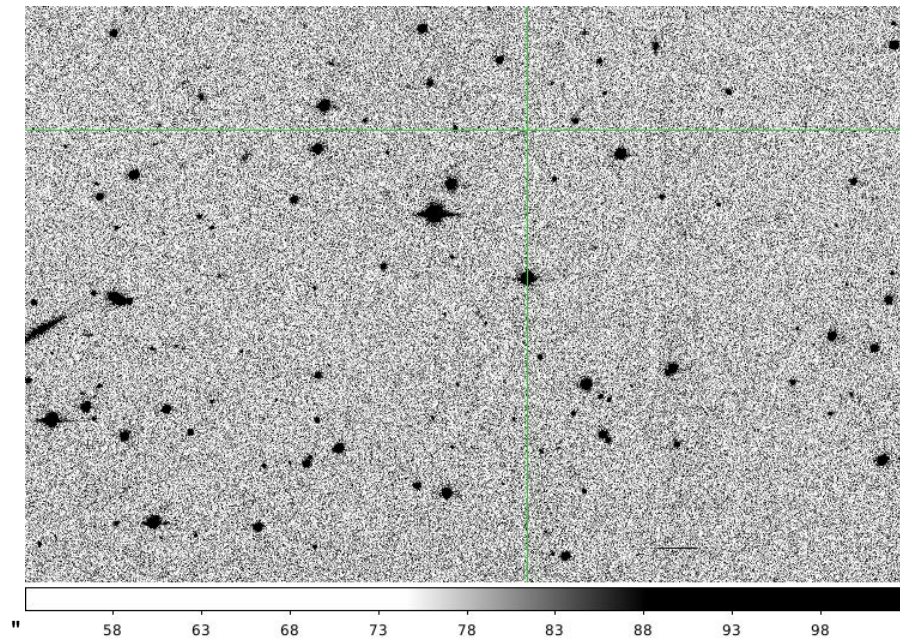
AGNs and TDEs: "The ZTFbh SWG is following the interesting evolution of TDEs NedStark and JonSnow. We are also following with great interest our changing-look (LINER —> extreme coronal line emitter) AGN TyrionLannister, and are still trying to figure out the nature of DaenerysTargaryen. We are continuing spectroscopic follow-up of TDE and CLAGN candidates with SEDm, DCT, Keck, and are preparing follow-up proposals for Swift, XMM, and NOAO. We are hoping to switch to automatic saving from AMPEL to the Marshal to take advantage of Sjoert's Gaia star/galaxy separation criteria, but the

AMPEL and Marshal teams are still working out some bugs in the auto-saving feature. We hope a solution is found soon!"

Galactic/M31: "Matchfiles have been generated for the partnership fields including the high-cadence fields. We have started with period analysis on those fields. We welcome Jan van Roestel as a new Postdoc at Caltech. We are glad to have you."

Solar System: "NEOZTF continues to go strong as ZTF visits the ecliptic frequently. As of today (Sep 20, i.e. when we are pinged by our communication coordinators for updates :) we already have 16 confirmed NEO discoveries in September, with more on the Confirmation Page. What this means: we only had 19 confirmed discoveries in total from February to the end of August! Apart from the rising ecliptic, another contributing factor is that we are now going after singletons regularly (single-sighting NEOs, which by themselves will not be very interesting), and the maturing marshal help streamlining the process. Some of the sightings belong to the images that did not go through image differencing, so those detections will need to be measured manually. However, being able to include those detections makes a big difference, as they helps refining the preliminary orbits and facilitate follow-up observations.

Here is ZTF00hc (not officially confirmed by MPC but should be soon), a streak we found on Sep 8. It is a 10-m-sized asteroid that passed the Earth by 2.1 lunar distance earlier this month. Attached is a snapshot of the follow-up detection on Sep 9 which was identified manually. ZStreak wouldn't find it at this brightness (it was picked up by ZStreak on Sep 8 when it was brighter) -- and you can see how faint it is (hint: look at the 8 o'clock direction from the crosshair). It is clearly modulating on Sep 9, falling beyond the detection limit at some point over the exposure. We want to highlight this one as it highlights the power of ZTF -- ZTF covers it *every night* over its very brief visibility window (only about 3 days) and no one else has been able to pick it up! Though this means that we have to rely on ourselves to get it tracked, it also proves that we are exploring the NEO population that has been difficult for others. Pretty neat.

Reminder: Nightly summary of public alerts:

Thank you to Richard Walters, we now have a link on the public website (https://www.ztf.caltech.edu, bottom right) giving a summary of the public alerts and sky-coverage for the recent night. One can examine other nights by entering a night-date in UT.

Reminder: IMPORTANT: We (still) need your help for the ZTF FAQs page! (and would love to remove this item from the newsletter)

During several weeks, we have listed the questions that people across the collaboration would like to have in the FAQs page. Now it is time to add answers. Please help us fill the voids (and elaborate on the answers already there).

More reminders:

- Public Alerts:There is a link to the alerts archive on the website!

- Please help us keeping track of all the available softwares! A preliminary list is available on the twiki. Let us know if you are building a software which you think could benefit (or be relevant to) a large portion of the collaboration.

- ZTF general slack channel: Please join through this link!

- If you want to get access to the **ZTF data** via the IRSA interface, please request data access to the communication coordinators: ztf.communication.coordinators@gmail.com

-**Archive GUI** now ready! The interactive image search, filtering and visualization tool is now ready ().

- The **ZTF Twitter account** is now active! https://twitter.com/ztfsurvey Re-tweet @ztfsurvey!

- To use the **url shortener** (e.g. during telecons, talks, in emails), navigate to http://zwicky.tf/shorten (username: ztf password:16chips) and type in the URL you want shortened.

- The **Wiki page** is active! Check it out at http://zwicky.tf/wiki . To request access, please email us at ZTF.communication.coordinators@gmail.com

"Wake me up when September ends" (Green Day)

Have a great and productive week!
Thomas and Maayane