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**News from the front (Engineering) (by Roger Smith):**

Since last newsletter, both crycoolers in ZTF, and all refrigerant hoses and fixtures have been ultrasonically cleaned, baked and charged with fresh refrigerant. Since this procedure has worked before we chose to reassemble and test the complete system instead of spending several days measuring power curves of the the cold heads in a purpose built test system. Like many bets, this one did not pay off, and we will be opening the dewar again to do that test on Monday. Actually we will test the apparently-functioning SW cold head while we more aggressively clean the central cold head which is underperforming. (Yes, it would have been good to have had a spare, pre-tested, head at this point).

While ZTF was in pieces, we removed 6 CCDs from the focal plane updated the precision-ground spacers behind each to improve coplanarity. We also moved the guider to the other side of focus to allow correction for error in focus estimate induced by seeing.

Some work continues in background to understand why the ZTF focus CCDs have such high read noise. We are looking at the speed-noise trade for the identical CCDs in the prime focus imager on the Palomar 200" (WaSP).

At this point it looks like resumption of ZTF observing is a bit over a week away ... if we succeed in cleaning the cold head on first attempt.

**Updates from the GROWTH Marshal:**

The latest set of new features includes:

- (i) A new page, `spec_summary.cgi`, that shows a summary of individual spectra that have been uploaded to the Marshal, which can be filtered by instrument, science program, and object classification can be accessed through the main page.
- (ii) If users do not have permission to view an object, a list of the science programs, and the PIs of those programs, that the object belongs to will be displayed on the object page, `view_source.cgi`.
- (iii) The reference generation date ranges of objects will now be added automatically to each object upon being saved for the first time.

### News from DQA:

This has been a productive week, with some efforts finally becoming mature and some new analysis being started. We had a productive telecon with Roger, Mickael, Philippe Rosnet, and Simeon Reusch. Here are some updates on the different threads that were discussed:

#### Philippe:

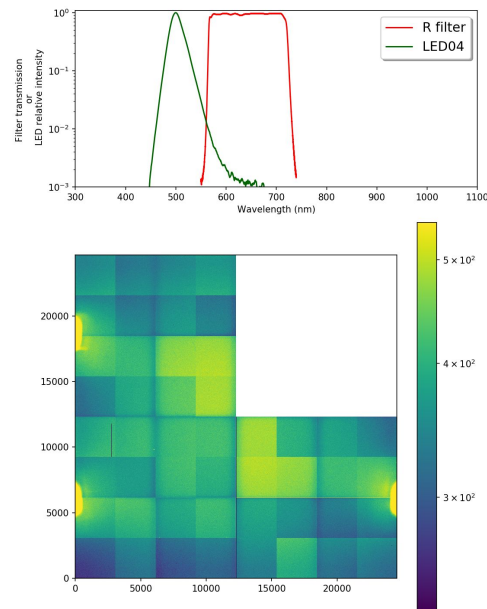
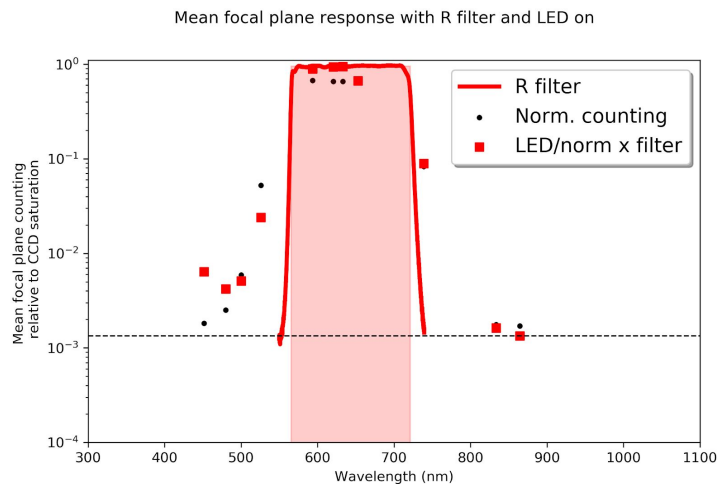
The spectral response of the ZTF camera with the different filters is studied by using dome flat field runs with the whole set of thin spectra LEDs. The first plot shows the mean relative response of the camera with the R filter (the filter transmission curve is in red) as a function of the peak LED wavelength (black points) and a comparison to the expected convolution of a simple filter modeling (light red rectangle) with the LED spectra (red squares). As shown in the second figure (camera mosaic without the upper right quarter), LEDs with spectra out of filter band (illustrated by the upper plot) exhibit edges spots between CCD first and second rows (and between third and fourth rows) due to light reflexion at the level of the peripheral CCDs used, among other, to control the focus of the camera. Those spots appear only with G and R filter which do not cover the peripheral CCDs.

#### Simeon:

An estimator for the quality of the IPAC photometric calibration has been derived for each exposure and readout channel (RC) by comparing the ZTF magnitudes with those of the PS1 calibrator stars in the [18.5, 17.5] magnitude bin. The variation of these quantities across the June-September period are being analyzed. As each RC is processed independently, the presence of correlation between channels help to identify systematic effects affecting the calibration.

#### Matteo:

The fitting routine to optimize the color combination of the domeflat has been tested on both skyflat and on synthetic images and has proven to be robust with respect to the initial conditions and to be able to recover the true values if applied to synthetic images (with known LED combinations). In the next weeks it will be used in combination to the starflat analysis to iteratively solve for the relative LED combination.



### News from working groups

**Machine Learning:** “A set of ~1K contaminated examples from the training set have been removed, and anything from the GROWTH Marshall that has ambiguous labels is being omitted. As a result, the number of training set reals has dropped down to ~6K examples from ~9K. We will report on the effect this has on classifier performance next week (Umaa Rebbapragada, JPL). We continue to automate the process of discovering contaminated examples (Charlotte Ward, UMD). We are also examining the effect that changes to image subtraction on the galactic plane will have on RB (Sara Frederick, UMD). We are also working on improving test set performance analysis (Tomas Ahumada, UMD). Zooniverse MSIP project being reconfigured. Deep learning with streaking asteroids will restart this week. ZTF ML paper has been resubmitted to PASP.”

**AGNs & TDEs:** “The ZTFbh SWG is working hard on a couple exciting science papers: UV/optical spectroscopic follow-up of TDE NedStark (Tiara) and a new class of changing-look LINERs (Sara). We will also be gearing up over the next couple weeks to be ready for the MSIP Survey to resume. We are aiming for automatic ingest of alerts from AMPEL, so we can move from visual scanning, to ranking based on our selection criteria. We are sad the survey is on hiatus, but we are taking advantage of this pause in alerts to catch up on all the exciting data we have in hand!”

**Solar System:** “We are working with Eric to get ready for the Solar System block that will start in mid-Nov!”

**Reminder: Having problems accessing the TWiki? Please contact us:**

If you encounter any problem accessing the twiki, please do the following:

1. Try this [url](#)
2. If it does not work, please email us at [ztf.communication.coordinators@gmail.com](mailto:ztf.communication coordinators@gmail.com)

**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](mailto: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](mailto:ZTF.communication.coordinators@gmail.com)

*"The wait is long. My dream of you does not end"* Nuala O'Faolain  
Have a great and productive week!  
Thomas and Maayane