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Newsletter #63, January 6 2019

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

News from the engineering team (Report by Roger Smith)

“Cooling system saga continues:

The continuing adventures have not cost any observing time. A second charcoal adsorber was recently added mid way along the refrigerant line to provide additional protection against contaminants. Bad idea! As ambient temperature dropped below 275K we observed that gas contraction in the increased cold volume reduced supply side pressure enough to cause the SW cooler to lose enough power that the load pushed out above its cooling power peak, causing it to quit. Fortunately central cooler had sufficient power margin to keep ZTF cold.

To fix Michael Feeney moved the adsorber into the warm “outhouse” where the volume it adds serves to attenuate such thermally driven pressure changes instead of enhancing them. At the same time he added refrigerant to the SW cooler so pressure (347 psi) now matches that of the central cooler. It is working well as a result so we hope not to be reporting on cooling system issues in future newsletters.

Other troubleshooting:

- Power glitches on hexapod and shutter ... bad networked power switch or loose connection?
- False alarms for shutter failures (maybe same problem); re-process images erroneously marked as bad.

Meanwhile we have started work on our ZTF news year’s resolutions:

To increase observing efficiency:

- Slightly faster filter exchanges: tweaks to trajectory; some faster moves; remove some pauses
- Discussing what it takes to do filter exchanges closer ot zenith to save 36 s per exchange. (Not approved yet)
- Automated readout: remove shutter status polling from exposure timing sequence.
- Faster/sooner slew initiation, not based on shutter status polling loop.
- Smaller allowance for telescope settling after slews. Use DIQ as metric.

To improve DIQ:

- Apply lessons learned on WaSP to achieve lower read noise and better linearity on focus sensors
- More aggressive SNR cut-off on stars used for auto-focus measurement to less noise focus measurement.
- Apply flat fields to focus sensors in real time loop (oops, we should have been doing this already)
- Resume work on open loop map updates and correct offsets after filter changes.”

News from IPAC (from Frank Masci):

The Cautionary Notes section (Sec. 13, pg. 88) of the Data System Explanatory Supplement (<https://zwicky.tf/ykv>) has been updated to include warnings and workarounds to detect and omit epochal data affected by non-uniform transparency (e.g., clouds and reflected moonlight on sub-quadrant scales). Epochal data includes CCD-quadrant based images, accompanying photometry catalog files, subtraction images, all alerts generated therefrom, streak metadata from fast SSOs, and lightcurve photometry points queried from either matchfiles or IRSA’s online interface. These notes are a work-in-progress. We appreciate being notified of other idiosyncrasies, issues, tips or tricks you may encounter as you continue to mine and validate the products.

News from working groups

SNe and Relativistic explosions: “We kicked off the new year with our first telecom on 2 January. We briefly discussed the outcomes from the Gemini and ESO call-for-proposals and a few interesting transients.”

AGNs and TDEs: “The ZTFbh SWG is continuing our auto-saving and ranking of TDE candidates, and triggering SEDM while we still can before it is taken off the telescope in a few days. We are continuing to follow-up TDE SansaStark (ZTF18abxftqm, ATel#12263), and plan on submitting a DDT HST proposal for UV spectroscopy. We submitted our SEDM proposal for candidate TDE and CLAGN follow-up spectroscopy in 2019. Happy New Year everyone”

Galactic Science: “We continue to explore the latest set of Matchfiles and slowly reaching the end of the winter Galactic Plane survey. The weather has not been very favorable with many cloudy nights.”

The papers corner: Please let us know one a paper has been accepted!

Reminder: March collaboration meeting:

A kind reminder to please register to the coming ZTF meeting if you plan to attend (this is not committing and no costs involved). The meeting website is [here](#). For registration go [here](#). Also, the organisers would like to start to collect and organise the potential contributions, so please begin sending in your proposed talks (via your meeting account or by replying to this email), even if there's no abstract yet.

As mentioned in Ofer Yaron's email, the talks will be scheduled to the following general sessions:

- **Survey engineering/technical updates, operations and methodologies**
- **Pipelines and utilities**
- **Reviews from the various working groups**
- **Scientific highlights & results (incl. session on unique events; e.g. 18cow)**
- **Future activities/plans**
- **Workshops/discussions (Friday potential sessions)**

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

"I am glad it's over, I want to go back to work." Sue Martin

Have a great and productive week!
Thomas and Maayane

