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Newsletter #53, October 28th 2018

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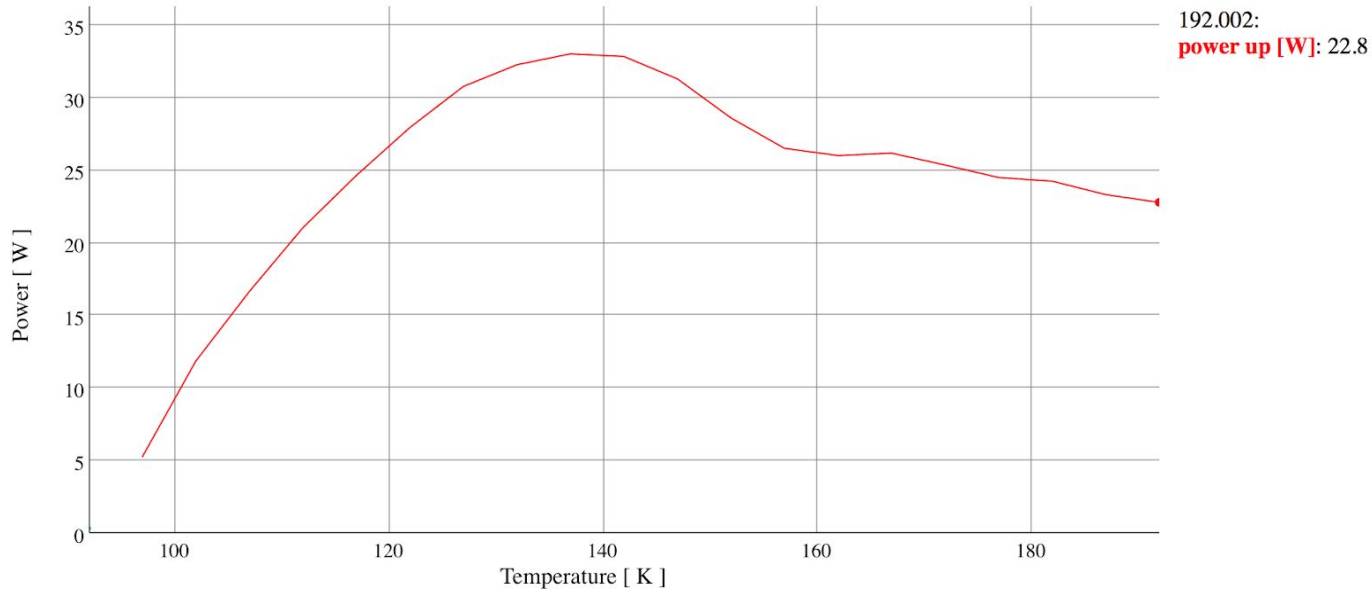
If the newsletter does not look good in your email, check the pdf here!

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

As noted in last week's report, our first full system thermal test showed that we had not in fact succeeded in cleaning the central cryocooler. After disassembling the backplate to remove both cooling heads, we figured out what went wrong — a mistake in the vacuum baking step. This time we measured the complete power curve for each head independently in our cryocooler test system prior to re-assembly. You can see the curves below, showing that both heads are now performing as well or better than ever. The instrument has been reassembled again, pumped, and went through full system cooling test.

ZTF has passed the full-system cooling test, with improved performance margins for both cooling rate and ultimate temperature. The system is warming now (Saturday morning) and will be pumped at 320K overnight to remove residual water vapor. It will be transported to Palomar tomorrow (Sunday) night and be installed on Monday. If all goes smoothly the system should be operational in time for through-focus imaging on sky at the start of Tuesday night, and the survey may resume immediately thereafter.

Please bear in mind that there are a lot steps in this process and possibility of set backs.



News from IPAC:

On Monday Nov 12, we plan to update the alert packet schema for the *prv_candidate* (history) block to include the following five new metrics:

- "magzpsci", "Magnitude zero point for photometry estimates [mag]"
-"magzpsciunc", "Magnitude zero point uncertainty (in magzpsci) [mag]"
-"magzpscirms", "RMS (deviation from average) in all differences between instrumental photometry and matched photometric calibrators from science image processing [mag]"
-"clrcoeff", "Color coefficient from linear fit from photometric calibration of science image"
-"clrcounc", "Color coefficient uncertainty from linear fit (corresponding to clrcoeff)"

Furthermore, the existing "nid", "rcid", and "field" identifiers will be populated for non-detections as well in the *prv_candidate* records.

This will enable more precise "DC" lightcurves to be generated using the photometric histories in individual packets, as well as help identify the image origin of upper limit measurements on a filter / CCD-quad / fieldID basis — which can differ from that on which the alert was triggered.

If you need to update any code / interfaces before Nov. 12, I have posted an example avro packet containing the above updates:
http://web.ipac.caltech.edu/staff/fmasci/ztf/avrotest/
The new *prv_candidate.avsc* schema file (version 3.2) is also there.
This update will be effective on data to be acquired starting 2018-11-13 UT.

News from AMPEL

Both the Ampel and Cosmology teams are busy preparing for future programs based on 2018 observations. This involves optimizing alert filters and updating projections for what a large ZTF SNIa sample could mean for example for SN standardization and peculiar velocity maps.

Did you give a ZTF talk? Please be in touch!

More of us are beginning to give ZTF talks and so we would like to create a collection of slides to cover many of the basics so that people don't have to redesign the wheel. To this end, if you have given a ZTF-related talk in the past six months and you think that you have slides that might be useful, please can you send them to either Matthew (mjg@caltech.edu) or the communication coordinators (ztf.communication.coordinators@gmail.com). We'll put the collated stack on the Twiki.

News from working groups

Machine Learning: "We are continuing to make changes to the RB pipeline. Specifically, we are moving away from IPAC DB queries to queries from Kowalski making querying more reliable. (Umaa Rebbapragada, JPL). We continue to automate the process of discovering contaminated examples (Charlotte Ward, UMD). Sara has completed an analysis of features from newly-processed image subtractions of the Galactic Plane, and found some significant differences (Sara Frederick, UMD). We plan to look at completeness by comparing with matchfiles. ResNet50 is running on streaking asteroids providing an accuracy close to 95%. We are starting to think about implementation details. Last touches being put to Zooniverse before public release. Once it is public there will be inputs on many objects and we may need volunteers to keep an eye on anything interesting that pops up. During the beta phase we got close to 40K classifications. The usable fraction will be incorporated into RB analysis."

Physics of Supernovae and Relativistic Explosions: "The Supernovae and Relativistic Explosions group are looking forward to the camera being back online, but trying to secure light curve coverage with other resources such as SEDM for important targets we are following in the meantime. We are otherwise spending the downtime working on our first batch of science papers."

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

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 now standing in a mixture of cooling fluid, gasoline and cola" Adam Savage

Have a great and productive week!

Thomas and Maayane