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Newsletter #14, 26th of January 2018  
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**Last news from the front (Engineering and Data Quality status):**

- The exposure-time correction map has been completed but has not yet been implemented in the pipeline.
- The QA webpage has been updated to include a color-coded statistic if a flag has been raised by the pipeline. A text description of the flag is also incorporated.
- Photometry analysis is ongoing to tease out some minor systematics.
- Ghosting analysis is making good progress.
- Out-of-band light leakage analysis for the g-band is in progress (R-band is complete).

**European-friendly machine learning meetings**

The ML group are planning a bi-weekly telecon at an hour that suits the European and Israeli members, so that everybody can join! The meetings will be held alternatively at the time that will get selected and at 2 PM on Thursdays. **Please fill in the doodle that they have made available.**

<https://doodle.com/poll/yvt23xv2p99b797z>

**ZTF collaboration meeting registration**

The registration for our ZTF team meeting (Caltech, March 19-21, 2018) is now open! Please use the link below:

<https://goo.gl/forms/TCYa5rhFFdxv07rk2>

**News from working groups**

**Physics of Supernovae and Relativistic Explosions:** “The Supernova and Relativistic Explosions Group are very excited about the first supernova discoveries from ZTF! Five of the objects classified during the spectroscopy run for the ML-vetted candidates turned out to be Ia supernovae at redshifts 0.06-0.11. We now eagerly anticipate the start of survey operations and the deployment of the marshal, so that we can really get digging into ZTF data!”

**Cosmology with type Ia SNe:** “We have largely converged on a set of fields for the i-band survey that will allow us to get a good coverage of hundreds of SNe Ia including those in the high-cadence survey fields.”

**Solar system:**

-We are looking at some initial machine learning (ML) real-bogus results for the streaks. We achieve a pass rate of 2%, but still a significant number of residuals and ghosts pass the ML.

-z-mode is getting better: we managed to suppress the number of static "moving objects".

-We searched the commissioning data for the ephemeris positions of all comets brighter than V~20 mag and have identified 5000 images of 100 different comets. This data set includes images of CO+ ions at comet C/2016 R2 (PanSTARRS), the newly identified main belt comet 2000 XO8, and Deep Impact spacecraft flyby targets 9P/Tempel 1 and 103P/Hartley 2.

**Stellar:** We started planning for the Gaia DR2 release on April 25th. Continue discussion on the field selection for the Galactic Plane high-cadence survey. Discussed further evaluation of commissioning data on known RR Lyr lightcurves.

**Machine Learning group and zooniverse:**

- We recently had a follow-up run in which spectra were obtained (by Christoffer) for objects selected using the real-bogus discriminator in place right now. Several supernovae were discovered, and a few stellar objects too. We are checking for multiple detections to exclude asteroids, and to be more stringent, for now, we are also demanding that the time between the first and last detections should be at least 0.04 days.
- (1) The objects that were looked at (and some had to be skipped in an earlier run either because they were asteroids, or were too faint and not seen). The list of objects looked at and their RB scores can be used as a feedback to the original training/selections now.
- (2) Distance to a few objects within 30 arcsec will be reported soon, and that will help look for extragalactic objects with greater confidence.
- (3) The PS1 data for full SG separation is still being gathered.

**Reminders:**

- Science validation now with difference imaging! (see previous newsletters)
- Archive GUI now ready! The interactive image search, filtering and visualization tool is now ready (see previous newsletters).
- 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 to the wiki page: please email us at [ZTF.communication.coordinators@gmail.com](mailto:ZTF.communication.coordinators@gmail.com)

*"It's not pressure, it's excitement"* (Adam Burish)

Have a great and productive week!

Thomas and Maayane