

Newsletter #17, 16th of February 2018
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Last news from the front (Engineering and Data Quality status):

- So far the contamination looks to be gone; monitoring continues.
- Investigation of some transient artifacts is ongoing.

ZTF collaboration meeting: various topics

- The agenda is now ready and was sent by Lin Yan: ALL SPEAKERS -- please read the agenda and make sure you agree to the topic Lin has assigned to you. If you have any questions, please feel free to email her: lyan@caltech.edu.
- There will be one extra day at the ZTF meeting (Thursday, March 22) for a working group discussion on machine learning software. People from Berlin and UW will work with Matthew organizing this day's activities. If you are interested in participating, plan your travel accordingly.

News from working groups

Machine Learning group and zooniverse: ZTF has resumed observations, and there have been hundreds of thousands of alerts. All are being routed to the transient marshal now where some rudimentary filtering is done. Some candidates were chosen by human scanners in preparation for the Mon/Tue spectroscopy run, but we were weathered out.

During the scanning we have learnt about a few interesting things like distribution of rbscores for the alerts. The existing model was trained on a very biased data with relatively few bogus objects, so some low rbscores are not a surprise. The scanning is to now involve a way to mark bogus objects so that they can be included as such in the training. Some possible edge issues have also been noted. We have always said that some of the zooniverse experiments will have to include specific subsets like, say CCD X, or objects near the edge etc. The ongoing reactive mode has meant that that has not been possible yet. We keep adding new "subjects" to the zooniverse pages though, so help with classifying those will be useful.

The current setup is still real/bogus/skip, but we will be setting up separate workflows (not to replace the current one, but in addition to it), to understand some further subclassification."

Physics of Supernovae and Relativistic Explosions: "The supernova working group are combing through the alerts from the first half of the ZTF "test run" in survey mode! While the weather has been less than cooperating from Palomar, we are happy to report that we are both finding supernovae, and plenty of artifacts to feed back to the machine learning algorithms for further improvement. We have classified two young core-collapse supernovae with the Nordic Optical Telescope, and hope for some new real-time targets for an APO run on Saturday. Thanks to the marshal developers and everyone on the software side for their hard work in the last weeks!

We would also like to advertise that registration is now open for the conference "Shocking Supernovae: surrounding interactions and unusual events" to be held at Stockholm University May 28-June 1 2018.

Please see <http://www.astro.su.se/english/research/conferences/shocking-supernovae-surrounding-interactions-and-unusual-events-1.360793>. The deadline for abstract submission is March 15th.”

Stellar: “Last week we had an introduction to AMPEL by Jakob Nordin and discussed possible applications for the stellar working group. We continue to analyse the commissioning data and re-discovered a known eclipsing 12min binary with 19.5mag using high-cadence observations which is promising for the high-cadence survey of the Galactic Plane.”

Cosmology: "We have started fine tuning the AMPEL filters in order to find likely SN Ia candidates for follow-up."

EM/GW and neutrinos counterparts: “The group is working on 3 ToO proposals: GW follow-up, IceCube neutrino follow-up and follow-up of short GRBs detected by GBM. The ToO marshal is well tested with injected GCN alerts. Next step is to deployed it at Caltech”.

Help with Real-bogus training (Reminder):

The ML group continues to collect real-bogus classifications from volunteers. This is a very important task for the real-bogus training and we need as many participants as possible. So if you would like to have some fun clicking beautiful “reals” and “beautiful” boguses, please sign in and start the fun!

<https://www.zooniverse.org/projects/rswcit/ztf-rb-project>

Reminders:

- 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>
- 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)

“I have a good idea every two years. Give me the topic, I will give you the idea” (Fritz Zwicky)

Have a great and productive week!
Thomas and Maayane