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Newsletter #39, July 20th 2018

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

## Acknowledging SEDM in your publication

If your paper makes use of SEDM data then please do include a reference to the instrument paper http://adsabs.harvard.edu/abs/2018PASP..130c5003B

## Lightcurve GUI and Partnership matchfiles are available now

The lightcurve GUI to retrieve archival lightcurves is online now. The lightcurves are based on the matchfiles and hence on reference image coverage which will gradually improve.

\* go to: https://irsa.ipac.caltech.edu/Missions/ztf.html

\* login using your IRSA registered account at top right. You need to have access rights to ZTF. If you do not have this send a request to the ZTF communication coordinators

\* Click on "Catalog Search" icon.

\* select the ZTF Objects Table -- this enables you to query targets ingested from the matchfiles (reference image catalogs used to seed the matchfiles); you can filter on the collapsed-lightcurve metrics if needed; you can also upload a table of RA, Decs.

\* lightcurve metrics are returned with an overlay on a 2mass image (this will be replaced by the ztf ref image)

\* send all these objects to the Time Series tool by clicking on the "To Time Series tool" icon.

\* you will be presented with a list of all the object IDs from which you can either download all the lightcurves in one concatenated ascii table, OR, click on any objectID to send it to the Time Series viewer.

\* on the Time Series viewer, you will see a sliding window of epochal image cutouts and a "Period Finder..." icon. Click on this to phase the lightcurve using a set of trial periods. You can instead click on "Calculate periodogram..." to help find the period.

\* Documentation is at: <u>https://irsa.ipac.caltech.edu/onlinehelp/irsaviewer/#id=preoverview;</u> all this is shared with other projects.

\*\*\* A caveat at present is that large cone searches (>~ 5 arcmin) take a long-term to return lightcurves. This is being looked at.

In addition to the lightcurve GUI, the raw partnership only matchfiles are available too. If you would like to get access please send a request to the ZTF communication coordinators. Documentation on the matchfiles can be found in the data system document linked from: <u>https://www.ztf.caltech.edu/page/technical (from the linked PDF, see Appendix C, page 92)</u>.

We would like to emphasis, that besides the matchfiles and associated documentation no additional support can be provided and we encourage the partnership to use the lightcurve GUI to retrieve archival lightcurves.

# Last chance to have an impact on the collaboration meeting agenda!

To help the organisers manage the discussion on the most important topics, please let us know if you have the answer to/have been investigating already one of the above questions, and if there are other important subjects you find particularly important to discuss:

1. What is the RB distribution of transients saved by scanners. Where can we put the Cut?

2. How good is the Photometry? Comparisons to other pipelines or other surveys, for different magnitudes slots.

3. How complete are we? Do we find all/some/most of the SNe reported in ATELs?

# News from working groups

Galactic Science/M31: "The Galactic science/M31 working group has developed a M31 filter. At this point it is purely selecting on the fieldID of M31 and M33 but we are planning to include more selection criteria as it goes along. Please contact Thomas Kupfer (<u>tkupfer@ucsb.edu</u>) if you are interested to join the science group on the GROWTH Marshal.

We continue our efforts of period analysis and quality testing of the matchfiles. Some inner Plane regions have between 100k - 150k stars per quadrant. We have also decided on a strategy and field selection for the upcoming high-cadence Galactic Plane survey."

**AGNs and TDEs:** "The ZTFbh SWG is continuing daily scanning, although we are hoping to transfer over to automated saving to the Marshal from our AMPEL channels. We are finding double stars in our scanning pages, but are able to remove them using Gaia matches in our AMPEL filters. We have several systems to rank TDE candidates from our saved alerts on the GROWTH Marshal. Our DCT run was clouded out this week, so we have no new classifications. However, we are continuing our ranking of candidates, and expect to have even better candidates to follow-up for the next run. Tiara Hung successfully defended her thesis at the University of Maryland, and is off to a postdoc at UC Santa Cruz!"

**Multimessenger:** "We followed up on a short GRB detected by Fermi-GBM and covered most of the 50% error circle. NSF had a press conference to present the first compelling identification of a neutrino counterpart: a flaring blazar. We are making progress in implementing a realtime search for optical counterparts to IceCube neutrinos with ZTF using AMPEL."

**SNIa cosmology:** "We continue to collect the lightcurve data of the SNe Ia that we have found so there and assess their quality. Currently this is only using the marshal but ultimately we are planning to make more use of AMPEL for that. Some of the software developed for that (e.g. to download lightcurves and spectra from the marshal) may be of interest beyond our group, though"

**Solar system** "The ZTF discoveries of Near-Earth Asteroids 2018 NX and 2018 NW (announced in last week's newsletter) got a lot of media attention due to their close distance to the Earth: e.g.

<u>https://www.newsweek.com/asteroids-slipped-past-earth-undetected-1020103</u> Regrettably the authors did not contact us and ZTF wasn't explicitly mentioned. This was discussed on our biweekly telecon, and it has been suggested that we should consider issue a press release when something newsworthy happens. We found another NEA last week: 2018 NP4. Our total number of NEA discoveries is now 16."

# Reminder: Low Galactic latitude Zooniverse campaign is on (HELP needed):

Richard Walters has set up a low Galactic latitude campaign so that the training sample there can be improved, Please classify!:

#### https://zooniverse.org/projects/rswcit/ztf-rb-project/

This is still an internal (to ZTF) campaign. We have not had time to change the tutorial, so ignore the extragalactic examples there.

Constraints used (in addition to Frank's stringent MSIP cuts) are:

|b| < 10, Mix of RB scores:

~500 with RB < 0.2 (should be really bogus)

~500 with RB > 0.8 (should be really real)

~3000 with RB between 0.3 and 0.65) (this is where we need more discrimination)

## 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 <u>twiki</u>. 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: <u>ztf.communication.coordinators@gmail.com</u>

-Archive GUI now ready! The interactive image search, filtering and visualization tool is now ready ().

- The **ZTF Twitter account** is now active! <u>https://twitter.com/ztfsurvey</u> Re-tweet @ztfsurvey!

- To use the **url shortener** (e.g. during telecons, talks, in emails), navigate to <u>http://zwicky.tf/shorten</u> (username: ztf password:16chips) and type in the URL you want shortened.

- The **Wiki page** is active! Check it out at <u>http://zwicky.tf/wiki</u>. To request access, please email us at <u>ZTF.communication.coordinators@gmail.com</u>



The group picture of the first ZTF summer school

*"I was thinking that we all learn by experience. But some of us have to go to summer school"* (Peter De Vries)

Have a great and productive week! Thomas and Maayane