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Newsletter #128, May 20th 2020

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**If the newsletter does not look good in your email, check the pdf [here!](#) NOTE: This newsletter has a GIF that could be appreciated only in the email below.**

### **News from the front: engineering update (Roger Smith)**

The Data Quality Working Group continues to meet at 8:30 am PST each Friday. Following the recent deployment of the fix for crosstalk there are no CCD performance “fixes” currently under investigation so the focus moves to calibration improvement. Topics being currently worked on include:

- Filterless flats
- Color Balancing of LED Flats
- PSF Modelling improvements

Issues of potential future discussion:

- Charge diffusion modeling
- Spectroscopic calibration using tuned laser illumination of current screen (one time calibration)
- Filter transmission calibration (Collimated Beam Projector, as for LSST)
- Pinhole imaging for scattered light
- Proposal for comprehensive campaign (by IN2P3) to achieve millimag photometric accuracy

### **Information on ZTF Data Release 3**

By popular demand here are some details on the upcoming release of ZTF data DR3:

Release date/time: June 24, 2020, 0:00 hrs UTC

Public survey observation span: 2018-03-17 --- 2019-12-31

Partnership and Caltech-time surveys observation span: 2018-03-17 --- 2018-12-31

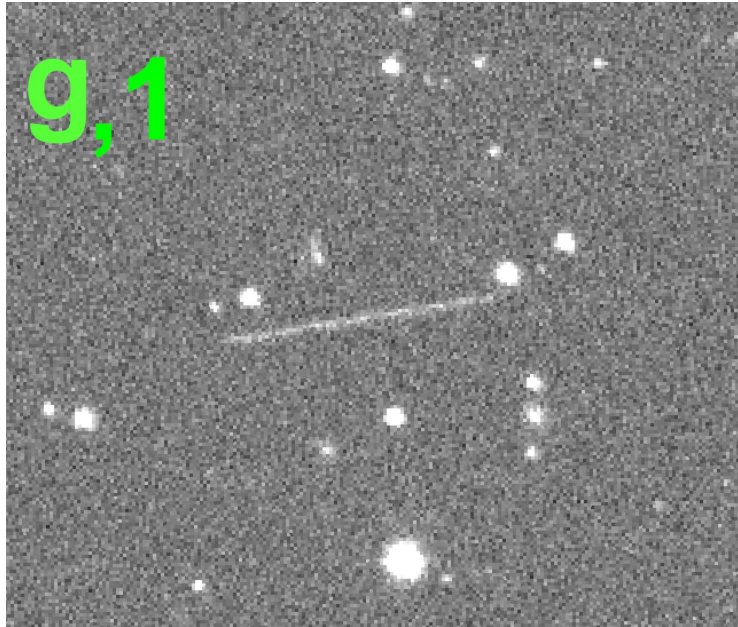
Link to DR3 documentation with access instructions and examples will appear around June 5 at

<https://www.ztf.caltech.edu>.

### **News from working groups:**

**Solar System:** “We discovered a streaking asteroid today in the ZUDS SuperCombo fields, called [2020 KW](#). This asteroid is ~10 m in size and comes within the orbit of the moon relative to the Earth at a

relative velocity of 6.5 km/s. We were able to use four 30 s exposures in the sequence g/r/r/g, to observe the asteroid in images as shown in the .gif movie below.



The cadence of the SuperCombo fields enabled us to observe the asteroid over a ~4 h time period making recovery much easier. At the time of the submission of the observations to the Minor Planet Center, the sky plane uncertainty region was <math><1'</math> wide, making recovery observations very easy for follow-up observers in Europe who recovered it in hours.”

**Physics of supernovae and relativistic explosions:** “Christoffer Fremling and Dan Perley presented the public-facing [website of the ZTF Bright Transient Survey](#). The aim is to inform the general transient community about this survey and report recent transient detections and classifications. This website has a nifty tool called the [Sample Explorer](#) that allows the public to cut the BTS sample based on simple selection criteria, e.g., type, redshift, location, peak mag, etc. No other transient survey offers a similar tool! This is not only valuable for the public, but also offers ZTF to reach out to the general SN community and allows the general SN community to interact with BTS. If you have comments about this tool, please contact Dan and Christoffer.

Kaew Tinyanont presented the first results on NIR specpol of four nearby SNe. He used the newly commissioned low-resolution spectropolarimetry mode of the WIRC instrument at the P200 telescope (see [paper](#)). The NIR is less affected by dust scattering and, hence, polarisation from the ISM; however, existing instrumentation had either too high resolution or was mounted on too small telescopes limiting the useful magnitude range. The high-throughput design of WIRC+pol allows targeting SNe as faint as

J~14.5. One of Kaew's targets was the SN1987A-like SN 2018hna. He showed that SN2018hna was similar to 87A but seen more inclined. A paper about this object and the other three SNe is forthcoming.“

### **The papers corner:**

- The paper by **Chow-Choong Ngeow et al.** from the Stellar Science working group, "[A Search for Extra-Tidal RR Lyrae in the Globular Cluster NGC 5024 and NGC 5053](#)", has been accepted for publication by AJ.
- The paper by **Igor Andreoni et al.** "[Zwicky Transient Facility constraints on the optical emission from the nearby repeating FRB 180916.J0158+65](#)" has been accepted for publication in ApJL.

Please keep us updated about your submitted/published papers, they will be advertised here.

Please send Joy Painter, the Astronomy Librarian at Caltech, links to papers as soon as they are published. They will be kept track of [here](#).

### **Reminders:**

- PublicAlerts: There is a [link](#) to the alerts archive on the [website](#)!
- Please help us keep 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](mailto: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](mailto:ZTF.communication.coordinators@gmail.com)

*“What we observe is not nature itself, but nature exposed to our method of questioning.”*

Werner Heisenberg

Have a great and productive week!

Igor and Erik

