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Newsletter #142 October 7th 2020

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News from working groups

Galactic and M31 Science: “We have accumulated 150 epochs in i-band for all the Galactic Plane fields. Work is continuing on the classification of variable objects; we are diving deeper into a representative set of fields to better understand the shortcomings of the current classification pipeline. There is a paper on the new 8 minute dWD binary on the Twiki, it will be submitted soon.”

Solar System: “We submitted a new paper last week (see paper corner) where we identify 5 mini-outbursts (total mass ejecta up to $\sim 10^6$ kg) in a year-long lightcurve of comet 46P/Wirtanen. We propose that the mini-outburst rate is related to the amount of cliffs, scarps, and similar topographical features on the nucleus, and that this comet is in an advanced evolutionary state (i.e., eroded topography) with respect to the younger comet 67P/Churyumov-Gerasimenko.”

Machine Learning: “Work has started on the classifications for the full sky. We will use DR2 data and the models used for the 20-fields paper. A very positive referee report is in hand for the 20-field paper and will be sent back soon. The period-finding paper (Coughlin et al.) has been accepted. Work on various Zooniverse projects continues and they are in different stages. Zwicky's Quirky Transients continues to run, while the variability one should go through beta-testing soon. The one with spectra will follow. We are now also starting to classify BTS sources using light curves and other metadata.”

Multimessenger: “ We received yet another high-energy neutrino alert (IC200929A) and observed the region with ZTF, but no counterpart candidate was detected.”

Physics of supernovae and relativistic explosions: “Avishay presented a draft about an extraordinary infant SN. The spectrum shows unusual flash features from highly ionised C, Ne, O but no He and H. Furthermore, the flash features show p-Cygni profiles. The chemical composition and wind velocities of 1500-2000 km/s are similar to that of known WR stars. Intriguingly, this SN evolved into some sort of a Ic SN interacting with a H and He-deficient material, i.e., a Icn SN. This could hence be the first observational evidence of a WR star going SN and a WR star being the progenitor of a Ic SN.”

The papers corner:

- From the Solar System group: Kelley et al., "Quintet of Outburst of Comet 46P/Wirtanen", submitted to The Planetary Science Journal.

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
- **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

"Talk is cheap. Show me the code." - Linus Torvalds

Have a good and productive week!

Erik and Igor