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Newsletter #162 March 31st 2021

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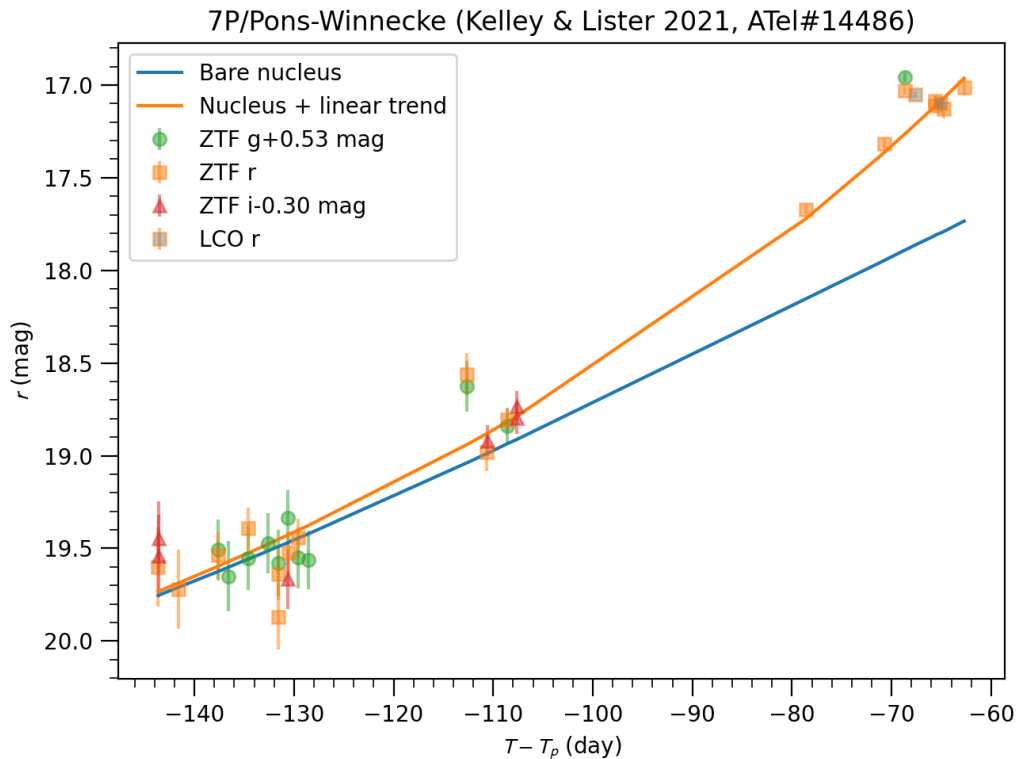
**ZTF public newsletter (Ivona Kostadinova):**

The first issue of the ZTF public newsletter, Cosmic Newsflash, is scheduled to come out sometime in April 1-15. The newsletter is designed to inform the large astronomy community about public data releases, present science highlights from ZTF, announce student opportunities and other outreach activities and more. Anyone interested to receive the newsletter can sign up at <https://www.ztf.caltech.edu/page/ztf-newsletter>. Team members don't need to sign up!

**News from working groups**

**Solar System:**

“On March 19, we discovered a small, -0.2 mag, outburst of comet 7P/Pons-Winnecke. Follow-up data from Las Cumbres Observatory confirmed the event. Upon review of the previous ZTF data, another small outburst was detected on a single night in February (-0.4 mag, 3-sigma confidence). These were announced in [ATel #14486](#):



Also, our paper on episodically active asteroid (6478) Gault, "[Time-series and Phasecurve Photometry of Episodically-Active Asteroid \(6478\) Gault in a Quiescent State Using APO, GROWTH, P200 and ZTF](#)", has been accepted for publication in the Astrophysical Journal Letters. The paper presents observations from a wide range of facilities including ZTF that constrain the asteroid's shape and rotation period. We find that the asteroid likely has a top-shape appearance like asteroids Ryugu or Bennu with a rotation period of ~2.5 h, near its critical rotation period suggesting that the periodic activity of the asteroid is due to the shedding of material from its surface."

#### **AGNs and TDEs:**

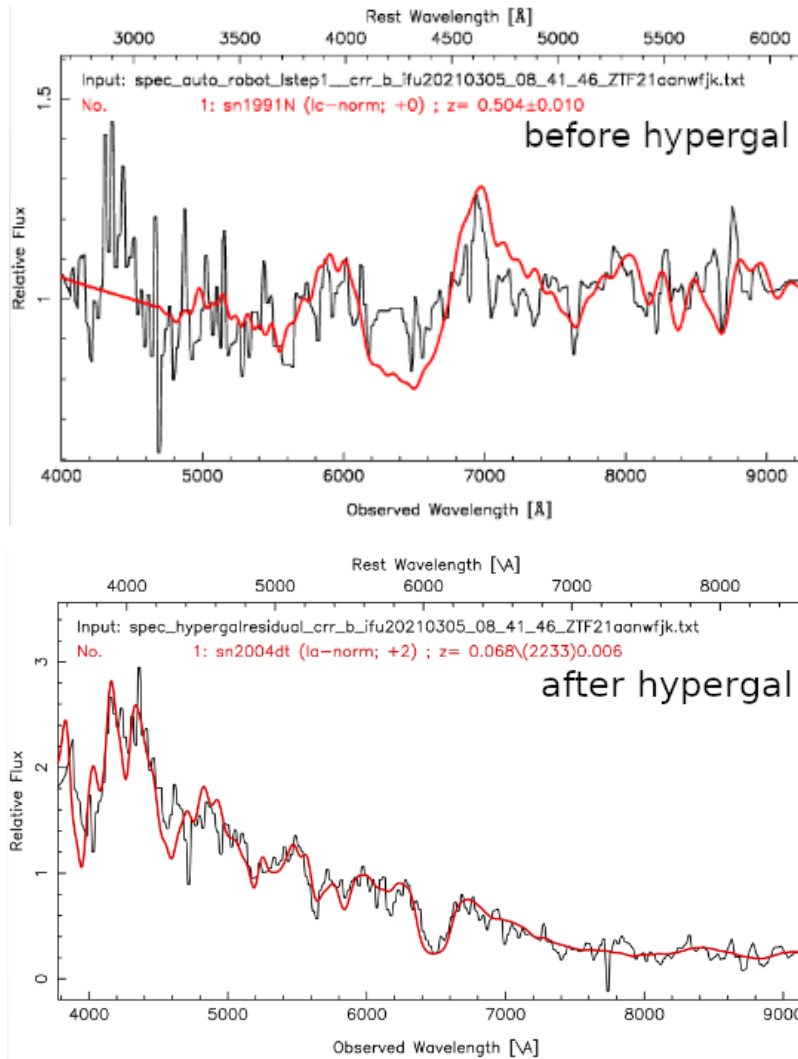
"There are two types of TDEs: those which are X-ray bright and those which are optically bright. Our most recently confirmed tidal disruption event (TDE), [ZTF20acyydkh](#), was first detected in ZTF on 2020 Dec 20. We triggered post-peak follow-up observations with Swift on 2021 Mar 03, which indicate that the transient is bright in the UV and X-ray detected with XRT. This makes it one of only 10 ZTF TDEs (out of 34 total) detected in the X-rays. We are continuing to monitor with Swift to determine the X-ray evolution of this source. More information on the UV and X-ray observations can be found in this [AstroNote](#)."

#### **Cosmology with SNe Ia:**

"The SNIa group mostly focused on the joys of 'samples' last week. On the weekly phone-con, Suhail brought us up to speed with ongoing efforts with the Y1 spec\_z sample, comprising 200 SN: the data selection is finalised; the plots are made, it's just a case of finding the right story. Hopefully that paper should be on your desk soon! On the other side of the coin, Mickael showed off ongoing efforts with calibration: and in particular trying to model the PSF. This is the main necessity between the SNIa group and a meaningful long term cosmological result: utilising the full 5000 SNe, so it needs to be right; the good news is that it works! The missing piece is the medium term: how to pull together a first cosmology ZTF cosmological analysis that utilises the first ~2000 ZTF SNe. Jakob brought everyone up to speed with the path toward this: just three 'small' steps - the key is piecing them together. This is a discussion that's rolling into this week's phone-con, so come join us @ 2pm Europe if you have thoughts, opinions or time! Alternatively check out the Twiki for notes and details!"

#### **Physics of supernovae and relativistic explosions:**

"Jeremy presented the hypergal code which provides improved host subtraction for SEDM spectra by fitting the host galaxy's SED in each SEDM pixel using PanSTARRS data (see comparison below). His pipeline is fully automated and will be very useful for the working group!"



### Galactic and M31 science:

“The working group has started to use Fritz filters to identify different kinds of variable stars, e.g. outbursting CVs and stars that show long dimming events.

We are ready to submit two papers regarding cataclysmic variables. The first is the CV sample from year 2 by Paula Szkody. A second paper by Jan van Roestel focuses on the identification of rare AM CVn systems (CVs with a He-donor). Both papers can already be found on the Twiki.”

### 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 communication coordinator Ivona Kostadinova: [ivonata@astro.caltech.edu](mailto:ivonata@astro.caltech.edu)
- The **ZTF Twitter account** is now active! <https://twitter.com/zfssurvey> Re-tweet @zfssurvey!
- 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 Ivona Kostadinova at [ivonata@astro.caltech.edu](mailto:ivonata@astro.caltech.edu)

*“All science is either physics or stamp collecting”*

*- Ernest Rutherford*

Have a good and productive week!

Erik and Igor