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Newsletter #159 March 10th 2021

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New ZTF communication and program coordinator (Ivona Kostadinova)

Hi, everyone. I'm Ivona and I'm quite excited to be part of ZTF as your new communications and program coordinator. I guess having worked for the GROWTH project for the last 5 years, I really didn't want to say goodbye to many of you :).

As part of our outreach activities, we'll be posting a public newsletter which will be synced with the public data releases. You should expect our first issue at the end of March/beginning of April. I'm also hoping that many of you will join and contribute to a new initiative I call "**cool facts about ZTF**". The idea is to post weekly a "cool fact" about the science, technology, data or operations of ZTF to [Twitter](#)/our website. Sign up to the #ztf-cool-facts channel on the ztfgeneral slack to learn more and join the conversation.

NEW!! ZTF Cool Fact (by Roger Smith)

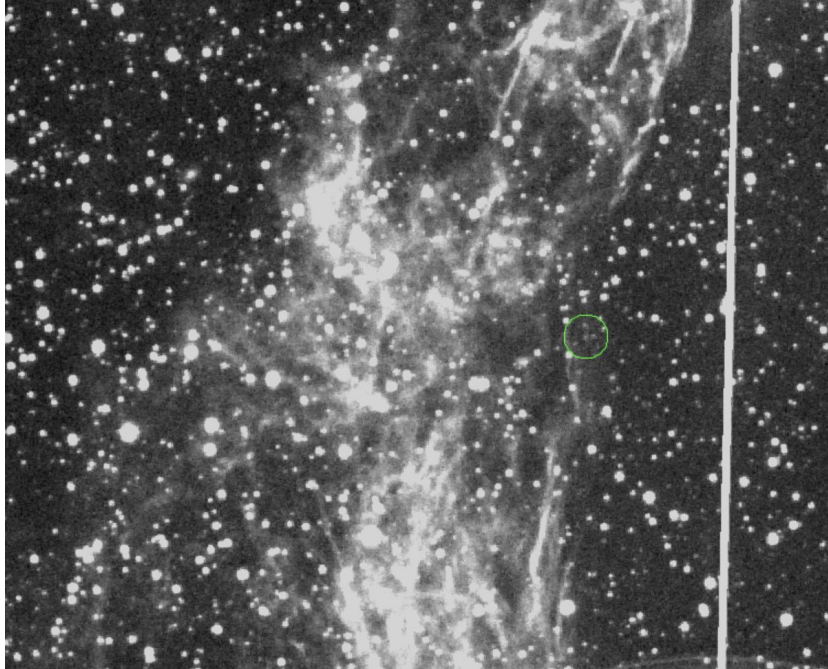
ZTF's focal plane is so big that the shutter blades would obstruct much of the beam, so the shutter is instead at the entrance to the telescope (thus 1.35m aperture). It opens in just 340 ms and applies only a few grams reaction force on the telescope.

News from working groups

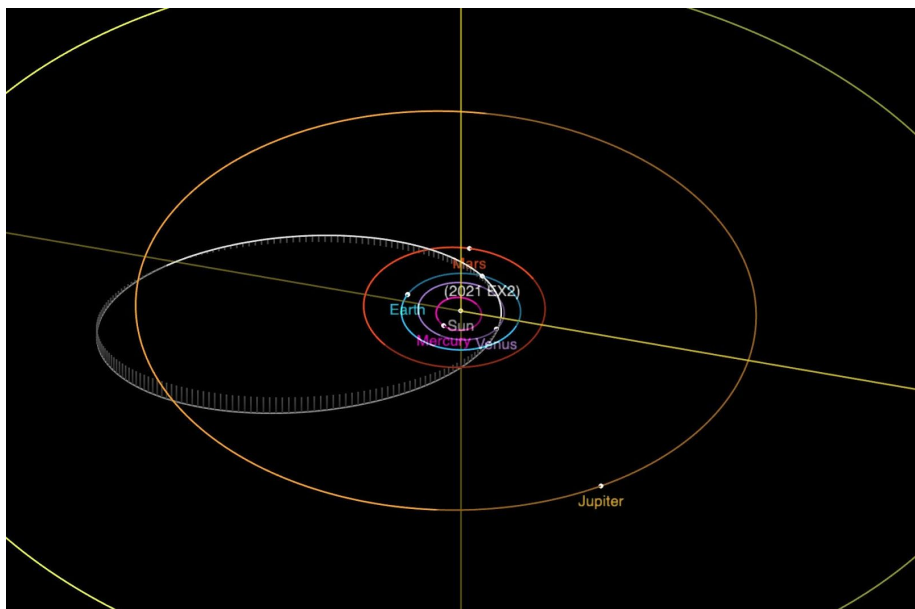
Solar System:

"Last week the ATLAS survey reported an outburst of comet 141P/Machholz 2, occurring between 2021 Feb 23 and Mar 3 (CBET 4940). ZTF had observed it during this period, including an image of the comet in quiescence on Mar 2, ultimately providing a 24-hr window for the outburst timing. The ZTF photometry and Lowell Discovery Telescope data taken Mar 3 together indicate an outburst strength of -3.5 mag in the r-band (CBET 4940). The comet was discovered in 1994 with three companion fragments, and we'll be watching it over the next few weeks to see if any fragments were produced in this most recent outburst.

We also have a number of Twilight survey candidates on the NEO confirmation page that are in the process of being confirmed. One of them, ZTF0Kij, was seen next to the Veil Nebular in the attached movie below:



Finally, we discovered 1+ km near-Earth asteroid 2021 EX2 = ZTF0KhP (Mar. 10.16 UT) [see MPEC 2021-E94], with help from Prof. Varun Bhalerao and his student Kritti Sharma who followed this object with the GROWTH India Telescope that helped with the discovery. It was found in our morning Twilight survey and is one of the few remaining km-scale NEAs left to be undiscovered. A diagram of its orbit is below:



Cosmology with SNe Ia:

“Last week Jeremy Lezmy presented « hypergal » the code that automatically removes host light from the SEDm IFU data using input from PanStarrs grizy images. Mat presented the DEBASS project, an

accepted project from DES that aims at following up nearby SNeIa detected and typed by ZTF and other surveys. The Cosmology group discussed quite a lot about this project as it could be a direct concurrent using data we publicly provide. We regret the lack of recognition for the important effort we, the ZTF group, are doing for delivering this dataset to the community. Joel presented a very interesting SNeIa, ZTF21aasiqk, that happened to be close to the galactic plane and could be used to measure the light of sight MW extinction.

Next week we will hear about CCD-thickness and its impact on photometric calibration, TARDIS Ia spectra modelling and update on ongoing proposal, incl. HST; so join us on our weekly Telecon.”

Physics of supernovae and relativistic explosions:

“This week members of the Type Ia group updated us about some of the SN science projects that they are working on: Jakob is systematically triggering u-band photometry for very young SNe, including CCSNe, to test different Type Ia models. Rahul can constrain systematic uncertainties in Ia cosmology by comparing two Type Ia SNe in the same galaxy. And Kate is working on the underluminous Ia SN2020udy, likely an incomplete explosion of a Chandrasekhar-mass star. We'll stay in close contact with the Ia working group to hear updates on these and other exciting projects!”

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
- 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

“The farther the experiment is from theory, the closer it is to the Nobel Prize.”

- Irene Joliot-Curie

Have a good and productive week!

Erik and Igor

