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Newsletter #166 April 28th 2021

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News from working groups

Cosmology with SNe Ia:

“Last week the SNeIa group focussed on selection: how are objects selected, how can we model this and what are the implications for cosmology. Most of the heavy lifting for this is done by AMPEL, which filters alerts to candidates. Jakob N talked us through the 3 selection algorithms used, their reliability in identifying candidates, and the fraction of candidates rejected. The good news is that all viable candidates are pushed to Fritz; giving us a handle on how many Ia’s there truly are! The next step is modelling; comparing the effect of various selection criteria, and seeing how the distributions compare to those expected. This is simulation territory, so plenty more of that to come, but this week is all about light relief: come join us for the fun of lensing and the quality of redshifts :).”

Physics of supernovae and relativistic explosions:

“I do studies core-collapse SNe that explode in elliptical galaxies which don't undergo star formation anymore and therefore shouldn't contain any massive stars. ZTF has so far detected two SNe II and a Type Ic SN in (or near) such hosts, corresponding to ~1% of all CCSNe. The SN Ic is located near a star-forming region in the elliptical host, so residual star formation could also be an explanation for the other SNe or their hosts could be undetected, ultra-diffuse dwarf galaxies.

Christoffer's [SNIa-score classifier](#) now reports obvious SNe Ia to the Transient Name Server (about 5 classifications per night). This happens within minutes of the SEDM observation and doesn't require any human intervention.“

TDE

The size of the TDE working group, with the addition of Marek Kowalski and Humboldt University graduate student, Mr. Jannis Necker, now stands at 18. Dr. Georgii Khozurnzhe of IKI, Moscow, regularly attends the weekly SWG meetings. This week we received a two dozen strong list of TDE candidates arising from eRASS3 survey of SRG. The TDE group did very well at the NuSTAR competition: graduate Yuhan Yao won two TOO follow up triggers for SRG selected TDEs and graduate student Jean Somalwar won one follow up trigger for ZTF selected TDEs in an AGN. Finally, graduate student Yuhan Yao passed her Caltech "candidacy exam". It is expected that she will graduate by summer of 2023. Finally, it appears

the morale in the team is high with team appreciates the gentle and wise leadership provided by the team leader.

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
- 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 Ivona Kostadinova at ivonata@astro.caltech.edu

"It doesn't stop being magic just because you know how it works."

- Terry Pratchett

Have a good and productive week!

Erik and Igor