

# Caltech



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# SEDM operations

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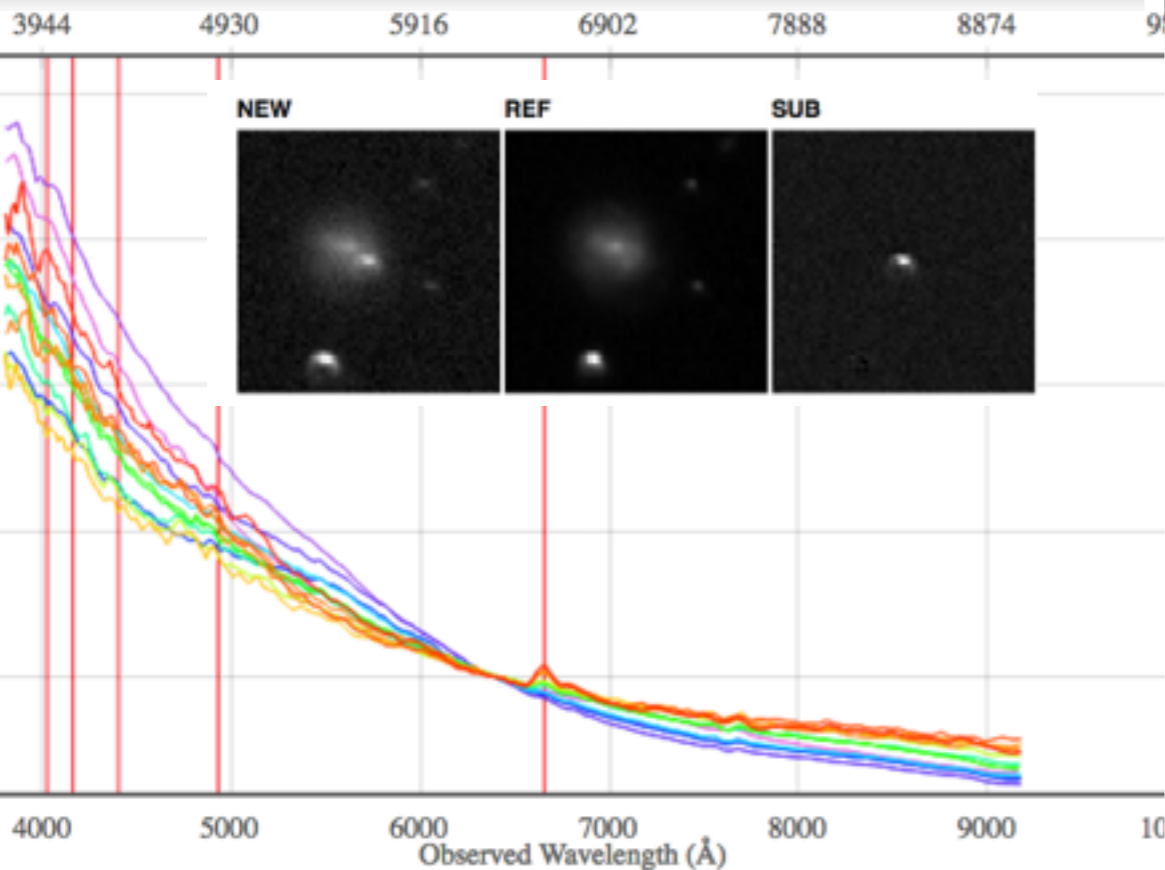
Nadia Blagorodnova

with Don Neill, Richard Walters, and Alison Dugas



# AT2018cow

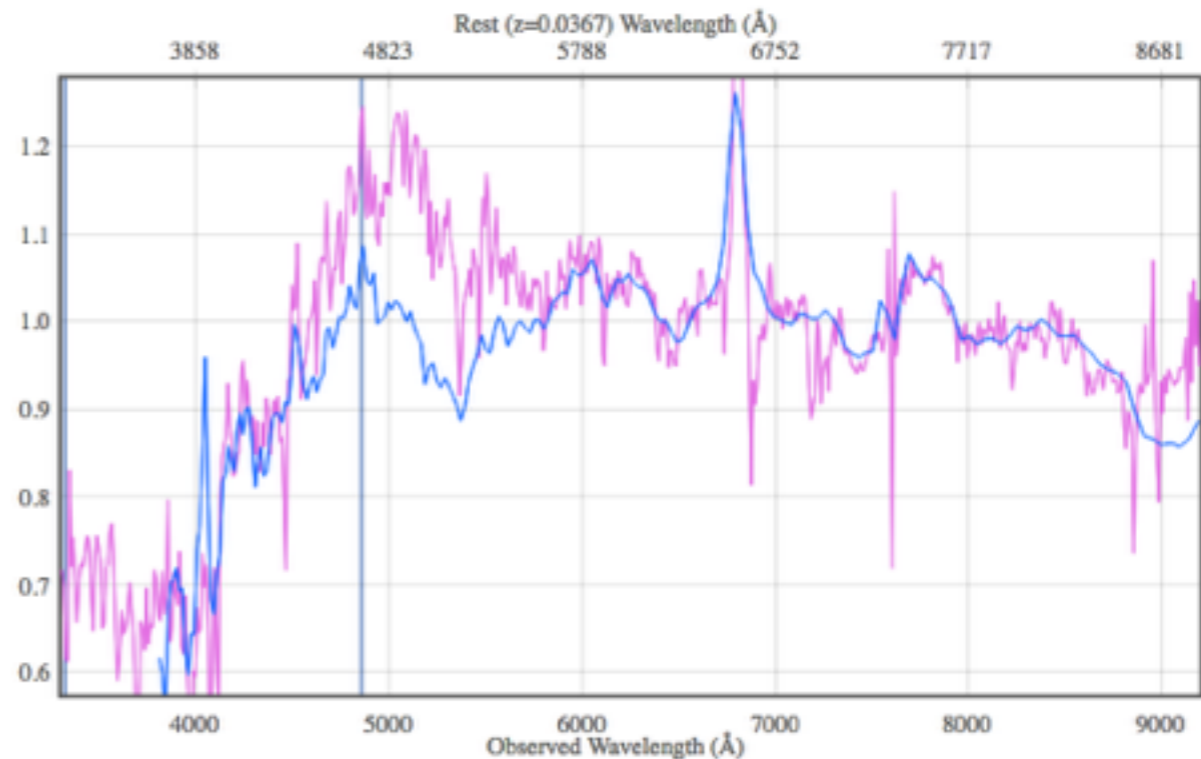
16:16:00.22 +22:10  
244.000928 +22.268009  
Note: 0.1" from ZTF18abcfcc



# ZTF18aajupnt TDE

15:33:08.01 +44:535  
233.283396 +44.535

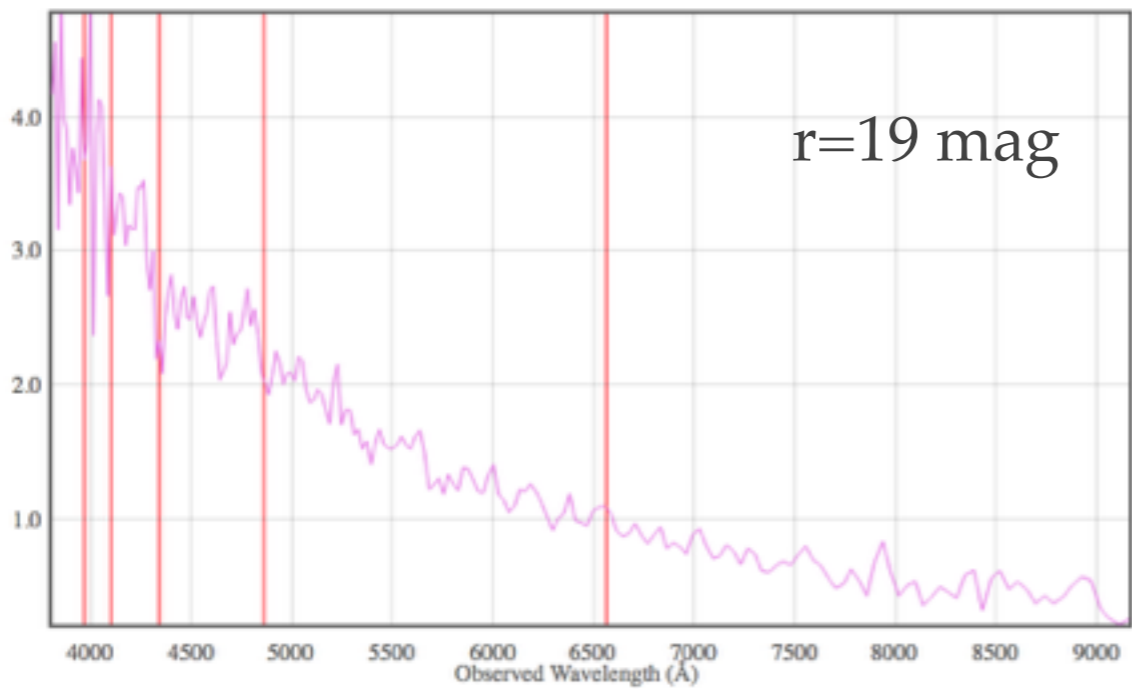
OVERVIEW PHOTOMETRY SPECTROSCOPY OBSERVABILITY



# ZTF18aazhkf CV

14:11:06.04 +12:3814  
212.775168 +12.3814

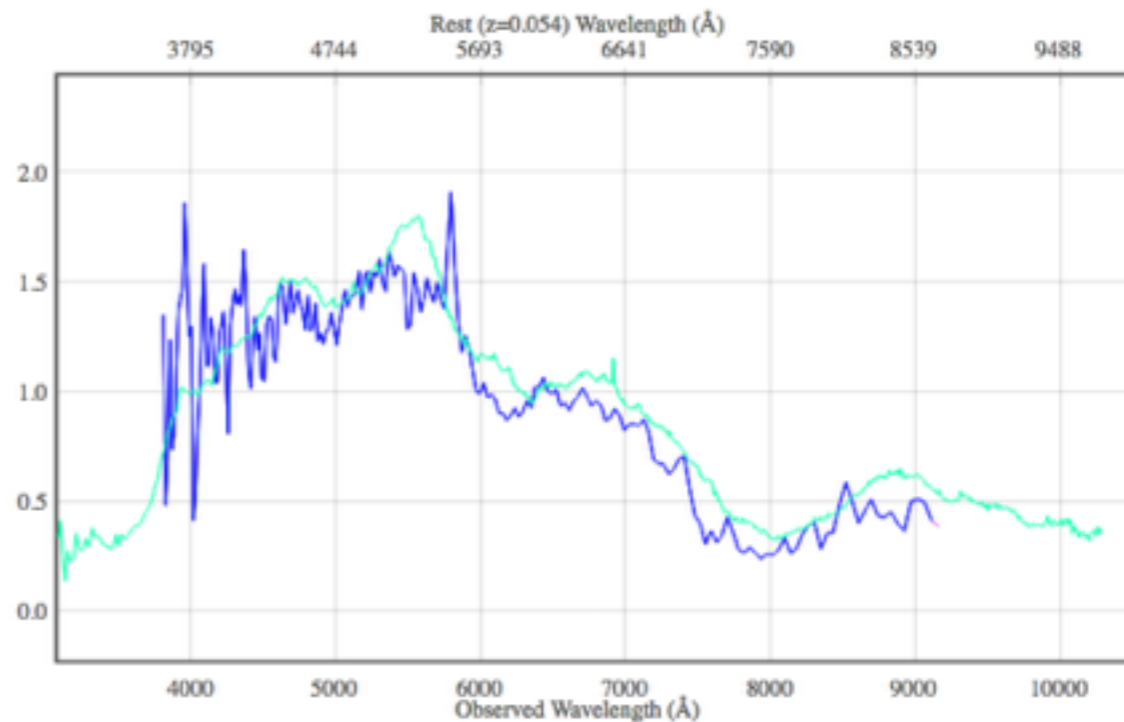
OVERVIEW PHOTOMETRY SPECTROSCOPY OBSERVABILITY



# ZTF18aaqjovh SN Ic-BL

11:52:4  
178.18175

OVERVIEW PHOTOMETRY SPECTROSCOPY OBSERVABILITY





# ZTF18abeajml SN II

16:48:07.76 +24:18:14.8  
252.032350 +24.304109

OVERVIEW

PHOTOMETRY

SPECTROSCOPY

OBSERVABILITY

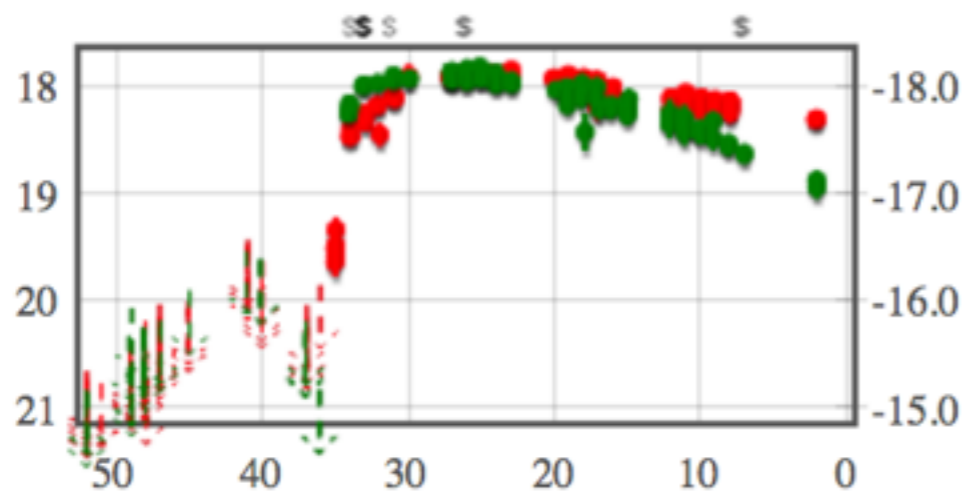
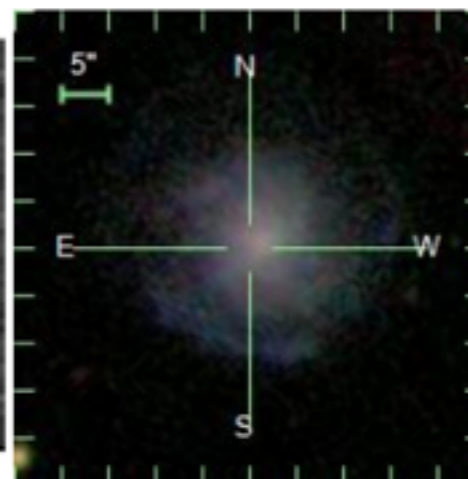
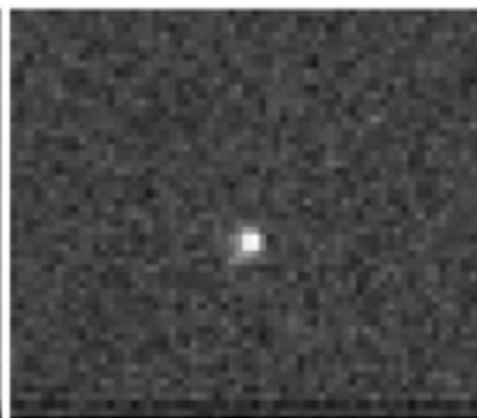
NEW

REF

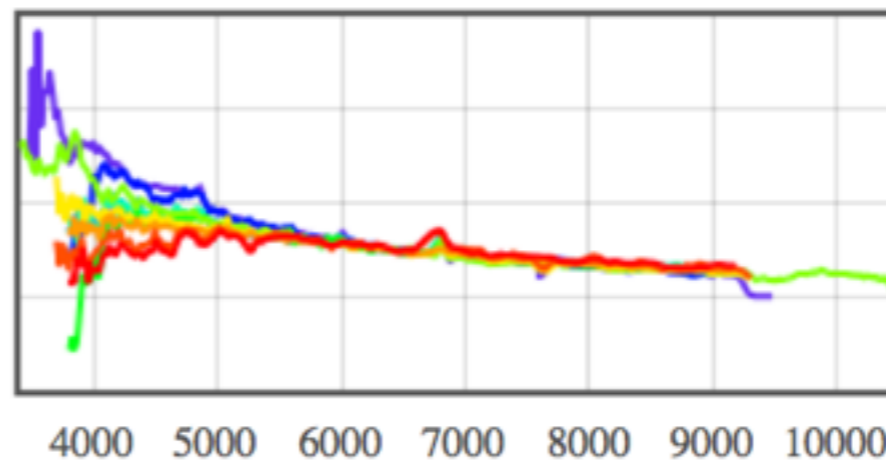
SUB

SDSS

PS1



$r = 18.3$  (2.1 d) | Upload New Photometry



$z = 0.03651$  | Upload New Spectroscopy  
DM (approximate) = 35.97



# ZTF18abeajml SN II

16:48:07.76 +24:18:14.8  
252.032350 +24.304109

OVERVIEW

PHOTOMETRY

SPECTROSCOPY

OBSERVABILITY

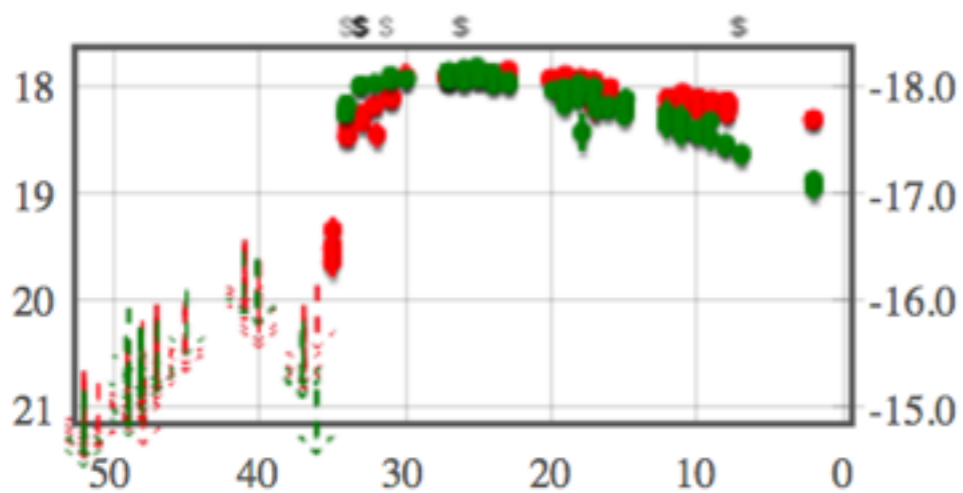
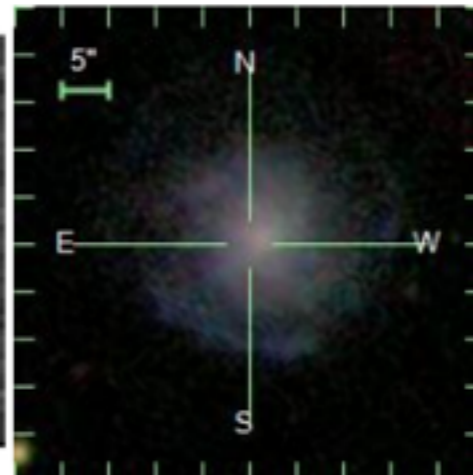
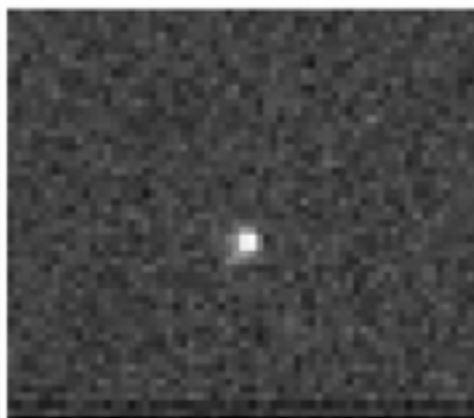
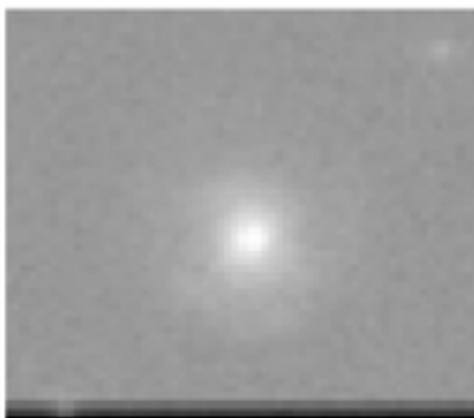
NEW

REF

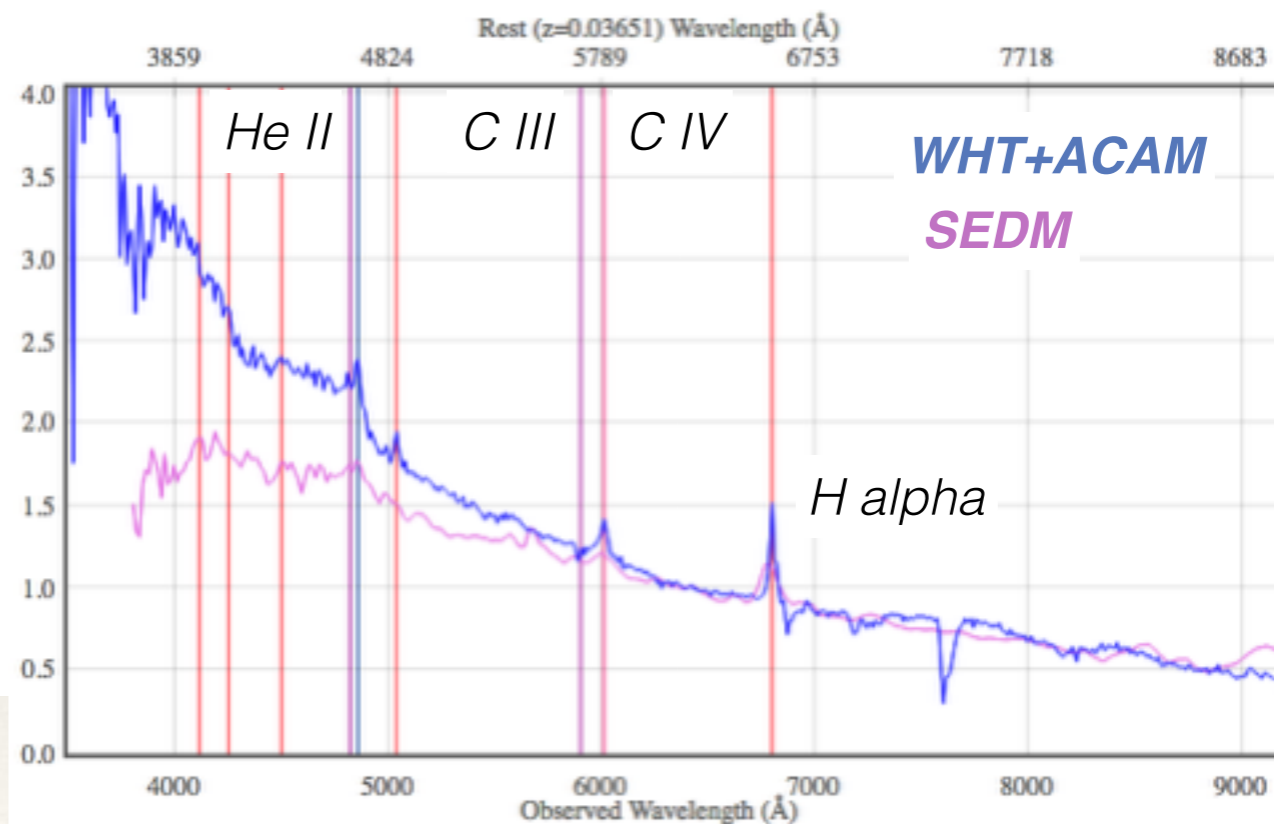
SUB

SDSS

PS1



r = 18.3 (2.1 d) | Upload New Photometry

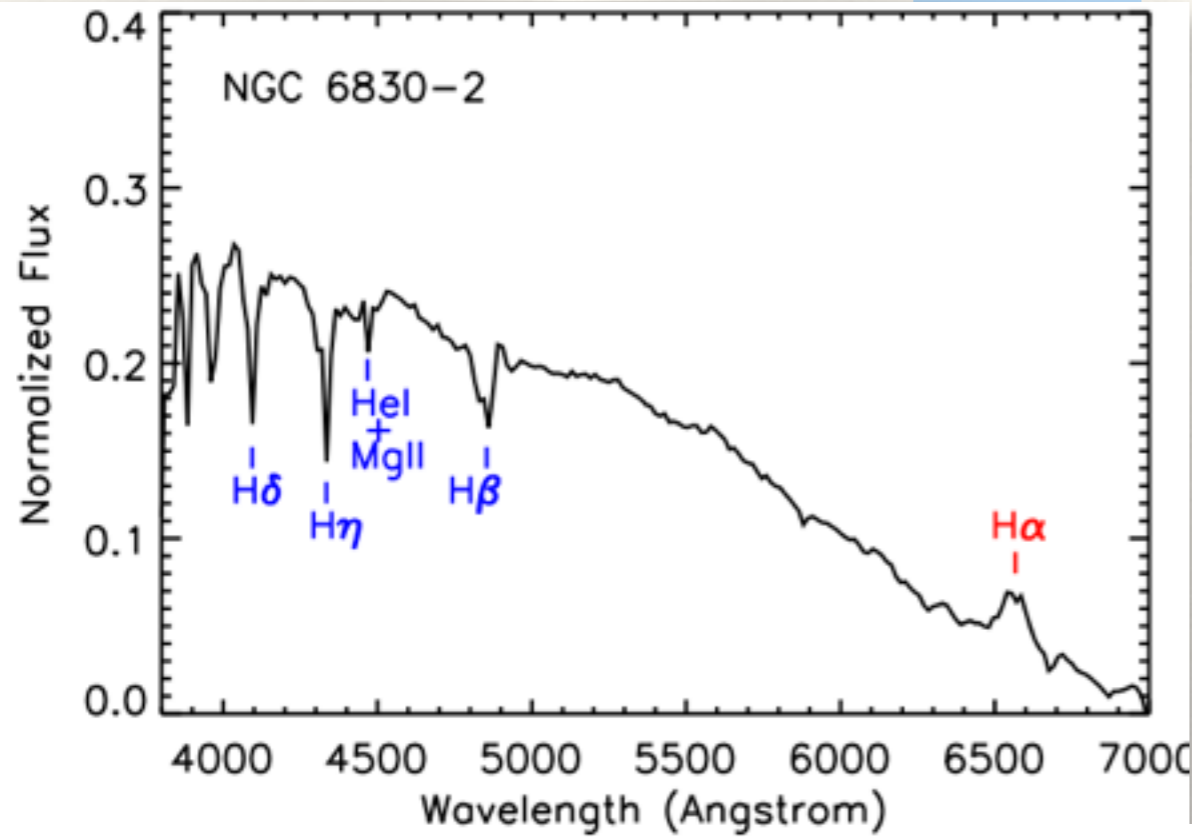


Flash spectroscopy!

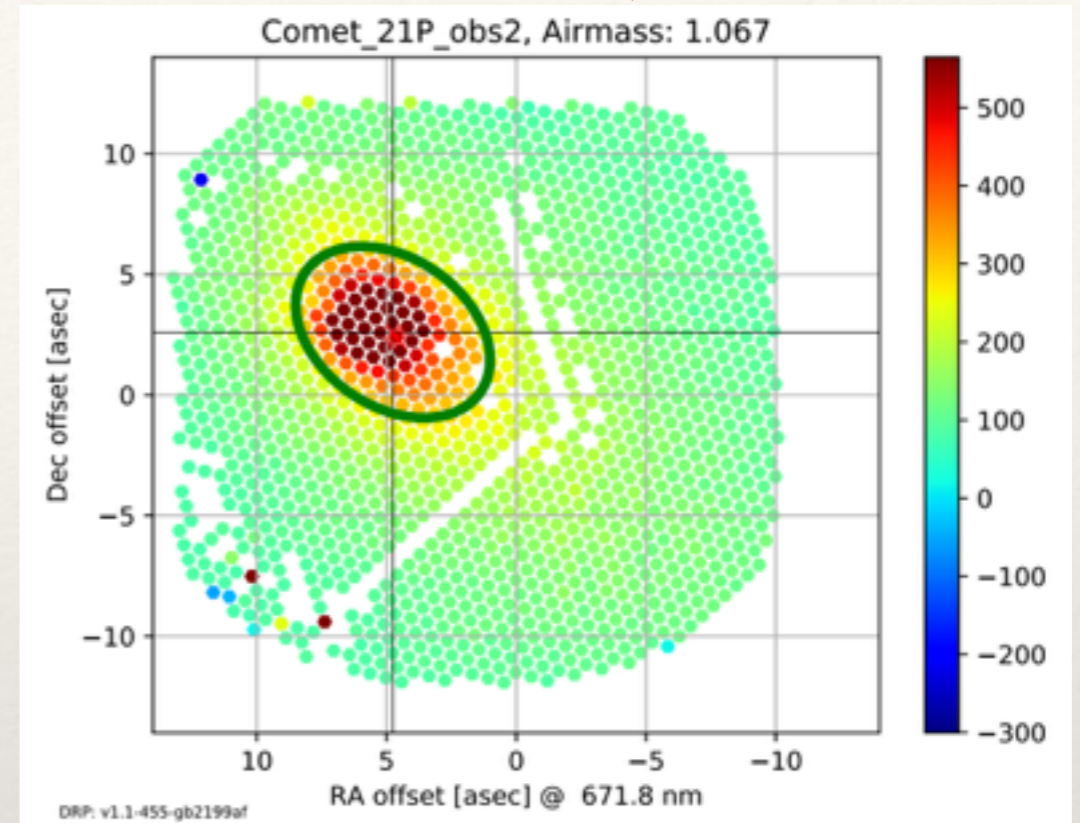
# Non-ZTF projects

Be stars

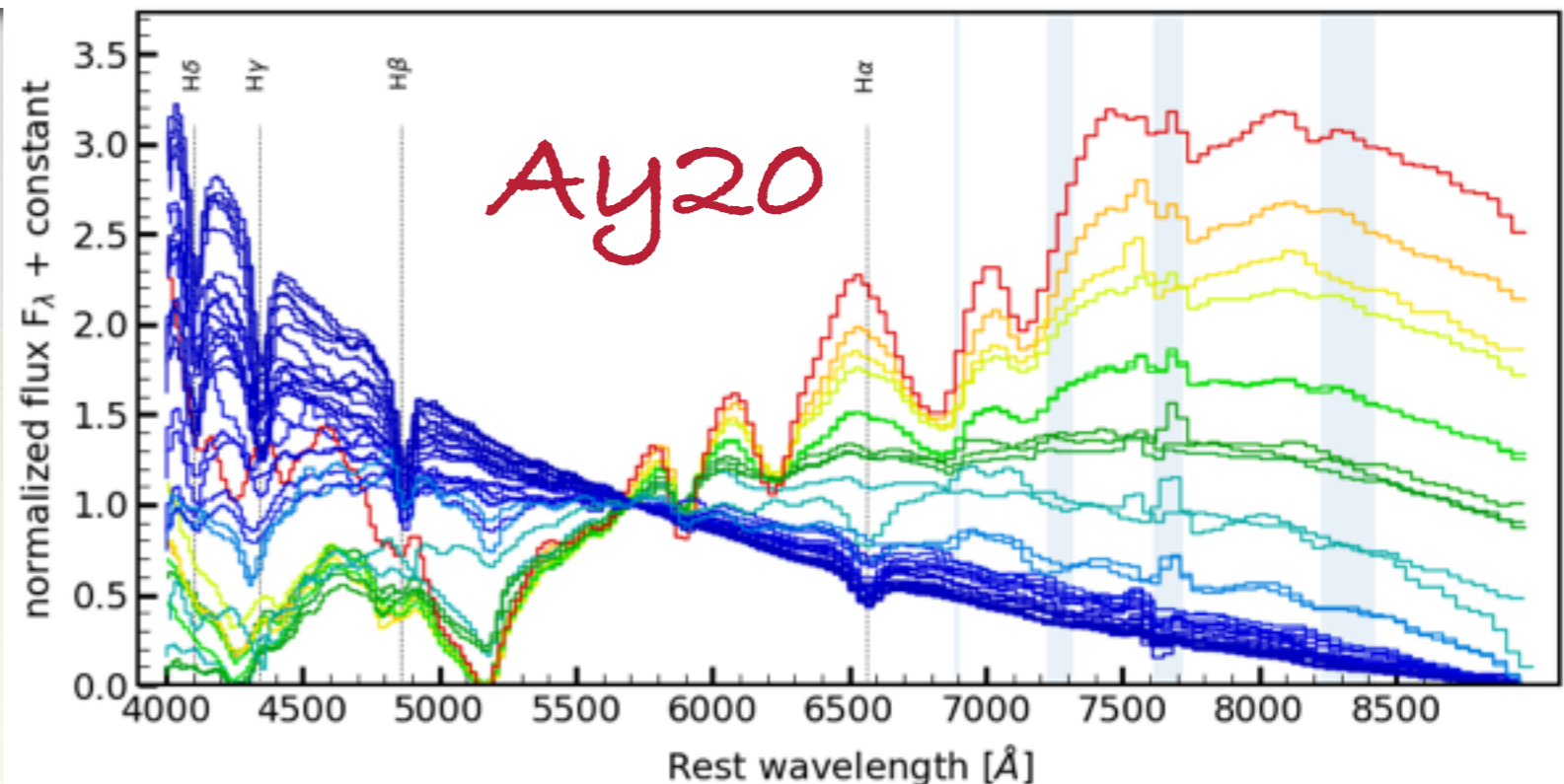
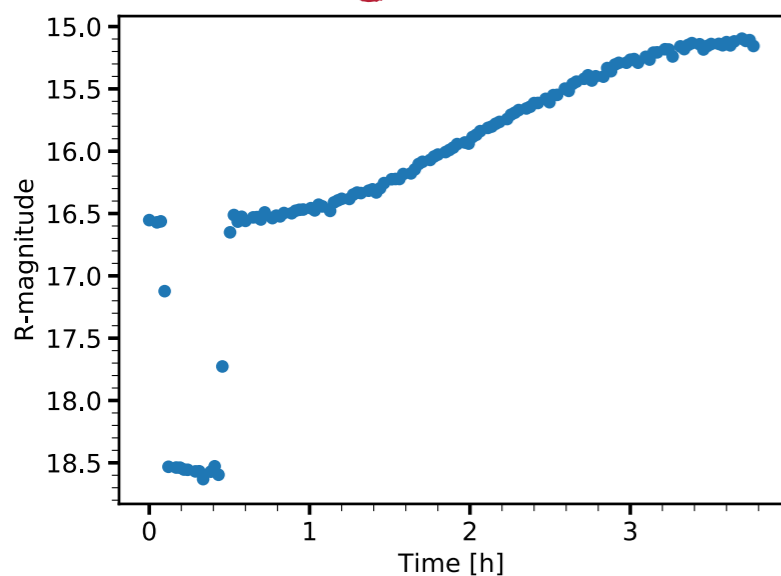
Yu+2016



Comets & asteroids

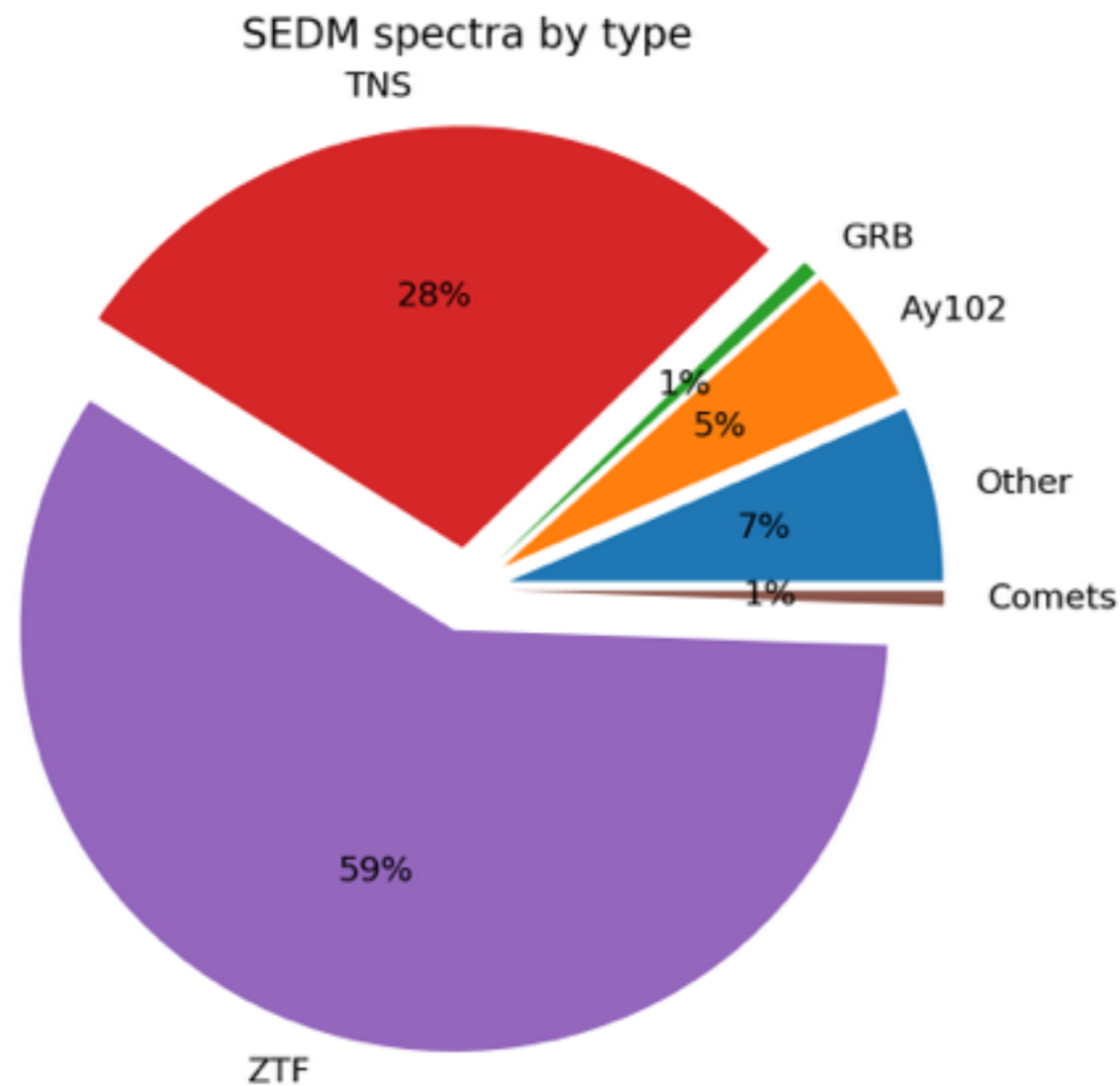


Binary stars

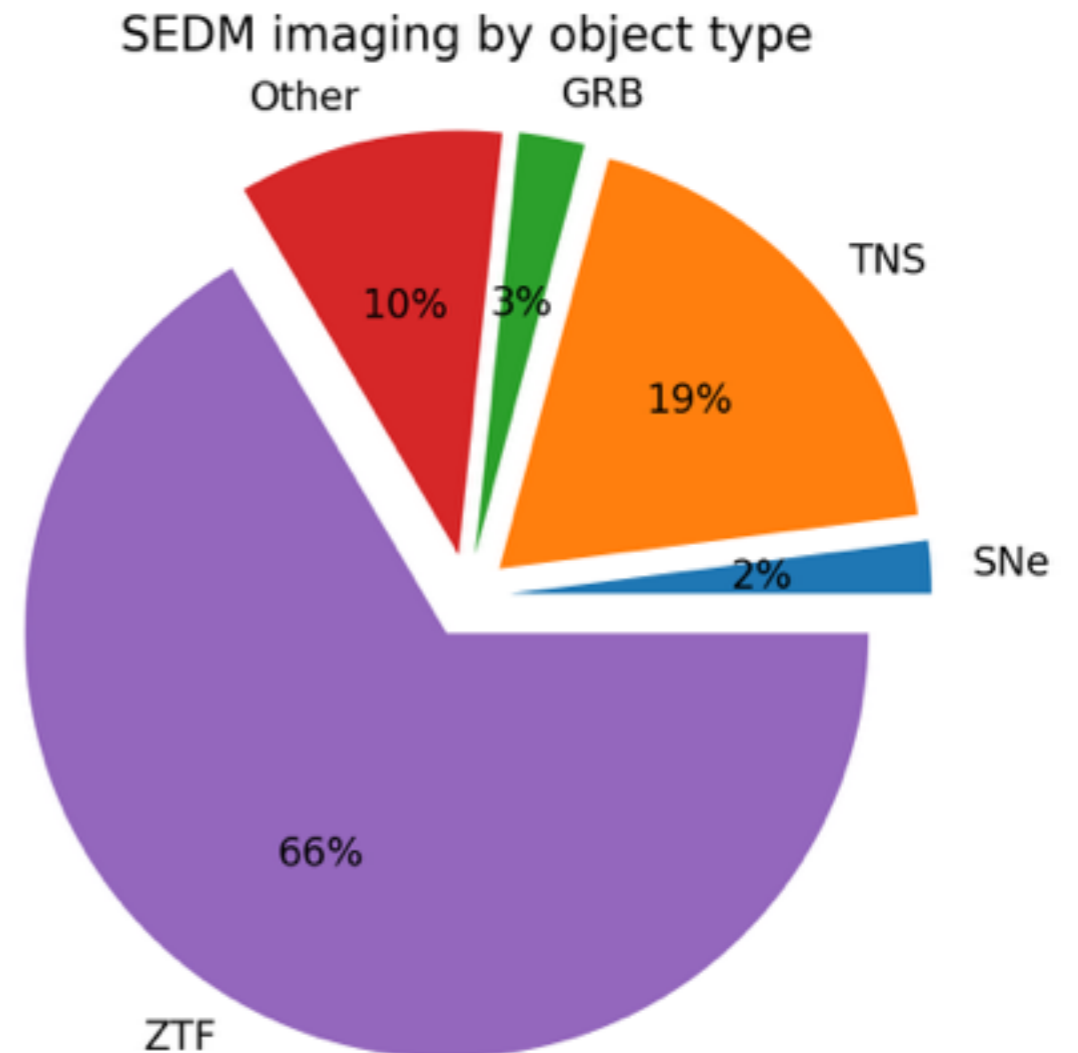


# Instrument Usage overview

Nights 1st of January - 4th of August  
Open 168 Close 47 - 78 % open

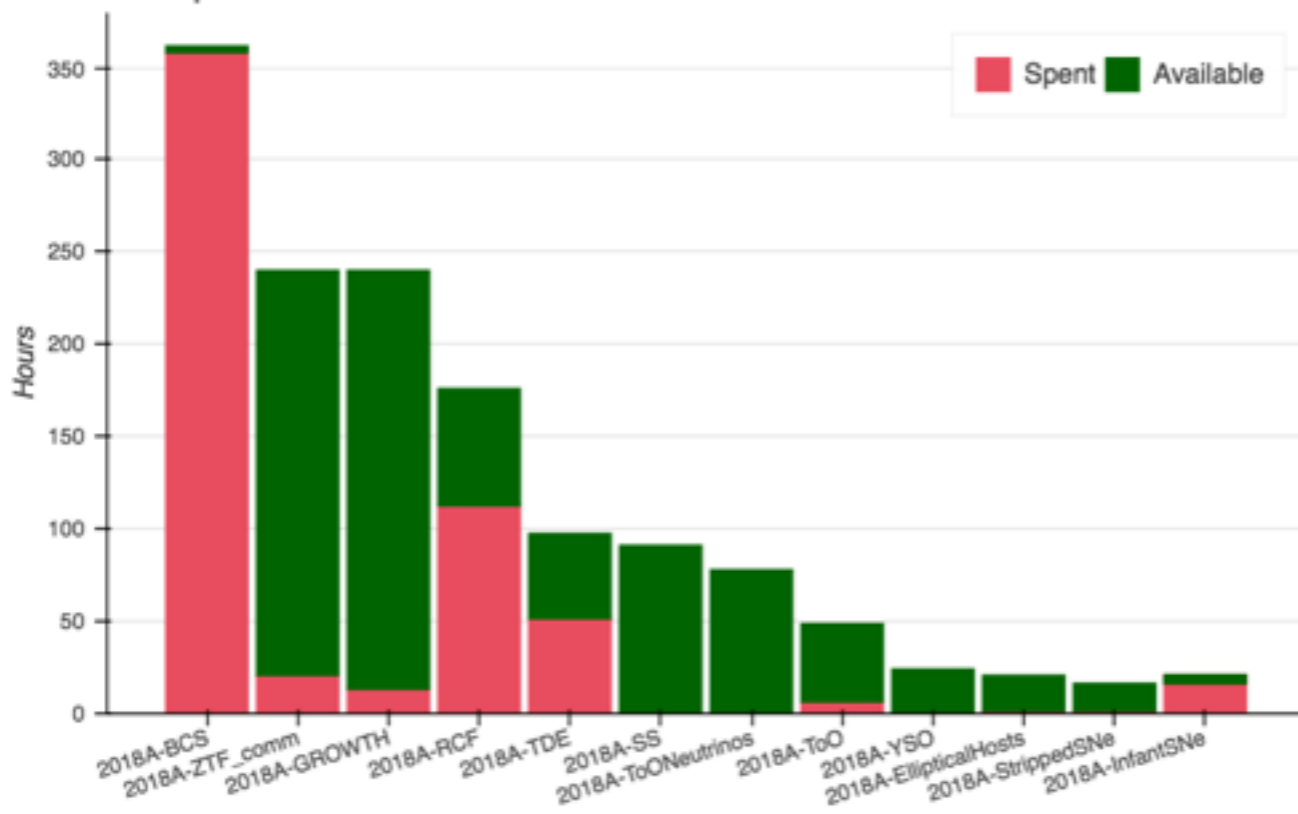


772h spectroscopy  
2181 spectra (1225 science)

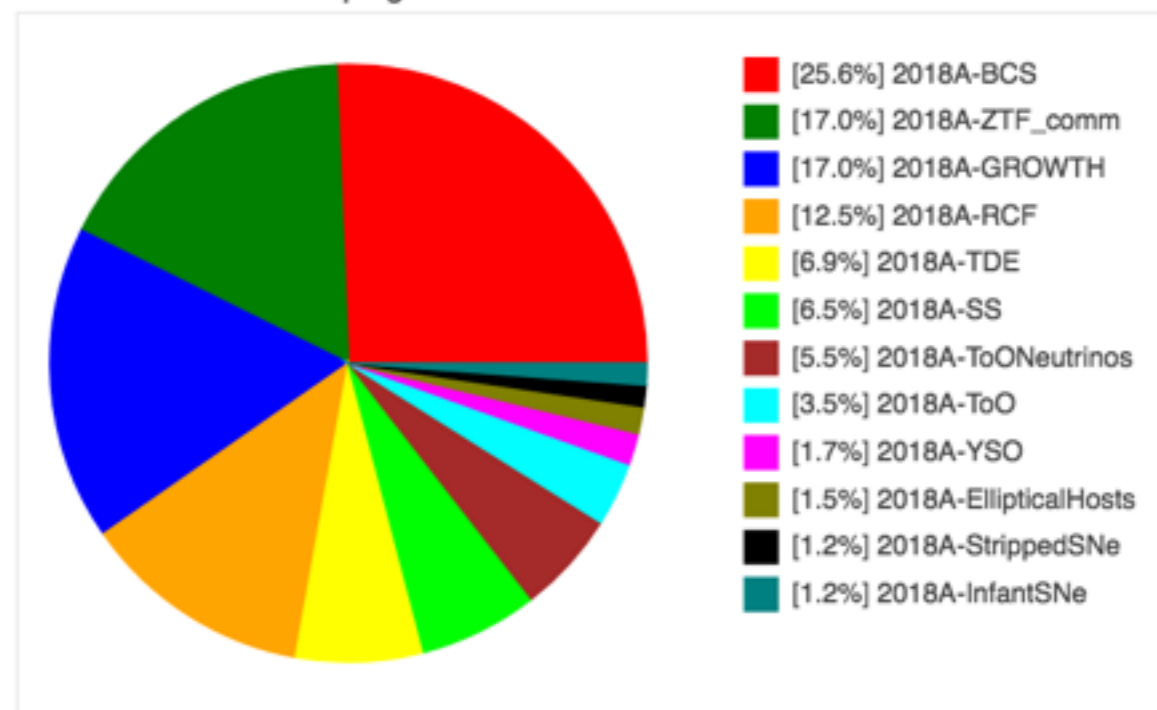


55h imaging  
1191 images

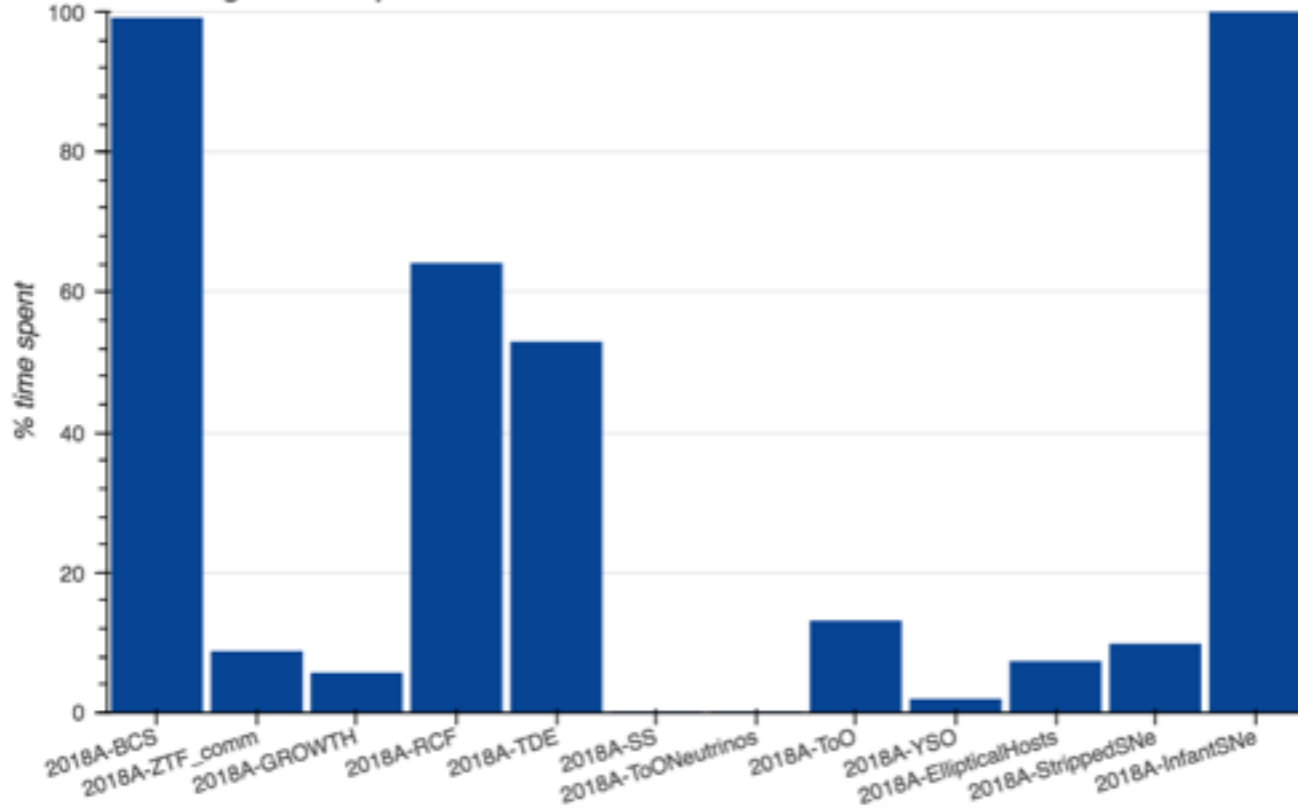
Time spent/available for SEDM allocations this term



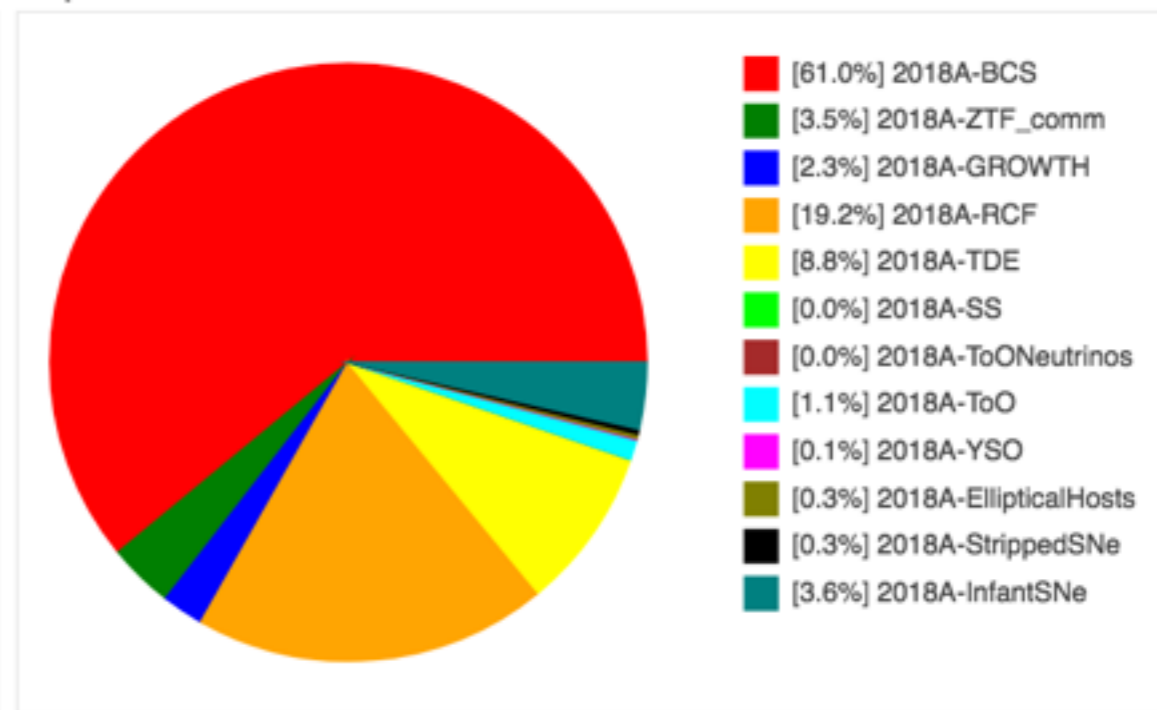
% time allocated to each program



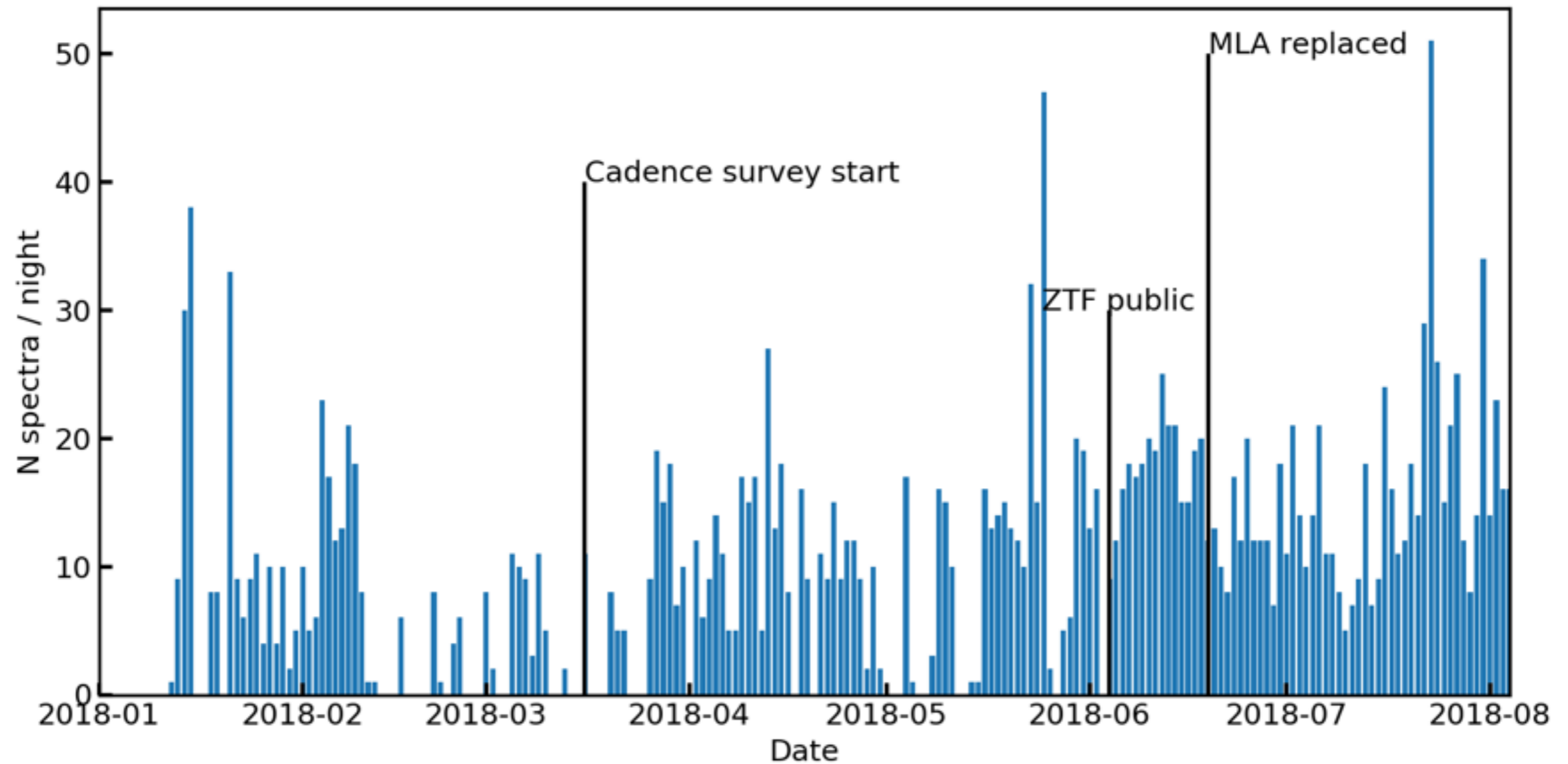
Percentage of time spent



% spent

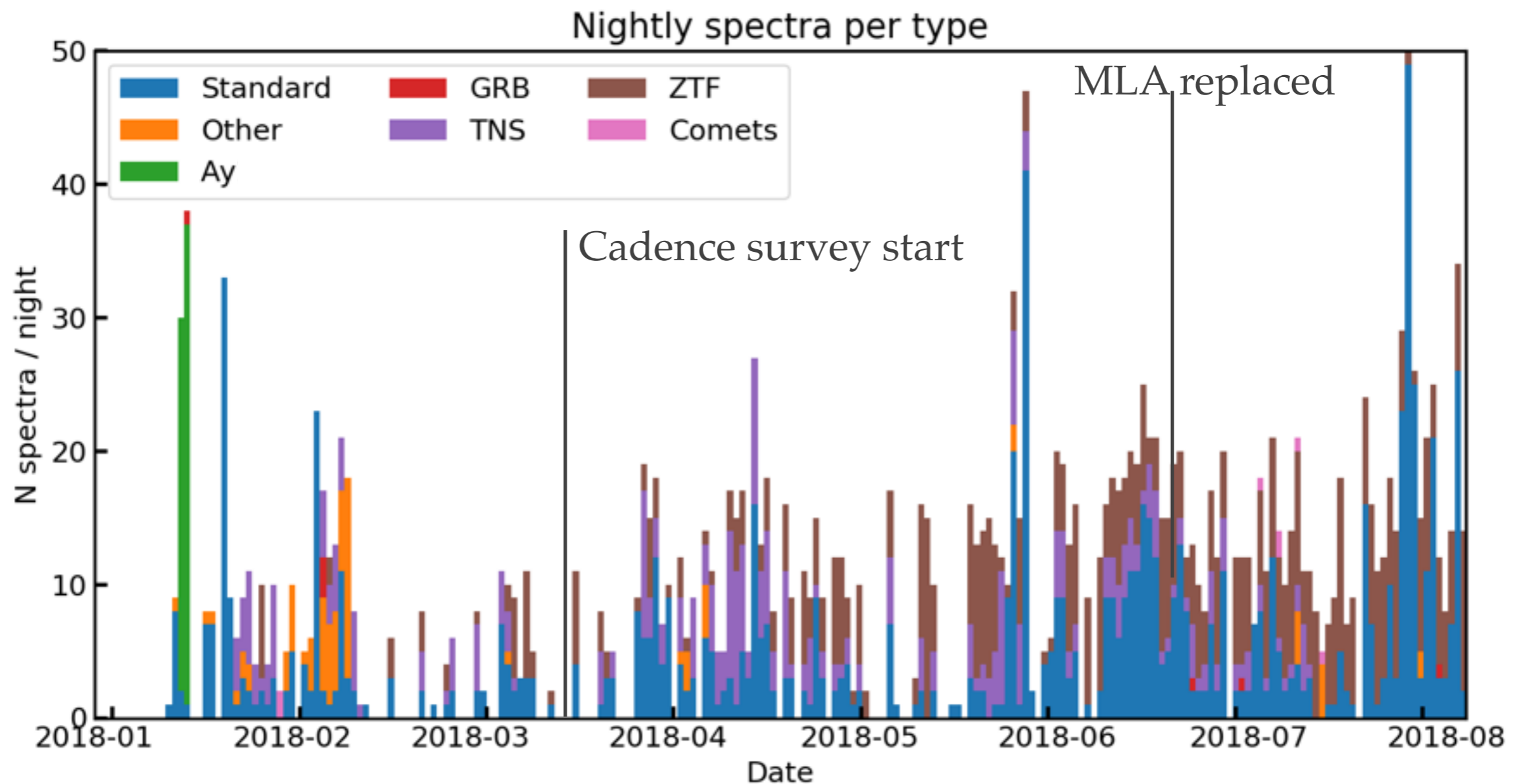


# Spectra per night

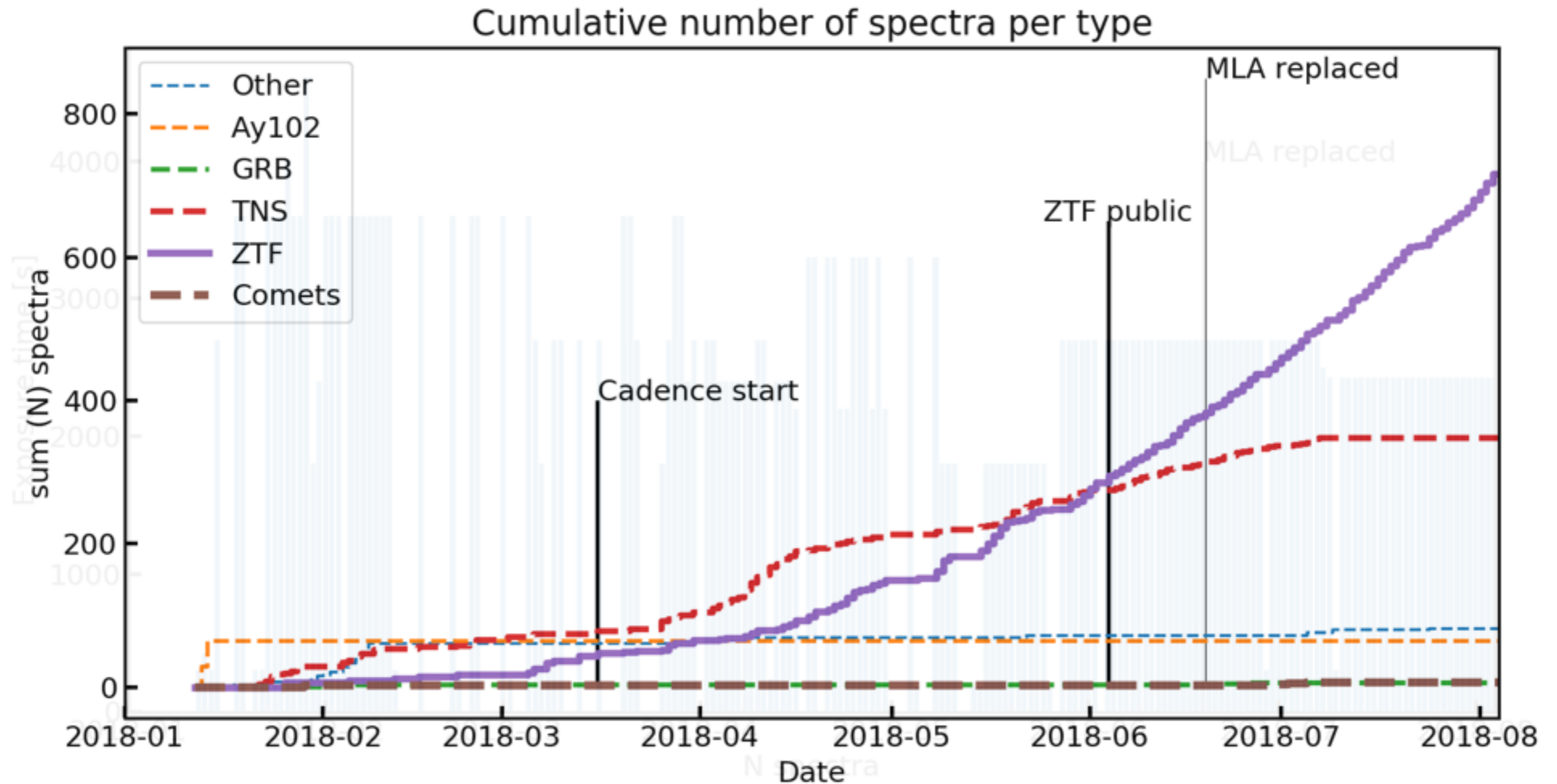




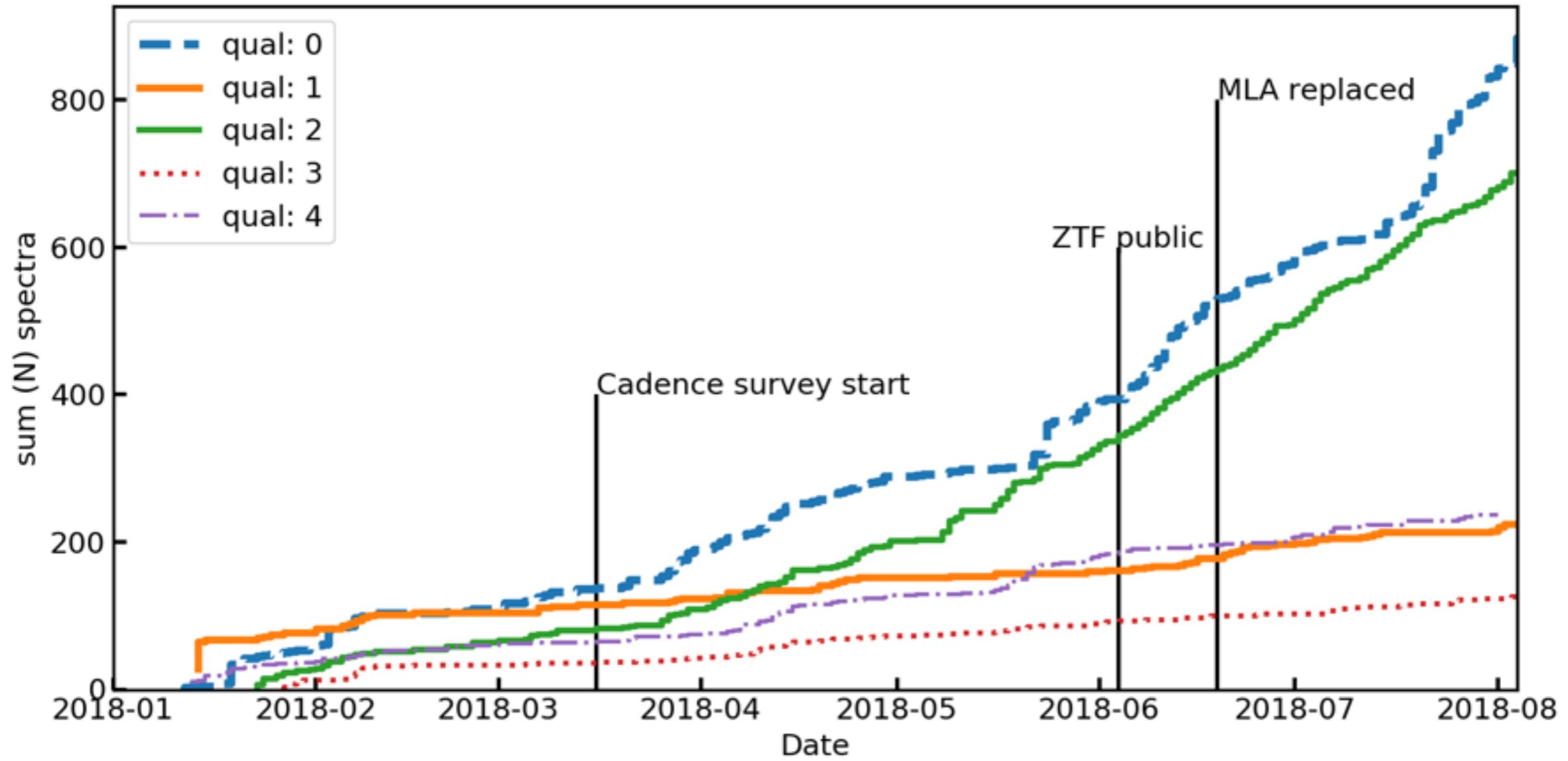
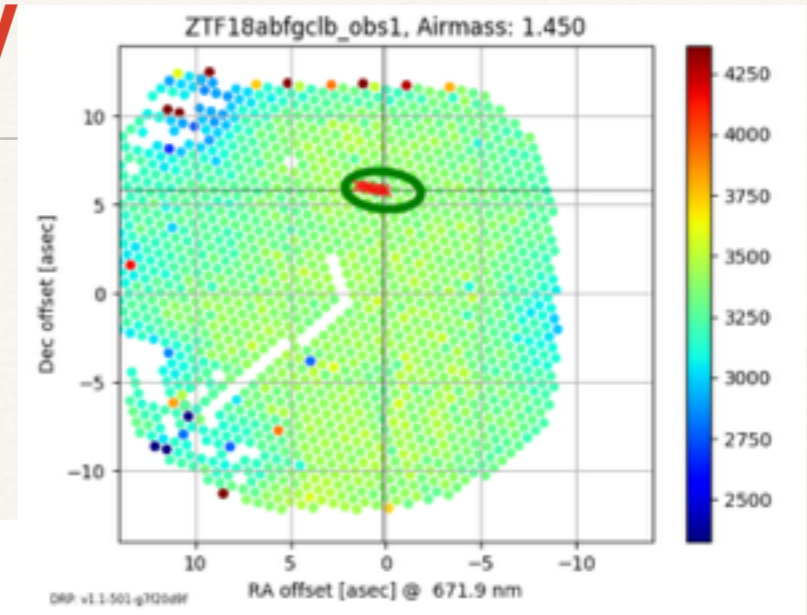
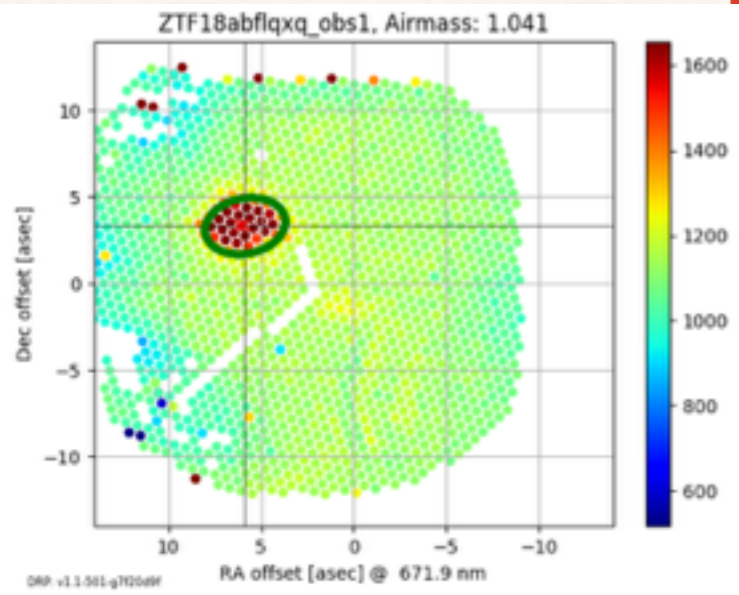
# Science spectra per night



# Accumulated spectra over time



# Extraction quality



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### Active Requests for the last 7 days

allocation	object	RA	DEC	start date	end date	priority	status	lastmodified	UPDATE
2018A-BCS	ZTF18ablwvus	276.66421850	25.92085970	2018-08-08	2018-08-15	4.00	PENDING	2018-08-08 00:09:17.960520	20180808070915056
2018A-BCS	ZTF18abfwyxl	297.71199730	60.70734240	2018-08-08	2018-08-15	1.00	PENDING	2018-08-07 23:59:31.919966	20180808065928755
2018A-BCS	ZTF18abkhdxe	277.84320990	63.74149660	2018-08-08	2018-08-15	1.00	PENDING	2018-08-07 23:58:58.551658	20180808065854849
2018A-BCS	ZTF18abloyve	287.67490710	-26.78267790	2018-08-07	2018-08-14	2.00	PENDING	2018-08-07 12:07:41.576219	20180807190740359

### Completed Requests in the last 7 days

allocation	object	RA	DEC	start date	end date	priority	status	lastmodified	UPDATE
2018A-BCS	ZTF18ablwvur	276.61866550	25.27080000	2018-08-08	2018-08-15	4.00	COMPLETED	2018-08-08 01:04:51.725544	20180808071003585
2018A-BCS	ZTF18ablobvj	356.78372730	30.84350660	2018-08-07	2018-08-14	3.00	COMPLETED	2018-08-08 00:14:04.229341	20180807190839755
2018A-BCS	ZTF18abl vazp	0.52562960	49.43513340	2018-08-07	2018-08-14	3.00	COMPLETED	2018-08-07 23:47:56.202985	20180807190923727
2018A-TDE	ZTF18abgkuis	258.88347170	58.60980490	2018-08-07	2018-08-14	4.00	COMPLETED	2018-08-07 23:20:52.913554	20180807144631687
2018A-BCS	ZTF18abjdjge	224.69368380	44.67068210	2018-08-07	2018-08-14	4.00	COMPLETED	2018-08-07 22:31:10.975270	20180807190443141

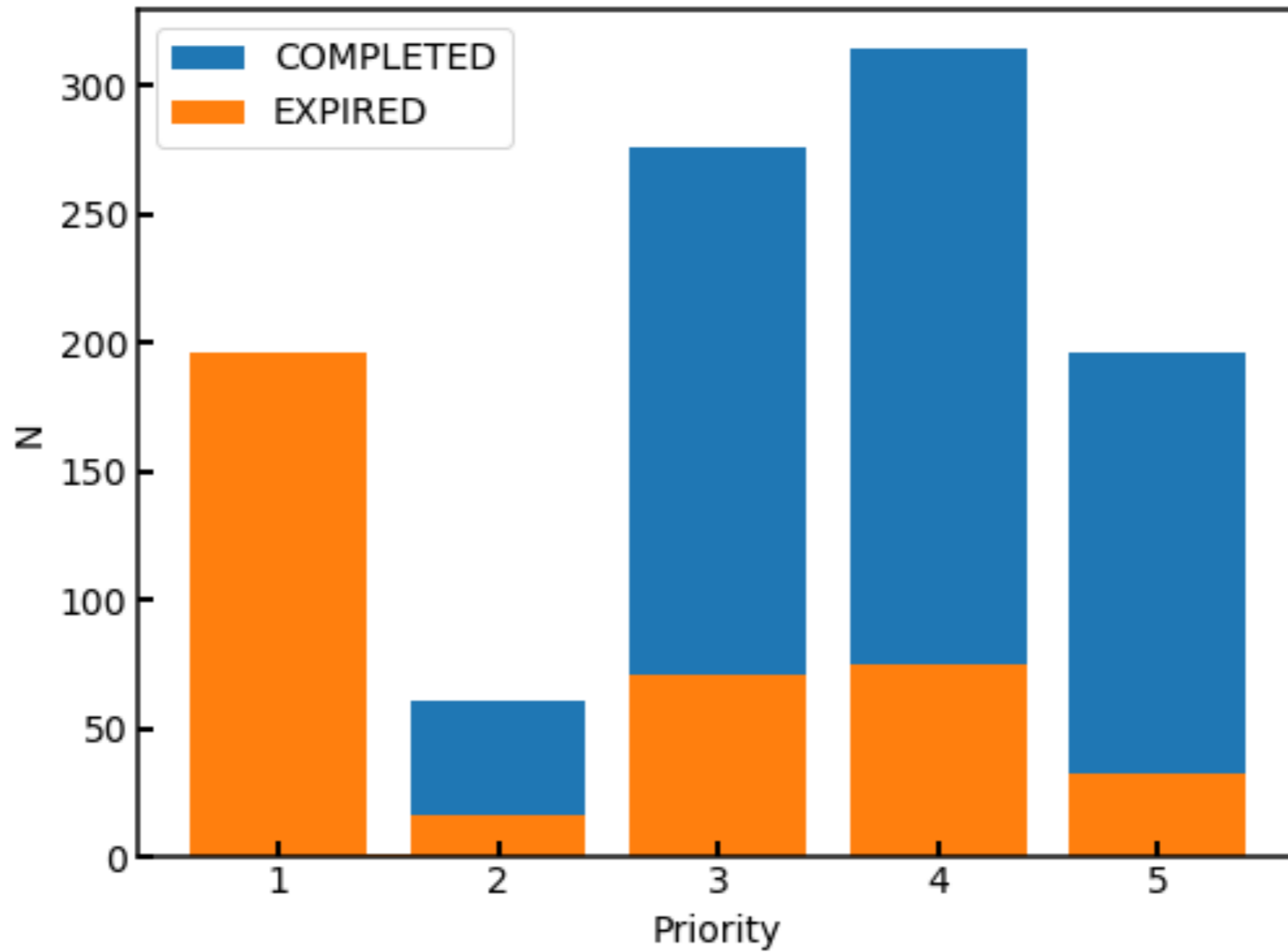
### Expired in the last 7 days

allocation	object	RA	DEC	start date	end date	priority	status	lastmodified	UPDATE
2018A-BCS	ZTF18abjtgdo	226.09835540	61.62144800	2018-07-28	2018-08-04	2.00	EXPIRED	2018-08-04 16:21:34.622095	20180728184252168
2018A-BCS	ZTF18abdkiq	196.86242980	18.77864450	2018-07-27	2018-08-03	3.00	EXPIRED	2018-08-03 10:12:05.105122	20180727022609191
2018A-BCS	AT2018cow	244.00092765	22.26800941	2018-07-23	2018-07-30	3.00	EXPIRED	2018-08-03 10:12:05.105122	20180723190351304
2018A-RCF	ZTF18abdfwcy	190.68273820	34.10734190	2018-07-25	2018-08-01	4.00	EXPIRED	2018-08-03 10:12:05.105122	20180725205339254
2018A-RCF	ZTF18abdkhwn	195.04107960	8.95752920	2018-07-25	2018-08-01	1.00	EXPIRED	2018-08-03 10:12:05.105122	20180725191339495
2018A-BCS	ZTF18abguhwy	173.81010250	45.03932490	2018-07-24	2018-07-31	5.00	EXPIRED	2018-08-03 10:12:05.105122	20180724213757779

# Hello nblago! 😊

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## Active Requests for the last 7 days



### TE

808070915056

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808065928755

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808065854849

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### ATE

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### E

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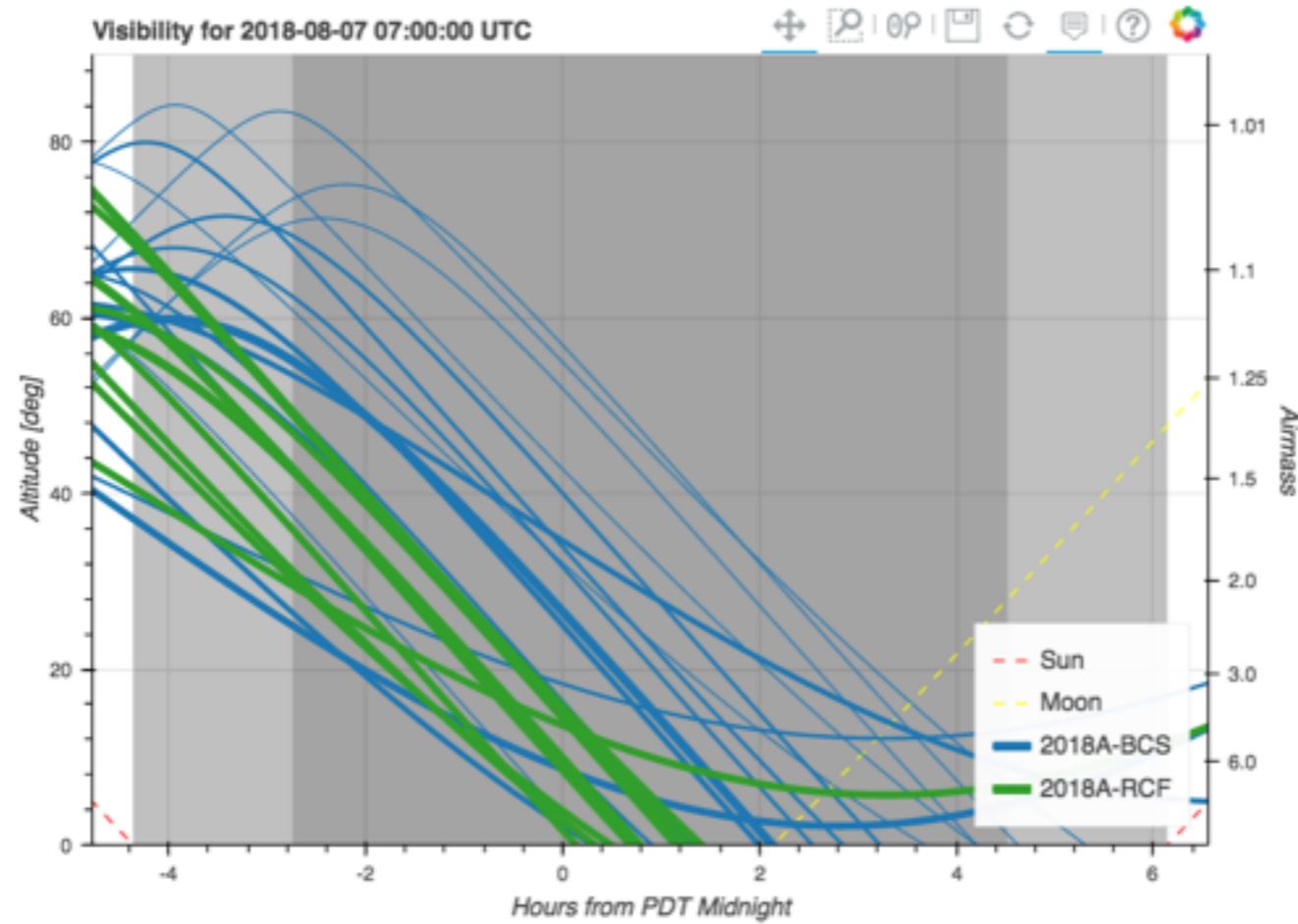
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5205339254

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5191339495

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allocation	object	RA	DEC	start date	end date	priority	status	lastmodified	UPDATE
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2018A-RCF	ZTF18ablthll	215.77776820	26.28996940	2018-08-07	2018-08-14	5.00	PENDING	2018-08-07 03:14:20.866133	20180807101417548
2018A-BCS	ZTF18abjtgdo	226.09835540	61.62144800	2018-08-07	2018-08-14	3.00	PENDING	2018-08-07 03:12:38.419836	20180807101235097
2018A-RCF	ZTF18abklaqr	227.85269690	4.70453570	2018-08-07	2018-08-14	4.00	PENDING	2018-08-07 03:05:08.811733	20180807100505511
2018A-BCS	ZTF18abgkjff	227.66870170	8.57430280	2018-08-07	2018-08-14	2.00	PENDING	2018-08-07 02:59:25.168398	20180807095921879
2018A-RCF	ZTF18abklaoj	223.38458870	3.07048660	2018-08-07	2018-08-14	5.00	PENDING	2018-08-07 02:49:48.553688	20180807094944906
2018A-RCF	ZTF18abklaoj	223.38458870	3.07048660	2018-08-07	2018-08-14	4.00	PENDING	2018-08-07 02:48:58.335992	20180807094855080
2018A-BCS	ZTF18aauuohe	207.51281970	27.27800940	2018-08-07	2018-08-14	2.00	PENDING	2018-08-07 02:48:09.542501	20180807094806271
2018A-BCS	ZTF18ablxony	178.23101750	44.45196390	2018-08-07	2018-08-14	3.00	PENDING	2018-08-07 02:46:38.864259	20180807094635610

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# Discussion

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- ❖ Define and SEDM **backup** program!
- ❖ Improve SNID classification with more templates:
  - ❖ PTF+iPTF not SN Ia spectra
  - ❖ Exotic non-PTF objects (TDE, SN IIbn...)
- ❖ What improvements would you like to see?



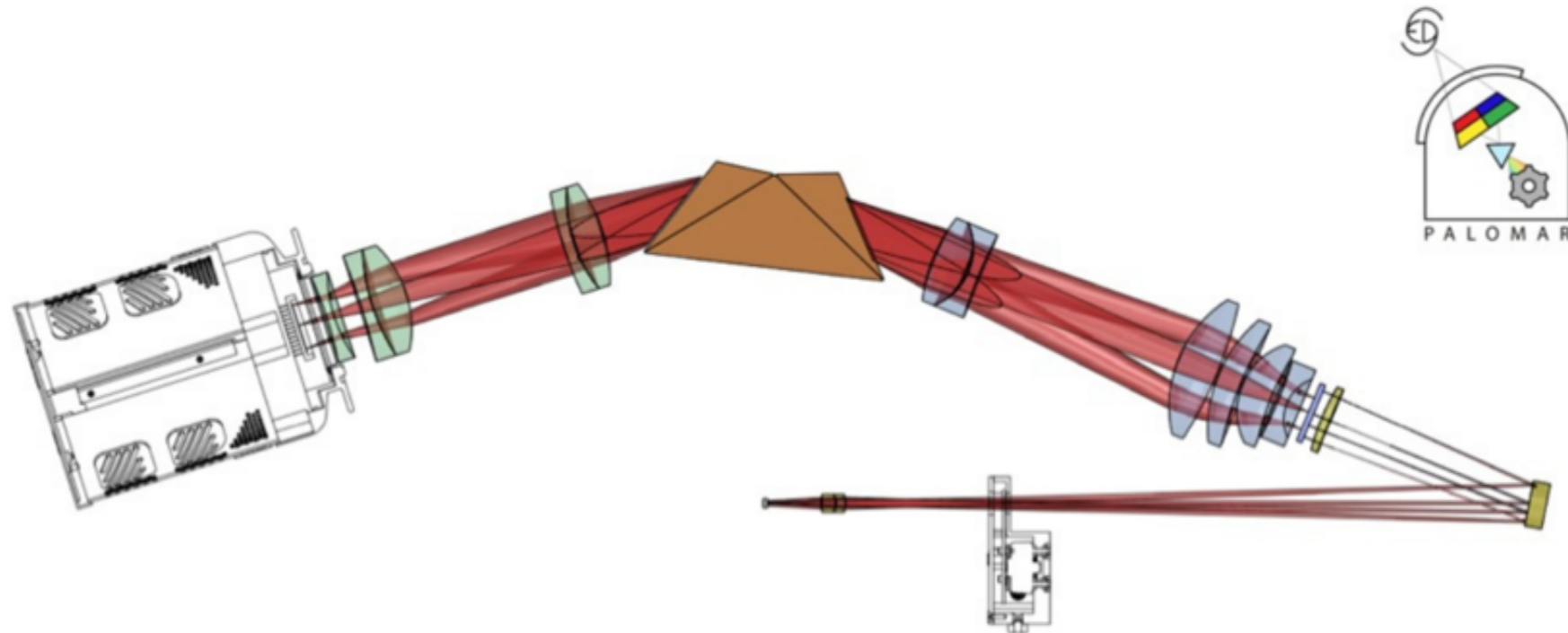
# The SED Machine: A Robotic Spectrograph for Fast Transient Classification

Nadejda Blagorodnova<sup>1</sup> , James D. Neill<sup>1</sup>, Richard Walters<sup>1,2</sup>, Shrinivas R. Kulkarni<sup>1</sup>, Christoffer Fremling<sup>1</sup>, Sagi Ben-Ami<sup>3</sup>, Richard G. Dekany<sup>1,2</sup>, Jason R. Fucik<sup>2</sup>, Nick Konidaris<sup>4</sup>, Reston Nash<sup>2</sup>, Chow-Choong Ngeow<sup>5</sup>, Eran O. Ofek<sup>6</sup>, Donal O' Sullivan<sup>1</sup>, Robert Quimby<sup>7,8</sup>, Andreas Ritter<sup>9</sup>, and Karl E. Vyhmeister<sup>1,2</sup>

[pharos.caltech.edu/#](https://pharos.caltech.edu/#)

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