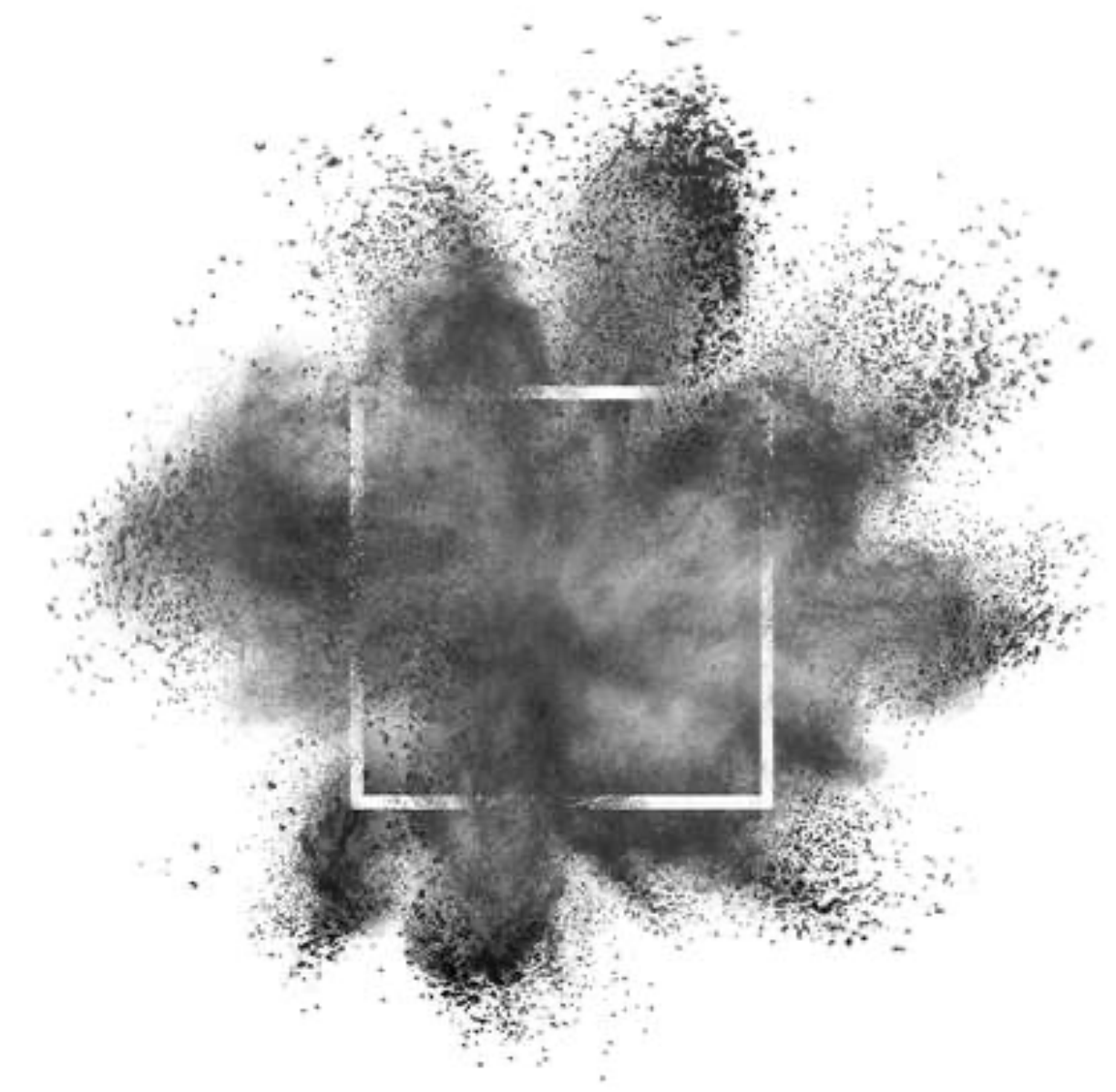


ZTF : the DR2 Sample

Where we are today



ZTF : the DR2 Sample

Where we are today

MICKAEL ALREADY GAVE THIS TALK



How to get to science / cosmology:

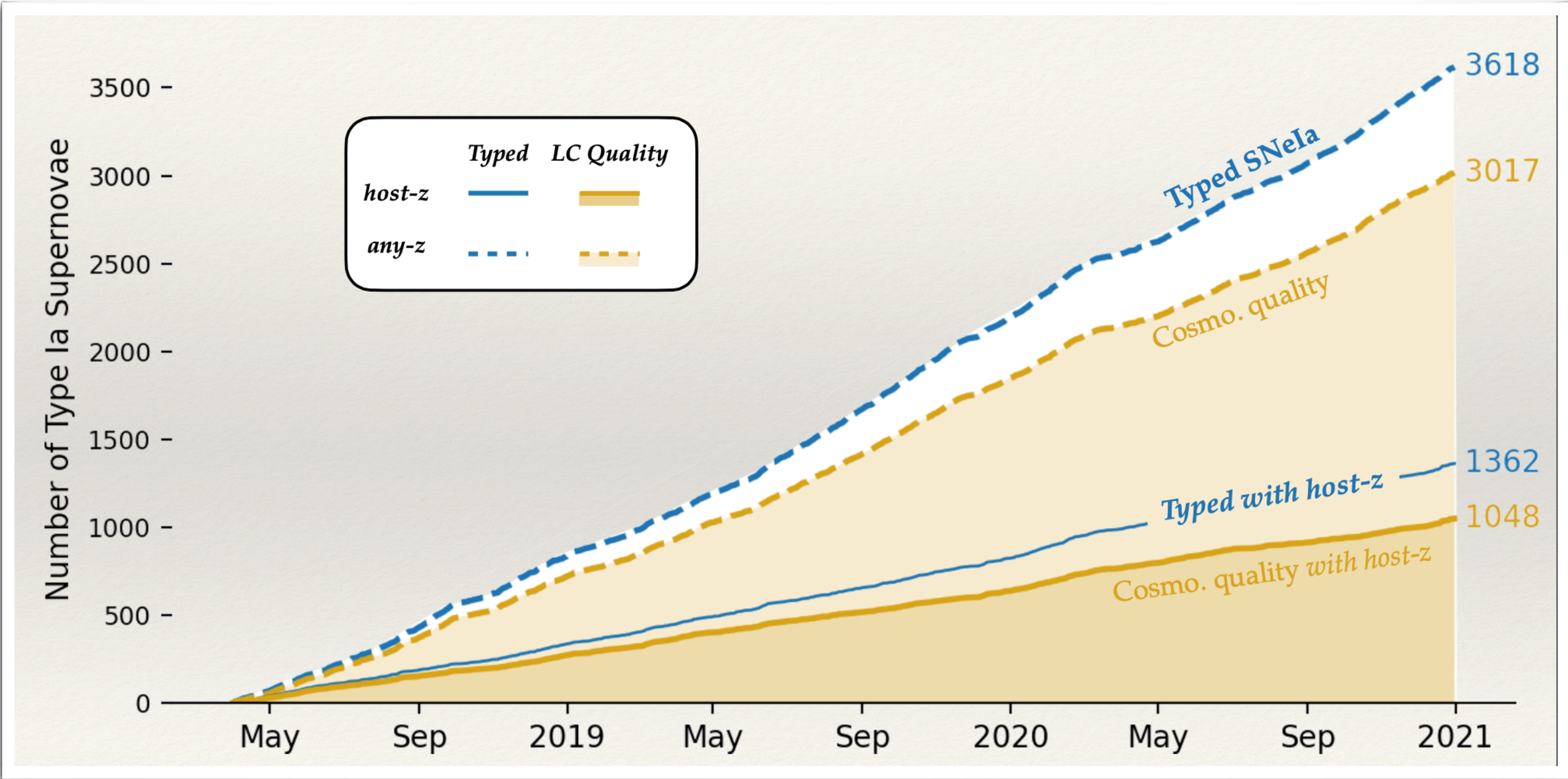
data

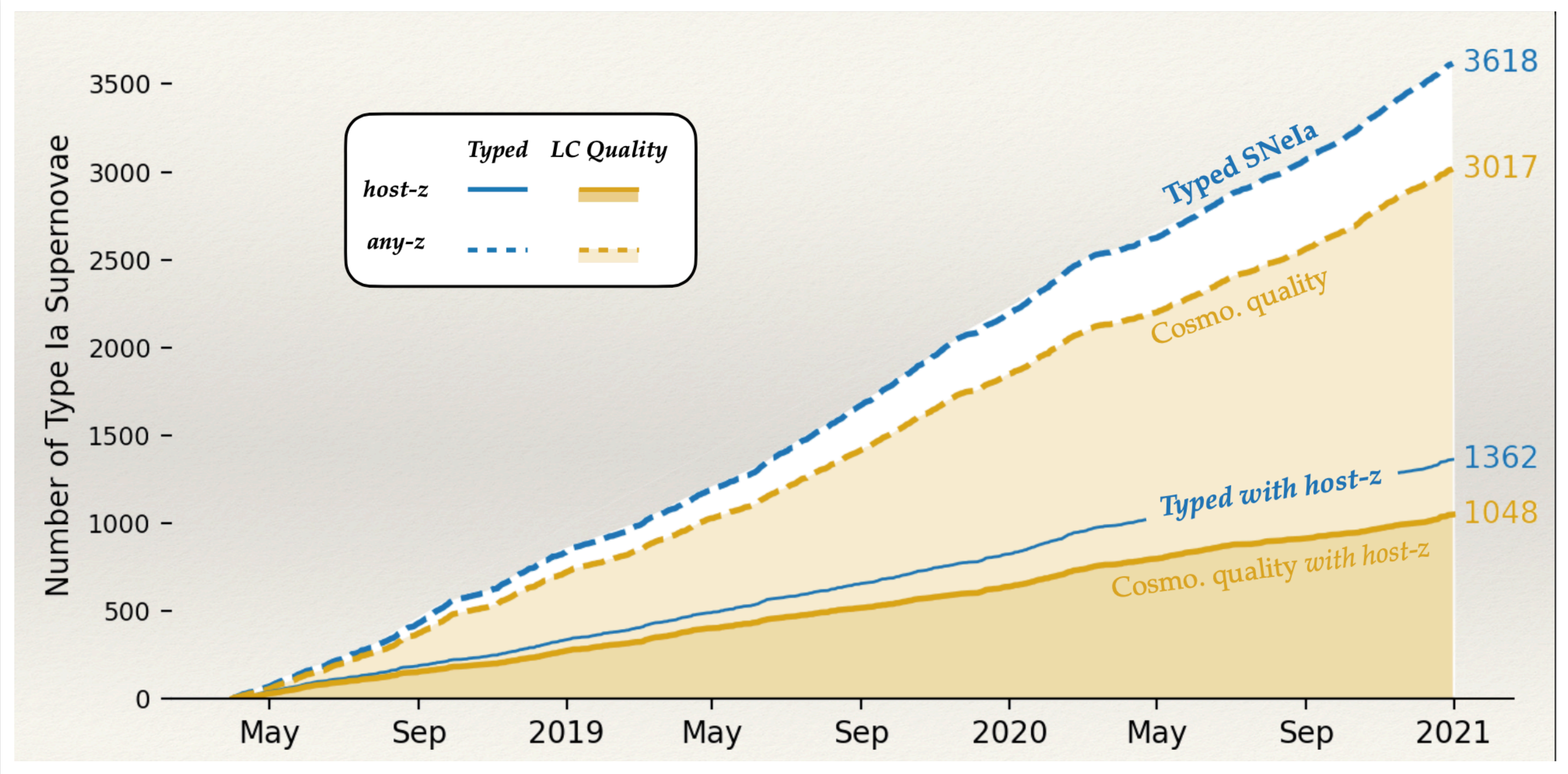
- A. Define the sample + locations (to find the host)
- B. Host galaxy identification (for redshifts and galaxy properties)
- C. Redshifts
- D. Photometry: light-curves
- E. Light-curve fitting => Distance
- F. (Galaxy derived properties)

simulations

+ to understand and correct for selection

observing logs + a model for SN (+correlations...) + understanding of detection





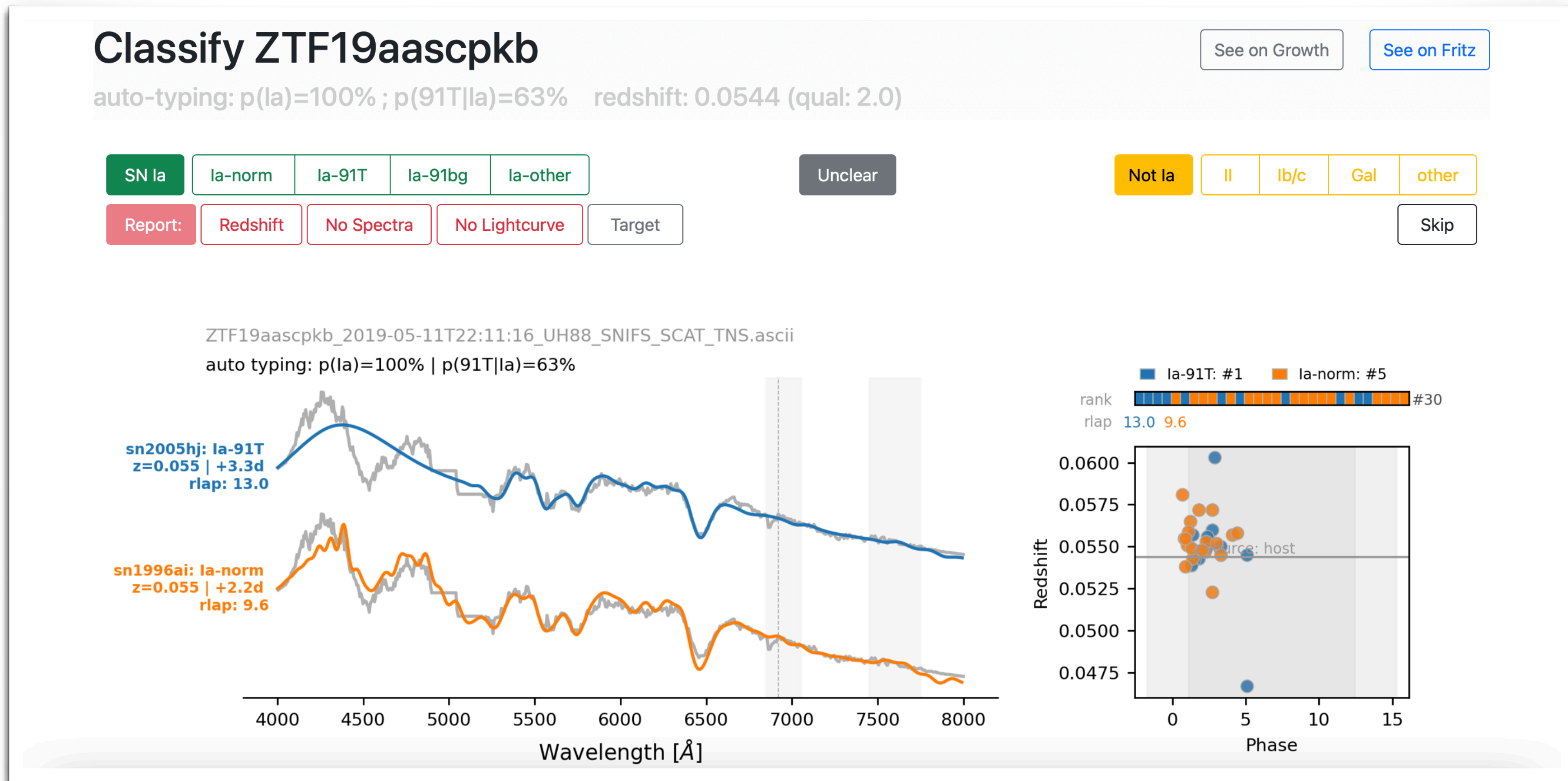
Updates:

A. 2021 SNe removed

B. Duplicate events removed

Missing pieces:

Final typing



Typing app: **CRITICAL** to finalise the sample and obtain redshifts

Easy to do, just time consuming

Group mentality => you don't need to be perfect

ZTF18aabdgjk: z=0.022

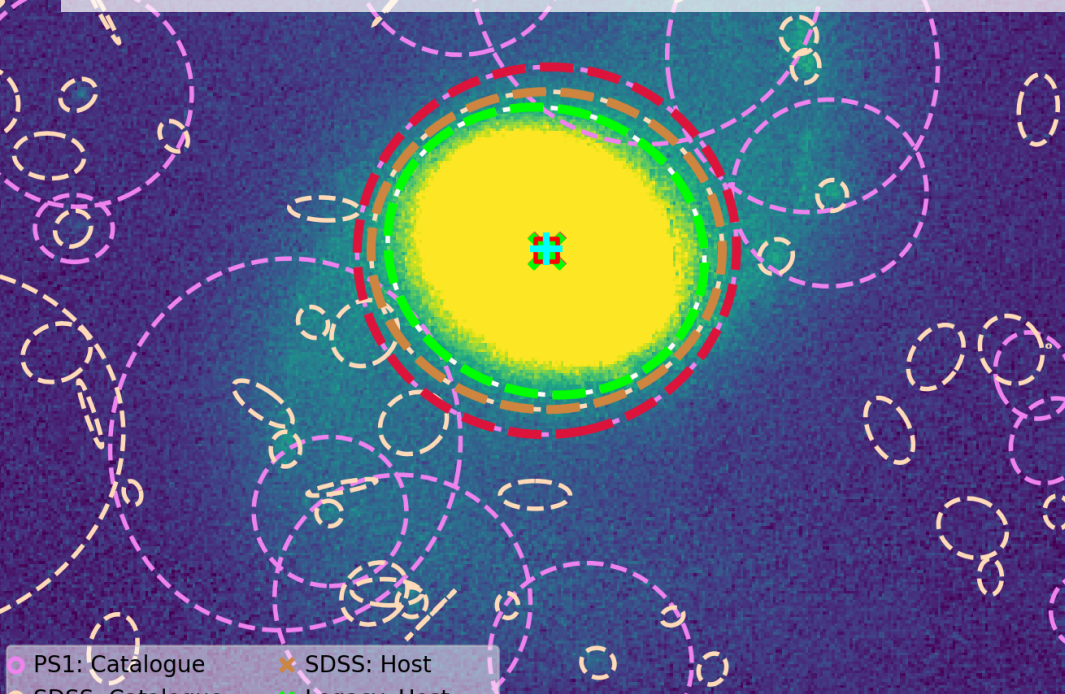
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ZTF18abcxyjp: z=0.042

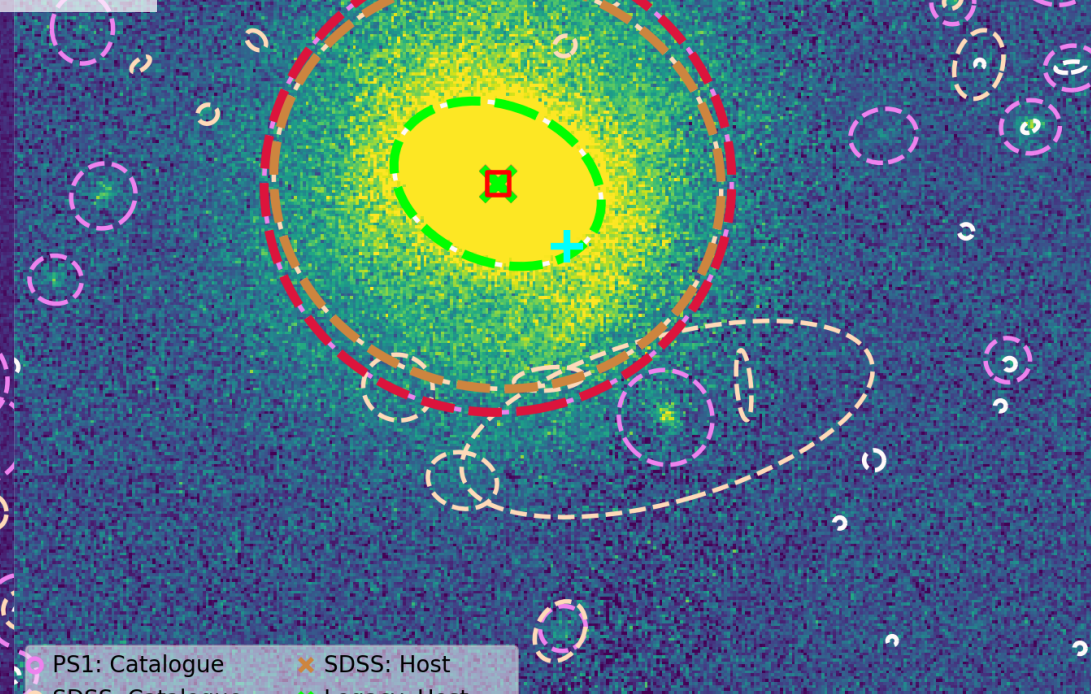
ZTF18aaripcr: z=0.034

ZTF18abhqdpv: z=0.079

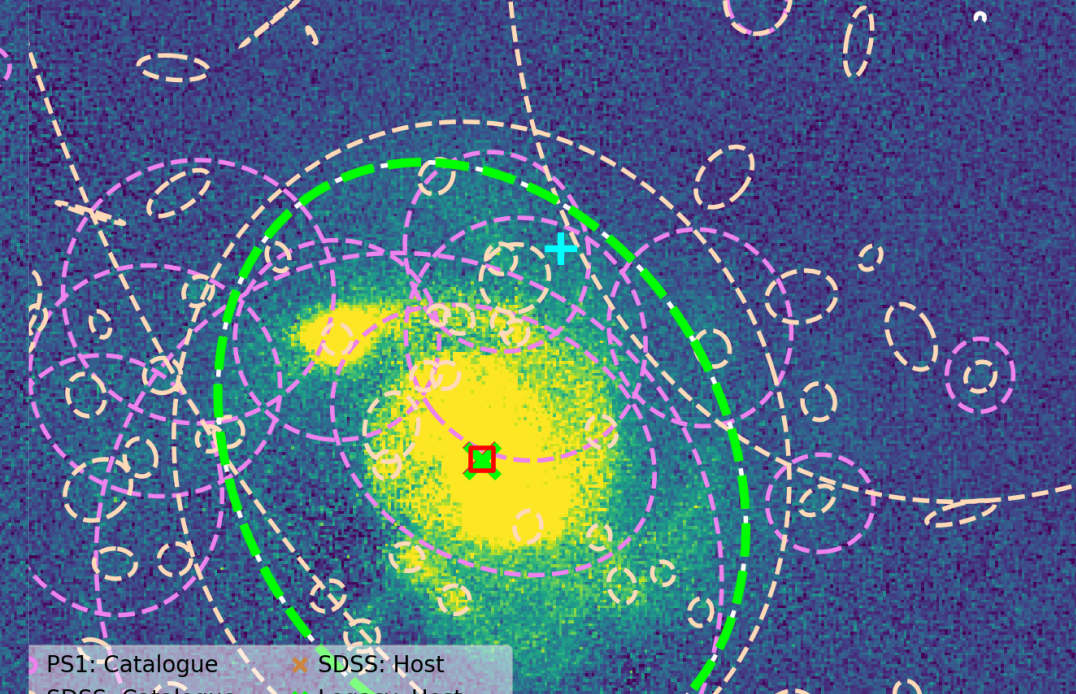
hosts+redshifts



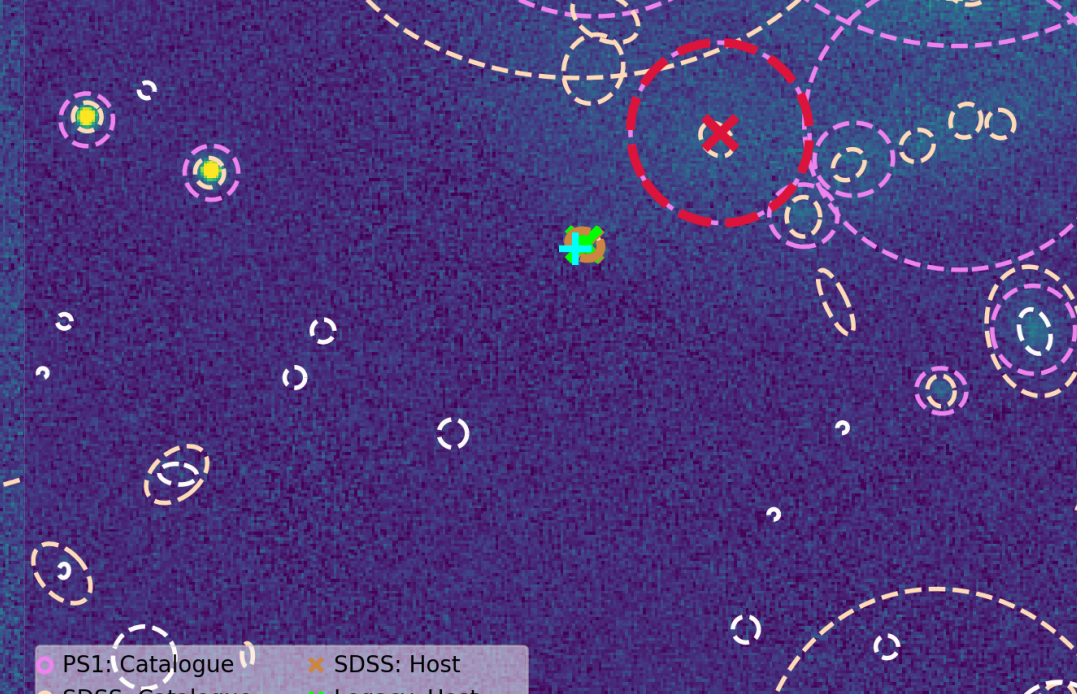
PS1: Catalogue
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



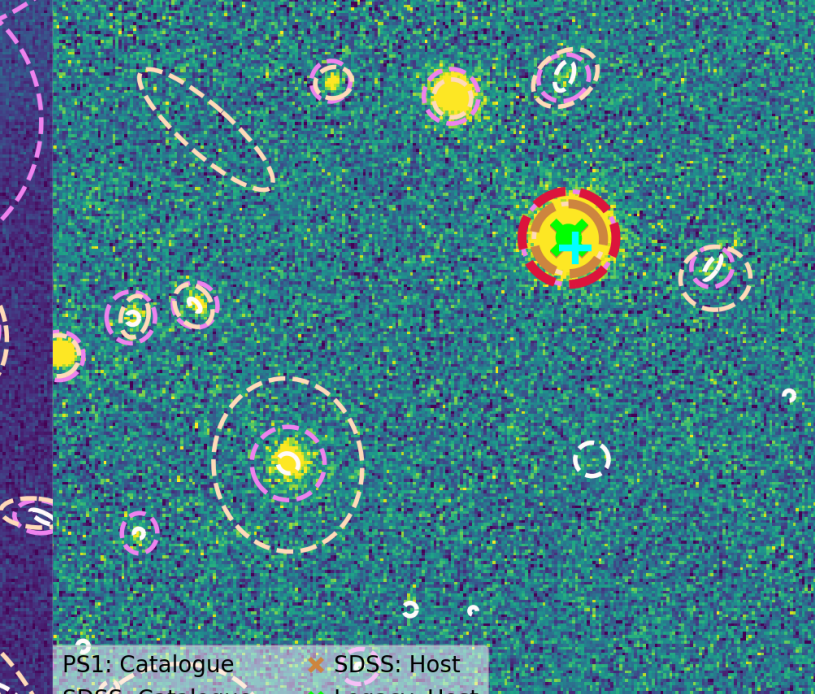
PS1: Catalogue
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



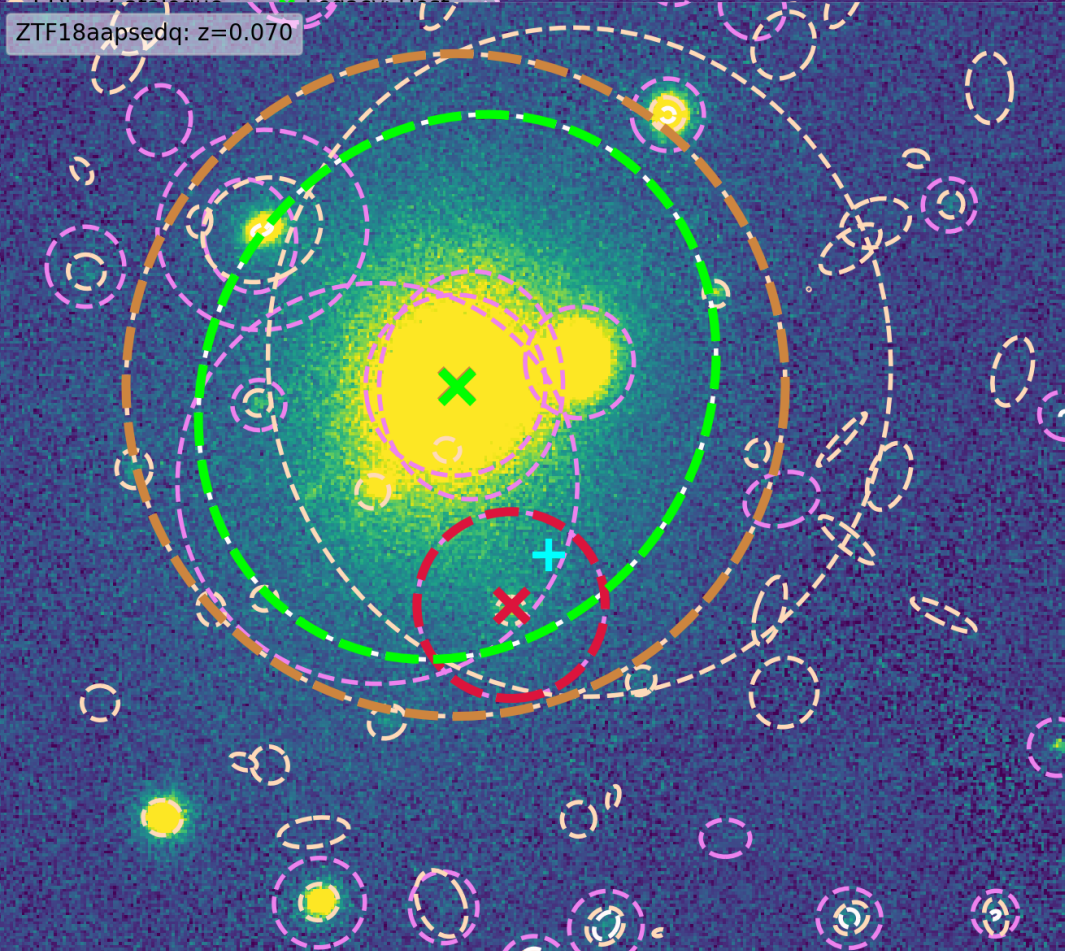
PS1: Catalogue
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



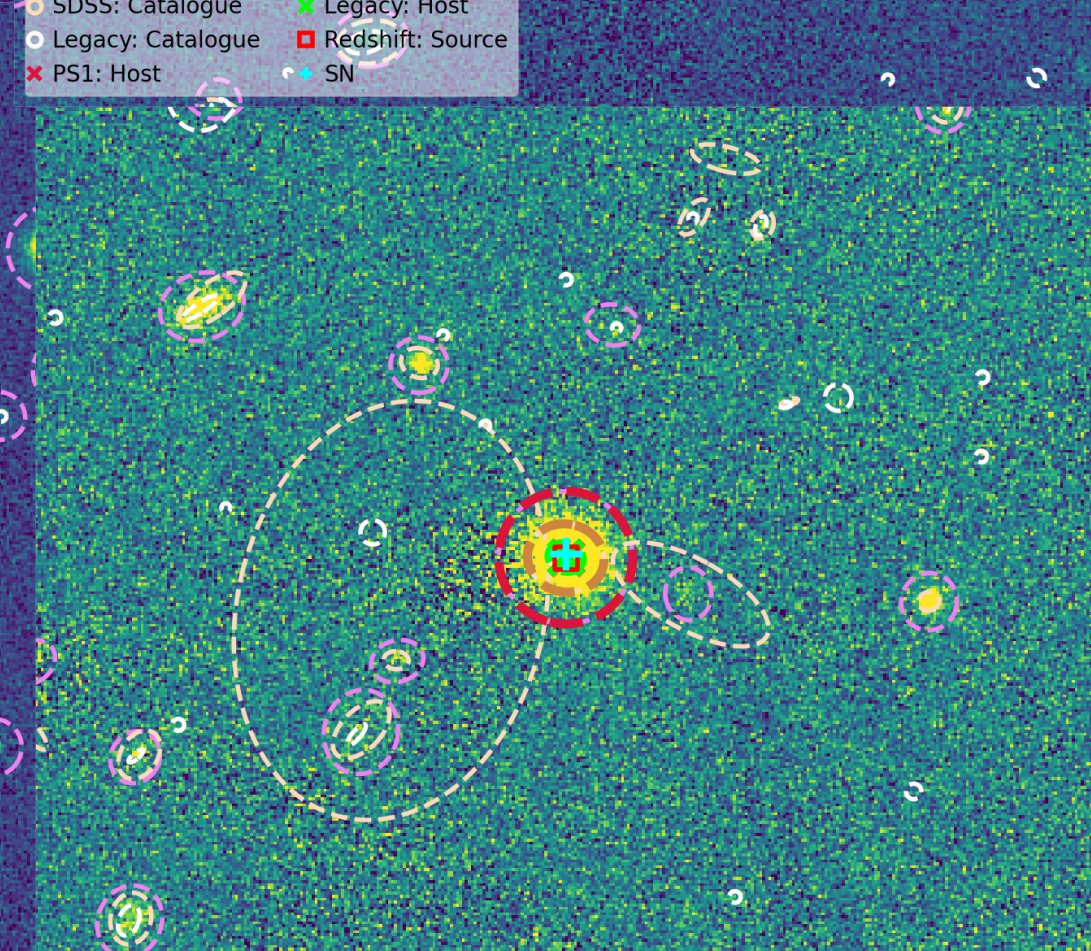
PS1: Catalogue
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



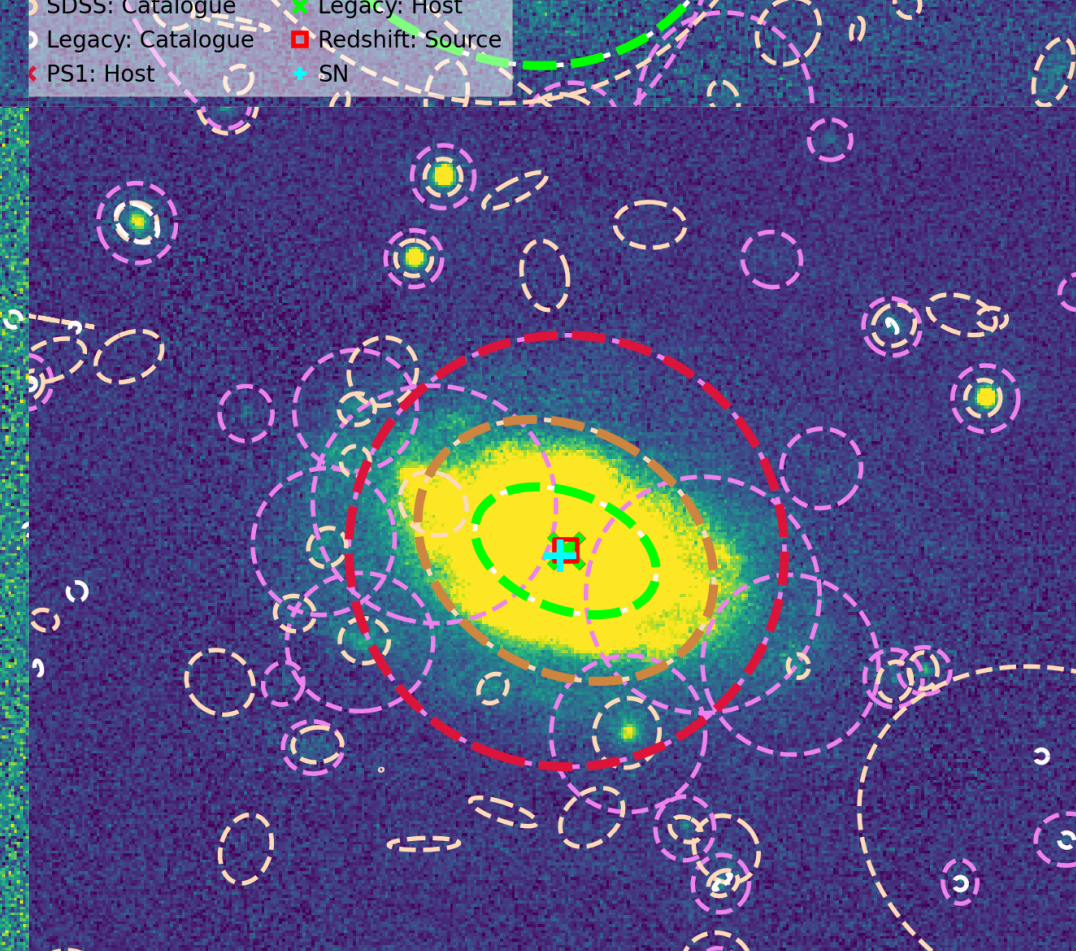
PS1: Catalogue
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



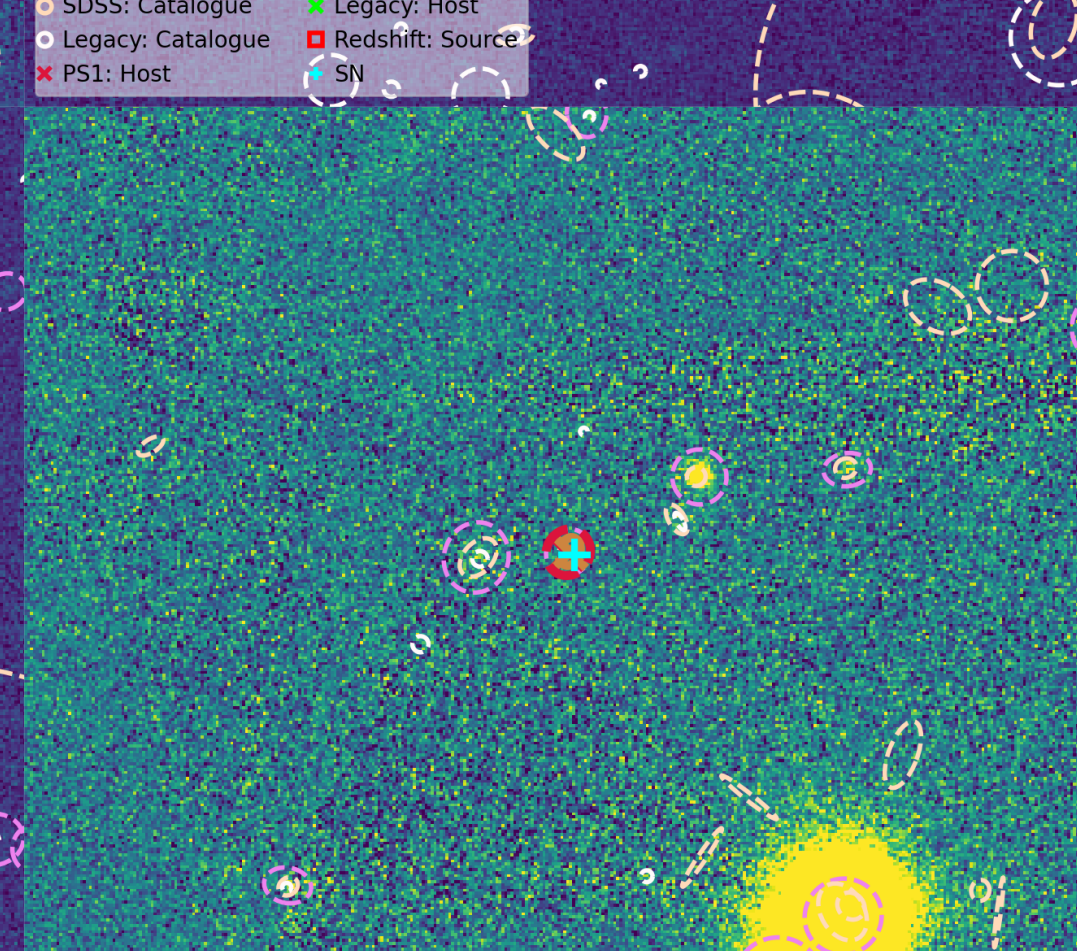
PS1: Catalogue
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



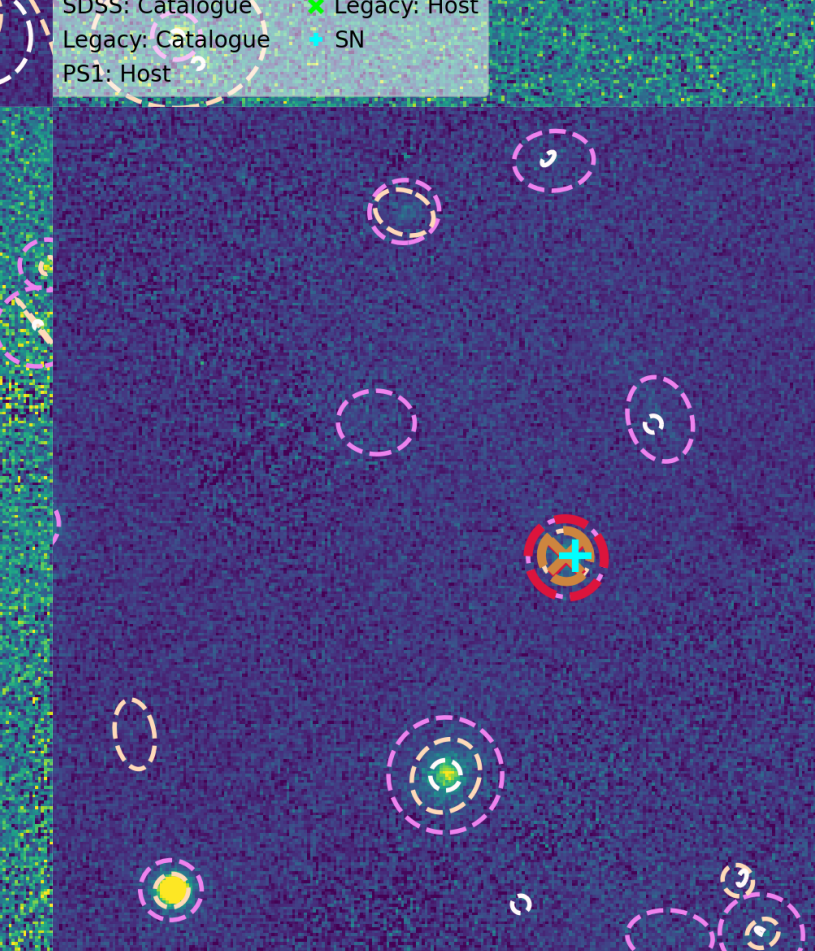
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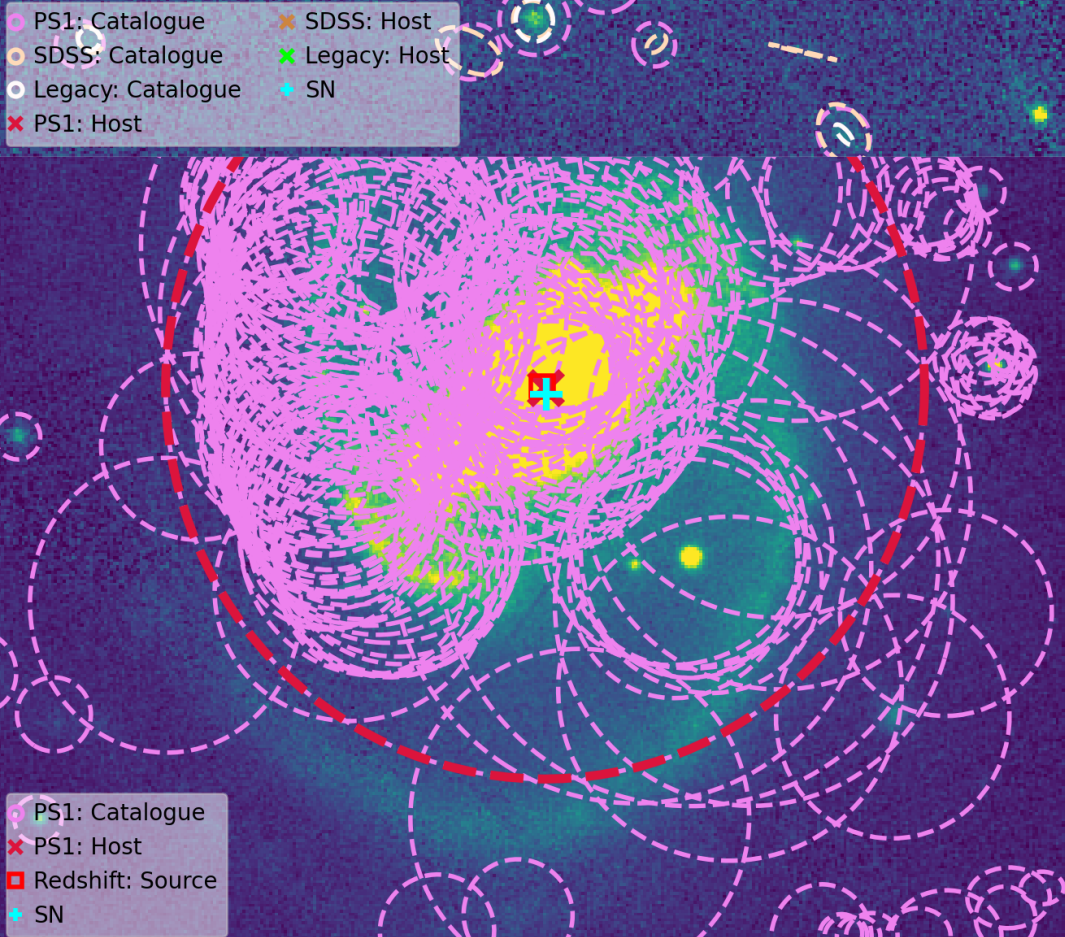
PS1: Catalogue
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Legacy: Catalogue
PS1: Host
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Legacy: Host
Redshift: Source
SN



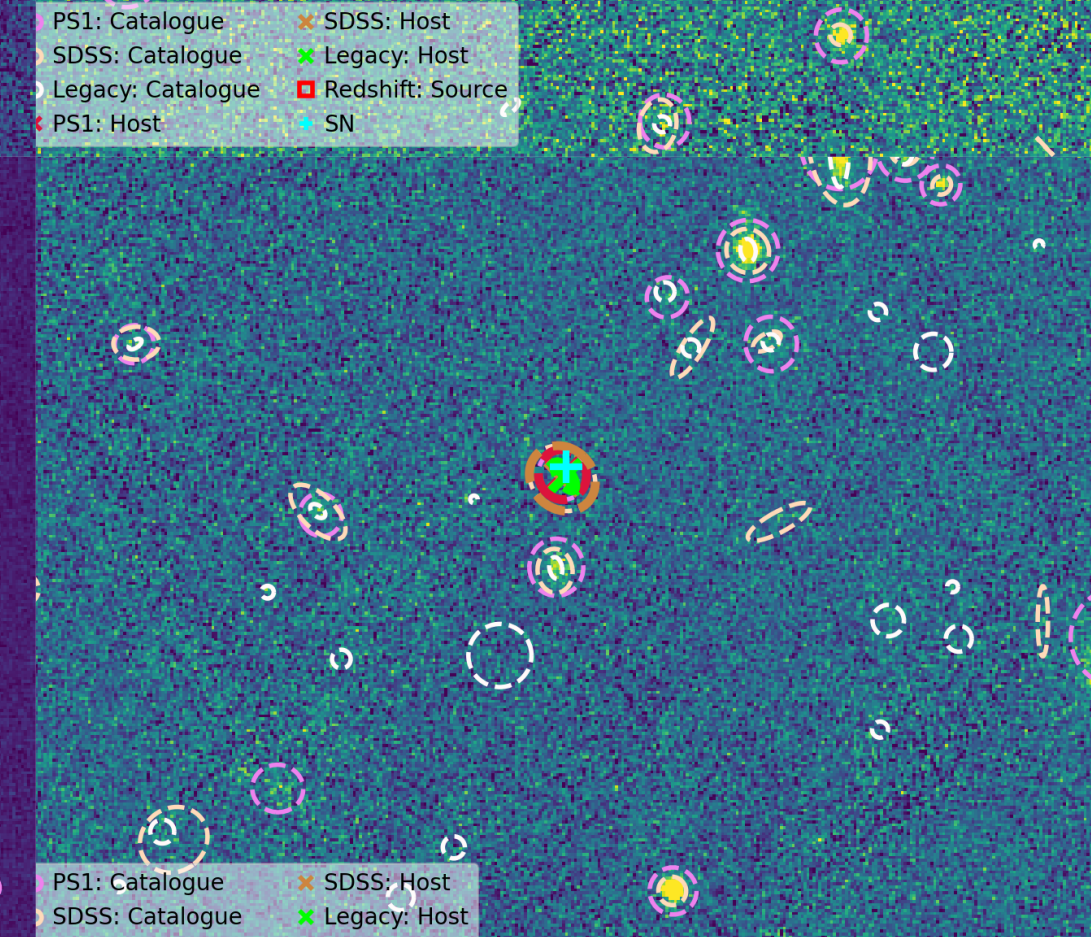
PS1: Catalogue
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



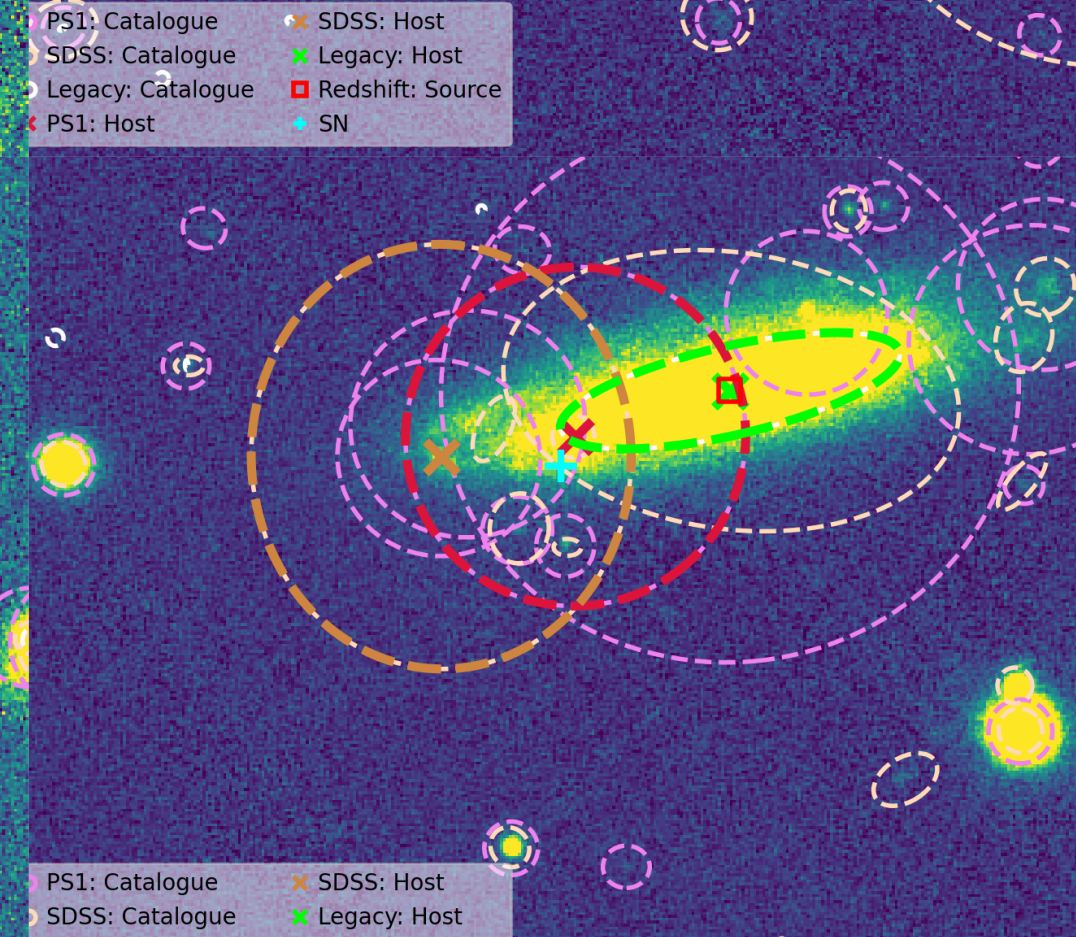
PS1: Catalogue
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



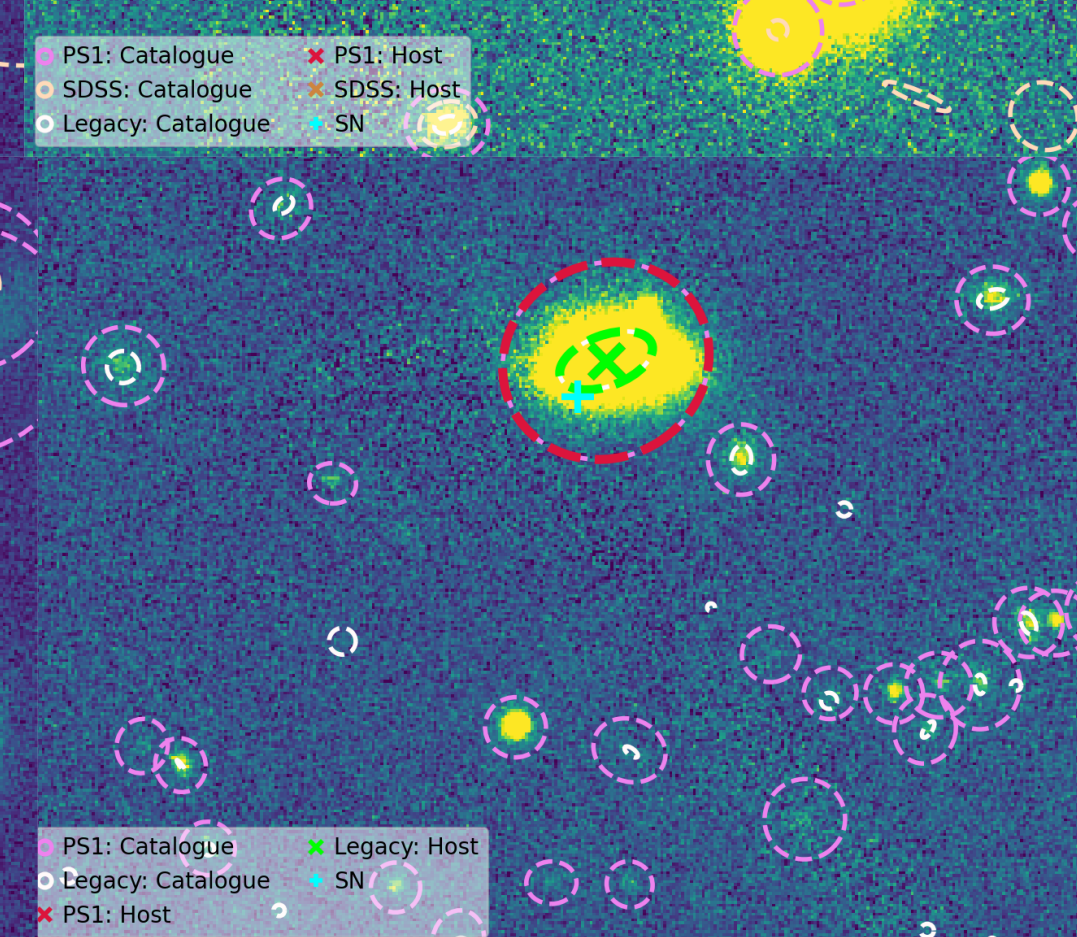
PS1: Catalogue
PS1: Host
Redshift: Source
SN
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



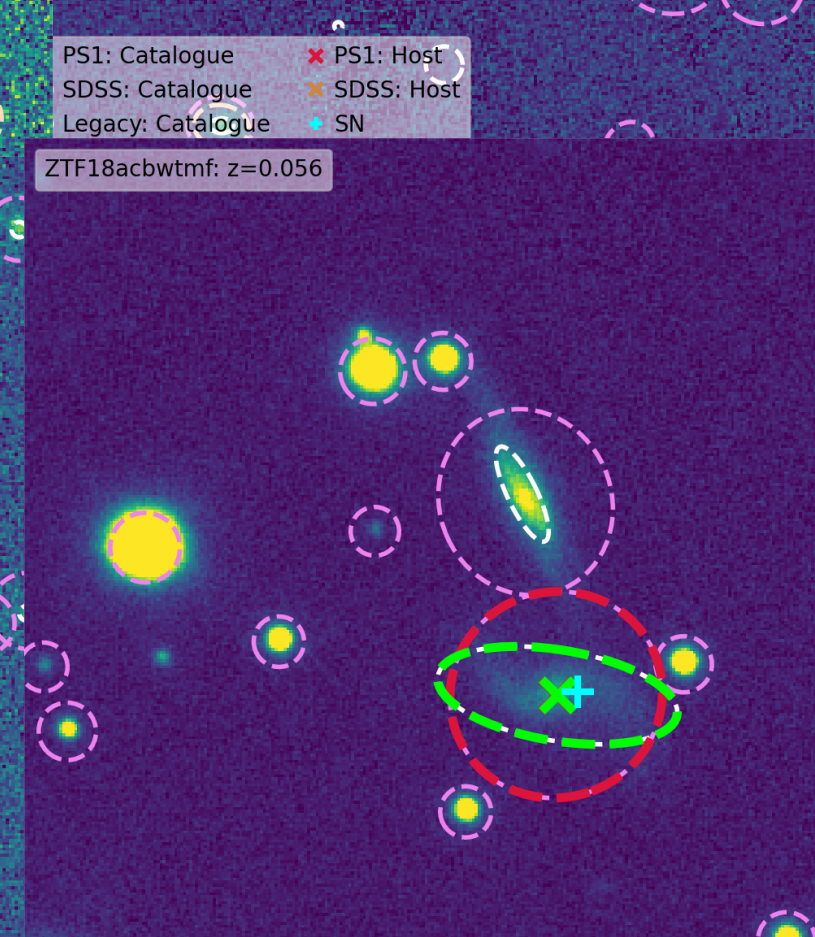
PS1: Catalogue
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



PS1: Catalogue
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



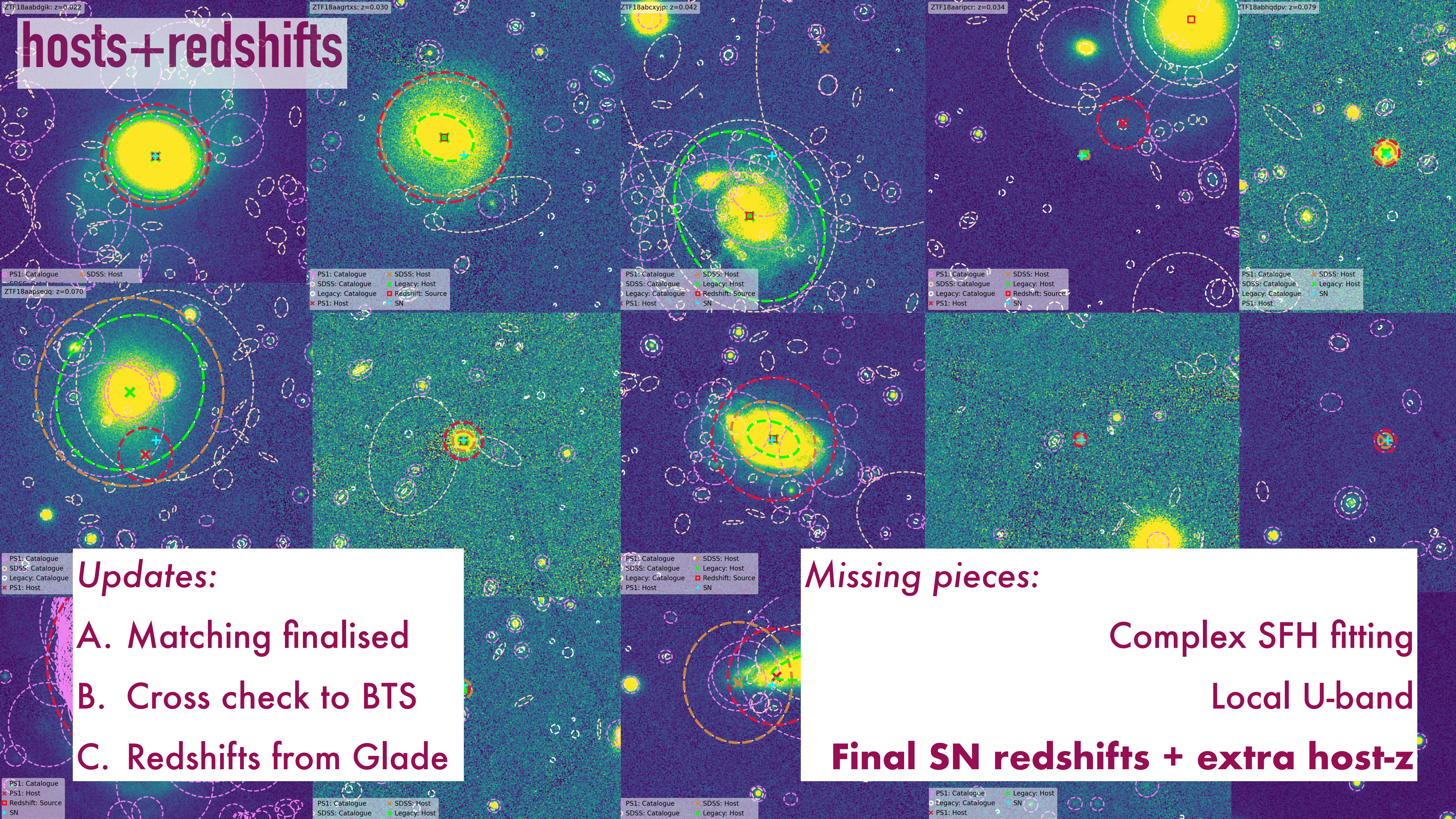
PS1: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN



ZTF18acbwtmf: z=0.056

PS1: Catalogue
SDSS: Catalogue
Legacy: Catalogue
PS1: Host
SDSS: Host
Legacy: Host
Redshift: Source
SN

hosts+redshifts



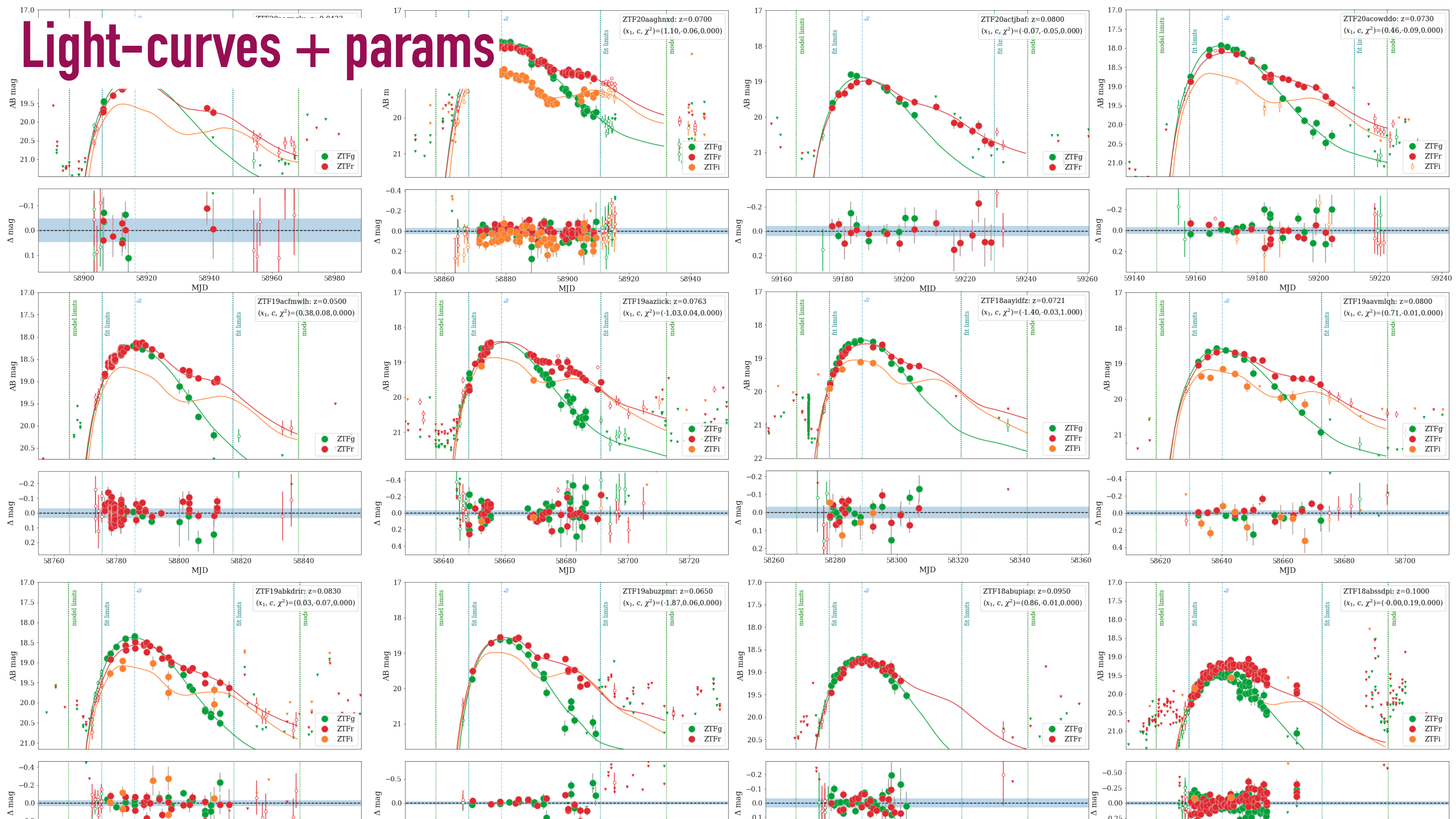
Updates:

- A. Matching finalised
- B. Cross check to BTS
- C. Redshifts from Glade

Missing pieces:

- Complex SFH fitting
- Local U-band
- Final SN redshifts + extra host-z**

Light-curves + params



Light-curves + params



Updates:

A. Baseline corrections + scaling

B. Iterative fits + improved cuts

Missing pieces:

Validation of uncertainties

Scene model comparison?

Optimised fitting (ongoing)

How to get to science / cosmology:

data

- A. Define the sample + locations (to find the host)
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simulations

+ to understand and correct for selection

observing logs + a model for SN (+correlations...) + understanding of detection

Where we are:

You can help today!

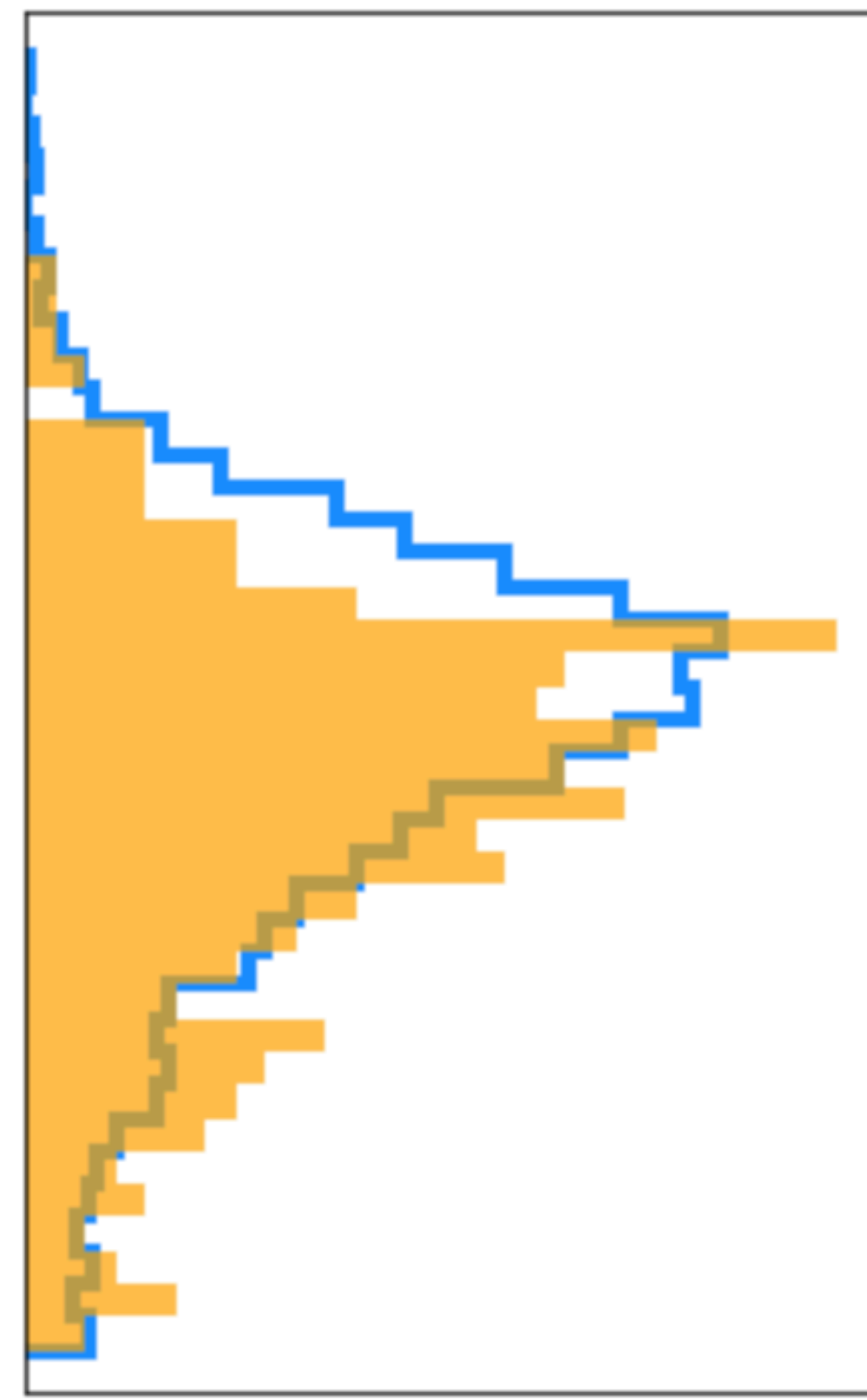
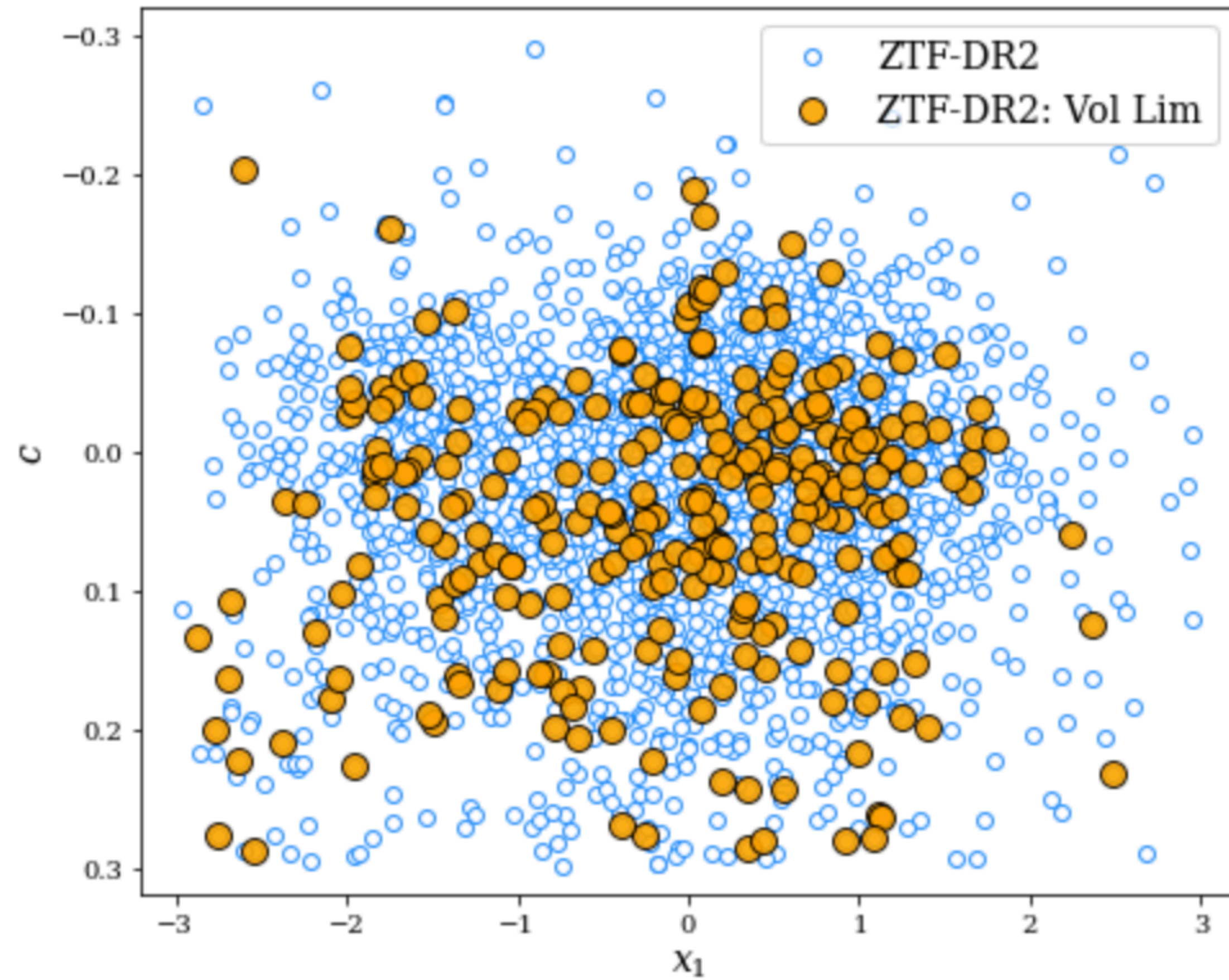
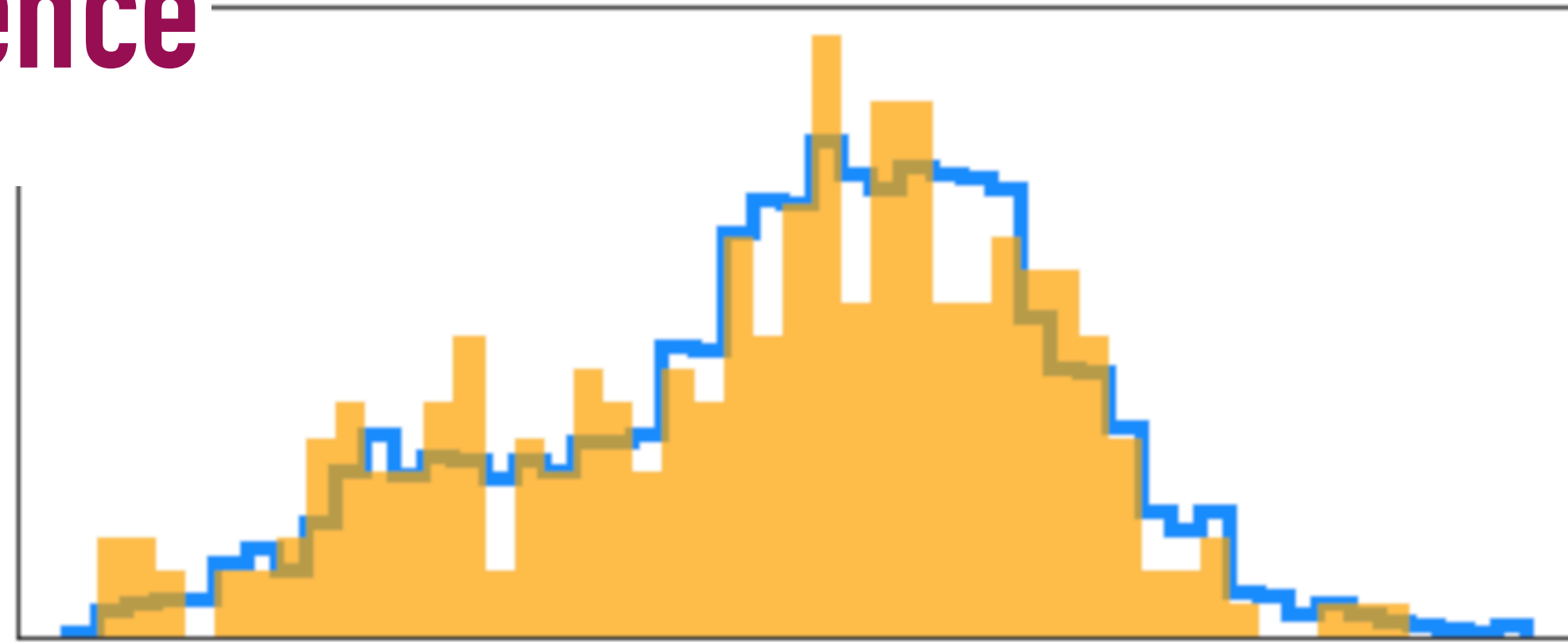
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DR2-v1 (everything, except distance):
online and ready

+ to understand and correct for selection

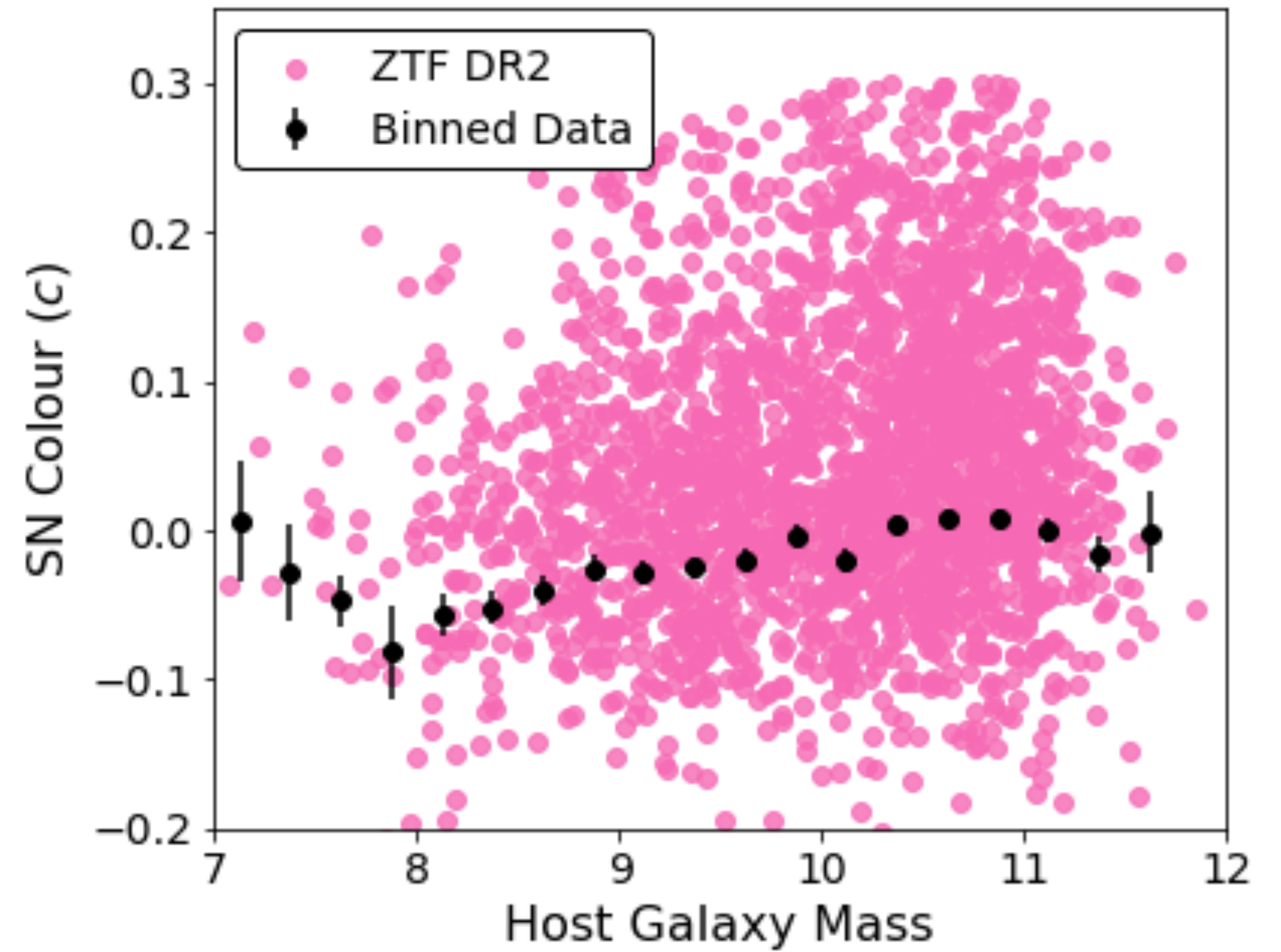
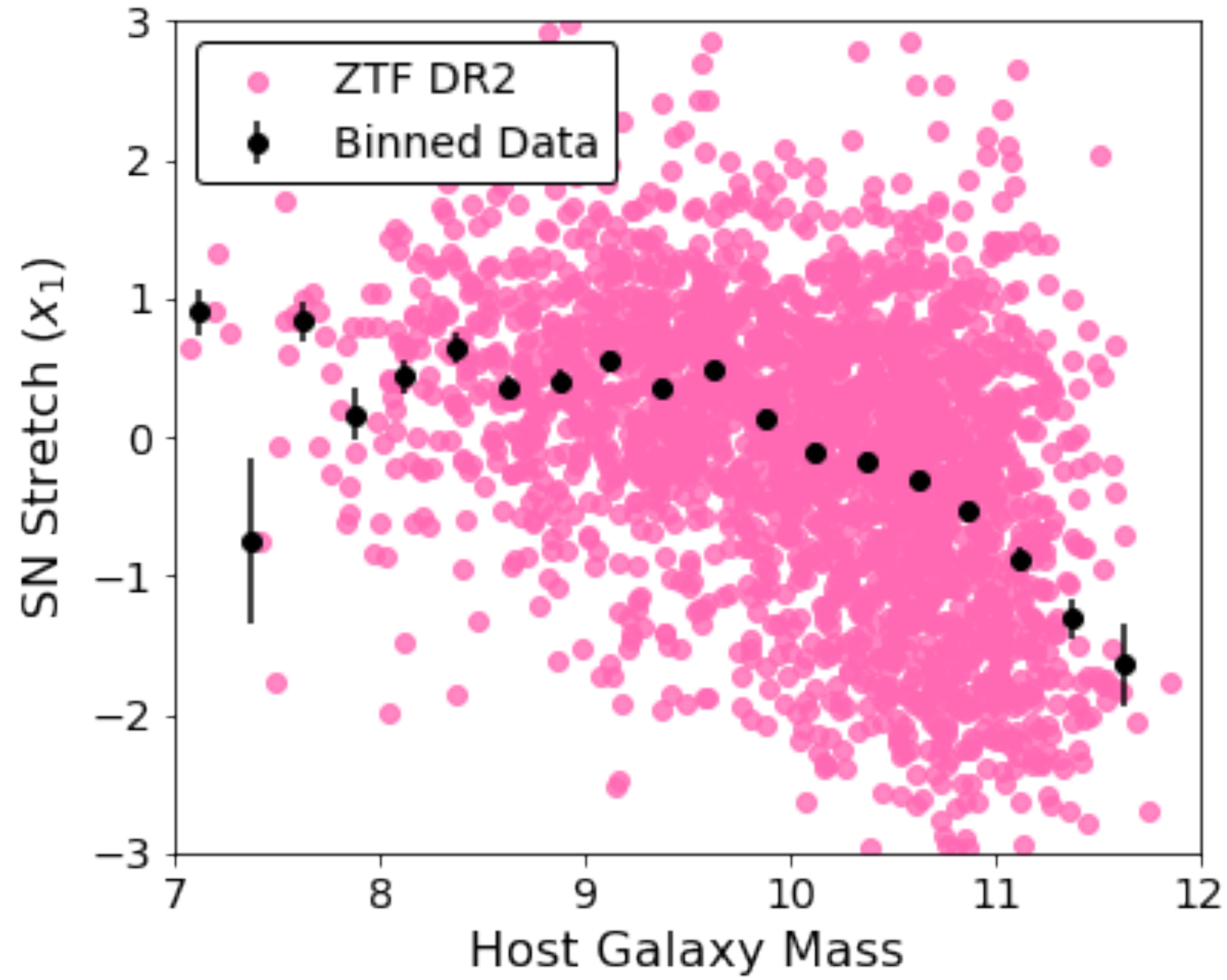
observing logs + a model for SN (+correlations...) + understanding of detection

Some early science



Some early science

DR2



Opportunities:

We have 3000 cosmological SN ready for science

- This is the largest dataset in SN cosmology today. DR3 will not be much better
- It will be online and public when DR2 is released
- There are a million science (non-cosmo) questions to answer:

population studies; light-curve diversity (early+late+v. late time); rates;
spectroscopic properties; relative sub-typing;
(all v environment);
photometric classification; model training;

- If we don't do it - others will. All of these projects are in the cosmological pathway
- Perfect for student projects

Merci :-)

Thoughts? / discussion / coffee?

