

ZTF all-transients recovery project

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Supernova counts at bright end

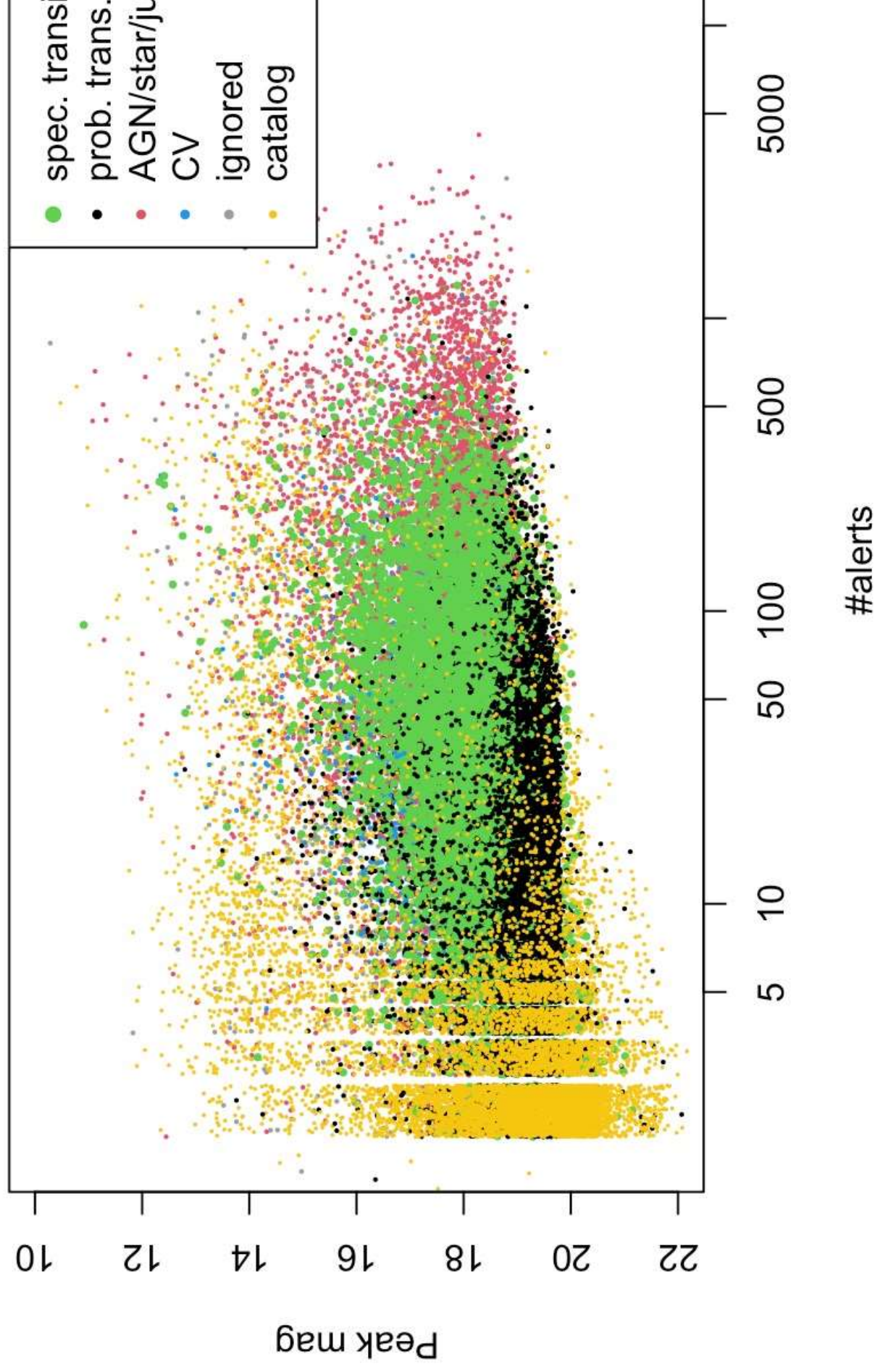
All events:

mag \leq	19.0	18.5	18.0	17.5	17.0
All typed	9342	6422	3411	1857	946
All SNe	9211	6324	3345	1816	923
Ia	6695	4635	2447	1336	696

Initial steps

- Remove all fields with $|b| < 7$. Remove all nights before 1 June
- Alerts with $\text{drb} > 0.8$, $\text{ndethist} > 0$, $\text{magpsf} > 12$, isdiffpos in ['1', 't']
→ Generate list of unique **sources**
- Remove sources with $\text{ssdistnr} == 0$ in all alerts
- Remove sources within 2 arcsec of $\text{sgscore} > 0.9$ object
- Remove sources within 10 arcsec of $\text{mag} < 14$ & $\text{sgscore} > 0.9$
→ 1.5 million ZTF objects

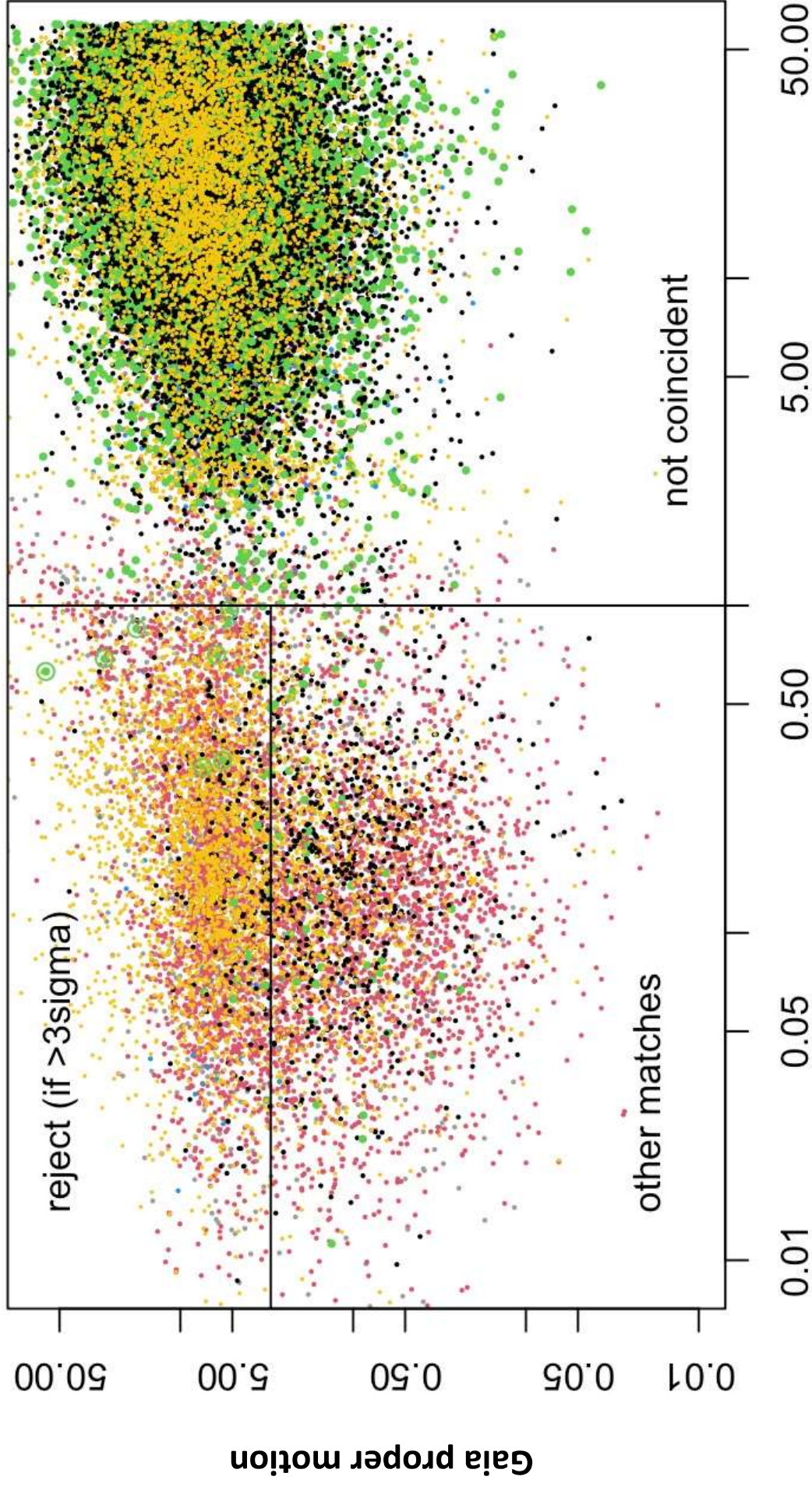
Basic event properties



Primary steps

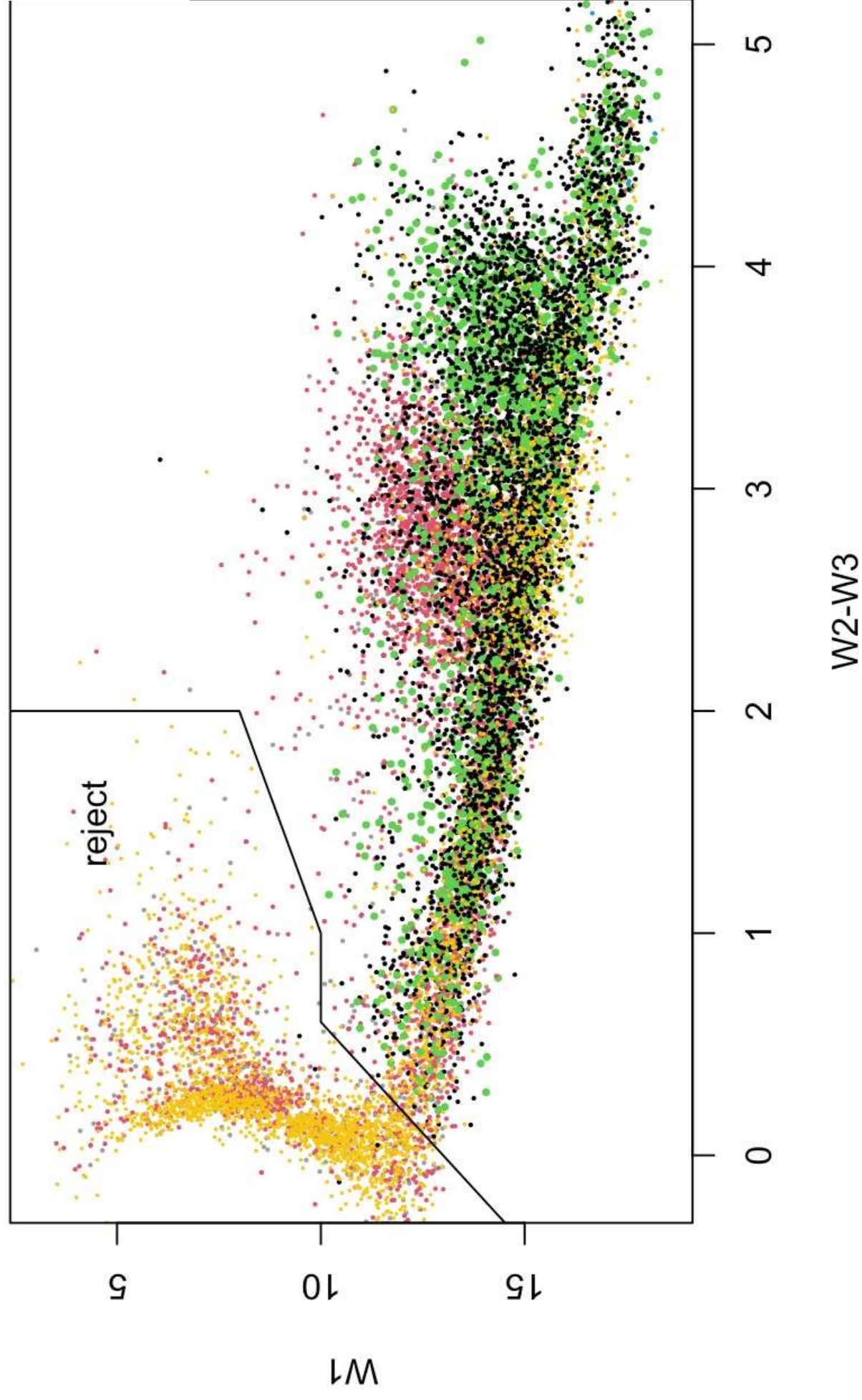
- **Step 1: Remove known asteroids**
- **Step 2: Remove things with a (Gaia) parallax or proper motion**
- **Step 3: Remove mid-IR bright coincident stars**
- **Step 4: Remove AGN/star-colored (in WISE) objects at small offset**
- **Step 5: Remove events dominated by low RB/DRB/braai score**
- **Step 6: Remove events with slight motion**
- **Step 7: Pointlike PS1 counterpart (via PSF mag - Kron mag)**
- **Step 8: Pointlike PS1 counterpart (via alerts/SGscore)**
- **Step 9: PS1 color-mag**
- **Step 10: 2MASS color/mag filter**

Gaia (nearest)



Distance from nearest Gaia source

WISE sources <1"



Output

##	fail_any	-	AGN	bad	CV	junk	random	SS	trans	unsaved
##	FALSE	18068	196	25	652	1473	3925	5	10461	109
##	TRUE	871	349	13	228	4268	15147	2	35	110

(Photometric) classification app (Harlan Phillips)

List of Transients

displaying 1 - 50 records in total 250976

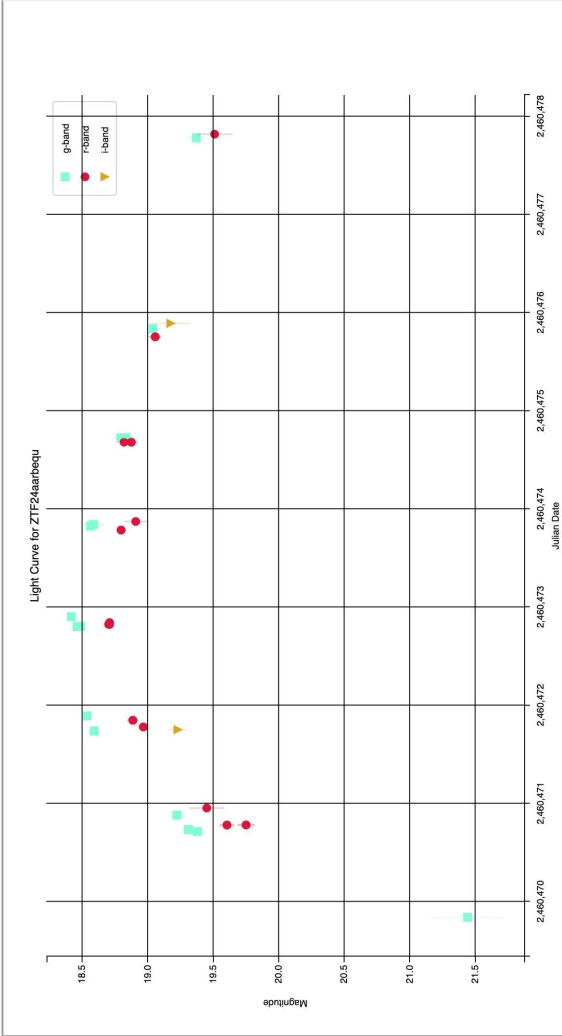
#	Source ID	Classified By
1	ZTF17aaaaanm	Jack8512, Harlan392
2	ZTF17aaaazwi	Harlan392
3	ZTF17aaabmmr	Harlan392
4	ZTF17aaabydc	No classifications yet
5	ZTF17aaabzsy	No classifications yet
6	ZTF17aaacciv	No classifications yet
7	ZTF17aaacdqd	No classifications yet
8	ZTF17aaacewv	No classifications yet
9	ZTF17aaadvfh	No classifications yet
10	ZTF17aaadydr	No classifications yet
11	ZTF17aaadyqy	No classifications yet
12	ZTF17aaaeadiw	Harlan392
13	ZTF17aaaeiaq	No classifications yet
14	ZTF17aaekqkc	No classifications yet
15	ZTF17aaeeqms	No classifications yet
16	ZTF17aaeatnn	No classifications yet

ZTF24aarbequ

Fritz

RA: 233.61237675
Dec: 32.771608549999996
Scatter Separation: 0.08311354052463482
Galactic Latitude: 54d27m34.76136024s

Light Curve

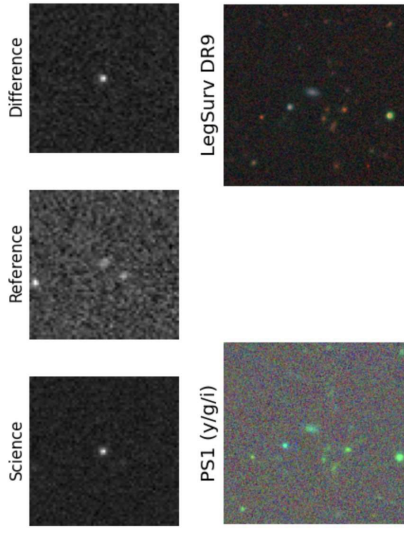


Current Classification

No classifications yet.

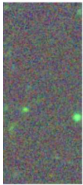
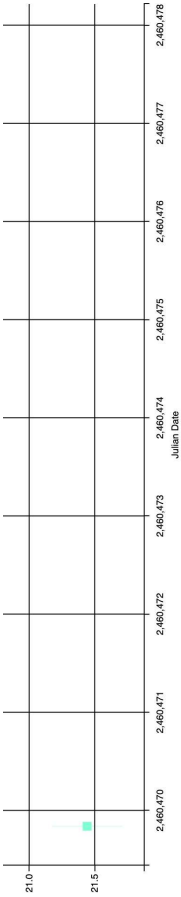
Crossmatch Data

LegacySurvey: 1 sources in 3 arcsec
Closest: d = 1.22 arcsec, 293.3 deg (east of north)
photoz=0.14 (68% bounds 0.09, 0.19), type=EXP
SDSS (10 arcsec): No data found
PS1: 1 source in 3 arcsec
Source 1: d = 1.15 arcsec, sgscore1=0.002916669938713312

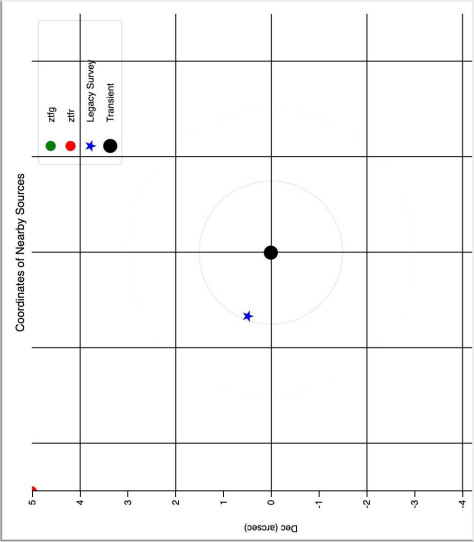


Centroid Plot





Centroid Plot



Fetch VLASS Data

Show VLASS Images

Classify

SN	AGN	CV	Rock	Fast	Slow	Other
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Not confident	Confident	Certain
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Submit