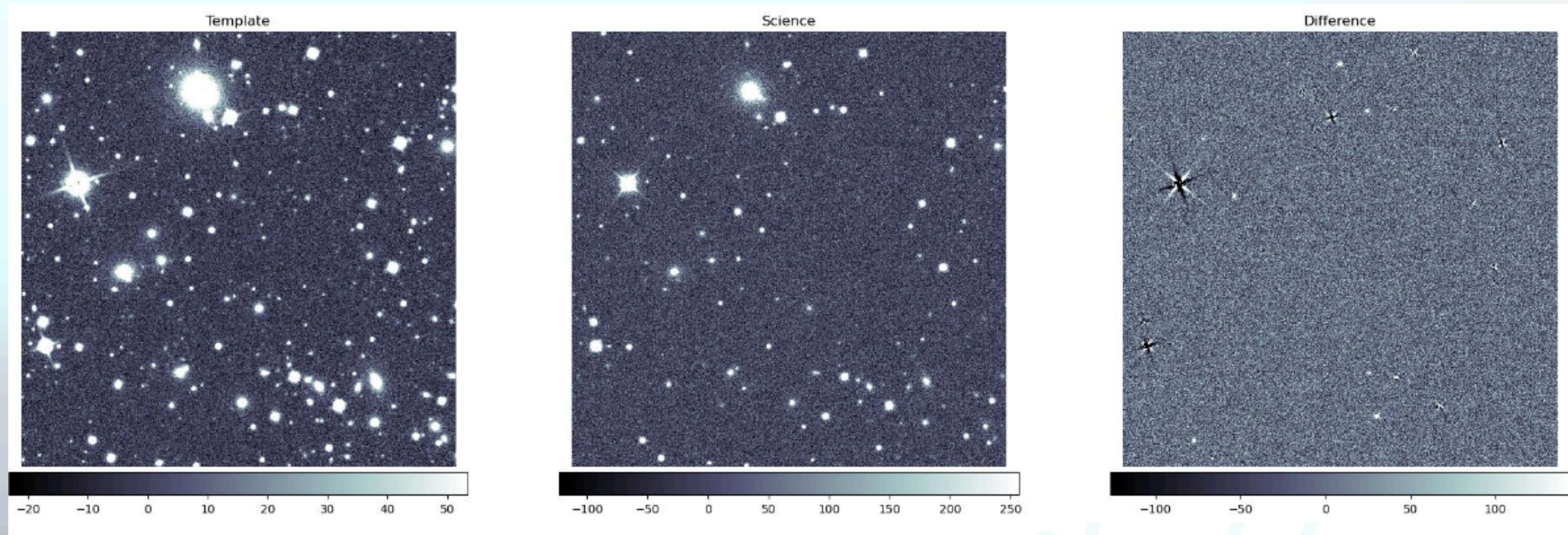


# Light curves from Fink Alerts for Rubin commissioning (ex. app to calibration studies?) from Light curves to Pixels

Sylvie Dagoret-Campagne  
IJCLab team



(Image from B Sanchez, LSST-France 2025)

# Outline

## Goal

Use Fink alerts for Rubin commissioning?

Do something before DP2 arrives

## Question - Motivation

Photometric calibration with light curves

→ anomaly detection

→ instrumental / atmospheric effects

## Strategy

- Fink pre-selection (vs Butler / TAP)
- Extract: visit, detector, diaObjectId, RA/Dec
- Later do Feed back to AP / DRP

## Limitation

Designed for **variable sources**

→ Is it possible to get **flat light curves**?

## How Rubin generate alerts

Aletp Pipeline (AP)

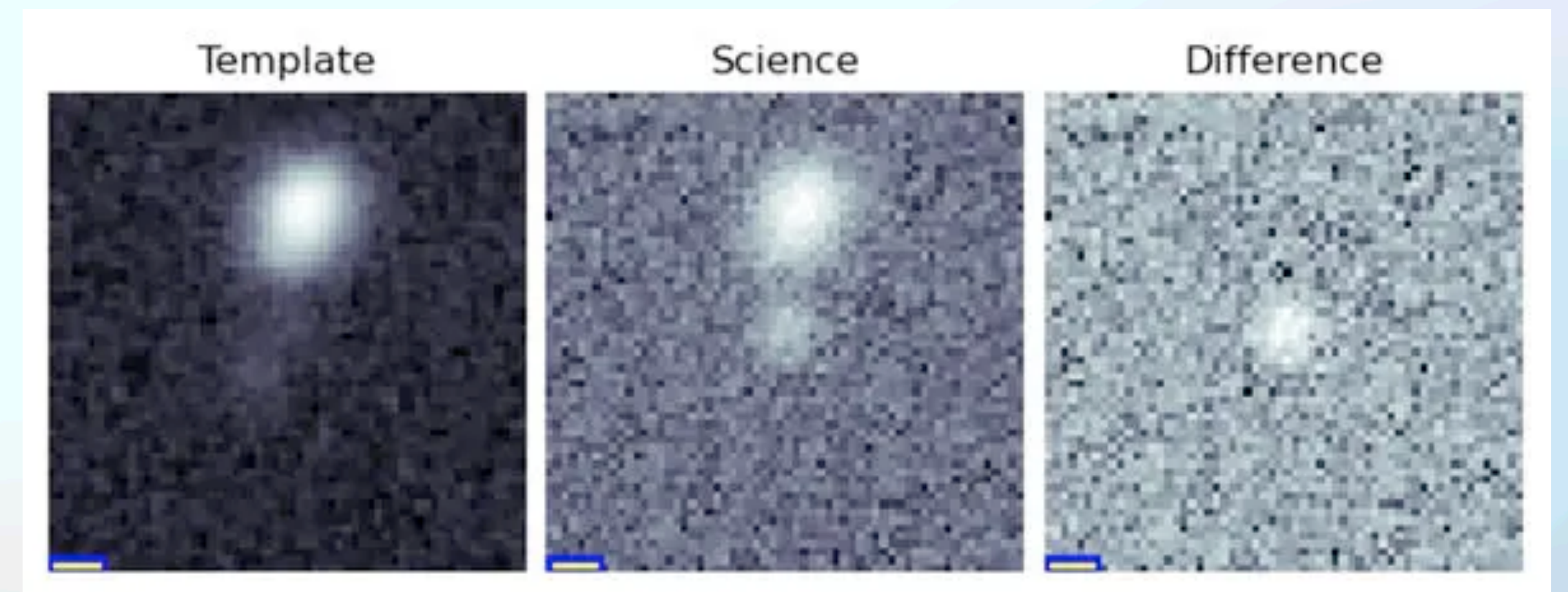
Low noise

Science image

DIA image

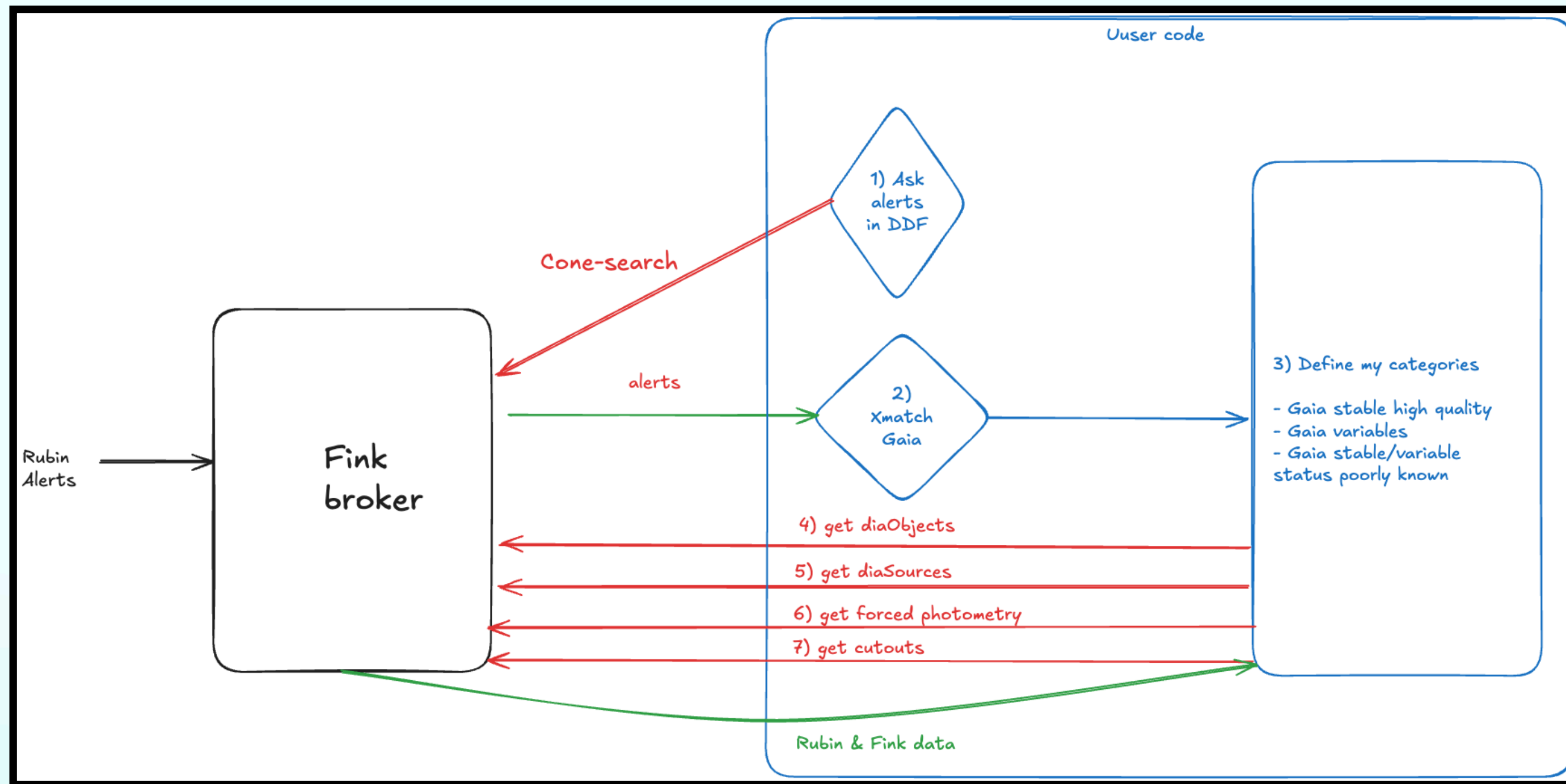
Sky template

for one visit



↓  
Alert if  $S/N > 5$  2

# Fink - Rubin Data retrieving and alert classification



- Get alerts & Rubin & LSST data through API

- <https://lsst.fink-portal.org/schemas>

- Requires alerts with  $N_{src} \geq 100$

- In Deep Drilling Fields

BIG ADDED VALUE FROM FINK

- Xcrossmatch with external catalogs

- Classification criteria available inside alerts:

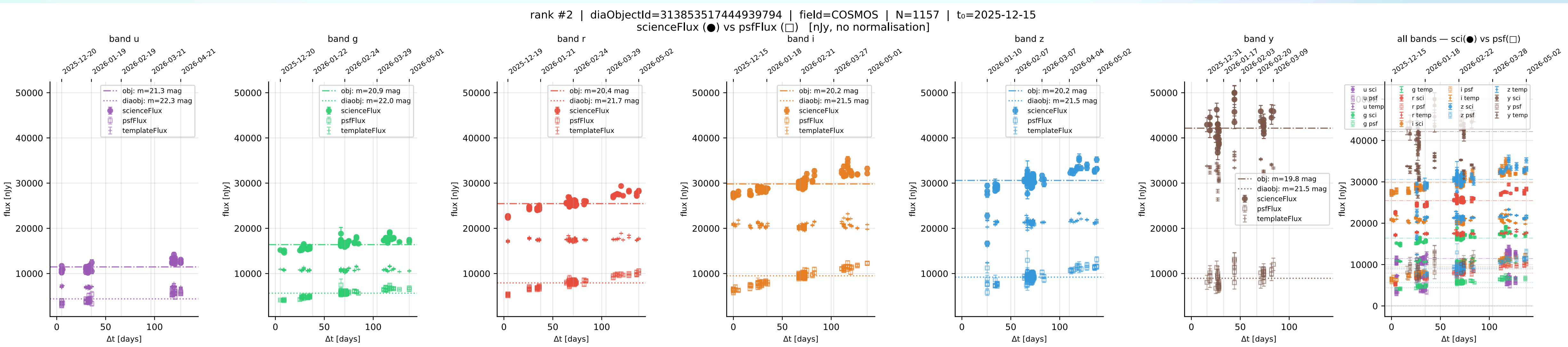
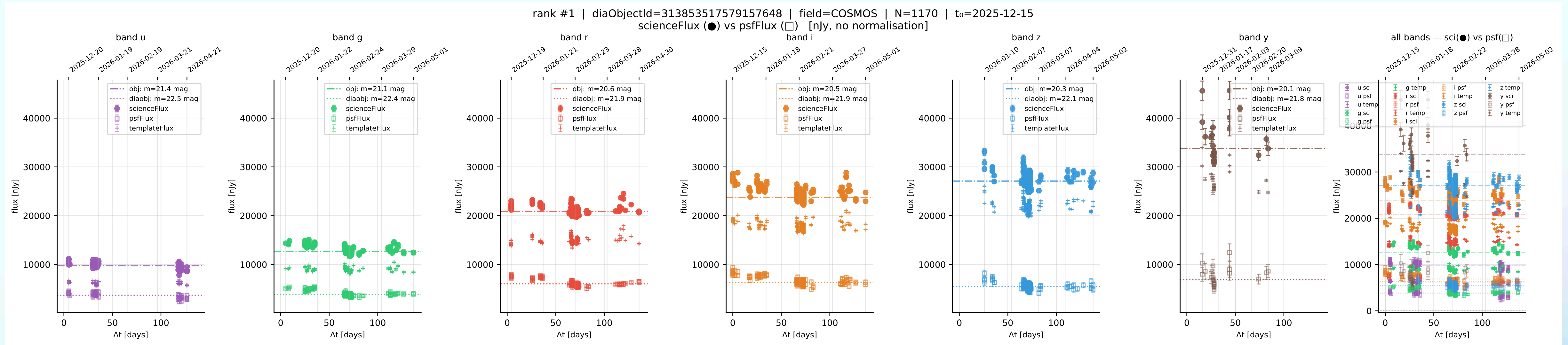
I define 3 types of Gaia alerts

- How is it possible to get alerts from Stable Gaia ?

Group	Criteria (exact variable names)	Purpose / Interpretation
<code>gaia_star_variable</code>	<code>f:xm_gaiadr3_DR3Name</code> not null AND <code>f:xm_gaiadr3_VarFlag</code> $\notin$ { 0 , False , NOT_AVAILABLE , null }	Known Gaia variable star
<code>gaia_star_stable_hq</code>	Gaia match AND <code>VarFlag</code> stable AND <code>f:xm_gaiadr3_Plx</code> > 0 AND <code>f:xm_gaiadr3_e_Plx</code> > 0 AND $(Plx / e\_Plx) \geq 5$	High-quality, non-variable star with reliable distance with parallax
<code>gaia_nophotgstar_stable_unknown_parallax</code>	Gaia match AND stable AND parallax unusable AND <code>f:xm_gaiadr3_PhotoGMag</code> is null	Missing photometry → poorly constrained astrometry

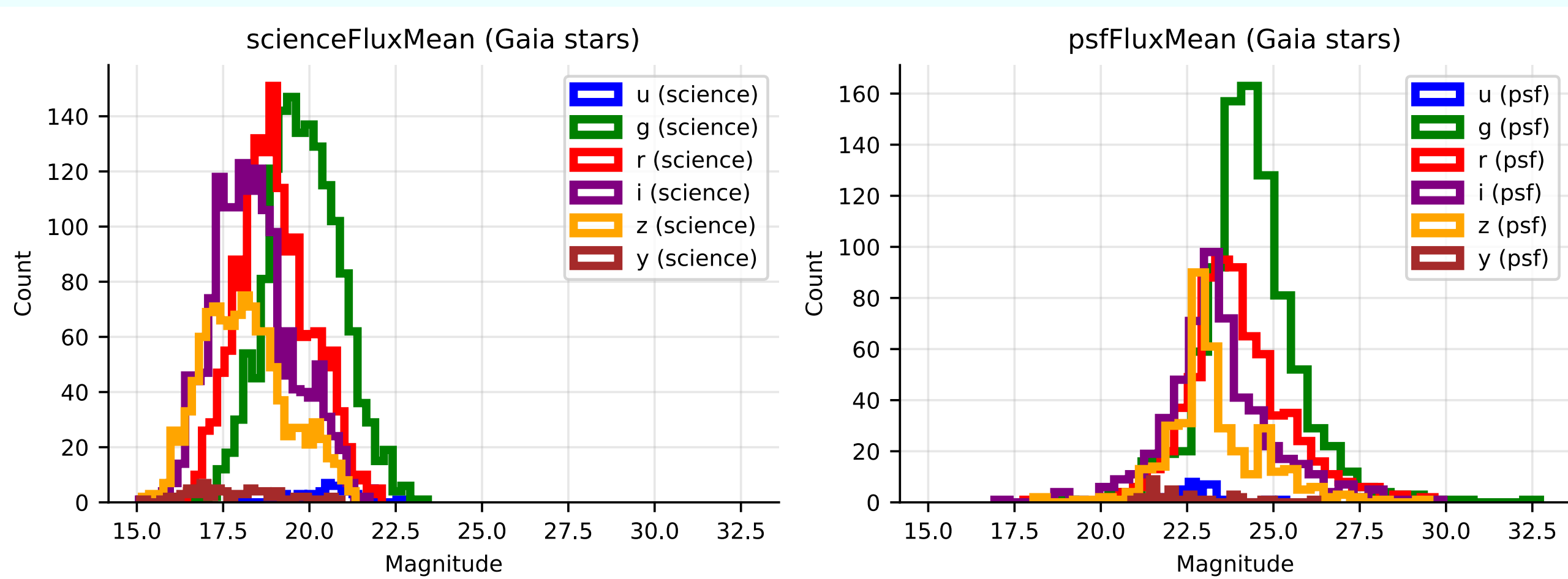
# Example of light curves long duration with > 10000 visits

Introduce psfFlux (diaFlux), science flux and Template flux • Selection Nsrc > 100



# ScienceFlux and PsfFlux

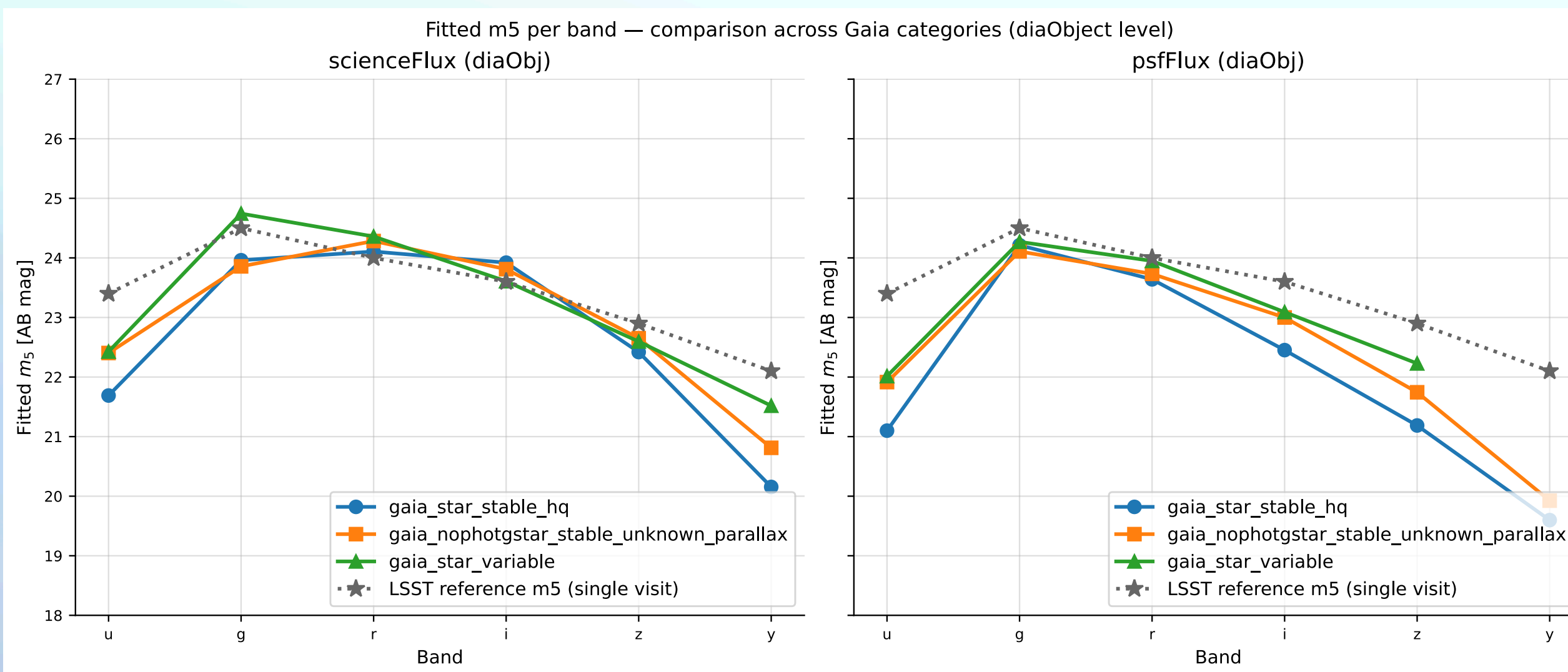
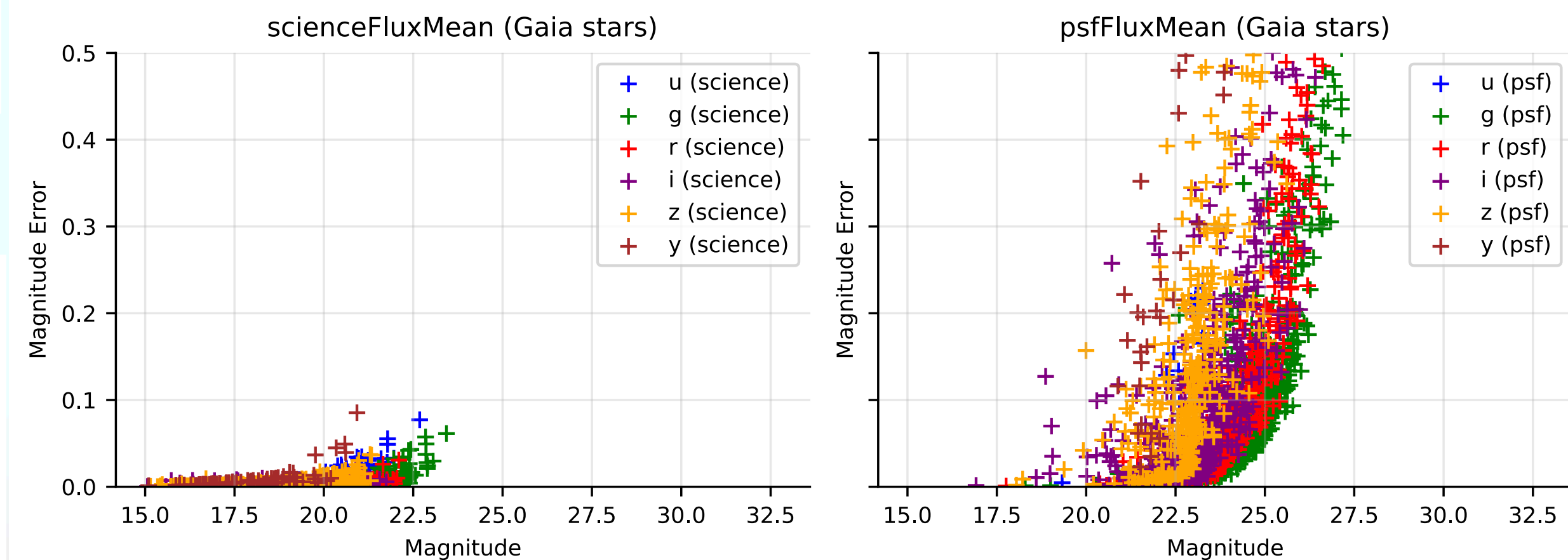
Magnitude distribution from Gaia alerts



2 to 3 magnitude differences between psfFlux and scienceFlux

Statistical Errors on fluxes vs Magnitudes

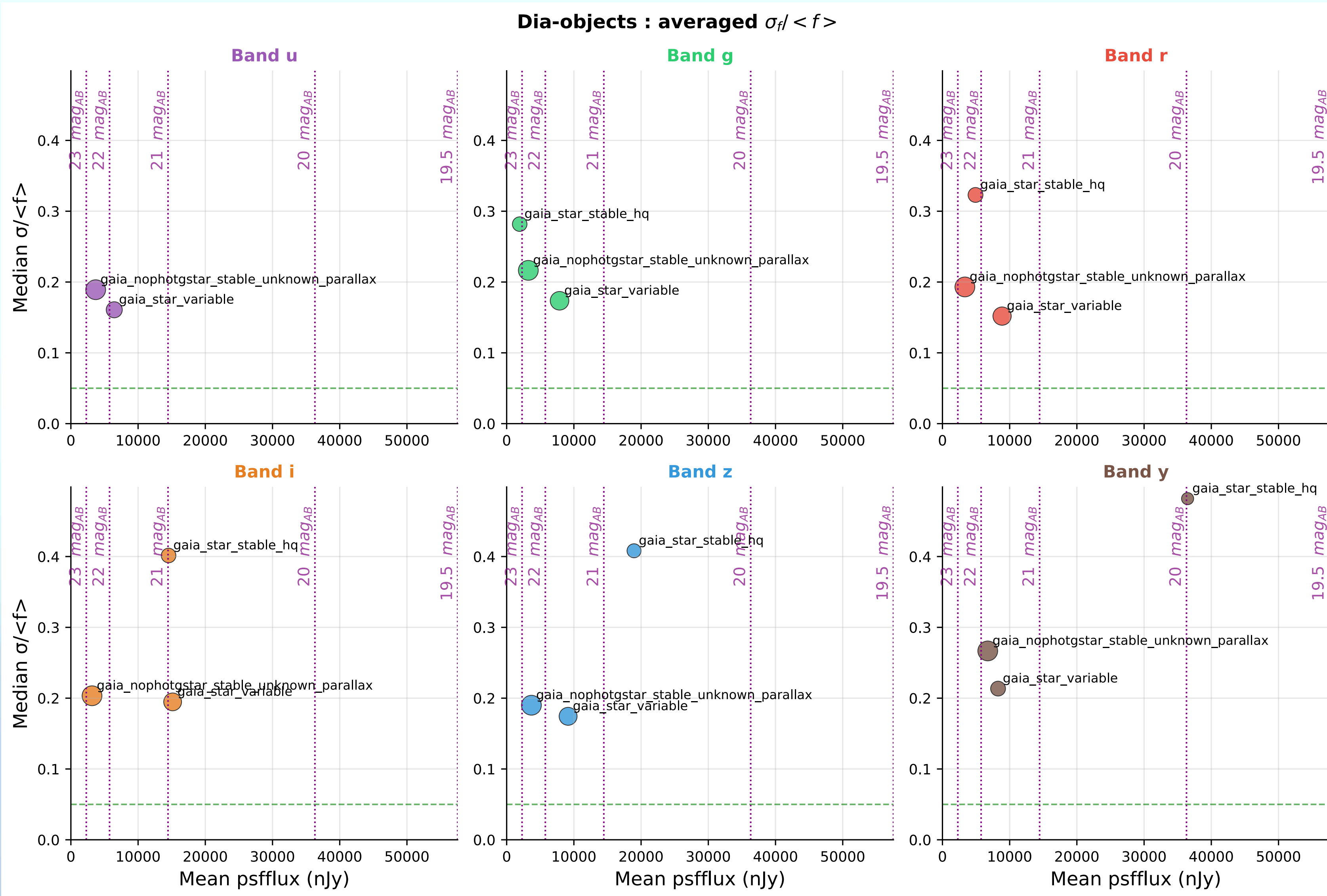
Single visit depth for scienceFlux and psfFlux



$$\text{Fit : } \sigma(m) = \sqrt{(0.04 \cdot 10^{0.4(m-m_5)})^2 + \sigma_{\text{sys}}^2}$$

Per visit depth slightly below the expected

# Averaged relative dispersion $\frac{\sigma_F}{F}$ on psfFlux by dia-object type

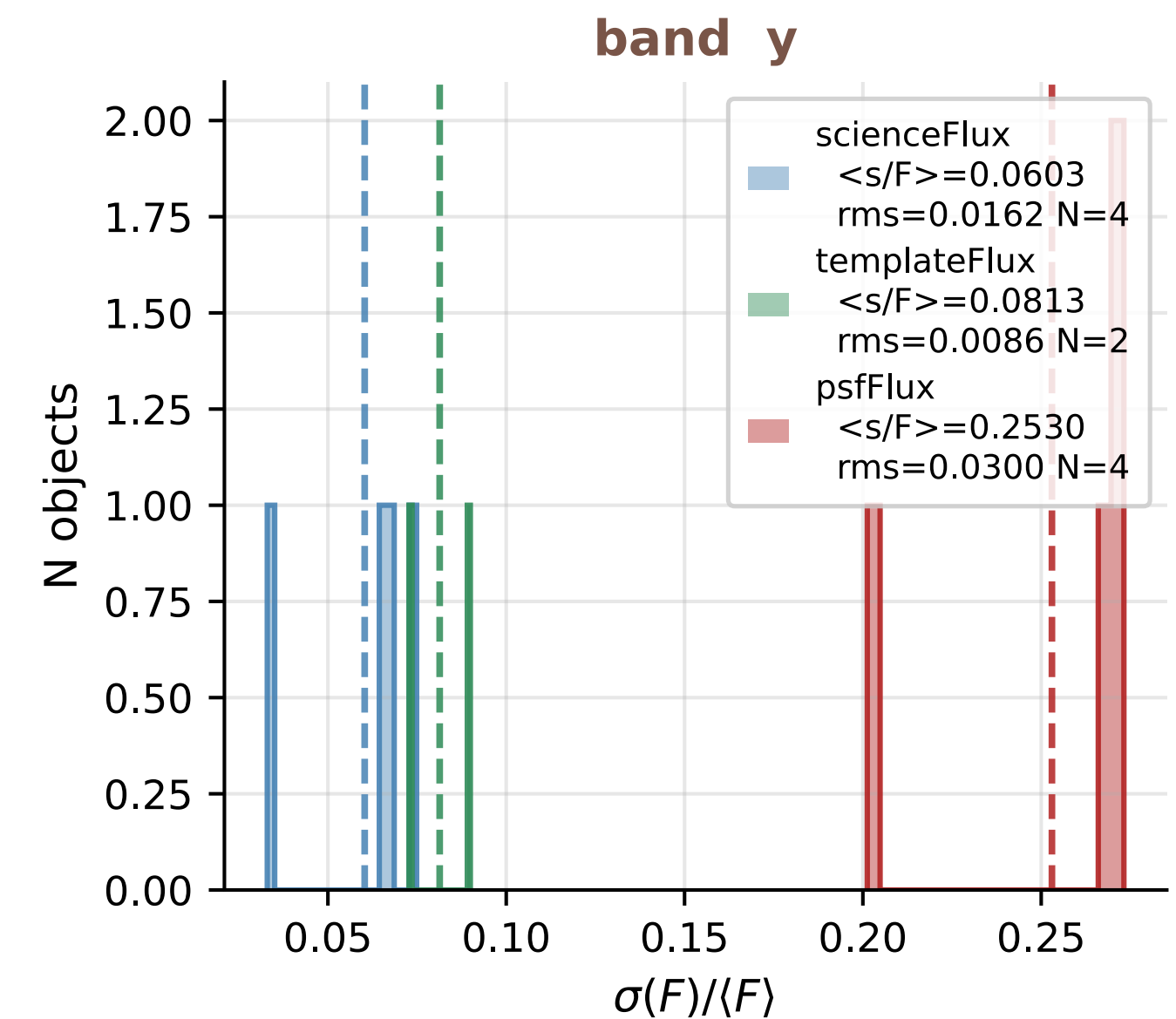
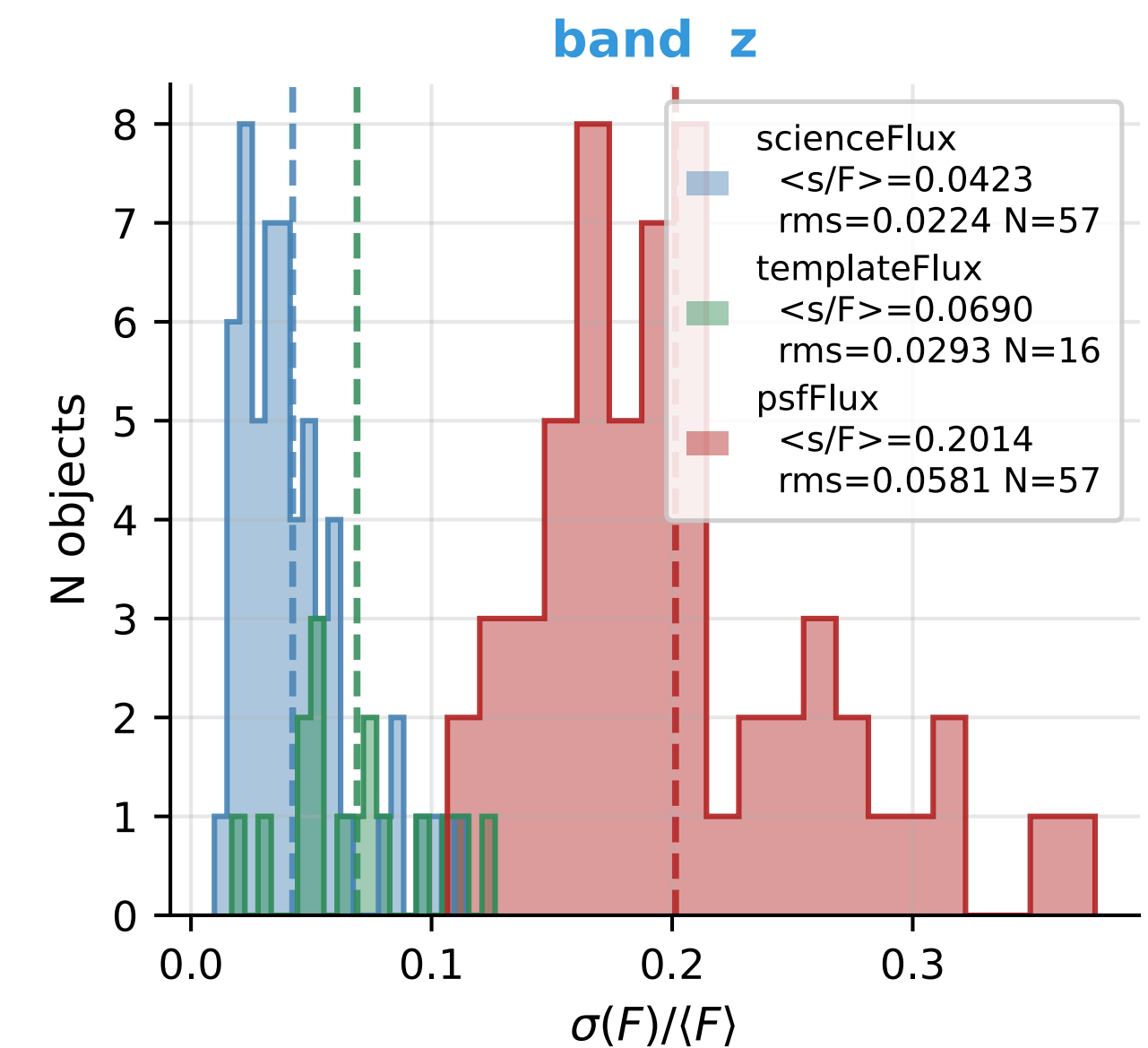
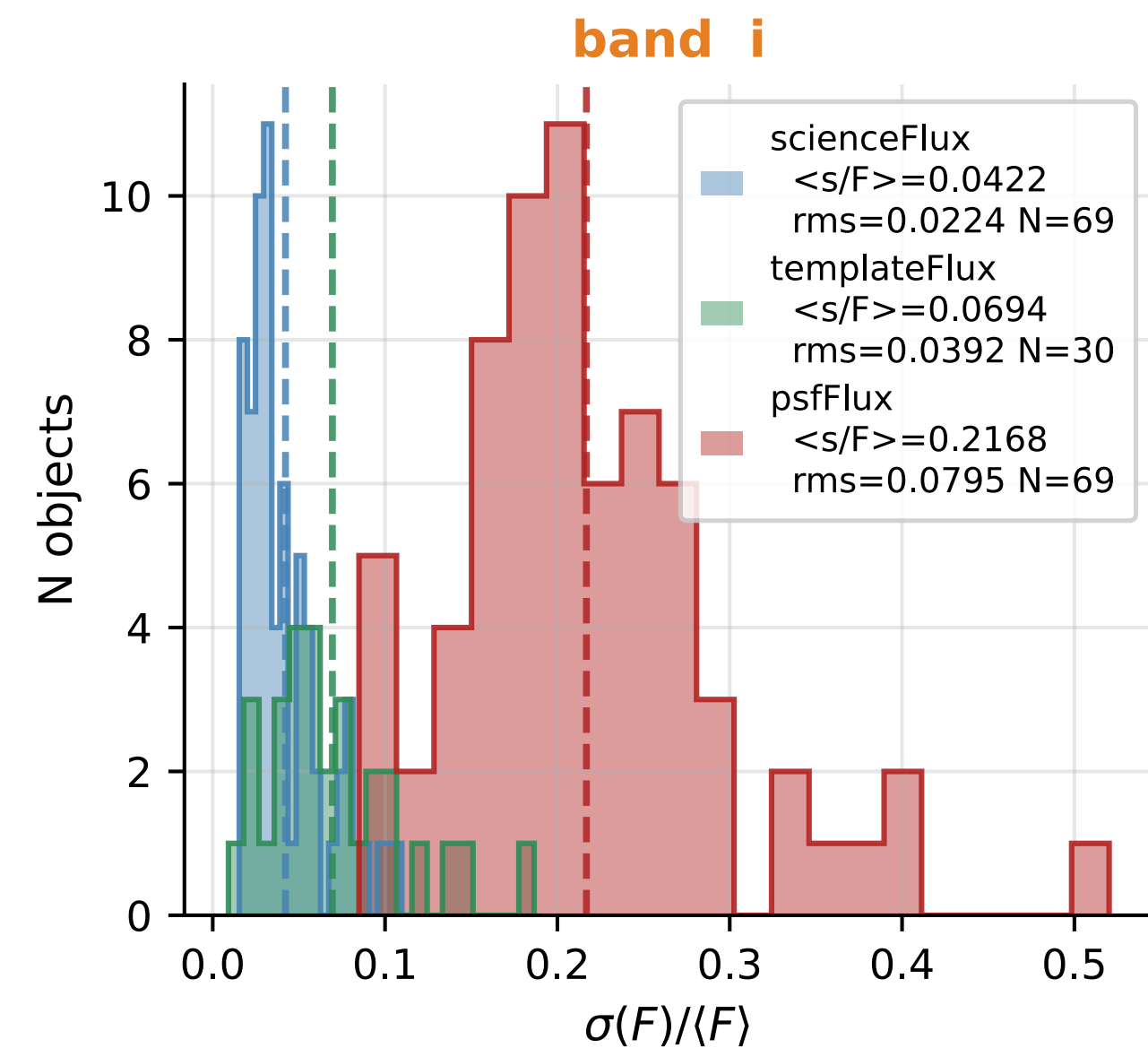
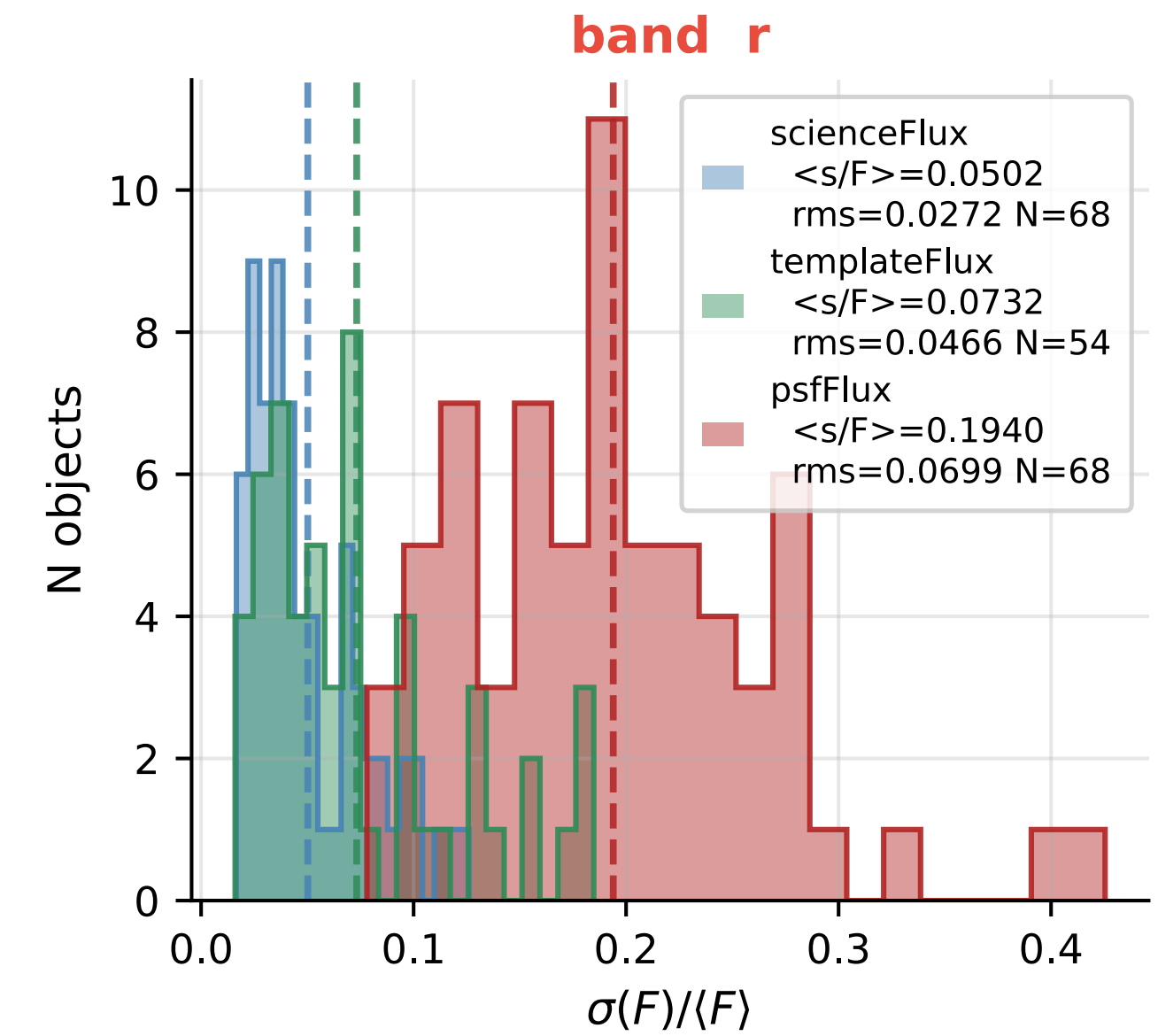
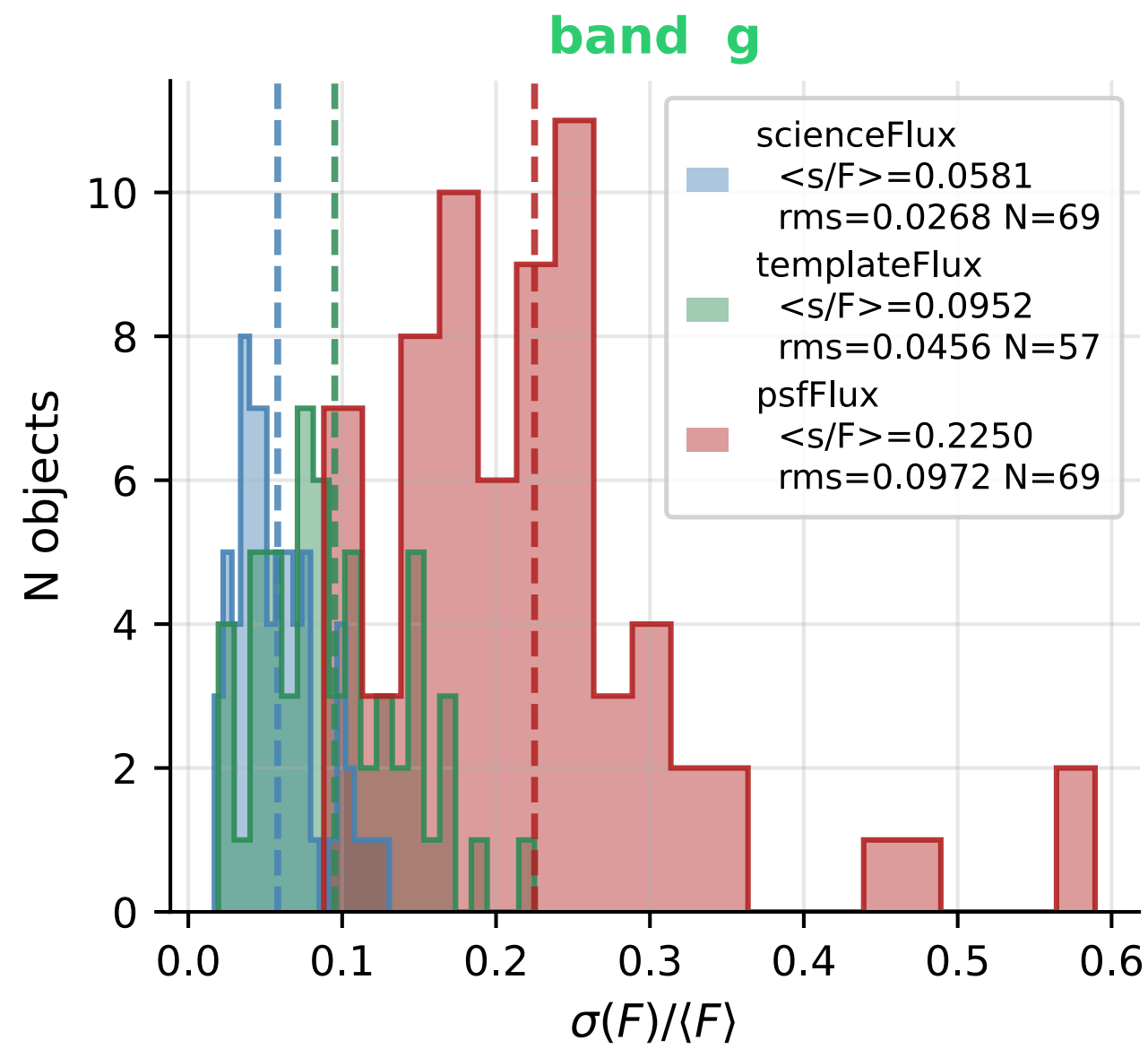
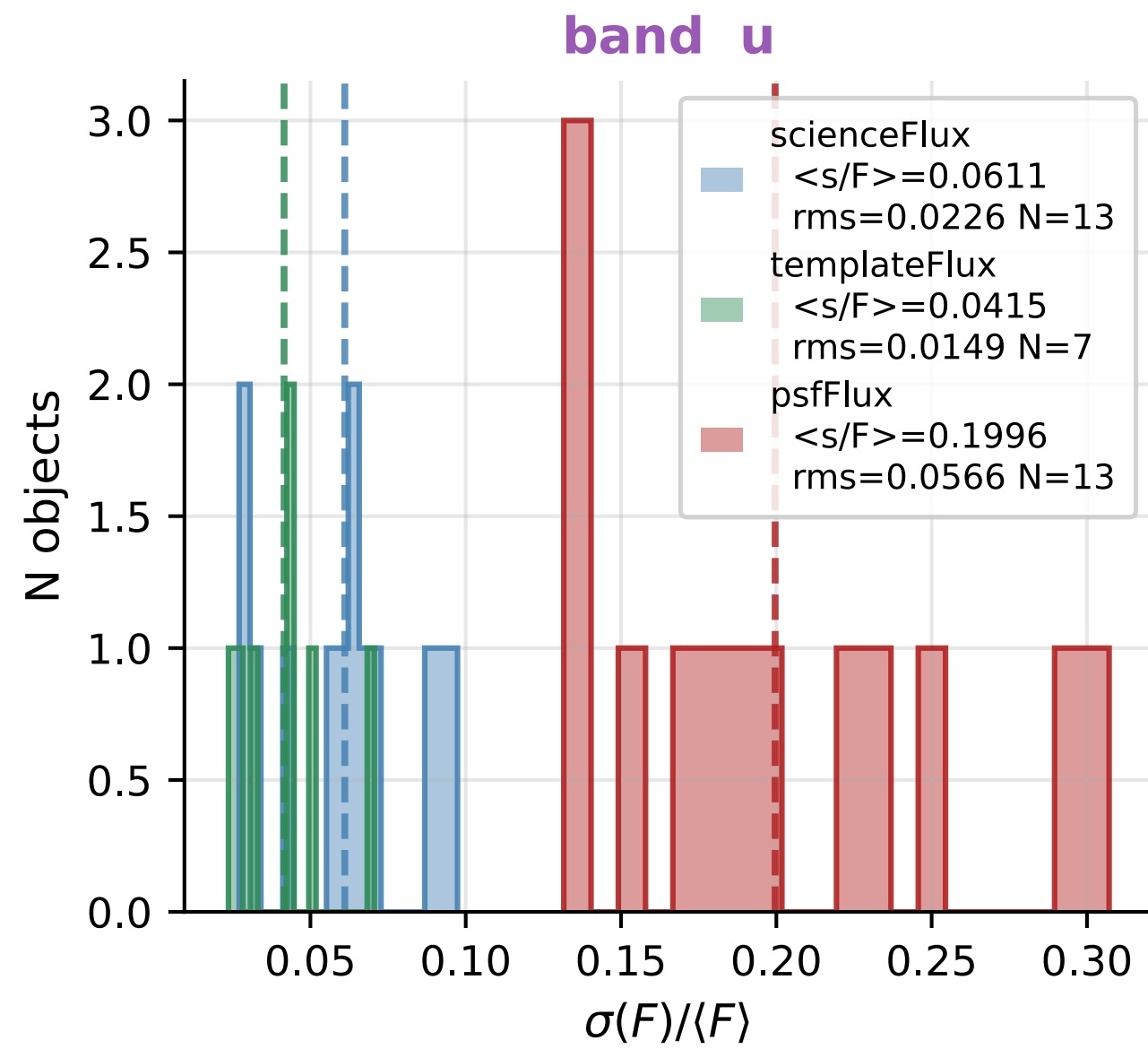


Averaged over light curves:

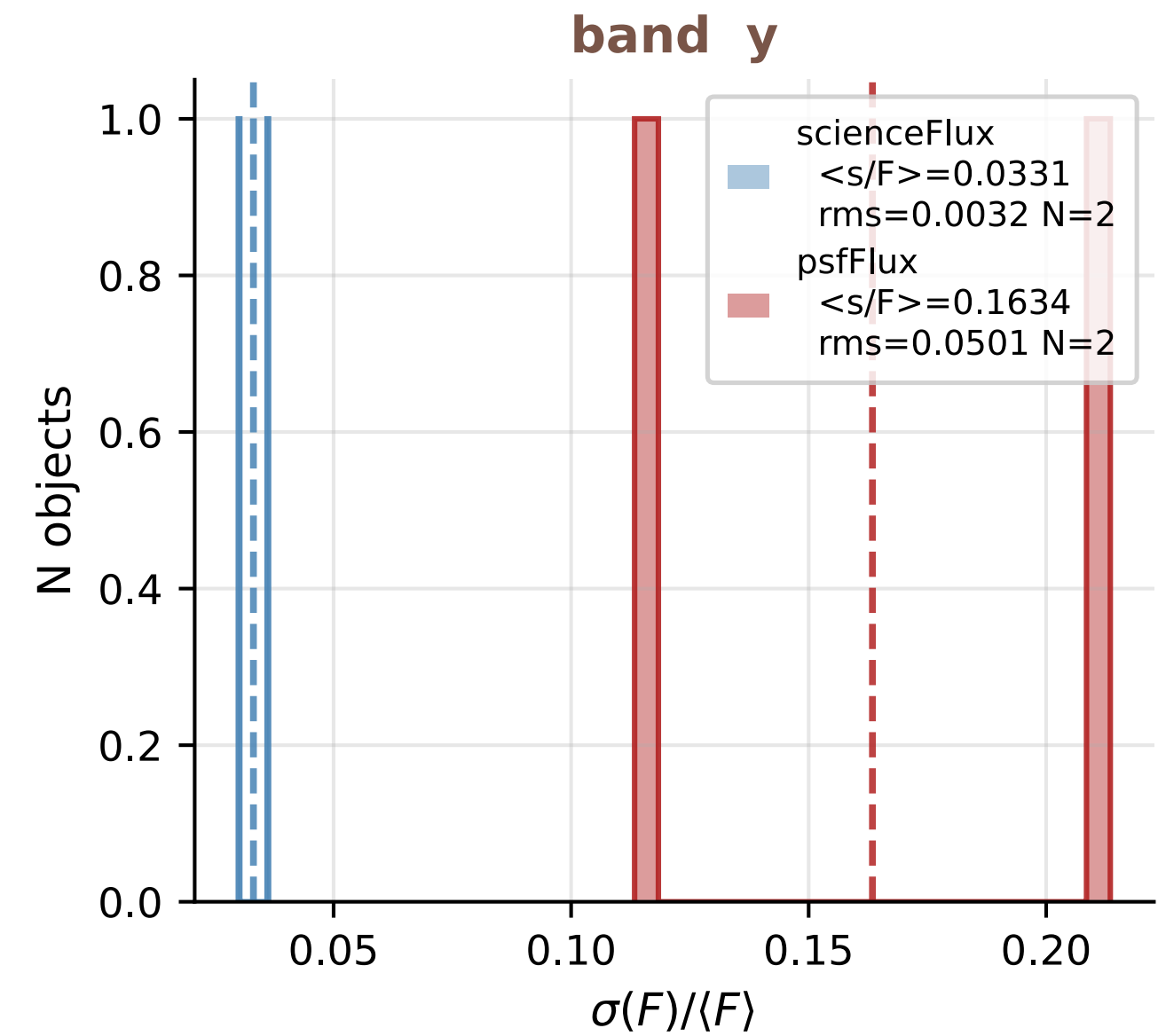
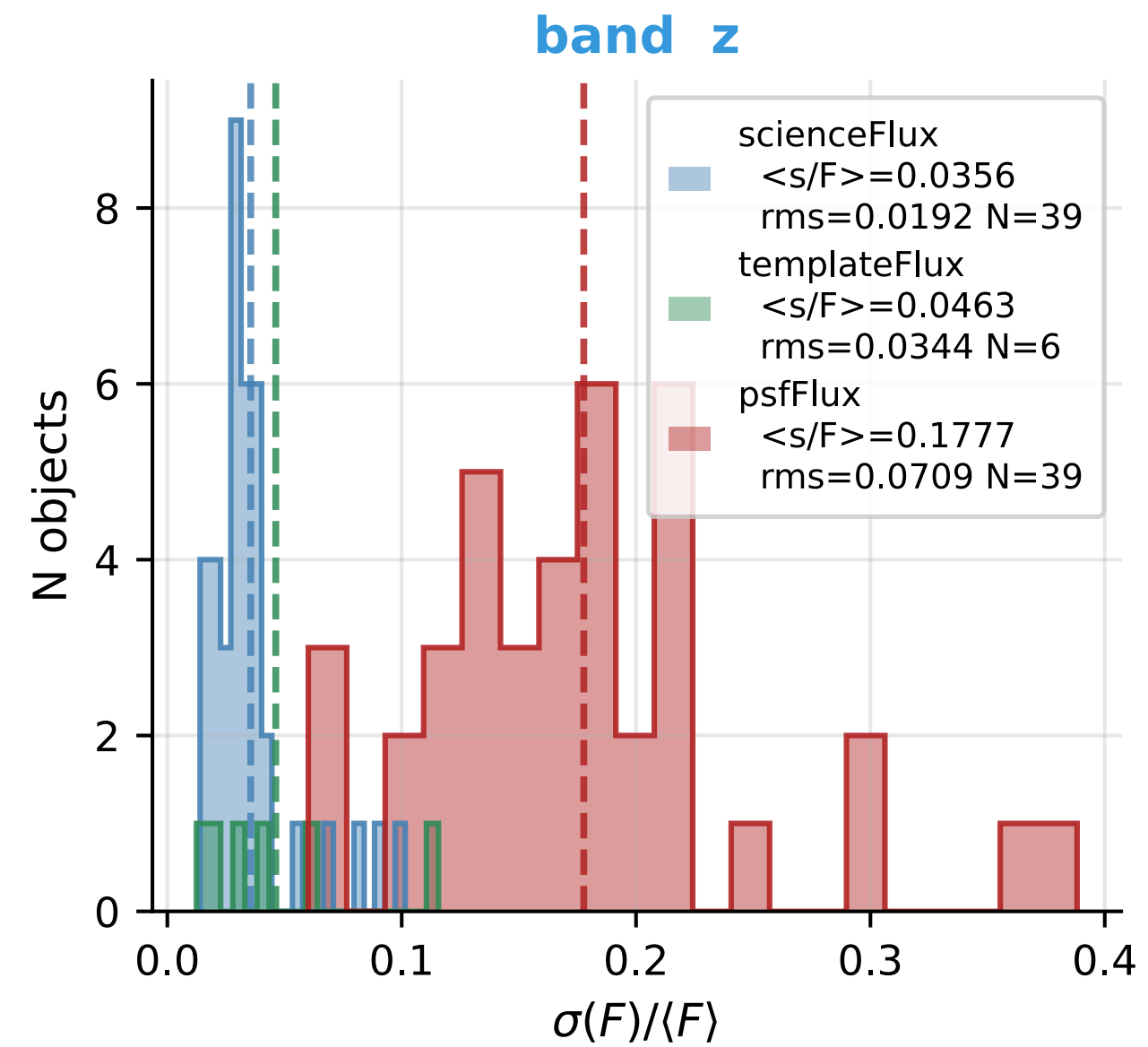
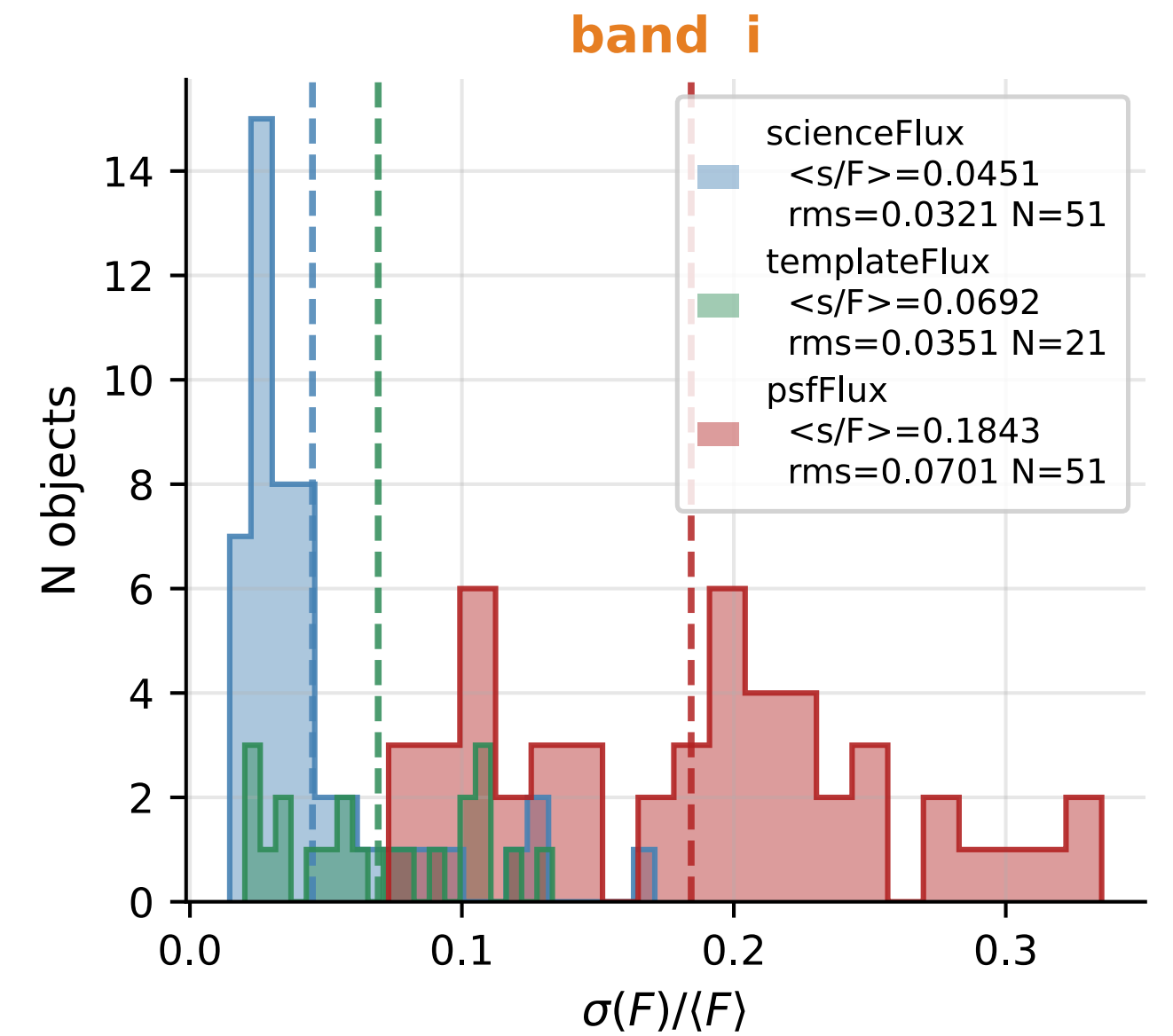
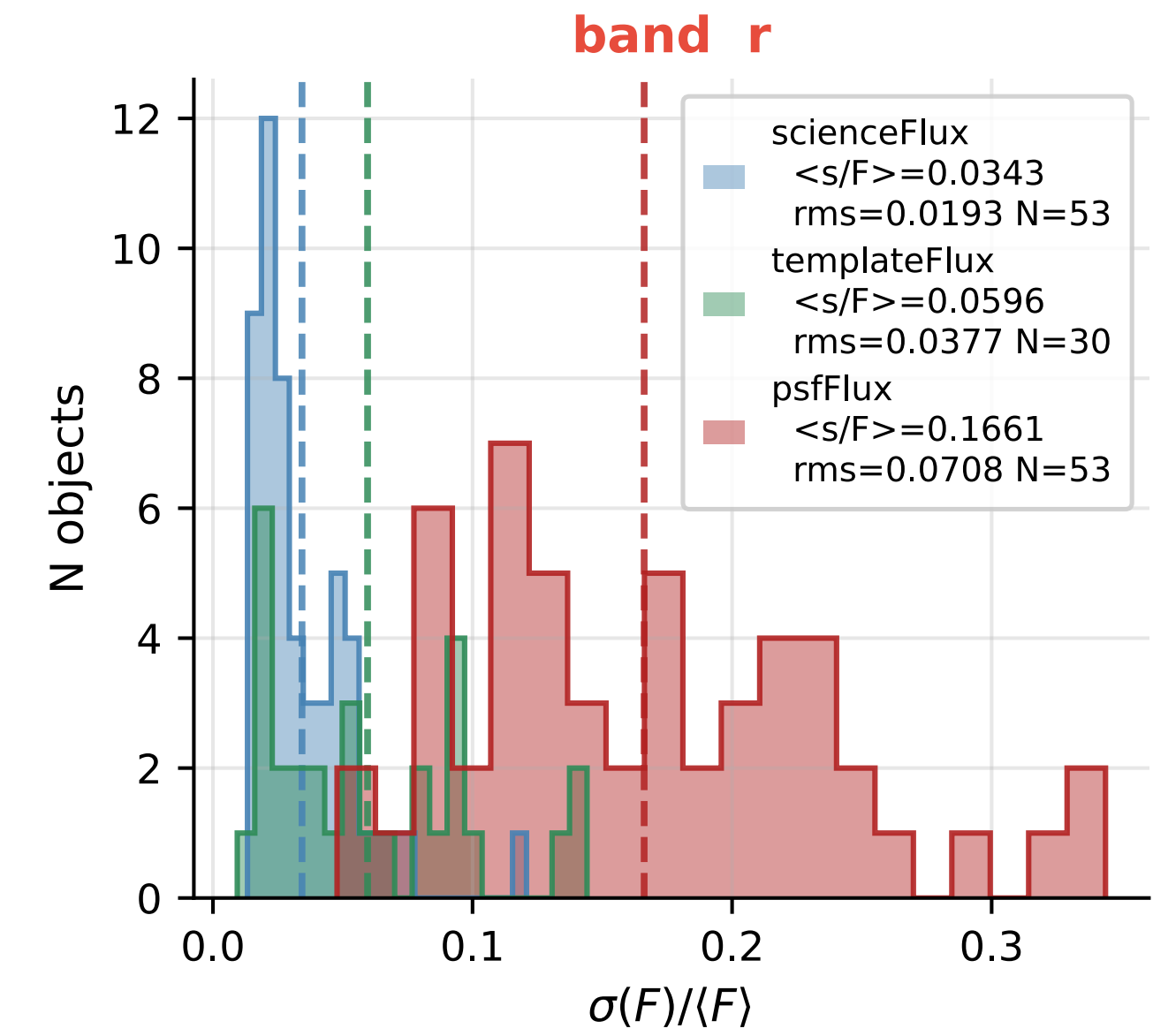
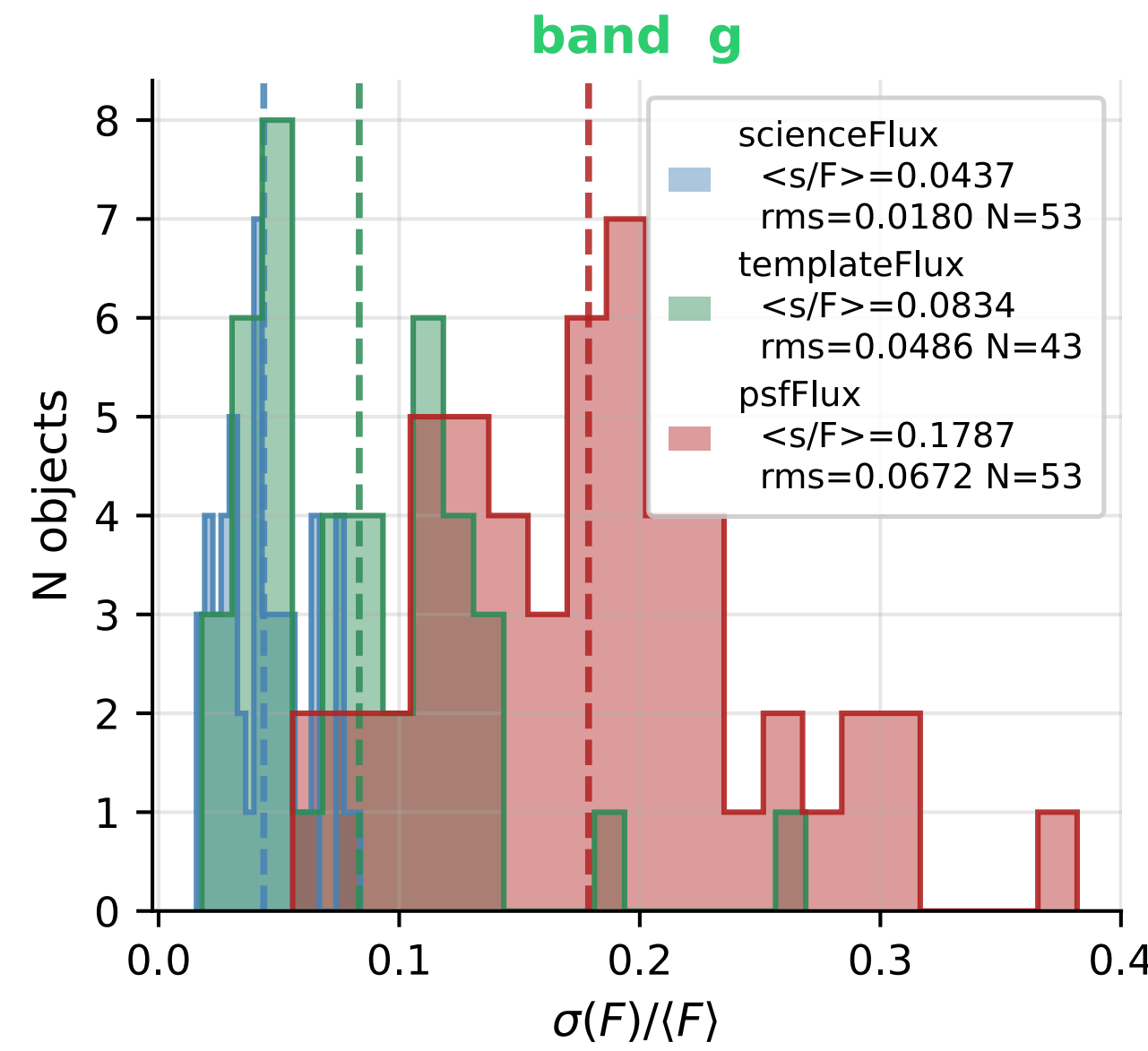
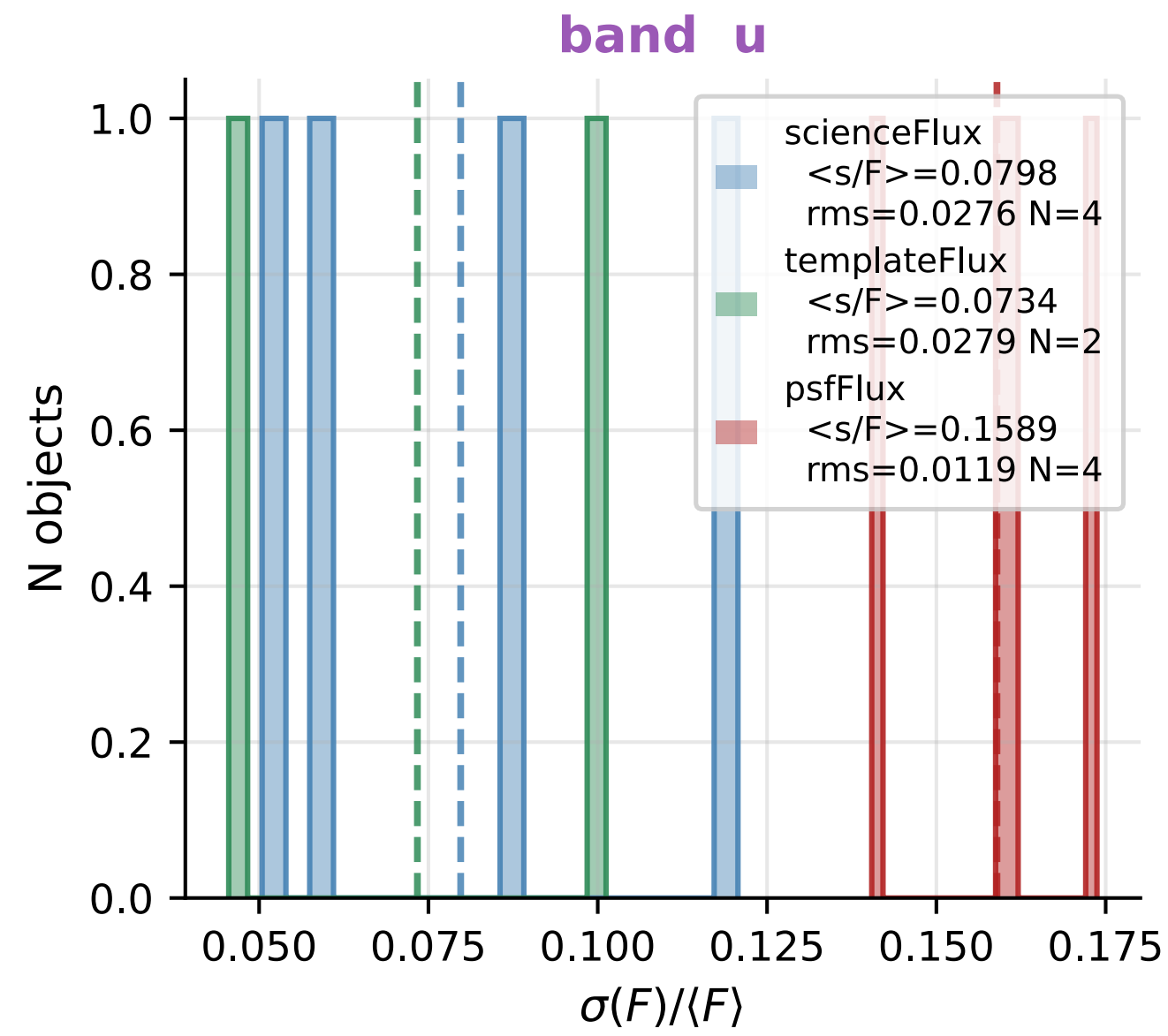
- $\frac{\sigma_F}{F} \simeq 30\%$

- Worse for Gaia stable
- Counter intuitive !!!

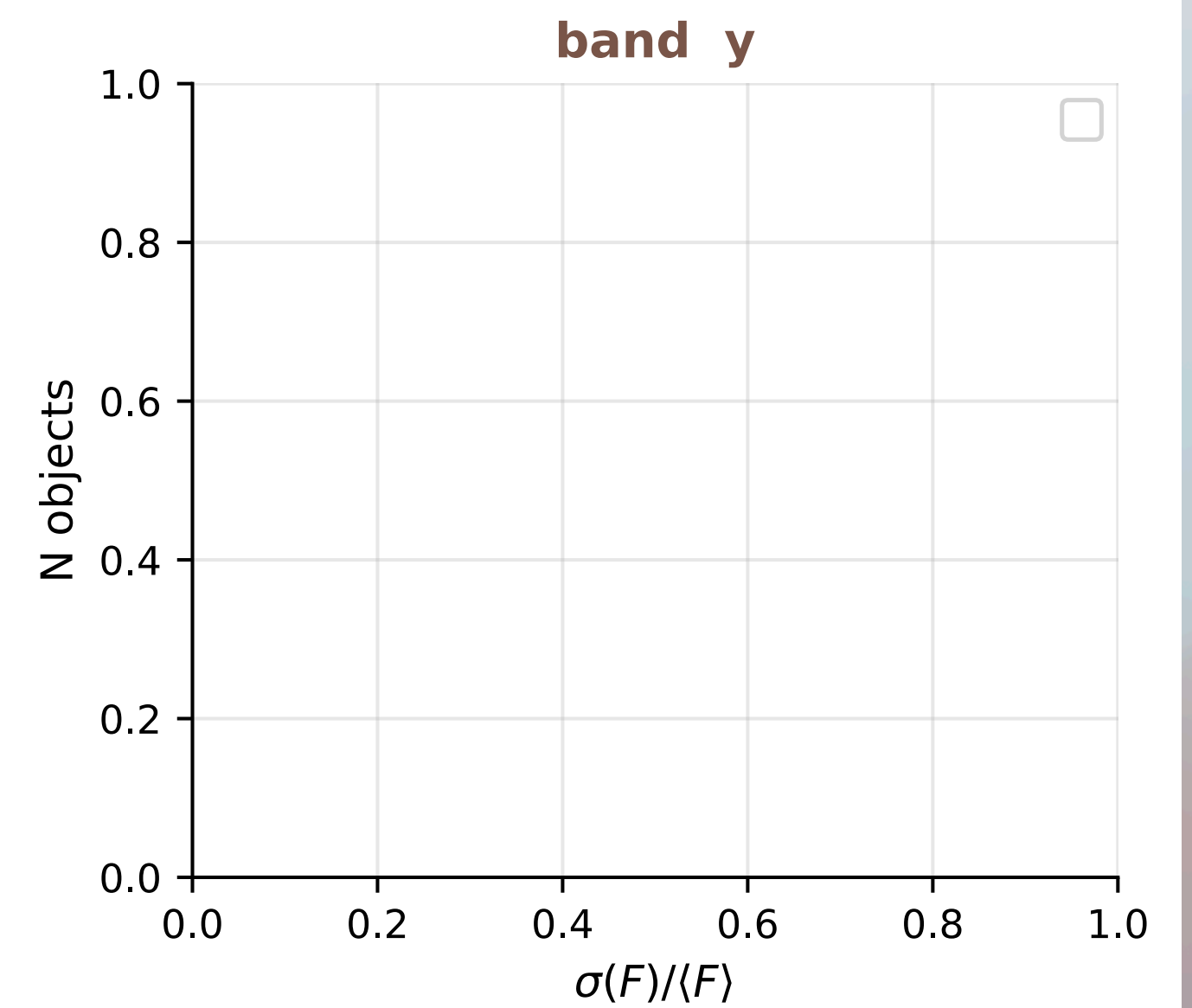
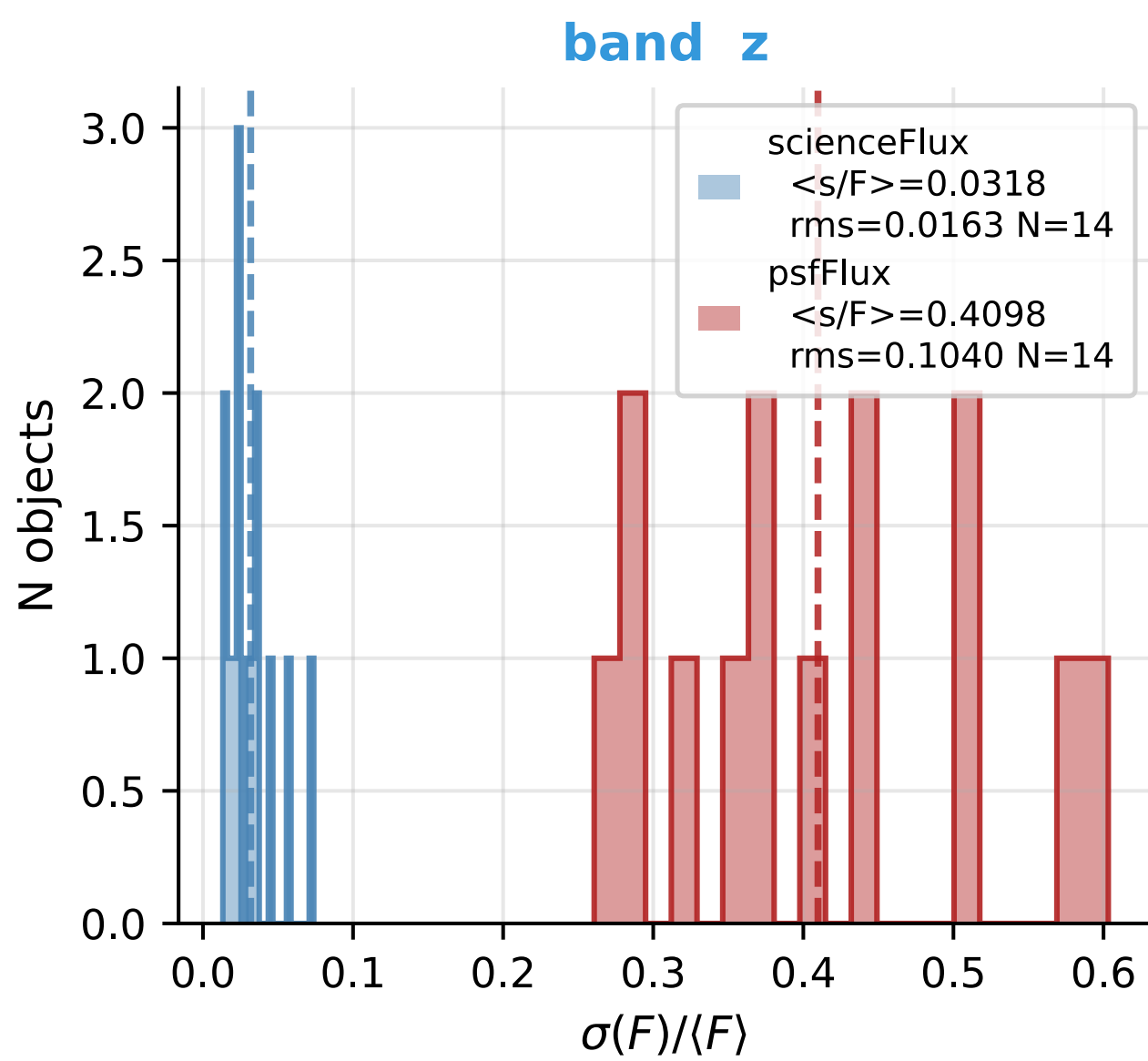
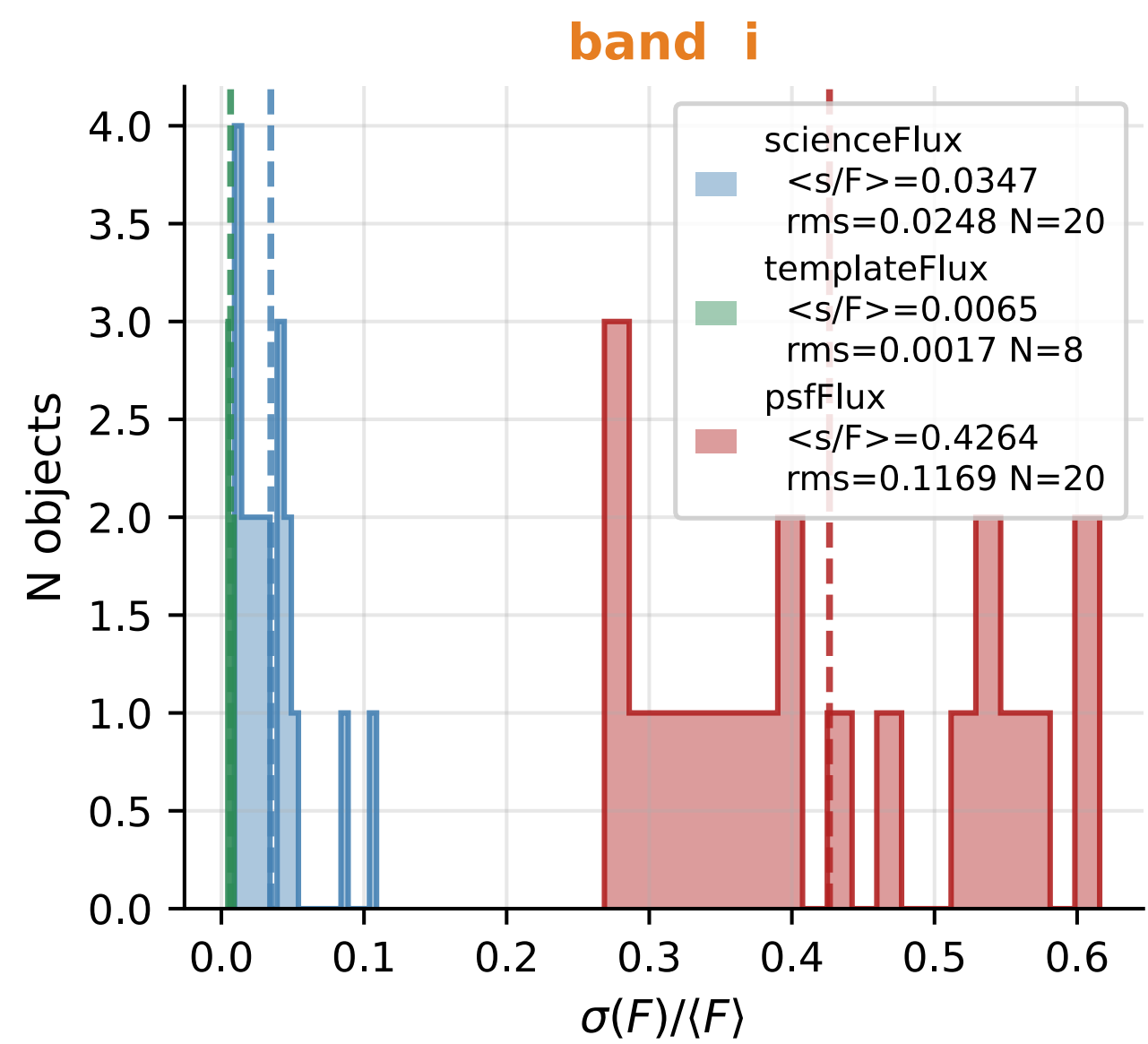
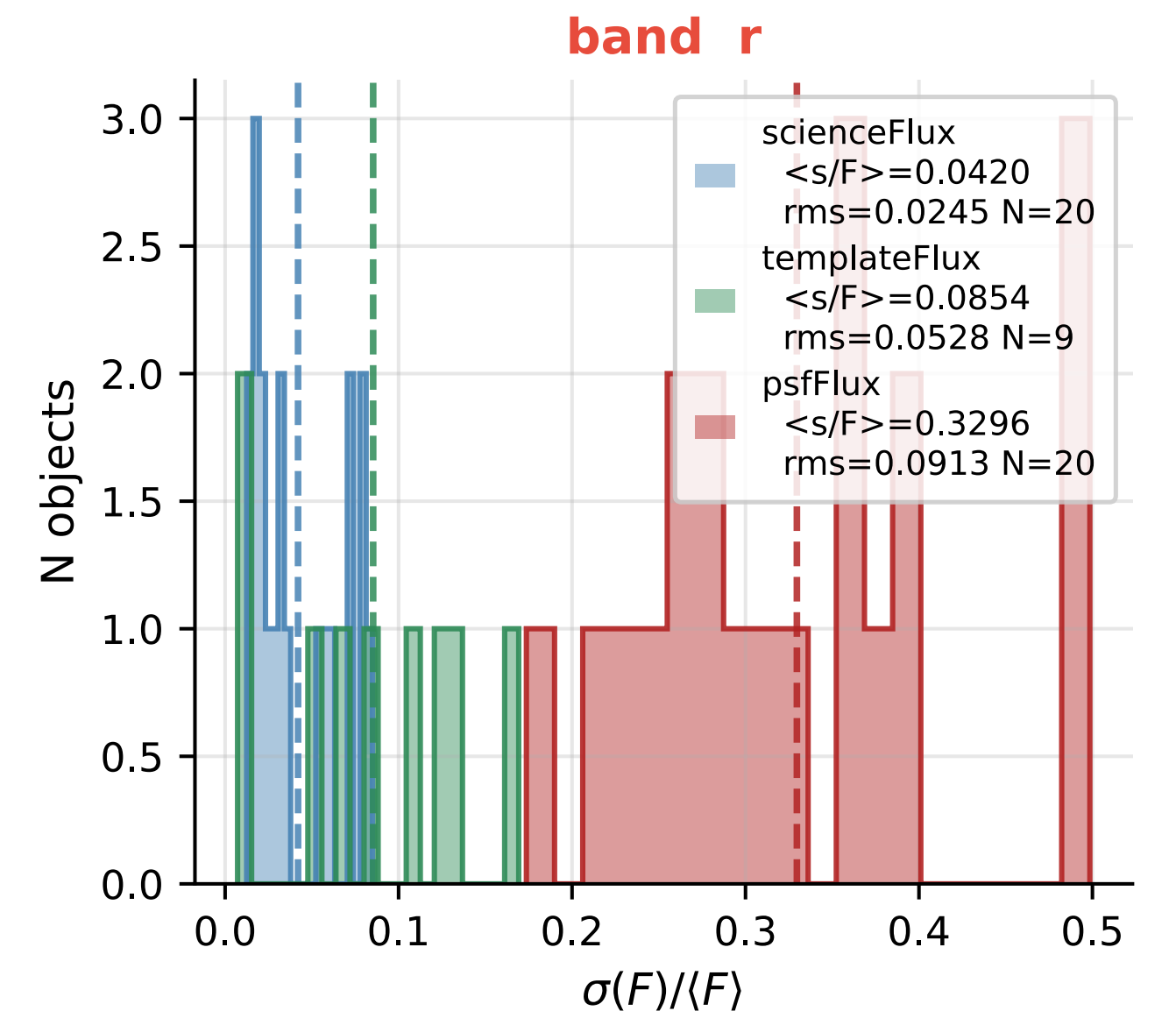
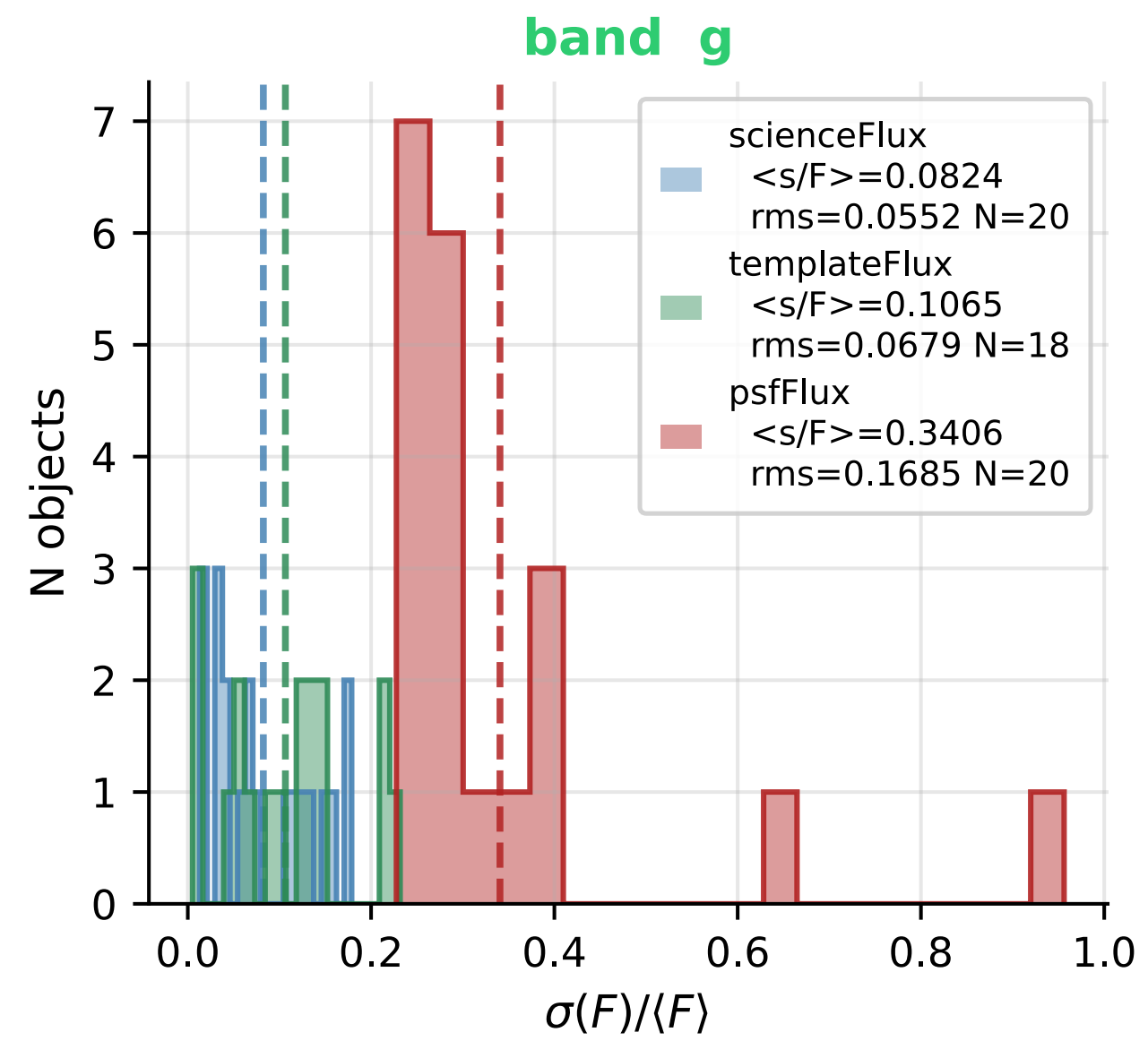
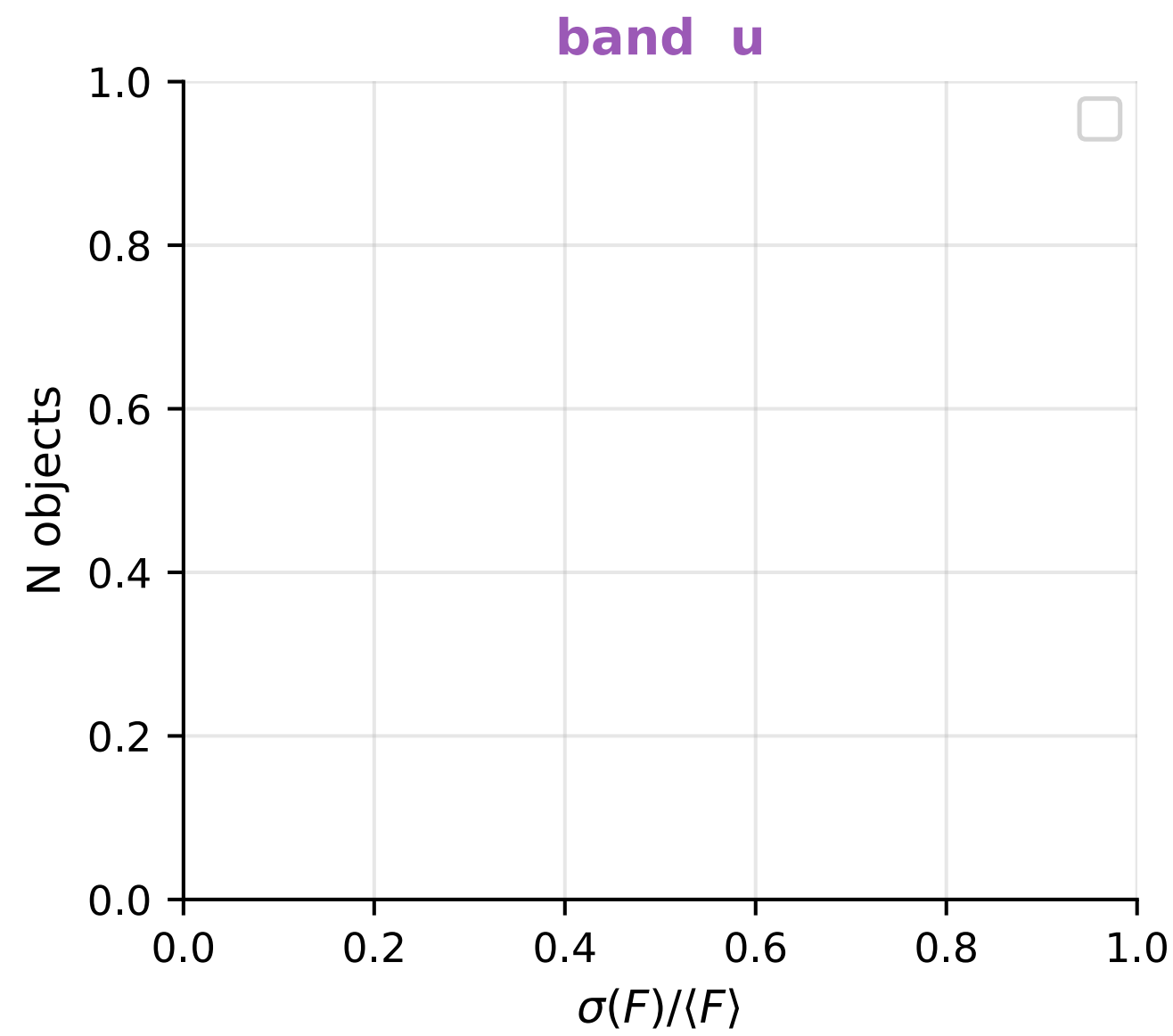
**Relative flux dispersion  $\sigma(F)/\langle F \rangle$**   
**Gaia category: gaia\_nophotgstar\_stable\_unknown\_parallax**



**Relative flux dispersion  $\sigma(F)/\langle F \rangle$**   
**Gaia category: gaia\_star\_variable**



**Relative flux dispersion  $\sigma(F)/\langle F \rangle$**   
**Gaia category: gaia\_star\_stable\_hq**



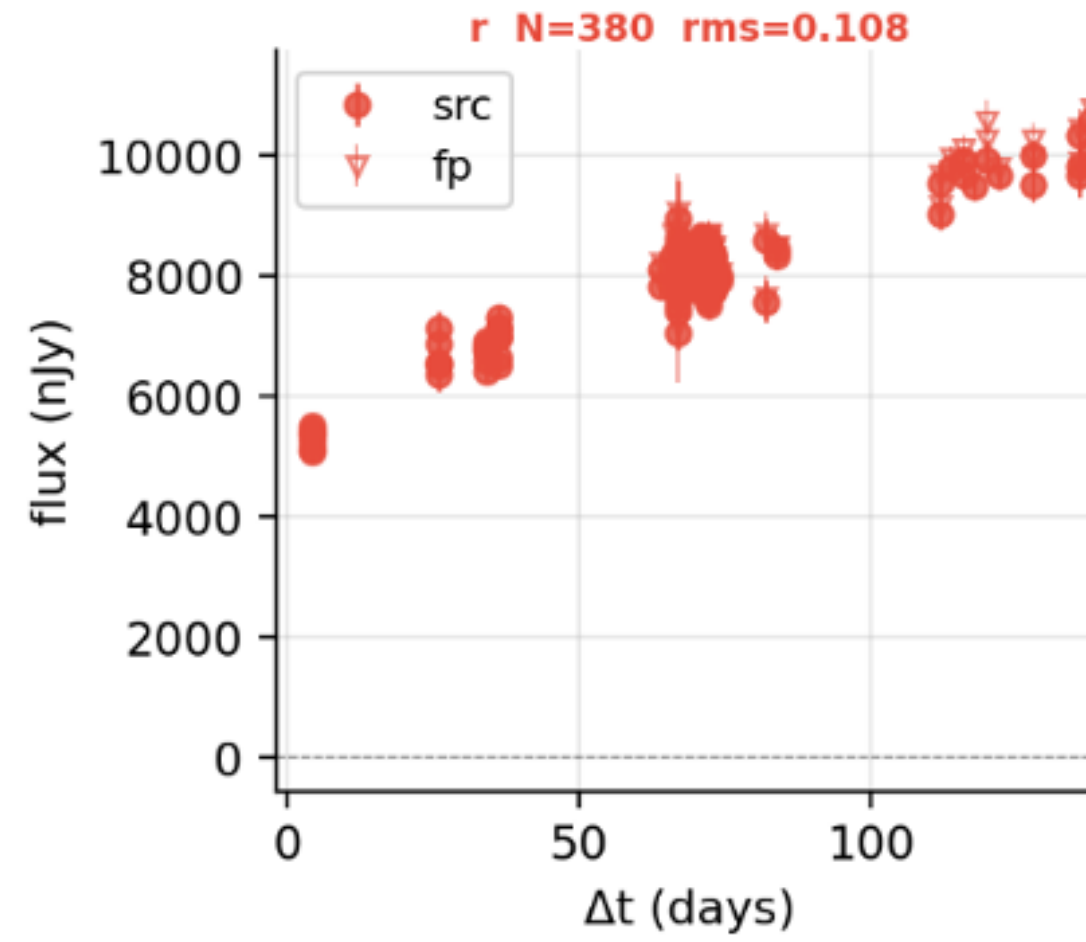
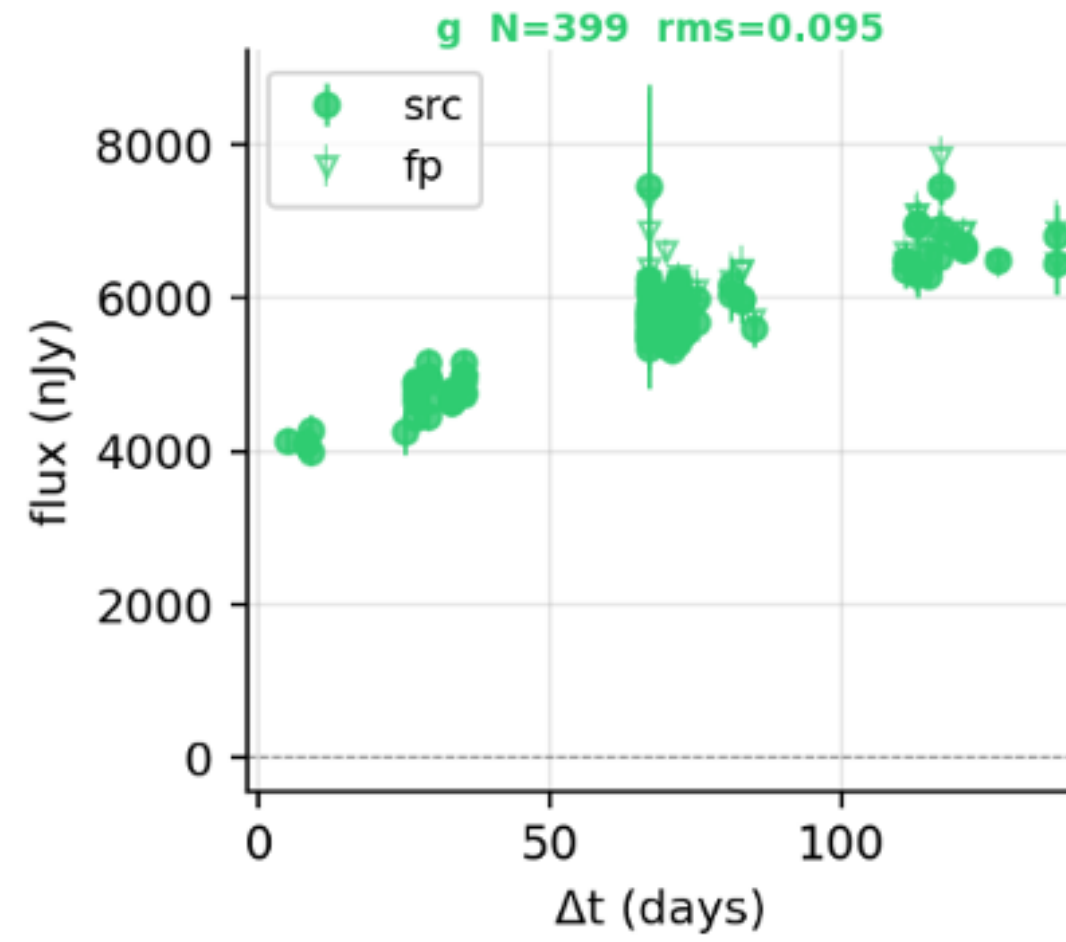
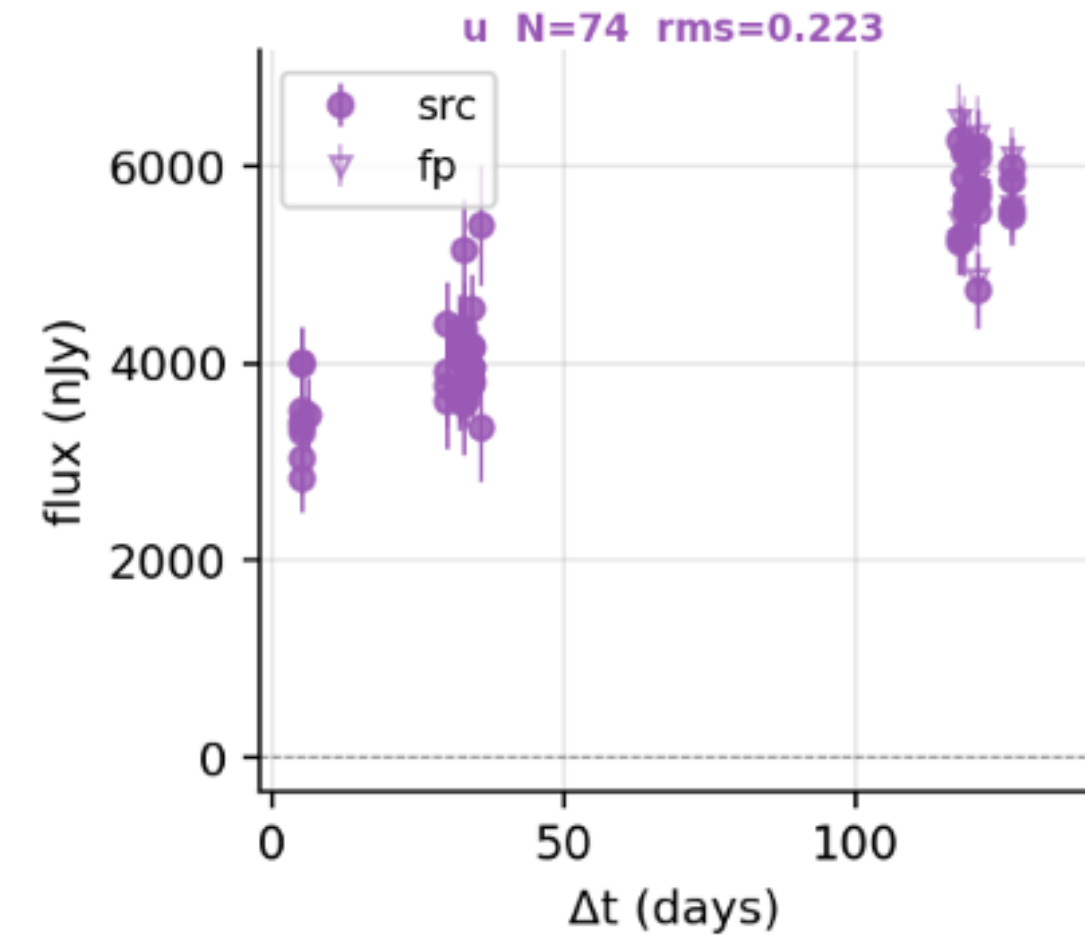
# Expected stable Gaia no Gmag no Parallax

Type name : **gaia\_nophotgstar\_stable\_unknown\_parallax**

psfFlux  
only

Figure 00

**gaia\_nophotgstar\_stable\_unknown\_parallax | 313853517444939794 | mode=flux**



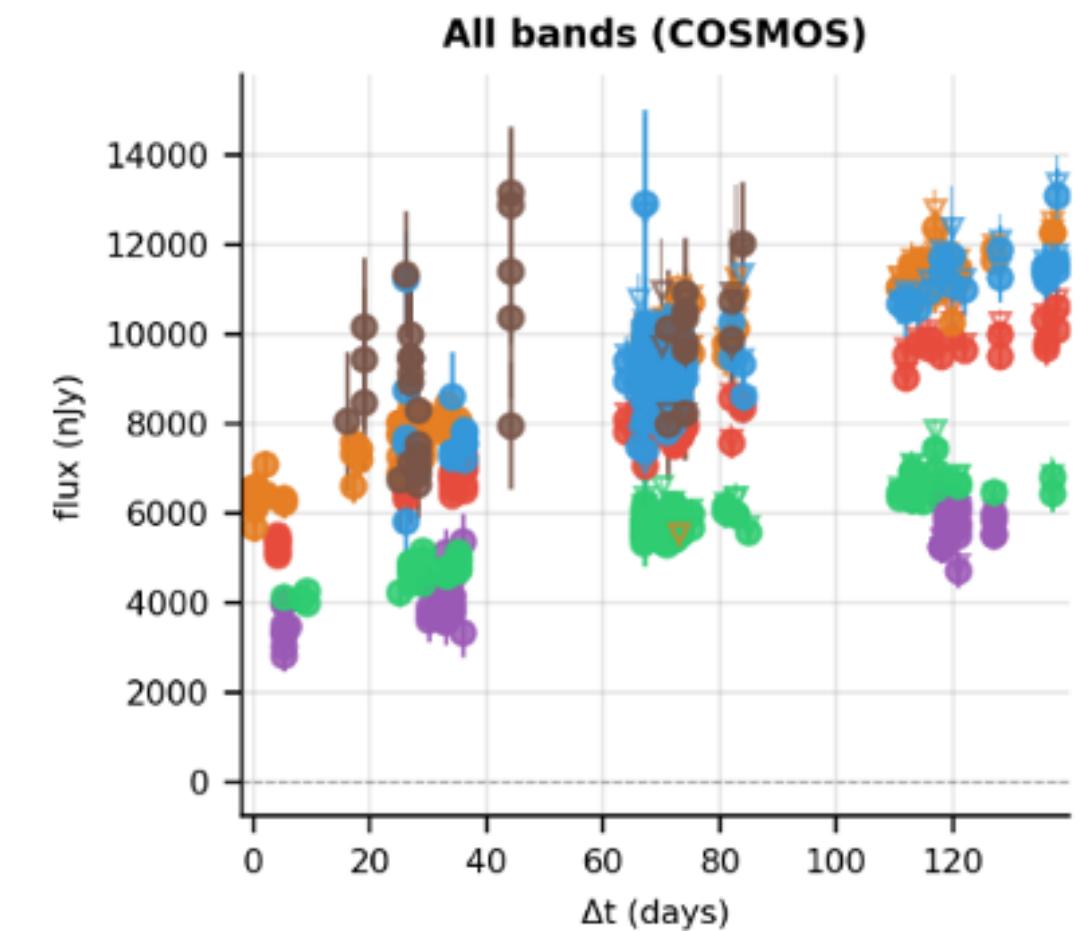
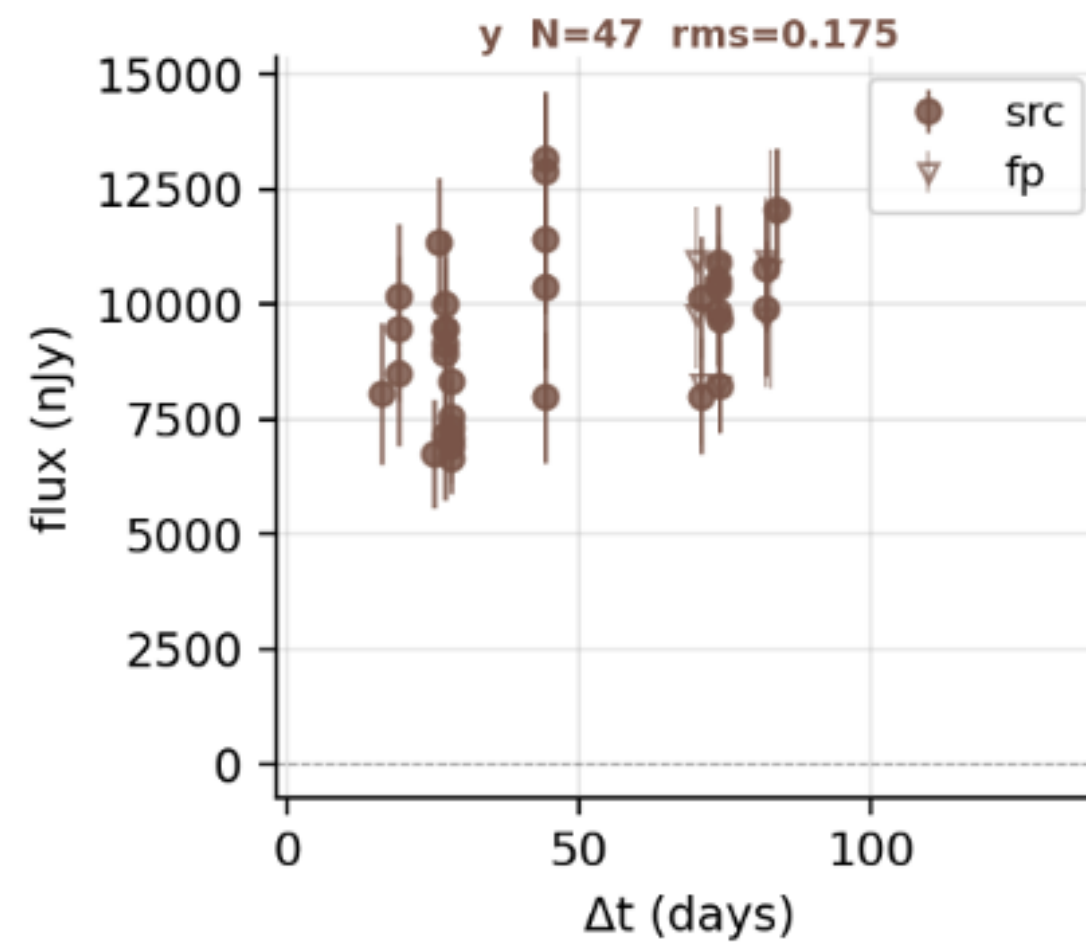
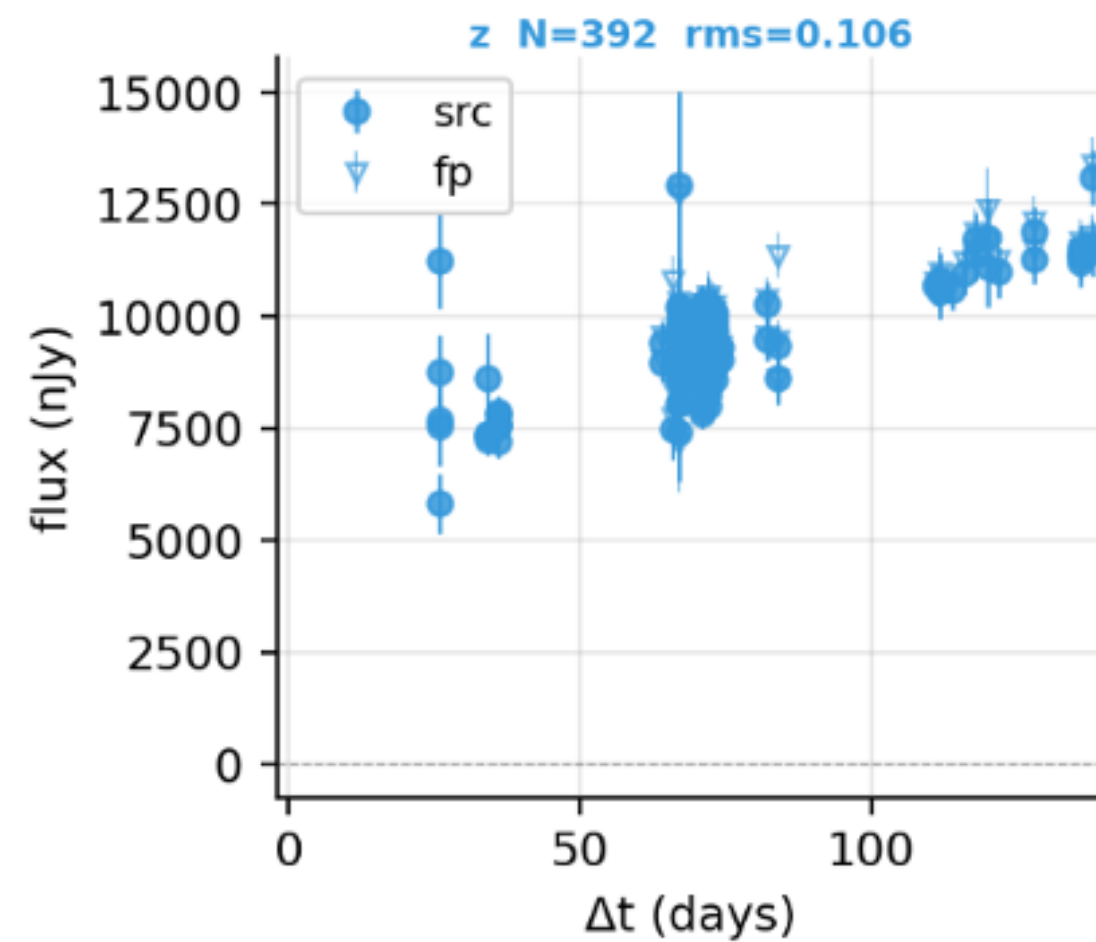
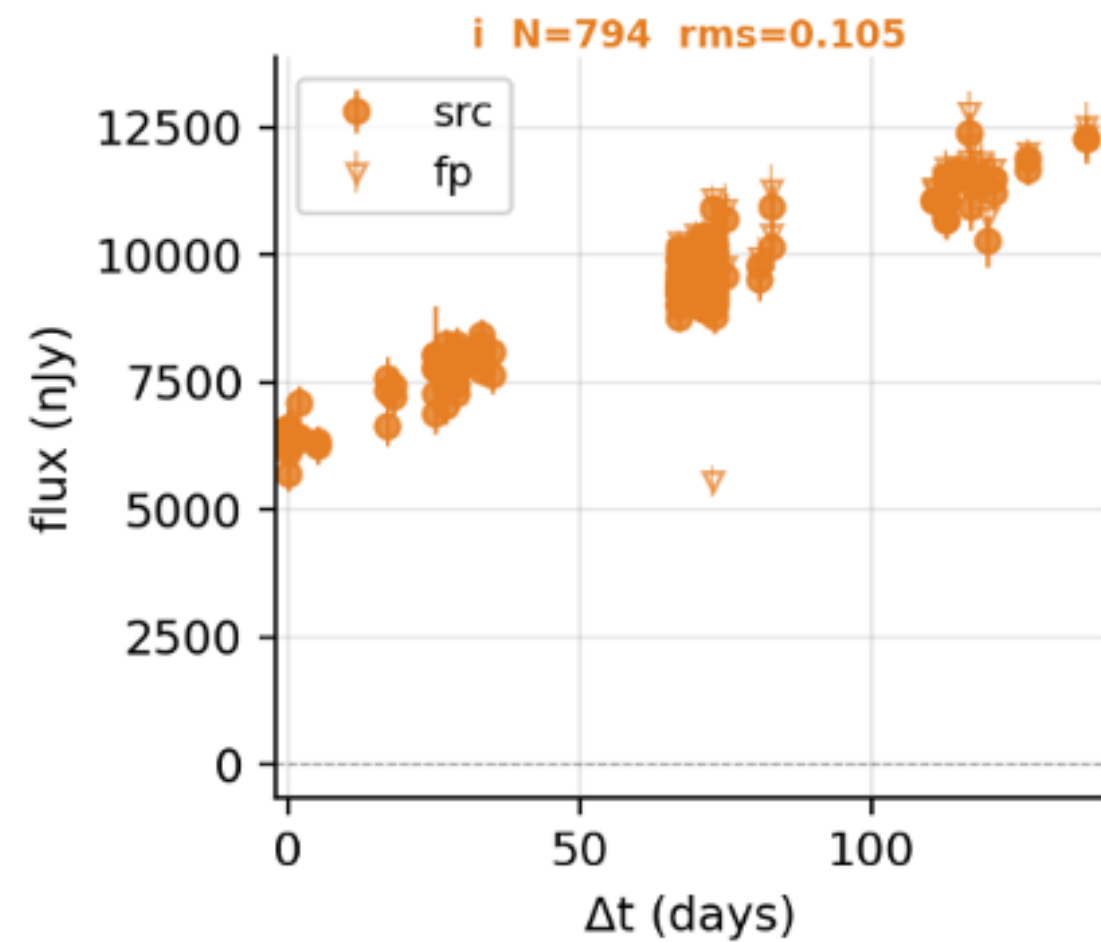
```
diaObjectId
313853517444939794

DDF: COSMOS
Group: gaia_nophotgstar_stable_unknown_parallax

T_first : 2025-12-15
T_last  : 2026-05-02
Δt span : 137.8 days
```

band	Nsrc	Nfp	<mag_sci>	<mag_psf>	σ_psf	Ndip
u	55	19	21.24	22.29	0.229	0
g	222	177	20.86	22.02	0.103	0
r	212	168	20.38	21.65	0.120	0
i	422	372	20.21	21.46	0.119	0
z	212	180	20.18	21.48	0.112	0
y	34	13	19.82	21.49	0.199	0

Gaia class: gaia\_nophotgstar\_stable\_unknown\_parallax

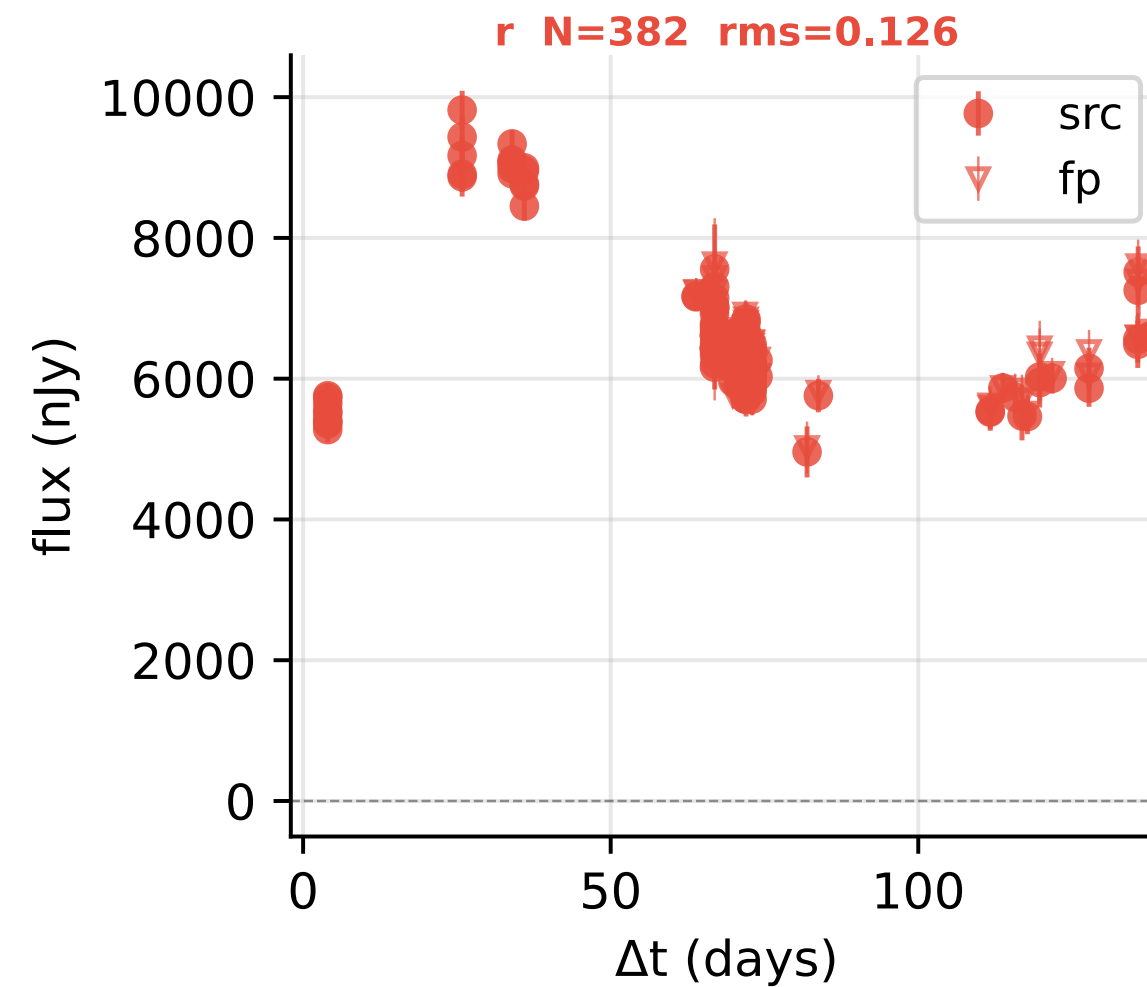
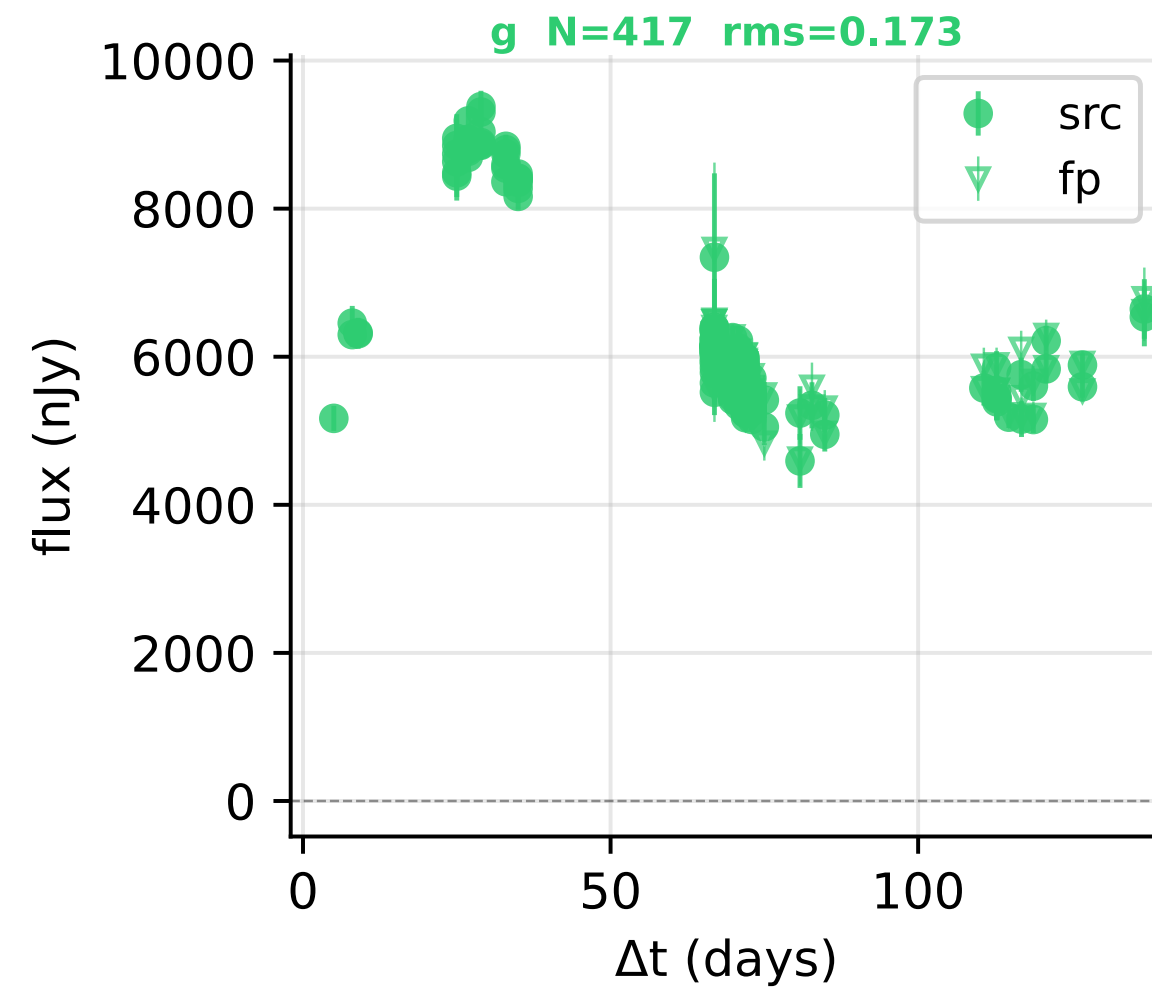
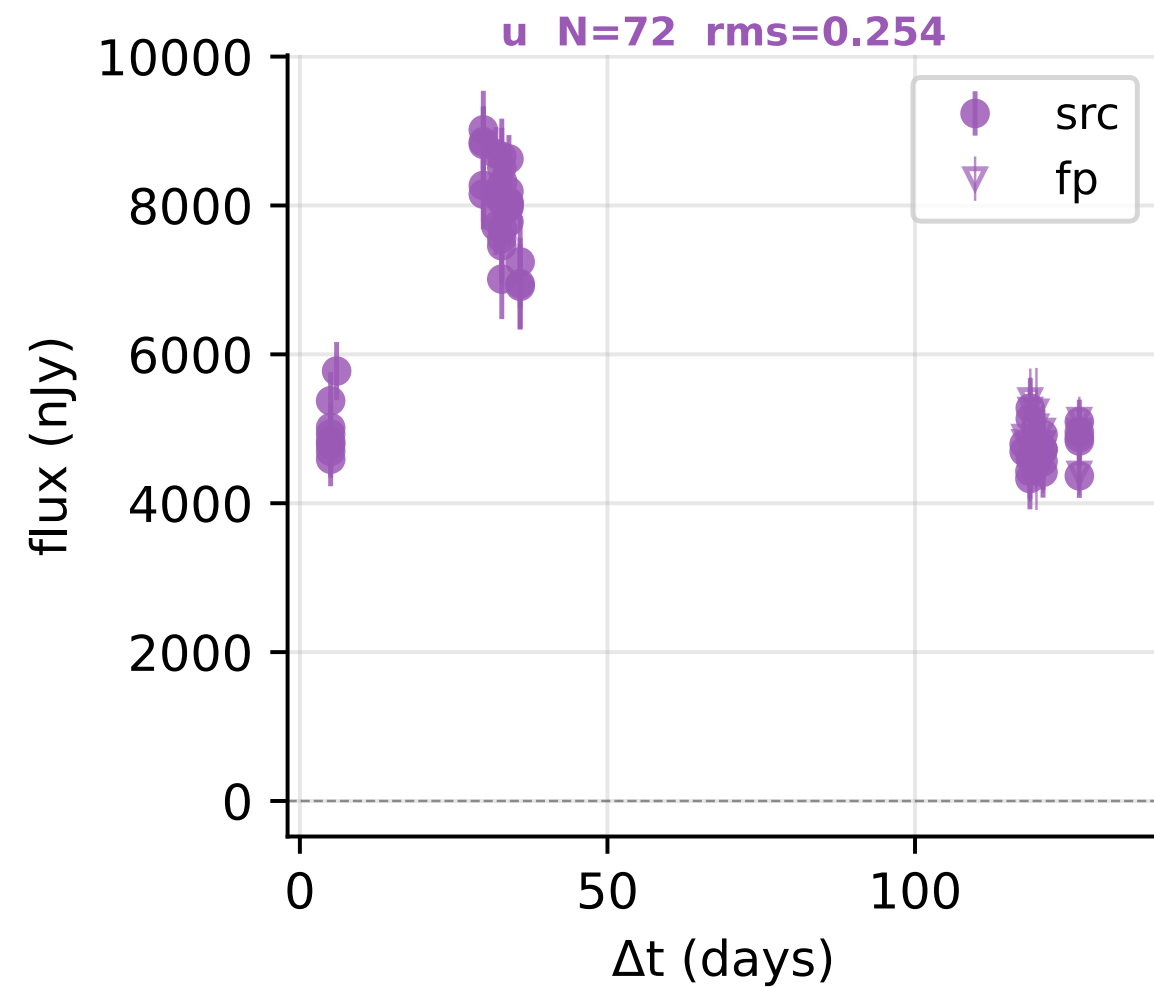


# Expected stable Gaia no Gmag no Parallax

Type name : **gaia\_nophotgstar\_stable\_unknown\_parallax**

**gaia\_nophotgstar\_stable\_unknown\_parallax | 313853533282631821 | mode=flux**

psfFlux  
only



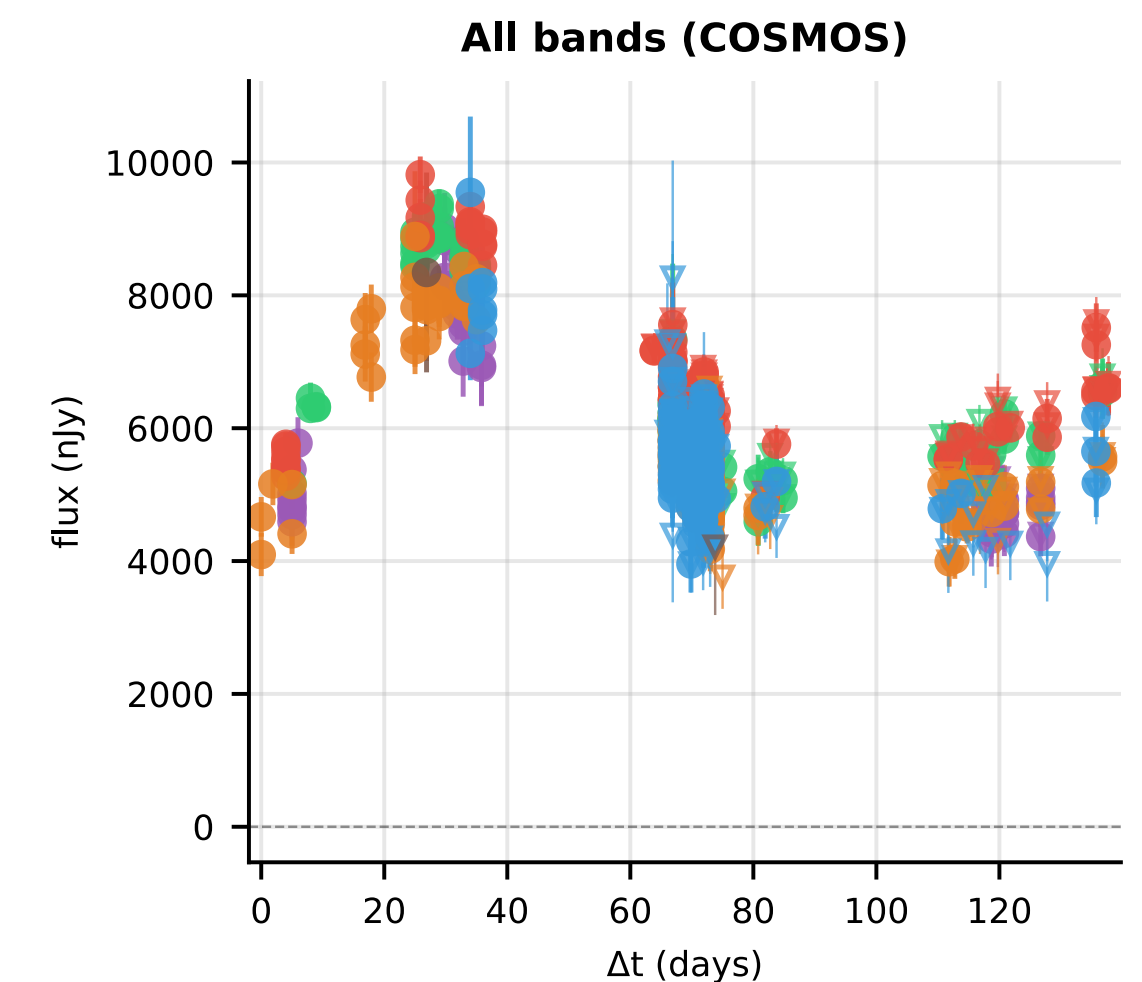
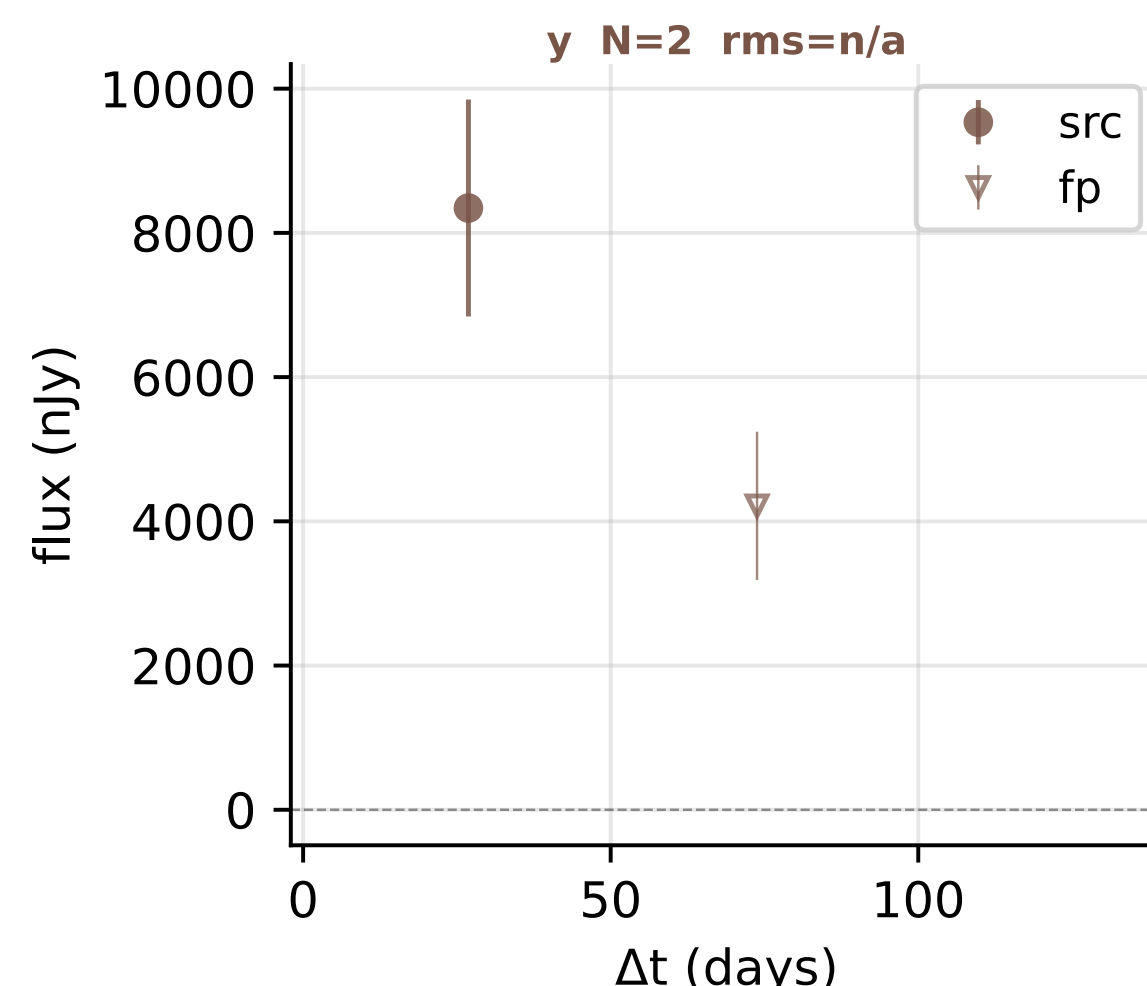
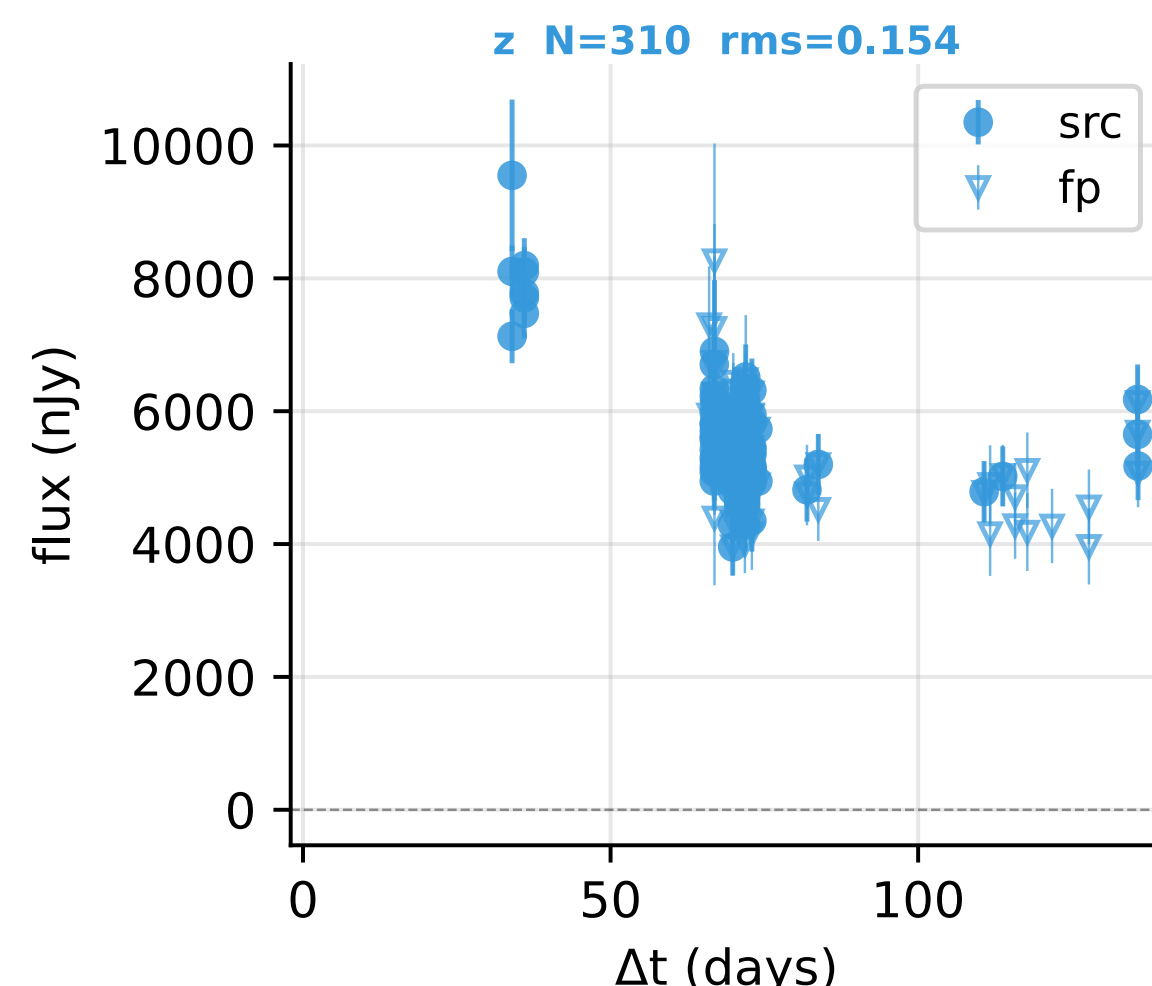
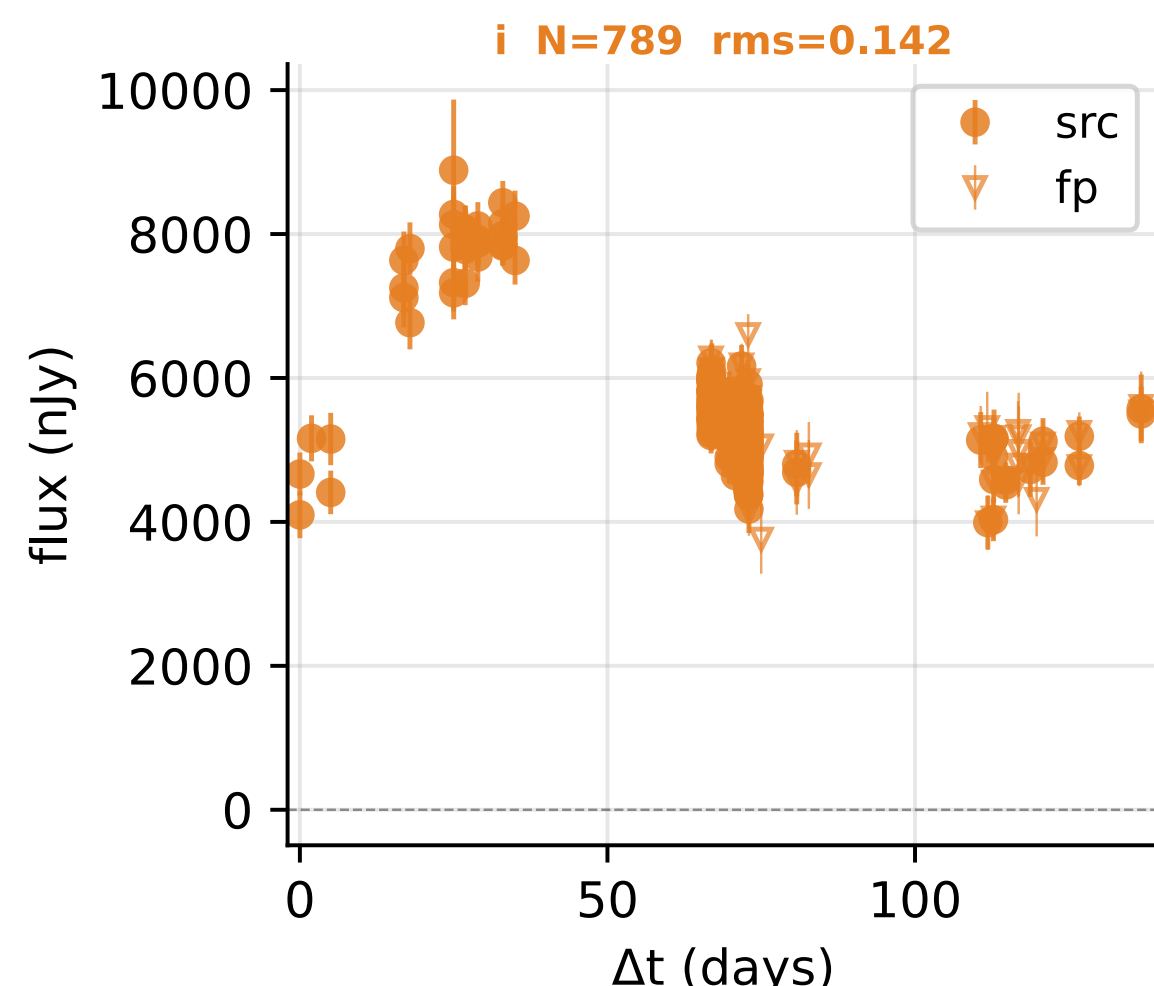
diaObjectId  
313853533282631821

DDF: COSMOS  
Group: gaia\_nophotgstar\_stable\_unknown\_parallax

T\_first : 2025-12-15  
T\_last : 2026-05-02  
Δt span : 137.7 days

band	Nsrc	Nfp	<mag_sci>	<mag_psf>	σ_psf	Ndip
u	52	20	20.90	21.91	0.285	0
g	232	185	20.55	21.95	0.168	0
r	211	171	20.32	21.88	0.126	0
i	404	385	20.26	22.08	0.138	0
z	154	156	20.00	22.06	0.139	0
y	1	1	19.76	n/a	n/a	0

Gaia class: gaia\_nophotgstar\_stable\_unknown\_parallax



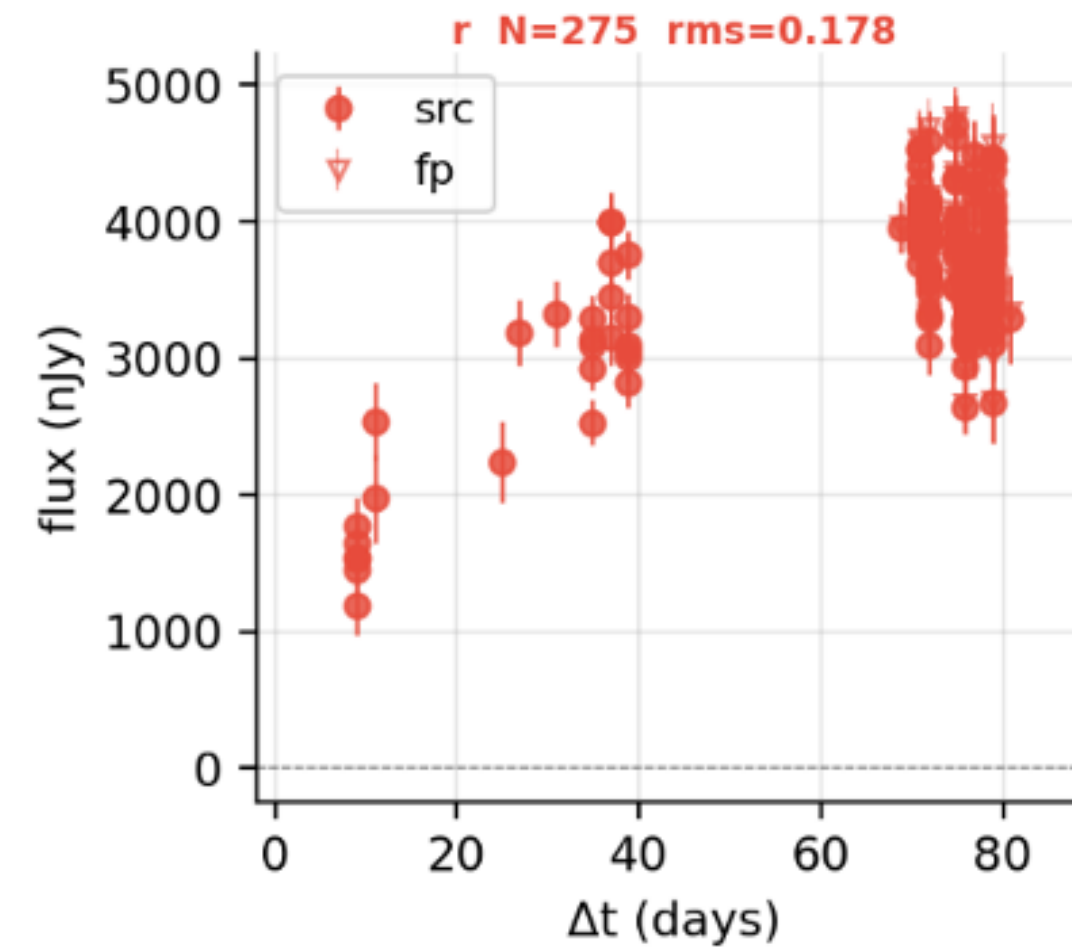
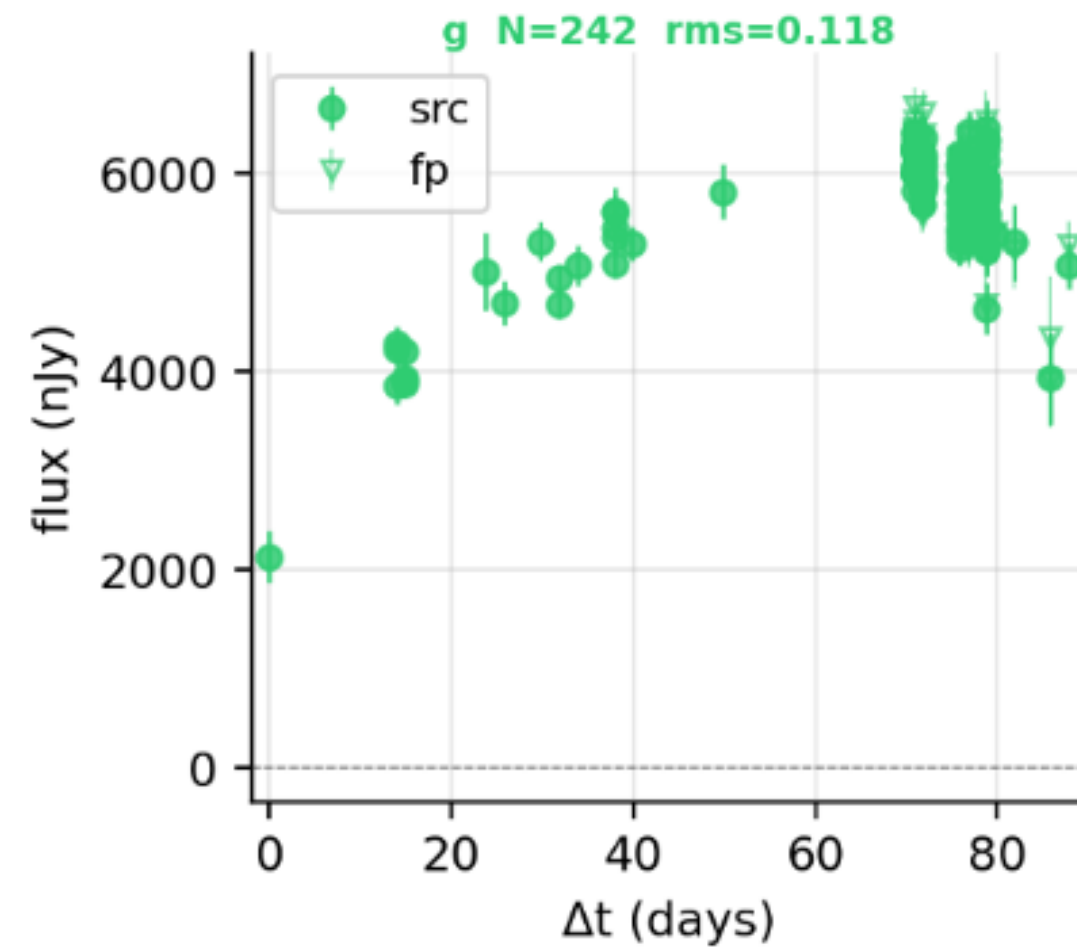
# Gaia variable star

## Type name : `gaia_star_variable`

psfFlux  
only

Figure 110

`gaia_star_variable` | `313831458355544118` | `mode=flux`



```

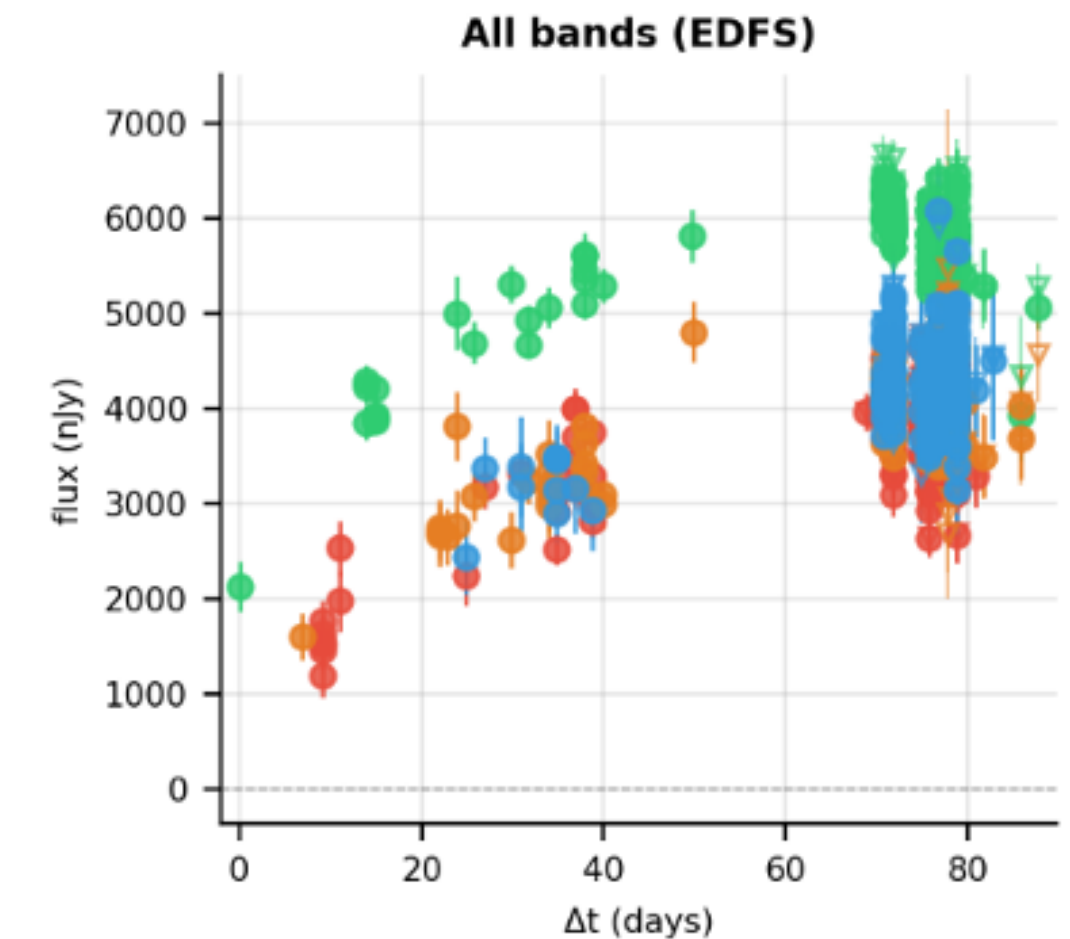
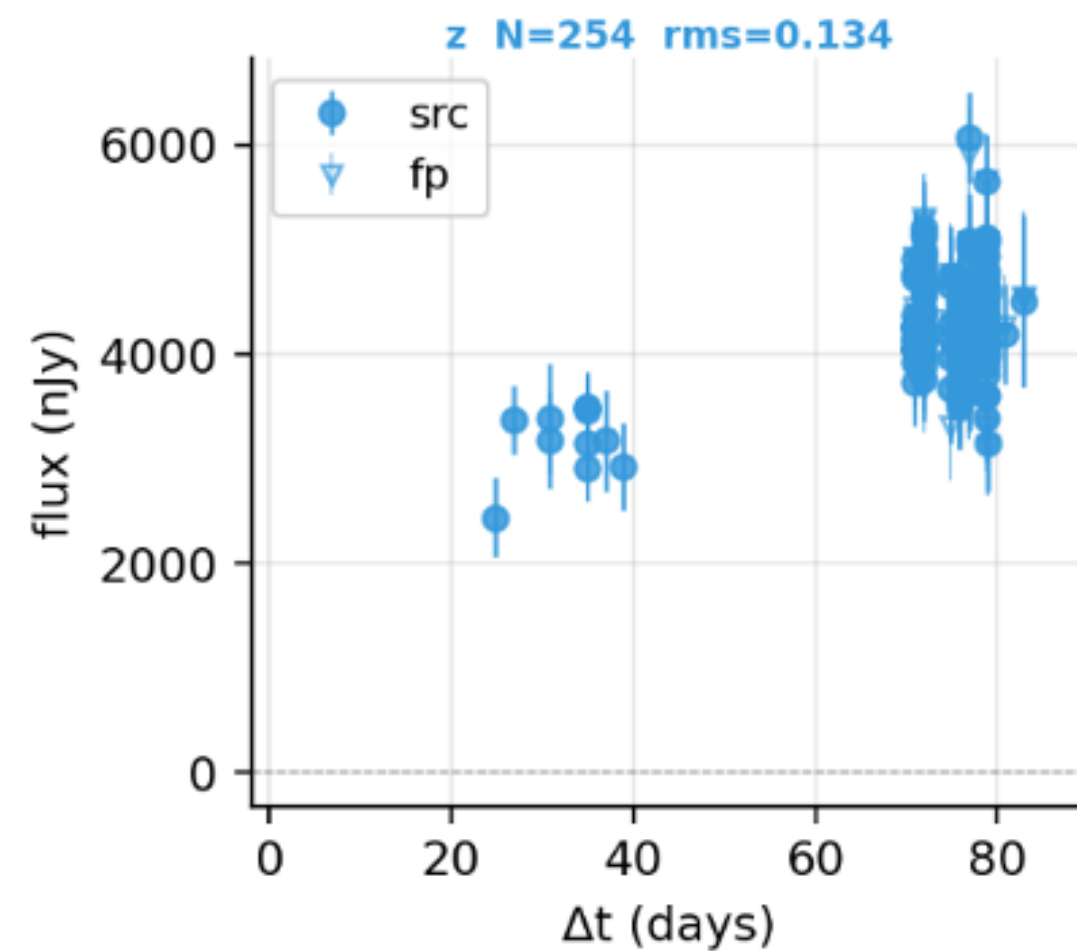
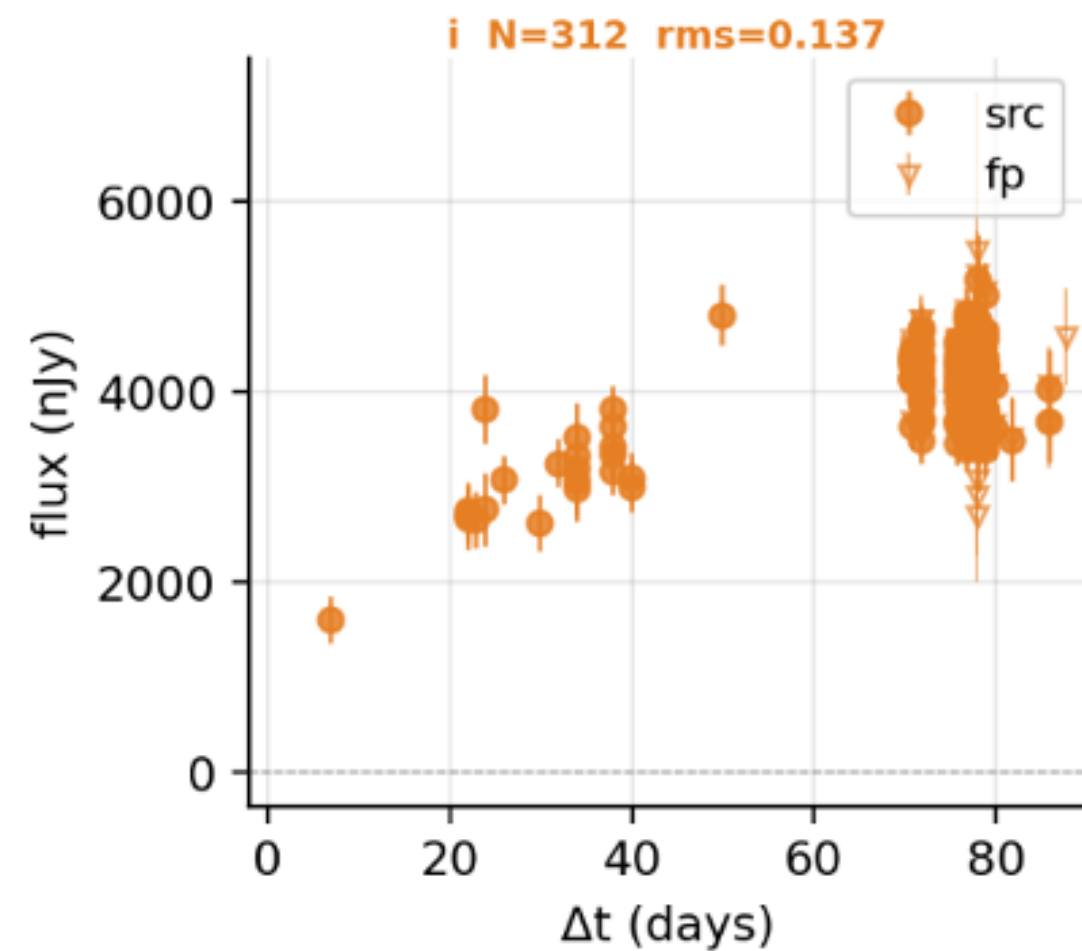
diaObjectId
313831458355544118

DDF: EDFs
Group: gaia_star_variable

T_first : 2025-12-10
T_last  : 2026-03-08
ΔT span : 87.7 days
    
```

band	Nsrc	Nfp	<mag_sci>	<mag_psf>	σ_psf	Ndip
g	130	112	20.83	22.03	0.149	0
r	150	125	20.54	22.54	0.240	0
i	165	147	20.54	22.42	0.156	0
z	132	122	20.57	22.35	0.147	0

Gaia class: `gaia_star_variable`



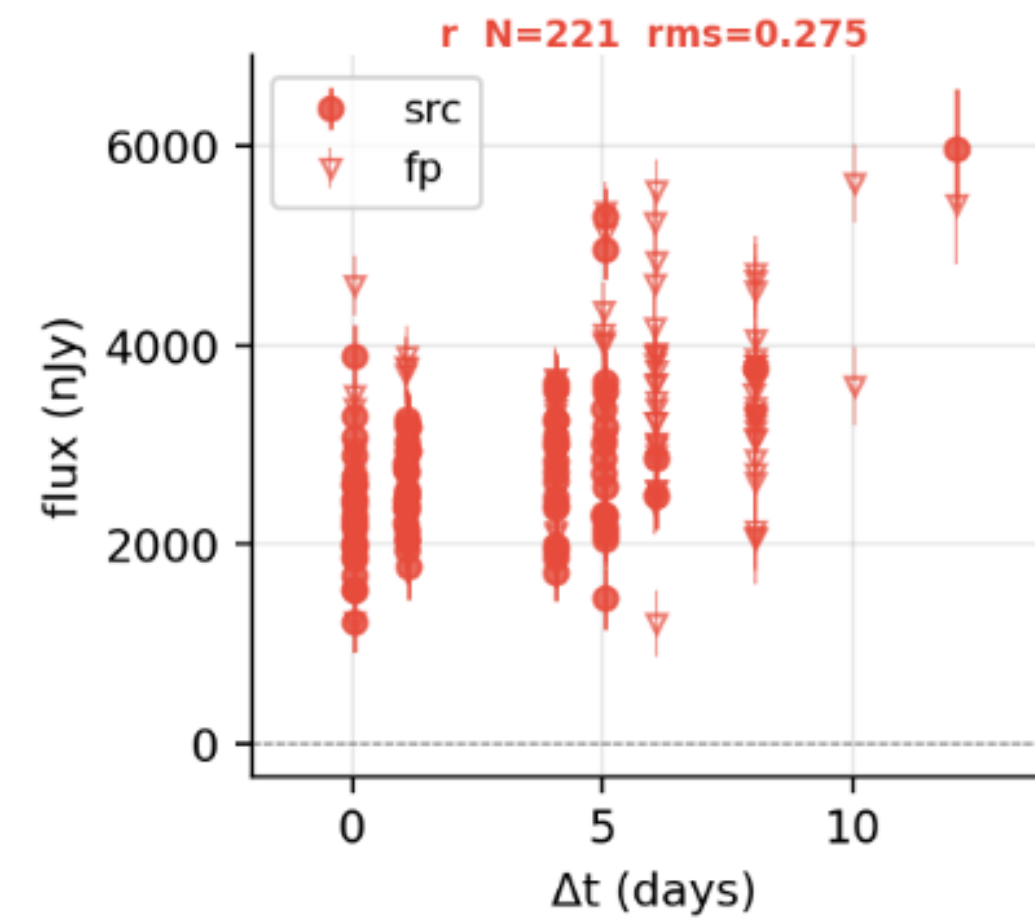
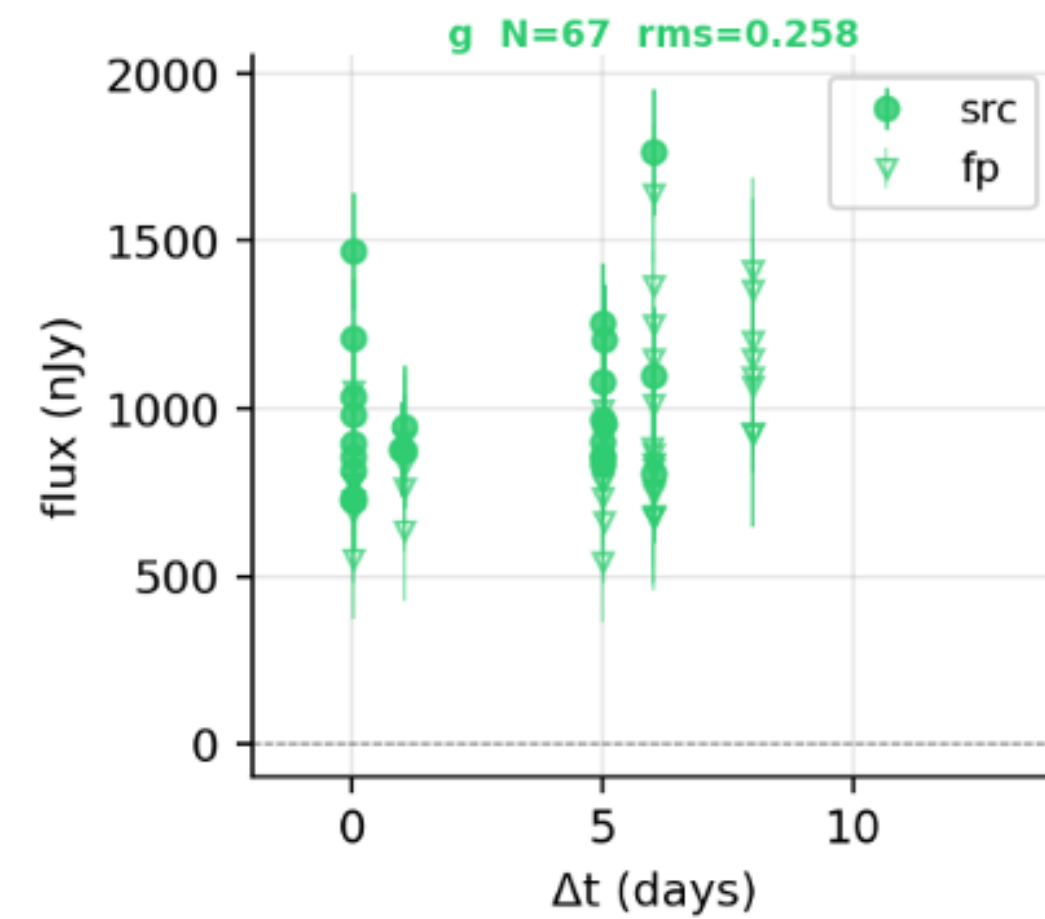
# Stable Gaia high quality - short duration

Type name : `gaia_star_stable_hq`

All of the  
`gaia_stable_hq` show  
comb-shaped curves !!!!

Figure 101

`gaia_star_stable_hq` | `170028485837324356` | `mode=flux`



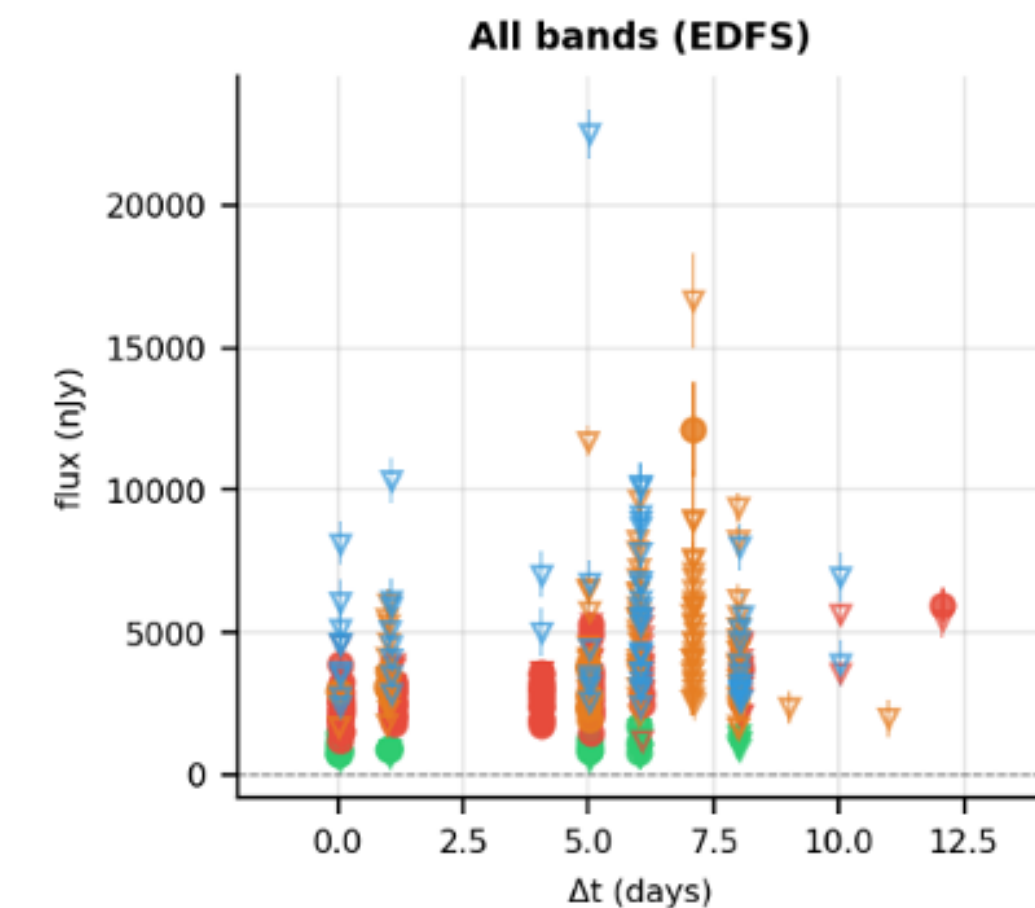
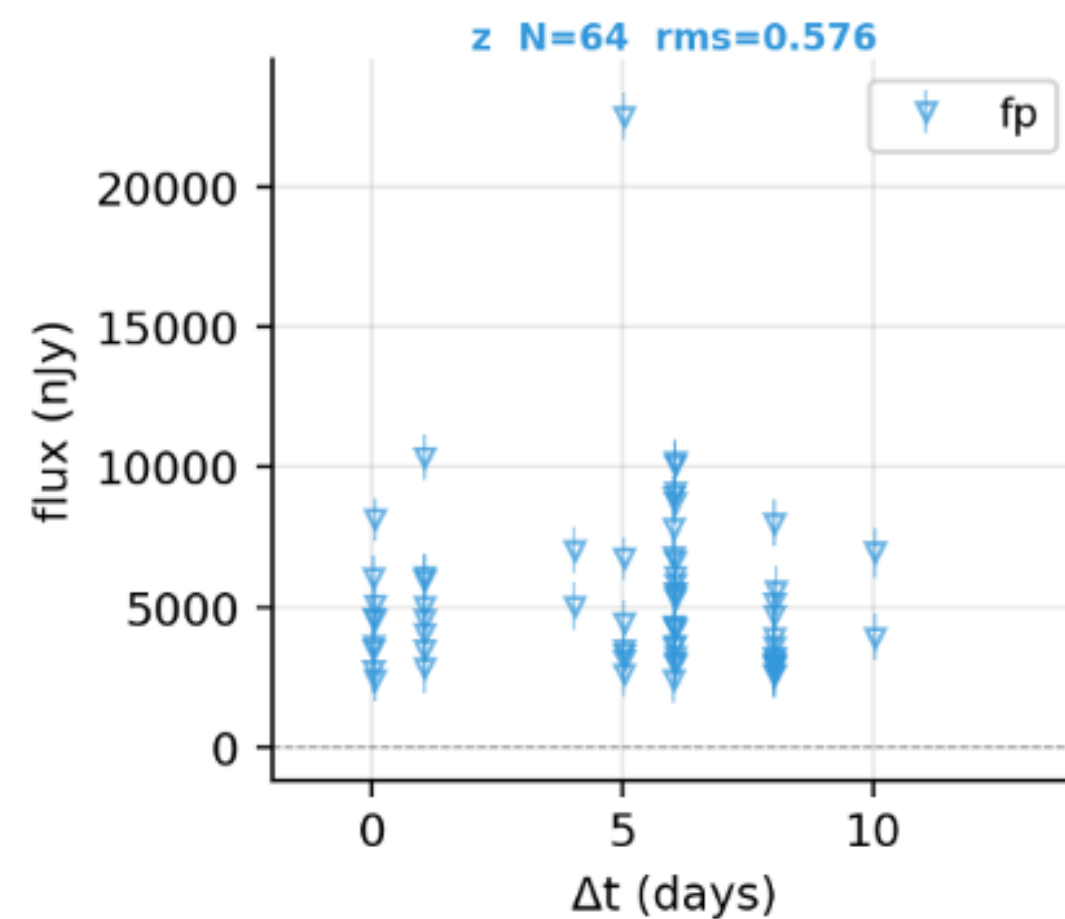
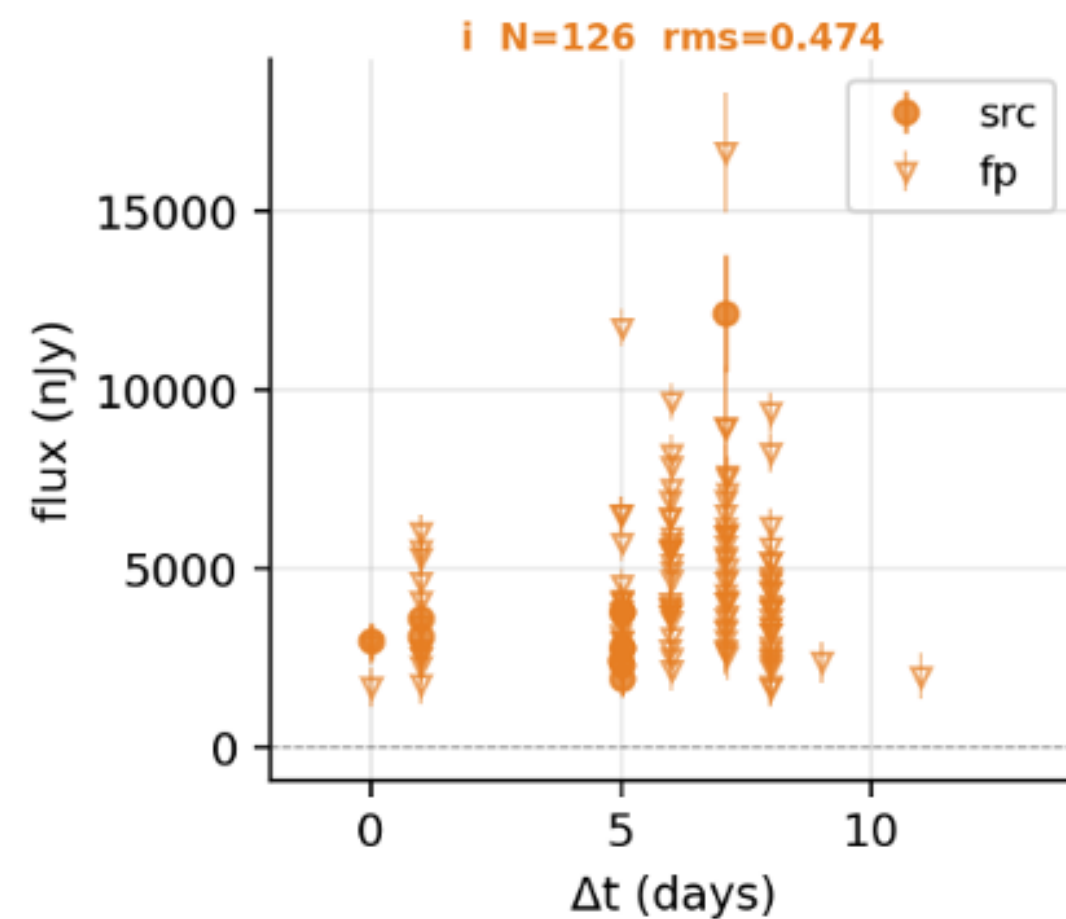
```
diaObjectId
170028485837324356

DDF: EDFS
Group: gaia_star_stable_hq

T_first : 2026-02-19
T_last  : 2026-03-03
 $\Delta t$  span : 12.1 days
```

band	Nsrc	Nfp	<mag_sci>	<mag_psf>	$\sigma$ _psf	Ndip
g	25	42	20.80	23.94	0.231	2
r	85	136	19.18	22.89	0.294	45
i	11	115	17.89	22.60	0.498	11
z	0	64	n/a	n/a	n/a	0

Gaia class: `gaia_star_stable_hq`



# Stable Gaia high quality - long duration

Type name : gaia\_star\_stable\_hq

Figure 99

gaia\_star\_stable\_hq | 313893022977753121 | mode=flux

```

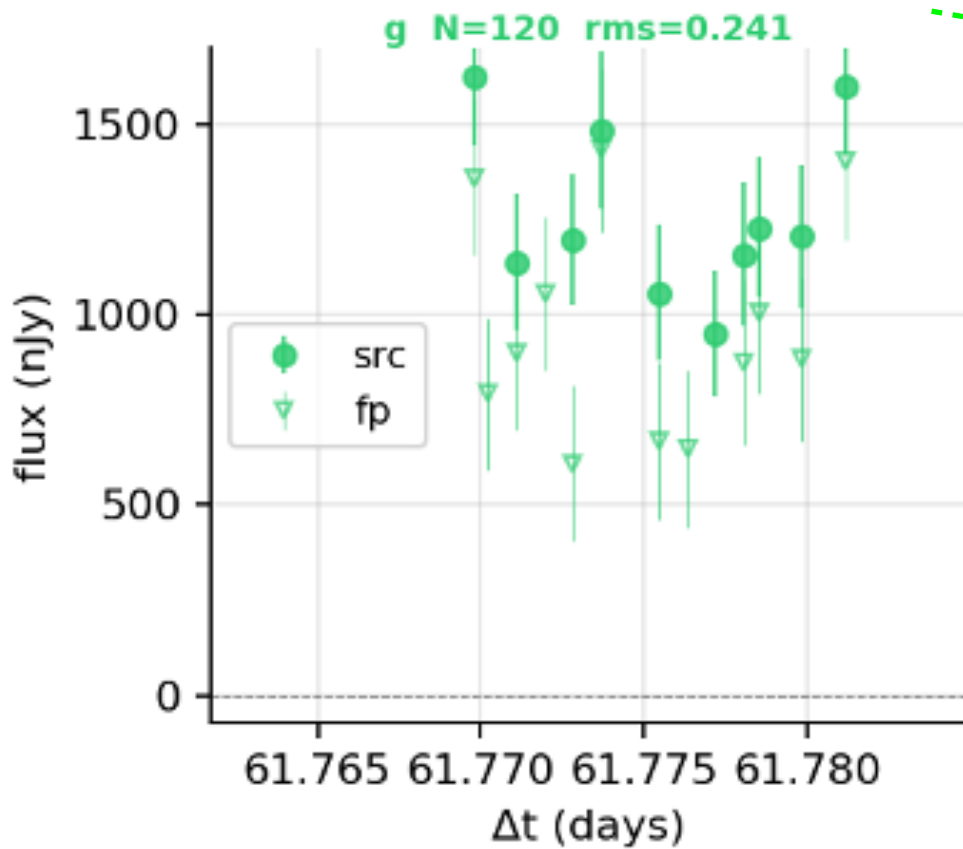
diaObjectId
313893022977753121

DDF: EDFs
Group: gaia_star_stable_hq

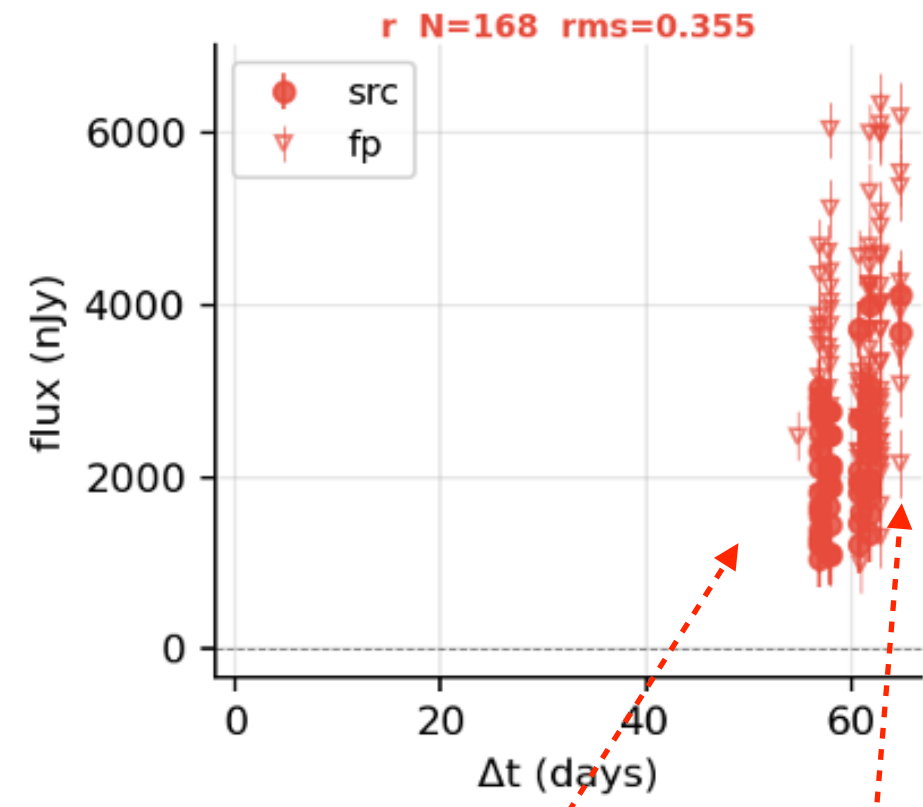
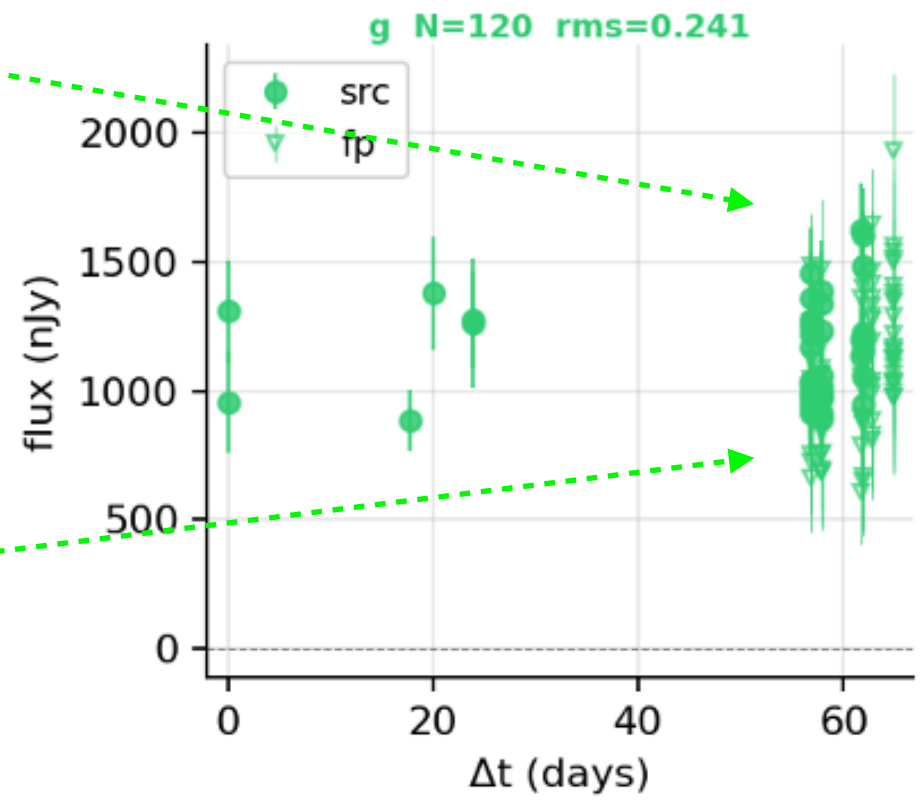
T_first : 2025-12-24
T_last  : 2026-02-27
Δt span : 64.8 days

band  Nsrc  Nfp  <mag_sci>  <mag_psf>  σ_psf  Ndip
g     41   79   20.40     23.76     0.179  1
r     57  111  18.86     23.12     0.366  52
i      4  107  17.52     21.93     0.929  3
z      1  118  16.90     n/a       n/a    1

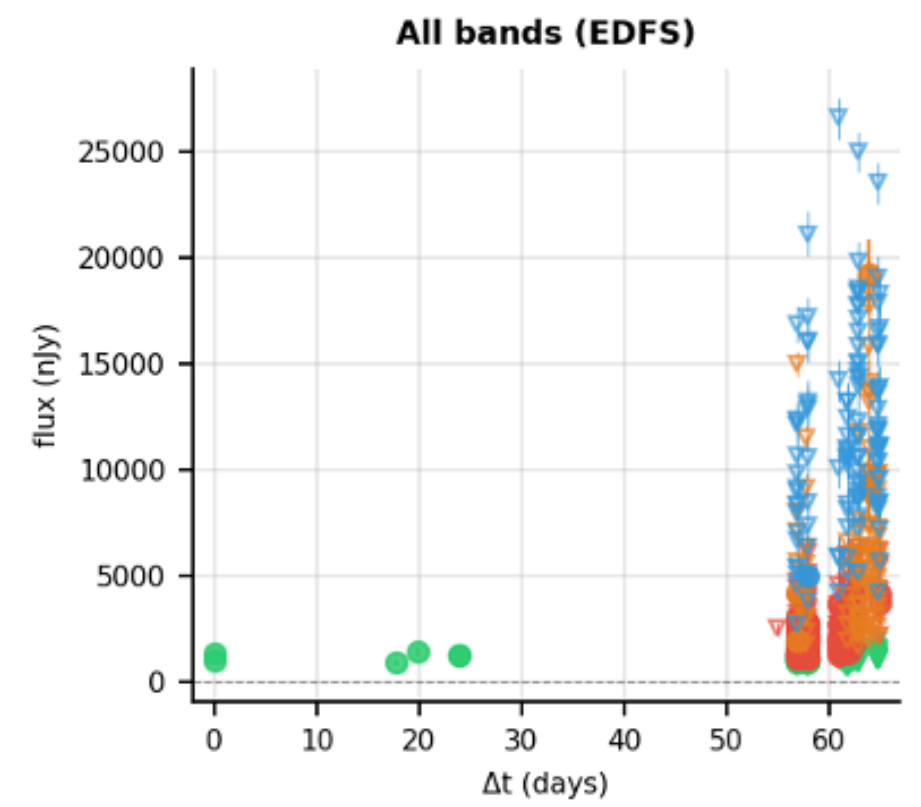
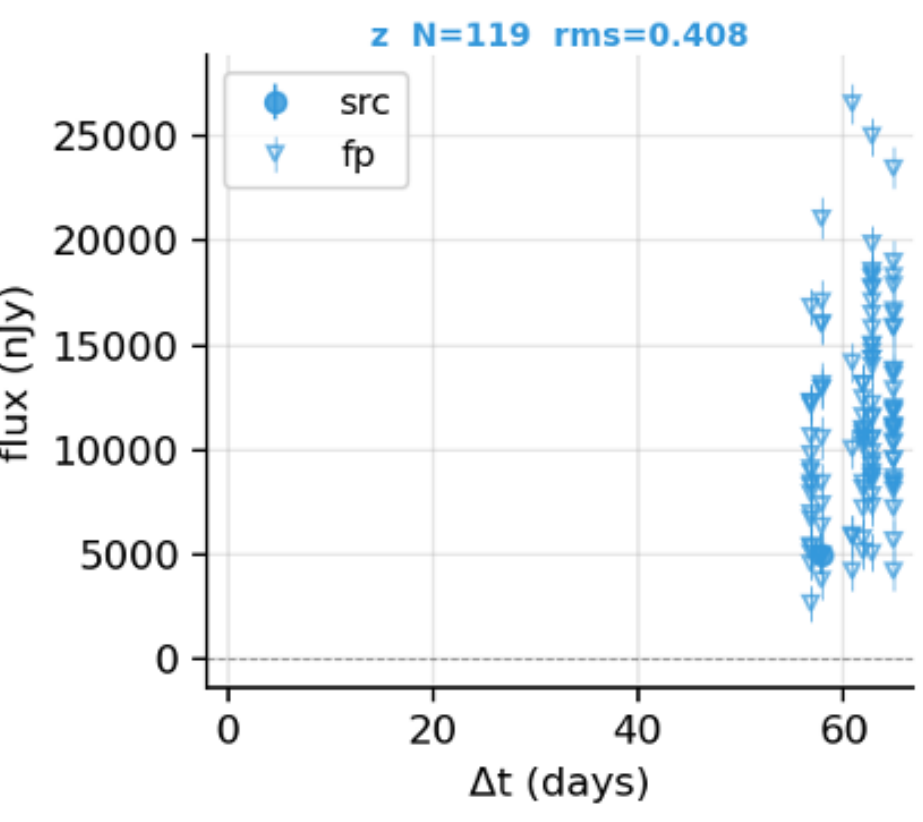
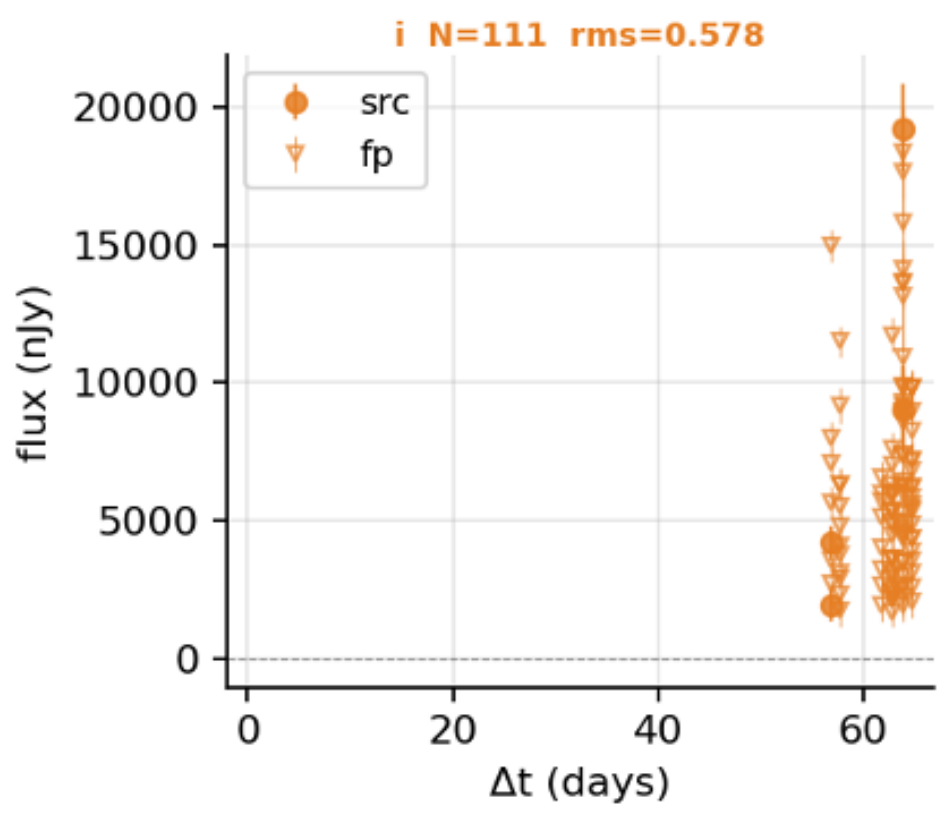
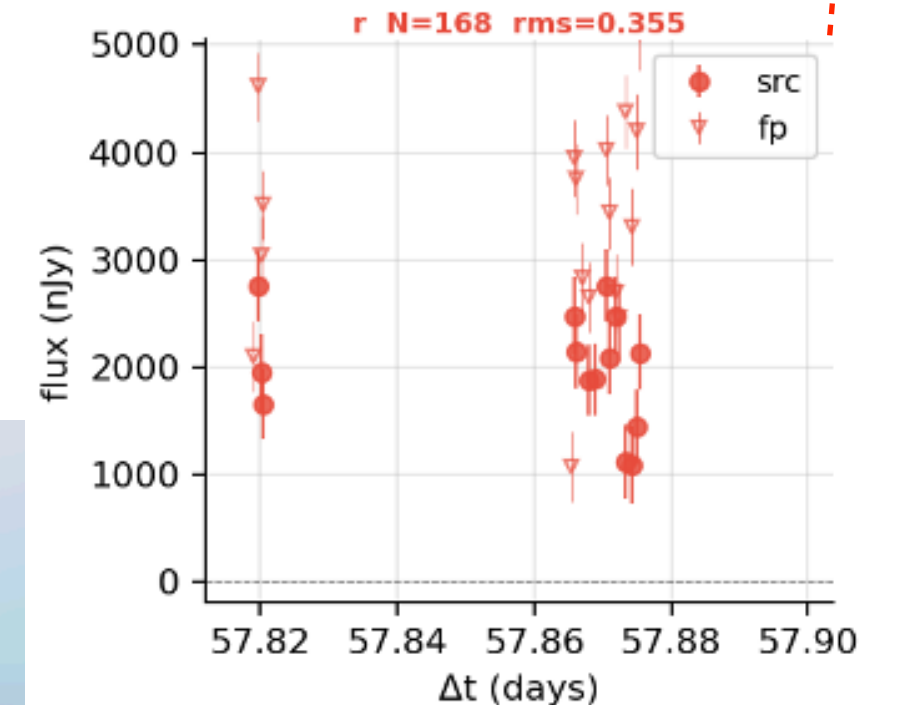
Gaia class: gaia_star_stable_hq
    
```



Zoom on g

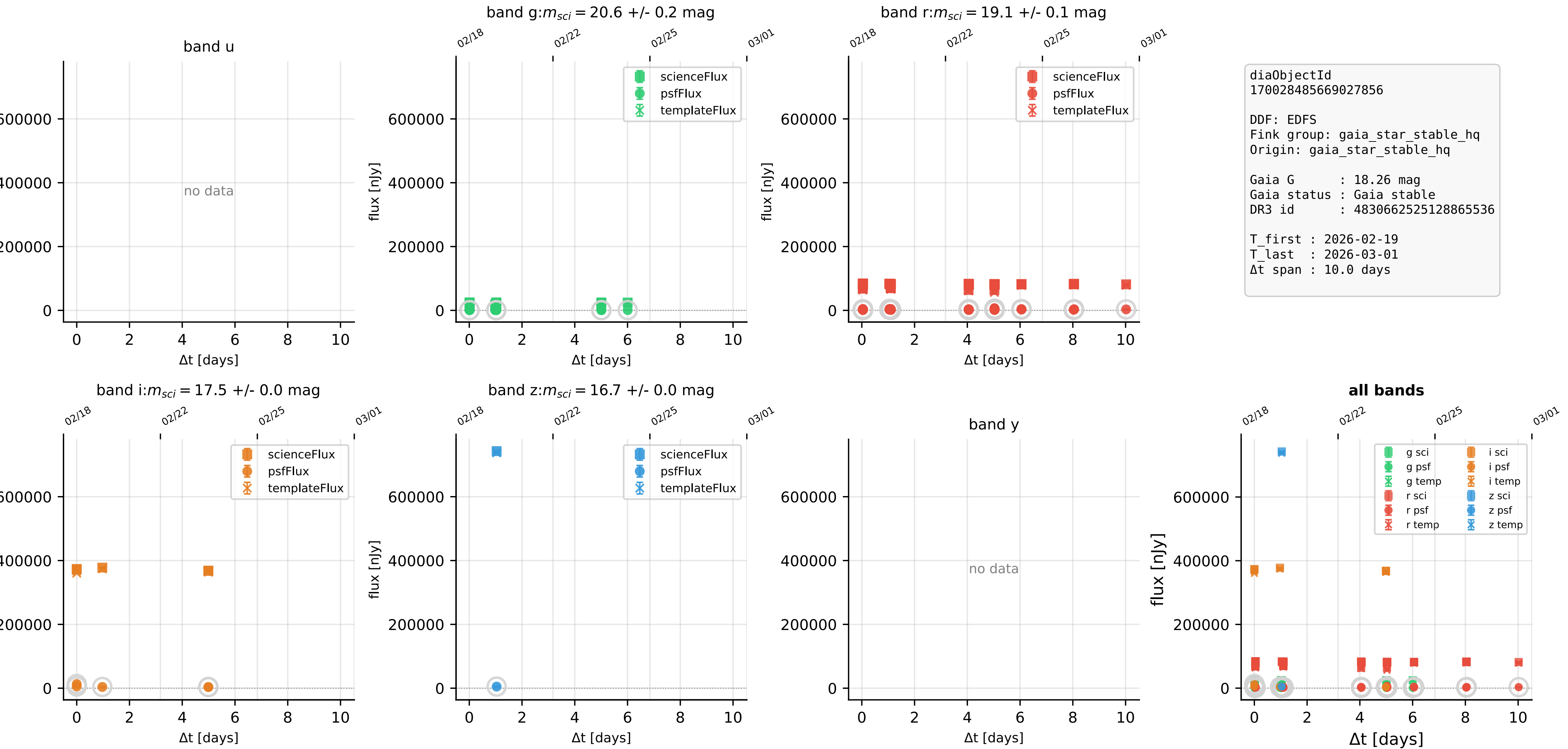


Zoom on r

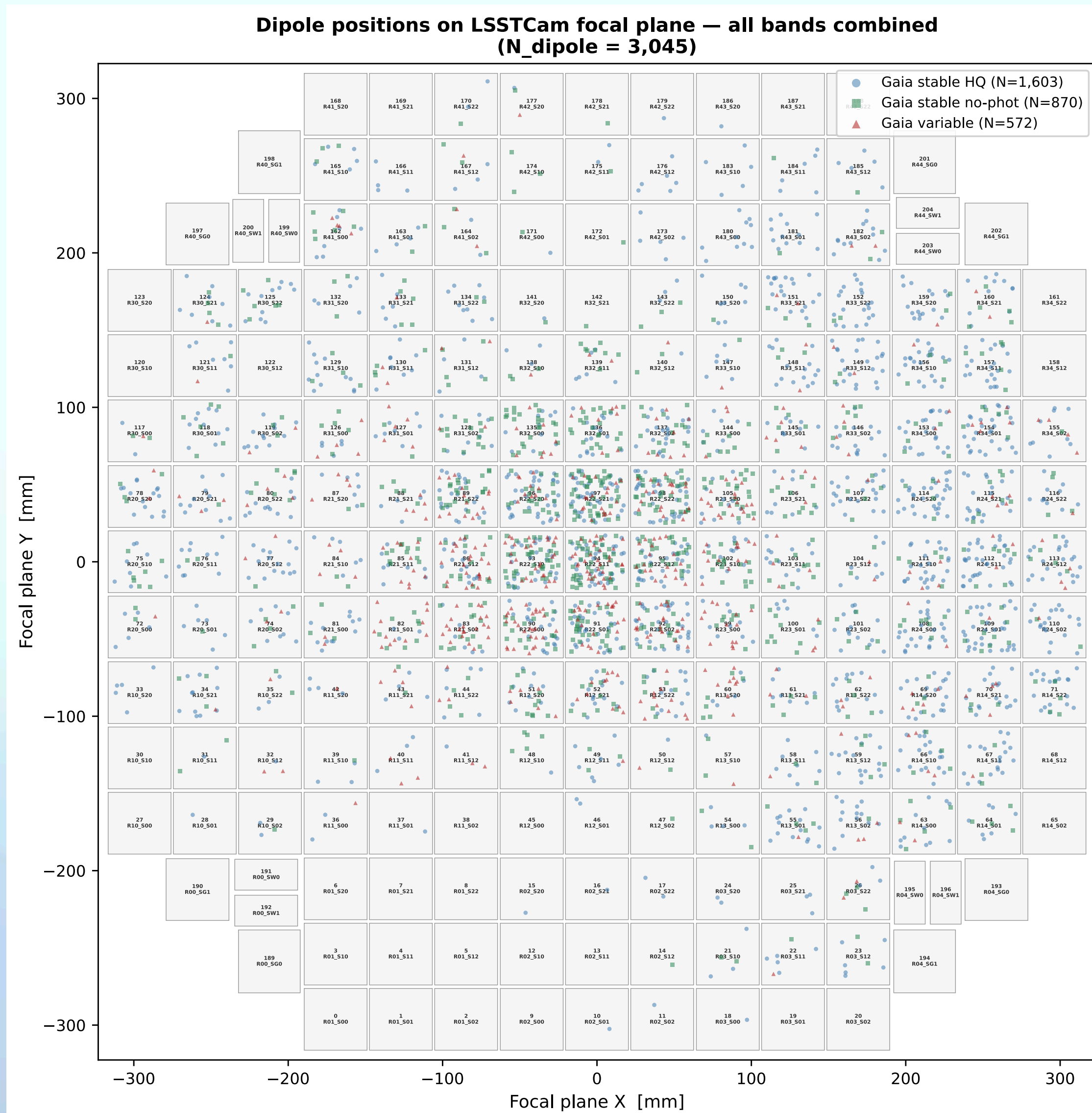


# Example of Gaia stable HQ Light-Curves with dipoles

rank #3 | diaObjectId=170028485669027856 | field=EDFS | N=118 | t<sub>0</sub>=2026-02-19  
 Fink group: gaia\_star\_stable\_hq | Gaia G=18.26 mag | Gaia status: Gaia stable | origin: gaia\_star\_stable\_hq

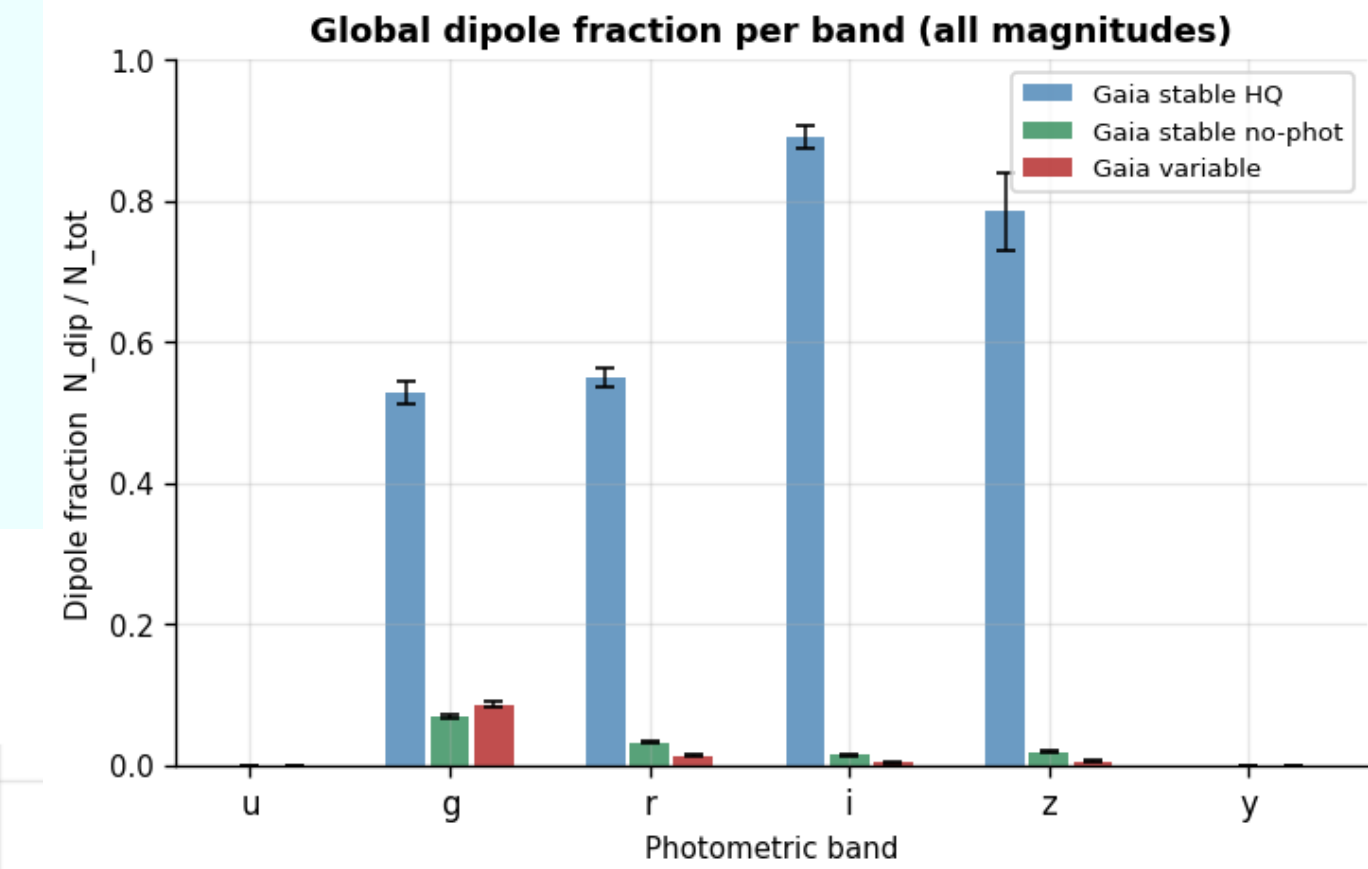


# Dipoles, where are they located

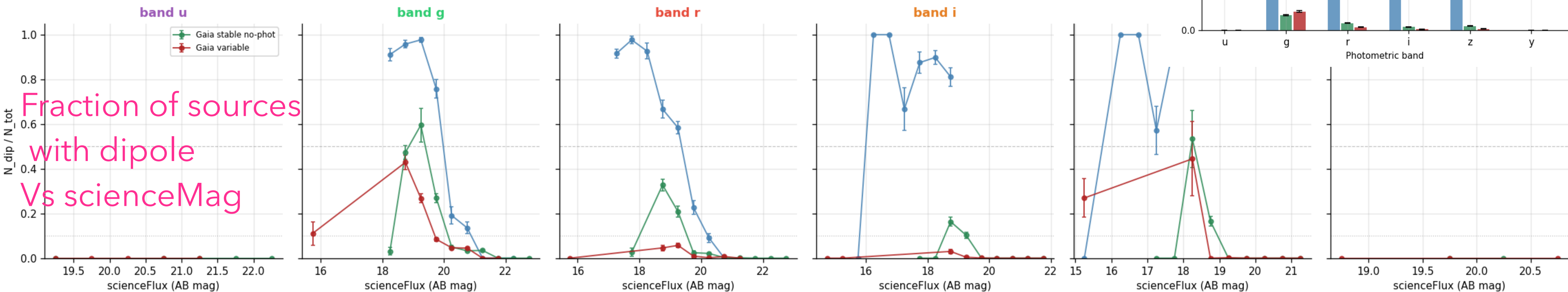


- No preferred locations on Focal Plane for Dipoles

# Which kind of DIA Objects Show Dipoles?

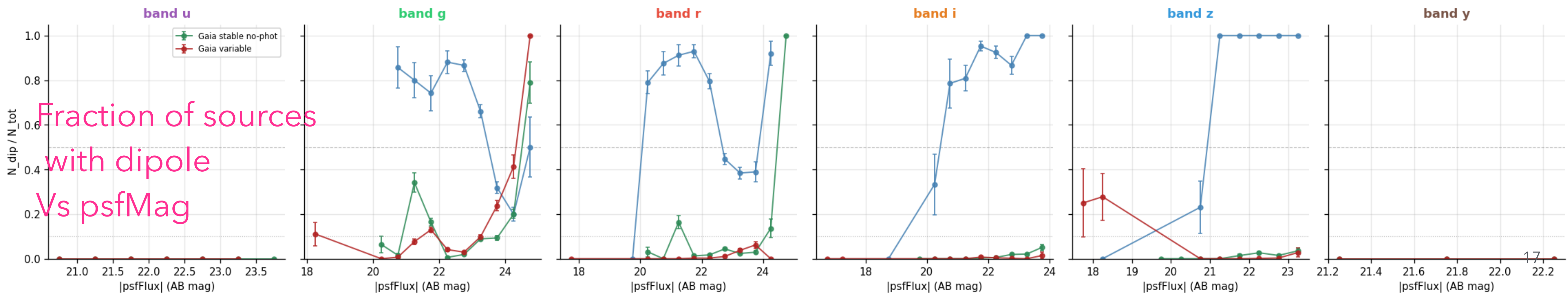


Dipole fraction vs scienceFlux — all categories



Fraction of sources with dipole Vs scienceMag

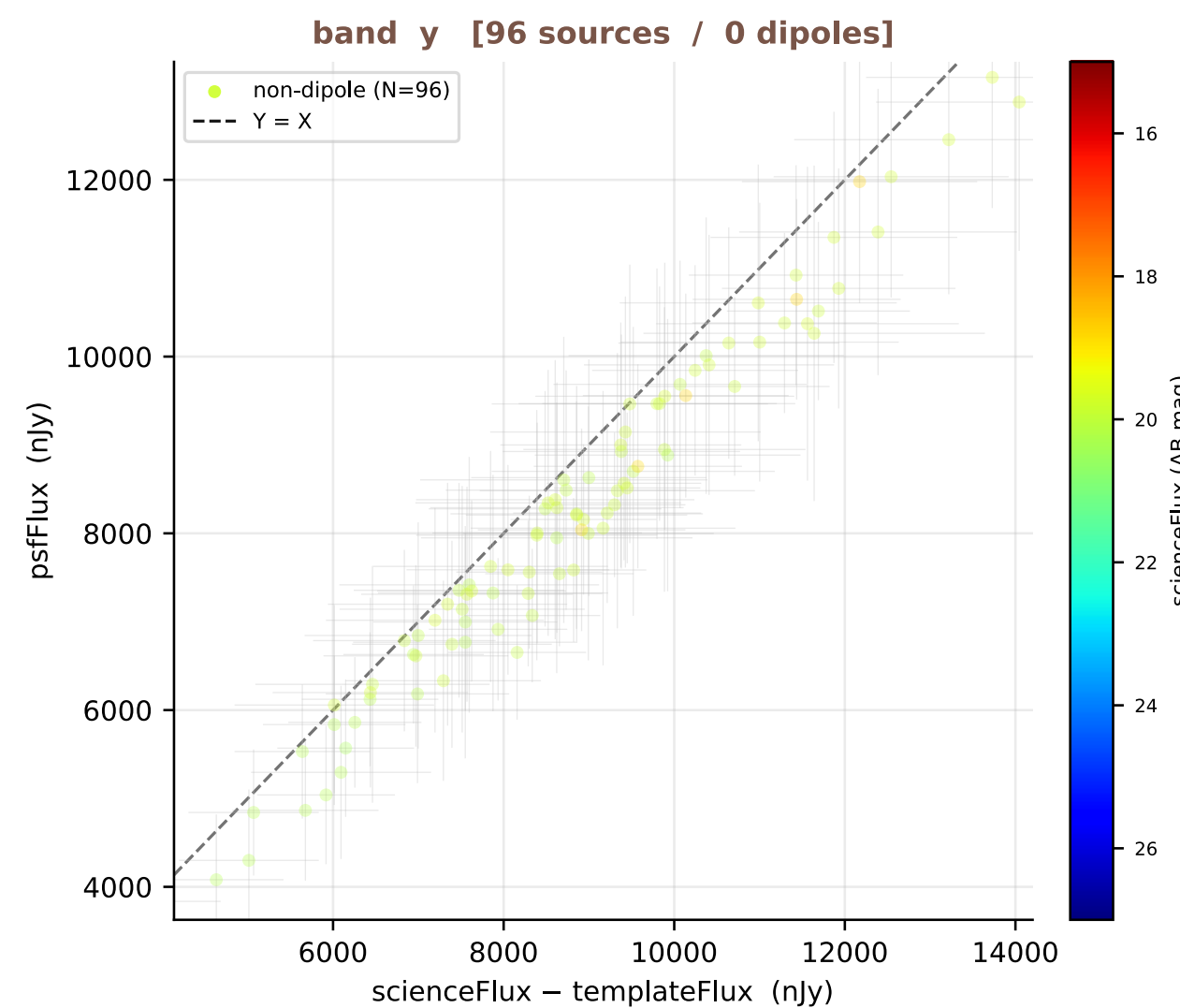
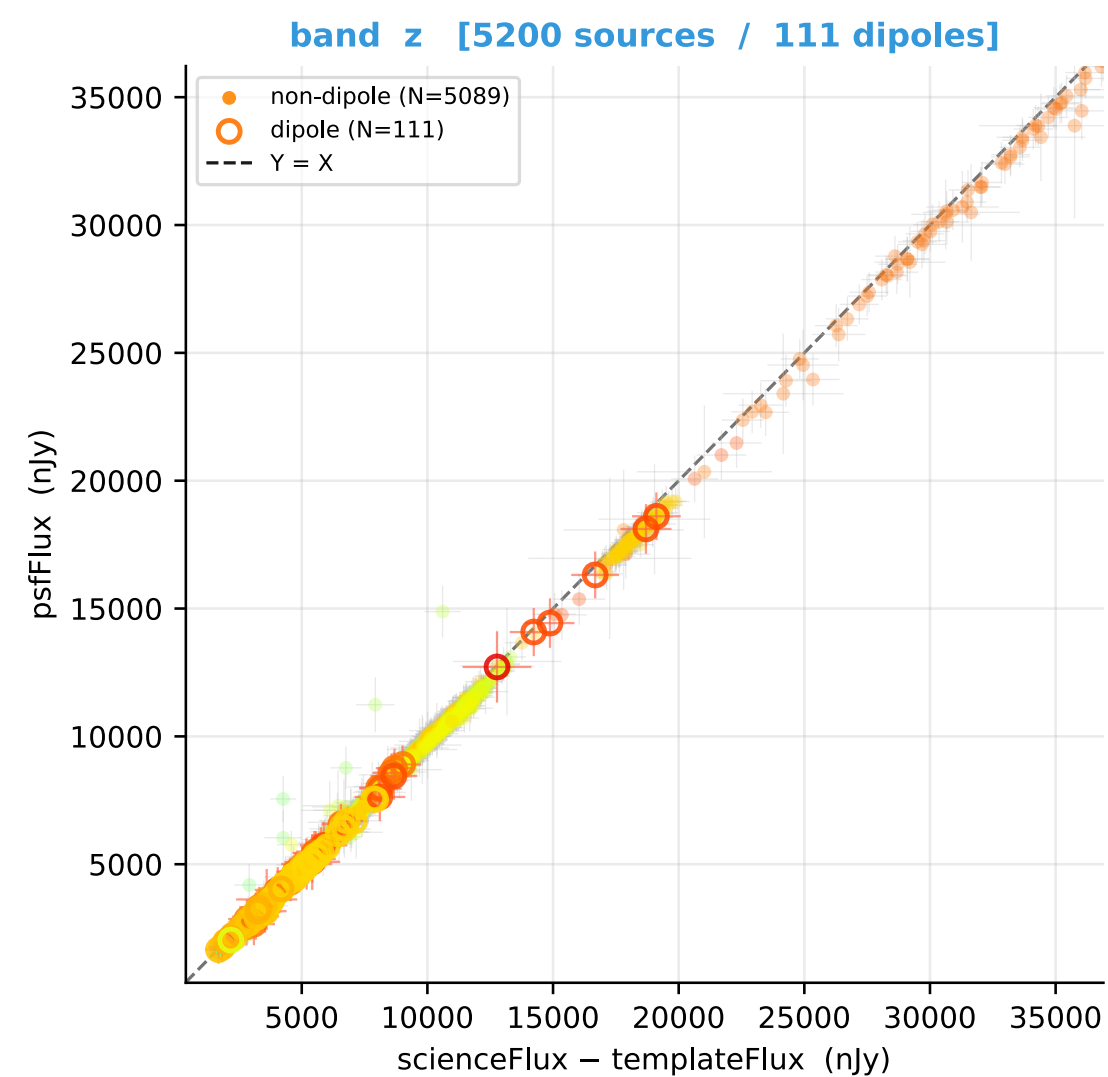
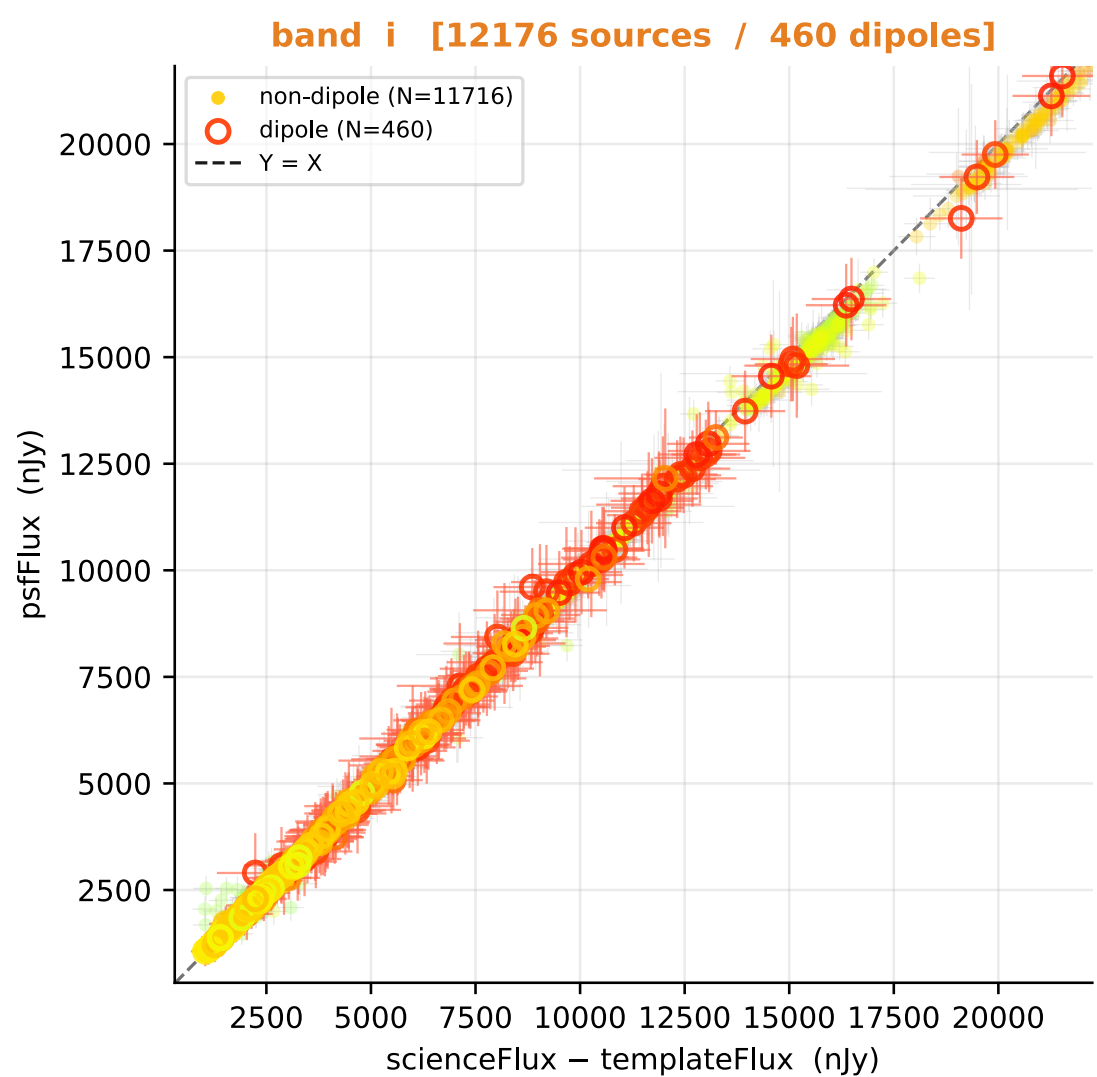
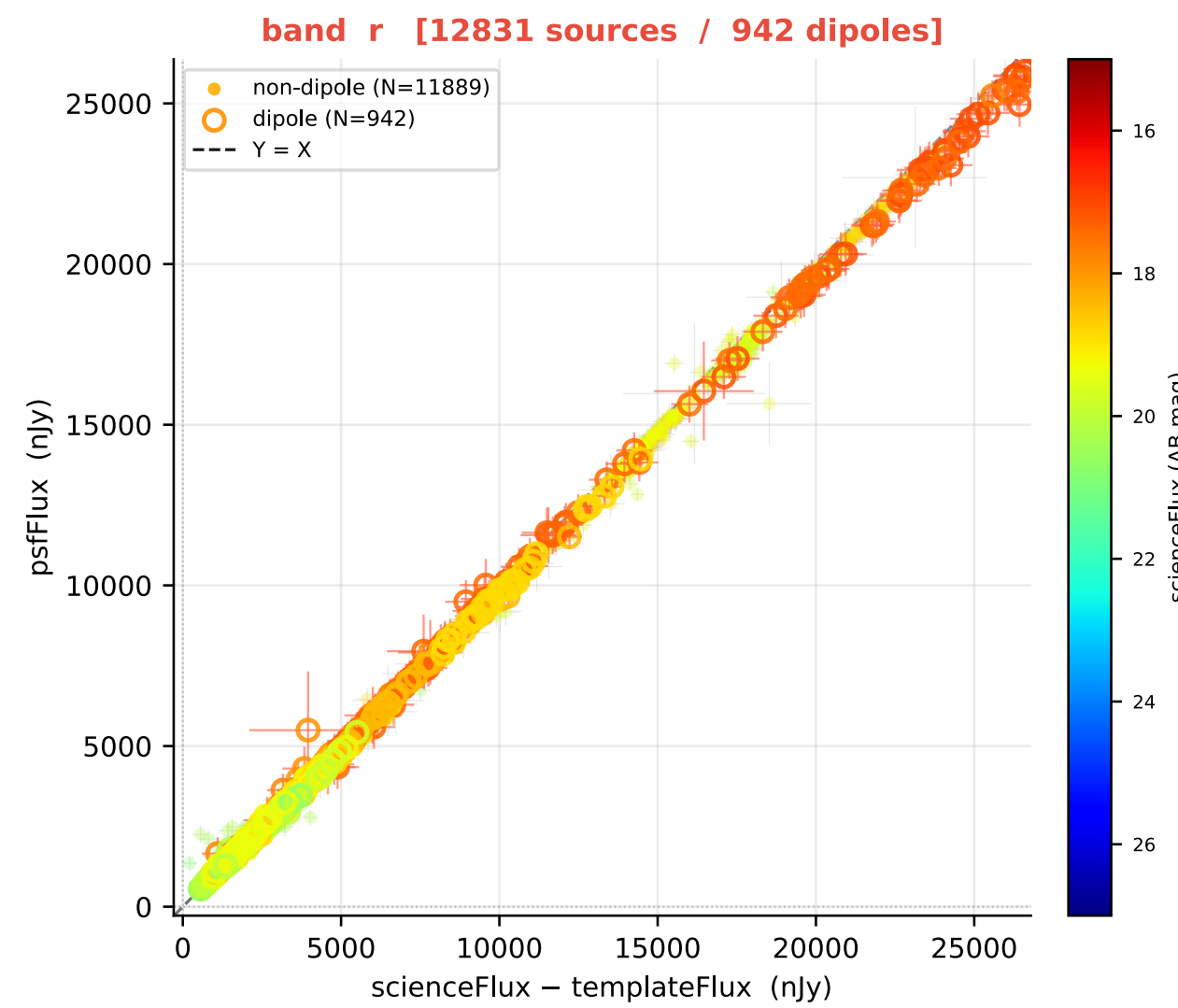
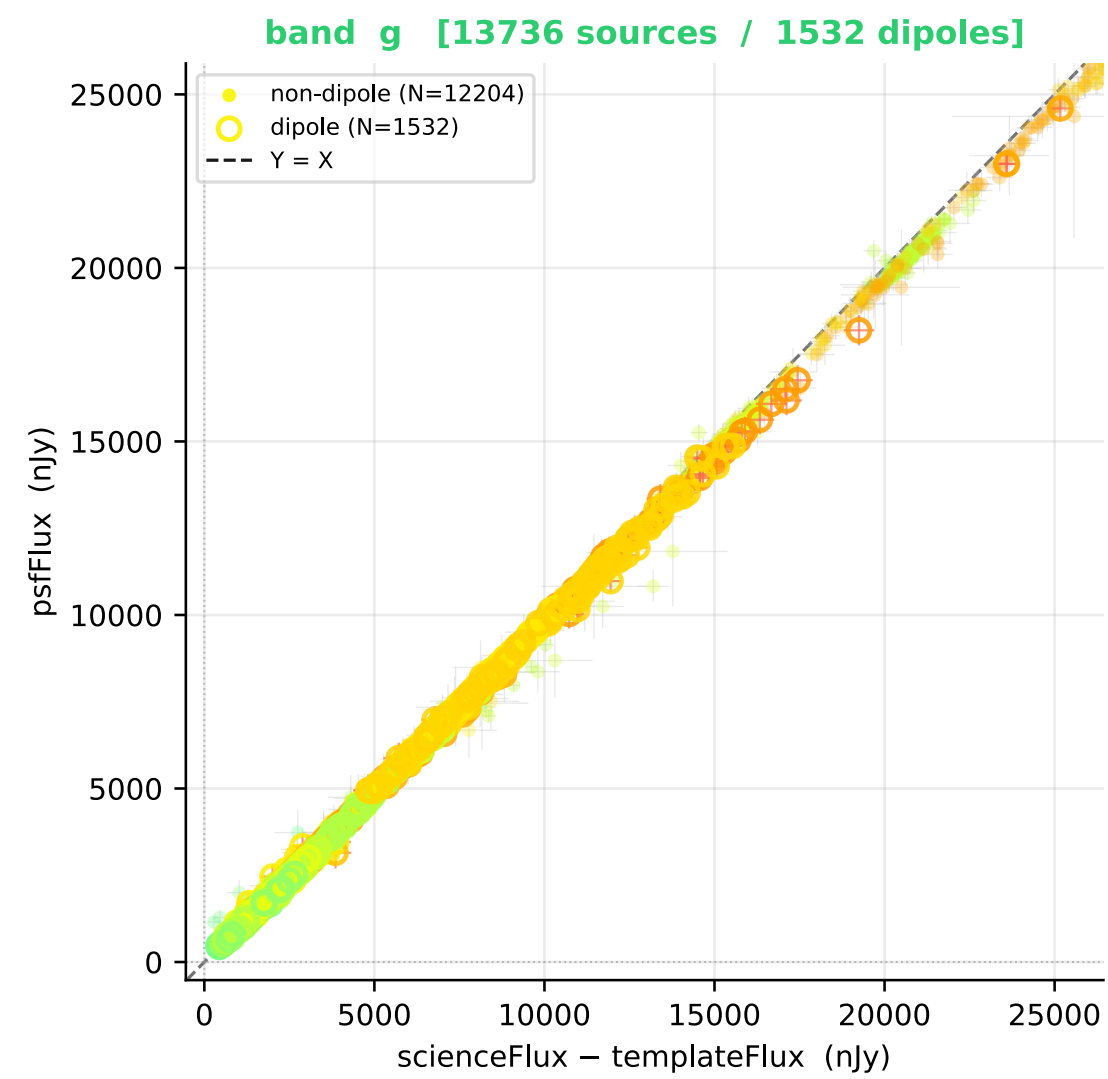
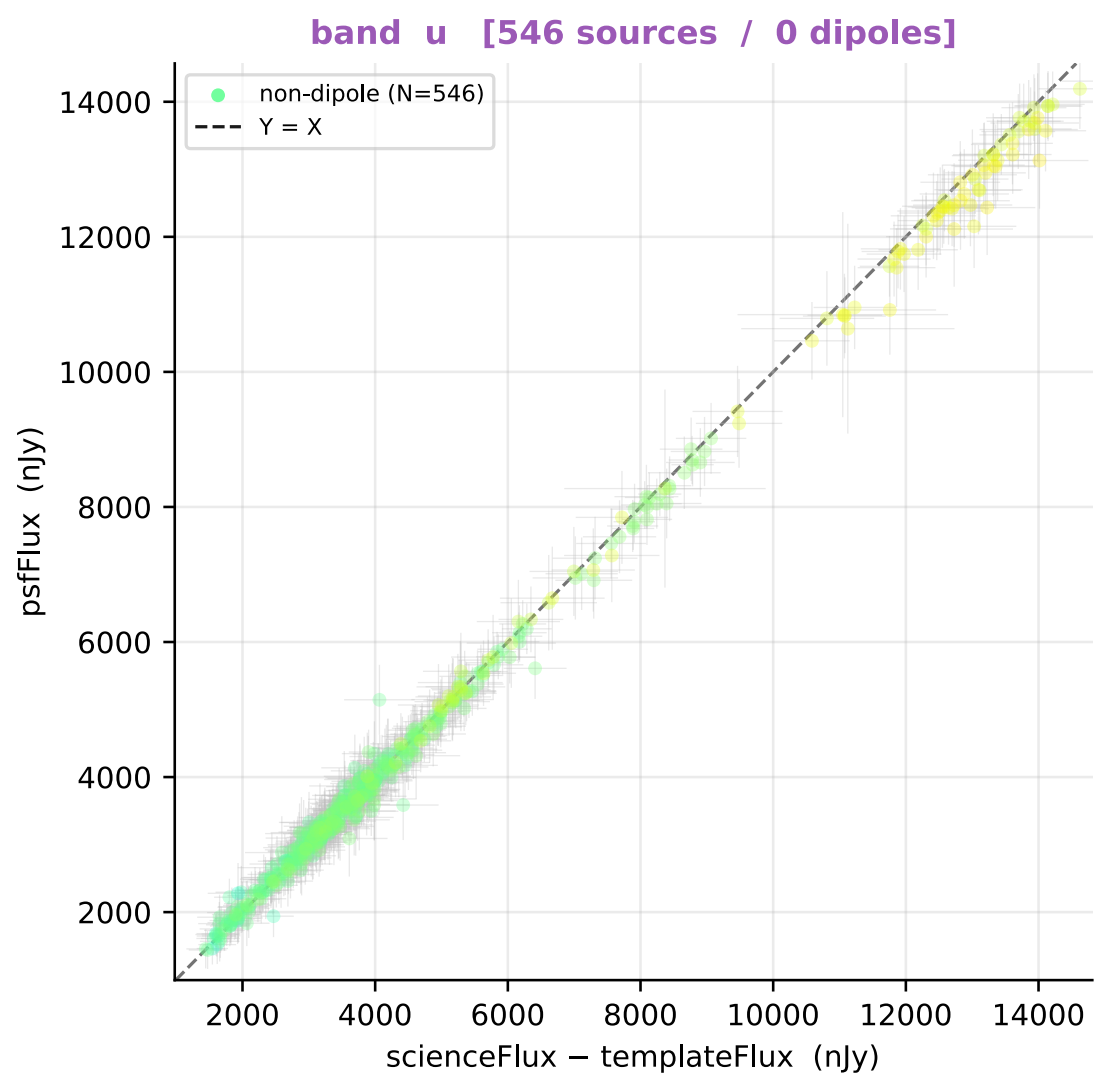
Dipole fraction vs |psfFlux| — all categories



Fraction of sources with dipole Vs psfMag

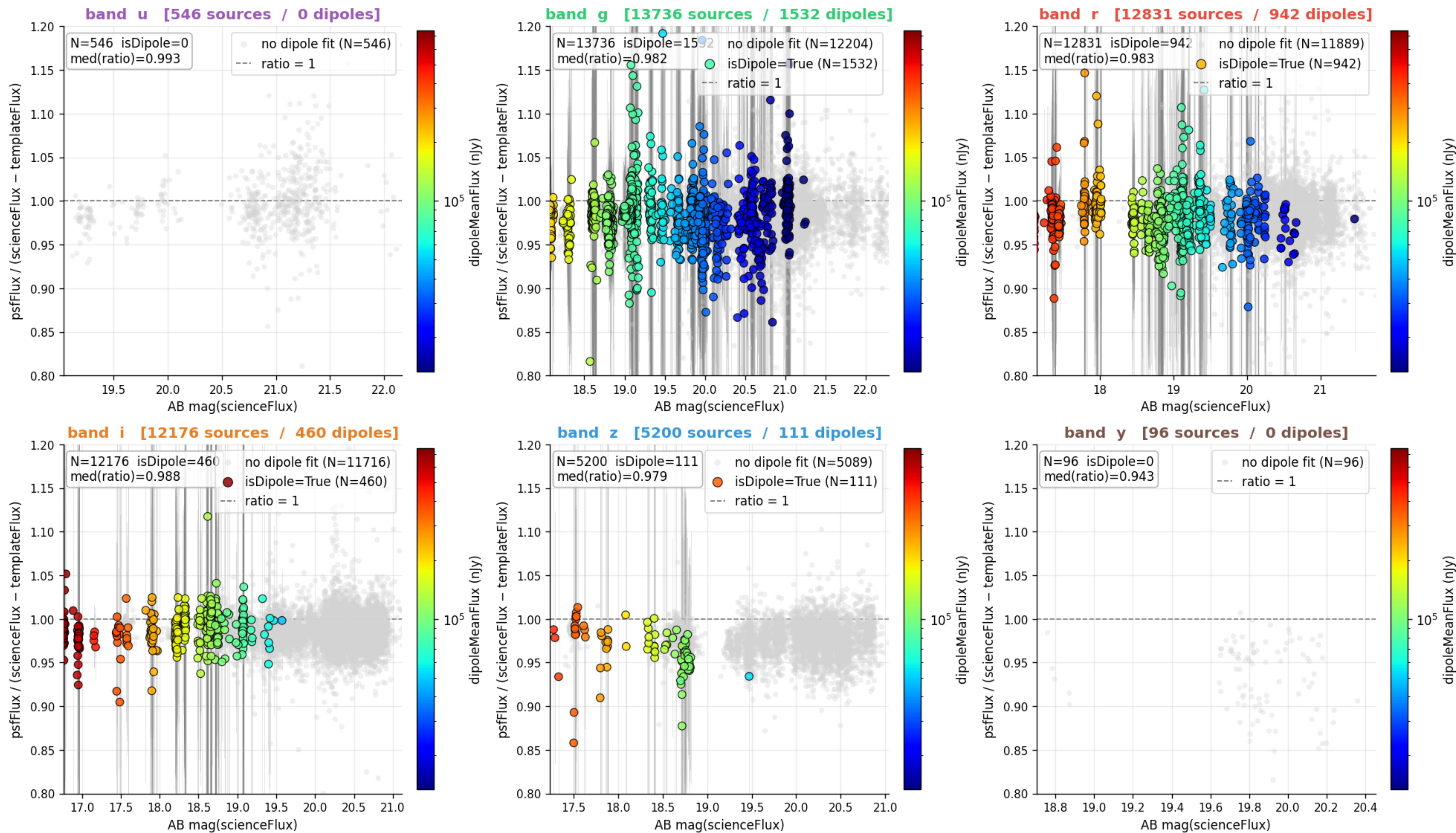
# PSF Flux vs (ScienceFlux - TemplateFlux)

All categories — psfFlux vs scienceFlux - templateFlux  
 ● non-dipole ○ dipole colour = scienceFlux AB mag



$$\frac{psfFlux}{scienceFlux - templateFlux} \leq 1$$

**psfFlux / (scienceFlux - templateFlux) vs AB mag(scienceFlux)**  
**Colour = dipoleMeanFlux (nJy, log scale) — cmap jet: red = strong dipole, blue = weak dipole | grey = no dipole fit**



# Stronger requirements directly on Gaia catalog

Original constraints on hq stable Gaia stars from Fink in my code

Category	Criterion (exact variable names)	Purpose
Gaia match	<code>f.xm_gaiadr3_DR3Name</code> not null	Object identified in Gaia DR3
Variability	<code>f.xm_gaiadr3_VarFlag</code> in { 0 , False , NOT_AVAILABLE , null }	Reject Gaia variables
Parallax quality	<code>f.xm_gaiadr3_Plx</code> > 0	Physical distance
	<code>f.xm_gaiadr3_e_Plx</code> > 0	Valid uncertainty
	<code>(Plx / e_Plx)</code> >= 5	High S/N parallax

What is missing in original requests from Fink

Missing constraint	Consequence
No <code>ruwe</code> cut	Possible bad astrometry / binaries
No <code>astrometric_gof_al</code>	Poor fits not removed
No <code>phot_bp_rp_excess_factor</code>	Blends / extended sources leak in
No <code>phot_g_mean_flux_over_error</code>	Lower photometric S/N
No <code>std_dev_mag_g_fov</code>	Residual variability possible

Constraints required on DR3 Gaia catalog directly

Category	Criterion	Purpose
Photometry	<code>g.phot_g_mean_mag</code> < 23.5	
	<code>g.phot_g_mean_flux_over_error</code> > 5	High S/N
Astrometry	<code>g.ruwe</code> < 1.4	Reliable astrometric fit
Parallax	<code>g.parallax</code> > 0	Physical solution
	<code>g.parallax_error</code> > 0	Valid uncertainty
	<code>(g.parallax / g.parallax_error)</code> >= 5	High S/N distance
Variability	All <code>v.in_vari_*</code> == 0	Reject all known variables
Photometric stability	<code>v.std_dev_mag_g_fov</code> < 0.05	Low variability
Astro model	<code>g.astrometric_params_solved</code> == 31	Full 5-parameter solution
Fit quality	<code>g.astrometric_gof_al</code> < 3	Good fit
BP/RP excess	<code>1 &lt; g.phot_bp_rp_excess_factor &lt; 2</code>	Clean point source

New

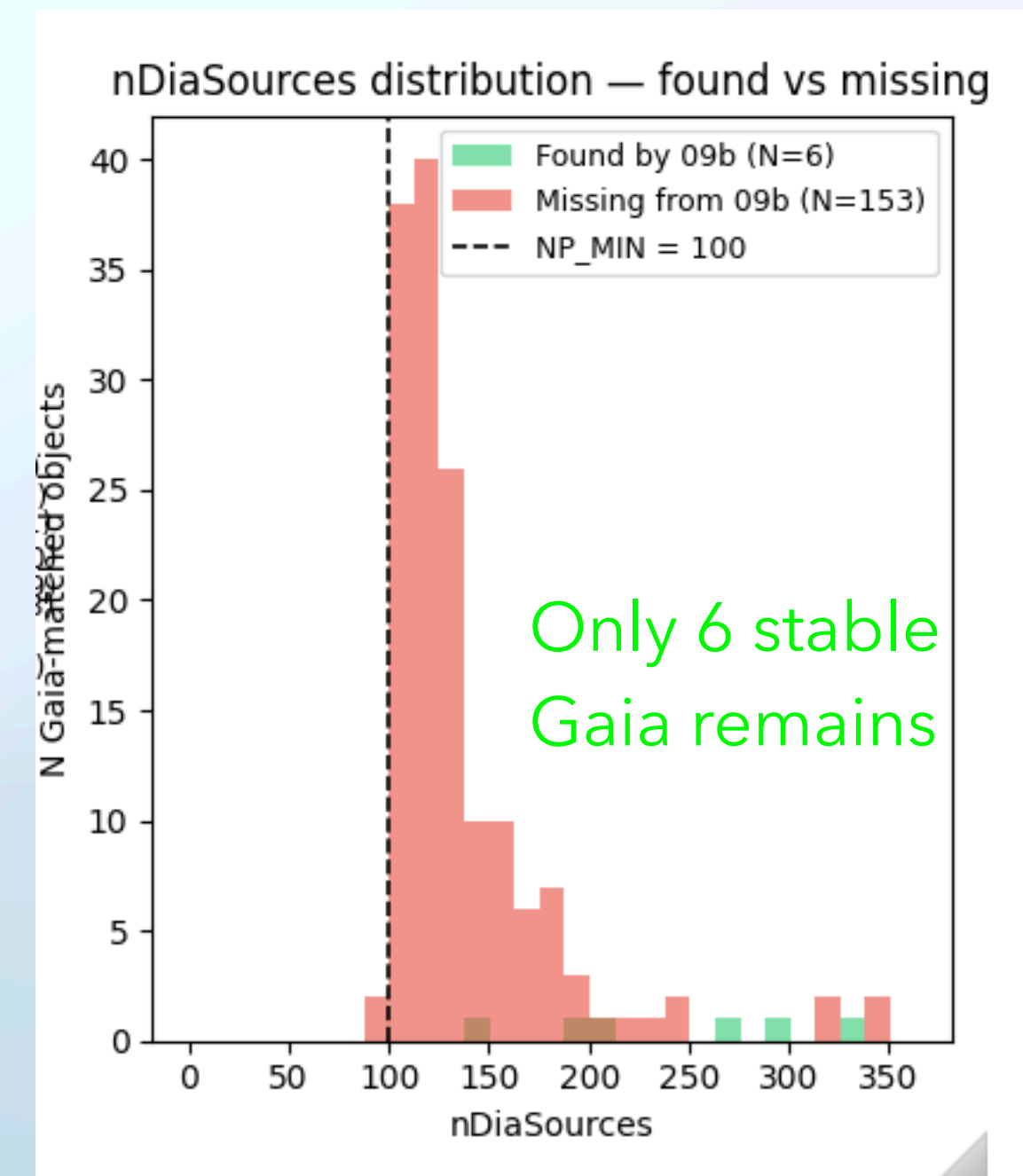
- Found 159 matching of Fink-Gaia with DR3 Gaia
- Only 6 match with `gaia_stable_hq`

New

New

New

New



- There are very few good true stable star generating alerts in Rubin after their rejection

# Science, Template and DIA from a SNIa

- NO Dipole**

```
diaObjectId
170235219334922248

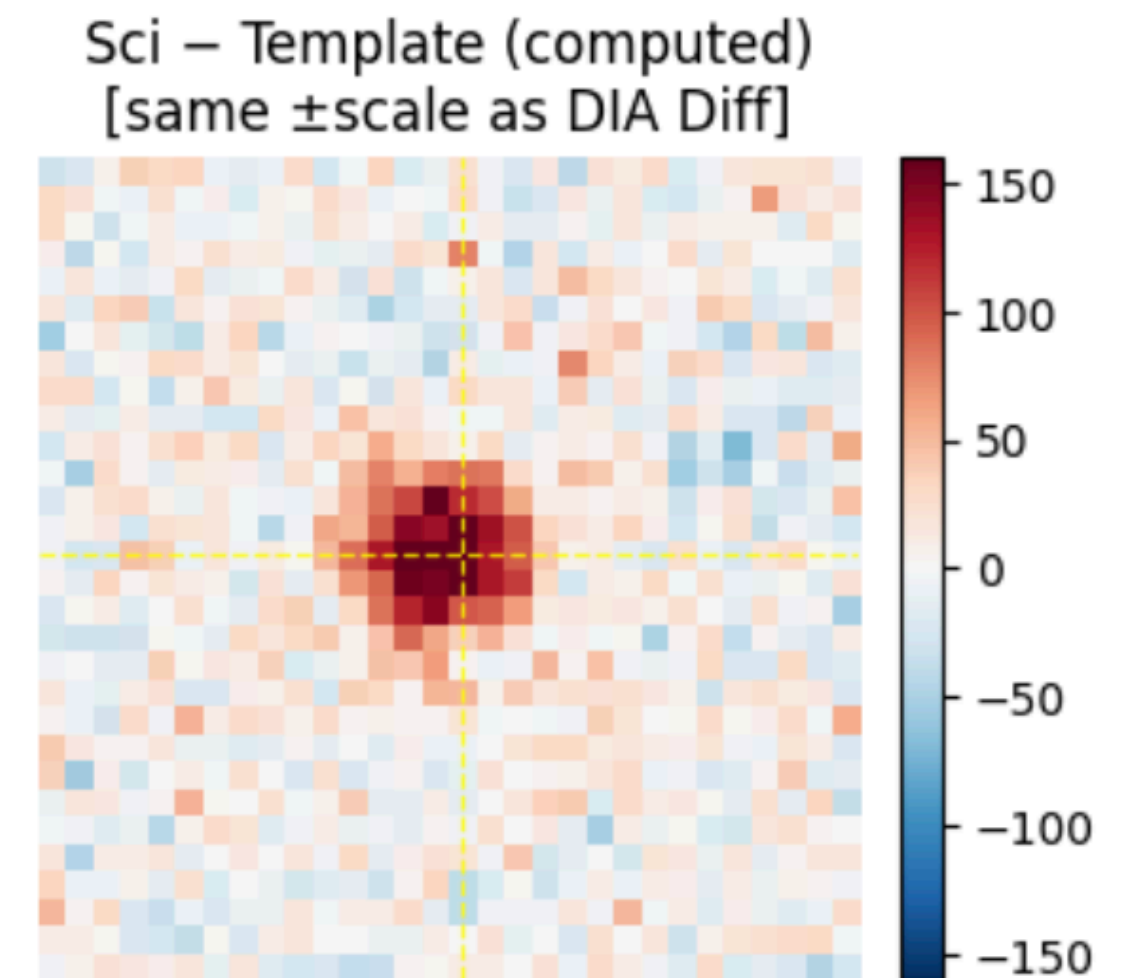
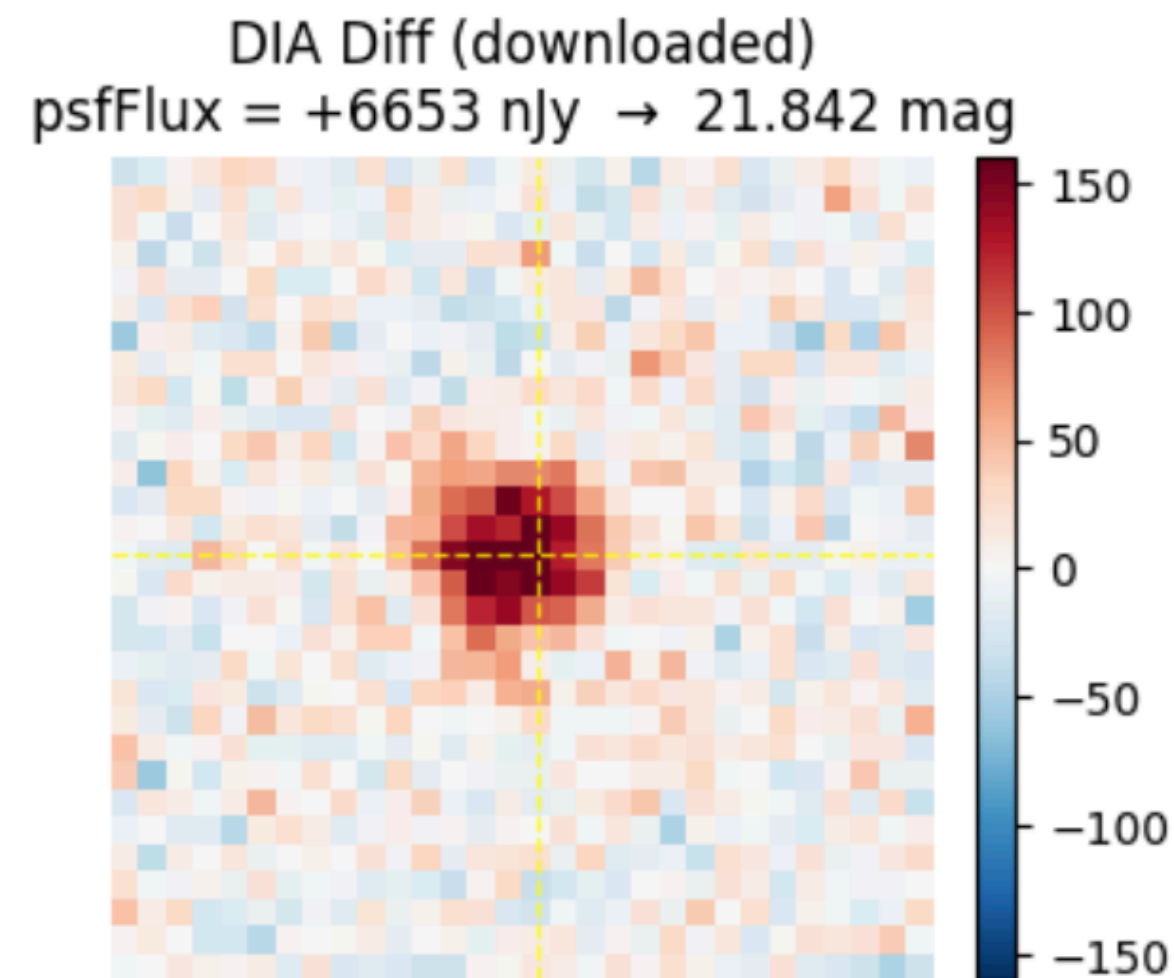
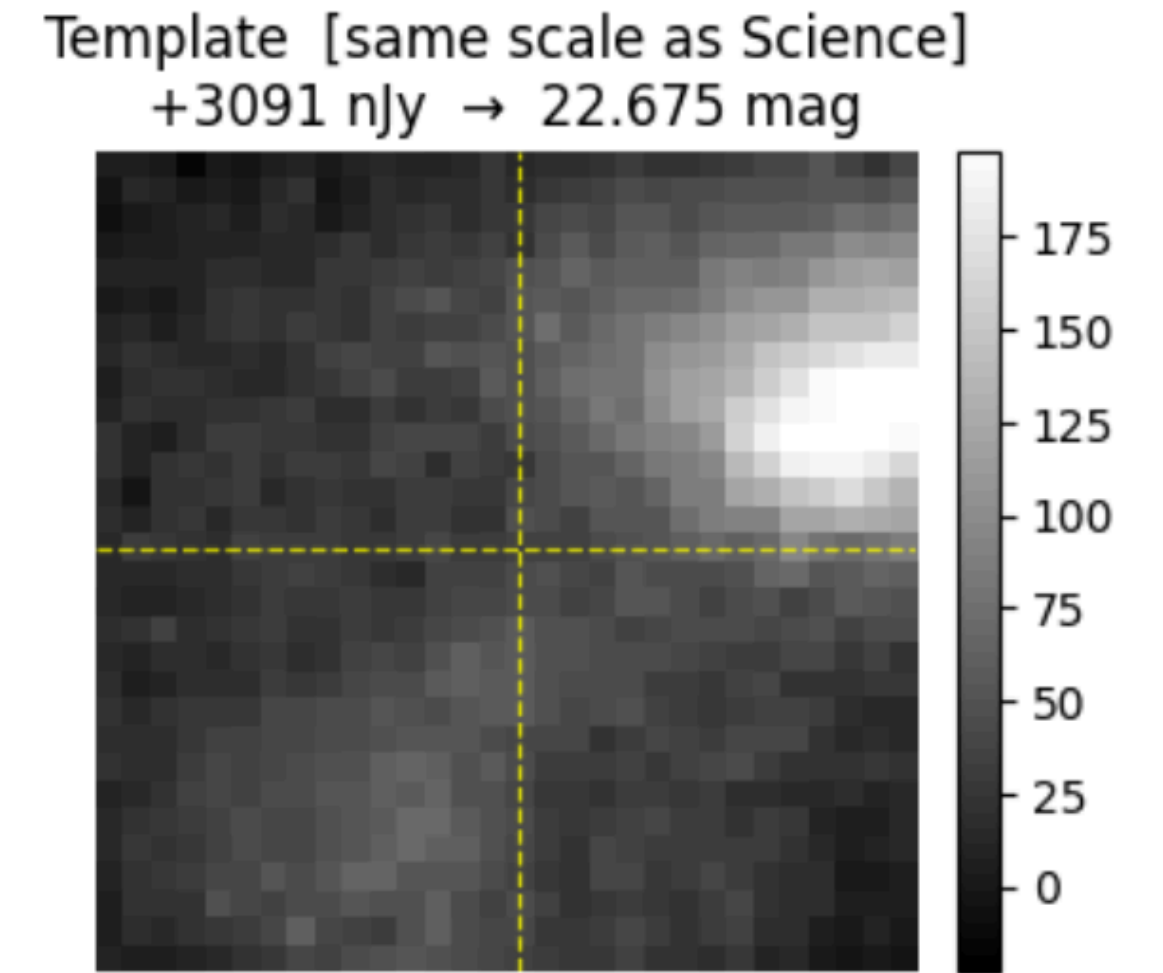
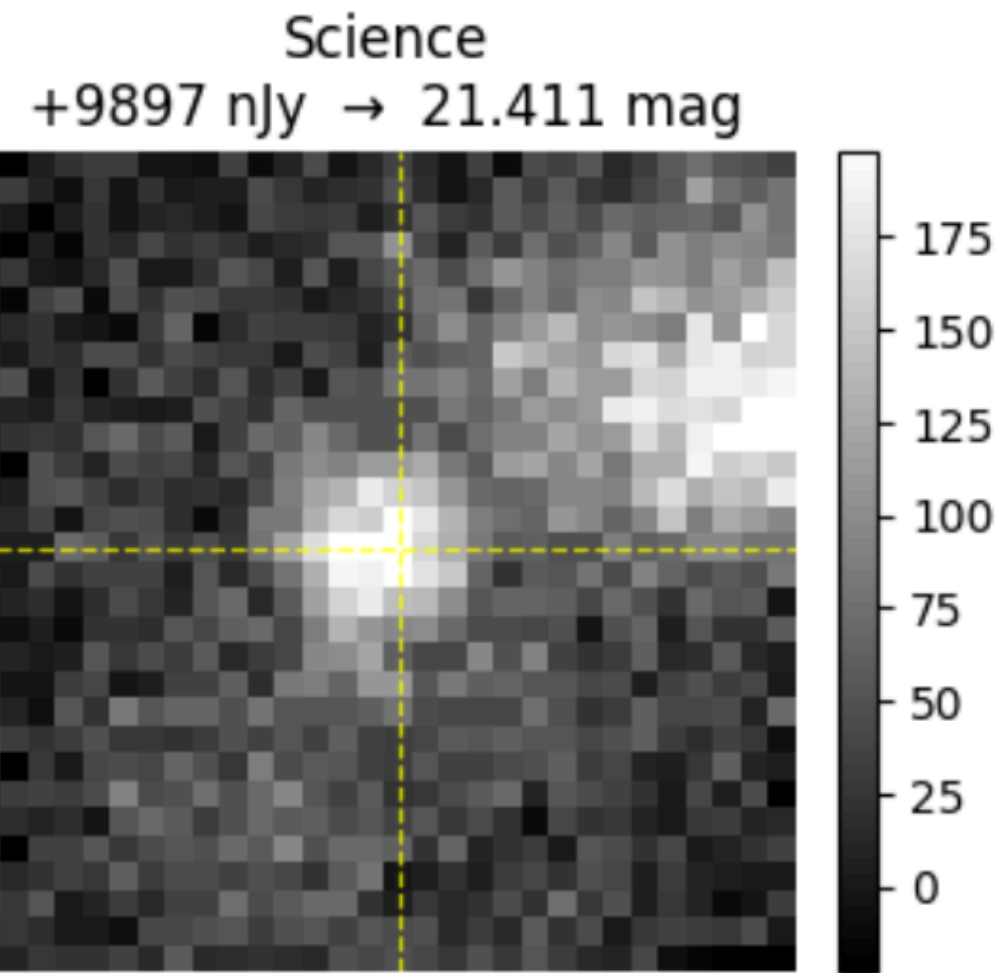
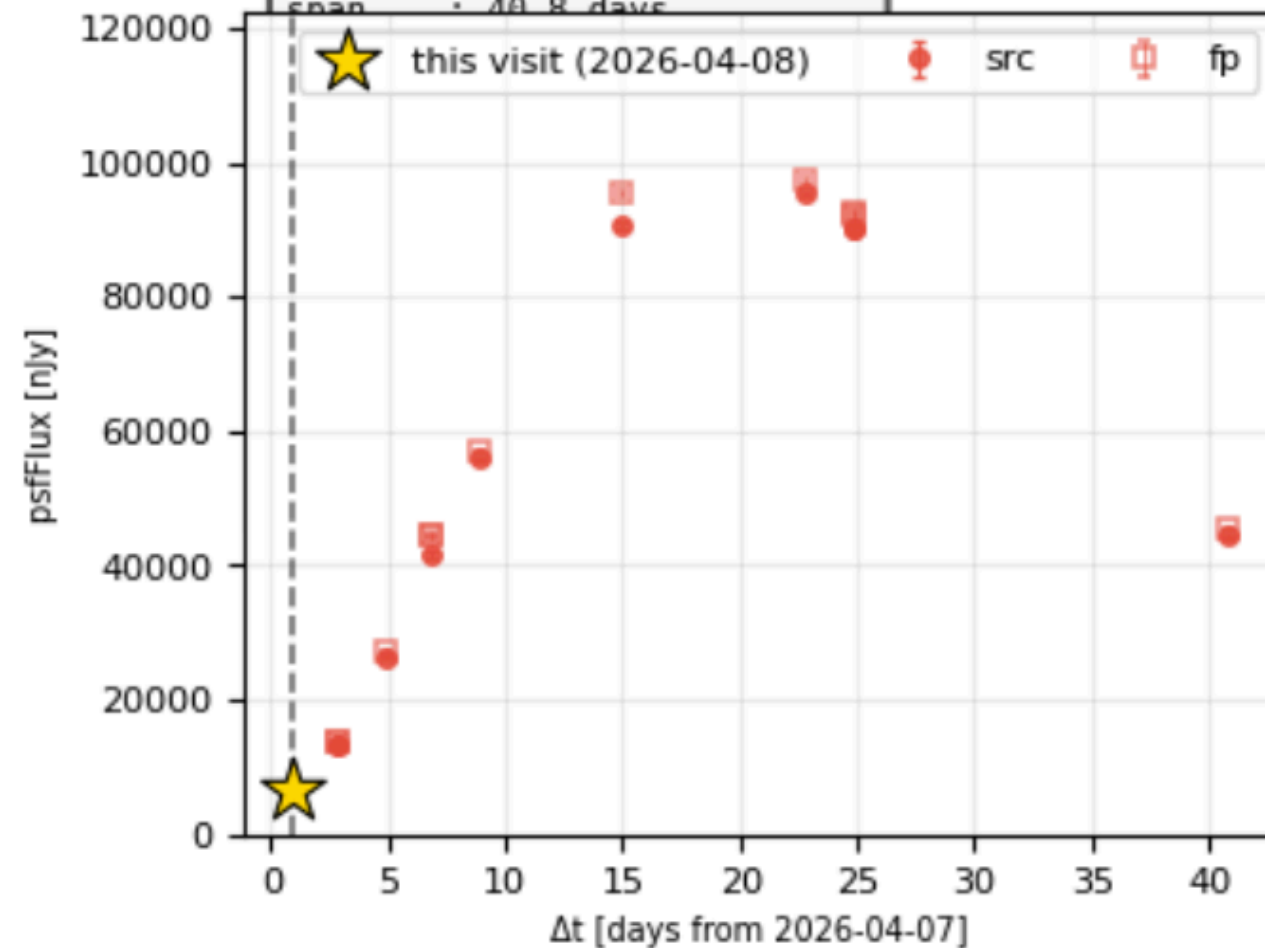
Gaia G : ? mag
status : ?
group : ?
DR3 : ?

Visit #1/11 - band r
visit : 2026040700197
det : 11
(x,y) : (1938.2, 40.0) pix
date : 2026-04-08
MJD : 61138.0763
SNR : 33.3

--- Fluxes ---
psfFlux : +6653.3 ±199.5 nJy
- 21.842 mag
sciFlux : +9896.7 ±196.2 nJy
- 21.411 mag
tmplFlux : +3090.8 ±21.0 nJy
- 22.675 mag

isDipole: o no-dipole
Ndip/N : 0/11 this band

--- Temporal coverage ---
first : 2026-04-07
last : 2026-05-18
span : 40.8 days
```



# Science, Template and DIA cutouts in g

diaObjectId=170028527433285667 band=g visit=2026021900320 2026-02-20  DIPOLE  
 Fink: gaia\_star\_stable\_hq Gaia G=17.47 status=Gaia stable #7/94 93 dipoles total

## • With Dipole

```

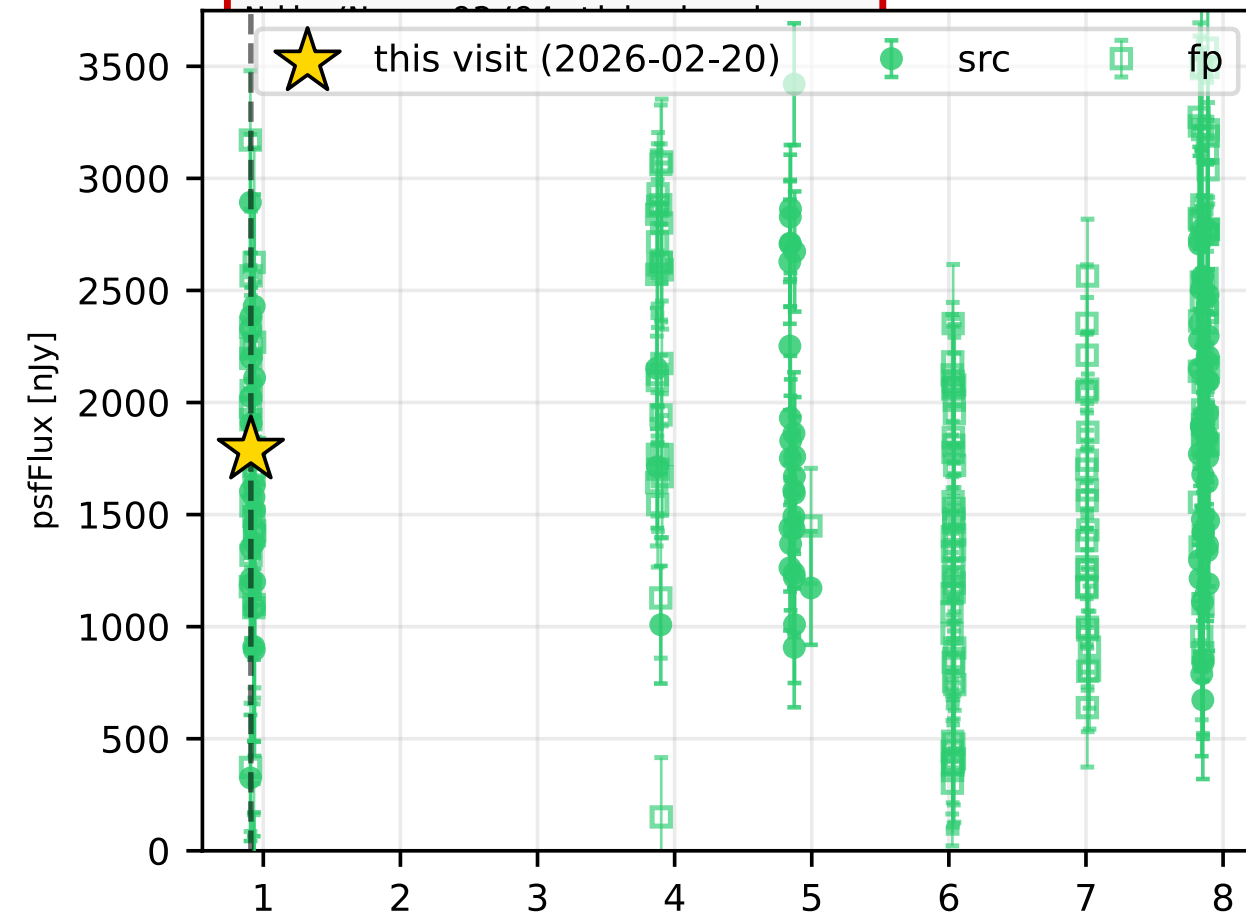
diaObjectId
170028527433285667

Gaia G : 17.47 mag
status : Gaia stable
group  : gaia_star_stable_hq
DR3    : 3901136180984624128

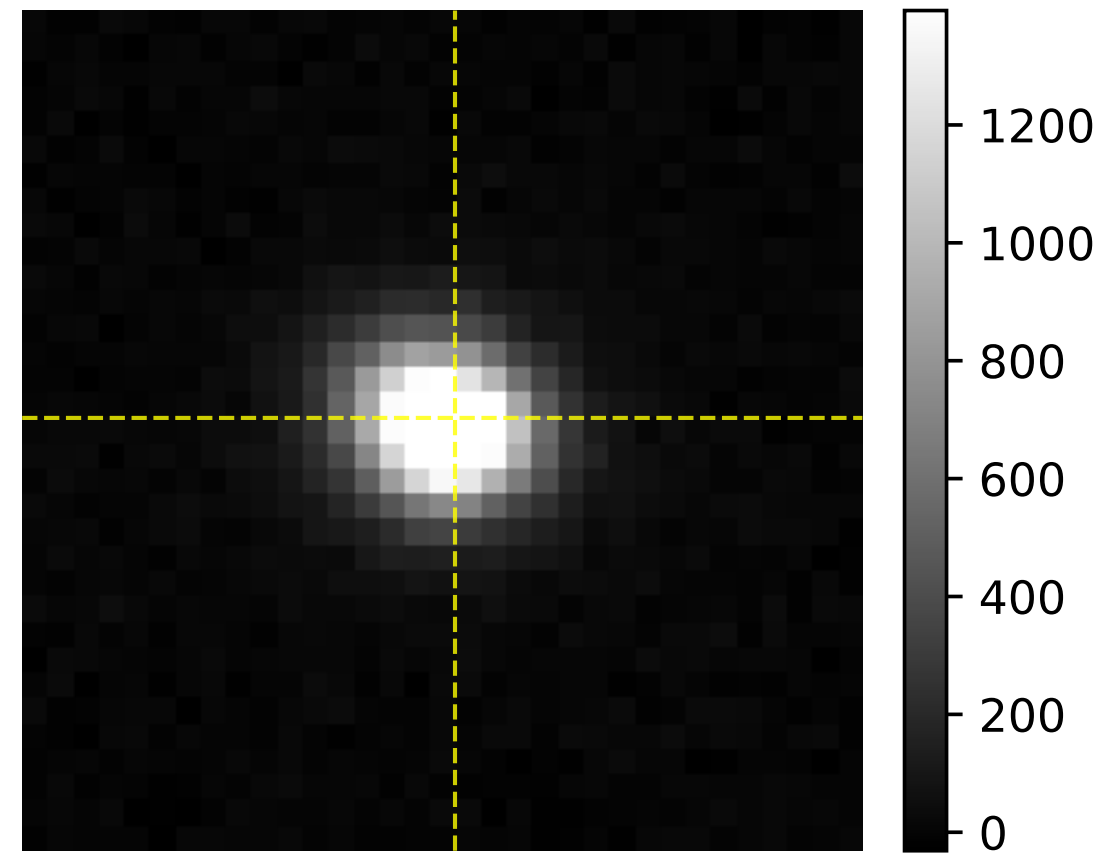
Visit #7/94 - band g
visit   : 2026021900320
det     : 104
(x,y)   : (1985.9, 1840.0) pix
date    : 2026-02-20
MJD     : 61091.2436
SNR     : 25.1

----- Fluxes -----
psfFlux : +1787.7 ±272.4 nJy
         → 23.269 mag
sciFlux  : +80176.9 ±272.7 nJy
         → 19.140 mag
tmplFlux : +78377.9 ±25.6 nJy
         → 19.165 mag

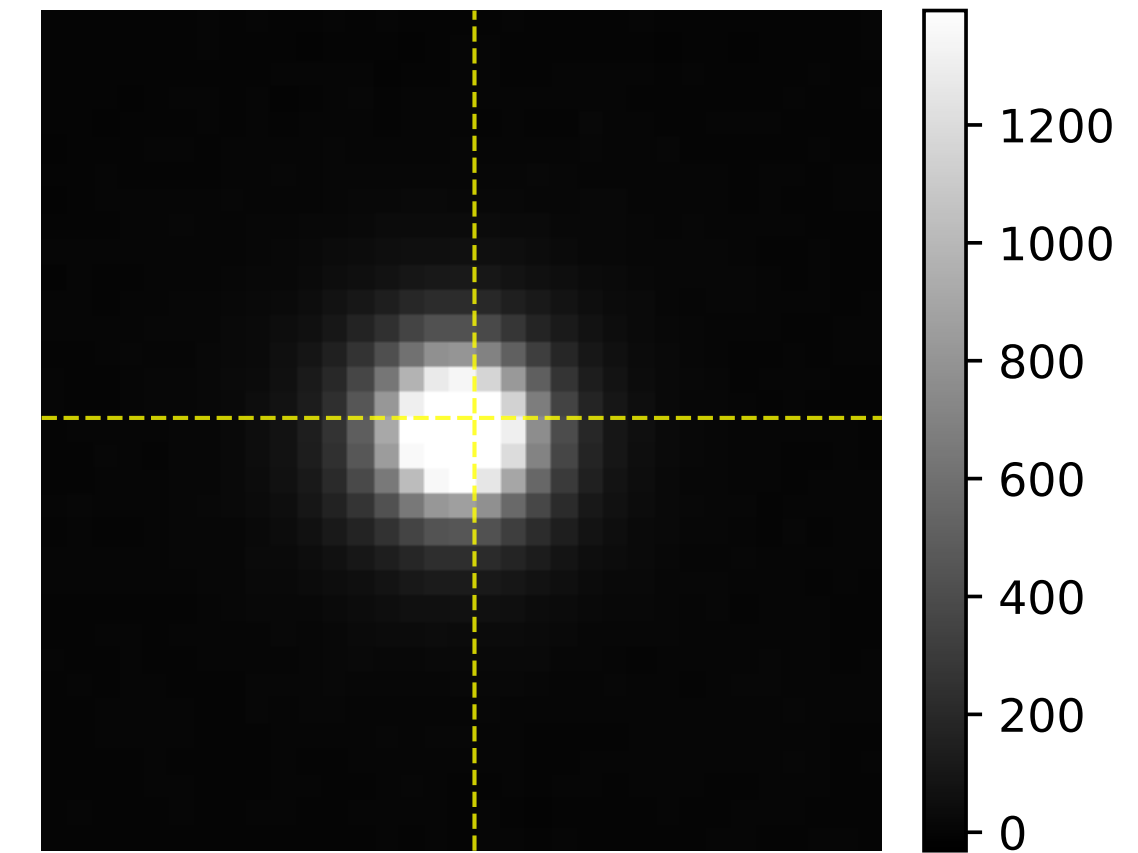
isDipole:  DIPOLE
flxDiff  : +0.0 nJy
length   : 0.07 px
angle    : 106.1 deg
    
```



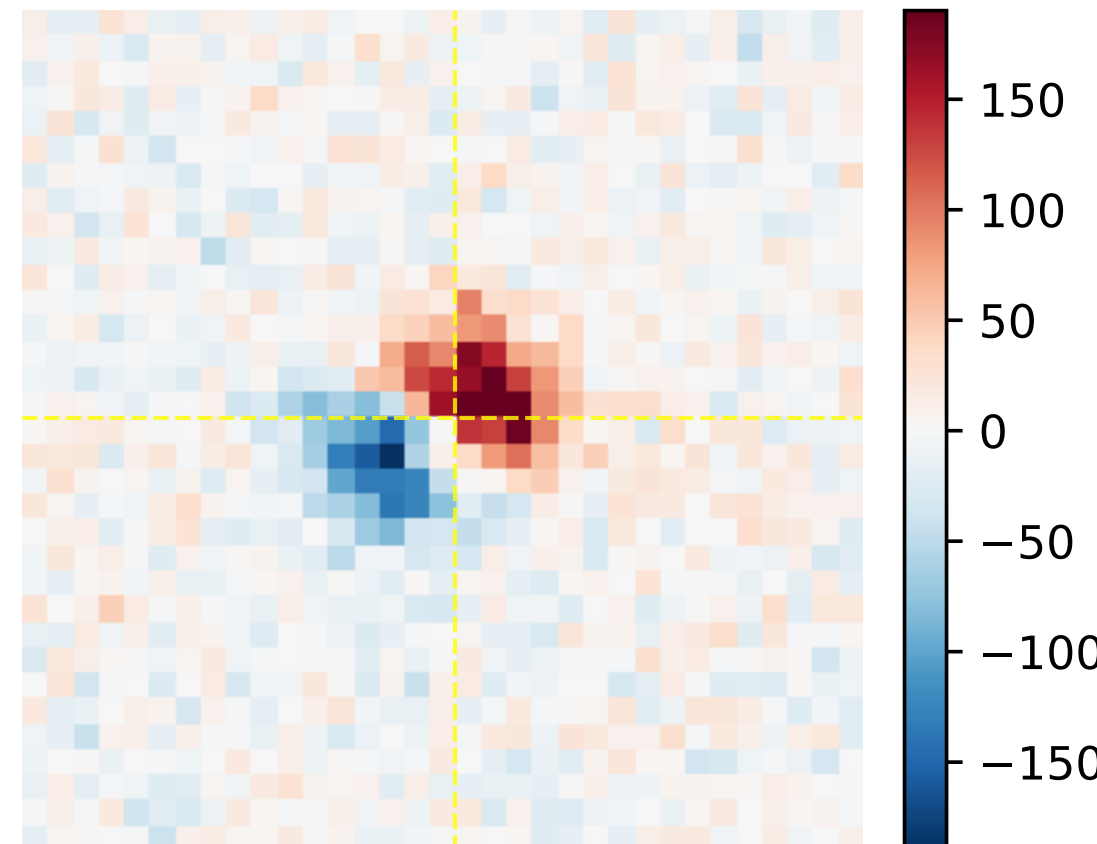
Science  
+80177 nJy → 19.140 mag



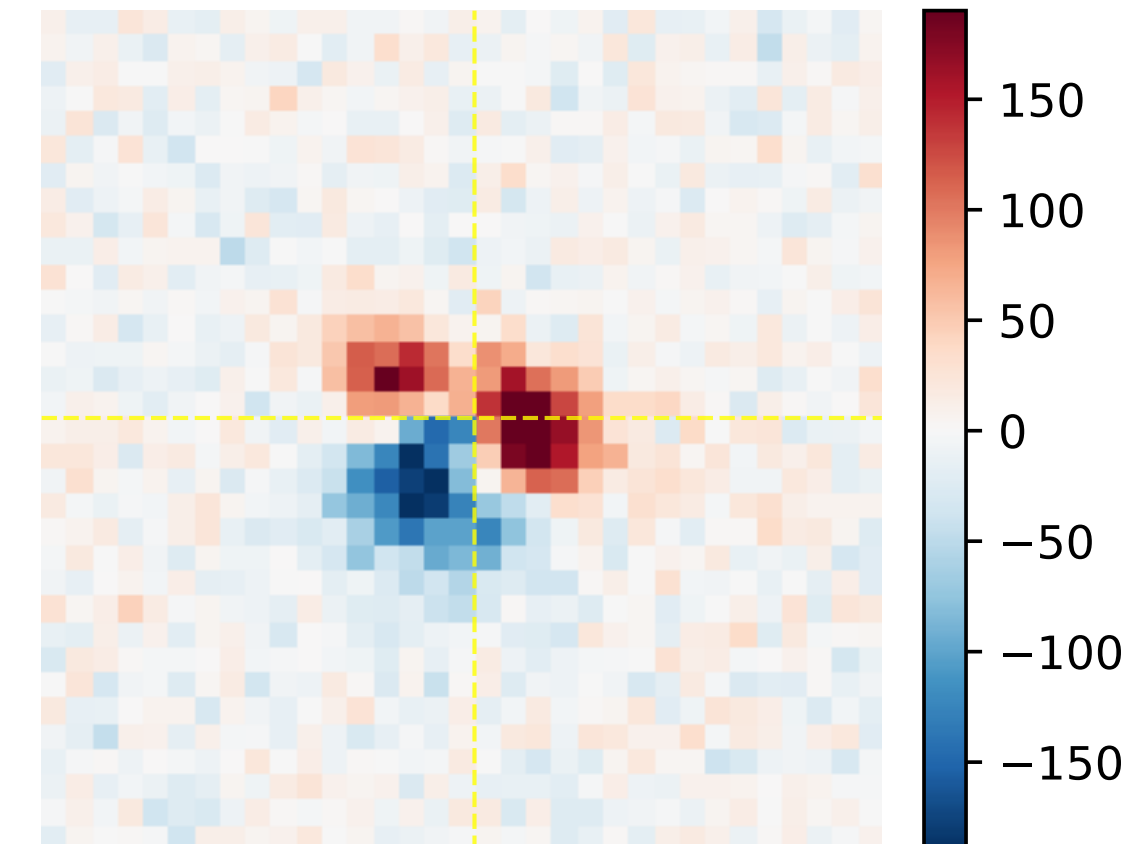
Template [same scale as Science]  
+78378 nJy → 19.165 mag



DIA Diff (downloaded)  
psfFlux = +1788 nJy → 23.269 mag



Sci - Template (computed)  
[same ±scale as DIA Diff]



# Example of strange dipole structure

diaObjectId=170028527433285667 band=g visit=2026021900318 2026-02-20  DIPOLE  
 Fink: gaia\_star\_stable\_hq Gaia G=17.47 status=Gaia stable #6/94 93 dipoles total

## • With Dipole

```

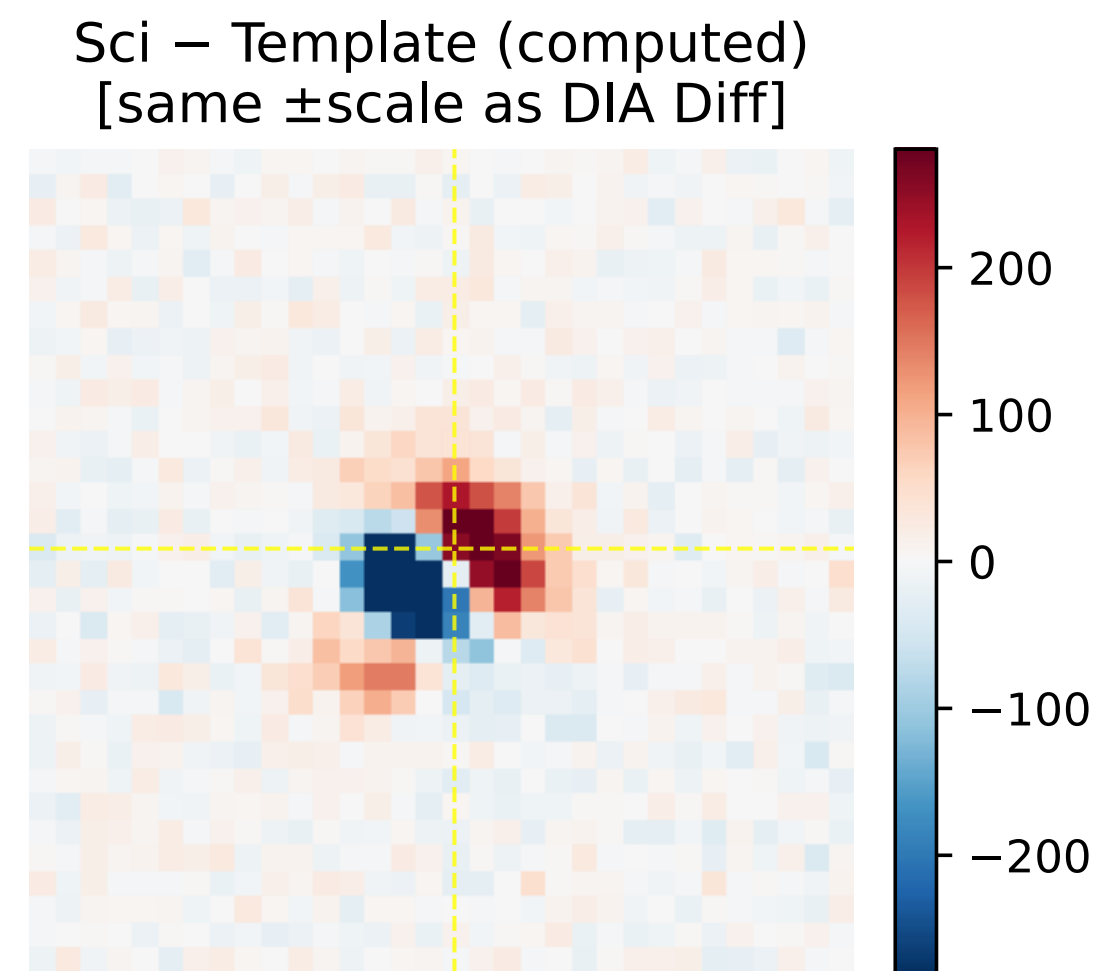
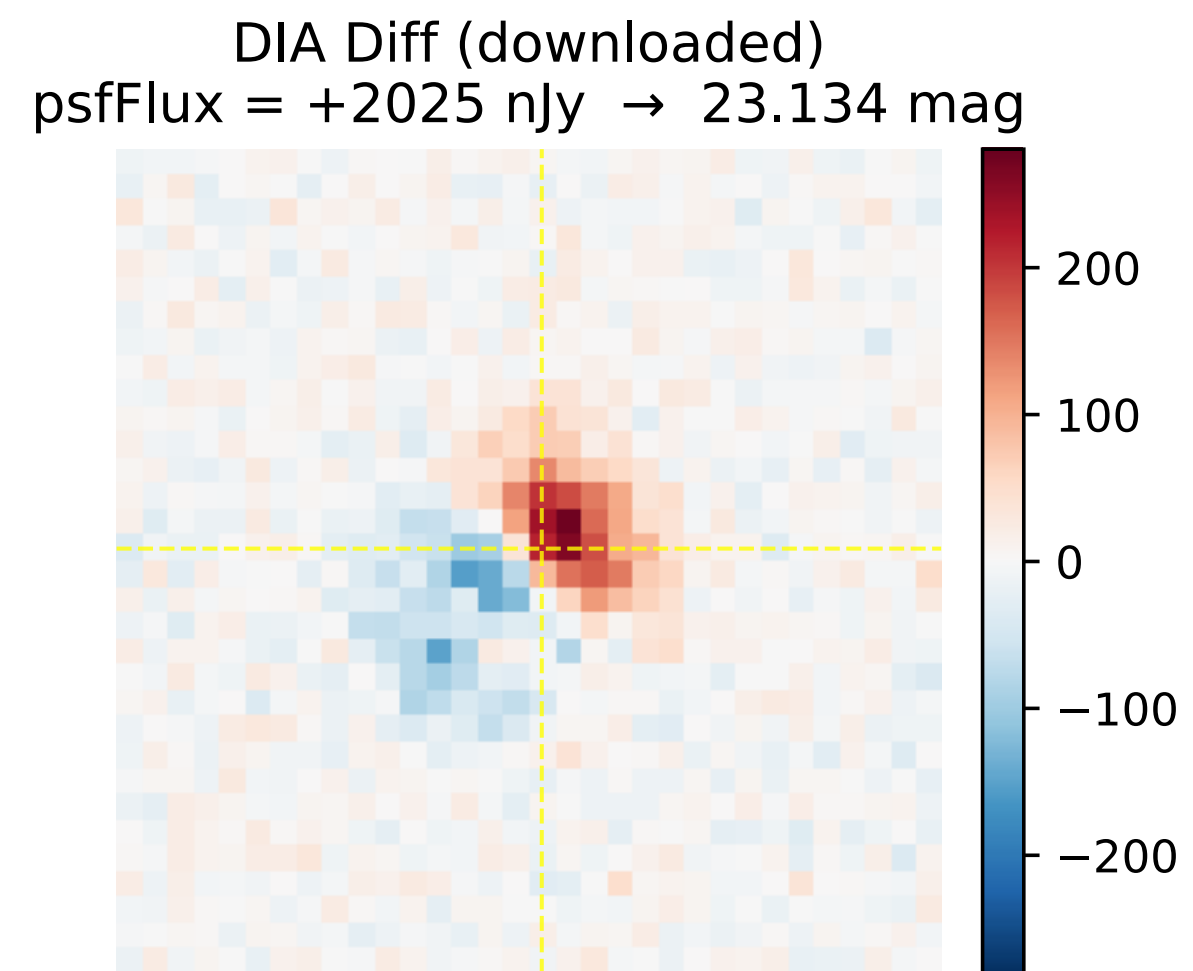
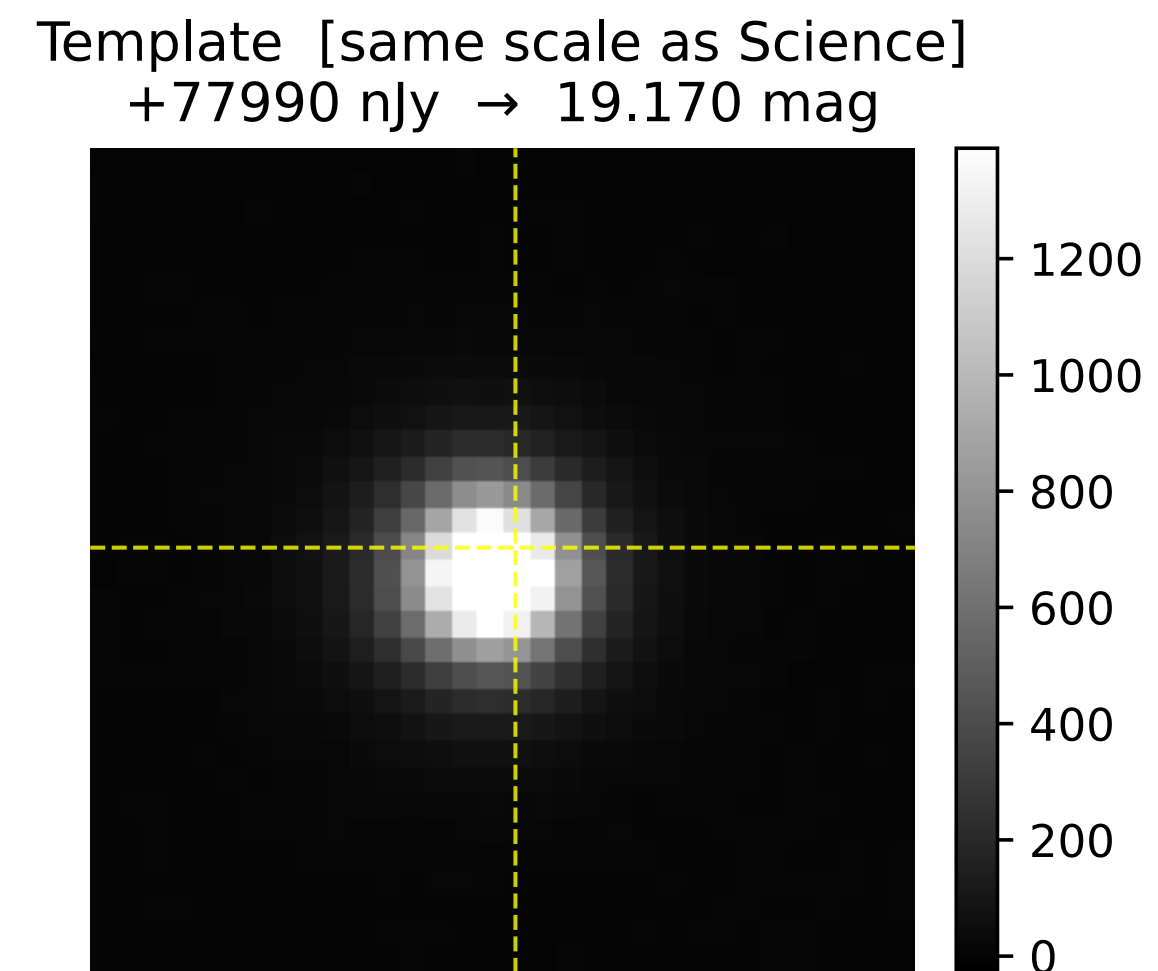
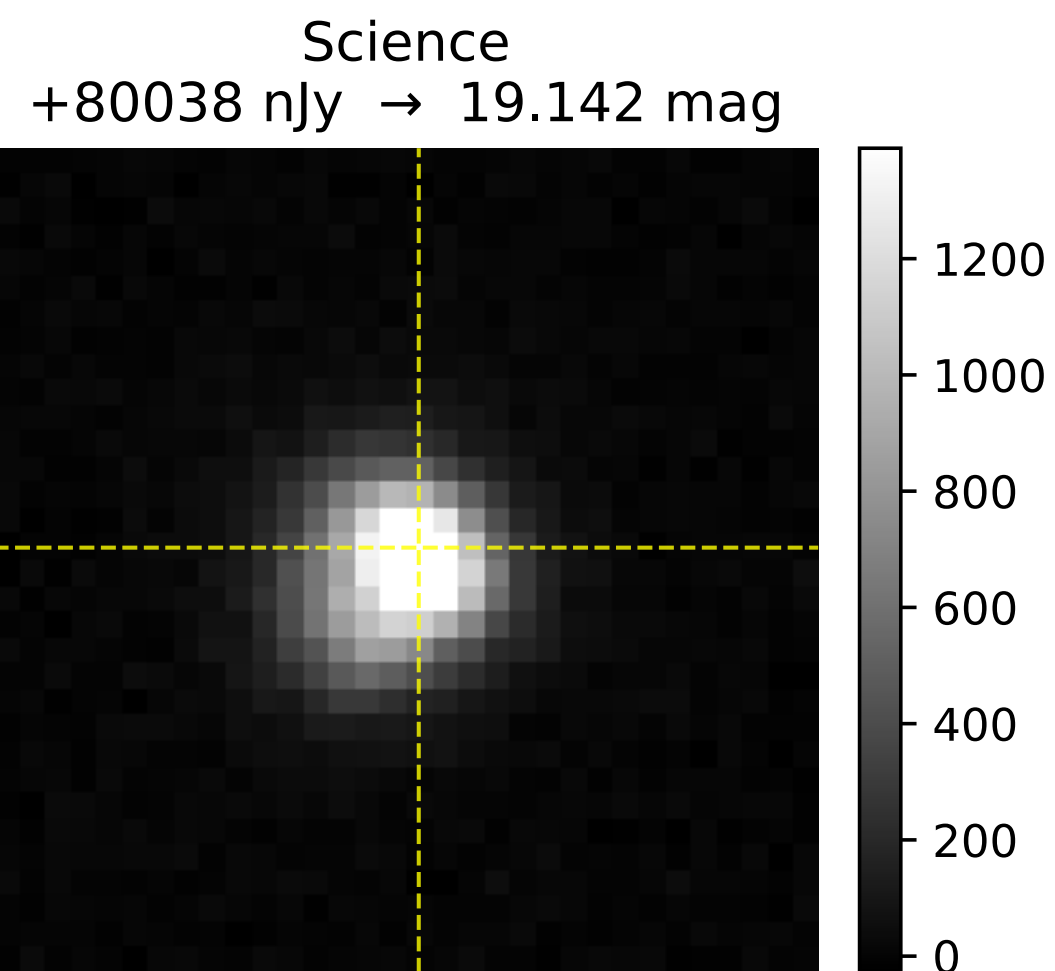
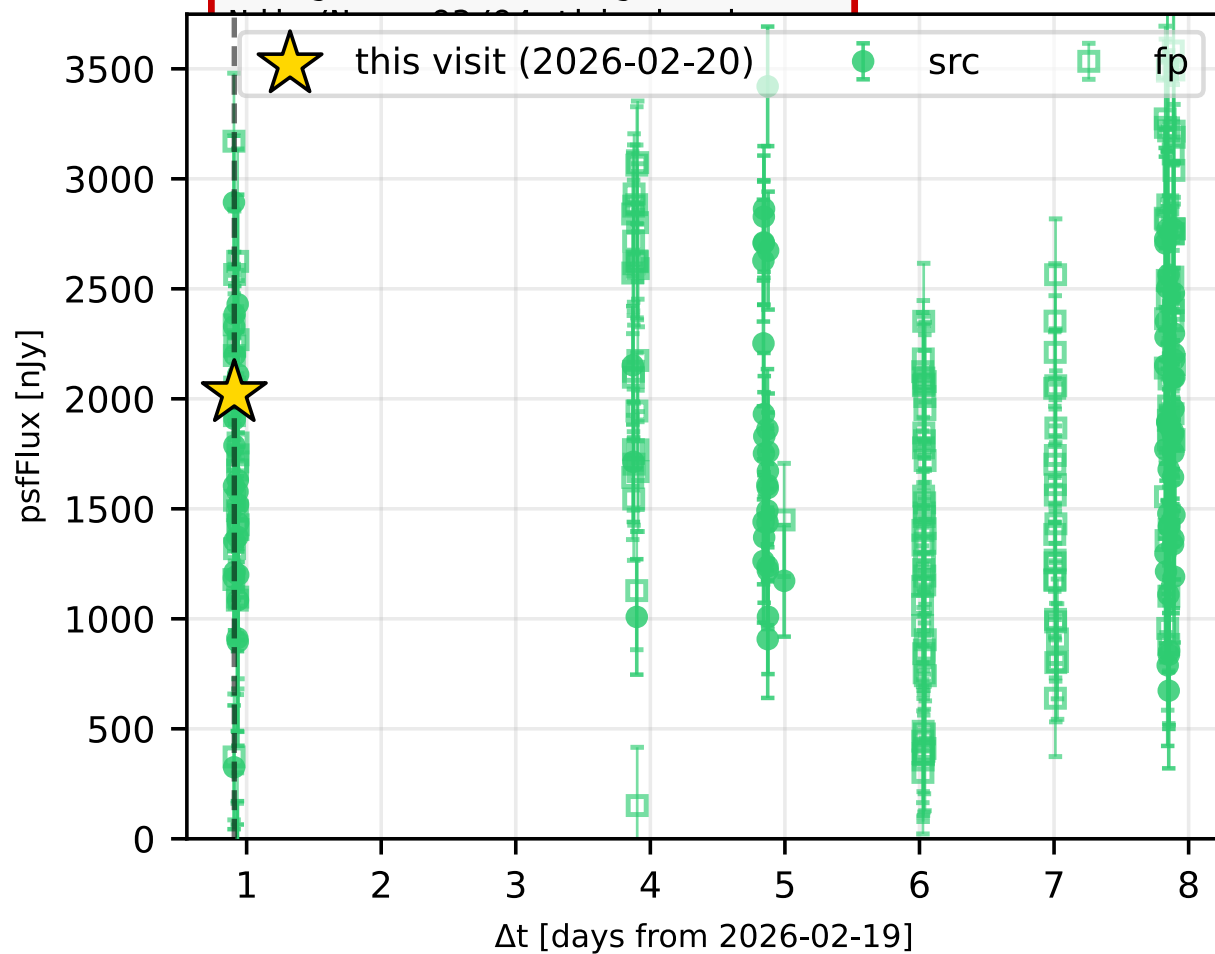
diaObjectId
170028527433285667

Gaia G : 17.47 mag
status : Gaia stable
group  : gaia_star_stable_hq
DR3    : 3901136180984624128

Visit #6/94 - band g
visit   : 2026021900318
det     : 66
(x,y)   : (2714.1, 2241.0) pix
date    : 2026-02-20
MJD     : 61091.2427
SNR     : 28.5

--- Fluxes ---
psfFlux : +2025.1 ±276.0 nJy
         → 23.134 mag
sciFlux  : +80038.1 ±274.8 nJy
         → 19.142 mag
tmplFlux : +77990.1 ±53.4 nJy
         → 19.170 mag

isDipole:  DIPOLE
flxDiff  : +0.0 nJy
length   : 0.08 px
angle    : 111.9 deg
  
```



PSF problem ?

Bad centering ?

Bad  
Science/Template  
Subtraction

# Science cutout, Template cutout and DIA cutout in r

diaObjectId=170028527433285667 band=r visit=2026022300294 2026-02-24  DIPOLE  
Fink: gaia\_star\_stable\_hq Gaia G=17.47 status=Gaia stable #31/54 53 dipoles total

## • With Dipole

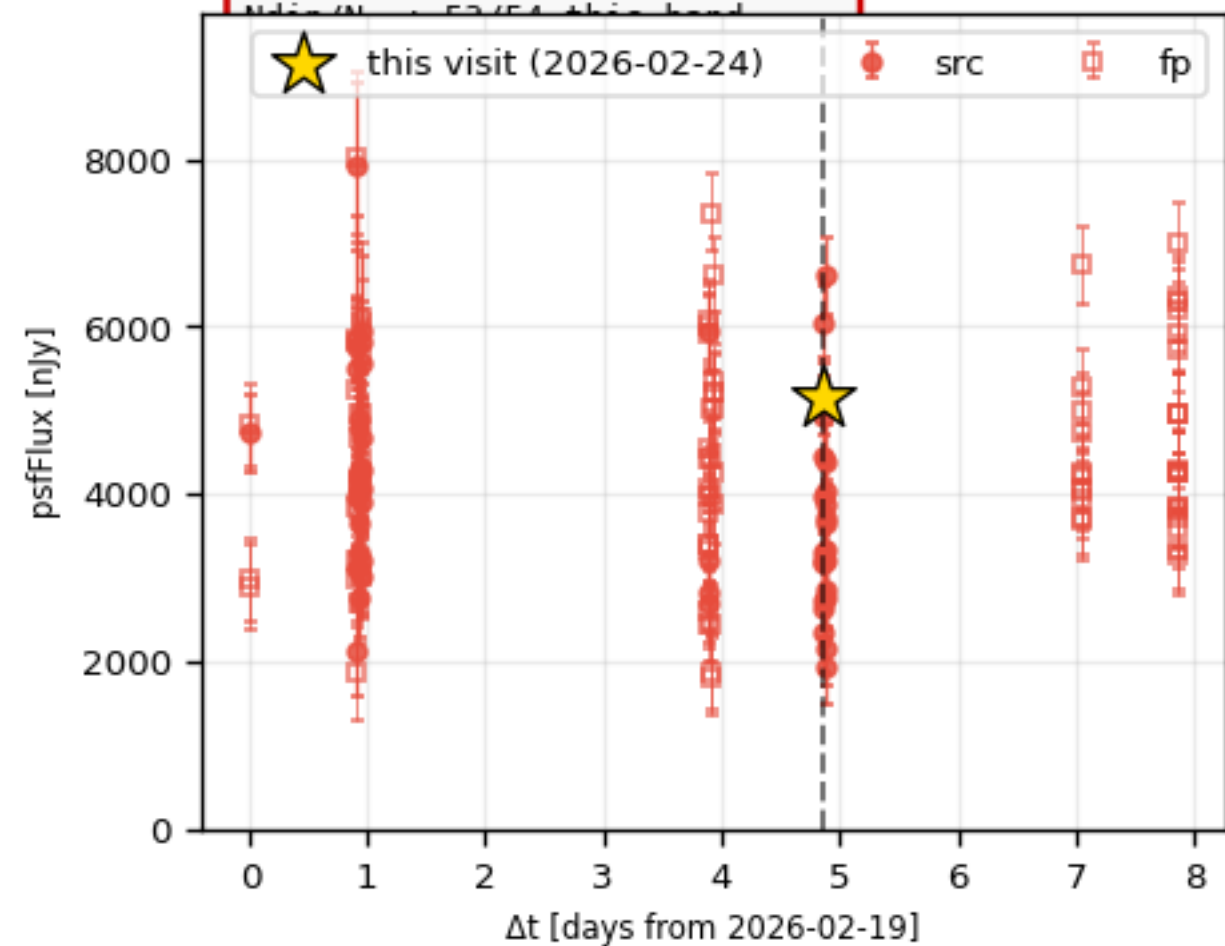
```
diaObjectId
170028527433285667

Gaia G : 17.47 mag
status : Gaia stable
group  : gaia_star_stable_hq
DR3    : 3901136180984624128

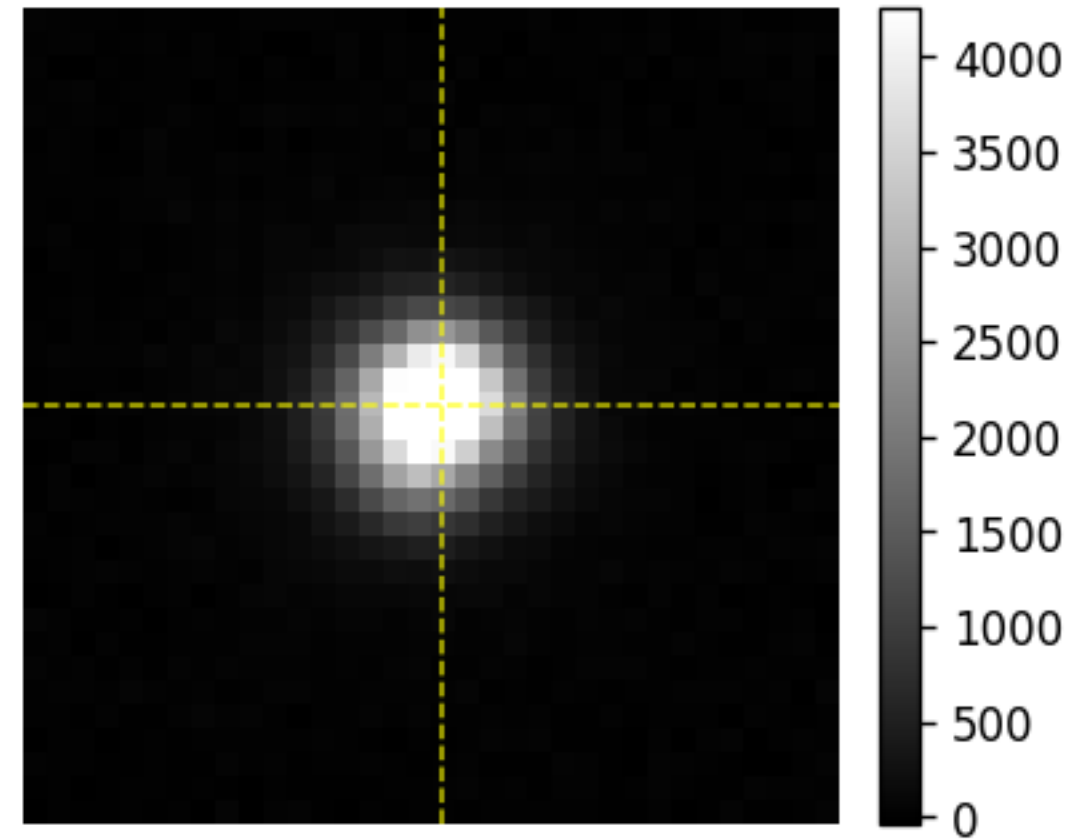
Visit #31/54 - band r
visit   : 2026022300294
det     : 109
(x,y)   : (1881.4, 1783.6) pix
date    : 2026-02-24
MJD     : 61095.1833
SNR     : 50.1

--- Fluxes ---
psfFlux : +5161.4 ±465.4 nJy
         → 22.118 mag
sciFlux  : +240353.3 ±466.2 nJy
         → 17.948 mag
tmplFlux : +235108.7 ±27.5 nJy
         → 17.972 mag

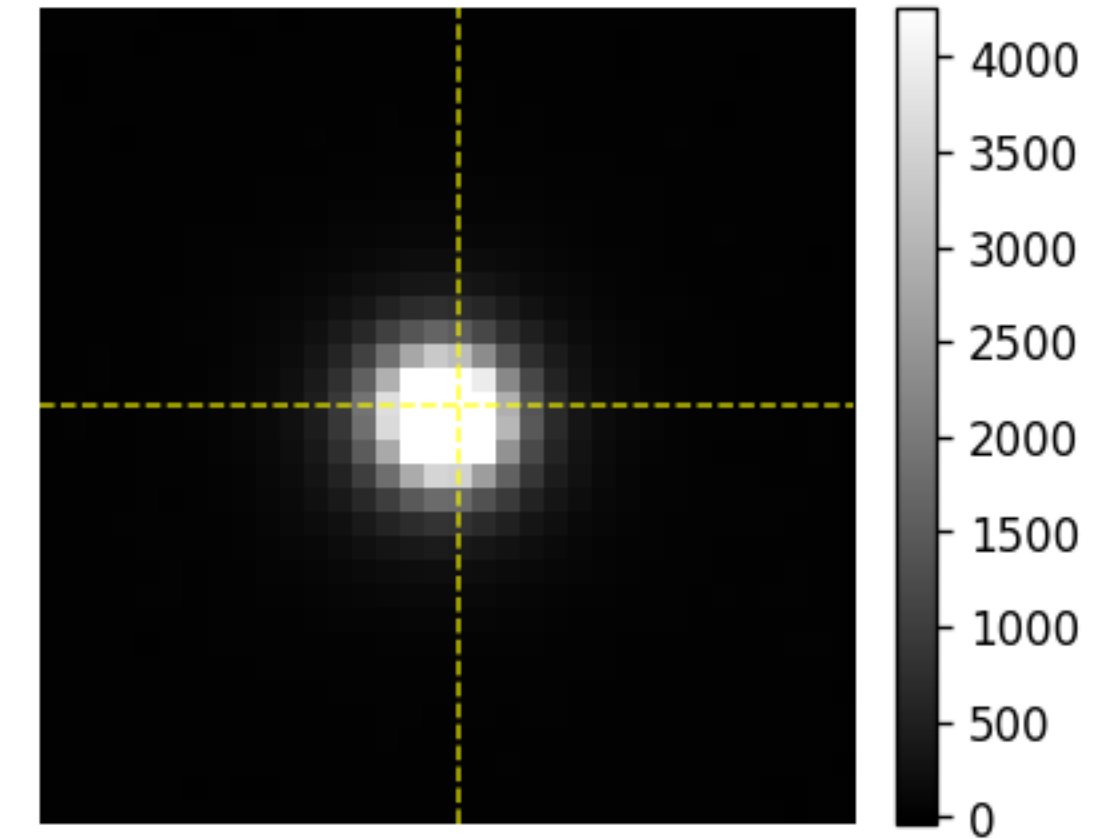
isDipole:  DIPOLE
flxDiff  : +0.0 nJy
length   : 0.09 px
angle    : 105.6 deg
```



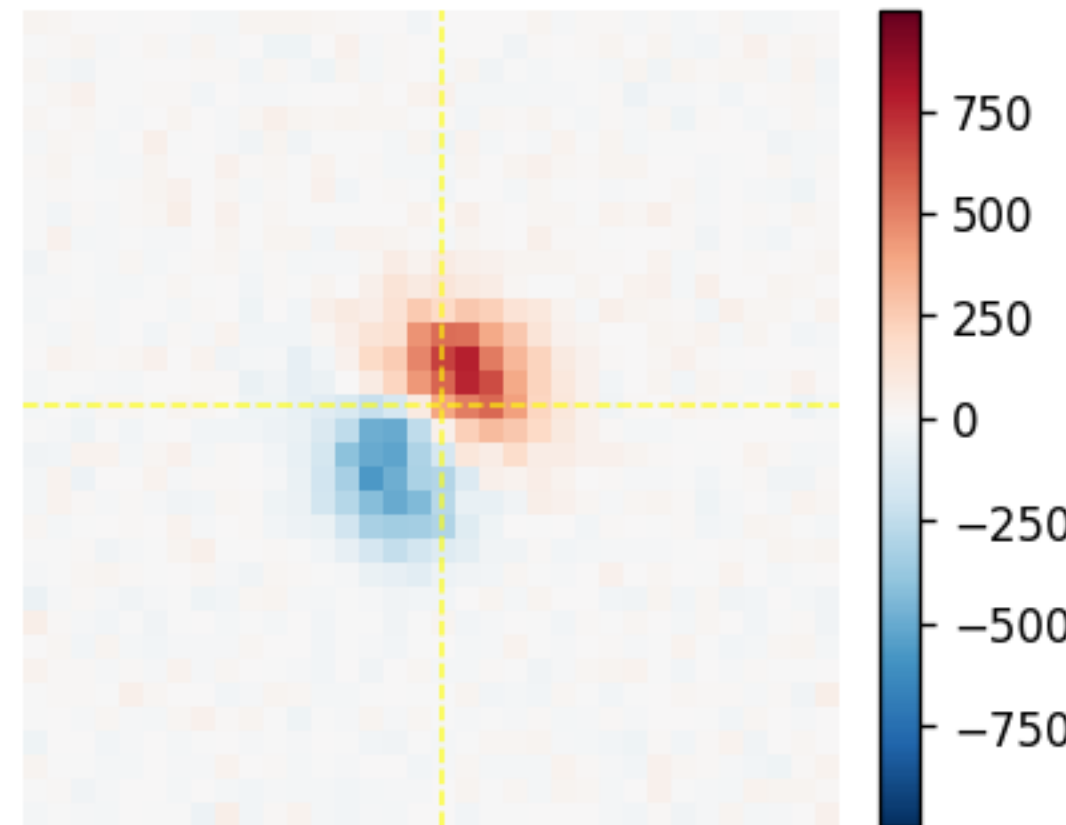
Science  
+240353 nJy → 17.948 mag



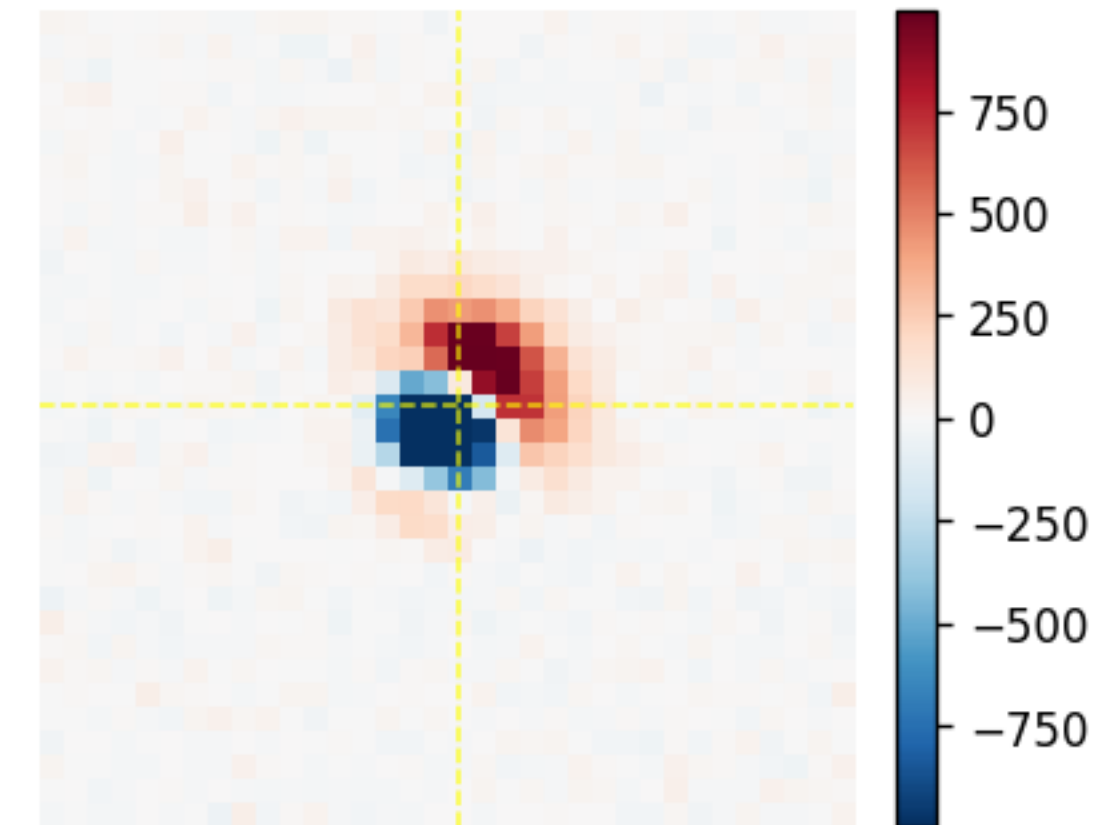
Template [same scale as Science]  
+235109 nJy → 17.972 mag



DIA Diff (downloaded)  
psfFlux = +5161 nJy → 22.118 mag



Sci - Template (computed)  
[same ±scale as DIA Diff]



# Science cutout, Template cutout and DIA cutout in i

diaObjectId=170028527433285667 band=i visit=2026021900296 2026-02-20  DIPOLE  
Fink: gaia\_star\_stable\_hq Gaia G=17.47 status=Gaia stable #1/57 57 dipoles total

## • With Dipole

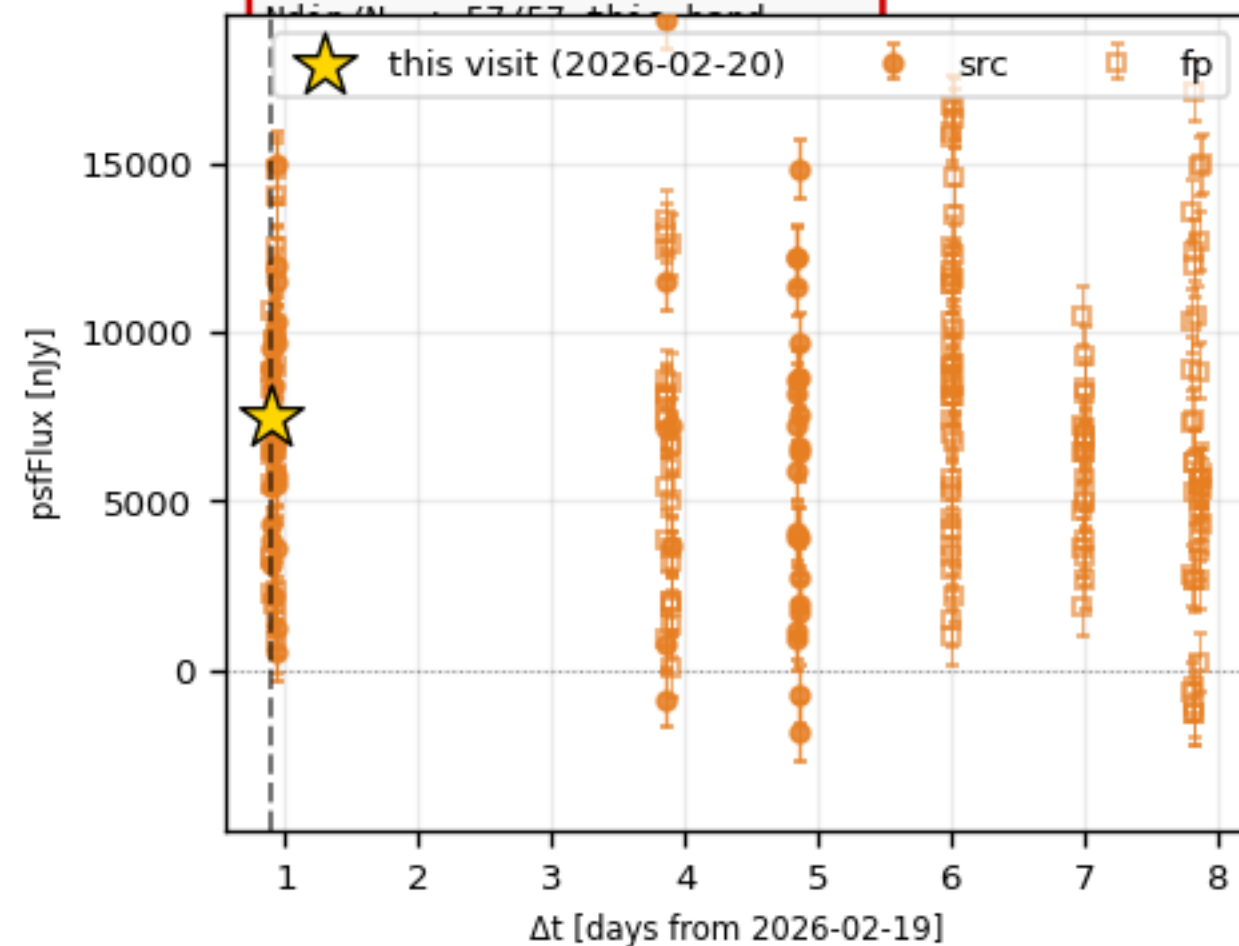
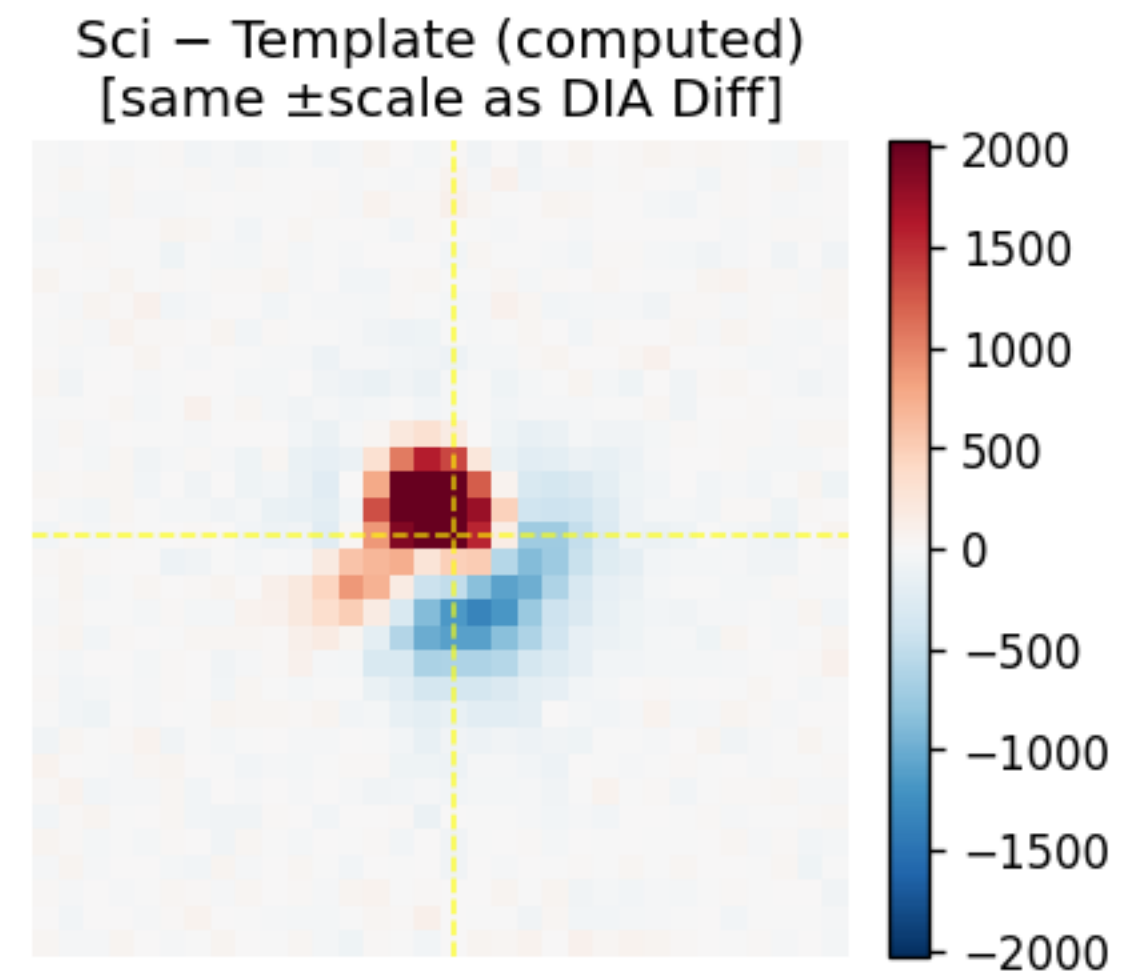
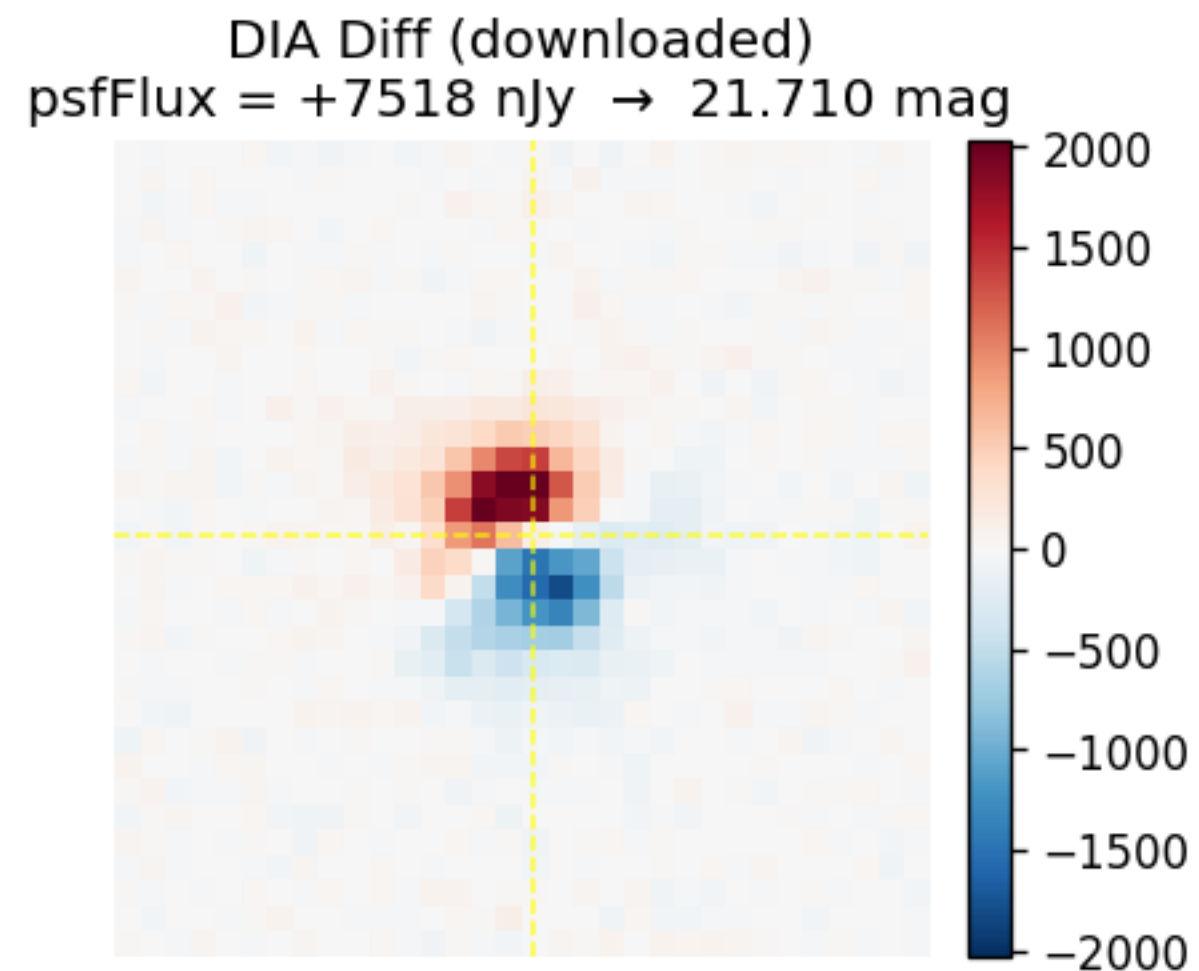
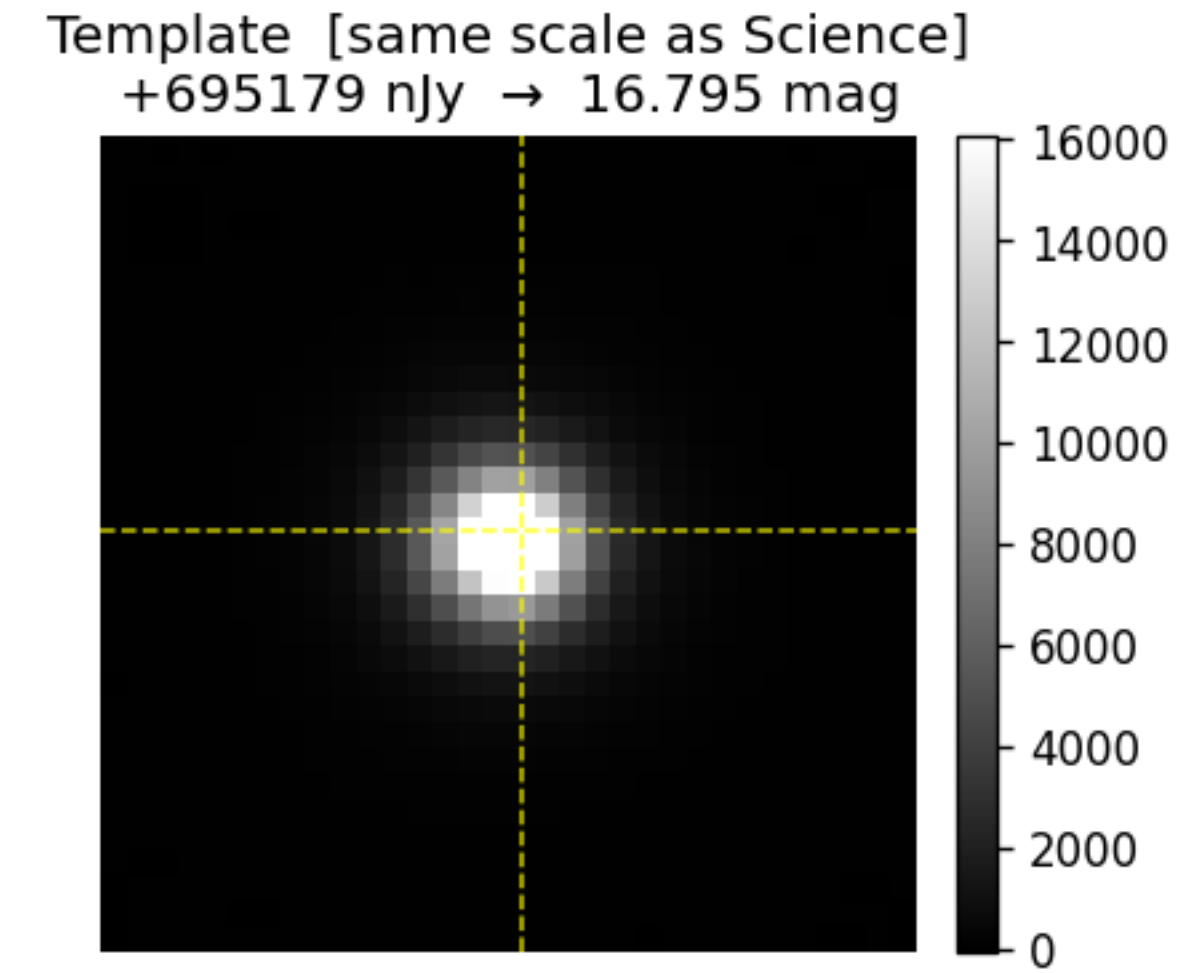
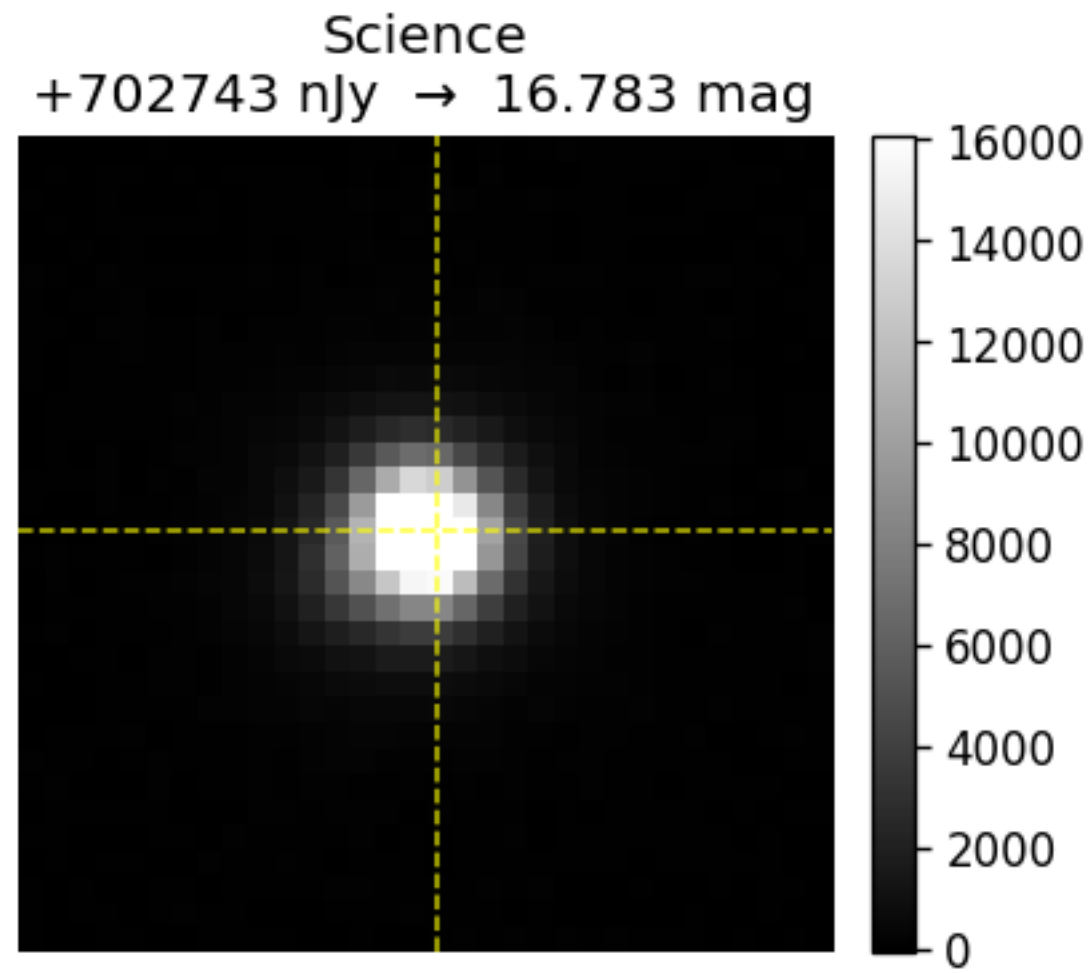
```
diaObjectId
170028527433285667

Gaia G : 17.47 mag
status : Gaia stable
group : gaia_star_stable_hq
DR3 : 3901136180984624128

Visit #1/57 - band i
visit : 2026021900296
det : 152
(x,y) : (3407.5, 3663.7) pix
date : 2026-02-20
MJD : 61091.2306
SNR : 53.6

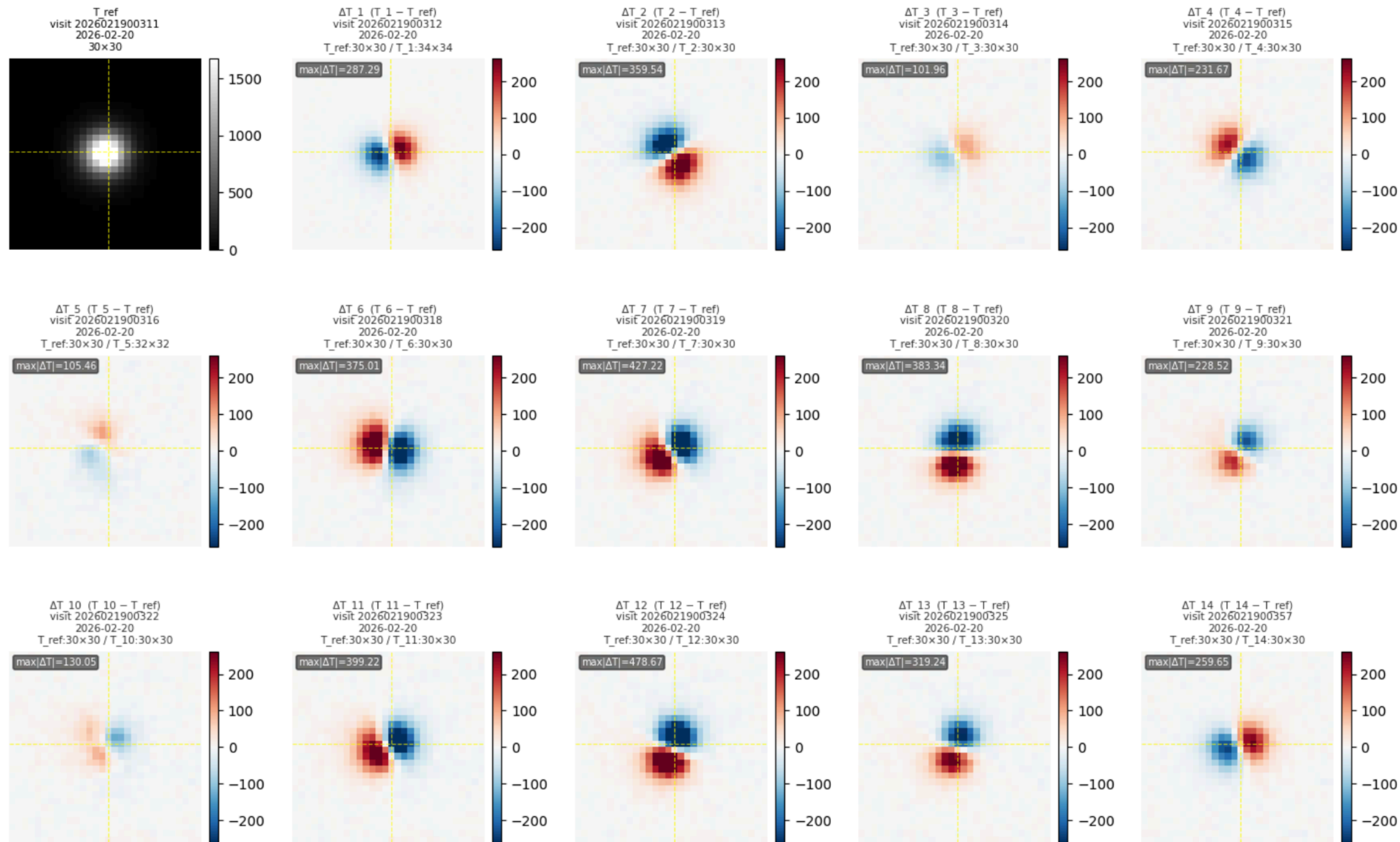
----- Fluxes -----
psfFlux : +7518.0 ±955.6 nJy
→ 21.710 mag
sciFlux : +702743.2 ±951.6 nJy
→ 16.783 mag
tmplFlux: +695178.8 ±125.9 nJy
→ 16.795 mag

isDipole:  DIPOLE
flxDiff: +0.0 nJy
length : 0.05 px
angle : 124.4 deg C band i
```



# Template rotation

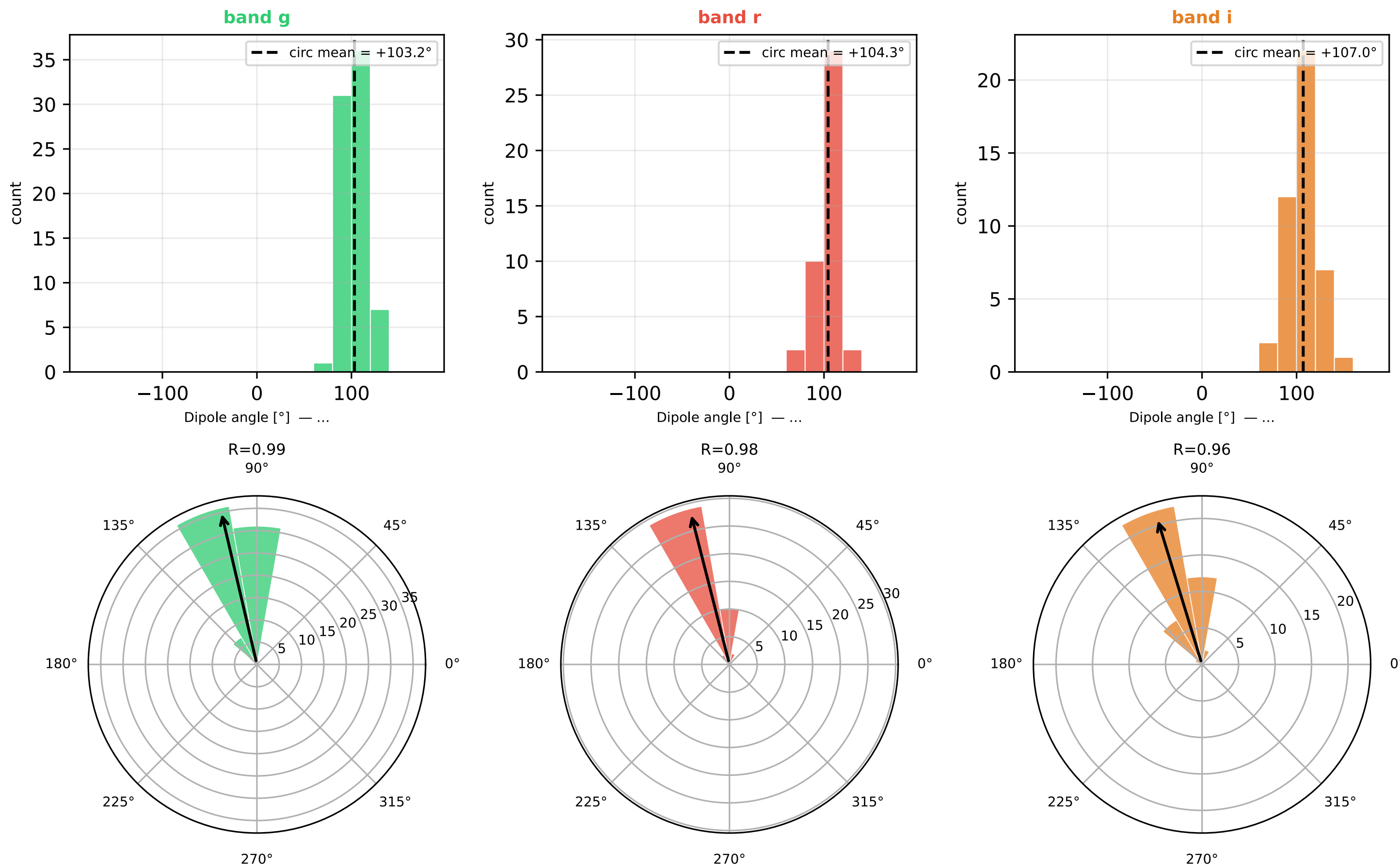
Difference images on template cutout on consecutive observations



- Fink does not receive the same Template cutout for each science cutout
- Is this due to asymmetry of PSF
- Sky-Field rotation effect ?

# Dipole angle

Dipole angle distribution — Dipole angle [°] — (-180°, +180°]  
diaObjectId=170028526498480187 Gaia G=17.42 status=Gaia stable



- The dipole angle provided to Fink does not change its direction
- For different jobs
- In different bands

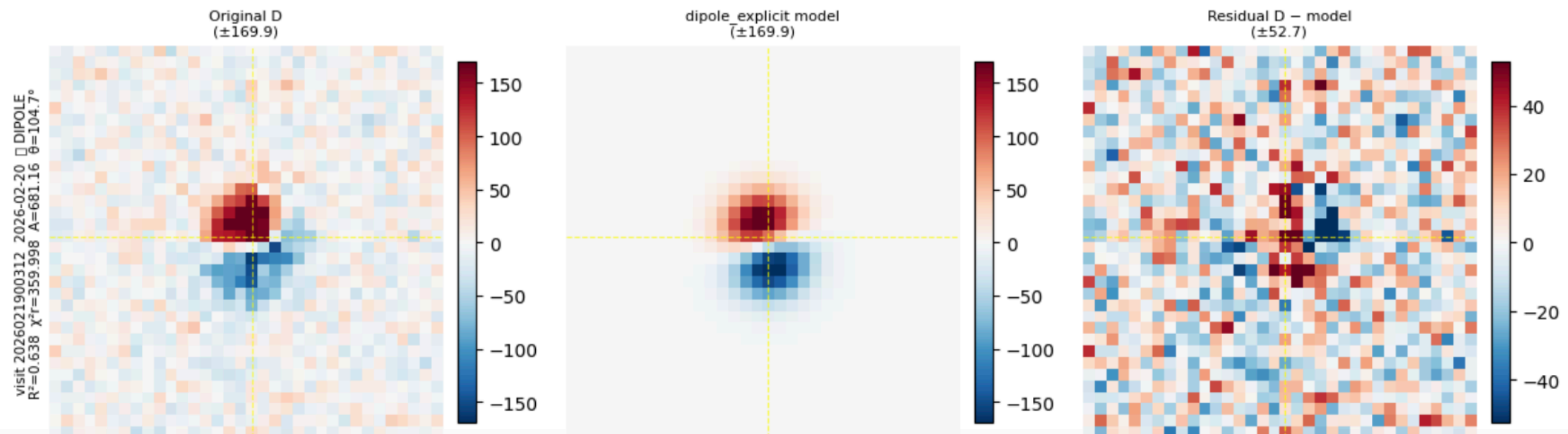
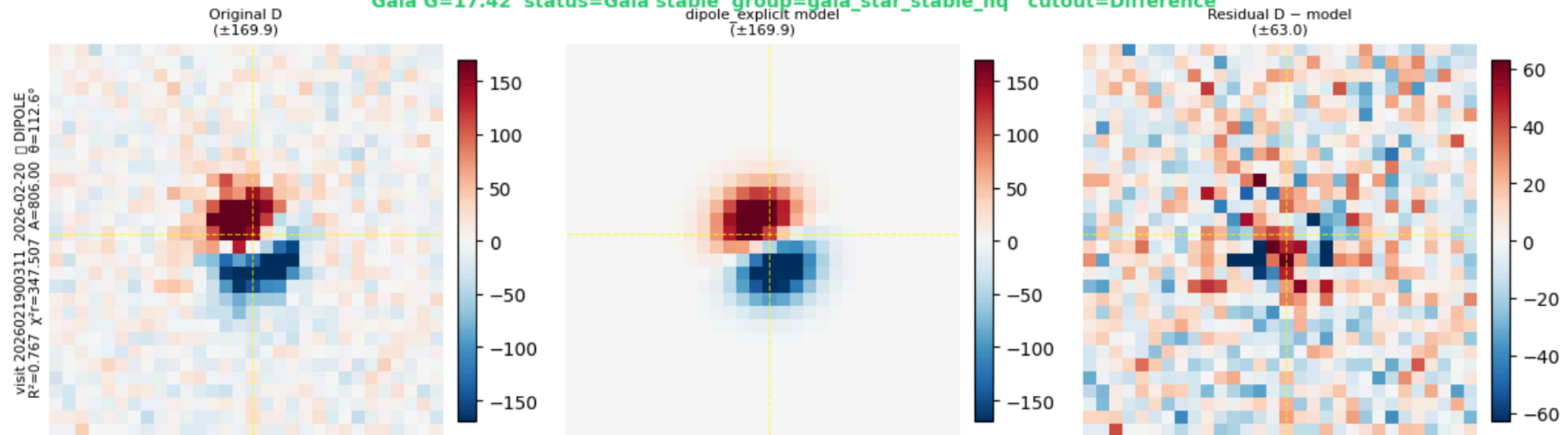
# Dipole Fit on Fink cutouts

Band g - 77 diaSources

Built Zernike basis: 30x30 n\_in\_disk=716 n\_zern=15  
 [01] visit=2026021900311 2026-02-20 shape=(30, 30) ● DIPOLE  
 Zernike : R<sup>2</sup>=0.081 χ<sup>2</sup>r=1691.227 A=5.03 θ=-107.9°  
 Dip NL : R<sup>2</sup>=-0.000 χ<sup>2</sup>r=1488.636 A=462.32 θ=78.6°  
 Dip LIN : R<sup>2</sup>=0.572 χ<sup>2</sup>r=635.598 A=695.90 θ=-68.8°  
 Shapelet : R<sup>2</sup>=0.120 χ<sup>2</sup>r=1322.568 A=4.20 θ=100.9°  
 Dip EXP : R<sup>2</sup>=0.767 χ<sup>2</sup>r=347.507 A=806.00 θ=112.6°  
 Dip ASYM : R<sup>2</sup>=0.010 χ<sup>2</sup>r=1477.658 A=487.76 θ=110.8°

→ saved dipole\_fit\_dipole\_explicit\_obj170028526498480187\_bandg.{pdf,png}

Method: dipole\_explicit - diaObjectId=170028526498480187 band=g  
 Gaia G=17.42 status=Gaia stable group=gaia\_star\_stable\_hq cutout=Difference



Best model :

- Fit exercise

$$I = F G(x_0 + dx/2, y_0 + dy/2) - F G(x_0 - dx/2, y_0 - dy/2) + B$$

Parameters :  $(x_0, y_0, dx, dy, F, B, \sigma)$

# Conclusion

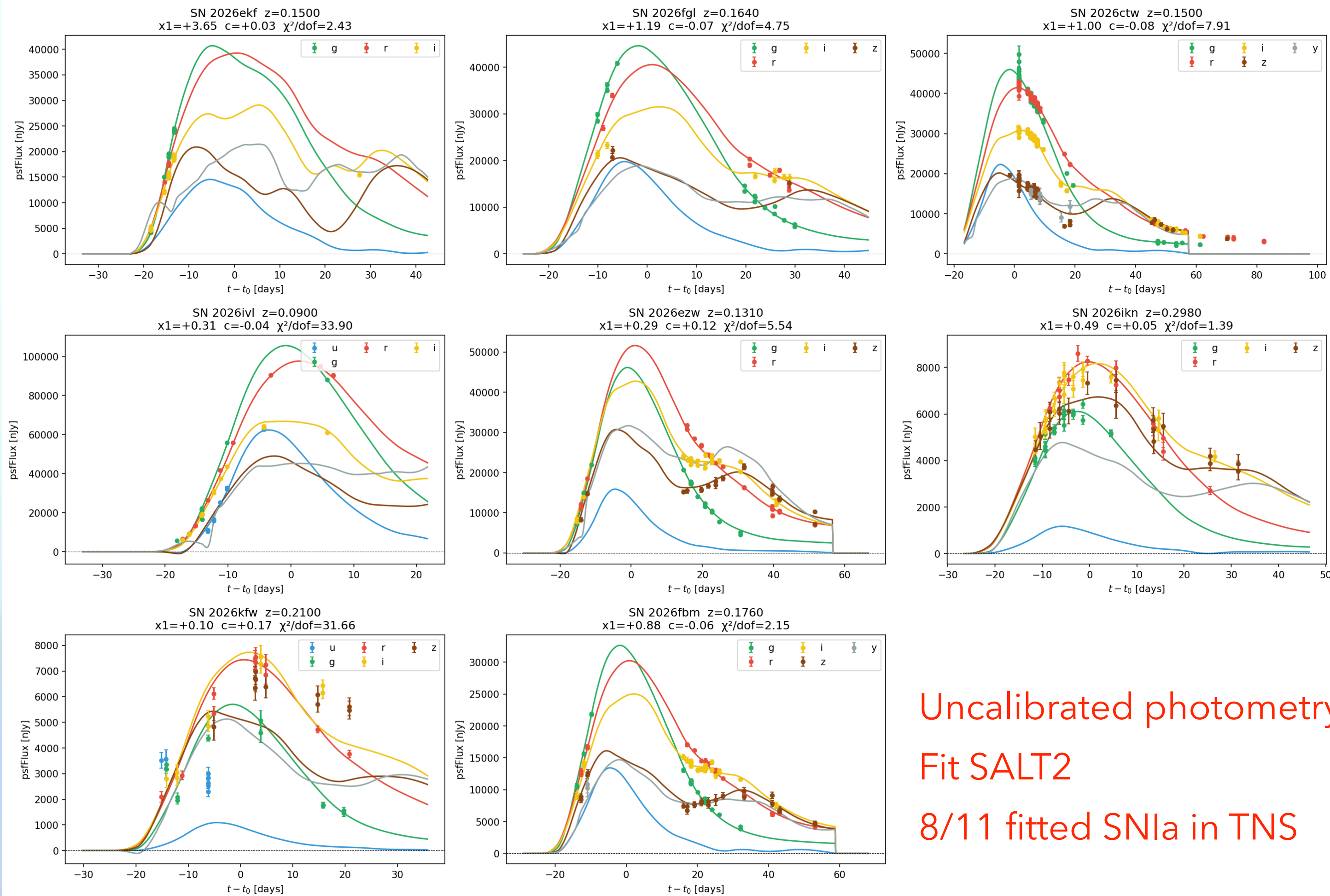
## Flat Stable curves probably does not exists in Rubin Alerts

- Identified so-called *gaia\_stable\_hq* from Rubin alerts through Fink
- Almost all measurements had a dipole
  - High  $\sigma_F/F$
- No Gaia Stable star in Rubin alerts anymore (seen as few days artefacts before march 2026)
- Remaining «*gaia\_stable\_hq* » are due to Gaia with bad astrometry, bad Gmag measurement
  - Can add more flags from Gaia in Fink Xmatch (to remove them)
- Still don't understand possible slight differences between diaCutout and image difference calculated from Science and Template cutouts !
- Requires more work on this subject (see next slides)
  - Participate to anomaly-dipole tag/module in Fink using cutouts ?

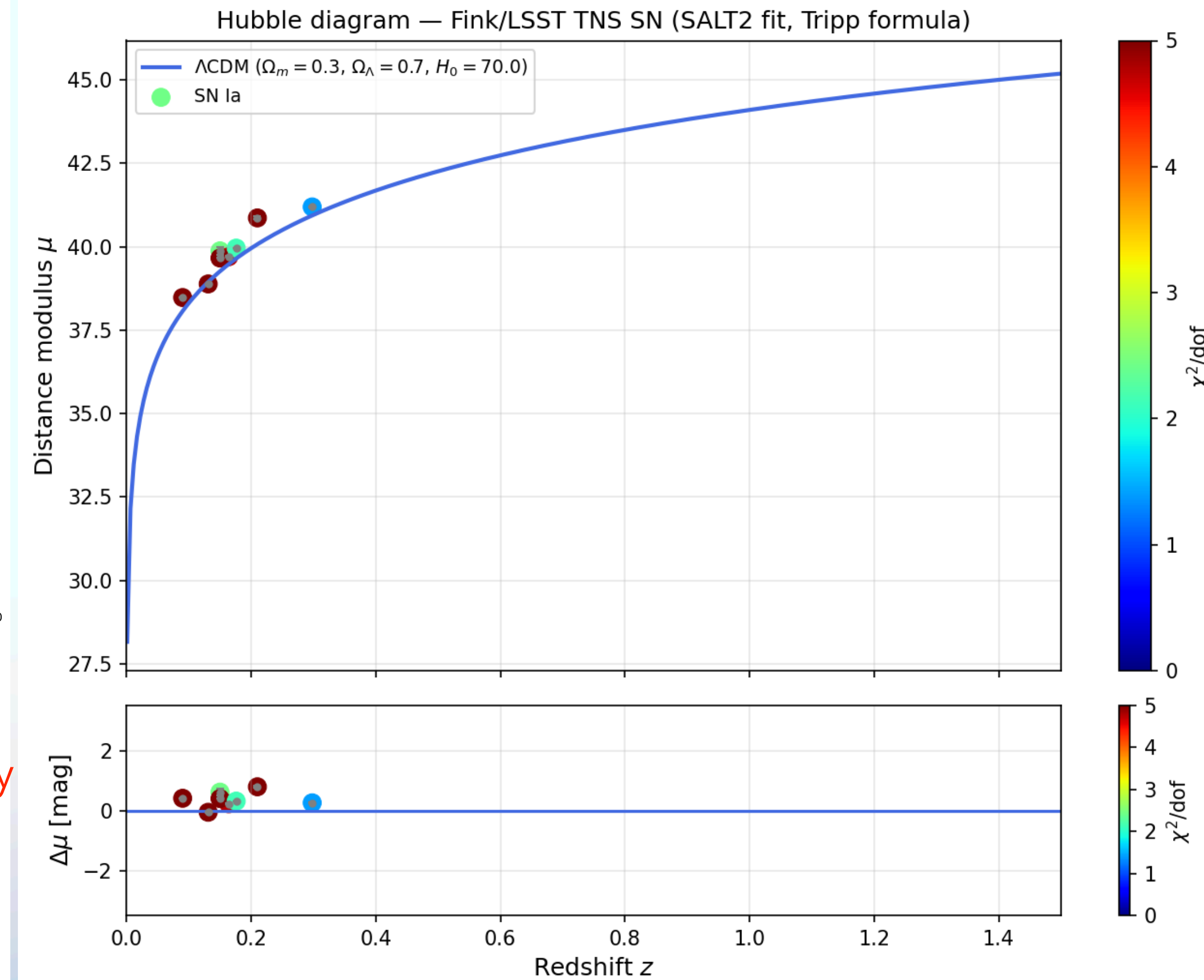
# SN Ia through Fink

Fink tag : `fink_in_tns_lsst: redshift provided by TNS` (See also tag `sn_near_galaxy_candidate`)

SALT2 fits on Fink/LSST TNS SNIa — psfFlux light curves (nJy)



Uncalibrated photometry  
Fit SALT2  
8/11 fitted SNIa in TNS



# SNIA example with tag fink\_in\_tns\_lsst

diaObjectId=170226393328648251 band=g visit=2026041000194 2026-04-11 ◦ no-dipole  
 Fink: ? Gaia G=? status=? #9/17 0 dipoles total

```

diaObjectId
170226393328648251

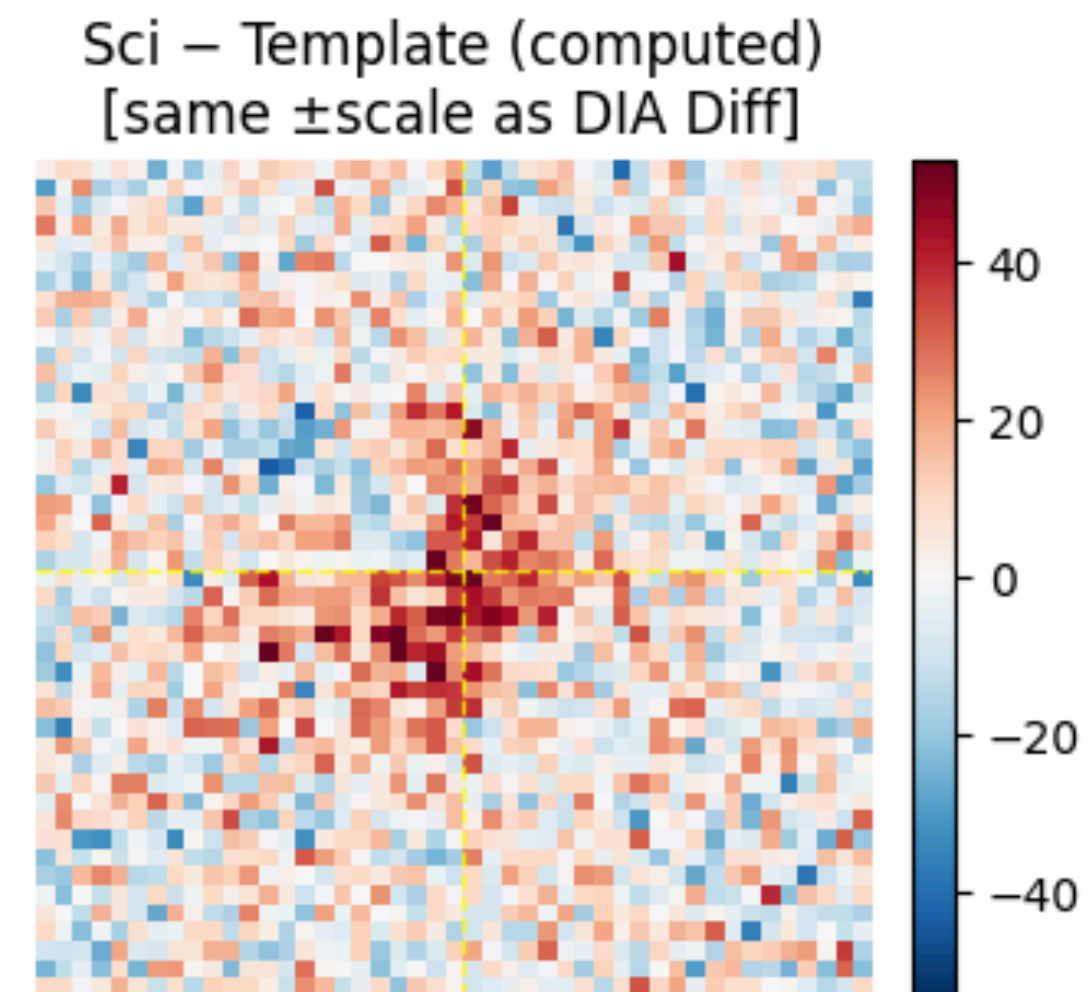
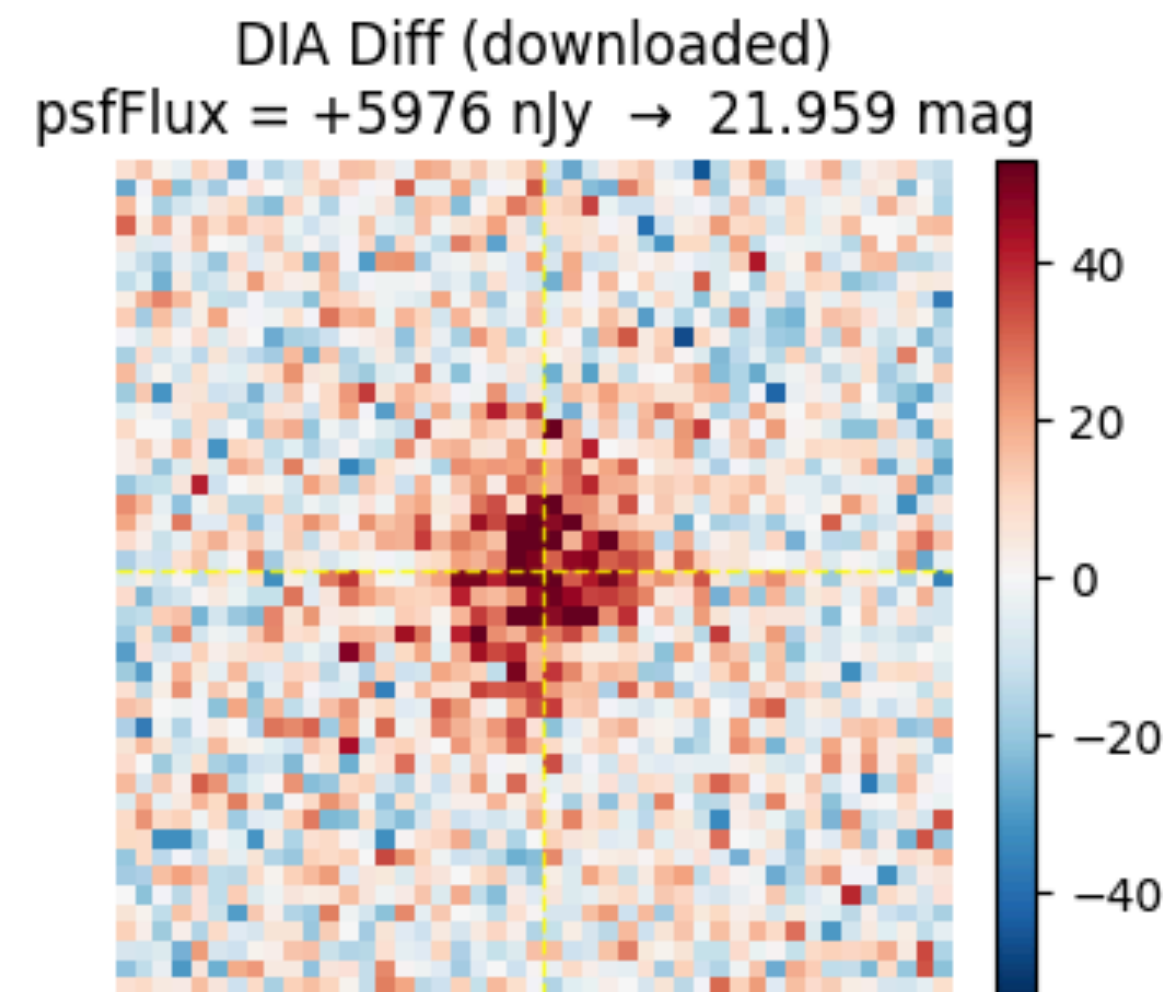
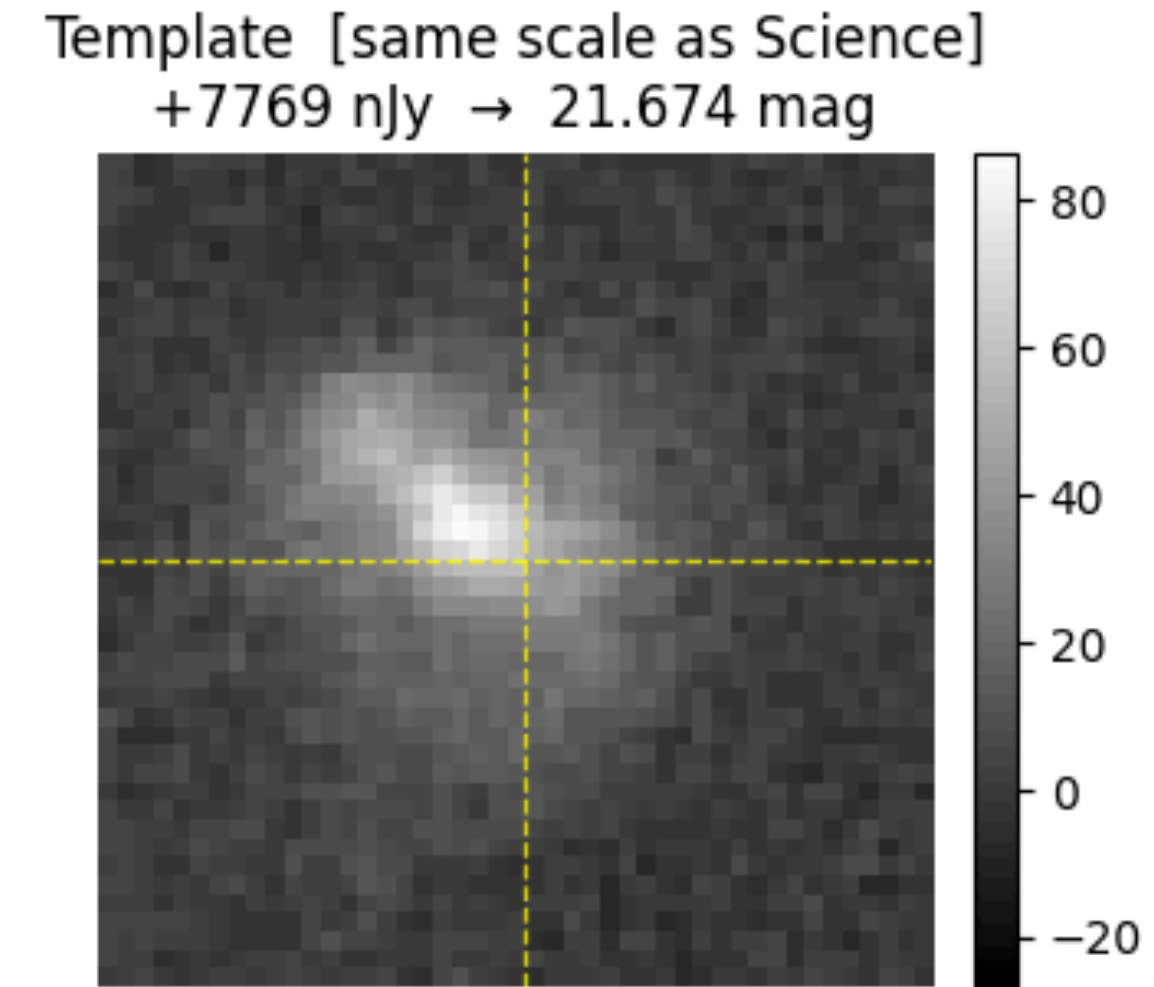
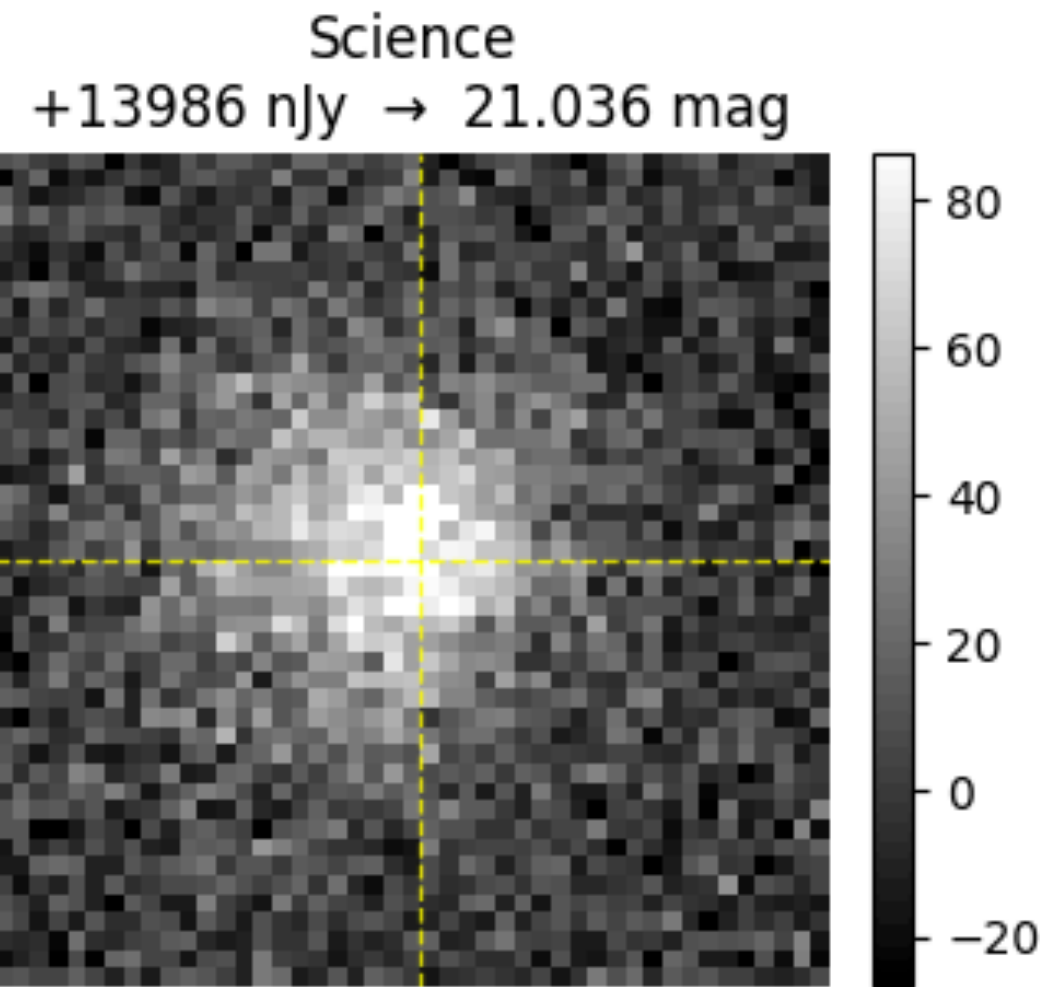
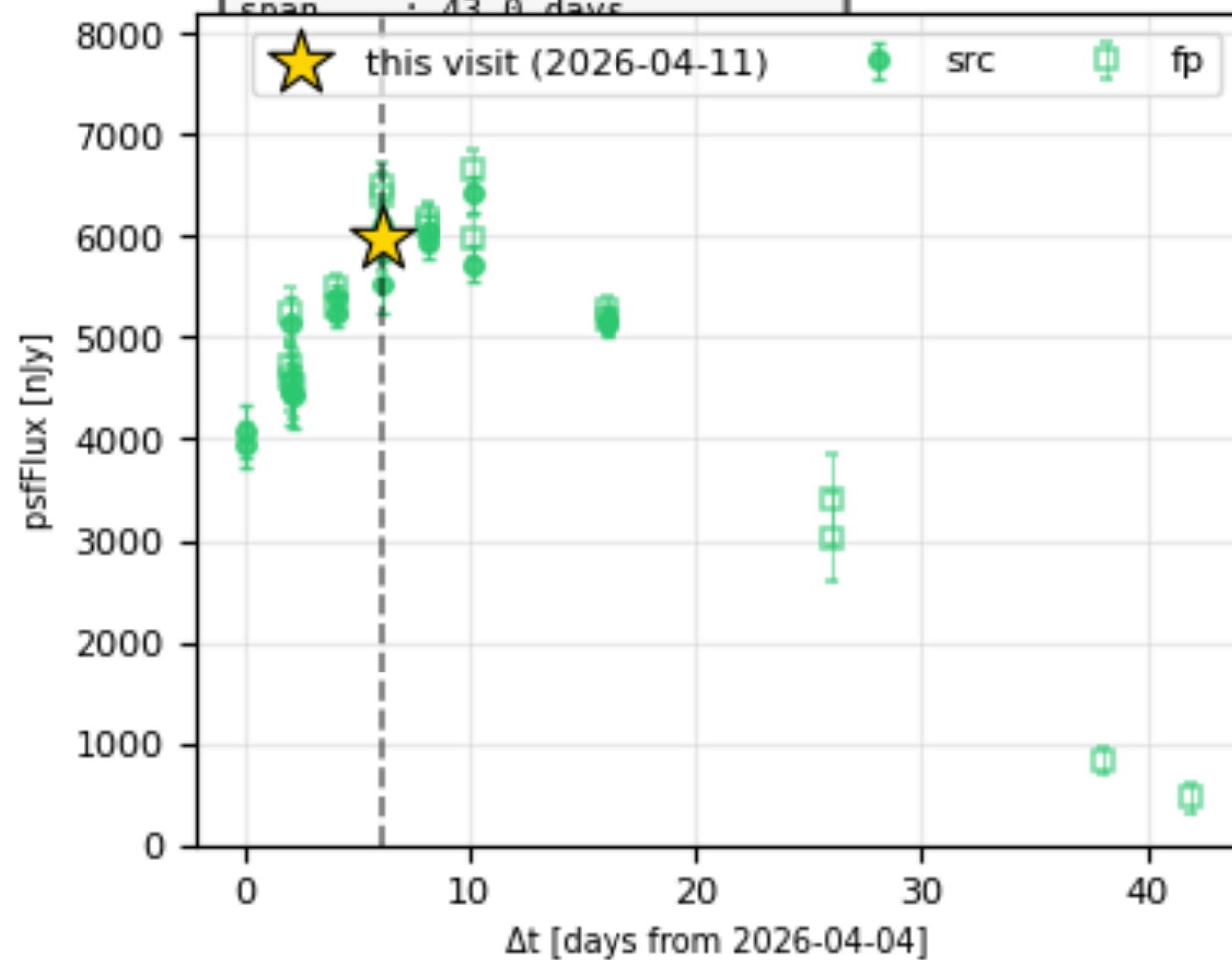
Gaia G : ? mag
status : ?
group  : ?
DR3    : ?

Visit #9/17 - band g
visit  : 2026041000194
det    : 67
(x,y)  : (1694.3, 505.5) pix
date   : 2026-04-11
MJD    : 61141.0728
SNR    : 26.2

--- Fluxes ---
psfFlux : +5976.0 ±224.0 nJy
        → 21.959 mag
sciFlux  : +13985.8 ±232.2 nJy
        → 21.036 mag
tmplFlux : +7768.8 ±4.7 nJy
        → 21.674 mag

isDipole: ◦ no-dipole
Ndip/N  : 0/17 this band

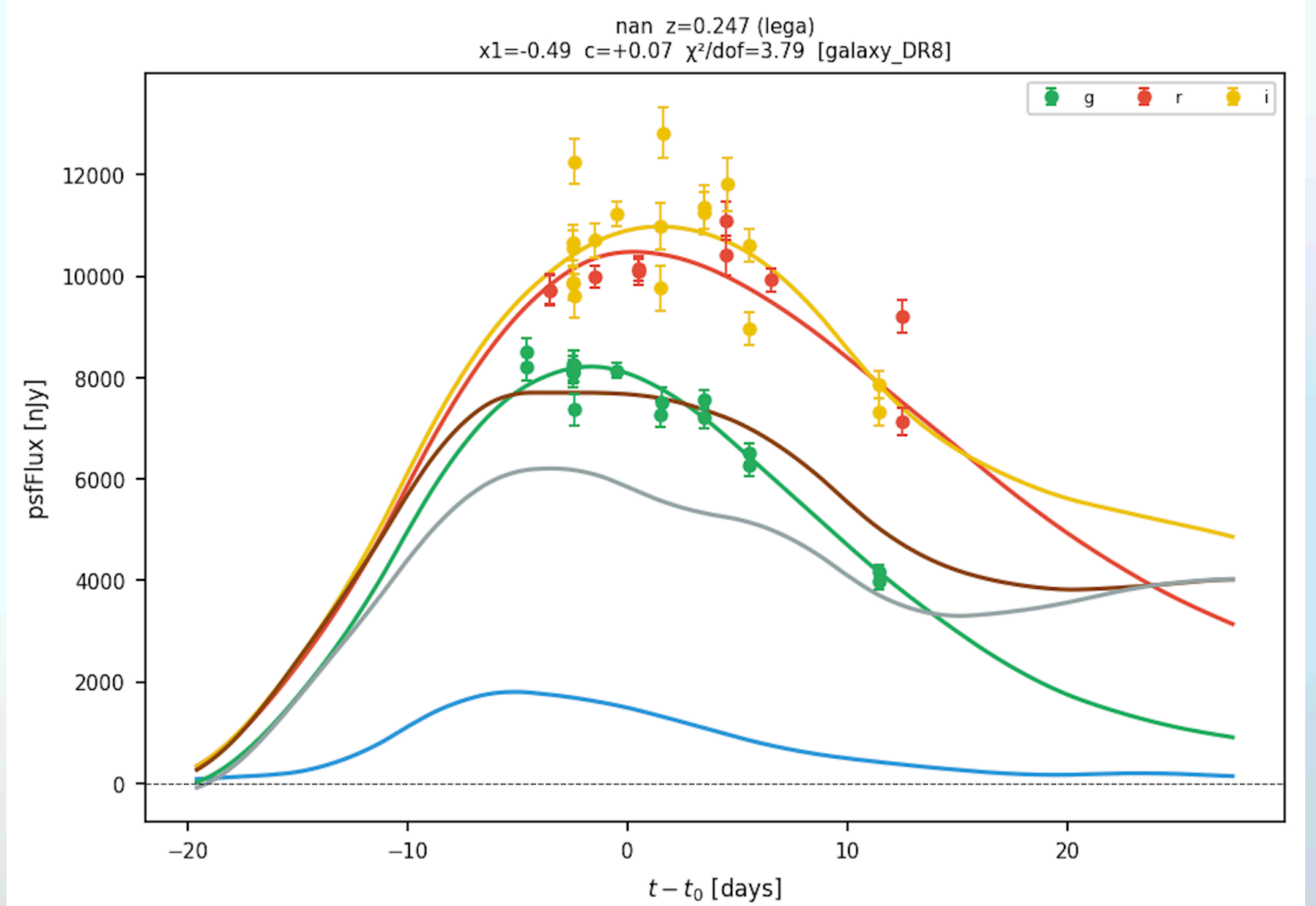
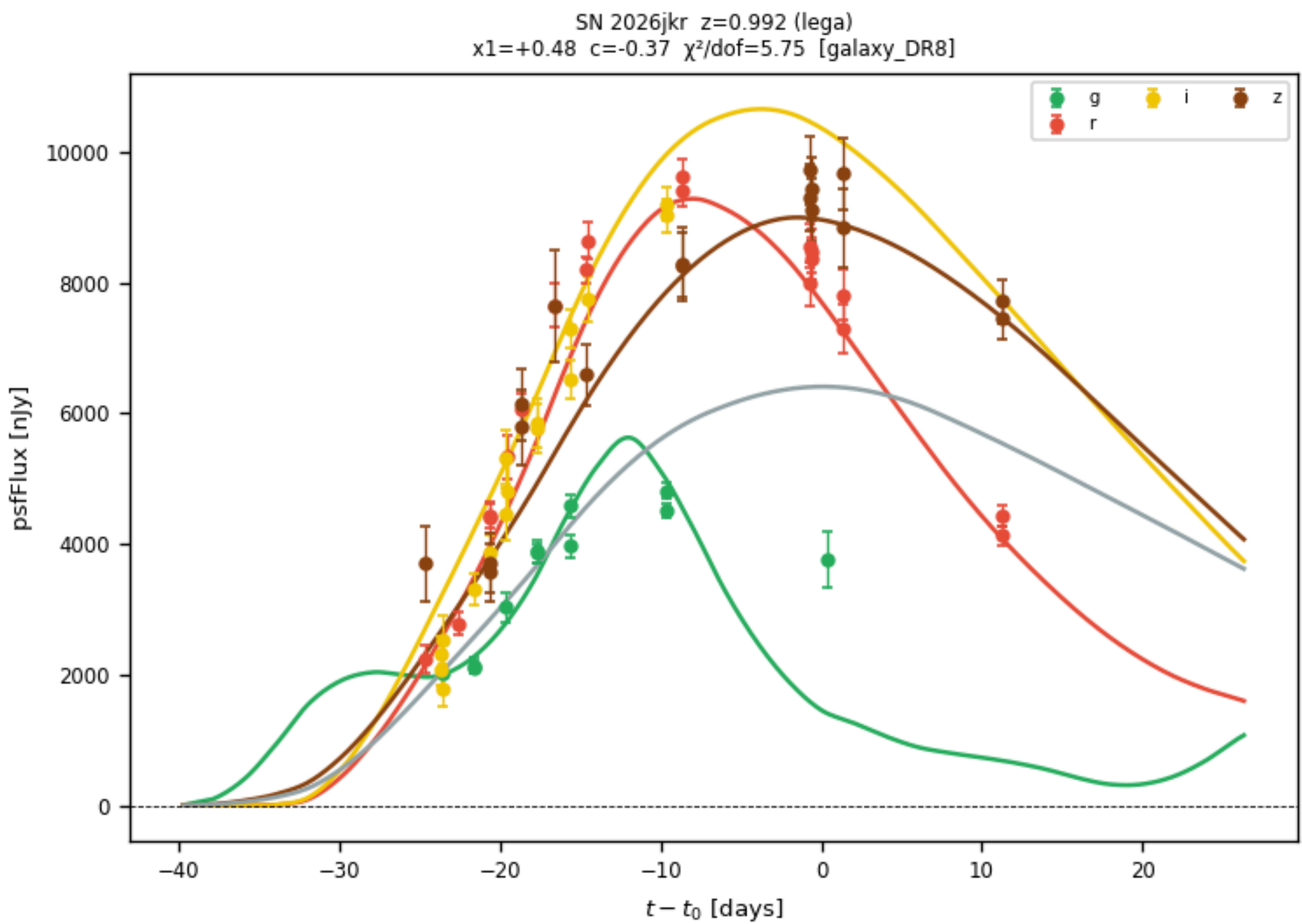
--- Temporal coverage ---
first   : 2026-04-04
last    : 2026-05-18
span    : 43.0 days
    
```



Still difference  
In cutouts

# Other sources for SN , But ...

Fink Tag `sn_near_galaxy_candidate` : photometric redshifts & errors from DR8 galaxy



# Work to be continued on dipole....

- Fink Tag `sn_near_galaxy_candidate`
- The monster is still there ?

