

# KIC 005775129

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005775129-01	OBS	2802.01	3.848202	131.920953	186.4	2.086	15.0	16.3	1.19	5927	1.88	642.17

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005775129-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

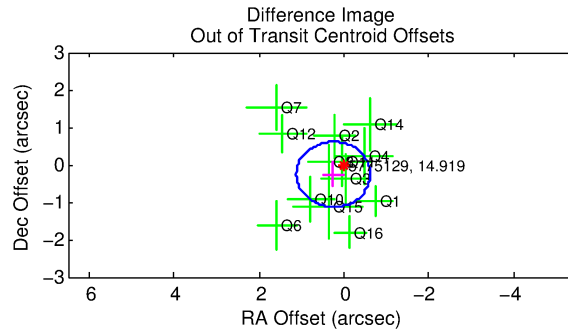
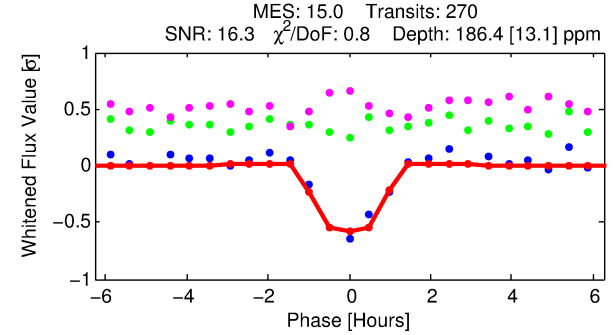
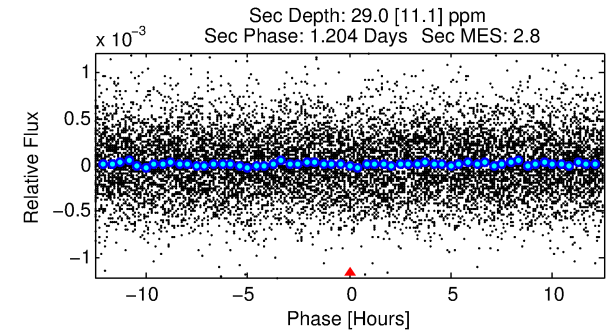
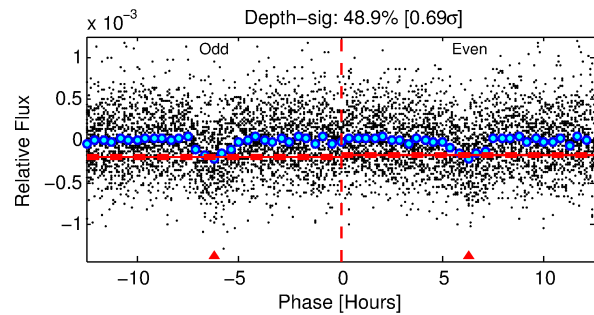
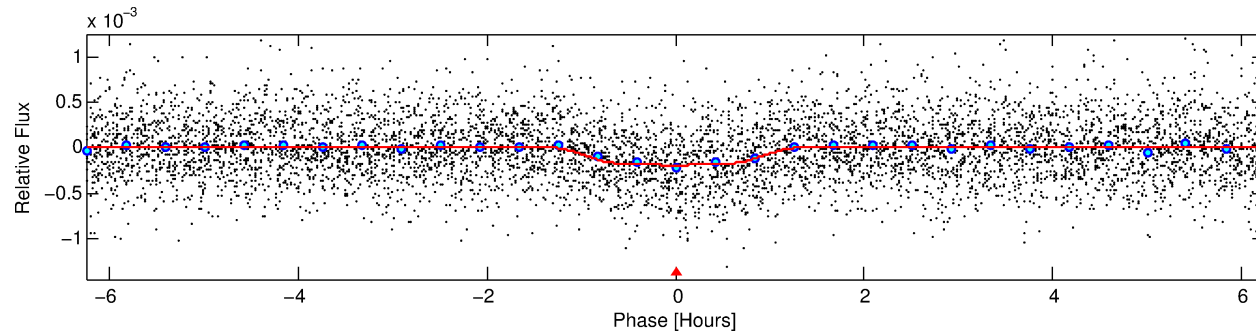
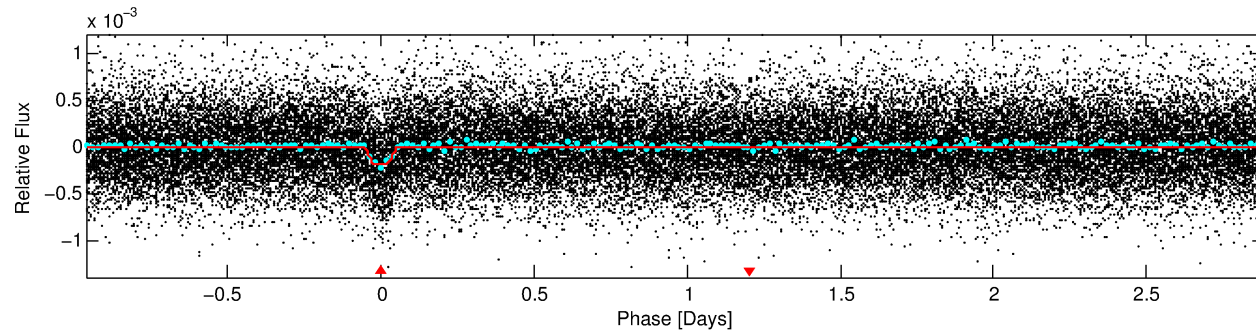
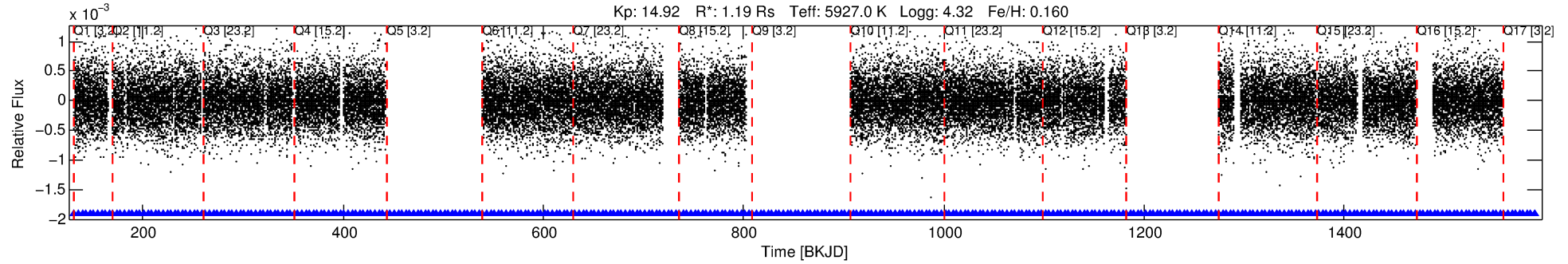
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005775129-01

No Significant Match Found

# DV One-Page Summary

KIC: 5775129 Candidate: 1 of 1 Period: 3.848 d  
KOI: K02802.01 Corr: 0.973



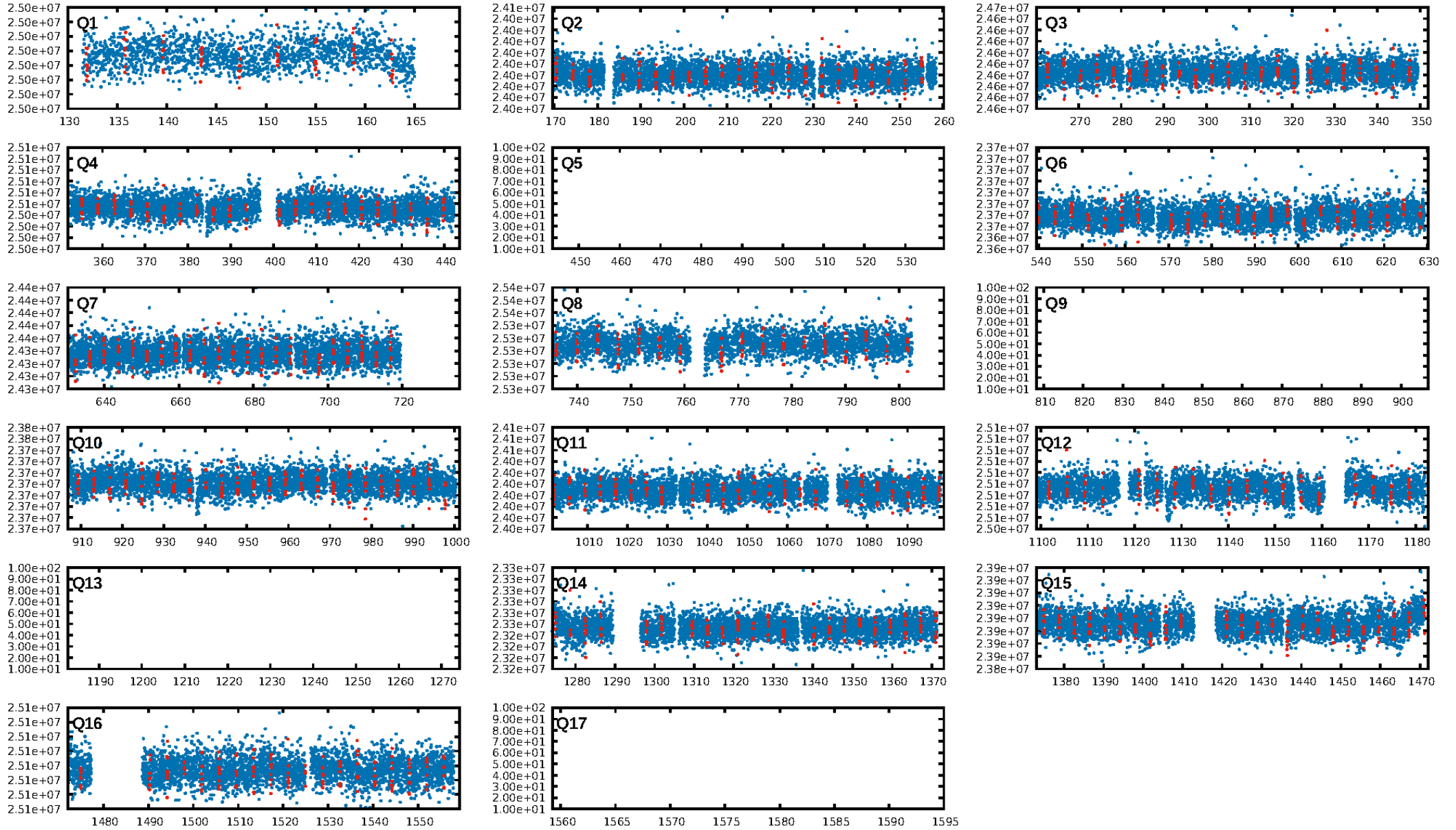
## DV Fit Results:

Period = 3.84820 [0.00001] d  
Epoch = 131.9210 [0.0024] BKJD  
Rp/R\* = 0.0144 [0.0088]  
a/R\* = 7.53 [21.38]  
b = 0.86 [0.86]  
Seff = 642.17 [139.35]  
Teff = 1284 [70] K  
Rp = 1.88 [1.19] Re  
a = 0.0495 [0.0070] AU  
Ag = 11.05 [14.29] [0.70 $\sigma$ ]  
Teffp = 3619 [1156] K [2.02 $\sigma$ ]

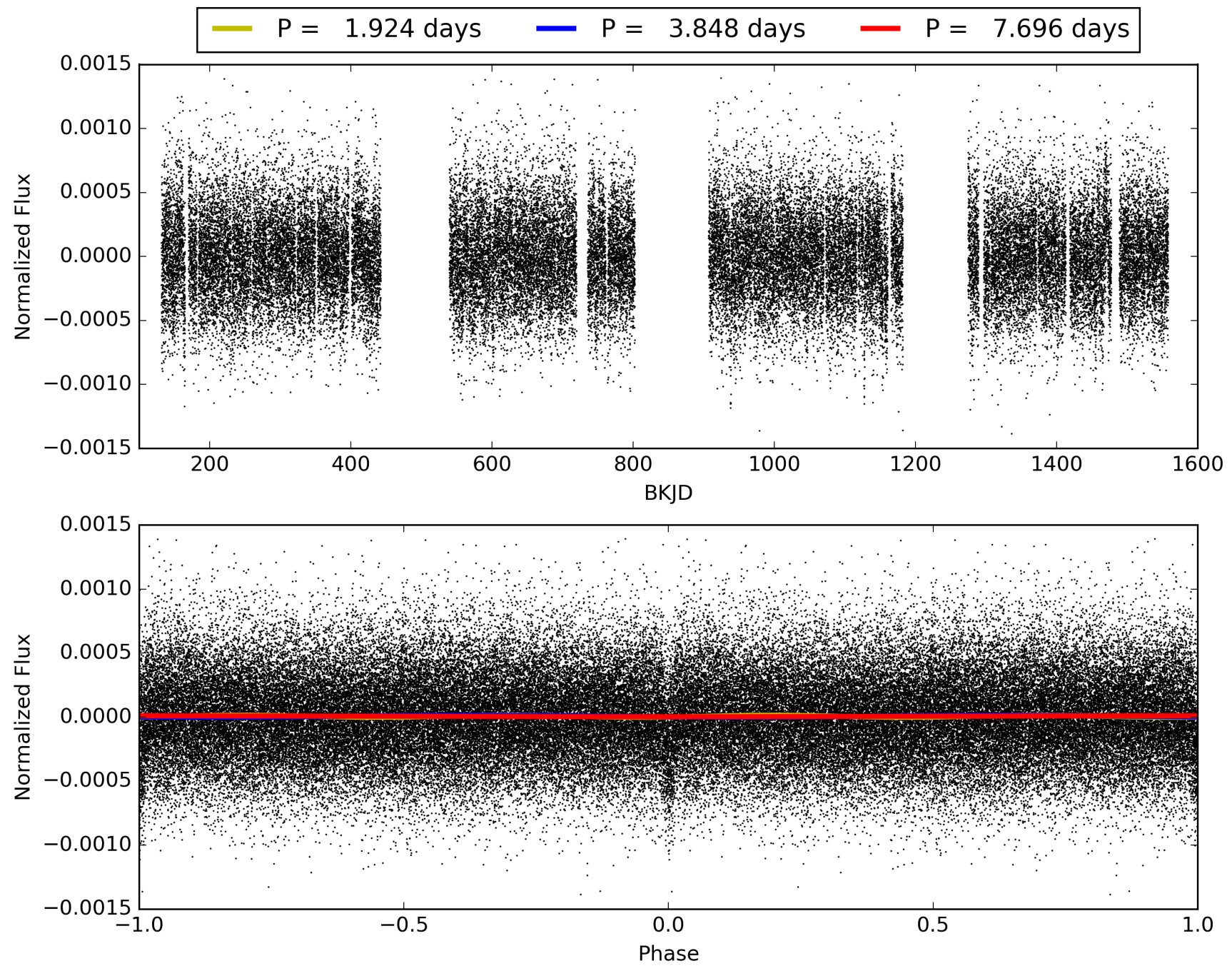
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.91e-49  
RollingBand-fgt: 1.00 [261/261]  
GhostDiagnostic-chr: 3.272  
Centroid-sig: 0.0%  
Centroid-so: 2.527 arcsec [2.80 $\sigma$ ]  
OotOffset-rm: 0.360 arcsec [1.24 $\sigma$ ]  
KicOffset-rm: 0.394 arcsec [1.33 $\sigma$ ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 0.92 [12/13]  
DiffImageOverlap-fno: 1.00 [13/13]

# TCE 005775129-01, PDC Light Curves



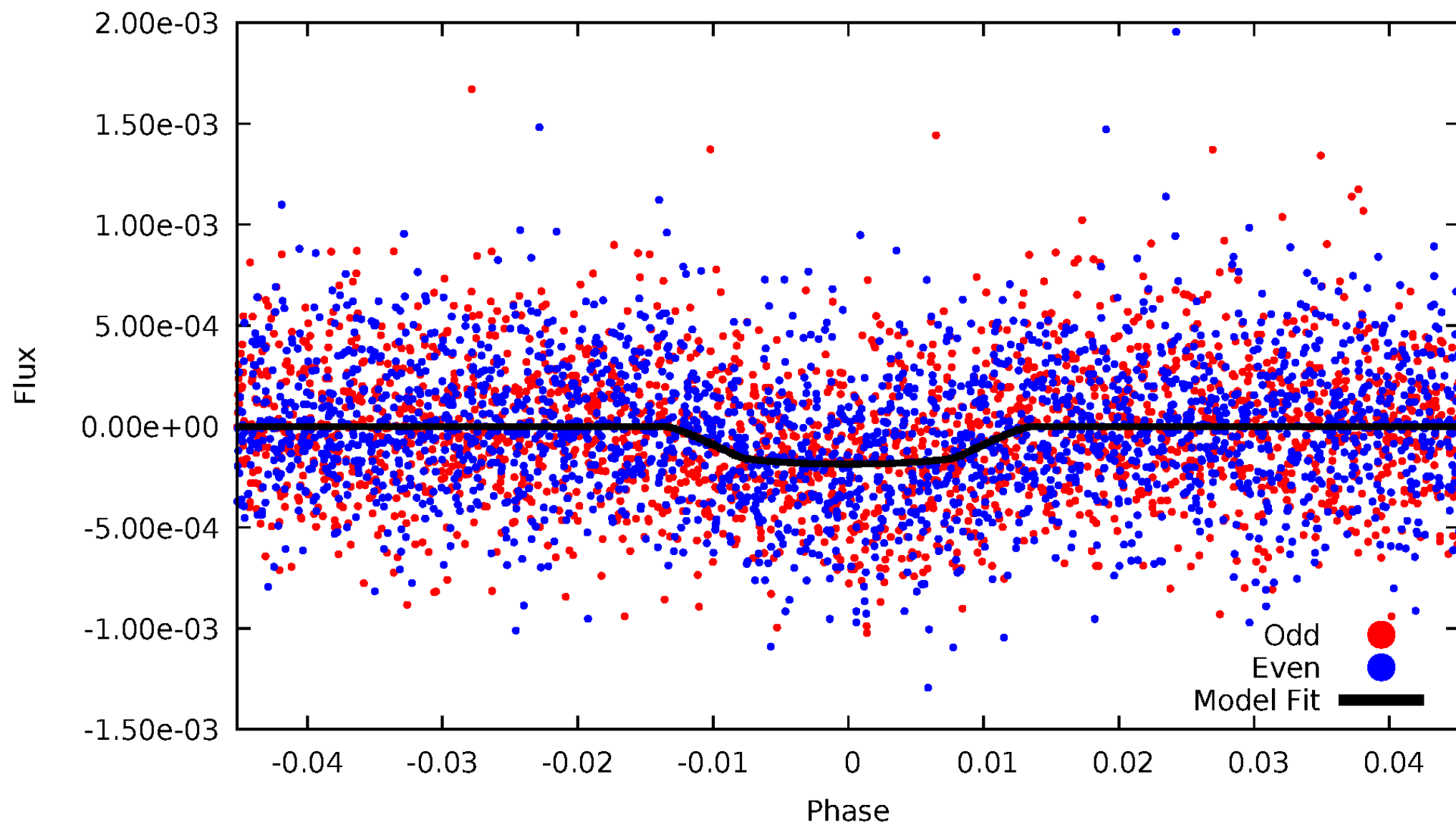
TCE 005775129-01





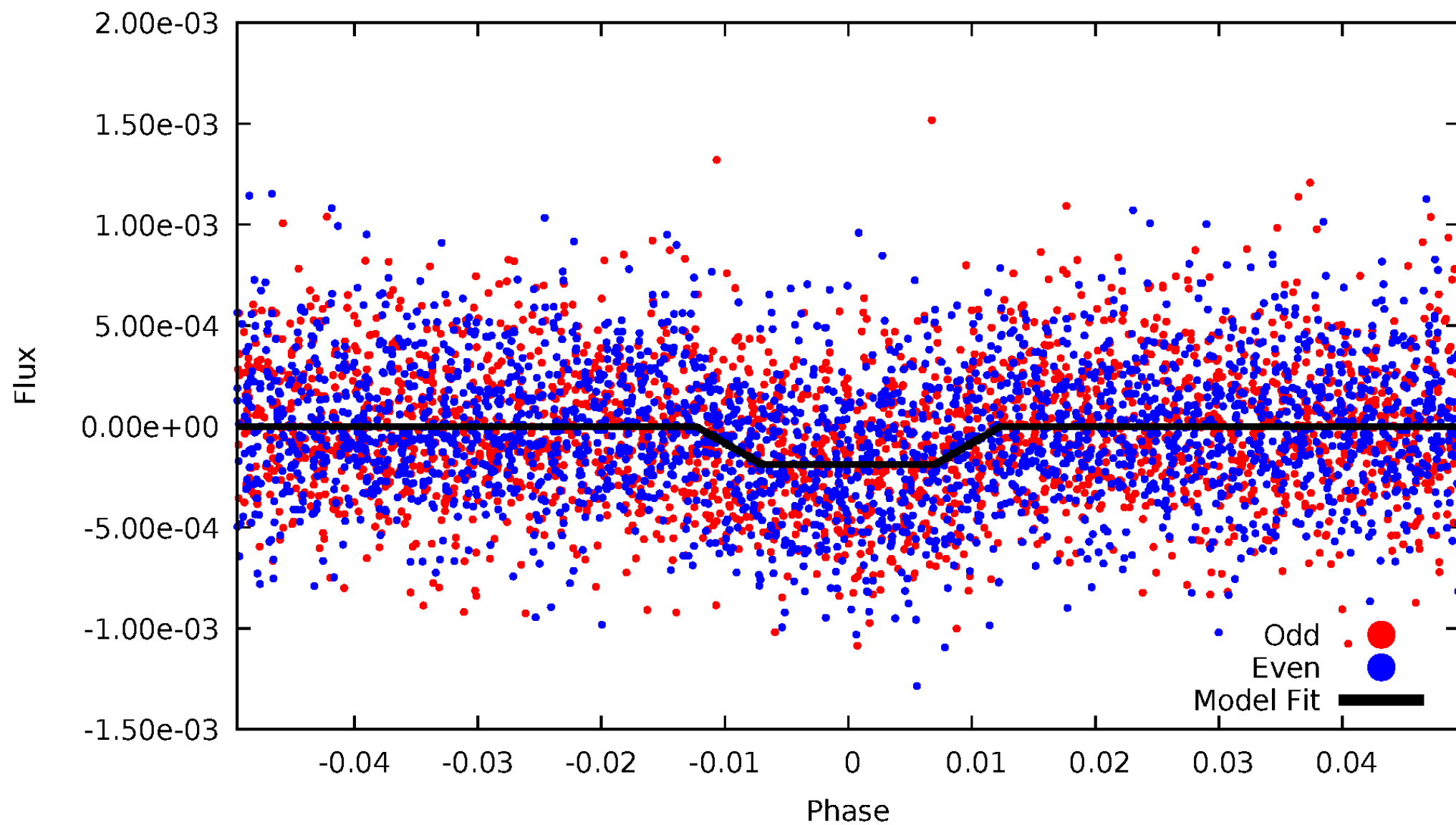
# DV Odd/Even

TCE 005775129-01

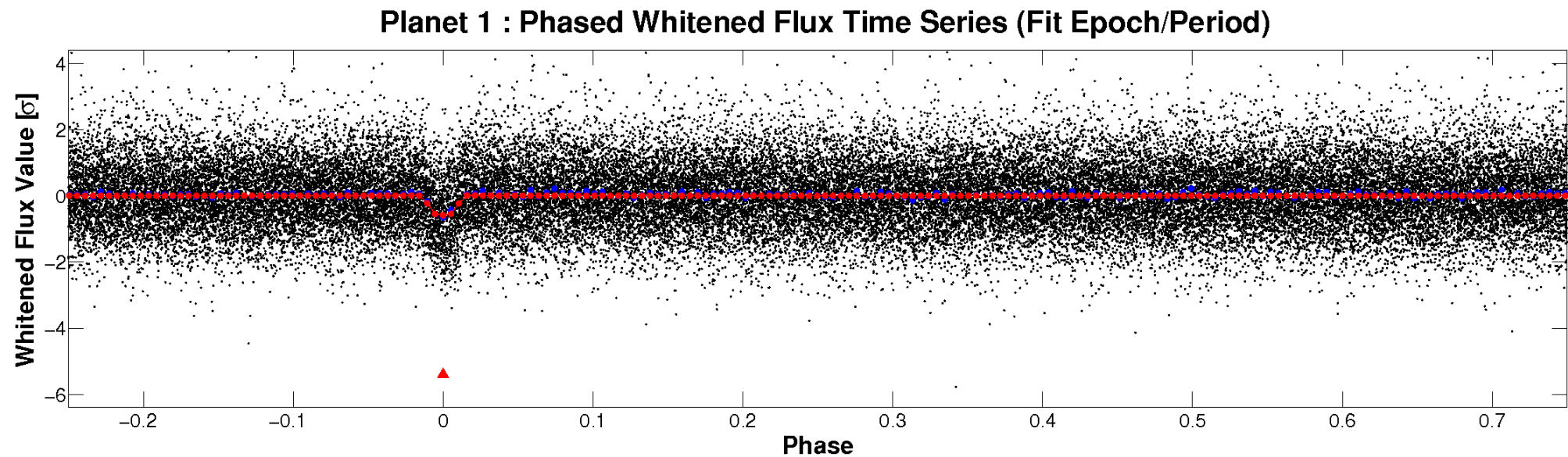
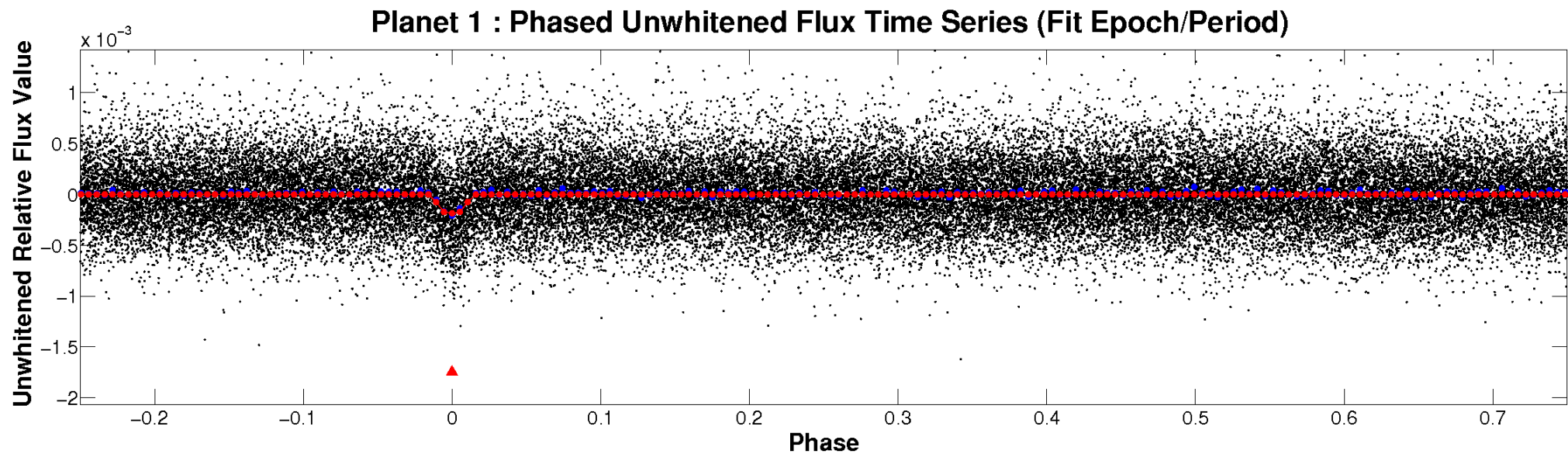


# ALT Odd/Even

TCE 005775129-01

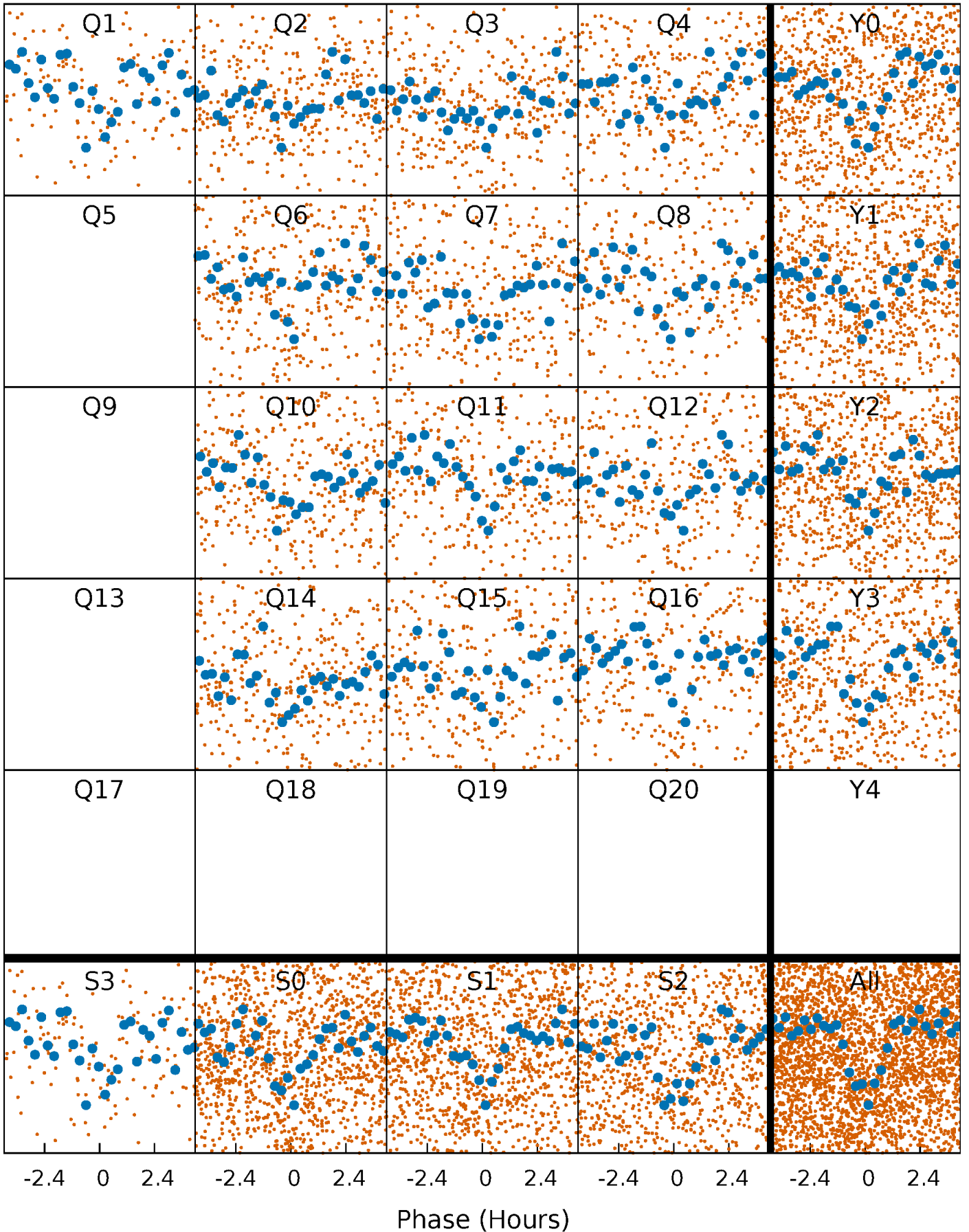


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

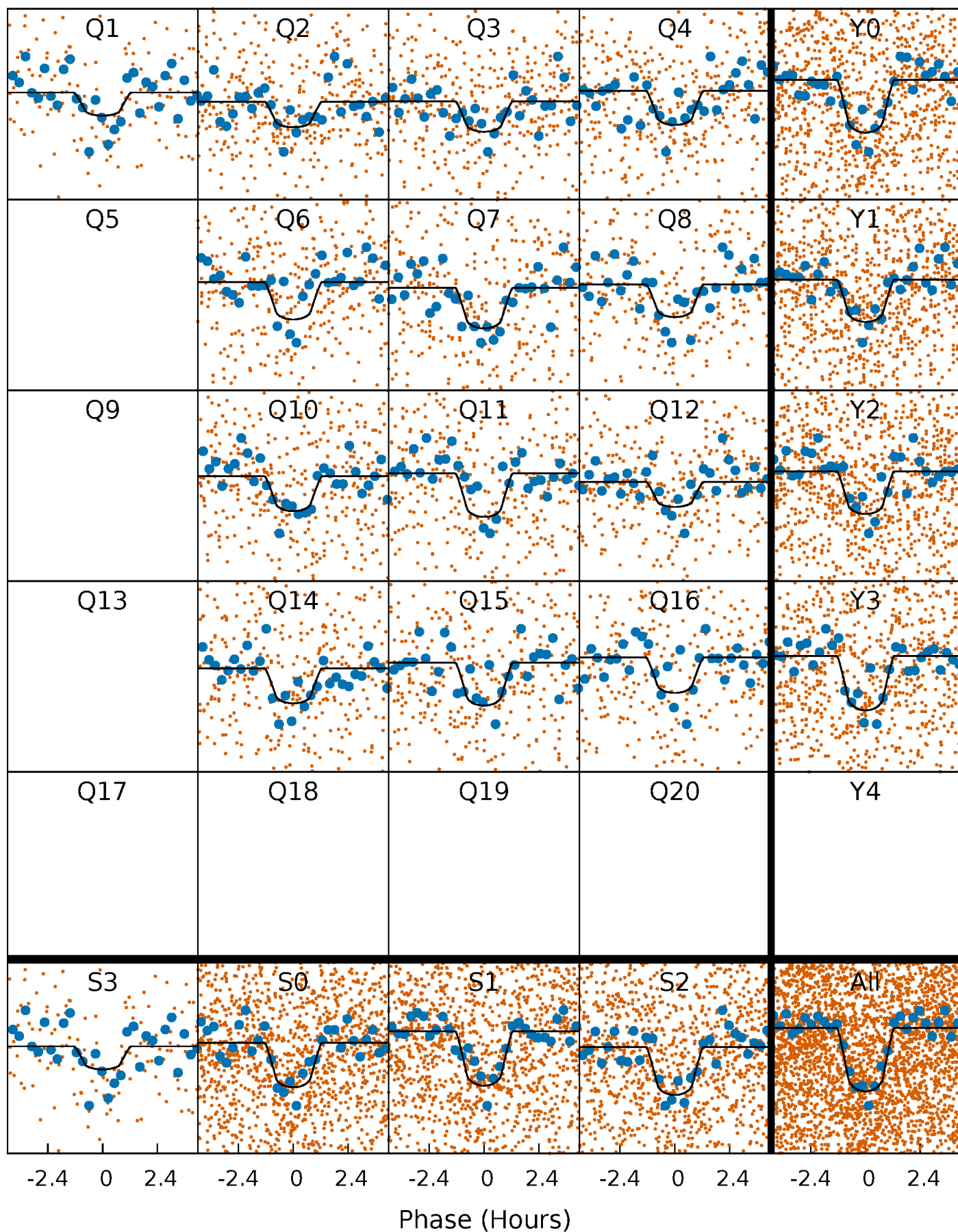
TCE 005775129-01 P= 3.848202 Days  $T_0=131.920953$  (BKJD)





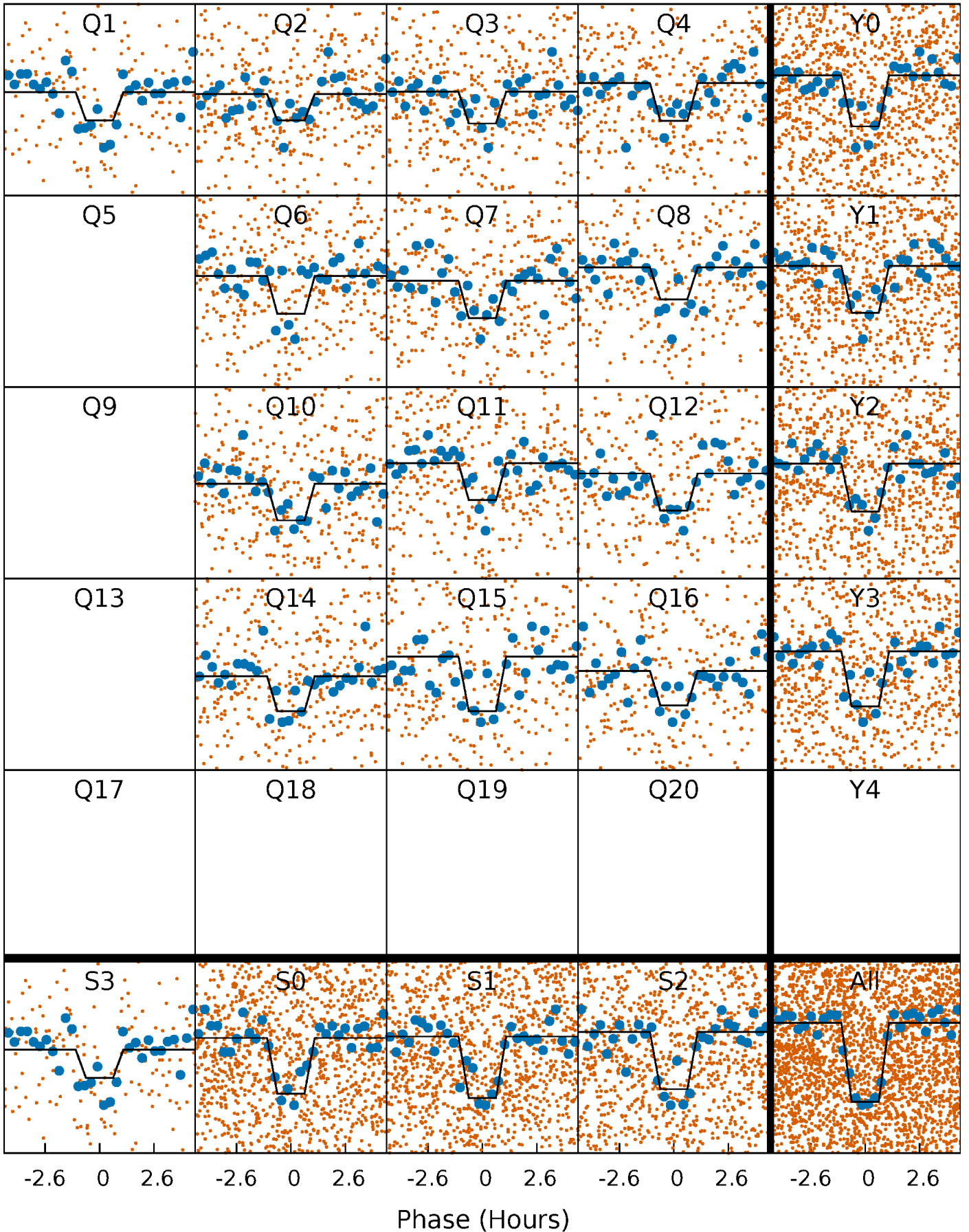
# DV Quarter-Phased Transit Curves

TCE 005775129-01 P= 3.848202 Days  $T_0=131.920953$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

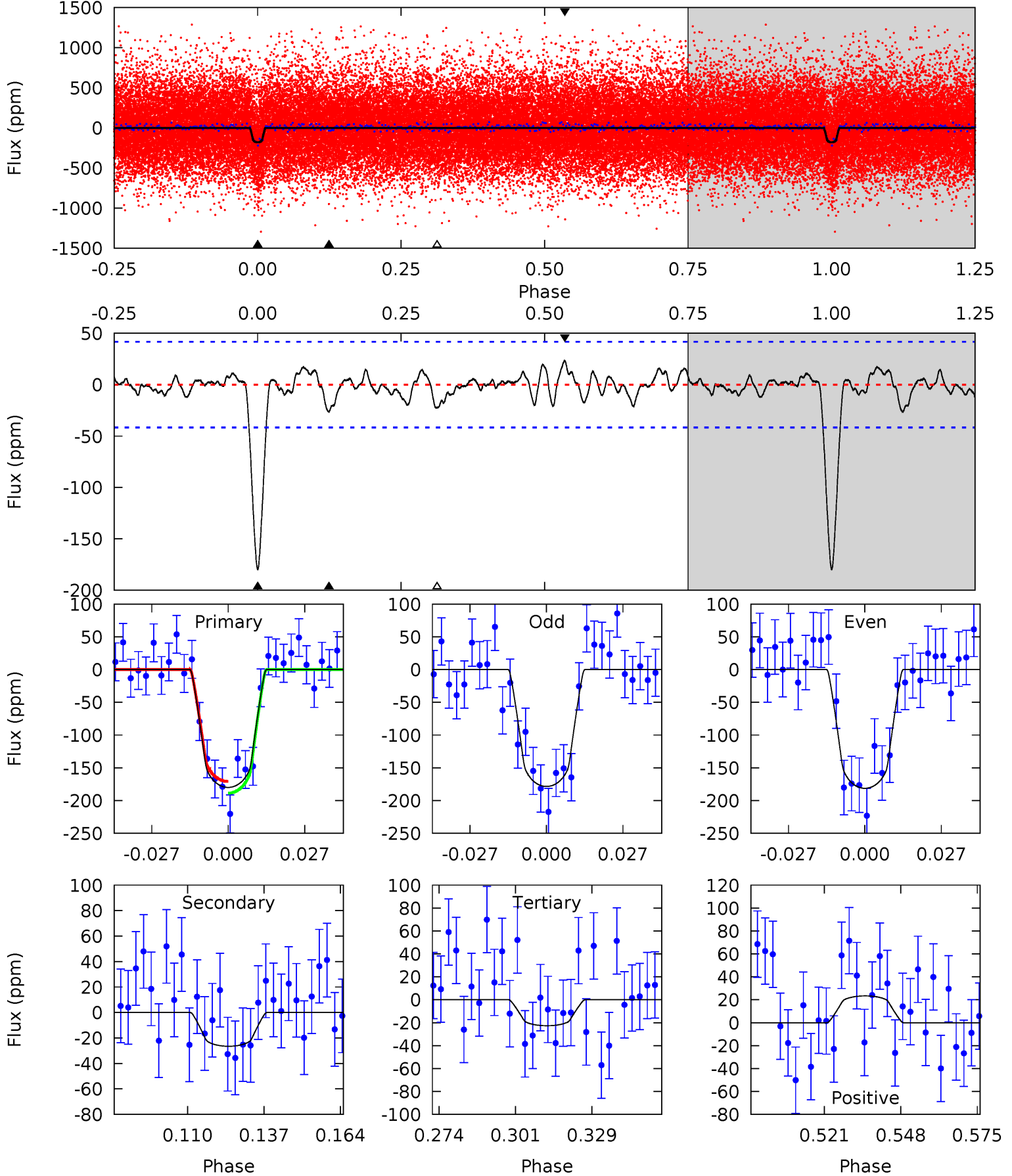
TCE 005775129-01 P= 3.848216 Days  $T_0=131.919174$  (BKJD)



# DV Model-Shift Uniqueness Test

005775129-01, P = 3.848202 Days, E = 128.072751 Days

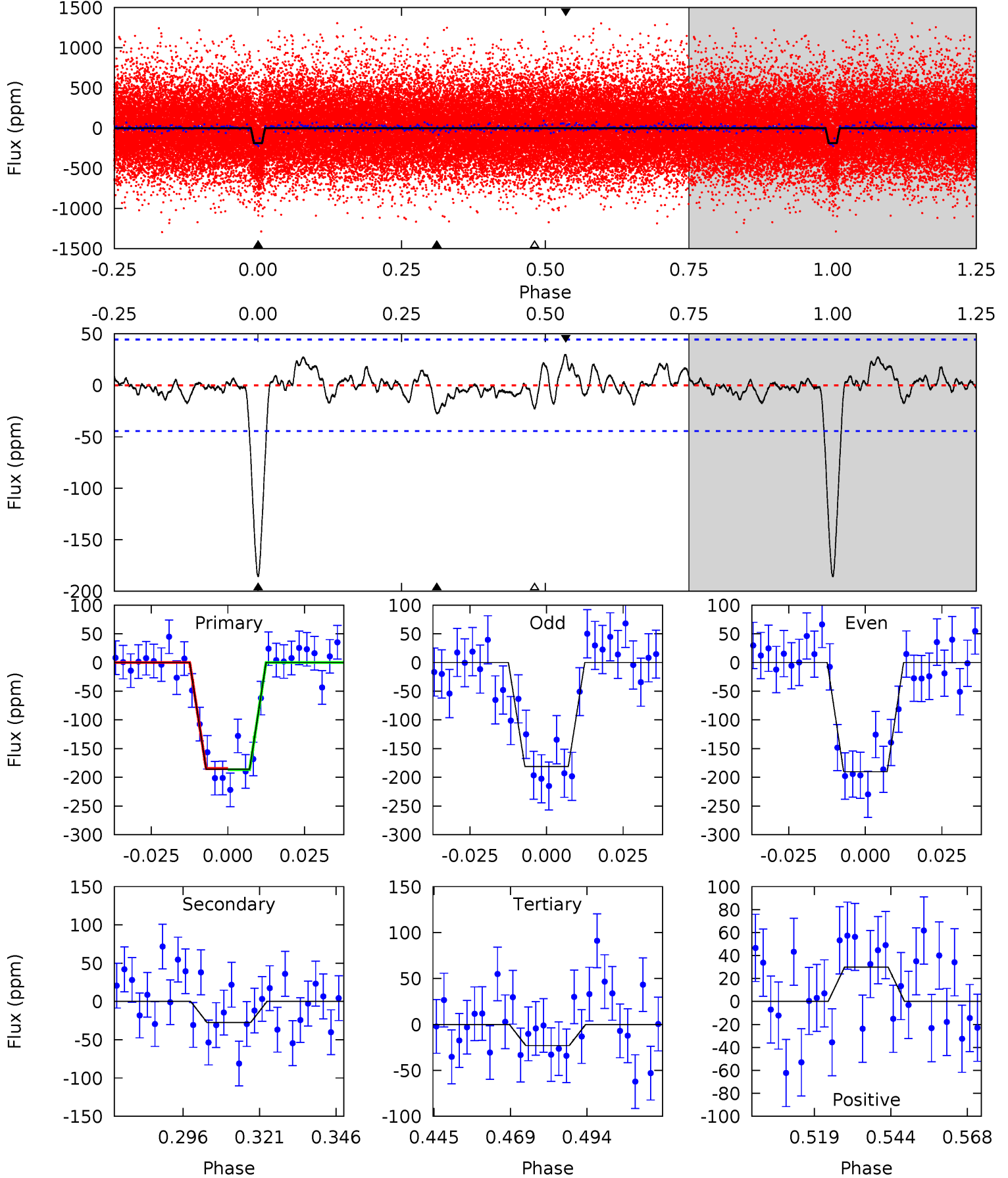
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	3.07	2.63	2.71	4.83	2.21	1.00	18.2	18.2	0.45	0.37	0.17	0.98	0.11	1.04



# Alt Model-Shift Uniqueness Test

005775129-01, P = 3.848216 Days, E = 128.070958 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	3.01	2.51	3.28	4.85	2.25	1.05	17.8	17.0	0.50	-0.26	0.50	0.97	0.14	0.09





### Stellar Parameters For KIC 005775129

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5927^{+71}_{-83}$	$4.323^{+0.105}_{-0.116}$	$0.160^{+0.150}_{-0.150}$	$1.193^{+0.198}_{-0.148}$	$1.094^{+0.073}_{-0.073}$	$0.907^{+0.376}_{-0.315}$
	+1%/-1%	+2%/-3%	+94%/-94%	+17%/-12%	+7%/-7%	+42%/-35%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005775129-01 / KOI 2802.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-27 \pm 9$	$1.91^{+1.12}_{-1.06}$	$1792^{+78}_{-71}$	$3856^{+1336}_{-637}$	$9.973^{+37.895}_{-6.641}$
Alt.	$-28 \pm 9$	$1.82^{+1.22}_{-0.96}$	$1791^{+76}_{-64}$	$3888^{+1513}_{-618}$	$11^{+42}_{-7}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

## DV Centroid Data

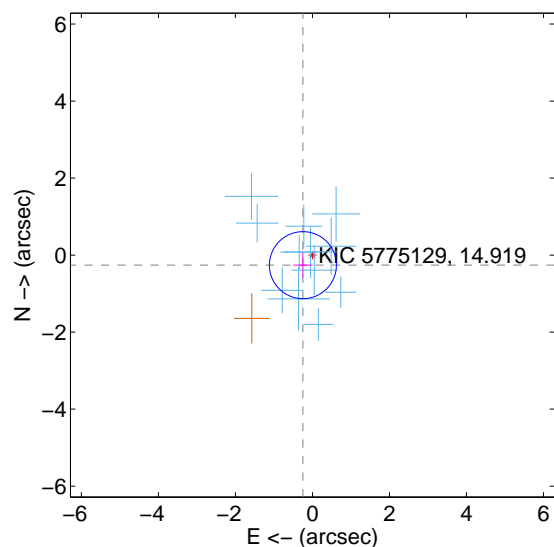
Supplemental centroid analysis for 005775129-01. Kepler magnitude: 14.92. Transit SNR 16.32

There are 12 quarters with good PRF difference image offsets

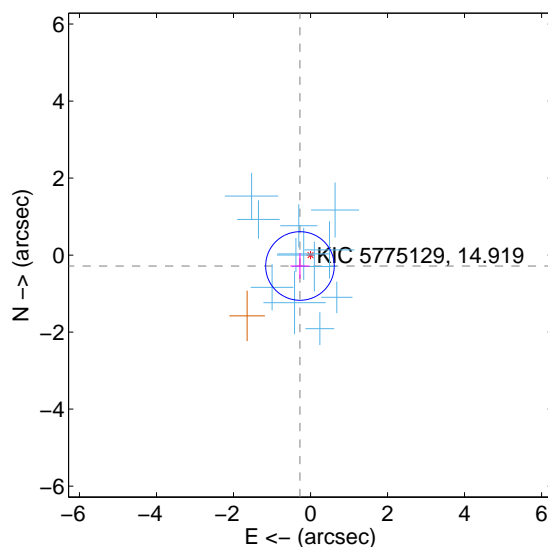
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.360 \pm 0.290$	1.24	$0.247 \pm 0.250$	$-0.261 \pm 0.322$
PRF-fit source offset from KIC position	$0.394 \pm 0.297$	1.33	$0.275 \pm 0.252$	$-0.283 \pm 0.334$
photometric centroid source offset	$2.53 \pm 0.90$	2.80	$0.94 \pm 0.88$	$-2.35 \pm 0.91$

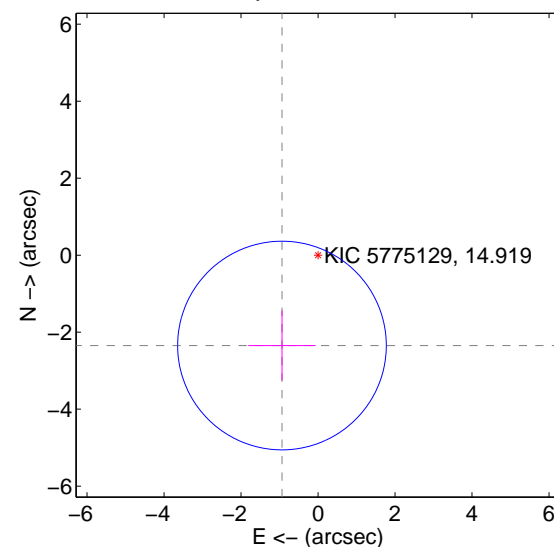
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

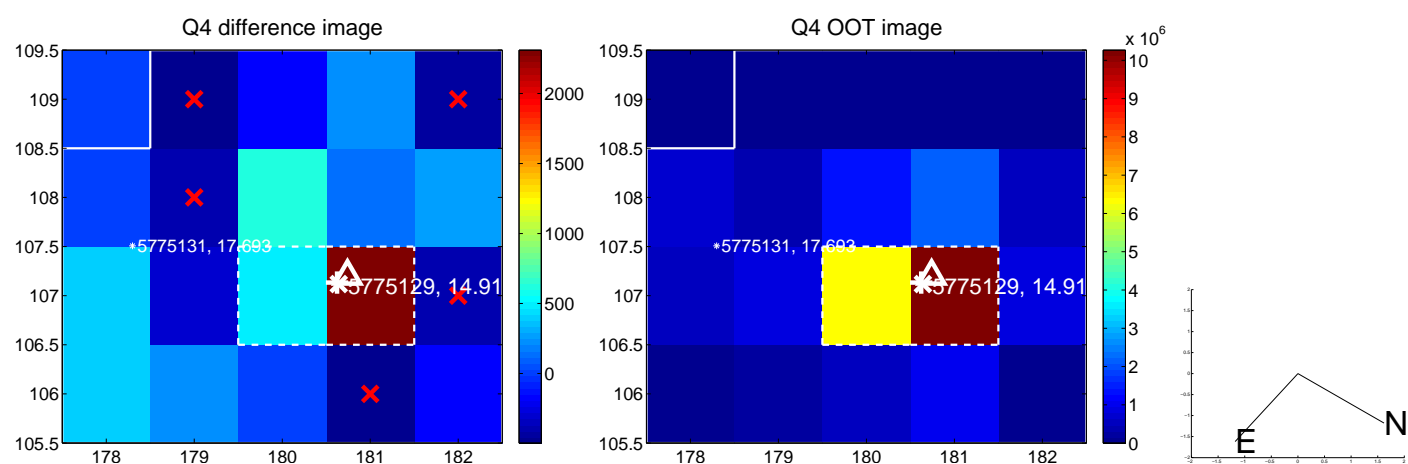
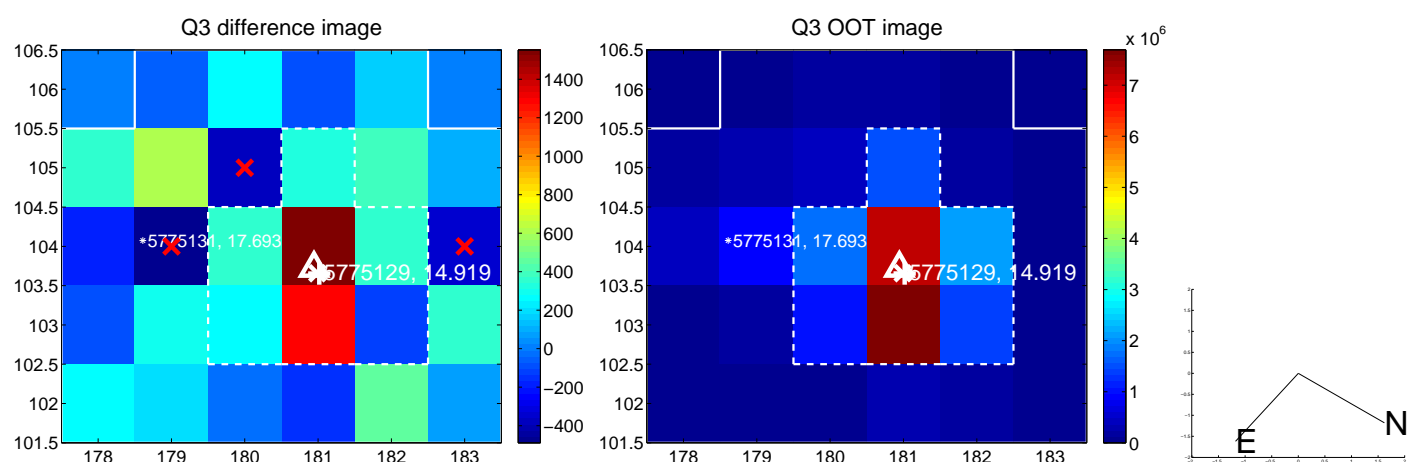
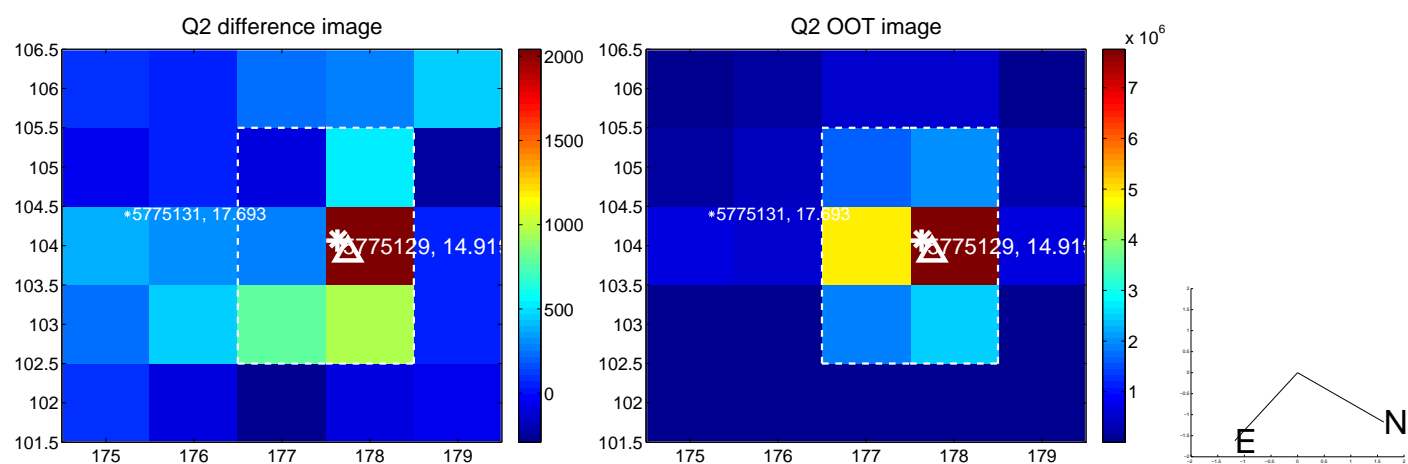
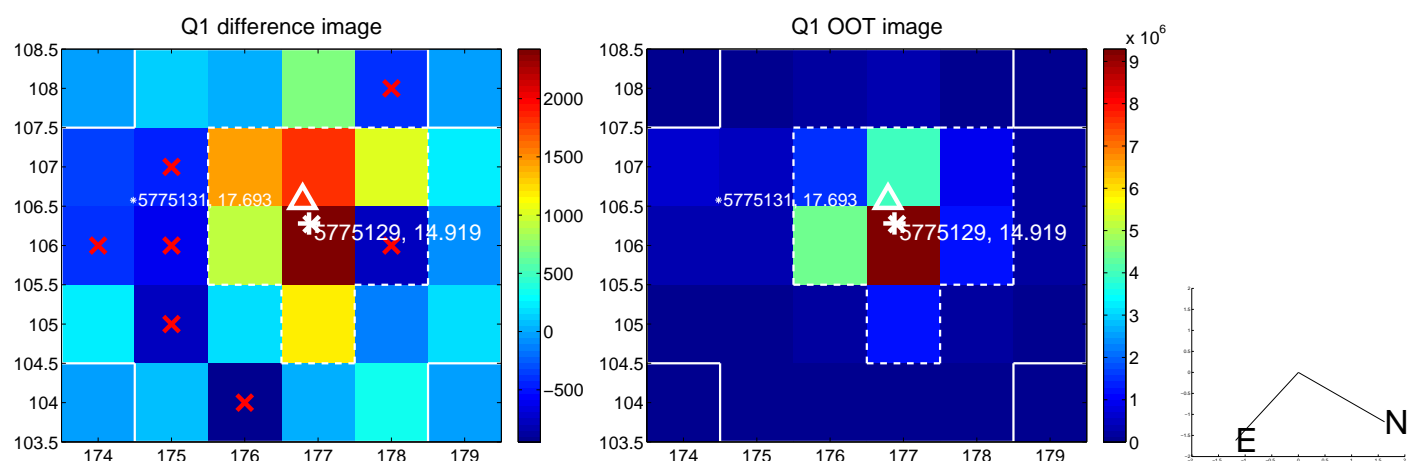


offset from photometric centroids

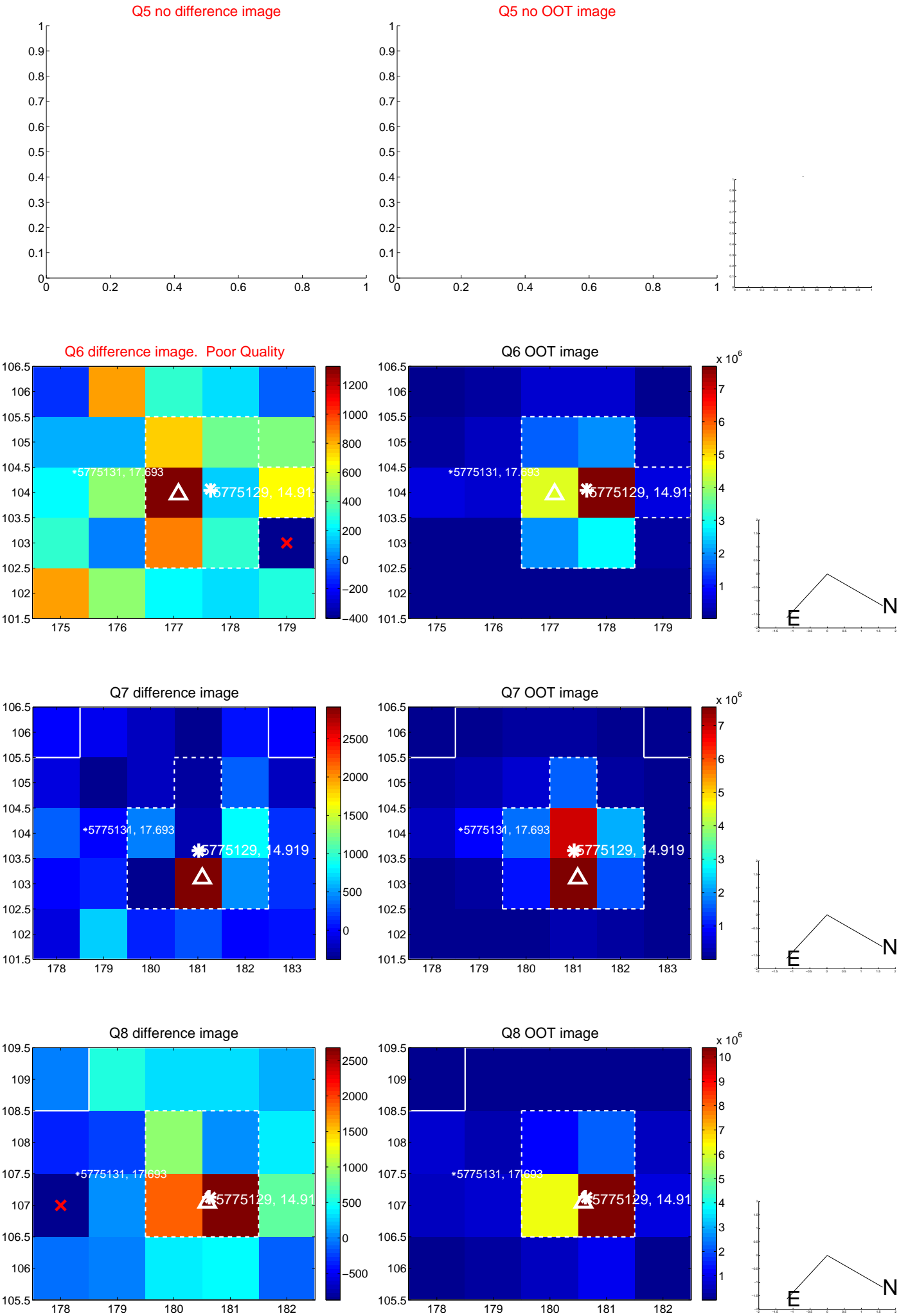


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

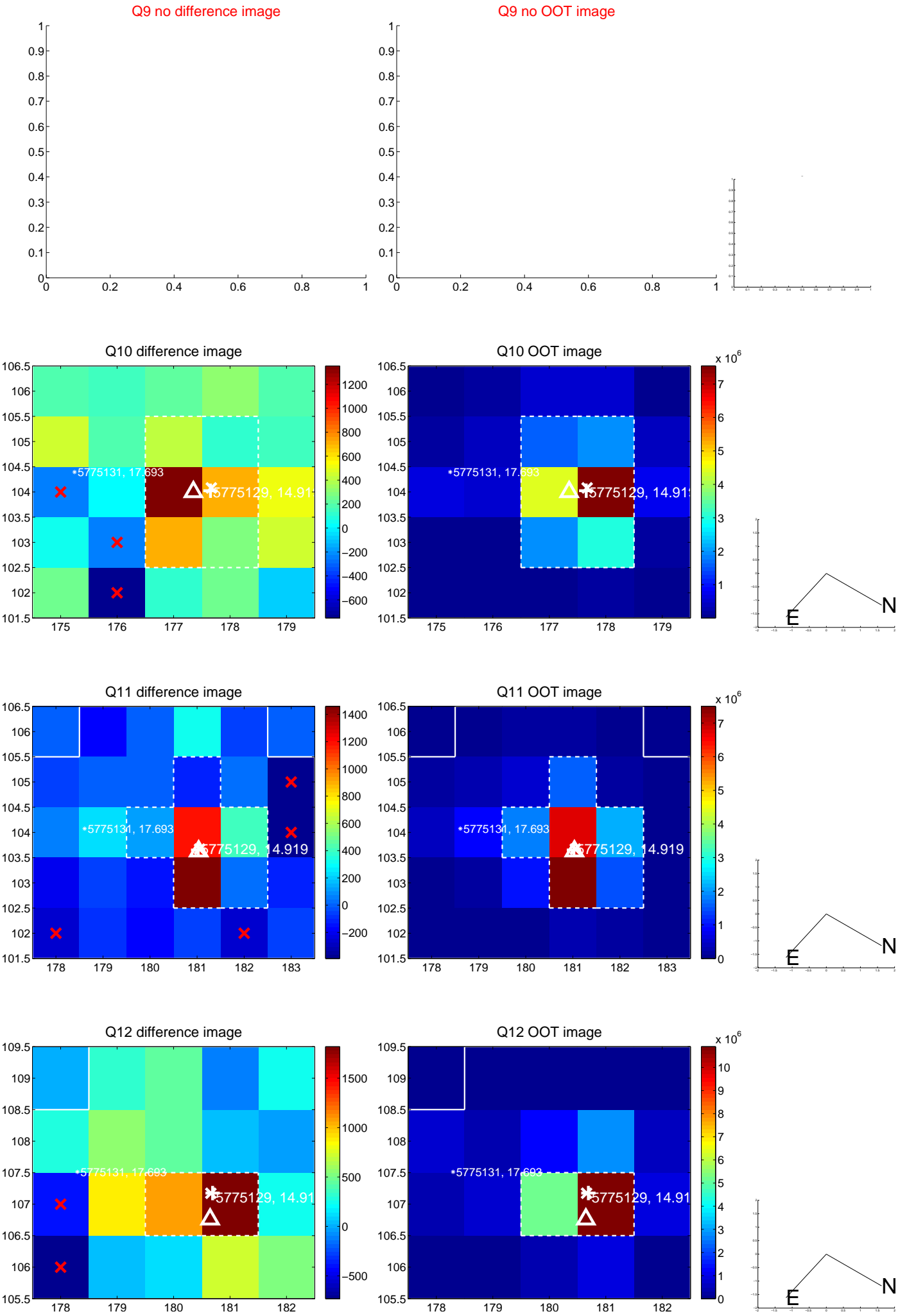


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

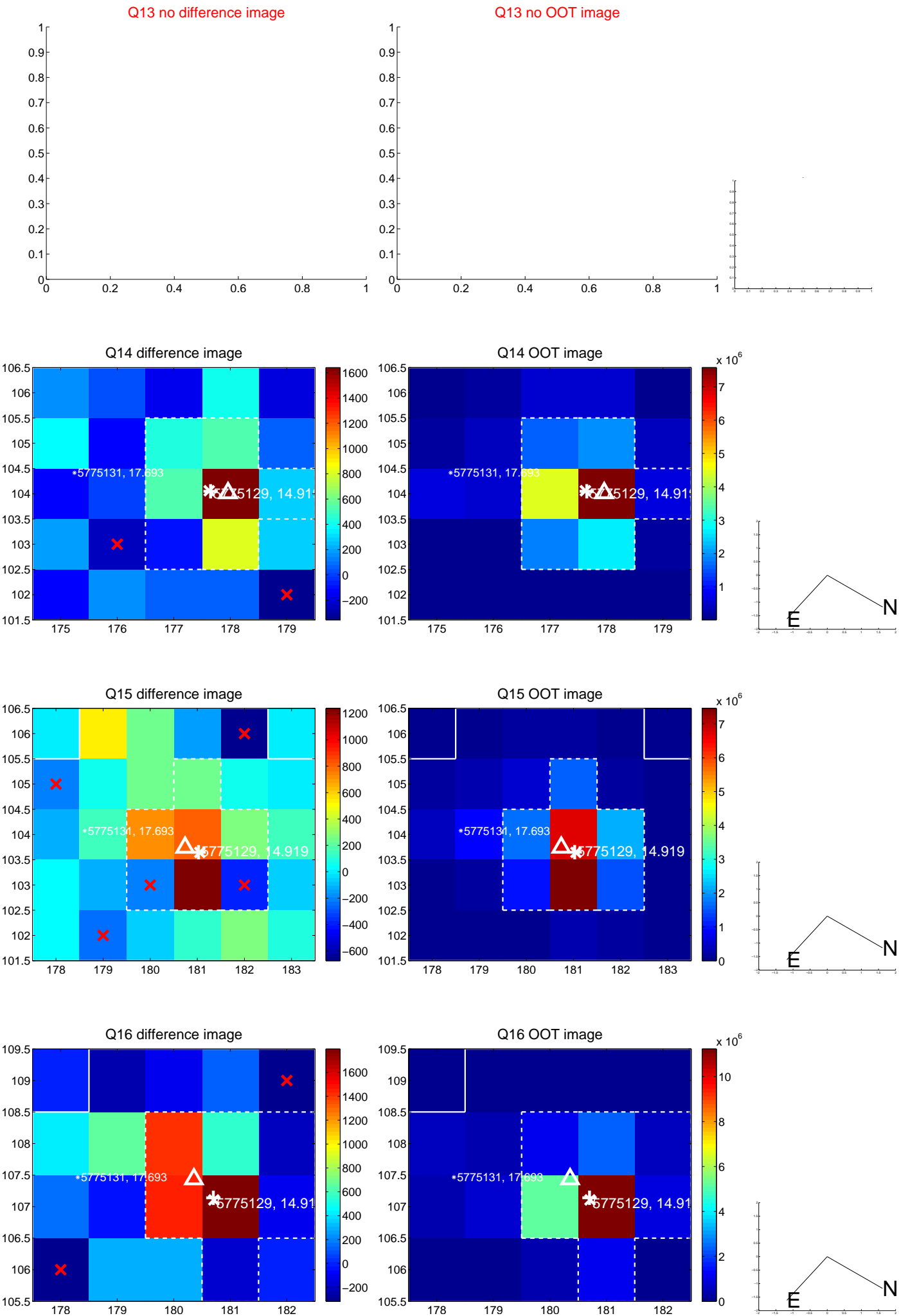




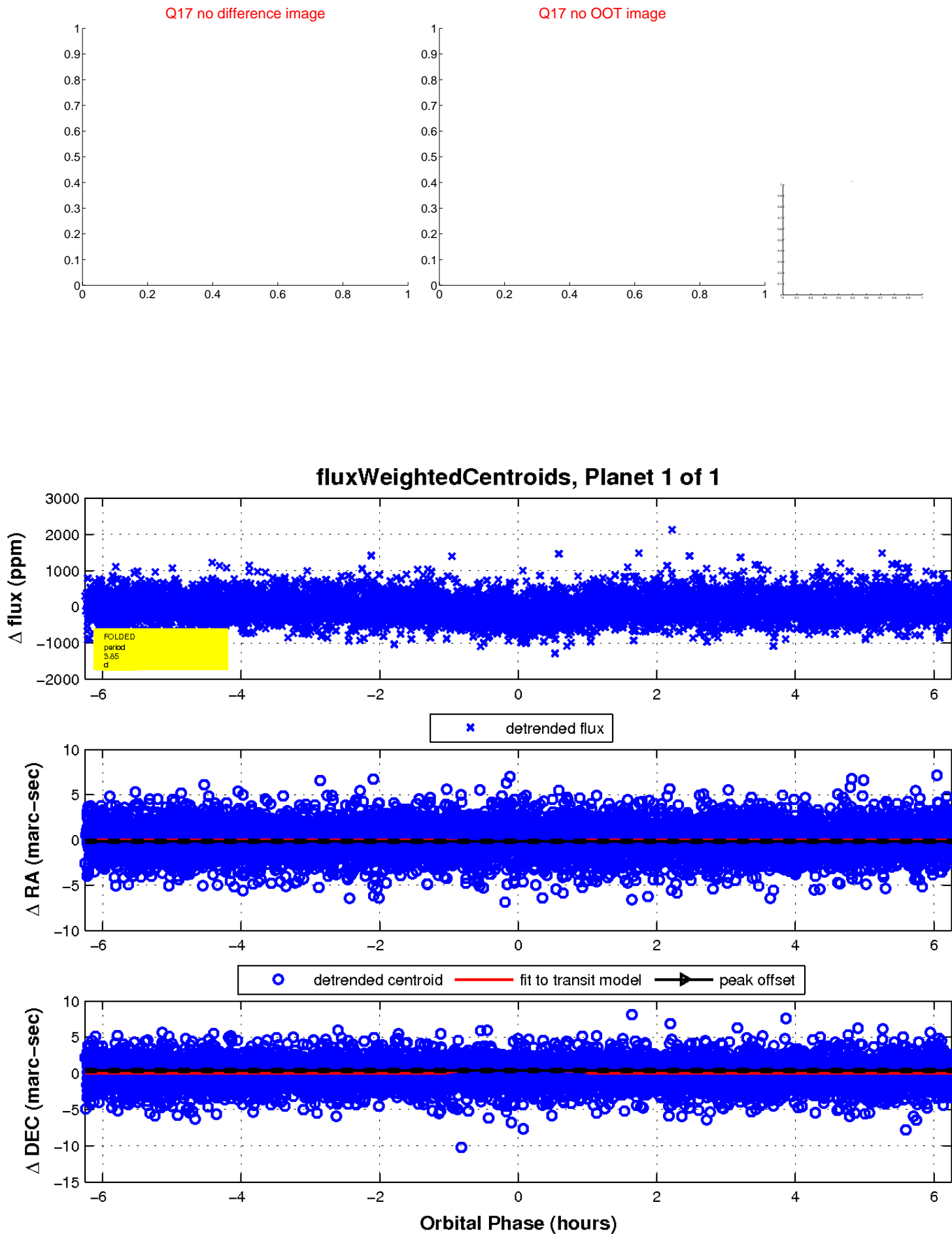
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination

