

# KIC 010601579

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010601579-01	OBS	7349.01	8.098754	134.775290	56548.4	5.630	10837.8	10565.7	1.45	6328	57.28	452.53

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010601579-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED

**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 010601579-01

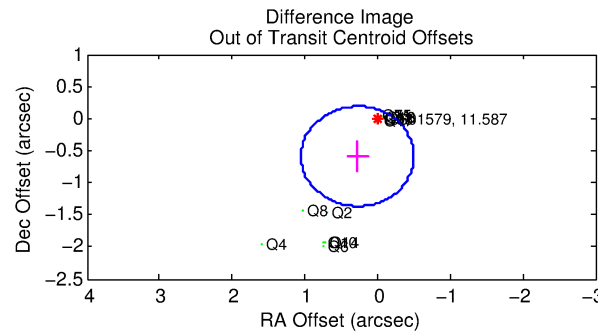
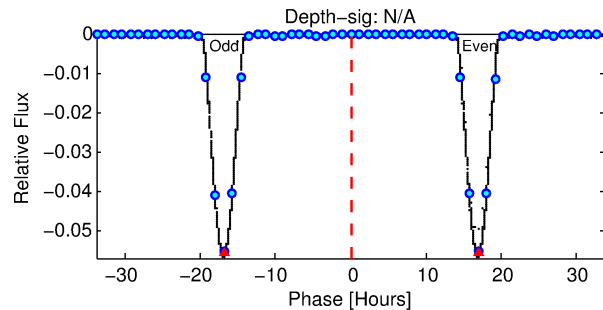
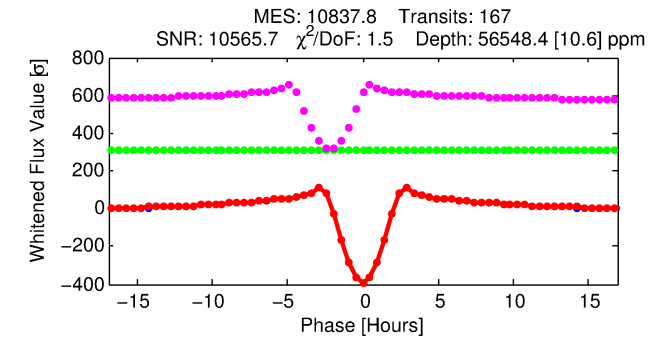
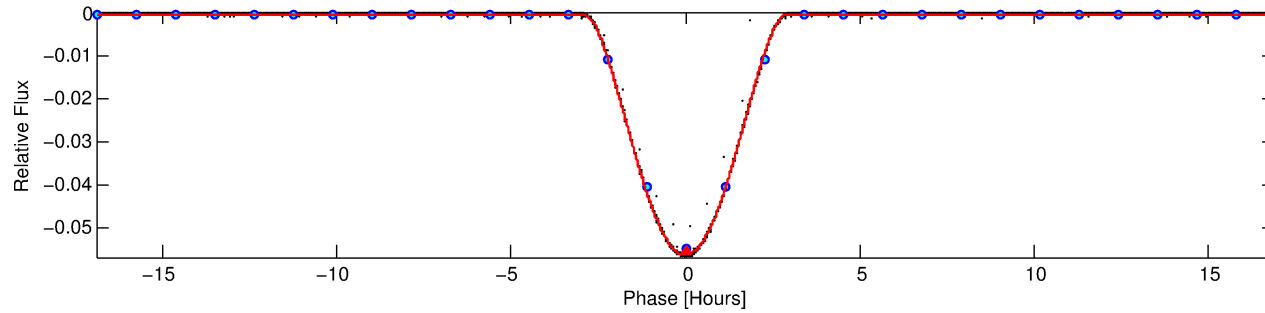
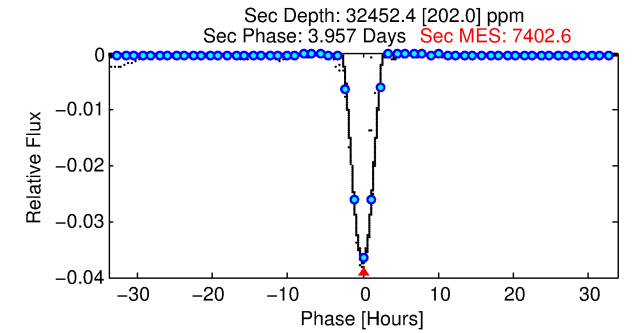
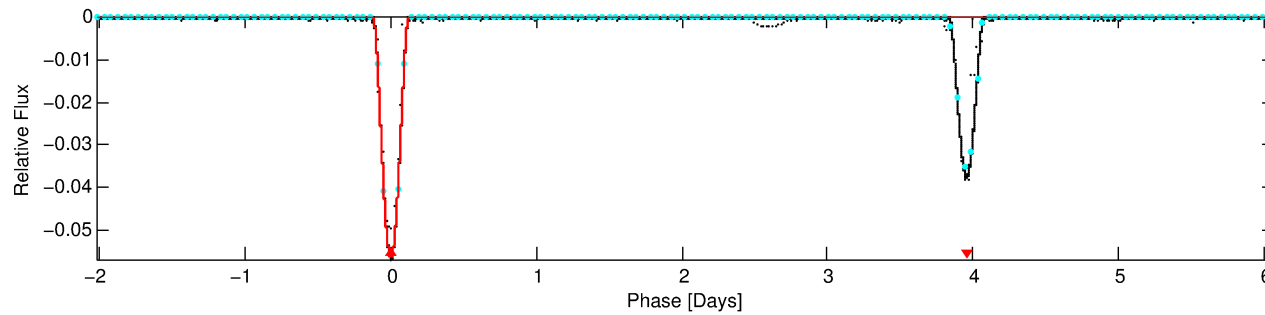
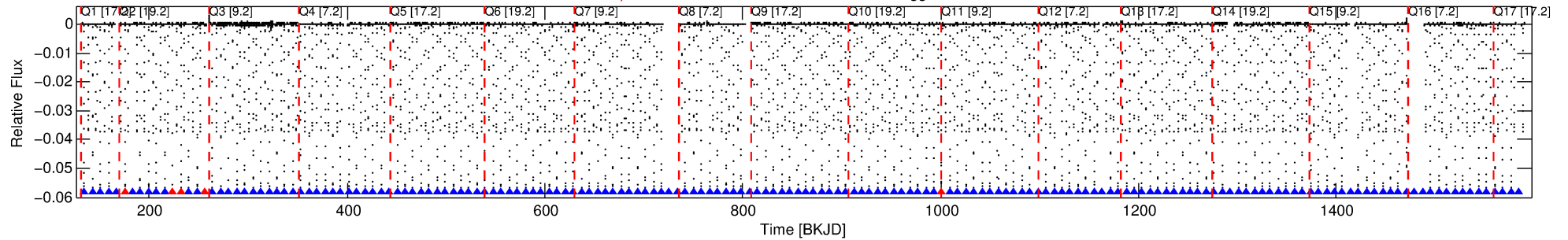
No Significant Match Found

# DV One-Page Summary

KIC: 10601579 Candidate: 1 of 1 Period: 8.099 d

KOI: K07349.01 Corr: 0.999

Kp: 11.59 R\*: 1.45 Rs Teff: 6328.0 K Logg: 4.16 Fe/H: -0.180



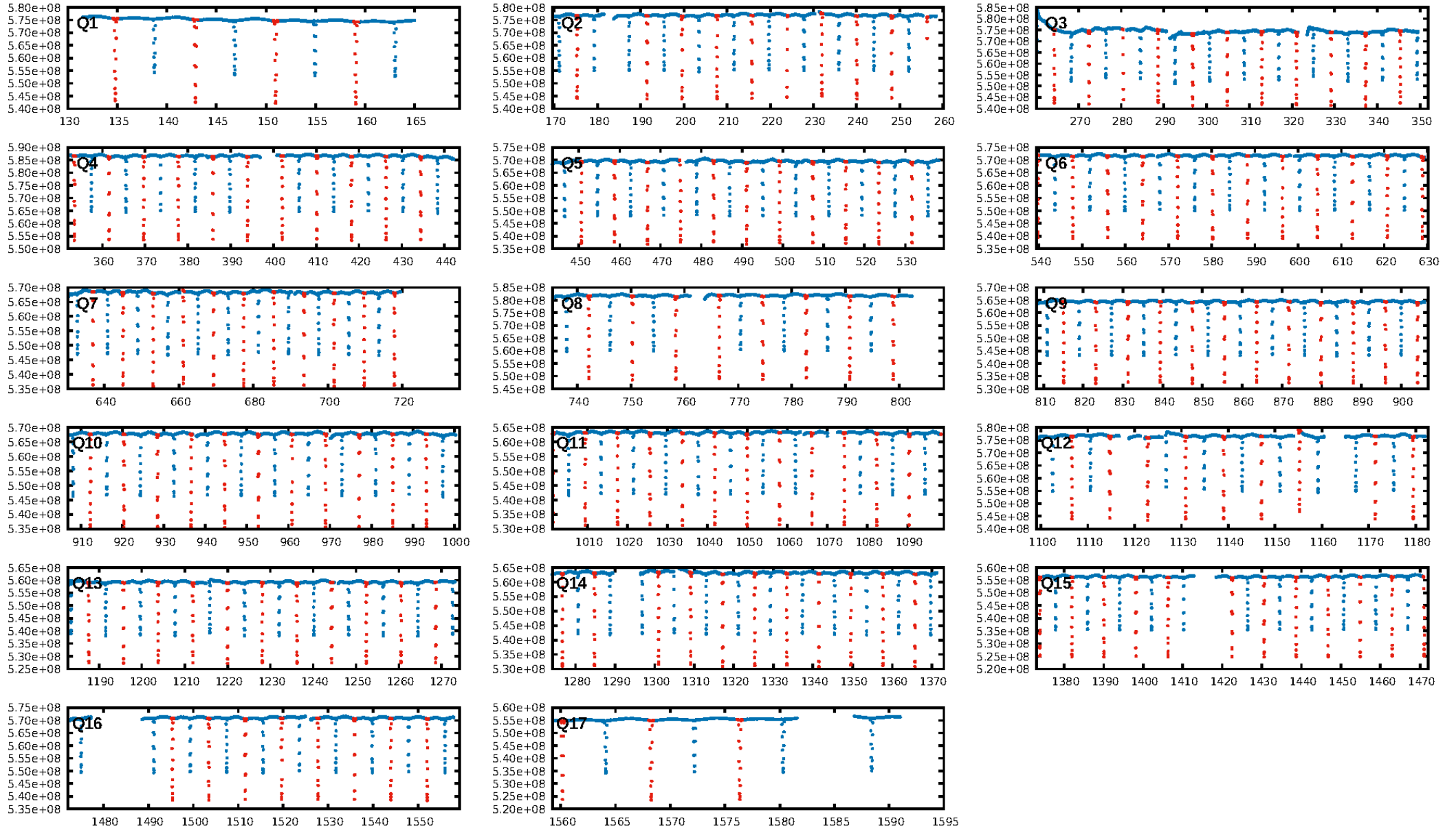
## DV Fit Results:

Period = 8.09875 [0.00000] d  
Epoch = 134.7753 [0.0000] BKJD  
Rp/R\* = 0.3620 [0.0026]  
a/R\* = 10.38 [0.00]  
b = 0.99 [0.00]  
Seff = 452.53 [186.78]  
Teff = 1176 [121] K  
Rp = 57.28 [16.64] Re  
a = 0.0817 [0.0207] AU  
Ag = 36.32 [13.86] [2.55σ]  
Teffp = 4464 [177] K [15.31σ]

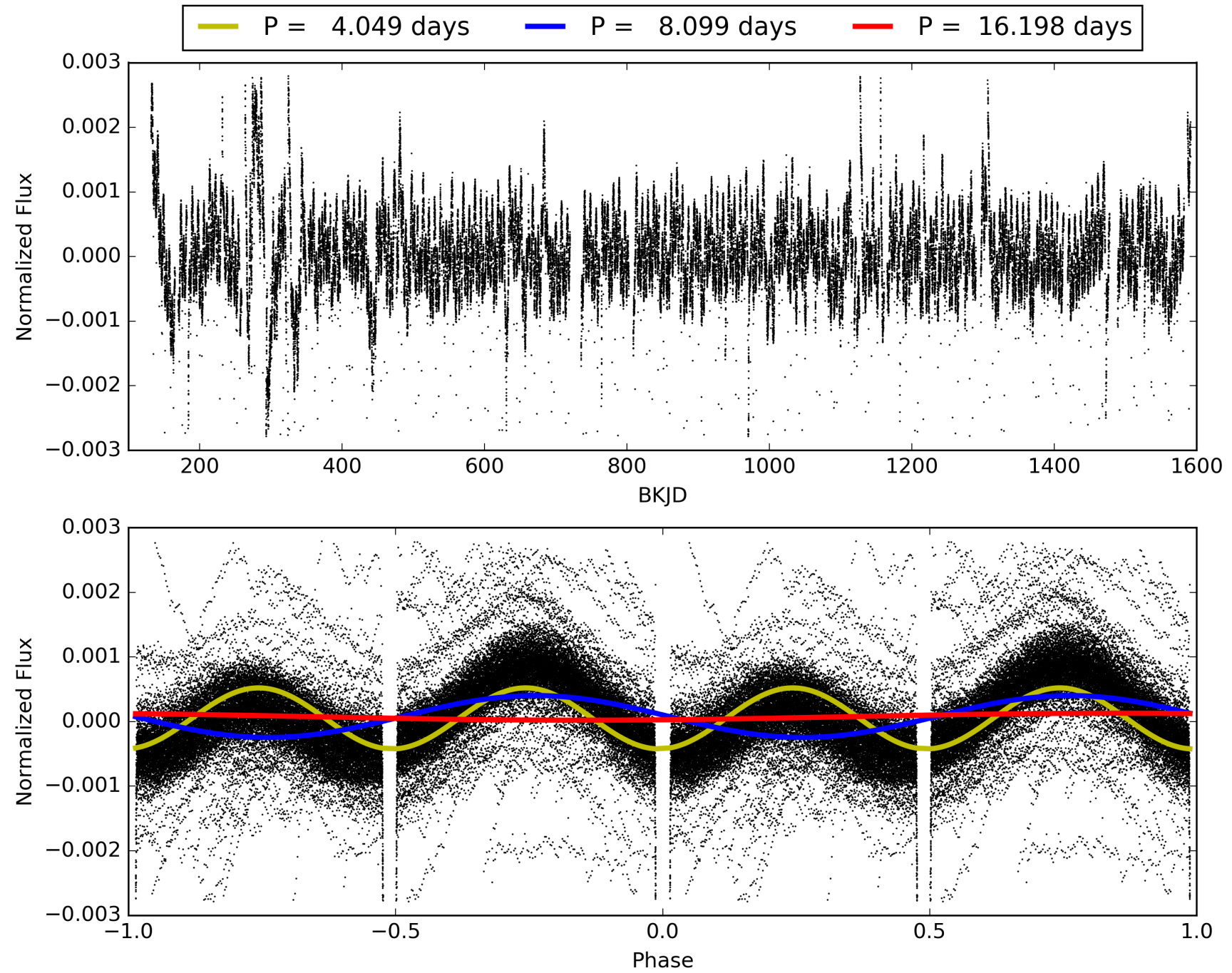
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.97 [155/160]  
GhostDiagnostic-chr: 7.364  
Centroid-sig: 0.0%  
Centroid-so: 0.087 arcsec [155.43σ]  
OotOffset-rm: 0.650 arcsec [2.51σ]  
KicOffset-rm: 0.779 arcsec [2.80σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 010601579-01, PDC Light Curves

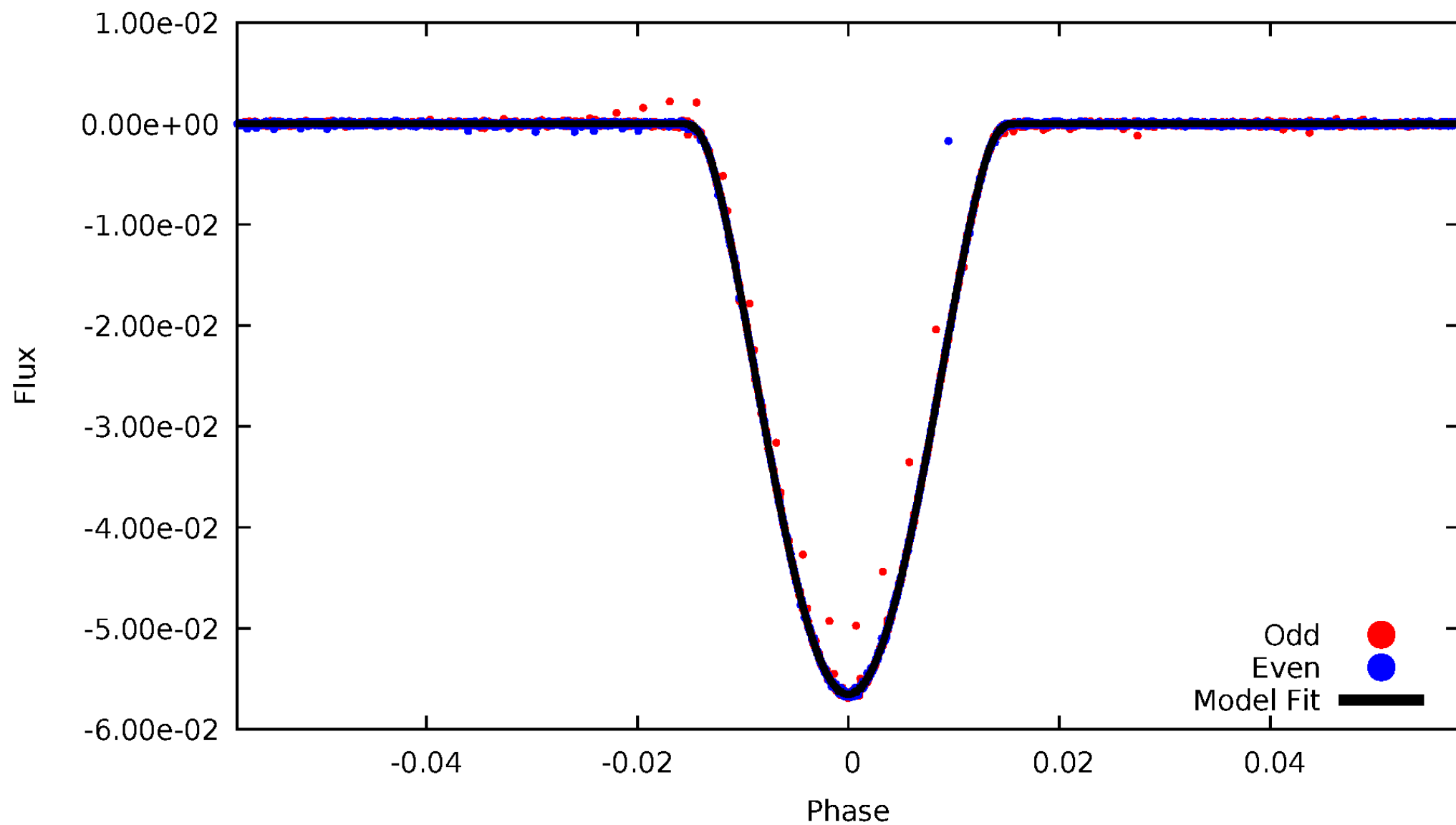


TCE 010601579-01



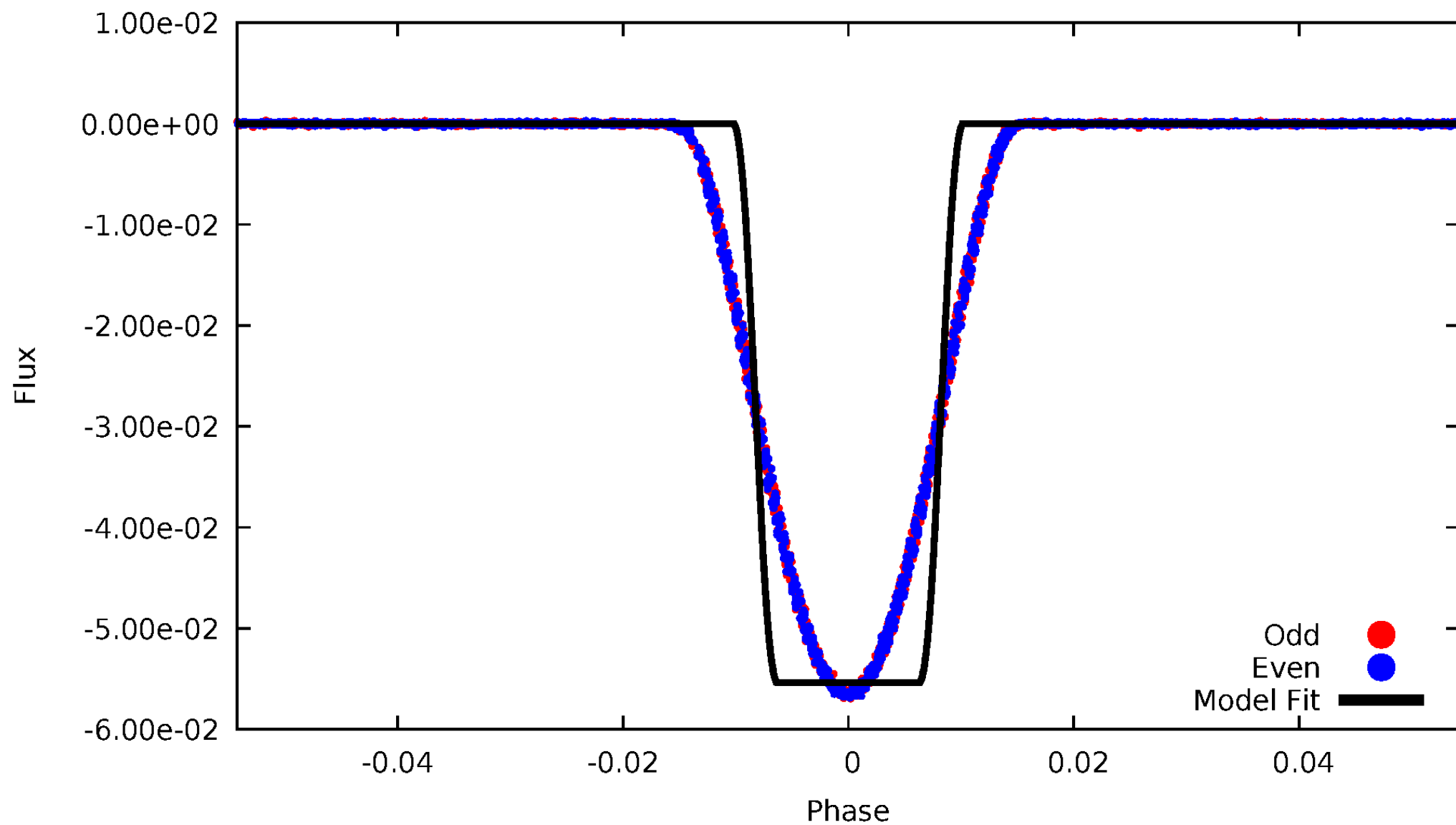
# DV Odd/Even

TCE 010601579-01



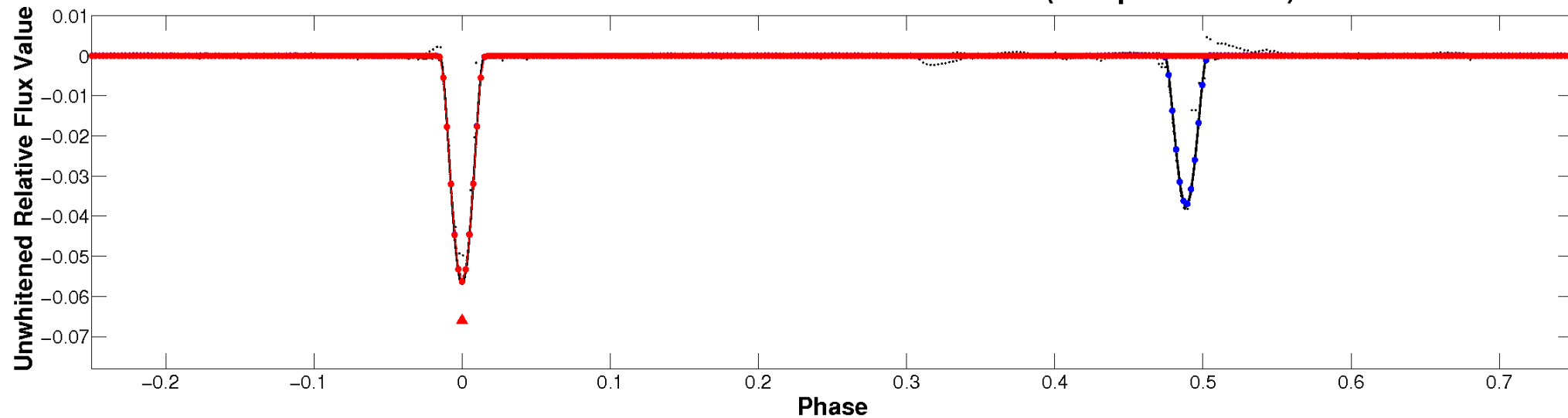
# ALT Odd/Even

TCE 010601579-01

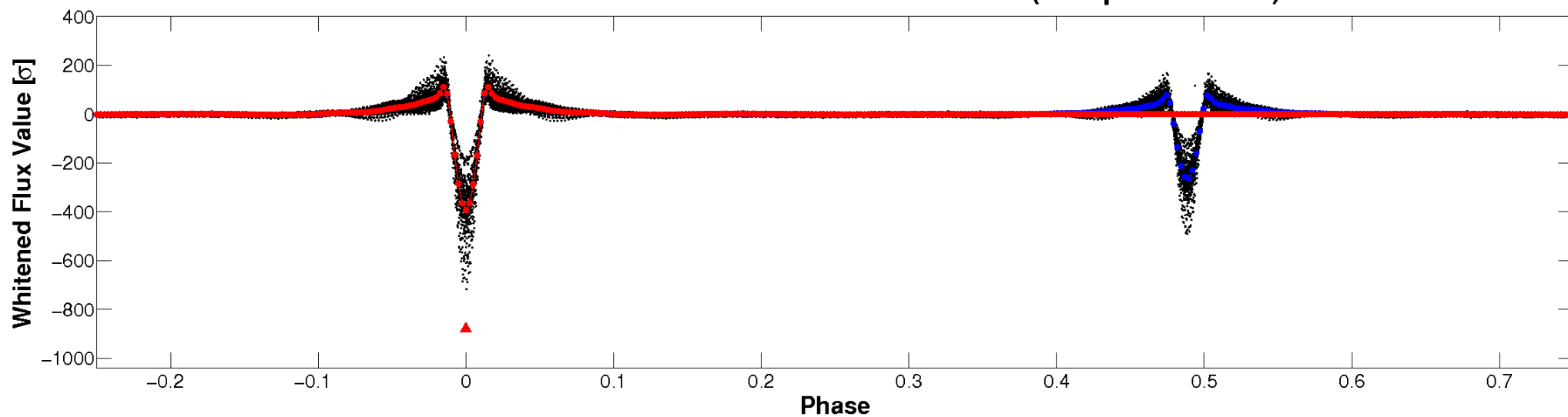


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

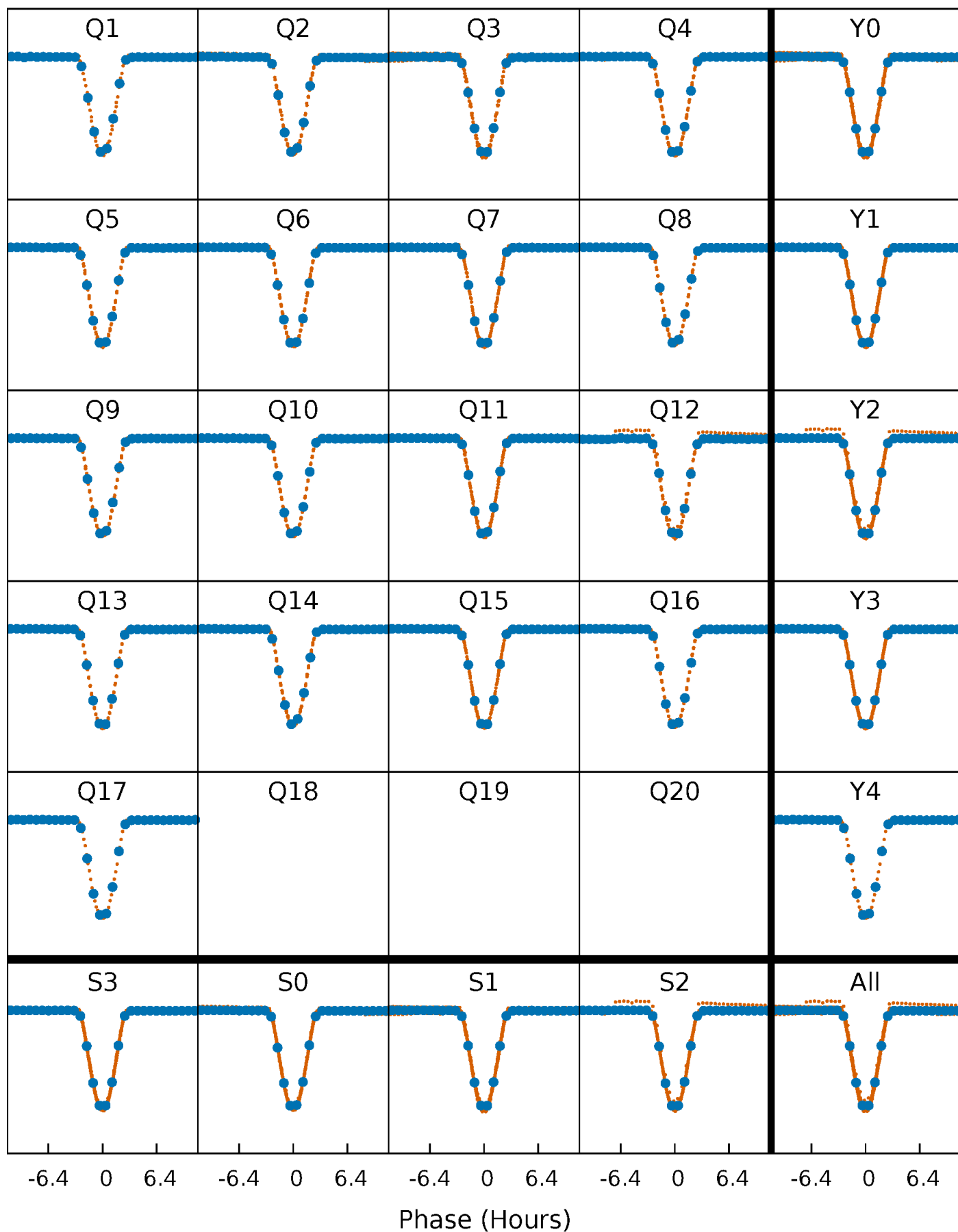


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

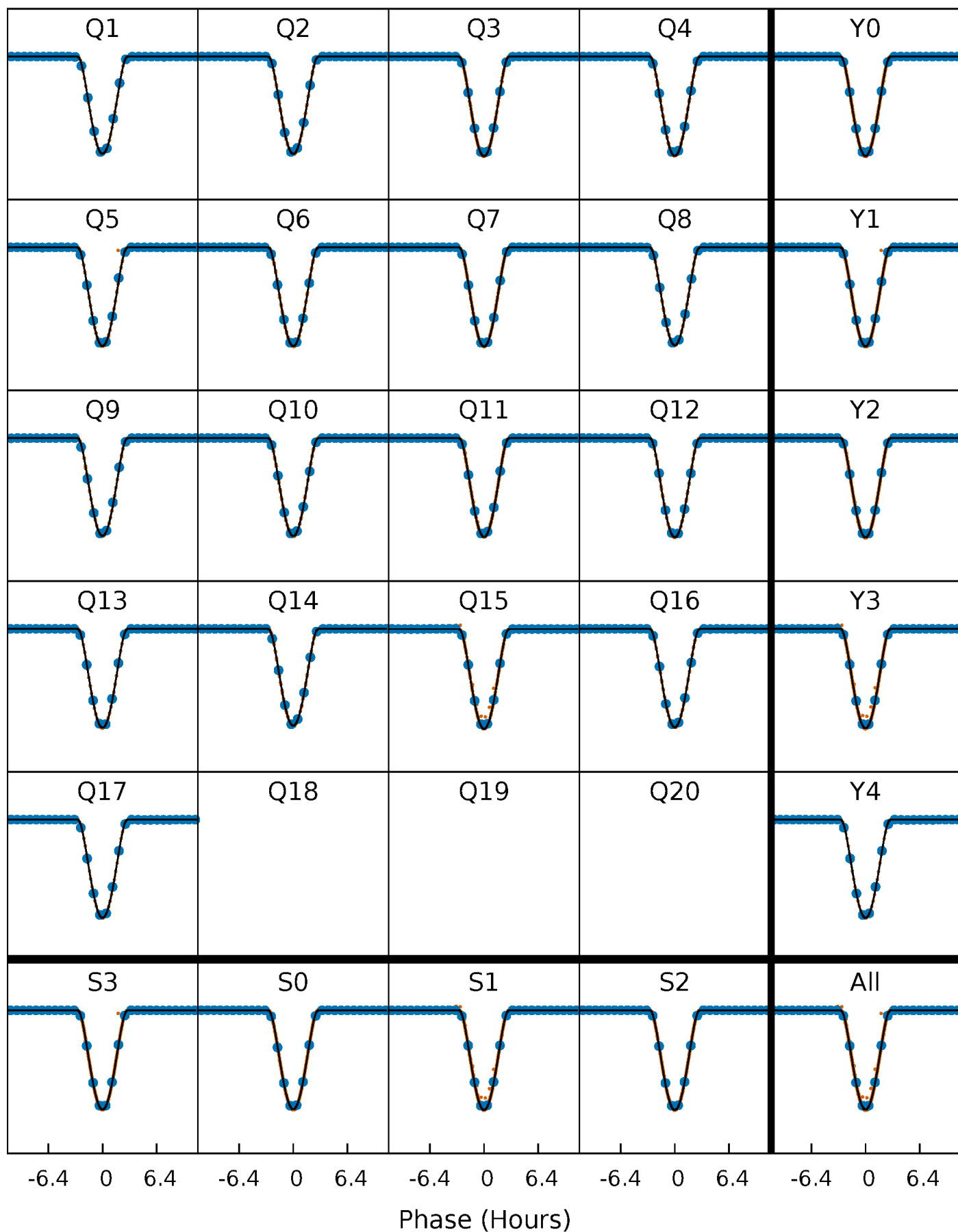
TCE 010601579-01 P= 8.098754 Days  $T_0=134.775290$  (BKJD)





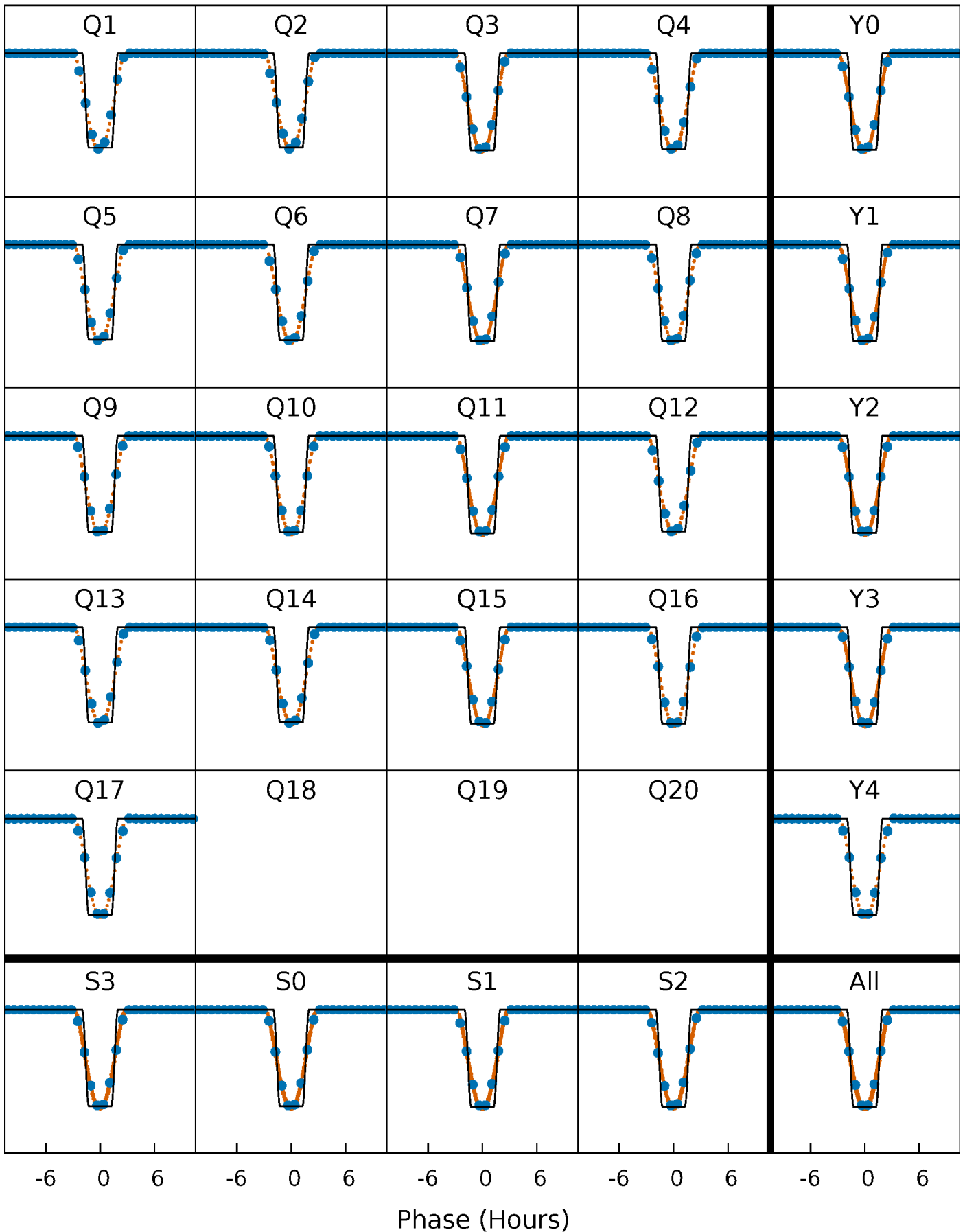
# DV Quarter-Phased Transit Curves

TCE 010601579-01 P= 8.098754 Days  $T_0=134.775290$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

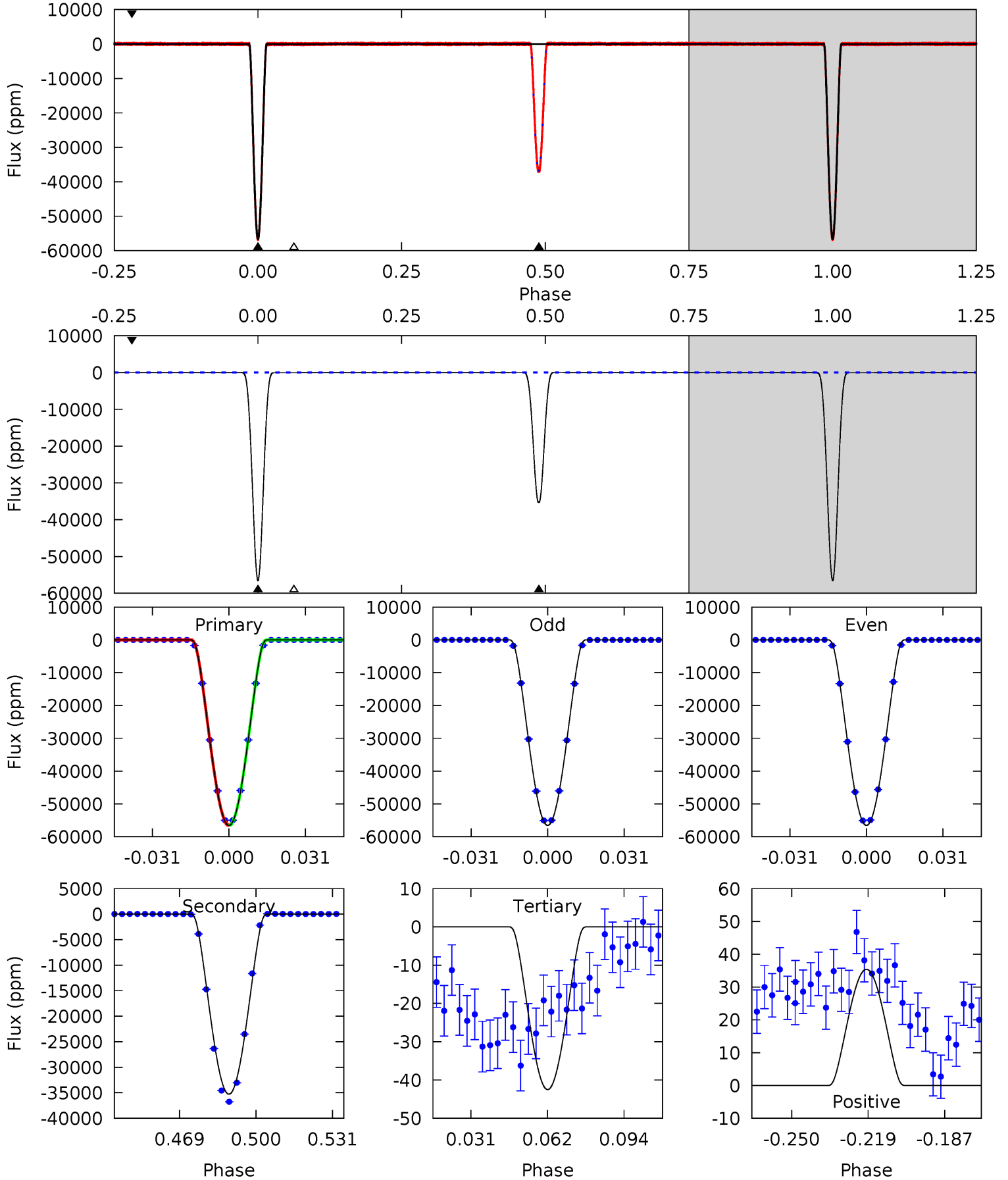
TCE 010601579-01   P= 8.098722 Days    $T_0=134.778233$  (BKJD)



# DV Model-Shift Uniqueness Test

010601579-01, P = 8.098754 Days, E = 126.676536 Days

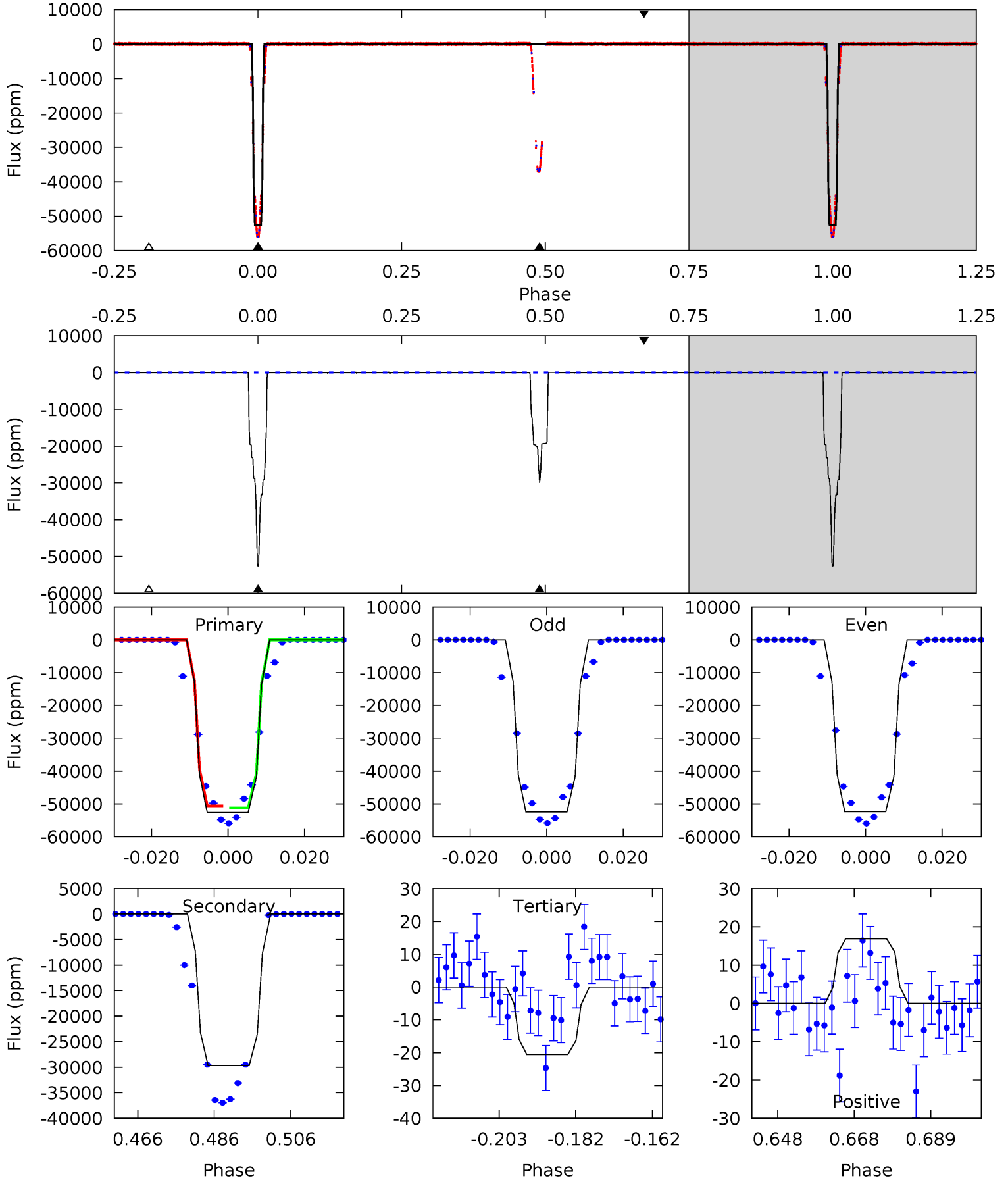
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27372	17073	20.6	17.1	4.80	2.15	9.72	27352	27355	17053	17056	0.34	1.00	0.00	1.24



# Alt Model-Shift Uniqueness Test

010601579-01, P = 8.098722 Days, E = 126.679511 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
11285	6374	4.41	3.63	4.89	2.32	1.73	11280	11281	6369	6370	10.7	1.00	0.00	0



### Stellar Parameters For KIC 010601579

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6328^{+181}_{-250}$	$4.160^{+0.214}_{-0.175}$	$-0.180^{+0.250}_{-0.300}$	$1.450^{+0.421}_{-0.378}$	$1.107^{+0.192}_{-0.157}$	$0.512^{+0.619}_{-0.243}$
	+3%/-4%	+5%/-4%	+139%/-167%	+29%/-26%	+17%/-14%	+121%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 010601579-01 / KOI 7349.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-35280 \pm 2$	$56.85^{+9.27}_{-7.90}$	$1630^{+128}_{-131}$	$4723^{+109}_{-152}$	$41^{+14}_{-10}$
Alt.	$-29696 \pm 5$	$37.07^{+6.55}_{-4.96}$	$1635^{+130}_{-129}$	$5478^{+141}_{-197}$	$81^{+25}_{-20}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

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

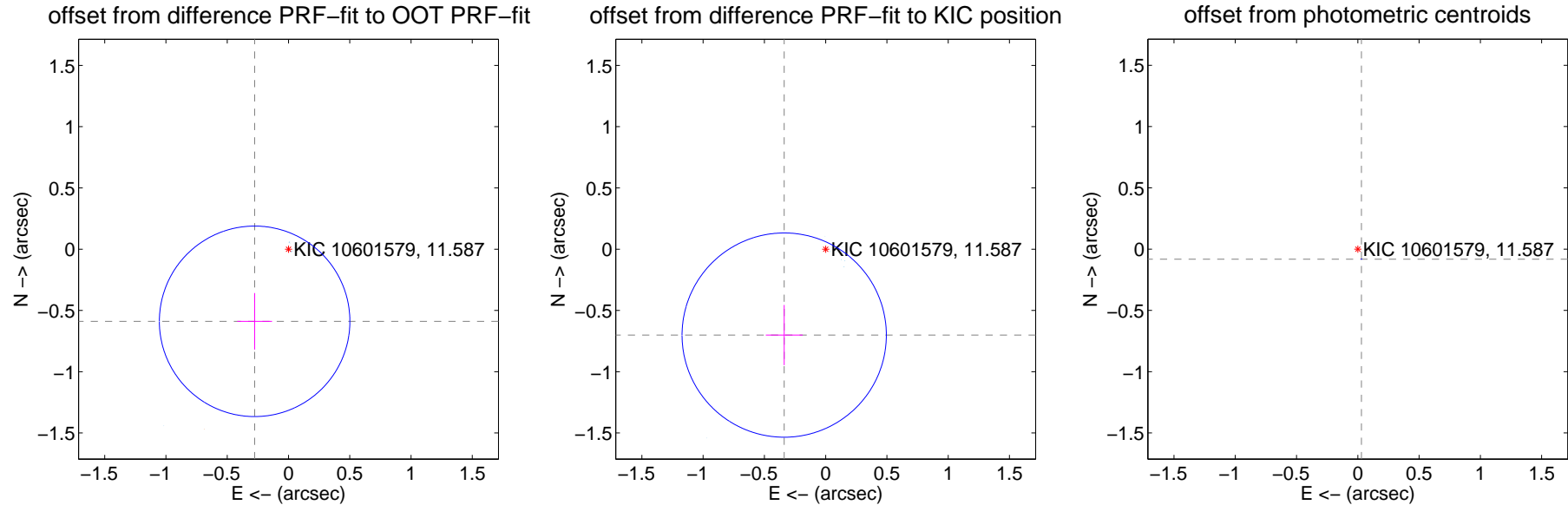
## DV Centroid Data

Supplemental centroid analysis for 010601579-01. **Kepler magnitude: 11.59.** Transit SNR 10565.69

There are 16 quarters with good PRF difference image offsets

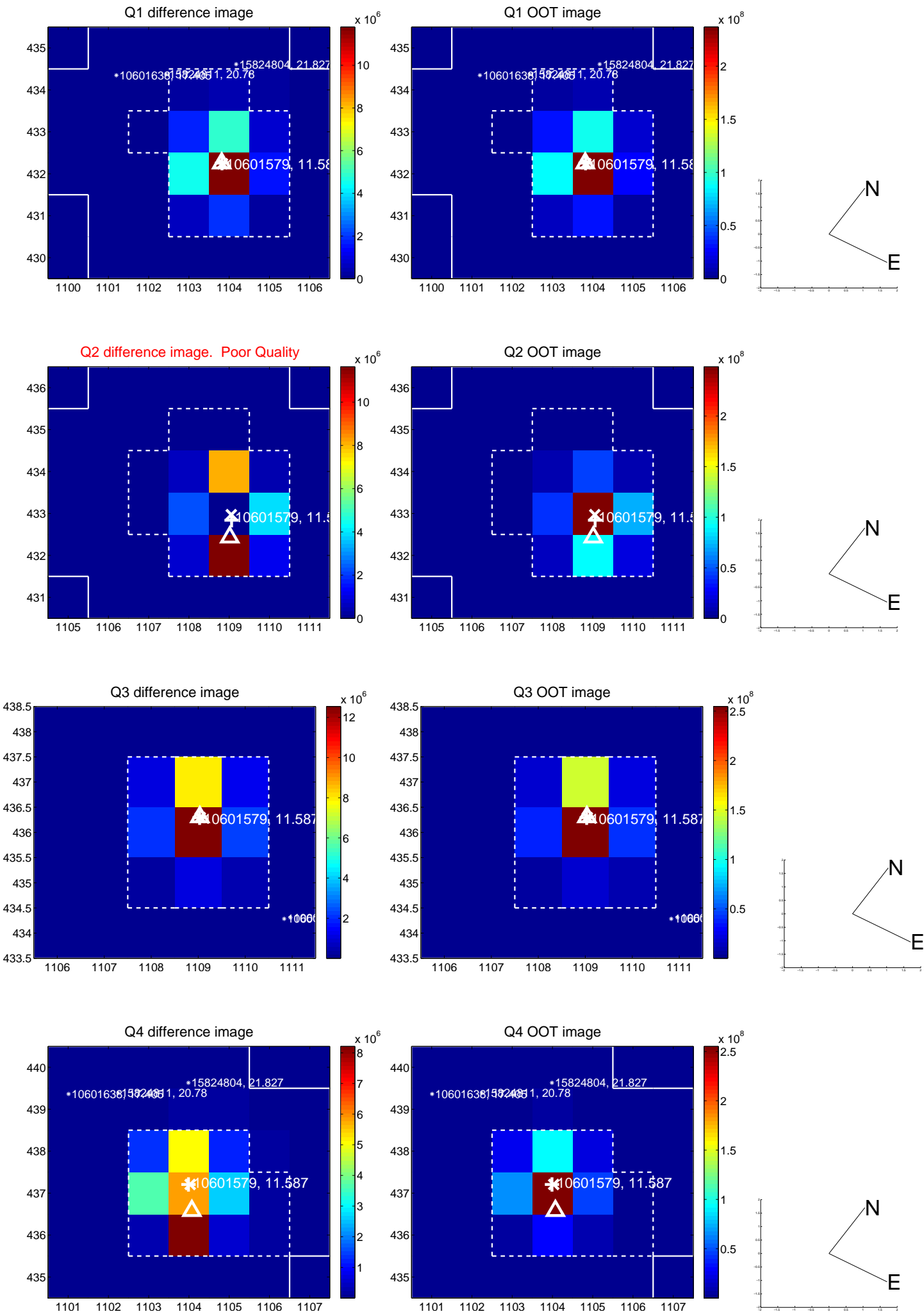
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.650 \pm 0.259$	2.51	$0.276 \pm 0.142$	$-0.589 \pm 0.231$
PRF-fit source offset from KIC position	$0.779 \pm 0.278$	2.80	$0.338 \pm 0.150$	$-0.701 \pm 0.246$
photometric centroid source offset	<b><math>0.09 \pm 0.00</math></b>	<b>155.43</b>	$-0.03 \pm 0.00$	$-0.08 \pm 0.00$

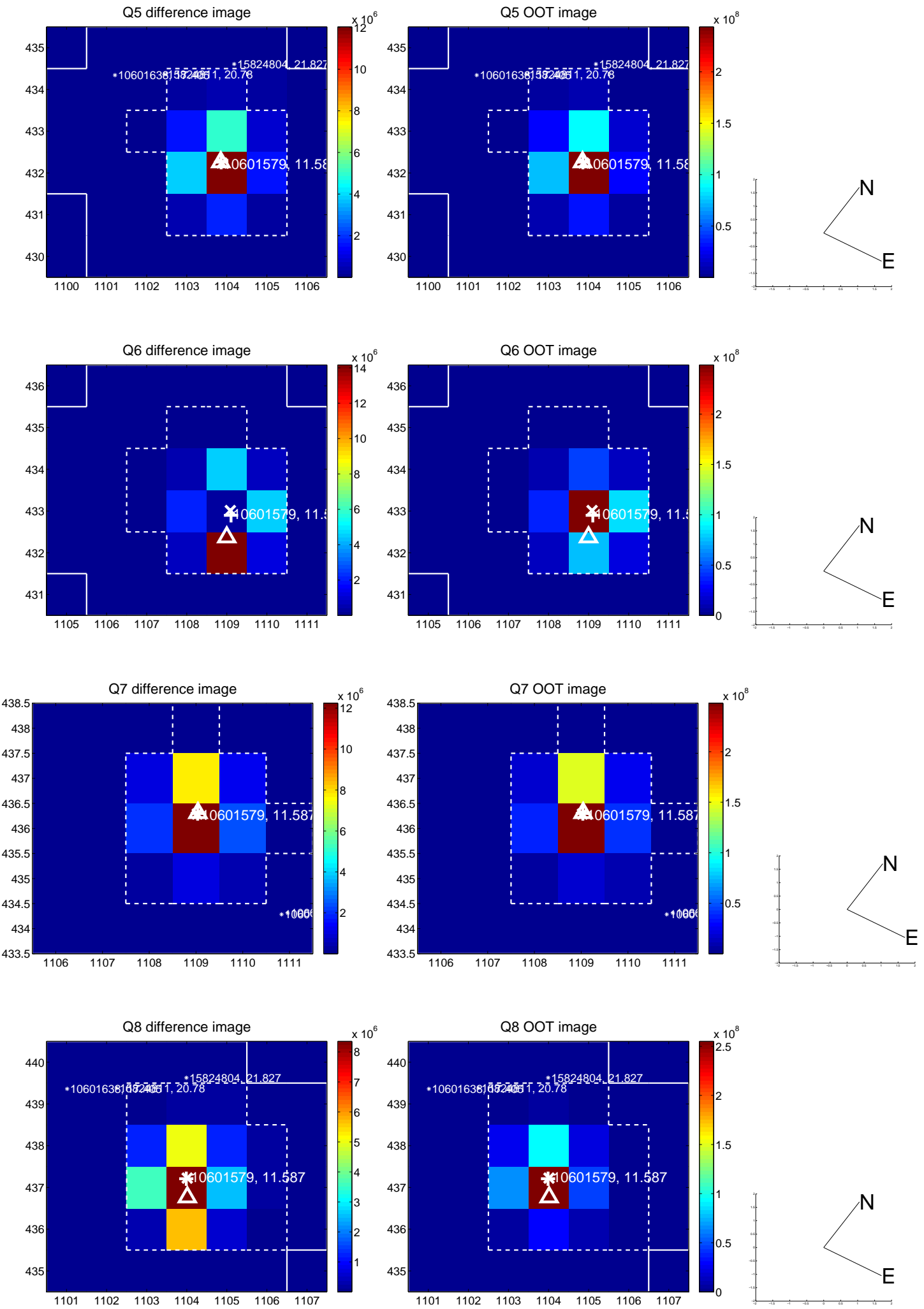


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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.

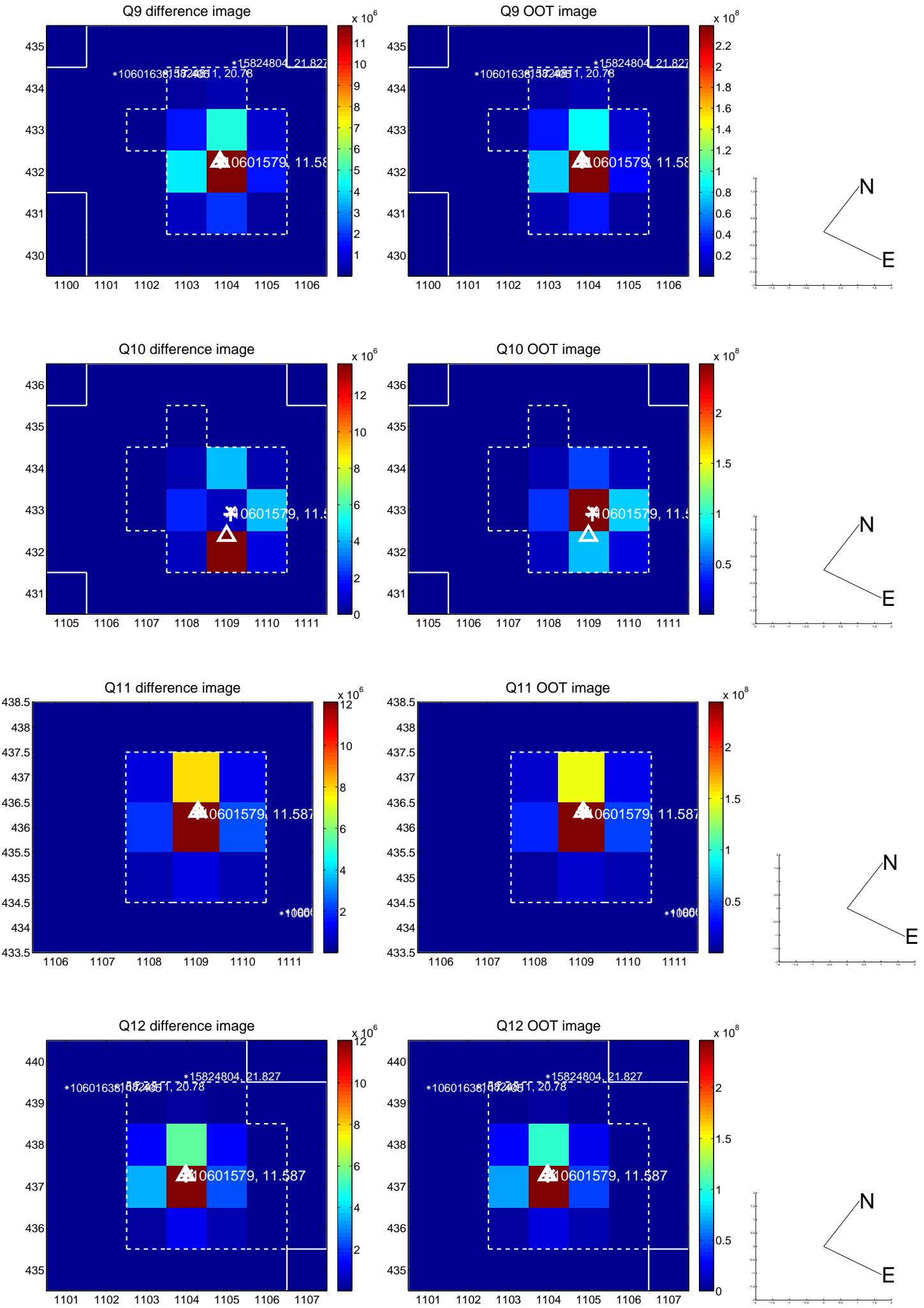


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

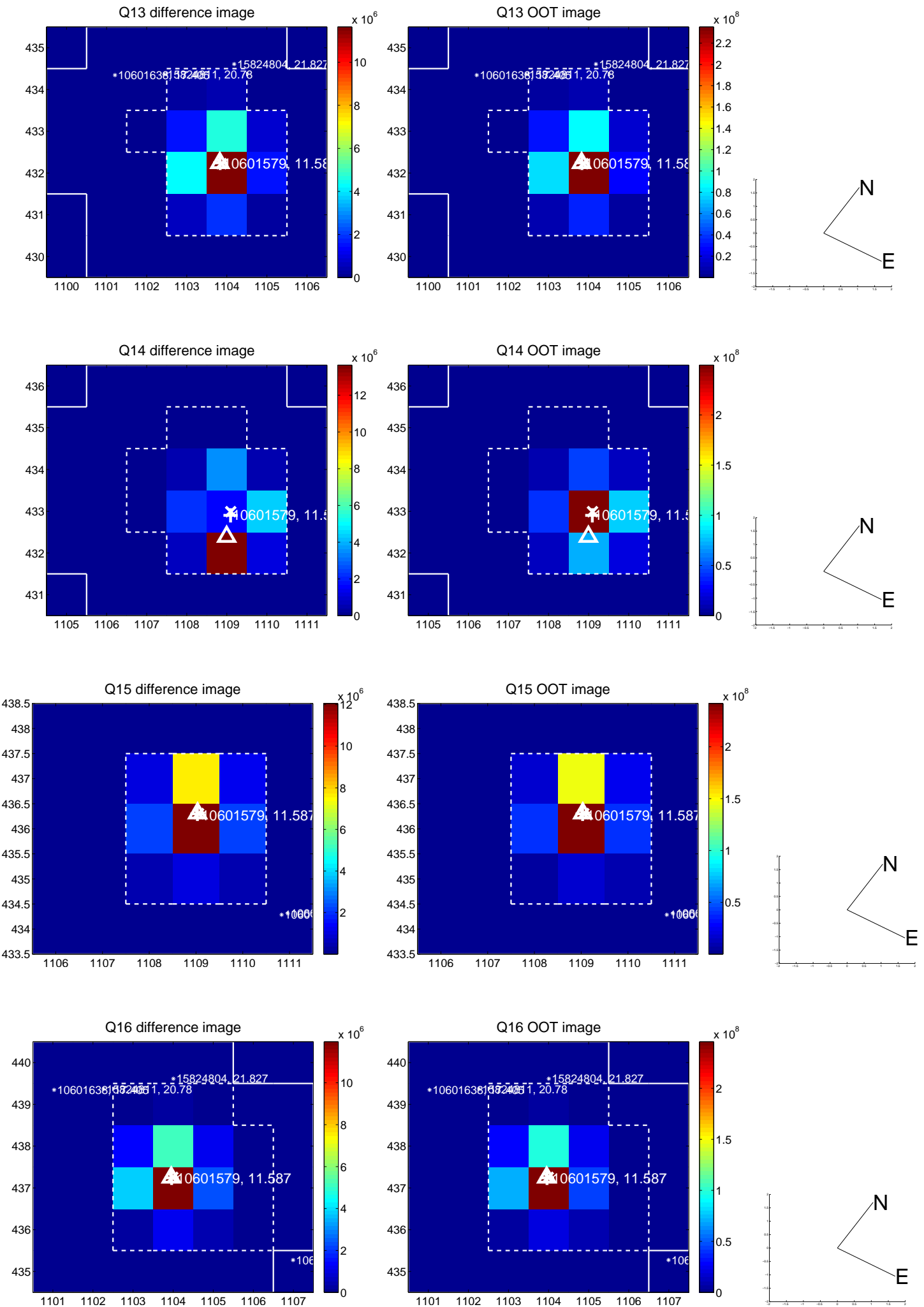




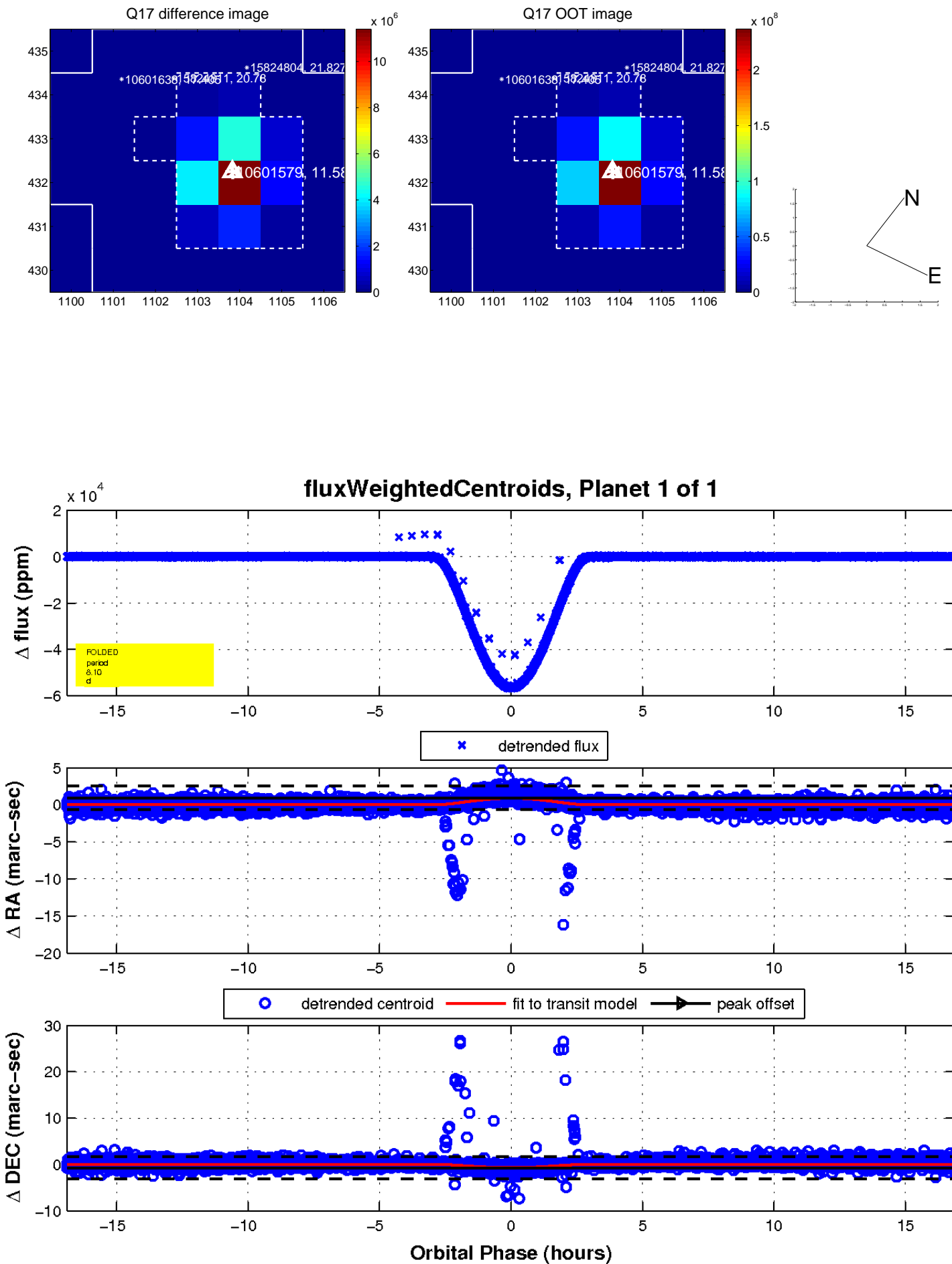
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

