

# KIC 006976465

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006976465-01	OBS	No	1.536602	132.450611	45.3	5.578	9.4	9.7	1.10	6268	0.83	2249.66

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006976465-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS

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

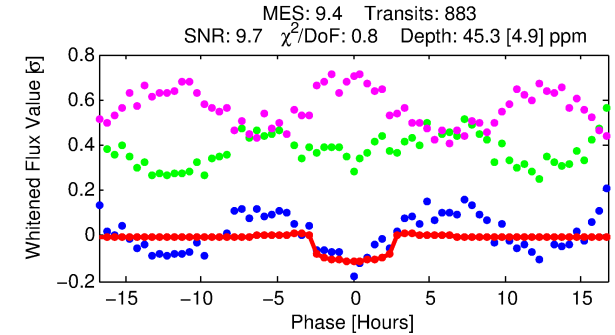
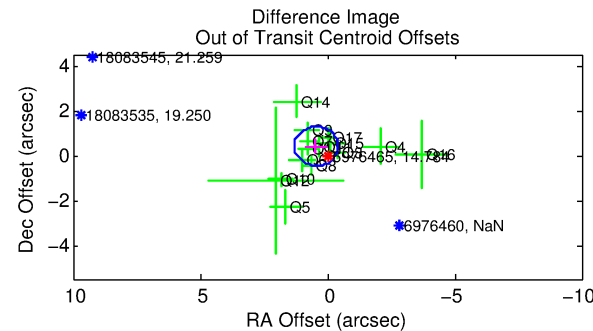
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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 006976465-01

No Significant Match Found

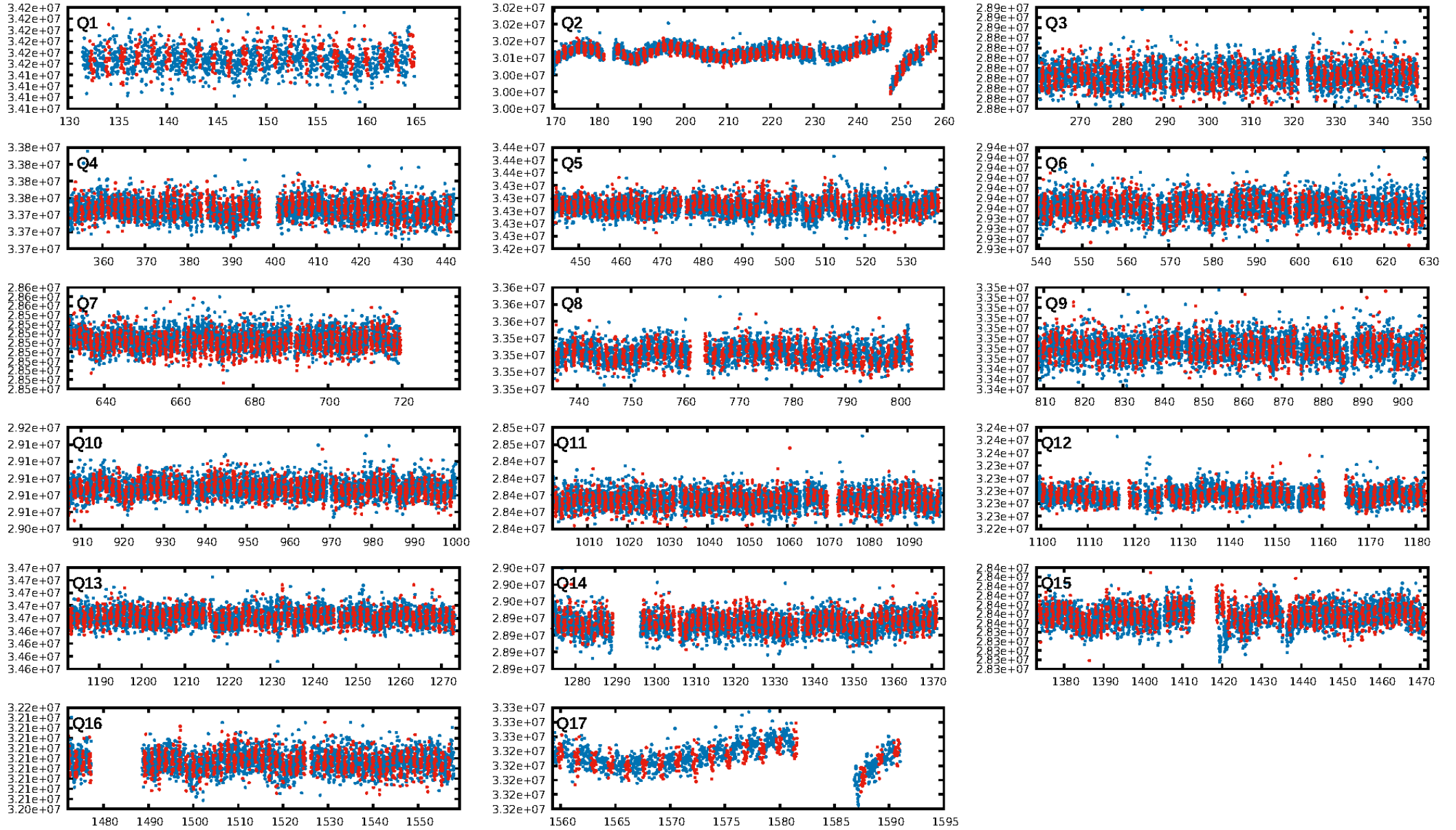
## KIC: 6976465    Candidate: 1 of 1    Period: 1.537 d



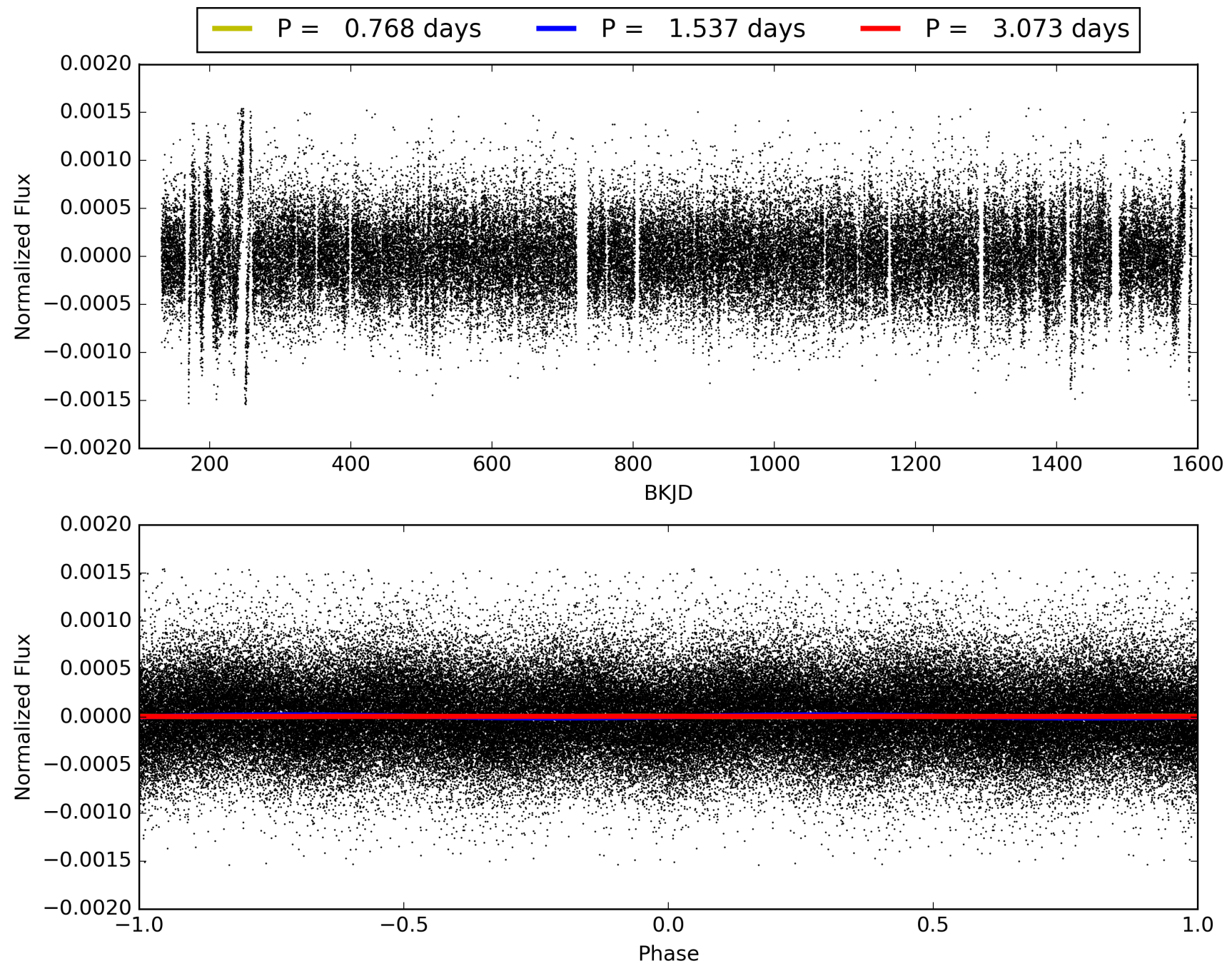
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.97e-18  
RollingBand-fgt: 0.99 [832/843]  
GhostDiagnostic-chr: 2.037

Centroid-sig: 0.0%  
Centroid-so: 3.876 arcsec [3.44σ]  
OotOffset-rm: 0.604 arcsec [2.08σ]  
OotOffset-rm: 0.260 arcsec [0.77σ]  
OotOffset-st: 3/4/4/4 [15]  
KicOffset-st: 3/4/4/4 [15]  
DiffImageQuality-fgm: 0.80 [12/15]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 006976465-01, PDC Light Curves



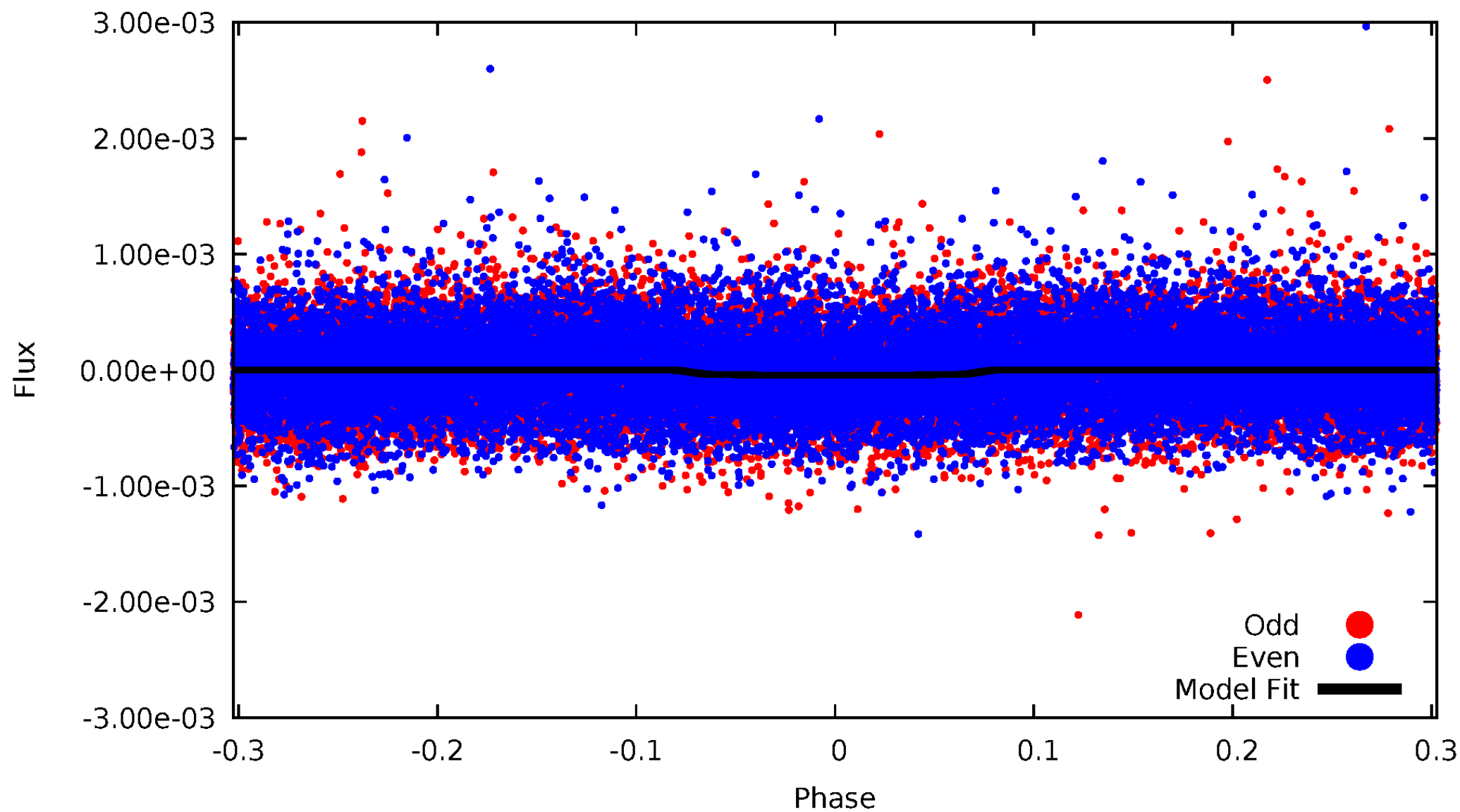
TCE 006976465-01





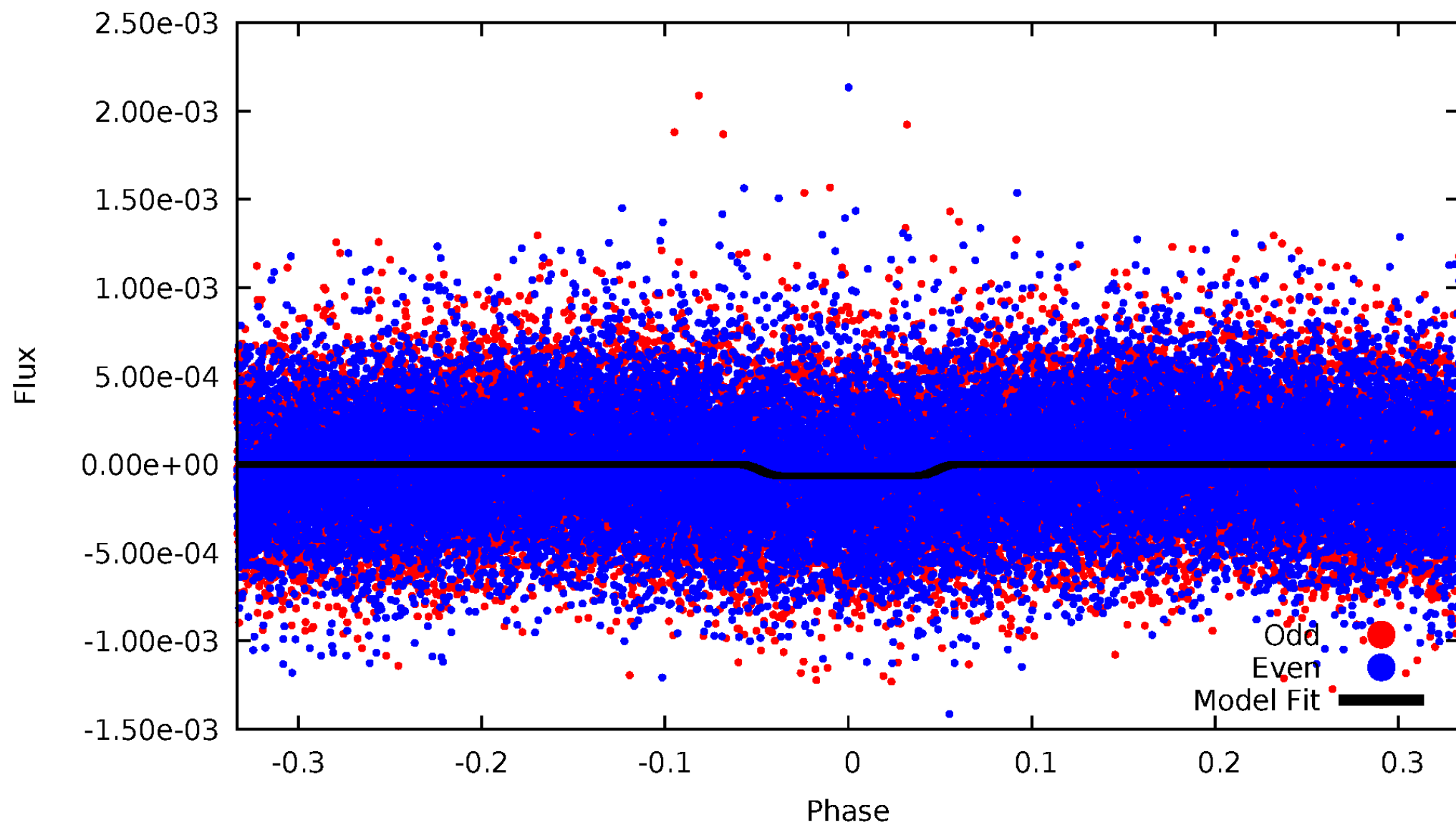
# DV Odd/Even

TCE 006976465-01



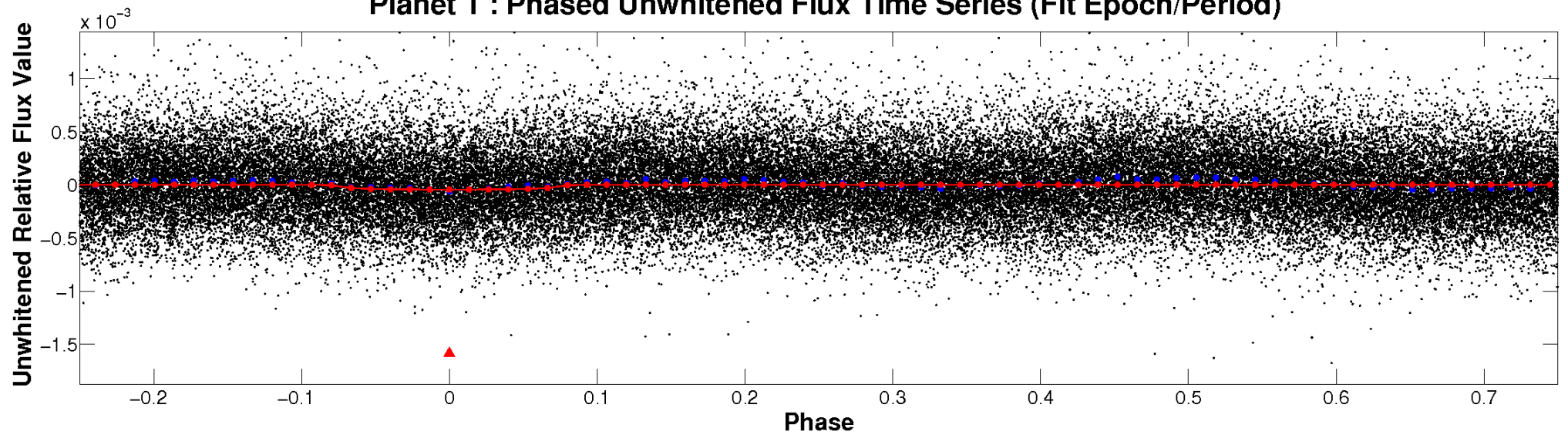
# ALT Odd/Even

TCE 006976465-01

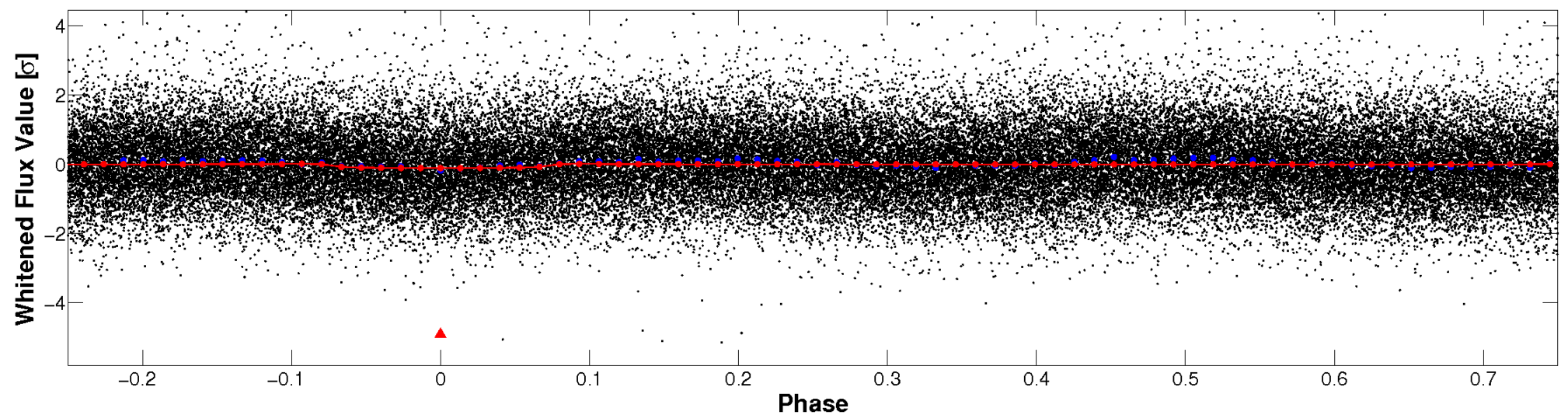


# Non-Whitened Vs. Whitened Light Curve

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

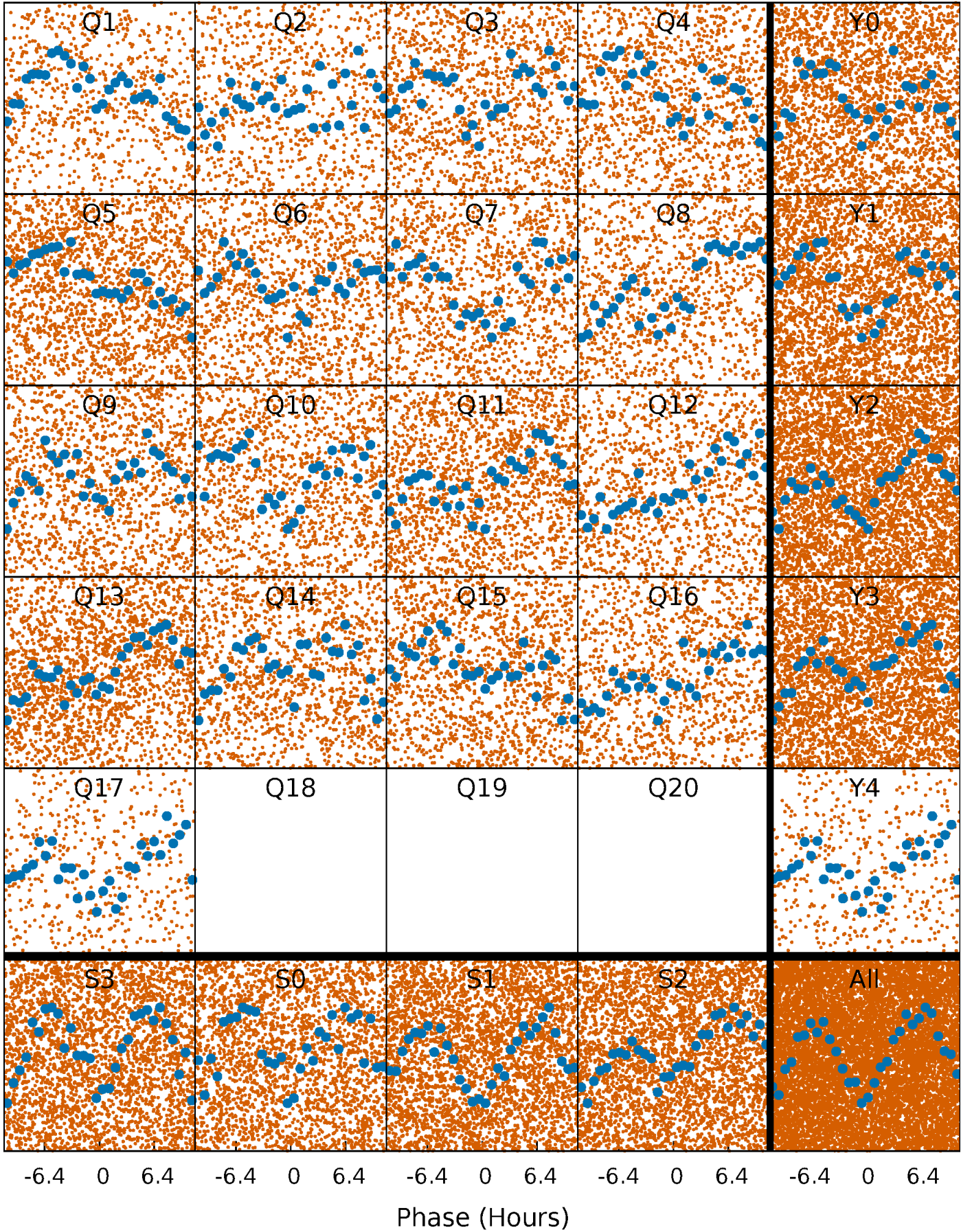


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

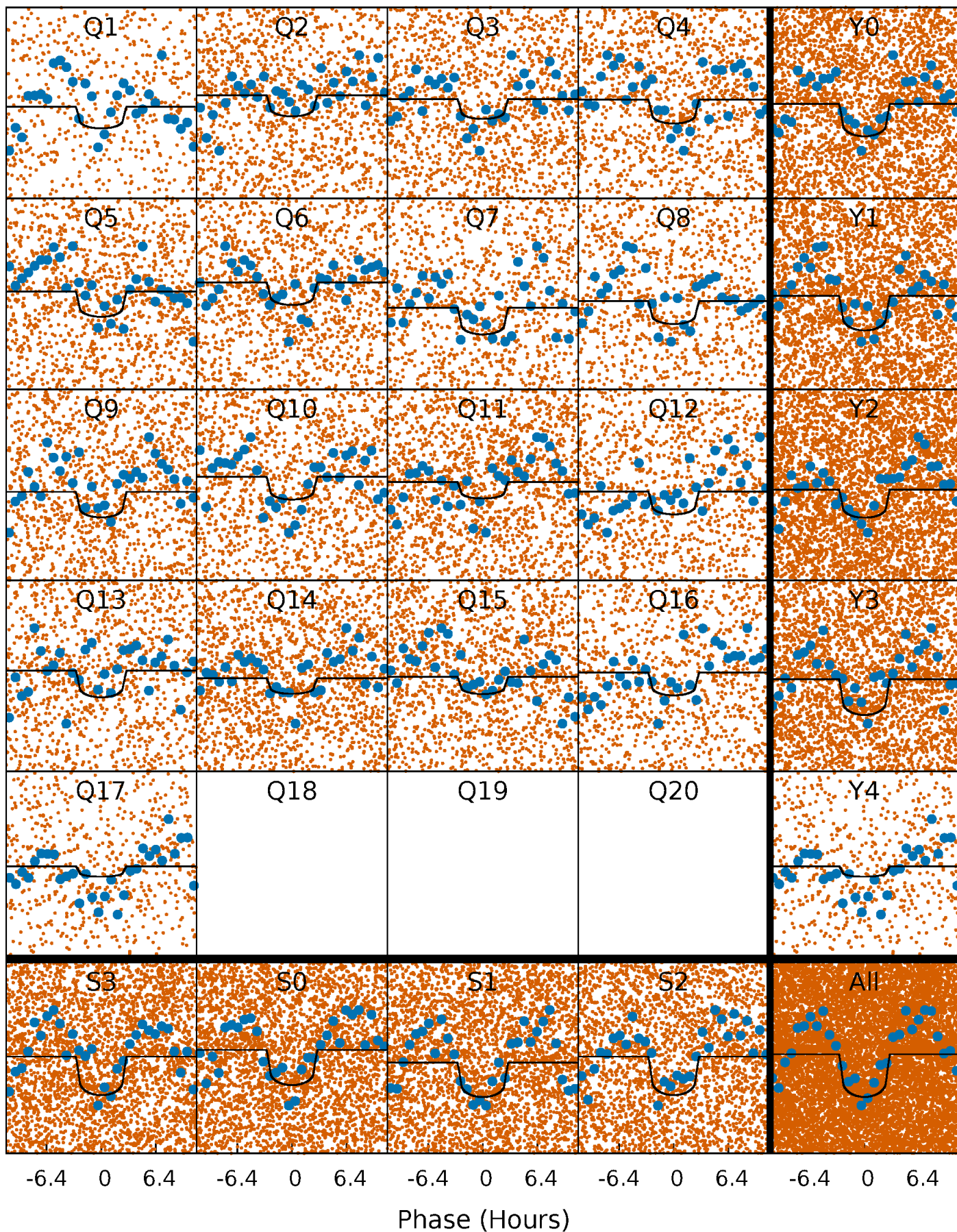
TCE 006976465-01 P= 1.536602 Days  $T_0=132.450611$  (BKJD)





# DV Quarter-Phased Transit Curves

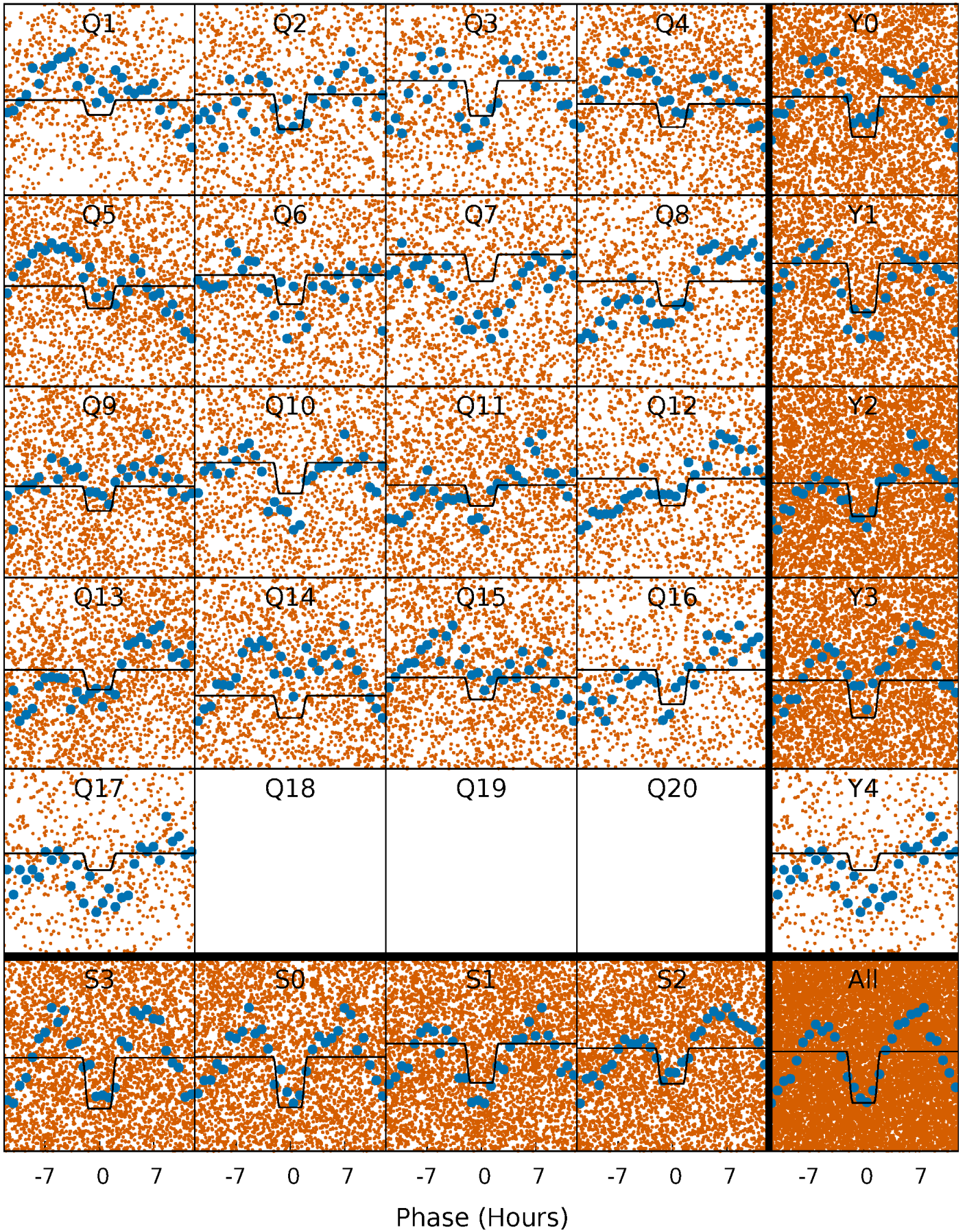
TCE 006976465-01 P= 1.536602 Days  $T_0=132.450611$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

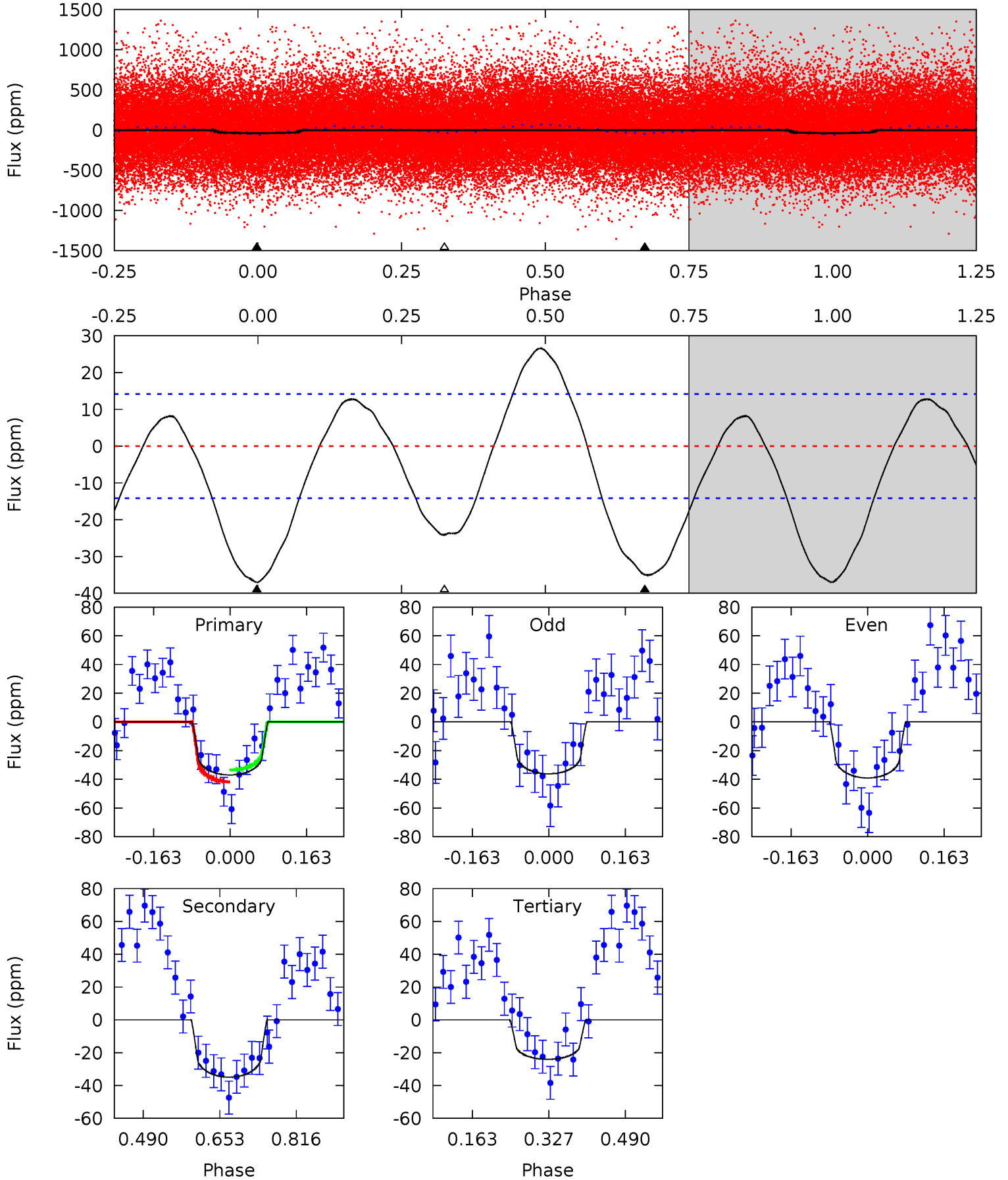
TCE 006976465-01 P= 1.536565 Days  $T_0=132.460205$  (BKJD)



# DV Model-Shift Uniqueness Test

006976465-01, P = 1.536602 Days, E = 130.914009 Days

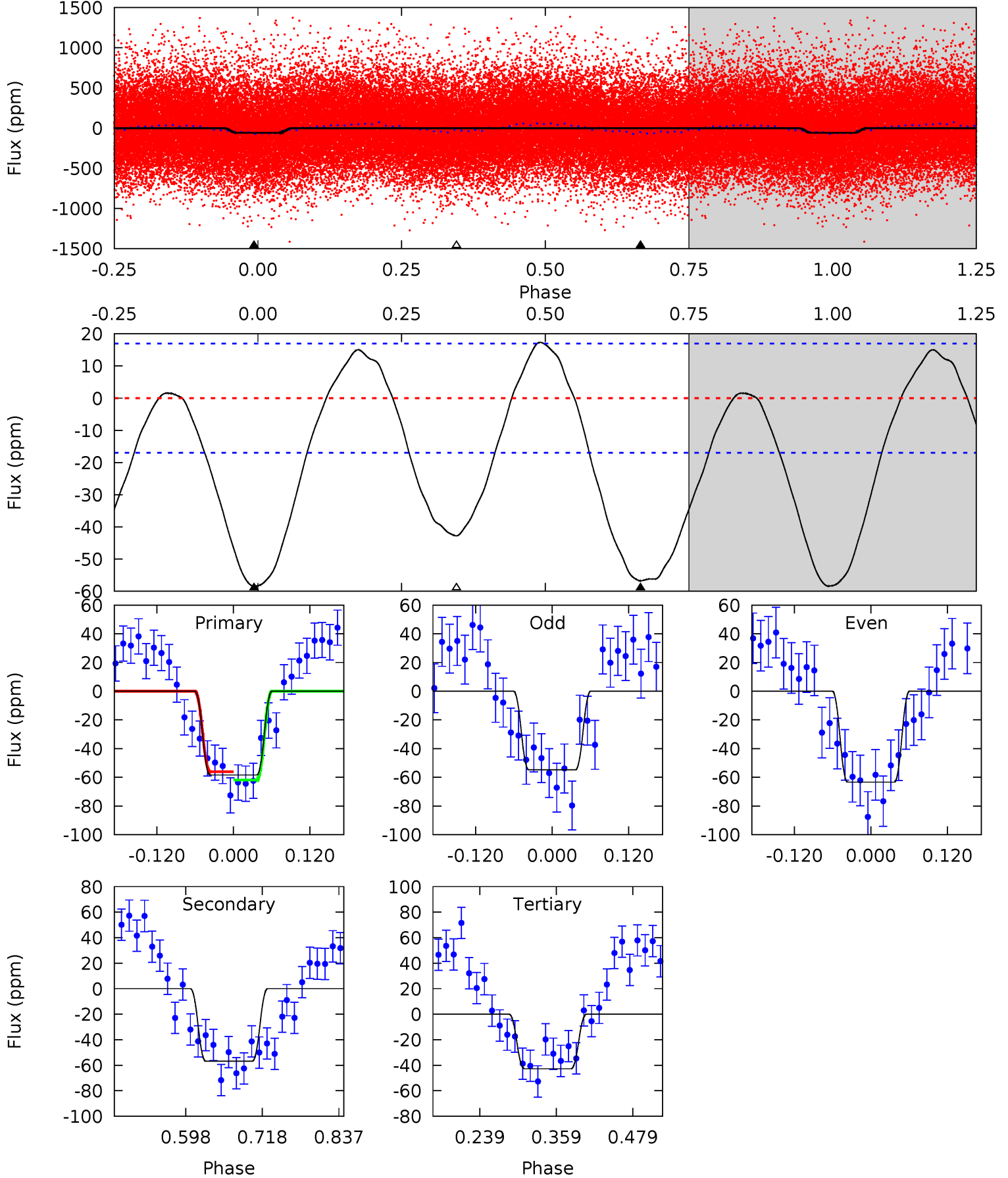
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	11.0	7.58	0	4.46	1.39	5.22	4.08	11.7	3.42	11.0	0.45	0.90	0.42	1.32



# Alt Model-Shift Uniqueness Test

006976465-01, P = 1.536565 Days, E = 130.923640 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
15.6	15.2	11.4	0	4.53	1.56	5.09	4.17	15.6	3.73	15.2	1.14	0.94	0.23	0.78





### Stellar Parameters For KIC 006976465

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6268^{+195}_{-282}$	$4.415^{+0.058}_{-0.232}$	$0.000^{+0.250}_{-0.300}$	$1.102^{+0.375}_{-0.134}$	$1.153^{+0.170}_{-0.153}$	$1.212^{+0.379}_{-0.677}$
	+3%/-4%	+1%/-5%	+inf%/-inf%	+34%/-12%	+15%/-13%	+31%/-56%
Source	PHO1	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 006976465-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-35 \pm 3$	$0.87^{+0.42}_{-0.40}$	$2514^{+208}_{-136}$	$5808^{+2284}_{-940}$	$19^{+46}_{-11}$
Alt.	$-57 \pm 4$	$1.03^{+0.41}_{-0.43}$	$2511^{+207}_{-157}$	$6044^{+1909}_{-945}$	$22^{+39}_{-11}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

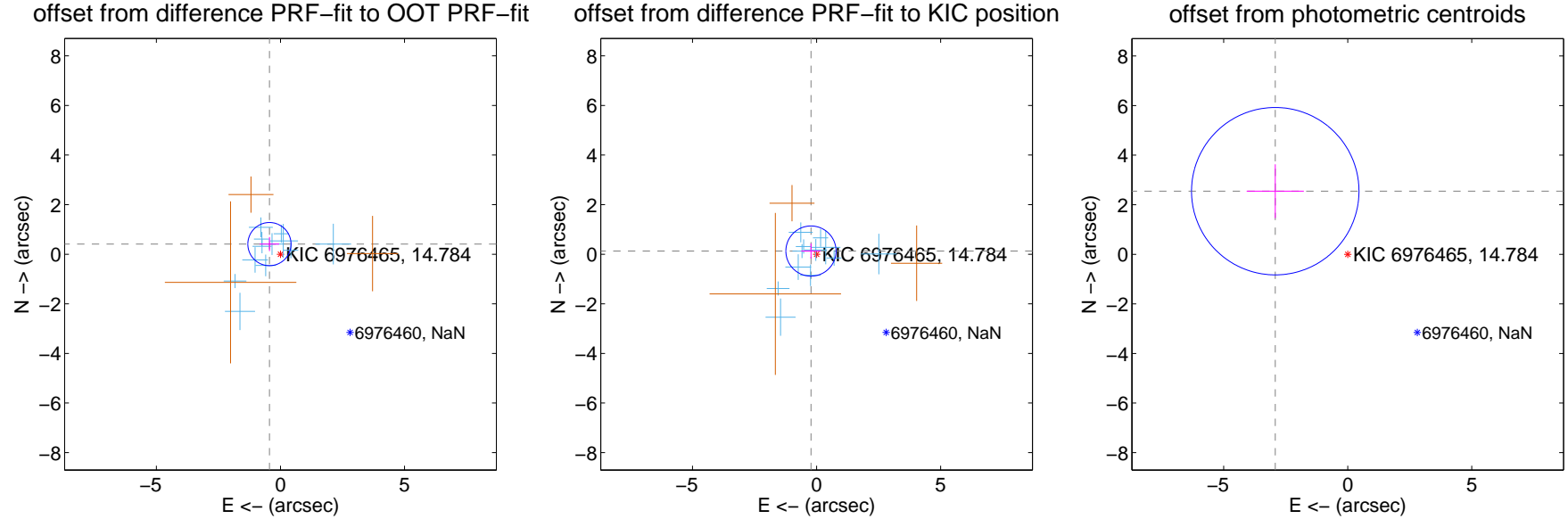
## DV Centroid Data

Supplemental centroid analysis for 006976465-01. Kepler magnitude: 14.78. Transit SNR 9.71

There are 12 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

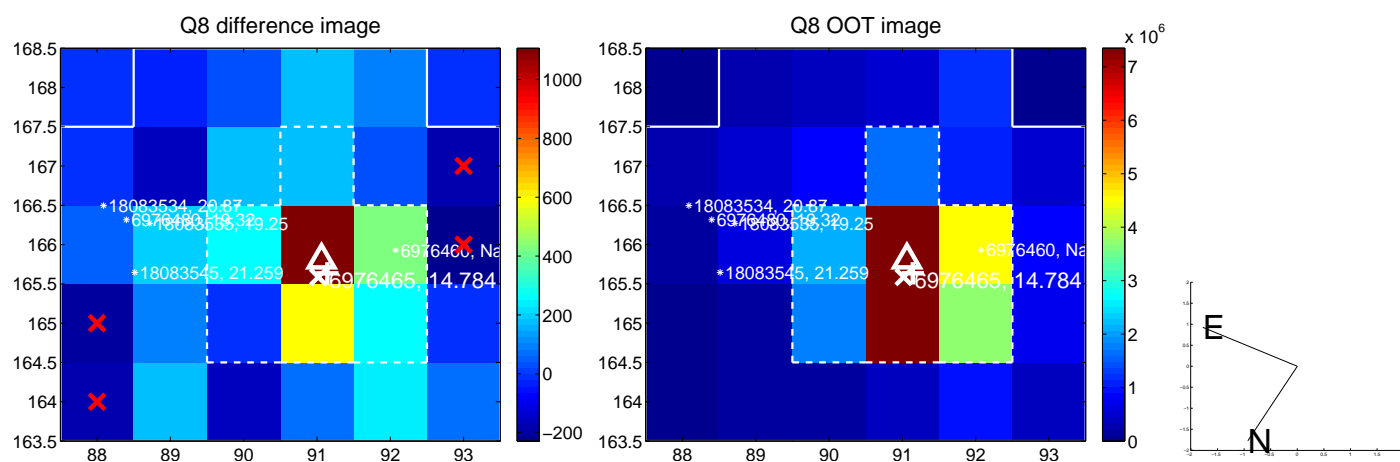
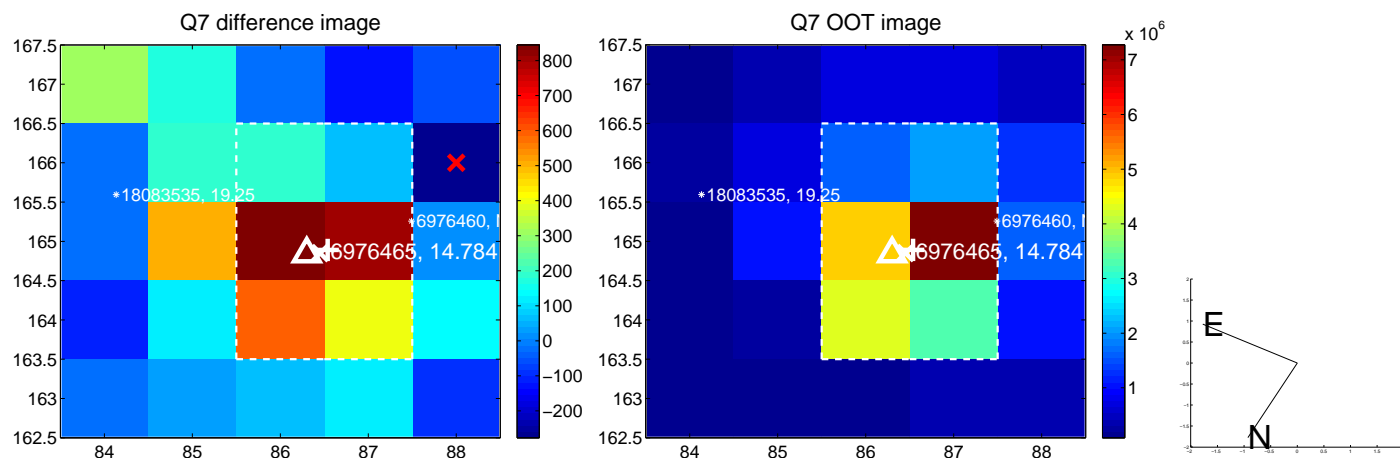
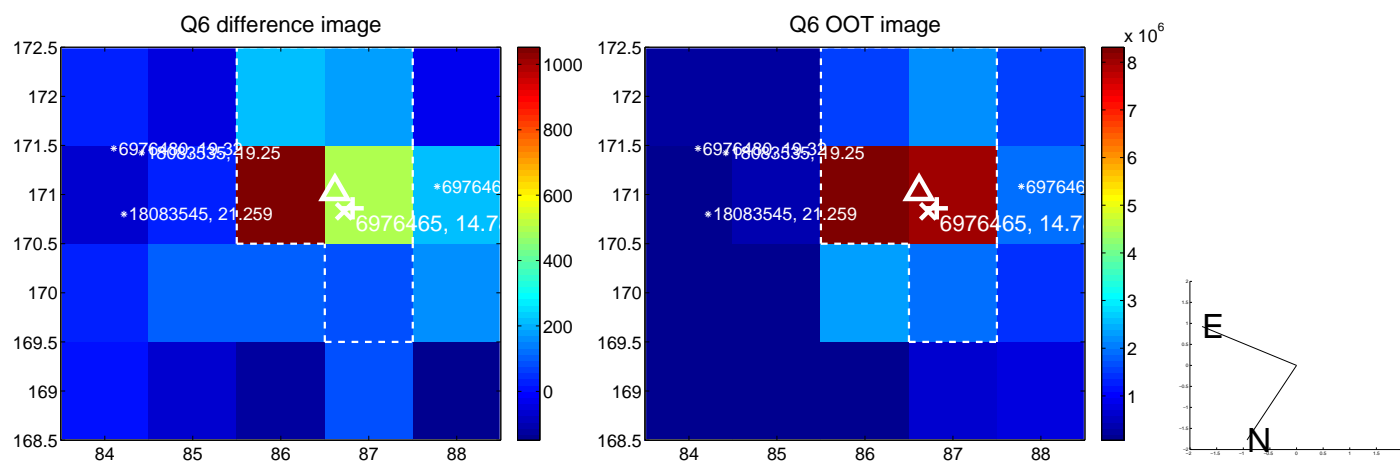
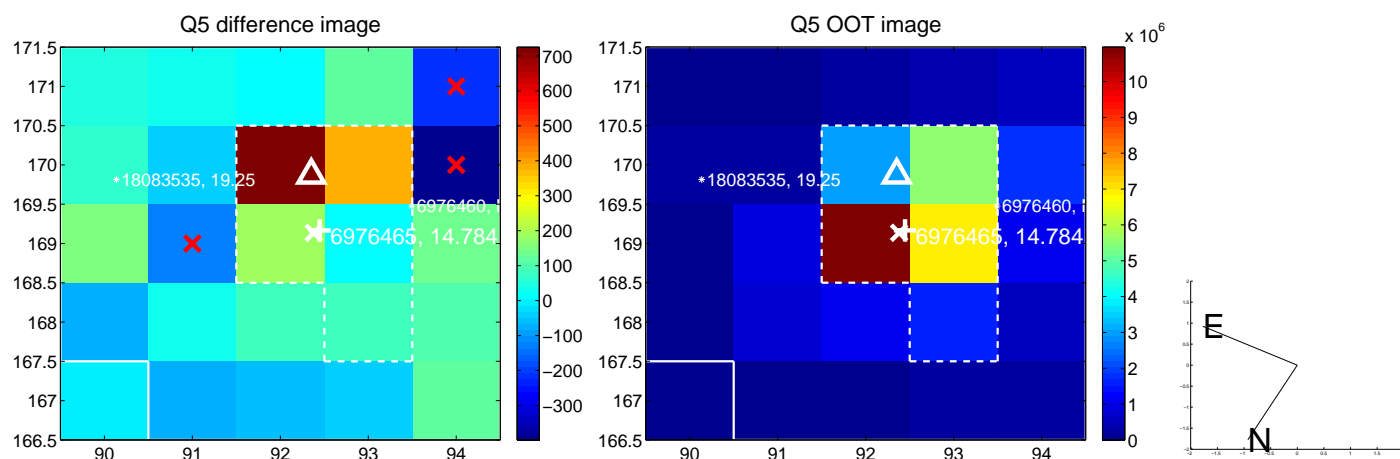
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.604 \pm 0.290$	2.08	$0.444 \pm 0.394$	$0.409 \pm 0.285$
PRF-fit source offset from KIC position	$0.260 \pm 0.337$	0.77	$0.226 \pm 0.389$	$0.129 \pm 0.301$
photometric centroid source offset	$3.88 \pm 1.13$	3.44	$2.92 \pm 1.15$	$2.55 \pm 1.09$



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.

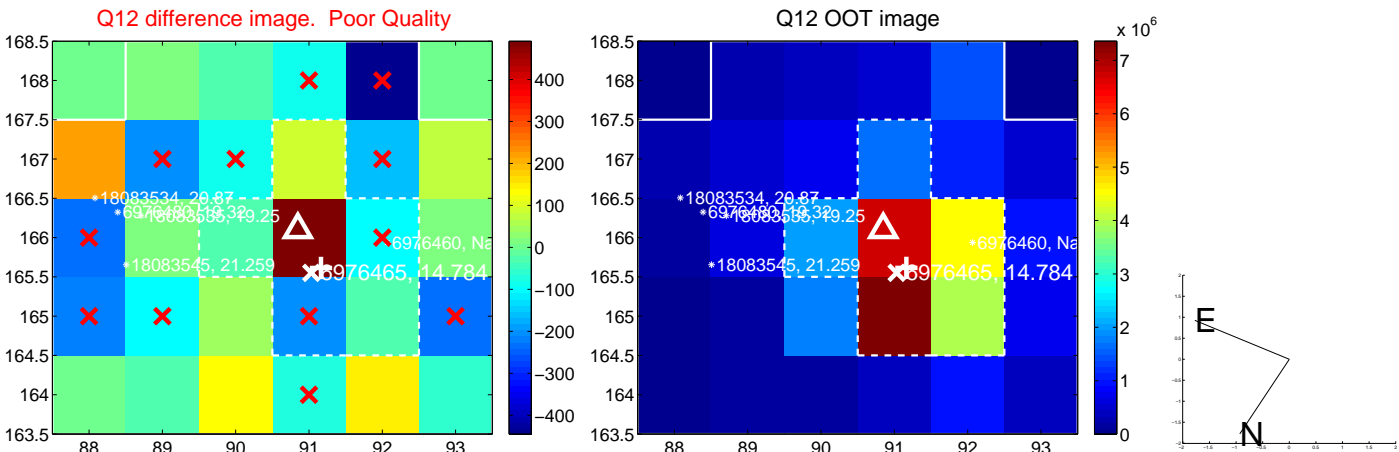
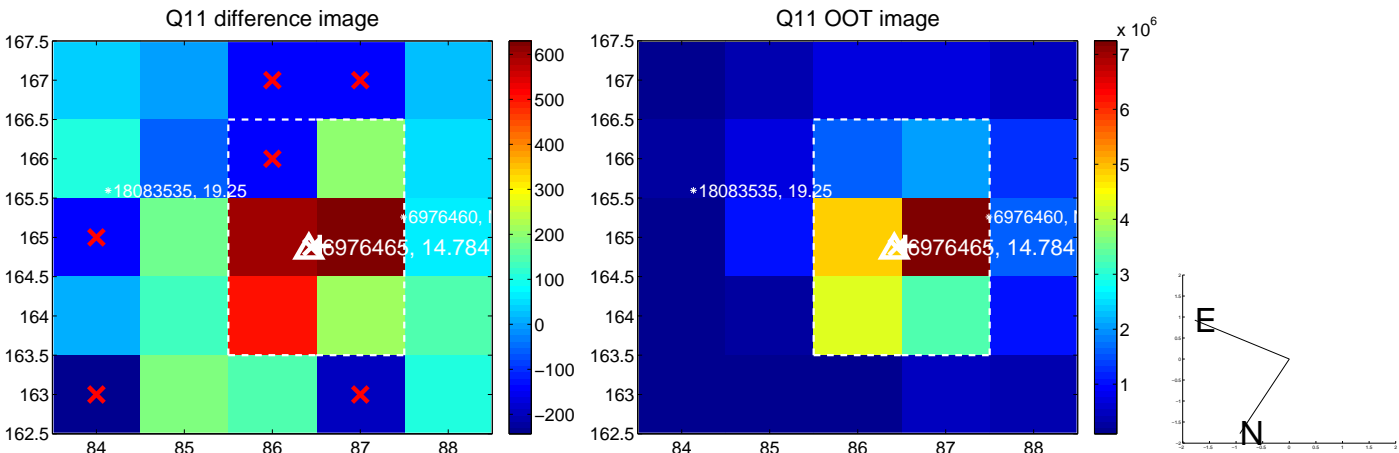
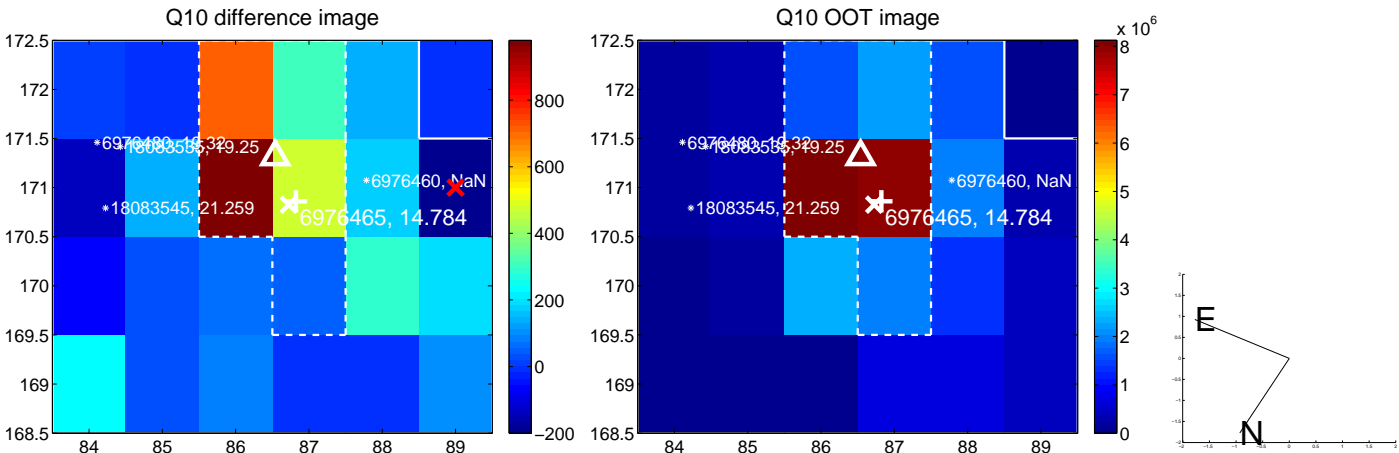
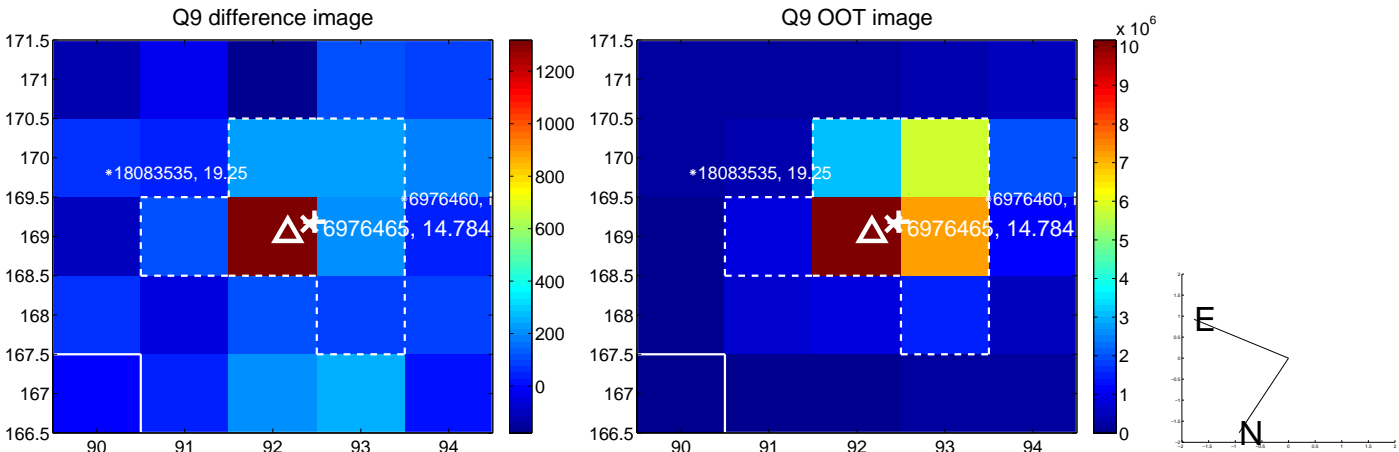


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

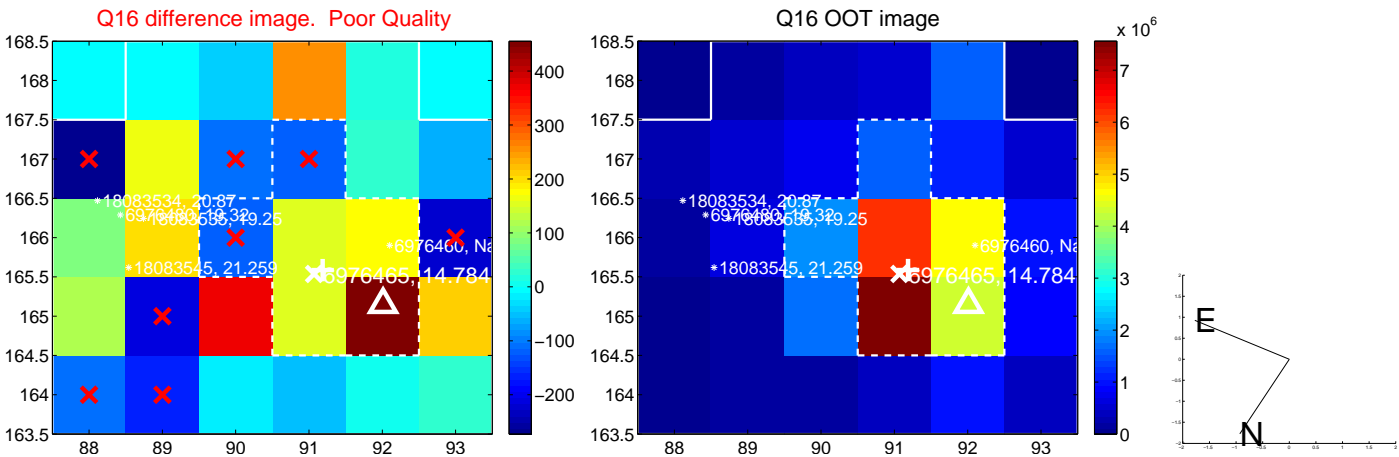
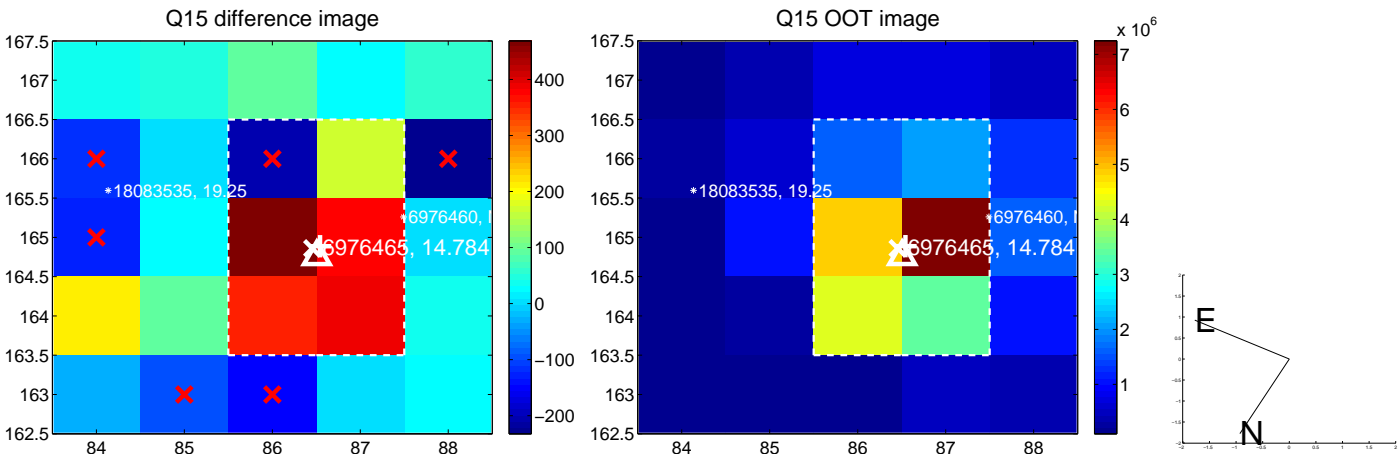
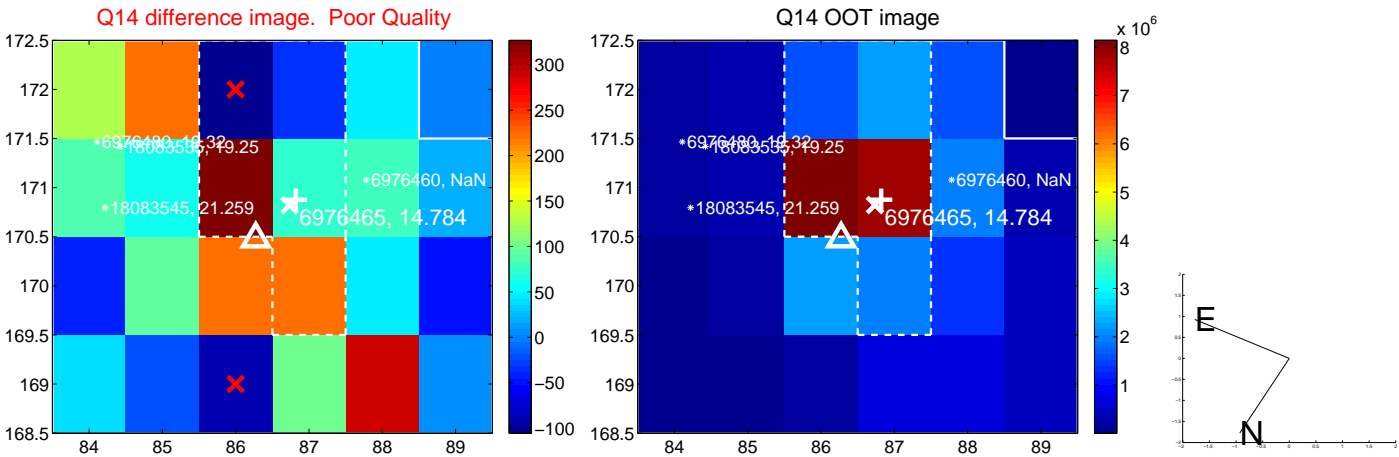
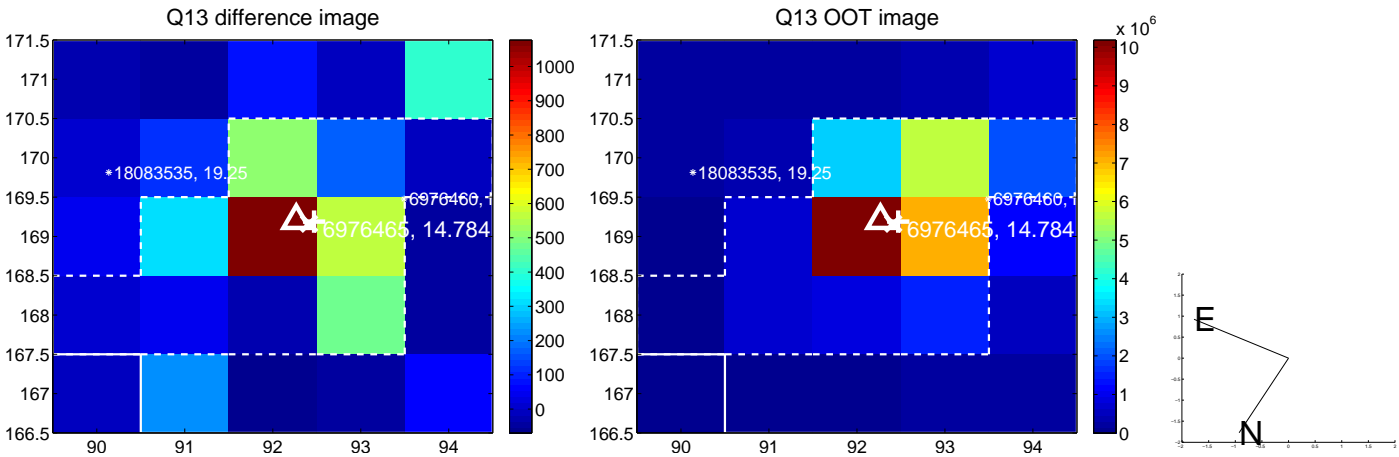




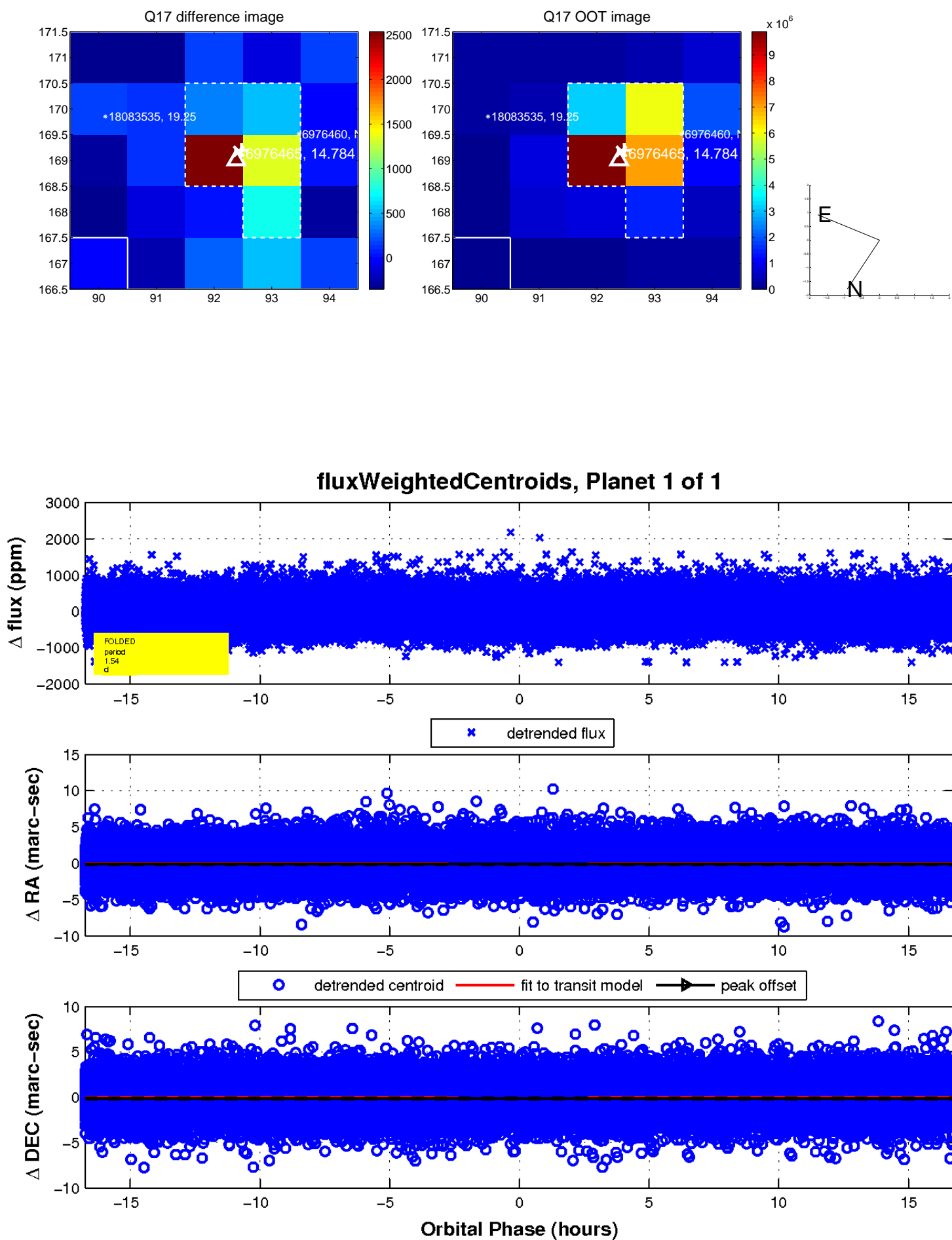
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

