

# KIC 010718726

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010718726-01	OBS	0600.01	3.595764	134.412026	377.0	3.407	37.6	41.7	1.20	5762	2.85	668.78

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010718726-01	OBS	PC	1.00	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.

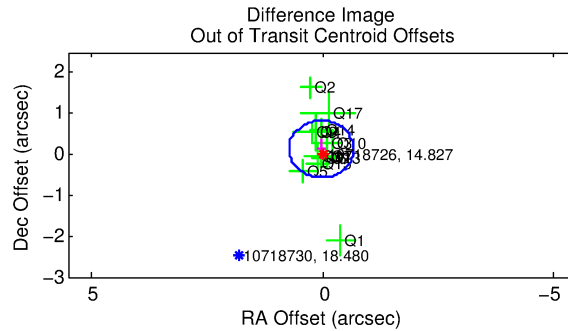
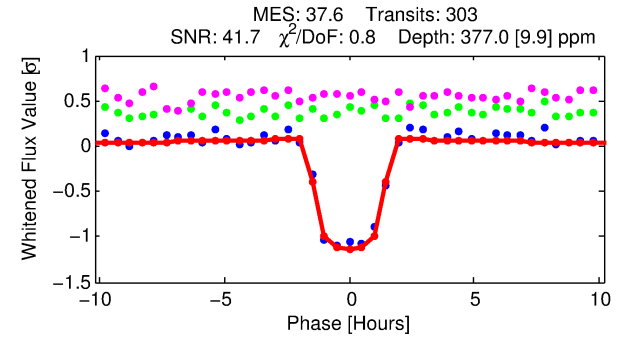
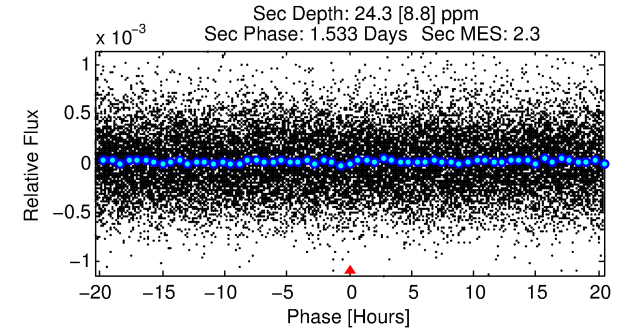
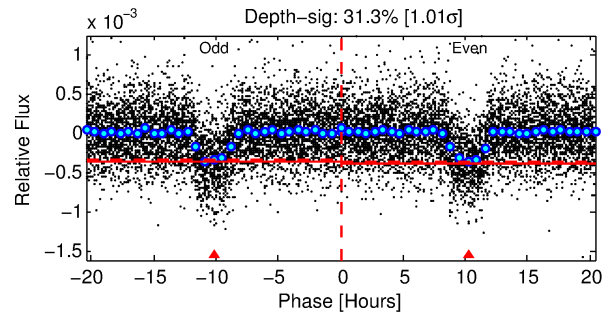
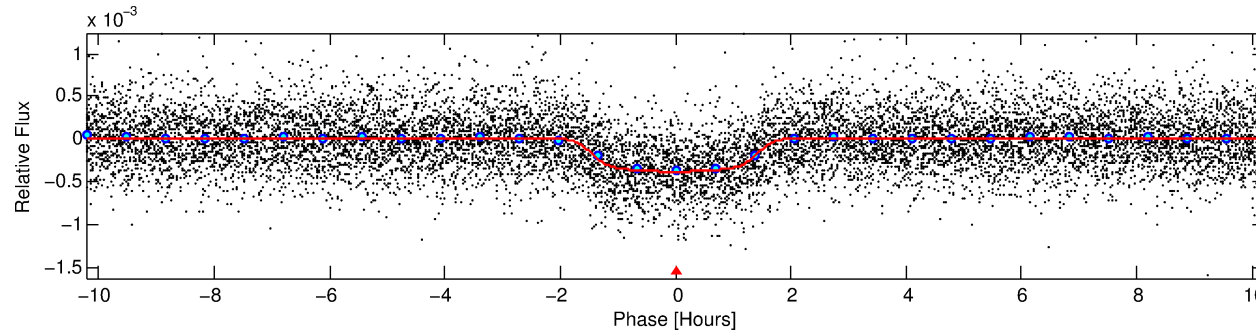
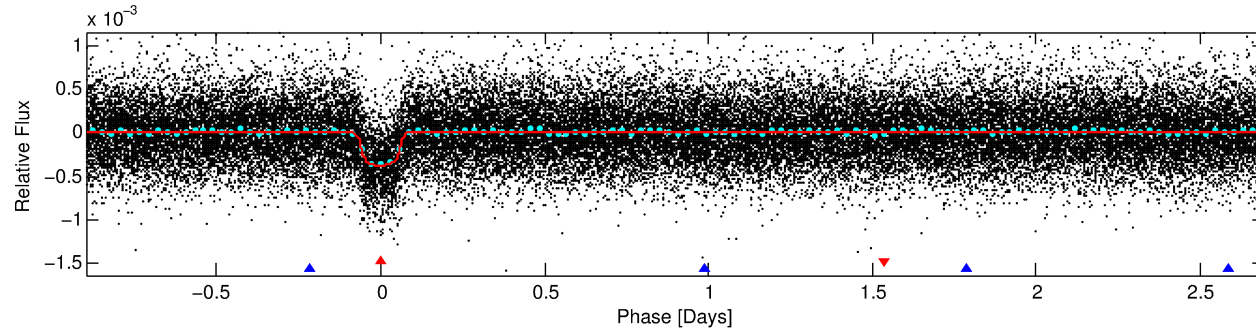
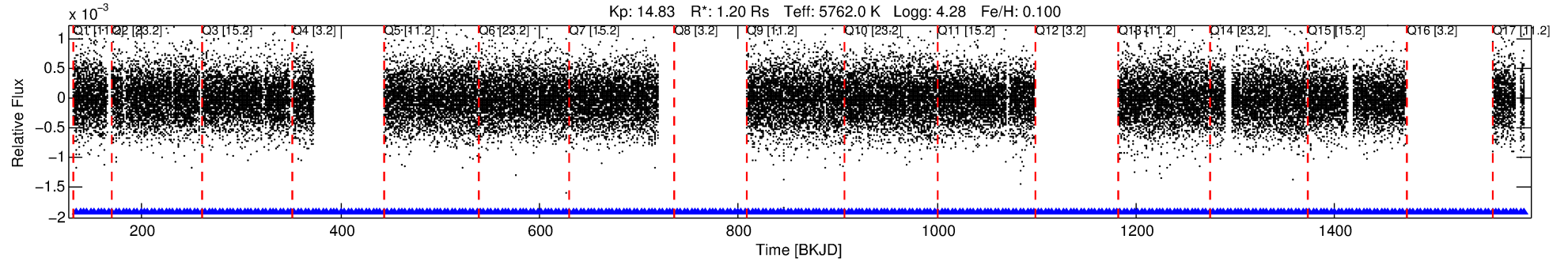
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010718726-01

No Significant Match Found

# DV One-Page Summary

KIC: 10718726 Candidate: 1 of 2 Period: 3.596 d  
KOI: K00600.01 Corr: 0.988



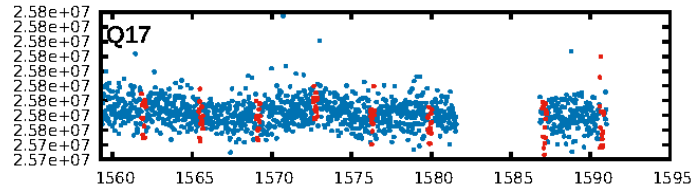
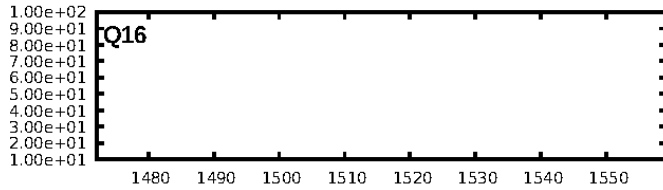
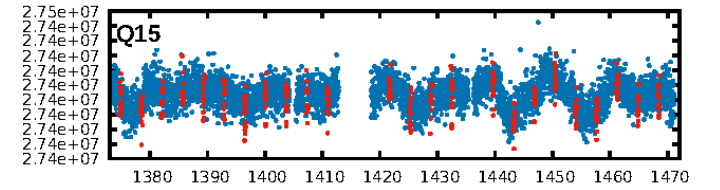
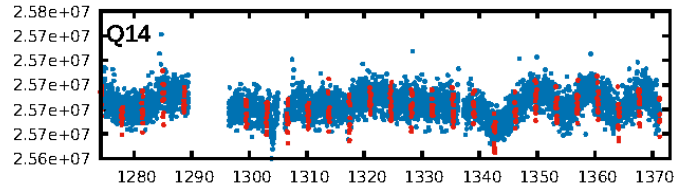
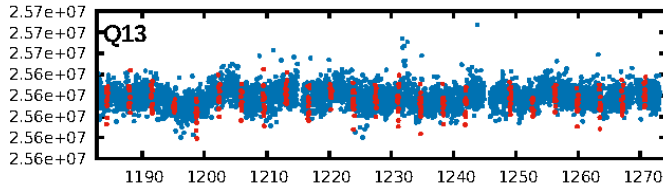
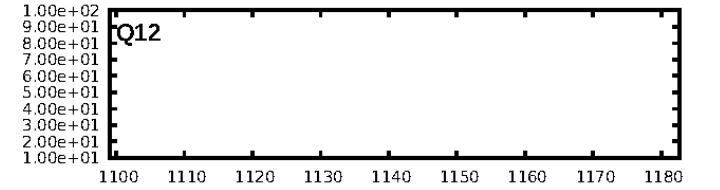
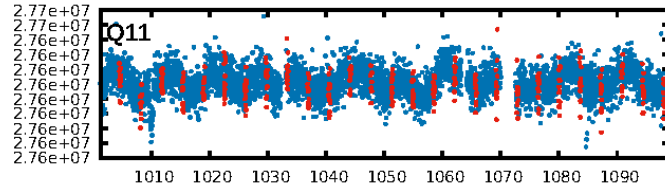
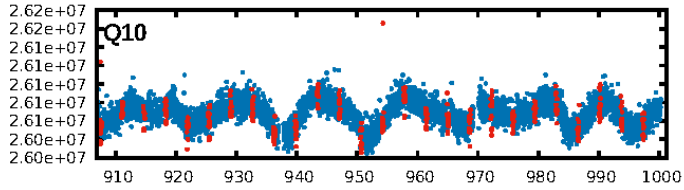
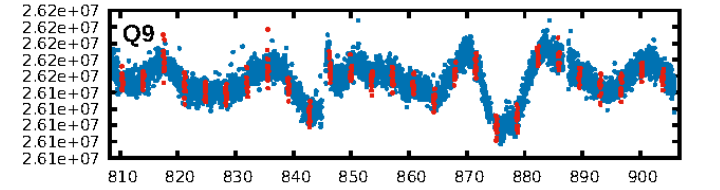
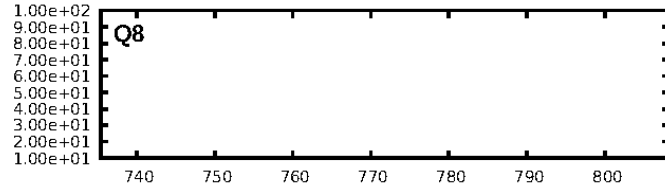
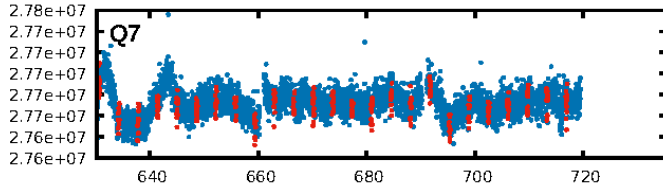
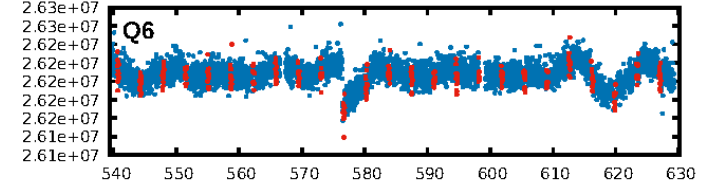
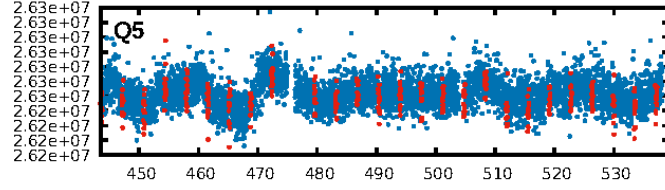
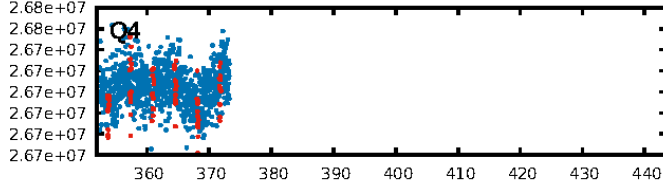
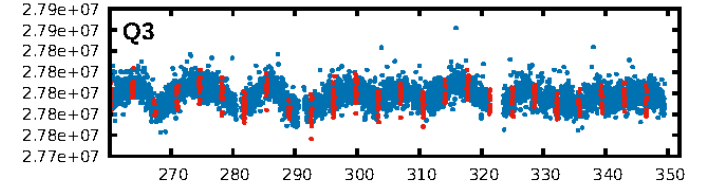
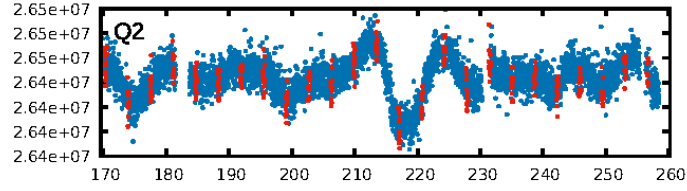
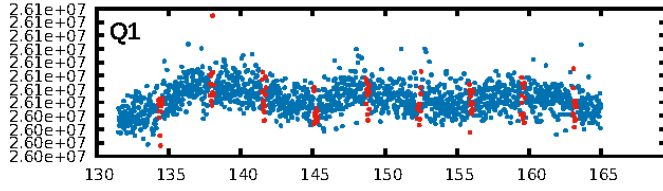
## DV Fit Results:

Period = 3.59576 [0.00001] d  
Epoch = 134.4120 [0.0012] BKJD  
Rp/R\* = 0.0218 [0.0012]  
a/R\* = 3.62 [0.80]  
b = 0.93 [0.04]  
Seff = 668.79 [161.75]  
Teff = 1297 [78] K  
Rp = 2.85 [0.48] Re  
a = 0.0460 [0.0069] AU  
Ag = 3.49 [1.54] [1.61 $\sigma$ ]  
Teffp = 2739 [260] K [5.32 $\sigma$ ]

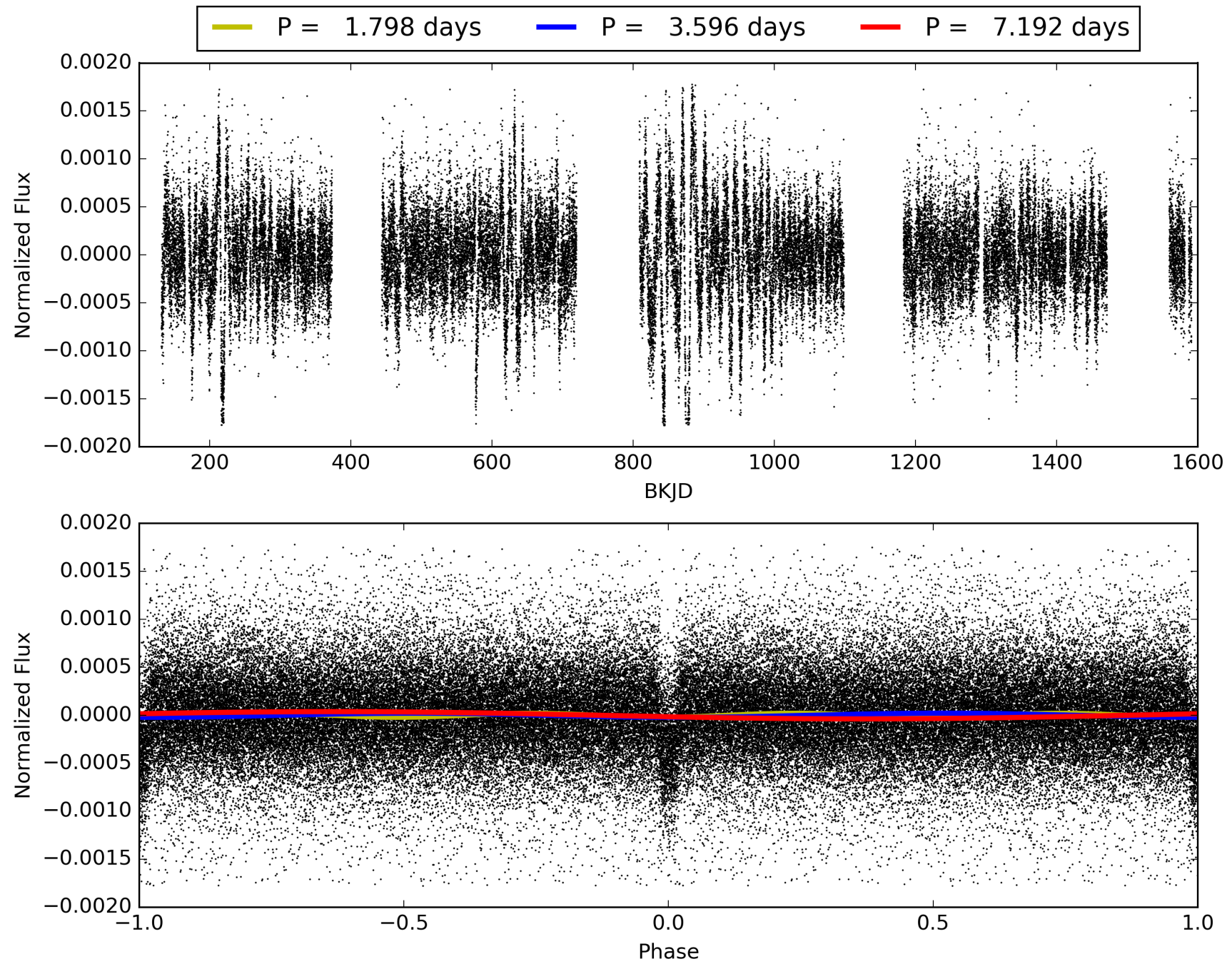
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [473.30 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.06e-301  
RollingBand-fgt: 1.00 [280/280]  
GhostDiagnostic-chr: 5.823  
Centroid-sig: 21.5%  
Centroid-so: 0.264 arcsec [0.77 $\sigma$ ]  
OotOffset-rm: 0.133 arcsec [0.57 $\sigma$ ]  
KicOffset-rm: 0.166 arcsec [0.76 $\sigma$ ]  
OotOffset-st: 4/4/1/5 [14]  
KicOffset-st: 4/4/1/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 010718726-01, PDC Light Curves

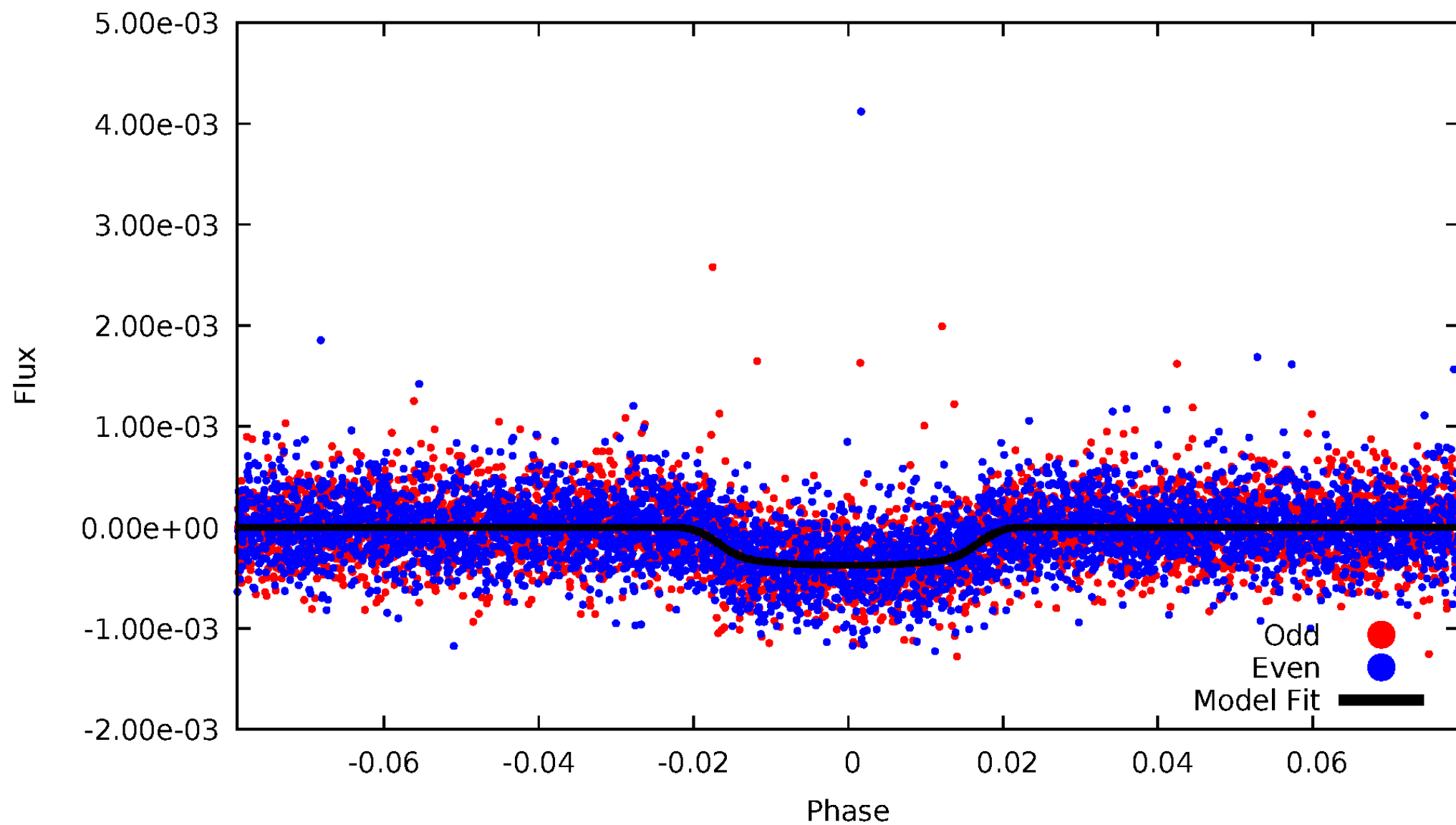


# TCE 010718726-01



# DV Odd/Even

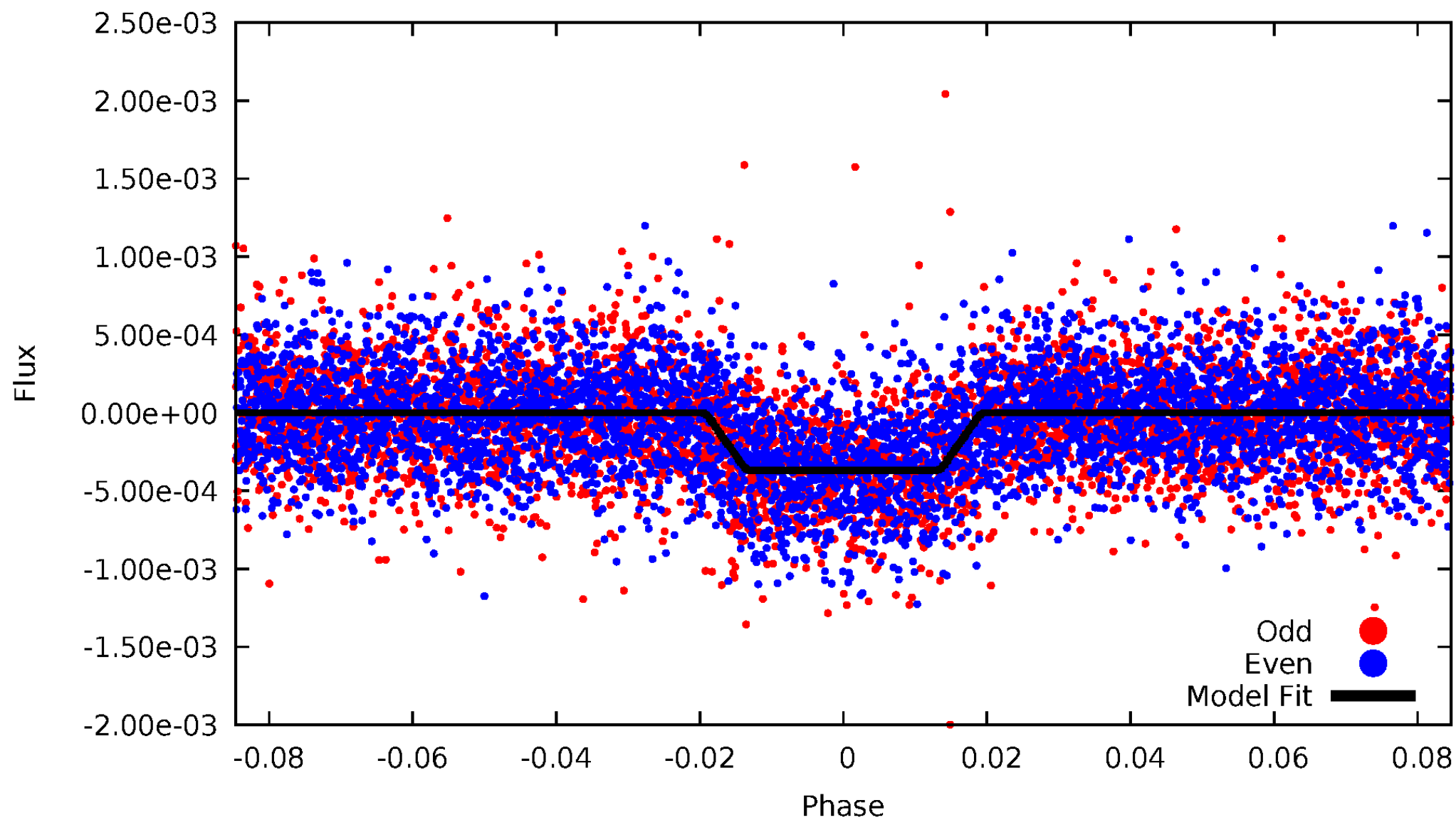
TCE 010718726-01



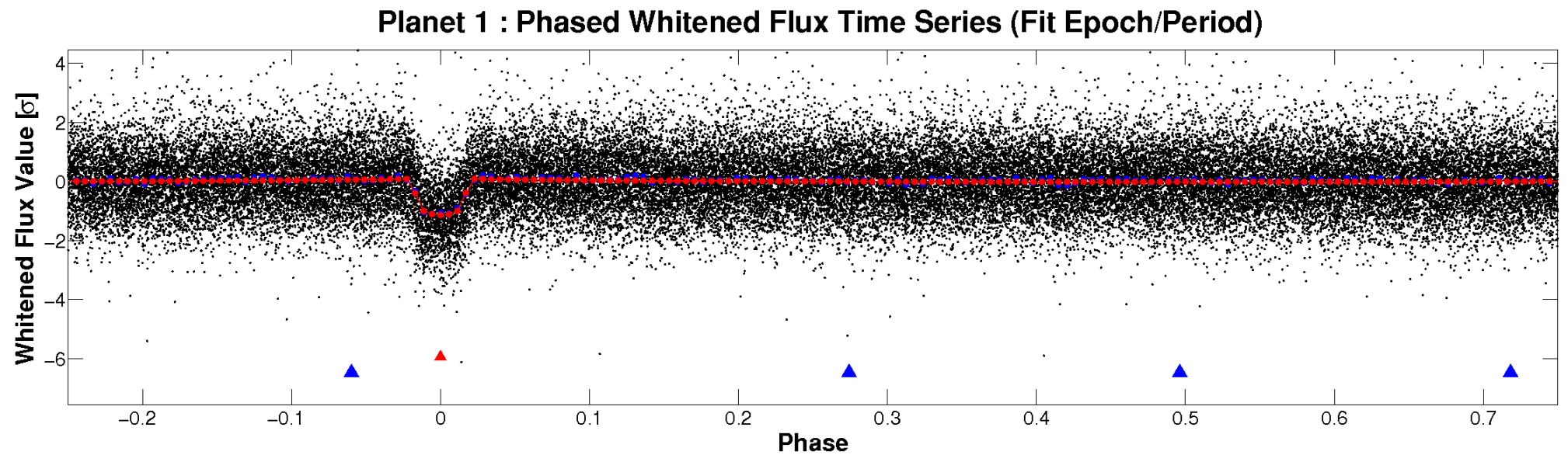
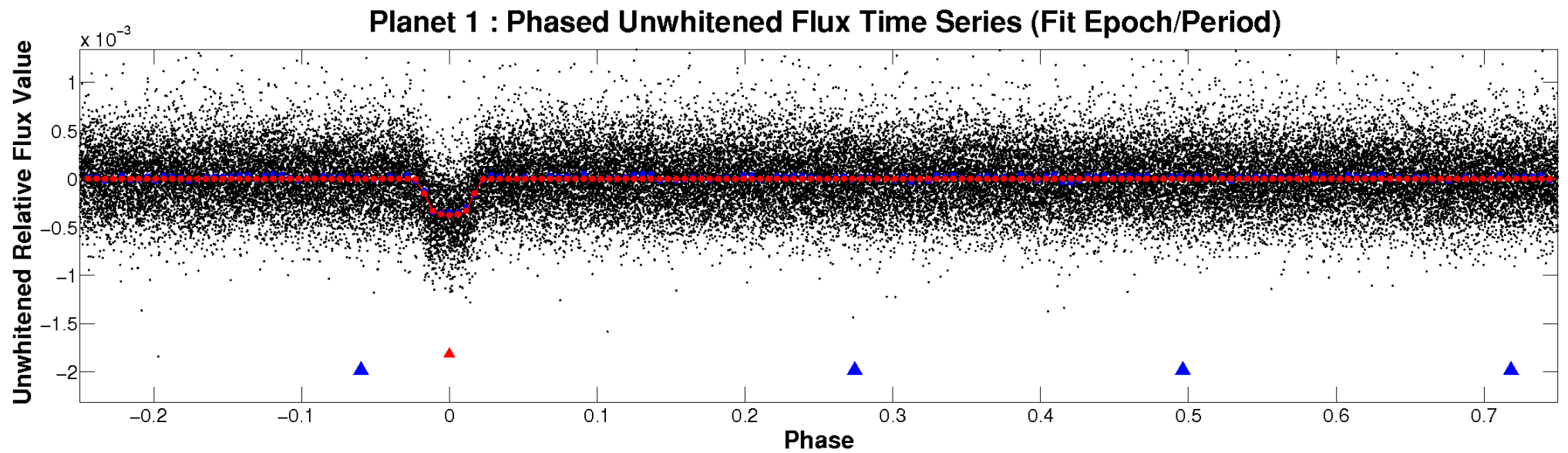


# ALT Odd/Even

TCE 010718726-01

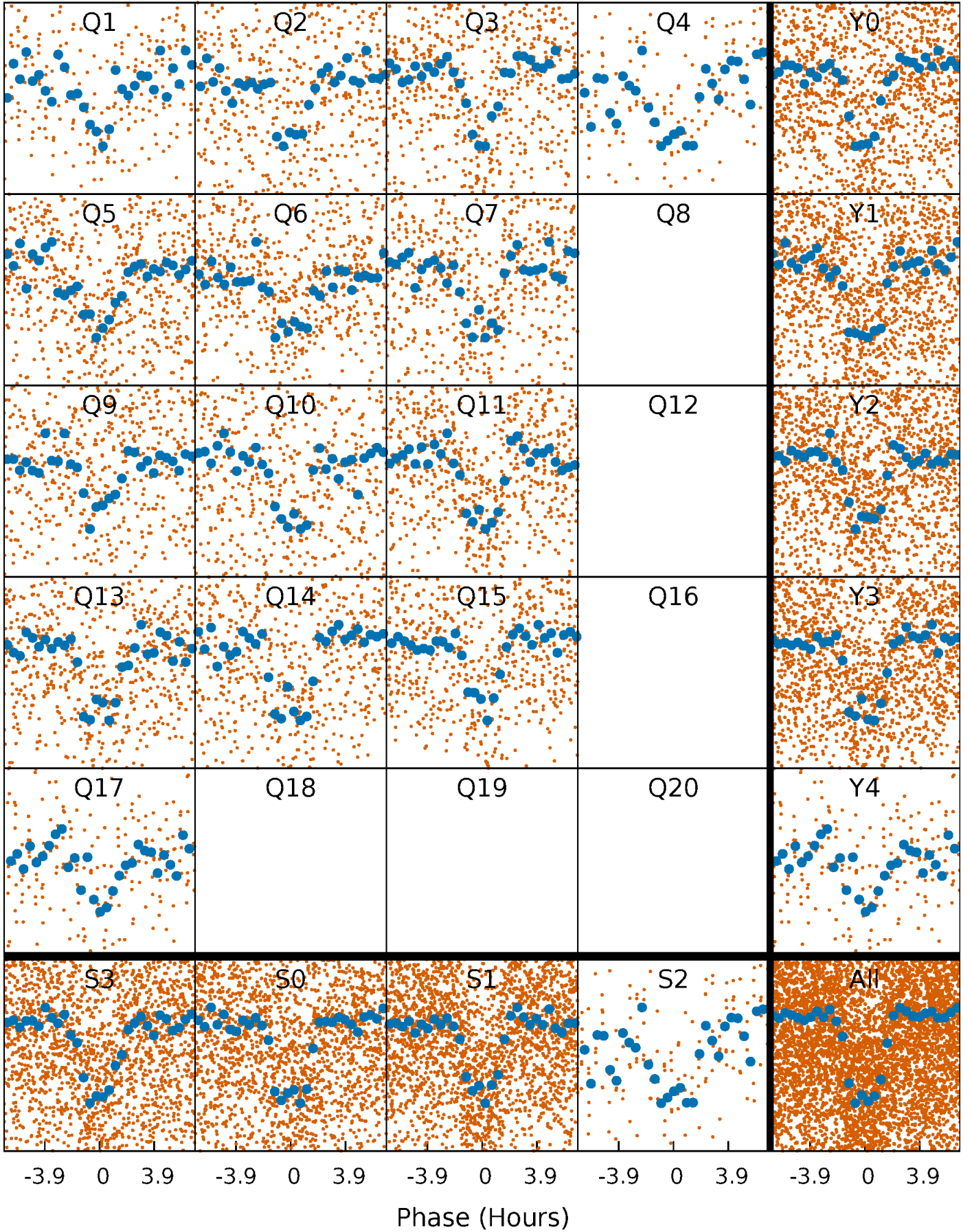


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

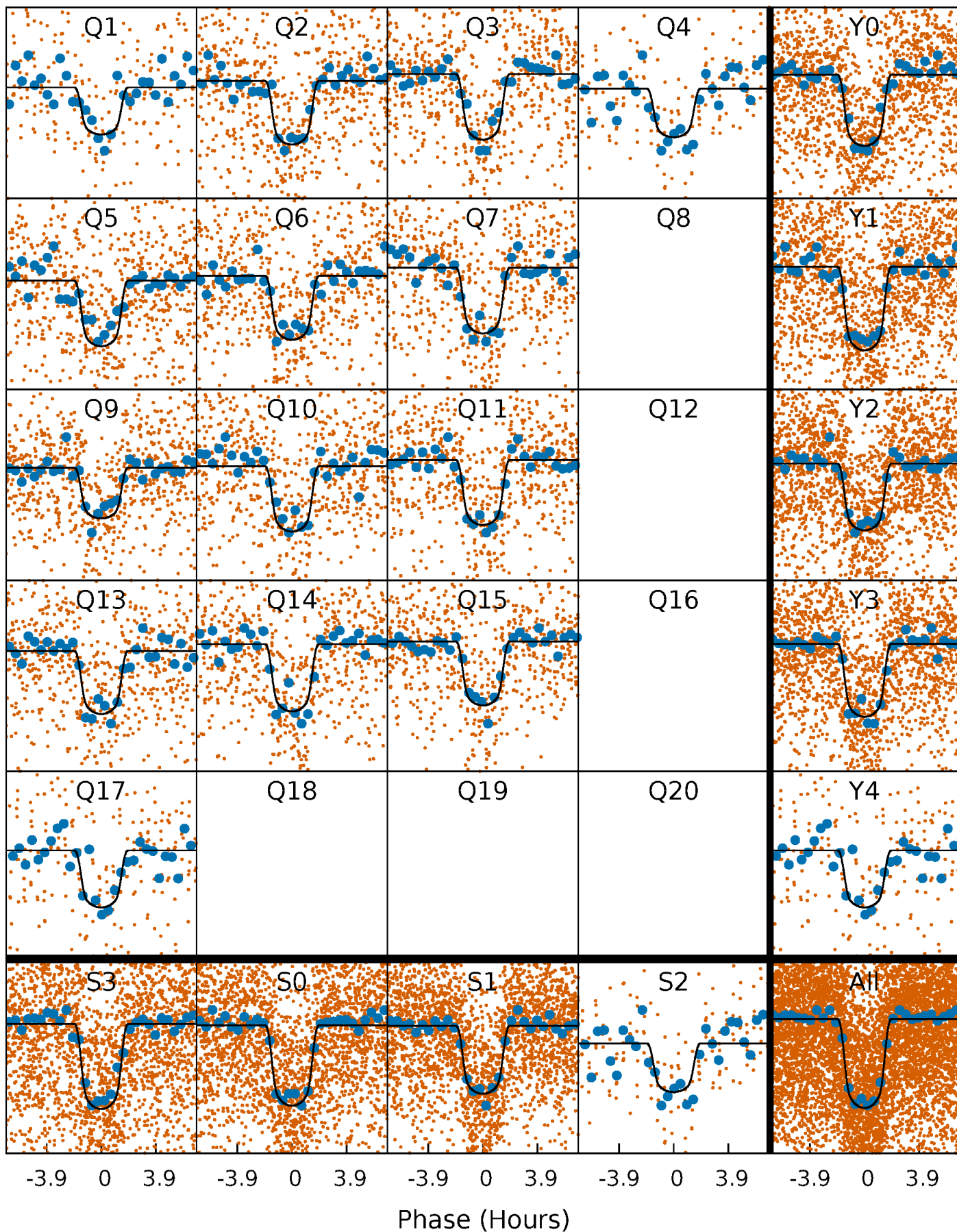
TCE 010718726-01   P= 3.595764 Days    $T_0=134.412026$  (BKJD)





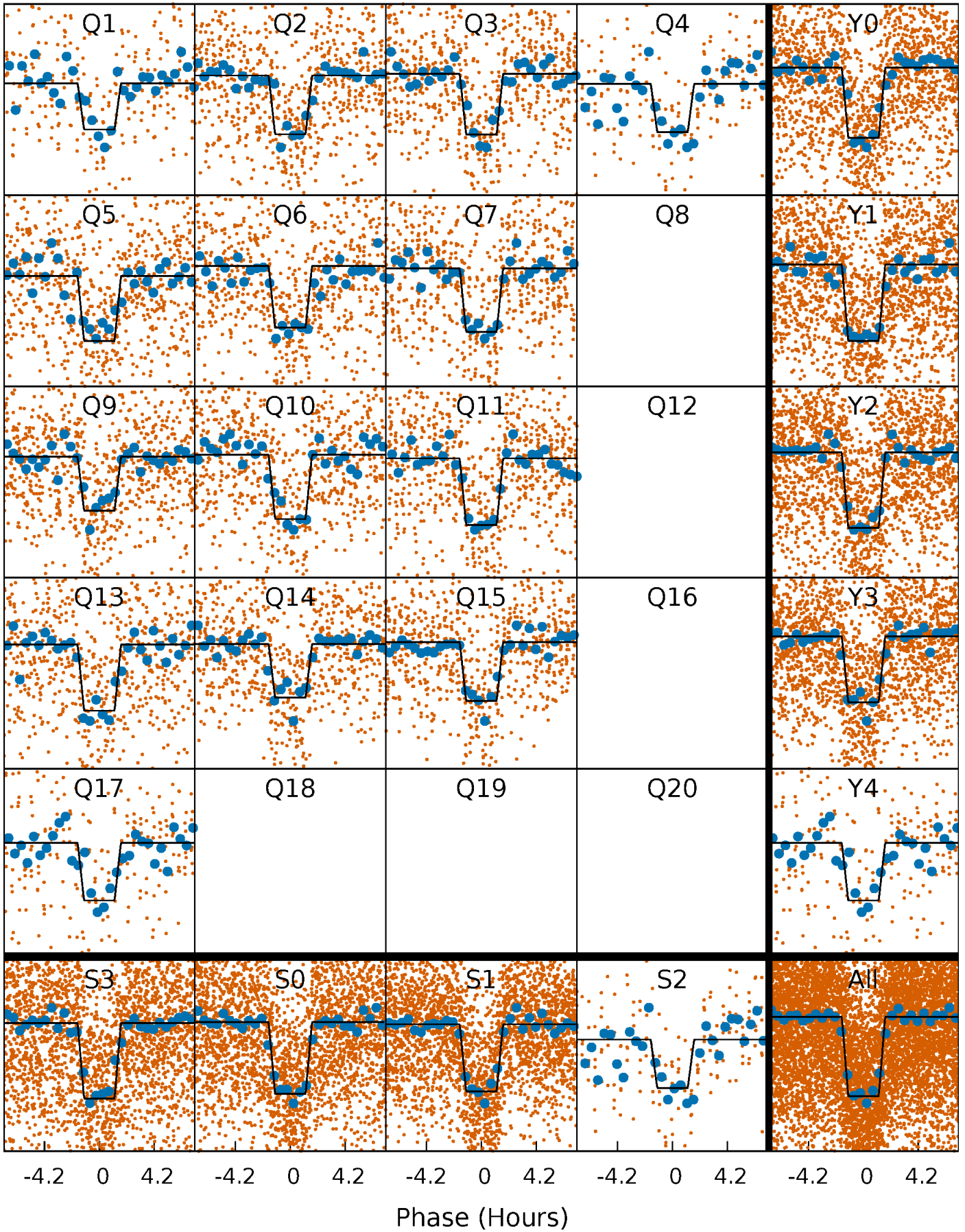
# DV Quarter-Phased Transit Curves

TCE 010718726-01 P= 3.595764 Days  $T_0=134.412026$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

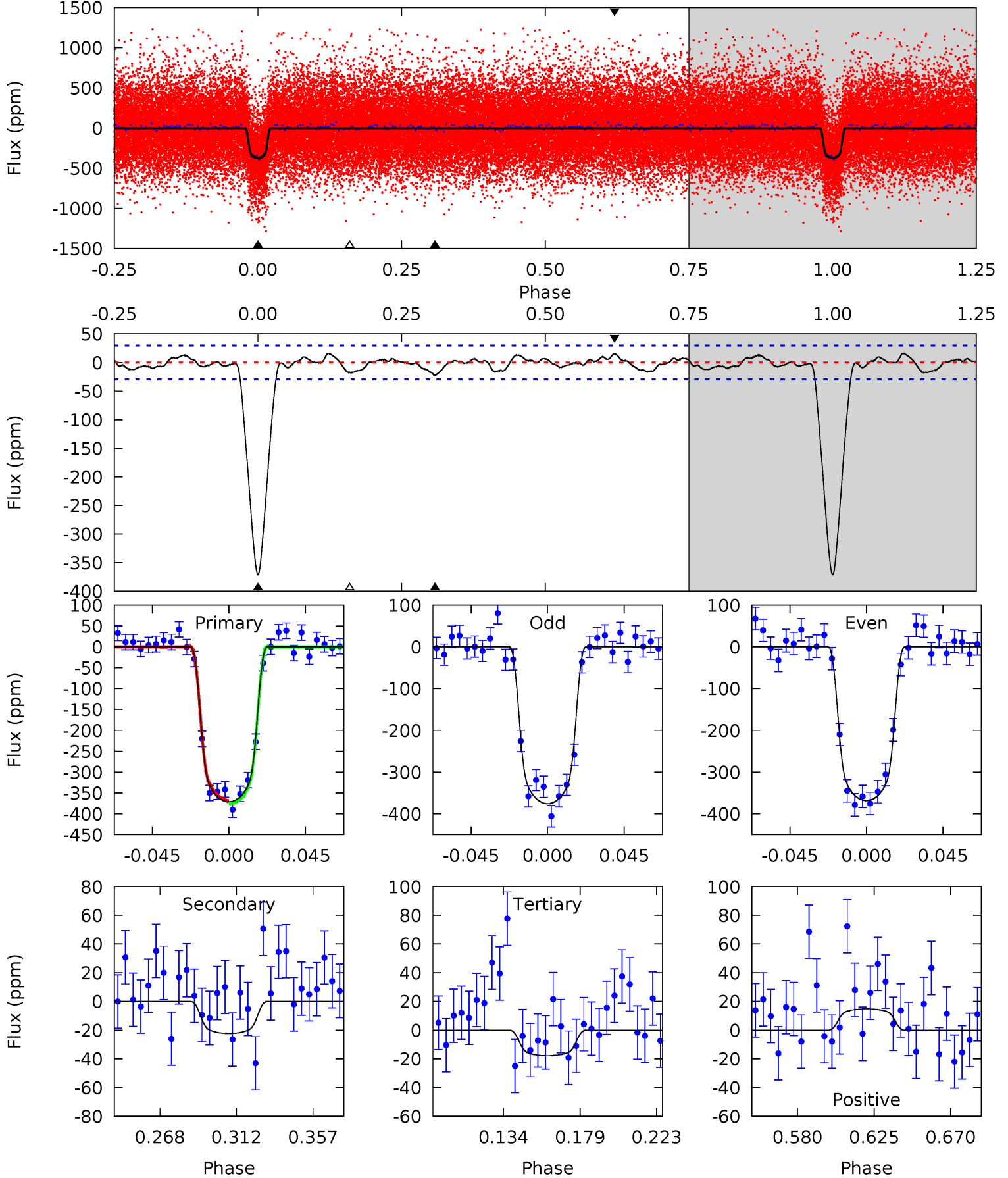
TCE 010718726-01   P= 3.595801 Days    $T_0=134.404462$  (BKJD)



# DV Model-Shift Uniqueness Test

010718726-01, P = 3.595764 Days, E = 130.816262 Days

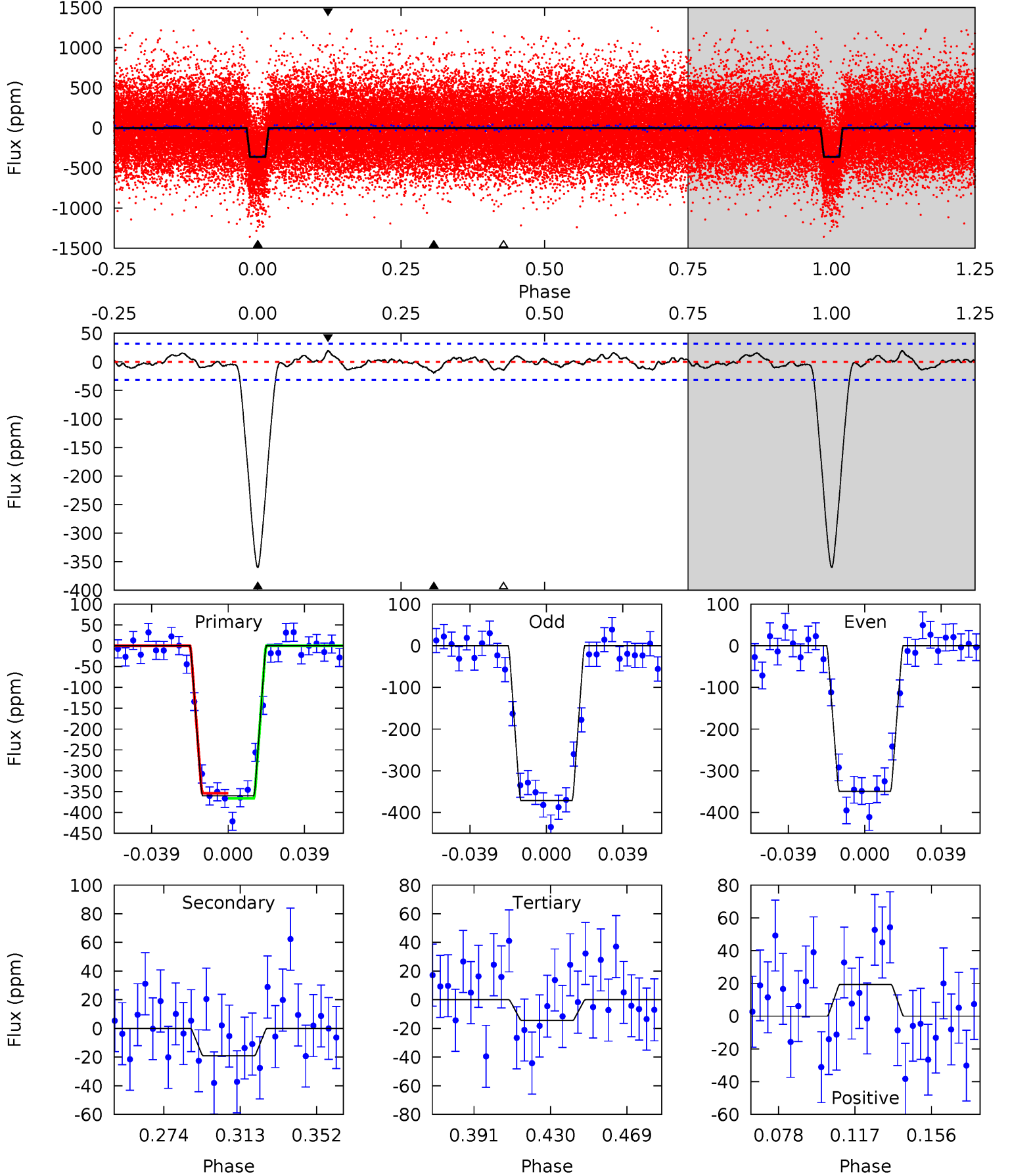
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.2	3.56	2.84	2.37	4.73	2.01	1.22	56.4	56.8	0.72	1.19	0.59	1.01	0.04	0.61



# Alt Model-Shift Uniqueness Test

010718726-01, P = 3.595801 Days, E = 130.808661 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
54.1	2.86	2.17	2.91	4.76	2.06	1.06	51.9	51.2	0.69	-0.05	1.69	1.02	0.05	0.89



### Stellar Parameters For KIC 010718726

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5762^{+78}_{-78}$	$4.283^{+0.137}_{-0.112}$	$0.100^{+0.150}_{-0.150}$	$1.196^{+0.191}_{-0.191}$	$1.001^{+0.072}_{-0.065}$	$0.824^{+0.510}_{-0.269}$
	+1%/-1%	+3%/-3%	+150%/-150%	+16%/-16%	+7%/-6%	+62%/-33%
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 010718726-01 / KOI 0600.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-22 \pm 6$	$2.87^{+0.30}_{-0.28}$	$1814^{+84}_{-82}$	$3196^{+148}_{-173}$	$3.084^{+1.238}_{-0.953}$
Alt.	$-19 \pm 7$	$2.50^{+0.28}_{-0.28}$	$1807^{+88}_{-80}$	$3252^{+186}_{-241}$	$3.424^{+1.669}_{-1.250}$

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



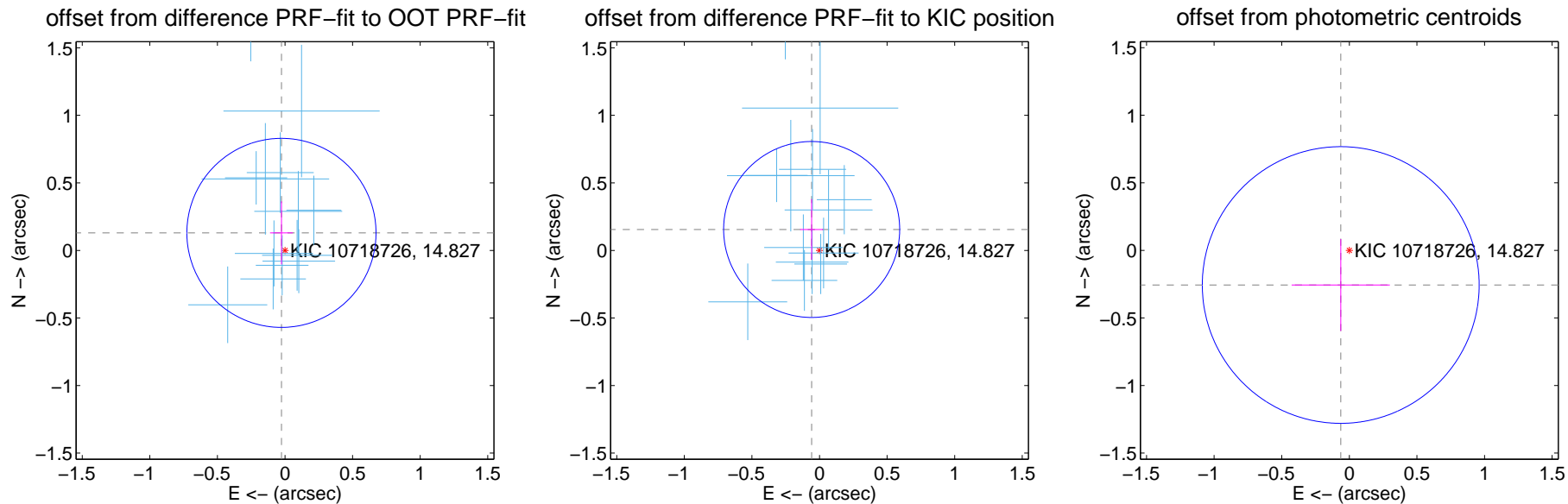
## DV Centroid Data

Supplemental centroid analysis for 010718726-01. Kepler magnitude: 14.83. Transit SNR 41.73

There are 14 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

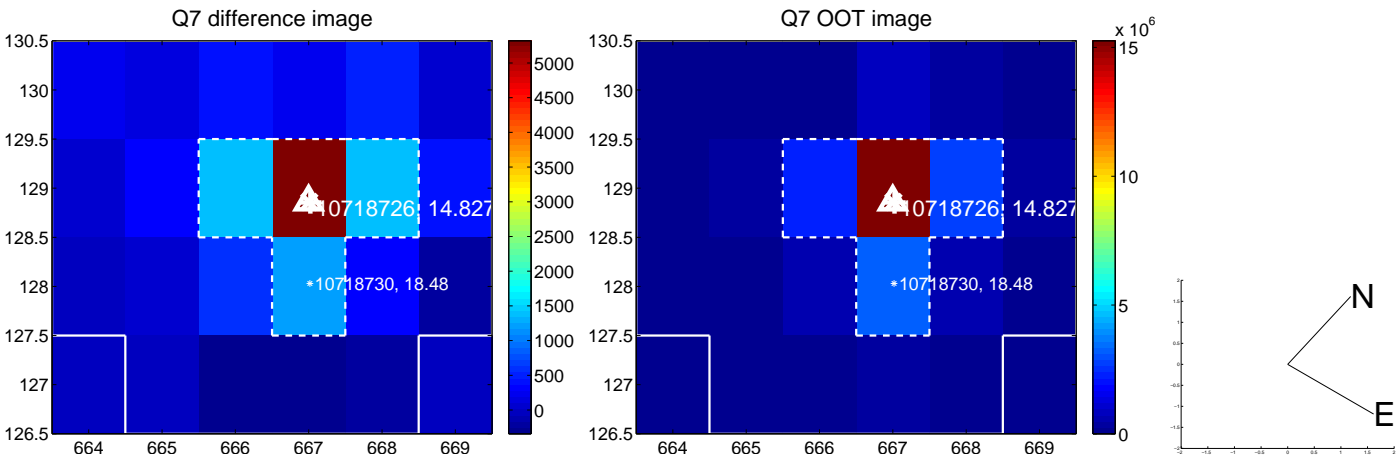
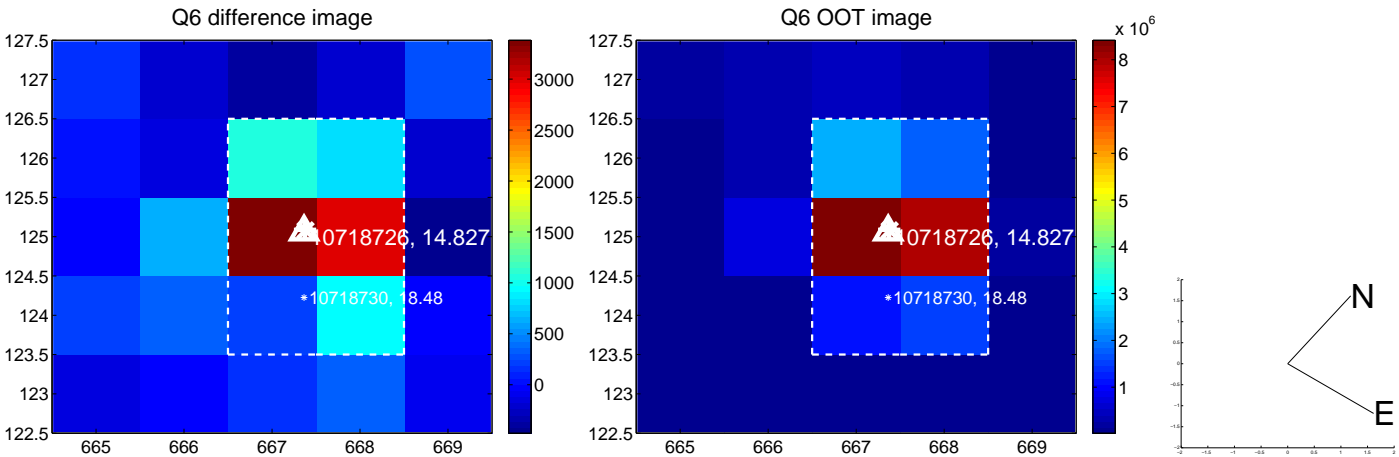
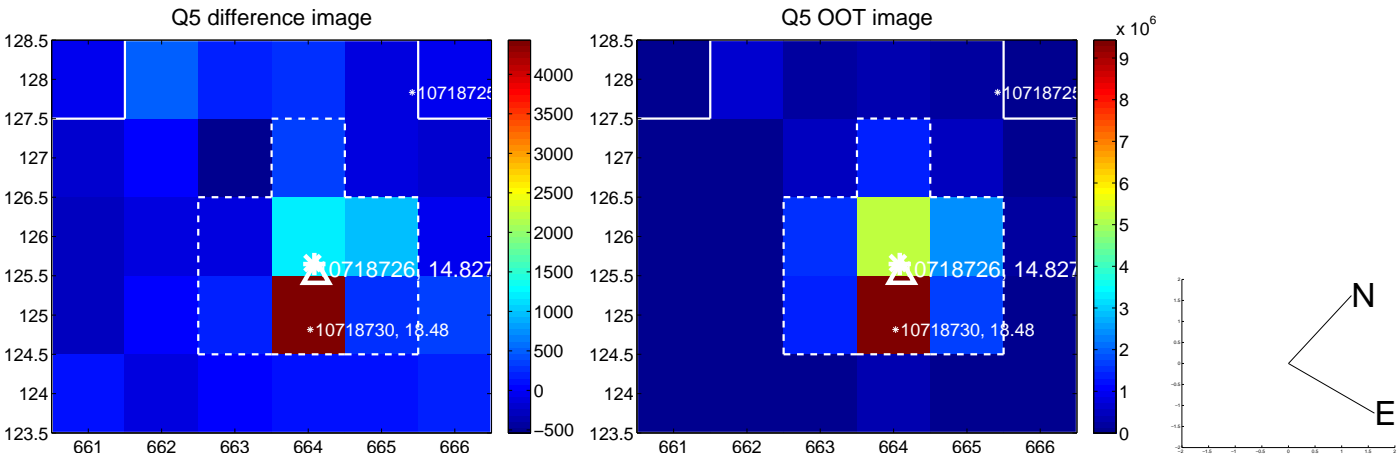
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.133 \pm 0.233$	0.57	$0.026 \pm 0.084$	$0.130 \pm 0.233$
PRF-fit source offset from KIC position	$0.166 \pm 0.217$	0.76	$0.058 \pm 0.085$	$0.155 \pm 0.224$
photometric centroid source offset	$0.26 \pm 0.34$	0.77	$0.06 \pm 0.36$	$-0.26 \pm 0.34$



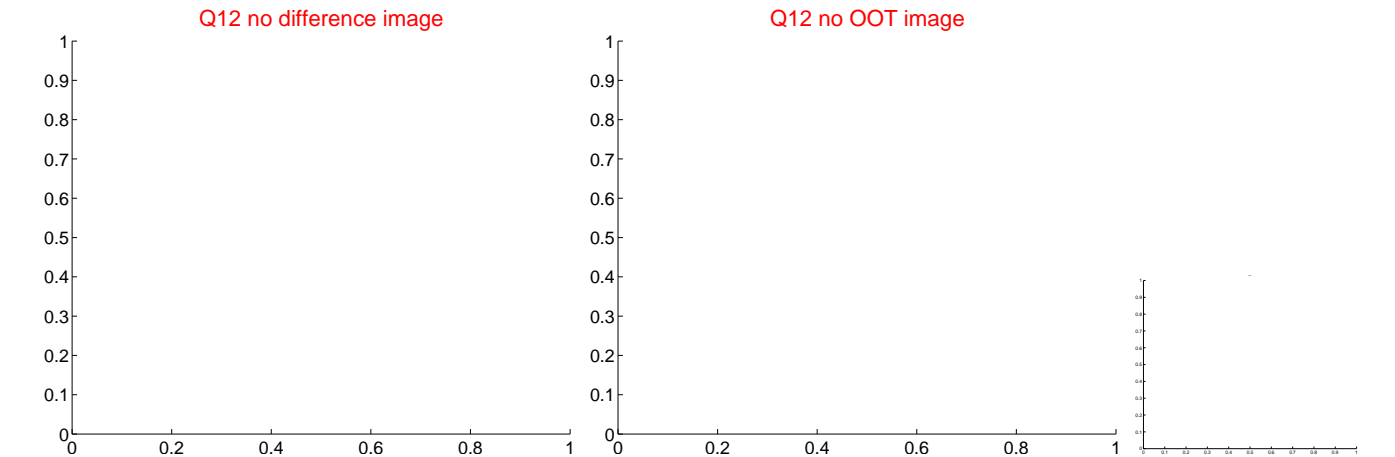
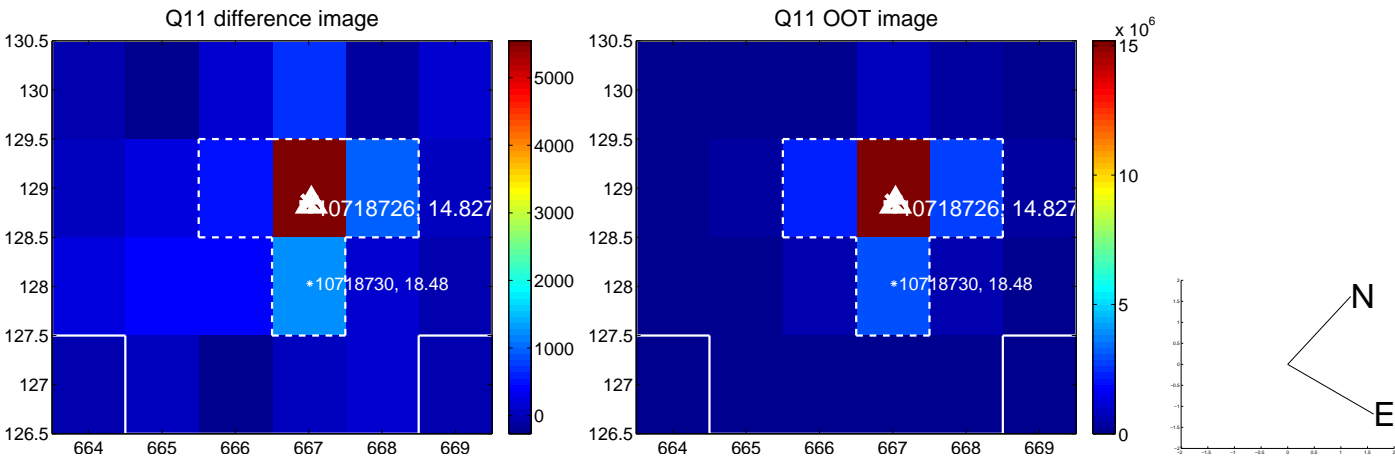
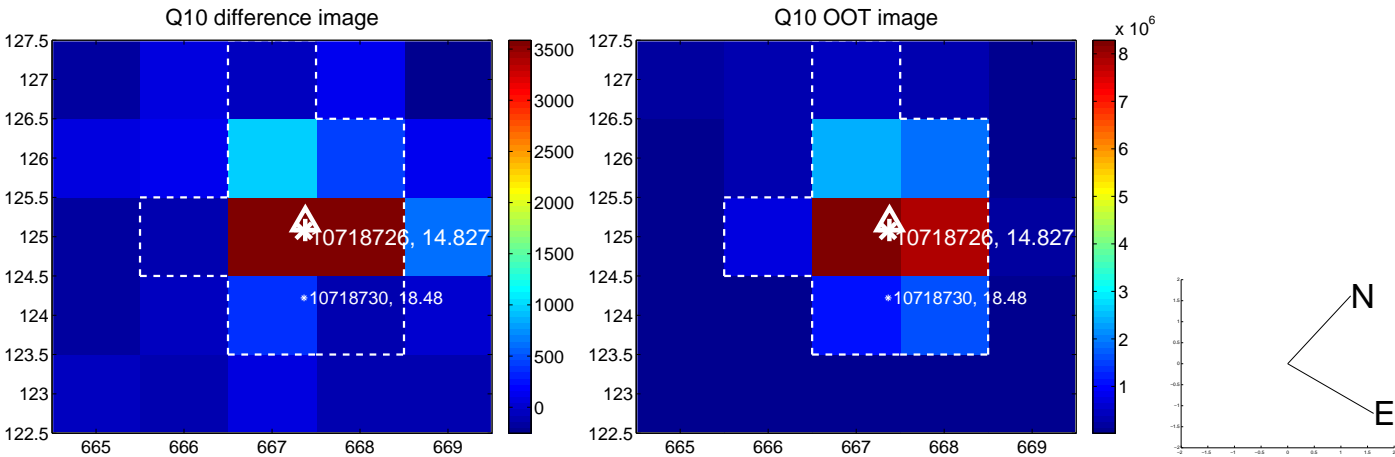
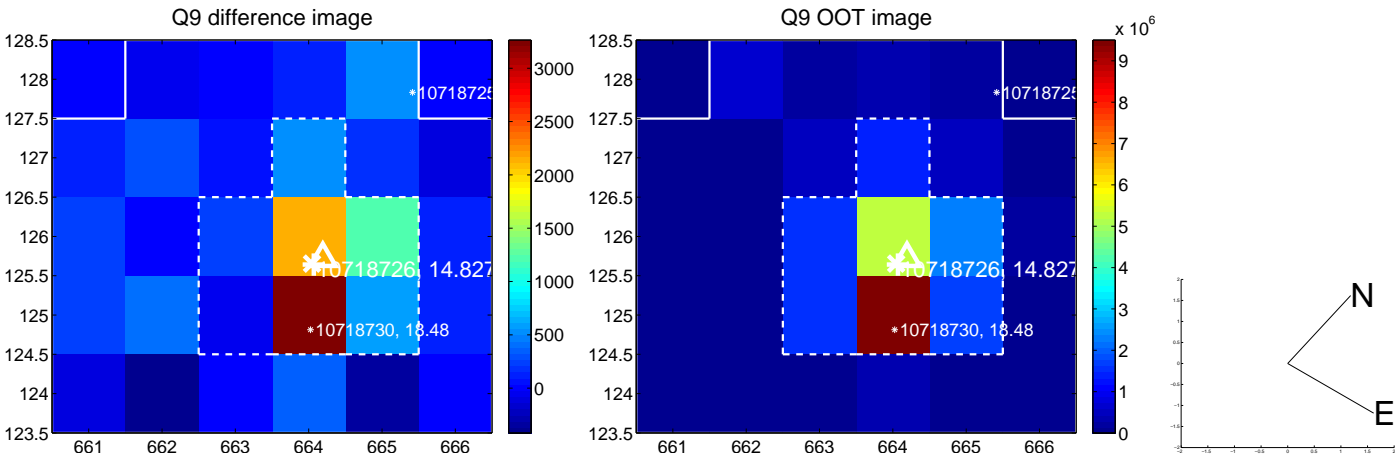
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



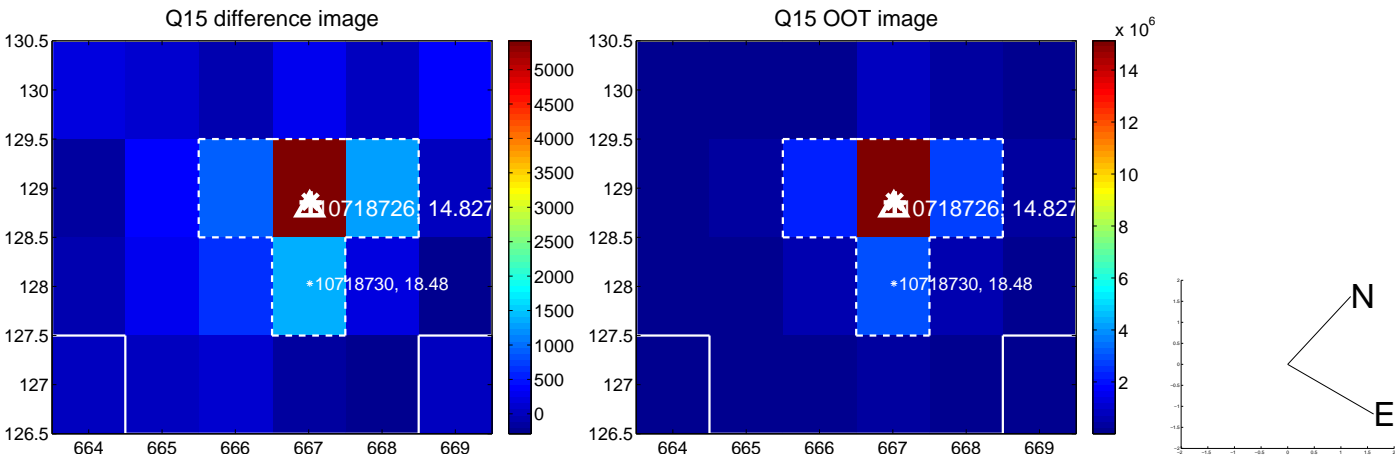
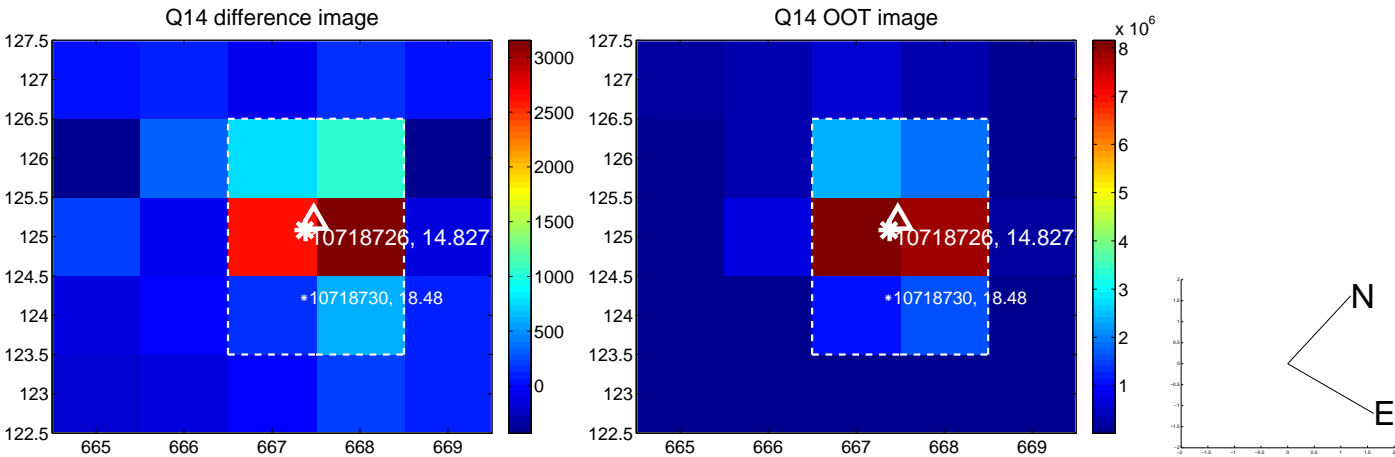
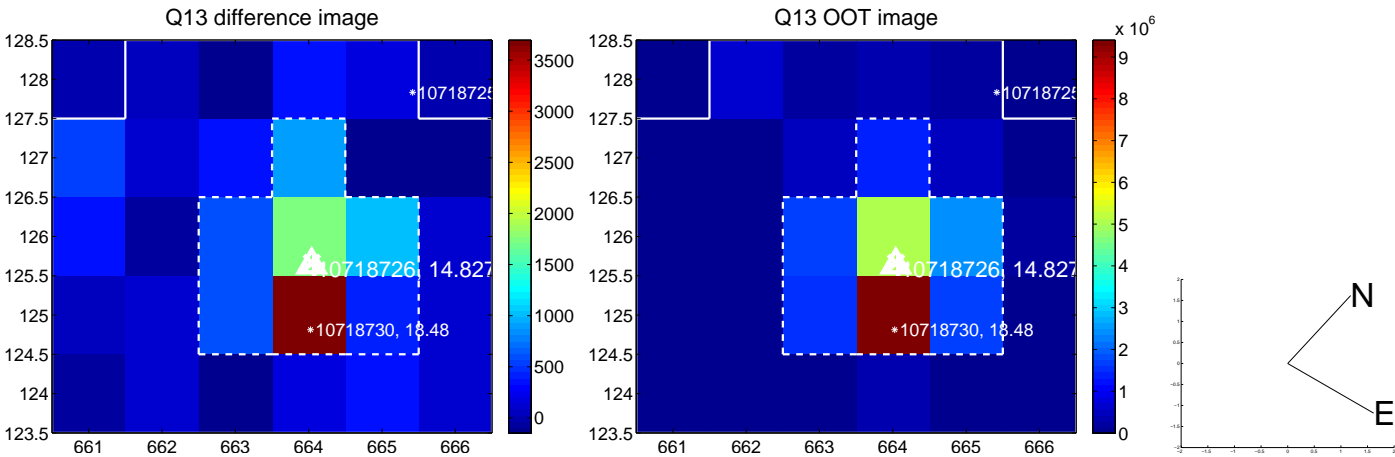
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

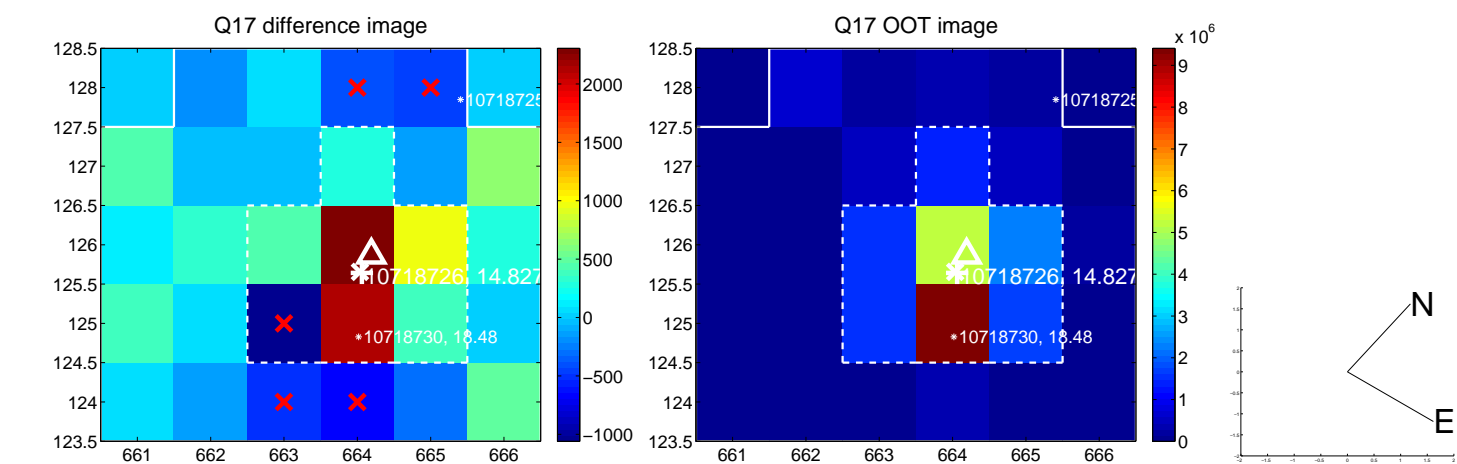


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

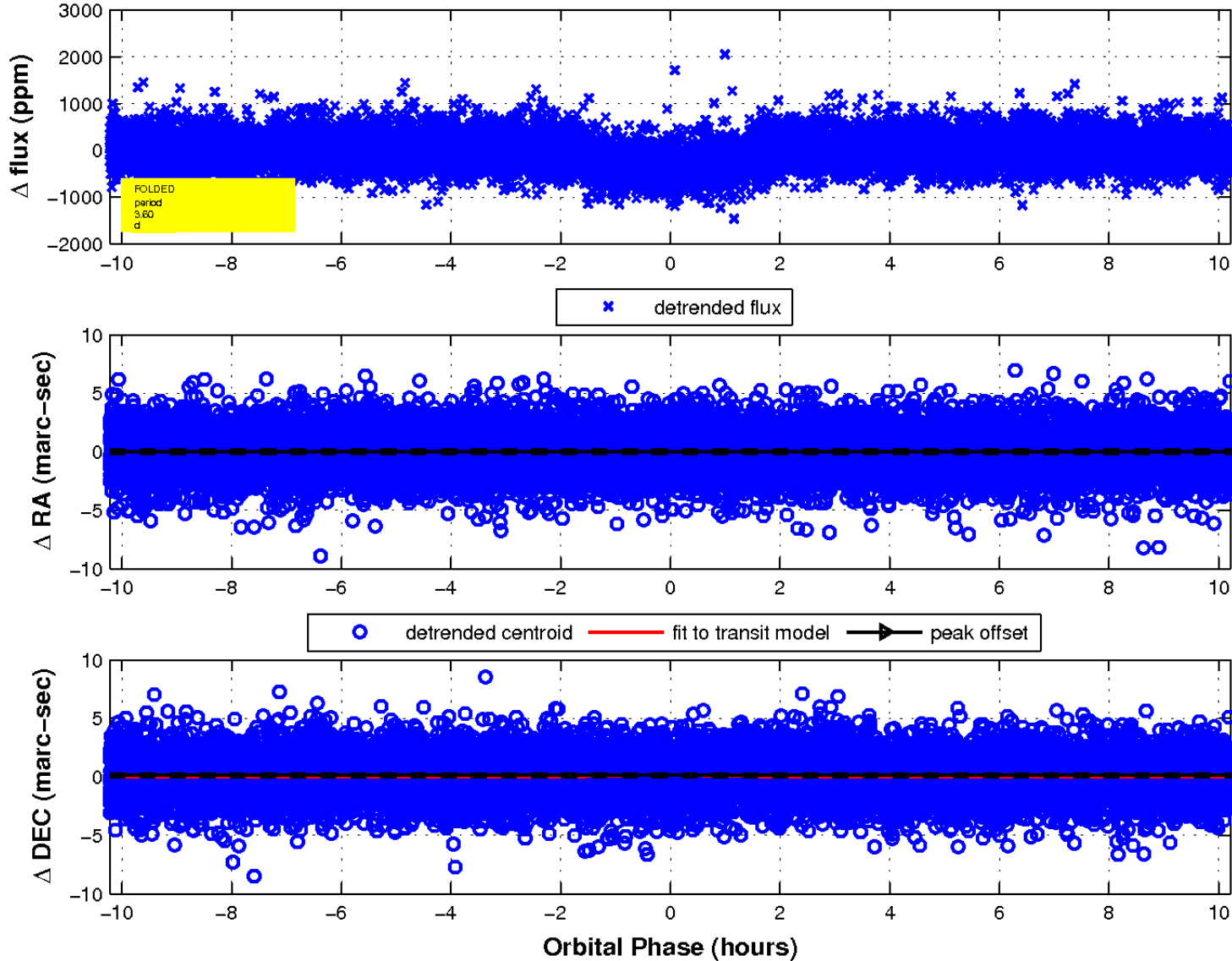




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination

