

# KIC 003654719

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003654719-01	OBS	3081.01	25.920019	138.194760	310.0	6.899	10.0	10.7	0.70	5517	1.42	16.62

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003654719-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

**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 003654719-01

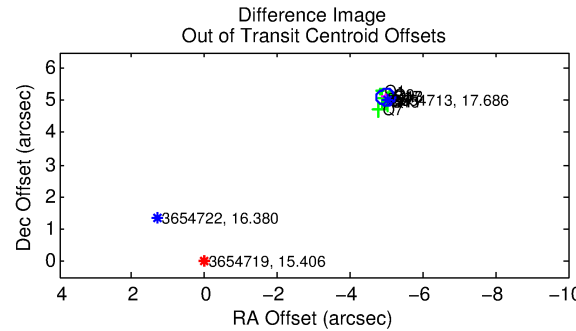
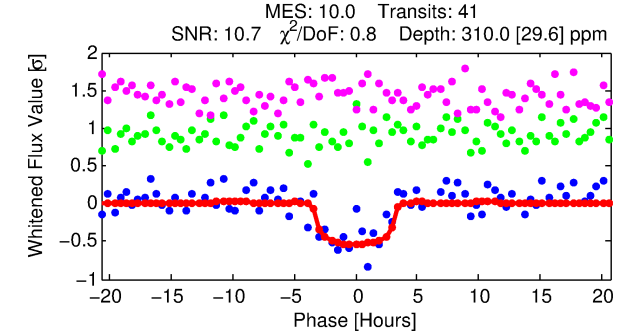
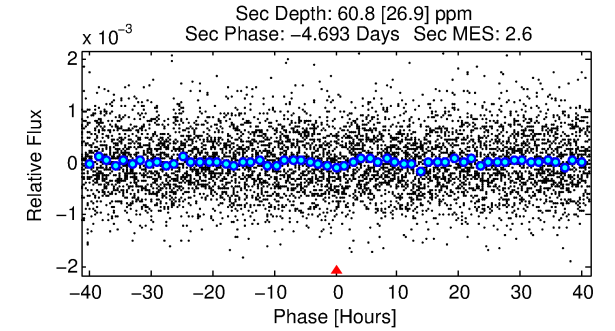
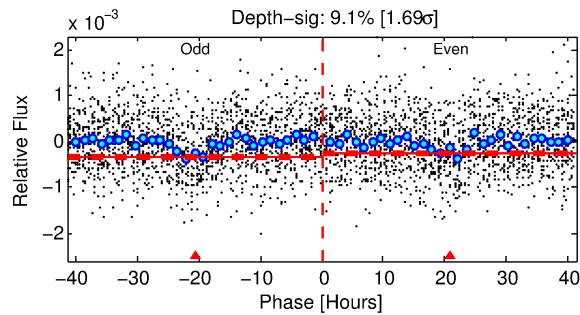
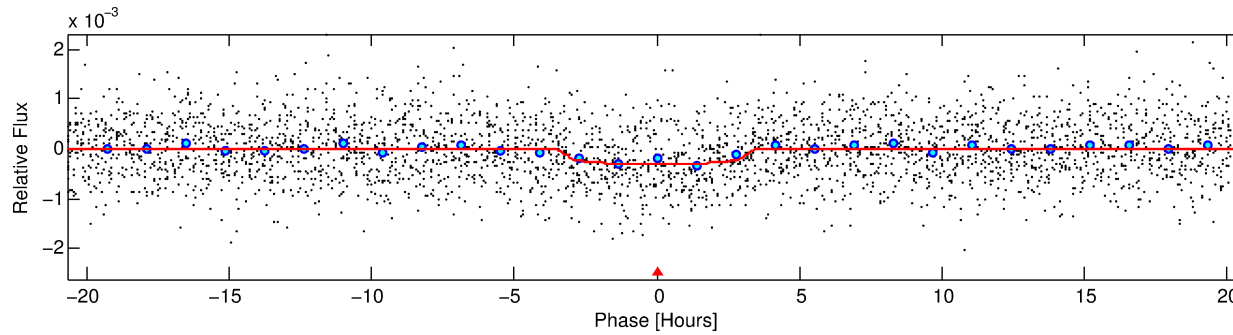
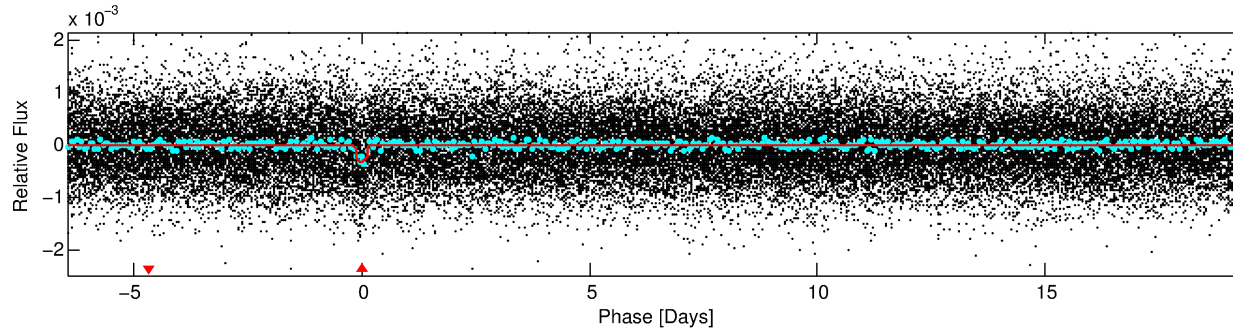
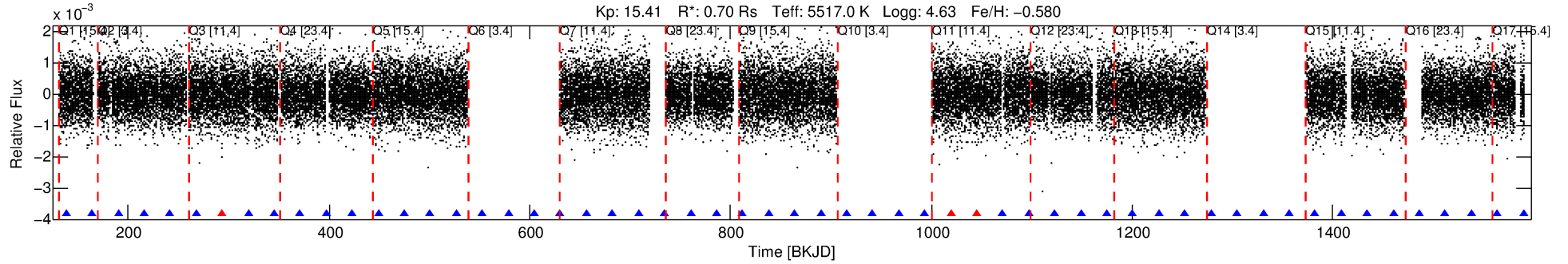
No Significant Match Found

# DV One-Page Summary

KIC: 3654719 Candidate: 1 of 1 Period: 25.920 d

KOI: K03081.01 Corr: 0.926

Kp: 15.41 R\*: 0.70 Rs Teff: 5517.0 K Logg: 4.63 Fe/H: -0.580



## DV Fit Results:

Period = 25.92002 [0.00038] d  
Epoch = 138.1948 [0.0123] BKJD  
Rp/R\* = 0.0185 [0.0059]  
a/R\* = 15.84 [23.27]  
b = 0.86 [0.47]  
Seff = 16.62 [3.76]  
Teq = 515 [29] K  
Rp = 1.42 [0.51] Re  
a = 0.1573 [0.0212] AU  
Ag = 410.90 [329.30] [1.24σ]  
Teff = 3584 [705] K [4.35σ]

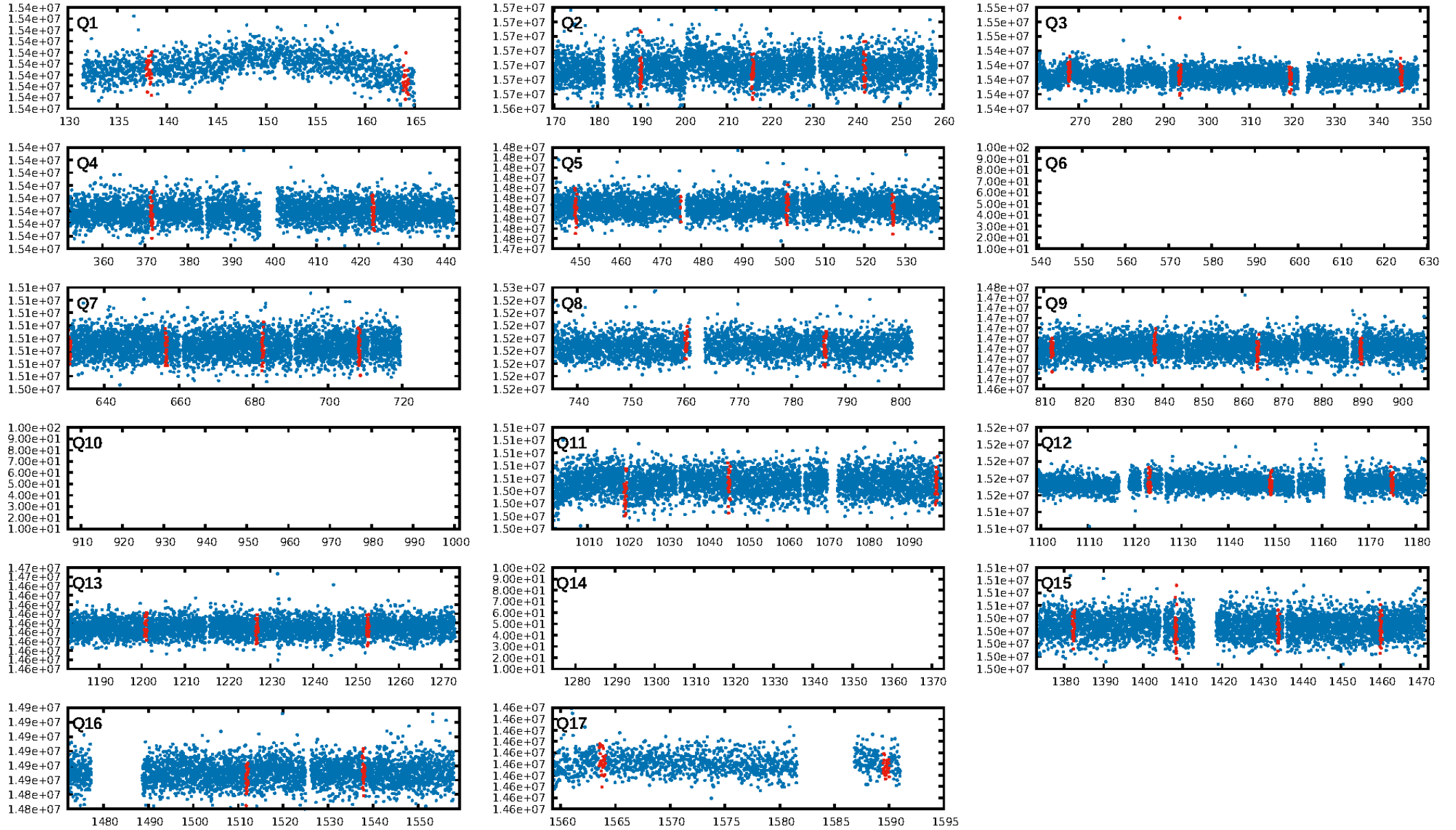
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 11.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.34e-22  
RollingBand-fgt: 0.92 [34/37]  
GhostDiagnostic-chr: -0.1667  
Centroid-sig: 0.0%  
Centroid-so: 24.551 arcsec [18.76σ]  
OotOffset-rm: 7.128 arcsec [84.69σ]  
KicOffset-rm: 7.073 arcsec [84.26σ]  
OotOffset-st: 0/4/0/5 [9]  
KicOffset-st: 0/4/0/5 [9]  
DiffImageQuality-fgm: 1.00 [9/9]  
DiffImageOverlap-fno: 1.00 [14/14]

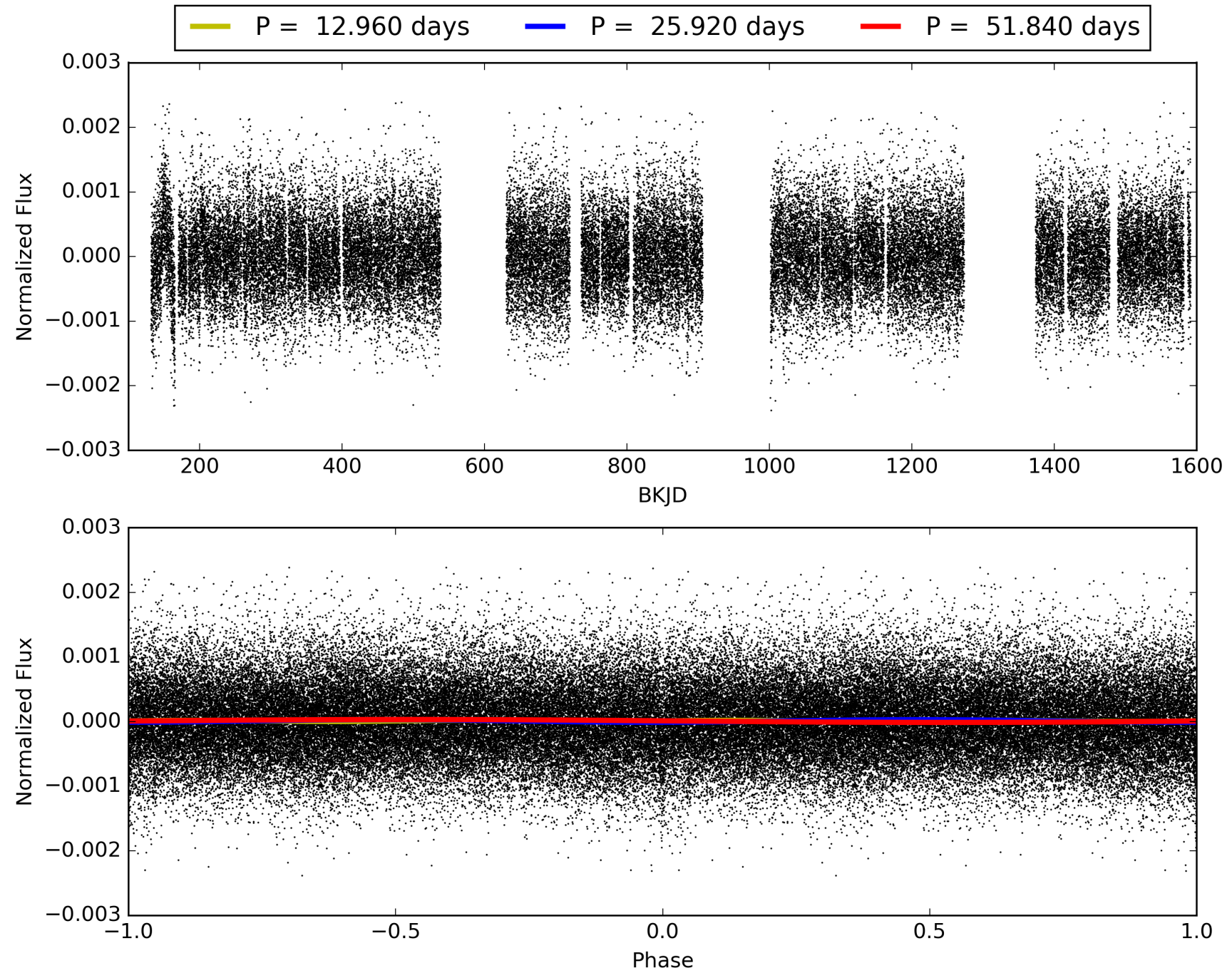
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:07:37 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 003654719-01, PDC Light Curves

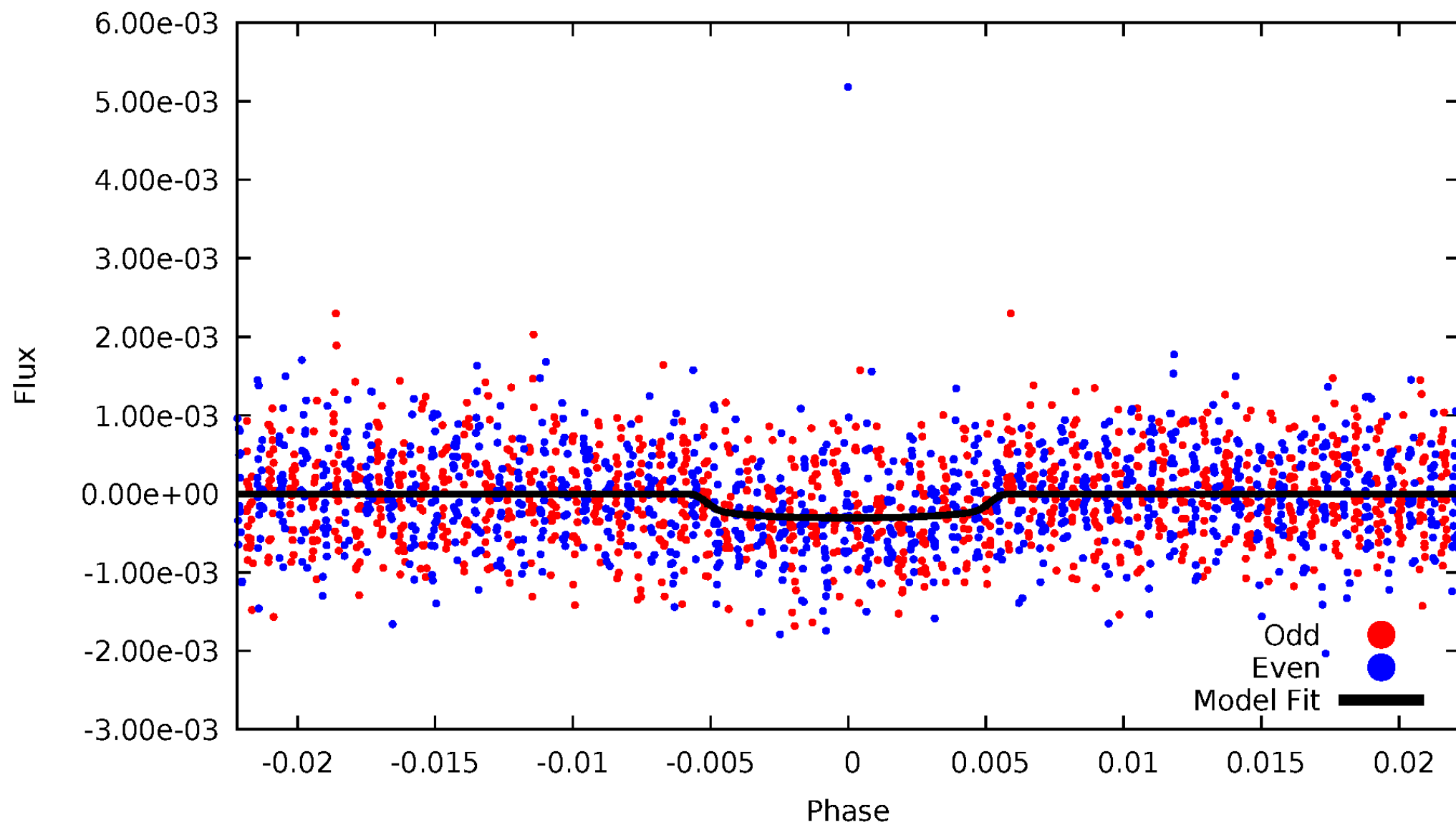


TCE 003654719-01



# DV Odd/Even

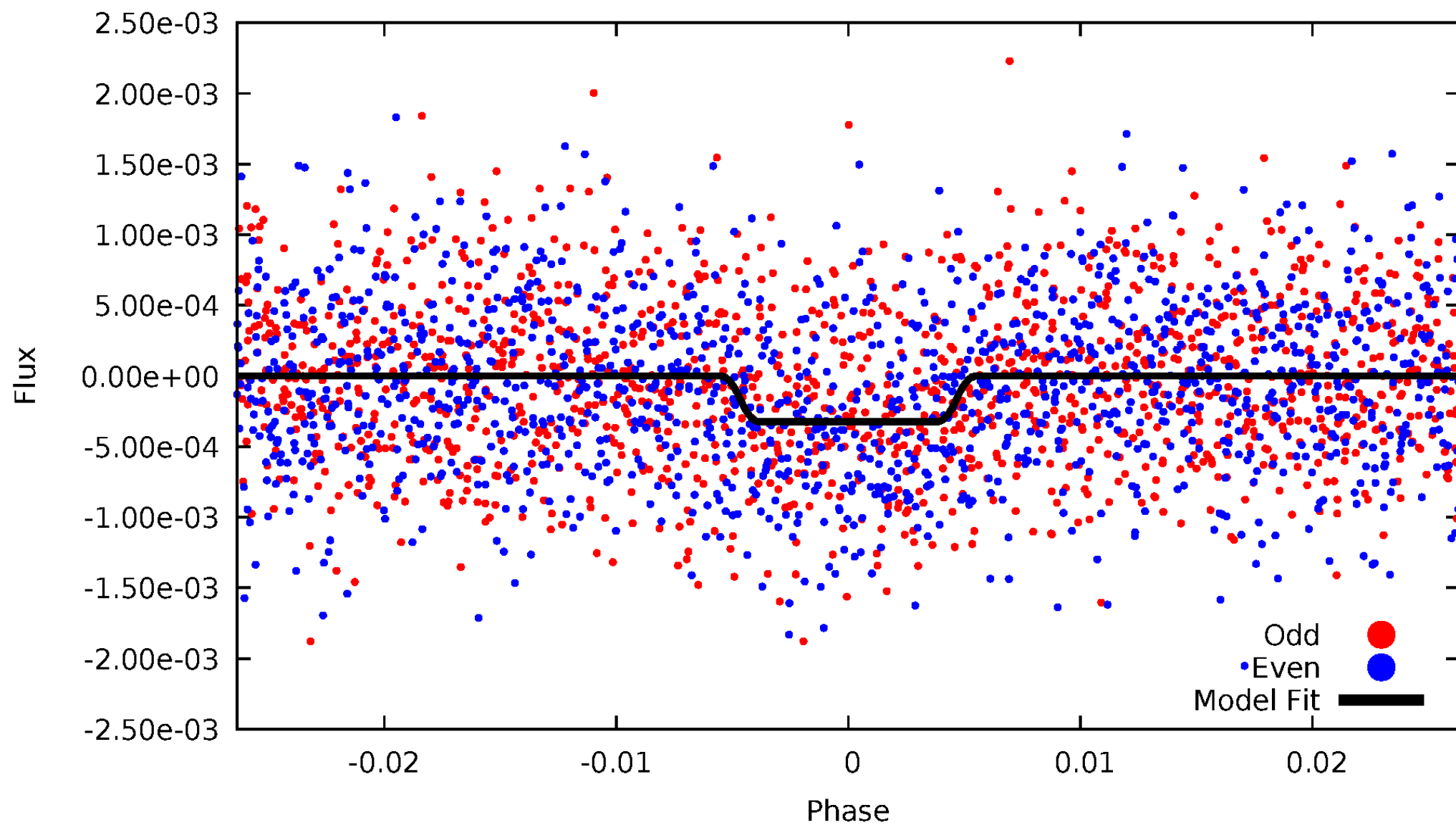
TCE 003654719-01



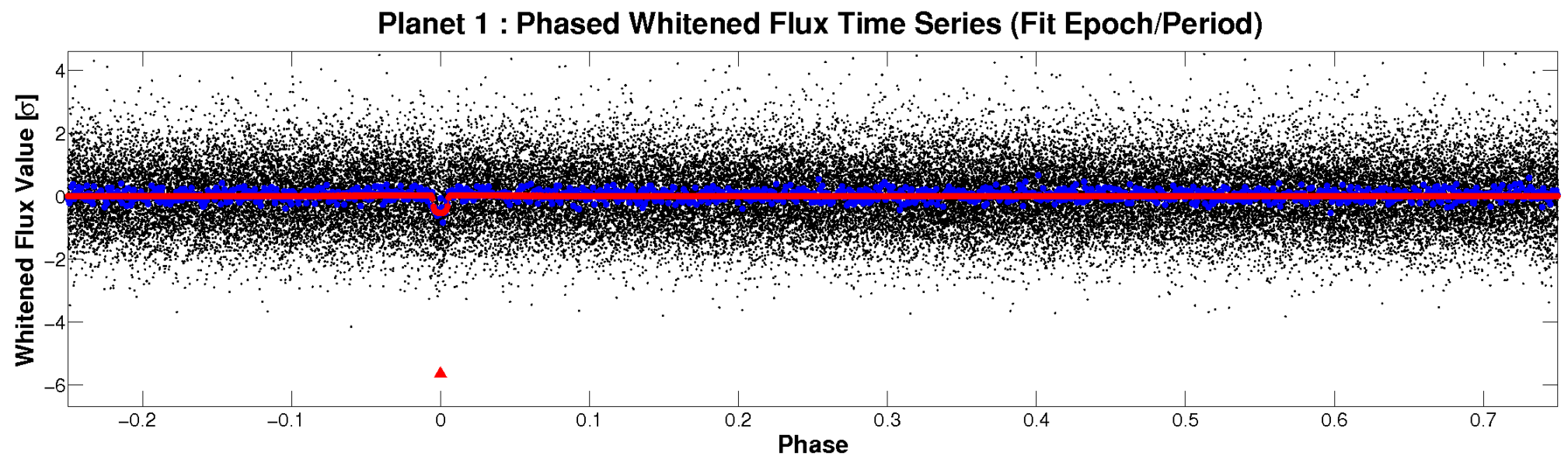
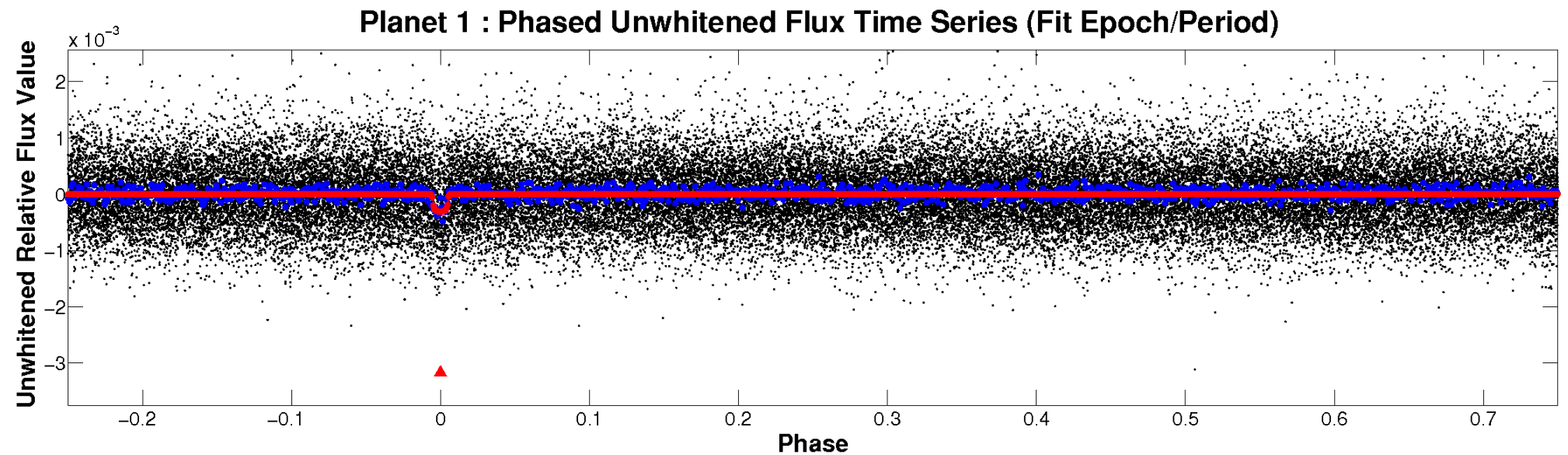


# ALT Odd/Even

TCE 003654719-01

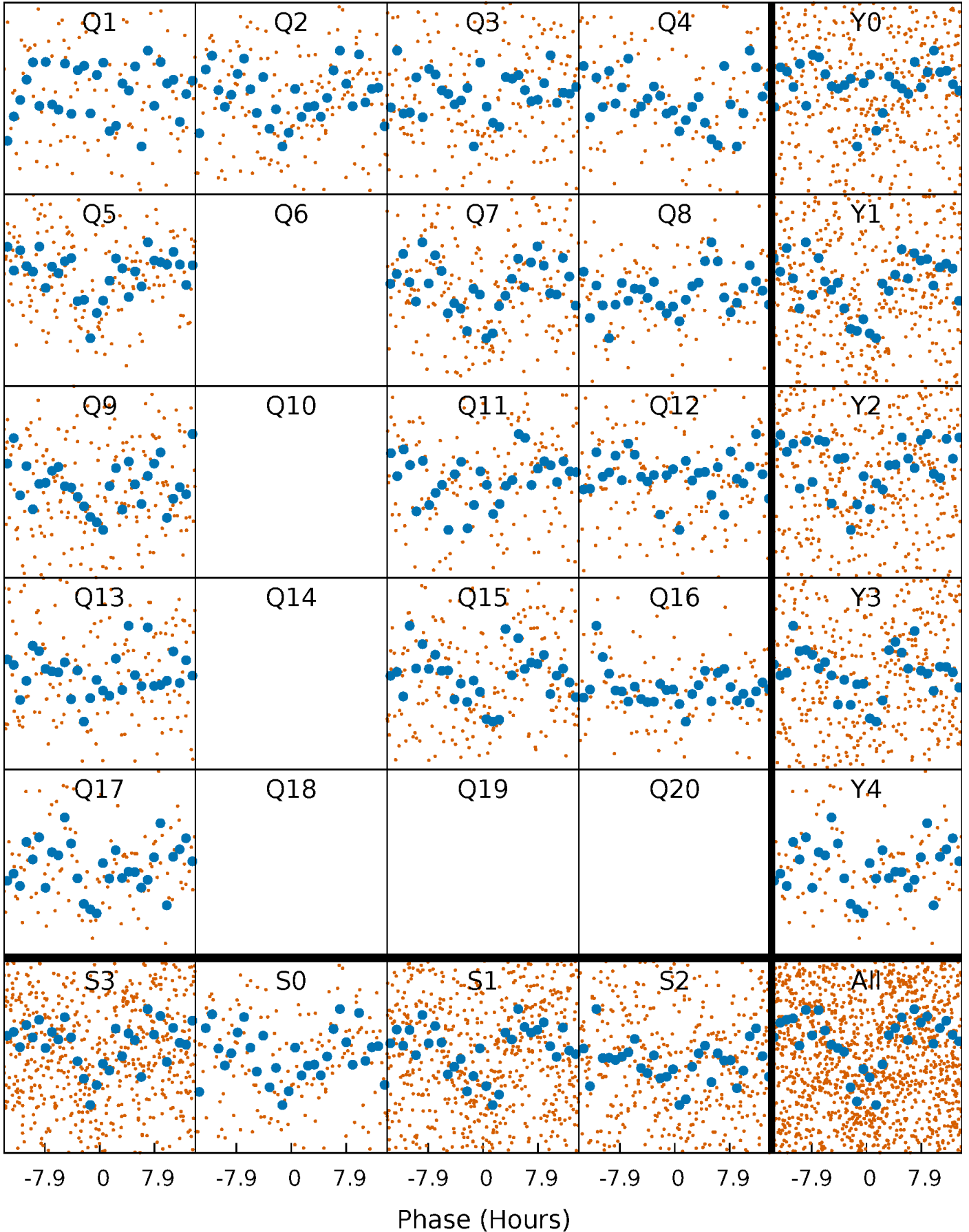


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

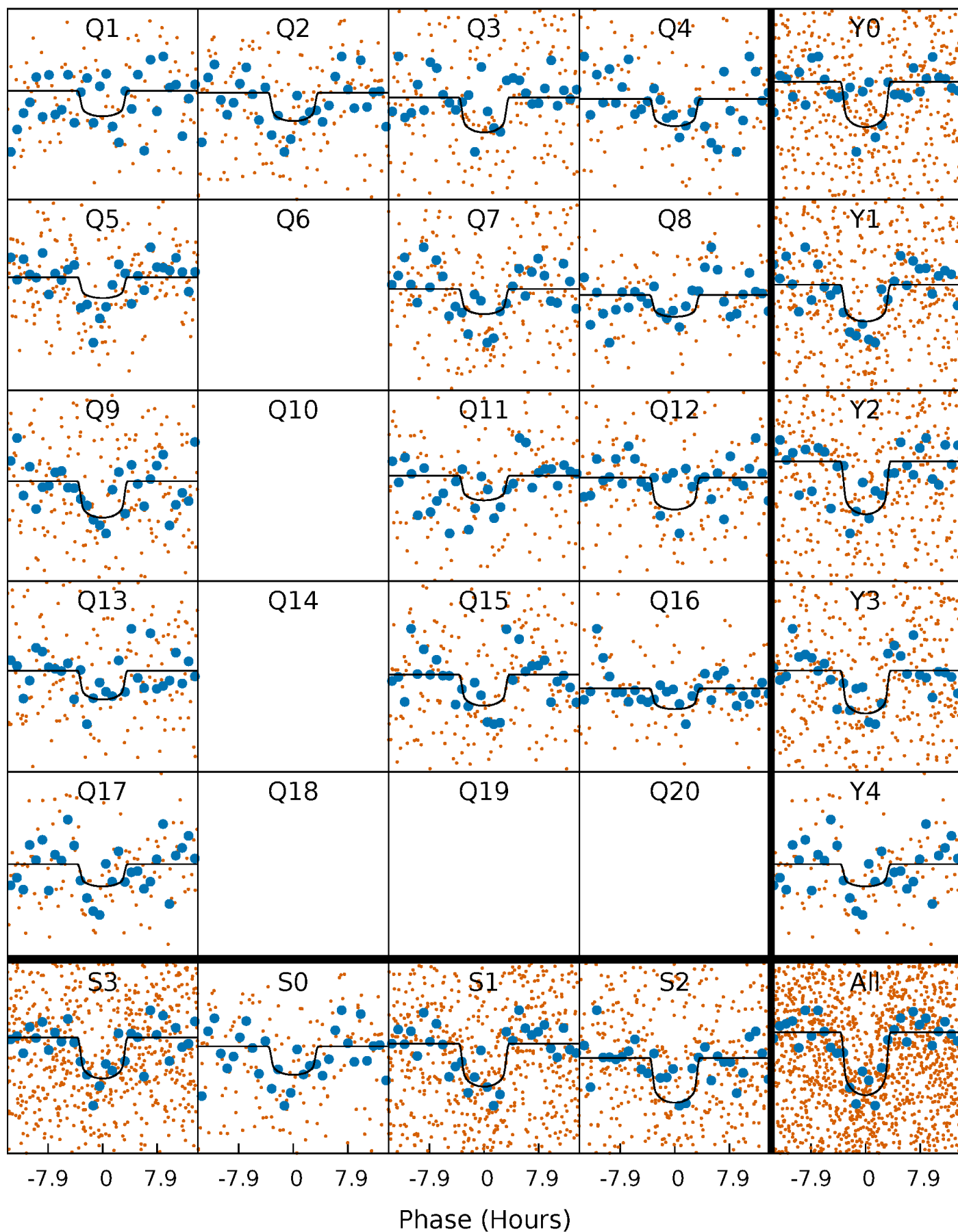
TCE 003654719-01 P= 25.920019 Days  $T_0=138.194760$  (BKJD)





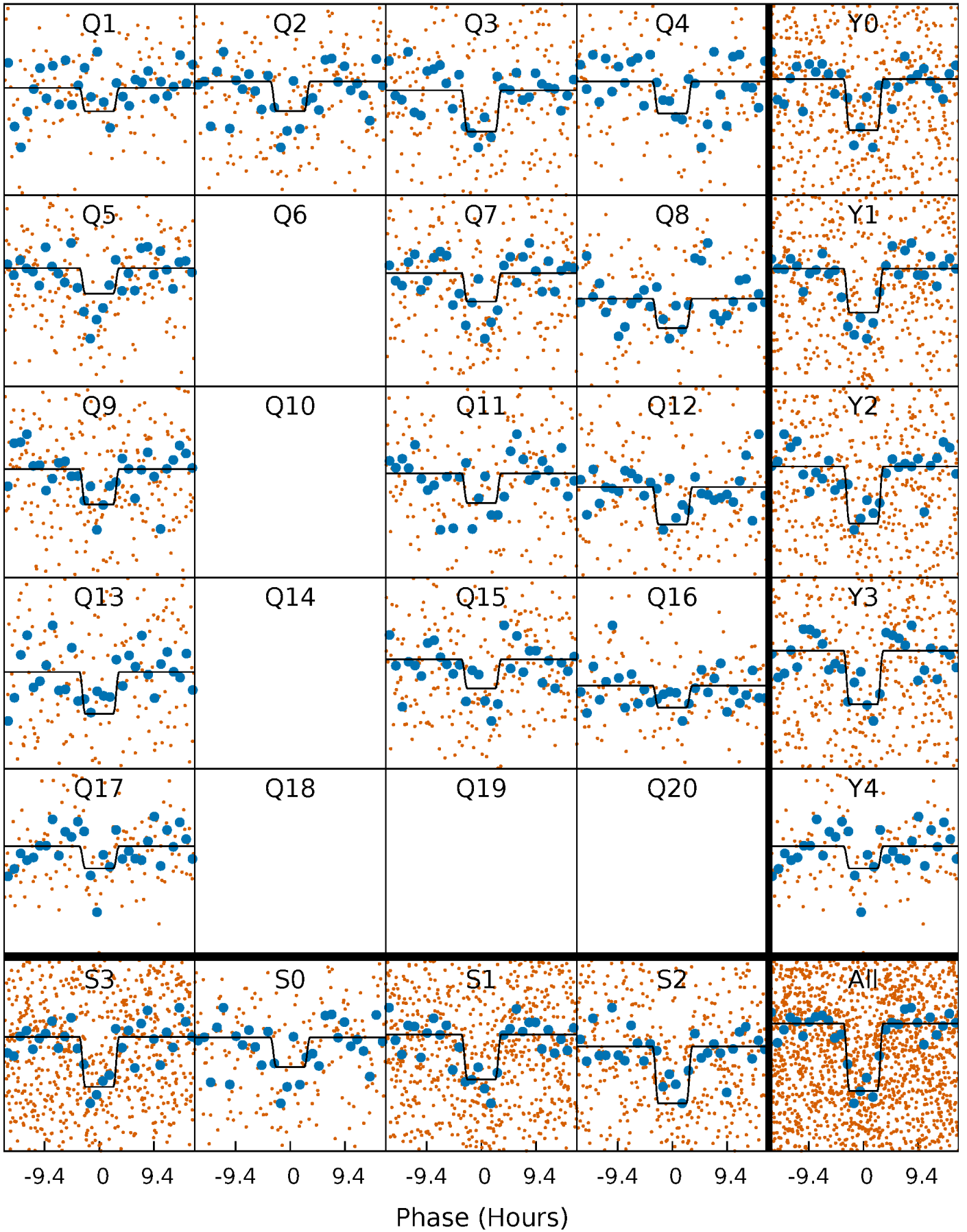
# DV Quarter-Phased Transit Curves

TCE 003654719-01 P= 25.920019 Days  $T_0=138.194760$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

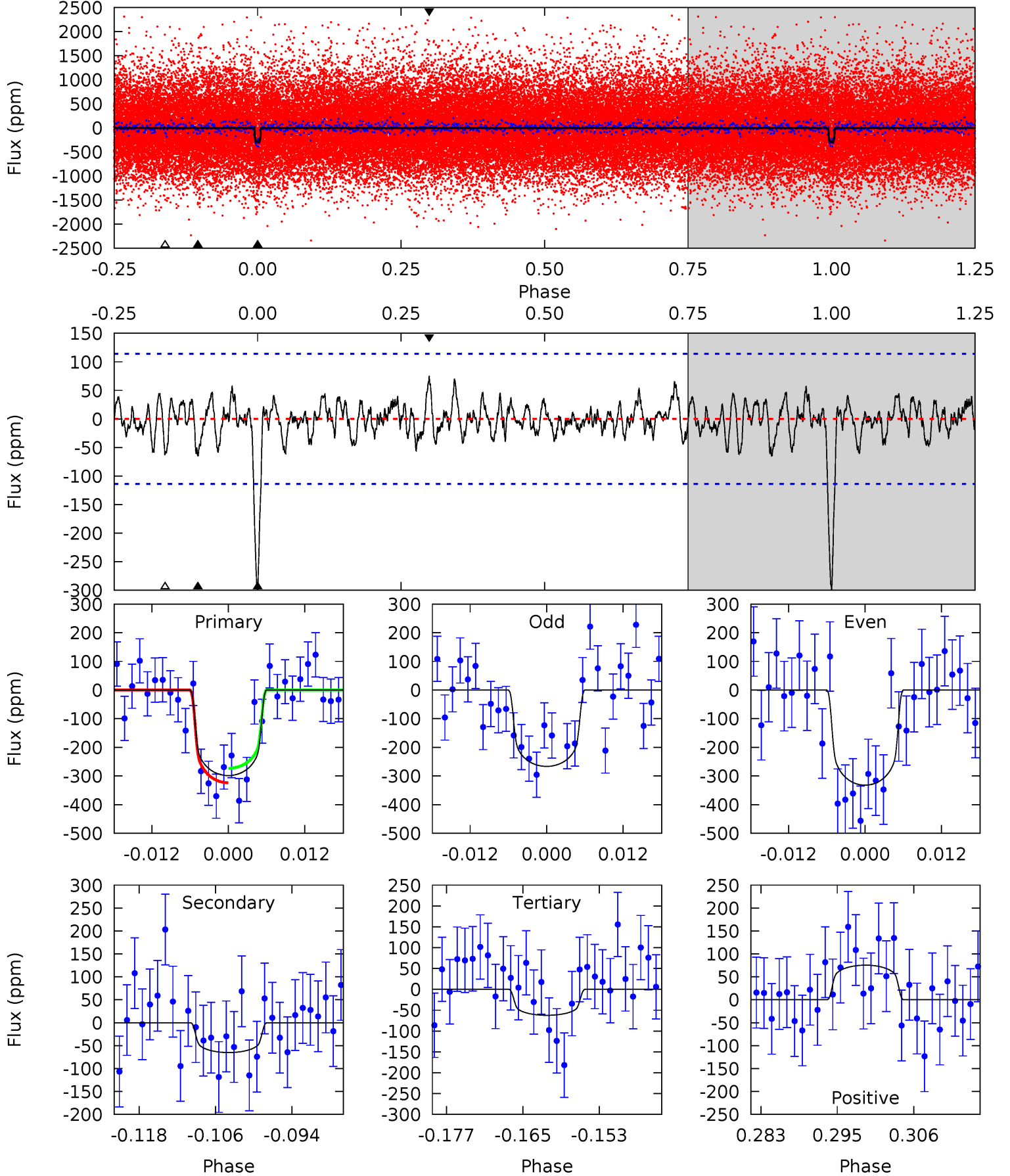
TCE 003654719-01 P= 25.919230 Days  $T_0=138.206041$  (BKJD)



# DV Model-Shift Uniqueness Test

003654719-01, P = 25.920019 Days, E = 112.274741 Days

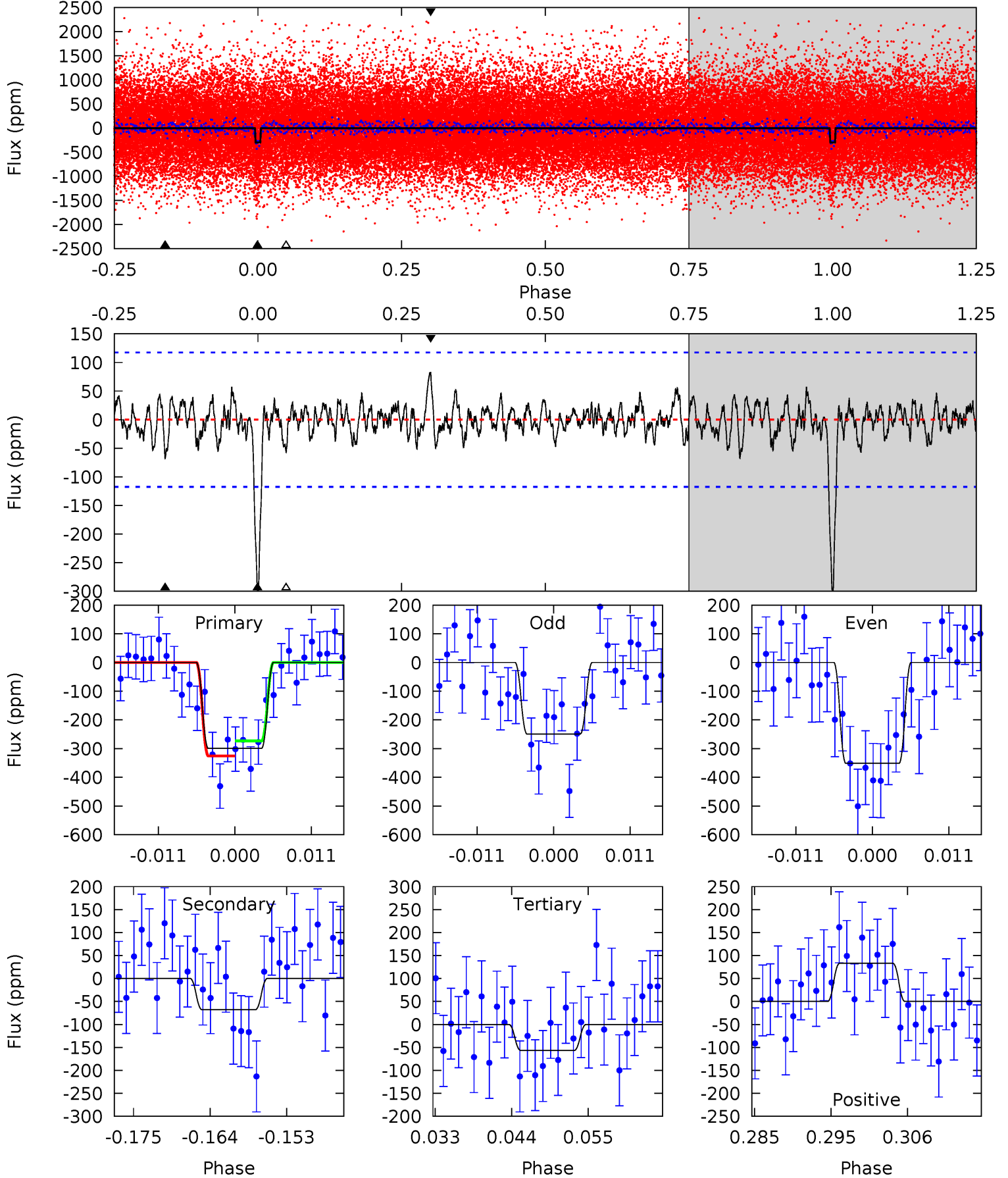
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	2.86	2.73	3.31	4.99	2.52	1.02	10.4	9.79	0.12	-0.45	1.44	1.06	0.20	1.11



# Alt Model-Shift Uniqueness Test

003654719-01, P = 25.919230 Days, E = 112.286811 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
12.7	2.90	2.43	3.54	5.01	2.54	0.93	10.3	9.20	0.47	-0.64	2.18	1.09	0.22	1.11



### Stellar Parameters For KIC 003654719

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5517^{+163}_{-163}$	$4.631^{+0.032}_{-0.104}$	$-0.580^{+0.350}_{-0.300}$	$0.704^{+0.115}_{-0.046}$	$0.788^{+0.073}_{-0.081}$	$3.187^{+0.451}_{-1.044}$
	+3%/-3%	+1%/-2%	+60%/-52%	+16%/-7%	+9%/-10%	+14%/-33%
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 003654719-01 / KOI 3081.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-65 \pm 23$	$1.49^{+0.46}_{-0.49}$	$730^{+29}_{-28}$	$3922^{+673}_{-425}$	$386^{+515}_{-187}$
Alt.	$-68 \pm 23$	$1.44^{+0.47}_{-0.47}$	$729^{+32}_{-26}$	$3994^{+698}_{-453}$	$436^{+582}_{-214}$

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



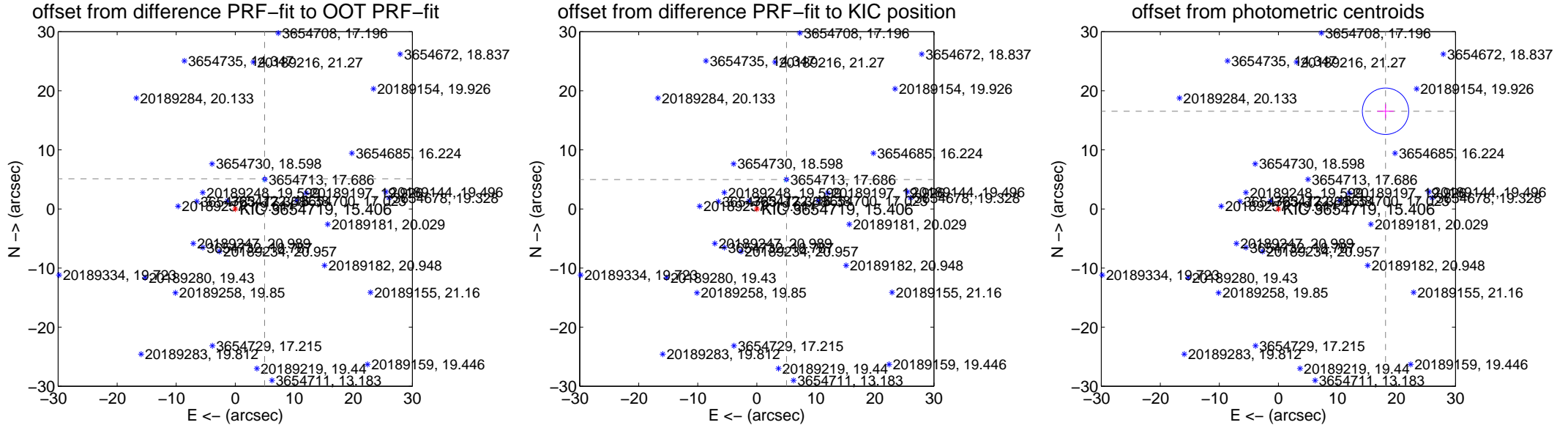
## DV Centroid Data

Supplemental centroid analysis for 003654719-01. Kepler magnitude: 15.41. Transit SNR 10.70

There are 9 quarters with good PRF difference image offsets

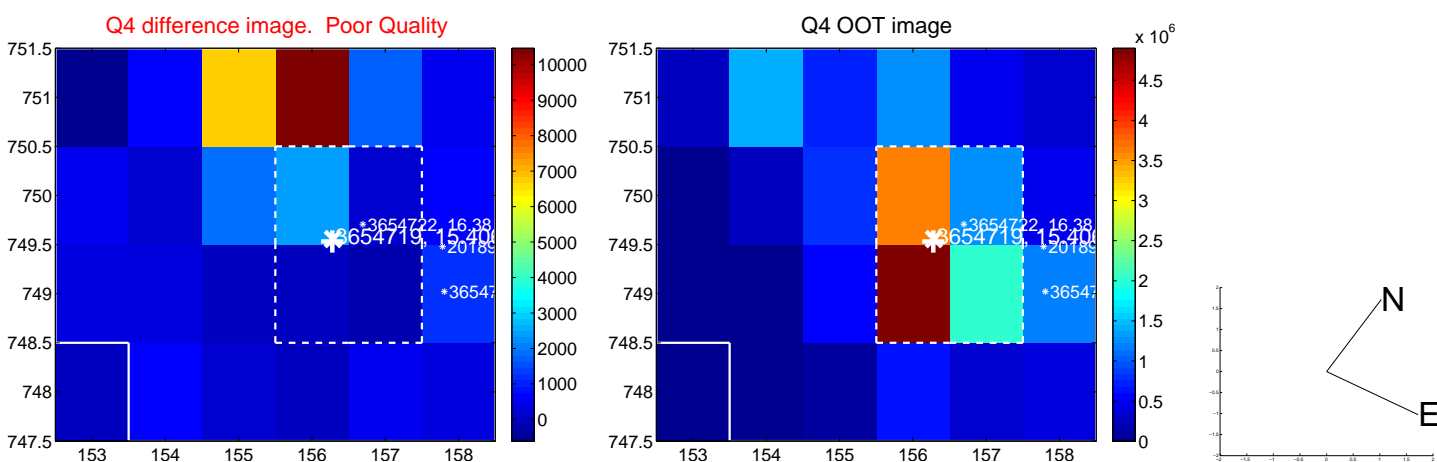
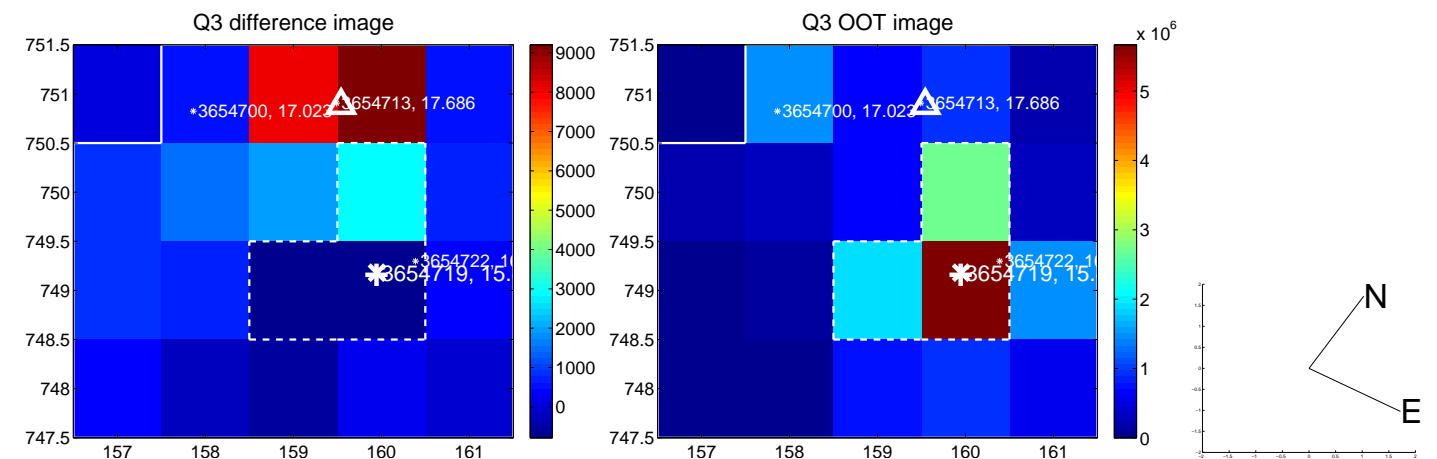
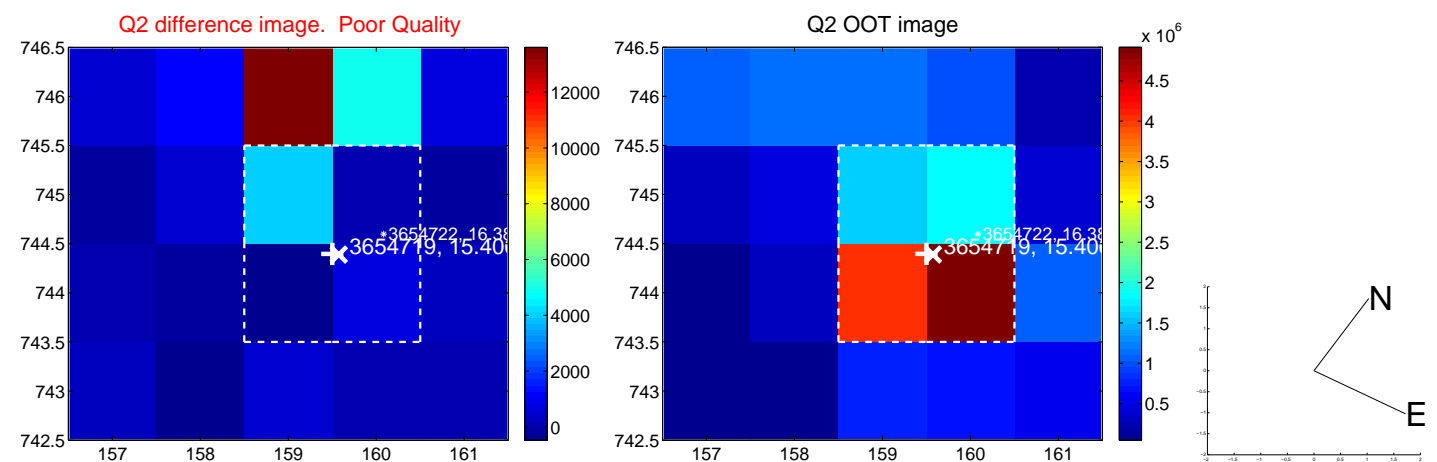
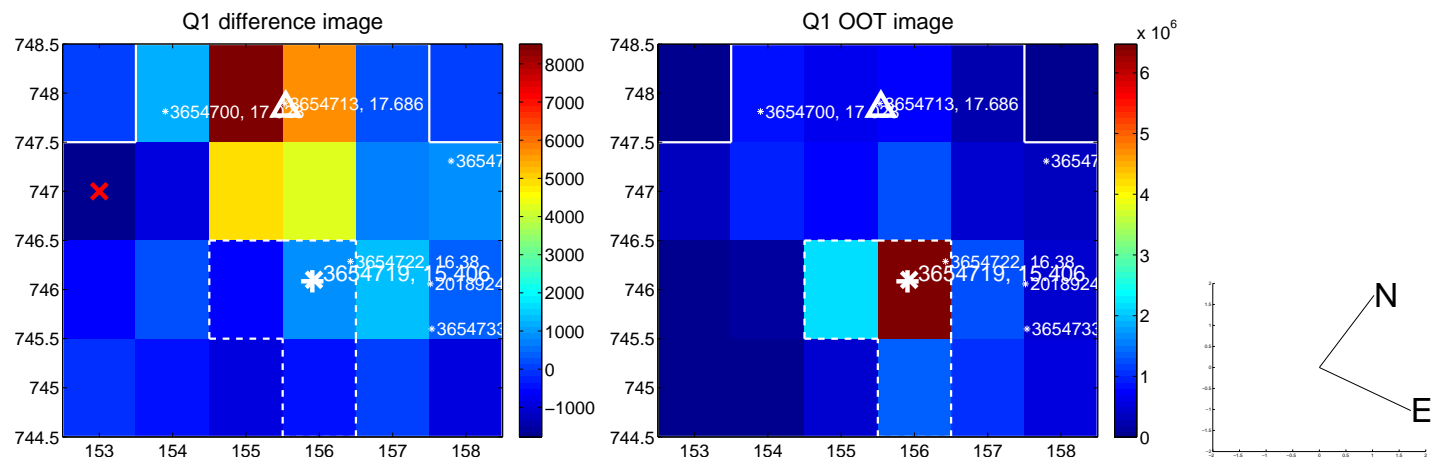
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>7.128 <math>\pm</math> 0.084</b>	<b>84.69</b>	$-4.976 \pm 0.078$	$5.104 \pm 0.090$
PRF-fit source offset from KIC position	<b>7.073 <math>\pm</math> 0.084</b>	<b>84.26</b>	$-5.027 \pm 0.078$	$4.977 \pm 0.090$
photometric centroid source offset	<b>24.55 <math>\pm</math> 1.31</b>	<b>18.76</b>	$-18.15 \pm 1.40$	$16.54 \pm 1.19$

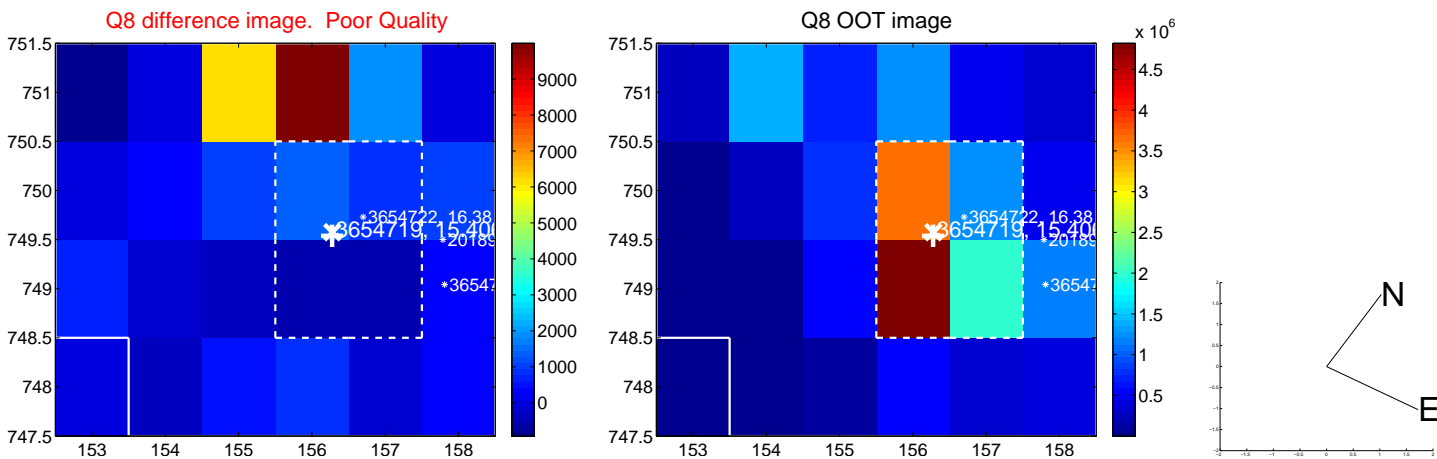
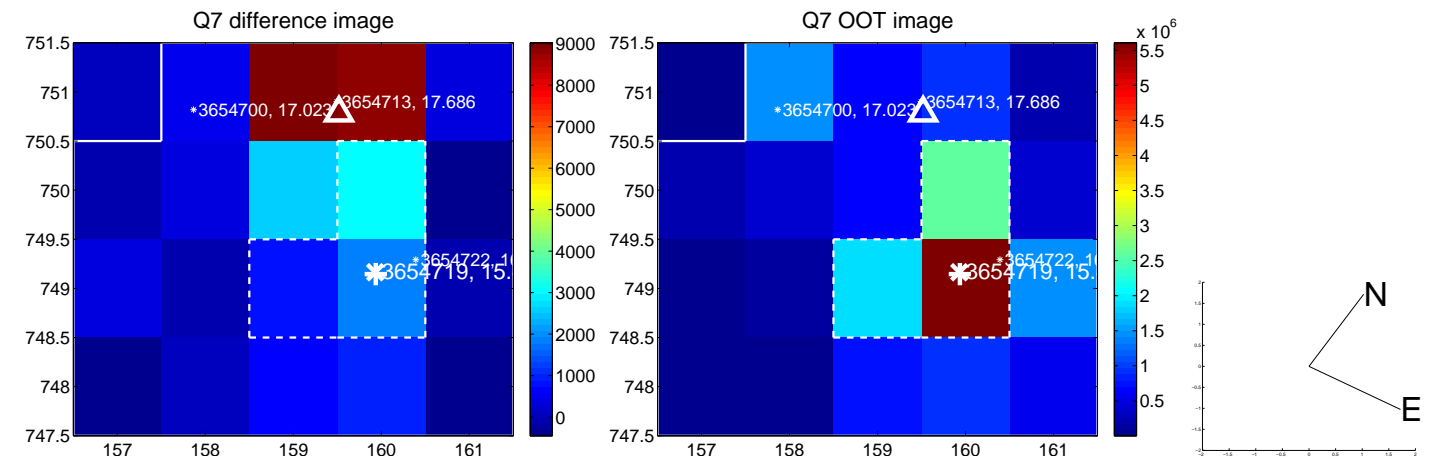
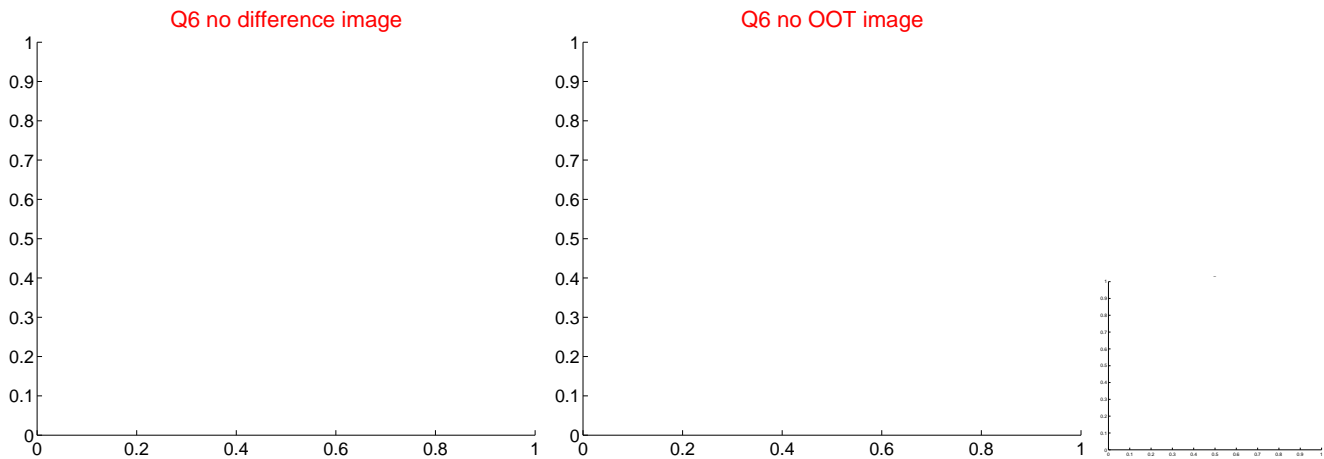
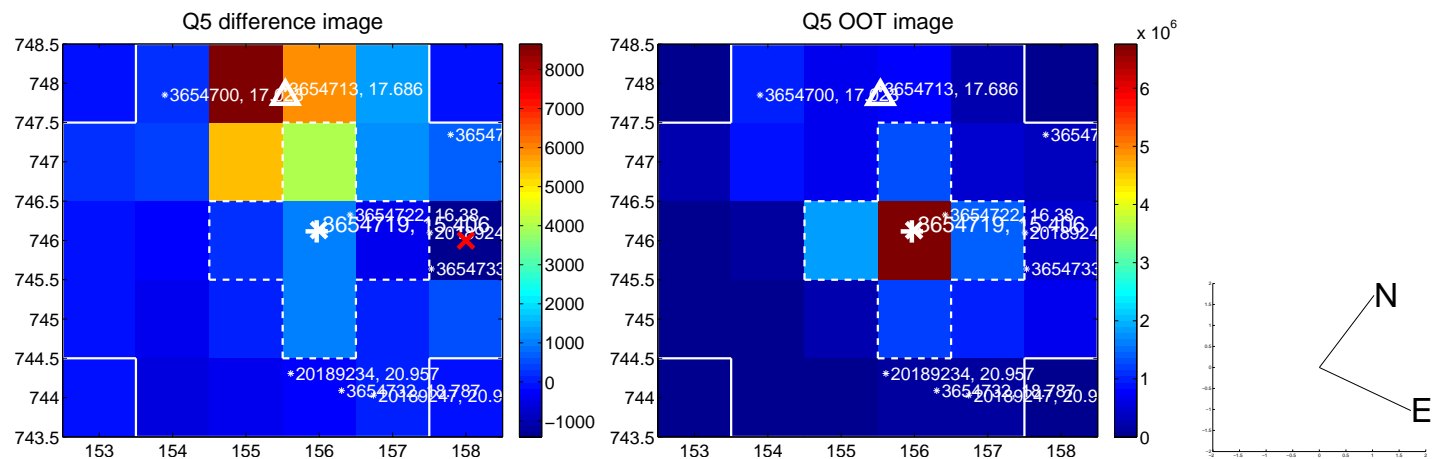


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

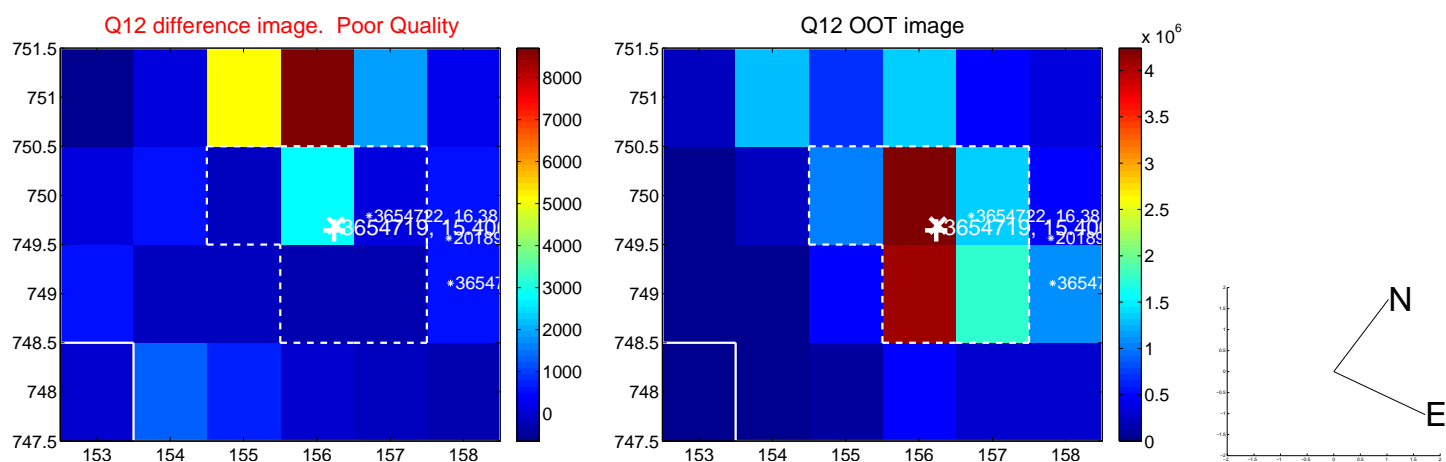
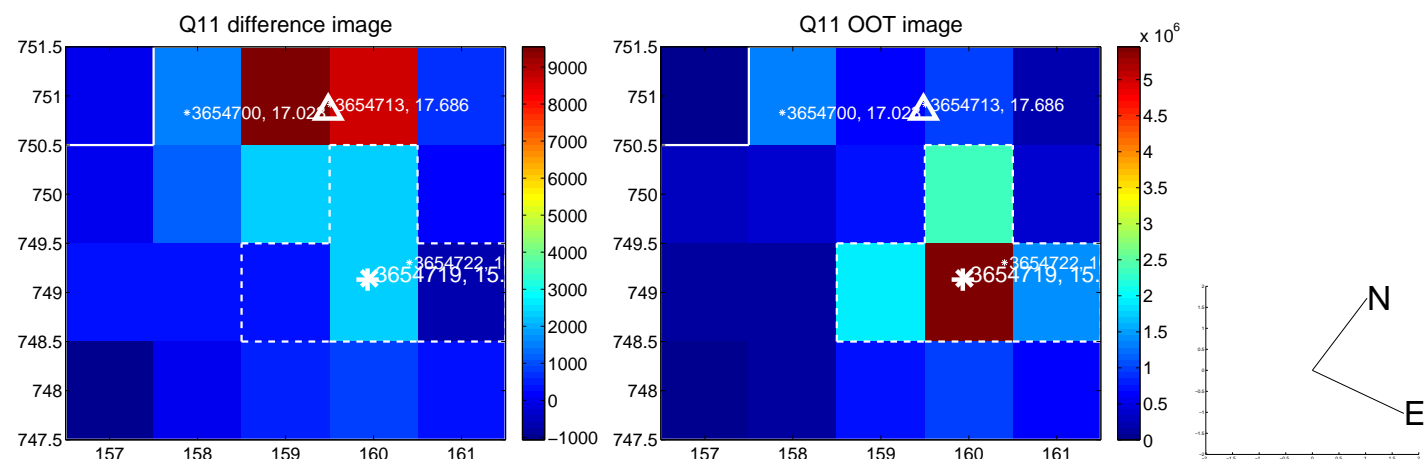
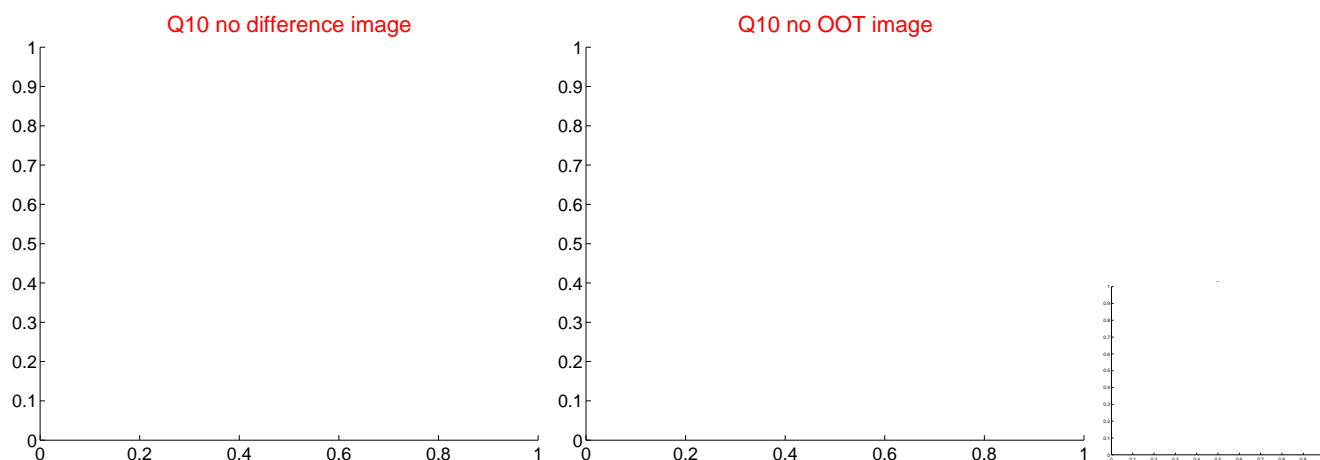
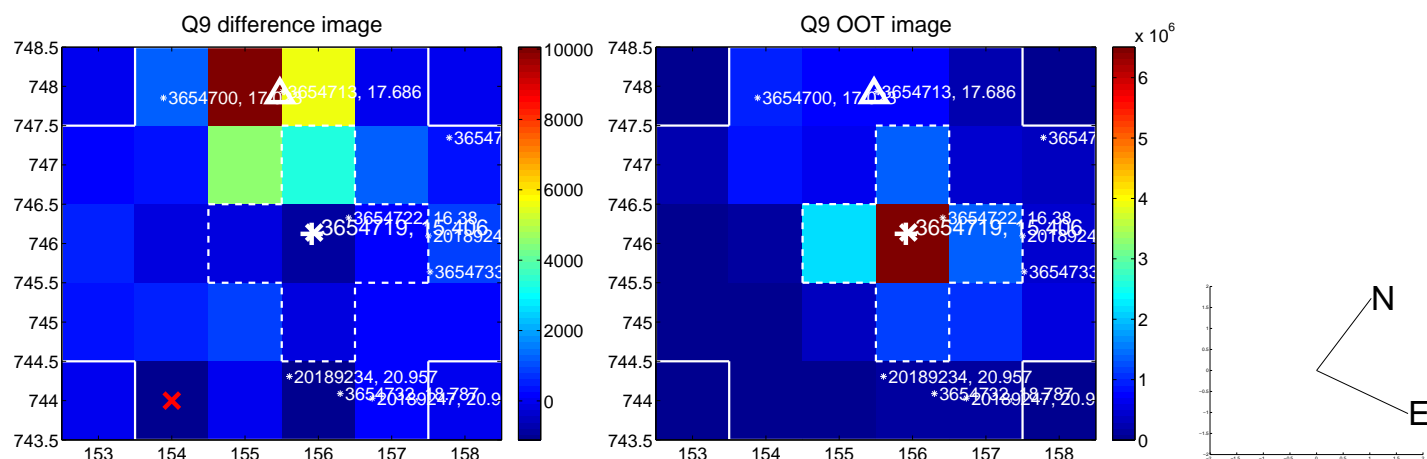
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



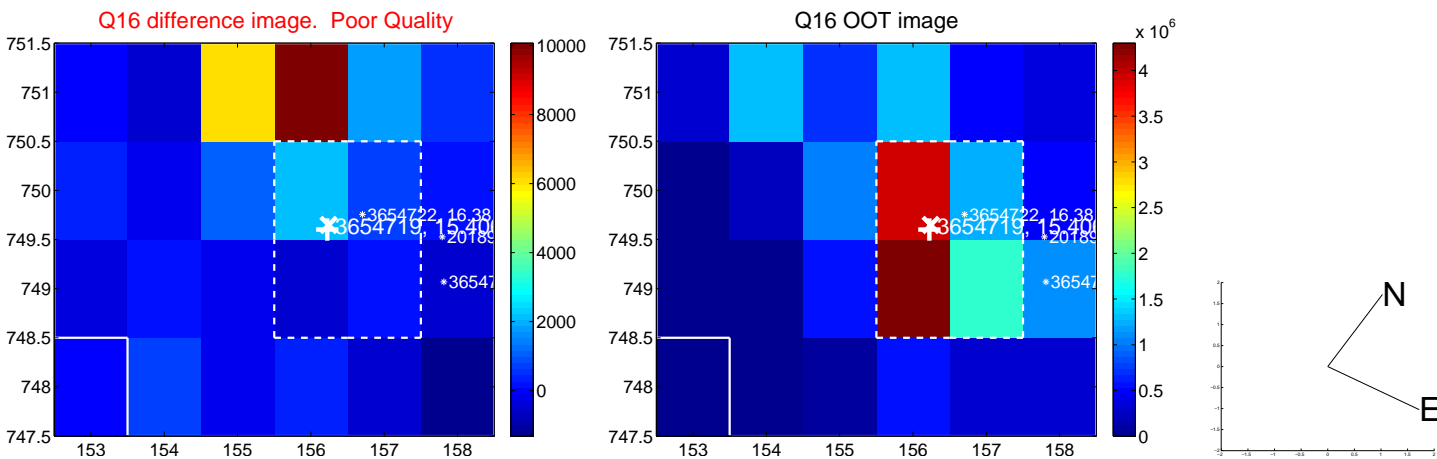
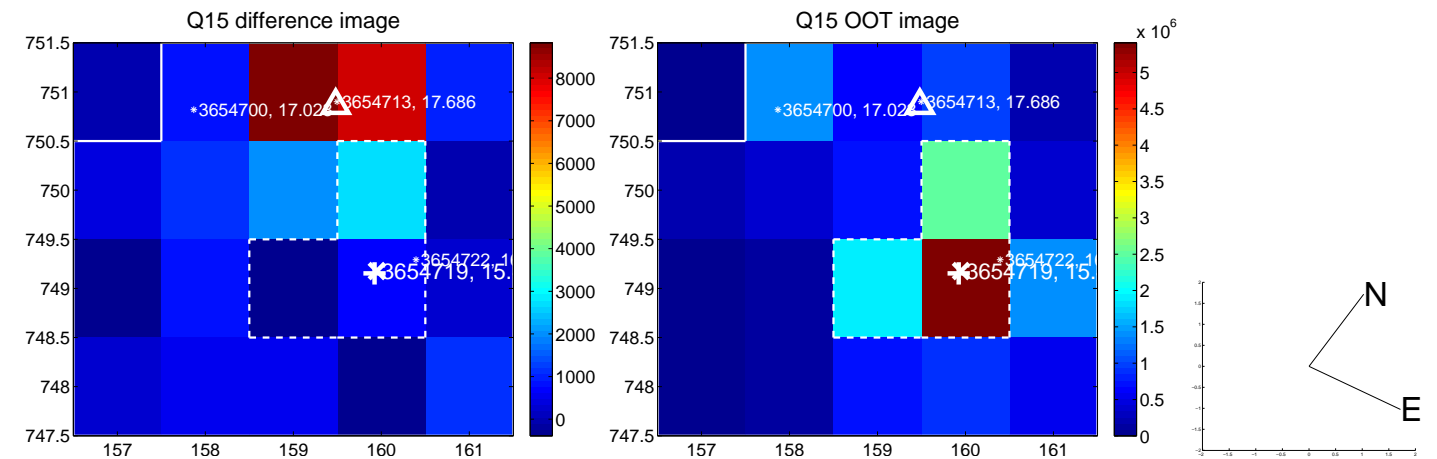
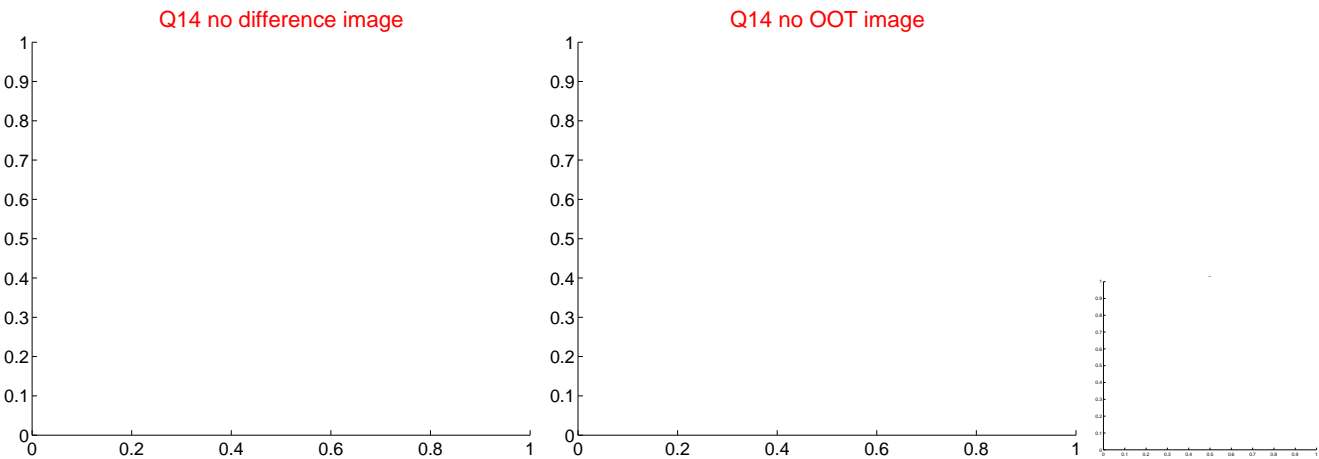
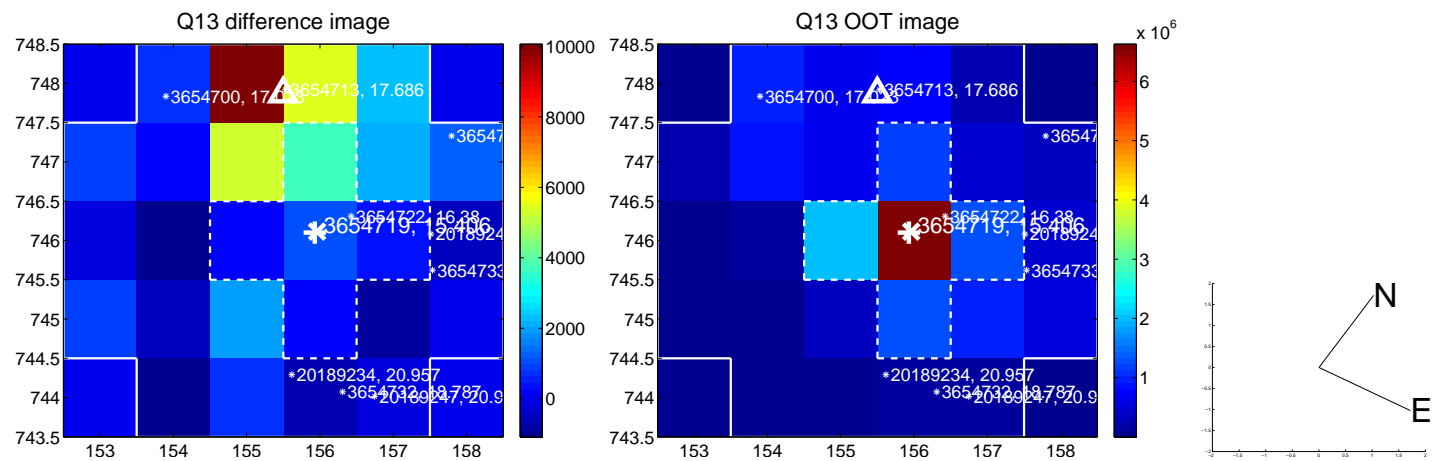
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

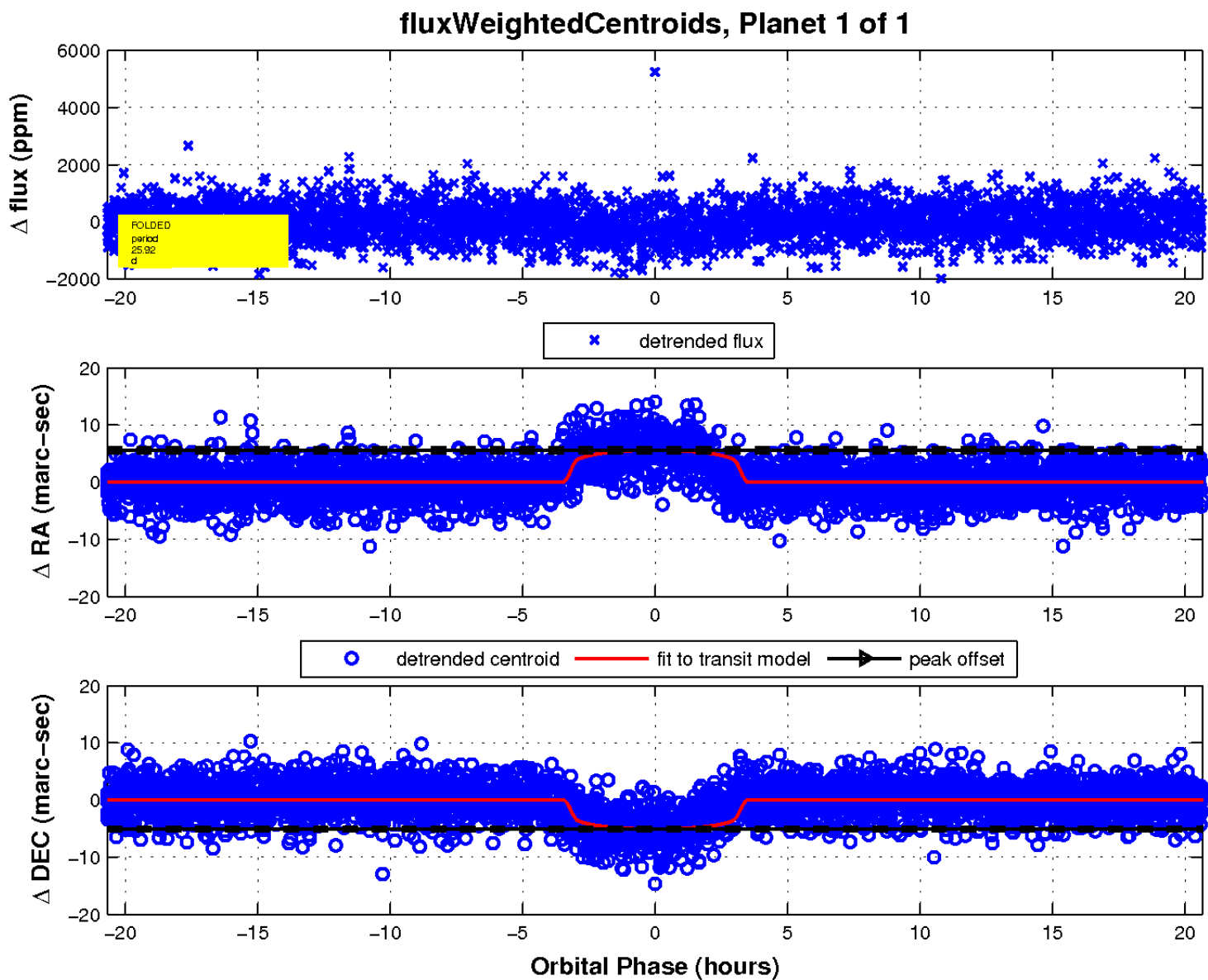
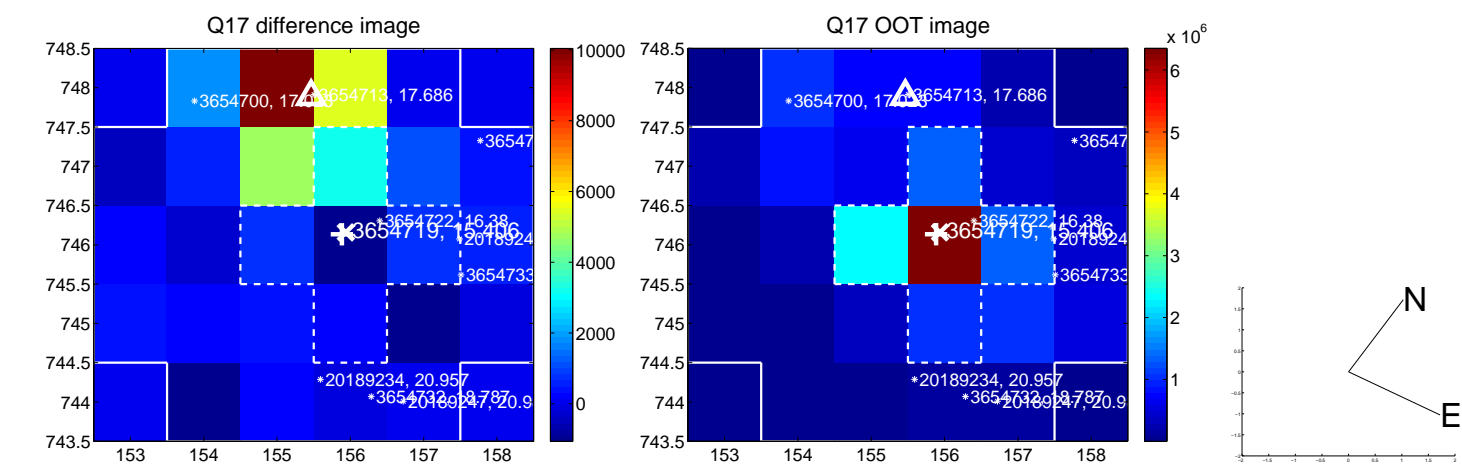


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.





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



UKIRT Image

Declination

