

# KIC 003641726

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003641726-01	OBS	0804.01	9.029298	132.058792	1007.5	3.278	47.4	51.5	0.82	5349	2.92	77.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003641726-01	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.

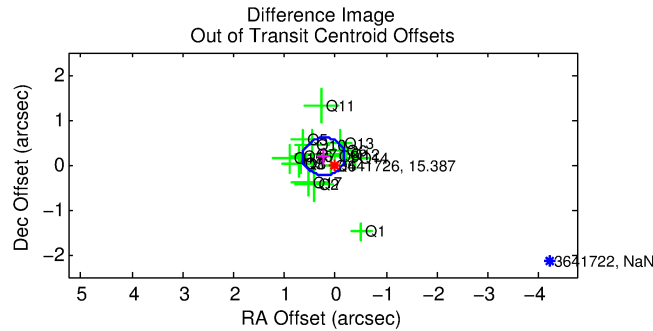
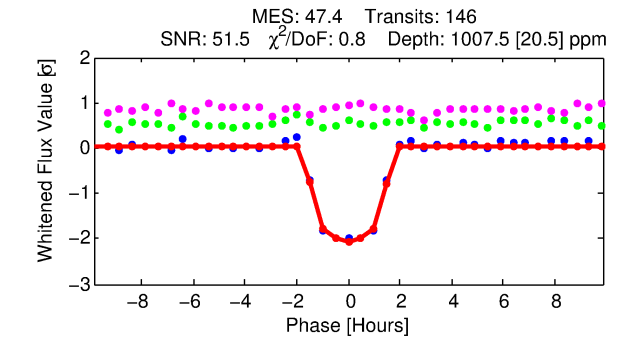
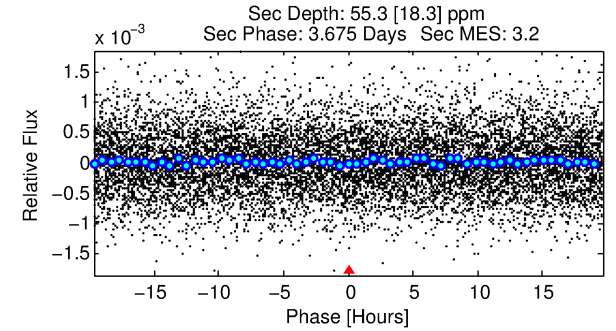
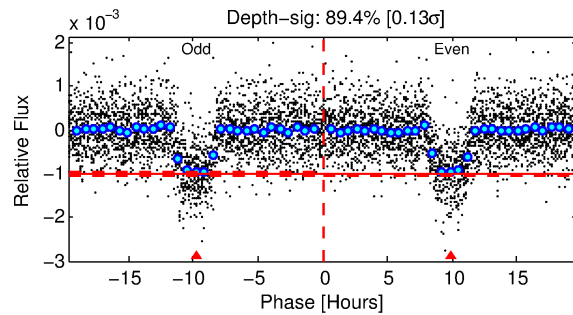
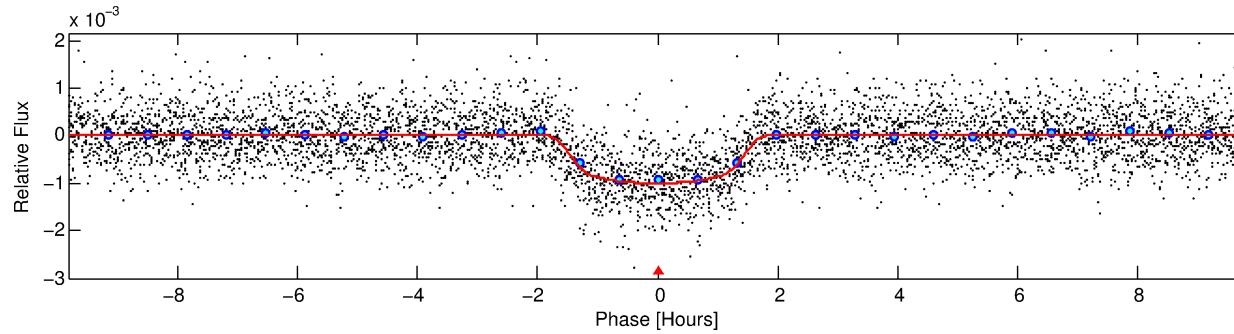
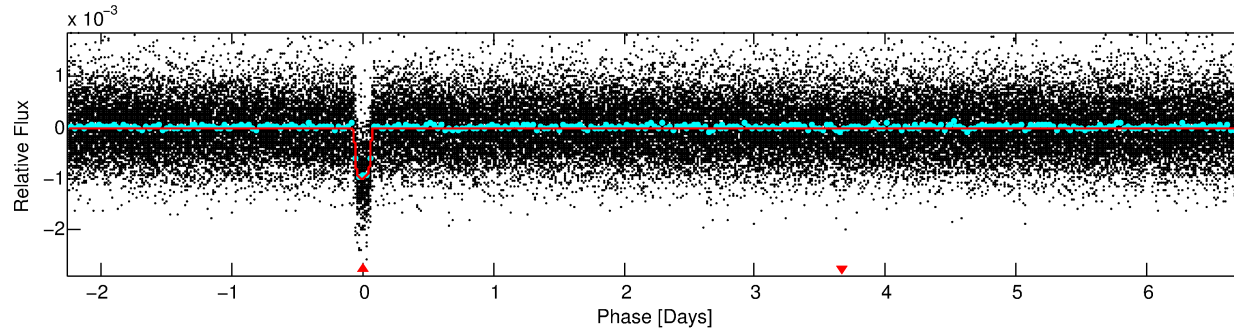
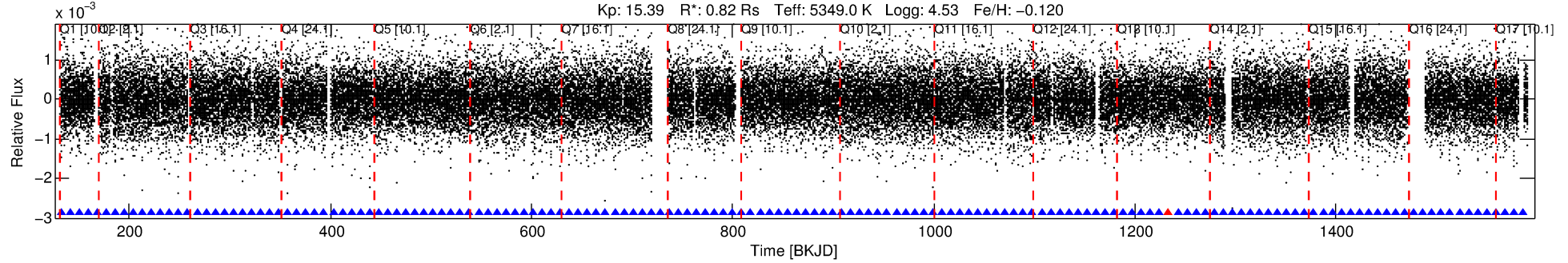
## Ephemeris Match Information For 003641726-01

No Significant Match Found

# DV One-Page Summary

KIC: 3641726 Candidate: 1 of 1 Period: 9.029 d  
KOI: K00804.01 Corr: 0.978

Kp: 15.39 R\*: 0.82 Rs Teff: 5349.0 K Logg: 4.53 Fe/H: -0.120



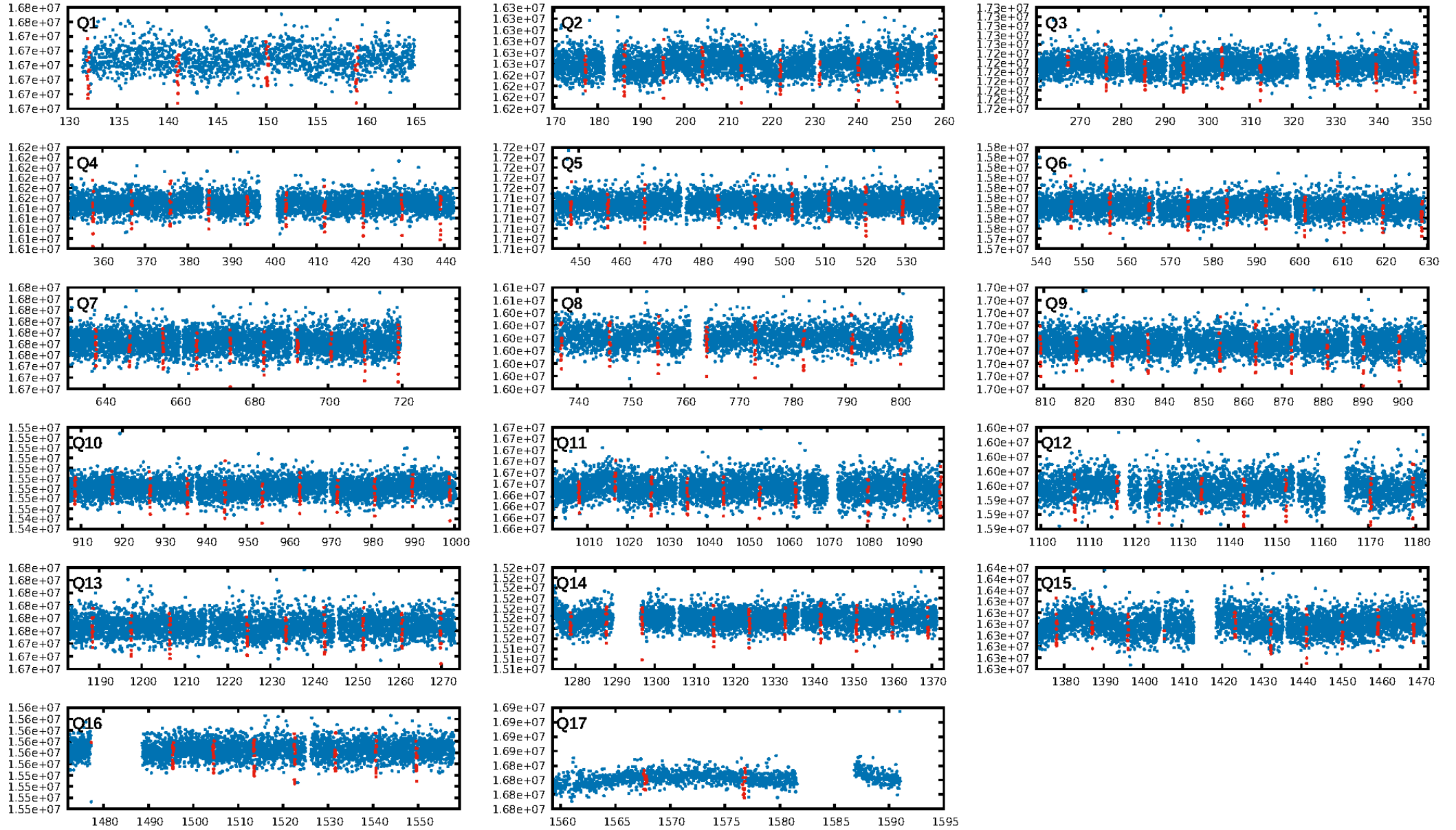
## DV Fit Results:

Period = 9.02930 [0.00002] d  
Epoch = 132.0588 [0.0014] BKJD  
Rp/R\* = 0.0327 [0.0041]  
a/R\* = 13.46 [6.67]  
b = 0.81 [0.21]  
Seff = 77.92 [18.48]  
Teq = 758 [45] K  
Rp = 2.92 [0.62] Re  
a = 0.0796 [0.0113] AU  
Ag = 22.55 [10.40] [2.07σ]  
Teffp = 2552 [277] K [6.41σ]

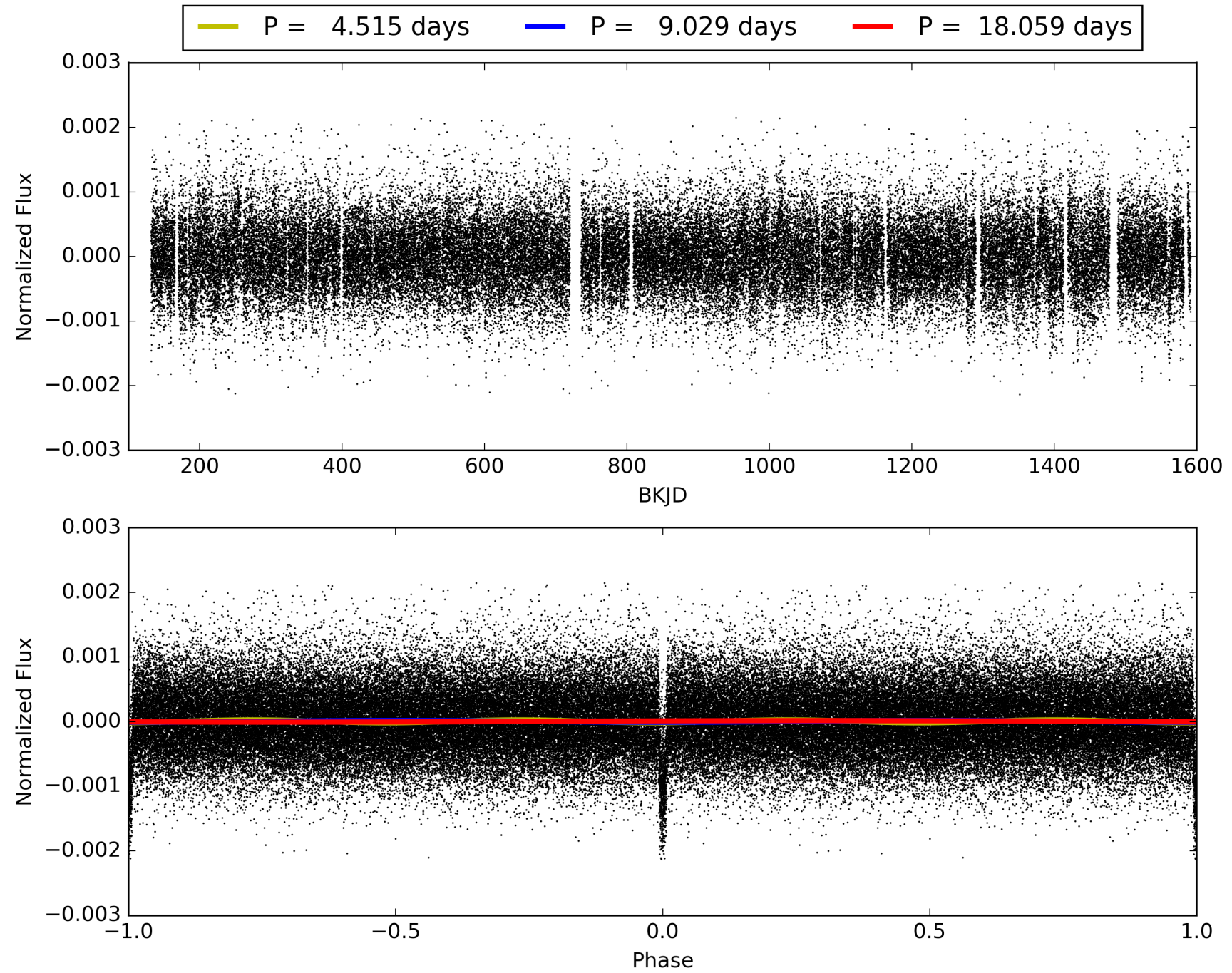
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.3%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.99 [139/140]  
GhostDiagnostic-chr: 3.853  
Centroid-sig: 9.7%  
Centroid-so: 0.459 arcsec [1.66σ]  
OotOffset-rm: 0.294 arcsec [2.12σ]  
KicOffset-rm: 0.298 arcsec [2.25σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 003641726-01, PDC Light Curves

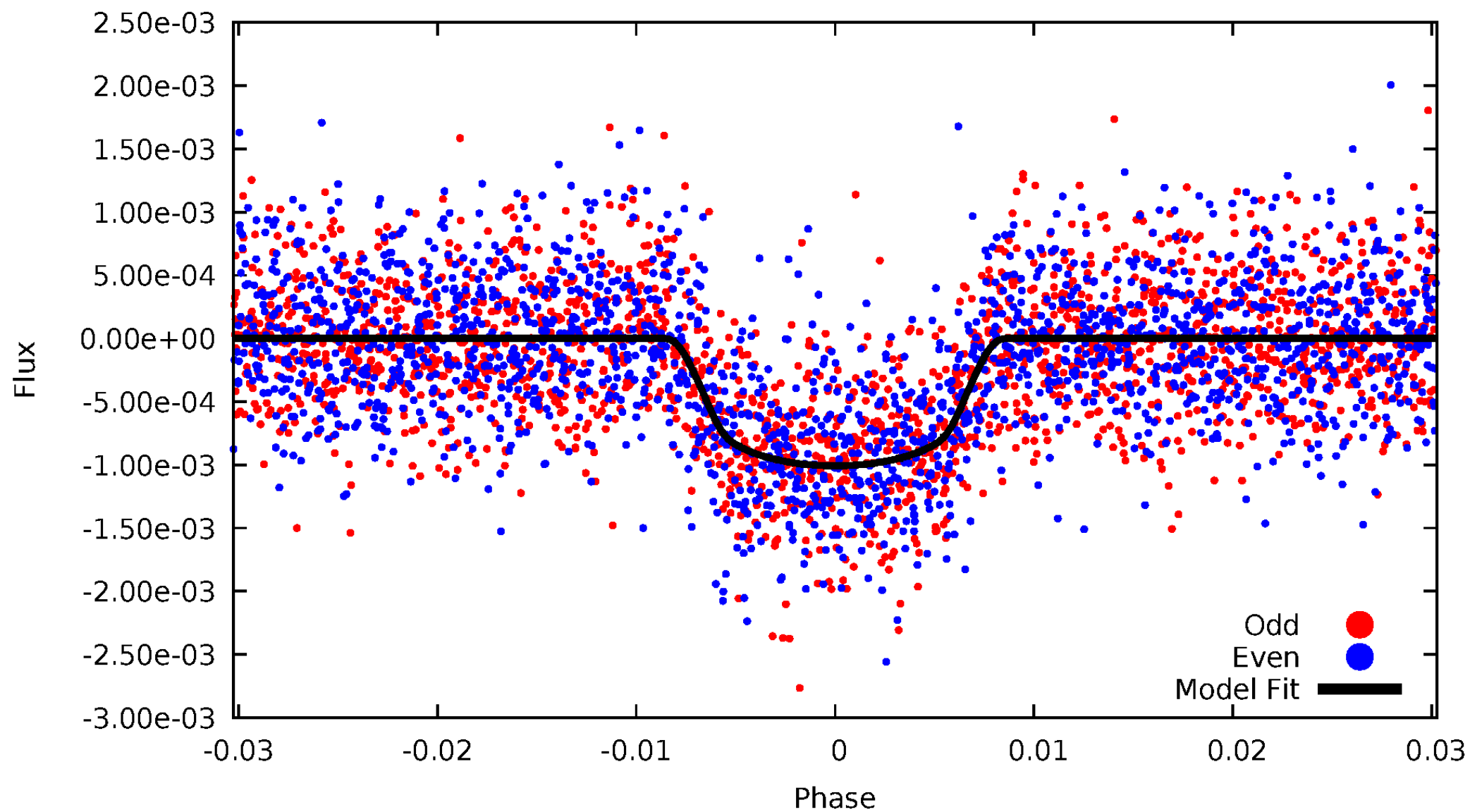


TCE 003641726-01



# DV Odd/Even

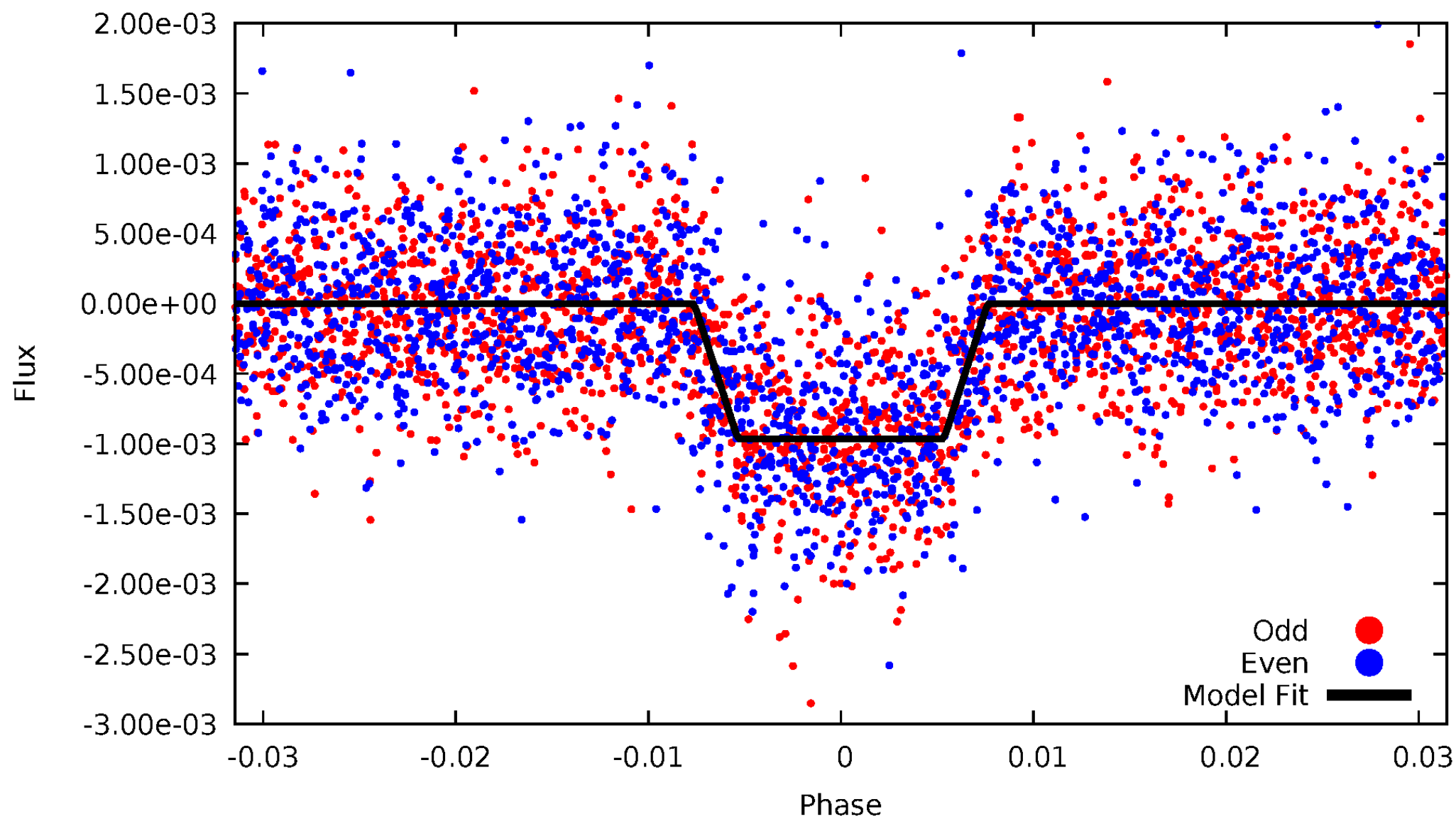
TCE 003641726-01



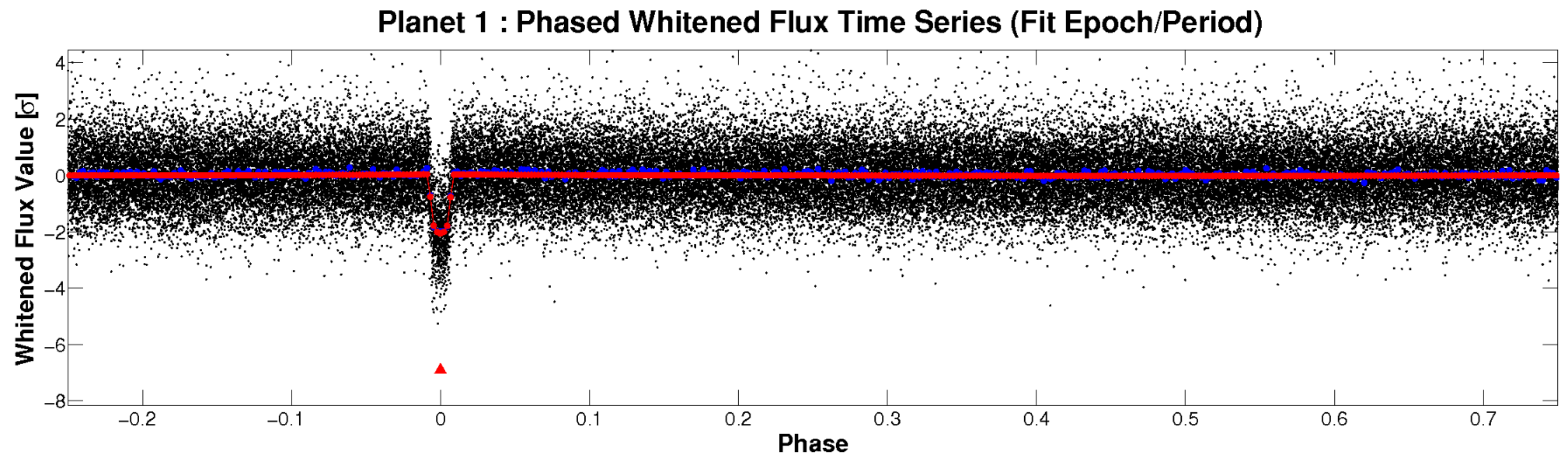
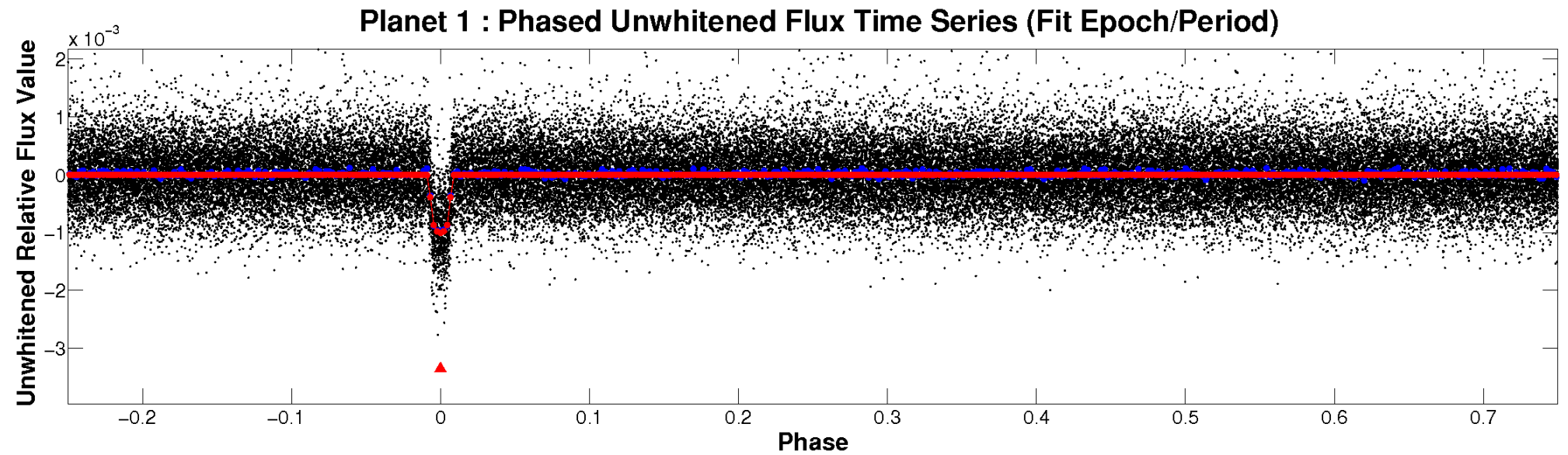


# ALT Odd/Even

TCE 003641726-01

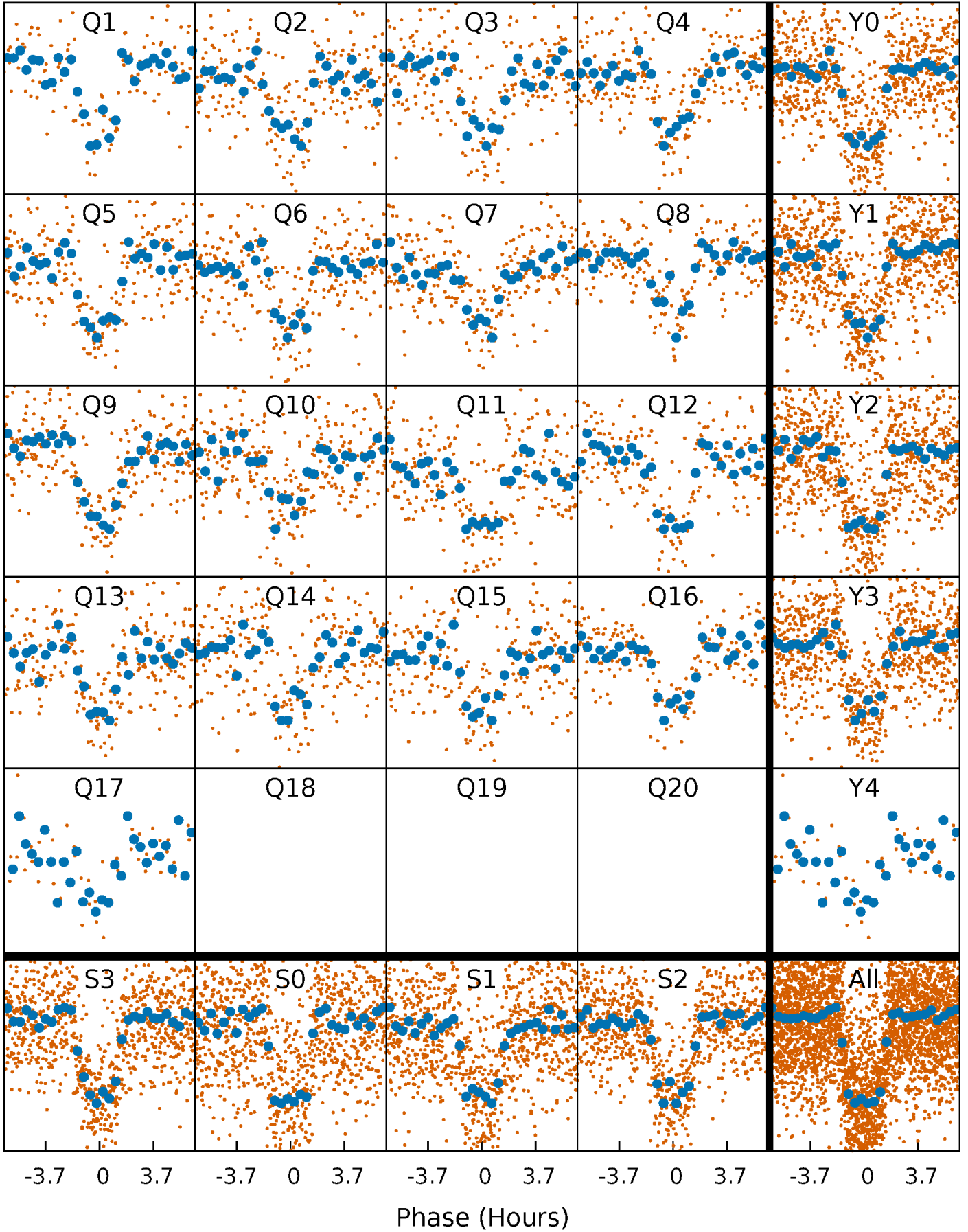


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

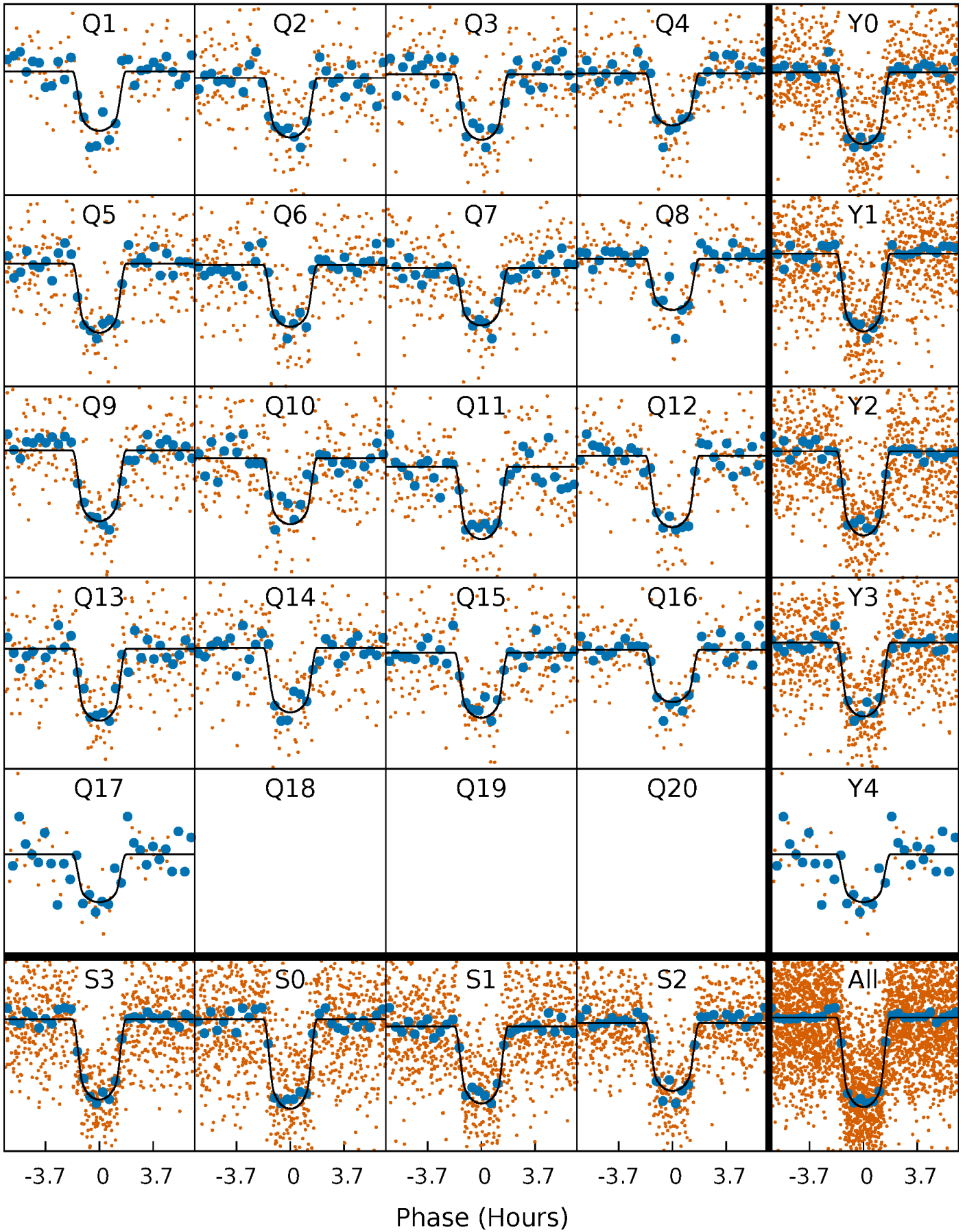
TCE 003641726-01   P= 9.029298 Days    $T_0=132.058792$  (BKJD)





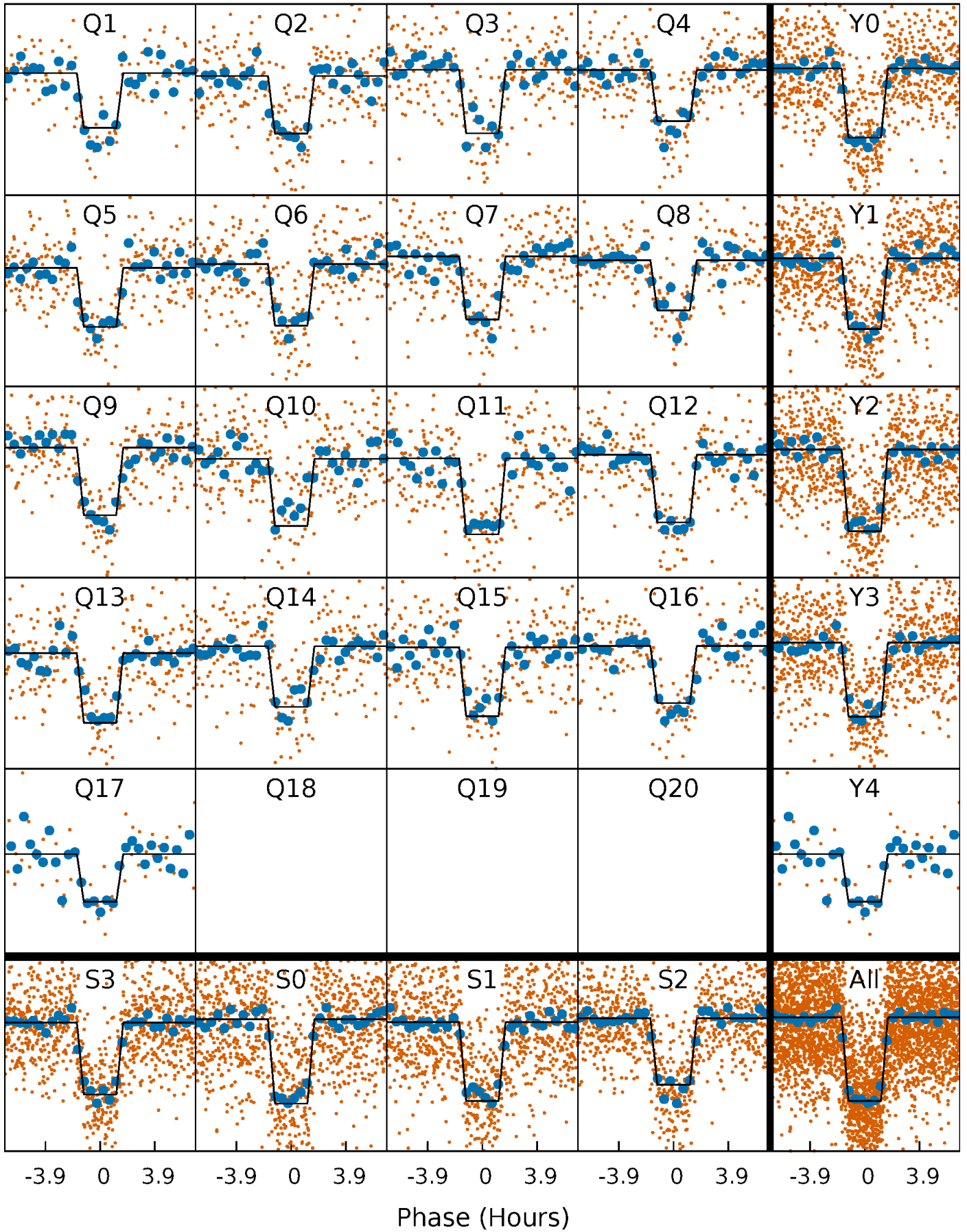
# DV Quarter-Phased Transit Curves

TCE 003641726-01 P= 9.029298 Days  $T_0=132.058792$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

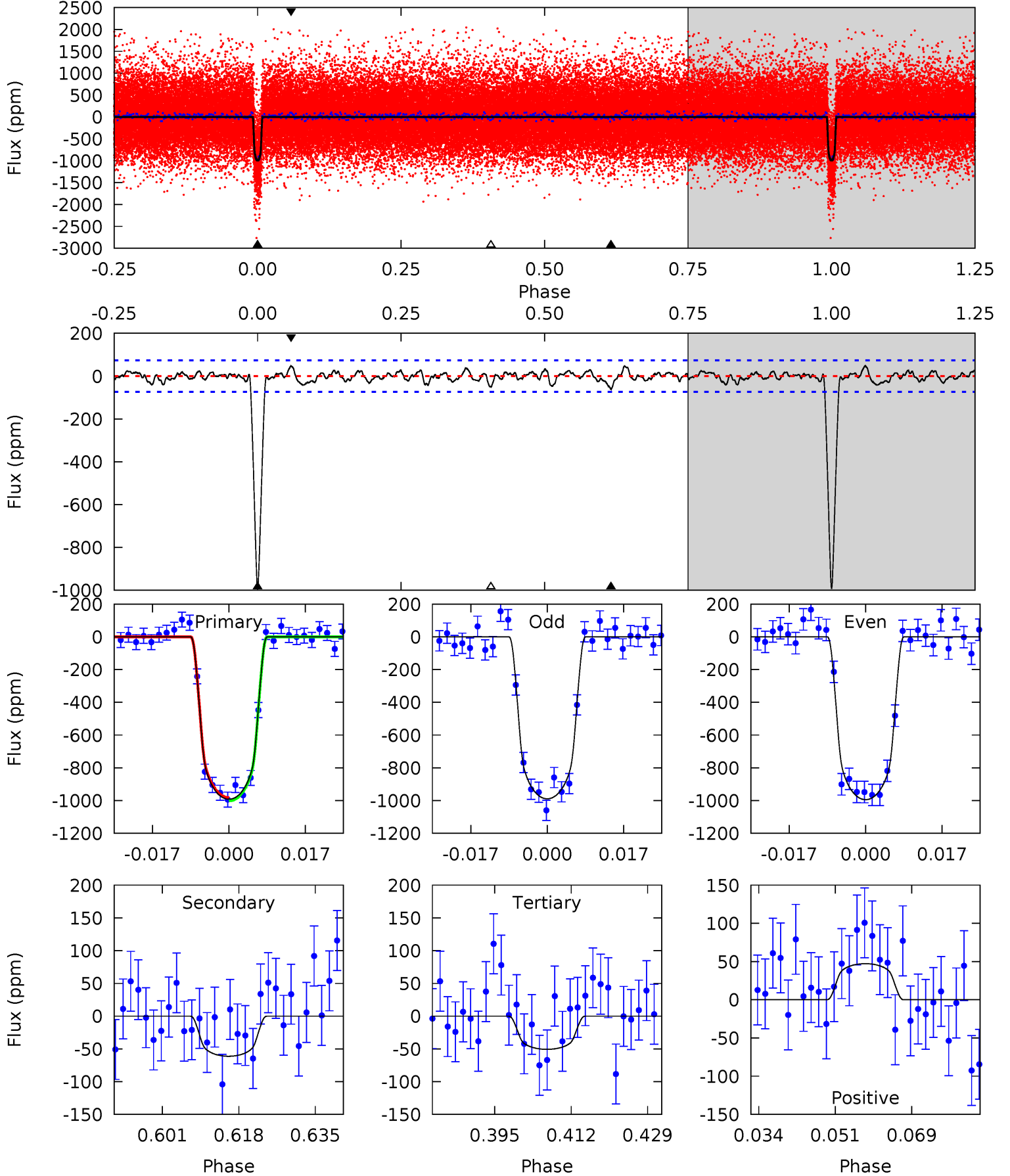
TCE 003641726-01 P= 9.029261 Days  $T_0=132.061581$  (BKJD)



# DV Model-Shift Uniqueness Test

003641726-01, P = 9.029298 Days, E = 123.029494 Days

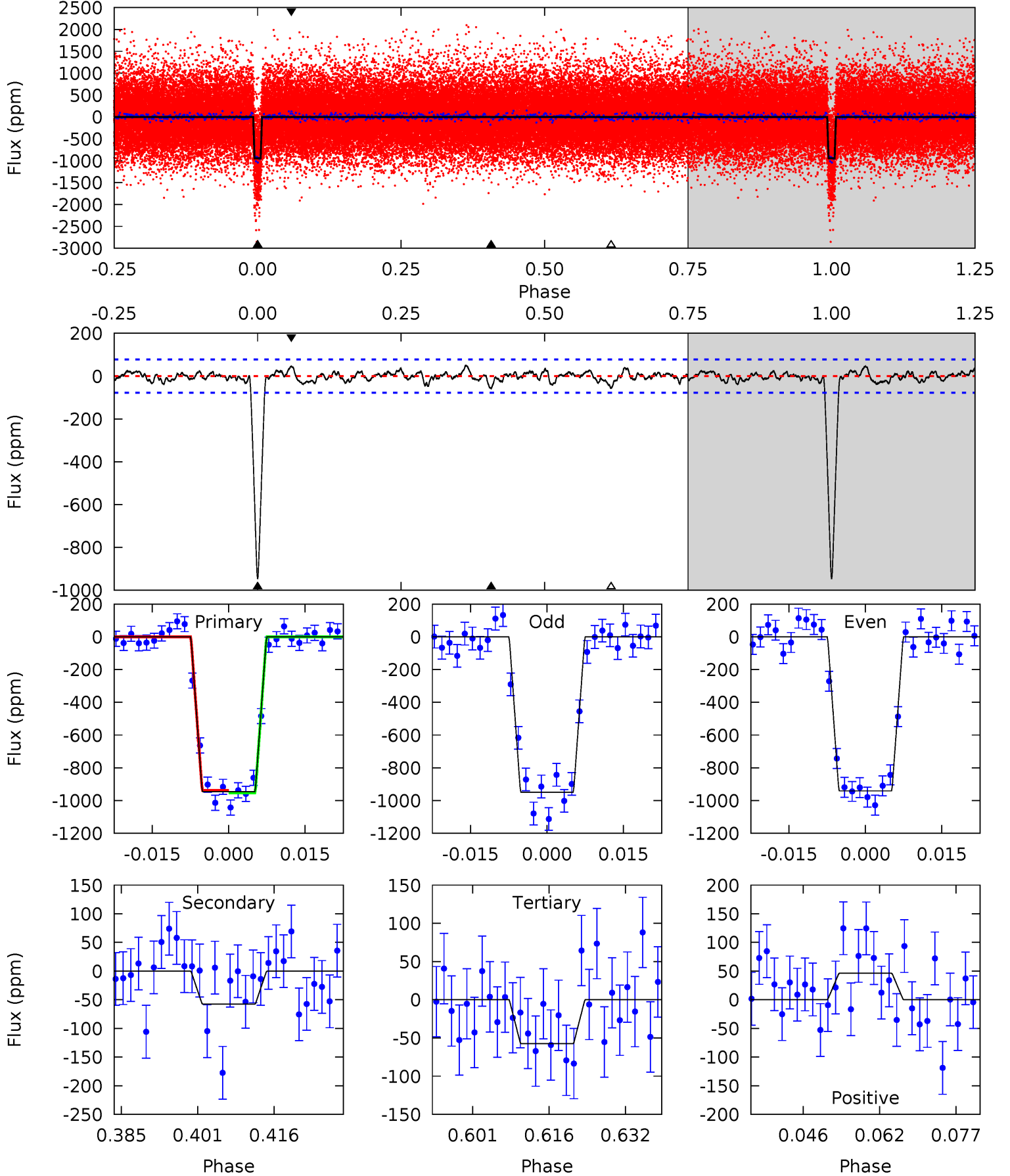
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.7	4.12	3.41	3.18	4.92	2.38	1.18	63.3	63.6	0.71	0.95	0.18	1.01	0.05	0.61



# Alt Model-Shift Uniqueness Test

003641726-01, P = 9.029261 Days, E = 123.032320 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
60.5	3.70	3.67	2.96	4.94	2.42	1.12	56.8	57.5	0.02	0.74	0.27	1.01	0.05	0.48



### Stellar Parameters For KIC 003641726

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5349^{+167}_{-167}$	$4.526^{+0.063}_{-0.108}$	$-0.120^{+0.300}_{-0.300}$	$0.820^{+0.141}_{-0.082}$	$0.824^{+0.096}_{-0.078}$	$2.101^{+0.613}_{-0.668}$
	+3%/-3%	+1%/-2%	+250%/-250%	+17%/-10%	+12%/-9%	+29%/-32%
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 003641726-01 / KOI 0804.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-61 \pm 15$	$2.98^{+0.46}_{-0.44}$	$1064^{+53}_{-43}$	$3184^{+179}_{-171}$	$24^{+11}_{-7}$
Alt.	$-58 \pm 16$	$2.77^{+0.46}_{-0.40}$	$1064^{+50}_{-46}$	$3217^{+193}_{-195}$	$26^{+11}_{-9}$

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



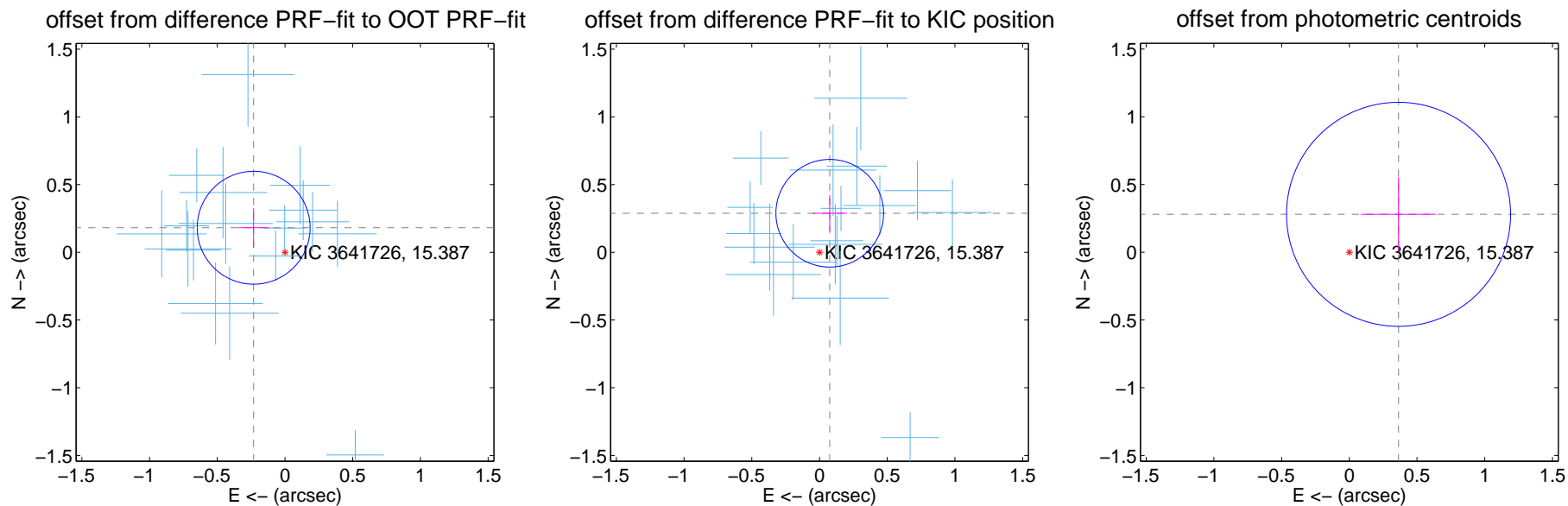
## DV Centroid Data

Supplemental centroid analysis for 003641726-01. Kepler magnitude: 15.39. Transit SNR 51.54

There are 17 quarters with good PRF difference image offsets

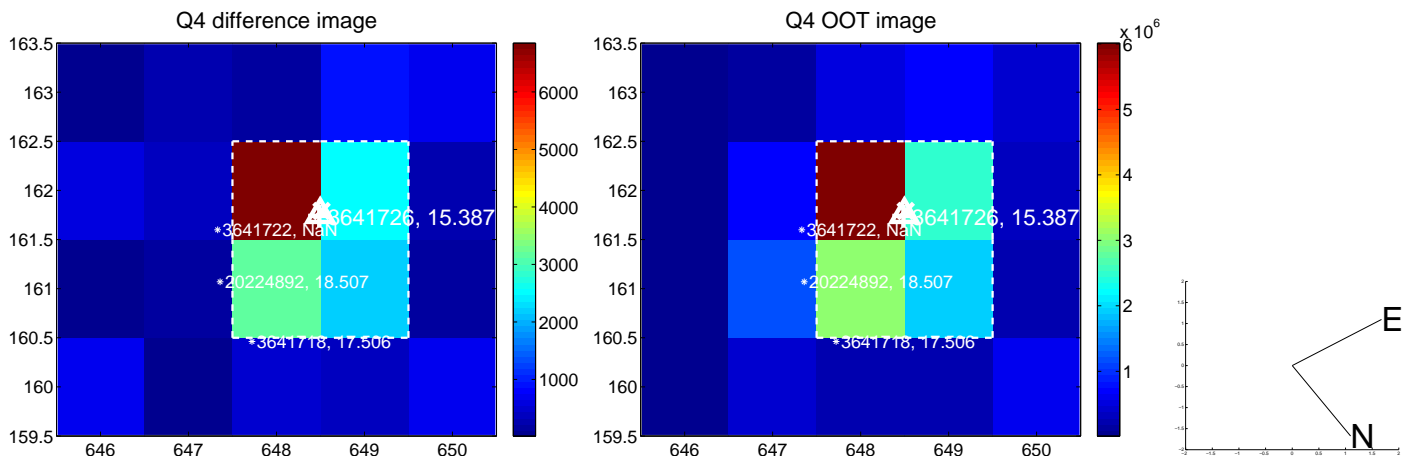
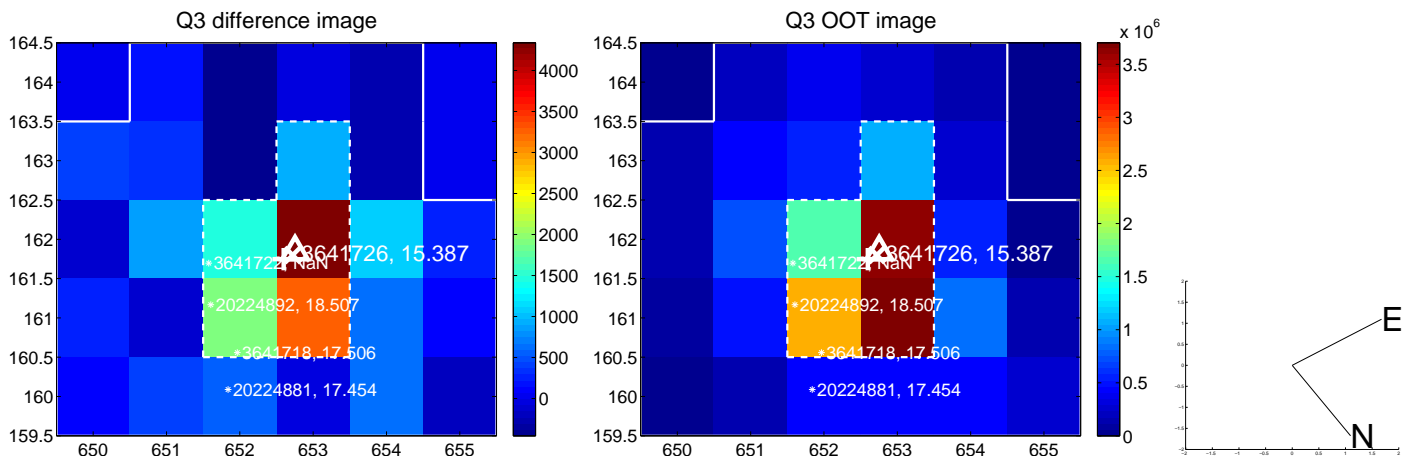
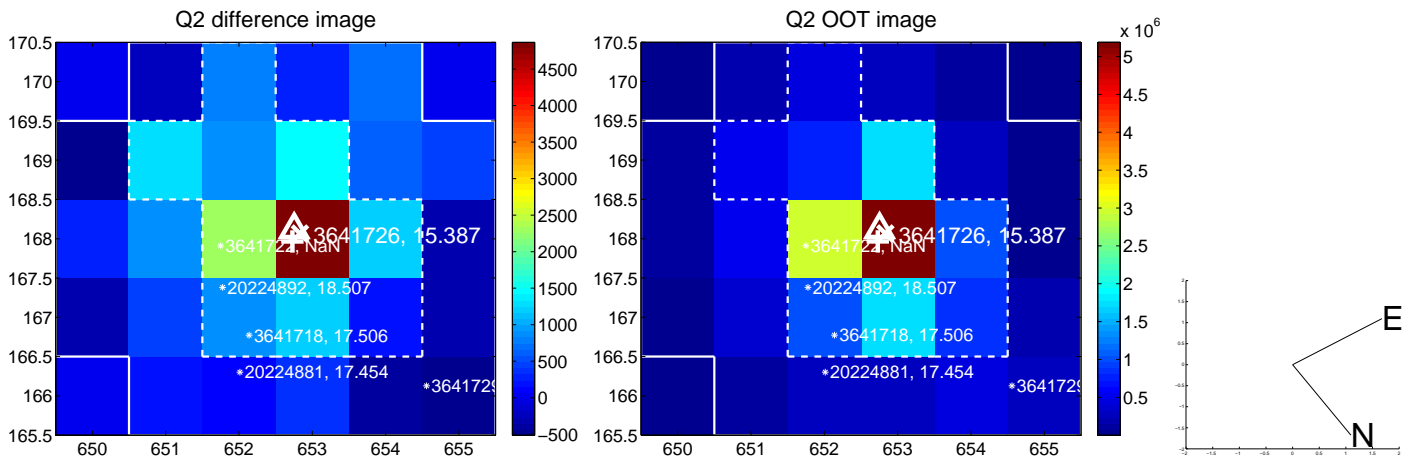
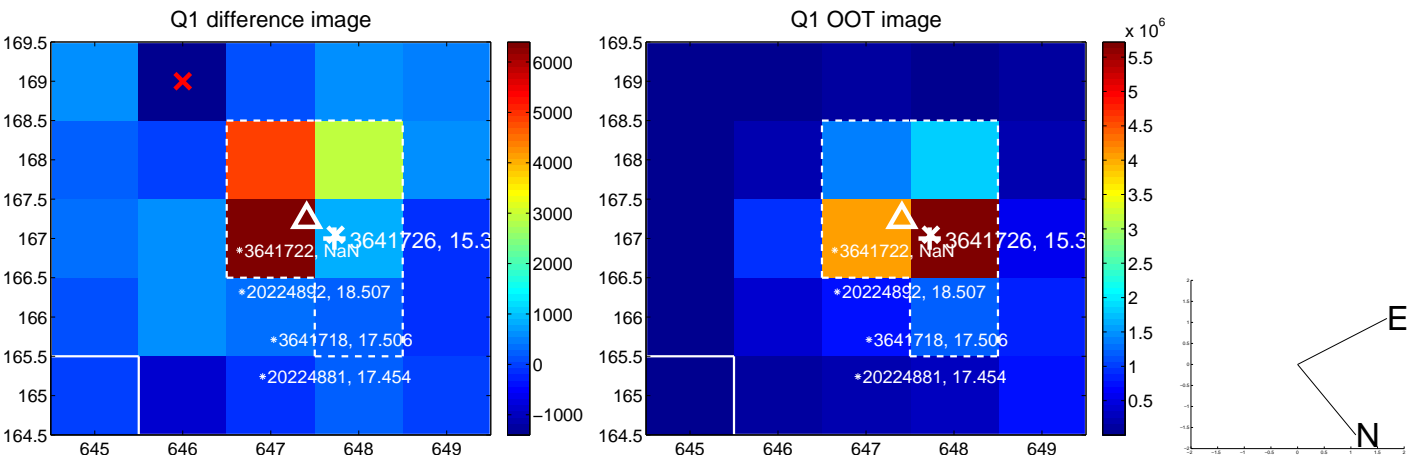
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.294 \pm 0.139$	2.12	$0.231 \pm 0.116$	$0.181 \pm 0.146$
PRF-fit source offset from KIC position	$0.298 \pm 0.132$	2.25	$-0.076 \pm 0.126$	$0.288 \pm 0.134$
photometric centroid source offset	$0.46 \pm 0.28$	1.66	$-0.36 \pm 0.28$	$0.28 \pm 0.27$

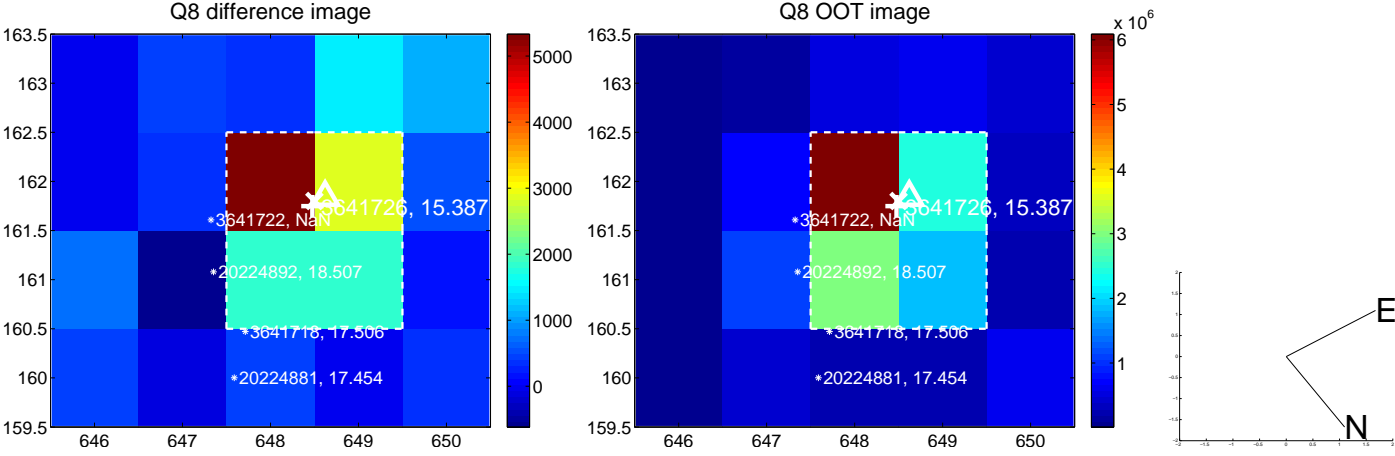
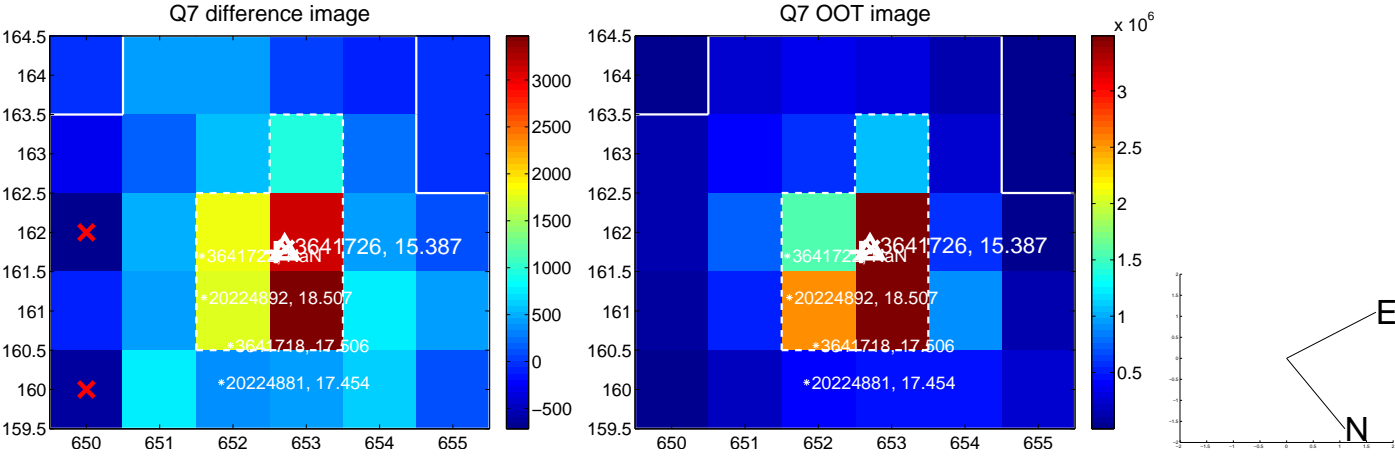
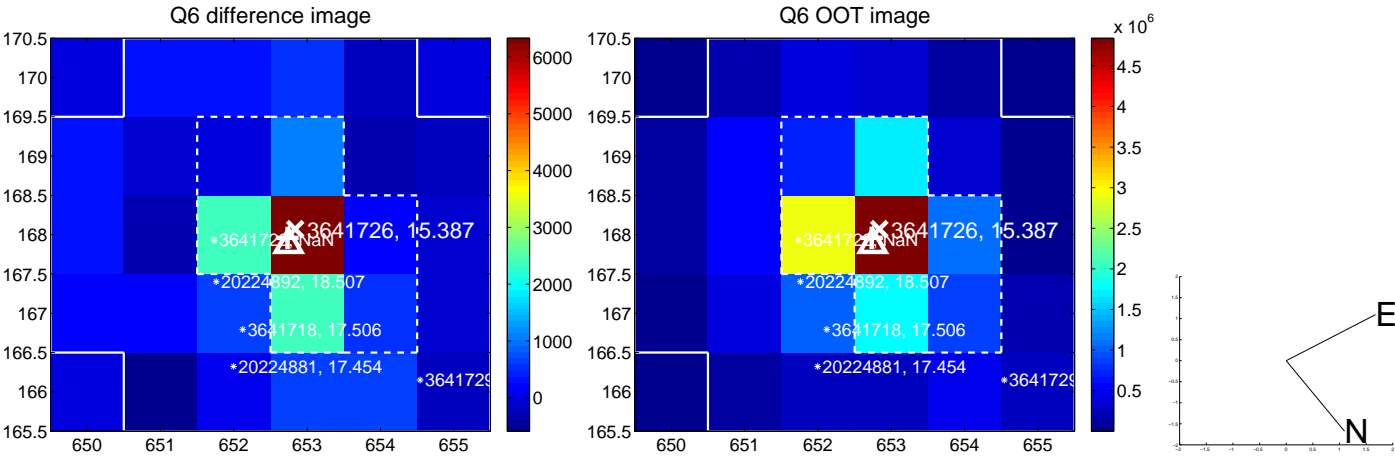
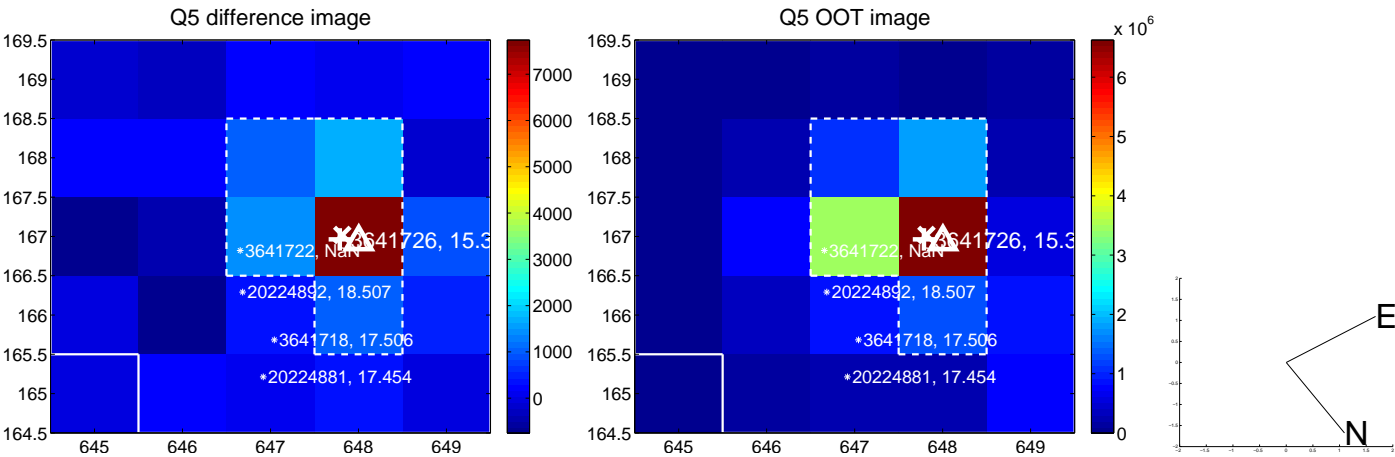


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

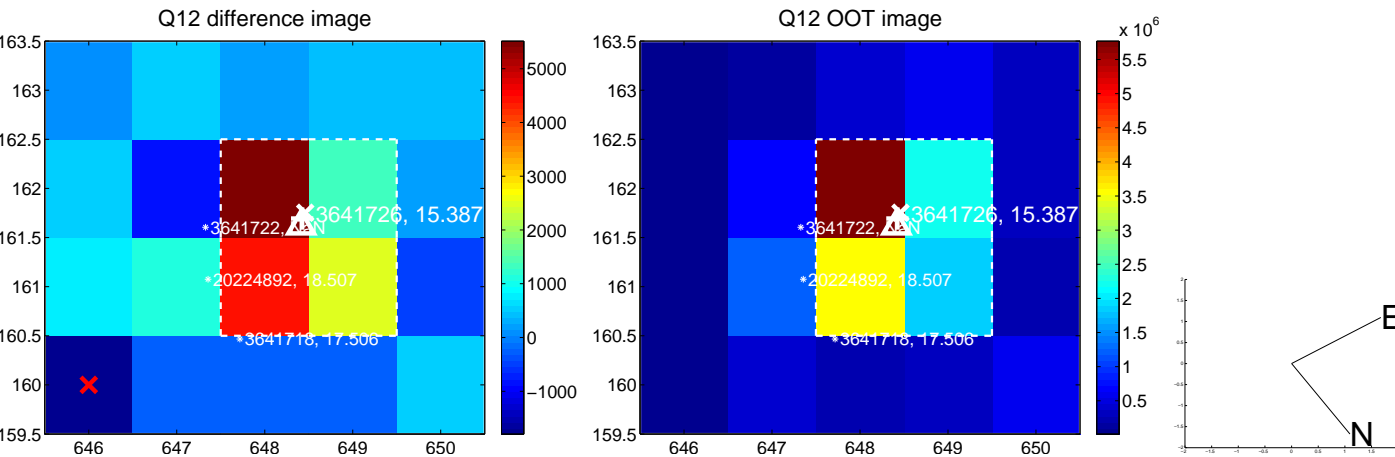
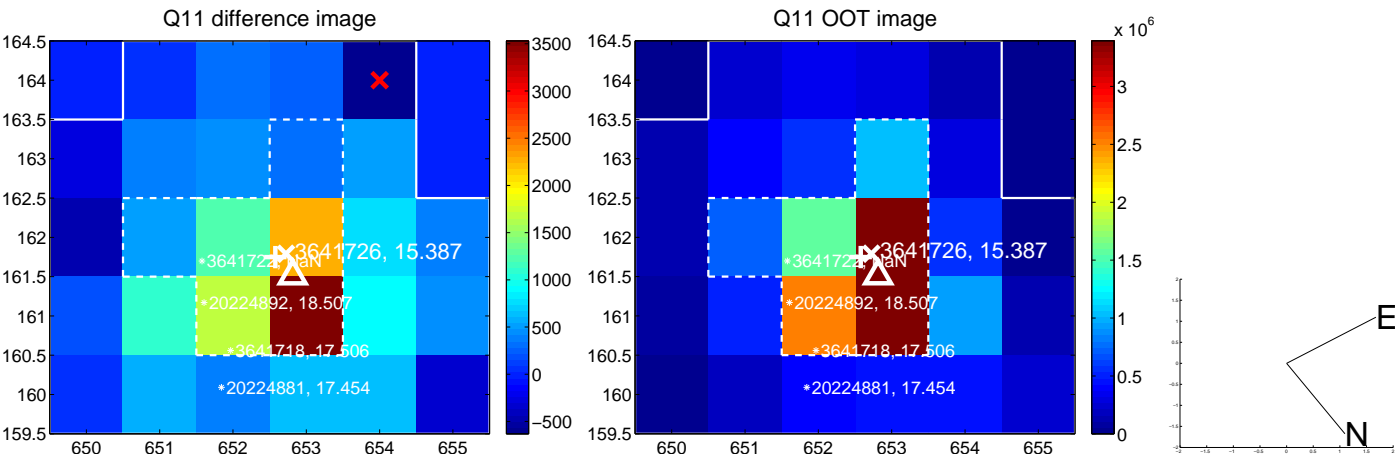
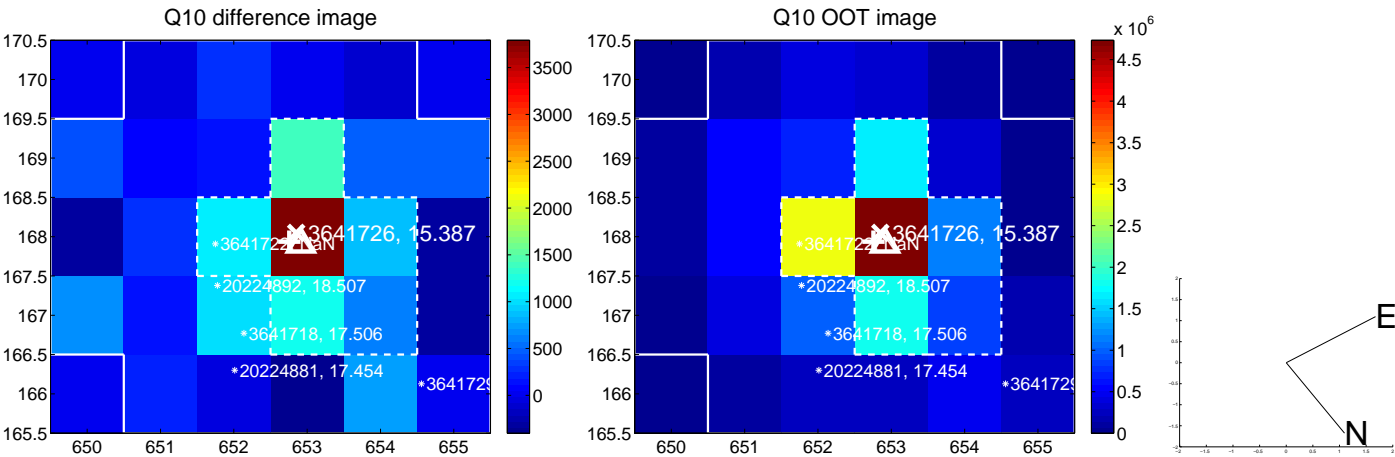
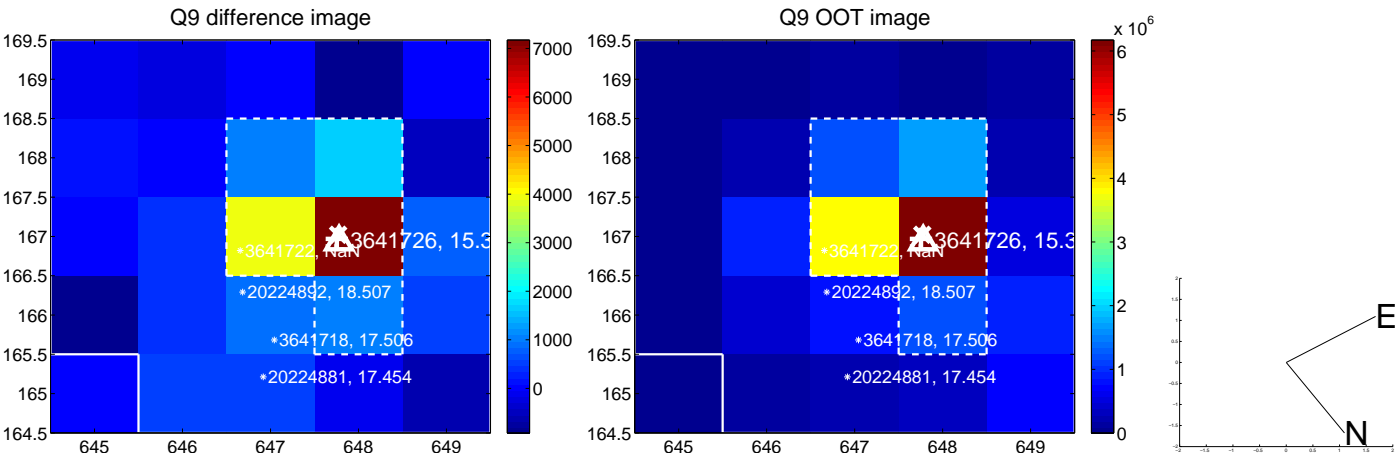
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



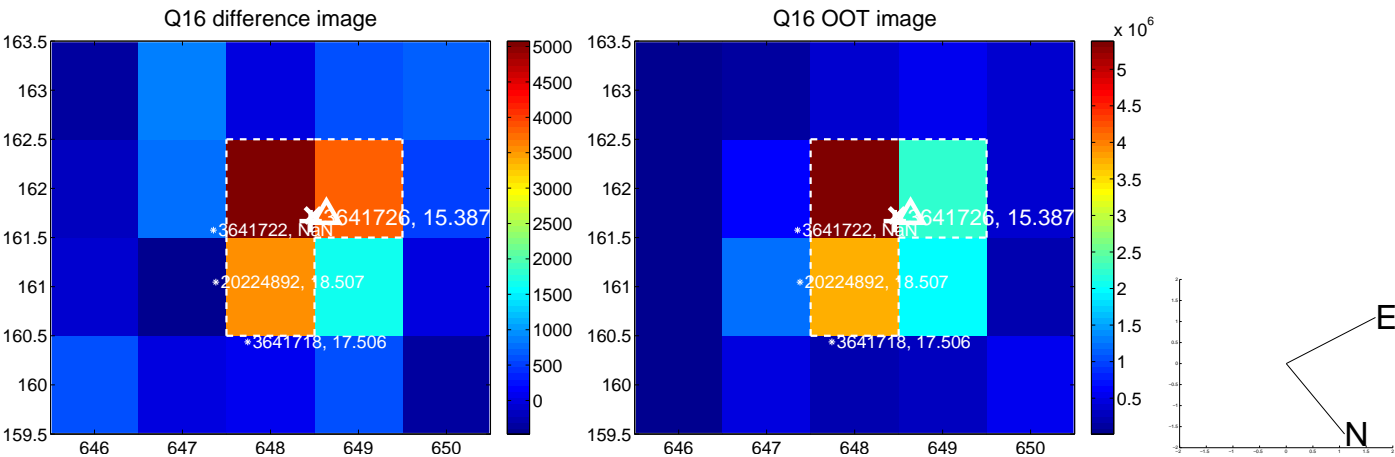
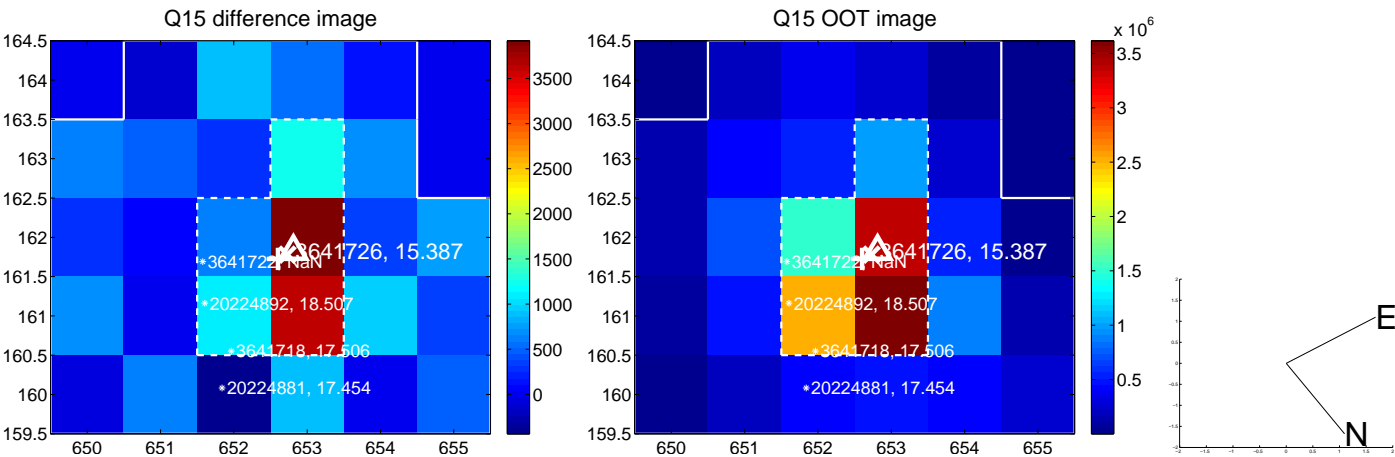
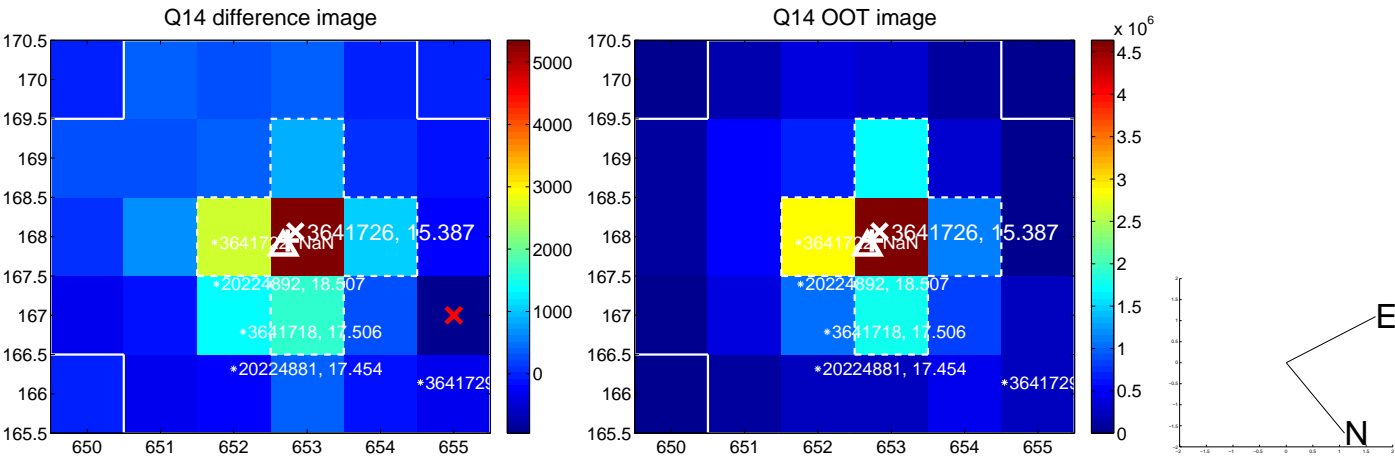
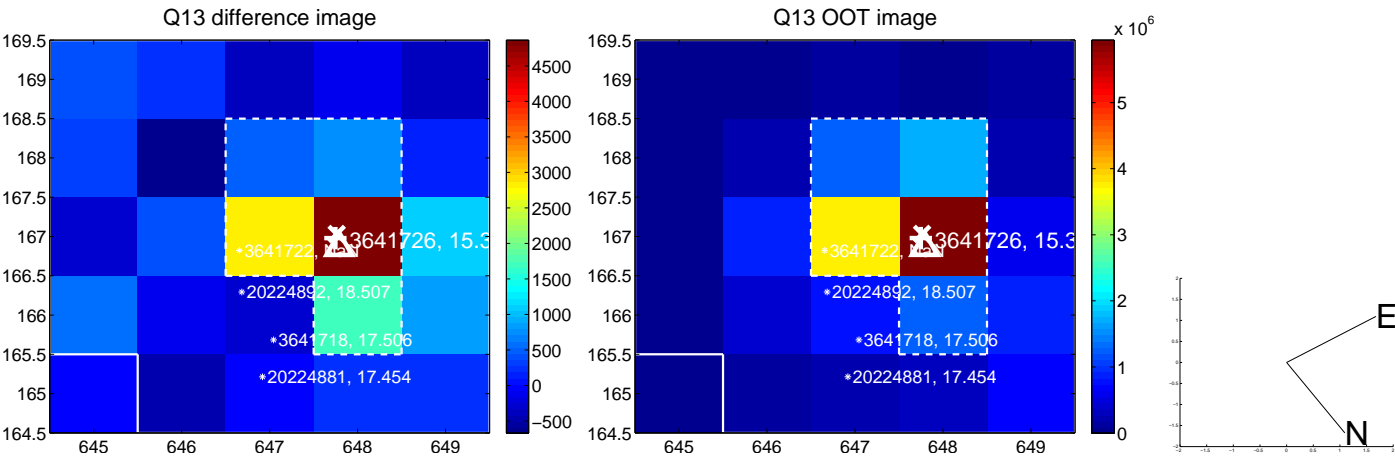
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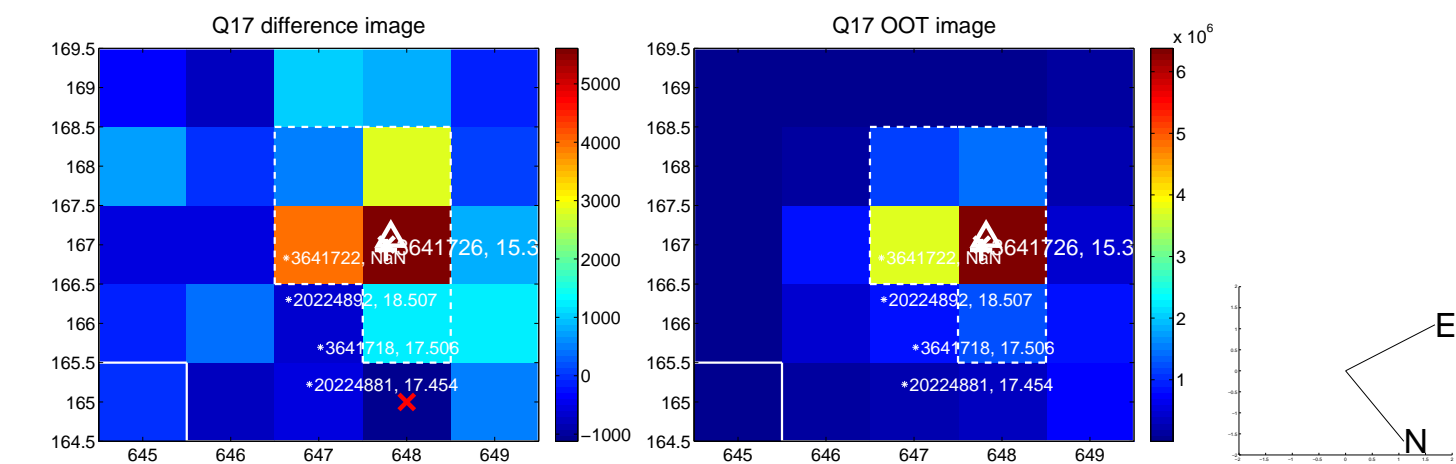


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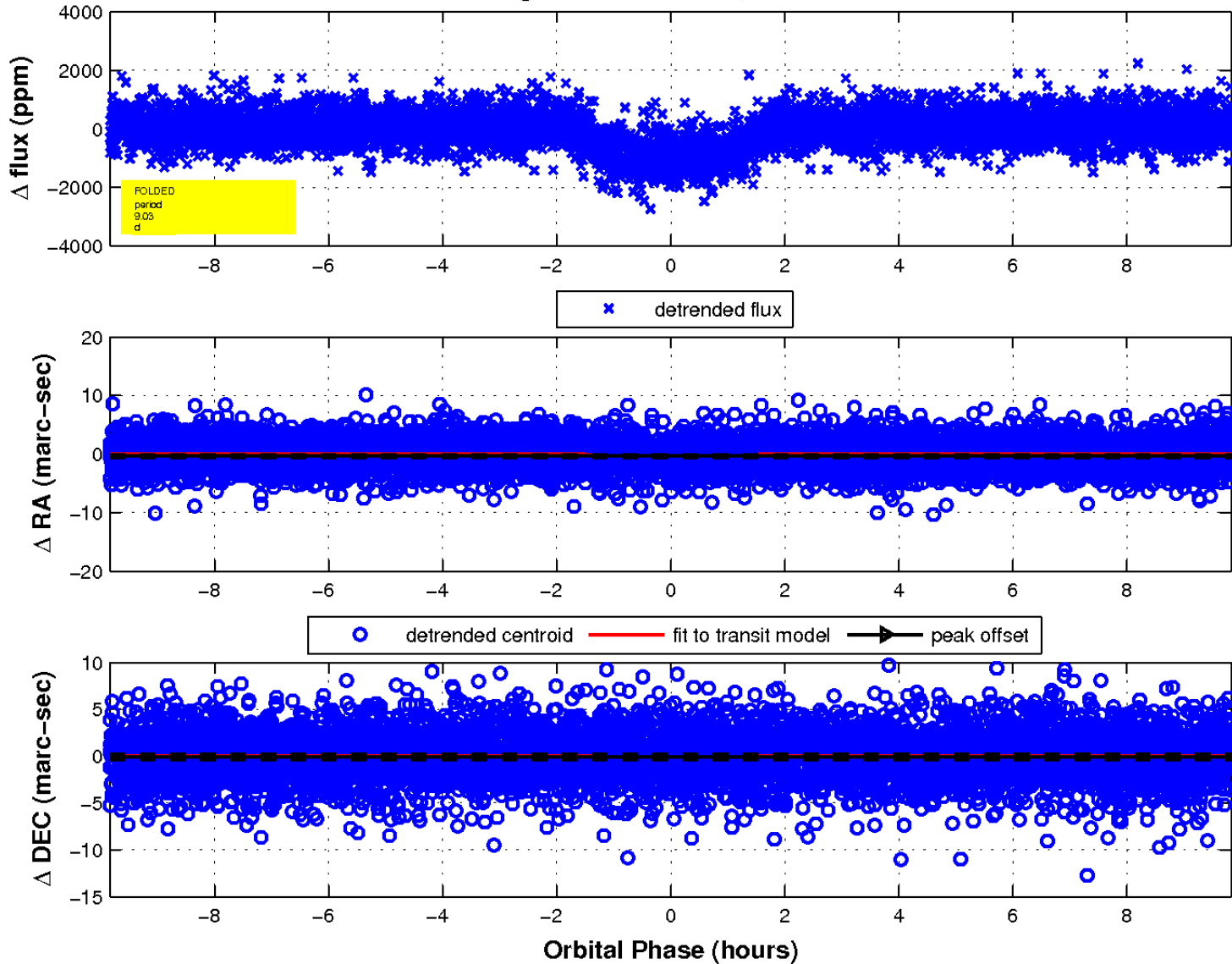




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

