

# KIC 006947668

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006947668-01	OBS	3455.01	14.054439	133.106433	275.3	4.239	10.2	10.7	0.88	5783	1.62	60.64

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006947668-01	OBS	PC	1.00	0	0	0	0	CENT_FEW_MEAS

**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 006947668-01

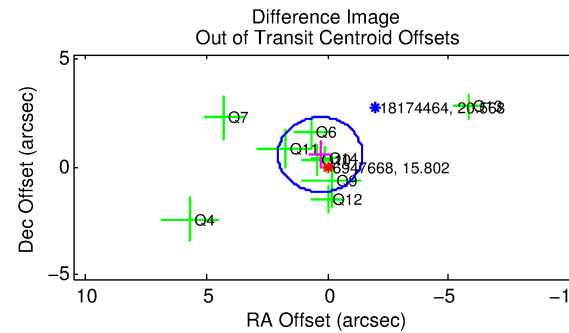
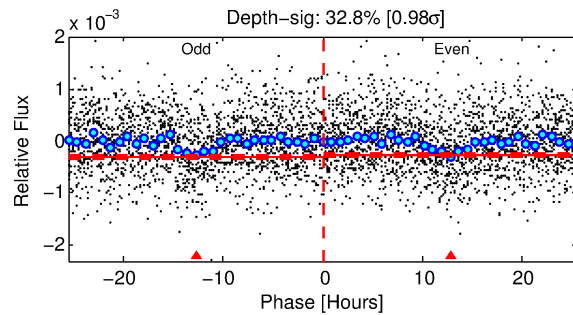
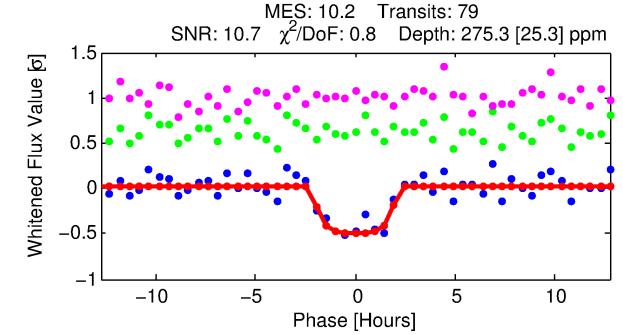
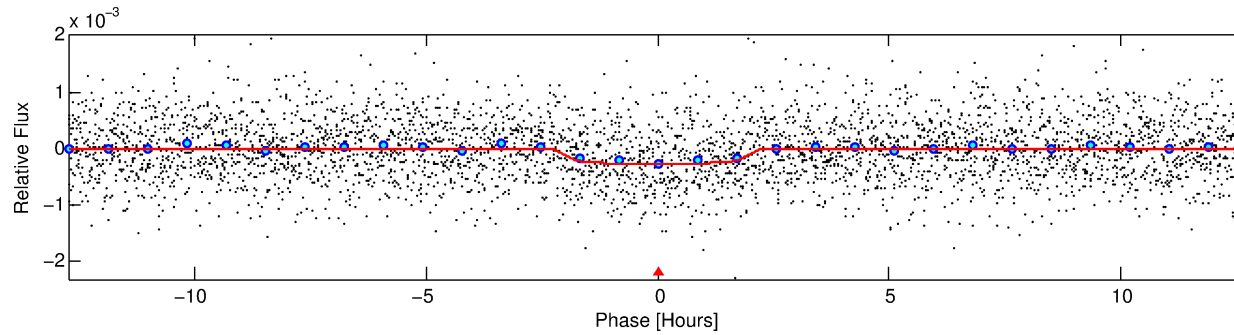
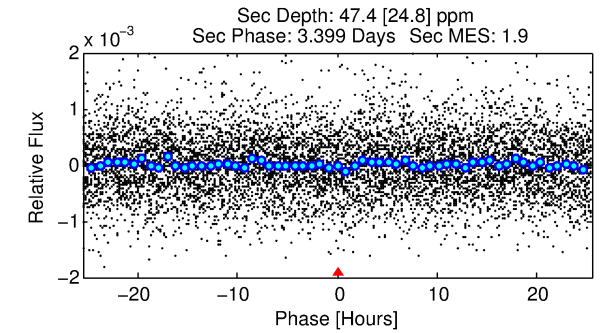
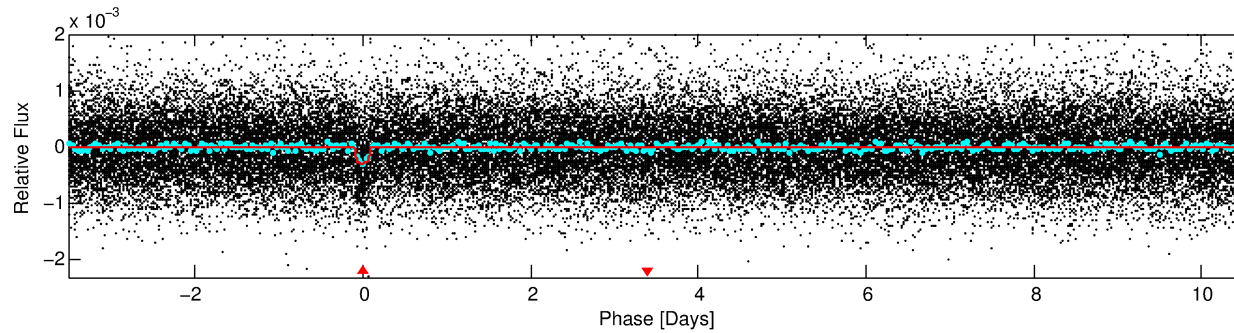
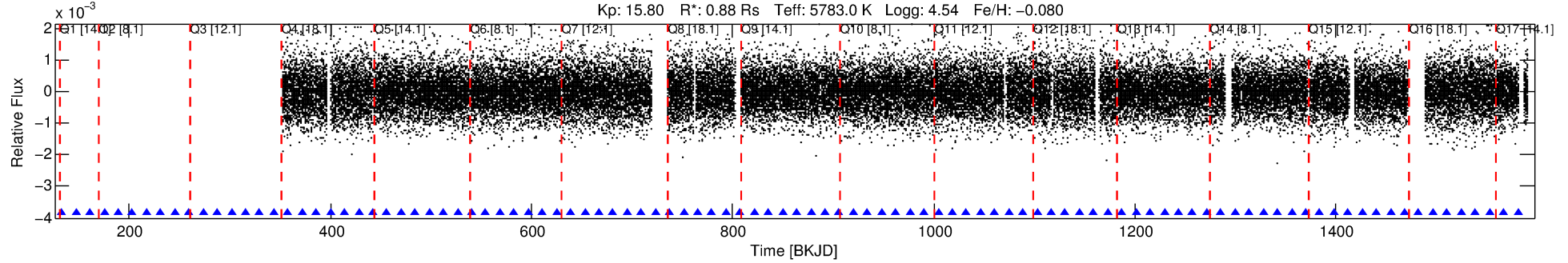
No Significant Match Found

# DV One-Page Summary

KIC: 6947668 Candidate: 1 of 1 Period: 14.054 d

KOI: K03455.01 Corr: 0.955

Kp: 15.80 R\*: 0.88 Rs Teff: 5783.0 K Logg: 4.54 Fe/H: -0.080



## DV Fit Results:

Period = 14.05444 [0.00016] d  
Epoch = 133.1064 [0.0103] BKJD  
Rp/R\* = 0.0168 [0.0128]  
a/R\* = 16.06 [55.81]  
b = 0.80 [1.63]  
Seff = 60.64 [23.98]  
Teq = 712 [70] K  
Rp = 1.62 [1.32] Re  
a = 0.1131 [0.0285] AU  
Ag = 127.70 [211.34] [0.60σ]  
Teff = 3698 [1497] K [1.99σ]

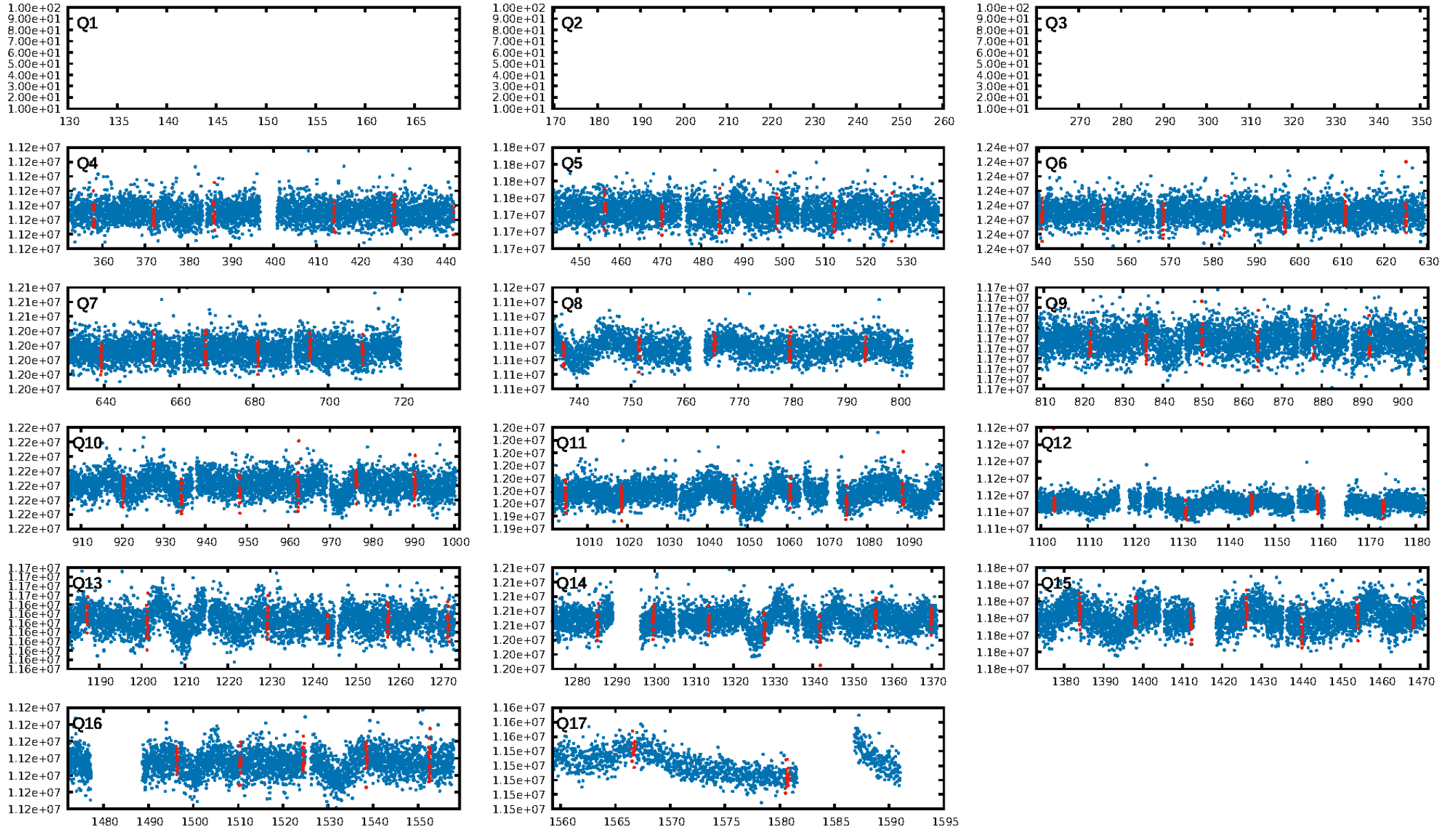
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 95.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.16e-24  
RollingBand-fgt: 1.00 [77/77]  
GhostDiagnostic-chr: -6.424  
Centroid-sig: 75.4%  
Centroid-so: 0.725 arcsec [0.56σ]  
OotOffset-rm: 0.637 arcsec [1.09σ]  
KicOffset-rm: 0.478 arcsec [0.81σ]  
OotOffset-st: 3/2/2/2 [9]  
KicOffset-st: 3/2/2/2 [9]  
DiffImageQuality-fgm: 0.44 [4/9]  
DiffImageOverlap-fno: 1.00 [14/14]

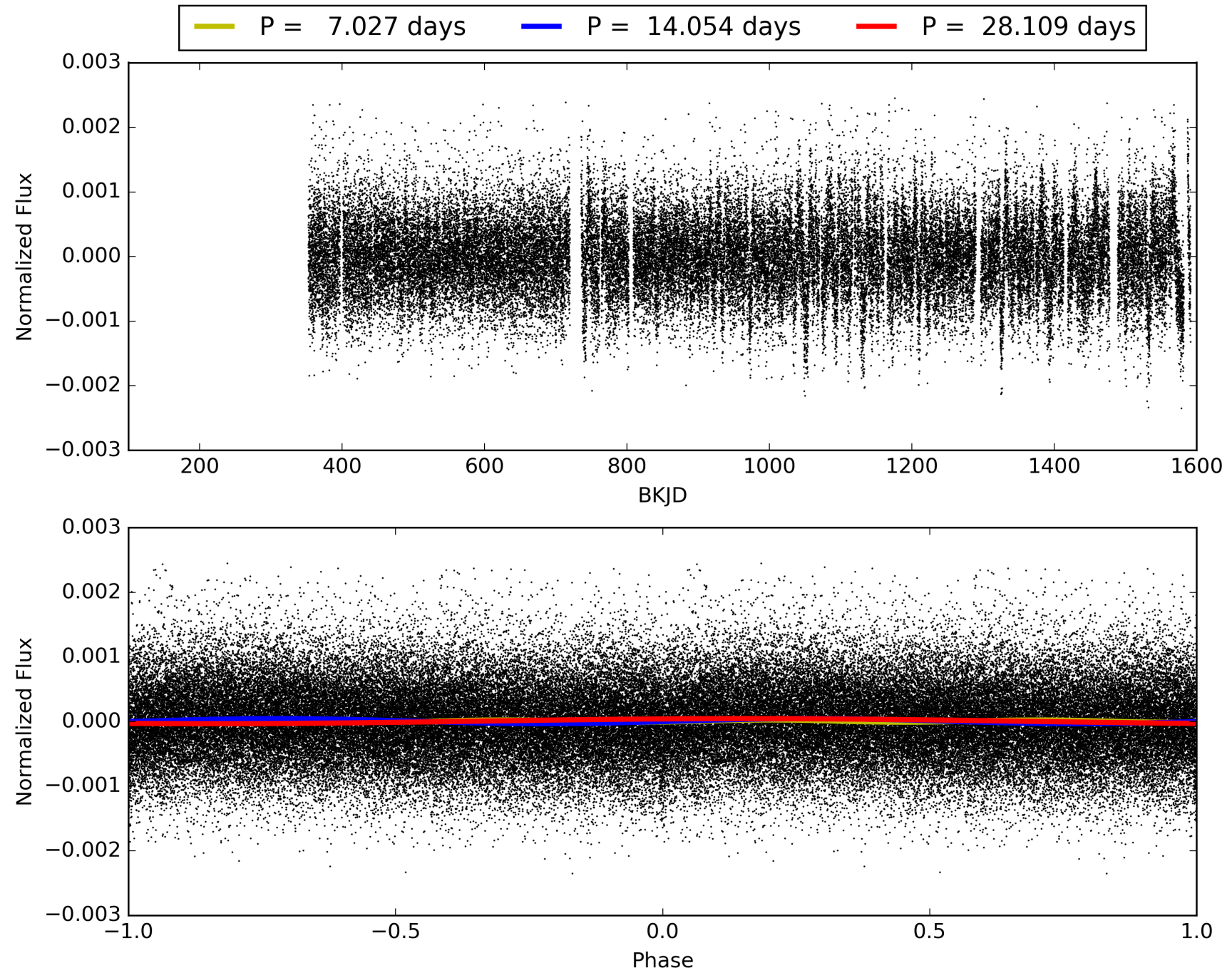
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:37:37 Z

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

# TCE 006947668-01, PDC Light Curves

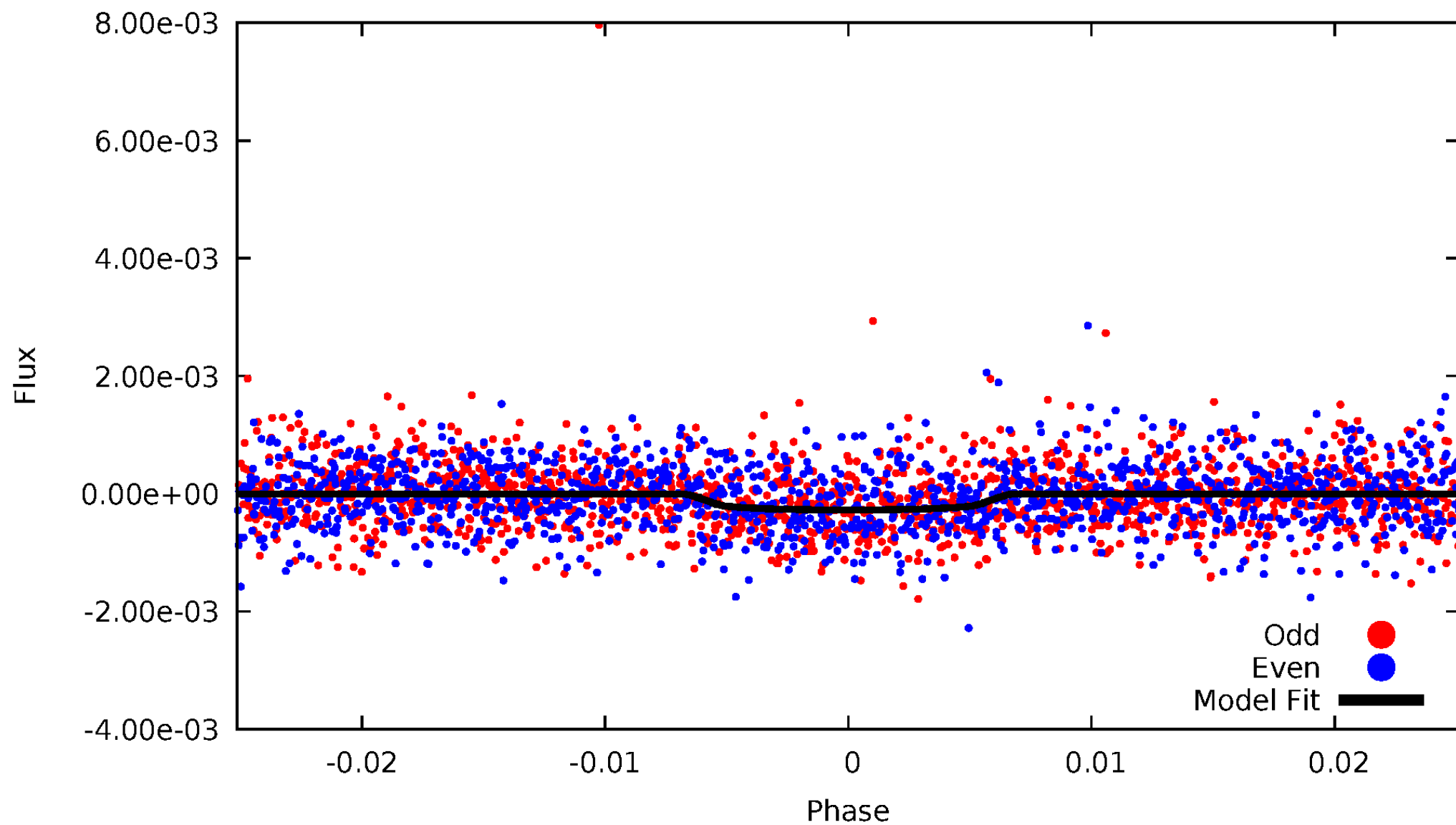


TCE 006947668-01



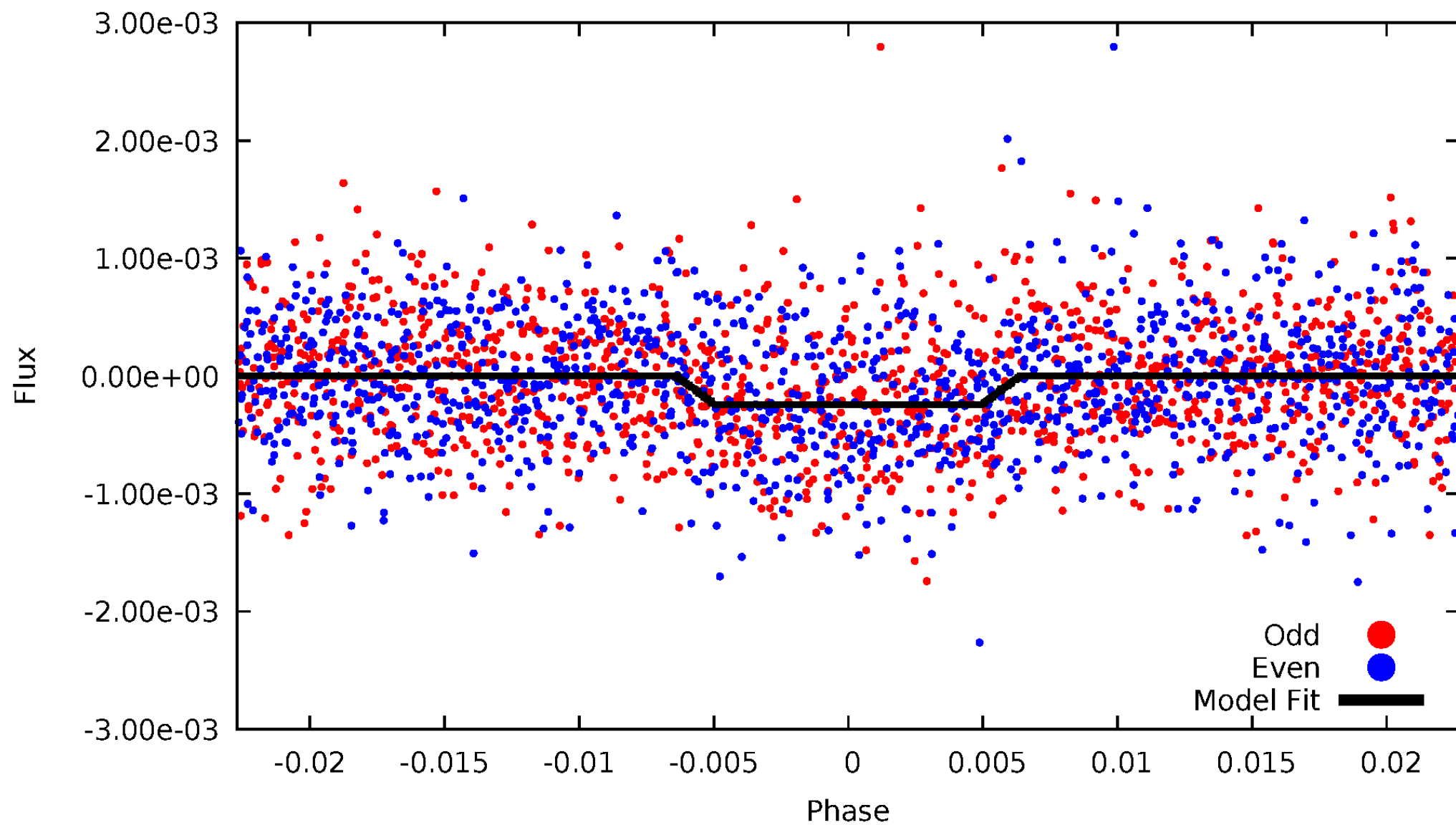
# DV Odd/Even

TCE 006947668-01



# ALT Odd/Even

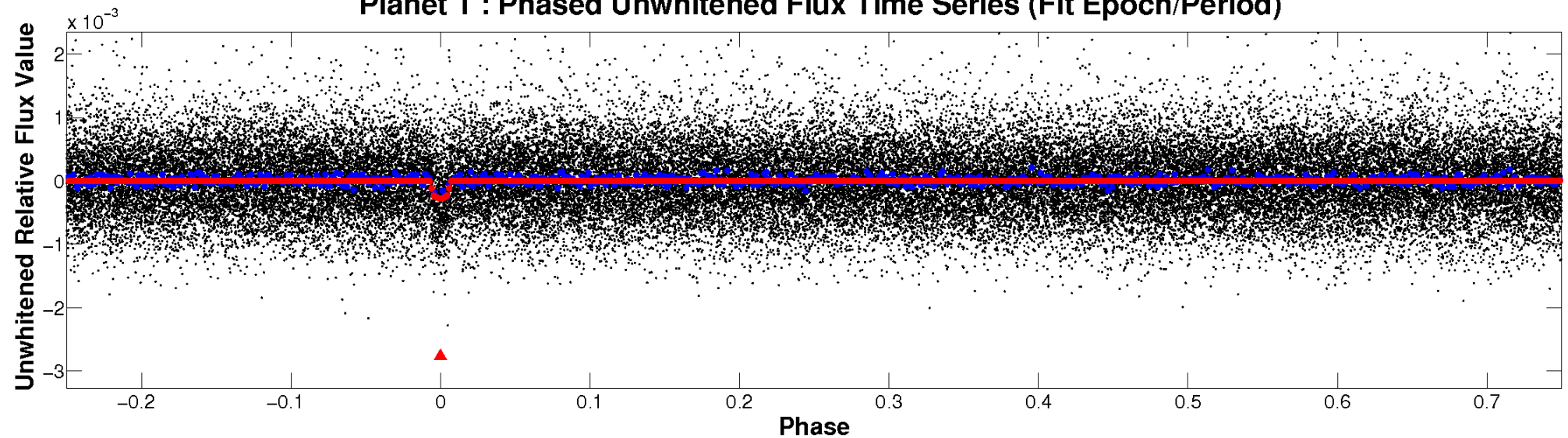
TCE 006947668-01



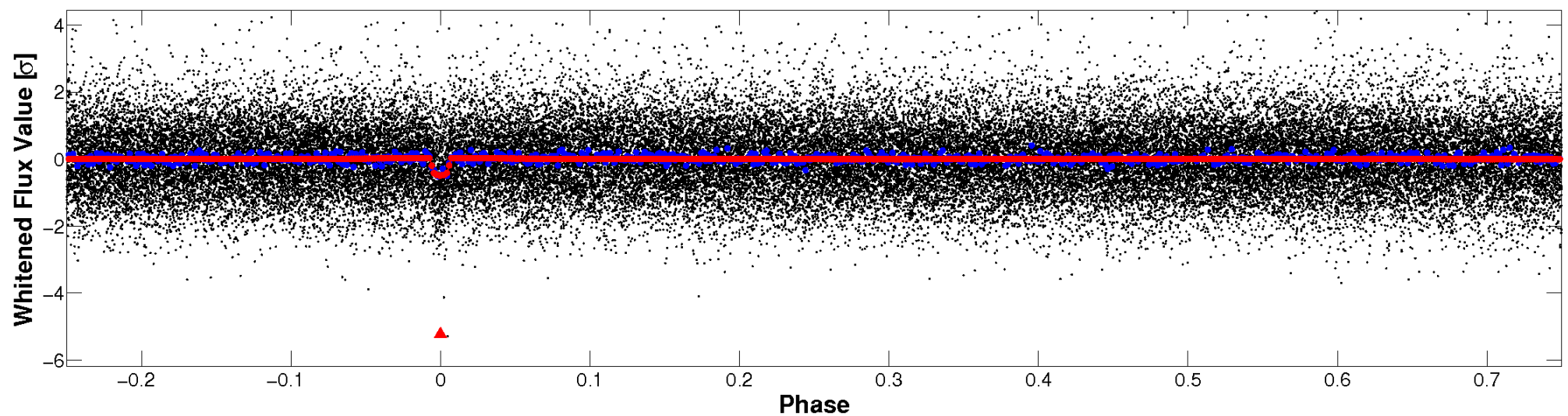


# Non-Whitened Vs. Whitened Light Curve

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

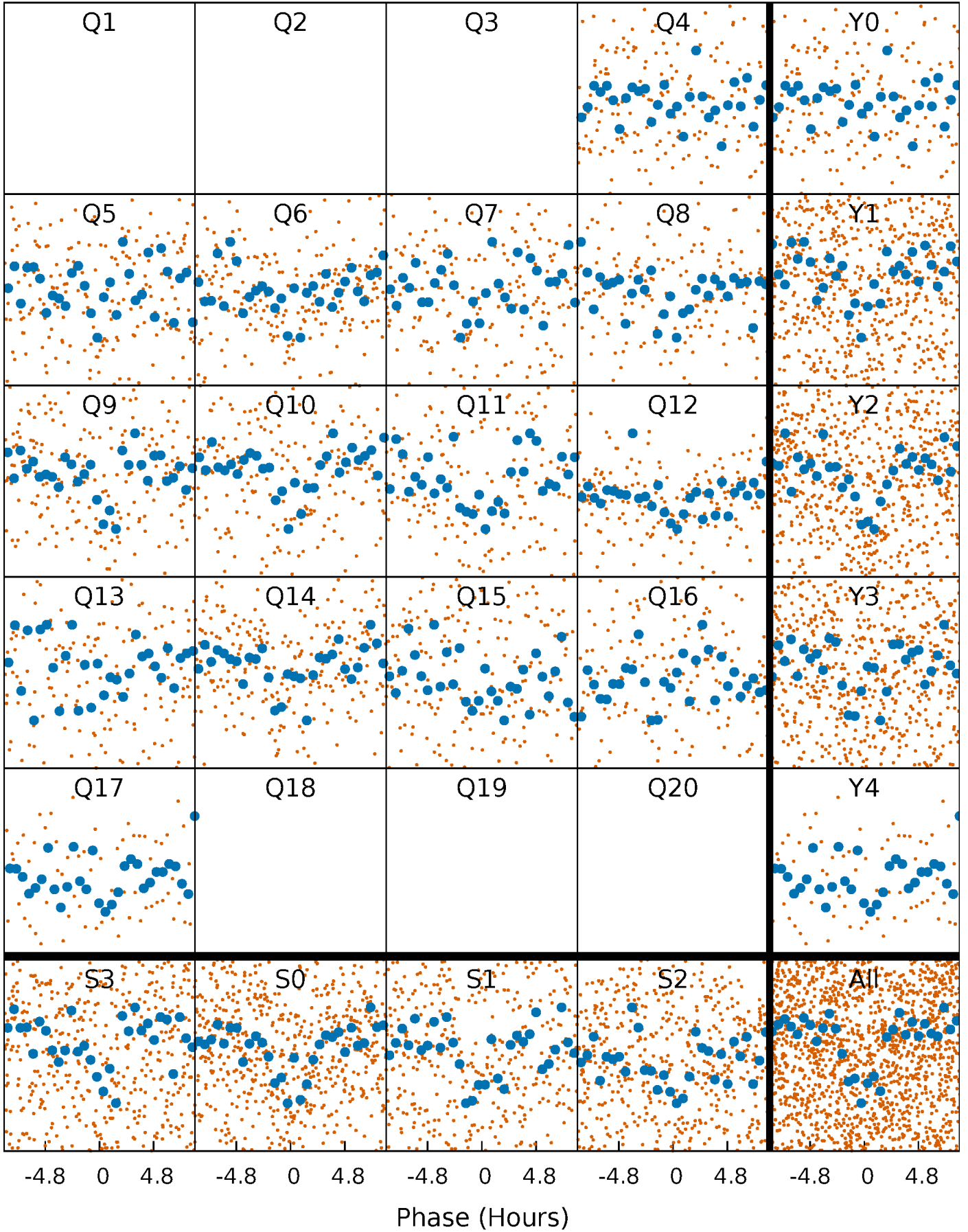


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

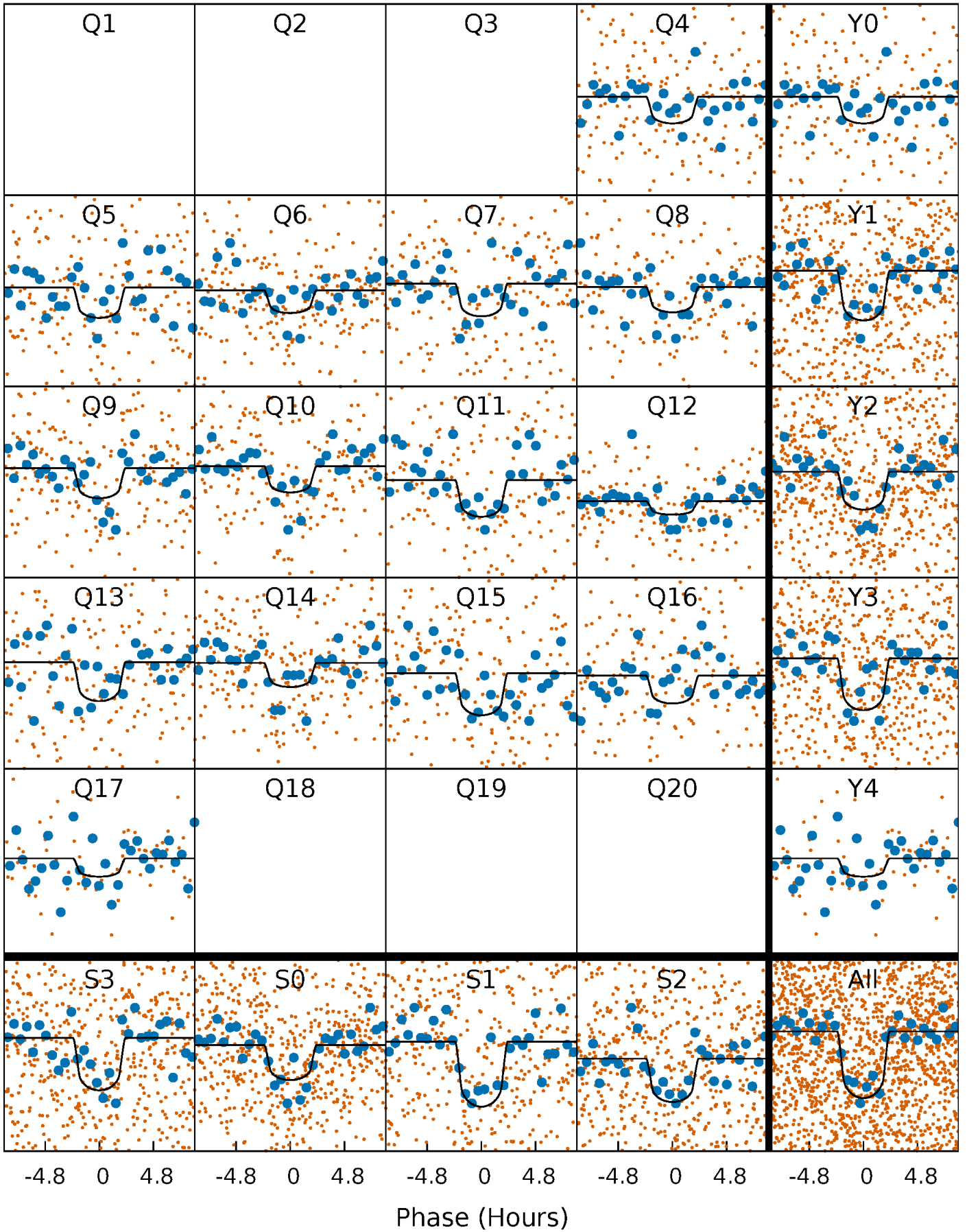
TCE 006947668-01 P= 14.054439 Days  $T_0=133.106433$  (BKJD)





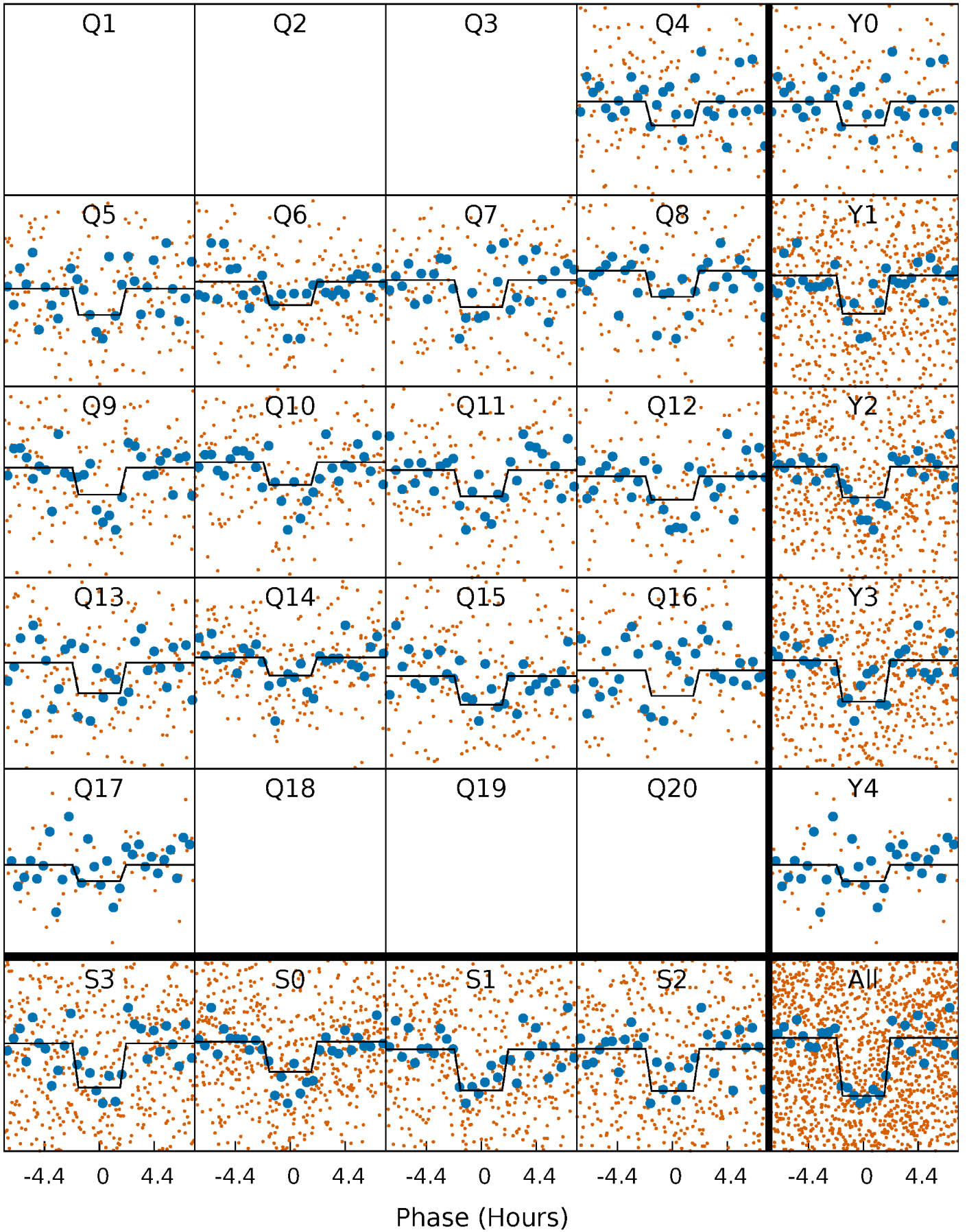
# DV Quarter-Phased Transit Curves

TCE 006947668-01 P= 14.054439 Days  $T_0=133.106433$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

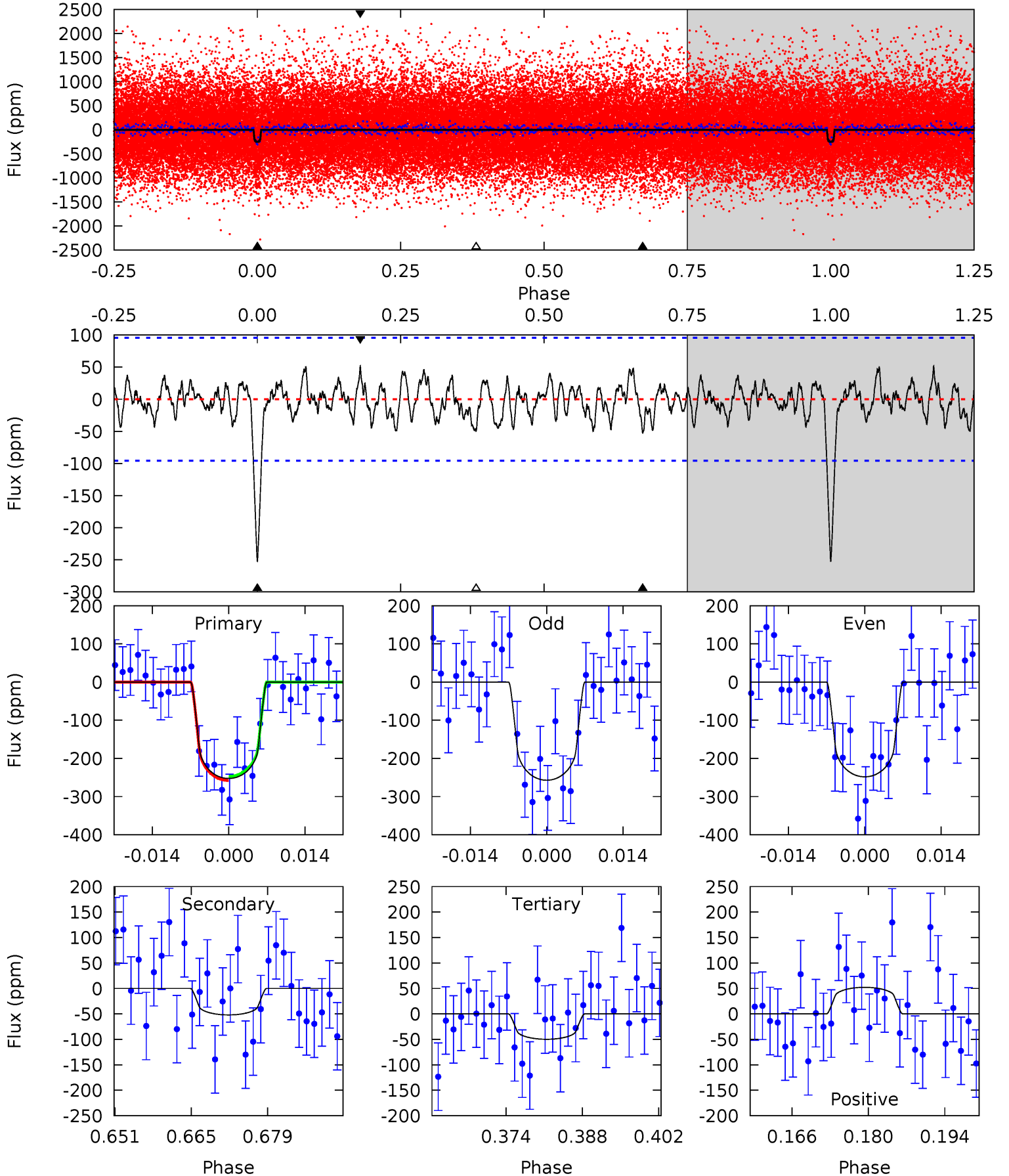
TCE 006947668-01 P= 14.054508 Days  $T_0=133.101544$  (BKJD)



# DV Model-Shift Uniqueness Test

006947668-01, P = 14.054439 Days, E = 133.106433 Days

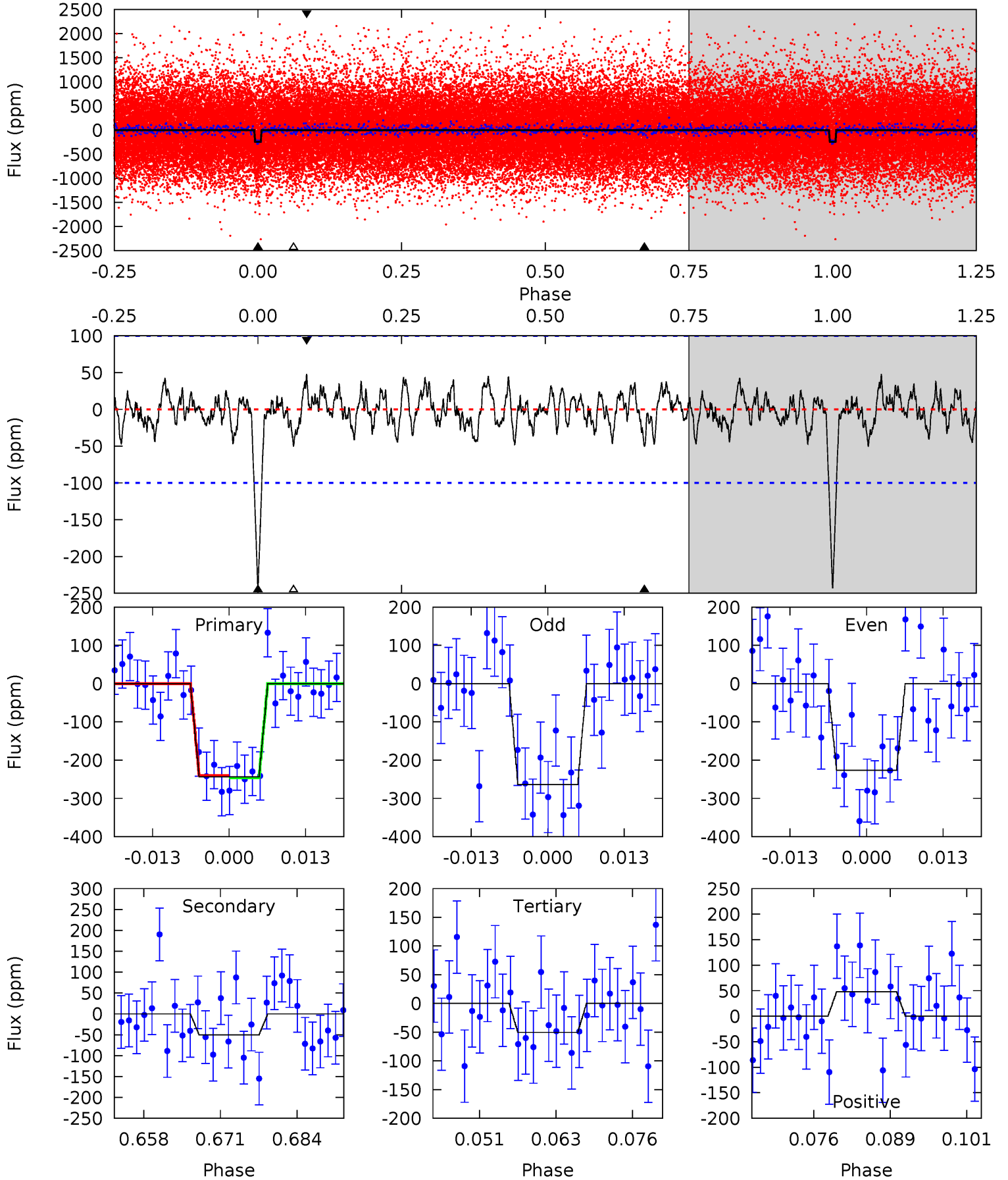
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	2.69	2.58	2.70	4.96	2.46	1.10	10.5	10.4	0.11	-0.01	0.23	0.98	0.17	0.27



# Alt Model-Shift Uniqueness Test

006947668-01,  $P = 14.054508$  Days,  $E = 133.101544$  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
12.1	2.52	2.52	2.40	4.98	2.49	0.96	9.62	9.74	0.00	0.12	0.93	1.01	0.17	0.14



### Stellar Parameters For KIC 006947668

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5783^{+161}_{-202}$	$4.539^{+0.036}_{-0.204}$	$-0.080^{+0.300}_{-0.300}$	$0.880^{+0.260}_{-0.081}$	$0.977^{+0.114}_{-0.125}$	$2.021^{+0.401}_{-1.045}$
	+3%/-3%	+1%/-4%	+375%/-375%	+30%/-9%	+12%/-13%	+20%/-52%
Source	KIC0	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 006947668-01 / KOI 3455.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-52 \pm 19$	$1.86^{+1.22}_{-1.07}$	$1019^{+65}_{-47}$	$3870^{+1599}_{-583}$	$90^{+481}_{-57}$
Alt.	$-51 \pm 20$	$1.68^{+1.31}_{-1.05}$	$1019^{+72}_{-49}$	$4083^{+2249}_{-778}$	$123^{+859}_{-88}$

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



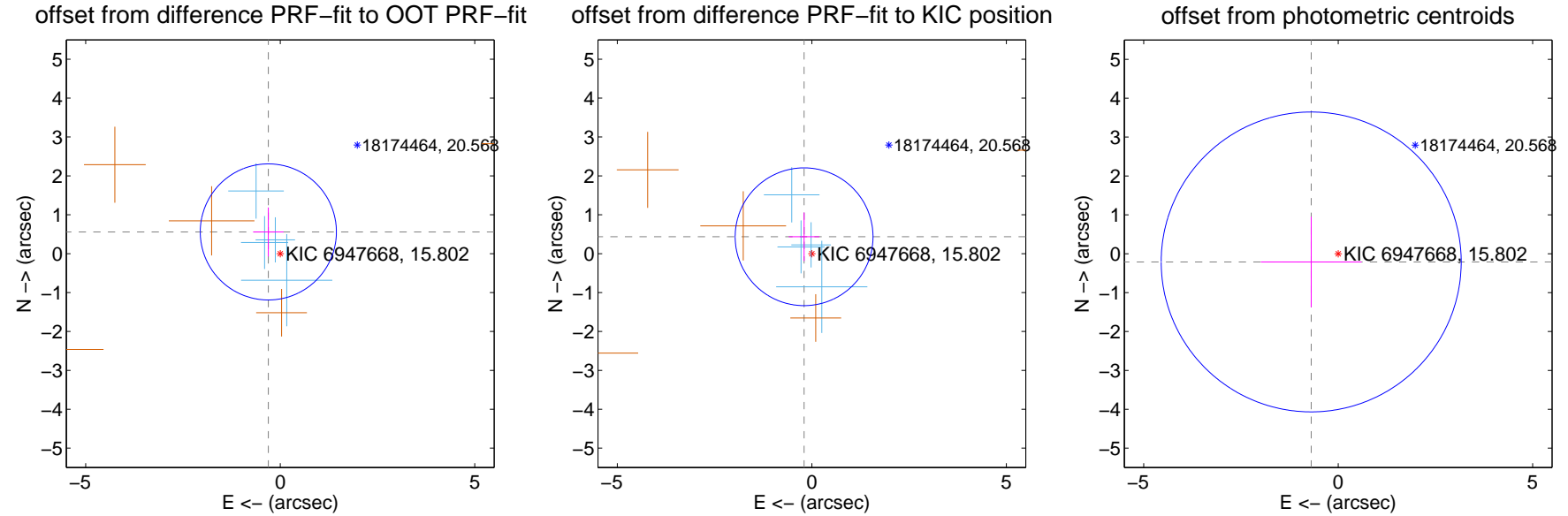
## DV Centroid Data

Supplemental centroid analysis for 006947668-01. Kepler magnitude: 15.80. Transit SNR 10.70

There are 4 quarters with good PRF difference image offsets

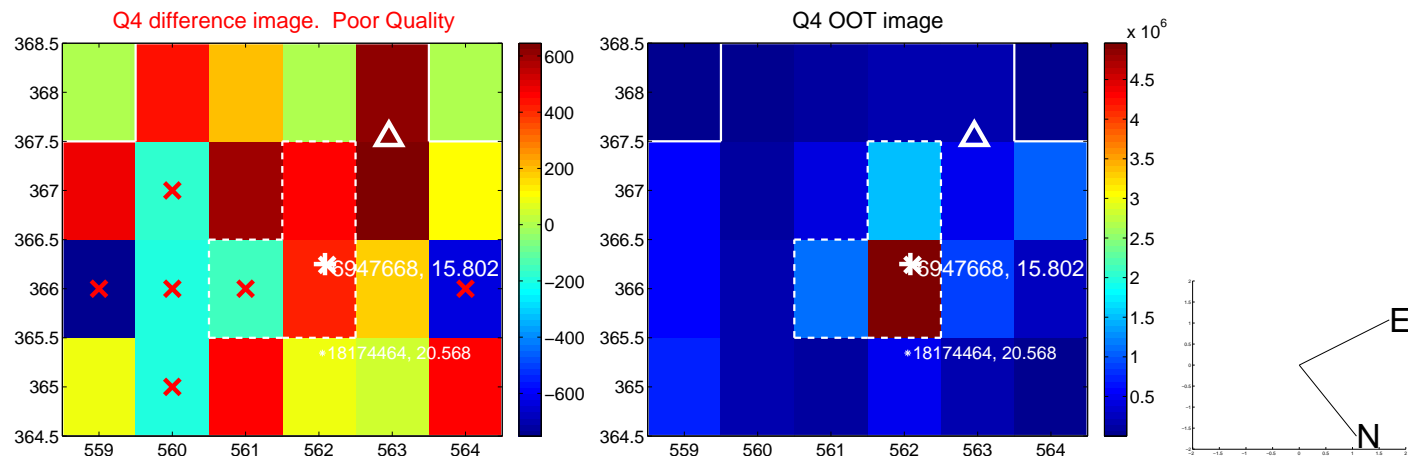
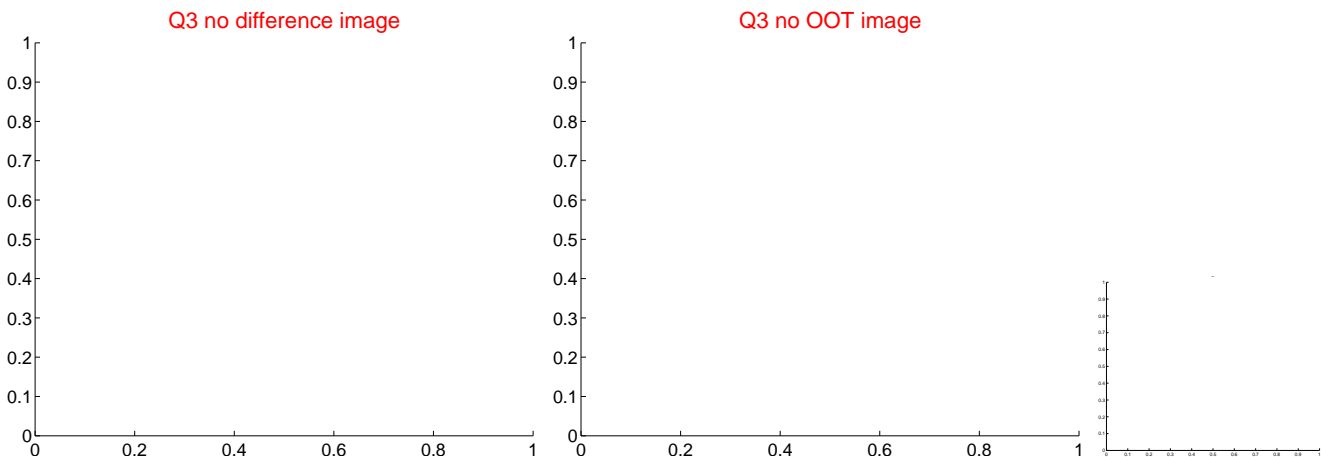
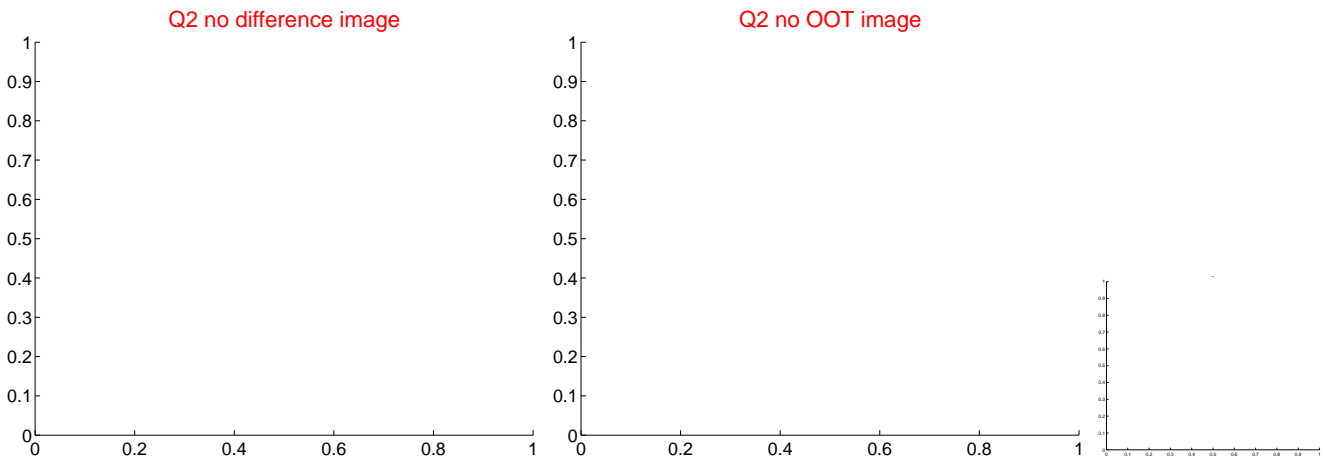
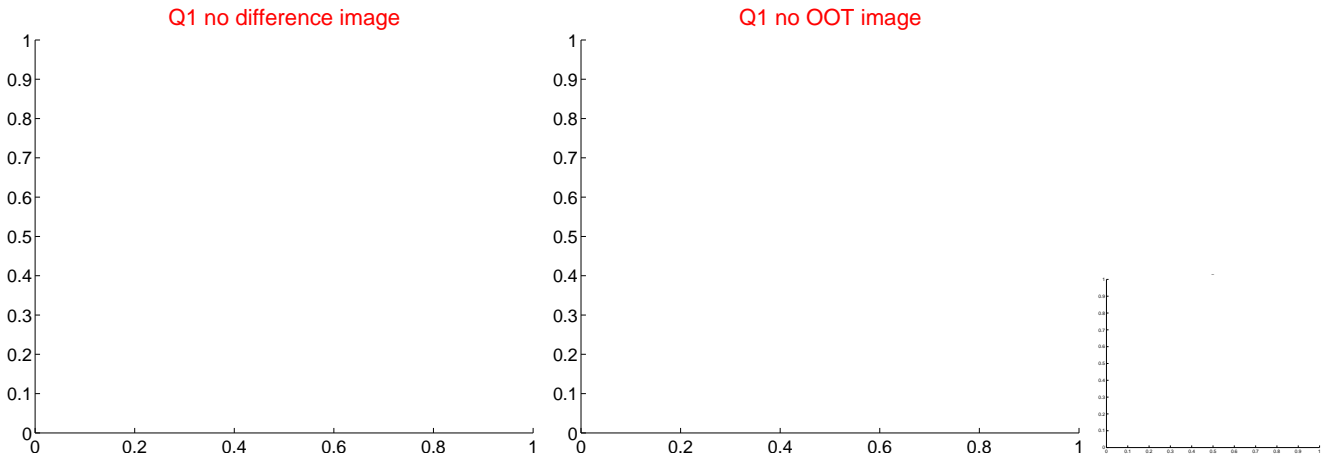
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.637 \pm 0.583$	1.09	$0.306 \pm 0.390$	$0.559 \pm 0.629$
PRF-fit source offset from KIC position	$0.478 \pm 0.590$	0.81	$0.199 \pm 0.393$	$0.435 \pm 0.624$
photometric centroid source offset	$0.73 \pm 1.29$	0.56	$0.69 \pm 1.30$	$-0.21 \pm 1.16$

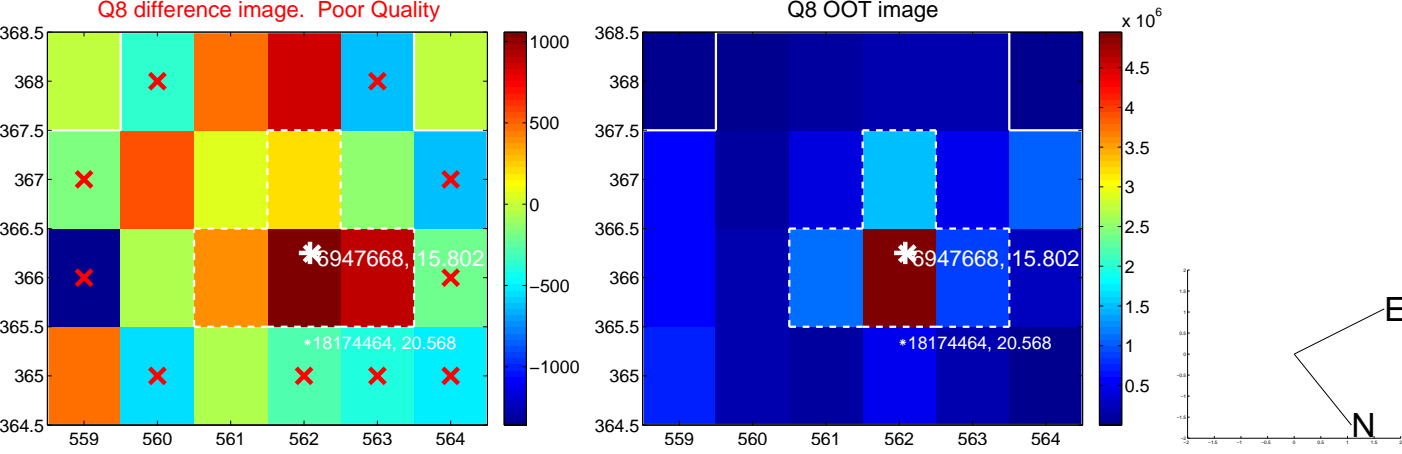
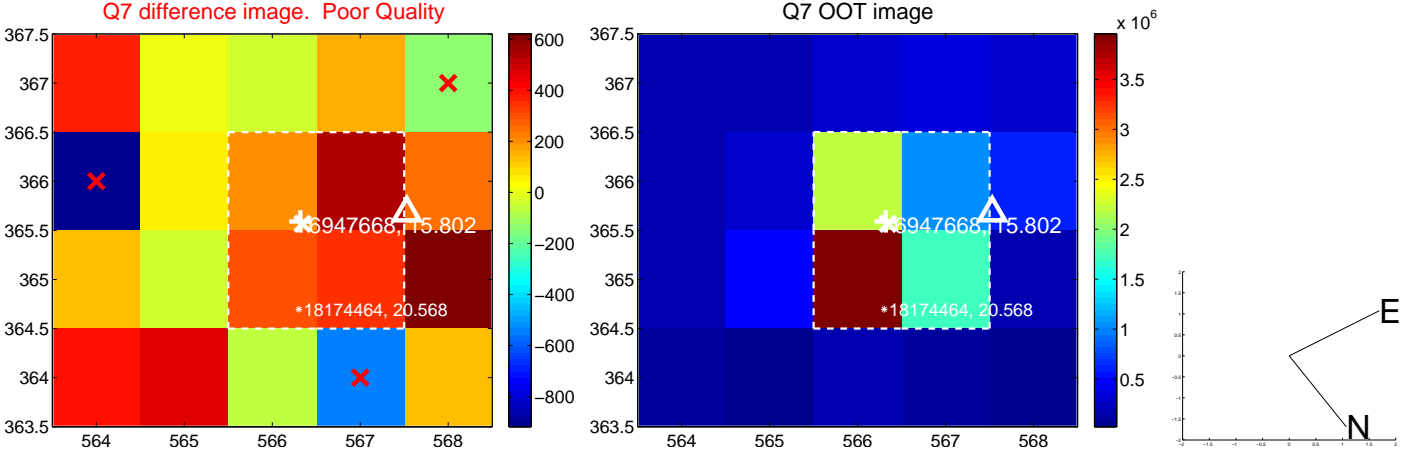
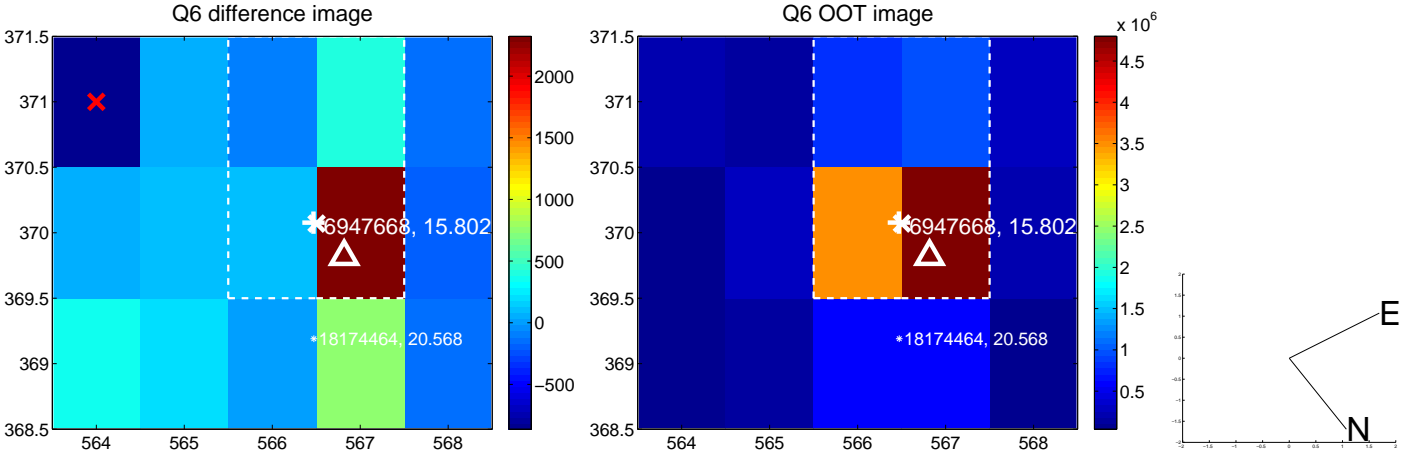
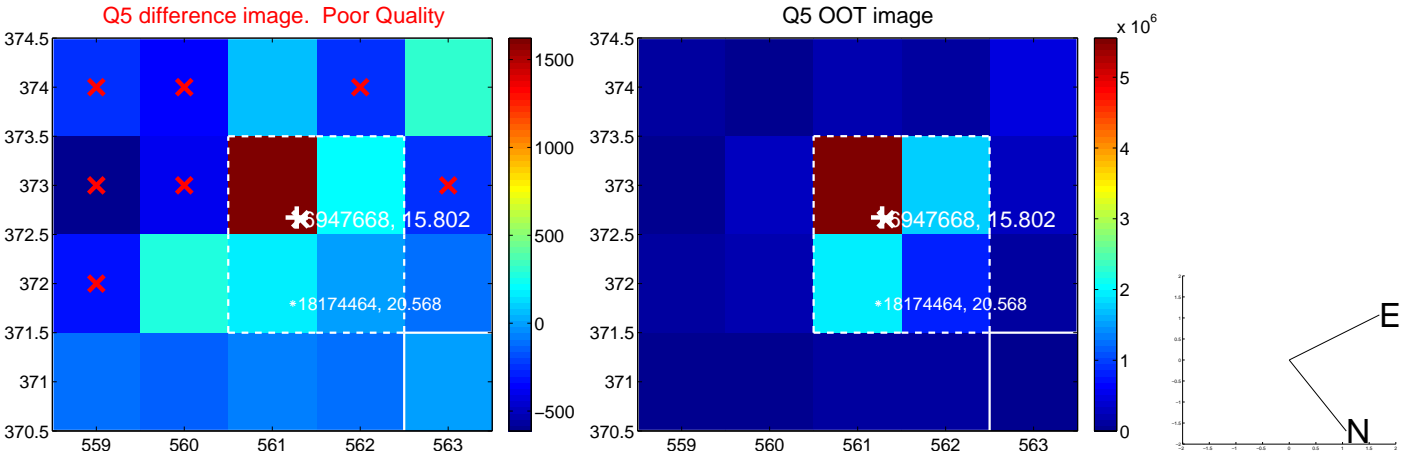


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

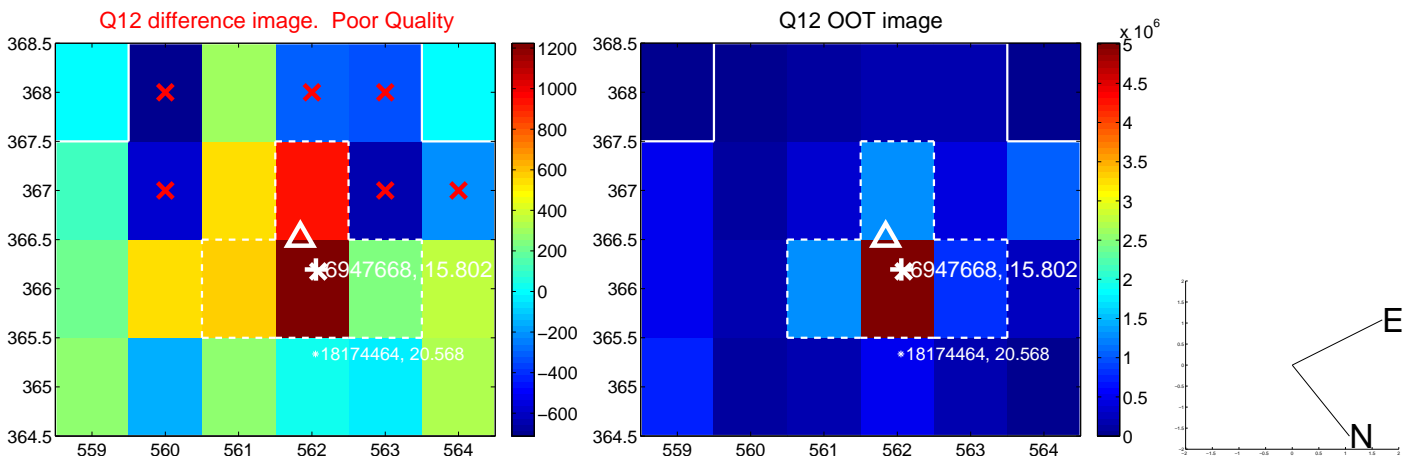
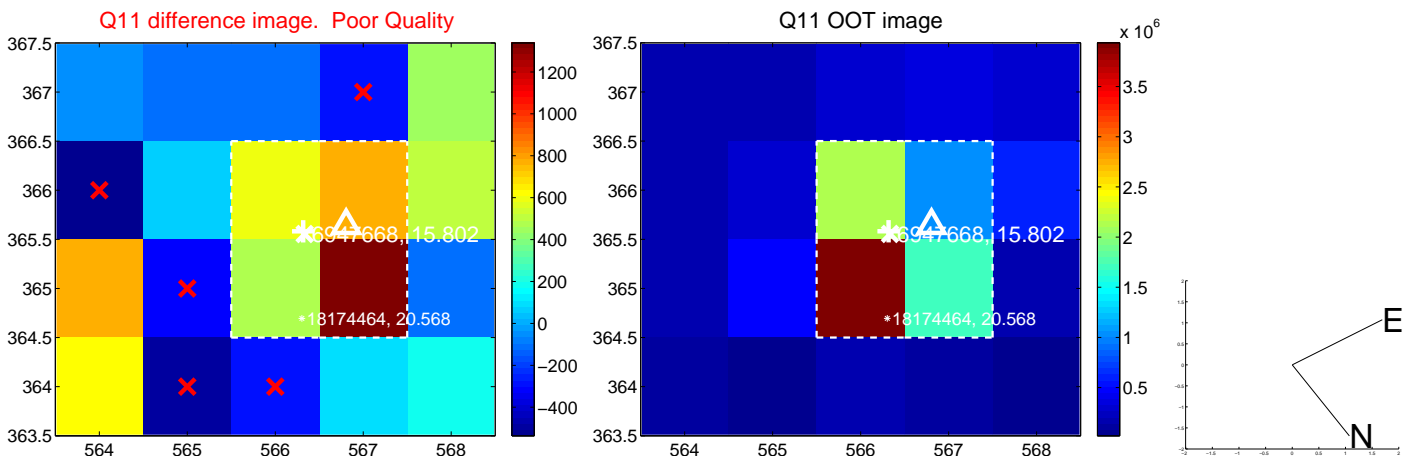
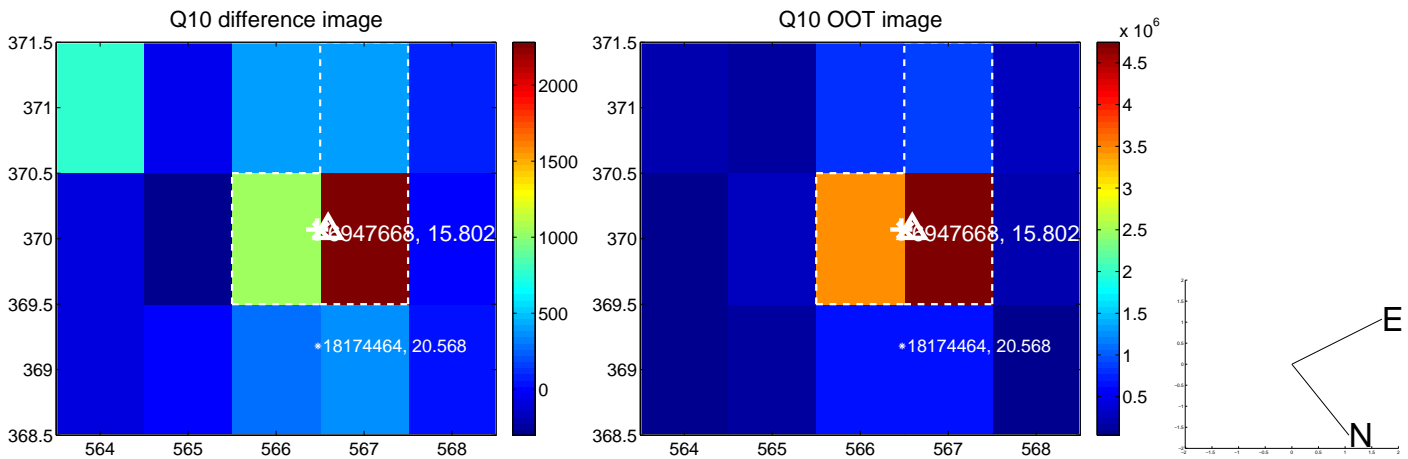
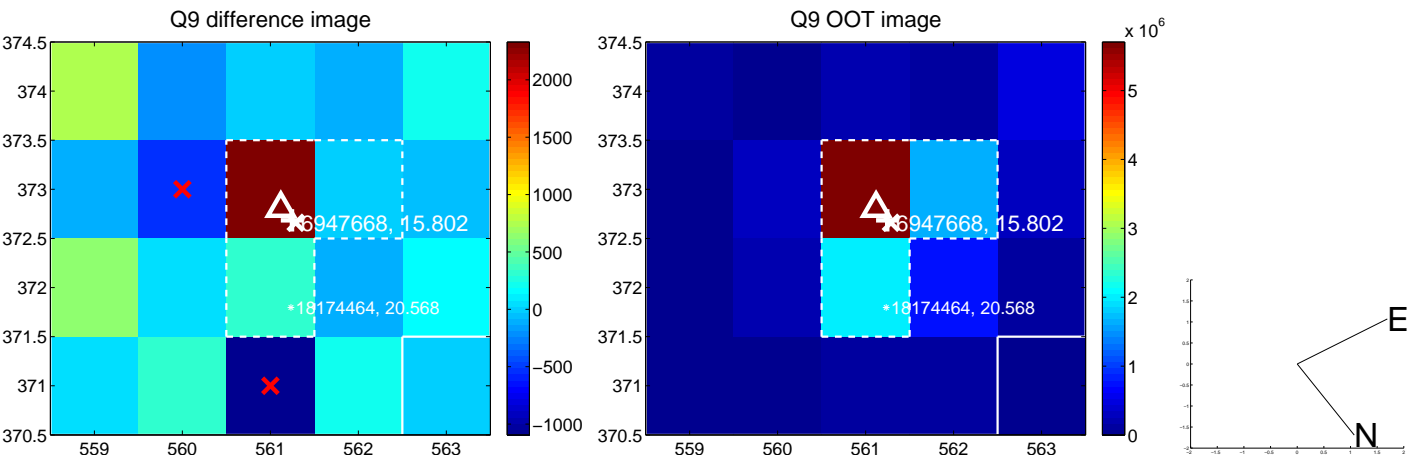
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



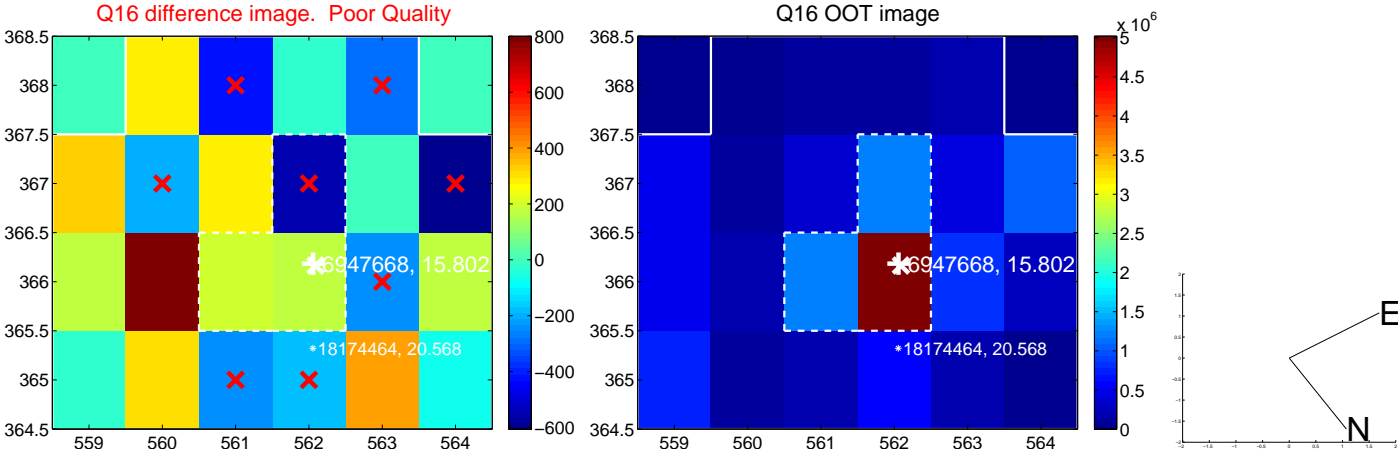
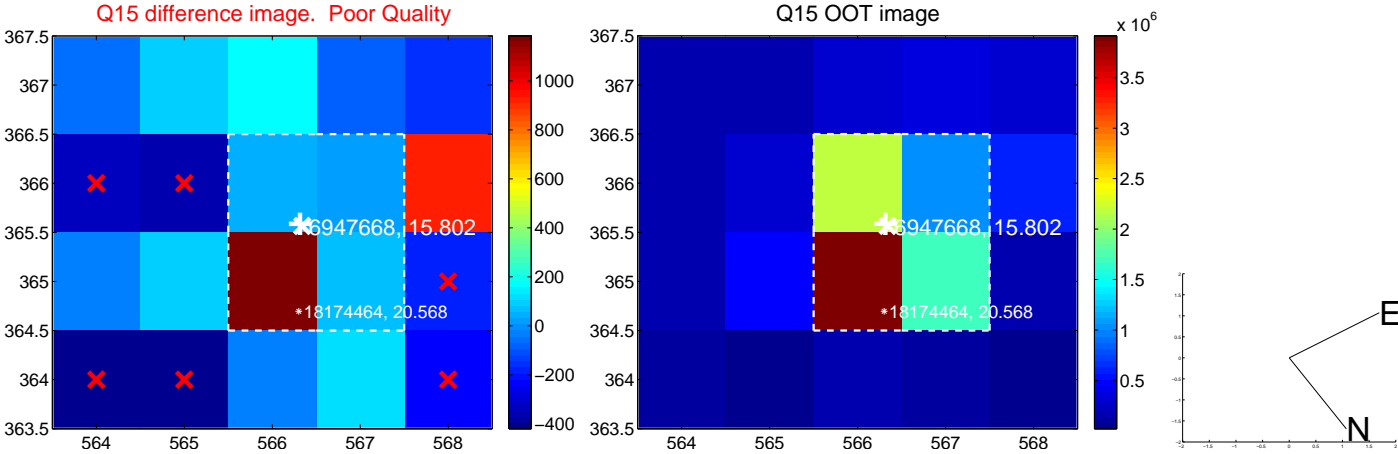
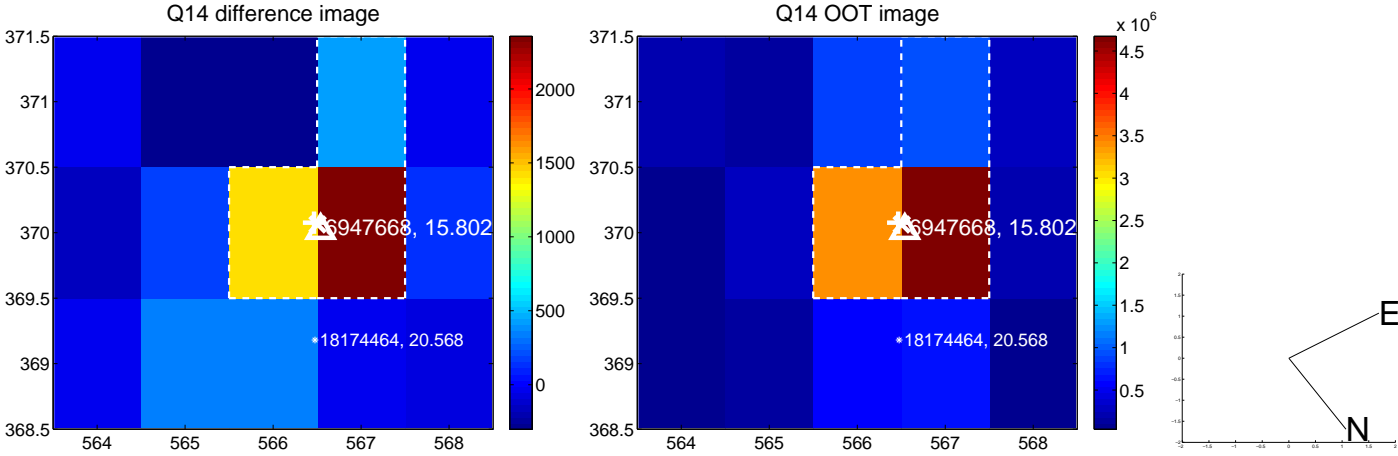
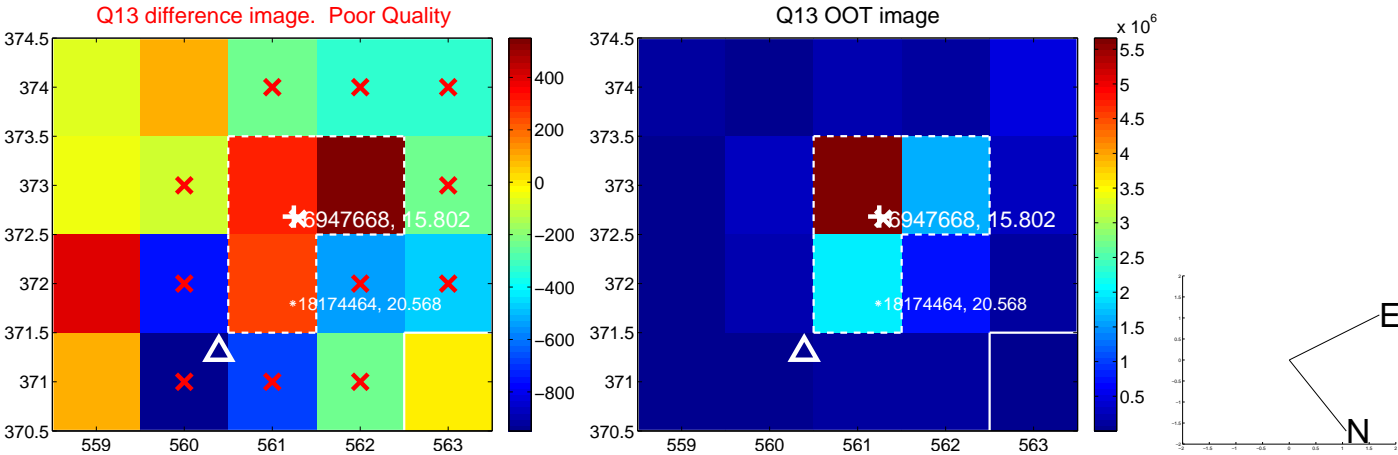
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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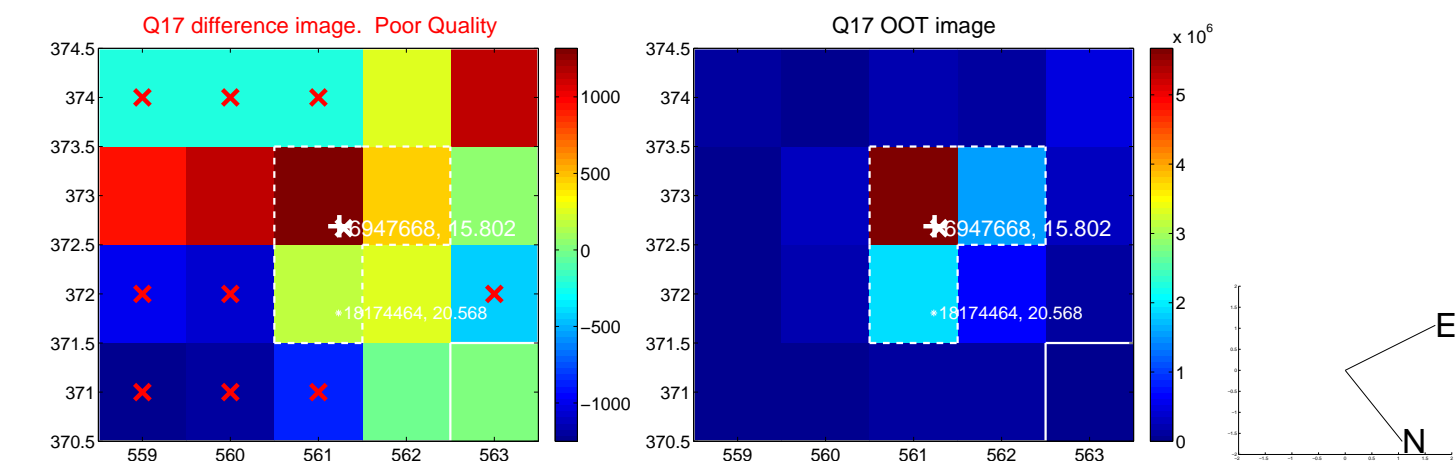


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

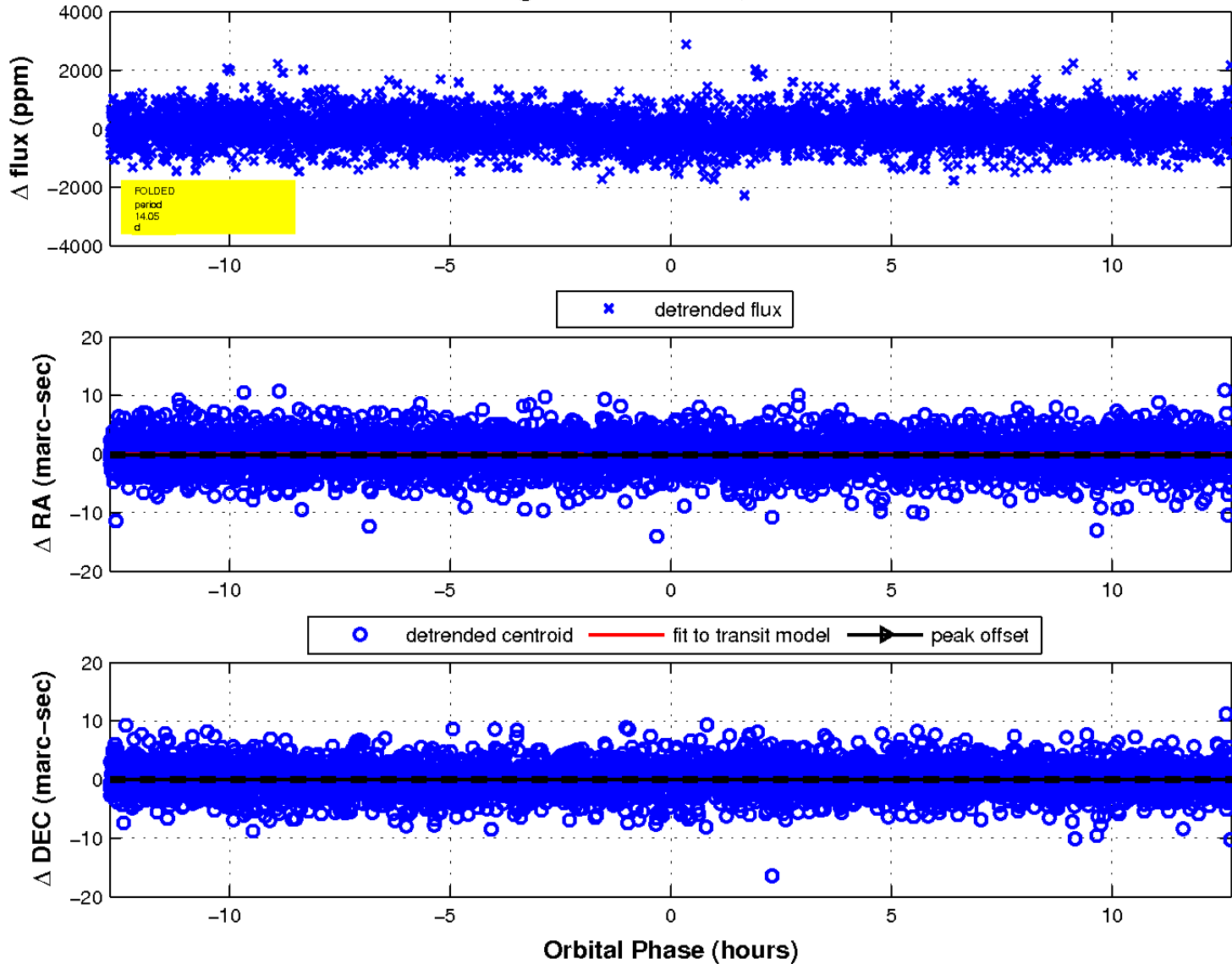




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

