

# KIC 007287415

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007287415-01	OBS	1369.01	3.016191	133.881974	216.6	3.267	27.8	30.4	1.40	5611	2.73	1045.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007287415-01	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.

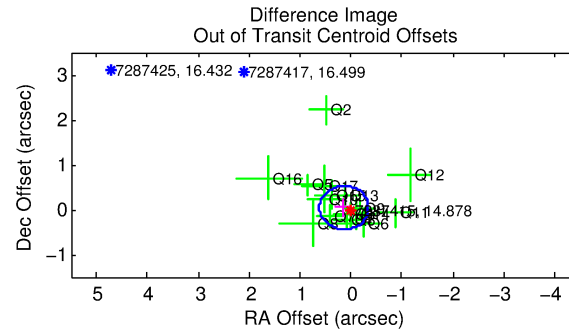
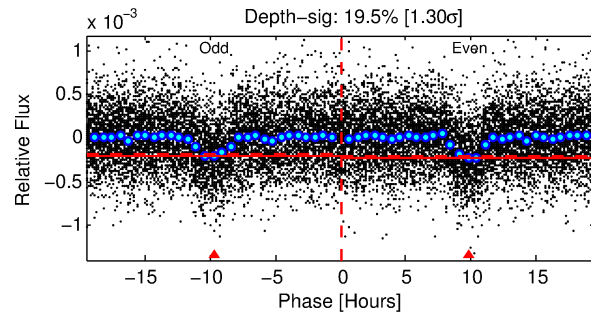
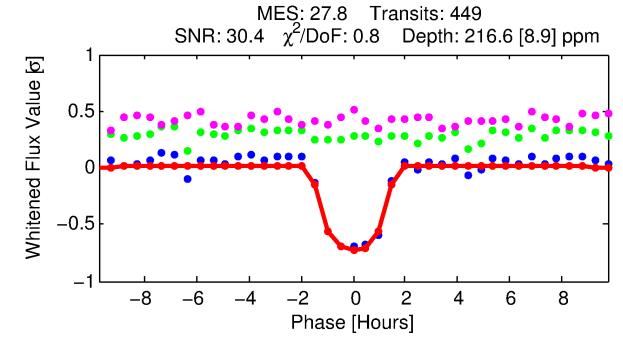
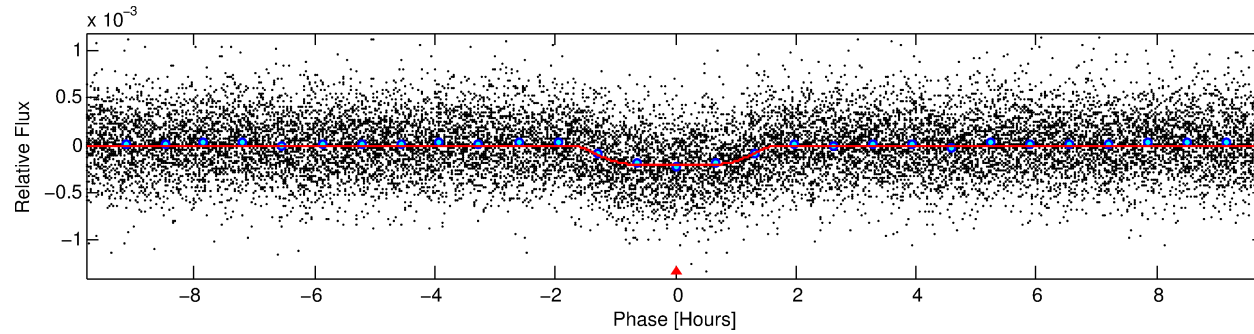
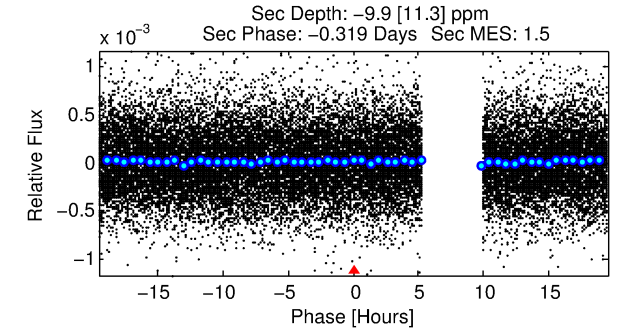
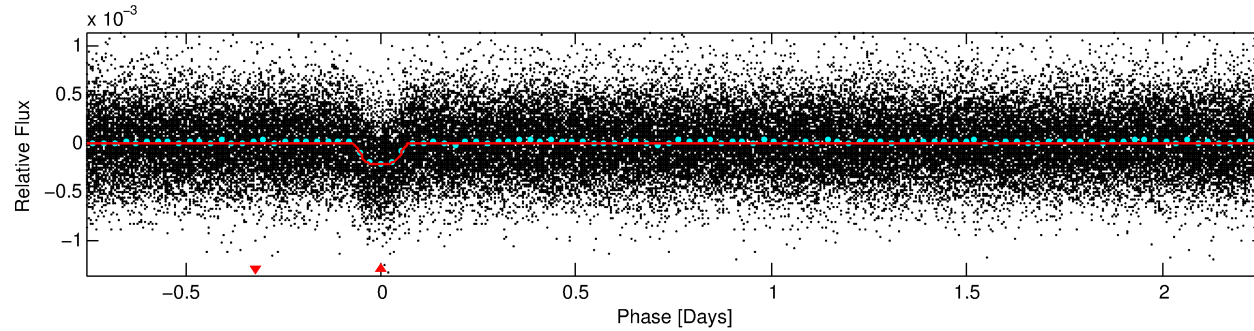
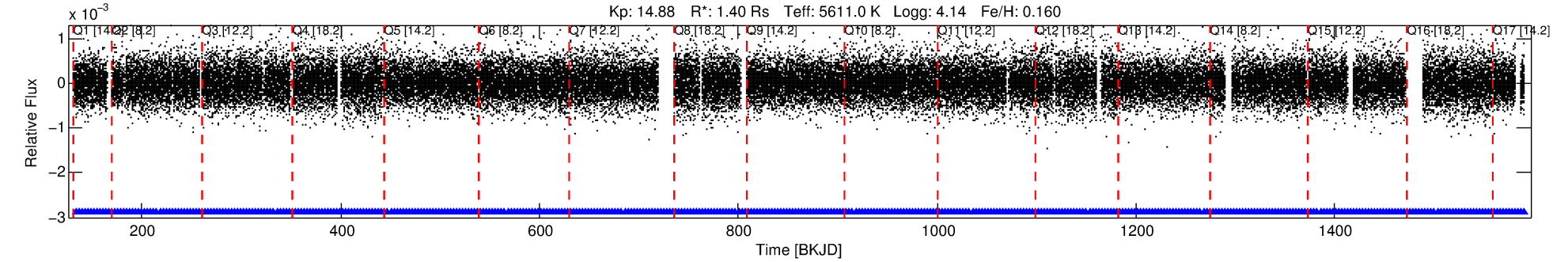
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007287415-01

No Significant Match Found

# DV One-Page Summary

KIC: 7287415 Candidate: 1 of 1 Period: 3.016 d  
KOI: K01369.01 Corr: 0.925



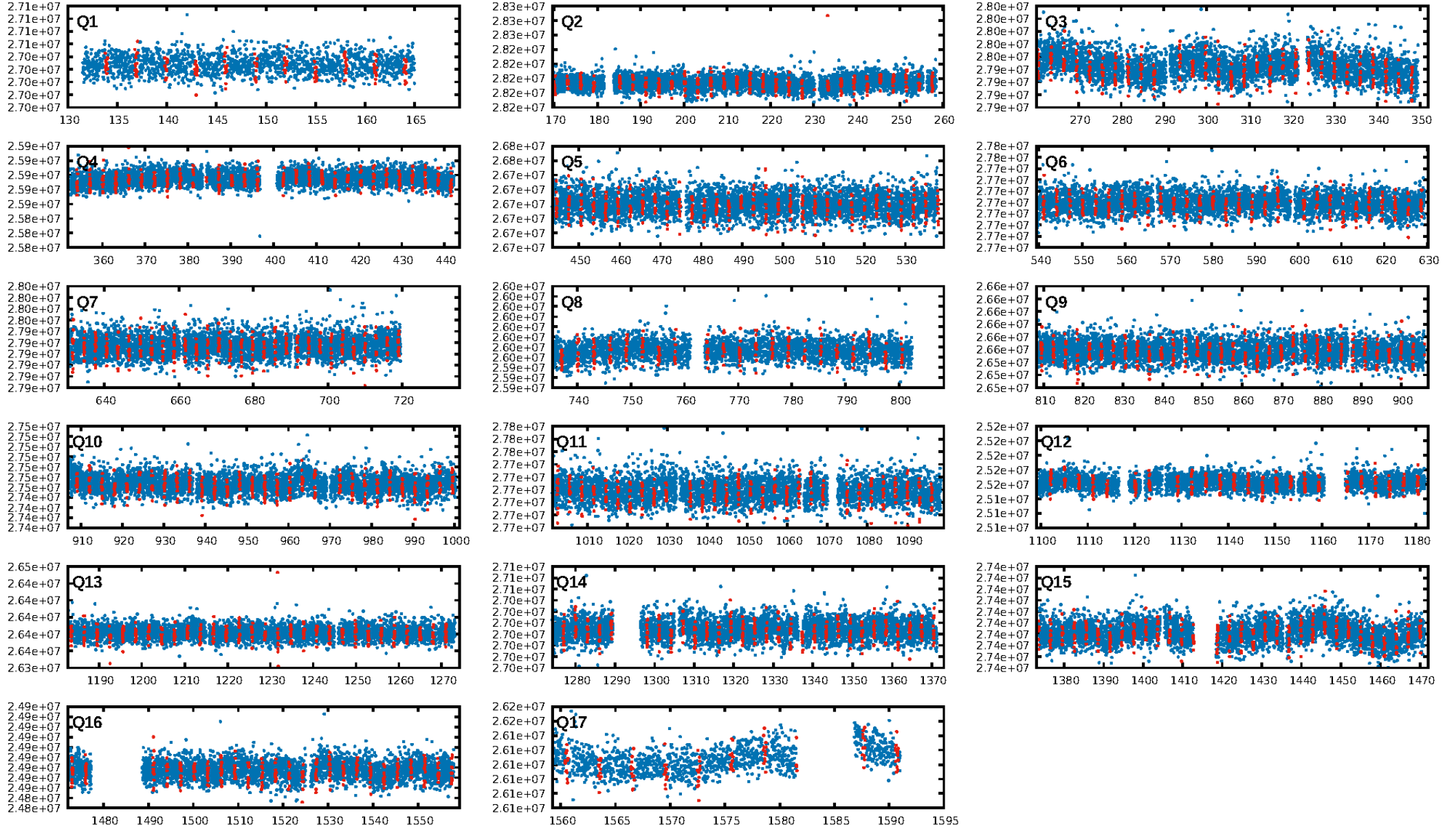
## DV Fit Results:

Period = 3.01619 [0.00001] d  
Epoch = 133.8820 [0.0019] BKJD  
Rp/R\* = 0.0179 [0.0008]  
a/R\* = 2.50 [0.37]  
b = 0.96 [0.01]  
Seff = 1045.19 [348.77]  
Teff = 1450 [121] K  
Rp = 2.73 [0.56] Re  
a = 0.0408 [0.0082] AU  
Ag = N/A  
Teffp = N/A

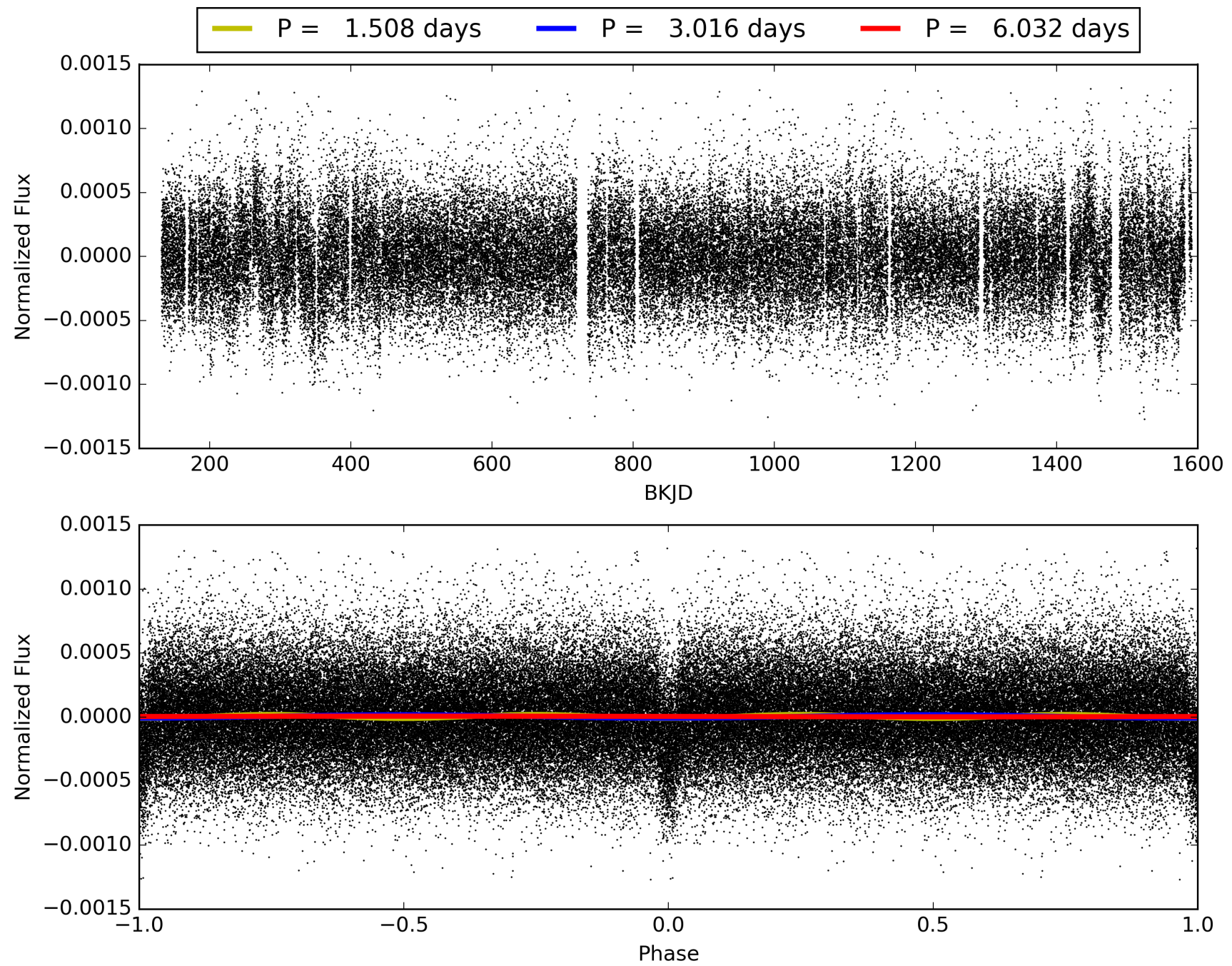
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.89e-170  
RollingBand-fgt: 1.00 [428/428]  
GhostDiagnostic-chr: 6.782  
Centroid-sig: 56.5%  
Centroid-so: 0.183 arcsec [0.40σ]  
OotOffset-rm: 0.146 arcsec [0.91σ]  
KicOffset-rm: 0.136 arcsec [0.87σ]  
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 007287415-01, PDC Light Curves



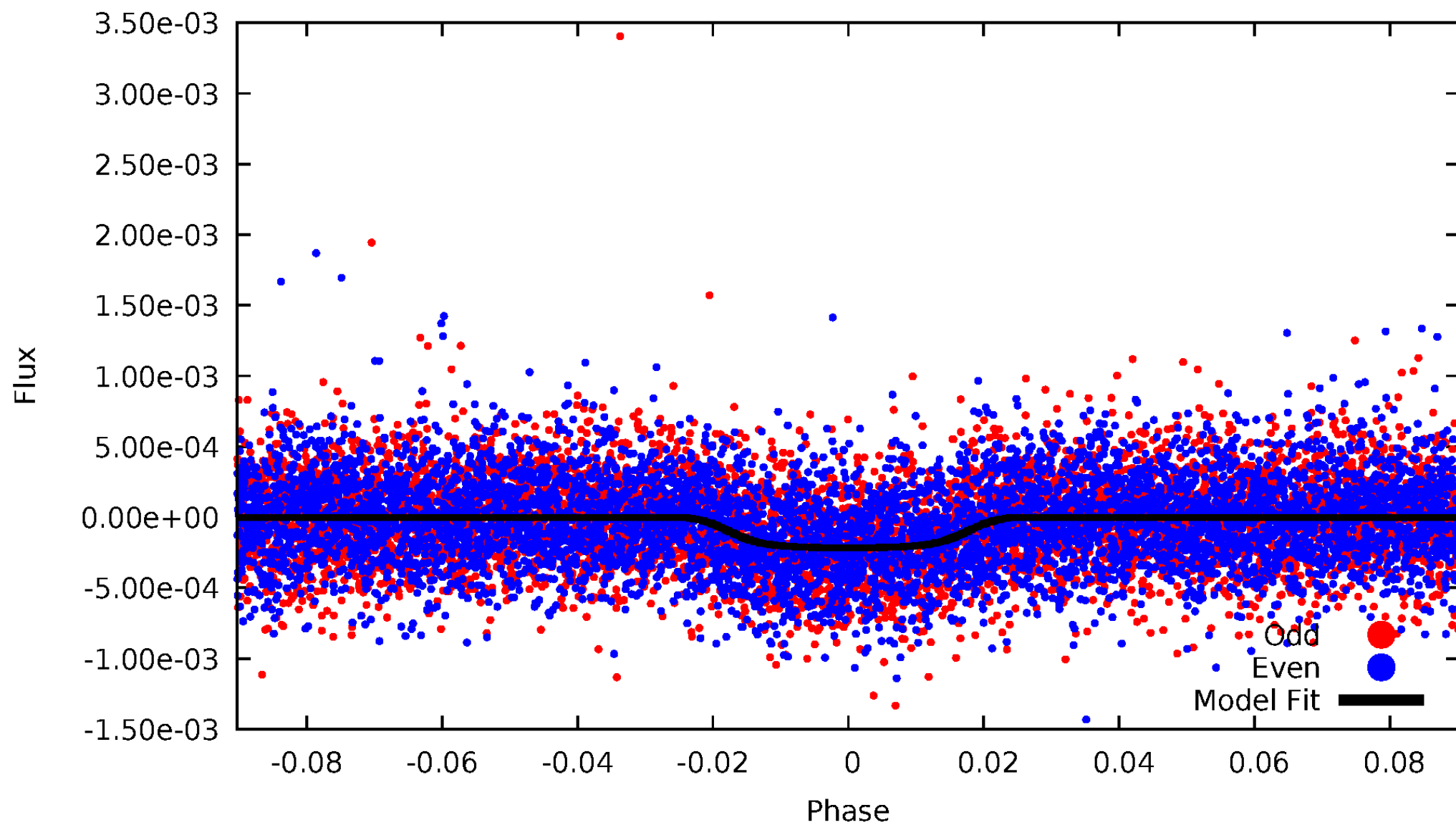
TCE 007287415-01





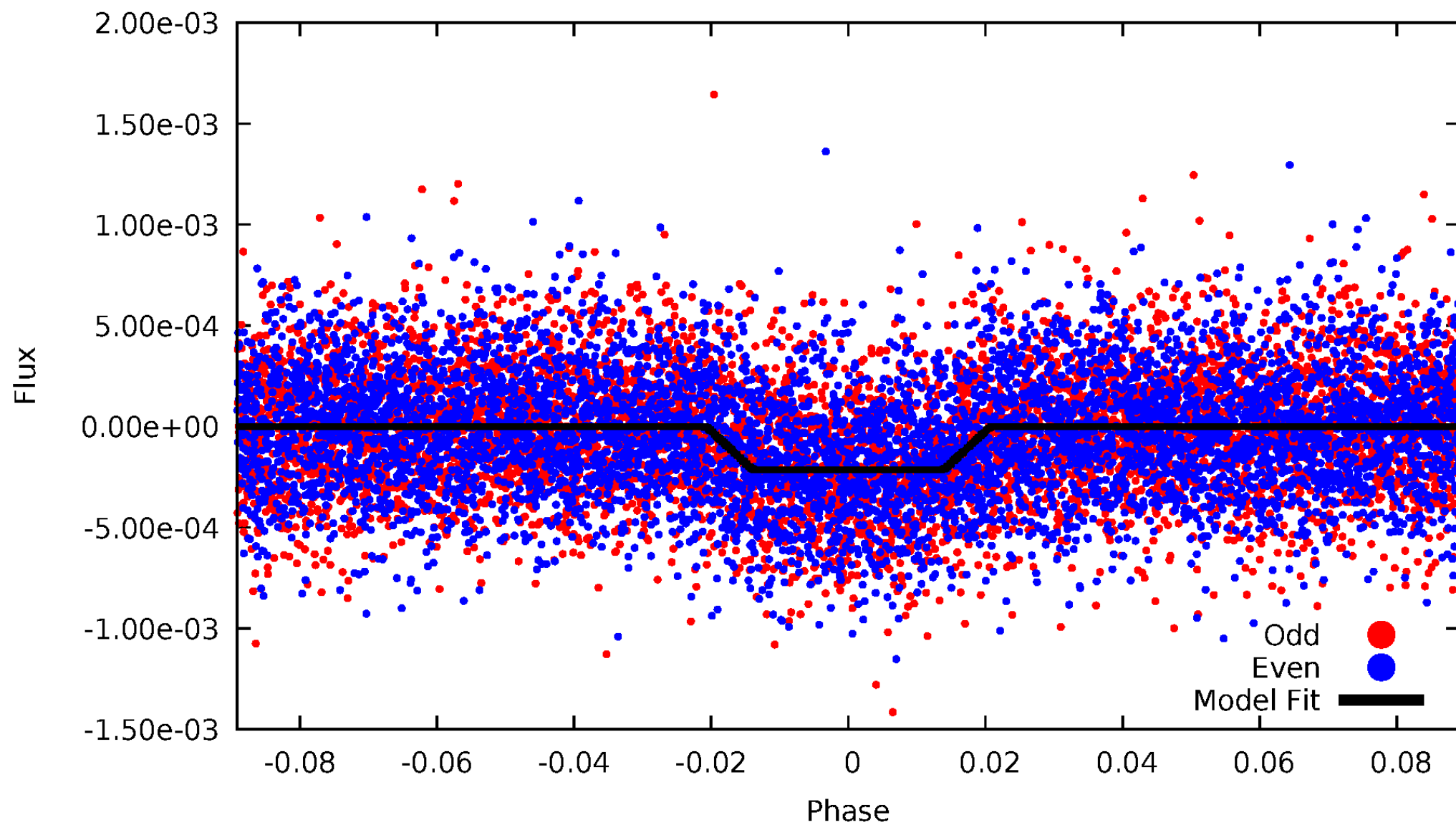
# DV Odd/Even

TCE 007287415-01



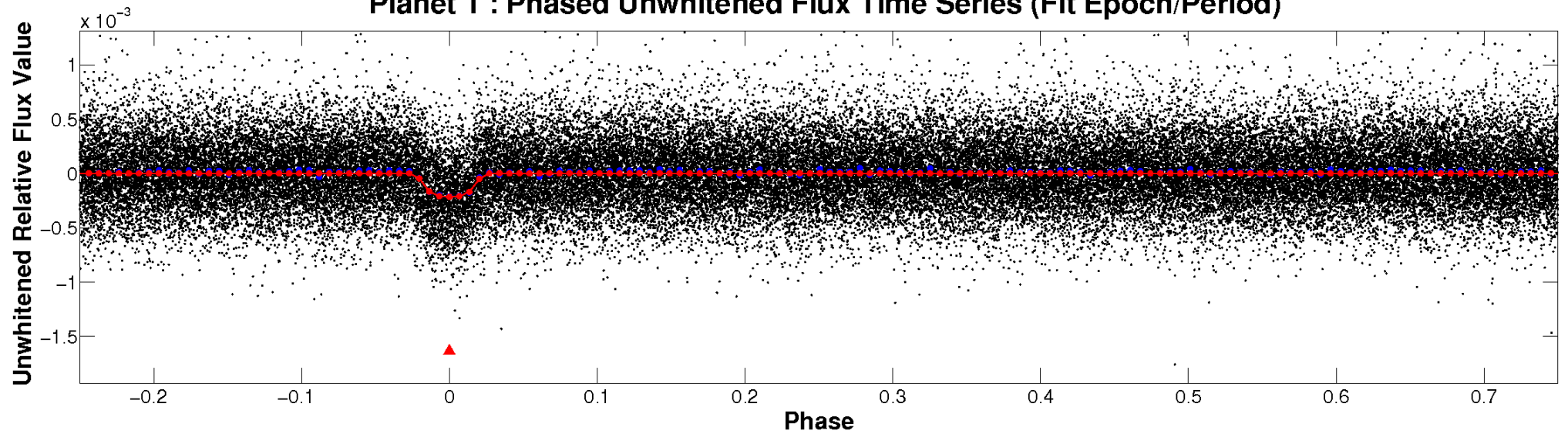
# ALT Odd/Even

TCE 007287415-01

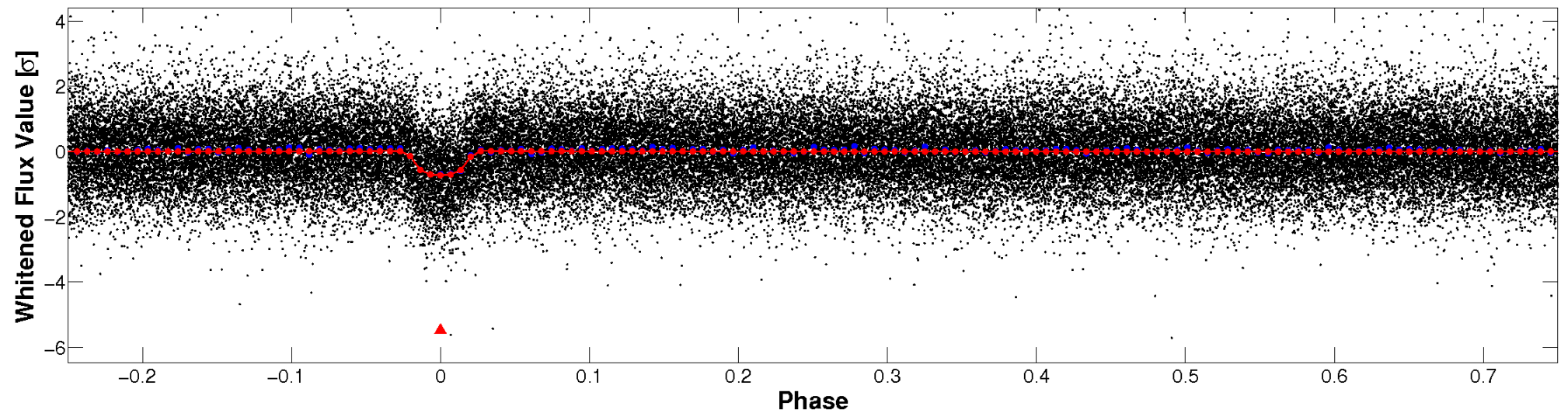


# Non-Whitened Vs. Whitened Light Curve

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

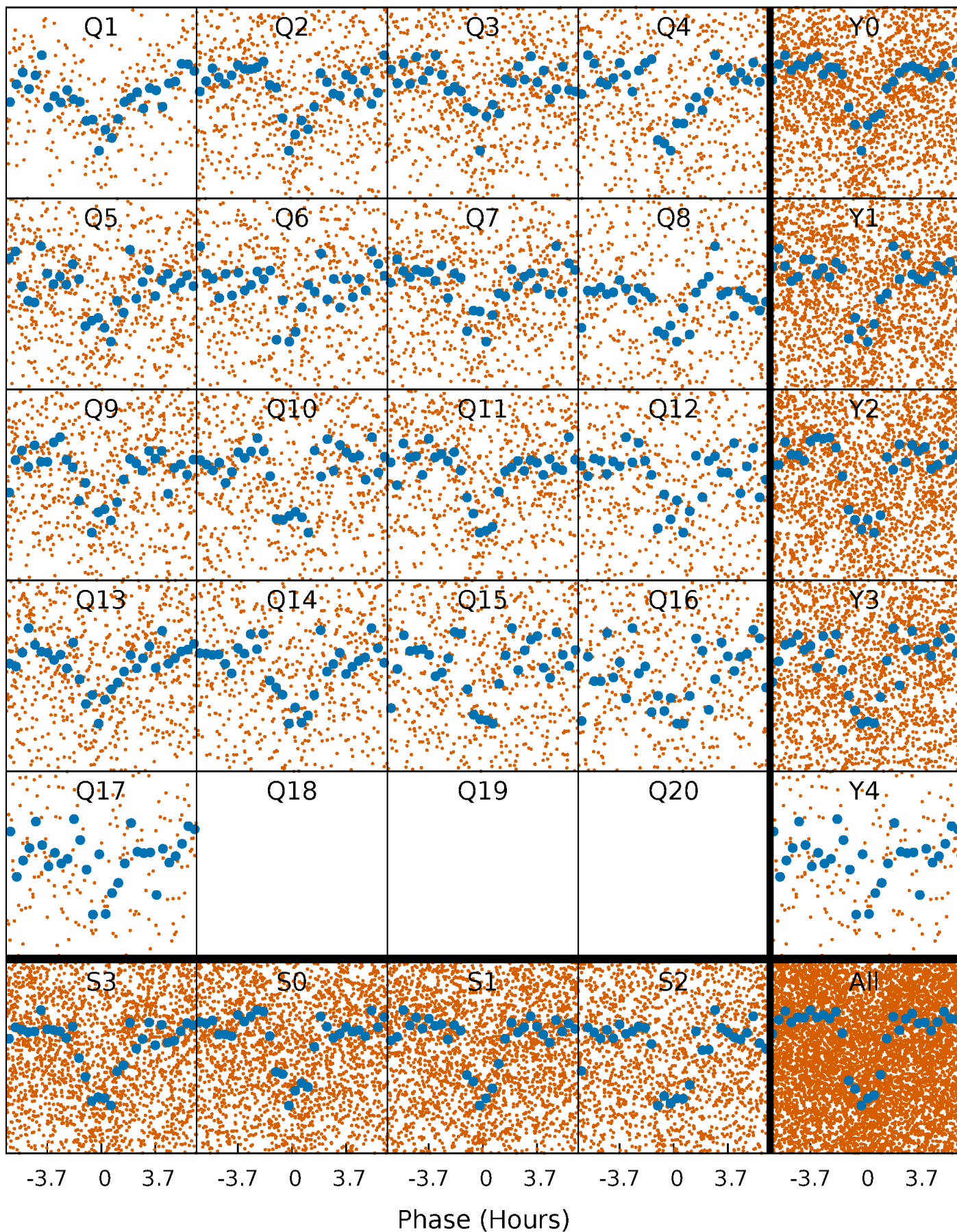


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

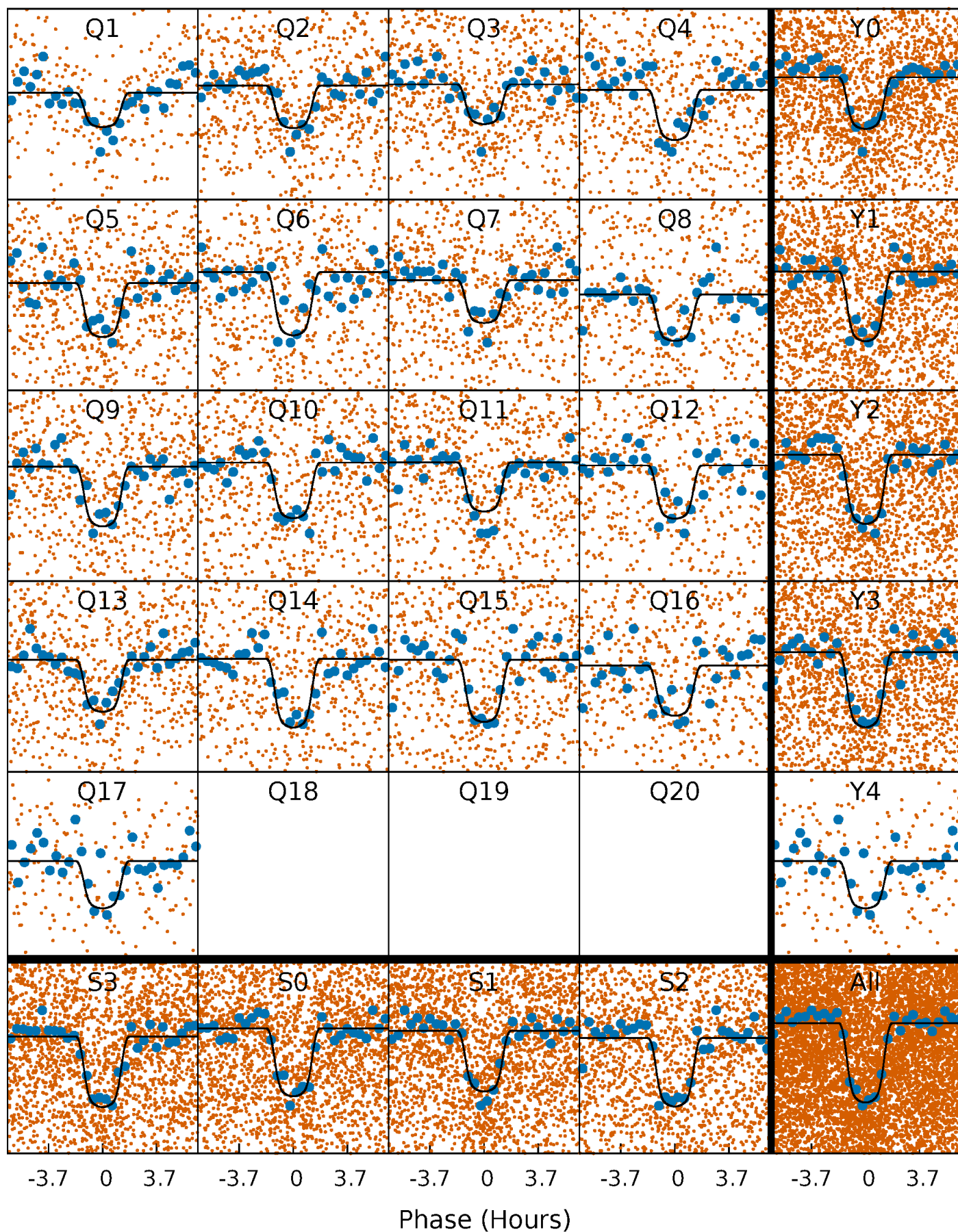
TCE 007287415-01 P= 3.016191 Days  $T_0=133.881974$  (BKJD)





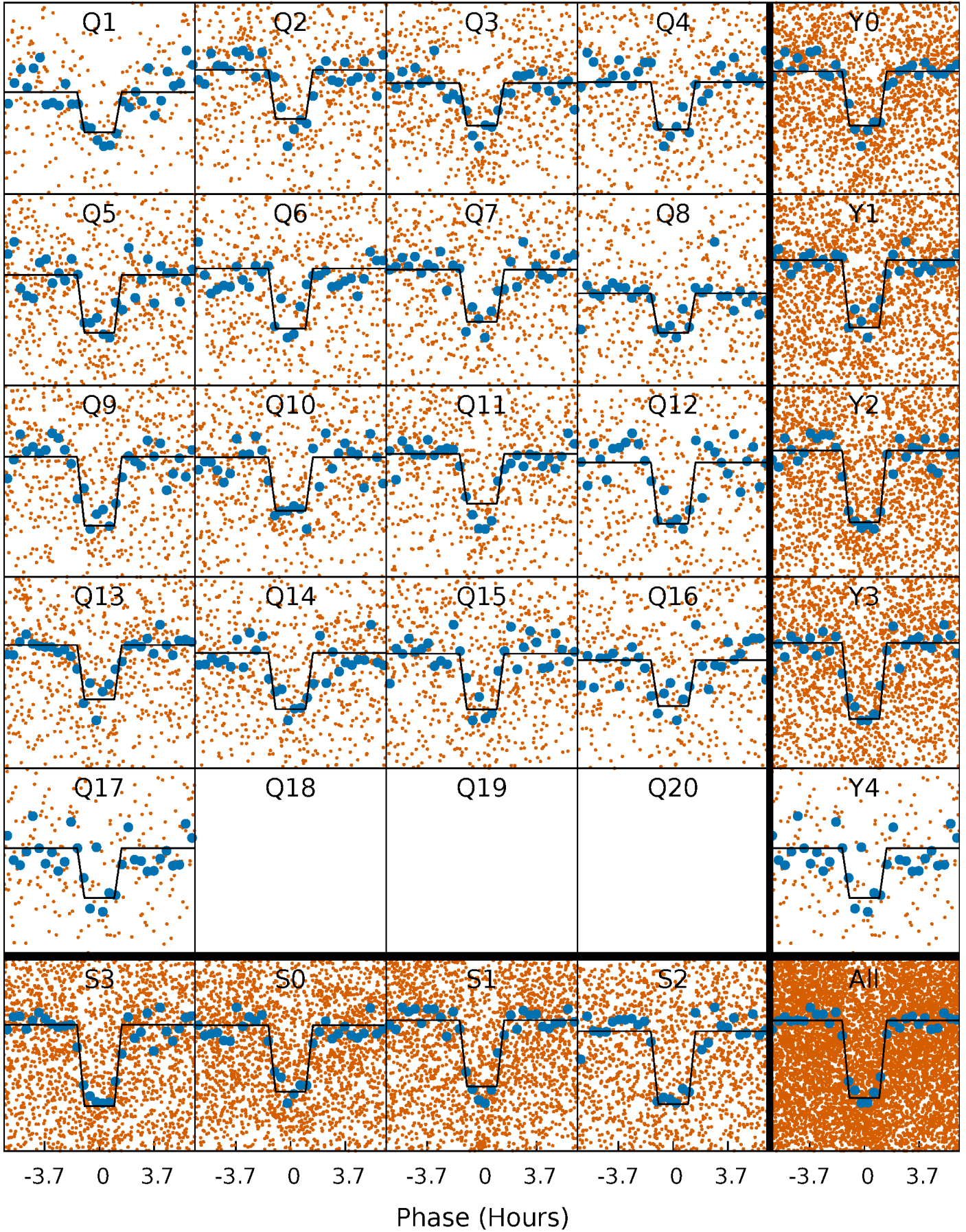
# DV Quarter-Phased Transit Curves

TCE 007287415-01 P= 3.016191 Days  $T_0=133.881974$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

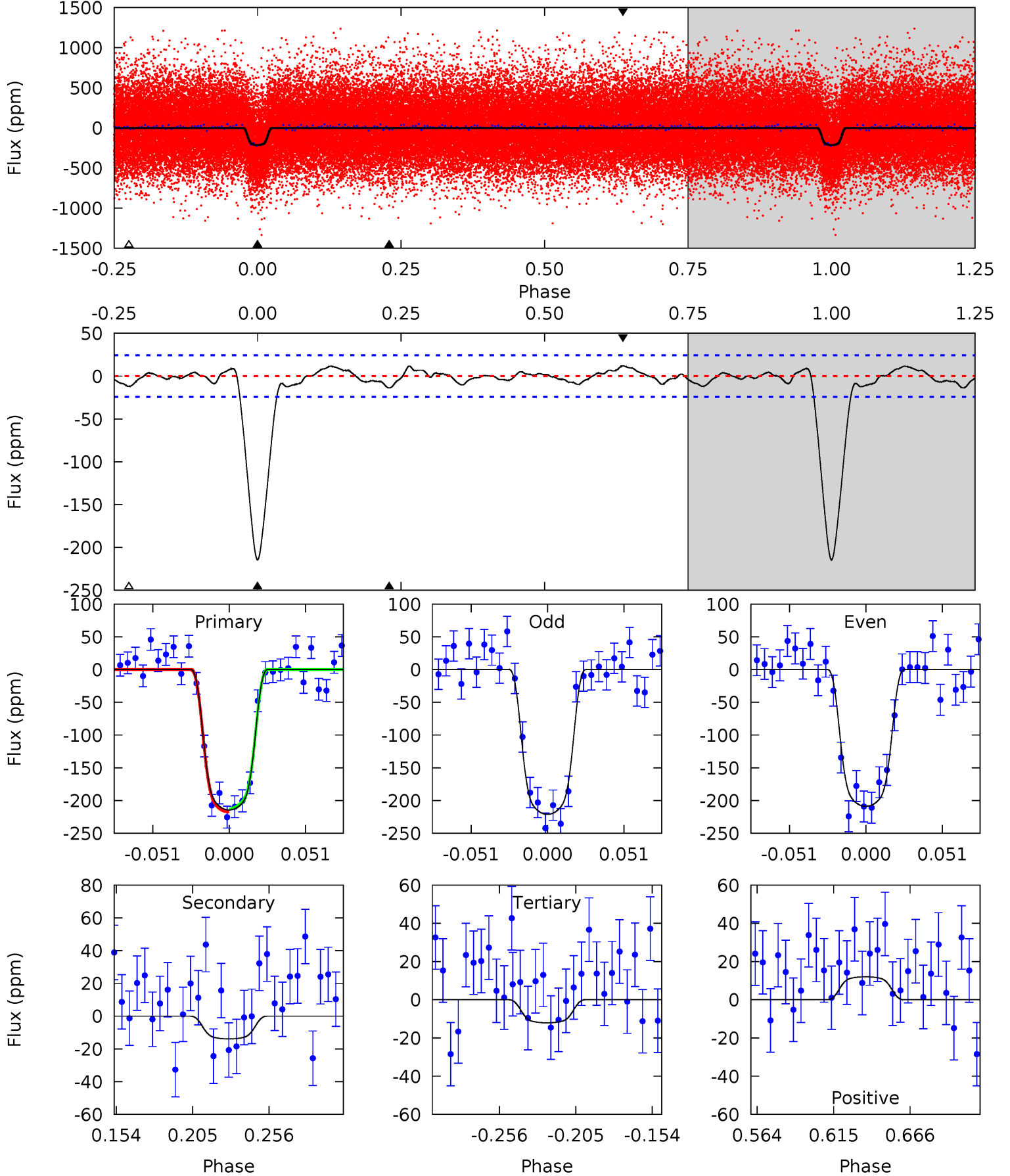
TCE 007287415-01 P= 3.016206 Days  $T_0=133.878000$  (BKJD)



# DV Model-Shift Uniqueness Test

007287415-01, P = 3.016191 Days, E = 130.865783 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
41.5	2.69	2.34	2.33	4.70	1.95	1.07	39.2	39.2	0.35	0.36	1.18	0.98	0.05	0.45

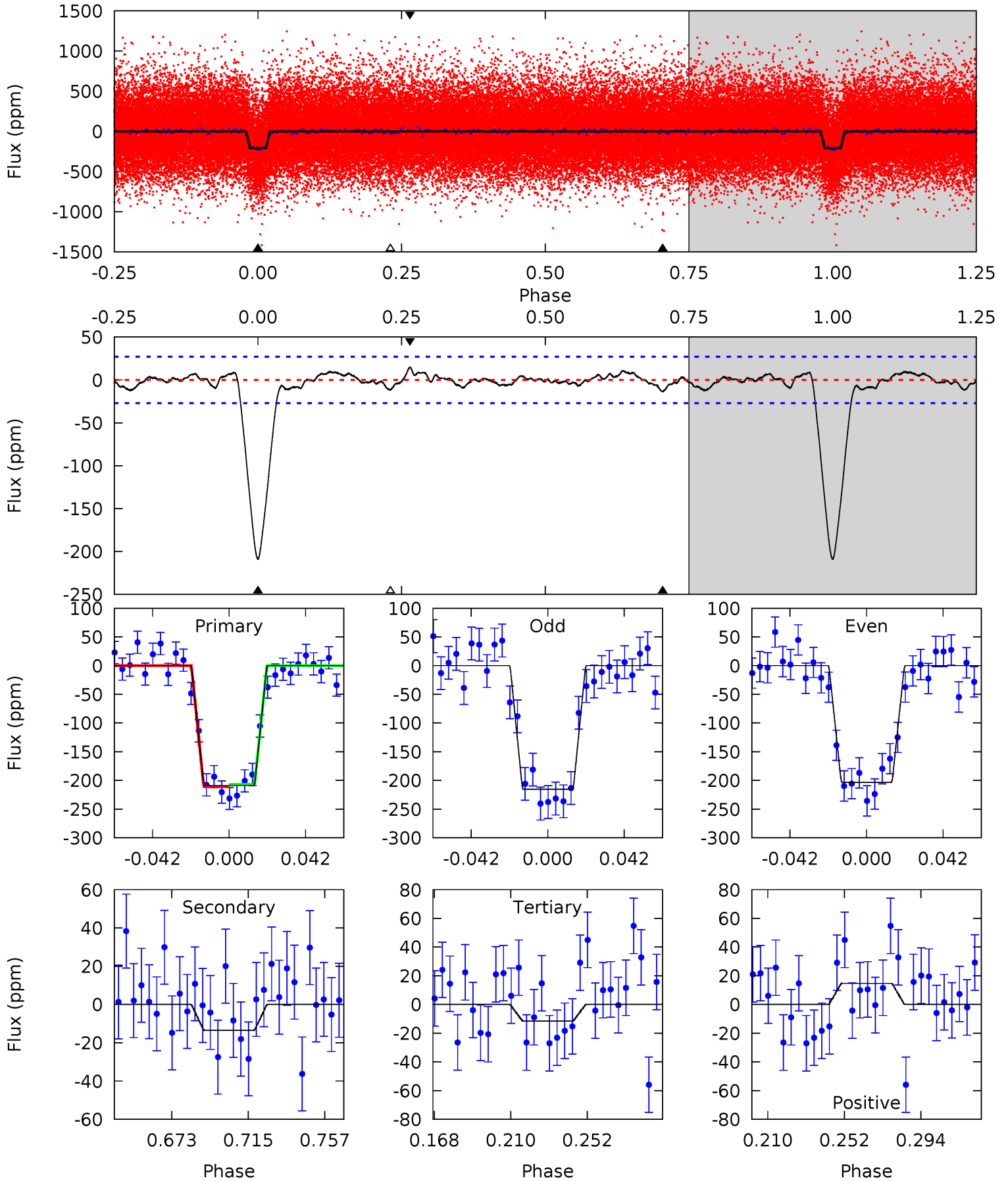




# Alt Model-Shift Uniqueness Test

007287415-01, P = 3.016206 Days, E = 130.861794 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
36.8	2.37	2.02	2.59	4.74	2.03	0.95	34.8	34.2	0.35	-0.22	1.04	0.97	0.07	0.35





### Stellar Parameters For KIC 007287415

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5611^{+84}_{-75}$	$4.144^{+0.195}_{-0.105}$	$0.160^{+0.150}_{-0.150}$	$1.400^{+0.231}_{-0.283}$	$0.995^{+0.074}_{-0.066}$	$0.511^{+0.493}_{-0.154}$
	+1%/-1%	+5%/-3%	+94%/-94%	+16%/-20%	+7%/-7%	+97%/-30%
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 007287415-01 / KOI 1369.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-14 \pm 5$	$2.72^{+0.27}_{-0.31}$	$2023^{+90}_{-117}$	$3077^{+193}_{-228}$	$1.709^{+0.864}_{-0.654}$
Alt.	$-13 \pm 6$	$2.20^{+0.25}_{-0.26}$	$2017^{+92}_{-111}$	$3264^{+234}_{-368}$	$2.456^{+1.465}_{-1.244}$

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

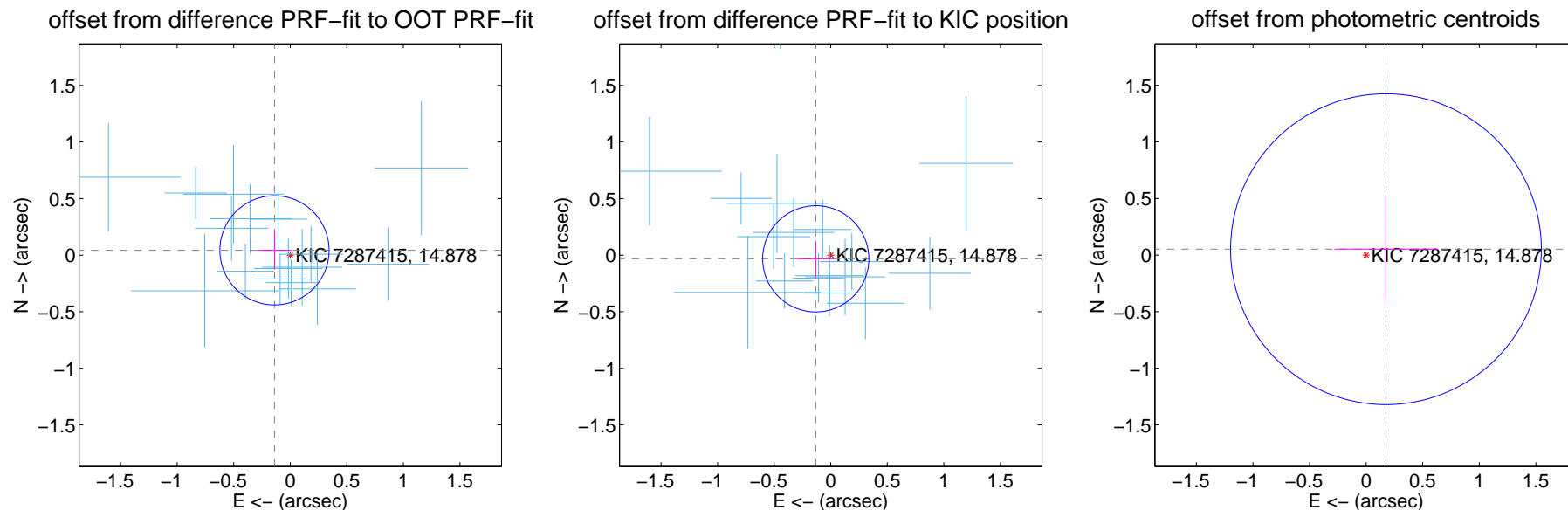
## DV Centroid Data

Supplemental centroid analysis for 007287415-01. Kepler magnitude: 14.88. Transit SNR 30.35

There are 17 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

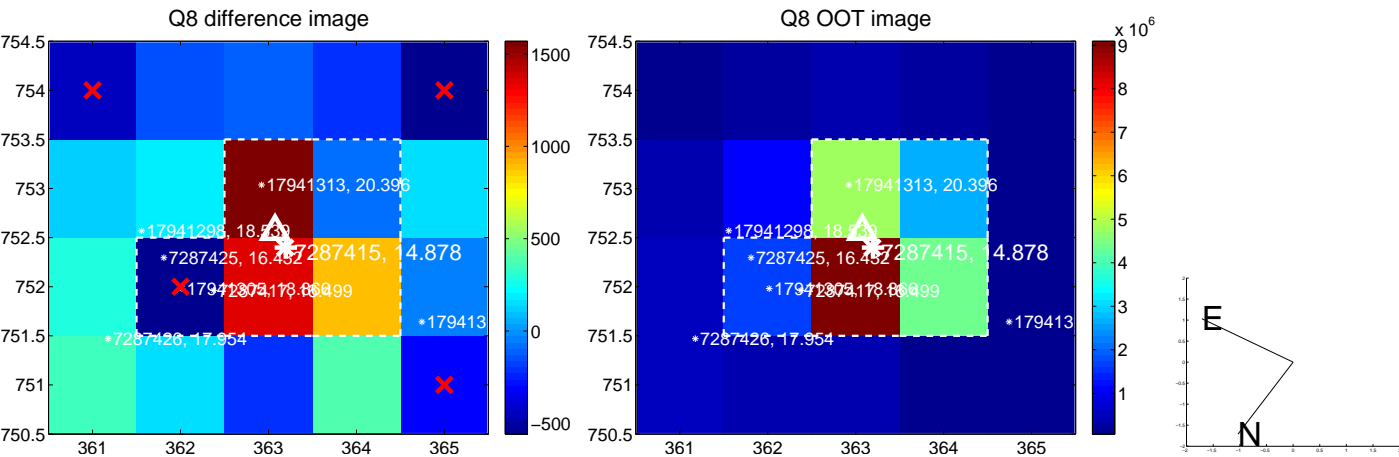
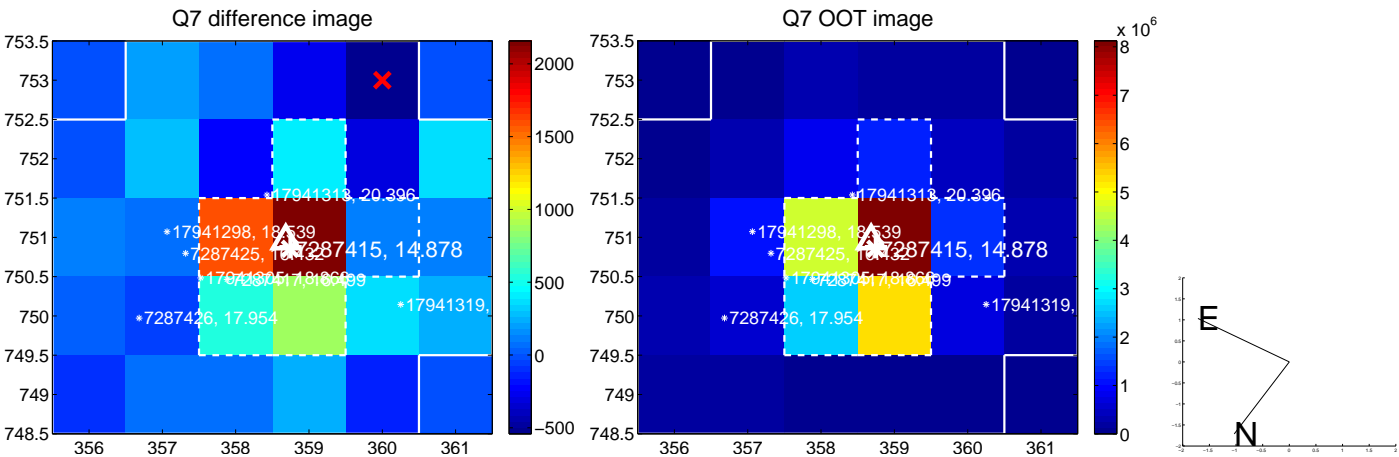
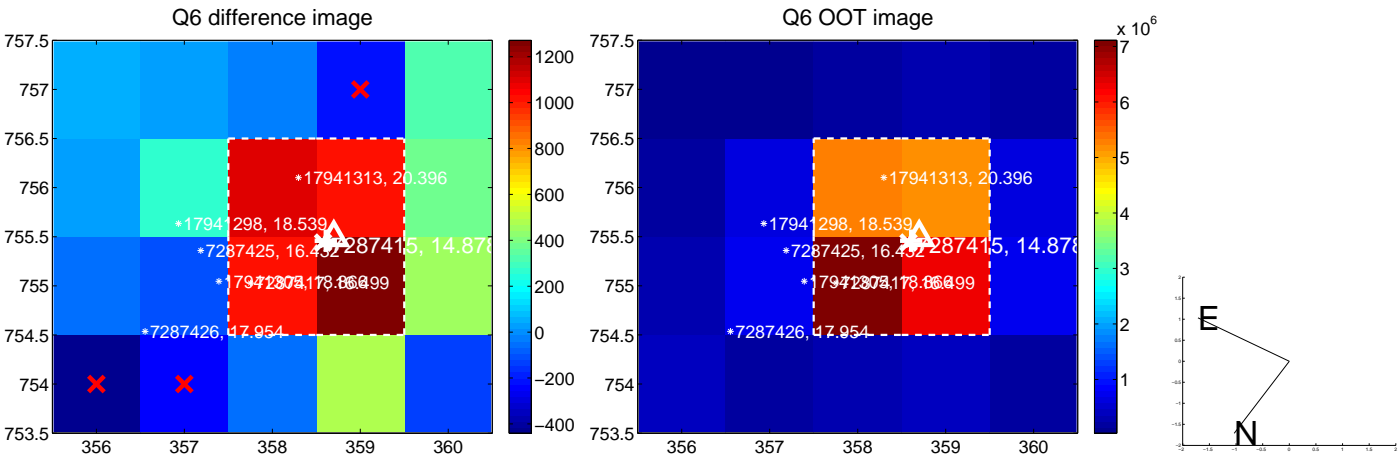
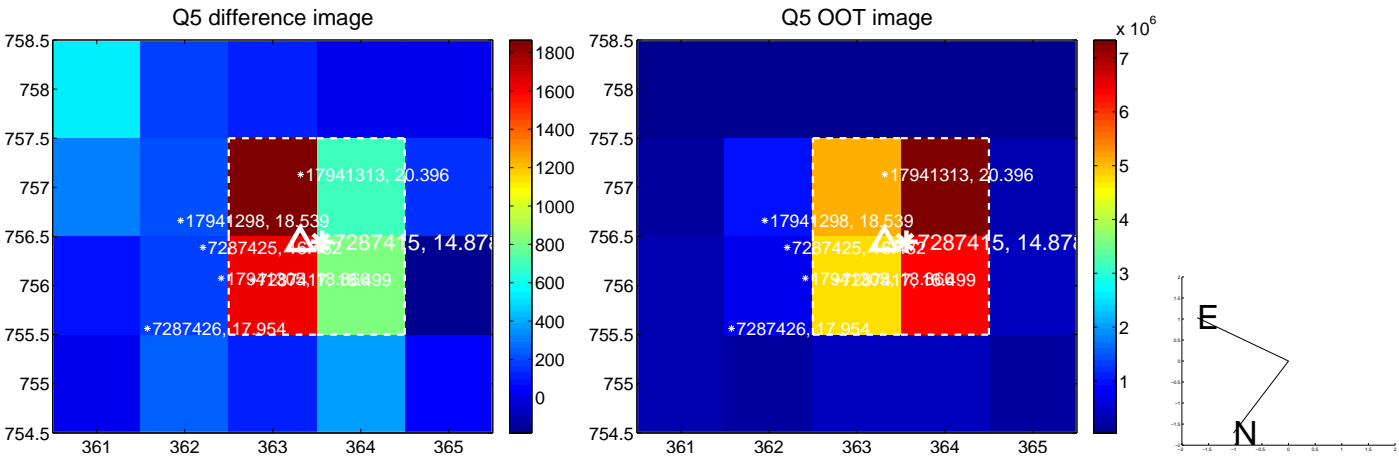
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.146 \pm 0.161$	0.91	$0.140 \pm 0.153$	$0.043 \pm 0.170$
PRF-fit source offset from KIC position	$0.136 \pm 0.156$	0.87	$0.132 \pm 0.162$	$-0.032 \pm 0.156$
photometric centroid source offset	$0.18 \pm 0.46$	0.40	$-0.18 \pm 0.46$	$0.05 \pm 0.47$



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.

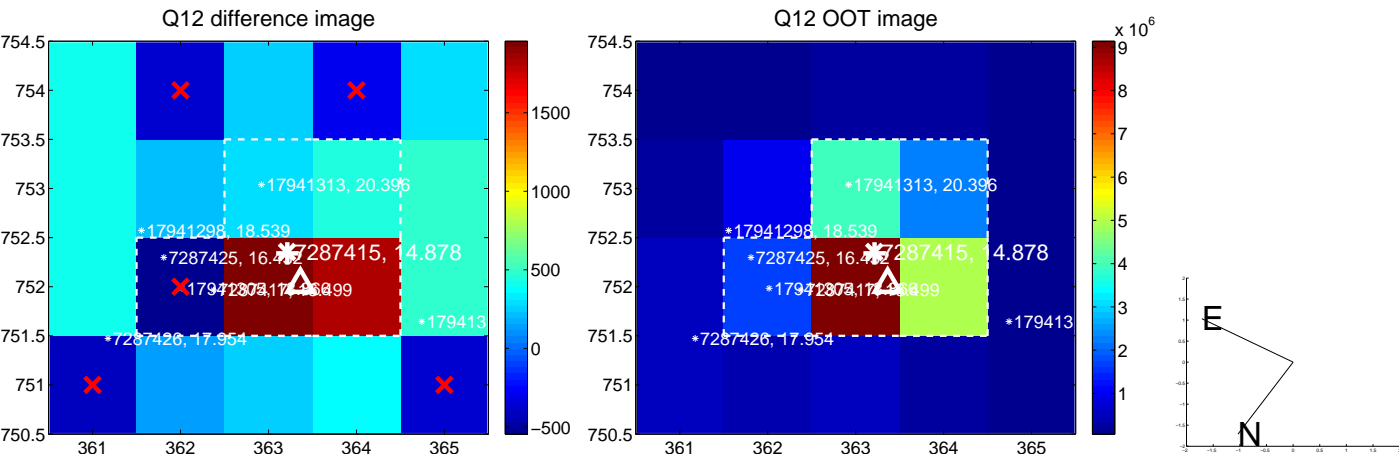
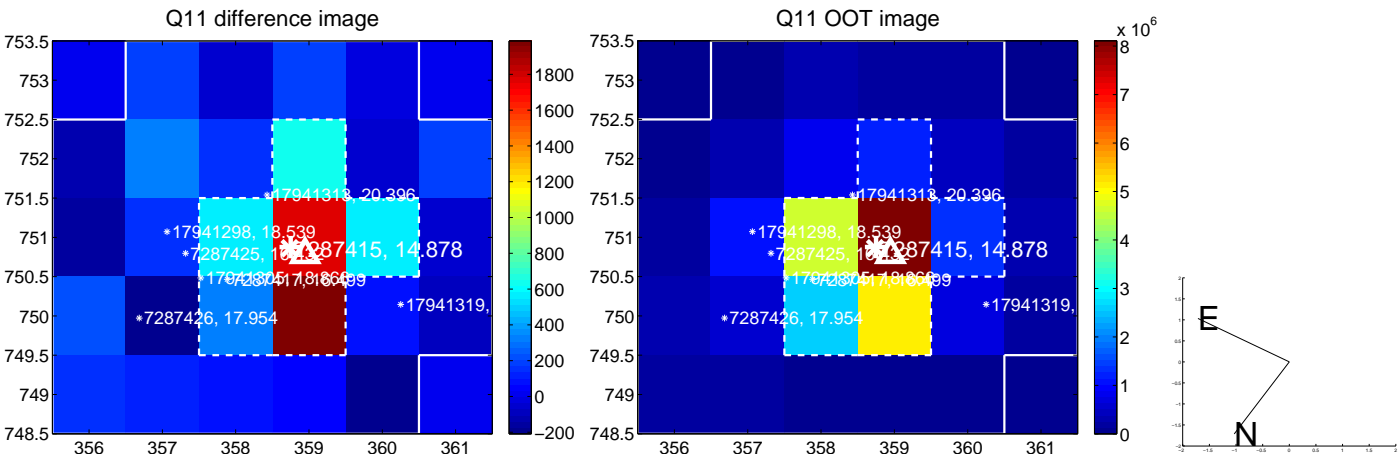
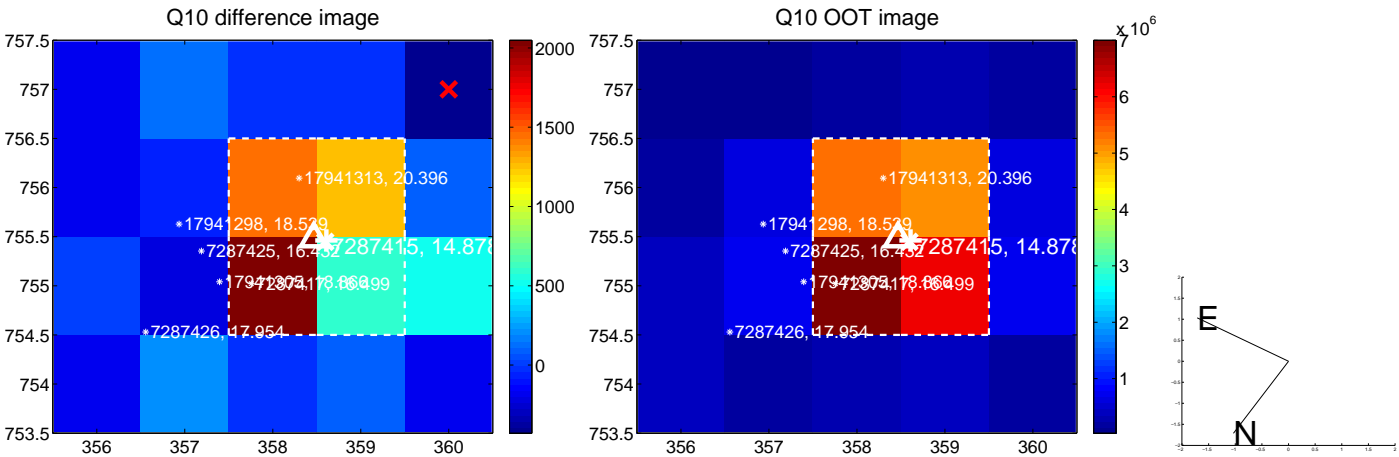
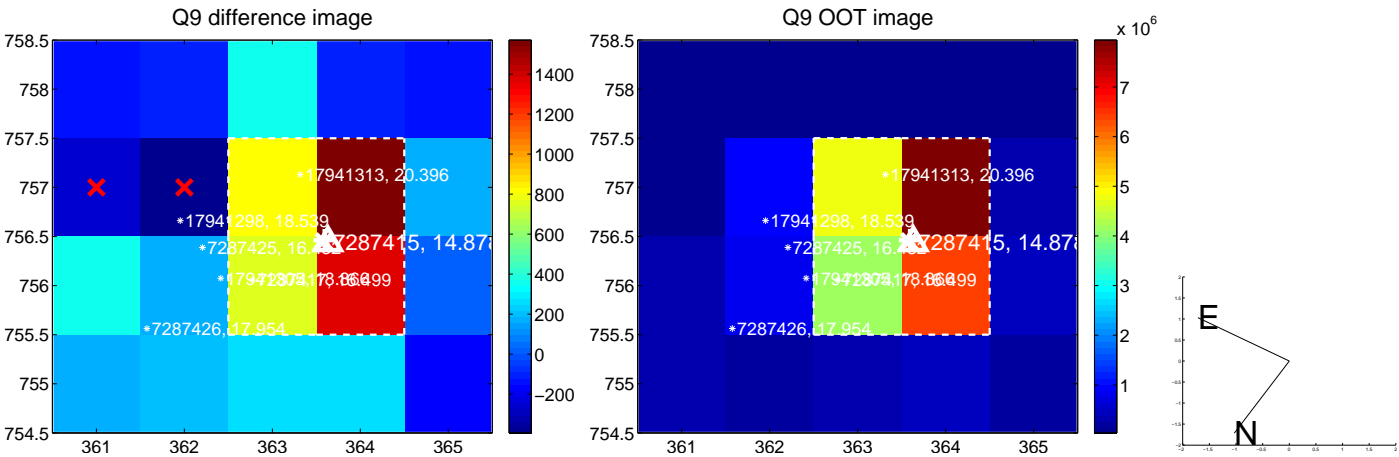


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

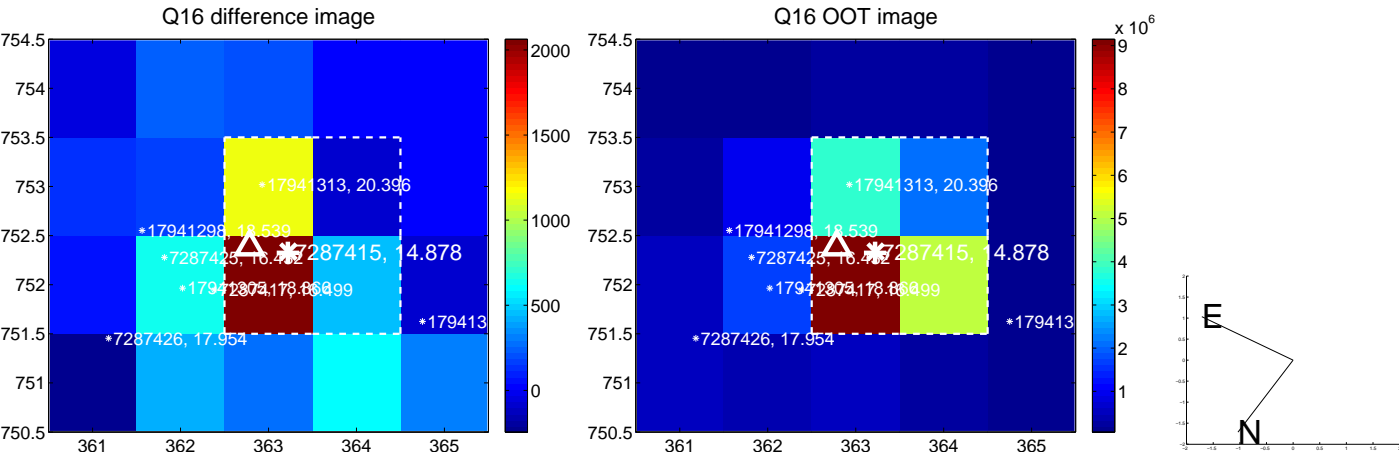
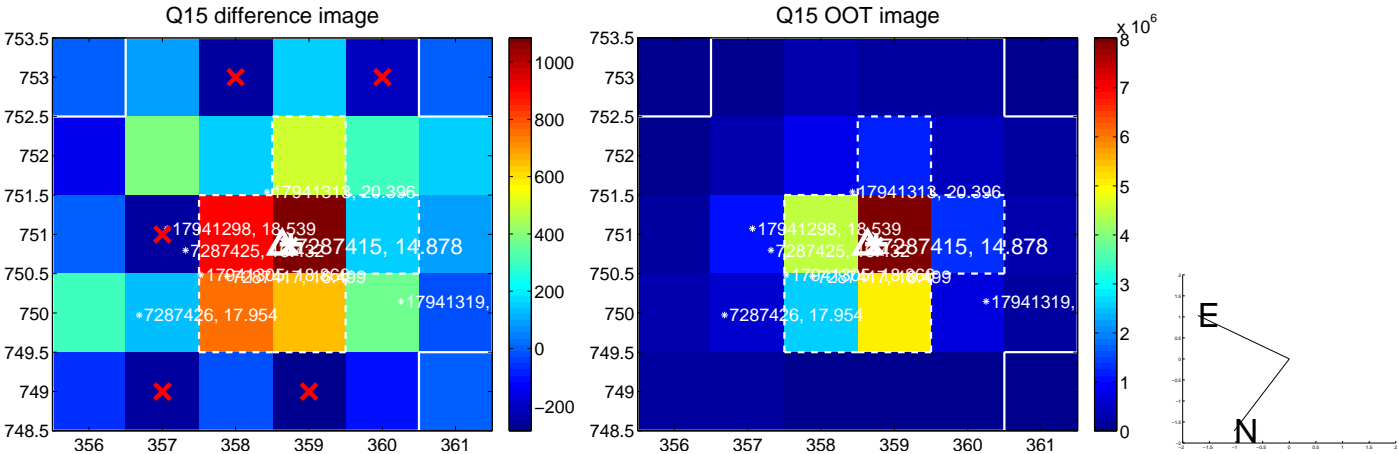
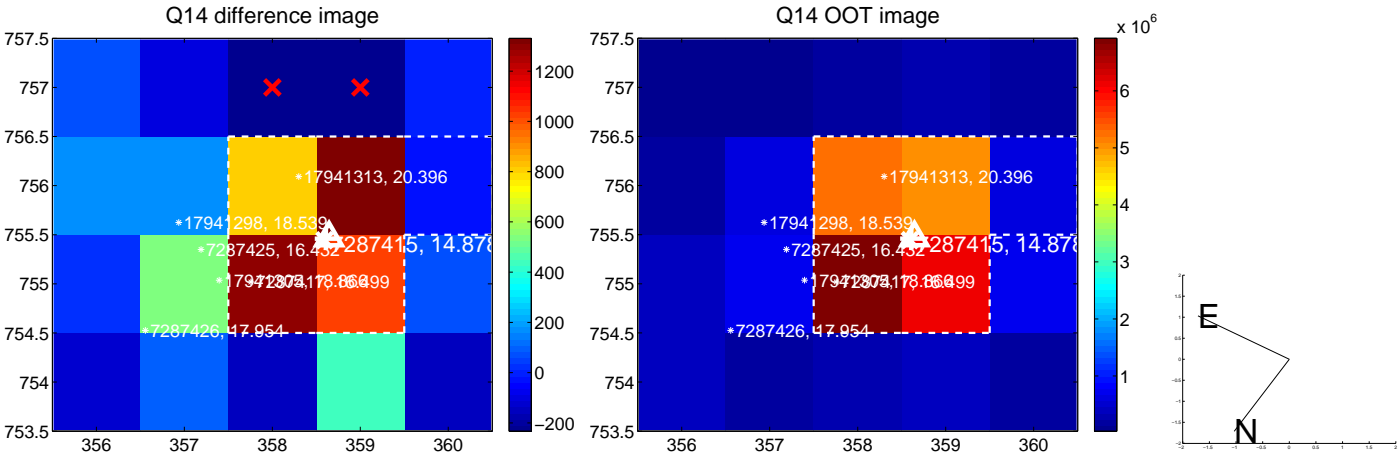
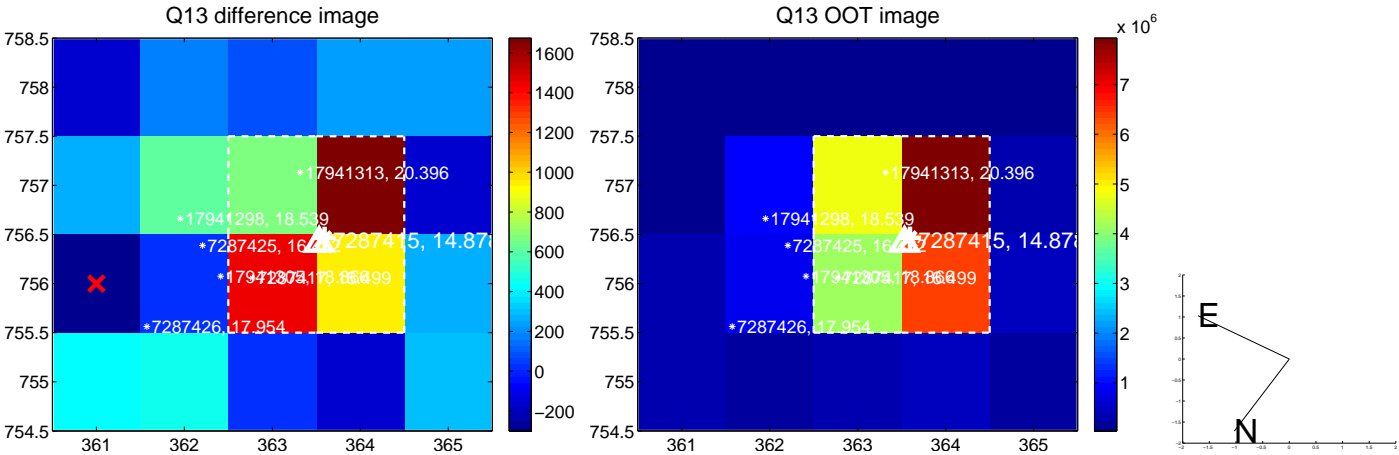




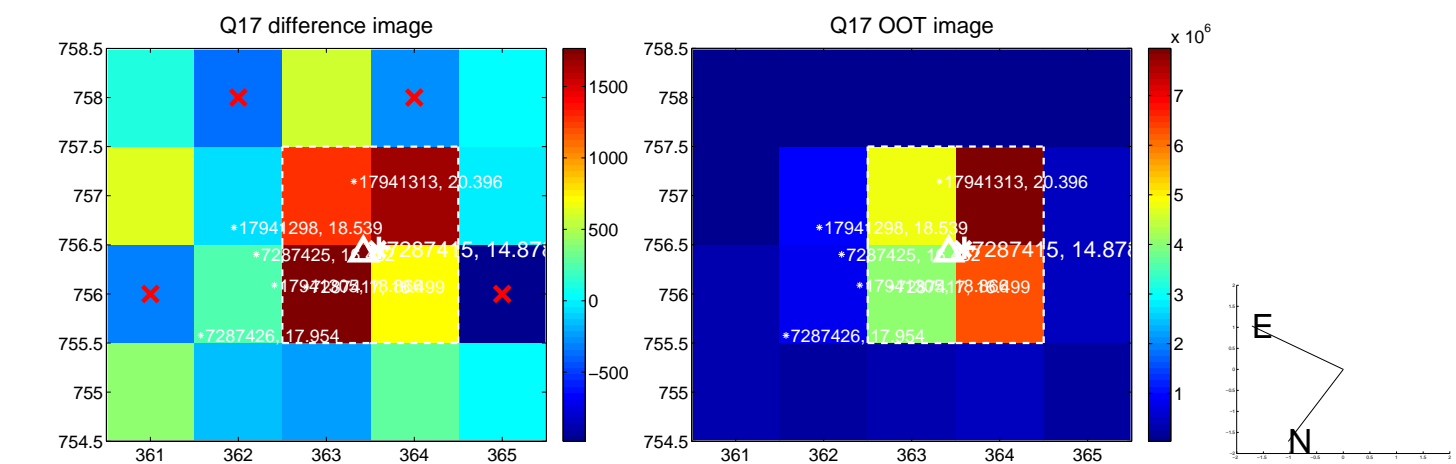
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



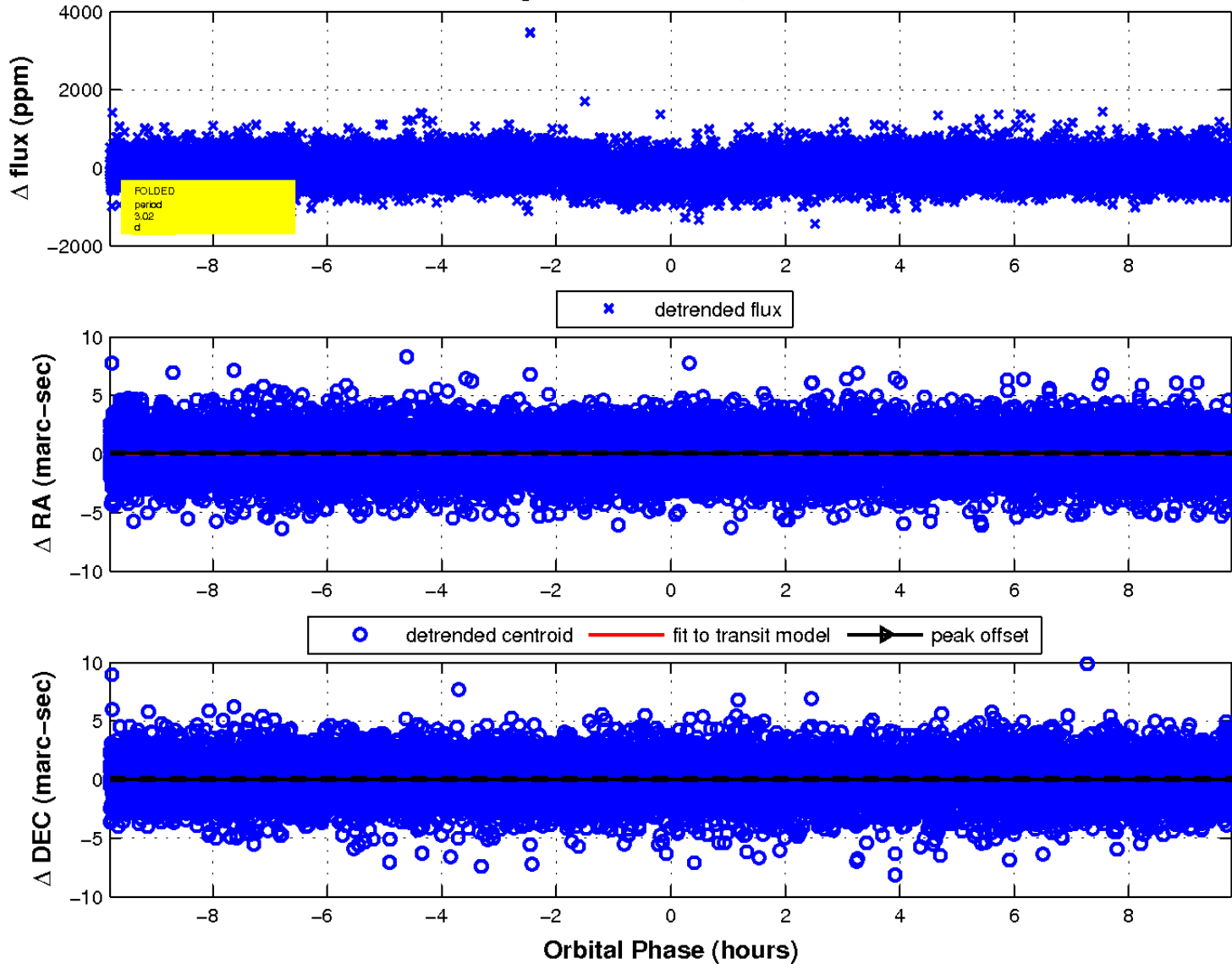
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

