

# KIC 005302006

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005302006-01	OBS	1755.01	6.146319	132.748142	695.1	3.751	43.6	43.3	1.31	6726	4.19	596.05

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005302006-01	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 005302006-01

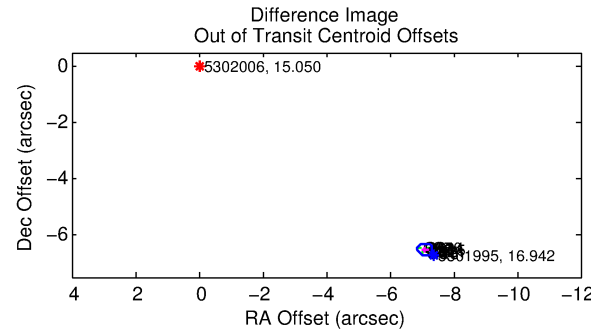
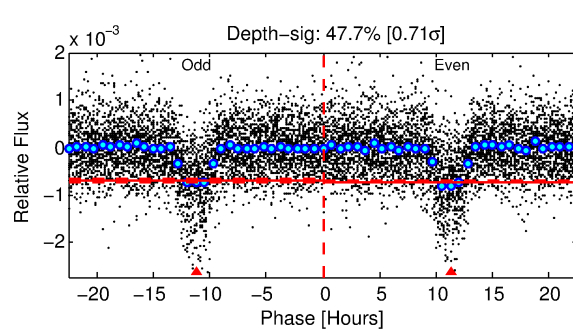
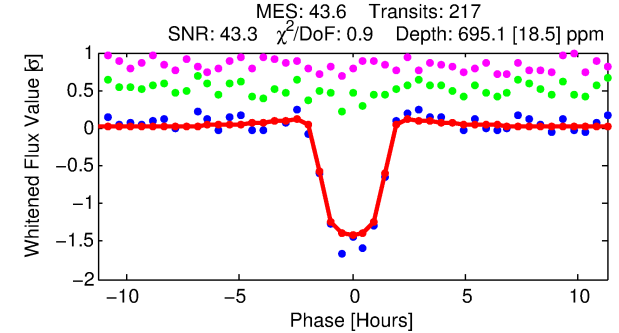
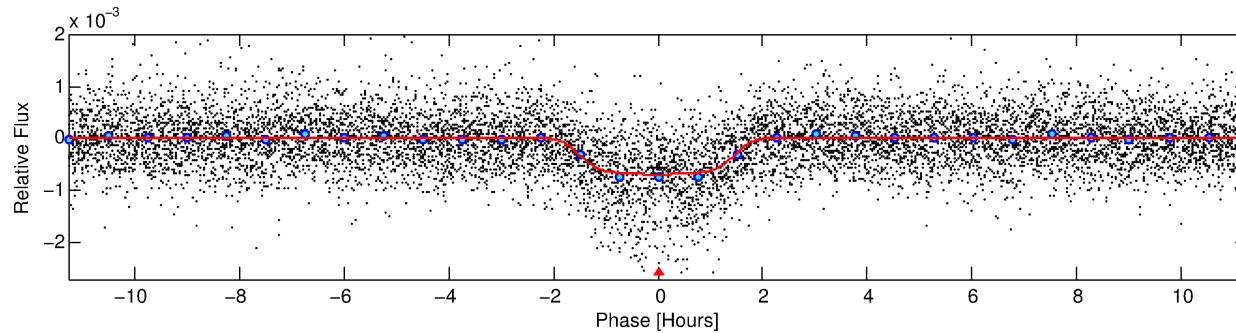
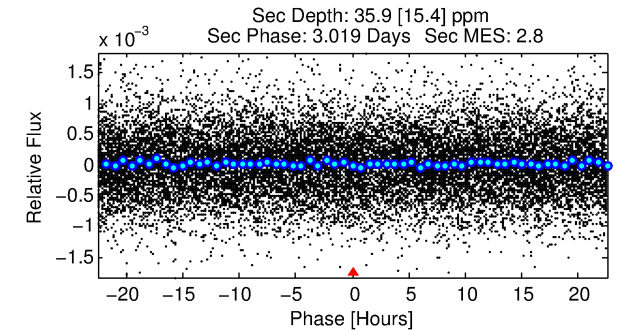
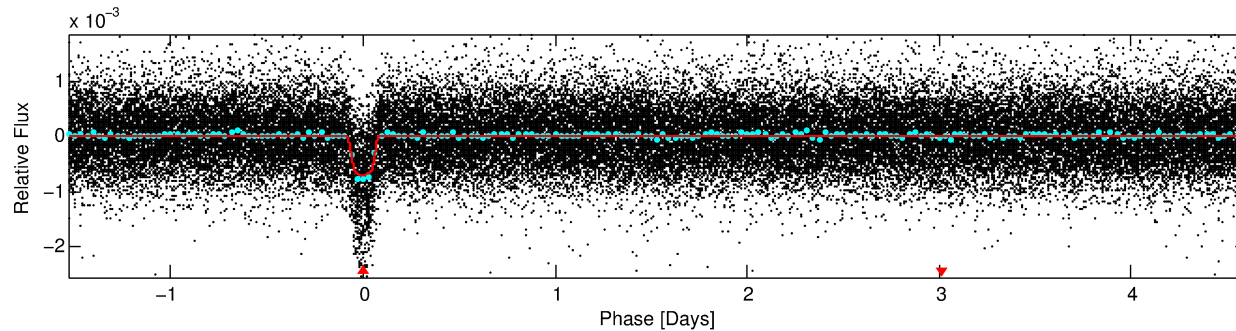
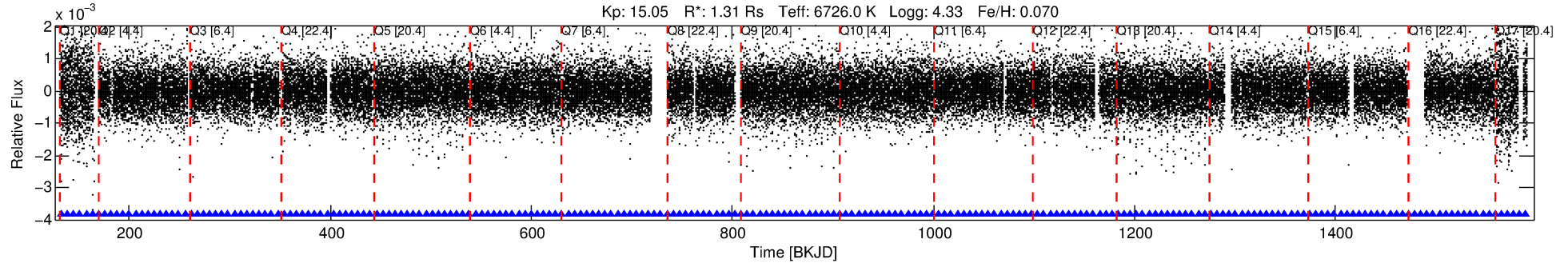
No Significant Match Found

# DV One-Page Summary

KIC: 5302006 Candidate: 1 of 1 Period: 6.146 d

KOI: K01755.01 Corr: 0.984

Kp: 15.05 R\*: 1.31 Rs Teff: 6726.0 K Logg: 4.33 Fe/H: 0.070



## DV Fit Results:

Period = 6.14632 [0.00002] d  
Epoch = 132.7481 [0.0019] BKJD  
Rp/R\* = 0.0293 [0.0008]  
a/R\* = 5.39 [0.61]  
b = 0.94 [0.02]  
Seff = 596.05 [228.08]  
Teff = 1260 [121] K  
Rp = 4.19 [1.26] Re  
a = 0.0727 [0.0179] AU  
Ag = 5.94 [3.30] [1.50σ]  
Teffp = 3041 [348] K [4.84σ]

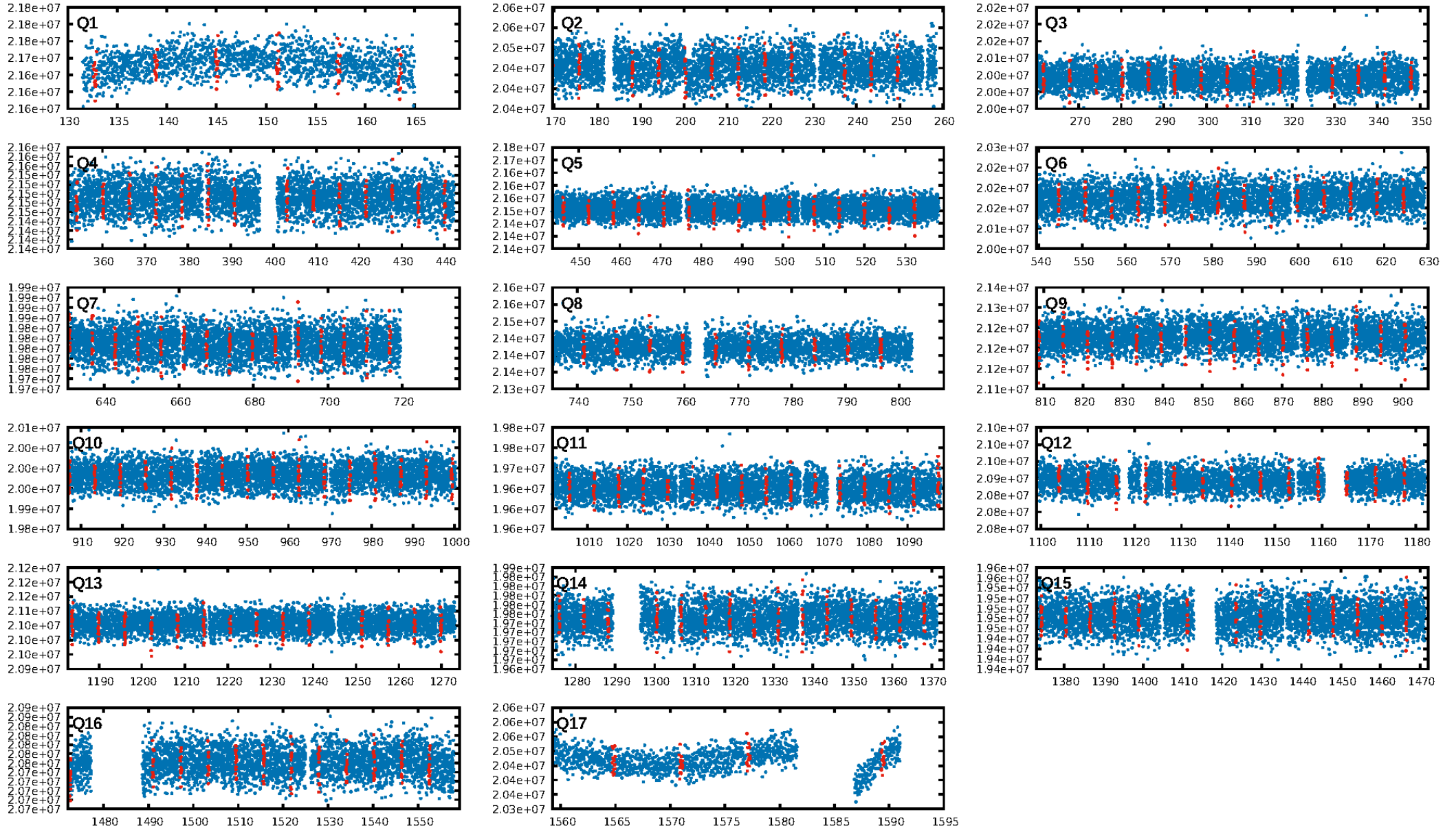
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [207/207]  
GhostDiagnostic-chr: -0.2164  
Centroid-sig: 0.0%  
Centroid-so: 73.236 arcsec [241.09σ]  
OotOffset-rm: 9.642 arcsec [126.15σ]  
KicOffset-rm: 9.847 arcsec [144.38σ]  
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]

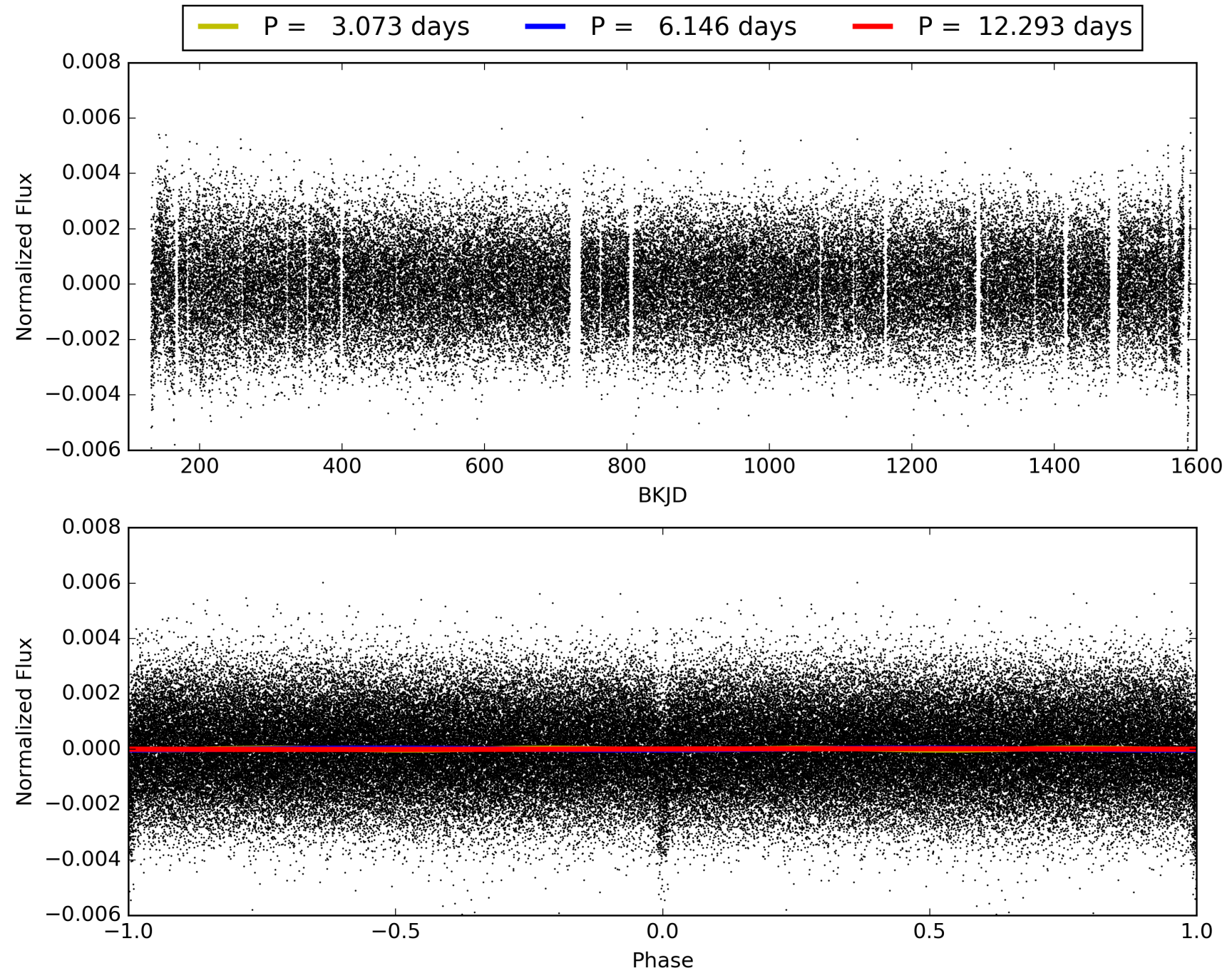
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:40:00 Z

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

# TCE 005302006-01, PDC Light Curves

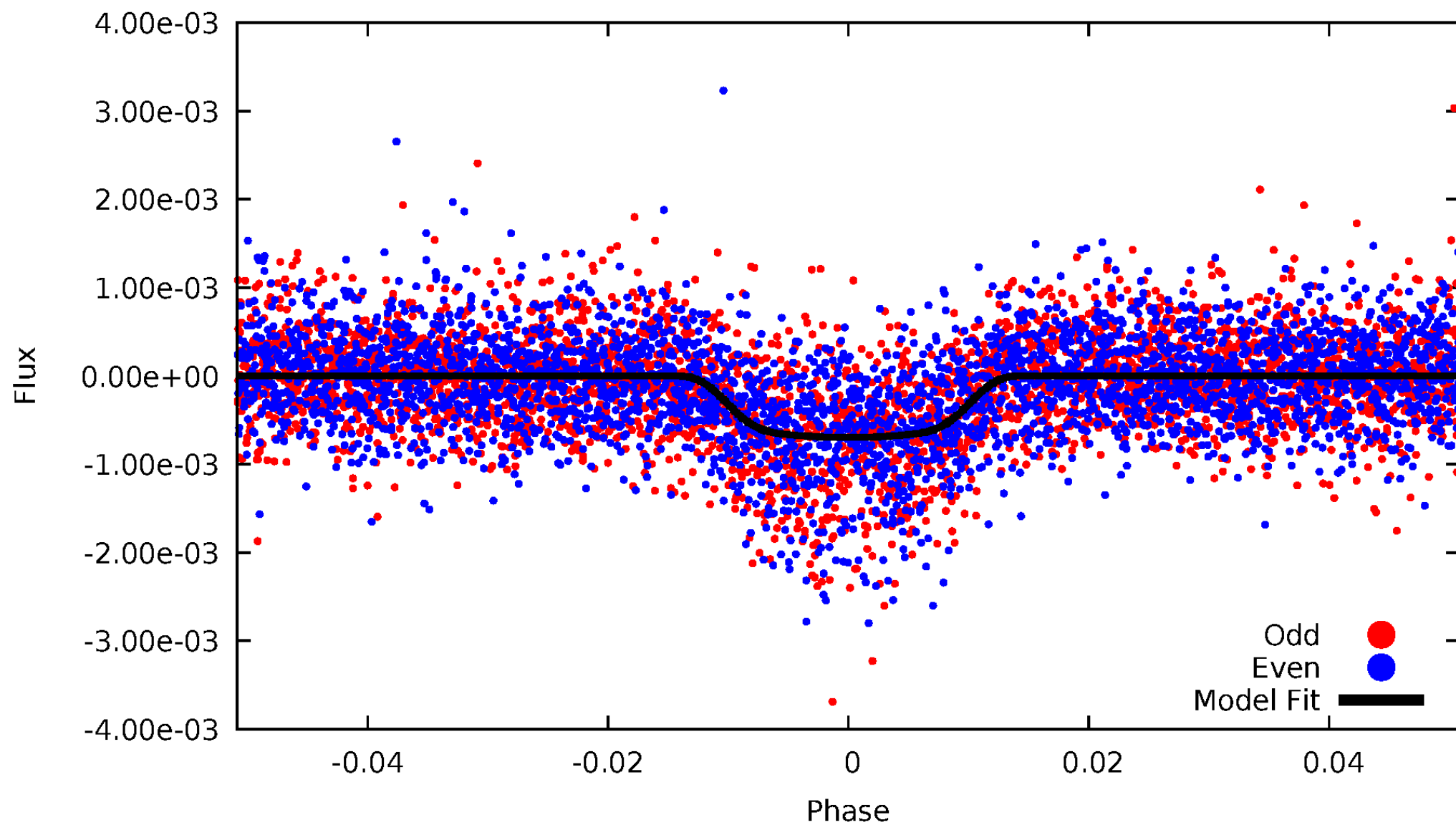


TCE 005302006-01



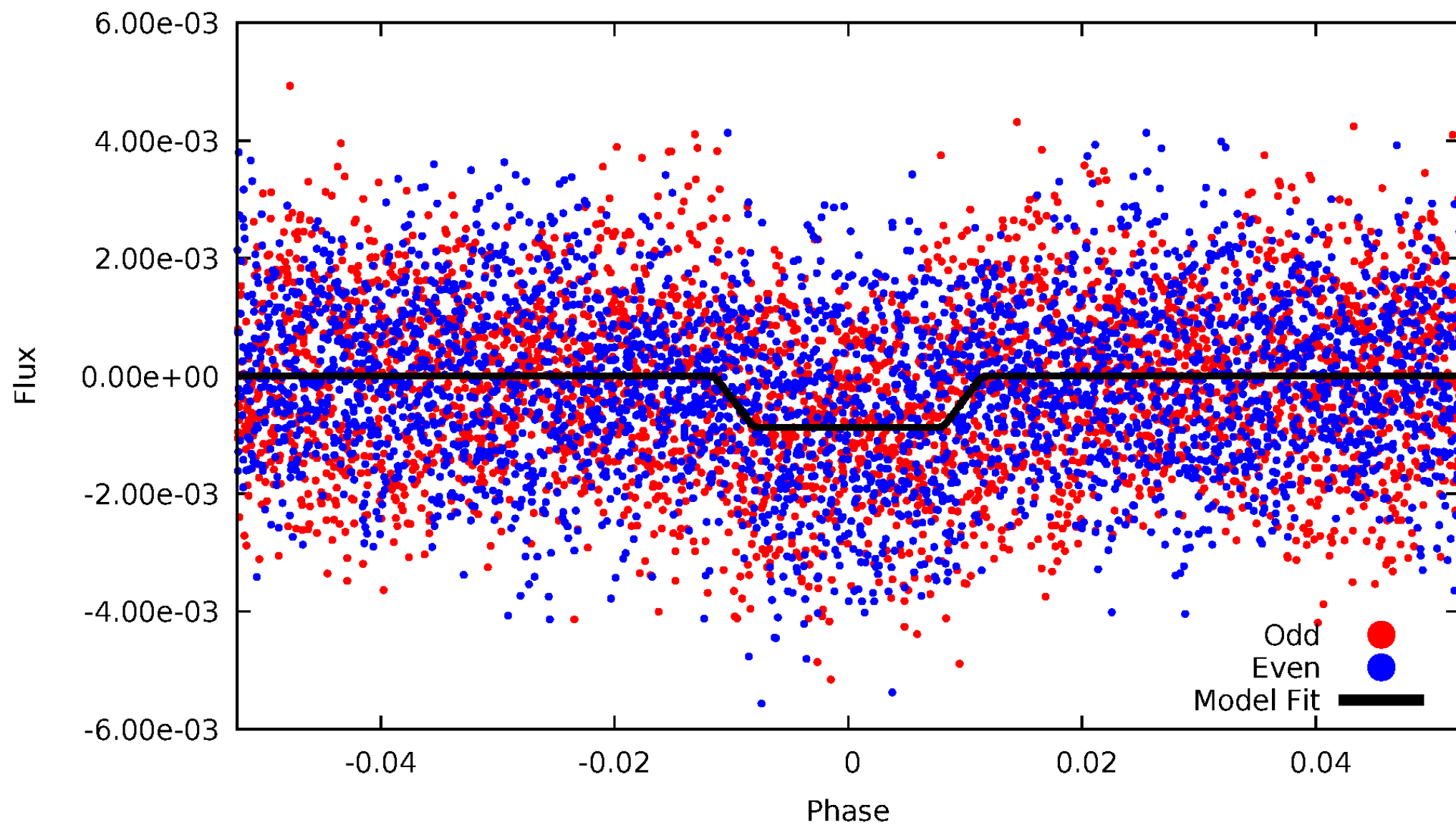
# DV Odd/Even

TCE 005302006-01



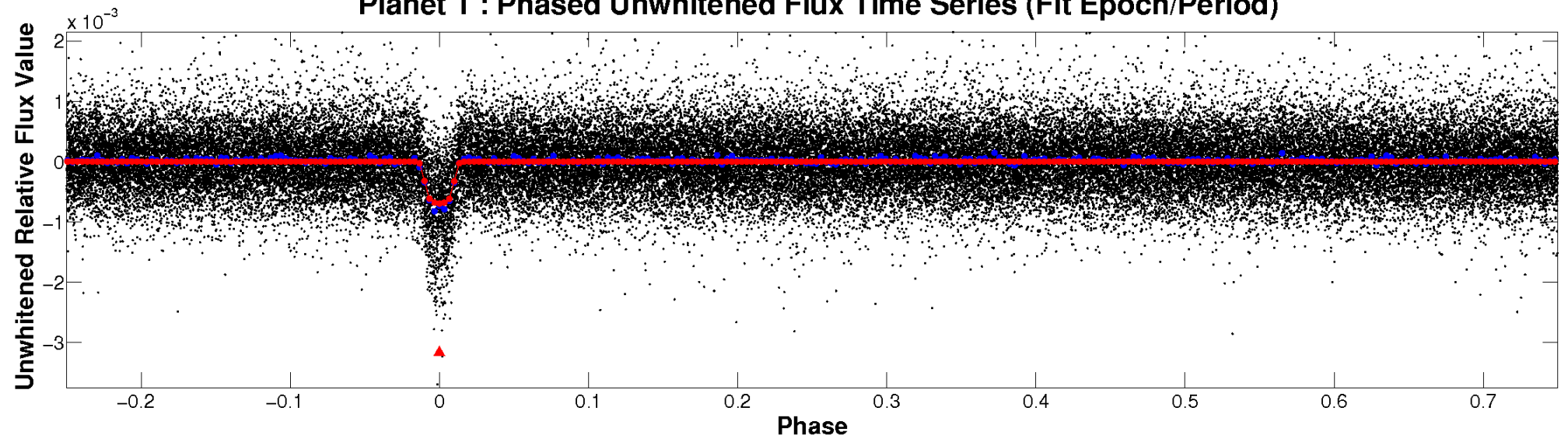
# ALT Odd/Even

TCE 005302006-01

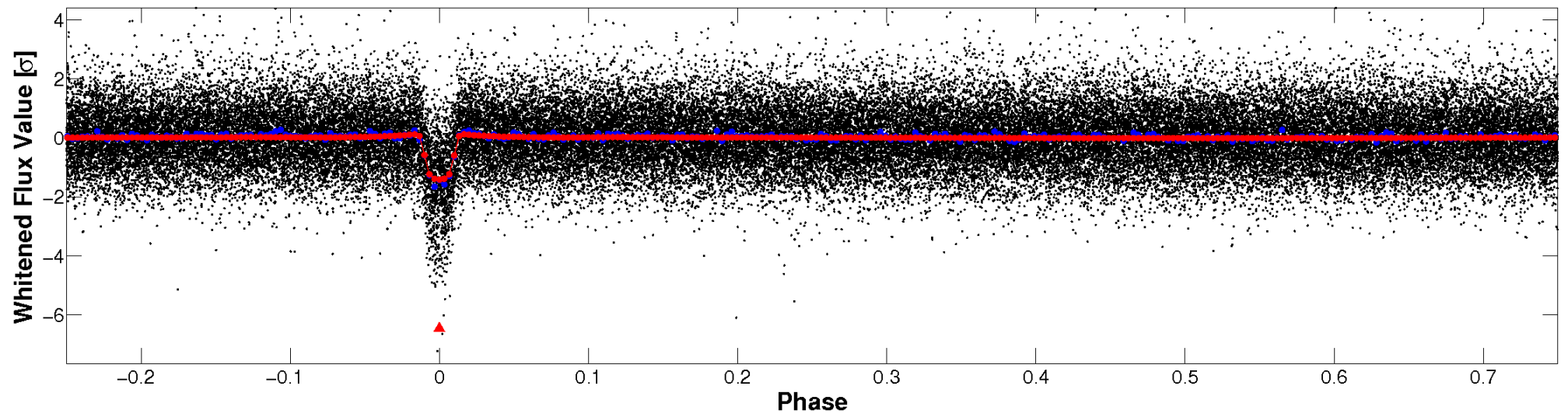


# Non-Whitened Vs. Whitened Light Curve

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

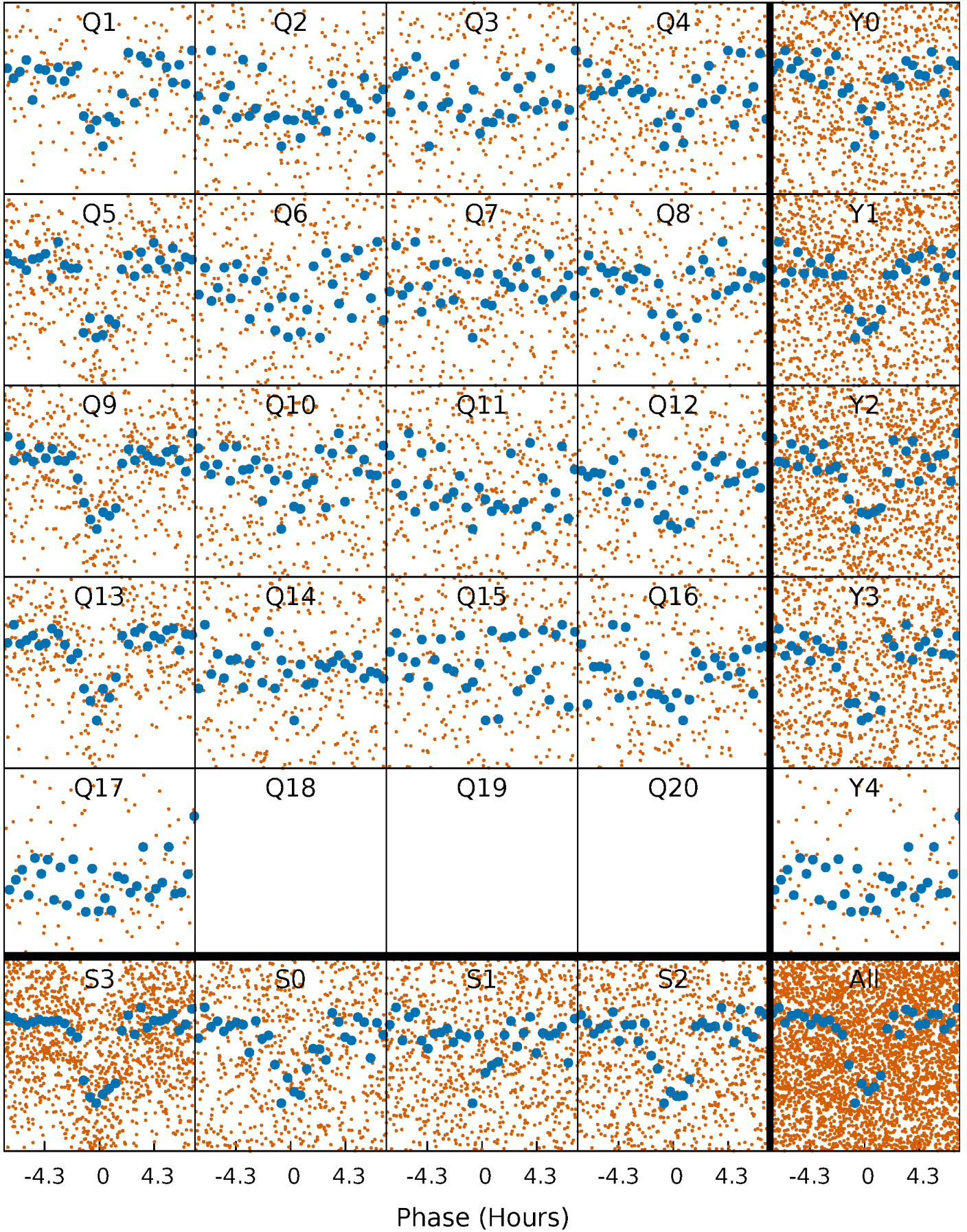


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



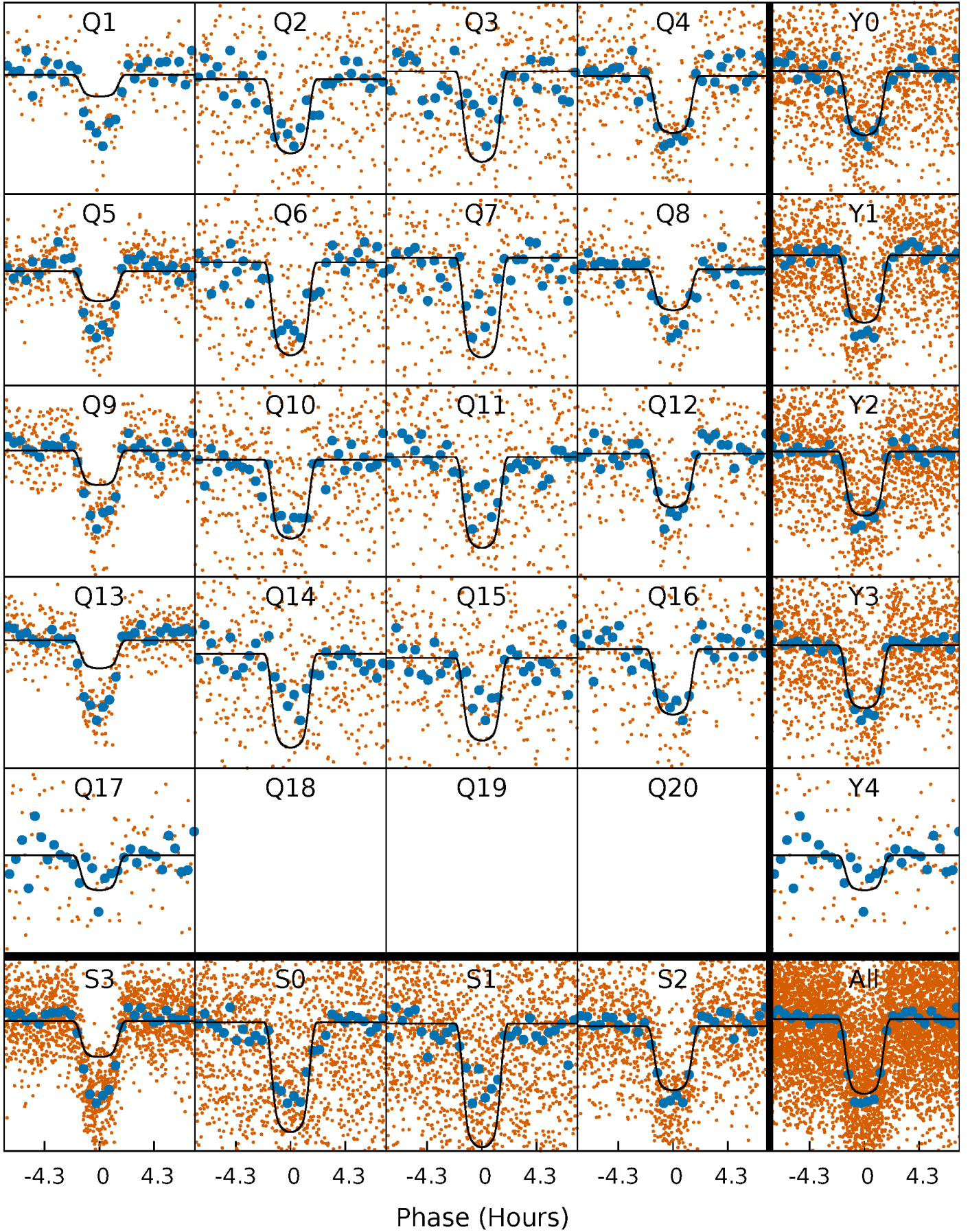
# PDC Quarter-Phased Transit Curves

TCE 005302006-01 P= 6.146319 Days  $T_0=132.748142$  (BKJD)



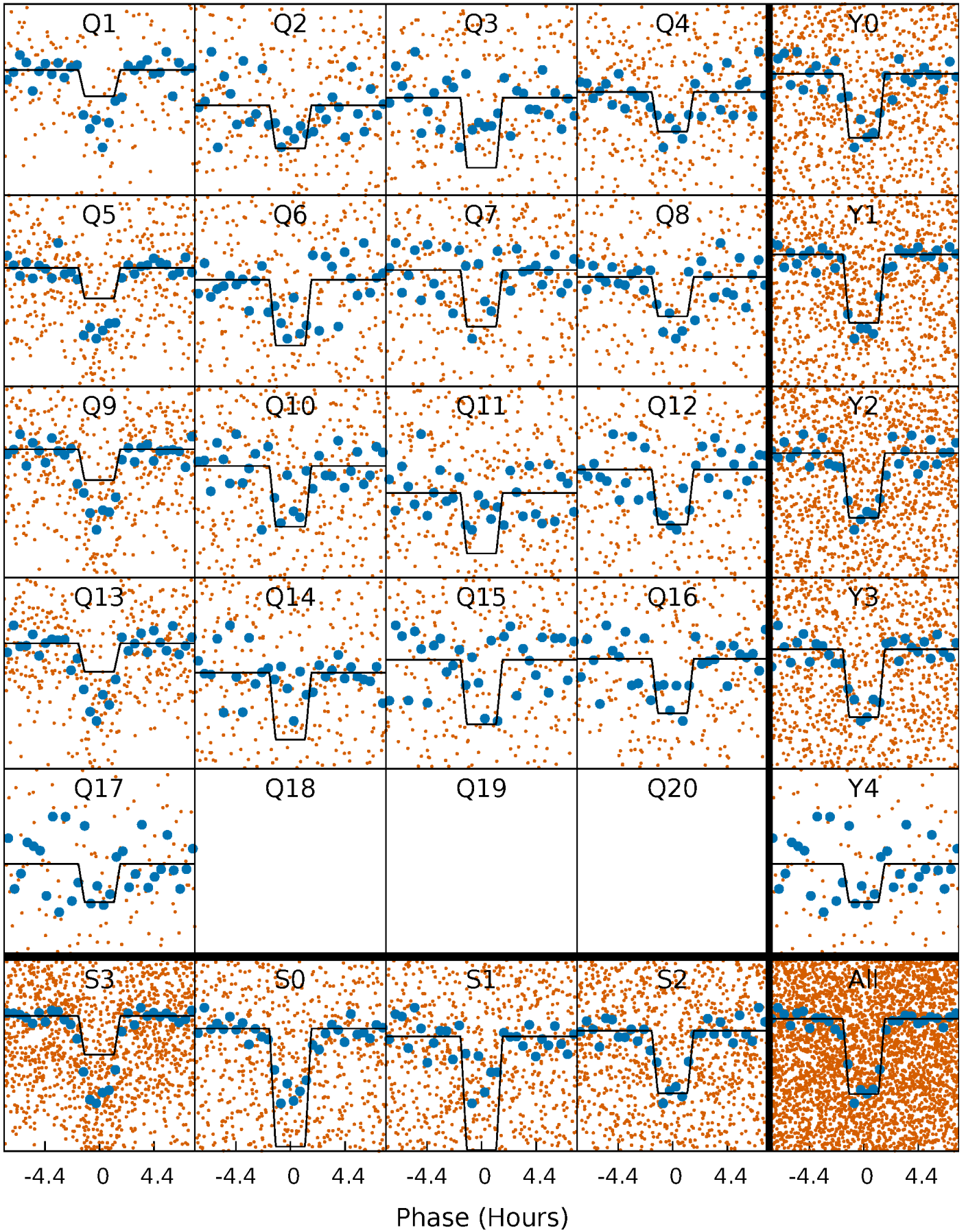
# DV Quarter-Phased Transit Curves

TCE 005302006-01 P= 6.146319 Days  $T_0=132.748142$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

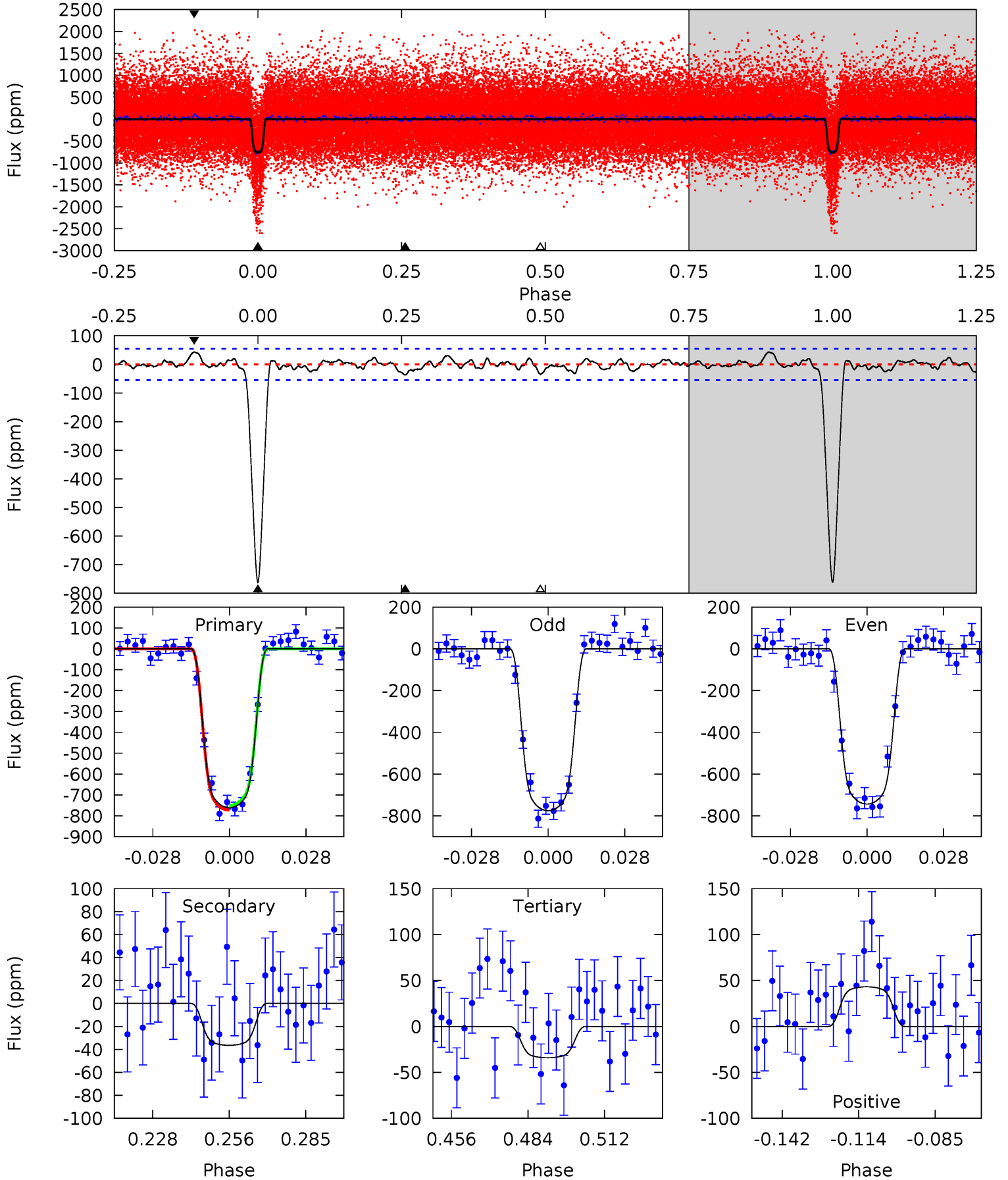
TCE 005302006-01 P= 6.146307 Days  $T_0=132.750003$  (BKJD)



# DV Model-Shift Uniqueness Test

005302006-01, P = 6.146319 Days, E = 126.601823 Days

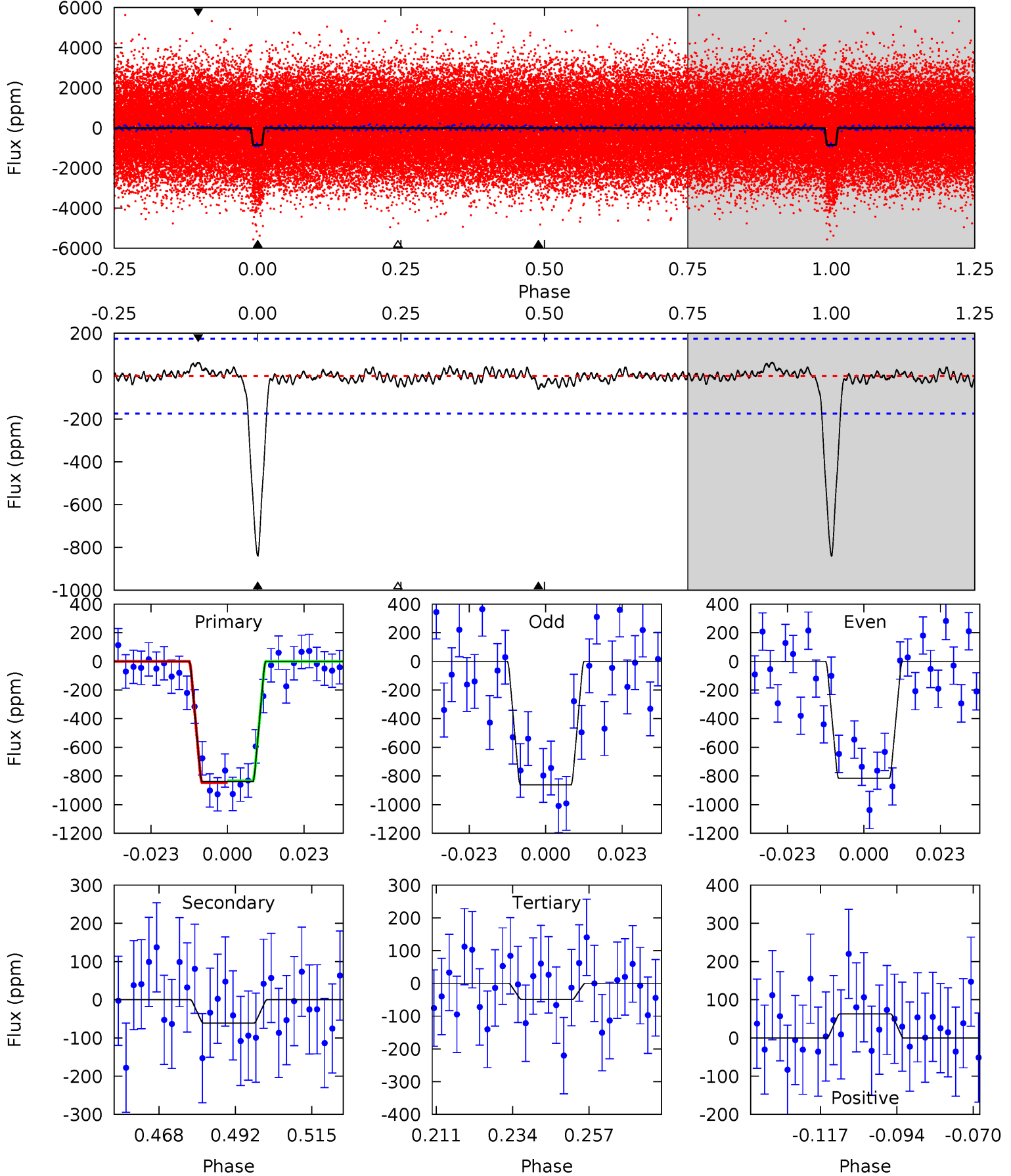
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
67.2	3.22	3.01	3.81	4.82	2.19	1.13	64.2	63.4	0.21	-0.59	1.39	1.26	0.05	0.95



# Alt Model-Shift Uniqueness Test

005302006-01, P = 6.146307 Days, E = 126.603696 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
23.4	1.70	1.37	1.76	4.86	2.27	0.56	22.0	21.6	0.32	-0.06	0.63	1.36	0.07	0.17



### Stellar Parameters For KIC 005302006

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6726^{+187}_{-258}$	$4.335^{+0.062}_{-0.188}$	$0.070^{+0.200}_{-0.400}$	$1.310^{+0.391}_{-0.168}$	$1.354^{+0.160}_{-0.220}$	$0.848^{+0.297}_{-0.429}$
	+3%/-4%	+1%/-4%	+286%/-571%	+30%/-13%	+12%/-16%	+35%/-51%
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 005302006-01 / KOI 1755.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-36 \pm 11$	$4.32^{+0.67}_{-0.42}$	$1794^{+132}_{-93}$	$3482^{+184}_{-255}$	$5.356^{+2.247}_{-1.999}$
Alt.	$-61 \pm 36$	$4.29^{+0.69}_{-0.37}$	$1781^{+122}_{-91}$	$3763^{+357}_{-510}$	$8.704^{+6.364}_{-5.236}$

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

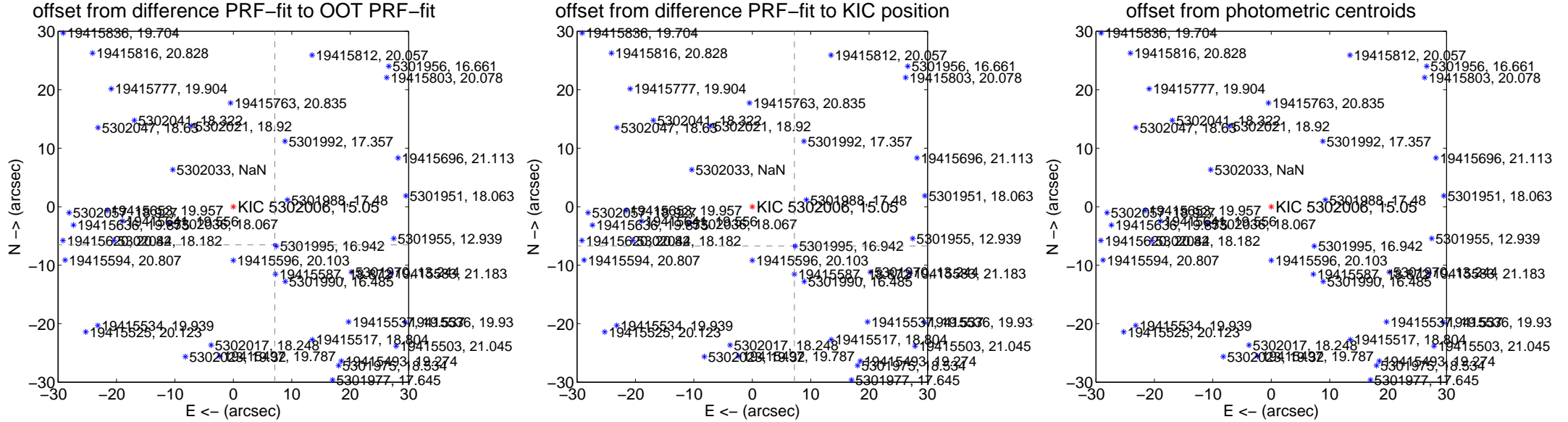
## DV Centroid Data

Supplemental centroid analysis for 005302006-01. Kepler magnitude: 15.05. Transit SNR 43.34

There are 17 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

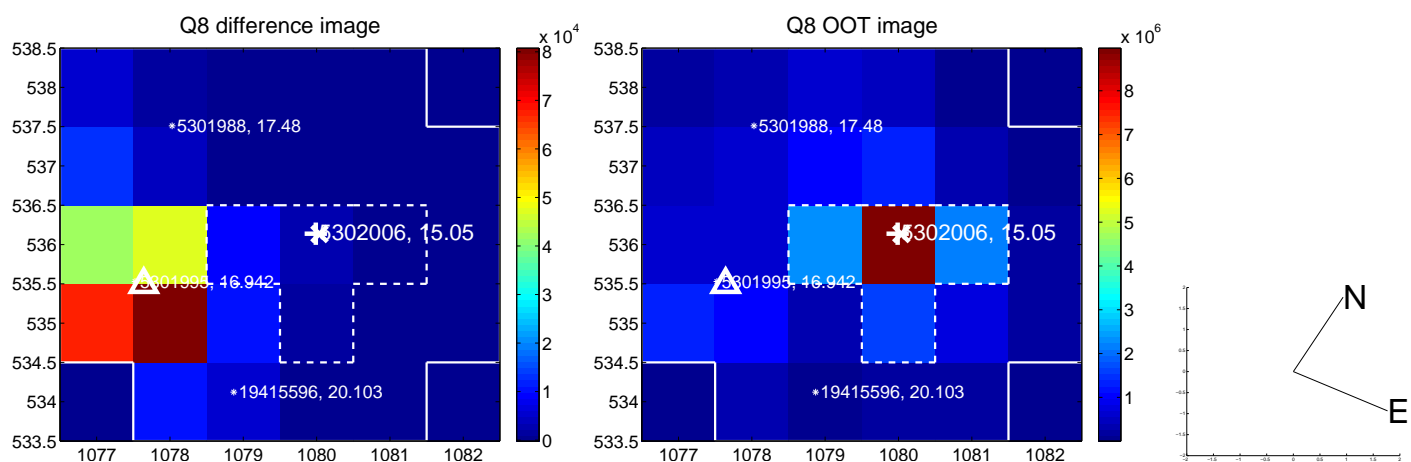
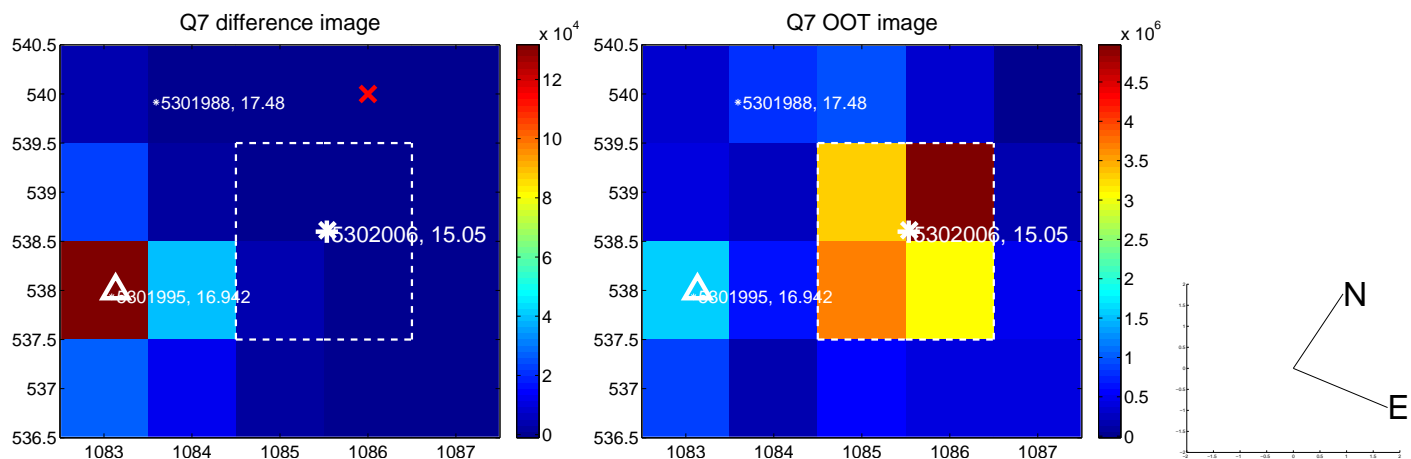
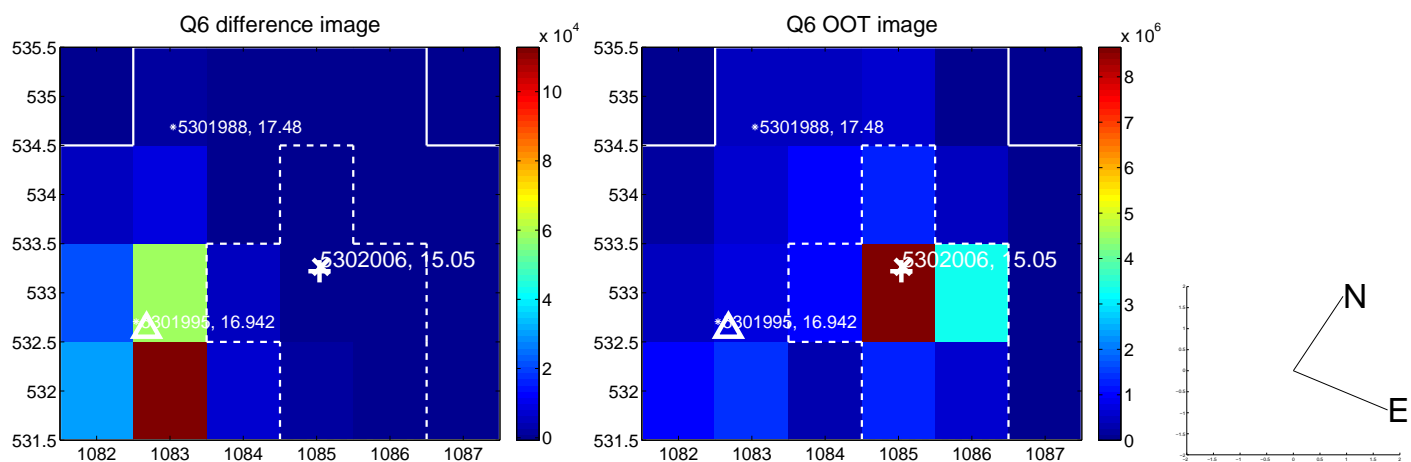
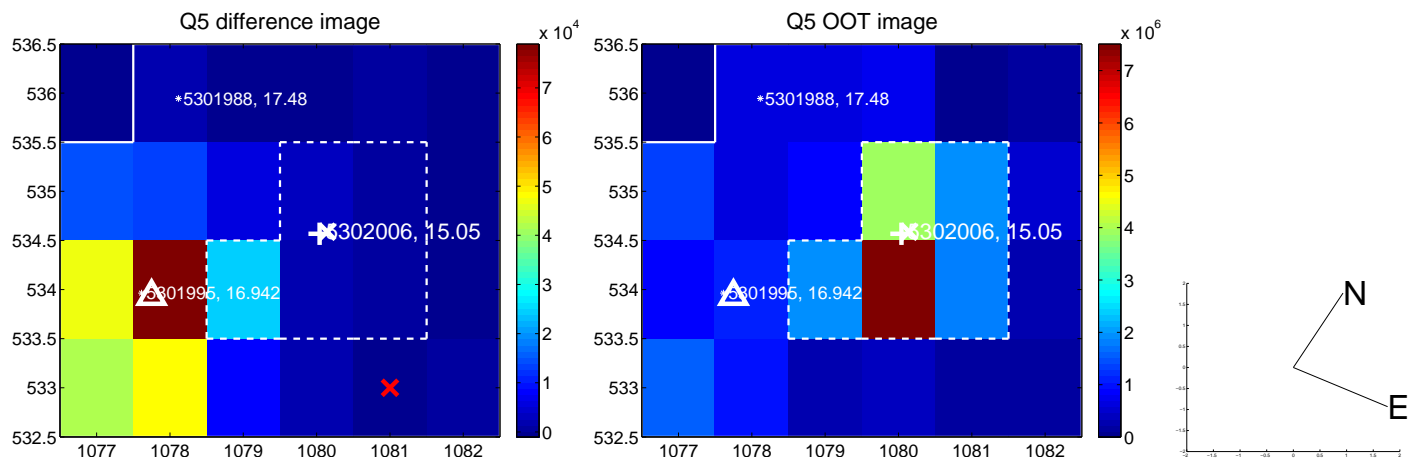
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>9.642 <math>\pm</math> 0.076</b>	<b>126.15</b>	-7.095 $\pm$ 0.082	-6.529 $\pm$ 0.070
PRF-fit source offset from KIC position	<b>9.847 <math>\pm</math> 0.068</b>	<b>144.38</b>	-7.211 $\pm$ 0.068	-6.705 $\pm$ 0.068
photometric centroid source offset	<b>73.24 <math>\pm</math> 0.30</b>	<b>241.09</b>	-49.27 $\pm$ 0.32	-54.20 $\pm$ 0.29



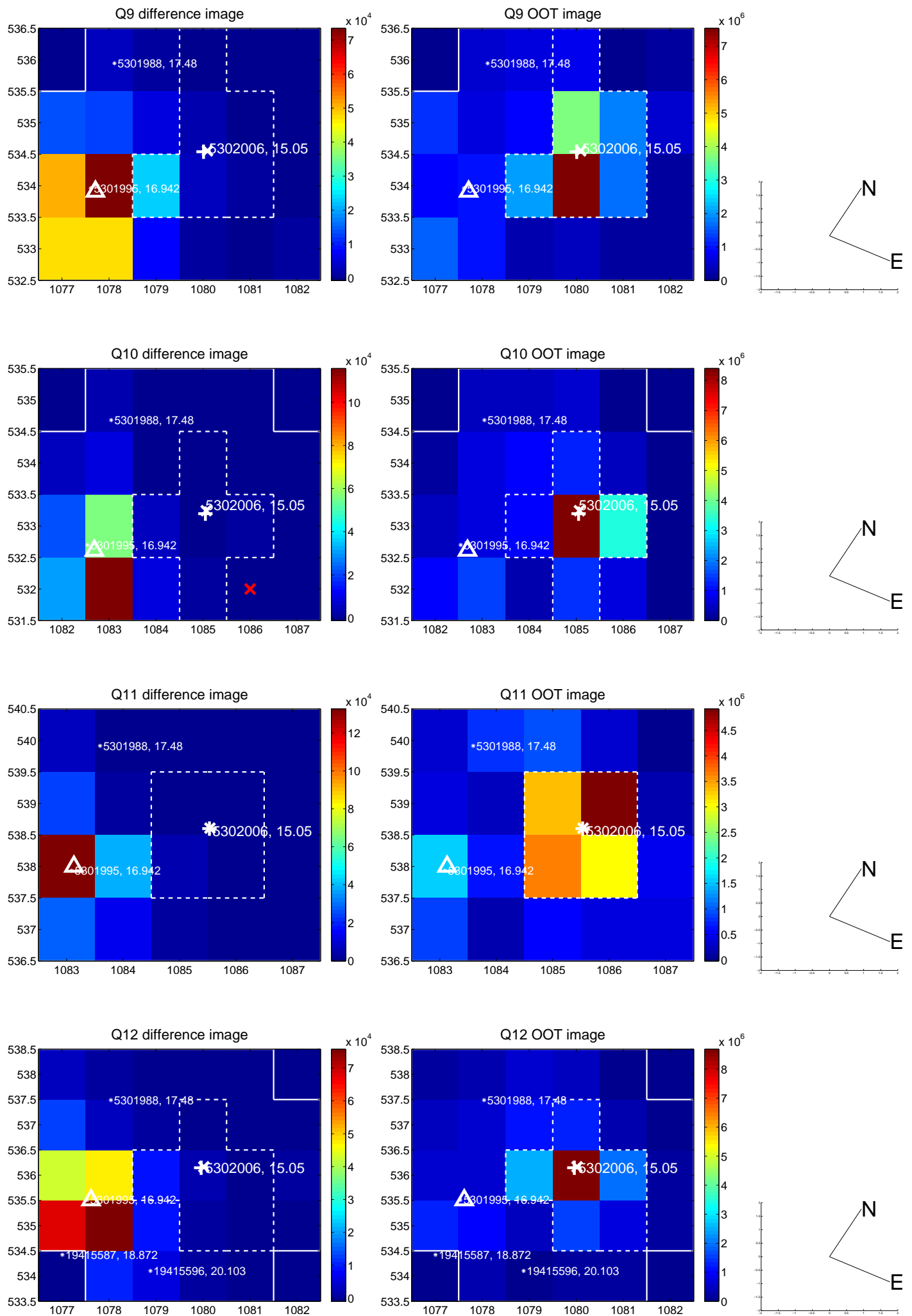
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



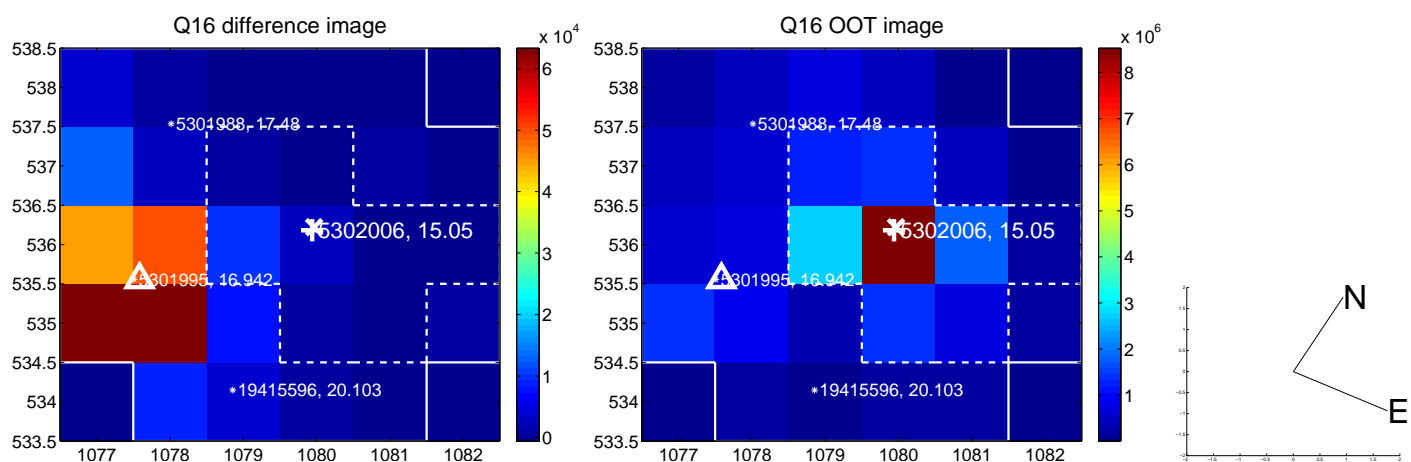
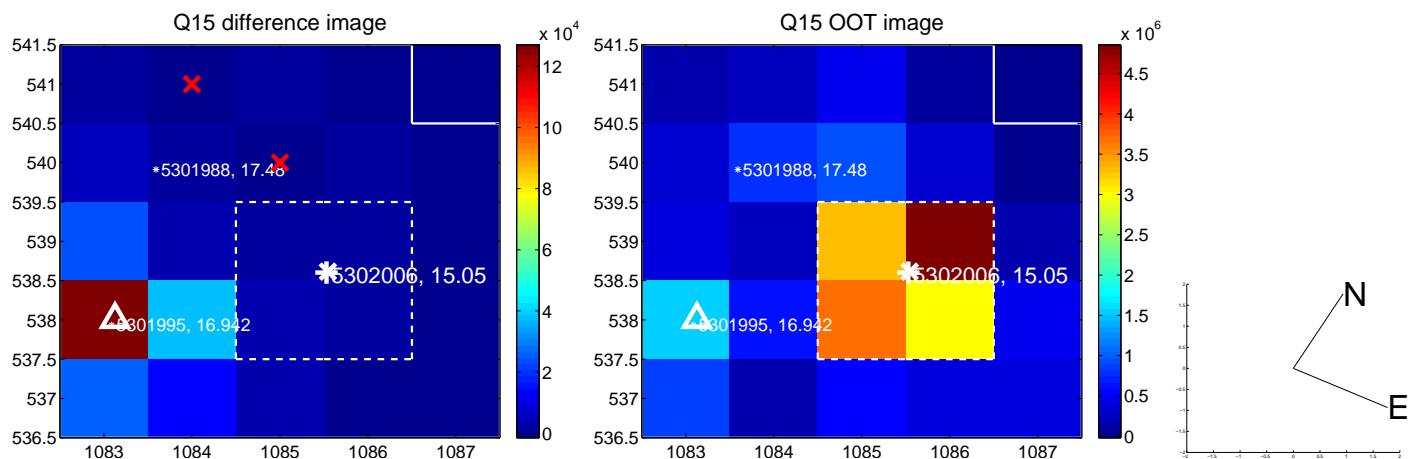
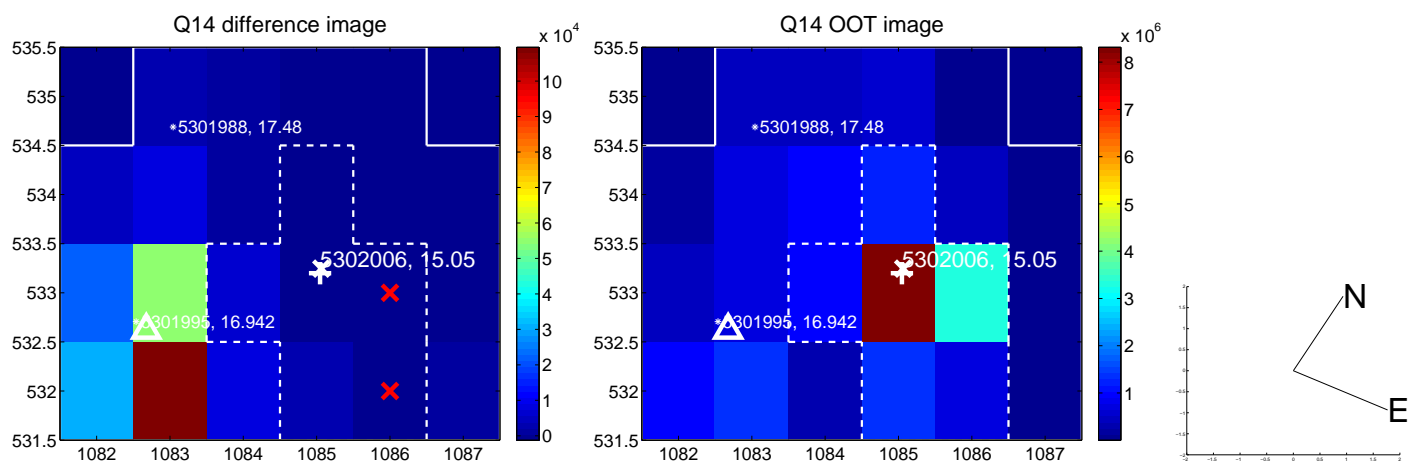
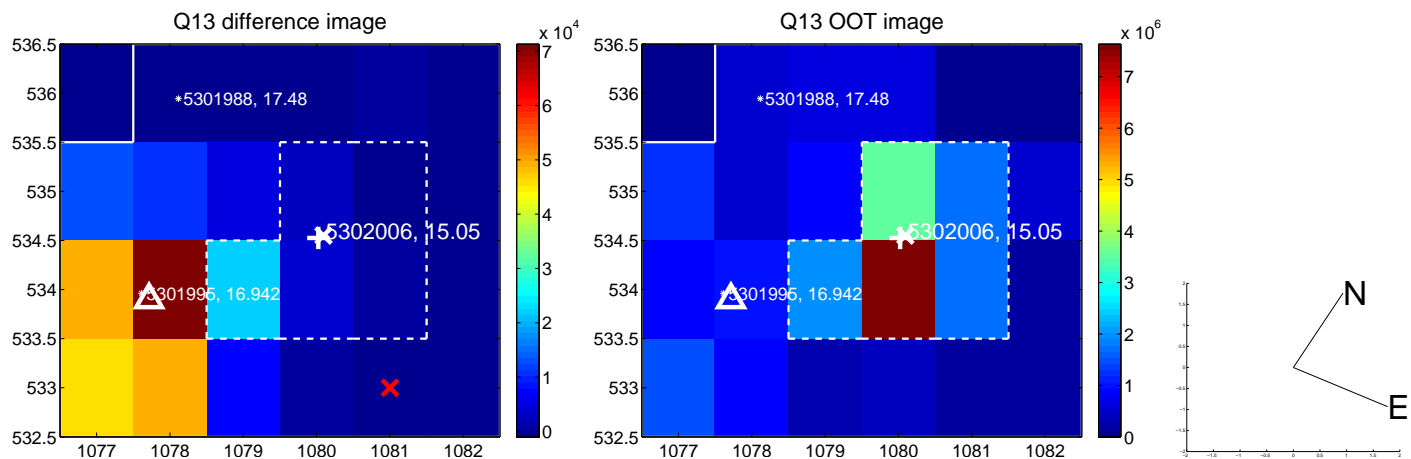
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



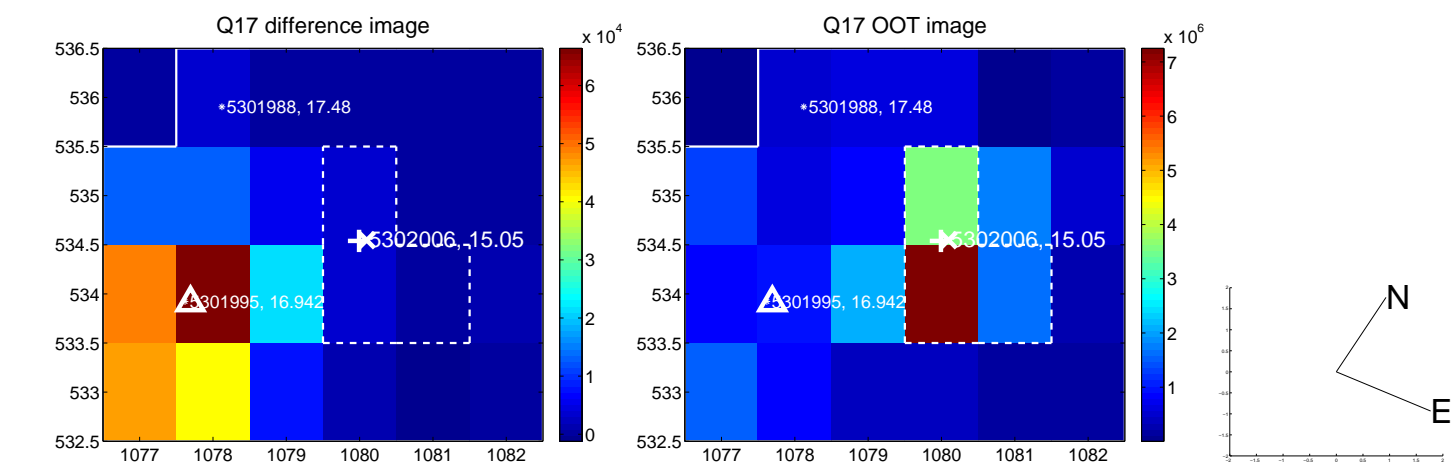
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



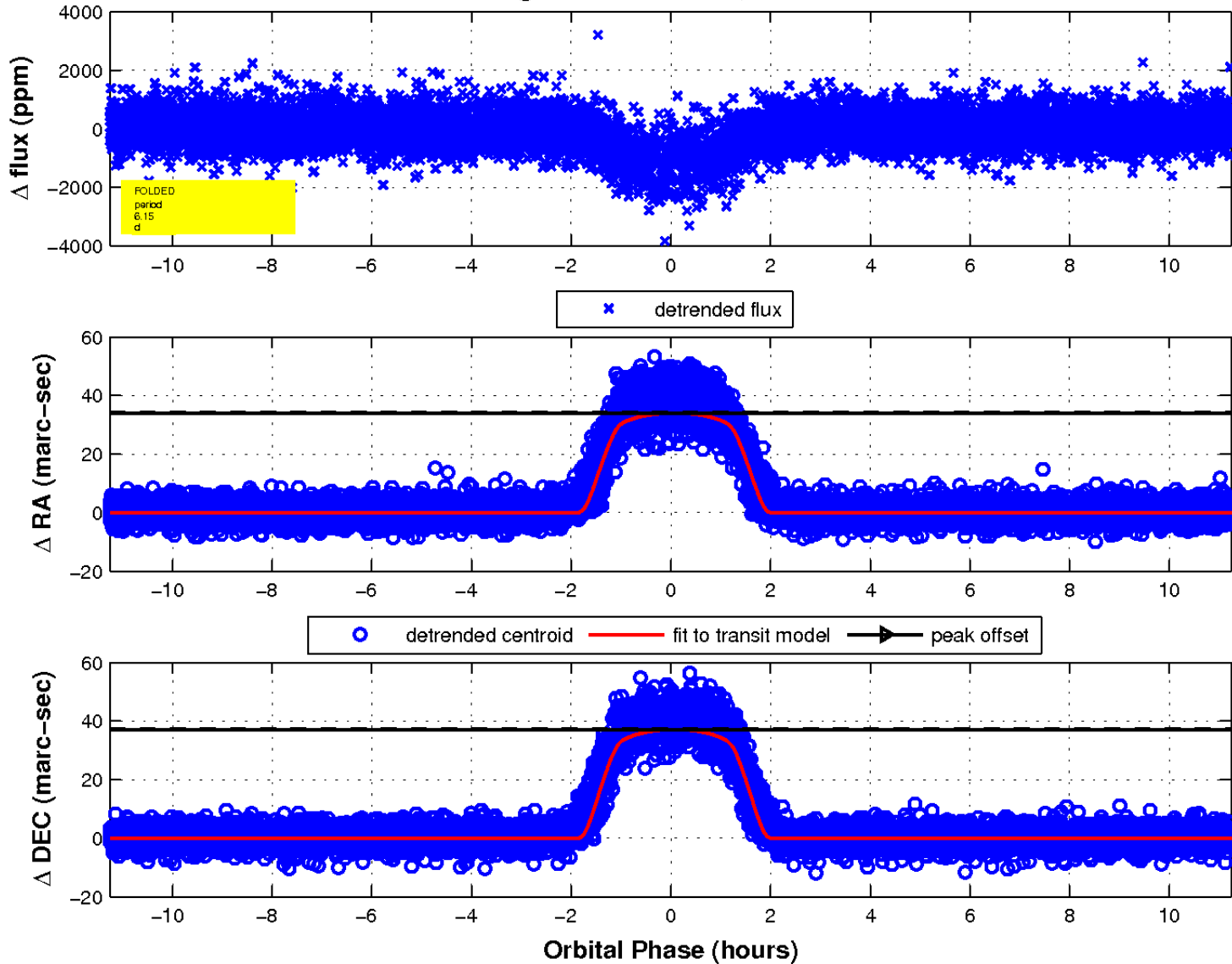
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

