

# KIC 011342416

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011342416-01	OBS	2366.01	25.369071	143.687426	111.3	4.832	17.5	19.0	1.41	6126	1.75	77.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011342416-01	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 011342416-01

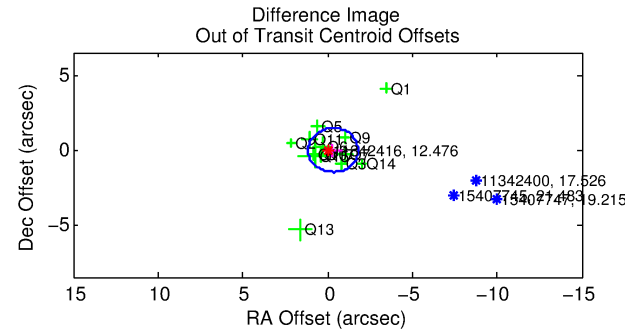
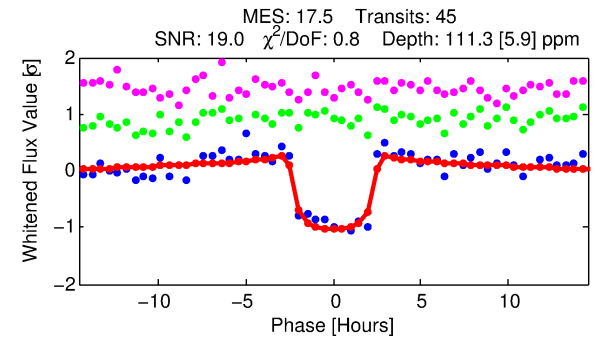
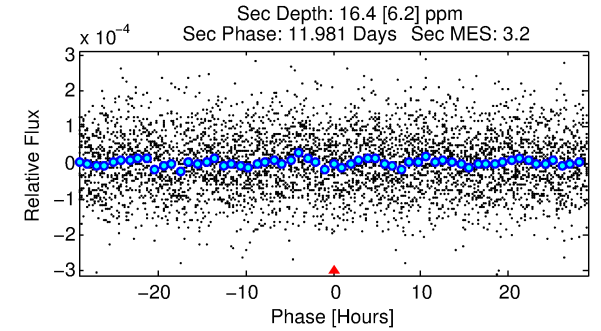
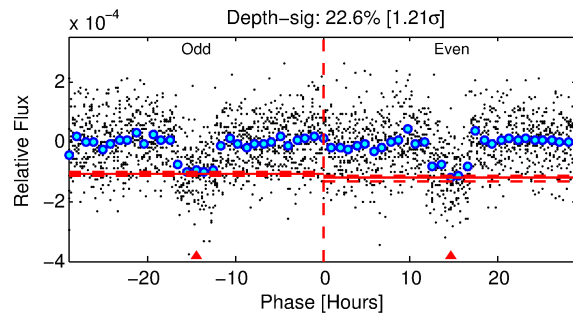
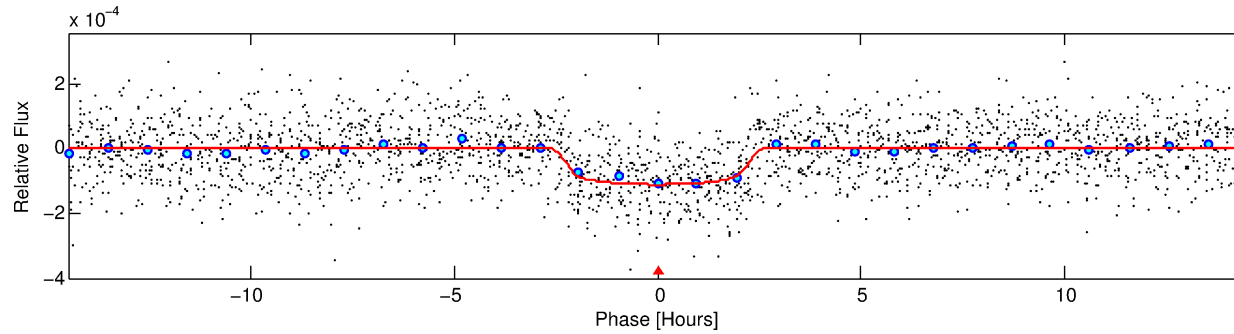
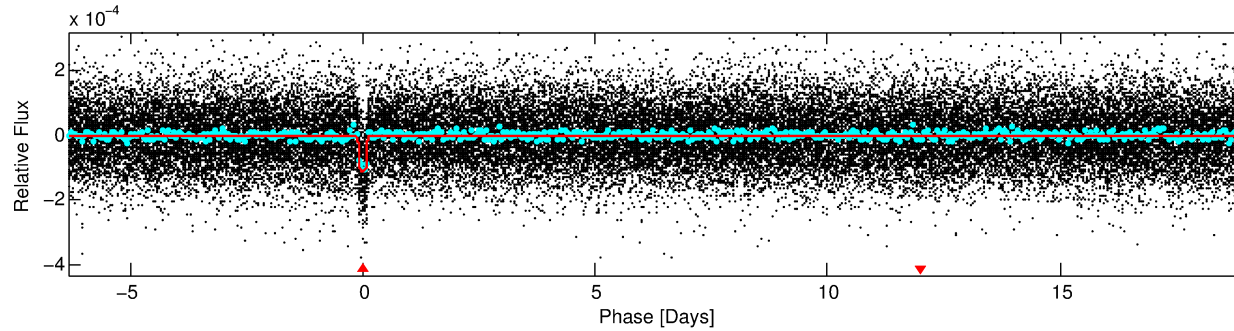
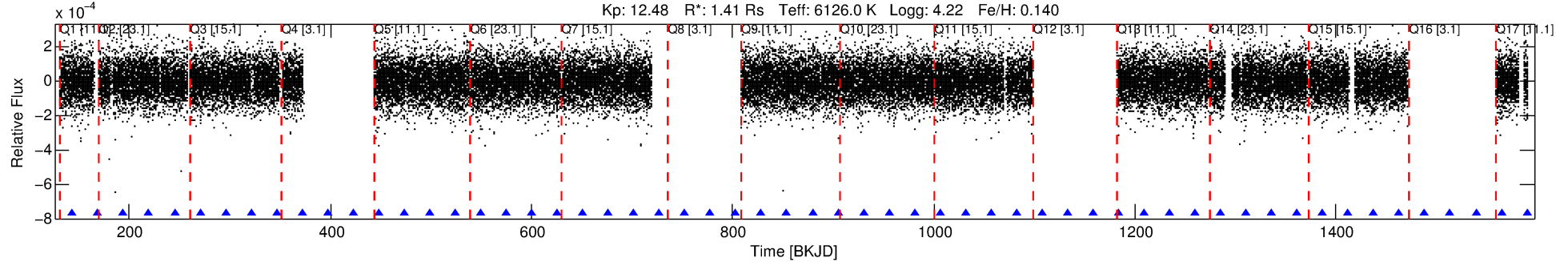
No Significant Match Found

# DV One-Page Summary

KIC: 11342416 Candidate: 1 of 1 Period: 25.369 d

KOI: K02366.01 Corr: 0.979

Kp: 12.48 R\*: 1.41 Rs Teff: 6126.0 K Logg: 4.22 Fe/H: 0.140



## DV Fit Results:

Period = 25.36907 [0.00014] d  
Epoch = 143.6874 [0.0045] BKJD  
Rp/R\* = 0.0114 [0.0020]  
a/R\* = 18.53 [16.69]  
b = 0.90 [0.19]  
Seff = 77.01 [18.93]  
Teq = 755 [46] K  
Rp = 1.75 [0.43] Re  
a = 0.1800 [0.0271] AU  
Ag = 95.58 [54.07] [1.75σ]  
Teffp = 3652 [479] K [6.02σ]

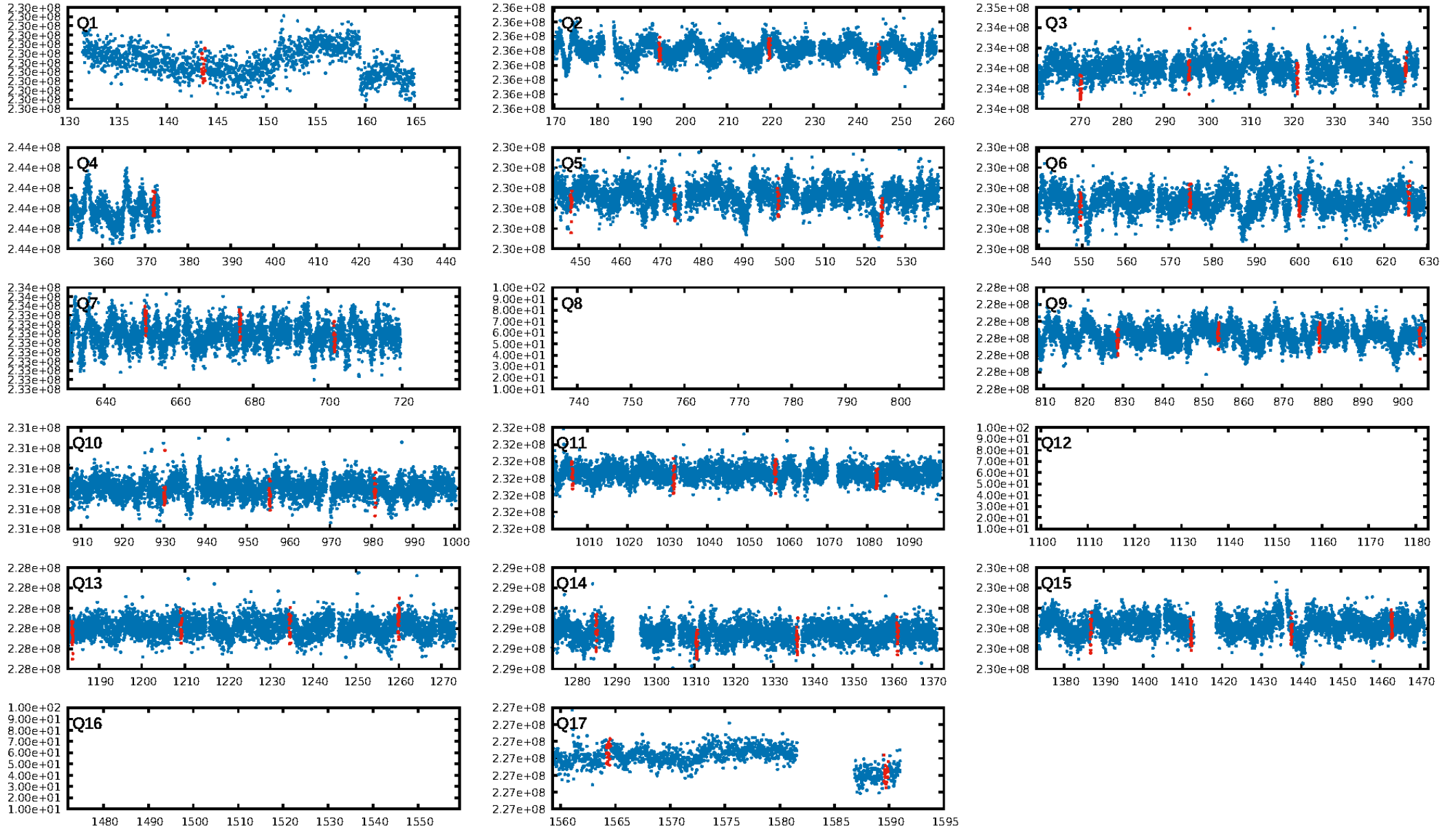
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 93.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.08e-63  
RollingBand-fgt: 1.00 [41/41]  
GhostDiagnostic-chr: 4.359  
Centroid-sig: 42.8%  
Centroid-so: 0.536 arcsec [0.96σ]  
OotOffset-rm: 0.317 arcsec [0.65σ]  
KicOffset-rm: 0.277 arcsec [0.57σ]  
OotOffset-st: 4/4/0/5 [13]  
KicOffset-st: 4/4/0/5 [13]  
DiffImageQuality-fgm: 0.85 [11/13]  
DiffImageOverlap-fno: 1.00 [14/14]

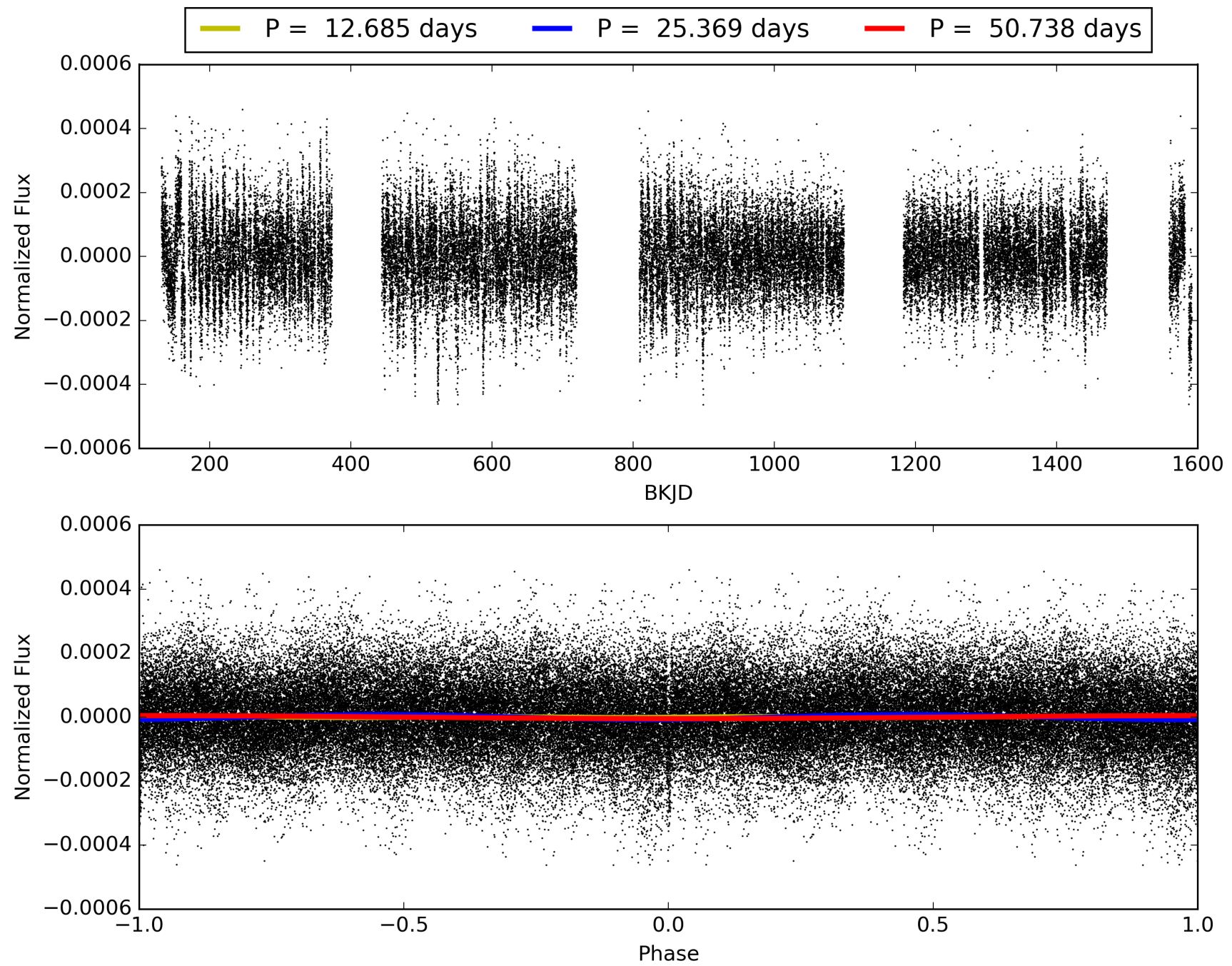
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:31:32 Z

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

# TCE 011342416-01, PDC Light Curves

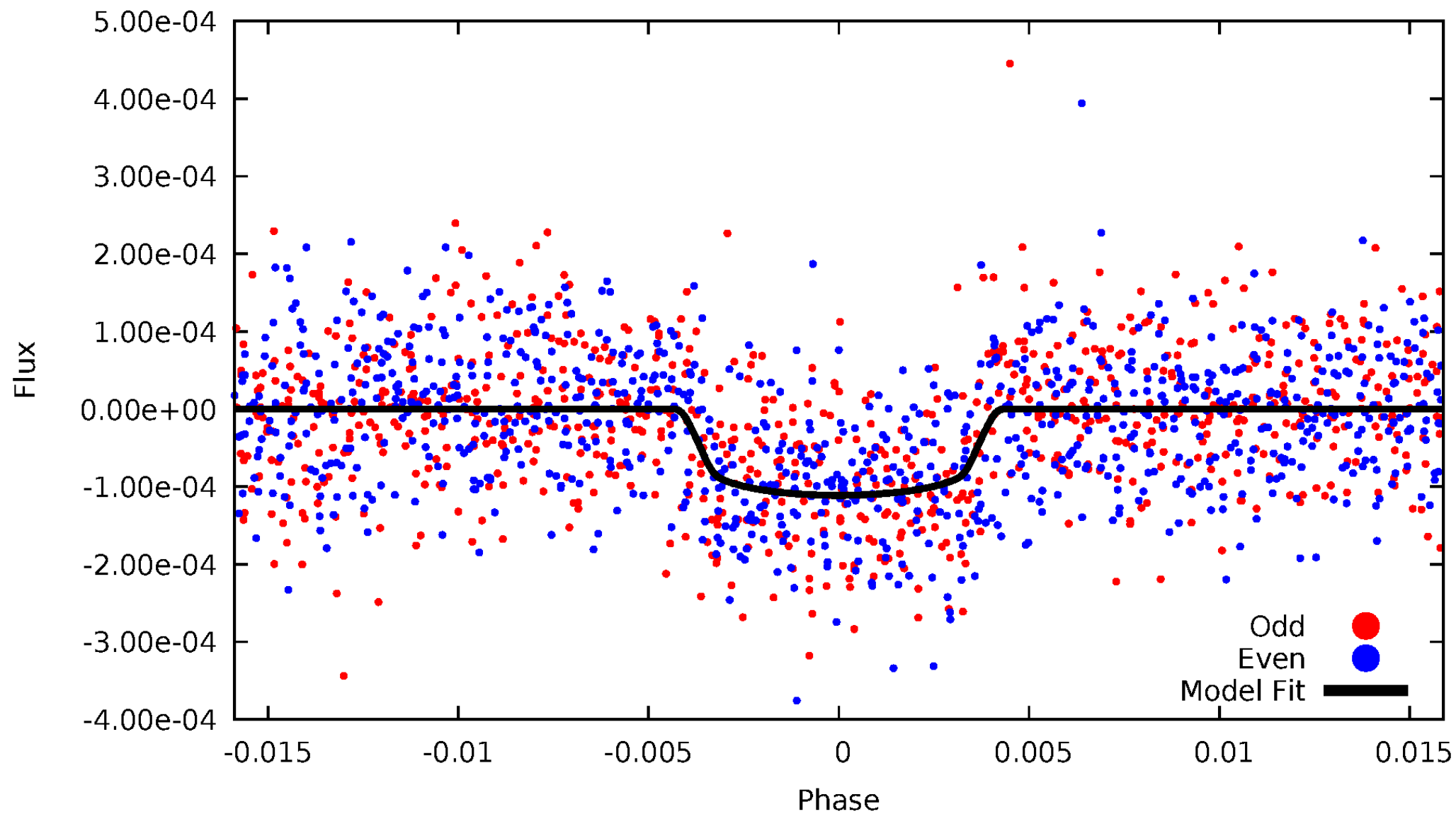


TCE 011342416-01



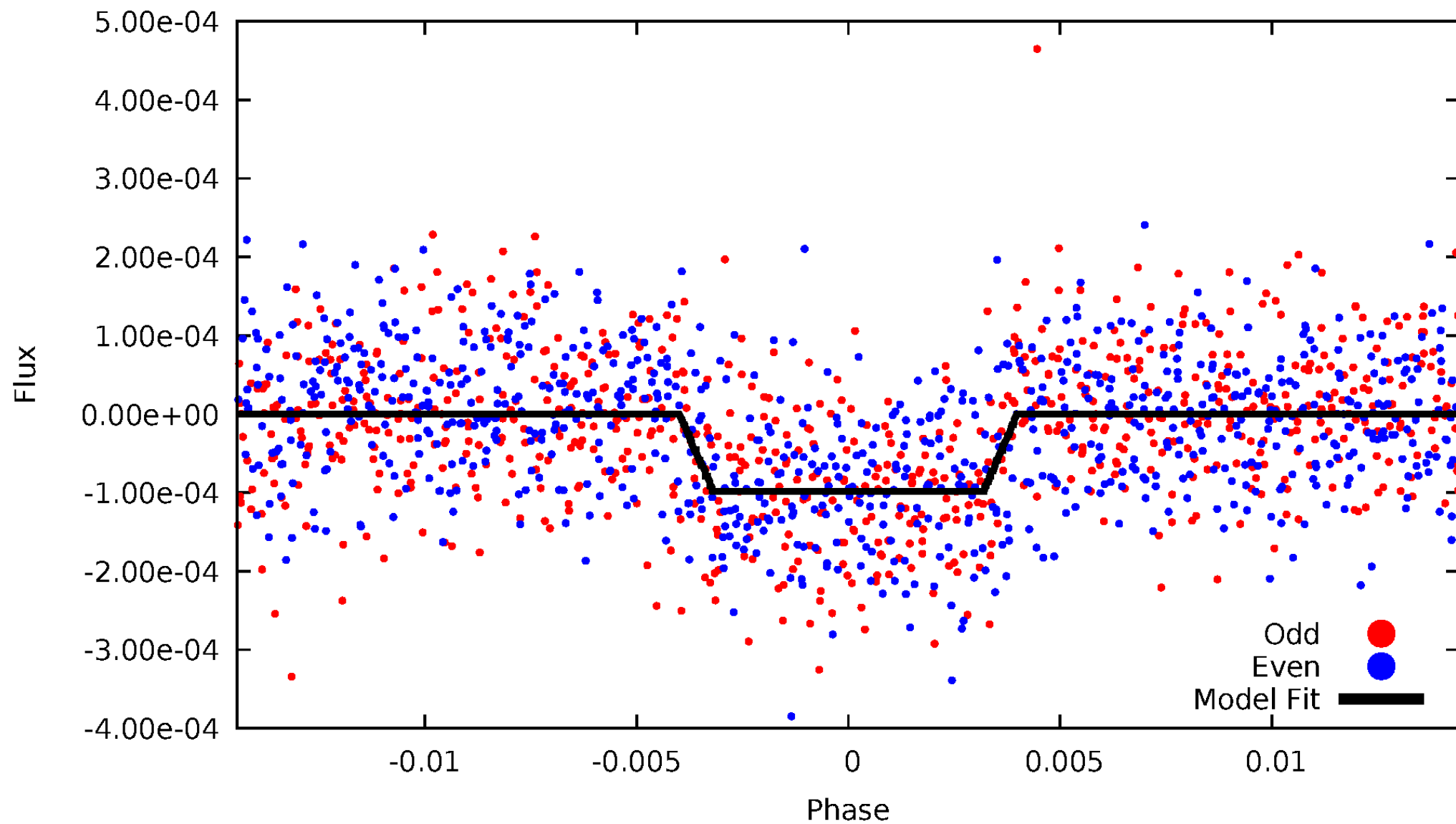
# DV Odd/Even

TCE 011342416-01



# ALT Odd/Even

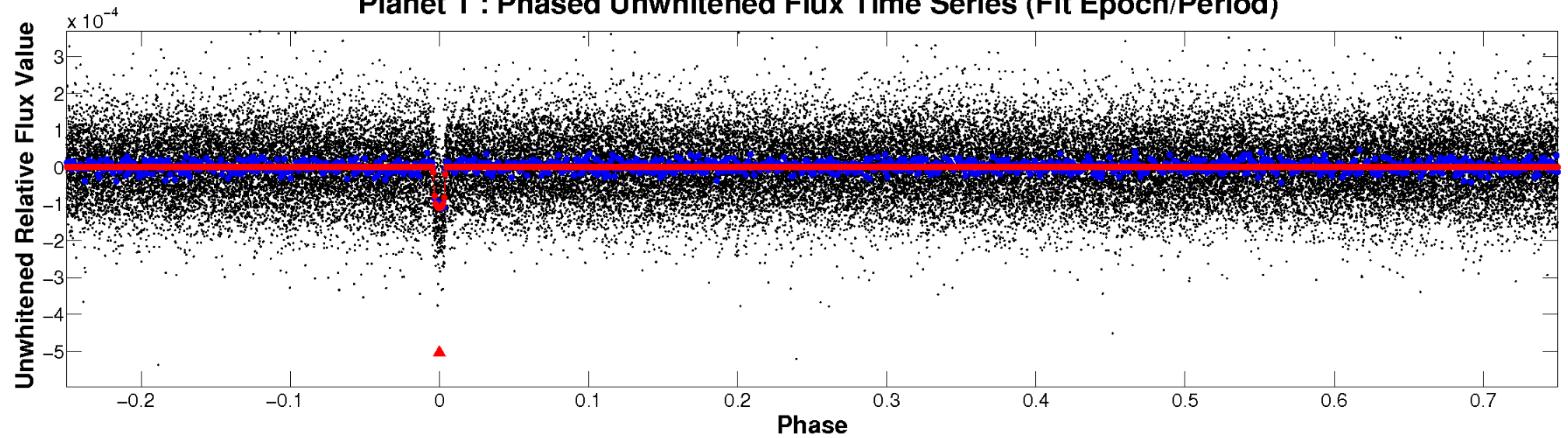
TCE 011342416-01



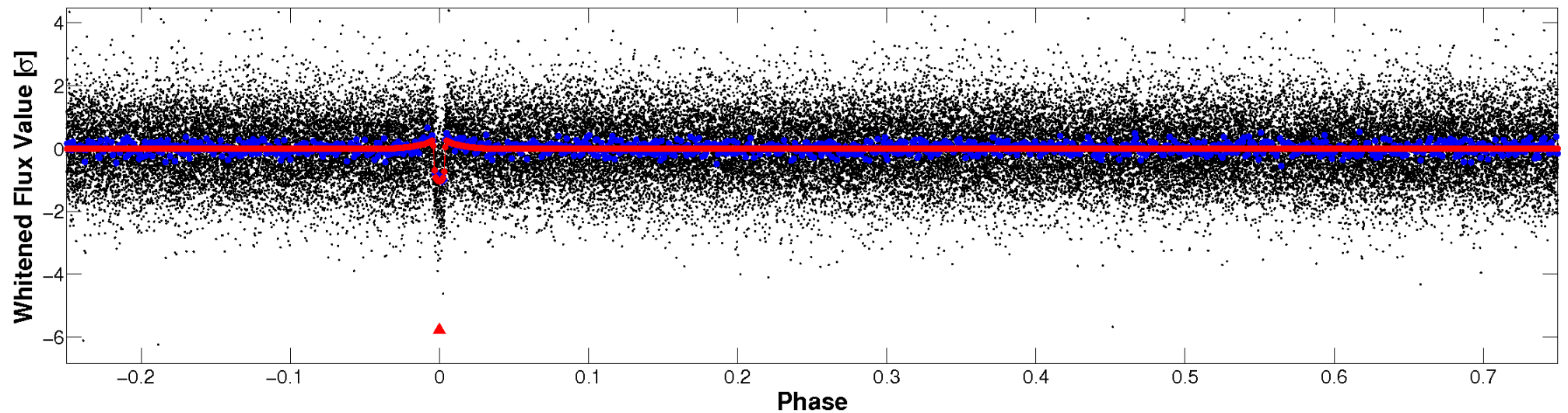


# Non-Whitened Vs. Whitened Light Curve

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

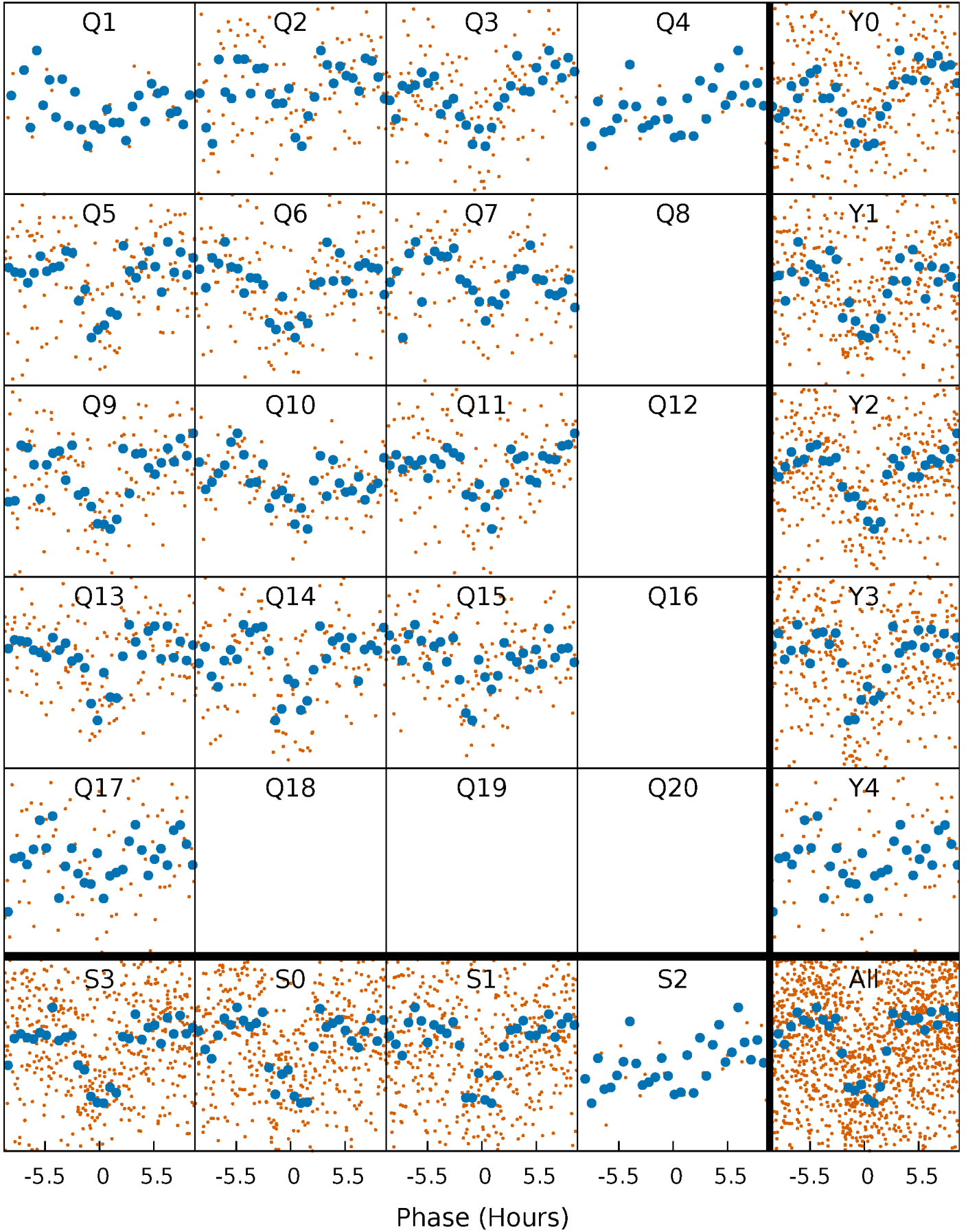


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

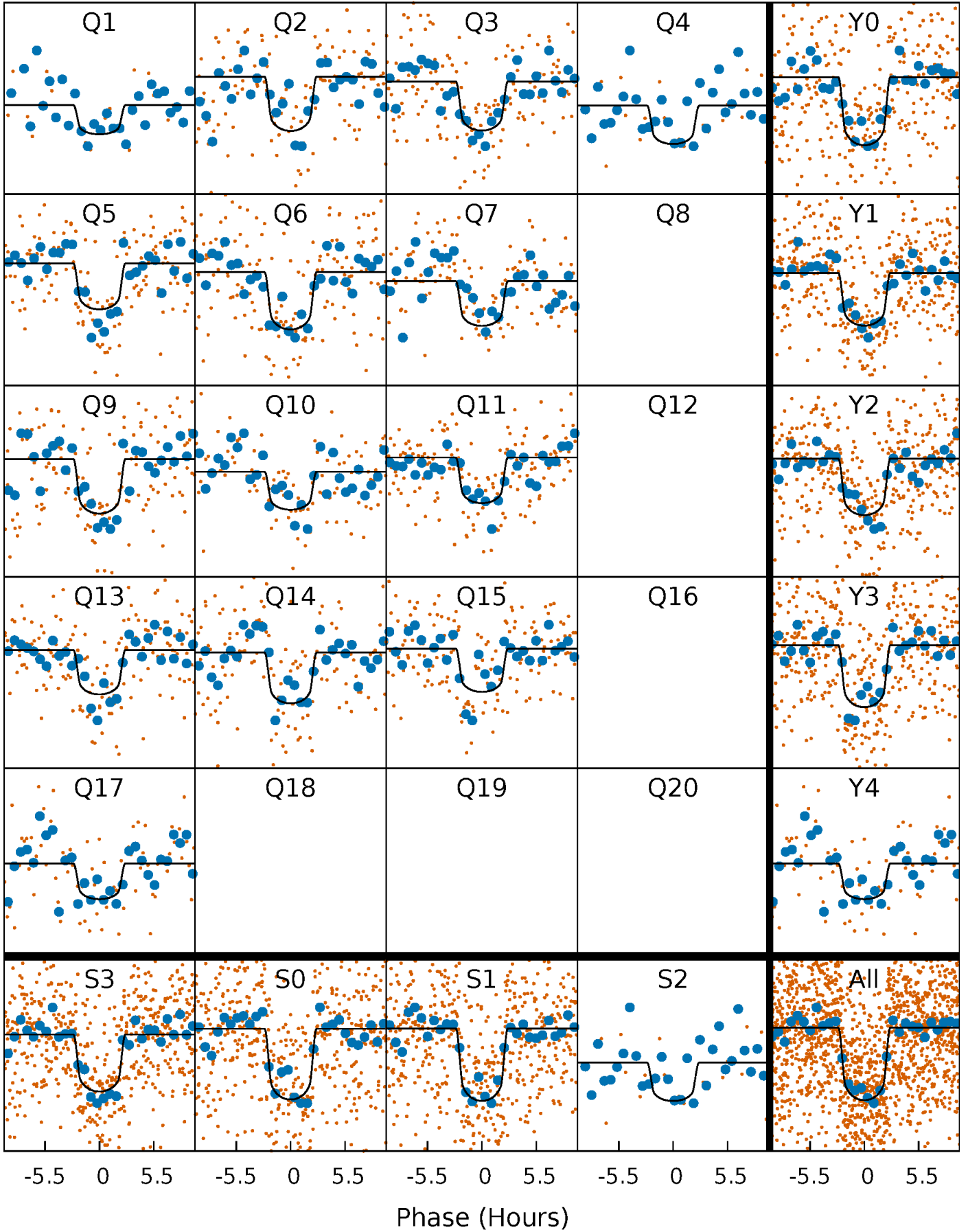
TCE 011342416-01   P= 25.369071 Days    $T_0=143.687426$  (BKJD)





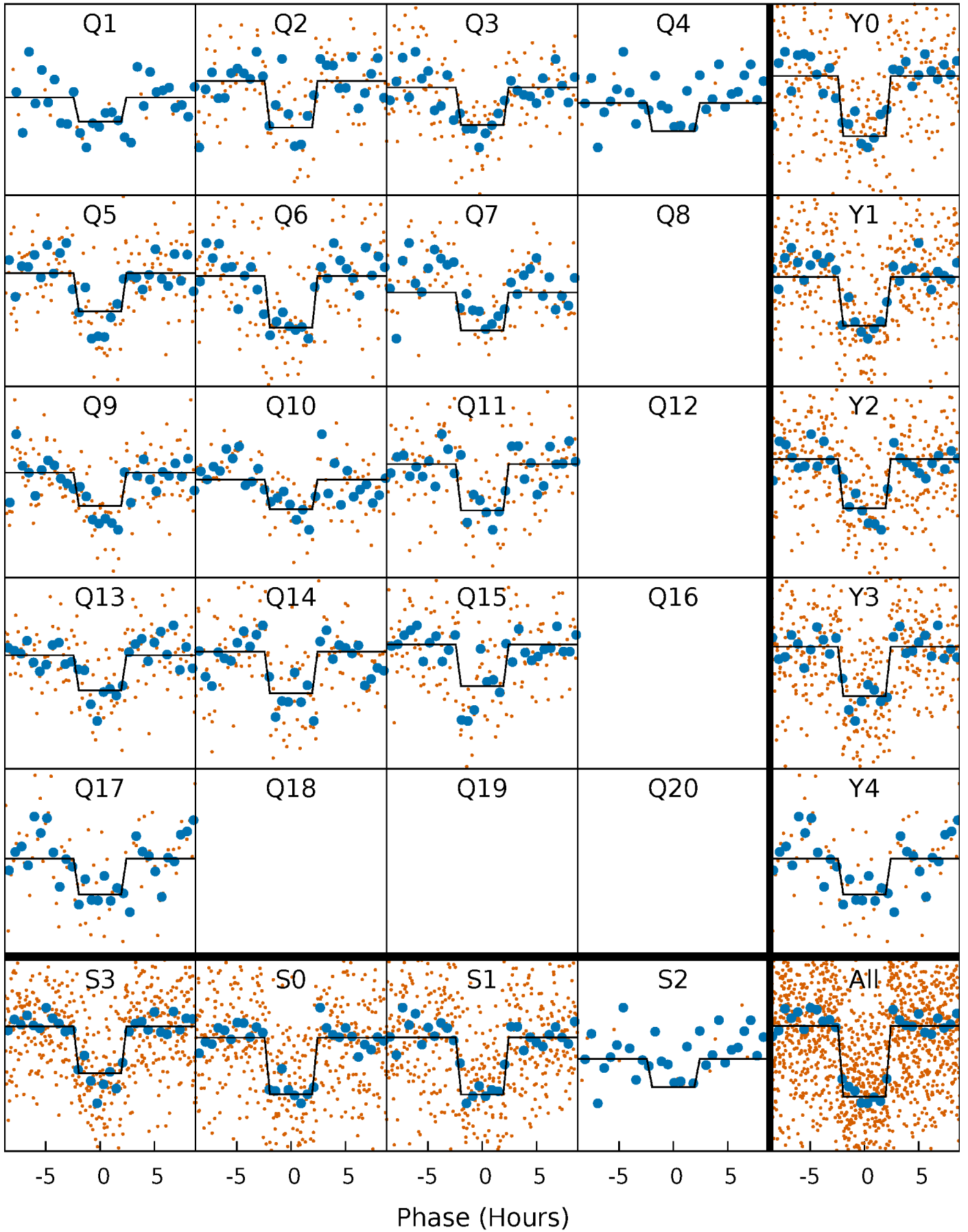
# DV Quarter-Phased Transit Curves

TCE 011342416-01 P= 25.369071 Days  $T_0=143.687426$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

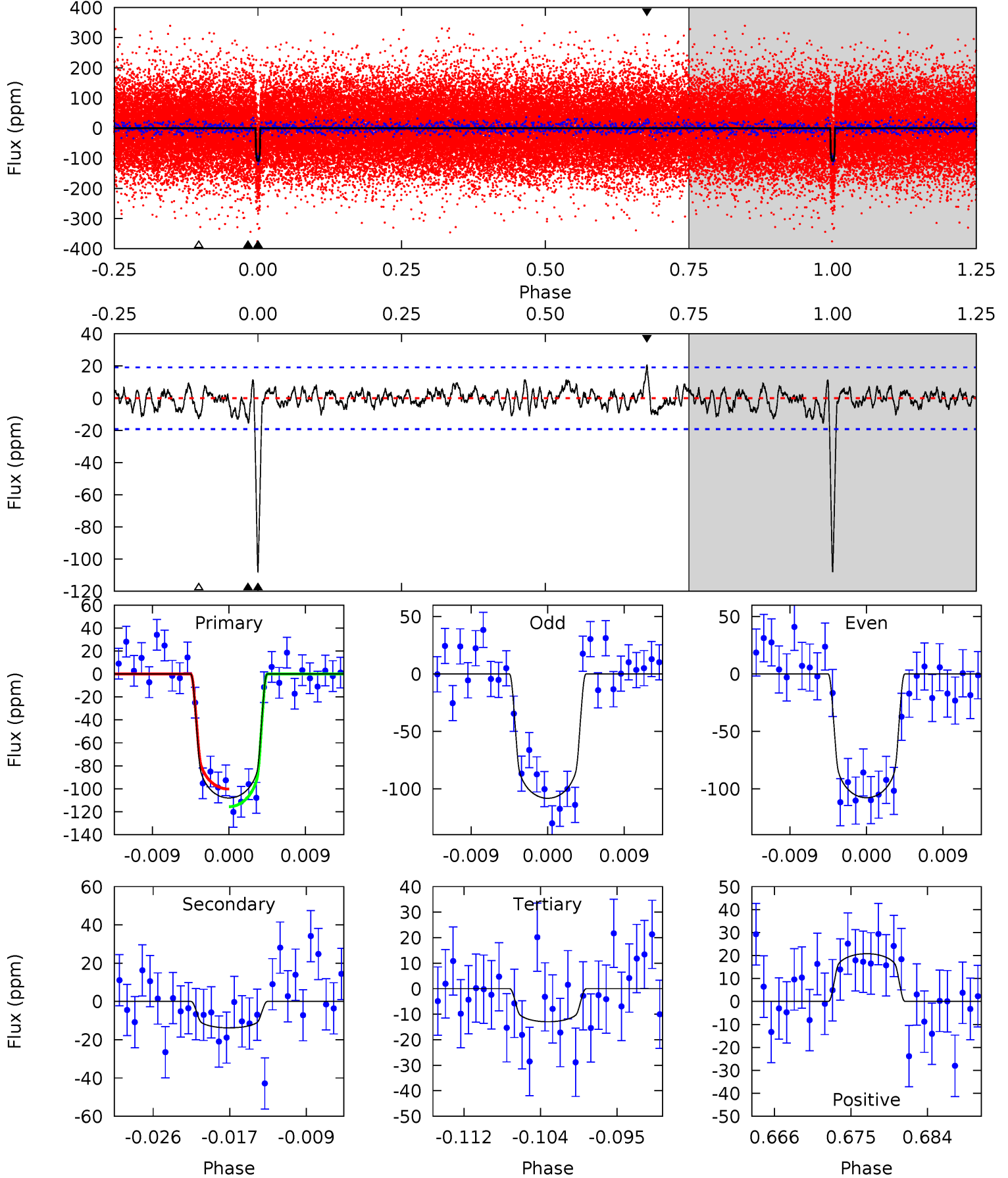
TCE 011342416-01 P= 25.368790 Days  $T_0=143.696942$  (BKJD)



# DV Model-Shift Uniqueness Test

011342416-01, P = 25.369071 Days, E = 118.318355 Days

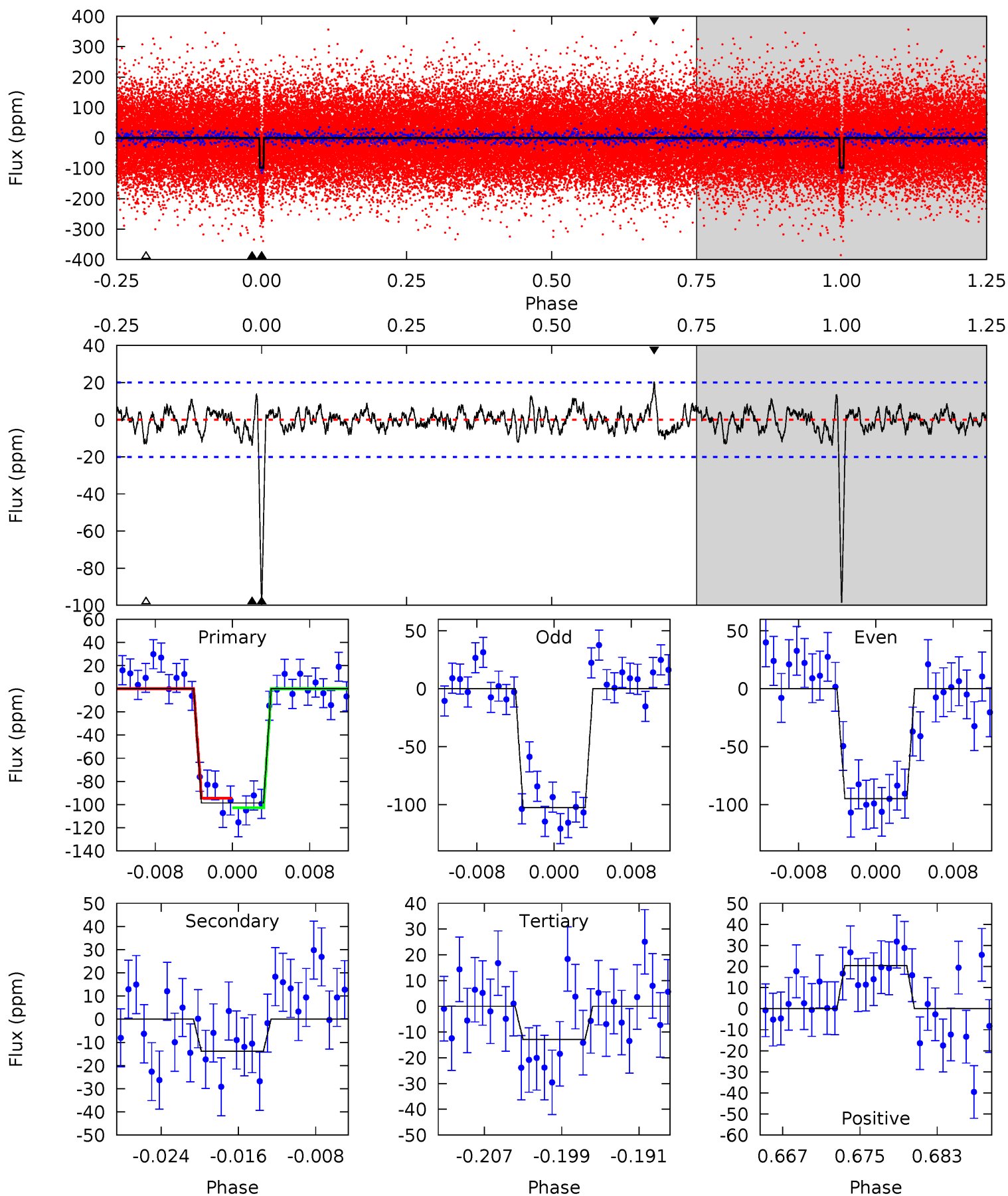
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.5	3.64	3.41	5.48	5.05	2.63	1.24	25.1	23.0	0.22	-1.84	0.06	0.97	0.16	2.02



# Alt Model-Shift Uniqueness Test

011342416-01, P = 25.368790 Days, E = 118.328152 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
24.9	3.50	3.25	5.15	5.07	2.65	1.18	21.7	19.8	0.25	-1.65	1.00	1.01	0.17	1.04



### Stellar Parameters For KIC 011342416

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6126^{+123}_{-136}$	$4.224^{+0.130}_{-0.117}$	$0.140^{+0.150}_{-0.150}$	$1.406^{+0.238}_{-0.238}$	$1.212^{+0.086}_{-0.118}$	$0.614^{+0.401}_{-0.227}$
	+2%/-2%	+3%/-3%	+107%/-107%	+17%/-17%	+7%/-10%	+65%/-37%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 011342416-01 / KOI 2366.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-14 \pm 4$	$1.75^{+0.37}_{-0.33}$	$1054^{+54}_{-50}$	$3849^{+333}_{-285}$	$79^{+50}_{-31}$
Alt.	$-14 \pm 4$	$1.51^{+0.35}_{-0.34}$	$1054^{+50}_{-49}$	$4034^{+403}_{-331}$	$106^{+81}_{-44}$

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

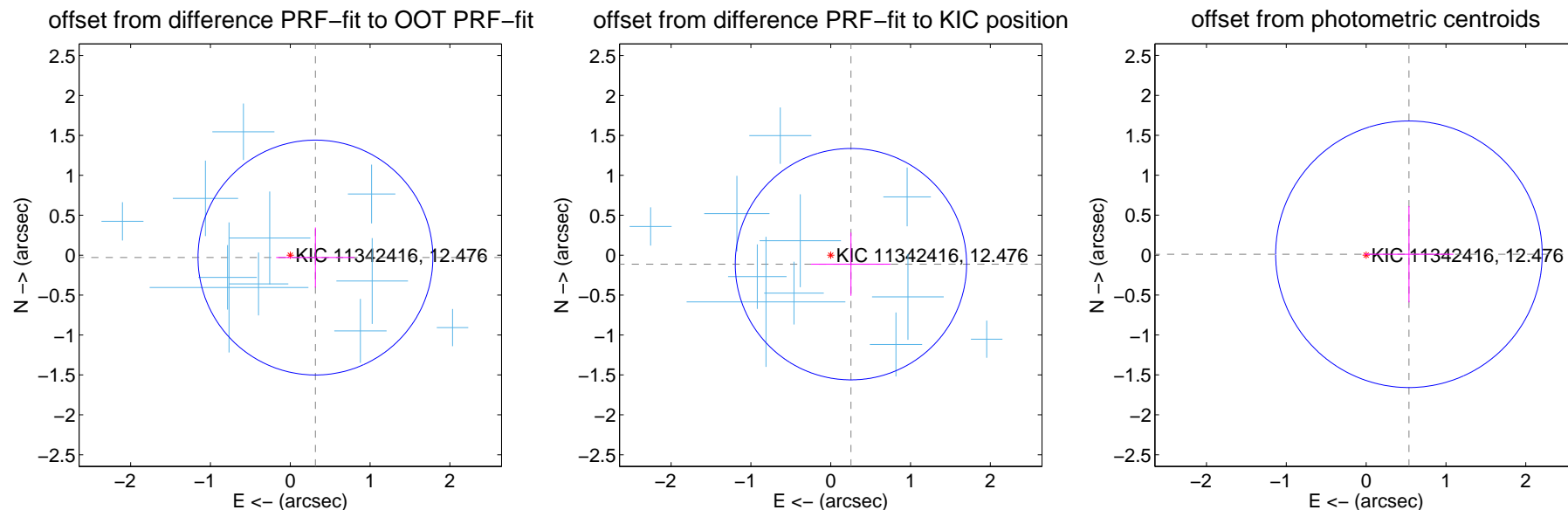
## DV Centroid Data

Supplemental centroid analysis for 011342416-01. Kepler magnitude: 12.48. Transit SNR 19.01

There are 11 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

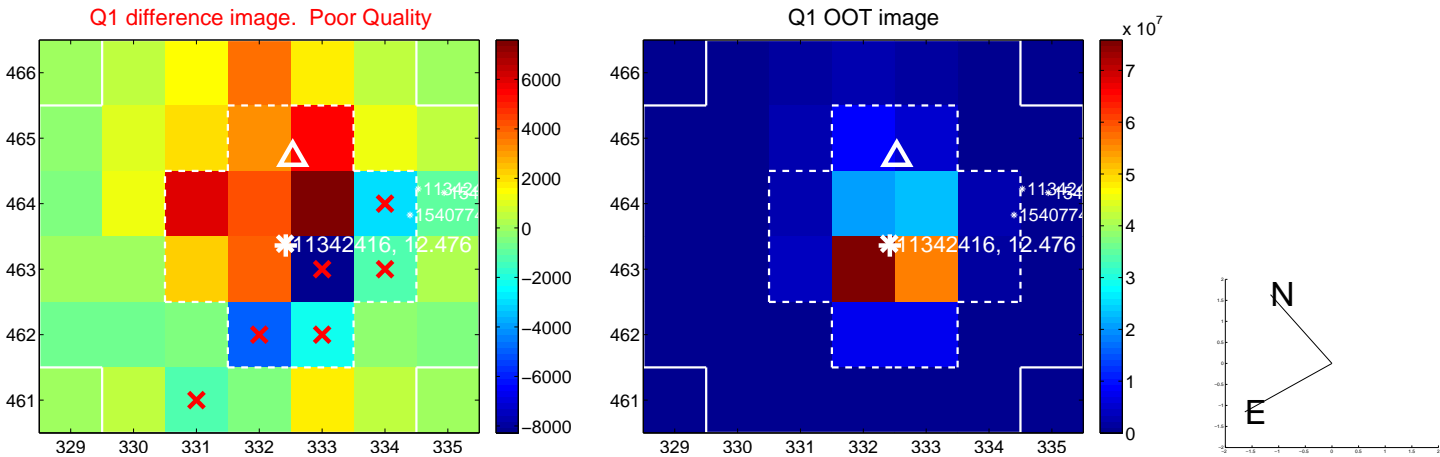
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.317 \pm 0.490$	0.65	$-0.315 \pm 0.491$	$-0.030 \pm 0.377$
PRF-fit source offset from KIC position	$0.277 \pm 0.483$	0.57	$-0.253 \pm 0.499$	$-0.113 \pm 0.396$
photometric centroid source offset	$0.54 \pm 0.56$	0.96	$-0.54 \pm 0.56$	$0.01 \pm 0.60$



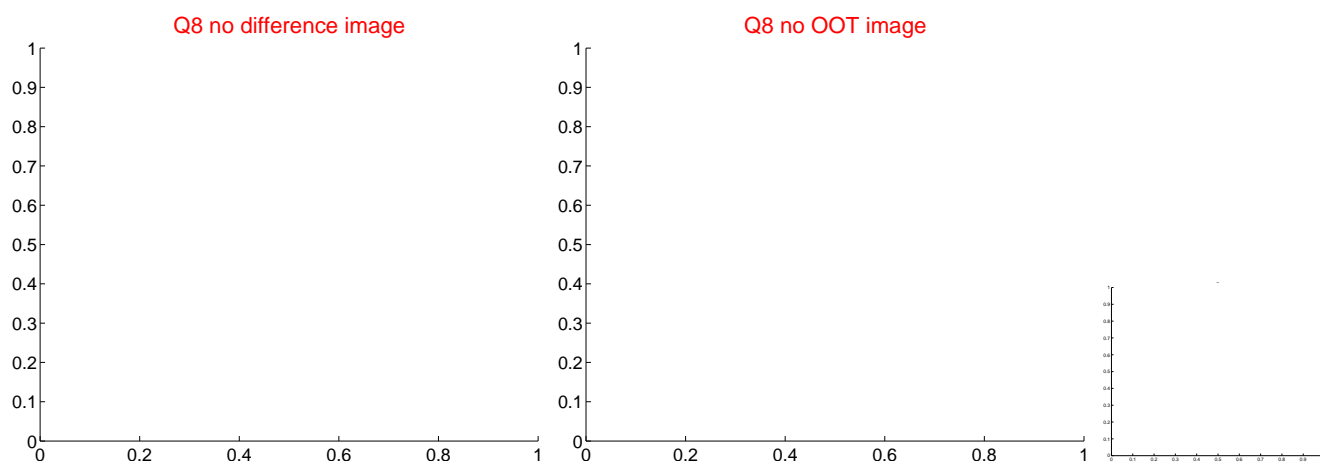
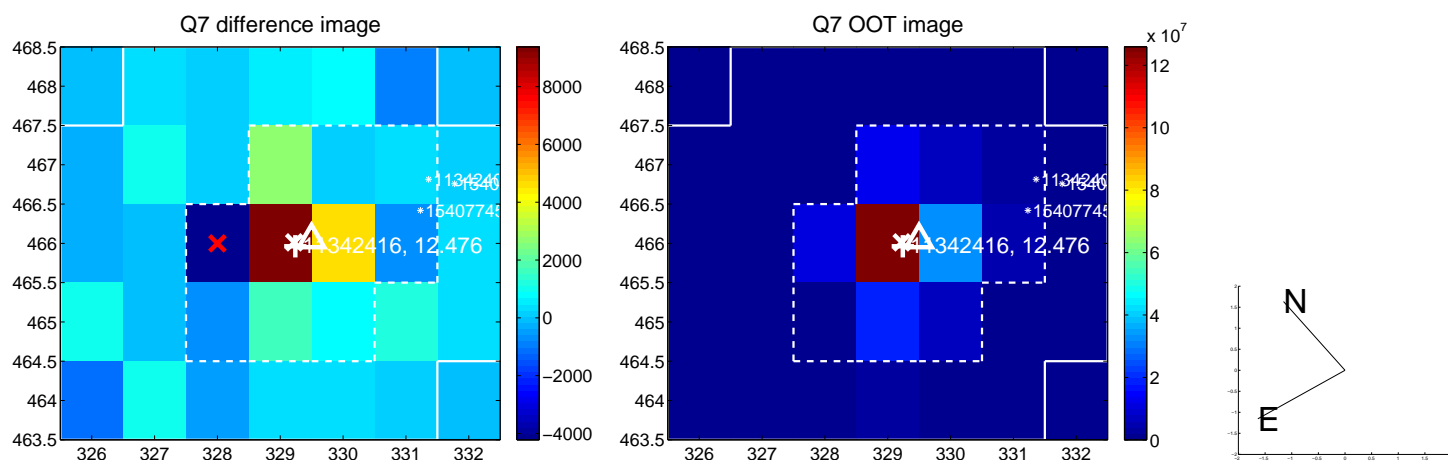
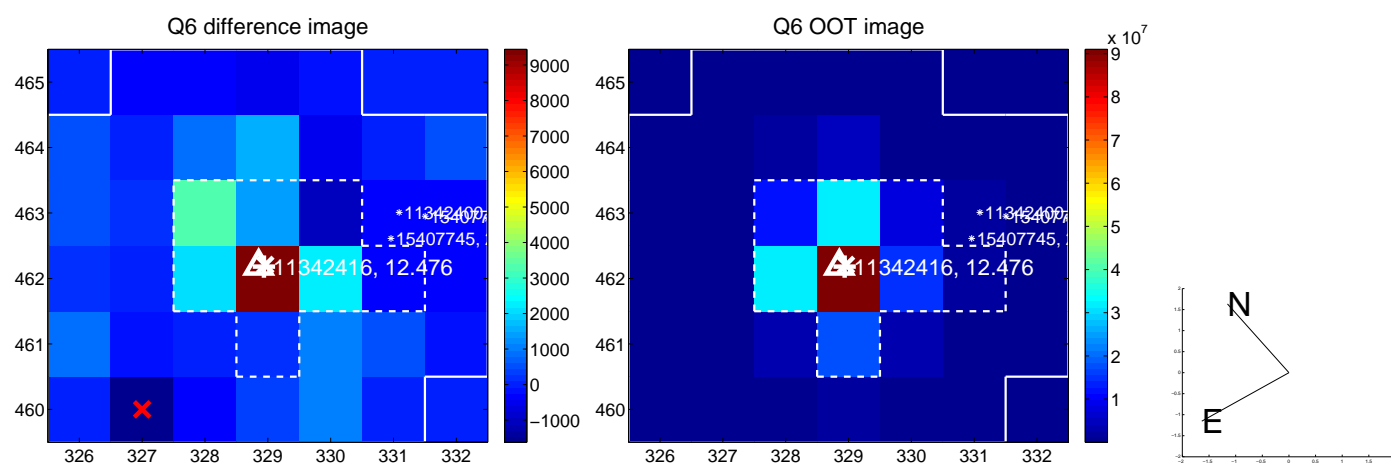
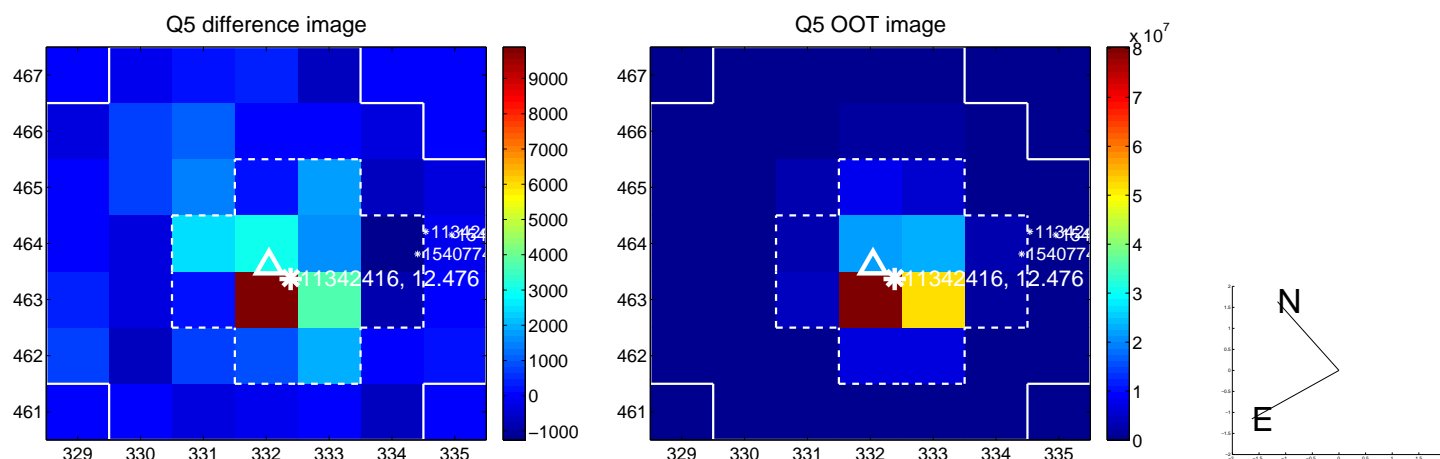
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



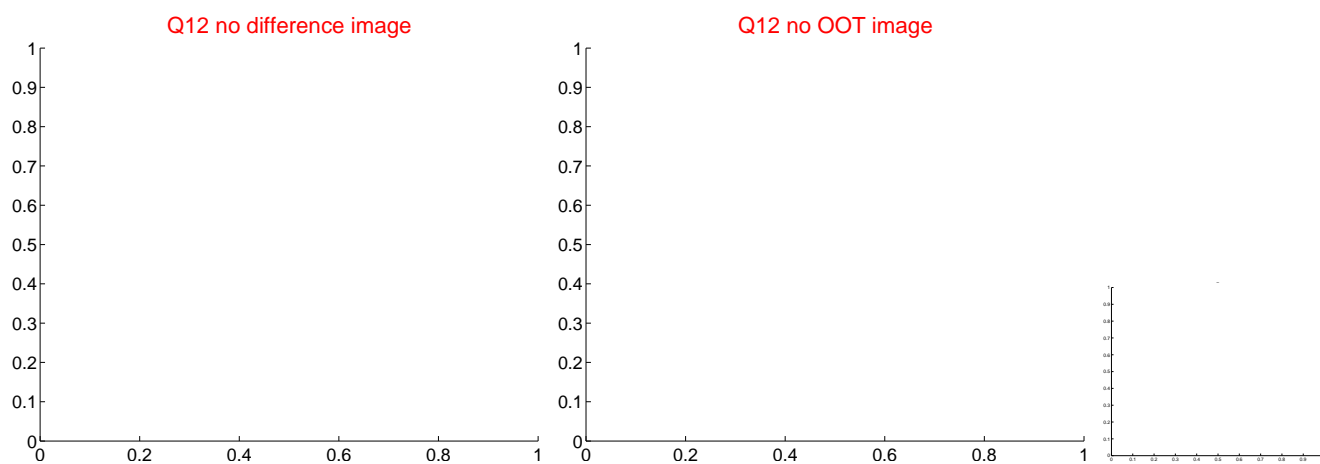
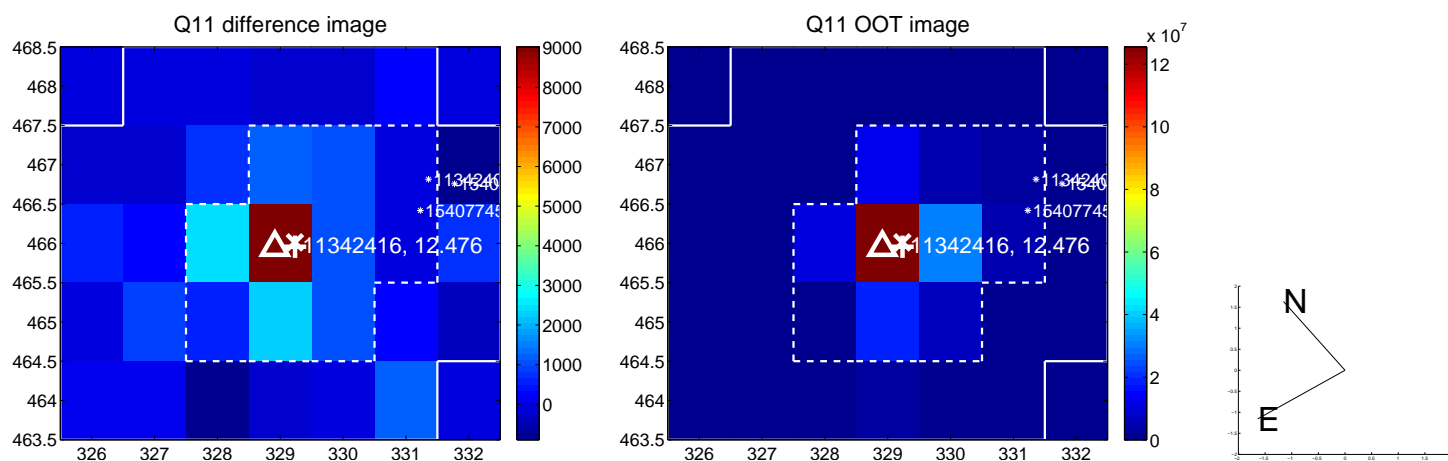
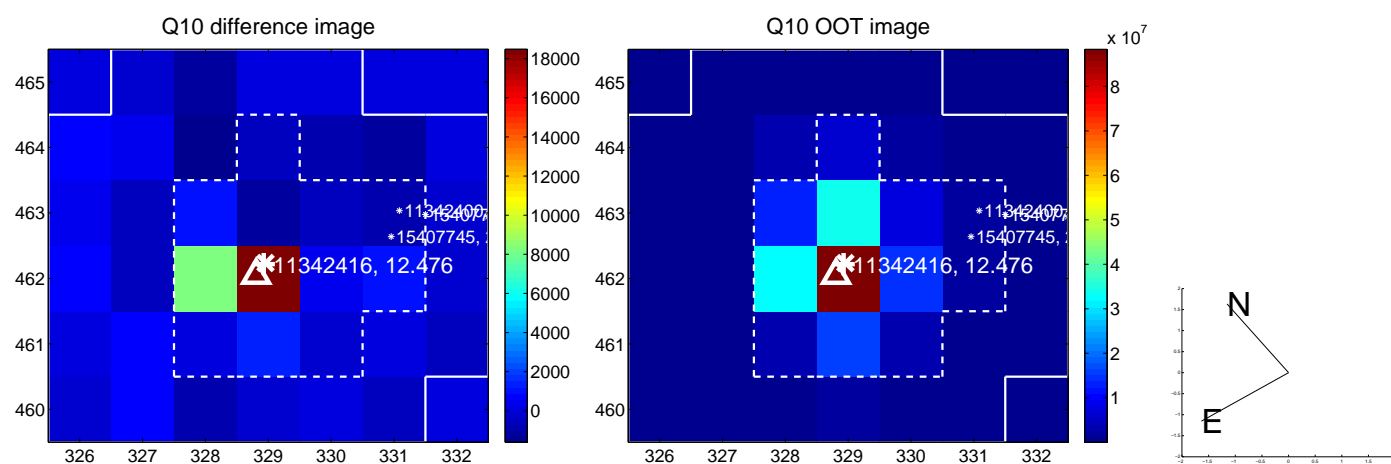
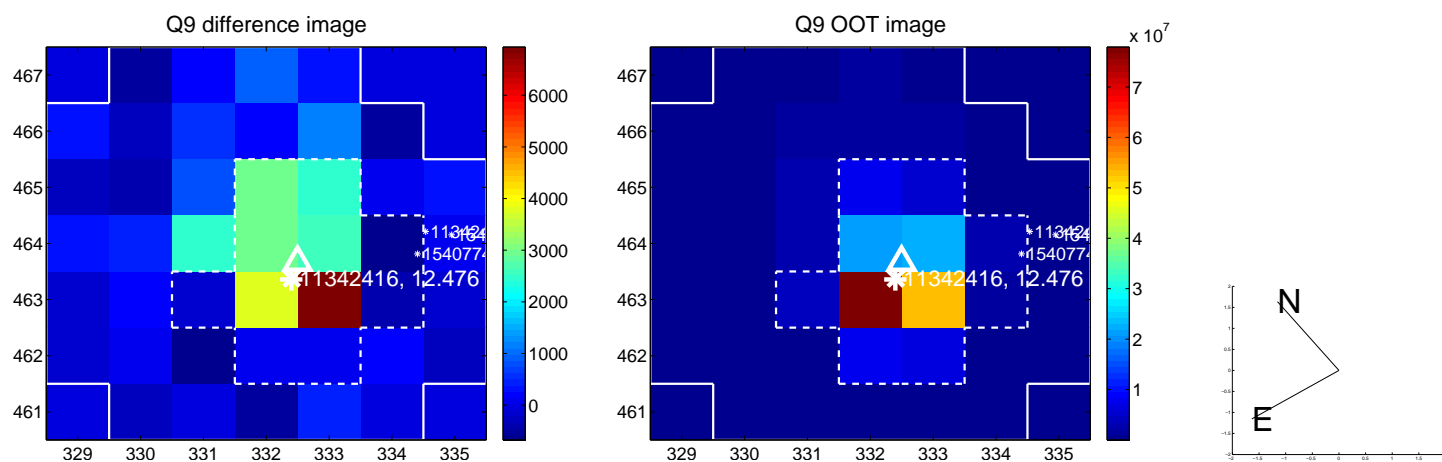
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



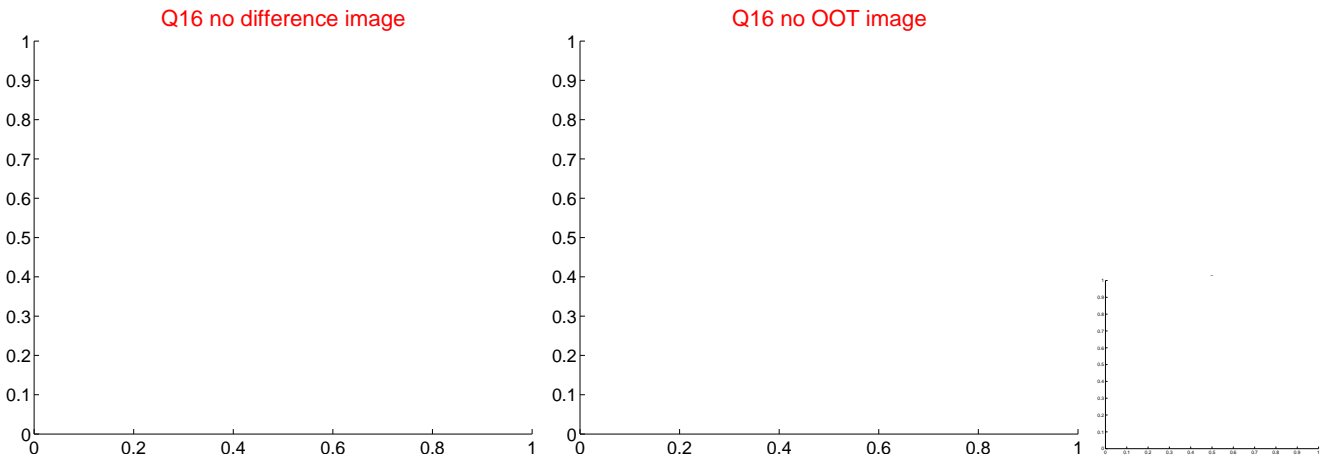
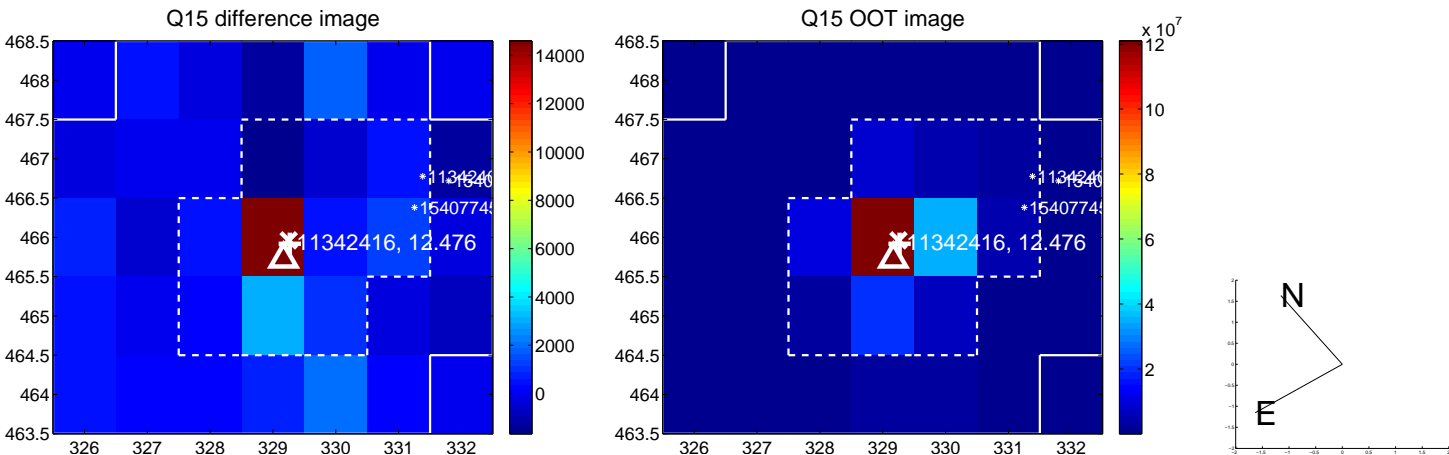
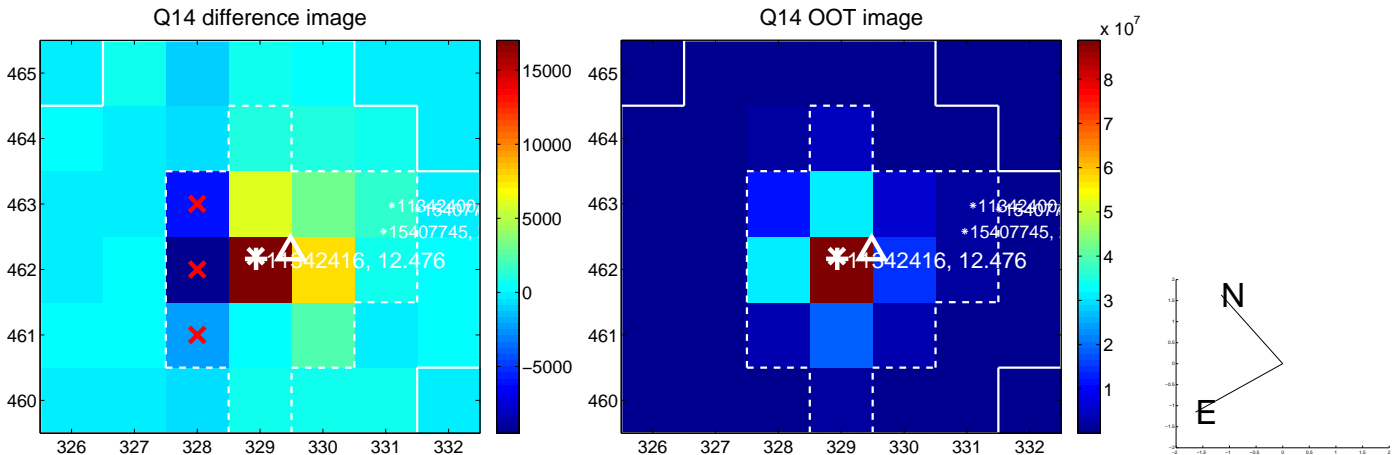
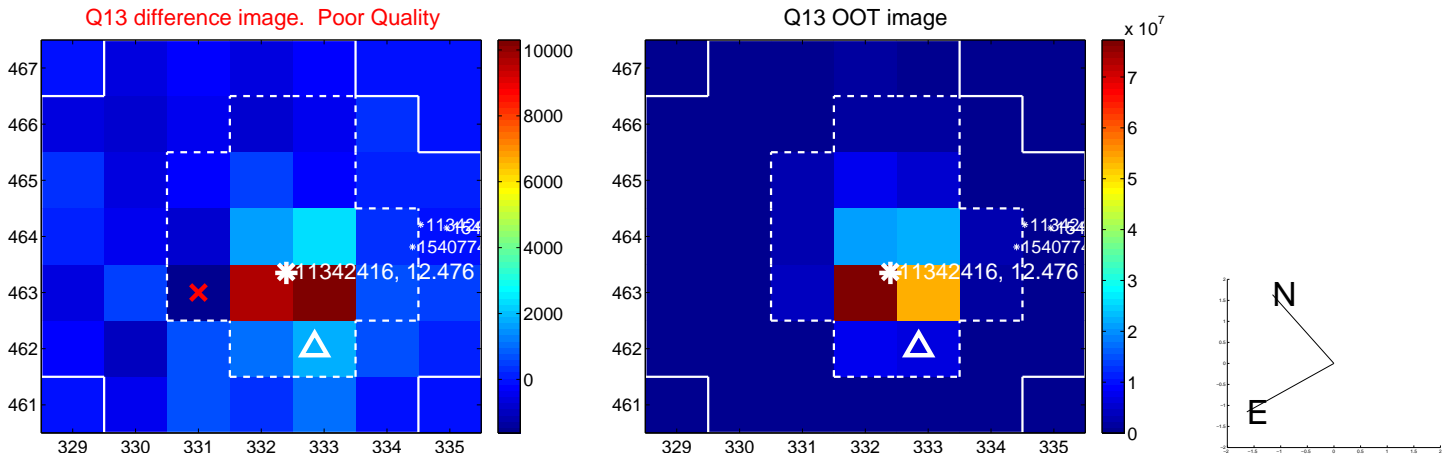
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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





UKIRT Image

Declination

