

# KIC 009268456

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009268456-01	OBS	5647.01	84.731162	131.524616	339.7	15.000	10.4	-1.0	15.52	5229	28.15	584.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009268456-01	OBS	FP	0.17	1	0	0	0	LPP_DV—CENT_NOFITS

**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 009268456-01

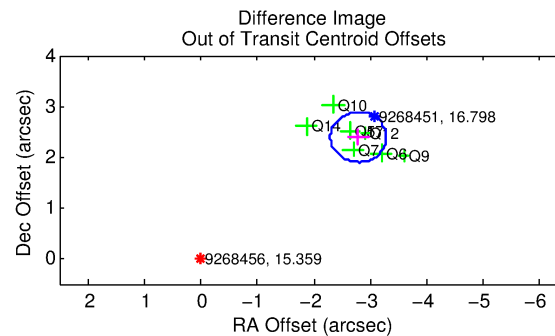
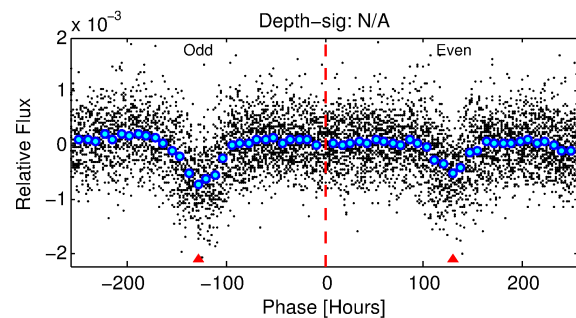
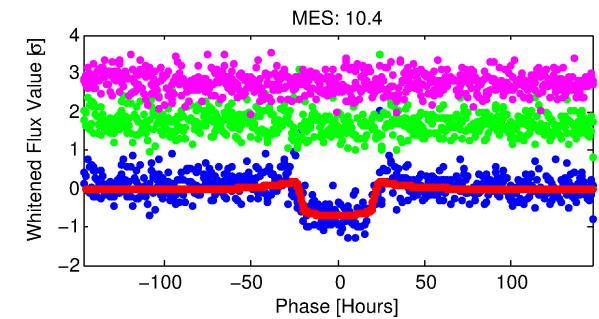
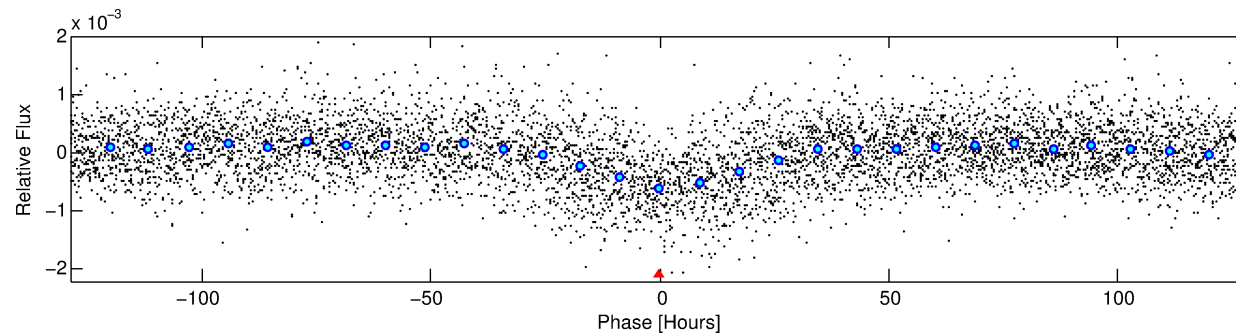
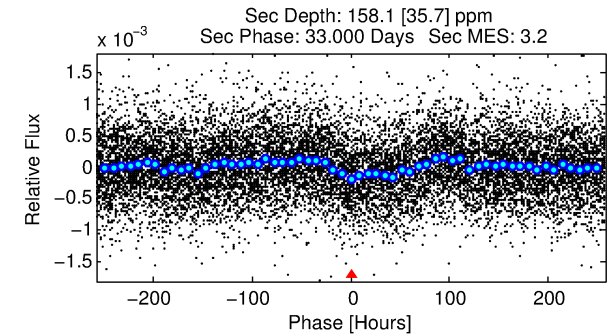
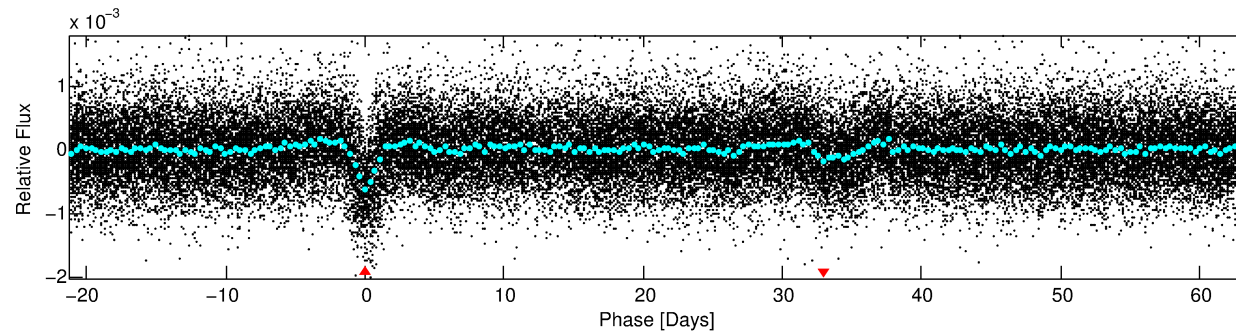
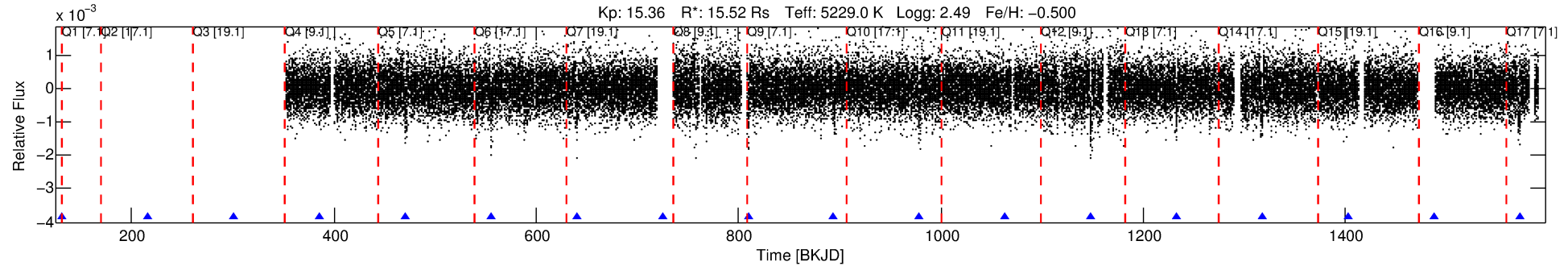
No Significant Match Found

# DV One-Page Summary

KIC: 9268456 Candidate: 1 of 1 Period: 84.731 d

KOI: K05647 Corr: No Ephemeris Match

Kp: 15.36 R\*: 15.52 Rs Teff: 5229.0 K Logg: 2.49 Fe/H: -0.500



TPS TCE Results:

Period = 84.73116 d

Epoch = 131.5246 BKJD

DV fit results are unavailable

DV Diagnostic Results:

ShortPeriod-sig: N/A

LongPeriod-sig: N/A

ModelChiSquare2-sig: N/A

ModelChiSquareGof-sig: N/A

Bootstrap-pfa: 2.11e-25

RollingBand-fgt: 1.00 [12/12]

GhostDiagnostic-chr: 0.8201

Centroid-sig: 0.0%

Centroid-so: 8.486 arcsec [6.83σ]

OotOffset-rm: 3.674 arcsec [22.26σ]

KicOffset-rm: 4.134 arcsec [20.63σ]

OotOffset-st: 3/1/1/3 [8]

KicOffset-st: 3/1/1/3 [8]

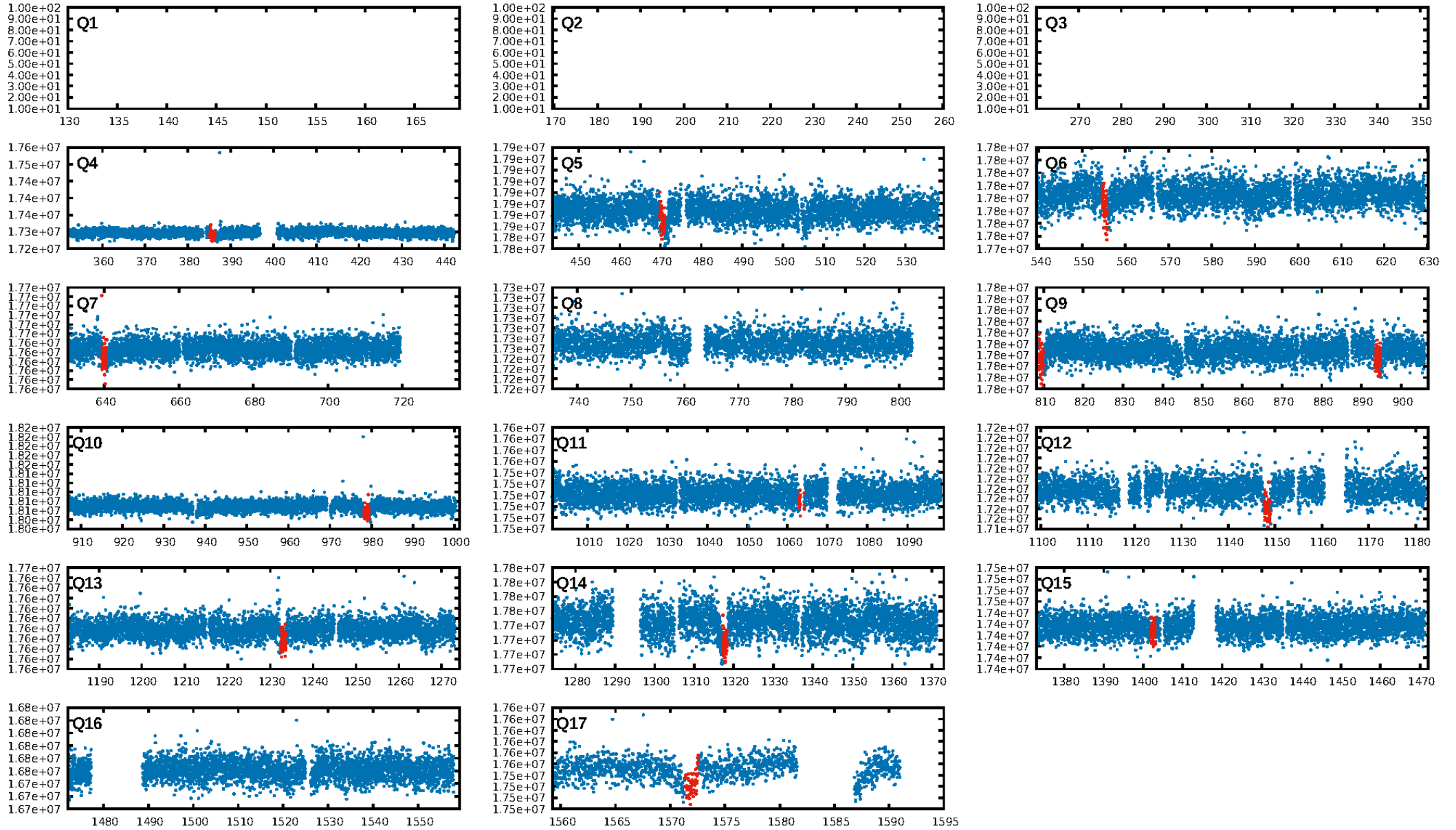
DiffImageQuality-fgm: 1.00 [8/8]

DiffImageOverlap-fno: 1.00 [8/8]

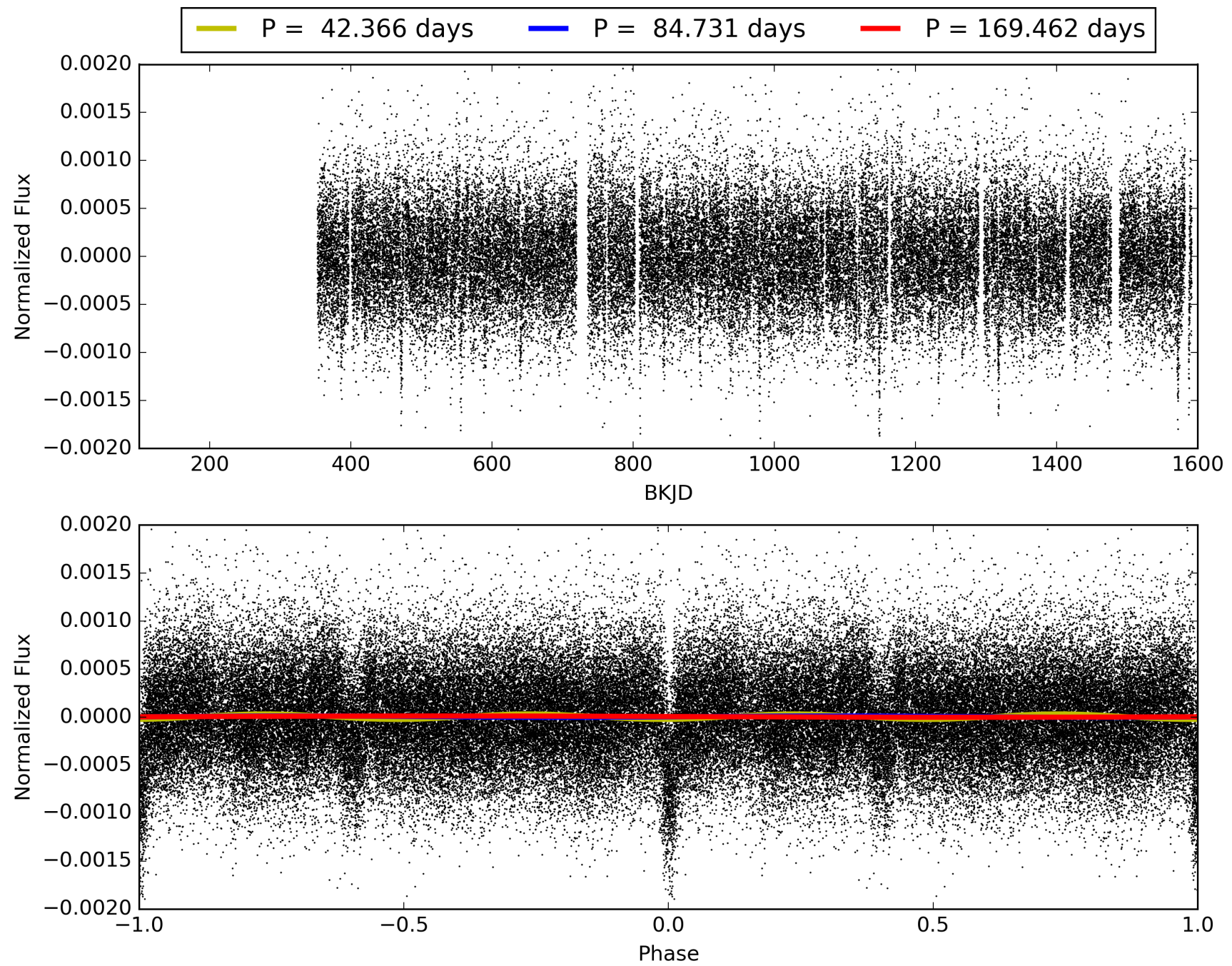
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:33:51 Z

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

# TCE 009268456-01, PDC Light Curves

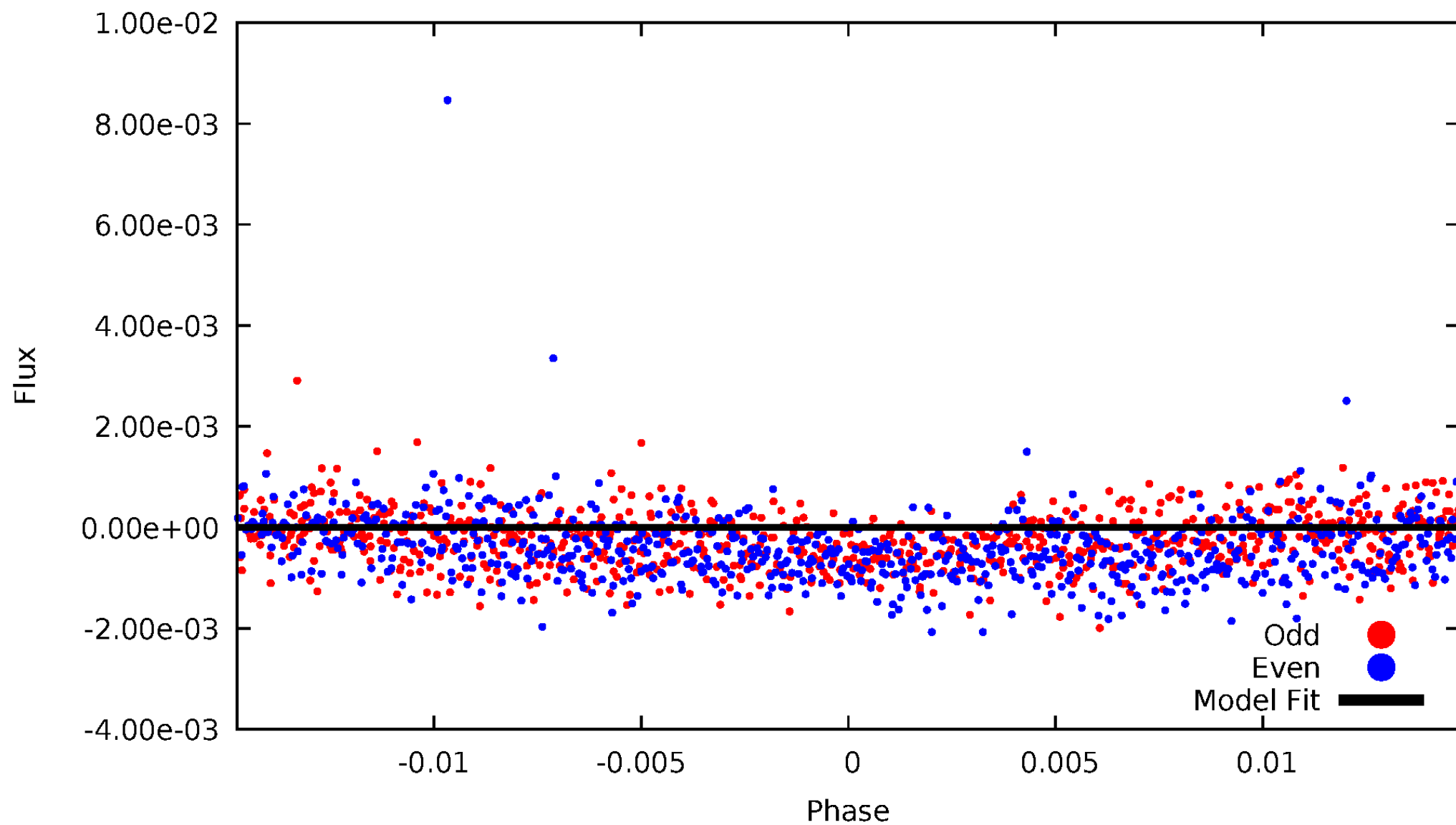


TCE 009268456-01



# DV Odd/Even

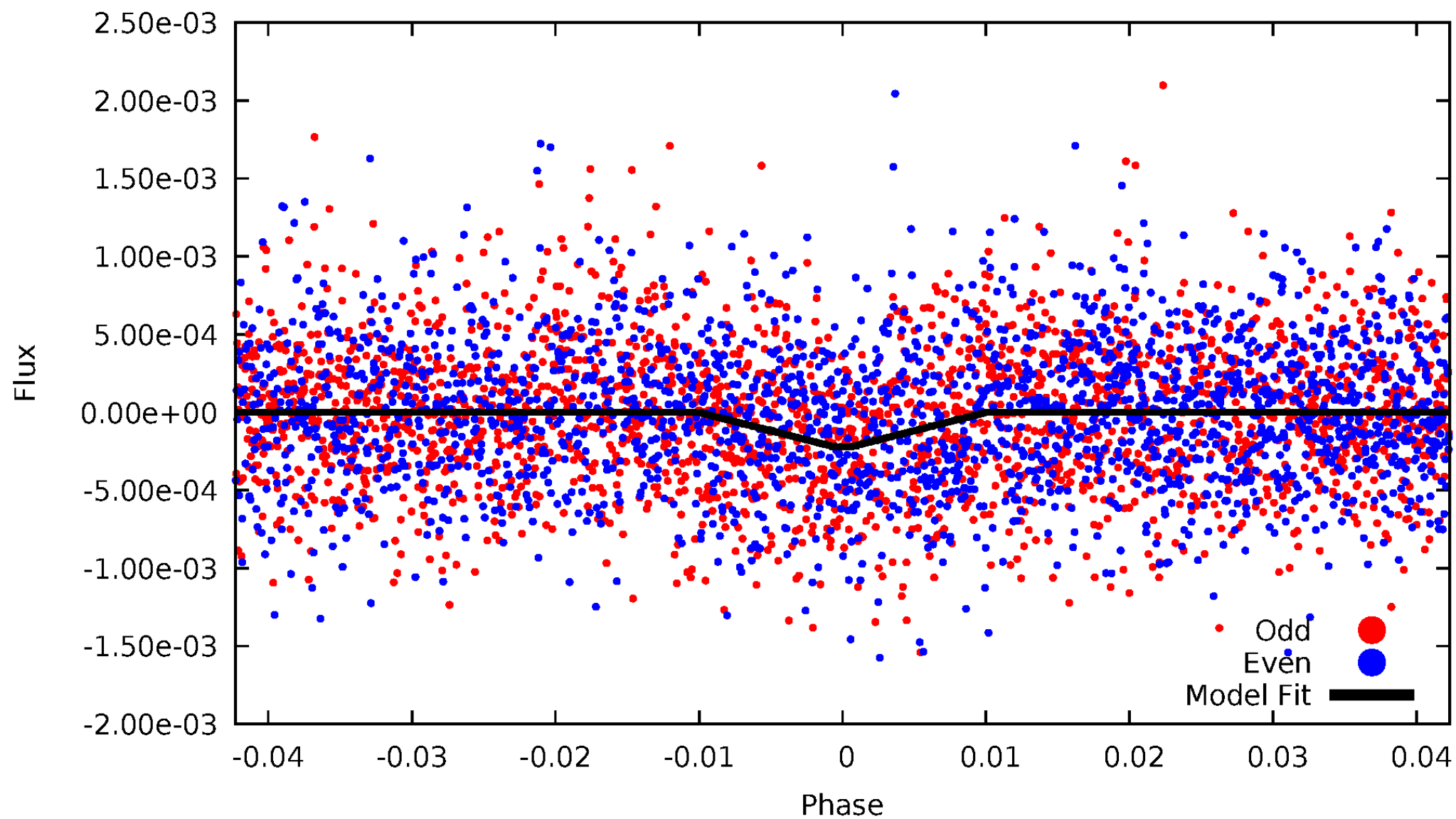
TCE 009268456-01





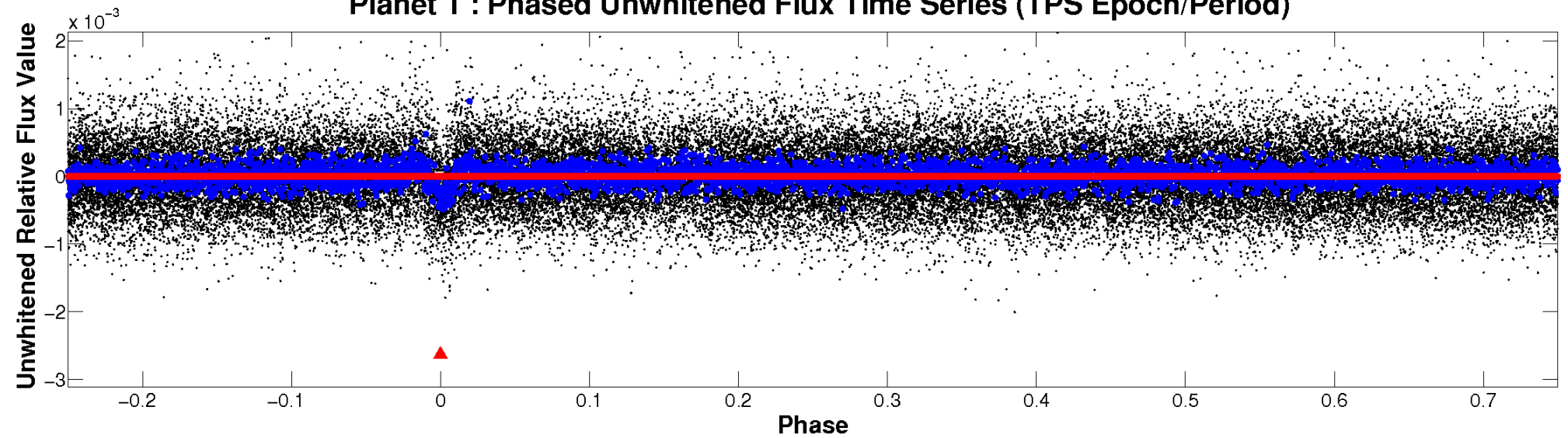
# ALT Odd/Even

TCE 009268456-01

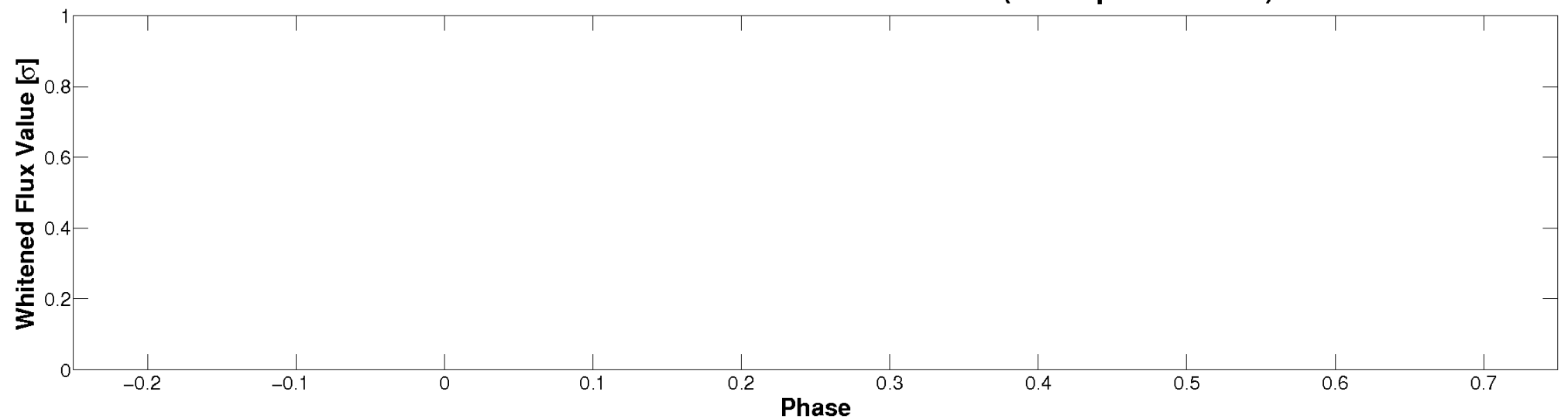


# Non-Whitened Vs. Whitened Light Curve

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

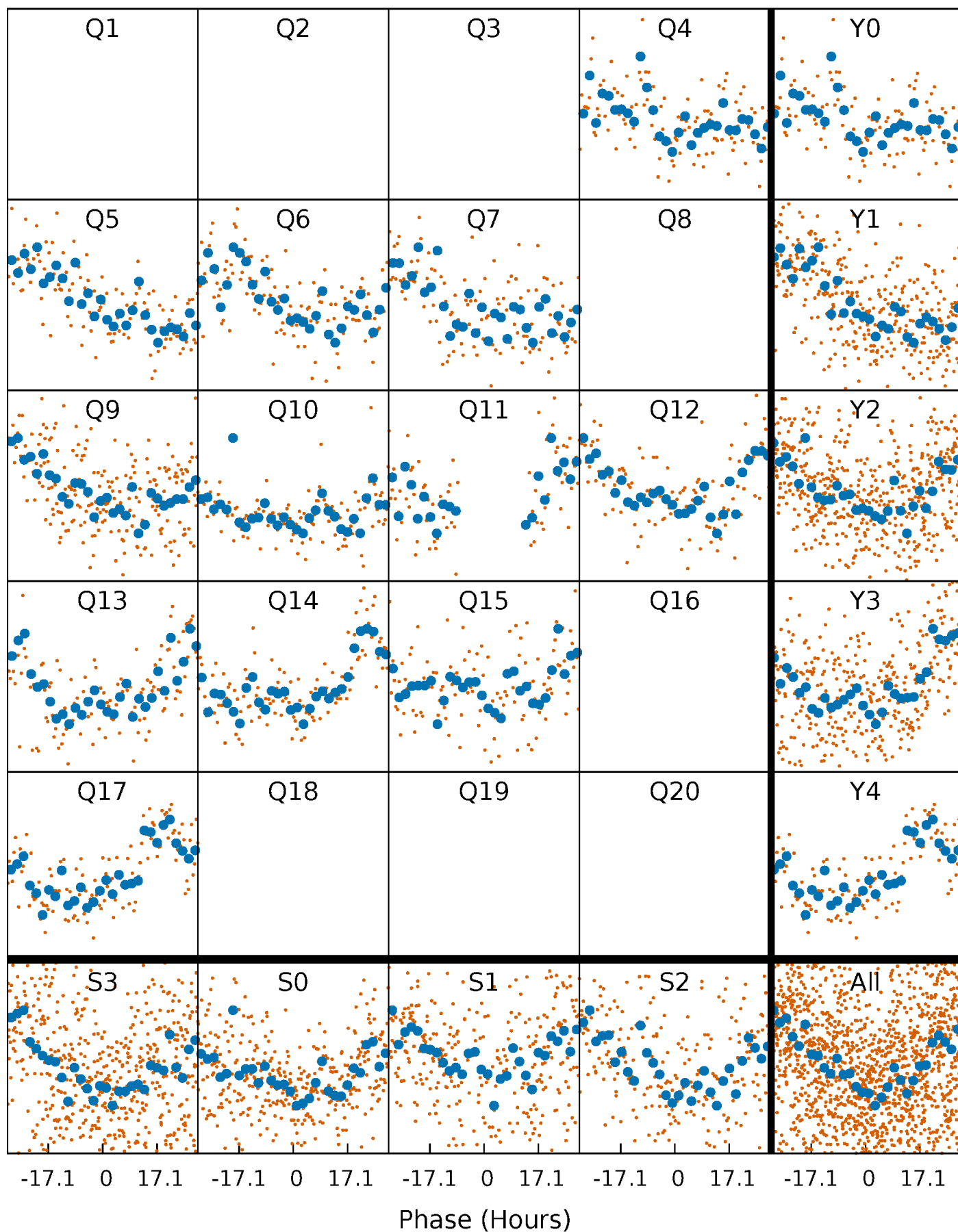


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



# PDC Quarter-Phased Transit Curves

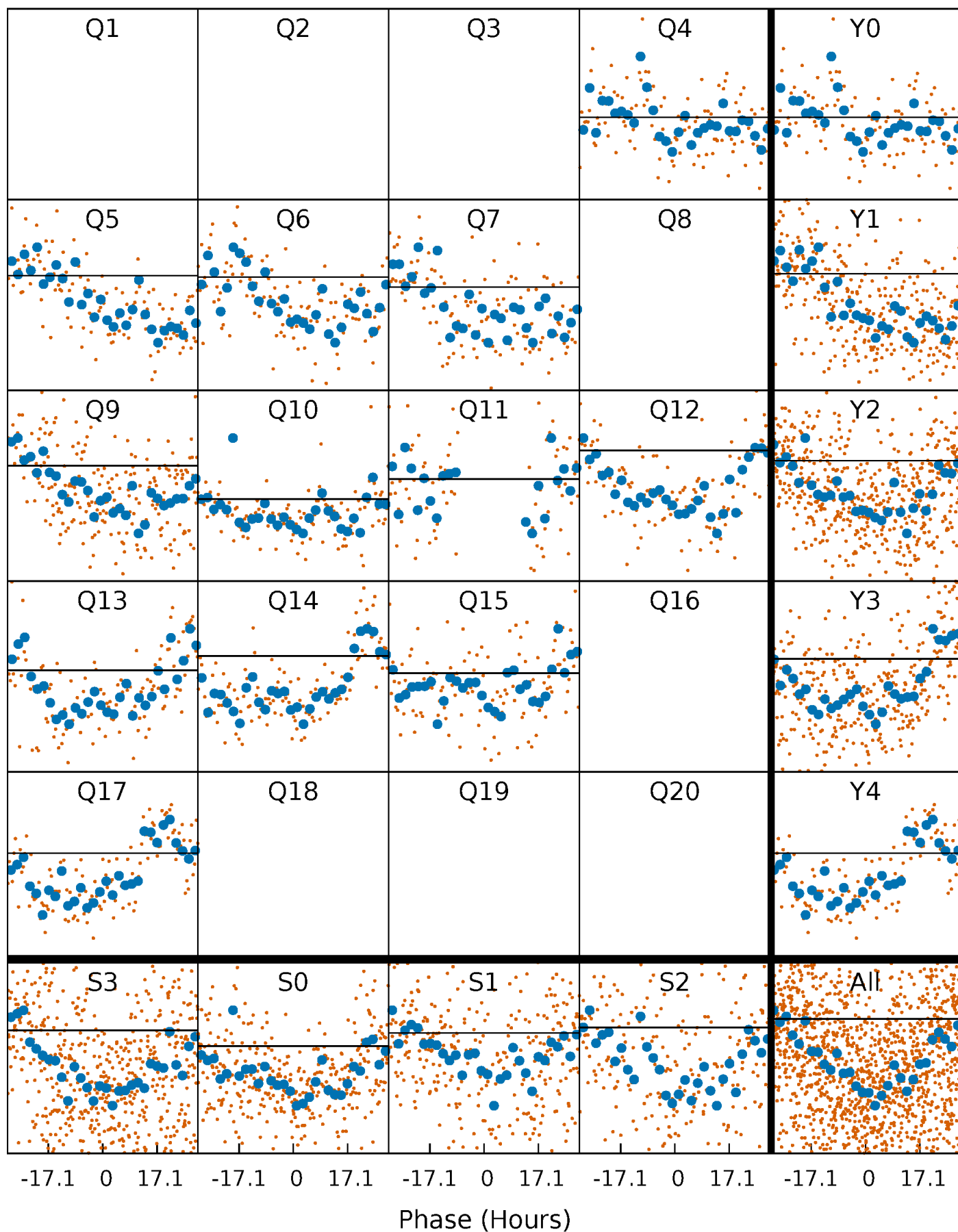
TCE 009268456-01 P= 84.731162 Days  $T_0=131.524616$  (BKJD)





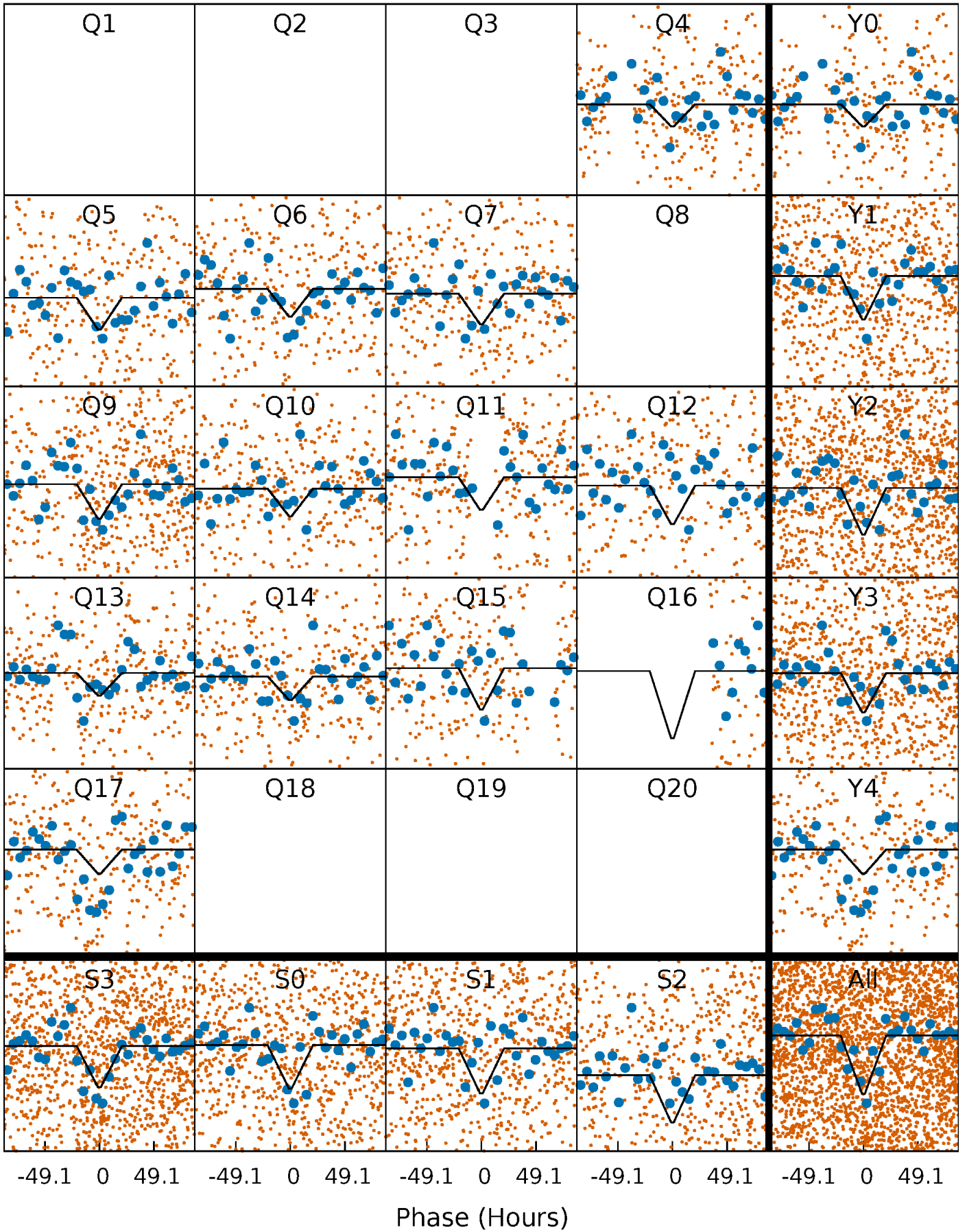
# DV Quarter-Phased Transit Curves

TCE 009268456-01 P= 84.731162 Days  $T_0=131.524616$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

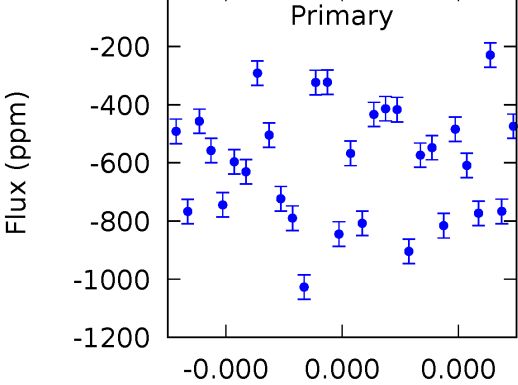
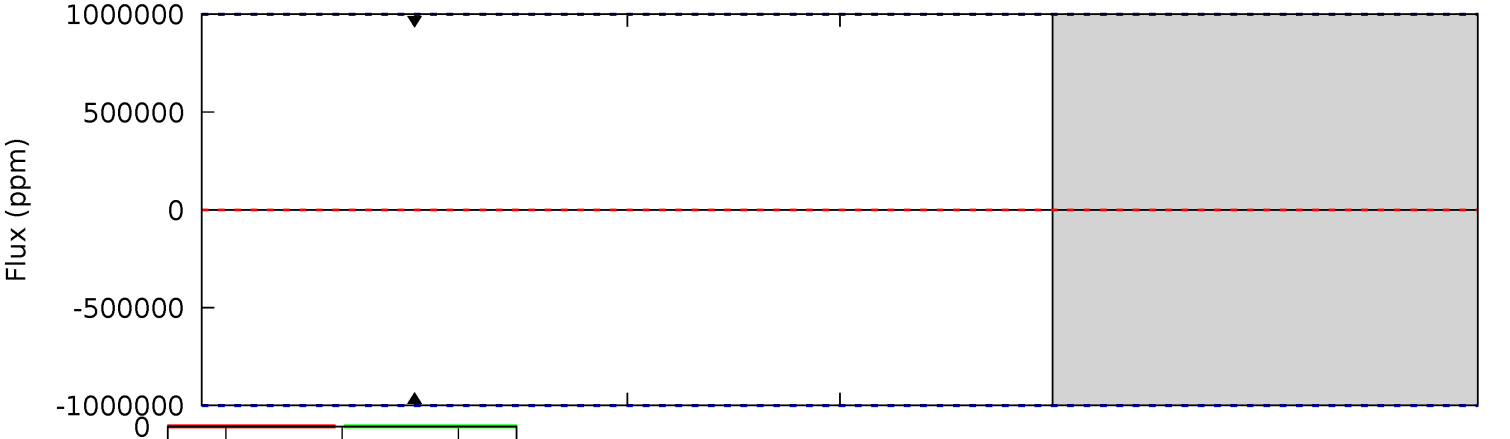
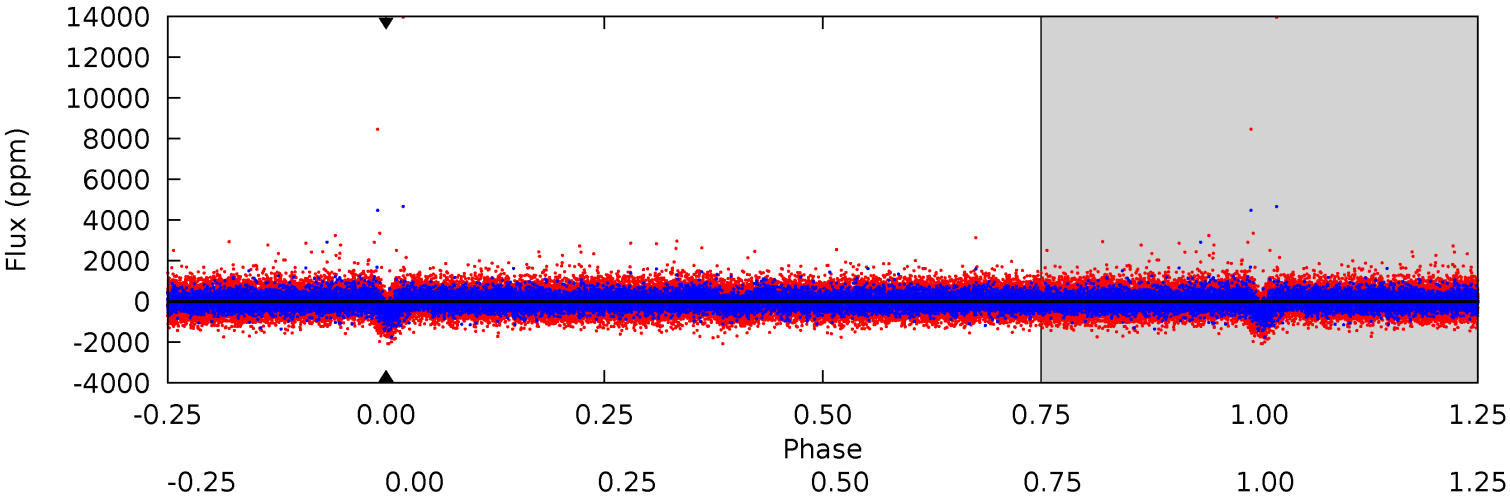
TCE 009268456-01 P= 84.731162 Days  $T_0=131.579539$  (BKJD)



# DV Model-Shift Uniqueness Test

009268456-01, P = 84.731162 Days, E = 131.524616 Days

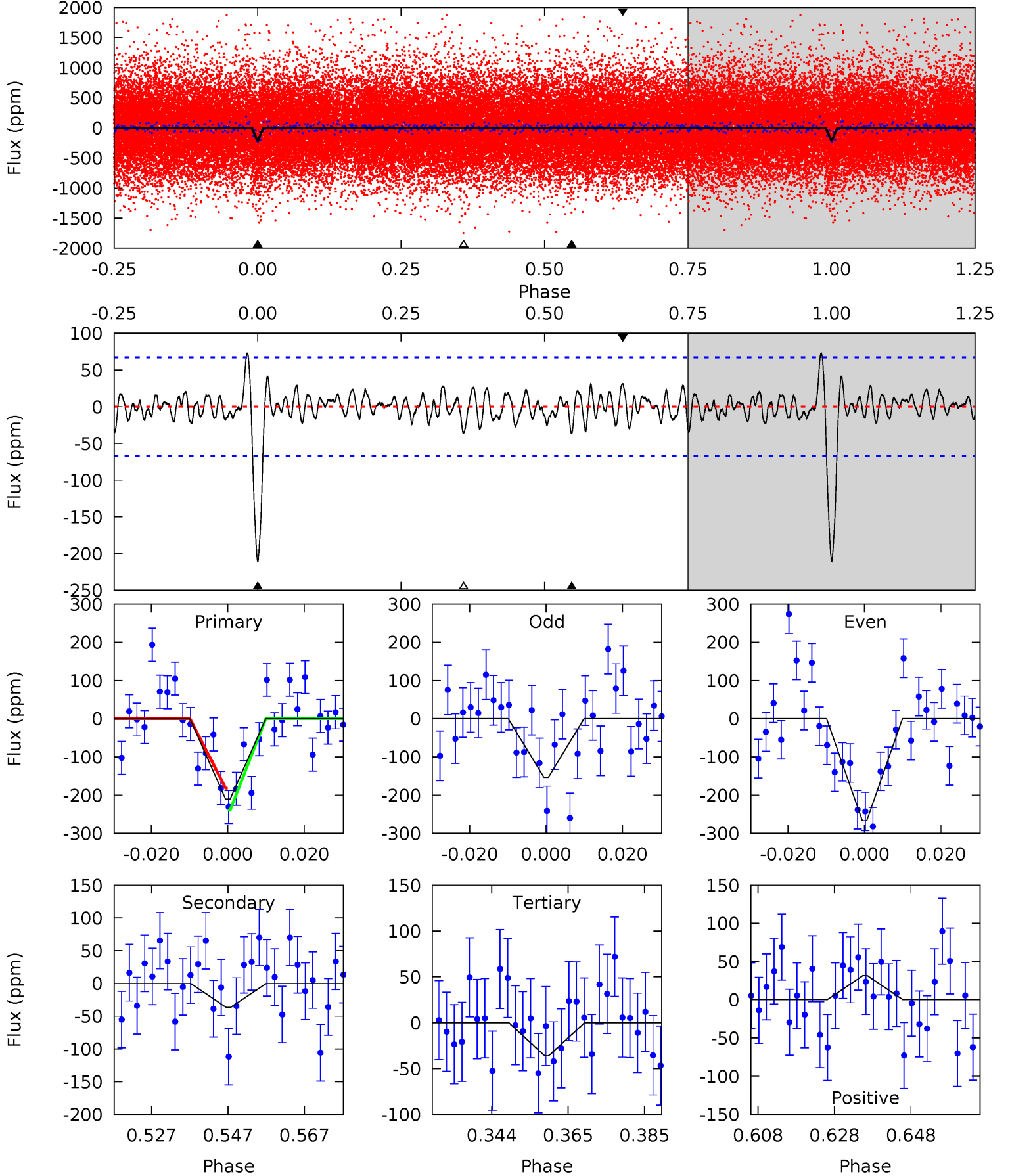
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

009268456-01, P = 84.731162 Days, E = 131.579539 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
15.4	2.67	2.62	2.30	4.89	2.32	0.99	12.7	13.1	0.05	0.37	4.14	1.30	0.26	2.11



### Stellar Parameters For KIC 009268456

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5229^{+184}_{-253}$	$2.486^{+0.030}_{-0.030}$	$-0.500^{+0.150}_{-0.500}$	$15.517^{+0.955}_{-5.412}$	$2.688^{+0.166}_{-1.496}$	$0.001^{+0.001}_{-0.000}$
	+4%/-5%	+1%/-1%	+30%/-100%	+6%/-35%	+6%/-56%	+54%/-13%
Source	KIC0	AST71	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 009268456-01 / KOI 5647.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$120.43^{+134.48}_{-81.95}$	$1756^{+71}_{-89}$	$4470^{+14588}_{-18917}$	$29^{+2345}_{-1277}$
Alt.	$-37 \pm 14$	$127.27^{+121.95}_{-92.02}$	$1753^{+69}_{-88}$	$1796^{+1392}_{-4046}$	$0.328^{+3.464}_{-0.248}$

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

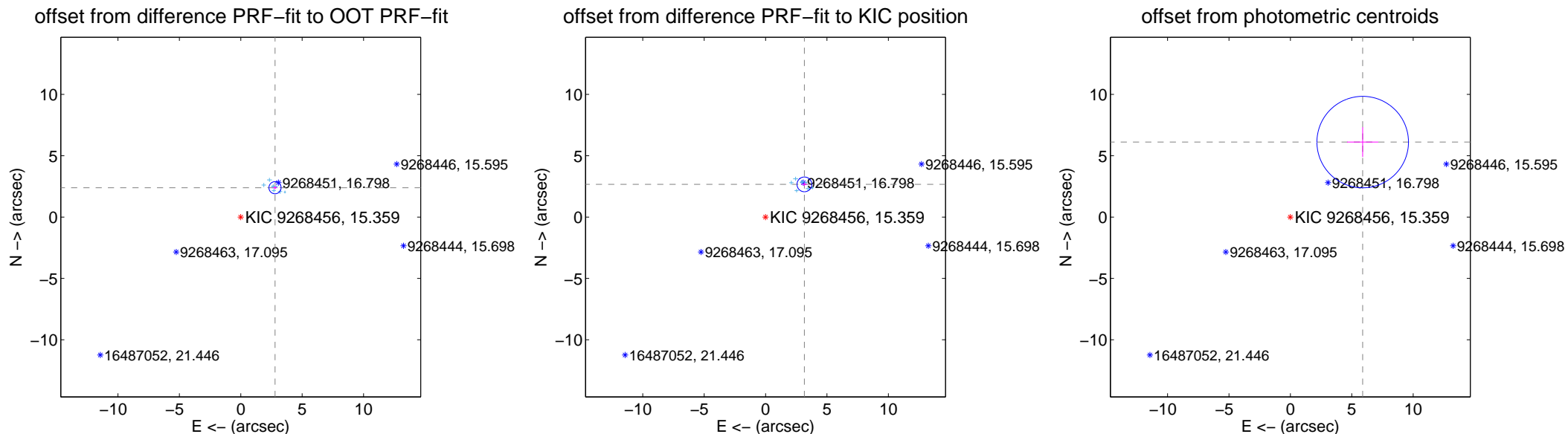
## DV Centroid Data

Supplemental centroid analysis for 009268456-01. Kepler magnitude: 15.36. Transit SNR -1.00

There are 8 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.674 \pm 0.165$	<b>22.26</b>	$-2.788 \pm 0.184$	$2.393 \pm 0.136$
PRF-fit source offset from KIC position	$4.134 \pm 0.200$	<b>20.63</b>	$-3.161 \pm 0.233$	$2.665 \pm 0.141$
photometric centroid source offset	$8.49 \pm 1.24$	<b>6.83</b>	$-5.89 \pm 1.27$	$6.11 \pm 1.21$



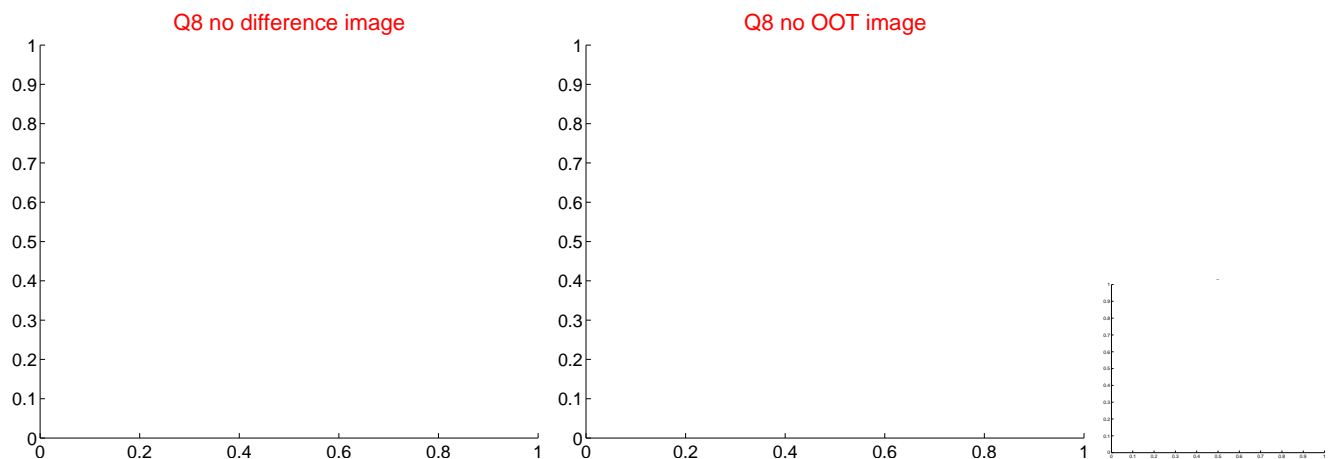
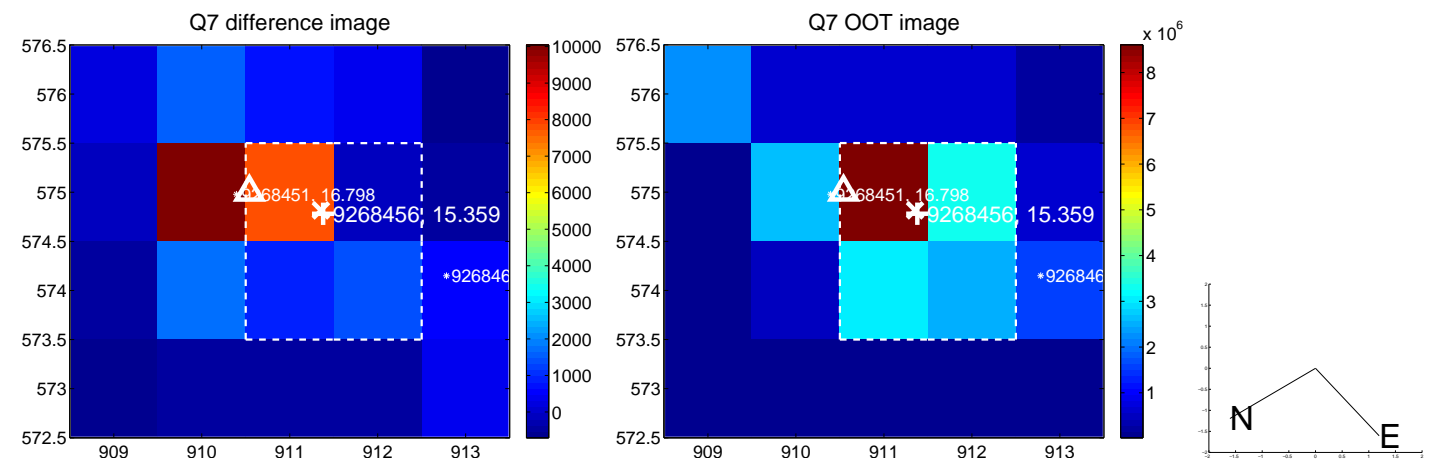
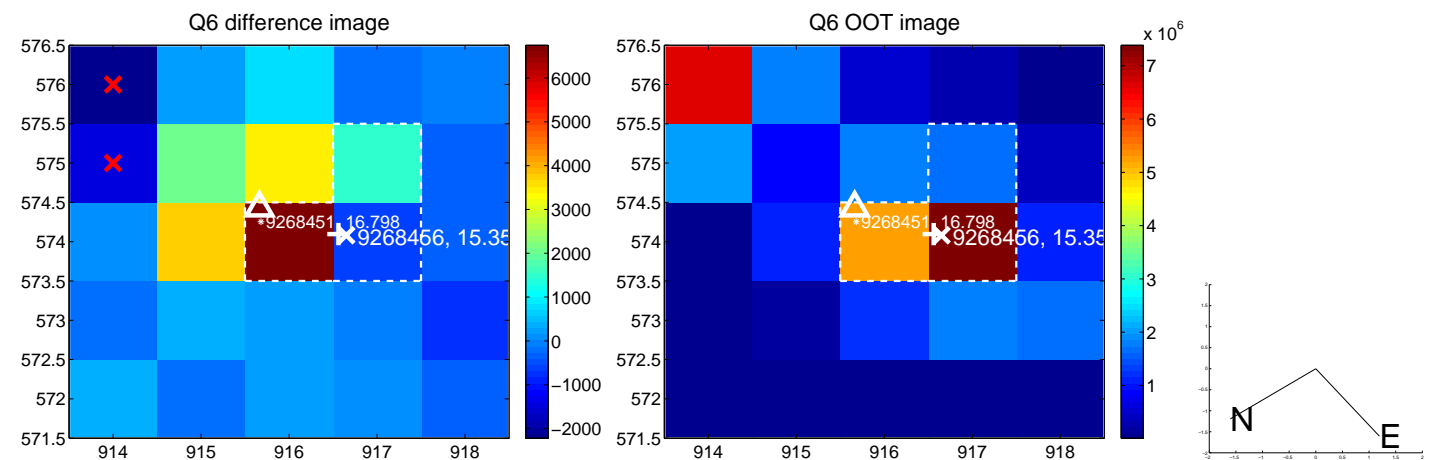
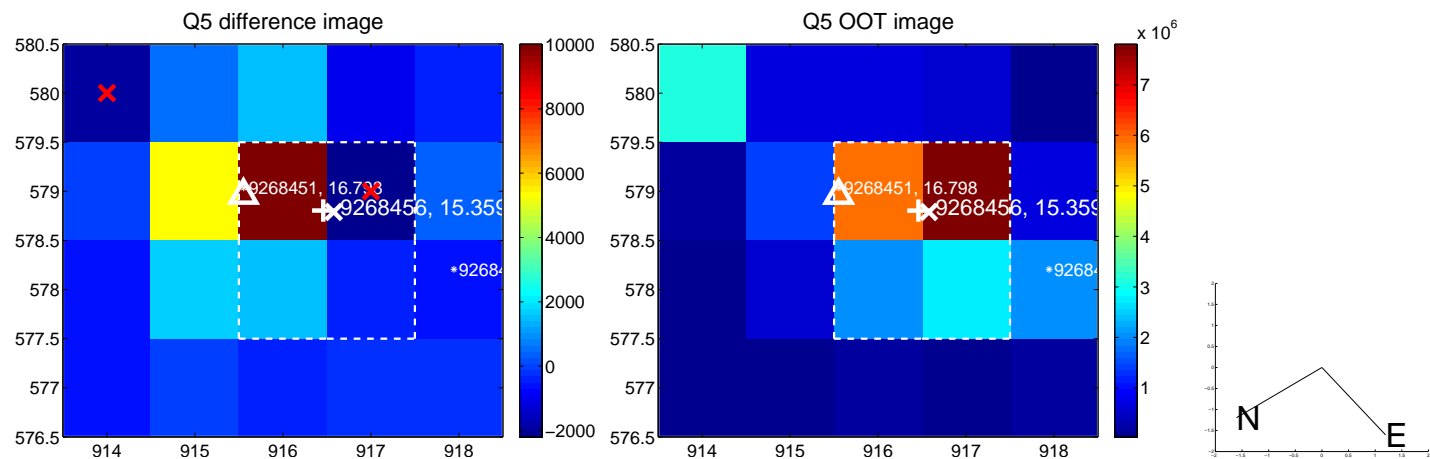
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.



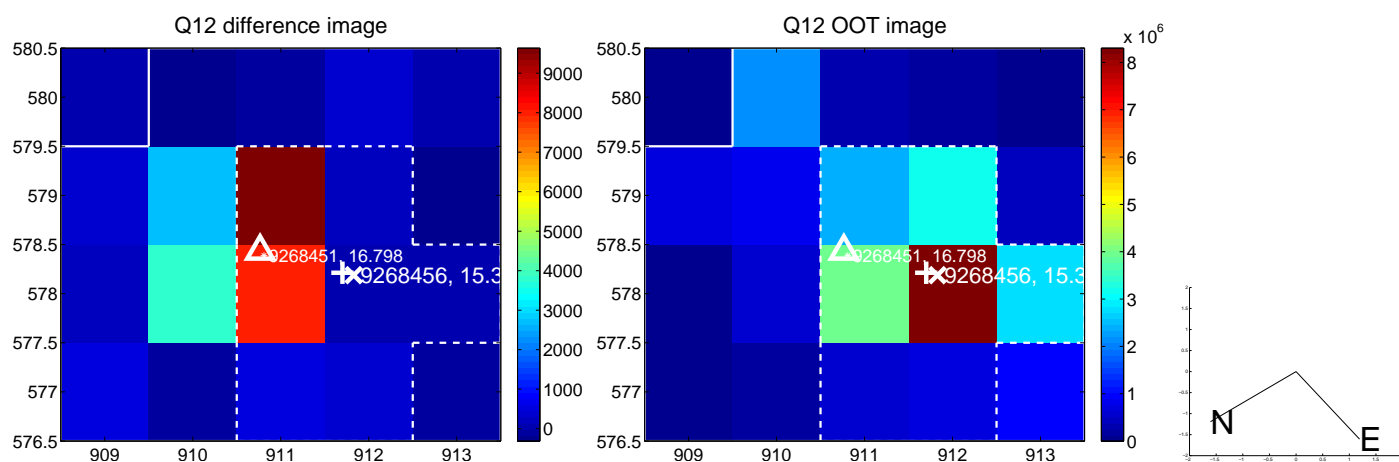
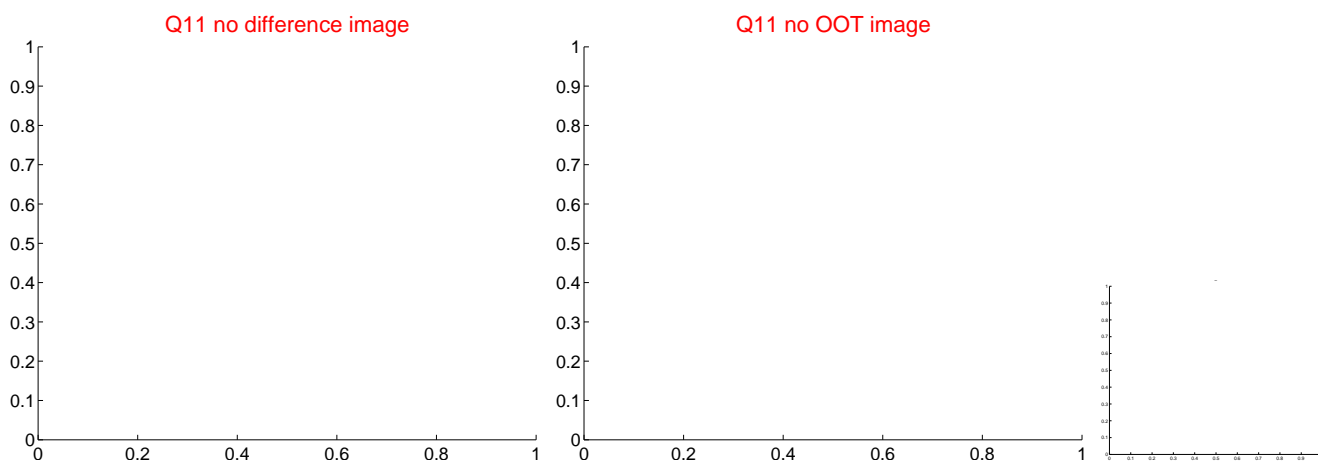
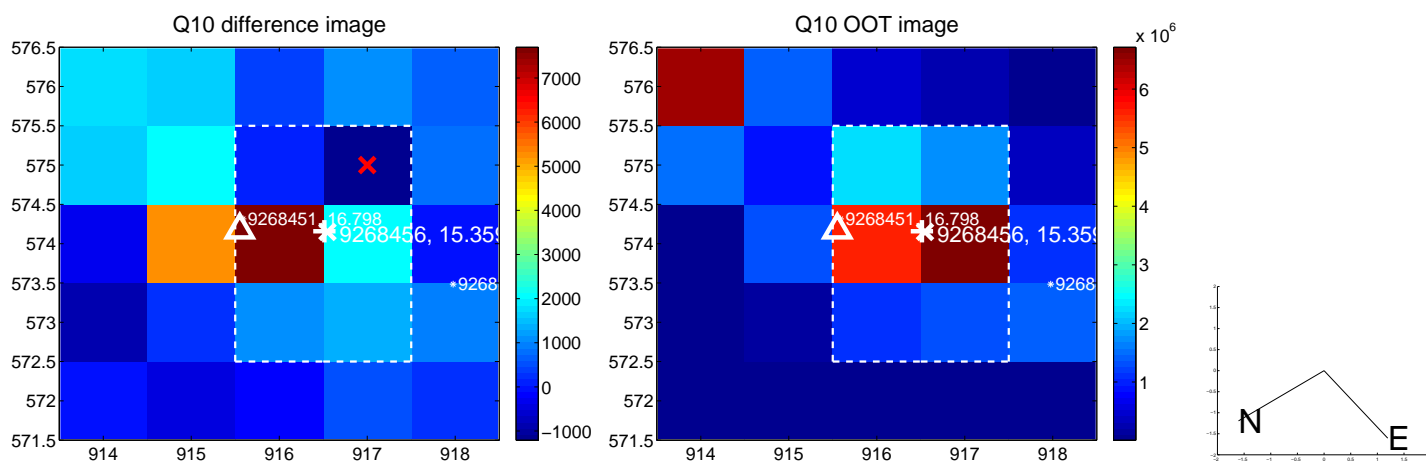
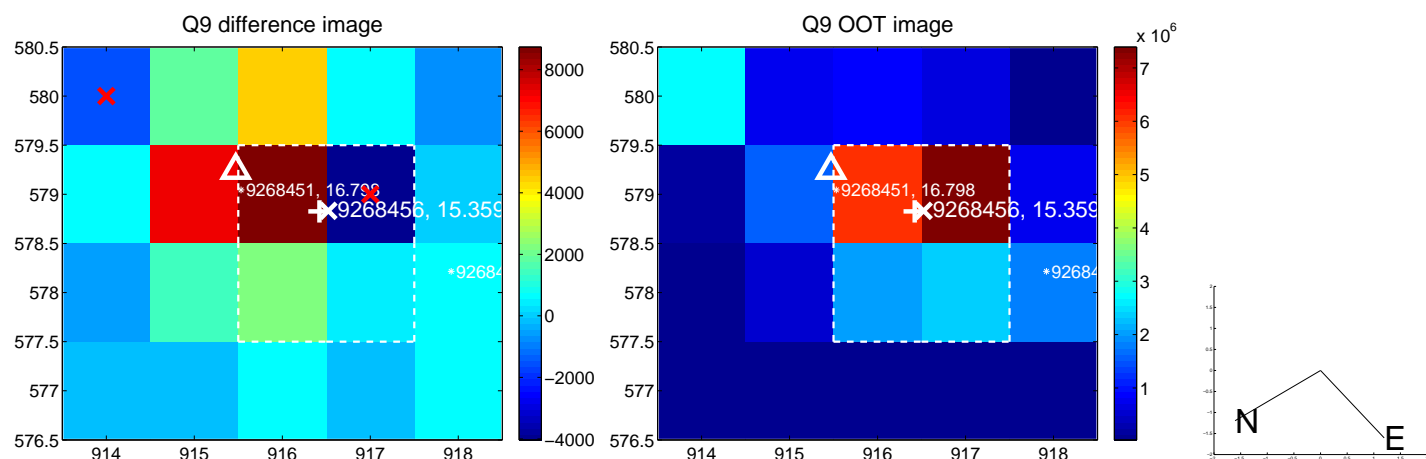
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.

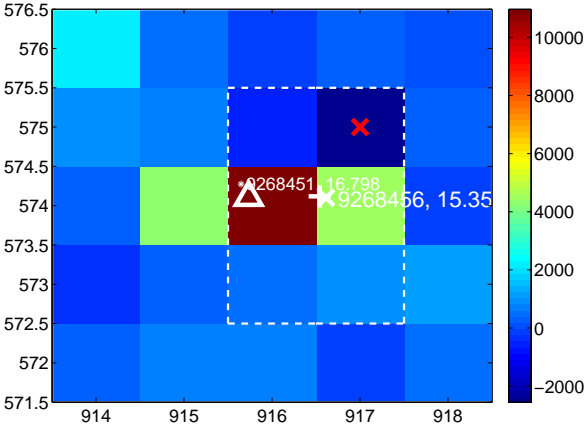
Q13 no difference image



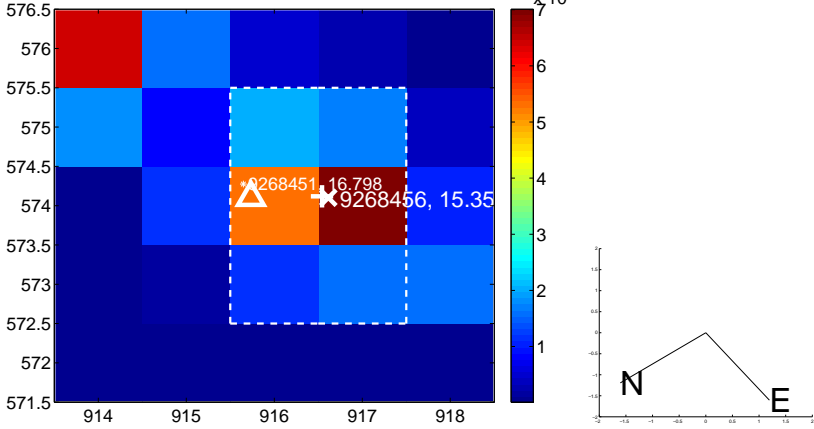
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



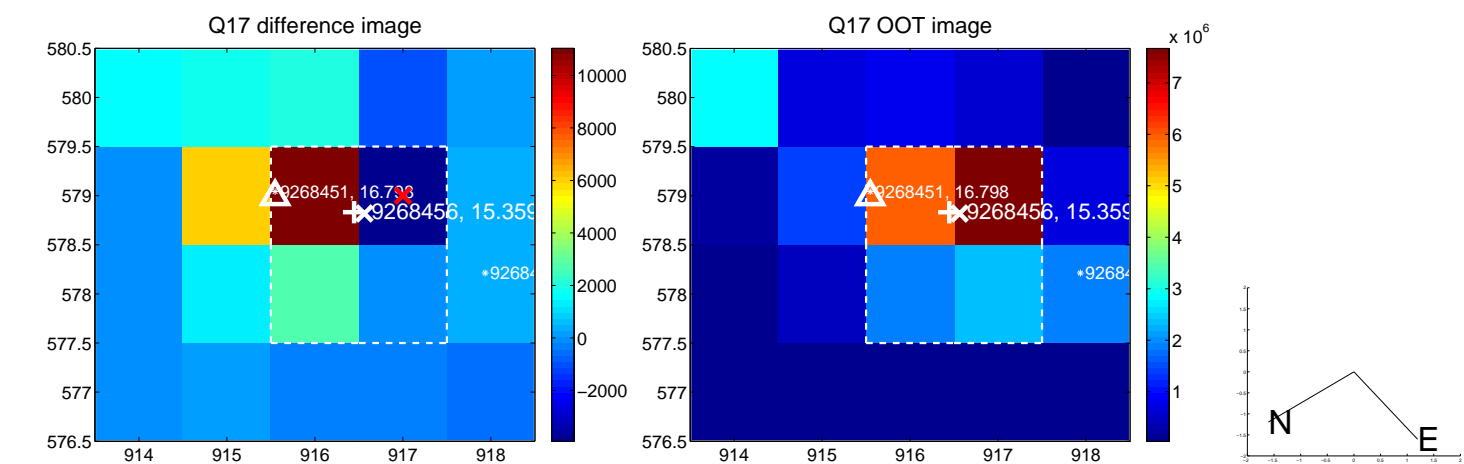
Q16 no difference image



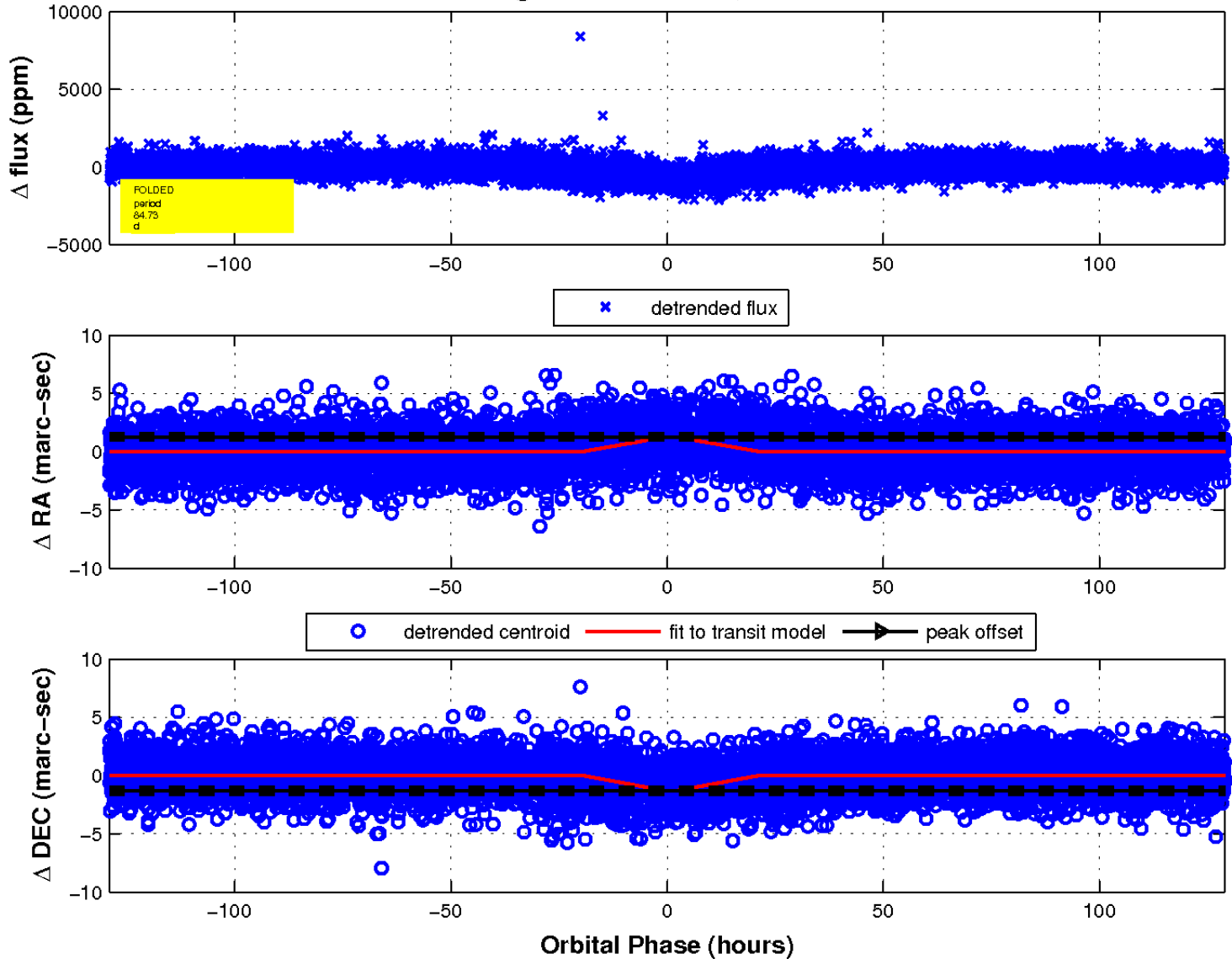
Q16 no OOT image



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

