

# KIC 008360850

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008360850-01	OBS	No	484.259644	253.375742	625.1	10.280	7.9	7.6	0.82	5470	2.16	0.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008360850-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

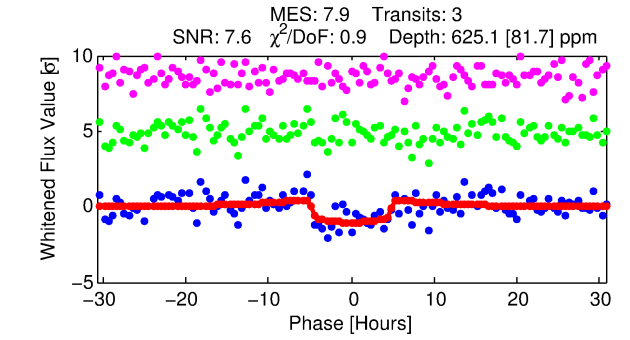
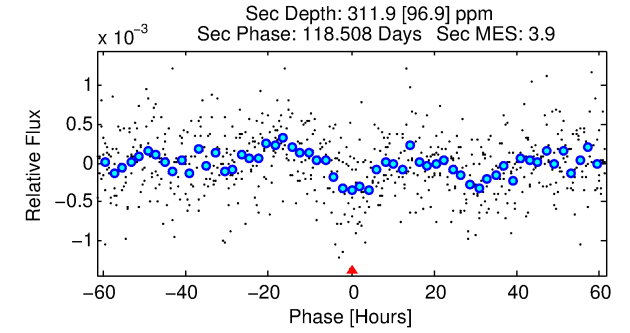
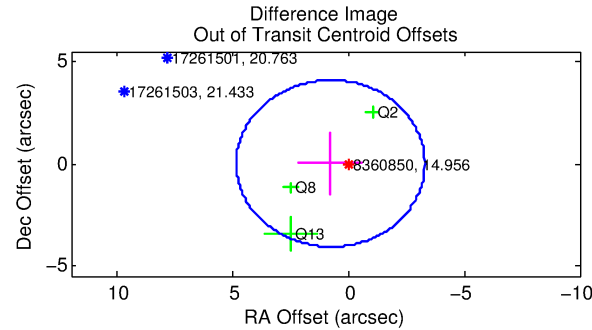
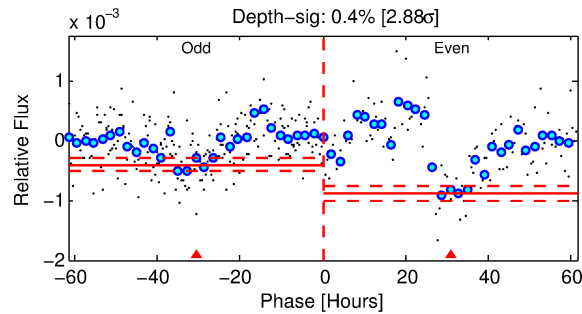
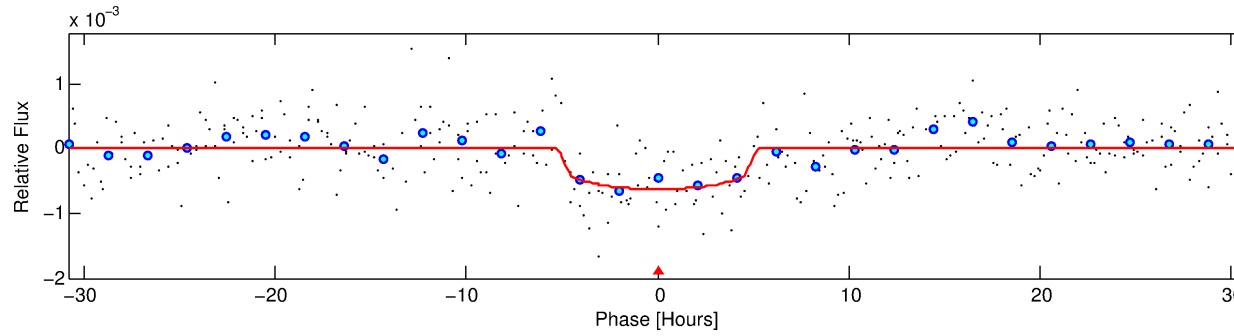
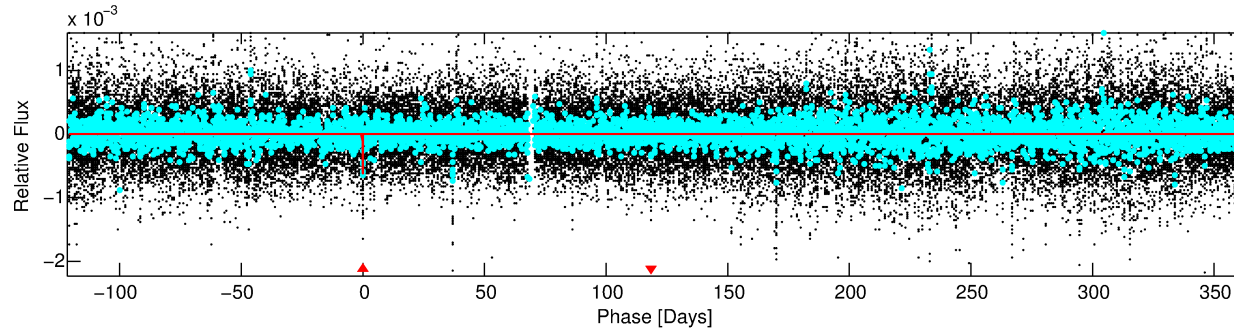
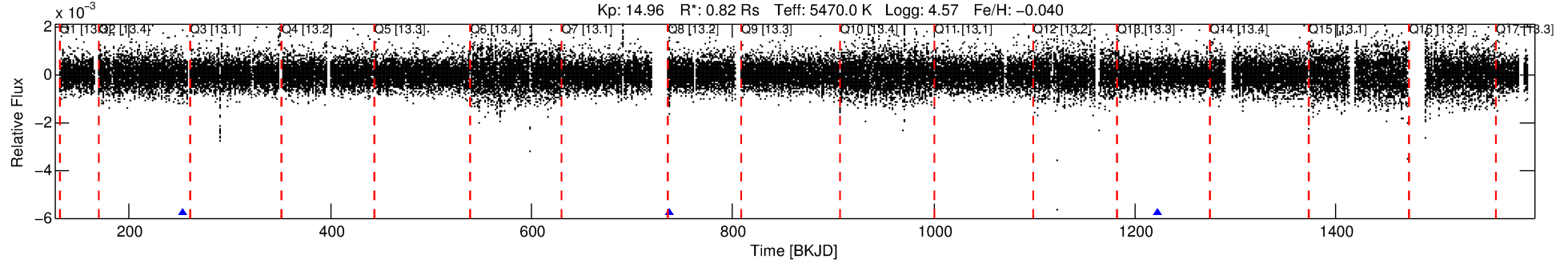
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008360850-01

No Significant Match Found

# DV One-Page Summary

KIC: 8360850 Candidate: 1 of 1 Period: 484.260 d



## DV Fit Results:

Period = 484.25964 [0.01283] d  
Epoch = 253.3757 [0.0160] BKJD  
Rp/R\* = 0.0241 [0.0189]  
a/R\* = 281.27 [878.76]  
b = 0.66 [2.68]  
Seff = 0.39 [0.11]  
Teq = 202 [15] K  
Rp = 2.16 [1.75] Re  
a = 1.1693 [0.2108] AU  
Ag = 50380.37 [81382.17] [0.62 $\sigma$ ]  
Teffp = 4678 [1869] K [2.39 $\sigma$ ]

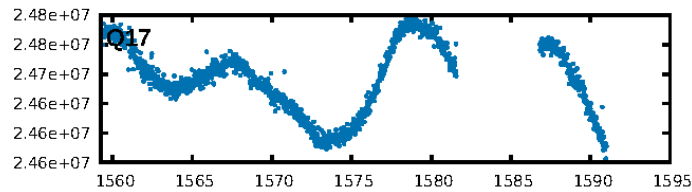
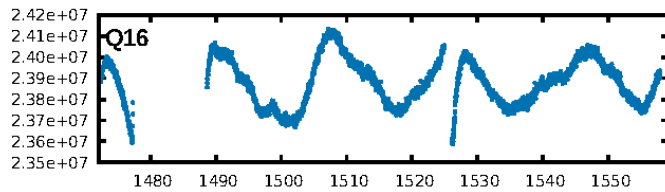
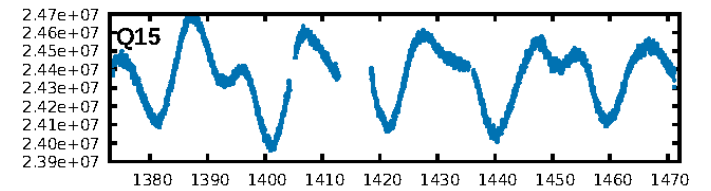
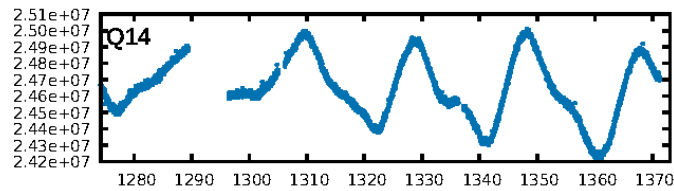
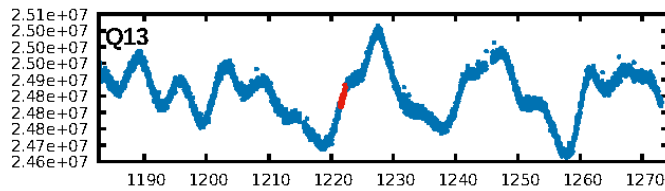
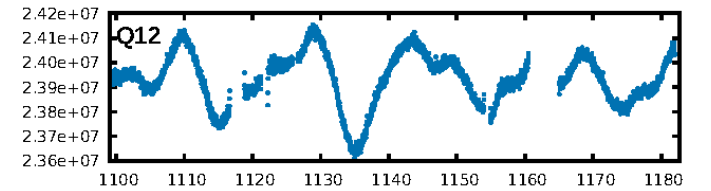
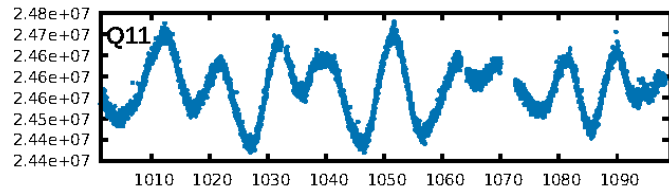
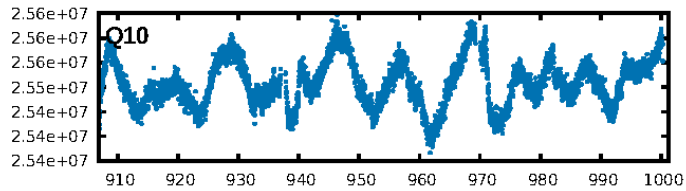
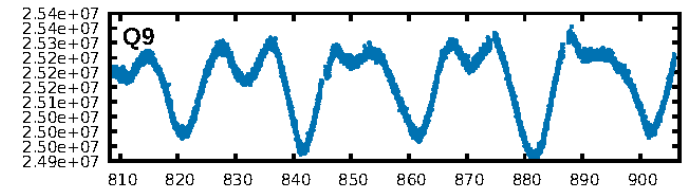
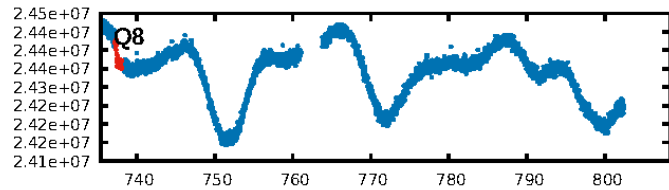
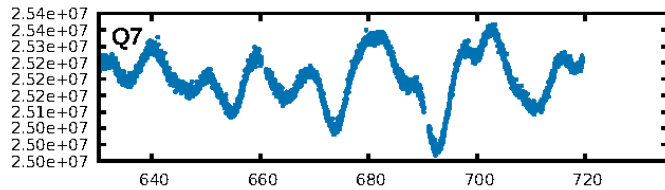
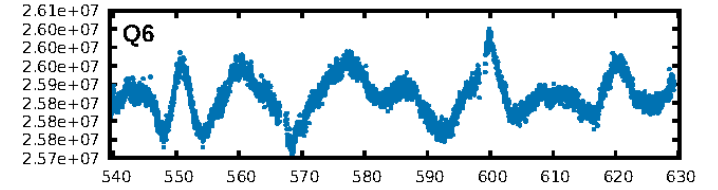
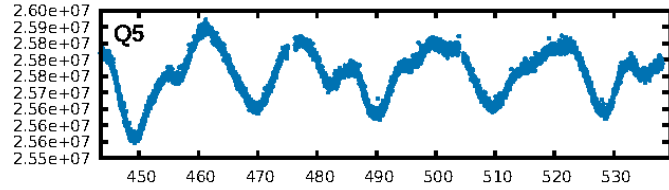
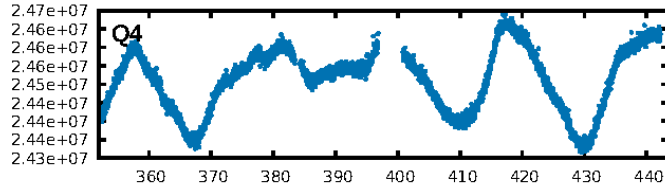
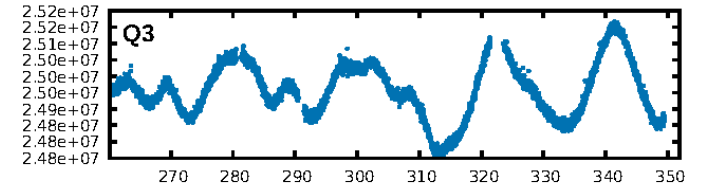
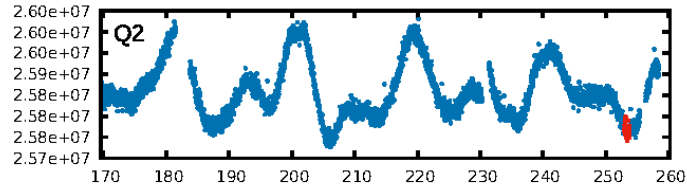
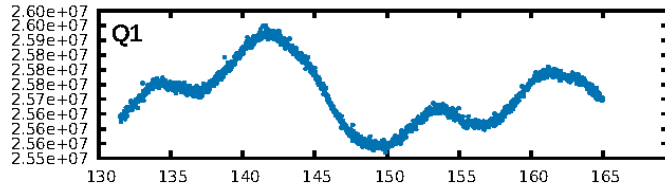
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 9.9%  
ModelChiSquareGof-sig: 99.8%  
**Bootstrap-pfa: 2.73e-10**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -1.02  
Centroid-sig: 1.4%  
Centroid-so: 2.287 arcsec [1.49 $\sigma$ ]  
OotOffset-rm: 0.782 arcsec [0.58 $\sigma$ ]  
OotOffset-st: 1/0/1/1 [3]  
KicOffset-rm: 0.716 arcsec [0.55 $\sigma$ ]  
KicOffset-st: 1/0/1/1 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

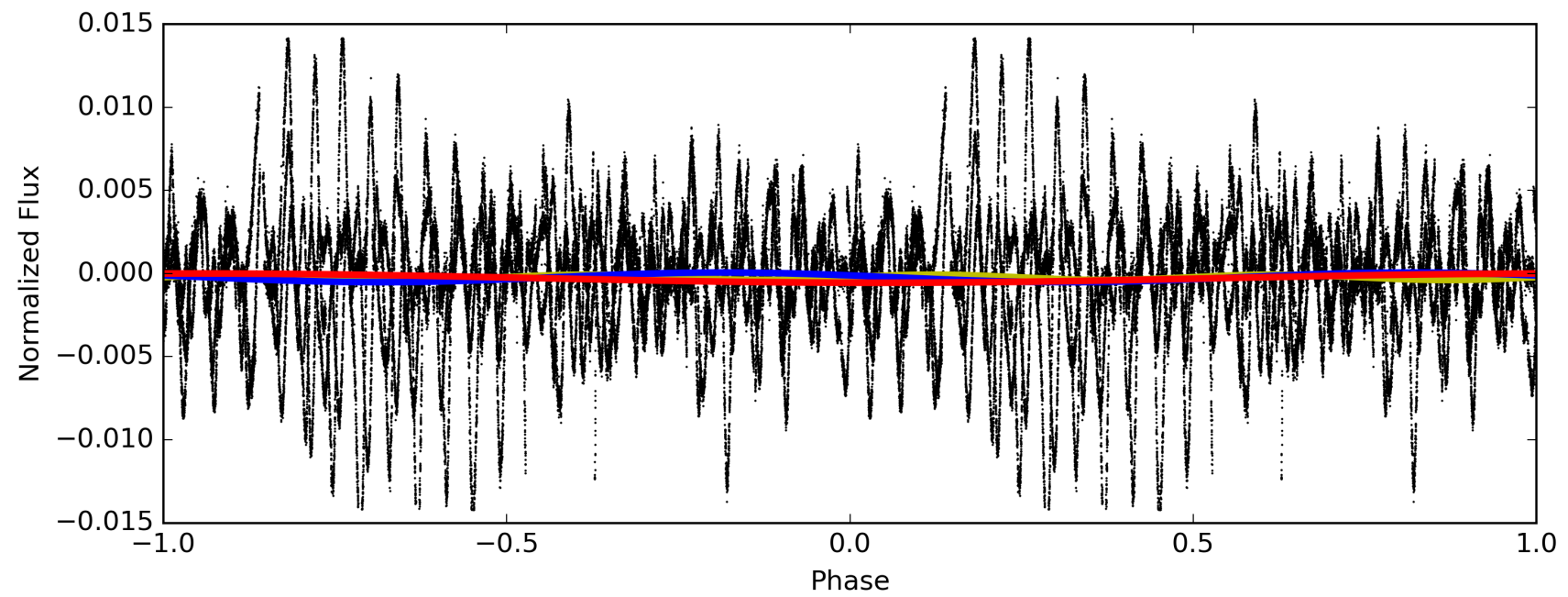
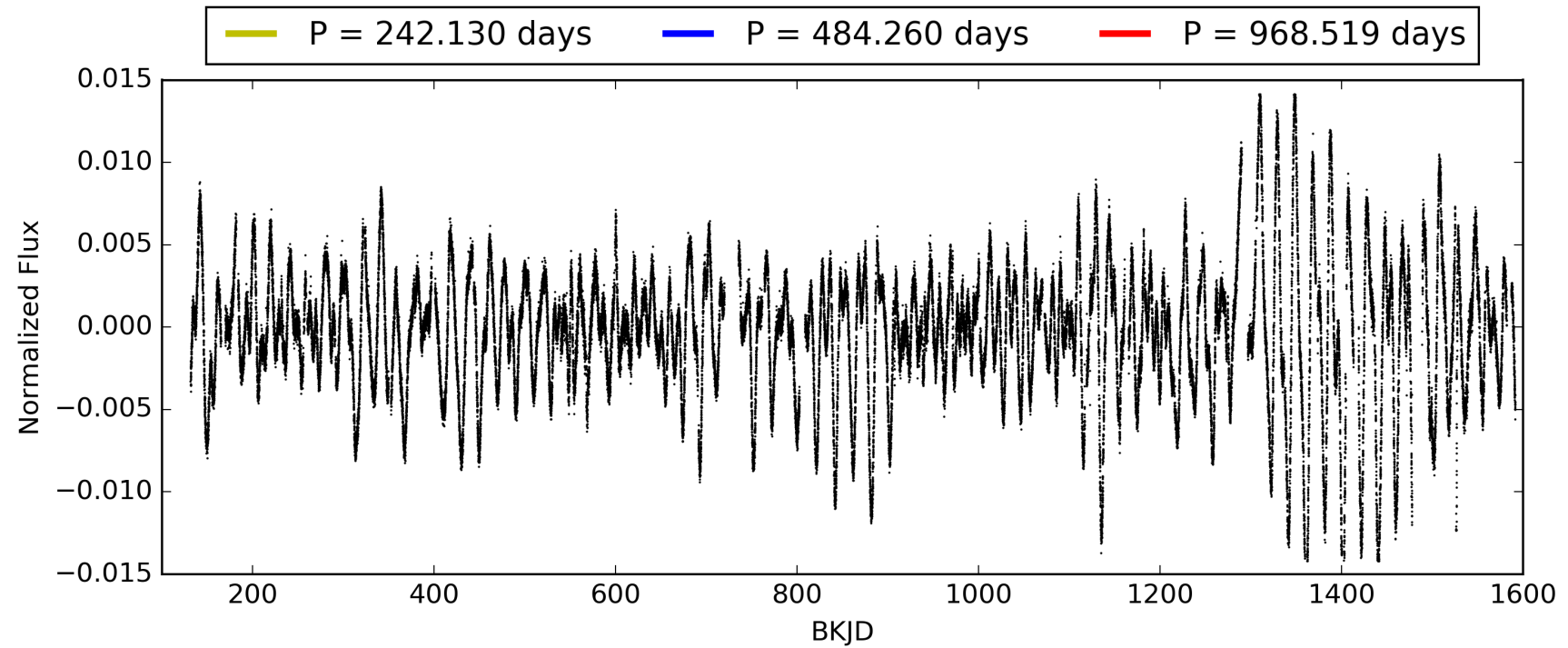
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:19:02 Z

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

# TCE 008360850-01, PDC Light Curves

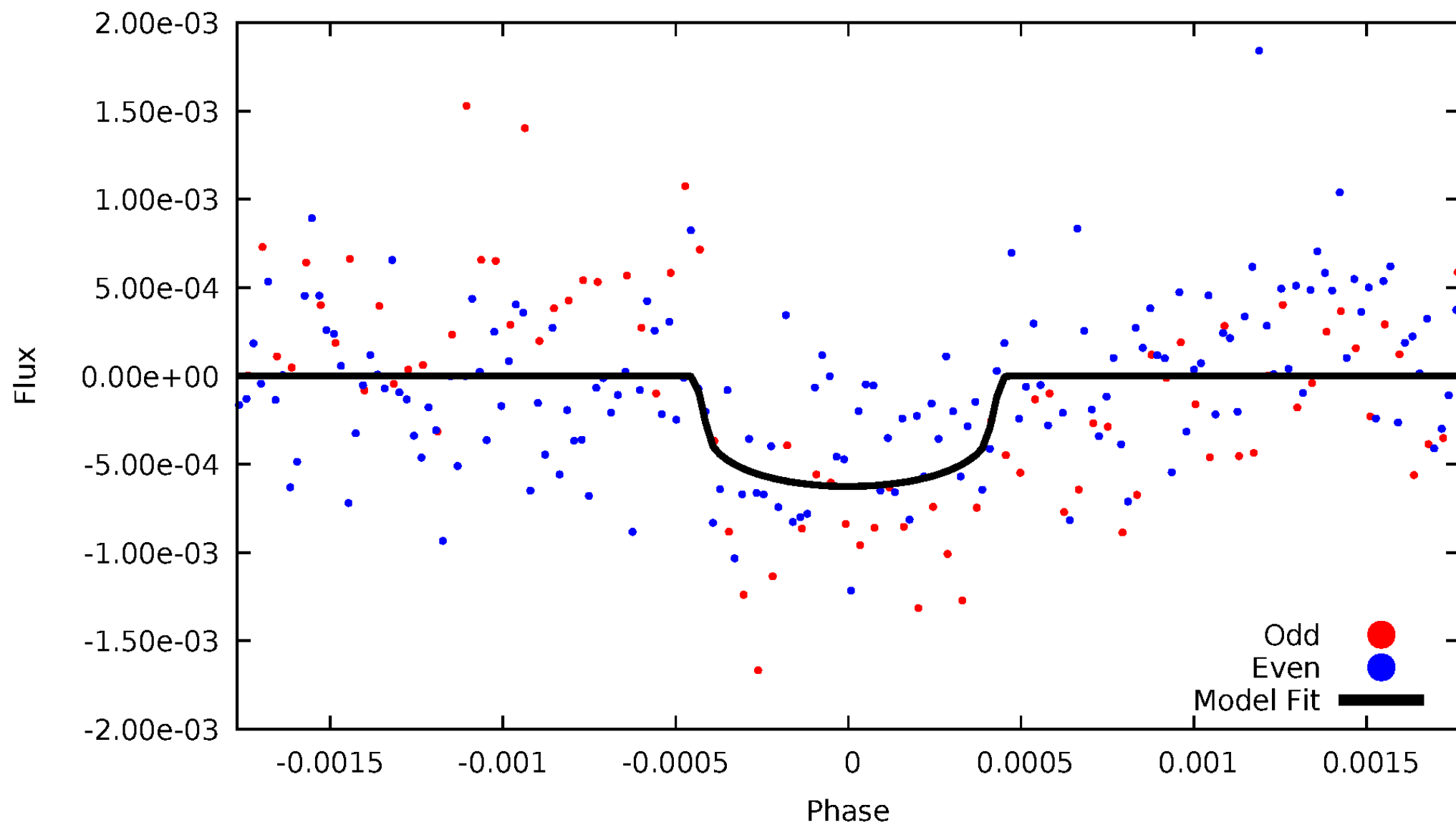


TCE 008360850-01



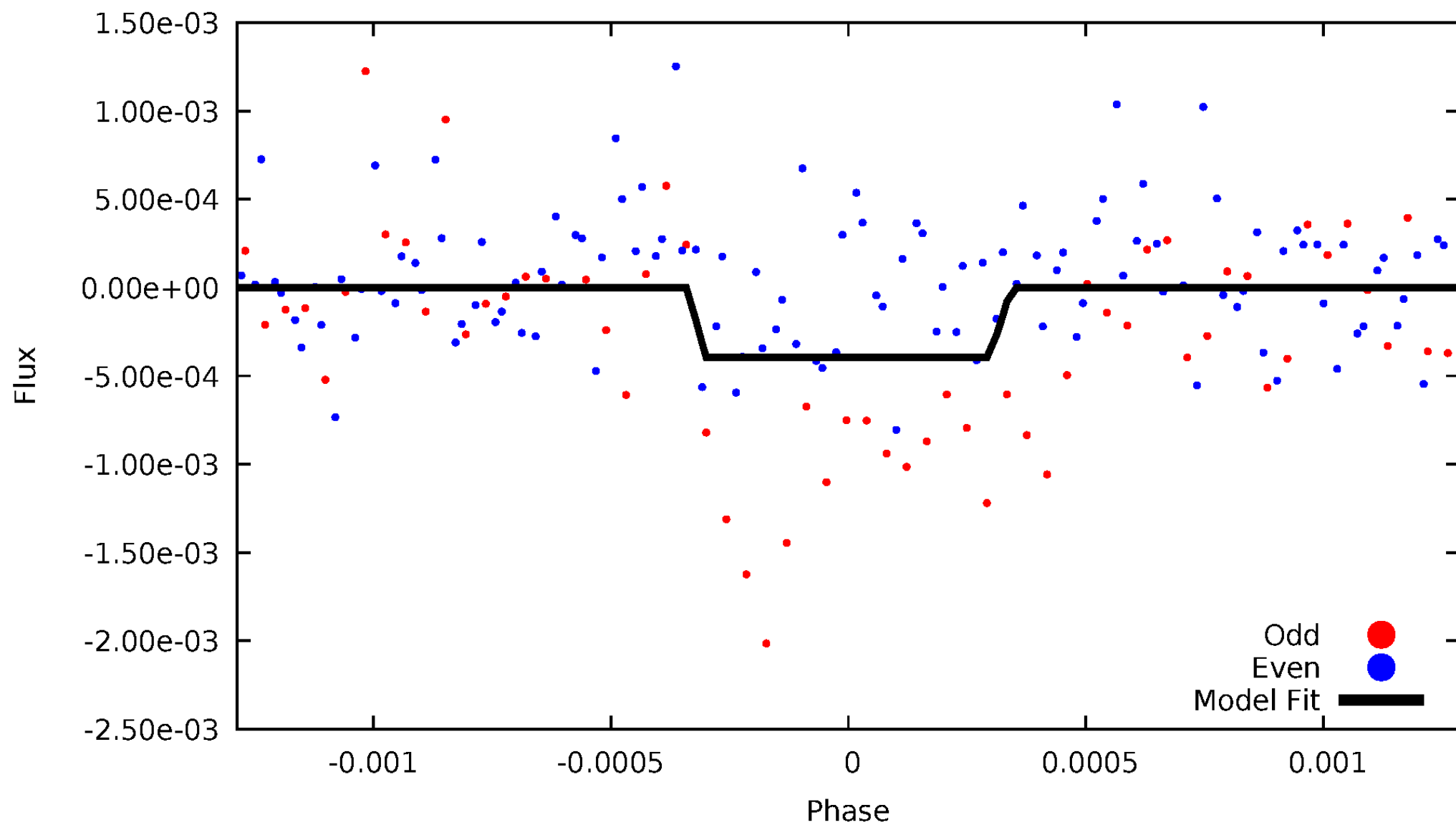
# DV Odd/Even

TCE 008360850-01



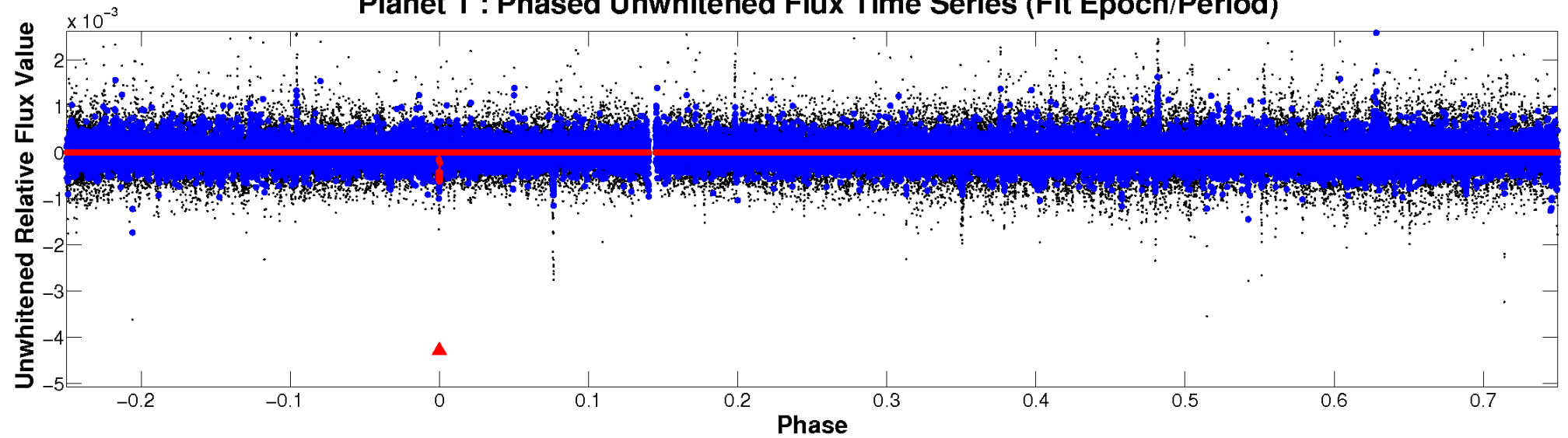
# ALT Odd/Even

TCE 008360850-01

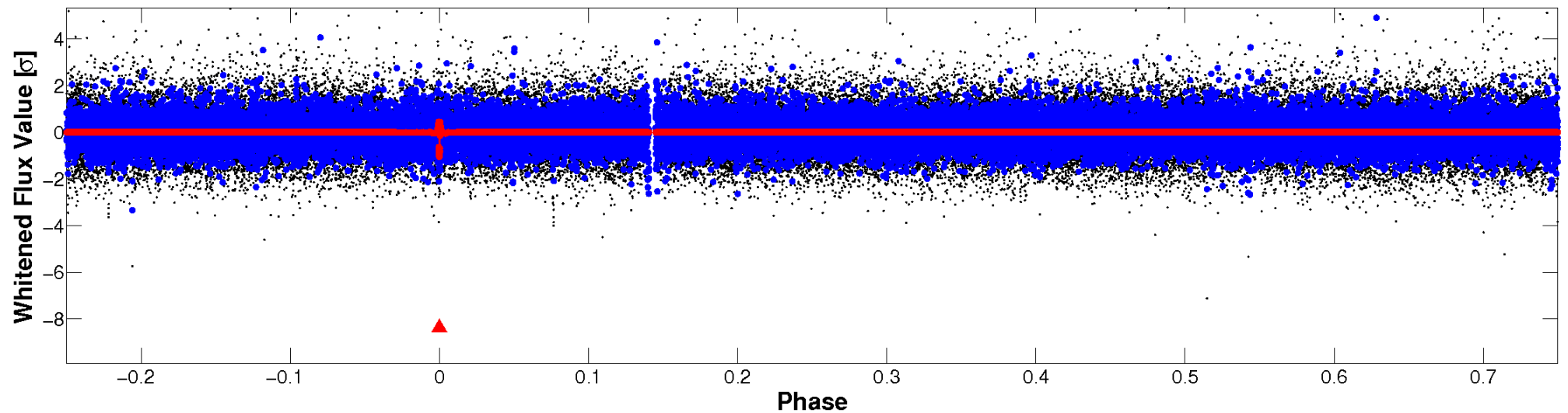


# Non-Whitened Vs. Whitened Light Curve

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

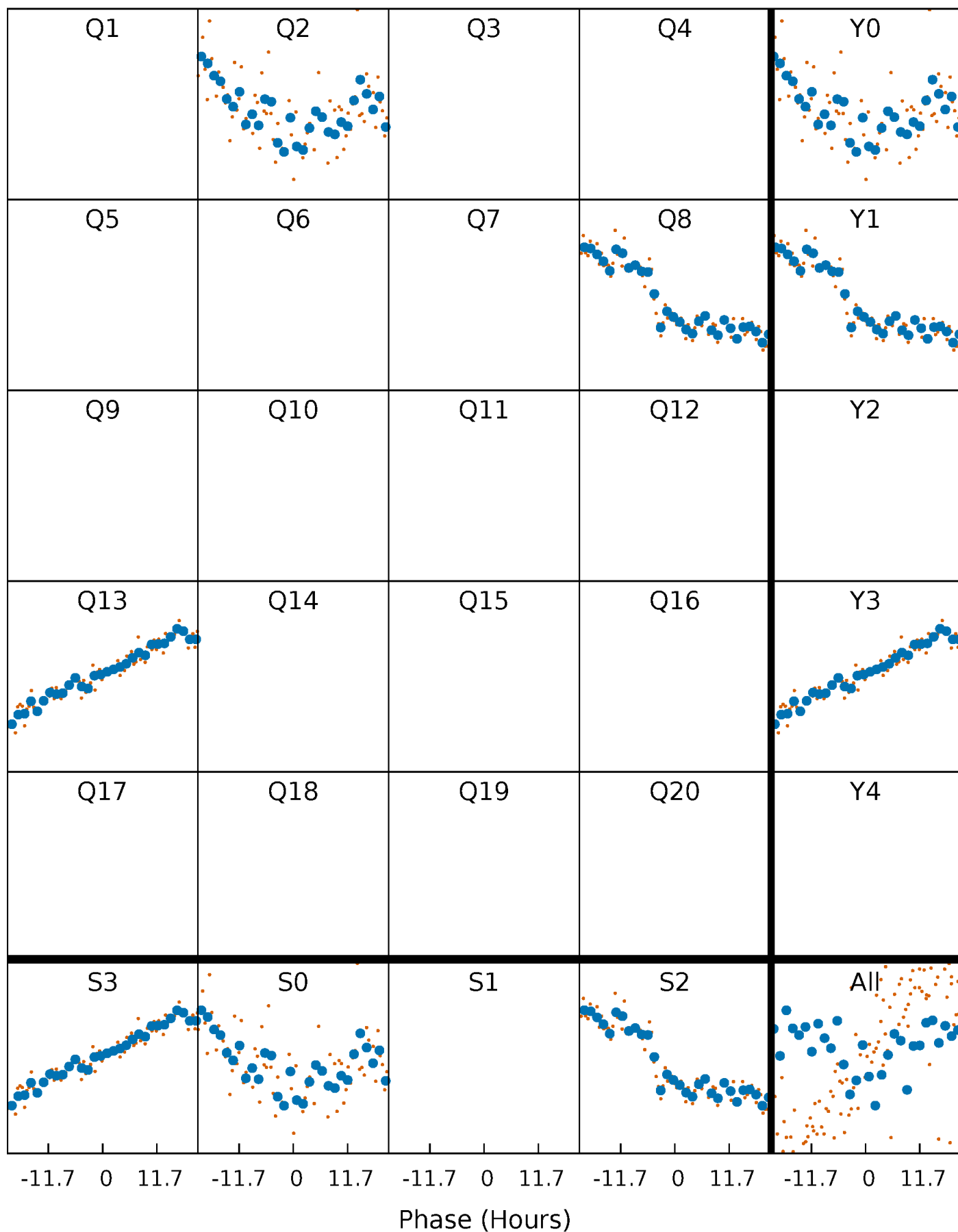


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

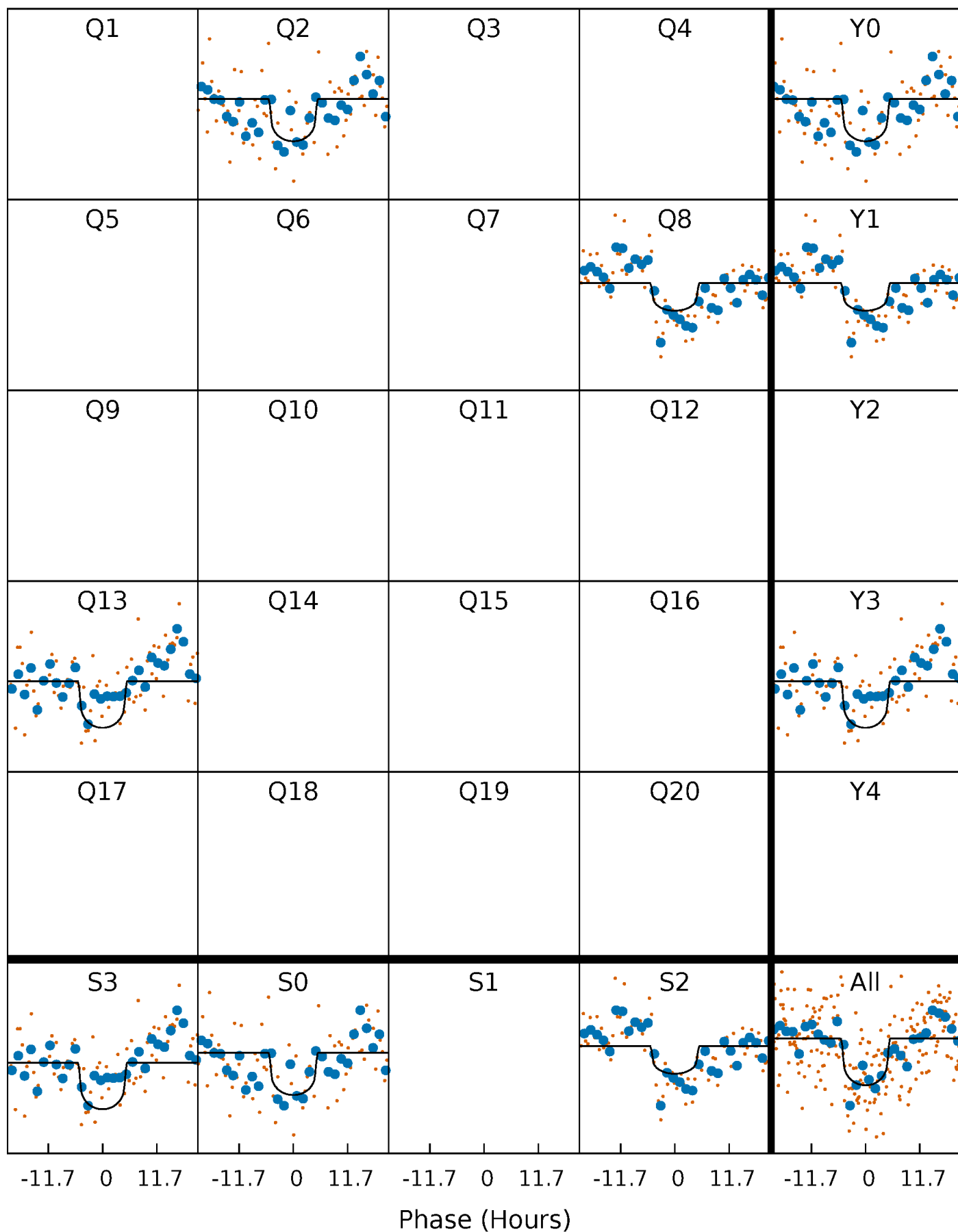
TCE 008360850-01     $P=484.259644$  Days     $T_0=253.375742$  (BKJD)





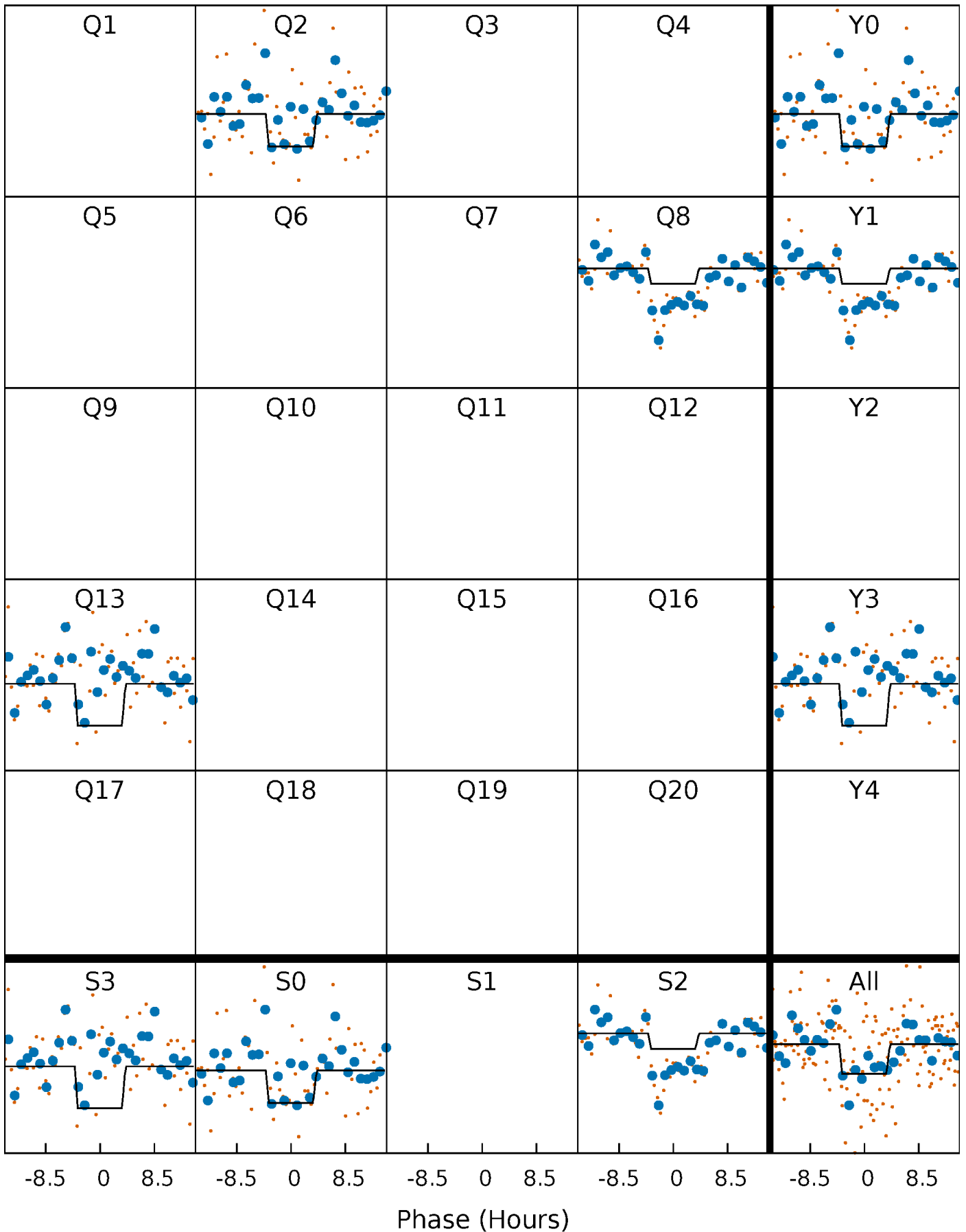
# DV Quarter-Phased Transit Curves

TCE 008360850-01 P=484.259644 Days  $T_0=253.375742$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

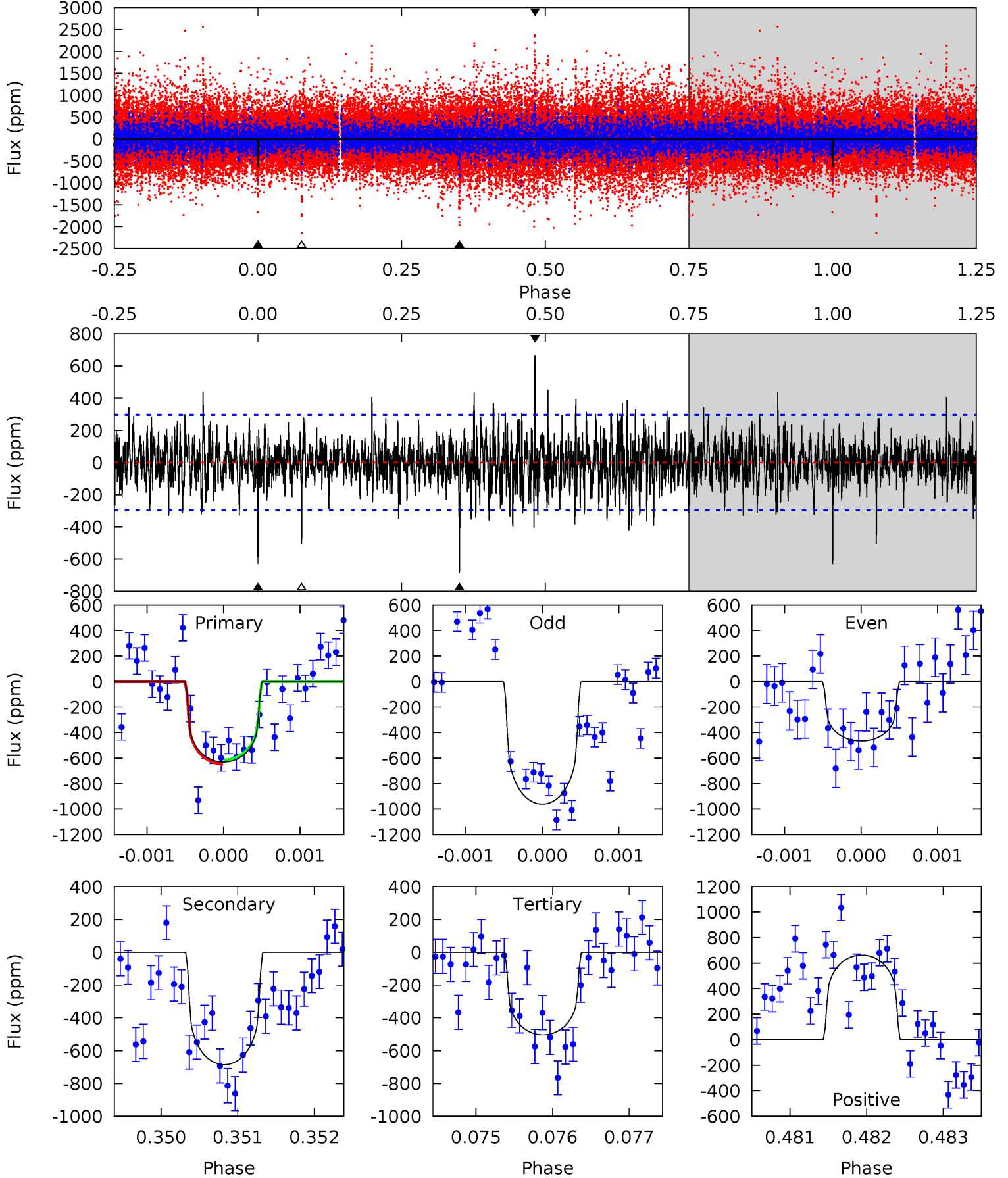
TCE 008360850-01 P=484.261750 Days  $T_0=253.330691$  (BKJD)



# DV Model-Shift Uniqueness Test

008360850-01, P = 484.259644 Days, E = 253.375742 Days

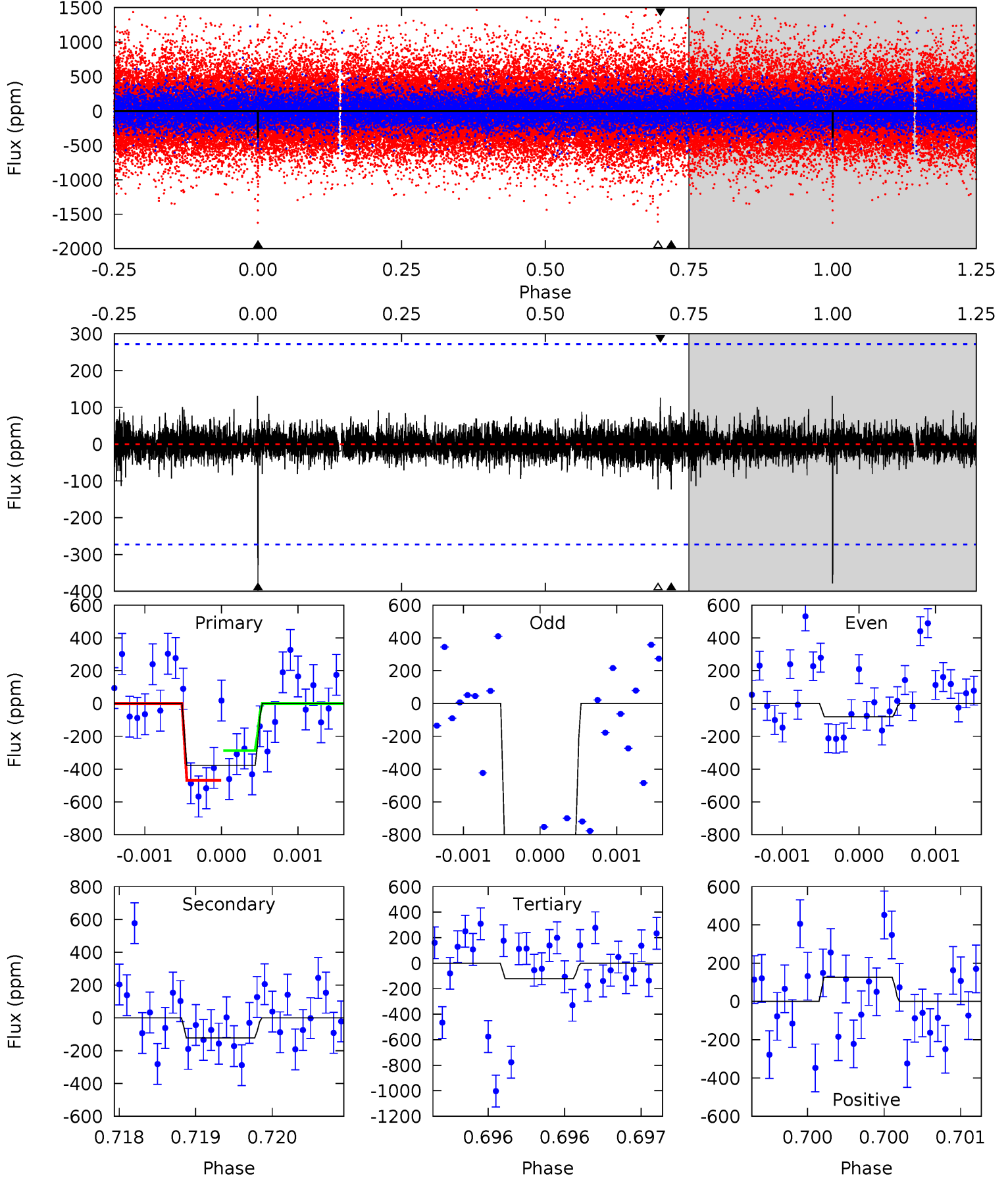
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	12.7	9.30	12.3	5.47	3.32	2.17	2.34	-0.61	3.35	0.40	4.20	1.02	0.49	0.30



# Alt Model-Shift Uniqueness Test

008360850-01, P = 484.261750 Days, E = 253.330691 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
7.66	2.49	2.48	2.56	5.52	3.40	0.47	5.18	5.10	0.00	-0.07	9.55	2.05	0.26	1.84



### Stellar Parameters For KIC 008360850

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5470^{+147}_{-164}$	$4.570^{+0.036}_{-0.144}$	$-0.040^{+0.300}_{-0.300}$	$0.819^{+0.175}_{-0.063}$	$0.910^{+0.074}_{-0.099}$	$2.338^{+0.459}_{-0.973}$
	+3%/-3%	+1%/-3%	+750%/-750%	+21%/-8%	+8%/-11%	+20%/-42%
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 008360850-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-685 \pm 54$	$2.38^{+1.55}_{-1.36}$	$287^{+15}_{-12}$	$5455^{+3339}_{-1052}$	$88139^{+401036}_{-56190}$
Alt.	$-123 \pm 49$	$2.22^{+1.52}_{-1.25}$	$288^{+15}_{-12}$	$3976^{+1651}_{-691}$	$17217^{+79137}_{-11919}$

$T_{\text{max}}$  = 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

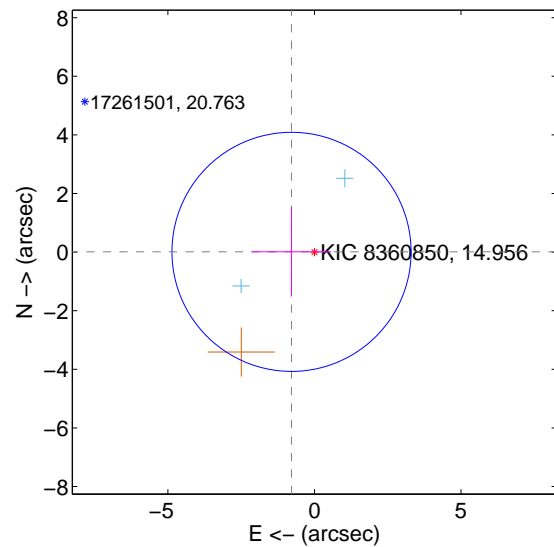
Supplemental centroid analysis for 008360850-01. Kepler magnitude: 14.96. Transit SNR 7.60

There are 2 quarters with good PRF difference image offsets

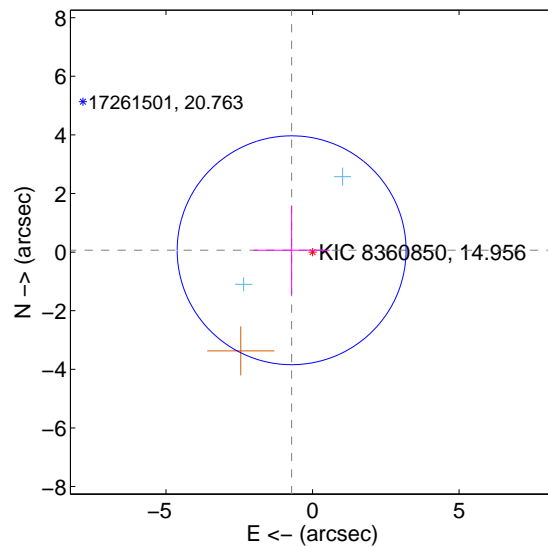
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.782 \pm 1.360$	0.58	$0.782 \pm 1.360$	$0.008 \pm 1.516$
PRF-fit source offset from KIC position	$0.716 \pm 1.302$	0.55	$0.713 \pm 1.300$	$0.063 \pm 1.519$
photometric centroid source offset	$2.29 \pm 1.53$	1.49	$1.67 \pm 1.39$	$-1.57 \pm 1.68$

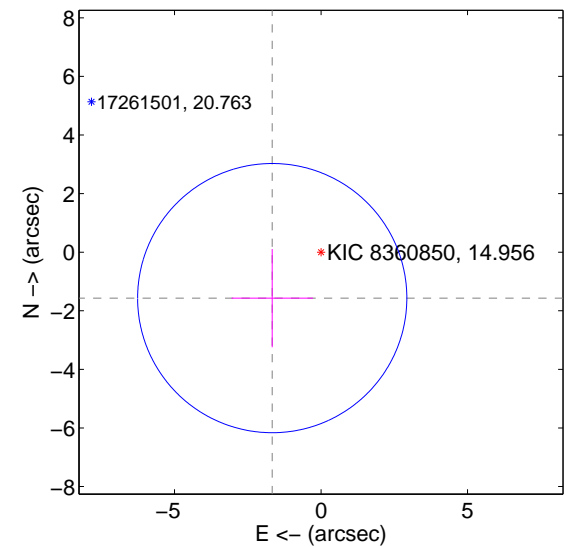
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

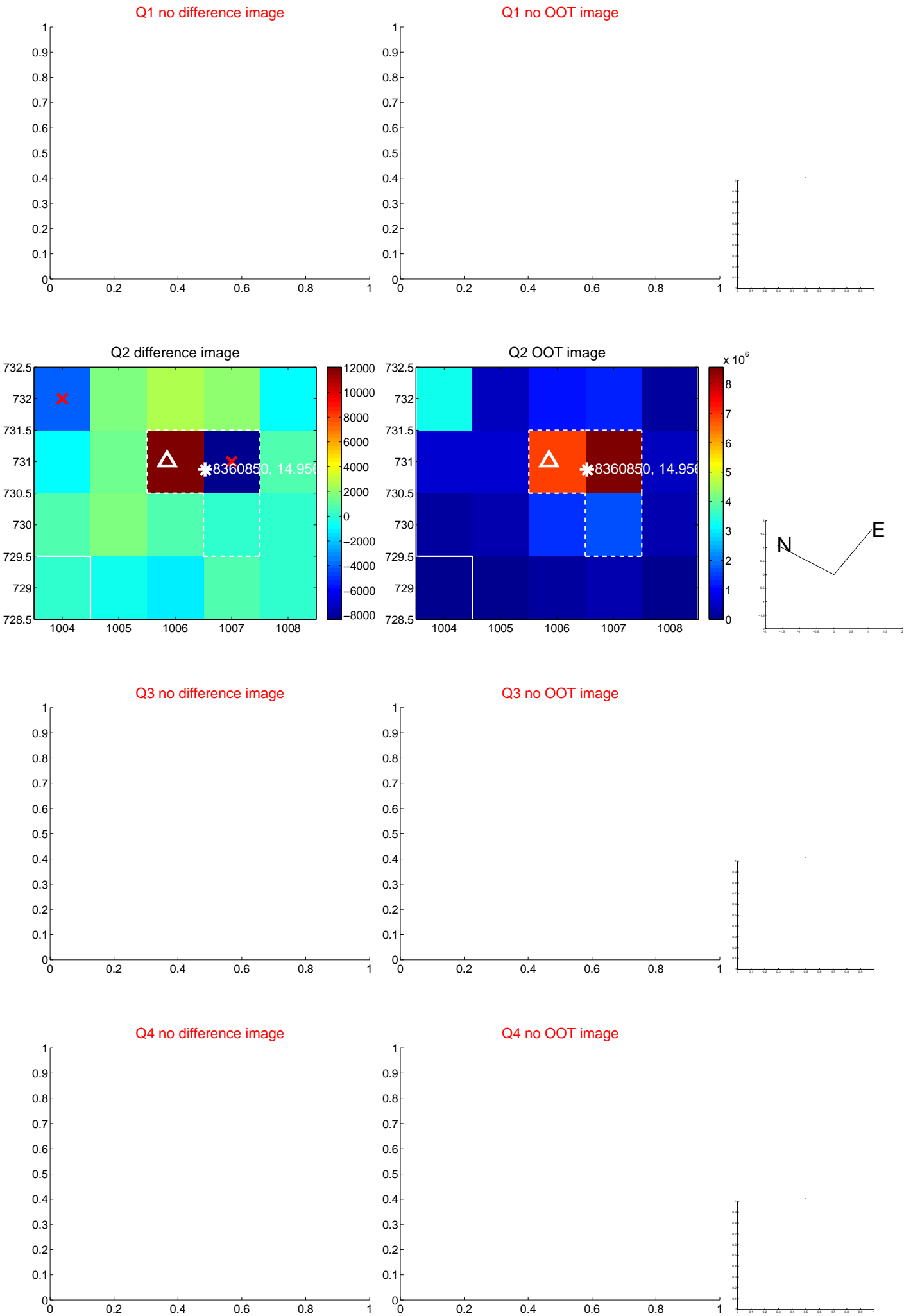


offset from photometric centroids

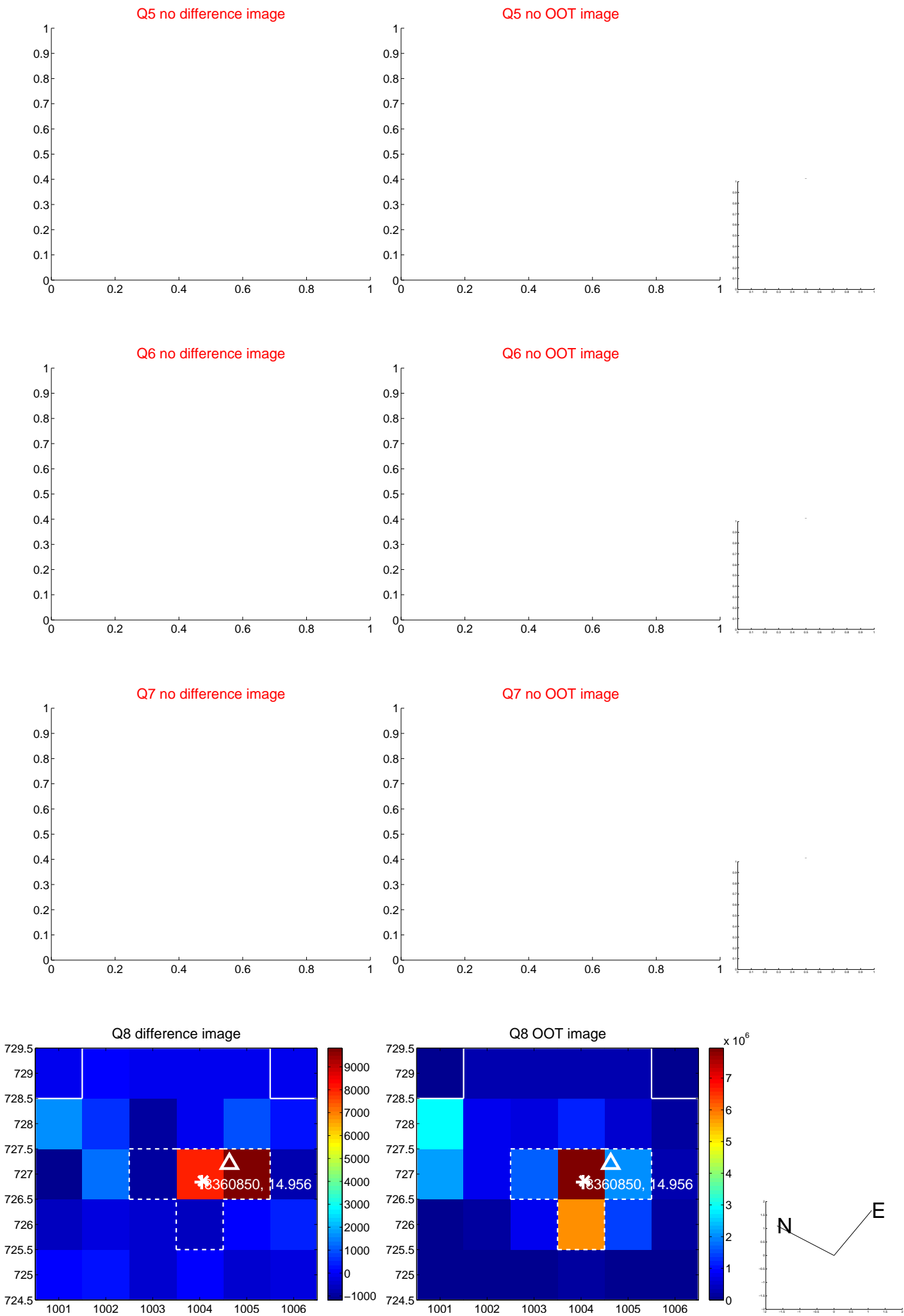


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

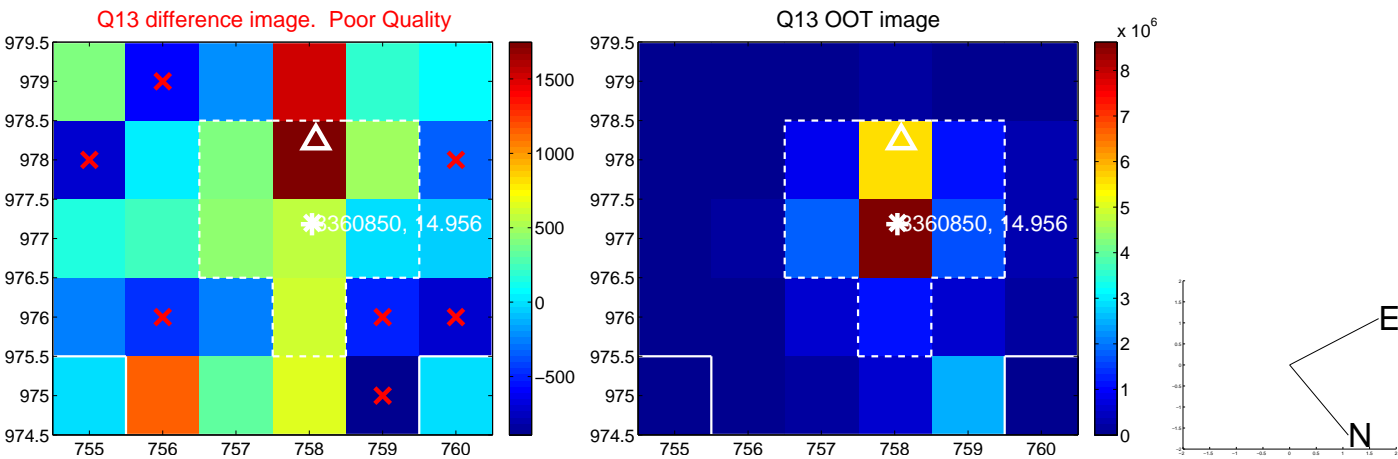




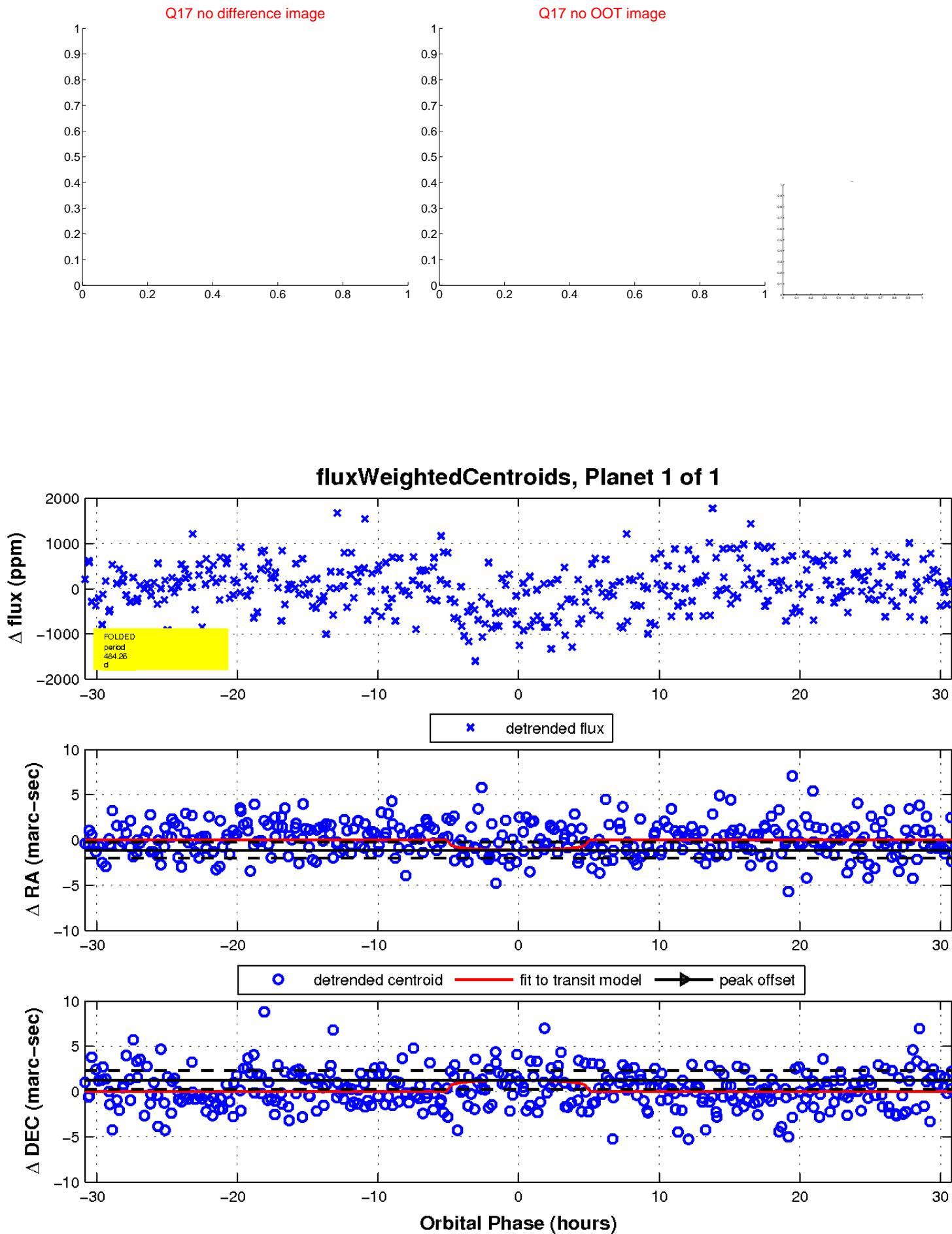
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white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

