

# KIC 007808587

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007808587-01	OBS	1533.01	6.241451	134.889348	158.2	3.294	26.7	28.3	1.26	5810	1.86	360.77

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007808587-01	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.

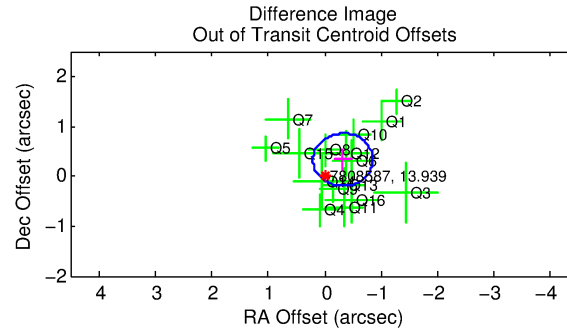
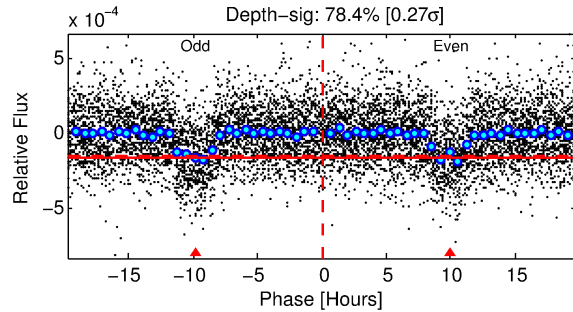
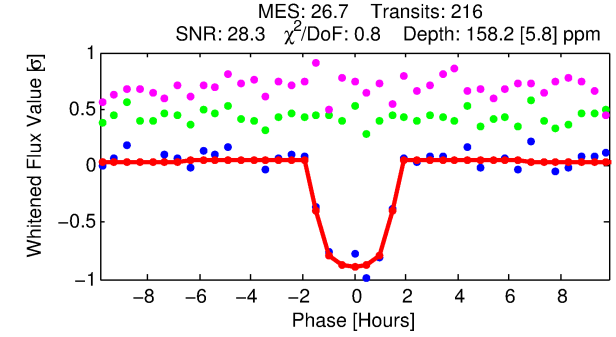
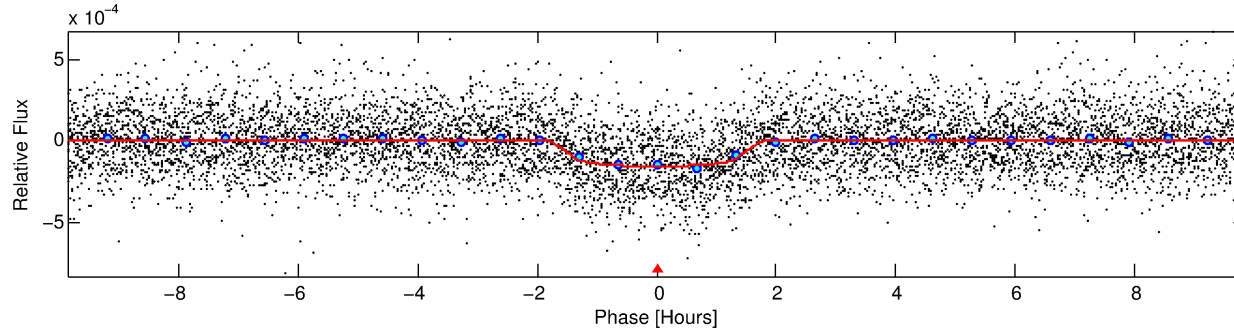
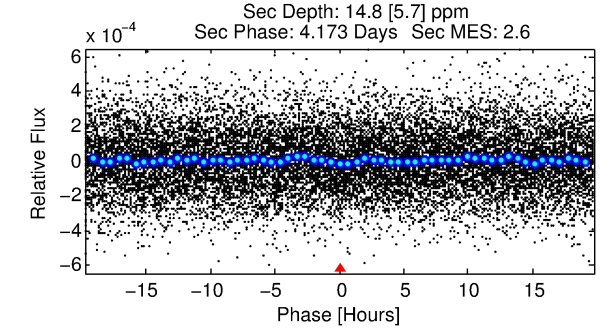
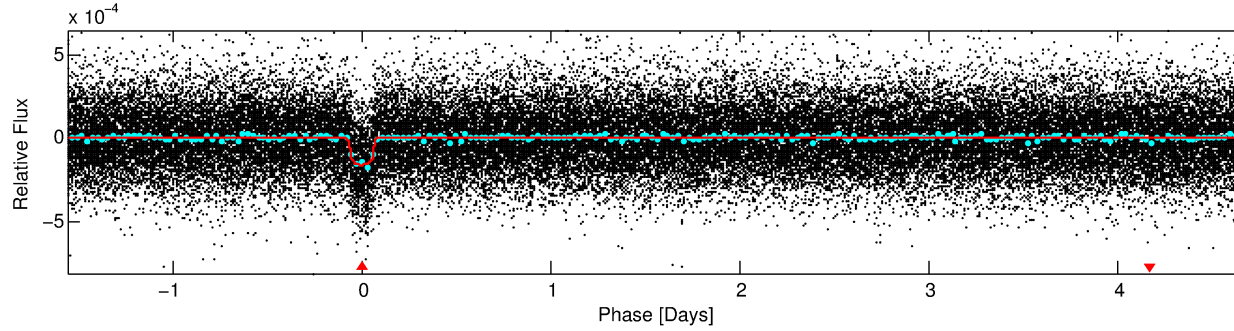
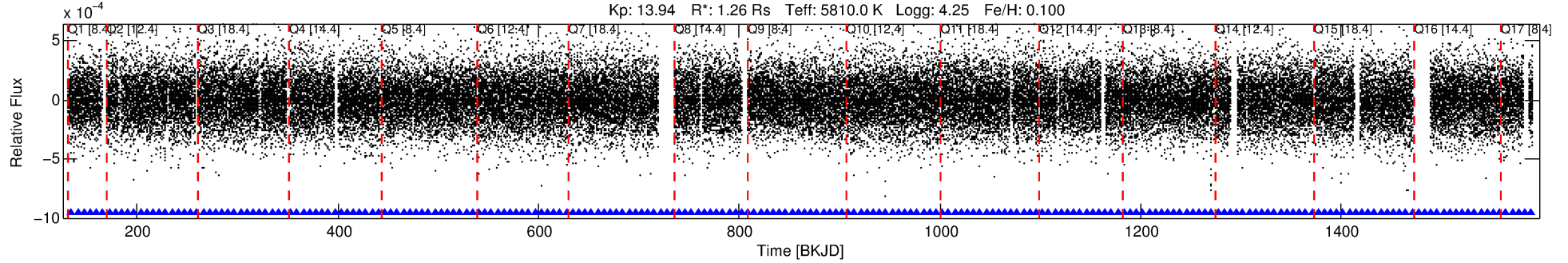
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007808587-01

No Significant Match Found

# DV One-Page Summary

KIC: 7808587 Candidate: 1 of 1 Period: 6.241 d  
KOI: K01533.01 Corr: 0.967



## DV Fit Results:

Period = 6.24145 [0.00002] d  
Epoch = 134.8893 [0.0022] BKJD  
Rp/R\* = 0.0135 [0.0032]  
a/R\* = 7.18 [7.98]  
b = 0.89 [0.28]  
Seff = 360.77 [97.02]  
Teq = 1111 [75] K  
Rp = 1.86 [0.54] Re  
a = 0.0670 [0.0109] AU  
Ag = 10.55 [7.04] [1.36σ]  
Teffp = 3097 [476] K [4.12σ]

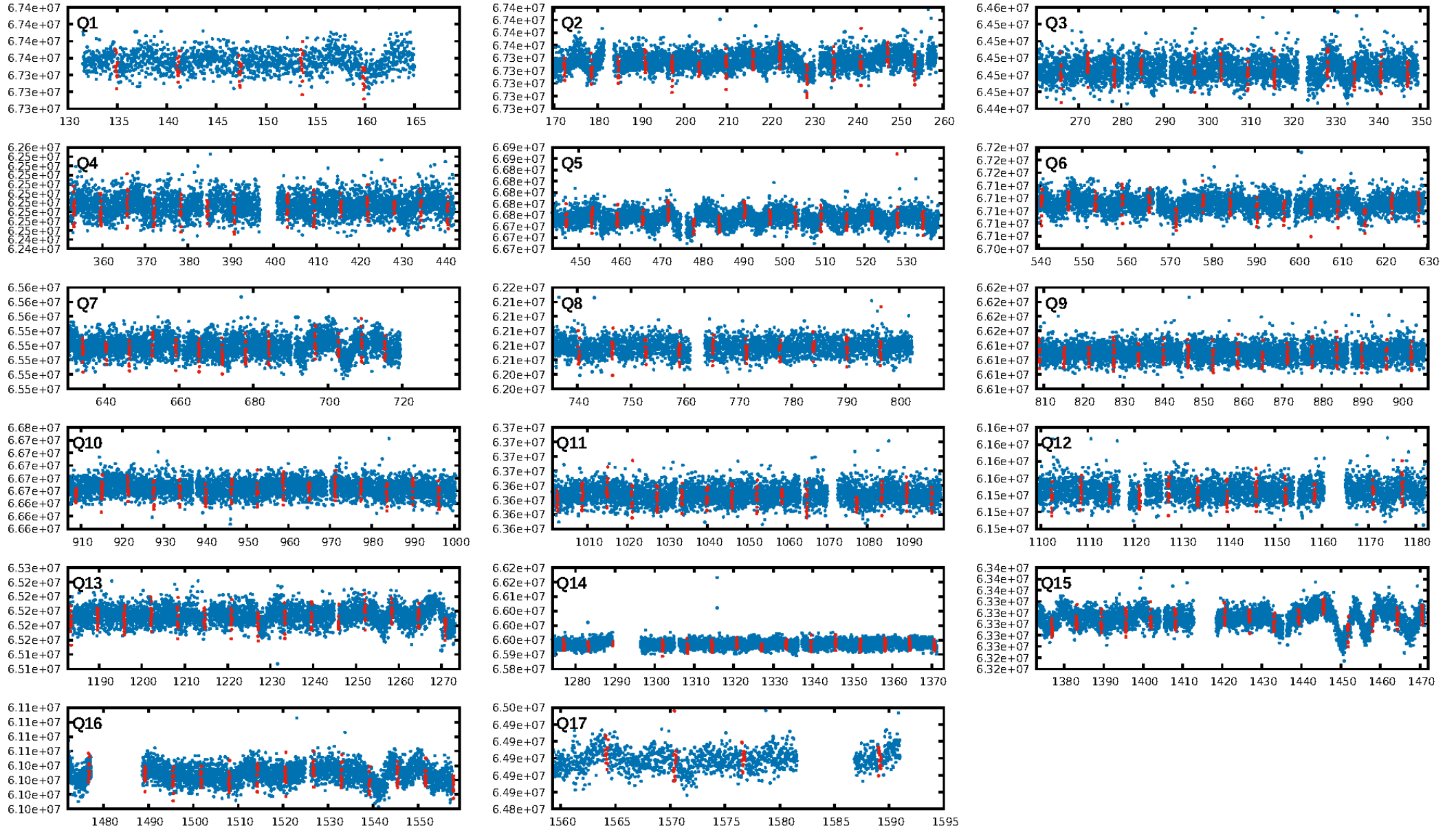
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.35e-152  
RollingBand-fgt: 1.00 [207/207]  
GhostDiagnostic-chr: -20.85  
Centroid-sig: 82.9%  
Centroid-so: 0.262 arcsec [0.56σ]  
OotOffset-rm: 0.461 arcsec [2.62σ]  
KicOffset-rm: 0.436 arcsec [2.53σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 1.00 [16/16]  
DiffImageOverlap-fno: 1.00 [17/17]

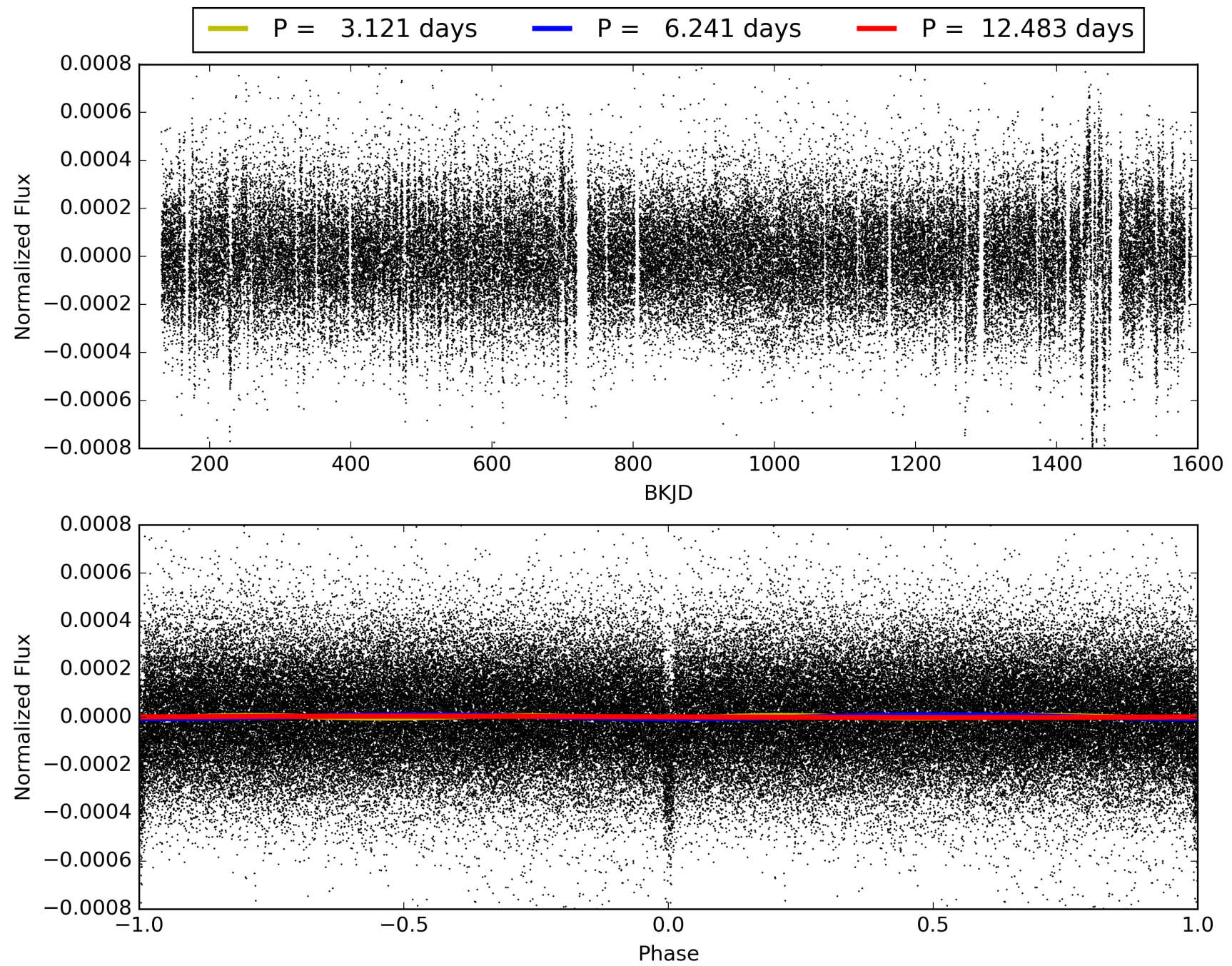
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:48:44 Z

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

# TCE 007808587-01, PDC Light Curves



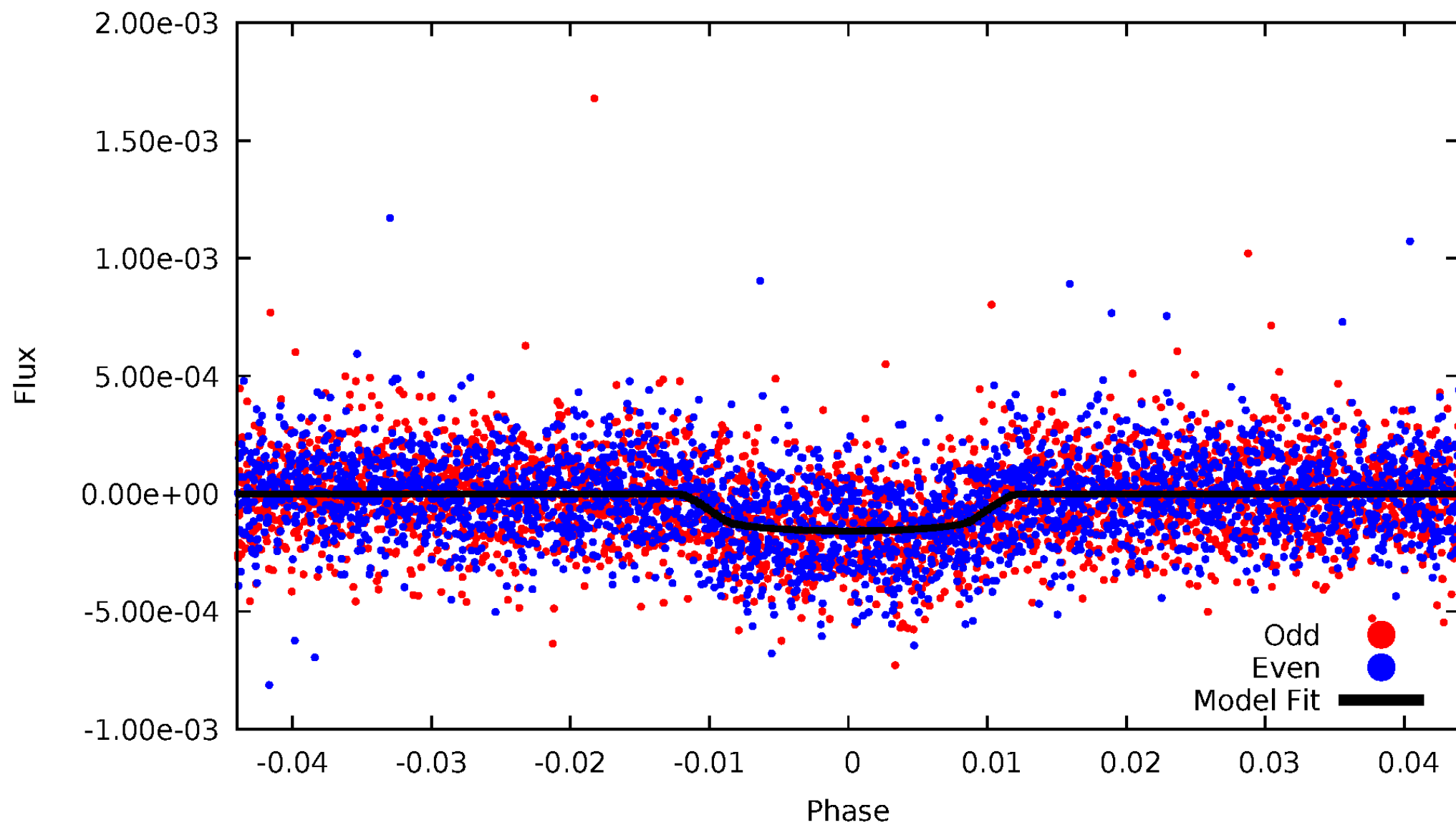
TCE 007808587-01





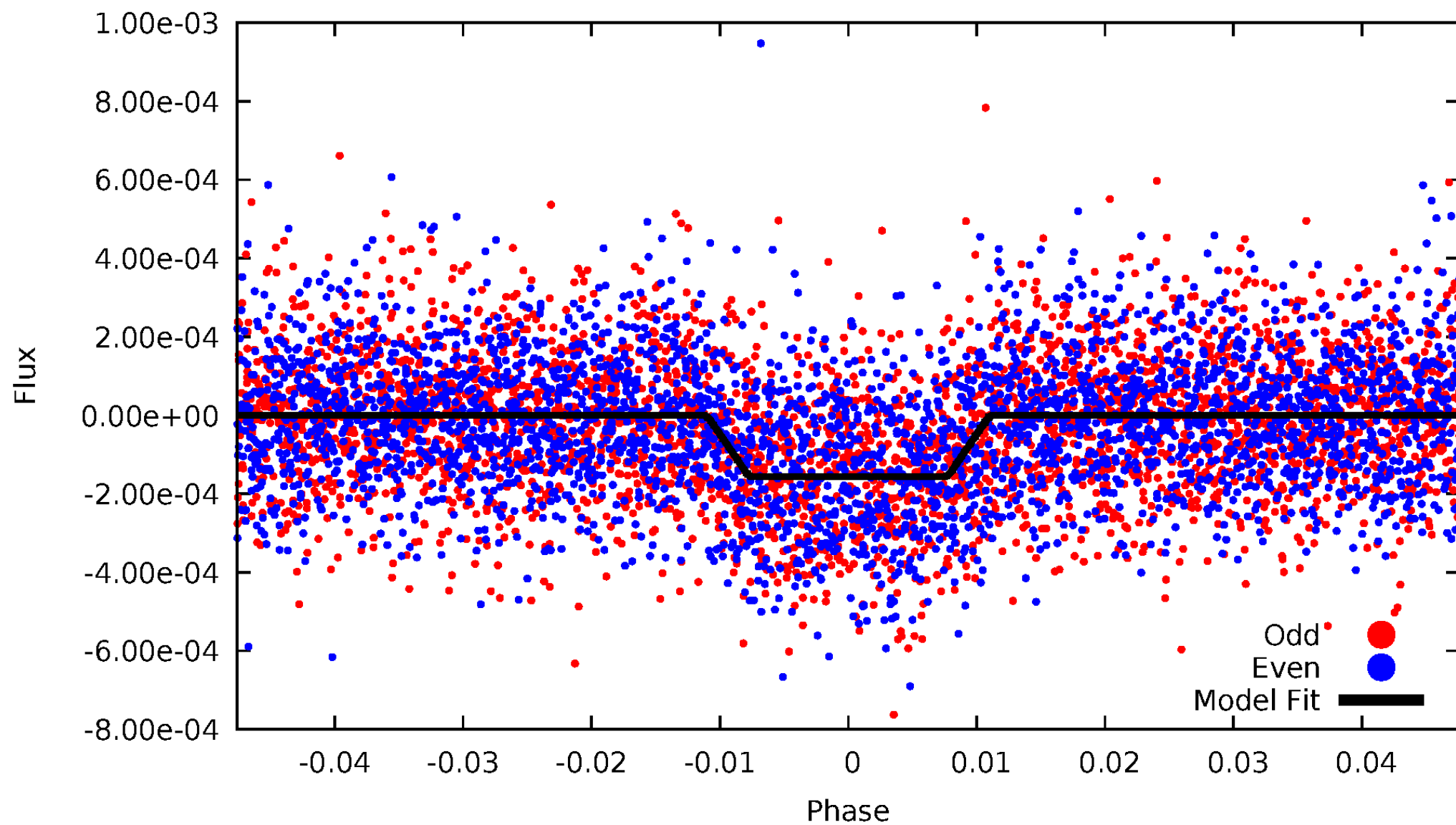
# DV Odd/Even

TCE 007808587-01



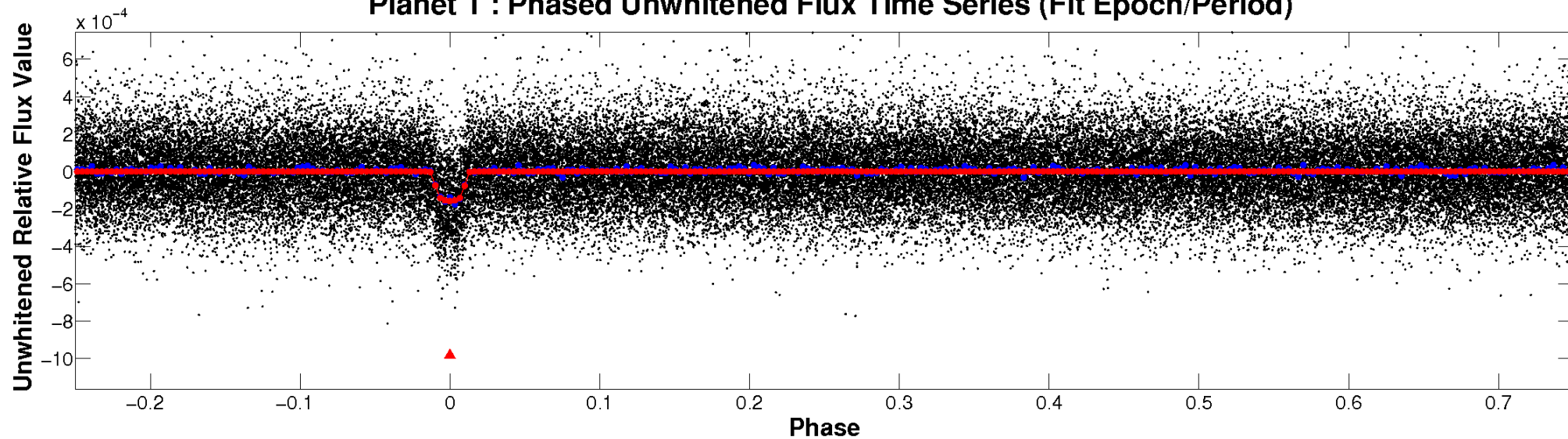
# ALT Odd/Even

TCE 007808587-01

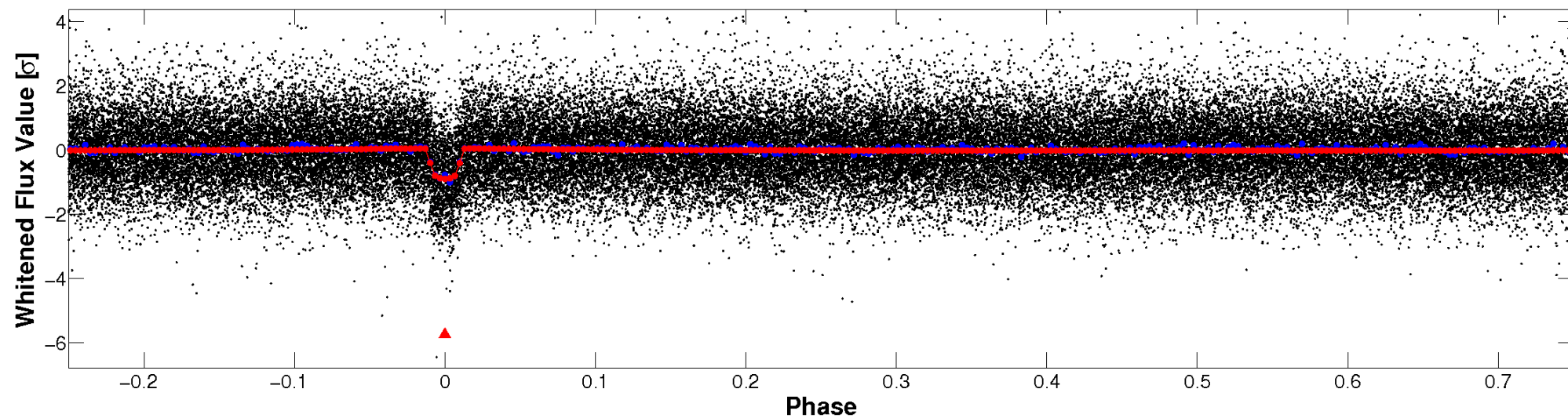


# Non-Whitened Vs. Whitened Light Curve

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

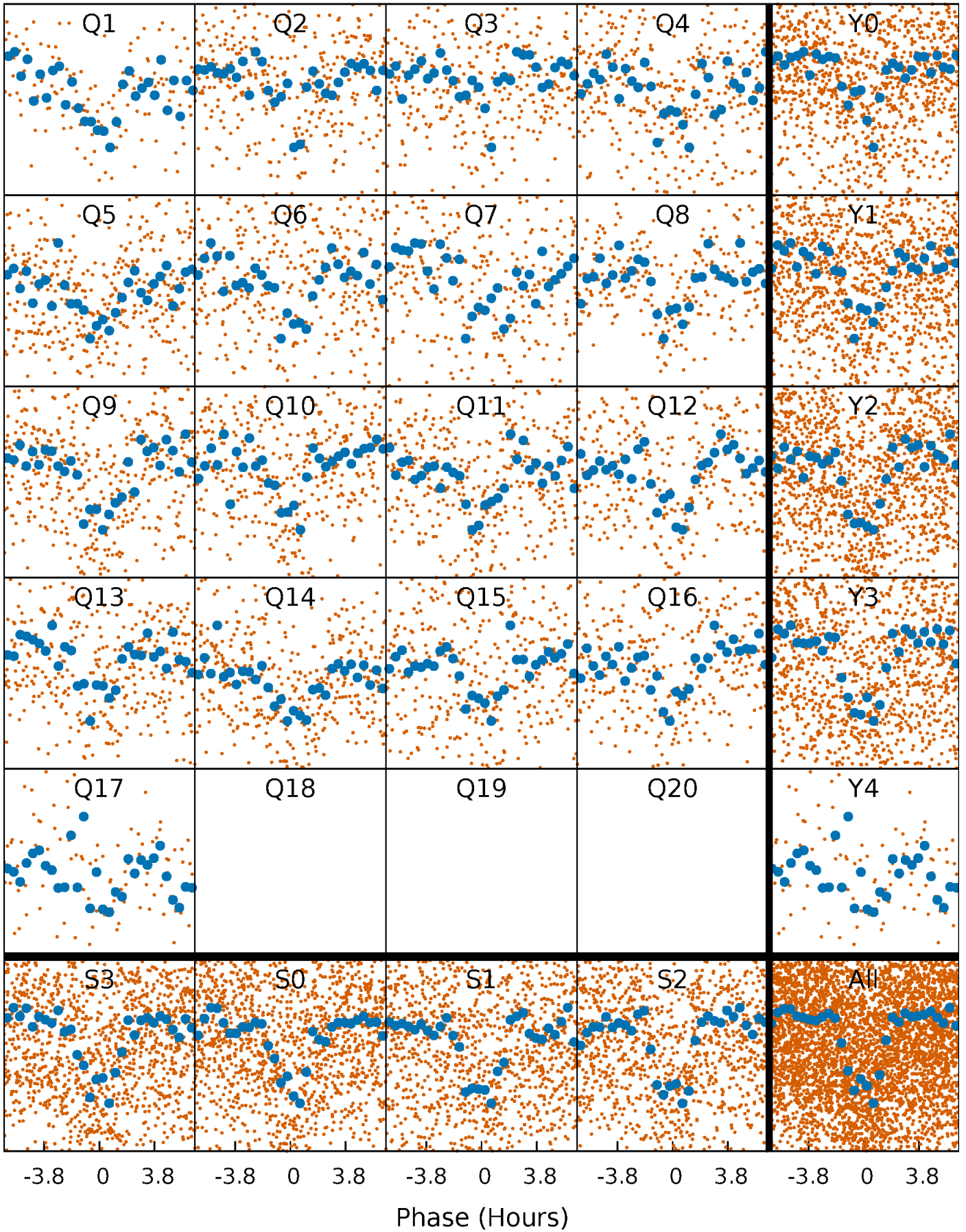


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

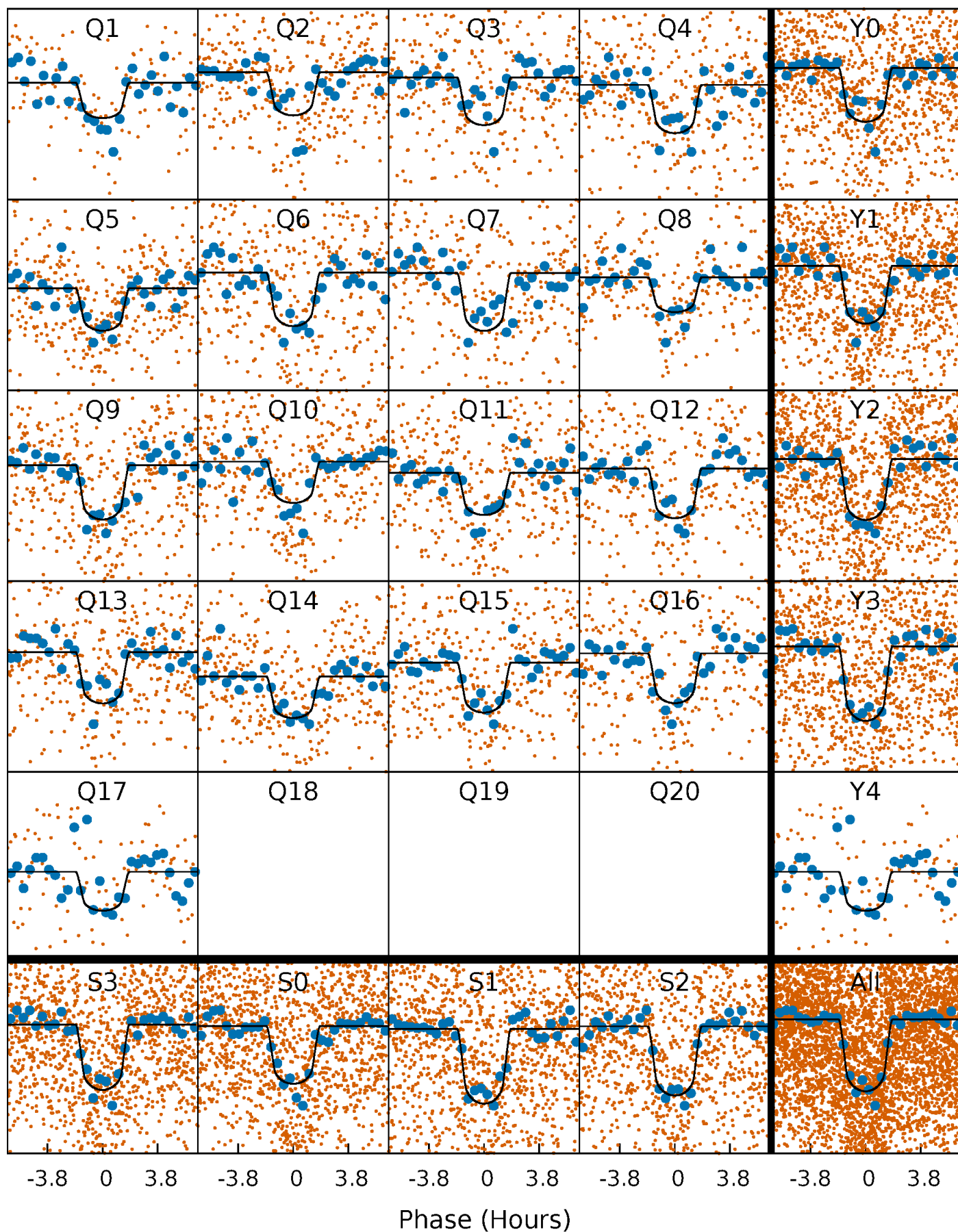
TCE 007808587-01 P= 6.241451 Days  $T_0=134.889348$  (BKJD)





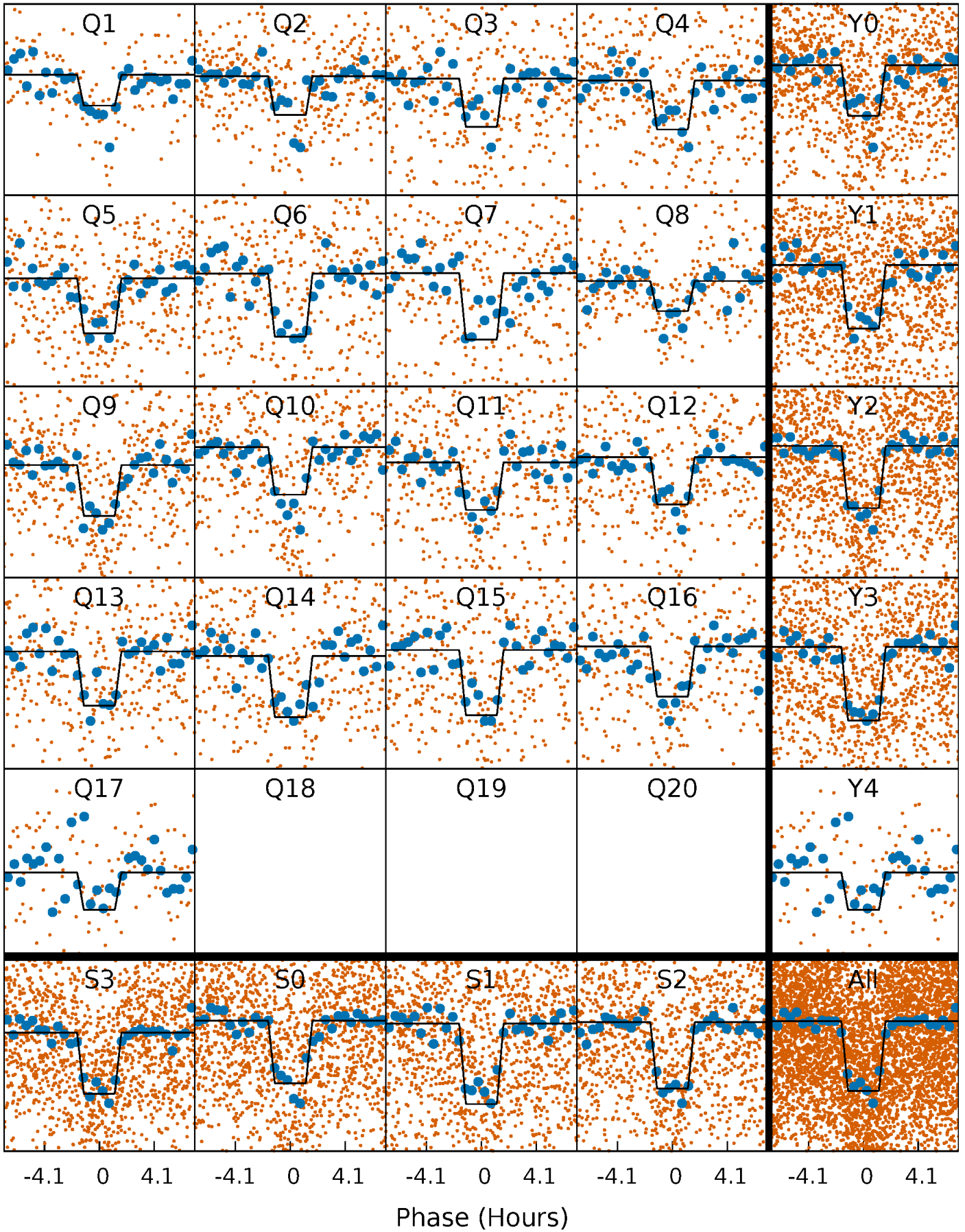
# DV Quarter-Phased Transit Curves

TCE 007808587-01 P= 6.241451 Days  $T_0=134.889348$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

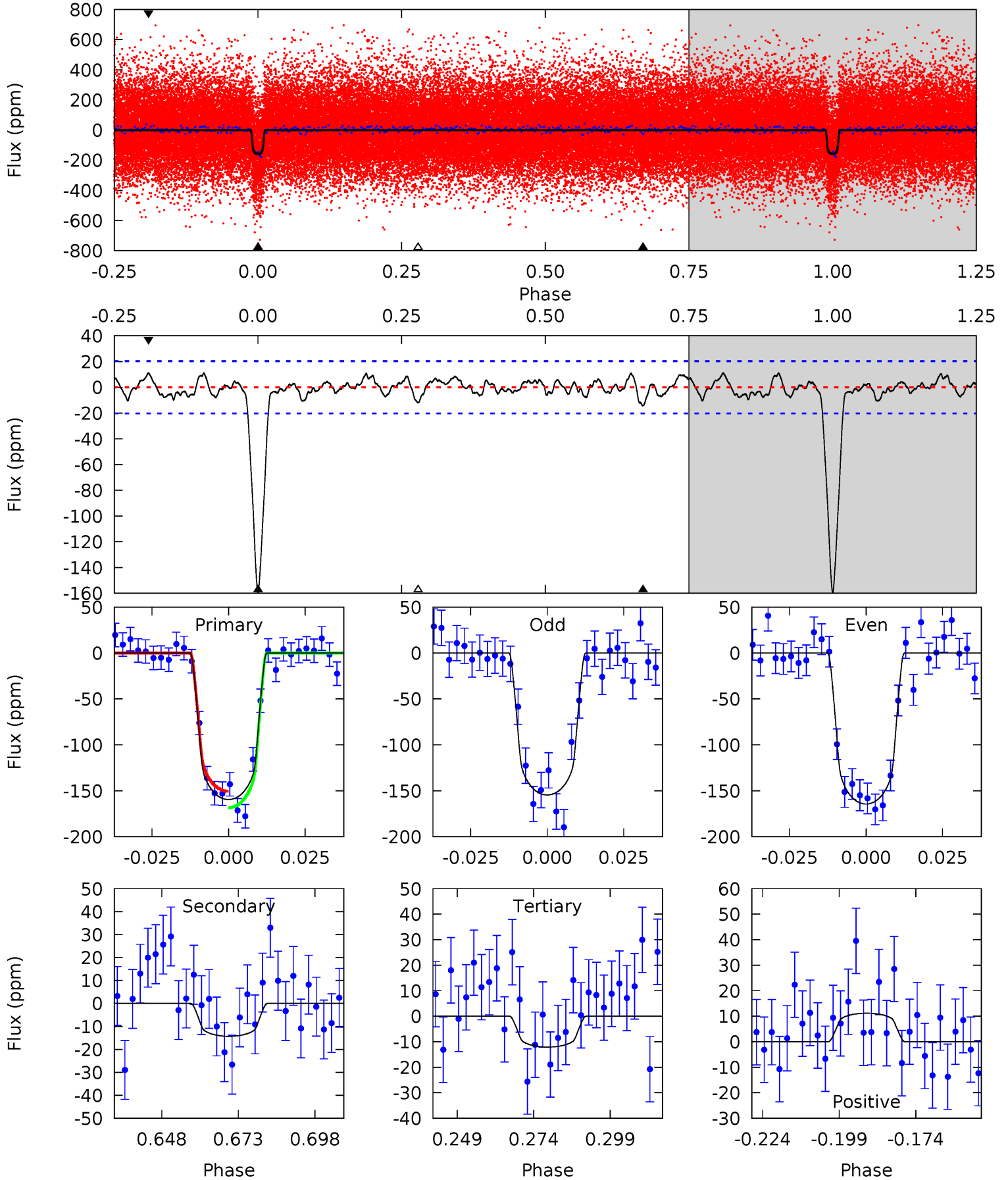
TCE 007808587-01 P= 6.241476 Days  $T_0=134.886513$  (BKJD)



# DV Model-Shift Uniqueness Test

007808587-01, P = 6.241451 Days, E = 128.647897 Days

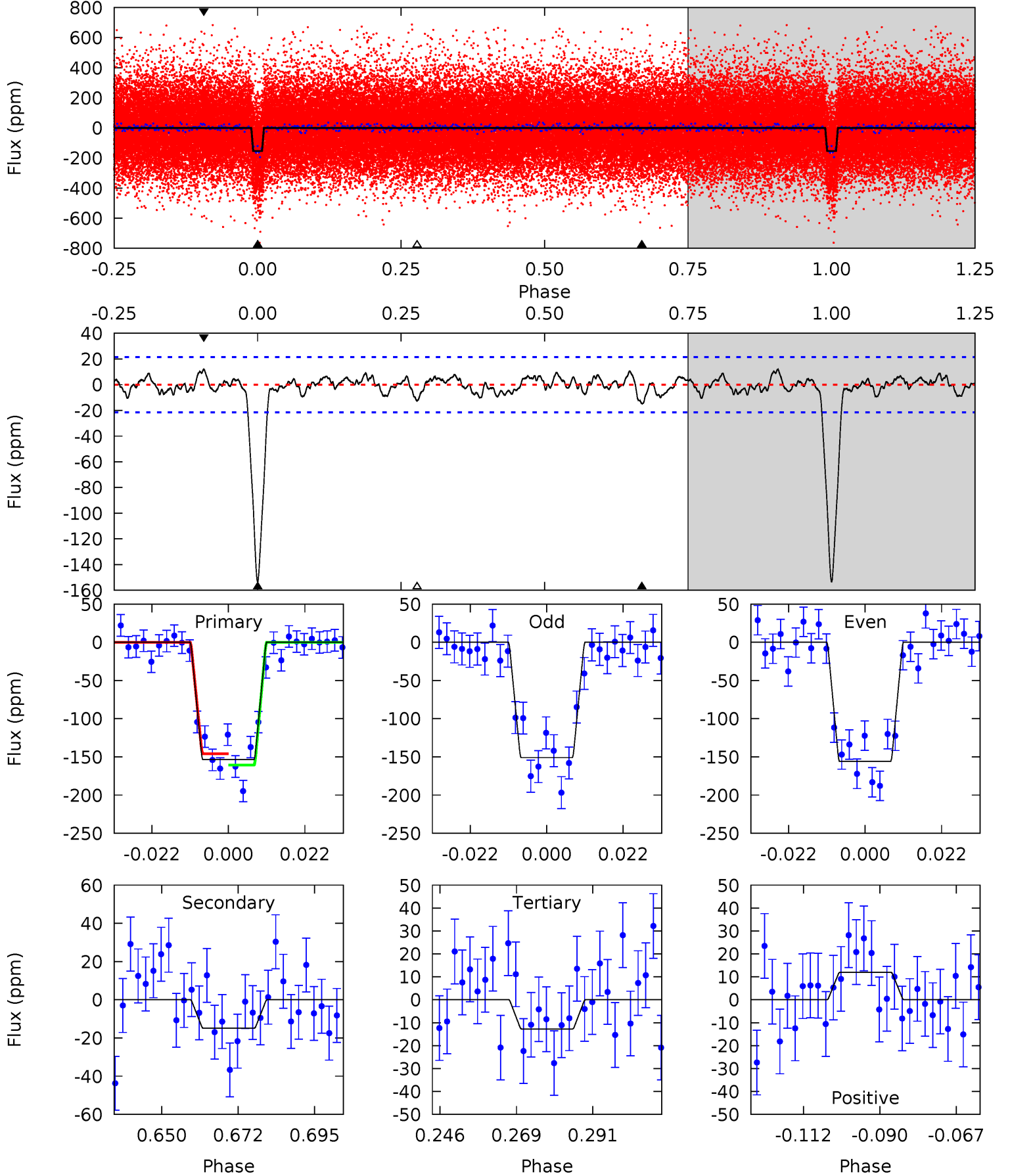
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.1	3.41	2.89	2.67	4.85	2.24	1.15	35.2	35.4	0.53	0.74	1.18	1.02	0.07	2.13



# Alt Model-Shift Uniqueness Test

007808587-01, P = 6.241476 Days, E = 128.645037 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
34.7	3.37	2.88	2.71	4.87	2.28	1.08	31.8	32.0	0.48	0.66	0.56	1.00	0.07	1.69





### Stellar Parameters For KIC 007808587

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5810^{+79}_{-79}$	$4.250^{+0.156}_{-0.104}$	$0.100^{+0.150}_{-0.150}$	$1.259^{+0.207}_{-0.207}$	$1.026^{+0.086}_{-0.062}$	$0.724^{+0.525}_{-0.241}$
	+1%/-1%	+4%/-2%	+150%/-150%	+16%/-16%	+8%/-6%	+72%/-33%
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 007808587-01 / KOI 1533.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-14 \pm 4$	$1.80^{+0.48}_{-0.44}$	$1544^{+80}_{-71}$	$3524^{+390}_{-284}$	$10^{+10}_{-4}$
Alt.	$-15 \pm 4$	$1.68^{+0.48}_{-0.47}$	$1546^{+65}_{-79}$	$3638^{+450}_{-328}$	$13^{+13}_{-6}$

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

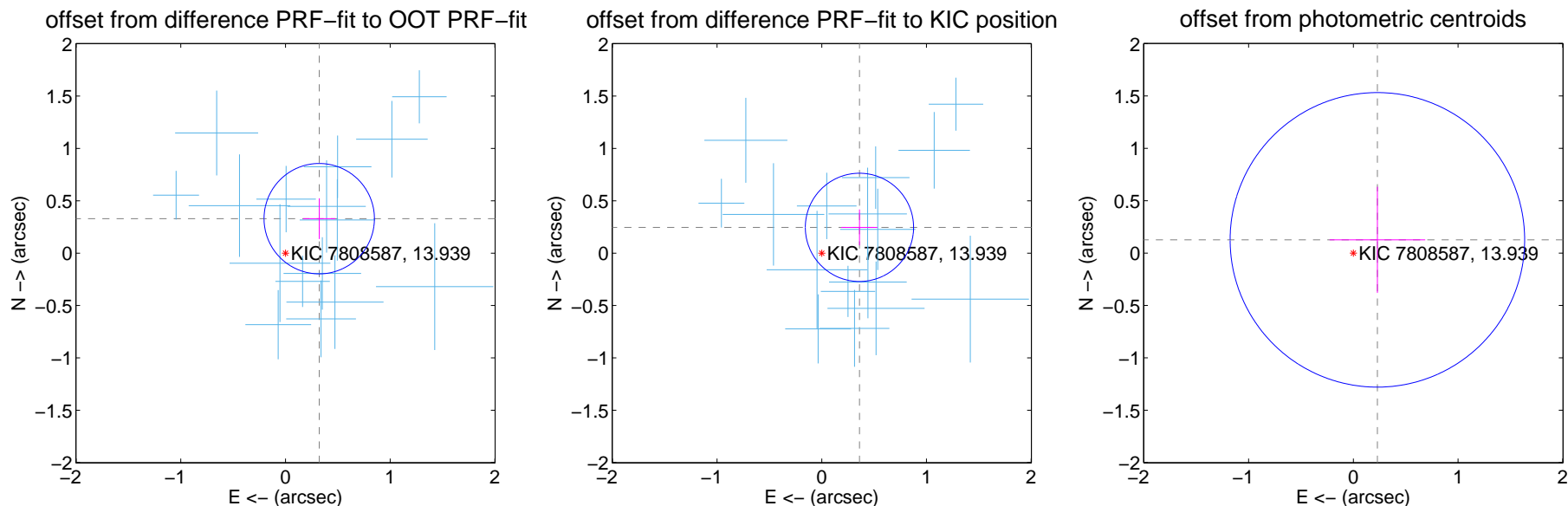
## DV Centroid Data

Supplemental centroid analysis for 007808587-01. Kepler magnitude: 13.94. Transit SNR 28.33

There are 16 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

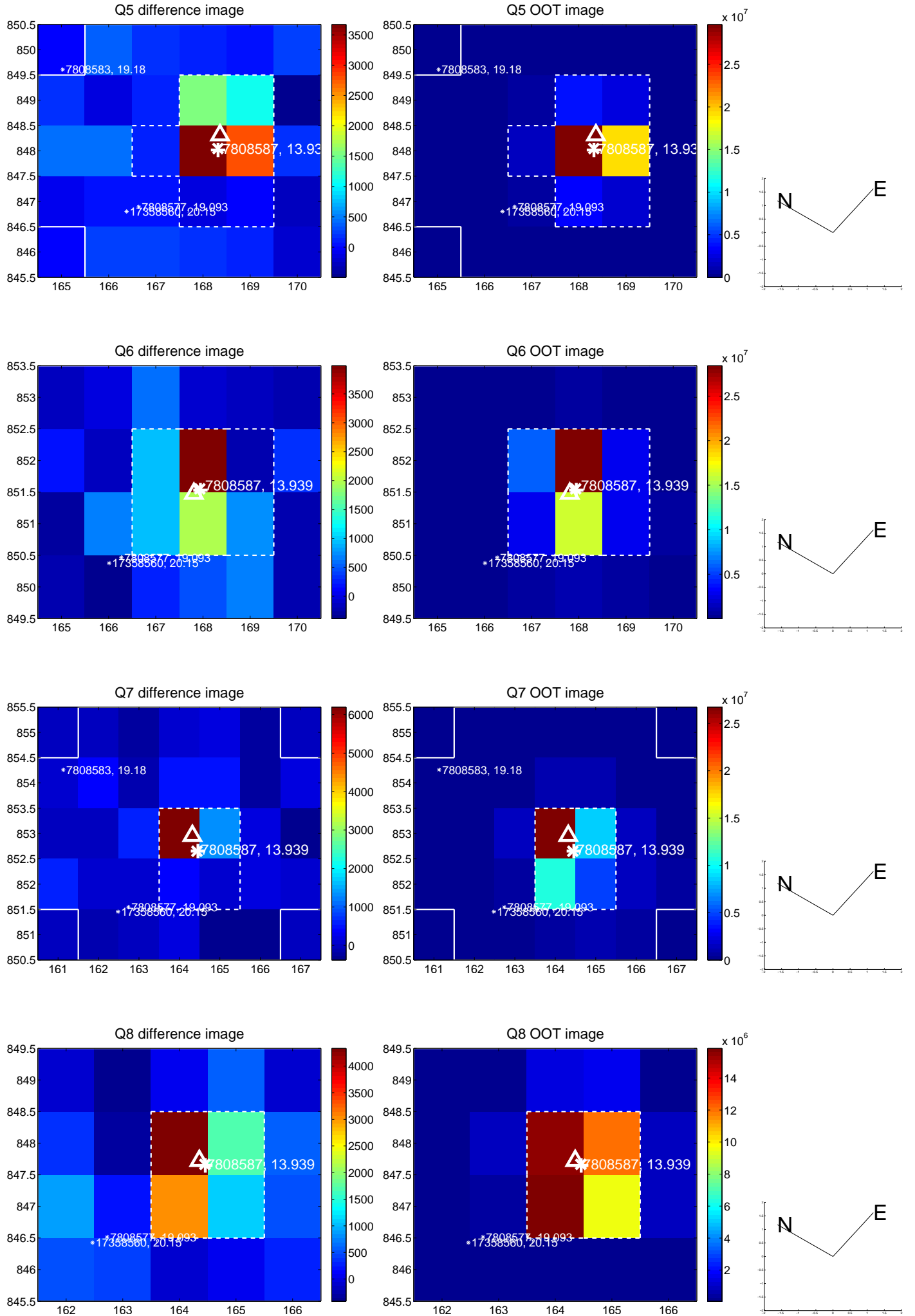
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.461 \pm 0.176$	2.62	$-0.322 \pm 0.155$	$0.329 \pm 0.194$
PRF-fit source offset from KIC position	$0.436 \pm 0.172$	2.53	$-0.360 \pm 0.172$	$0.246 \pm 0.171$
photometric centroid source offset	$0.26 \pm 0.47$	0.56	$-0.23 \pm 0.46$	$0.13 \pm 0.51$



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.



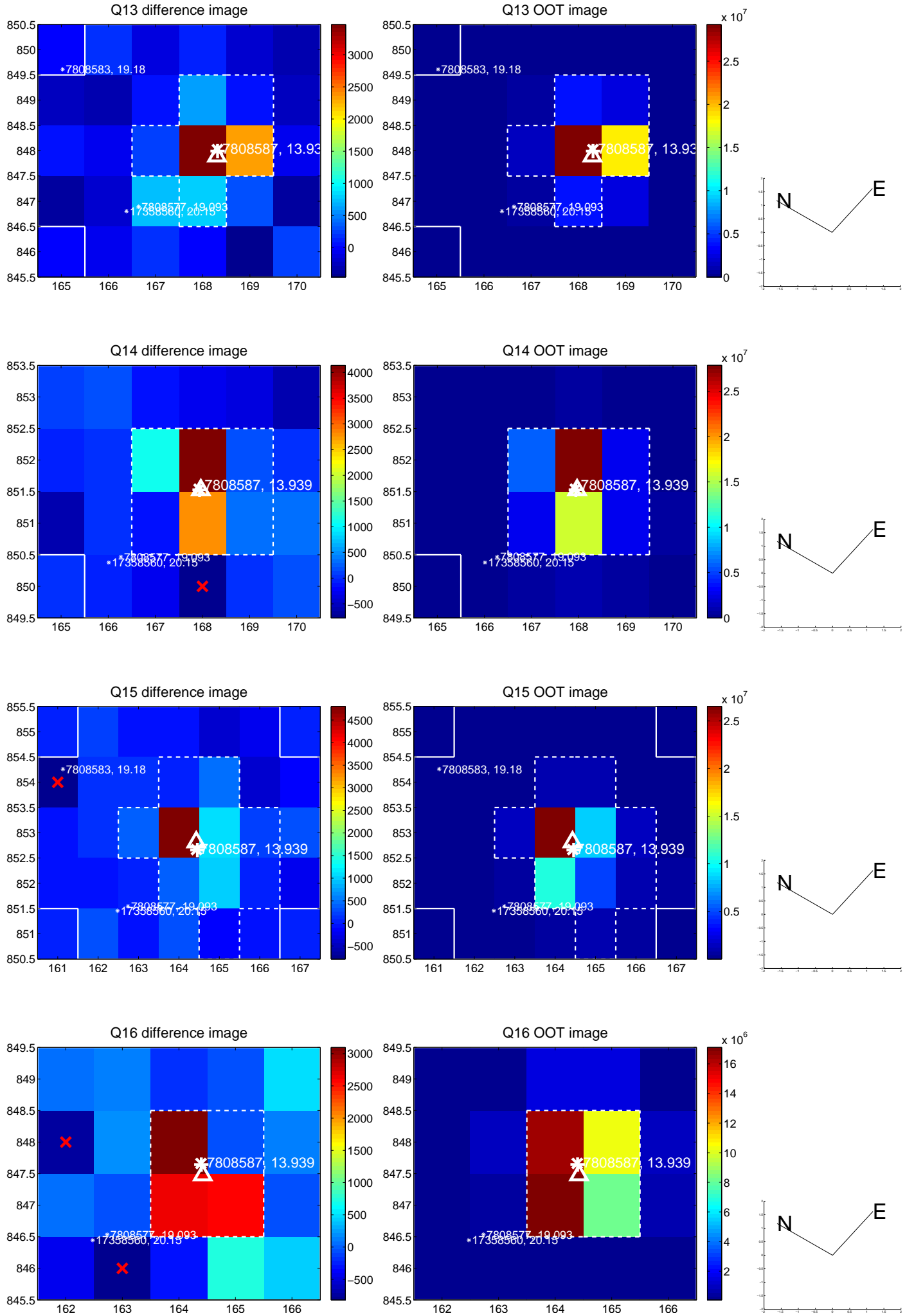
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



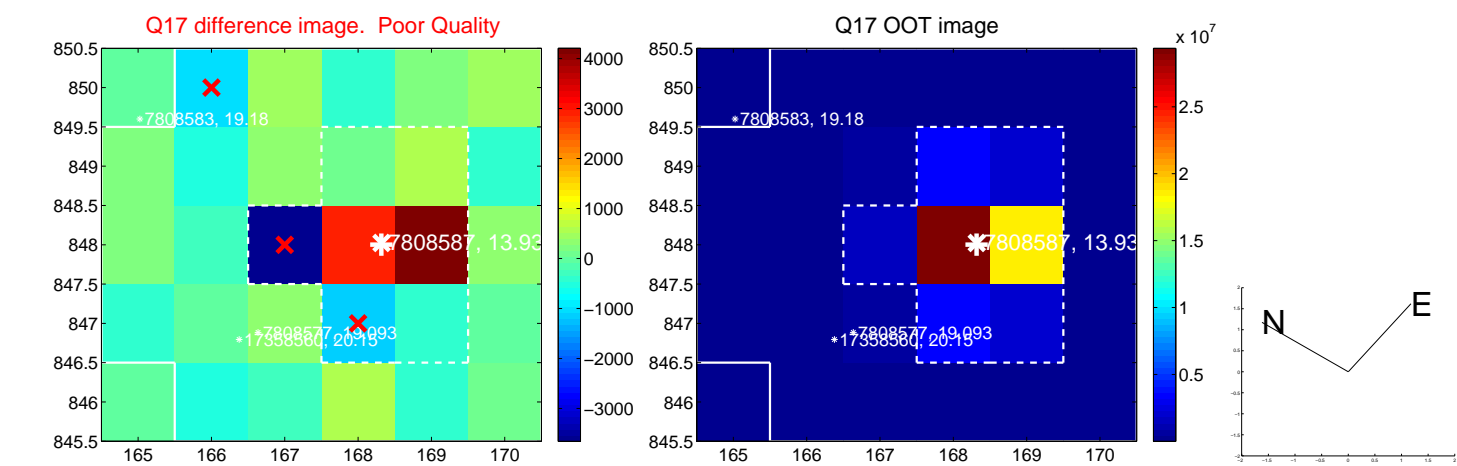




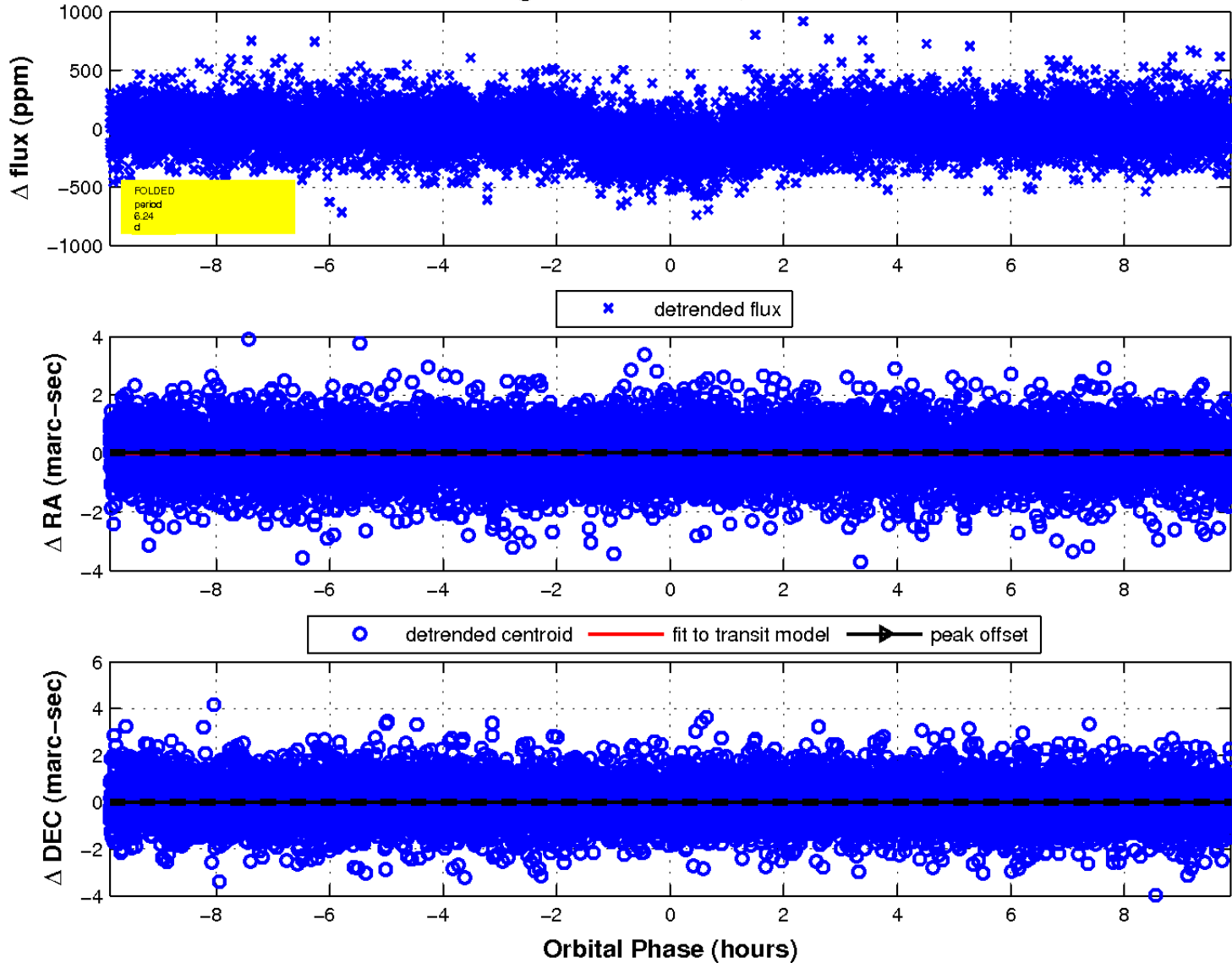
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

