

# KIC 007511864

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007511864-01	OBS	No	389.395776	271.130357	337.1	3.498	7.6	7.3	1.03	6258	2.20	1.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007511864-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

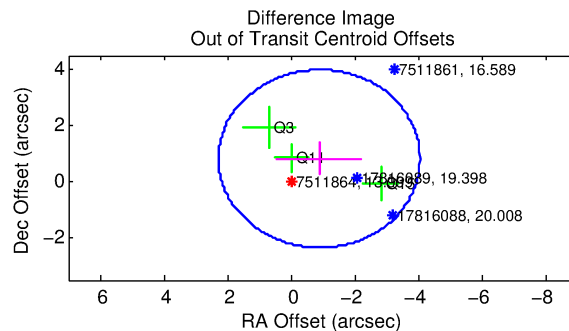
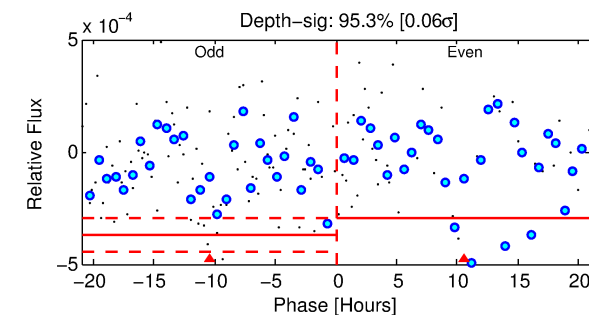
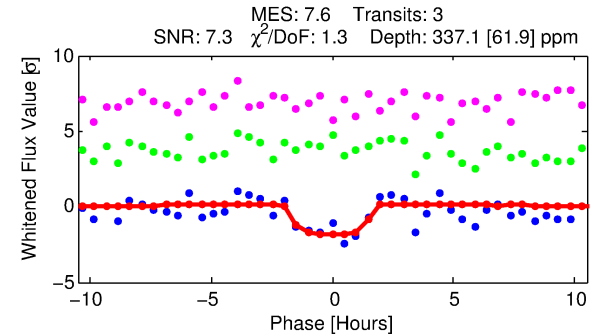
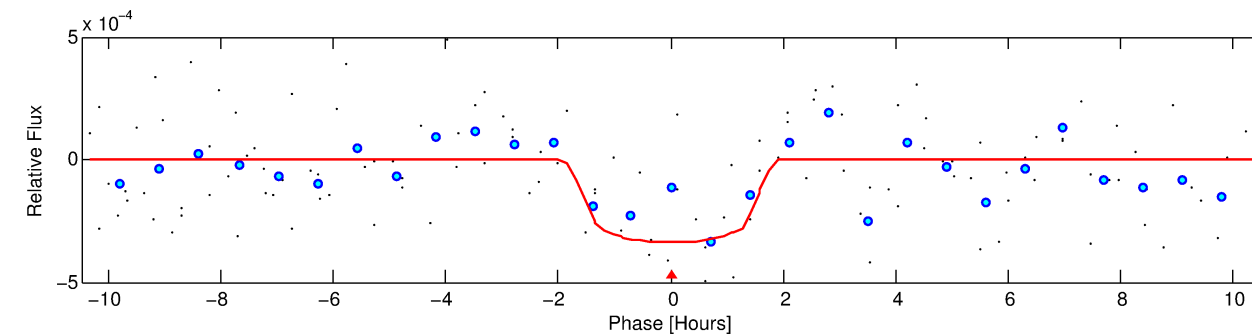
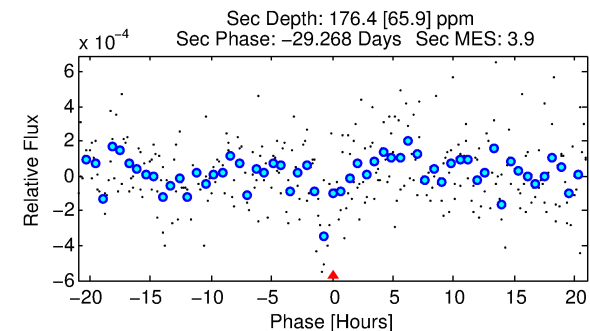
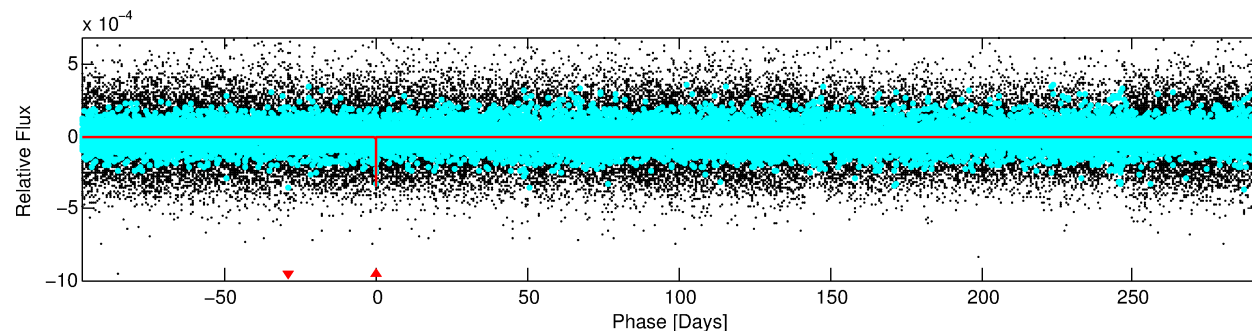
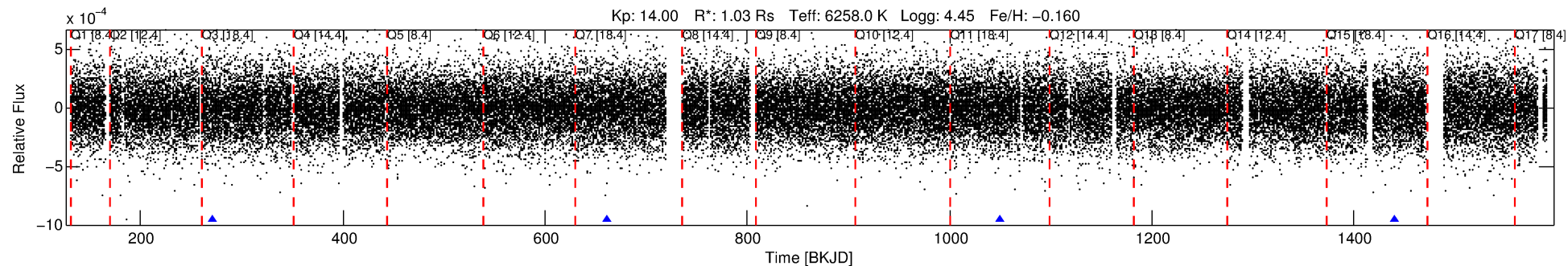
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007511864-01

No Significant Match Found

# DV One-Page Summary

KIC: 7511864 Candidate: 1 of 1 Period: 389.396 d



## DV Fit Results:

Period = 389.39578 [0.00571] d  
Epoch = 271.1304 [0.0120] BKJD  
Rp/R\* = 0.0195 [0.0119]  
a/R\* = 428.29 [1382.02]  
b = 0.89 [0.79]  
Seff = 1.27 [0.53]  
Teq = 270 [28] K  
Rp = 2.20 [1.52] Re  
a = 1.0743 [0.2930] AU  
Ag = 23193.83 [30992.71] [0.75σ]  
Teffp = 5160 [1655] K [2.95σ]

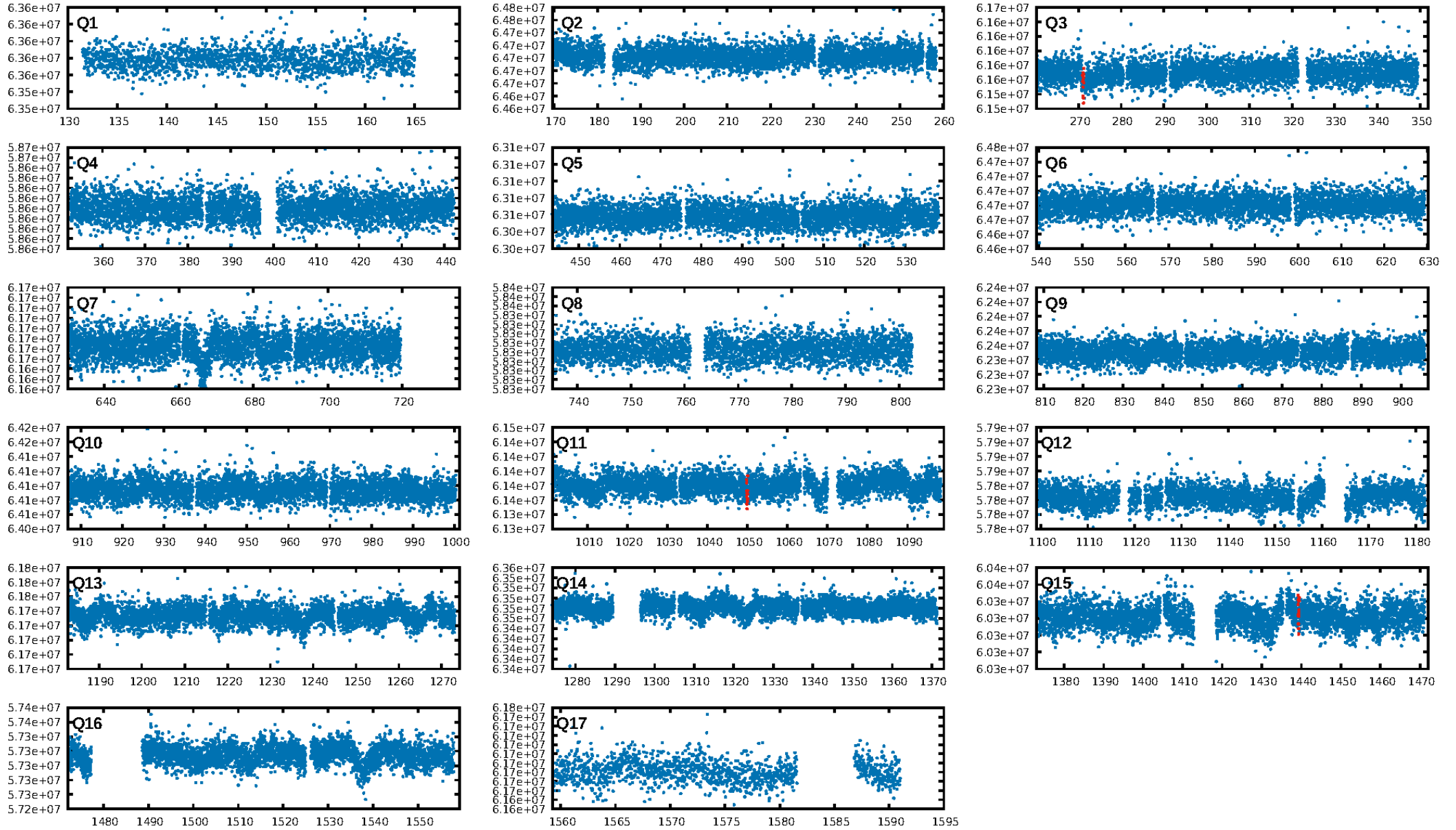
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 17.5%  
ModelChiSquareGof-sig: 72.1%  
**Bootstrap-pfa: 8.79e-11**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -1.905  
Centroid-sig: 60.3%  
Centroid-so: 2.003 arcsec [1.00σ]  
OotOffset-rm: 1.213 arcsec [1.15σ]  
OotOffset-st: 0/3/0/0 [3]  
KicOffset-rm: 1.562 arcsec [1.51σ]  
KicOffset-st: 0/3/0/0 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [3/3]

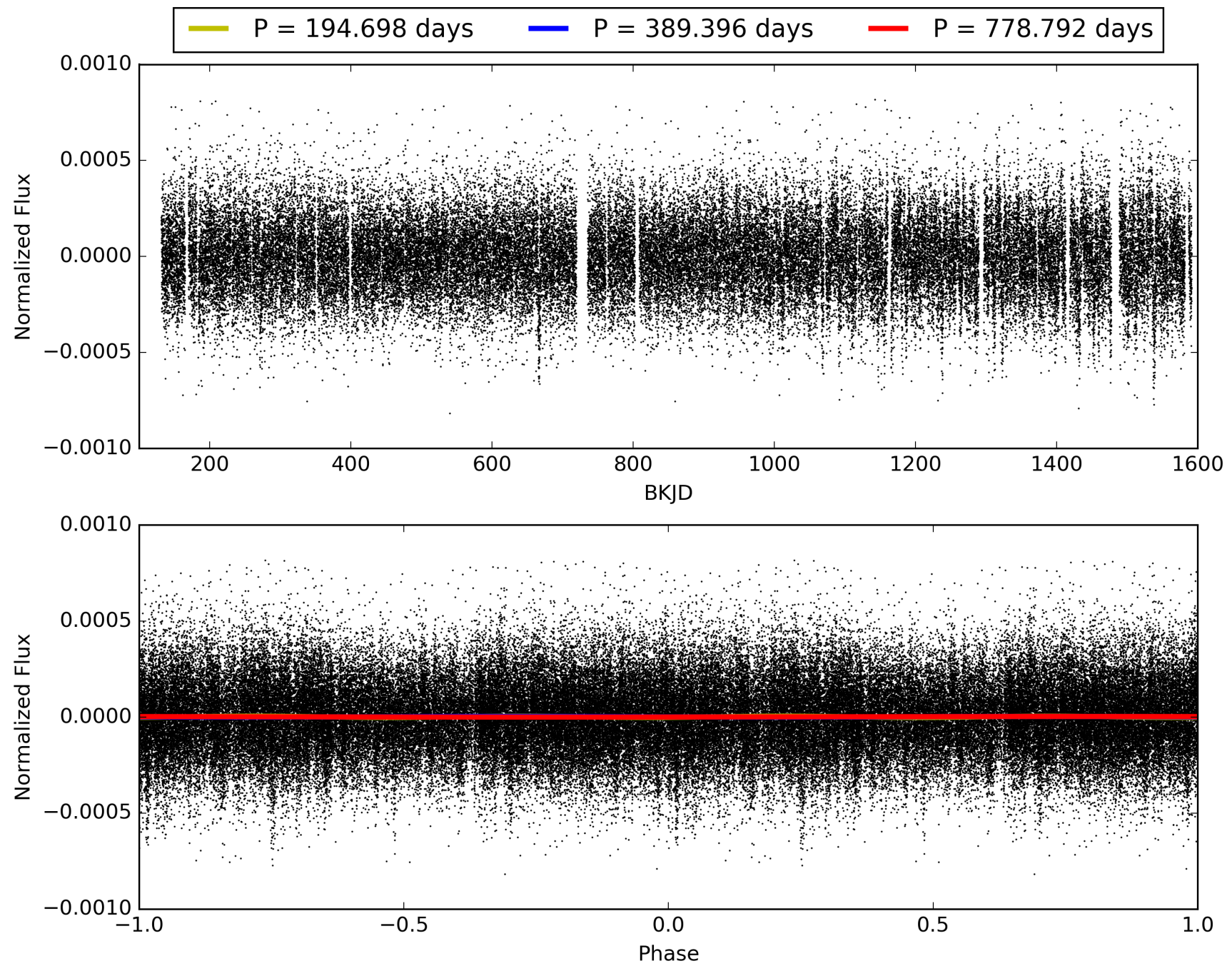
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:43:41 Z

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

# TCE 007511864-01, PDC Light Curves

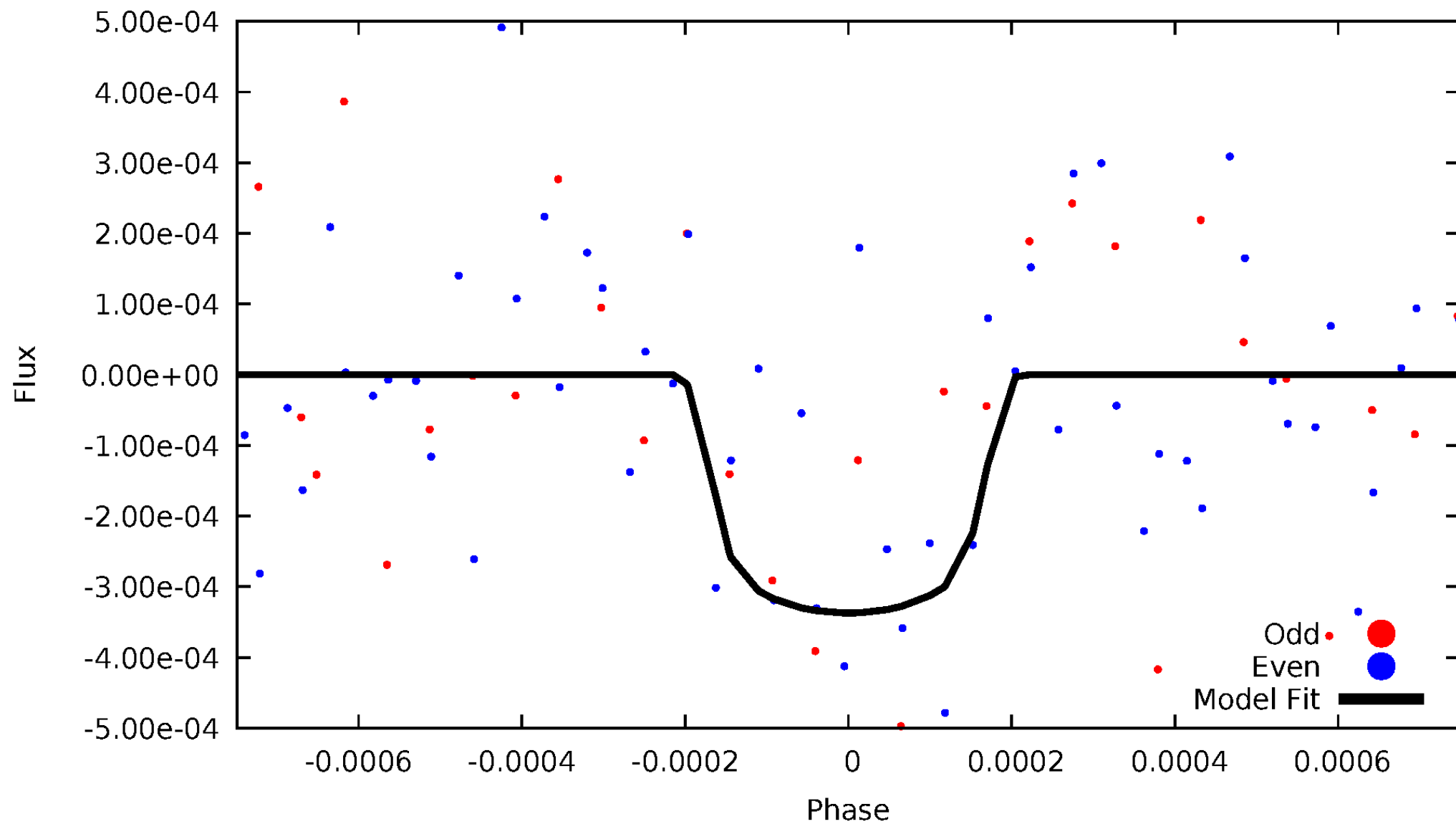


TCE 007511864-01



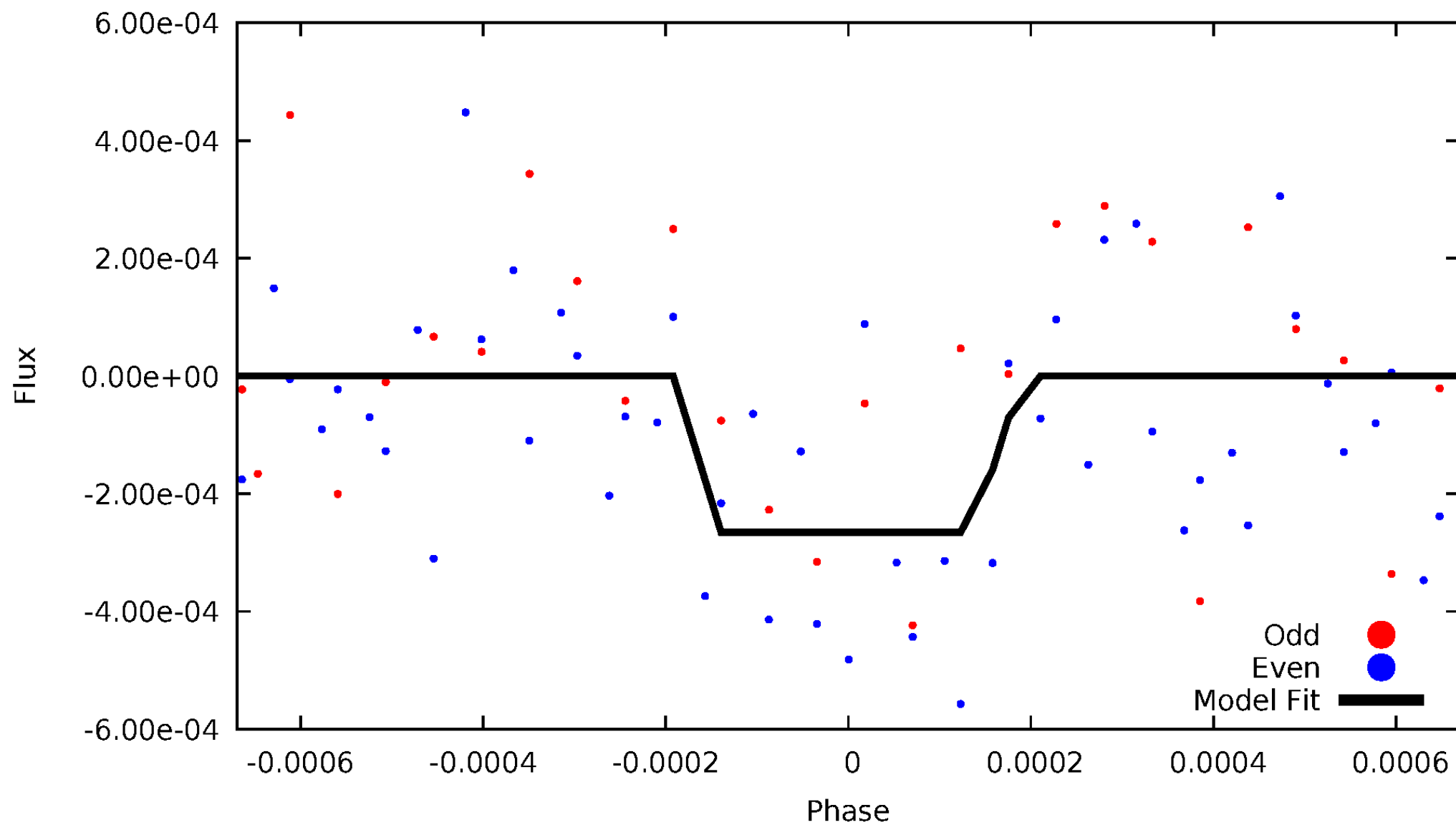
# DV Odd/Even

TCE 007511864-01



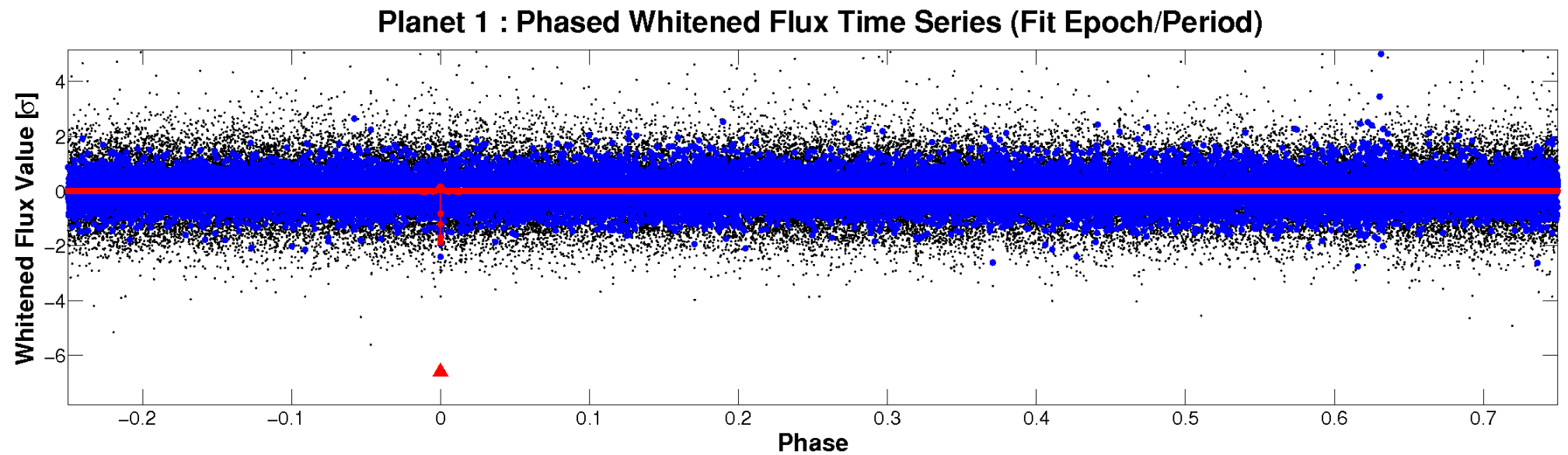
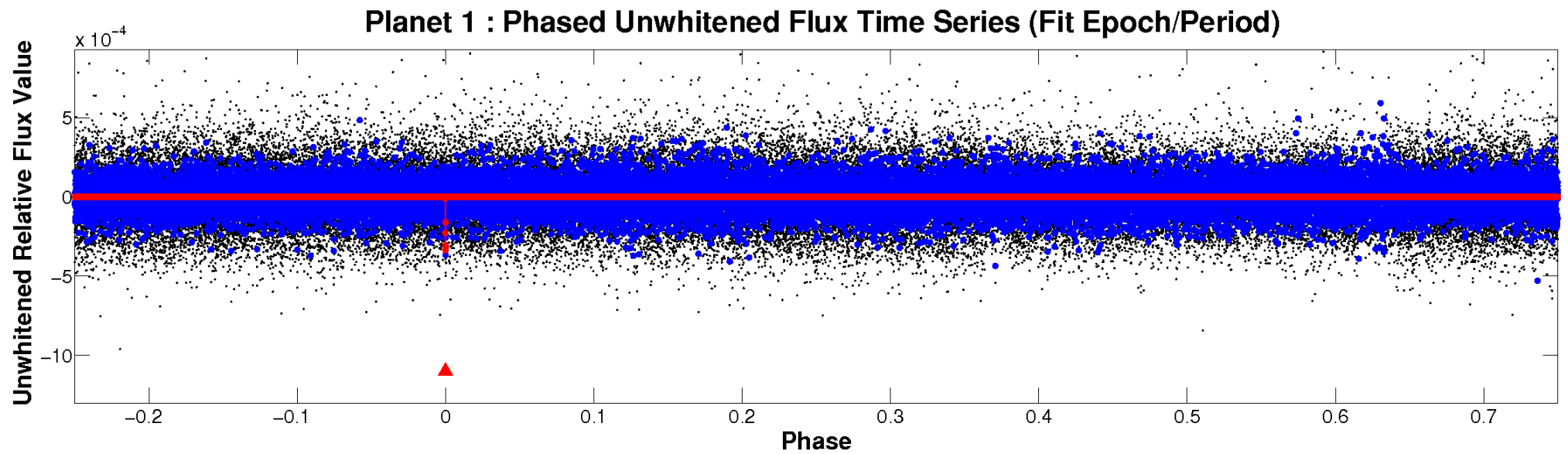
# ALT Odd/Even

TCE 007511864-01



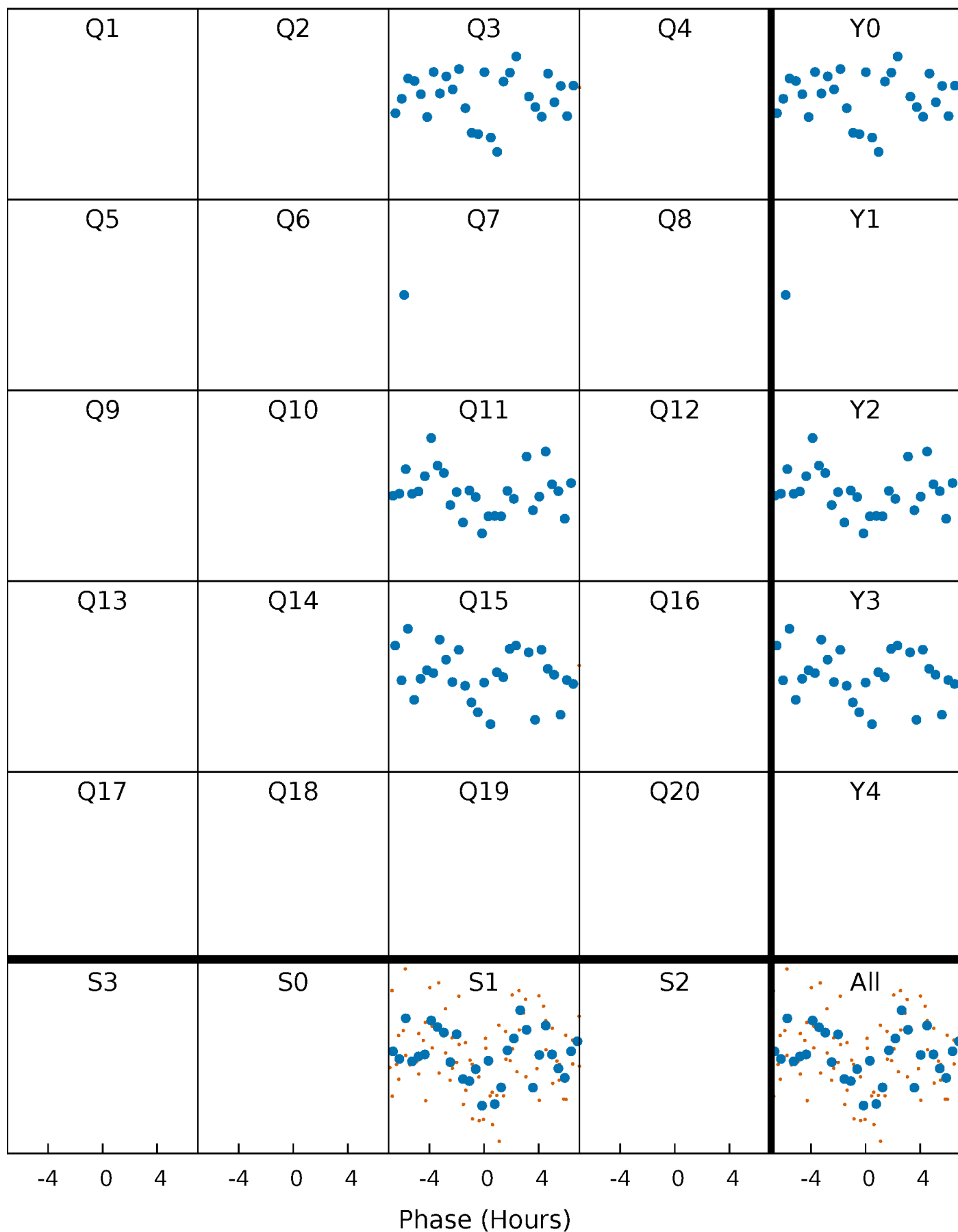


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

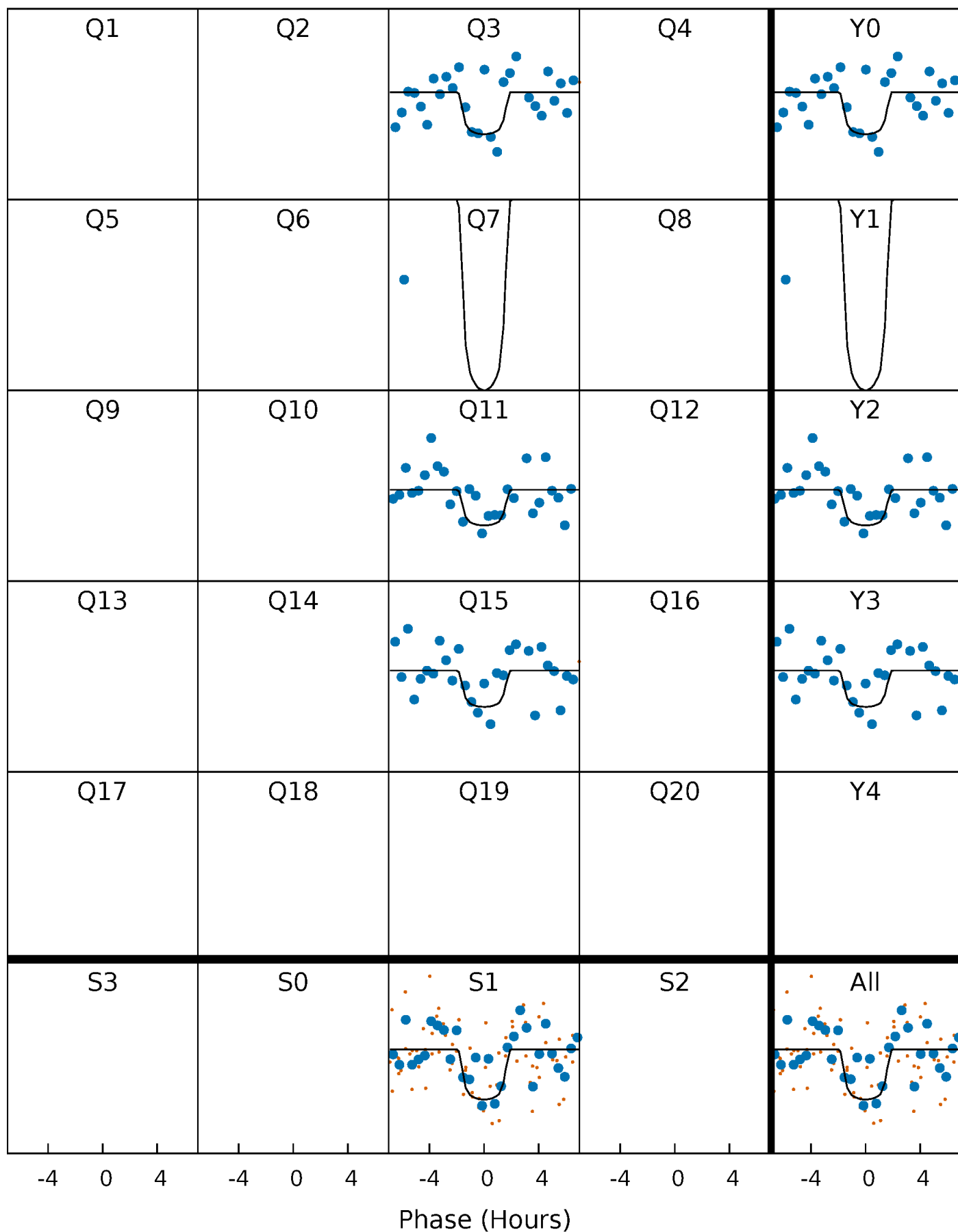
TCE 007511864-01 P=389.395776 Days  $T_0=271.130357$  (BKJD)





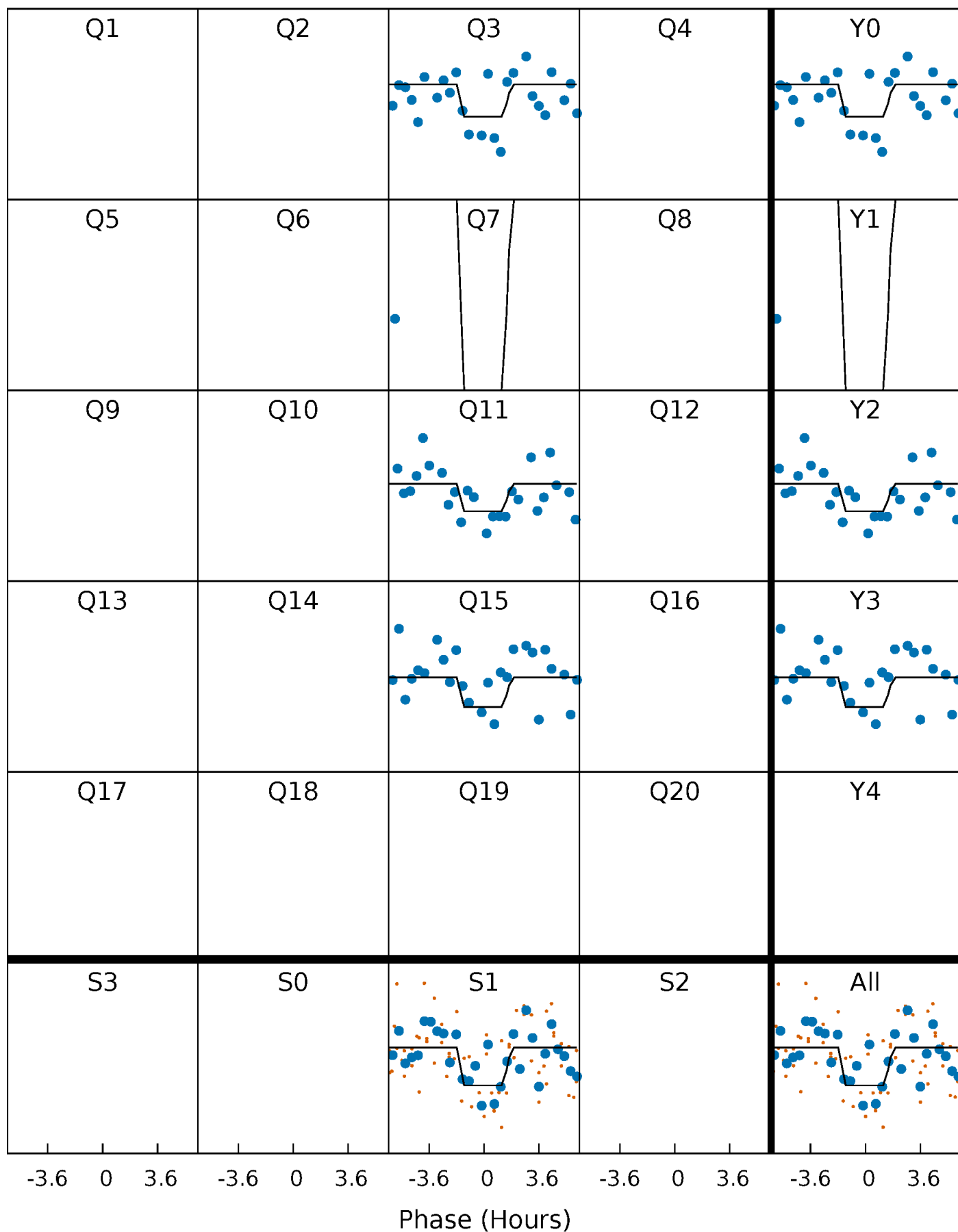
# DV Quarter-Phased Transit Curves

TCE 007511864-01 P=389.395776 Days  $T_0=271.130357$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

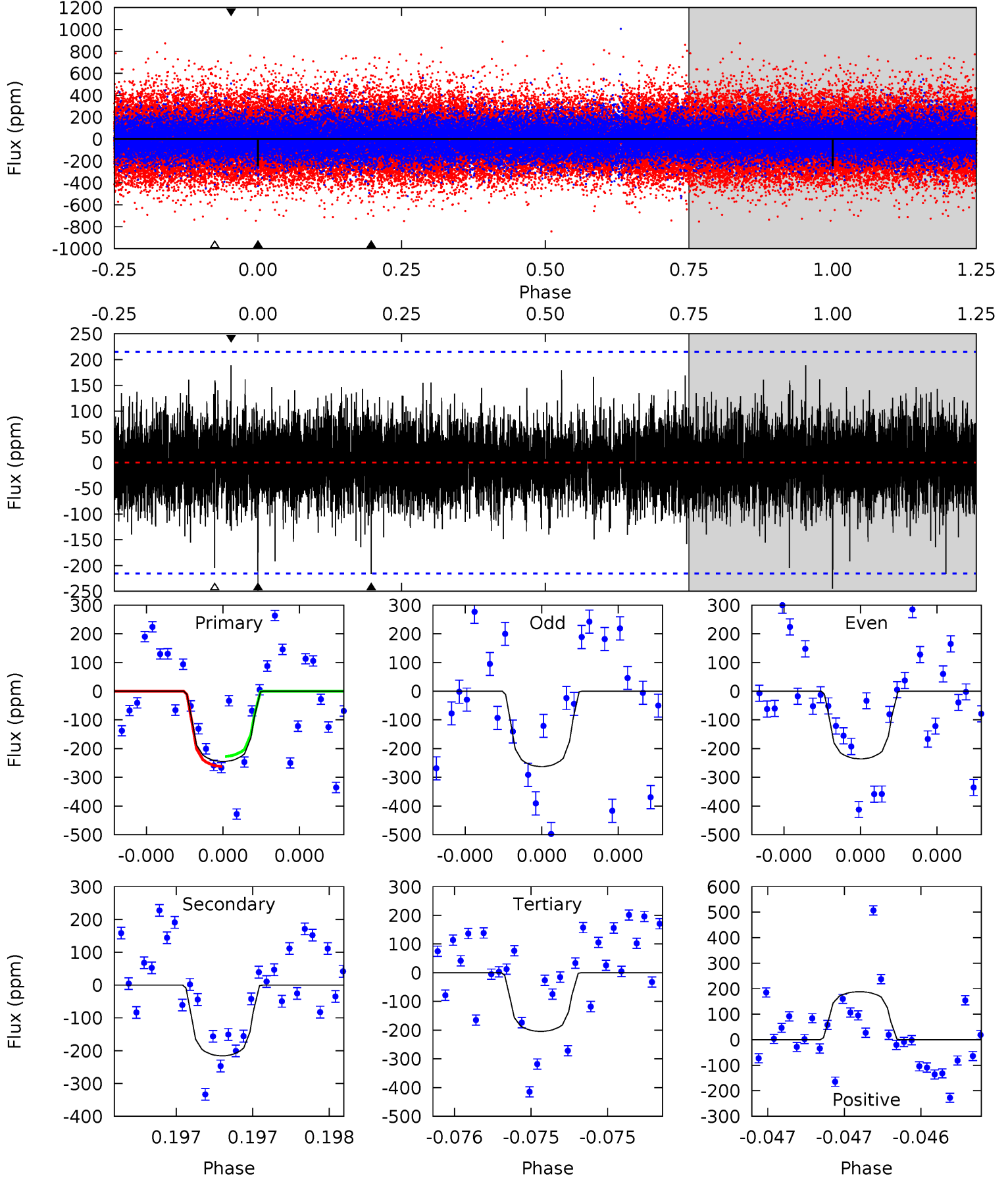
TCE 007511864-01 P=389.395542 Days  $T_0=271.128677$  (BKJD)



# DV Model-Shift Uniqueness Test

007511864-01, P = 389.395776 Days, E = 271.130357 Days

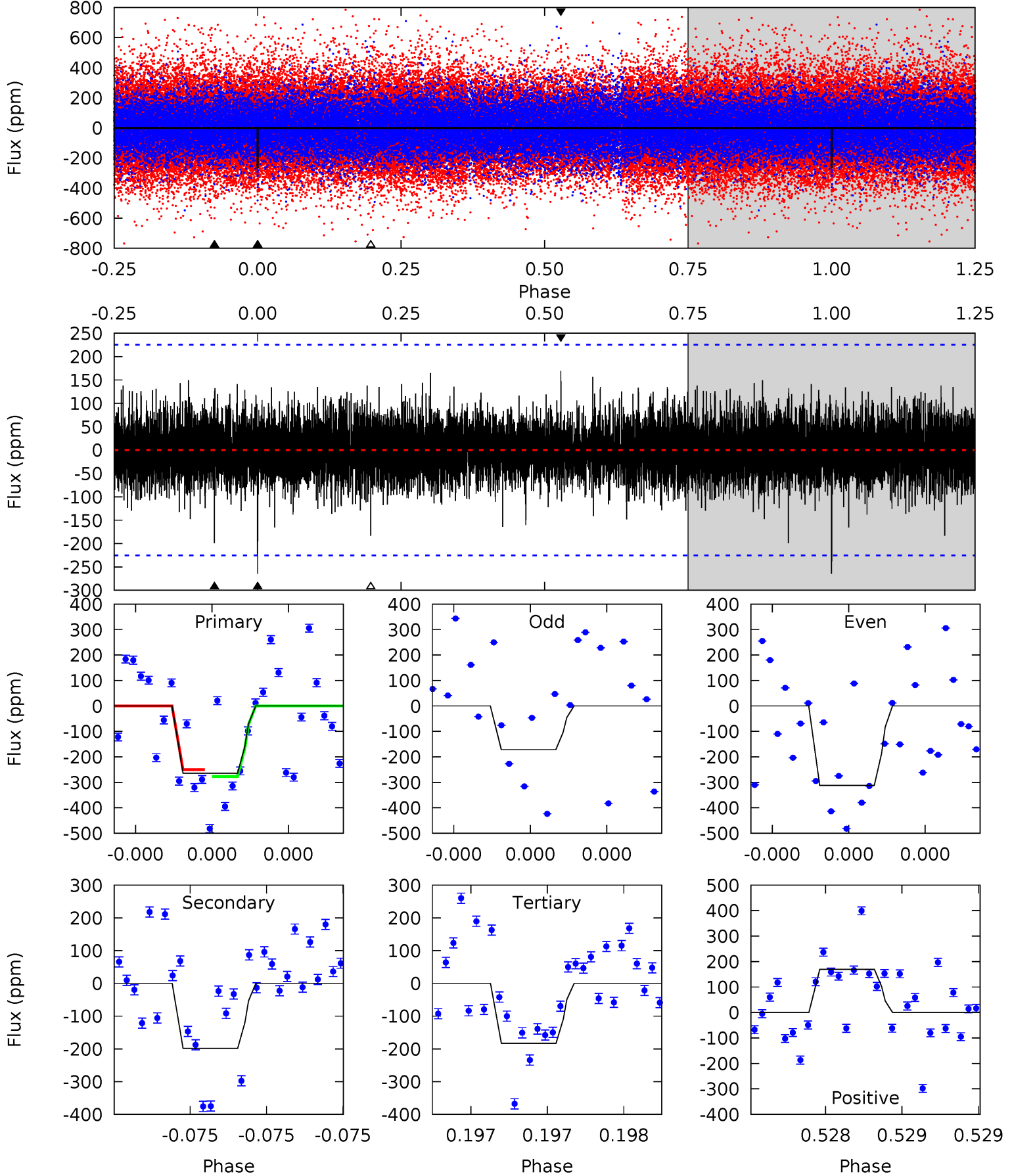
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.38	5.62	5.32	4.90	5.60	3.53	1.16	1.06	1.47	0.30	0.72	0.33	1.02	0.43	0.45



# Alt Model-Shift Uniqueness Test

007511864-01, P = 389.395542 Days, E = 271.128677 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
6.60	4.96	4.58	4.24	5.63	3.56	1.03	2.02	2.37	0.39	0.73	1.70	0.88	0.39	0.33



### Stellar Parameters For KIC 007511864

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6258^{+169}_{-206}$	$4.449^{+0.054}_{-0.216}$	$-0.160^{+0.250}_{-0.350}$	$1.031^{+0.335}_{-0.112}$	$1.087^{+0.158}_{-0.144}$	$1.398^{+0.400}_{-0.738}$
	+3%/-3%	+1%/-5%	+156%/-219%	+32%/-11%	+15%/-13%	+29%/-53%
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 007511864-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-216 \pm 38$	$2.41^{+1.53}_{-1.38}$	$385^{+31}_{-18}$	$5351^{+3022}_{-996}$	$23094^{+101009}_{-14541}$
Alt.	$-199 \pm 40$	$2.08^{+1.43}_{-1.19}$	$386^{+27}_{-18}$	$5638^{+3371}_{-1152}$	$29728^{+127753}_{-19603}$

$T_{max}$  = 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

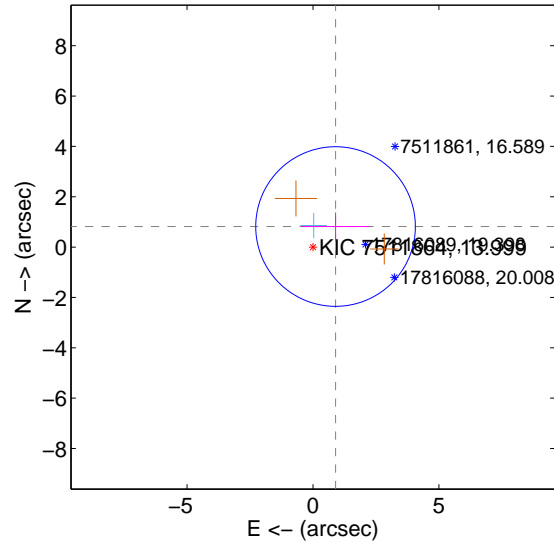
Supplemental centroid analysis for 007511864-01. Kepler magnitude: 14.00. Transit SNR 7.31

There are 1 quarters with good PRF difference image offsets

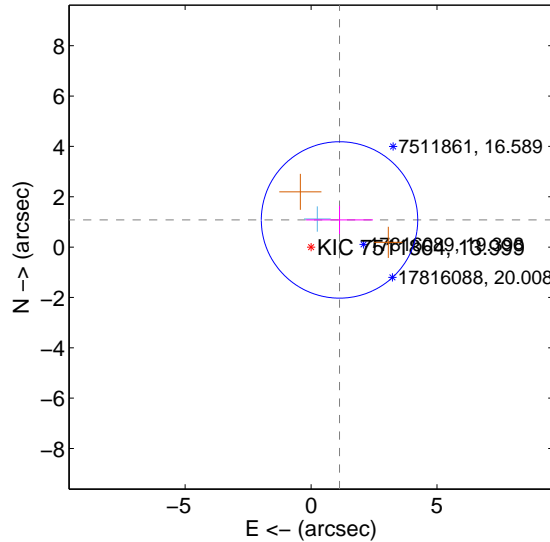
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.213 \pm 1.057$	1.15	$-0.897 \pm 1.336$	$0.817 \pm 0.558$
PRF-fit source offset from KIC position	$1.562 \pm 1.035$	1.51	$-1.130 \pm 1.328$	$1.079 \pm 0.560$
photometric centroid source offset	$2.00 \pm 2.00$	1.00	$-2.00 \pm 2.00$	$0.05 \pm 2.19$

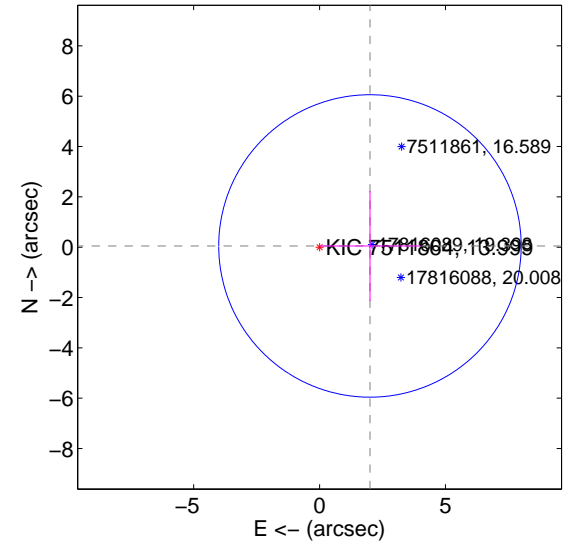
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

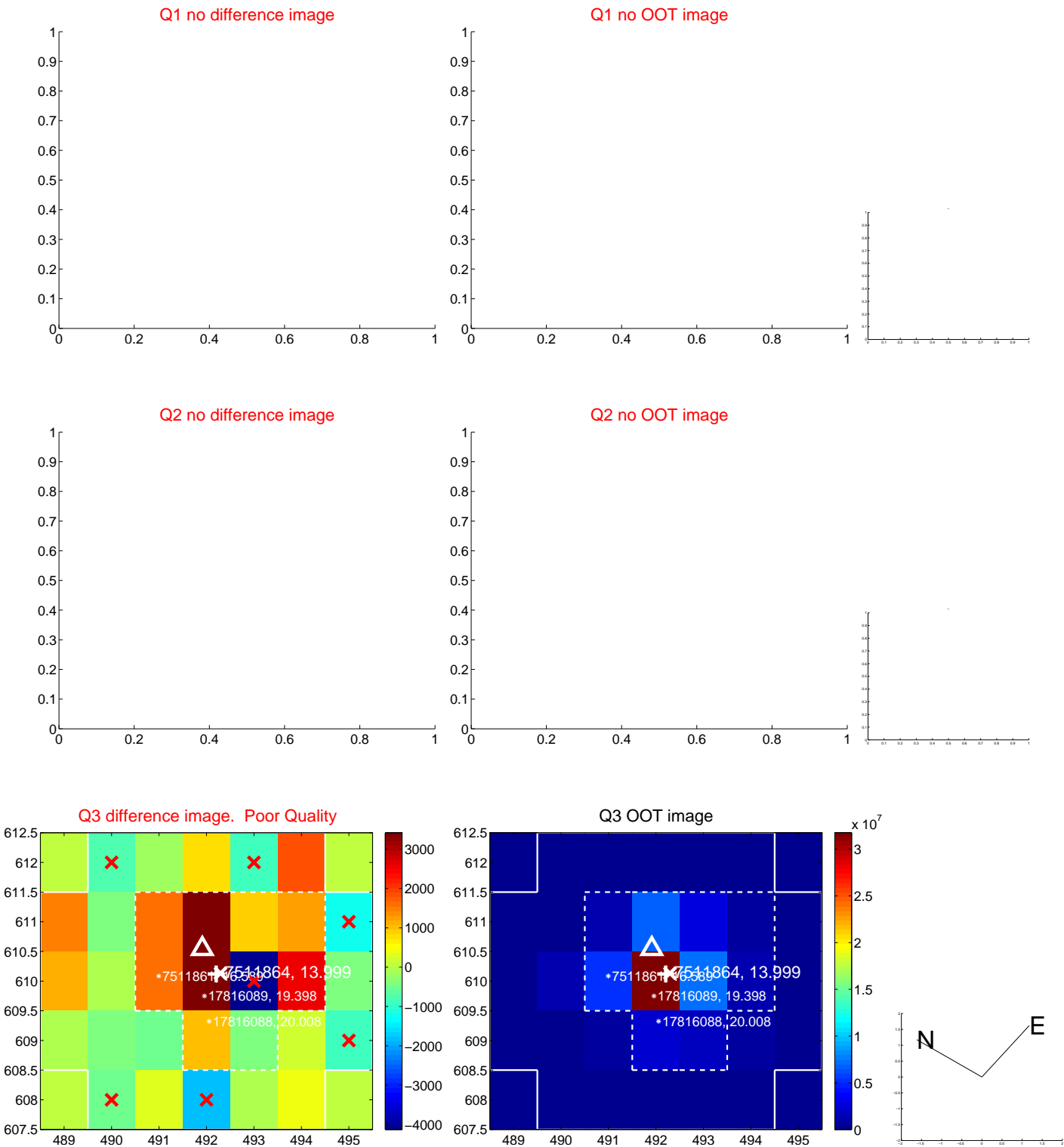


offset from photometric centroids



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.

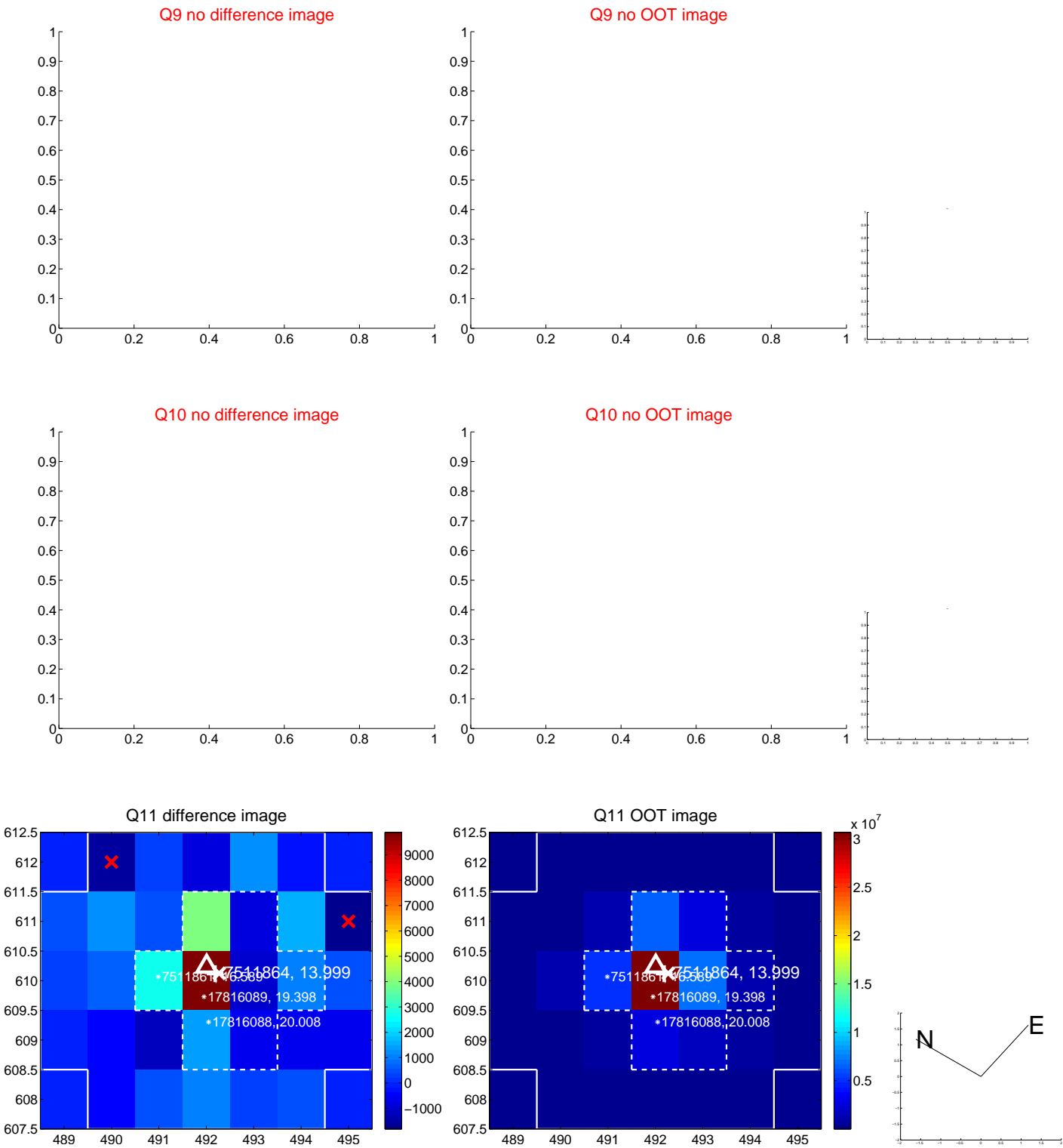




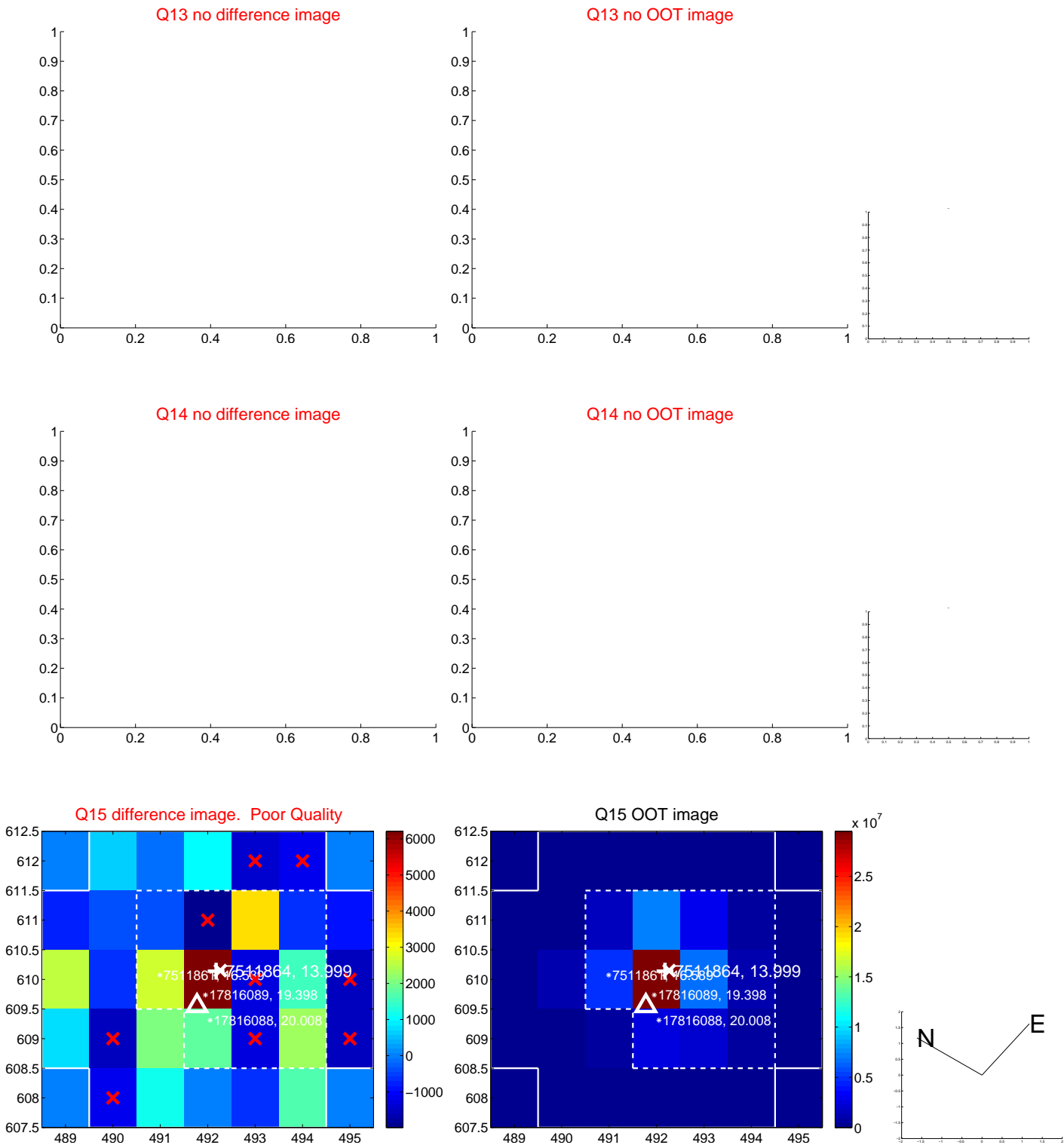
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



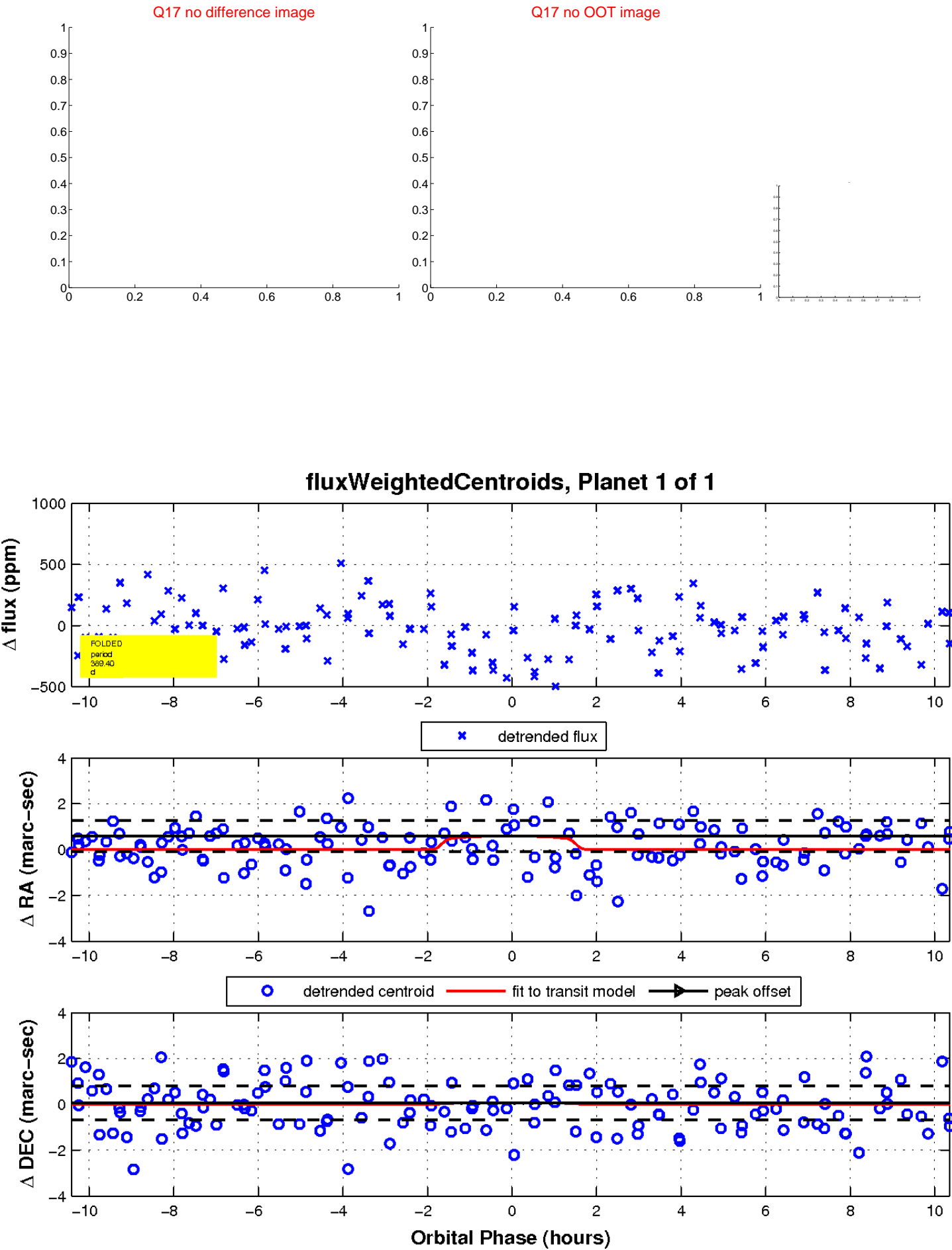
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: 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

