

# KIC 005786771

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005786771-01	OBS	No	290.370299	221.961921	26.4	24.315	10.9	7.3	3.23	9613	1.88	63.73

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005786771-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_SATURATED

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

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

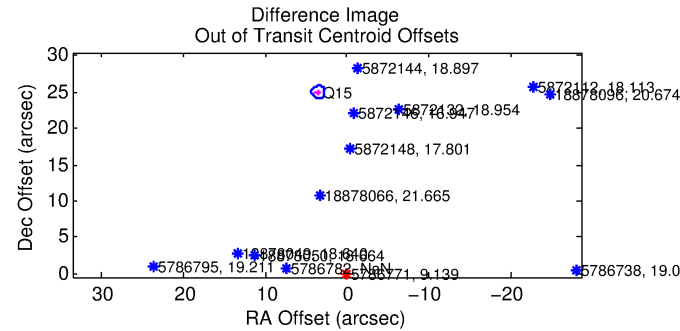
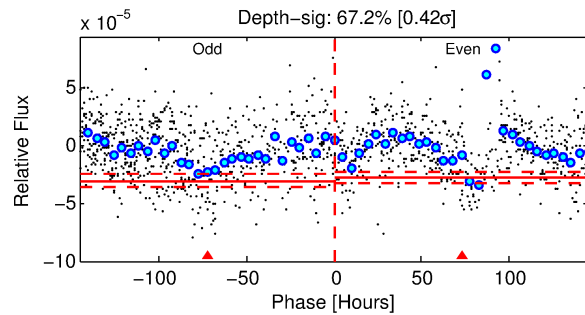
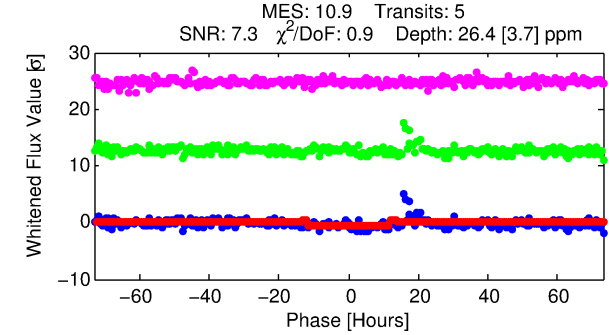
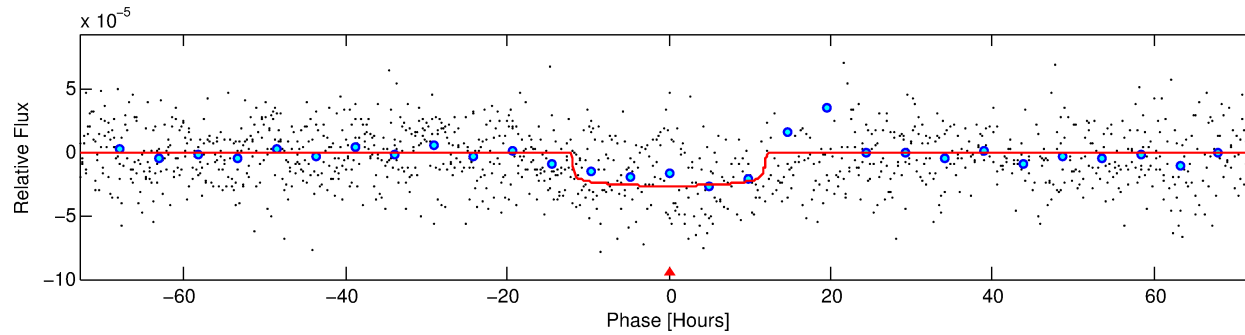
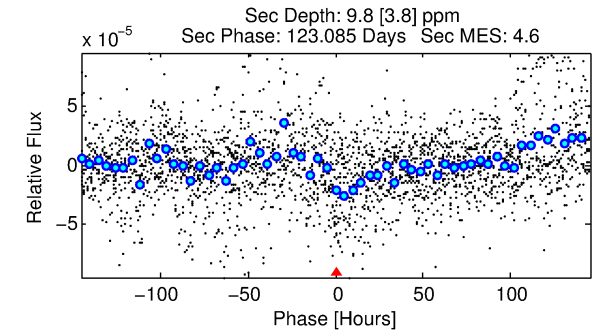
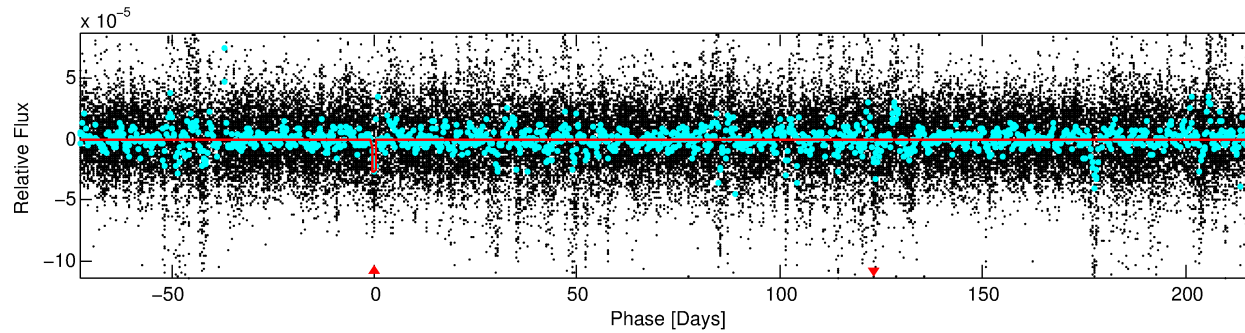
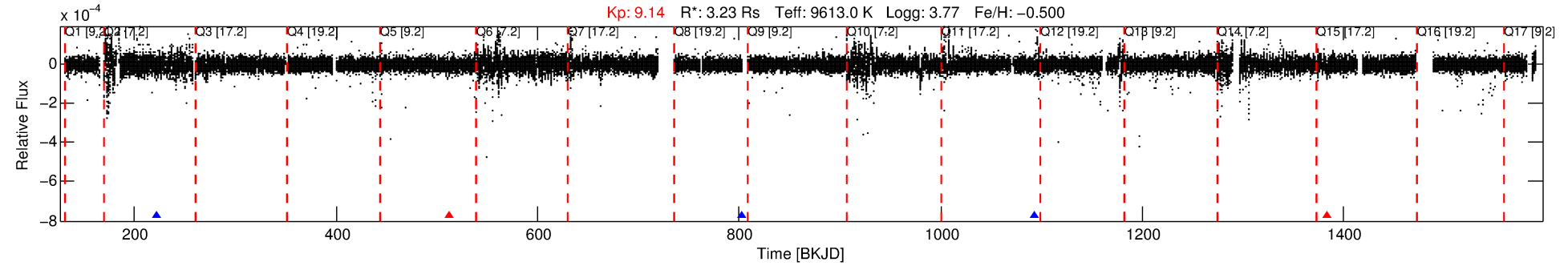
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005786771-01

No Significant Match Found

# DV One-Page Summary

KIC: 5786771 Candidate: 1 of 1 Period: 290.370 d



## DV Fit Results:

Period = 290.37030 [0.00689] d  
Epoch = 221.9619 [0.0173] BKJD  
Rp/R\* = 0.0053 [0.0005]  
a/R\* = 46.32 [16.91]  
b = 0.87 [0.10]  
Seff = 63.73 [60.19]  
Teq = 720 [170] K  
Rp = 1.88 [0.96] Re  
a = 1.1209 [0.5805] AU  
Ag = 1934.87 [1848.37] [1.05σ]  
Teff = 7388 [1074] K [6.13σ]

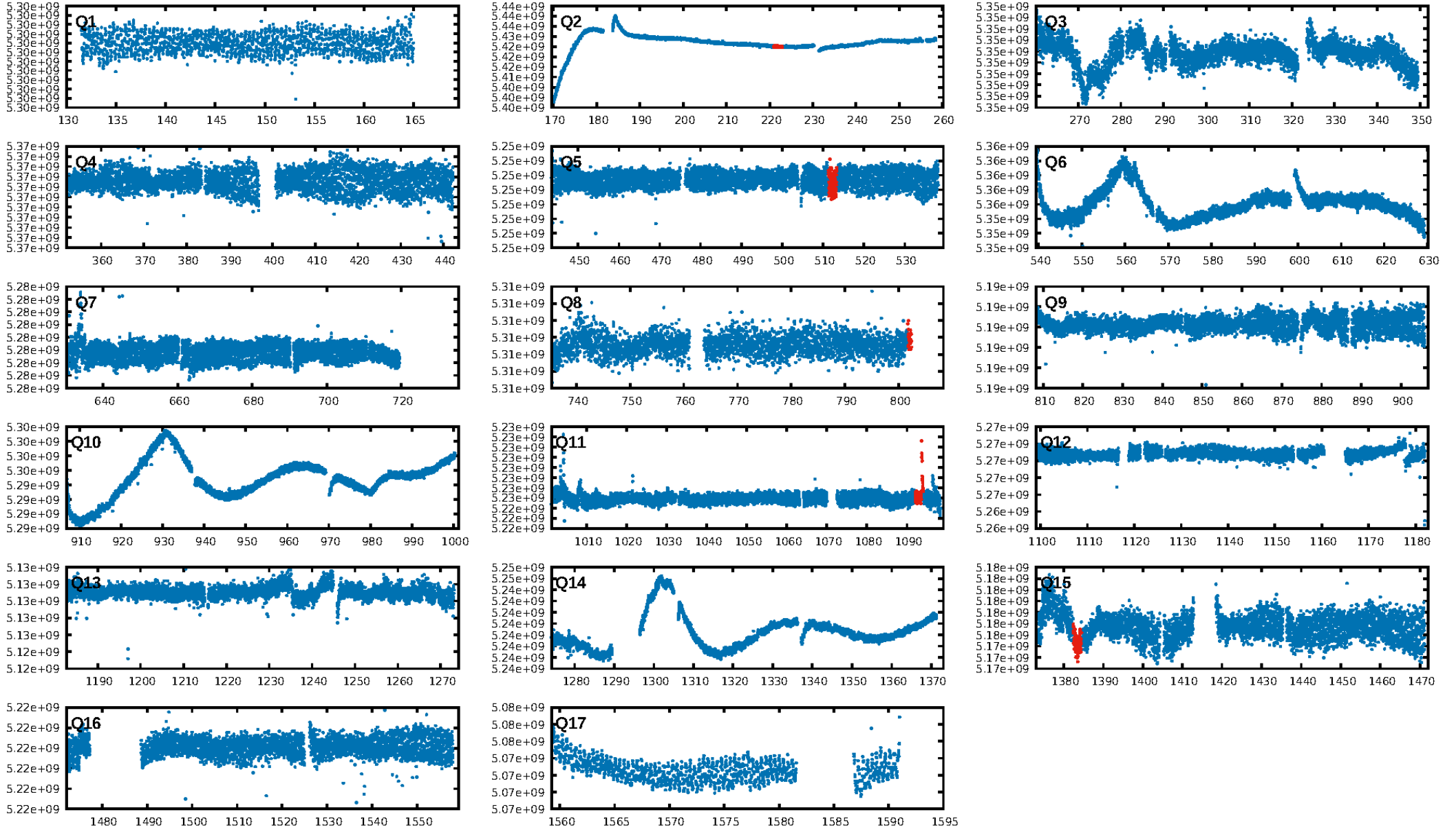
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGoF-sig: 100.0%  
Bootstrap-pfa: 3.04e-10  
RollingBand-fgt: 0.60 [3/5]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 0.5%  
Centroid-so: 16.981 arcsec [1.74σ]  
OotOffset-rm: 25.288 arcsec [89.73σ]  
KicOffset-rm: 27.101 arcsec [96.22σ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [2/2]

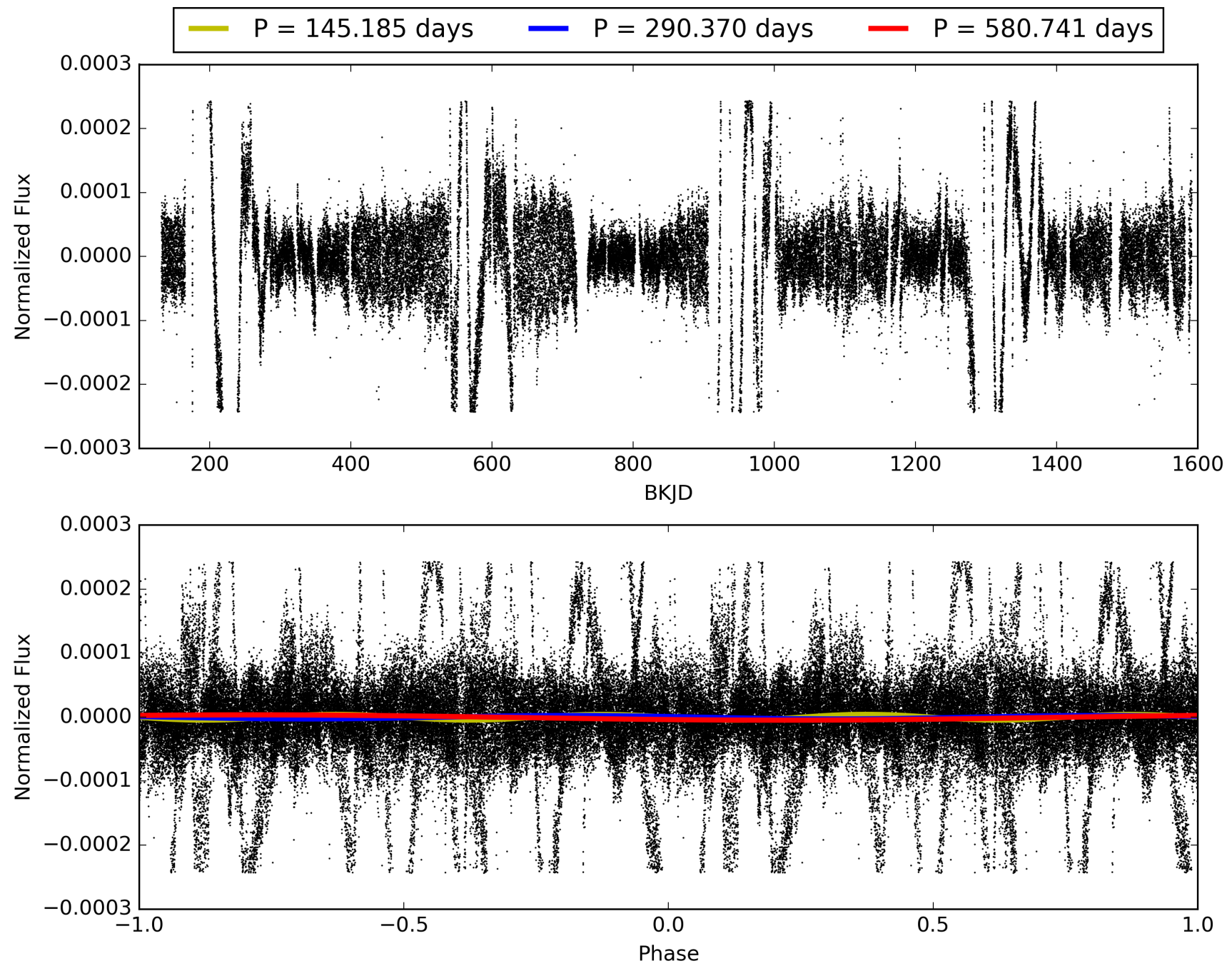
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:15:09 Z

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

# TCE 005786771-01, PDC Light Curves

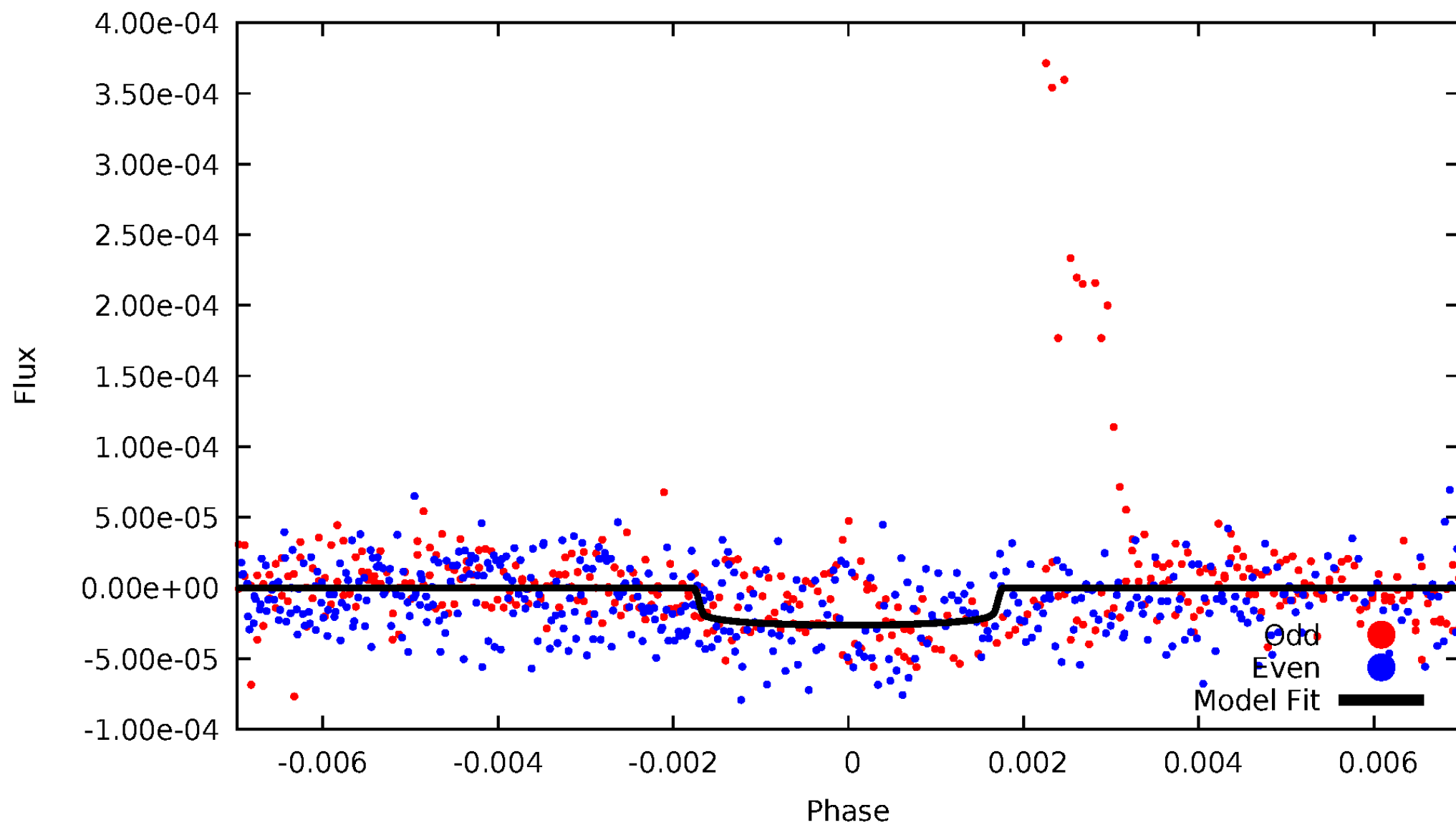


TCE 005786771-01



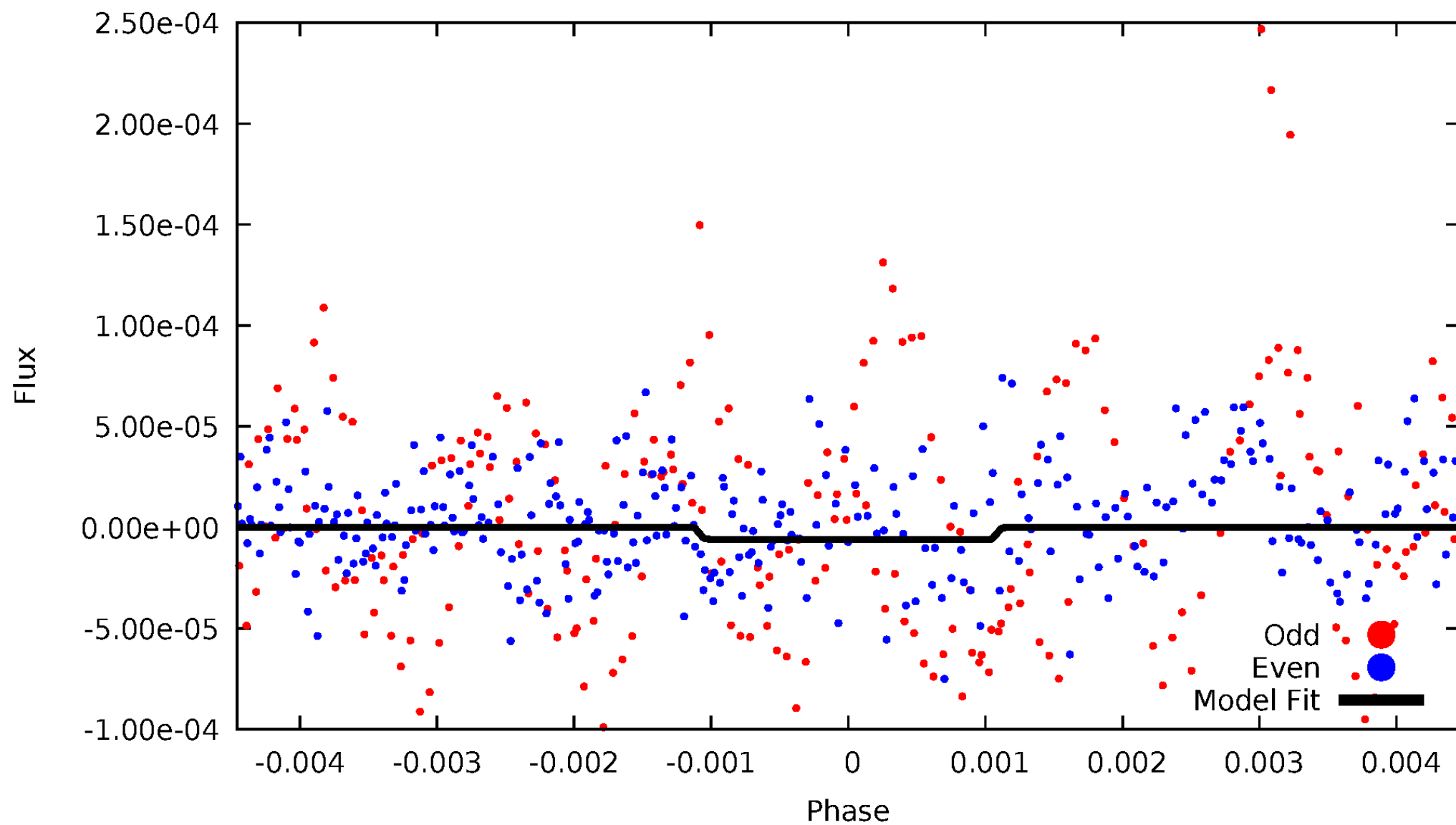
# DV Odd/Even

TCE 005786771-01



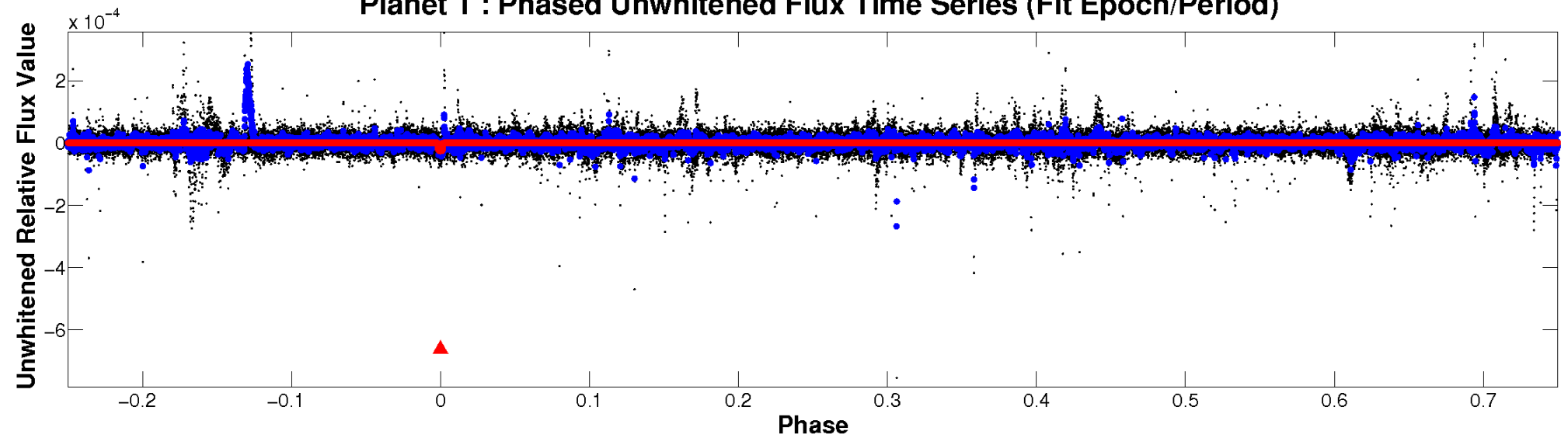
# ALT Odd/Even

TCE 005786771-01

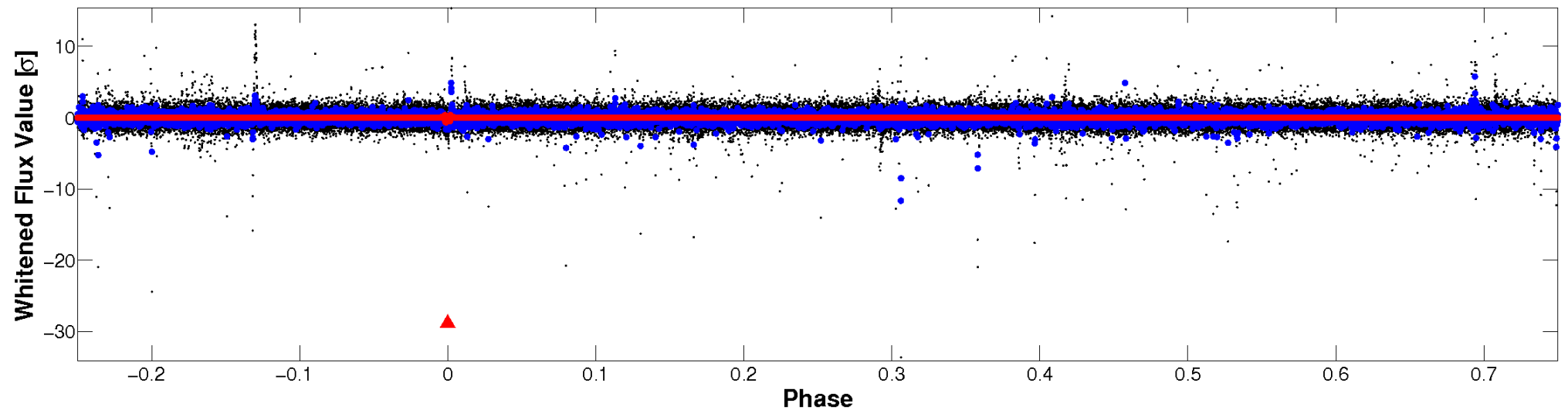


# Non-Whitened Vs. Whitened Light Curve

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

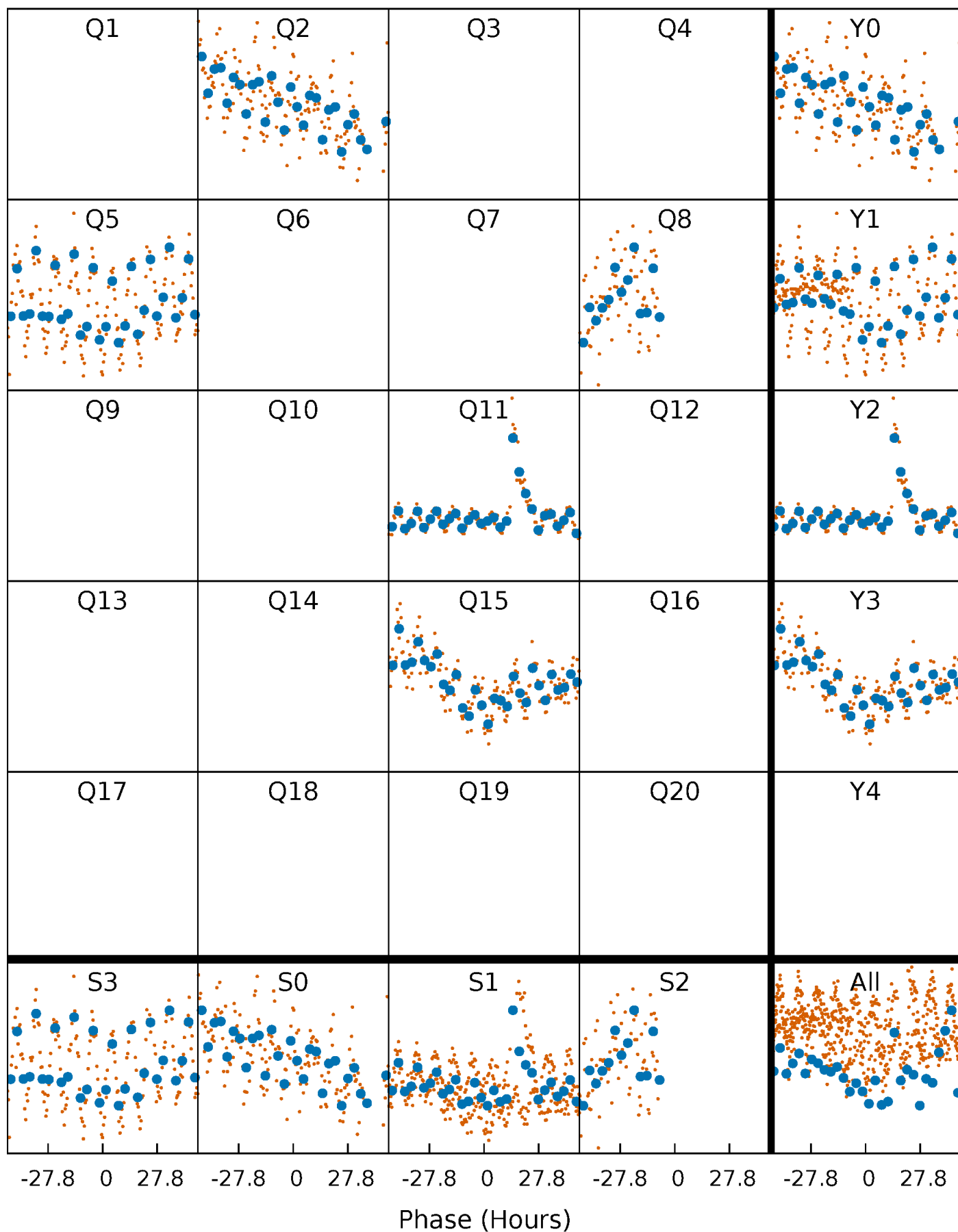


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

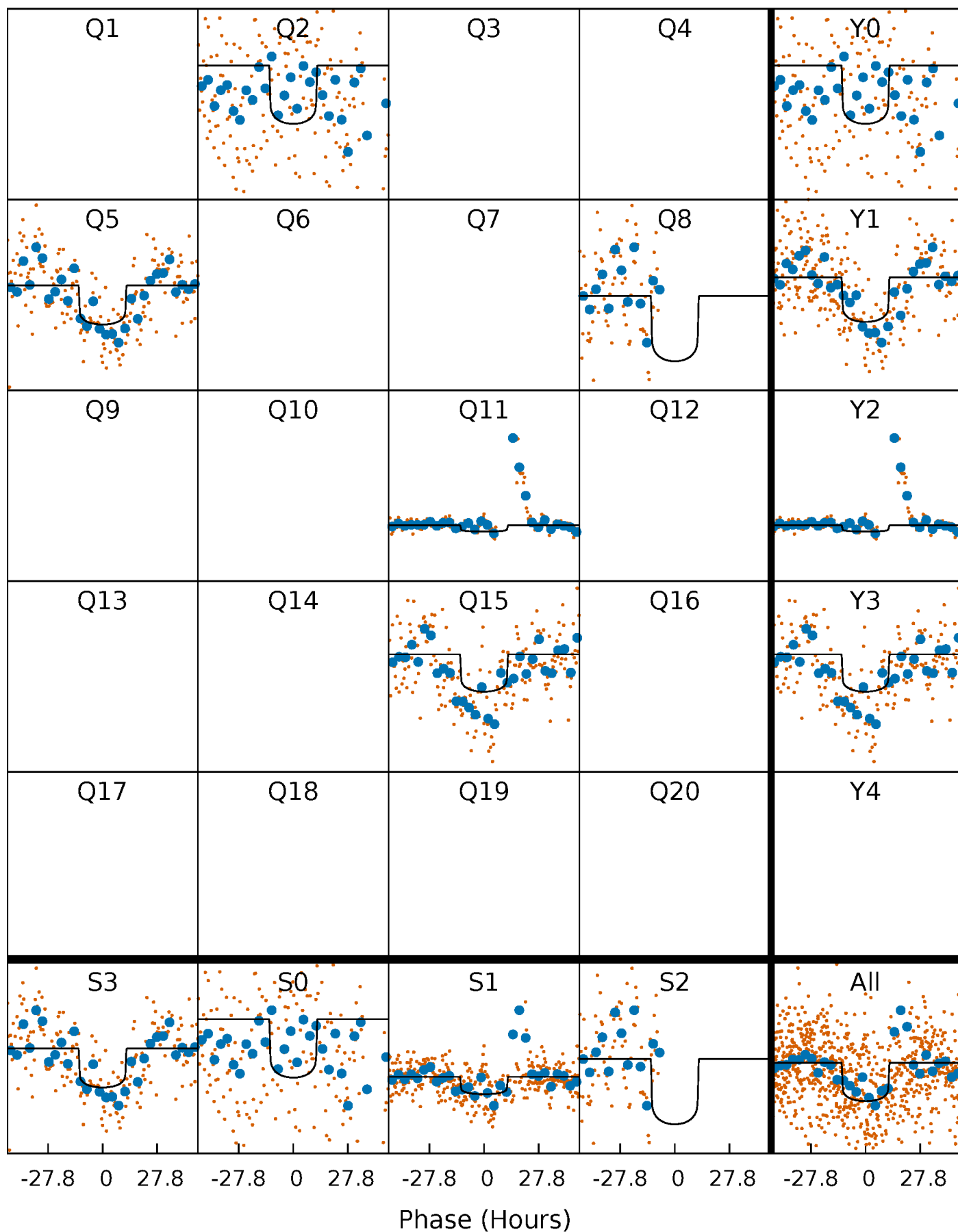
TCE 005786771-01 P=290.370299 Days  $T_0=221.961921$  (BKJD)





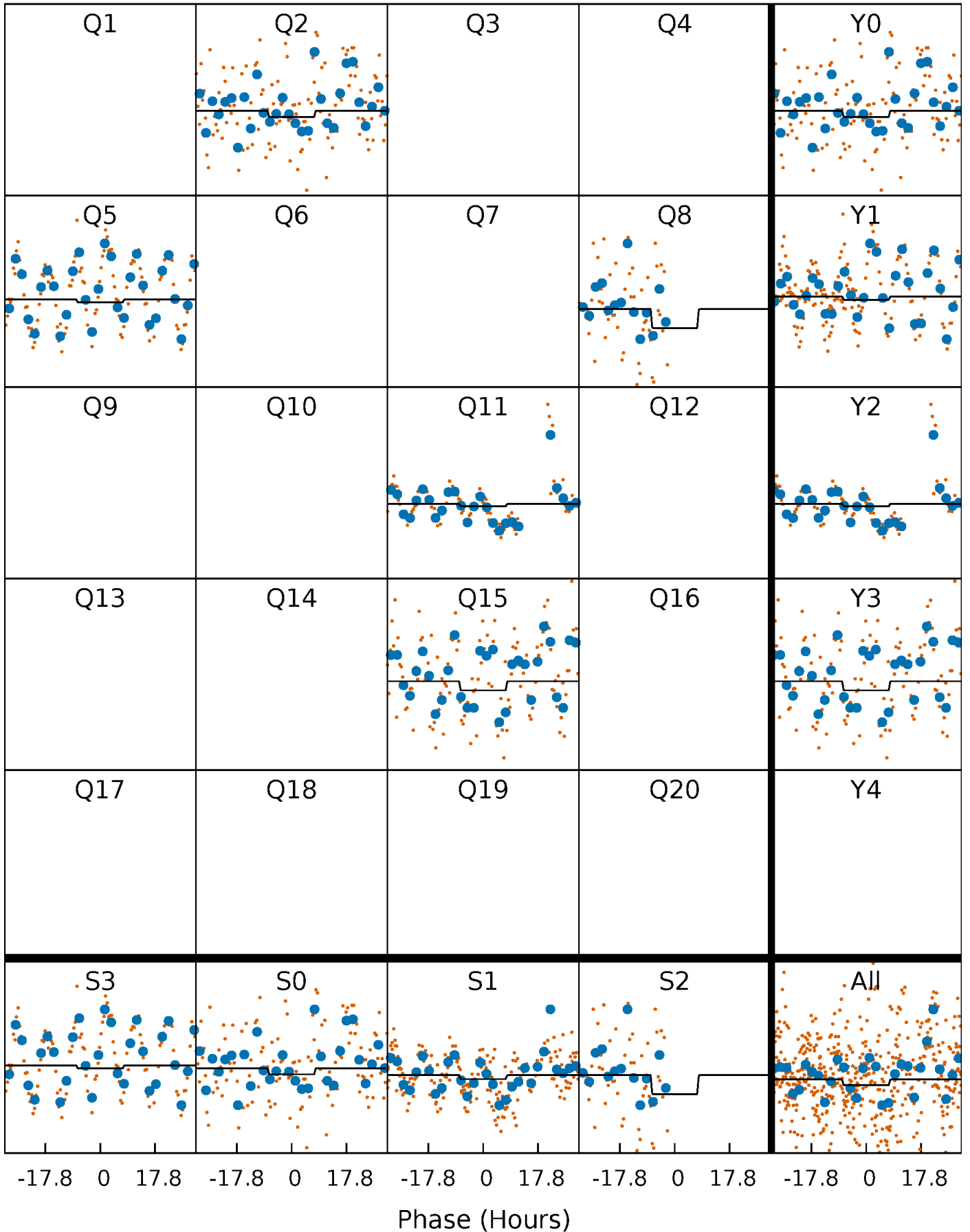
# DV Quarter-Phased Transit Curves

TCE 005786771-01 P=290.370299 Days  $T_0=221.961921$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

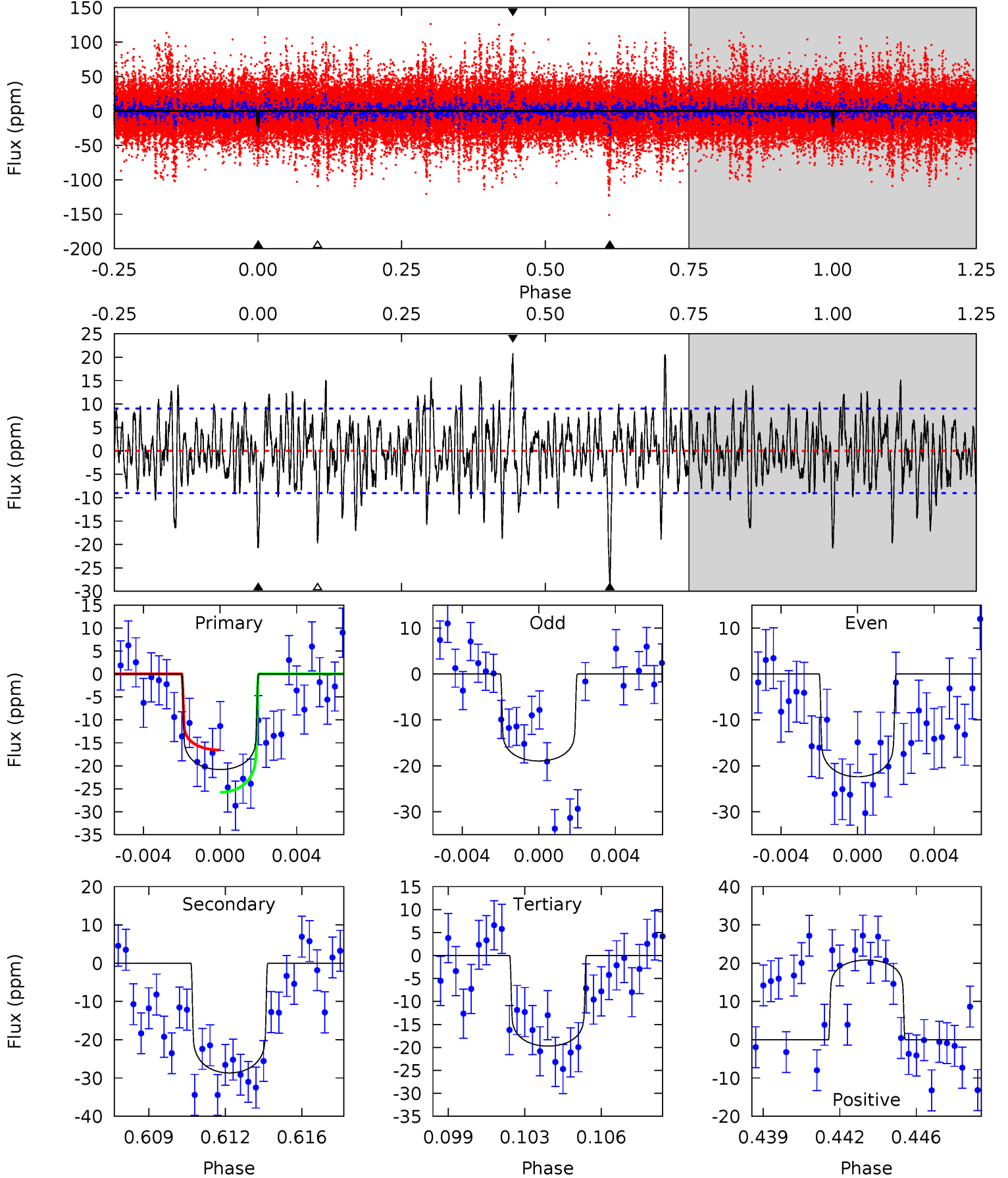
TCE 005786771-01 P=290.408566 Days  $T_0=221.627202$  (BKJD)



# DV Model-Shift Uniqueness Test

005786771-01, P = 290.370299 Days, E = 221.961921 Days

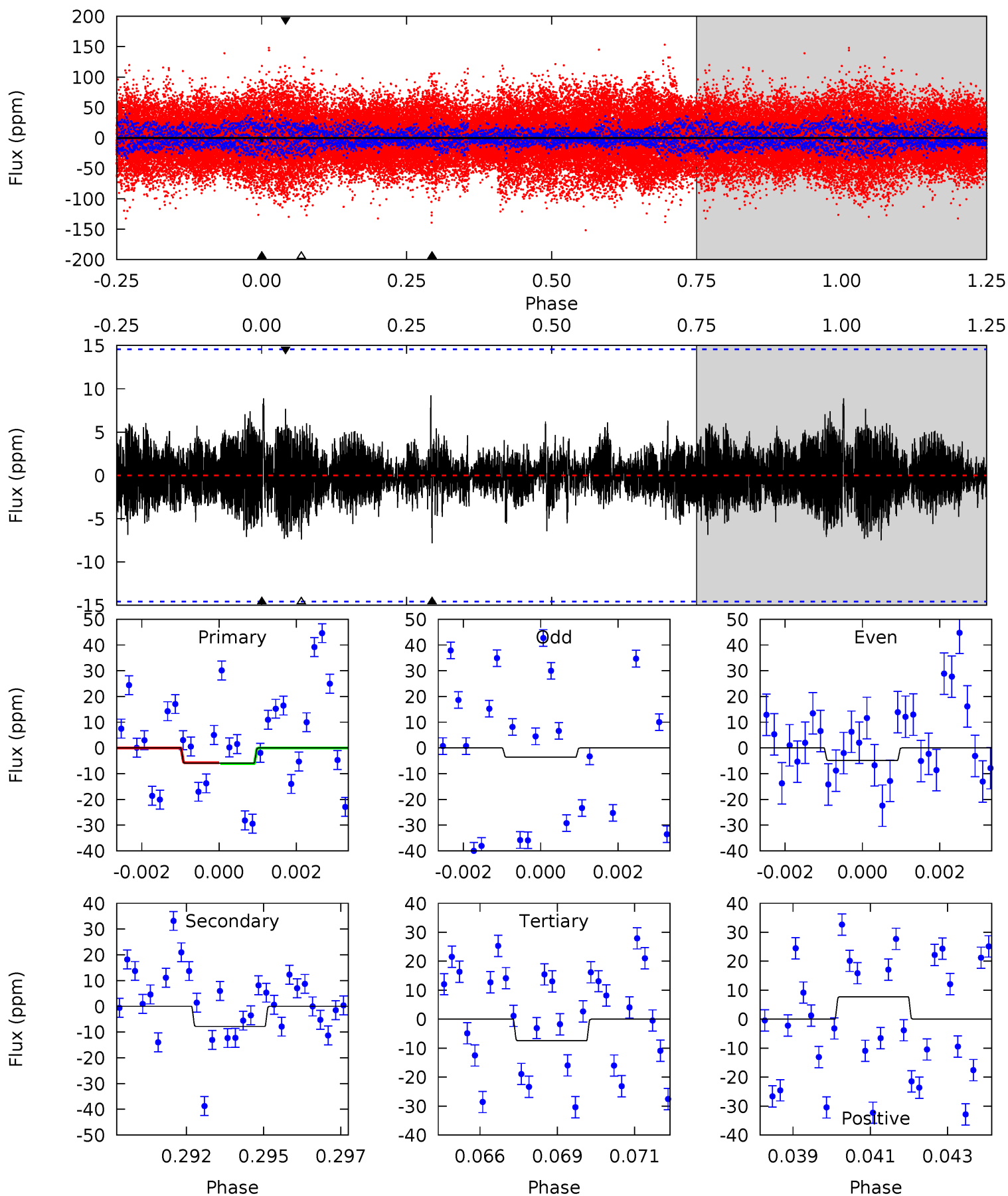
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	16.6	11.4	12.1	5.22	2.92	3.26	0.63	-0.01	5.19	4.55	0.96	1.38	0.42	2.65



# Alt Model-Shift Uniqueness Test

005786771-01, P = 290.408566 Days, E = 221.627202 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
2.15	2.85	2.69	2.80	5.30	3.05	0.79	-0.54	-0.65	0.16	0.05	0.22	0.82	0.54	0.06



### Stellar Parameters For KIC 005786771

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$9613^{+479}_{-958}$	$3.766^{+0.513}_{-0.054}$	$-0.500^{+0.100}_{-0.200}$	$3.235^{+0.306}_{-1.632}$	$2.227^{+0.213}_{-0.639}$	$0.093^{+0.495}_{-0.017}$
	+5%/-10%	+14%/-1%	+20%/-40%	+9%/-50%	+10%/-29%	+535%/-18%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 005786771-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-29 \pm 2$	$1.75^{+0.30}_{-0.50}$	$937^{+103}_{-131}$	$9468^{+978}_{-990}$	$6570^{+5432}_{-1659}$
Alt.	$-8 \pm 3$	$0.77^{+0.22}_{-0.24}$	$934^{+109}_{-129}$	$10376^{+2755}_{-1949}$	$9457^{+9537}_{-4541}$

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

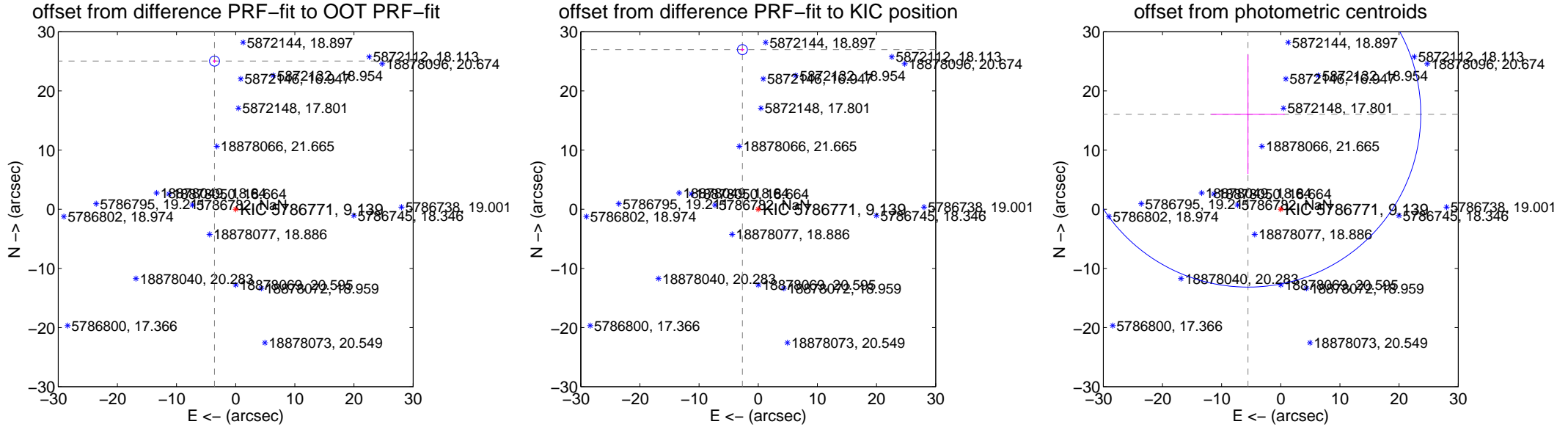
# DV Centroid Data

Supplemental centroid analysis for 005786771-01. **Kepler magnitude: 9.14.** Transit SNR 7.33

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 2.14 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>25.288 \pm 0.282</math></b>	<b>89.73</b>	$3.578 \pm 0.298$	$25.033 \pm 0.281$
PRF-fit source offset from KIC position	<b><math>27.101 \pm 0.282</math></b>	<b>96.22</b>	$2.672 \pm 0.298$	$26.969 \pm 0.281$
photometric centroid source offset	$16.98 \pm 9.74$	1.74	$5.55 \pm 6.23$	$16.05 \pm 10.08$

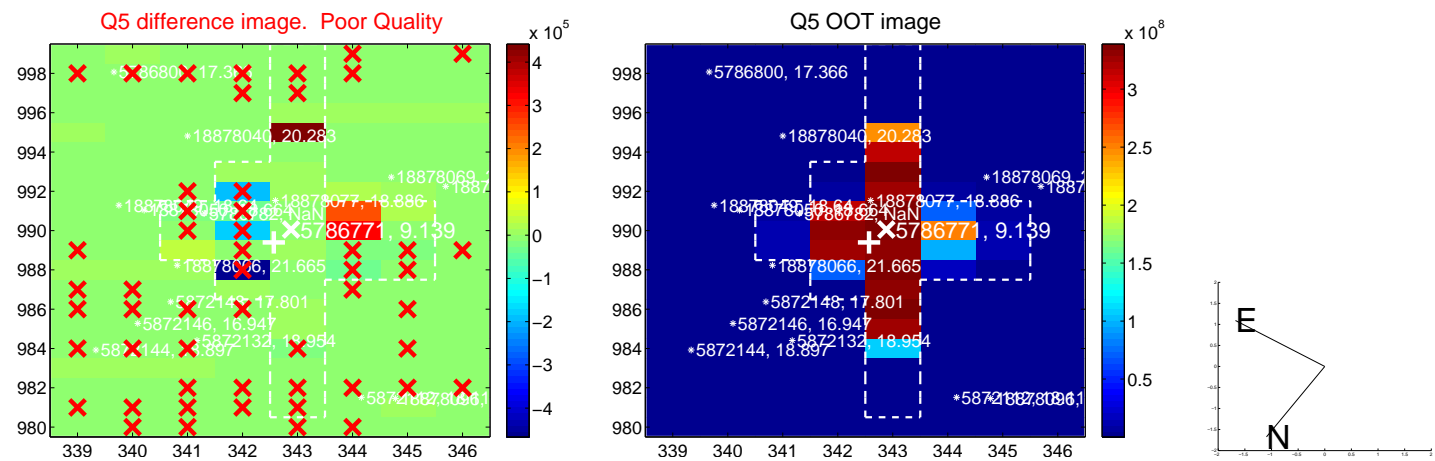


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

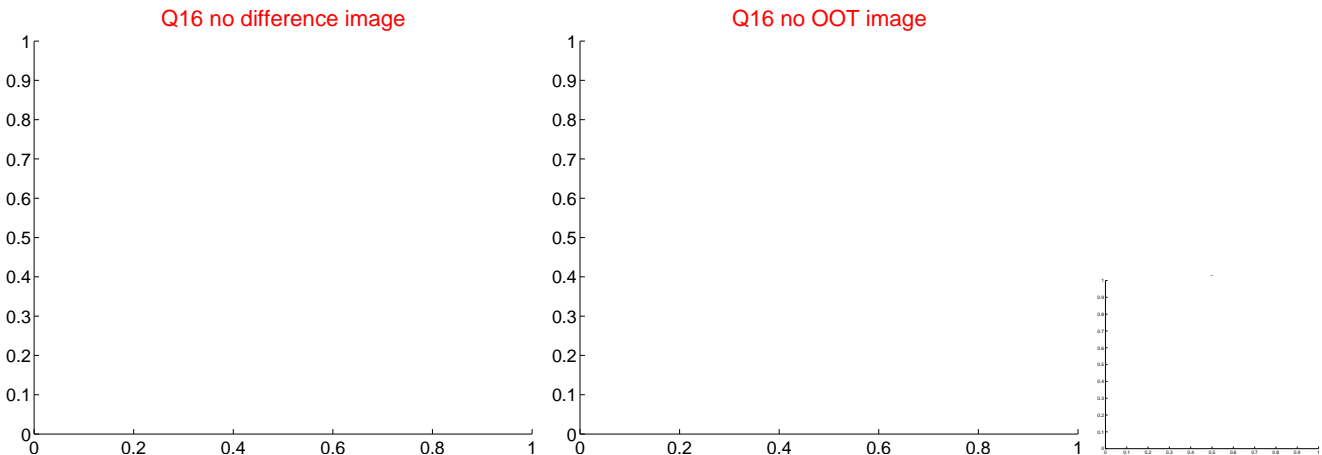
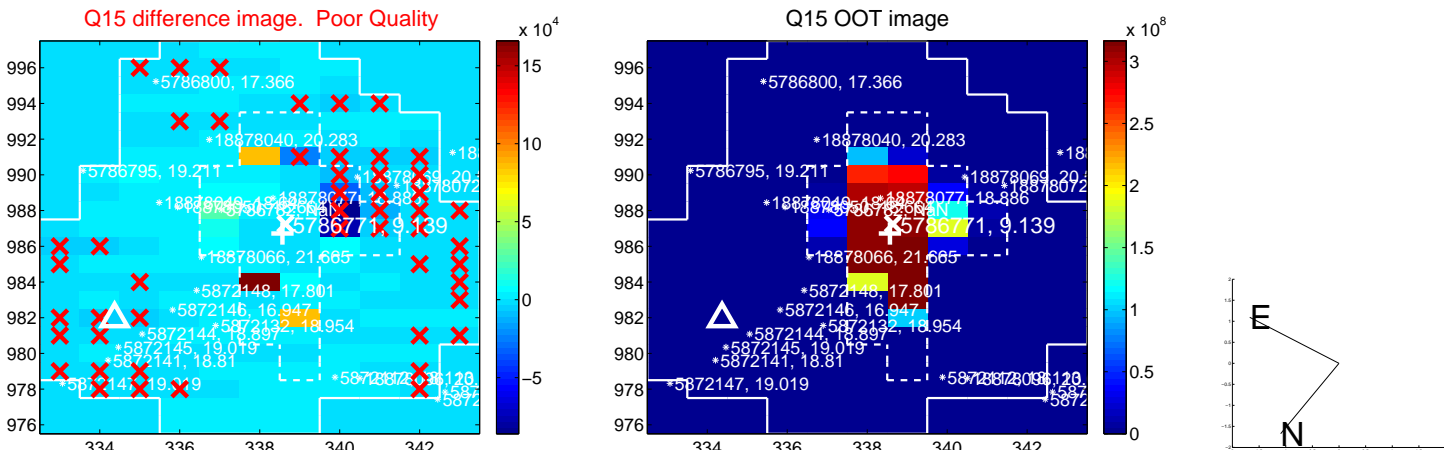
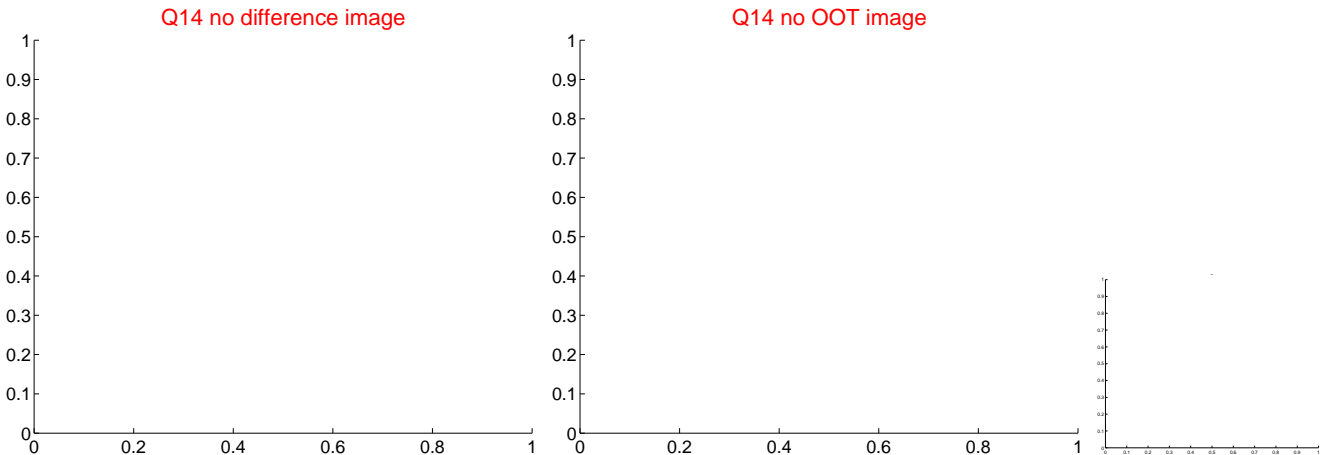
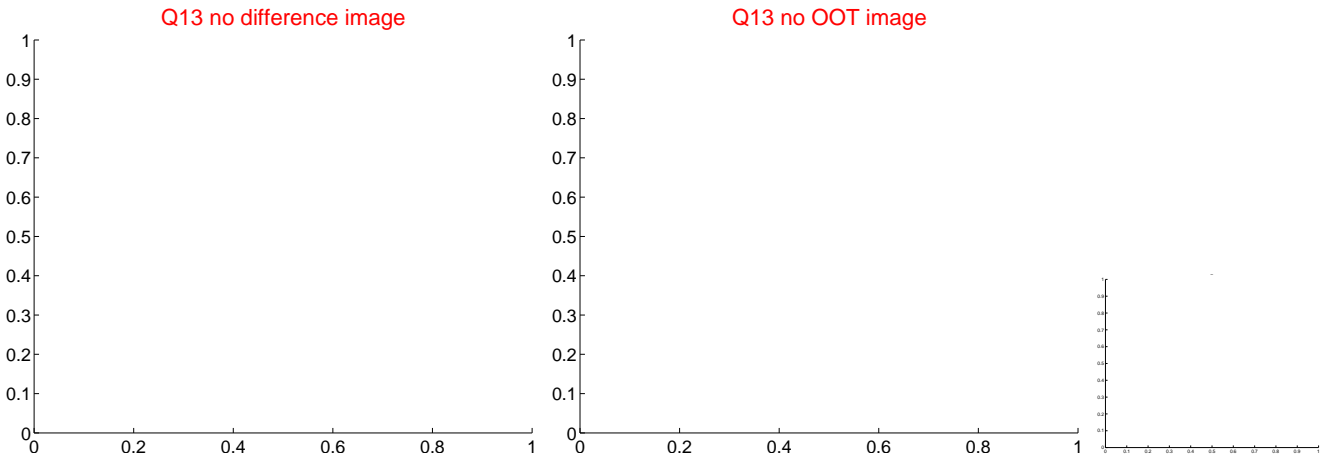




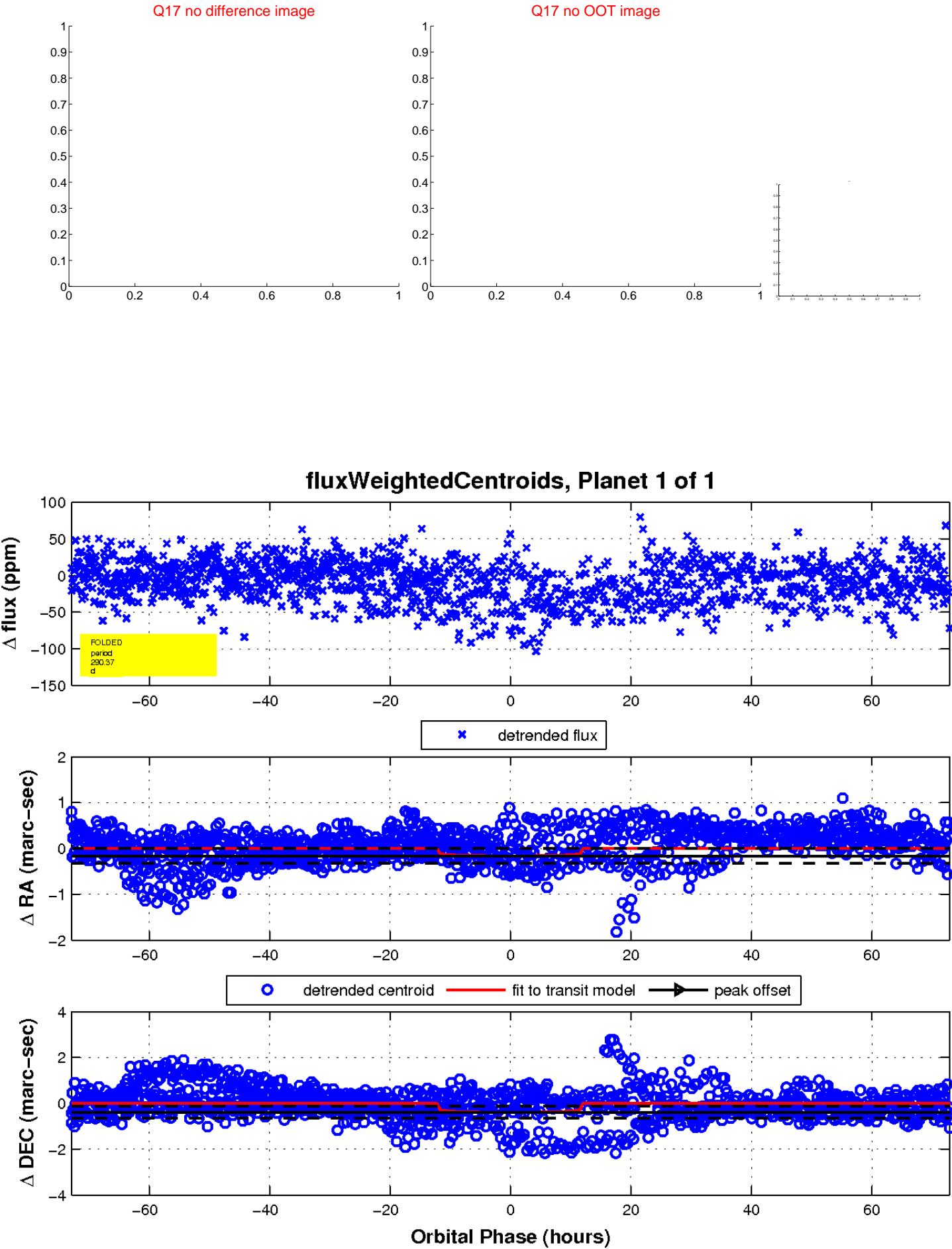
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

