

# KIC 006281237

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006281237-01	OBS	No	380.278472	499.483466	909.2	26.634	7.5	8.8	0.79	5249	2.33	0.49

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006281237-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

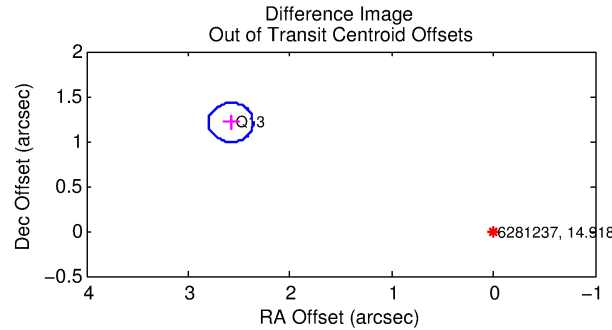
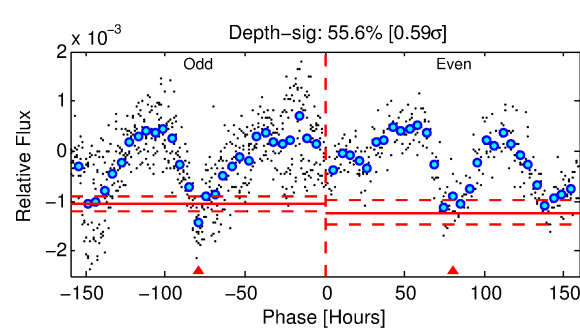
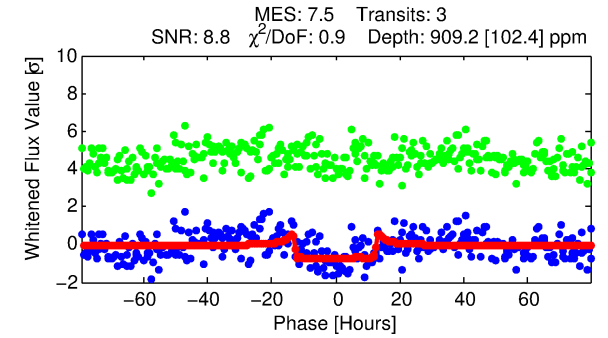
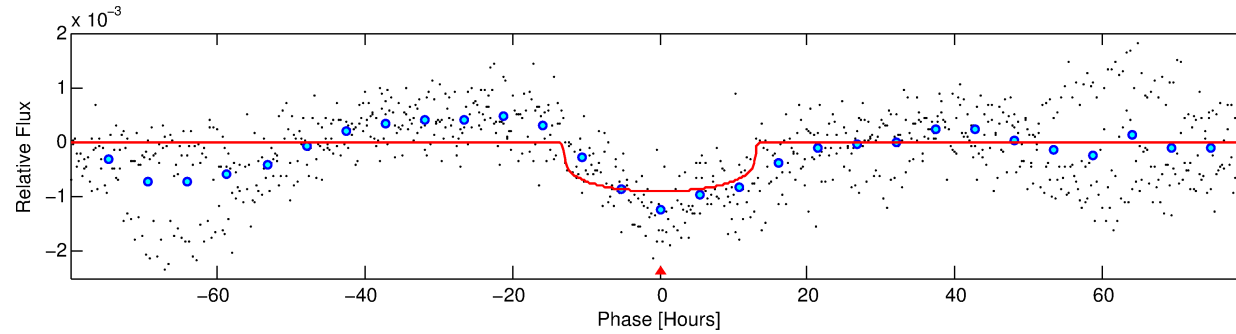
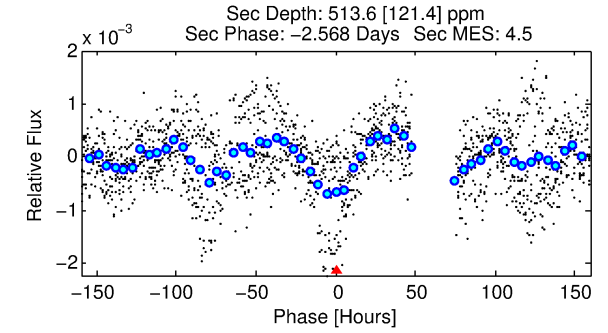
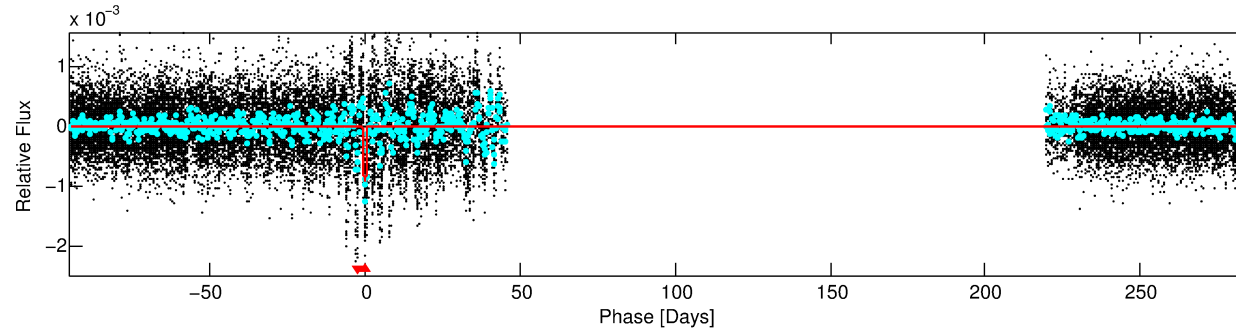
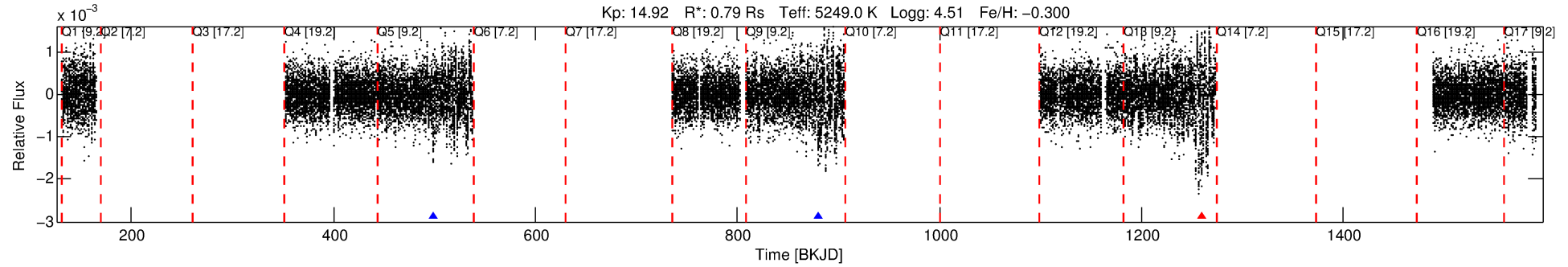
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006281237-01

No Significant Match Found

# DV One-Page Summary

KIC: 6281237 Candidate: 1 of 1 Period: 380.278 d



## DV Fit Results:

Period = 380.27847 [0.01230] d  
Epoch = 499.4835 [0.0152] BKJD  
Rp/R\* = 0.0271 [0.0075]  
a/R\* = 110.90 [116.22]  
b = 0.15 [7.09]  
Seff = 0.49 [0.14]  
Teq = 213 [15] K  
Rp = 2.33 [0.75] Re  
a = 0.9271 [0.1421] AU  
Ag = 44717.03 [28969.90] [1.54σ]  
Teff = 4800 [746] K [6.15σ]

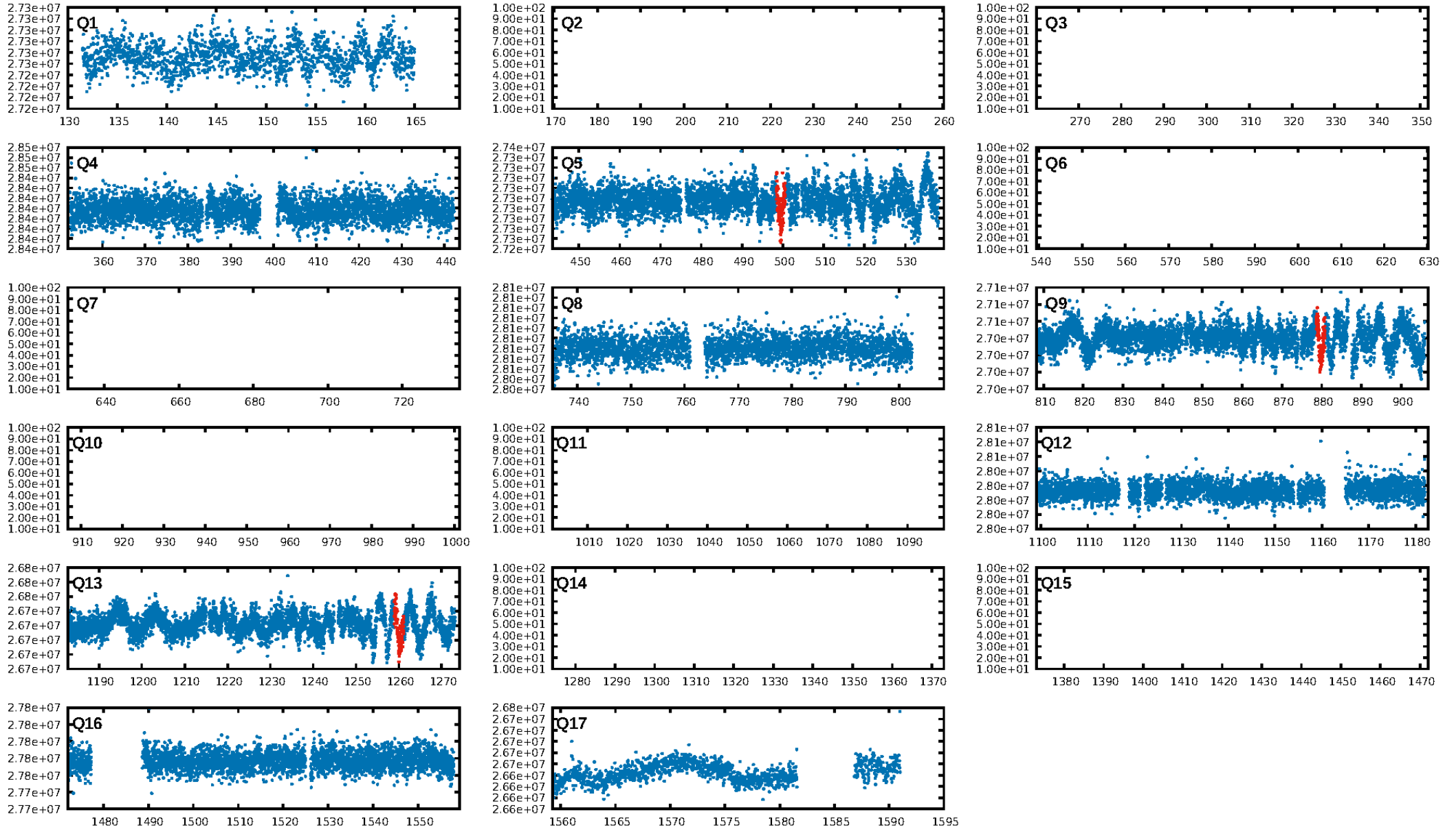
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 51.4%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.13e-09  
RollingBand-fgt: 0.67 [2/3]  
GhostDiagnostic-chr: -7.421  
Centroid-sig: 0.0%  
Centroid-so: 10.797 arcsec [3.77σ]  
OotOffset-rm: 2.849 arcsec [39.08σ]  
KicOffset-rm: 2.861 arcsec [39.26σ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [3/3]

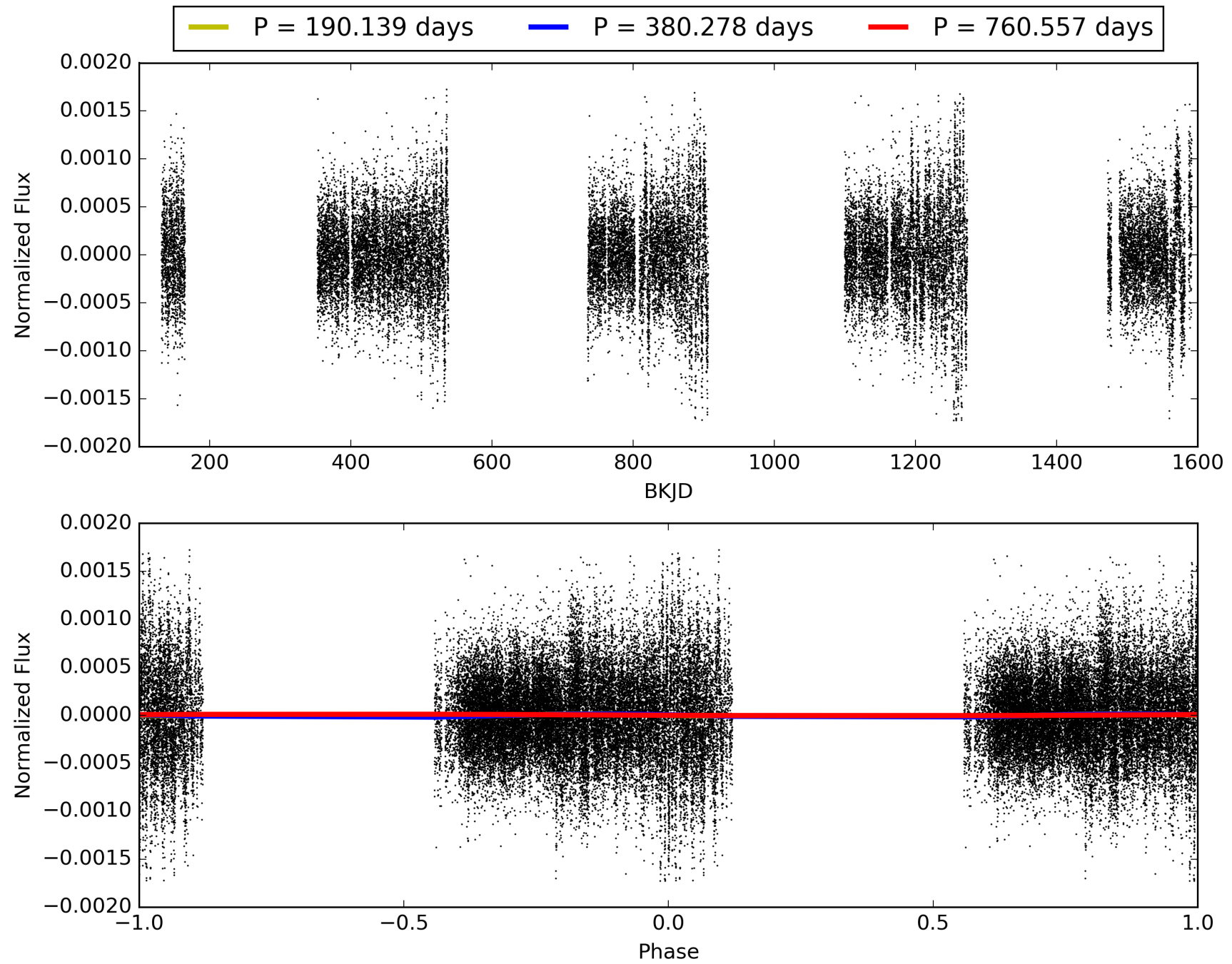
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:24:29 Z

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

# TCE 006281237-01, PDC Light Curves

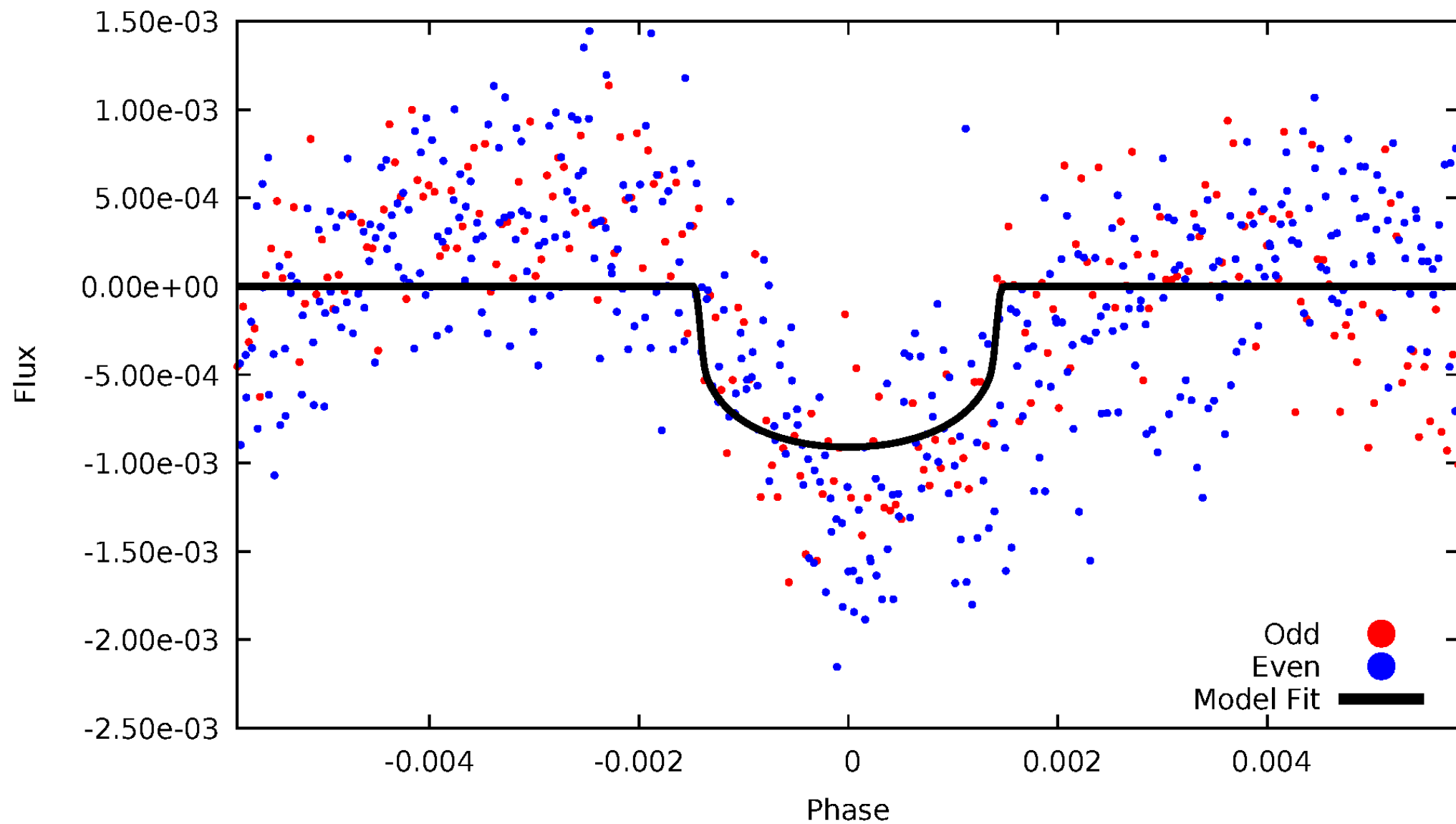


TCE 006281237-01



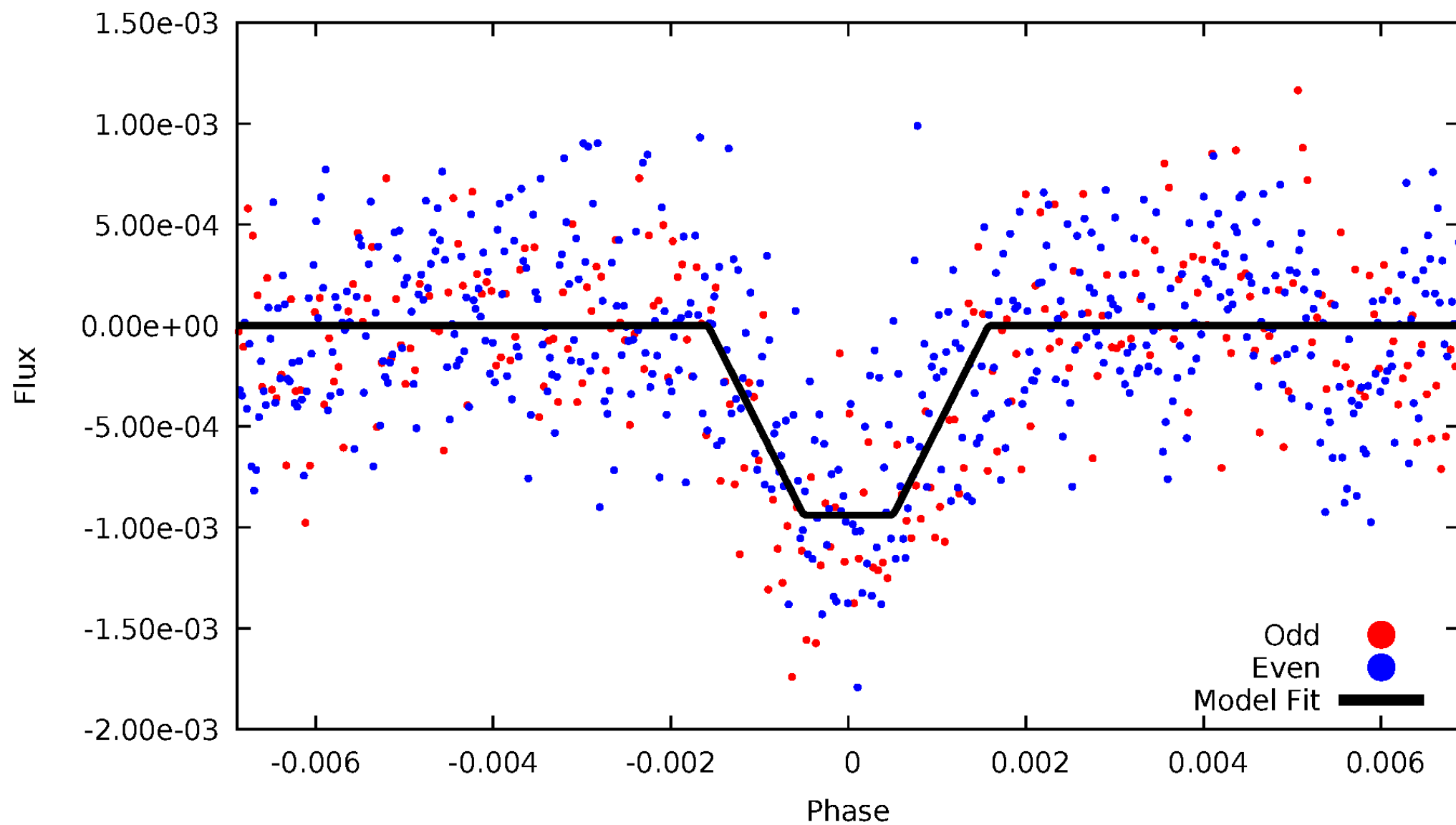
# DV Odd/Even

TCE 006281237-01



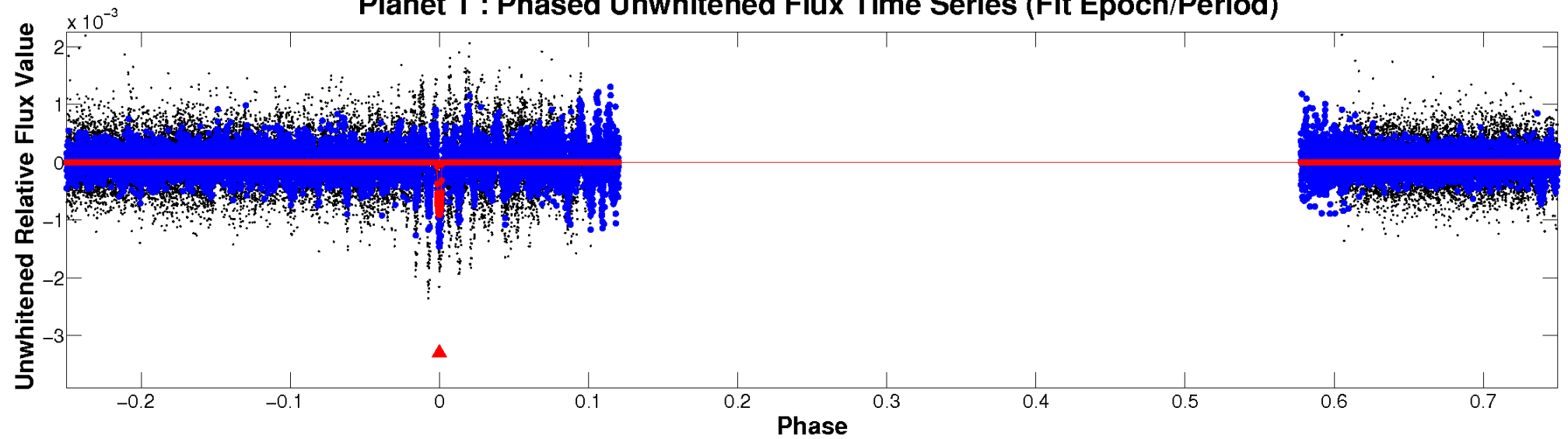
# ALT Odd/Even

TCE 006281237-01

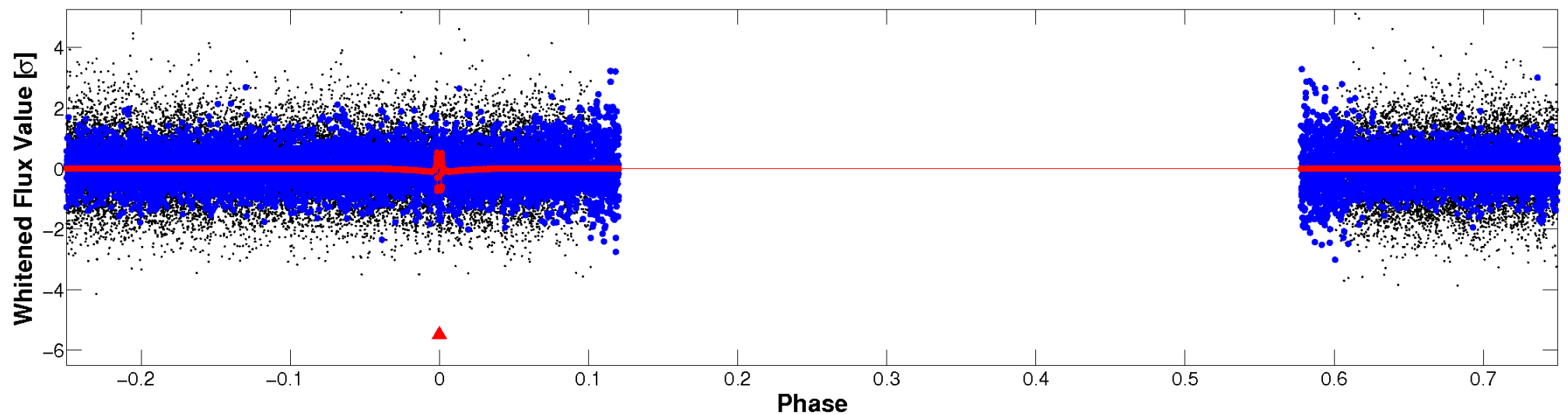


# Non-Whitened Vs. Whitened Light Curve

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

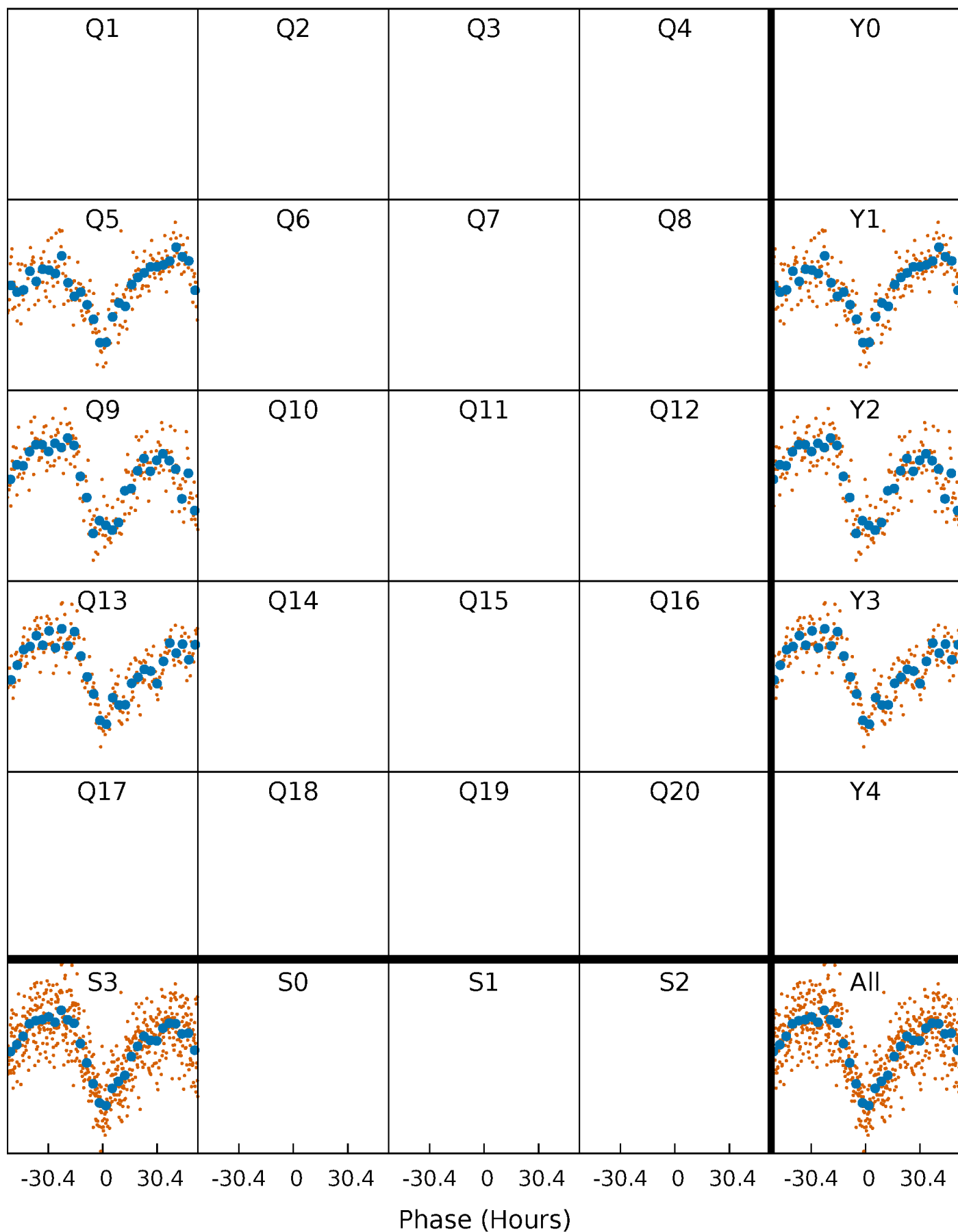


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

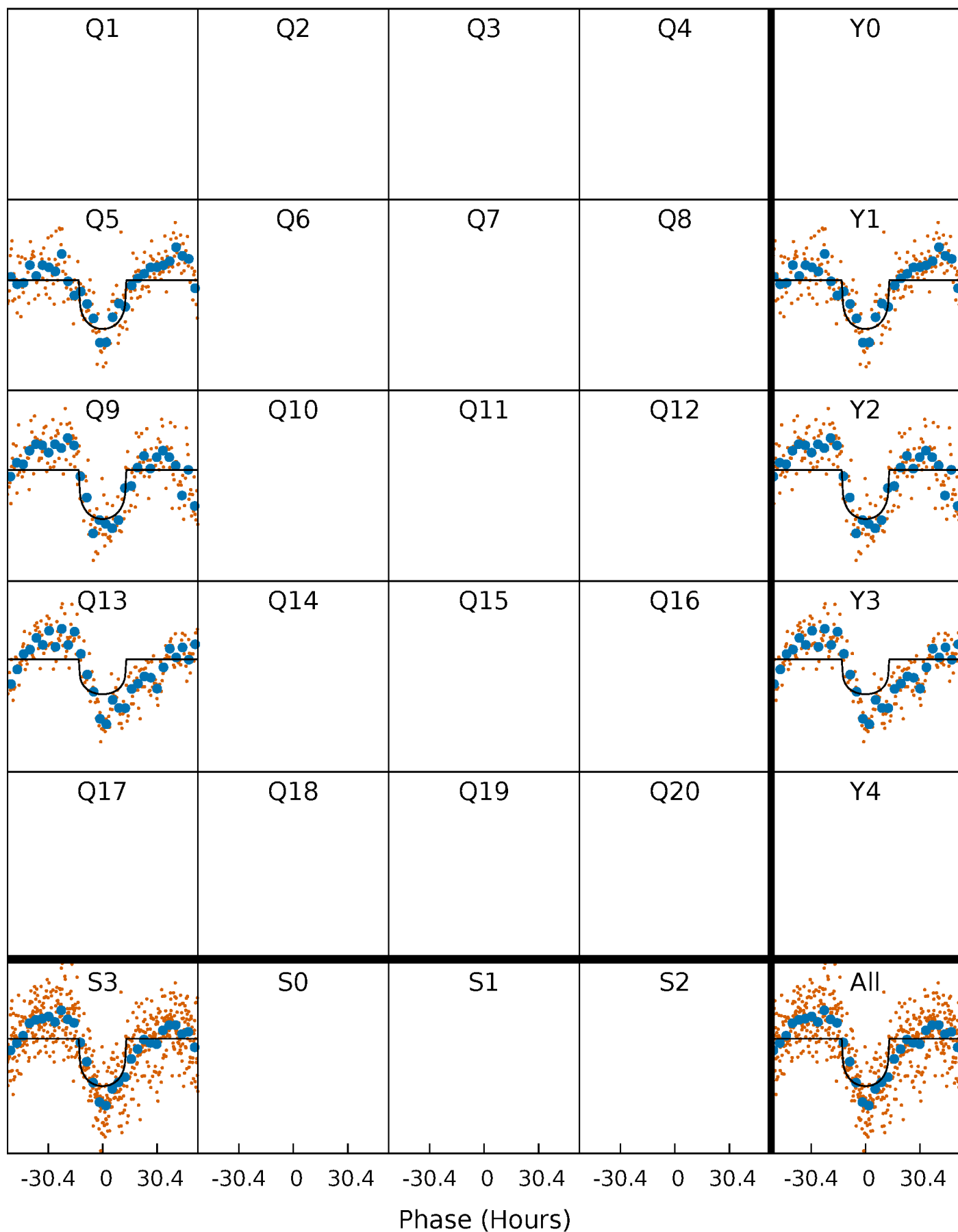
TCE 006281237-01     $P=380.278472$  Days     $T_0=499.483466$  (BKJD)





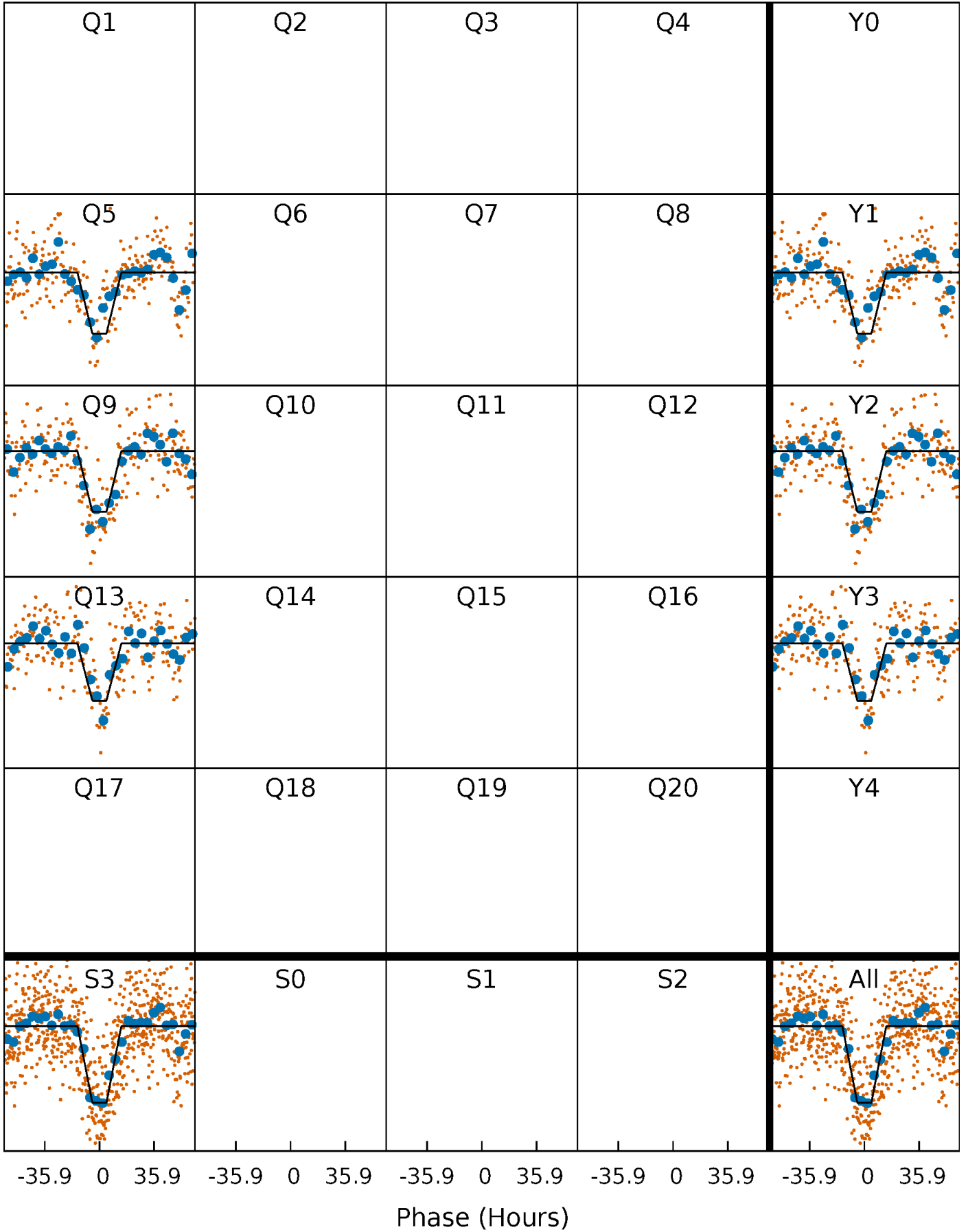
# DV Quarter-Phased Transit Curves

TCE 006281237-01 P=380.278472 Days  $T_0=499.483466$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

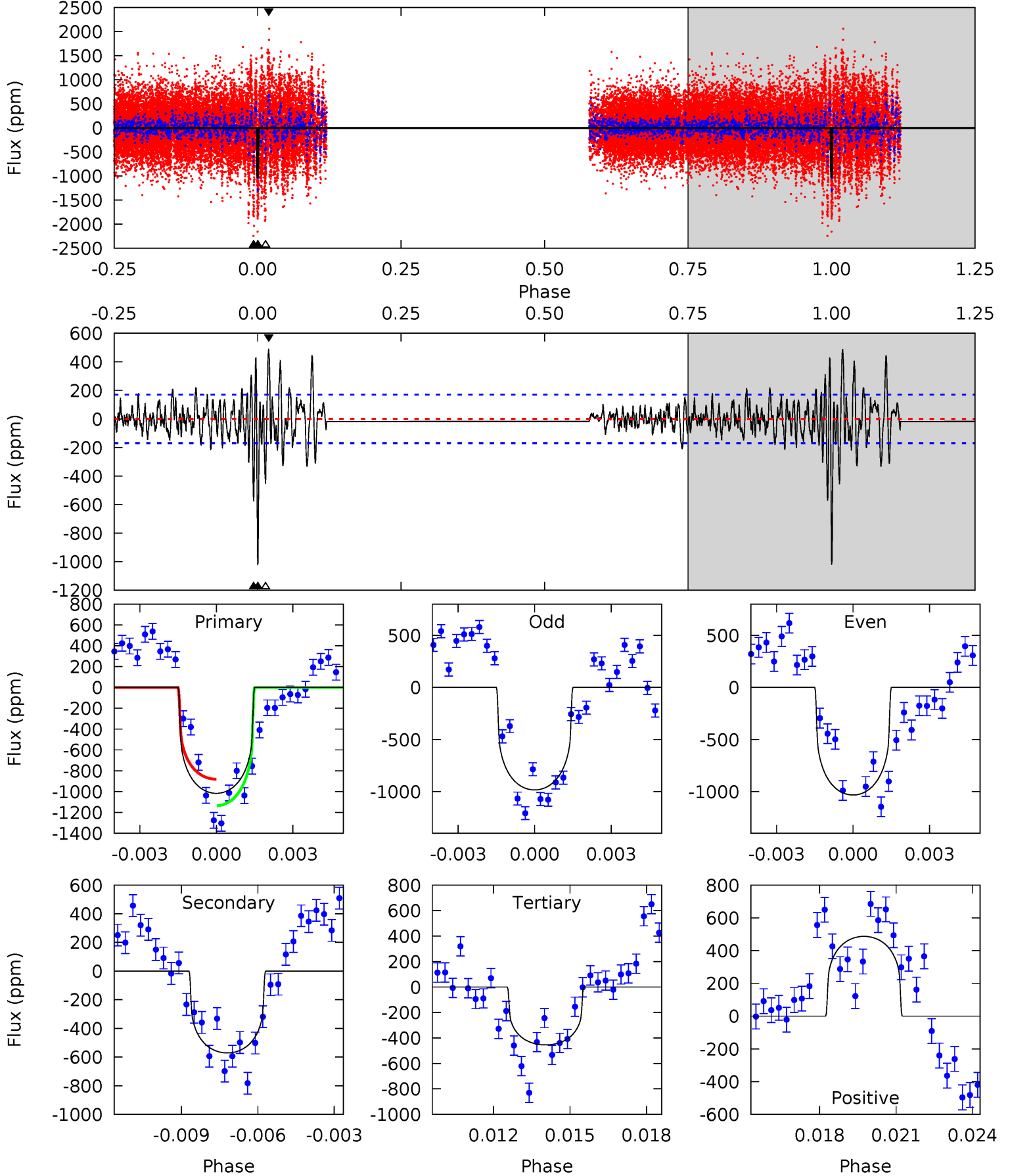
TCE 006281237-01     $P=380.173195$  Days     $T_0=499.613671$  (BKJD)



# DV Model-Shift Uniqueness Test

006281237-01, P = 380.278472 Days, E = 119.204994 Days

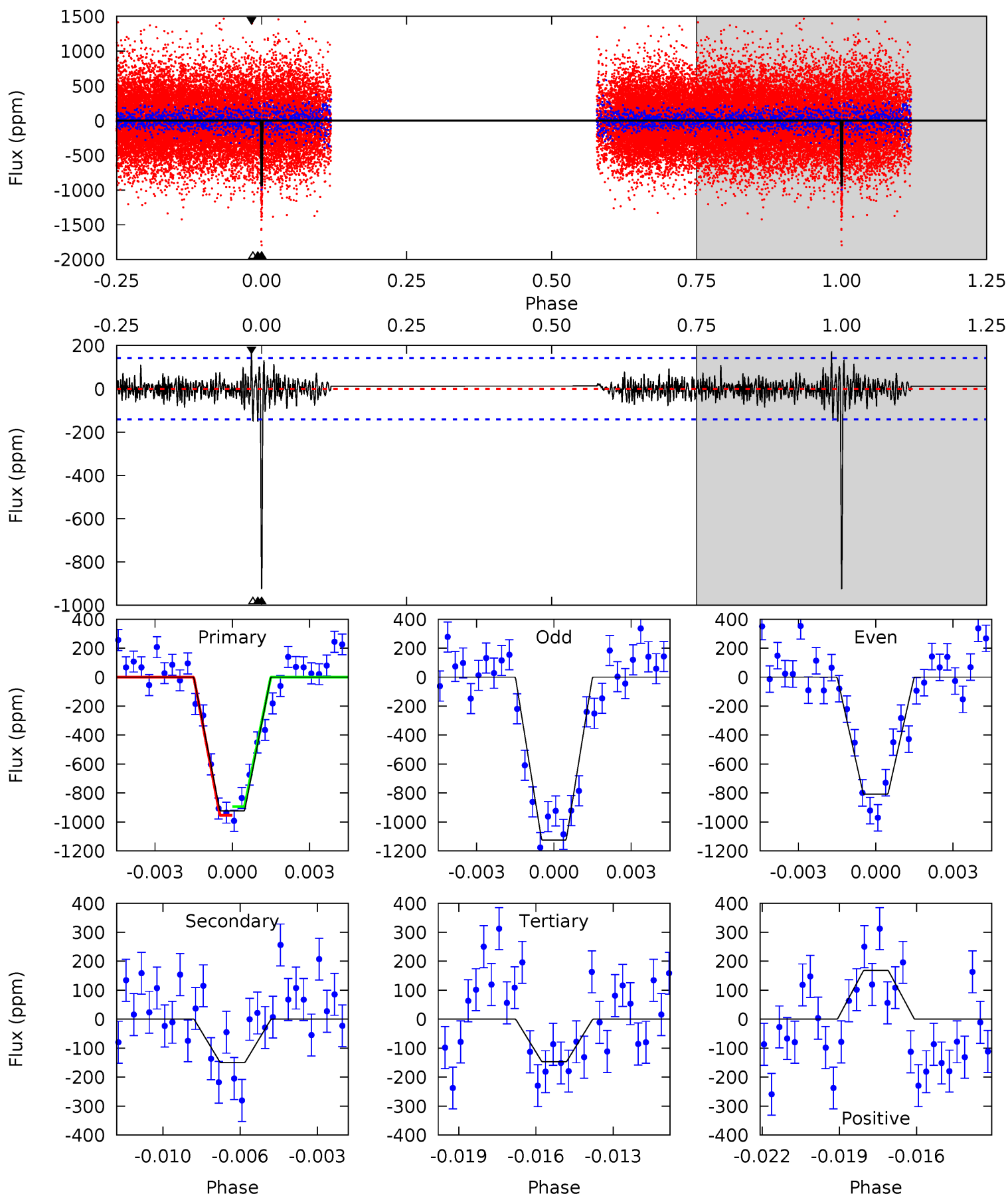
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.4	17.6	14.0	15.0	5.26	2.97	3.21	17.3	16.3	3.60	2.60	0.72	1.02	0.32	3.45



# Alt Model-Shift Uniqueness Test

006281237-01, P = 380.173195 Days, E = 119.440476 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
34.3	5.55	5.44	6.24	5.24	2.95	1.25	28.8	28.0	0.11	-0.69	5.53	1.07	0.15	1.09



### Stellar Parameters For KIC 006281237

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5249^{+203}_{-184}$	$4.511^{+0.104}_{-0.138}$	$-0.300^{+0.350}_{-0.250}$	$0.788^{+0.131}_{-0.098}$	$0.735^{+0.121}_{-0.052}$	$2.115^{+0.864}_{-0.724}$
	+4%/-4%	+2%/-3%	+117%/-83%	+17%/-12%	+16%/-7%	+41%/-34%
Source	KIC0	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 006281237-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-571 \pm 32$	$2.36^{+0.75}_{-0.67}$	$300^{+17}_{-16}$	$4997^{+768}_{-538}$	$49082^{+47834}_{-20550}$
Alt.	$-150 \pm 27$	$2.66^{+0.71}_{-0.70}$	$300^{+19}_{-16}$	$3710^{+410}_{-294}$	$10042^{+8625}_{-4039}$

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

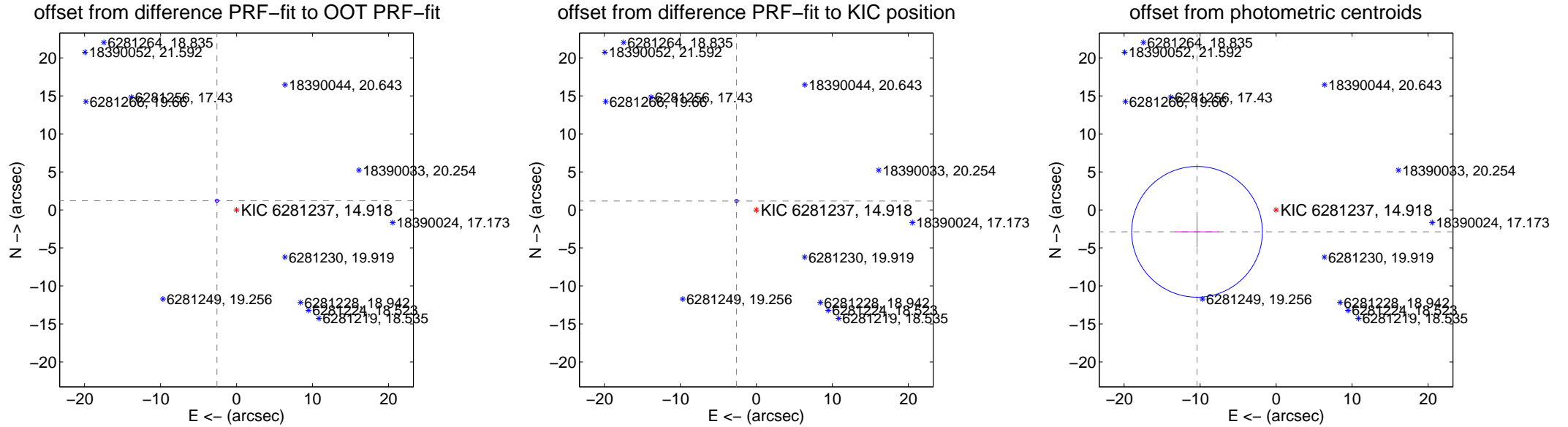
## DV Centroid Data

Supplemental centroid analysis for 006281237-01. Kepler magnitude: 14.92. Transit SNR 8.84

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.849 \pm 0.073$	39.08	$2.580 \pm 0.072$	$1.209 \pm 0.077$
PRF-fit source offset from KIC position	$2.861 \pm 0.073$	39.26	$2.607 \pm 0.072$	$1.177 \pm 0.077$
photometric centroid source offset	$10.80 \pm 2.87$	3.77	$10.40 \pm 2.92$	$-2.88 \pm 2.05$

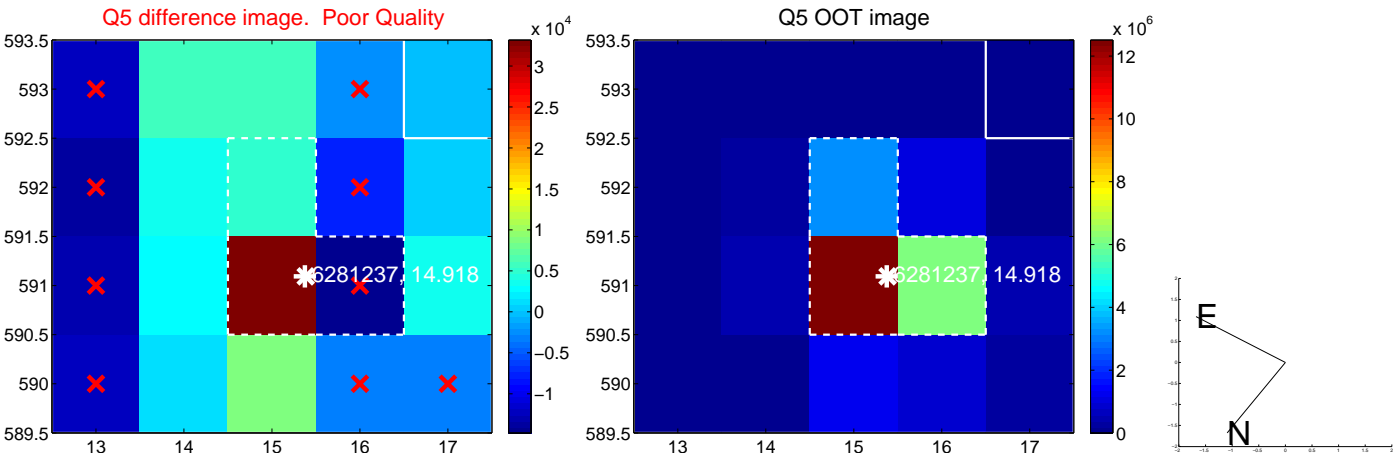


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

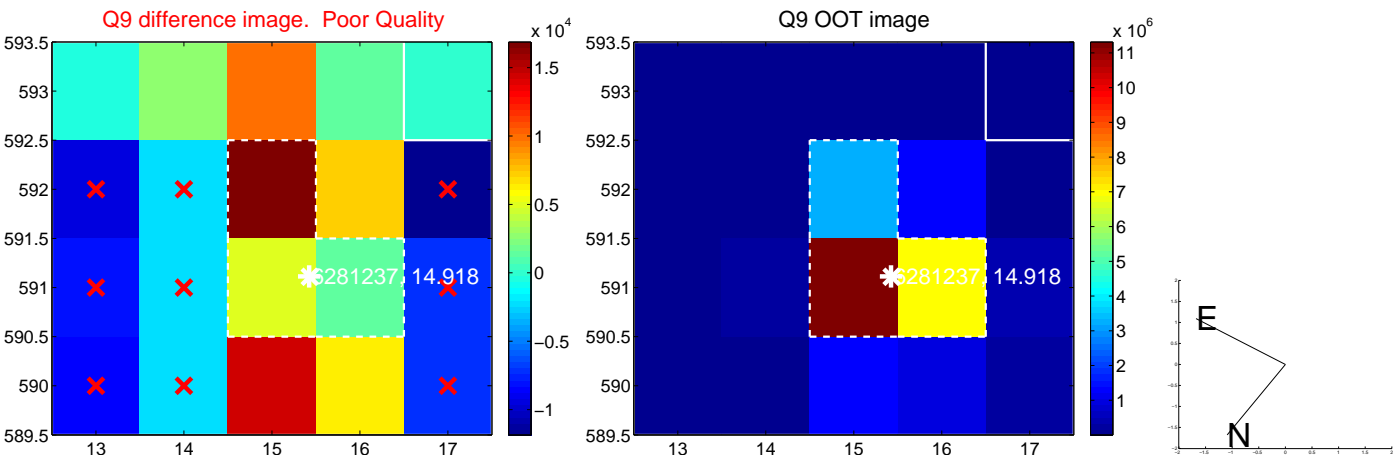


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

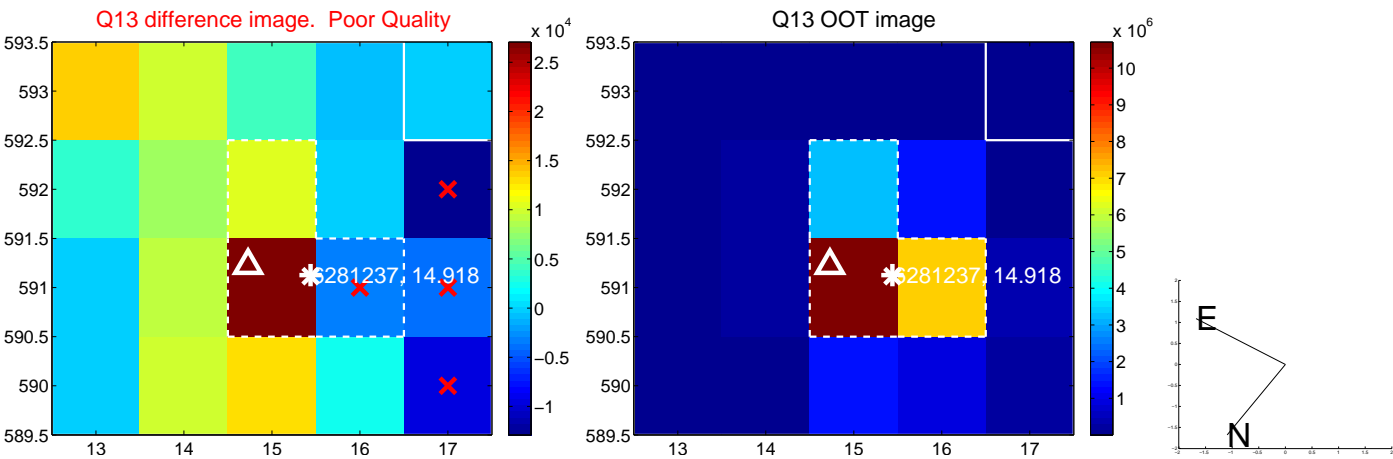




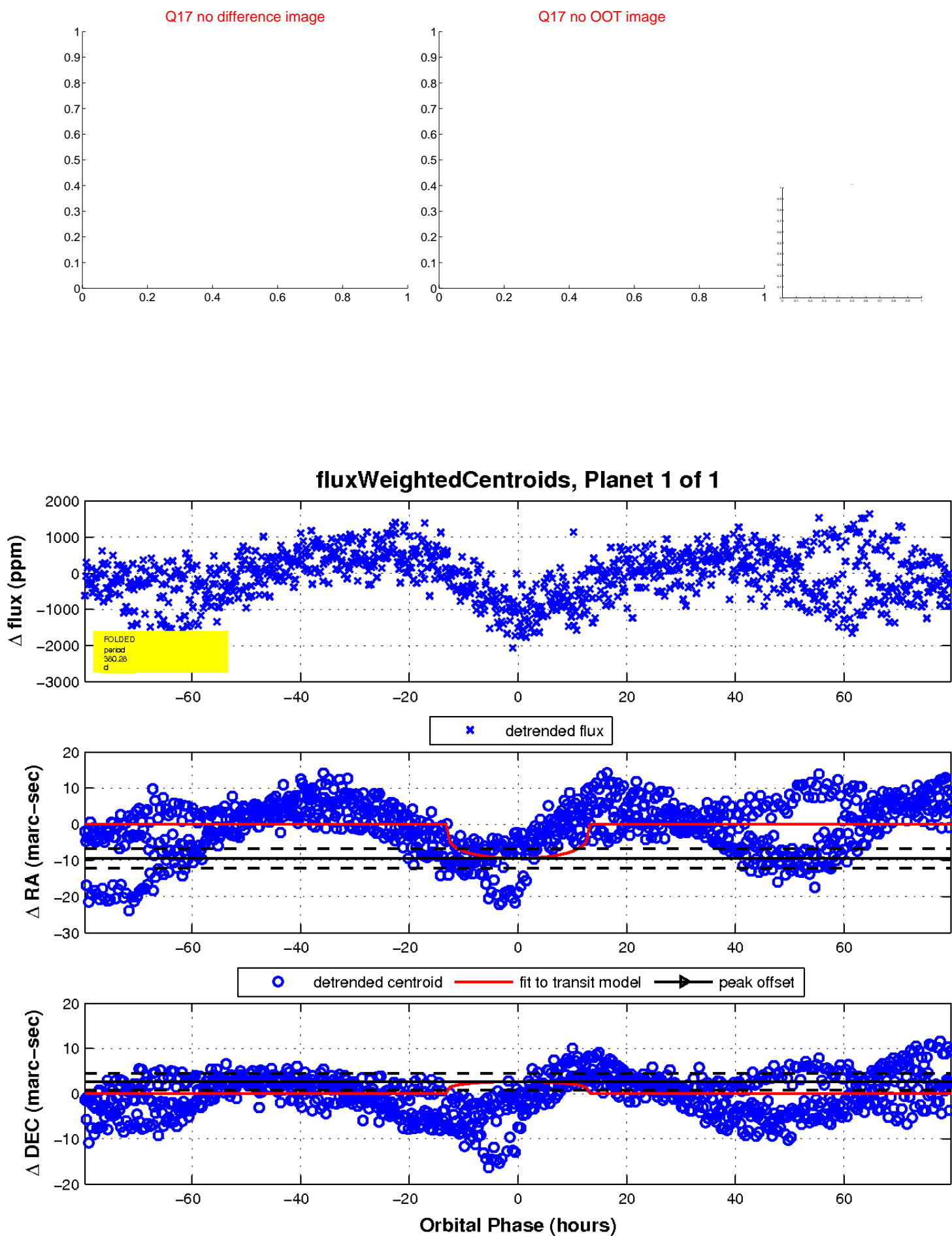
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



# UKIRT Image

Declination

