

# KIC 008241462

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008241462-01	OBS	No	320.395005	280.137130	377.0	12.698	7.6	5.2	1.02	6224	2.23	1.59

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008241462-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE--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.

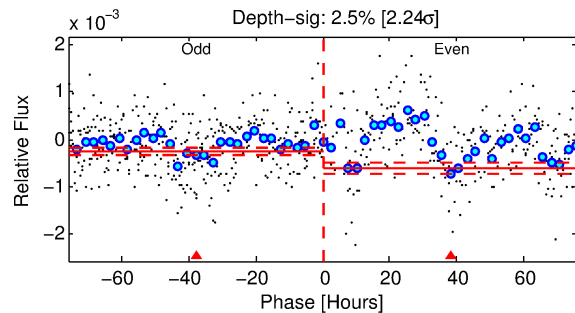
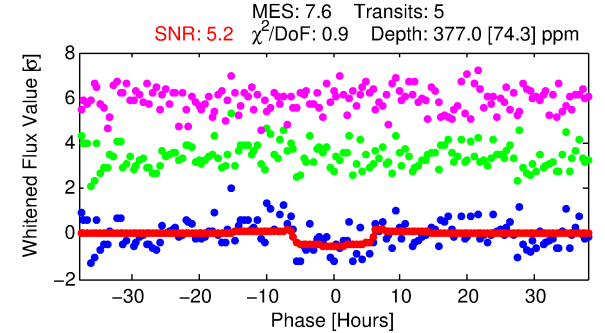
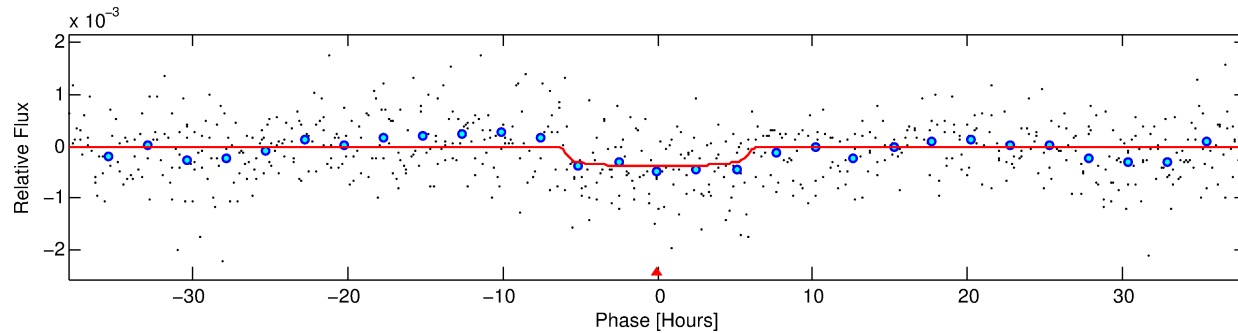
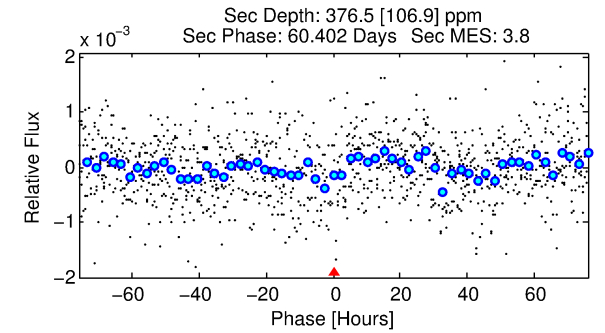
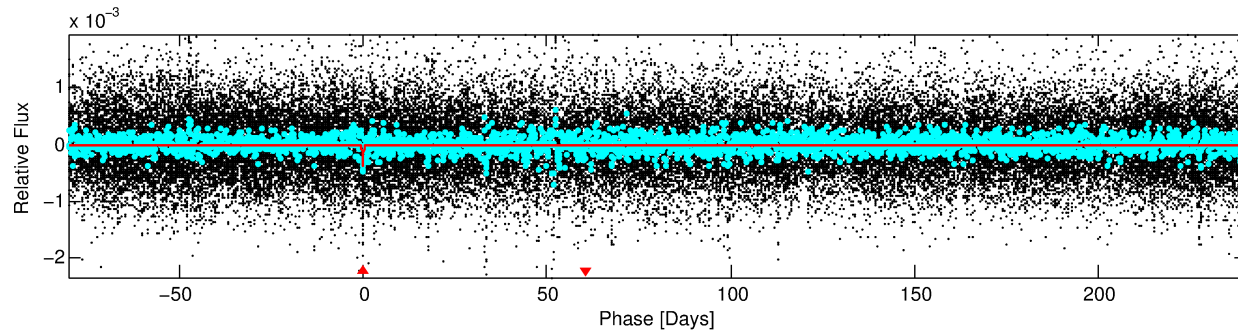
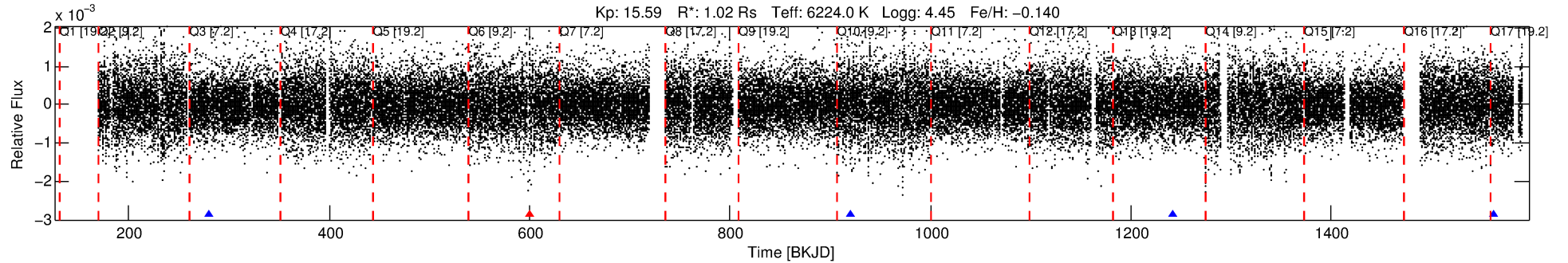
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008241462-01

No Significant Match Found

# DV One-Page Summary

KIC: 8241462 Candidate: 1 of 1 Period: 320.395 d



## DV Fit Results:

Period = 320.39501 [0.01104] d  
Epoch = 280.1371 [0.0285] BKJD  
Rp/R\* = 0.0200 [0.0060]  
a/R\* = 113.50 [164.22]  
b = 0.83 [0.54]  
Seff = 1.59 [0.68]  
Teq = 286 [30] K  
Rp = 2.23 [0.99] Re  
a = 0.9427 [0.2582] AU  
Ag = 36923.32 [28519.91] [1.29σ]  
Teffp = 6133 [1043] K [5.60σ]

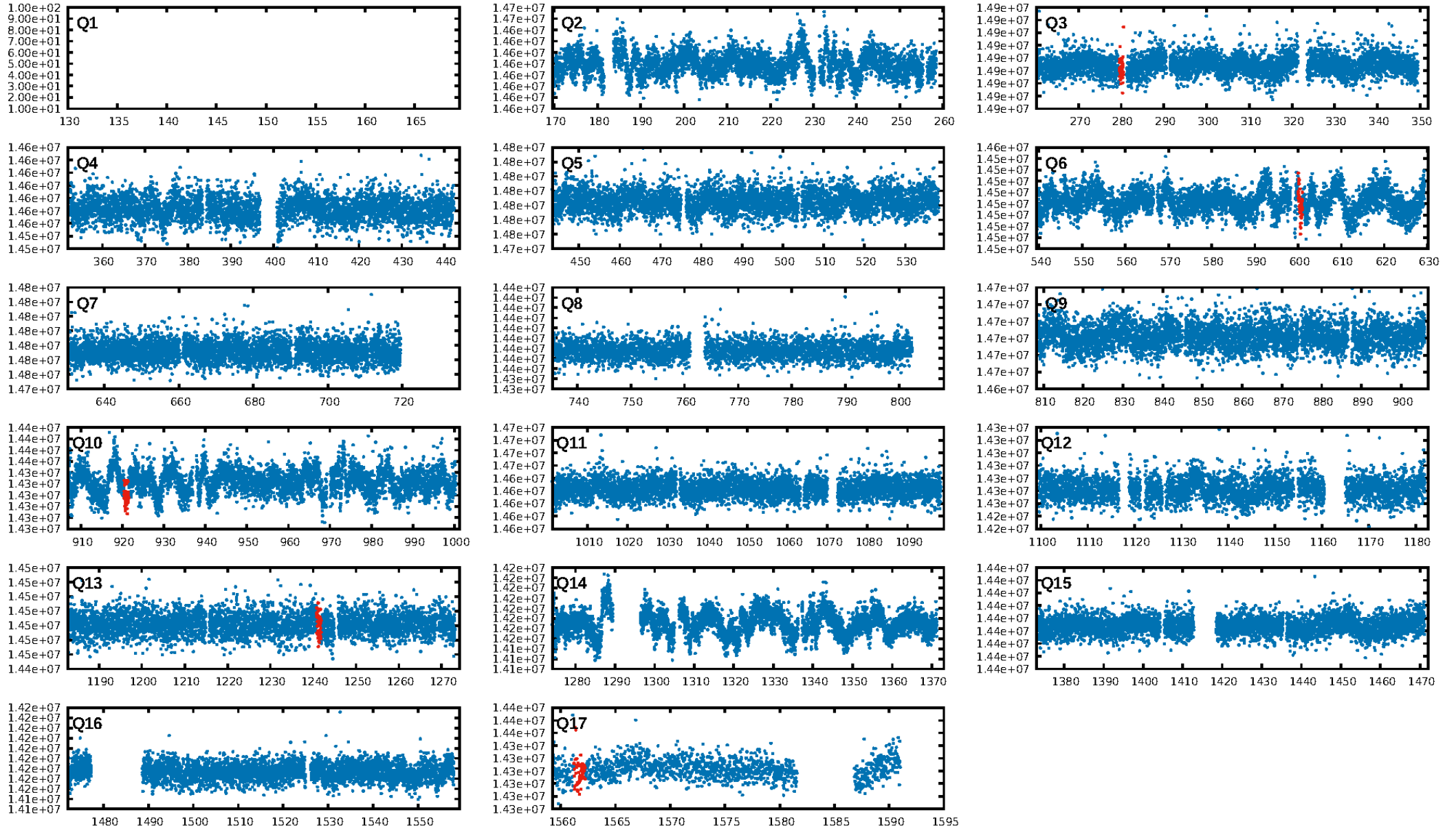
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 13.6%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 2.10e-11  
RollingBand-fgt: 0.75 [3/4]  
GhostDiagnostic-chr: -0.4248  
Centroid-sig: 88.6%  
Centroid-so: 0.785 arcsec [0.26σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [1/1]

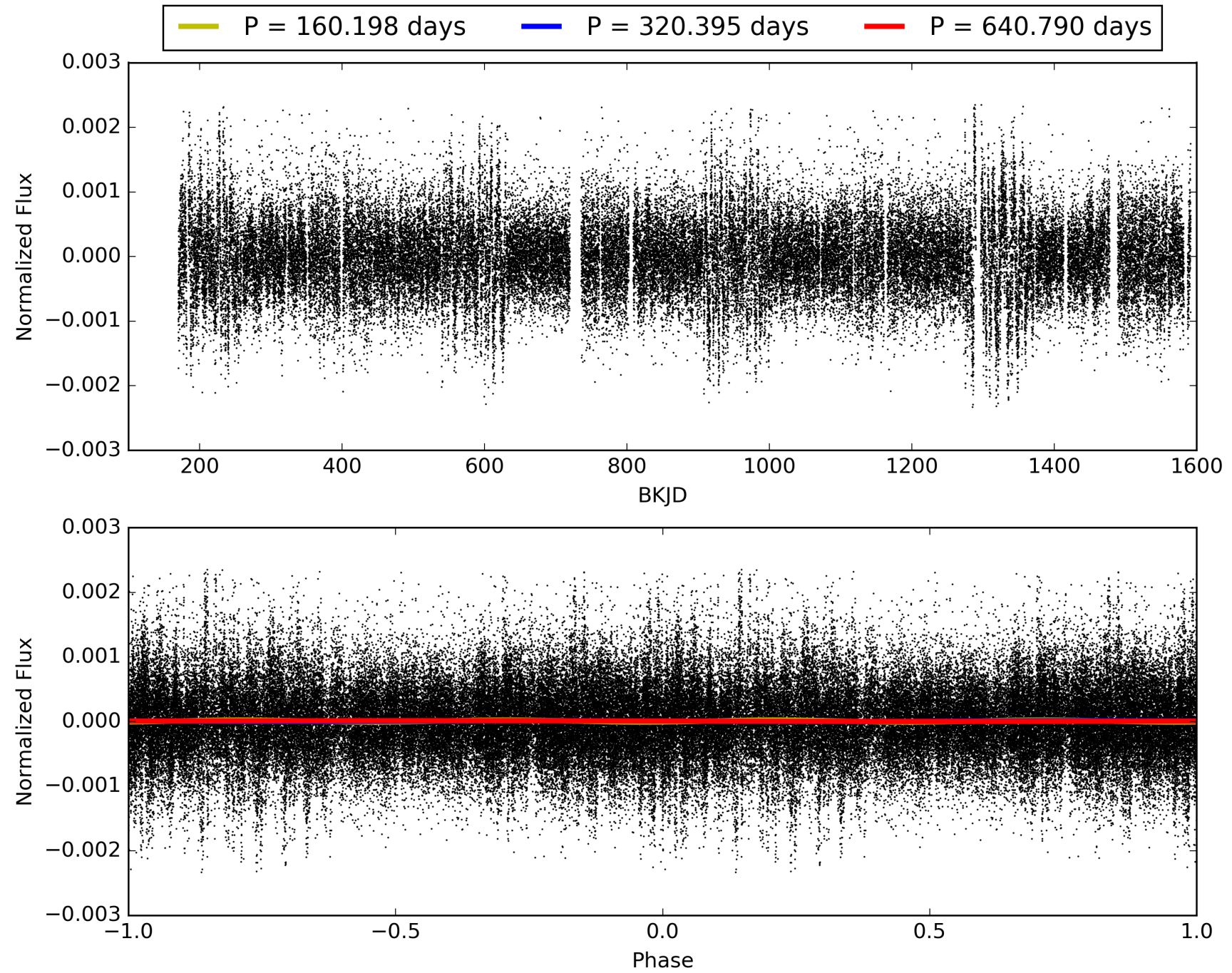
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:29:49 Z

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

# TCE 008241462-01, PDC Light Curves

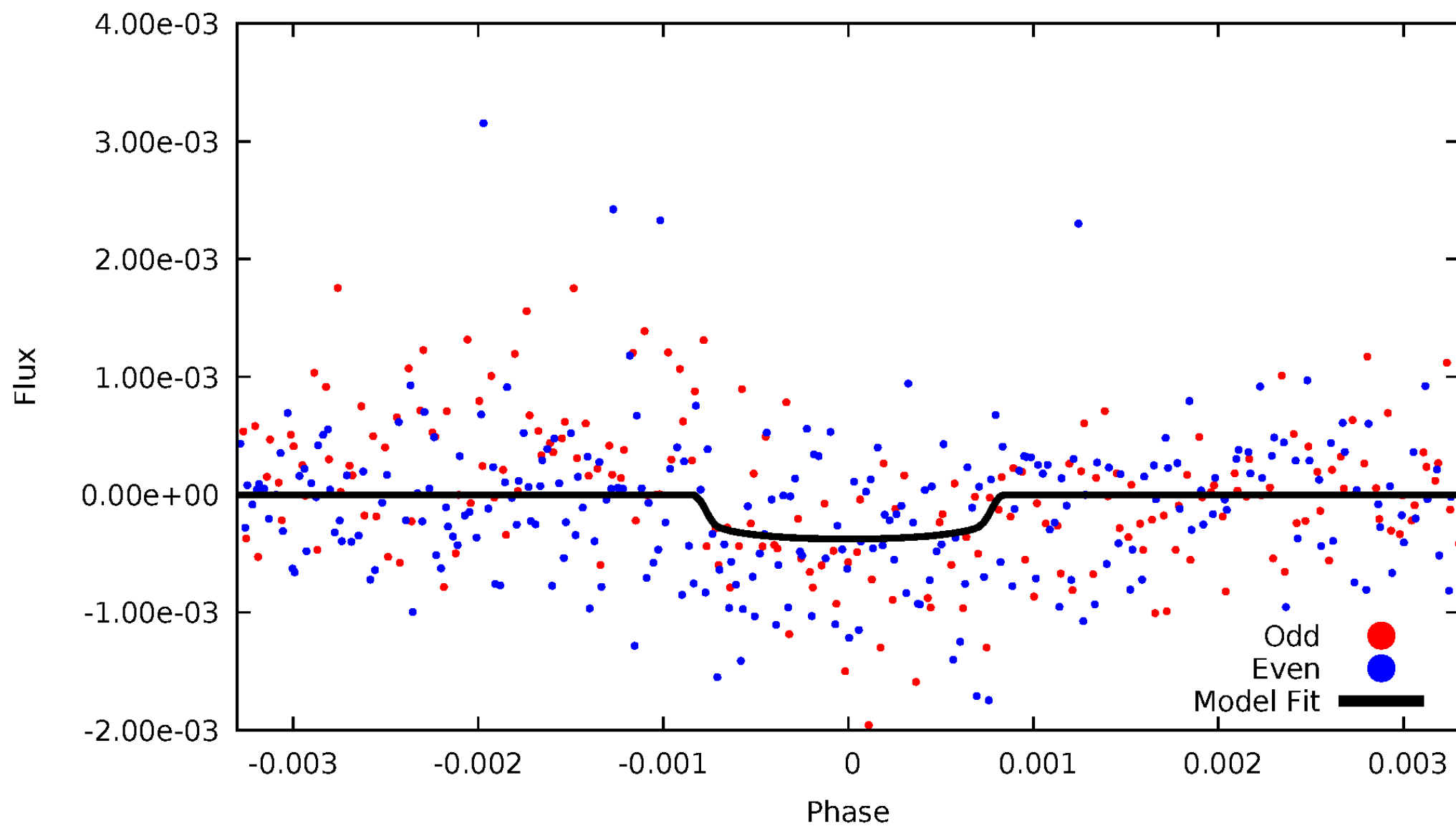


TCE 008241462-01



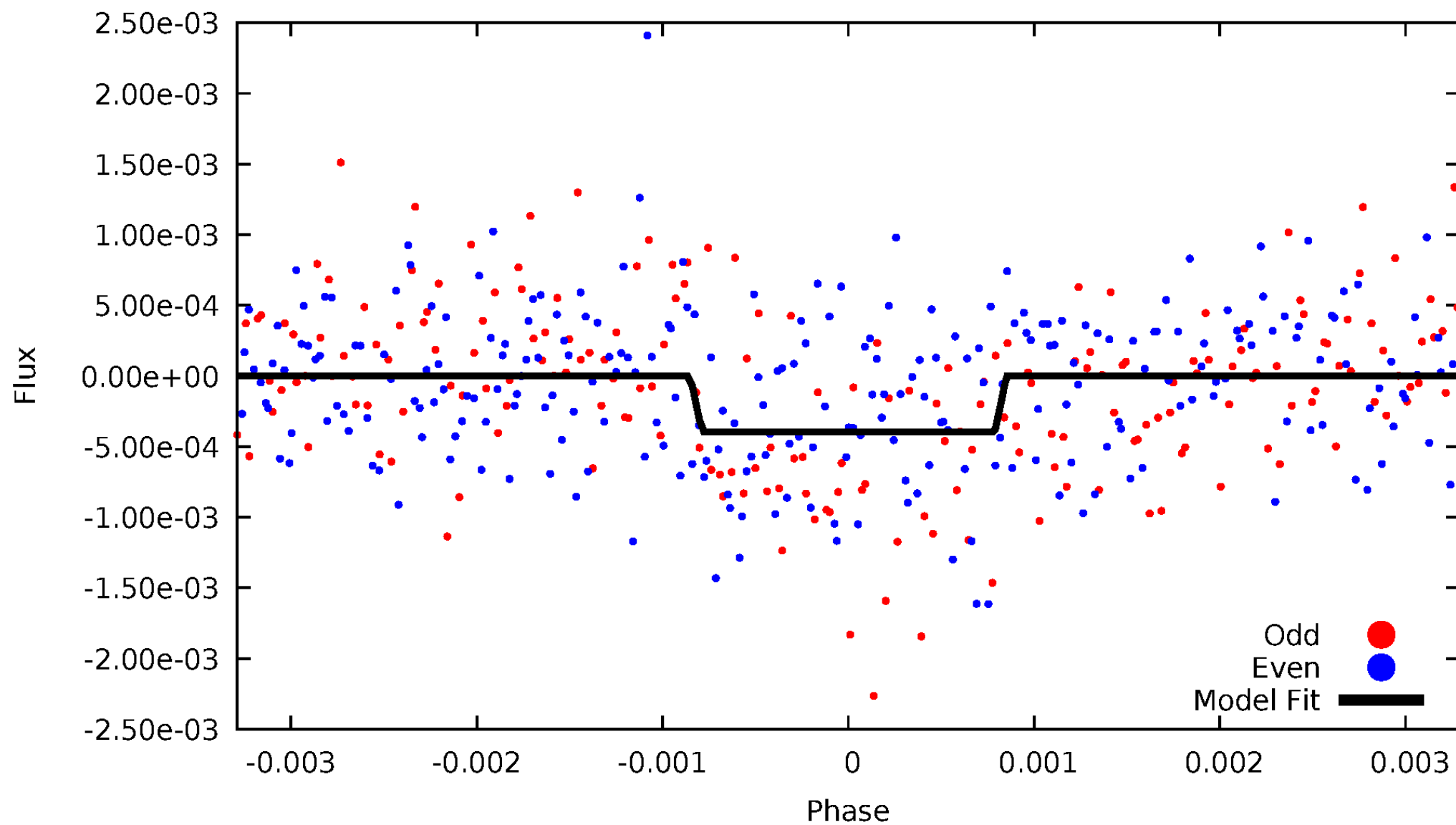
# DV Odd/Even

TCE 008241462-01



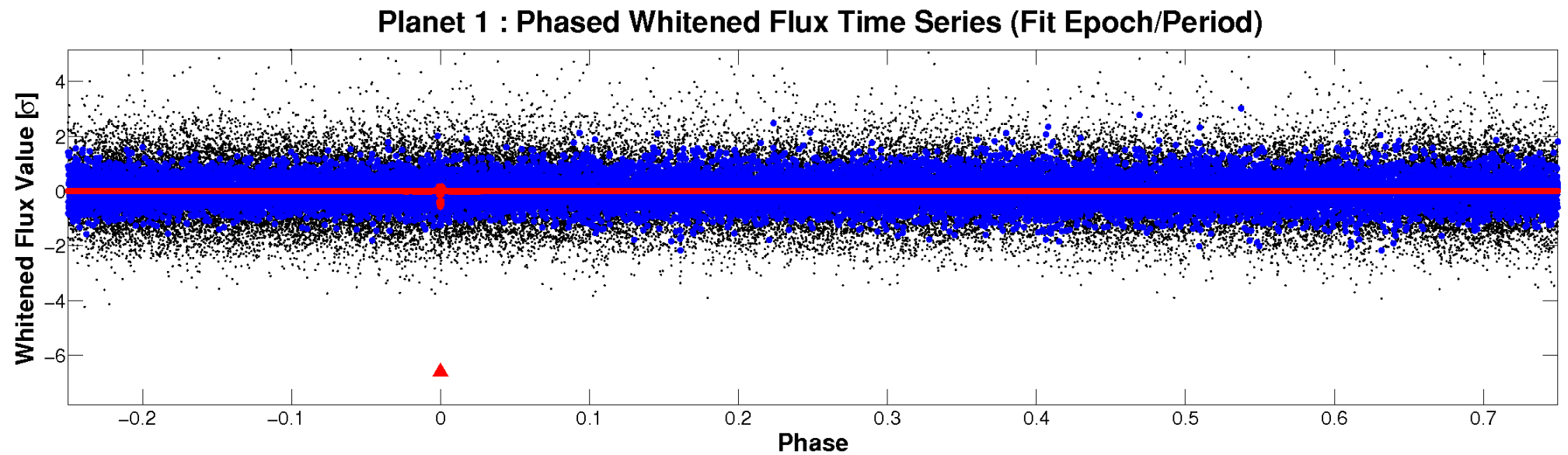
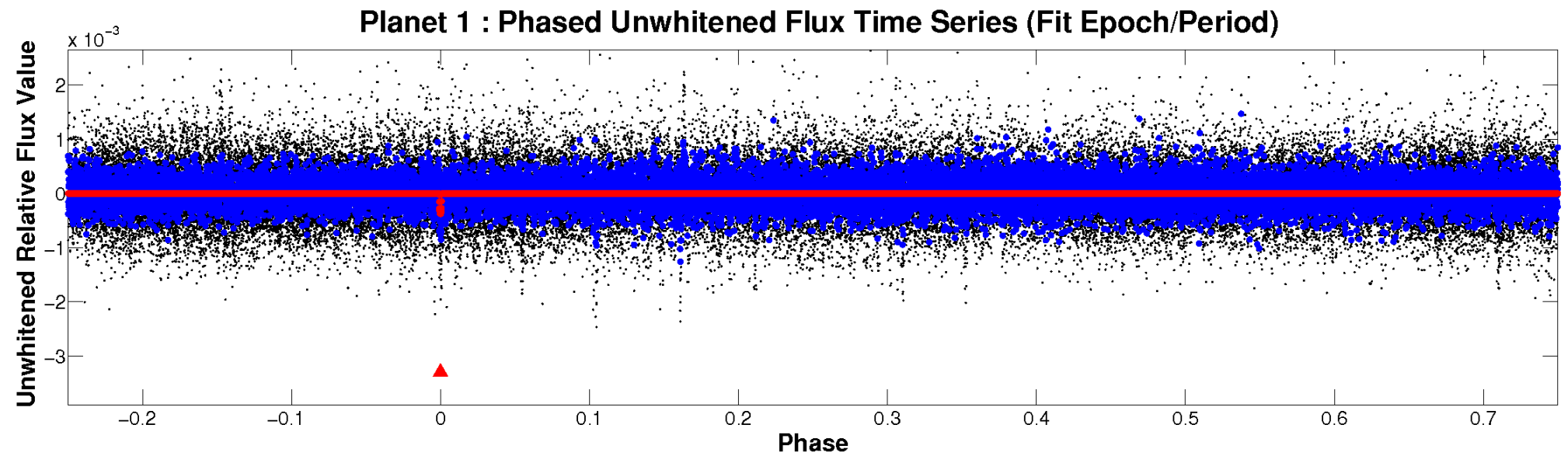
# ALT Odd/Even

TCE 008241462-01



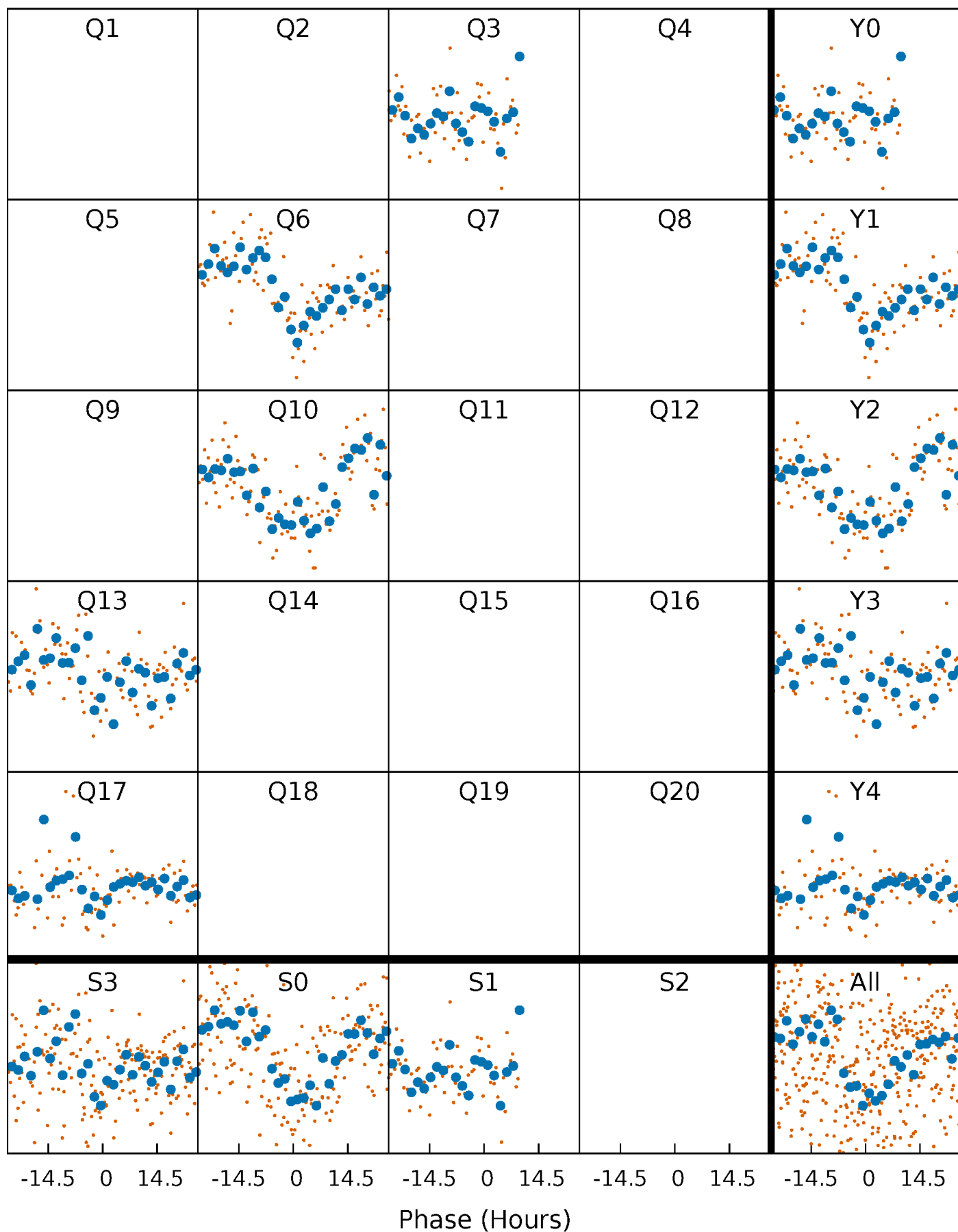


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

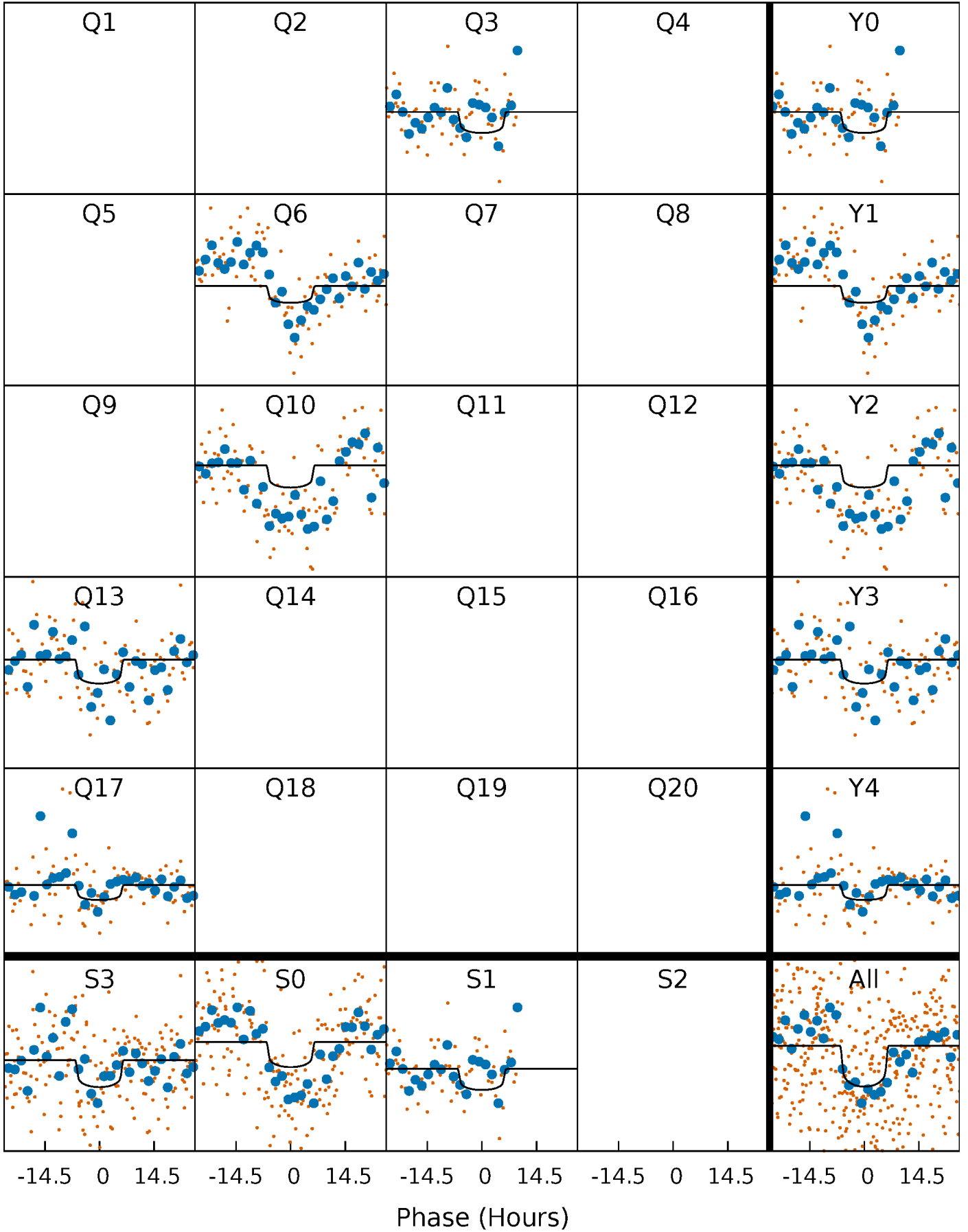
TCE 008241462-01 P=320.395005 Days  $T_0=280.137130$  (BKJD)





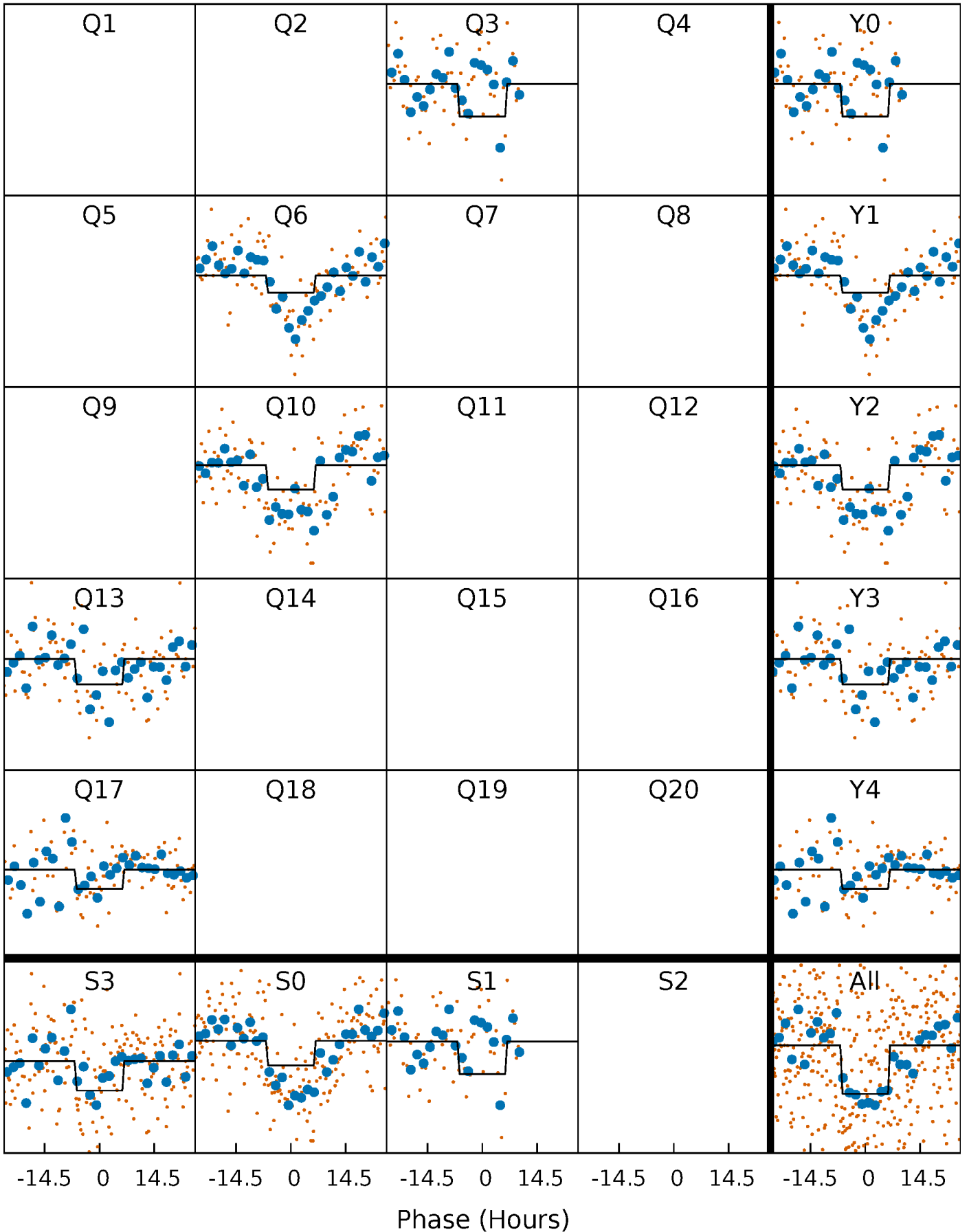
# DV Quarter-Phased Transit Curves

TCE 008241462-01   P=320.395005 Days    $T_0=280.137130$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

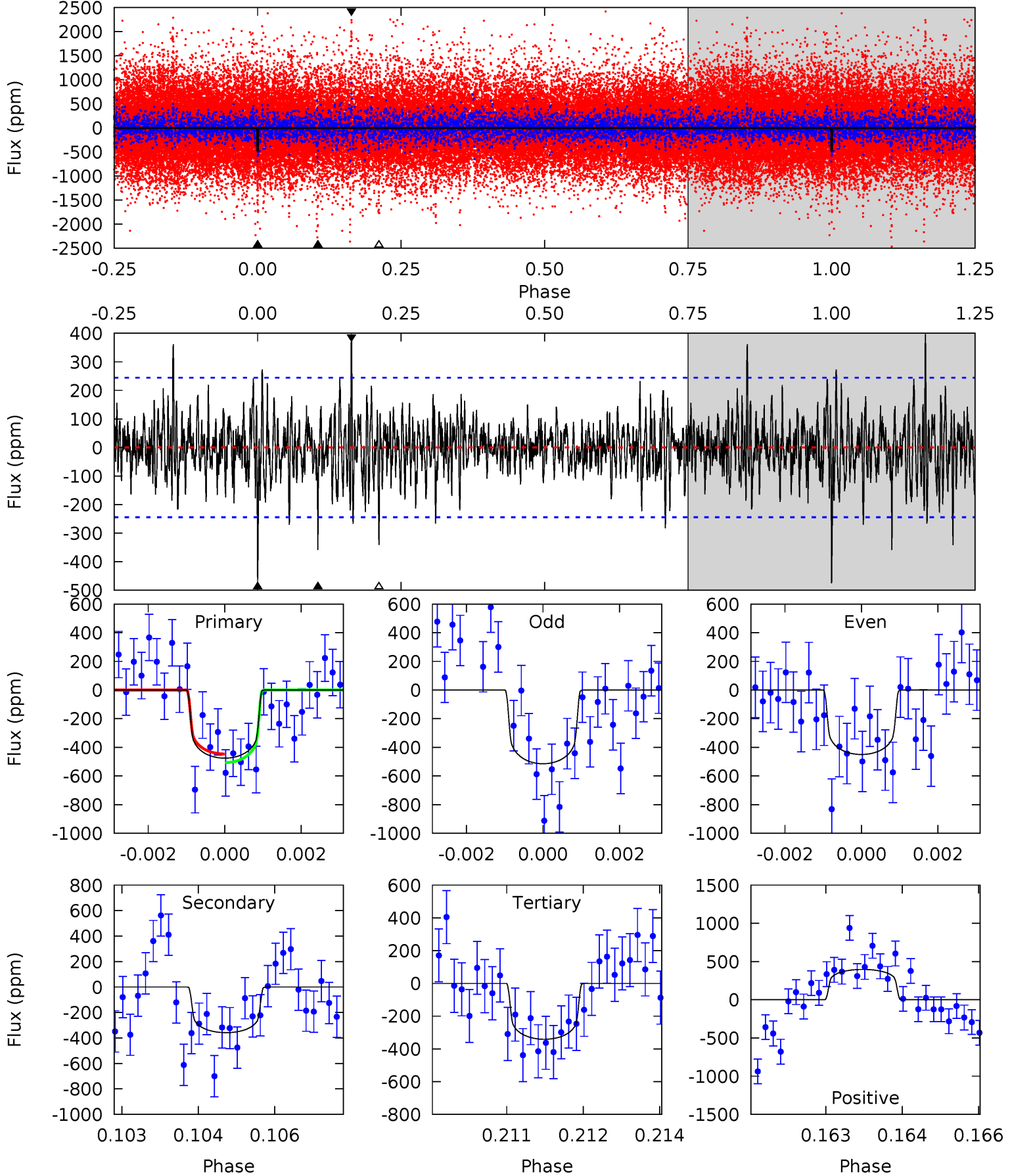
TCE 008241462-01     $P=320.405032$  Days     $T_0=280.118524$  (BKJD)



# DV Model-Shift Uniqueness Test

008241462-01, P = 320.395005 Days, E = 280.137130 Days

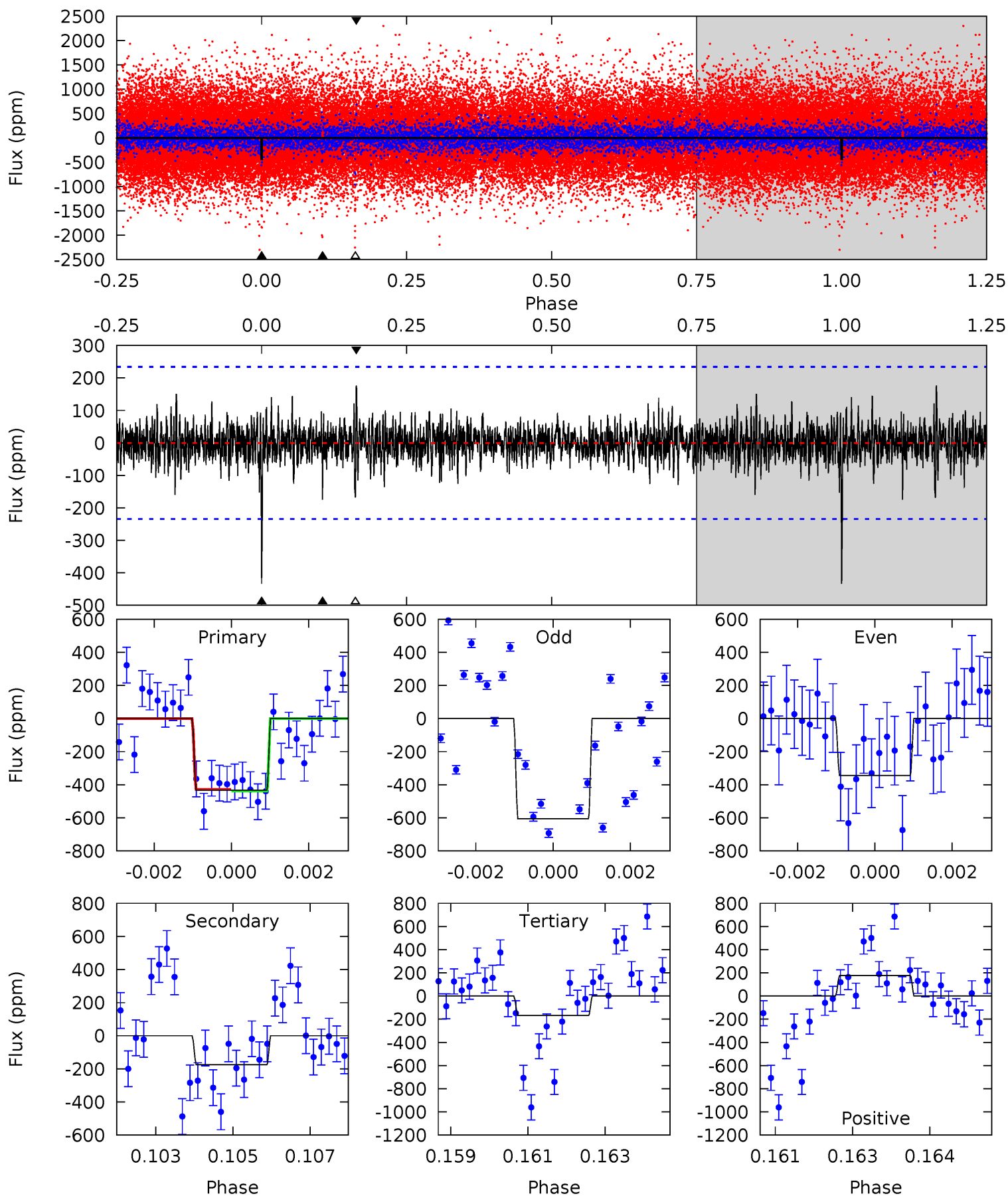
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	7.86	7.48	8.70	5.35	3.14	1.76	2.94	1.73	0.37	-0.84	0.70	1.32	0.45	0.67



# Alt Model-Shift Uniqueness Test

008241462-01, P = 320.405032 Days, E = 280.118524 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
9.91	4.00	3.86	4.04	5.36	3.14	0.91	6.06	5.87	0.14	-0.04	2.95	1.30	0.29	0.10



### Stellar Parameters For KIC 008241462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6224^{+175}_{-241}$	$4.454^{+0.054}_{-0.216}$	$-0.140^{+0.250}_{-0.300}$	$1.024^{+0.335}_{-0.112}$	$1.084^{+0.154}_{-0.154}$	$1.423^{+0.408}_{-0.753}$
	+3%/-4%	+1%/-5%	+179%/-214%	+33%/-11%	+14%/-14%	+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 008241462-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-358 \pm 46$	$2.38^{+0.76}_{-0.71}$	$409^{+29}_{-22}$	$6016^{+1258}_{-774}$	$30397^{+32540}_{-13292}$
Alt.	$-175 \pm 44$	$2.39^{+0.77}_{-0.75}$	$408^{+32}_{-23}$	$5065^{+916}_{-546}$	$14632^{+17511}_{-6598}$

$T_{max}$  = 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

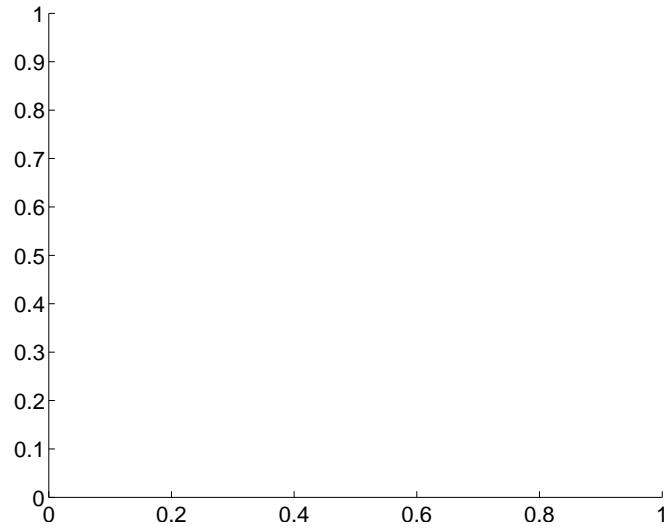
Supplemental centroid analysis for 008241462-01. Kepler magnitude: 15.59. Transit SNR 5.25

There are 0 quarters with good PRF difference image offsets

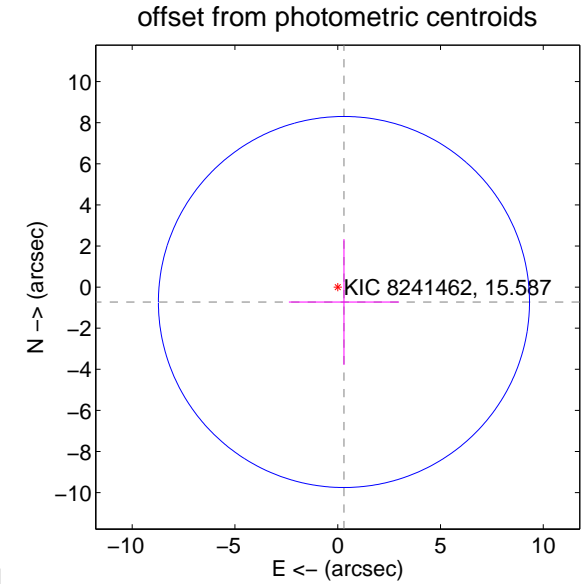
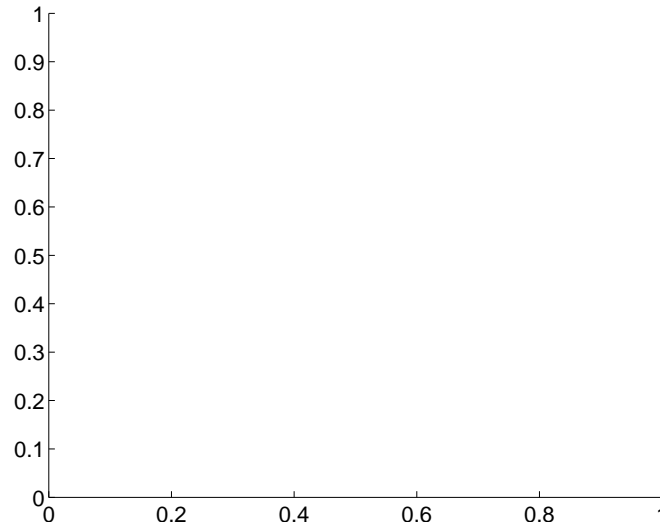
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$0.79 \pm 3.01$	0.26	$-0.30 \pm 2.68$	$-0.72 \pm 3.06$

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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.



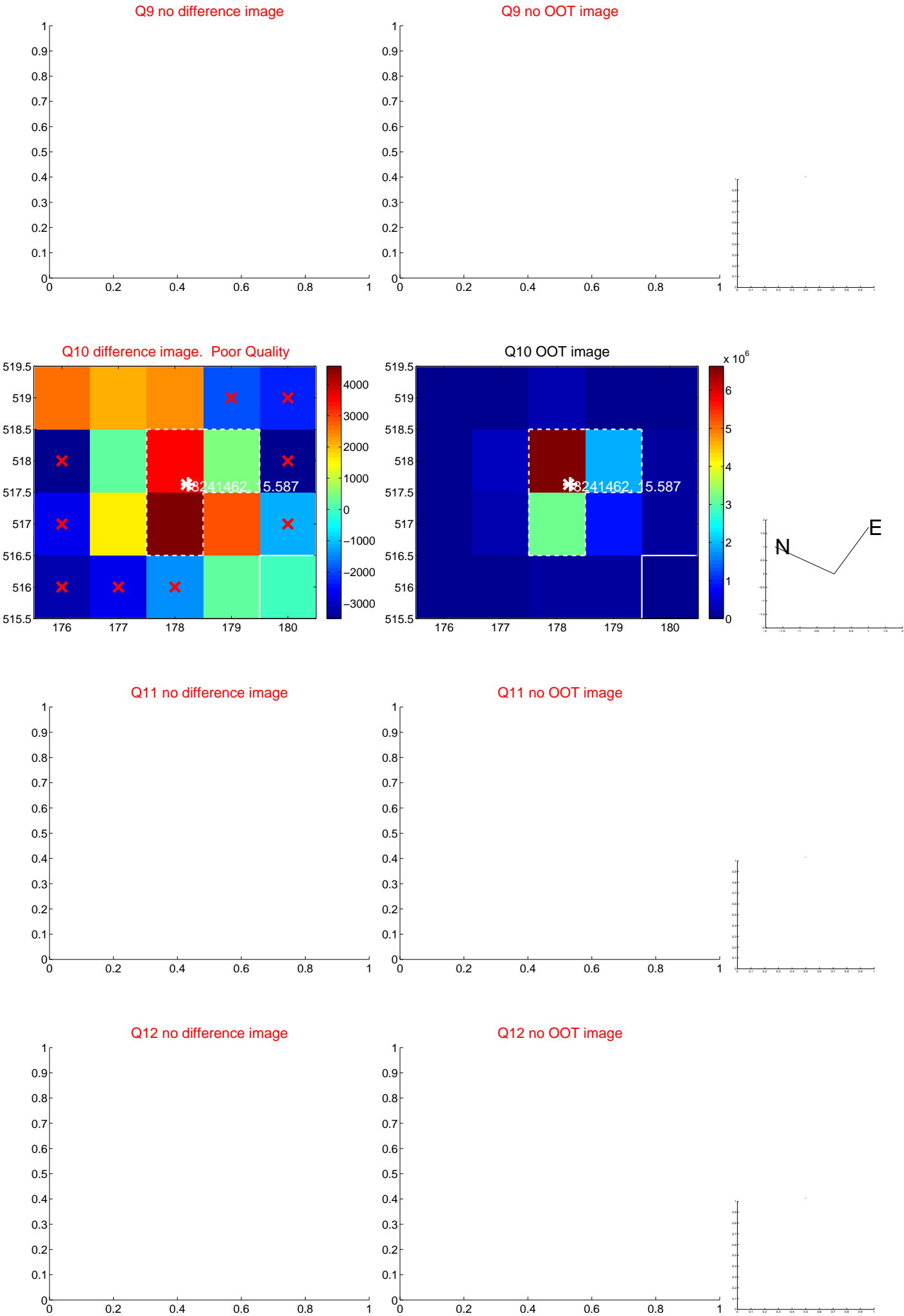
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



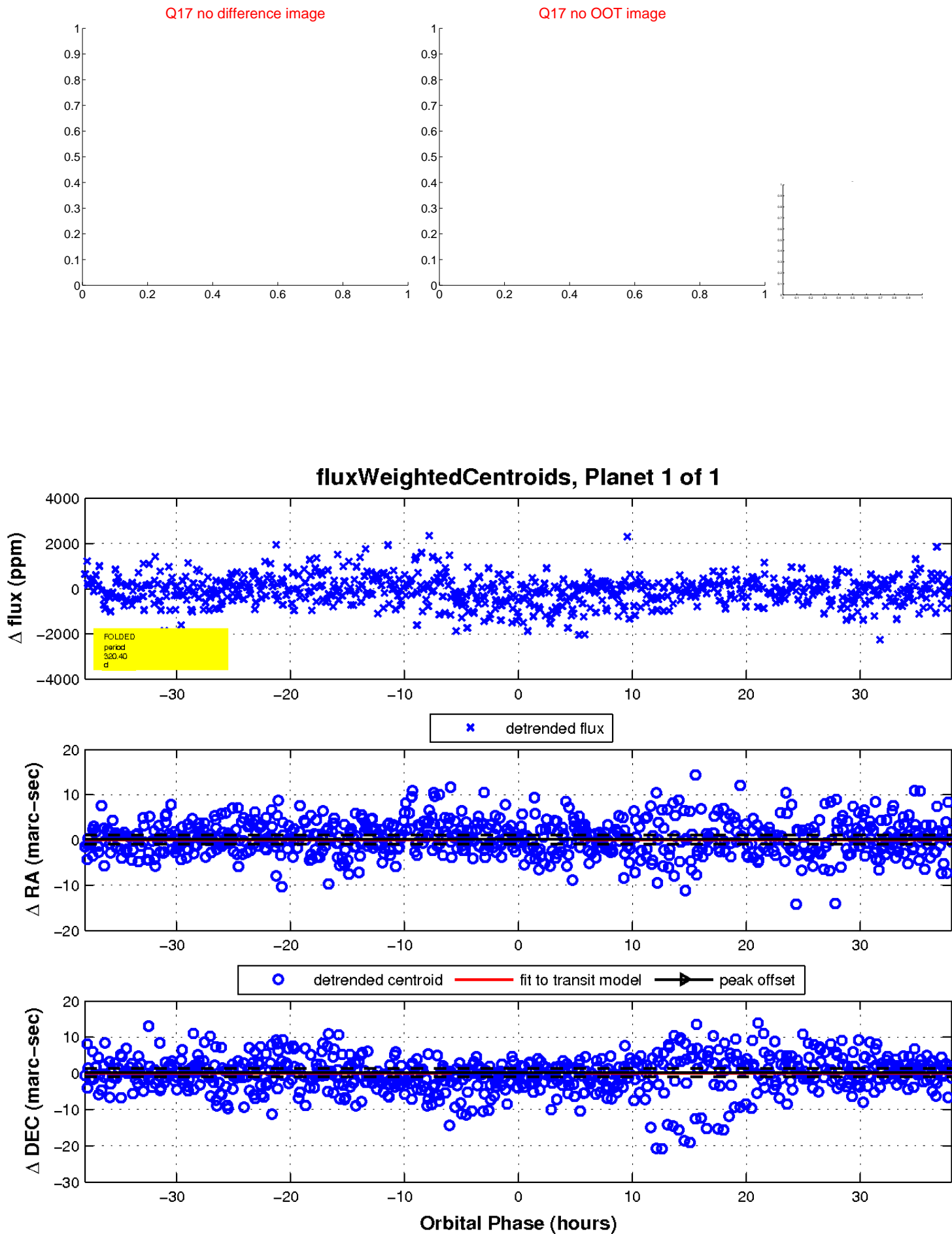
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

