

# KIC 008622447

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008622447-01	OBS	No	375.489252	506.404015	1548.6	62.363	10.9	19.2	0.88	5532	6.63	0.64

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008622447-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE—CENT_FEW_DIFFS—HALO_GHOST

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

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

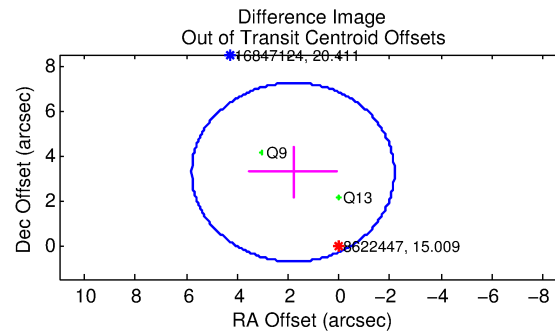
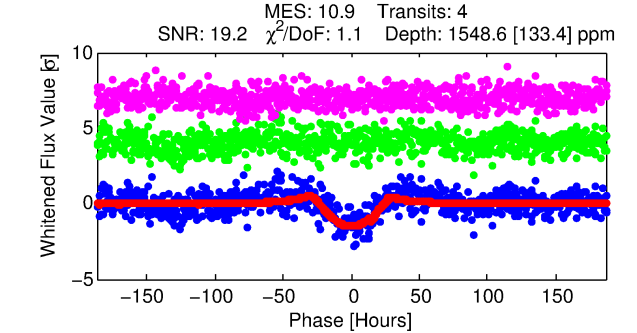
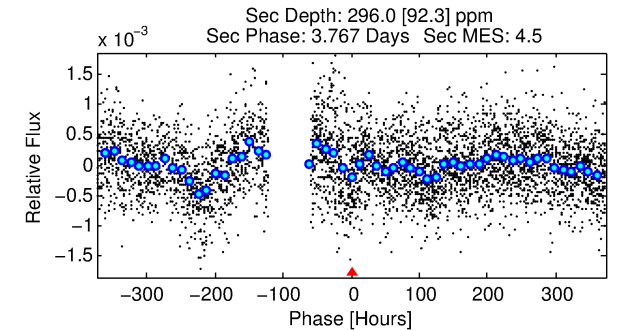
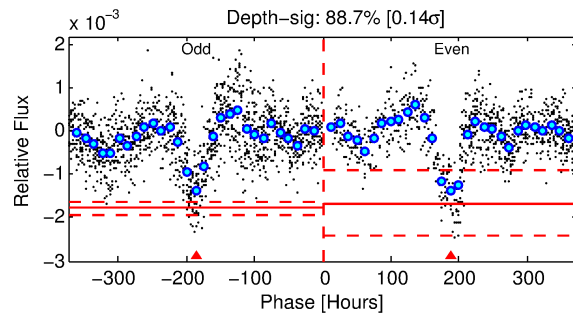
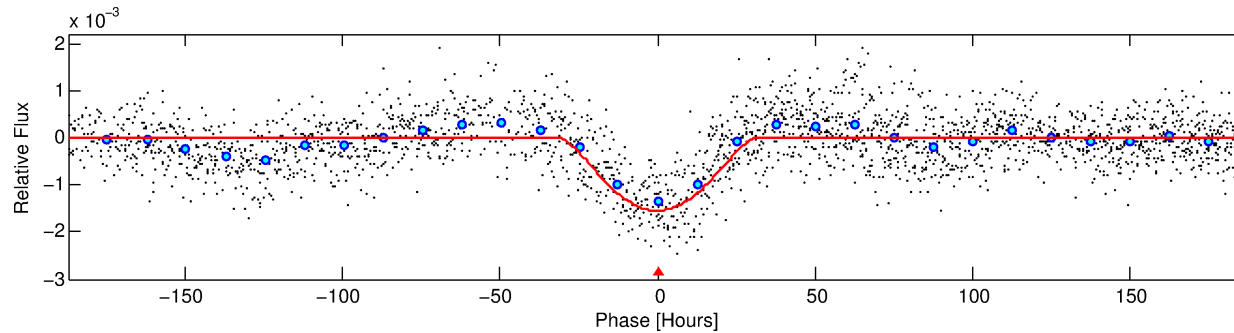
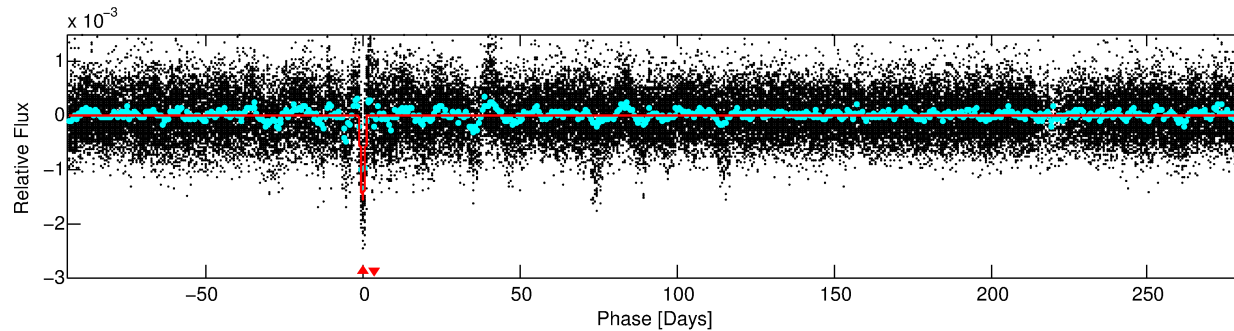
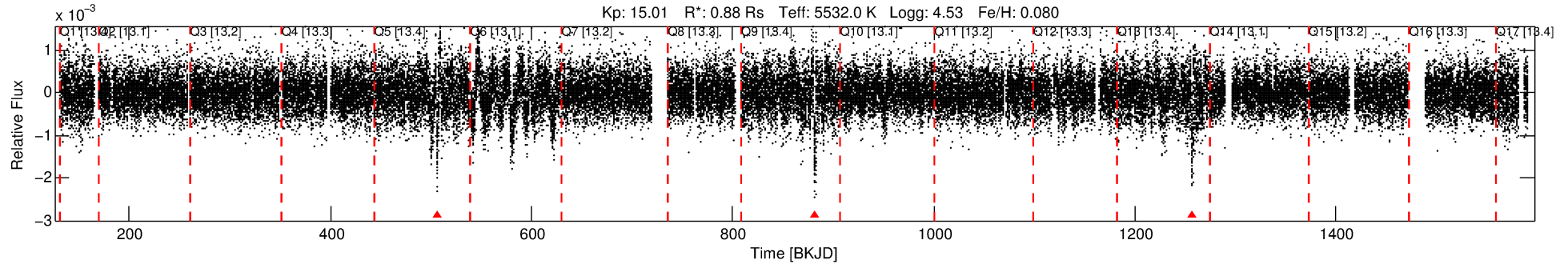
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008622447-01

No Significant Match Found

# DV One-Page Summary

KIC: 8622447 Candidate: 1 of 1 Period: 375.489 d



## DV Fit Results:

Period = 375.48925 [0.03290] d  
Epoch = 506.4040 [0.0410] BKJD  
Rp/R\* = 0.0693 [0.0839]  
a/R\* = 17.63 [4.70]  
b = 1.00 [0.12]  
Seff = 0.64 [0.22]  
Teq = 228 [20] K  
Rp = 6.63 [8.19] Re  
a = 1.0010 [0.2180] AU  
Ag = 3716.29 [9150.18] [0.41σ]  
Teffp = 2756 [1684] K [1.50σ]

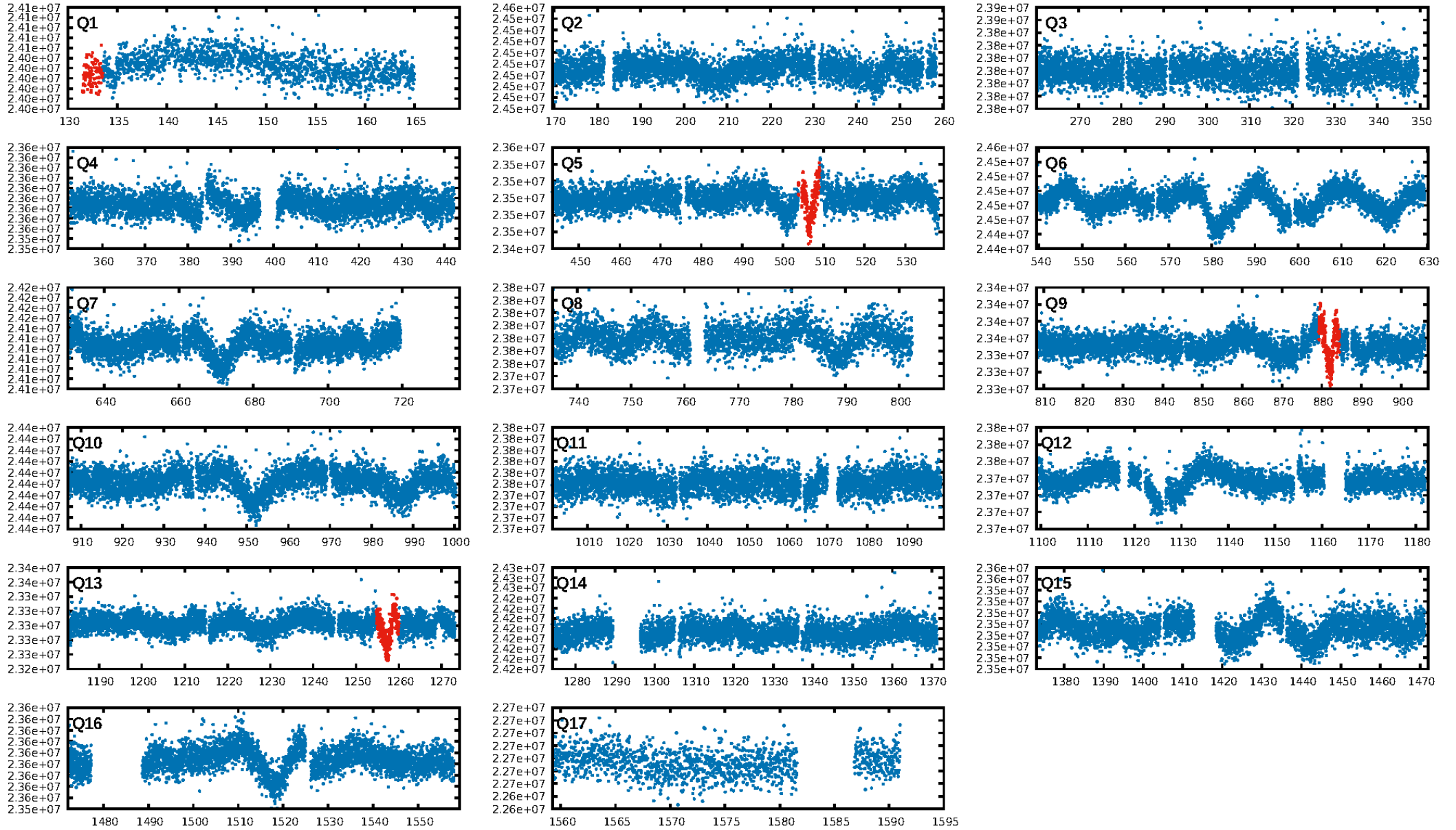
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.2%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.36e-23  
RollingBand-fgt: 0.00 [0/3]  
GhostDiagnostic-chr: -0.1844  
Centroid-sig: 0.3%  
Centroid-so: 1.211 arcsec [1.93σ]  
OotOffset-rm: 3.717 arcsec [2.80σ]  
KicOffset-rm: 3.617 arcsec [2.62σ]  
OotOffset-st: 0/0/0/2 [2]  
KicOffset-st: 0/0/0/2 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [2/2]

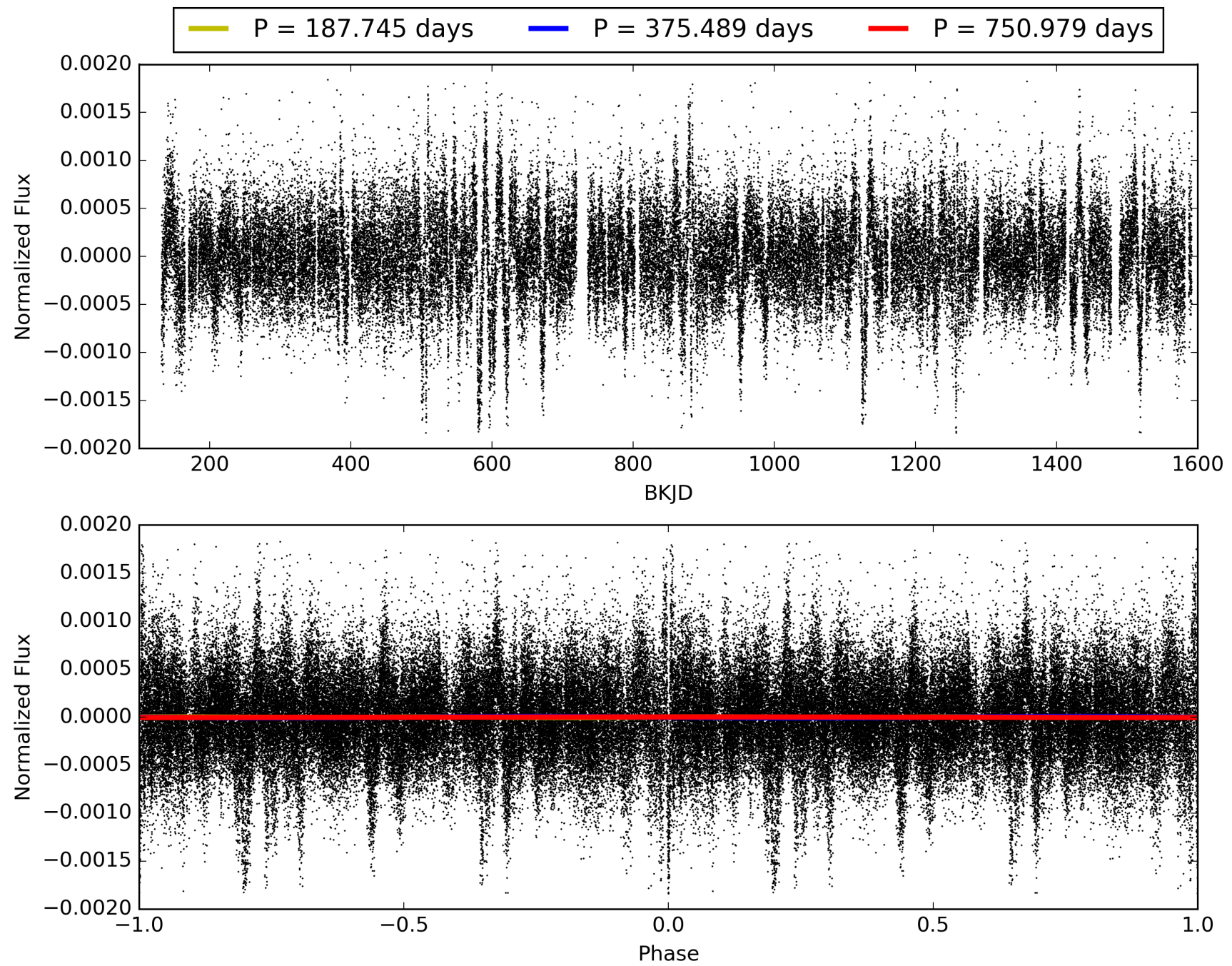
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:47:05 Z

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

# TCE 008622447-01, PDC Light Curves

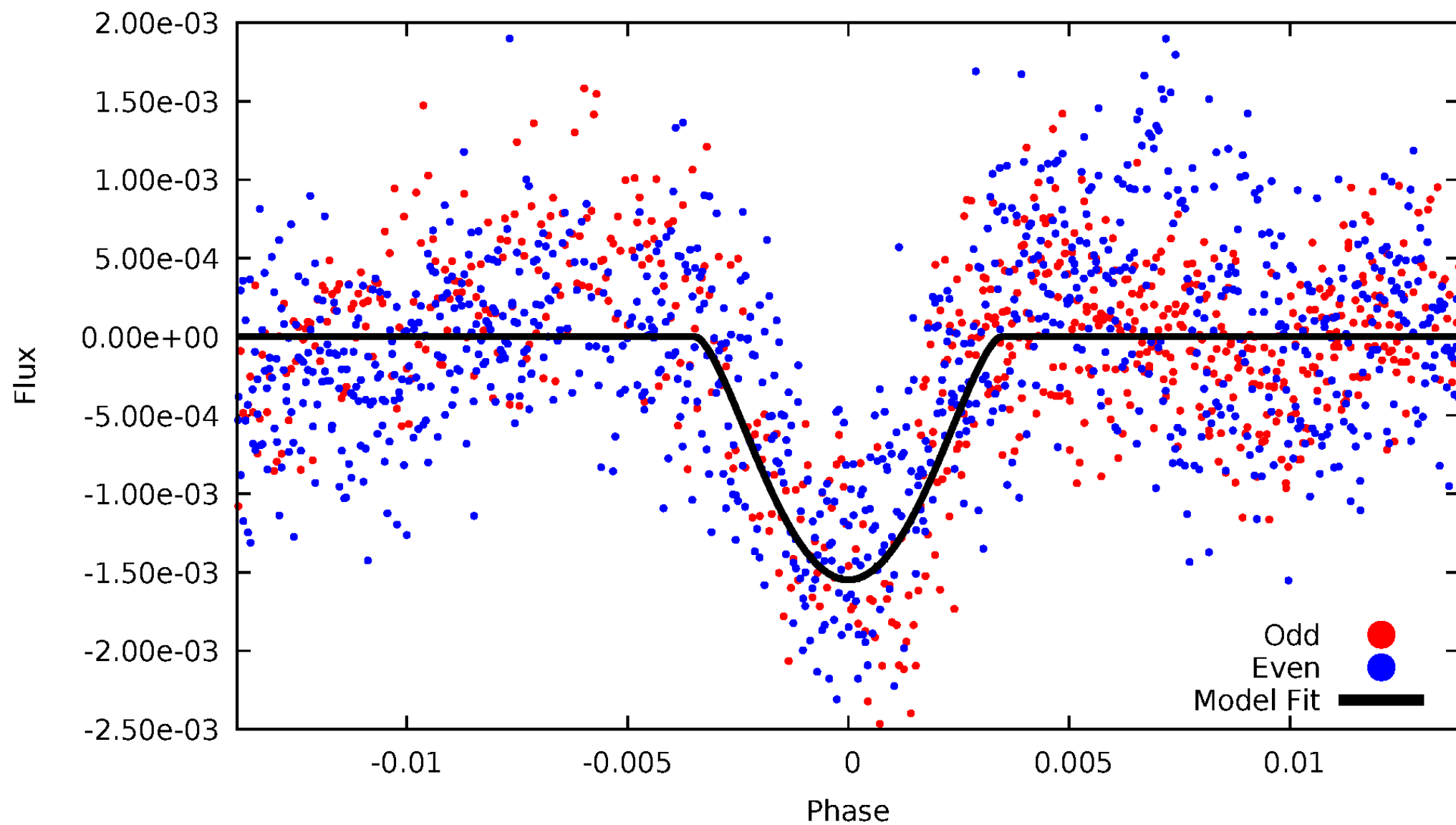


TCE 008622447-01



# DV Odd/Even

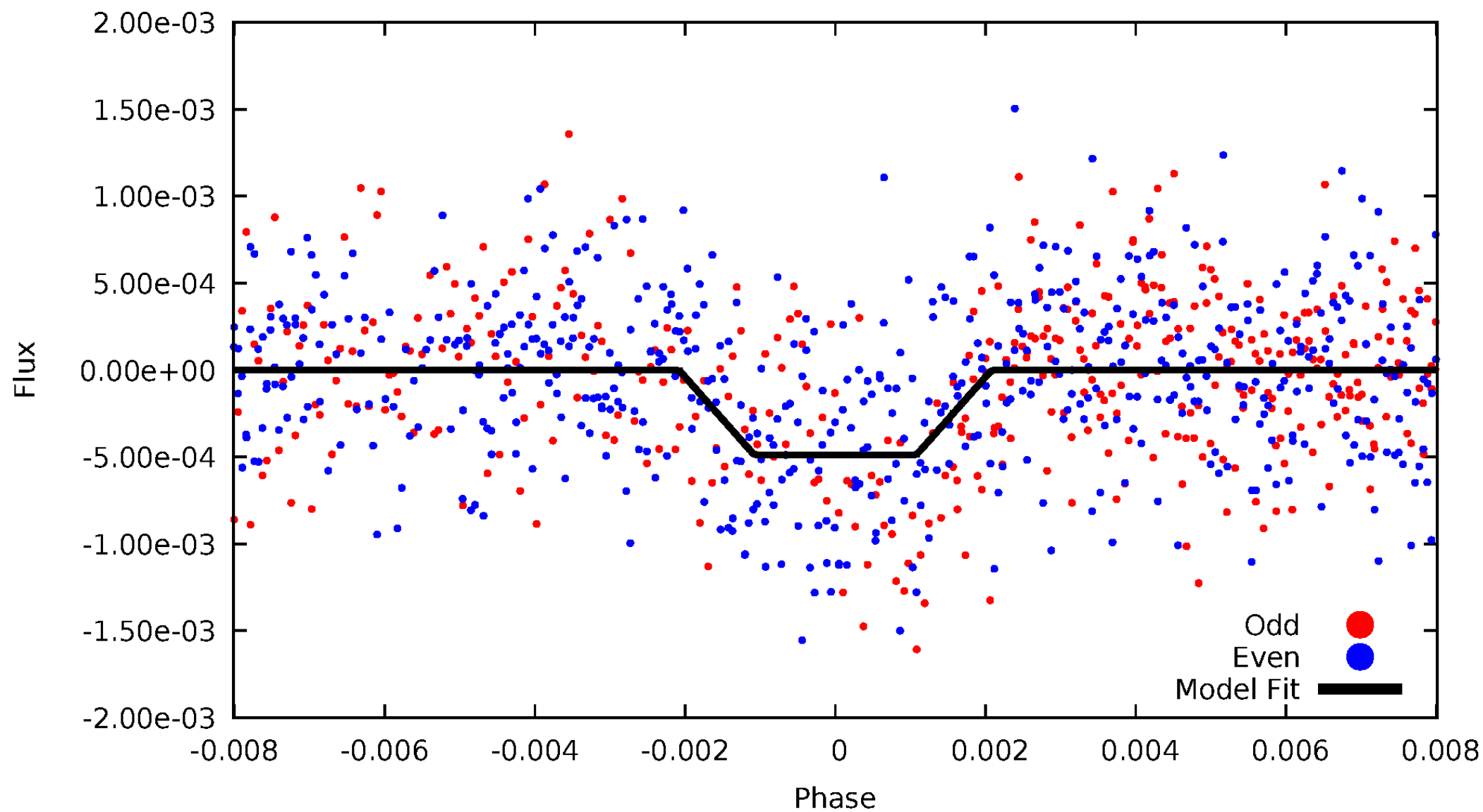
TCE 008622447-01



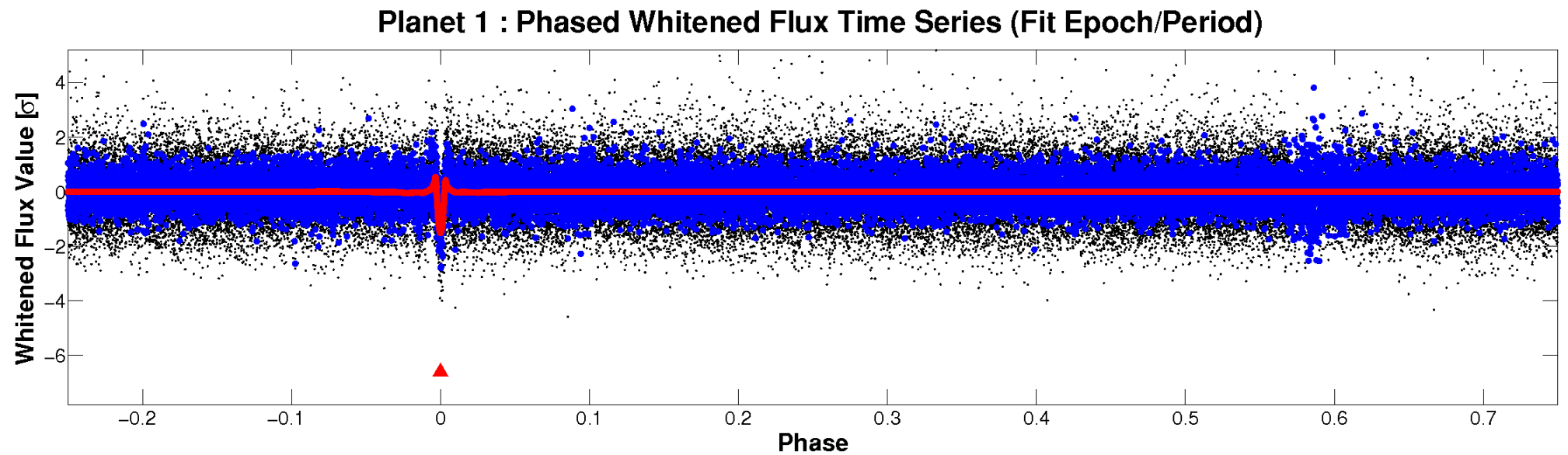
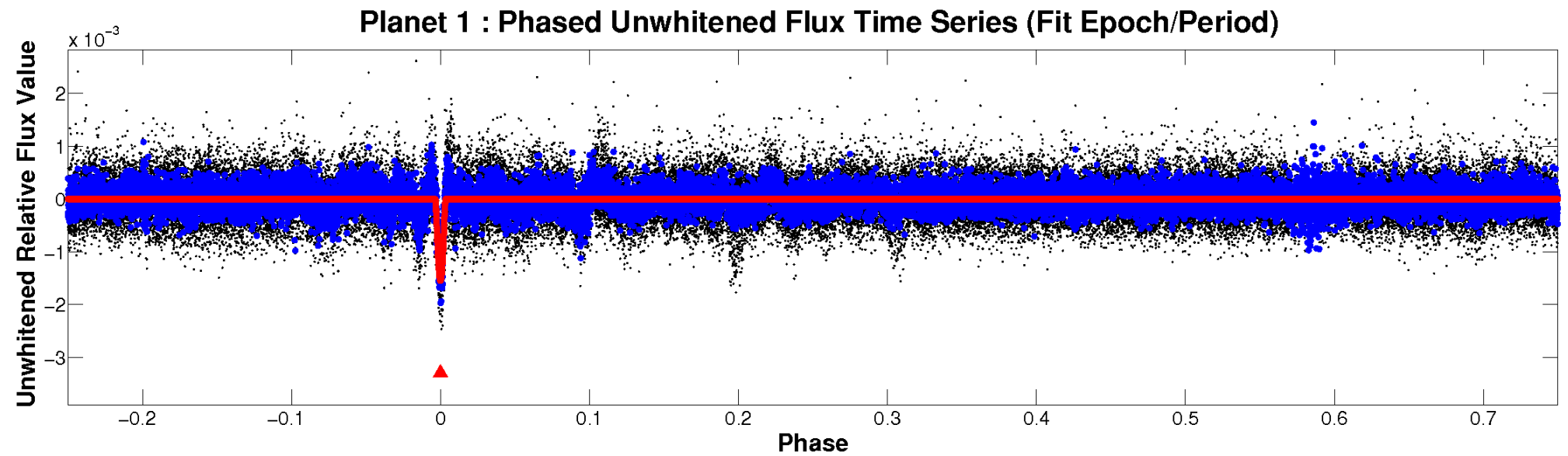


# ALT Odd/Even

TCE 008622447-01

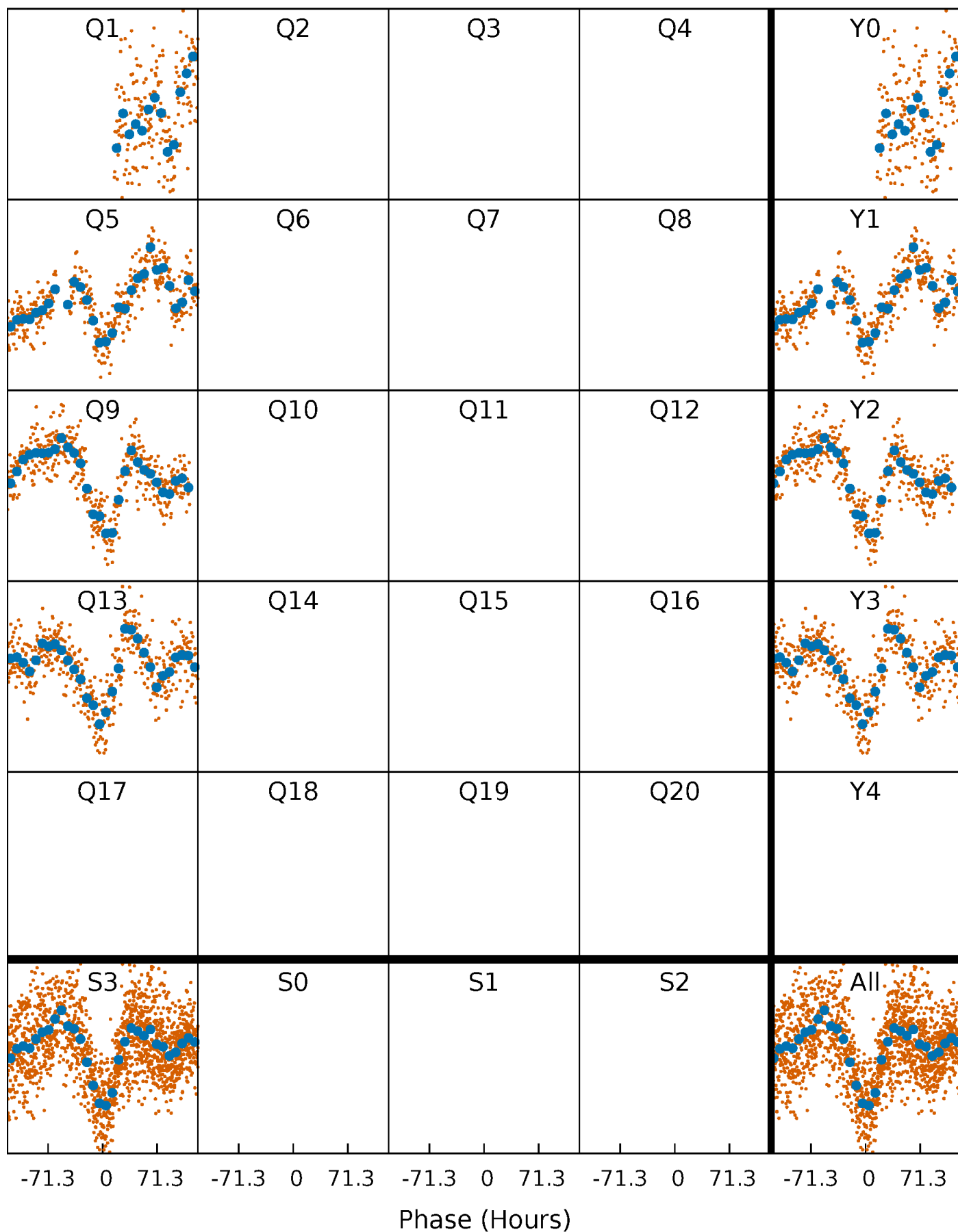


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

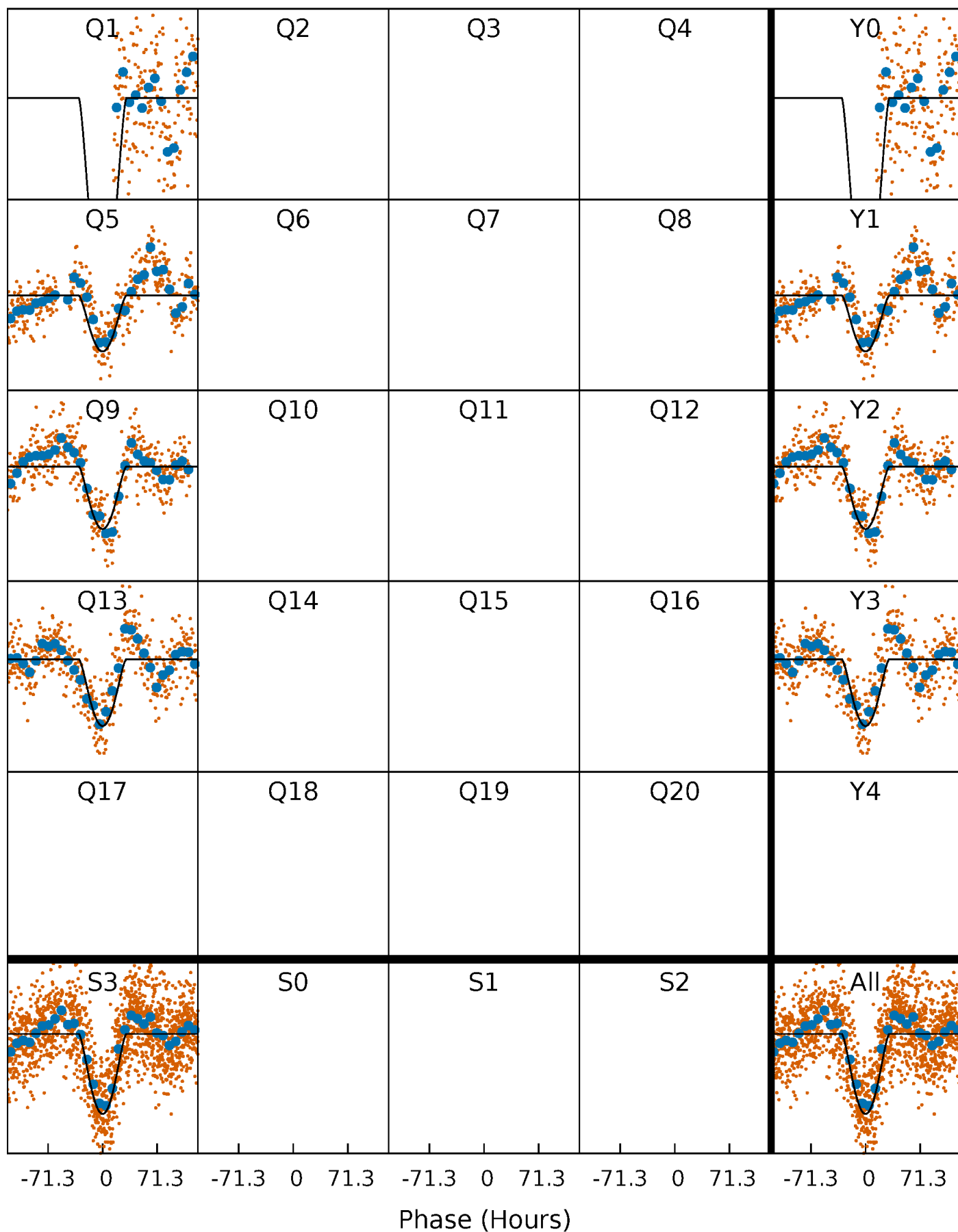
TCE 008622447-01     $P=375.489252$  Days     $T_0=506.404015$  (BKJD)





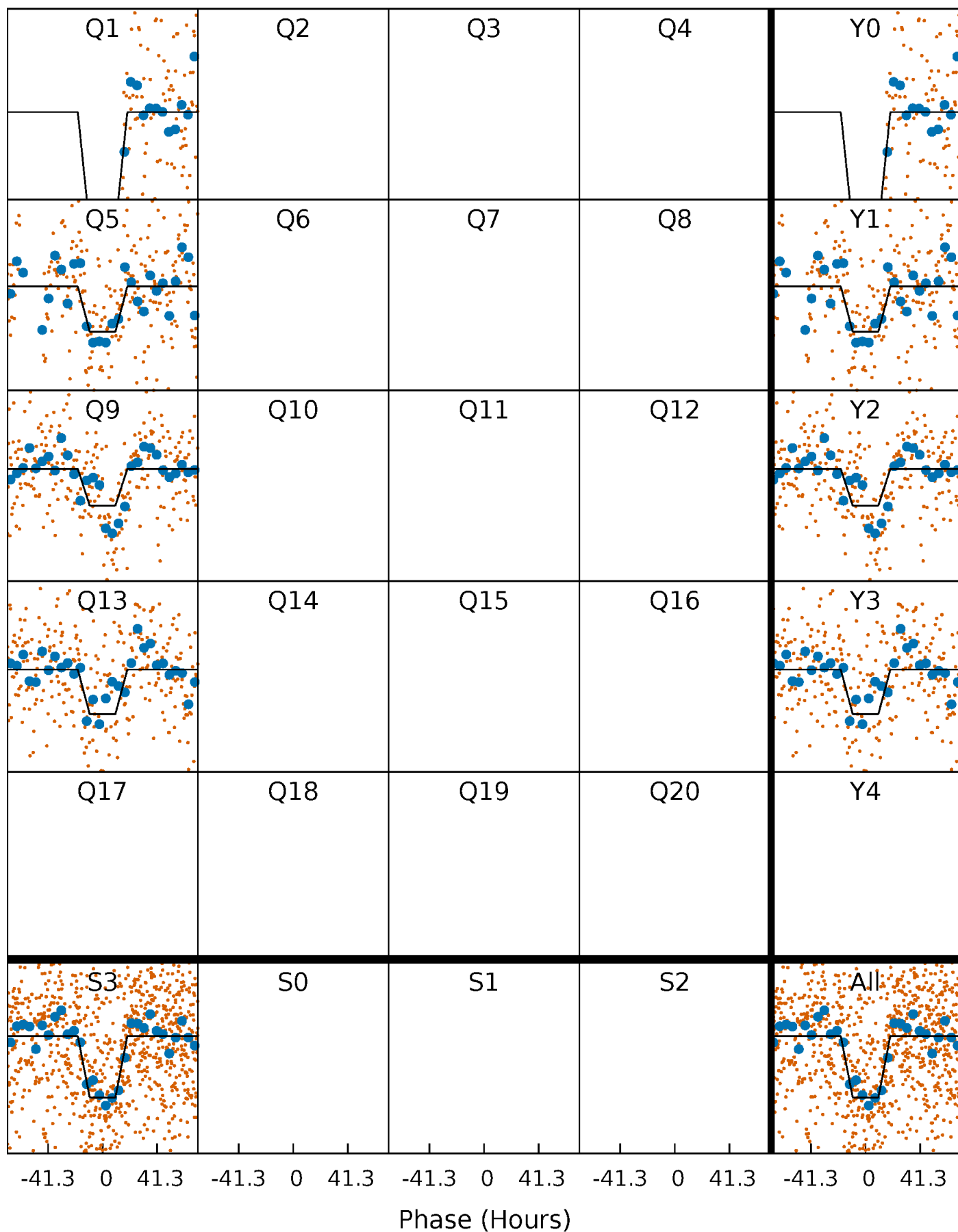
# DV Quarter-Phased Transit Curves

TCE 008622447-01     $P=375.489252$  Days     $T_0=506.404015$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

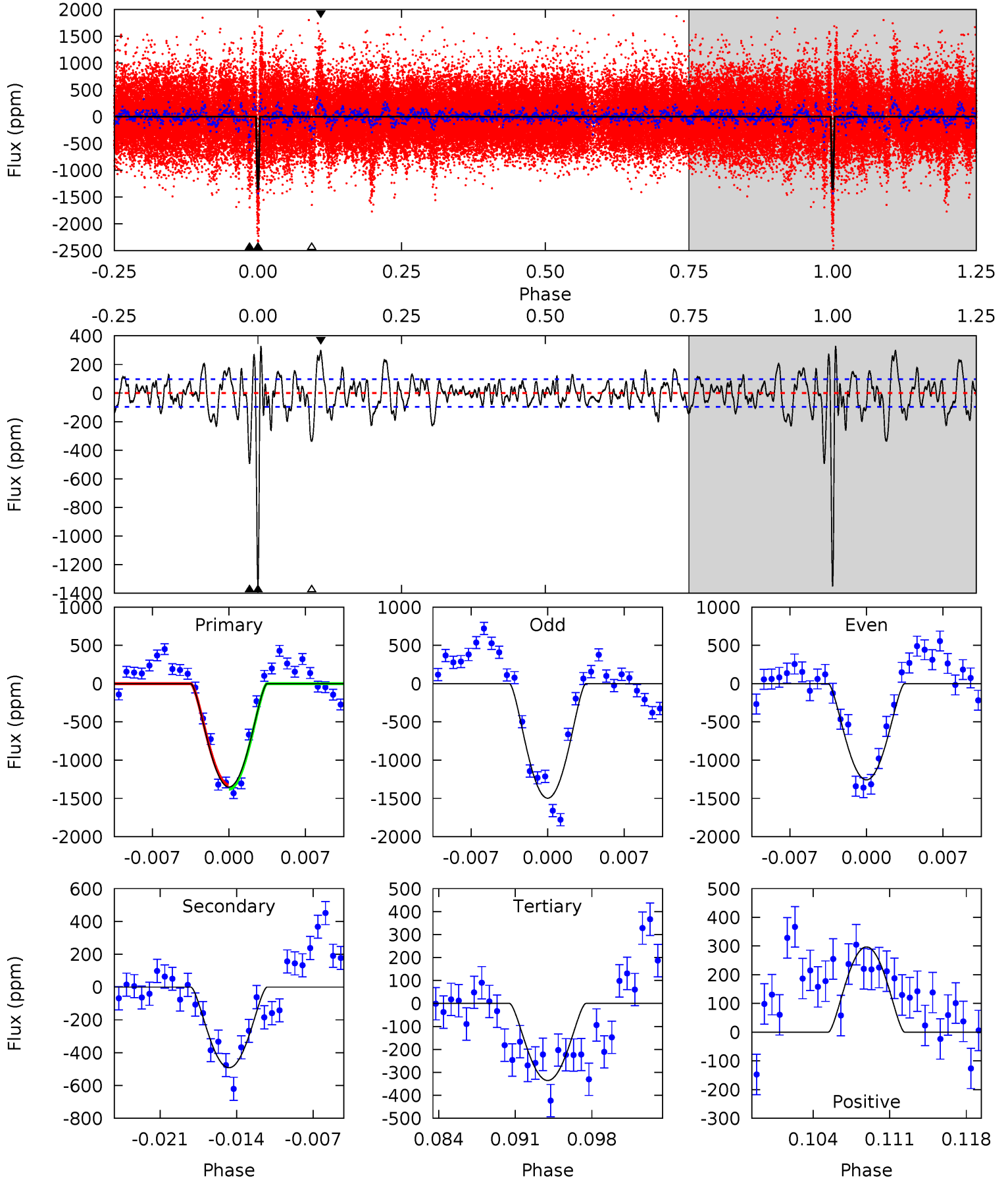
TCE 008622447-01 P=375.548399 Days  $T_0=506.472250$  (BKJD)



# DV Model-Shift Uniqueness Test

008622447-01, P = 375.489252 Days, E = 130.914763 Days

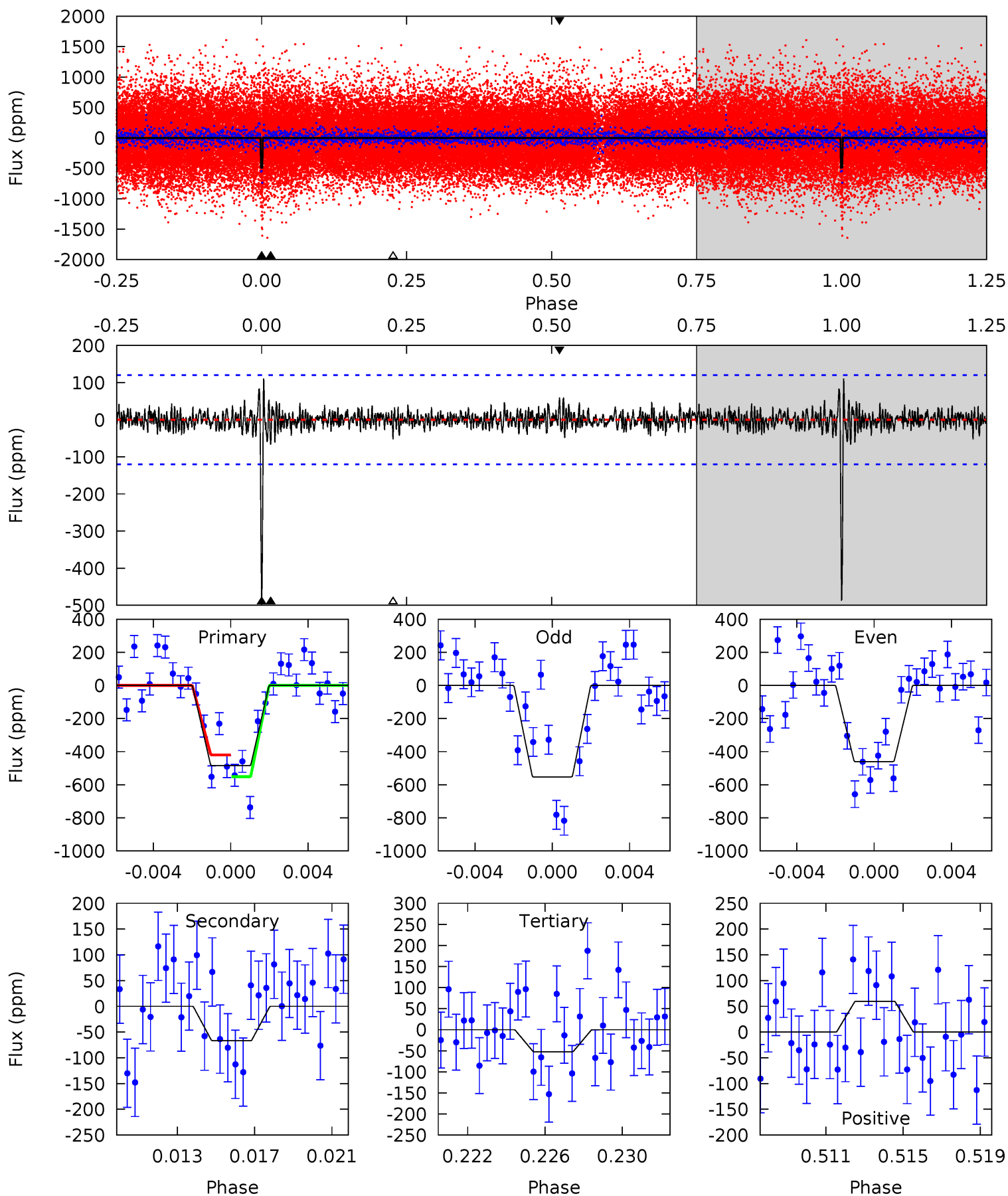
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.9	25.8	17.6	15.6	5.10	2.70	4.63	53.3	55.3	8.20	10.2	6.18	0.84	0.20	1.53



# Alt Model-Shift Uniqueness Test

008622447-01, P = 375.548399 Days, E = 130.923851 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
20.9	2.88	2.25	2.58	5.19	2.86	0.73	18.7	18.4	0.63	0.30	1.94	1.08	0.19	2.85



### Stellar Parameters For KIC 008622447

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5532^{+166}_{-166}$	$4.530^{+0.042}_{-0.179}$	$0.080^{+0.250}_{-0.300}$	$0.876^{+0.222}_{-0.074}$	$0.948^{+0.085}_{-0.104}$	$1.986^{+0.447}_{-0.952}$
	+3%/-3%	+1%/-4%	+312%/-375%	+25%/-8%	+9%/-11%	+23%/-48%
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 008622447-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-492 \pm 19$	$9.28^{+6.85}_{-5.64}$	$326^{+19}_{-15}$	$3273^{+1237}_{-502}$	$3125^{+17350}_{-2117}$
Alt.	$-67 \pm 23$	$6.55^{+7.36}_{-4.55}$	$325^{+21}_{-15}$	$2696^{+1202}_{-446}$	$800^{+7805}_{-624}$

$T_{max}$  = 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

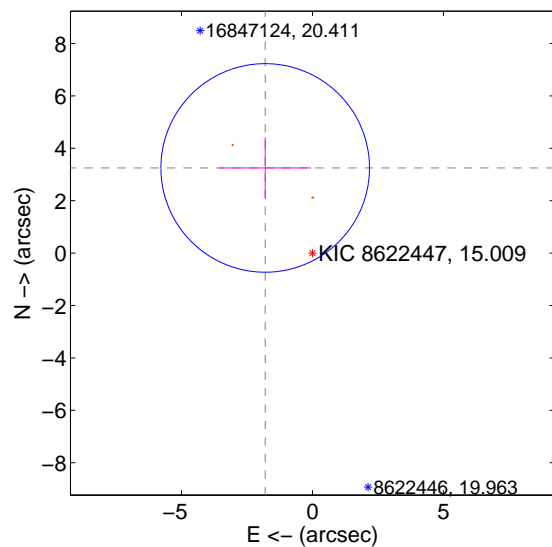
Supplemental centroid analysis for 008622447-01. Kepler magnitude: 15.01. Transit SNR 19.23

There are 0 quarters with good PRF difference image offsets

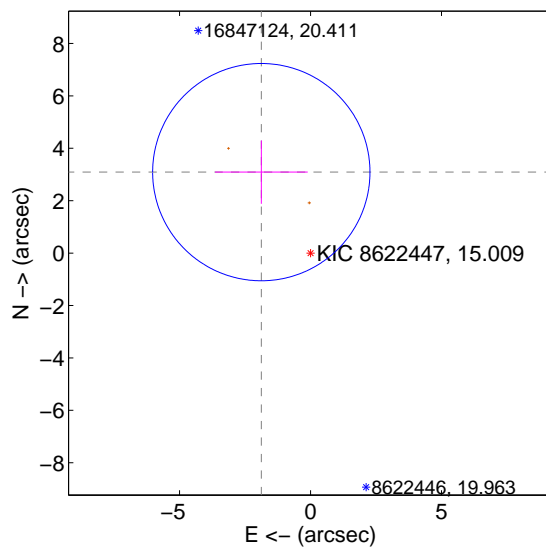
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.717 \pm 1.327$	2.80	$1.804 \pm 1.754$	$3.250 \pm 1.164$
PRF-fit source offset from KIC position	$3.617 \pm 1.382$	2.62	$1.878 \pm 1.770$	$3.091 \pm 1.208$
photometric centroid source offset	$1.21 \pm 0.63$	1.93	$-0.71 \pm 0.55$	$0.98 \pm 0.67$

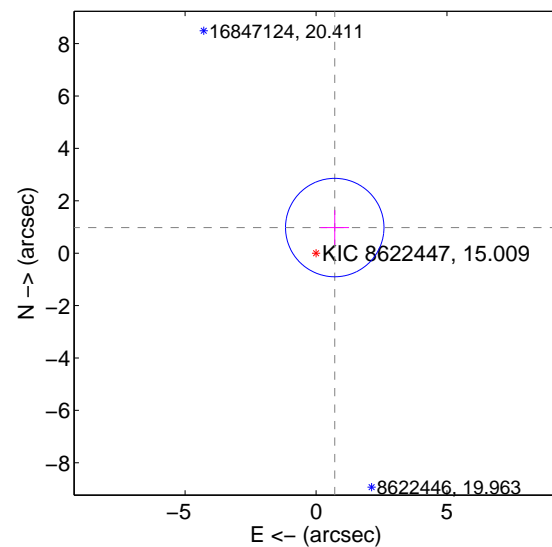
offset from difference PRF-fit to OOT PRF-fit



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.



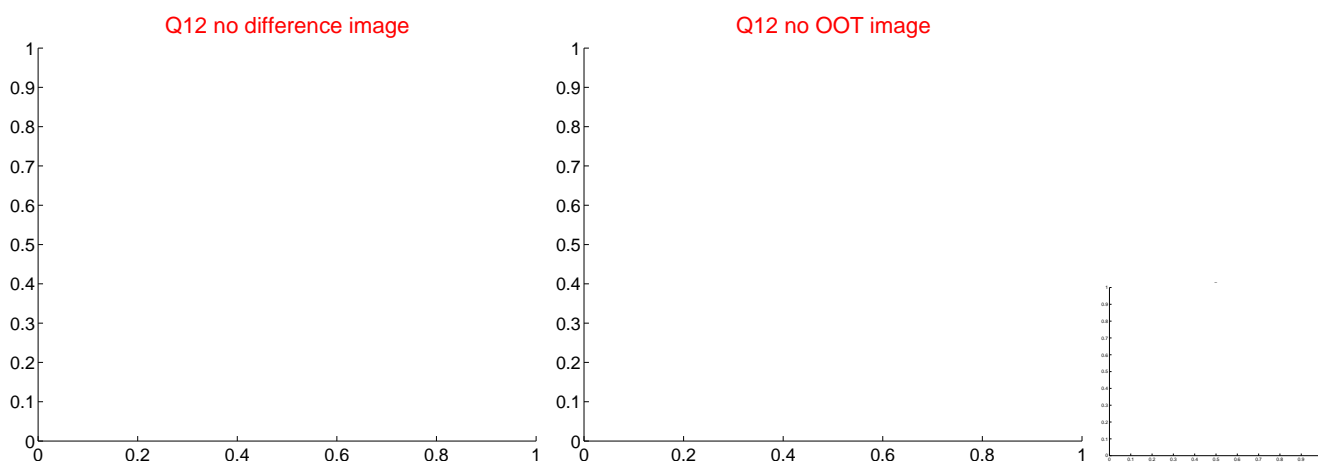
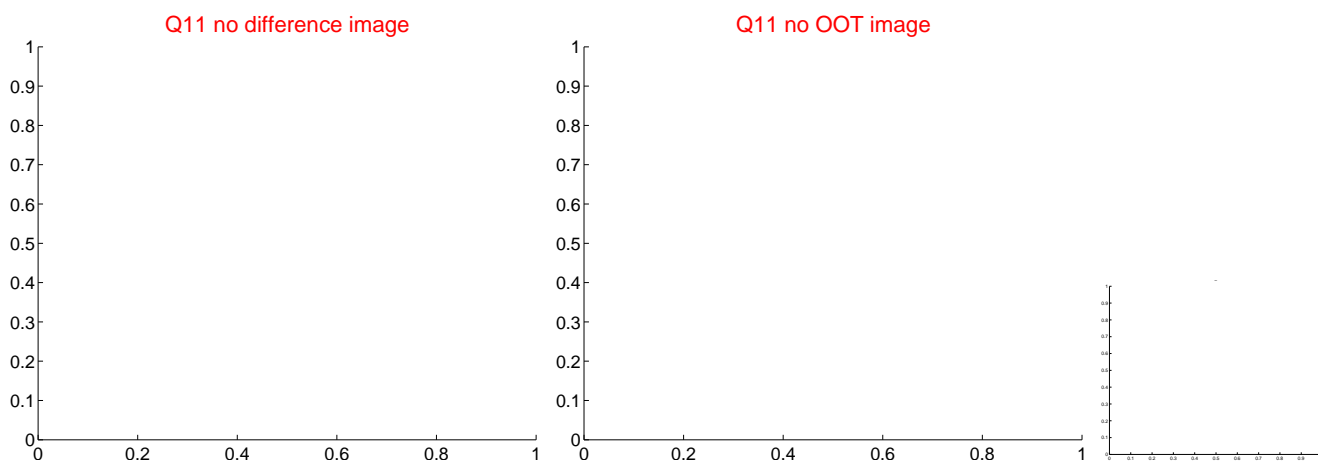
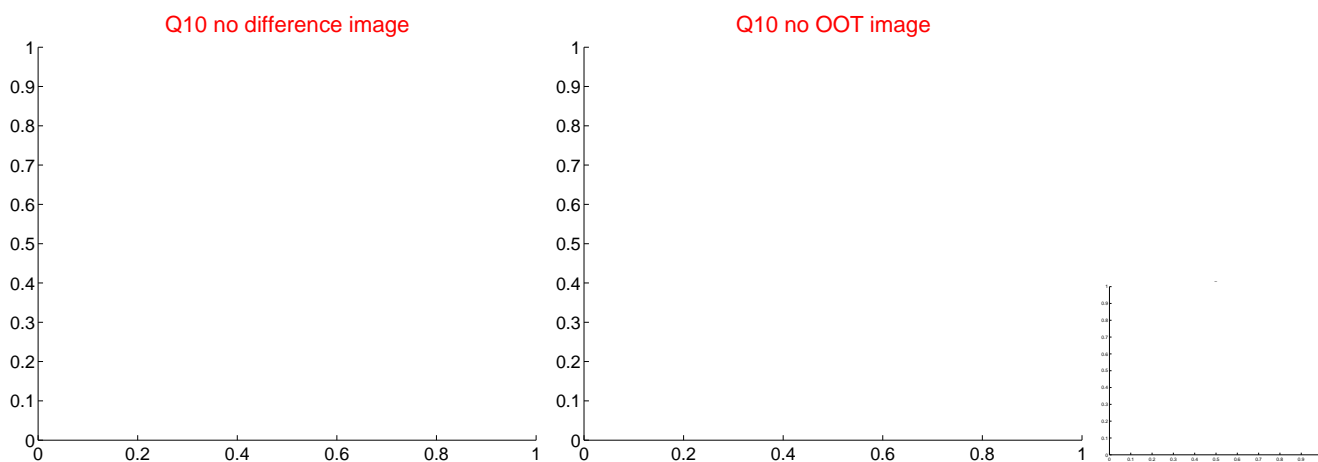
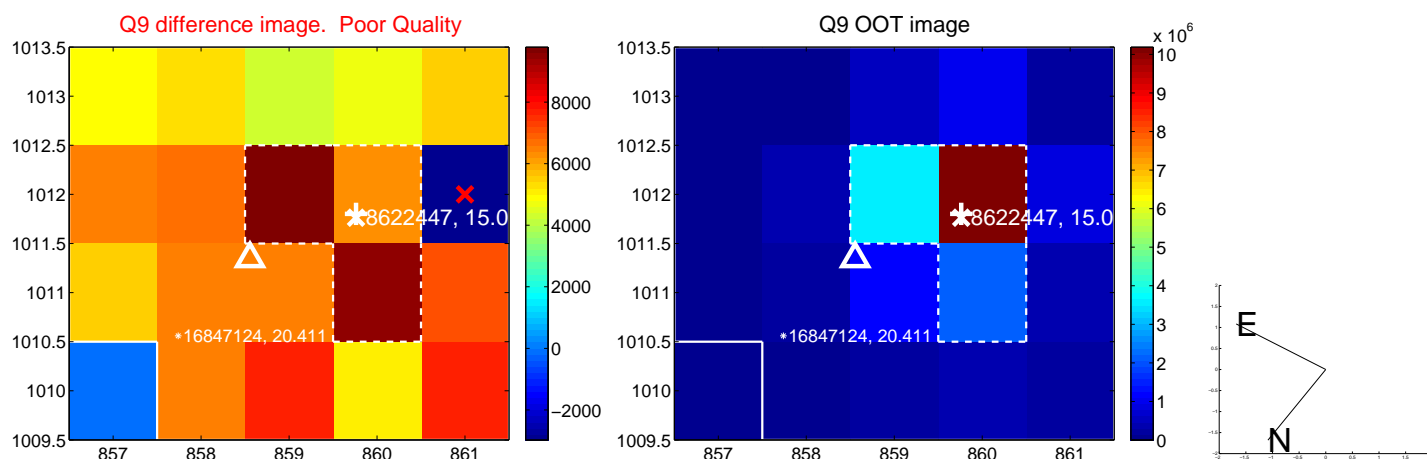
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



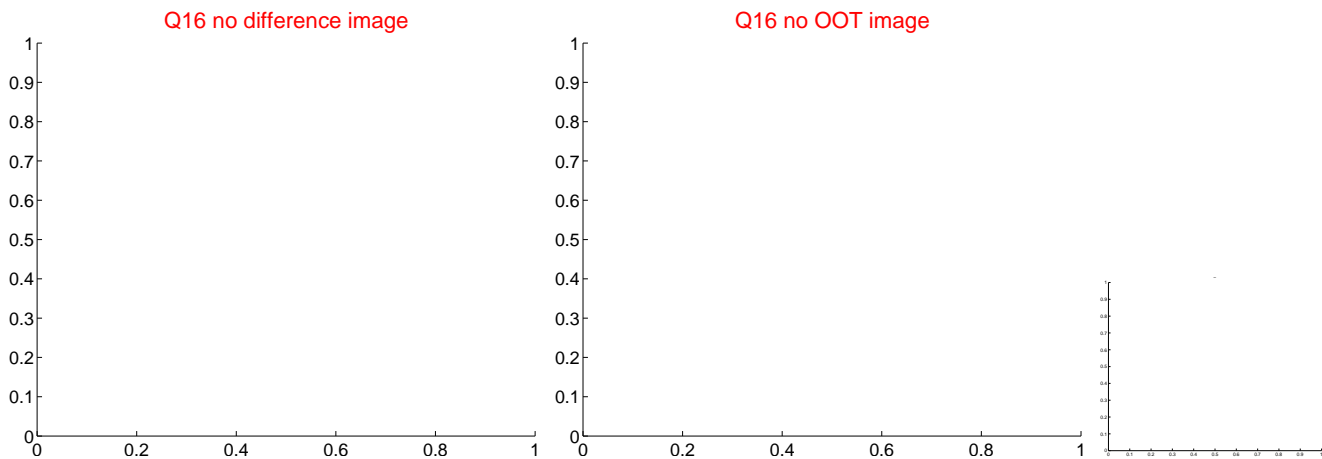
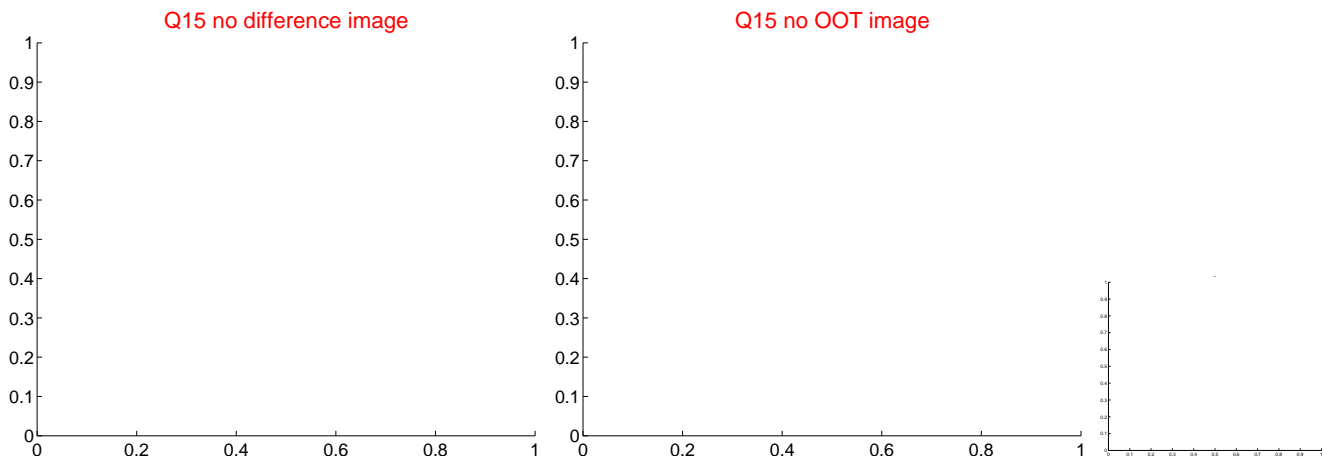
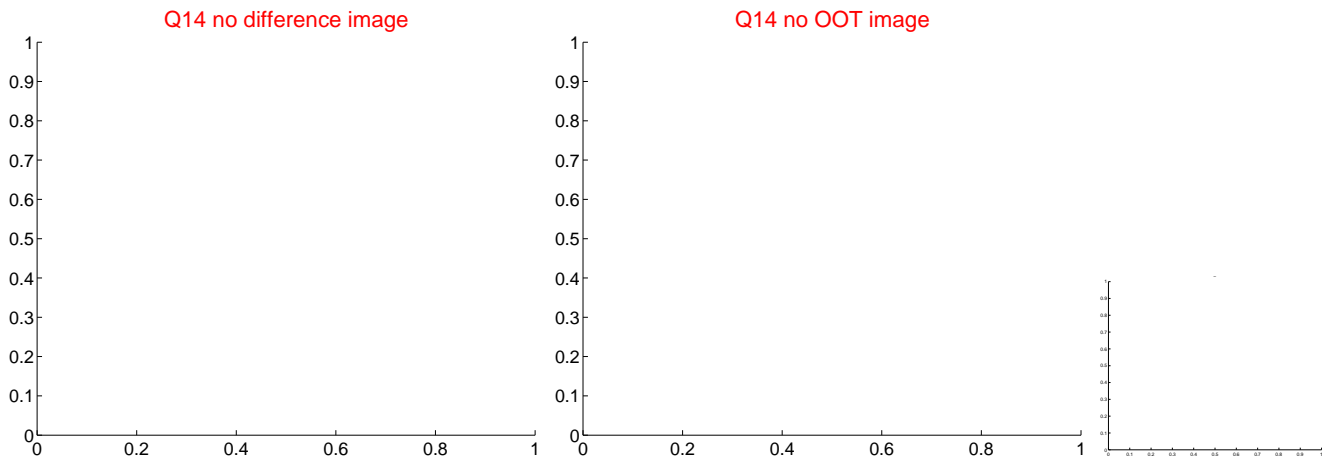
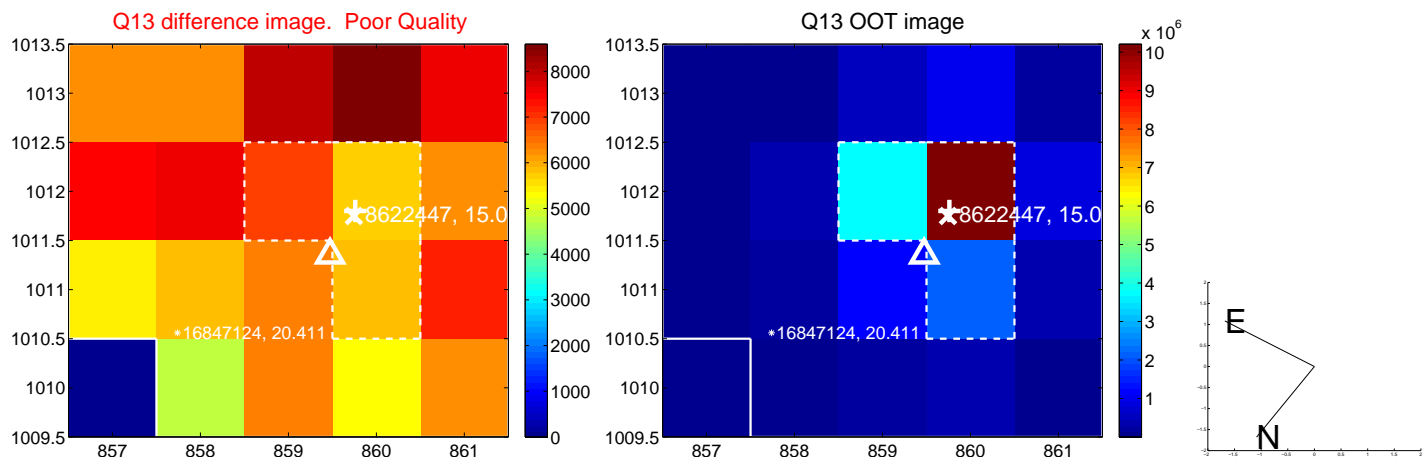
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



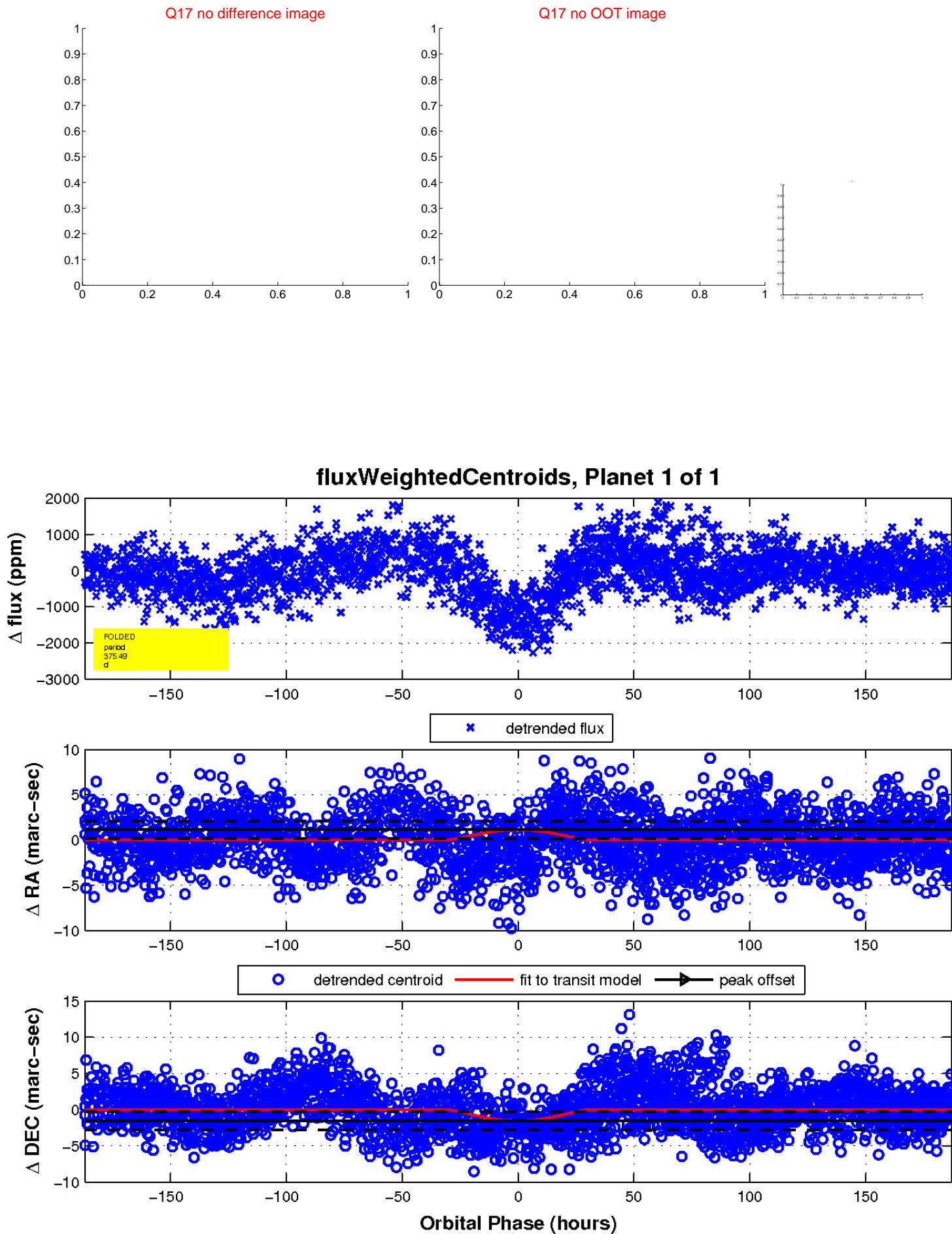
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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



UKIRT Image

Declination

