

# KIC 008622342

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008622342-01	OBS	No	374.749500	135.992281	626.1	50.550	10.9	13.5	0.96	6029	4.66	1.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008622342-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—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.

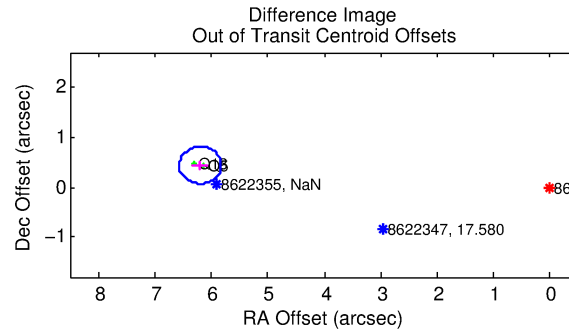
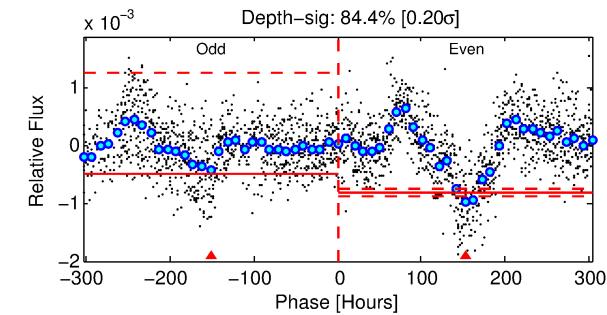
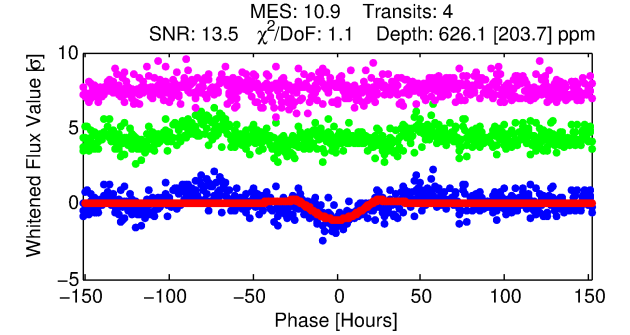
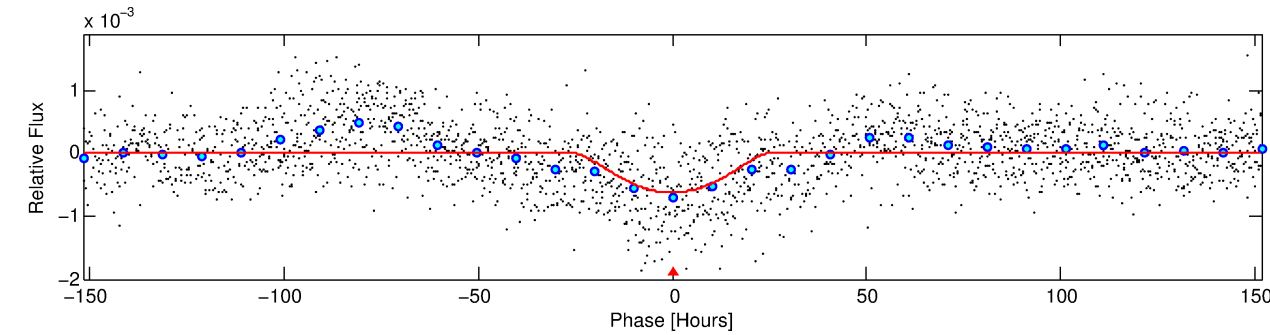
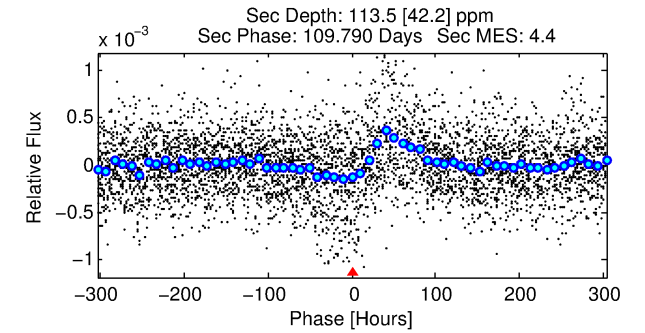
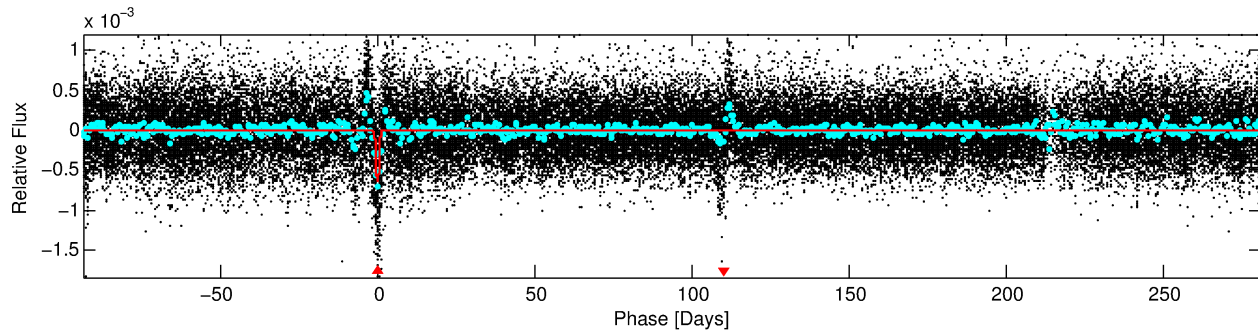
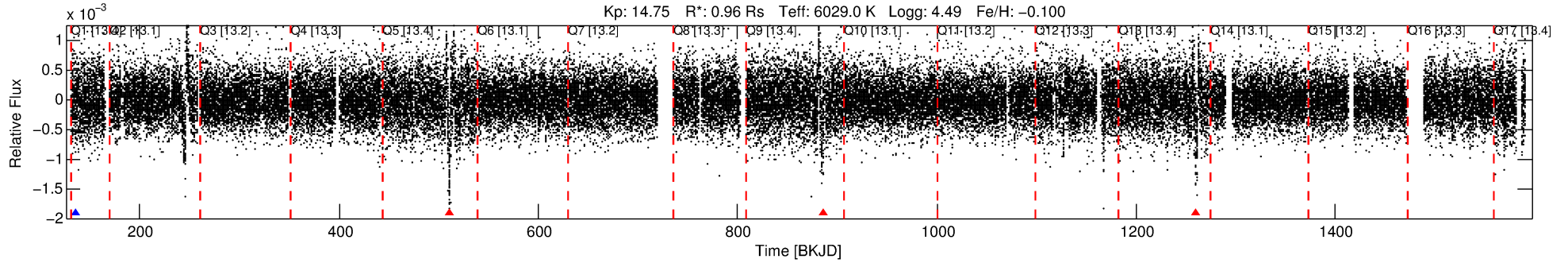
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008622342-01

No Significant Match Found

# DV One-Page Summary

KIC: 8622342 Candidate: 1 of 1 Period: 374.750 d



## DV Fit Results:

Period = 374.74950 [0.03911] d  
Epoch = 135.9923 [0.0767] BKJD  
Rp/R\* = 0.0447 [0.0949]  
a/R\* = 17.16 [8.99]  
b = 1.00 [0.15]  
Seff = 1.02 [0.41]  
Teq = 256 [26] K  
Rp = 4.66 [10.01] Re  
a = 1.0308 [0.2713] AU  
Ag = 3056.59 [13094.68] [0.23σ]  
Teffp = 2945 [3143] K [0.86σ]

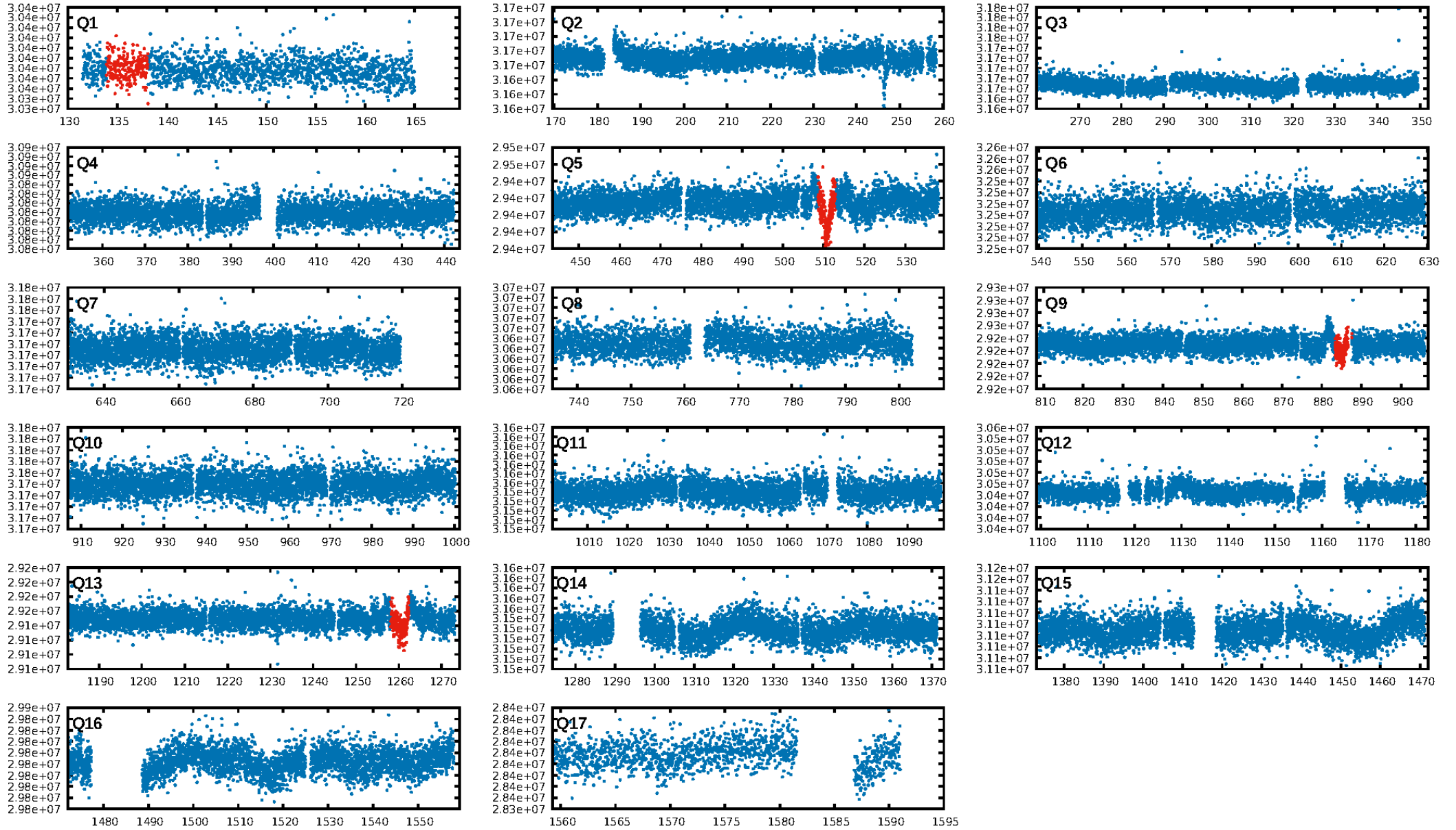
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 7.58e-22  
RollingBand-fgt: 0.00 [0/3]  
GhostDiagnostic-chr: -3.898  
Centroid-sig: 0.0%  
Centroid-so: 4.160 arcsec [4.36σ]  
OotOffset-rm: 6.211 arcsec [50.34σ]  
KicOffset-rm: 6.250 arcsec [52.94σ]  
OotOffset-st: 0/0/0/2 [2]  
KicOffset-st: 0/0/0/2 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [3/3]

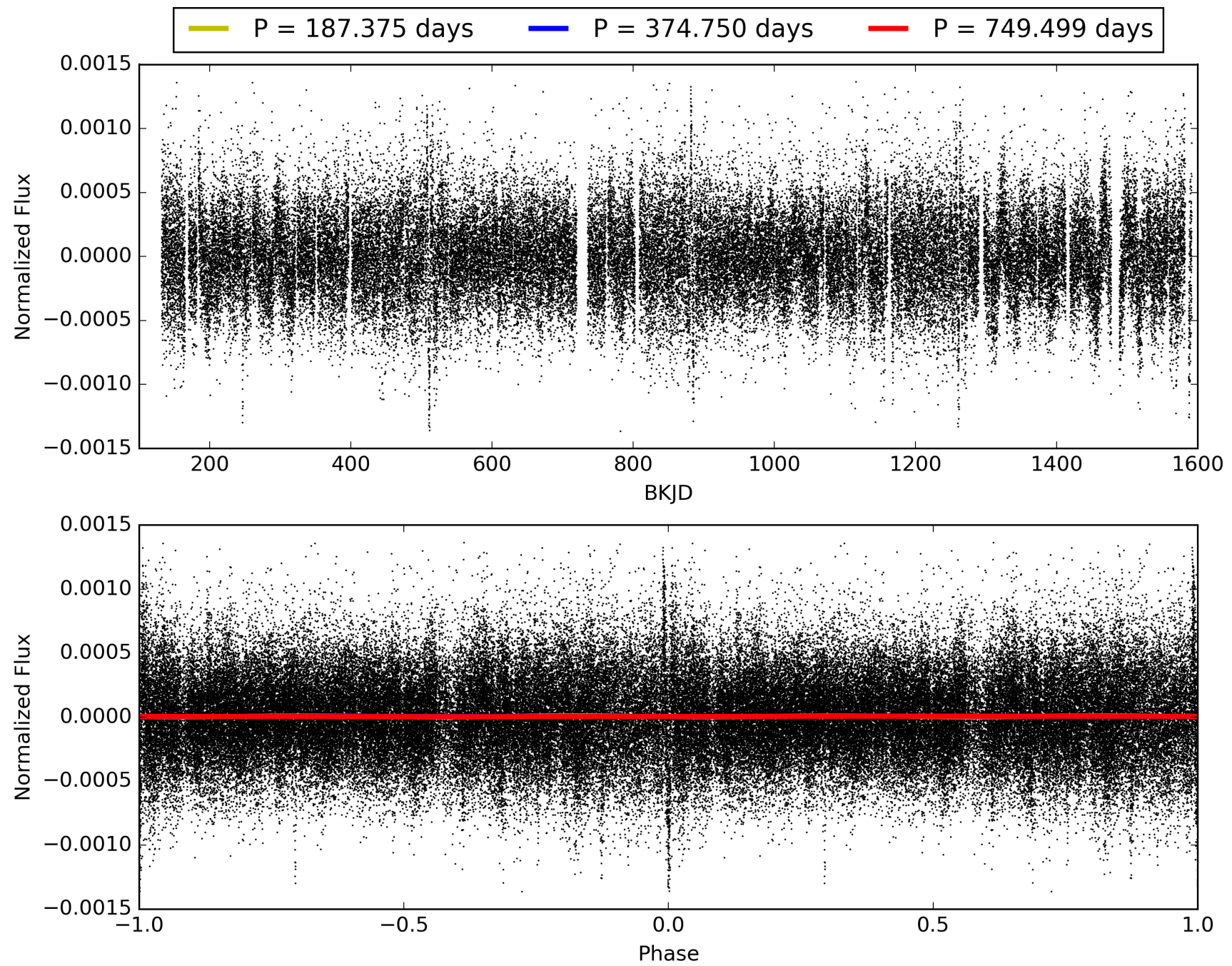
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:44:38 Z

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

# TCE 008622342-01, PDC Light Curves

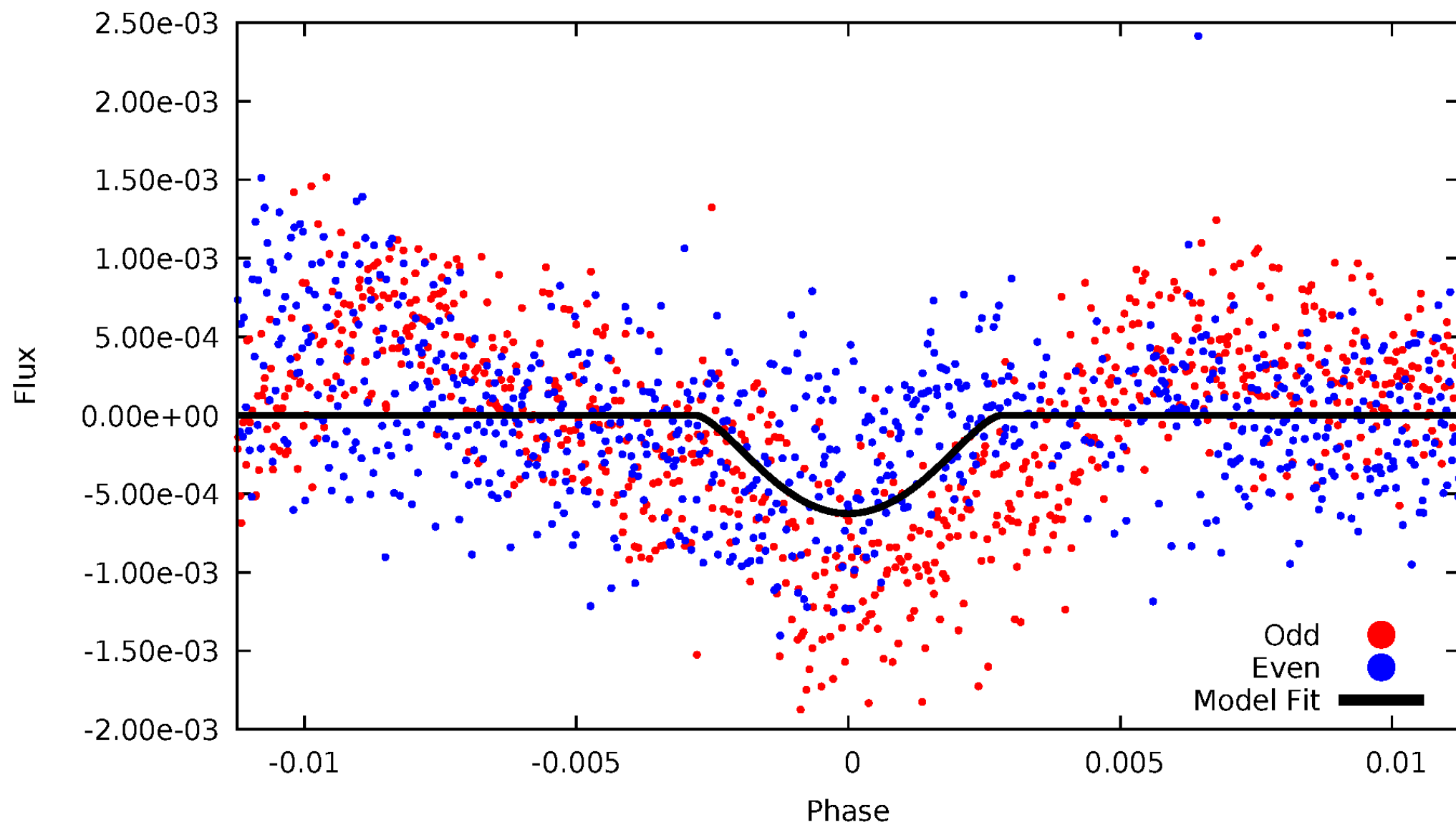


TCE 008622342-01



# DV Odd/Even

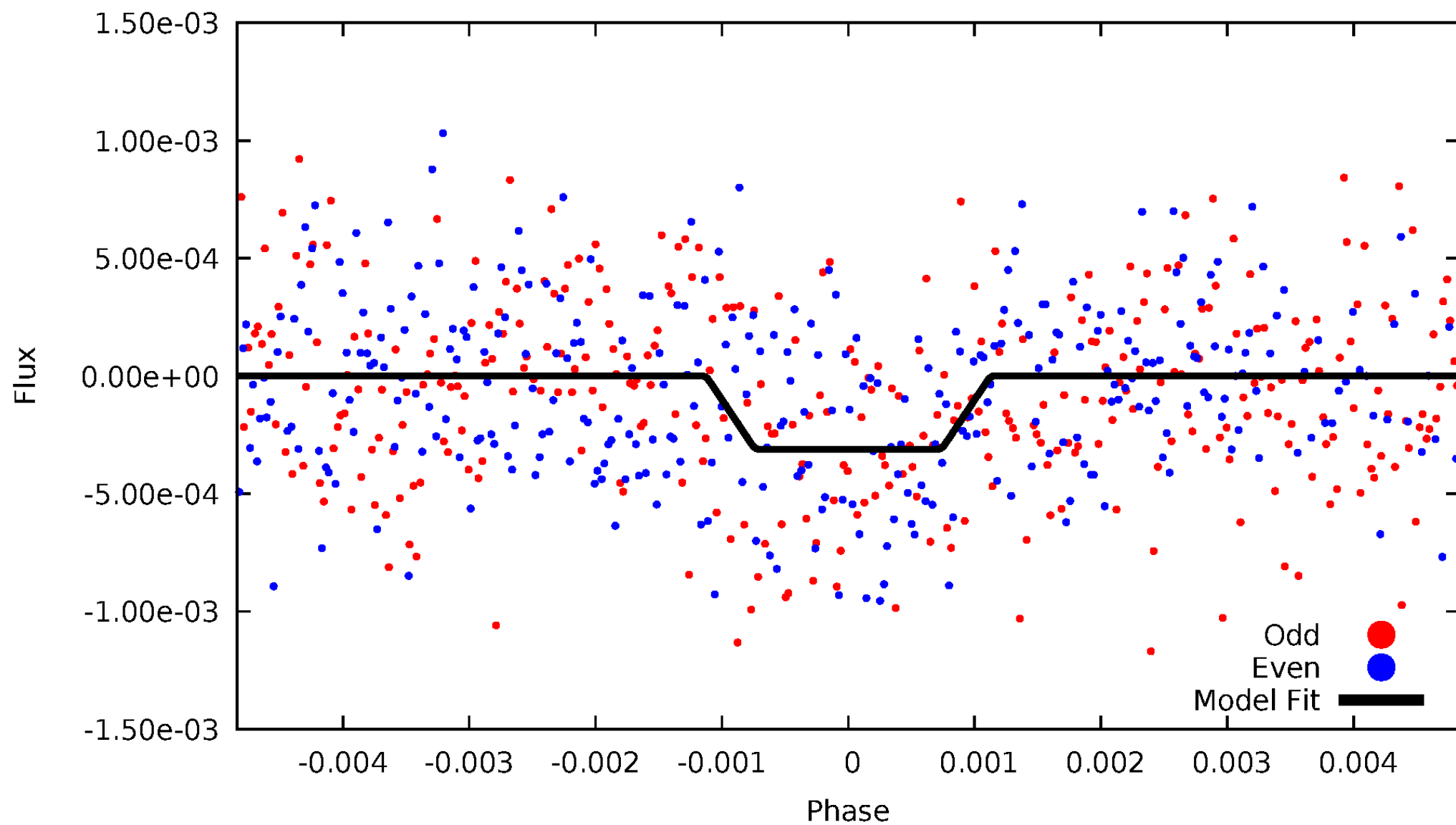
TCE 008622342-01



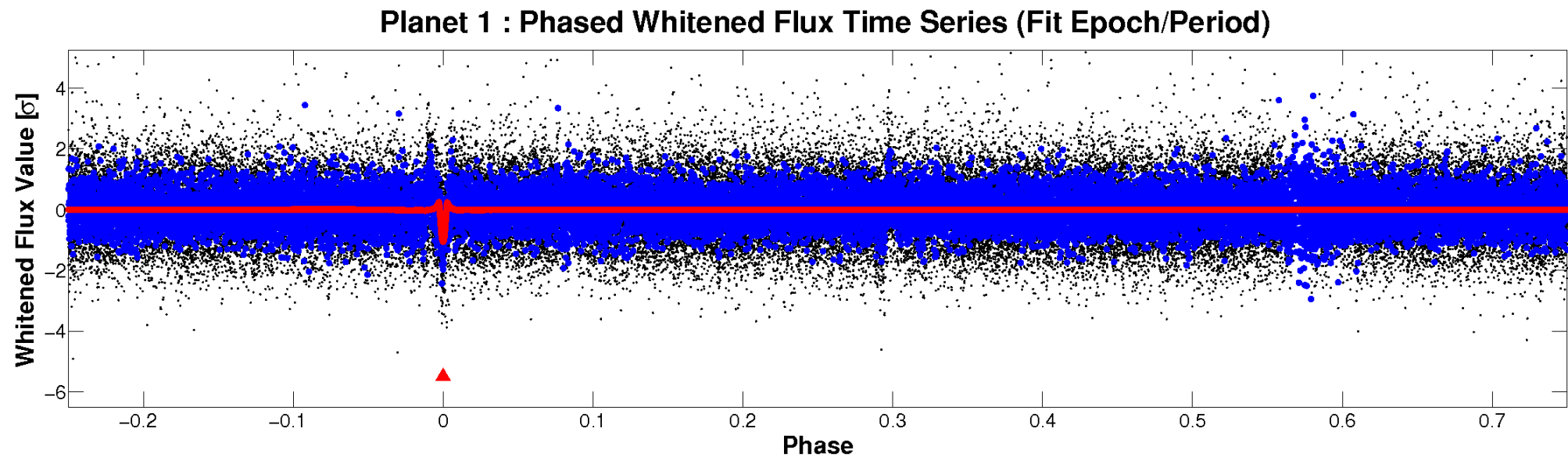
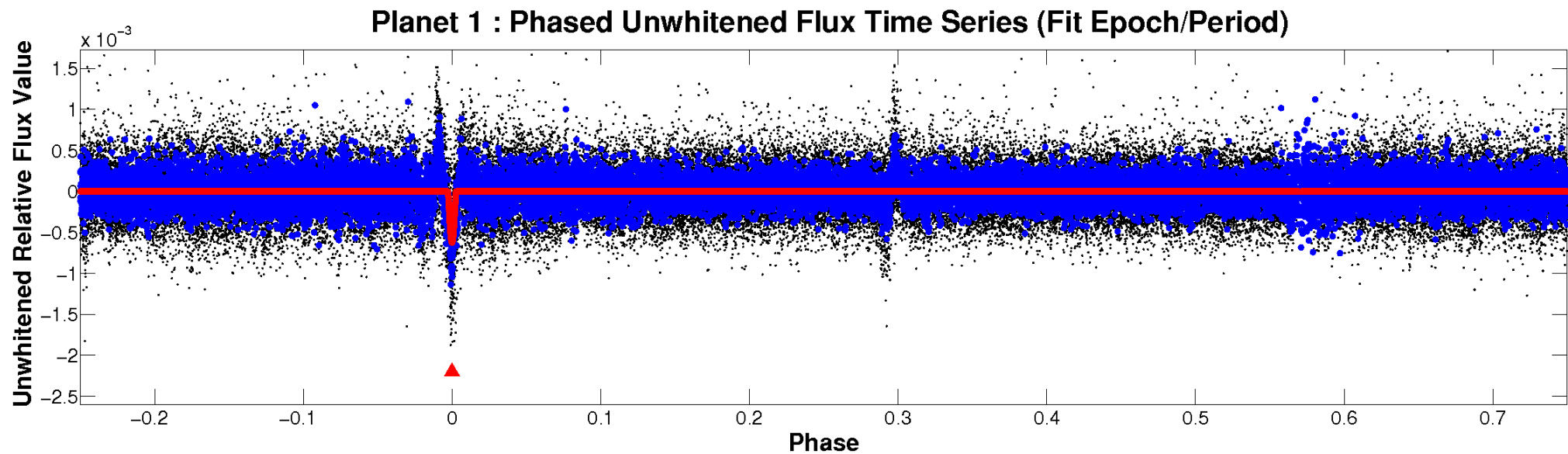


# ALT Odd/Even

TCE 008622342-01

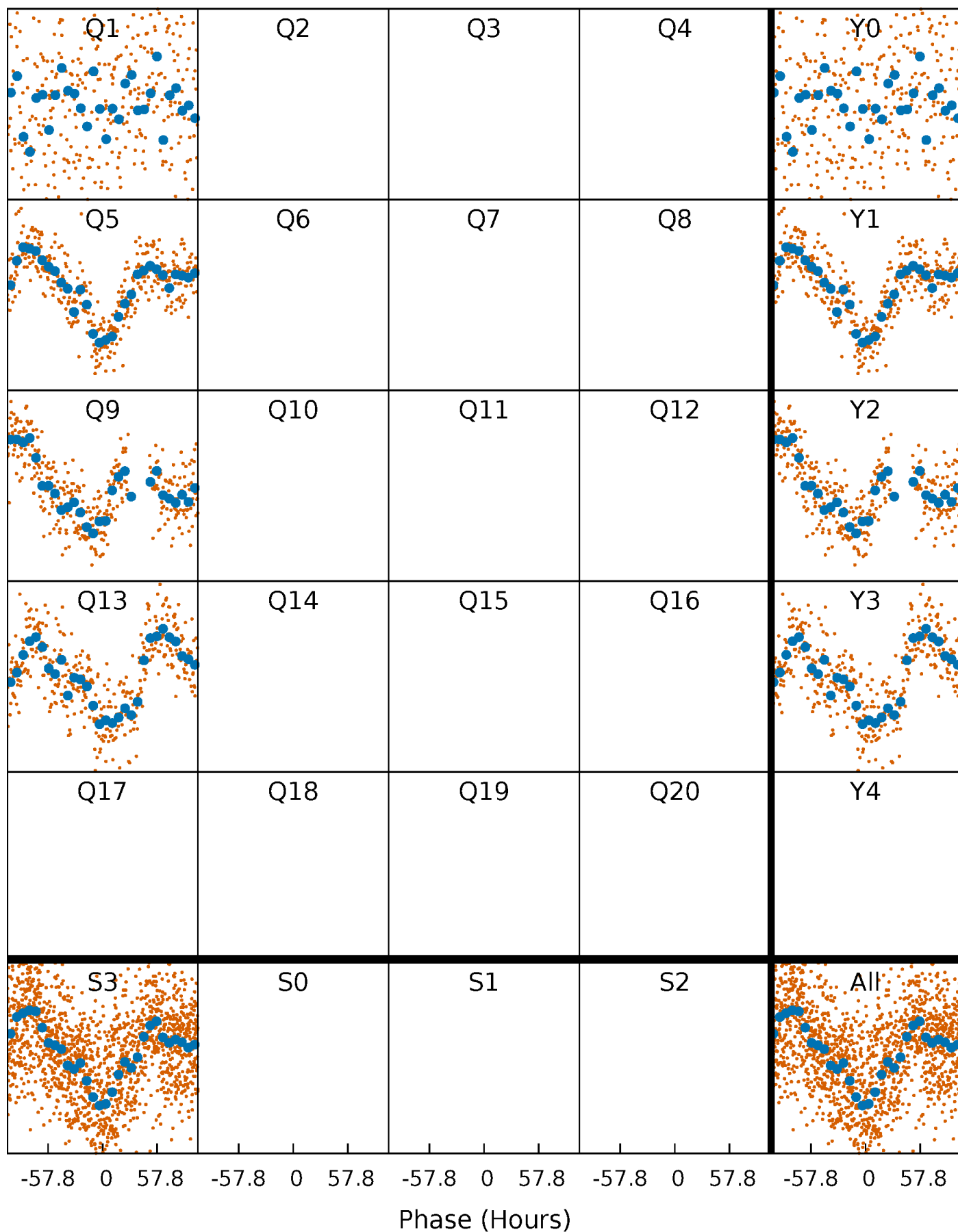


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

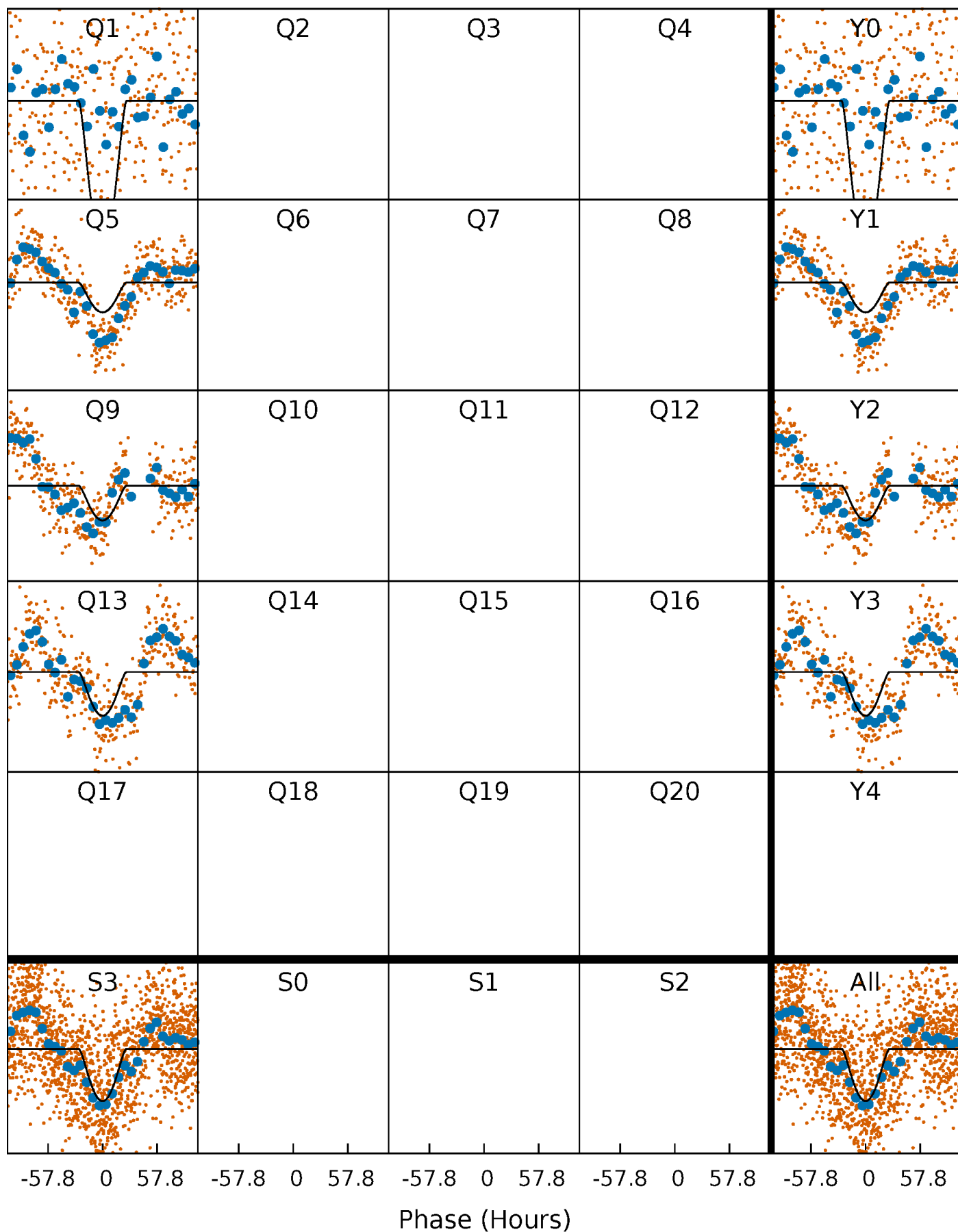
TCE 008622342-01 P=374.749500 Days  $T_0=135.992281$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 008622342-01 P=374.749500 Days  $T_0=135.992281$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

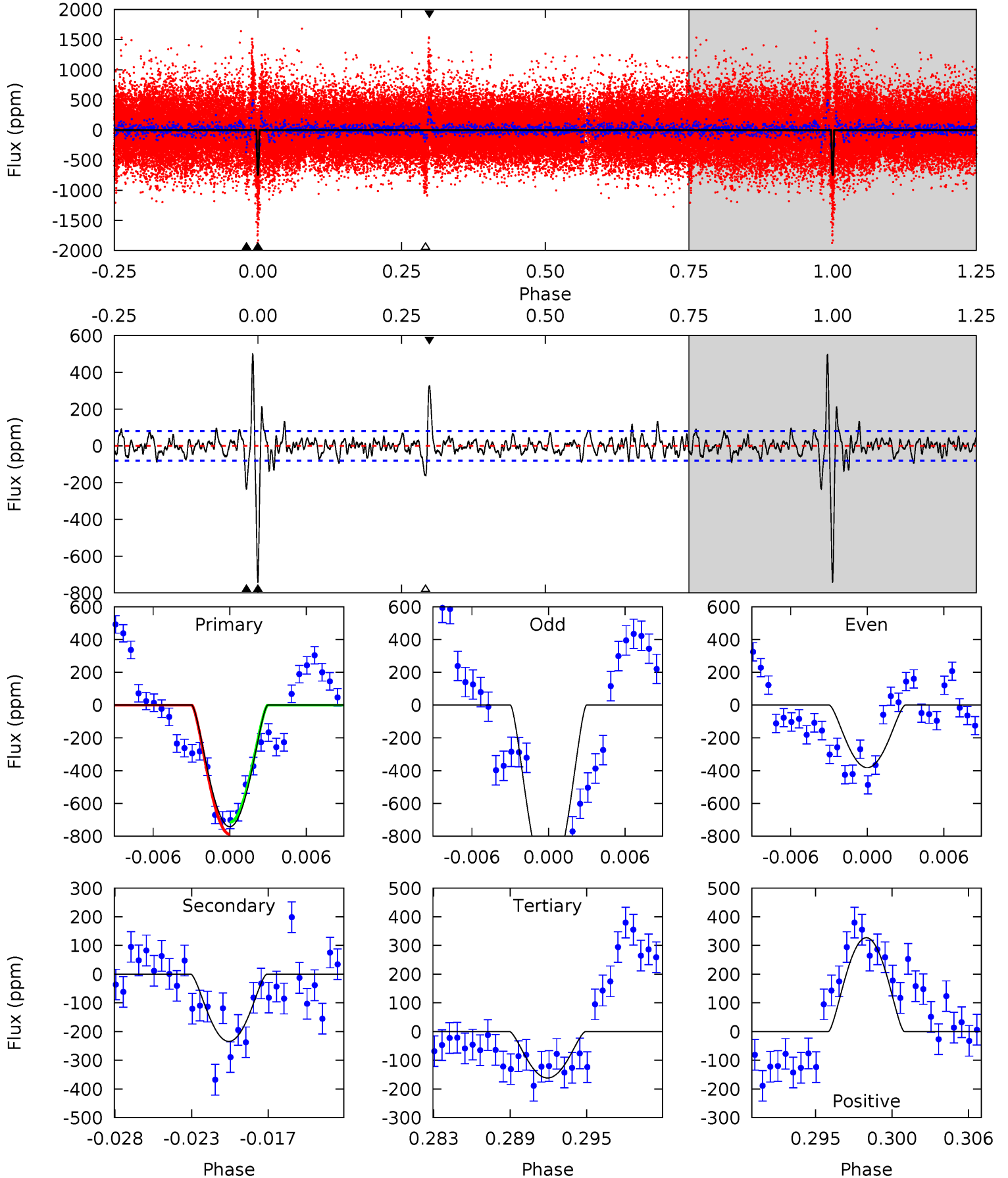
TCE 008622342-01 P=374.676567 Days  $T_0=136.065169$  (BKJD)



# DV Model-Shift Uniqueness Test

008622342-01, P = 374.749500 Days, E = 135.992281 Days

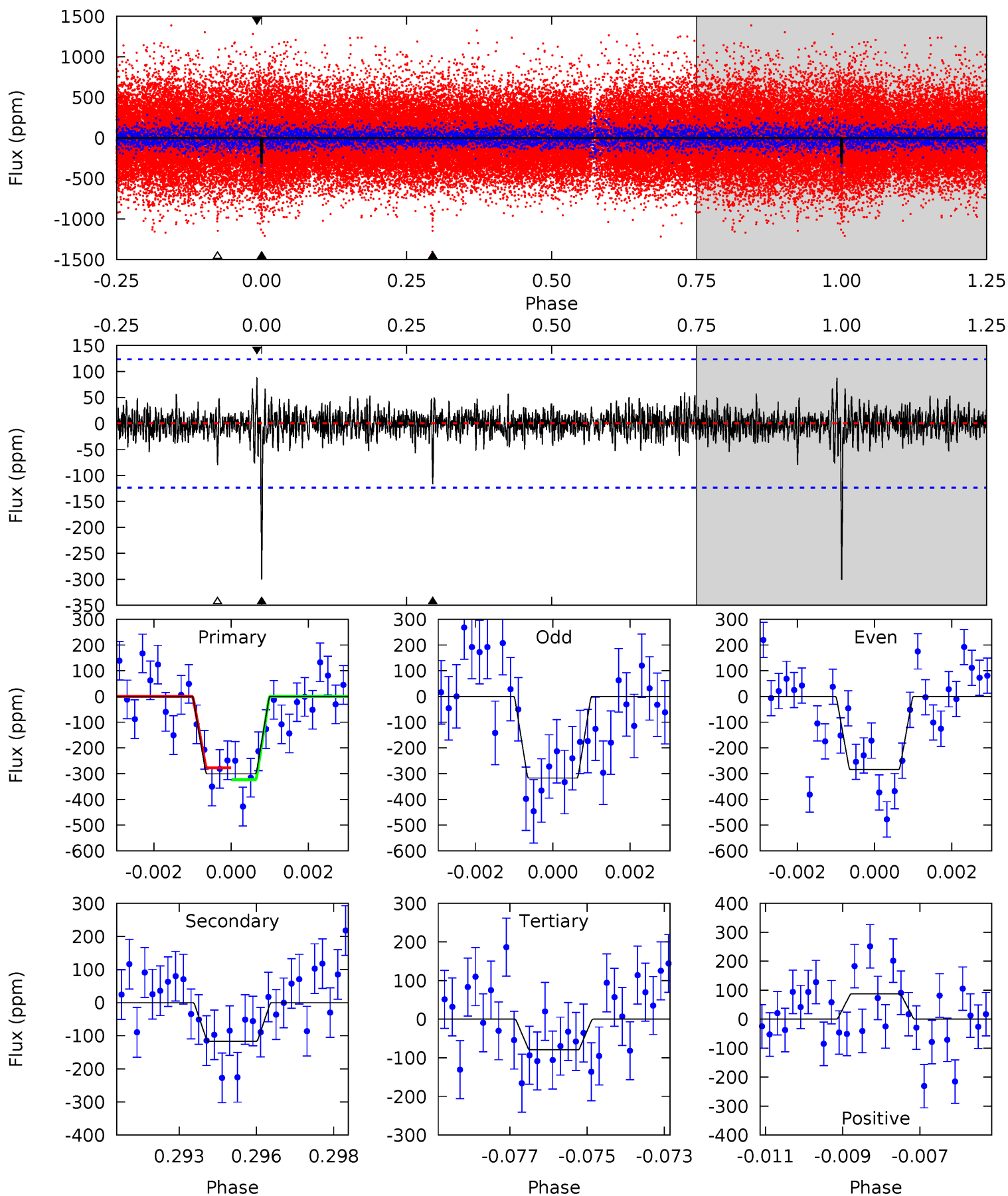
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.7	15.1	10.4	21.0	5.13	2.77	3.45	37.3	26.7	4.67	-5.96	23.1	0.99	0.40	2.32



# Alt Model-Shift Uniqueness Test

008622342-01, P = 374.676567 Days, E = 136.065169 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
12.9	5.01	3.40	3.75	5.30	3.05	0.81	9.49	9.15	1.60	1.26	0.71	1.03	0.23	0.99



### Stellar Parameters For KIC 008622342

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6029^{+180}_{-198}$	$4.494^{+0.052}_{-0.208}$	$-0.100^{+0.250}_{-0.350}$	$0.956^{+0.300}_{-0.100}$	$1.040^{+0.126}_{-0.139}$	$1.675^{+0.355}_{-0.906}$
	+3%/-3%	+1%/-5%	+250%/-350%	+31%/-10%	+12%/-13%	+21%/-54%
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 008622342-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-234 \pm 16$	$9.25^{+9.21}_{-6.28}$	$366^{+27}_{-18}$	$3180^{+1447}_{-541}$	$1586^{+13487}_{-1196}$
Alt.	$-117 \pm 23$	$7.83^{+8.11}_{-5.62}$	$367^{+29}_{-19}$	$3043^{+1434}_{-548}$	$1081^{+11824}_{-829}$

$T_{max}$  = 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

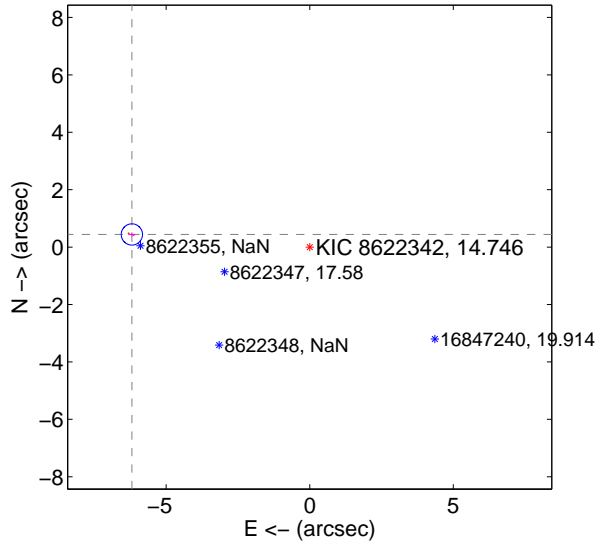
Supplemental centroid analysis for 008622342-01. Kepler magnitude: 14.75. Transit SNR 13.48

There are 0 quarters with good PRF difference image offsets

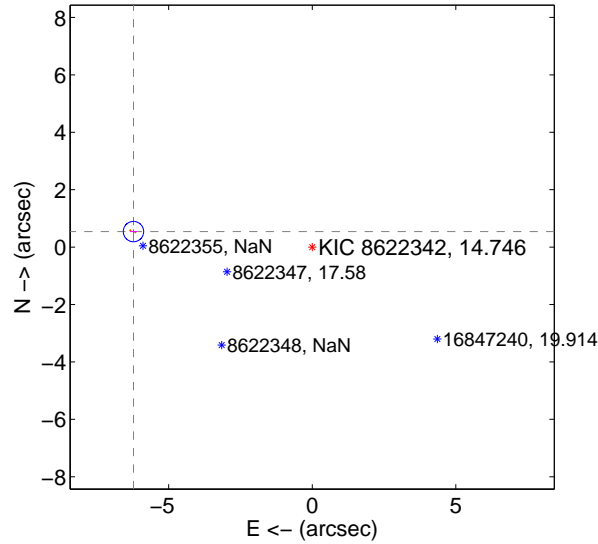
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$6.211 \pm 0.123$	50.34	$6.195 \pm 0.122$	$0.440 \pm 0.074$
PRF-fit source offset from KIC position	$6.250 \pm 0.118$	52.94	$6.226 \pm 0.118$	$0.540 \pm 0.077$
photometric centroid source offset	$4.16 \pm 0.96$	4.36	$4.16 \pm 0.95$	$0.19 \pm 1.04$

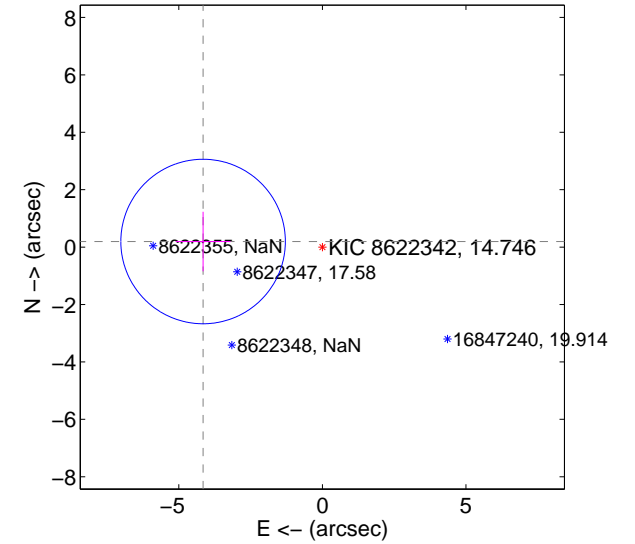
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



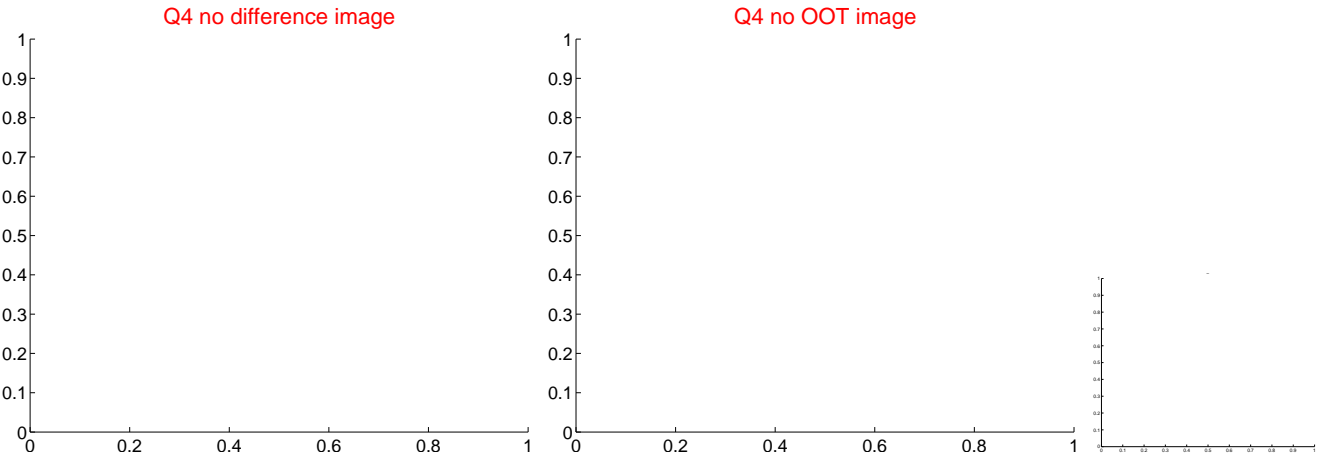
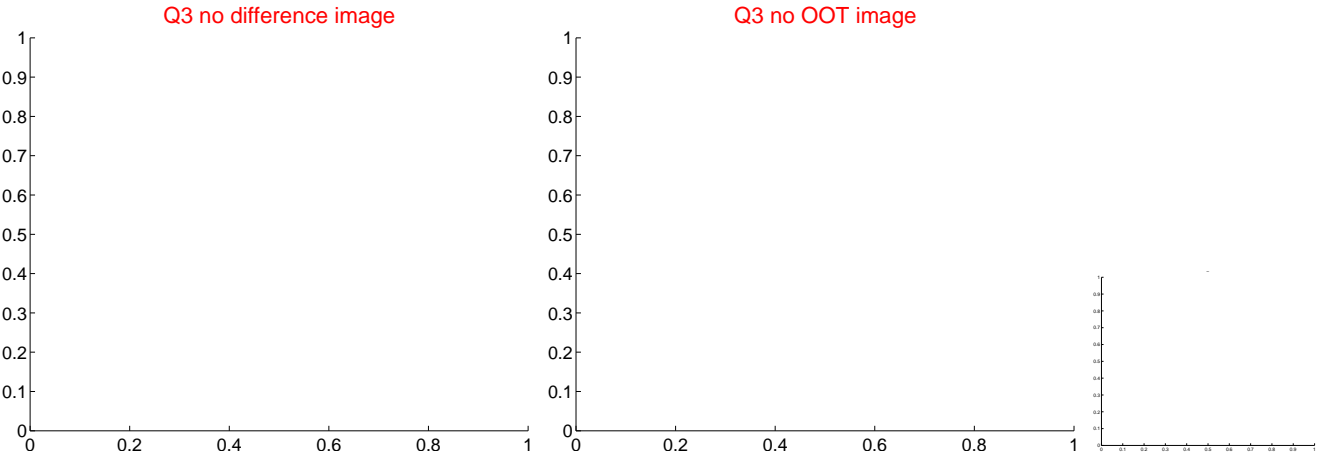
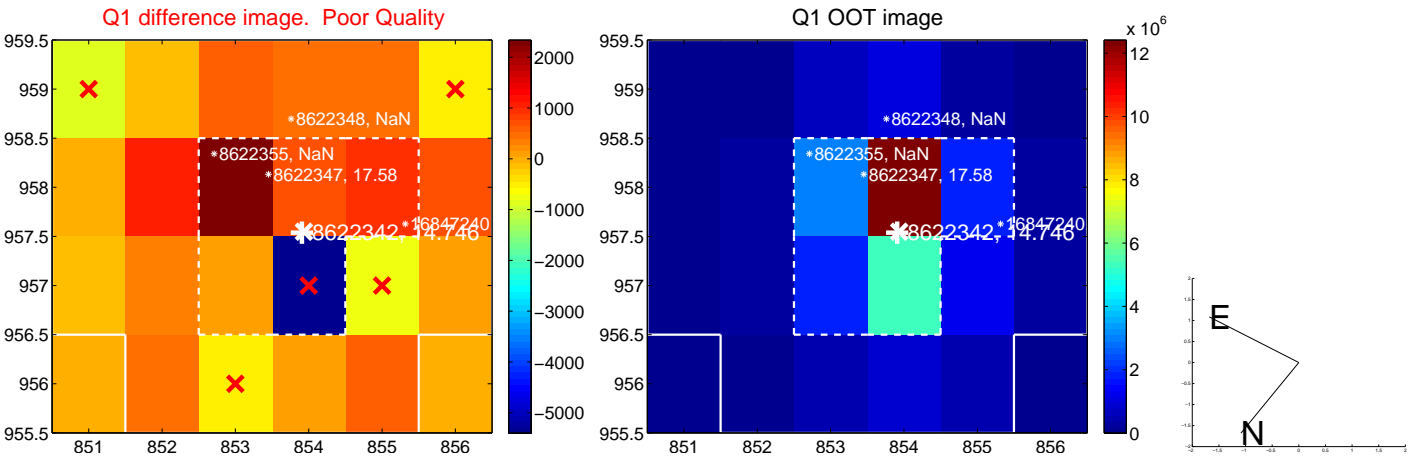
offset from photometric centroids



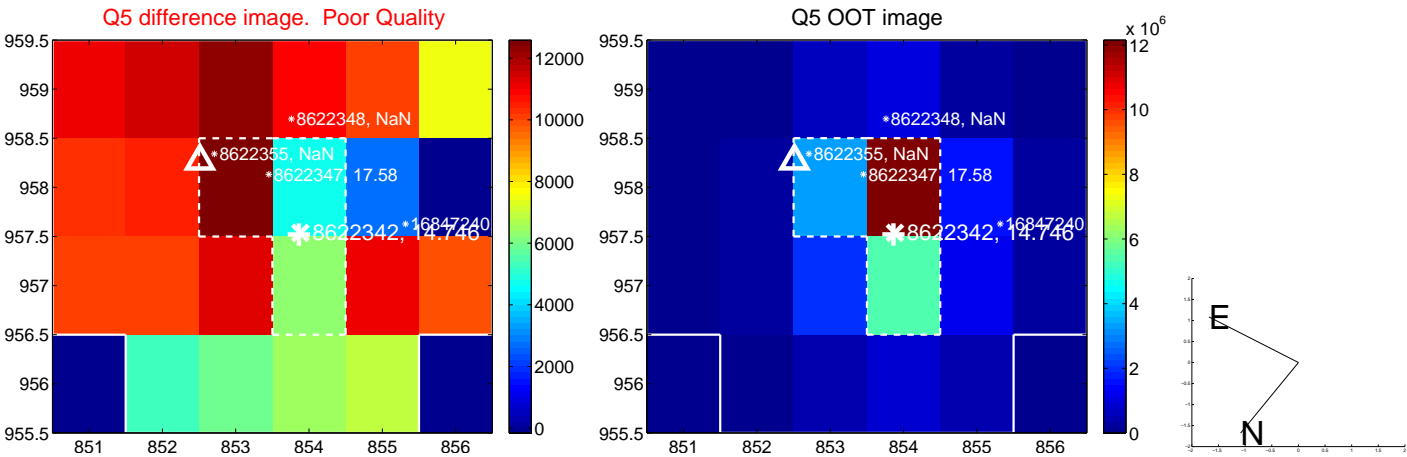
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



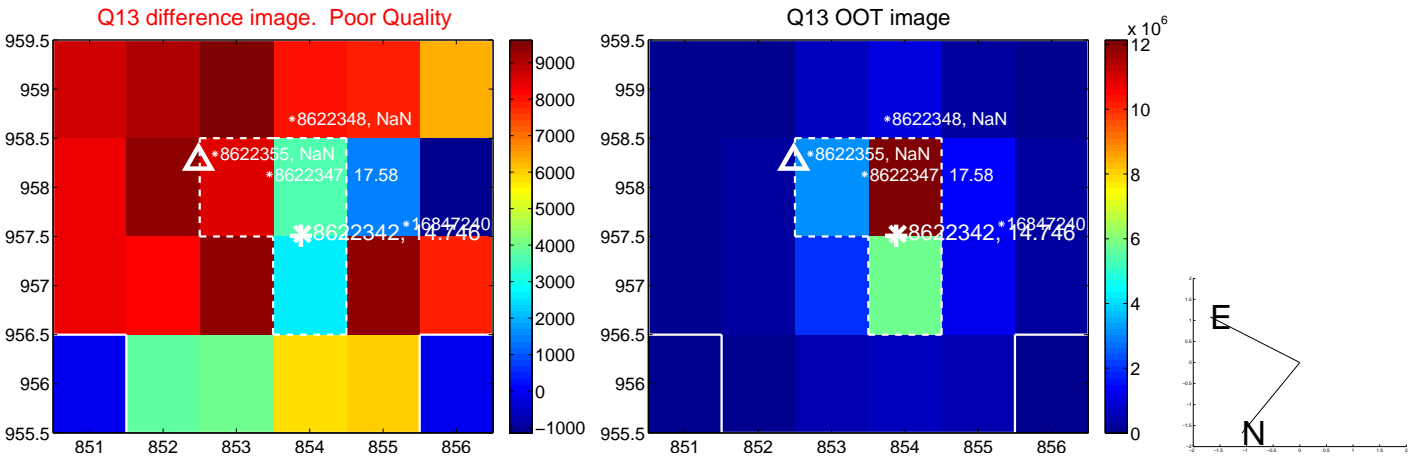
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



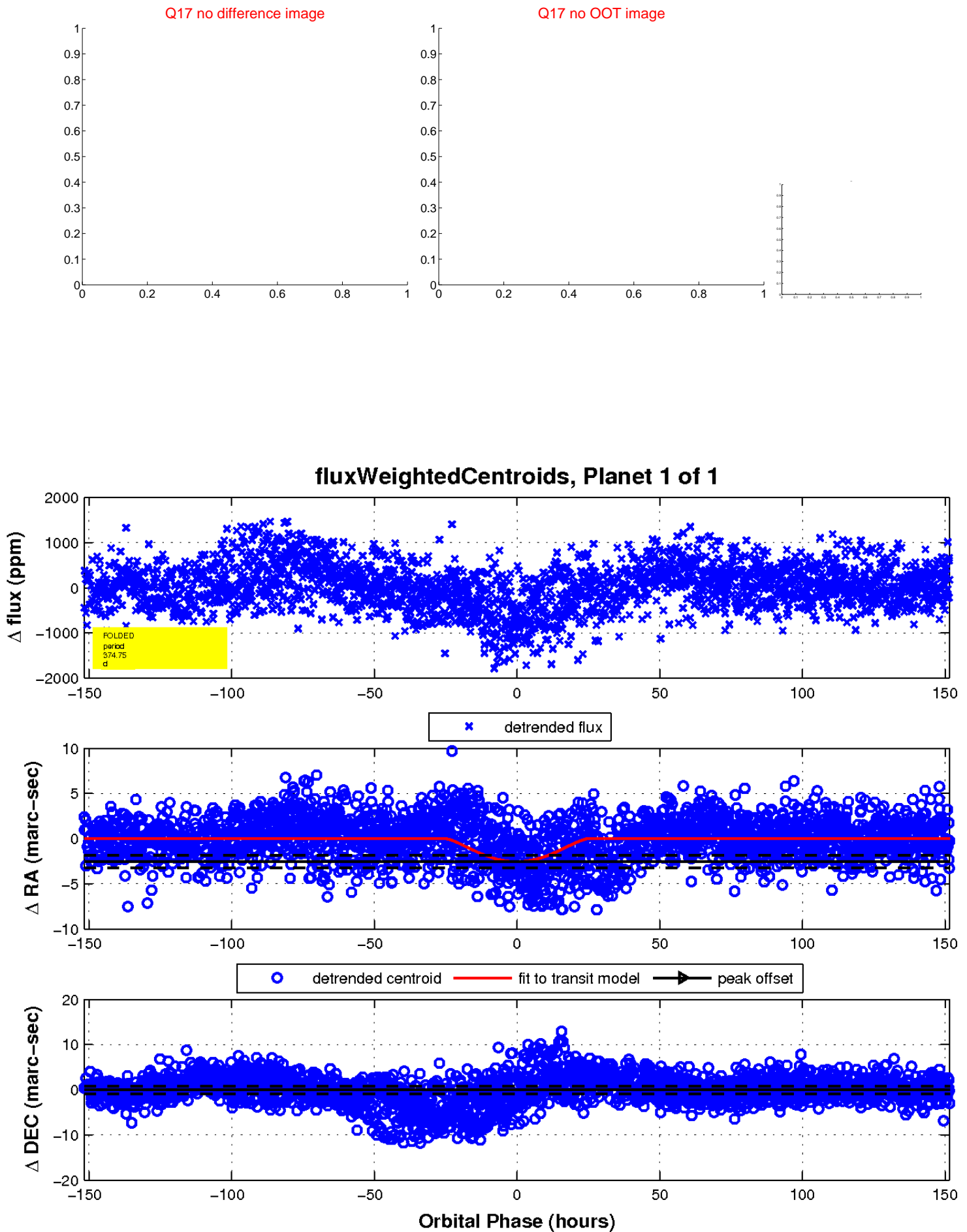
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

