

# KIC 003454793

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003454793-01	OBS	No	242.299858	259.203044	1636.5	5.567	10.7	3.7	0.35	3439	1.41	0.05

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003454793-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—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.

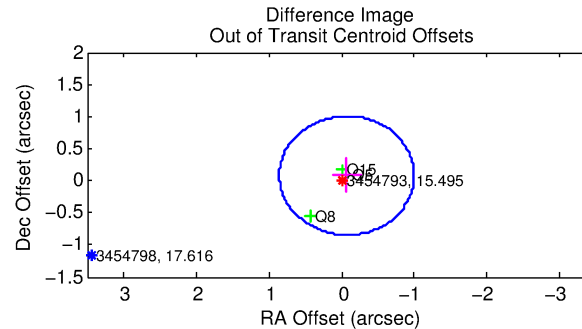
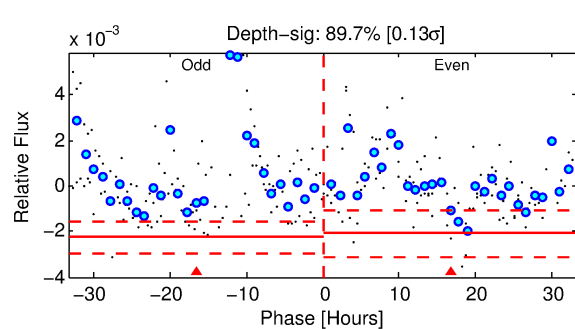
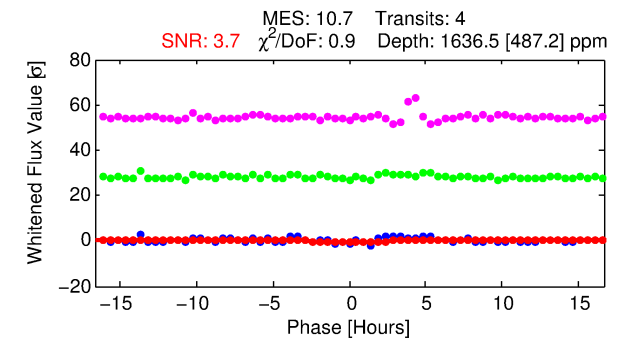
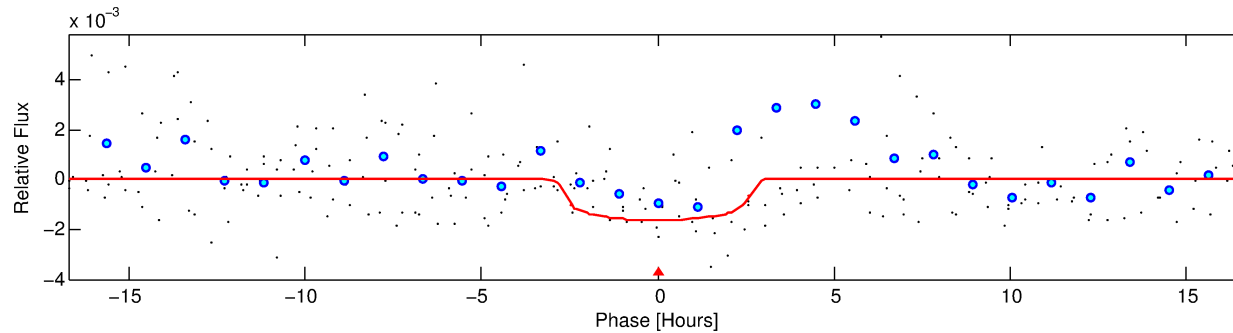
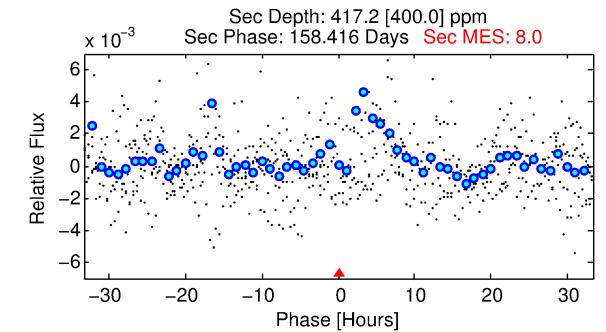
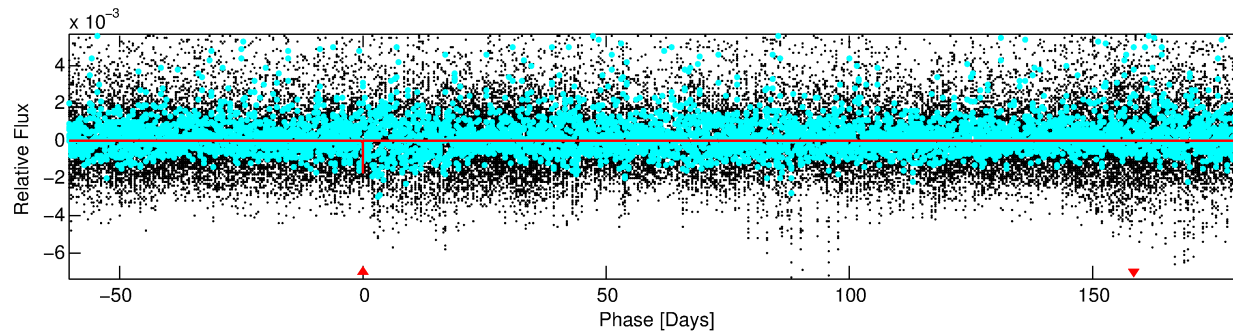
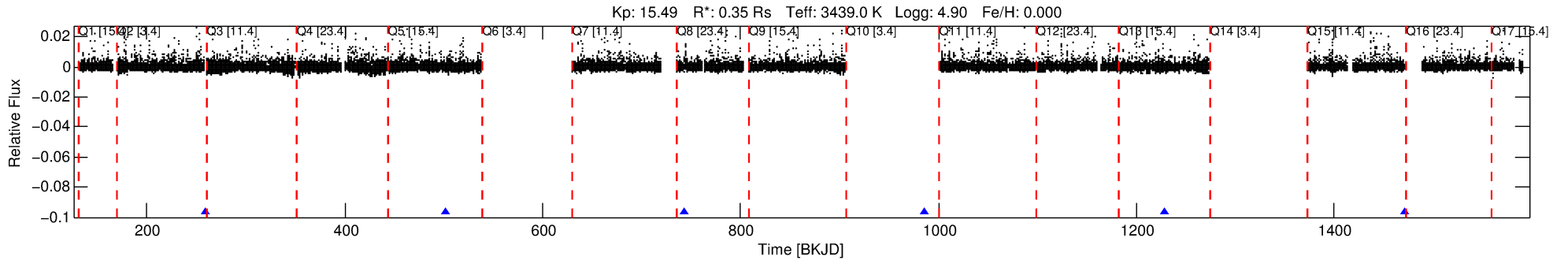
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003454793-01

No Significant Match Found

# DV One-Page Summary

KIC: 3454793 Candidate: 1 of 1 Period: 242.300 d



## DV Fit Results:

Period = 242.29986 [0.00558] d  
Epoch = 259.2030 [0.0205] BKJD  
Rp/R\* = 0.0371 [0.0510]  
a/R\* = 322.44 [1843.98]  
b = 0.37 [13.45]  
Seff = 0.05 [0.01]  
Teq = 122 [3] K  
Rp = 1.41 [1.94] Re  
a = 0.5360 [0.0383] AU  
Ag = 33353.11 [97130.72] [0.34σ]  
Teffp = 2551 [1856] K [1.31σ]

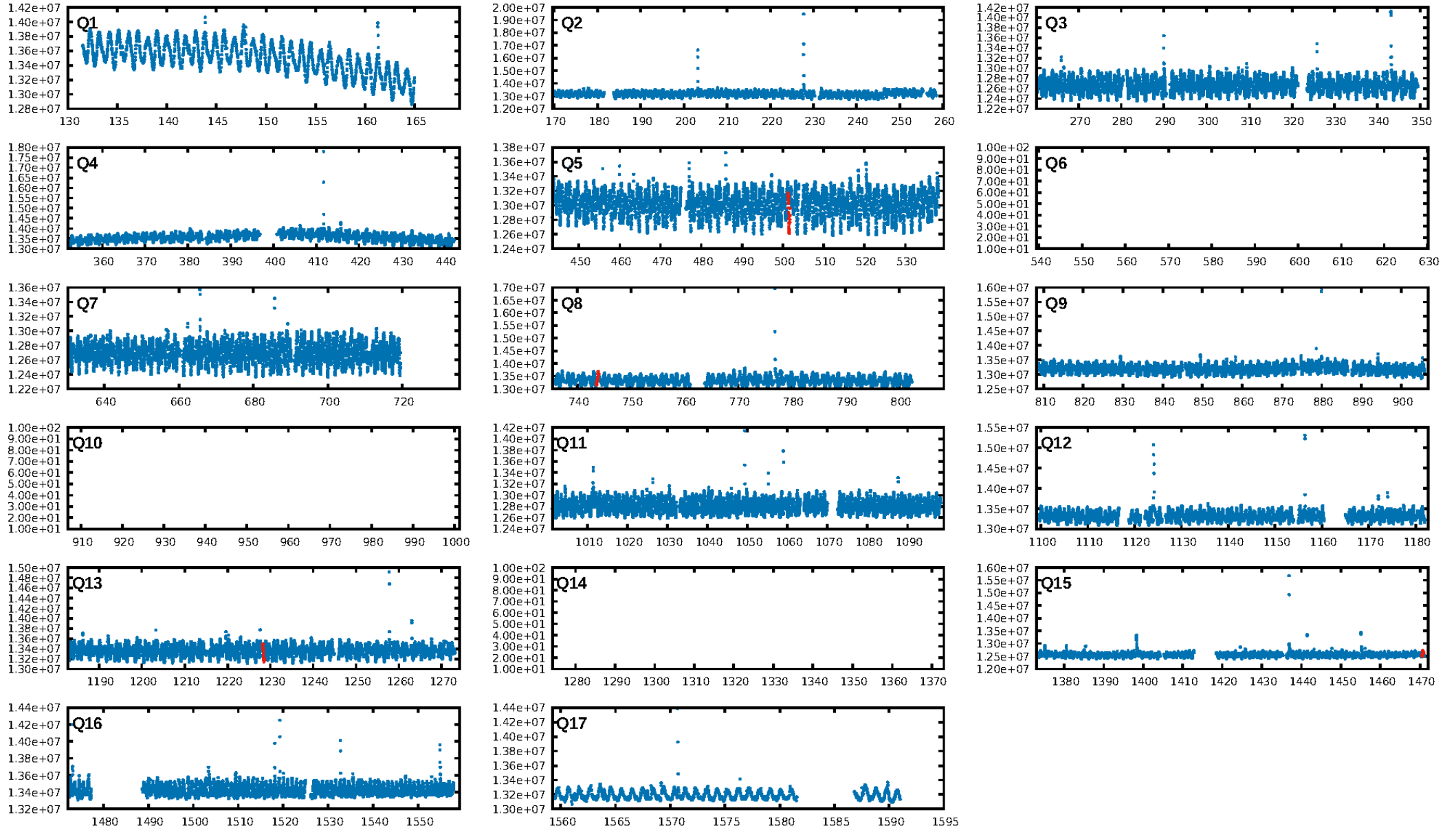
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 35.6%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.31e-10  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 1.29  
Centroid-sig: 33.0%  
Centroid-so: 1.727 arcsec [1.52σ]  
OotOffset-rm: 0.106 arcsec [0.34σ]  
KicOffset-rm: 0.353 arcsec [1.13σ]  
OotOffset-st: 0/1/1/1 [3]  
KicOffset-st: 0/1/1/1 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [3/3]

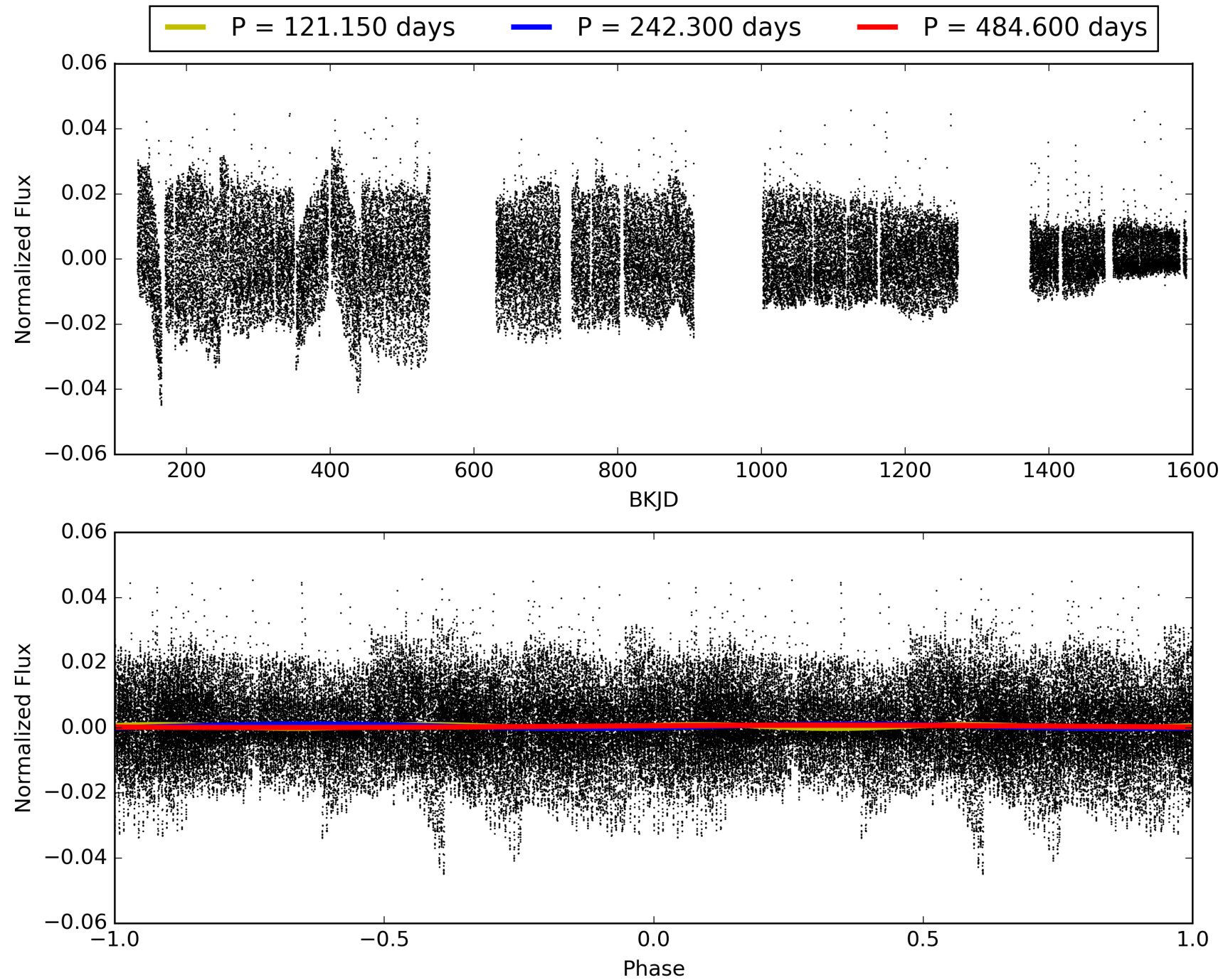
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:05:24 Z

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

# TCE 003454793-01, PDC Light Curves

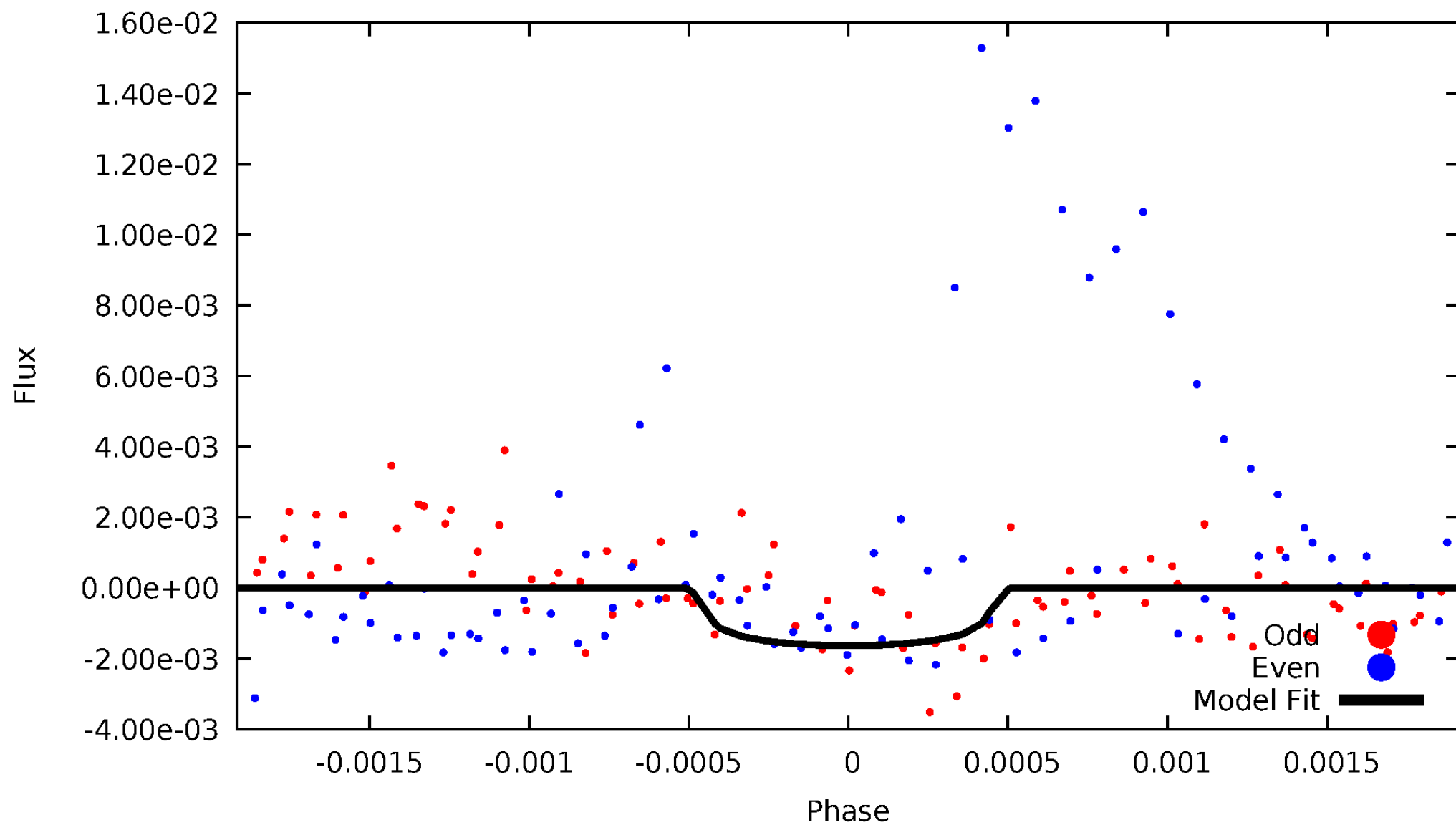


TCE 003454793-01



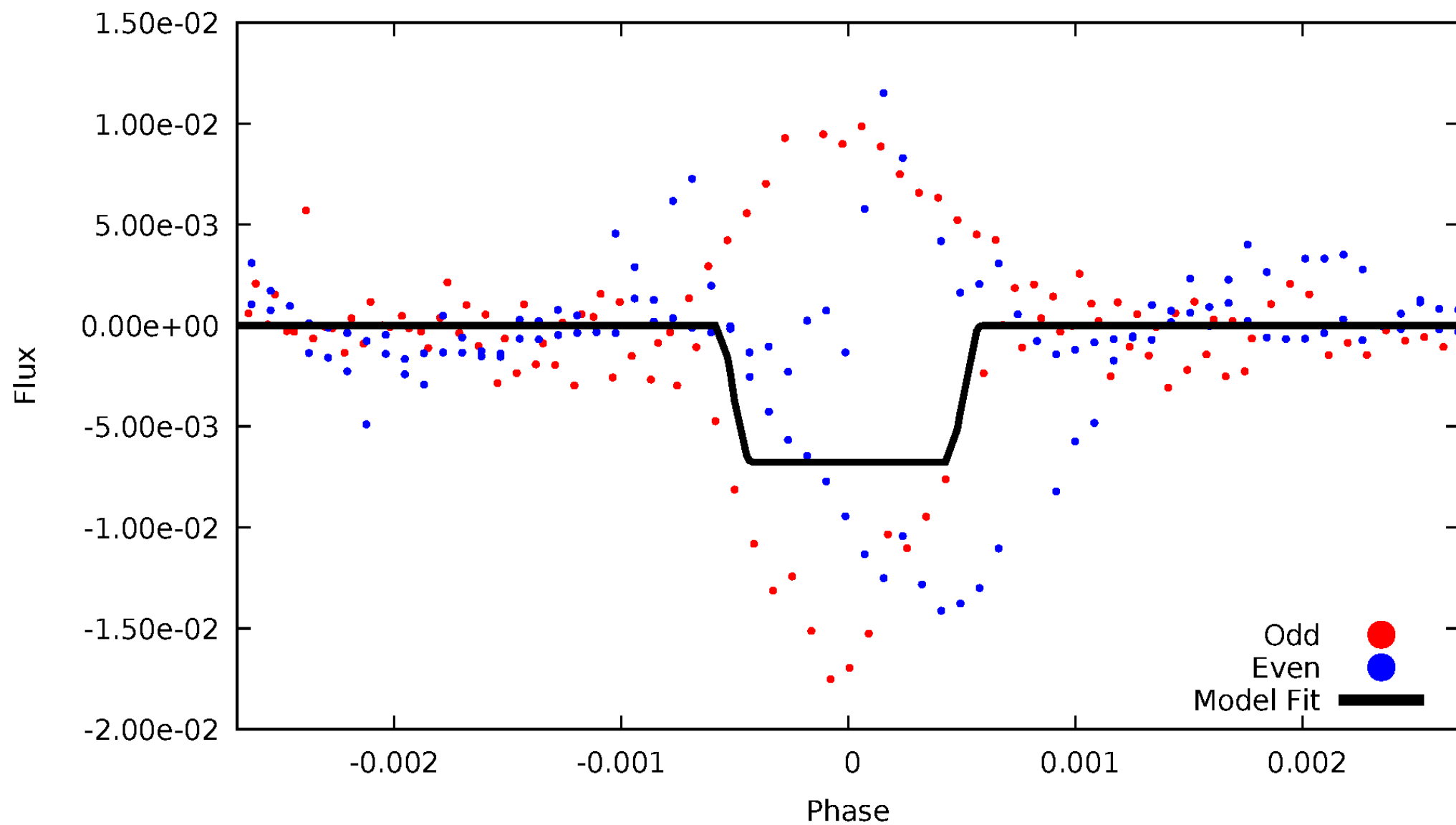
# DV Odd/Even

TCE 003454793-01



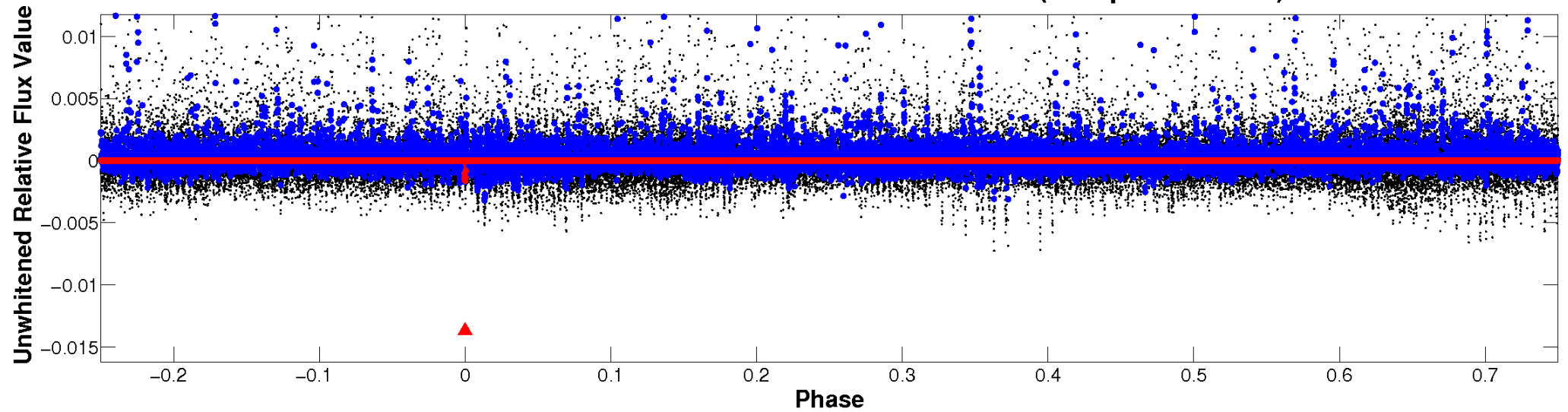
# ALT Odd/Even

TCE 003454793-01

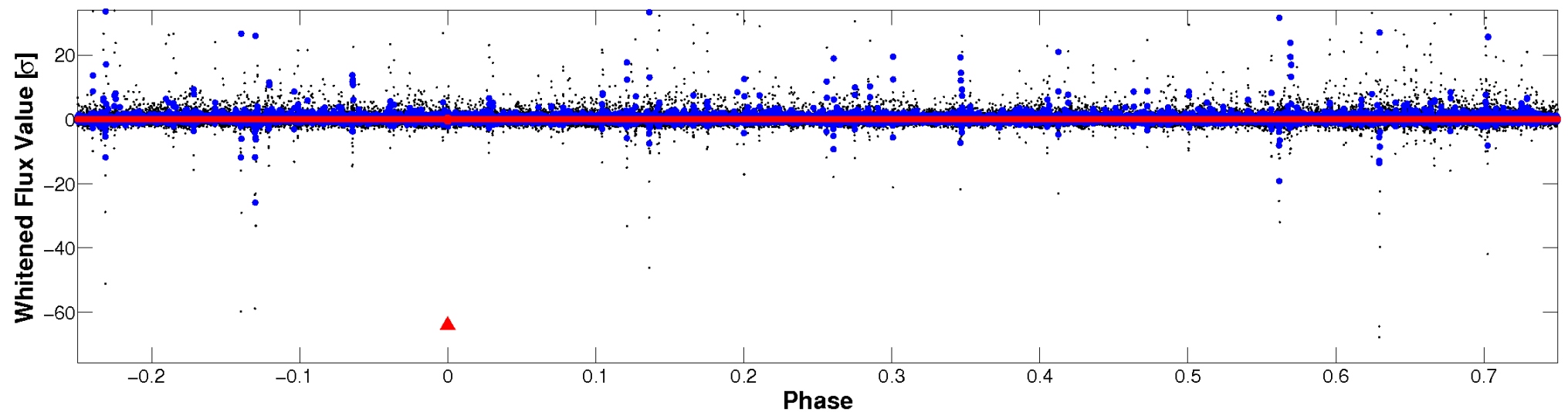


# Non-Whitened Vs. Whitened Light Curve

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

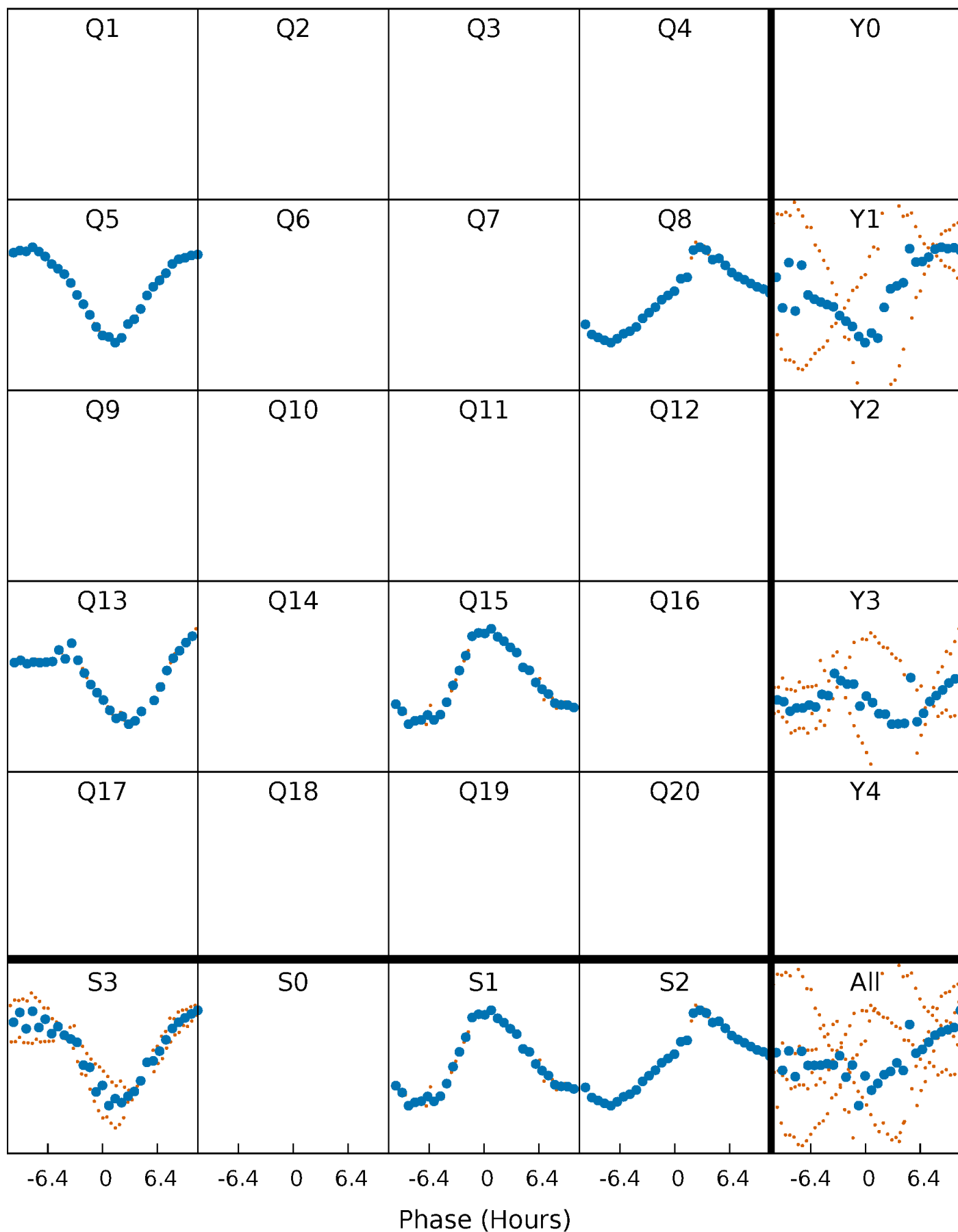


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

TCE 003454793-01 P=242.299858 Days  $T_0=259.203044$  (BKJD)





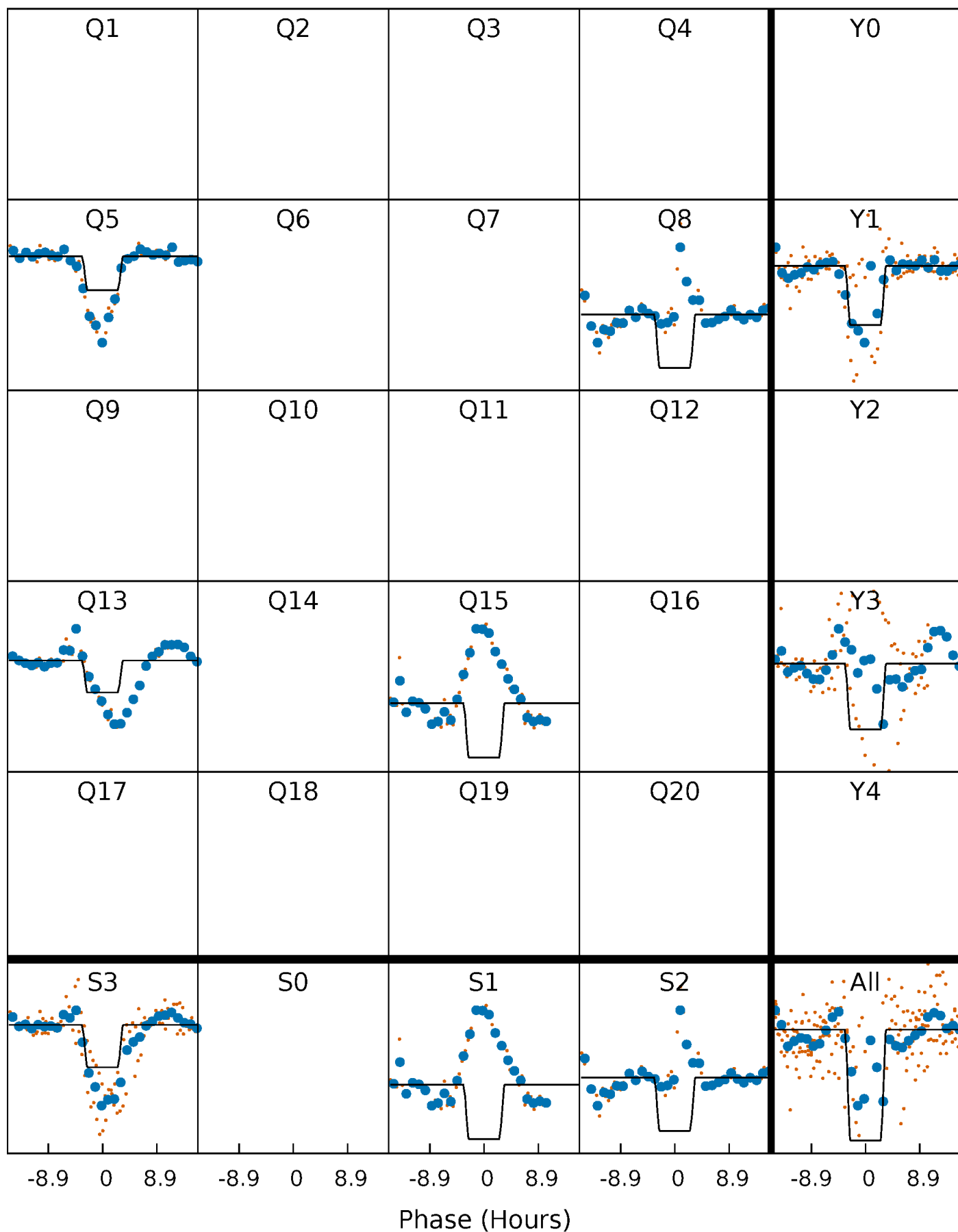
# DV Quarter-Phased Transit Curves

TCE 003454793-01 P=242.299858 Days  $T_0=259.203044$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

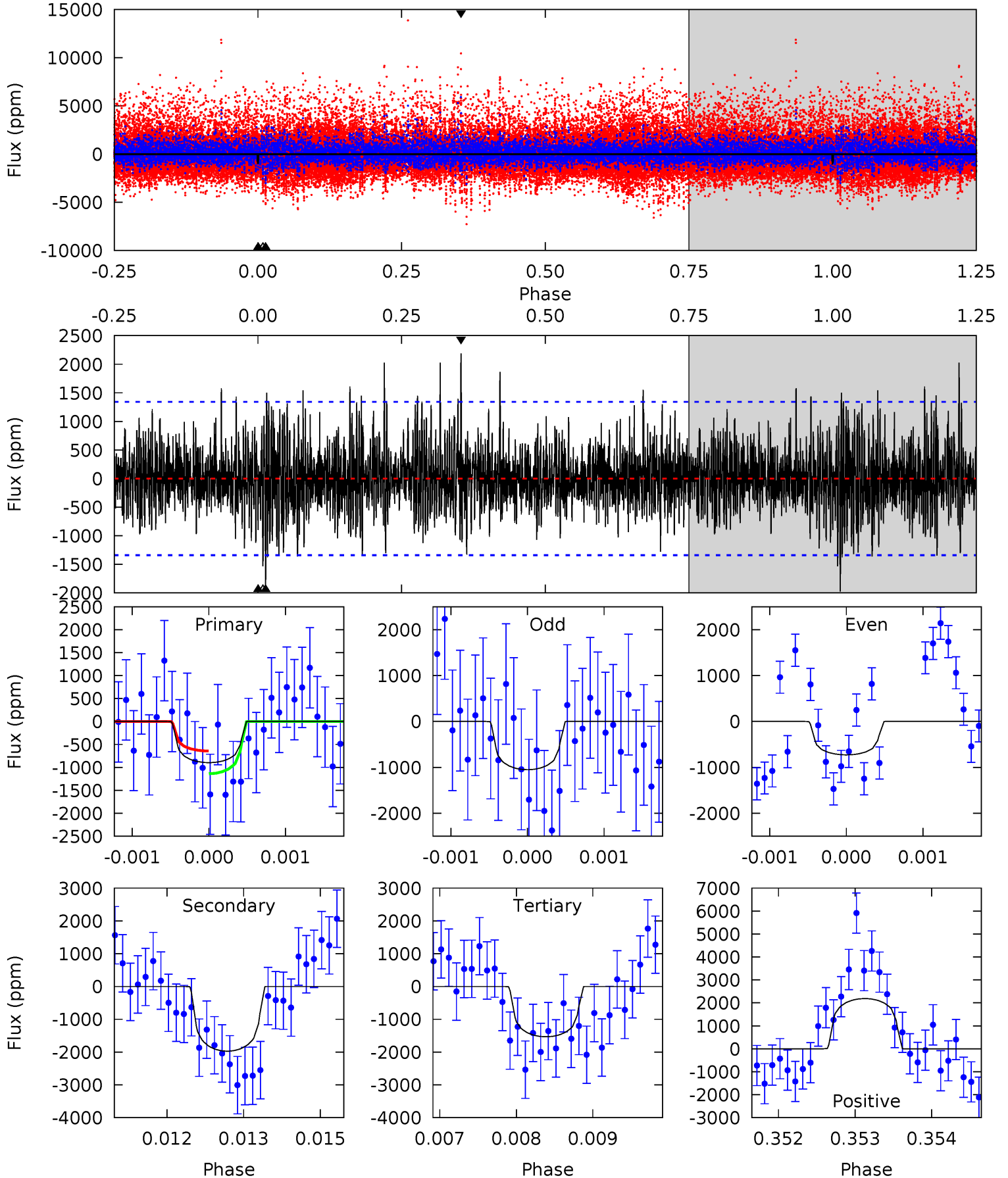
TCE 003454793-01 P=242.282384 Days  $T_0=259.301552$  (BKJD)



# DV Model-Shift Uniqueness Test

003454793-01, P = 242.299858 Days, E = 16.903186 Days

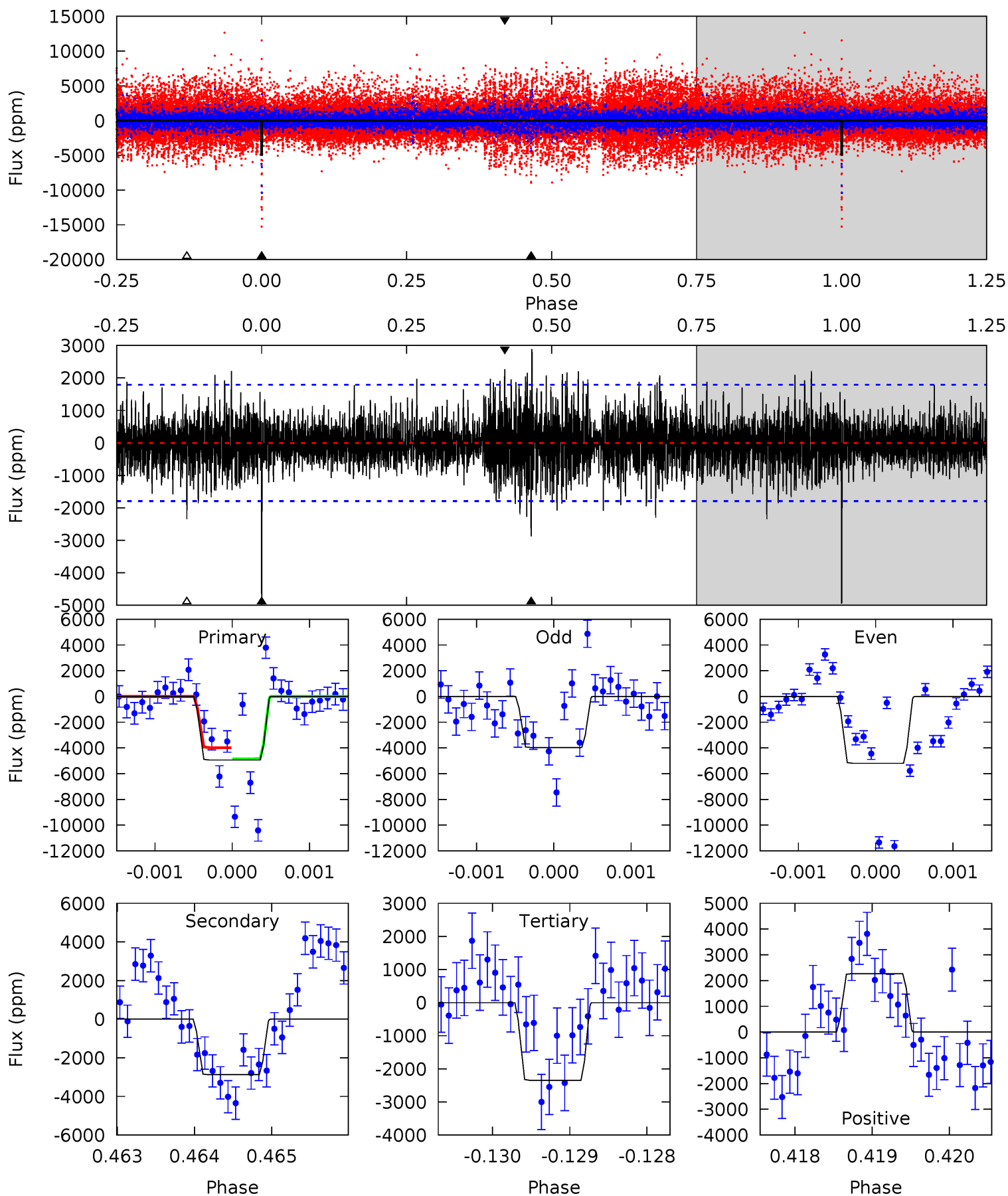
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.64	8.01	6.22	8.88	5.45	3.28	1.87	-2.58	-5.23	1.79	-0.87	0.61	0.40	0.53	1.01



# Alt Model-Shift Uniqueness Test

003454793-01, P = 242.282384 Days, E = 17.019168 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
15.0	8.70	7.11	6.87	5.42	3.24	1.85	7.85	8.09	1.59	1.83	2.05	0.85	0.37	1.31



### Stellar Parameters For KIC 003454793

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$3439^{+46}_{-46}$	$4.901^{+0.038}_{-0.031}$	$0.000^{+0.100}_{-0.100}$	$0.347^{+0.031}_{-0.034}$	$0.351^{+0.041}_{-0.041}$	$11.790^{+2.451}_{-1.687}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+9%/-10%	+12%/-12%	+21%/-14%
Source	PHO2	PHO2	PHO2	DSEP		

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

### Secondary Eclipse Parameters for KIC 003454793-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1974 \pm 246$	$2.02^{+1.75}_{-1.30}$	$170^{+4}_{-3}$	$3255^{+1448}_{-528}$	$78529^{+547807}_{-56234}$
Alt.	$-2874 \pm 330$	$3.04^{+1.99}_{-1.64}$	$170^{+4}_{-3}$	$3040^{+871}_{-386}$	$48810^{+190446}_{-30695}$

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

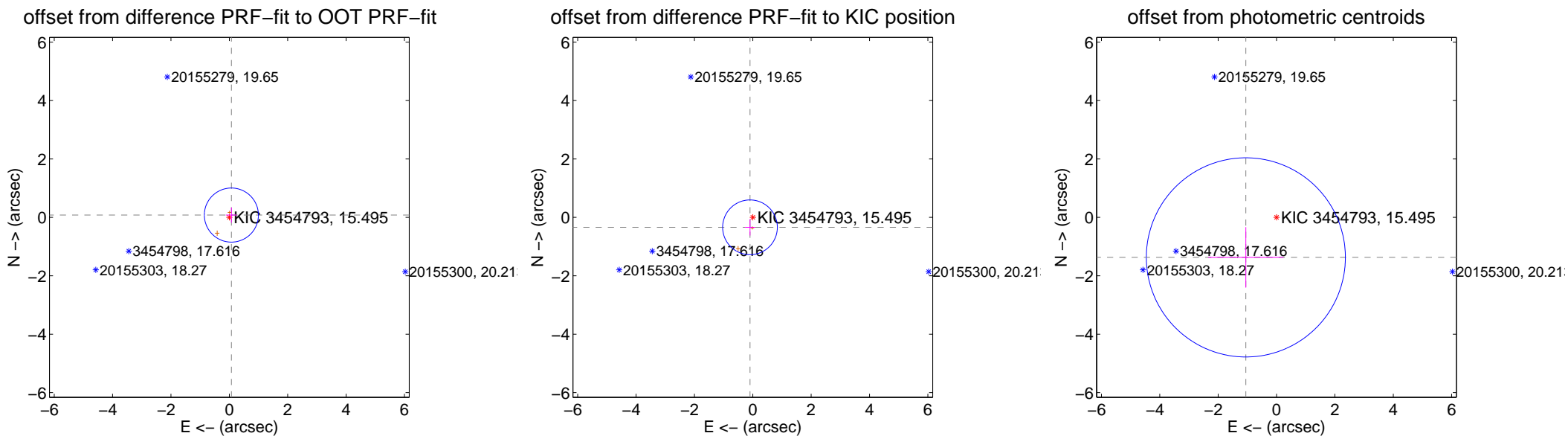
## DV Centroid Data

Supplemental centroid analysis for 003454793-01. Kepler magnitude: 15.49. Transit SNR 3.75

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.53 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.106 \pm 0.309$	0.34	$-0.070 \pm 0.187$	$0.079 \pm 0.258$
PRF-fit source offset from KIC position	$0.353 \pm 0.312$	1.13	$0.096 \pm 0.175$	$-0.340 \pm 0.280$
photometric centroid source offset	$1.73 \pm 1.14$	1.52	$1.05 \pm 1.29$	$-1.37 \pm 1.04$

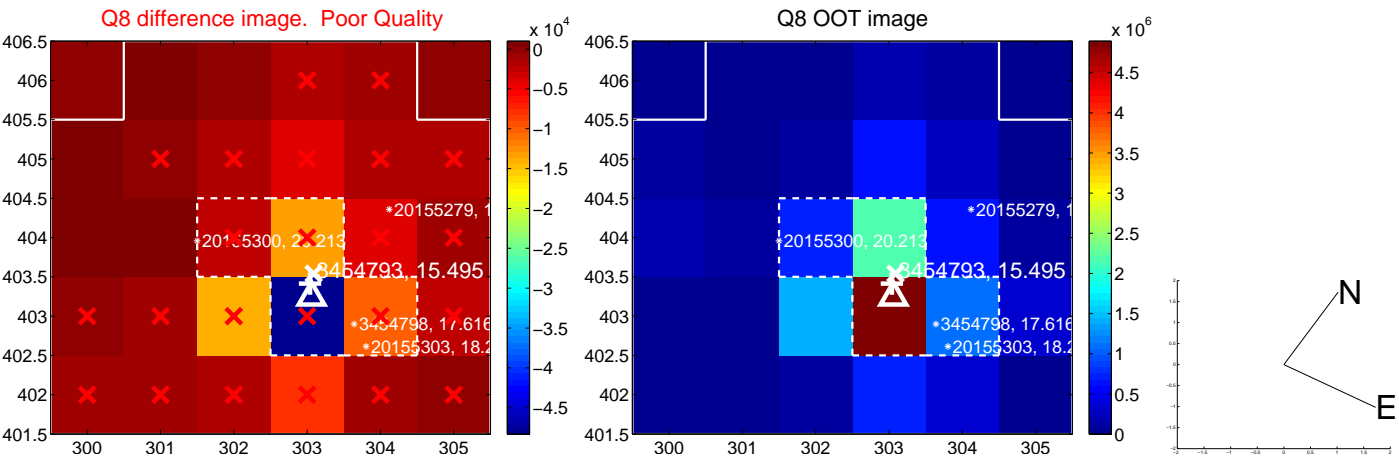
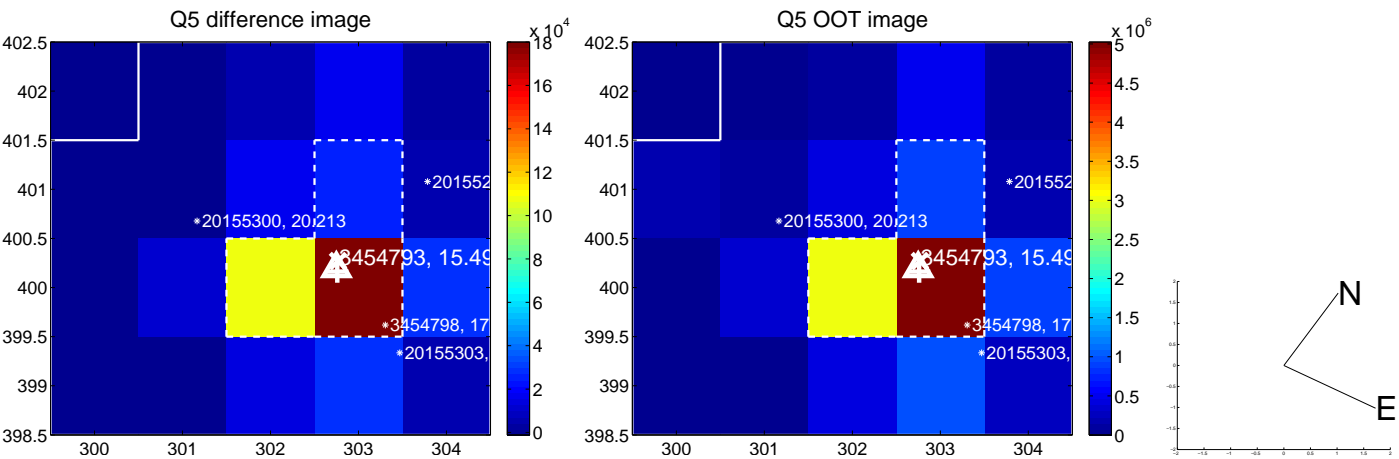


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

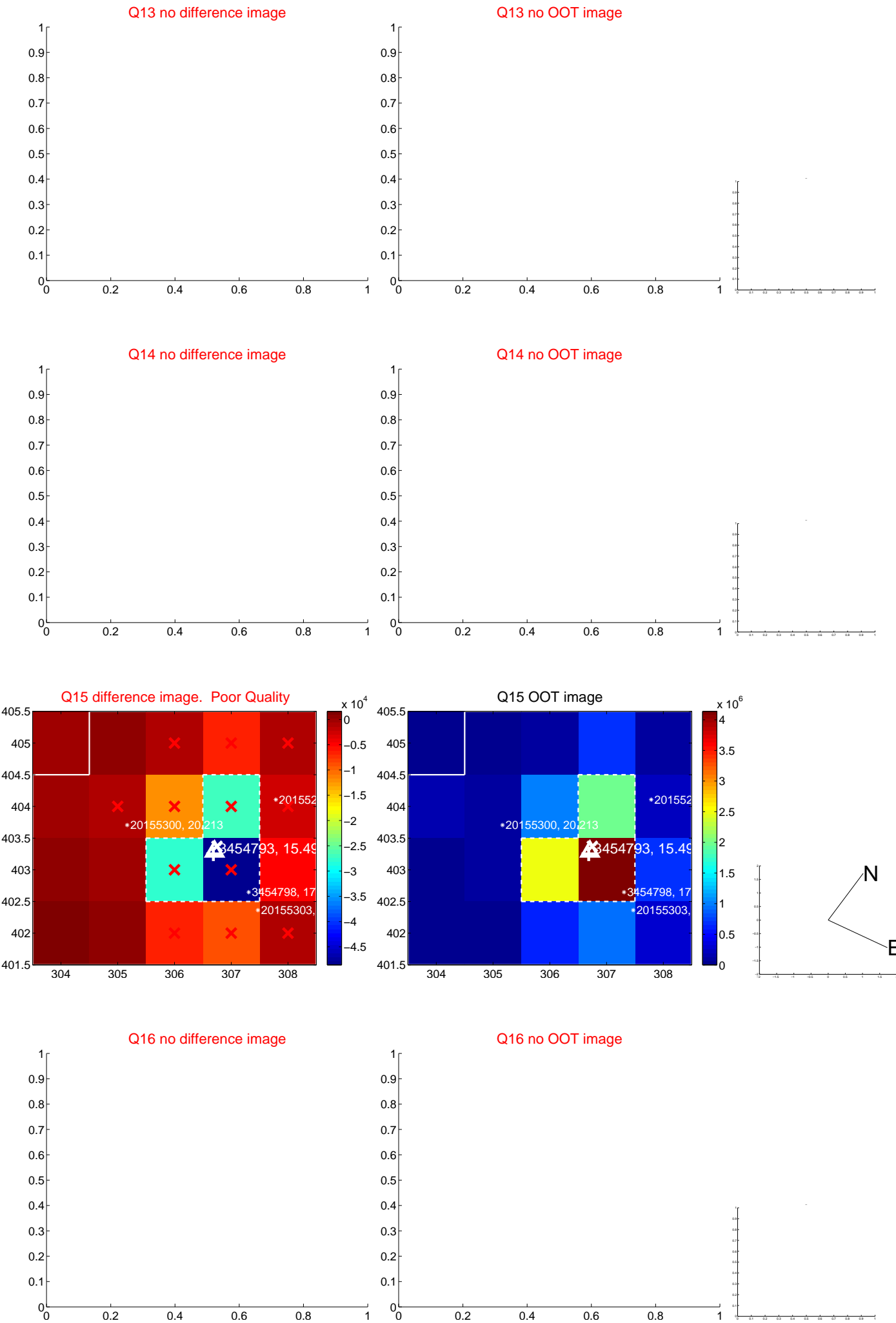




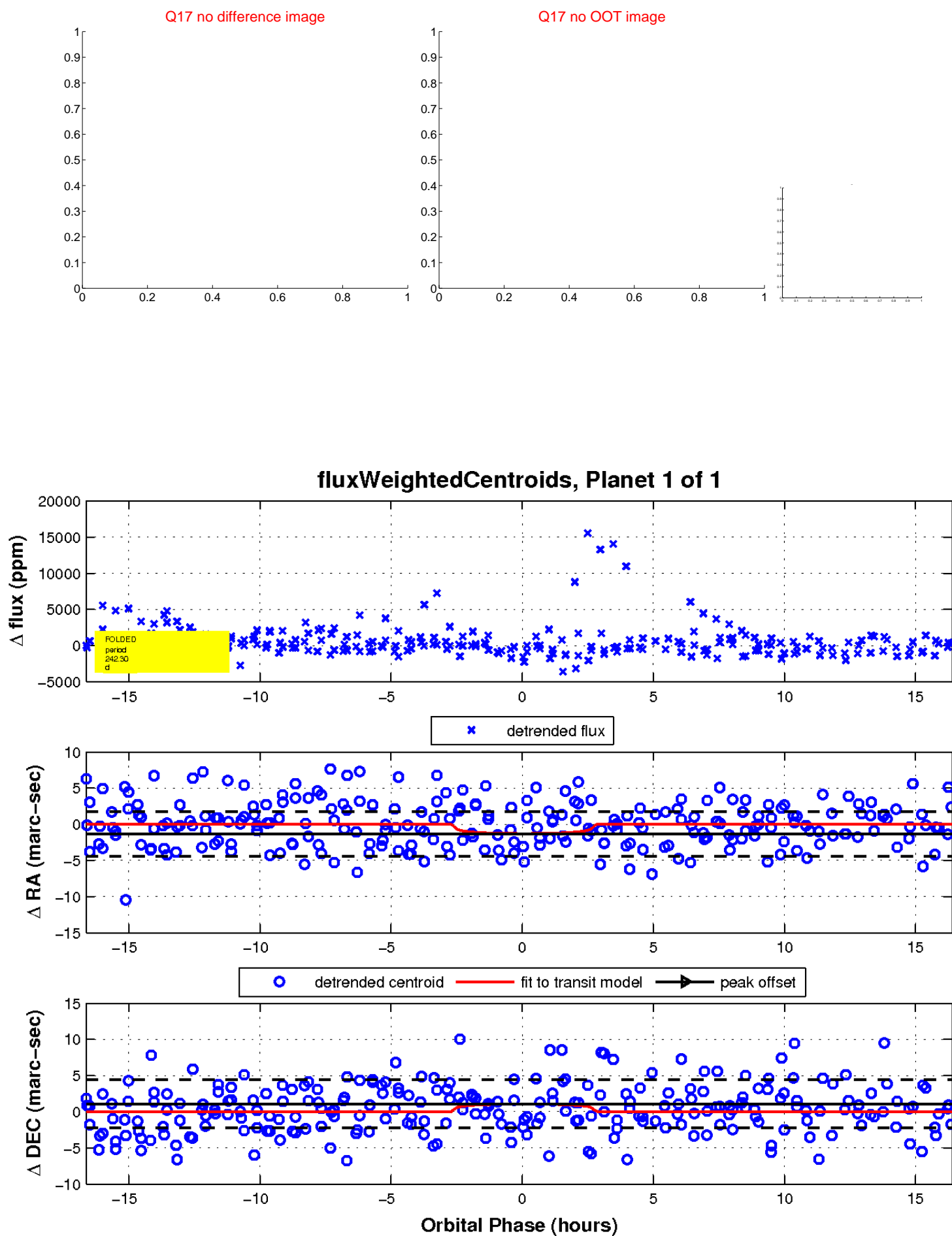
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UKIRT Image

