

# KIC 008479377

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008479377-01	OBS	No	36.151159	158.959601	368.3	22.519	8.5	8.7	1.42	6617	2.96	65.87

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008479377-01	OBS	FP	0.00	1	0	0	0	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.

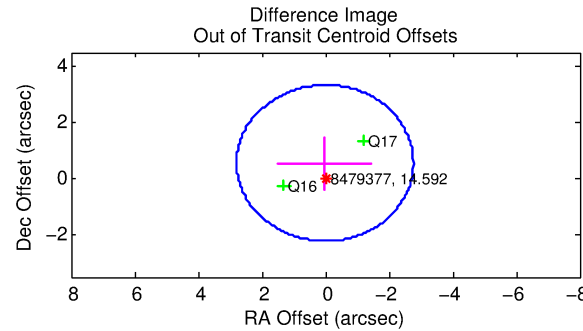
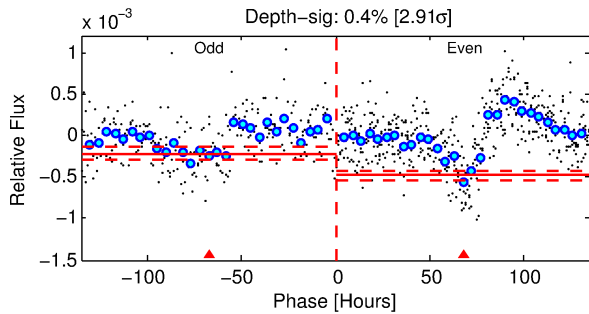
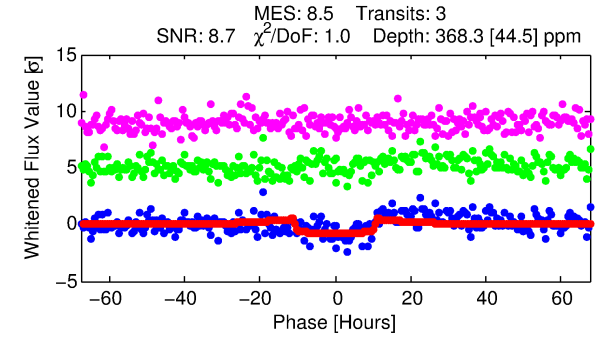
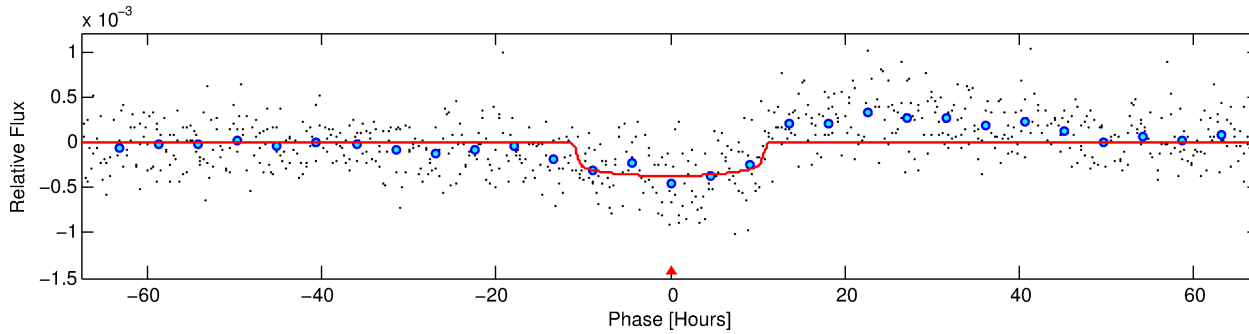
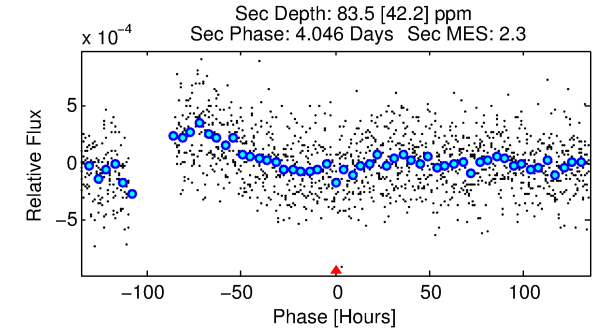
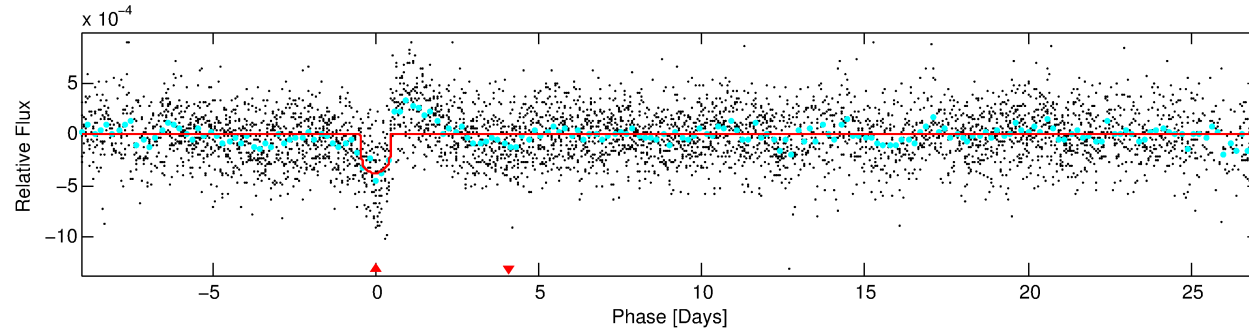
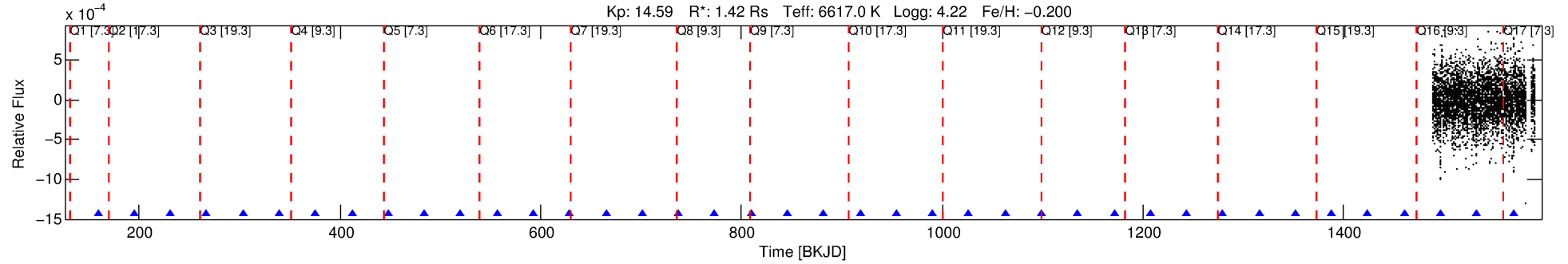
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008479377-01

No Significant Match Found

# DV One-Page Summary

KIC: 8479377 Candidate: 1 of 1 Period: 36.151 d



## DV Fit Results:

Period = 36.15116 [0.01650] d  
Epoch = 158.9596 [0.6283] BKJD  
Rp/R\* = 0.0191 [0.0031]  
a/R\* = 8.37 [6.79]  
b = 0.76 [0.46]  
Seff = 65.87 [25.14]  
Teff = 726 [69] K  
Rp = 2.96 [1.01] Re  
a = 0.2291 [0.0562] AU  
Ag = 274.53 [190.85] [1.43 $\sigma$ ]  
Teffp = 4572 [709] K [5.39 $\sigma$ ]

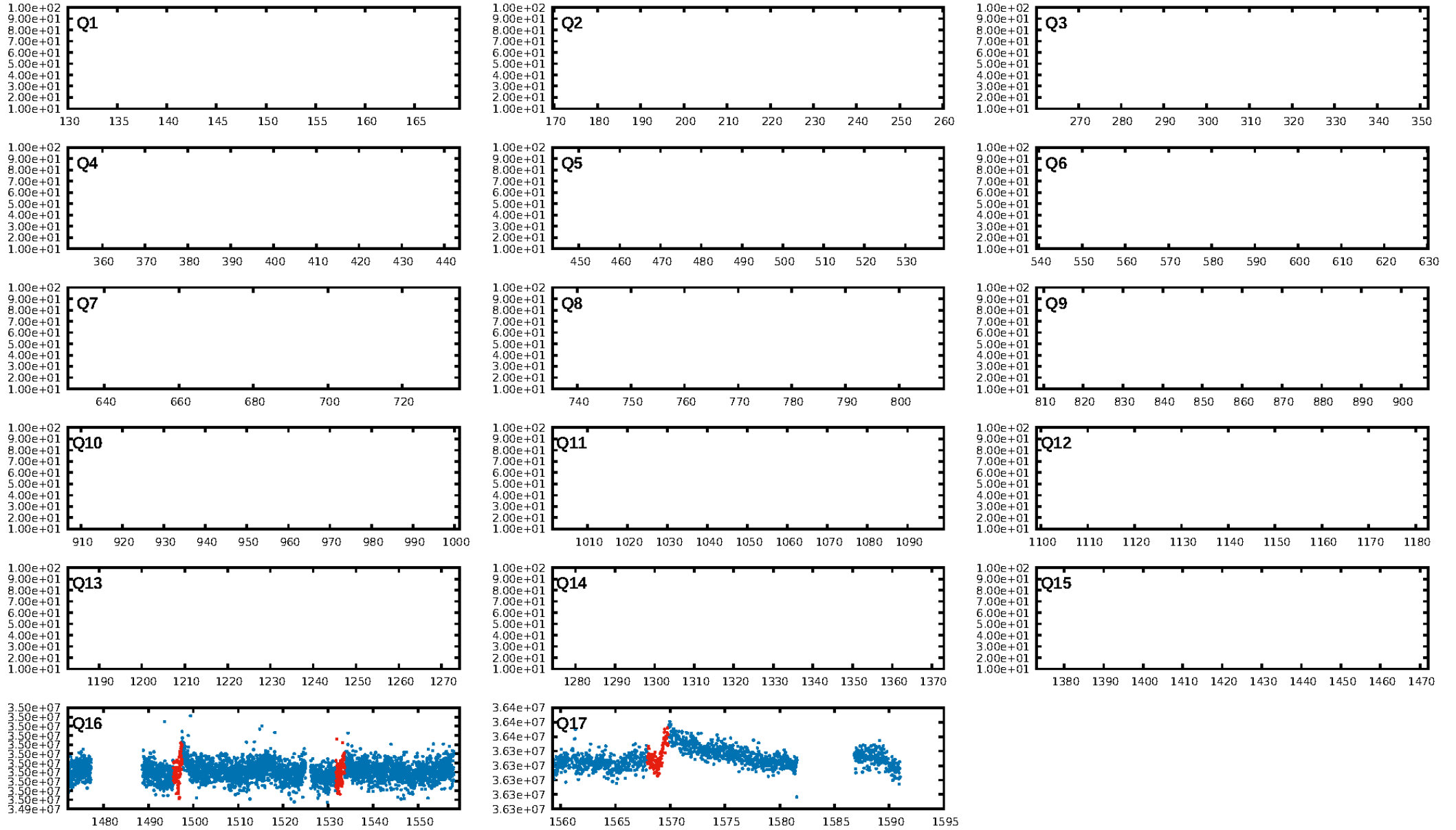
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 10.9%  
ModelChiSquareGof-sig: 97.9%  
Bootstrap-pfa: 2.88e-20  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: -1.859  
Centroid-sig: 1.3%  
Centroid-so: 1.313 arcsec [1.66 $\sigma$ ]  
OotOffset-rm: 0.558 arcsec [0.60 $\sigma$ ]  
KicOffset-rm: 0.581 arcsec [0.60 $\sigma$ ]  
OotOffset-st: 0/0/1/1 [2]  
KicOffset-st: 0/0/1/1 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [2/2]

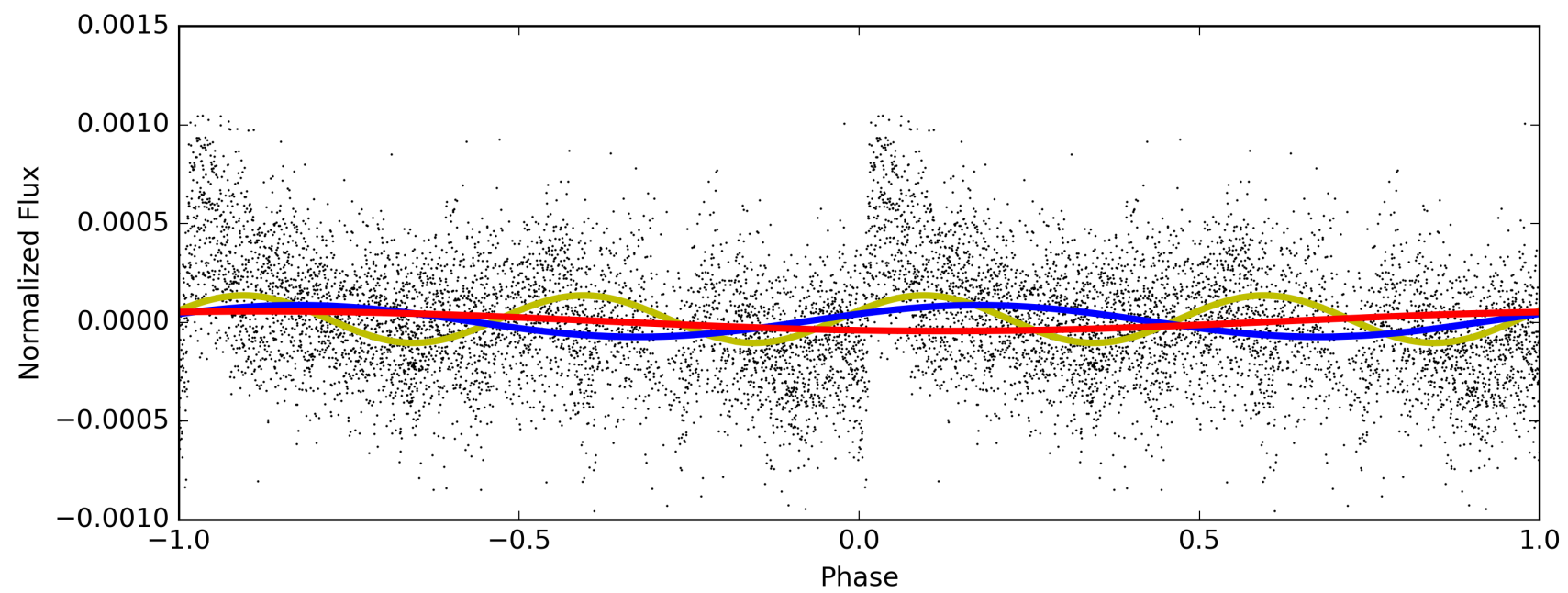
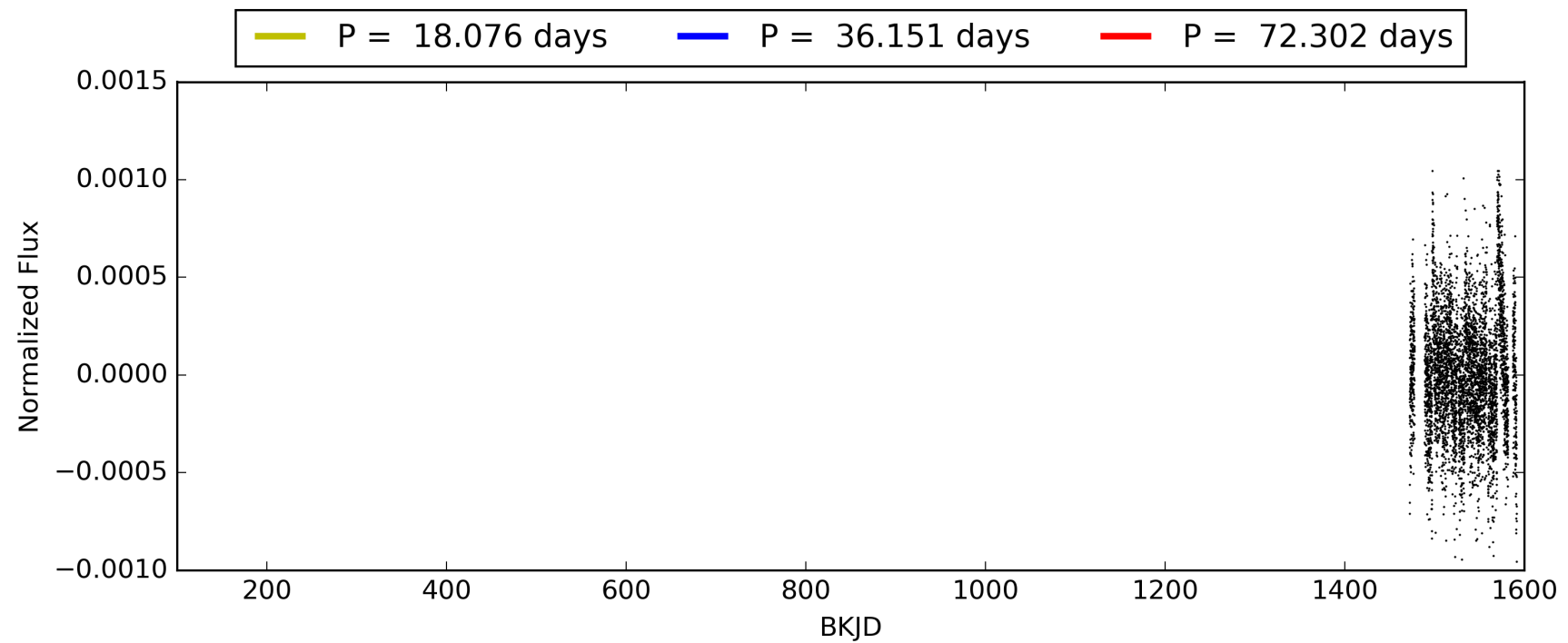
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:51:15 Z

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

# TCE 008479377-01, PDC Light Curves

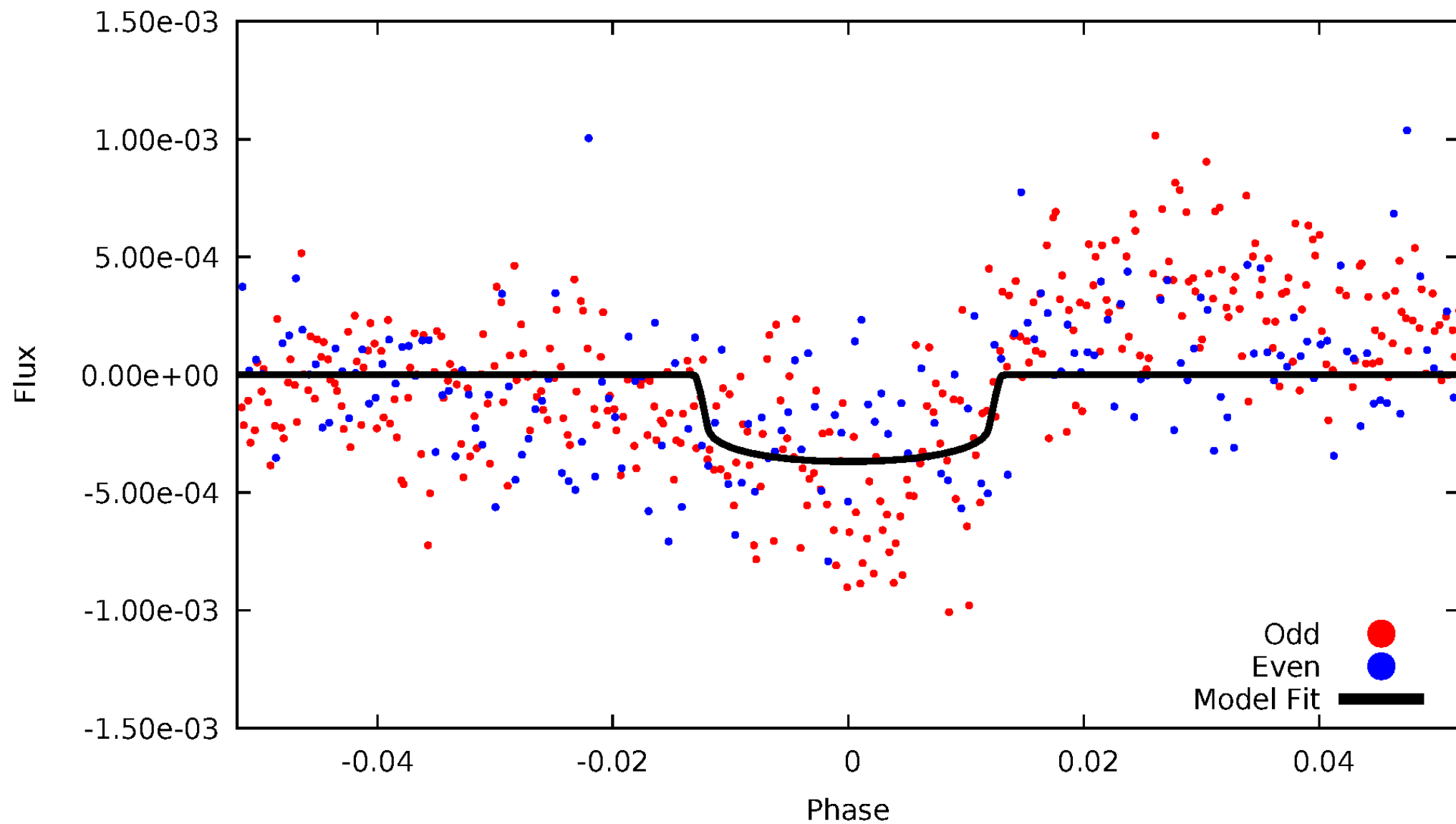


TCE 008479377-01



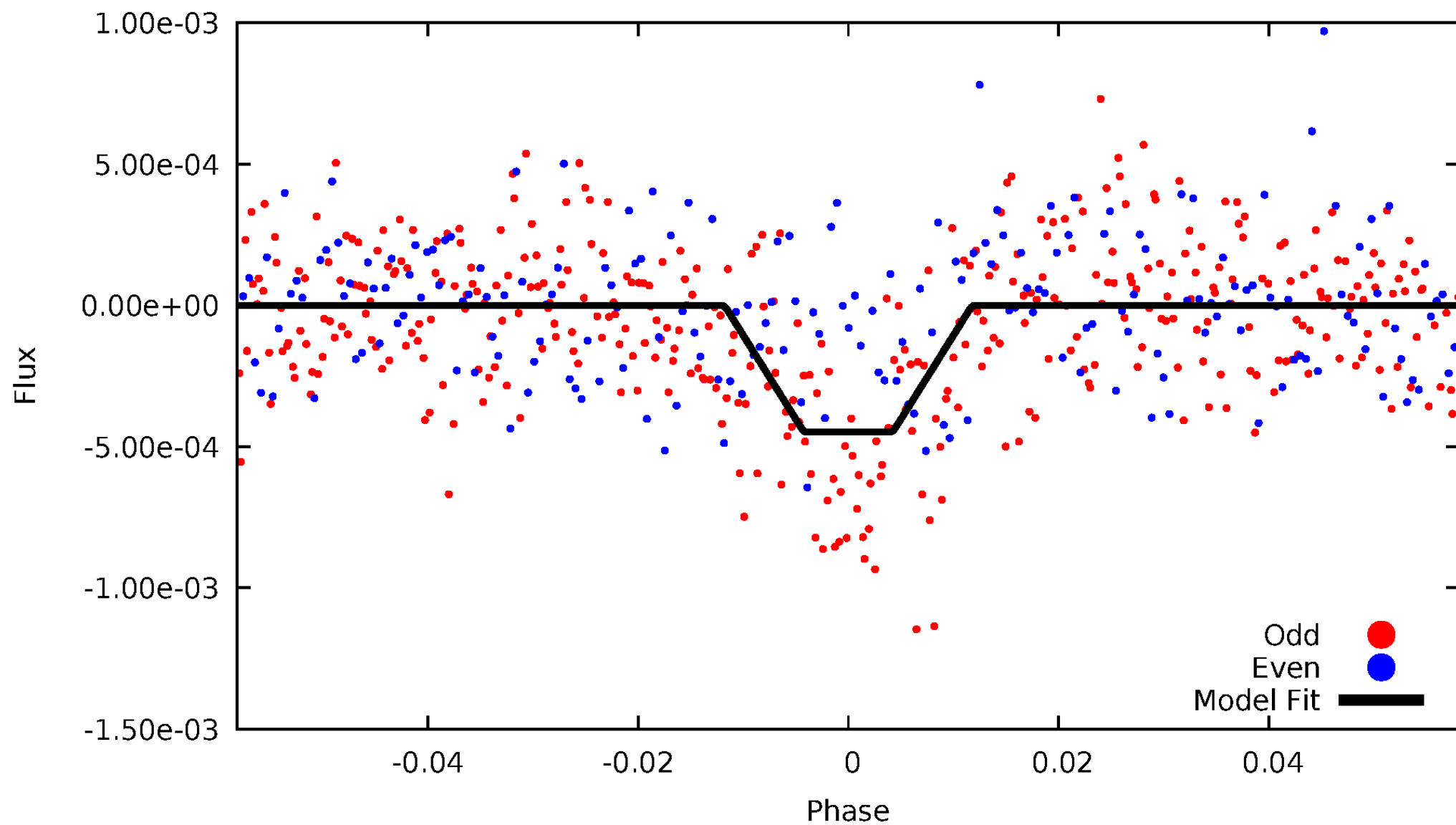
# DV Odd/Even

TCE 008479377-01

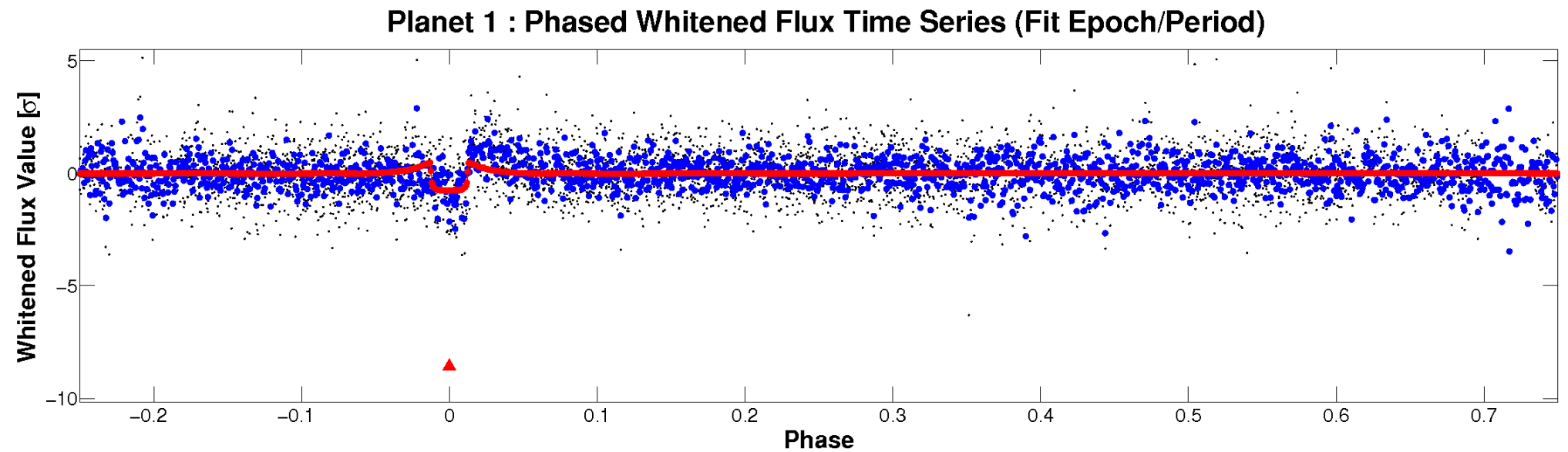
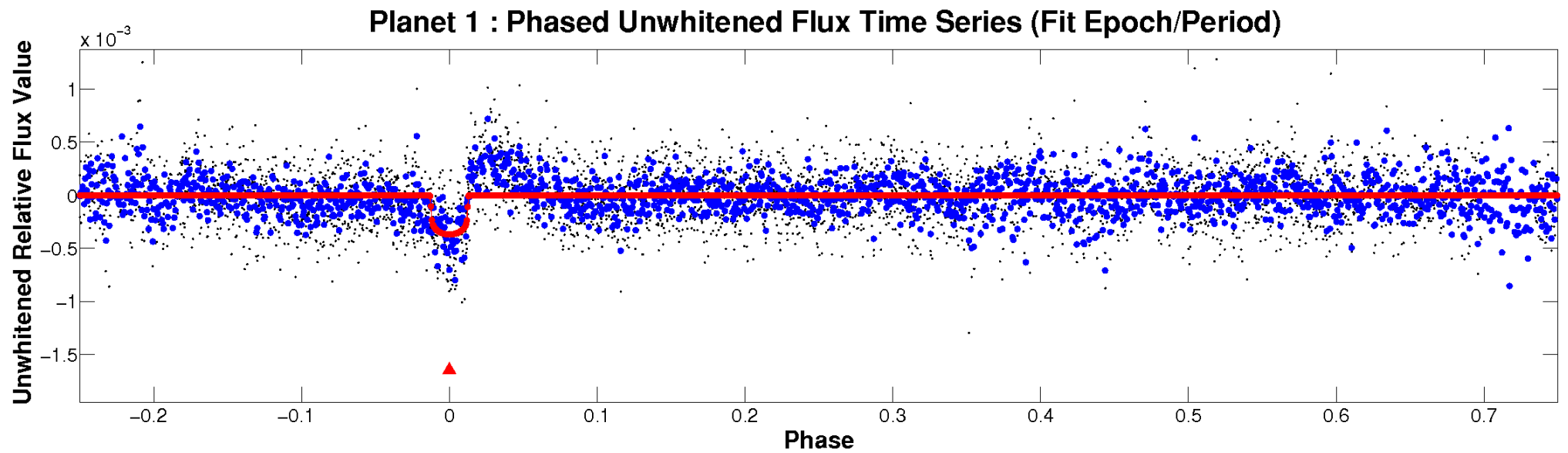


# ALT Odd/Even

TCE 008479377-01

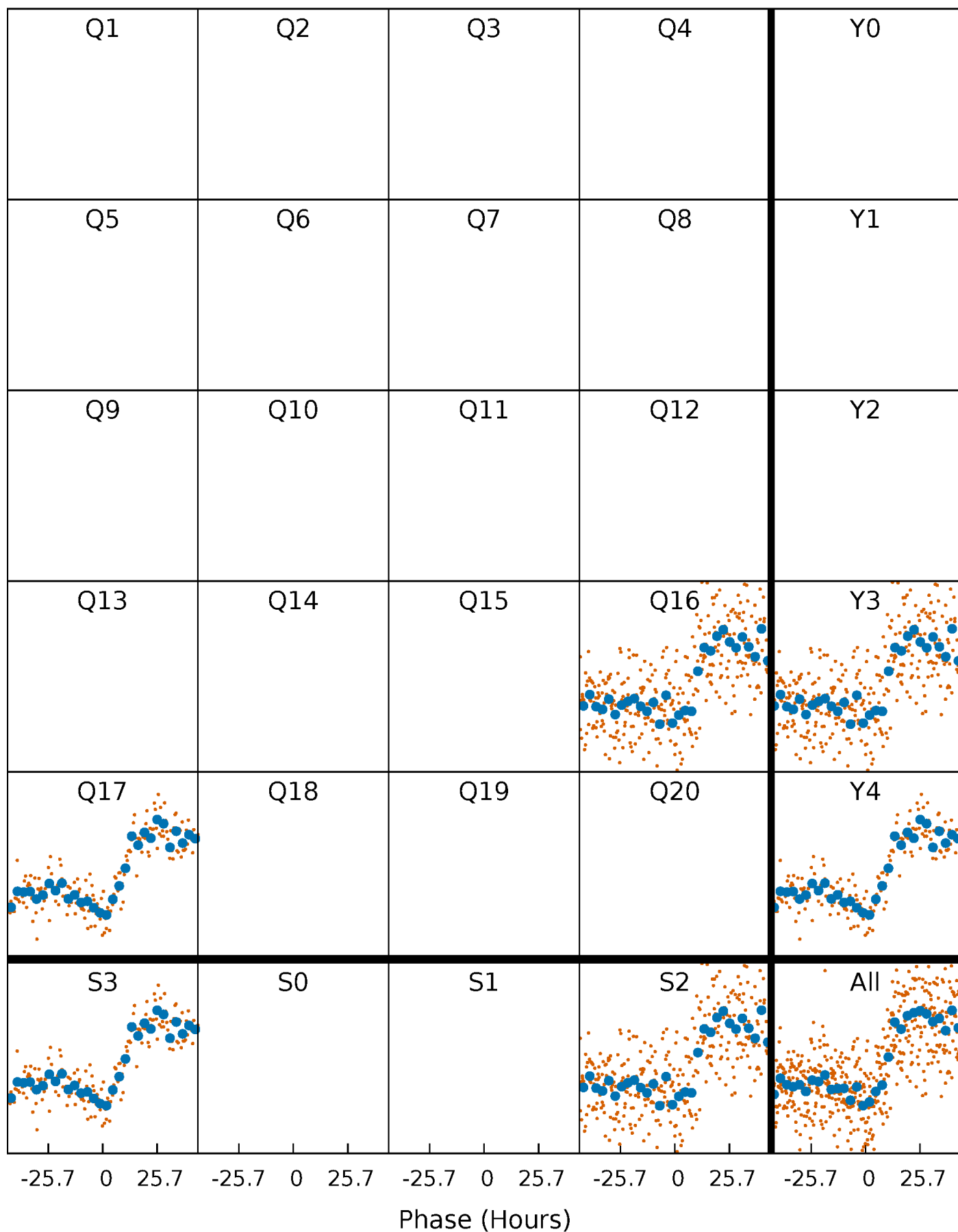


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

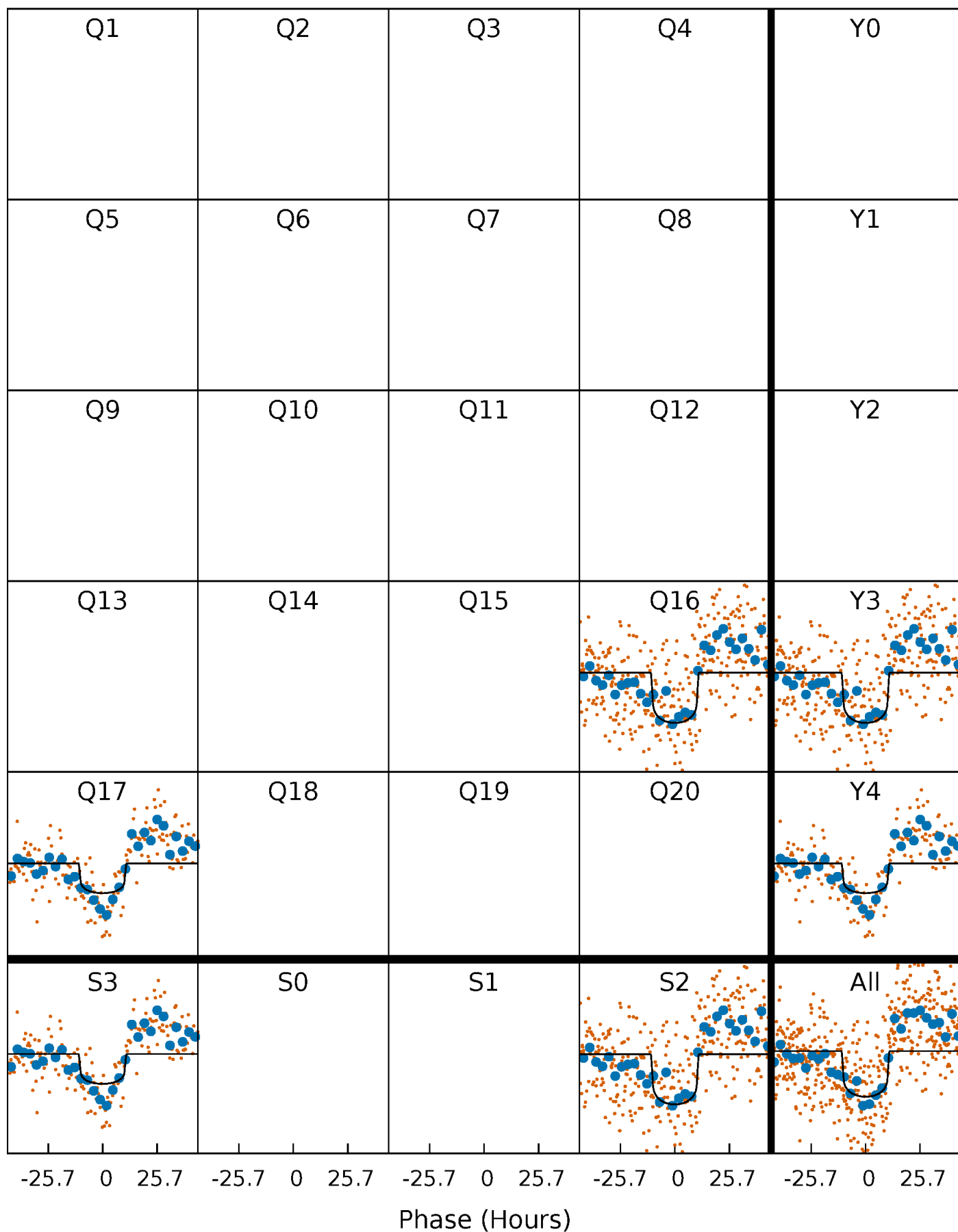
TCE 008479377-01 P= 36.151159 Days  $T_0=158.959601$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 008479377-01 P= 36.151159 Days  $T_0=158.959601$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

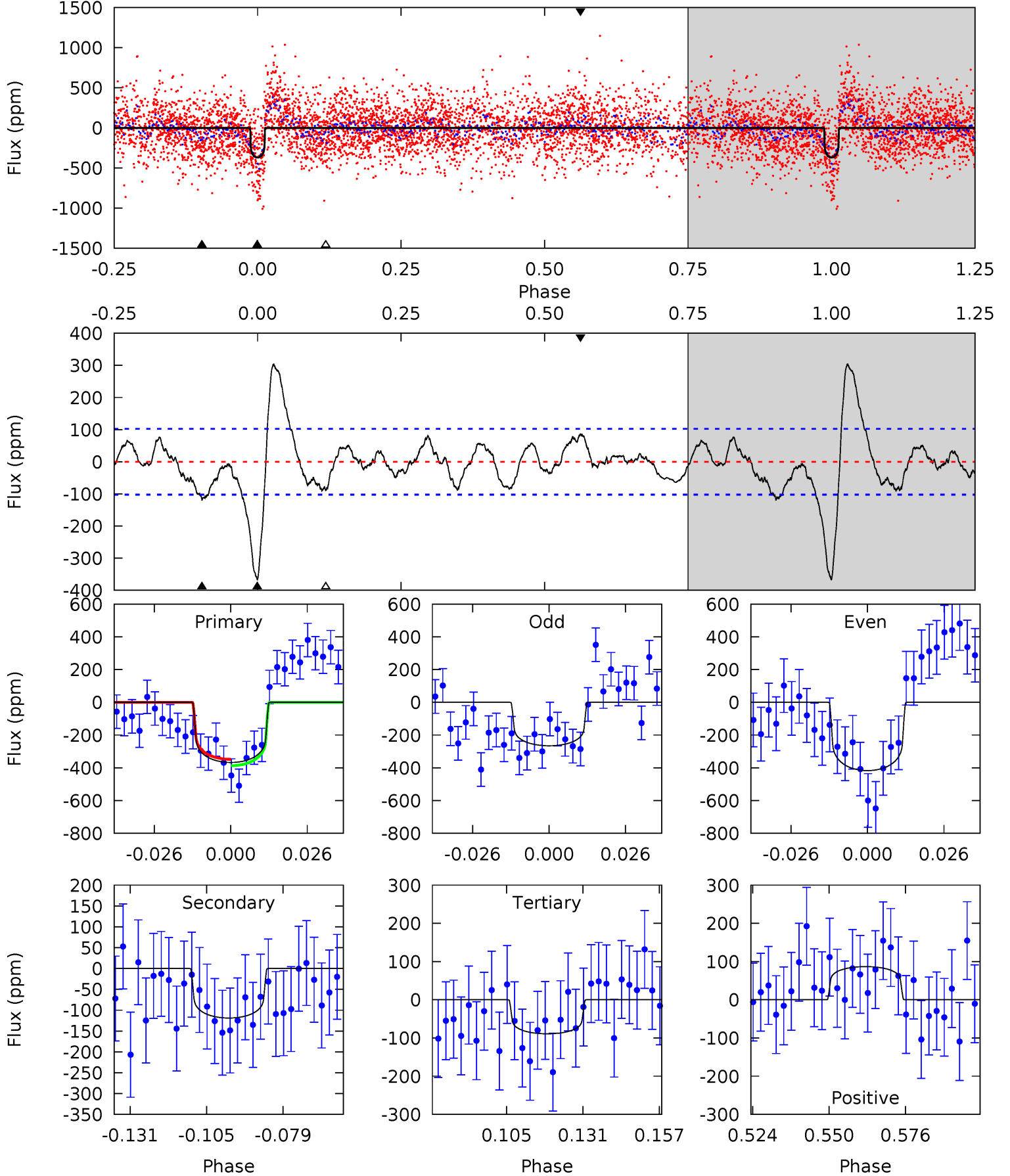
TCE 008479377-01 P= 36.155536 Days  $T_0=158.872631$  (BKJD)



# DV Model-Shift Uniqueness Test

008479377-01,  $P = 36.151159$  Days,  $E = 158.959601$  Days

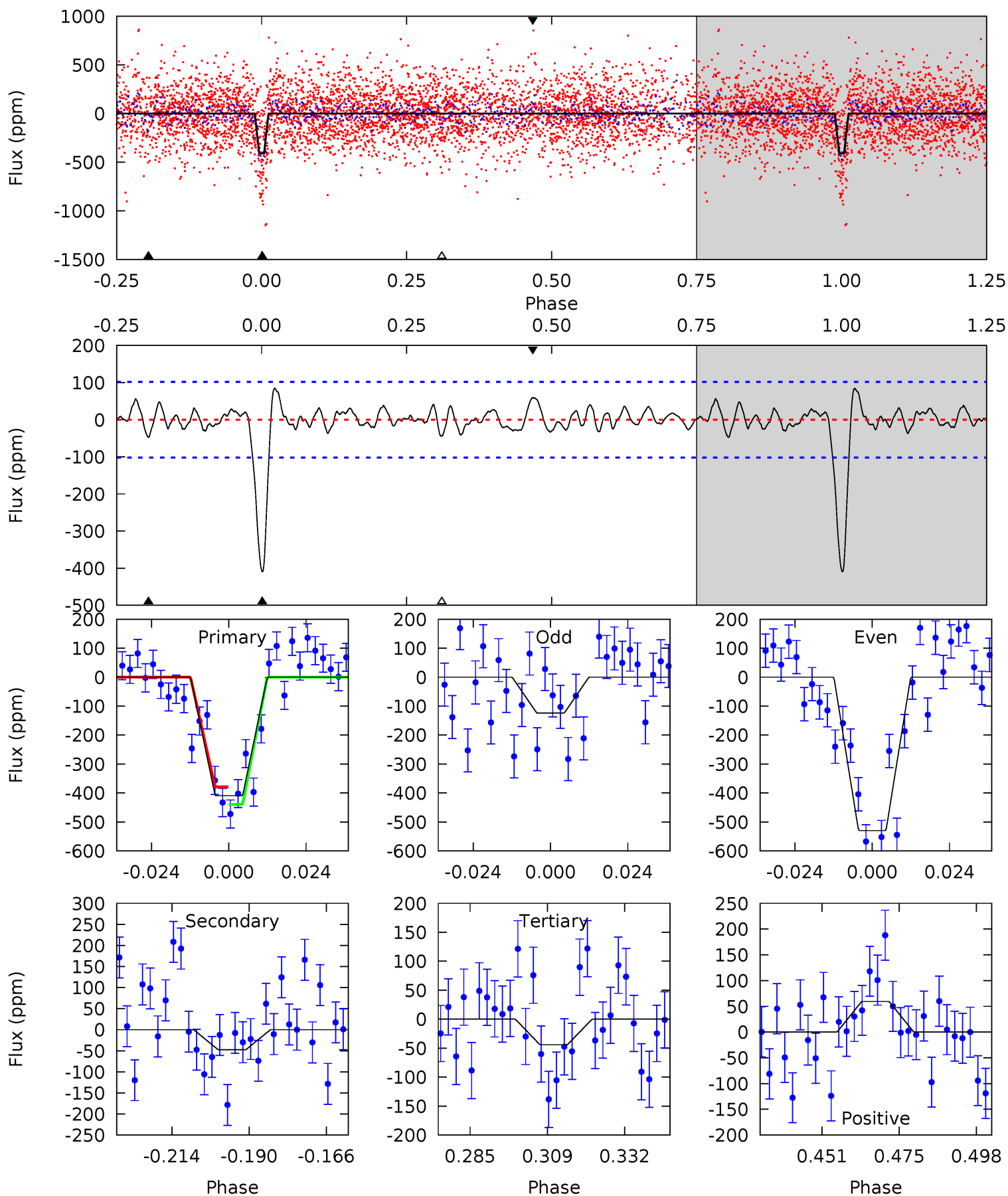
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	5.61	4.21	4.10	4.84	2.22	2.93	13.1	13.3	1.40	1.52	3.41	1.05	0.45	0.93



# Alt Model-Shift Uniqueness Test

008479377-01, P = 36.155536 Days, E = 158.872631 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
19.5	2.28	2.10	2.83	4.86	2.26	1.00	17.4	16.7	0.17	-0.55	9.02	0.79	0.17	1.44



### Stellar Parameters For KIC 008479377

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6617^{+186}_{-255}$	$4.223^{+0.136}_{-0.187}$	$-0.200^{+0.250}_{-0.300}$	$1.419^{+0.423}_{-0.318}$	$1.233^{+0.175}_{-0.195}$	$0.608^{+0.465}_{-0.304}$
	+3%/-4%	+3%/-4%	+125%/-150%	+30%/-22%	+14%/-16%	+77%/-50%
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 008479377-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-119 \pm 21$	$3.05^{+0.64}_{-0.61}$	$1022^{+74}_{-61}$	$5037^{+496}_{-391}$	$368^{+231}_{-133}$
Alt.	$-48 \pm 21$	$3.32^{+0.73}_{-0.66}$	$1018^{+75}_{-65}$	$4033^{+401}_{-436}$	$120^{+92}_{-62}$

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

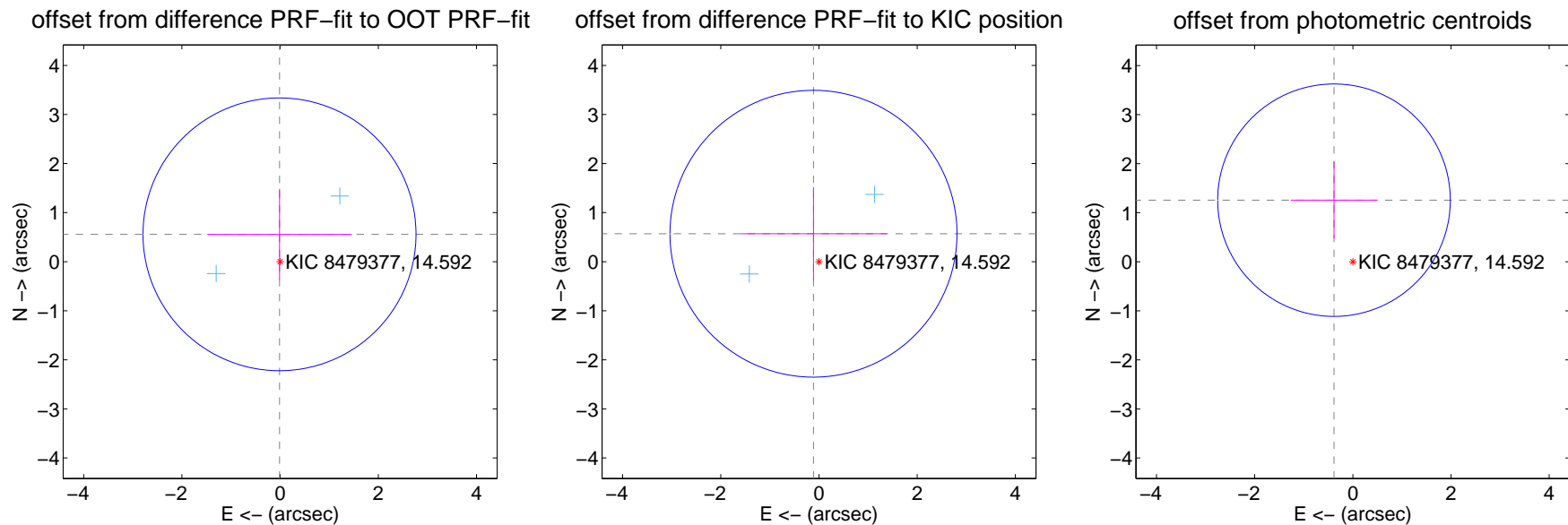
## DV Centroid Data

Supplemental centroid analysis for 008479377-01. Kepler magnitude: 14.59. Transit SNR 8.66

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.558 \pm 0.927$	0.60	$0.012 \pm 1.472$	$0.558 \pm 0.926$
PRF-fit source offset from KIC position	$0.581 \pm 0.974$	0.60	$0.112 \pm 1.492$	$0.570 \pm 0.949$
photometric centroid source offset	$1.31 \pm 0.79$	1.66	$0.38 \pm 0.88$	$1.26 \pm 0.78$



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.



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

Q13 no difference image



Q13 no OOT image



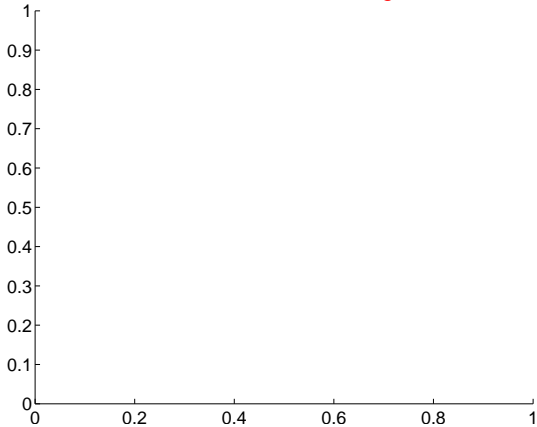
Q14 no difference image



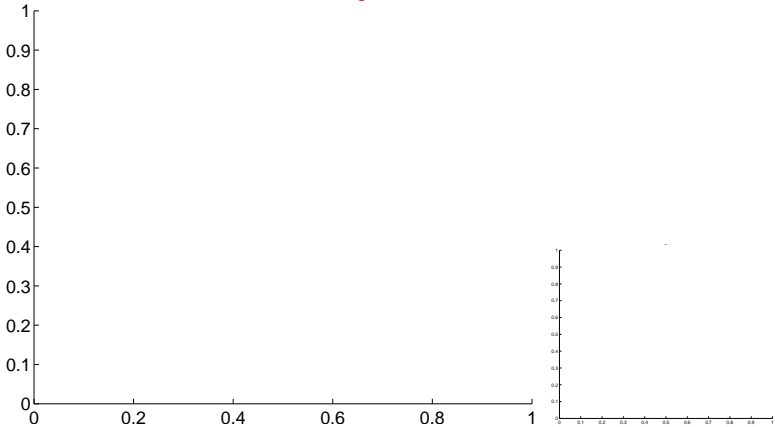
Q14 no OOT image



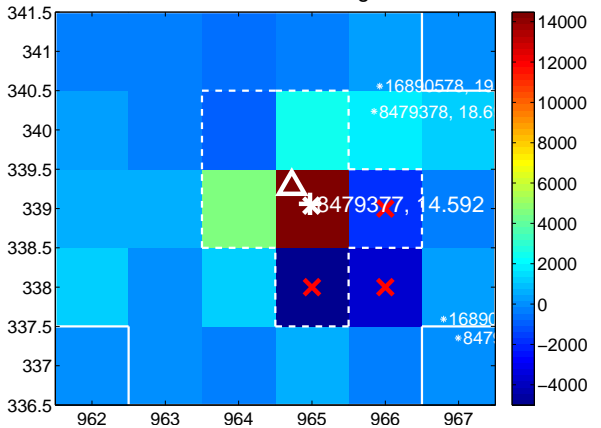
Q15 no difference image



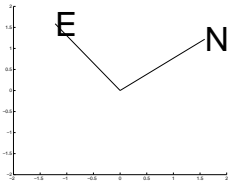
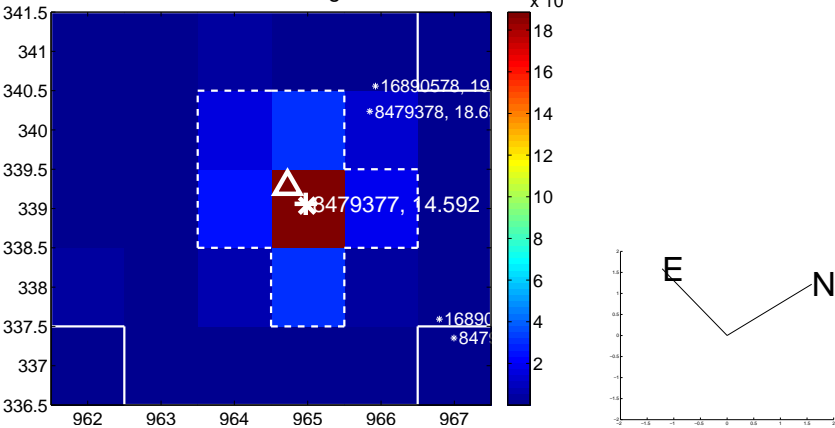
Q15 no OOT image



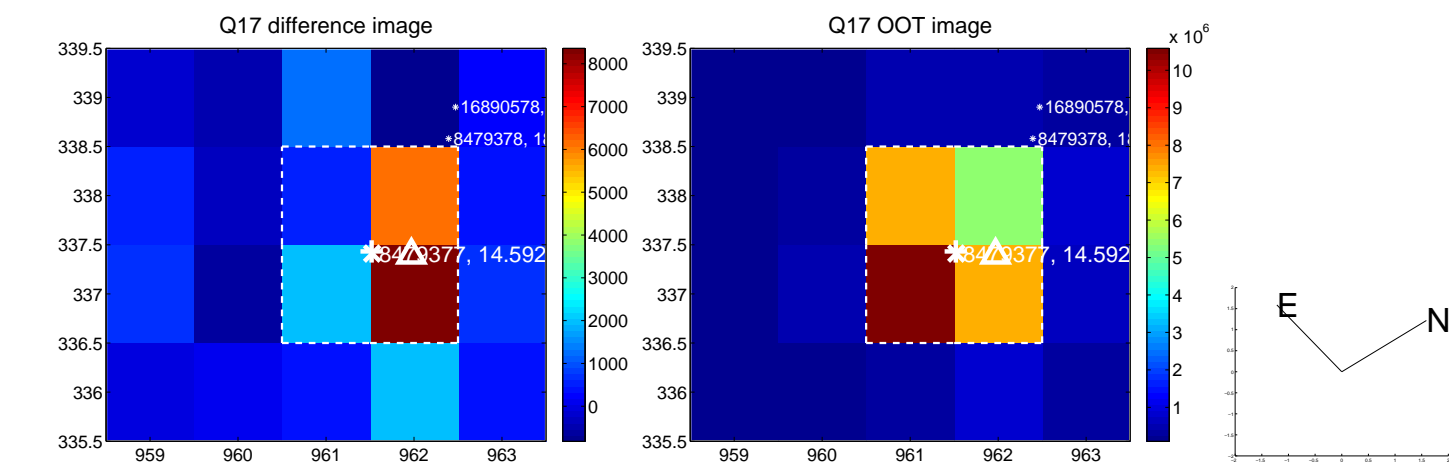
Q16 difference image



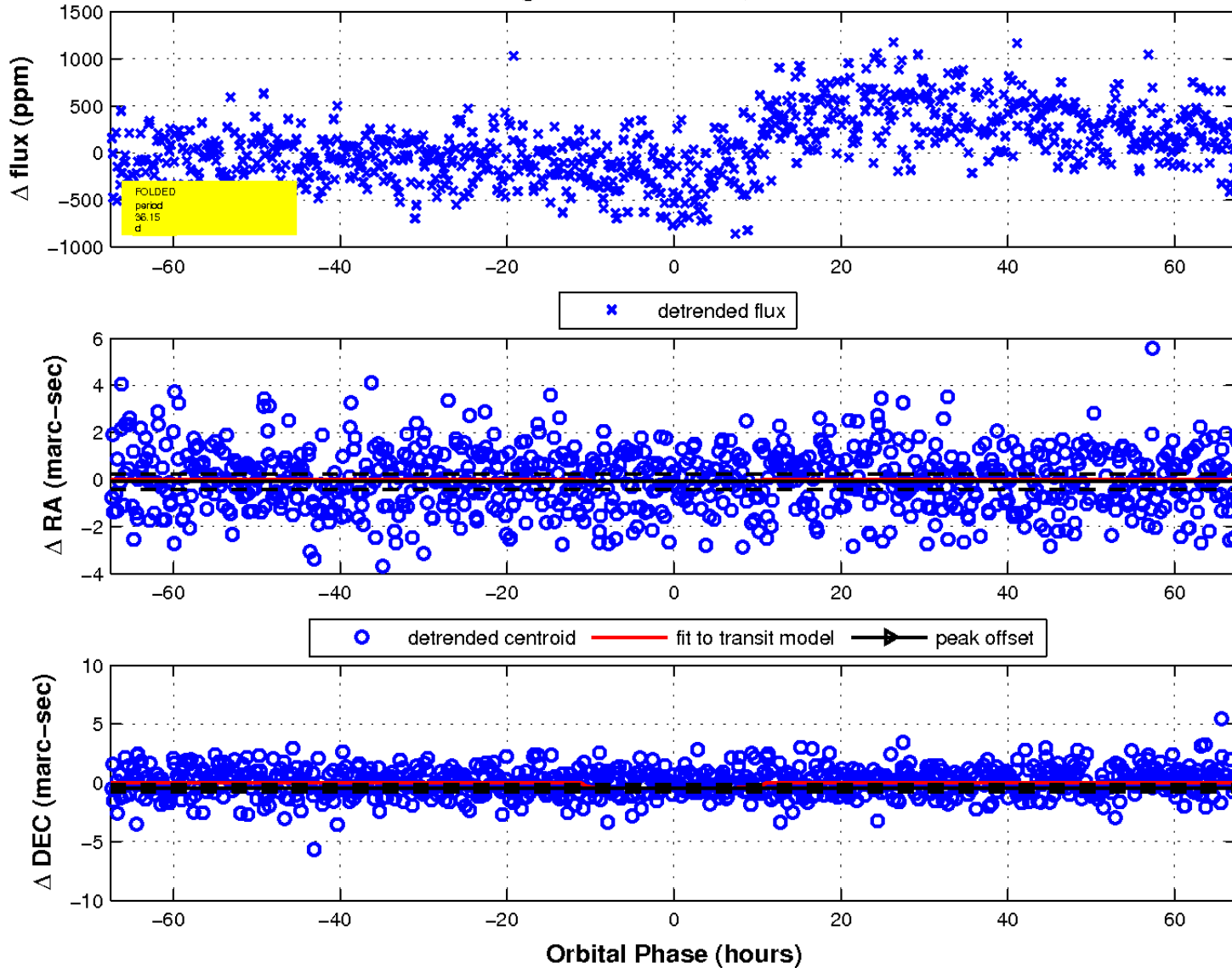
Q16 OOT image



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

