

# KIC 011457137

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011457137-01	OBS	No	360.249197	373.793729	1769.9	22.582	13.5	10.7	0.75	5139	3.98	0.42

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011457137-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

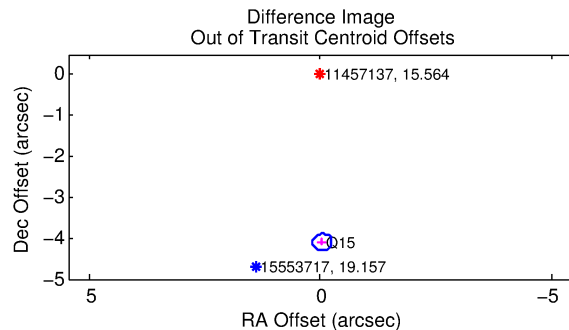
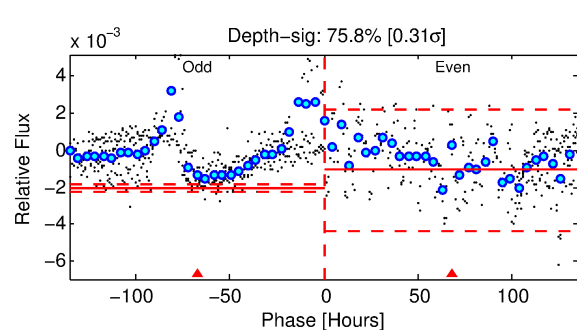
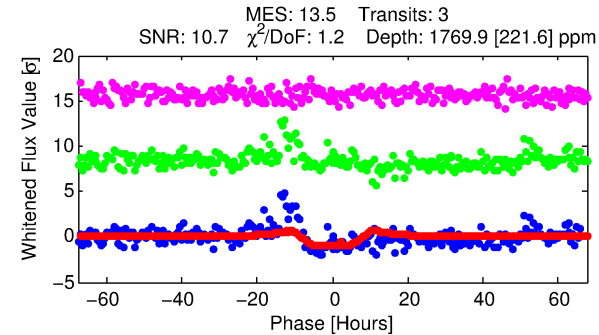
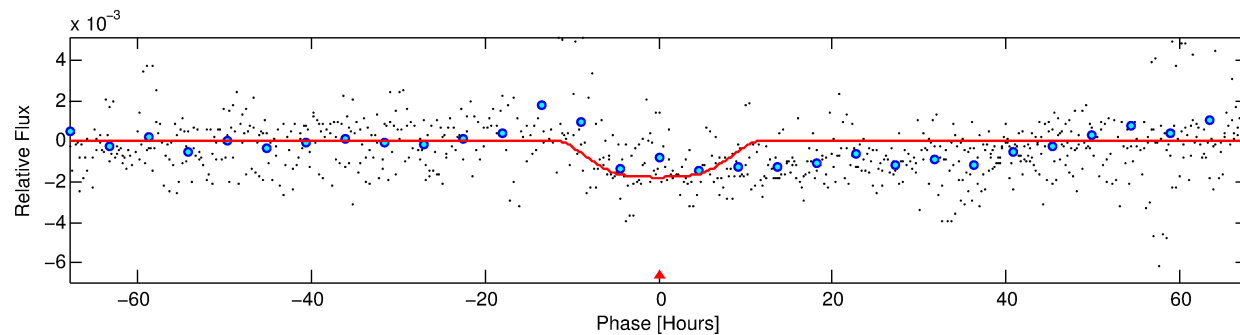
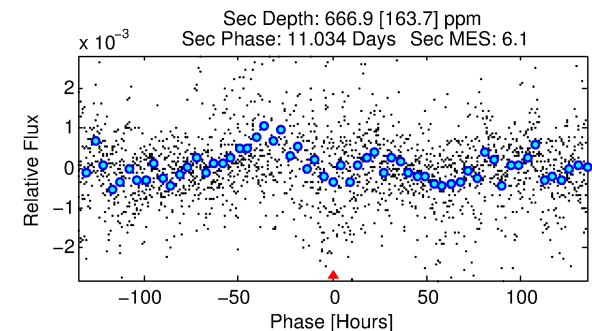
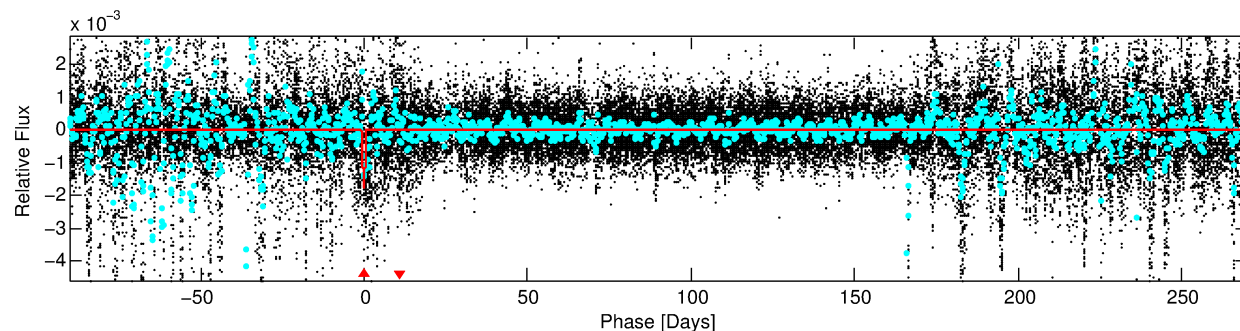
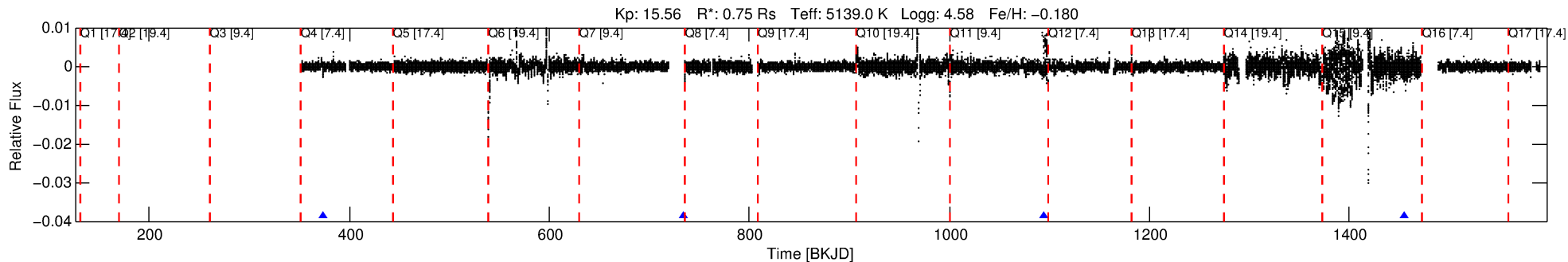
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011457137-01

No Significant Match Found

# DV One-Page Summary

KIC: 11457137 Candidate: 1 of 1 Period: 360.249 d



## DV Fit Results:

Period = 360.24920 [0.01893] d  
Epoch = 373.7937 [0.0222] BKJD  
Rp/R\* = 0.0489 [0.0039]  
a/R\* = 58.48 [7.83]  
b = 0.93 [0.02]  
Seff = 0.42 [0.09]  
Teq = 205 [11] K  
Rp = 3.98 [0.61] Re  
a = 0.9098 [0.0935] AU  
Ag = 19138.07 [6226.43] [3.07σ]  
Teffp = 3733 [309] K [11.4σ]

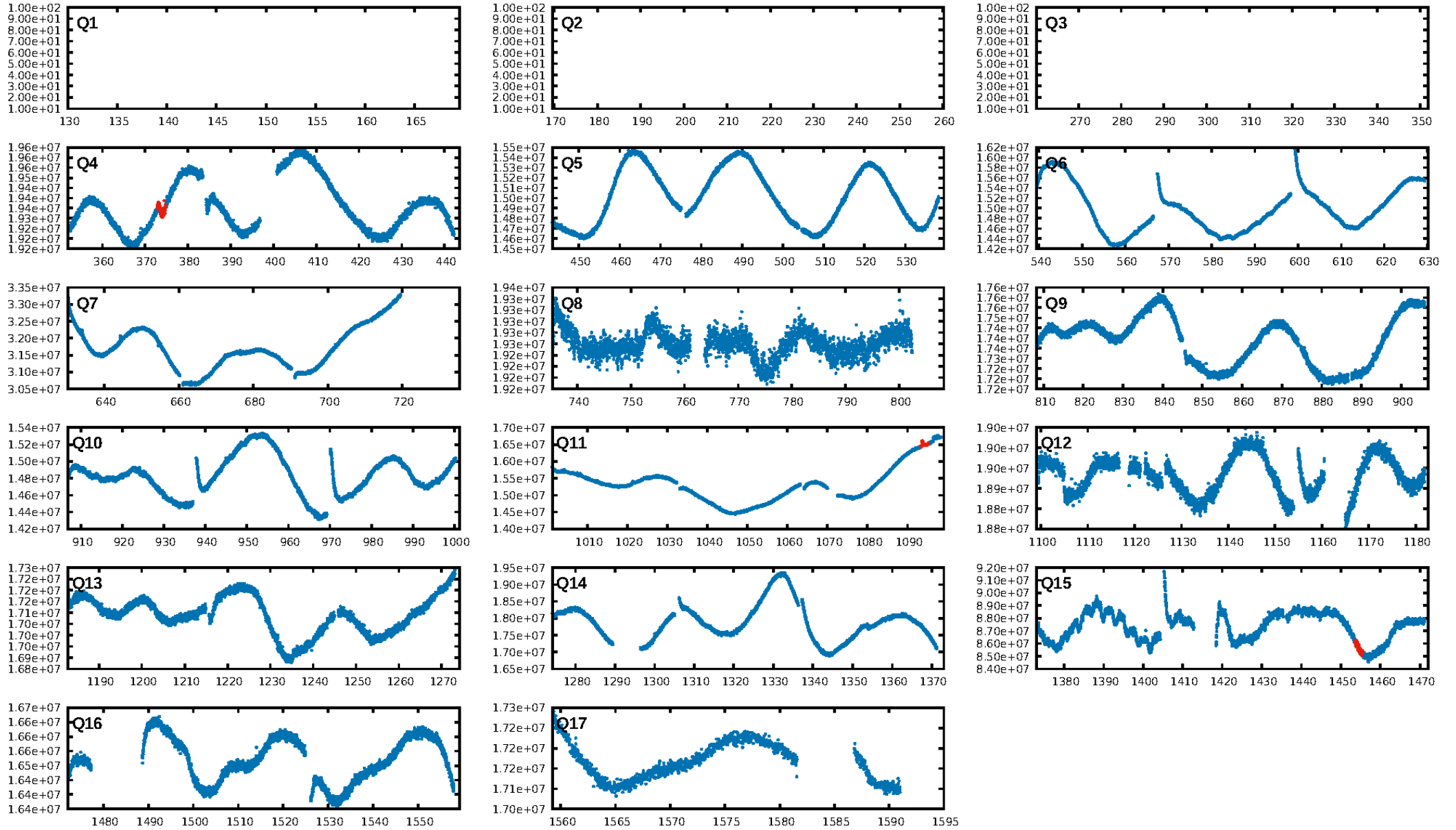
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 35.7%  
ModelChiSquareGoF-sig: 97.3%  
Bootstrap-pfa: 9.16e-12  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -1.218  
Centroid-sig: 78.1%  
Centroid-so: 3.205 arcsec [5.76σ]  
OotOffset-rm: 4.101 arcsec [59.33σ]  
KicOffset-rm: 8.283 arcsec [117.70σ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [1/1]

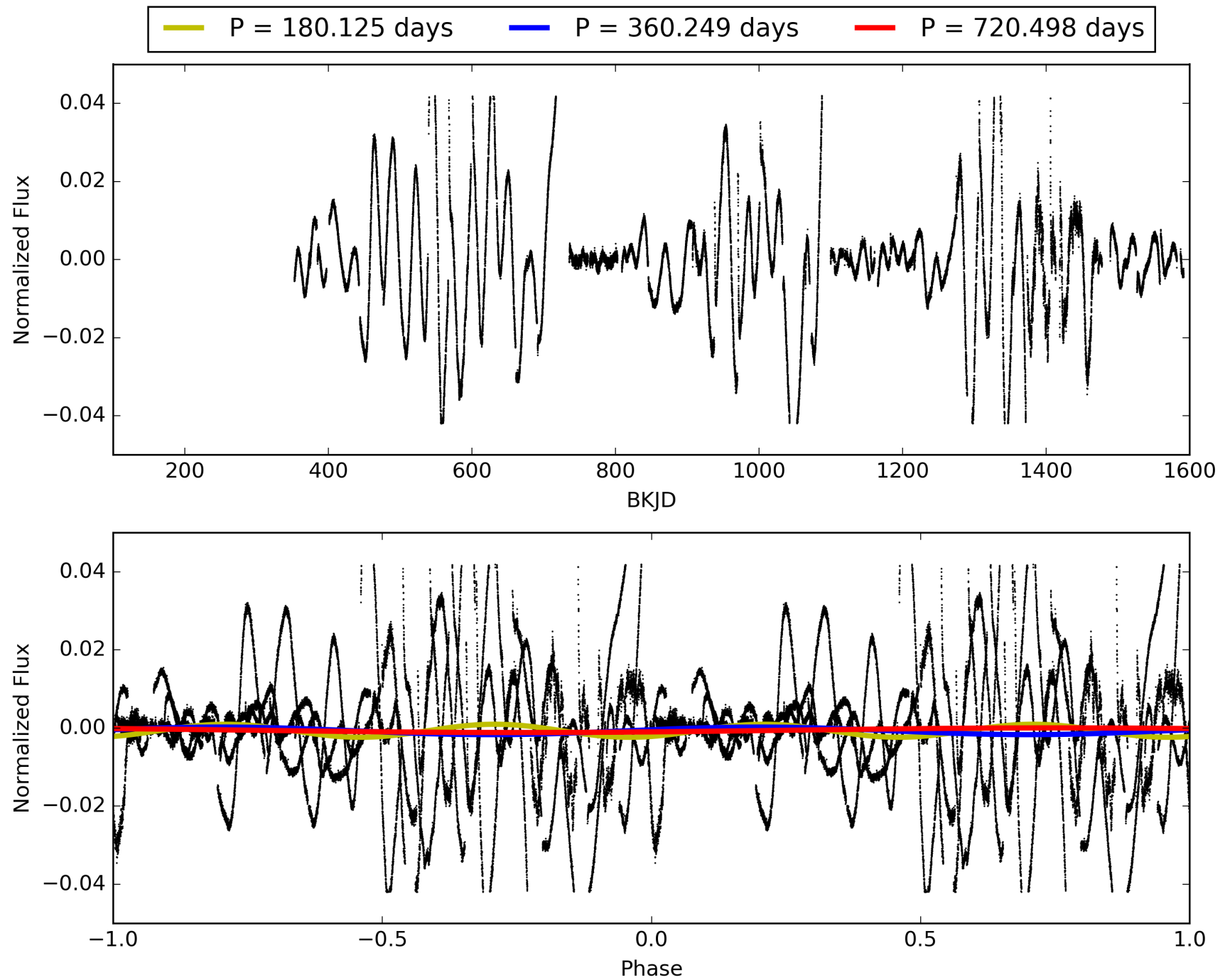
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:03:21 Z

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

# TCE 011457137-01, PDC Light Curves

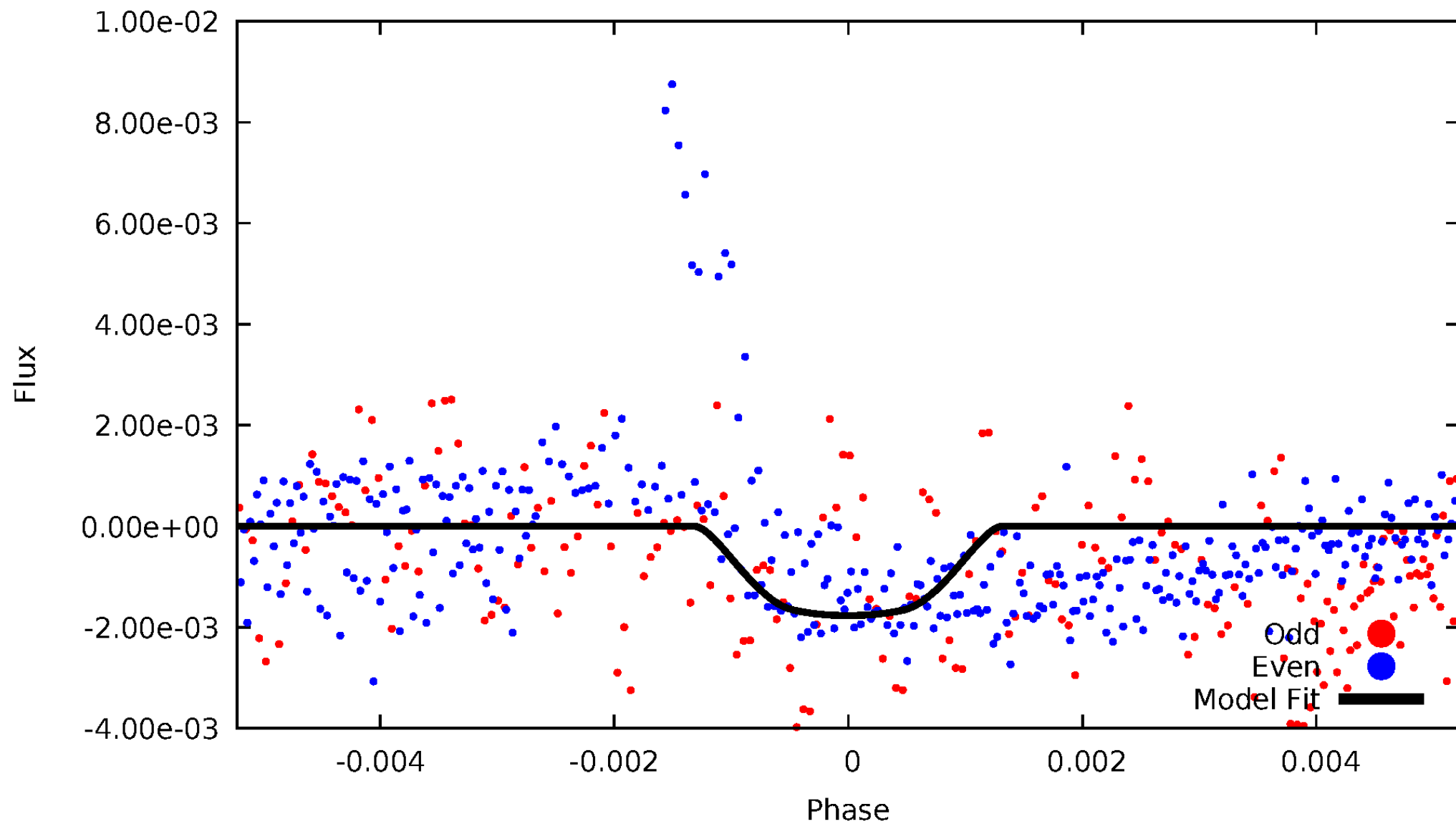


TCE 011457137-01



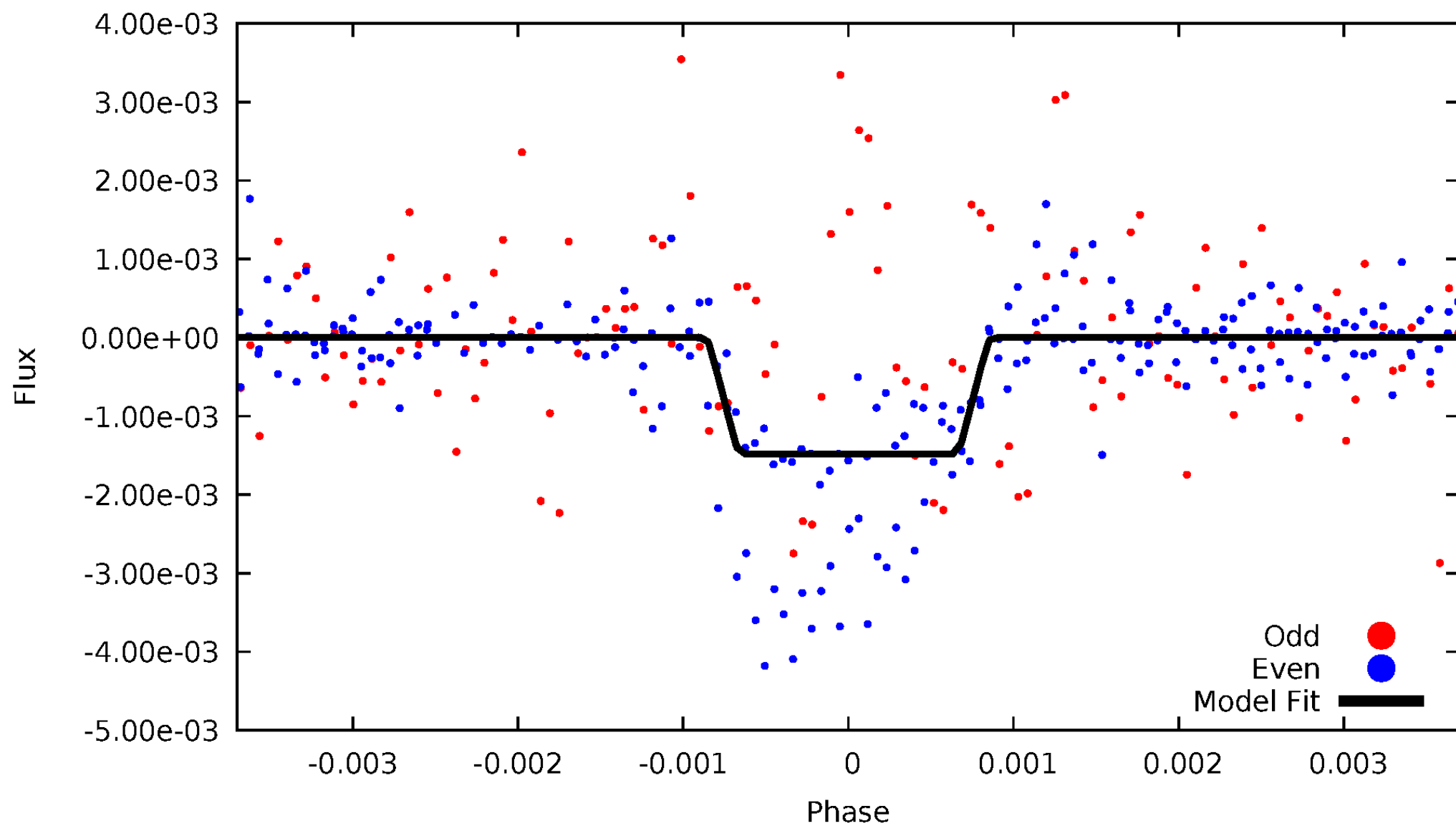
# DV Odd/Even

TCE 011457137-01



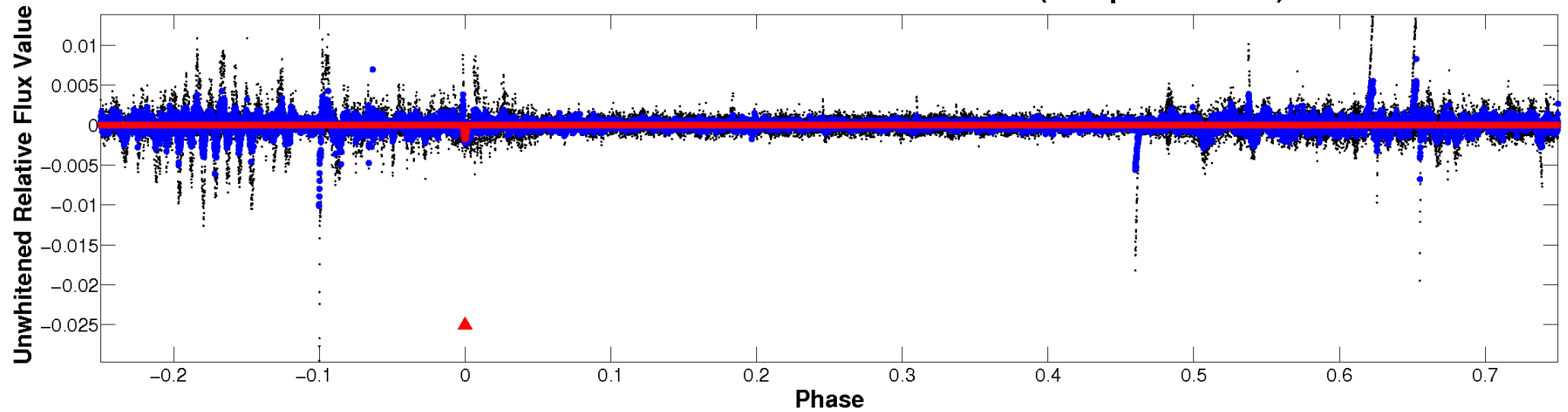
# ALT Odd/Even

TCE 011457137-01

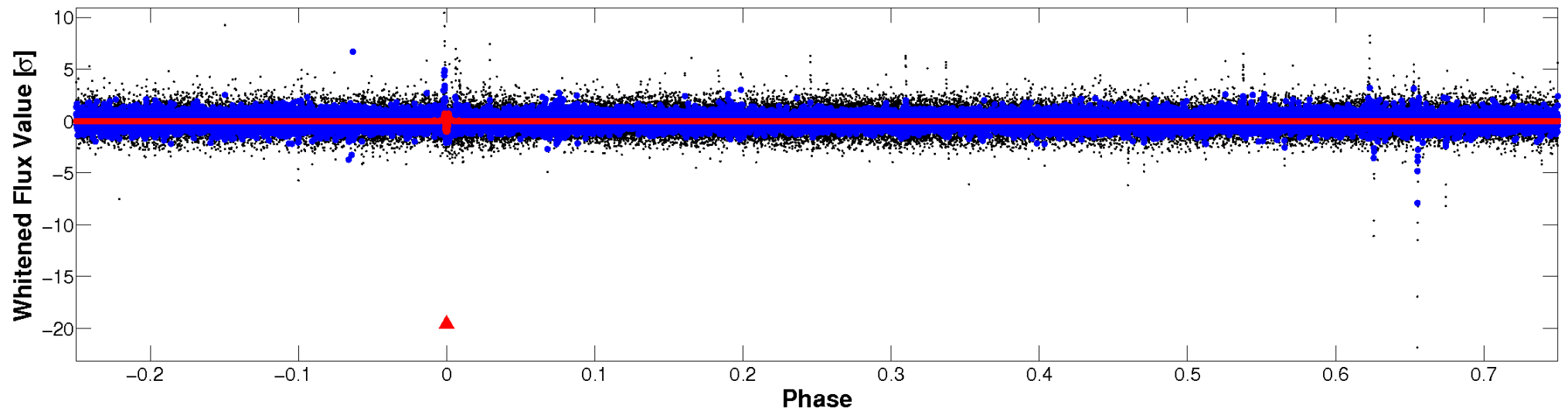


# Non-Whitened Vs. Whitened Light Curve

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

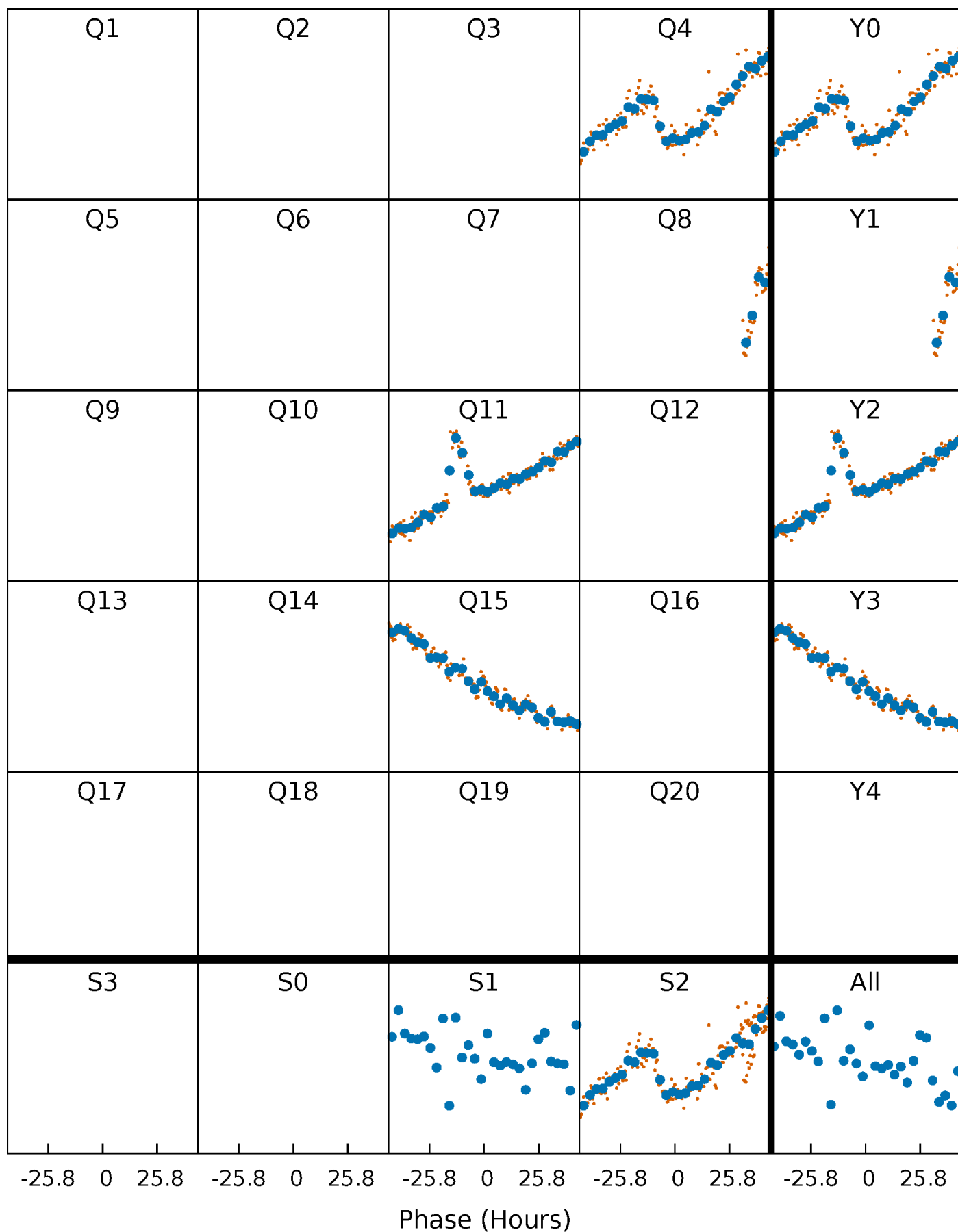


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

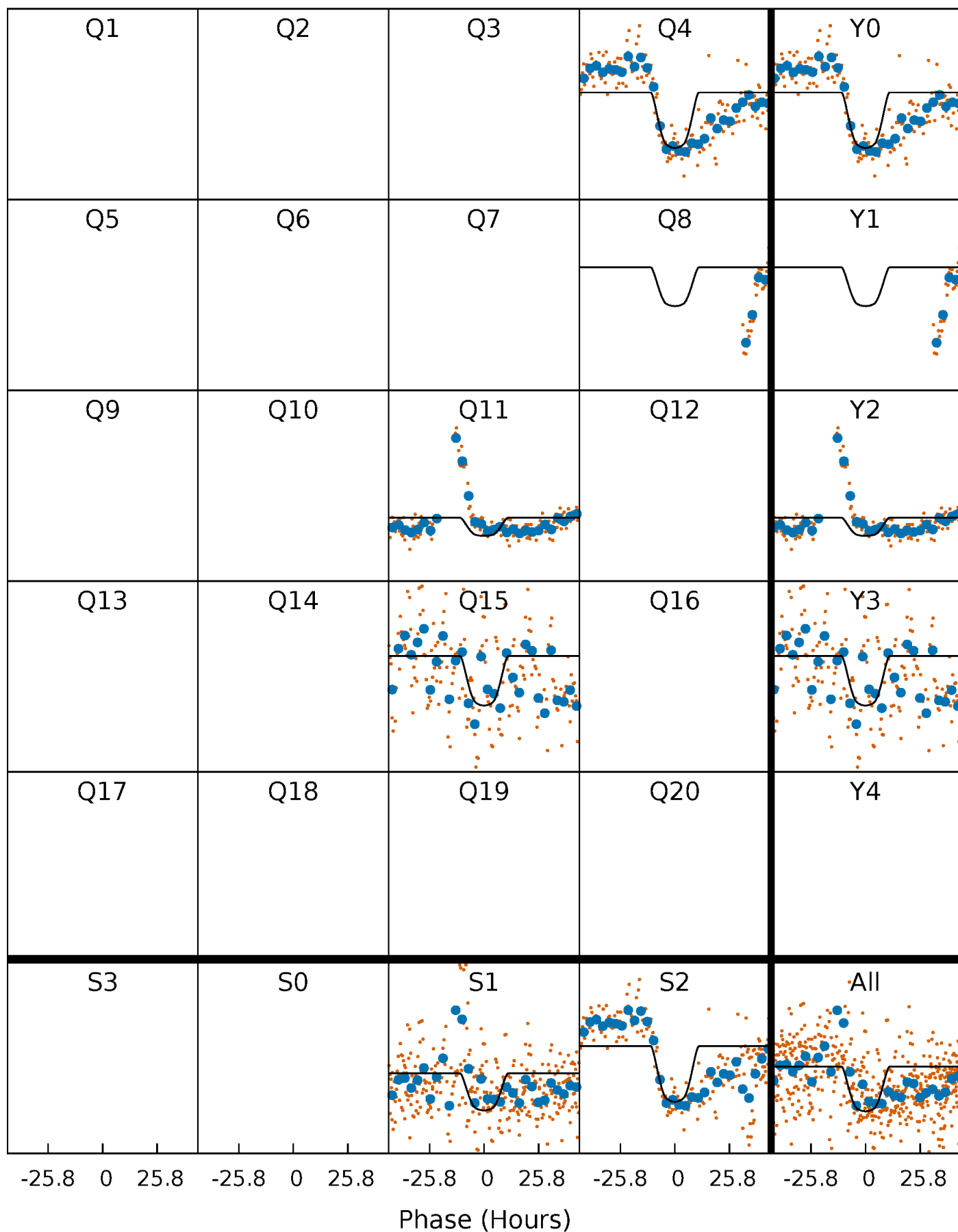
TCE 011457137-01 P=360.249197 Days  $T_0=373.793729$  (BKJD)





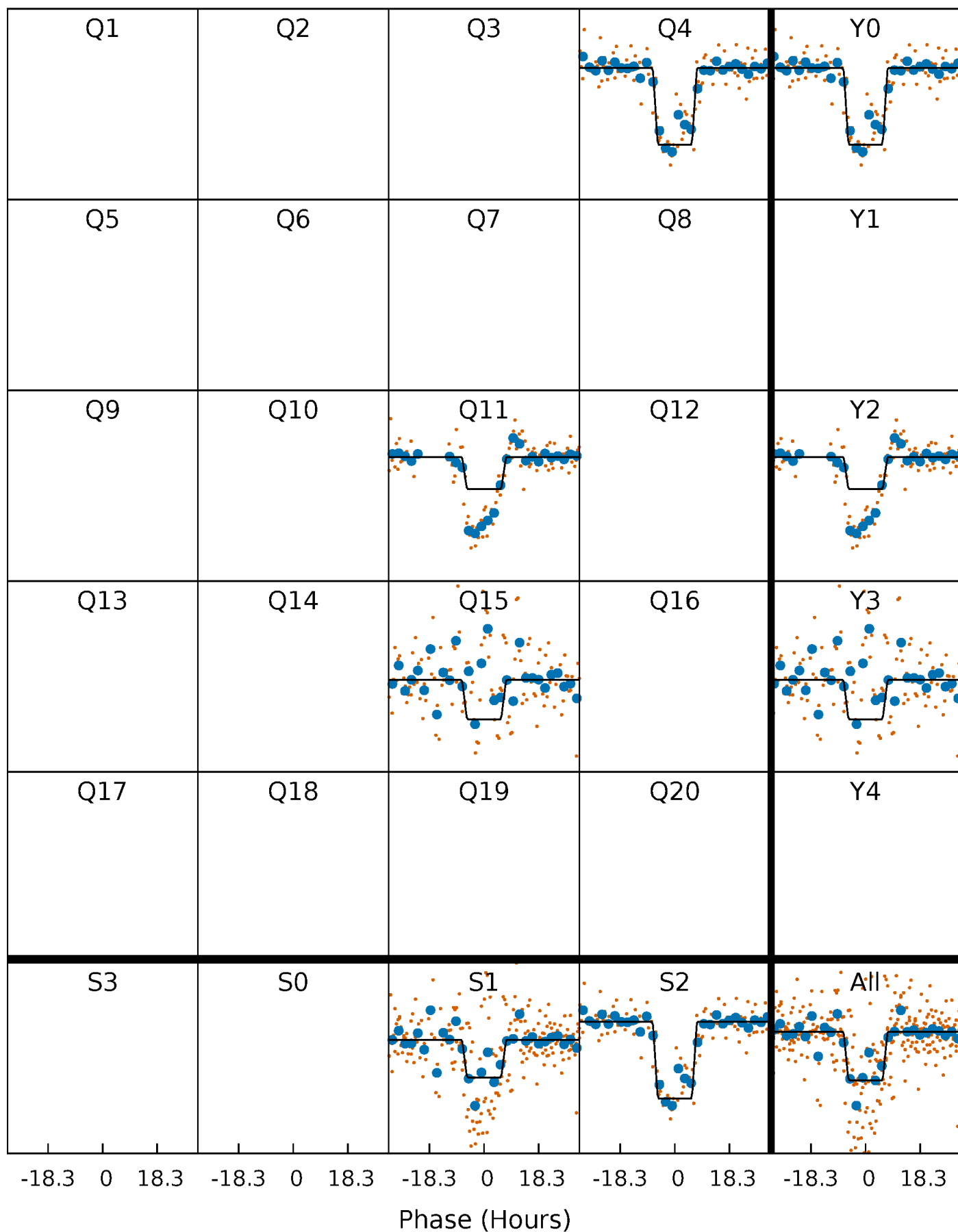
# DV Quarter-Phased Transit Curves

TCE 011457137-01 P=360.249197 Days  $T_0=373.793729$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

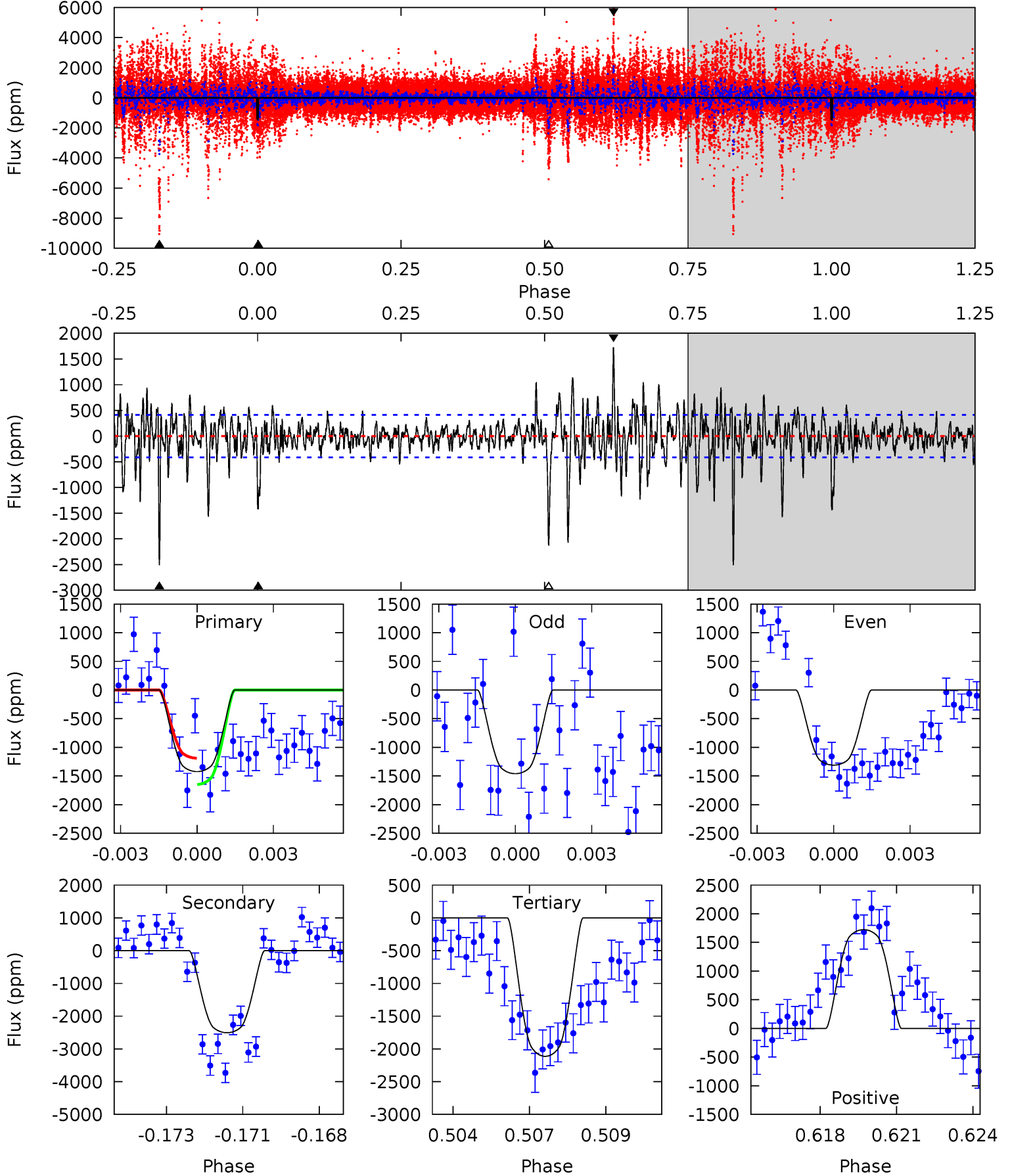
TCE 011457137-01 P=360.264096 Days  $T_0=373.709420$  (BKJD)



# DV Model-Shift Uniqueness Test

011457137-01, P = 360.249197 Days, E = 13.544532 Days

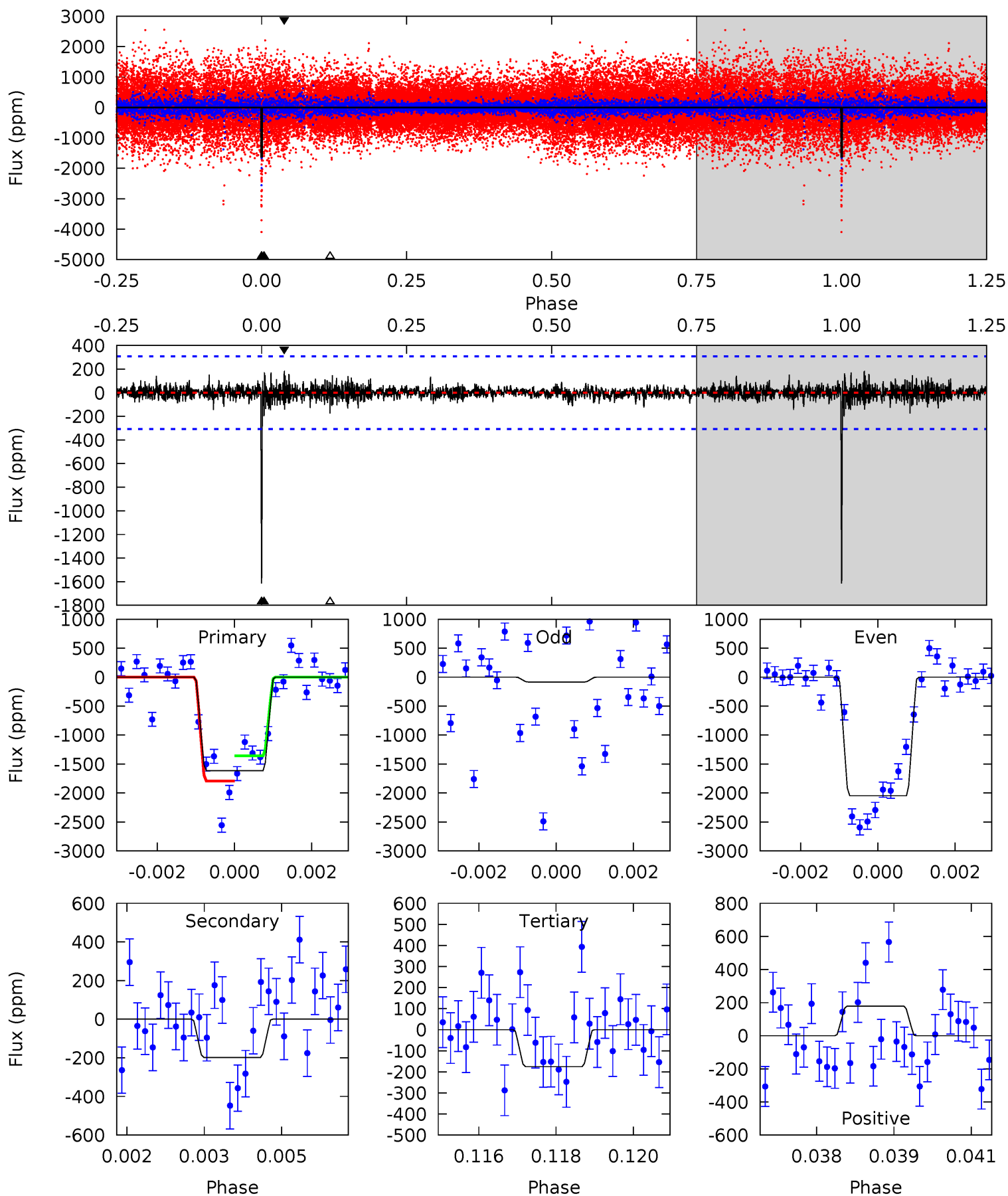
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	32.0	27.0	22.0	5.27	3.00	4.37	-8.80	-3.82	5.01	10.00	0.62	0.92	0.41	2.62



# Alt Model-Shift Uniqueness Test

011457137-01,  $P = 360.264096$  Days,  $E = 13.445324$  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
28.1	3.44	3.05	3.11	5.36	3.14	0.58	25.0	25.0	0.39	0.33	17.0	1.09	0.10	3.71



### Stellar Parameters For KIC 011457137

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5139^{+196}_{-179}$	$4.581^{+0.044}_{-0.072}$	$-0.180^{+0.300}_{-0.300}$	$0.746^{+0.097}_{-0.071}$	$0.775^{+0.088}_{-0.073}$	$2.630^{+0.565}_{-0.667}$
	+4%/-3%	+1%/-2%	+167%/-167%	+13%/-10%	+11%/-9%	+21%/-25%
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 011457137-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-2506 \pm 78$	$4.04^{+0.43}_{-0.38}$	$289^{+12}_{-12}$	$5183^{+300}_{-244}$	$69851^{+14025}_{-11798}$
Alt.	$-198 \pm 57$	$3.18^{+0.39}_{-0.37}$	$289^{+13}_{-12}$	$3512^{+235}_{-217}$	$8749^{+3346}_{-2958}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

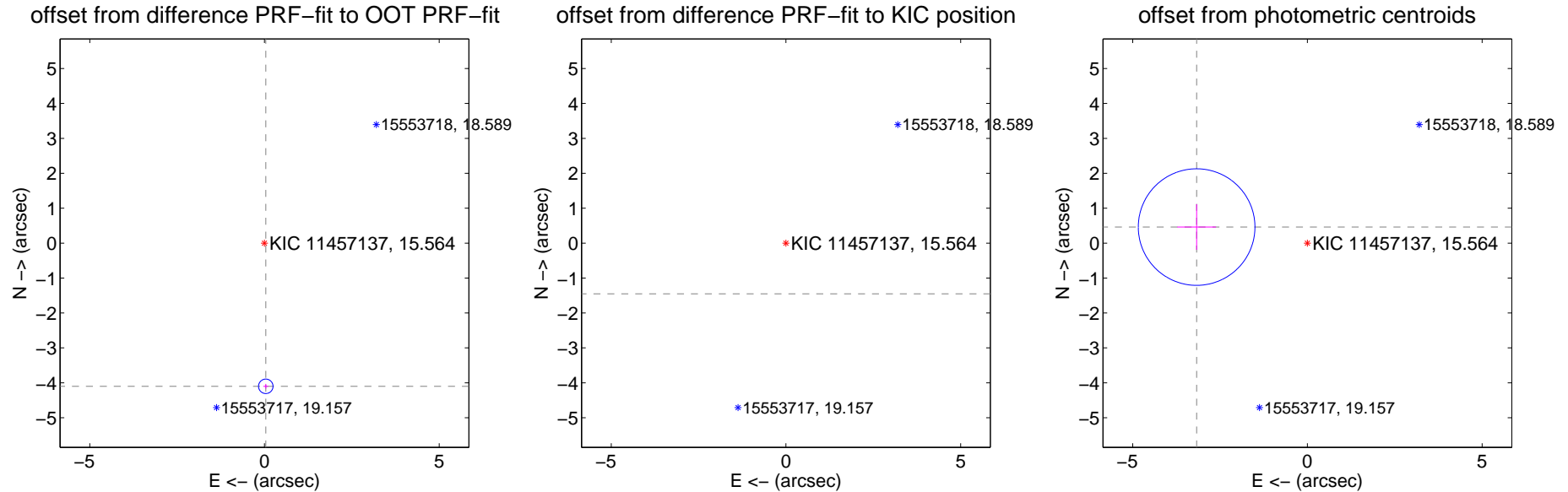
## DV Centroid Data

Supplemental centroid analysis for 011457137-01. Kepler magnitude: 15.56. Transit SNR 10.71

There are 1 quarters with good PRF difference image offsets

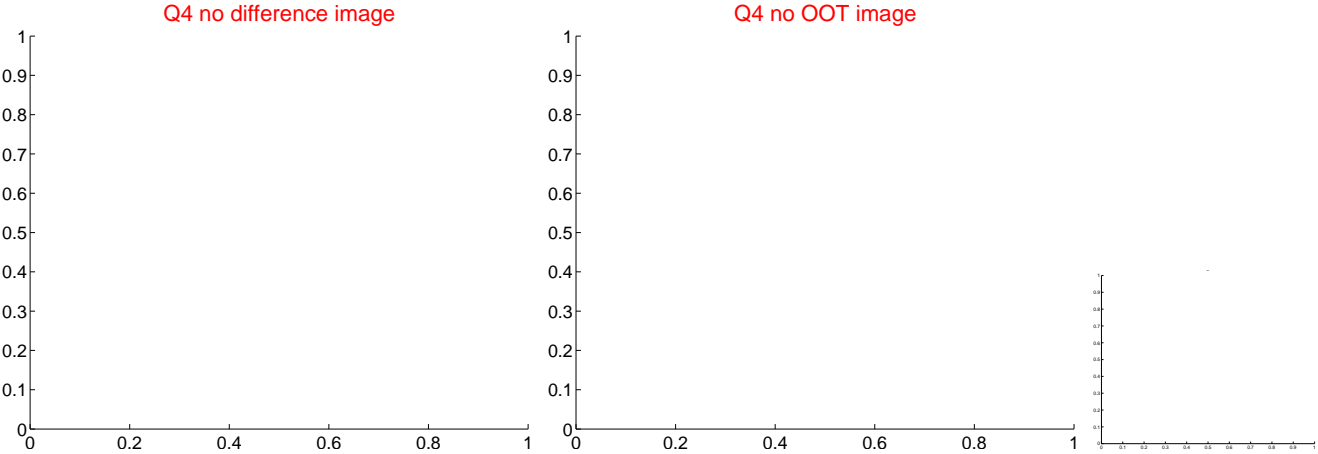
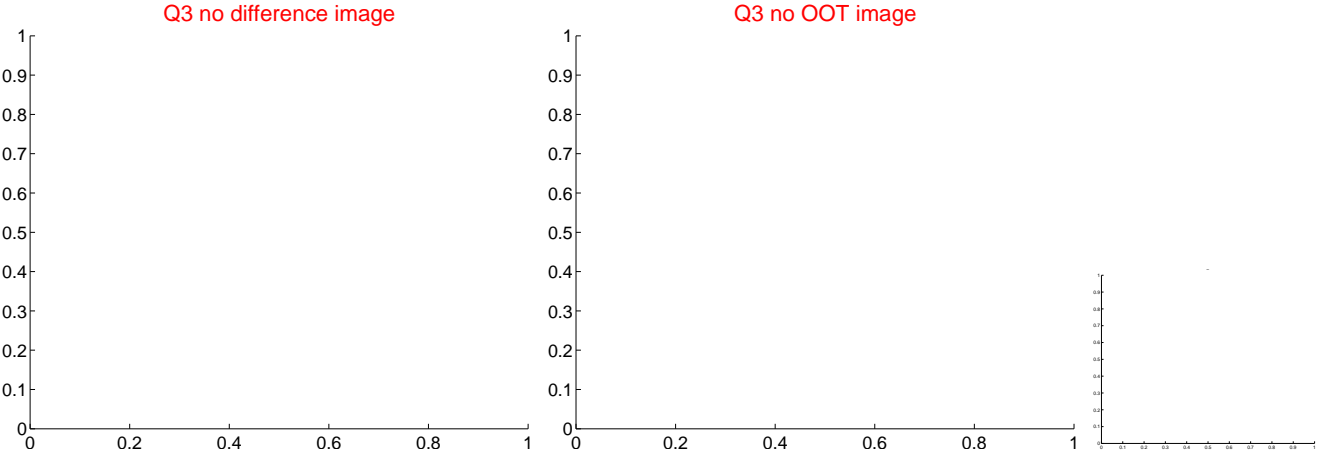
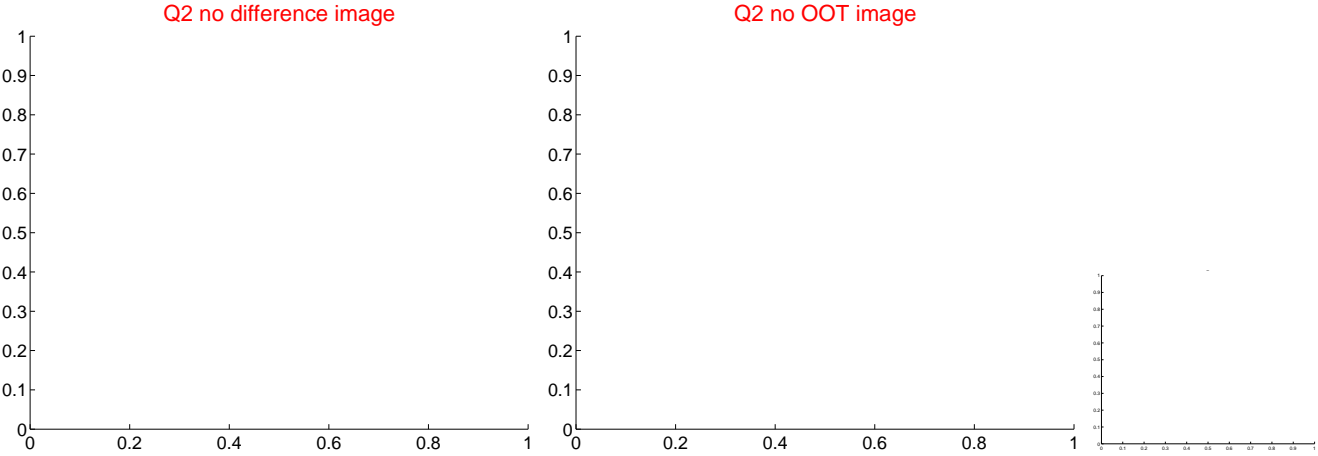
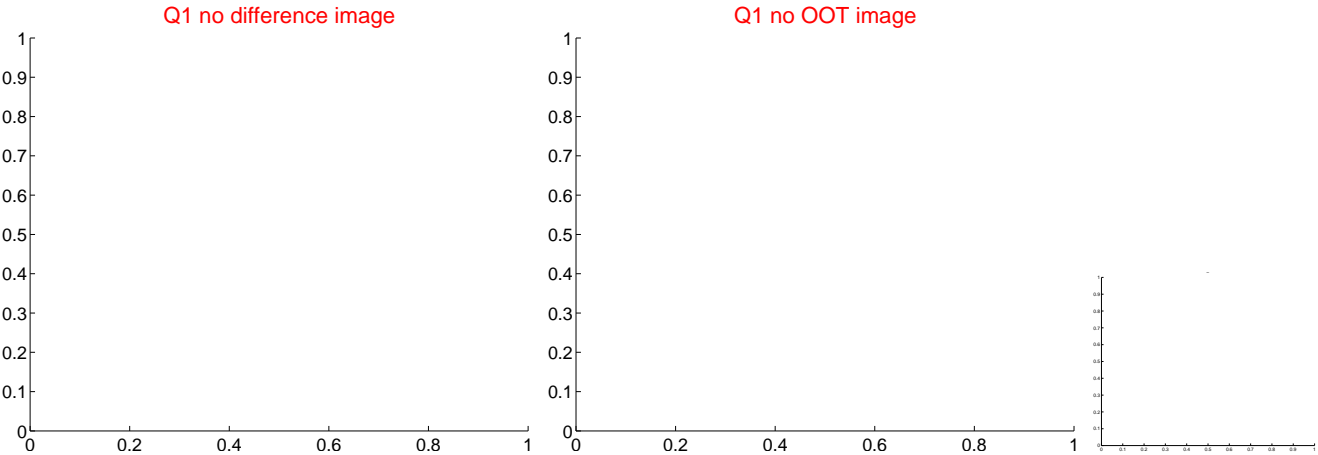
The OOT PRF centroid is offset from the target star catalog position by about 8.61 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.101 \pm 0.069$	59.33	$-0.037 \pm 0.070$	$-4.100 \pm 0.069$
PRF-fit source offset from KIC position	$8.283 \pm 0.070$	117.70	$8.155 \pm 0.070$	$-1.451 \pm 0.069$
photometric centroid source offset	$3.20 \pm 0.56$	5.76	$3.17 \pm 0.55$	$0.46 \pm 0.65$



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.

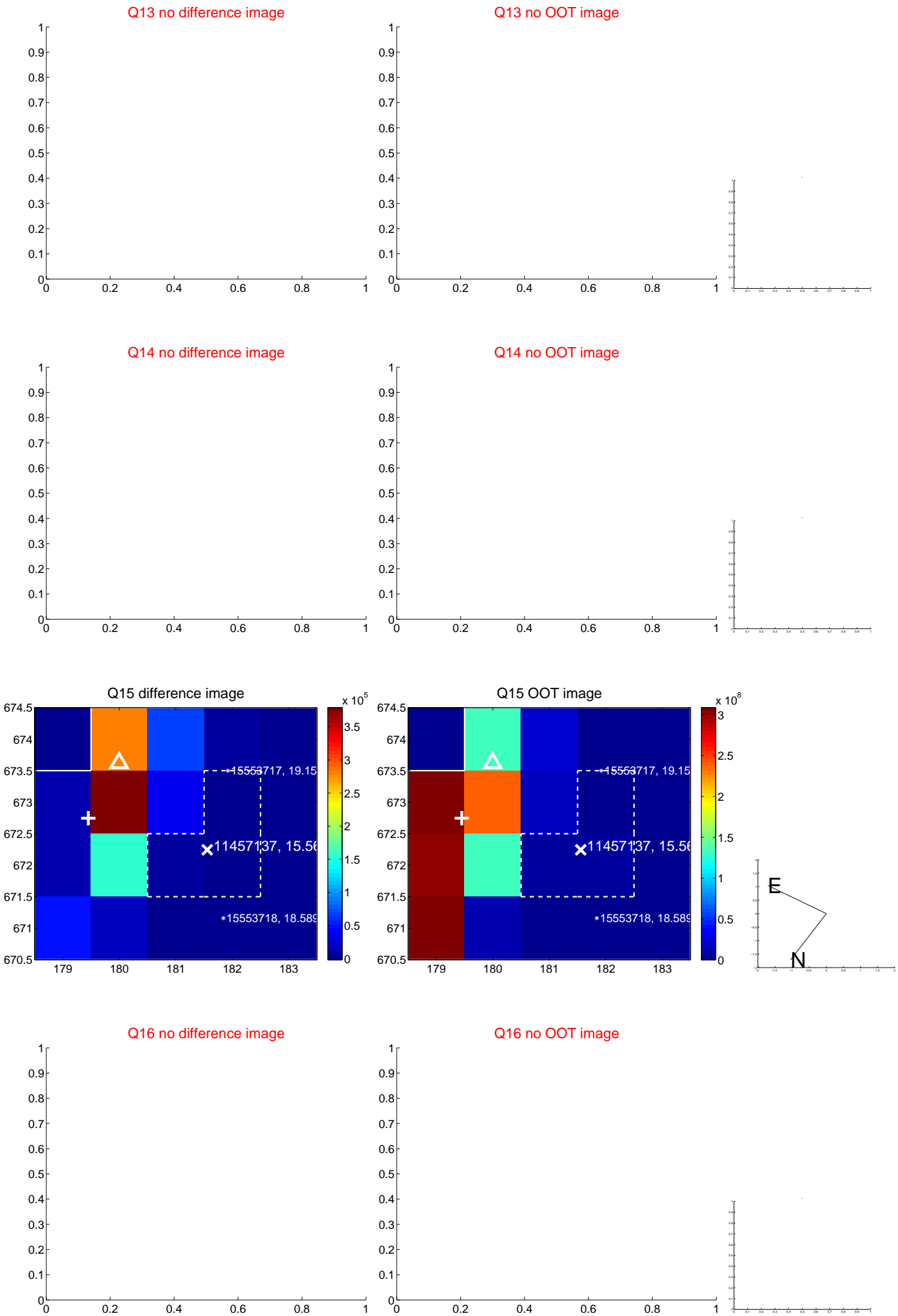




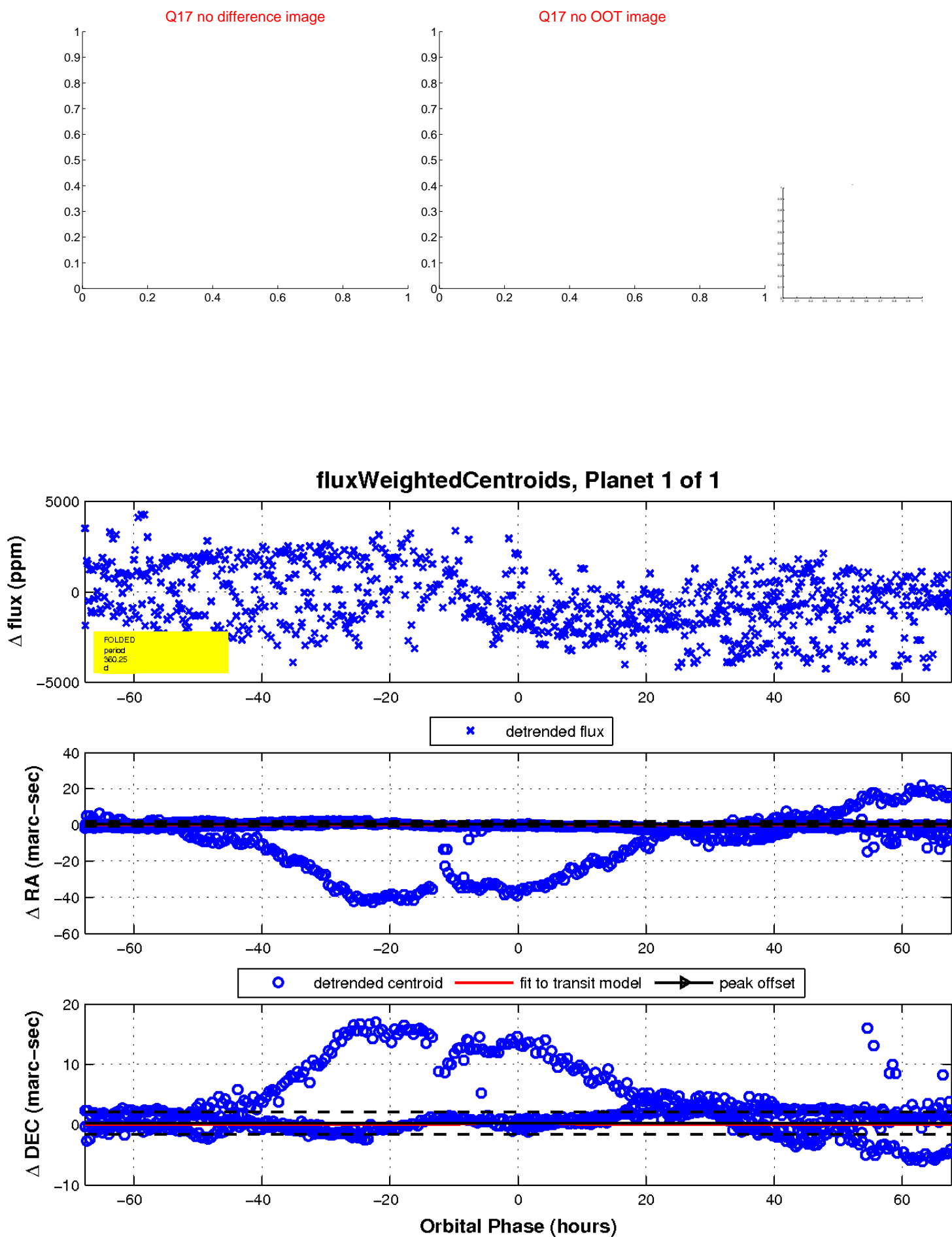
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : 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

