

# KIC 005811357

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005811357-01	OBS	No	369.654428	373.698332	802.2	18.791	11.5	11.2	1.83	7257	6.37	6.15

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005811357-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

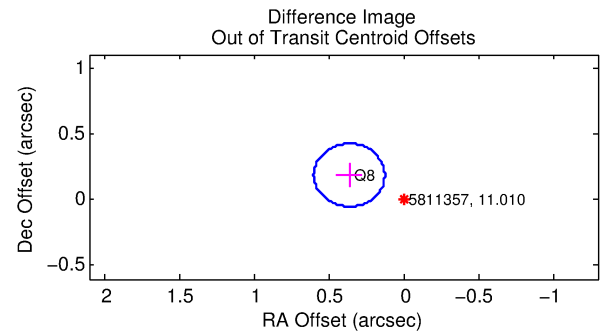
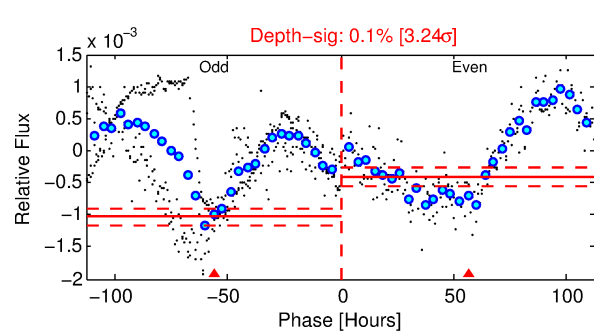
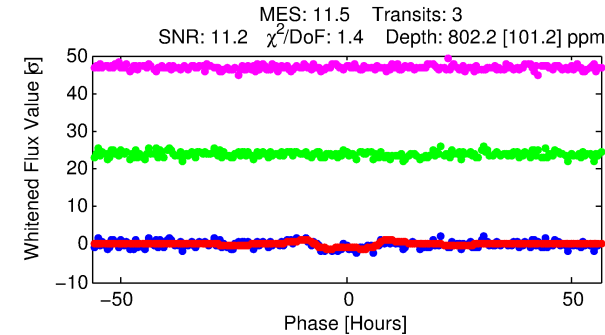
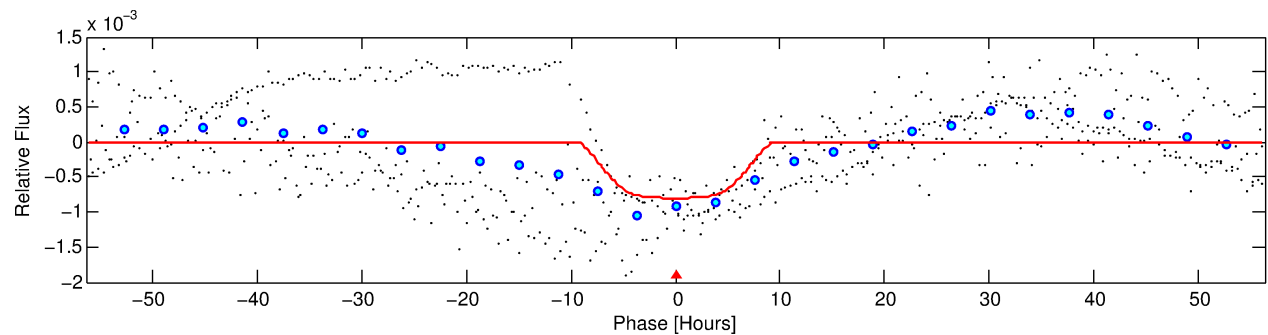
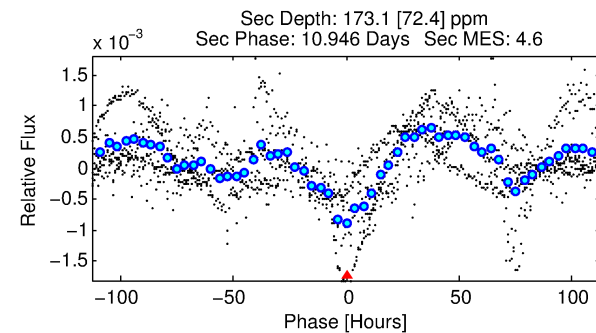
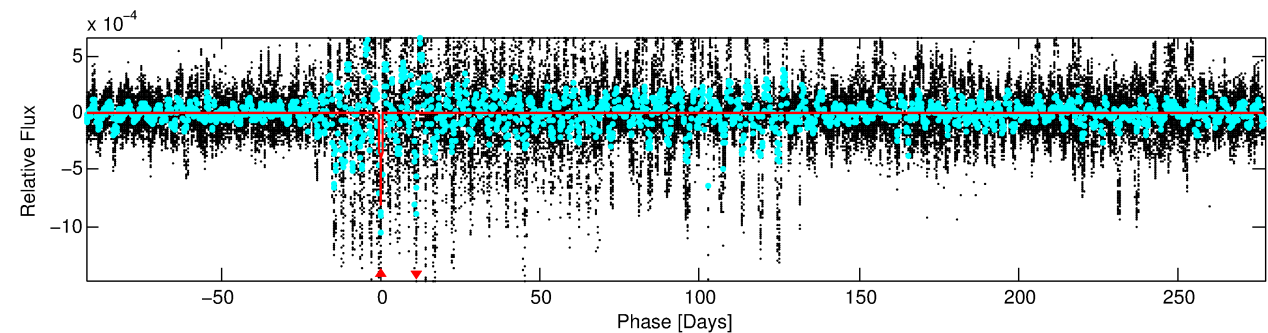
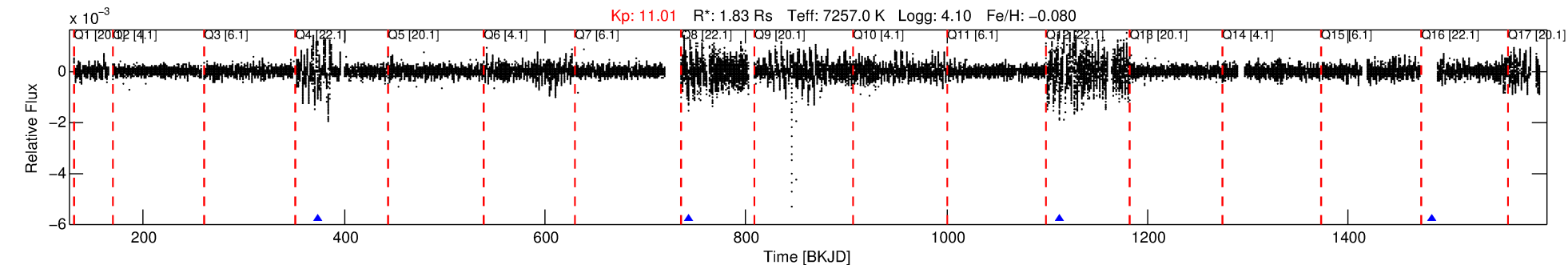
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005811357-01

No Significant Match Found

# DV One-Page Summary

KIC: 5811357 Candidate: 1 of 1 Period: 369.654 d



## DV Fit Results:

Period = 369.65443 [0.01463] d  
Epoch = 373.6983 [0.0154] BKJD  
Rp/R\* = 0.0319 [0.0021]  
a/R\* = 59.26 [5.02]  
b = 0.95 [0.01]  
Seff = 6.15 [2.30]  
Teq = 402 [38] K  
Rp = 6.37 [1.92] Re  
a = 1.1624 [0.2792] AU  
Ag = 3172.03 [1763.88] [1.80σ]  
Teffp = 4660 [542] K [7.84σ]

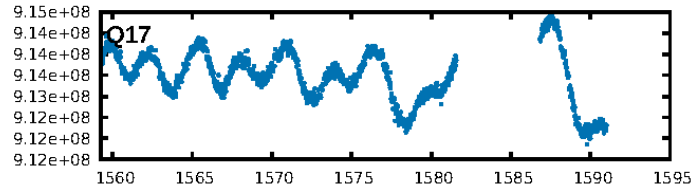
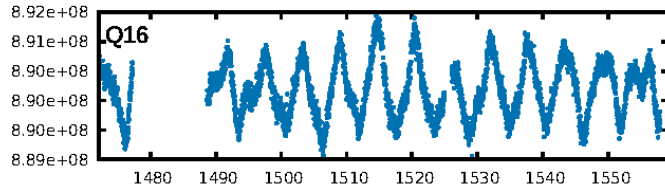
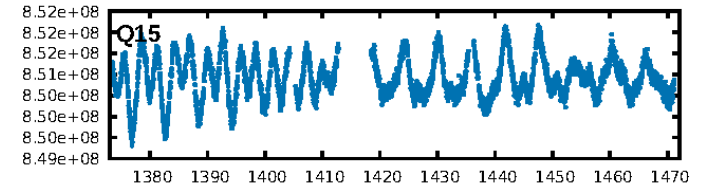
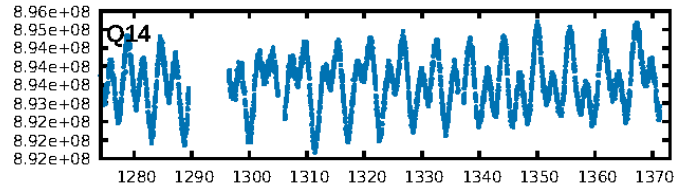
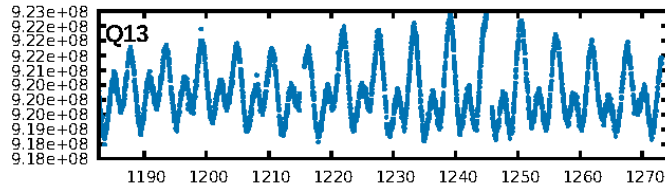
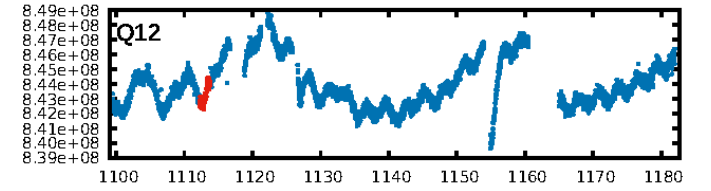
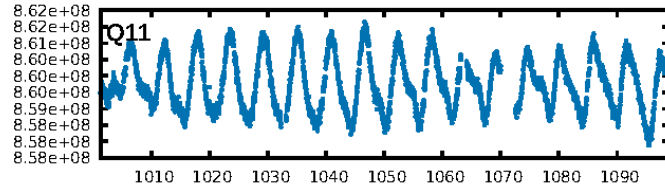
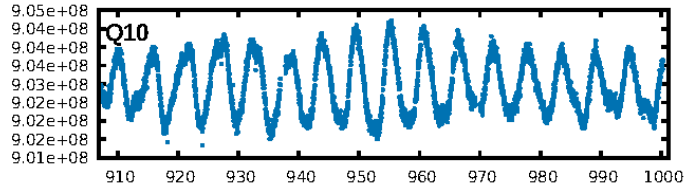
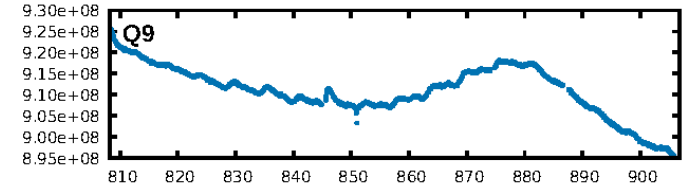
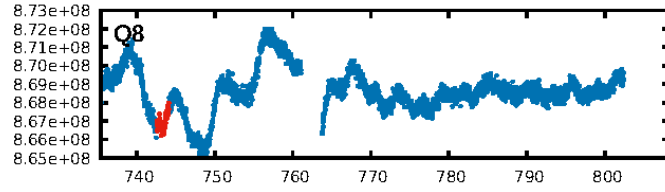
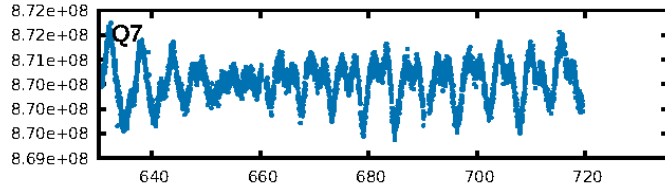
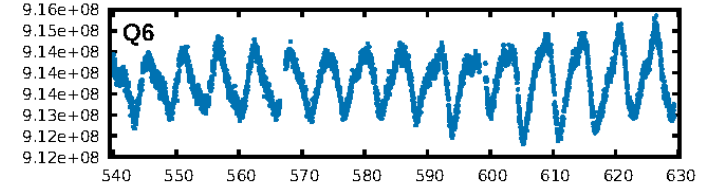
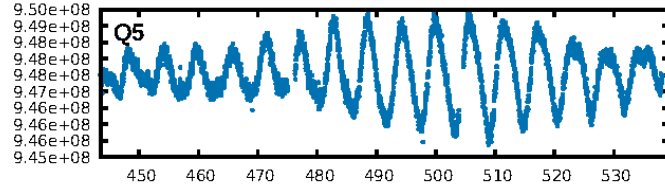
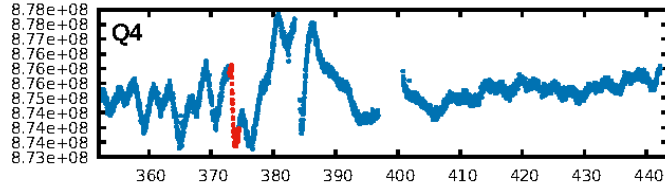
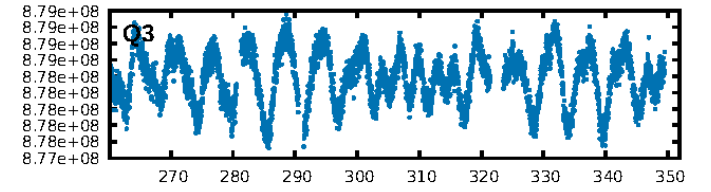
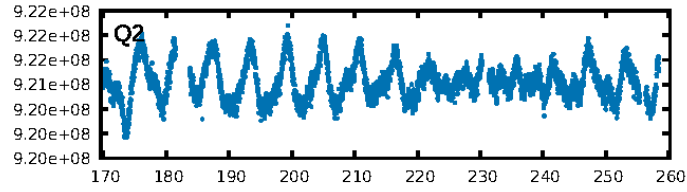
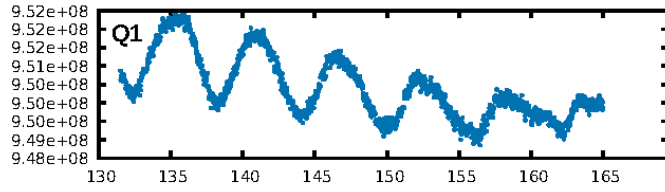
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.3%  
ModelChiSquareGof-sig: 68.6%  
**Bootstrap-pfa: 1.24e-10**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -1.231  
Centroid-sig: 1.2%  
Centroid-so: 0.347 arcsec [1.09σ]  
**OotOffset-rm: 0.407 arcsec [5.13σ]**  
**KicOffset-rm: 0.562 arcsec [7.08σ]**  
OotOffset-st: 0/0/1/0 [1]  
KicOffset-st: 0/0/1/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [1/1]

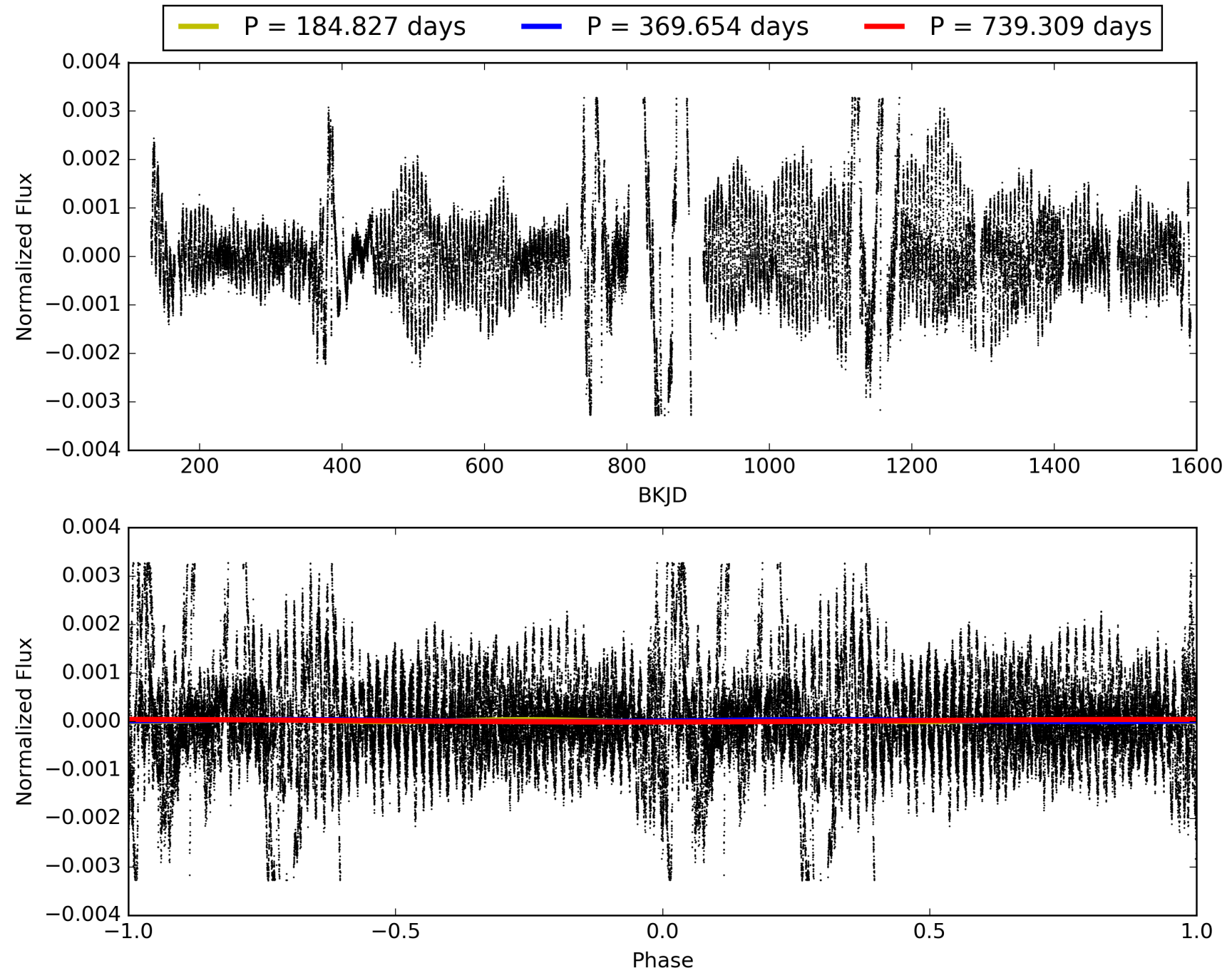
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:51:11 Z

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

# TCE 005811357-01, PDC Light Curves

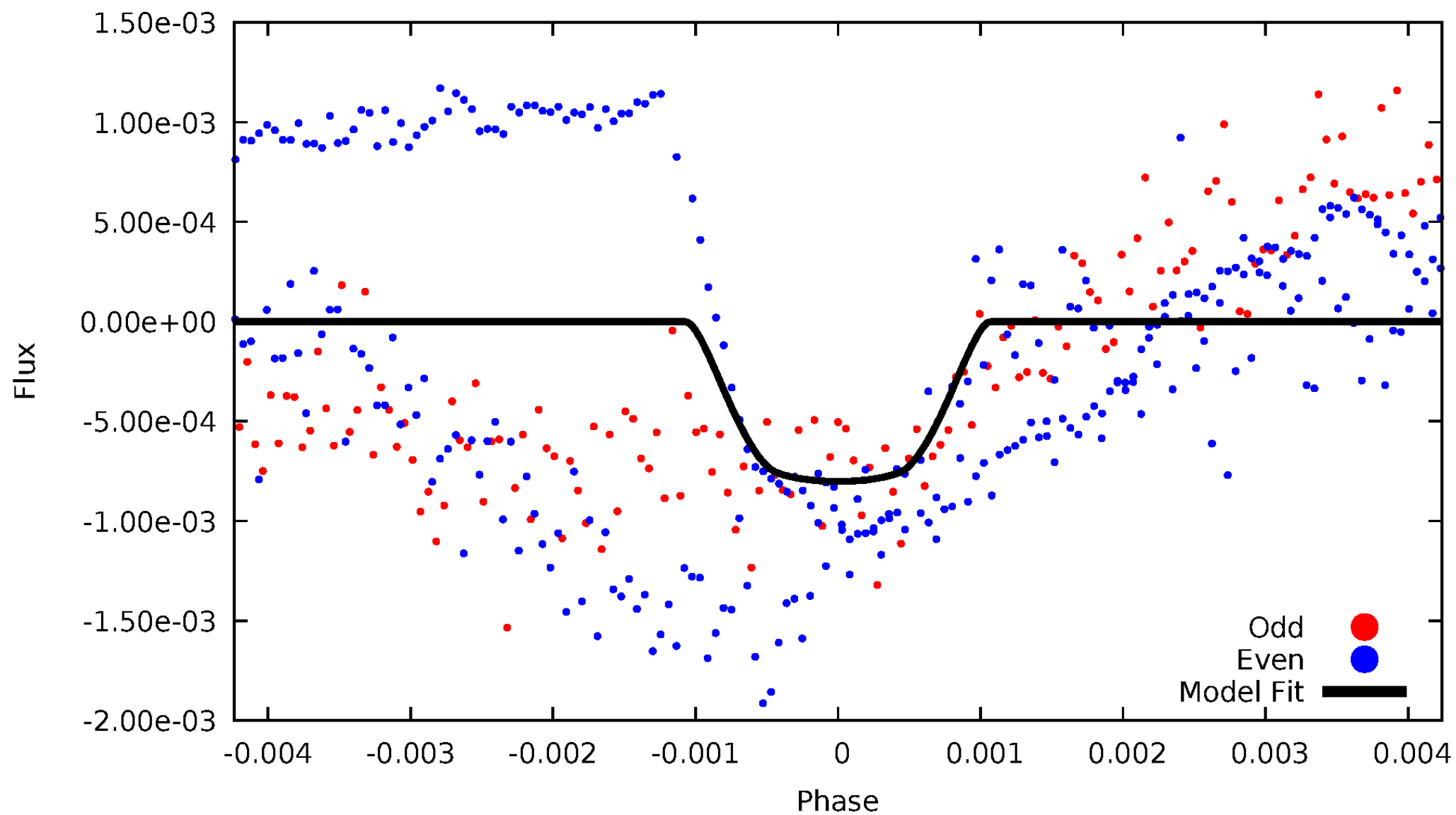


TCE 005811357-01



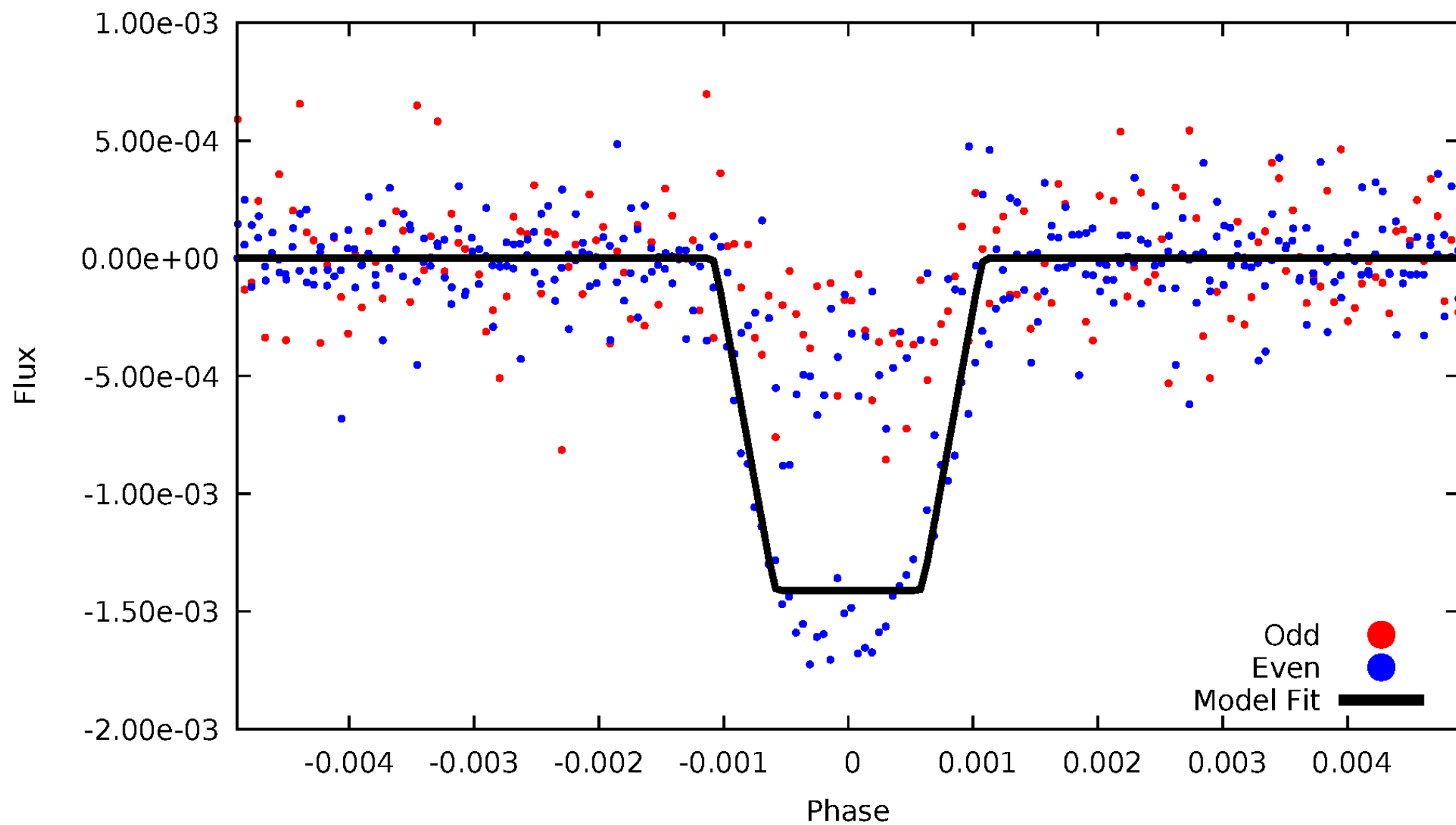
# DV Odd/Even

TCE 005811357-01



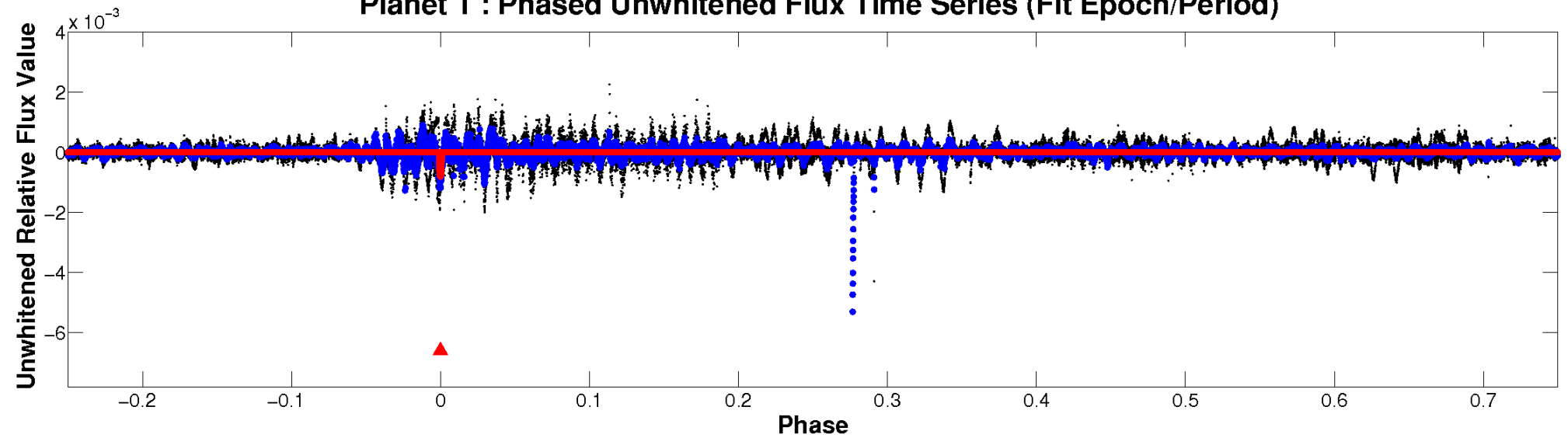
# ALT Odd/Even

TCE 005811357-01

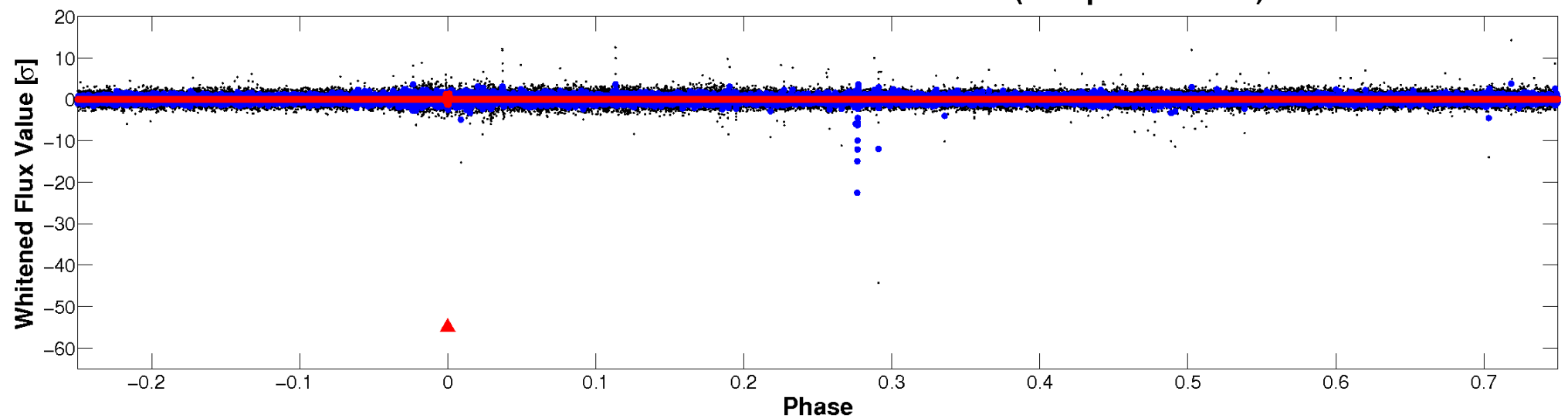


# Non-Whitened Vs. Whitened Light Curve

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

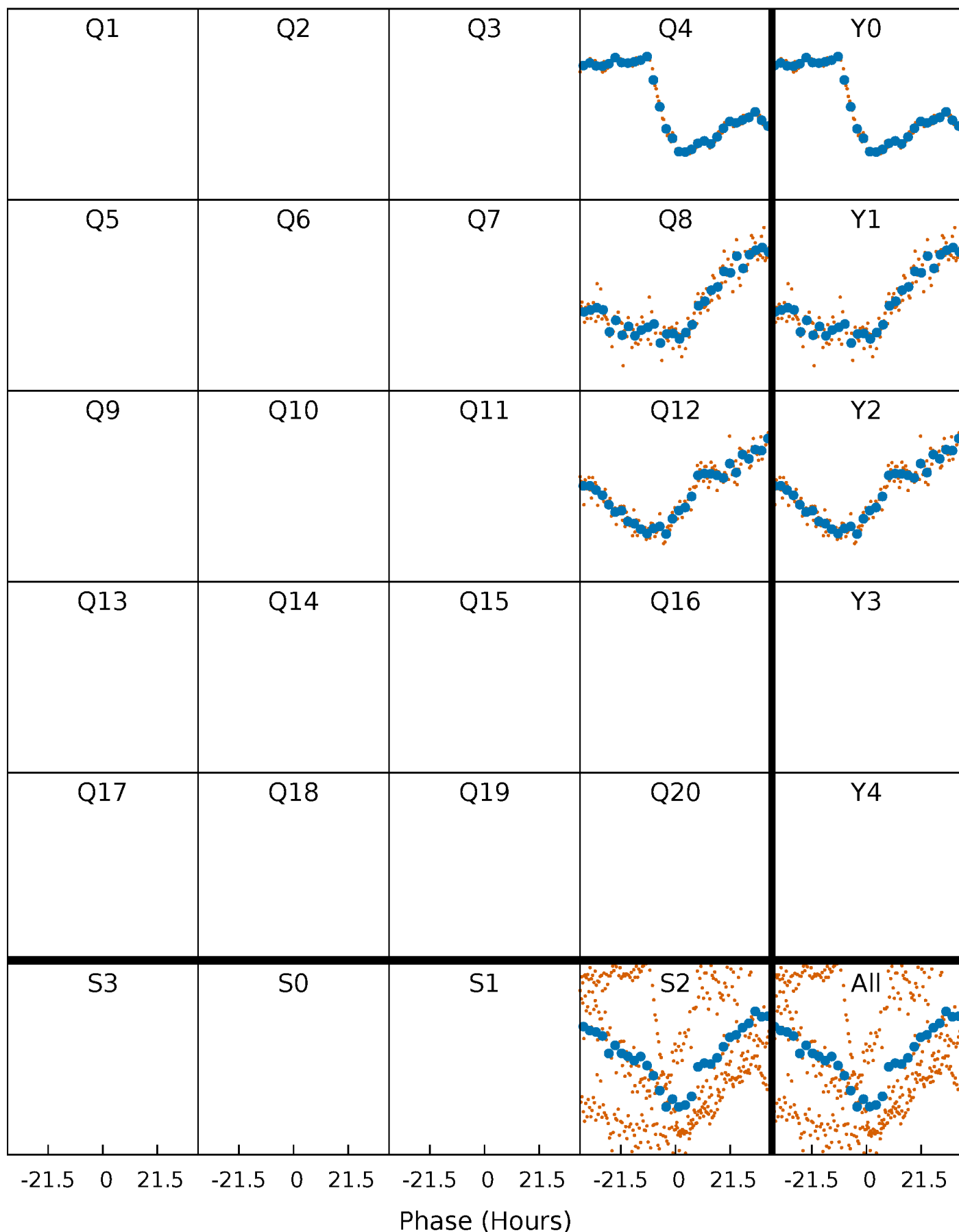


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

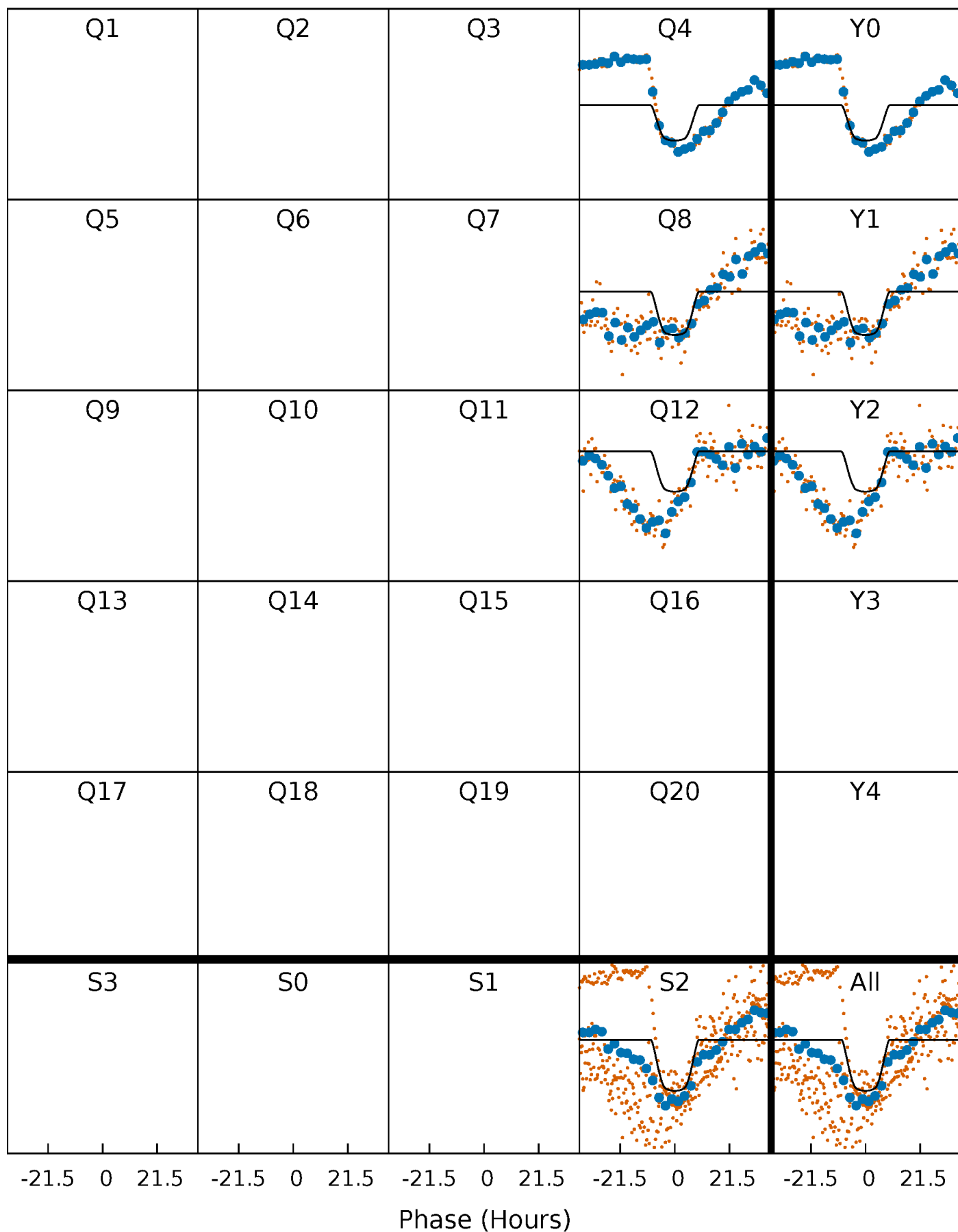
TCE 005811357-01 P=369.654428 Days  $T_0=373.698332$  (BKJD)





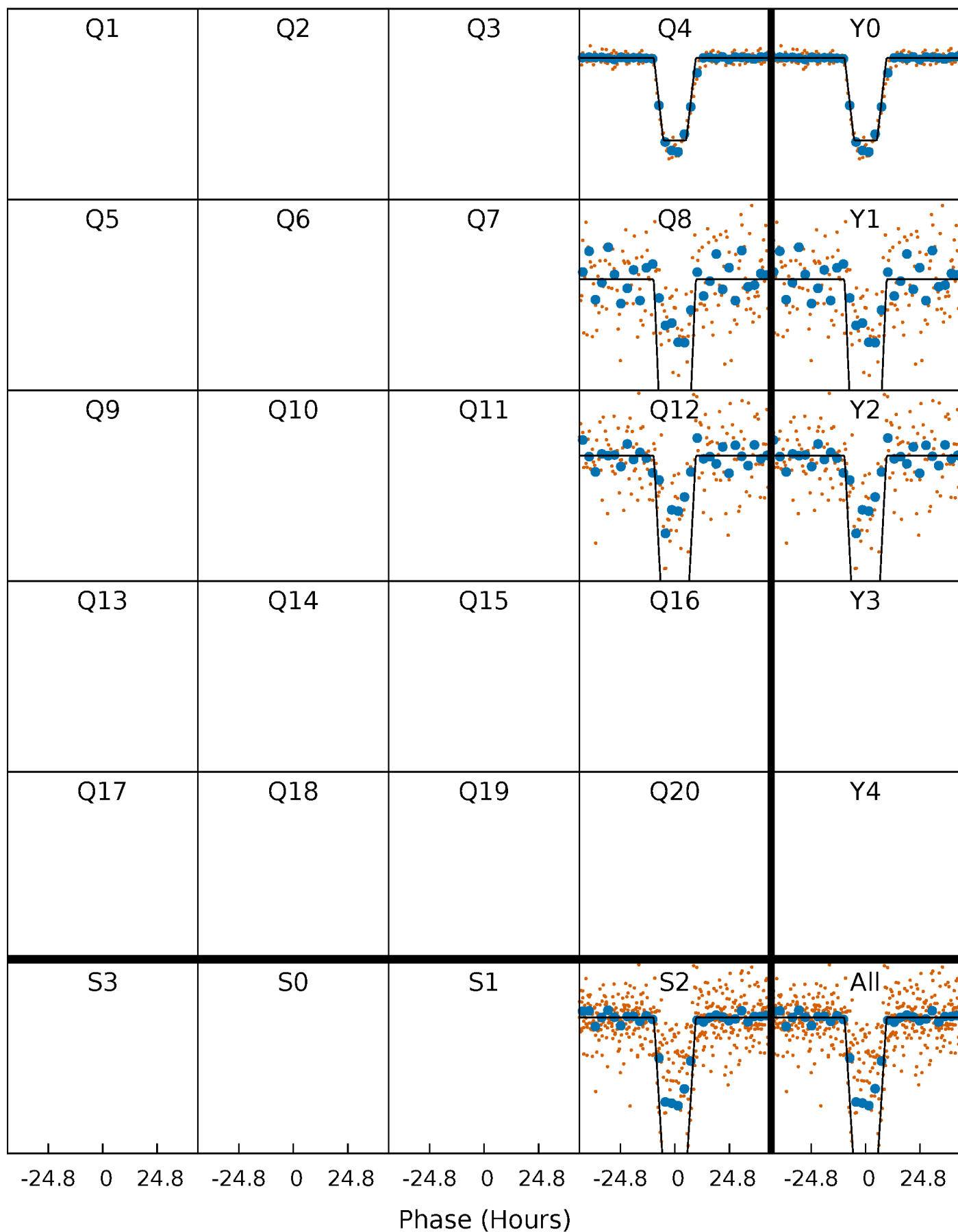
# DV Quarter-Phased Transit Curves

TCE 005811357-01 P=369.654428 Days  $T_0=373.698332$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

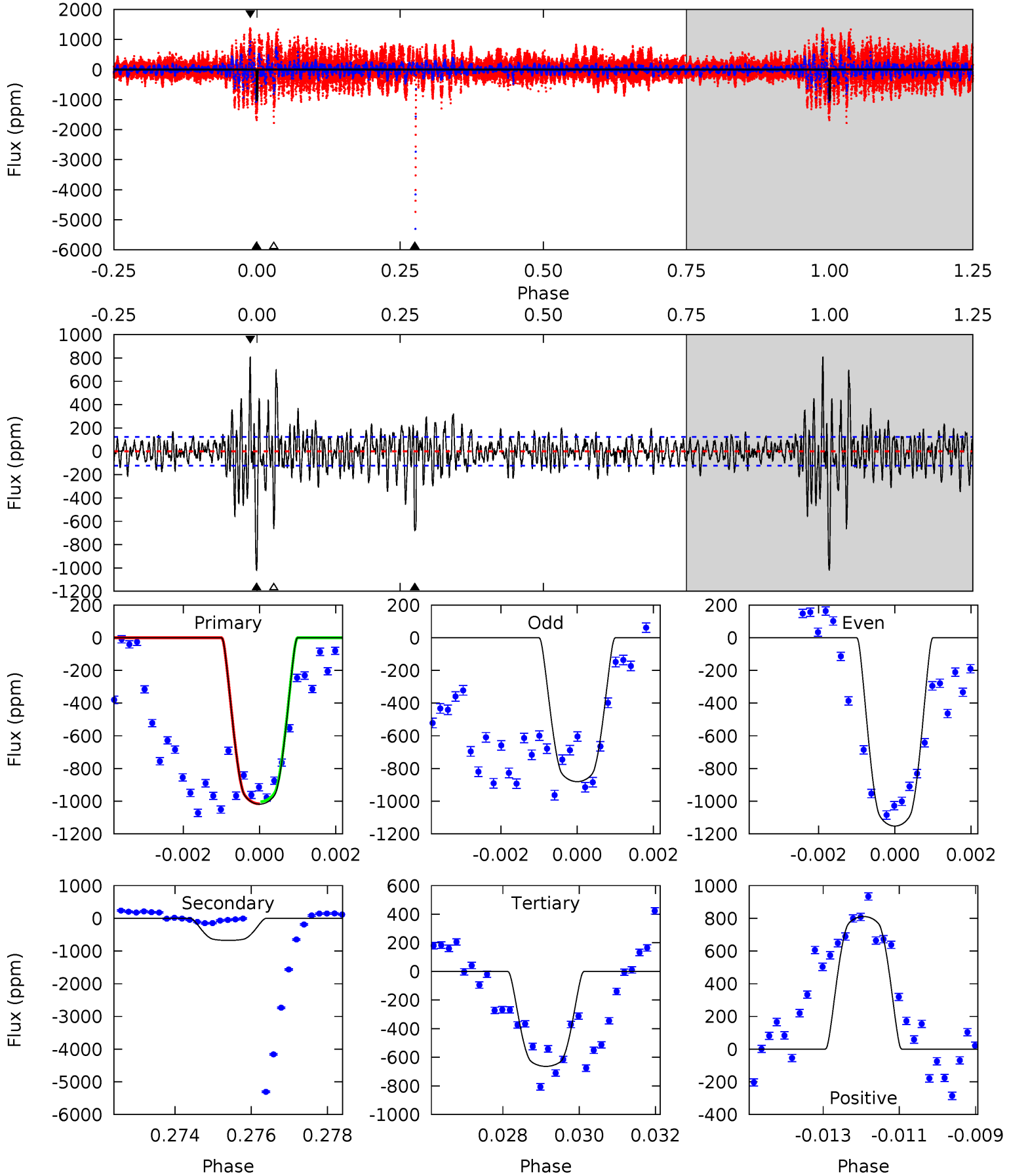
TCE 005811357-01 P=369.663534 Days  $T_0=373.679784$  (BKJD)



# DV Model-Shift Uniqueness Test

005811357-01, P = 369.654428 Days, E = 4.043904 Days

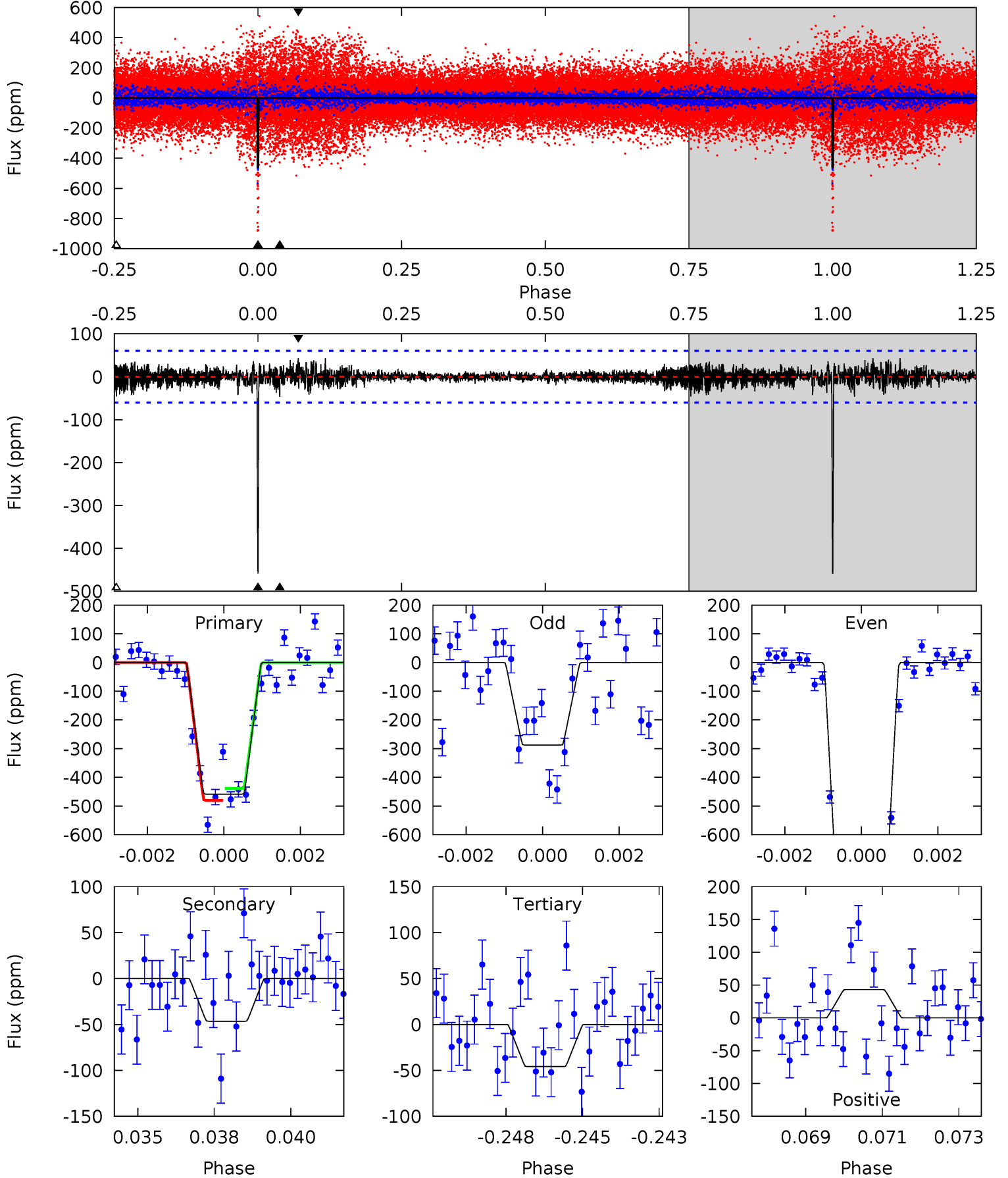
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.9	29.2	28.6	35.0	5.31	3.07	5.36	15.3	8.95	0.57	-5.78	5.24	1.08	0.44	0.27



# Alt Model-Shift Uniqueness Test

005811357-01, P = 369.663534 Days, E = 4.016250 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
40.4	4.10	4.04	3.80	5.31	3.06	0.86	36.4	36.6	0.06	0.30	36.7	1.72	0.09	1.84



### Stellar Parameters For KIC 005811357

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7257^{+201}_{-277}$	$4.099^{+0.165}_{-0.182}$	$-0.080^{+0.200}_{-0.350}$	$1.829^{+0.536}_{-0.439}$	$1.529^{+0.212}_{-0.259}$	$0.352^{+0.319}_{-0.167}$
	+3%/-4%	+4%/-4%	+250%/-438%	+29%/-24%	+14%/-17%	+91%/-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 005811357-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-677 \pm 23$	$6.30^{+1.17}_{-0.87}$	$563^{+41}_{-41}$	$6489^{+331}_{-324}$	$12453^{+4038}_{-3295}$
Alt.	$-47 \pm 11$	$7.54^{+1.26}_{-1.02}$	$561^{+46}_{-36}$	$3517^{+154}_{-168}$	$583^{+233}_{-192}$

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

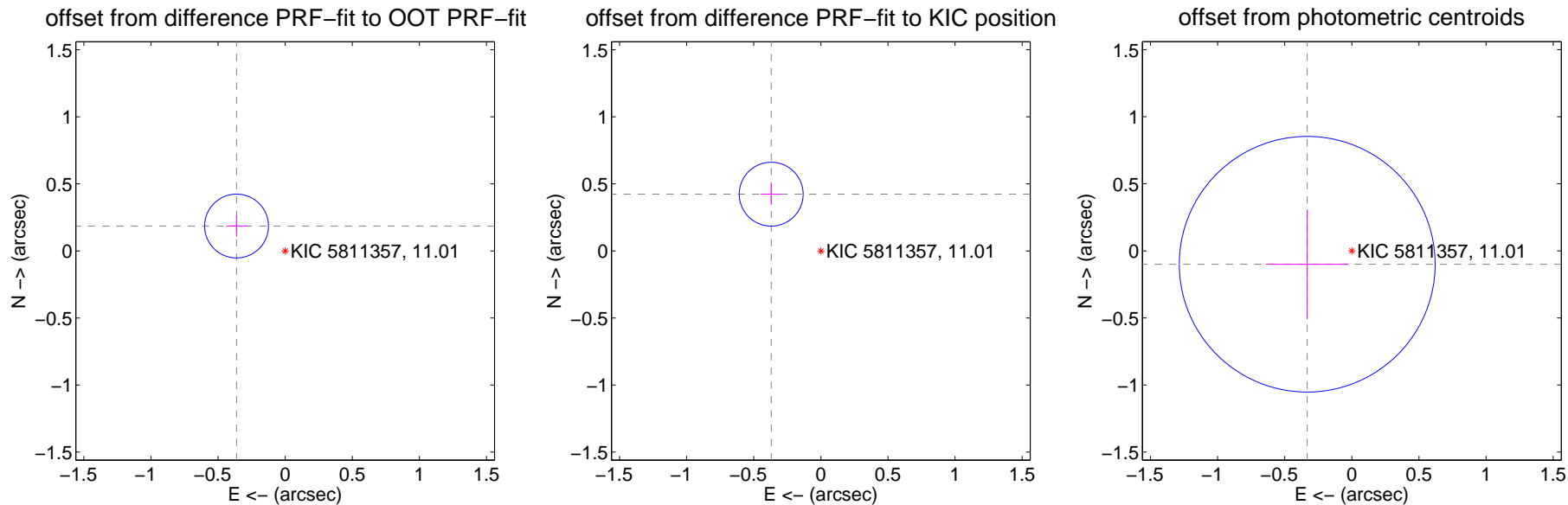
## DV Centroid Data

Supplemental centroid analysis for 005811357-01. **Kepler magnitude: 11.01.** Transit SNR 11.18

**There are 1 quarters with good PRF difference image offsets**

The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>0.407 <math>\pm</math> 0.079</b>	<b>5.13</b>	0.362 $\pm$ 0.079	0.186 $\pm$ 0.079
PRF-fit source offset from KIC position	<b>0.562 <math>\pm</math> 0.079</b>	<b>7.08</b>	0.370 $\pm$ 0.079	0.423 $\pm$ 0.079
photometric centroid source offset	0.35 $\pm$ 0.32	1.09	0.33 $\pm$ 0.31	-0.10 $\pm$ 0.41

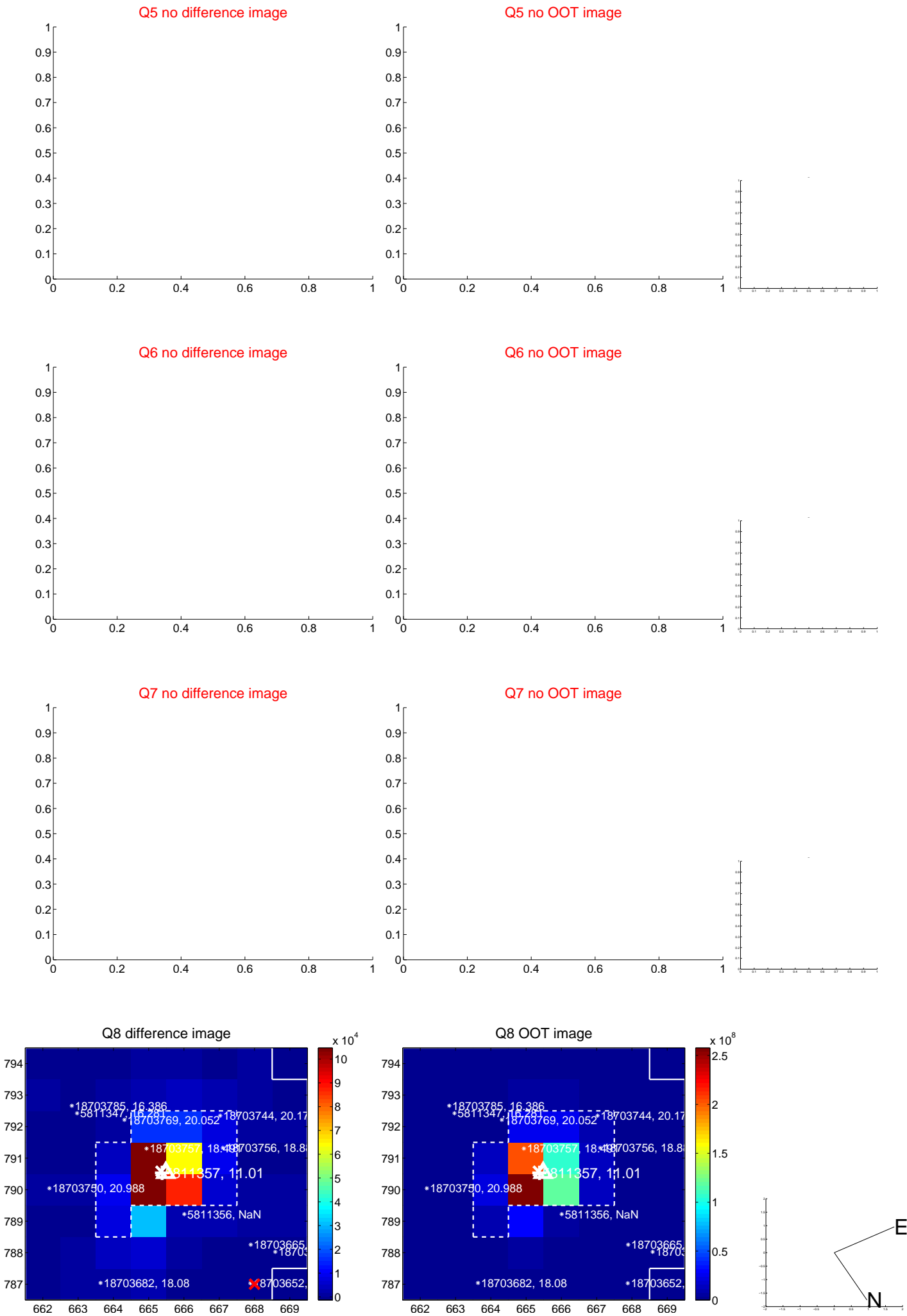


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



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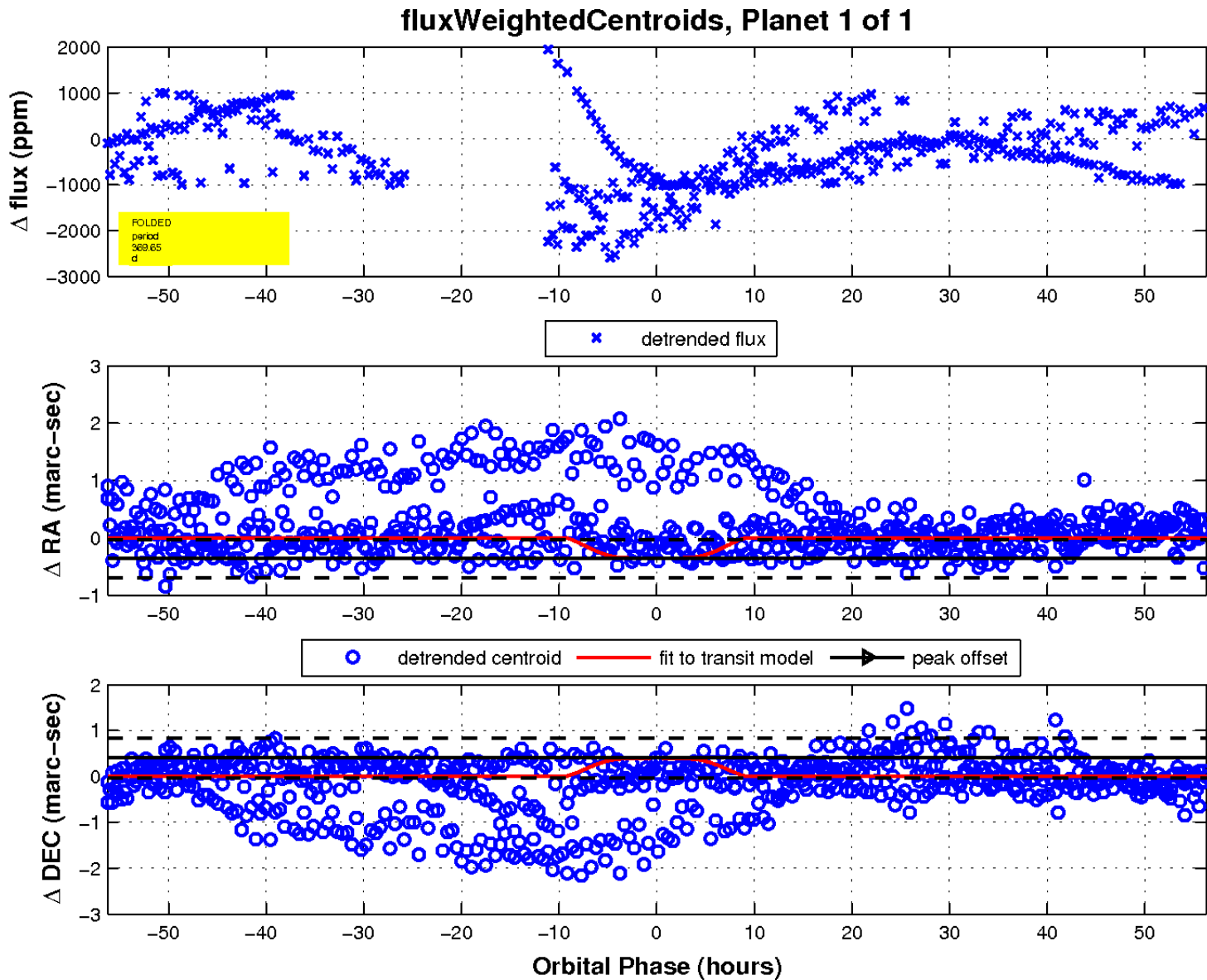
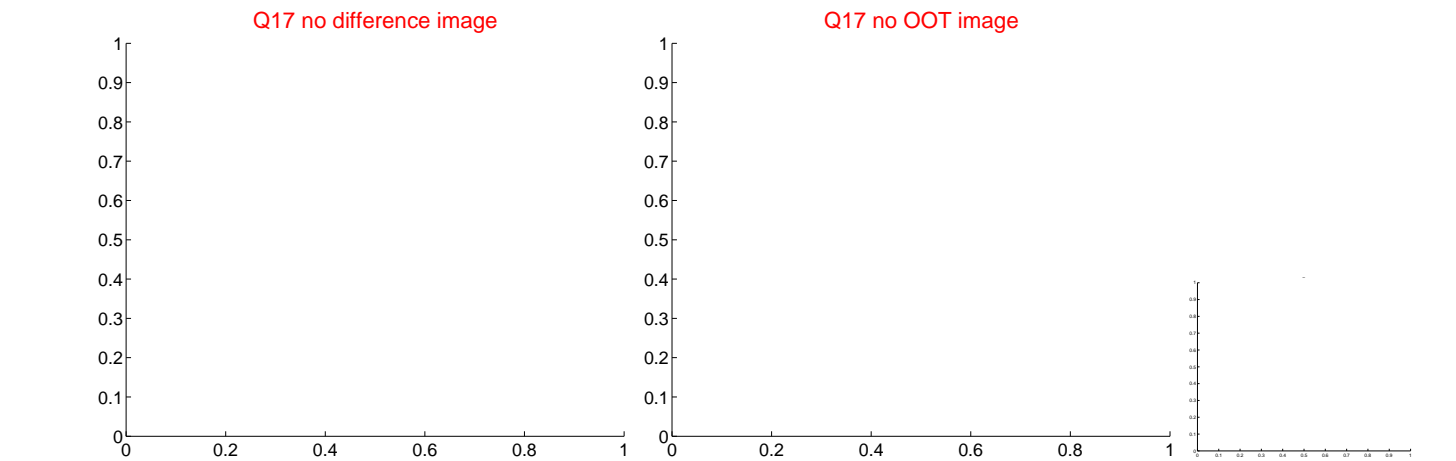
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

