

# KIC 004557341

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004557341-01	OBS	8094.01	361.904126	405.297472	201.1	5.160	7.2	7.0	0.72	5053	1.17	0.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004557341-01	OBS	FP	0.01	1	0	1	0	INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

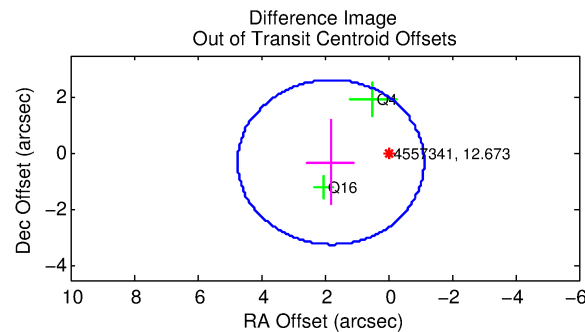
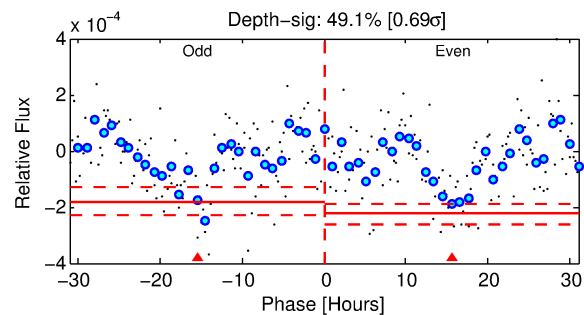
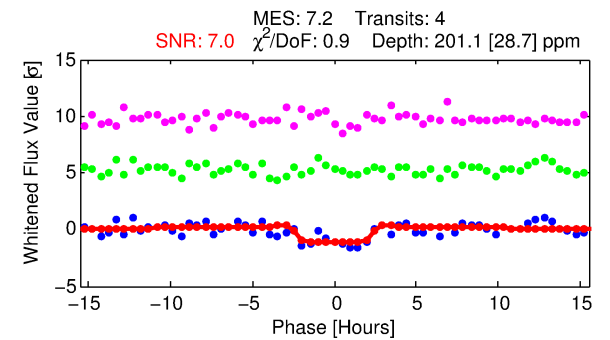
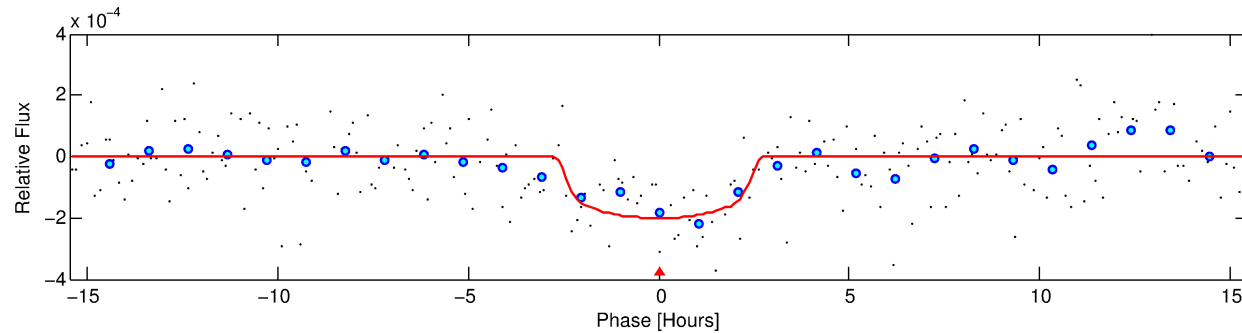
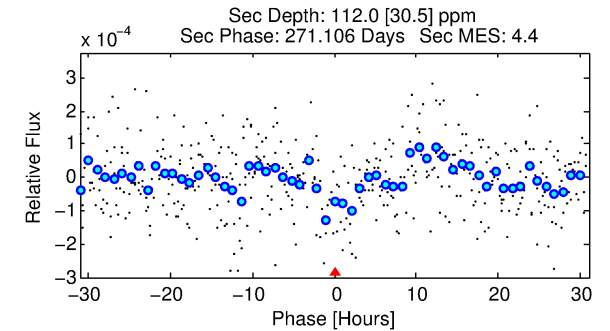
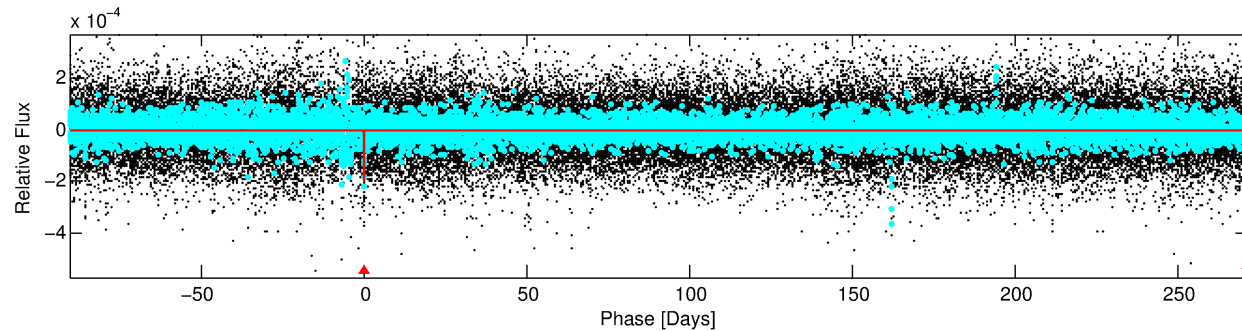
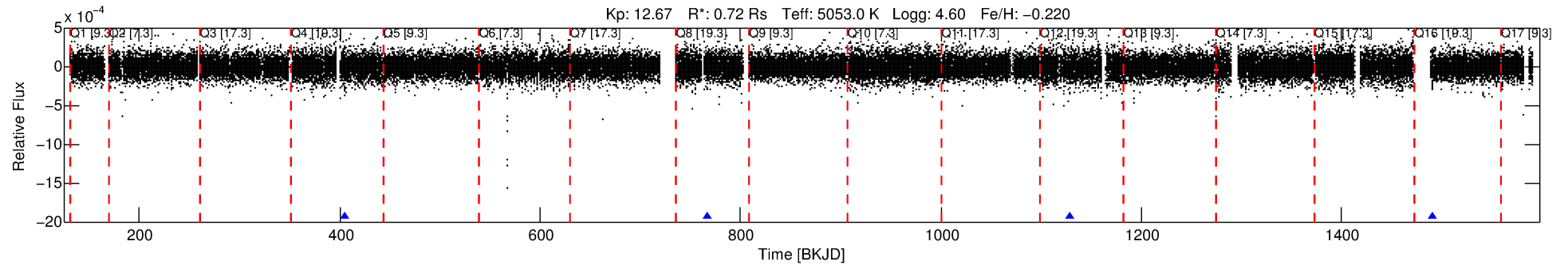
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004557341-01

No Significant Match Found

# DV One-Page Summary

KIC: 4557341 Candidate: 1 of 1 Period: 361.904 d



## DV Fit Results:

Period = 361.90413 [0.00497] d  
Epoch = 405.2975 [0.0093] BKJD  
Rp/R\* = 0.0149 [0.0100]  
a/R\* = 304.93 [785.25]  
b = 0.84 [0.92]  
Seff = 0.37 [0.06]  
Teq = 199 [8] K  
Rp = 1.17 [0.79] Re  
a = 0.9039 [0.0834] AU  
Ag = 36935.08 [50636.33] [0.73σ]  
Teffp = 4256 [1457] K [2.78σ]

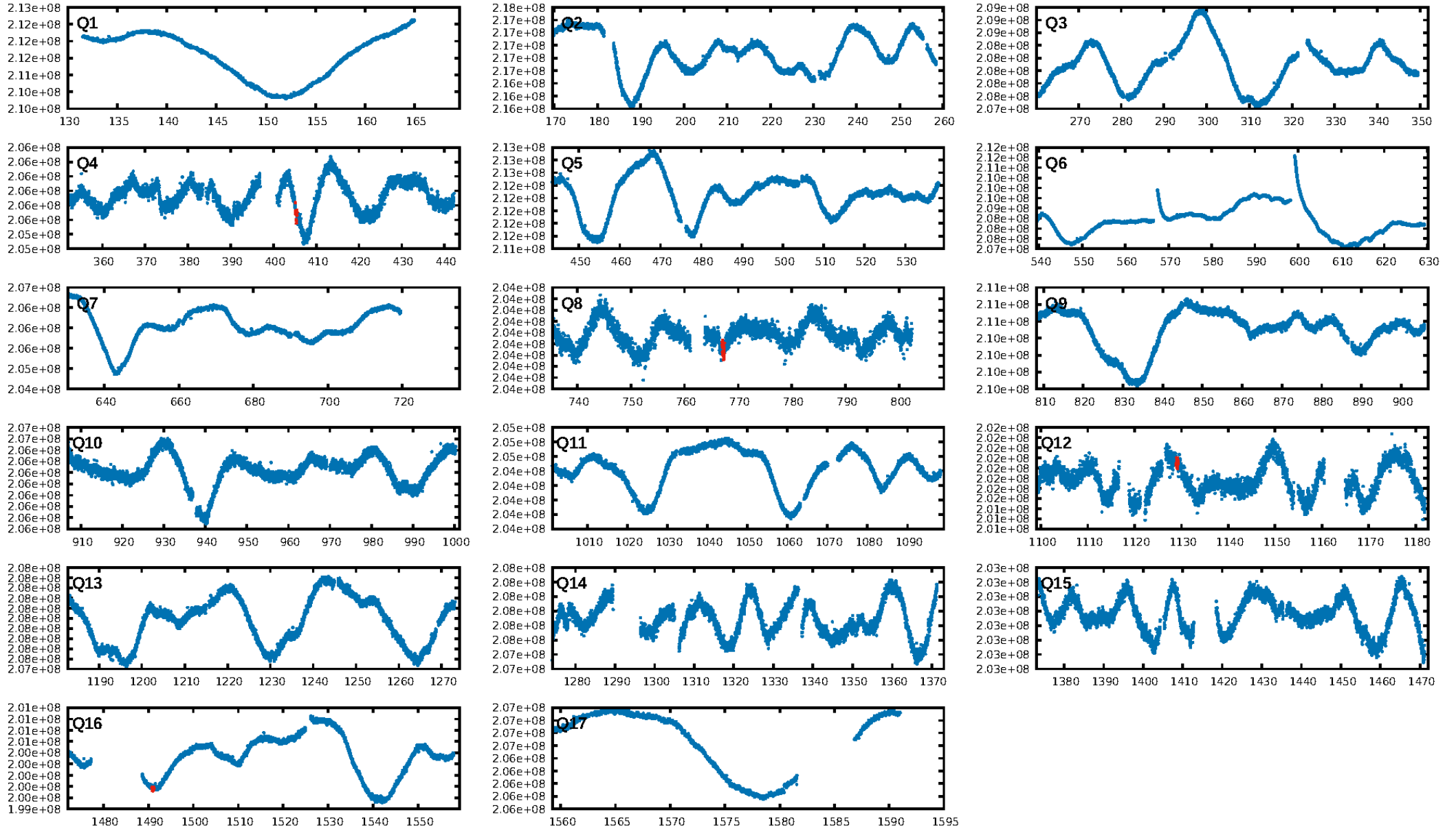
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 53.2%  
ModelChiSquareGof-sig: 99.8%  
Bootstrap-pfa: 9.82e-10  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 0.2237  
Centroid-sig: 73.4%  
Centroid-so: 0.199 arcsec [0.22σ]  
OotOffset-rm: 1.827 arcsec [1.87σ]  
OotOffset-st: 0/0/2/0 [2]  
KicOffset-rm: 1.795 arcsec [2.65σ]  
KicOffset-st: 0/0/2/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [4/4]

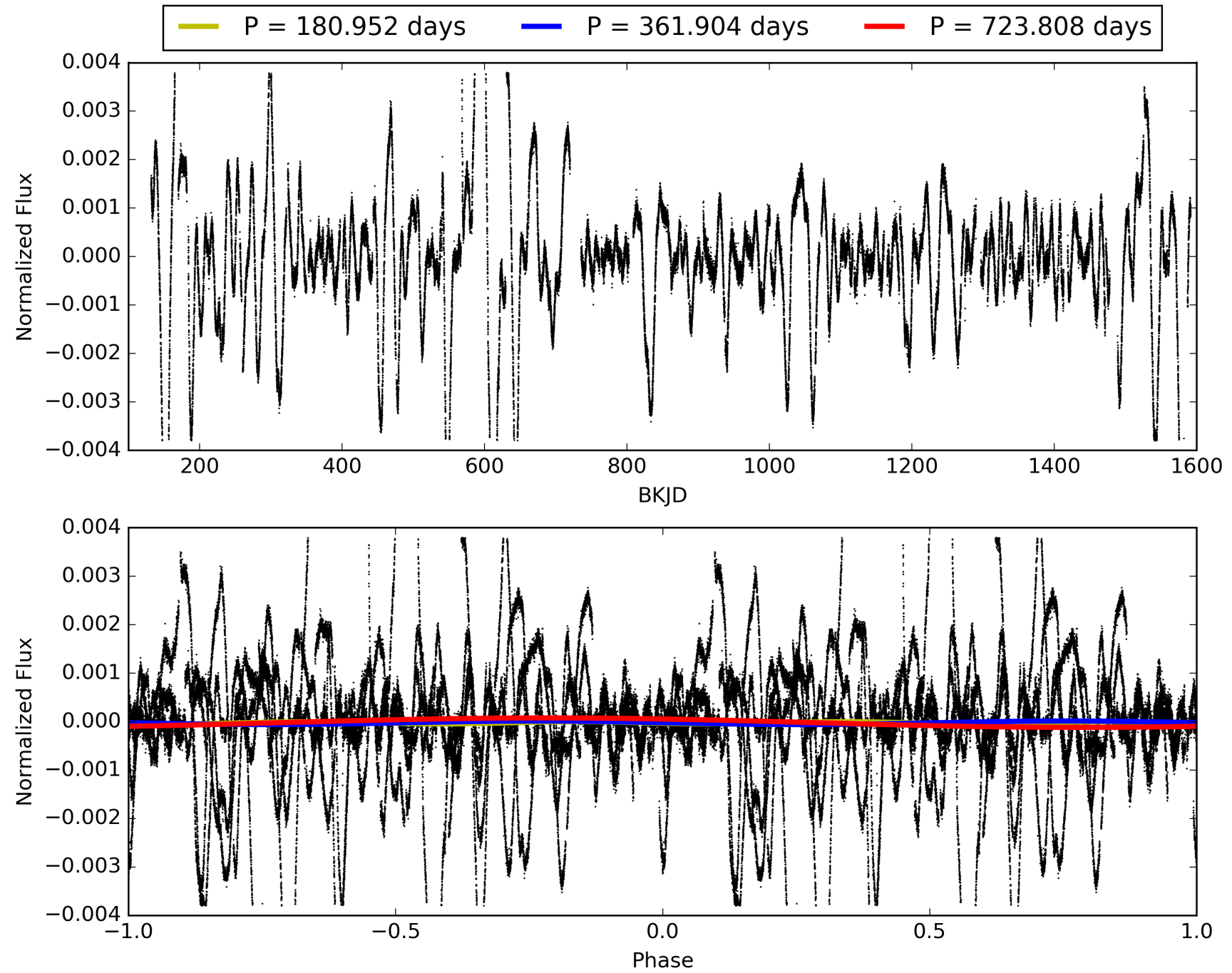
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:42:41 Z

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

# TCE 004557341-01, PDC Light Curves

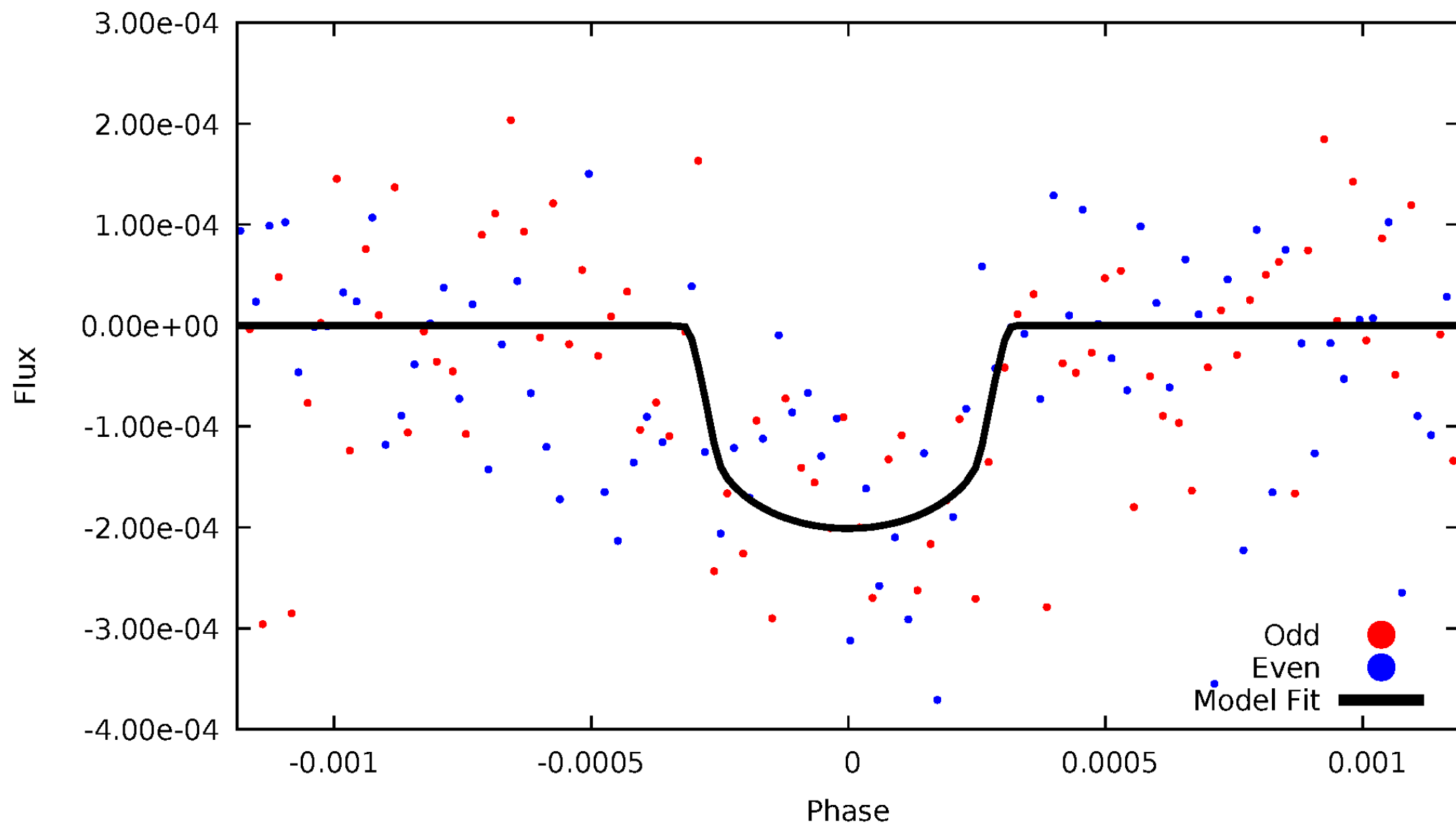


TCE 004557341-01



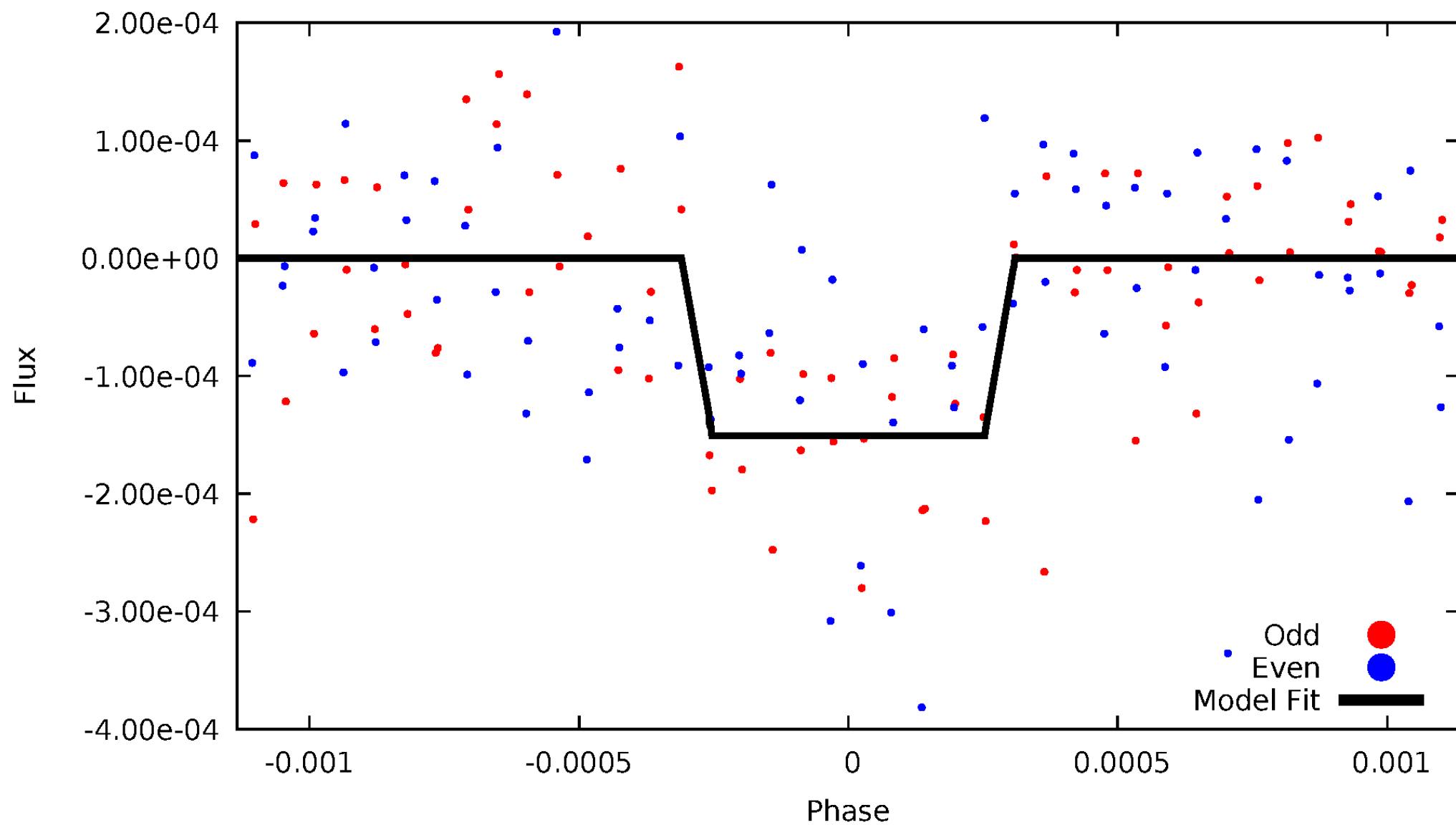
# DV Odd/Even

TCE 004557341-01

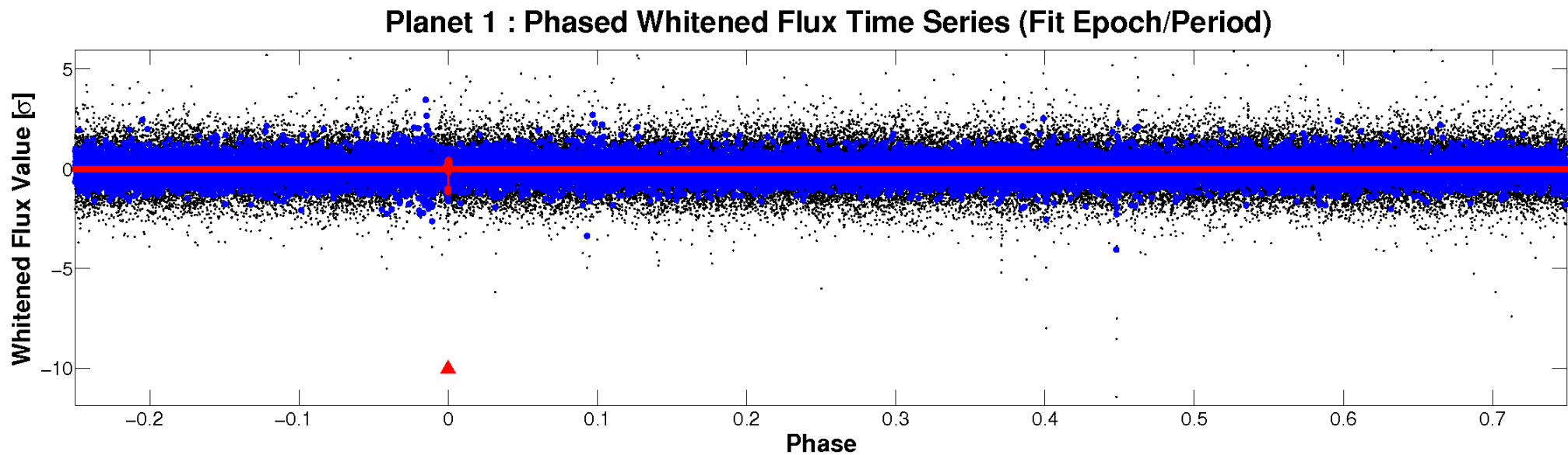
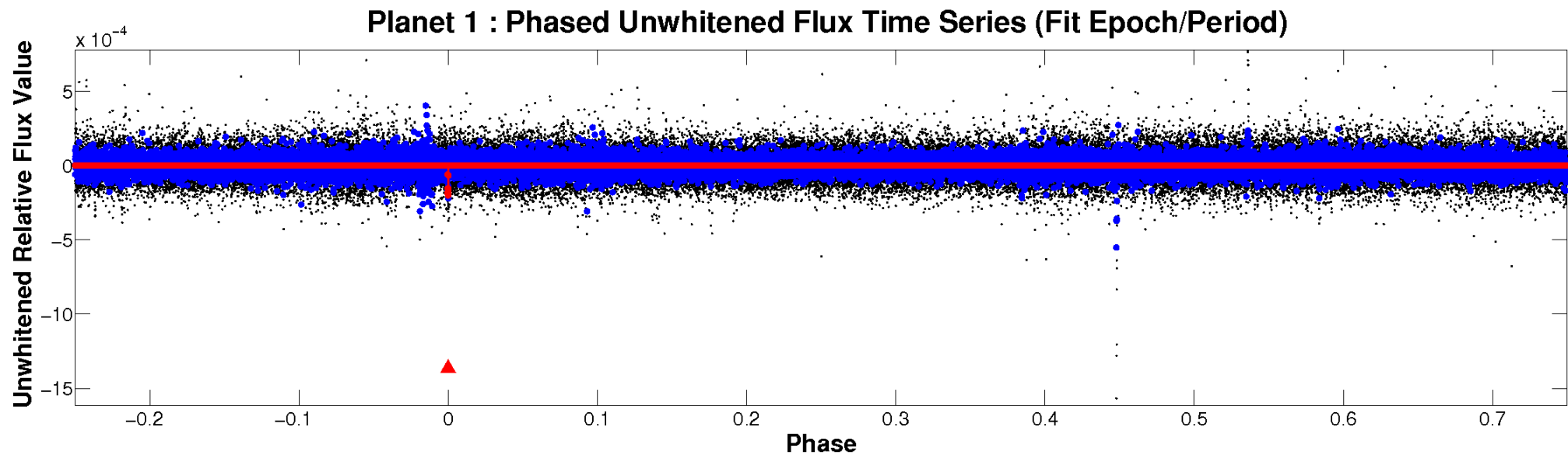


# ALT Odd/Even

TCE 004557341-01

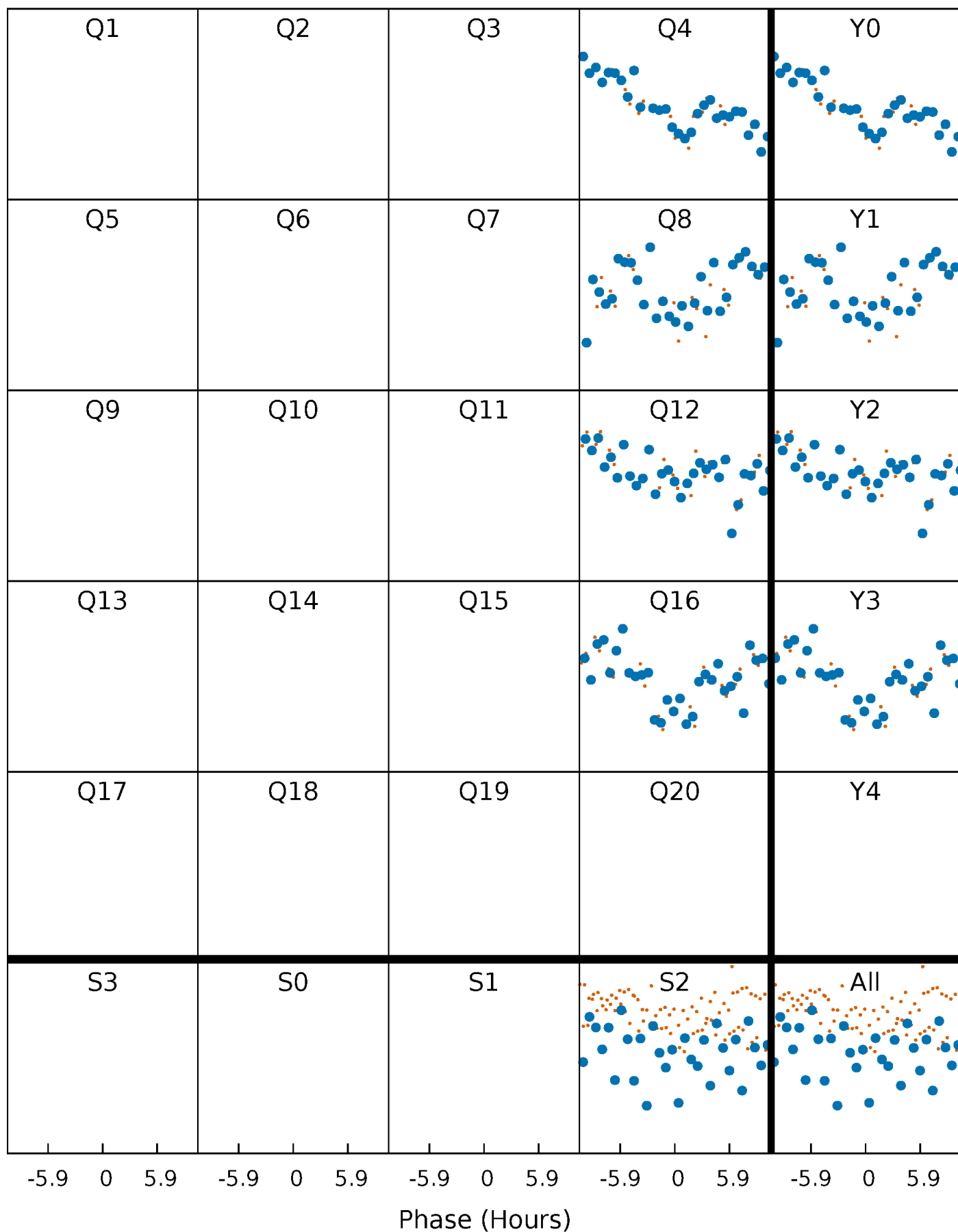


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

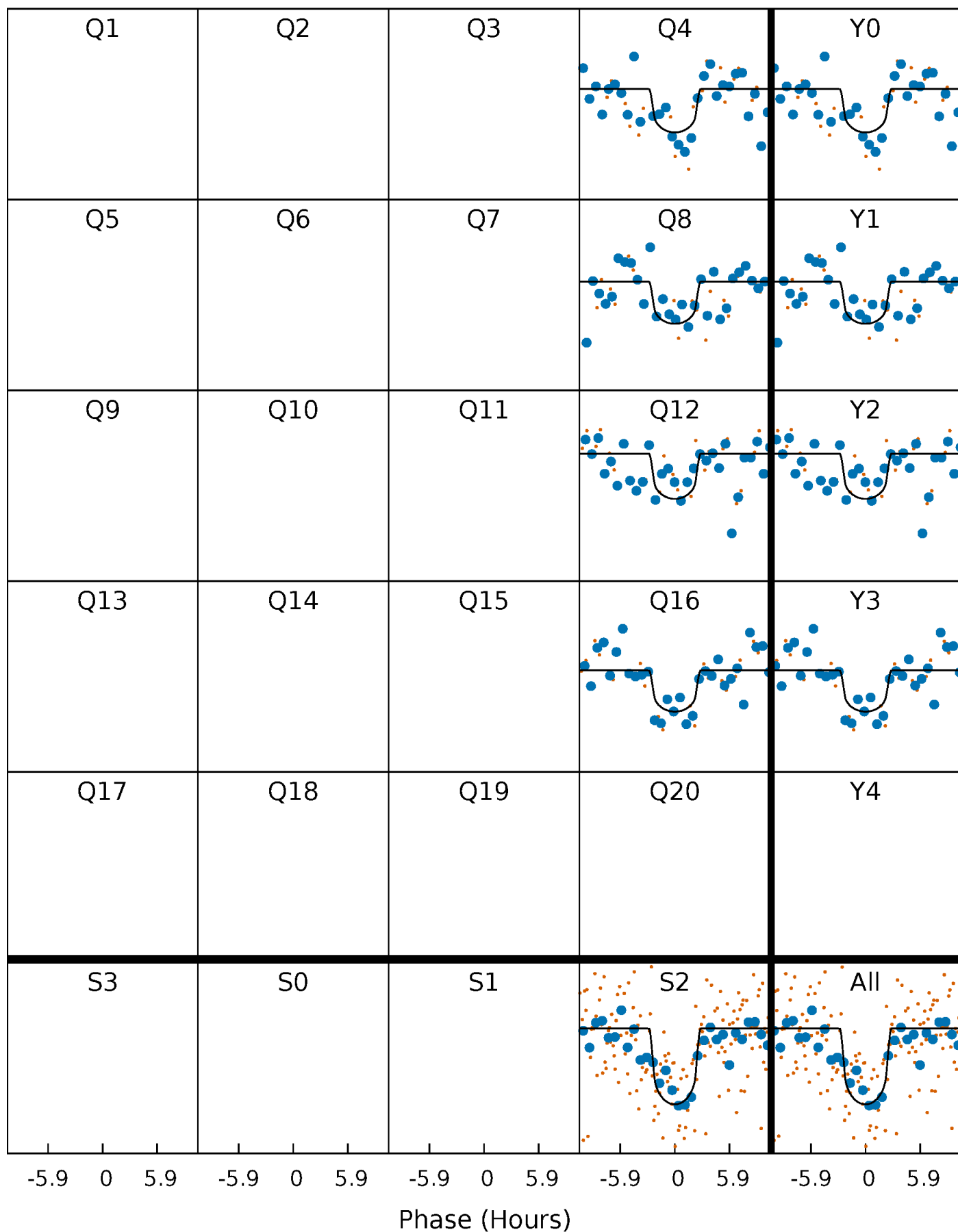
TCE 004557341-01 P=361.904126 Days  $T_0=405.297472$  (BKJD)





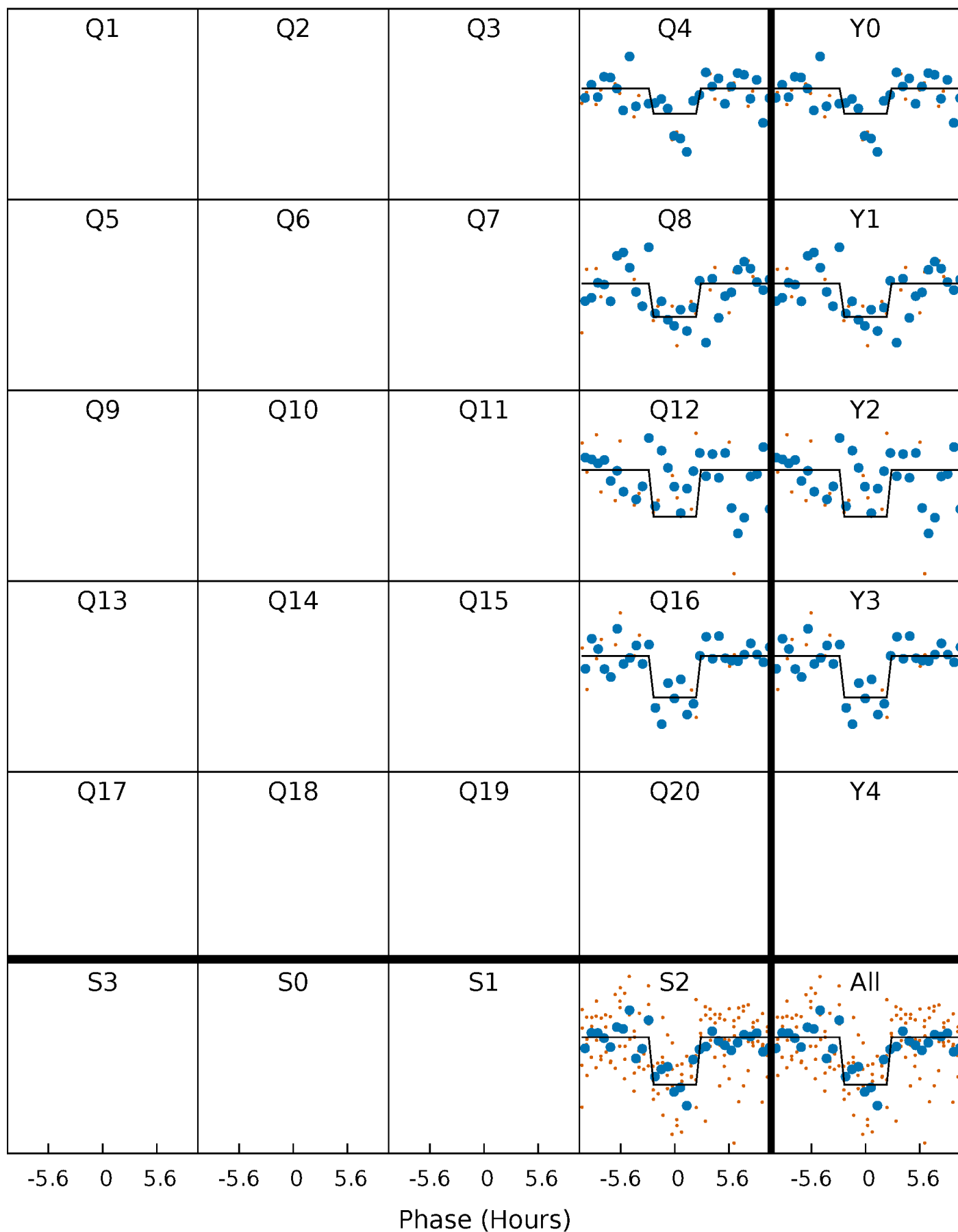
# DV Quarter-Phased Transit Curves

TCE 004557341-01 P=361.904126 Days  $T_0=405.297472$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

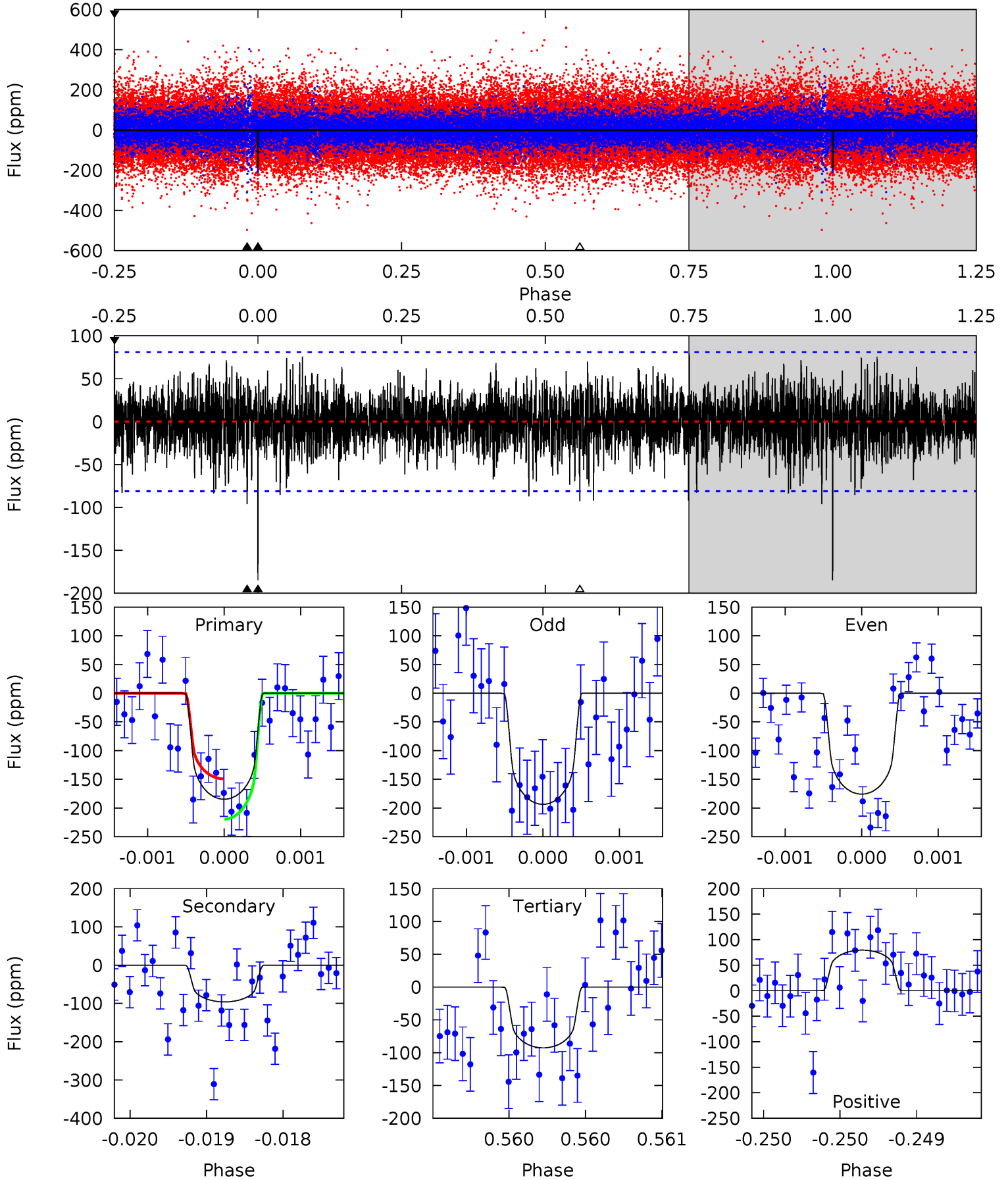
TCE 004557341-01 P=361.898781 Days  $T_0=405.310826$  (BKJD)



# DV Model-Shift Uniqueness Test

004557341-01,  $P = 361.904126$  Days,  $E = 43.393346$  Days

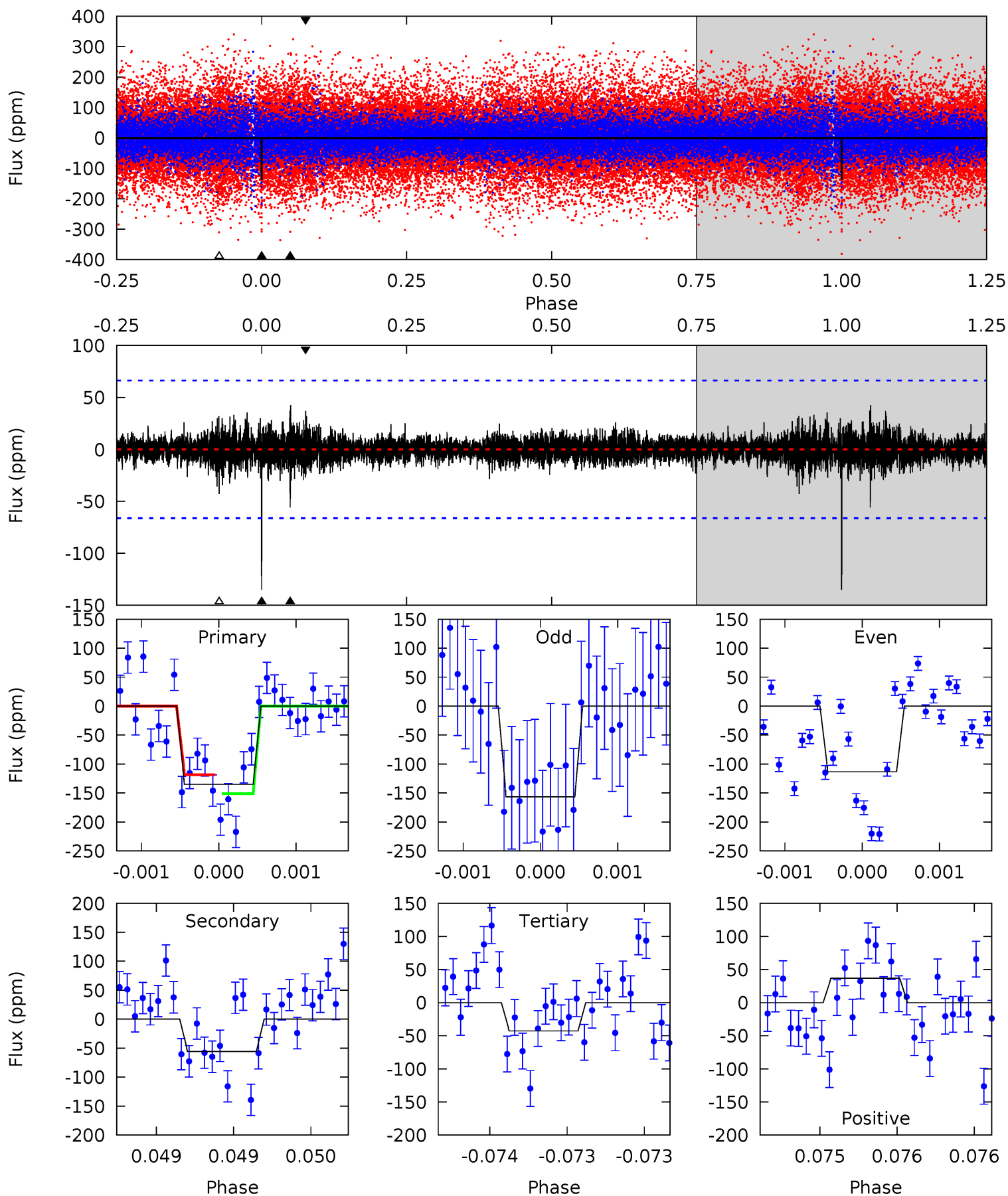
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	6.55	6.33	5.42	5.53	3.42	1.55	6.29	7.19	0.22	1.13	0.60	1.00	0.30	2.40



# Alt Model-Shift Uniqueness Test

004557341-01, P = 361.898781 Days, E = 43.412045 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
11.3	4.68	3.59	3.09	5.55	3.45	0.60	7.72	8.22	1.09	1.59	1.84	0.86	0.24	1.35



### Stellar Parameters For KIC 004557341

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5053^{+136}_{-136}$	$4.603^{+0.040}_{-0.060}$	$-0.220^{+0.300}_{-0.300}$	$0.717^{+0.086}_{-0.058}$	$0.754^{+0.079}_{-0.071}$	$2.877^{+0.587}_{-0.630}$
	+3%/-3%	+1%/-1%	+136%/-136%	+12%/-8%	+10%/-9%	+20%/-22%
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 004557341-01 / KOI 8094.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-96 \pm 15$	$1.24^{+0.79}_{-0.70}$	$279^{+9}_{-10}$	$4170^{+1850}_{-654}$	$28422^{+116846}_{-18396}$
Alt.	$-56 \pm 12$	$1.14^{+0.75}_{-0.66}$	$278^{+10}_{-9}$	$3913^{+1573}_{-608}$	$19482^{+92557}_{-12662}$

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

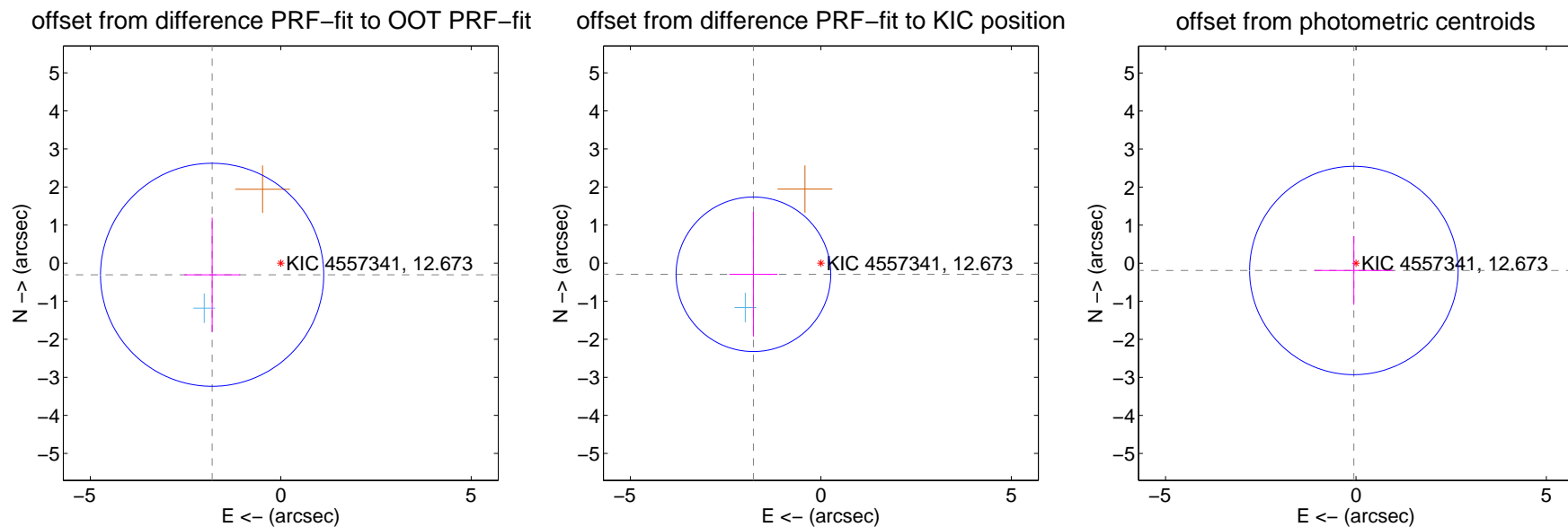
## DV Centroid Data

Supplemental centroid analysis for 004557341-01. Kepler magnitude: 12.67. Transit SNR 7.04

There are 1 quarters with good PRF difference image offsets

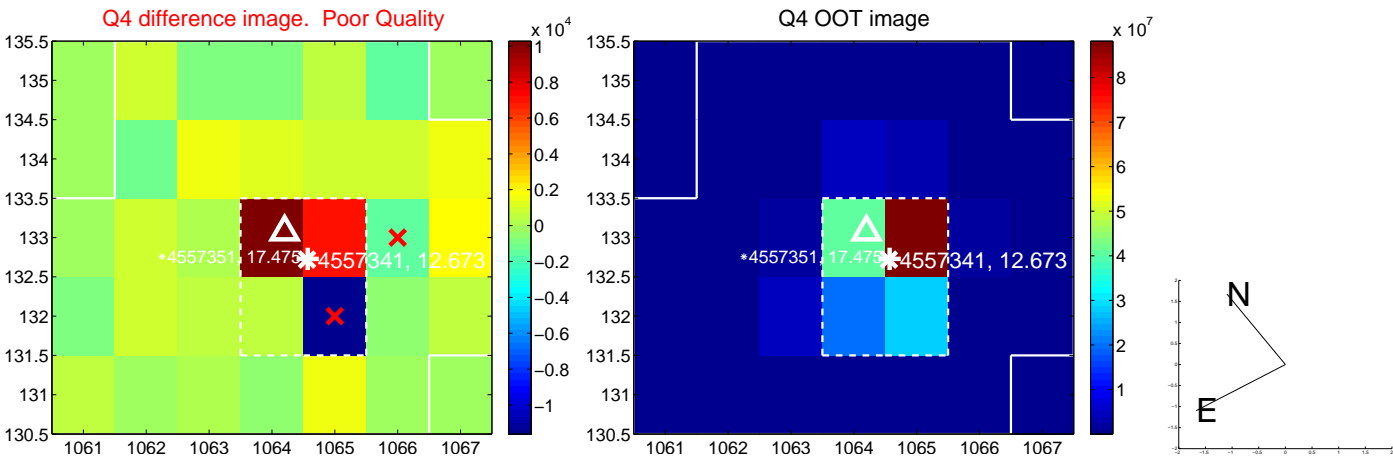
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.827 \pm 0.977$	1.87	$1.802 \pm 0.737$	$-0.306 \pm 1.498$
PRF-fit source offset from KIC position	$1.795 \pm 0.677$	2.65	$1.771 \pm 0.631$	$-0.292 \pm 1.636$
photometric centroid source offset	$0.20 \pm 0.91$	0.22	$0.05 \pm 1.04$	$-0.19 \pm 0.90$

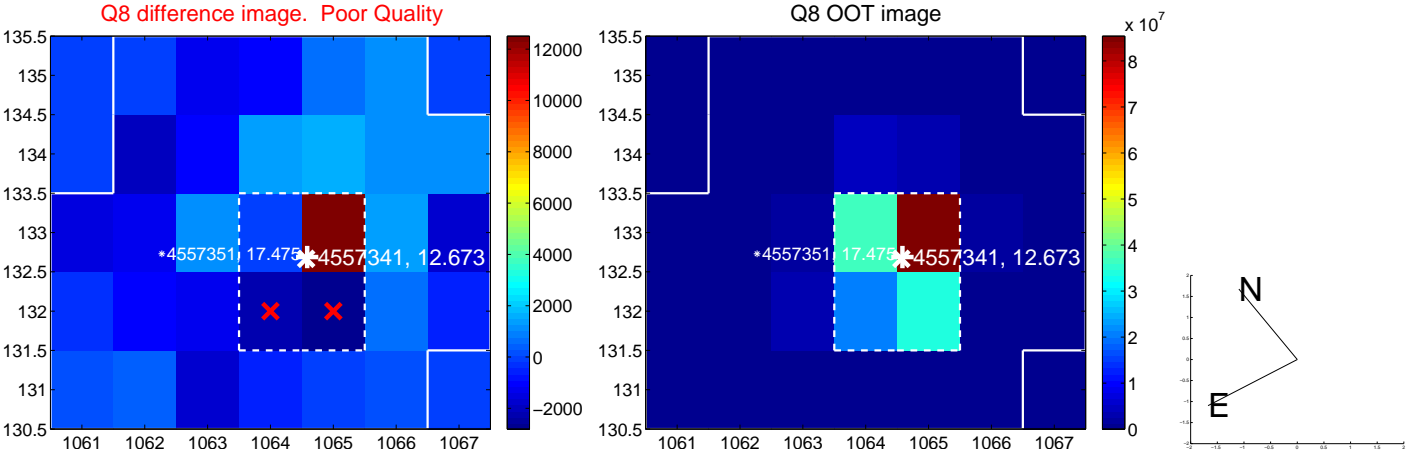
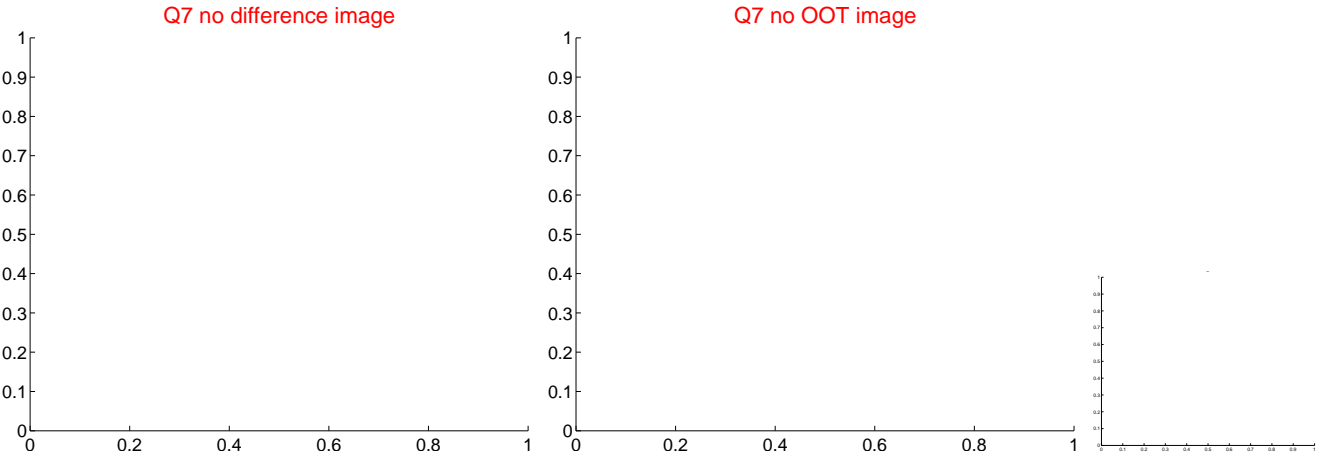
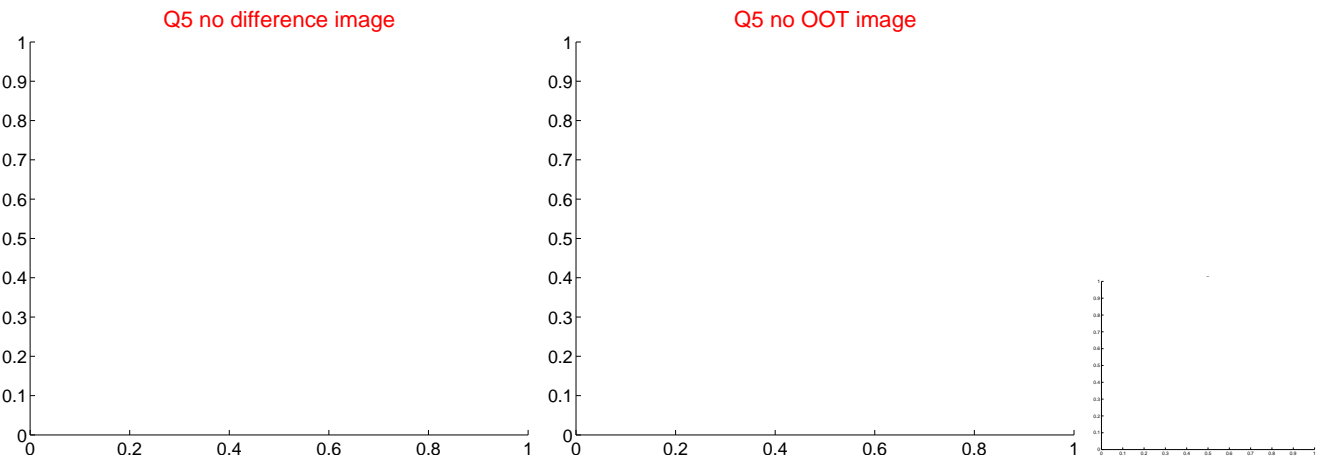


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

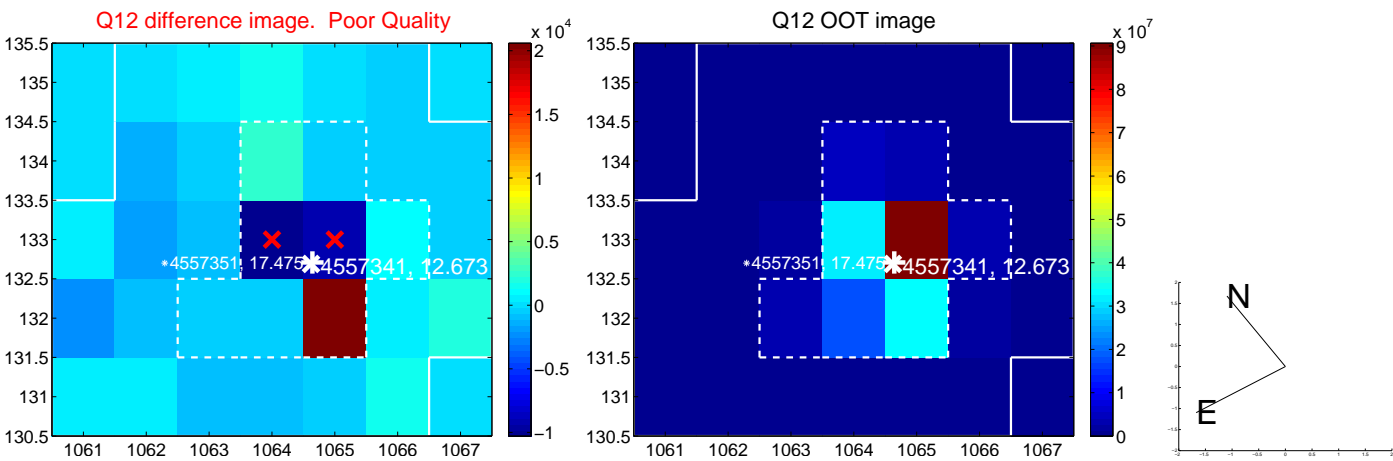
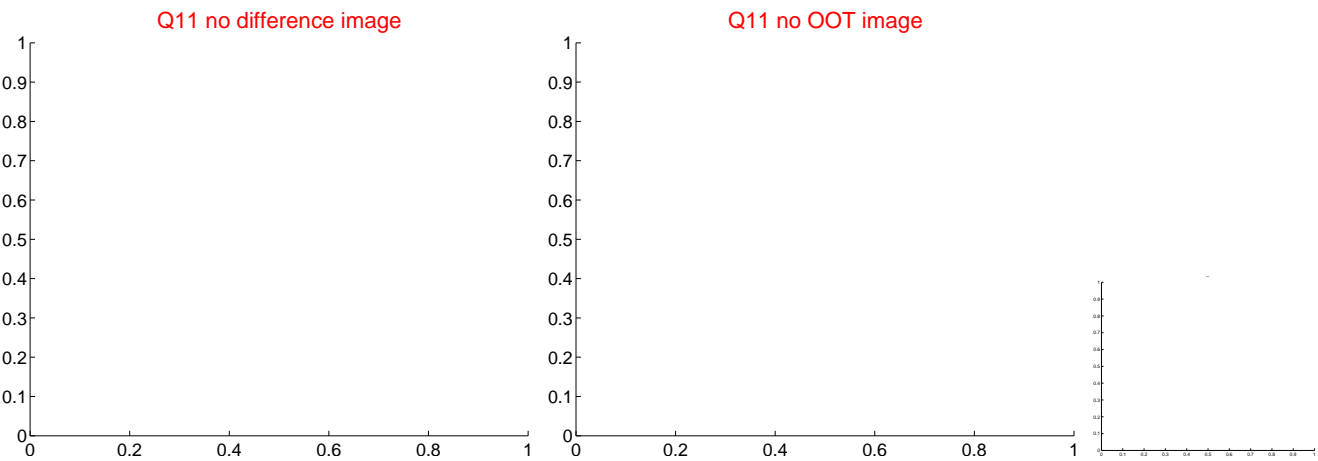
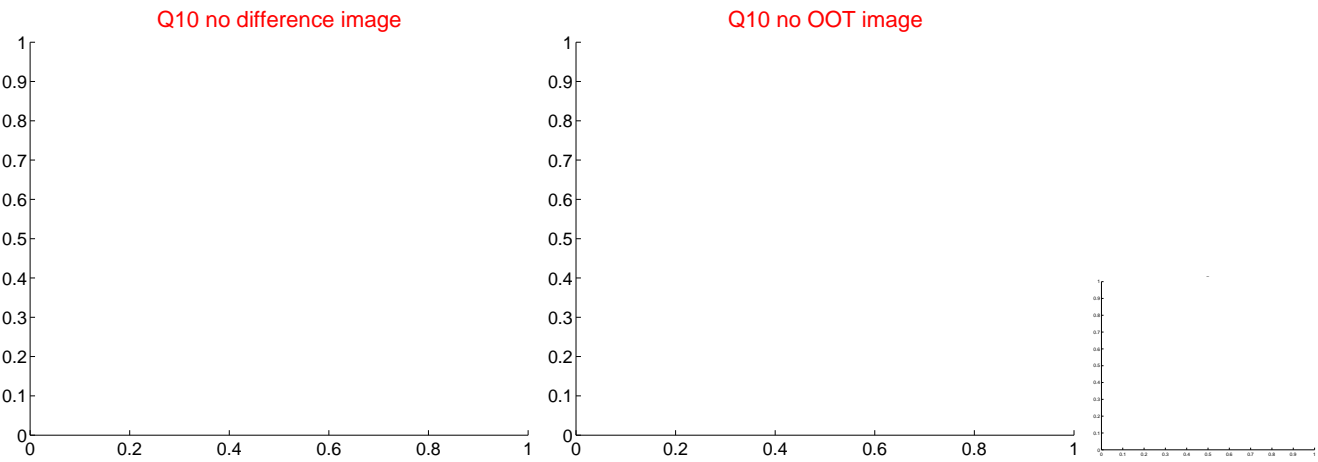
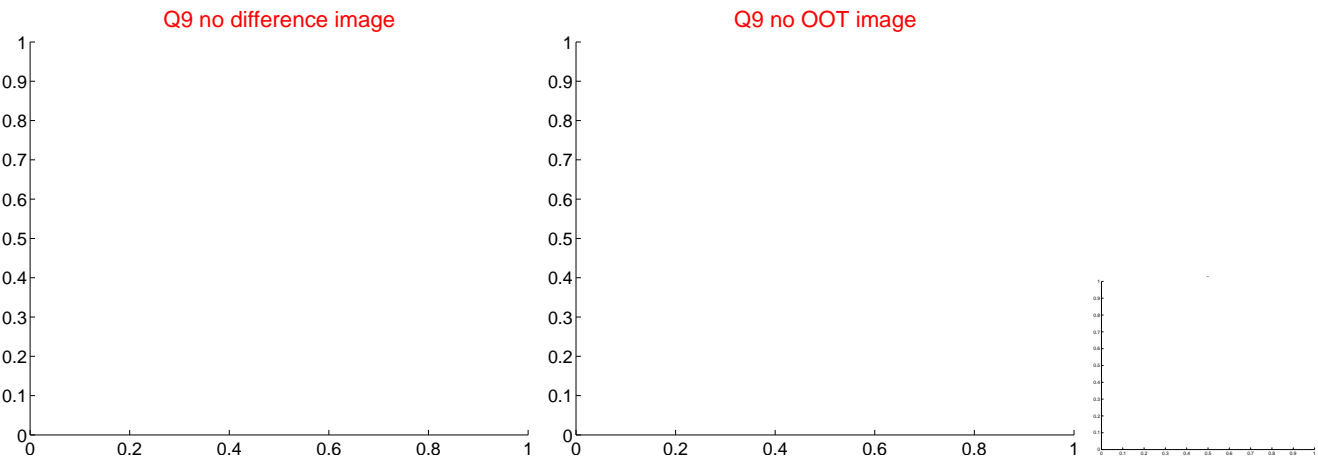


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

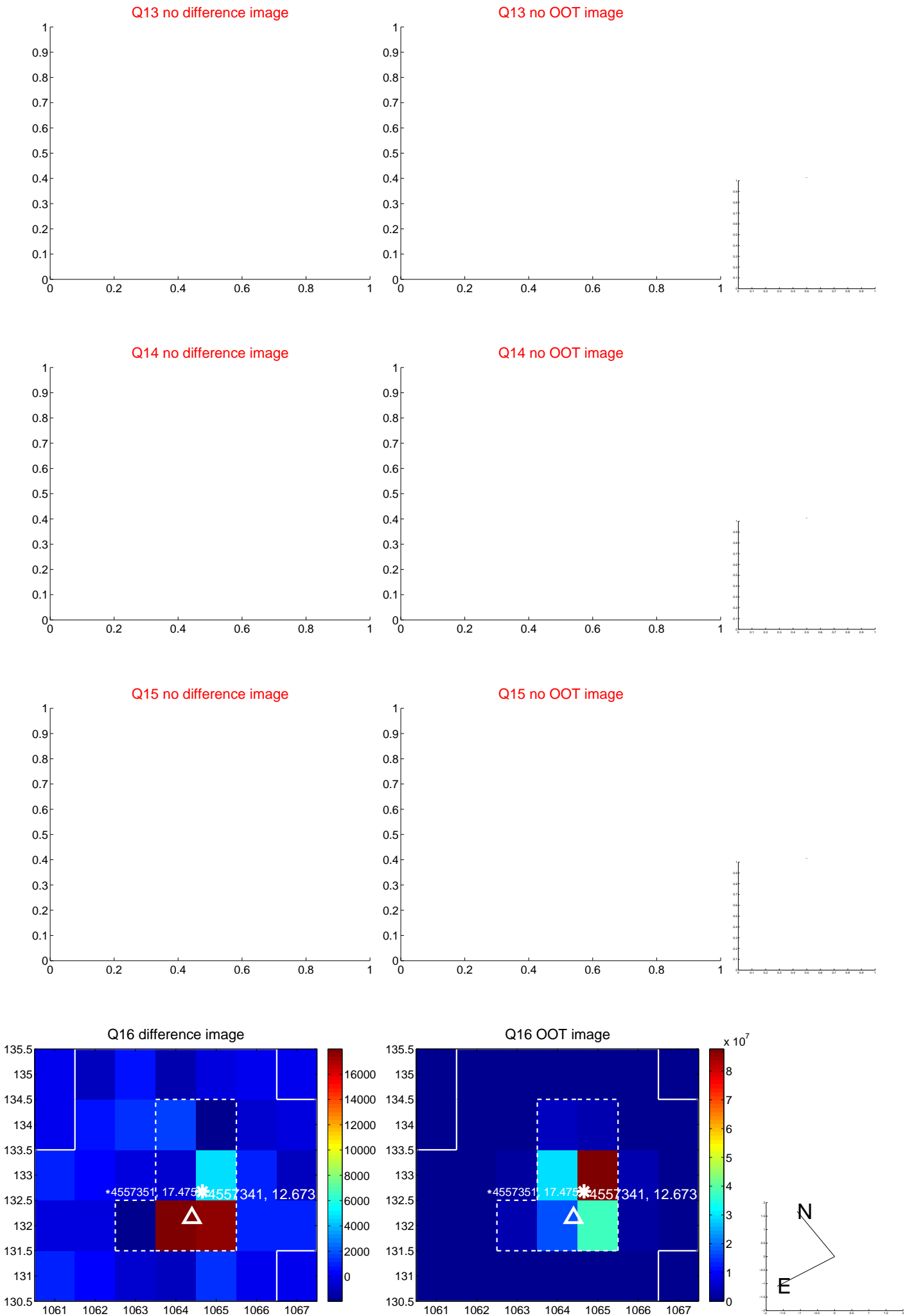




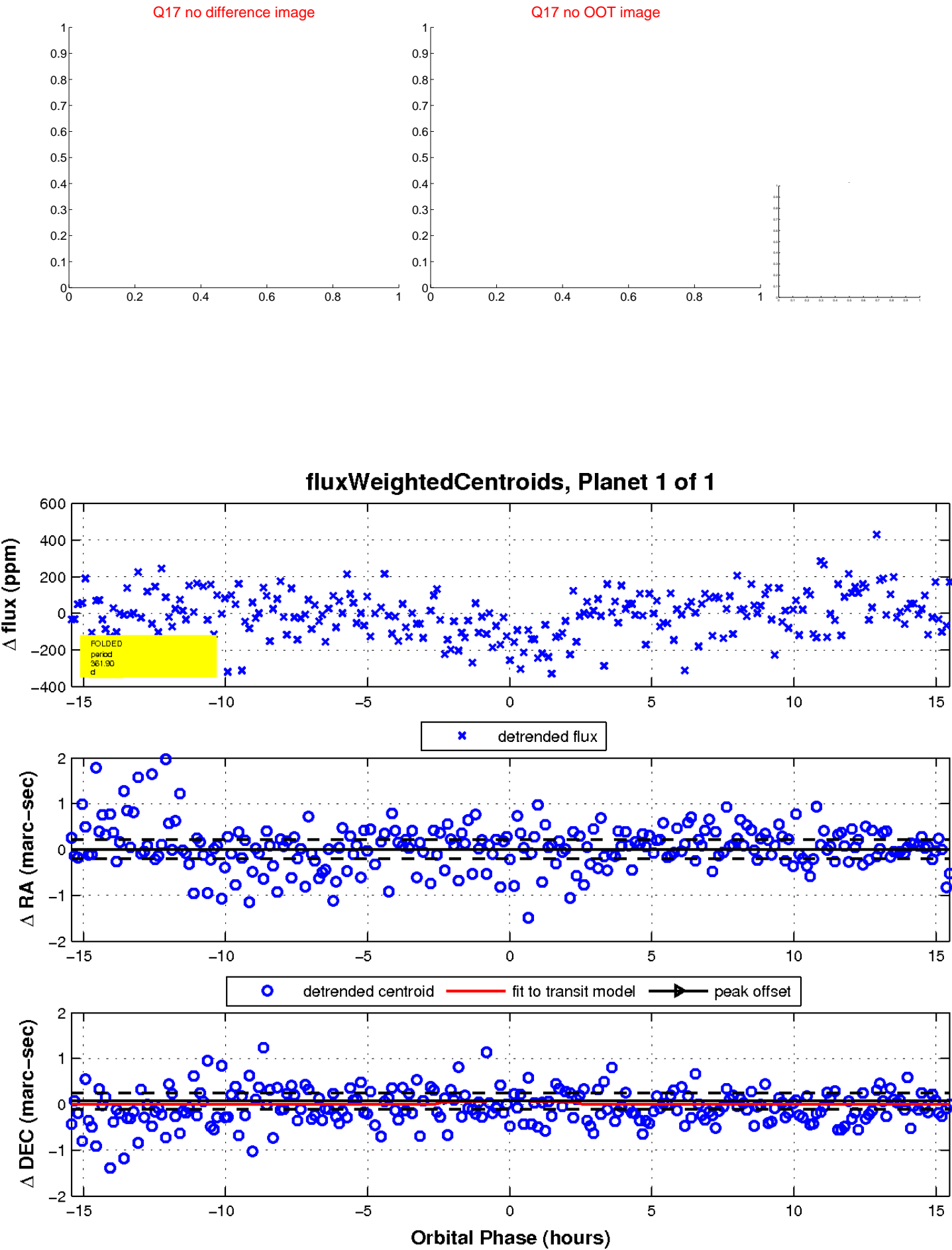
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UKIRT Image

Declination

