

# KIC 005517361

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005517361-01	OBS	No	339.676019	443.298890	211.8	12.407	8.2	5.6	0.76	4986	1.14	0.43

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005517361-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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.

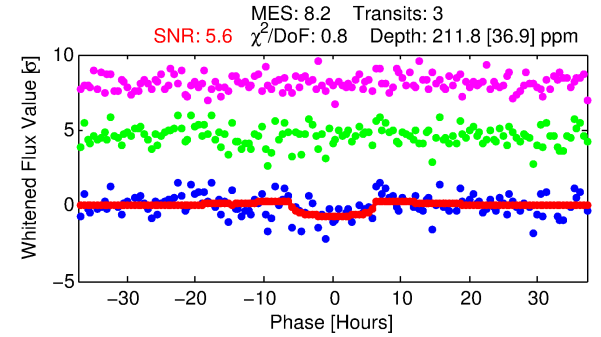
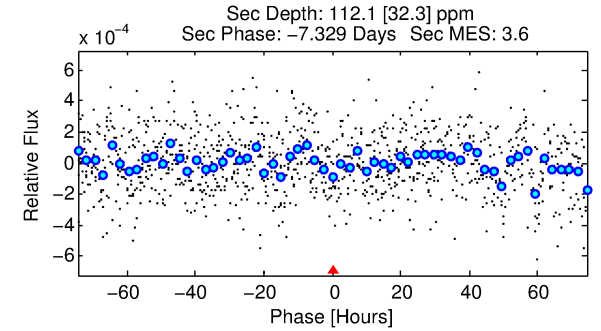
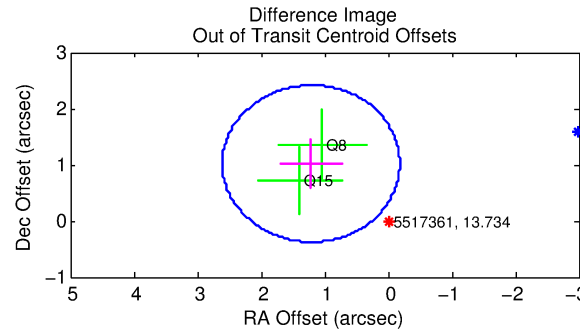
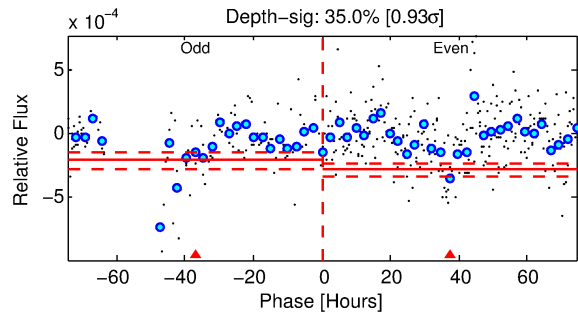
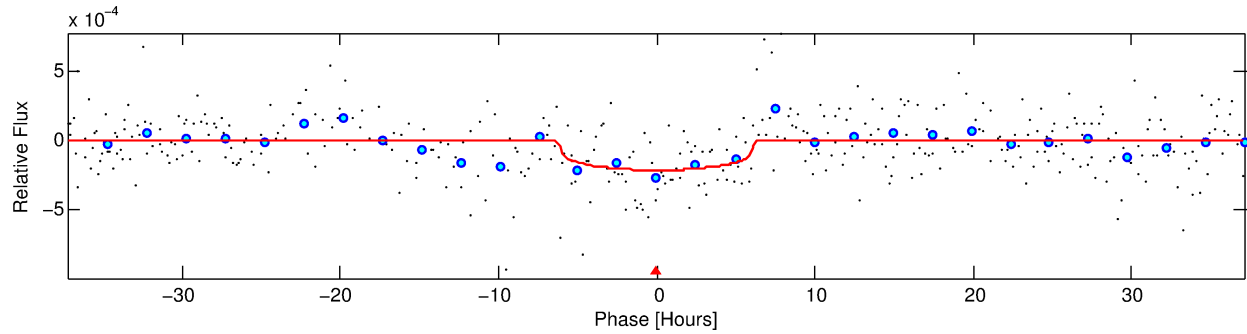
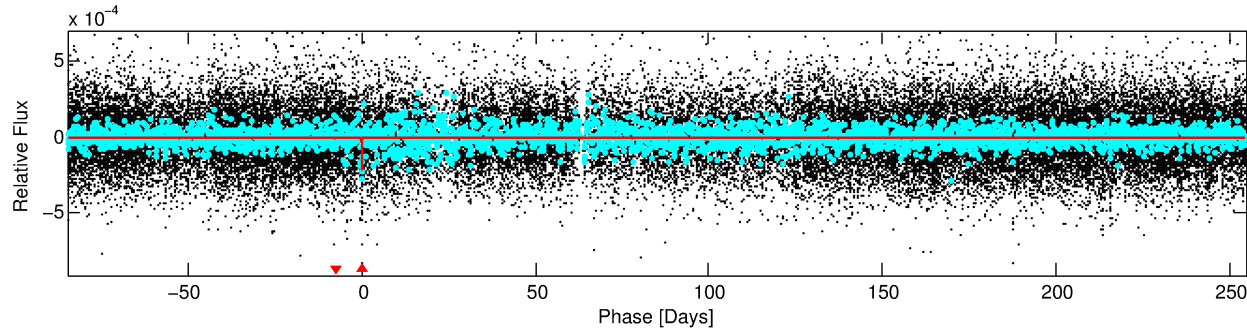
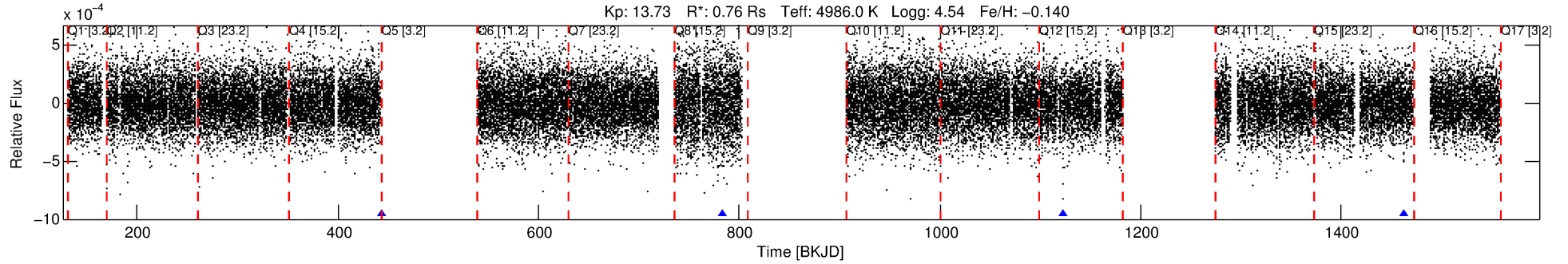
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005517361-01

No Significant Match Found

# DV One-Page Summary

KIC: 5517361 Candidate: 1 of 1 Period: 339.676 d



## DV Fit Results:

Period = 339.67602 [0.01583] d  
Epoch = 443.2989 [0.0369] BKJD  
Rp/R\* = 0.0137 [0.0152]  
R/R\* = 173.58 [673.97]  
b = 0.58 [4.46]  
Seff = 0.43 [0.08]  
Teq = 207 [9] K  
Rp = 1.13 [1.26] Re  
a = 0.8575 [0.0782] AU  
Ag = 35211.97 [78920.59] [0.45σ]  
Teffp = 4383 [2455] K [1.70σ]

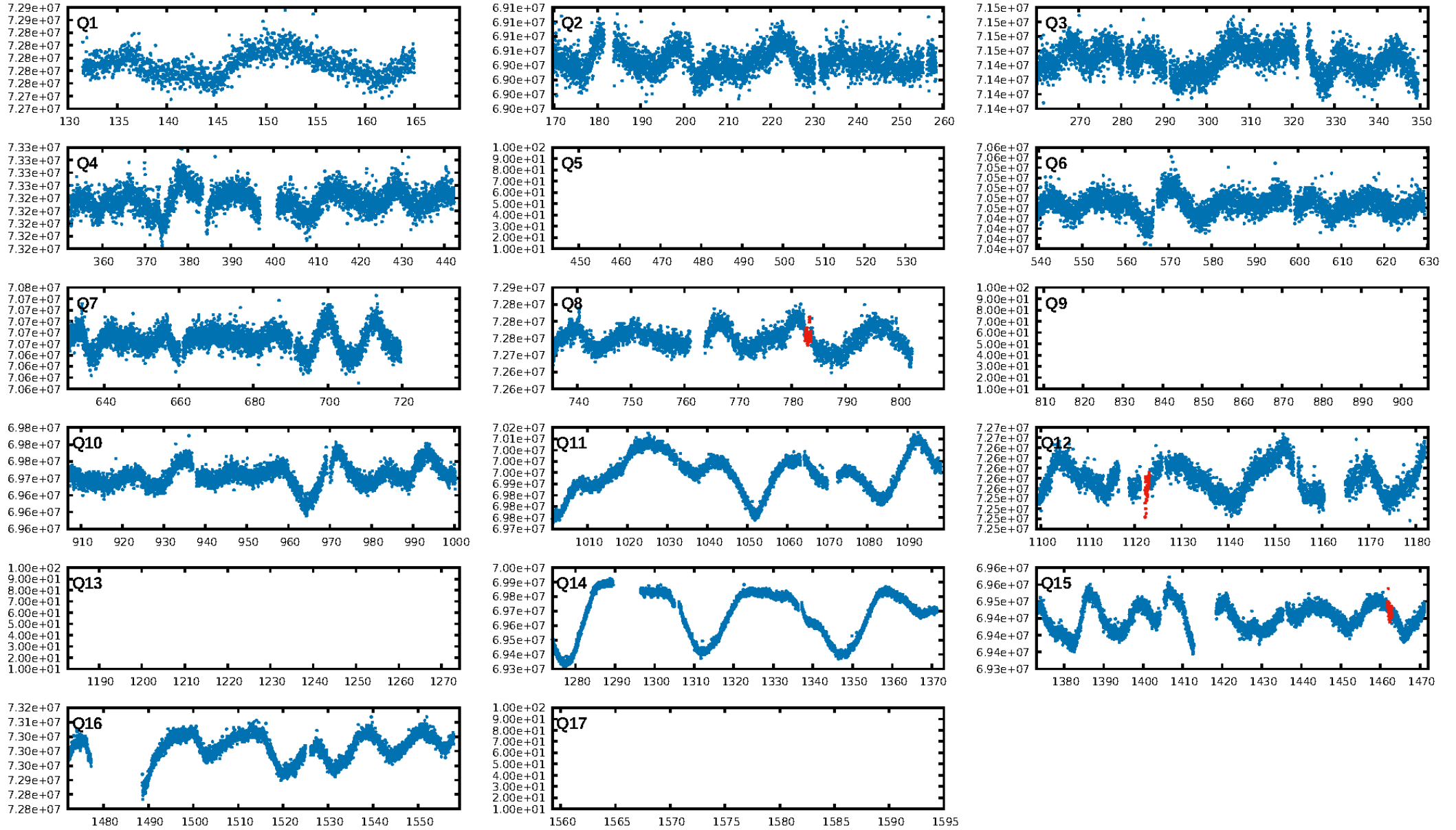
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 66.5%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 4.43e-13  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.704  
Centroid-sig: 36.3%  
Centroid-so: 1.343 arcsec [0.93σ]  
OotOffset-rm: 1.583 arcsec [3.40σ]  
KicOffset-rm: 1.898 arcsec [4.04σ]  
OotOffset-st: 0/1/1/0 [2]  
KicOffset-st: 0/1/1/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [2/2]

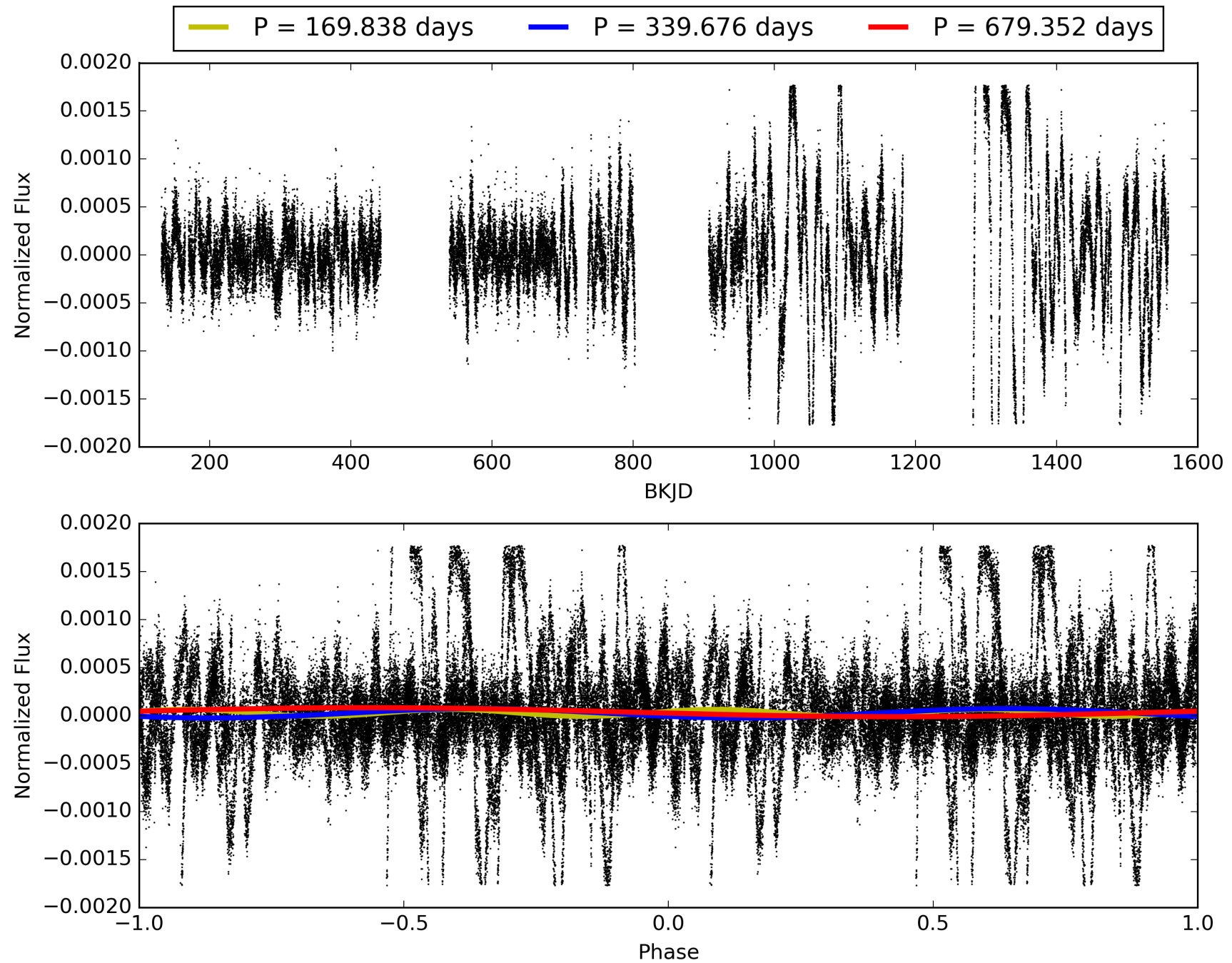
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:02:04 Z

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

# TCE 005517361-01, PDC Light Curves

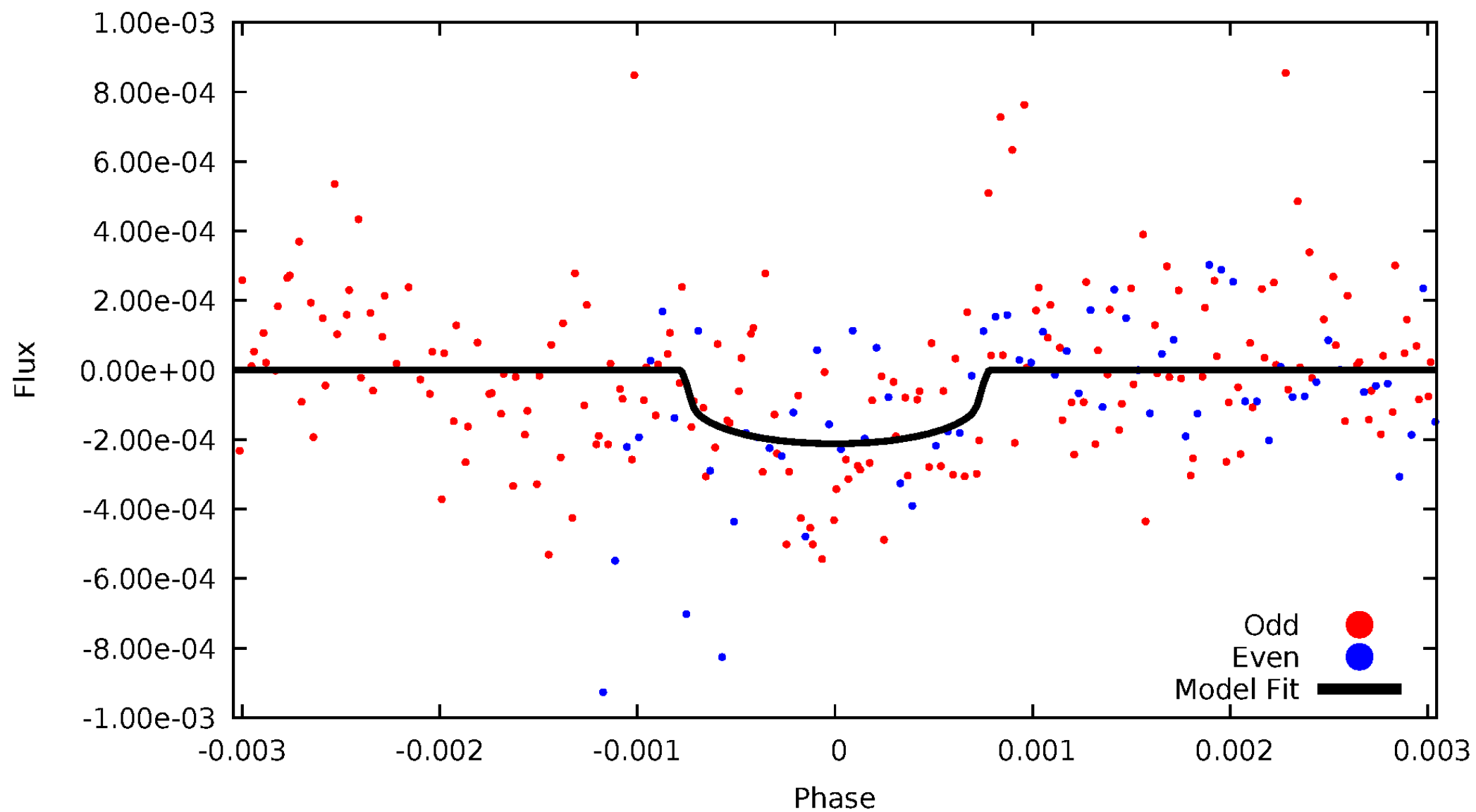


TCE 005517361-01



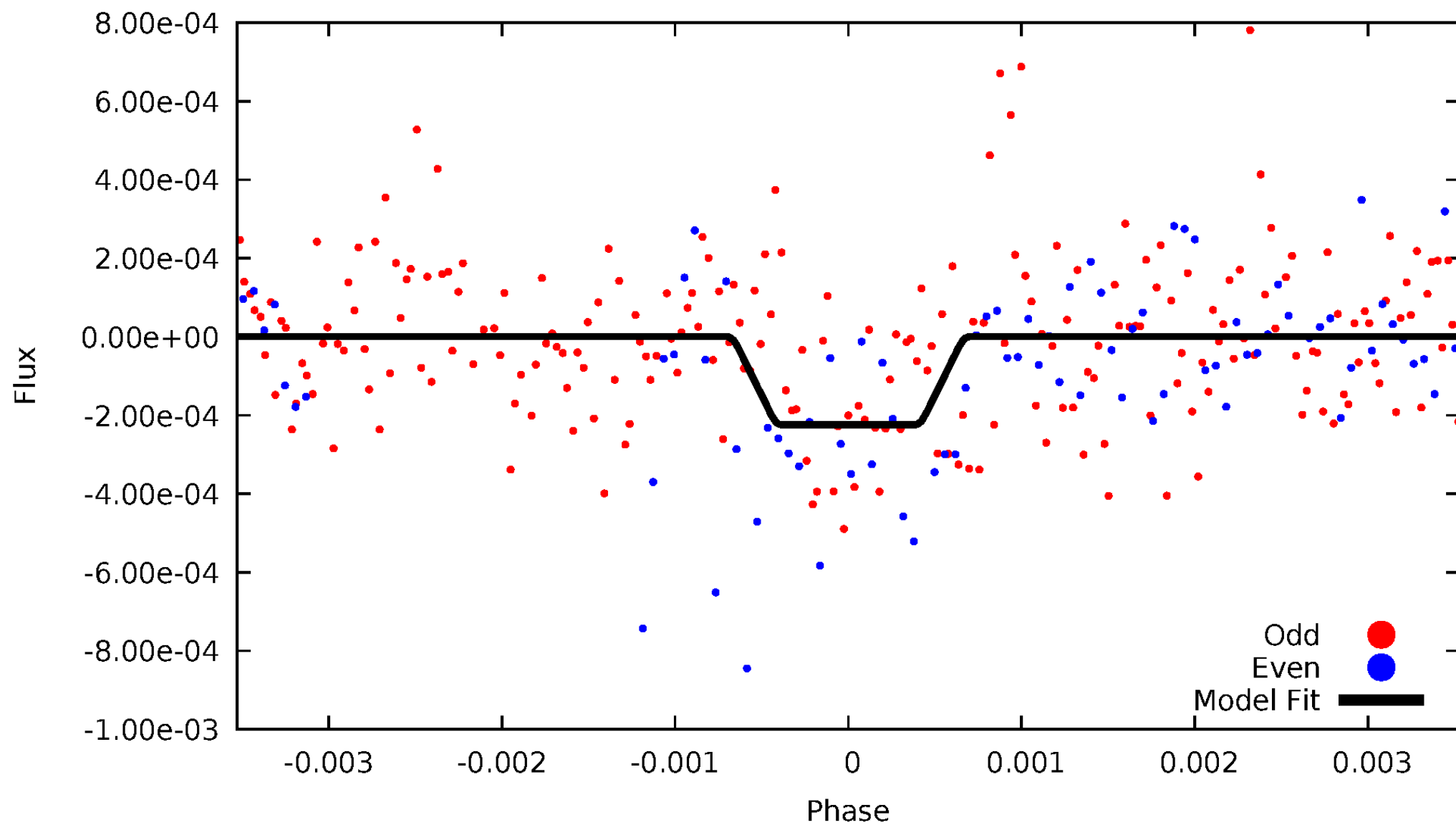
# DV Odd/Even

TCE 005517361-01

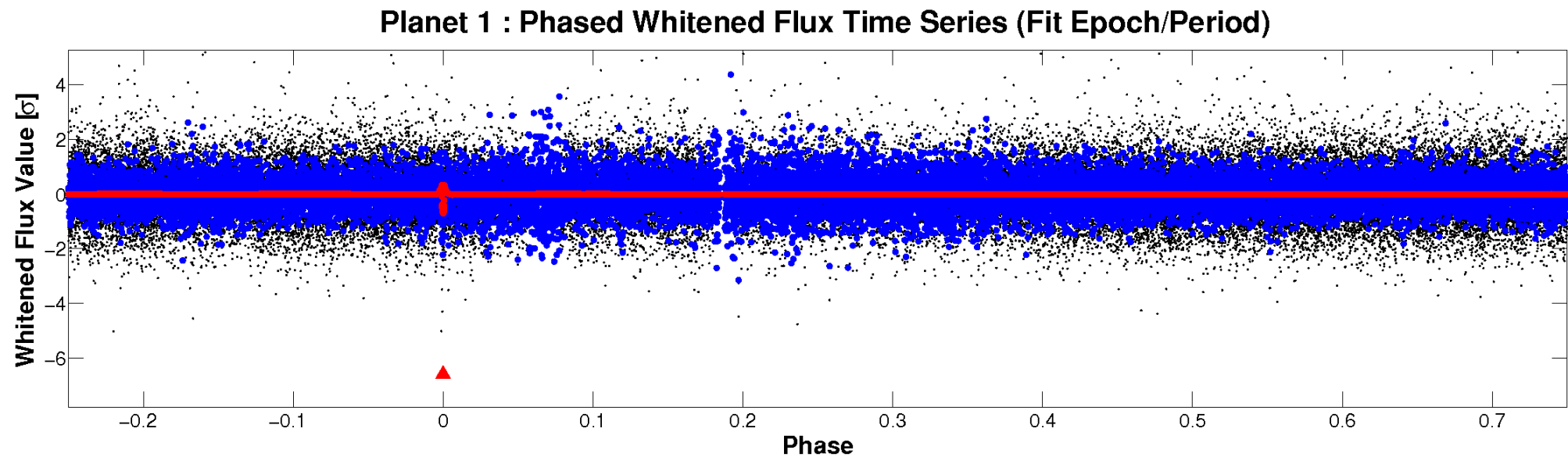
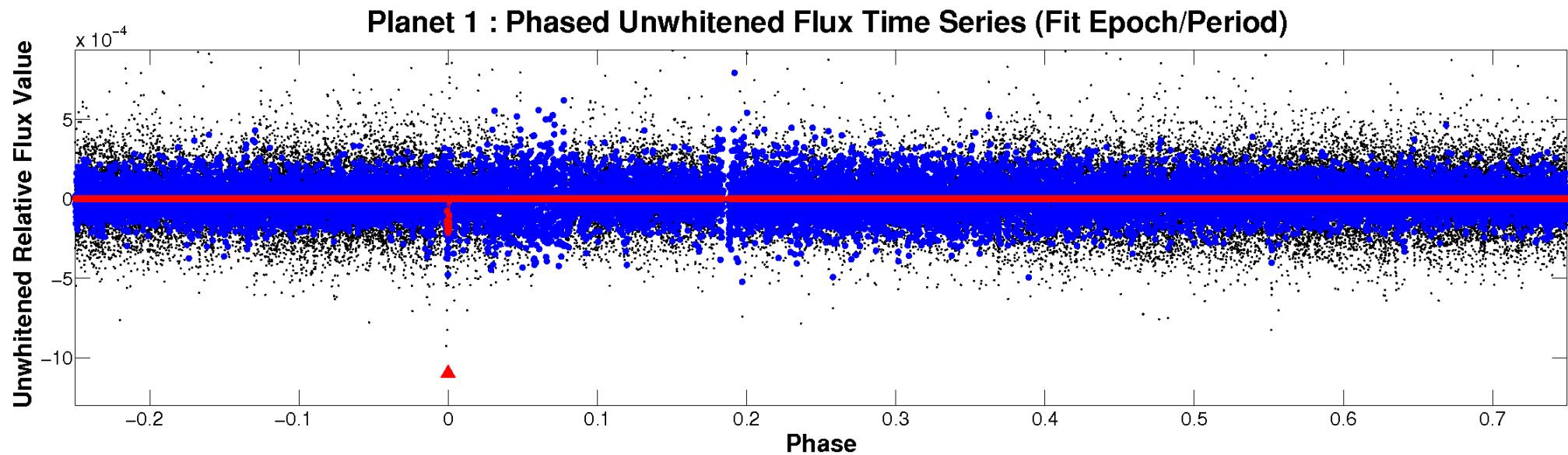


# ALT Odd/Even

TCE 005517361-01

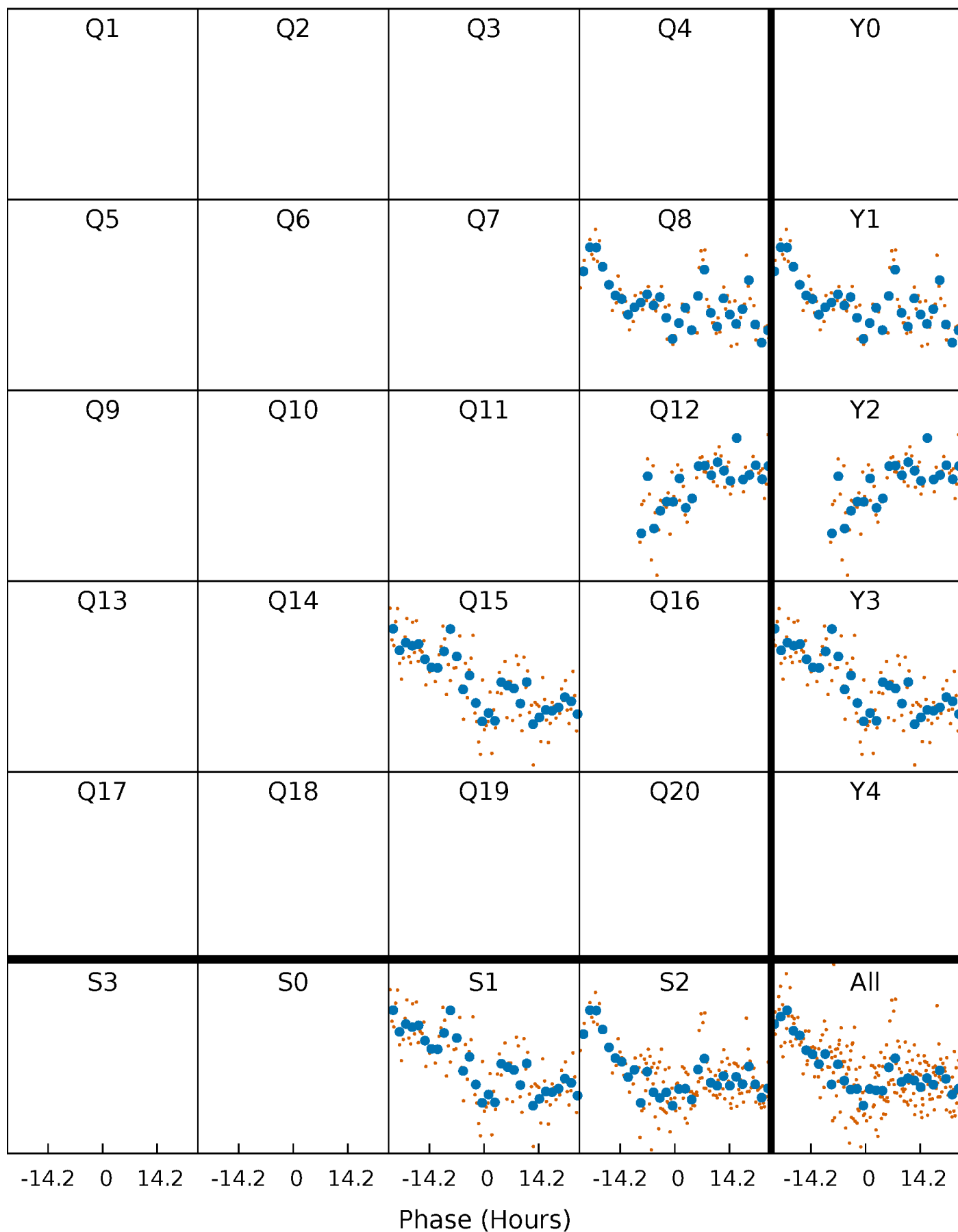


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

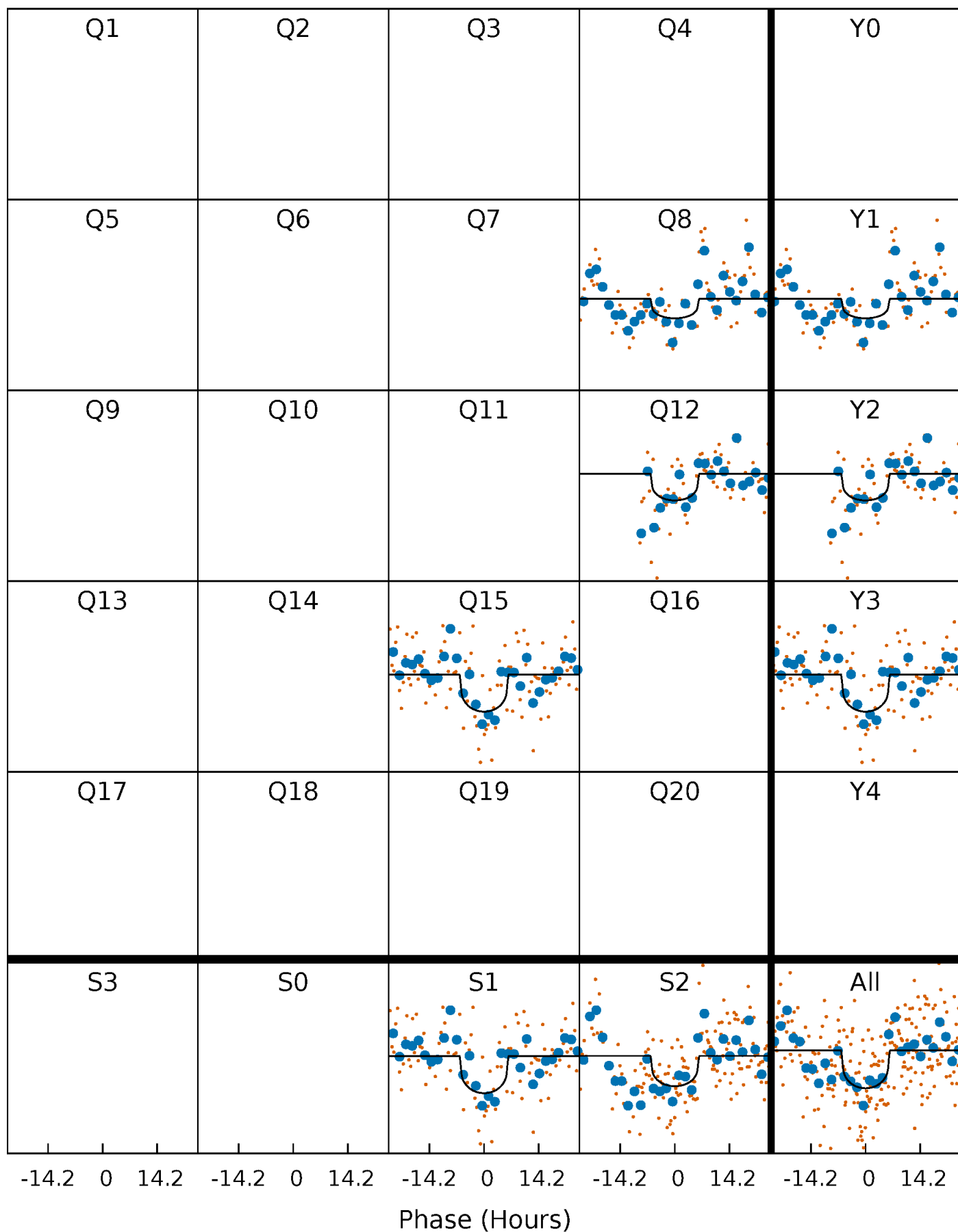
TCE 005517361-01 P=339.676019 Days  $T_0=443.298891$  (BKJD)





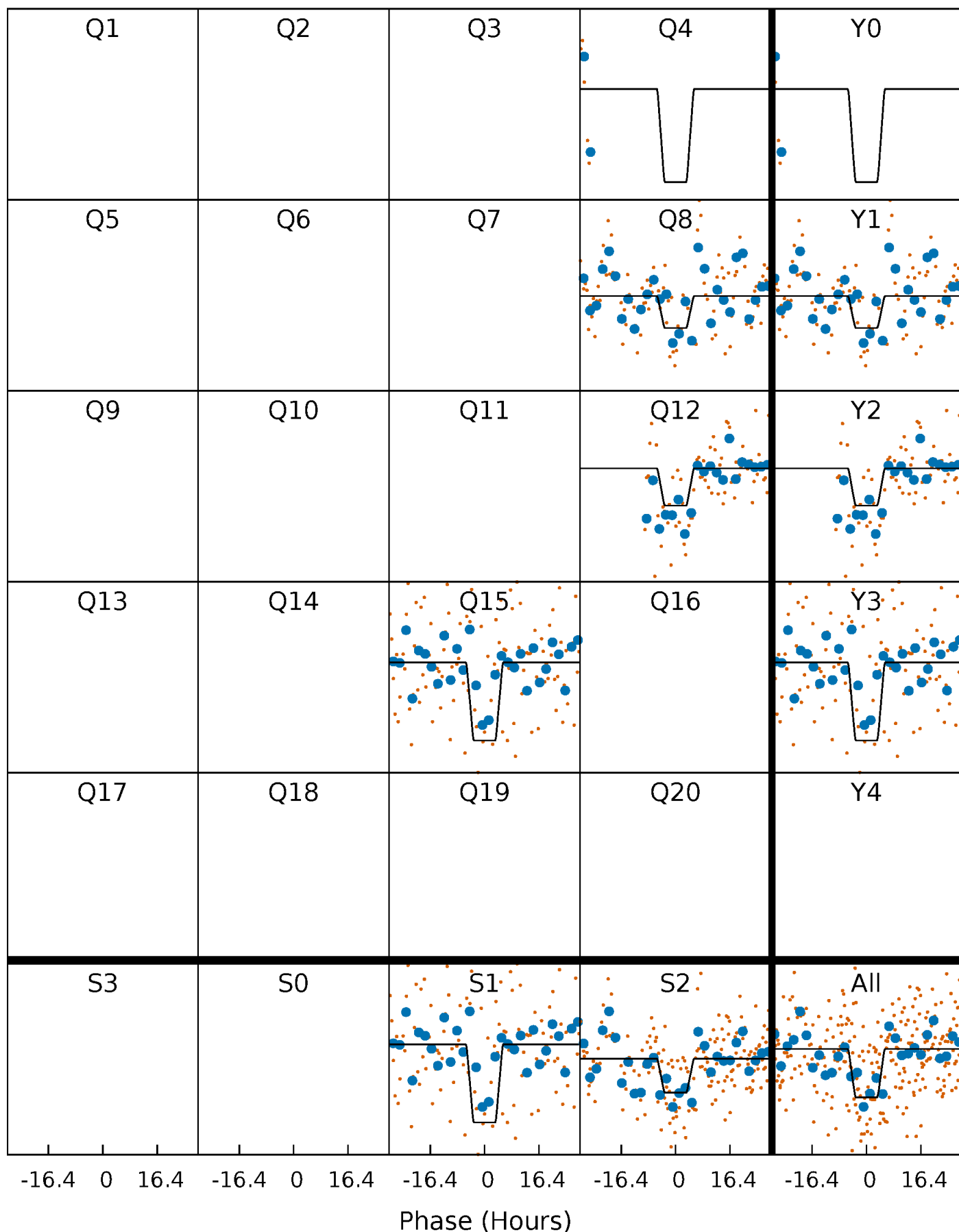
# DV Quarter-Phased Transit Curves

TCE 005517361-01 P=339.676019 Days  $T_0=443.298891$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

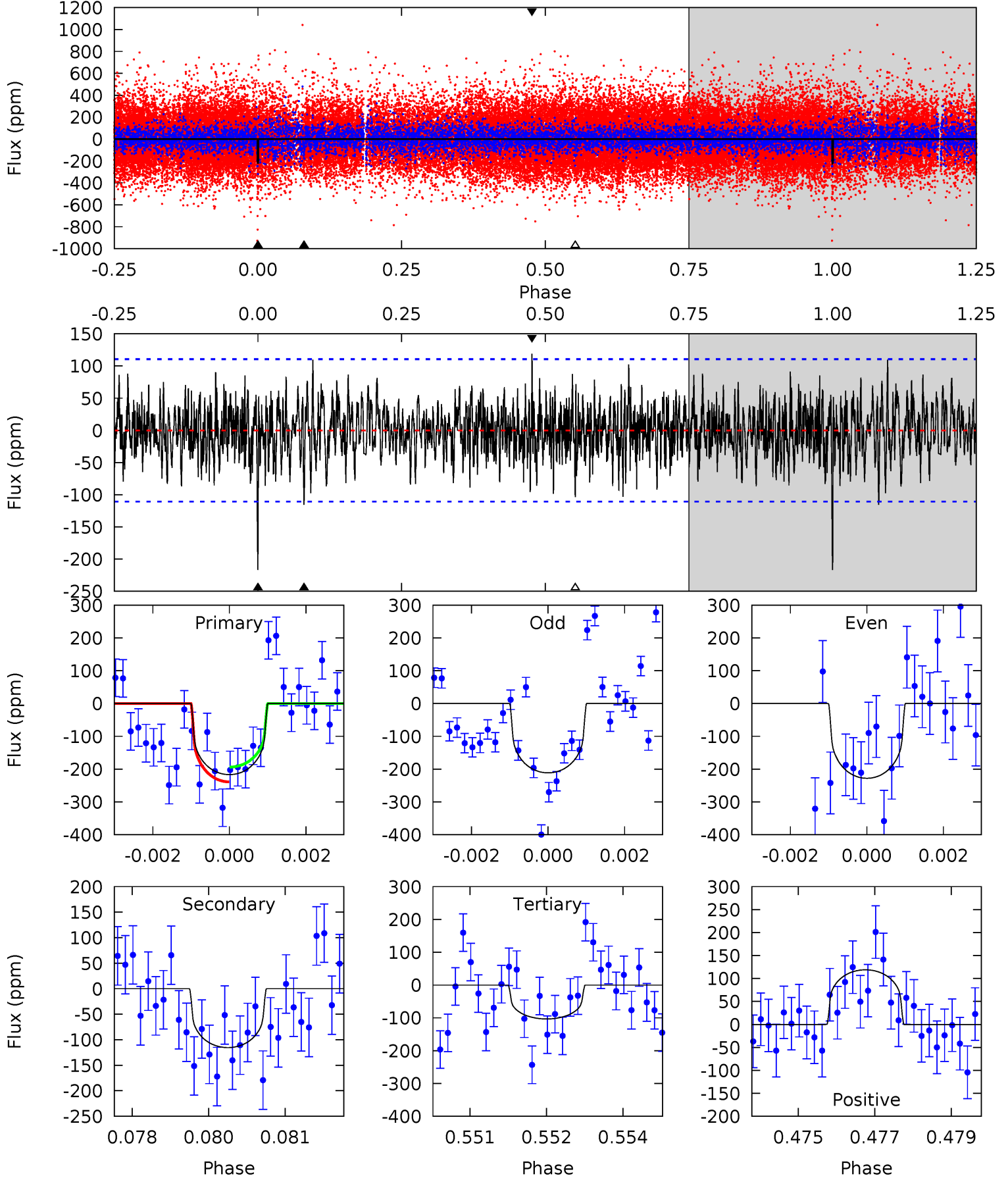
TCE 005517361-01 P=339.694313 Days  $T_0=443.267135$  (BKJD)



# DV Model-Shift Uniqueness Test

005517361-01, P = 339.676019 Days, E = 103.622872 Days

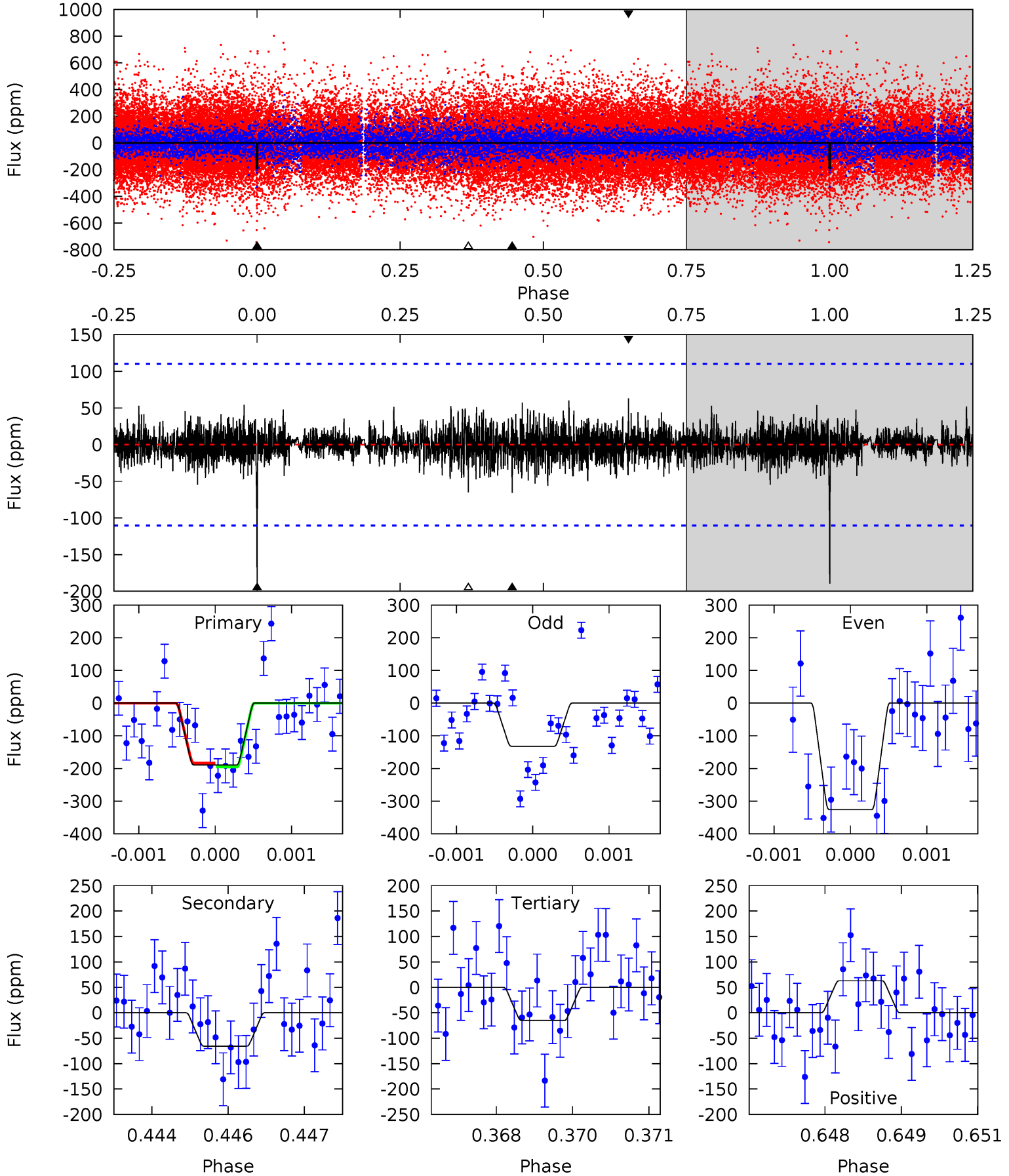
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	5.60	5.02	5.77	5.37	3.16	1.59	5.51	4.75	0.59	-0.17	0.38	0.95	0.35	1.10



# Alt Model-Shift Uniqueness Test

005517361-01,  $P = 339.694313$  Days,  $E = 103.572822$  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
9.26	3.21	3.18	3.08	5.40	3.20	0.78	6.08	6.18	0.03	0.13	4.51	1.15	0.25	0.29



### Stellar Parameters For KIC 005517361

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4986^{+151}_{-136}$	$4.540^{+0.077}_{-0.056}$	$-0.140^{+0.300}_{-0.300}$	$0.759^{+0.071}_{-0.079}$	$0.729^{+0.095}_{-0.055}$	$2.349^{+0.782}_{-0.455}$
	+3%/-3%	+2%/-1%	+214%/-214%	+9%/-10%	+13%/-8%	+33%/-19%
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 005517361-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-115 \pm 21$	$1.44^{+1.18}_{-0.84}$	$288^{+11}_{-11}$	$4125^{+2027}_{-793}$	$22397^{+118844}_{-15844}$
Alt.	$-66 \pm 20$	$1.52^{+1.10}_{-0.96}$	$288^{+11}_{-11}$	$3654^{+1779}_{-590}$	$11203^{+77800}_{-7712}$

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

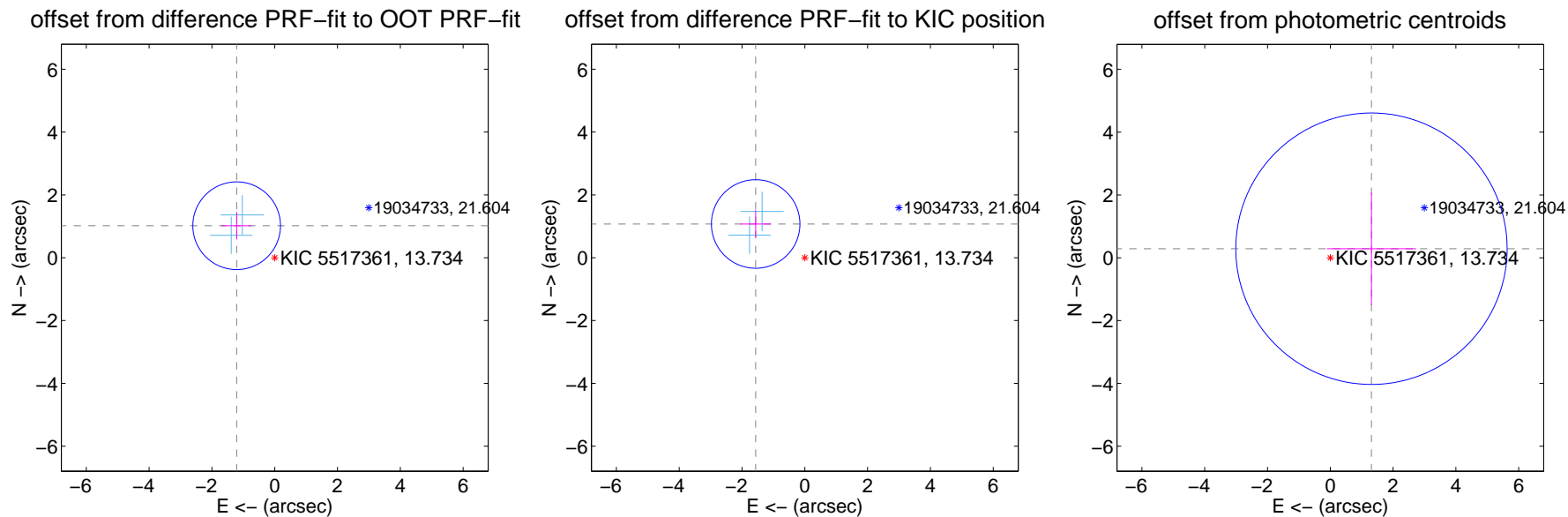
## DV Centroid Data

Supplemental centroid analysis for 005517361-01. Kepler magnitude: 13.73. Transit SNR 5.58

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.583 \pm 0.465$	3.40	$1.212 \pm 0.485$	$1.018 \pm 0.436$
PRF-fit source offset from KIC position	$1.898 \pm 0.470$	4.04	$1.565 \pm 0.485$	$1.074 \pm 0.436$
photometric centroid source offset	$1.34 \pm 1.44$	0.93	$-1.31 \pm 1.42$	$0.29 \pm 1.79$

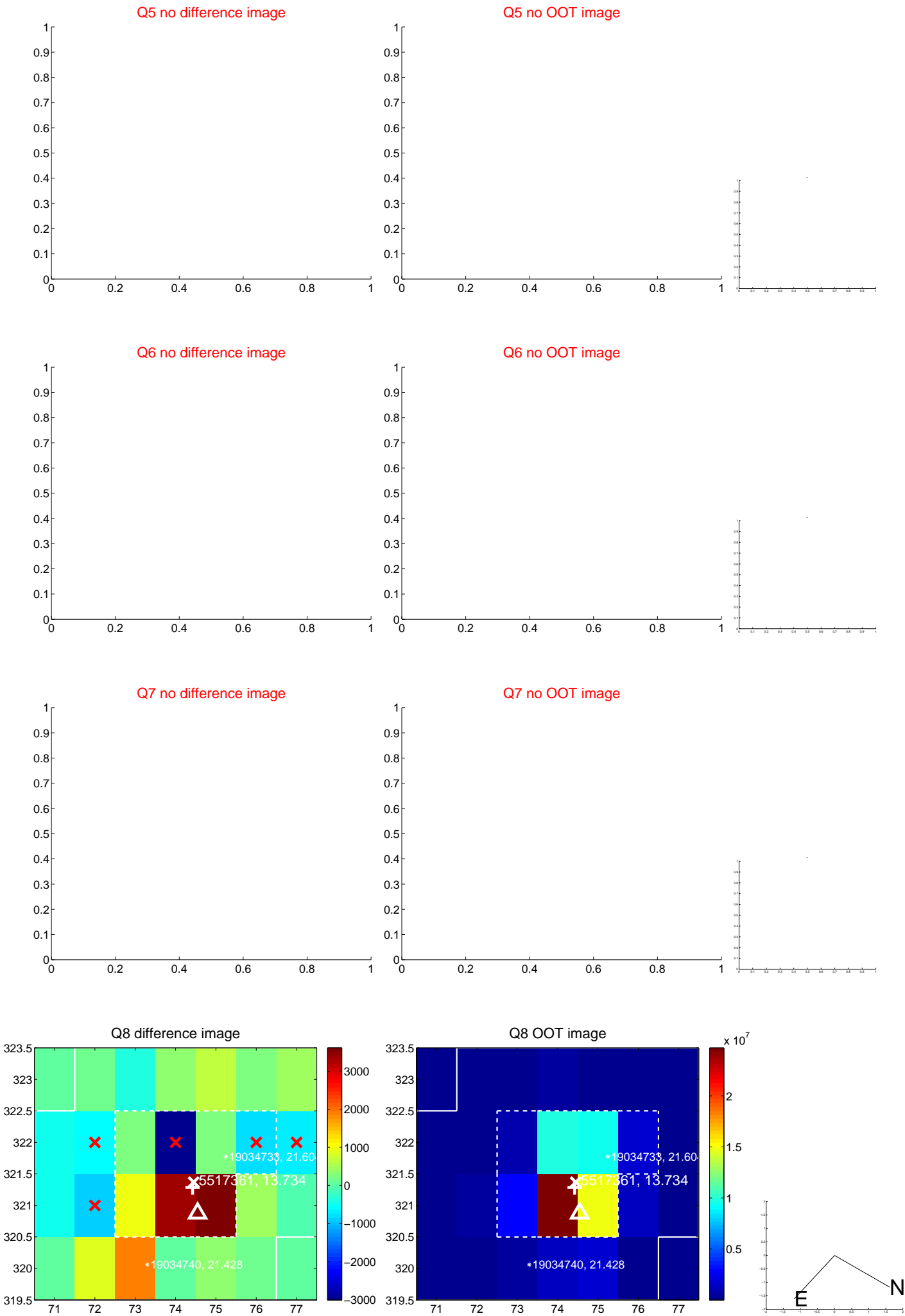


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

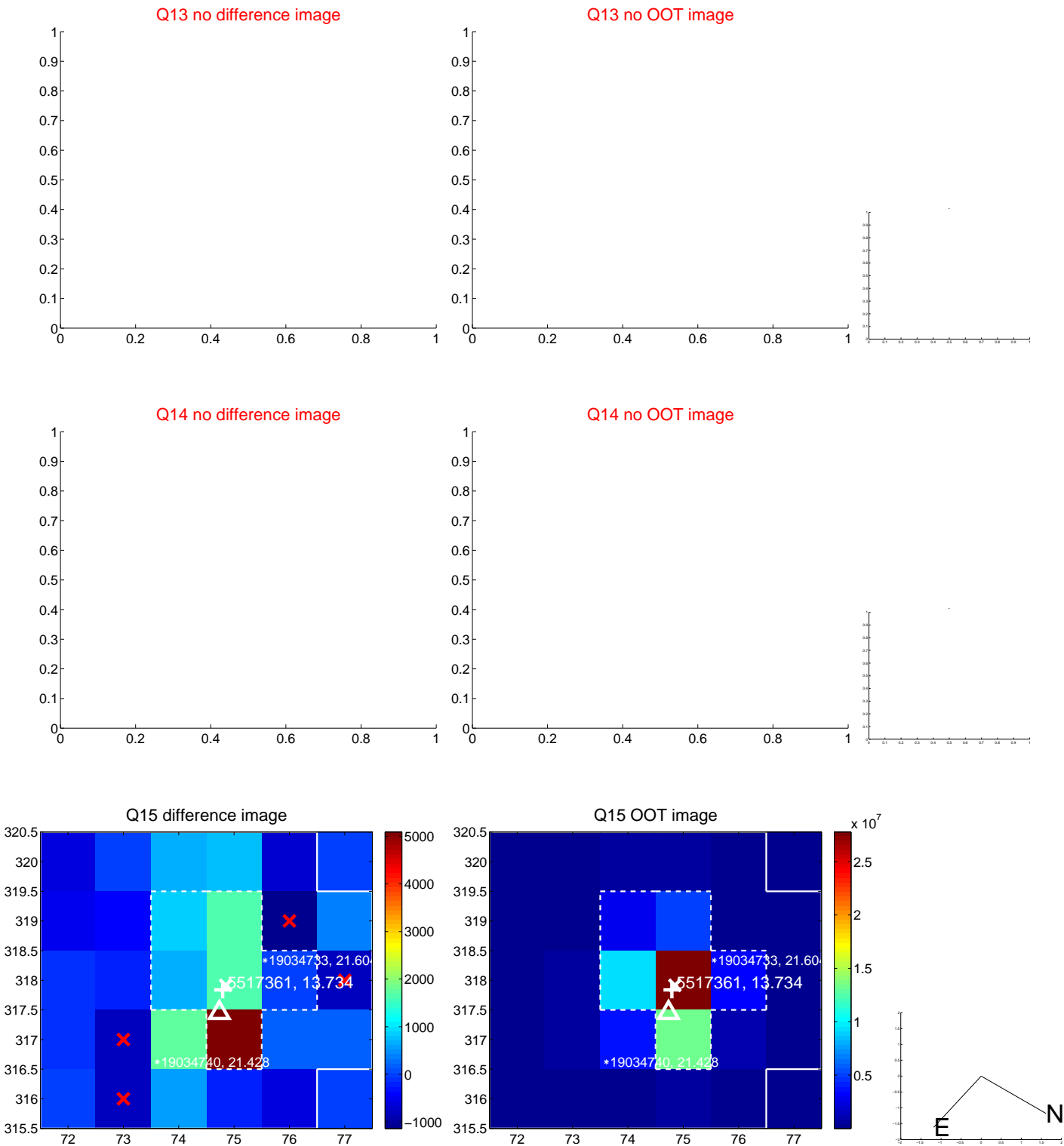




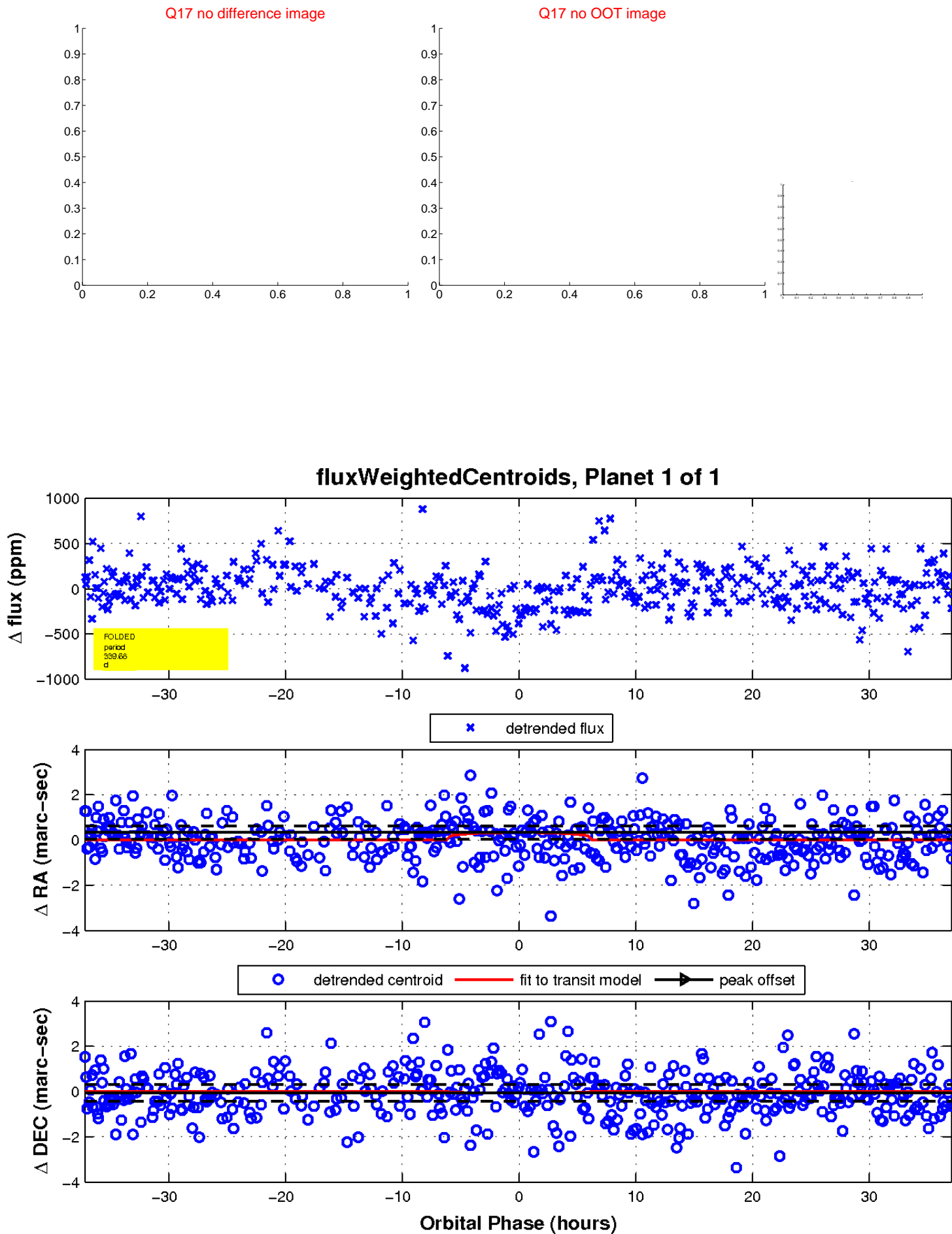
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

