

# KIC 007955484

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007955484-01	OBS	No	552.577814	304.613287	174.7	5.673	7.4	6.6	1.77	6773	2.68	2.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007955484-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—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.

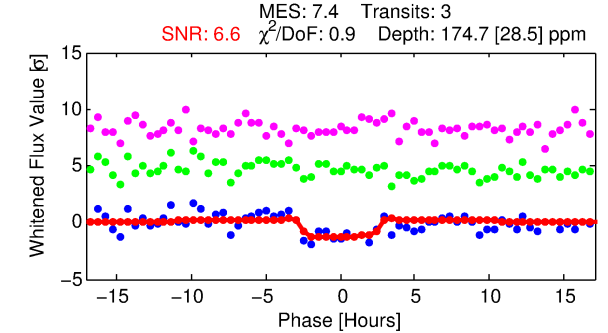
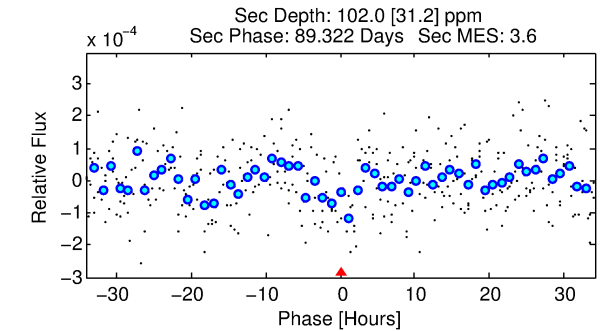
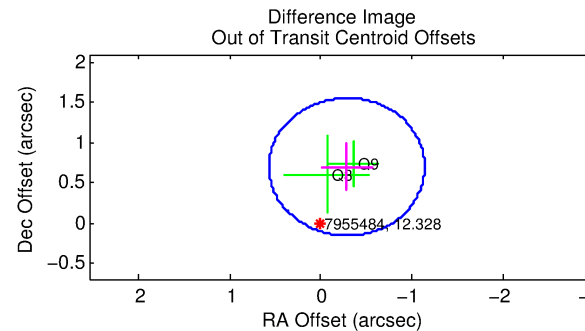
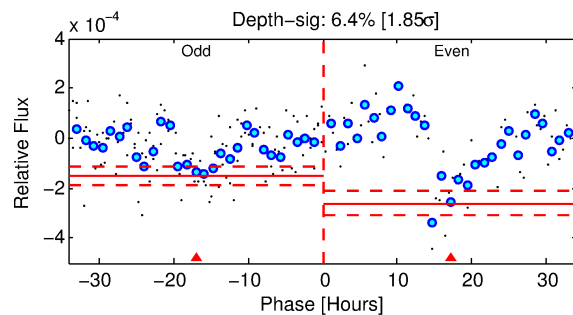
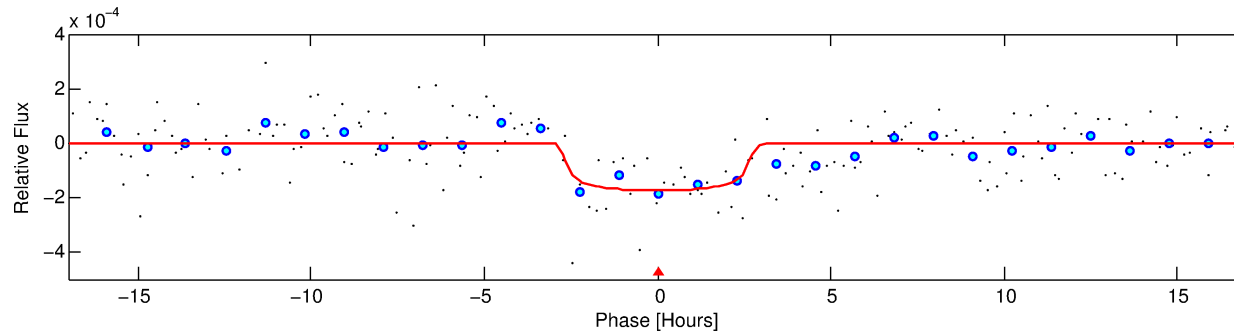
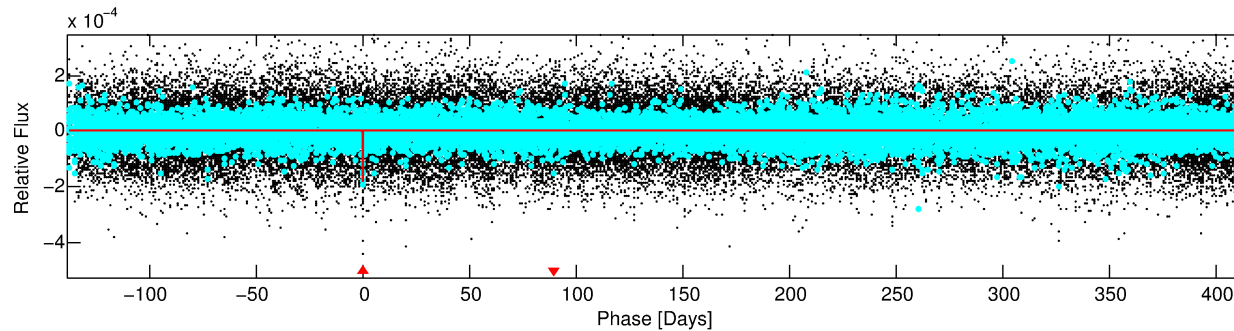
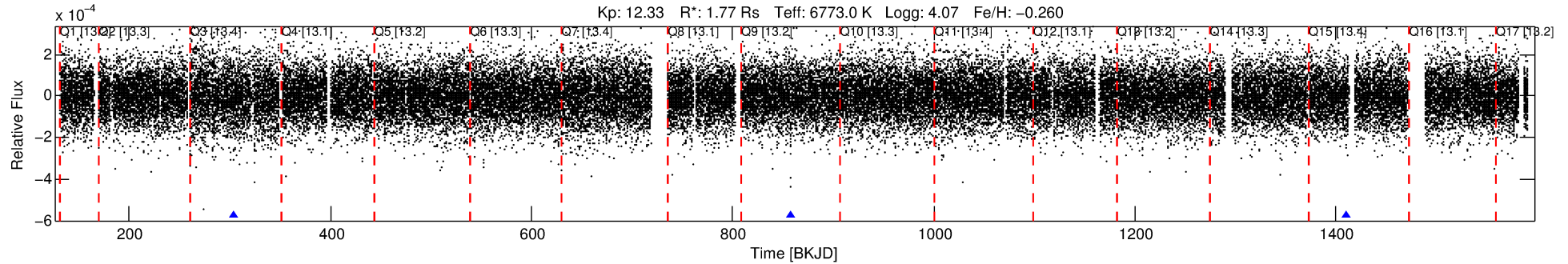
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007955484-01

No Significant Match Found

# DV One-Page Summary

KIC: 7955484 Candidate: 1 of 1 Period: 552.578 d



## DV Fit Results:

Period = 552.57781 [0.00713] d  
Epoch = 304.6133 [0.0100] BKJD  
Rp/R\* = 0.0139 [0.0062]  
a/R\* = 372.73 [958.03]  
b = 0.88 [0.66]  
Seff = 2.79 [1.05]  
Teq = 330 [31] K  
Rp = 2.68 [1.39] Re  
a = 1.4520 [0.3400] AU  
Ag = 16454.56 [16454.78] [1.00 $\sigma$ ]  
Teffp = 5770 [1363] K [3.99 $\sigma$ ]

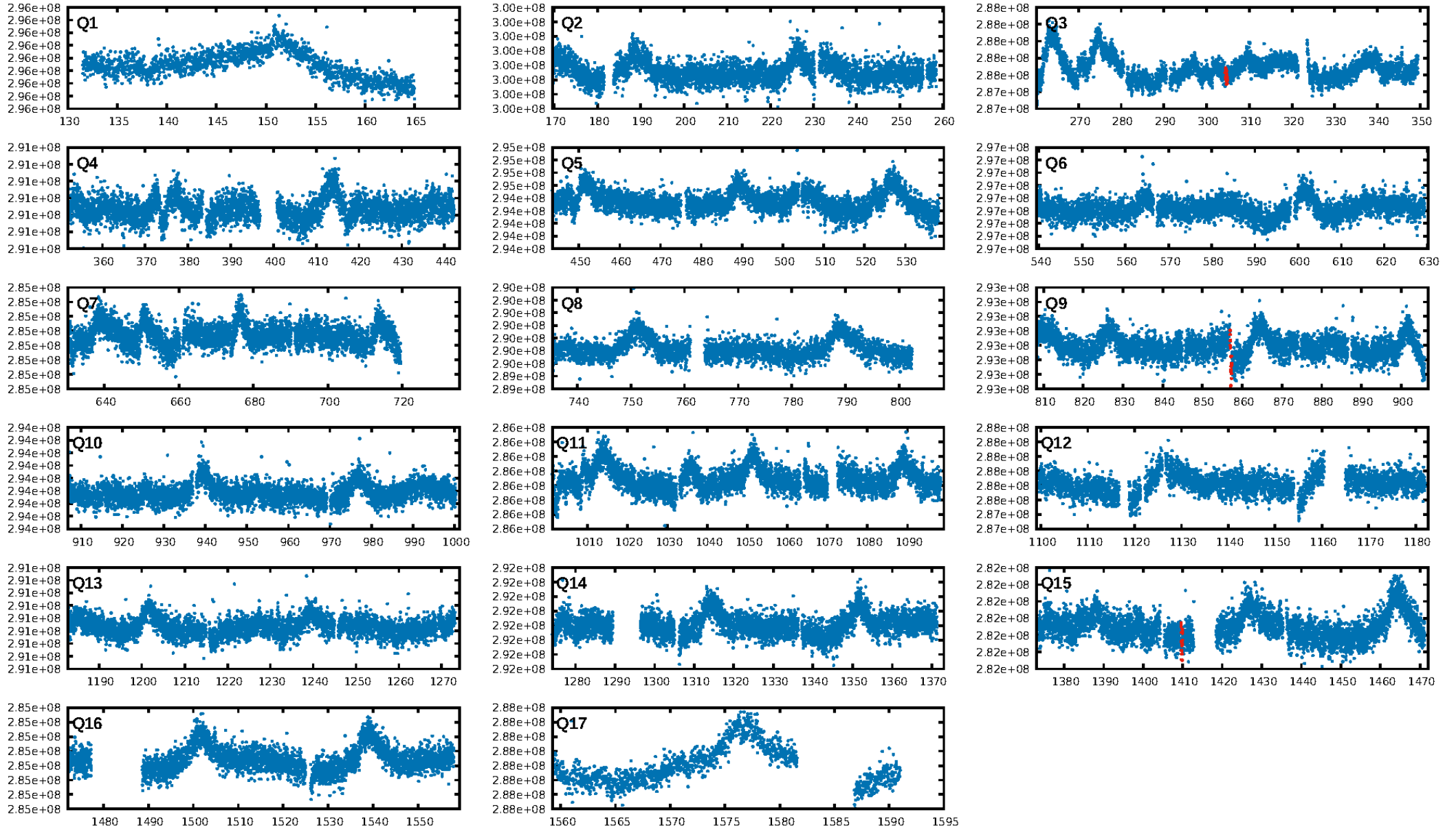
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 41.4%  
ModelChiSquareGof-sig: 99.9%  
**Bootstrap-pfa: 6.28e-12**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 8.083  
Centroid-sig: 99.5%  
Centroid-so: 0.280 arcsec [0.18 $\sigma$ ]  
OotOffset-rm: 0.753 arcsec [2.63 $\sigma$ ]  
OotOffset-st: 0/1/0/1 [2]  
KicOffset-rm: 0.644 arcsec [2.24 $\sigma$ ]  
KicOffset-st: 0/1/0/1 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [2/2]

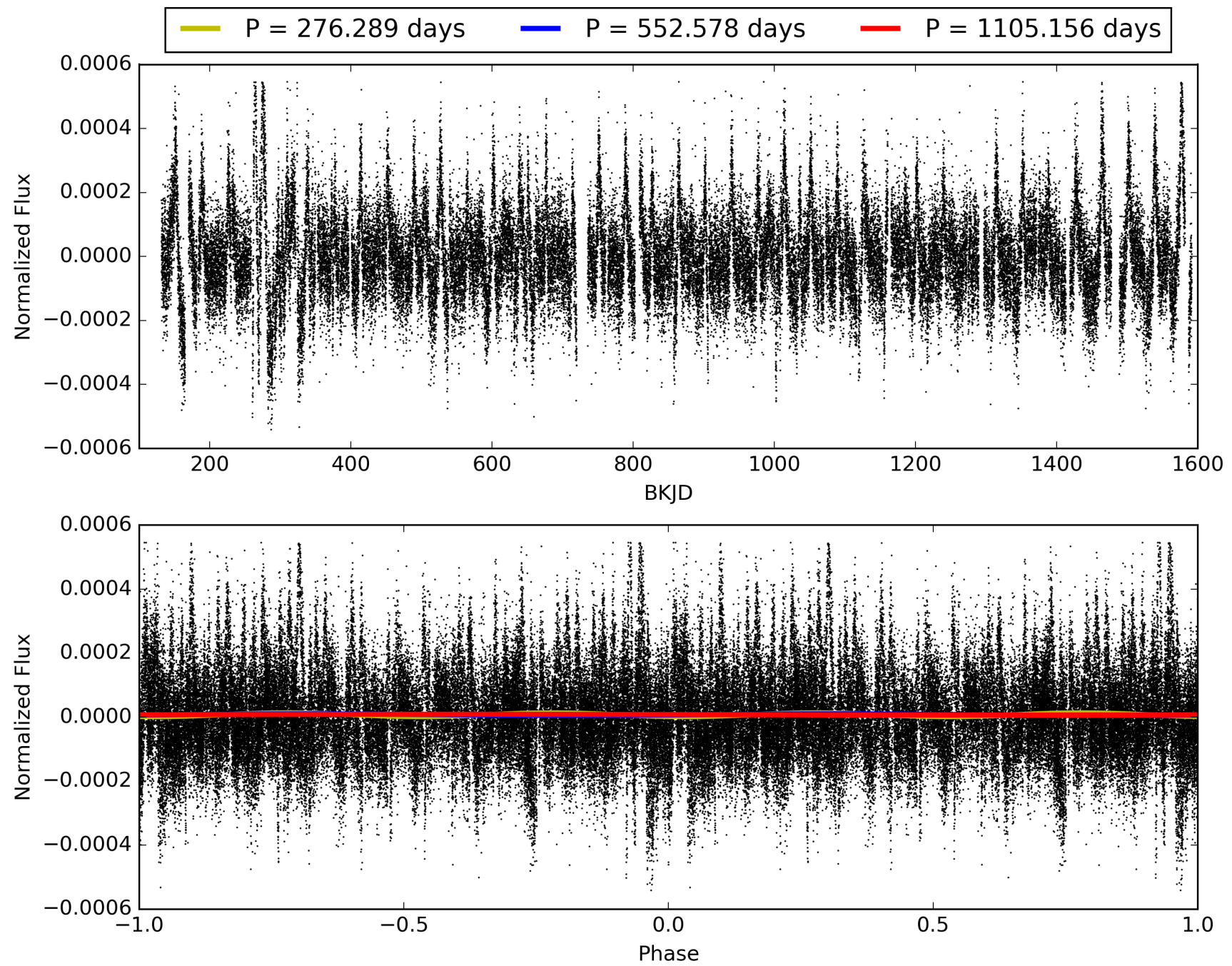
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:40:41 Z

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

# TCE 007955484-01, PDC Light Curves

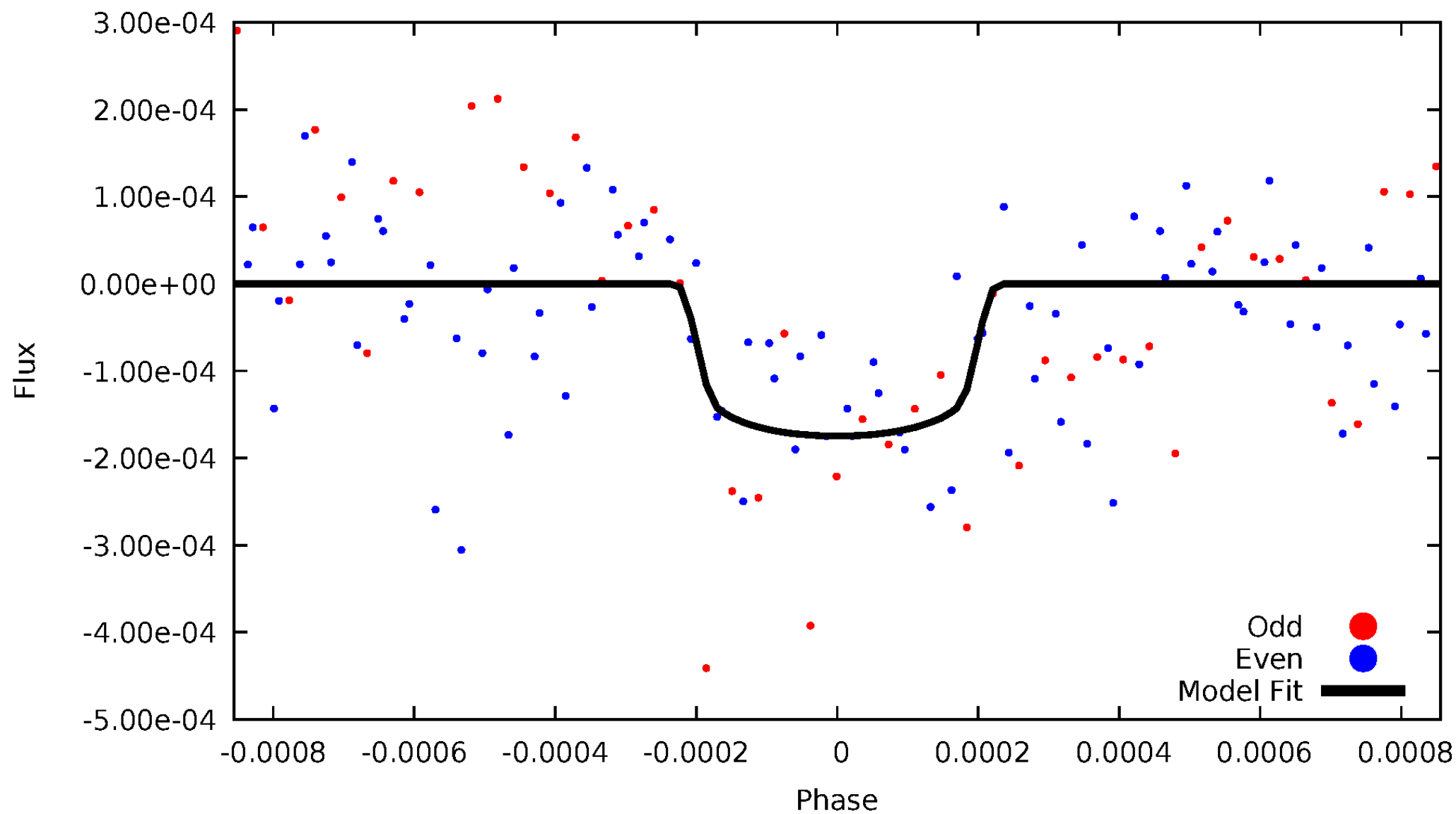


TCE 007955484-01



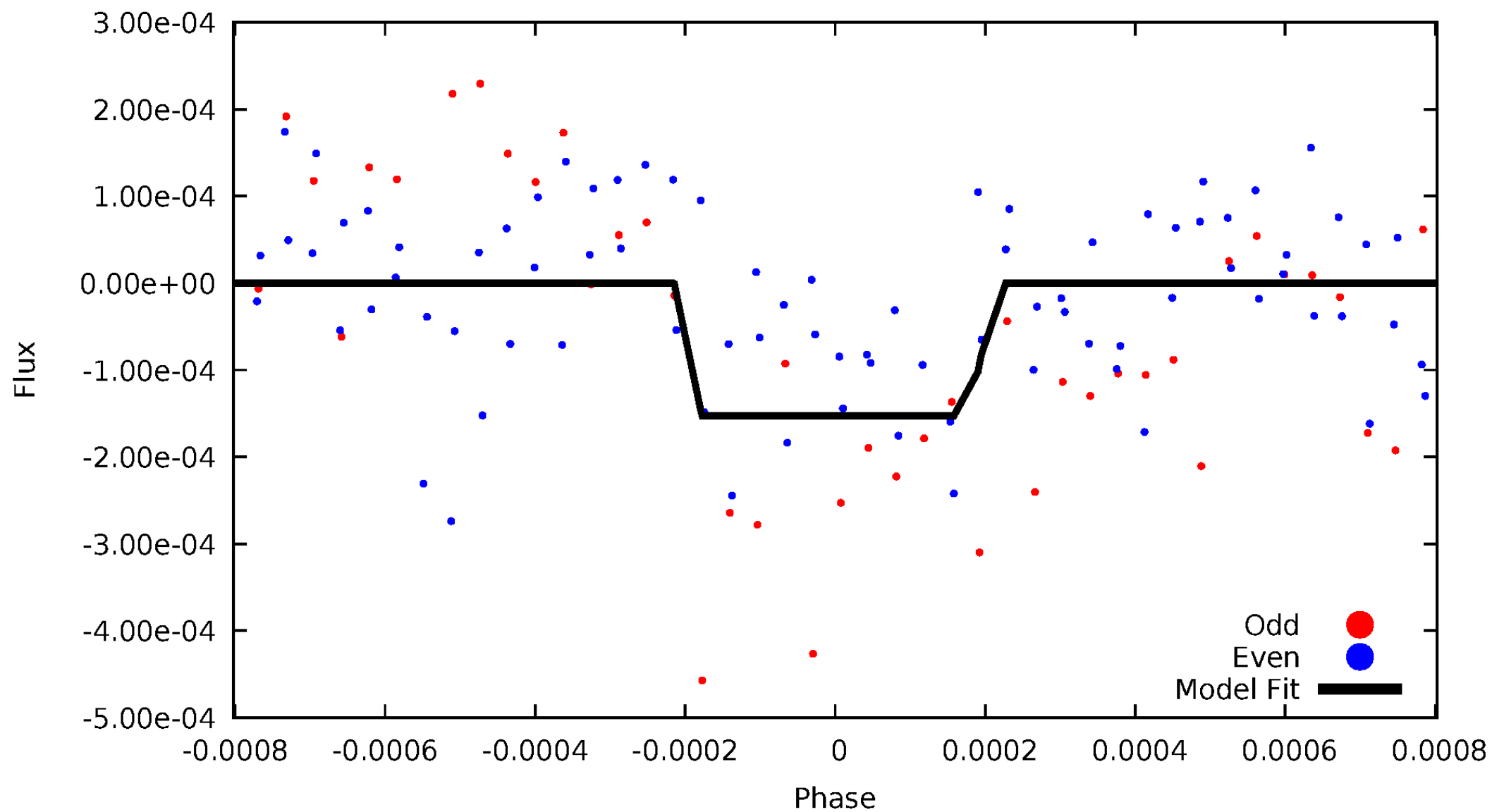
# DV Odd/Even

TCE 007955484-01



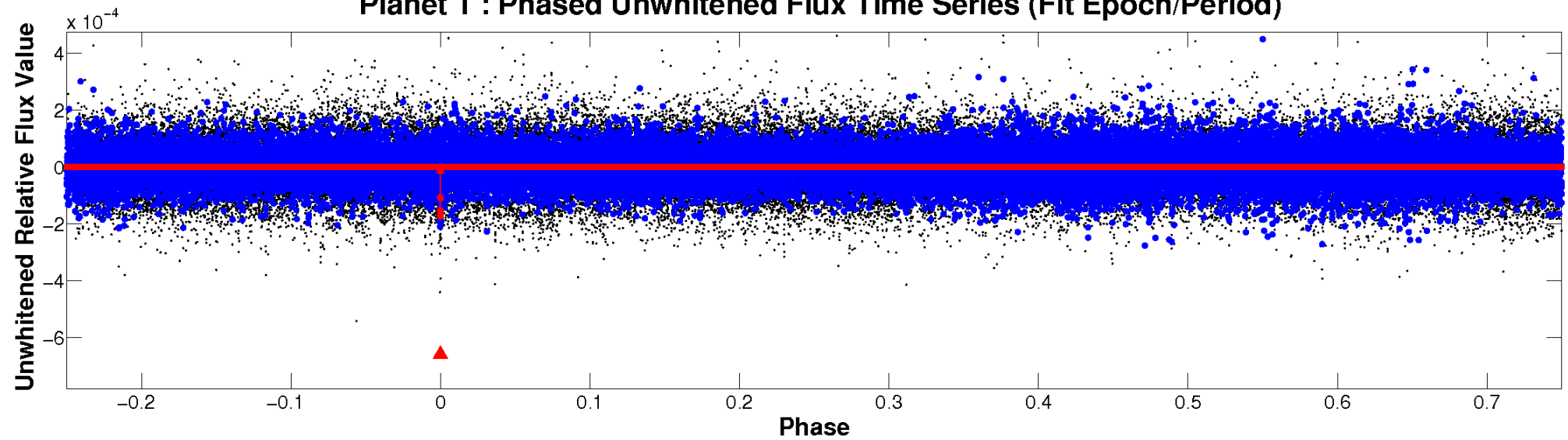
# ALT Odd/Even

TCE 007955484-01

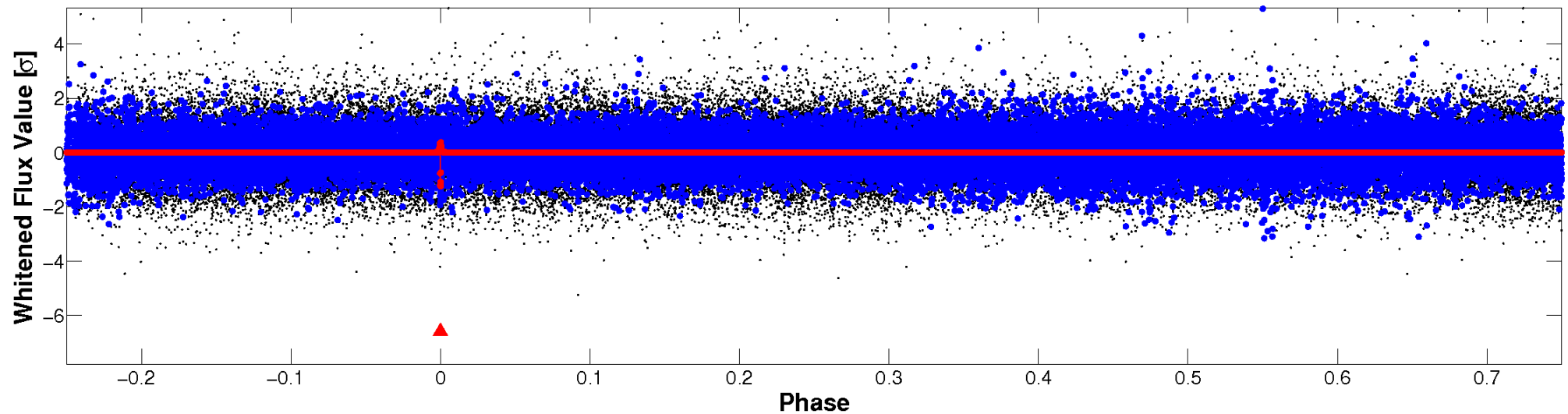


# Non-Whitened Vs. Whitened Light Curve

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



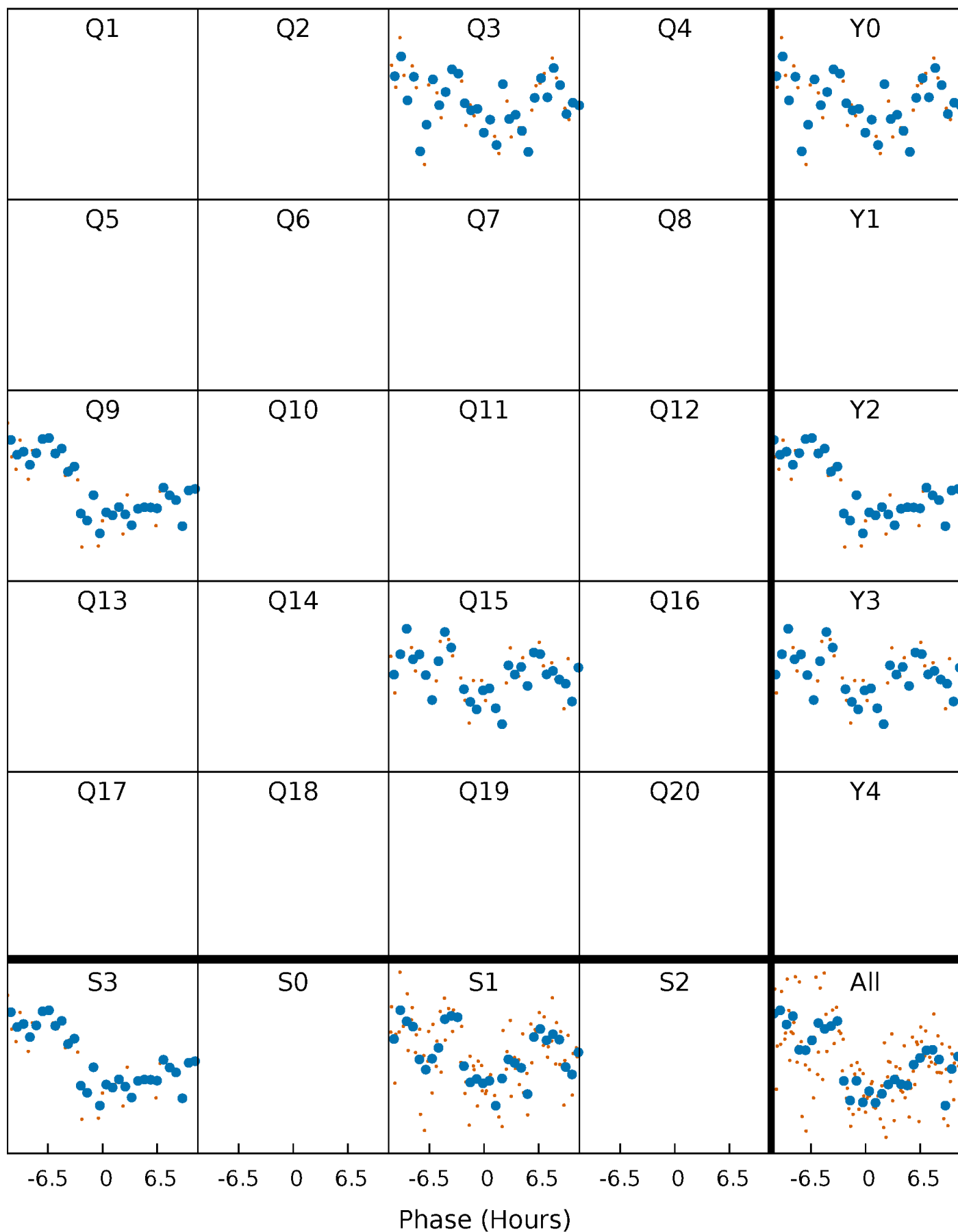
Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

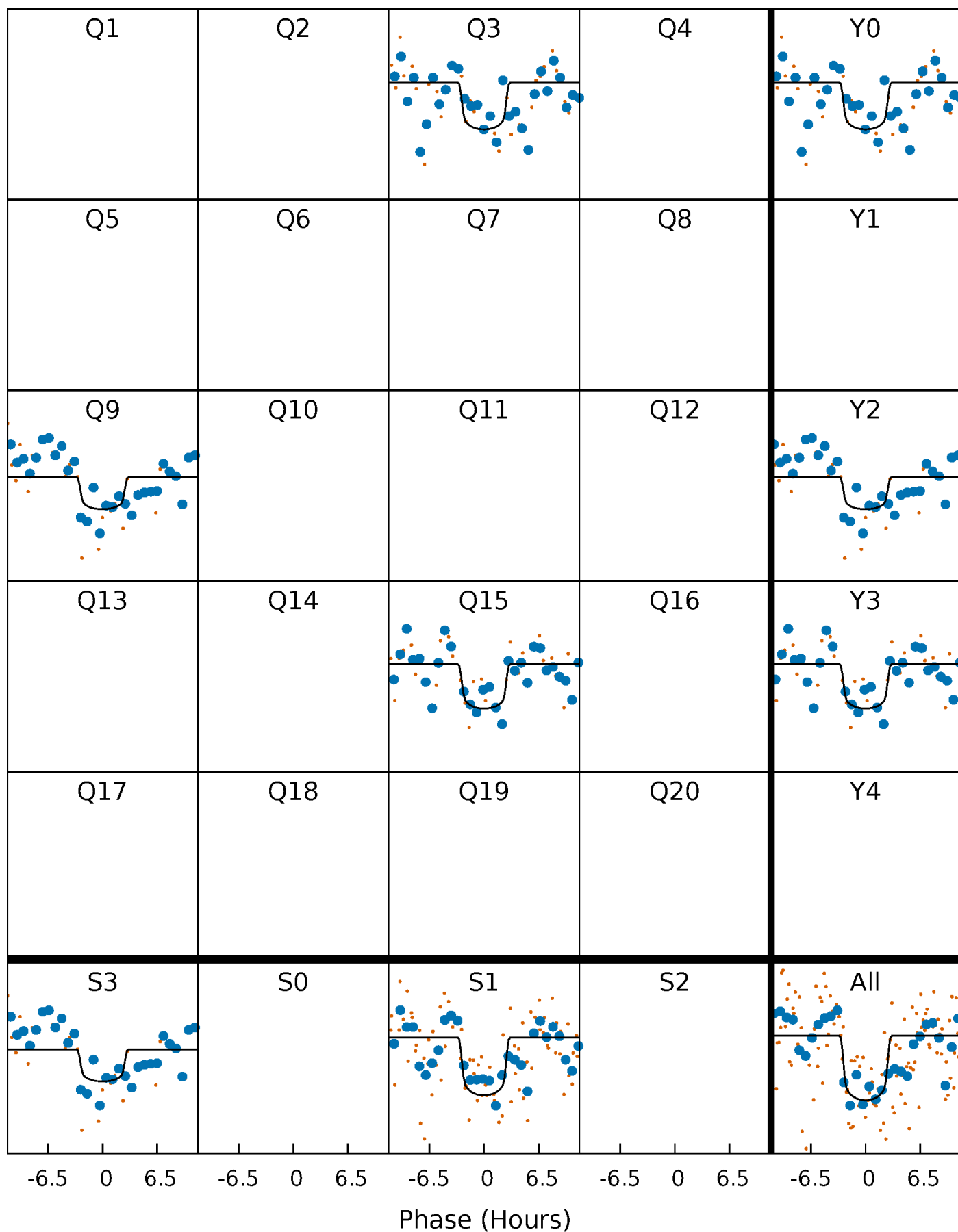
TCE 007955484-01 P=552.577814 Days  $T_0=304.613287$  (BKJD)





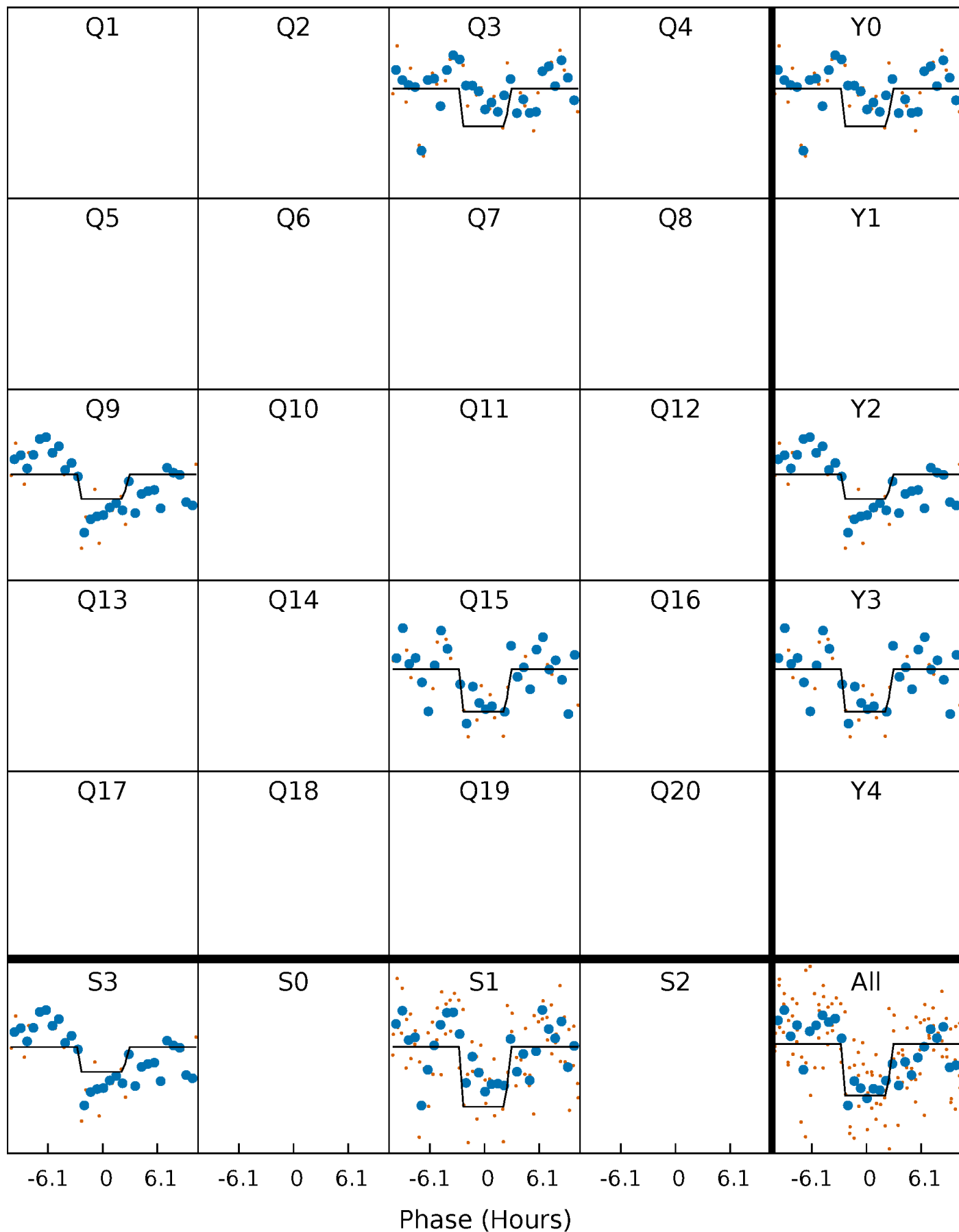
# DV Quarter-Phased Transit Curves

TCE 007955484-01 P=552.577814 Days  $T_0=304.613287$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

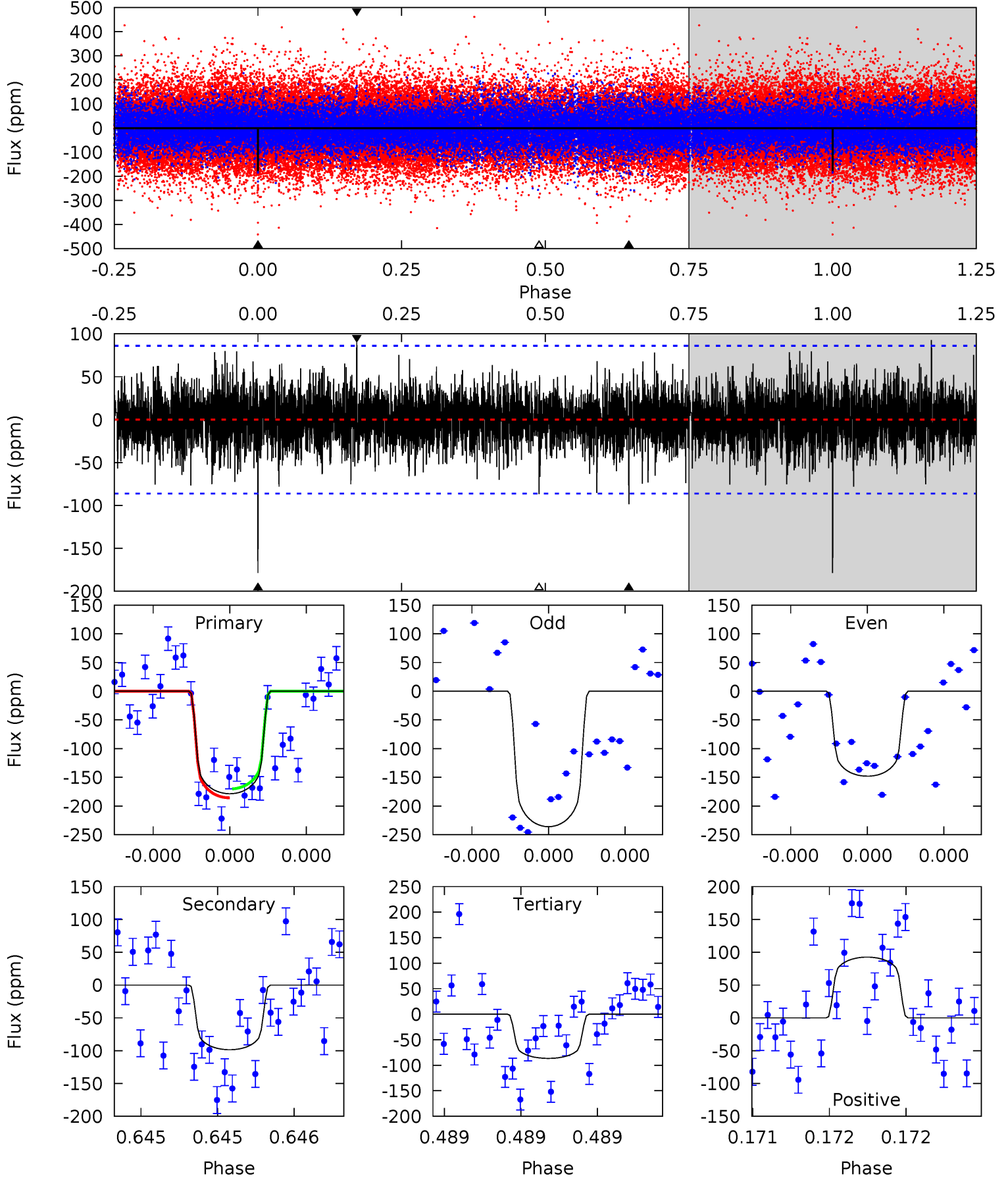
TCE 007955484-01 P=552.584763 Days  $T_0=304.601702$  (BKJD)



# DV Model-Shift Uniqueness Test

007955484-01, P = 552.577814 Days, E = 304.613287 Days

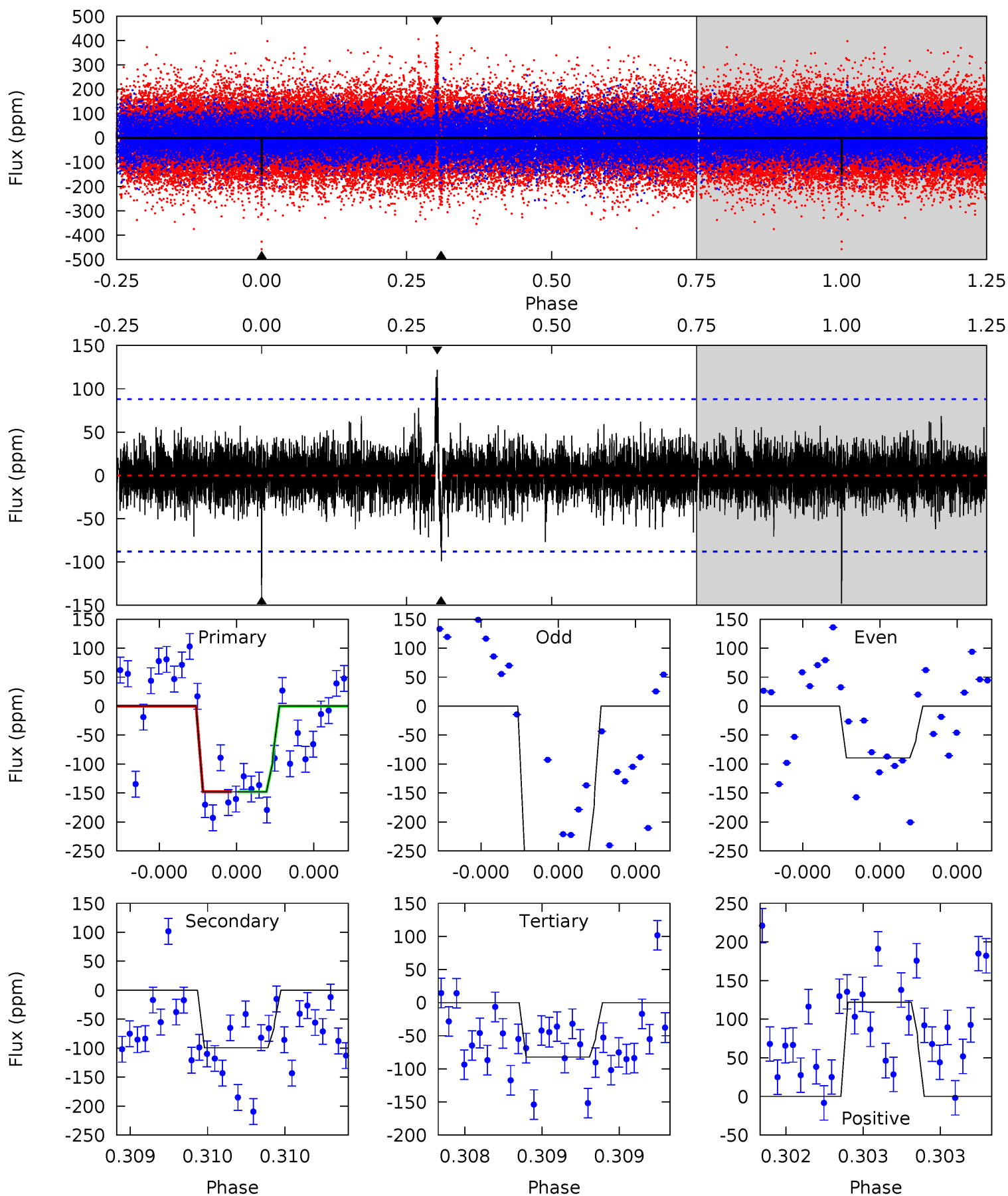
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	6.40	5.62	6.01	5.59	3.51	1.44	5.98	5.59	0.78	0.39	2.67	1.12	0.34	0.51



# Alt Model-Shift Uniqueness Test

007955484-01, P = 552.584763 Days, E = 304.601702 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
9.44	6.32	5.24	7.77	5.61	3.53	1.24	4.20	1.66	1.09	-1.45	5.15	0.99	0.45	0.01



### Stellar Parameters For KIC 007955484

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6773^{+182}_{-223}$	$4.070^{+0.198}_{-0.132}$	$-0.260^{+0.300}_{-0.300}$	$1.766^{+0.386}_{-0.472}$	$1.340^{+0.170}_{-0.227}$	$0.342^{+0.380}_{-0.134}$
	+3%/-3%	+5%/-3%	+115%/-115%	+22%/-27%	+13%/-17%	+111%/-39%
Source	PHO1	FLK73	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 007955484-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-99 \pm 15$	$2.55^{+1.24}_{-1.12}$	$456^{+29}_{-31}$	$5739^{+1869}_{-897}$	$17455^{+35450}_{-9806}$
Alt.	$-99 \pm 16$	$2.32^{+1.29}_{-1.09}$	$455^{+33}_{-30}$	$5953^{+2529}_{-994}$	$20438^{+55117}_{-12288}$

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

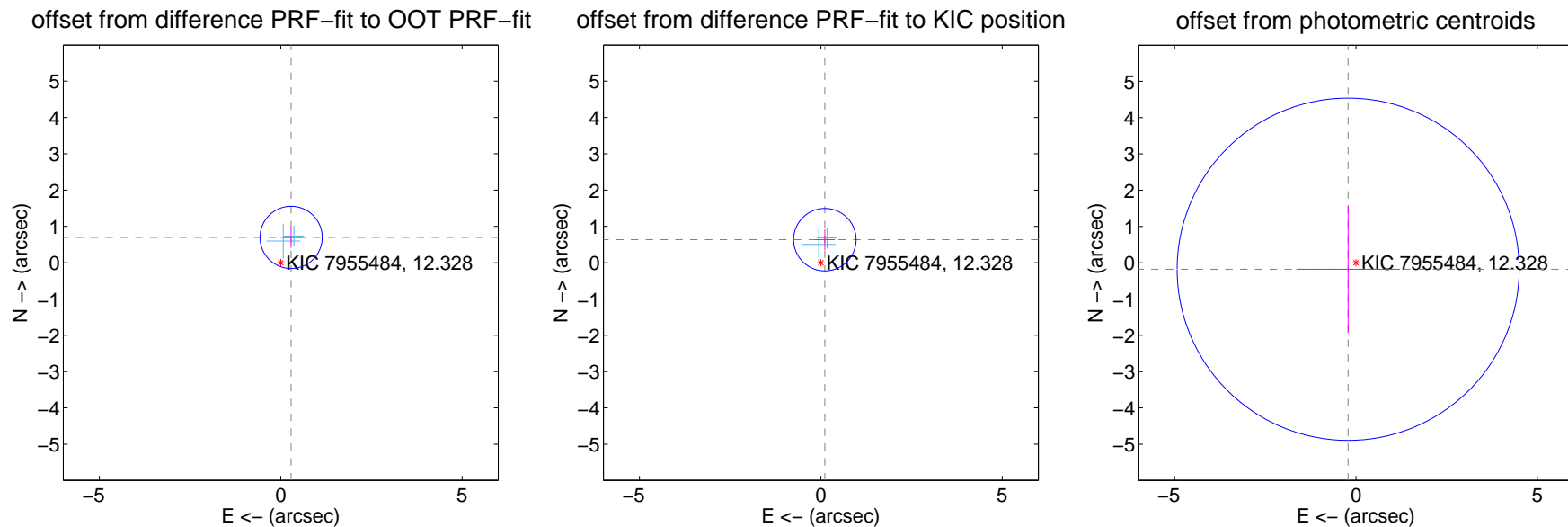
## DV Centroid Data

Supplemental centroid analysis for 007955484-01. Kepler magnitude: 12.33. Transit SNR 6.63

There are 2 quarters with good PRF difference image offsets

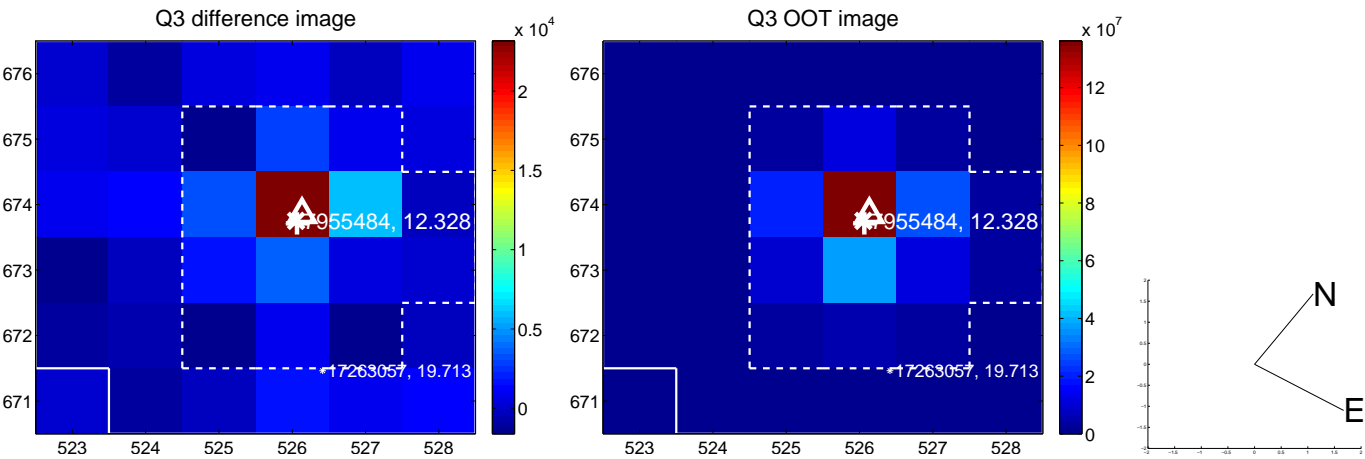
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.753 \pm 0.286$	2.63	$-0.286 \pm 0.278$	$0.697 \pm 0.287$
PRF-fit source offset from KIC position	$0.644 \pm 0.287$	2.24	$-0.110 \pm 0.278$	$0.634 \pm 0.287$
photometric centroid source offset	$0.28 \pm 1.57$	0.18	$0.22 \pm 1.43$	$-0.18 \pm 1.76$



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.

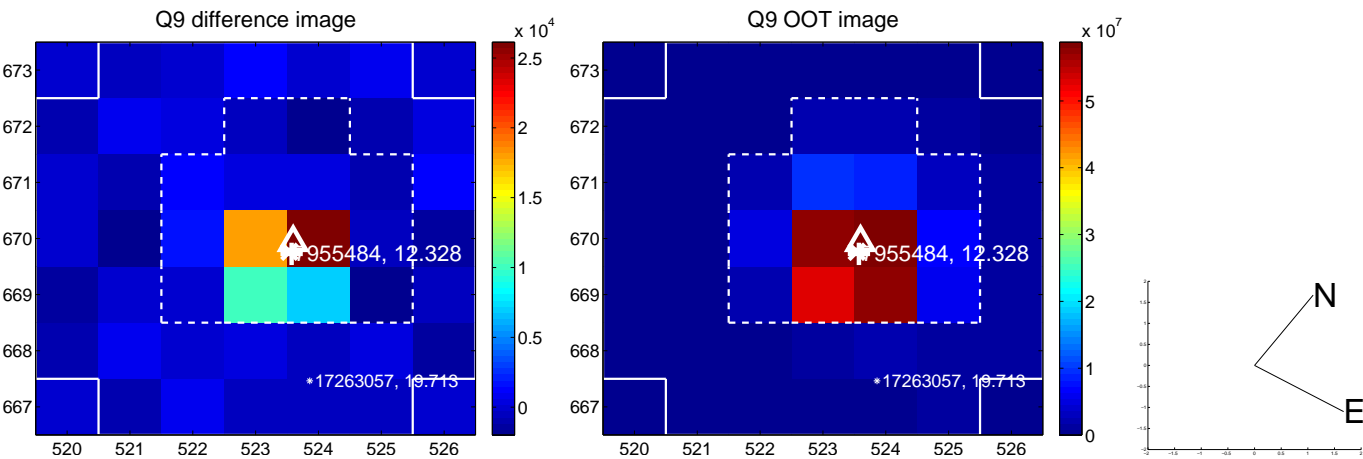




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



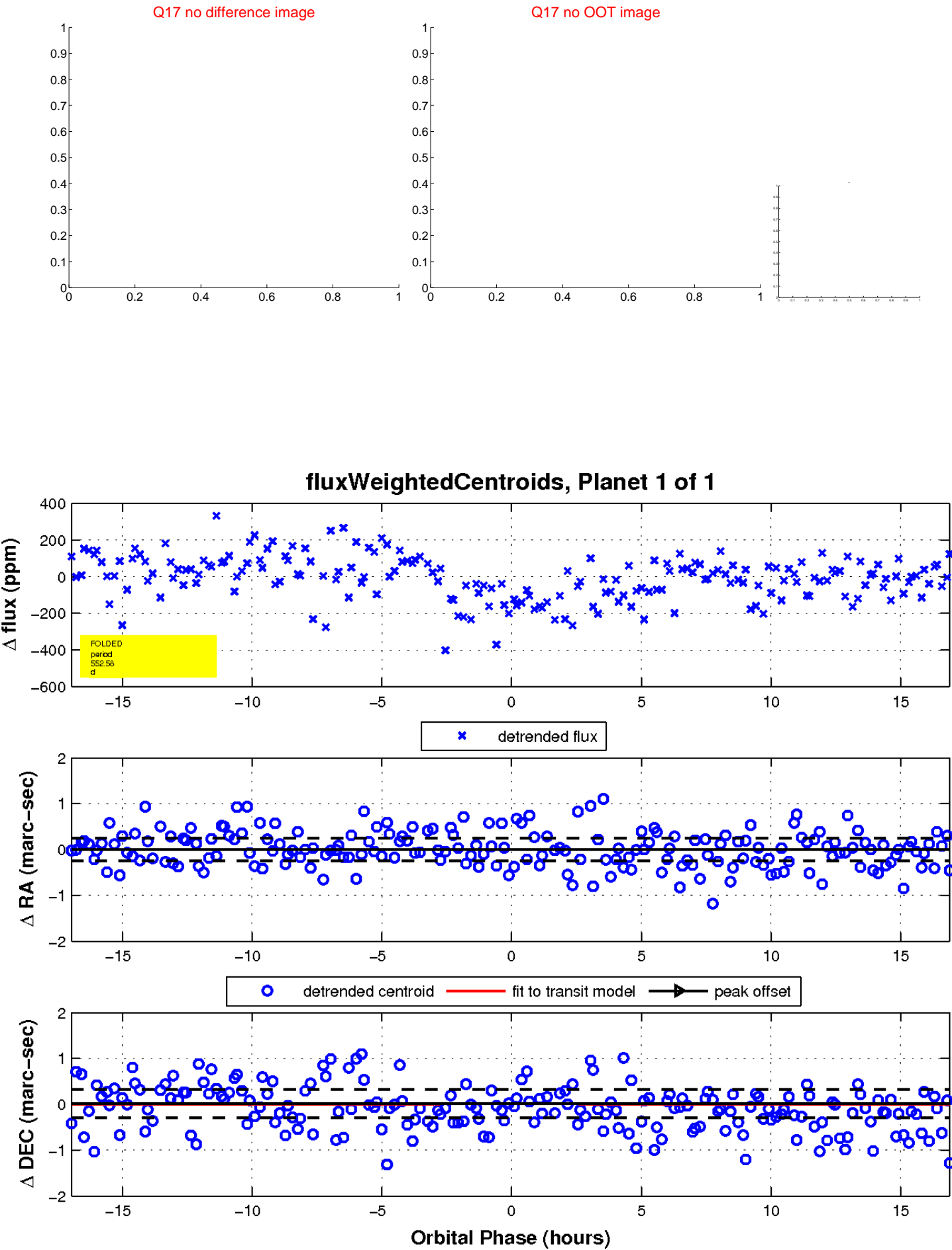
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

