

# KIC 007898576

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007898576-01	OBS	3566.01	4.323990	135.309712	219714.4	9.772	4309.4	2269.9	1.13	6444	90.26	678.28

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007898576-01	OBS	FP	0.00	1	0	0	0	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.

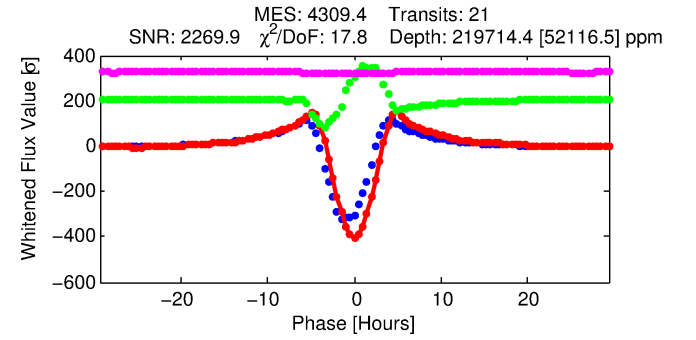
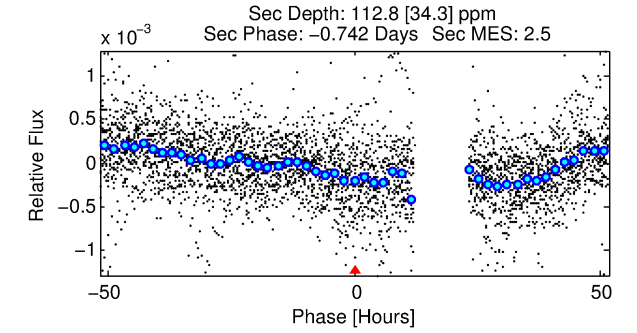
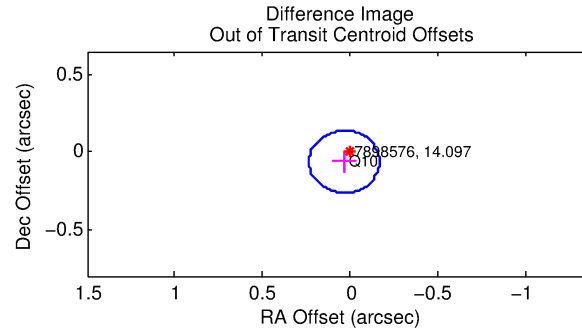
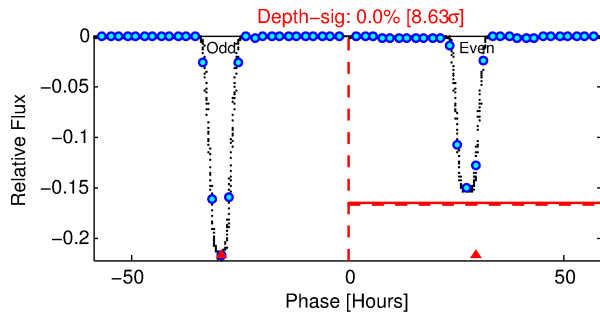
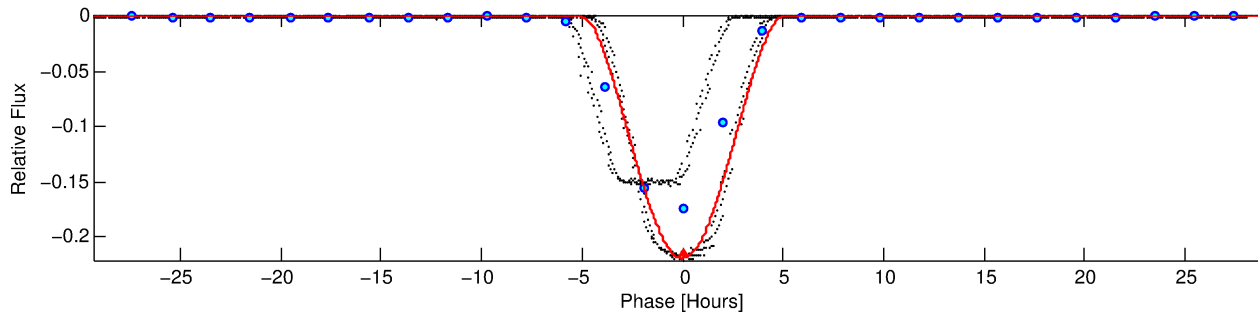
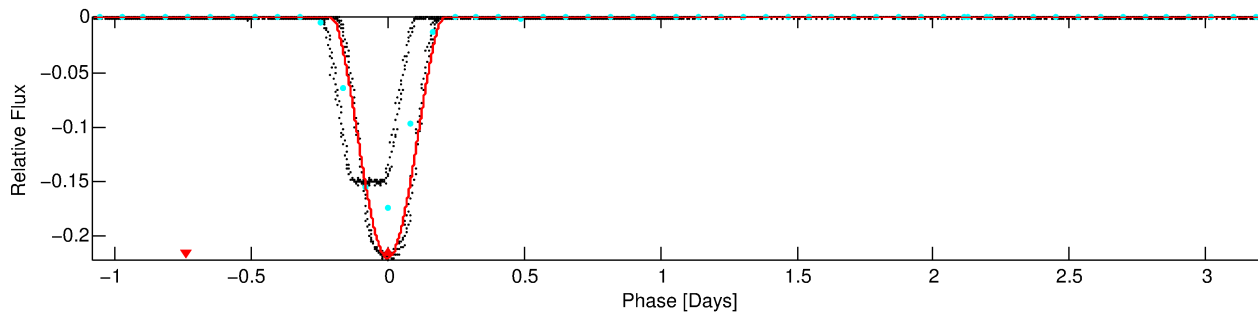
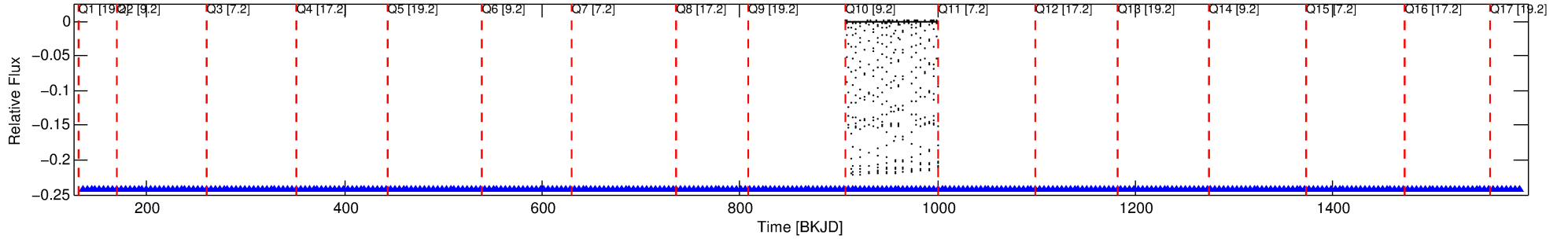
## Ephemeris Match Information For 007898576-01

No Significant Match Found

# DV One-Page Summary

KIC: 7898576 Candidate: 1 of 1 Period: 4.324 d  
KOI: K03566 Corr: No Ephemeris Match

Kp: 14.10 R\*: 1.13 Rs Teff: 6444.0 K Logg: 4.38 Fe/H: -0.180



## DV Fit Results:

Period = 4.32399 [0.00001] d  
Epoch = 135.3097 [0.0018] BKJD  
Rp/R\* = 0.7294 [0.0478]  
a/R\* = 4.94 [0.08]  
b = 1.00 [0.17]  
Seff = 678.29 [283.82]  
Teq = 1301 [136] K  
Rp = 90.26 [31.29] Re  
a = 0.0541 [0.0151] AU  
Ag = 0.02 [0.01] [-85.15σ]  
Teffp = 778 [70] K [-3.42σ]

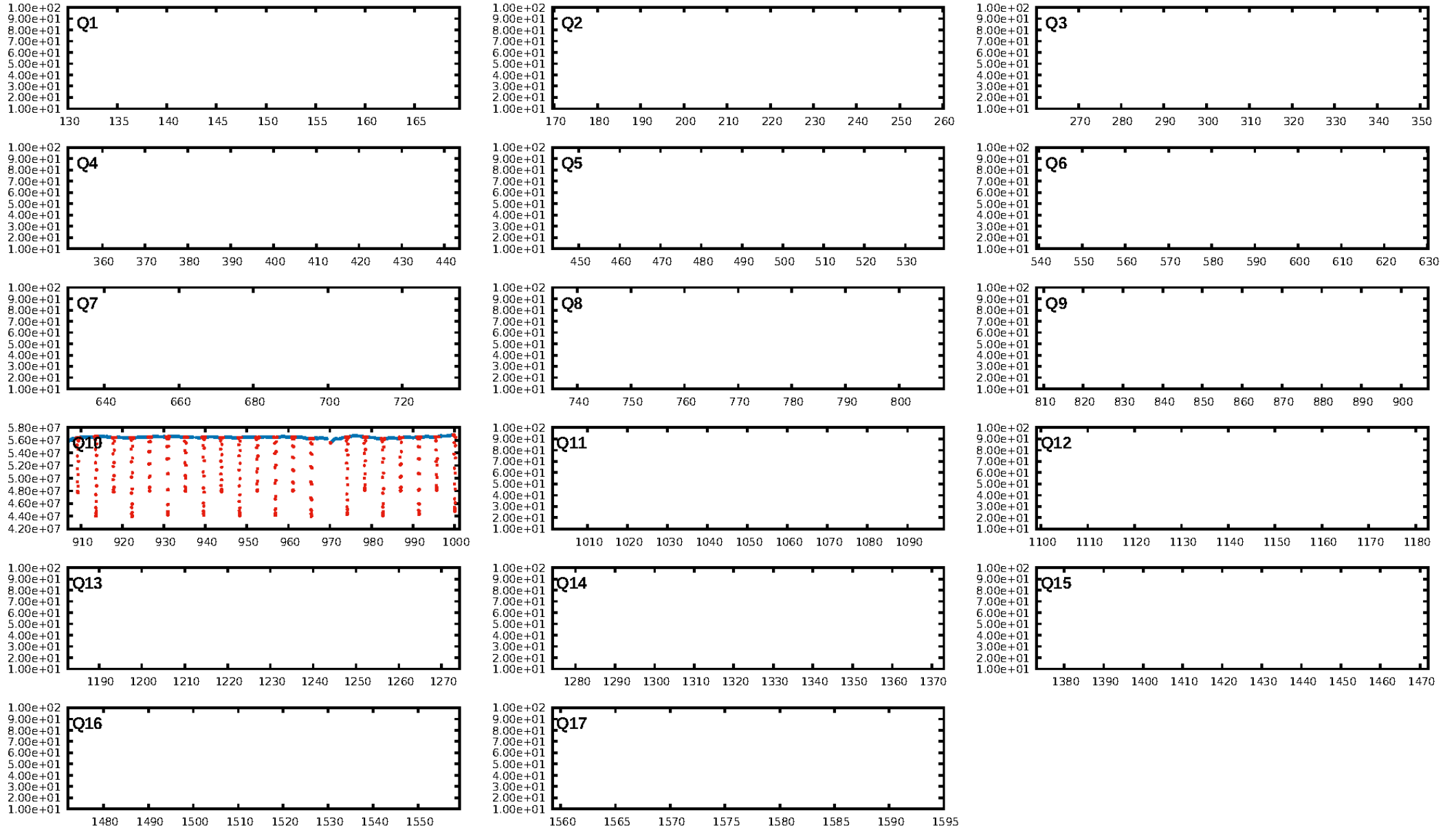
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [21/21]  
GhostDiagnostic-chr: 12.09  
Centroid-sig: 0.0%  
Centroid-so: 0.090 arcsec [41.24σ]  
OotOffset-rm: 0.072 arcsec [1.08σ]  
KicOffset-rm: 0.195 arcsec [2.93σ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [1/1]

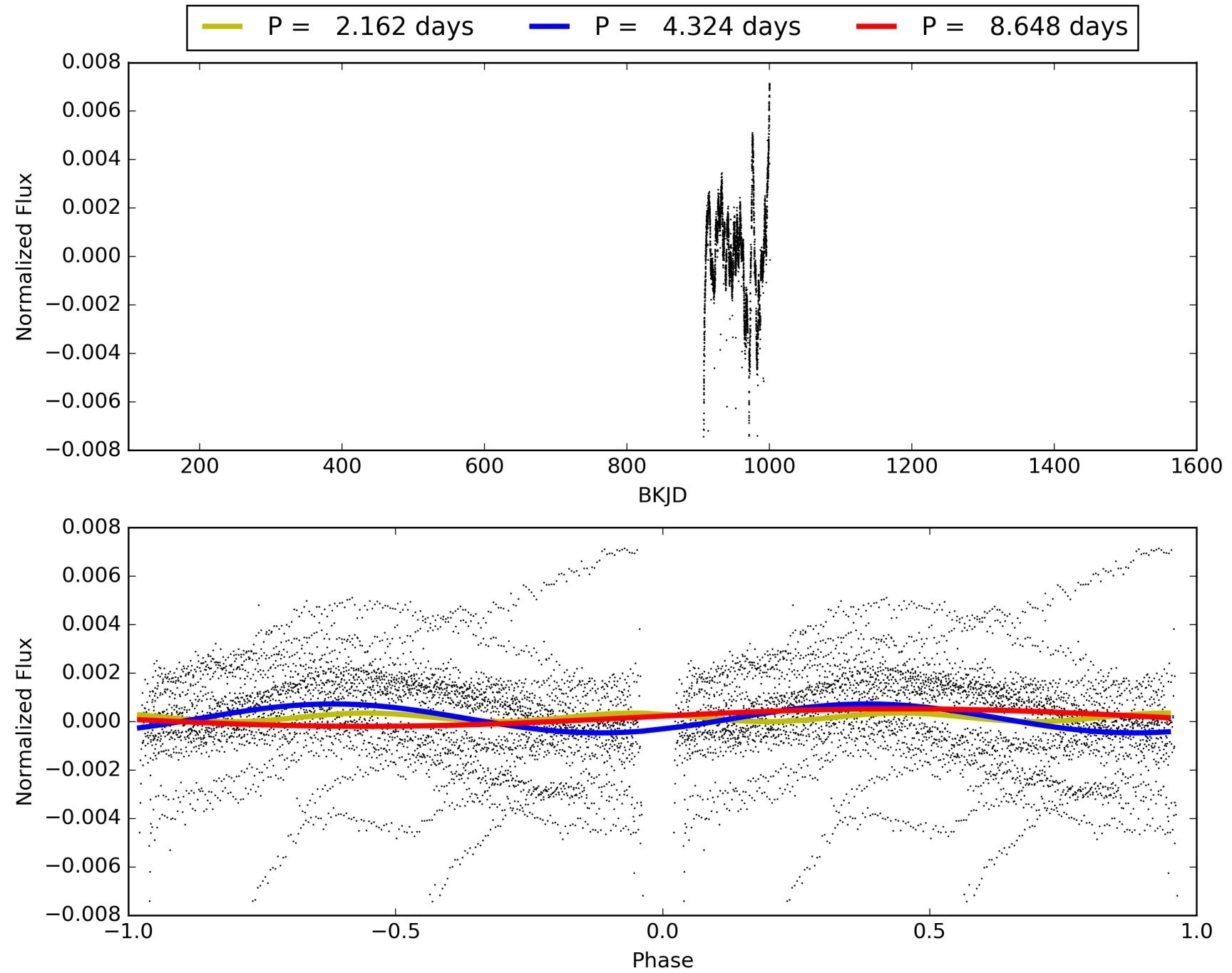
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:06:59 Z

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

# TCE 007898576-01, PDC Light Curves

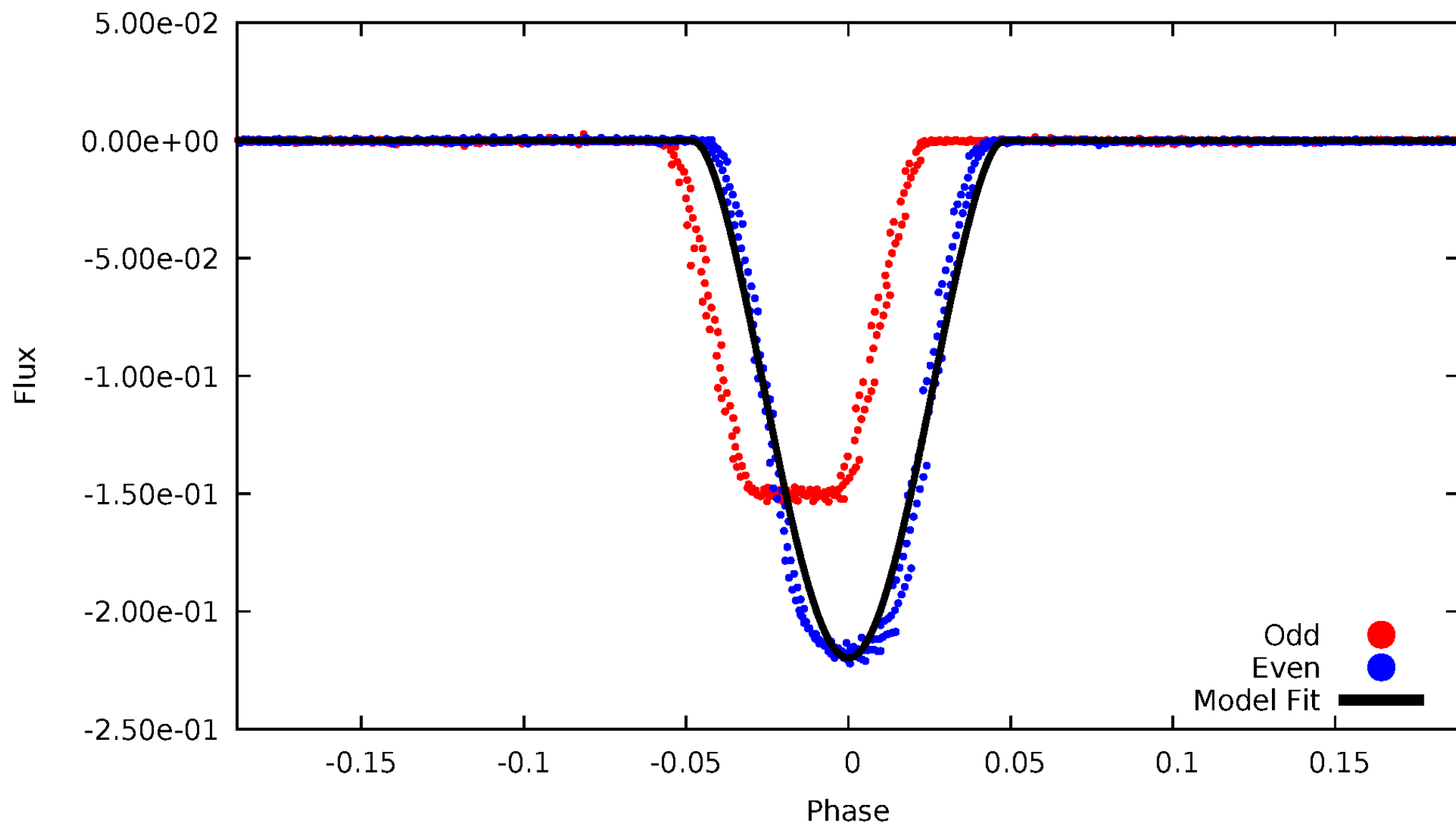


# TCE 007898576-01



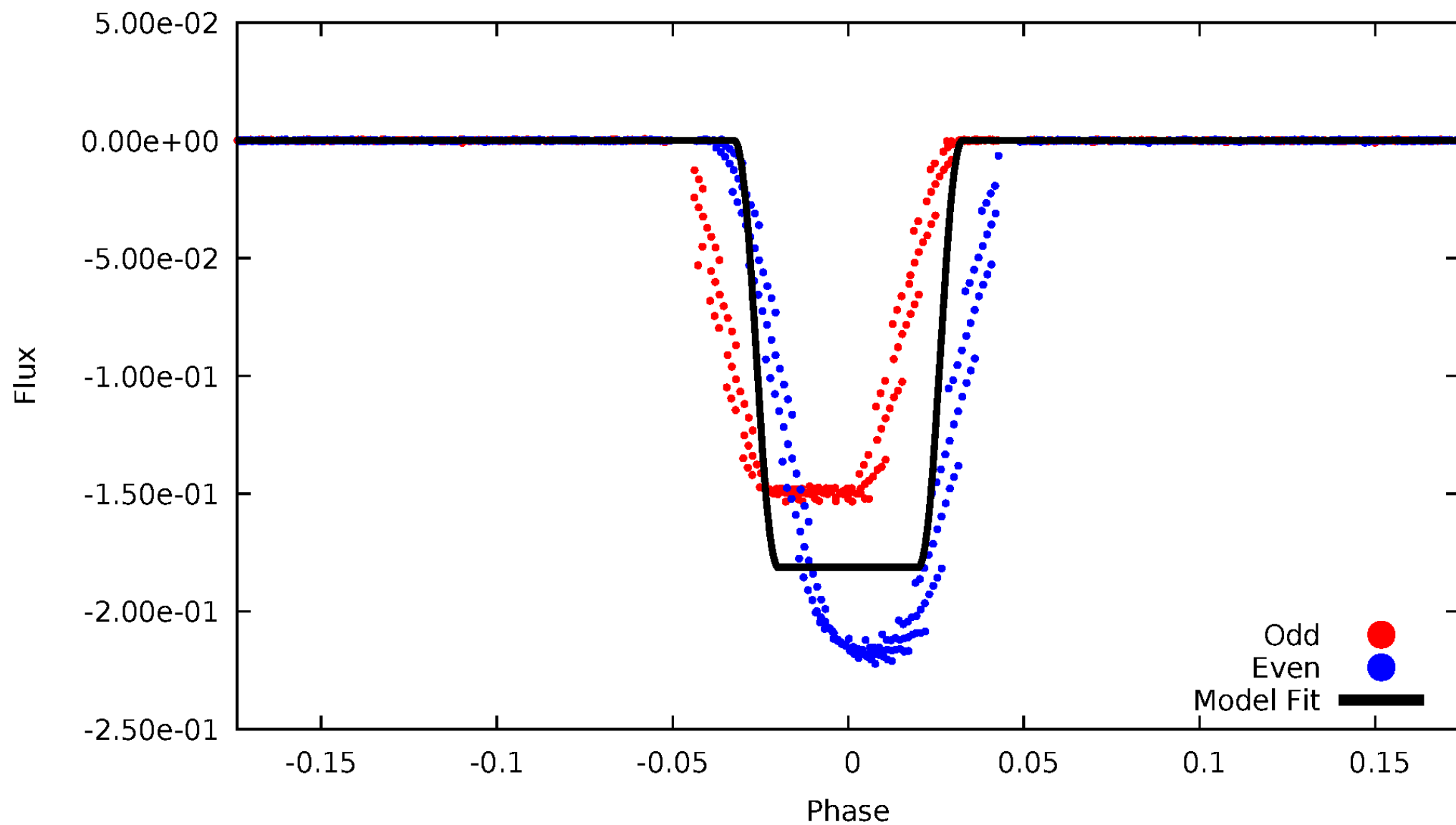
# DV Odd/Even

TCE 007898576-01



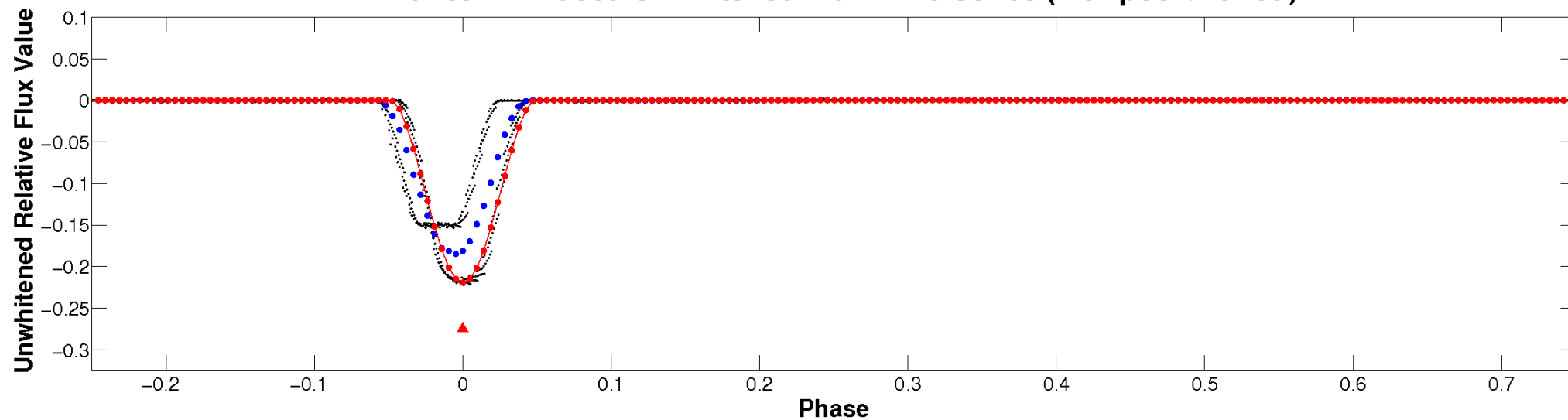
# ALT Odd/Even

TCE 007898576-01

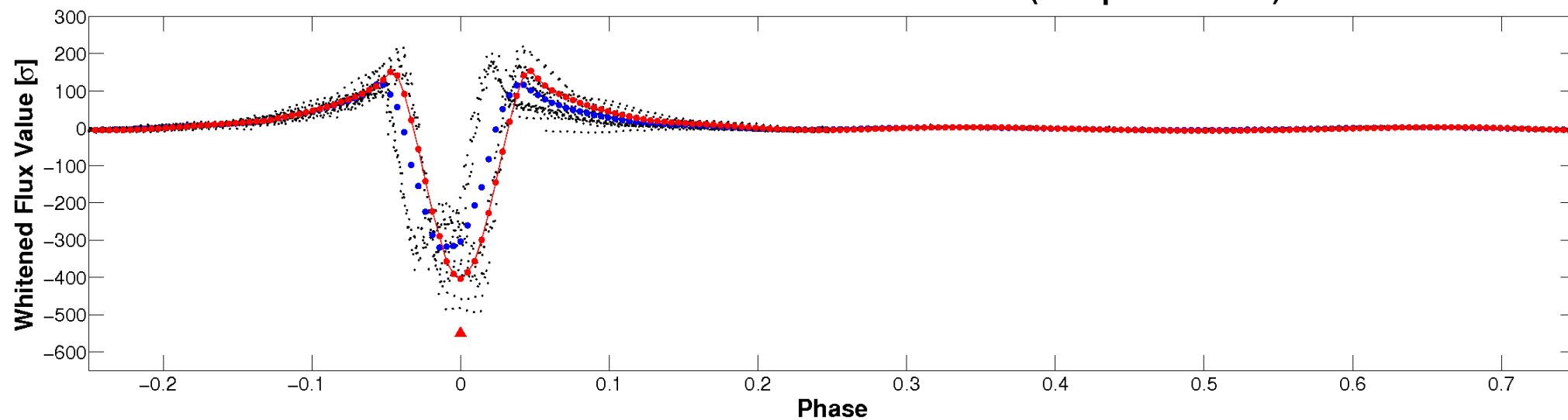


# Non-Whitened Vs. Whitened Light Curve

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

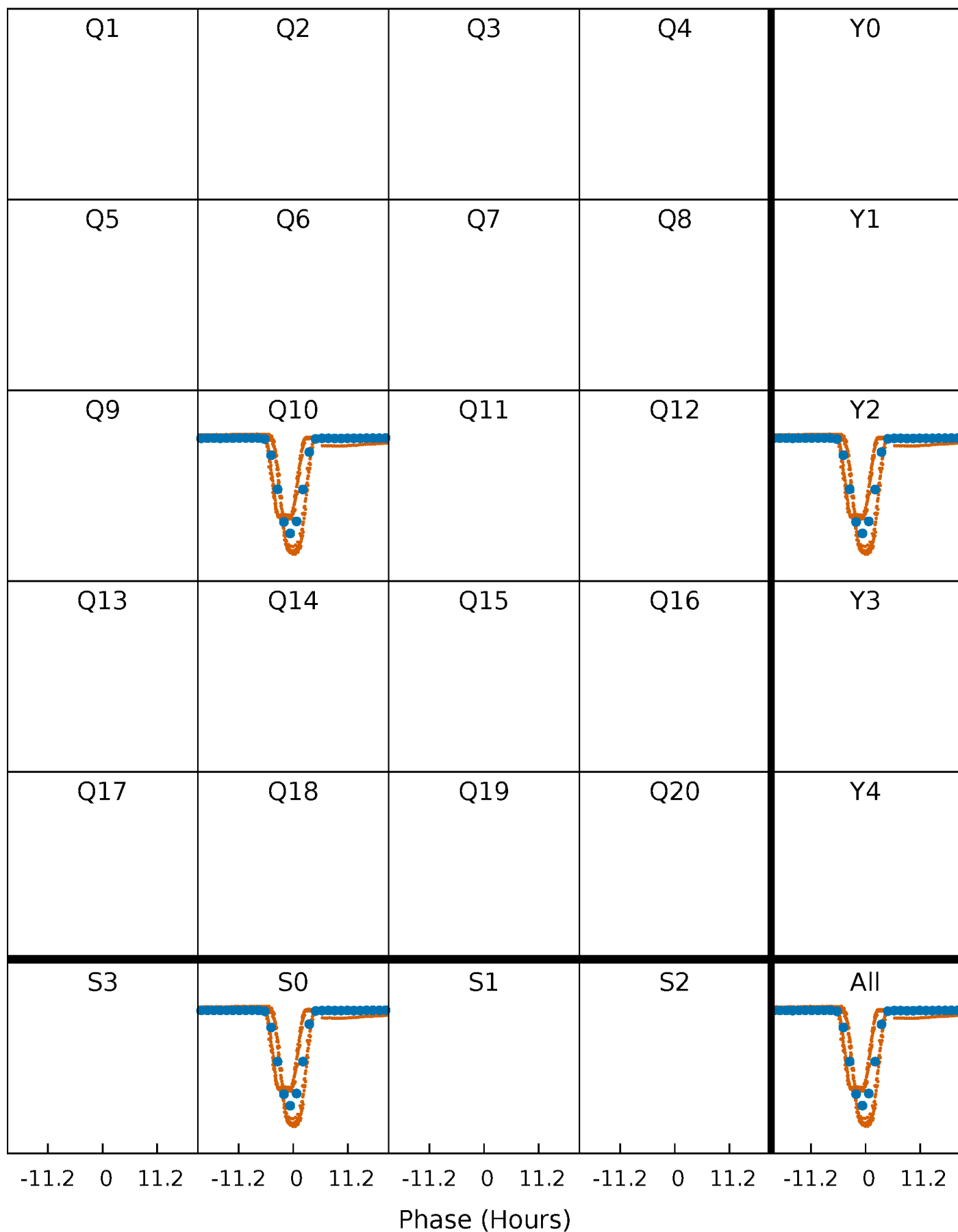


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

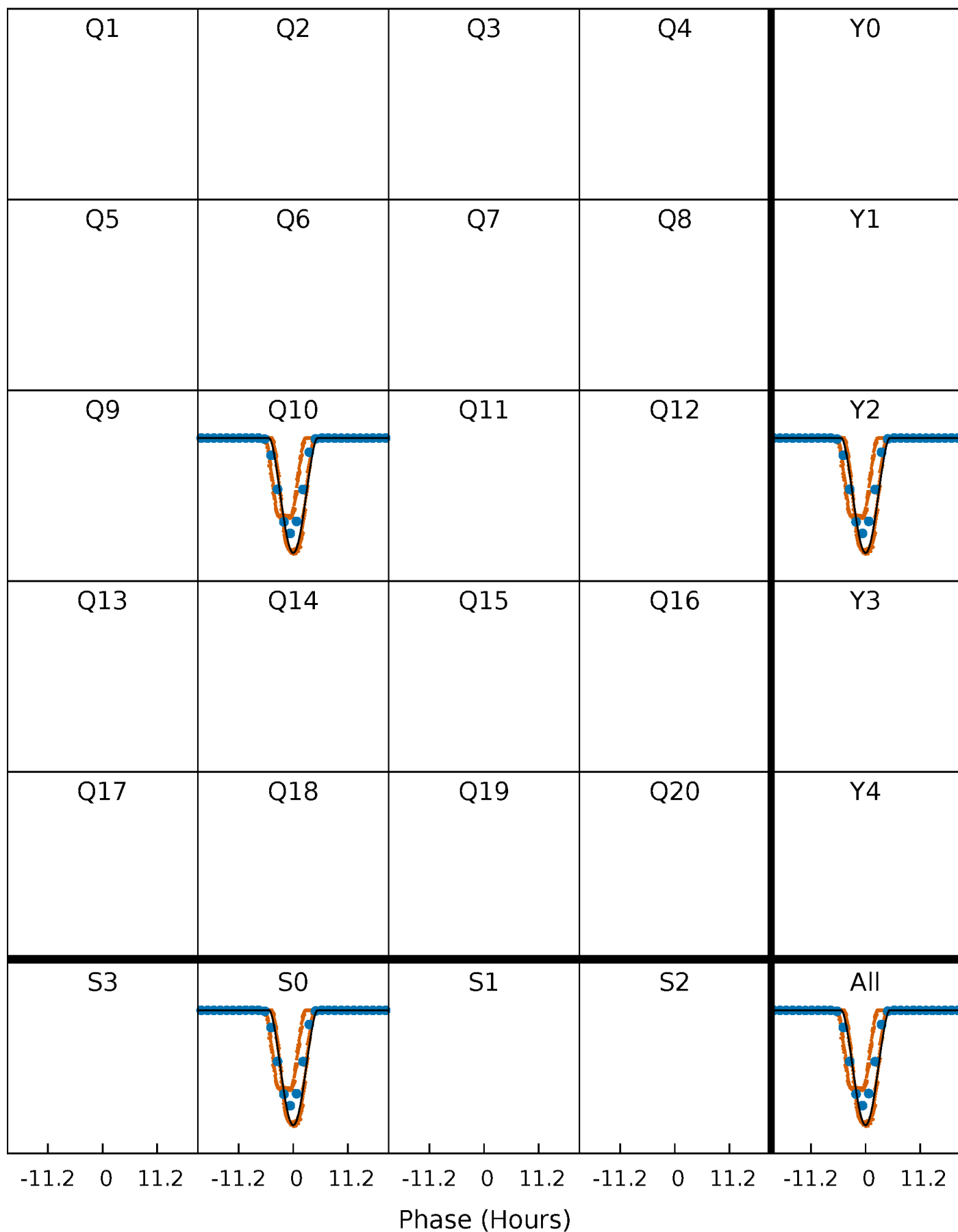
TCE 007898576-01 P= 4.323990 Days  $T_0=135.309712$  (BKJD)





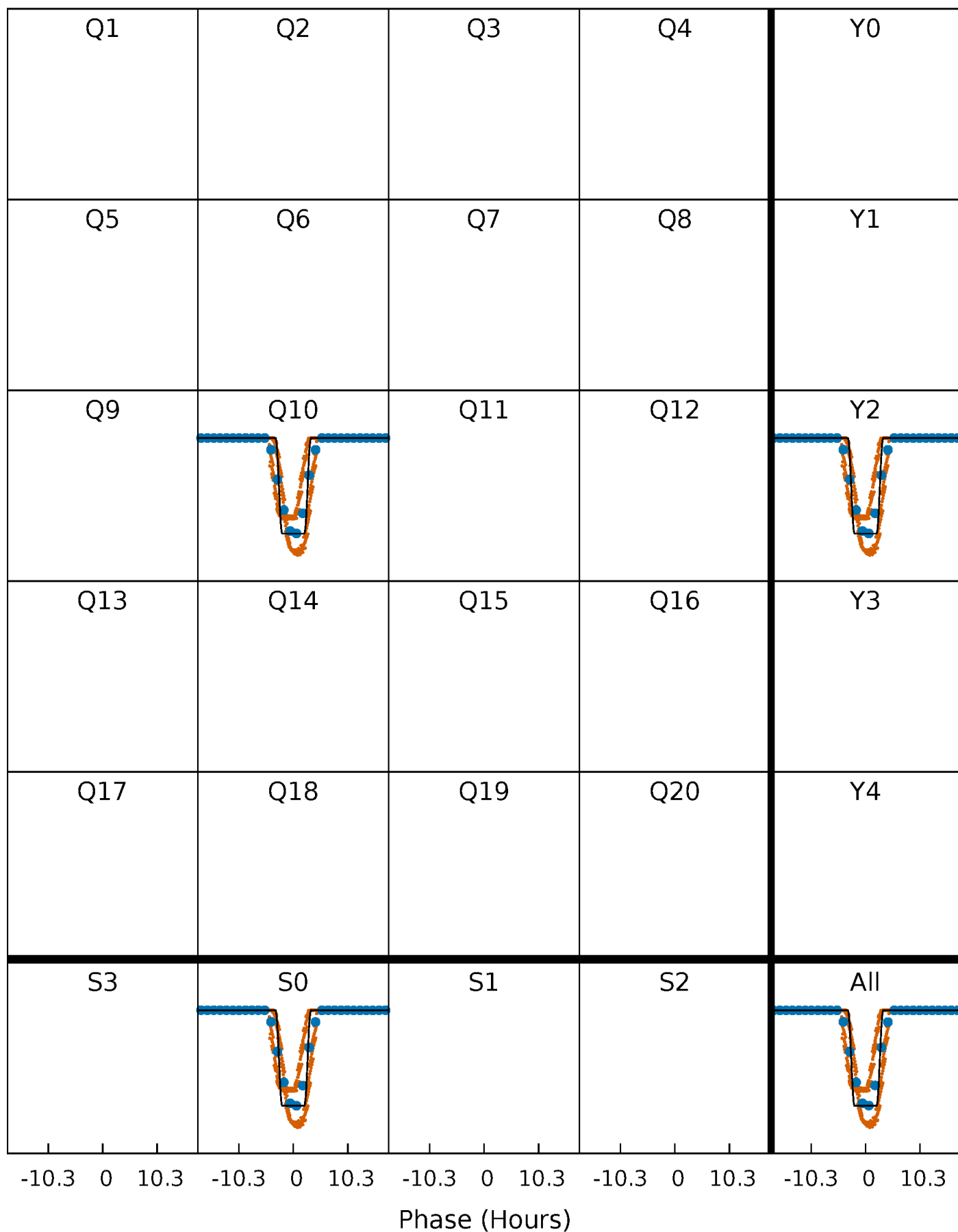
# DV Quarter-Phased Transit Curves

TCE 007898576-01 P= 4.323990 Days  $T_0=135.309712$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

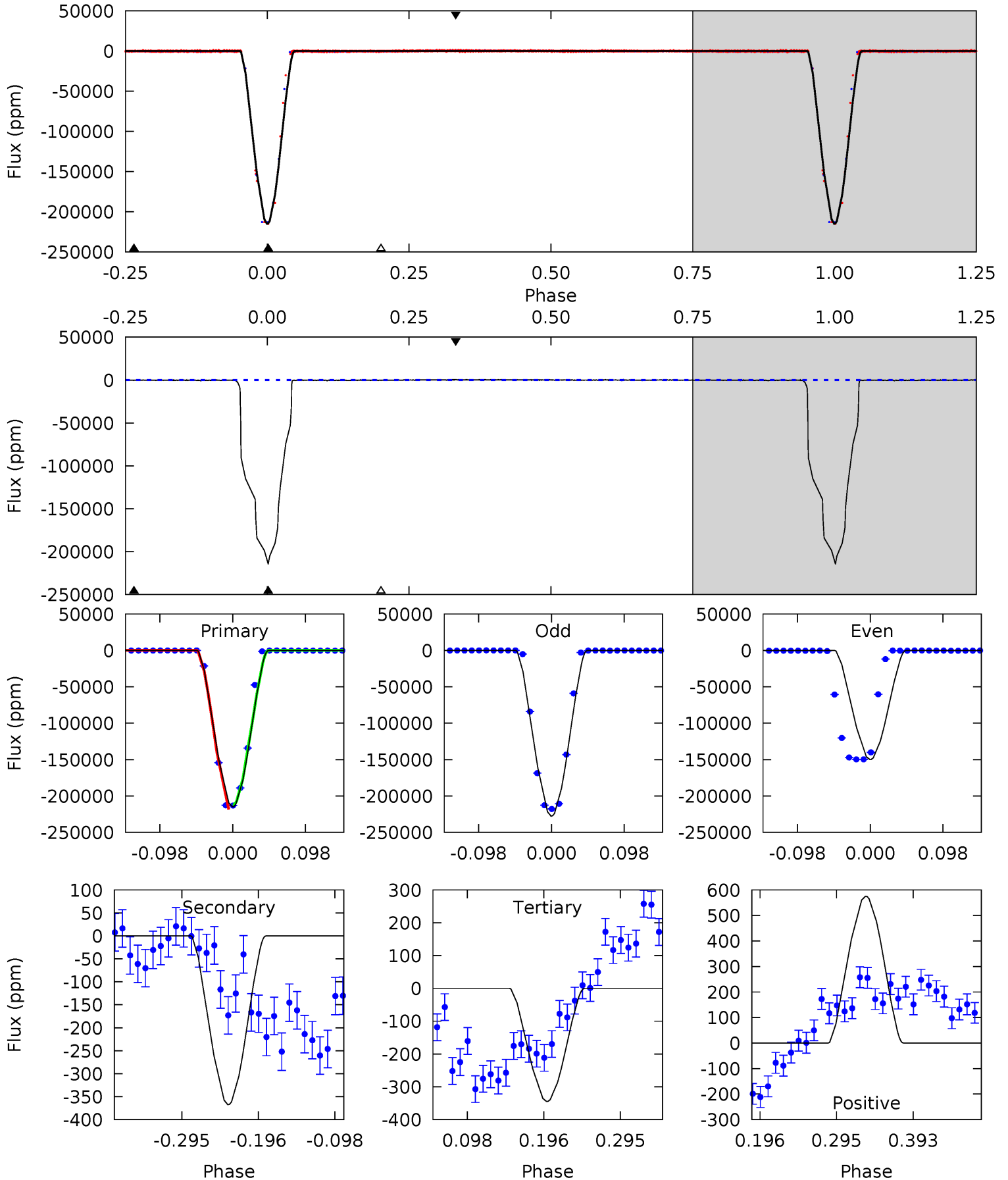
TCE 007898576-01   P= 4.324356 Days    $T_0=135.212977$  (BKJD)



# DV Model-Shift Uniqueness Test

007898576-01, P = 4.323990 Days, E = 135.309712 Days

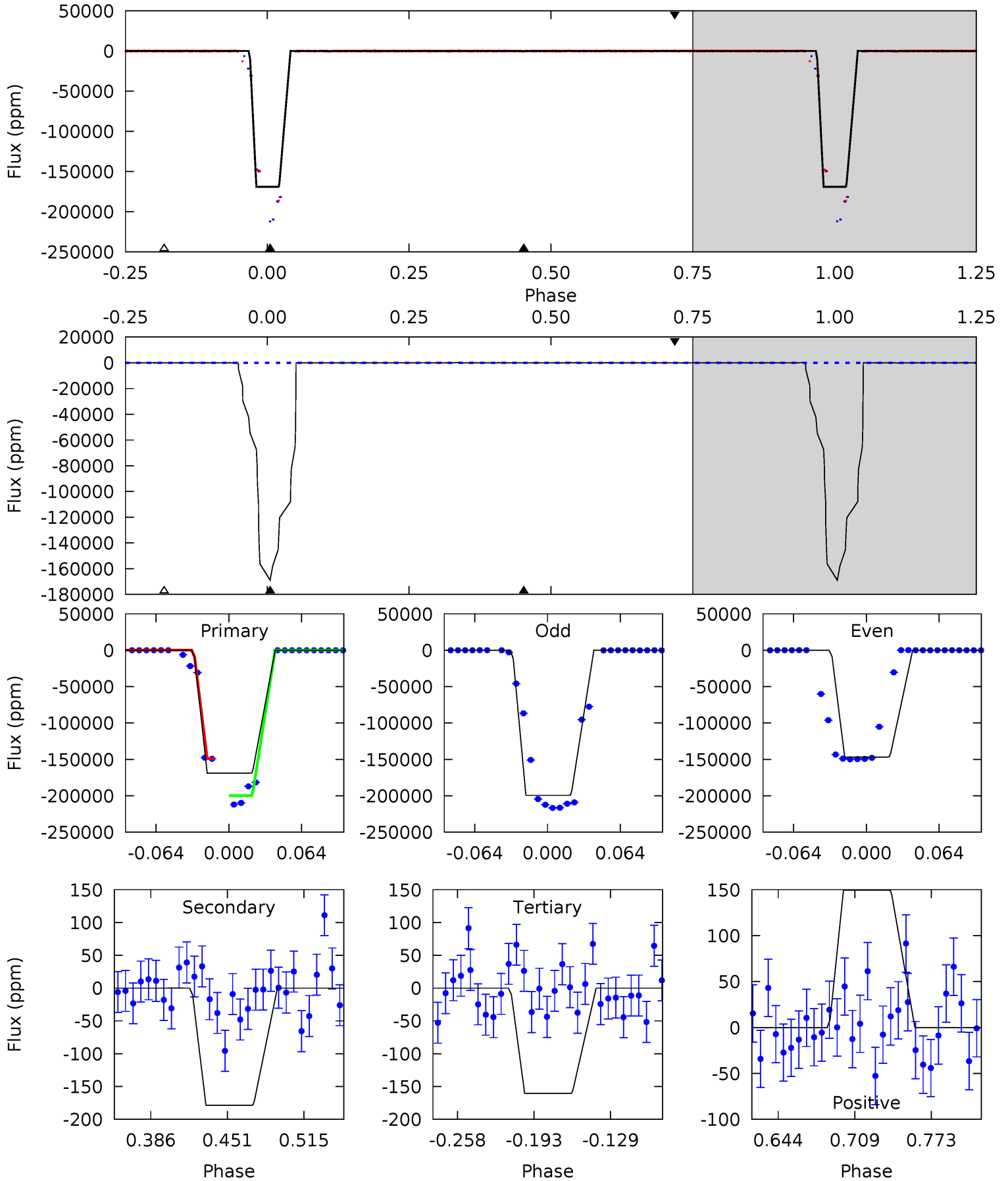
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4311	7.37	6.91	11.5	4.57	1.65	4.32	4304	4300	0.46	-4.17	1449	0.83	0.00	0



# Alt Model-Shift Uniqueness Test

007898576-01, P = 4.324356 Days, E = 135.212977 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
3147	3.33	2.99	2.78	4.66	1.85	1.07	3144	3145	0.34	0.54	1143	0.86	0.00	0



### Stellar Parameters For KIC 007898576

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6444^{+181}_{-226}$	$4.382^{+0.070}_{-0.210}$	$-0.180^{+0.250}_{-0.300}$	$1.134^{+0.386}_{-0.155}$	$1.128^{+0.178}_{-0.145}$	$1.089^{+0.415}_{-0.575}$
	+3%/-4%	+2%/-5%	+139%/-167%	+34%/-14%	+16%/-13%	+38%/-53%
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 007898576-01 / KOI 3566.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-367 \pm 50$	$92.35^{+15.83}_{-10.35}$	$1855^{+123}_{-96}$	$-2332^{+68}_{-93}$	$0.067^{+0.019}_{-0.018}$
Alt.	$-179 \pm 54$	$54.69^{+11.11}_{-7.59}$	$1844^{+158}_{-97}$	$-2295^{+106}_{-123}$	$0.093^{+0.047}_{-0.037}$

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

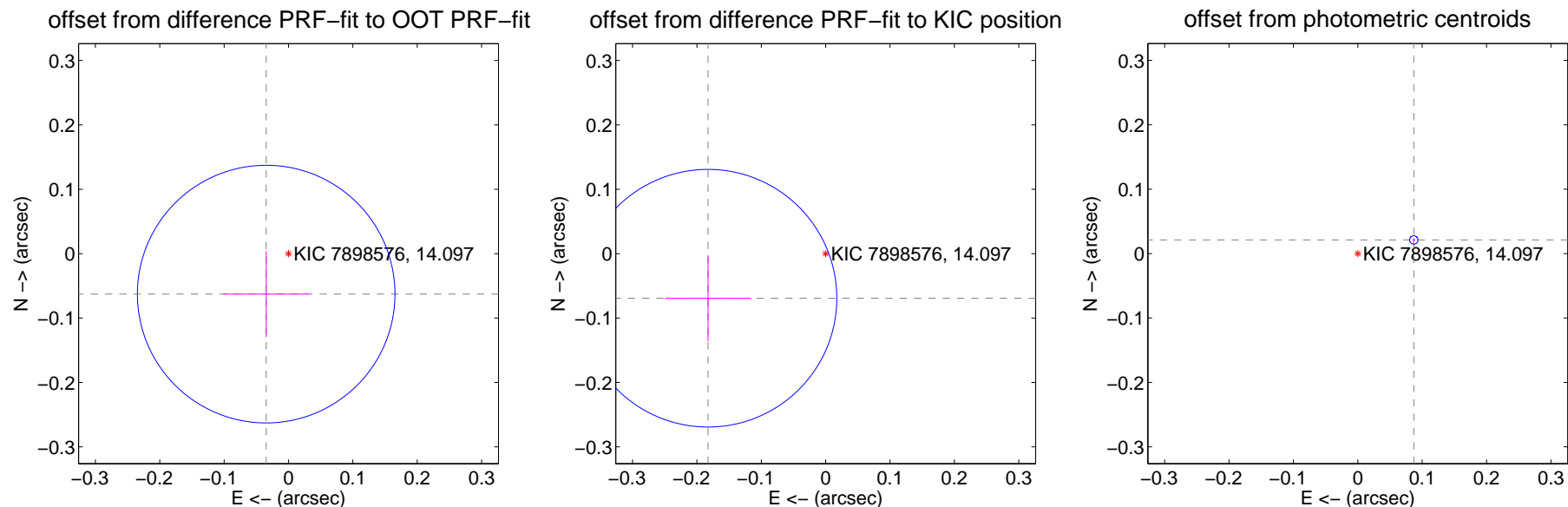
## DV Centroid Data

Supplemental centroid analysis for 007898576-01. Kepler magnitude: 14.10. Transit SNR 2269.89

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.072 \pm 0.067$	1.08	$0.035 \pm 0.067$	$-0.063 \pm 0.067$
PRF-fit source offset from KIC position	$0.195 \pm 0.067$	2.93	$0.183 \pm 0.067$	$-0.069 \pm 0.067$
photometric centroid source offset	$0.09 \pm 0.00$	41.24	$-0.09 \pm 0.00$	$0.02 \pm 0.00$



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.

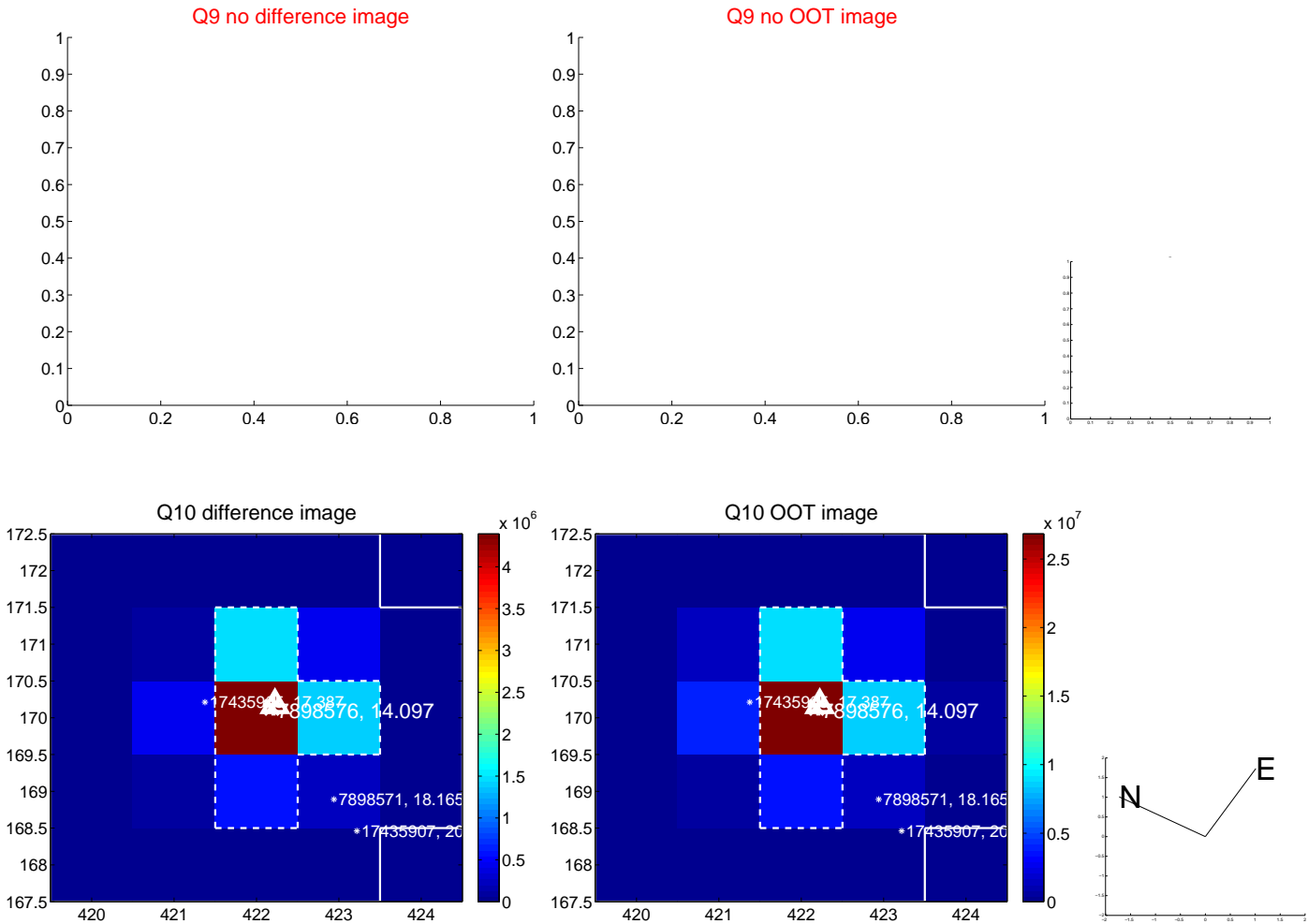


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





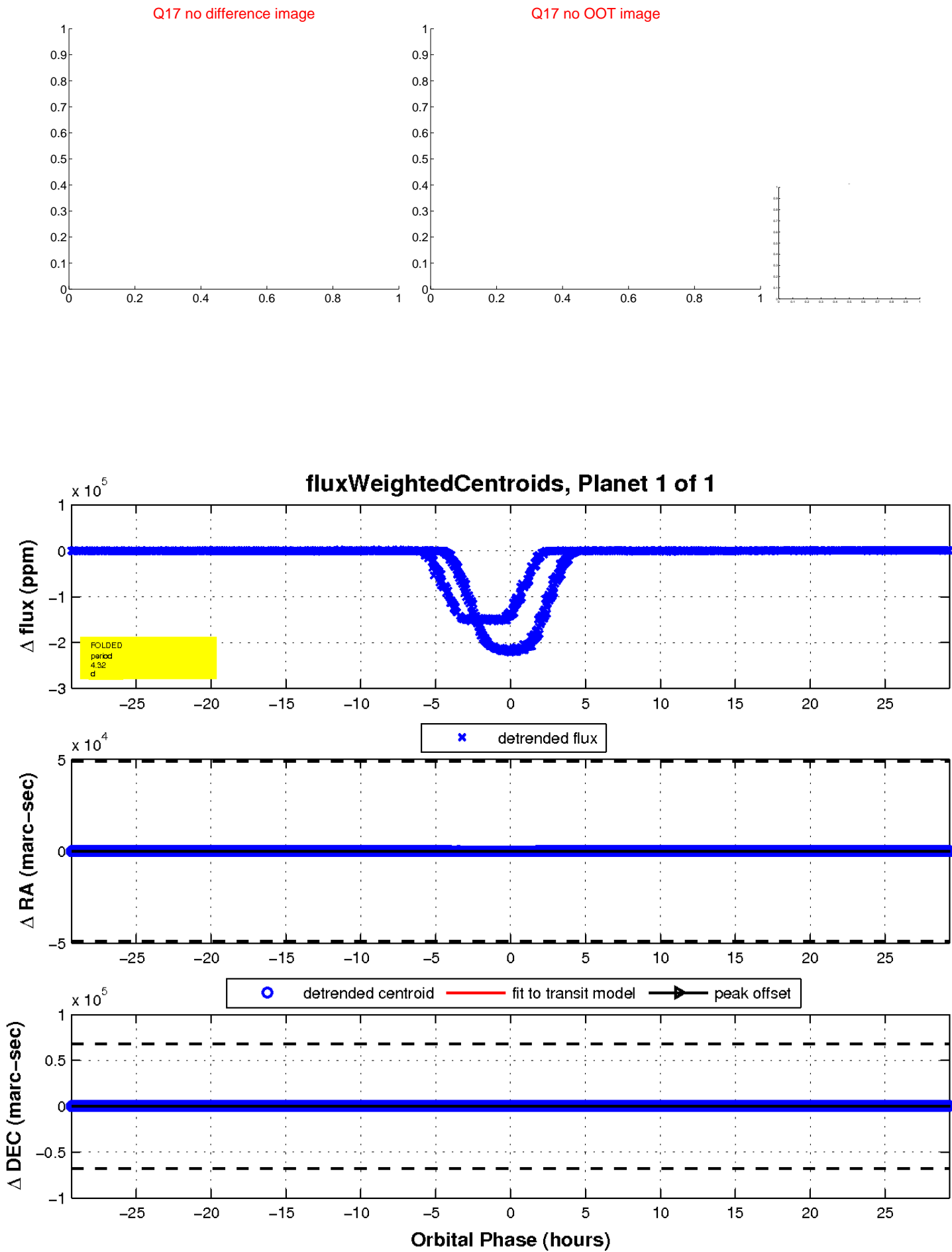
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

