

# KIC 007953190

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007953190-01	OBS	No	591.324505	308.978118	249.5	19.873	12.0	12.2	1.91	6429	3.17	2.47

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007953190-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

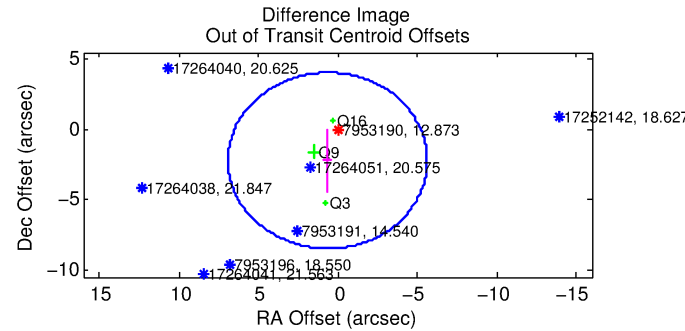
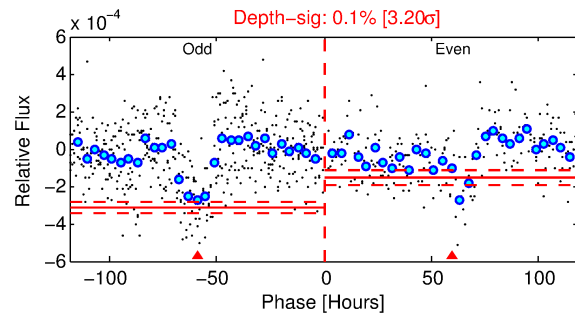
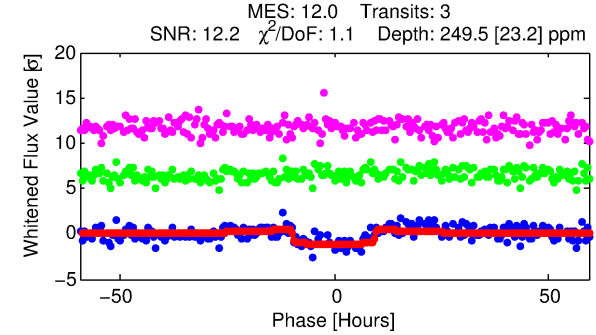
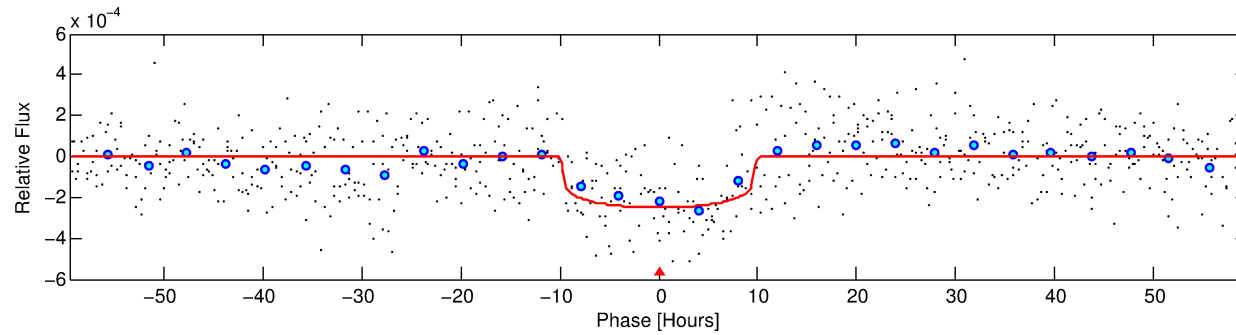
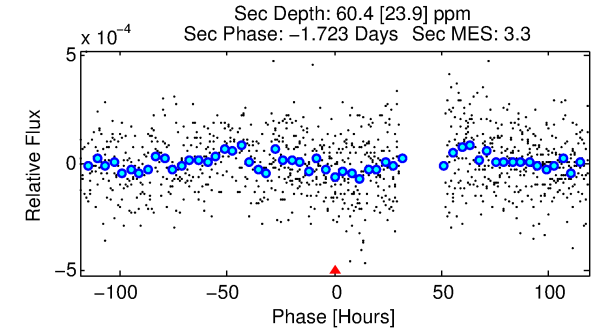
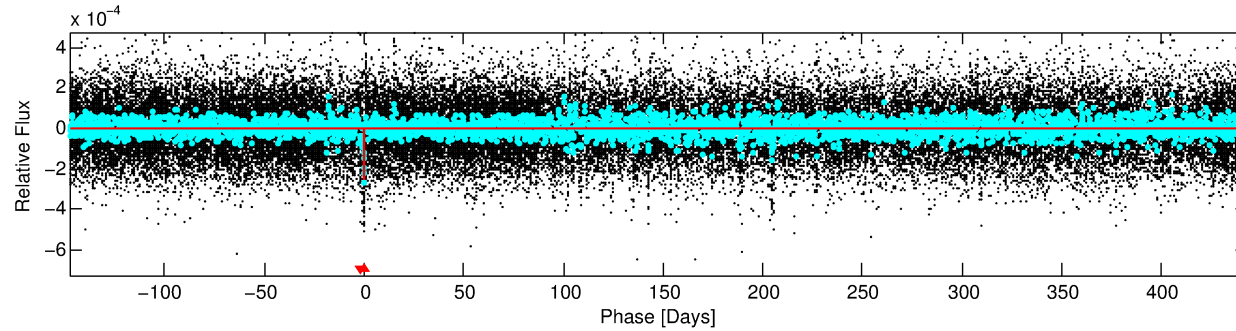
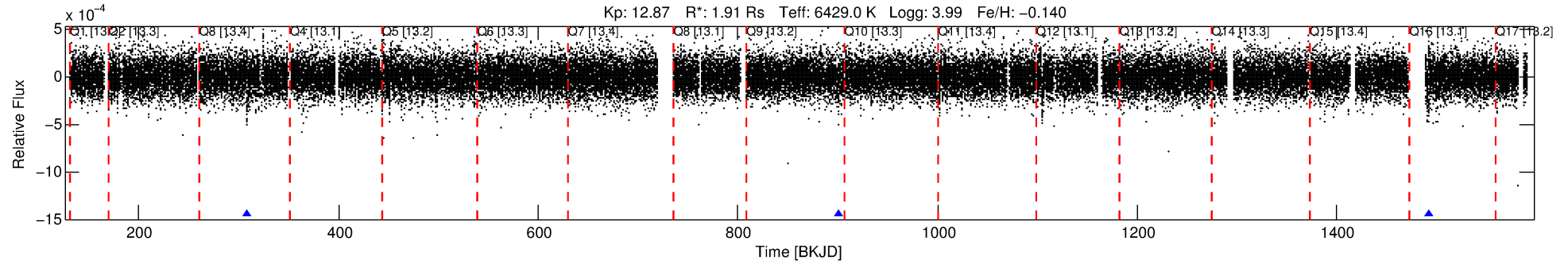
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007953190-01

No Significant Match Found

# DV One-Page Summary

KIC: 7953190 Candidate: 1 of 1 Period: 591.325 d



## DV Fit Results:

Period = 591.32450 [0.01116] d  
Epoch = 308.9781 [0.0144] BKJD  
Rp/R\* = 0.0152 [0.0036]  
a/R\* = 180.86 [220.84]  
b = 0.63 [1.18]  
Seff = 2.47 [1.48]  
Teff = 320 [48] K  
Rp = 3.17 [1.45] Re  
a = 1.5030 [0.5568] AU  
Ag = 7453.90 [6346.64] [1.17σ]  
Teffp = 4591 [721] K [5.91σ]

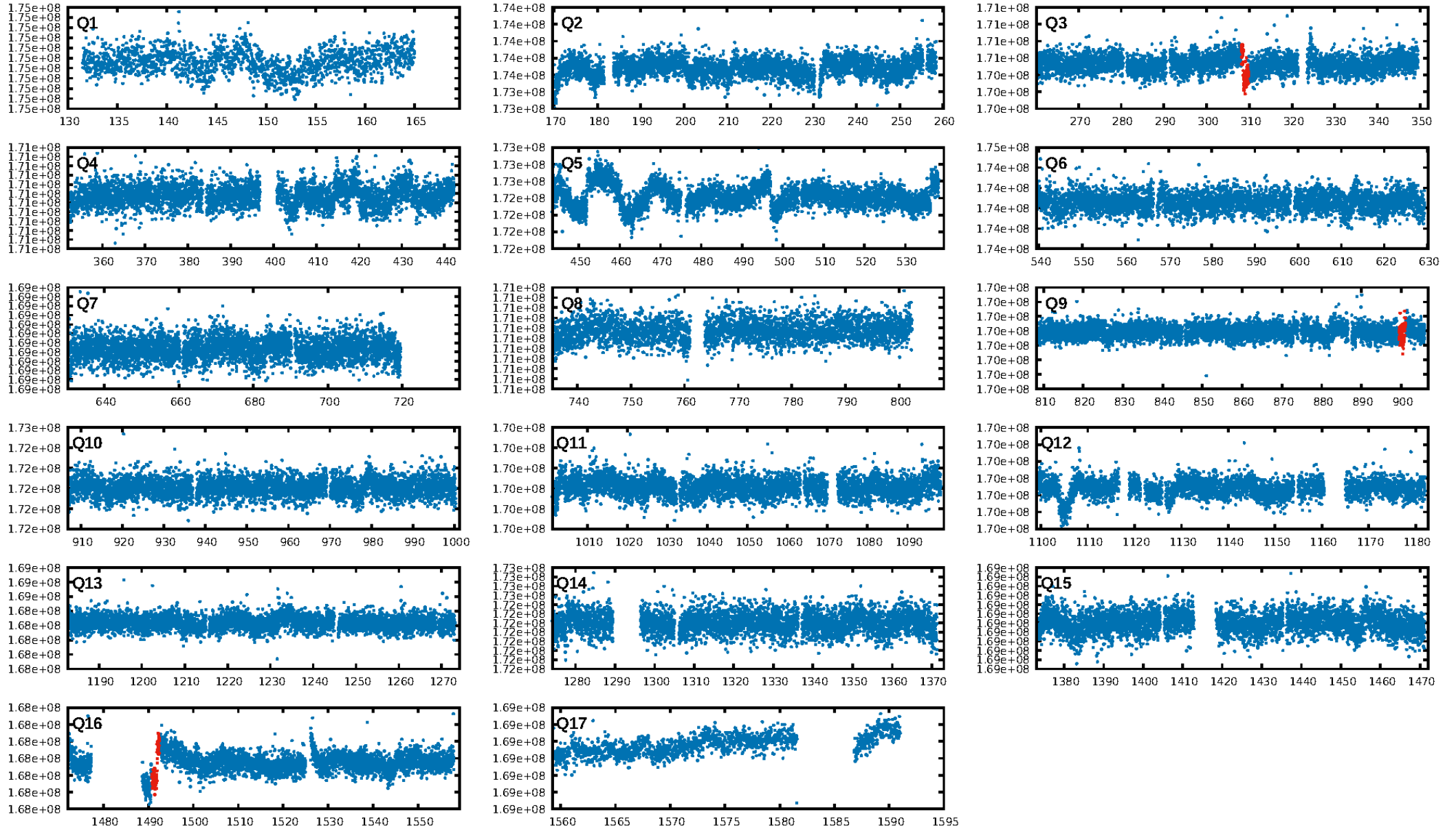
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.5%  
ModelChiSquareGof-sig: 98.7%  
Bootstrap-pfa: 1.43e-15  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.442  
Centroid-sig: 2.1%  
Centroid-so: 2.123 arcsec [2.63σ]  
OotOffset-rm: 2.297 arcsec [1.10σ]  
KicOffset-rm: 2.323 arcsec [1.09σ]  
OotOffset-st: 0/1/1/1 [3]  
KicOffset-st: 0/1/1/1 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

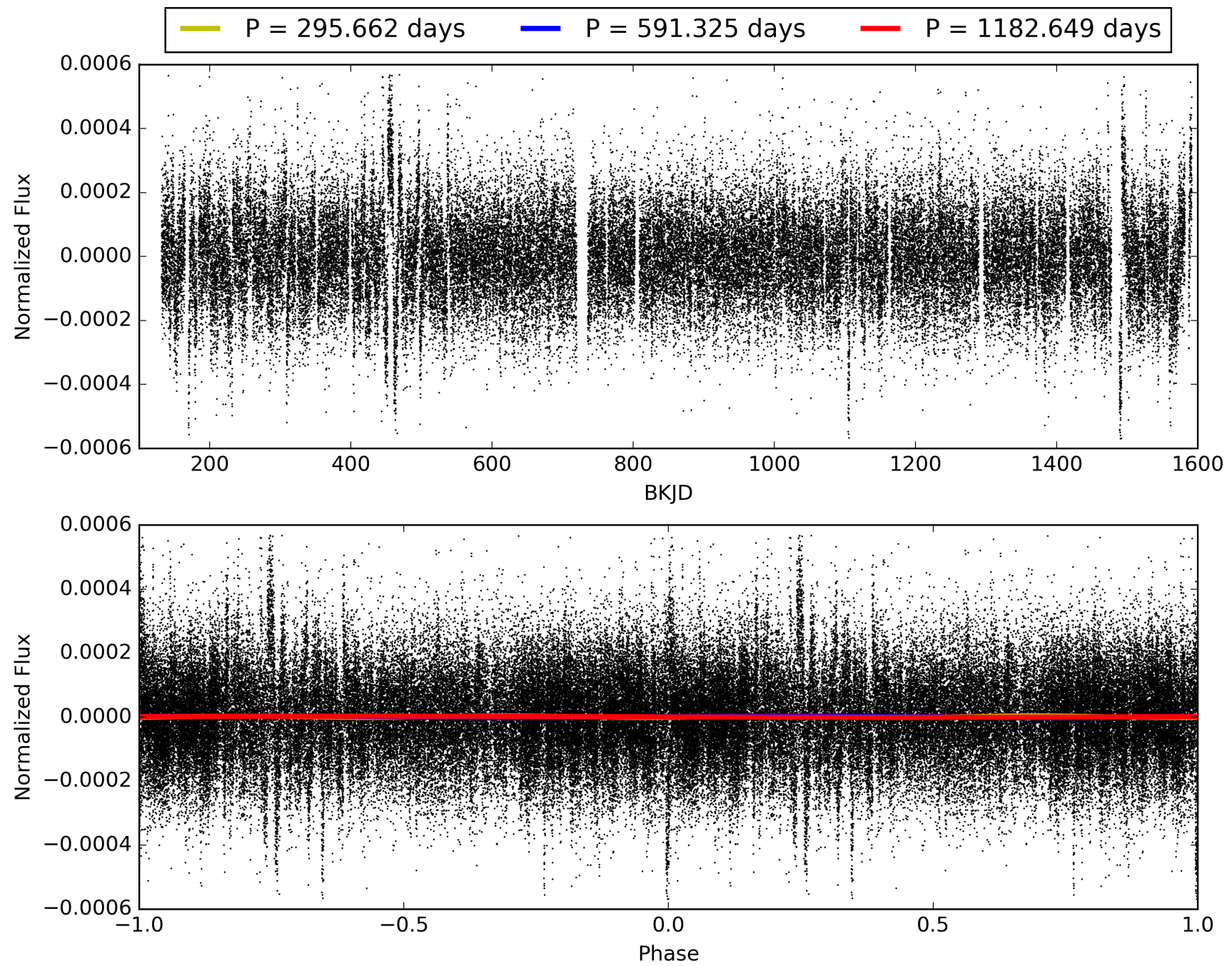
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:11:14 Z

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

# TCE 007953190-01, PDC Light Curves

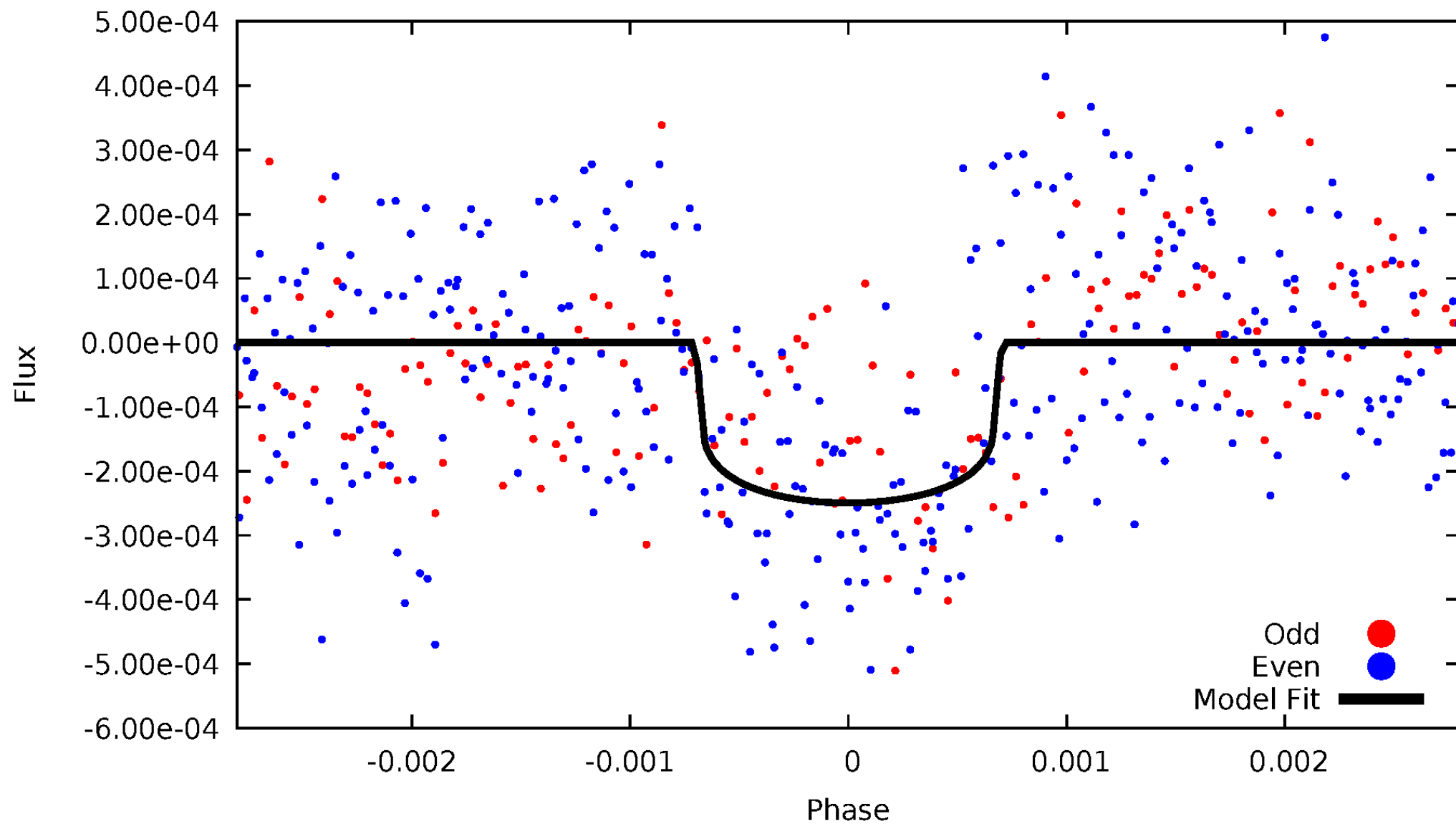


TCE 007953190-01



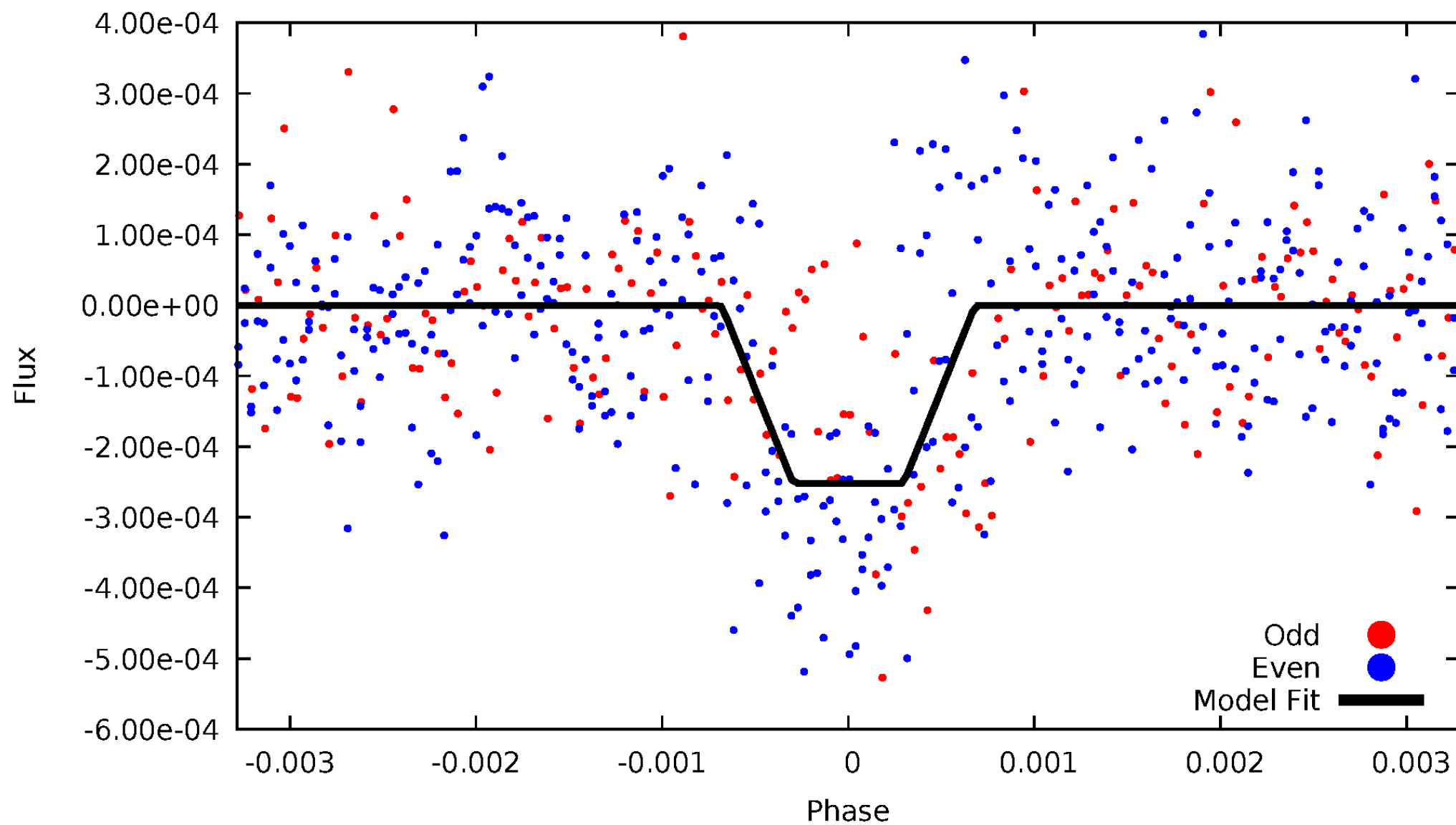
# DV Odd/Even

TCE 007953190-01



# ALT Odd/Even

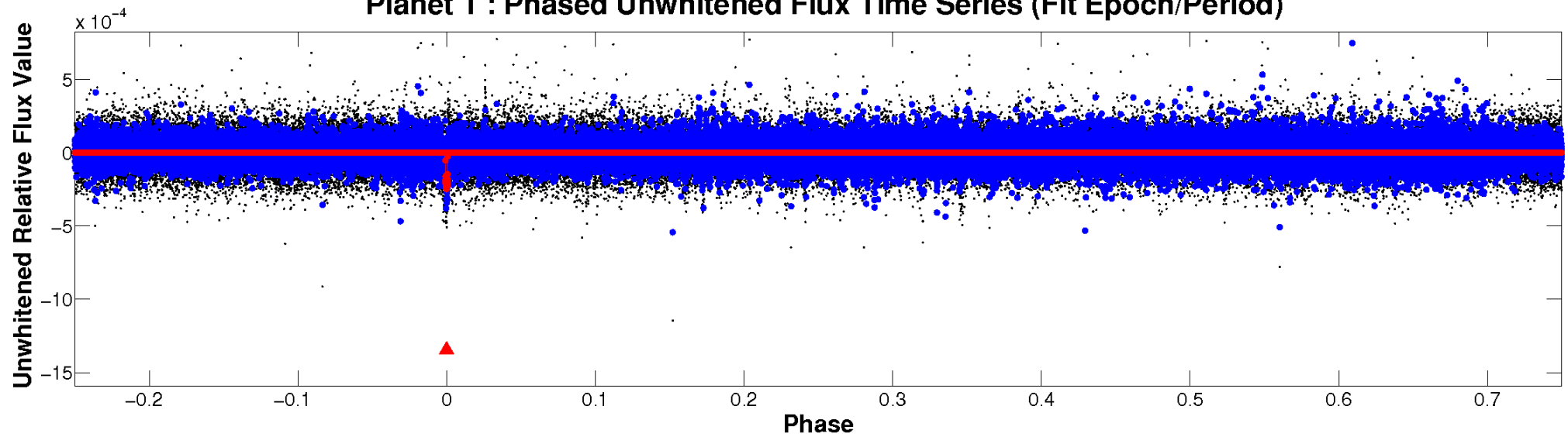
TCE 007953190-01



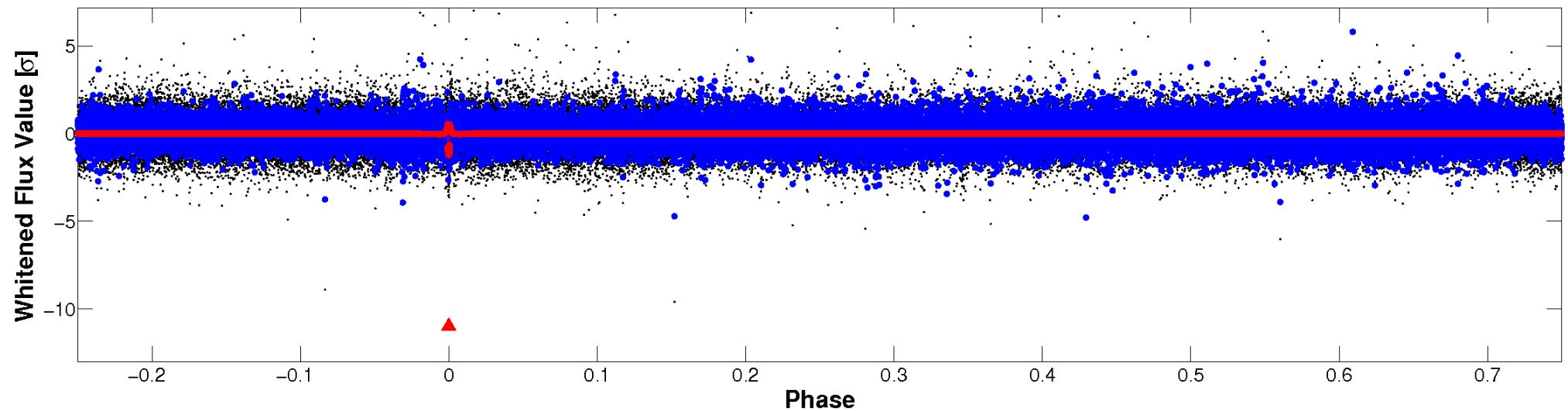


# Non-Whitened Vs. Whitened Light Curve

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

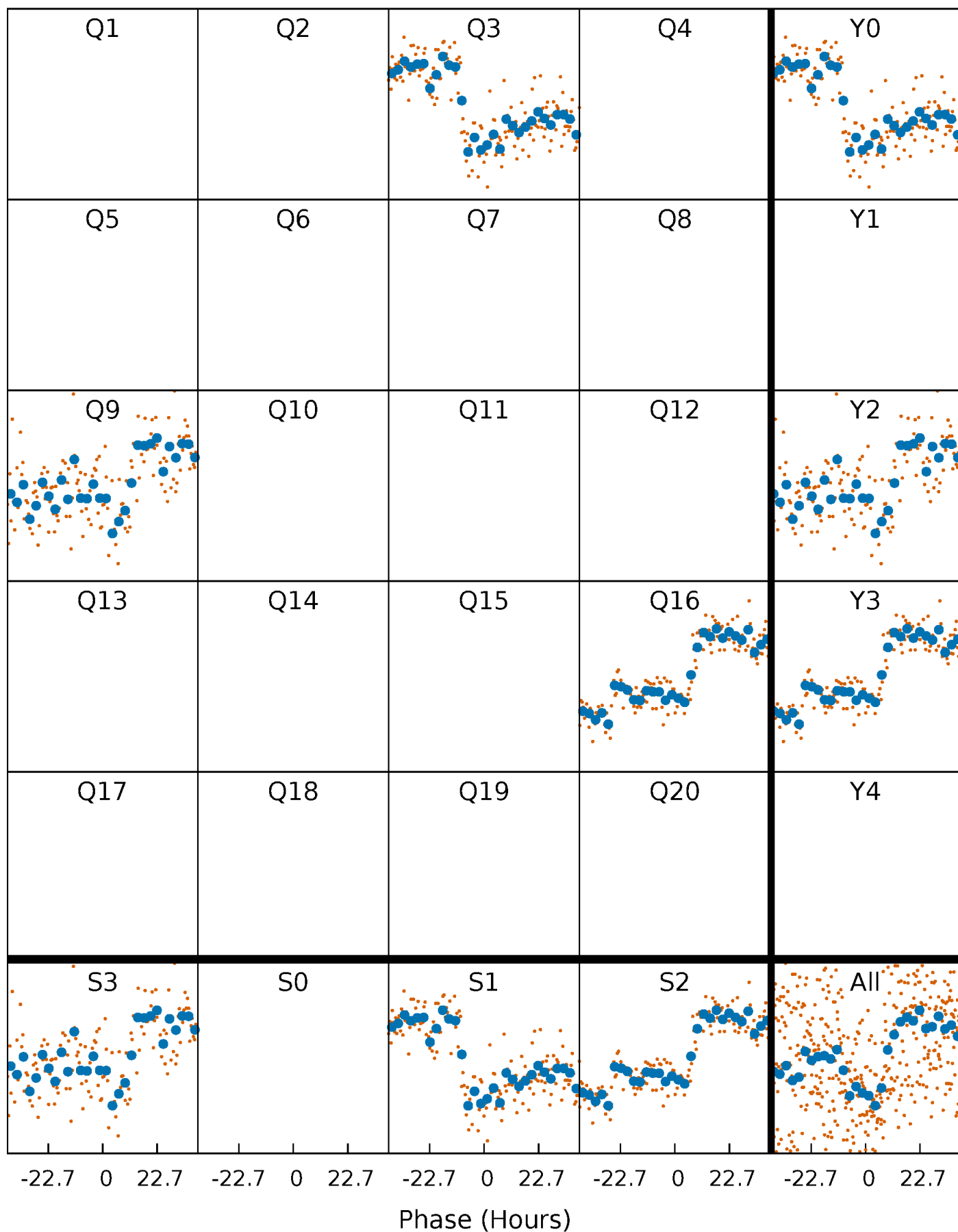


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

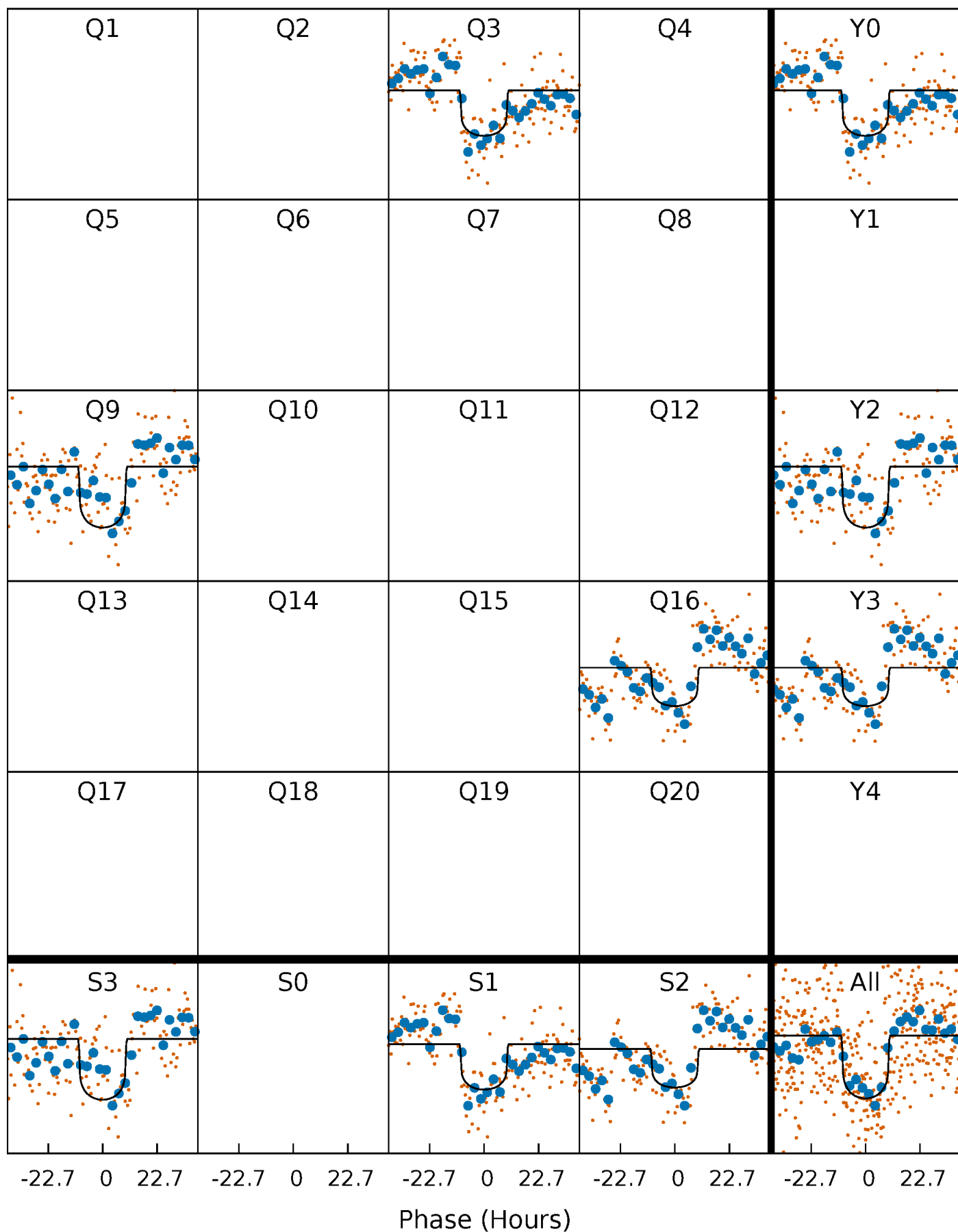
TCE 007953190-01 P=591.324505 Days  $T_0=308.978118$  (BKJD)





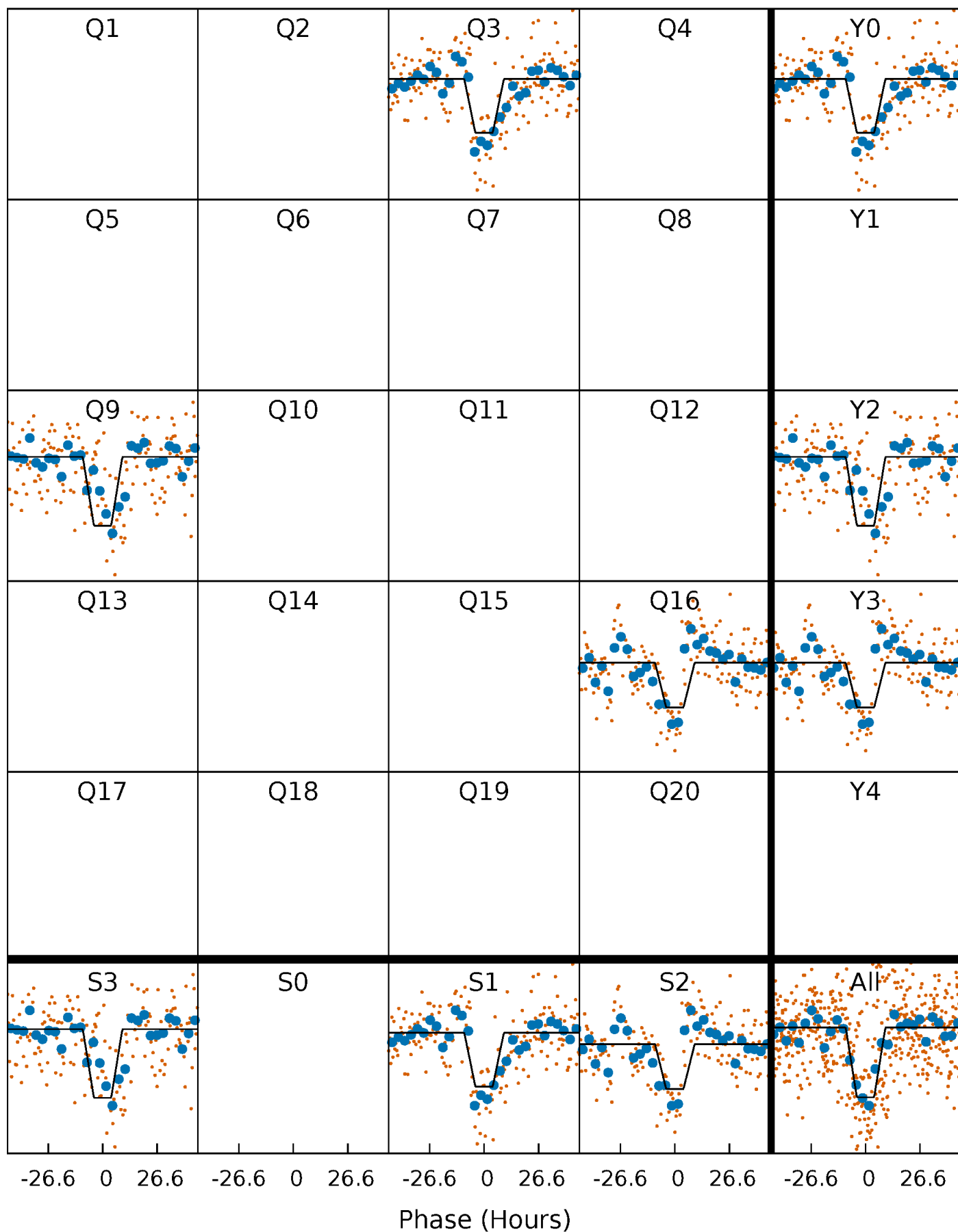
# DV Quarter-Phased Transit Curves

TCE 007953190-01 P=591.324505 Days  $T_0=308.978118$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

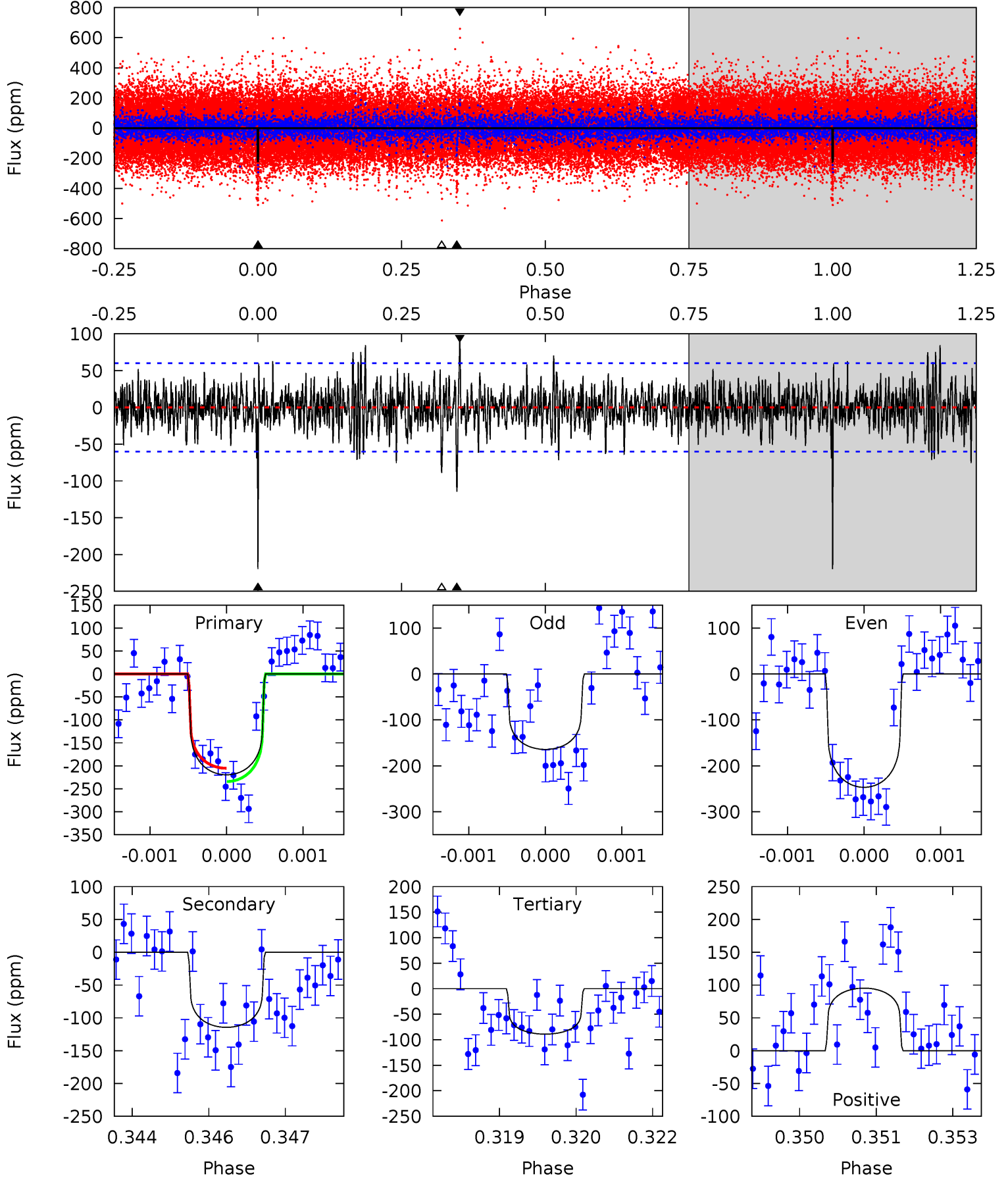
TCE 007953190-01 P=591.469828 Days  $T_0=308.851710$  (BKJD)



# DV Model-Shift Uniqueness Test

007953190-01, P = 591.324505 Days, E = 308.978118 Days

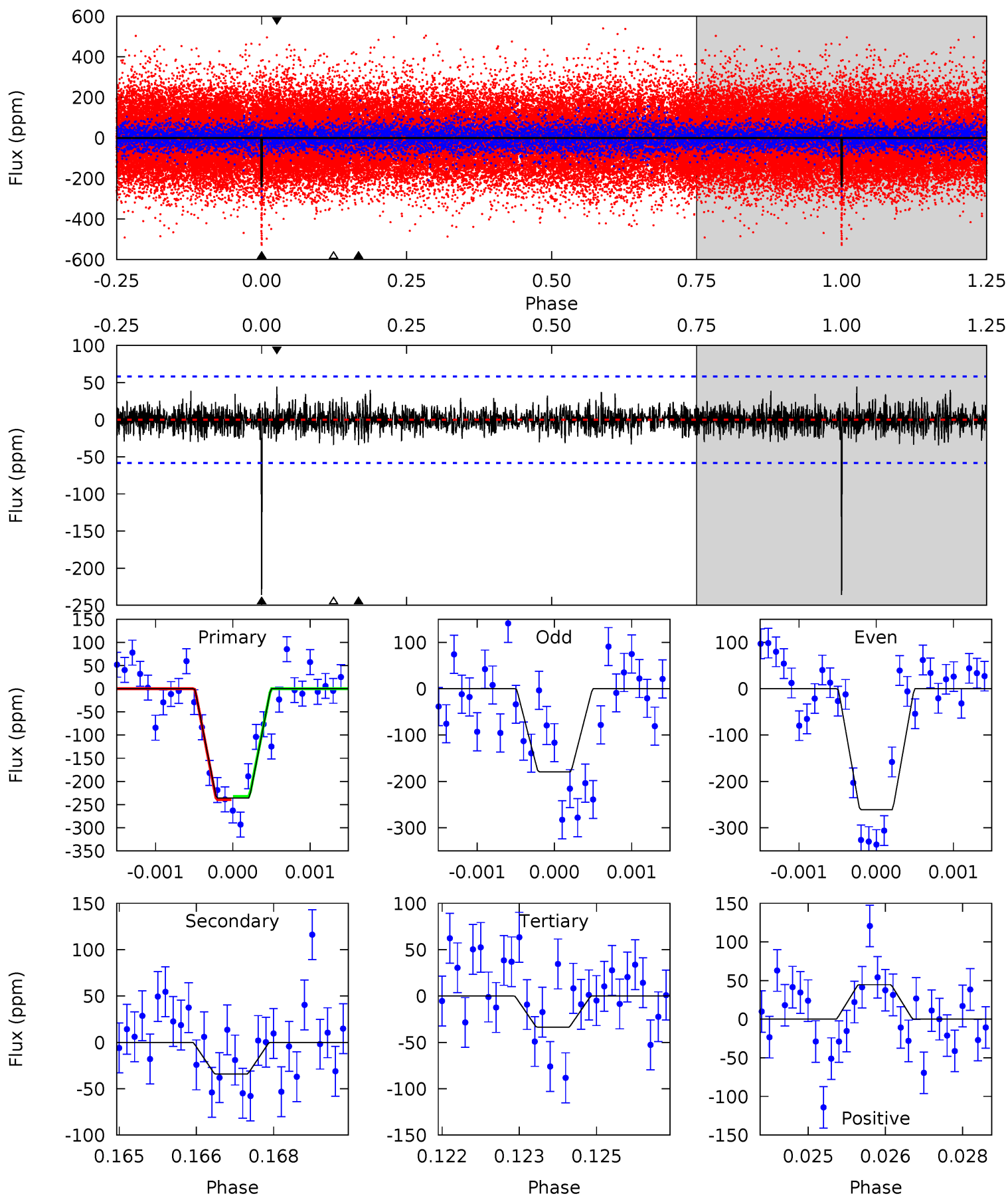
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	10.3	7.98	8.54	5.39	3.19	1.89	11.7	11.1	2.28	1.72	3.51	0.99	0.30	1.29



# Alt Model-Shift Uniqueness Test

007953190-01, P = 591.469828 Days, E = 308.851710 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
21.8	3.16	3.11	4.14	5.39	3.20	0.98	18.7	17.7	0.05	-0.97	3.59	1.08	0.16	0.32



### Stellar Parameters For KIC 007953190

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6429^{+162}_{-194}$	$3.989^{+0.343}_{-0.147}$	$-0.140^{+0.250}_{-0.300}$	$1.908^{+0.559}_{-0.746}$	$1.298^{+0.193}_{-0.257}$	$0.263^{+0.647}_{-0.118}$
	+3%/-3%	+9%/-4%	+179%/-214%	+29%/-39%	+15%/-20%	+246%/-45%
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 007953190-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-114 \pm 11$	$3.00^{+1.04}_{-0.86}$	$441^{+30}_{-44}$	$5412^{+709}_{-507}$	$15883^{+14373}_{-7286}$
Alt.	$-34 \pm 11$	$3.03^{+1.03}_{-0.90}$	$439^{+33}_{-47}$	$4206^{+476}_{-426}$	$4557^{+4936}_{-2258}$

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

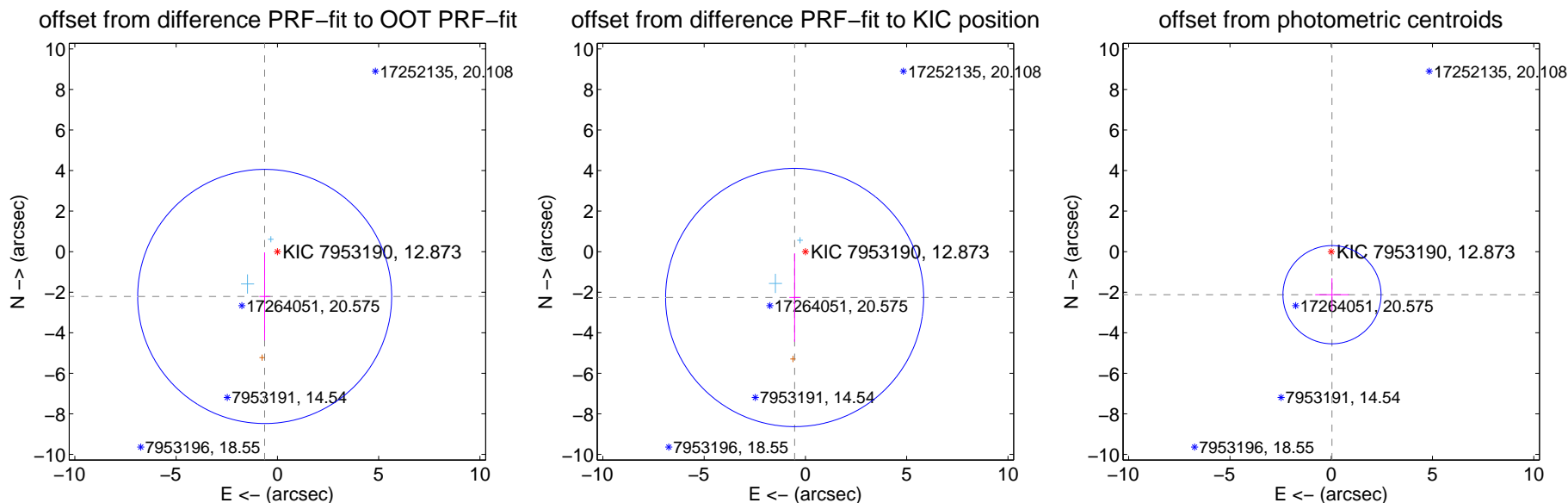
## DV Centroid Data

Supplemental centroid analysis for 007953190-01. Kepler magnitude: 12.87. Transit SNR 12.17

There are 2 quarters with good PRF difference image offsets

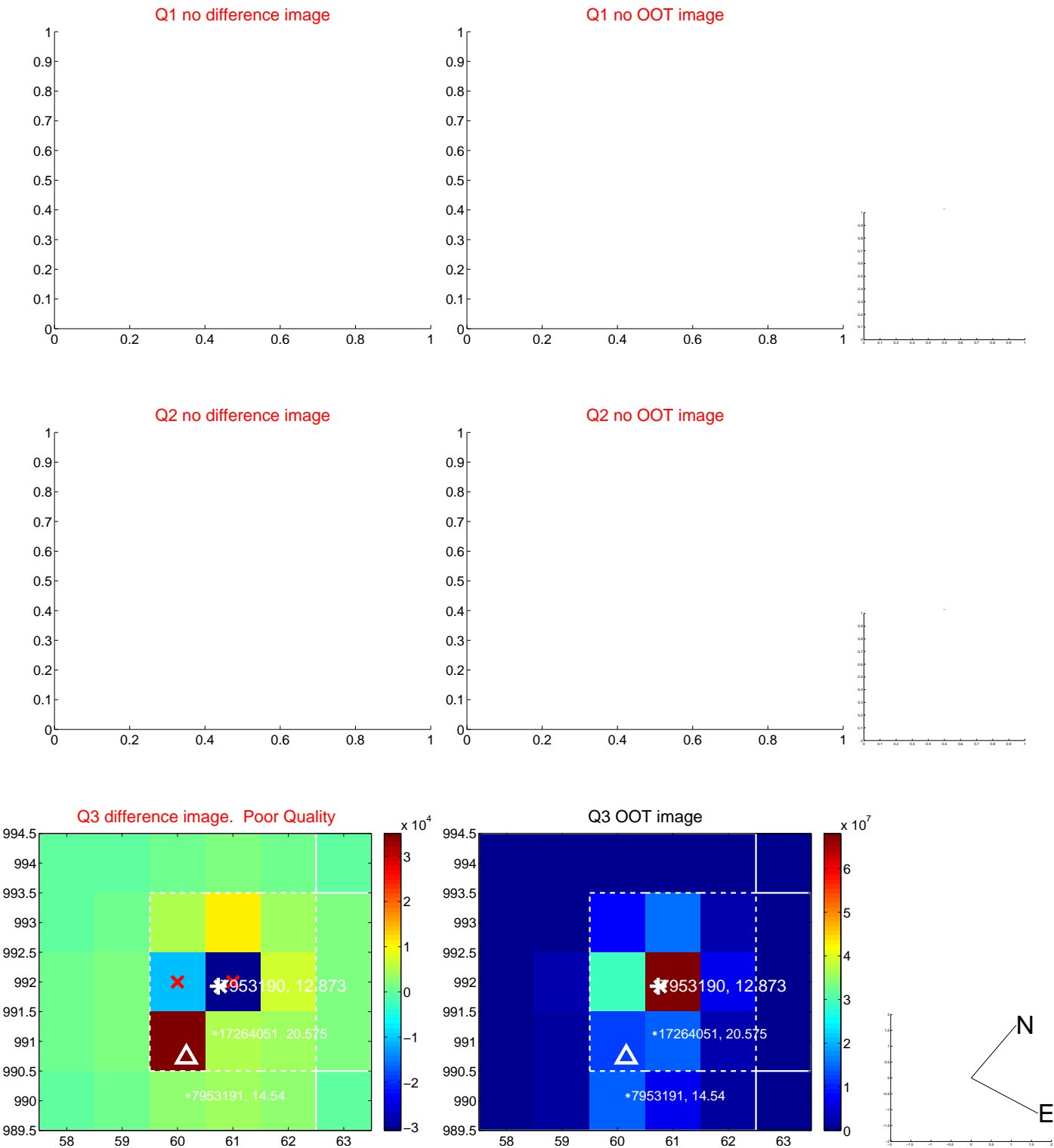
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.297 \pm 2.089$	1.10	$0.629 \pm 0.261$	$-2.209 \pm 2.171$
PRF-fit source offset from KIC position	$2.323 \pm 2.123$	1.09	$0.533 \pm 0.262$	$-2.261 \pm 2.180$
photometric centroid source offset	$2.12 \pm 0.81$	2.63	$-0.04 \pm 0.83$	$-2.12 \pm 0.81$



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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

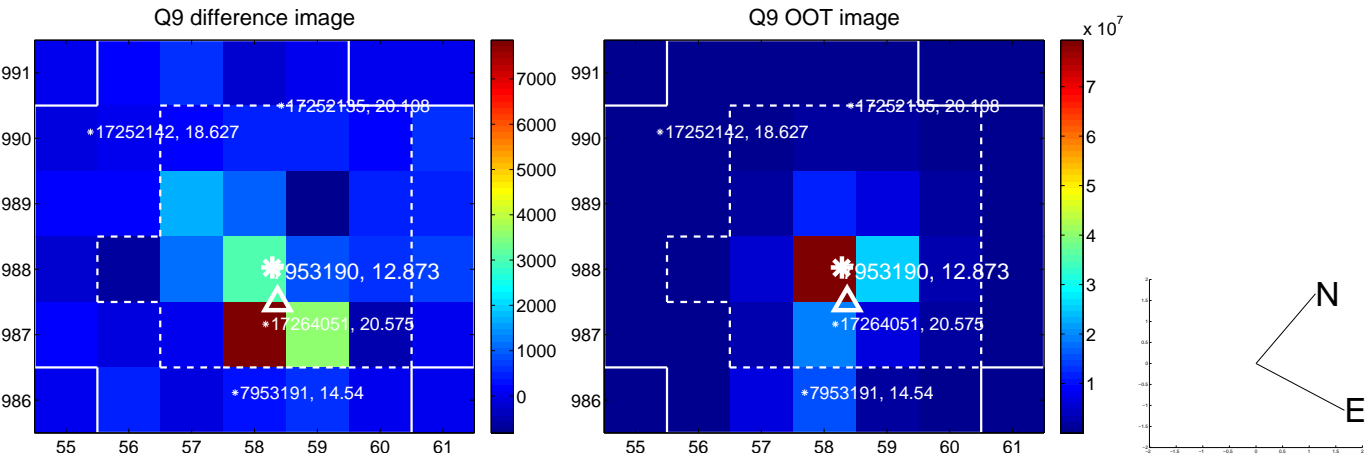




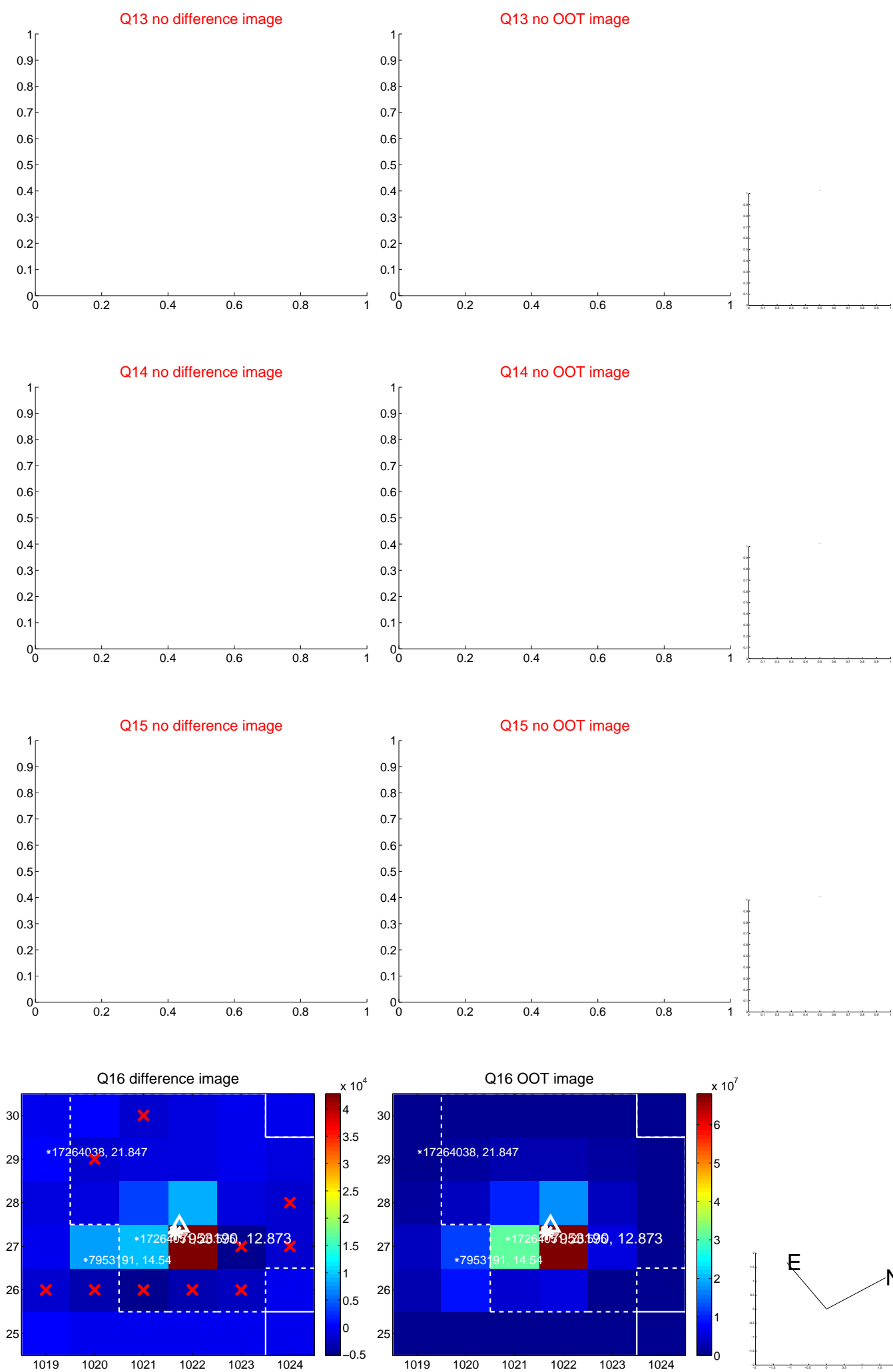
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



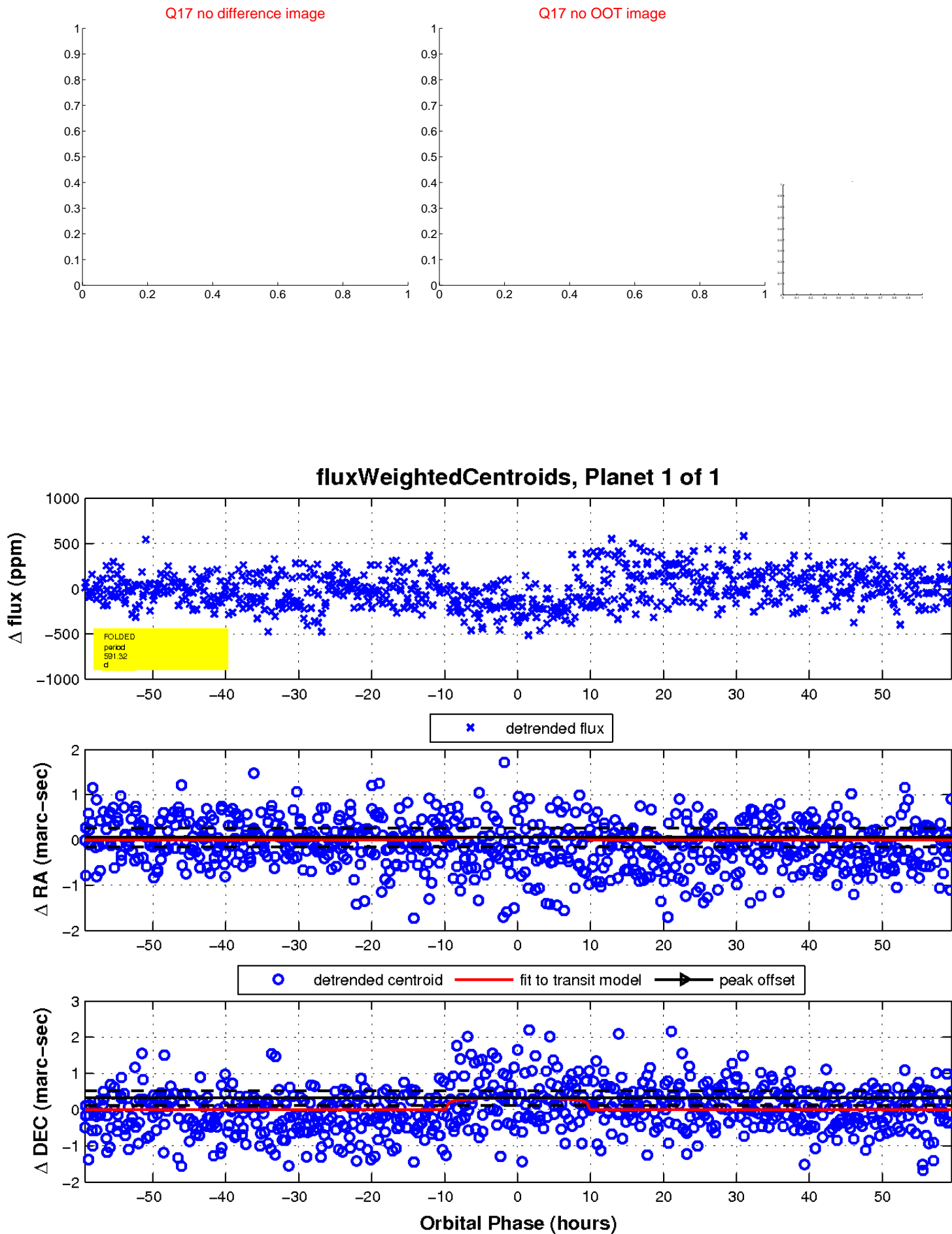
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

