

# KIC 007906827

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007906827-01	OBS	No	368.554164	403.632160	8197.2	19.436	63.0	91.8	0.97	6032	9.13	1.07

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007906827-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—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.

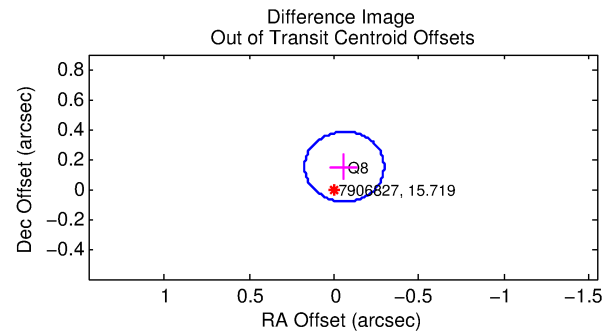
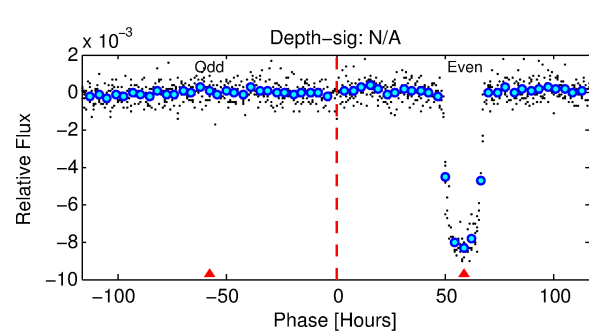
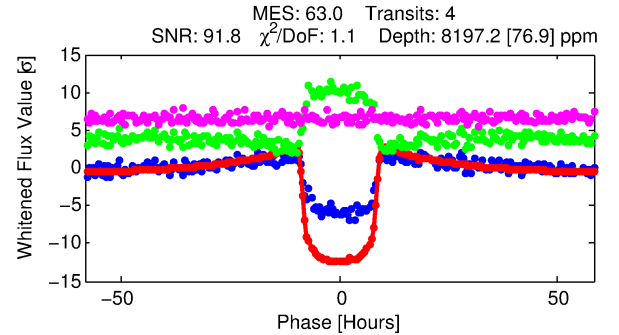
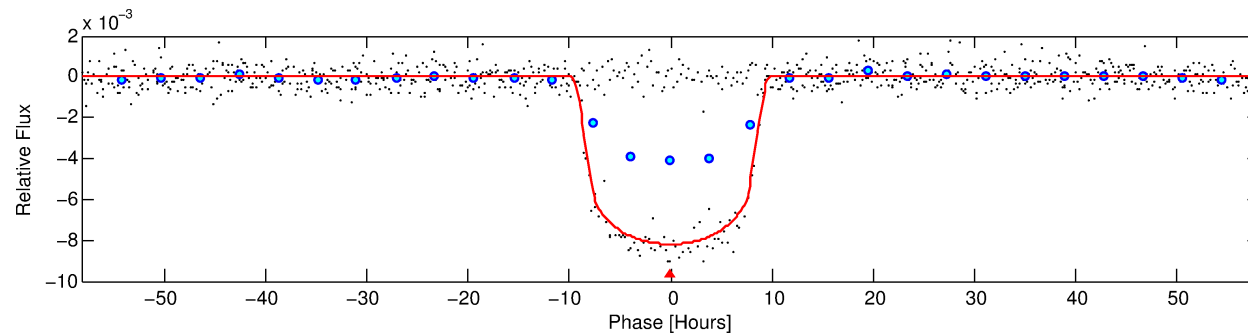
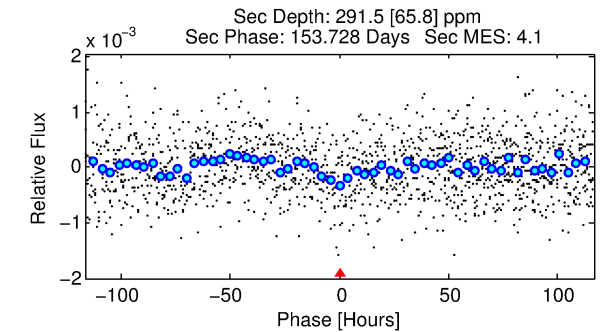
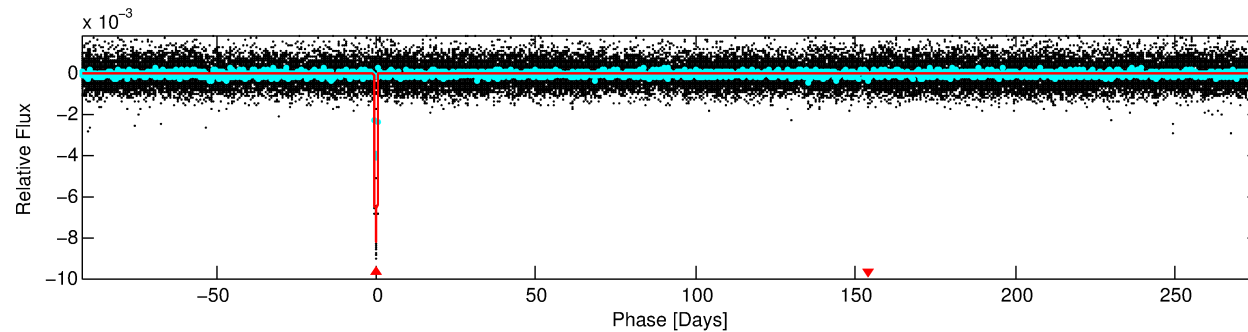
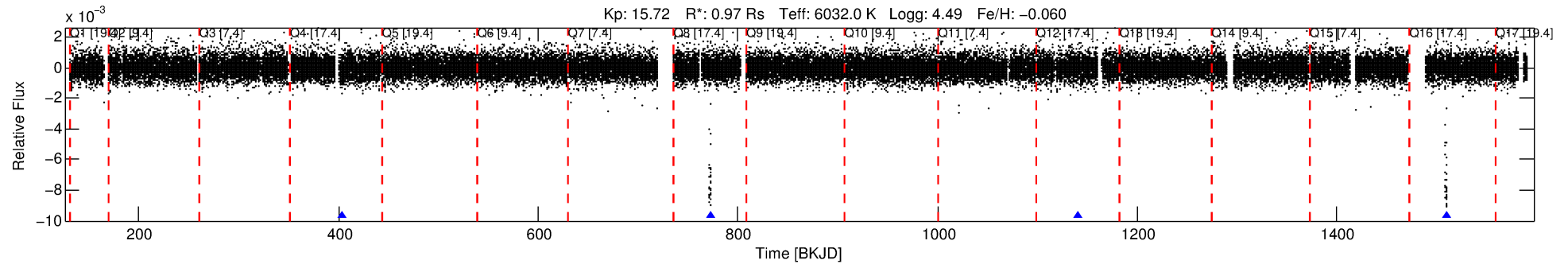
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007906827-01

No Significant Match Found

# DV One-Page Summary

KIC: 7906827 Candidate: 1 of 1 Period: 368.554 d



## DV Fit Results:

Period = 368.55416 [0.00137] d  
Epoch = 403.6322 [0.0026] BKJD  
Rp/R\* = 0.0860 [0.0010]  
a/R\* = 134.57 [5.92]  
b = 0.56 [0.05]  
Seff = 1.07 [0.42]  
Teff = 259 [26] K  
Rp = 9.13 [2.82] Re  
a = 1.0243 [0.2628] AU  
Ag = 2016.78 [874.20] [2.31 $\sigma$ ]  
Teffp = 2687 [179] K [13.45 $\sigma$ ]

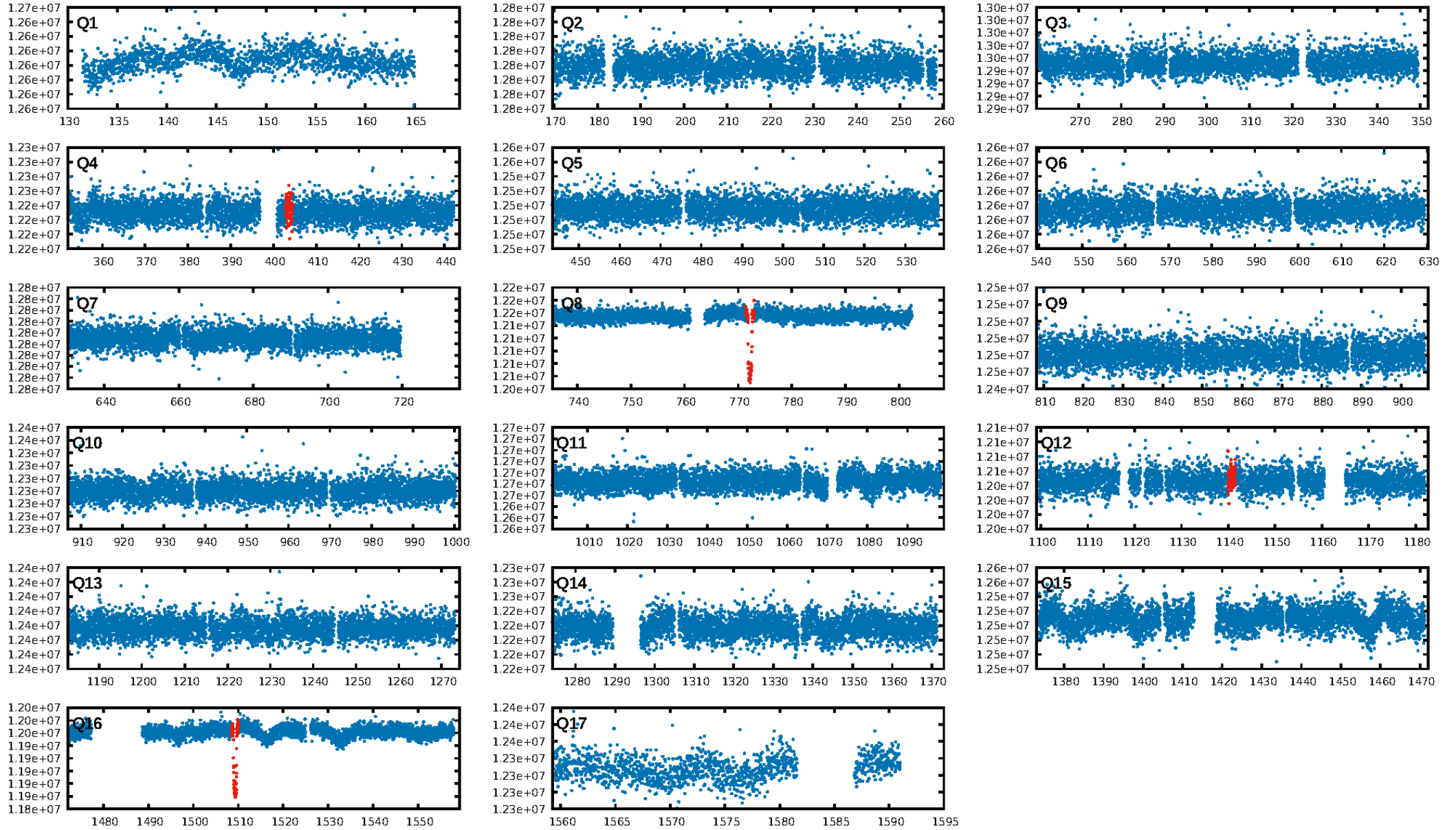
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -0.05452  
Centroid-sig: 0.6%  
Centroid-so: 0.434 arcsec [4.60 $\sigma$ ]  
OotOffset-rm: 0.161 arcsec [2.07 $\sigma$ ]  
KicOffset-rm: 0.008 arcsec [0.10 $\sigma$ ]  
OotOffset-st: 0/0/1/0 [1]  
KicOffset-st: 0/0/1/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

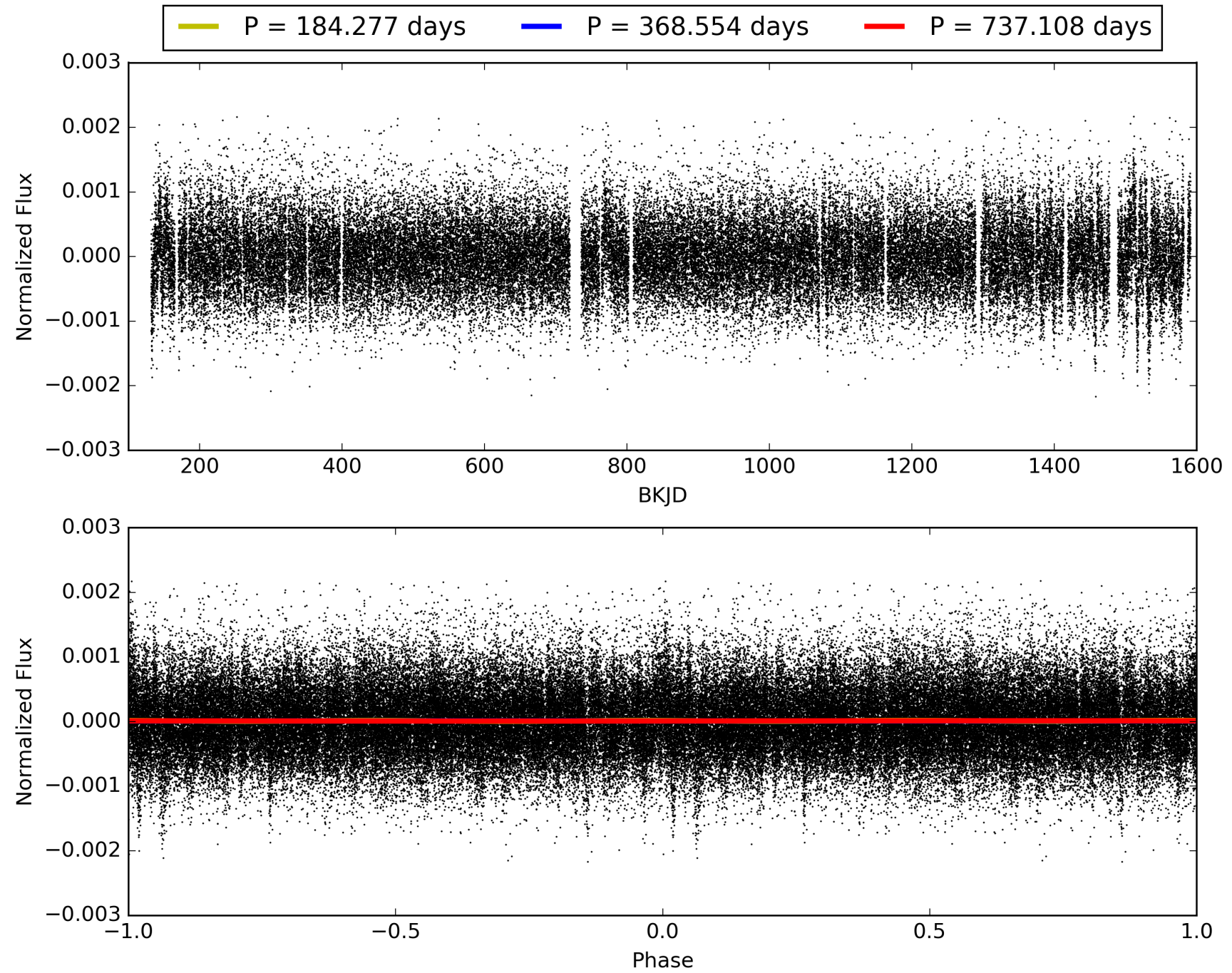
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:42:03 Z

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

# TCE 007906827-01, PDC Light Curves

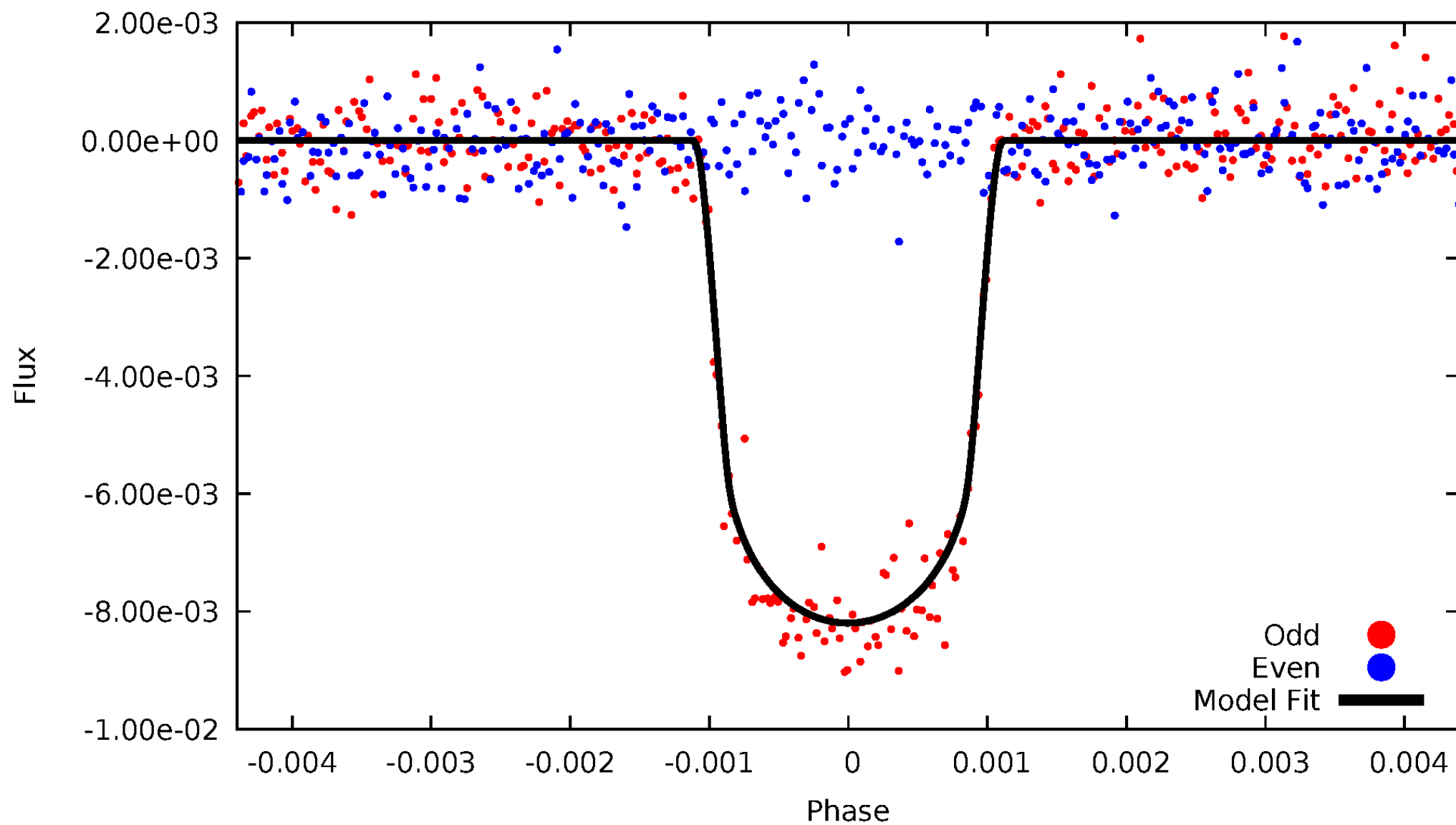


TCE 007906827-01



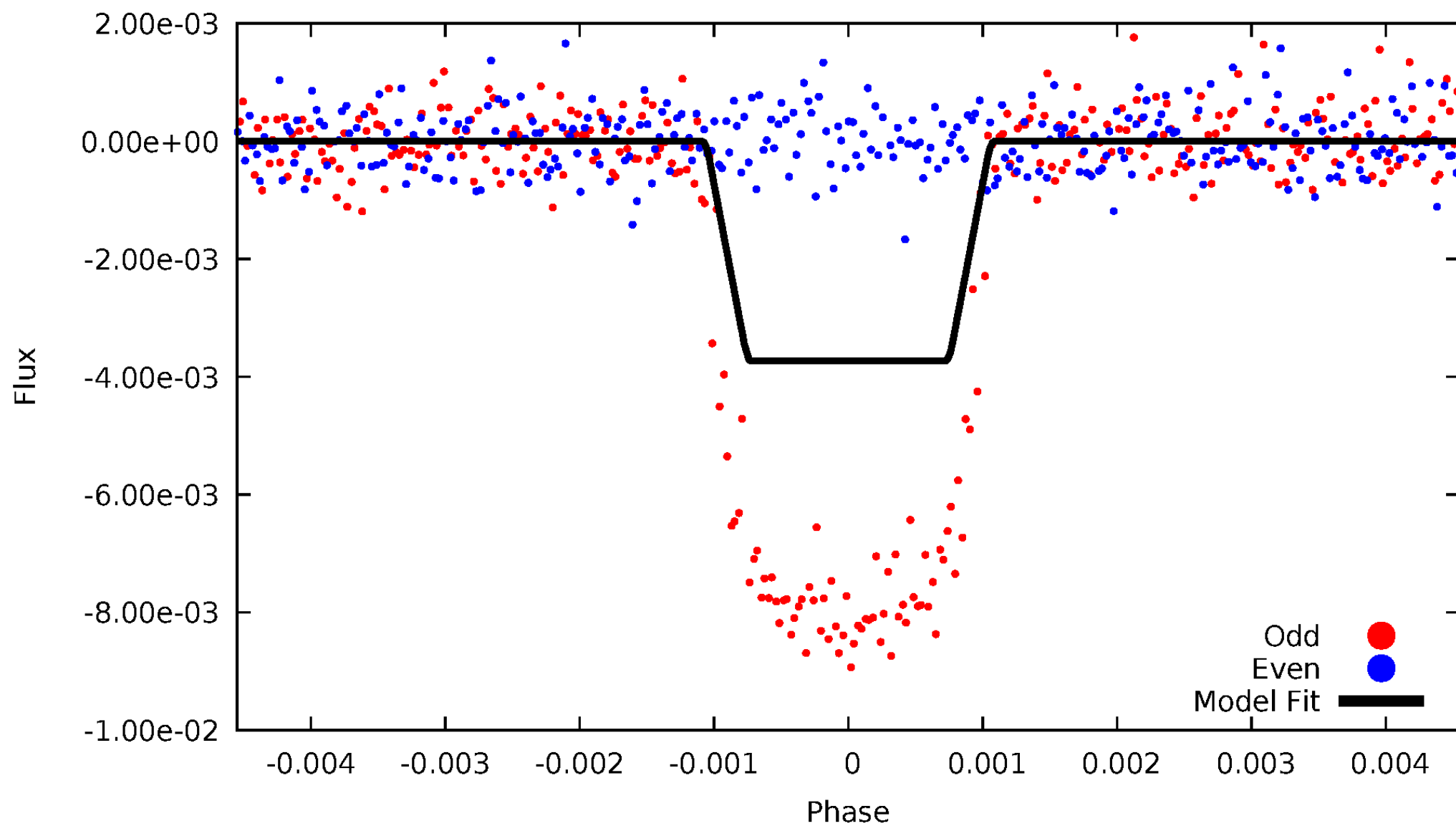
# DV Odd/Even

TCE 007906827-01



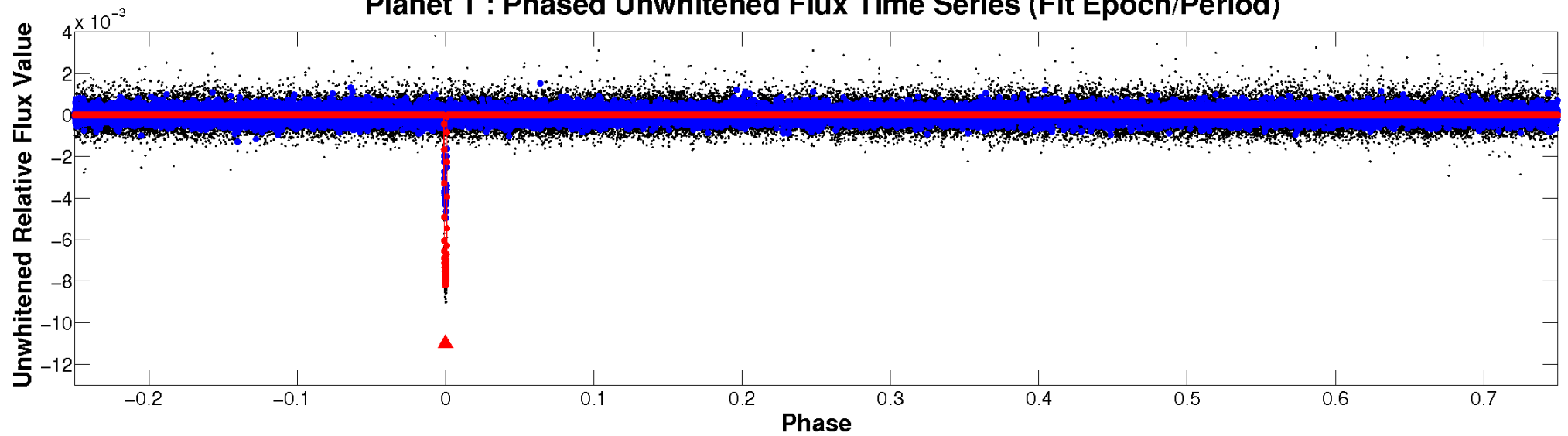
# ALT Odd/Even

TCE 007906827-01

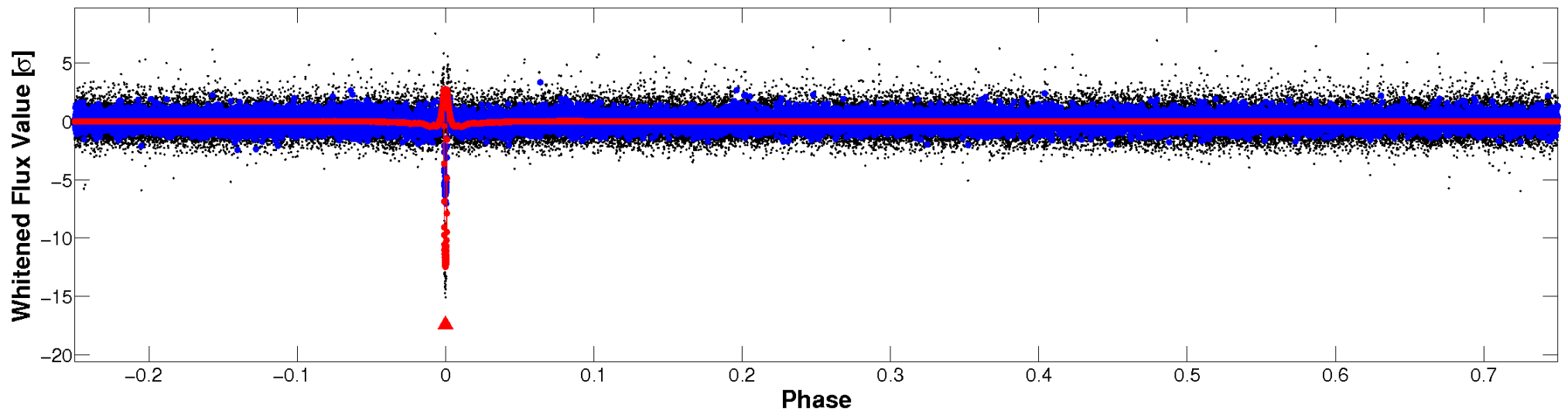


# Non-Whitened Vs. Whitened Light Curve

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

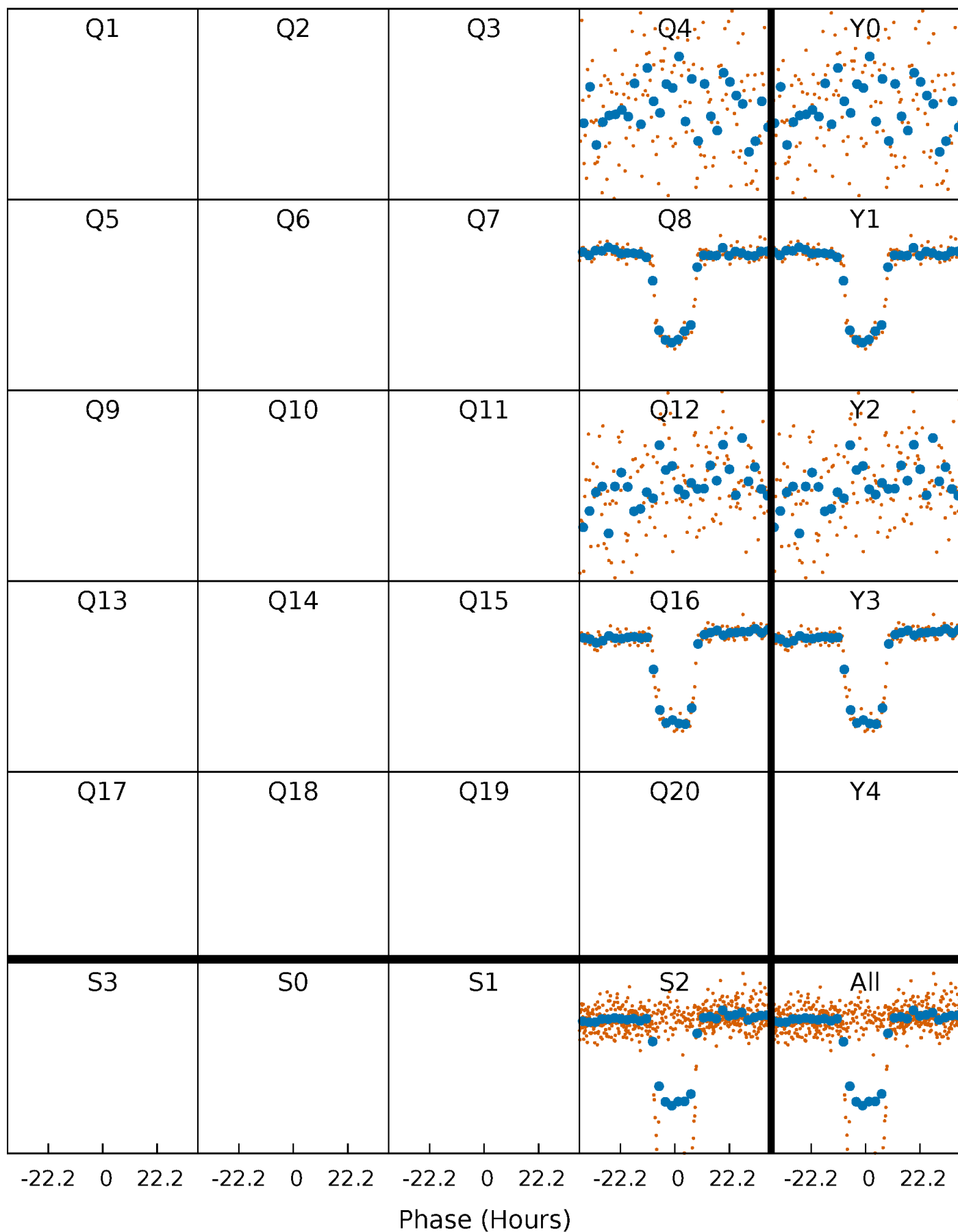


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

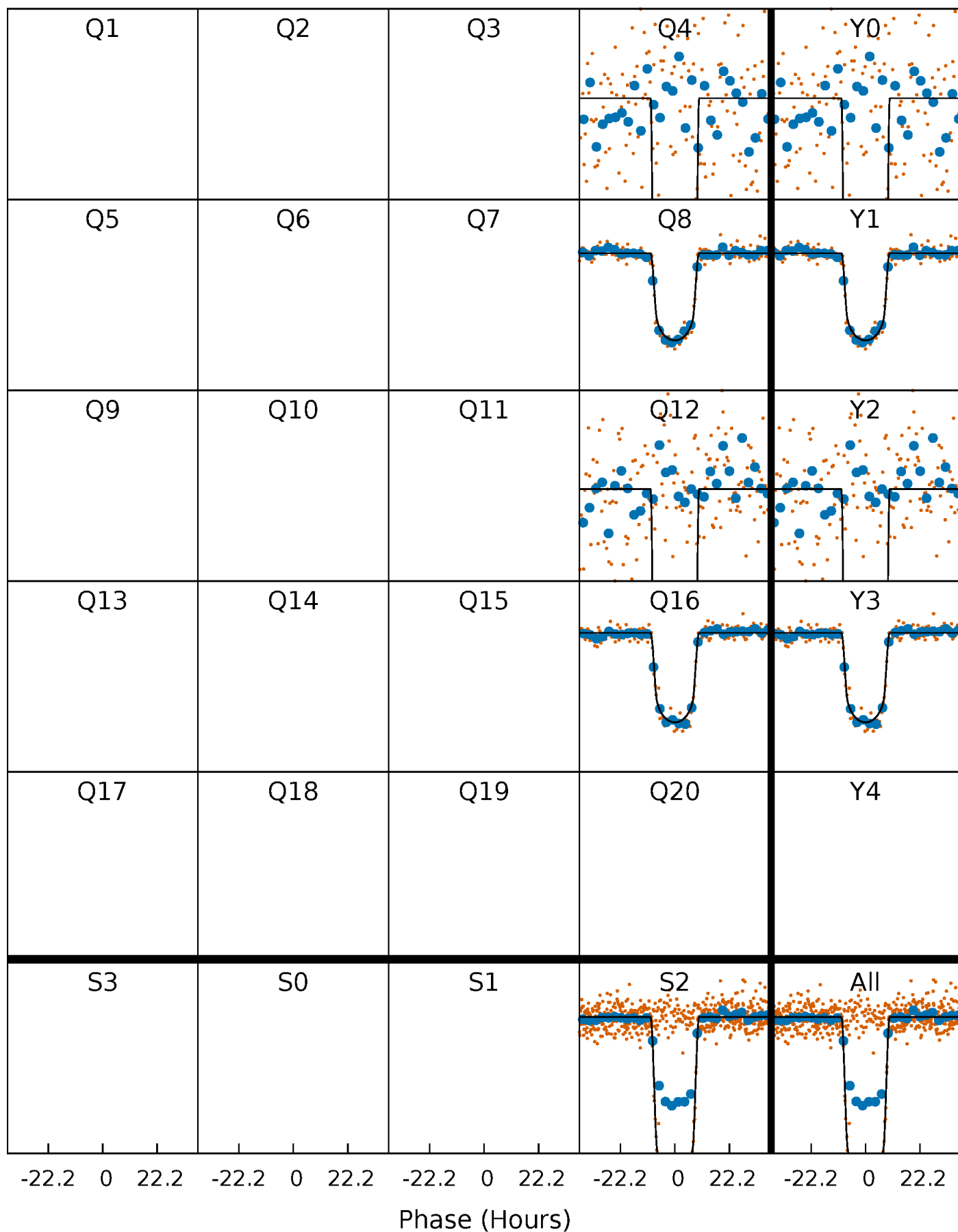
TCE 007906827-01 P=368.554164 Days  $T_0=403.632160$  (BKJD)





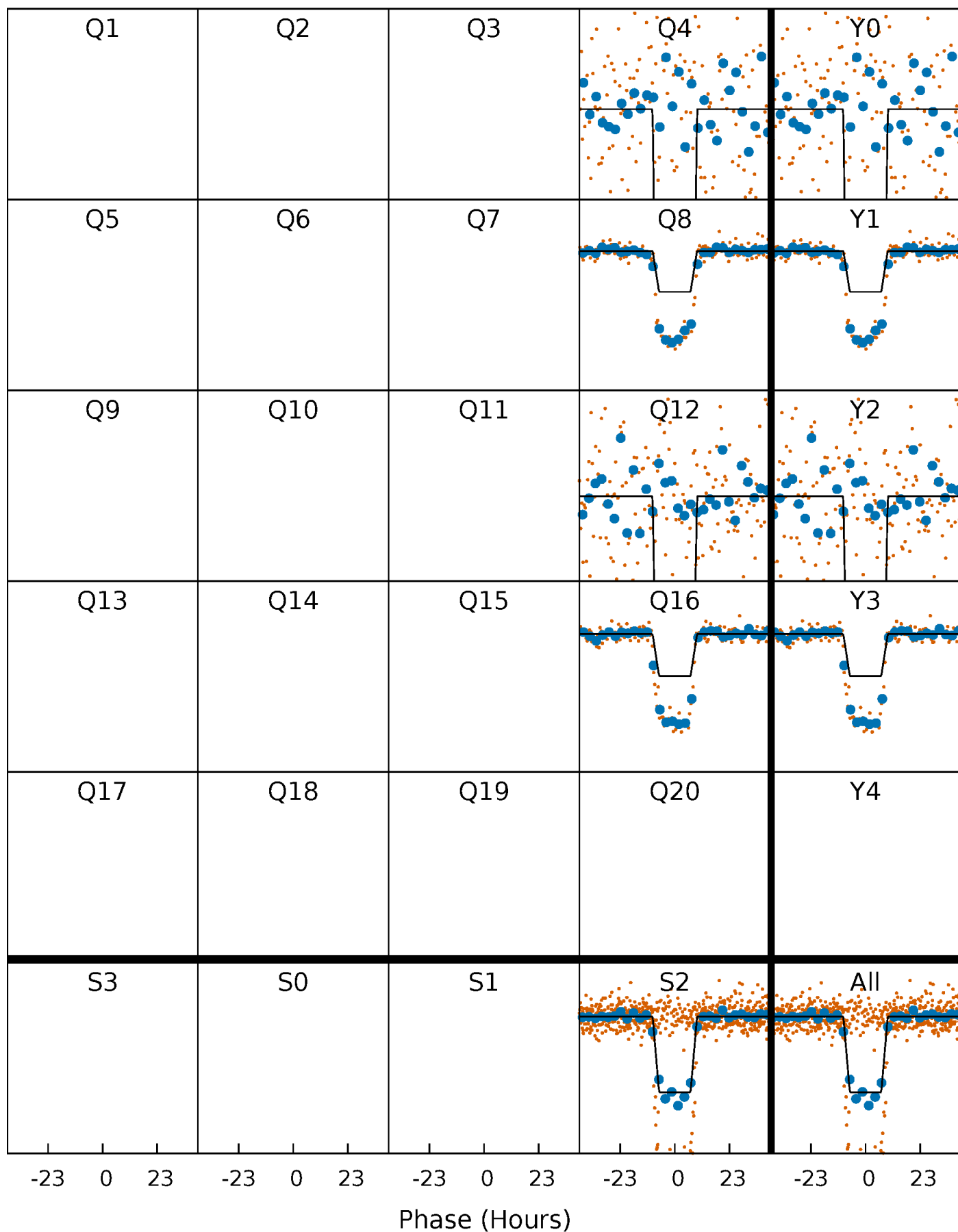
# DV Quarter-Phased Transit Curves

TCE 007906827-01 P=368.554164 Days  $T_0=403.632160$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

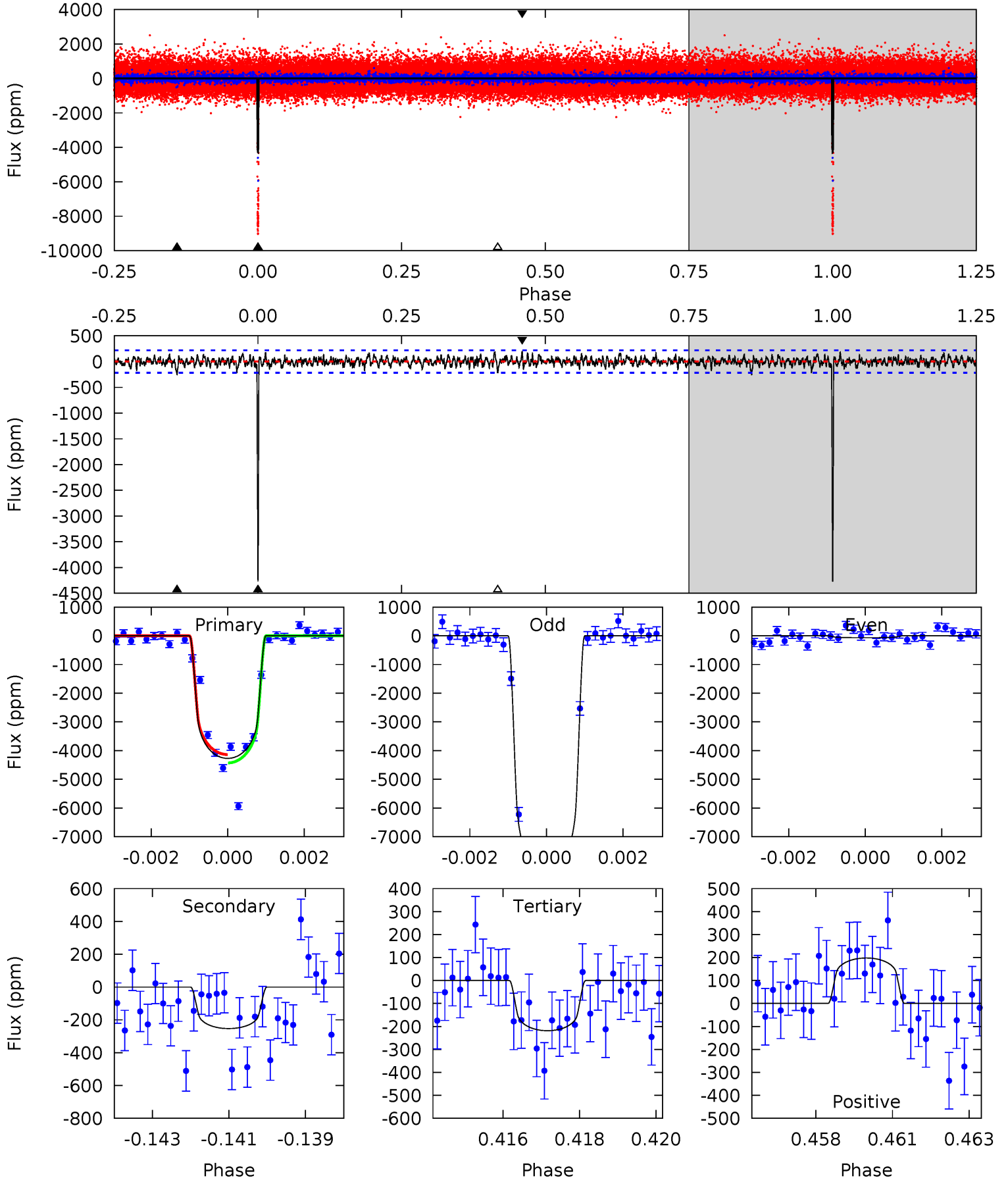
TCE 007906827-01 P=368.566933 Days  $T_0=403.610411$  (BKJD)



# DV Model-Shift Uniqueness Test

007906827-01,  $P = 368.554164$  Days,  $E = 35.077996$  Days

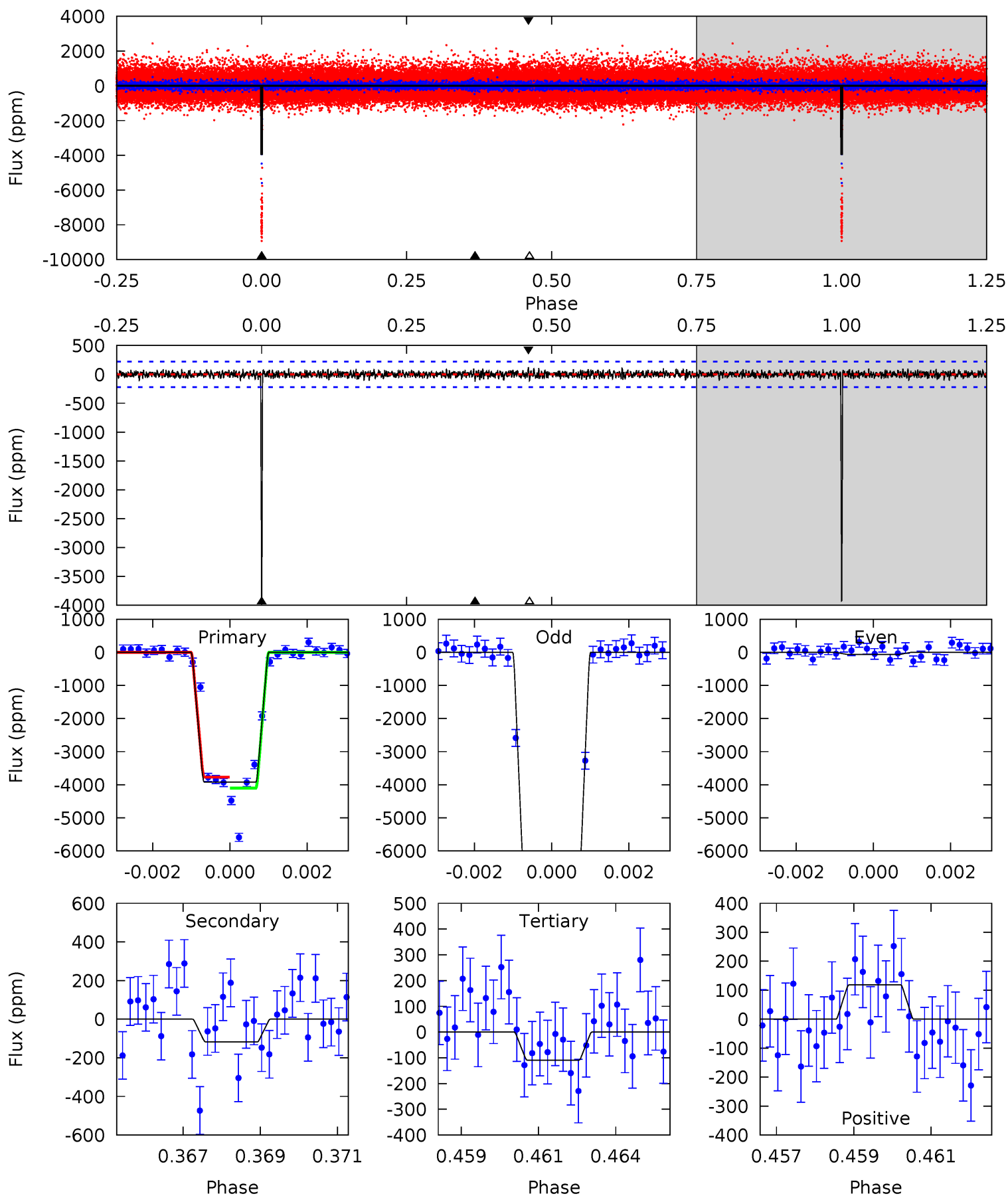
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
104.0	6.16	5.32	4.82	5.31	3.06	1.44	98.6	99.1	0.84	1.34	105.3	1.00	0.04	3.48



# Alt Model-Shift Uniqueness Test

007906827-01, P = 368.566933 Days, E = 35.043478 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
93.9	2.81	2.61	2.84	5.31	3.07	0.79	91.3	91.1	0.20	-0.03	98.7	1.01	0.03	3.85



### Stellar Parameters For KIC 007906827

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6032^{+189}_{-210}$	$4.485^{+0.050}_{-0.200}$	$-0.060^{+0.250}_{-0.300}$	$0.973^{+0.300}_{-0.100}$	$1.055^{+0.139}_{-0.139}$	$1.612^{+0.434}_{-0.827}$
	+3%/-3%	+1%/-4%	+417%/-500%	+31%/-10%	+13%/-13%	+27%/-51%
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 007906827-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-253 \pm 41$	$9.35^{+1.46}_{-0.74}$	$369^{+25}_{-18}$	$3191^{+100}_{-114}$	$1612^{+397}_{-419}$
Alt.	$-117 \pm 42$	$6.61^{+1.08}_{-0.46}$	$371^{+26}_{-21}$	$3149^{+171}_{-195}$	$1442^{+627}_{-568}$

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

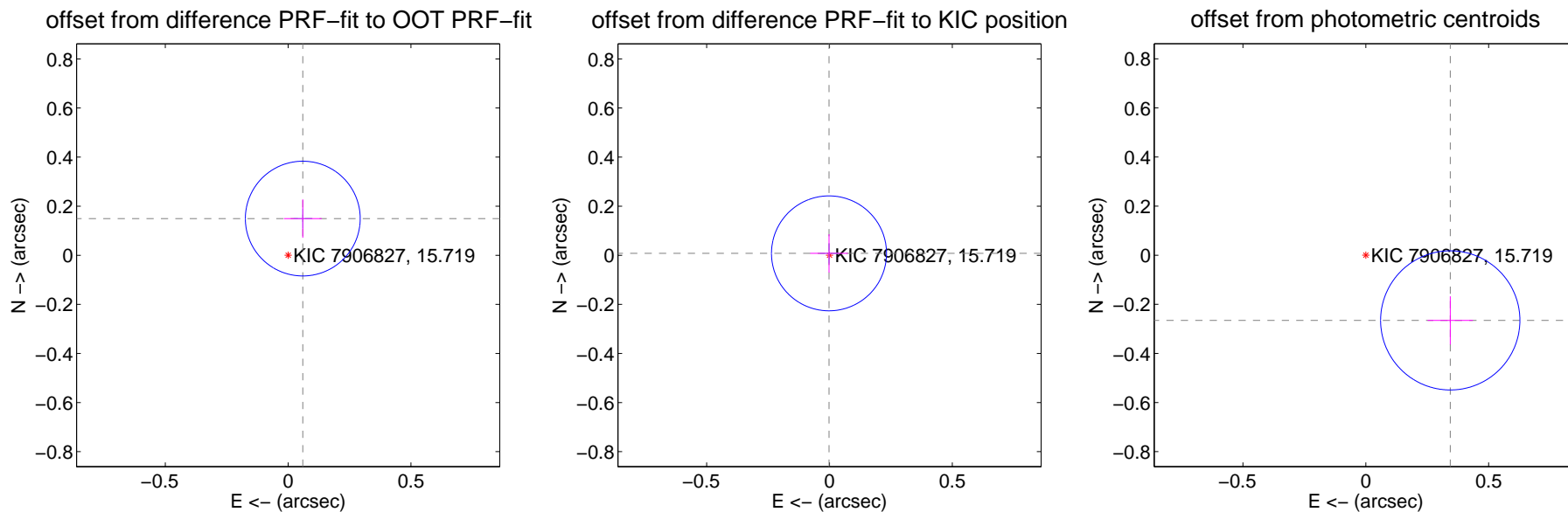
## DV Centroid Data

Supplemental centroid analysis for 007906827-01. Kepler magnitude: 15.72. Transit SNR 91.75

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	$0.161 \pm 0.078$	2.07	$-0.060 \pm 0.077$	$0.150 \pm 0.078$
PRF-fit source offset from KIC position	$0.008 \pm 0.078$	0.10	$0.002 \pm 0.077$	$0.008 \pm 0.078$
photometric centroid source offset	$0.43 \pm 0.09$	4.60	$-0.34 \pm 0.09$	$-0.27 \pm 0.10$



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.

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



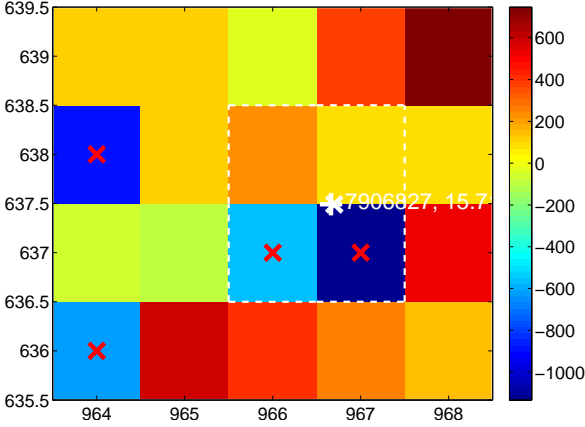
Q3 no difference image



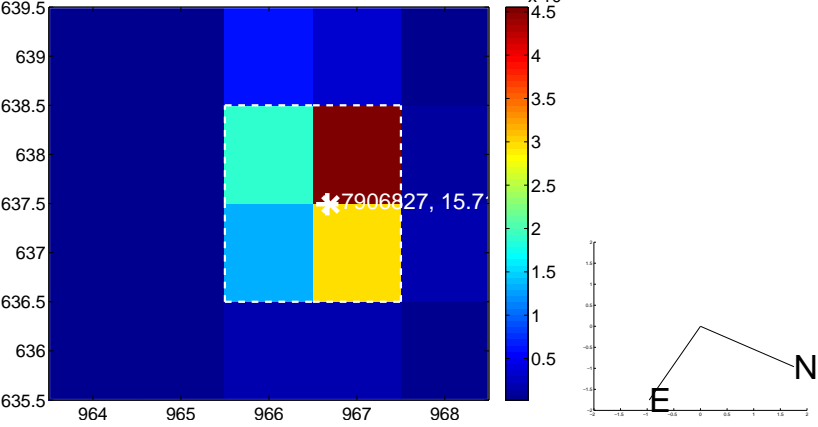
Q3 no OOT image



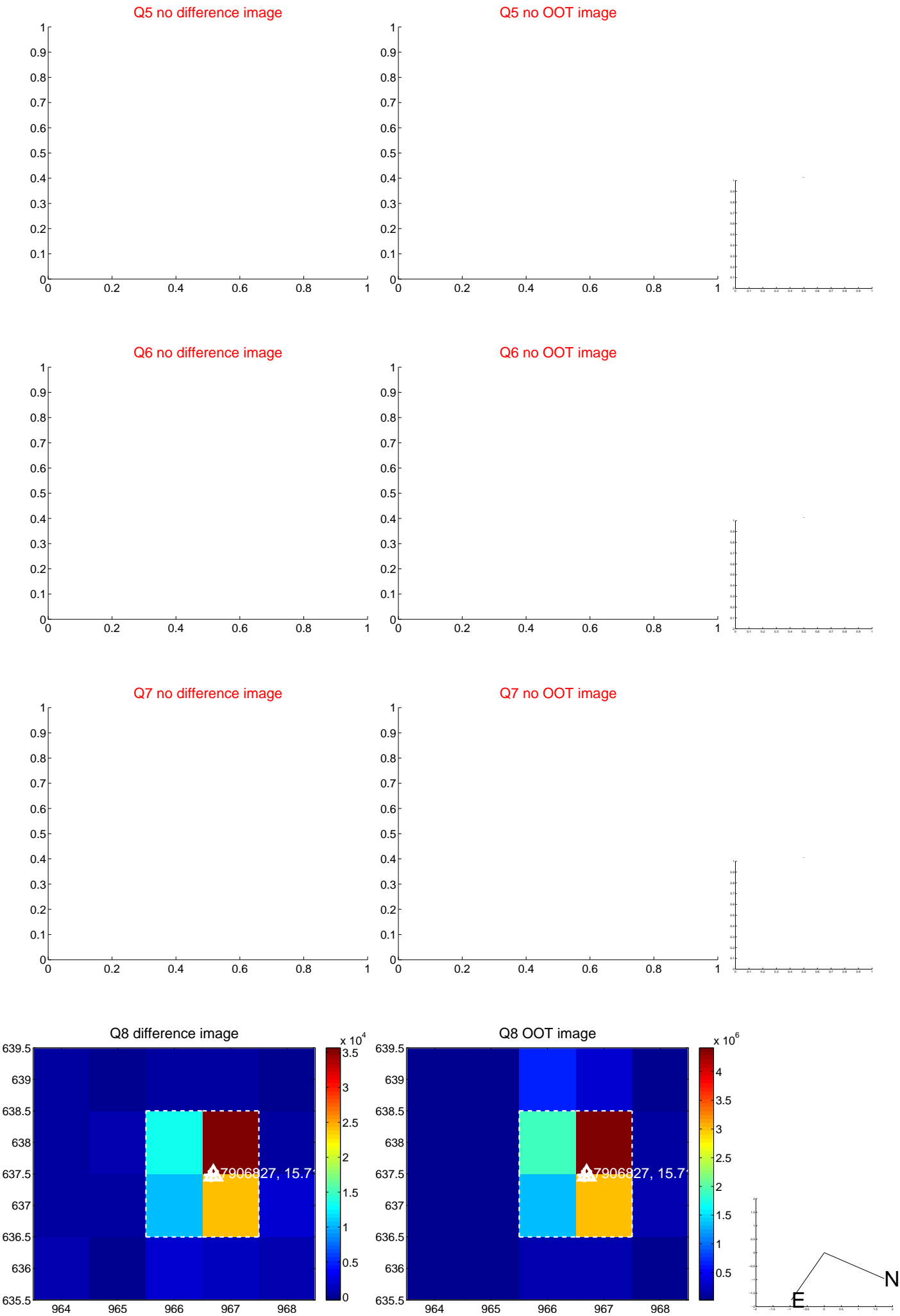
Q4 difference image. Poor Quality



Q4 OOT image

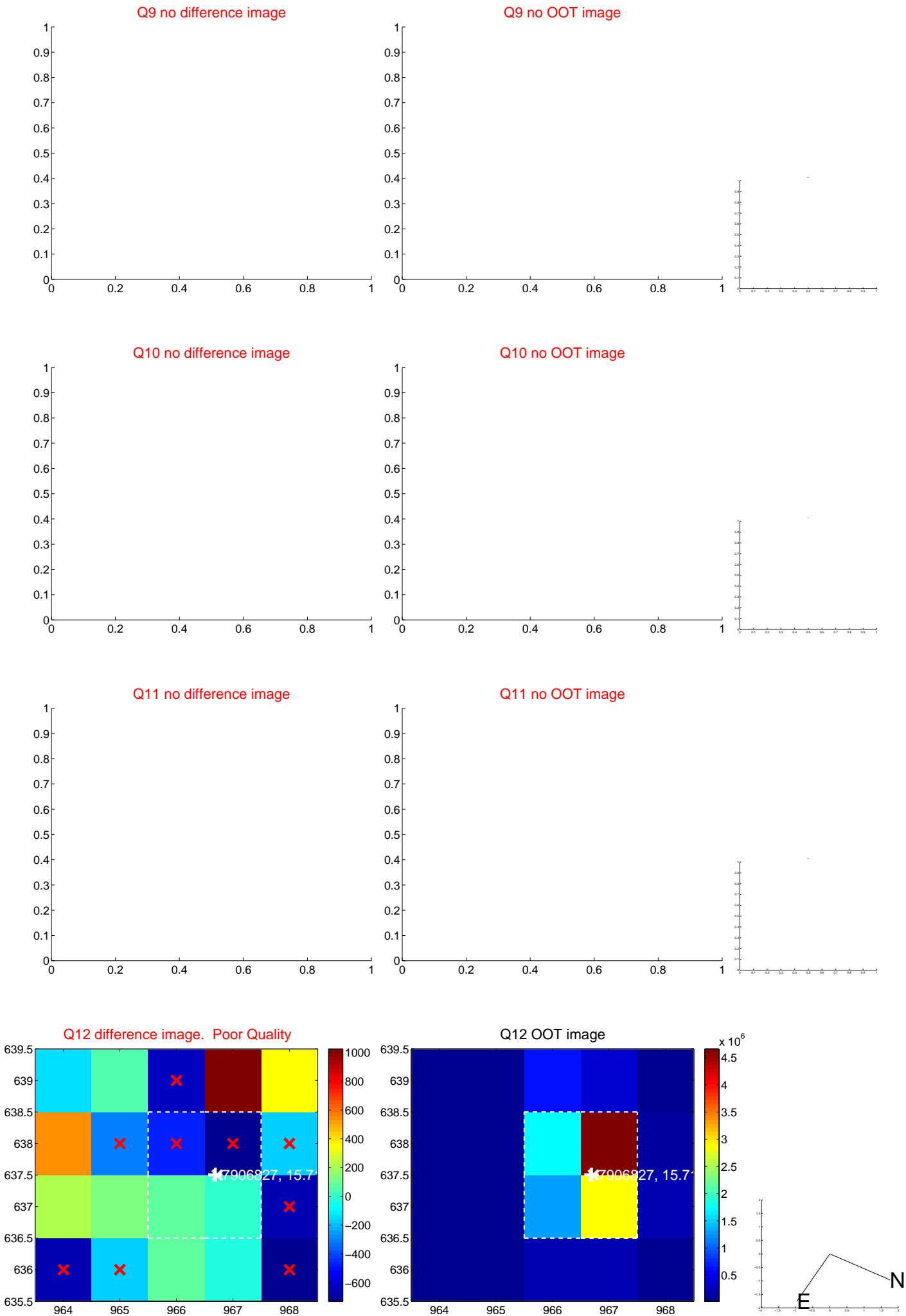


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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.



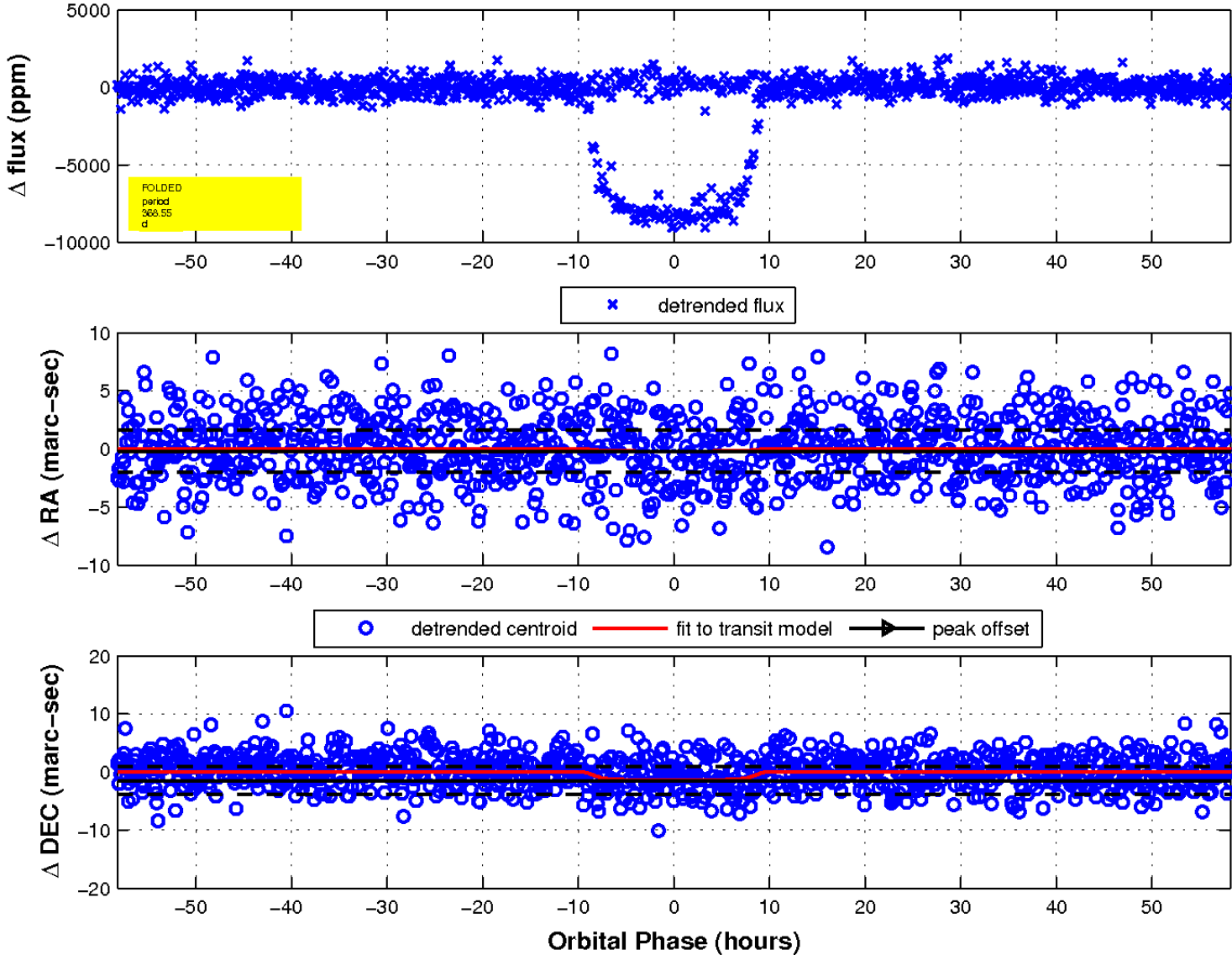
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

Q17 no difference image

Q17 no OOT image



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

