

# KIC 007200282

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007200282-01	OBS	No	438.379256	361.839989	871.9	35.745	433.0	7.9	1.08	5500	3.52	0.82

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007200282-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

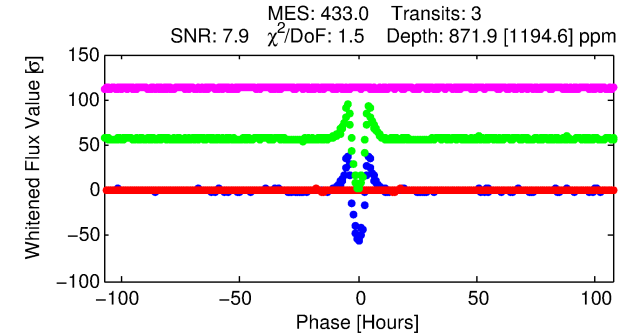
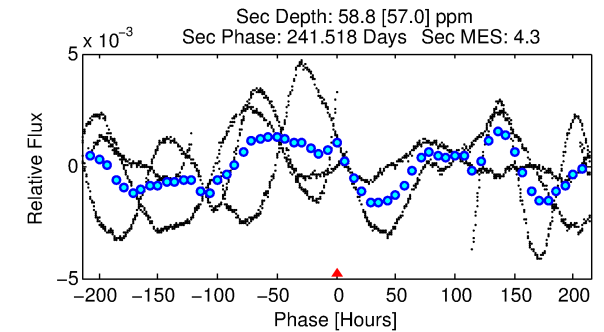
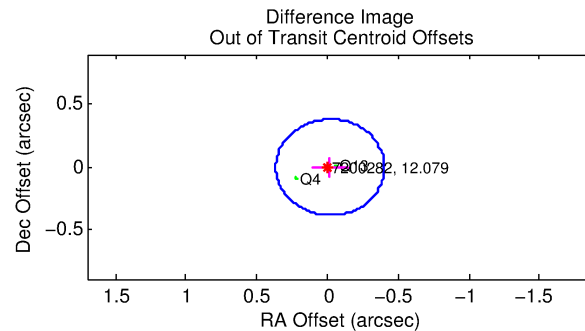
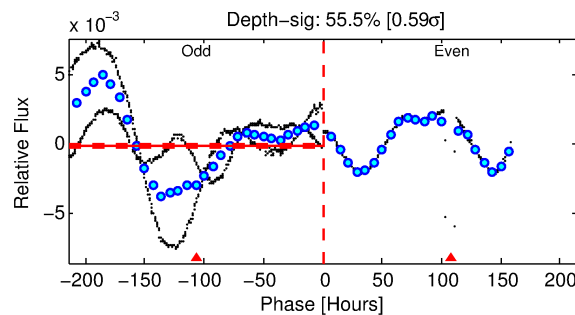
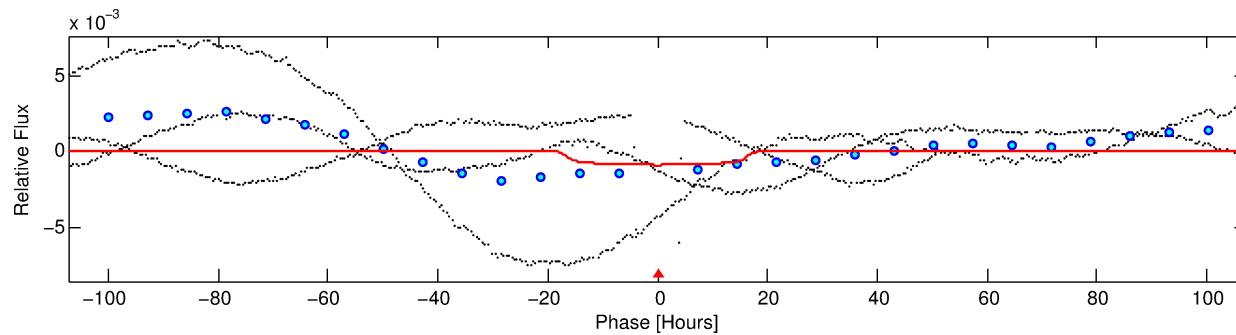
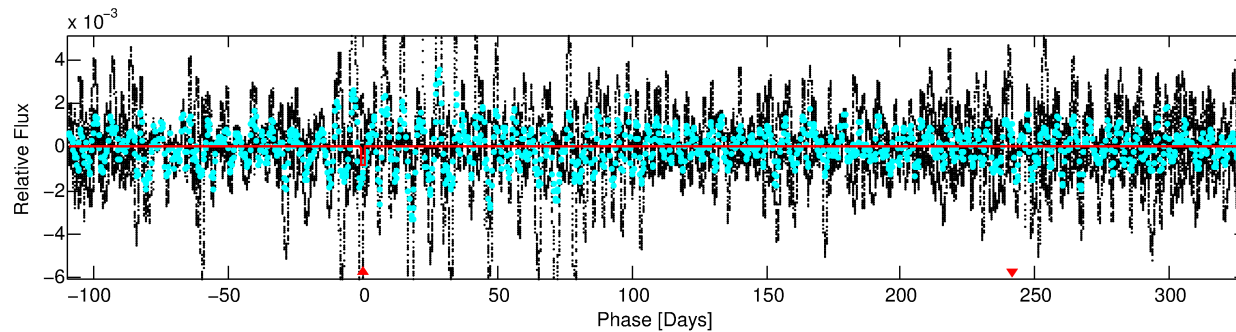
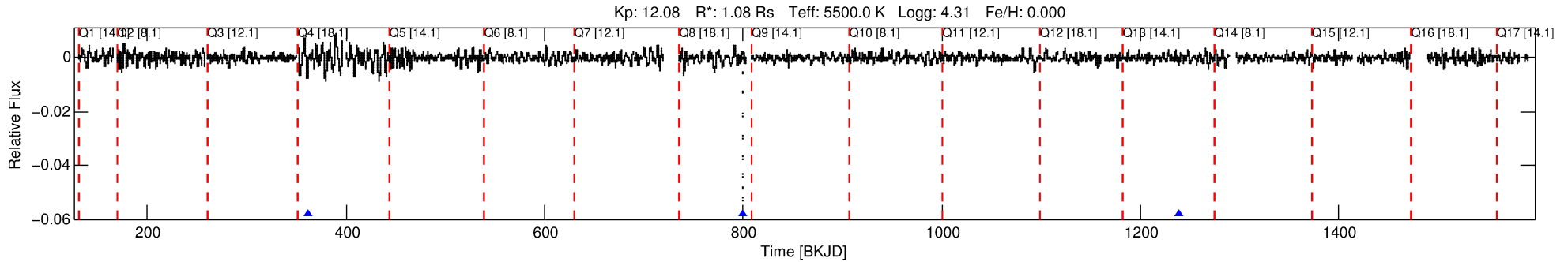
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007200282-01

No Significant Match Found

# DV One-Page Summary

KIC: 7200282 Candidate: 1 of 1 Period: 438.379 d



## DV Fit Results:

Period = 438.37926 [0.08805] d  
Epoch = 361.8400 [0.1210] BKJD  
Rp/R\* = 0.0299 [0.0216]  
a/R\* = 62.07 [44.21]  
b = 0.79 [0.34]  
Seff = 0.82 [0.34]  
Teq = 243 [25] K  
Rp = 3.51 [2.79] Re  
a = 1.0760 [0.2932] AU  
Ag = 3029.10 [5407.04] [0.56σ]  
Teffp = 2783 [1213] K [2.09σ]

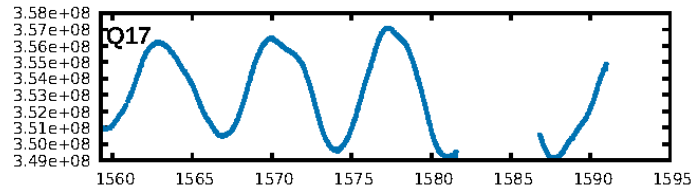
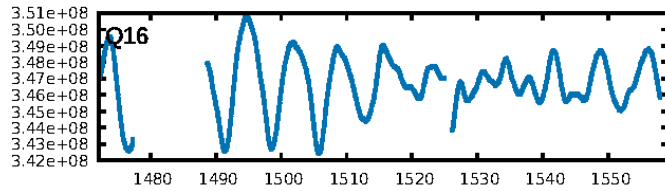
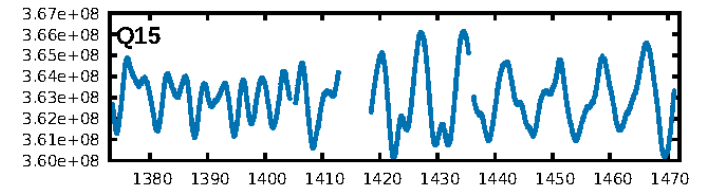
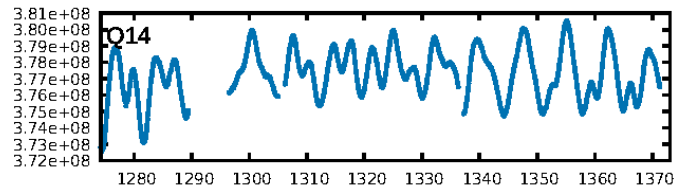
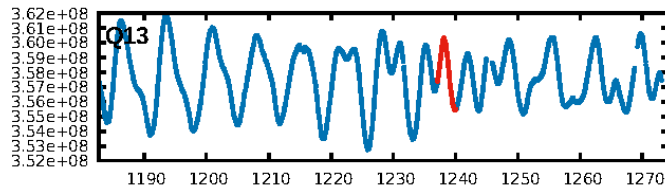
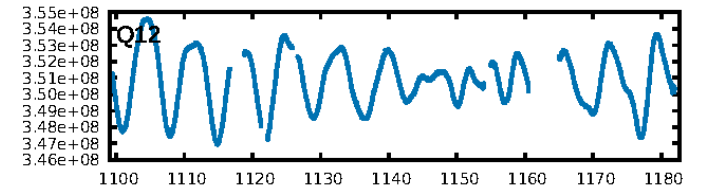
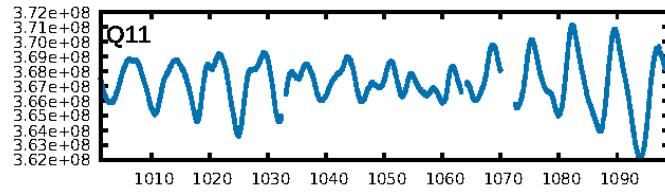
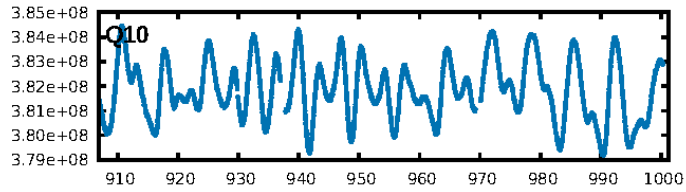
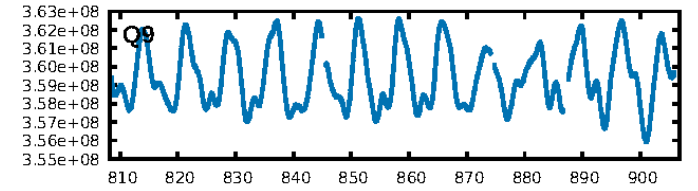
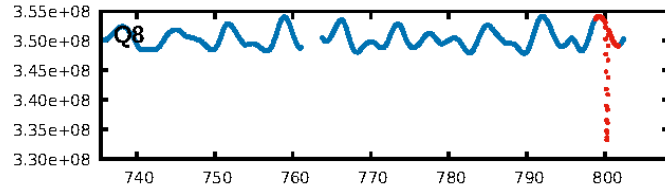
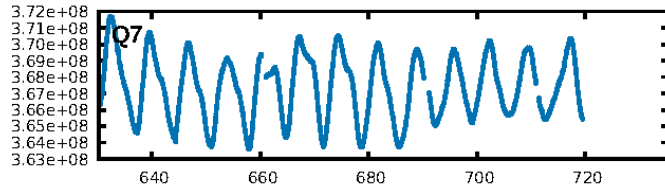
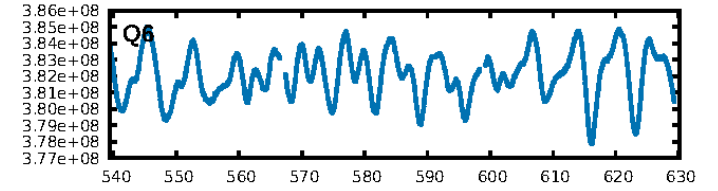
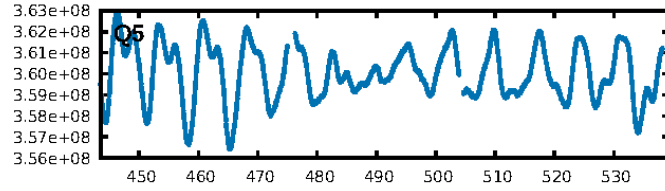
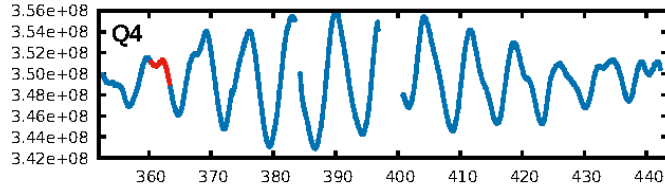
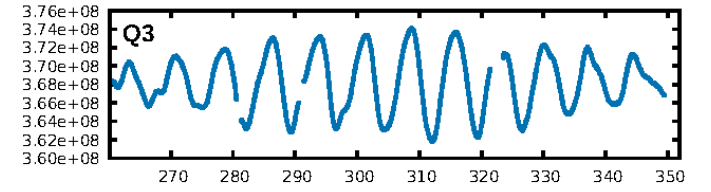
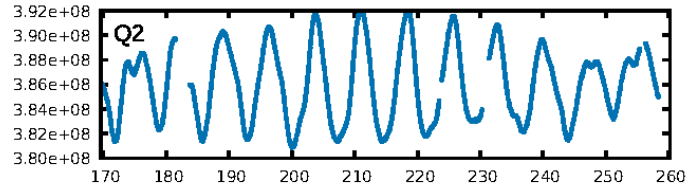
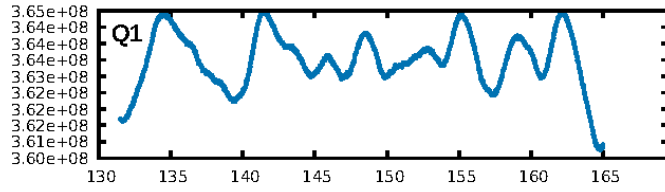
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 86.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.3052  
Centroid-sig: 48.3%  
Centroid-so: 0.166 arcsec [0.77σ]  
OotOffset-rm: 0.020 arcsec [0.16σ]  
OotOffset-st: 0/0/1/1 [2]  
KicOffset-rm: 0.298 arcsec [4.27σ]  
KicOffset-st: 0/0/1/1 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [2/2]

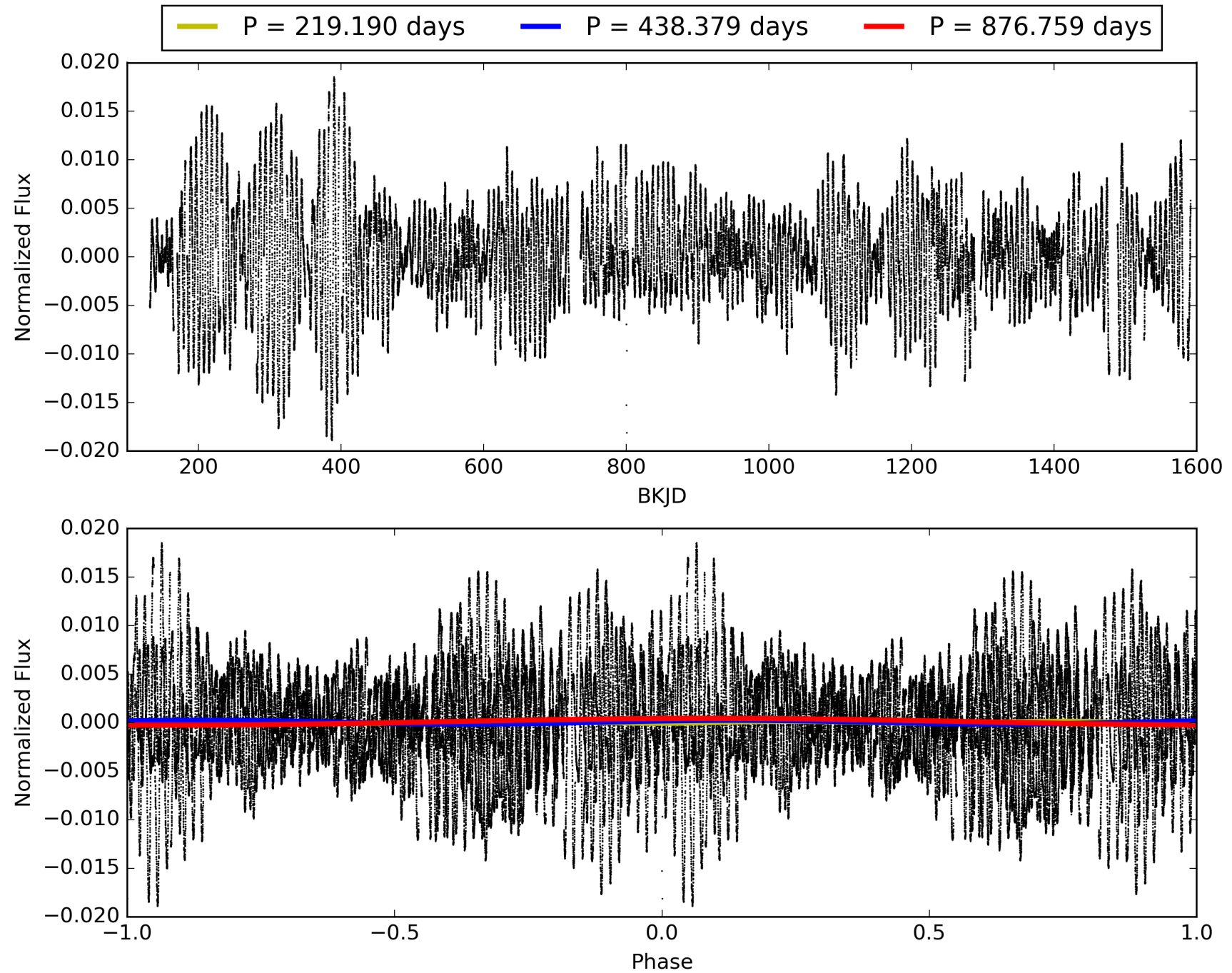
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:57:37 Z

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

# TCE 007200282-01, PDC Light Curves

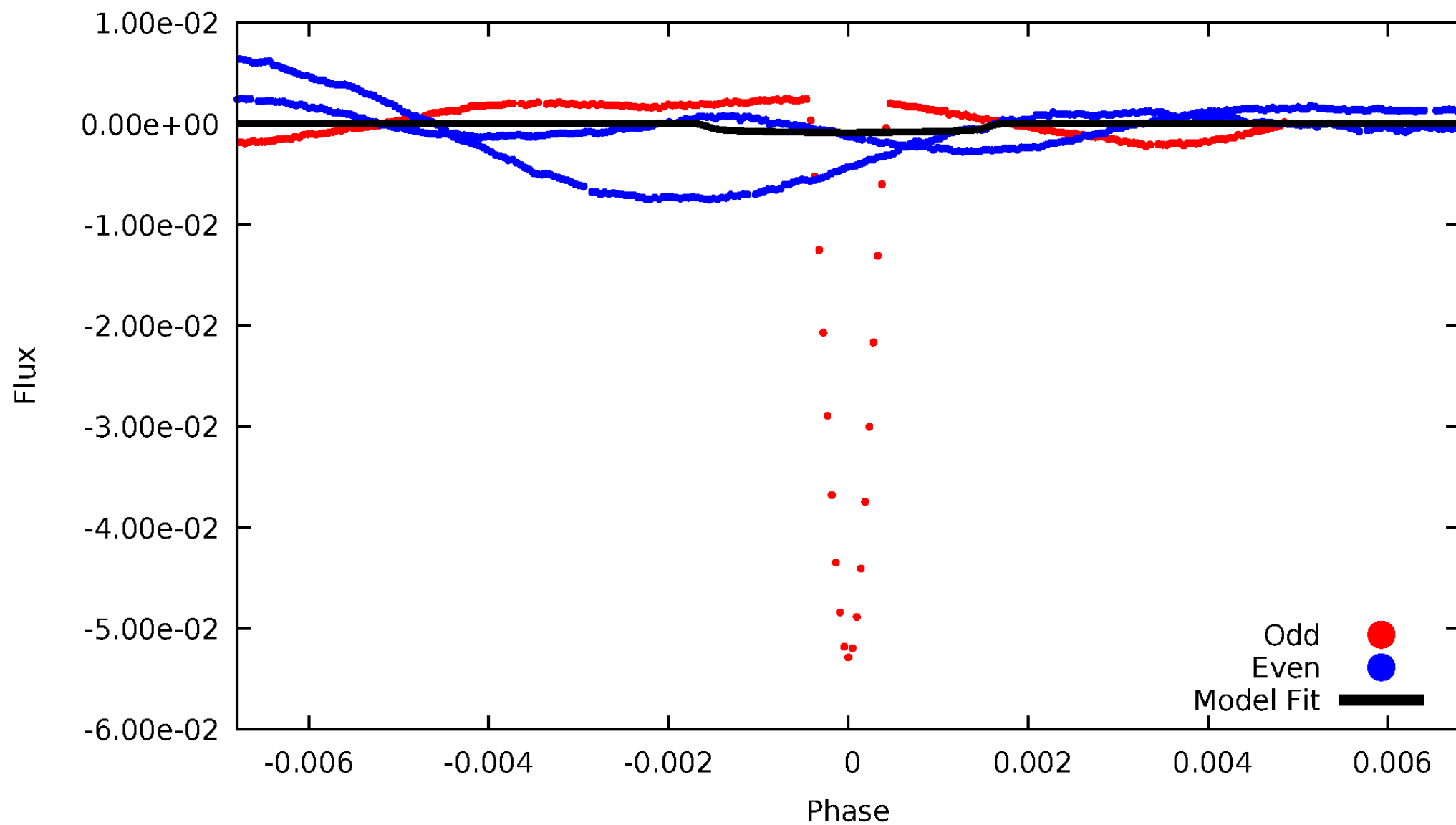


TCE 007200282-01



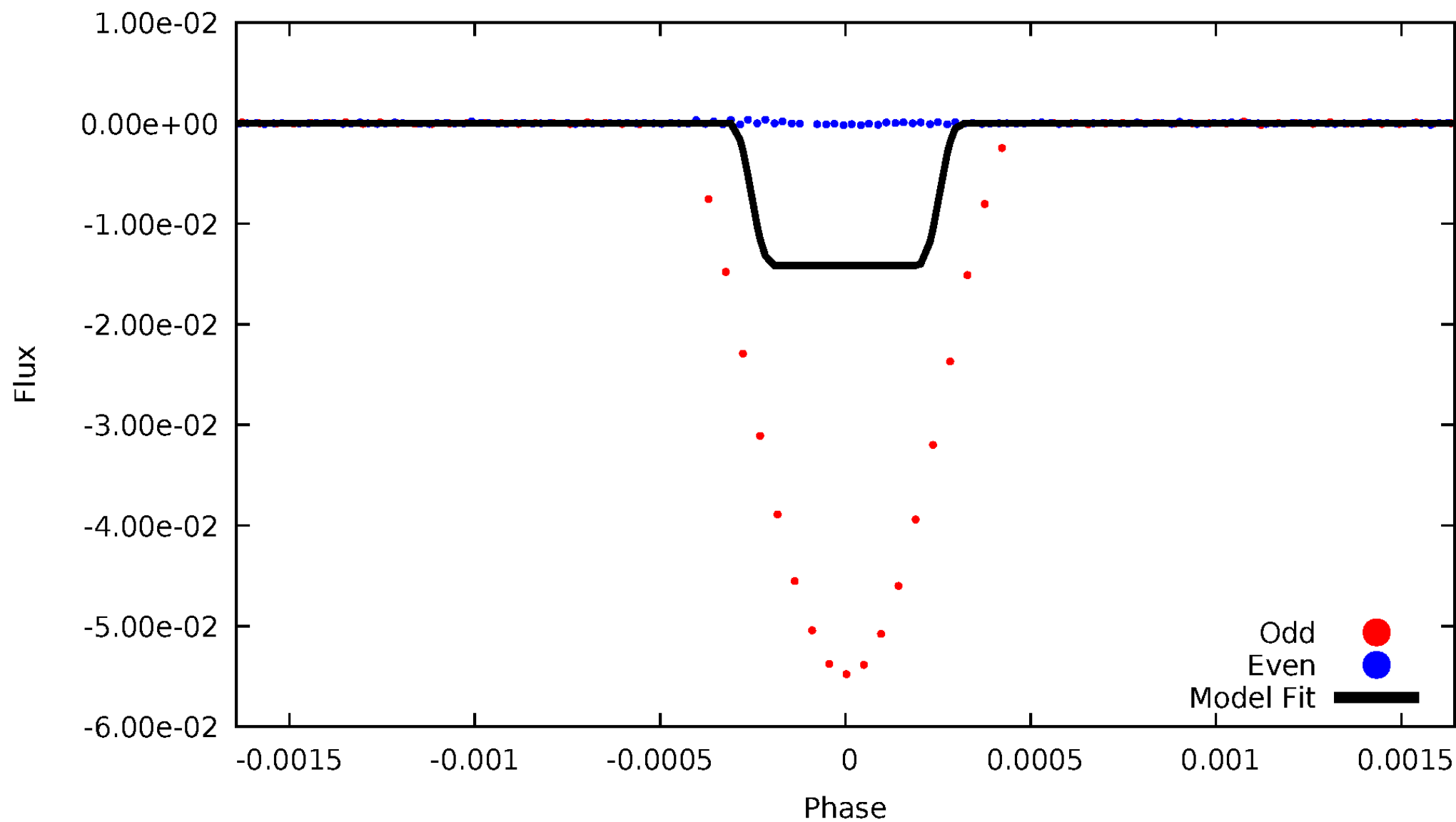
# DV Odd/Even

TCE 007200282-01



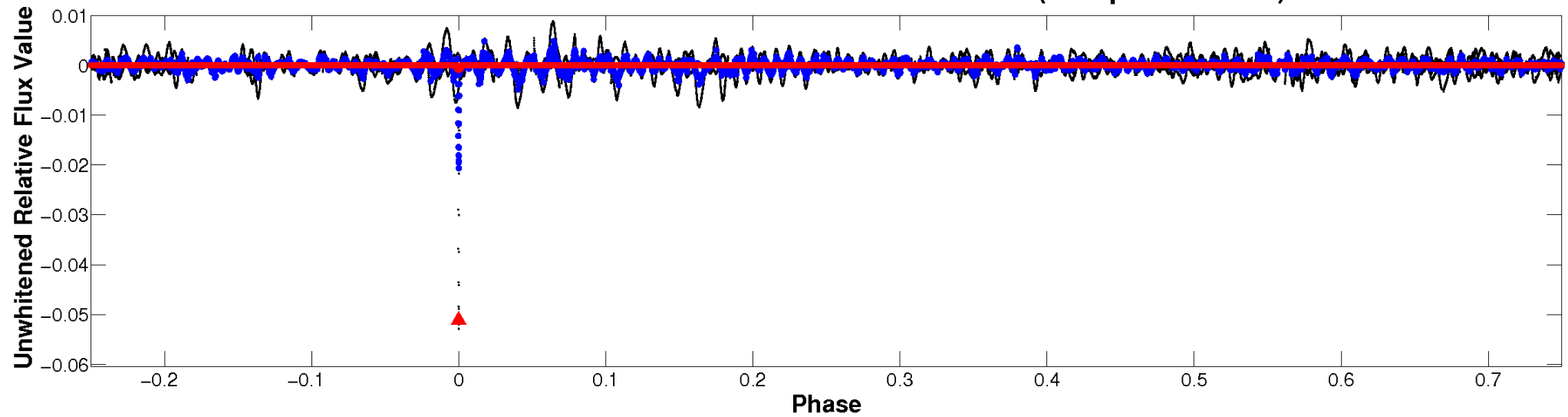
# ALT Odd/Even

TCE 007200282-01

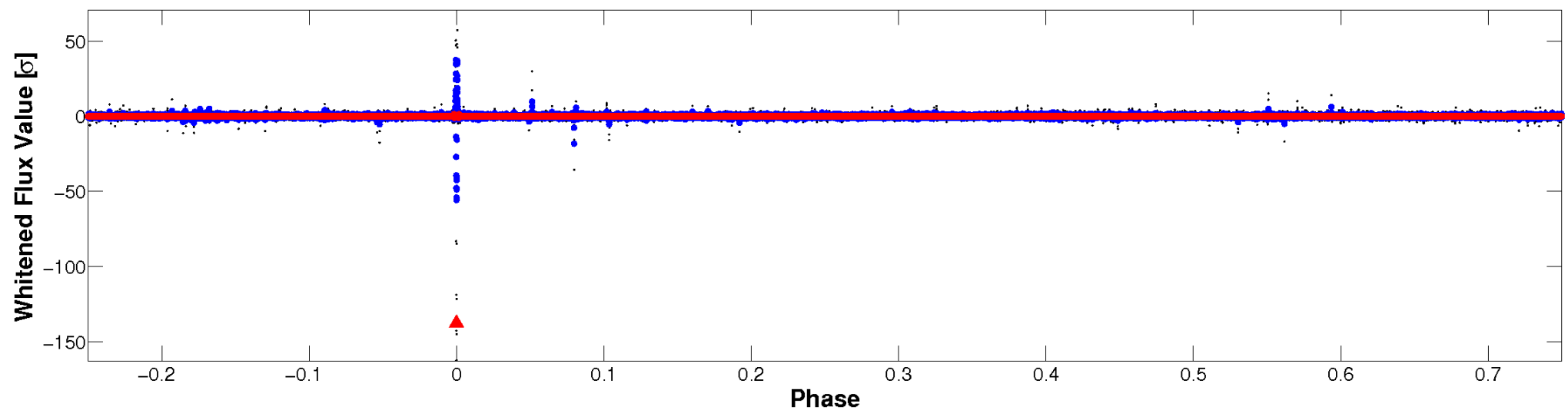


# Non-Whitened Vs. Whitened Light Curve

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

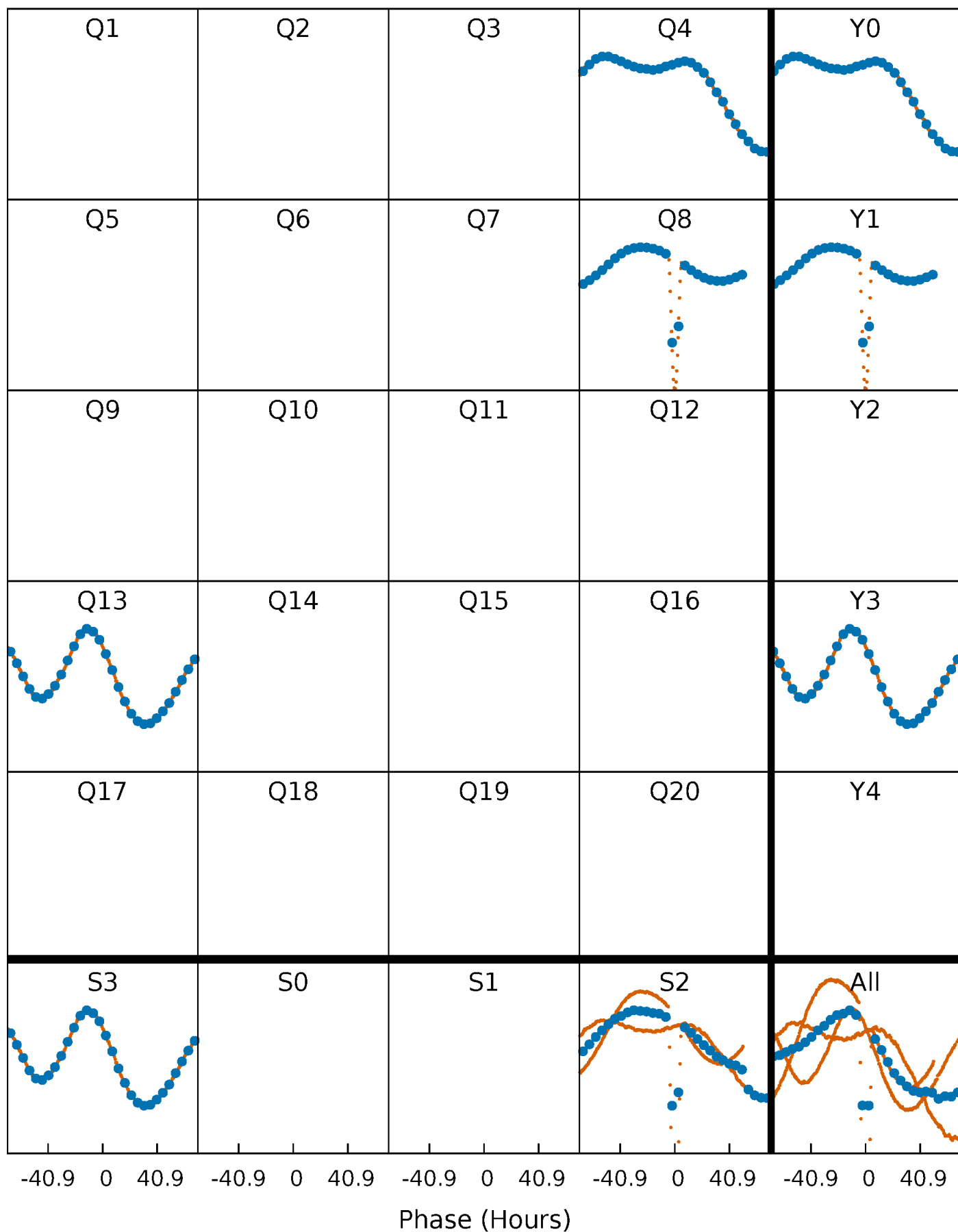


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

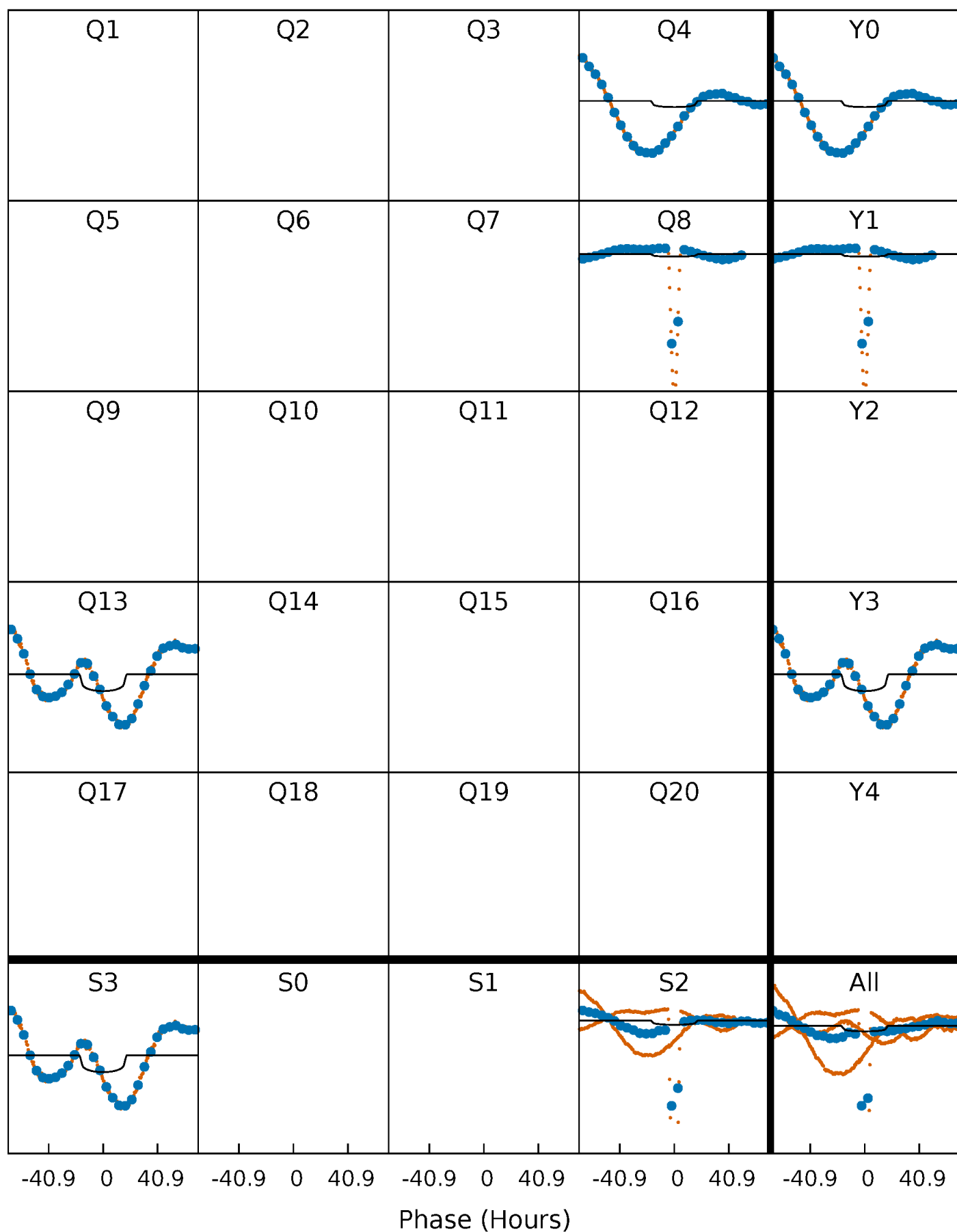
TCE 007200282-01 P=438.379256 Days  $T_0=361.839989$  (BKJD)





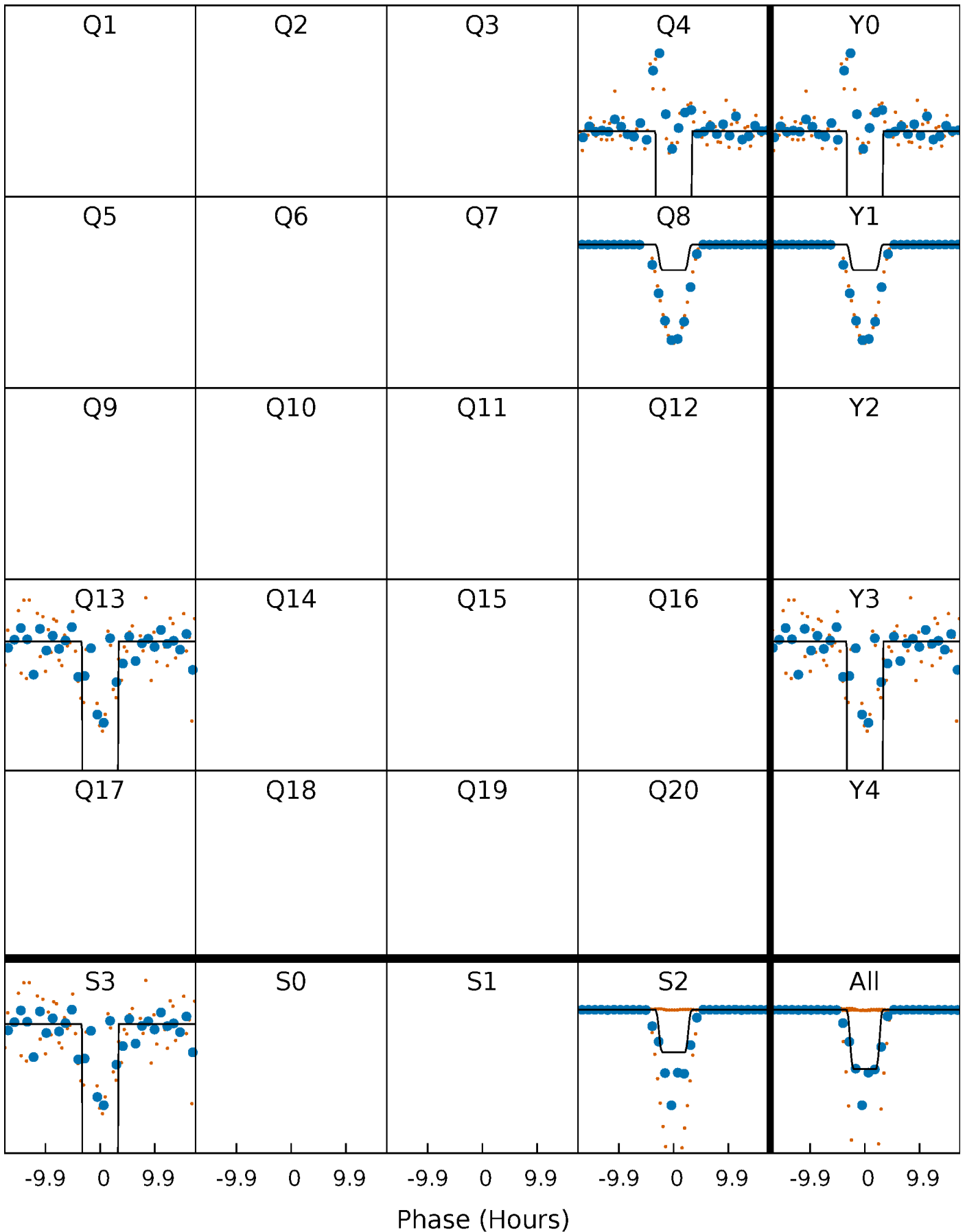
# DV Quarter-Phased Transit Curves

TCE 007200282-01 P=438.379256 Days  $T_0=361.839989$  (BKJD)



### Alt. Detrend Quarter-Phased Transit Curves

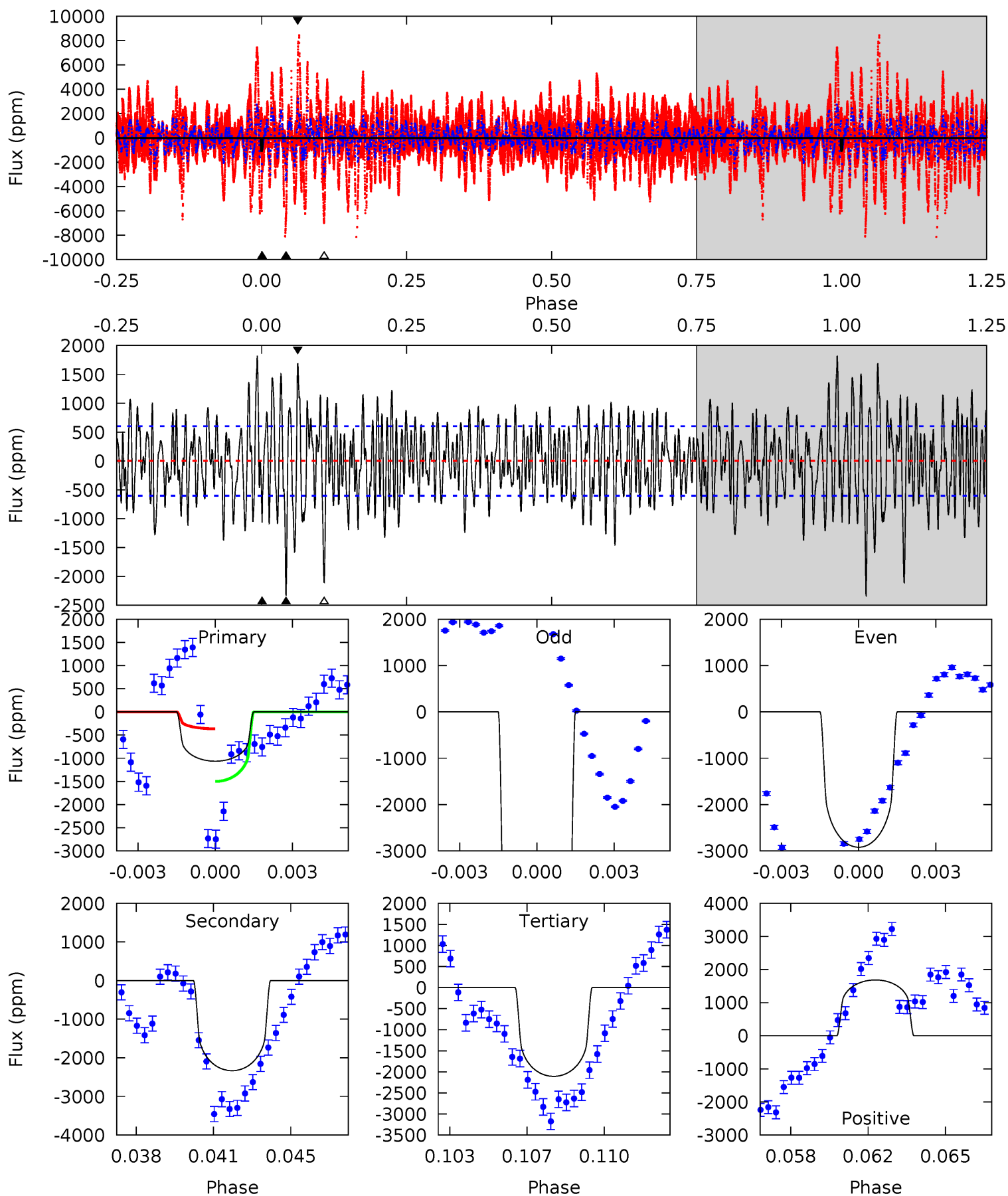
TCE 007200282-01 P=438.511009 Days  $T_0=361.707146$  (BKJD)



# DV Model-Shift Uniqueness Test

007200282-01, P = 438.379256 Days, E = 361.839989 Days

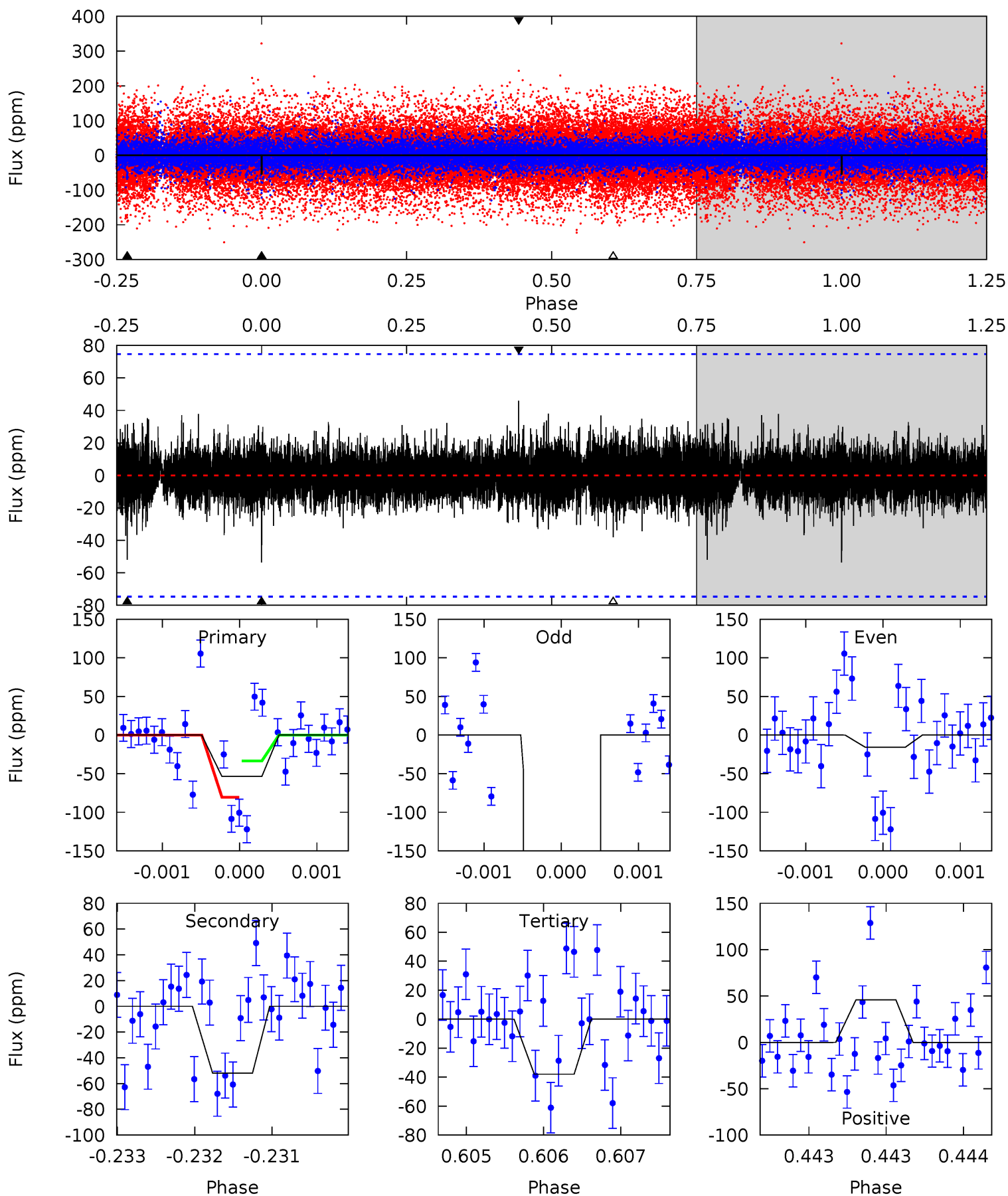
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.24	20.3	18.3	14.6	5.23	2.93	4.88	-9.06	-5.39	1.96	5.63	27.3	1.07	0.44	4.93



# Alt Model-Shift Uniqueness Test

007200282-01, P = 438.511009 Days, E = 361.707146 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
3.98	3.85	2.81	3.40	5.53	3.42	0.62	1.16	0.57	1.04	0.45	2413	199.4	0.46	1.74



### Stellar Parameters For KIC 007200282

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5500^{+147}_{-147}$	$4.311^{+0.215}_{-0.215}$	$0.000^{+0.300}_{-0.250}$	$1.076^{+0.350}_{-0.233}$	$0.864^{+0.119}_{-0.064}$	$0.977^{+0.959}_{-0.559}$
	+3%/-3%	+5%/-5%	+inf%/-inf%	+33%/-22%	+14%/-7%	+98%/-57%
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 007200282-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-2333 \pm 115$	$3.81^{+2.59}_{-2.24}$	$337^{+29}_{-22}$	$6777^{+5245}_{-1513}$	$105130^{+512784}_{-67966}$
Alt.	$-52 \pm 13$	$14.05^{+3.44}_{-3.11}$	$338^{+28}_{-23}$	$2271^{+126}_{-113}$	$167^{+112}_{-67}$

$T_{max}$  = 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

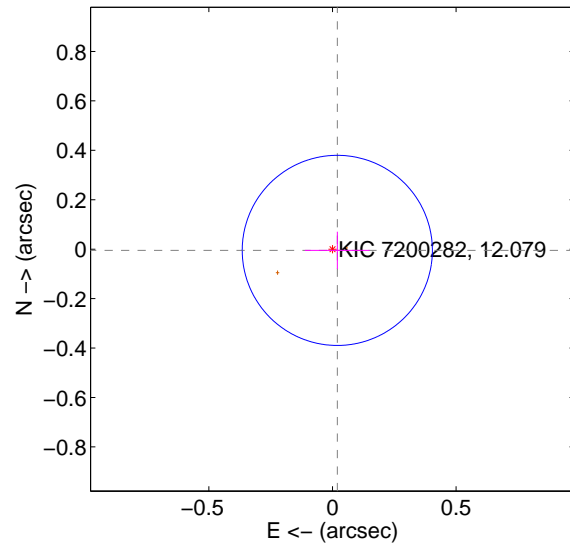
Supplemental centroid analysis for 007200282-01. Kepler magnitude: 12.08. Transit SNR 7.93

There are 0 quarters with good PRF difference image offsets

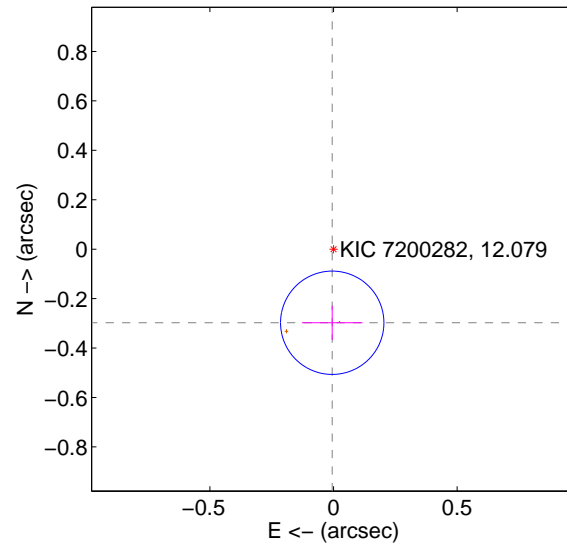
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.020 \pm 0.128$	0.16	$-0.020 \pm 0.131$	$-0.005 \pm 0.076$
PRF-fit source offset from KIC position	<b><math>0.298 \pm 0.070</math></b>	<b>4.27</b>	$0.005 \pm 0.122$	$-0.298 \pm 0.069$
photometric centroid source offset	$0.17 \pm 0.22$	0.77	$0.12 \pm 0.25$	$-0.11 \pm 0.17$

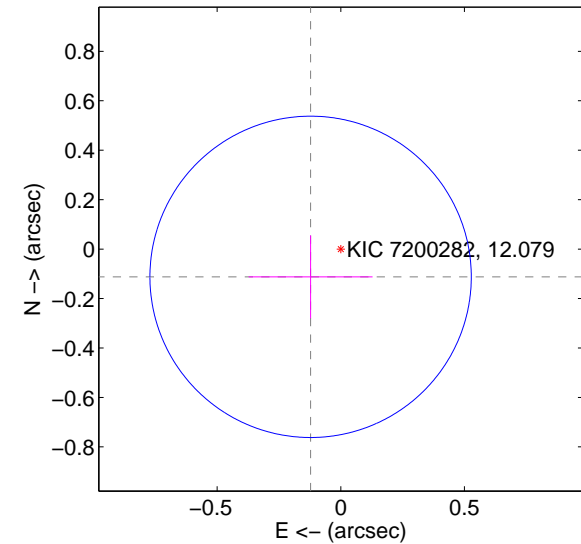
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

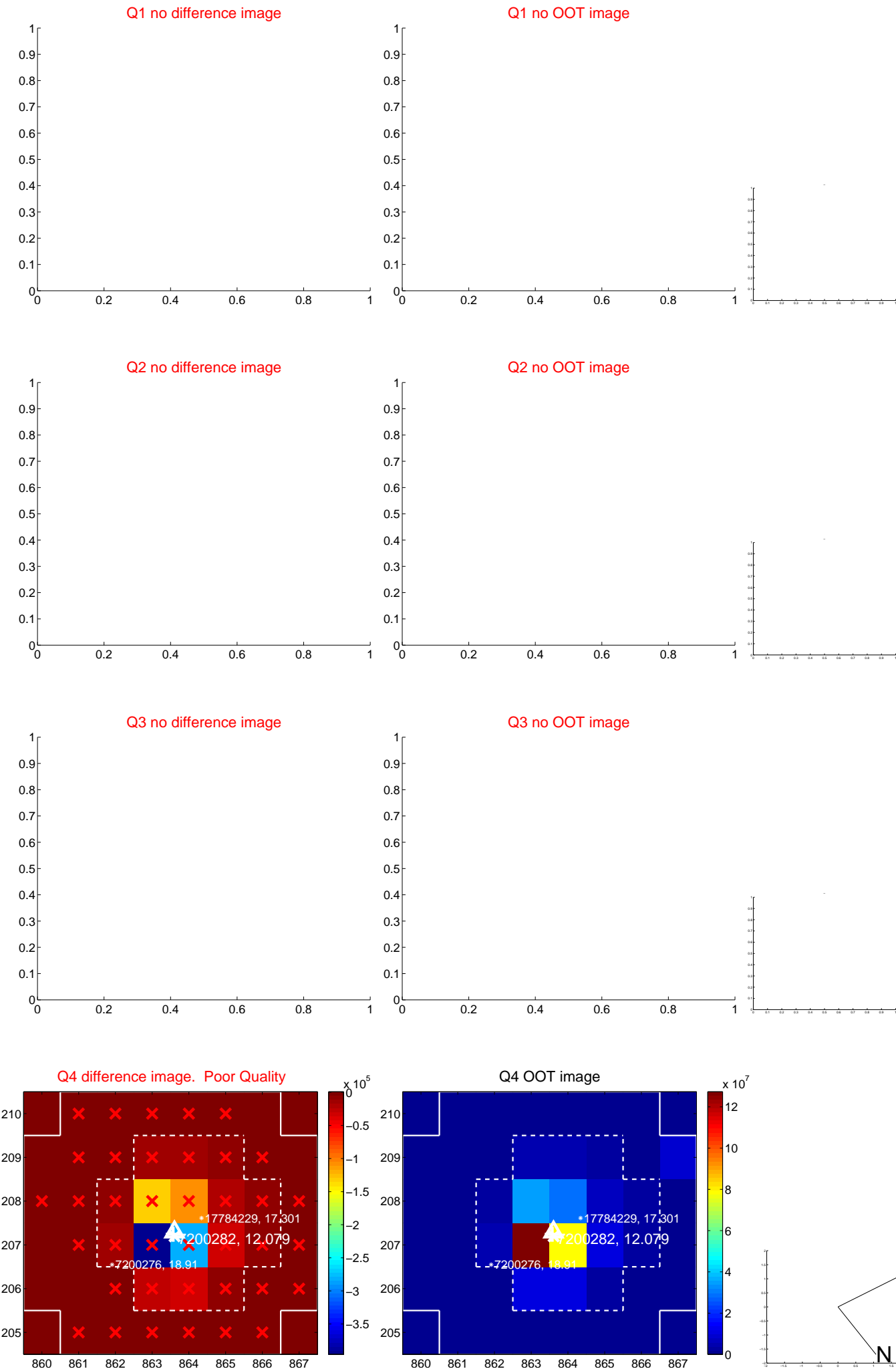


offset from photometric centroids



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.

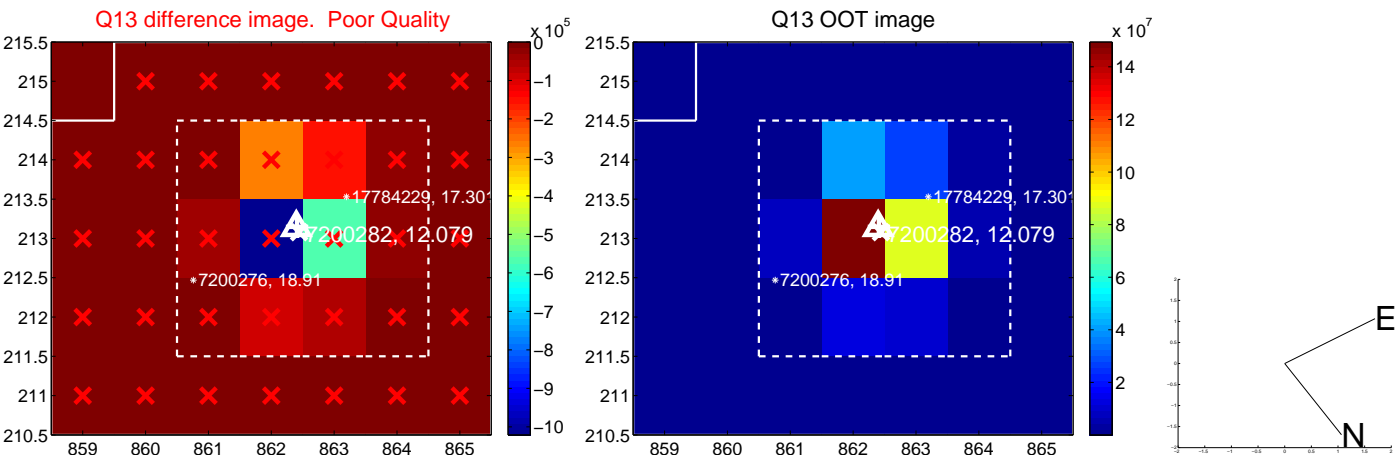




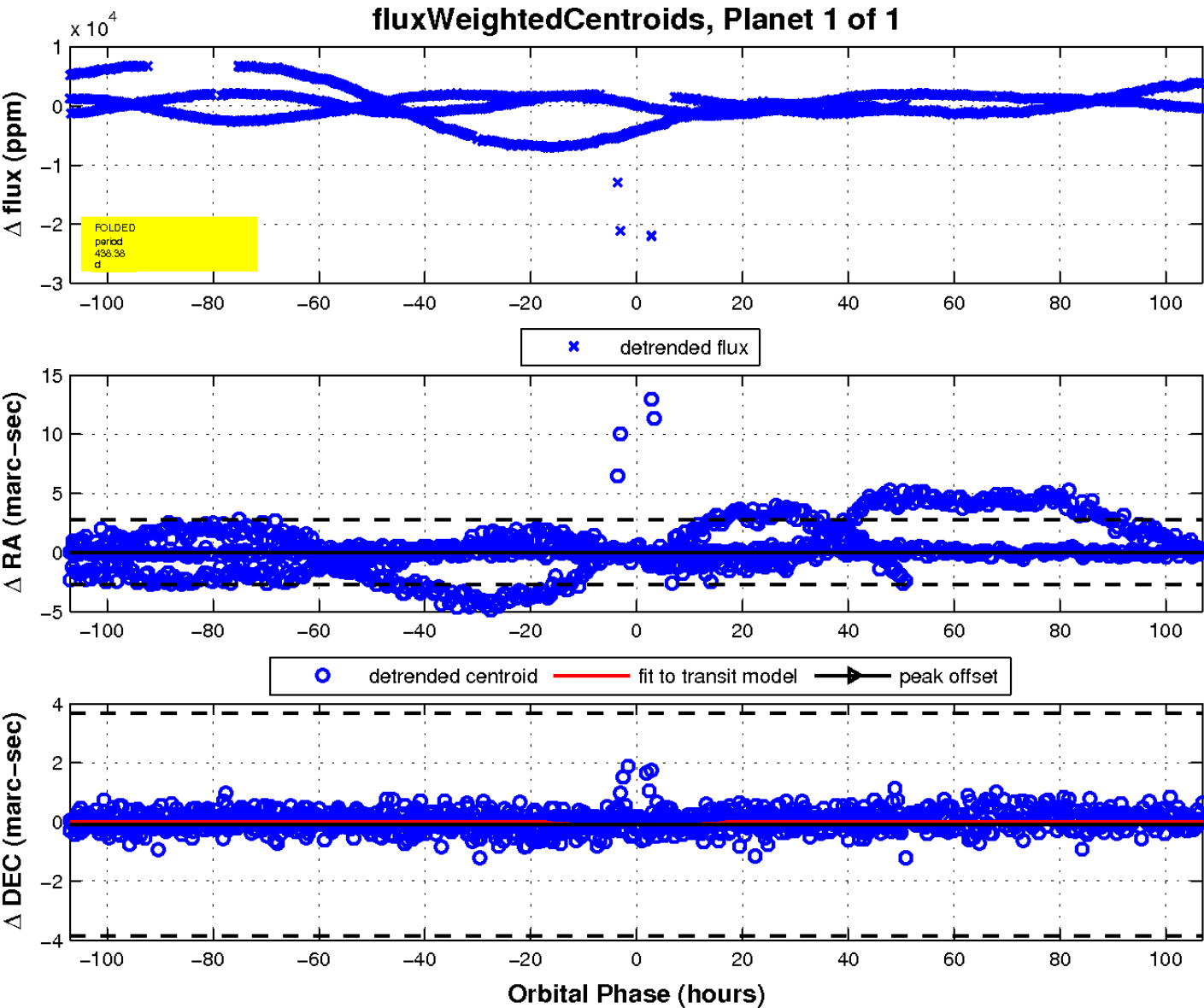
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

