

# KIC 008748288

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008748288-01	OBS	No	380.894555	166.756632	598.5	53.738	8.3	11.5	1.06	6170	3.23	1.28

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008748288-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

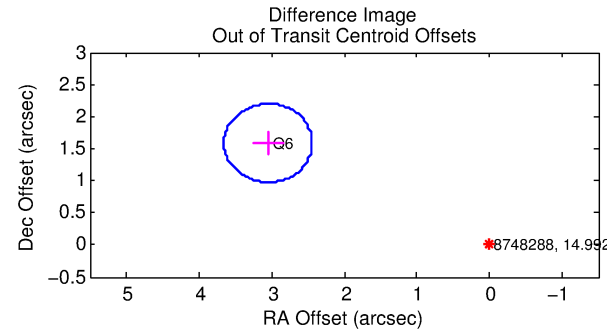
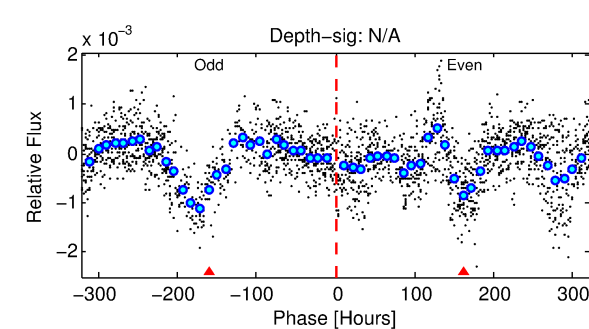
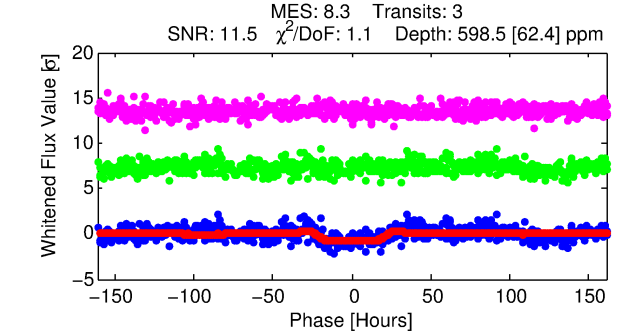
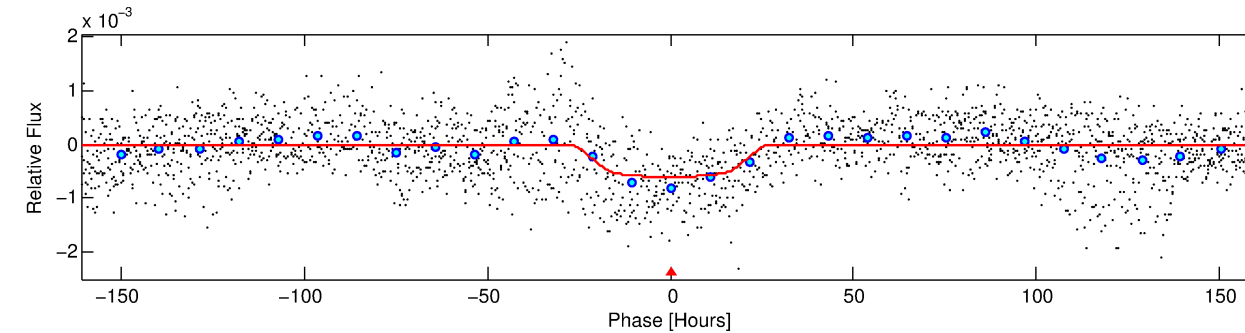
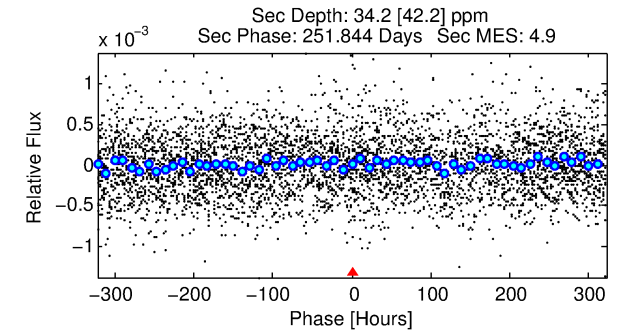
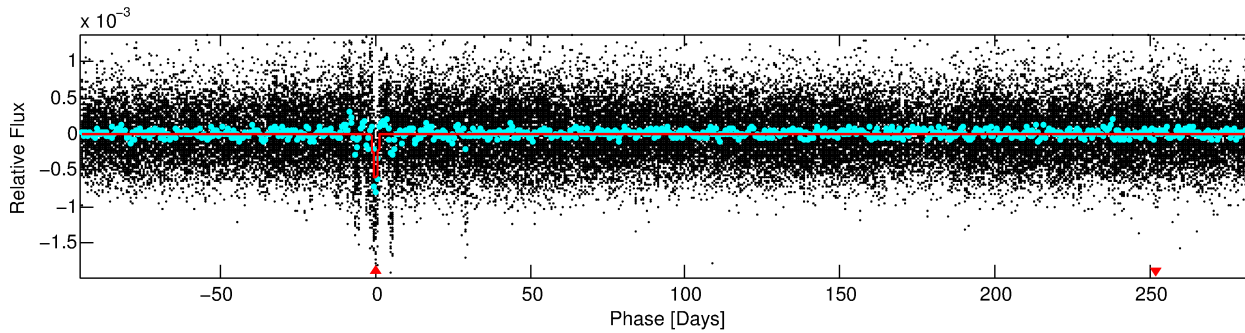
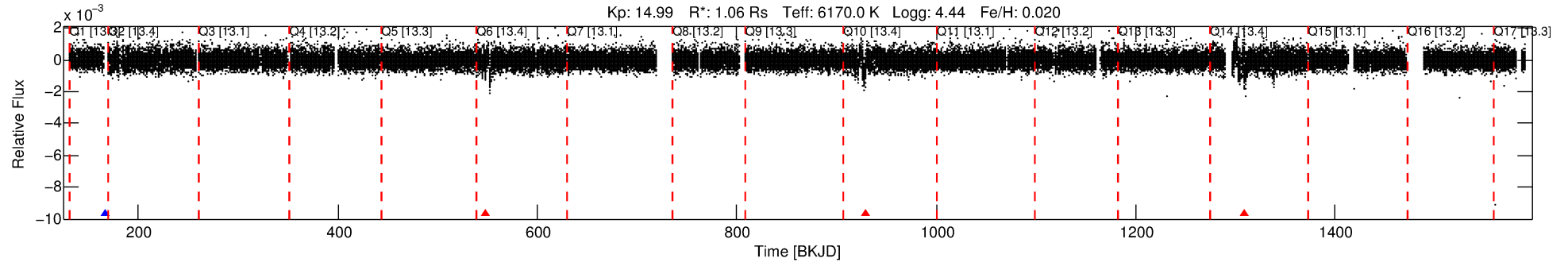
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008748288-01

No Significant Match Found

# DV One-Page Summary

KIC: 8748288 Candidate: 1 of 1 Period: 380.895 d



## DV Fit Results:

Period = 380.89456 [0.05715] d  
Epoch = 166.7566 [0.1145] BKJD  
Rp/R\* = 0.0279 [0.0019]  
a/R\* = 21.91 [3.99]  
b = 0.95 [0.02]  
Seff = 1.28 [0.58]  
Teq = 271 [31] K  
Rp = 3.22 [1.16] Re  
a = 1.0692 [0.3158] AU  
Ag = 2065.33 [2716.83] [0.76σ]  
Teffp = 2826 [885] K [2.89σ]

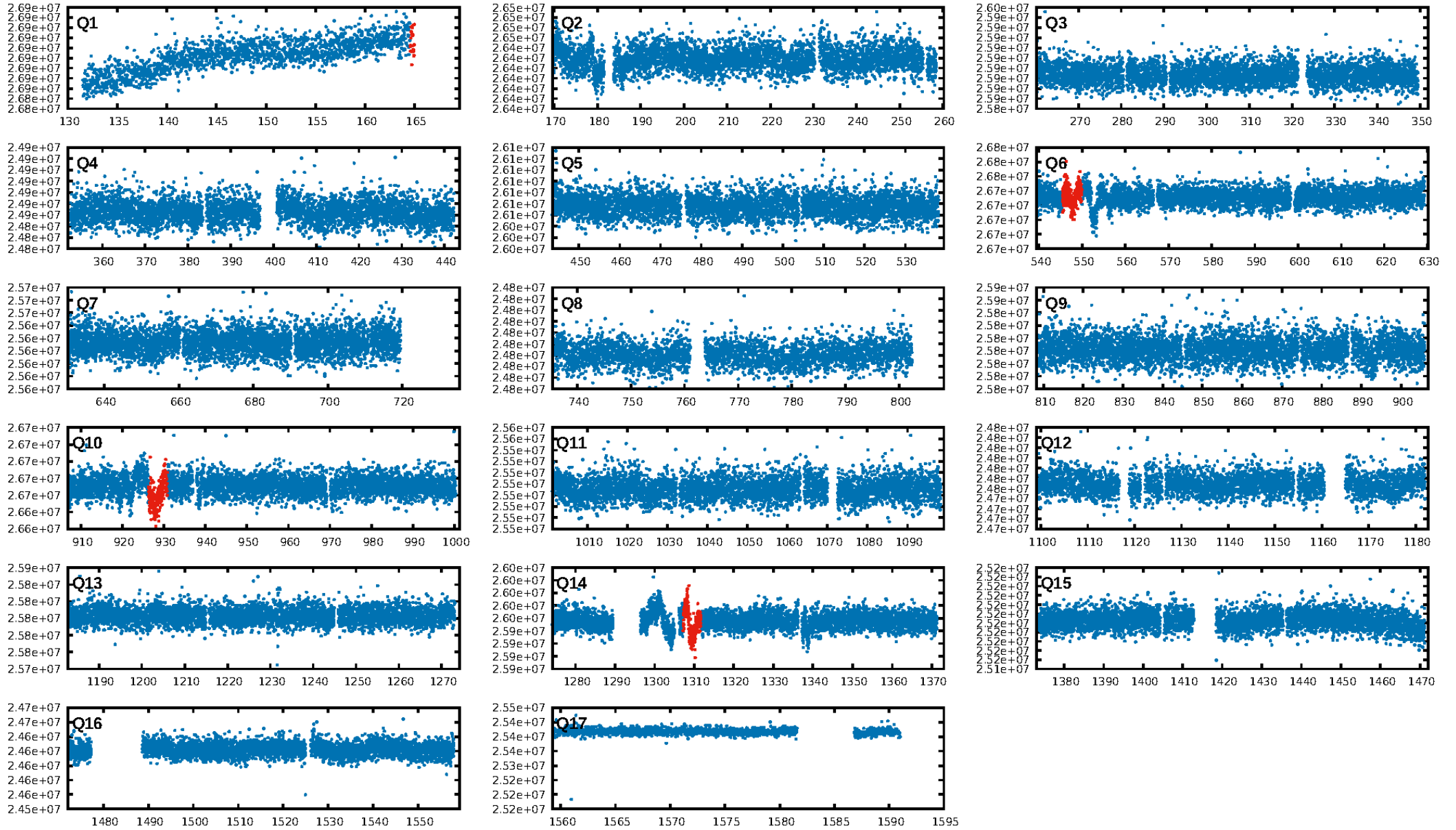
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 99.8%  
Bootstrap-pfa: 3.30e-09  
RollingBand-fgt: 0.00 [0/3]  
GhostDiagnostic-chr: 0.1535  
Centroid-sig: 0.0%  
Centroid-so: 2.986 arcsec [2.14σ]  
OotOffset-rm: 3.438 arcsec [16.90σ]  
KicOffset-rm: 3.328 arcsec [16.38σ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [1/1]

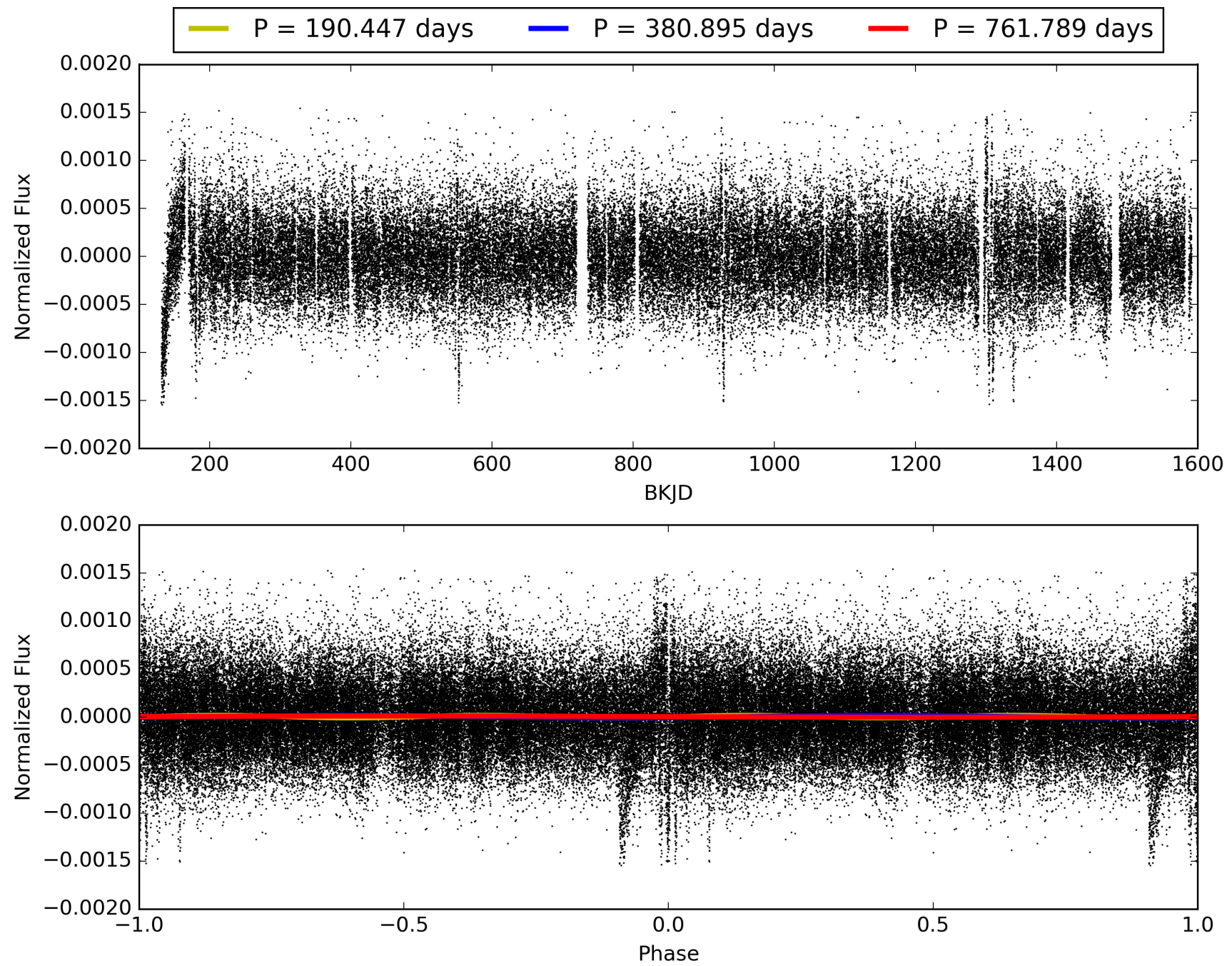
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:50:06 Z

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

# TCE 008748288-01, PDC Light Curves

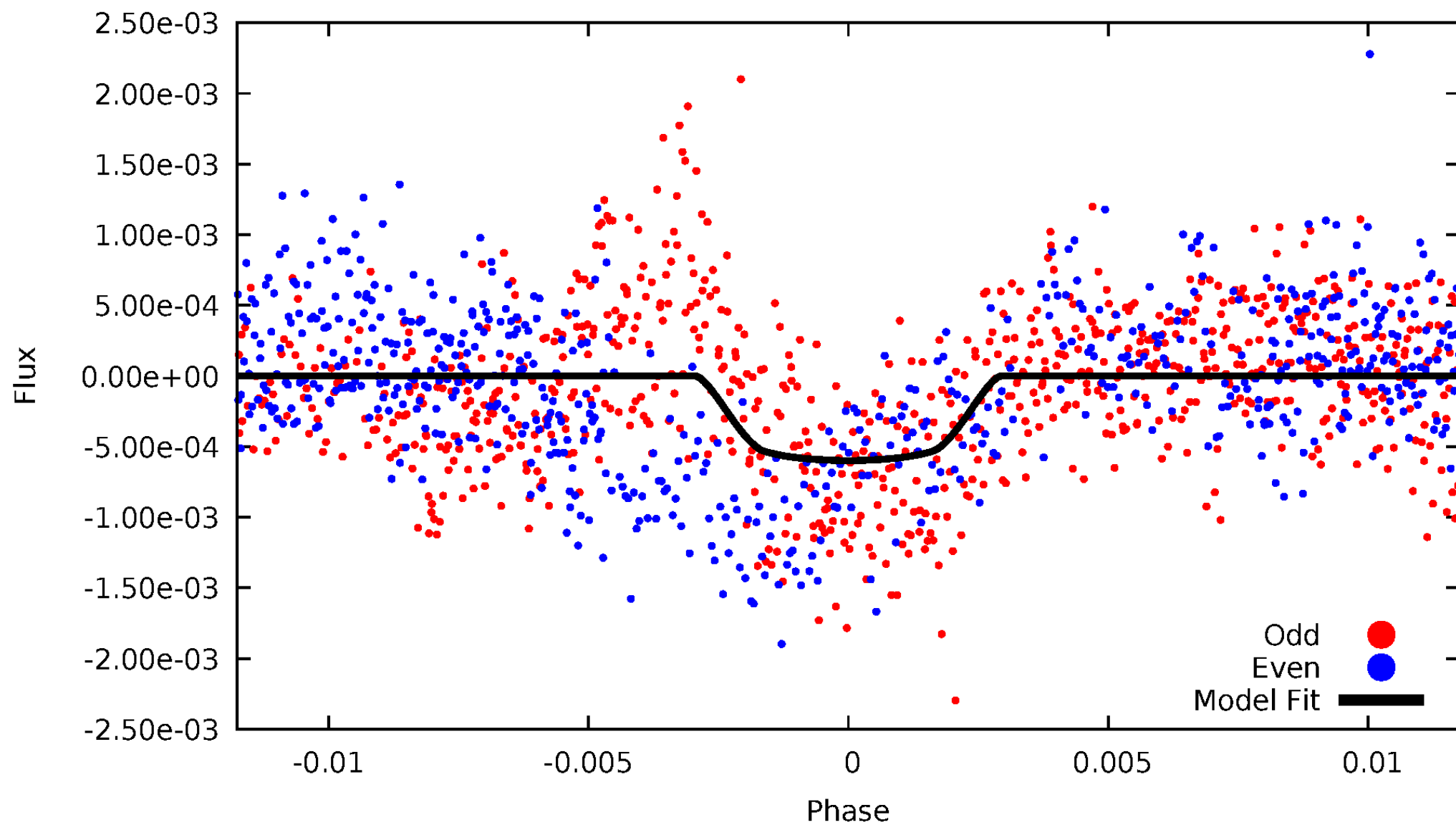


TCE 008748288-01



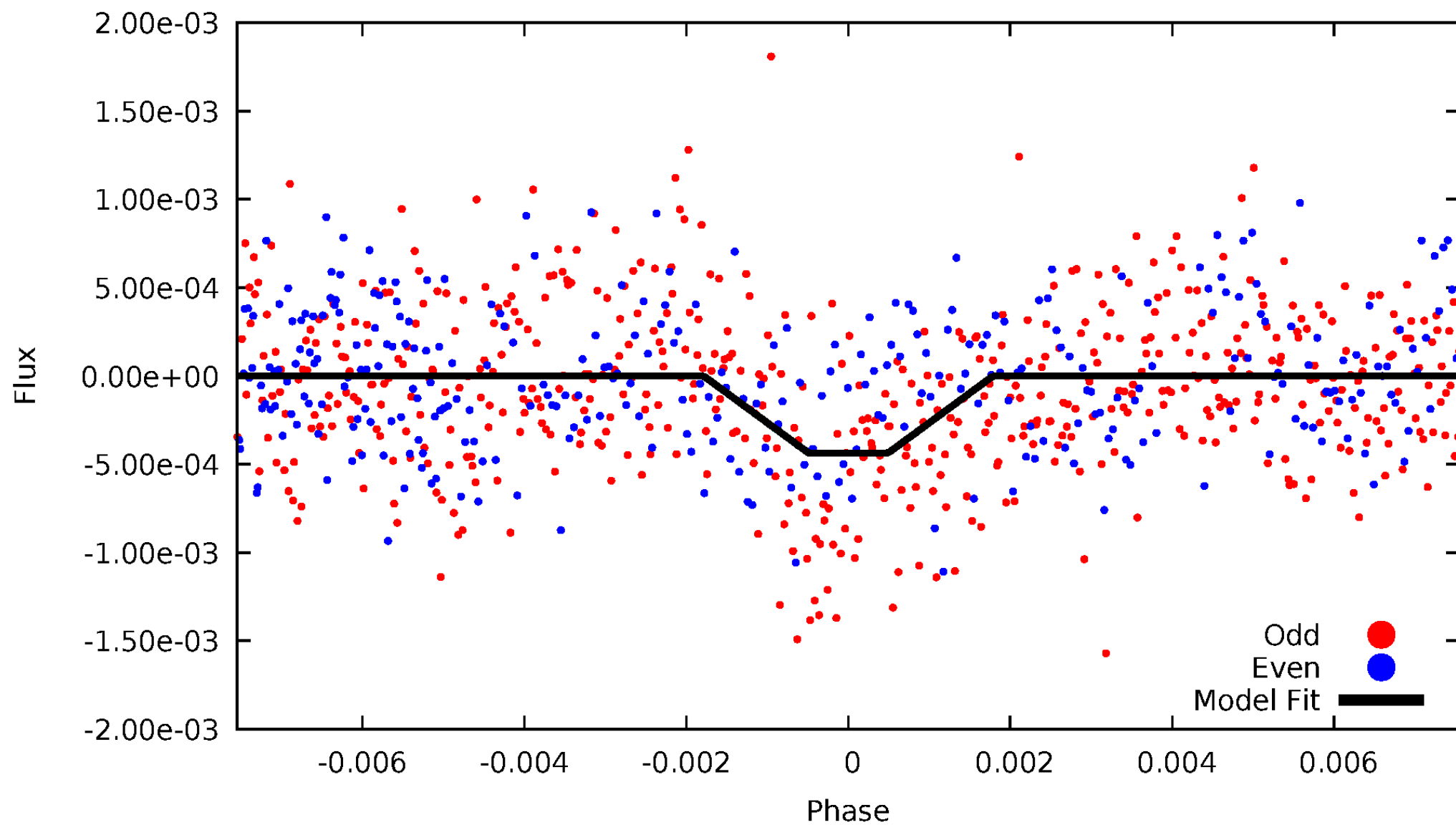
# DV Odd/Even

TCE 008748288-01



# ALT Odd/Even

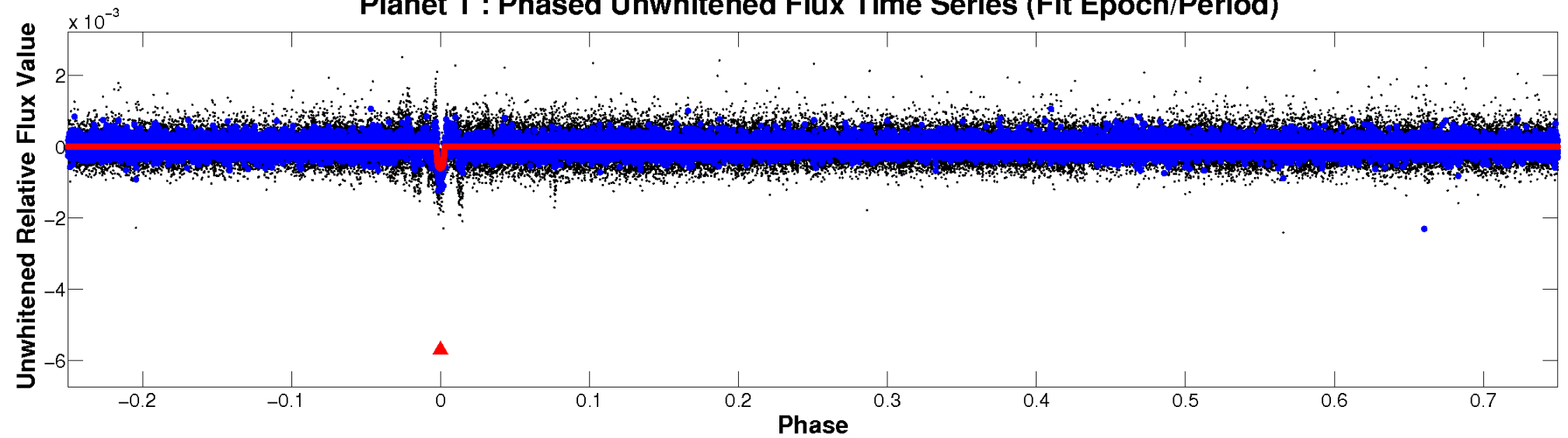
TCE 008748288-01



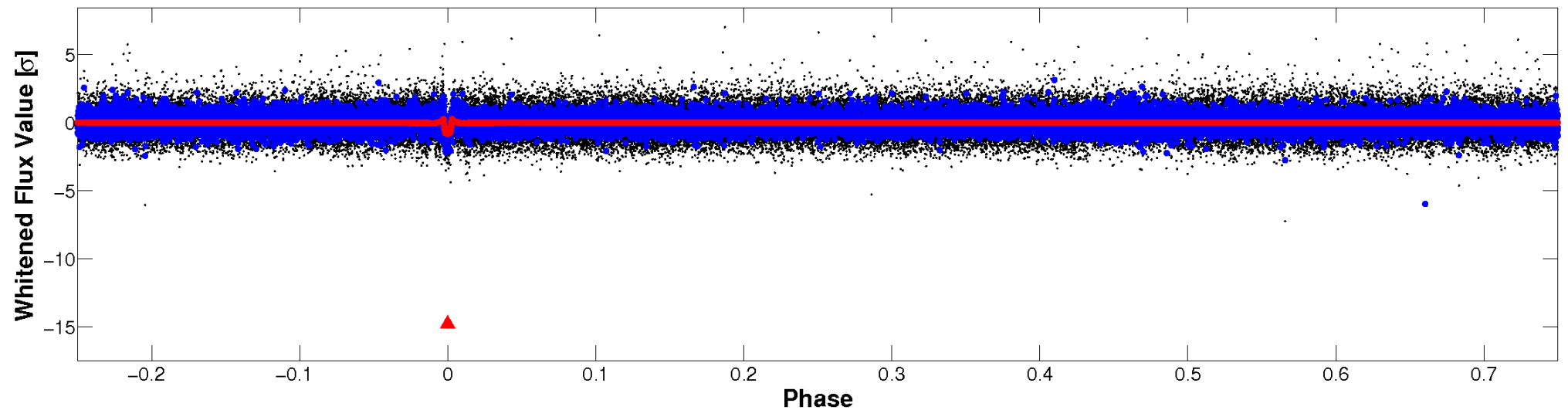


# Non-Whitened Vs. Whitened Light Curve

**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

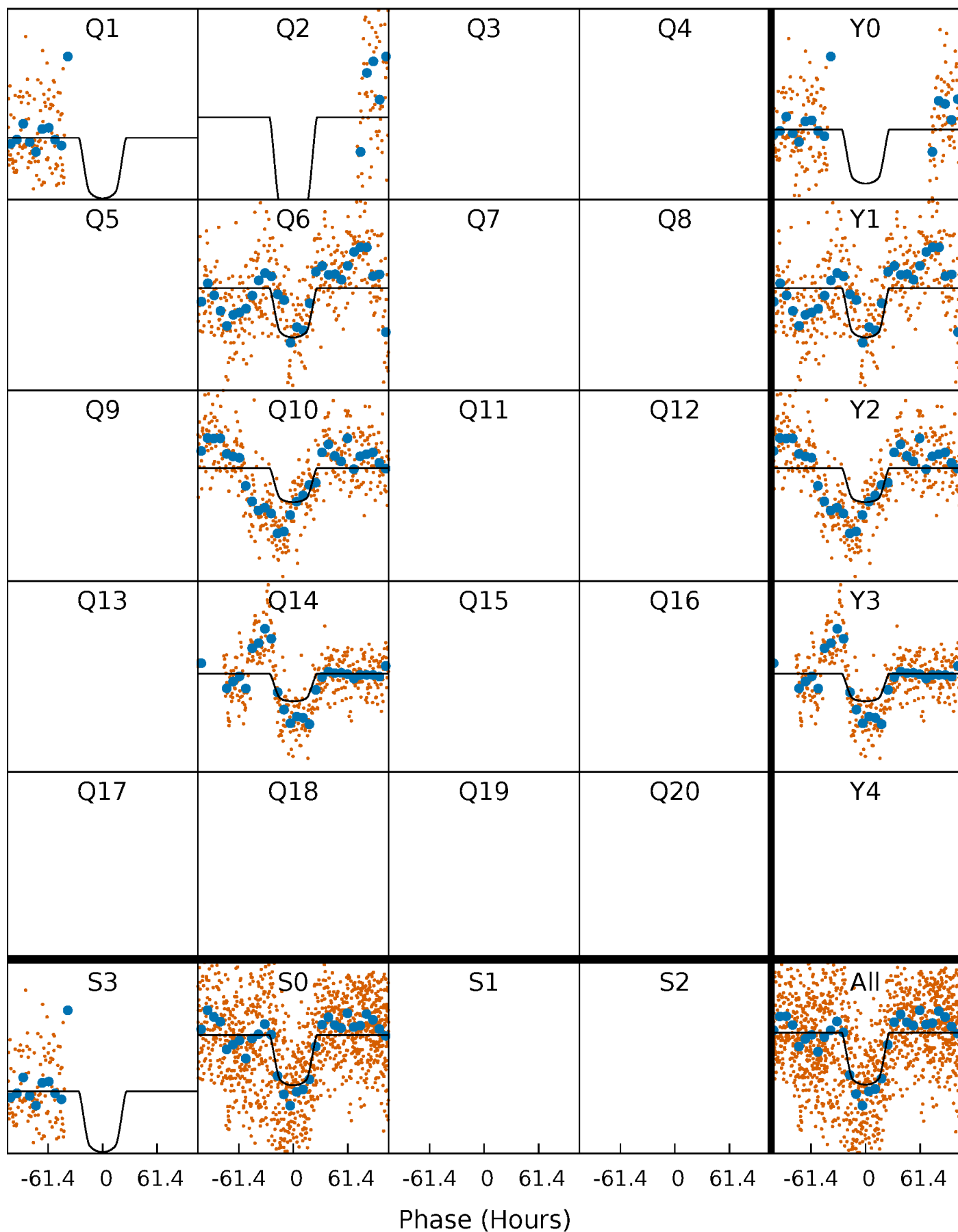
TCE 008748288-01 P=380.894555 Days  $T_0=166.756631$  (BKJD)





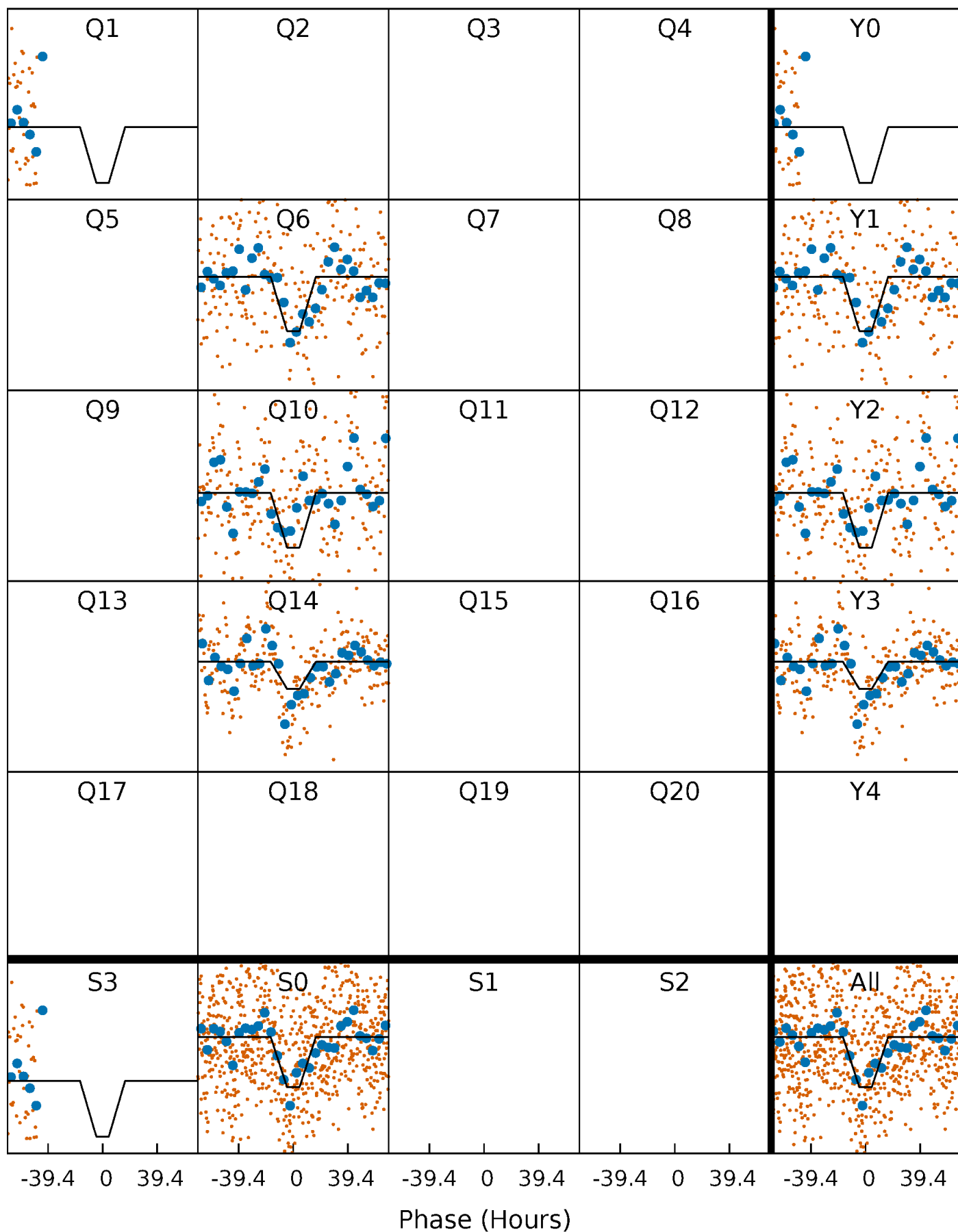
# DV Quarter-Phased Transit Curves

TCE 008748288-01 P=380.894555 Days  $T_0=166.756631$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

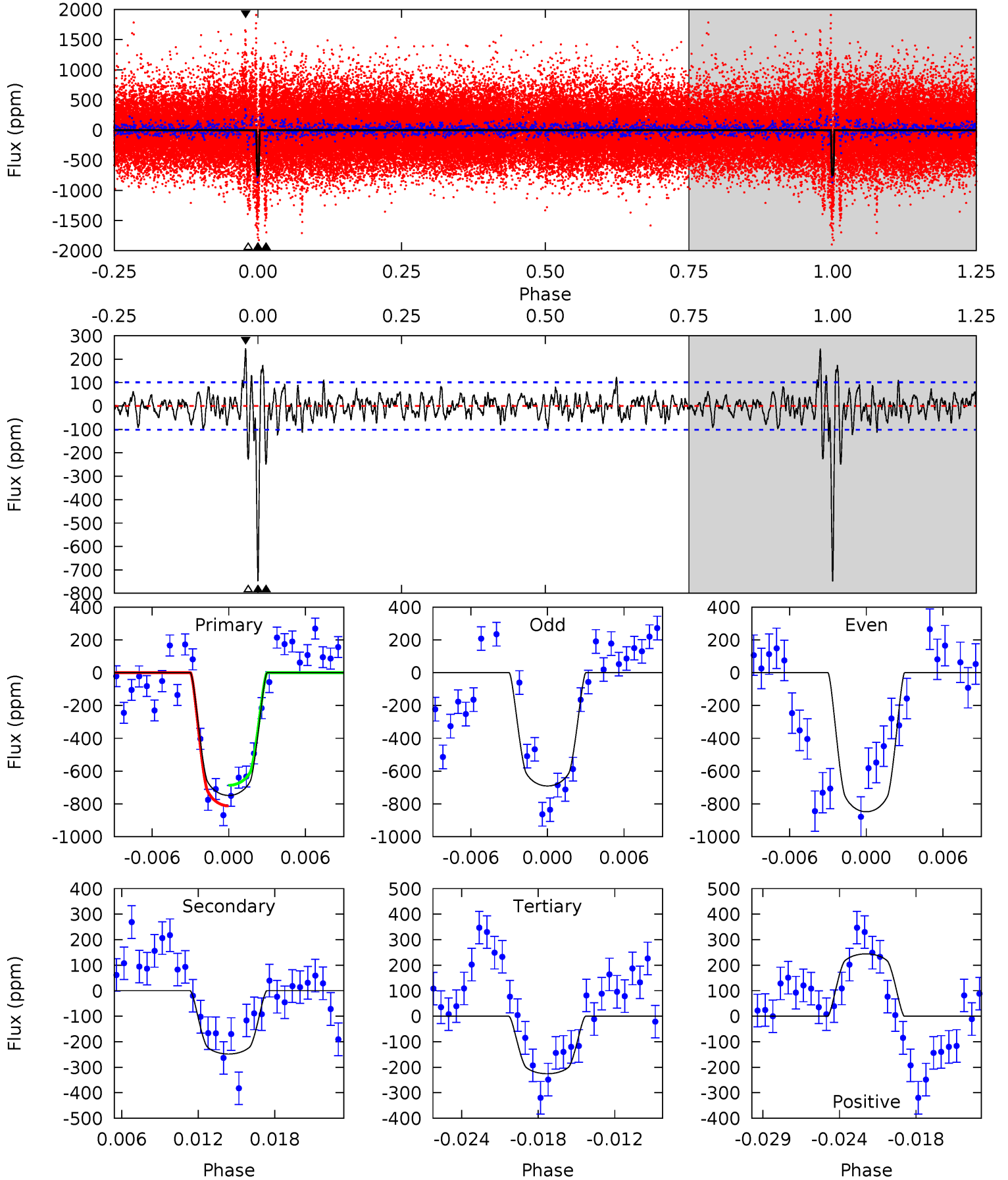
TCE 008748288-01 P=380.711279 Days  $T_0=166.881574$  (BKJD)



# DV Model-Shift Uniqueness Test

008748288-01, P = 380.894555 Days, E = 166.756631 Days

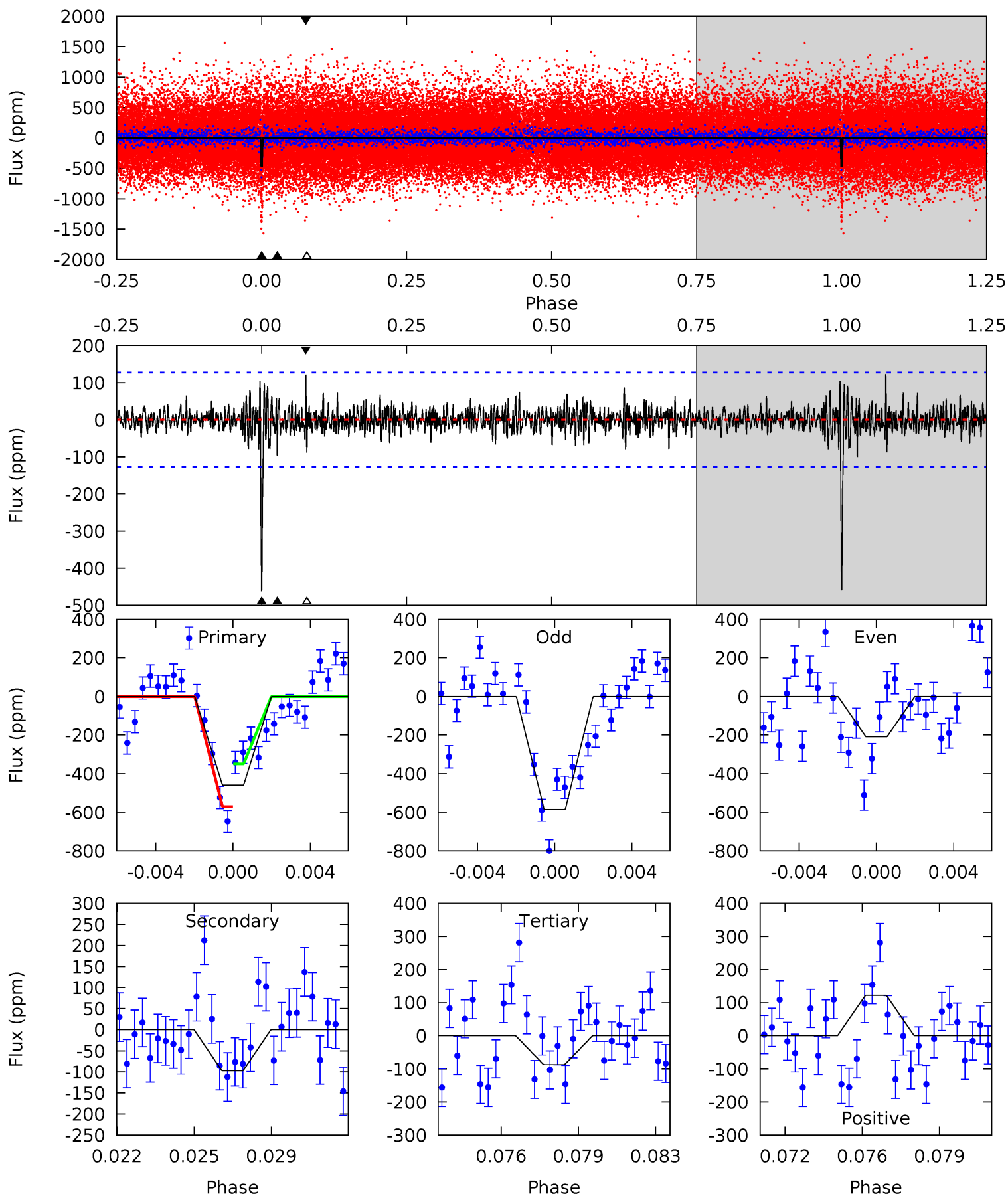
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.8	12.5	11.4	12.3	5.13	2.75	2.10	26.4	25.5	1.15	0.19	3.77	0.87	0.25	3.16



# Alt Model-Shift Uniqueness Test

008748288-01, P = 380.711279 Days, E = 166.881574 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
18.8	3.99	3.56	4.98	5.22	2.91	0.99	15.2	13.8	0.42	-0.99	7.32	1.03	0.21	4.52



### Stellar Parameters For KIC 008748288

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6170^{+185}_{-222}$	$4.437^{+0.058}_{-0.232}$	$0.020^{+0.250}_{-0.300}$	$1.061^{+0.375}_{-0.125}$	$1.123^{+0.155}_{-0.140}$	$1.325^{+0.405}_{-0.733}$
	+3%/-4%	+1%/-5%	+1250%/-1500%	+35%/-12%	+14%/-12%	+31%/-55%
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 008748288-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-248 \pm 20$	$3.39^{+0.62}_{-0.41}$	$388^{+31}_{-19}$	$4763^{+203}_{-195}$	$13359^{+3640}_{-3608}$
Alt.	$-97 \pm 24$	$2.54^{+0.46}_{-0.32}$	$387^{+33}_{-20}$	$4416^{+299}_{-274}$	$9088^{+3865}_{-3205}$

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

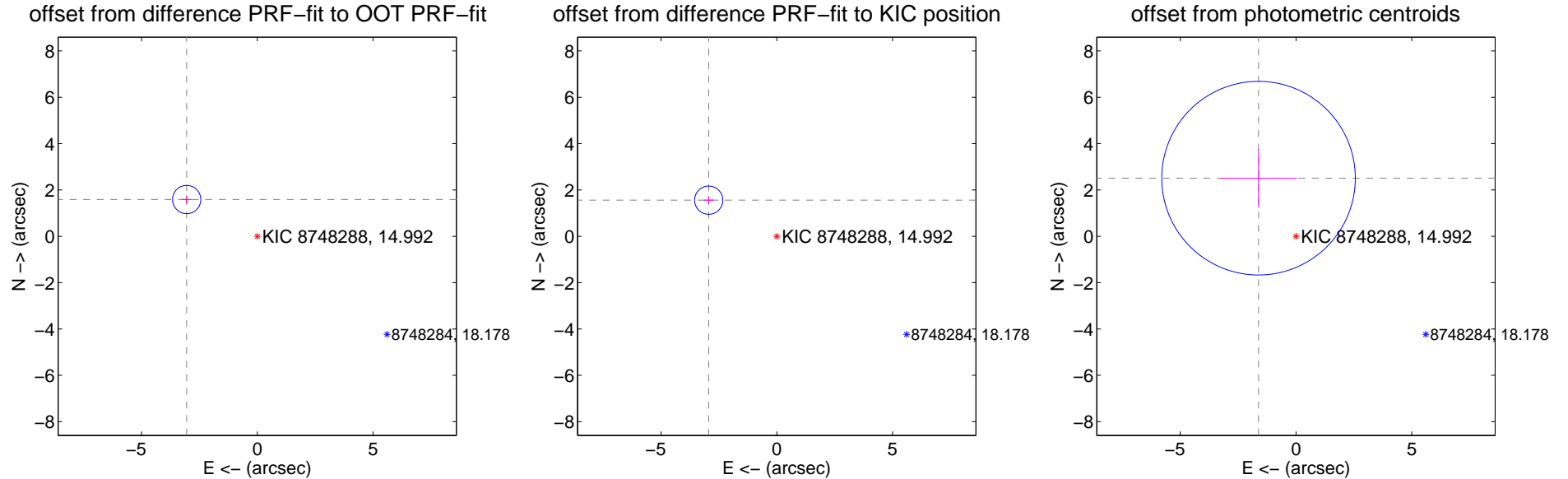
## DV Centroid Data

Supplemental centroid analysis for 008748288-01. Kepler magnitude: 14.99. Transit SNR 11.50

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.438 \pm 0.203$	16.90	$3.049 \pm 0.210$	$1.587 \pm 0.176$
PRF-fit source offset from KIC position	$3.328 \pm 0.203$	16.38	$2.940 \pm 0.210$	$1.559 \pm 0.176$
photometric centroid source offset	$2.99 \pm 1.39$	2.14	$1.62 \pm 1.66$	$2.51 \pm 1.27$



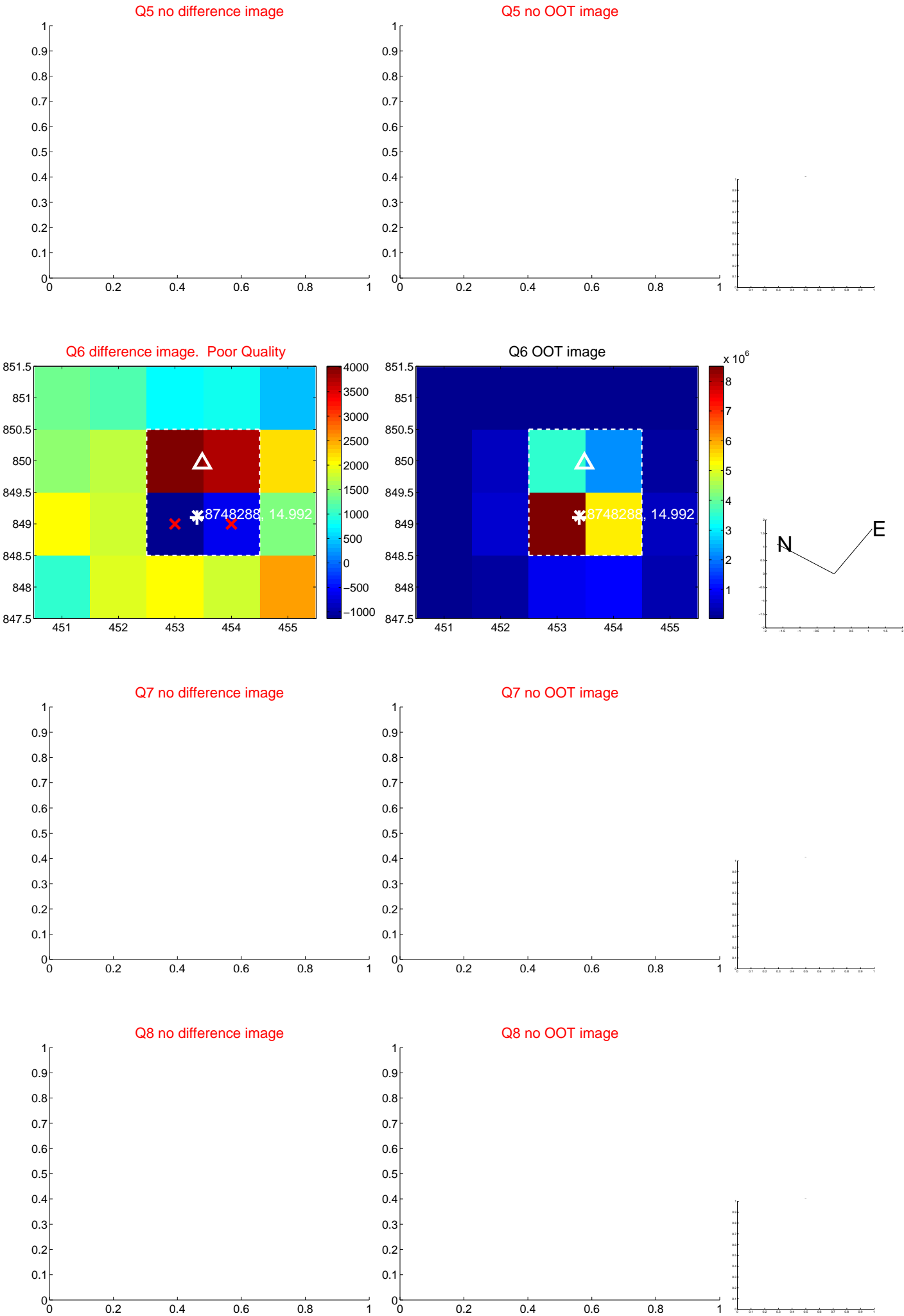
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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.



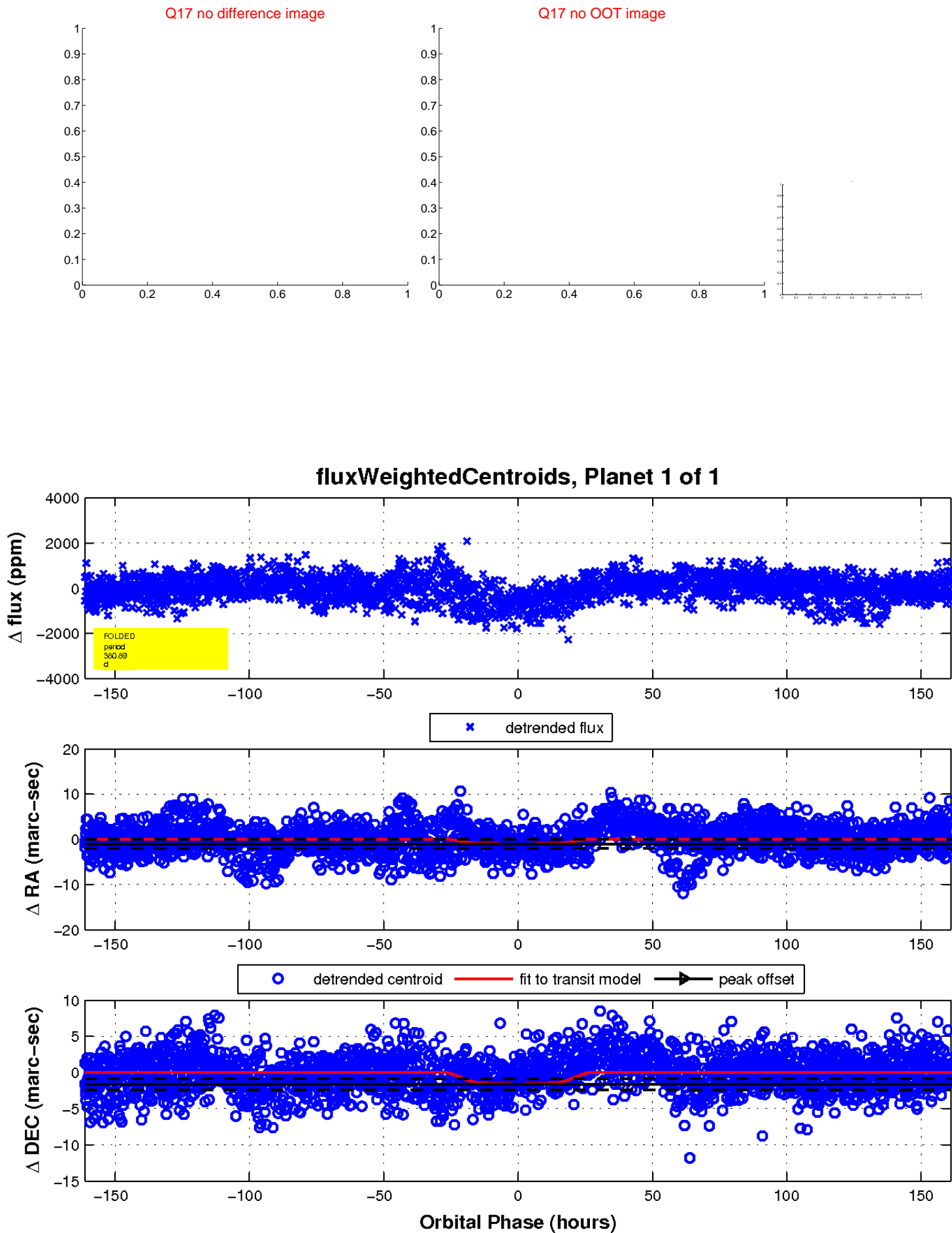
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

