

# KIC 005684288

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005684288-01	OBS	No	267.332408	186.436426	621.2	19.055	8.2	8.0	0.94	5903	2.35	1.47

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005684288-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

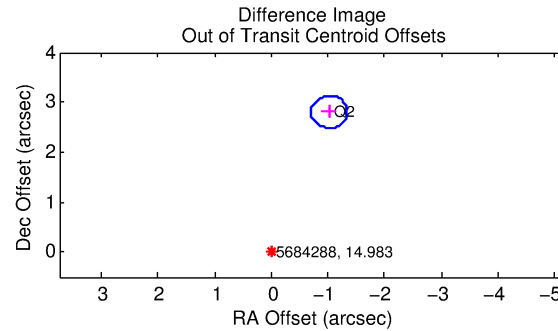
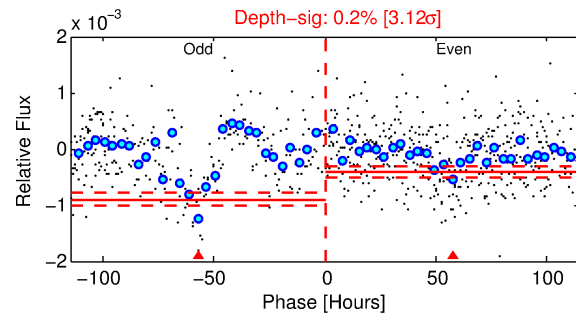
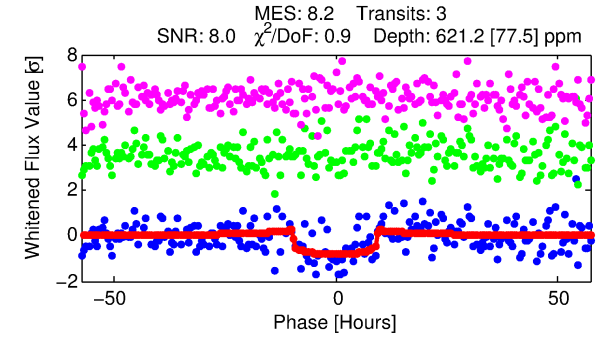
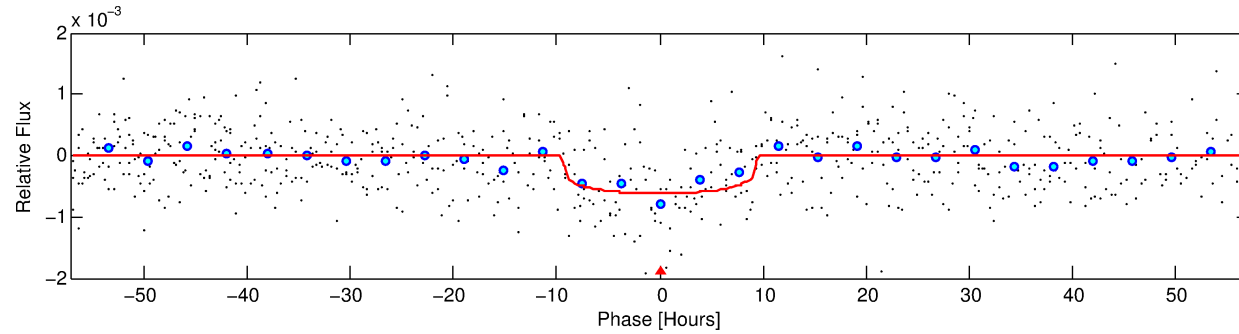
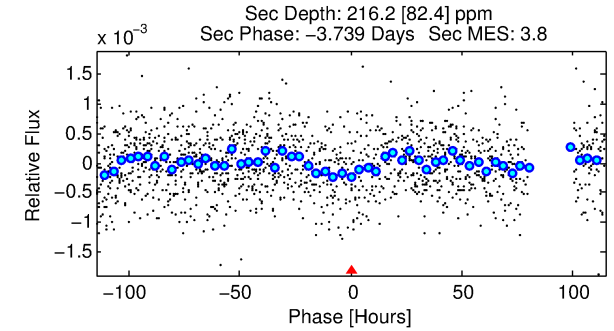
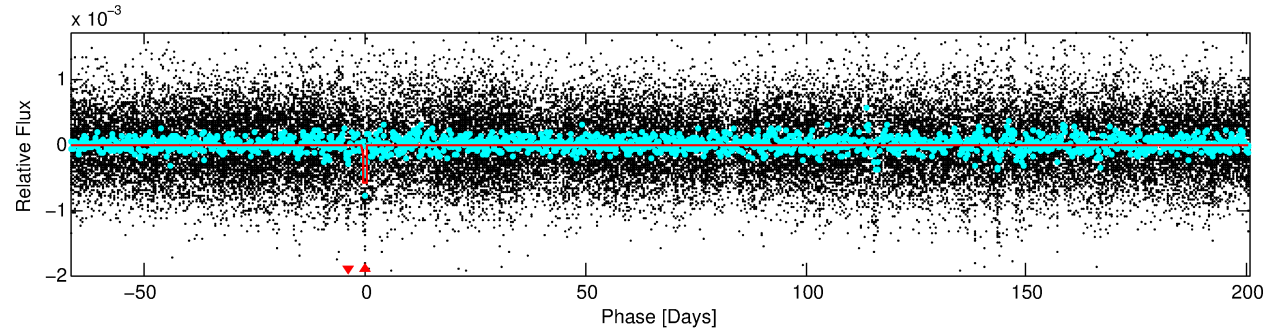
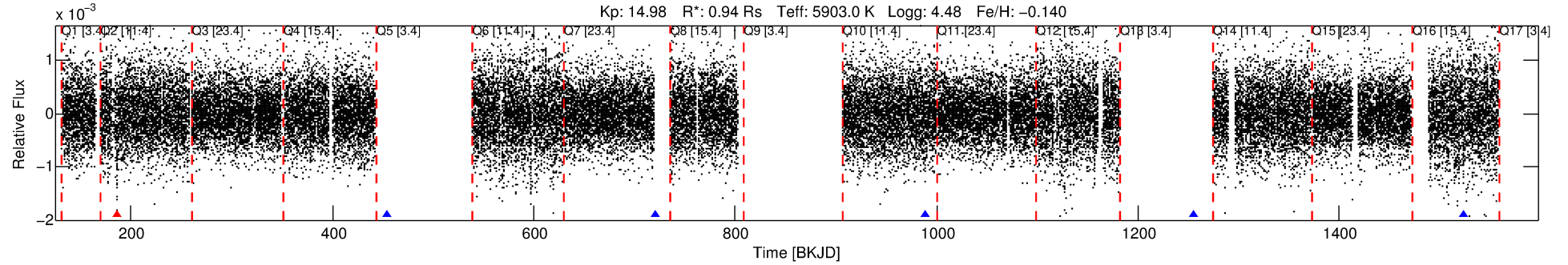
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005684288-01

No Significant Match Found

# DV One-Page Summary

KIC: 5684288 Candidate: 1 of 1 Period: 267.332 d



## DV Fit Results:

Period = 267.33241 [0.00638] d  
Epoch = 186.4364 [0.0217] BKJD  
Rp/R\* = 0.0230 [0.0276]  
a/R\* = 104.21 [579.62]  
b = 0.32 [15.83]  
Seff = 1.47 [0.59]  
Teq = 281 [28] K  
Rp = 2.35 [2.91] Re  
a = 0.8064 [0.2093] AU  
Ag = 14013.03 [34510.57] [0.41σ]  
Teff = 4725 [2878] K [1.54σ]

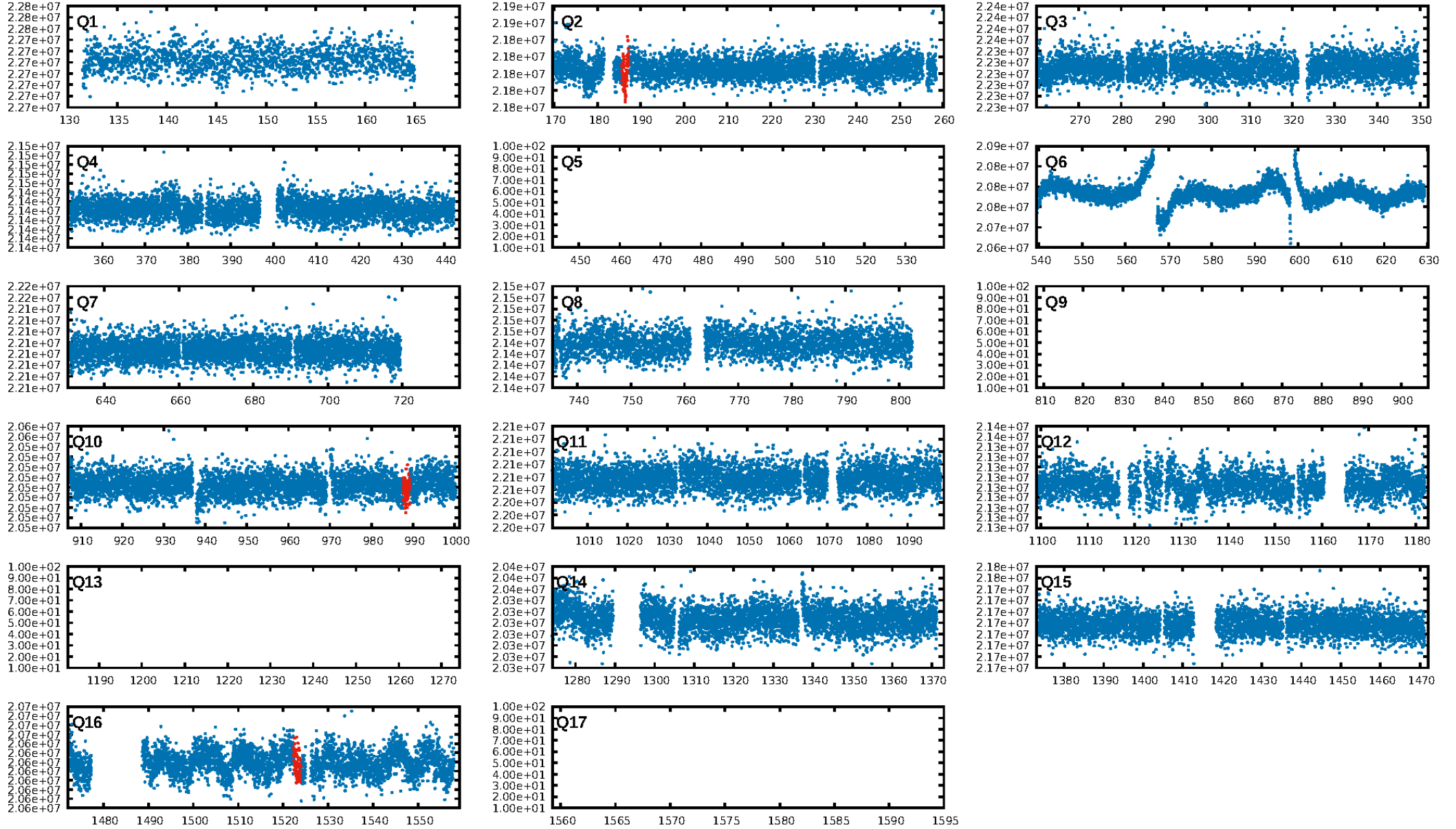
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 16.9%  
ModelChiSquareGoF-sig: 100.0%  
Bootstrap-pfa: 2.67e-13  
RollingBand-fgt: 0.67 [2/3]  
GhostDiagnostic-chr: 0.8235  
Centroid-sig: 0.0%  
Centroid-so: 3.987 arcsec [2.36σ]  
OotOffset-rm: 2.987 arcsec [27.96σ]  
KicOffset-rm: 2.941 arcsec [27.54σ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

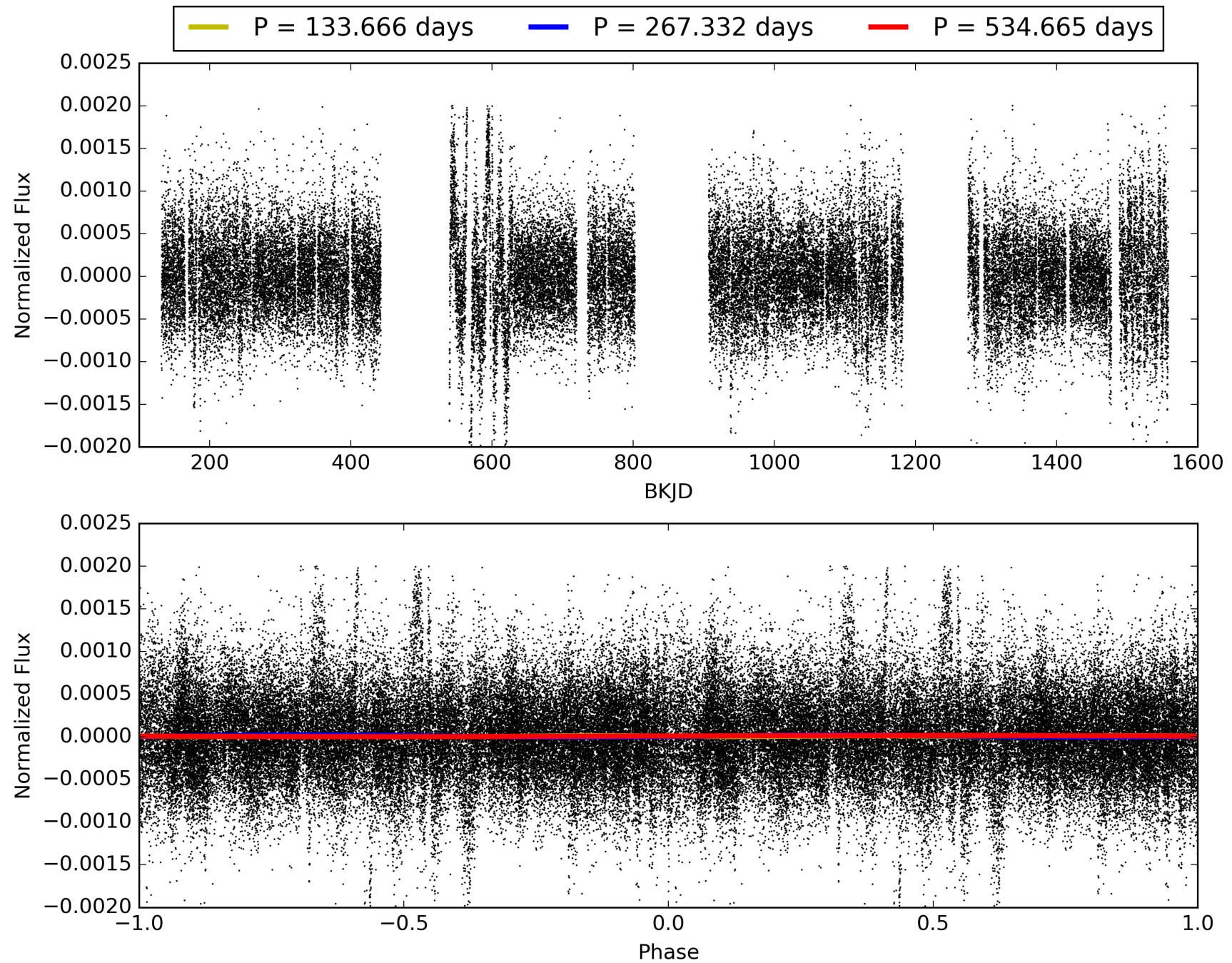
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:16:26 Z

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

# TCE 005684288-01, PDC Light Curves

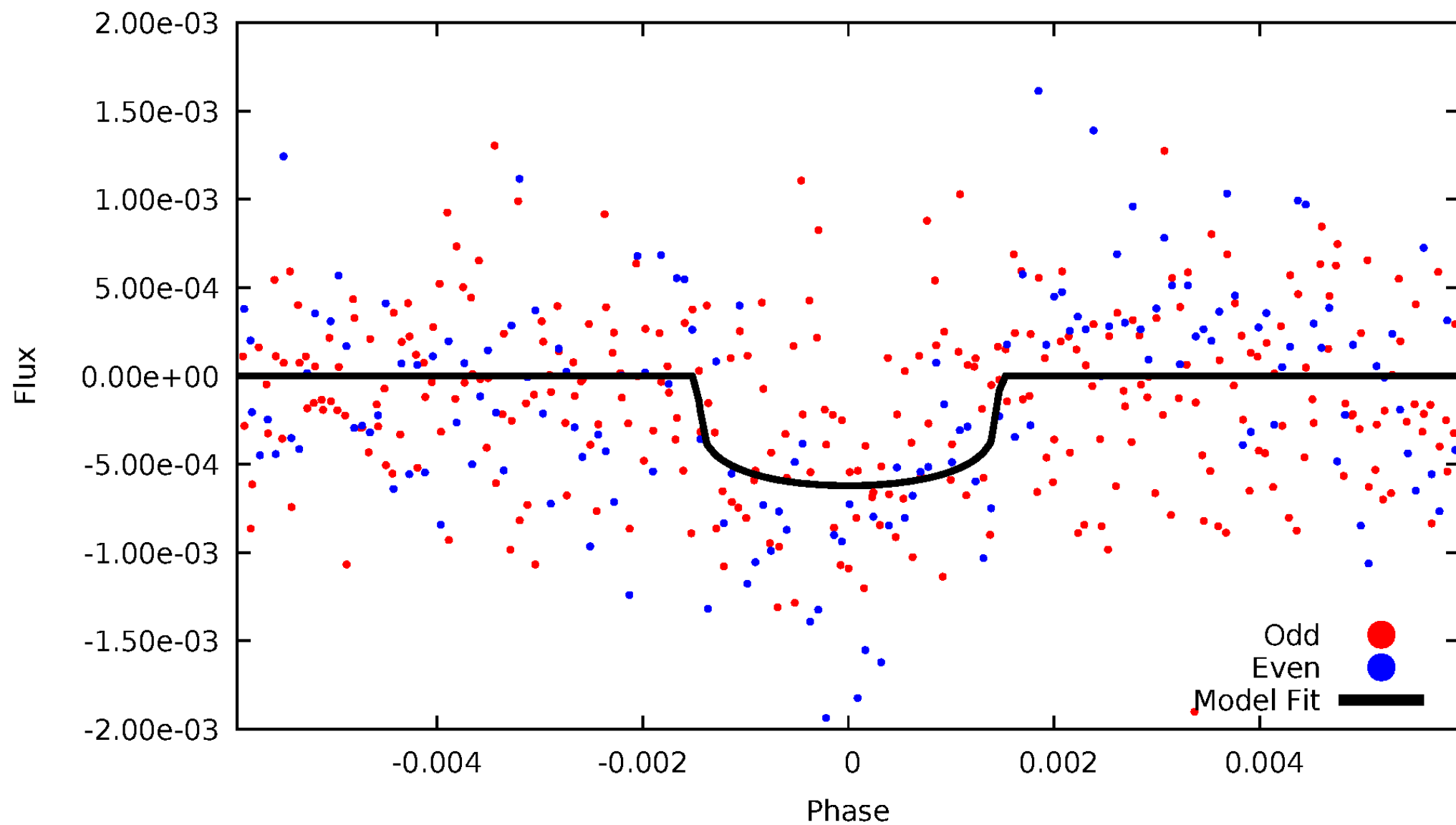


TCE 005684288-01



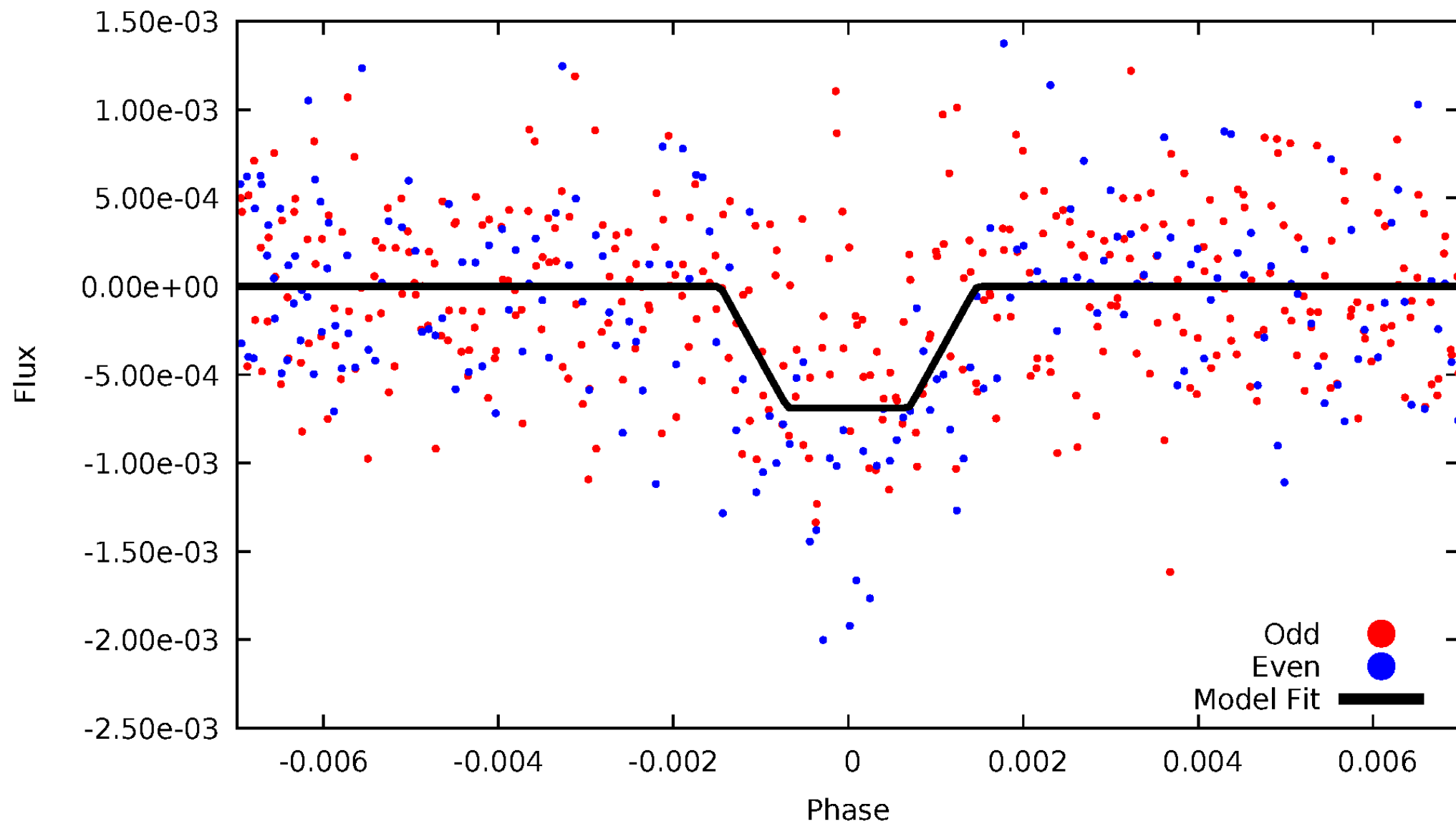
# DV Odd/Even

TCE 005684288-01



# ALT Odd/Even

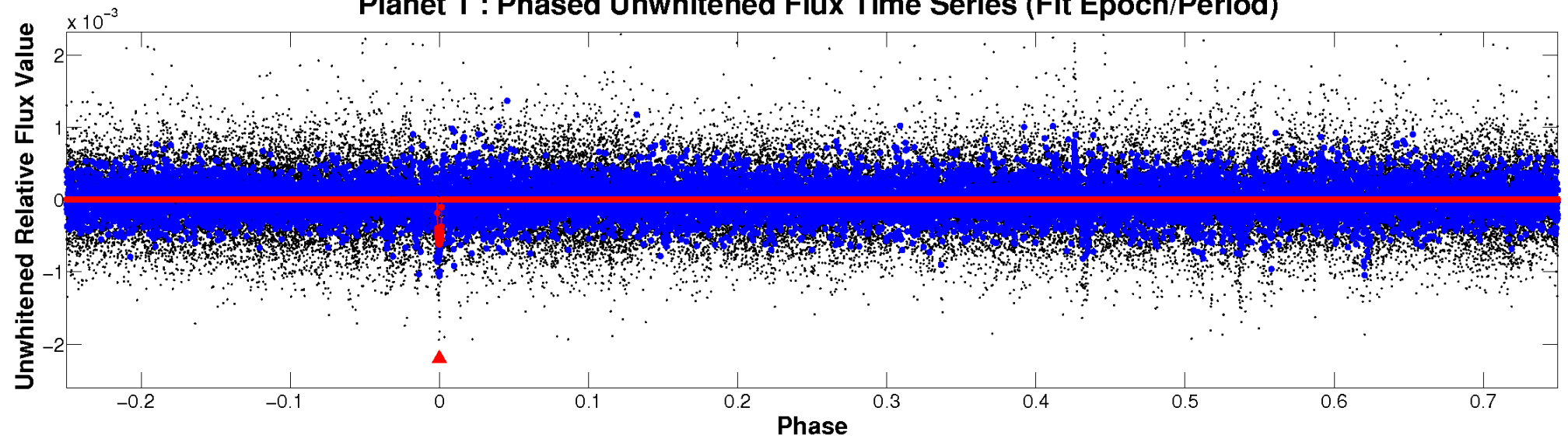
TCE 005684288-01



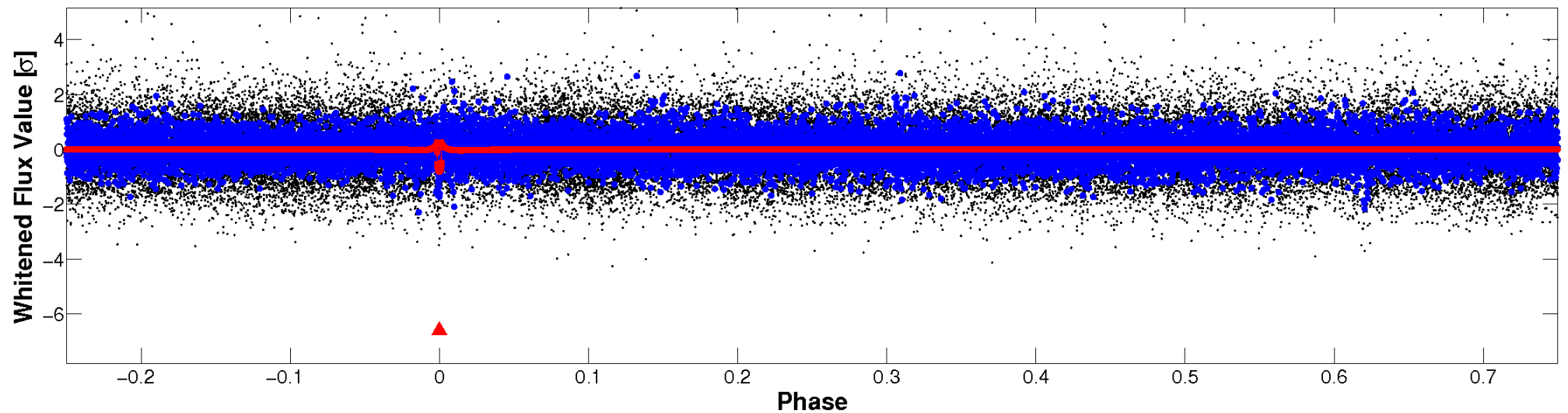


# Non-Whitened Vs. Whitened Light Curve

**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

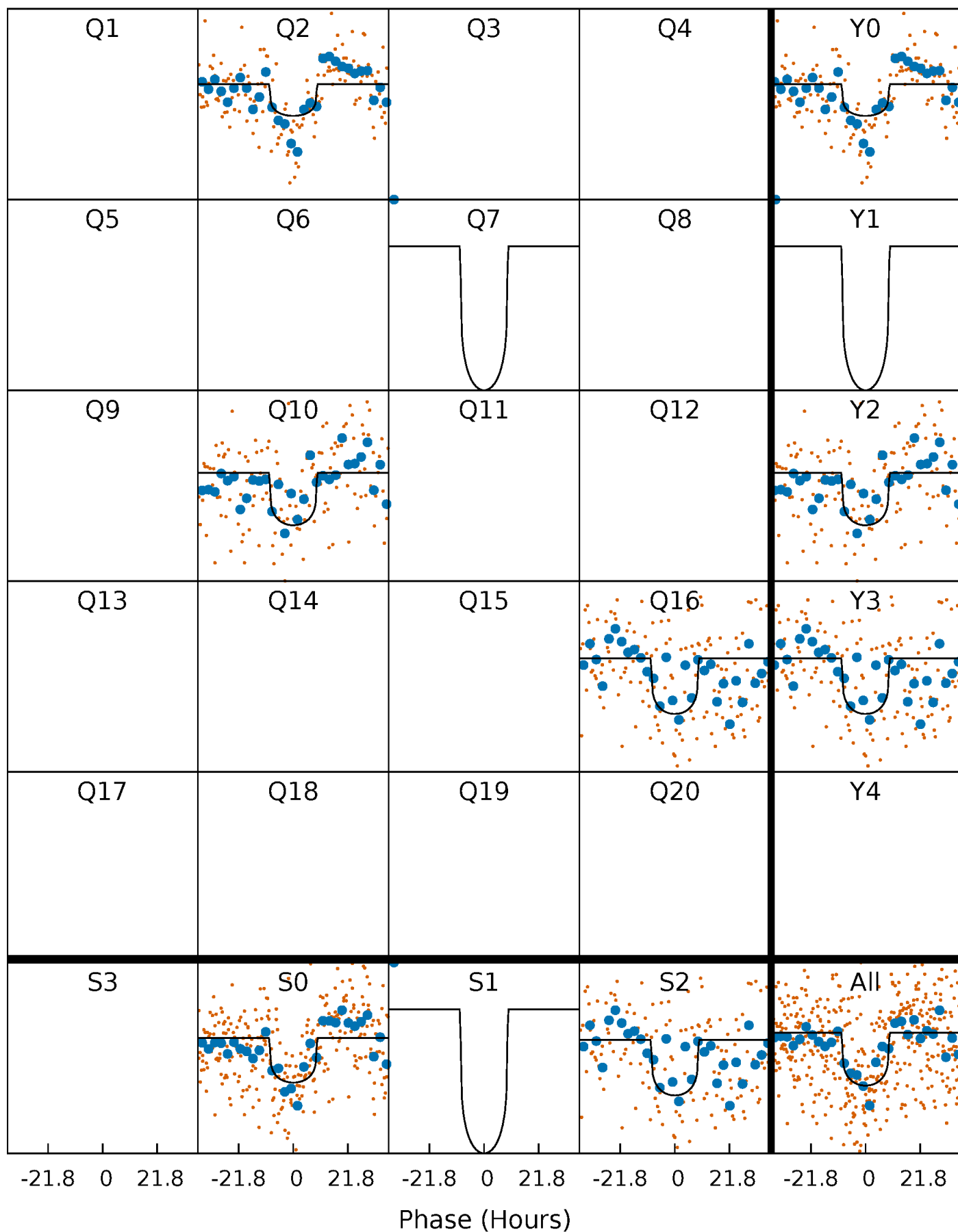
TCE 005684288-01 P=267.332408 Days  $T_0=186.436426$  (BKJD)





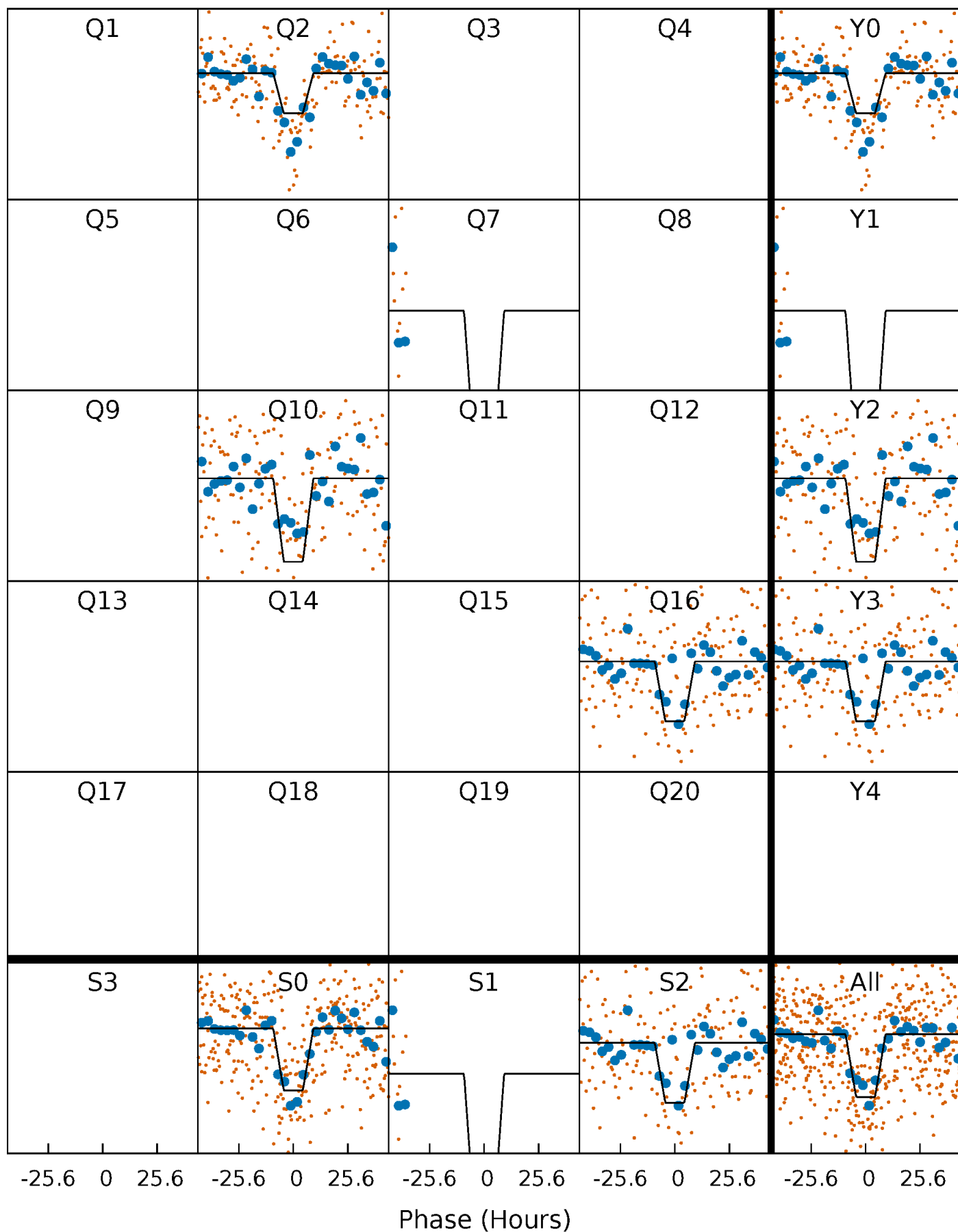
# DV Quarter-Phased Transit Curves

TCE 005684288-01 P=267.332408 Days  $T_0=186.436426$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

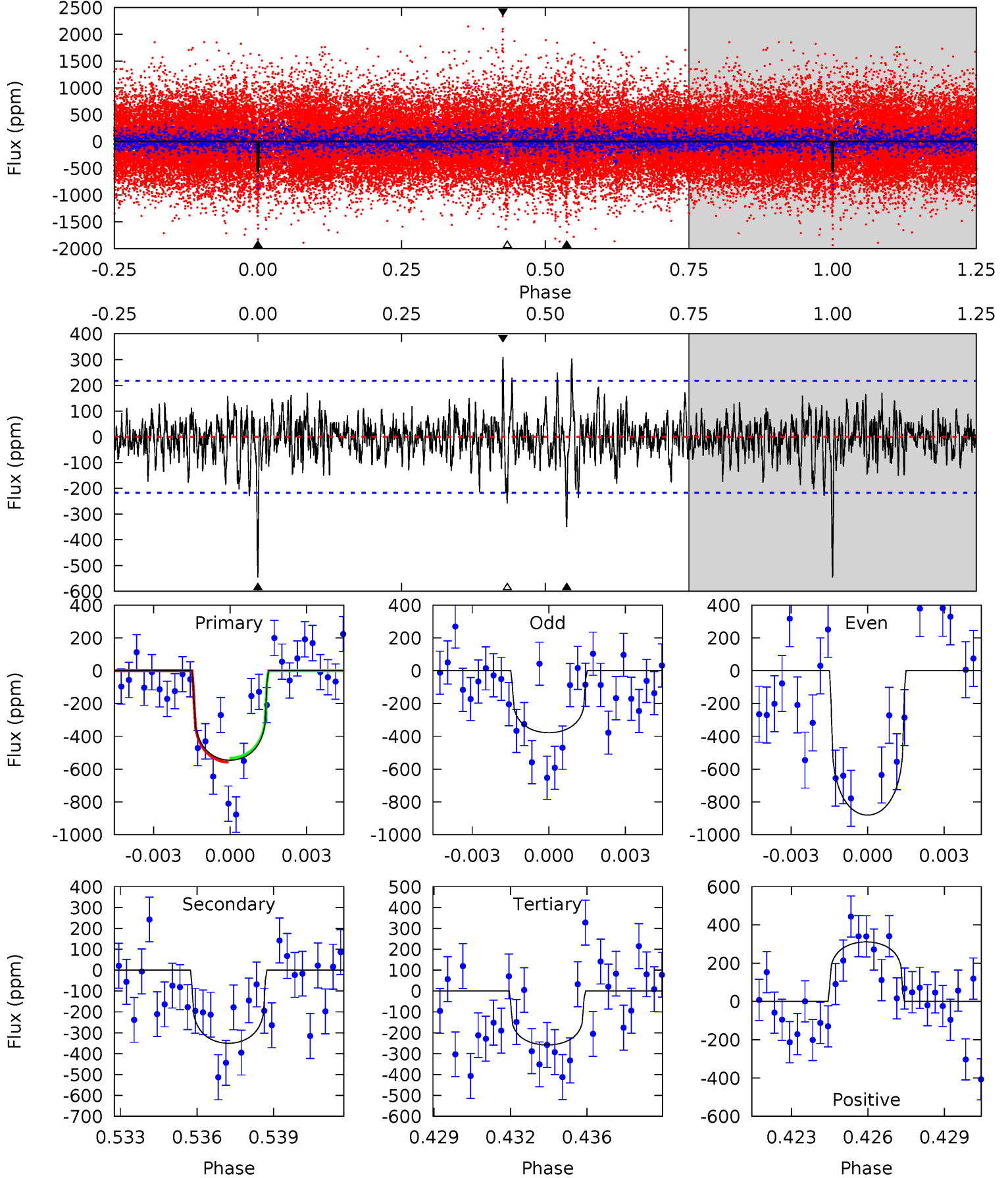
TCE 005684288-01     $P=267.311832$  Days     $T_0=186.455563$  (BKJD)



# DV Model-Shift Uniqueness Test

005684288-01, P = 267.332408 Days, E = 186.436426 Days

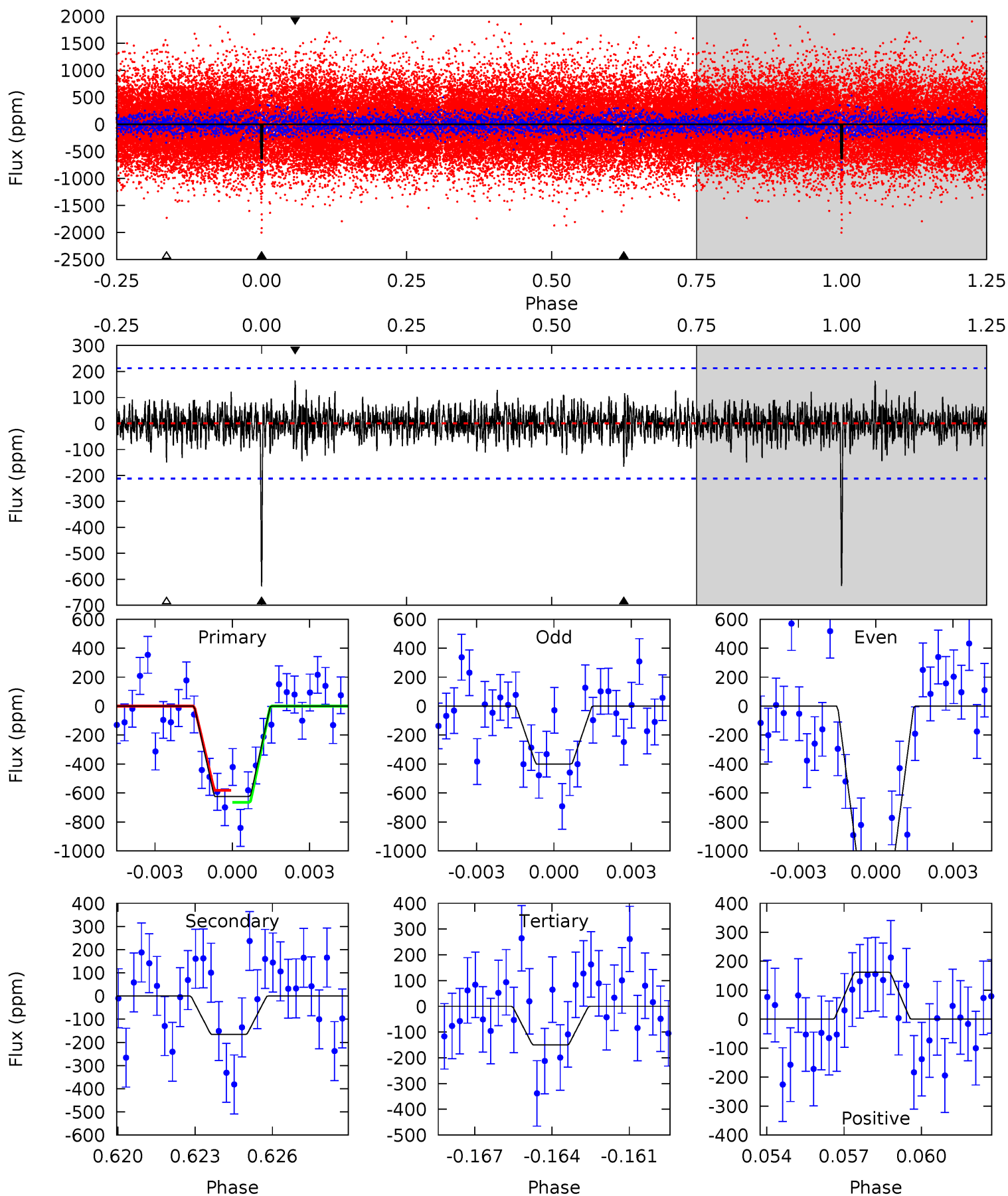
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	8.44	6.23	7.50	5.25	2.96	1.61	6.92	5.66	2.21	0.94	5.70	1.43	0.36	0.30



# Alt Model-Shift Uniqueness Test

005684288-01, P = 267.311832 Days, E = 186.455563 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
15.5	4.10	3.72	4.00	5.25	2.97	1.05	11.7	11.5	0.39	0.10	7.86	1.54	0.21	1.03



### Stellar Parameters For KIC 005684288

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5903^{+141}_{-176}$	$4.484^{+0.065}_{-0.208}$	$-0.140^{+0.300}_{-0.300}$	$0.938^{+0.288}_{-0.115}$	$0.977^{+0.120}_{-0.120}$	$1.670^{+0.459}_{-0.867}$
	+2%/-3%	+1%/-5%	+214%/-214%	+31%/-12%	+12%/-12%	+28%/-52%
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 005684288-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-350 \pm 41$	$3.22^{+2.79}_{-2.12}$	$400^{+29}_{-19}$	$4839^{+3304}_{-1074}$	$11929^{+89452}_{-8572}$
Alt.	$-166 \pm 40$	$3.53^{+2.61}_{-2.15}$	$400^{+29}_{-21}$	$4027^{+1908}_{-729}$	$4874^{+26822}_{-3469}$

$T_{max}$  = 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

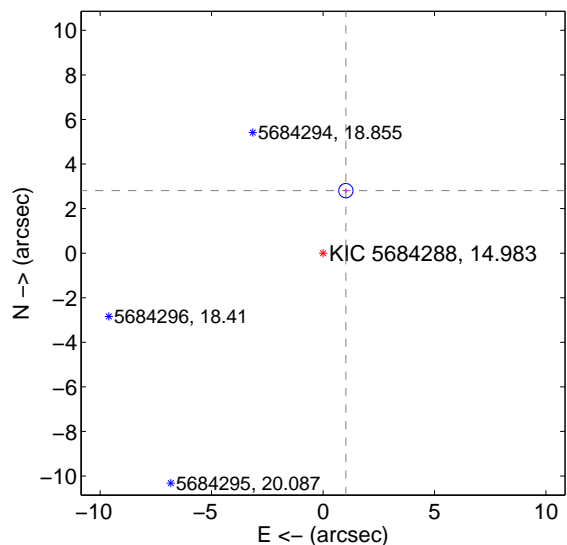
Supplemental centroid analysis for 005684288-01. Kepler magnitude: 14.98. Transit SNR 7.99

There are 1 quarters with good PRF difference image offsets

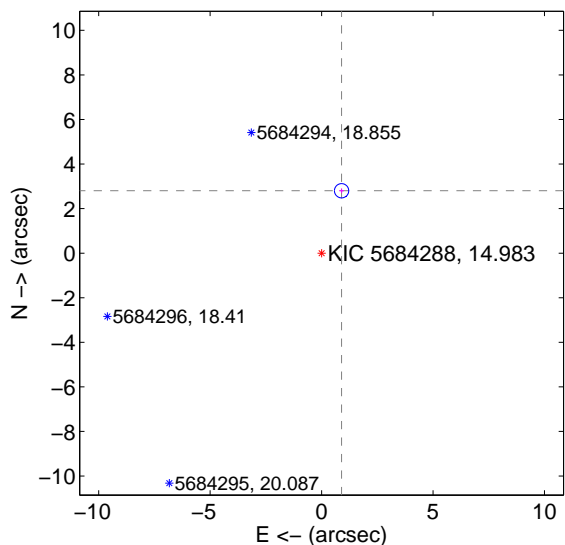
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.987 \pm 0.107$	27.96	$-1.024 \pm 0.108$	$2.806 \pm 0.107$
PRF-fit source offset from KIC position	$2.941 \pm 0.107$	27.54	$-0.897 \pm 0.108$	$2.801 \pm 0.107$
photometric centroid source offset	$3.99 \pm 1.69$	2.36	$-1.89 \pm 1.61$	$-3.51 \pm 1.71$

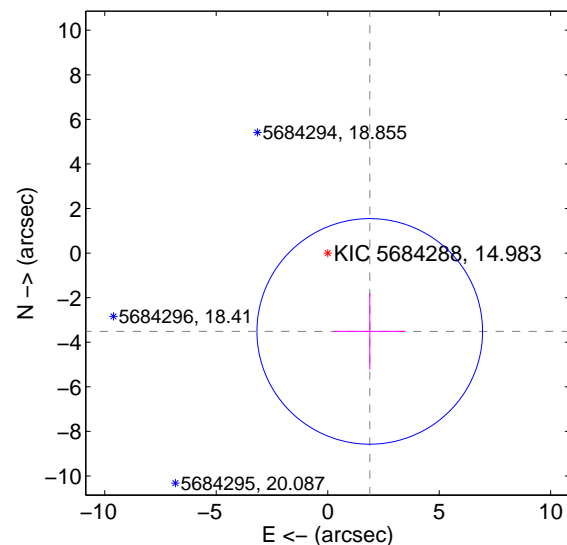
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



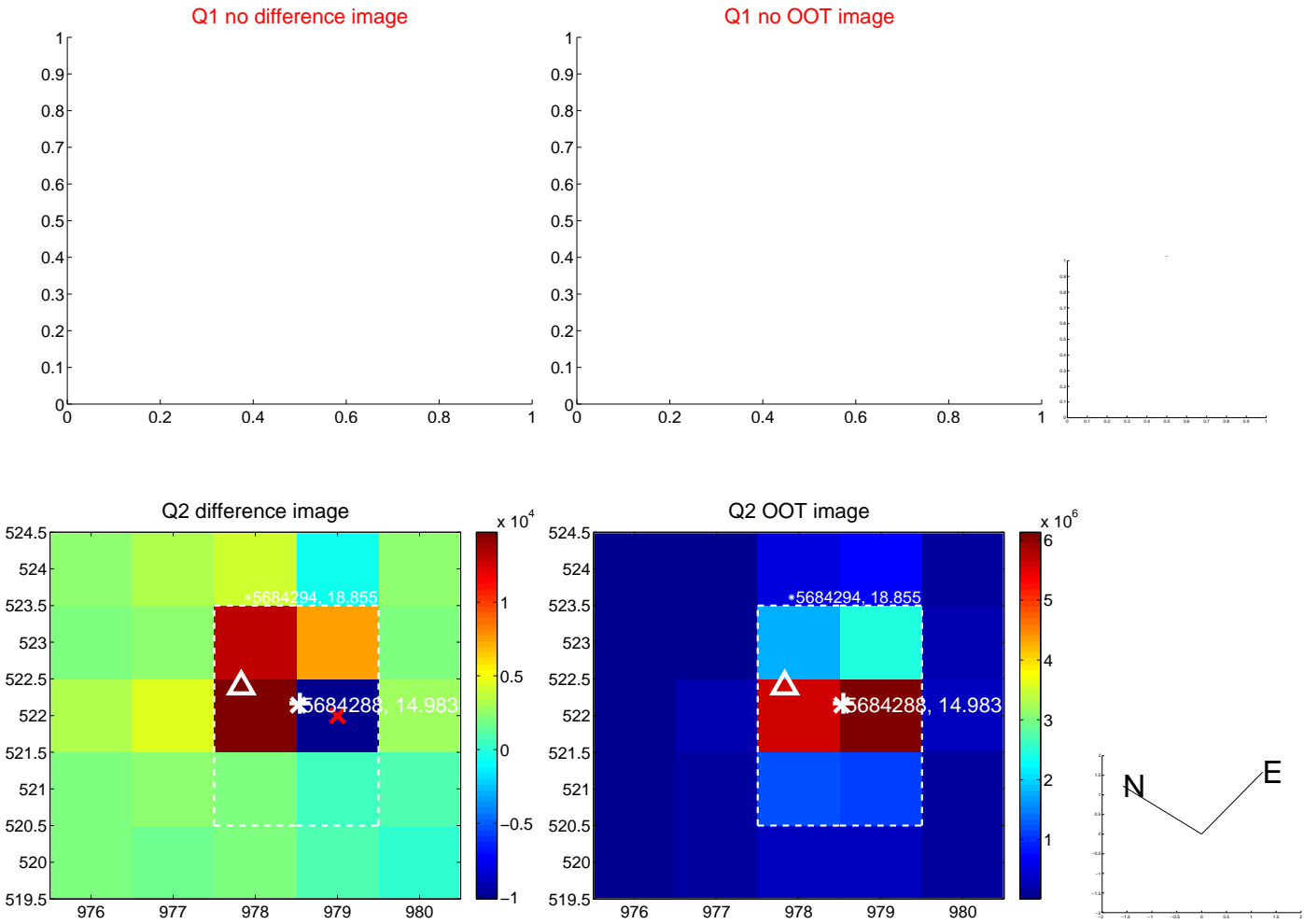
offset from photometric centroids



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.



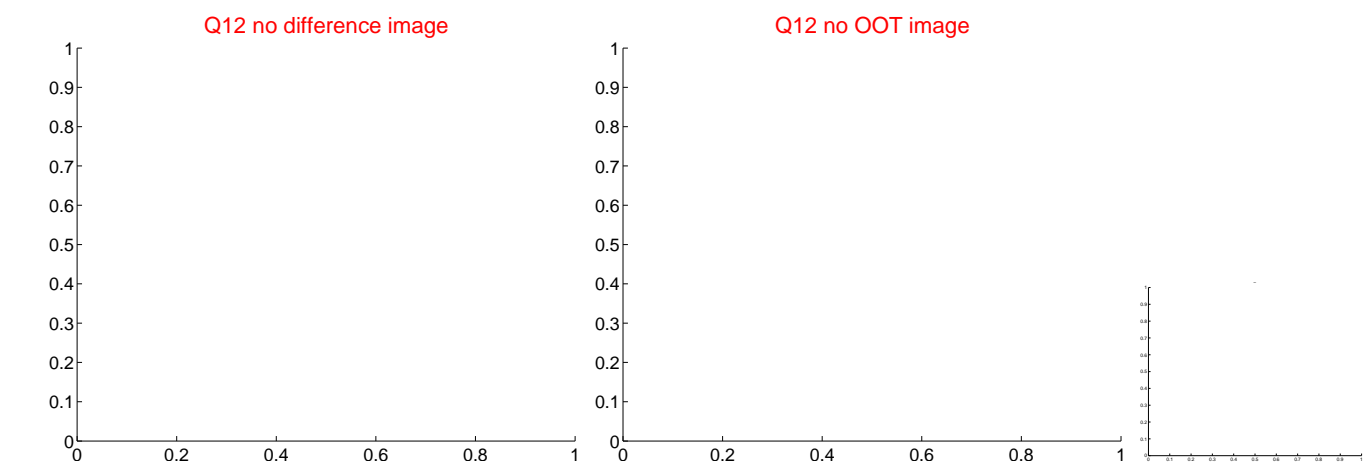
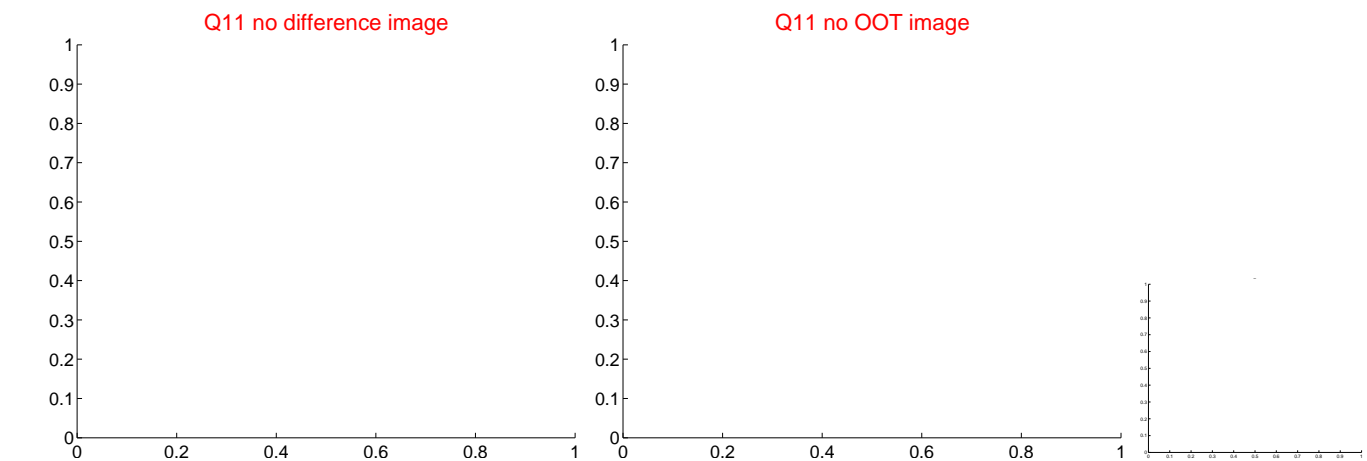
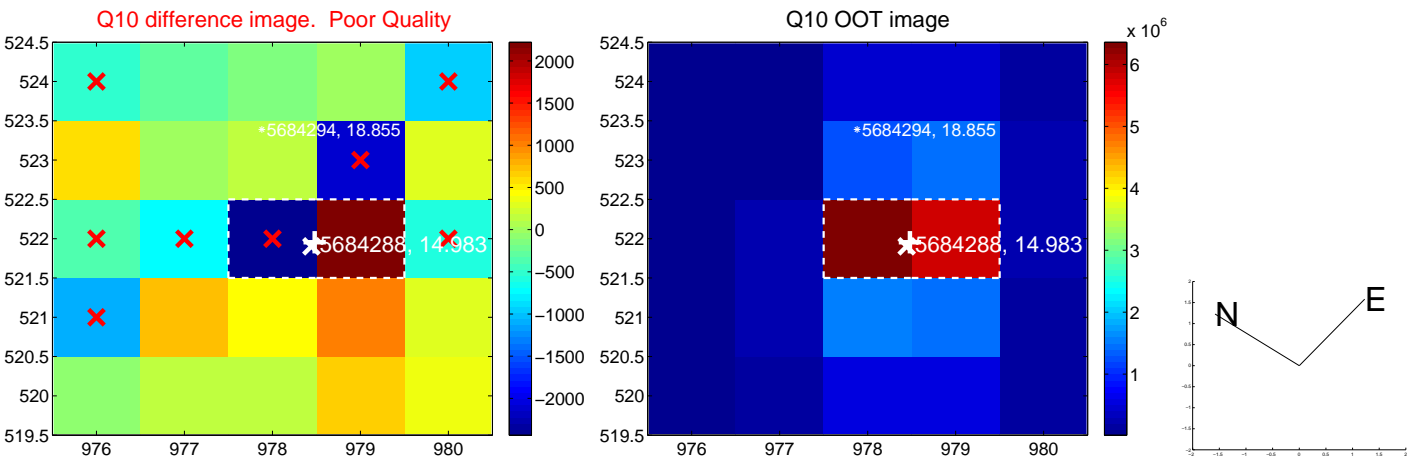
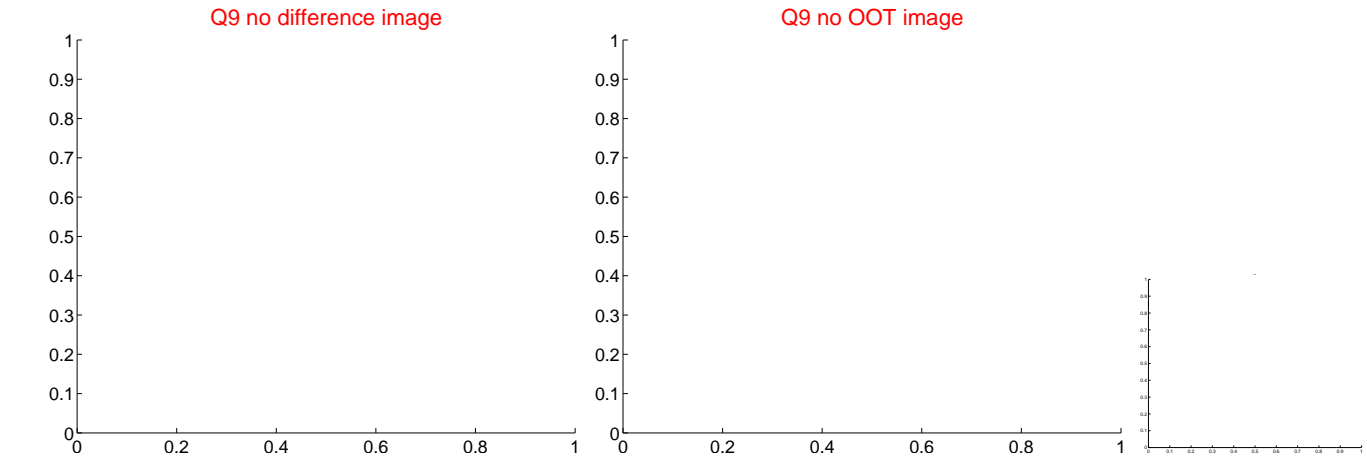
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



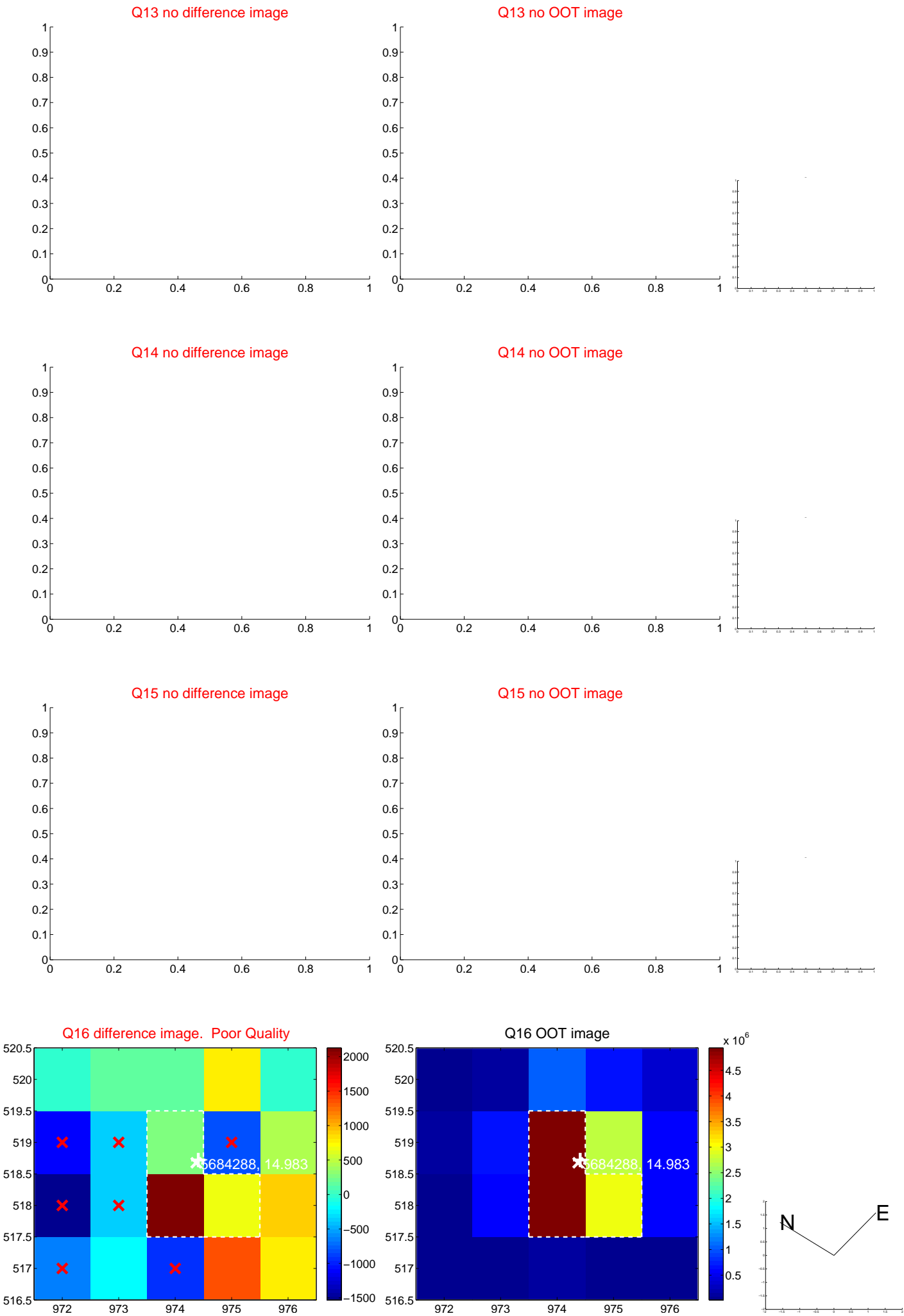
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



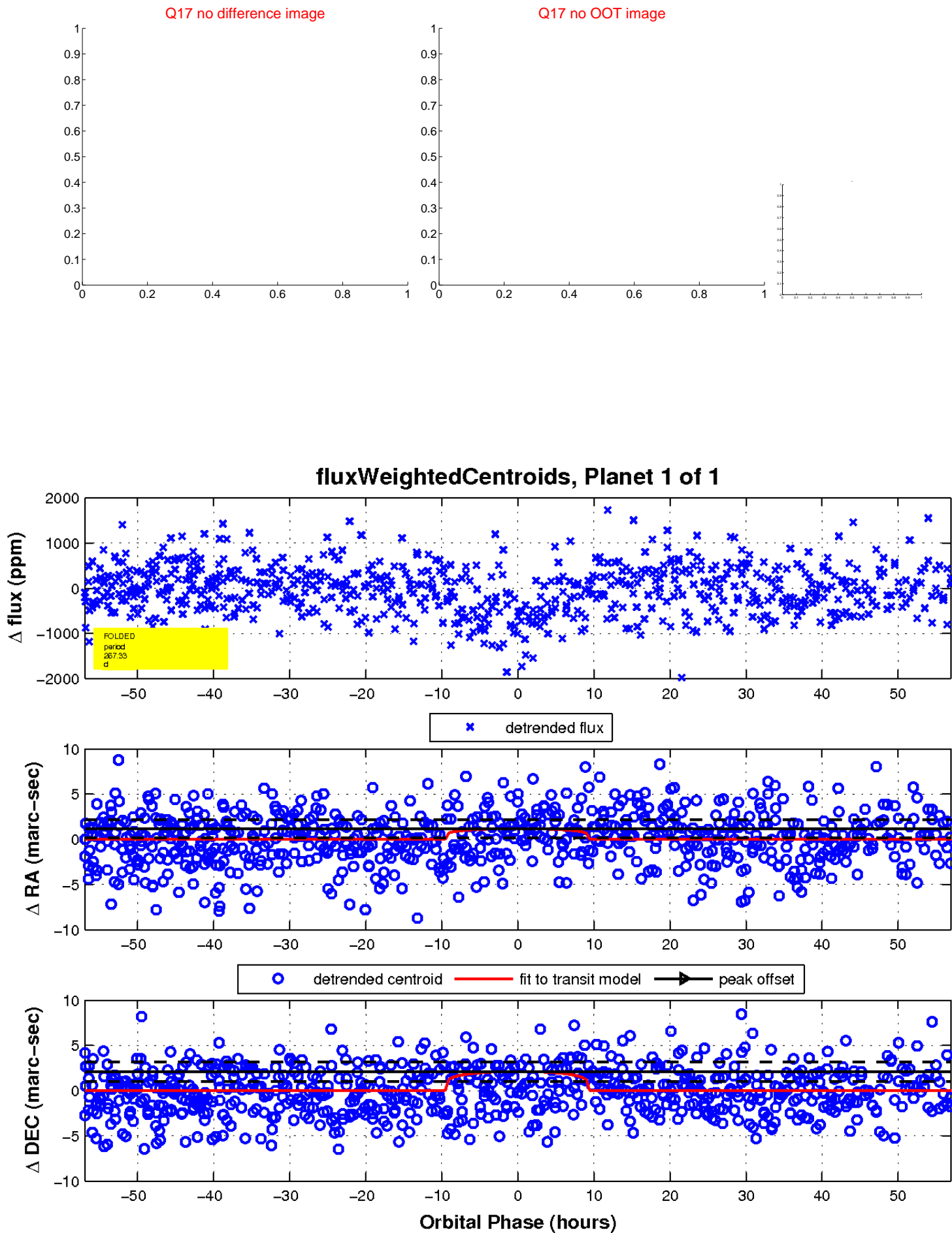
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

