

# KIC 007686267

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007686267-01	OBS	No	581.935381	186.691033	879.0	17.949	8.7	8.6	1.14	6418	6.42	0.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007686267-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

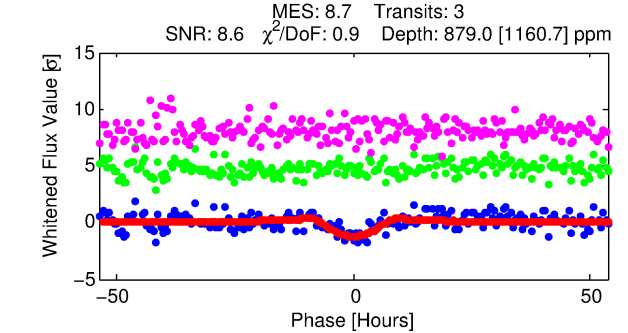
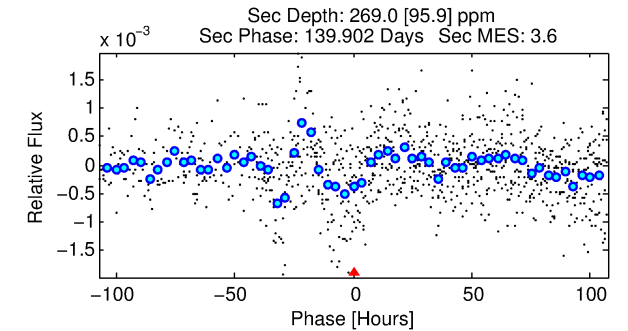
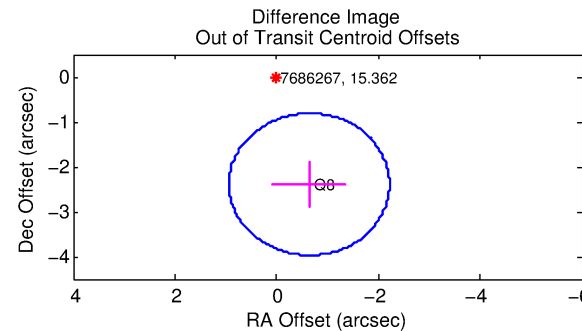
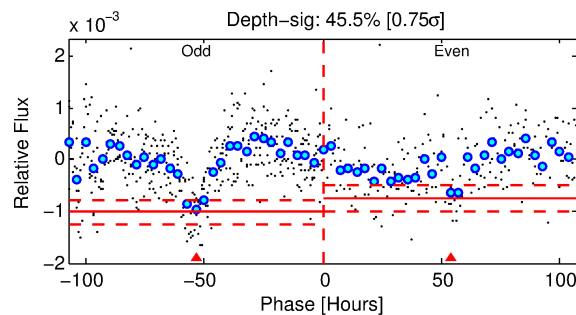
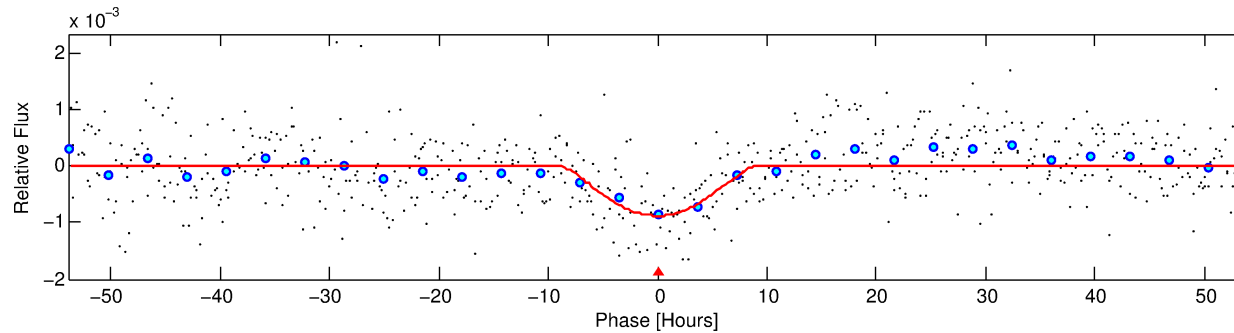
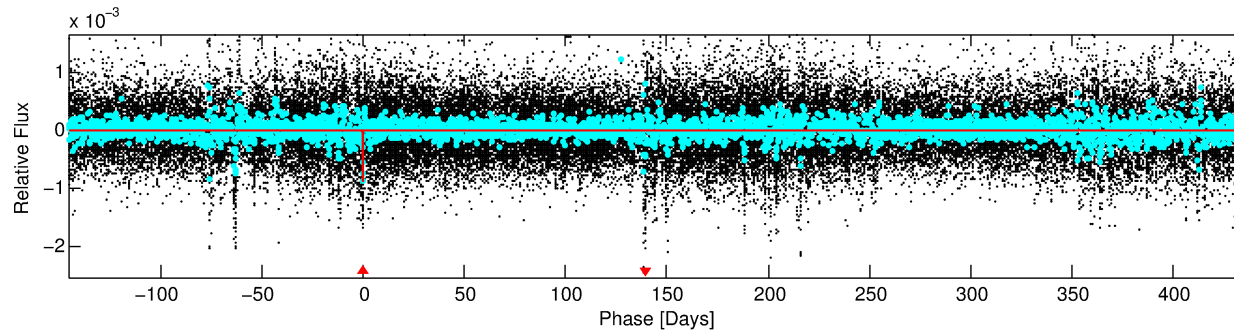
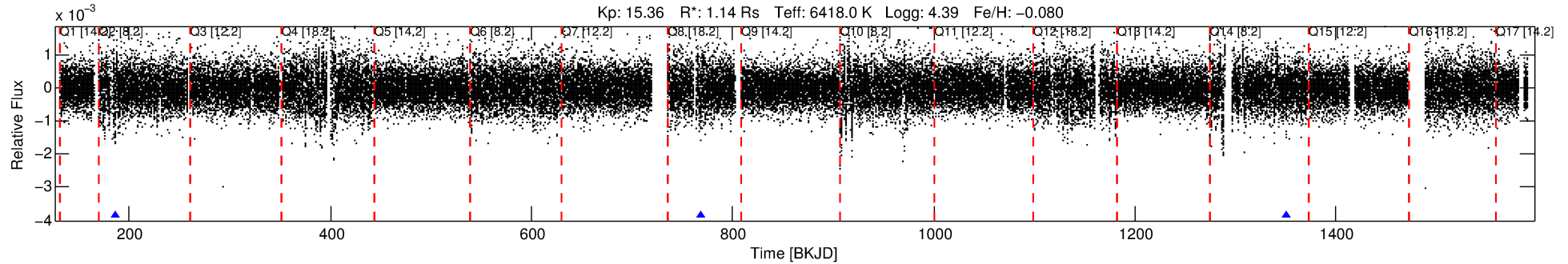
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007686267-01

No Significant Match Found

# DV One-Page Summary

KIC: 7686267 Candidate: 1 of 1 Period: 581.935 d



## DV Fit Results:

Period = 581.93538 [0.02477] d  
Epoch = 186.6910 [0.0330] BKJD  
Rp/R\* = 0.0517 [0.1763]  
a/R\* = 80.64 [67.26]  
b = 1.00 [0.21]  
Seff = 0.95 [0.34]  
Teq = 252 [23] K  
Rp = 6.42 [21.99] Re  
a = 1.4387 [0.3396] AU  
Ag = 7431.56 [50857.41] [0.15 $\sigma$ ]  
Teffp = 3617 [6181] K [0.54 $\sigma$ ]

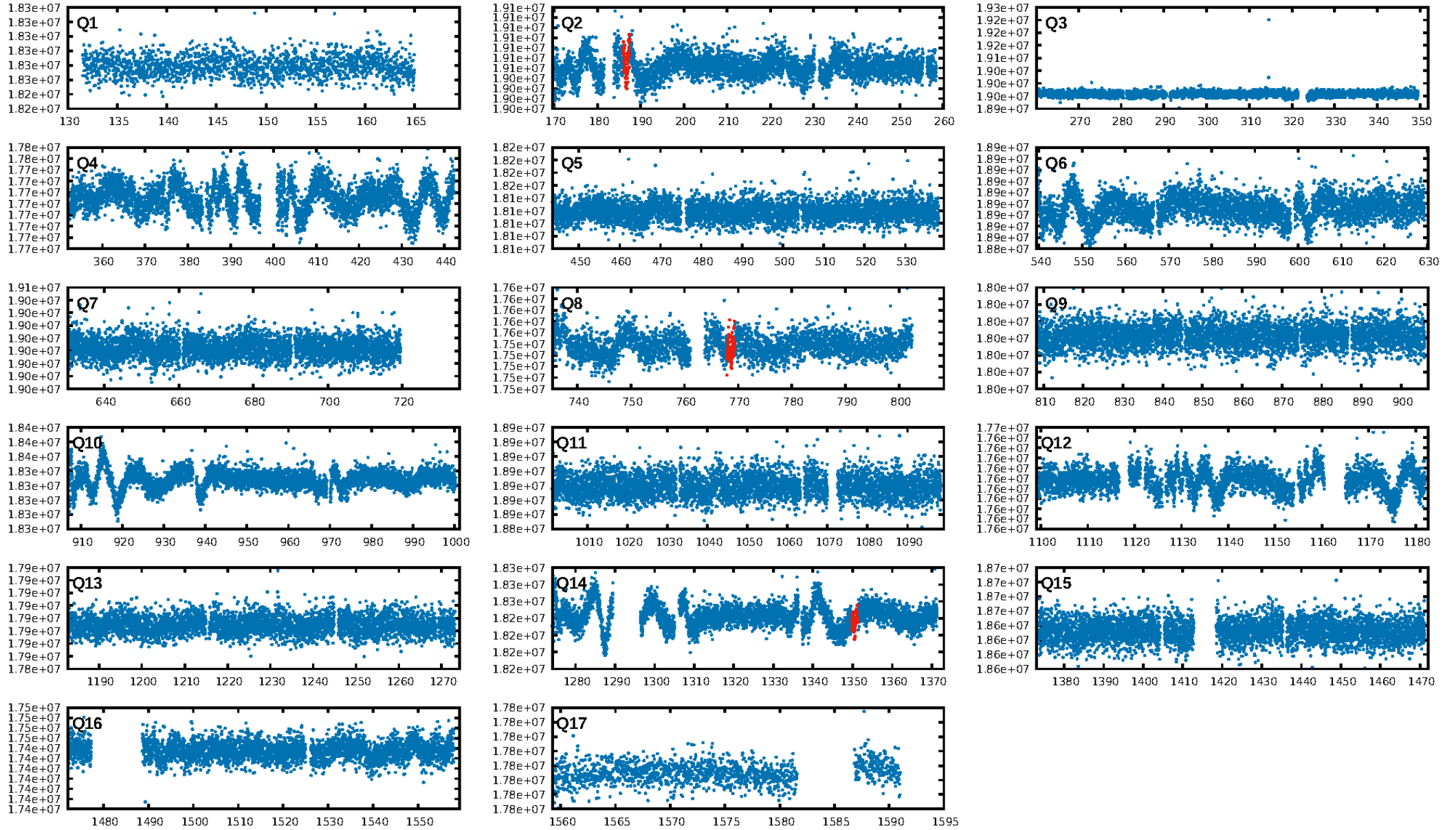
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 9.8%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 3.94e-09**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -3.02  
Centroid-sig: 50.0%  
Centroid-so: 1.217 arcsec [0.60 $\sigma$ ]  
**OotOffset-rm: 2.478 arcsec [4.71 $\sigma$ ]**  
**KicOffset-rm: 2.594 arcsec [4.88 $\sigma$ ]**  
OotOffset-st: 0/0/1/0 [1]  
KicOffset-st: 0/0/1/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [3/3]

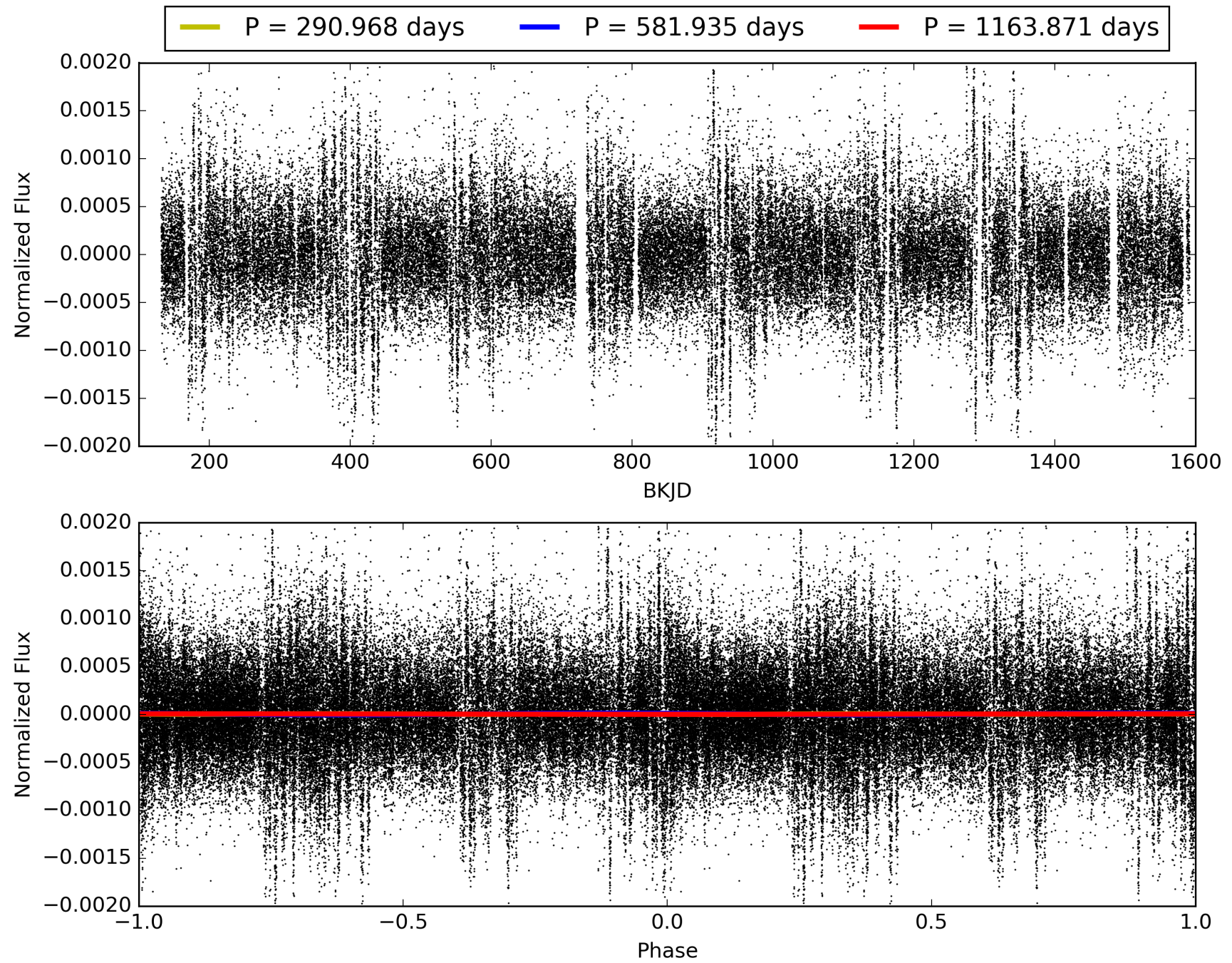
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:24:06 Z

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

# TCE 007686267-01, PDC Light Curves

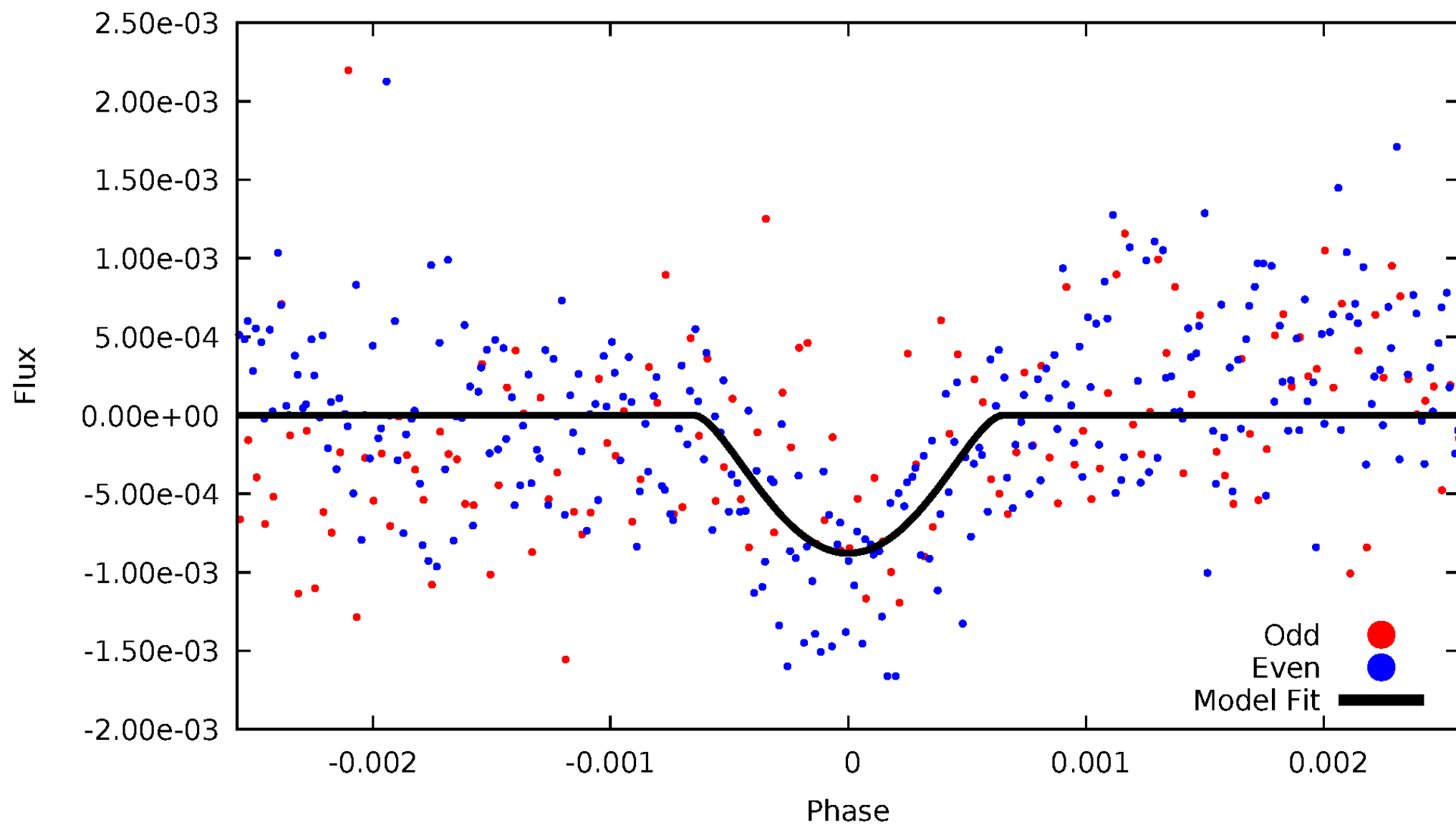


TCE 007686267-01



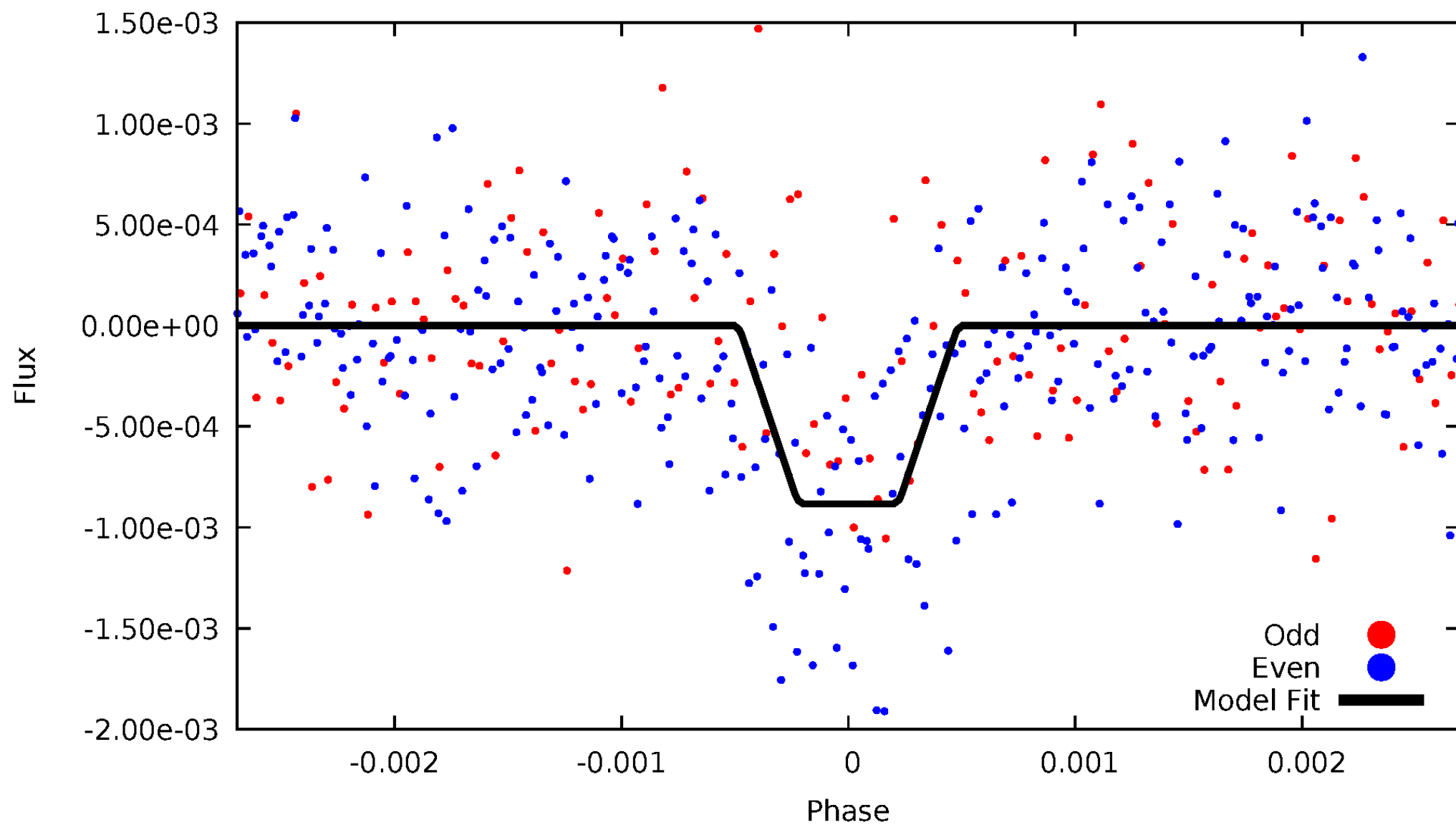
# DV Odd/Even

TCE 007686267-01



# ALT Odd/Even

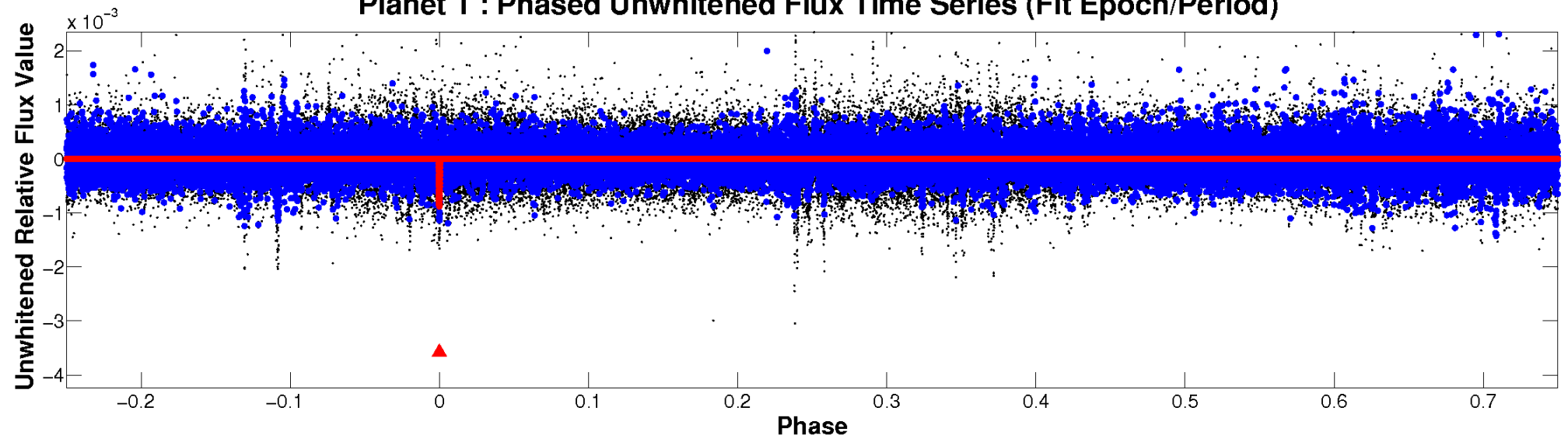
TCE 007686267-01



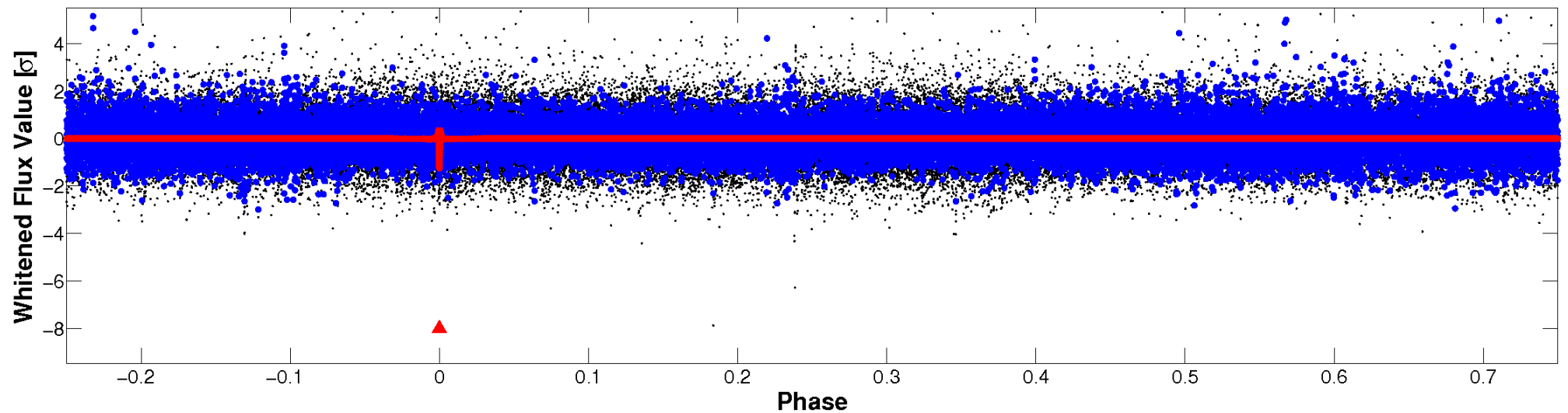


# Non-Whitened Vs. Whitened Light Curve

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

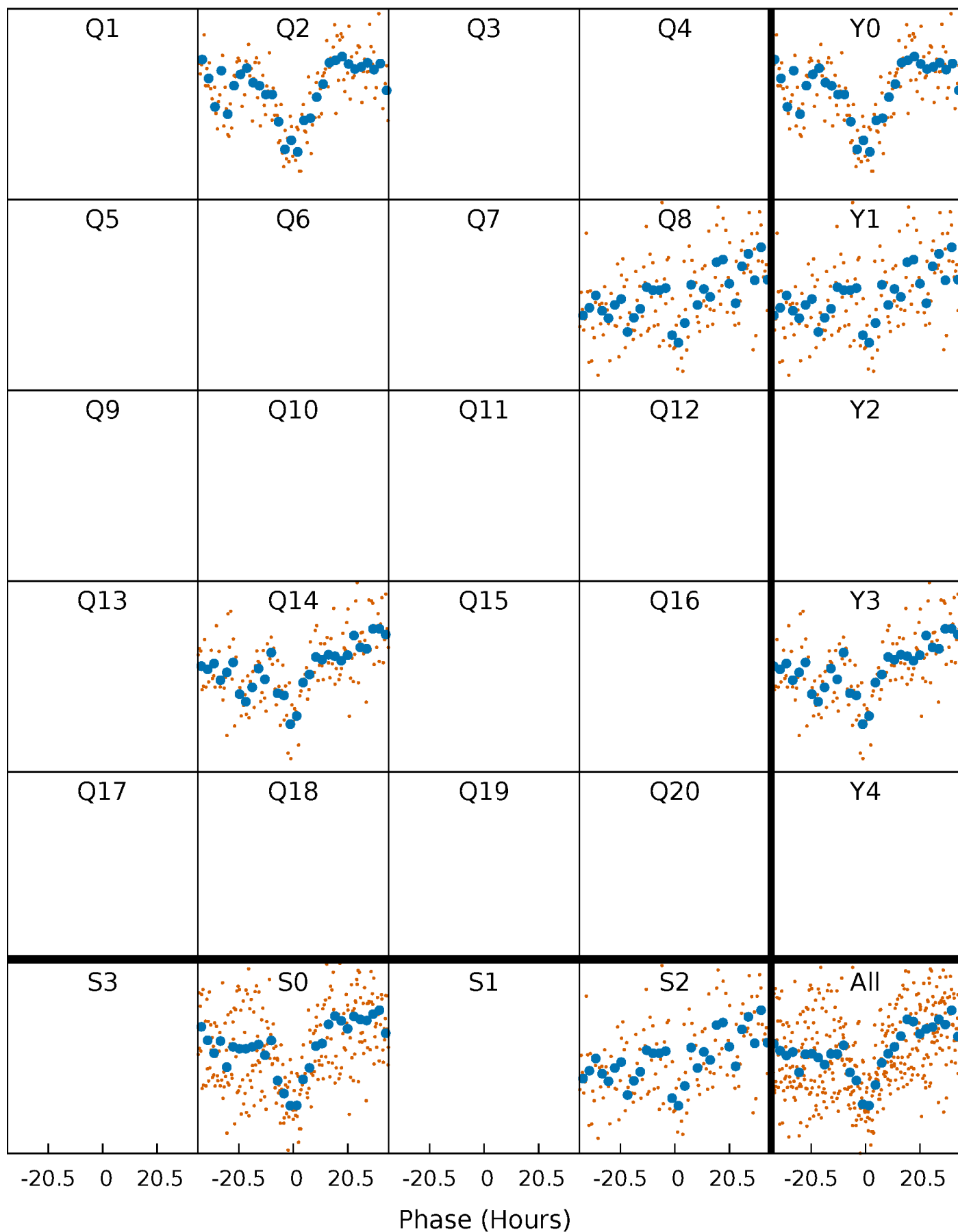


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 007686267-01 P=581.935381 Days  $T_0=186.691033$  (BKJD)





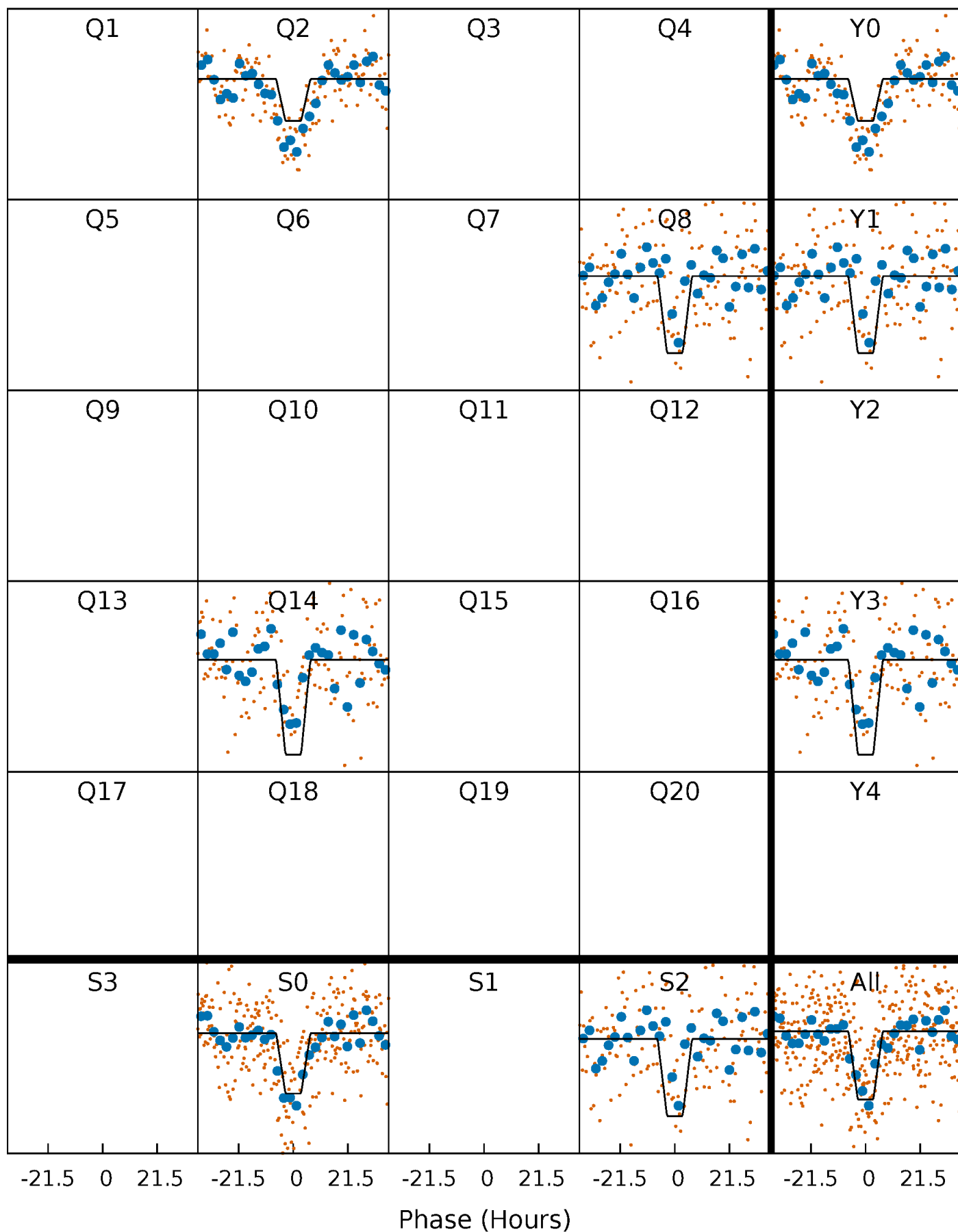
# DV Quarter-Phased Transit Curves

TCE 007686267-01 P=581.935381 Days  $T_0=186.691033$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

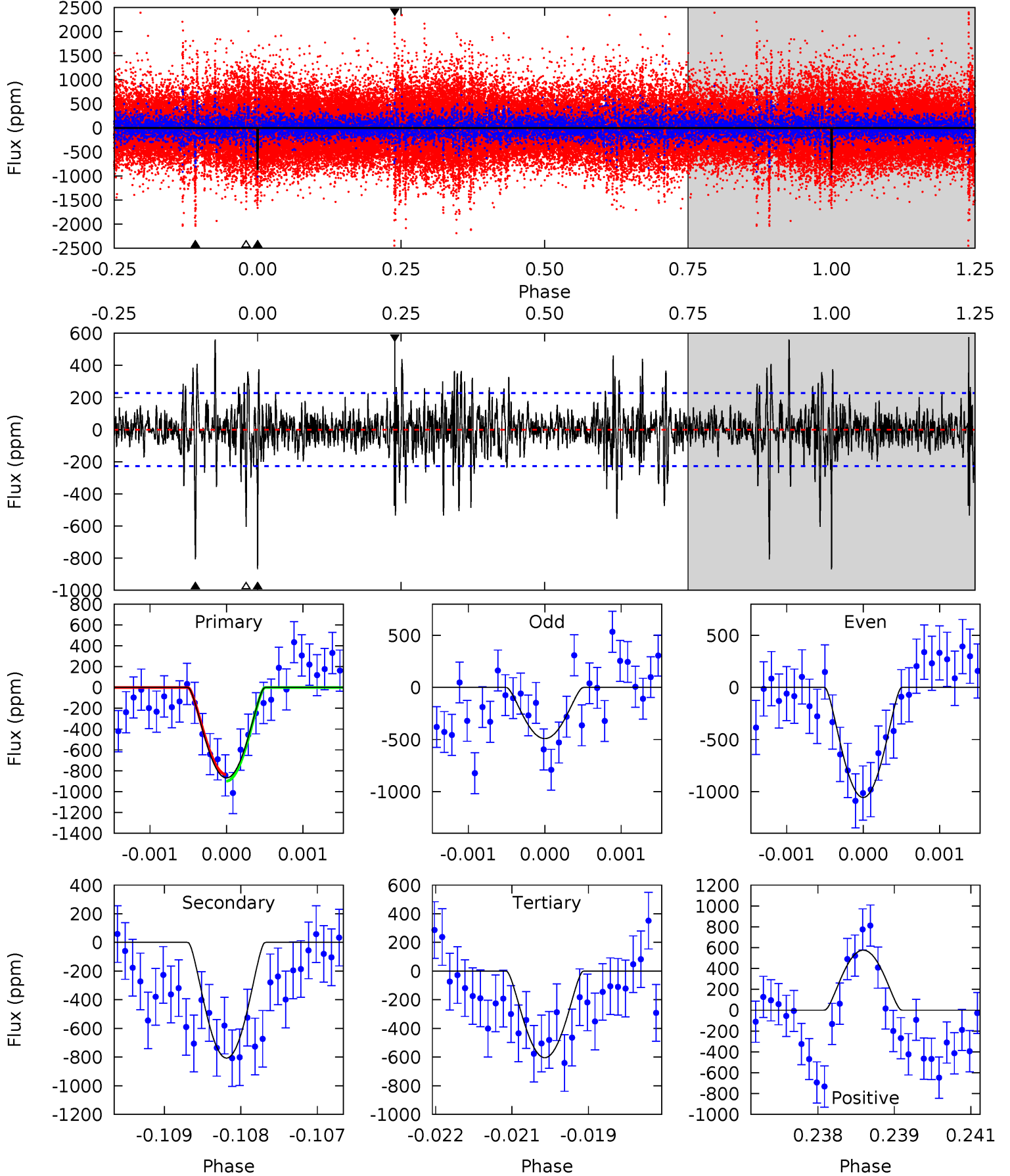
TCE 007686267-01 P=581.940978 Days  $T_0=186.714479$  (BKJD)



# DV Model-Shift Uniqueness Test

007686267-01, P = 581.935381 Days, E = 186.691033 Days

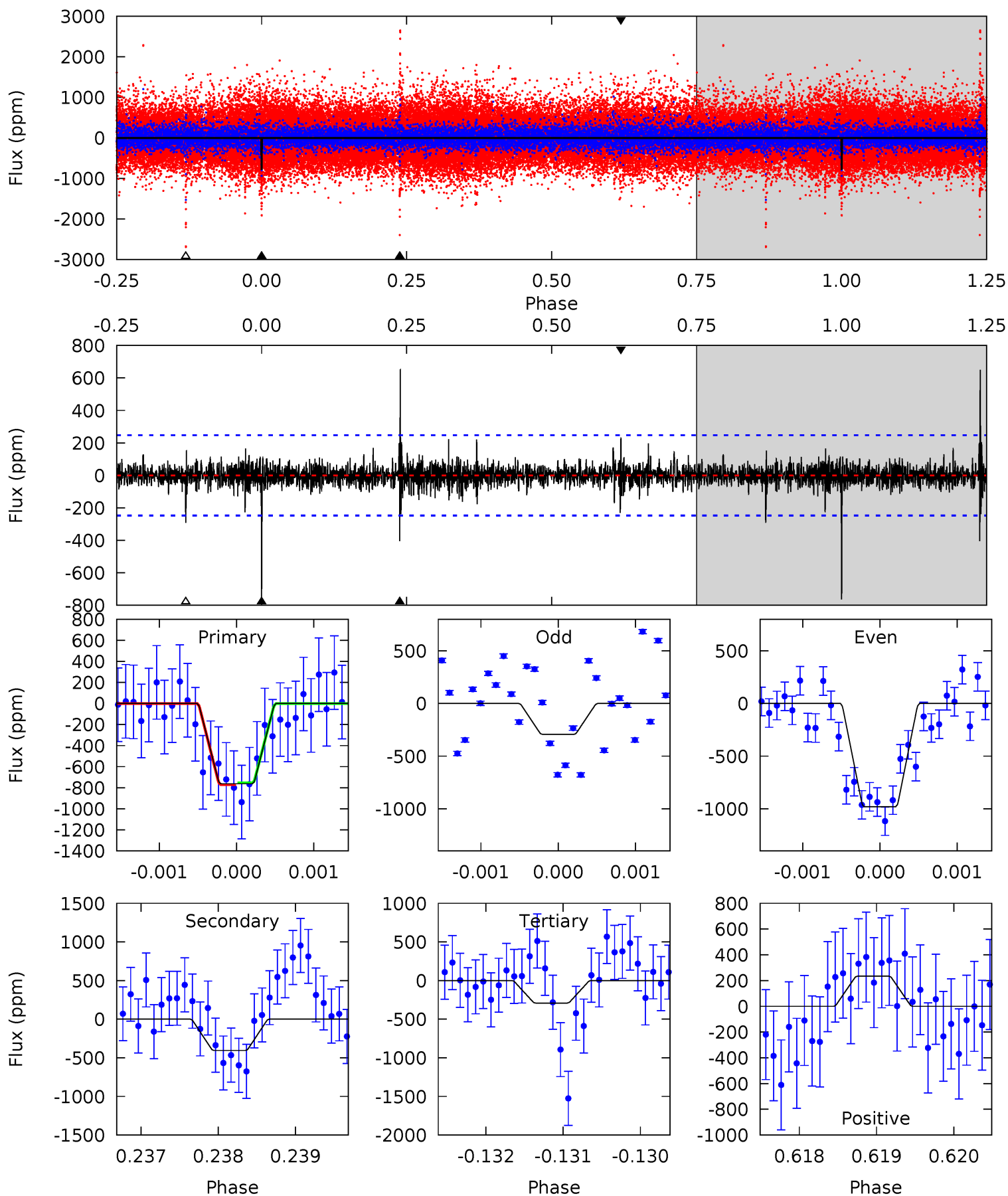
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	19.2	14.4	13.7	5.41	3.22	2.87	6.29	6.97	4.82	5.50	6.45	1.06	0.40	0.74



# Alt Model-Shift Uniqueness Test

007686267-01, P = 581.940978 Days, E = 186.714479 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
16.8	8.93	6.43	5.15	5.45	3.30	1.04	10.4	11.7	2.50	3.78	7.28	1.45	0.46	0.18



### Stellar Parameters For KIC 007686267

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6418^{+153}_{-211}$	$4.394^{+0.060}_{-0.180}$	$-0.080^{+0.250}_{-0.300}$	$1.139^{+0.327}_{-0.140}$	$1.172^{+0.157}_{-0.157}$	$1.117^{+0.357}_{-0.528}$
	+2%/-3%	+1%/-4%	+312%/-375%	+29%/-12%	+13%/-13%	+32%/-47%
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 007686267-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-807 \pm 42$	$18.09^{+19.35}_{-12.12}$	$357^{+24}_{-17}$	$3403^{+1635}_{-617}$	$2724^{+22015}_{-2078}$
Alt.	$-405 \pm 45$	$17.16^{+17.97}_{-11.87}$	$358^{+20}_{-17}$	$3115^{+1482}_{-557}$	$1532^{+14245}_{-1178}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming A=0.3)

$A_{\text{obs}}$  = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

## DV Centroid Data

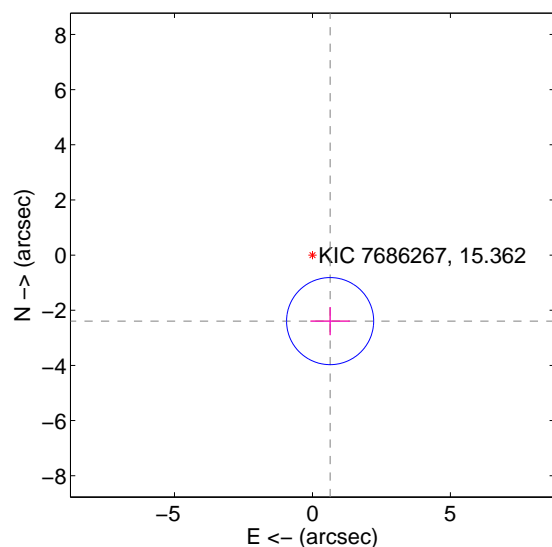
Supplemental centroid analysis for 007686267-01. Kepler magnitude: 15.36. Transit SNR 8.56

There are 0 quarters with good PRF difference image offsets

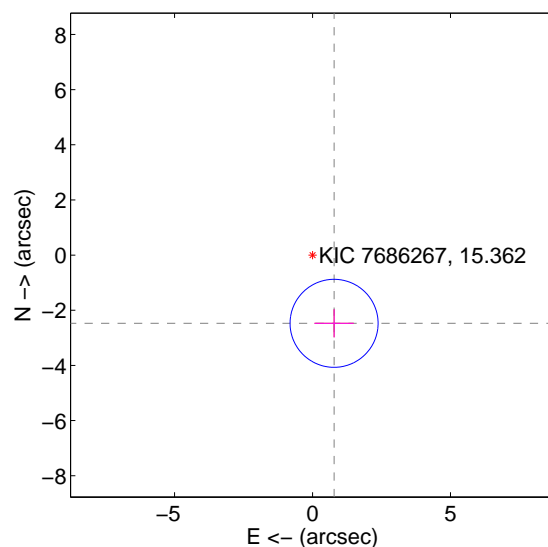
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.478 \pm 0.526$	4.71	$-0.641 \pm 0.713$	$-2.393 \pm 0.510$
PRF-fit source offset from KIC position	$2.594 \pm 0.532$	4.88	$-0.781 \pm 0.713$	$-2.473 \pm 0.510$
photometric centroid source offset	$1.22 \pm 2.03$	0.60	$-0.54 \pm 2.17$	$-1.09 \pm 1.99$

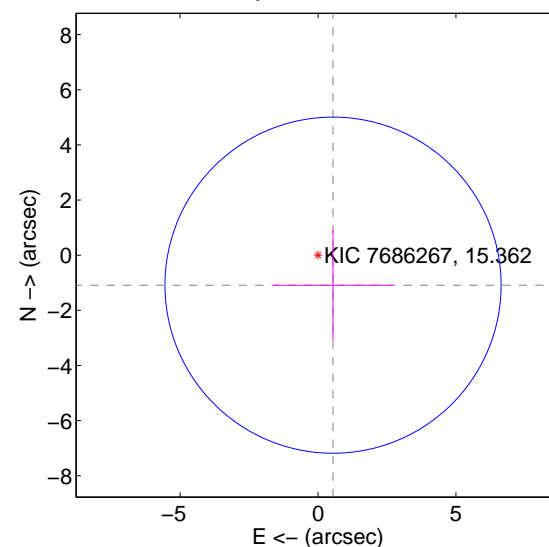
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



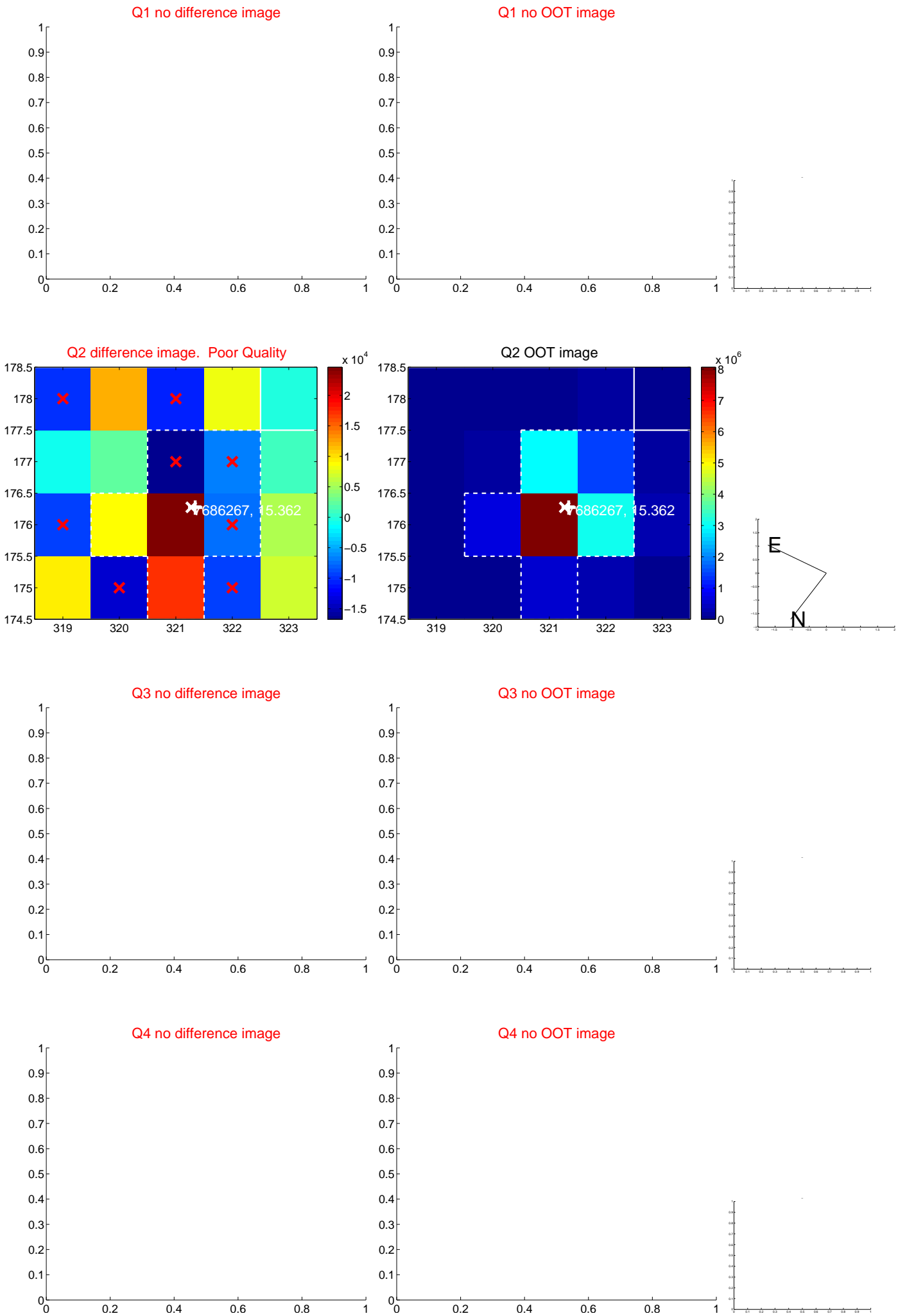
offset from photometric centroids



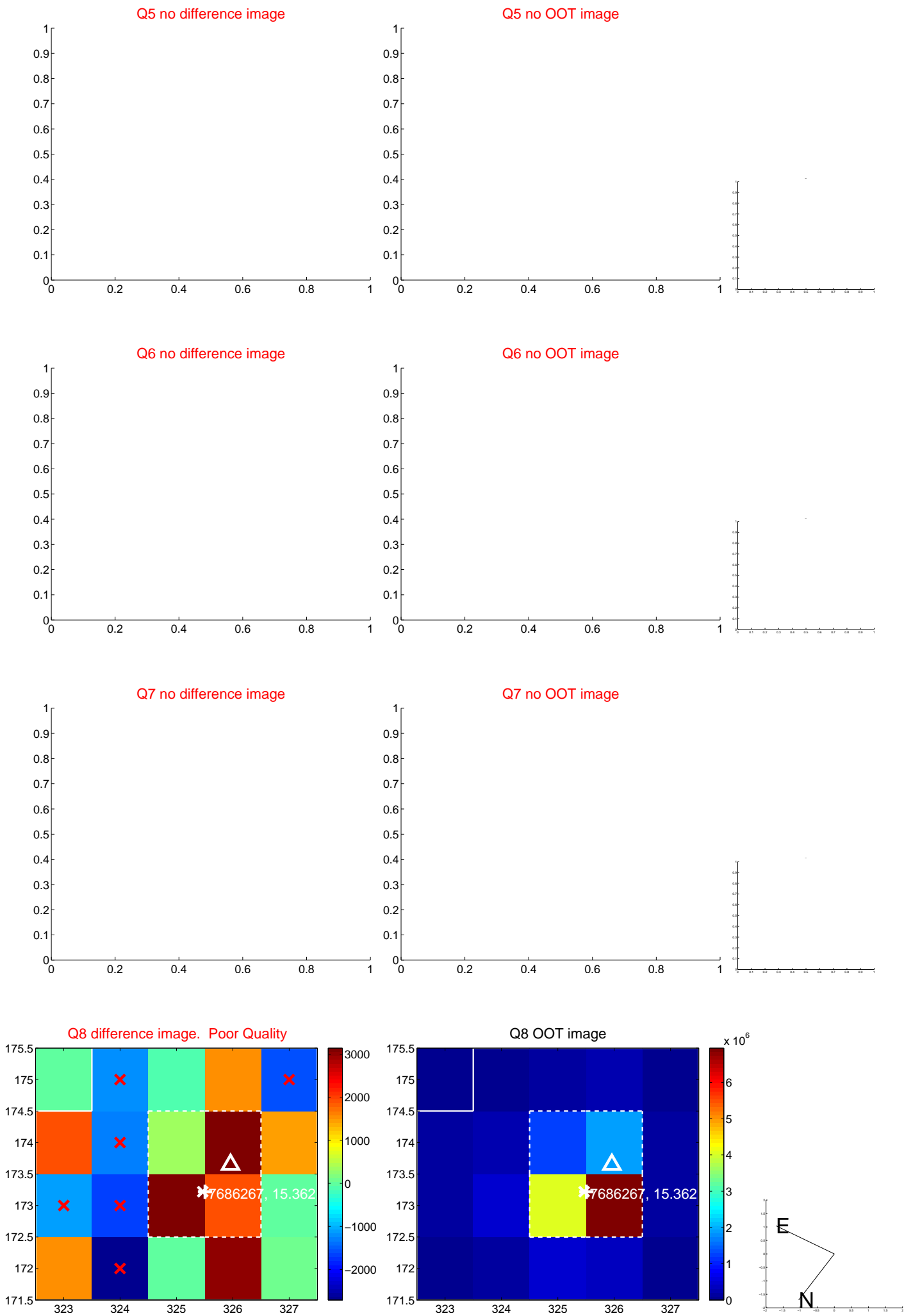
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



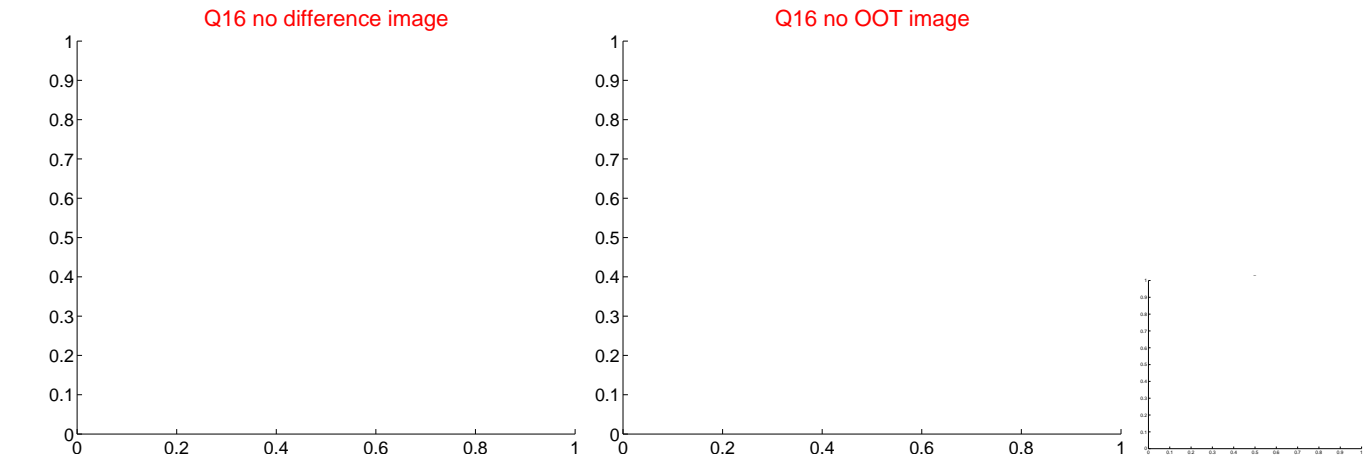
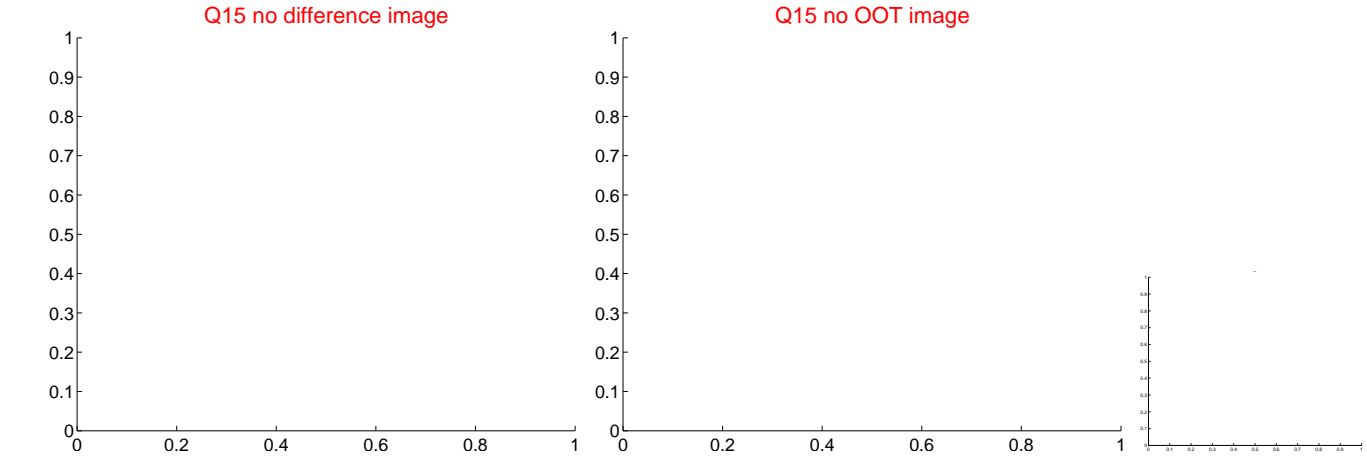
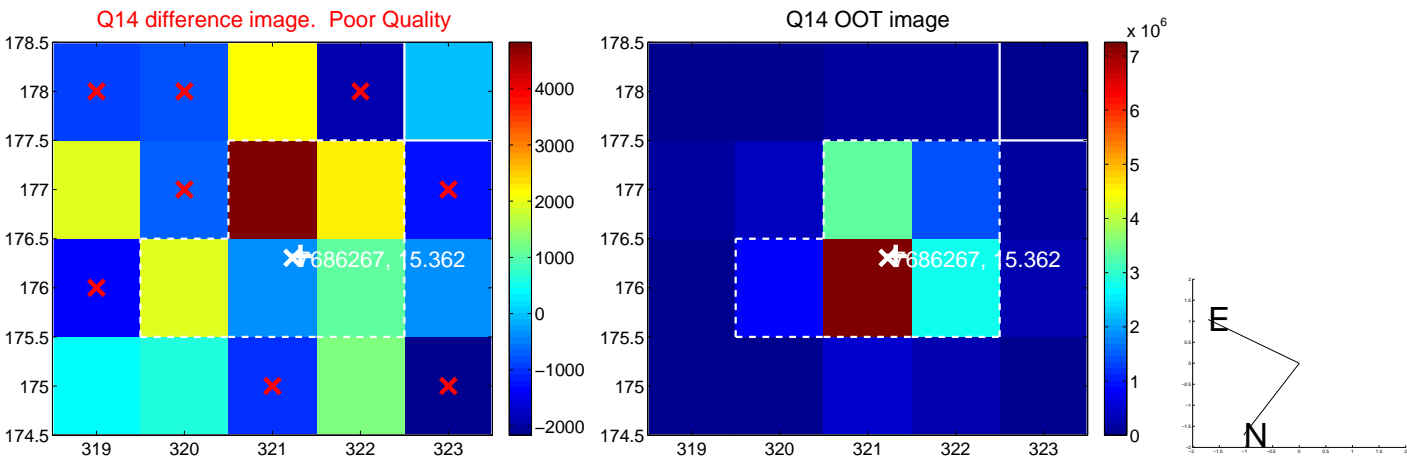
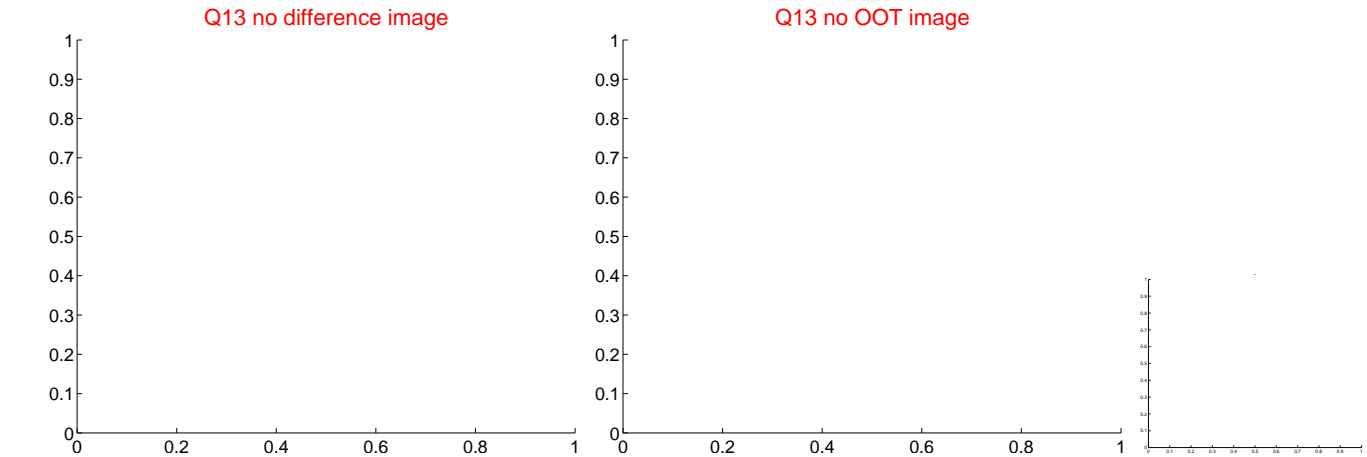
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



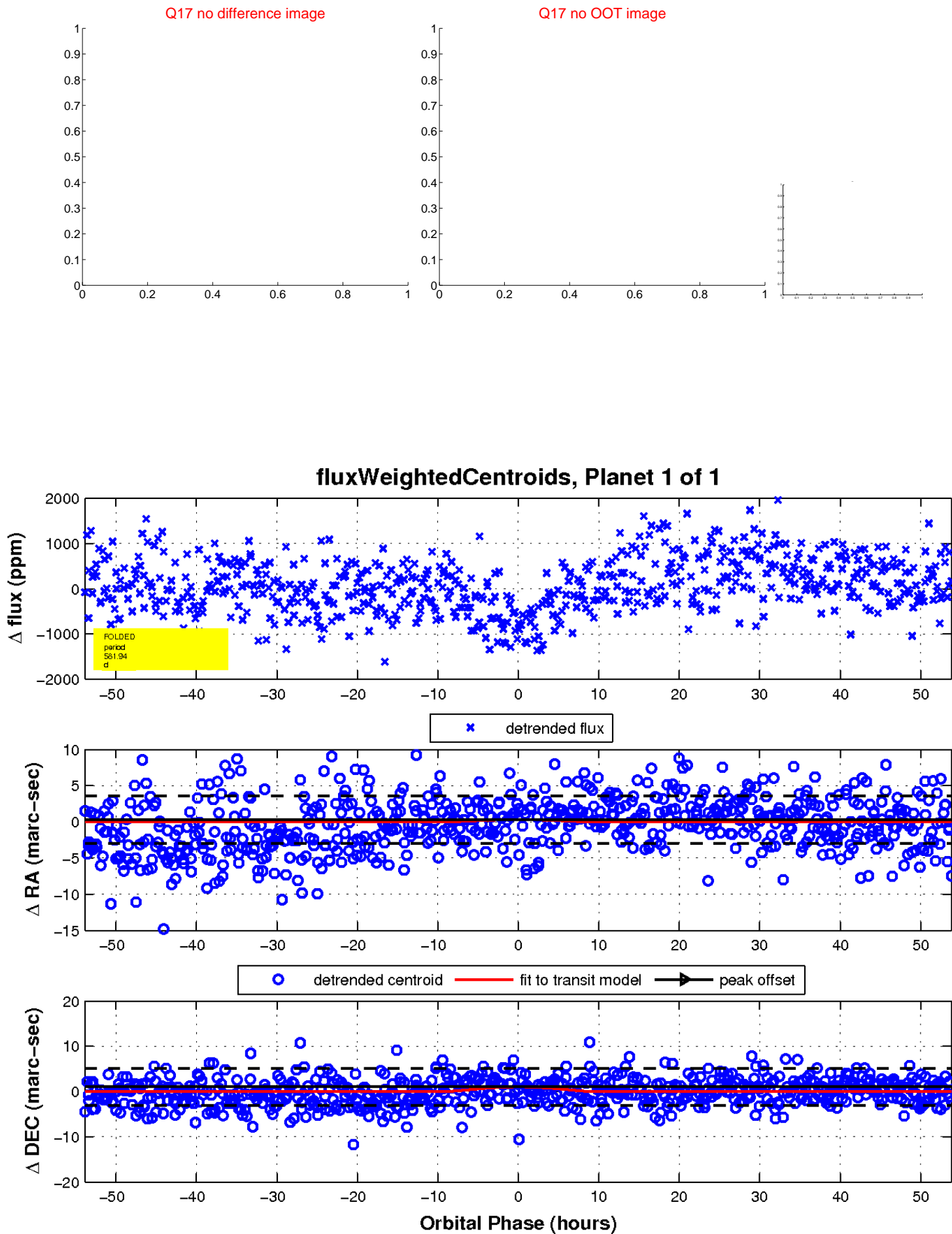
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

