

# KIC 009467126

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009467126-01	OBS	No	560.023801	301.348278	465.5	24.766	7.8	8.3	0.95	6117	2.65	0.63

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009467126-01	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.

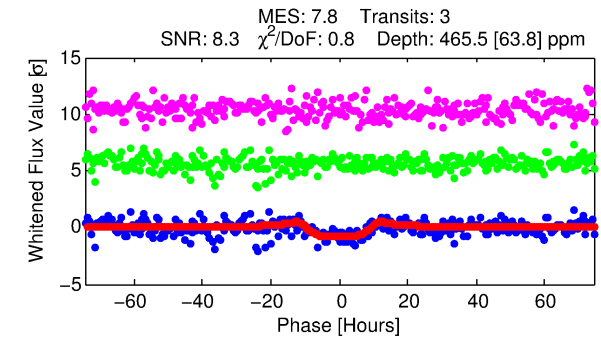
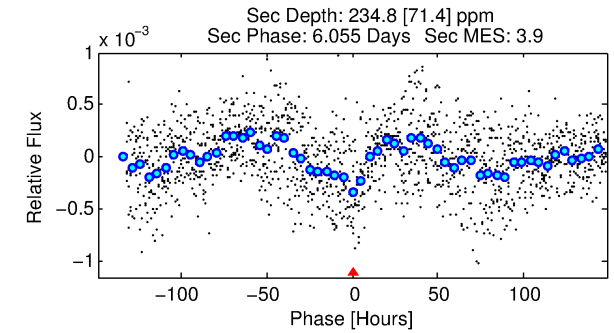
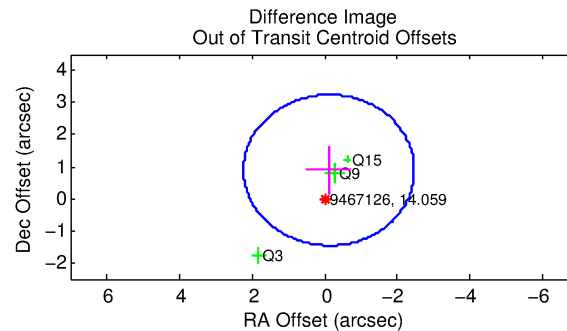
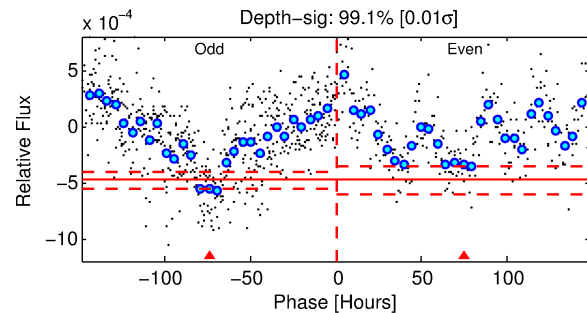
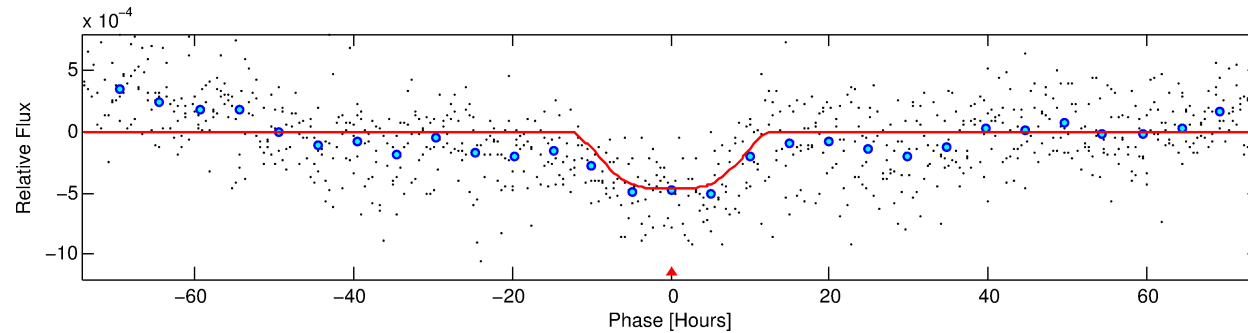
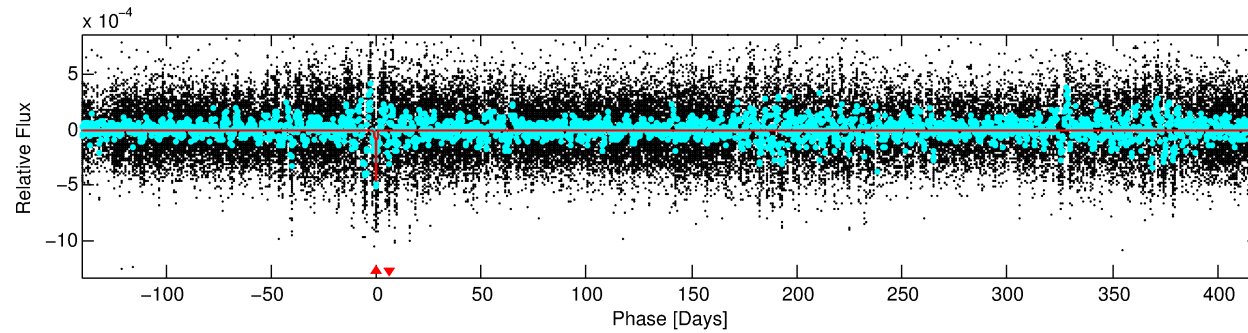
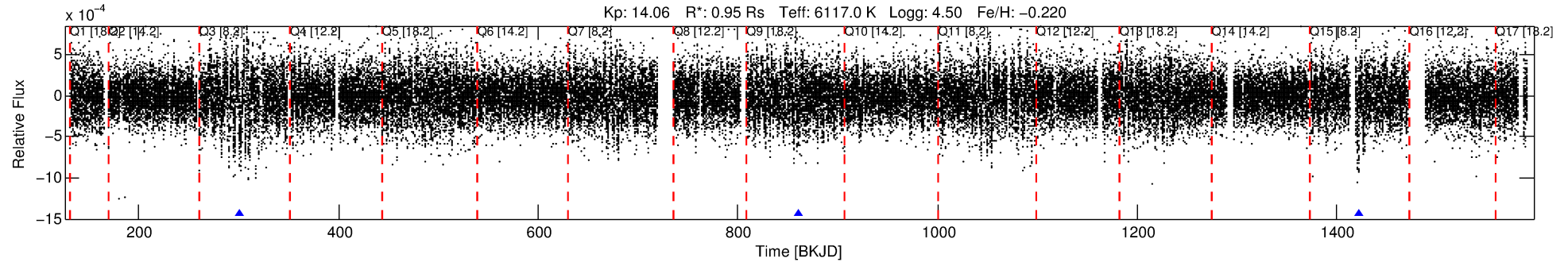
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009467126-01

No Significant Match Found

# DV One-Page Summary

KIC: 9467126 Candidate: 1 of 1 Period: 560.024 d



## DV Fit Results:

Period = 560.02380 [0.02771] d  
Epoch = 301.3483 [0.0390] BKJD  
Rp/R\* = 0.0257 [0.0021]  
a/R\* = 58.66 [8.34]  
b = 0.97 [0.01]  
Seff = 0.63 [0.25]  
Teq = 227 [23] K  
Rp = 2.65 [0.84] Re  
a = 1.3409 [0.3460] AU  
Ag = 32972.37 [16901.51] [1.95 $\sigma$ ]  
Teffp = 4725 [437] K [10.28 $\sigma$ ]

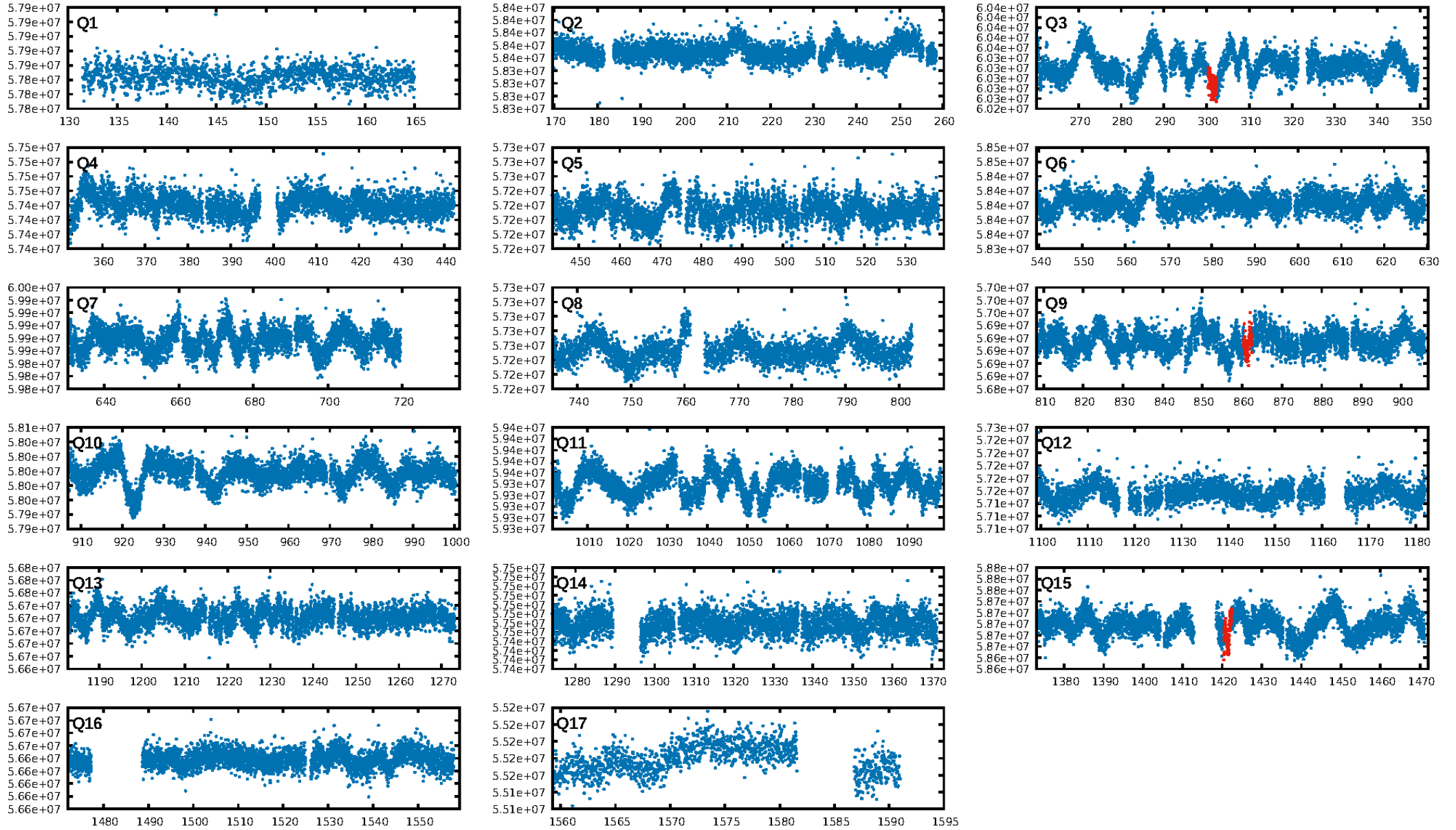
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 8.1%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.25e-09**  
RollingBand-fgt: 1.00 [3/3]  
**GhostDiagnostic-chr: 0.8777**  
Centroid-sig: 0.6%  
Centroid-so: 2.825 arcsec [2.27 $\sigma$ ]  
OotOffset-rm: 0.899 arcsec [1.15 $\sigma$ ]  
OotOffset-st: 0/2/0/1 [3]  
KicOffset-rm: 0.859 arcsec [1.21 $\sigma$ ]  
KicOffset-st: 0/2/0/1 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

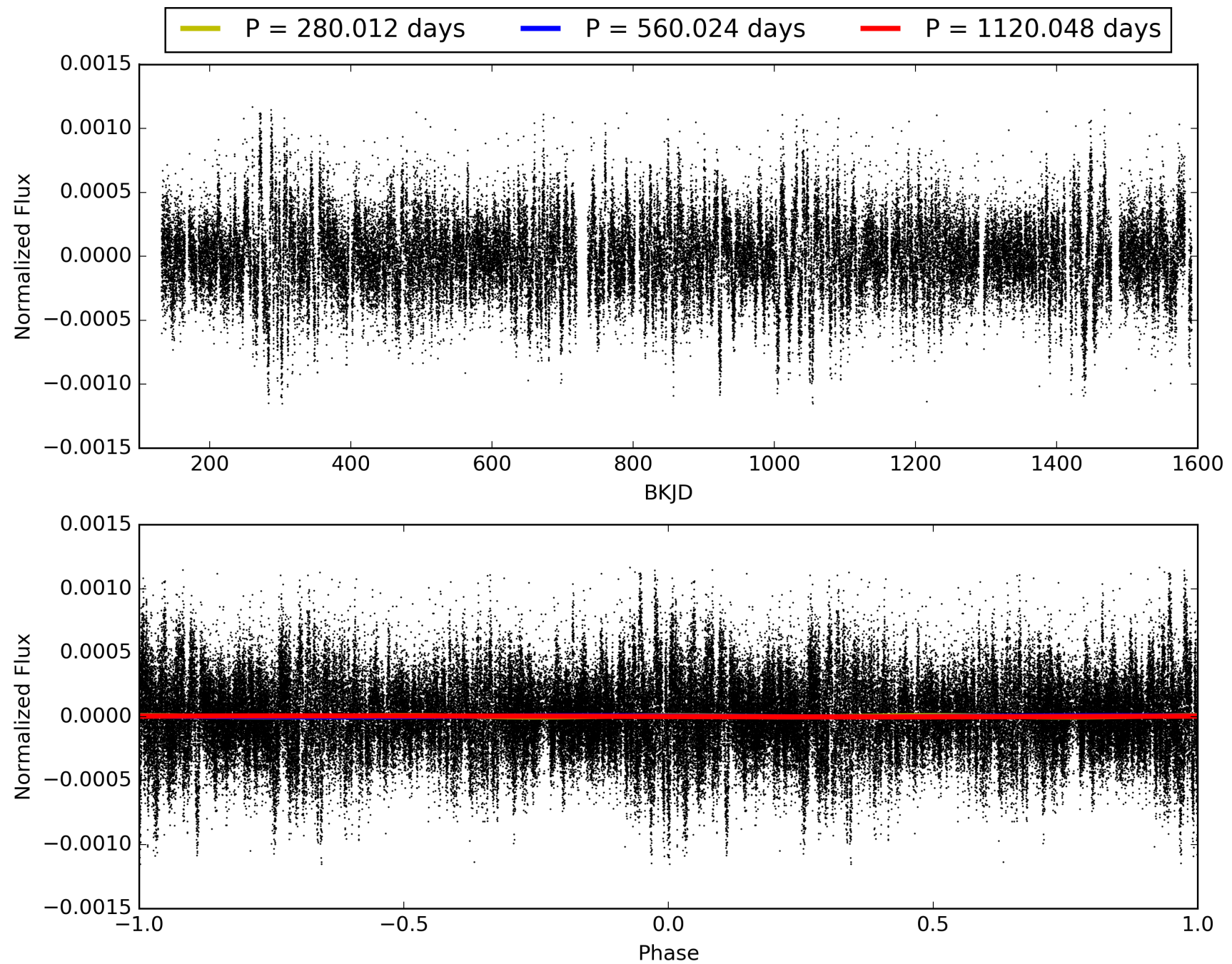
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:38:36 Z

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

# TCE 009467126-01, PDC Light Curves

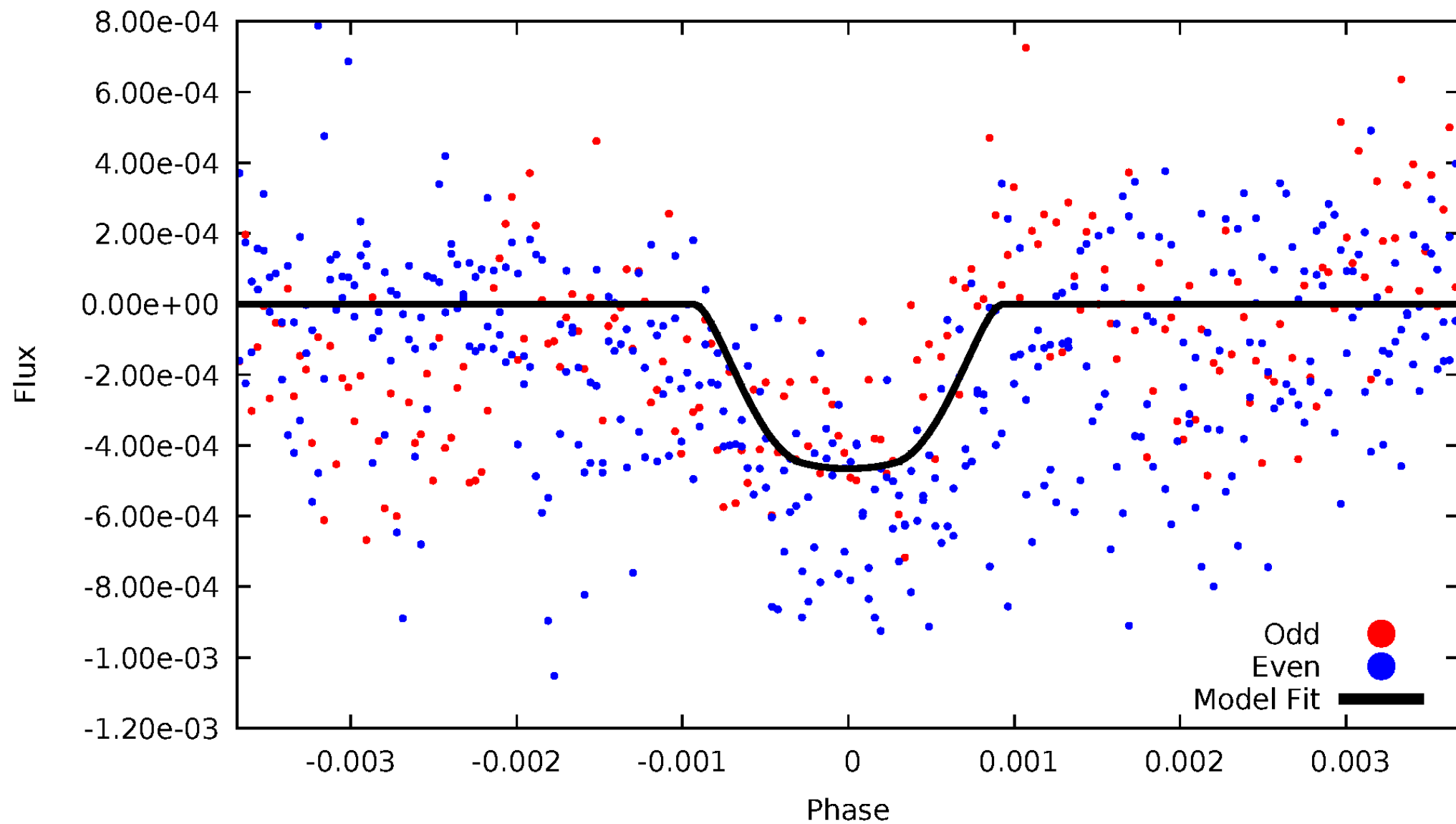


TCE 009467126-01



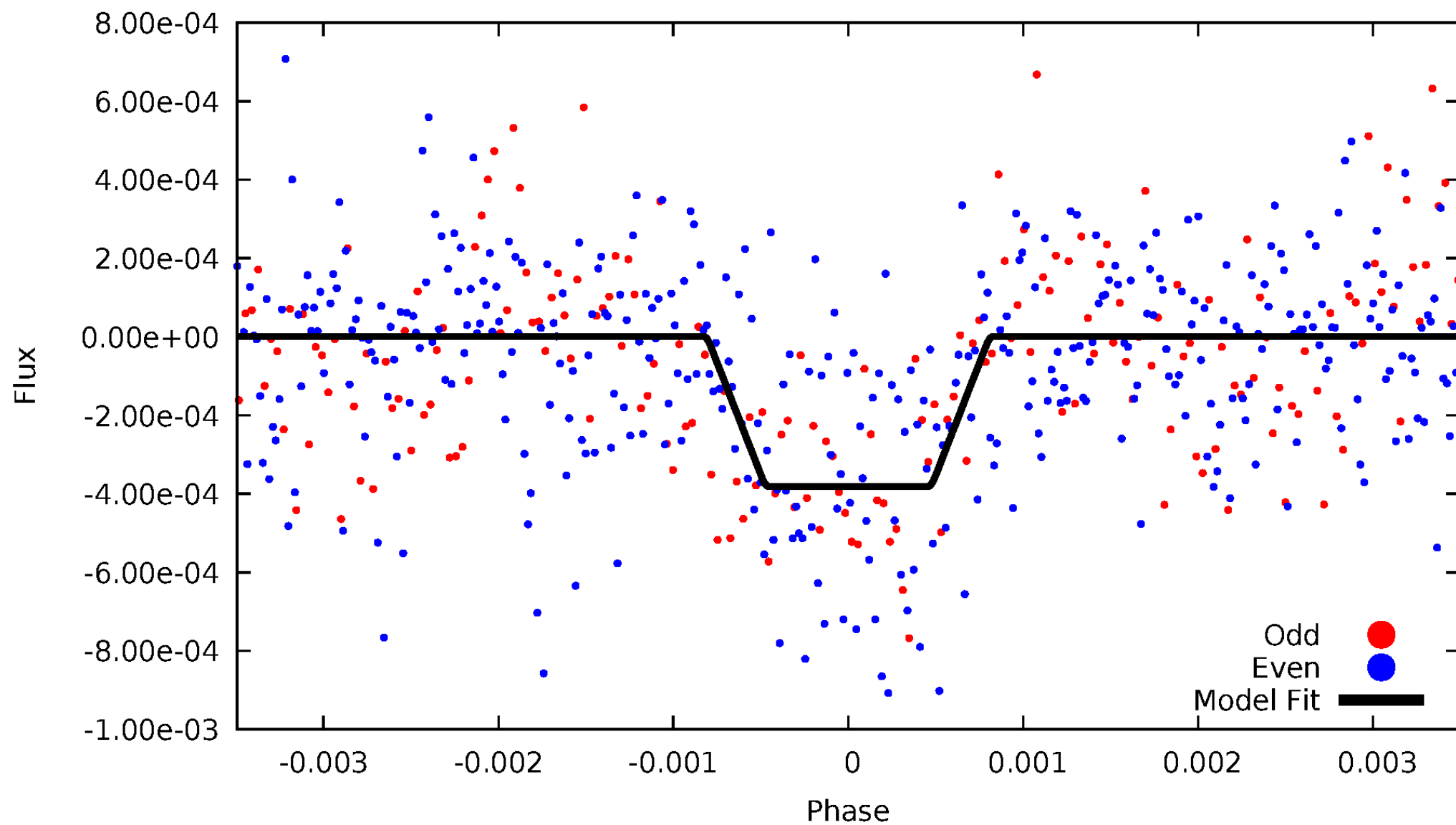
# DV Odd/Even

TCE 009467126-01

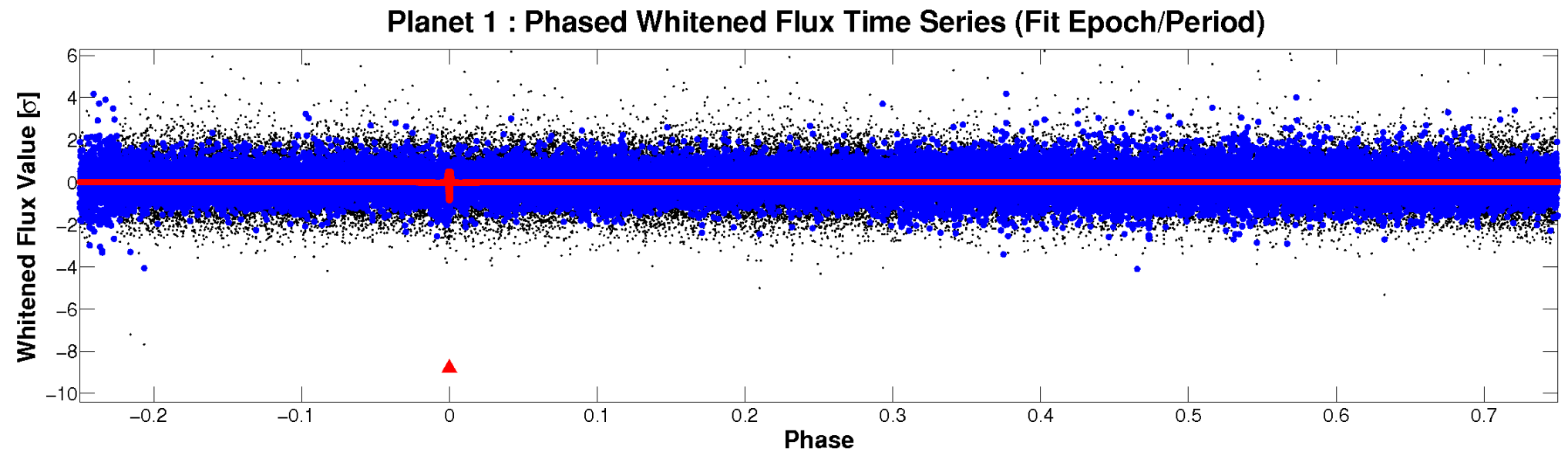
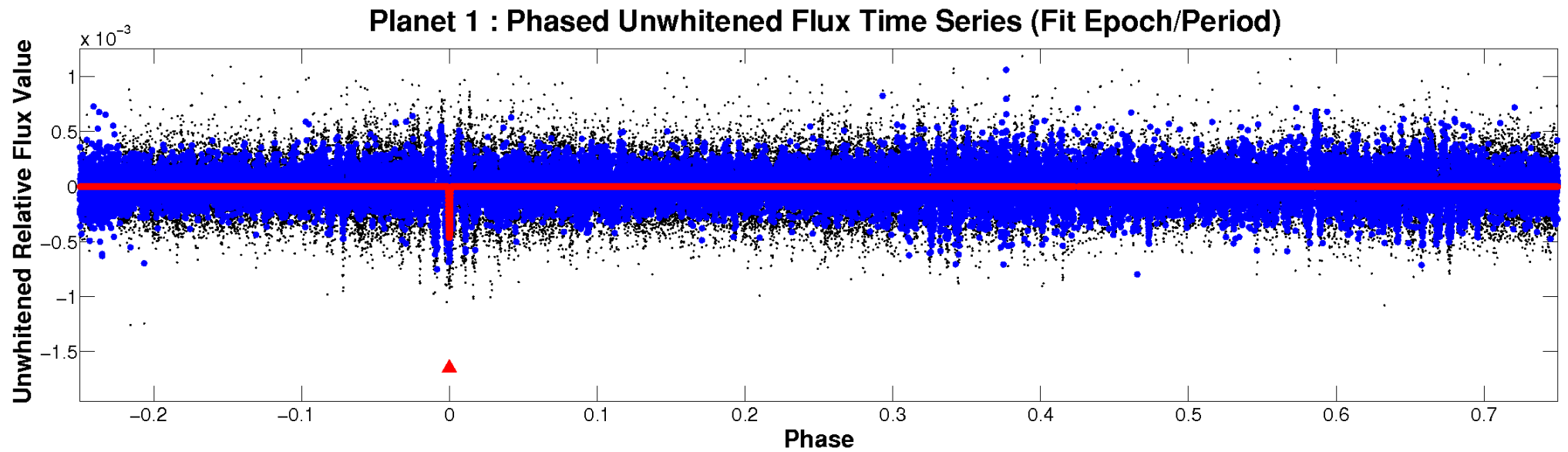


# ALT Odd/Even

TCE 009467126-01



# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

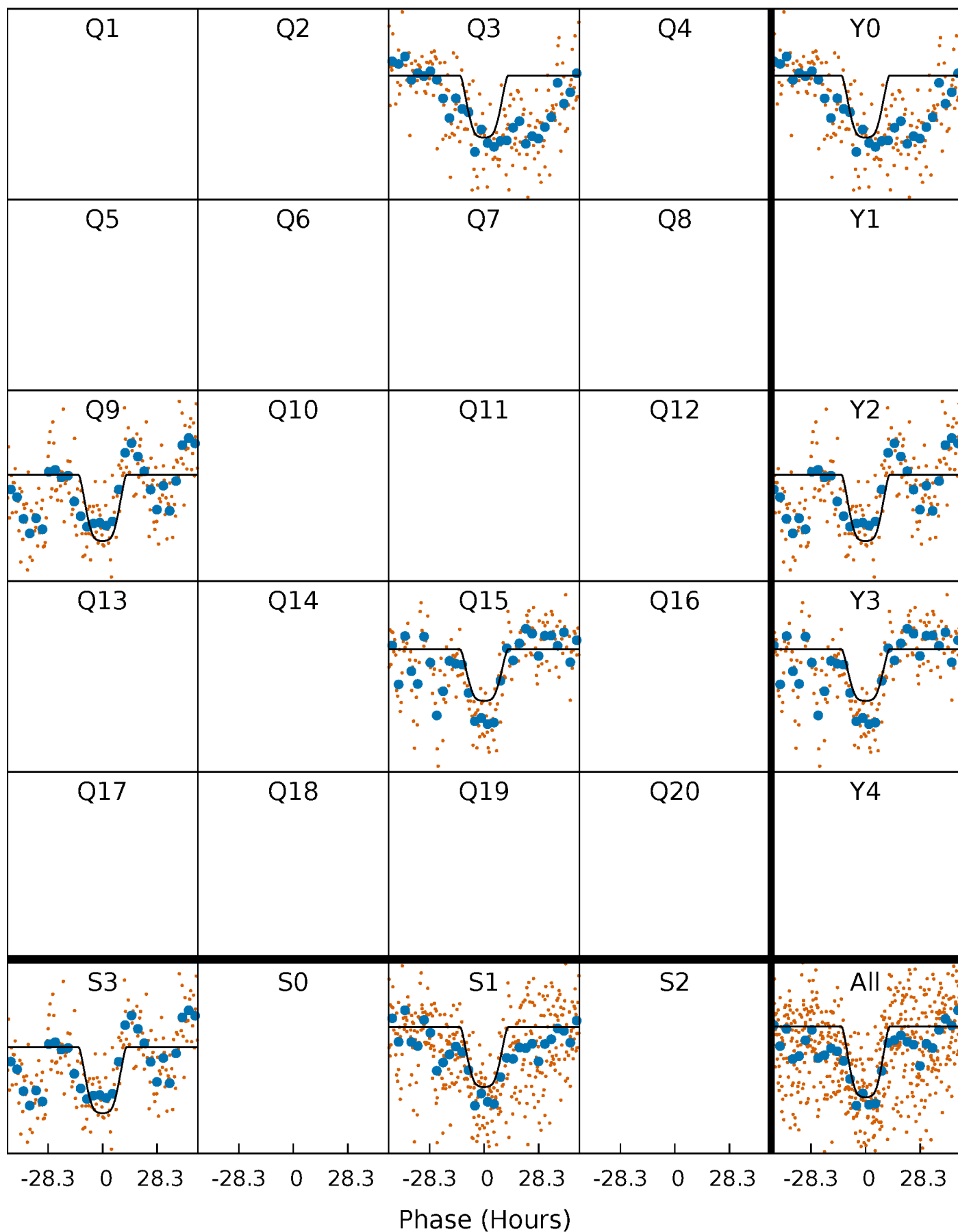
TCE 009467126-01 P=560.023800 Days  $T_0=301.348278$  (BKJD)





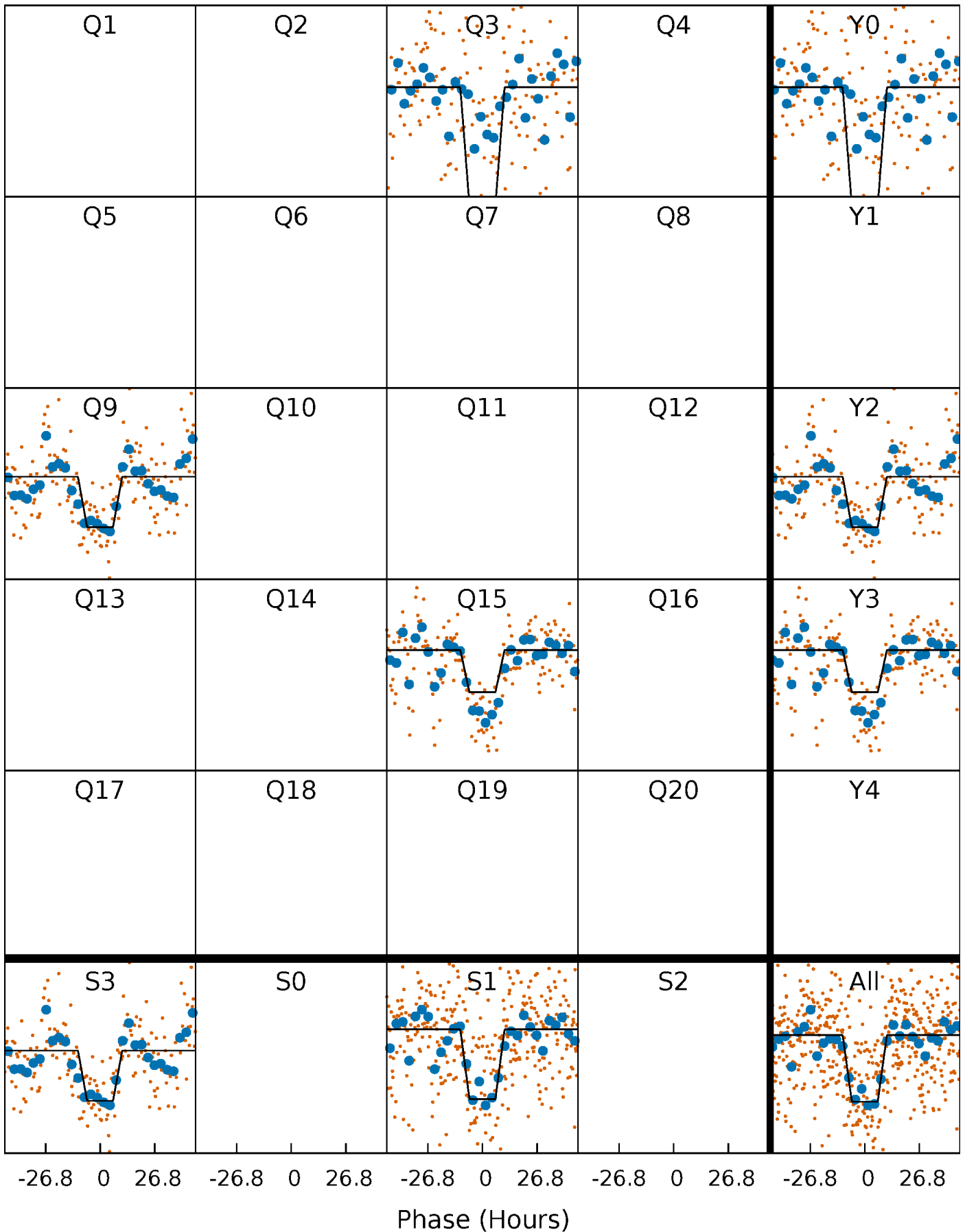
# DV Quarter-Phased Transit Curves

TCE 009467126-01 P=560.023800 Days  $T_0=301.348278$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

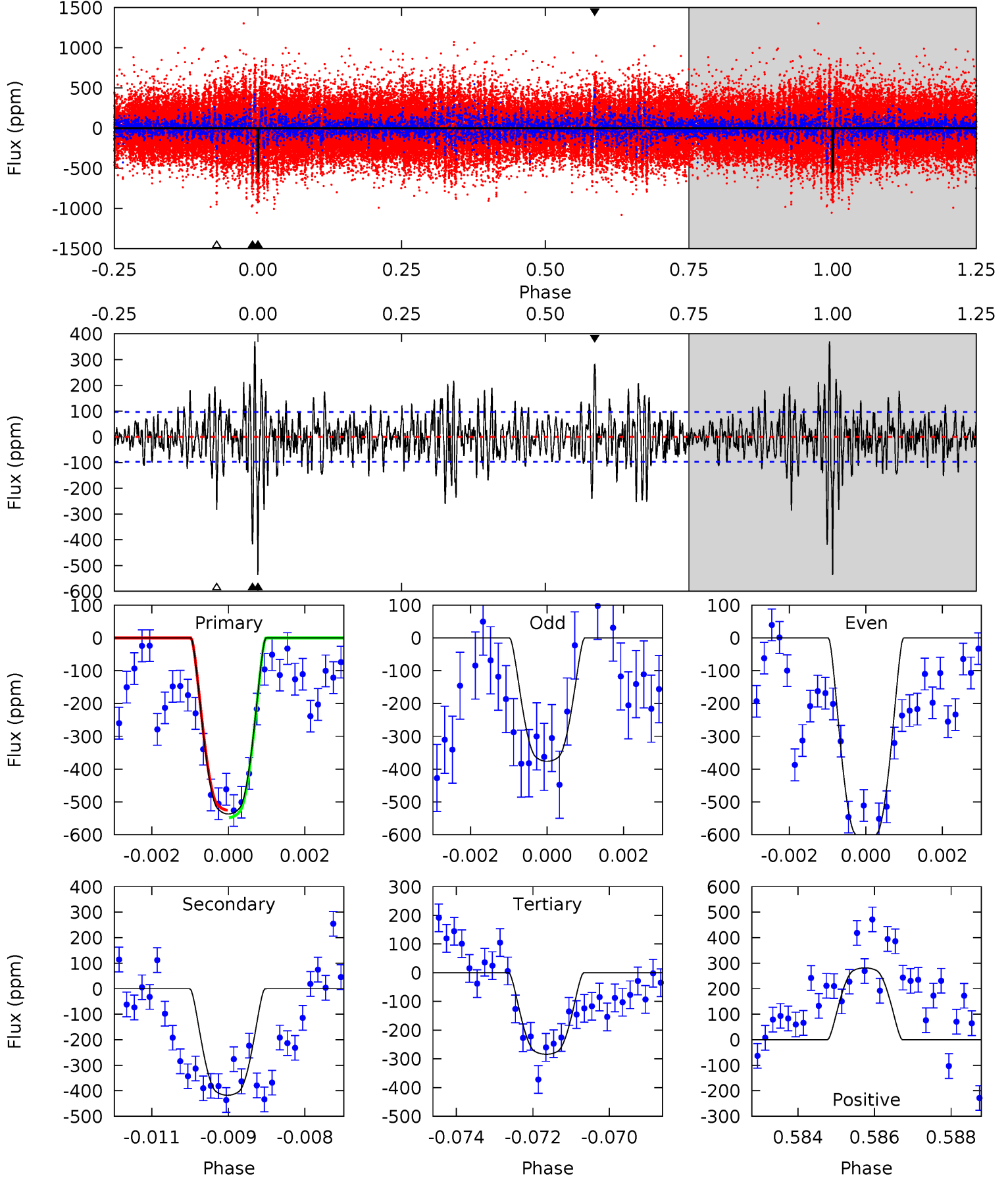
TCE 009467126-01 P=560.008956 Days  $T_0=301.359788$  (BKJD)



# DV Model-Shift Uniqueness Test

009467126-01, P = 560.023800 Days, E = 301.348278 Days

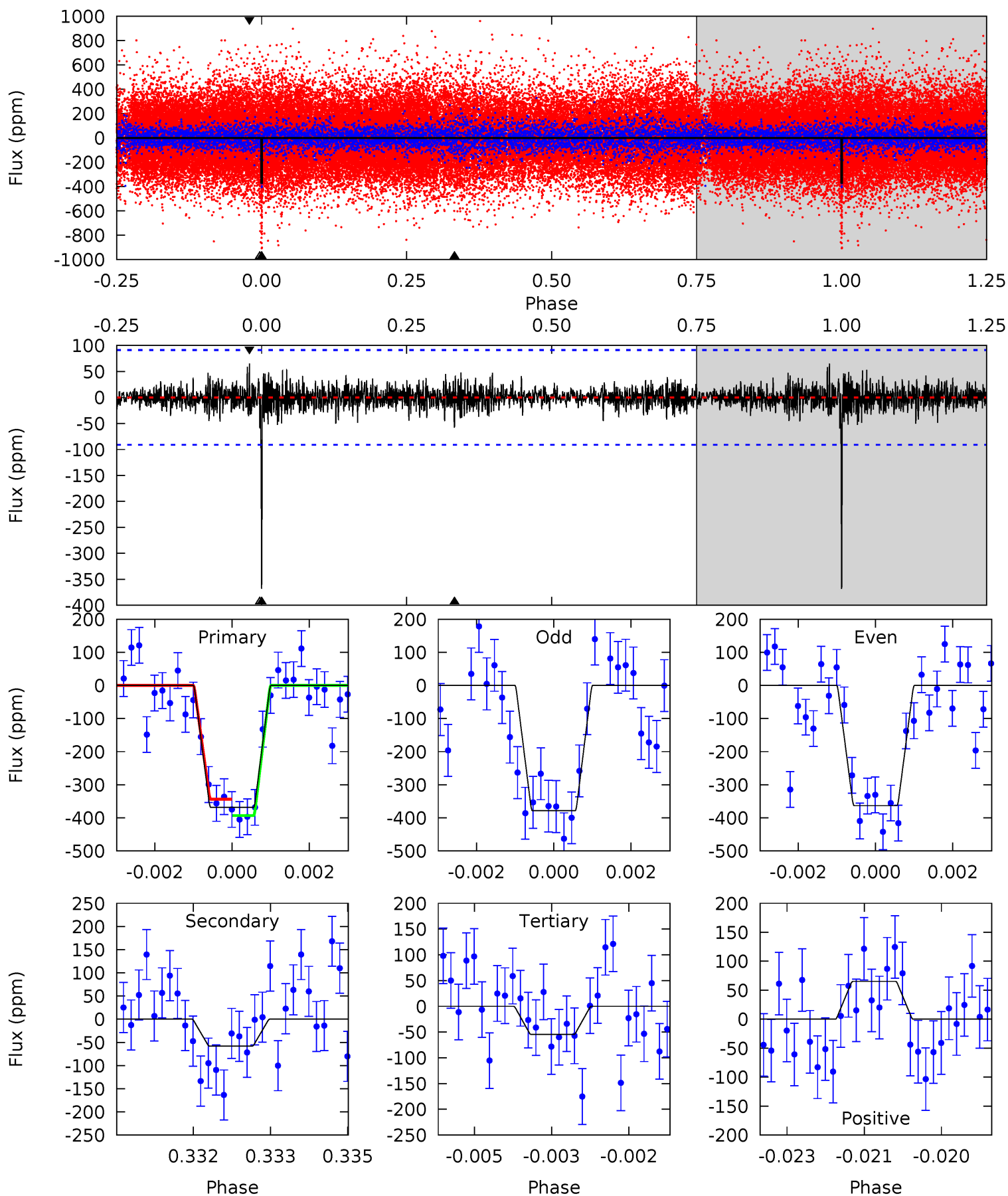
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.7	23.1	15.7	15.6	5.34	3.11	4.03	14.0	14.1	7.38	7.52	6.24	0.96	0.41	0.63



# Alt Model-Shift Uniqueness Test

009467126-01, P = 560.008956 Days, E = 301.359788 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
21.6	3.40	3.20	3.83	5.36	3.15	0.85	18.4	17.8	0.20	-0.43	0.42	0.97	0.15	1.46



### Stellar Parameters For KIC 009467126

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6117^{+164}_{-200}$	$4.496^{+0.052}_{-0.208}$	$-0.220^{+0.250}_{-0.350}$	$0.947^{+0.288}_{-0.096}$	$1.025^{+0.125}_{-0.139}$	$1.702^{+0.444}_{-0.846}$
	+3%/-3%	+1%/-5%	+114%/-159%	+30%/-10%	+12%/-14%	+26%/-50%
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 009467126-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-418 \pm 18$	$2.78^{+0.45}_{-0.35}$	$324^{+24}_{-16}$	$5461^{+269}_{-235}$	$52294^{+13611}_{-13193}$
Alt.	$-58 \pm 17$	$2.09^{+0.38}_{-0.30}$	$323^{+22}_{-16}$	$4115^{+297}_{-293}$	$12623^{+6262}_{-4699}$

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

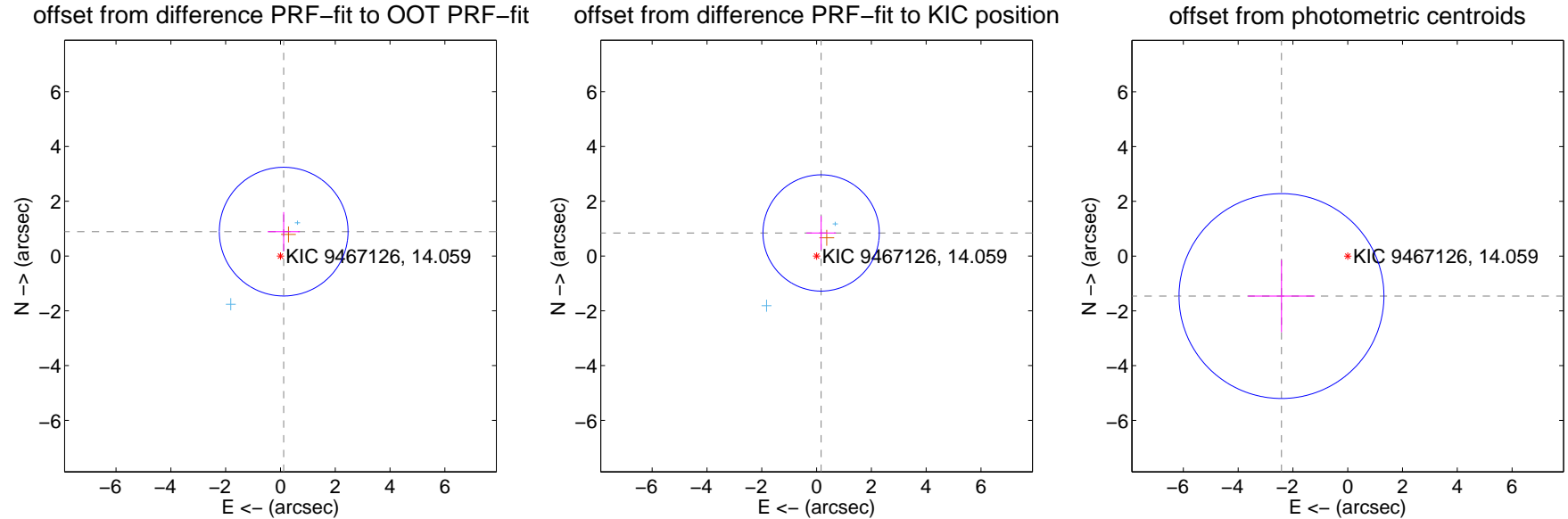
## DV Centroid Data

Supplemental centroid analysis for 009467126-01. Kepler magnitude: 14.06. Transit SNR 8.28

There are 2 quarters with good PRF difference image offsets

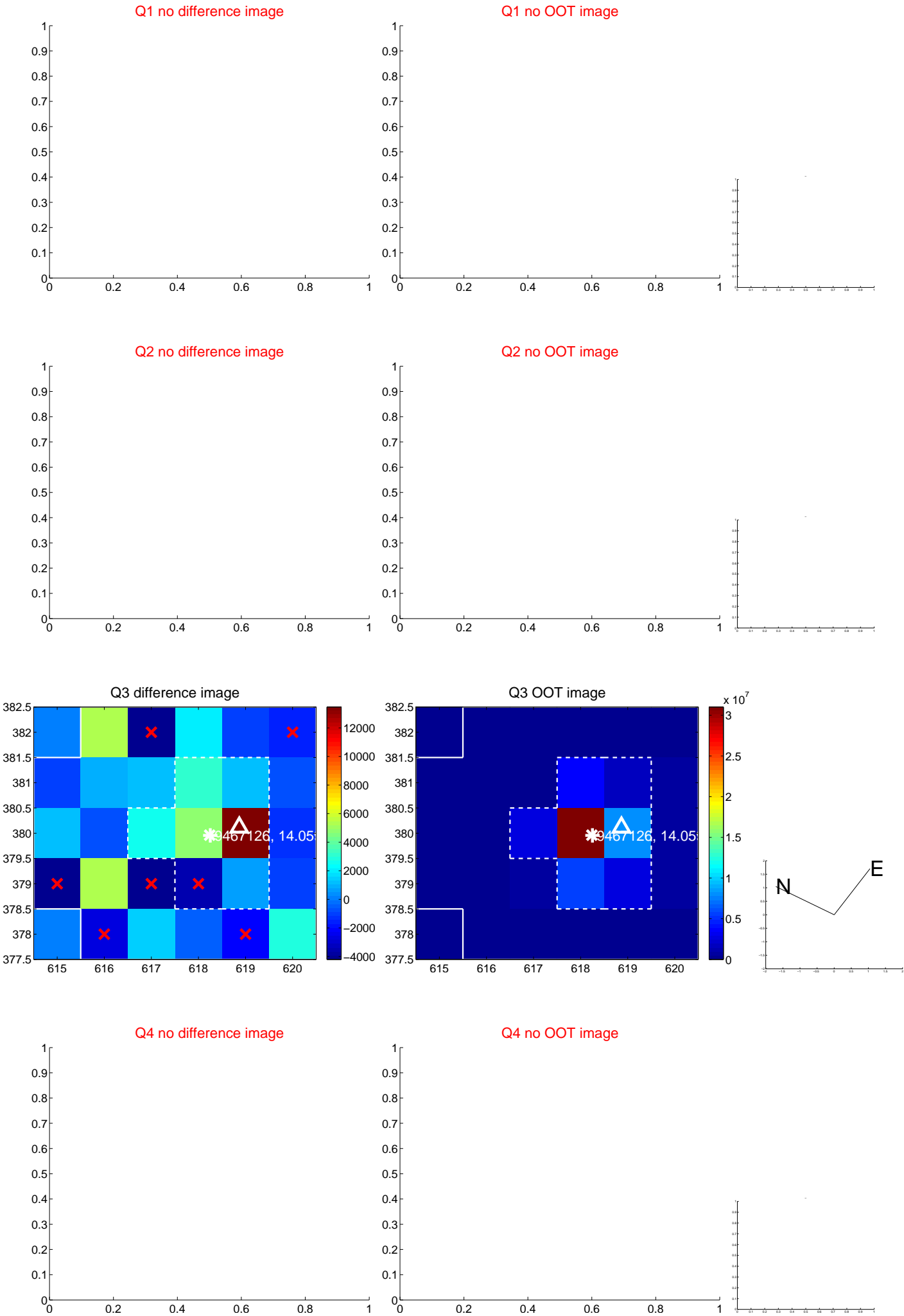
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.899 \pm 0.783$	1.15	$-0.118 \pm 0.587$	$0.891 \pm 0.713$
PRF-fit source offset from KIC position	$0.859 \pm 0.708$	1.21	$-0.167 \pm 0.538$	$0.843 \pm 0.616$
photometric centroid source offset	$2.83 \pm 1.25$	2.27	$2.42 \pm 1.22$	$-1.46 \pm 1.32$



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.

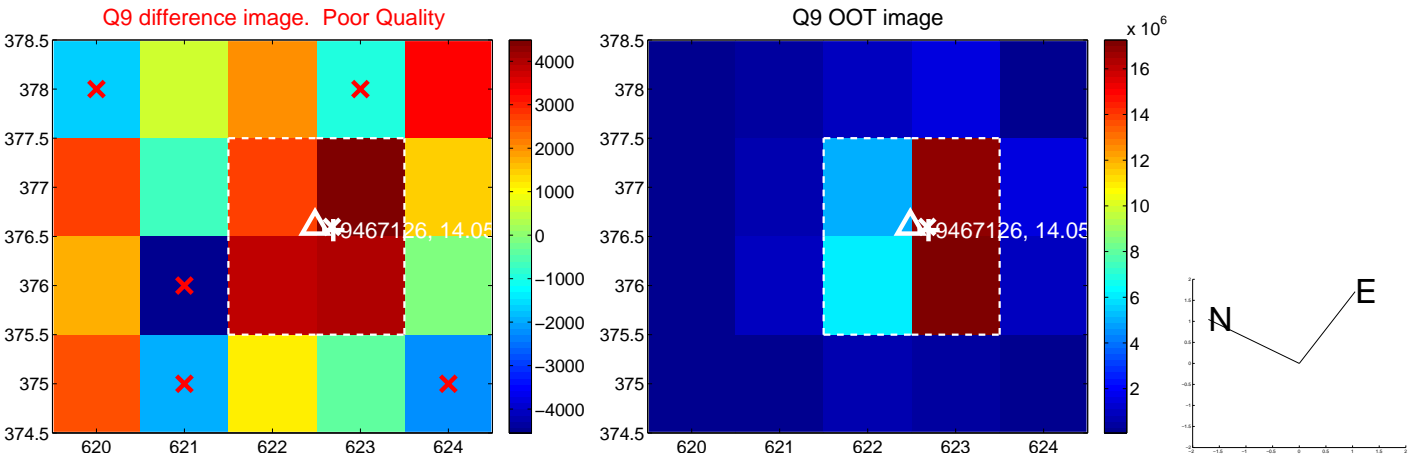




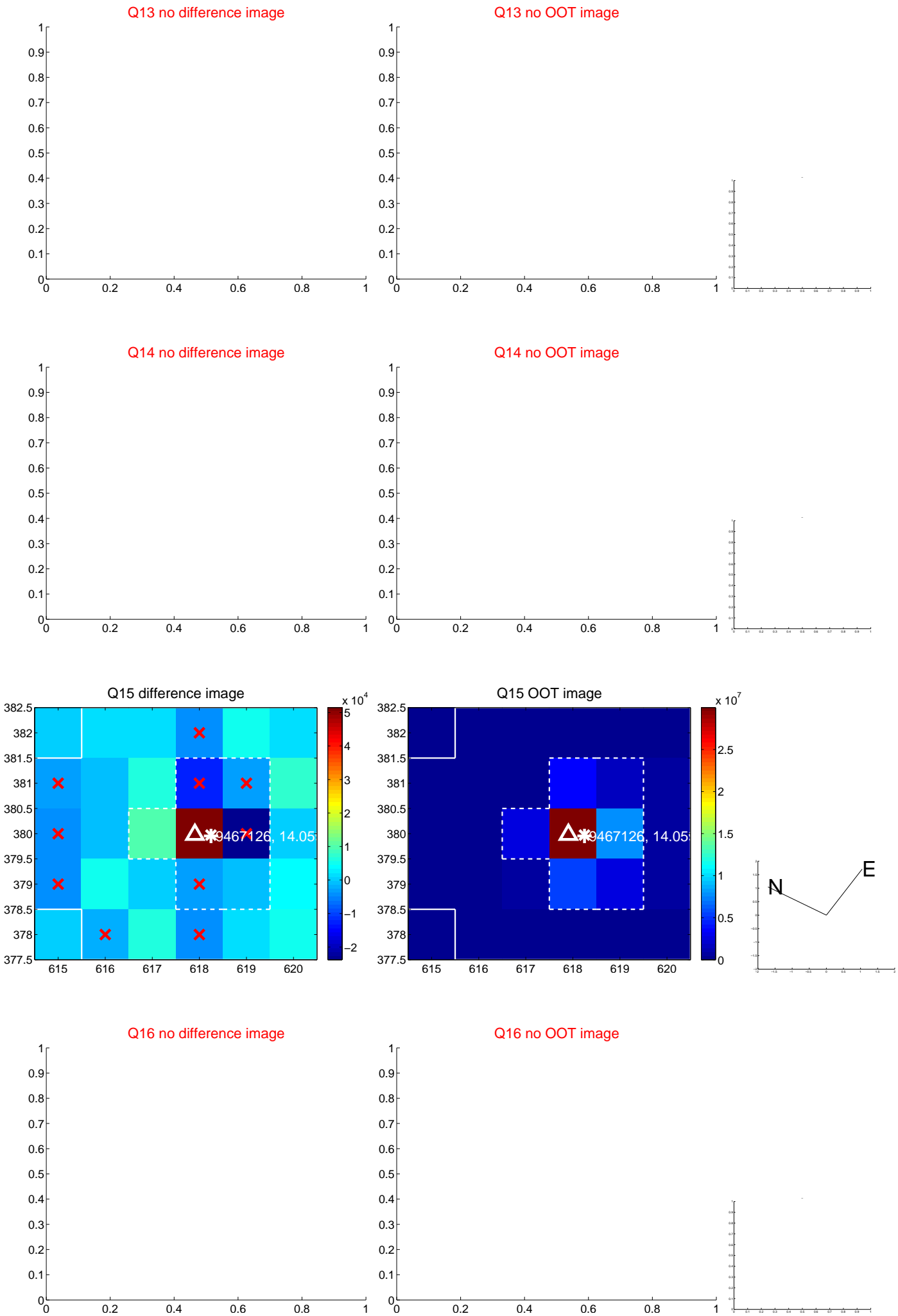
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



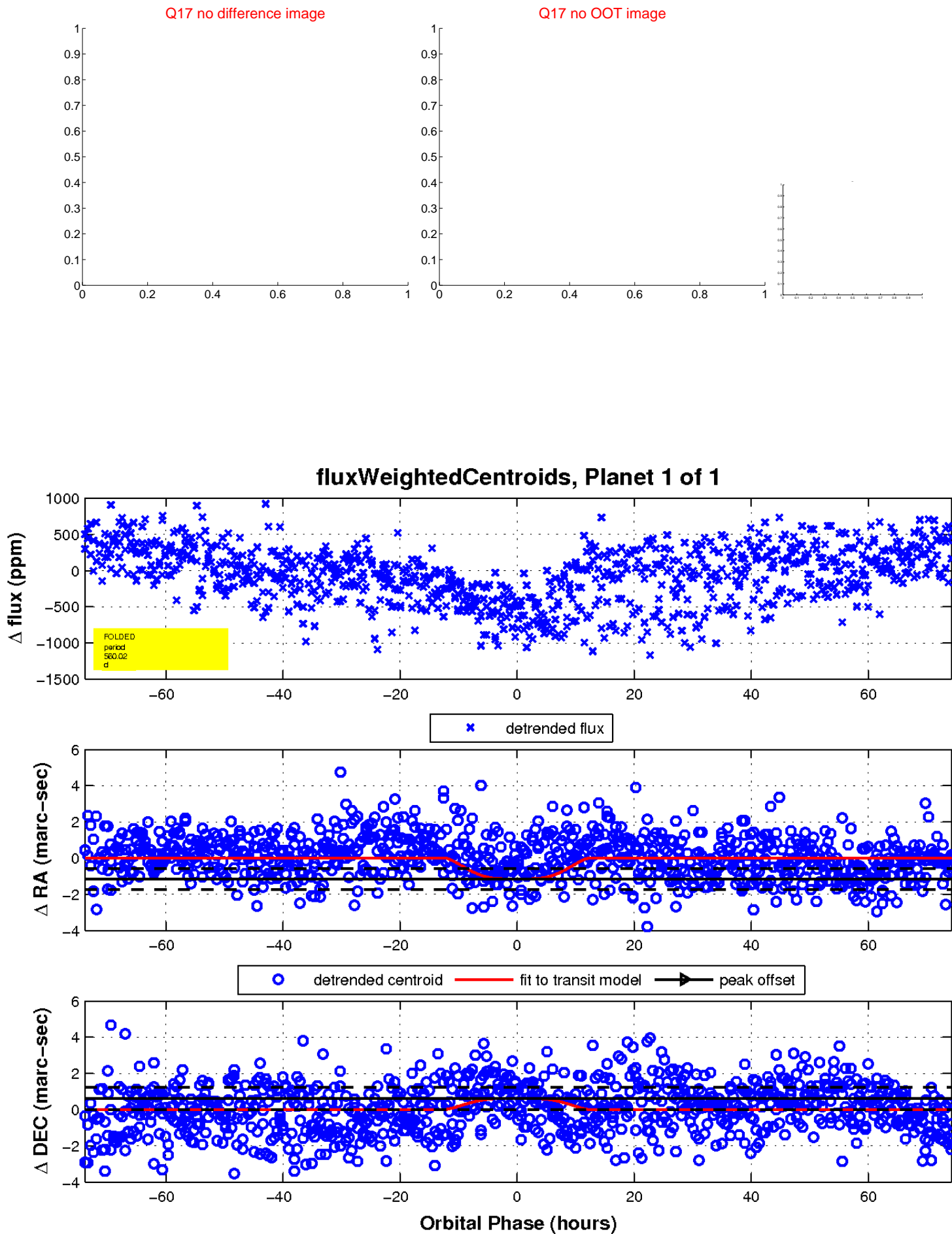
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



white  $\times$ : 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

