

# KIC 006359926

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006359926-01	OBS	4391.01	49.475027	166.132258	286.1	10.371	13.0	13.8	0.93	5952	1.66	14.52

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006359926-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

**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.

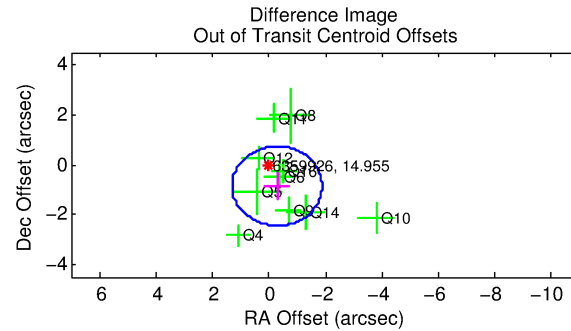
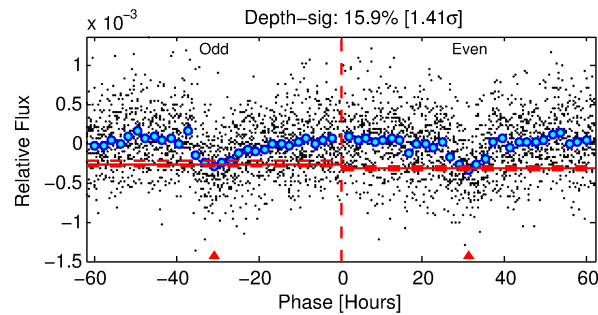
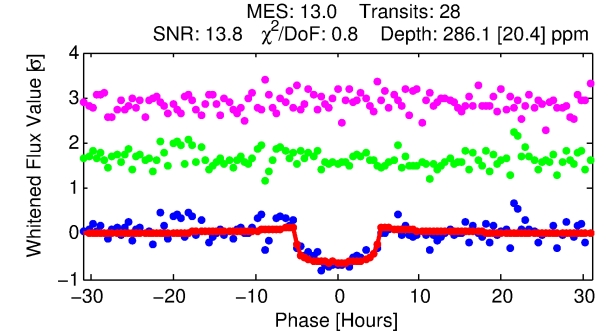
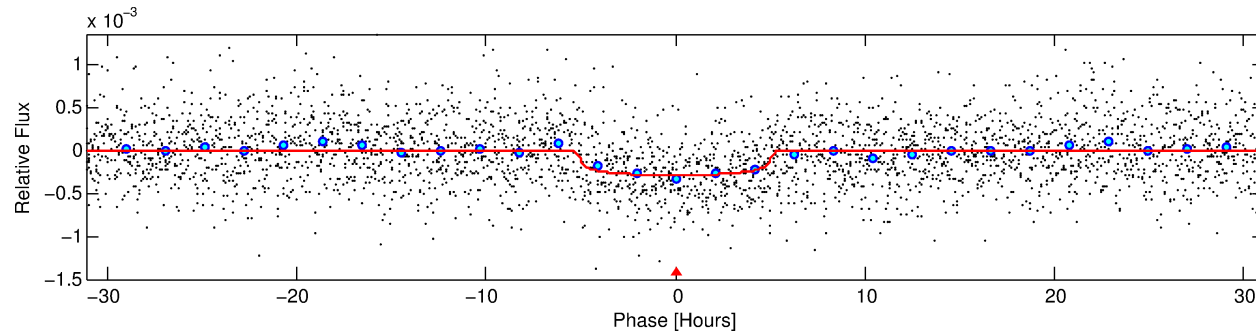
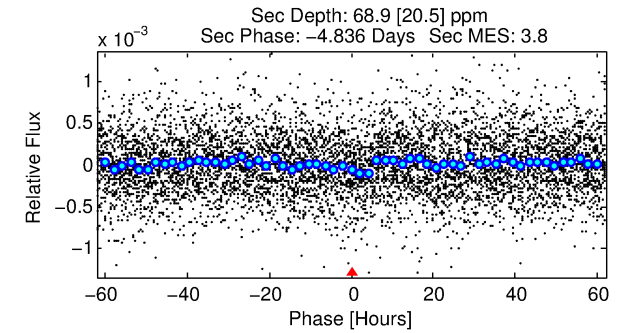
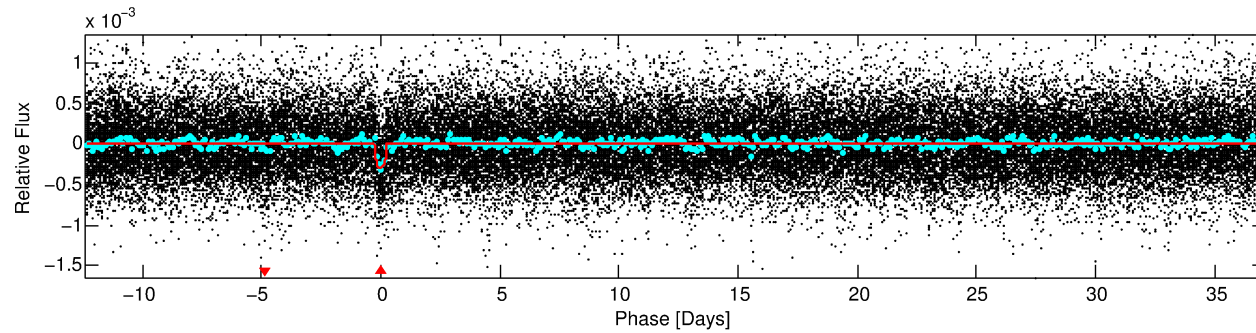
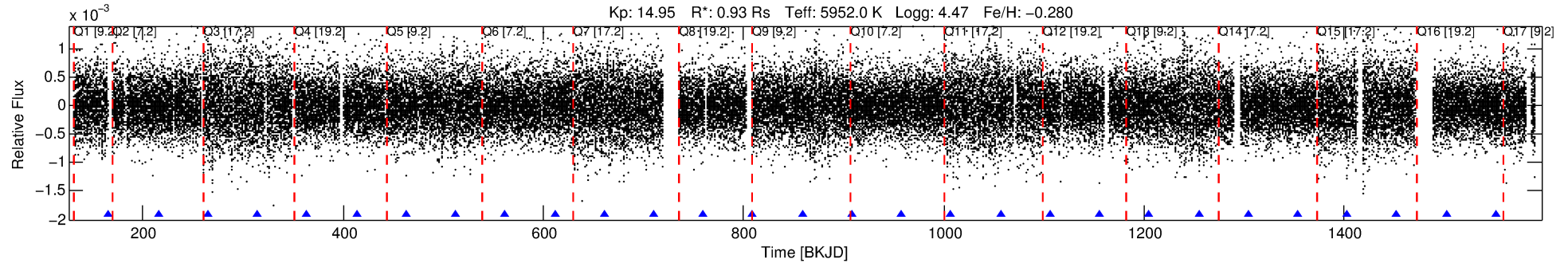
## Ephemeris Match Information For 006359926-01

No Significant Match Found

# DV One-Page Summary

KIC: 6359926 Candidate: 1 of 1 Period: 49.475 d

KOI: K04391.01 Corr: 0.996



## DV Fit Results:

Period = 49.47503 [0.00067] d  
Epoch = 166.1323 [0.0114] BKJD  
Rp/R\* = 0.0164 [0.0067]  
a/R\* = 28.03 [55.28]  
b = 0.66 [1.67]  
Seff = 14.52 [5.33]  
Teff = 498 [46] K  
Rp = 1.66 [0.83] Re  
a = 0.2582 [0.0618] AU  
Ag = 916.07 [855.48] [1.07σ]  
Teffp = 4234 [927] K [4.03σ]

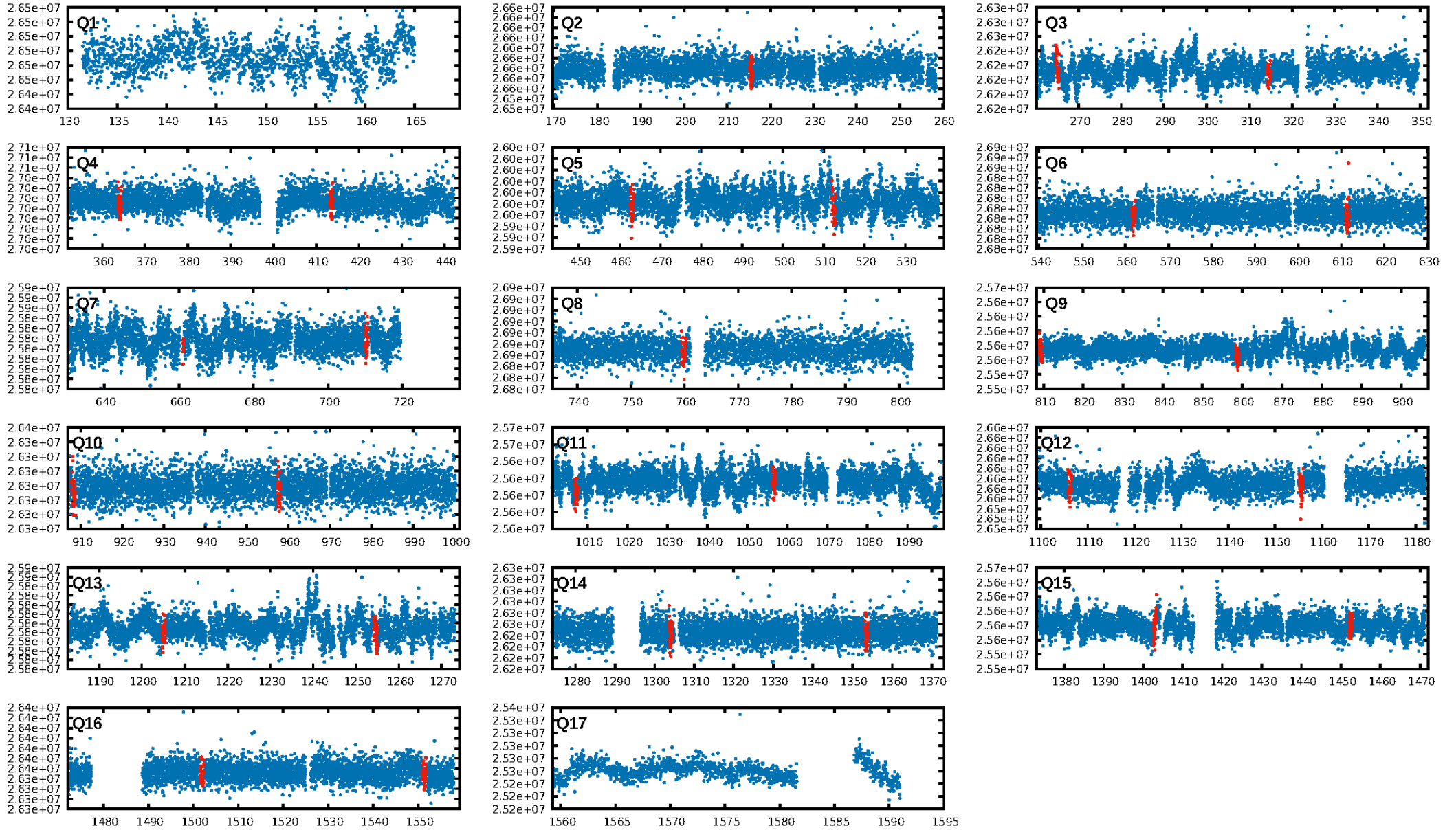
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.81e-36  
RollingBand-fgt: 1.00 [28/28]  
GhostDiagnostic-chr: 2.946  
Centroid-sig: 20.8%  
Centroid-so: 1.180 arcsec [0.99σ]  
OotOffset-rm: 0.906 arcsec [1.71σ]  
KicOffset-rm: 1.057 arcsec [2.01σ]  
OotOffset-st: 3/1/4/2 [10]  
KicOffset-st: 3/1/4/2 [10]  
DiffImageQuality-fgm: 0.90 [9/10]  
DiffImageOverlap-fno: 1.00 [14/14]

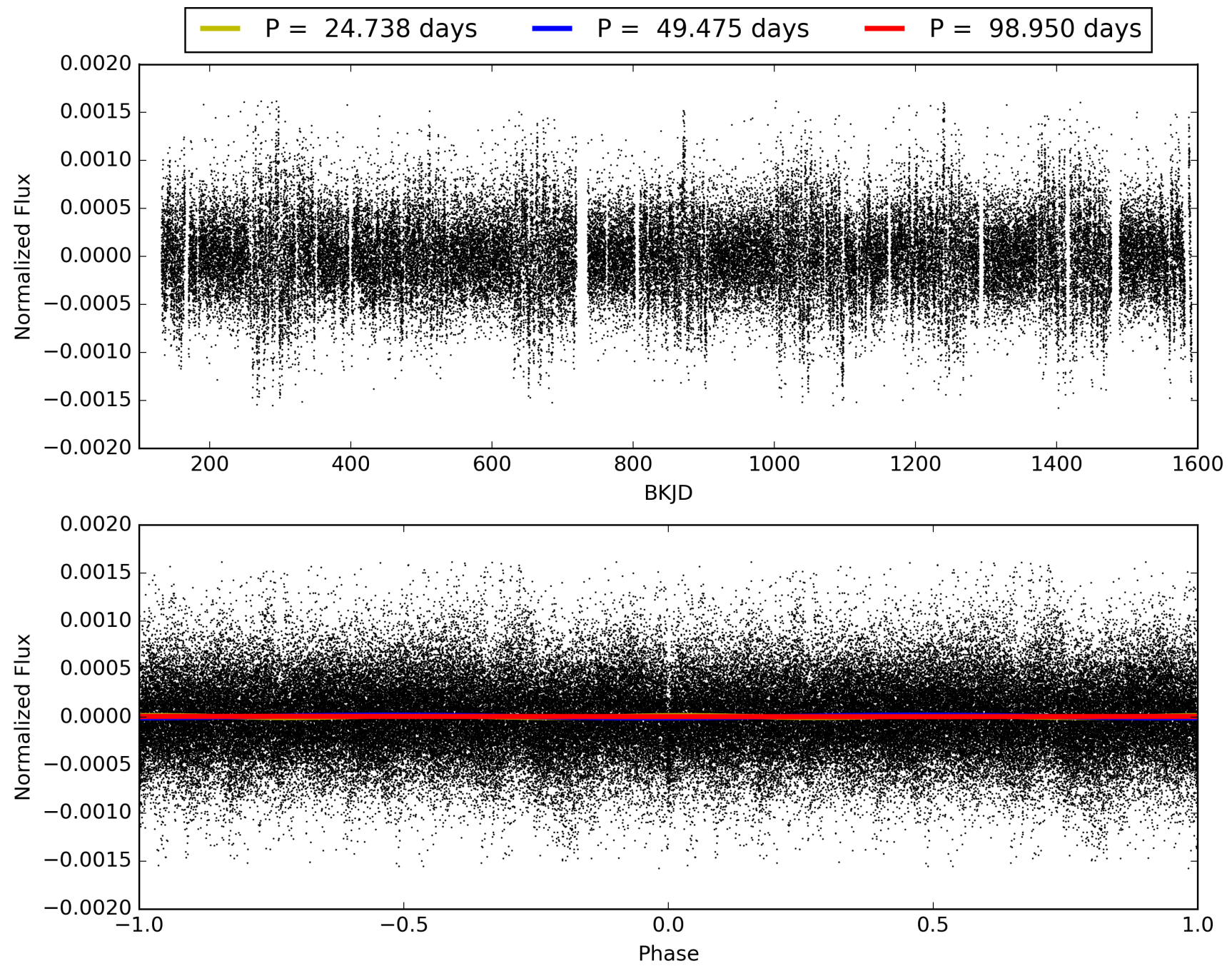
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:10:11 Z

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

# TCE 006359926-01, PDC Light Curves

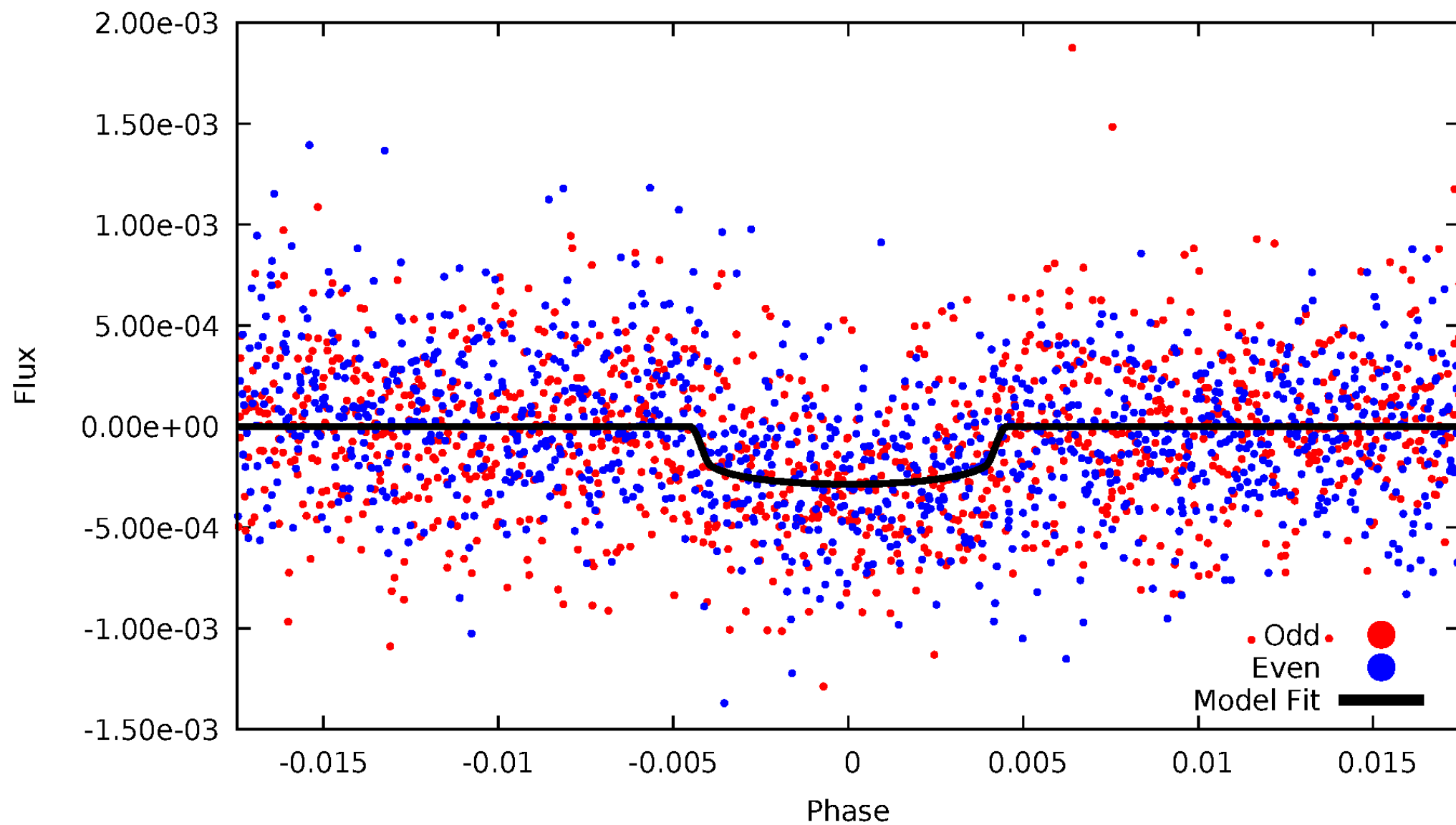


TCE 006359926-01



# DV Odd/Even

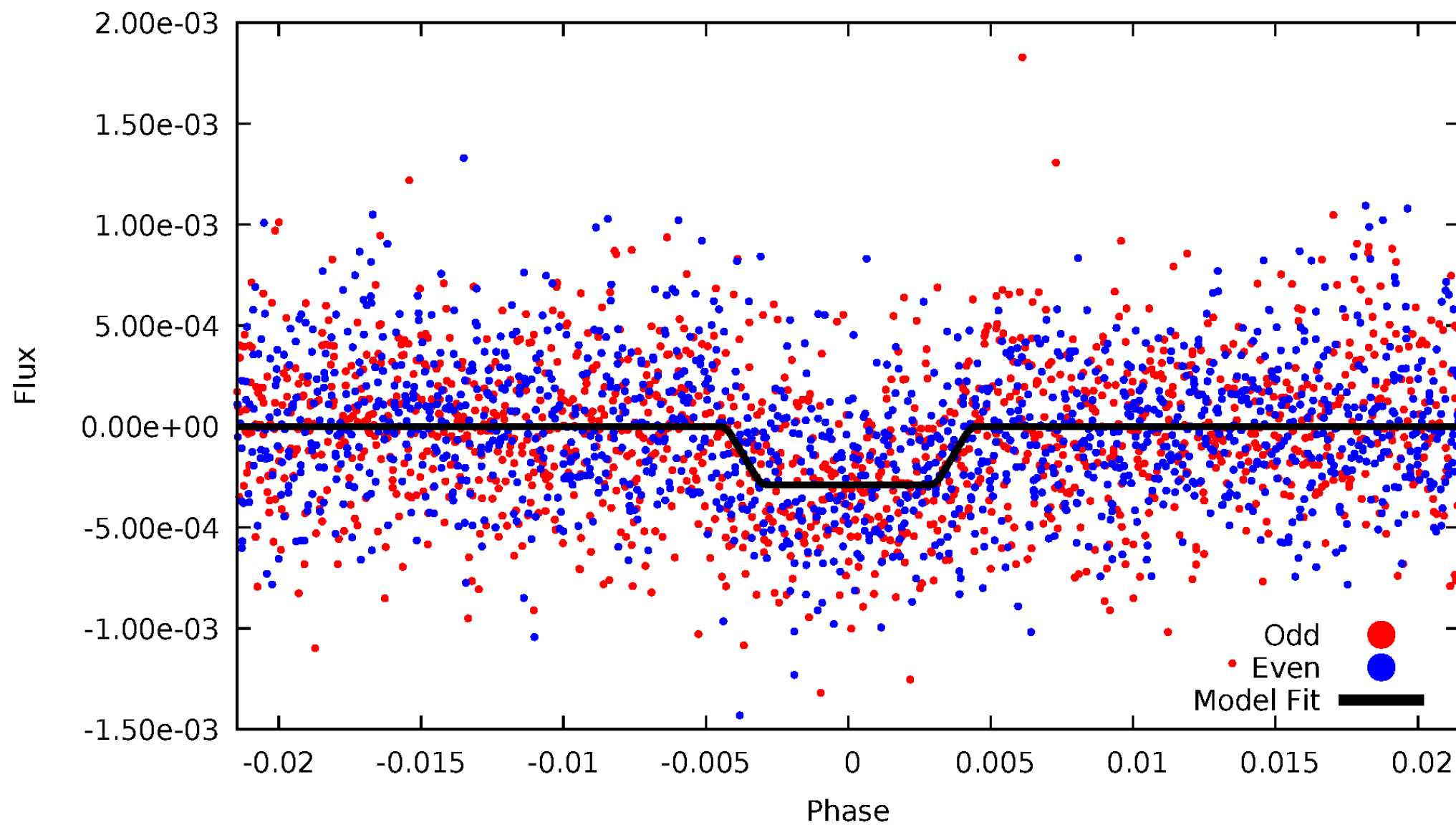
TCE 006359926-01



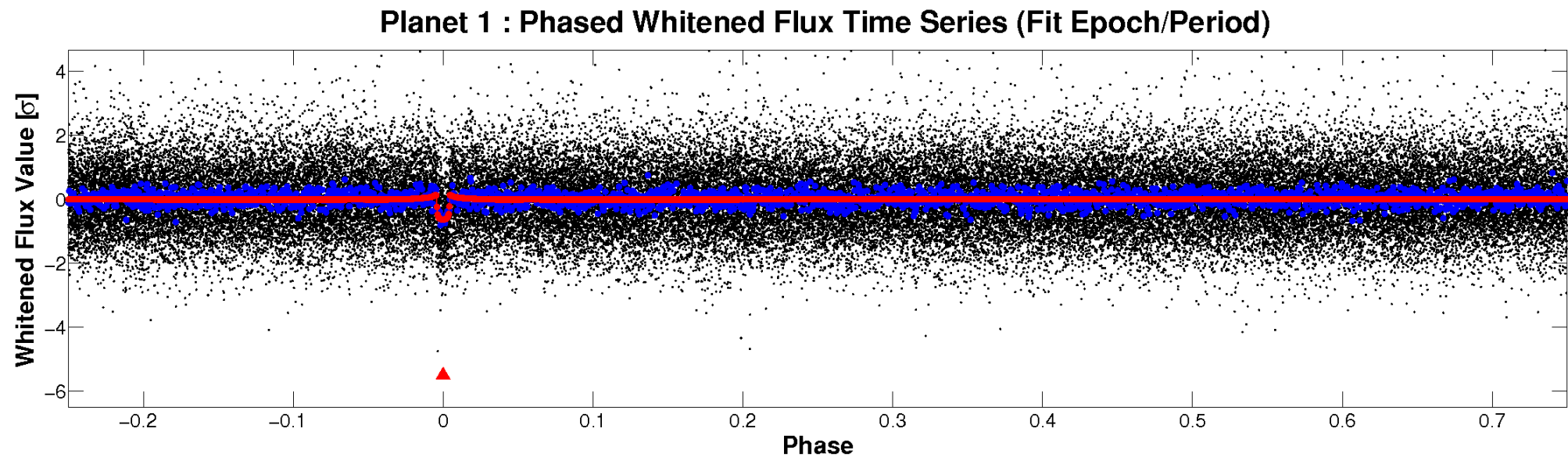
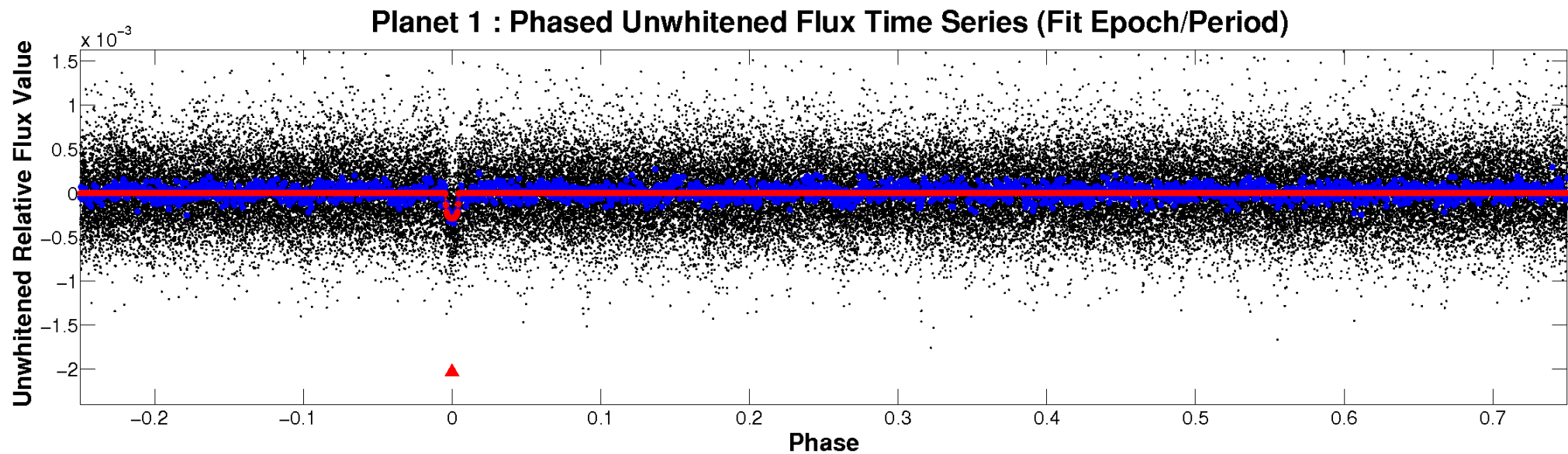


# ALT Odd/Even

TCE 006359926-01

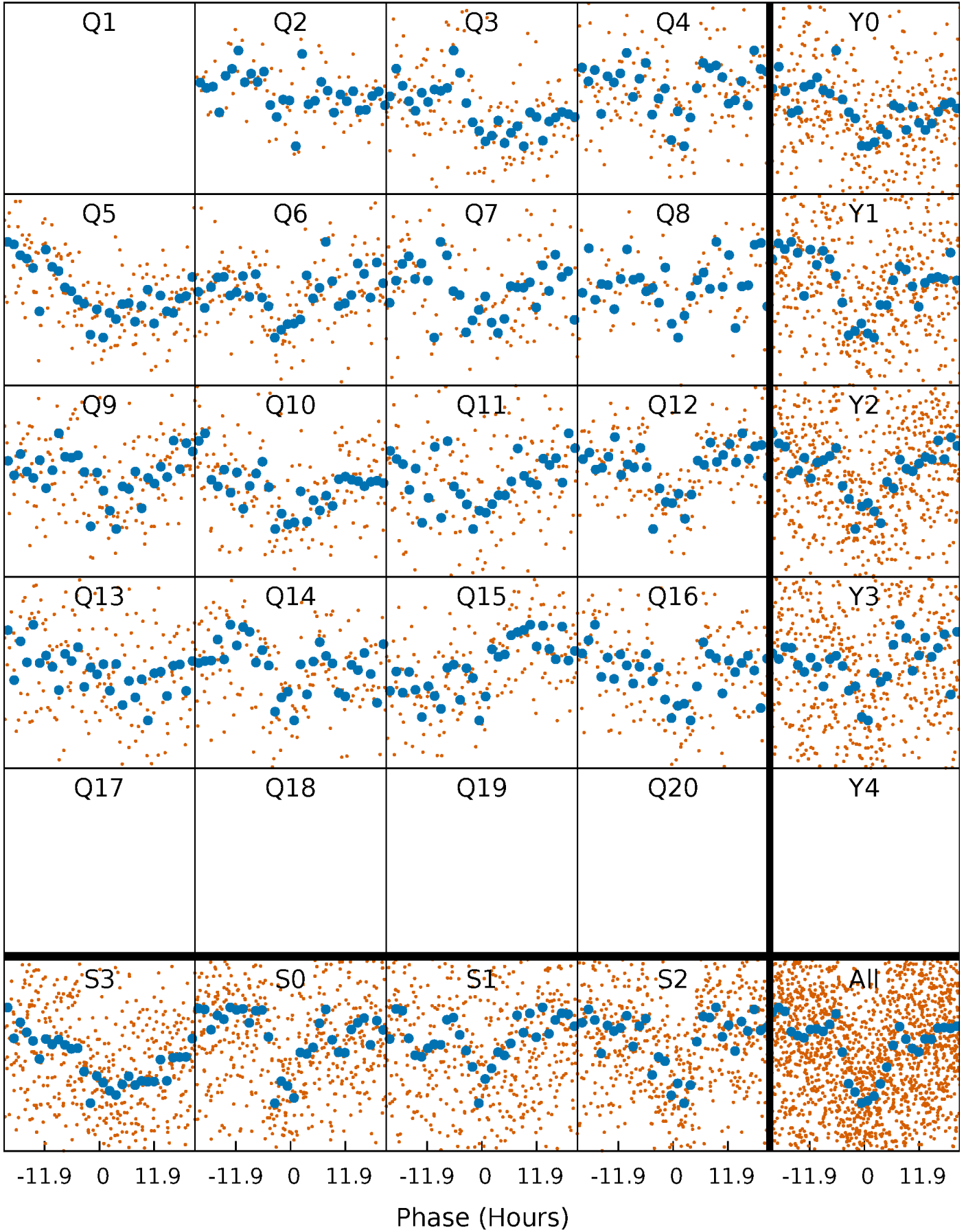


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

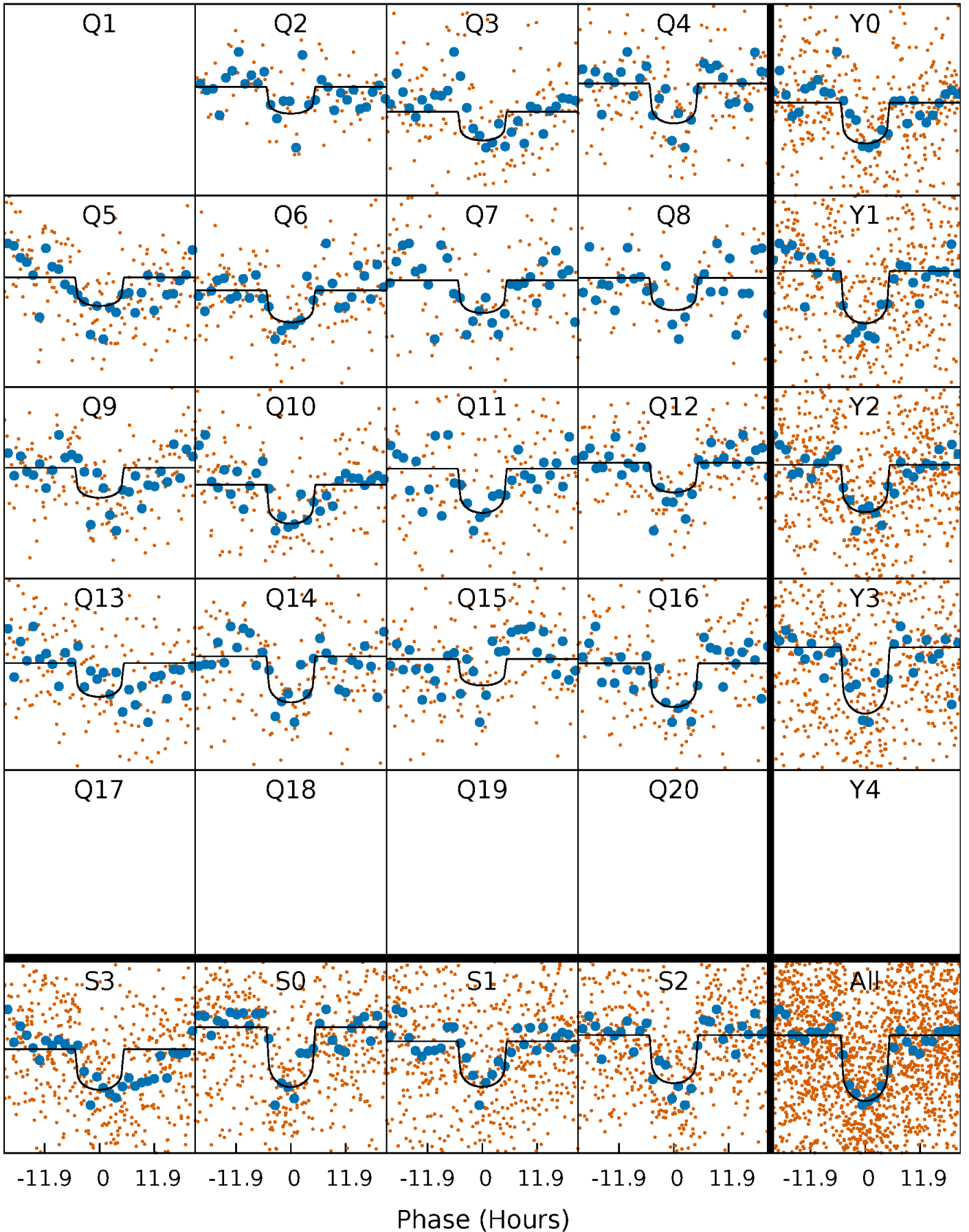
TCE 006359926-01 P= 49.475027 Days  $T_0=166.132258$  (BKJD)





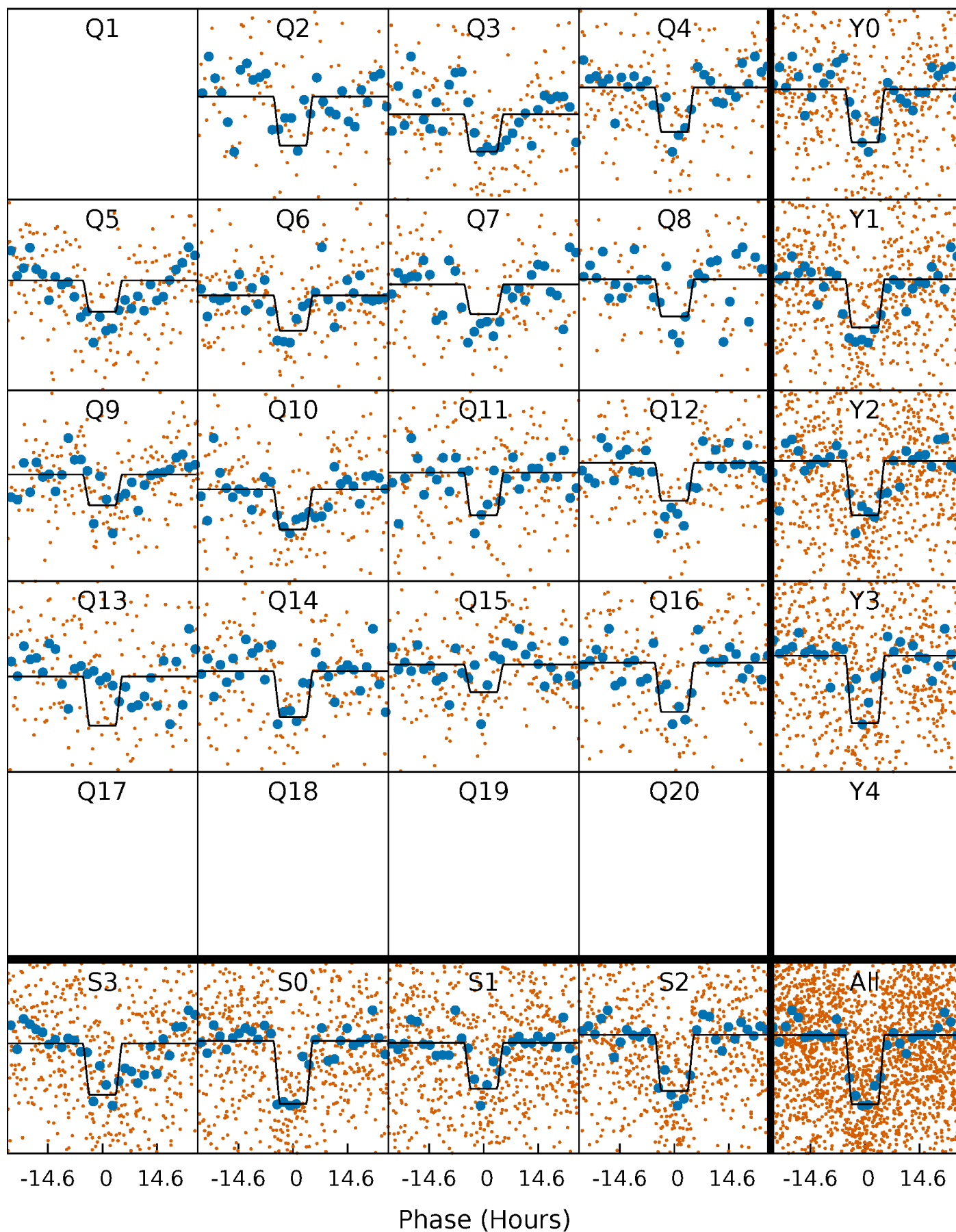
# DV Quarter-Phased Transit Curves

TCE 006359926-01 P= 49.475027 Days  $T_0=166.132258$  (BKJD)



### Alt. Detrend Quarter-Phased Transit Curves

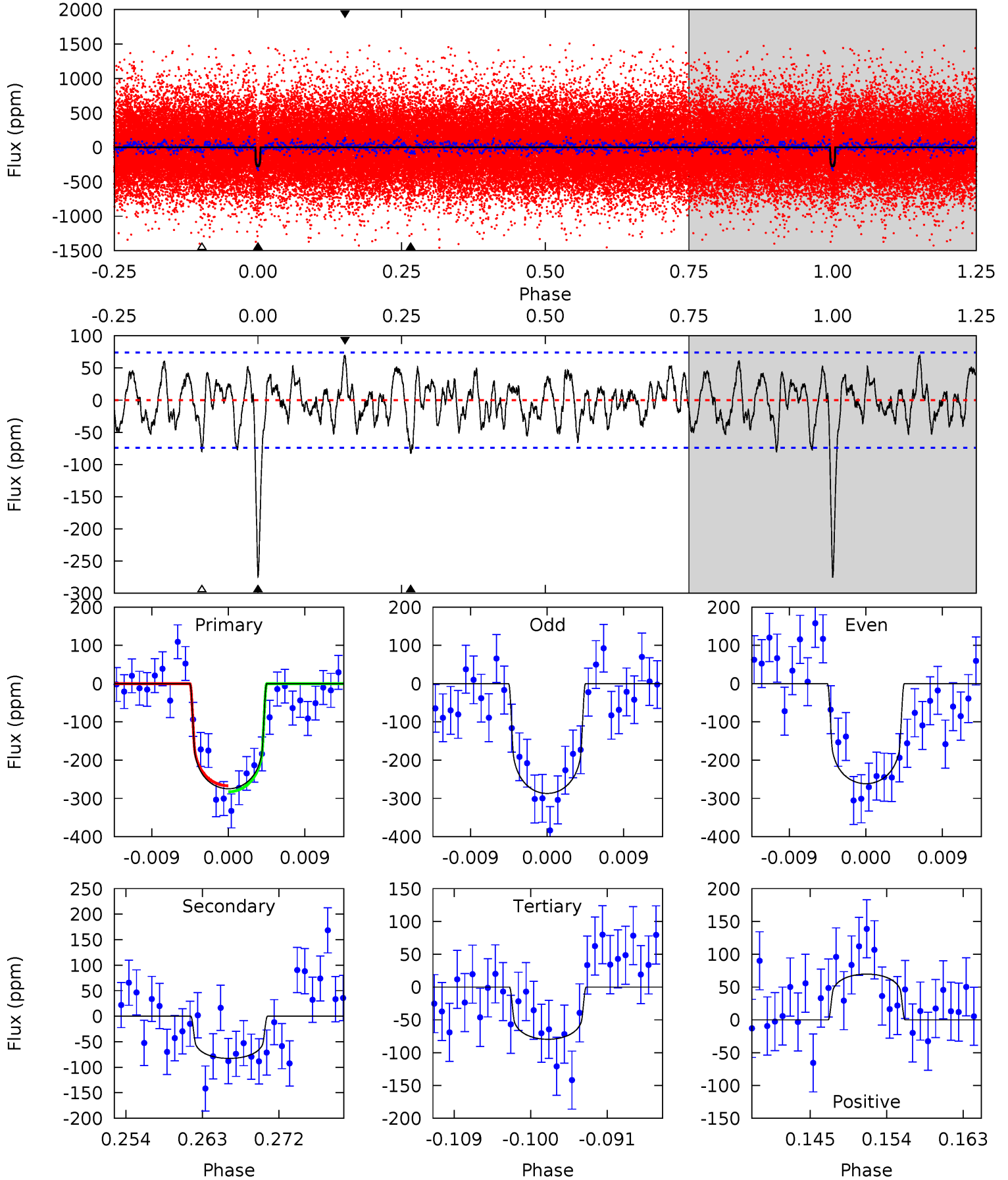
TCE 006359926-01    P= 49.474935 Days     $T_0=166.147235$  (BKJD)



# DV Model-Shift Uniqueness Test

006359926-01, P = 49.475027 Days, E = 116.657231 Days

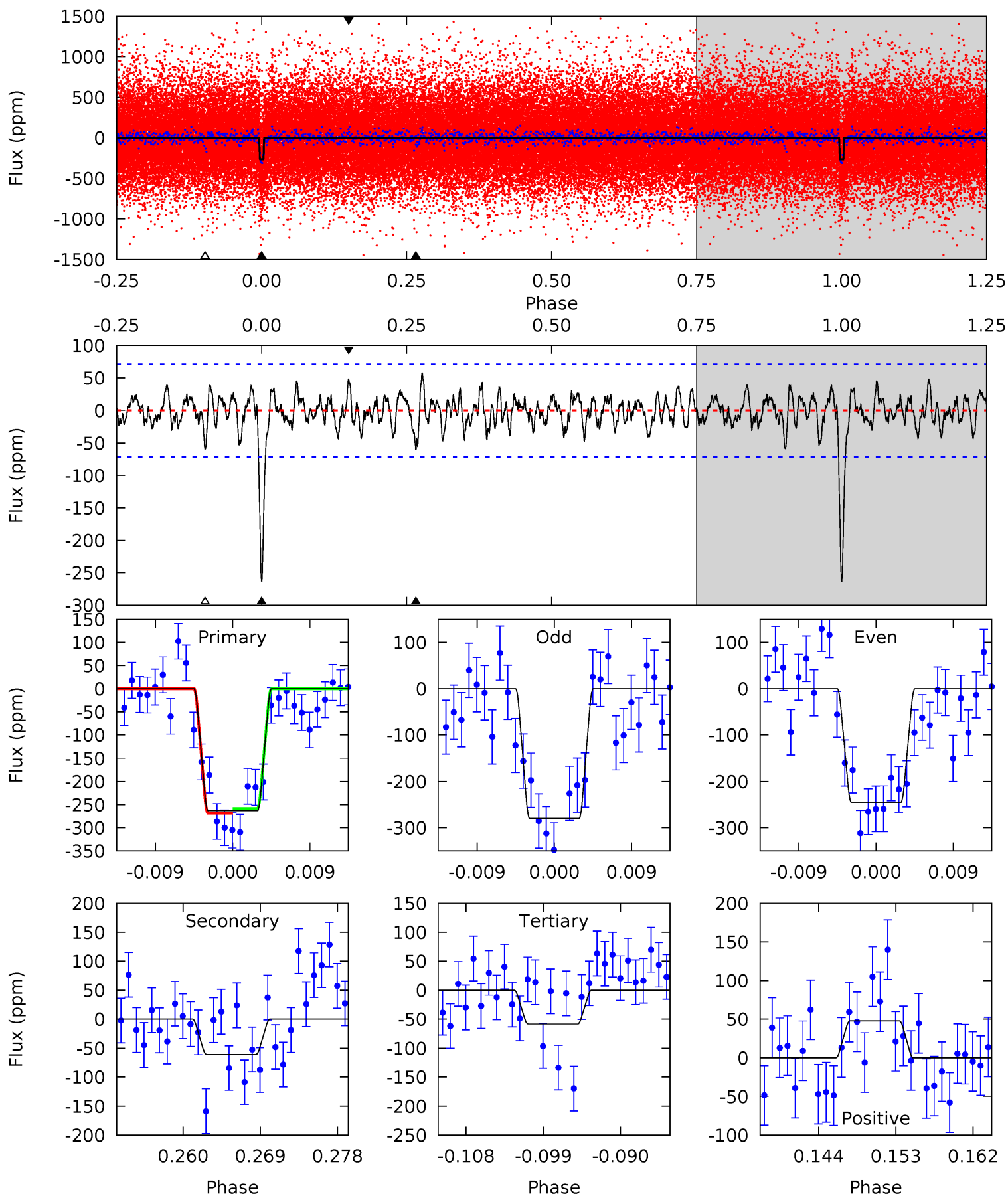
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	5.64	5.43	4.75	5.05	2.61	1.82	13.3	14.0	0.21	0.89	0.87	0.99	0.20	0.54



# Alt Model-Shift Uniqueness Test

006359926-01,  $P = 49.474935$  Days,  $E = 116.672300$  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
18.7	4.32	4.14	3.39	5.05	2.61	1.34	14.6	15.3	0.17	0.93	1.24	1.03	0.18	0.38



### Stellar Parameters For KIC 006359926

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5952^{+161}_{-179}$	$4.475^{+0.067}_{-0.189}$	$-0.280^{+0.300}_{-0.300}$	$0.928^{+0.265}_{-0.114}$	$0.940^{+0.118}_{-0.106}$	$1.654^{+0.578}_{-0.835}$
	+3%/-3%	+1%/-4%	+107%/-107%	+29%/-12%	+13%/-11%	+35%/-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 006359926-01 / KOI 4391.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-83 \pm 15$	$1.72^{+0.77}_{-0.71}$	$708^{+51}_{-36}$	$4577^{+1234}_{-558}$	$1015^{+1794}_{-542}$
Alt.	$-61 \pm 14$	$1.75^{+0.72}_{-0.71}$	$705^{+48}_{-32}$	$4278^{+983}_{-511}$	$690^{+1326}_{-354}$

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



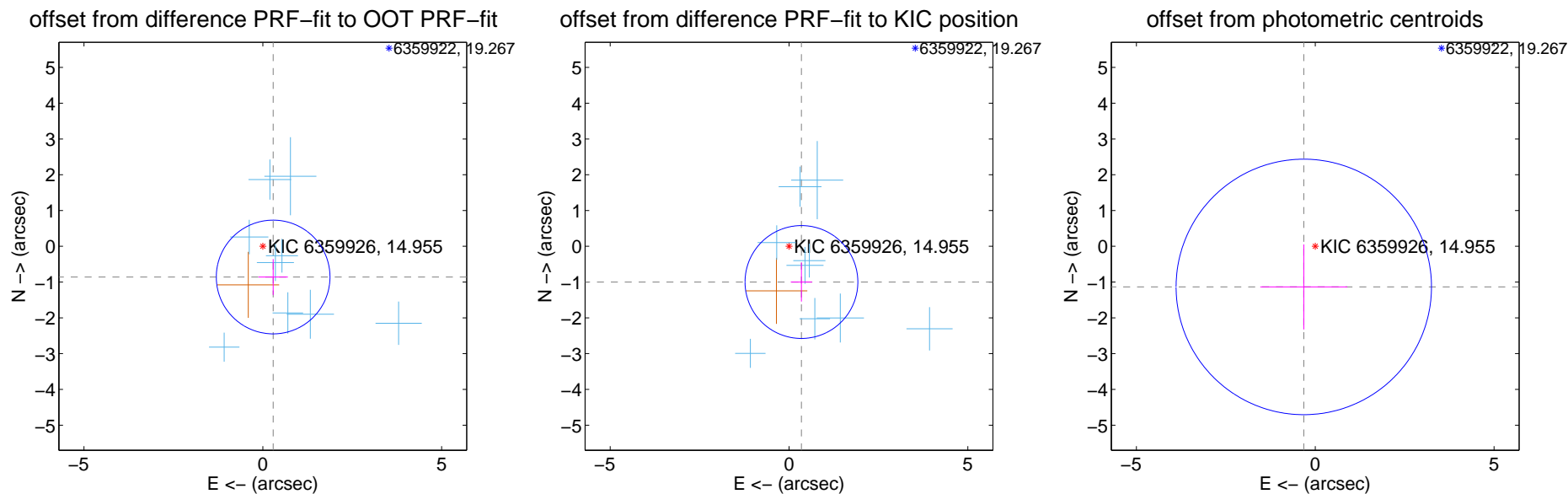
## DV Centroid Data

Supplemental centroid analysis for 006359926-01. Kepler magnitude: 14.96. Transit SNR 13.85

There are 9 quarters with good PRF difference image offsets

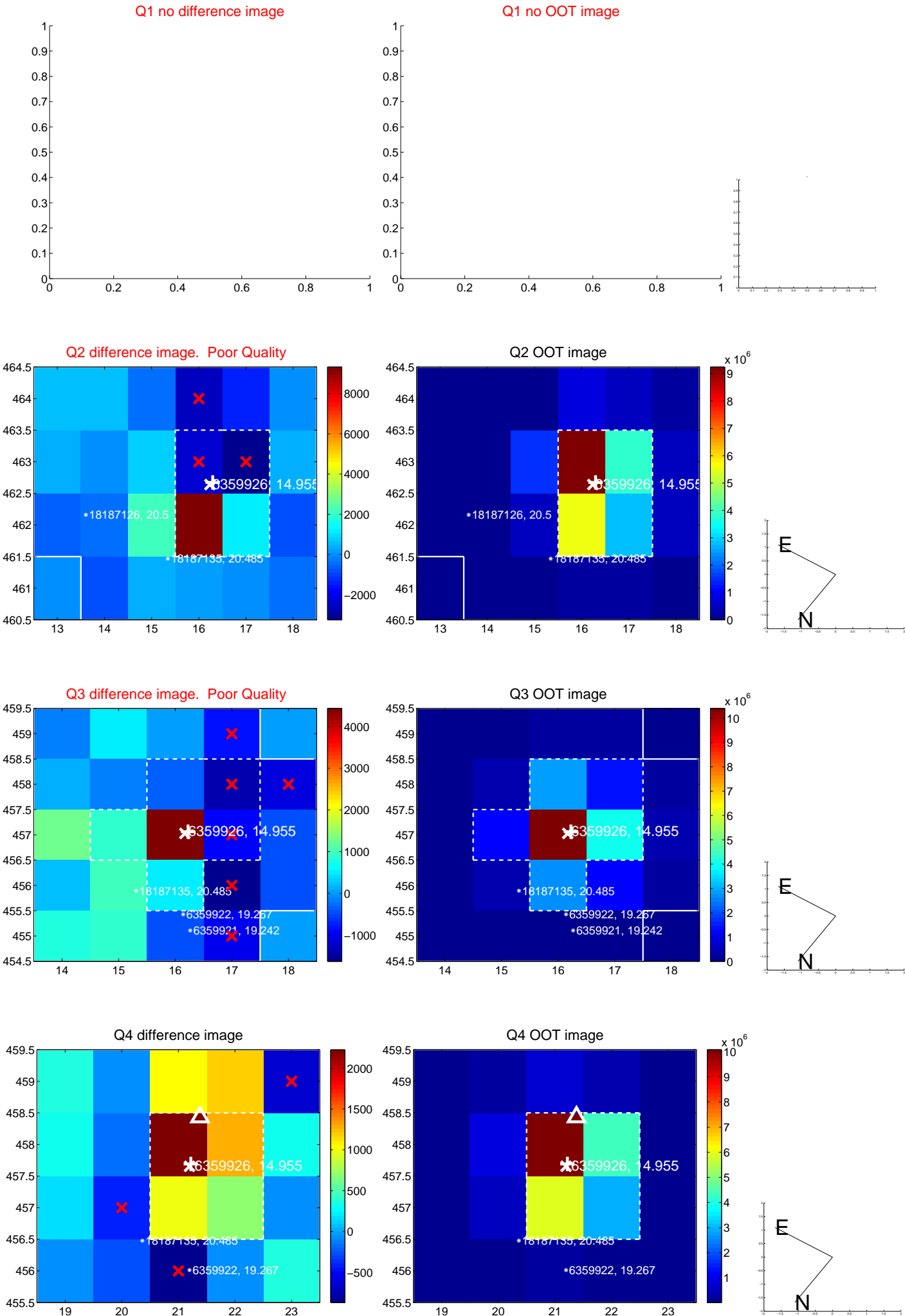
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.906 \pm 0.530$	1.71	$-0.289 \pm 0.412$	$-0.858 \pm 0.501$
PRF-fit source offset from KIC position	$1.057 \pm 0.526$	2.01	$-0.347 \pm 0.296$	$-0.998 \pm 0.547$
photometric centroid source offset	$1.18 \pm 1.19$	0.99	$0.32 \pm 1.22$	$-1.14 \pm 1.19$

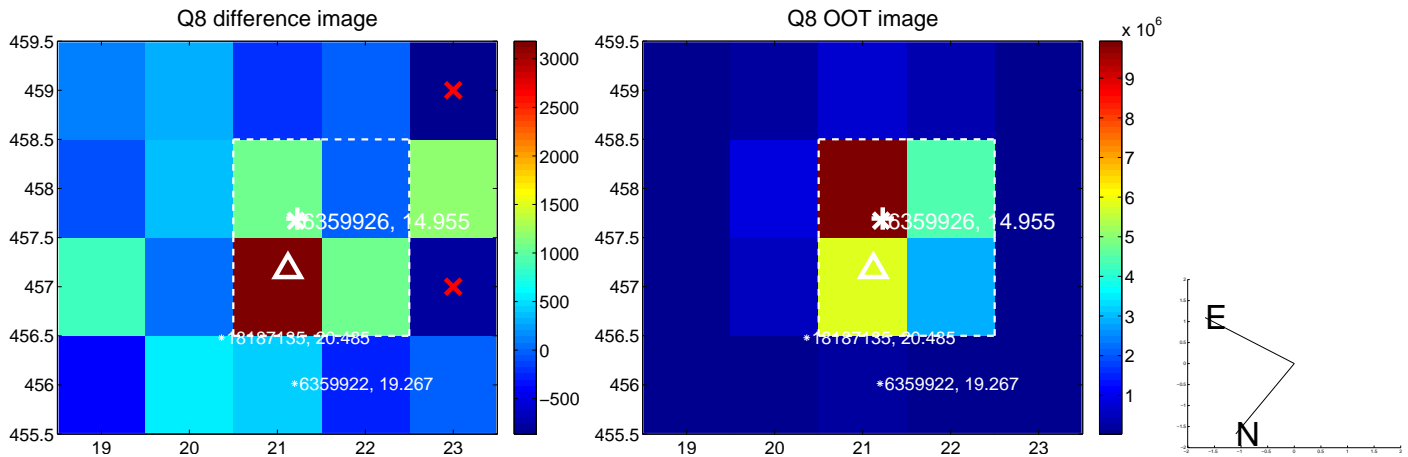
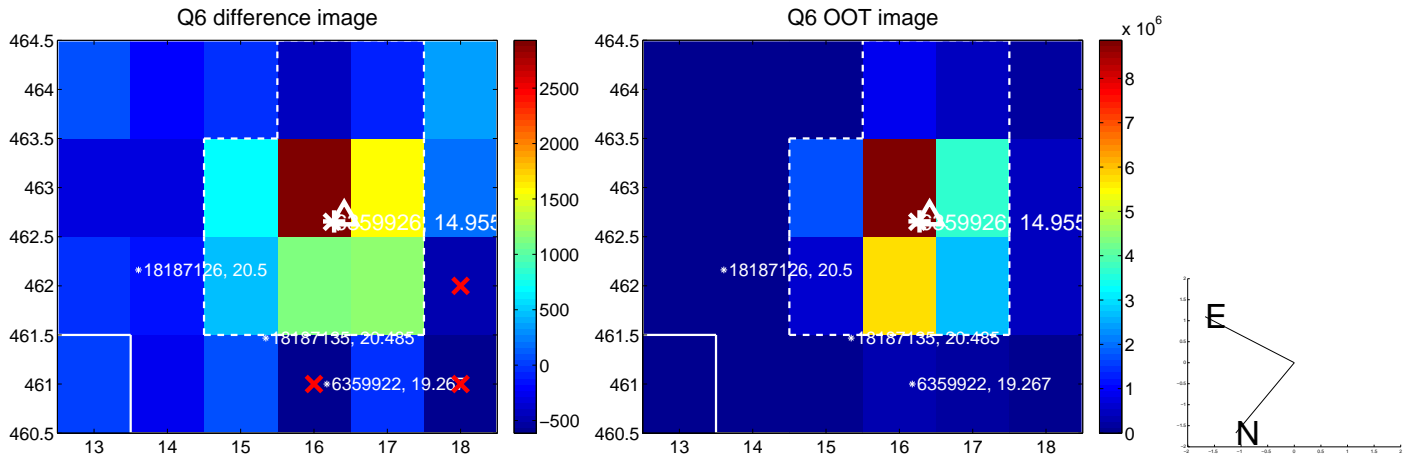
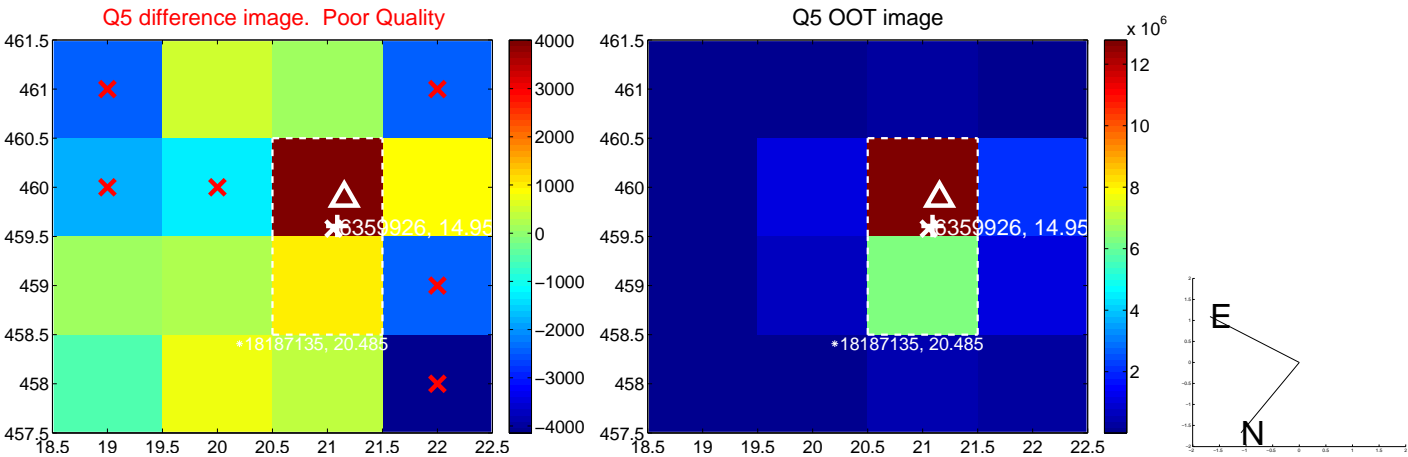


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

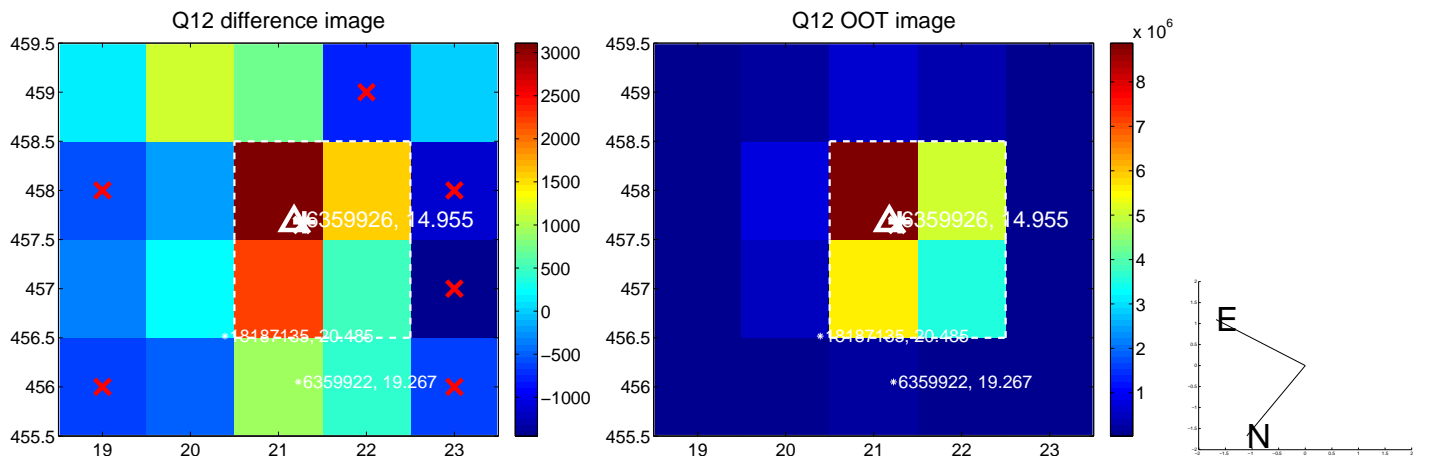
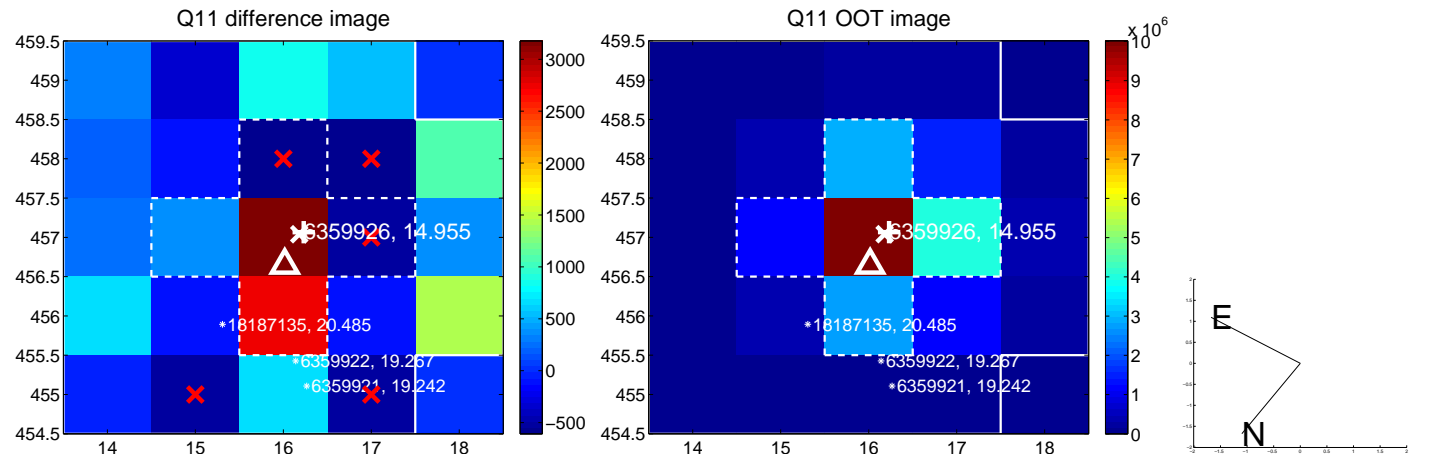
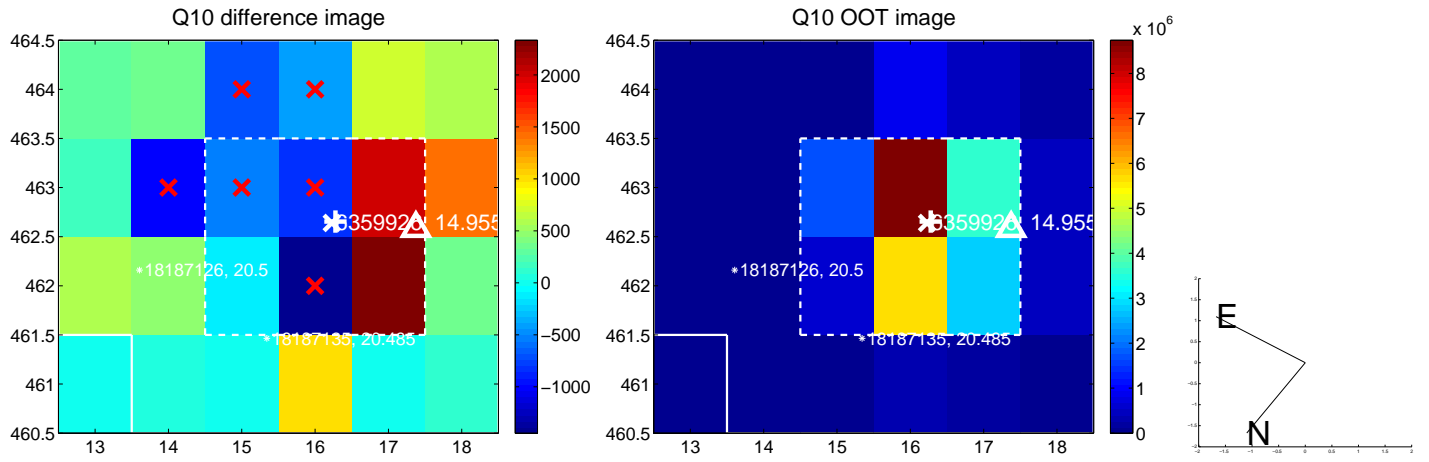
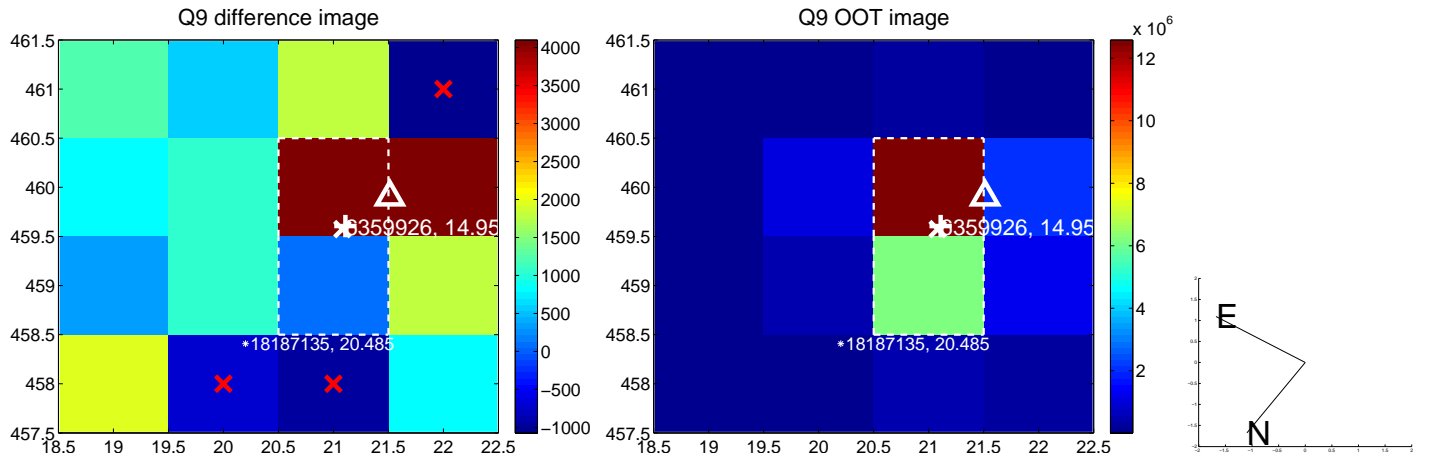
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



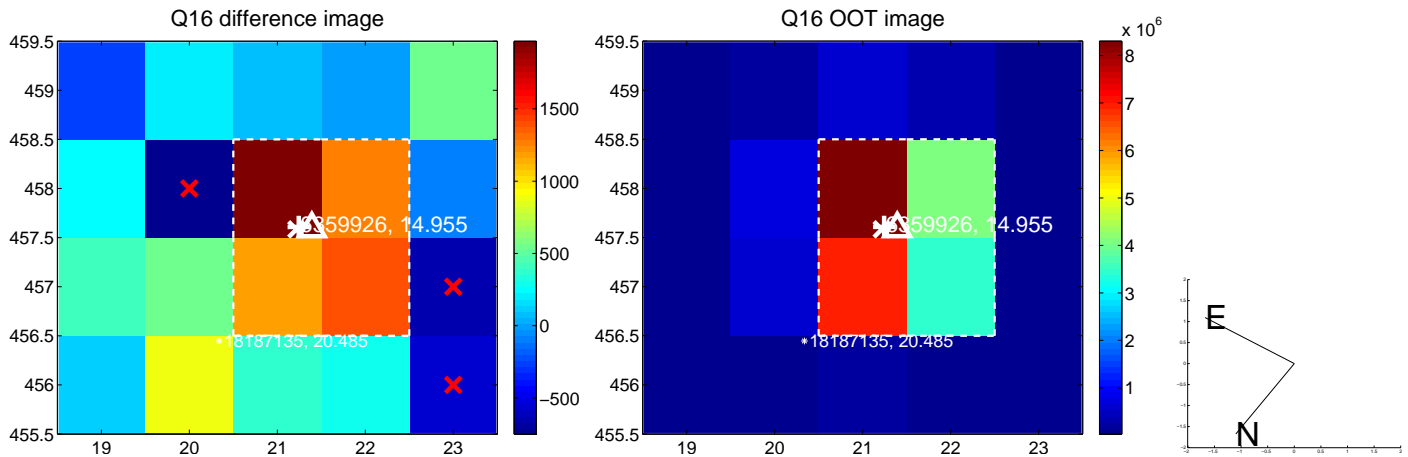
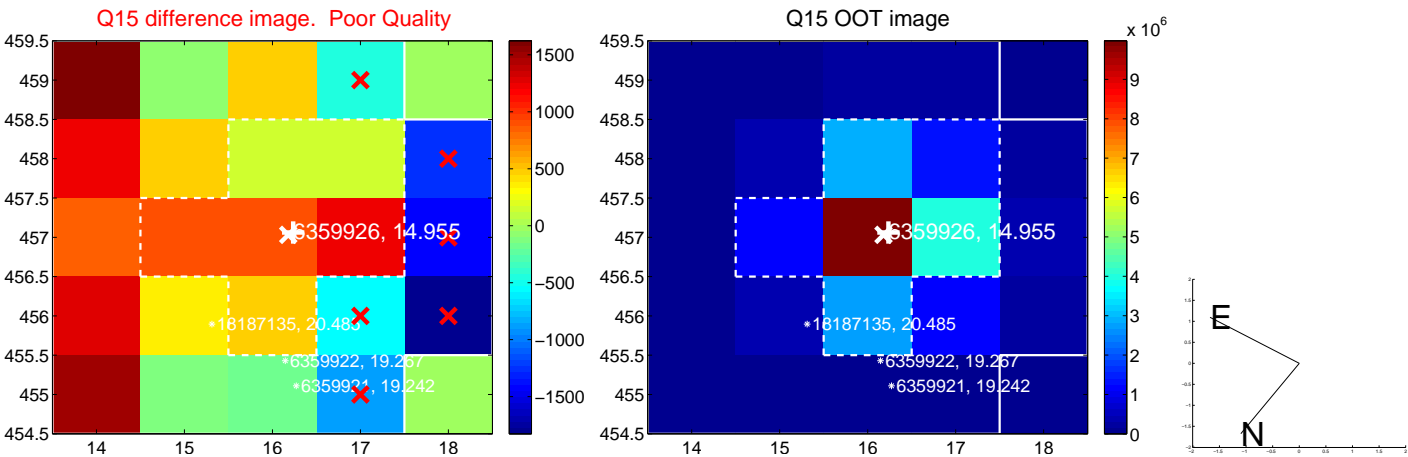
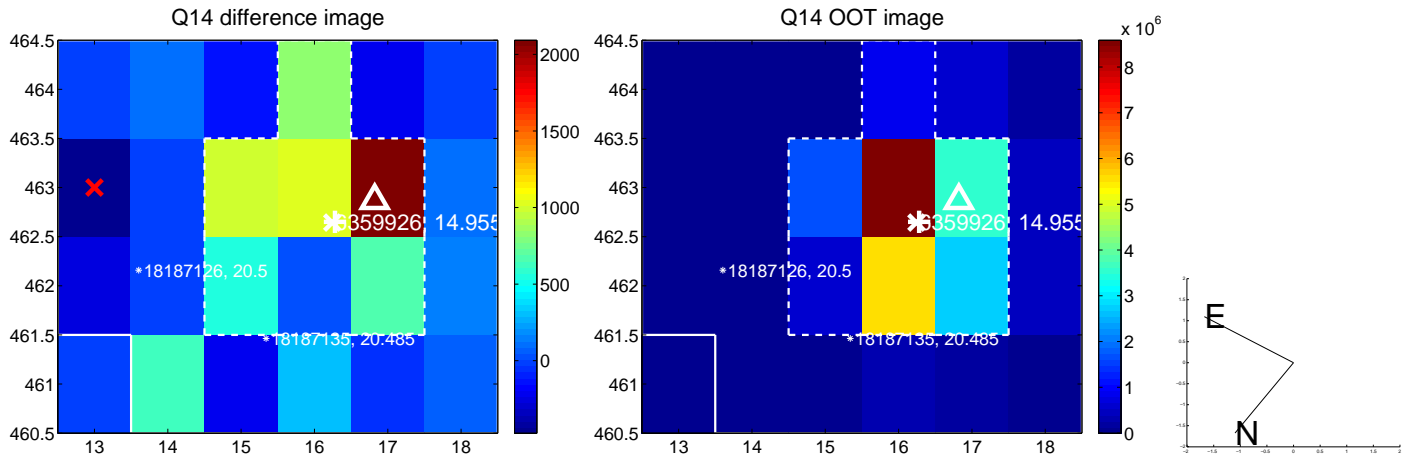
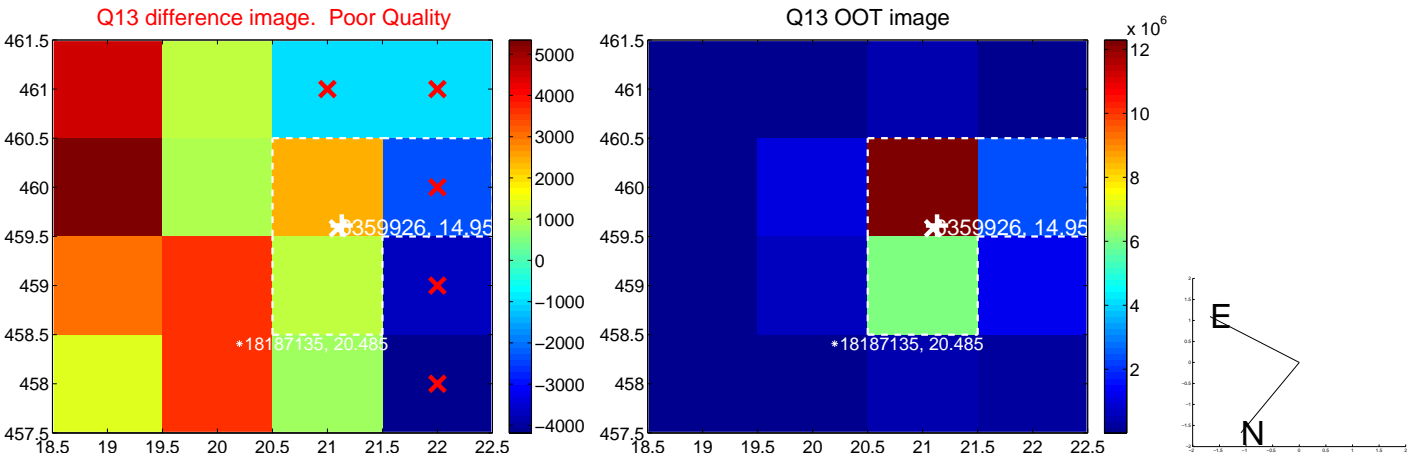
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

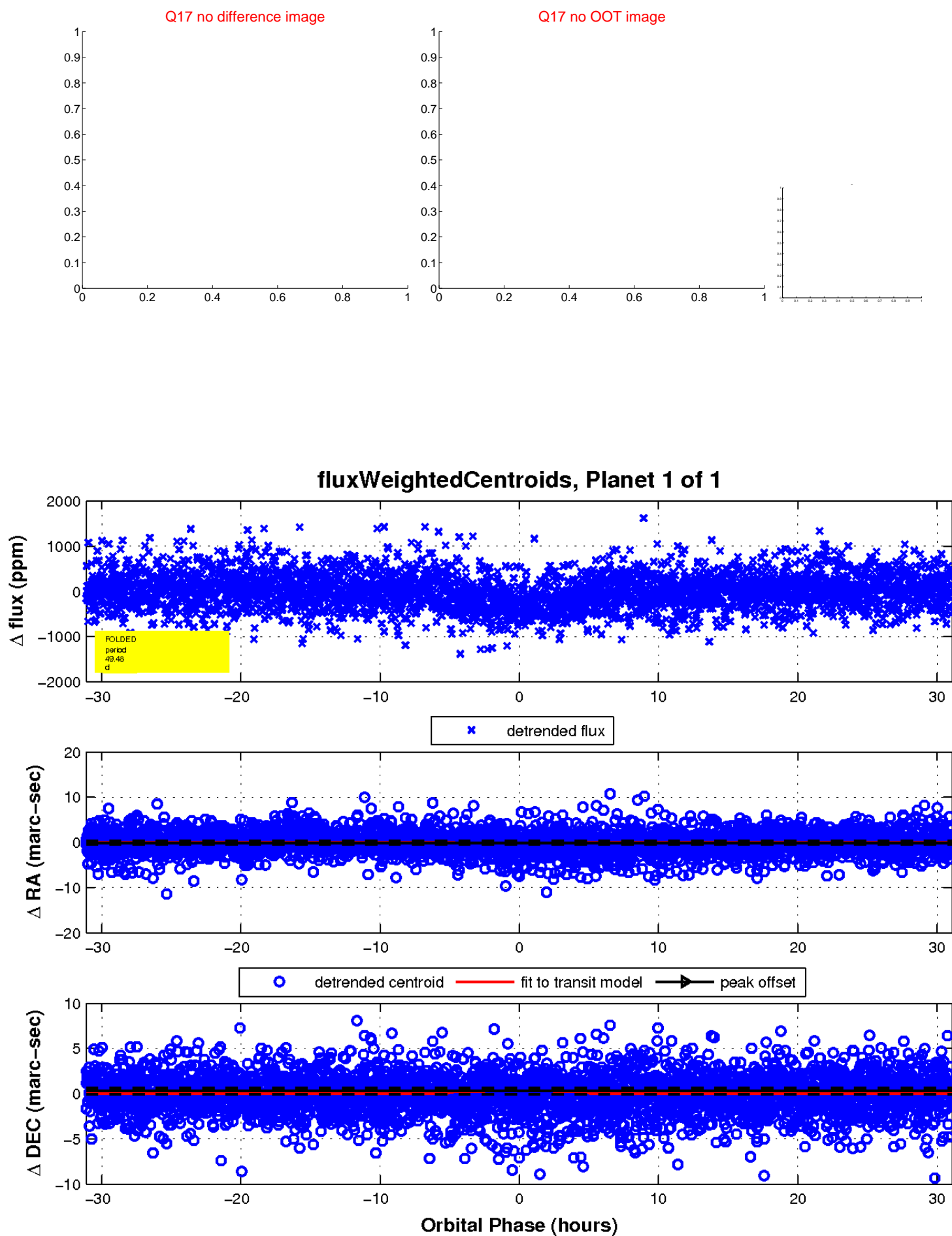


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



# UKIRT Image

Declination

