

# KIC 003546060

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003546060-01	OBS	2126.01	9.693109	134.530145	1125.8	2.873	27.1	29.4	0.62	4818	2.44	32.49

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003546060-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

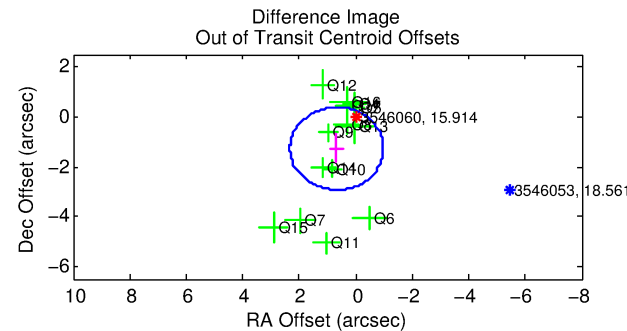
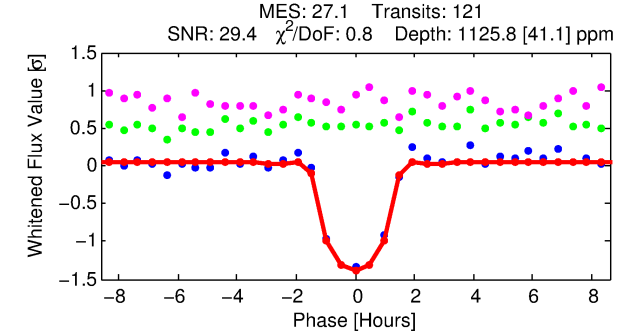
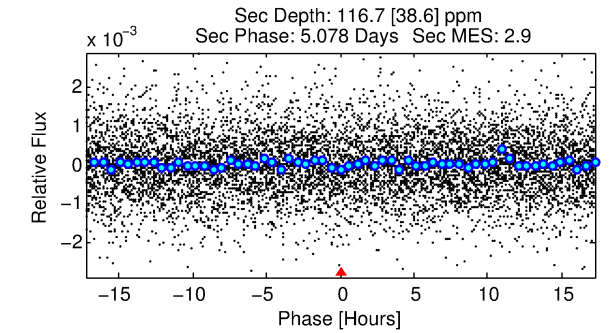
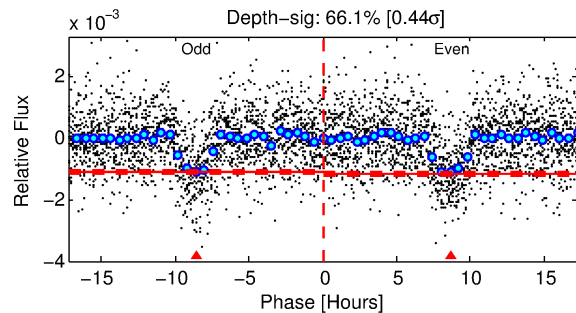
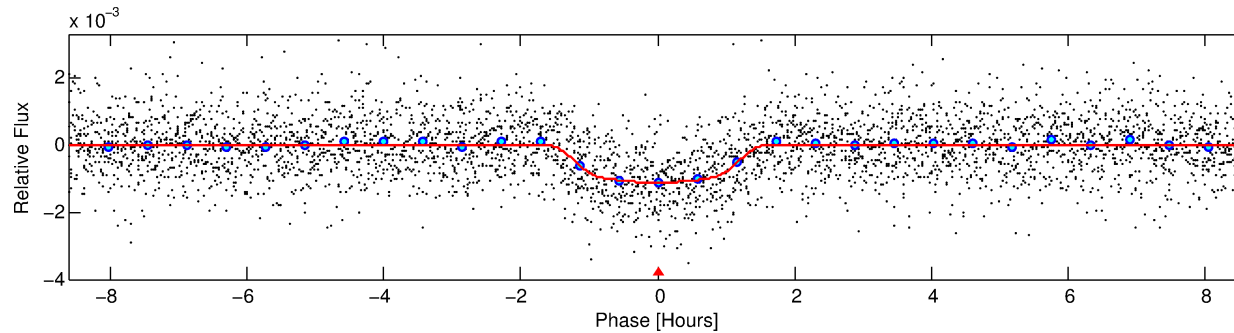
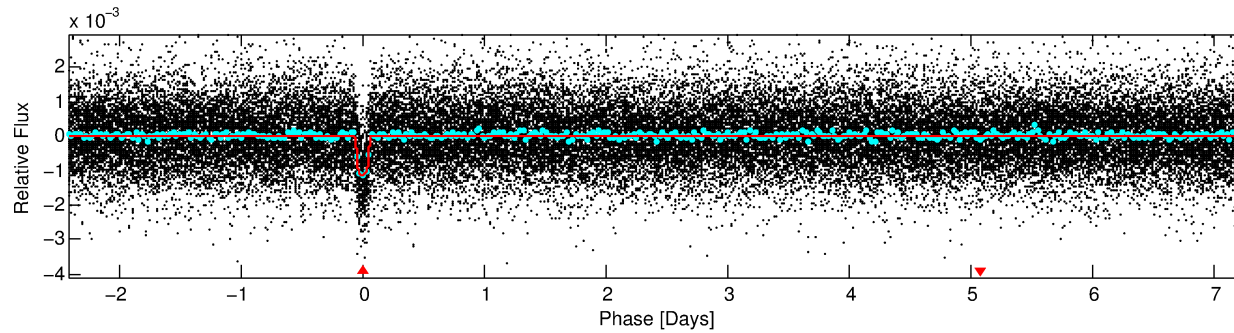
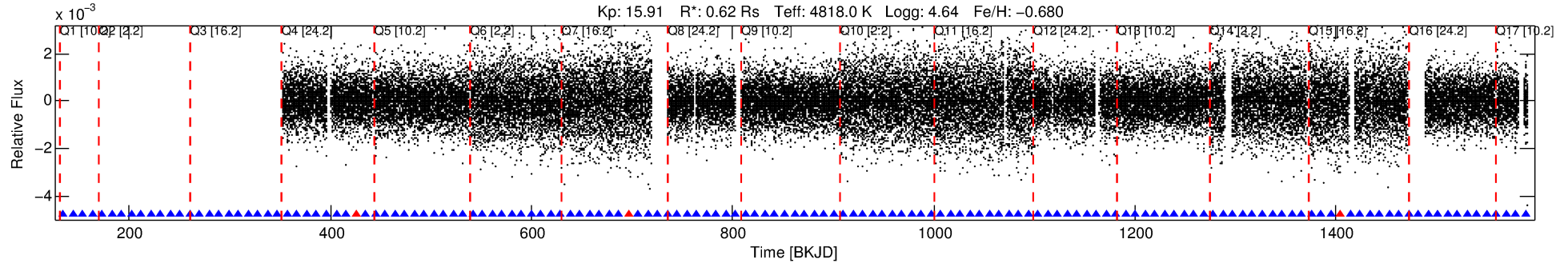
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003546060-01

No Significant Match Found

# DV One-Page Summary

KIC: 3546060 Candidate: 1 of 1 Period: 9.693 d  
KOI: K02126.01 Corr: 0.980



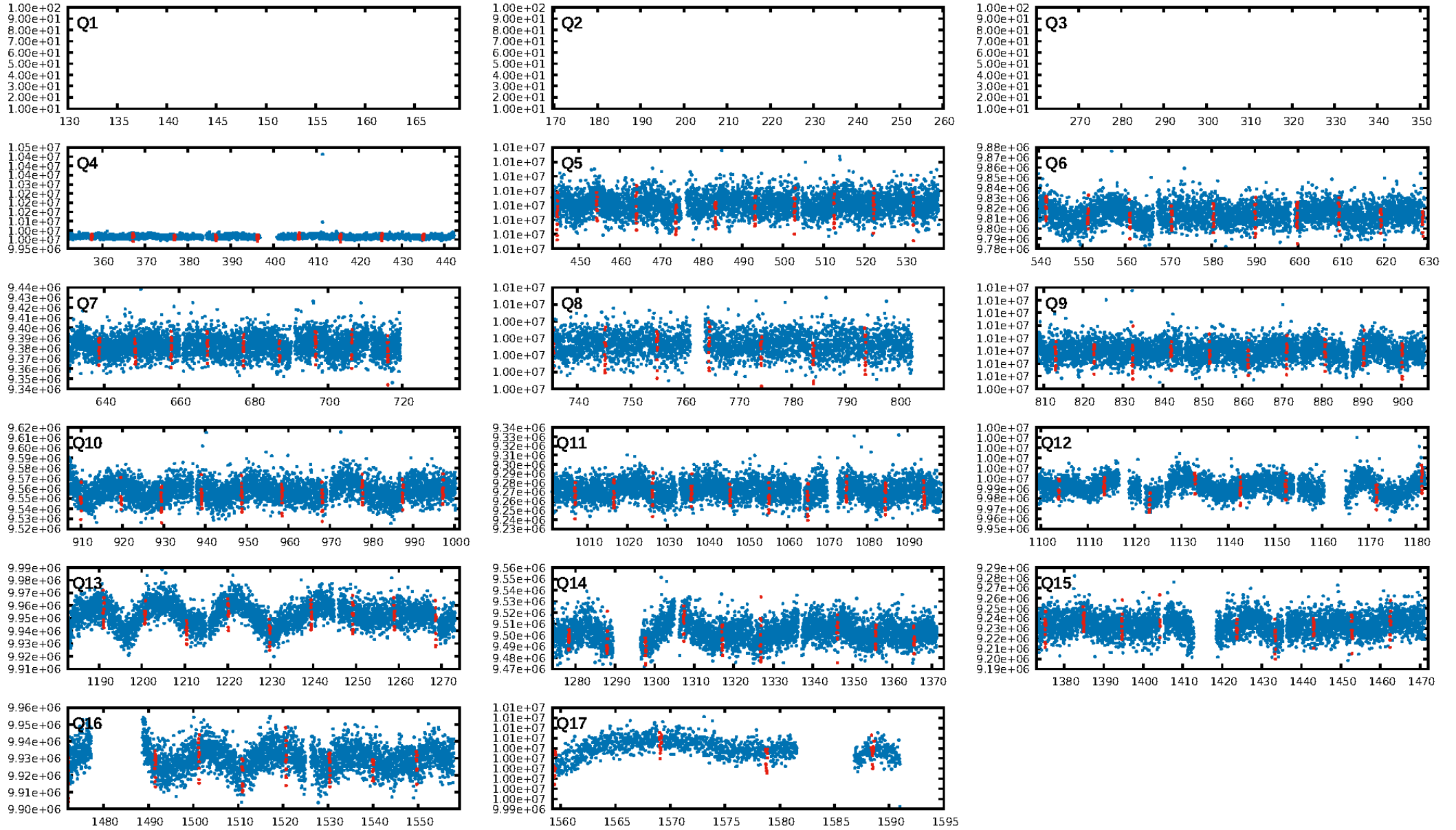
## DV Fit Results:

Period = 9.69311 [0.00003] d  
Epoch = 134.5301 [0.0026] BKJD  
Rp/R\* = 0.0361 [0.0051]  
a/R\* = 14.68 [7.47]  
b = 0.87 [0.15]  
Seff = 32.49 [5.83]  
Teq = 609 [27] K  
Rp = 2.44 [0.40] Re  
a = 0.0753 [0.0056] AU  
Ag = 61.32 [27.41] [2.20 $\sigma$ ]  
Teffp = 2634 [301] K [6.70 $\sigma$ ]

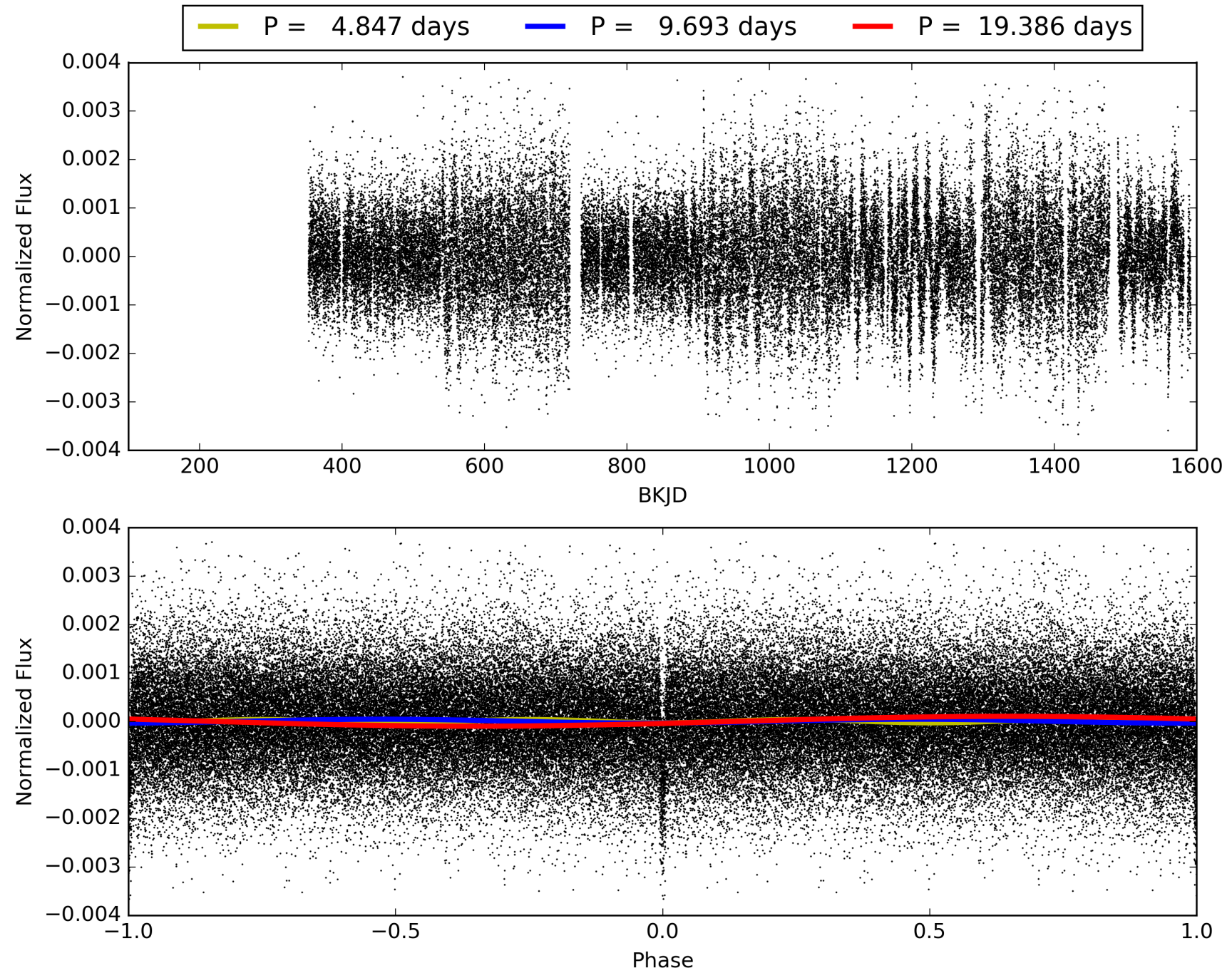
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.97e-157  
RollingBand-fgt: 0.97 [114/117]  
GhostDiagnostic-chr: 13.77  
Centroid-sig: 2.7%  
Centroid-so: 0.555 arcsec [1.53 $\sigma$ ]  
OotOffset-rm: 1.444 arcsec [2.62 $\sigma$ ]  
KicOffset-rm: 0.089 arcsec [0.37 $\sigma$ ]  
OotOffset-st: 3/3/4/4 [14]  
KicOffset-st: 3/3/4/4 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 003546060-01, PDC Light Curves

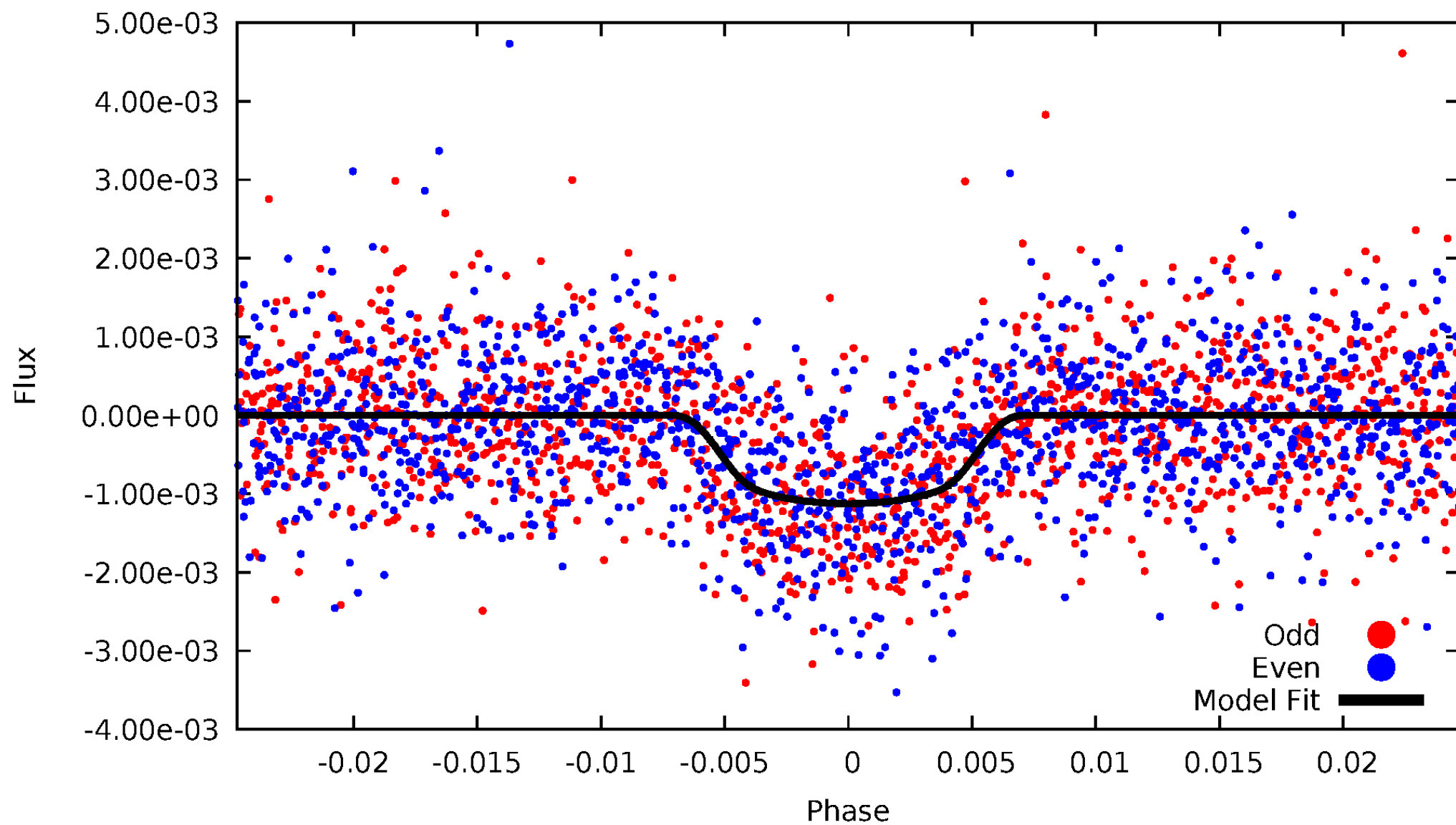


TCE 003546060-01



# DV Odd/Even

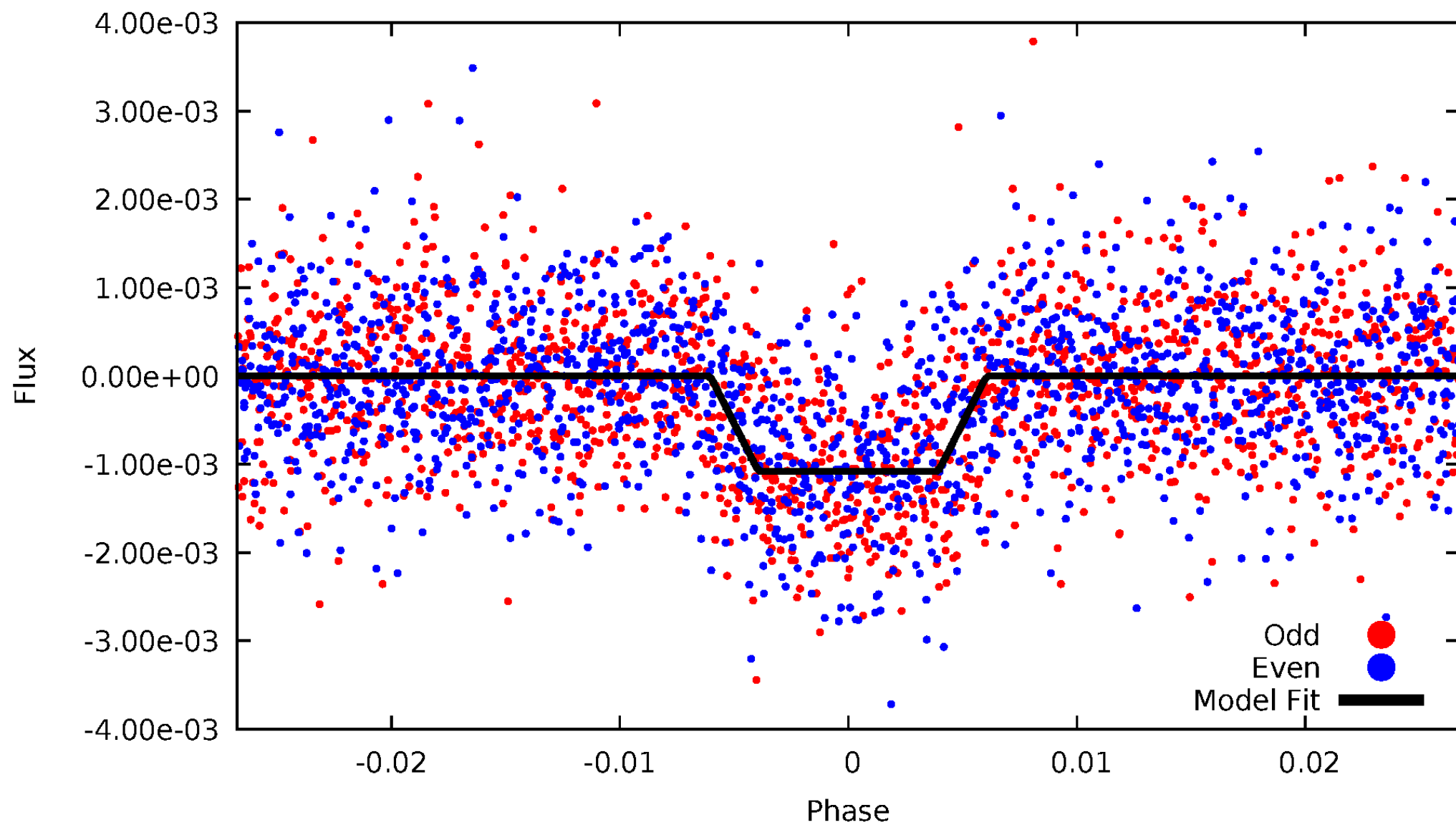
TCE 003546060-01



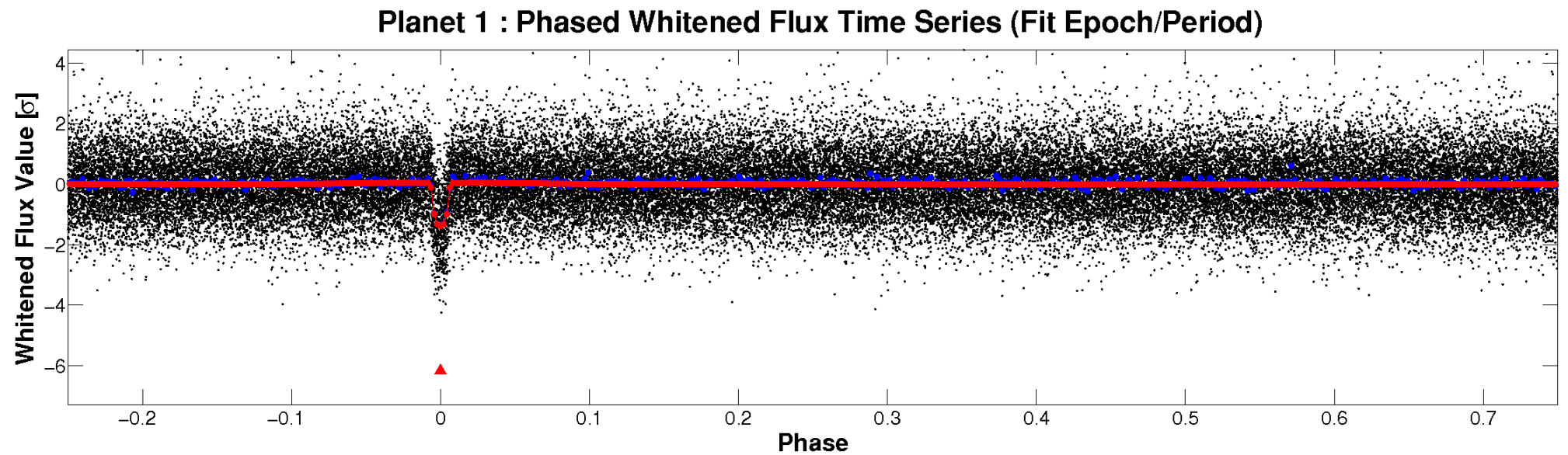
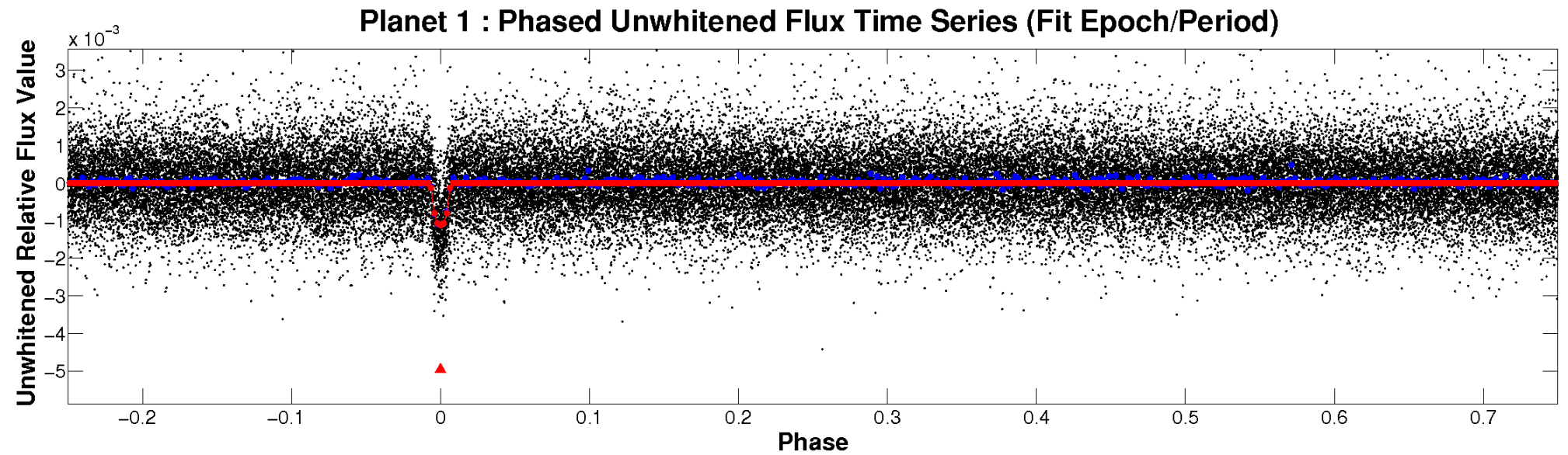


# ALT Odd/Even

TCE 003546060-01

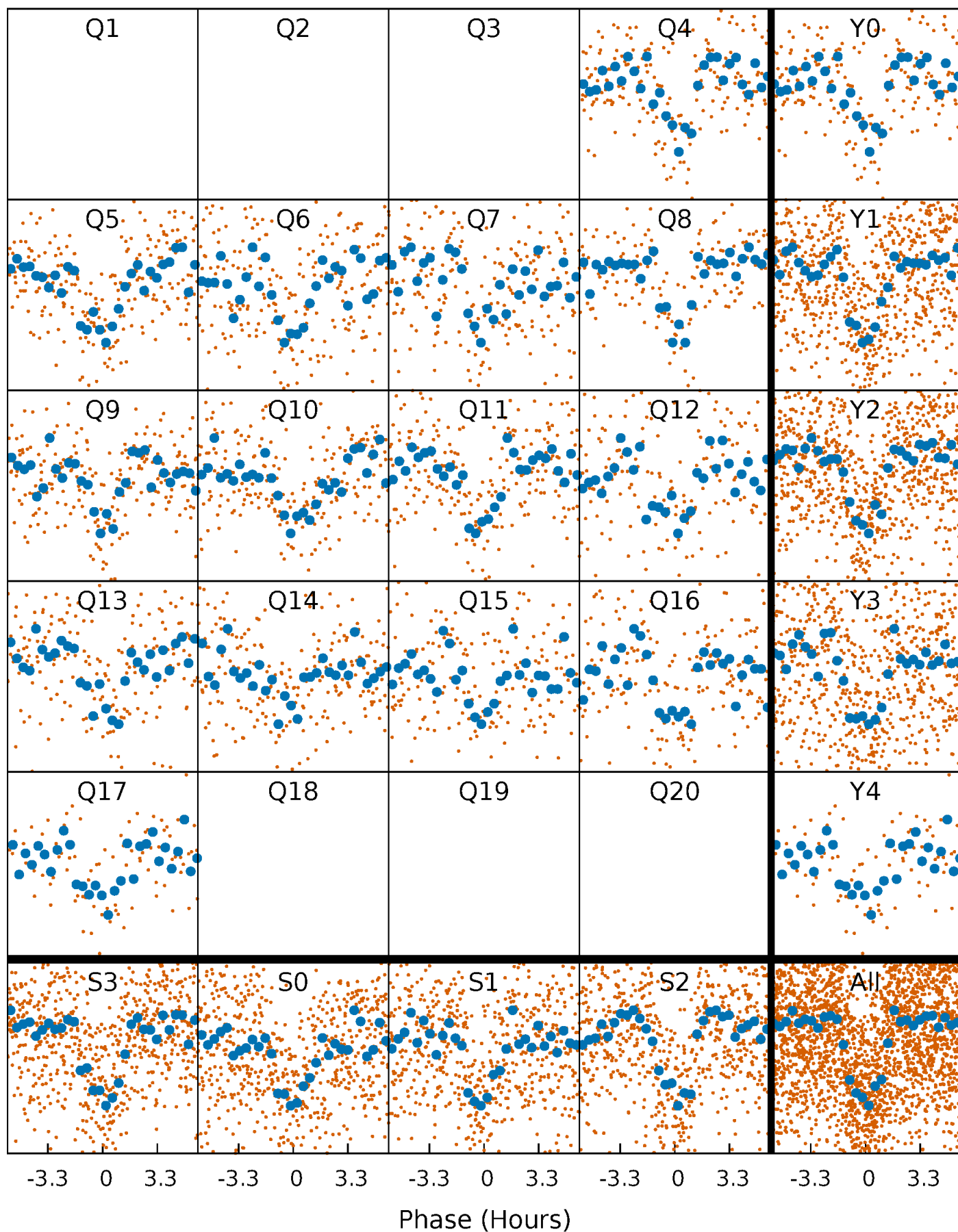


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

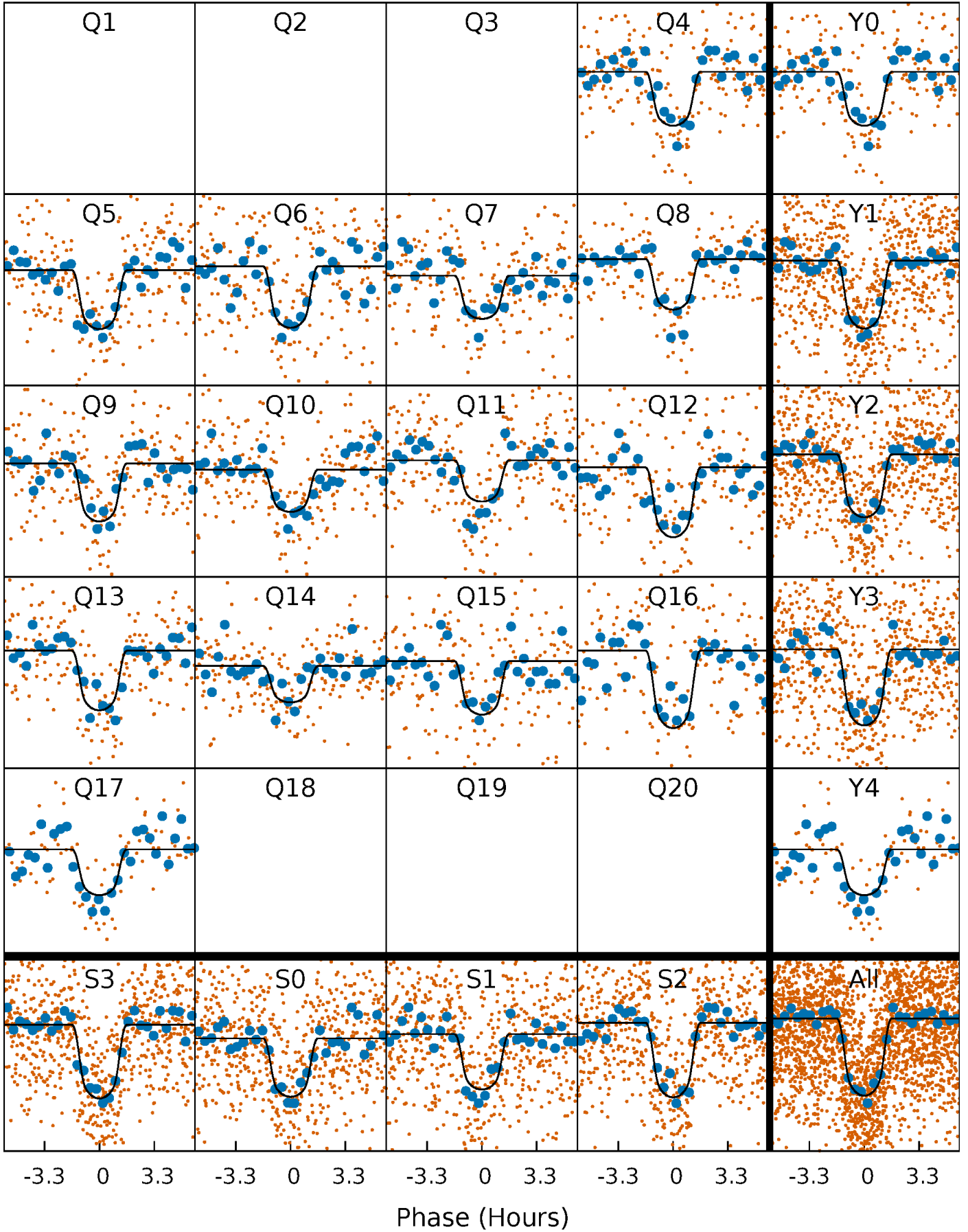
TCE 003546060-01 P= 9.693109 Days  $T_0=134.530145$  (BKJD)





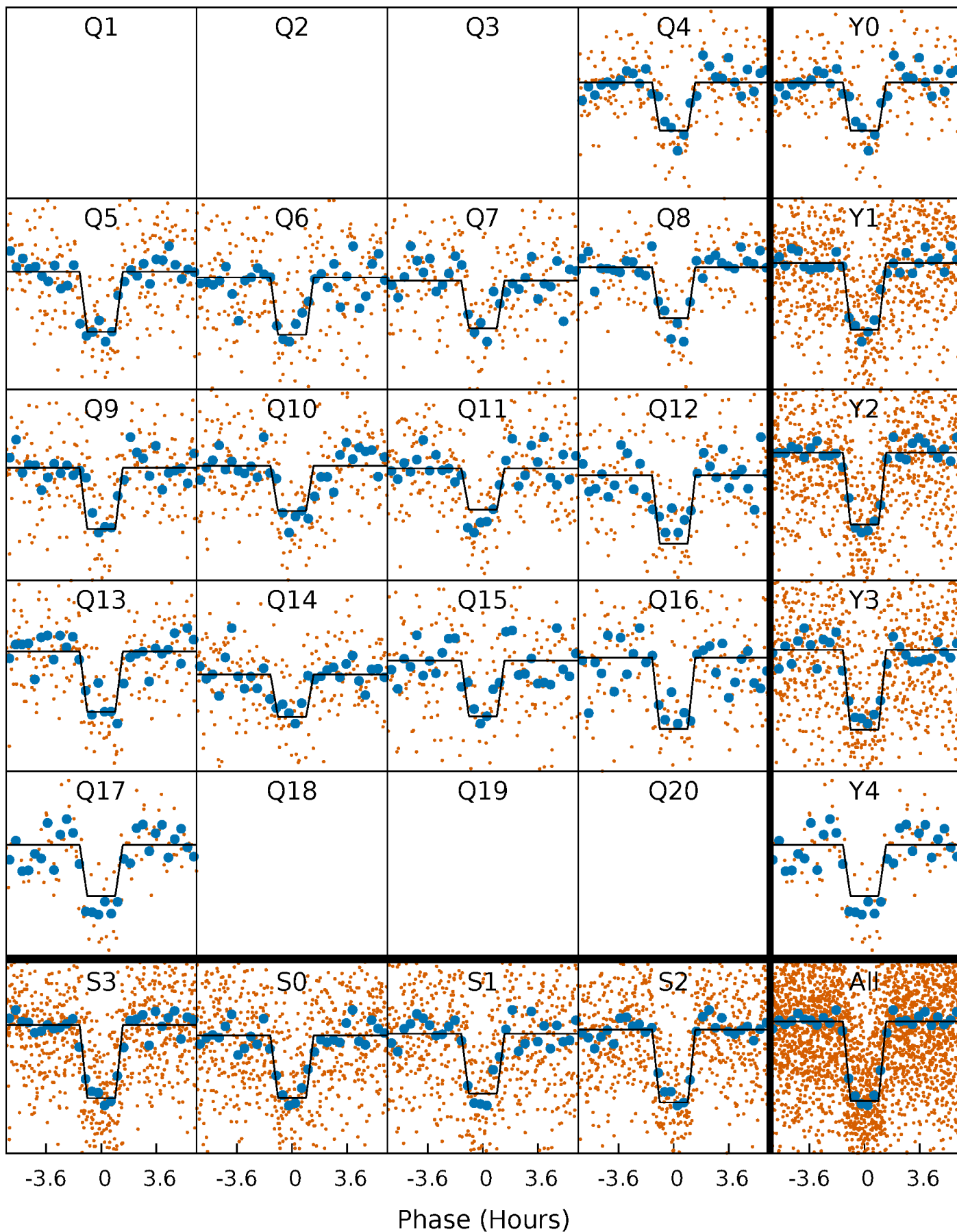
# DV Quarter-Phased Transit Curves

TCE 003546060-01 P= 9.693109 Days  $T_0=134.530145$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

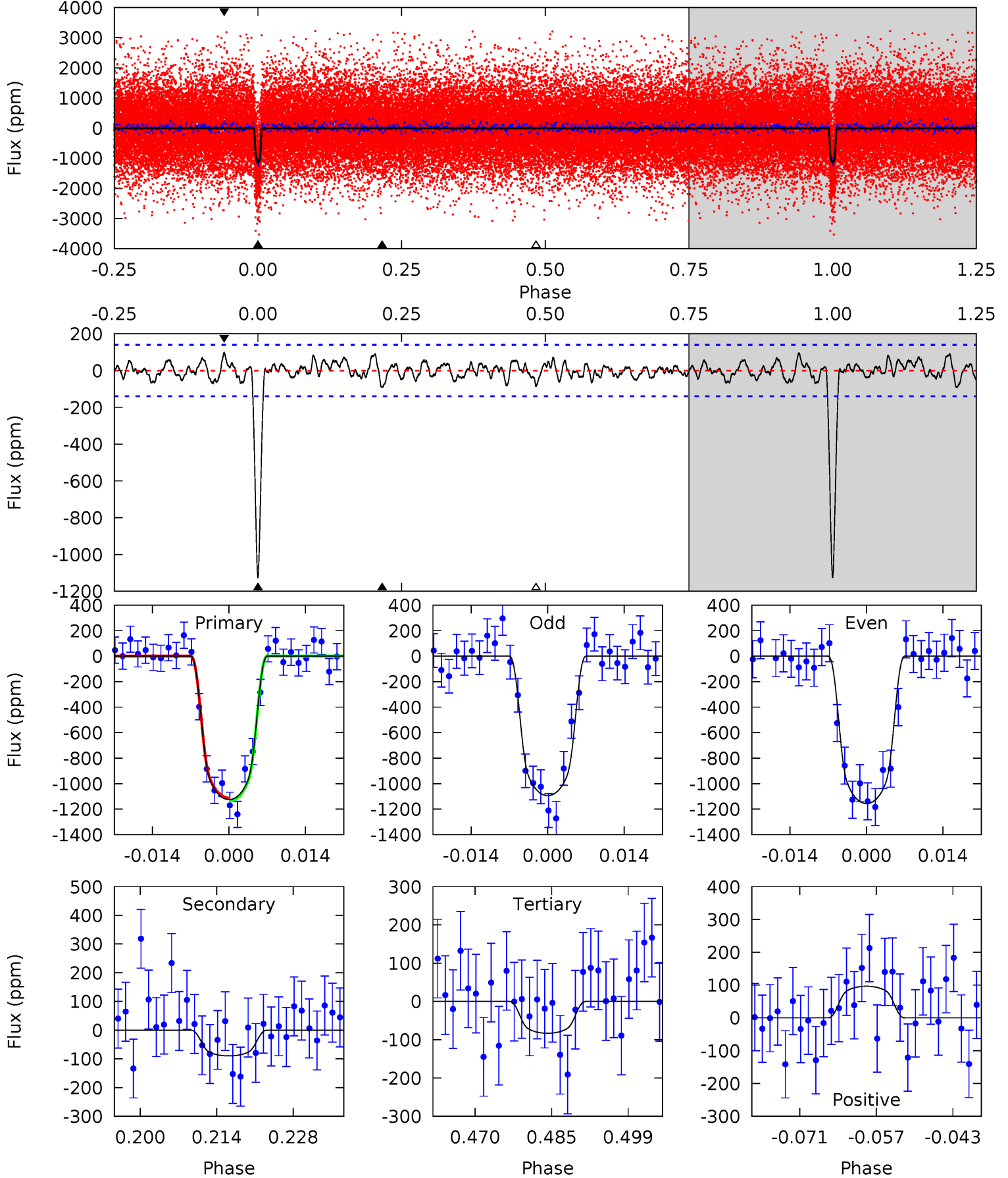
TCE 003546060-01 P= 9.693080 Days  $T_0=134.532636$  (BKJD)



# DV Model-Shift Uniqueness Test

003546060-01, P = 9.693109 Days, E = 134.530145 Days

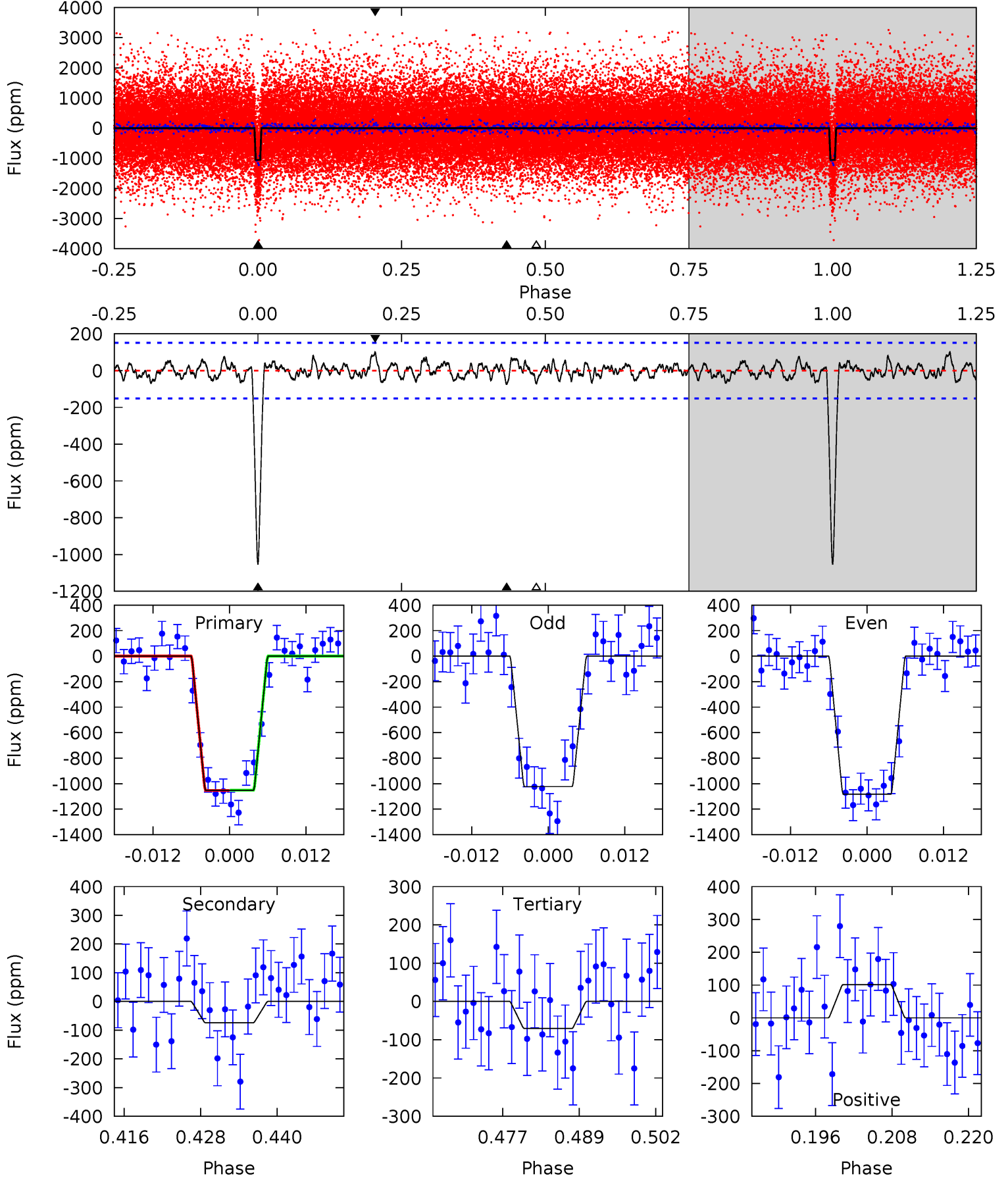
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.9	3.18	2.95	3.42	4.96	2.45	1.17	37.0	36.5	0.23	-0.24	1.12	0.97	0.08	0.40



# Alt Model-Shift Uniqueness Test

003546060-01, P = 9.693080 Days, E = 134.532636 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
34.7	2.45	2.33	3.33	4.99	2.51	1.01	32.3	31.3	0.13	-0.88	0.98	0.96	0.09	0.05



### Stellar Parameters For KIC 003546060

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4818^{+173}_{-173}$	$4.639^{+0.059}_{-0.036}$	$-0.680^{+0.300}_{-0.300}$	$0.618^{+0.054}_{-0.054}$	$0.607^{+0.067}_{-0.033}$	$3.616^{+0.901}_{-0.557}$
	+4%/-4%	+1%/-1%	+44%/-44%	+9%/-9%	+11%/-5%	+25%/-15%
Source	KIC0	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 003546060-01 / KOI 2126.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-90 \pm 28$	$2.44^{+0.38}_{-0.38}$	$845^{+35}_{-33}$	$3031^{+204}_{-196}$	$46^{+26}_{-17}$
Alt.	$-74 \pm 30$	$2.23^{+0.36}_{-0.35}$	$849^{+34}_{-38}$	$3037^{+262}_{-266}$	$47^{+31}_{-22}$

$T_{\text{max}}$  = 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

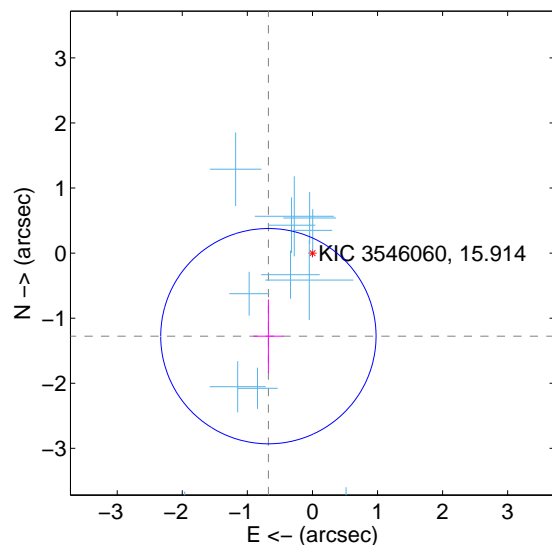
Supplemental centroid analysis for 003546060-01. Kepler magnitude: 15.91. Transit SNR 29.40

There are 14 quarters with good PRF difference image offsets

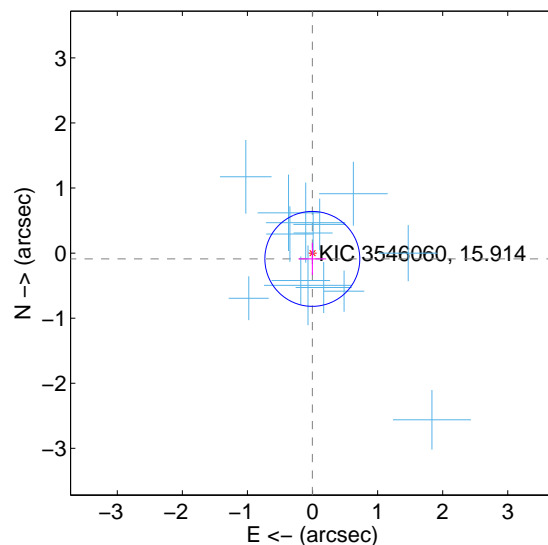
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.444 \pm 0.551$	2.62	$0.677 \pm 0.230$	$-1.276 \pm 0.564$
PRF-fit source offset from KIC position	$0.089 \pm 0.243$	0.37	$0.003 \pm 0.213$	$-0.089 \pm 0.246$
photometric centroid source offset	$0.56 \pm 0.36$	1.53	$-0.05 \pm 0.34$	$0.55 \pm 0.36$

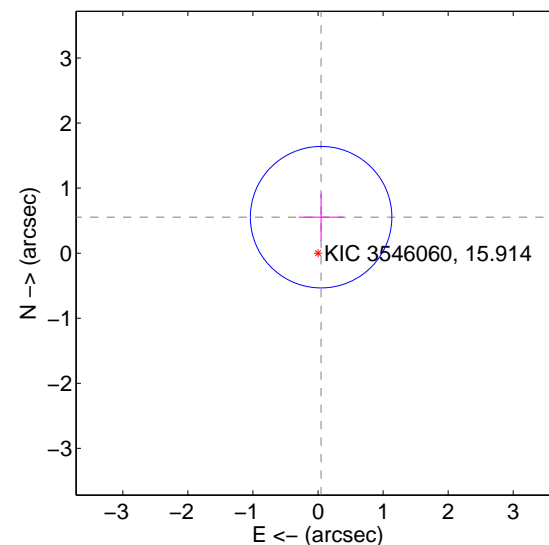
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

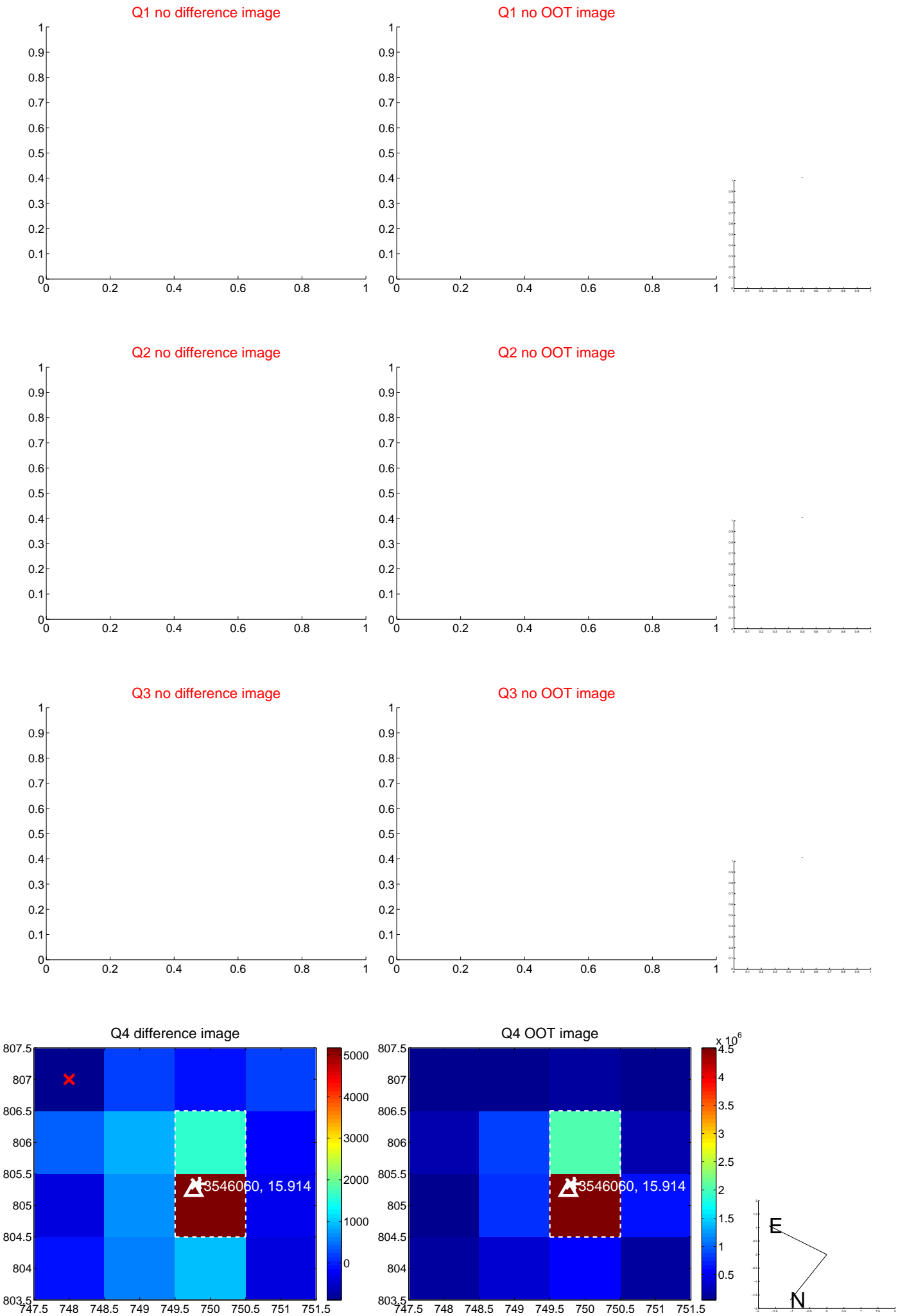


offset from photometric centroids

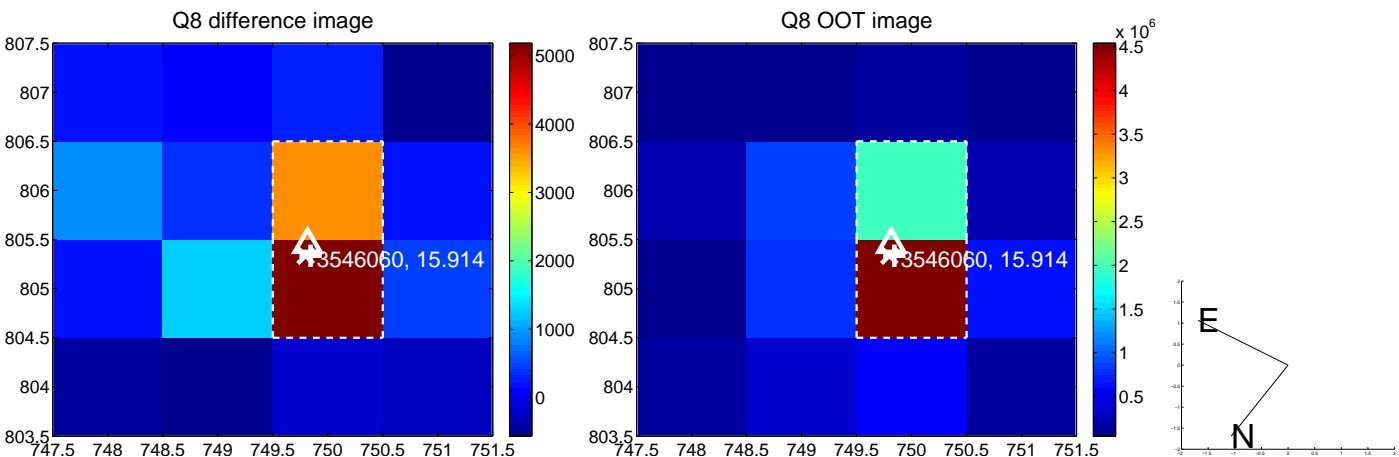
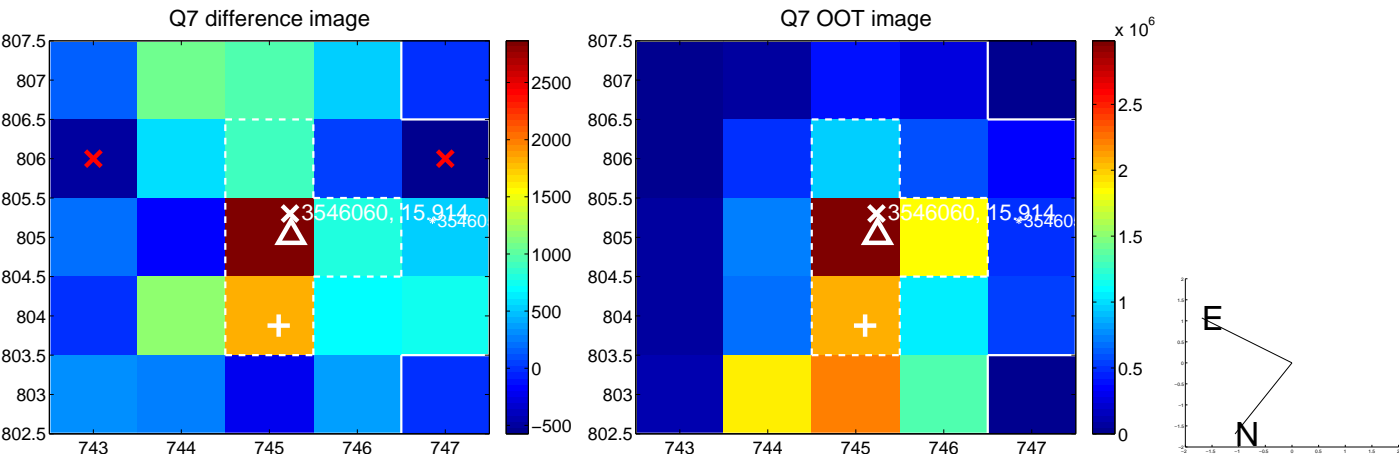
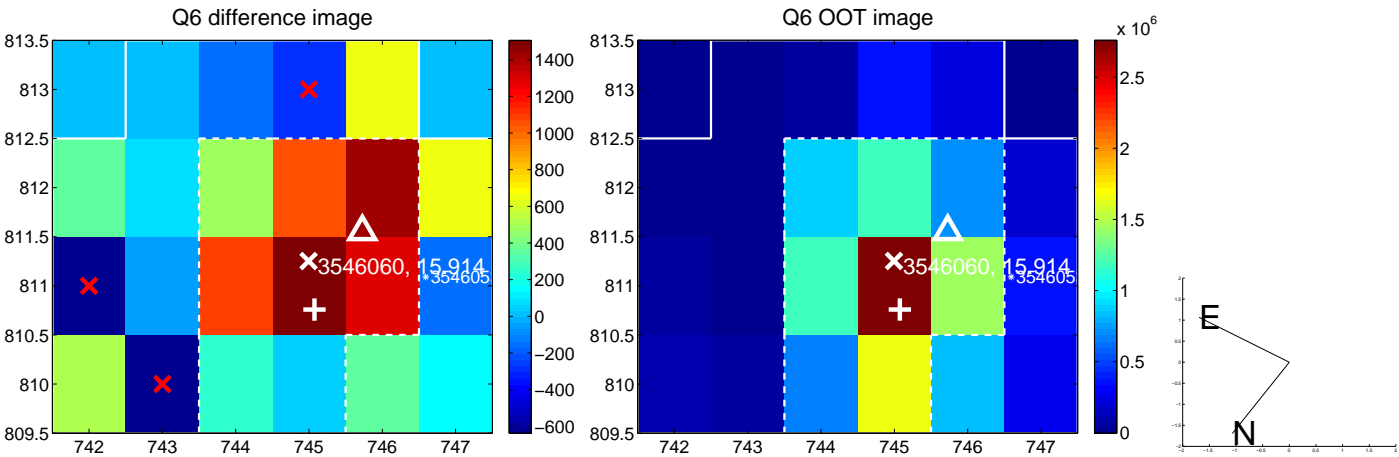
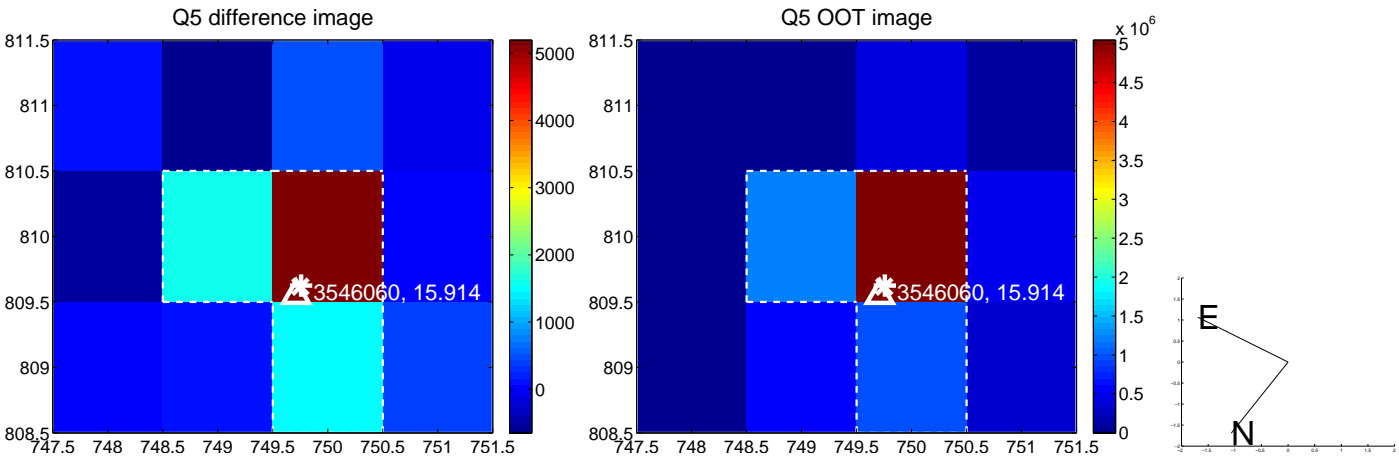


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

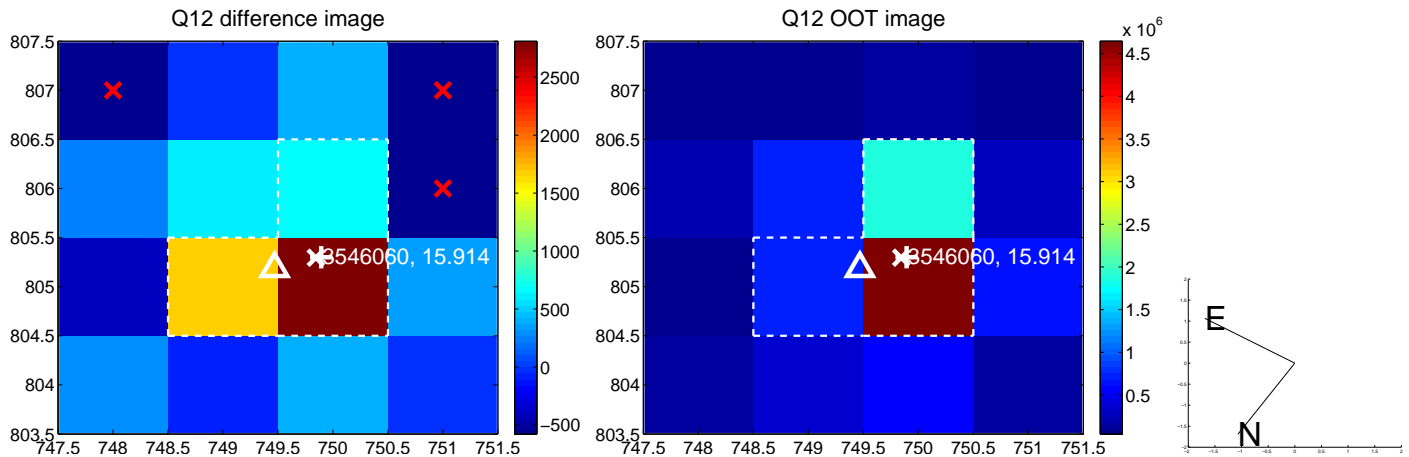
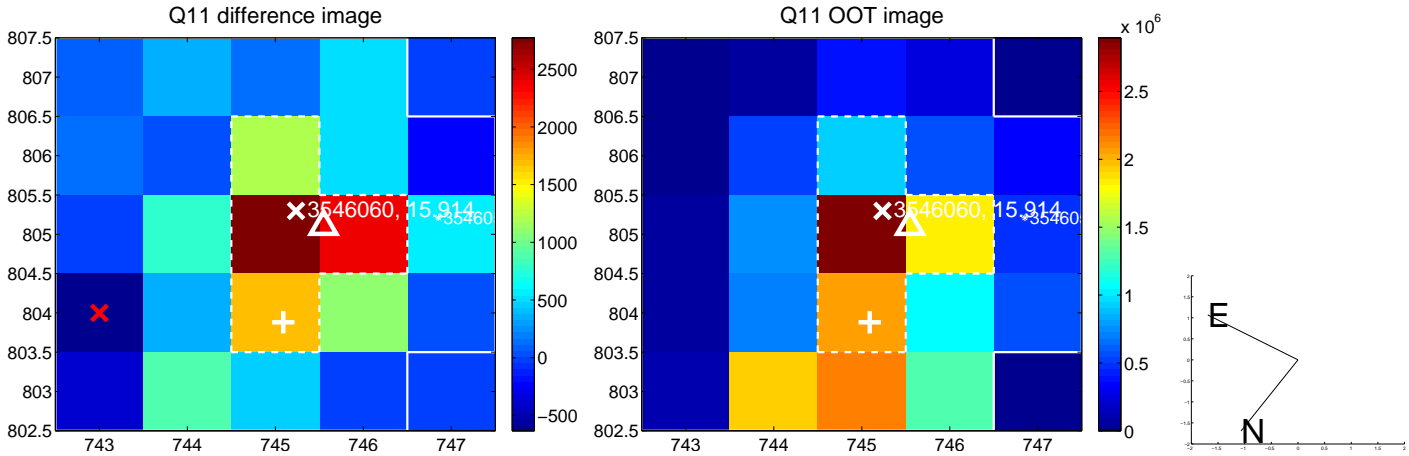
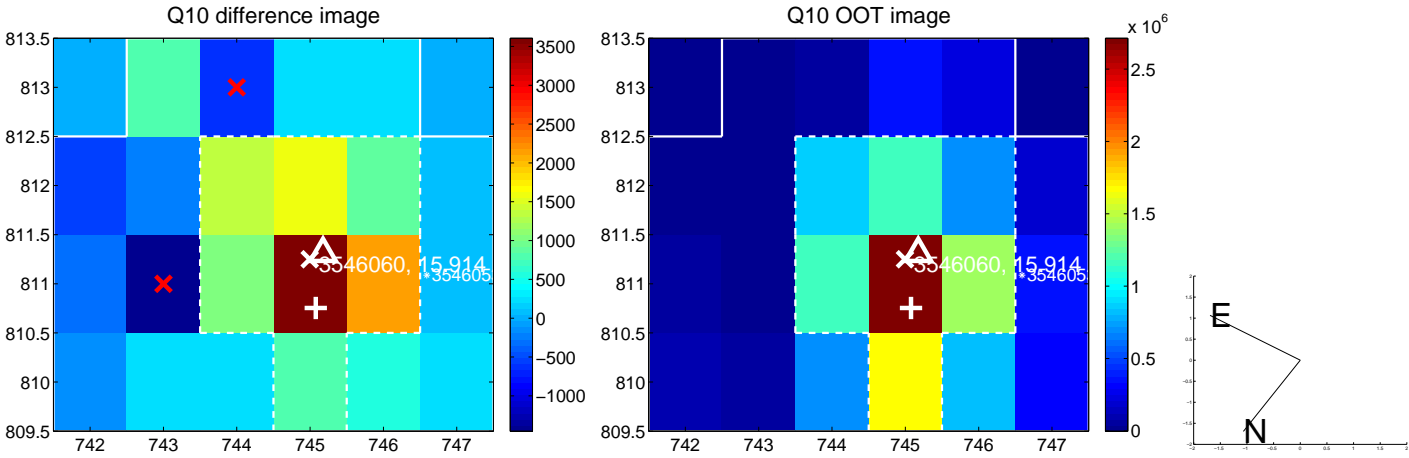
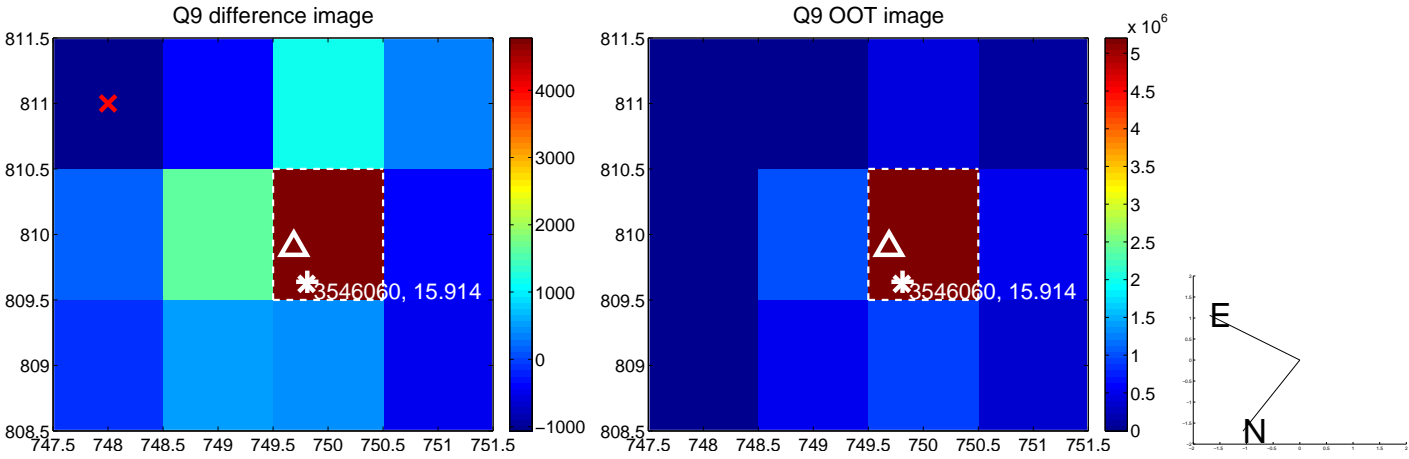
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



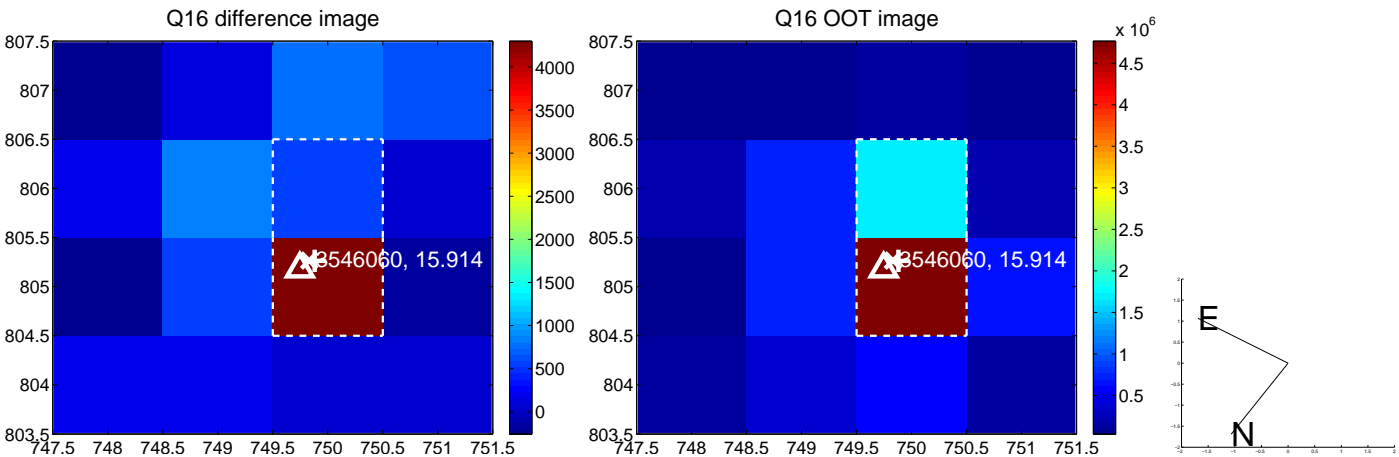
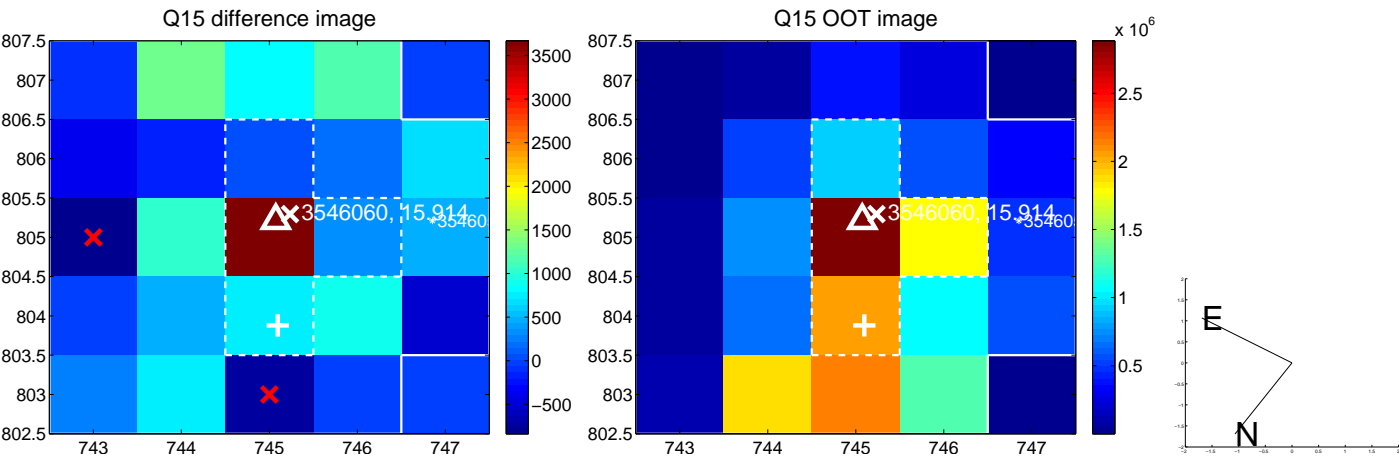
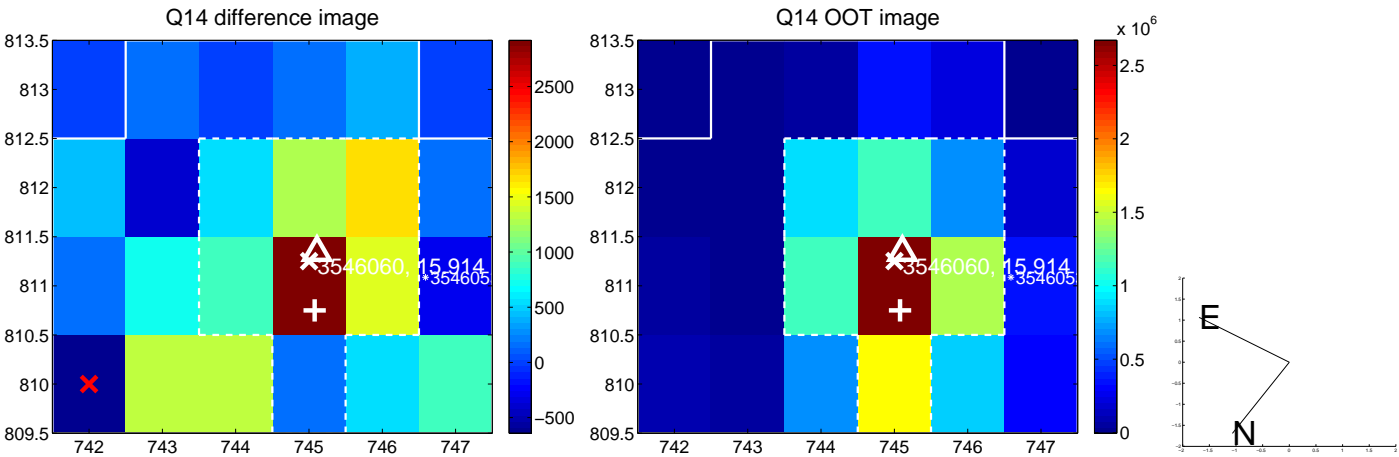
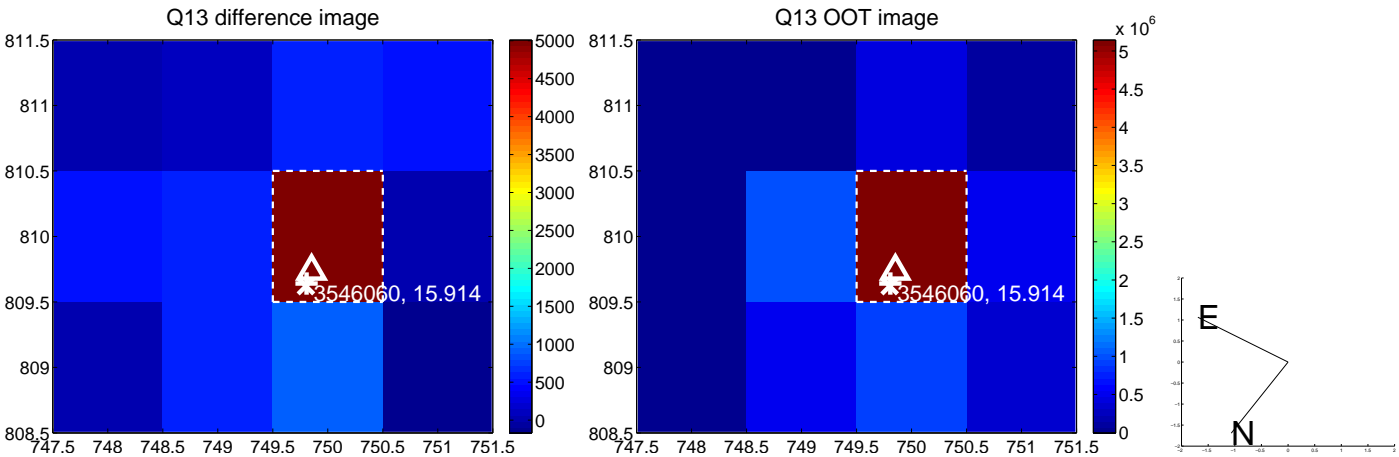
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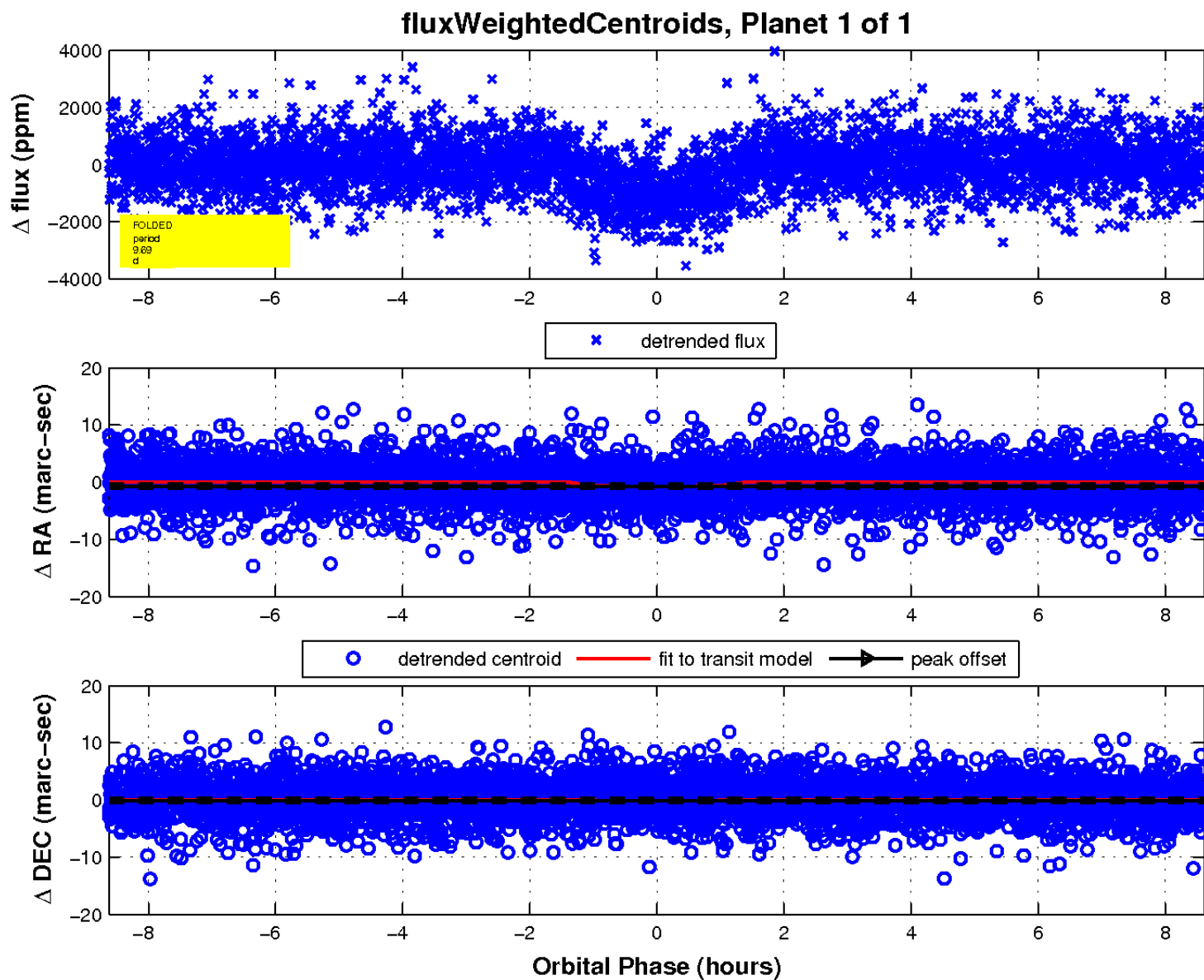
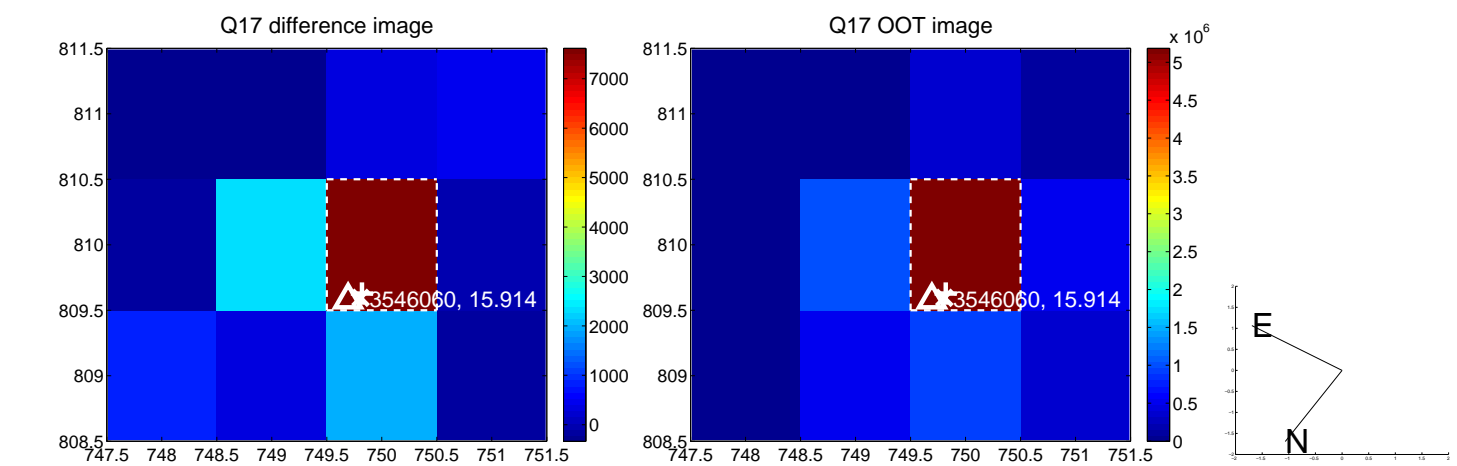


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

