

# KIC 006197344

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006197344-01	OBS	4463.01	36.760506	137.761029	155.7	13.968	12.7	12.7	0.82	5305	1.10	12.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006197344-01	OBS	PC	0.93	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.

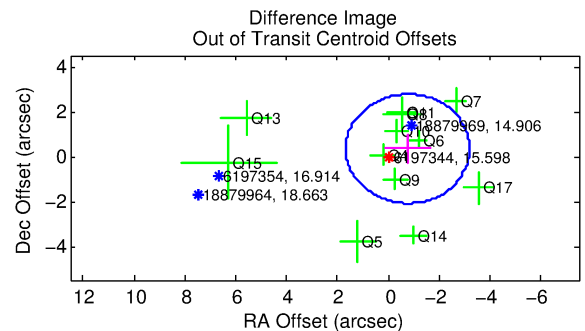
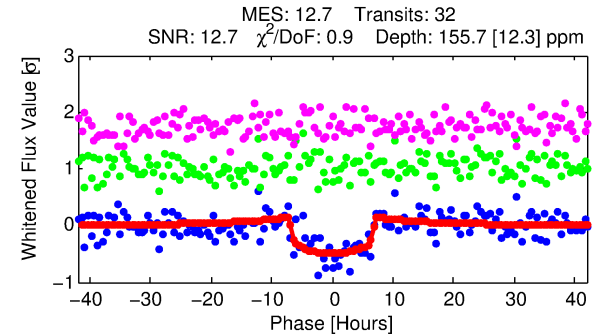
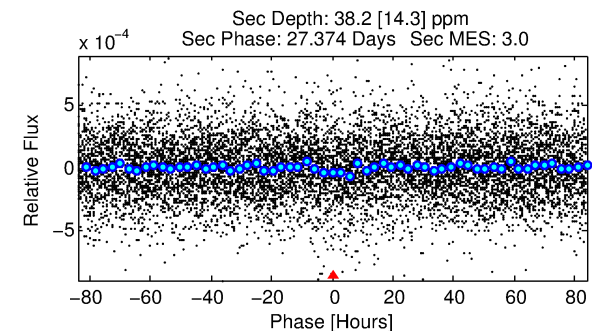
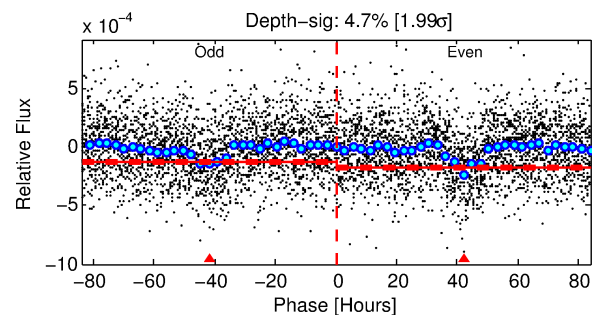
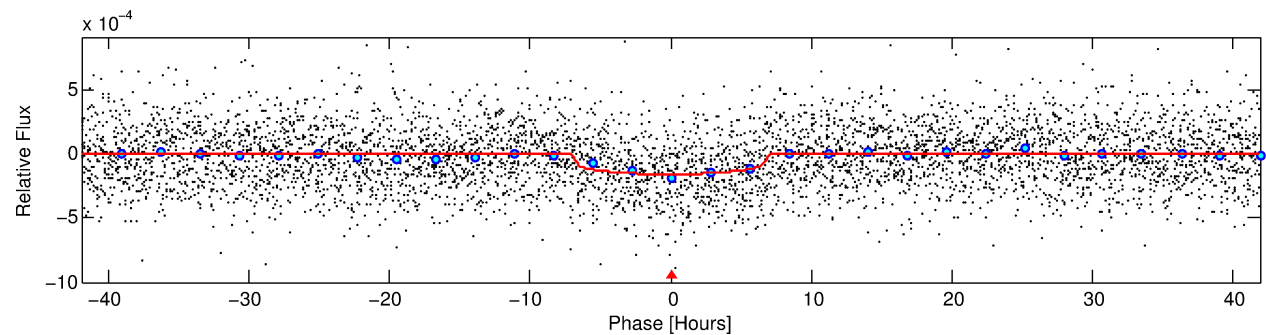
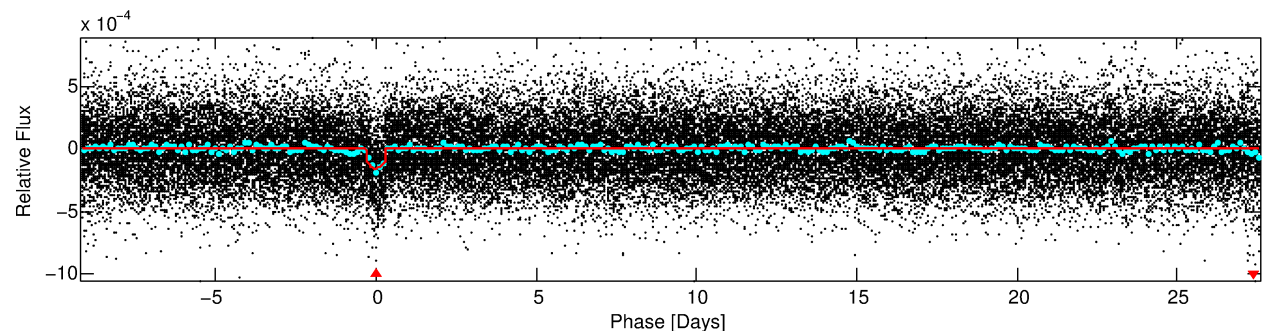
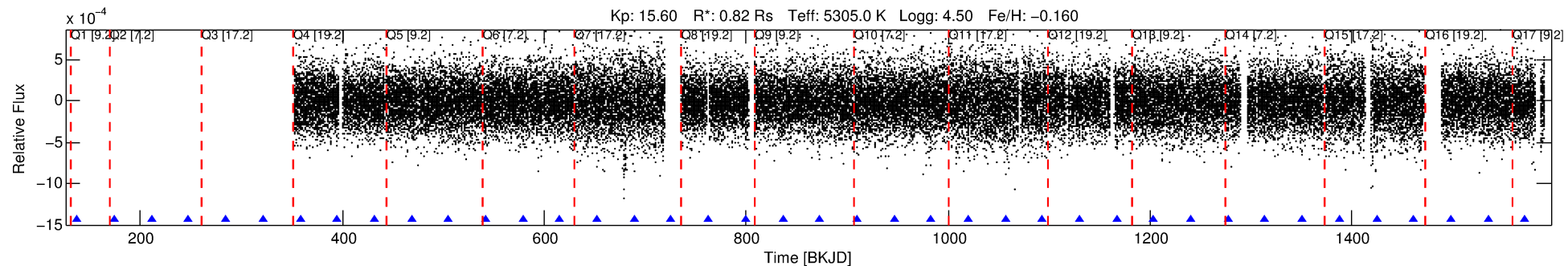
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006197344-01

No Significant Match Found

# DV One-Page Summary

KIC: 6197344 Candidate: 1 of 1 Period: 36.761 d  
KOI: K04463.01 Corr: 0.967



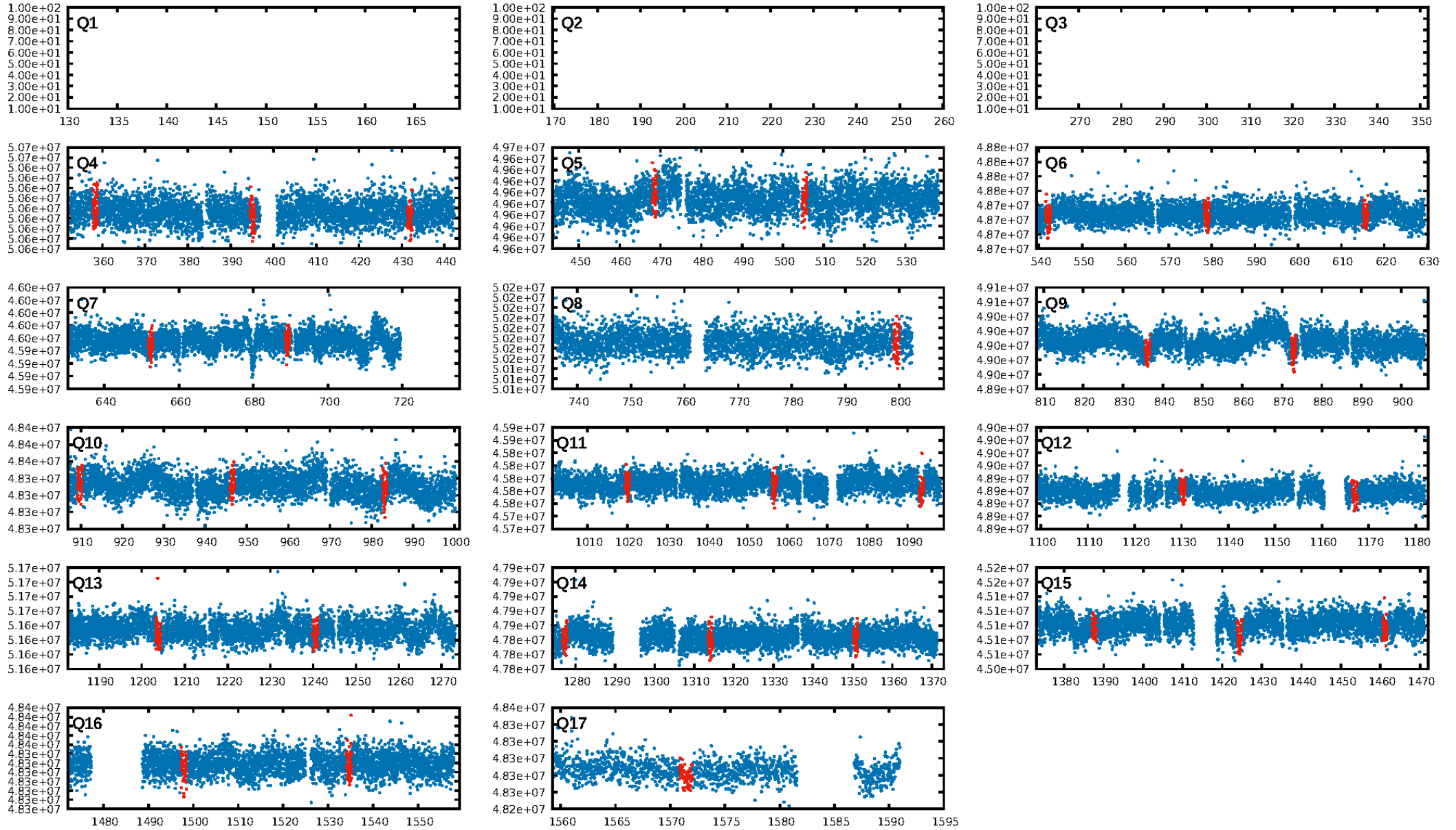
## DV Fit Results:

Period = 36.76051 [0.00069] d  
Epoch = 137.7610 [0.0168] BKJD  
Rp/R\* = 0.0123 [0.0046]  
a/R\* = 14.45 [21.25]  
b = 0.71 [1.02]  
Seff = 12.02 [2.93]  
Teq = 475 [29] K  
Rp = 1.10 [0.45] Re  
a = 0.1999 [0.0272] AU  
Ag = 693.52 [597.30] [1.16σ]  
Teff = 3767 [800] K [4.11σ]

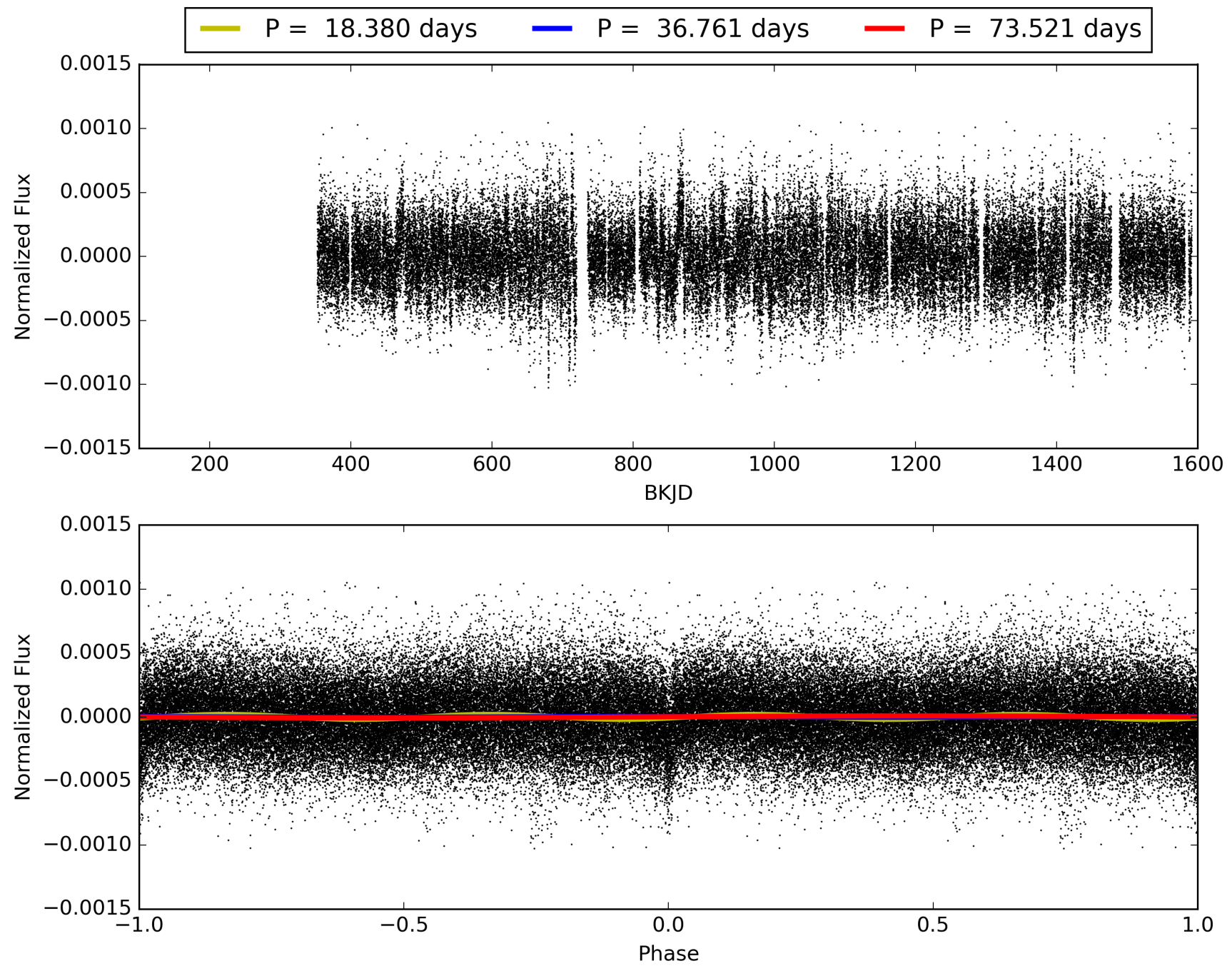
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 85.1%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.32e-35  
RollingBand-fgt: 1.00 [31/31]  
GhostDiagnostic-chr: 2.593  
Centroid-sig: 5.0%  
Centroid-so: 1.608 arcsec [1.84σ]  
OotOffset-rm: 0.836 arcsec [1.03σ]  
KicOffset-rm: 1.266 arcsec [1.67σ]  
OotOffset-st: 3/3/2/4 [12]  
KicOffset-st: 3/3/2/4 [12]  
DiffImageQuality-fgm: 0.42 [5/12]  
DiffImageOverlap-fno: 1.00 [13/13]

# TCE 006197344-01, PDC Light Curves

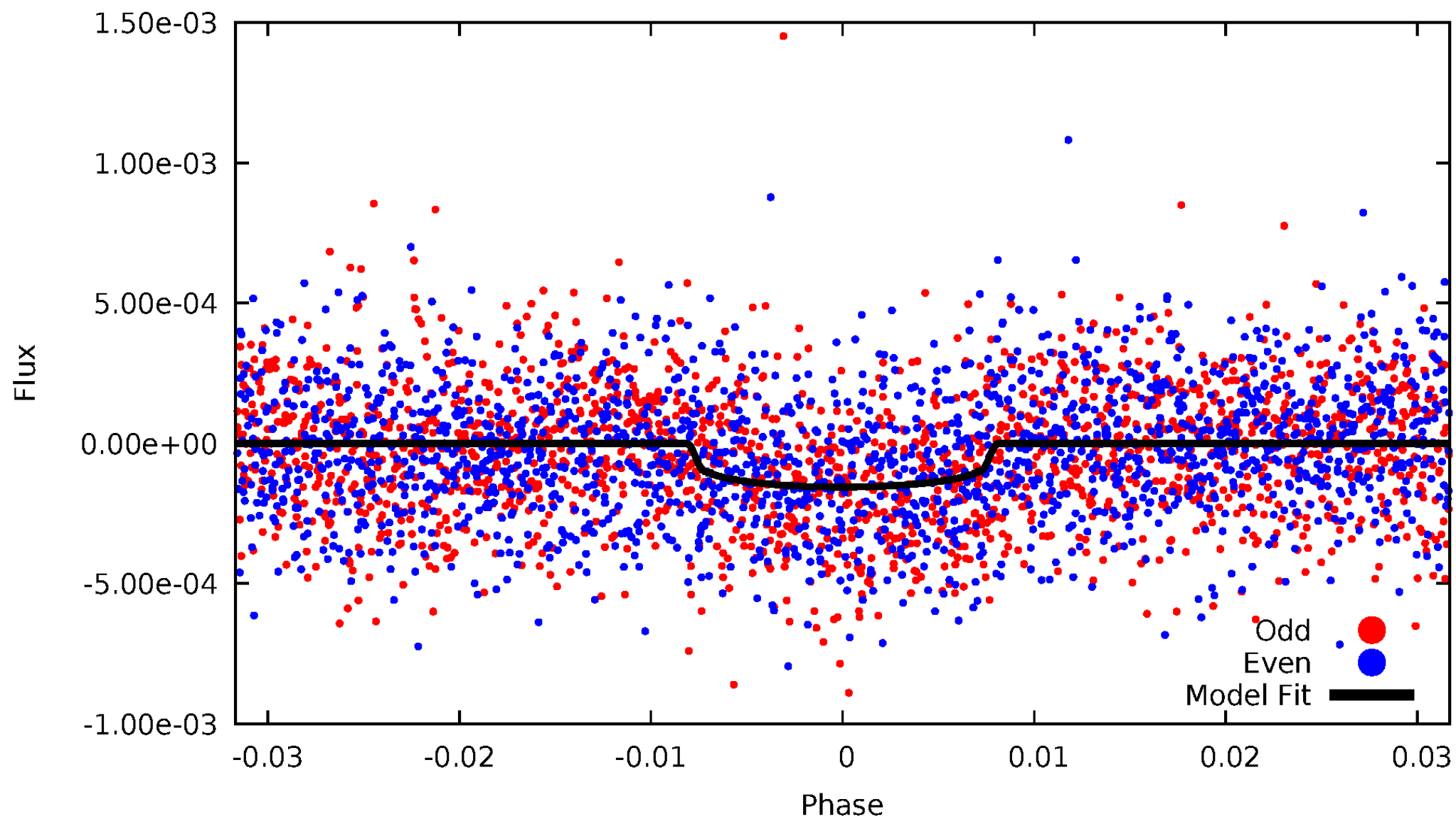


# TCE 006197344-01



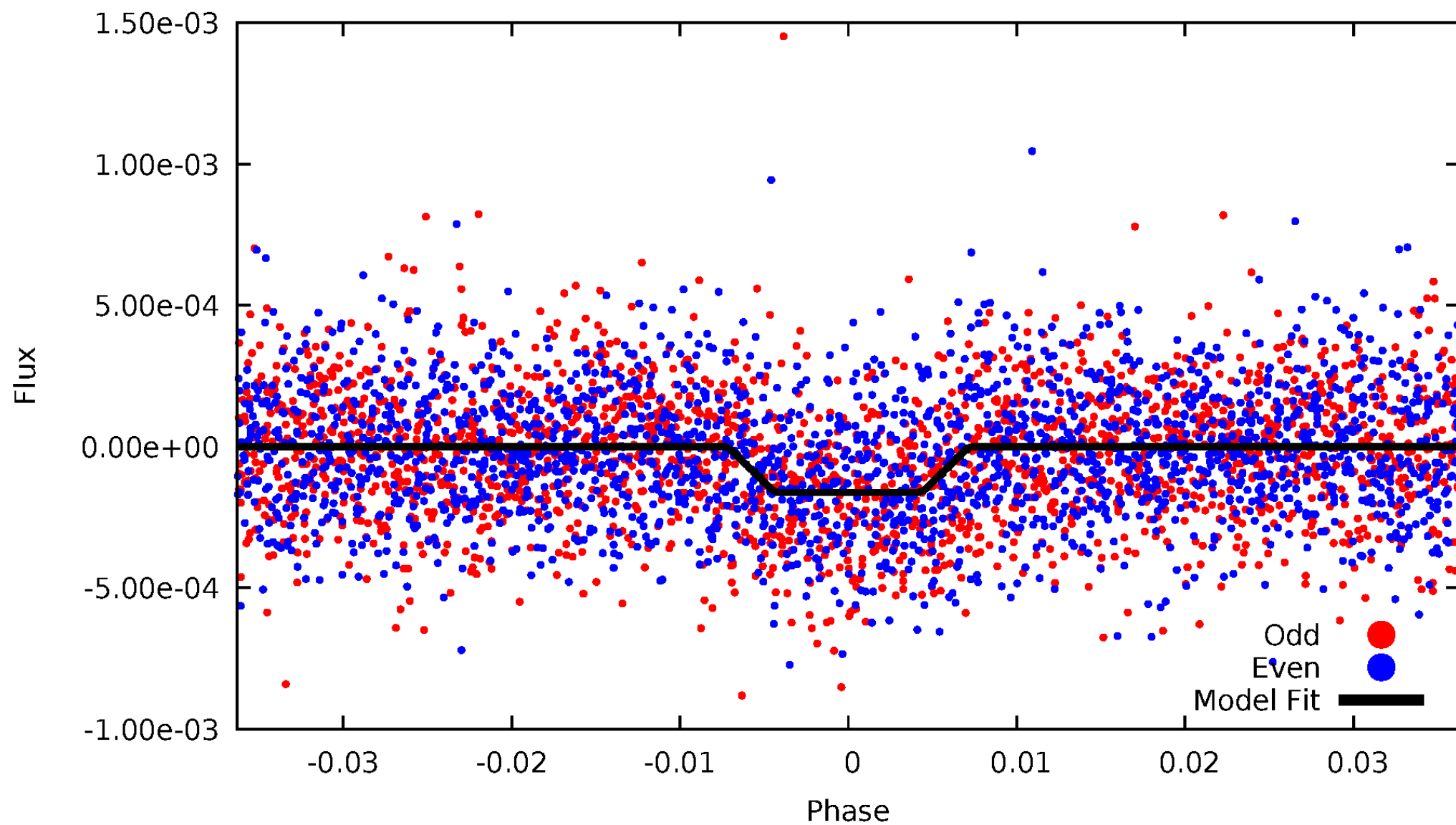
# DV Odd/Even

TCE 006197344-01



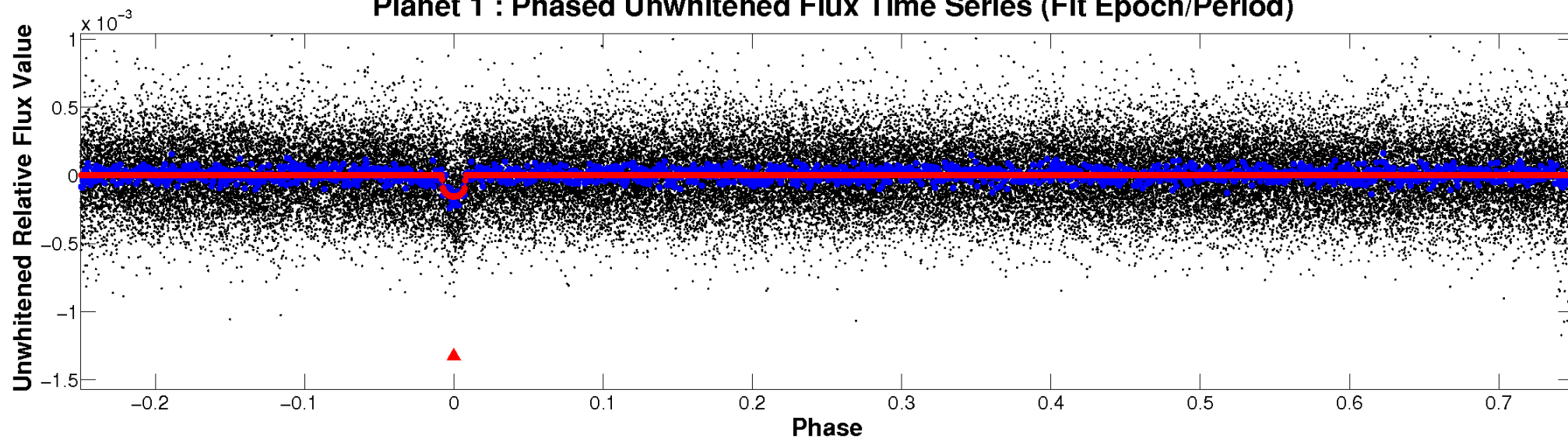
# ALT Odd/Even

TCE 006197344-01

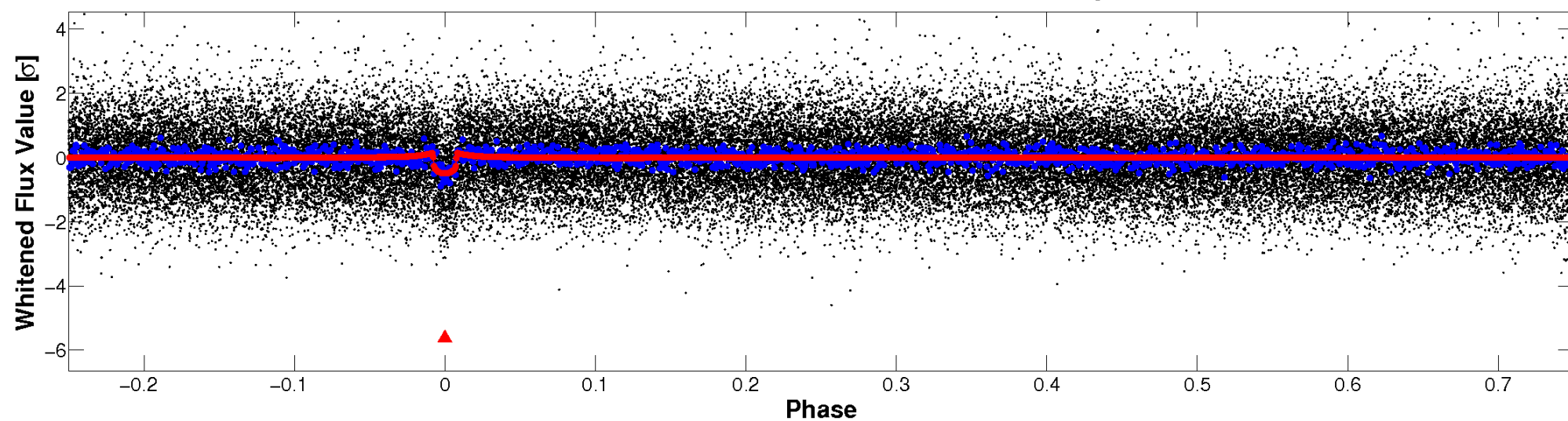


# Non-Whitened Vs. Whitened Light Curve

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

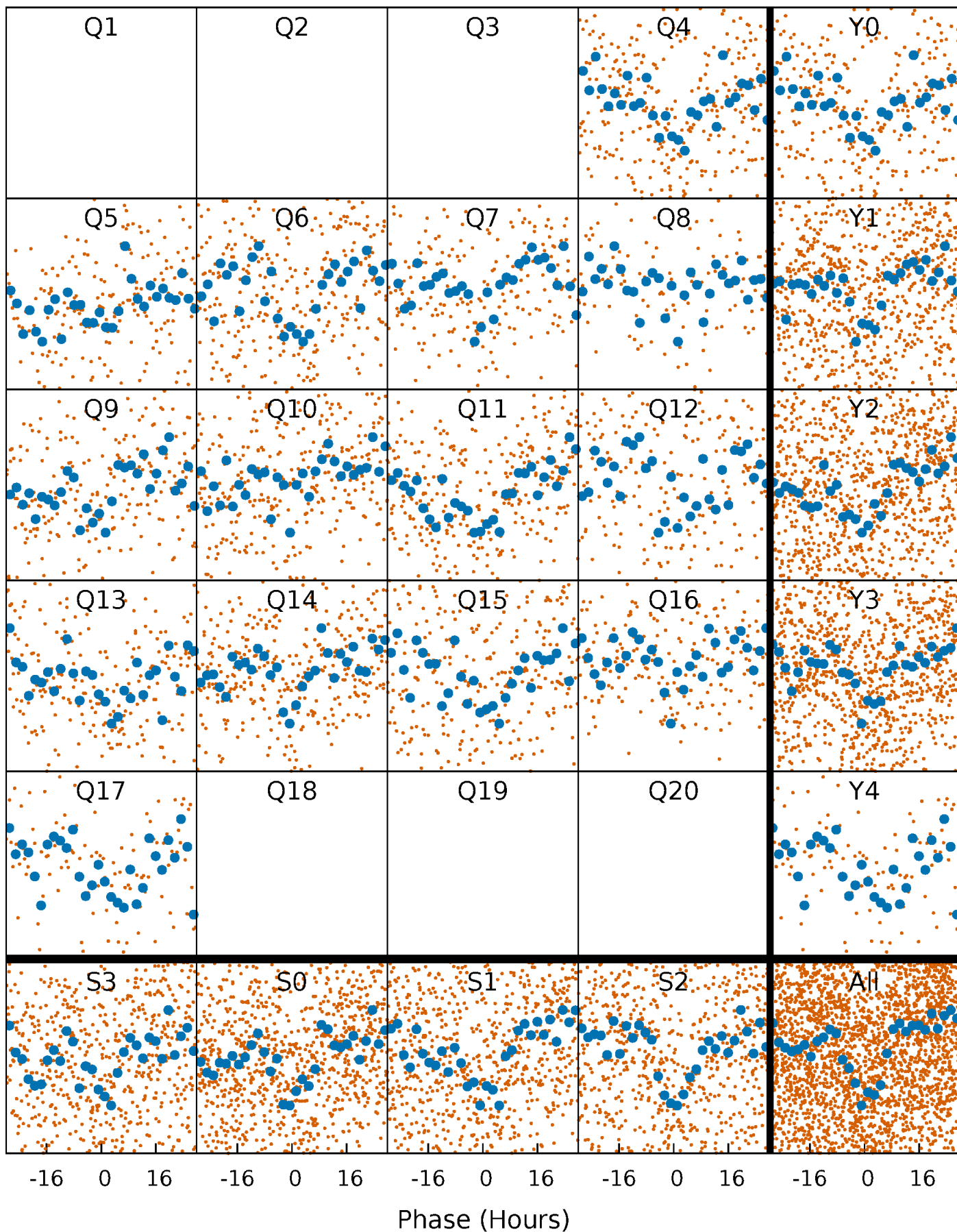


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



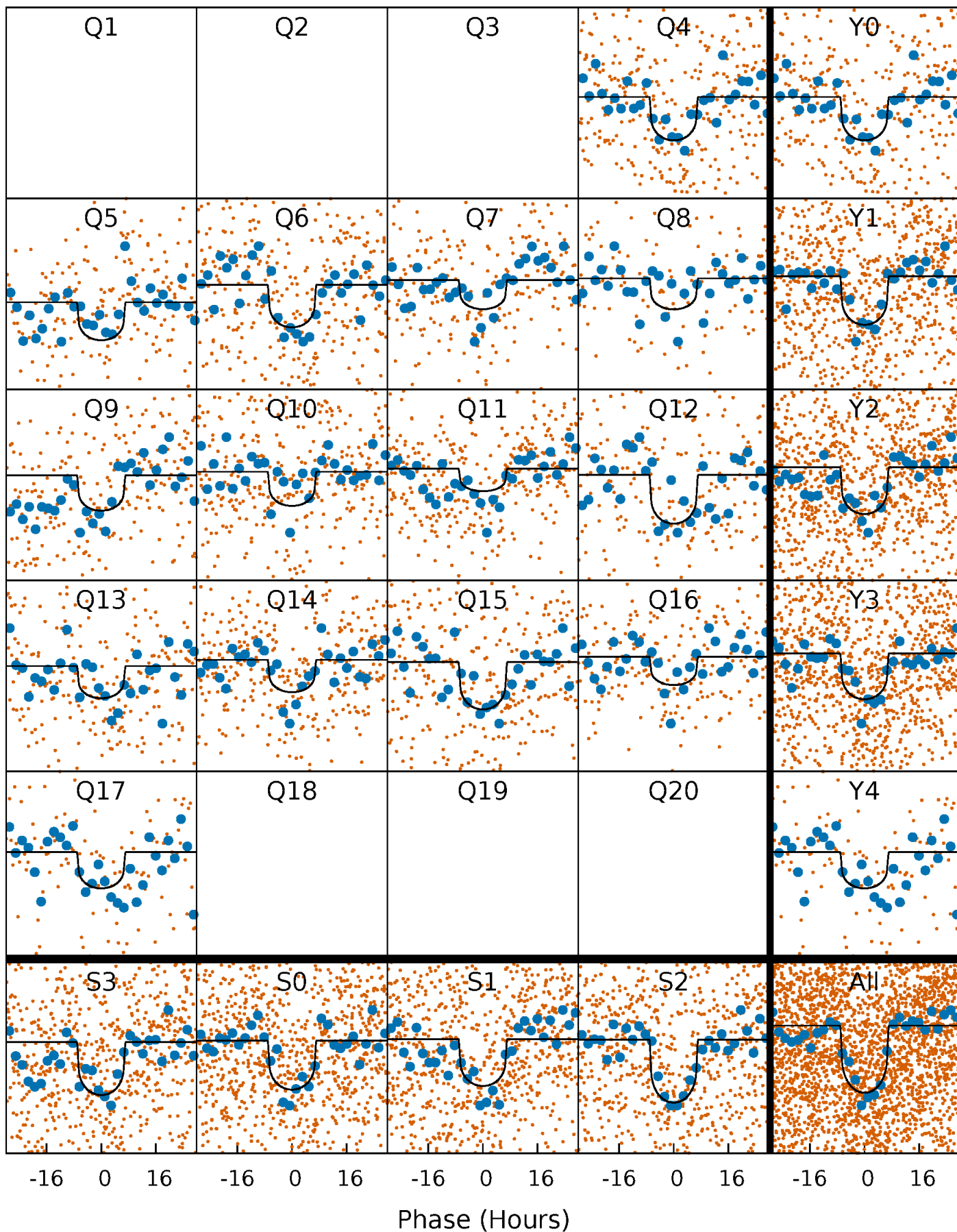
# PDC Quarter-Phased Transit Curves

TCE 006197344-01 P= 36.760506 Days  $T_0=137.761029$  (BKJD)



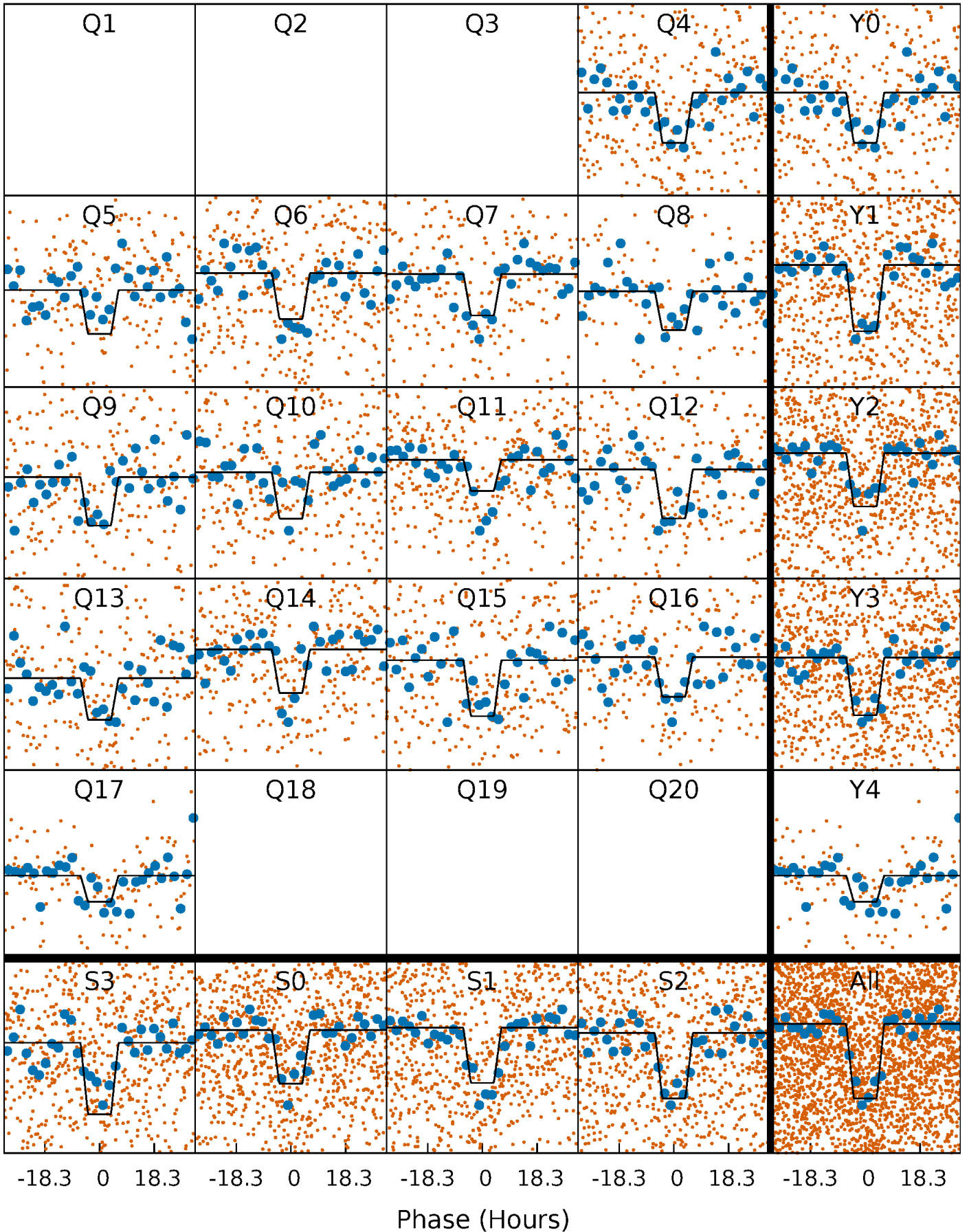
# DV Quarter-Phased Transit Curves

TCE 006197344-01 P= 36.760506 Days  $T_0=137.761029$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

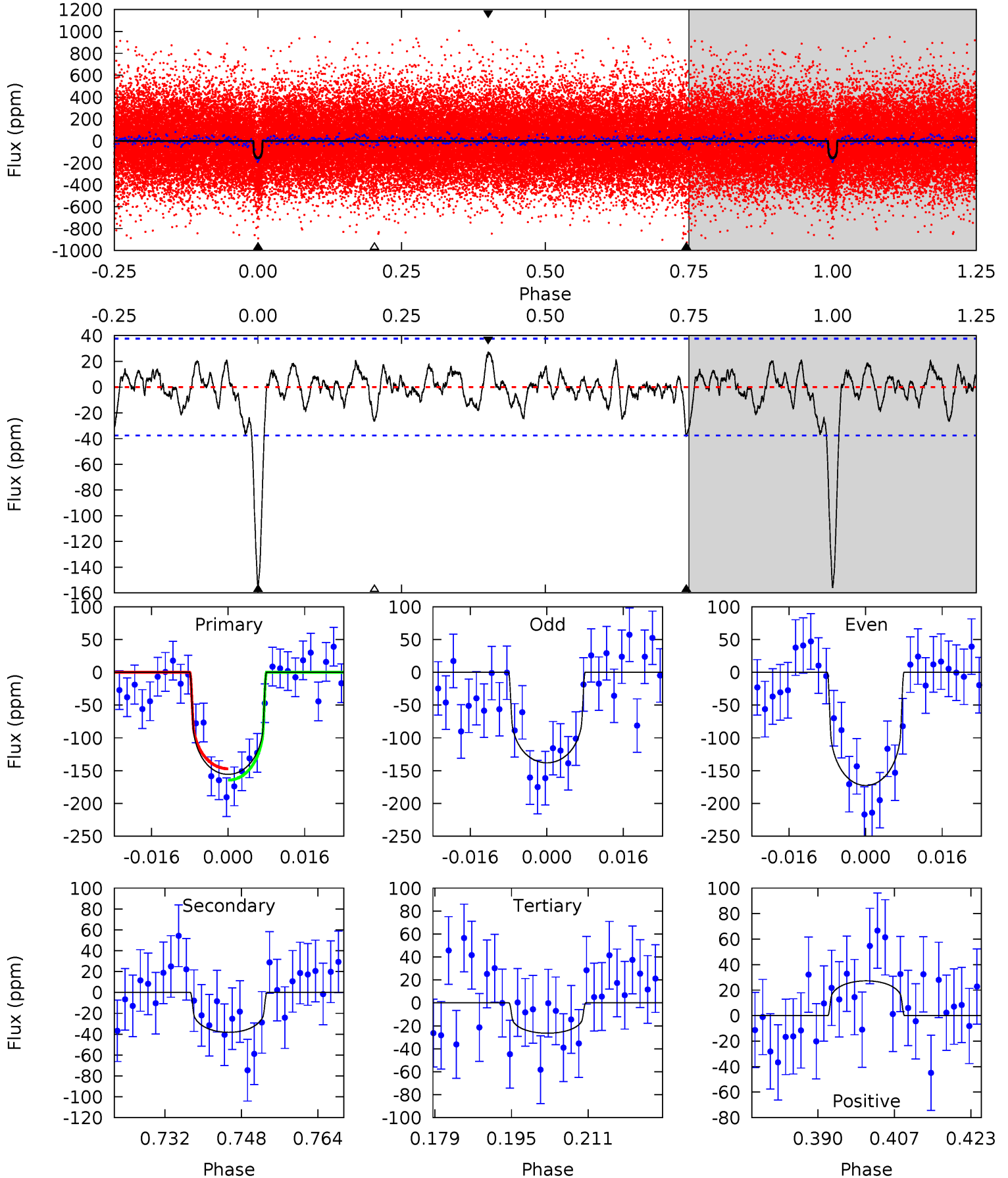
TCE 006197344-01 P= 36.760846 Days  $T_0=137.779551$  (BKJD)



# DV Model-Shift Uniqueness Test

006197344-01, P = 36.760506 Days, E = 137.761029 Days

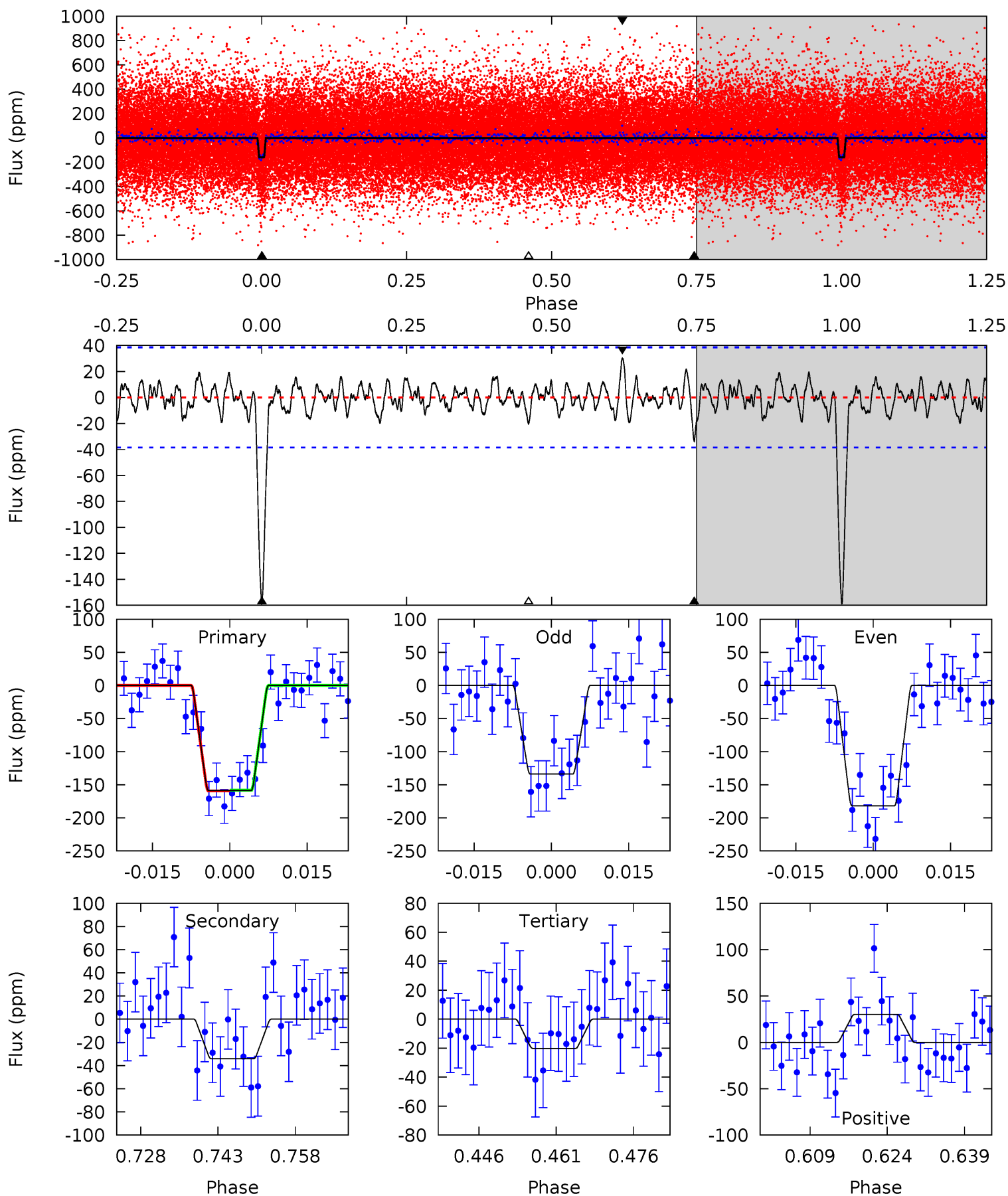
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	5.02	3.47	3.58	4.93	2.40	1.32	17.0	16.9	1.55	1.44	2.27	1.01	0.15	1.14



# Alt Model-Shift Uniqueness Test

006197344-01, P = 36.760846 Days, E = 137.779551 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
20.4	4.38	2.60	3.87	4.95	2.44	1.05	17.8	16.5	1.78	0.51	3.08	1.06	0.16	0.09



### Stellar Parameters For KIC 006197344

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5305^{+185}_{-185}$	$4.504^{+0.090}_{-0.110}$	$-0.160^{+0.300}_{-0.300}$	$0.823^{+0.132}_{-0.099}$	$0.789^{+0.113}_{-0.061}$	$1.994^{+0.766}_{-0.657}$
	+3%/-3%	+2%/-2%	+188%/-188%	+16%/-12%	+14%/-8%	+38%/-33%
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 006197344-01 / KOI 4463.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-38 \pm 8$	$1.11^{+0.46}_{-0.42}$	$666^{+34}_{-34}$	$4033^{+832}_{-457}$	$670^{+1131}_{-333}$
Alt.	$-34 \pm 8$	$1.15^{+0.44}_{-0.42}$	$668^{+34}_{-35}$	$3910^{+731}_{-416}$	$566^{+830}_{-282}$

$T_{max}$  = 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

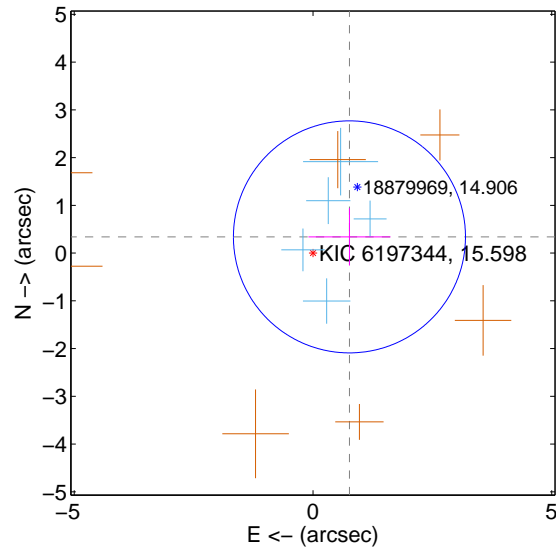
Supplemental centroid analysis for 006197344-01. Kepler magnitude: 15.60. Transit SNR 12.70

There are 5 quarters with good PRF difference image offsets

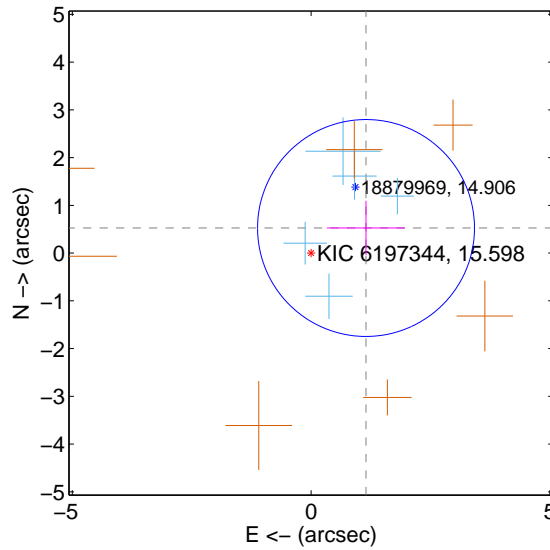
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.836 \pm 0.810$	1.03	$-0.764 \pm 0.859$	$0.340 \pm 0.600$
PRF-fit source offset from KIC position	$1.266 \pm 0.757$	1.67	$-1.151 \pm 0.818$	$0.526 \pm 0.570$
photometric centroid source offset	$1.61 \pm 0.87$	1.84	$-1.58 \pm 0.88$	$-0.31 \pm 0.65$

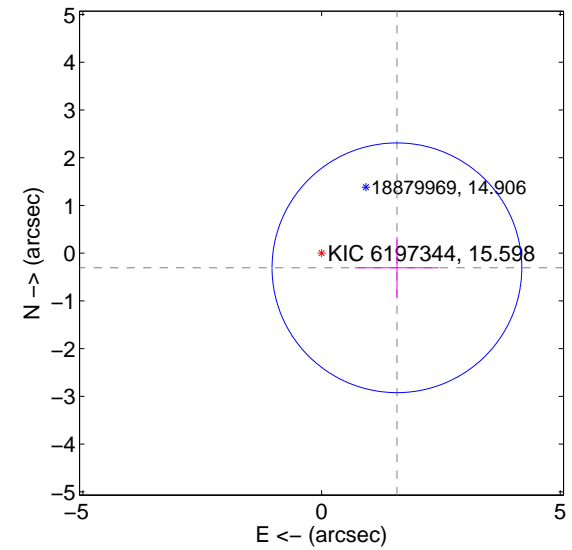
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

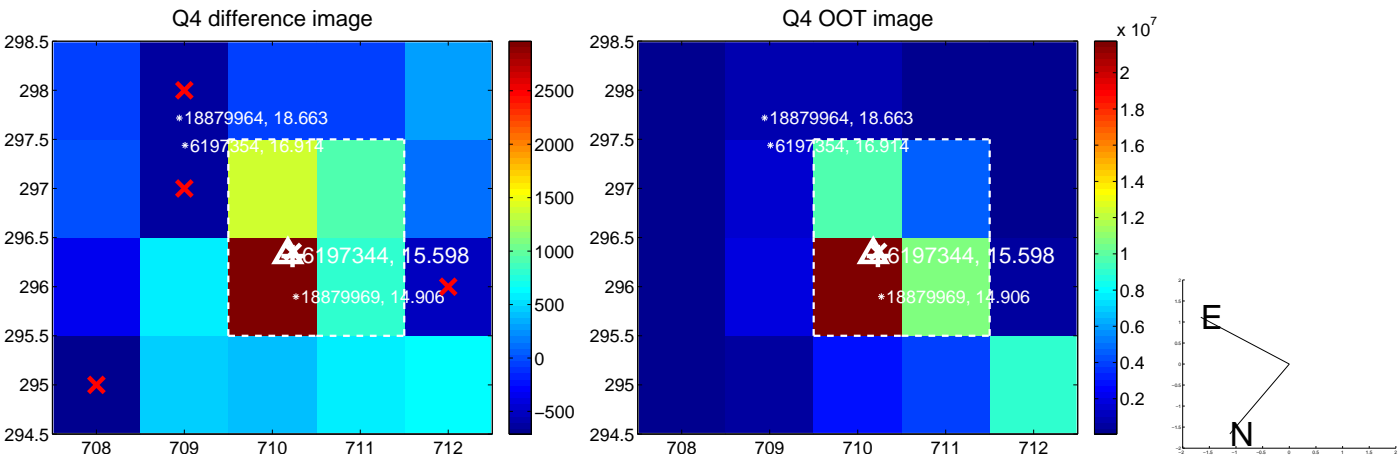
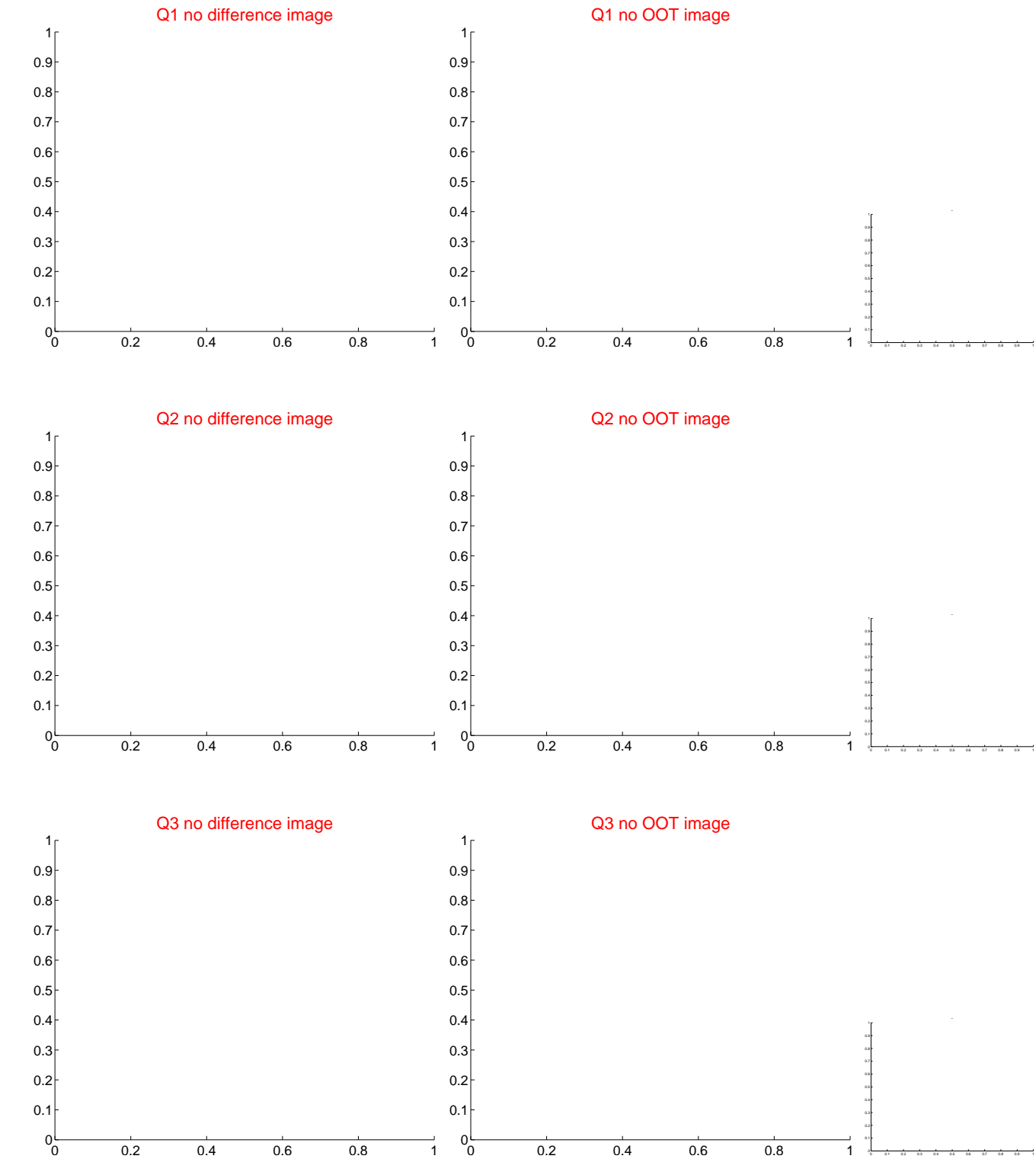


offset from photometric centroids

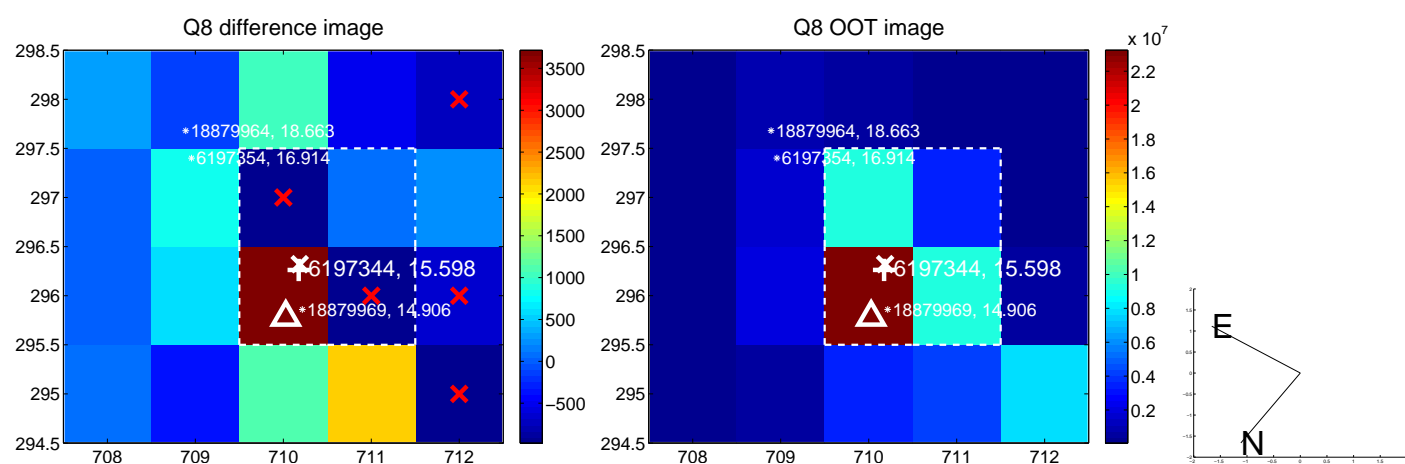
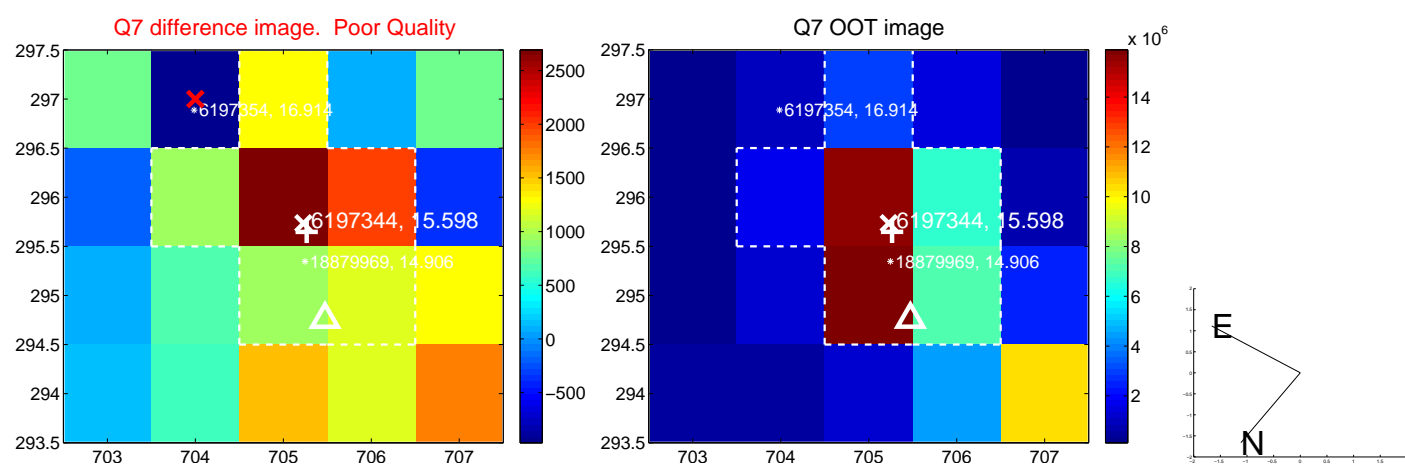
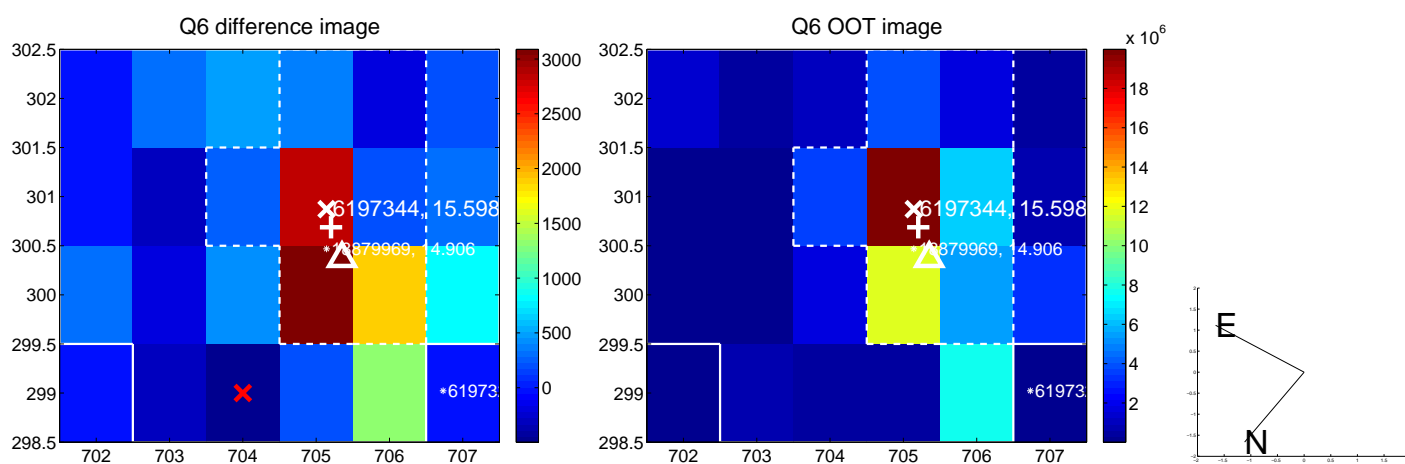
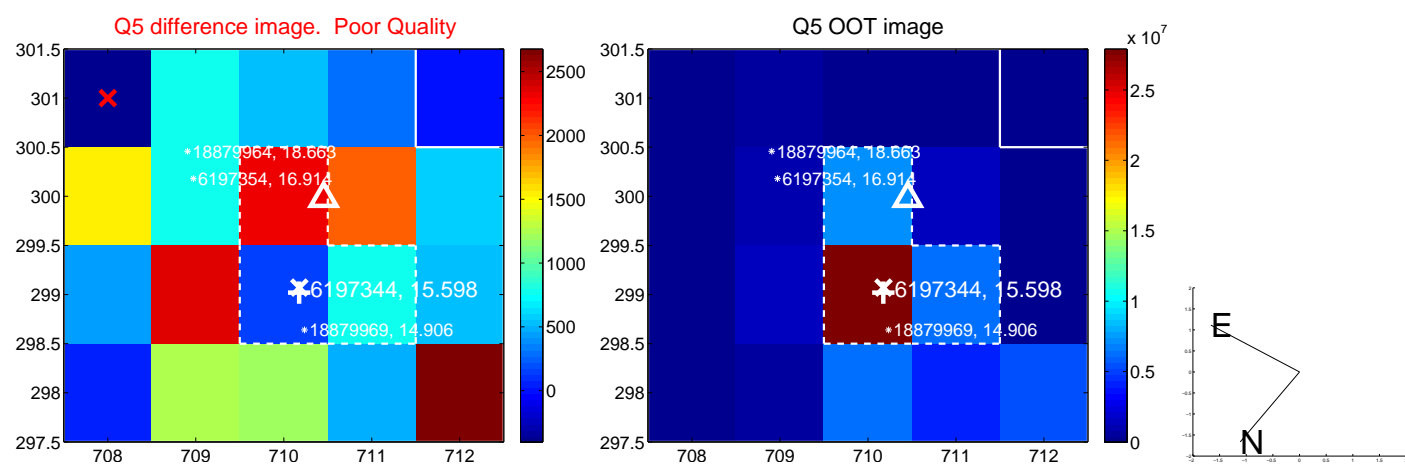


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

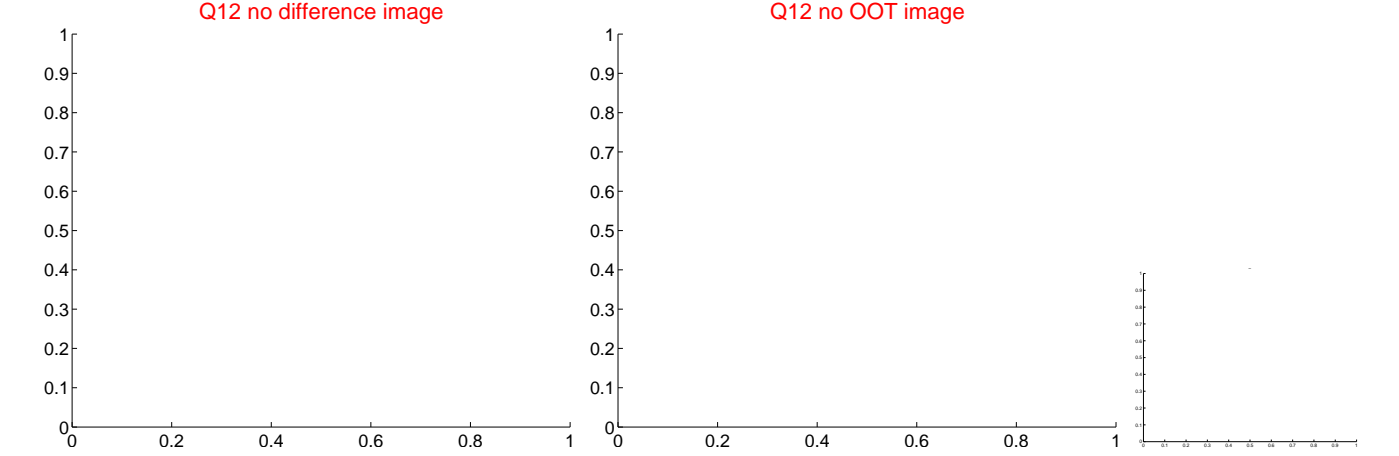
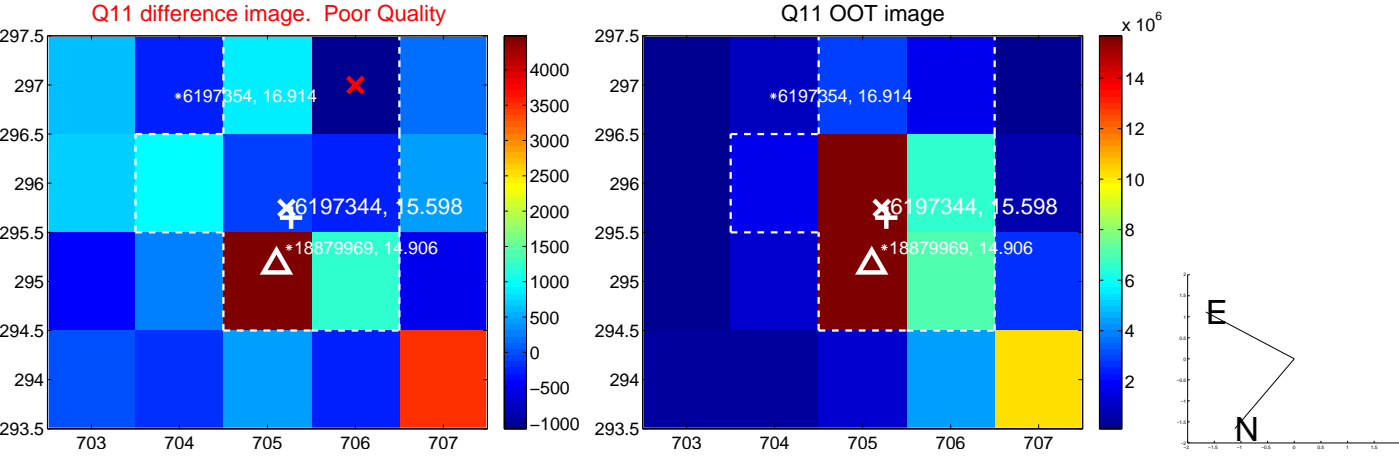
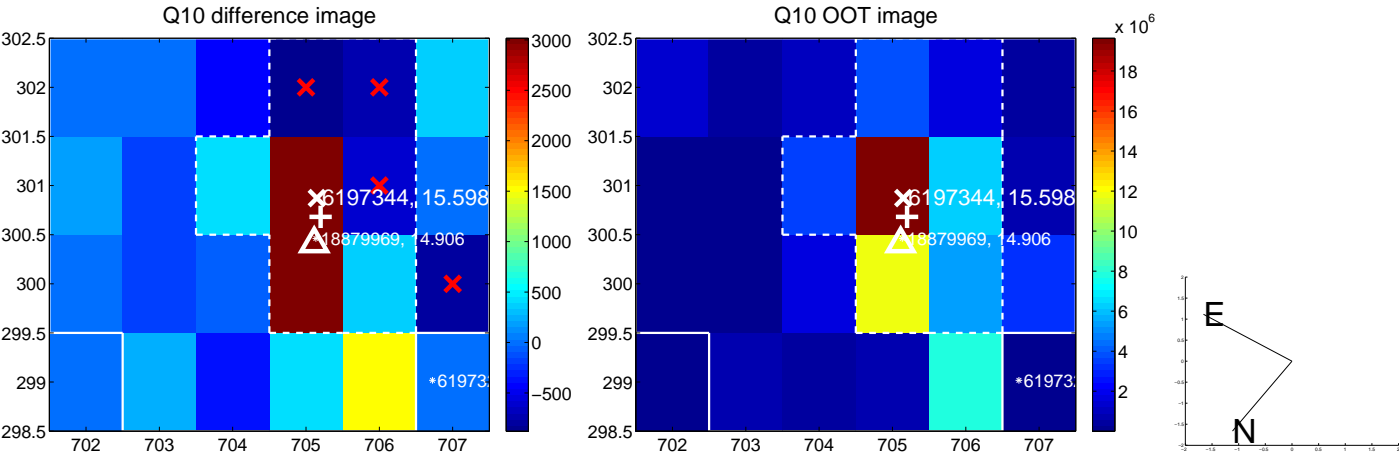
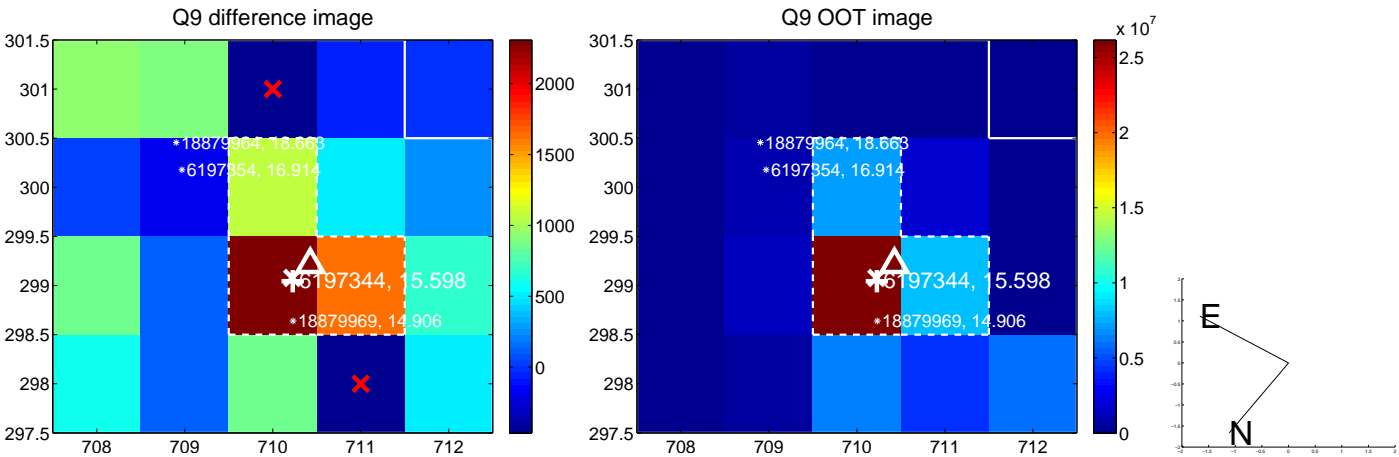
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



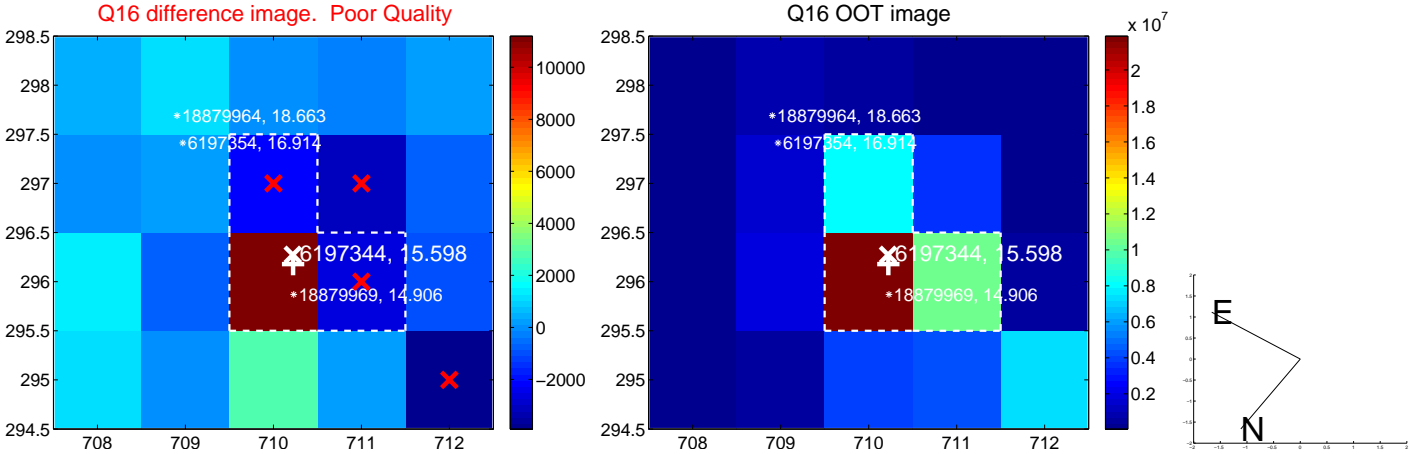
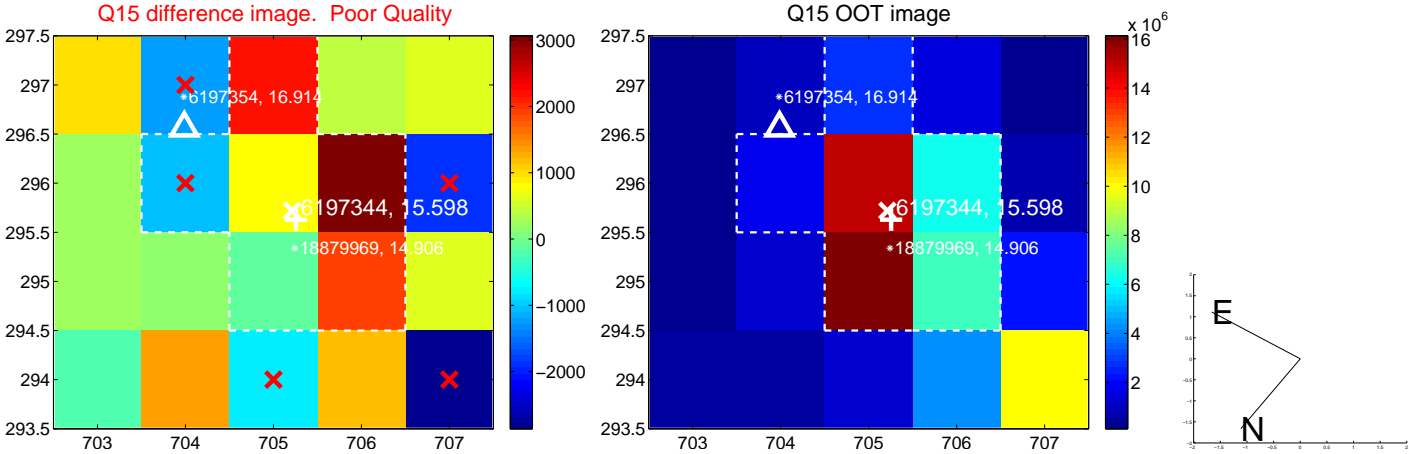
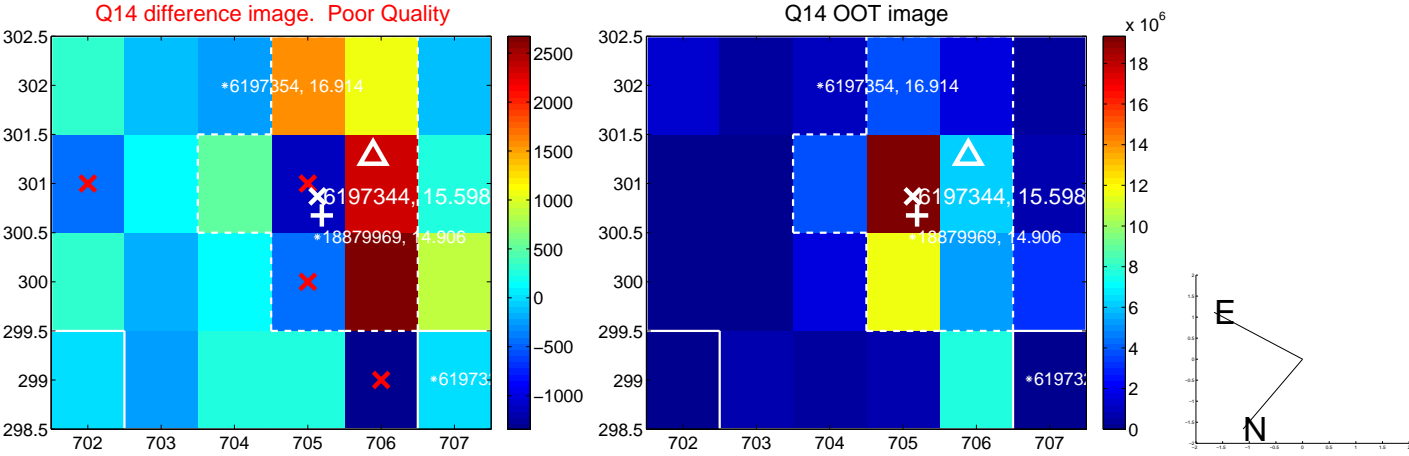
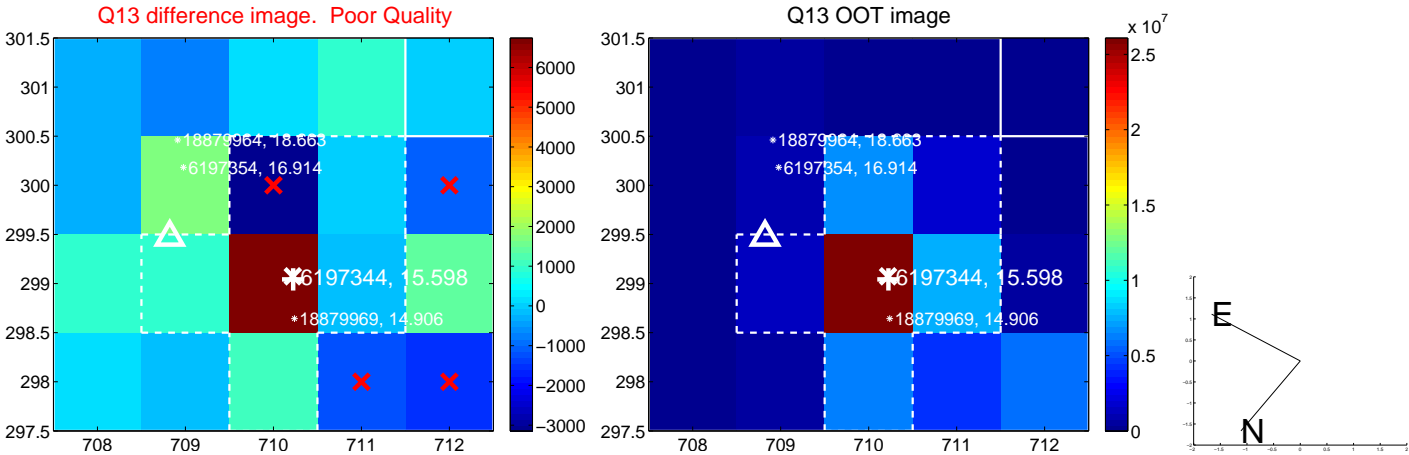
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



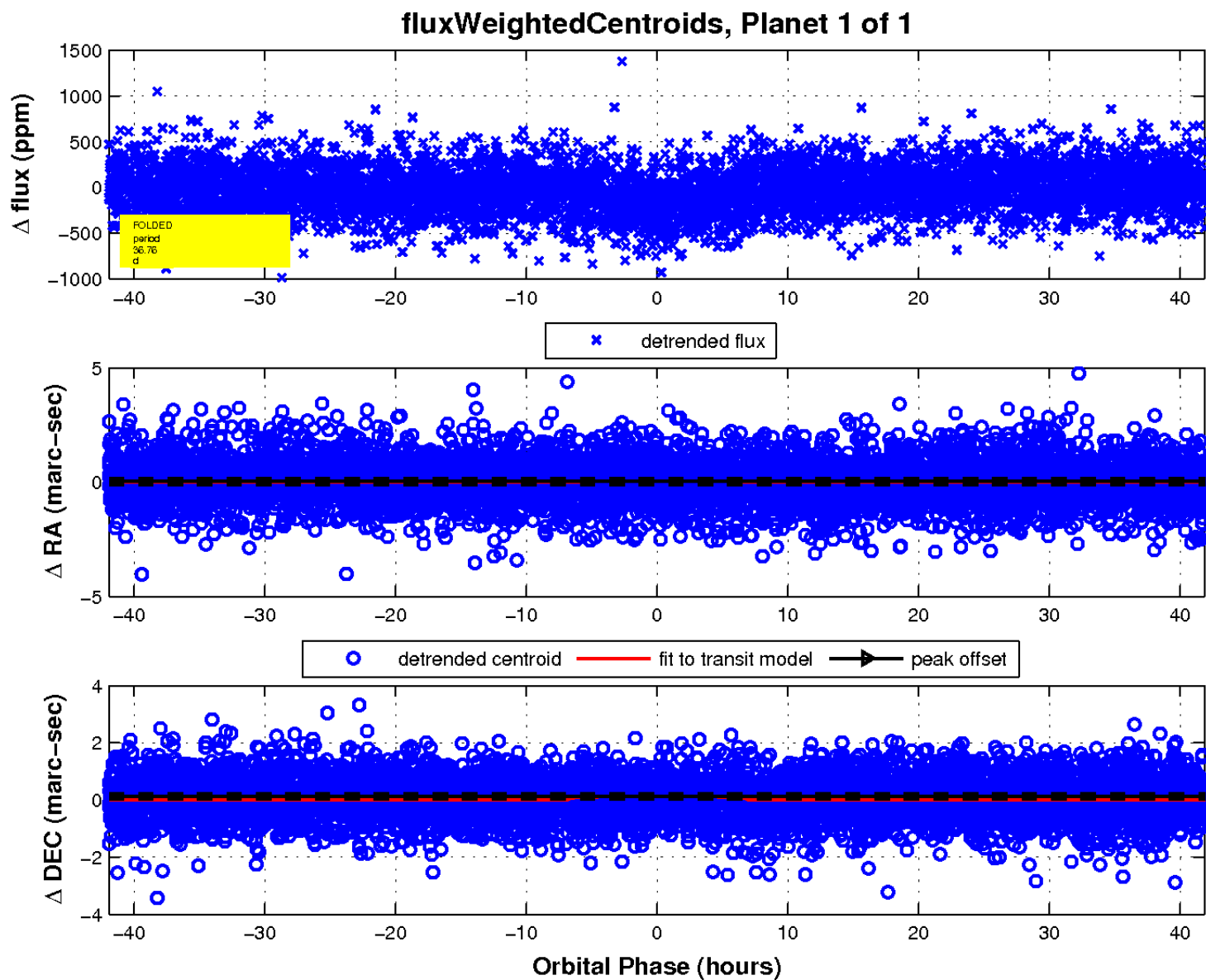
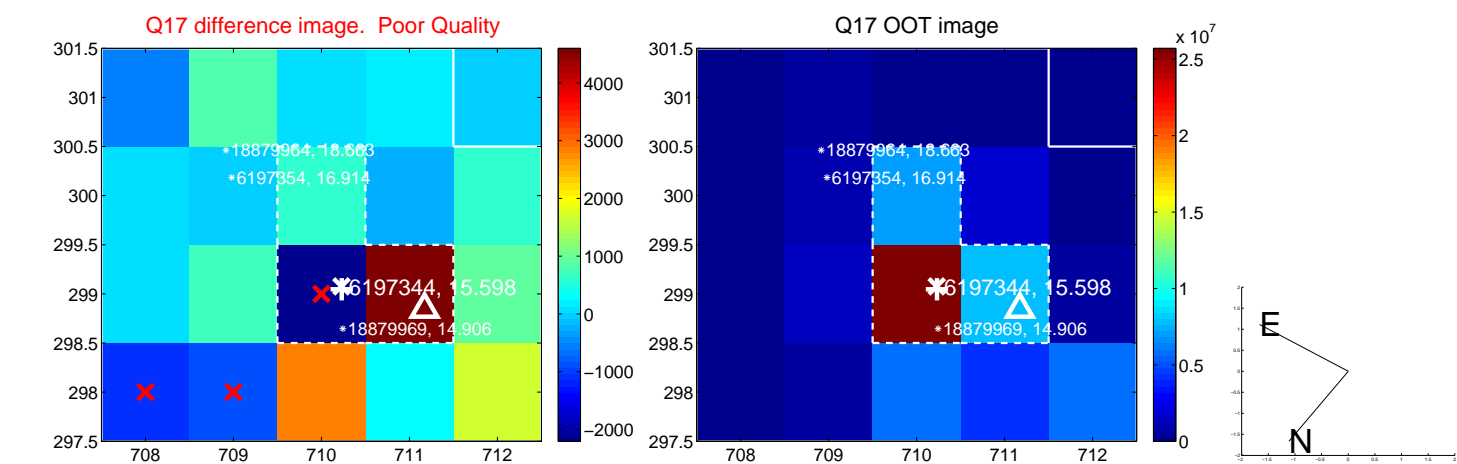
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UKIRT Image

Declination

