

# KIC 005299861

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005299861-01	OBS	No	329.446703	274.123076	265.5	4.757	8.0	7.2	2.55	6426	4.55	8.62

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005299861-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_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.

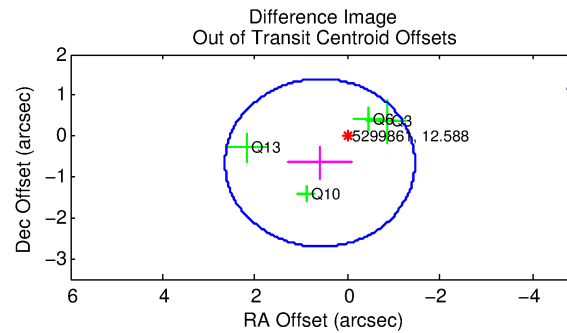
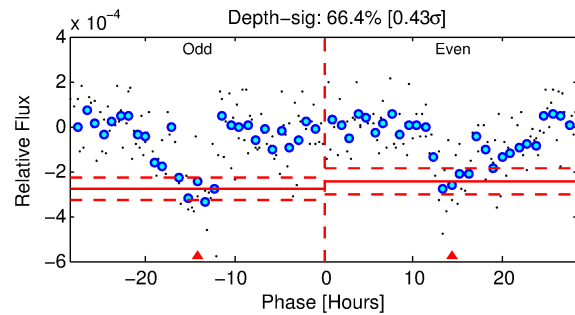
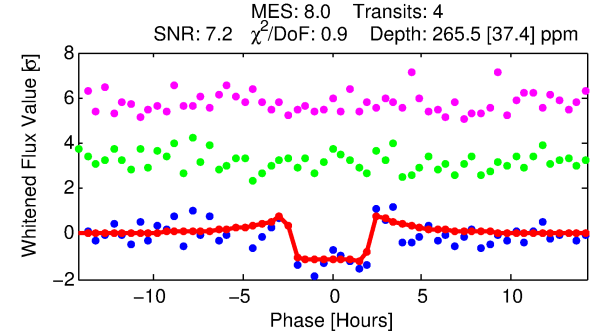
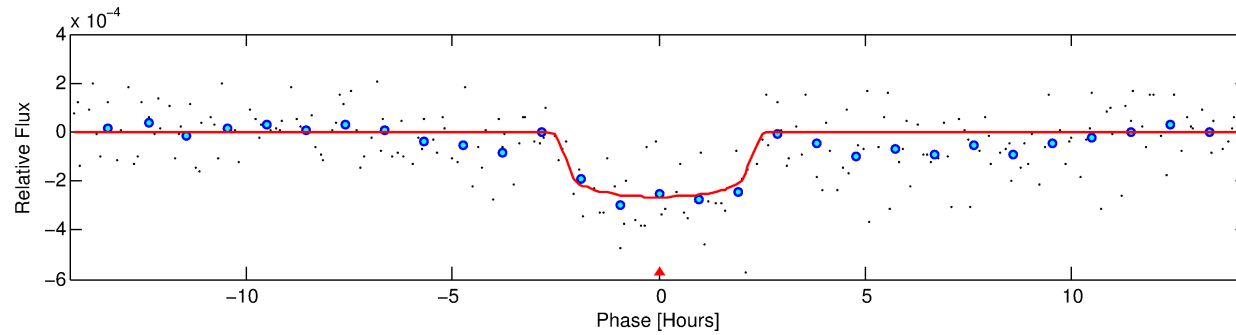
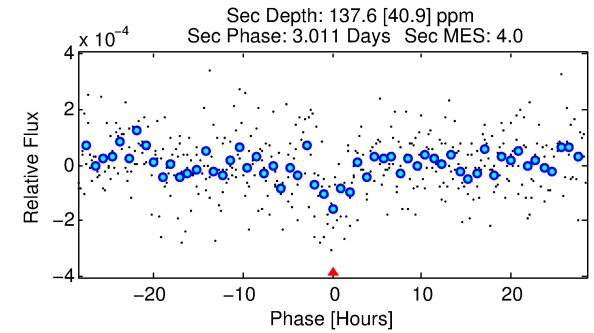
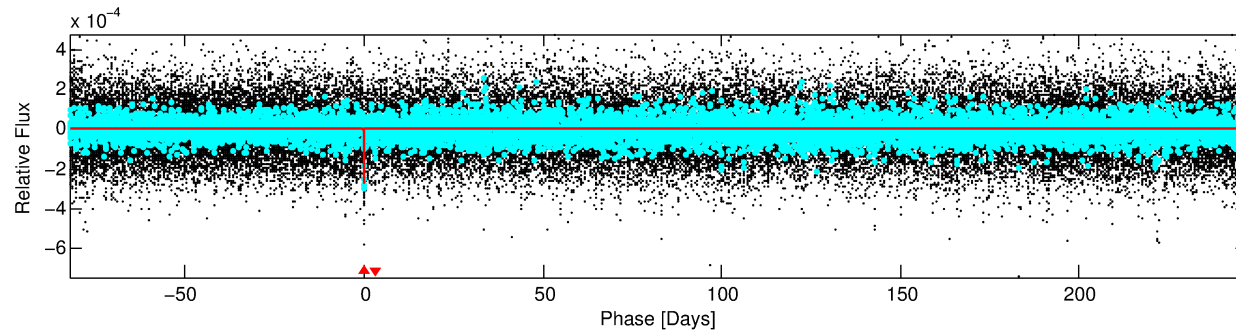
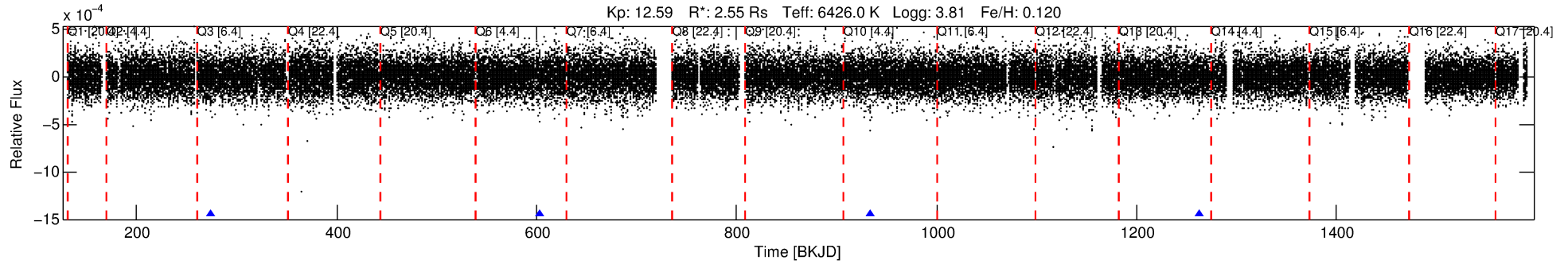
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005299861-01

No Significant Match Found

# DV One-Page Summary

KIC: 5299861 Candidate: 1 of 1 Period: 329.447 d



## DV Fit Results:

Period = 329.44670 [0.00340] d  
Epoch = 274.1231 [0.0070] BKJD  
Rp/R\* = 0.0164 [0.0080]  
a/R\* = 346.81 [888.41]  
b = 0.78 [1.31]  
Seff = 8.62 [4.46]  
Teff = 437 [56] K  
Rp = 4.55 [2.72] Re  
a = 1.0721 [0.3427] AU  
Ag = 4209.02 [4806.16] [0.88σ]  
Teffp = 5442 [1404] K [3.56σ]

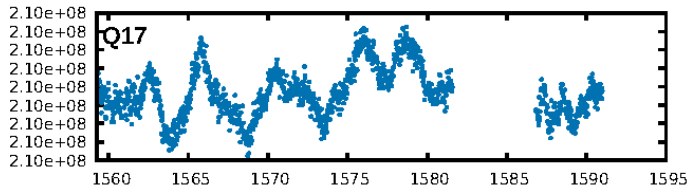
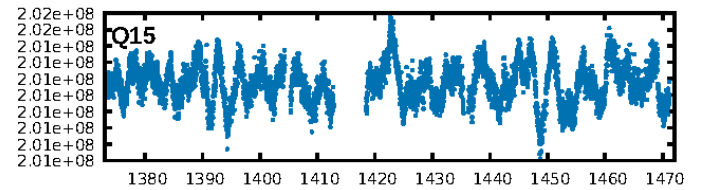
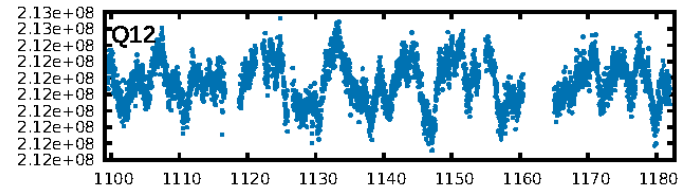
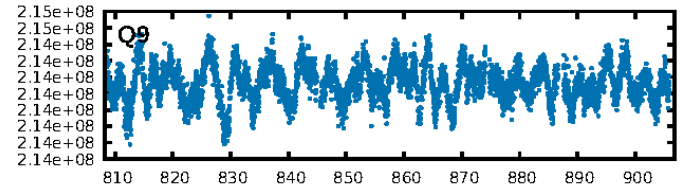
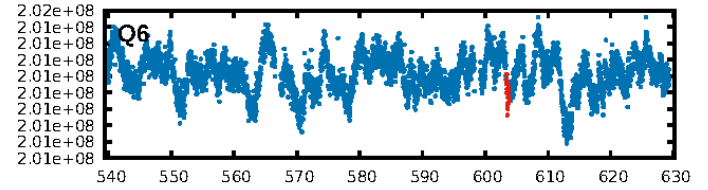
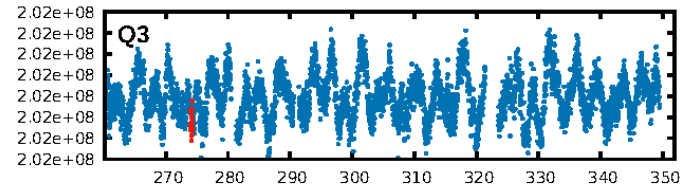
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 47.9%  
ModelChiSquareGof-sig: 99.7%  
Bootstrap-pfa: 4.96e-14  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 1.574  
Centroid-sig: 79.8%  
Centroid-so: 0.547 arcsec [0.53σ]  
OotOffset-rm: 0.890 arcsec [1.30σ]  
KicOffset-rm: 0.964 arcsec [1.44σ]  
OotOffset-st: 2/1/0/1 [4]  
KicOffset-st: 2/1/0/1 [4]  
DiffImageQuality-fgm: 1.00 [4/4]  
DiffImageOverlap-fno: 1.00 [4/4]

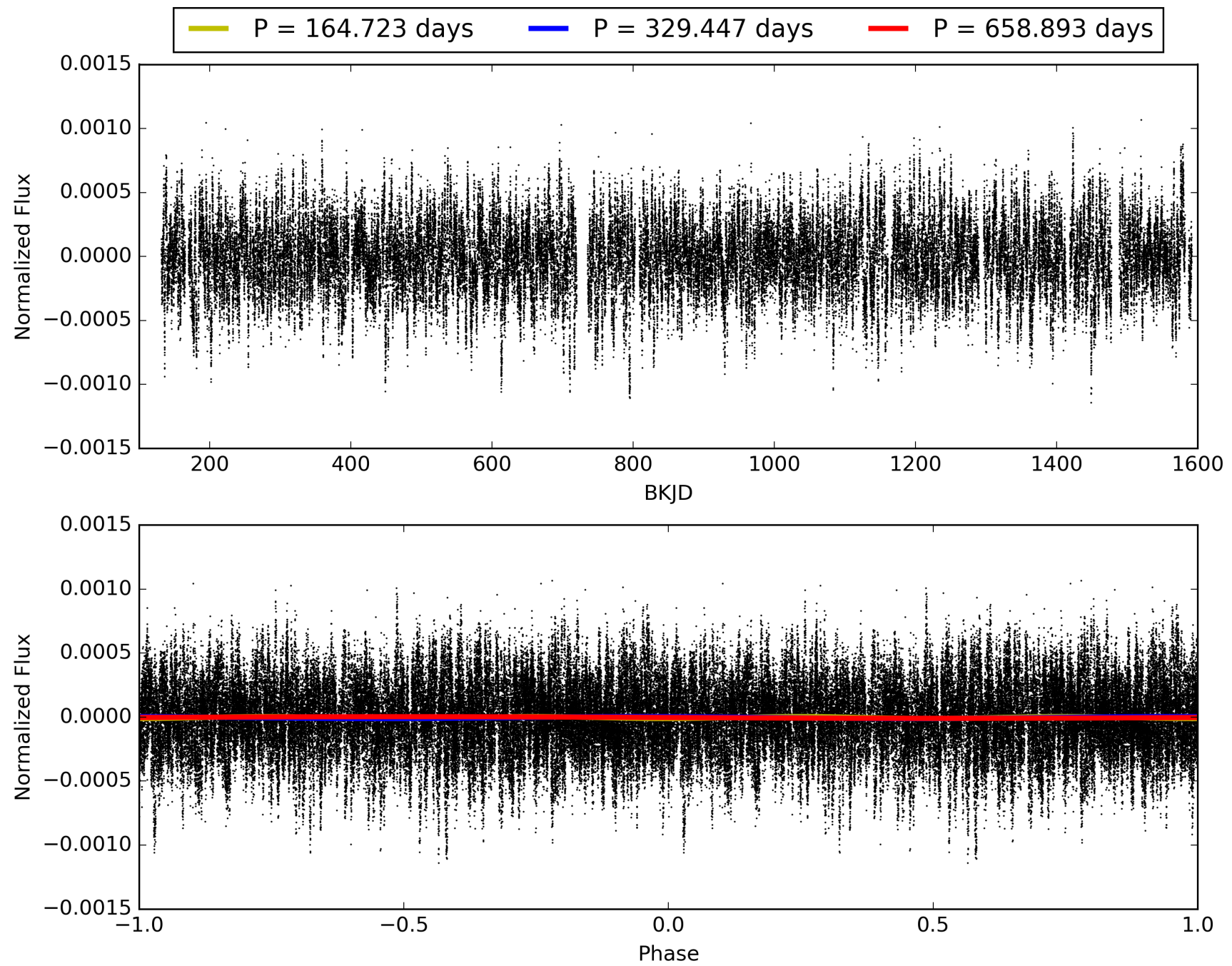
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:10:14 Z

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

## TCE 005299861-01, PDC Light Curves

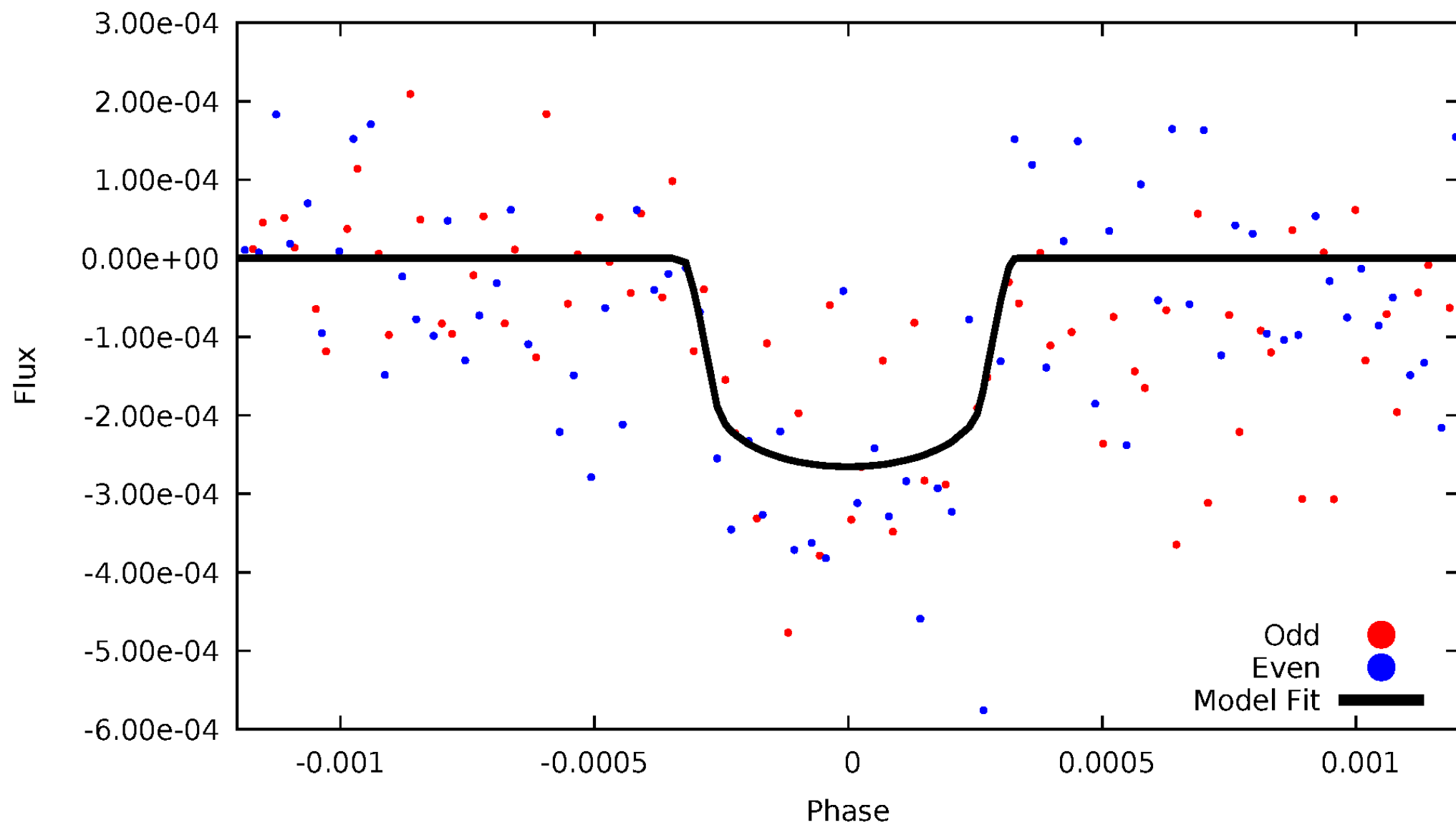


TCE 005299861-01



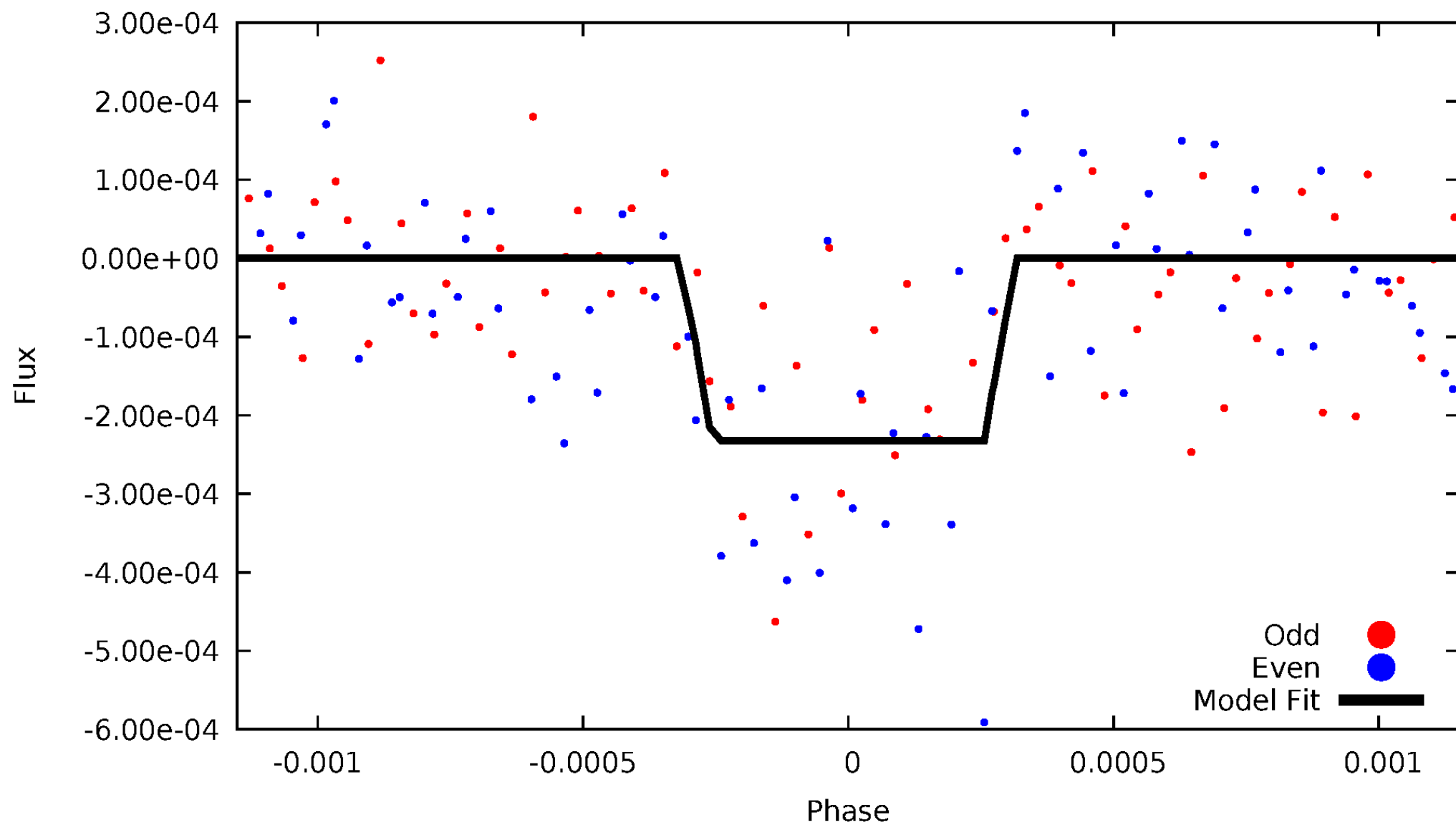
# DV Odd/Even

TCE 005299861-01



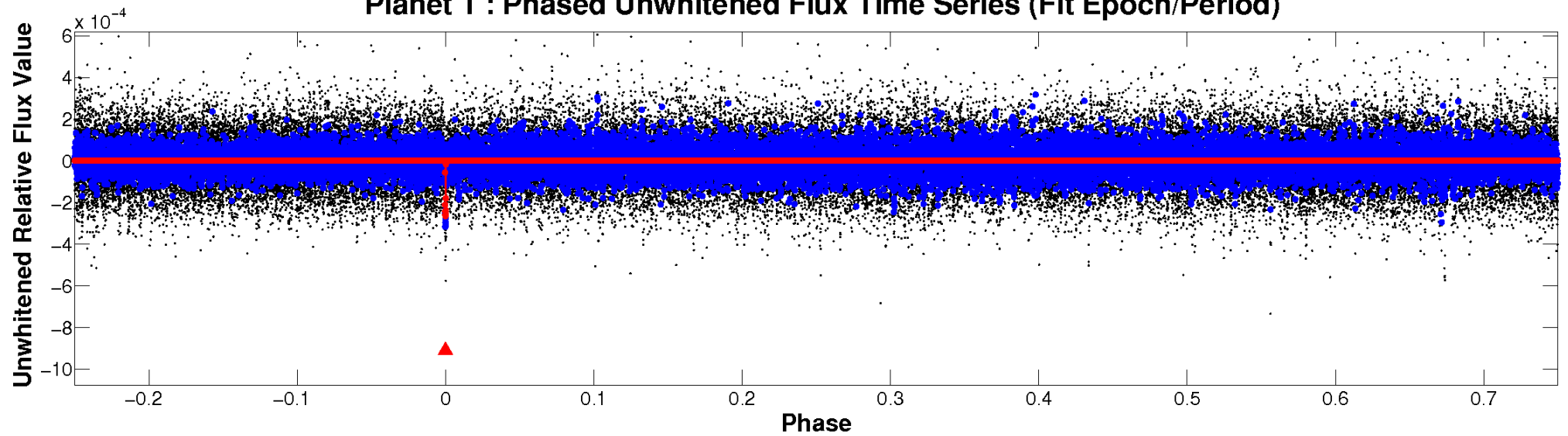
# ALT Odd/Even

TCE 005299861-01

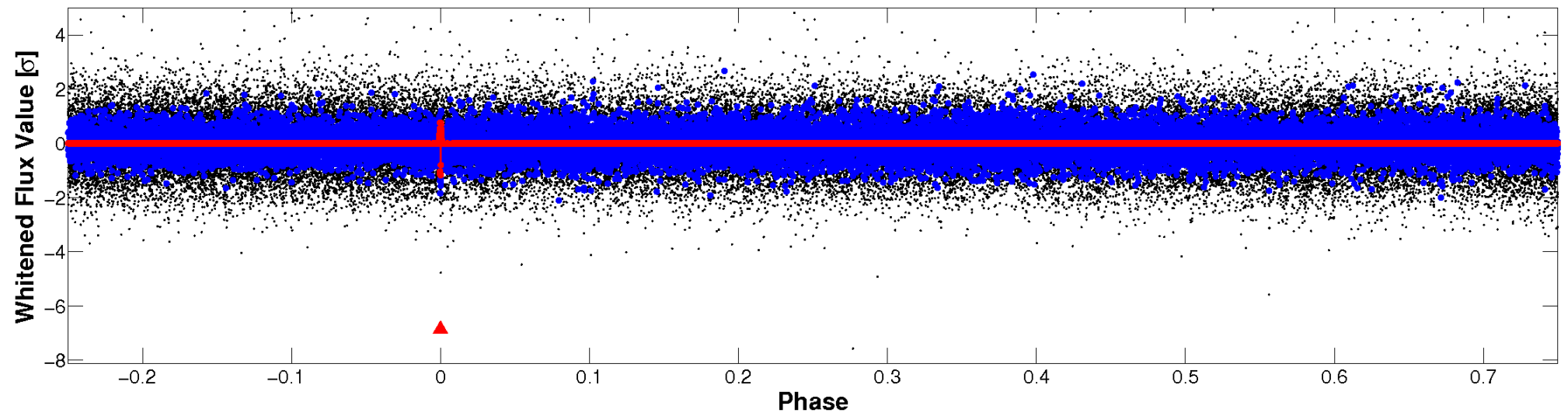


# Non-Whitened Vs. Whitened Light Curve

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



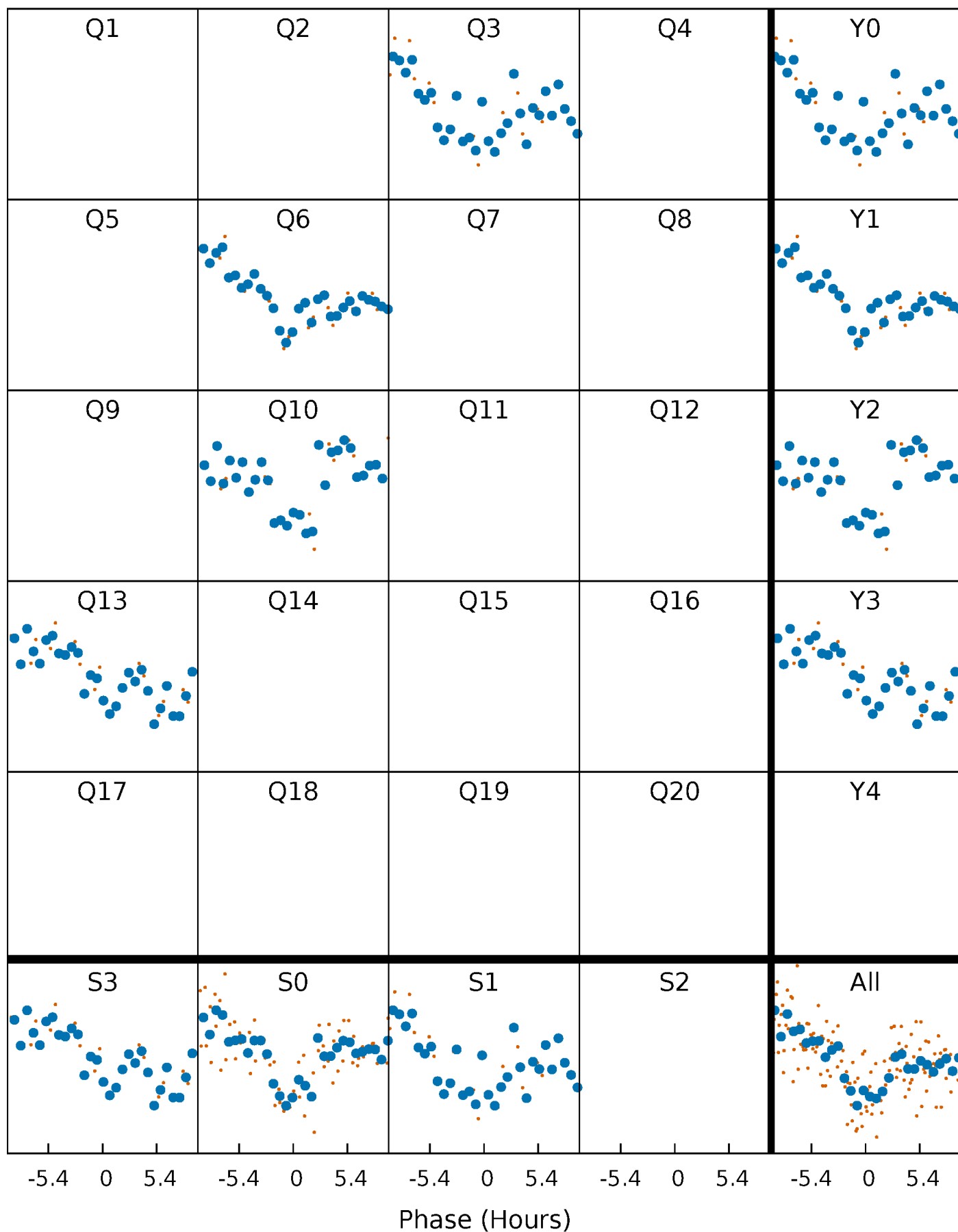
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

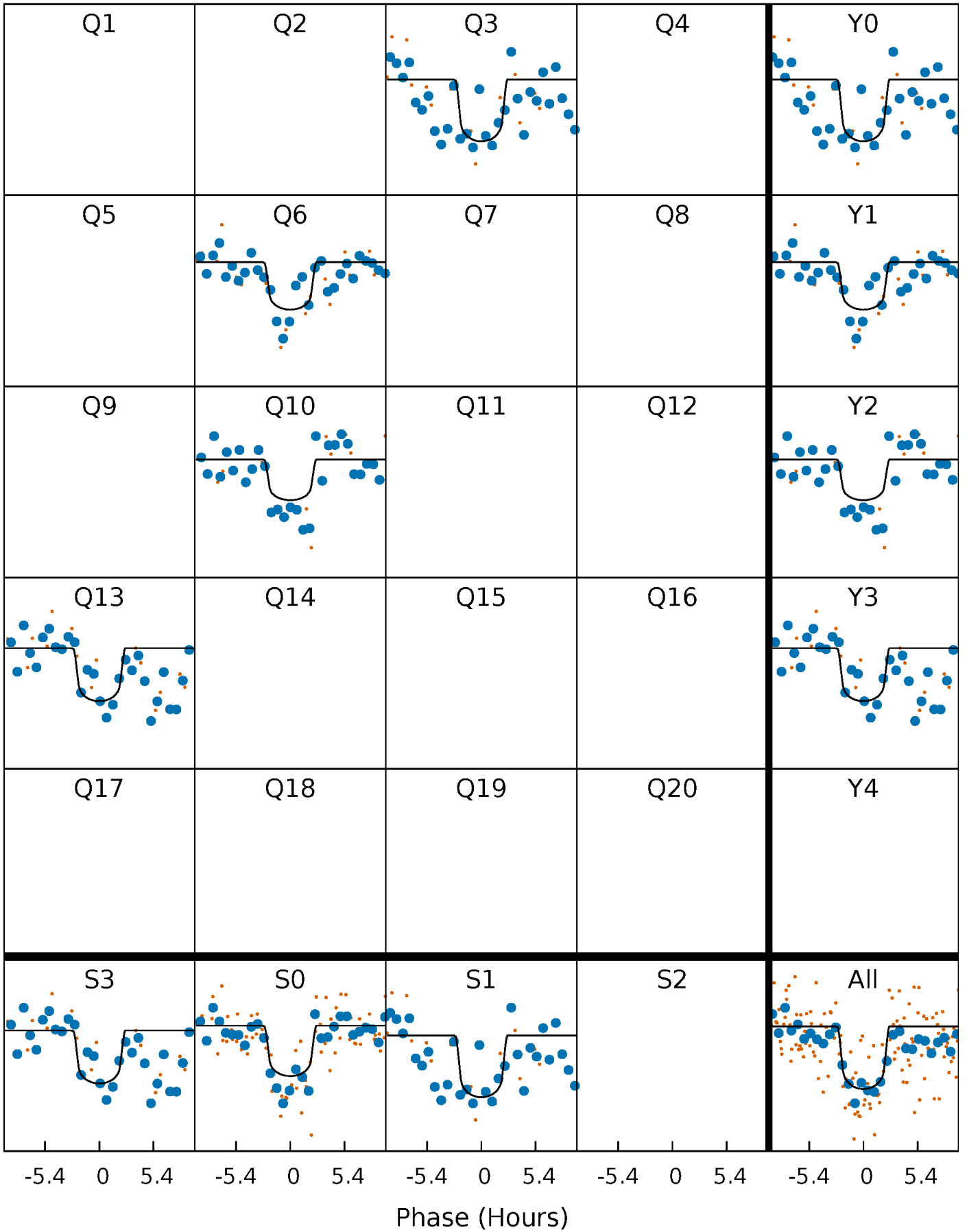
TCE 005299861-01     $P=329.446703$  Days     $T_0=274.123076$  (BKJD)





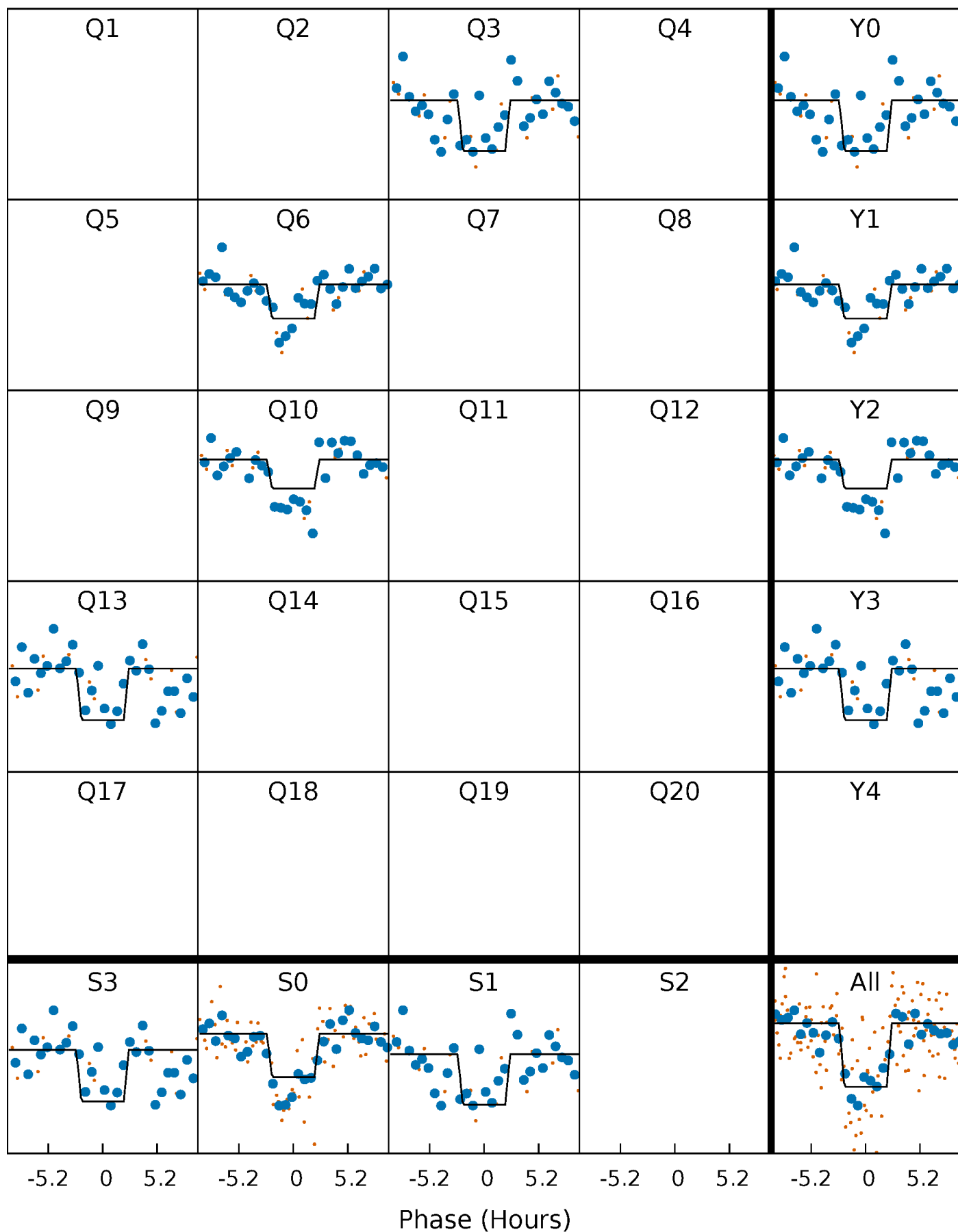
# DV Quarter-Phased Transit Curves

TCE 005299861-01 P=329.446703 Days  $T_0=274.123076$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

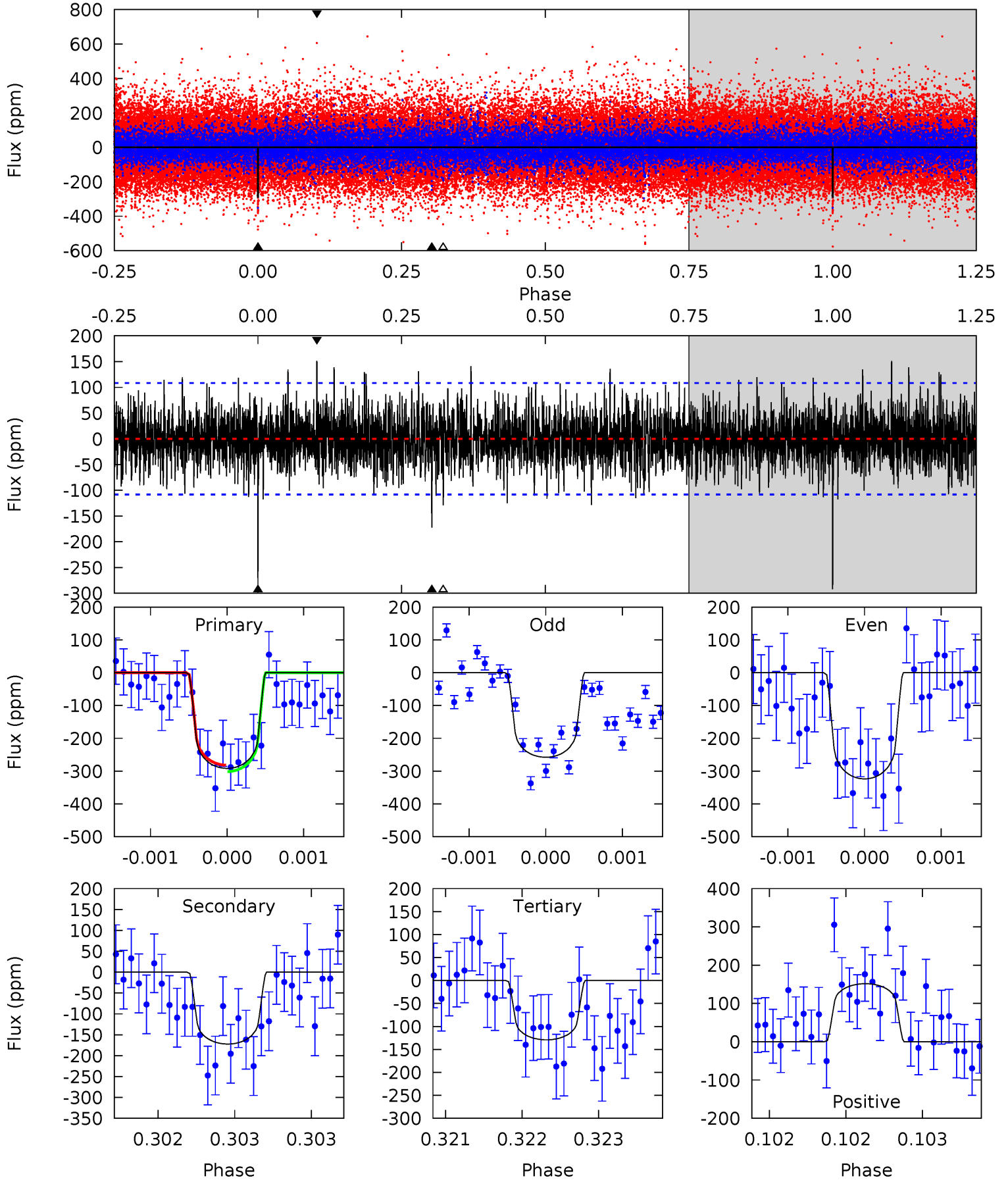
TCE 005299861-01 P=329.443477 Days  $T_0=274.132643$  (BKJD)



# DV Model-Shift Uniqueness Test

005299861-01, P = 329.446703 Days, E = 274.123076 Days

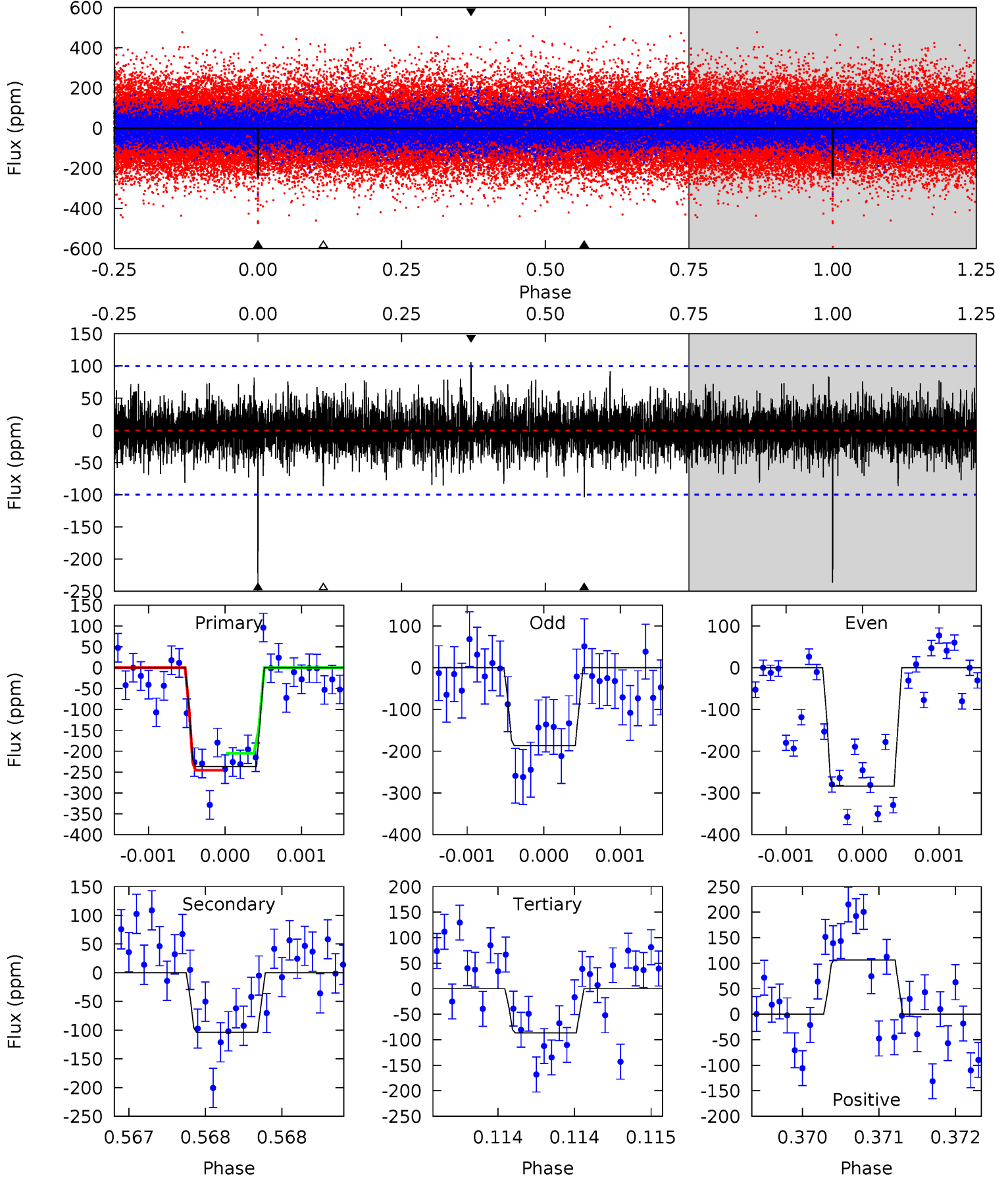
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	8.78	6.59	7.73	5.53	3.41	1.92	8.29	7.15	2.19	1.05	1.68	1.08	0.34	0.50



# Alt Model-Shift Uniqueness Test

005299861-01, P = 329.443477 Days, E = 274.132643 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
13.1	5.75	4.80	5.89	5.54	3.42	1.33	8.33	7.23	0.95	-0.14	2.73	1.18	0.31	1.10



### Stellar Parameters For KIC 005299861

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6426^{+174}_{-194}$	$3.806^{+0.292}_{-0.097}$	$0.120^{+0.250}_{-0.250}$	$2.547^{+0.536}_{-0.871}$	$1.514^{+0.225}_{-0.247}$	$0.129^{+0.239}_{-0.047}$
	+3%/-3%	+8%/-3%	+208%/-208%	+21%/-34%	+15%/-16%	+185%/-37%
Source	PHO1	FLK73	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 005299861-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-172 \pm 20$	$4.25^{+2.18}_{-2.04}$	$594^{+39}_{-49}$	$5744^{+2454}_{-979}$	$5972^{+16744}_{-3462}$
Alt.	$-104 \pm 18$	$4.04^{+2.33}_{-2.14}$	$598^{+38}_{-55}$	$5237^{+2234}_{-831}$	$4080^{+13394}_{-2545}$

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

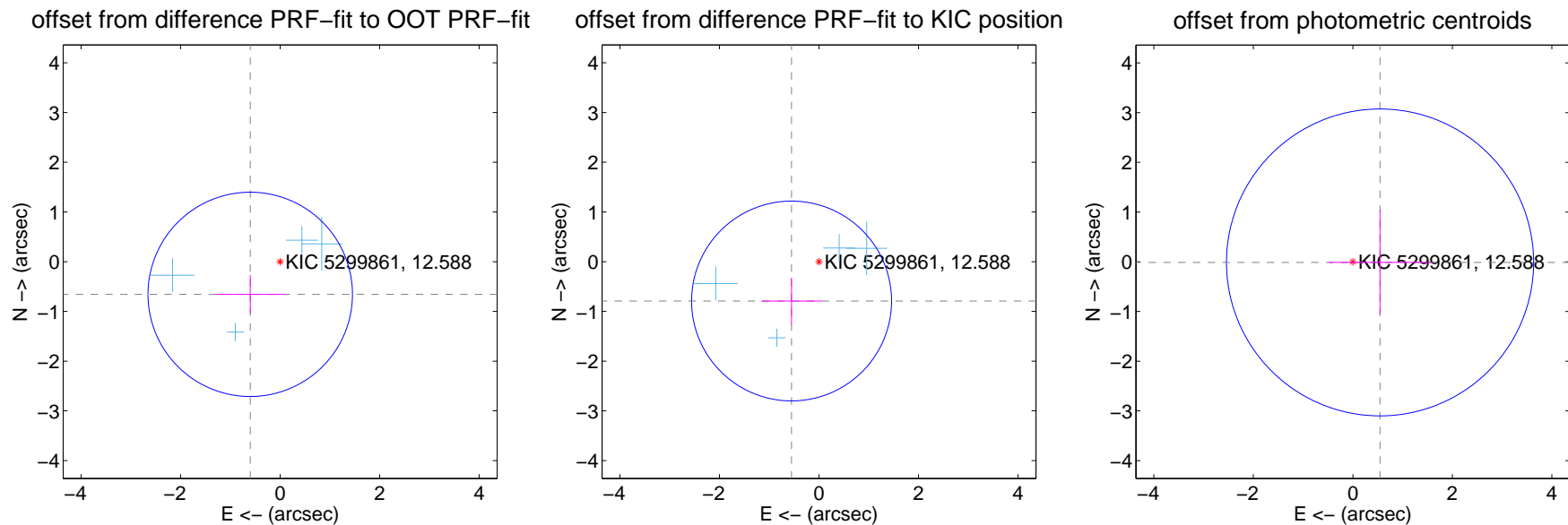
## DV Centroid Data

Supplemental centroid analysis for 005299861-01. Kepler magnitude: 12.59. Transit SNR 7.23

There are 4 quarters with good PRF difference image offsets

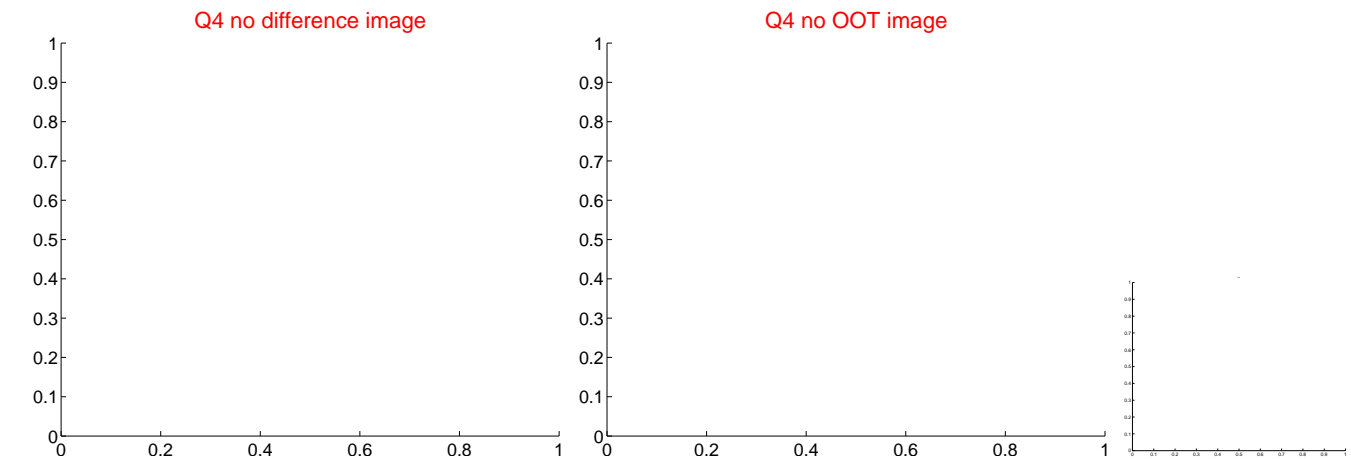
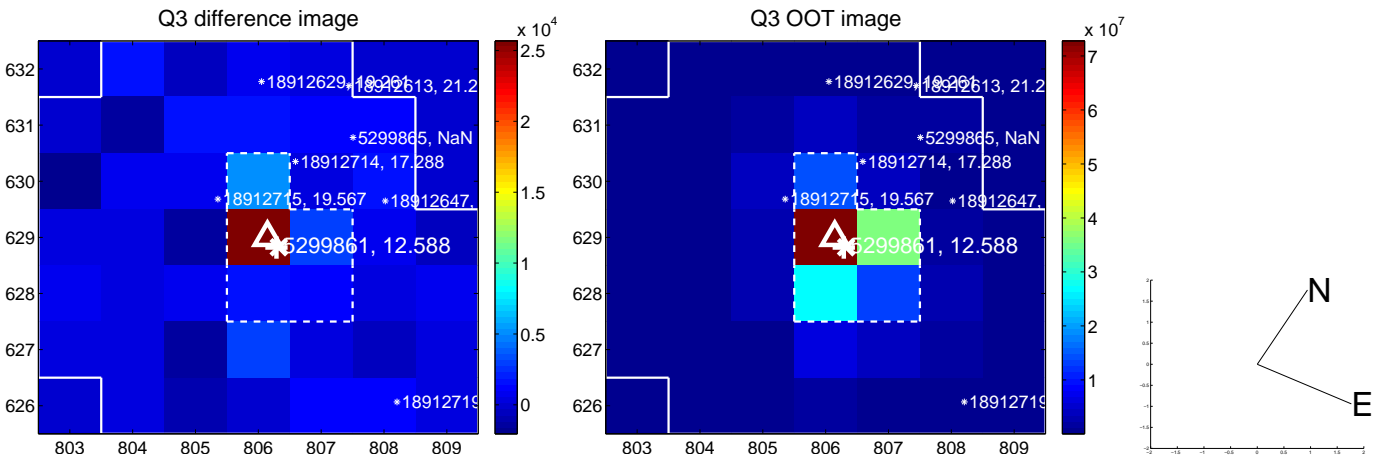
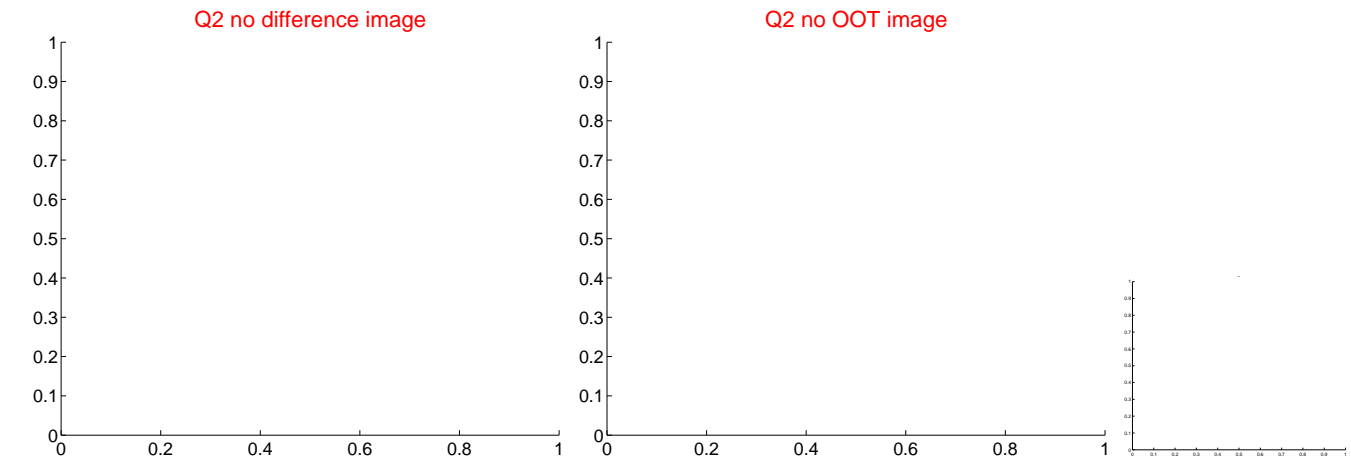
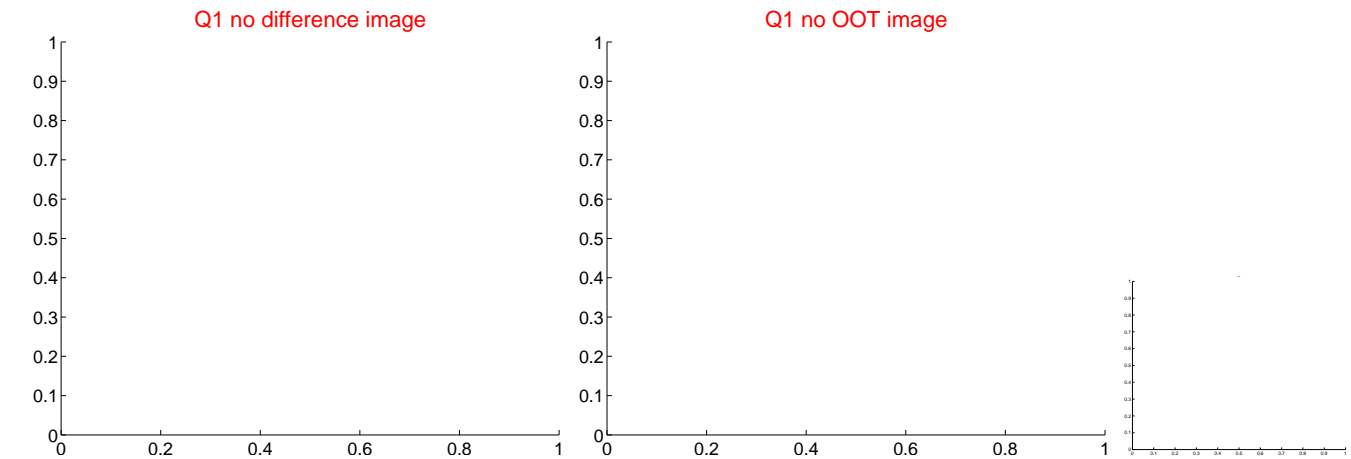
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.890 \pm 0.685$	1.30	$0.600 \pm 0.695$	$-0.657 \pm 0.386$
PRF-fit source offset from KIC position	$0.964 \pm 0.670$	1.44	$0.551 \pm 0.611$	$-0.791 \pm 0.469$
photometric centroid source offset	$0.55 \pm 1.03$	0.53	$-0.55 \pm 1.03$	$-0.01 \pm 1.05$



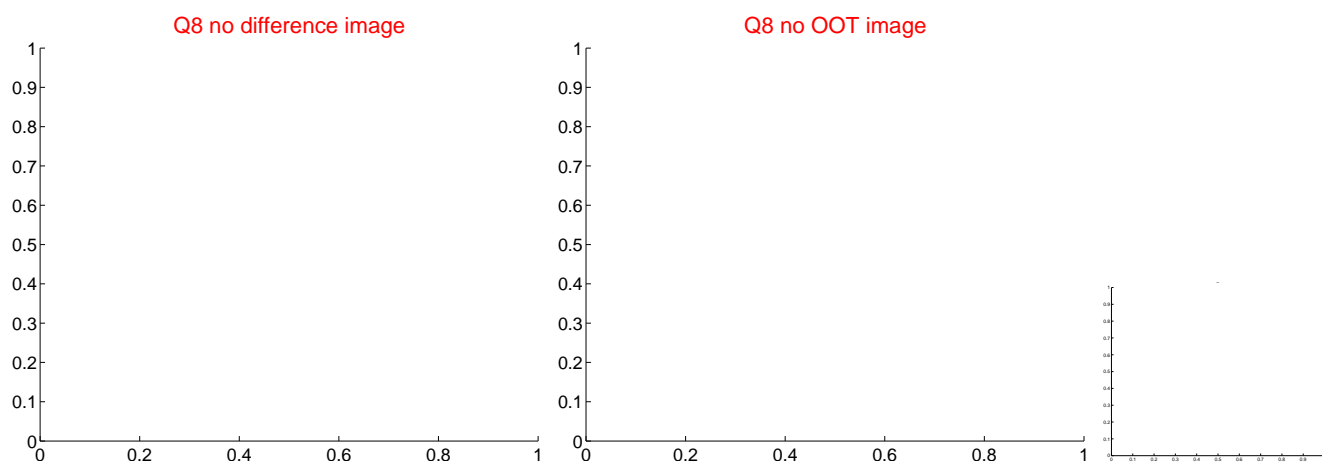
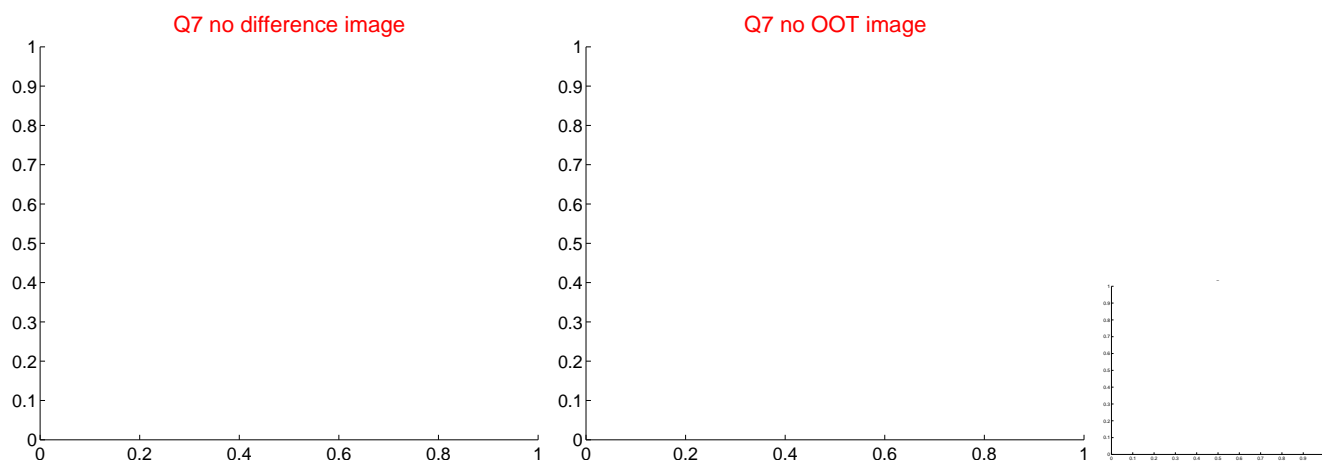
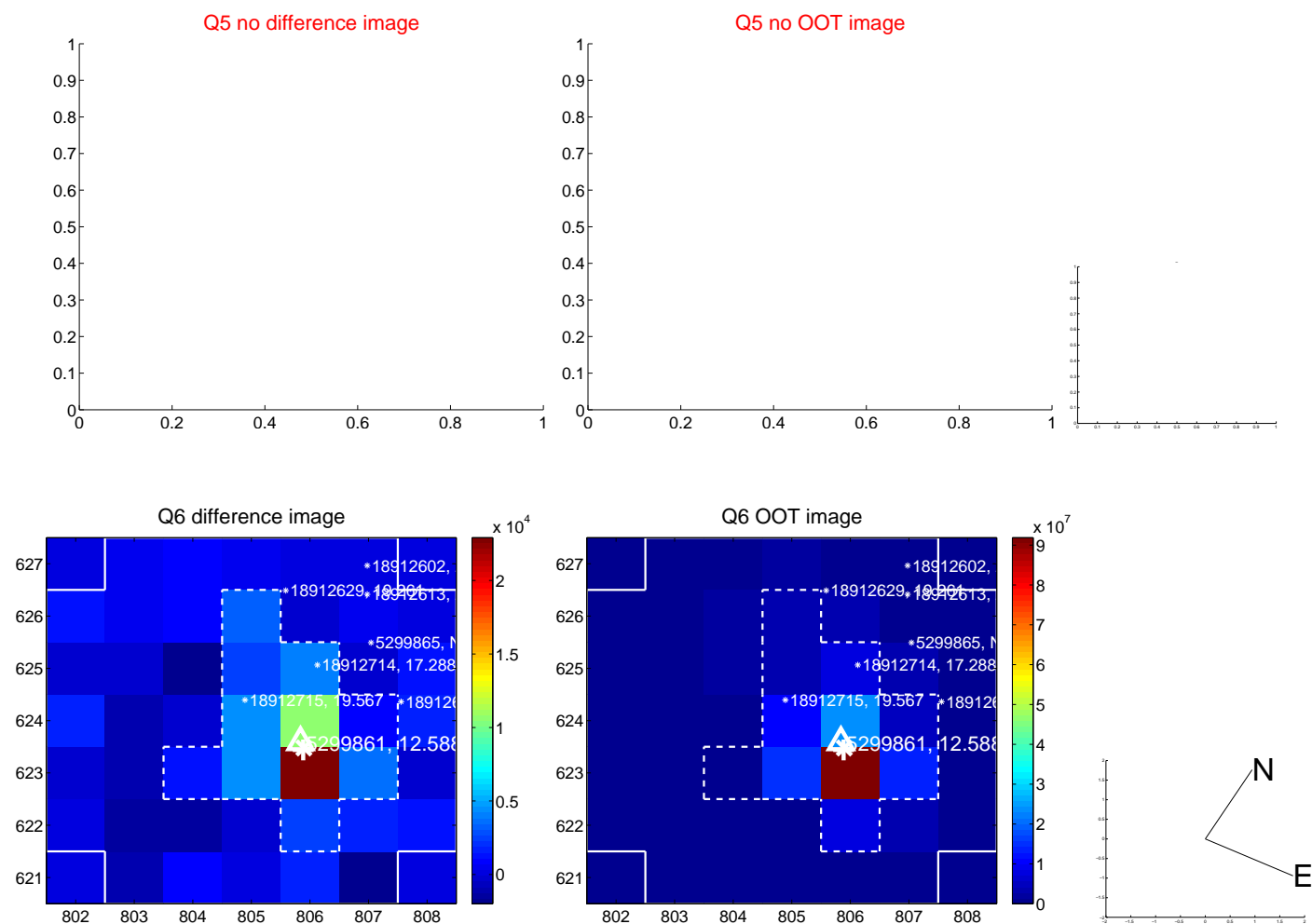
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

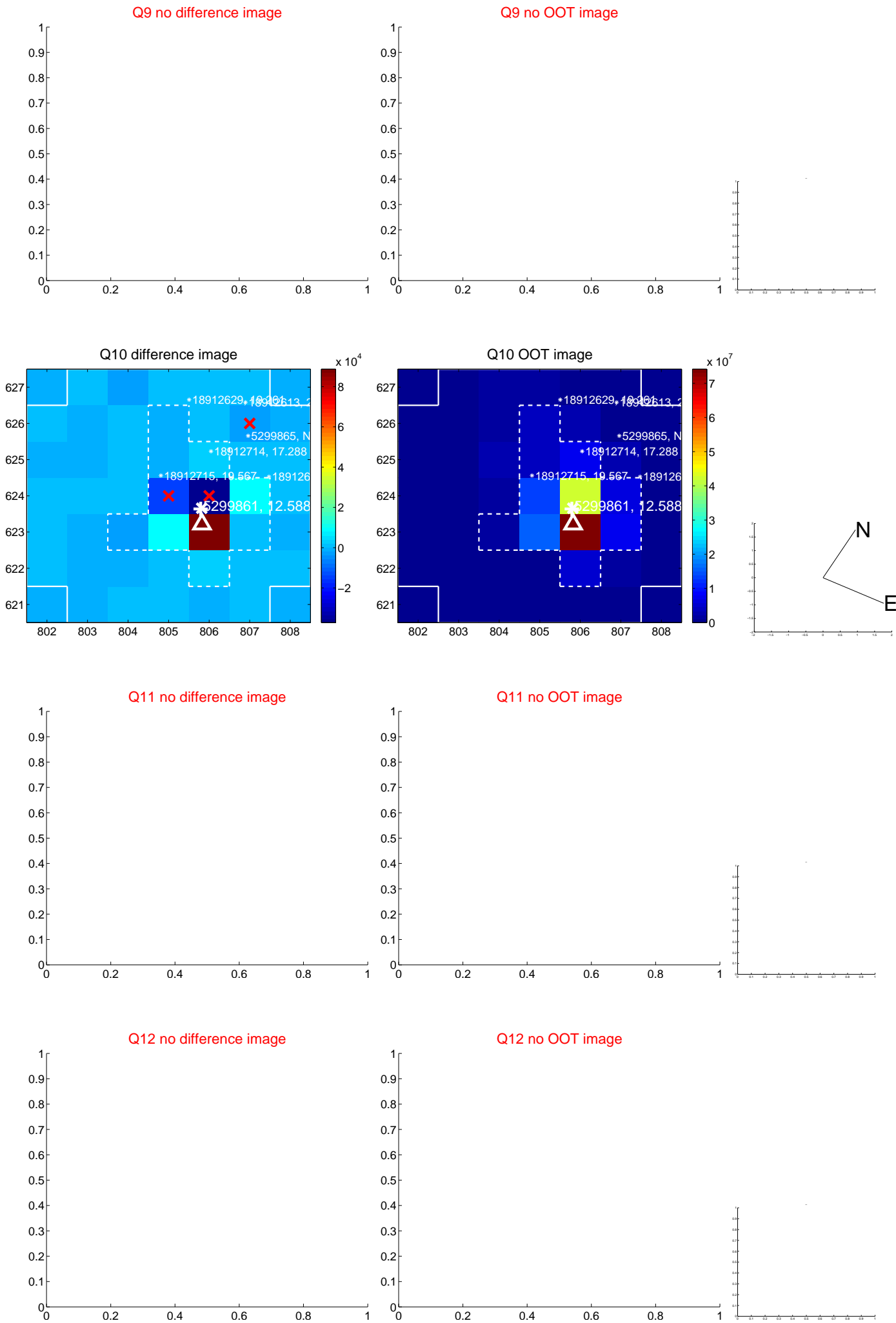




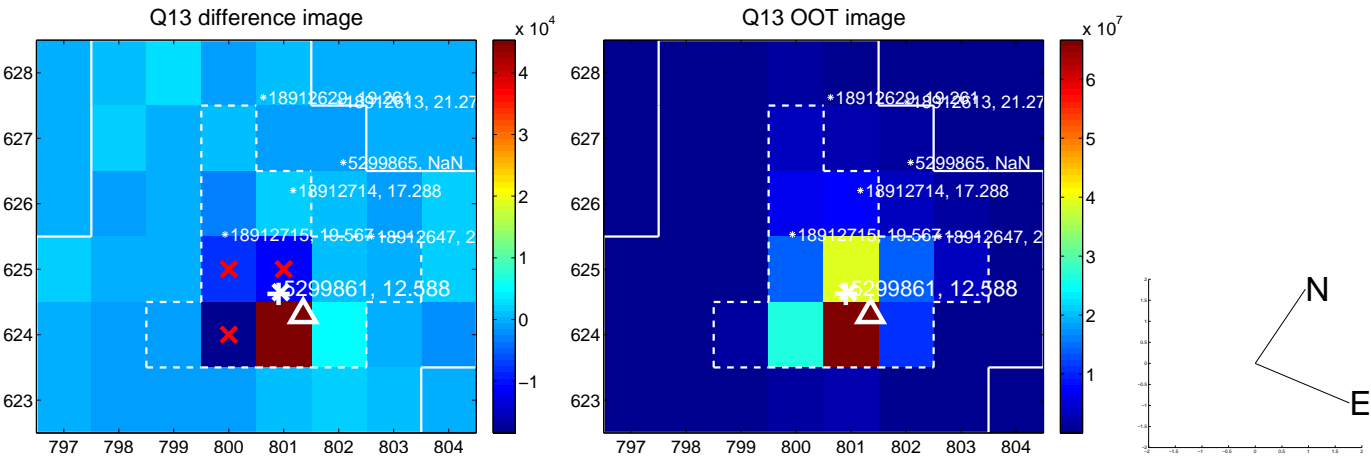
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



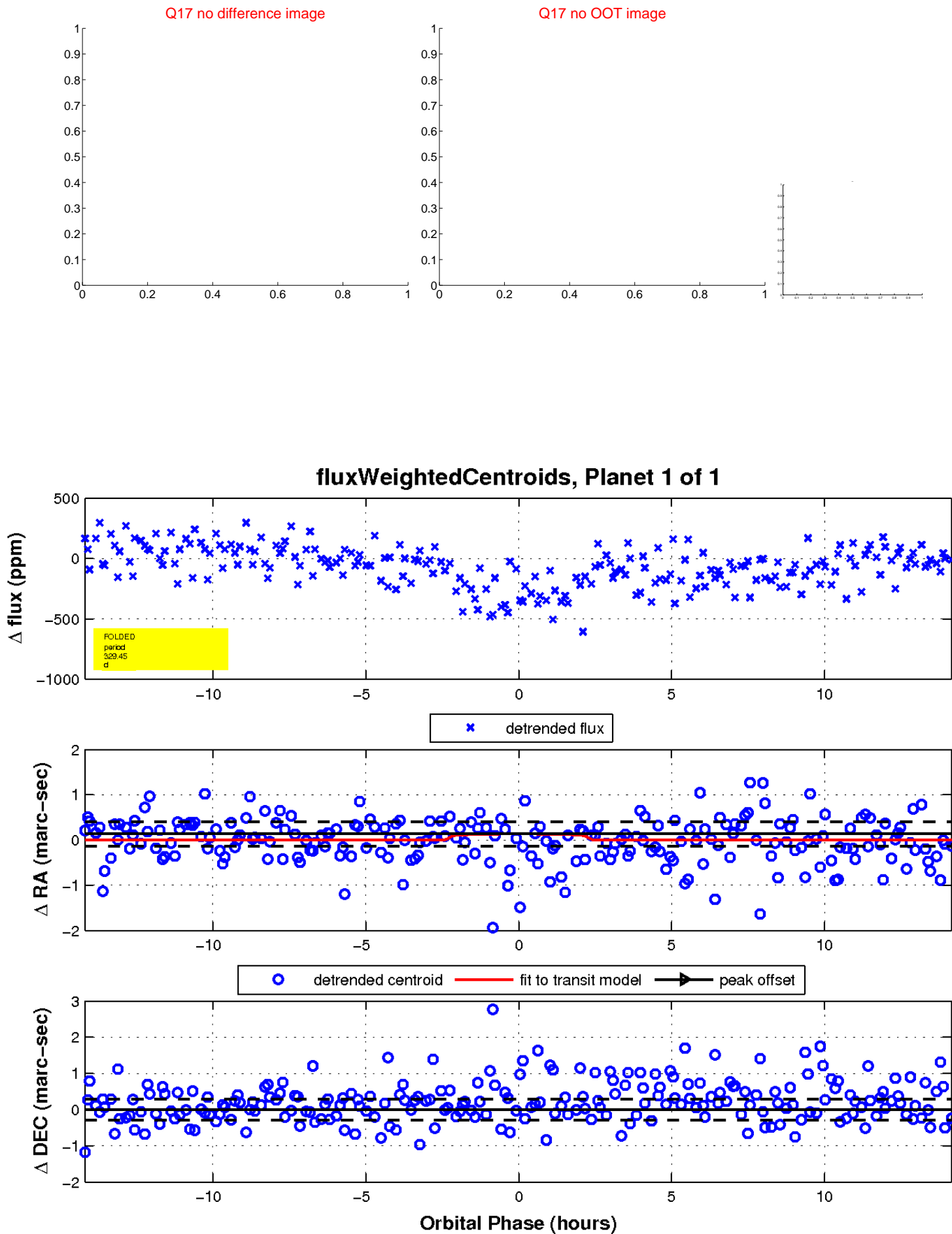
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

