

# KIC 006358453

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006358453-01	OBS	No	369.912571	268.168355	599.6	18.573	7.3	7.5	1.25	6313	3.72	1.81

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006358453-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE--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.

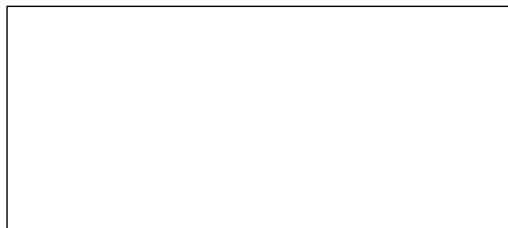
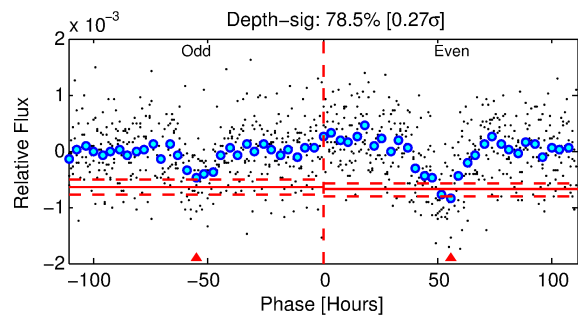
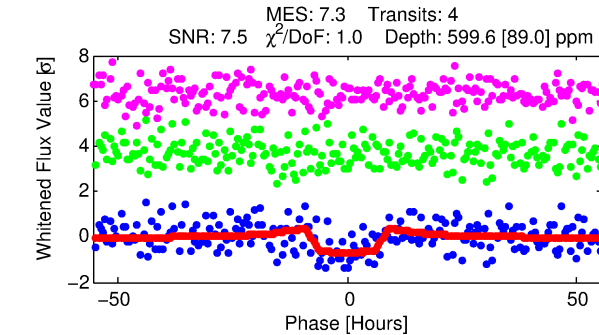
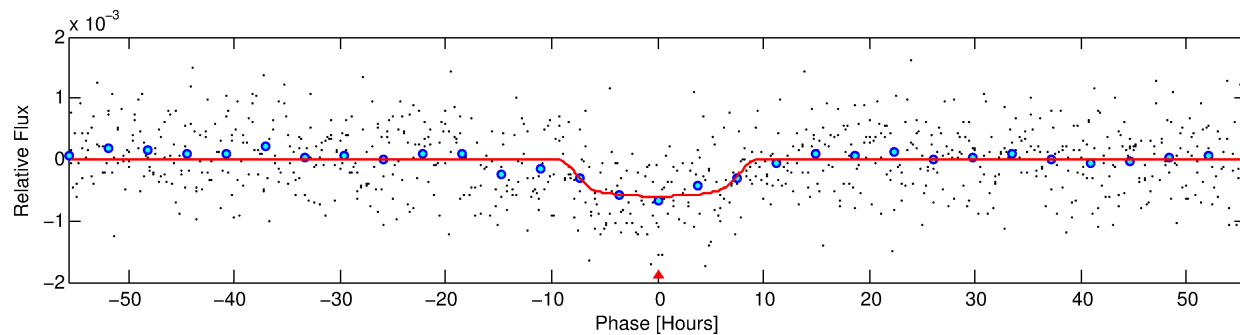
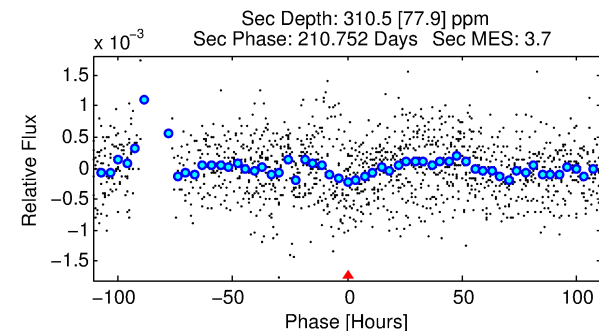
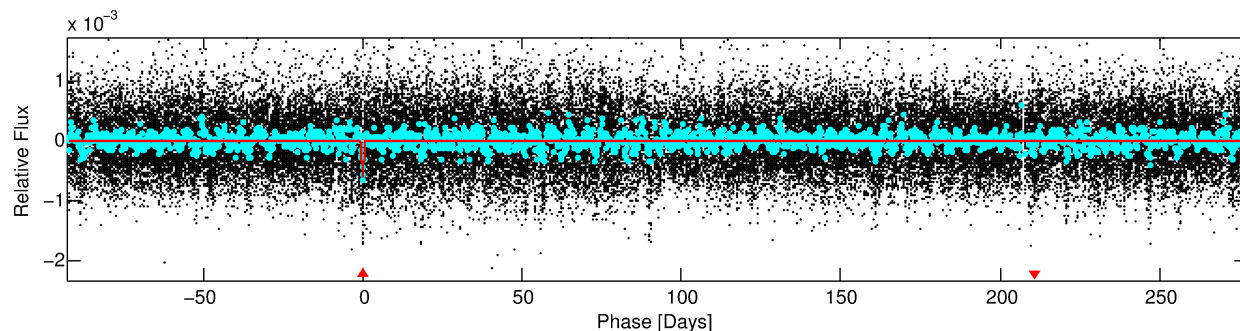
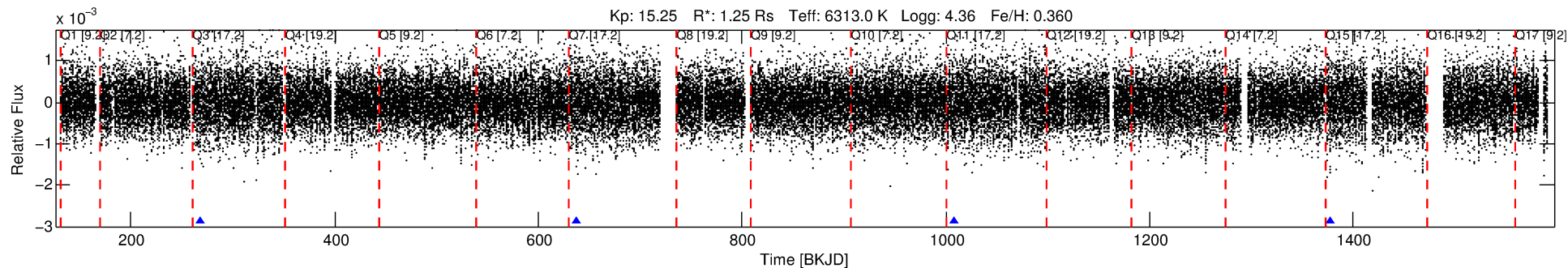
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006358453-01

No Significant Match Found

# DV One-Page Summary

KIC: 6358453 Candidate: 1 of 1 Period: 369.913 d



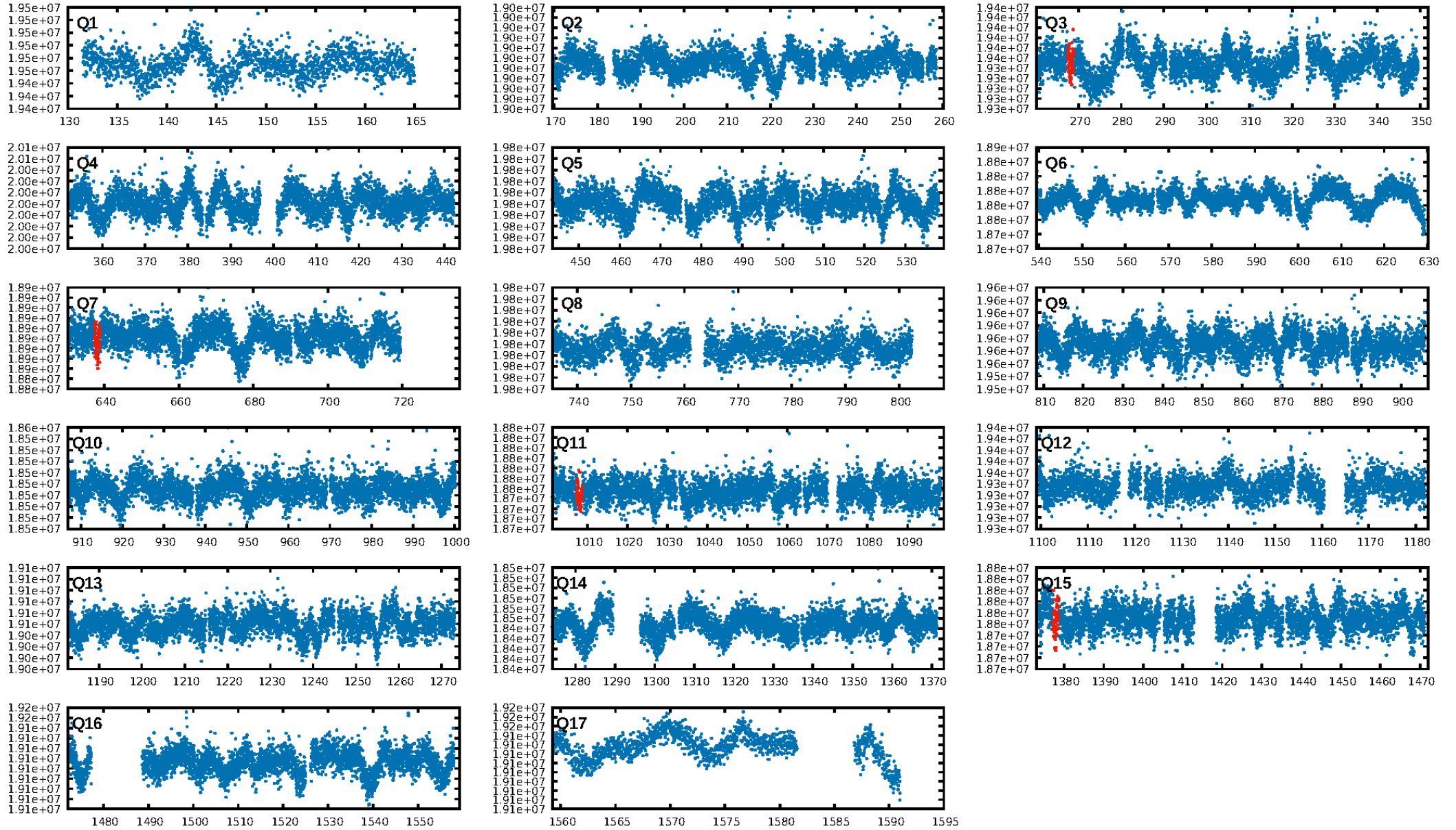
## DV Fit Results:

Period = 369.91257 [0.01911] d  
Epoch = 268.1684 [0.0326] BKJD  
Rp/R\* = 0.0274 [0.0030]  
a/R\* = 65.67 [22.29]  
b = 0.93 [0.05]  
Seff = 1.81 [0.70]  
Teq = 296 [28] K  
Rp = 3.72 [1.18] Re  
a = 1.1035 [0.2718] AU  
Ag = 14999.91 [7233.65] [2.07σ]  
Teffp = 5064 [462] K [10.30σ]

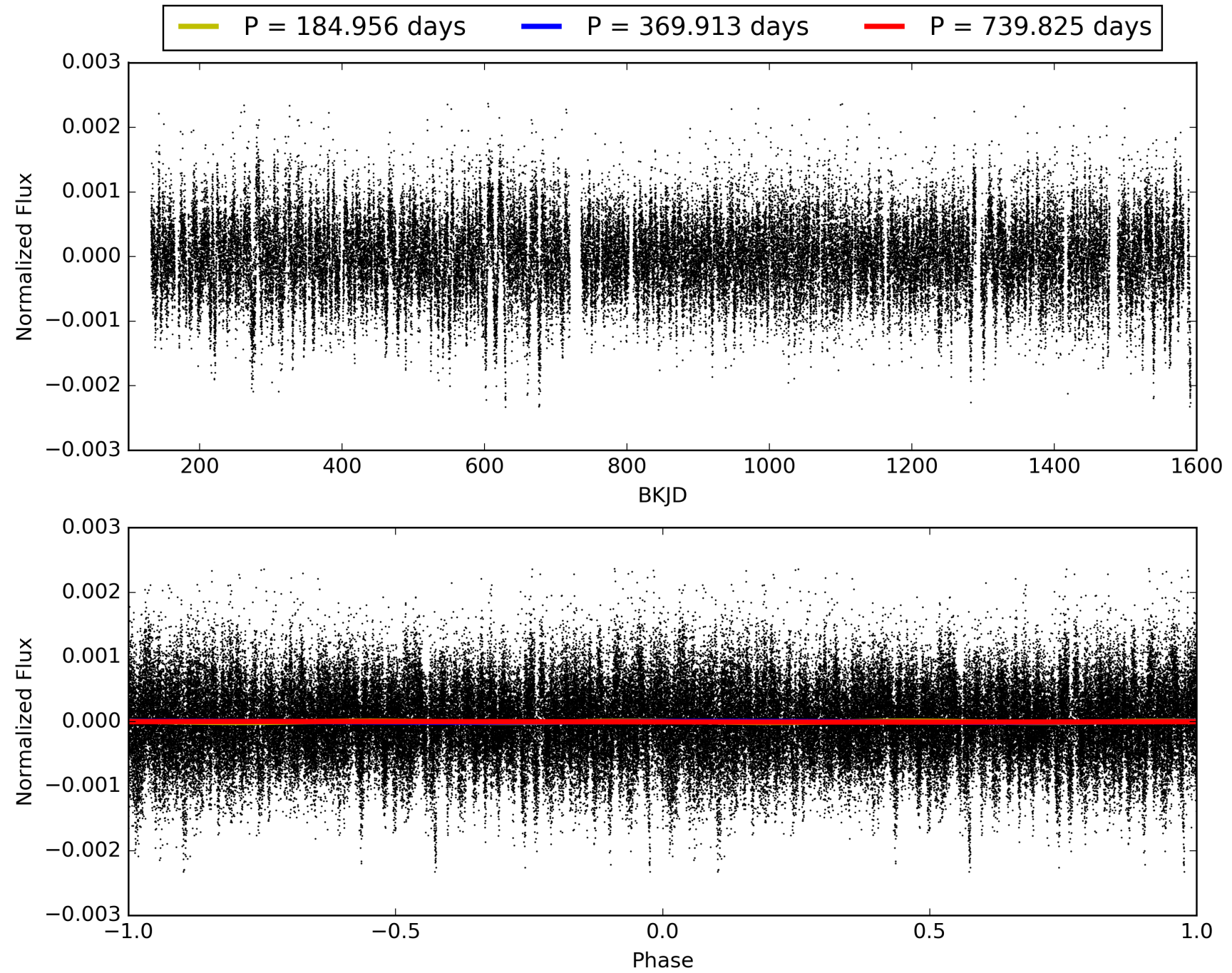
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 70.9%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.99e-12**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 2.148  
Centroid-sig: 1.7%  
Centroid-so: 3.705 arcsec [1.80σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [2/2]

# TCE 006358453-01, PDC Light Curves

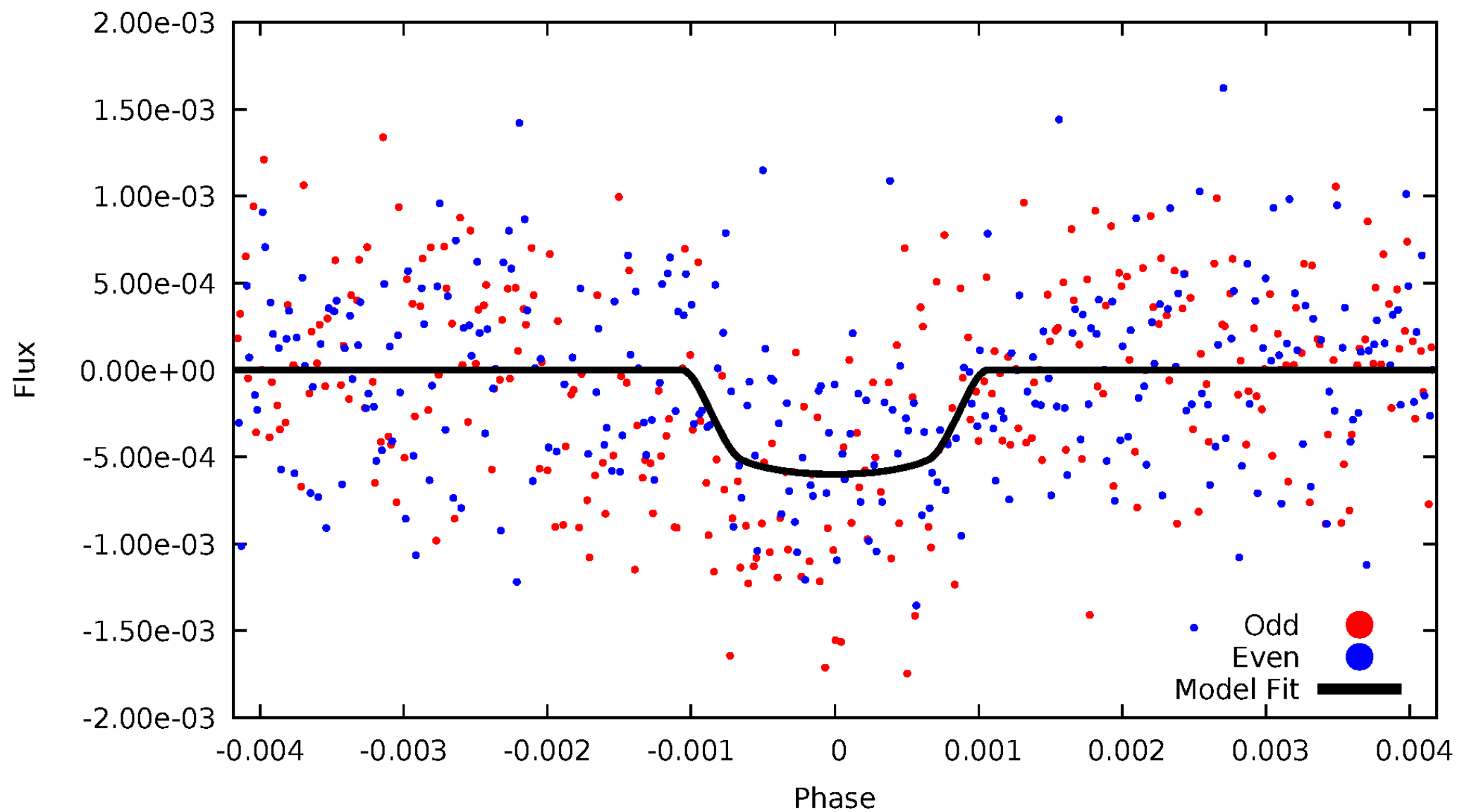


TCE 006358453-01



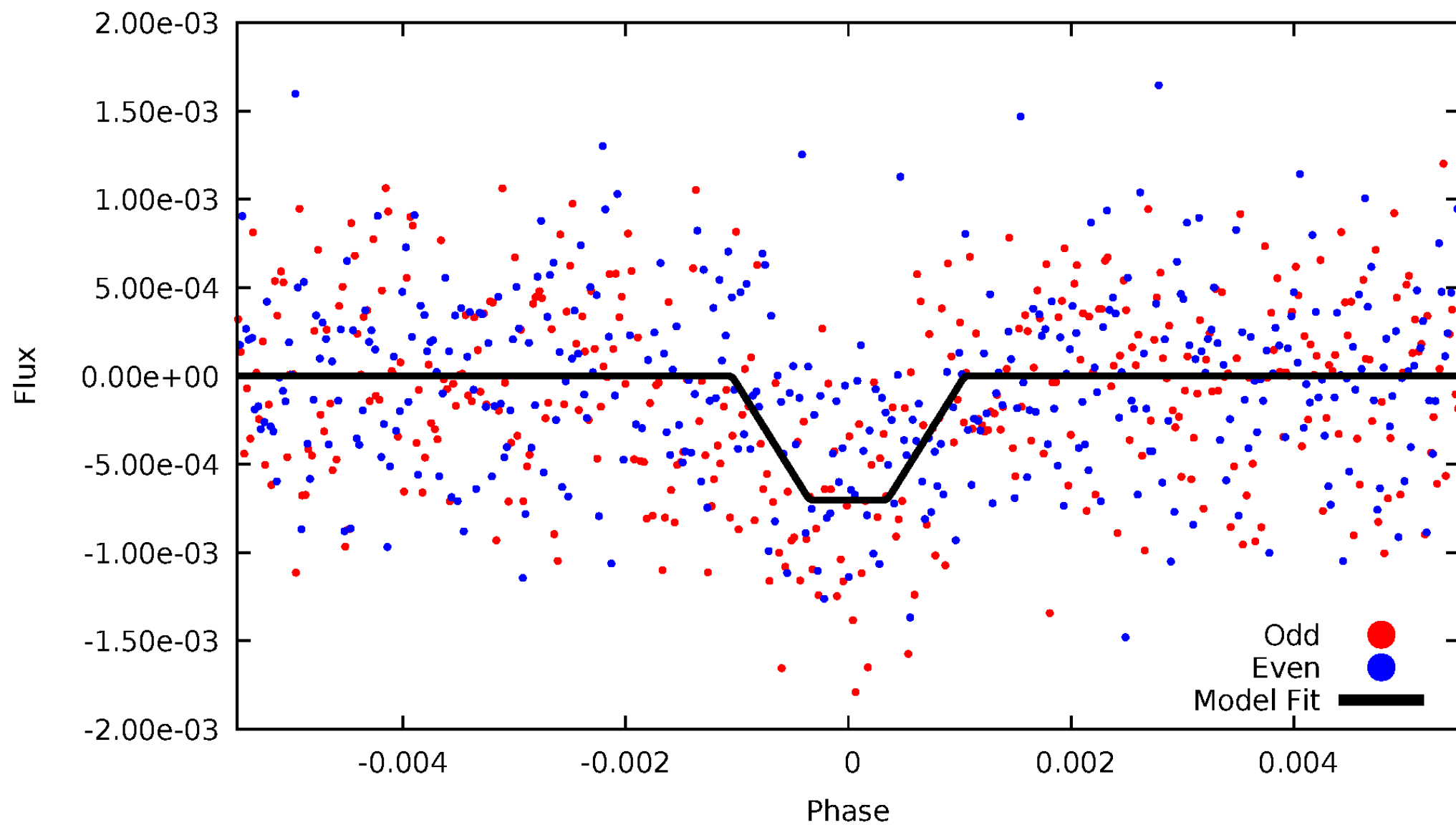
# DV Odd/Even

TCE 006358453-01



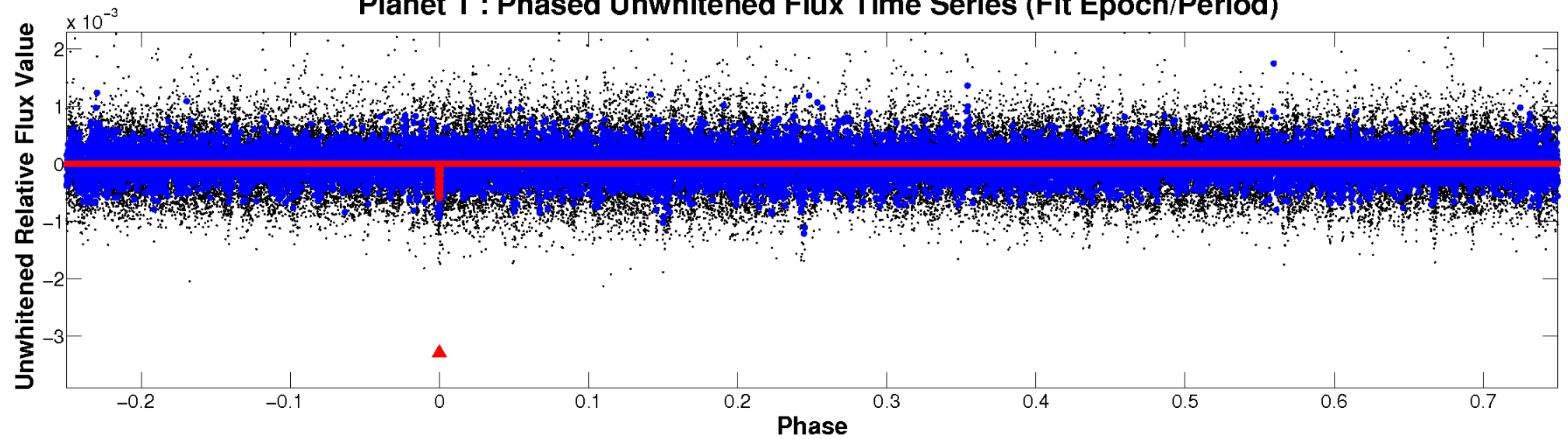
# ALT Odd/Even

TCE 006358453-01

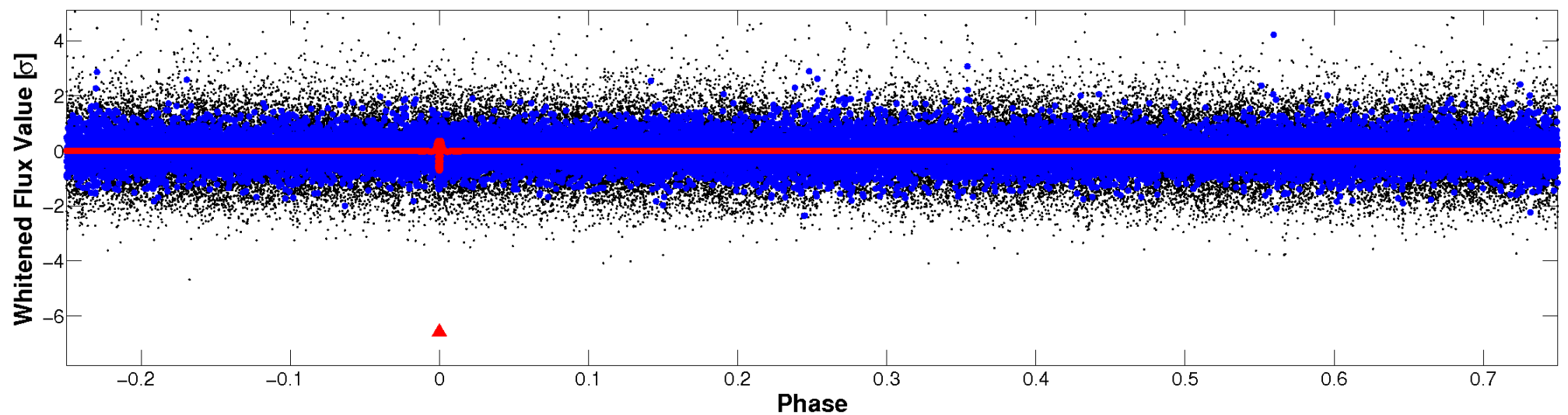


# Non-Whitened Vs. Whitened Light Curve

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

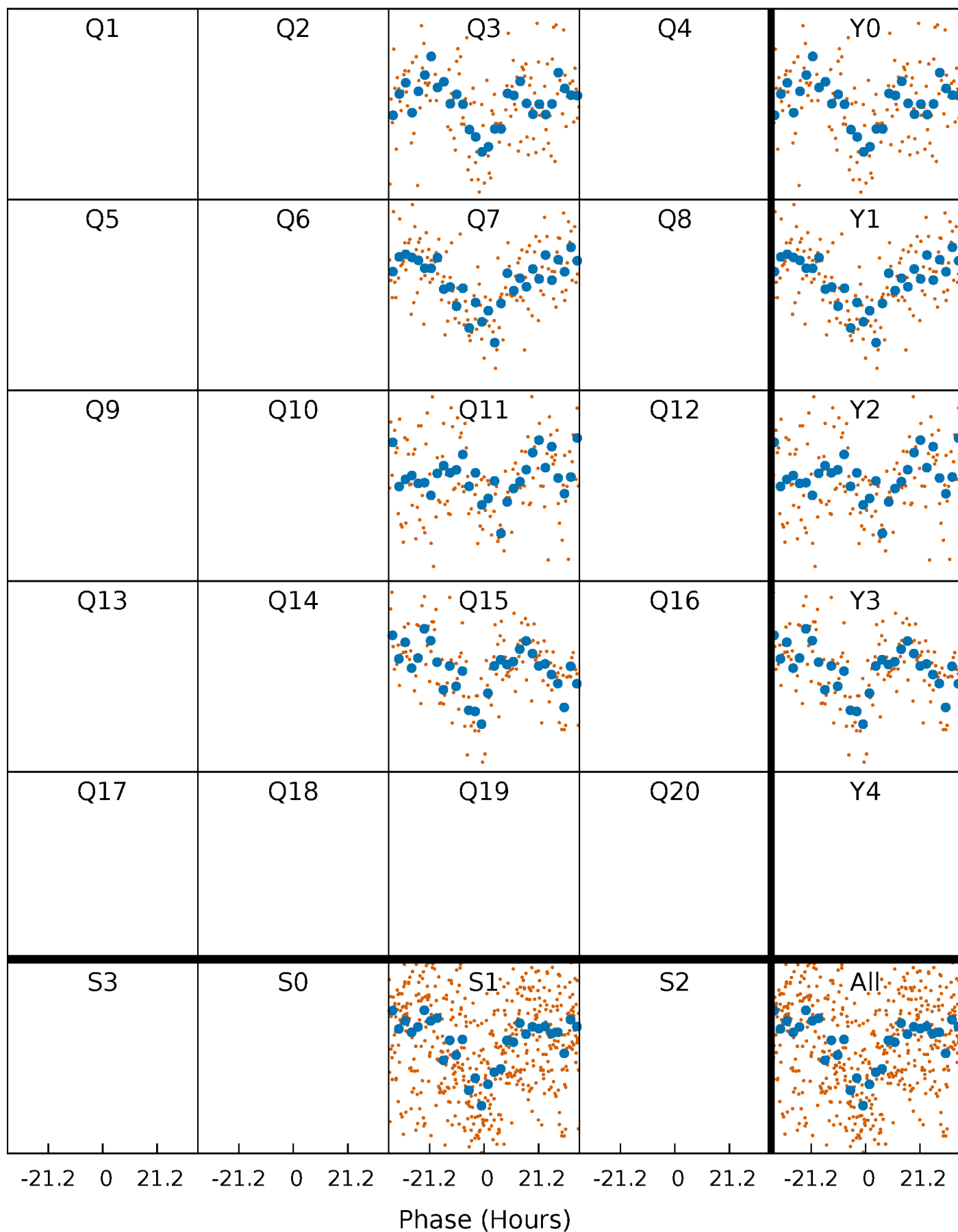


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



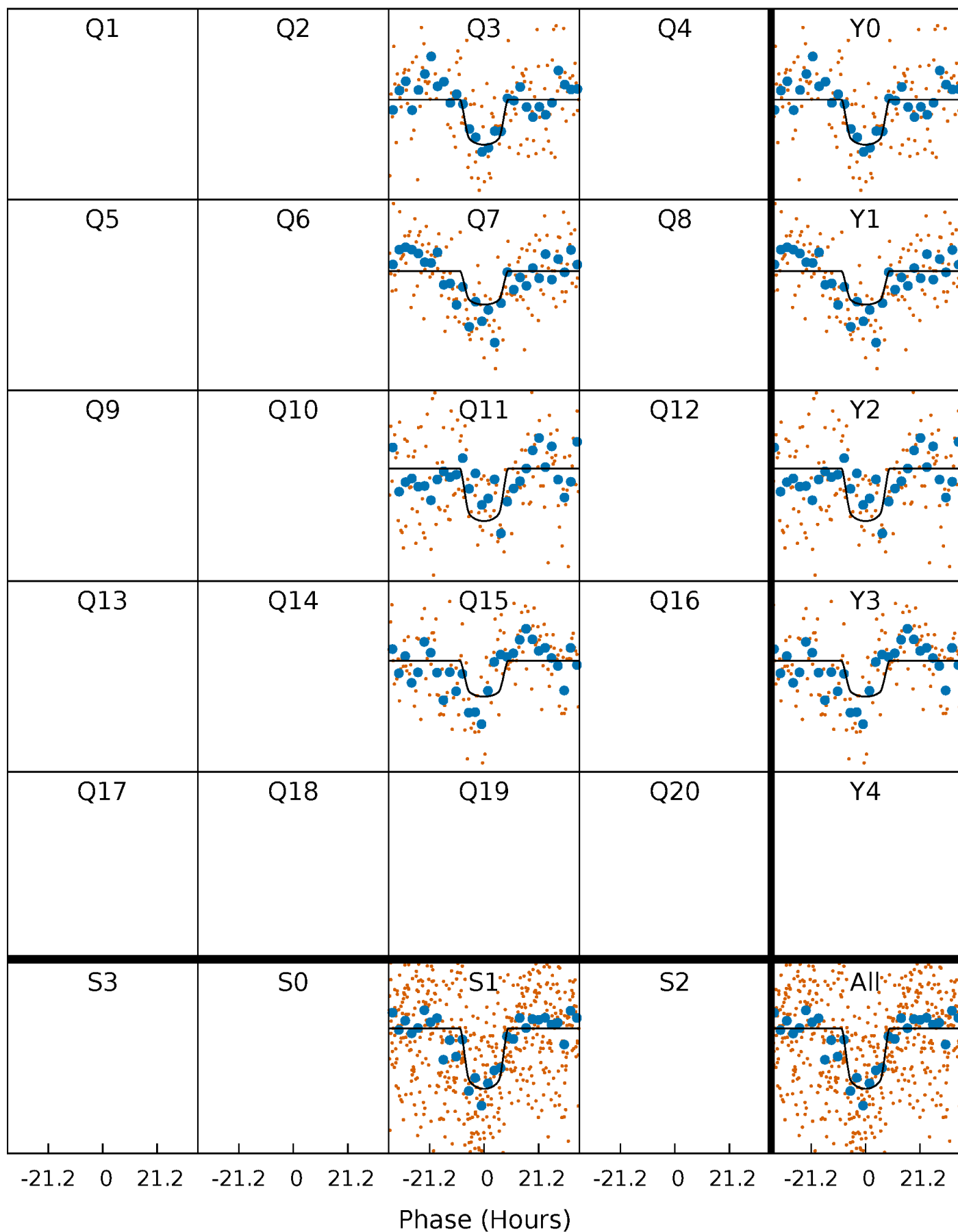
# PDC Quarter-Phased Transit Curves

TCE 006358453-01 P=369.912571 Days  $T_0=268.168355$  (BKJD)



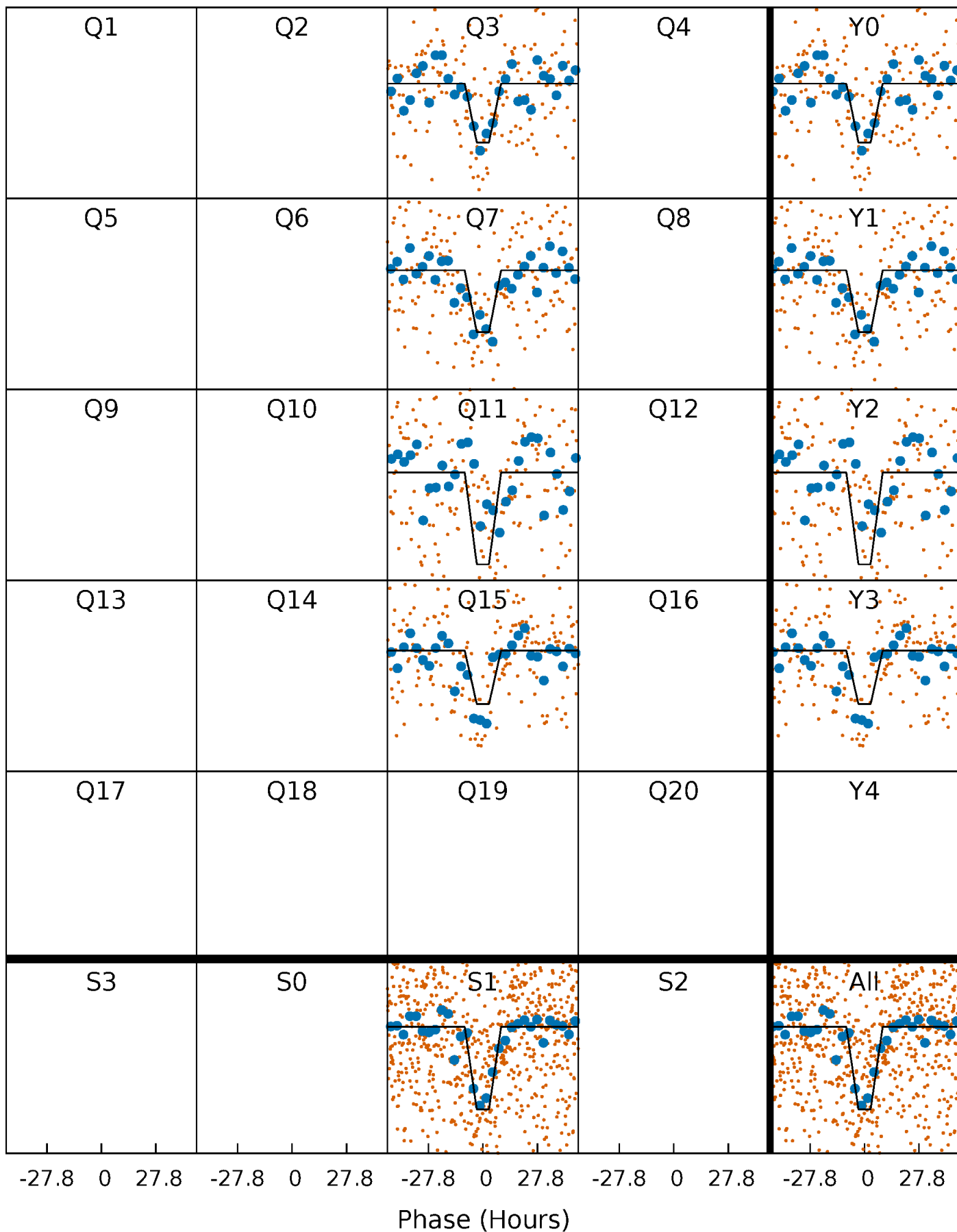
# DV Quarter-Phased Transit Curves

TCE 006358453-01 P=369.912571 Days  $T_0=268.168355$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

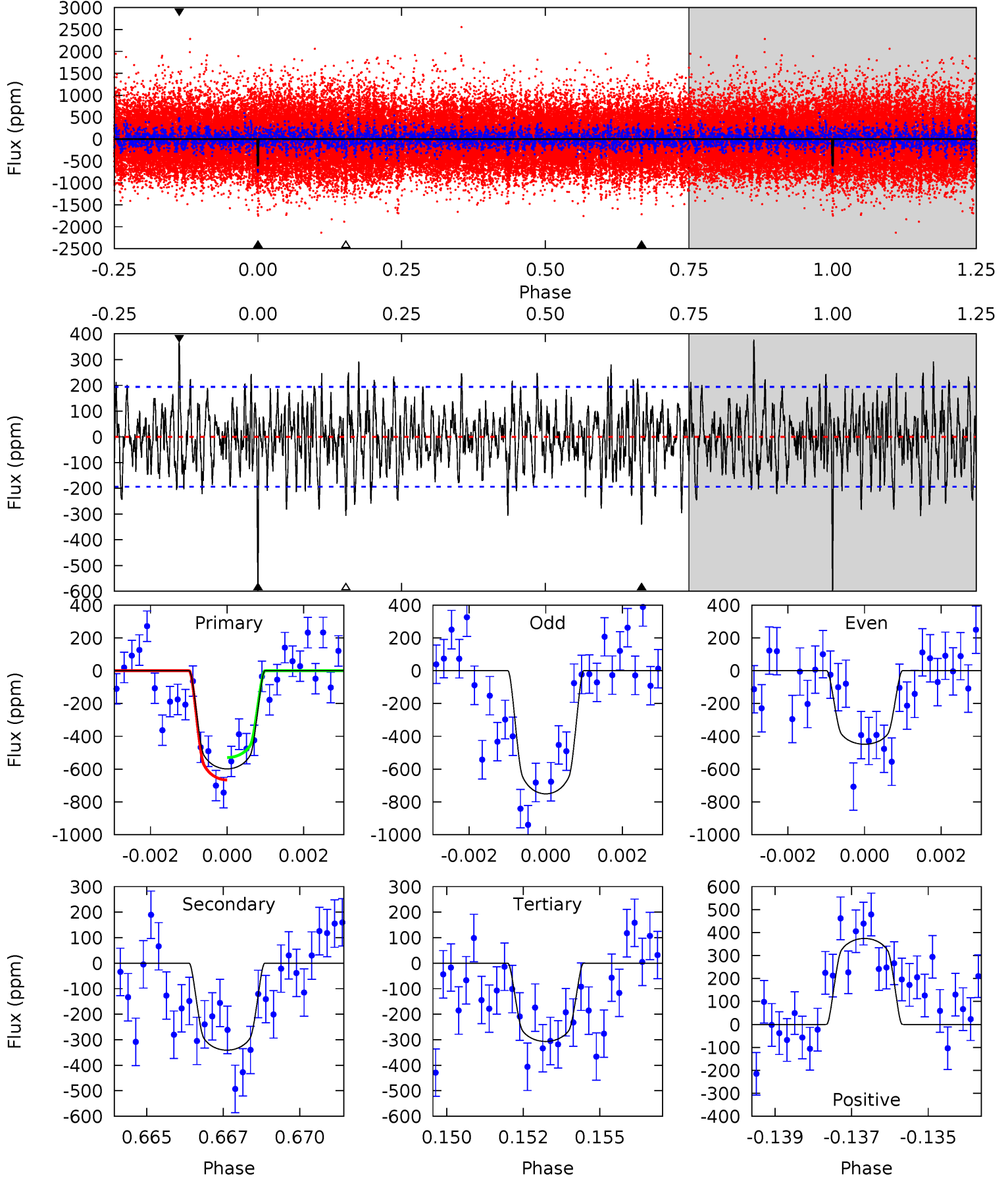
TCE 006358453-01 P=369.895114 Days  $T_0=268.172113$  (BKJD)



# DV Model-Shift Uniqueness Test

006358453-01, P = 369.912571 Days, E = 268.168355 Days

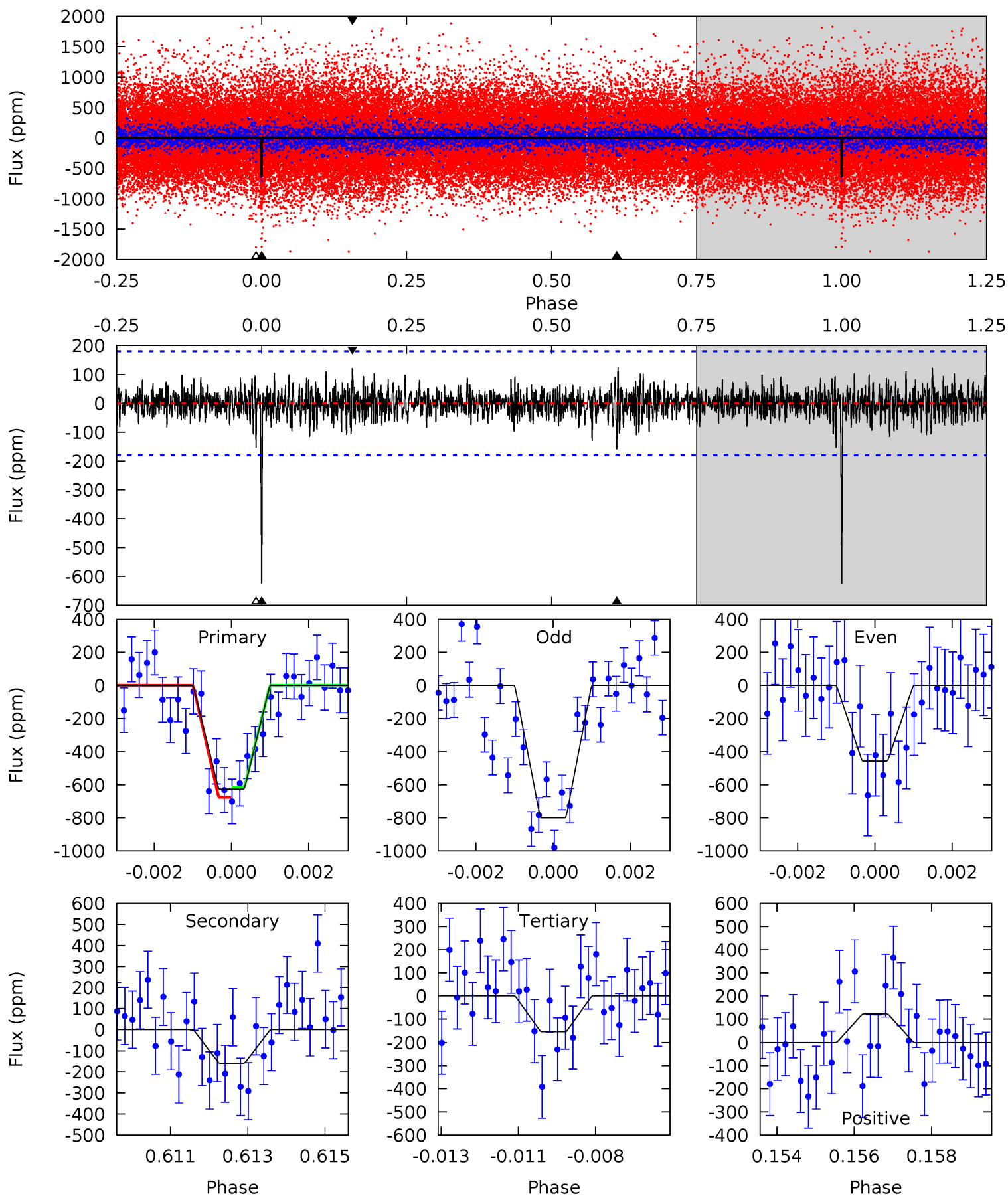
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	9.33	8.40	10.2	5.31	3.07	2.67	8.00	6.15	0.94	-0.91	4.15	1.02	0.38	1.87



# Alt Model-Shift Uniqueness Test

006358453-01, P = 369.895114 Days, E = 268.172113 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
18.5	4.69	4.55	3.61	5.32	3.07	1.06	14.0	14.9	0.15	1.08	5.11	0.88	0.16	0.86



### Stellar Parameters For KIC 006358453

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6313^{+177}_{-243}$	$4.364^{+0.062}_{-0.188}$	$0.360^{+0.100}_{-0.350}$	$1.246^{+0.373}_{-0.160}$	$1.310^{+0.134}_{-0.184}$	$0.953^{+0.318}_{-0.464}$
	+3%/-4%	+1%/-4%	+28%/-97%	+30%/-13%	+10%/-14%	+33%/-49%
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 006358453-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-341 \pm 37$	$3.81^{+0.72}_{-0.52}$	$420^{+29}_{-21}$	$5230^{+338}_{-325}$	$15213^{+5245}_{-4489}$
Alt.	$-159 \pm 34$	$3.76^{+0.65}_{-0.54}$	$421^{+29}_{-22}$	$4532^{+294}_{-311}$	$7472^{+3029}_{-2649}$

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

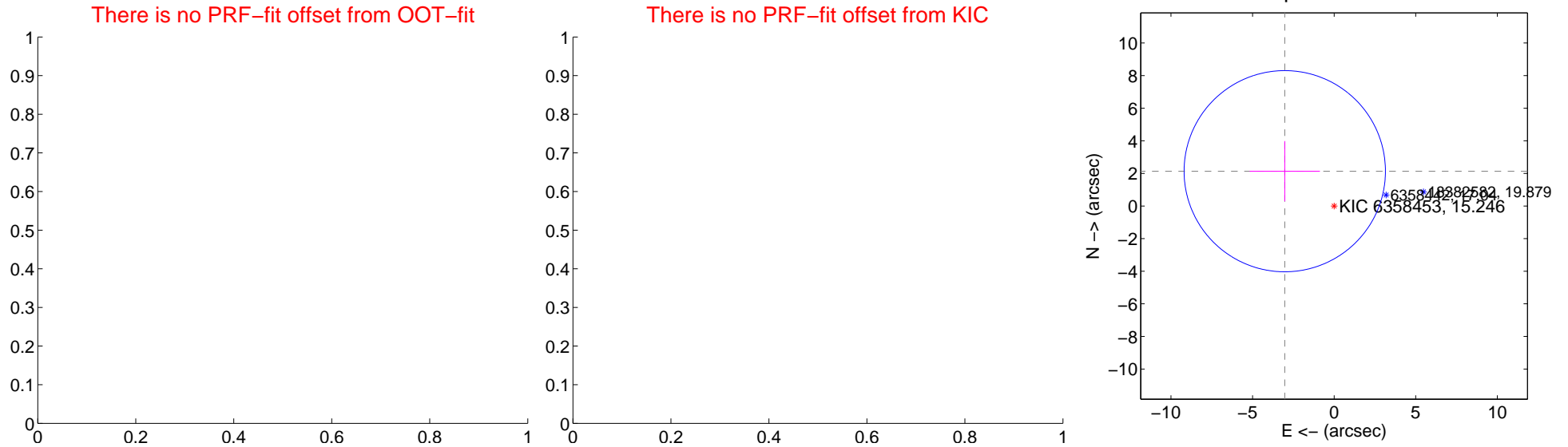
## DV Centroid Data

Supplemental centroid analysis for 006358453-01. Kepler magnitude: 15.25. Transit SNR 7.48

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$3.70 \pm 2.06$	1.80	$3.03 \pm 2.15$	$2.14 \pm 1.85$

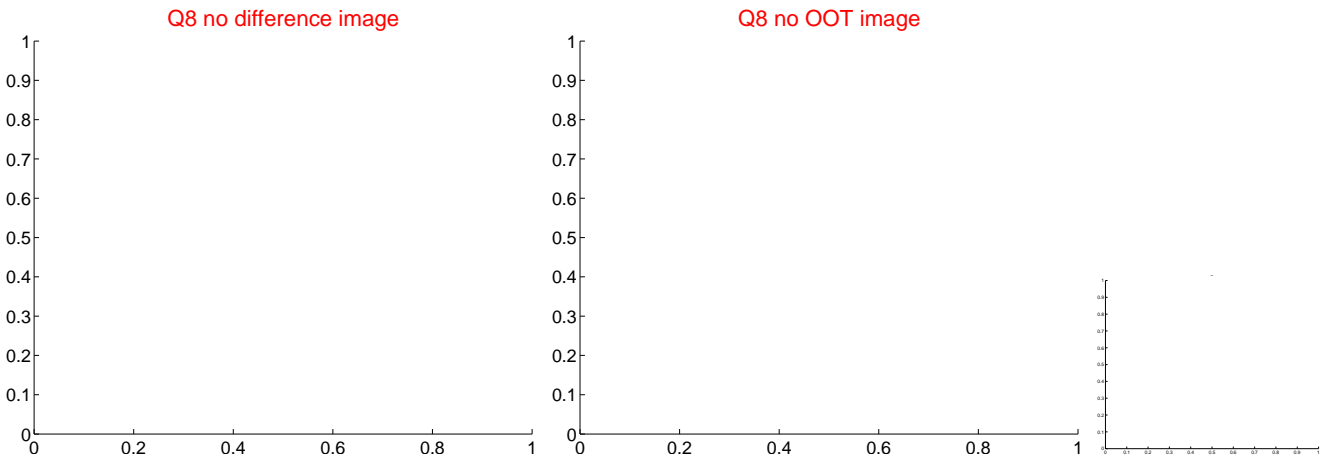
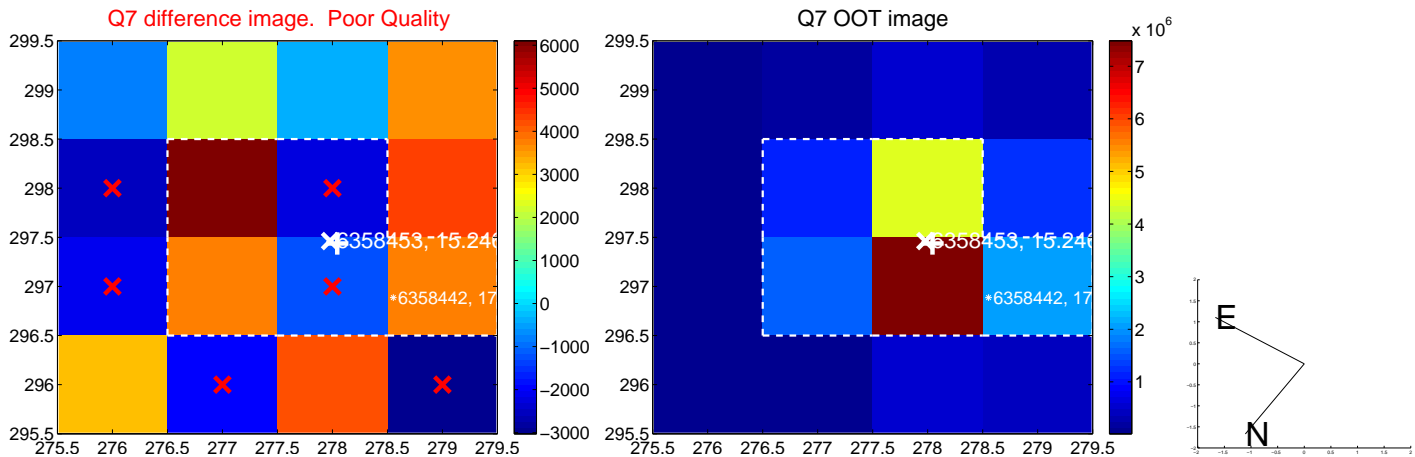
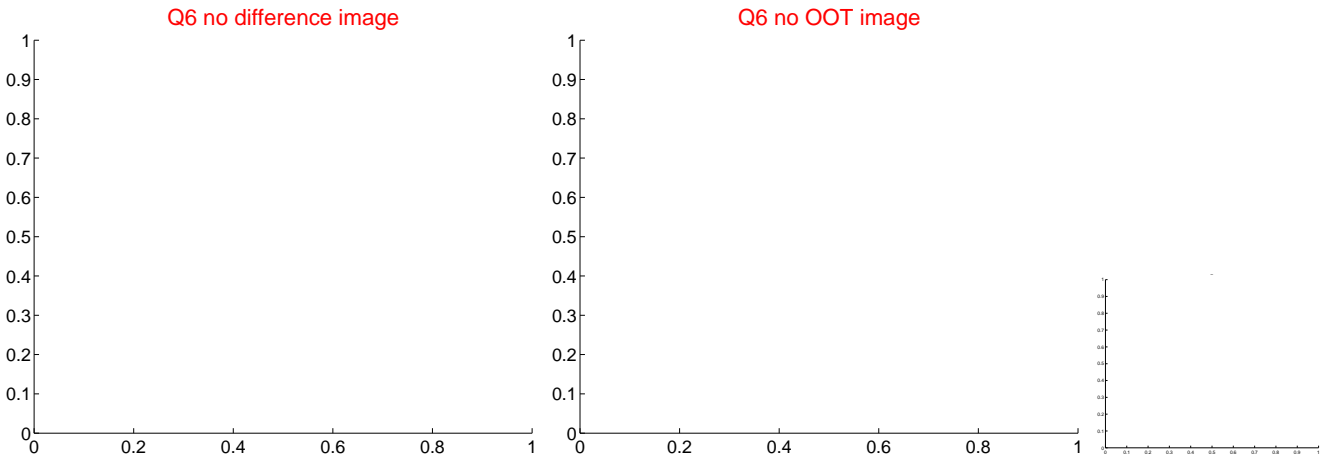
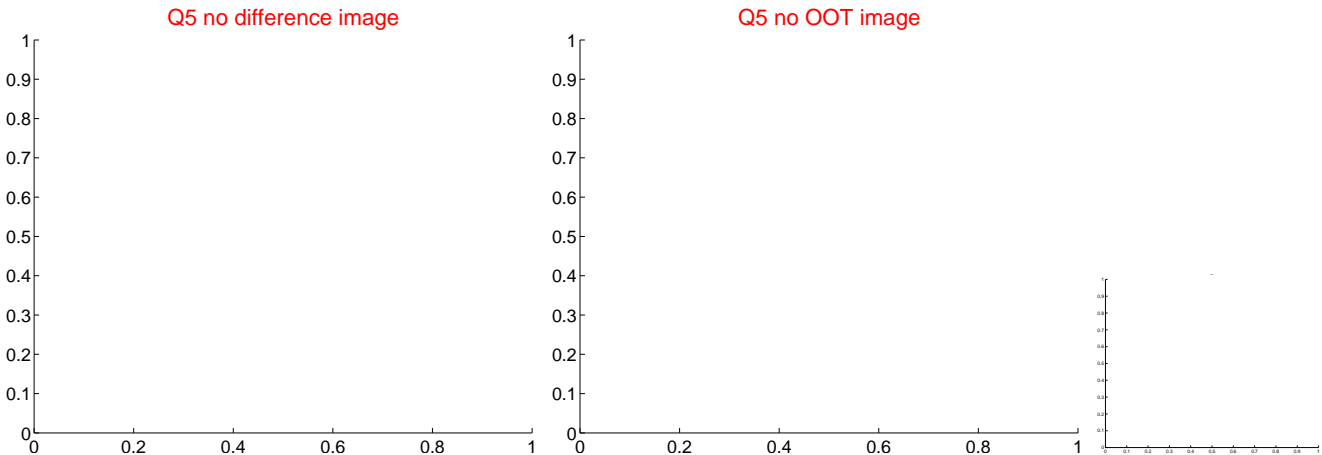


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

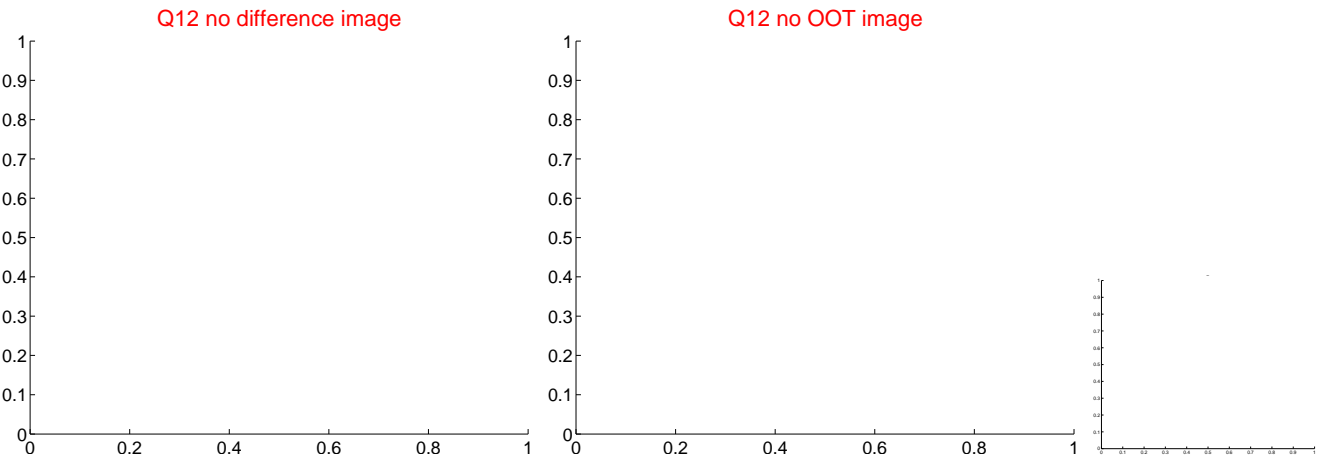
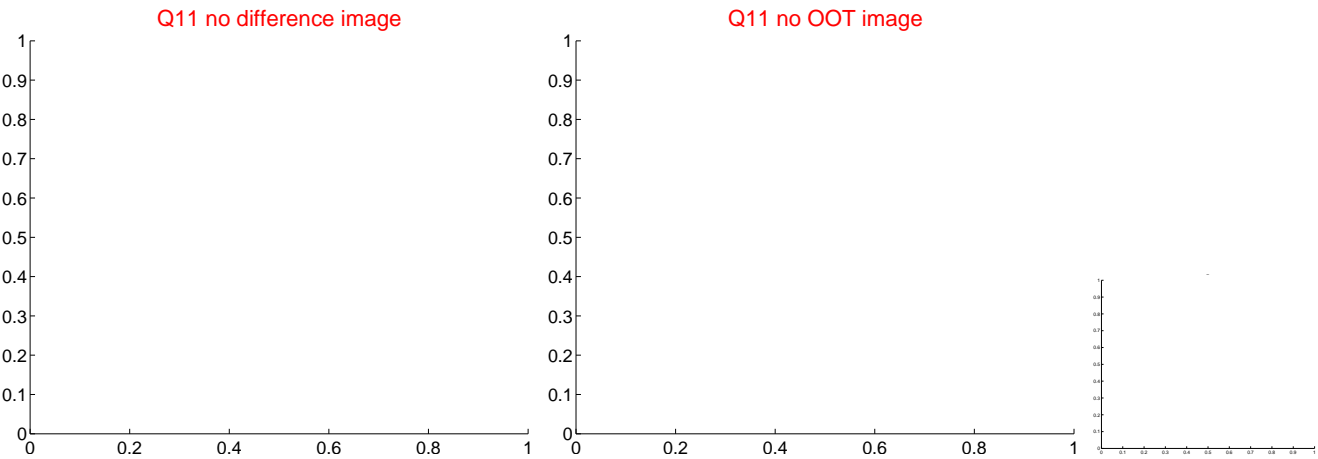
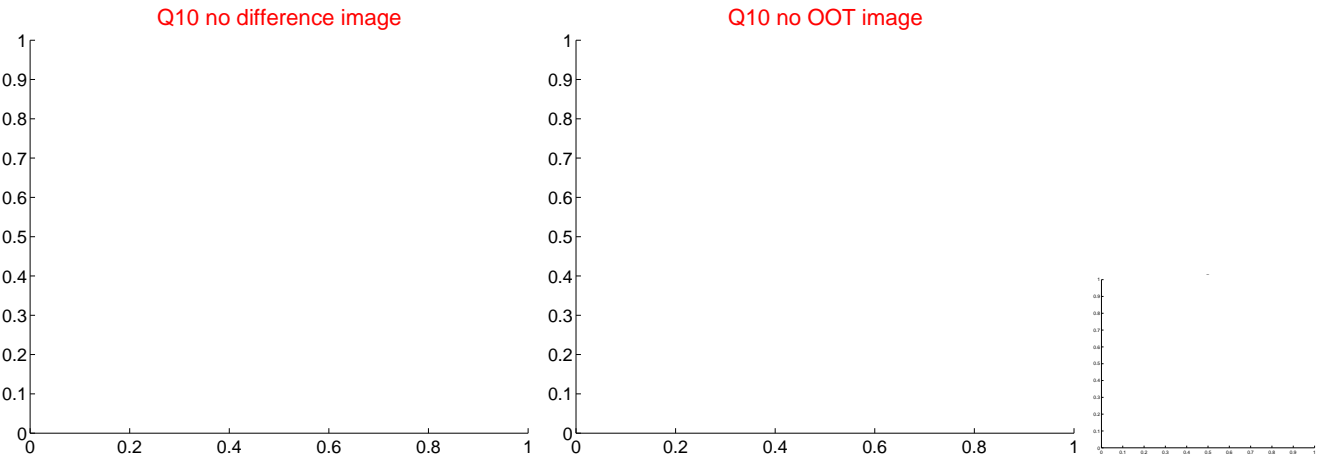
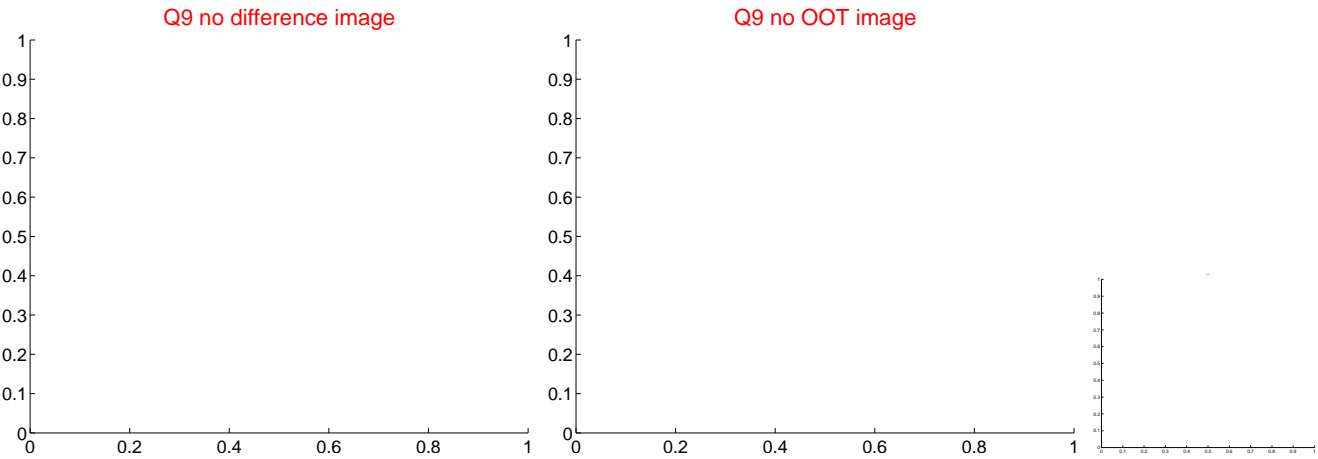
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



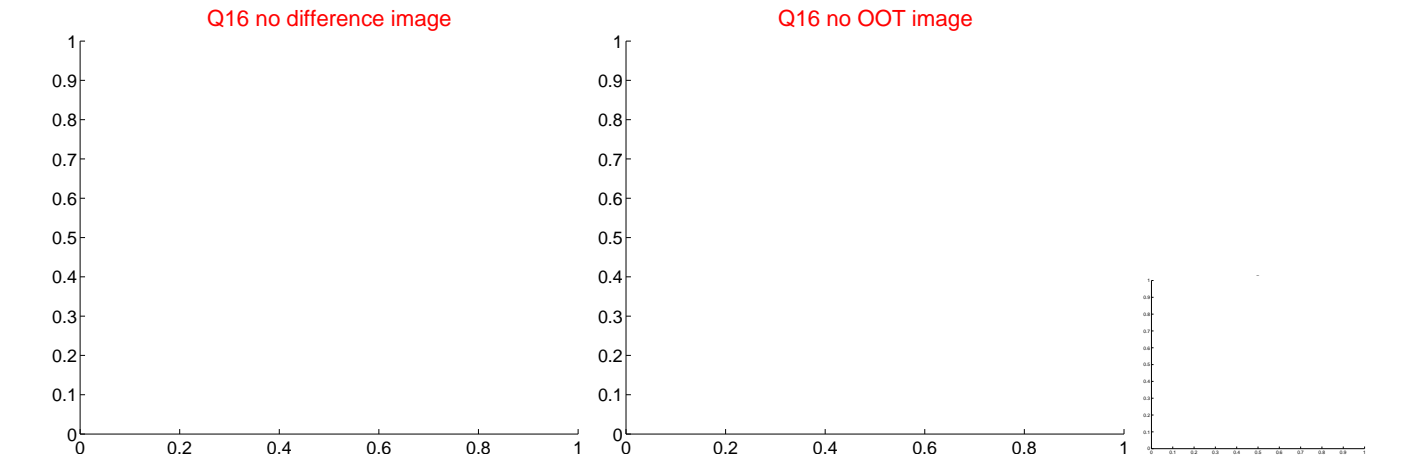
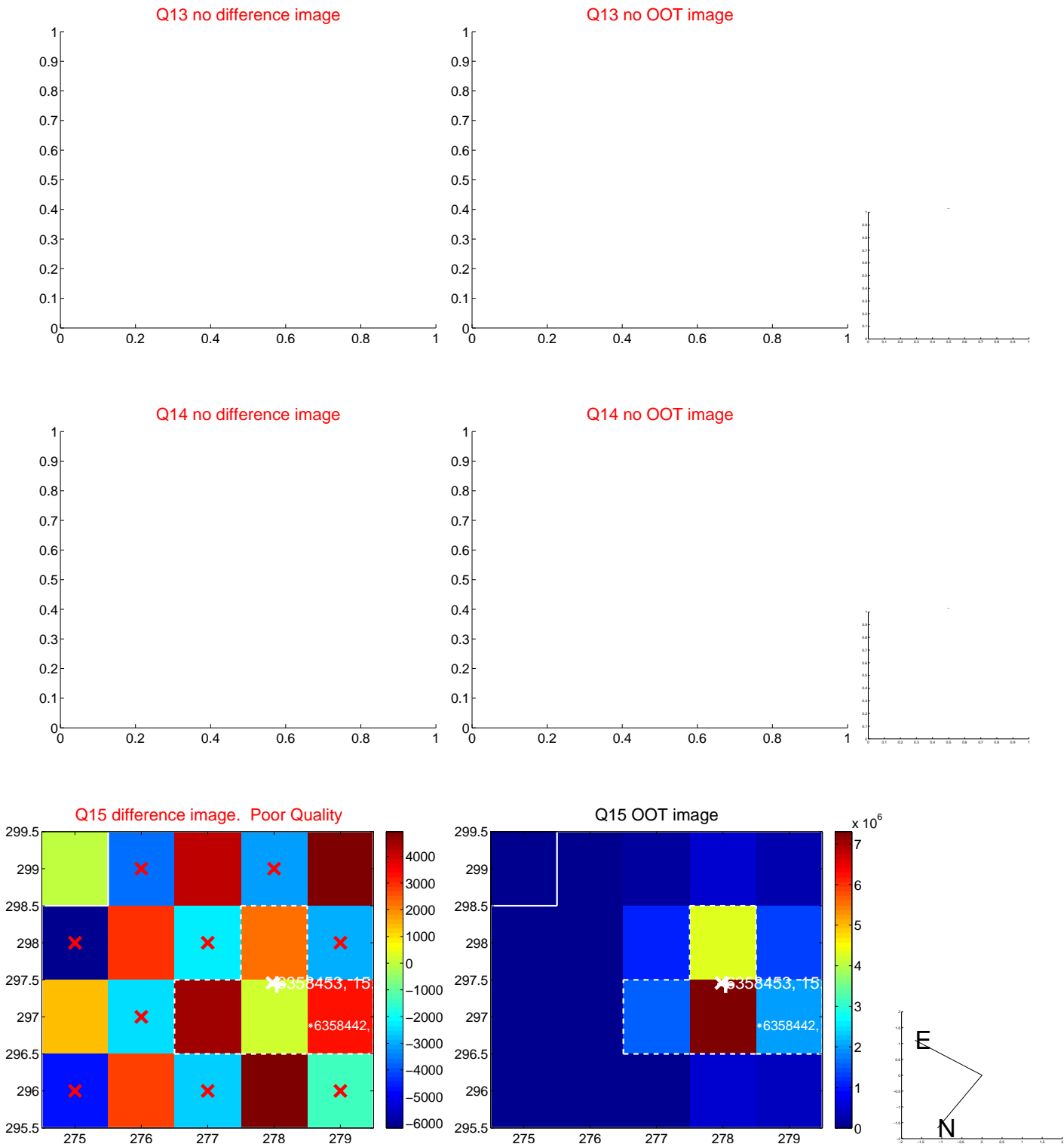
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



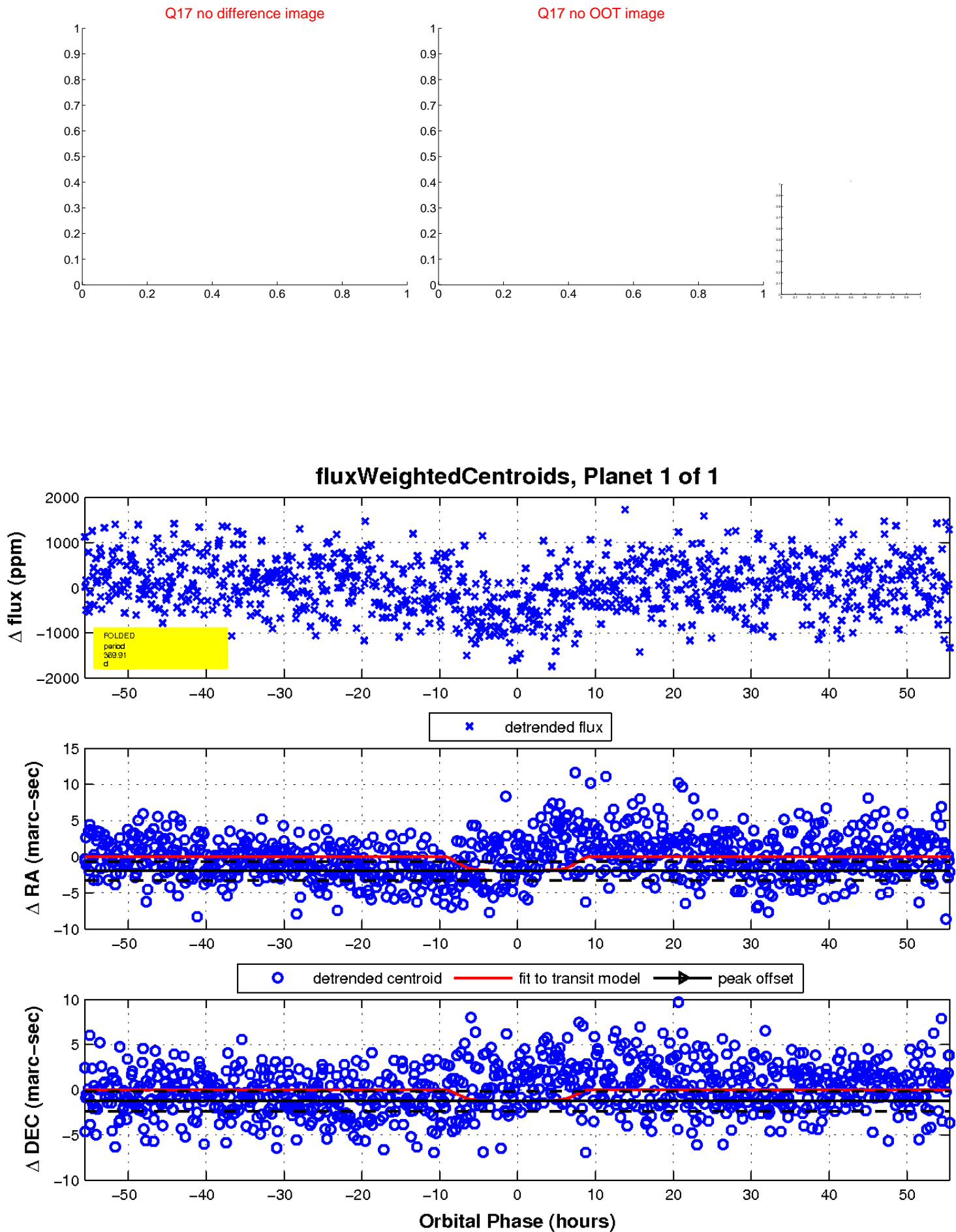
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

