

# KIC 005637036

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005637036-01	OBS	8102.01	171.045092	293.039317	803.5	3.947	7.9	7.0	12.05	4932	45.76	110.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005637036-01	OBS	FP	0.16	1	0	0	0	MOD_NONUNIQ_ALT

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

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

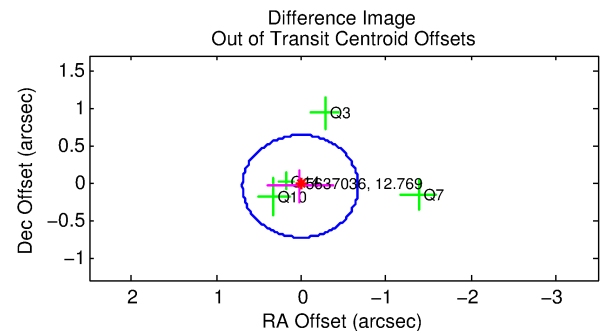
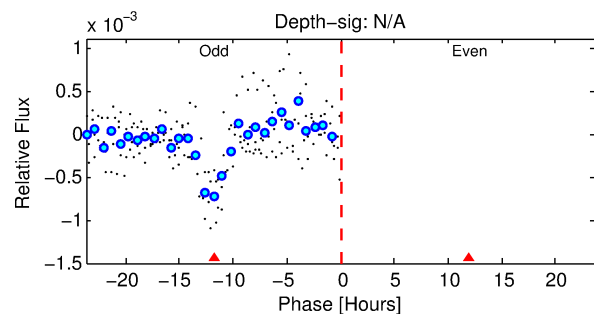
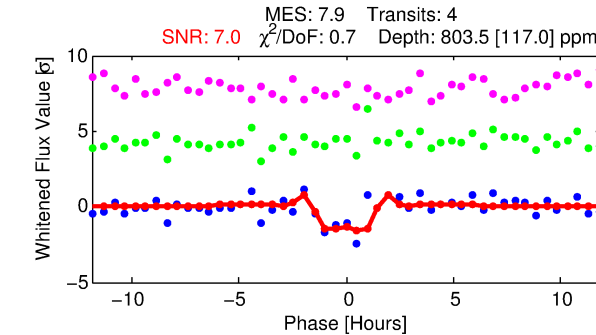
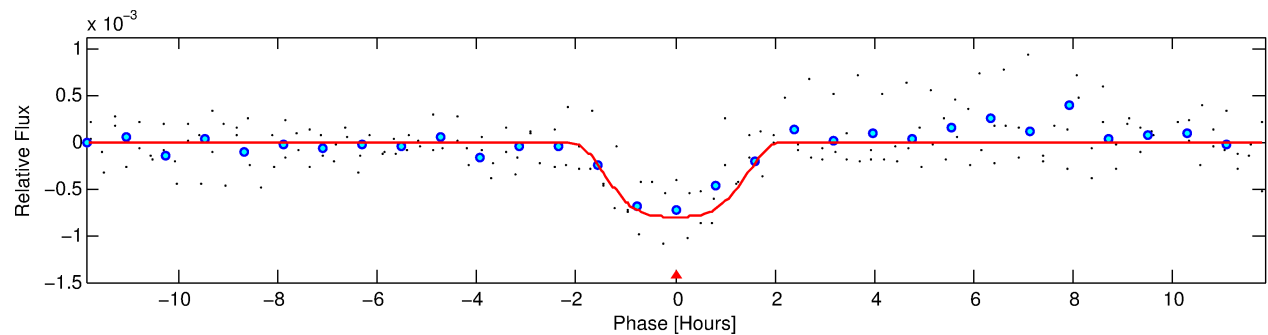
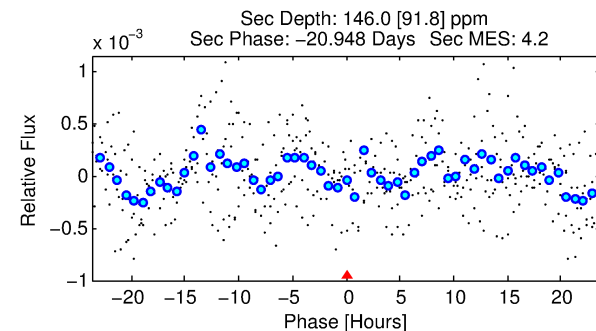
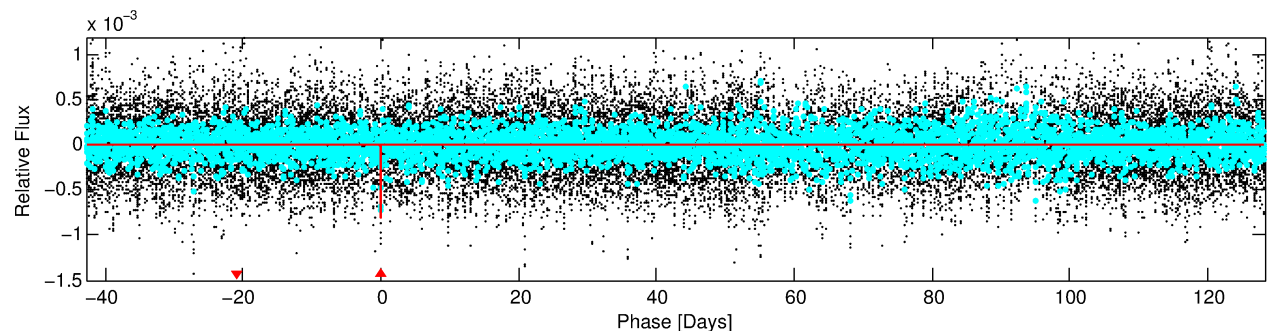
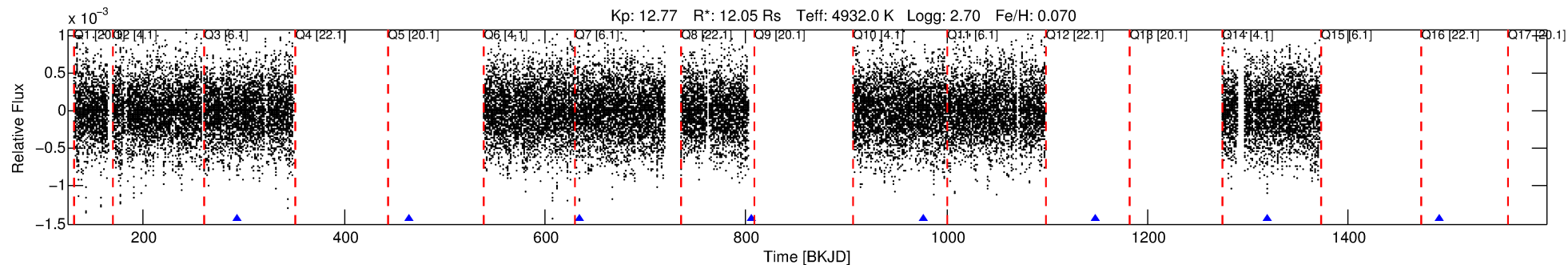
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005637036-01

No Significant Match Found

# DV One-Page Summary

KIC: 5637036 Candidate: 1 of 1 Period: 171.045 d



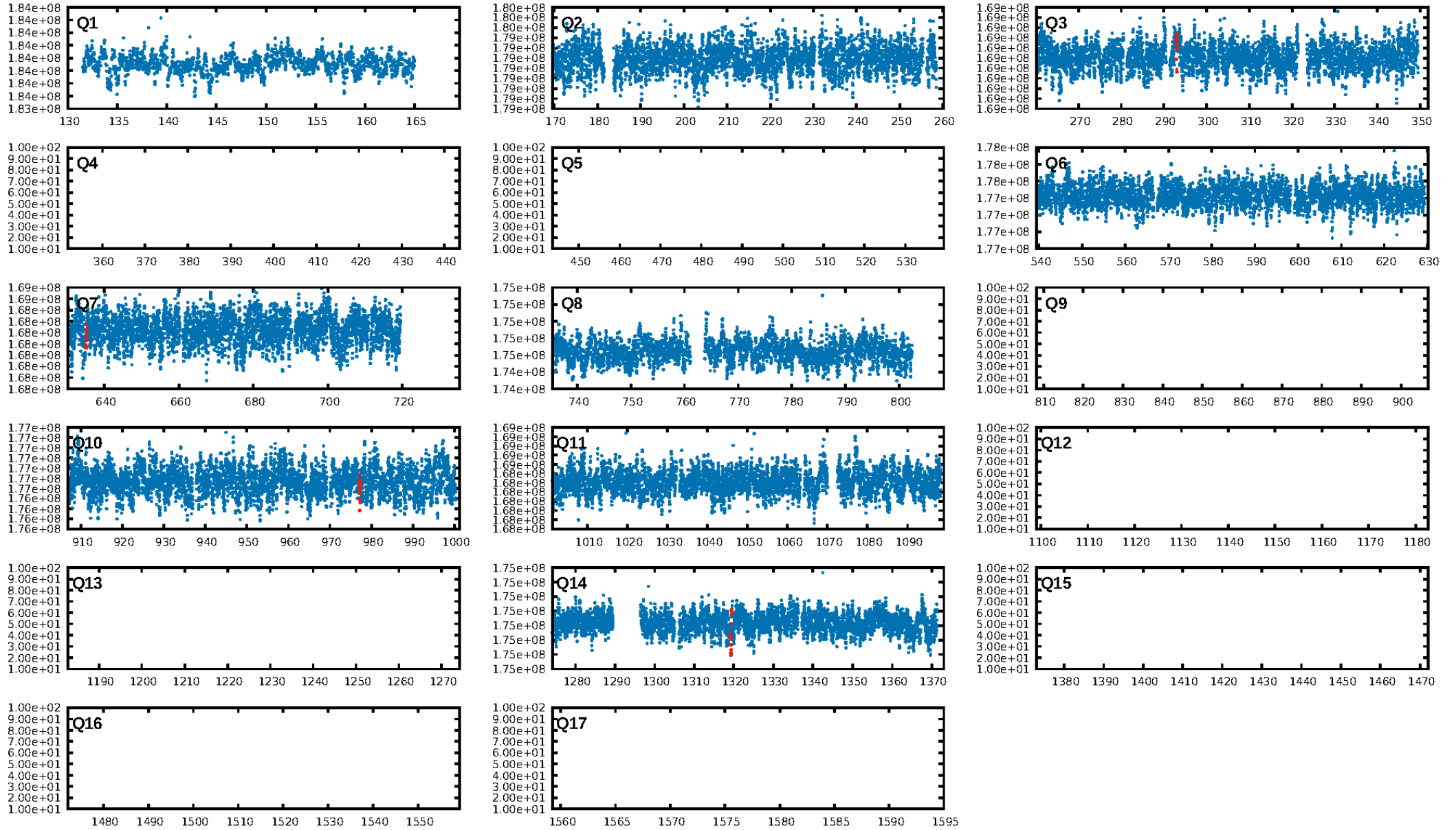
## DV Fit Results:

Period = 171.04509 [0.00126] d  
Epoch = 293.0393 [0.0054] BKJD  
Rp/R\* = 0.0348 [0.0029]  
a/R\* = 131.87 [11.29]  
b = 0.96 [0.01]  
Seff = 110.86 [23.96]  
Teff = 827 [45] K  
Rp = 45.76 [12.81] Re  
a = 0.8331 [0.1501] AU  
Ag = 26.61 [18.00] [1.42 $\sigma$ ]  
Teffp = 2906 [479] K [4.32 $\sigma$ ]

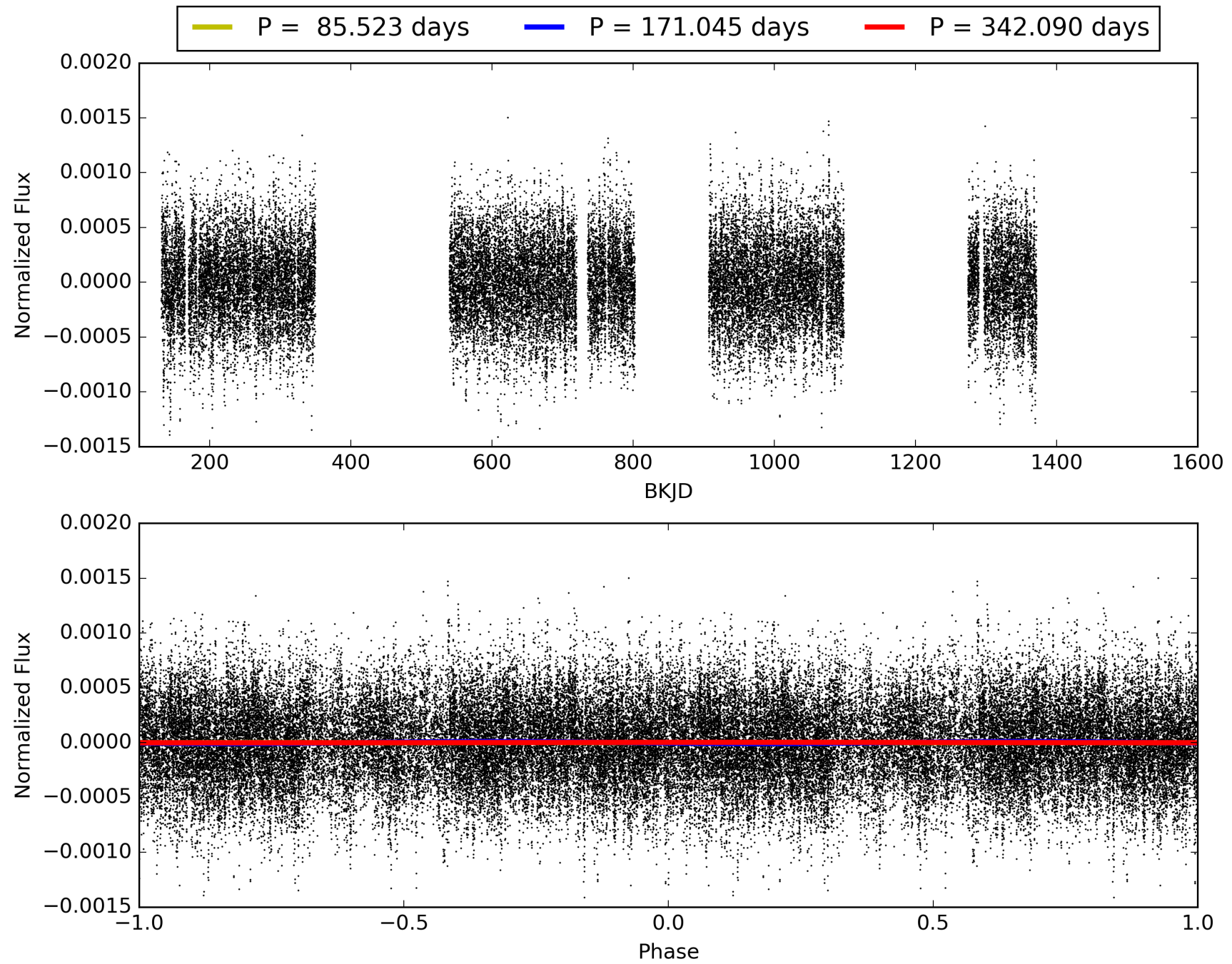
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 23.2%  
ModelChiSquareGof-sig: 99.7%  
Bootstrap-pfa: 3.64e-11  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 3.514  
Centroid-sig: N/A  
Centroid-so: 0.276 arcsec [0.56 $\sigma$ ]  
OotOffset-rm: 0.049 arcsec [0.21 $\sigma$ ]  
KicOffset-rm: 0.043 arcsec [0.13 $\sigma$ ]  
OotOffset-st: 2/2/0/0 [4]  
KicOffset-st: 2/2/0/0 [4]  
DiffImageQuality-fgm: 1.00 [4/4]  
DiffImageOverlap-fno: 1.00 [4/4]

# TCE 005637036-01, PDC Light Curves

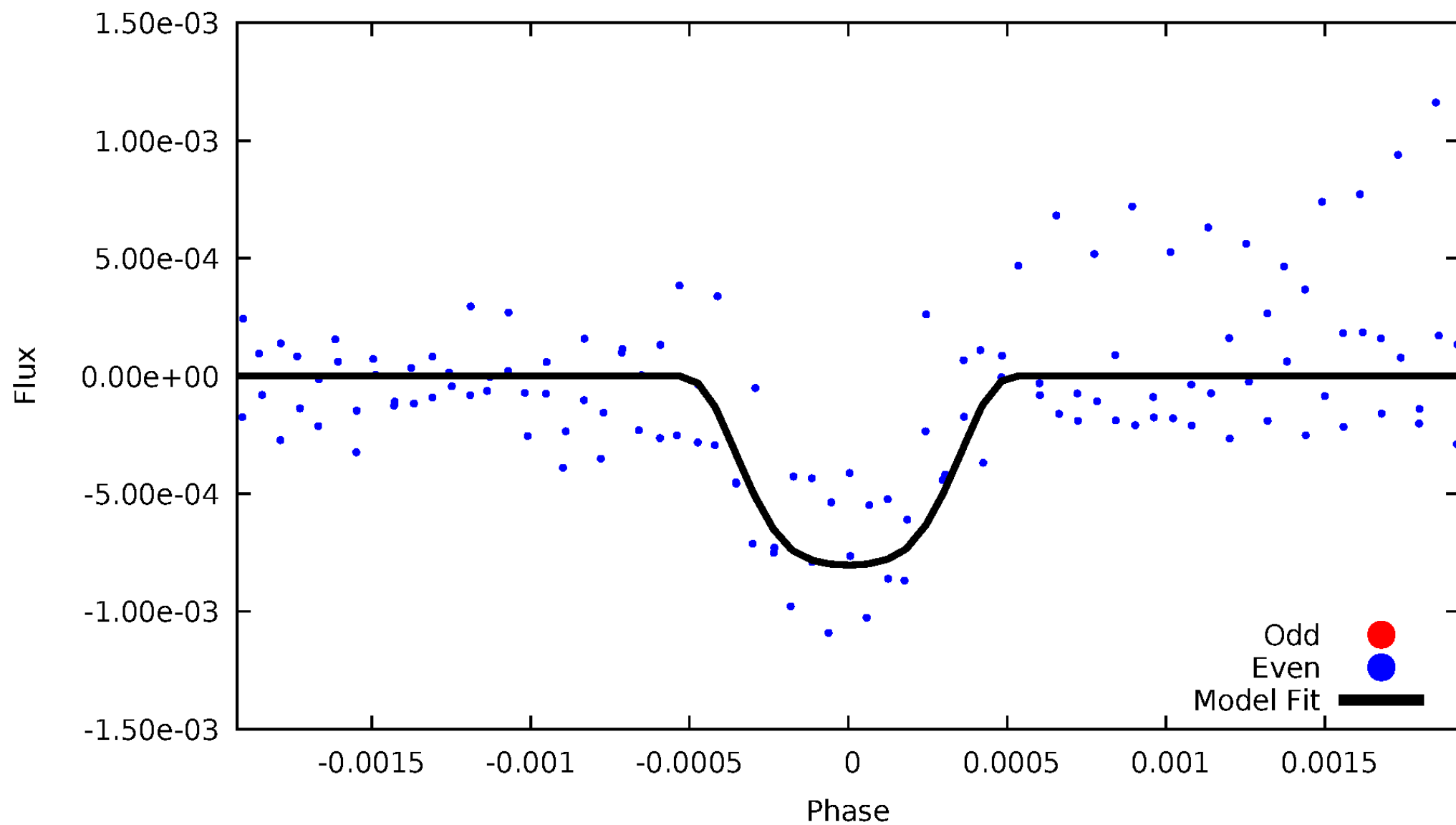


TCE 005637036-01



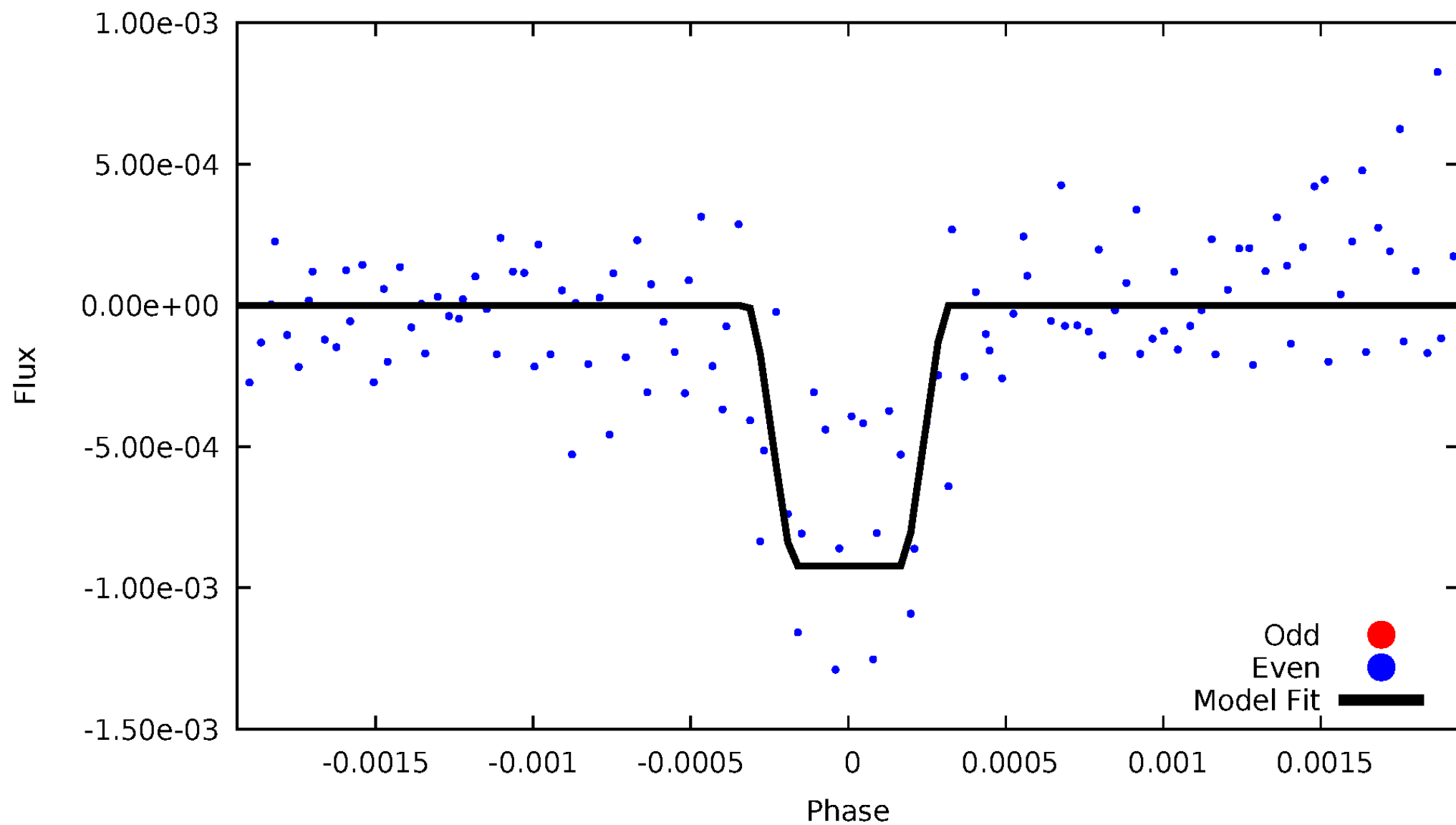
# DV Odd/Even

TCE 005637036-01



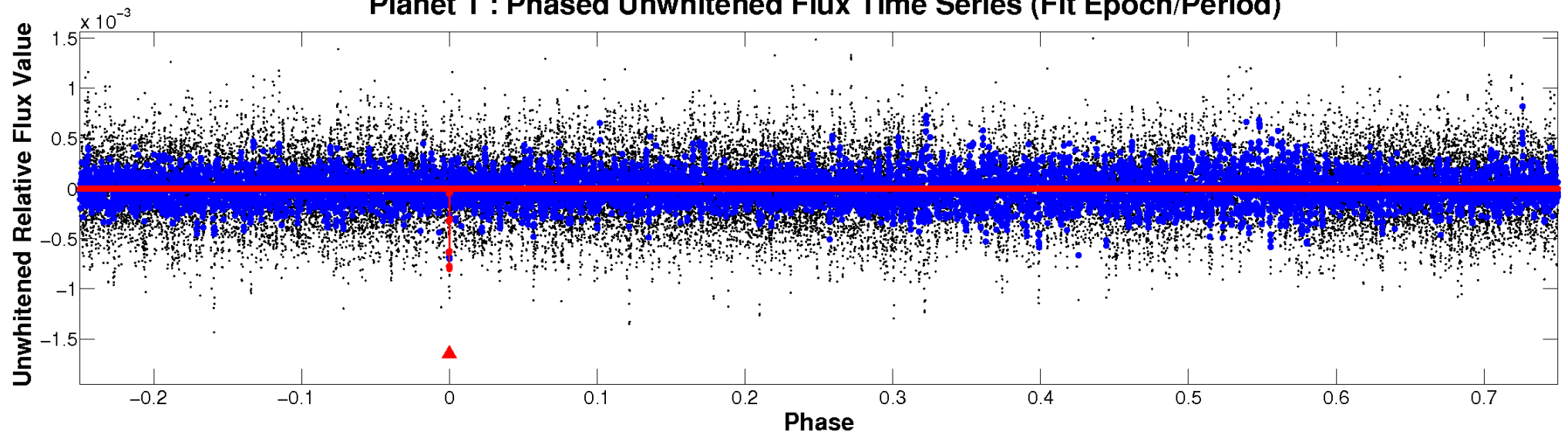
# ALT Odd/Even

TCE 005637036-01

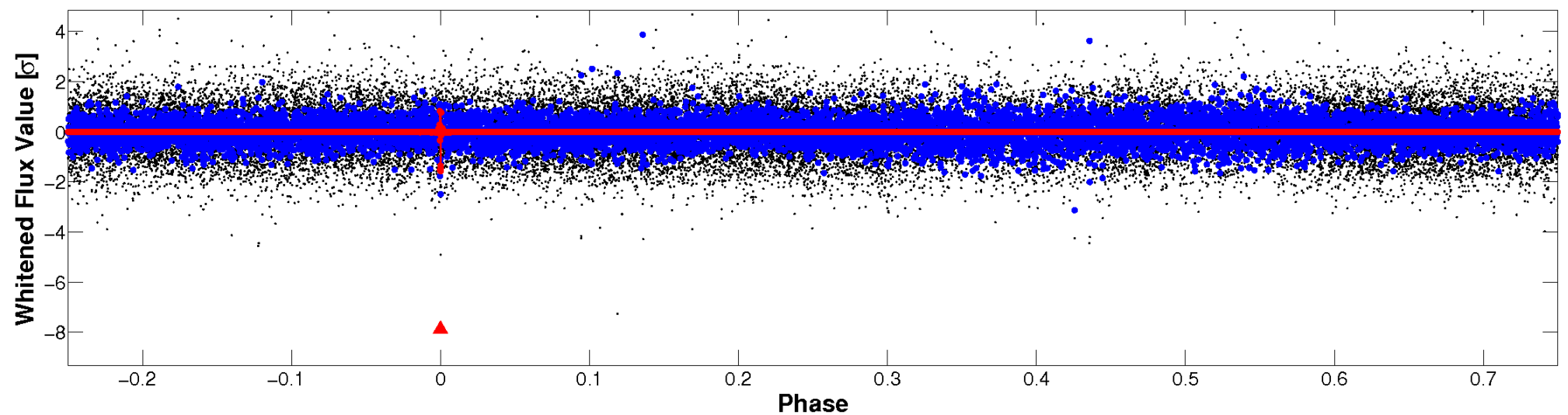


# Non-Whitened Vs. Whitened Light Curve

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

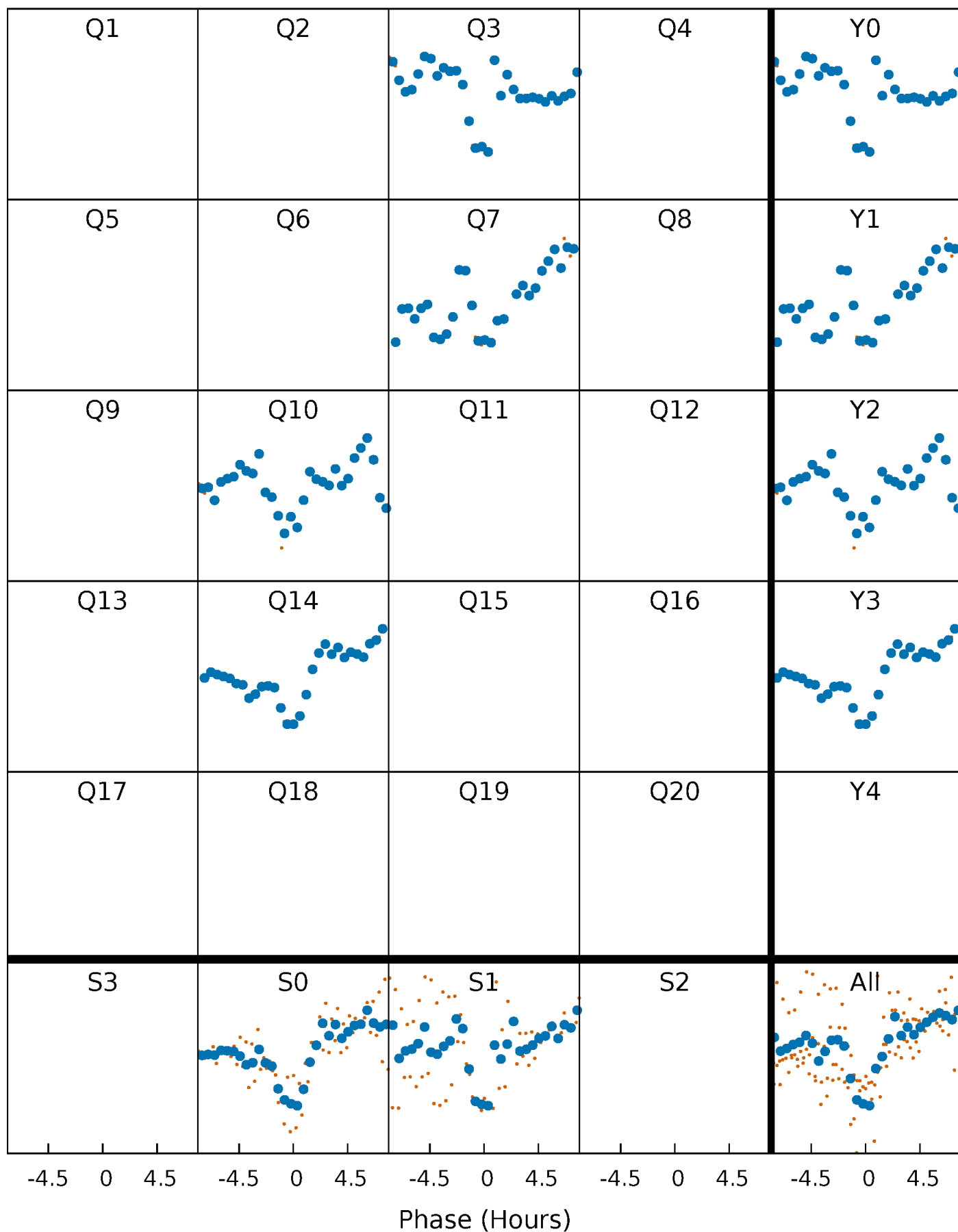


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

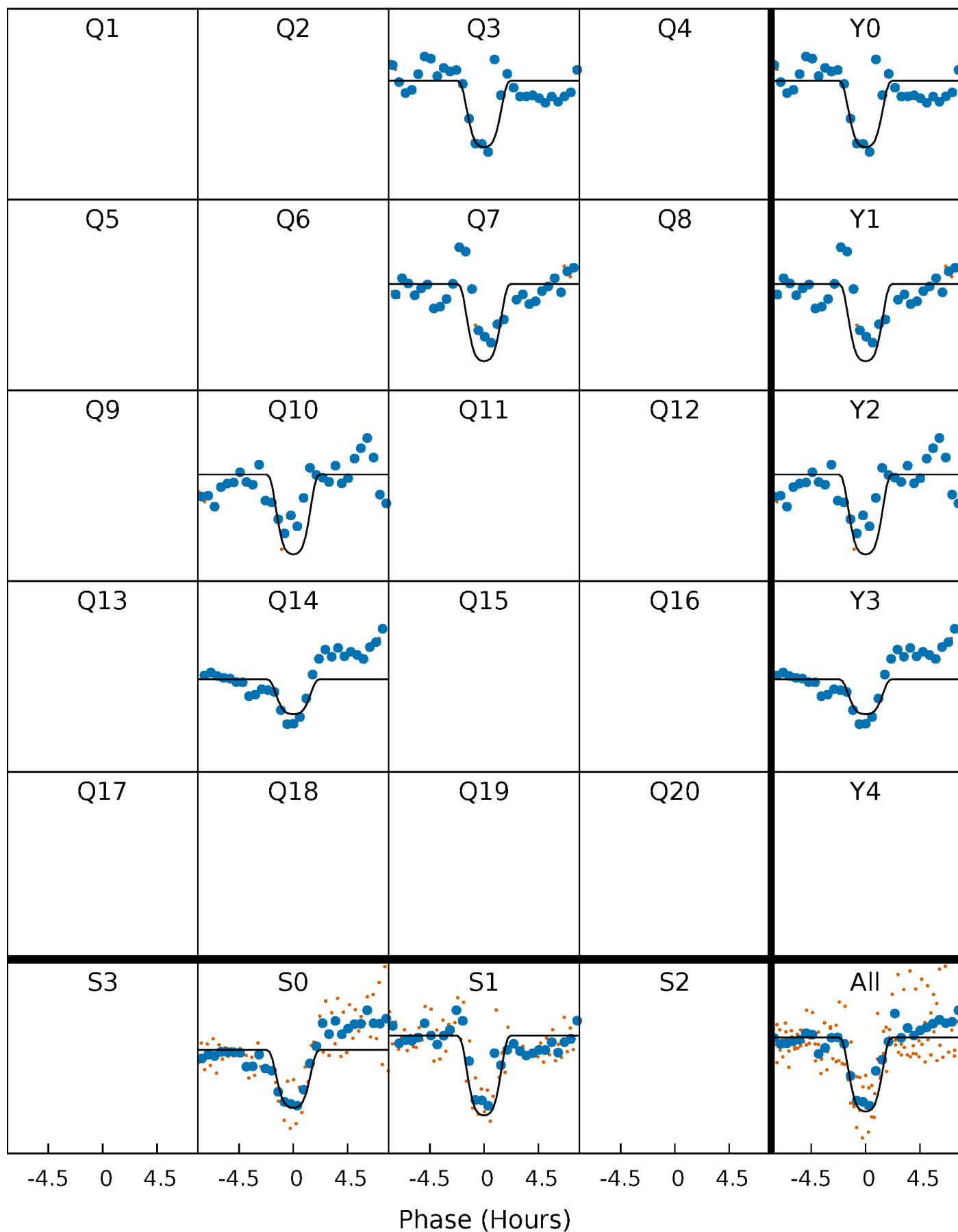
TCE 005637036-01 P=171.045093 Days  $T_0=293.039317$  (BKJD)





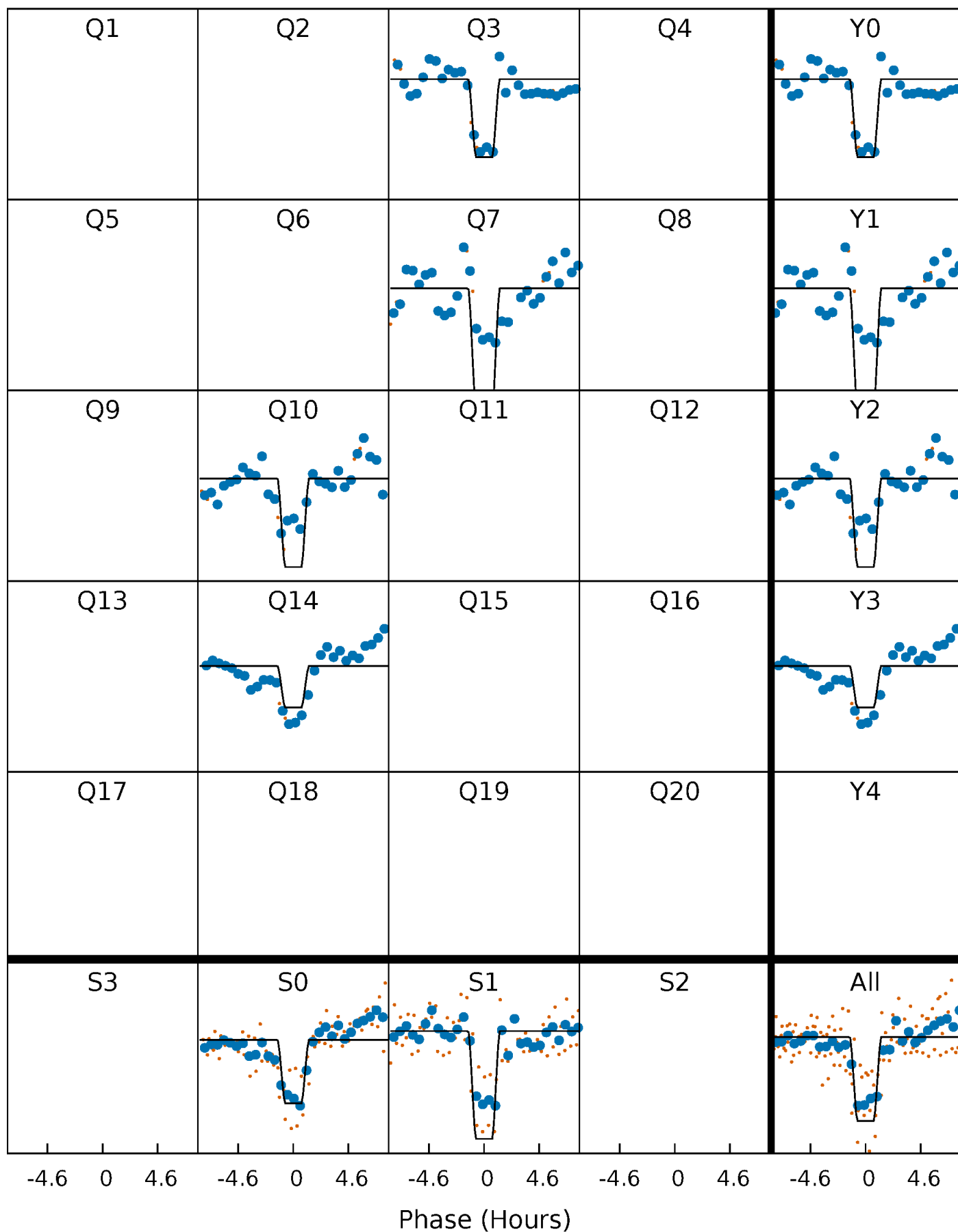
# DV Quarter-Phased Transit Curves

TCE 005637036-01 P=171.045093 Days  $T_0=293.039317$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

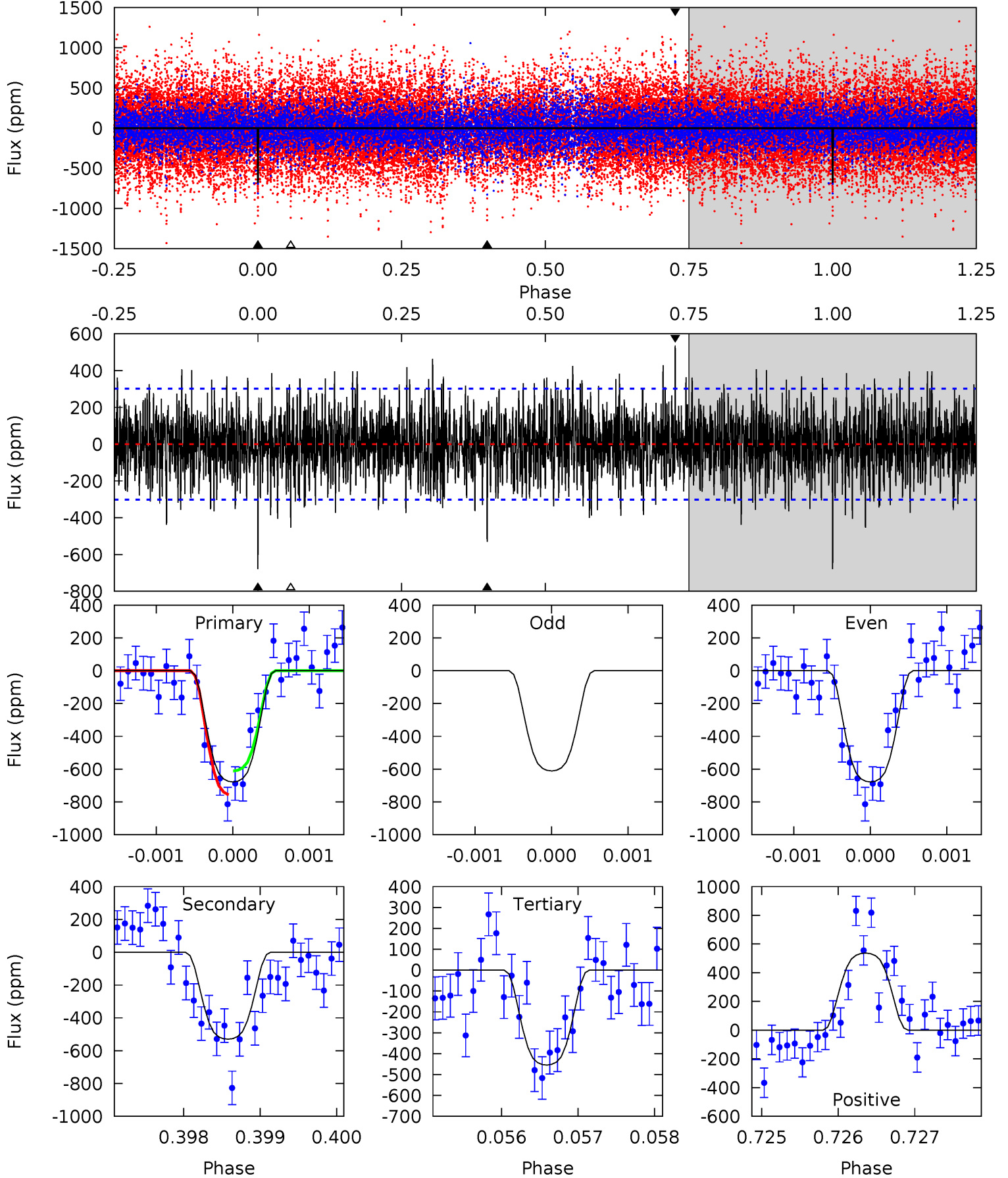
TCE 005637036-01 P=171.046904 Days  $T_0=293.024833$  (BKJD)



# DV Model-Shift Uniqueness Test

005637036-01, P = 171.045093 Days, E = 121.994224 Days

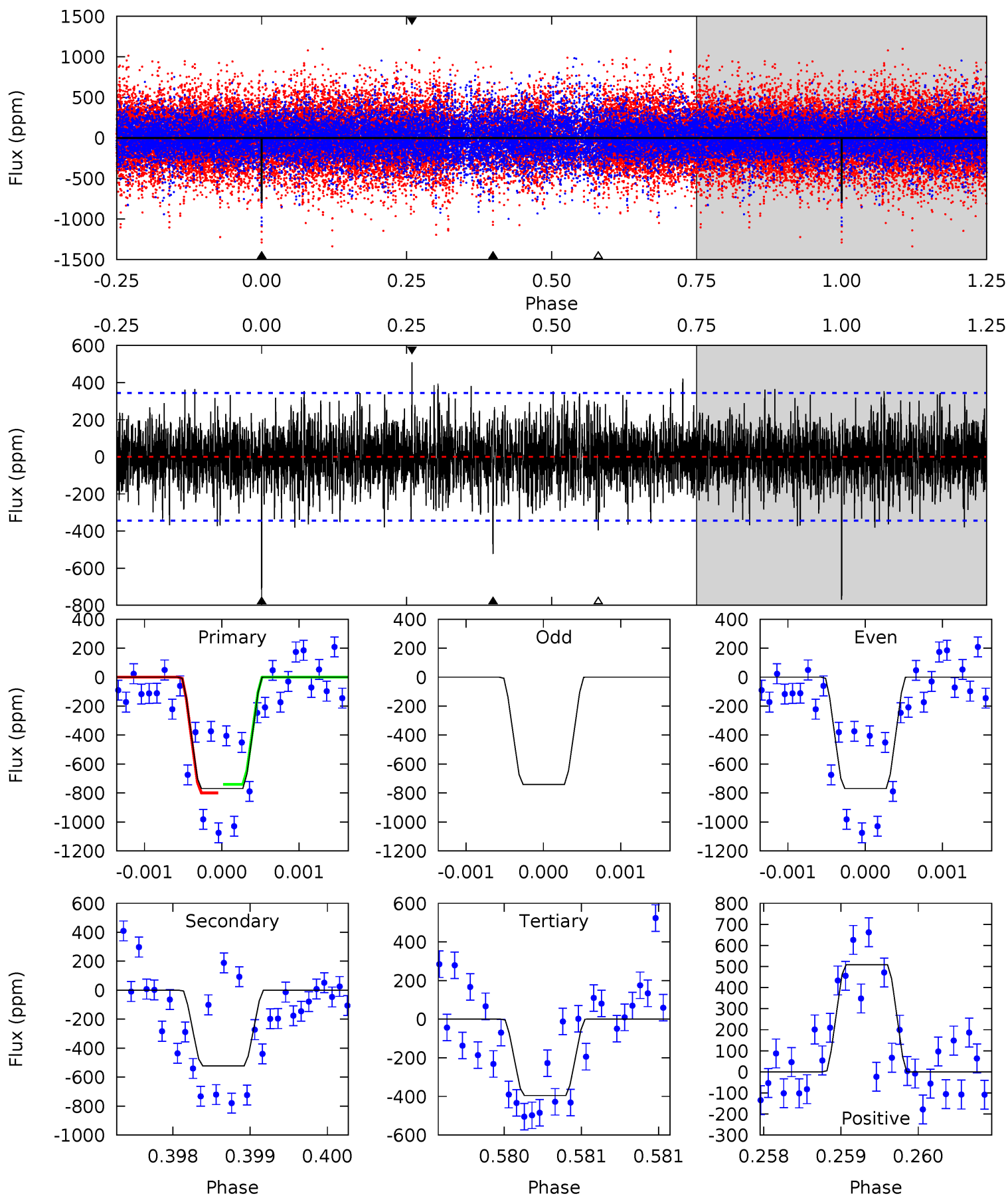
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	9.59	8.23	9.72	5.46	3.30	2.48	4.06	2.56	1.37	-0.12	0.72	1.14	0.44	1.31



# Alt Model-Shift Uniqueness Test

005637036-01, P = 171.046904 Days, E = 121.977929 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
12.4	8.41	6.36	8.19	5.54	3.43	1.84	6.03	4.20	2.05	0.22	0.28	1.06	0.40	0.48



### Stellar Parameters For KIC 005637036

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4932^{+88}_{-137}$	$2.697^{+0.033}_{-0.027}$	$0.070^{+0.150}_{-0.300}$	$12.048^{+0.859}_{-3.223}$	$2.632^{+0.217}_{-1.228}$	$0.002^{+0.001}_{-0.000}$
	+2%/-3%	+1%/-1%	+214%/-429%	+7%/-27%	+8%/-47%	+43%/-11%
Source	SPE74	AST9	SPE74	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005637036-01 / KOI 8102.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-530 \pm 55$	$46.46^{+4.28}_{-5.50}$	$1154^{+29}_{-38}$	$4170^{+180}_{-167}$	$96^{+21}_{-18}$
Alt.	$-522 \pm 62$	$40.41^{+4.42}_{-4.78}$	$1158^{+25}_{-37}$	$4388^{+237}_{-199}$	$125^{+35}_{-27}$

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

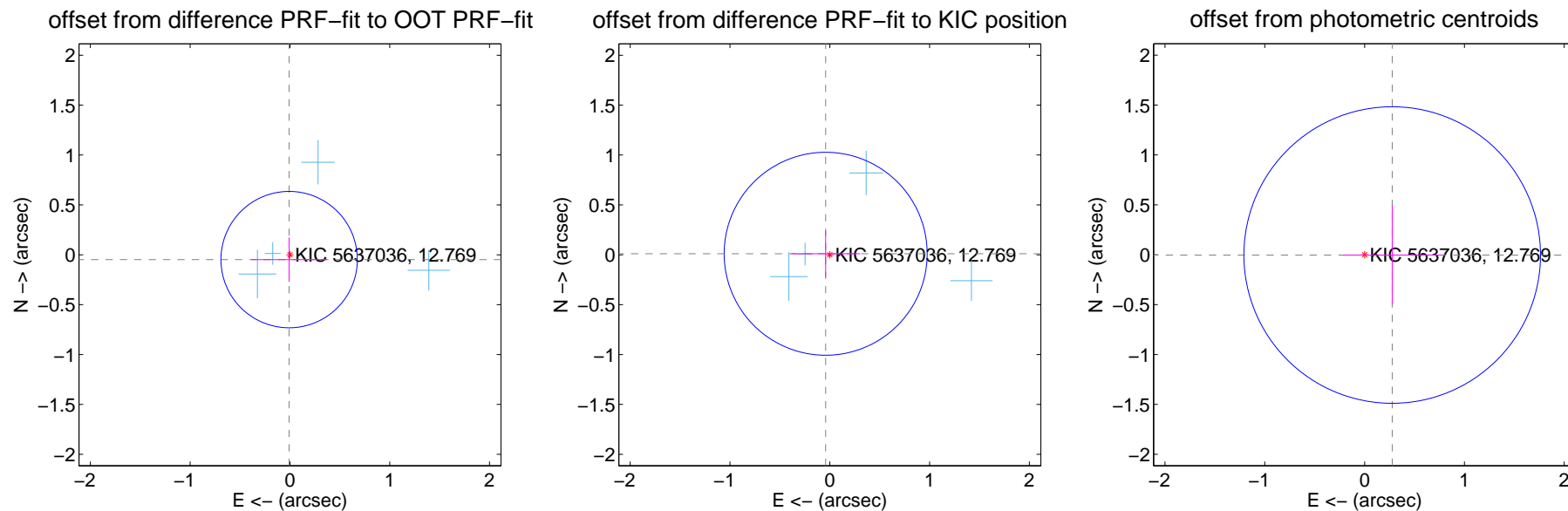
## DV Centroid Data

Supplemental centroid analysis for 005637036-01. Kepler magnitude: 12.77. Transit SNR 6.98

There are 4 quarters with good PRF difference image offsets

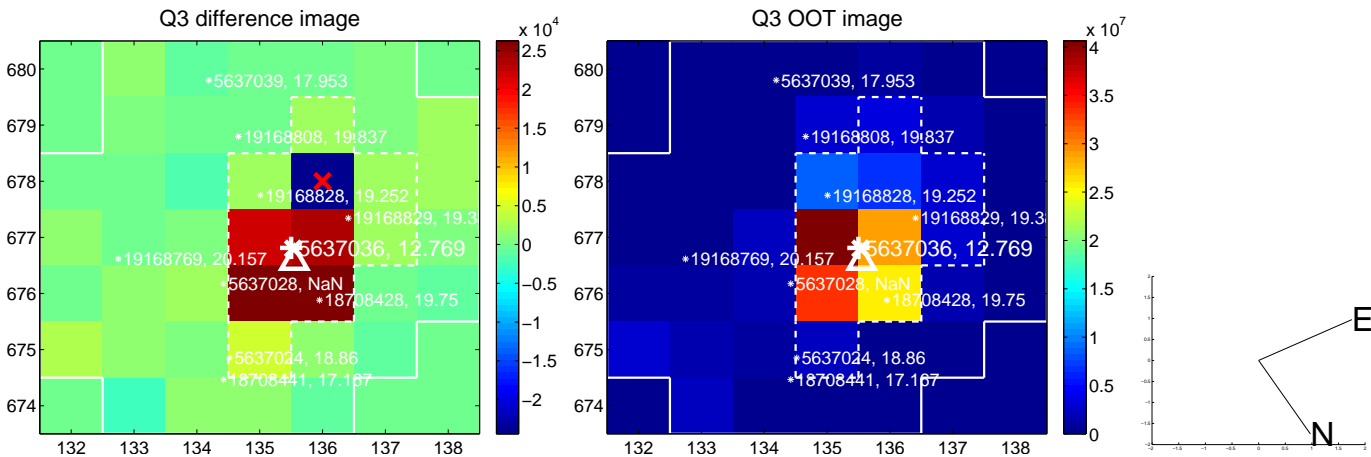
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.049 \pm 0.228$	0.21	$0.008 \pm 0.379$	$-0.048 \pm 0.222$
PRF-fit source offset from KIC position	$0.043 \pm 0.339$	0.13	$0.041 \pm 0.345$	$0.010 \pm 0.233$
photometric centroid source offset	$0.28 \pm 0.50$	0.56	$-0.28 \pm 0.50$	$-0.00 \pm 0.49$

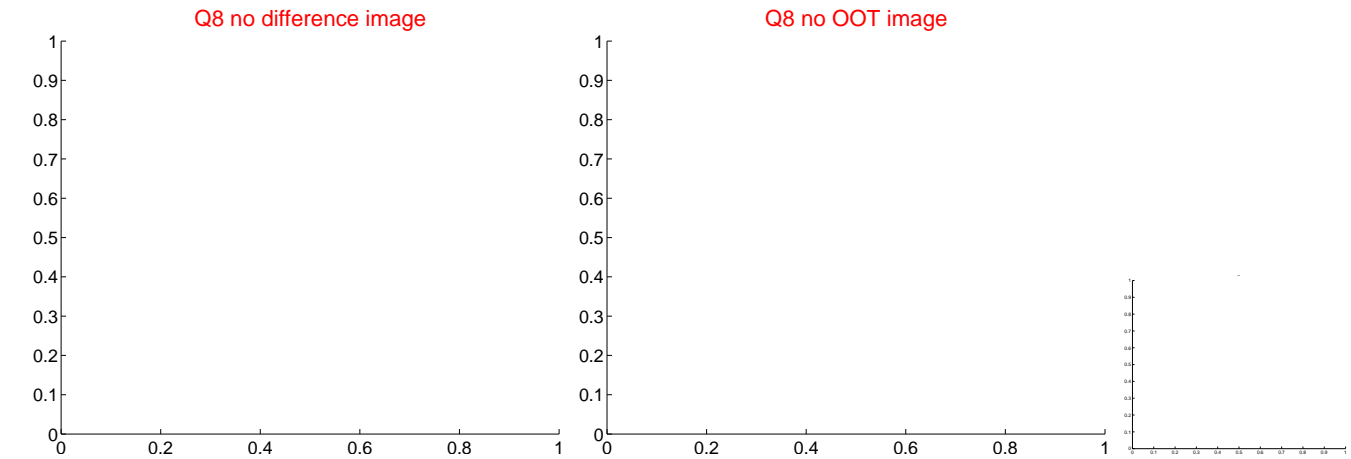
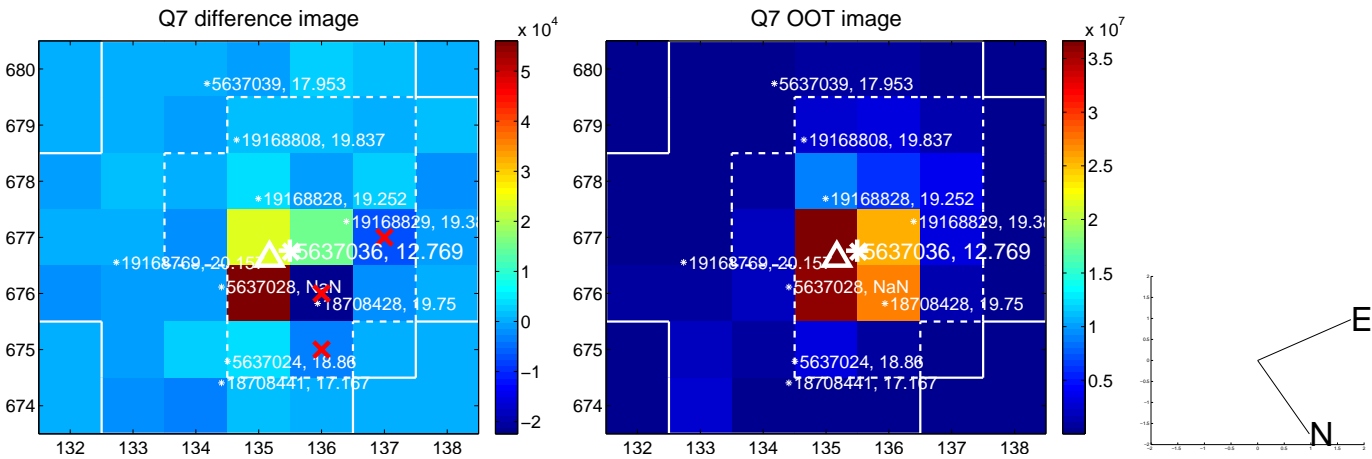
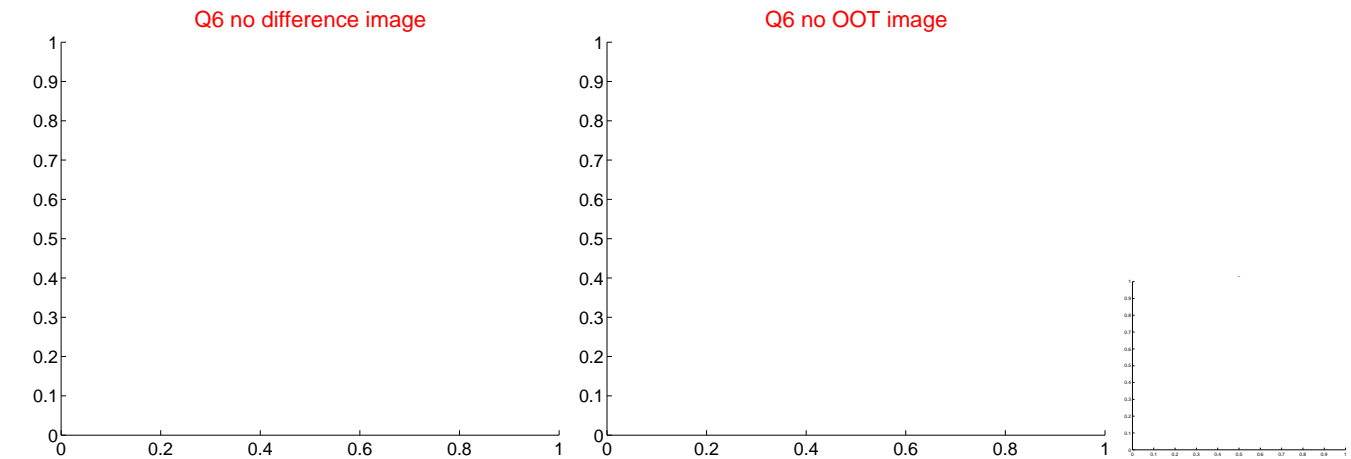
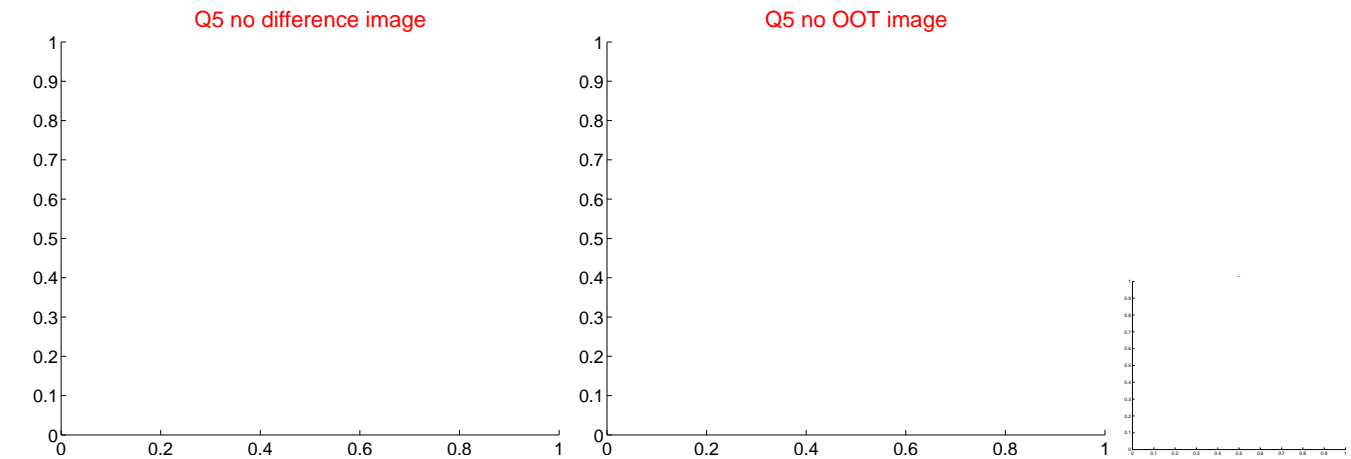


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

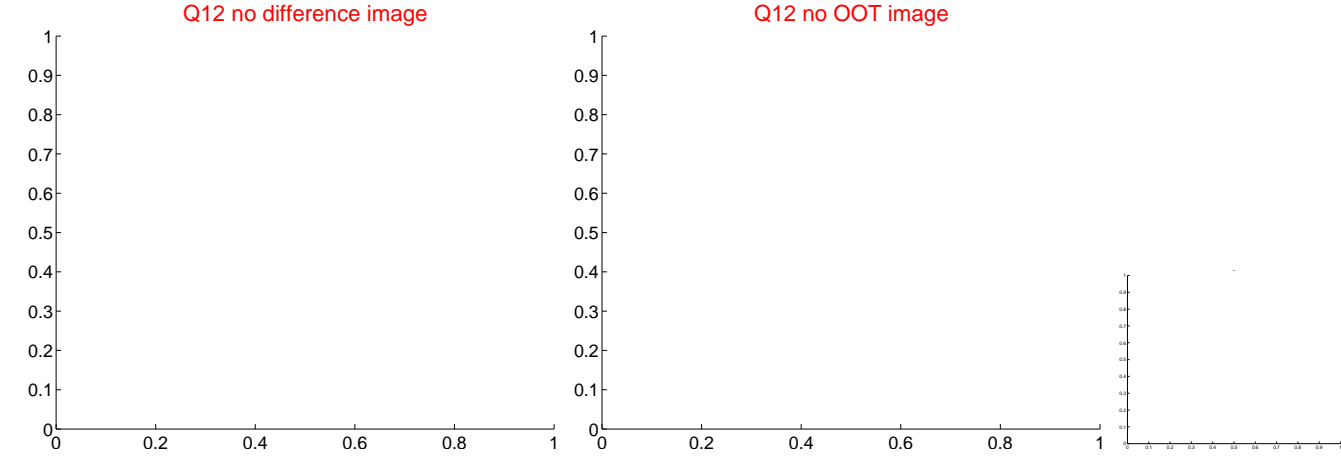
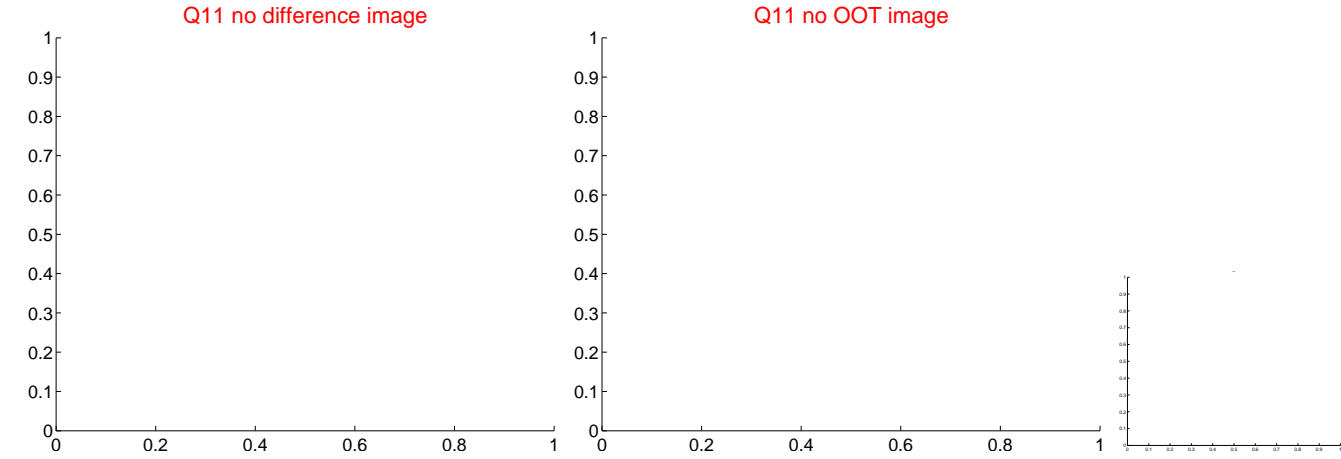
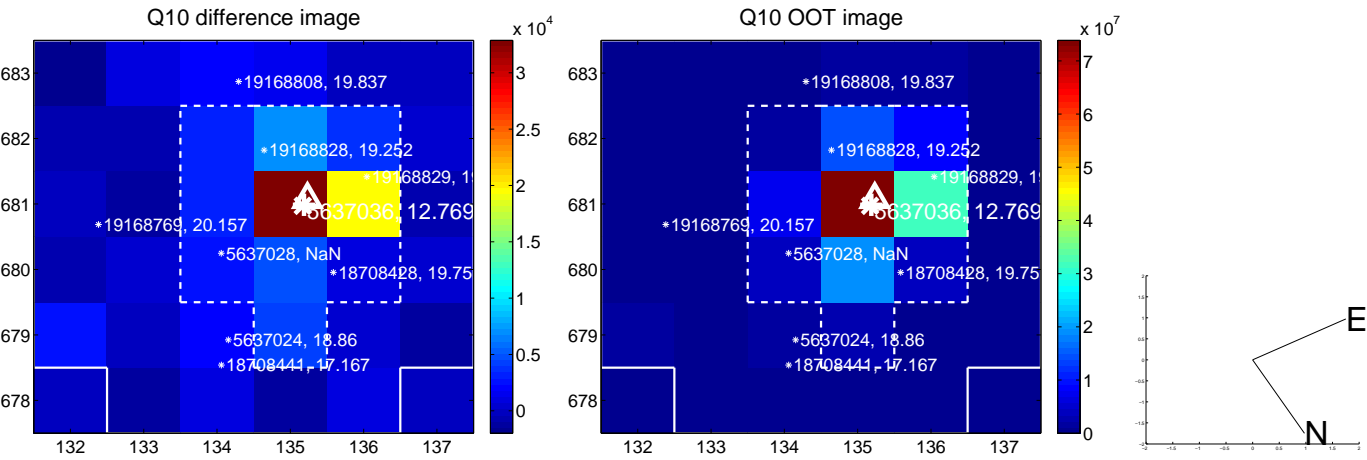


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

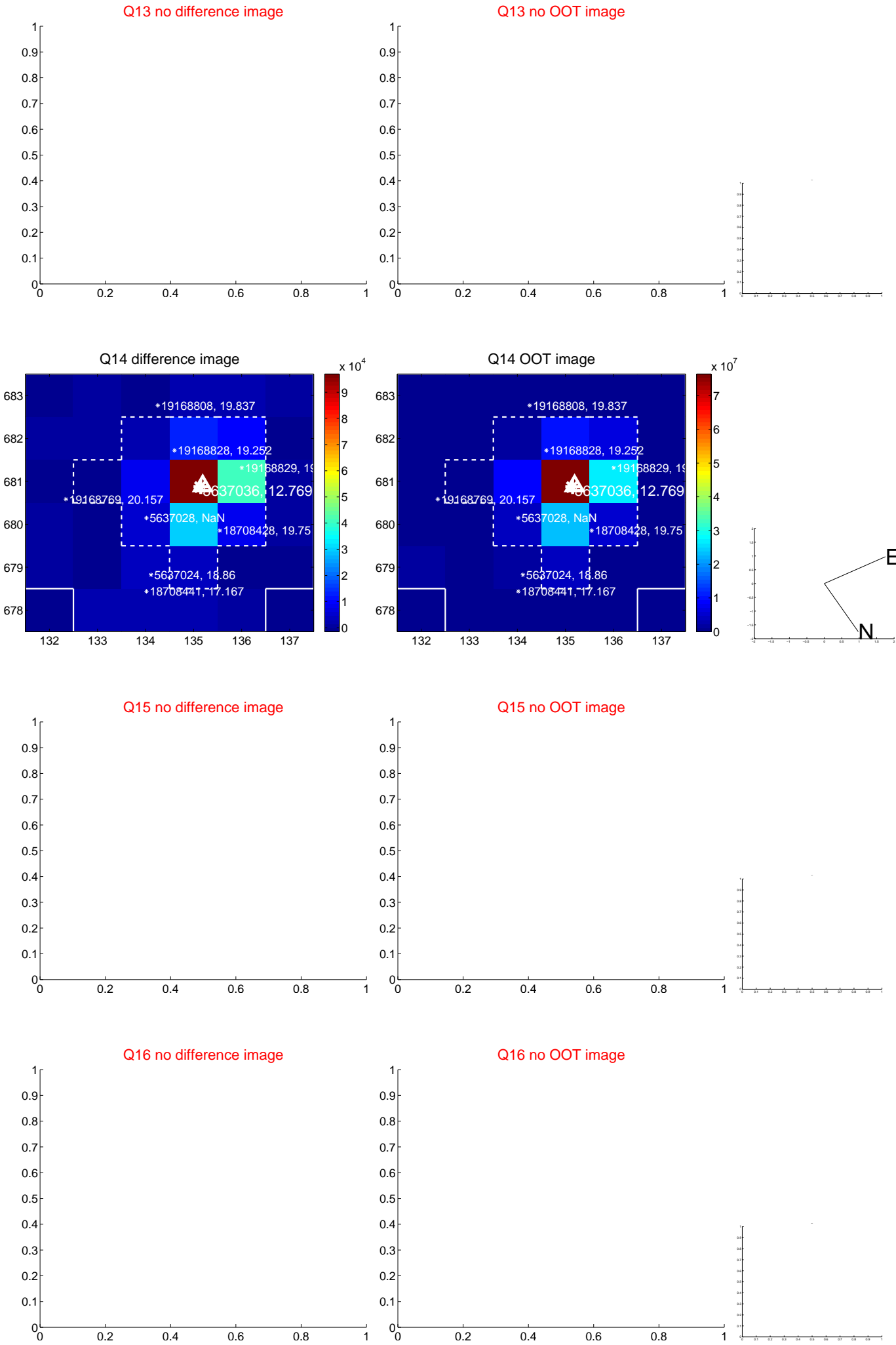




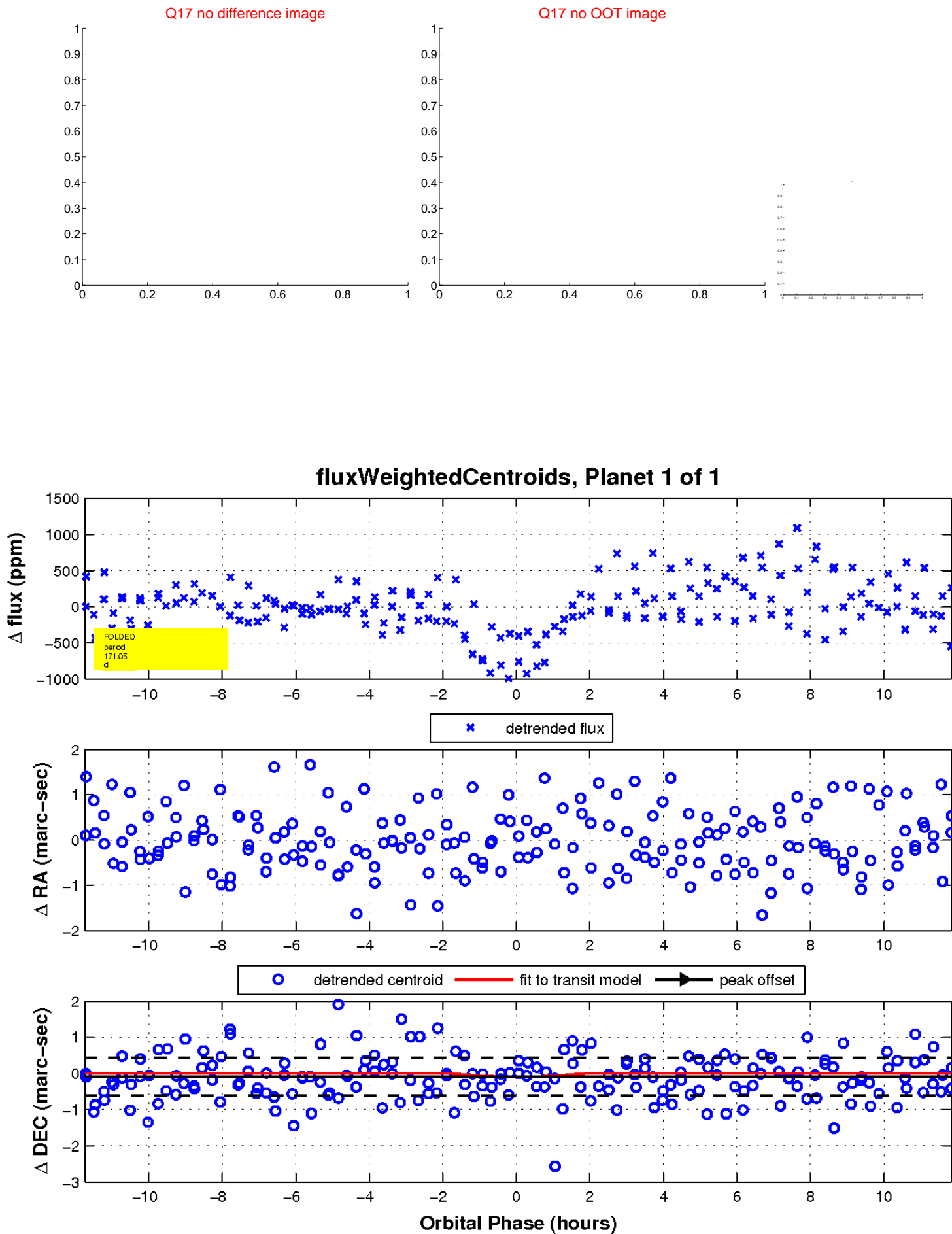
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

