

# KIC 008619737

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008619737-01	OBS	No	377.006386	171.567244	1762.7	62.145	7.7	9.7	0.82	5435	6.75	0.53

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008619737-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

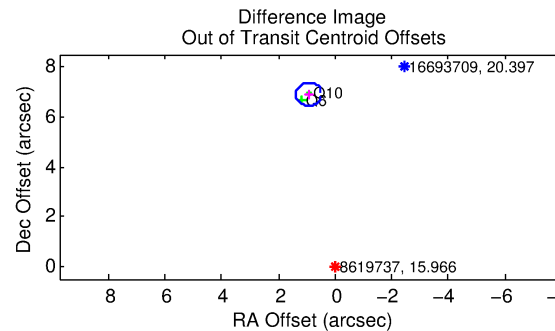
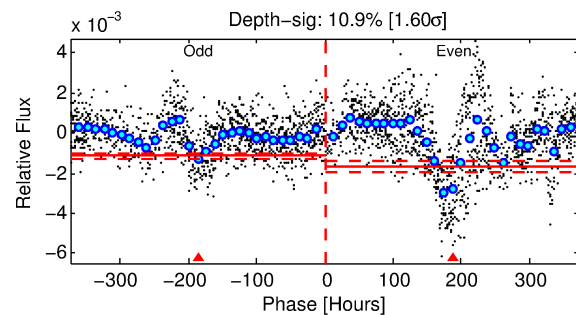
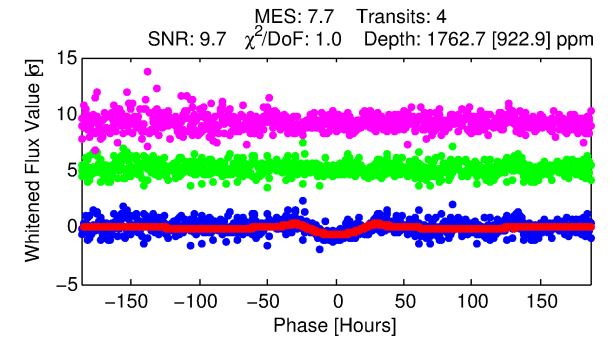
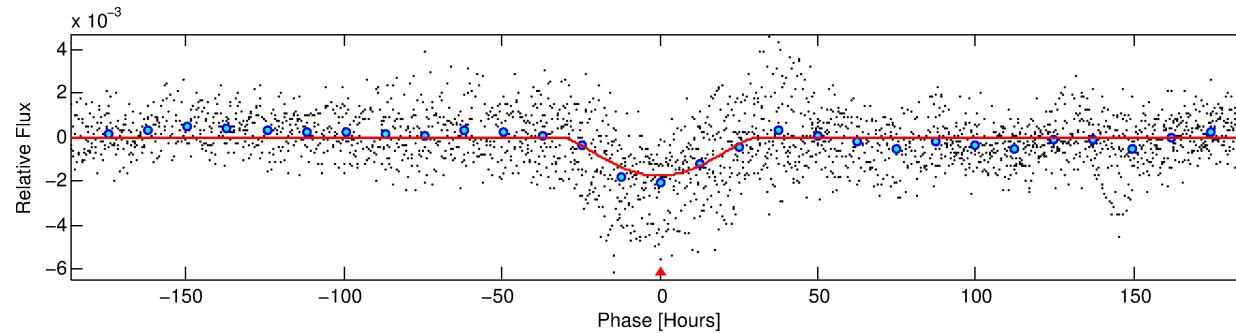
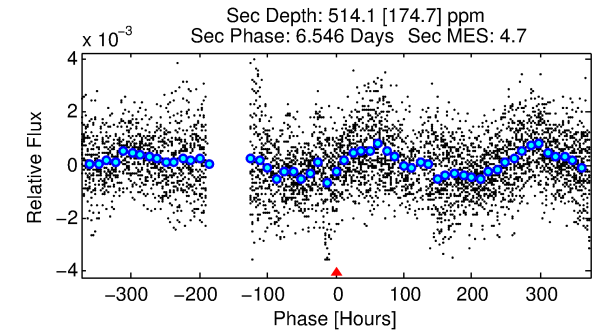
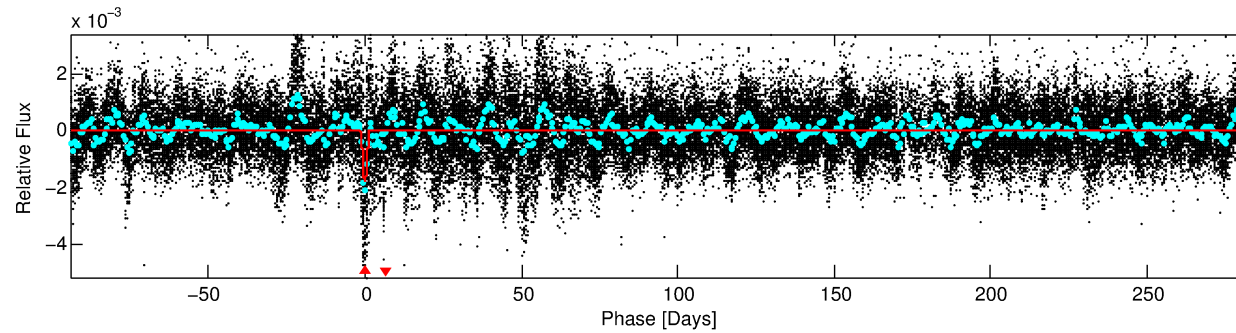
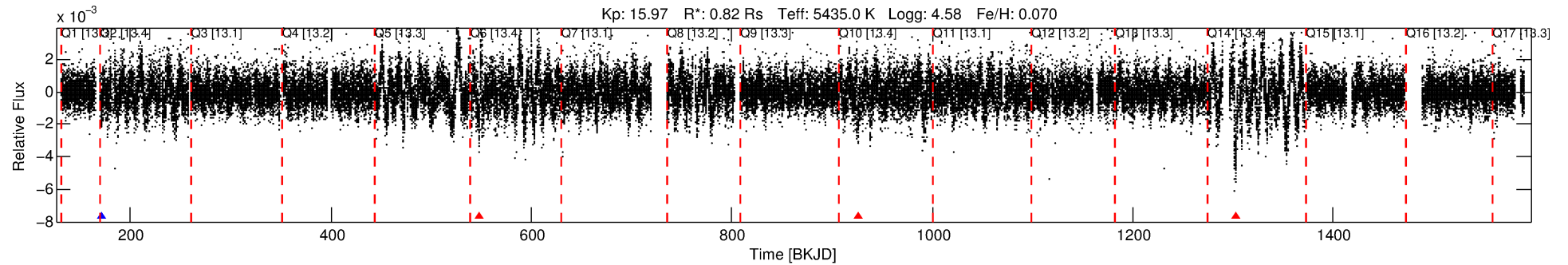
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008619737-01

No Significant Match Found

# DV One-Page Summary

KIC: 8619737 Candidate: 1 of 1 Period: 377.006 d



## DV Fit Results:

Period = 377.00639 [0.04726] d  
Epoch = 171.5672 [0.0787] BKJD  
Rp/R\* = 0.0750 [0.1439]  
a/R\* = 18.31 [7.49]  
b = 1.00 [0.18]  
Seff = 0.53 [0.15]  
Teq = 218 [15] K  
Rp = 6.74 [13.01] Re  
a = 0.9997 [0.1681] AU  
Ag = 6214.05 [23989.02] [0.26σ]  
Teff = 2988 [2879] K [0.96σ]

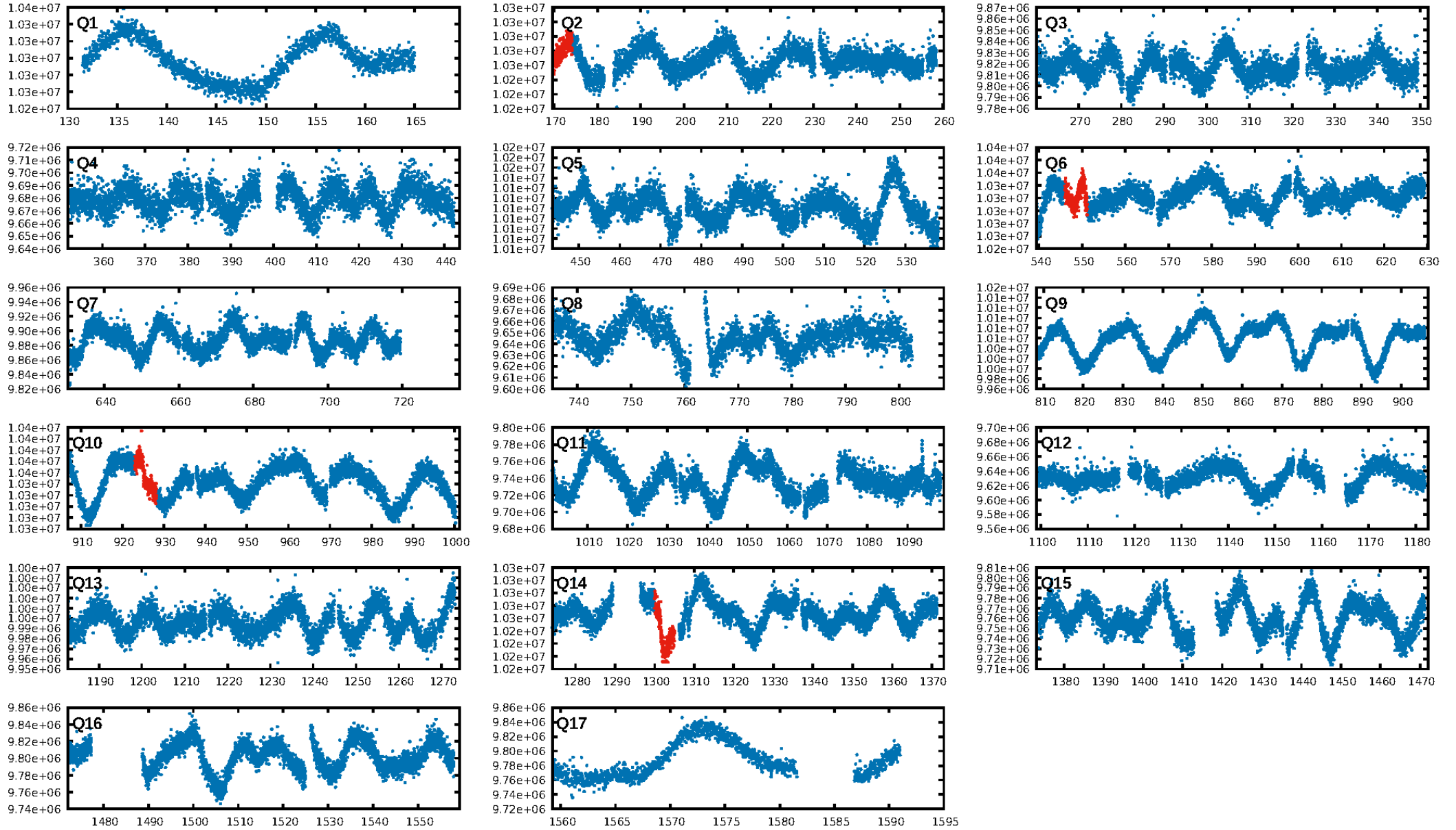
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.4%  
ModelChiSquareGoF-sig: 100.0%  
Bootstrap-pfa: 9.91e-09  
RollingBand-fgt: 0.25 [1/4]  
GhostDiagnostic-chr: 0.5754  
Centroid-sig: 4.7%  
Centroid-so: 1.337 arcsec [1.86σ]  
OotOffset-rm: 6.968 arcsec [45.88σ]  
KicOffset-rm: 6.987 arcsec [49.54σ]  
OotOffset-st: 2/0/0/0 [2]  
KicOffset-st: 2/0/0/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [2/2]

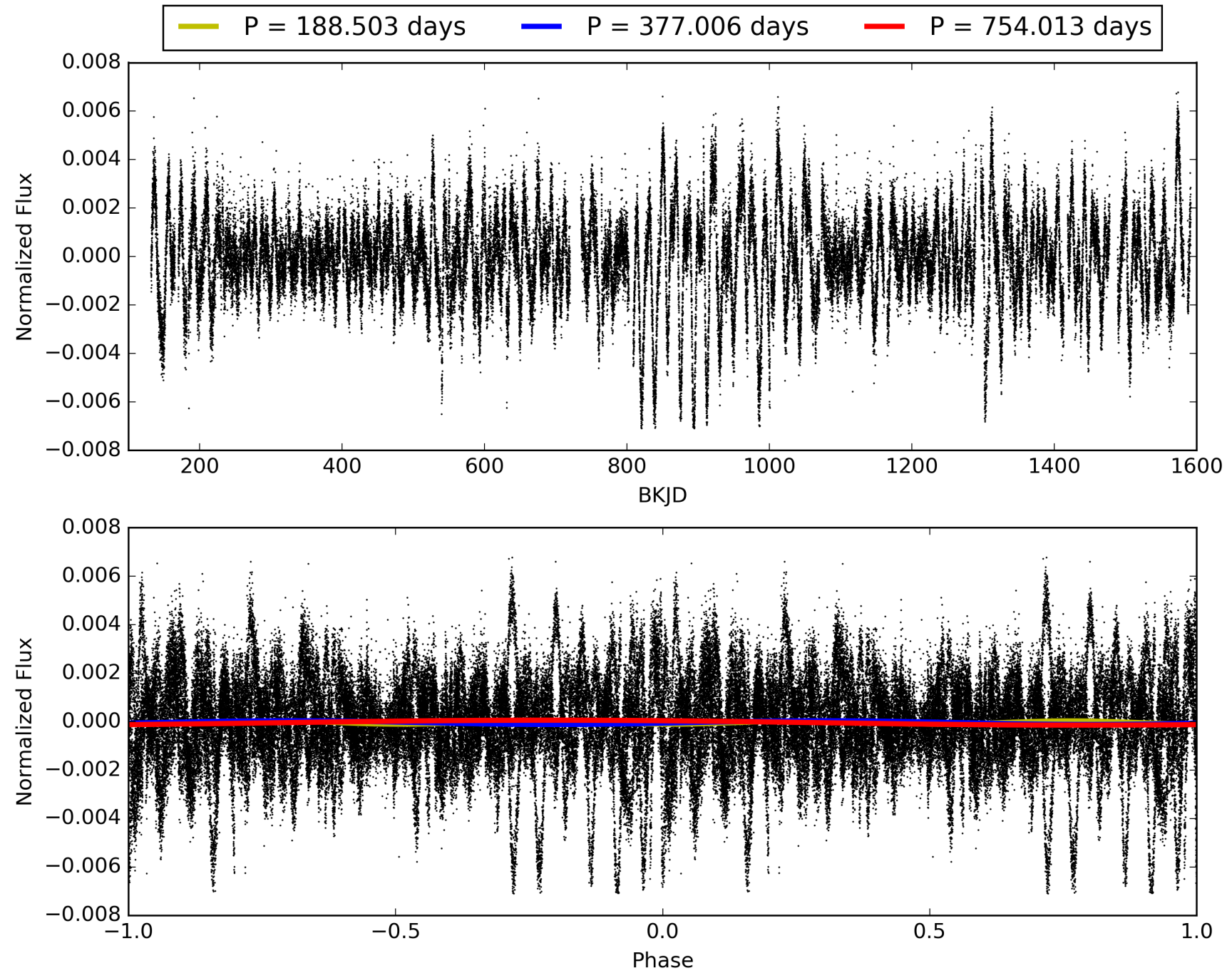
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:26:47 Z

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

# TCE 008619737-01, PDC Light Curves

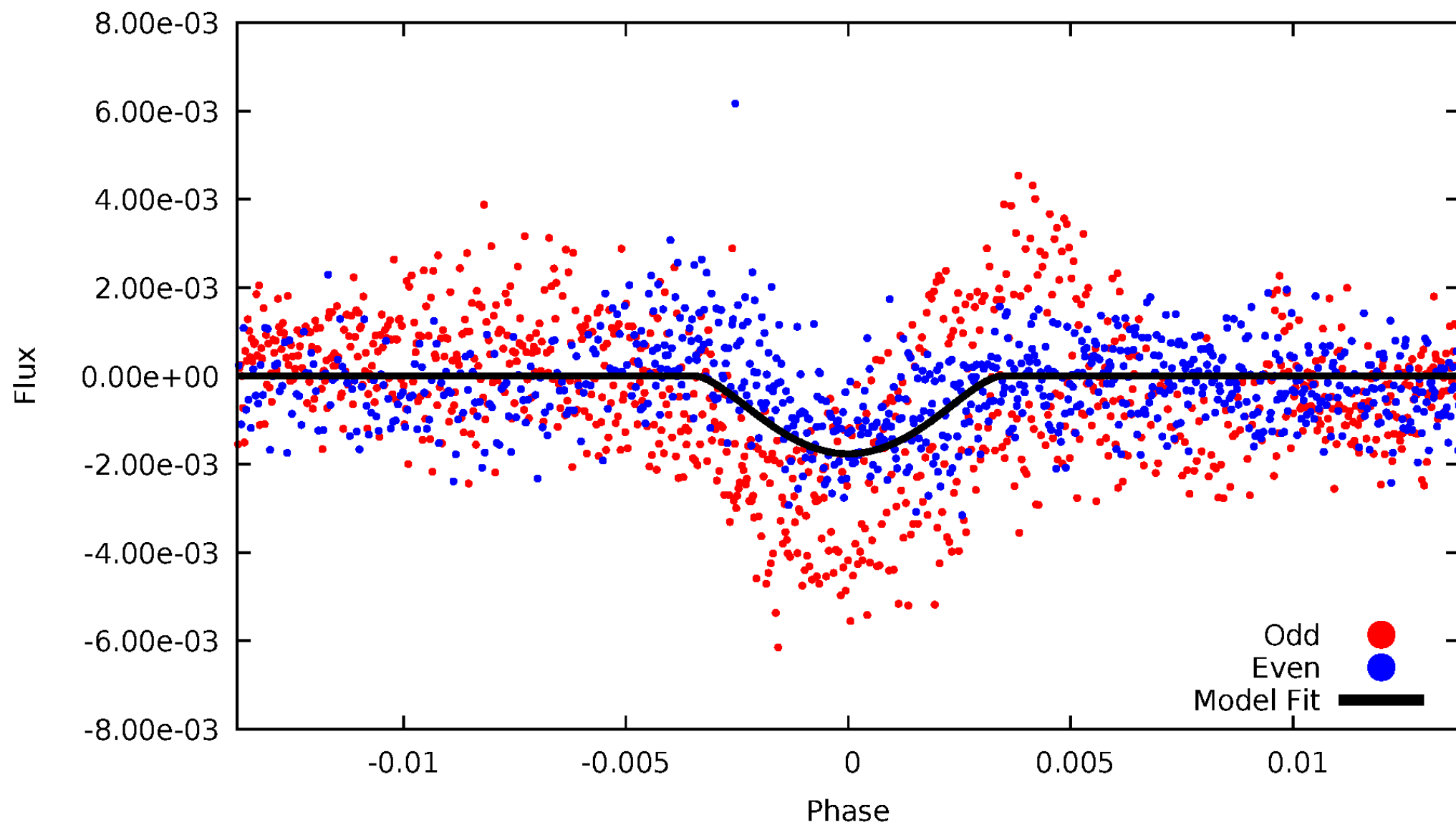


TCE 008619737-01



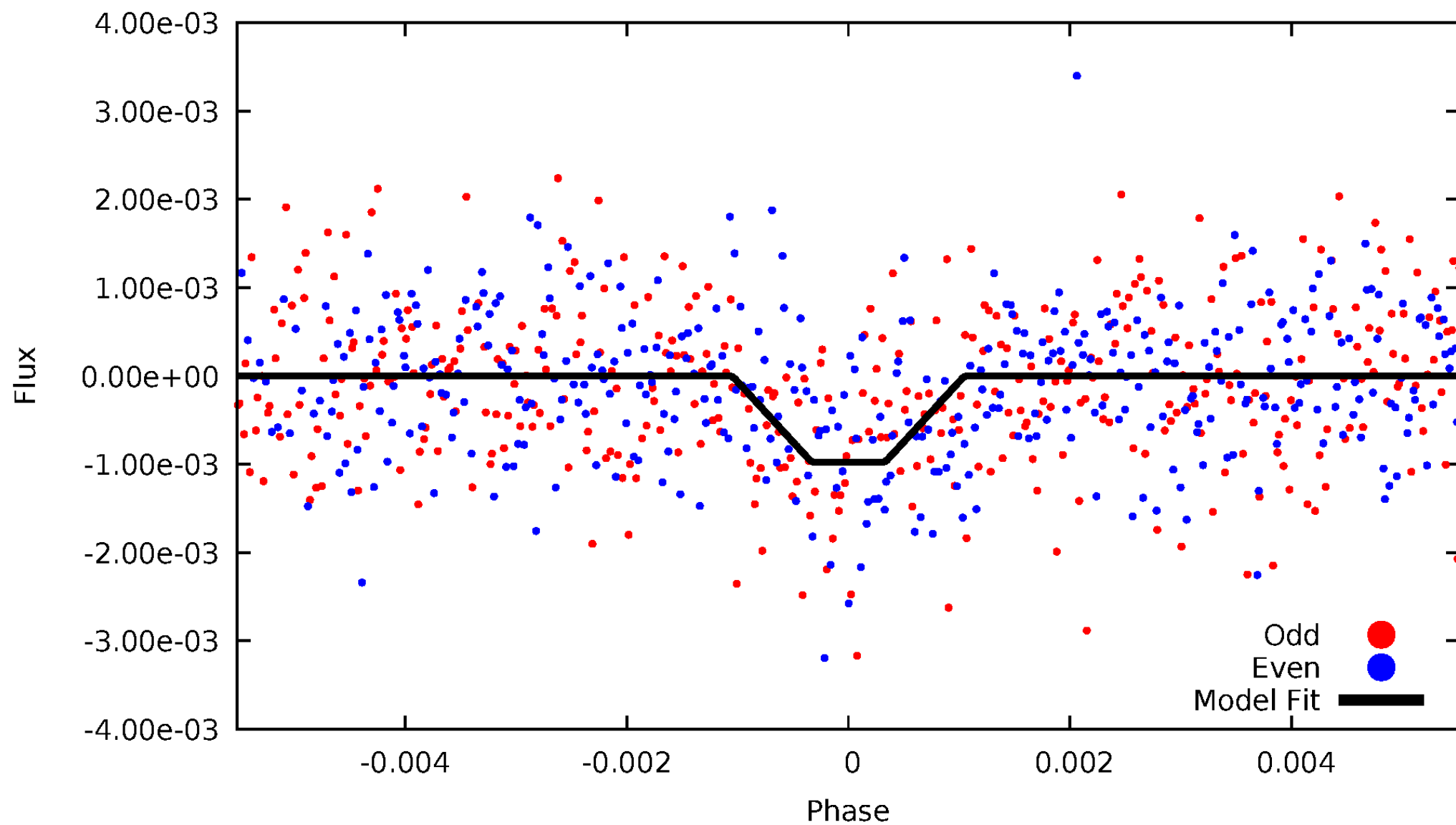
# DV Odd/Even

TCE 008619737-01



# ALT Odd/Even

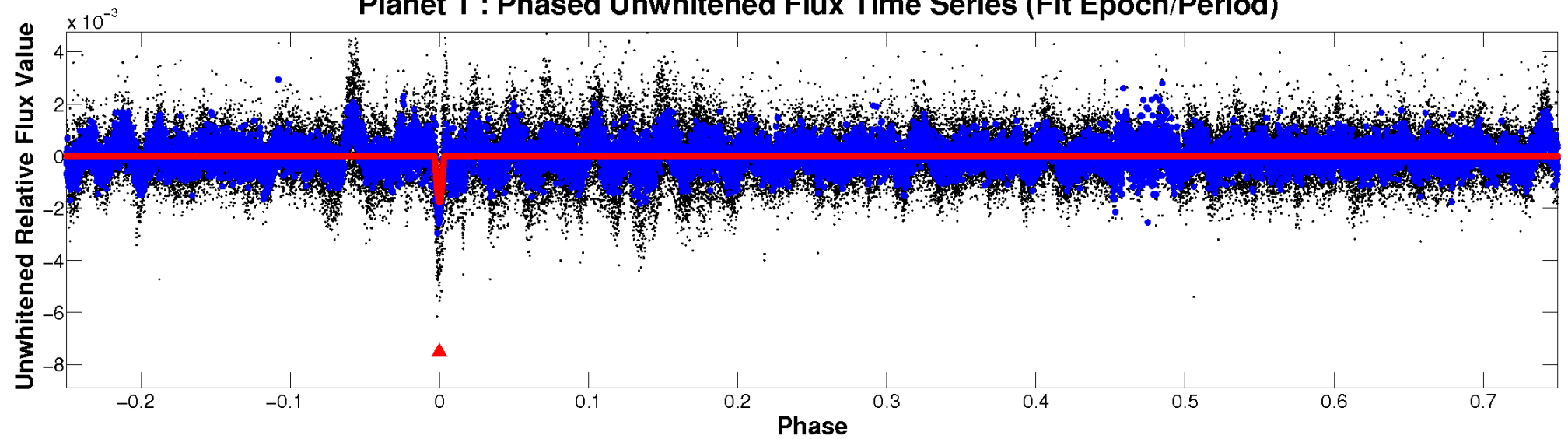
TCE 008619737-01



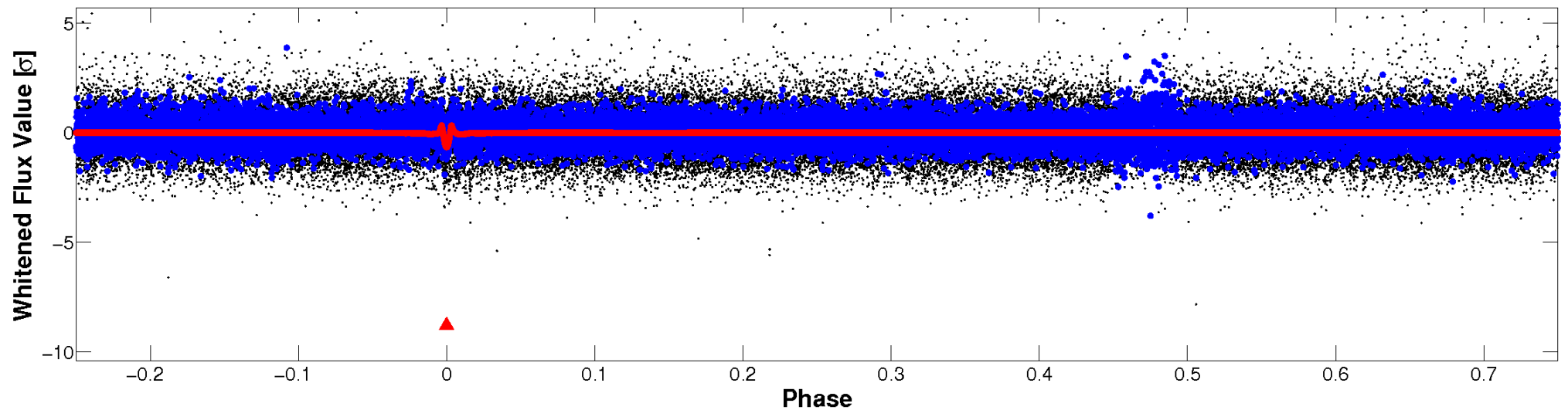


# Non-Whitened Vs. Whitened Light Curve

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

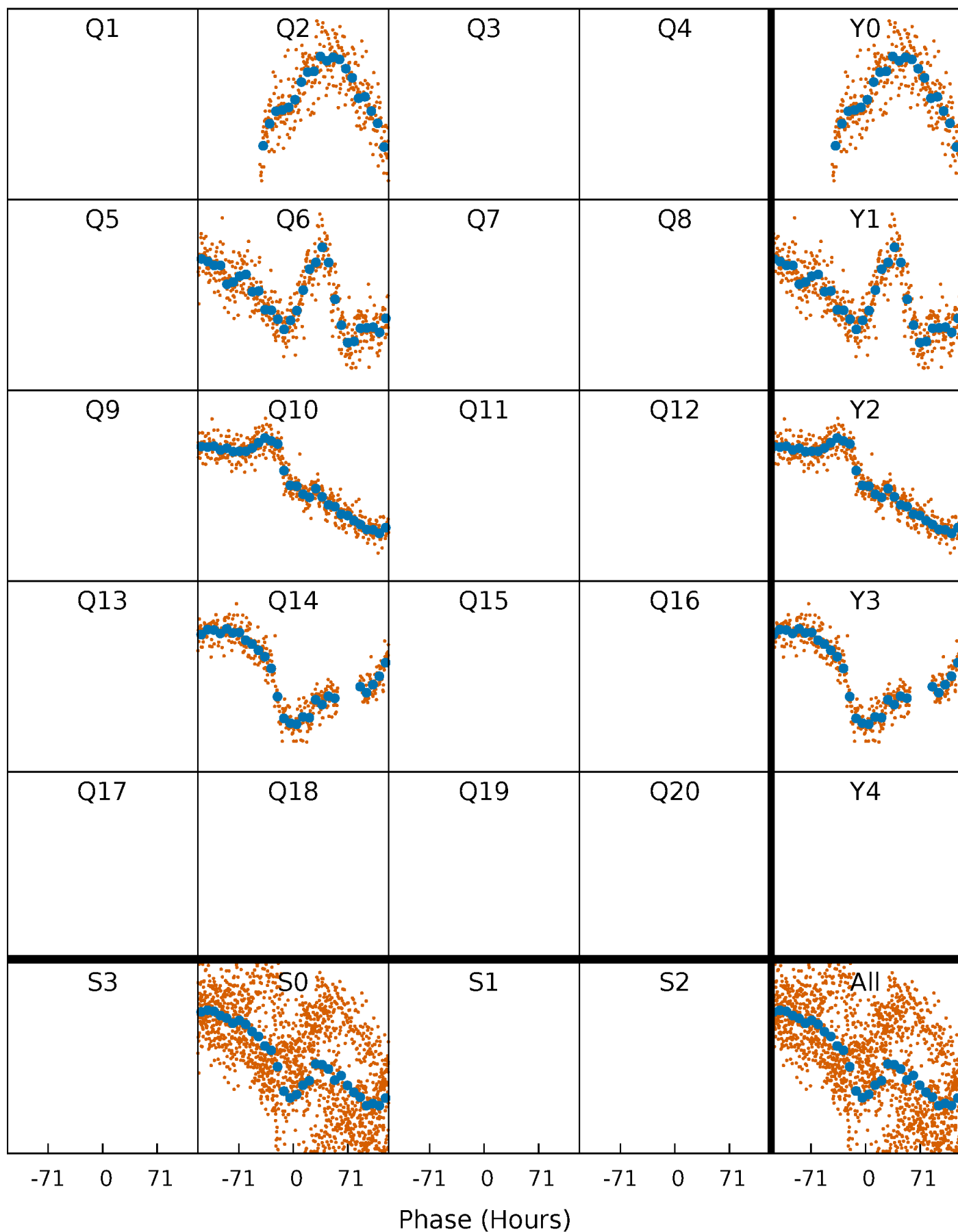


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

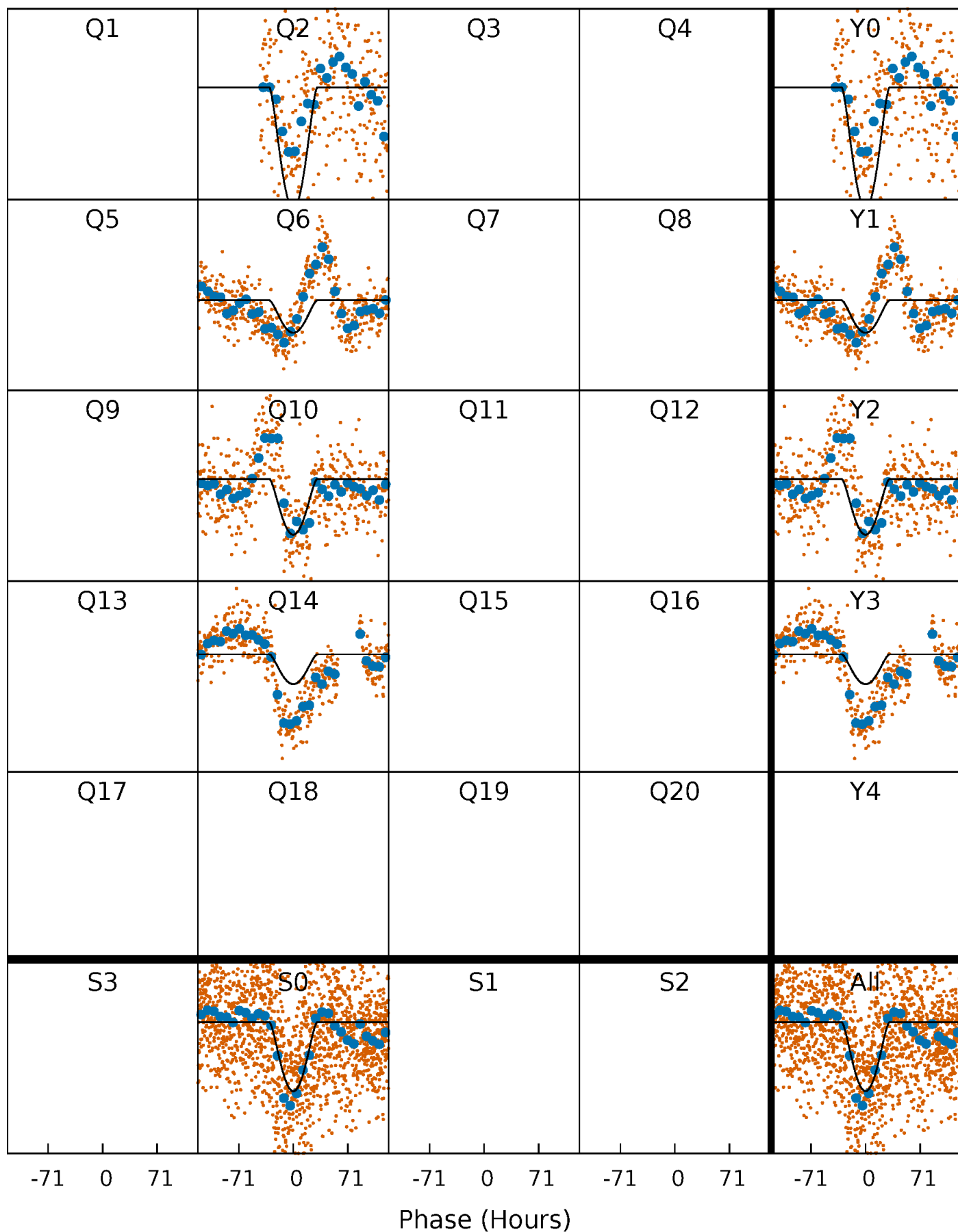
TCE 008619737-01 P=377.006387 Days  $T_0=171.567244$  (BKJD)





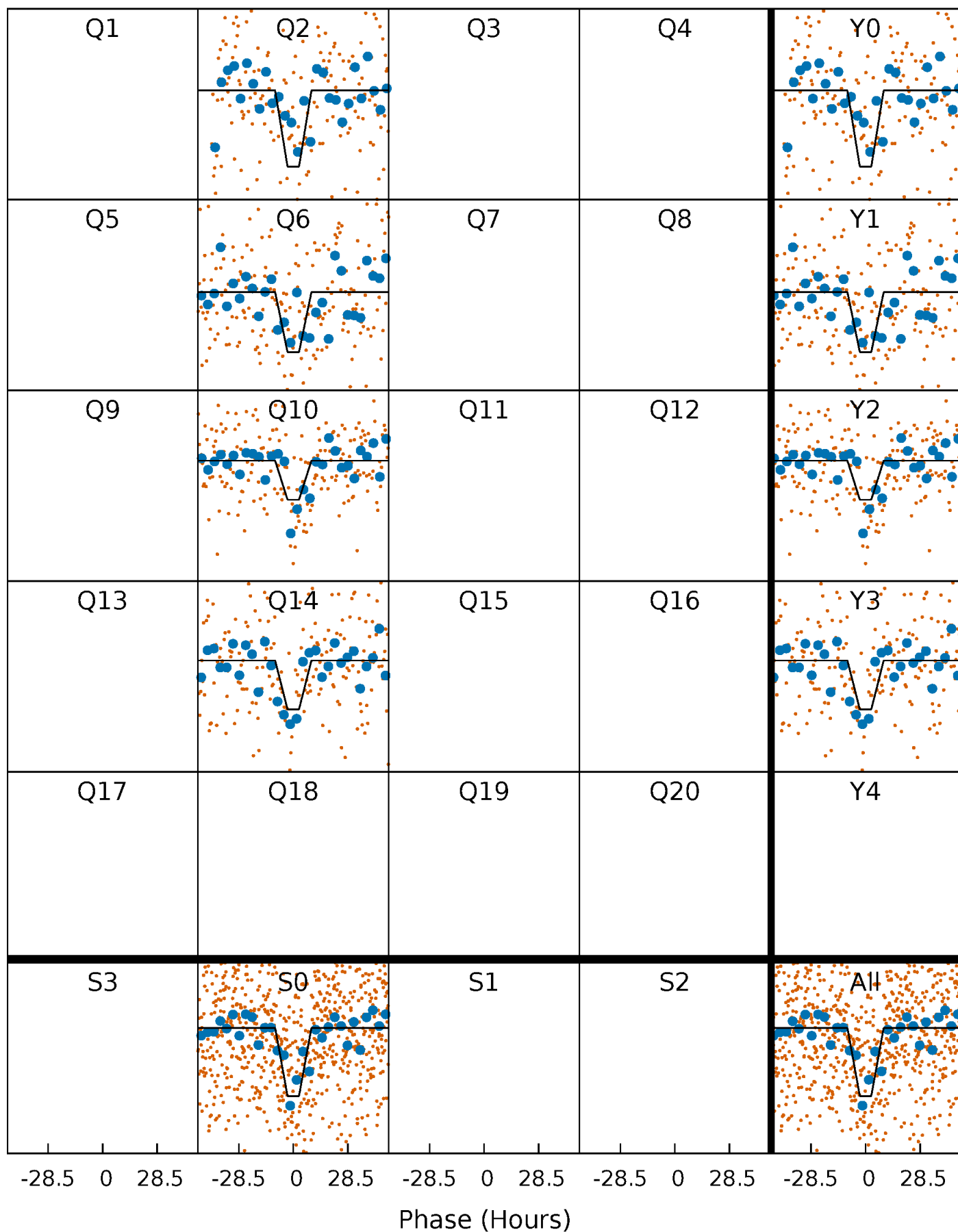
# DV Quarter-Phased Transit Curves

TCE 008619737-01 P=377.006387 Days  $T_0=171.567244$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

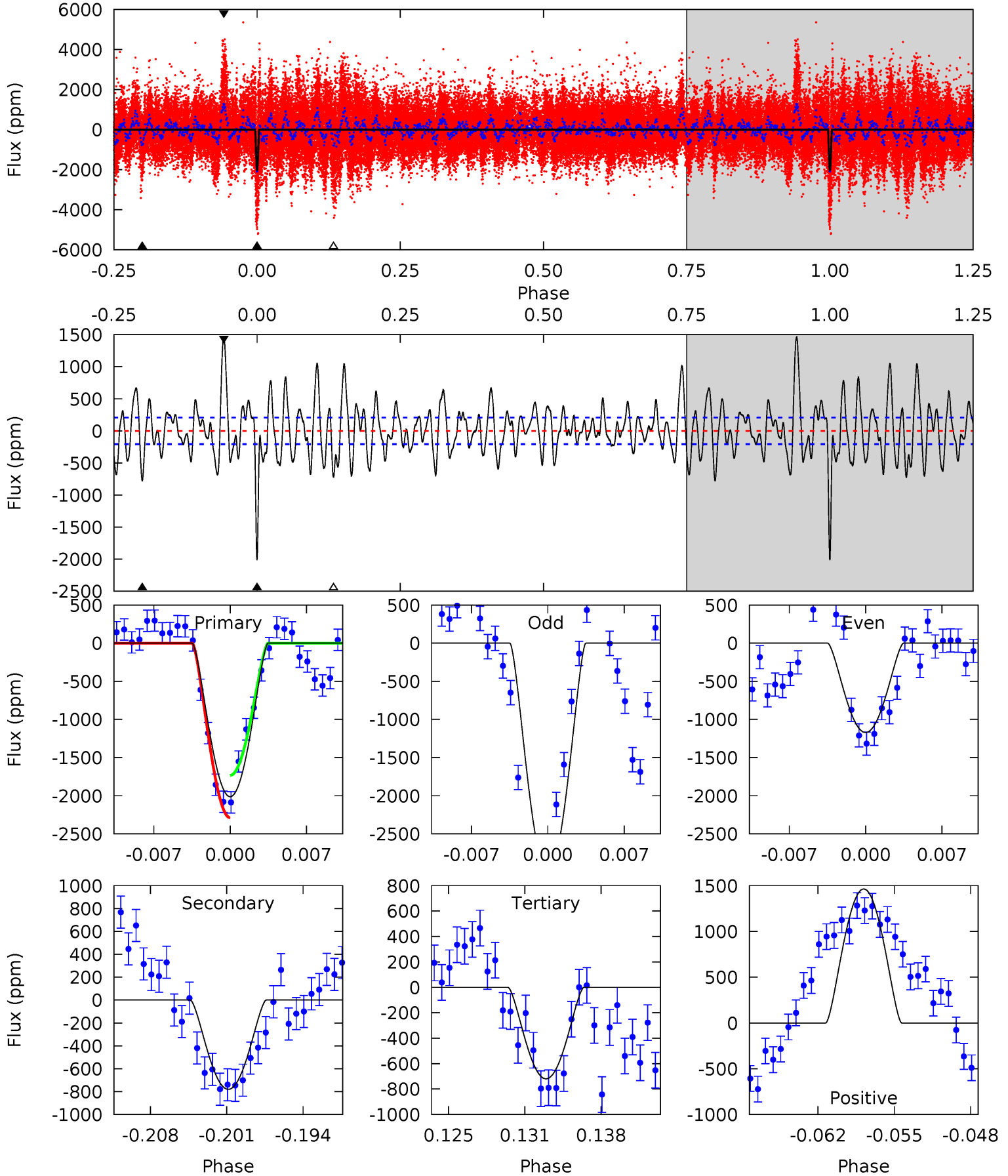
TCE 008619737-01 P=376.808469 Days  $T_0=171.536912$  (BKJD)



# DV Model-Shift Uniqueness Test

008619737-01, P = 377.006387 Days, E = 171.567244 Days

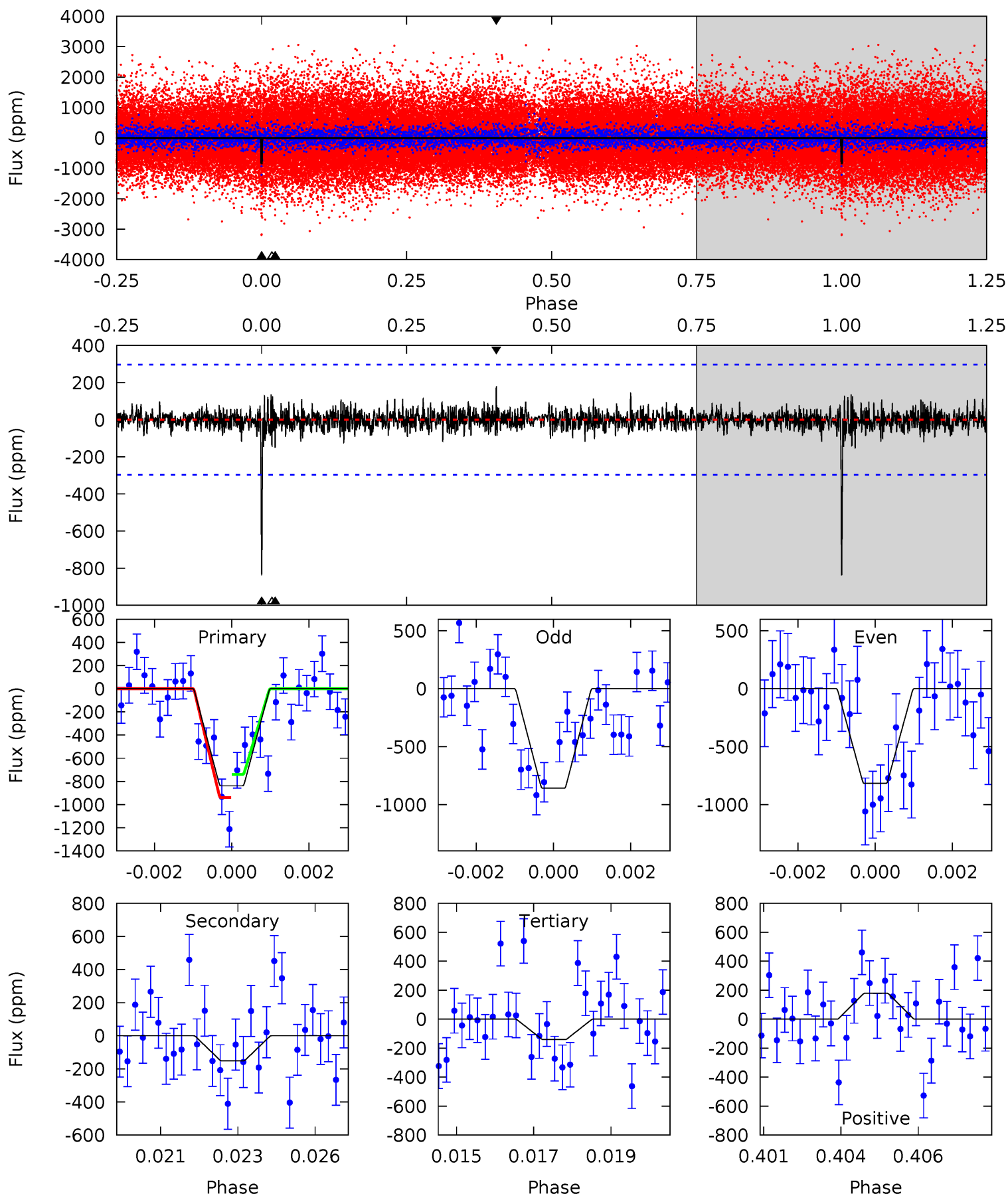
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.3	19.1	17.6	35.8	5.10	2.70	8.68	31.7	13.5	1.48	-16.7	22.7	1.48	0.42	6.82



# Alt Model-Shift Uniqueness Test

008619737-01, P = 376.808469 Days, E = 171.536912 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
15.0	2.71	2.52	3.21	5.31	3.07	0.67	12.5	11.8	0.19	-0.50	0.37	0.98	0.18	1.79



### Stellar Parameters For KIC 008619737

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5435^{+163}_{-163}$	$4.578^{+0.025}_{-0.136}$	$0.070^{+0.250}_{-0.300}$	$0.824^{+0.163}_{-0.070}$	$0.937^{+0.065}_{-0.101}$	$2.358^{+0.328}_{-0.961}$
	+3%/-3%	+1%/-3%	+357%/-429%	+20%/-8%	+7%/-11%	+14%/-41%
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 008619737-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-780 \pm 41$	$11.53^{+11.55}_{-7.56}$	$310^{+17}_{-12}$	$3178^{+1407}_{-564}$	$3173^{+23316}_{-2367}$
Alt.	$-151 \pm 56$	$9.84^{+10.62}_{-6.53}$	$311^{+16}_{-12}$	$2624^{+1002}_{-420}$	$790^{+6603}_{-617}$

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

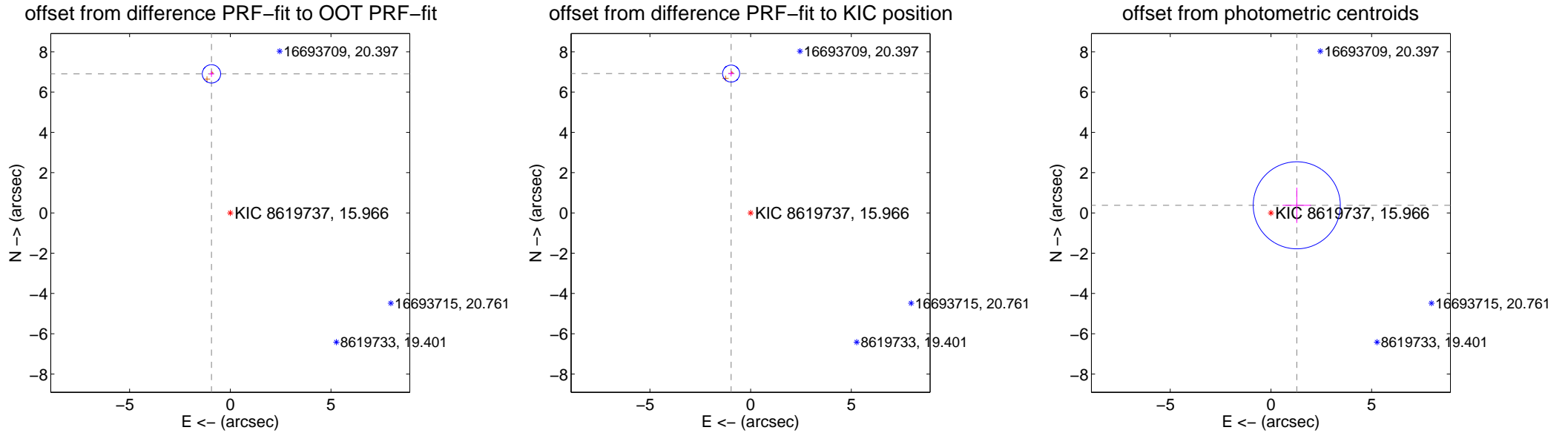
## DV Centroid Data

Supplemental centroid analysis for 008619737-01. Kepler magnitude: 15.97. Transit SNR 9.67

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$6.968 \pm 0.152$	45.88	$0.934 \pm 0.122$	$6.905 \pm 0.152$
PRF-fit source offset from KIC position	$6.987 \pm 0.141$	49.54	$0.967 \pm 0.144$	$6.920 \pm 0.141$
photometric centroid source offset	$1.34 \pm 0.72$	1.86	$-1.28 \pm 0.71$	$0.38 \pm 0.88$



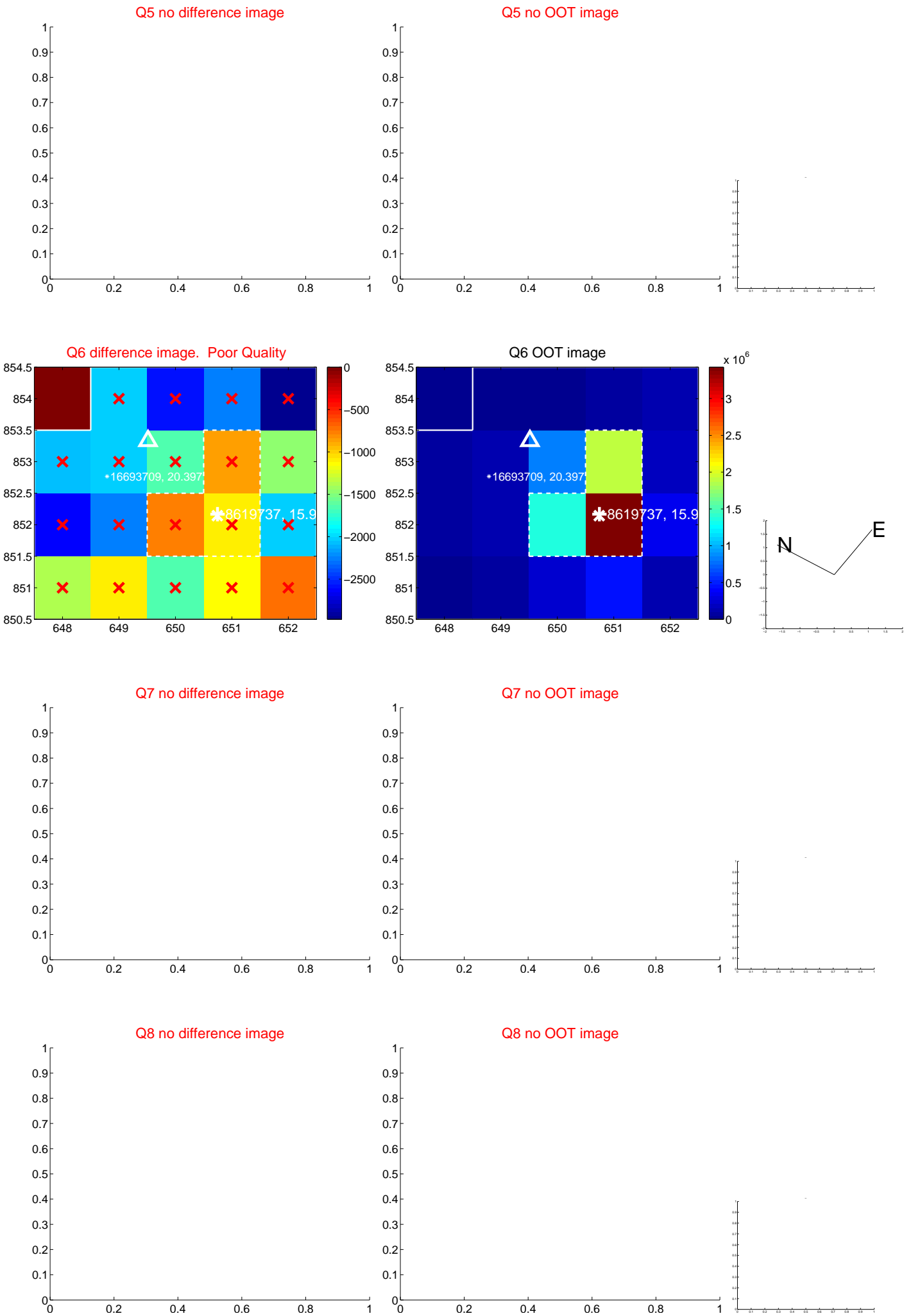
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

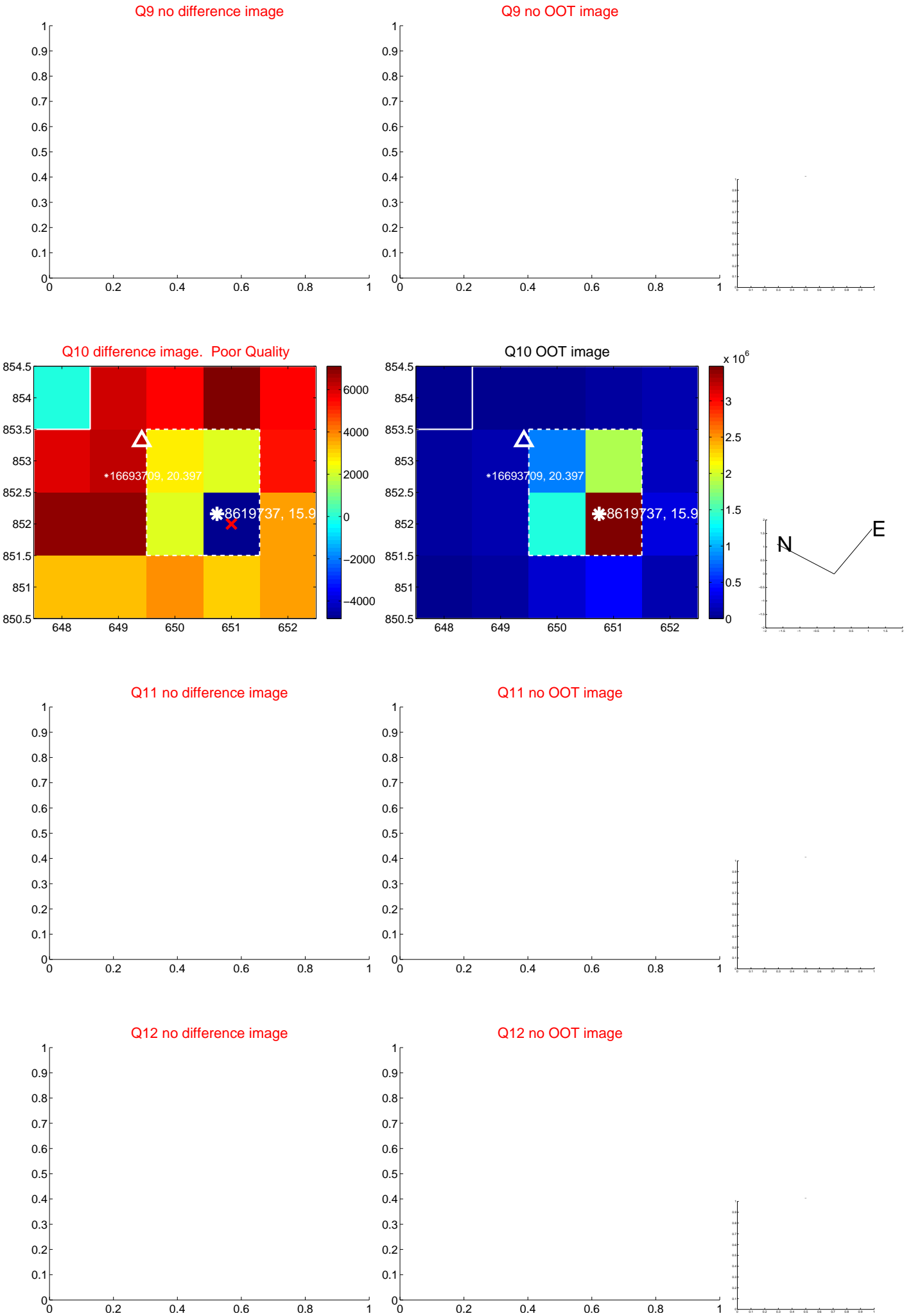




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

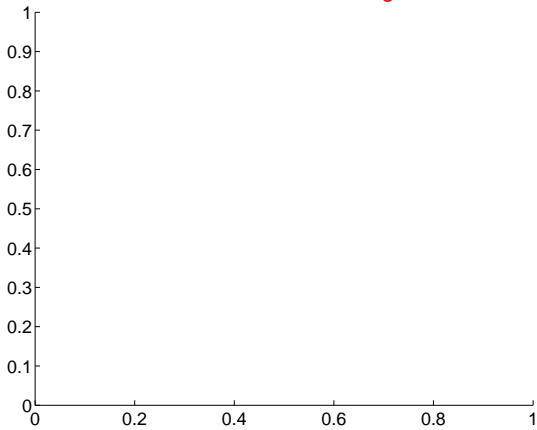


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

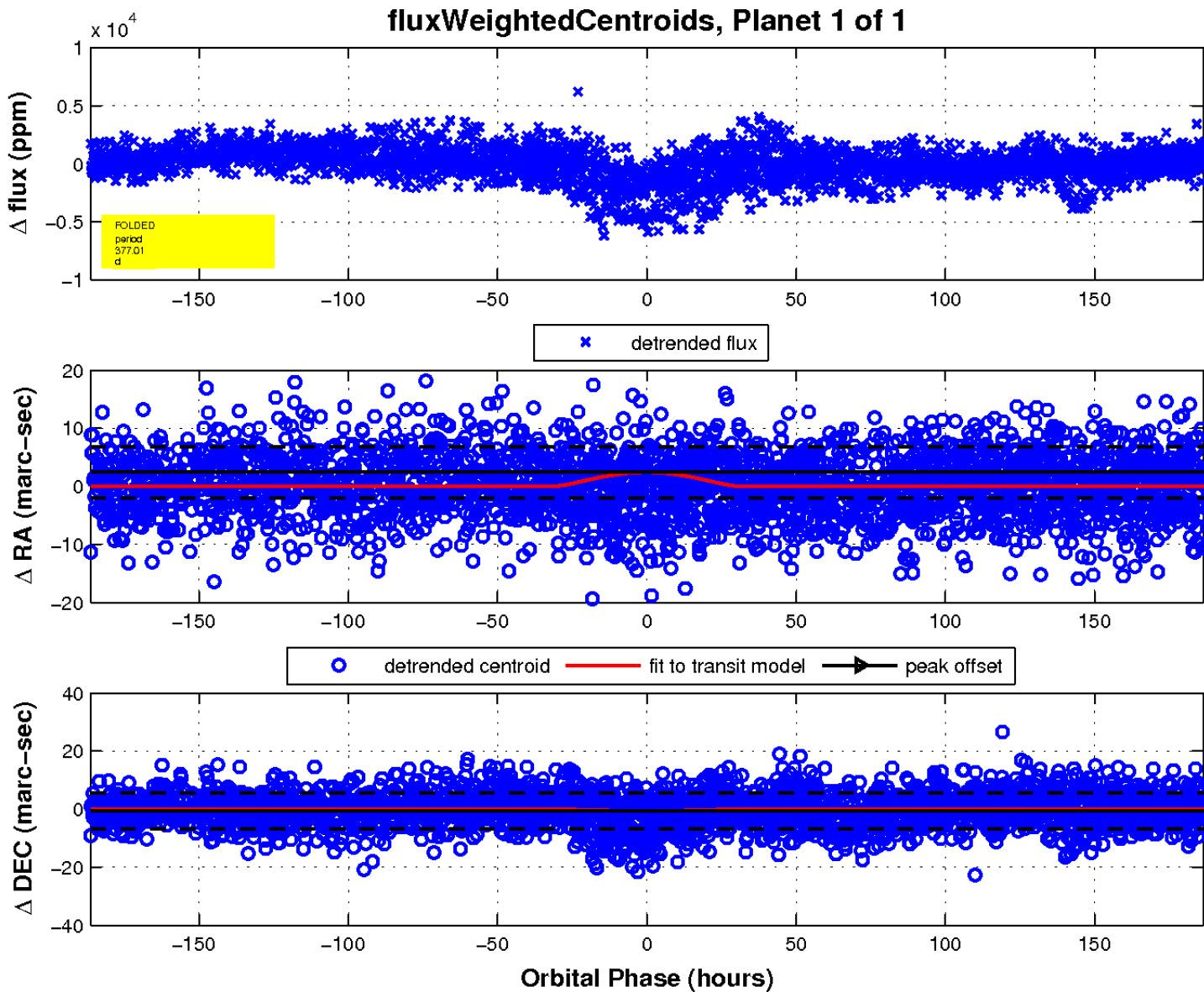
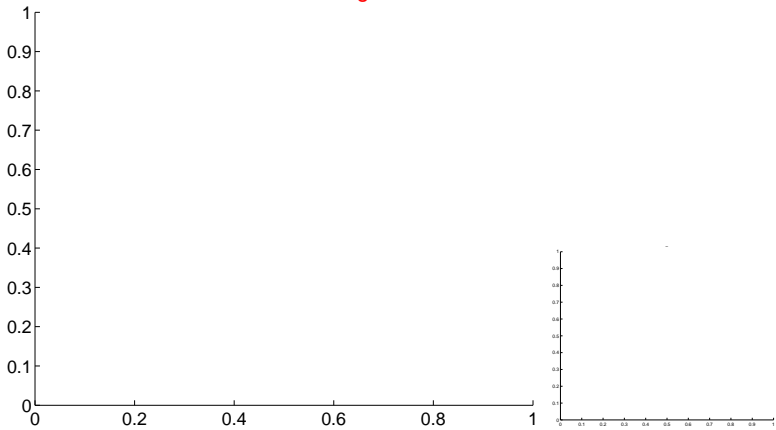


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

Q17 no difference image



Q17 no OOT image



UKIRT Image

Declination

