

# KIC 011235754

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011235754-01	OBS	No	392.198502	225.343798	909.9	4.870	9.9	6.5	0.78	5437	2.62	0.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011235754-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—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.

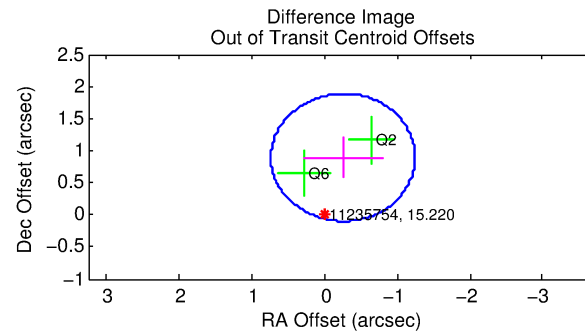
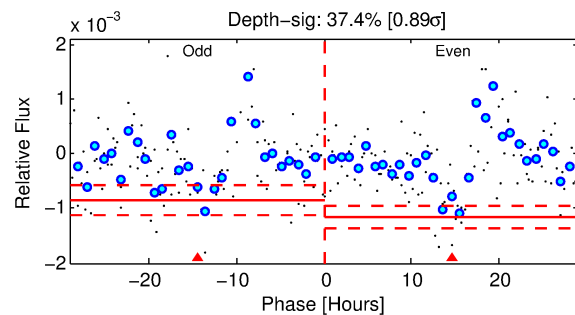
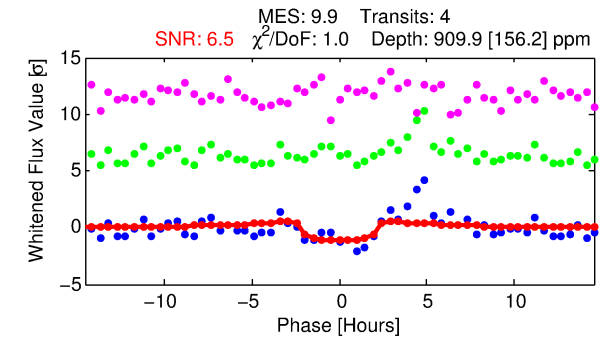
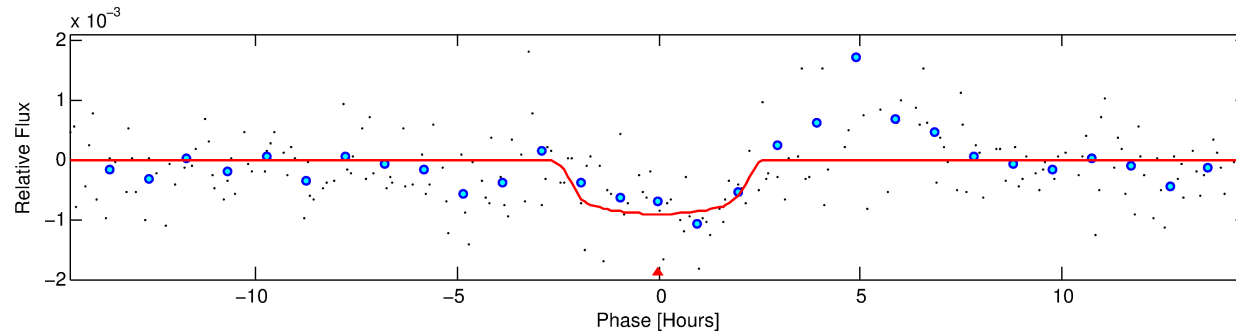
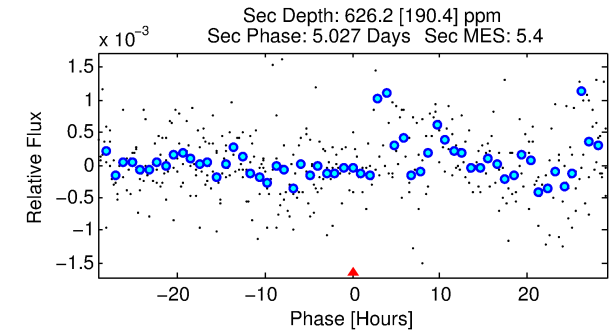
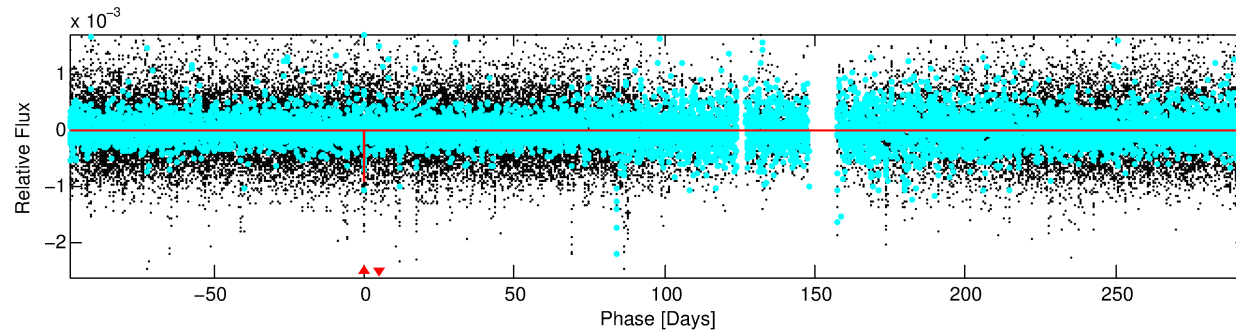
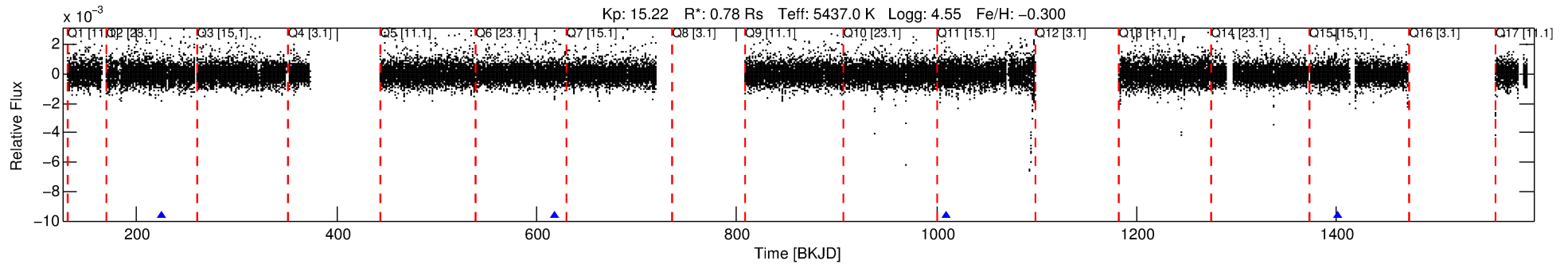
## Ephemeris Match Information For 011235754-01

No Significant Match Found



# DV One-Page Summary

KIC: 11235754 Candidate: 1 of 1 Period: 392.199 d



## DV Fit Results:

Period = 392.19850 [0.00588] d  
Epoch = 225.3438 [0.0126] BKJD  
Rp/R\* = 0.0307 [0.0172]  
a/R\* = 403.15 [919.47]  
b = 0.80 [1.07]  
Seff = 0.51 [0.12]  
Teq = 215 [13] K  
Rp = 2.62 [1.54] Re  
a = 0.9740 [0.1407] AU  
Ag = 47567.72 [56166.31] [0.85σ]  
Teffp = 4911 [1435] K [3.27σ]

## DV Diagnostic Results:

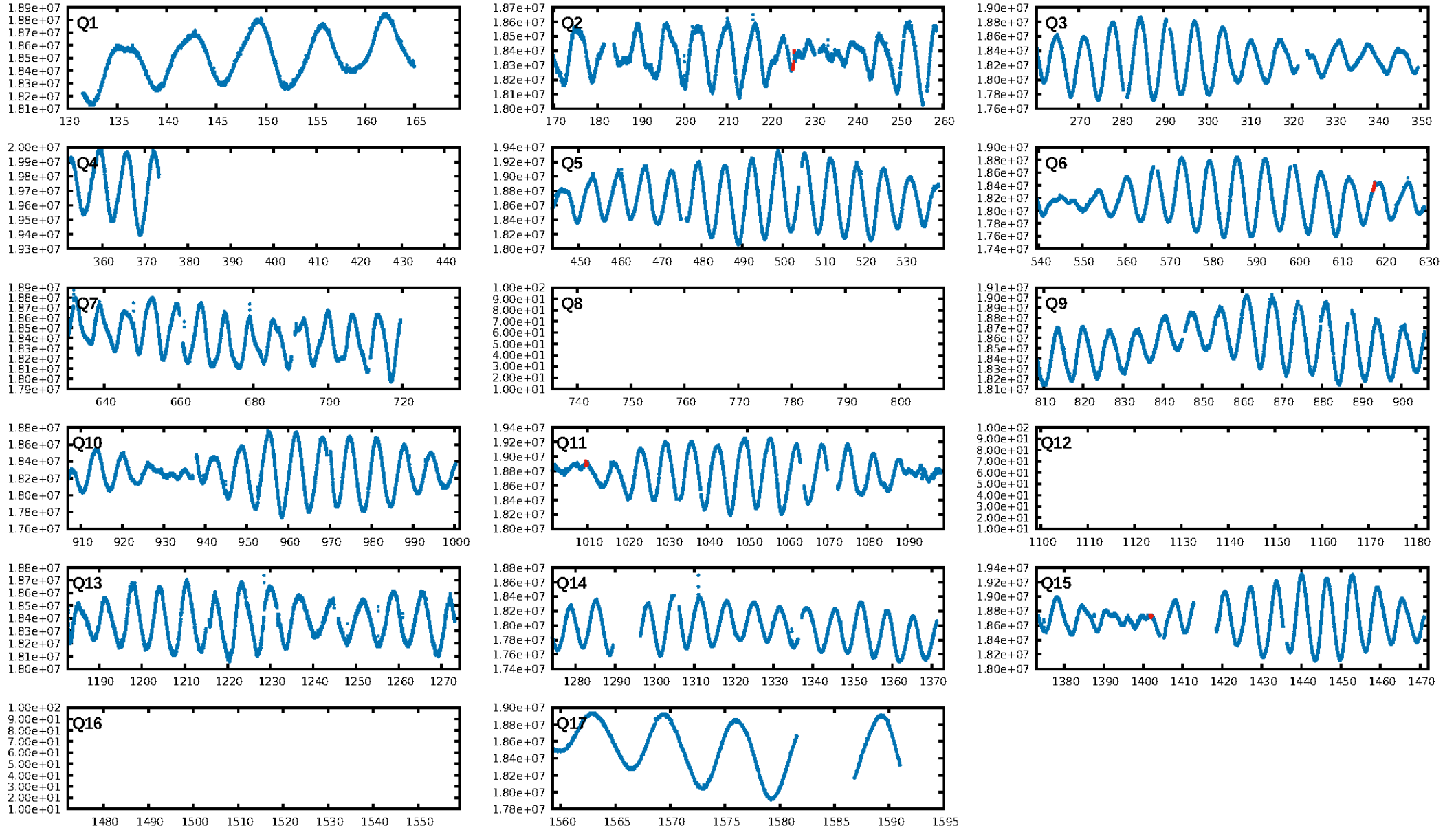
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 7.9%  
ModelChiSquareGof-sig: 91.2%  
Bootstrap-pfa: 6.31e-10  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -0.3298  
Centroid-sig: 9.1%  
Centroid-so: 2.259 arcsec [1.94σ]  
OotOffset-rm: 0.929 arcsec [2.81σ]  
OotOffset-st: 2/0/0/0 [2]  
KicOffset-rm: 1.018 arcsec [2.75σ]  
KicOffset-st: 2/0/0/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [4/4]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:06:48 Z

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

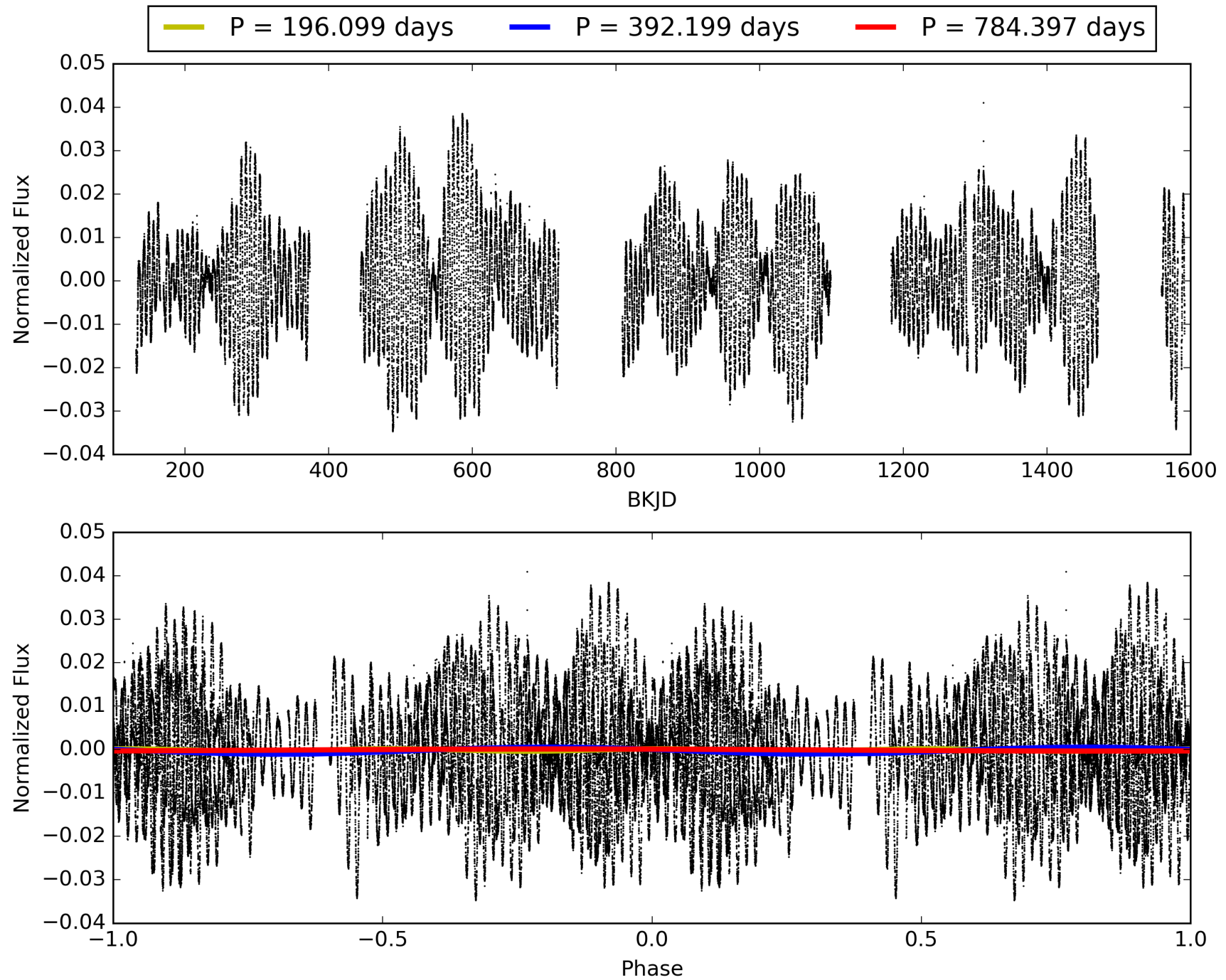


# TCE 011235754-01, PDC Light Curves





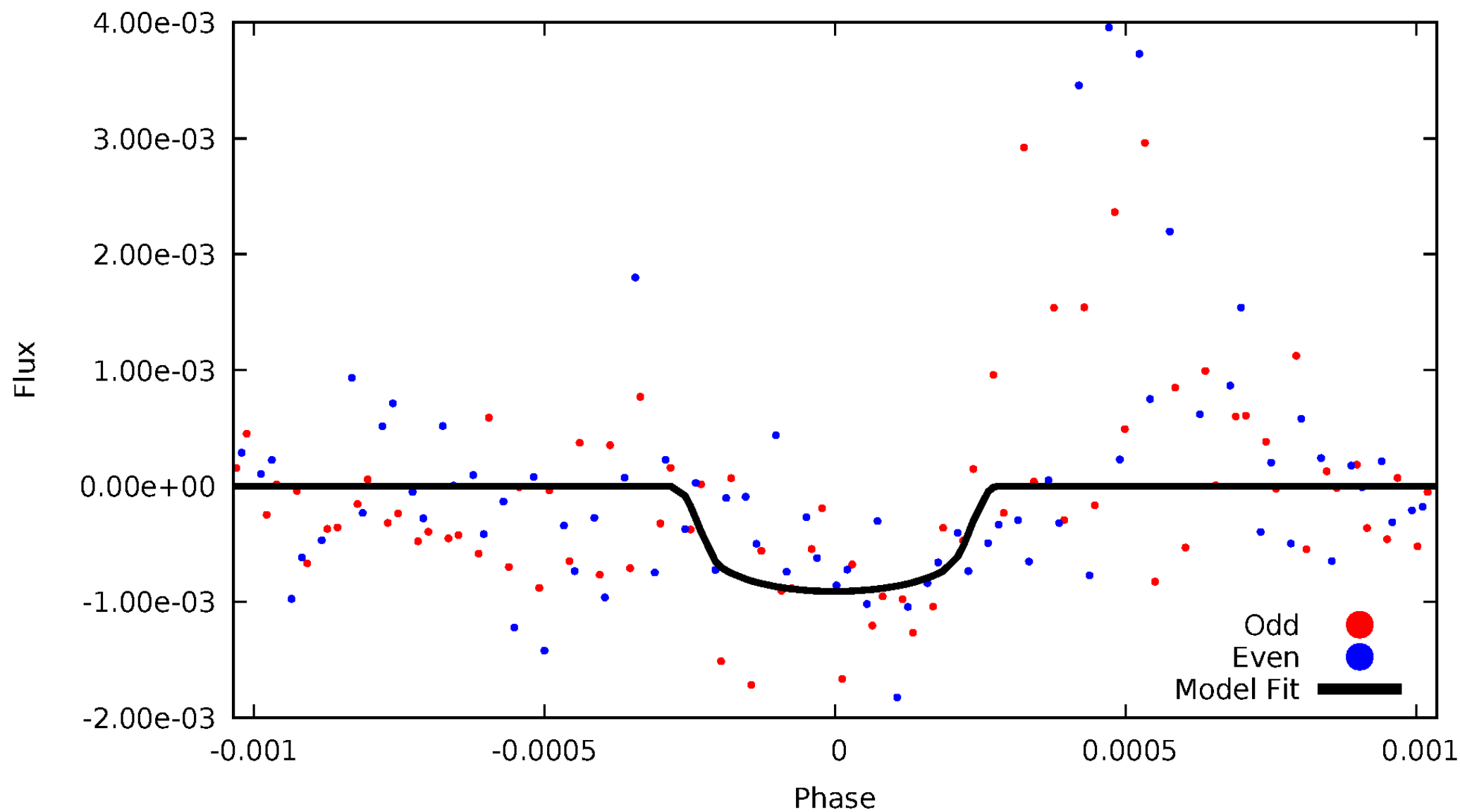
TCE 011235754-01





# DV Odd/Even

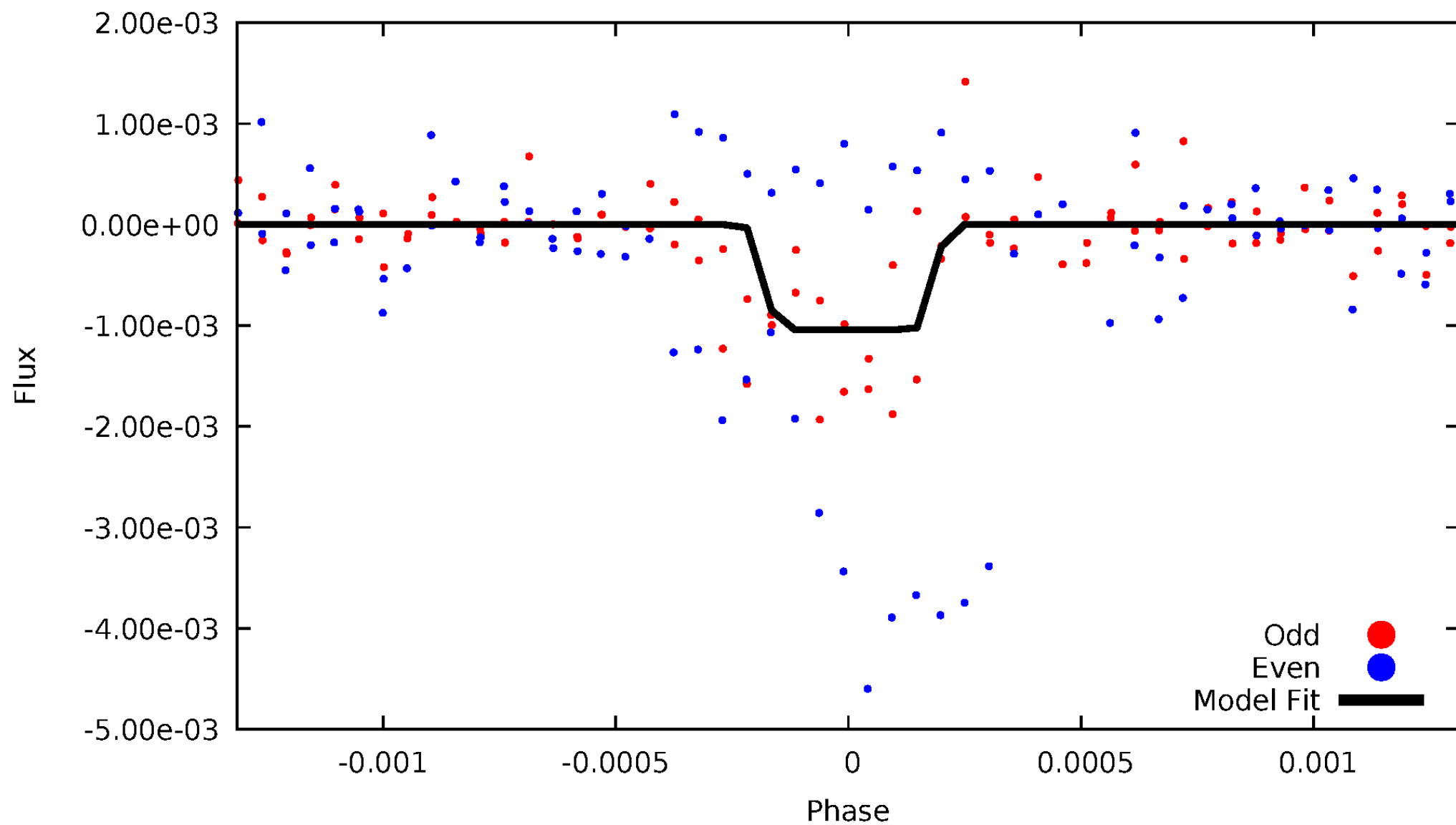
TCE 011235754-01





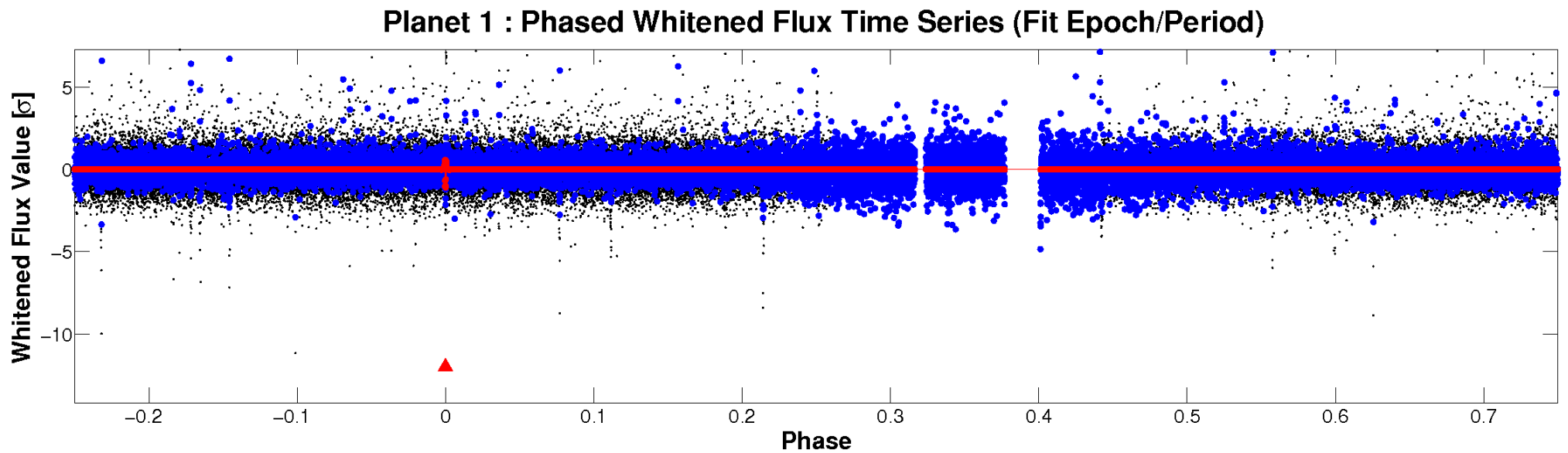
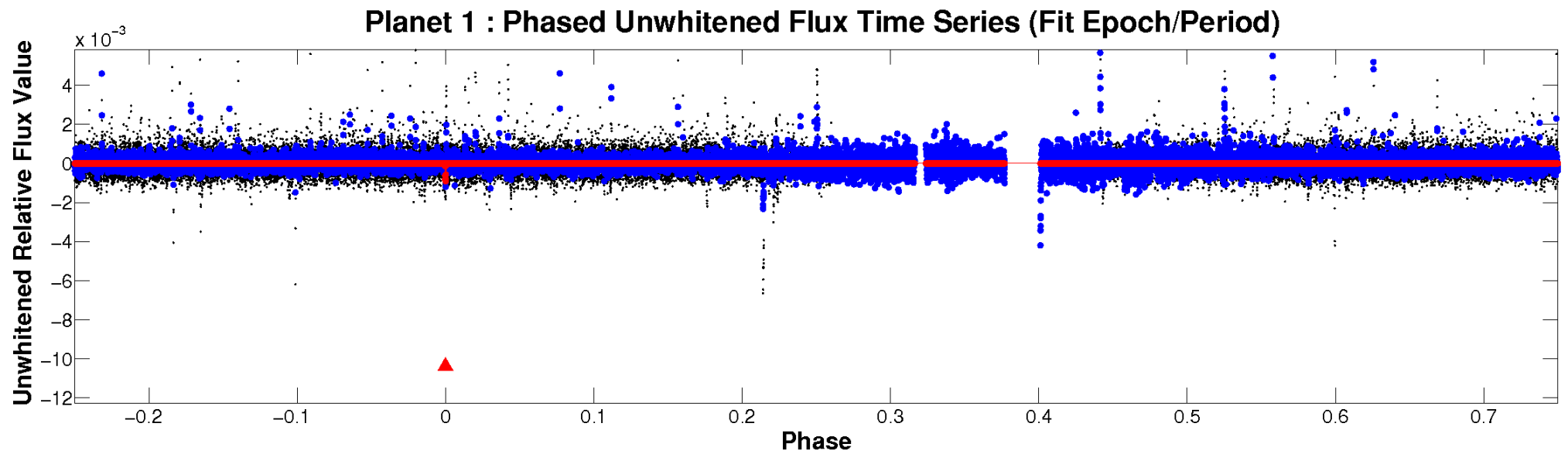
# ALT Odd/Even

TCE 011235754-01





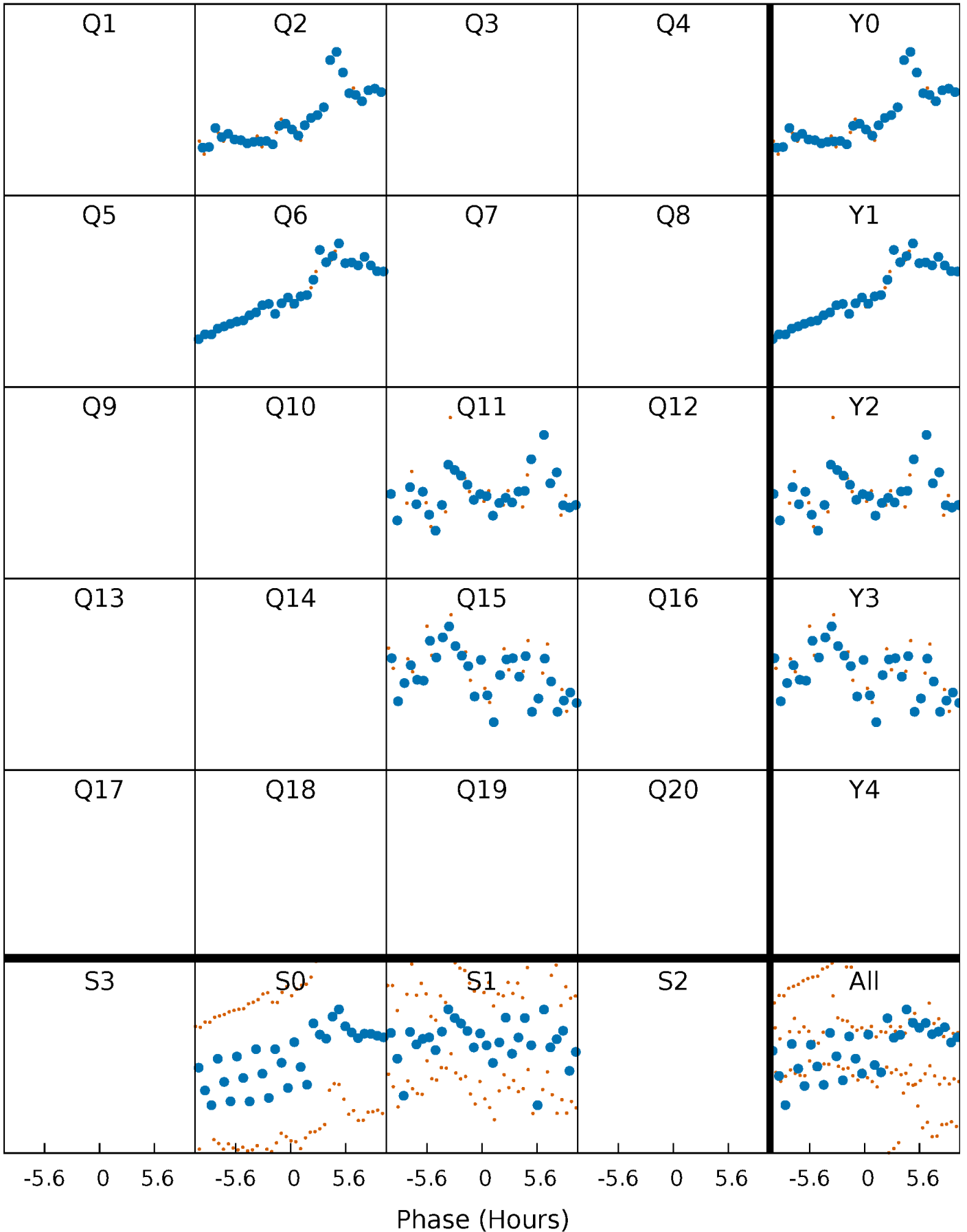
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

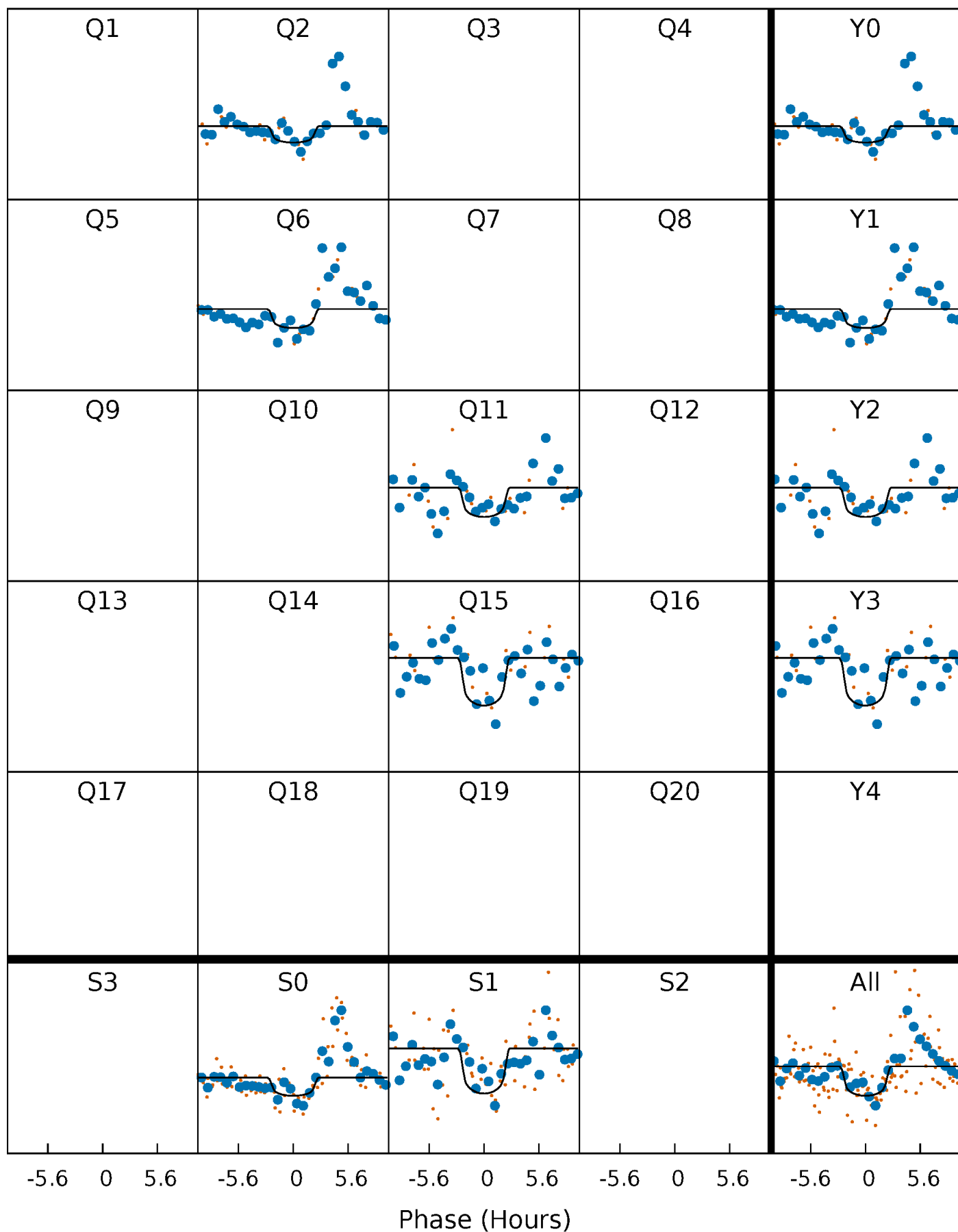
TCE 011235754-01 P=392.198503 Days  $T_0=225.343798$  (BKJD)





# DV Quarter-Phased Transit Curves

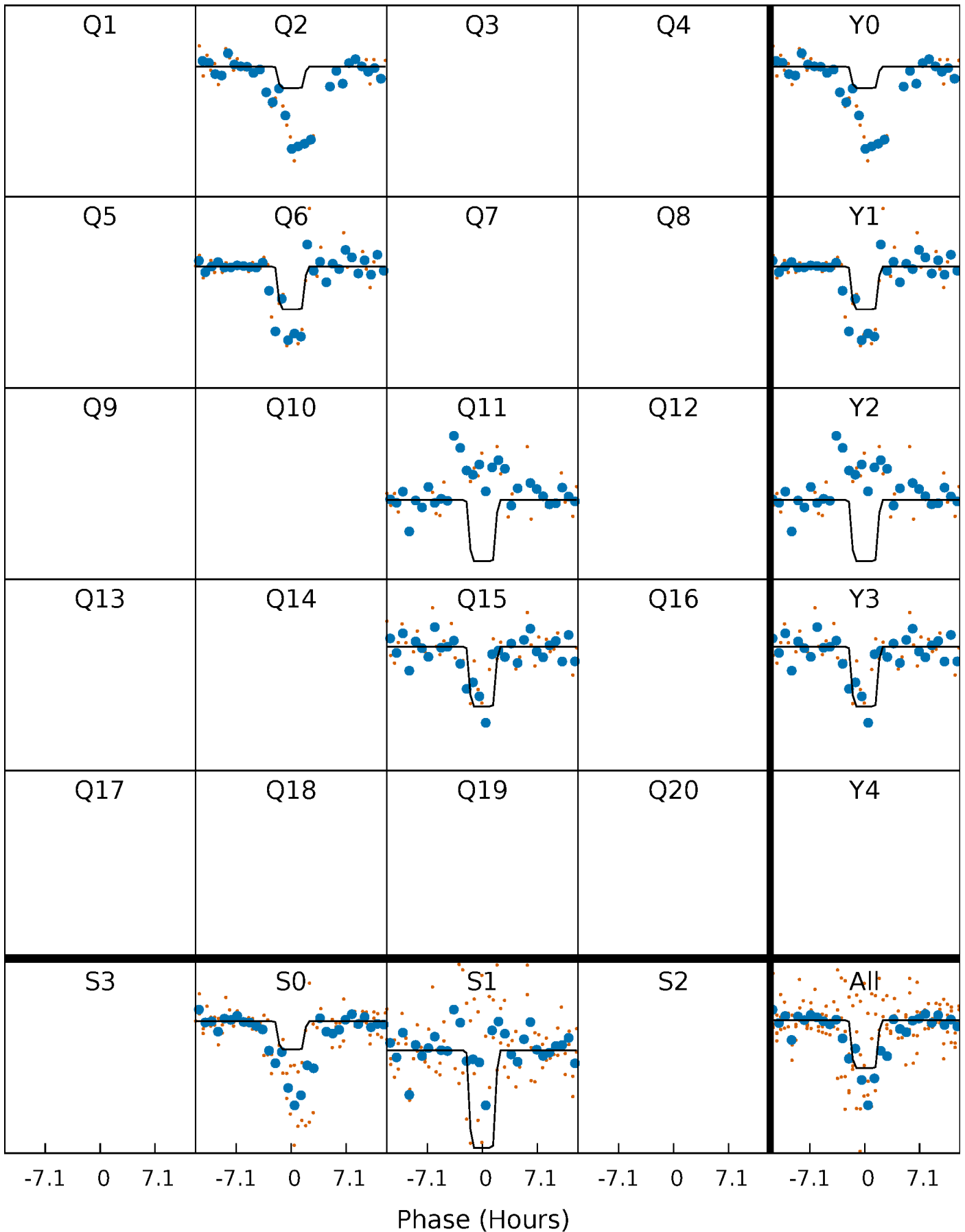
TCE 011235754-01 P=392.198503 Days  $T_0=225.343798$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 011235754-01 P=392.201751 Days  $T_0=225.369366$  (BKJD)

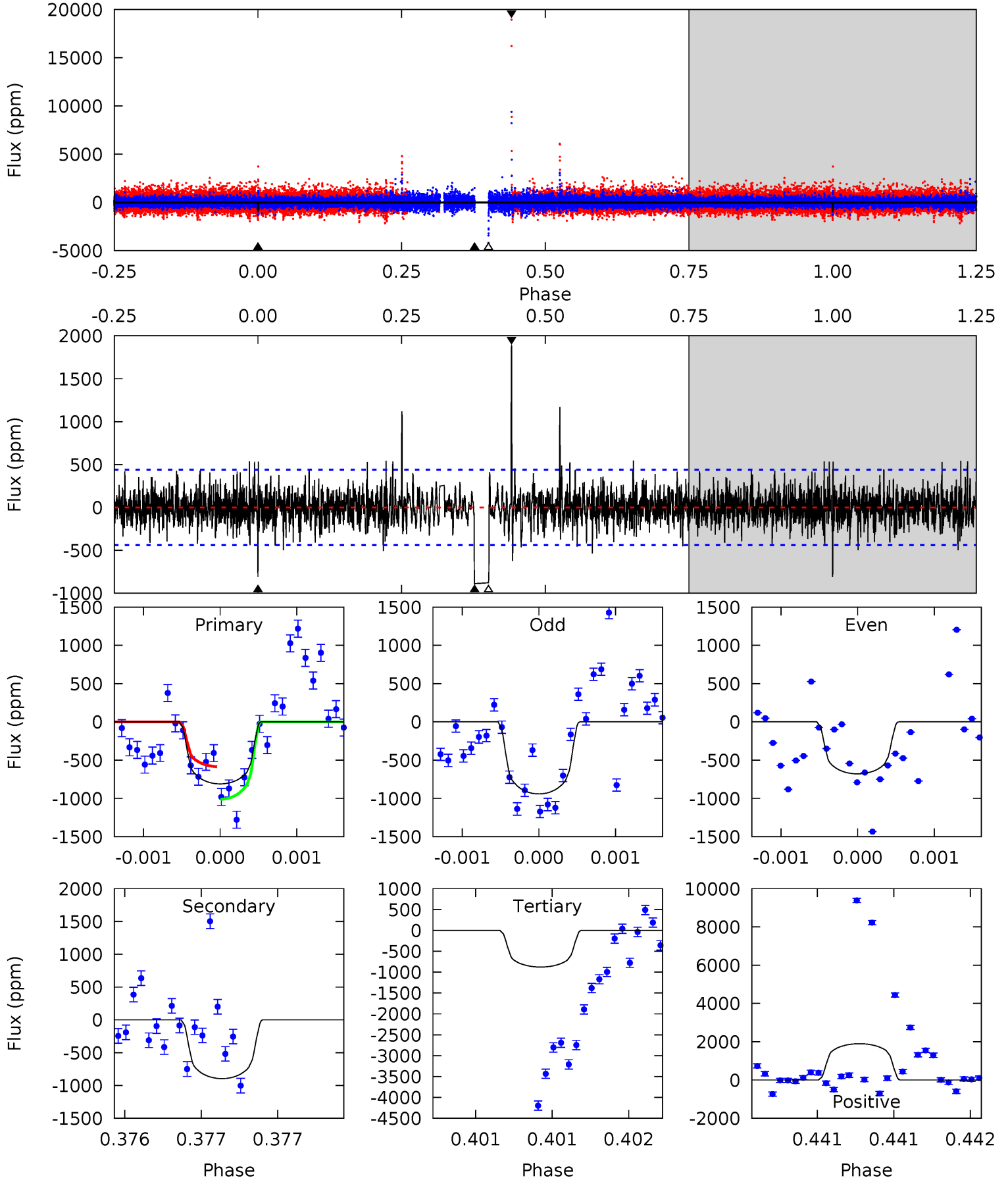




# DV Model-Shift Uniqueness Test

011235754-01, P = 392.198503 Days, E = 225.343798 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
10.3	11.4	11.1	24.0	5.56	3.47	1.94	-0.85	-13.8	0.23	-12.7	1.58	1.19	0.68	2.69

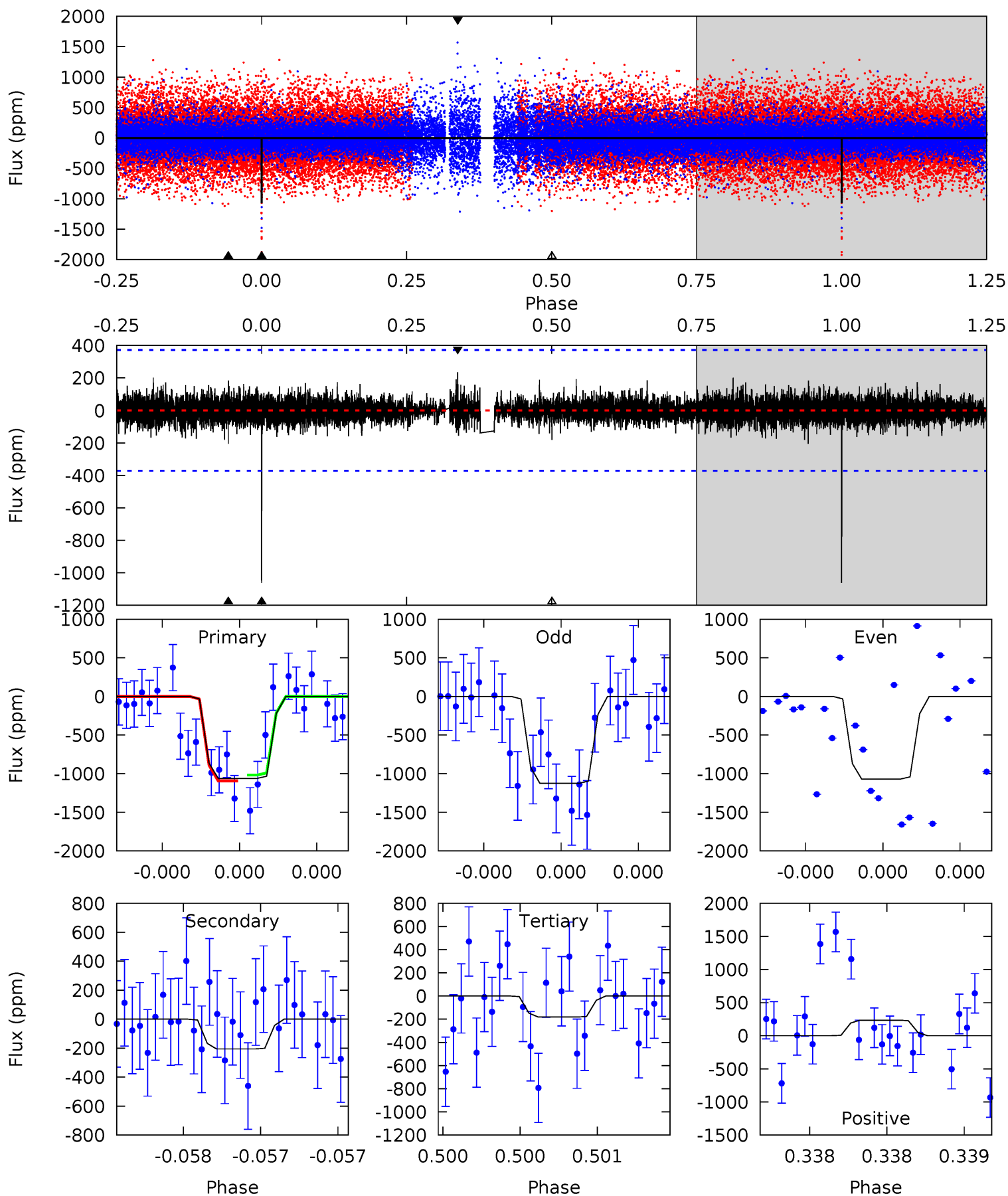




# Alt Model-Shift Uniqueness Test

011235754-01, P = 392.201751 Days, E = 225.369366 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
16.0	3.09	2.73	3.53	5.60	3.53	0.64	13.2	12.4	0.36	-0.44	0.54	1.14	0.18	0.56





### Stellar Parameters For KIC 011235754

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5437^{+162}_{-162}$	$4.554^{+0.060}_{-0.111}$	$-0.300^{+0.300}_{-0.300}$	$0.783^{+0.137}_{-0.074}$	$0.801^{+0.095}_{-0.071}$	$2.352^{+0.596}_{-0.806}$
	+3%/-3%	+1%/-2%	+100%/-100%	+17%/-9%	+12%/-9%	+25%/-34%
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 011235754-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-896 \pm 79$	$2.63^{+1.56}_{-1.35}$	$303^{+14}_{-11}$	$5418^{+2516}_{-947}$	$67318^{+221917}_{-40936}$
Alt.	$-206 \pm 66$	$2.84^{+1.51}_{-1.32}$	$303^{+13}_{-13}$	$3891^{+1120}_{-541}$	$12620^{+34532}_{-7538}$

$T_{\text{max}}$  = 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

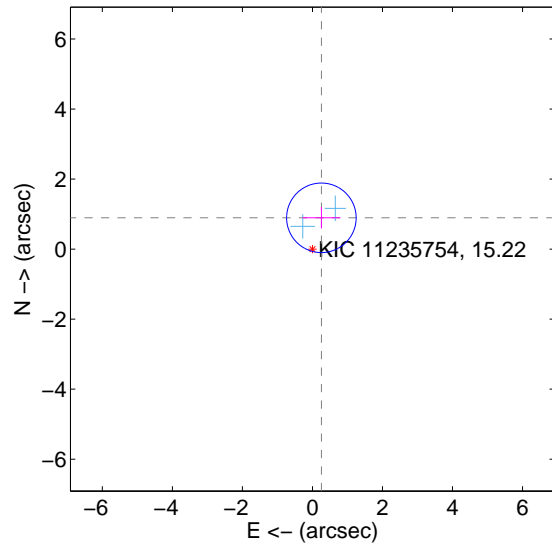
Supplemental centroid analysis for 011235754-01. Kepler magnitude: 15.22. Transit SNR 6.52

There are 2 quarters with good PRF difference image offsets

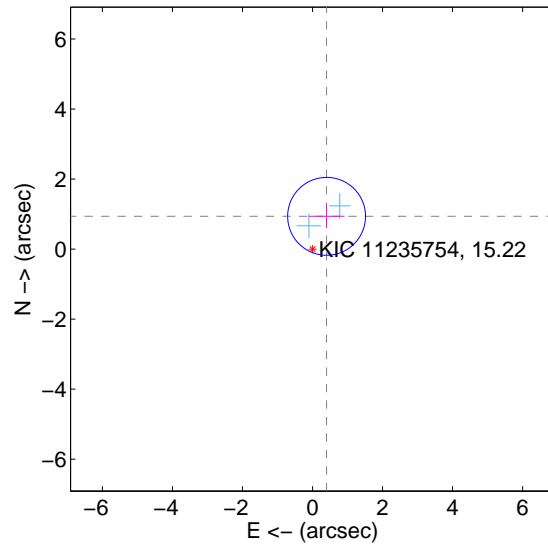
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.929 \pm 0.331$	2.81	$-0.255 \pm 0.542$	$0.893 \pm 0.307$
PRF-fit source offset from KIC position	$1.018 \pm 0.371$	2.75	$-0.402 \pm 0.514$	$0.936 \pm 0.338$
photometric centroid source offset	$2.26 \pm 1.17$	1.94	$2.19 \pm 1.16$	$0.55 \pm 1.24$

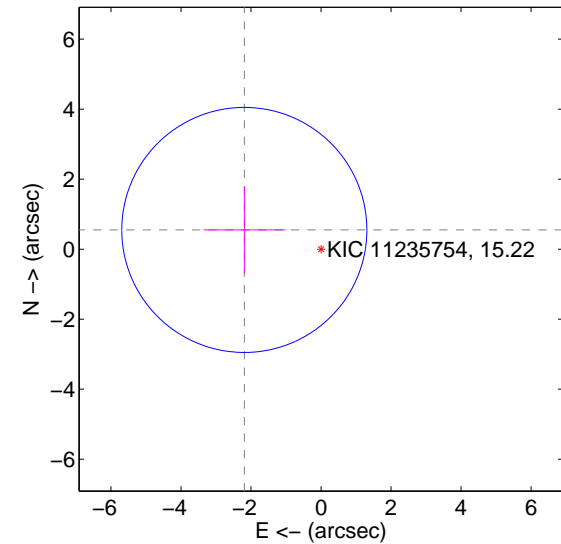
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



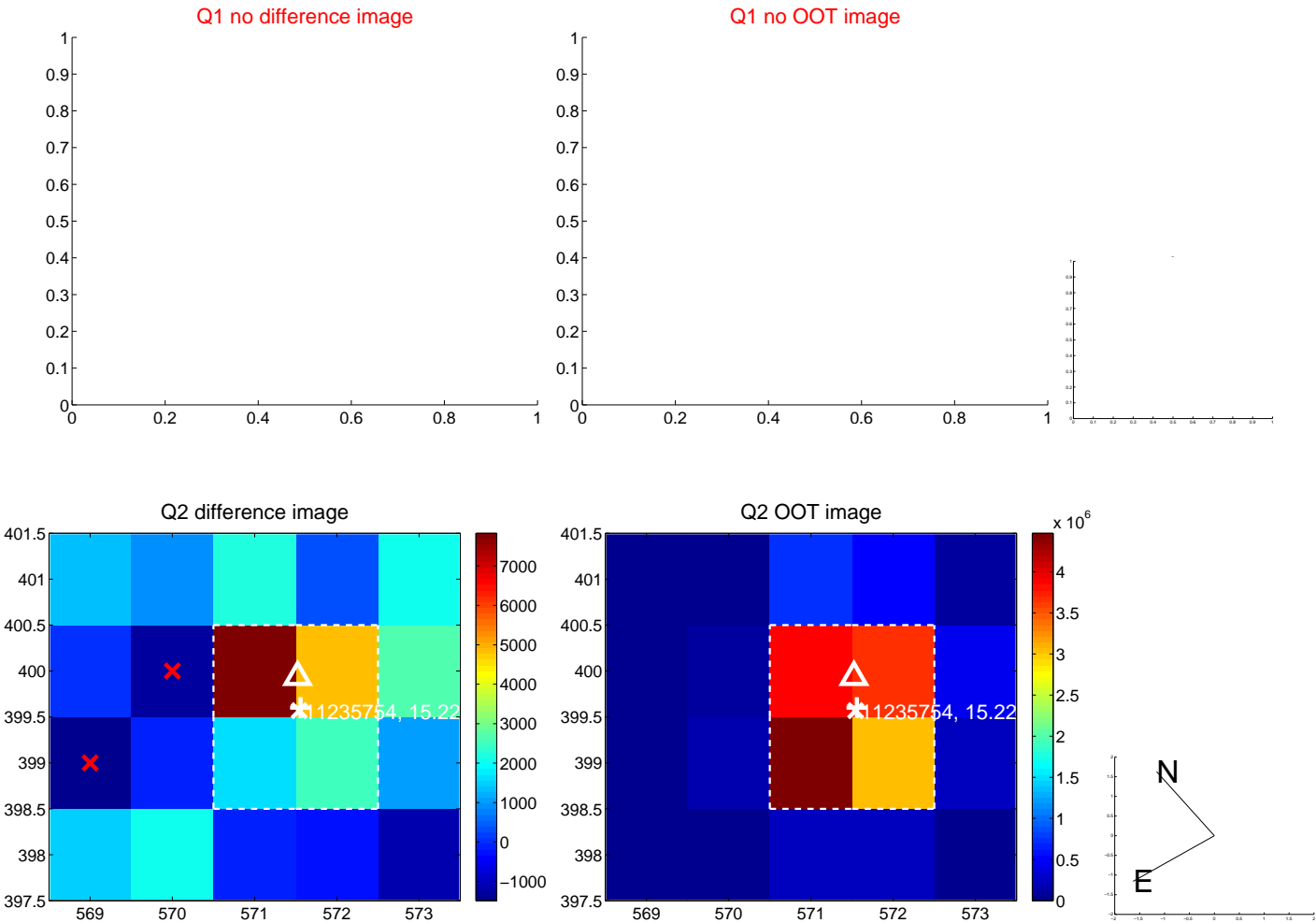
offset from photometric centroids



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.

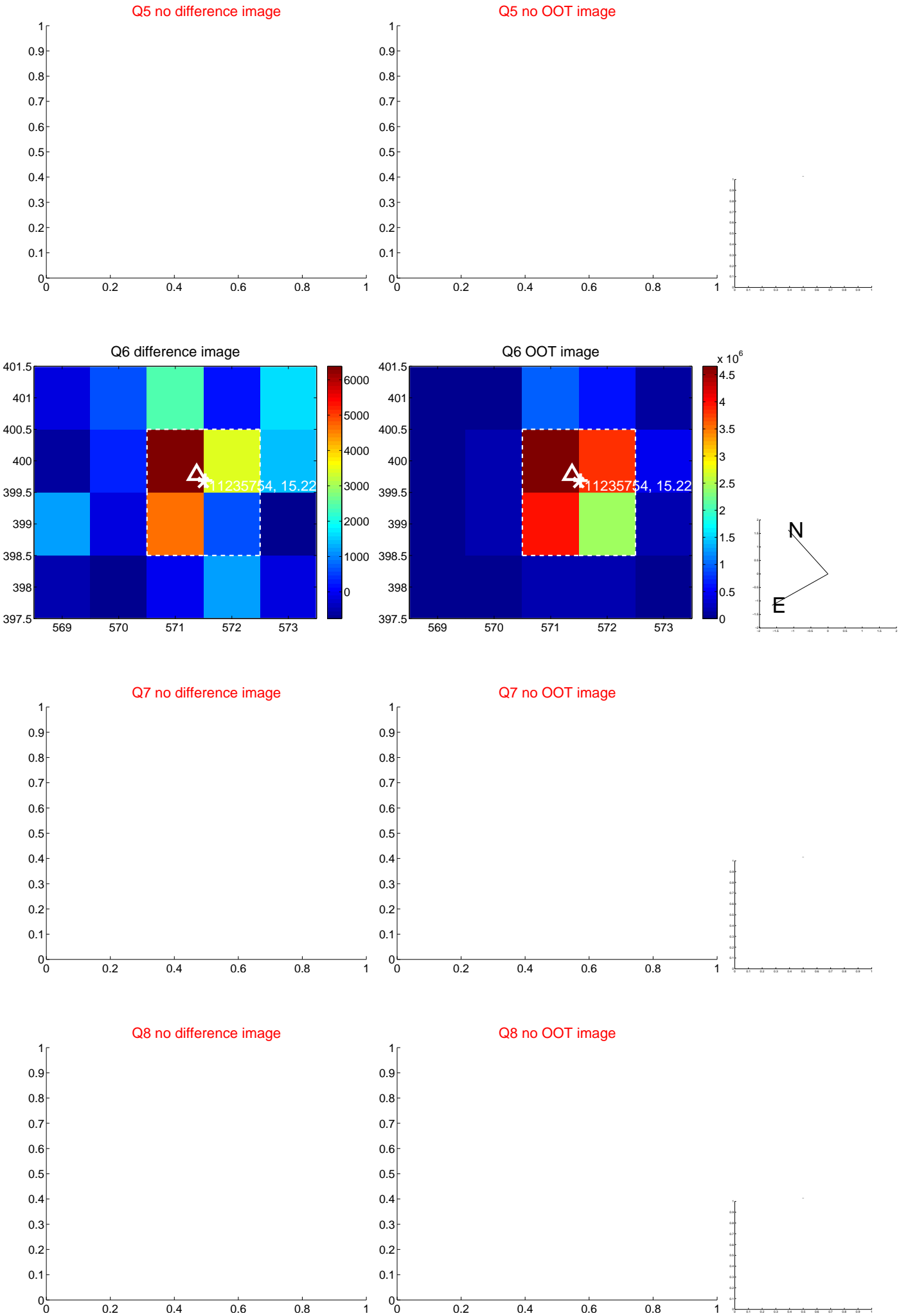


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



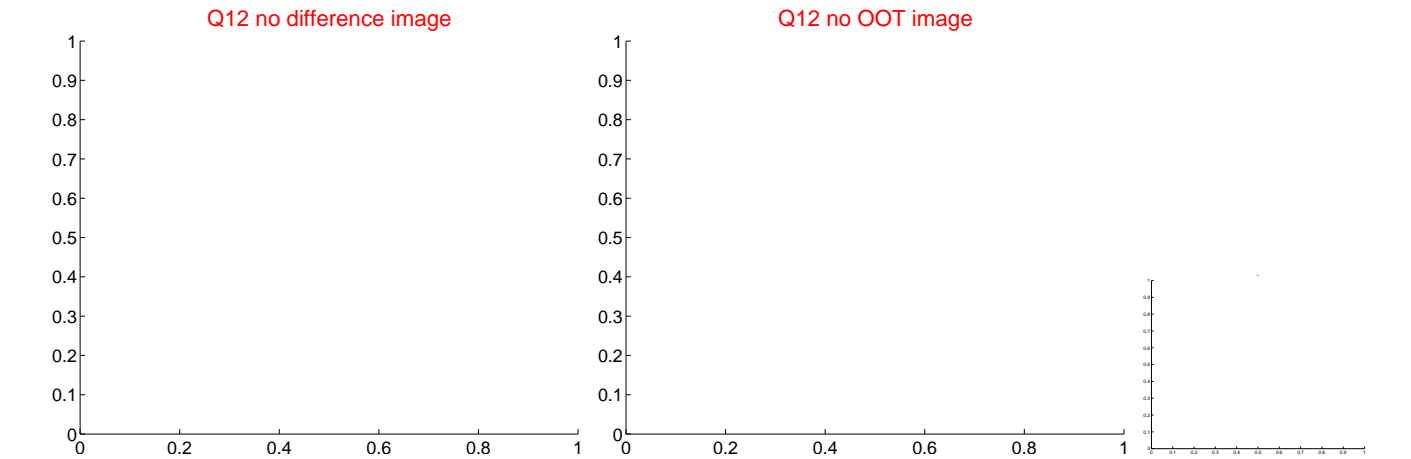
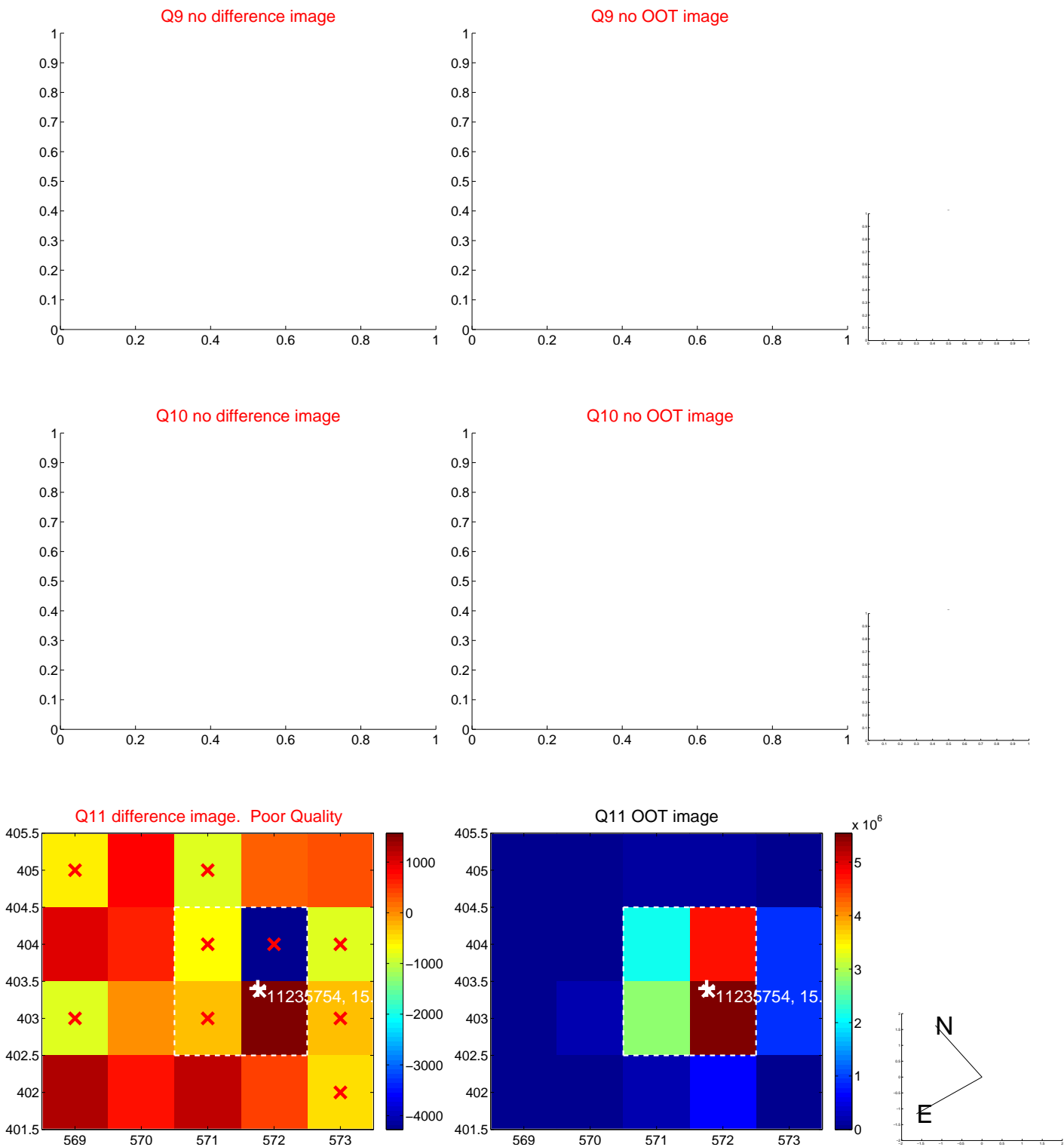


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



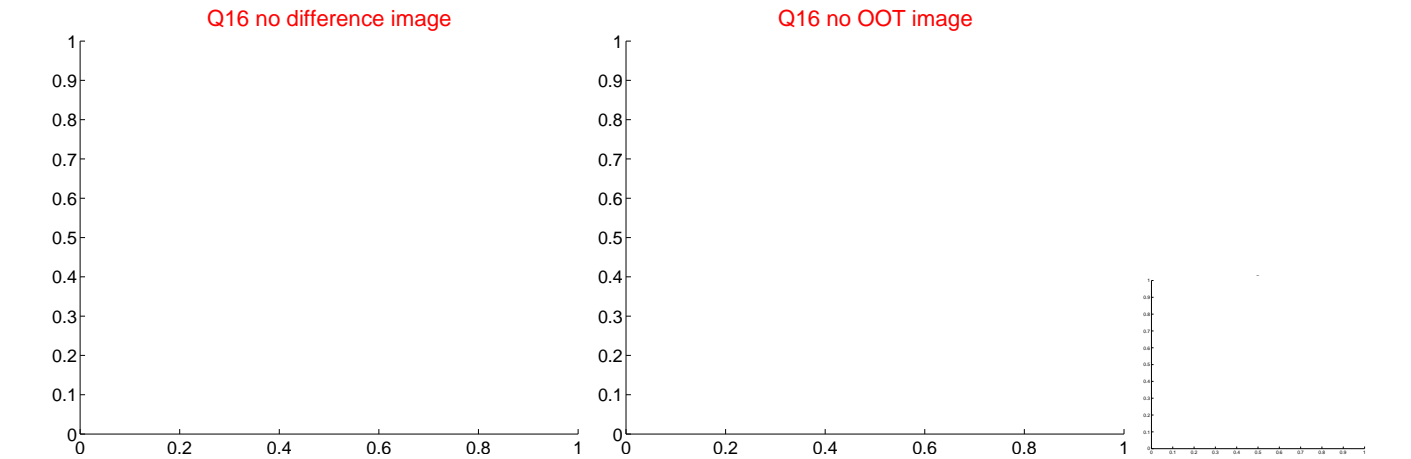
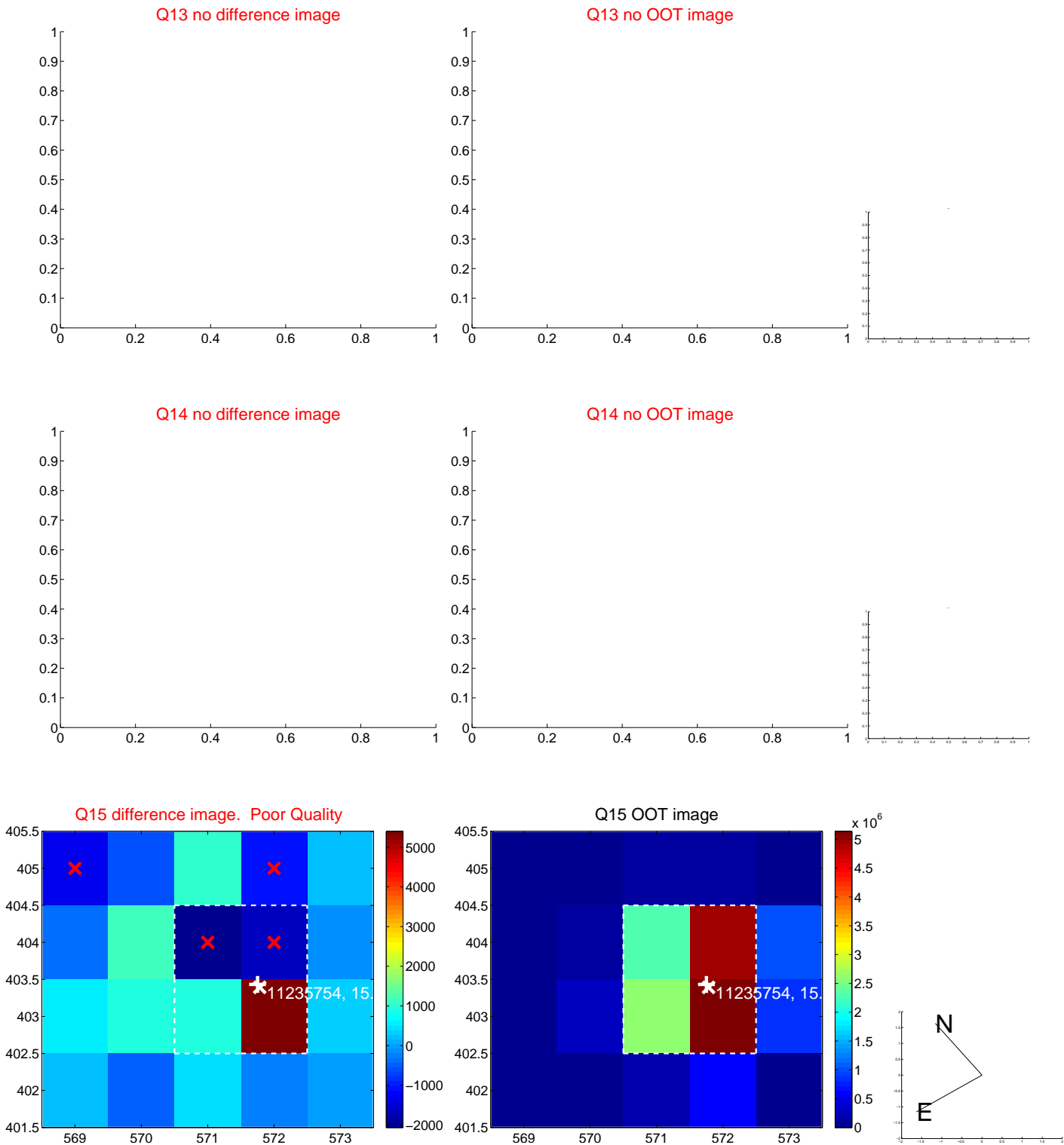


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



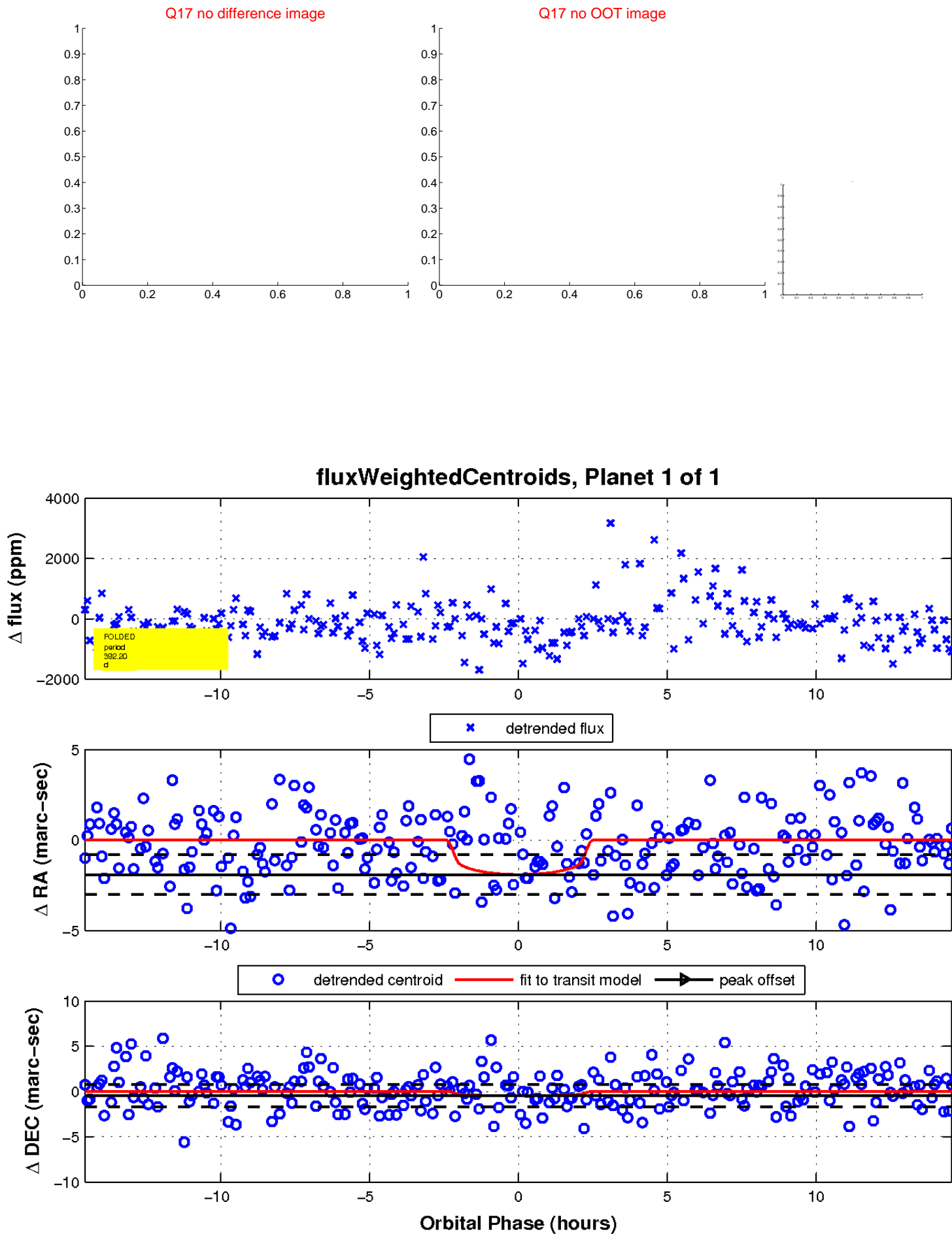


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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





# UKIRT Image

Declination

