

# KIC 008175753

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008175753-01	OBS	No	245.983557	355.944752	505.2	14.558	10.0	5.4	0.96	6029	2.25	1.78

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008175753-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_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.

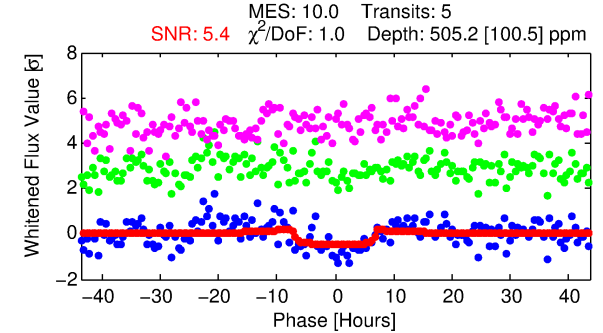
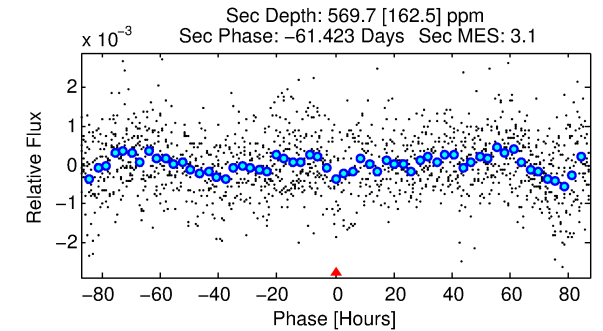
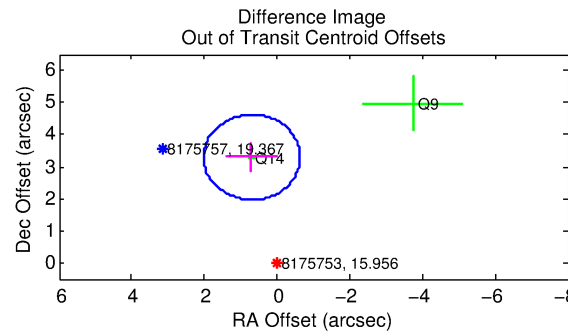
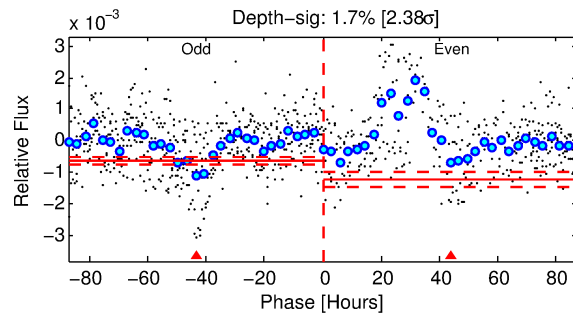
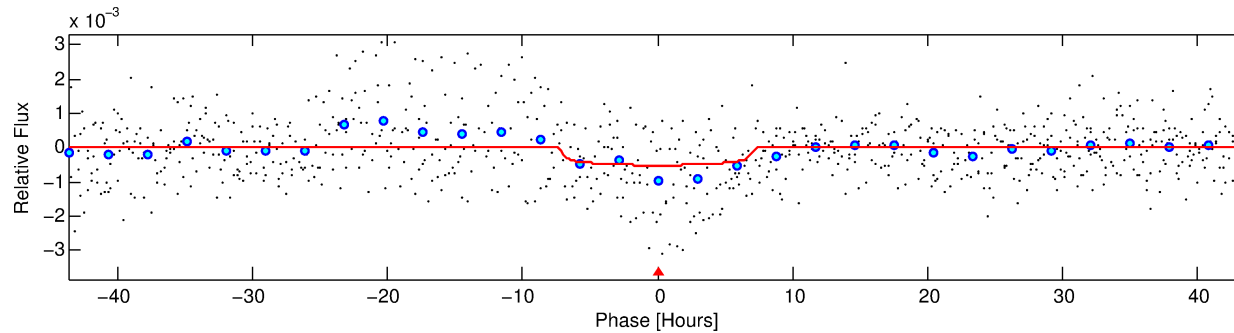
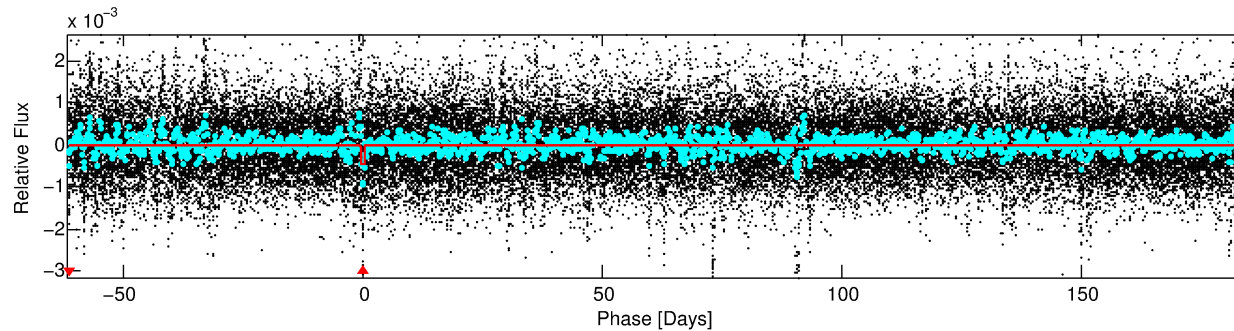
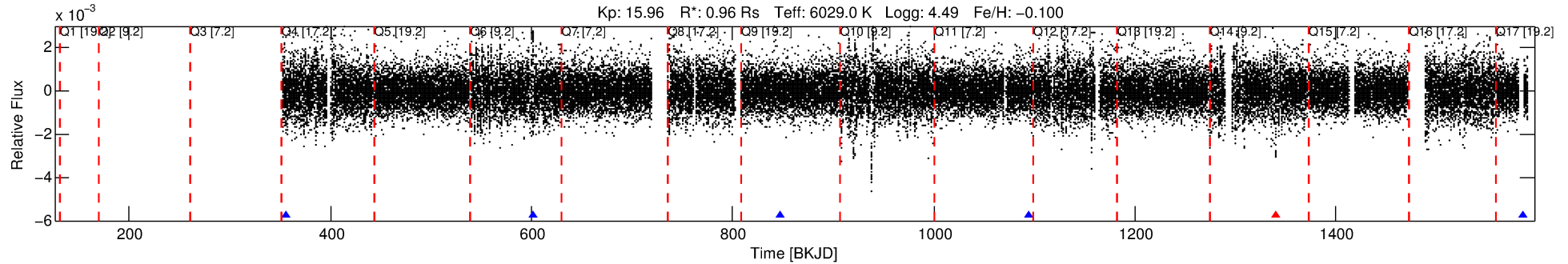
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008175753-01

No Significant Match Found

# DV One-Page Summary

KIC: 8175753 Candidate: 1 of 1 Period: 245.984 d



## DV Fit Results:

Period = 245.98356 [0.01445] d  
Epoch = 355.9448 [0.0354] BKJD  
Rp/R\* = 0.0216 [0.0149]  
a/R\* = 104.56 [342.38]  
b = 0.62 [3.24]  
Seff = 1.79 [0.71]  
Teq = 295 [29] K  
Rp = 2.25 [1.70] Re  
a = 0.7785 [0.1959] AU  
Ag = 37436.06 [54634.24] [0.69 $\sigma$ ]  
Teffp = 6339 [2252] K [2.68 $\sigma$ ]

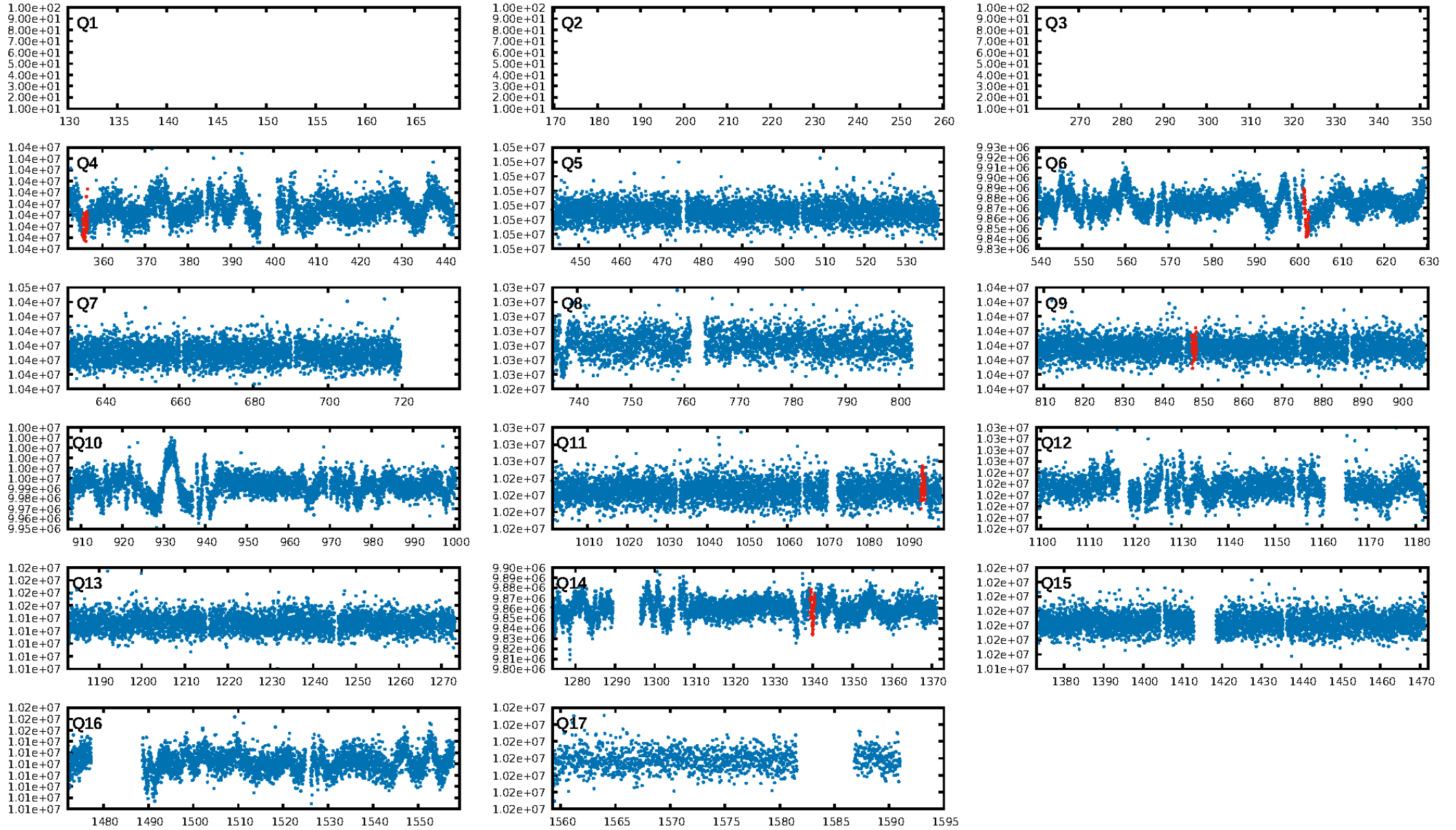
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 86.7%  
Bootstrap-pfa: 3.63e-13  
RollingBand-fgt: 0.80 [4/5]  
GhostDiagnostic-chr: -3.359  
Centroid-sig: 12.3%  
Centroid-so: 4.968 arcsec [2.66 $\sigma$ ]  
OotOffset-rm: 3.367 arcsec [7.62 $\sigma$ ]  
KicOffset-rm: 2.572 arcsec [5.07 $\sigma$ ]  
OotOffset-st: 1/0/0/1 [2]  
KicOffset-st: 1/0/0/1 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [4/4]

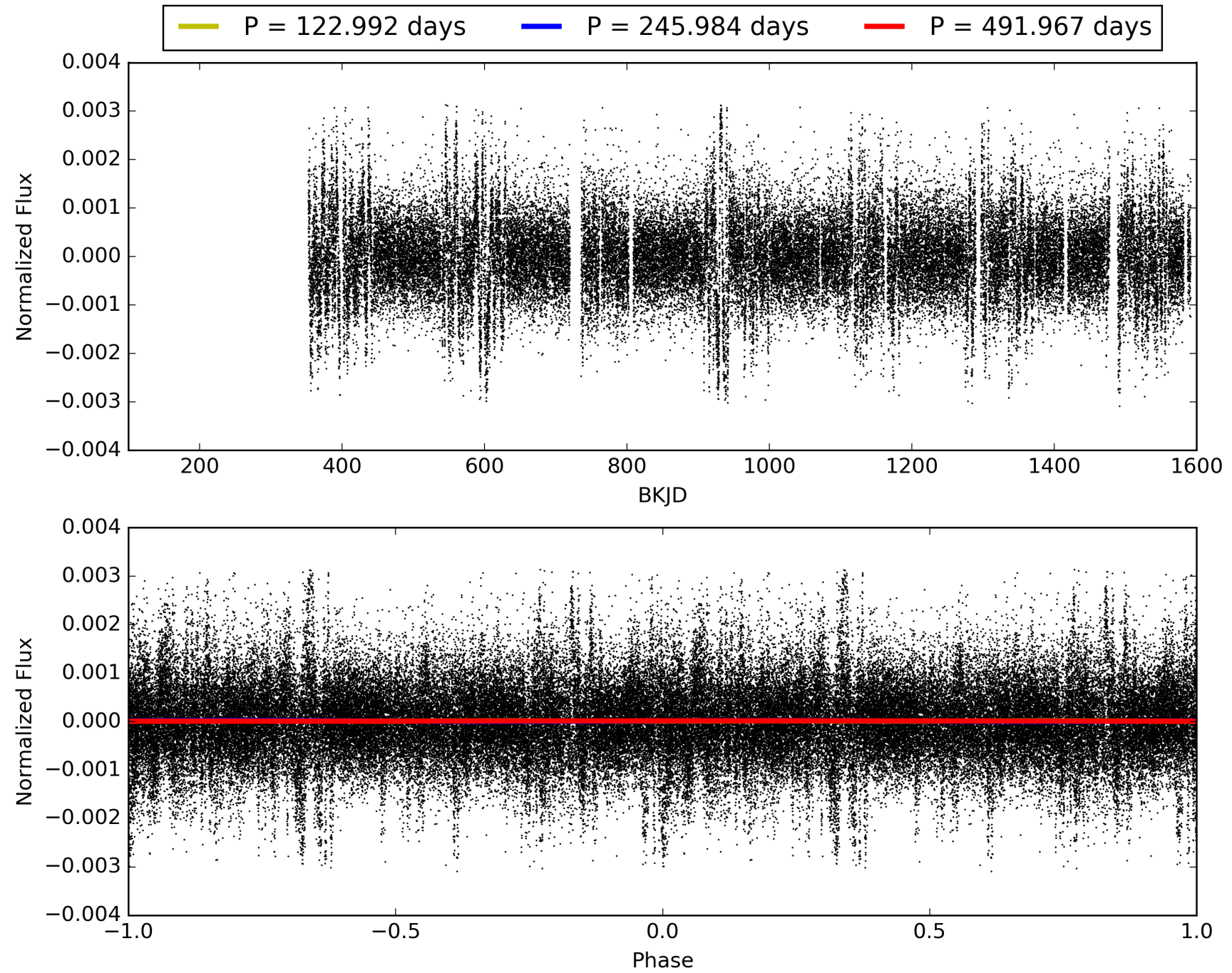
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:26:18 Z

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

# TCE 008175753-01, PDC Light Curves

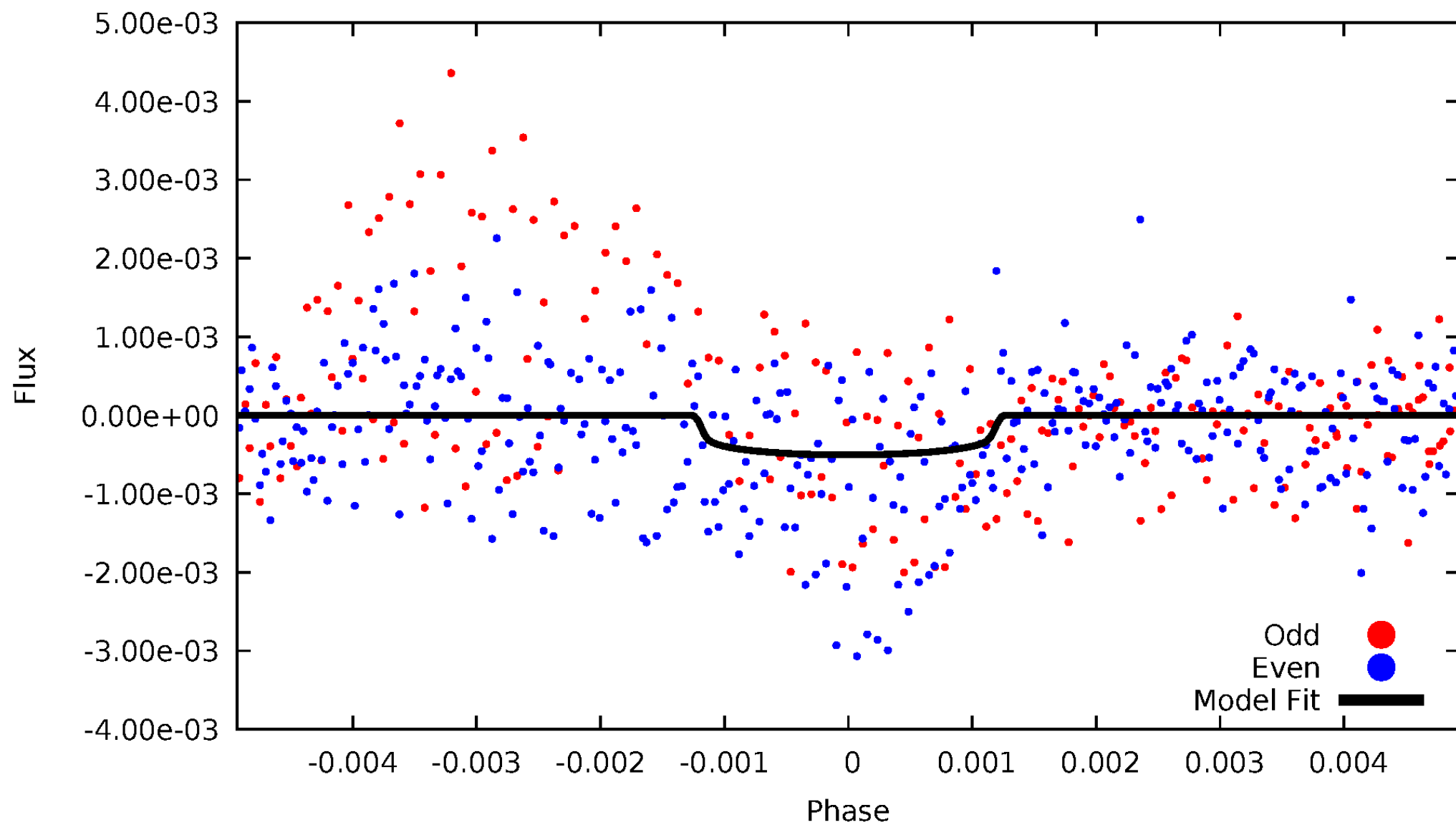


TCE 008175753-01



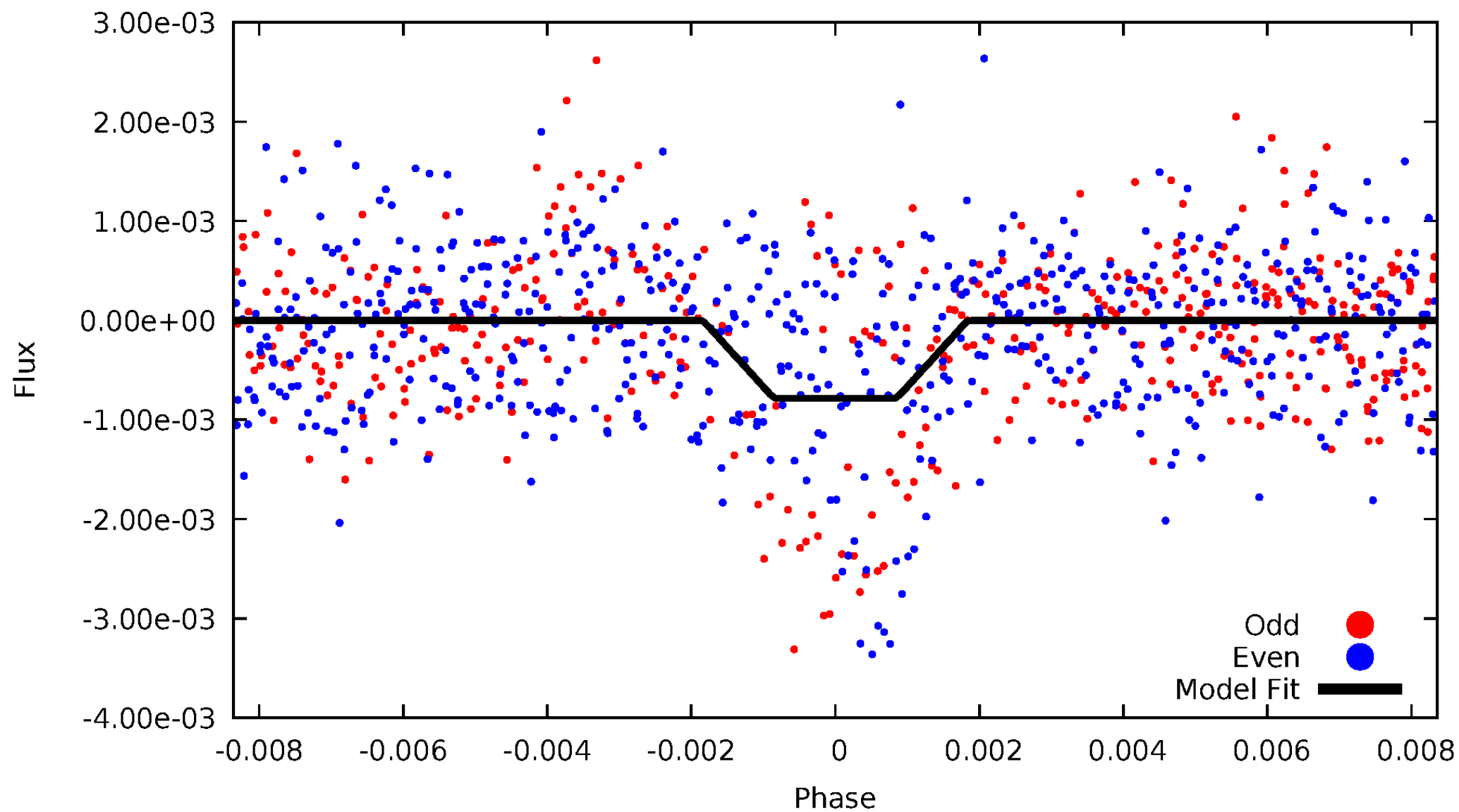
# DV Odd/Even

TCE 008175753-01



# ALT Odd/Even

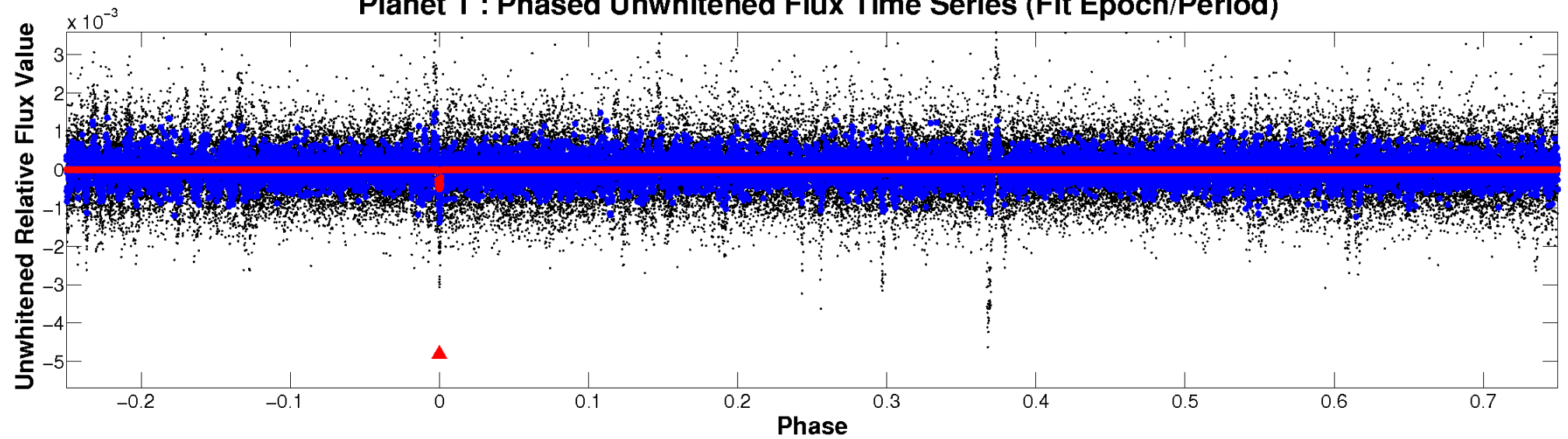
TCE 008175753-01



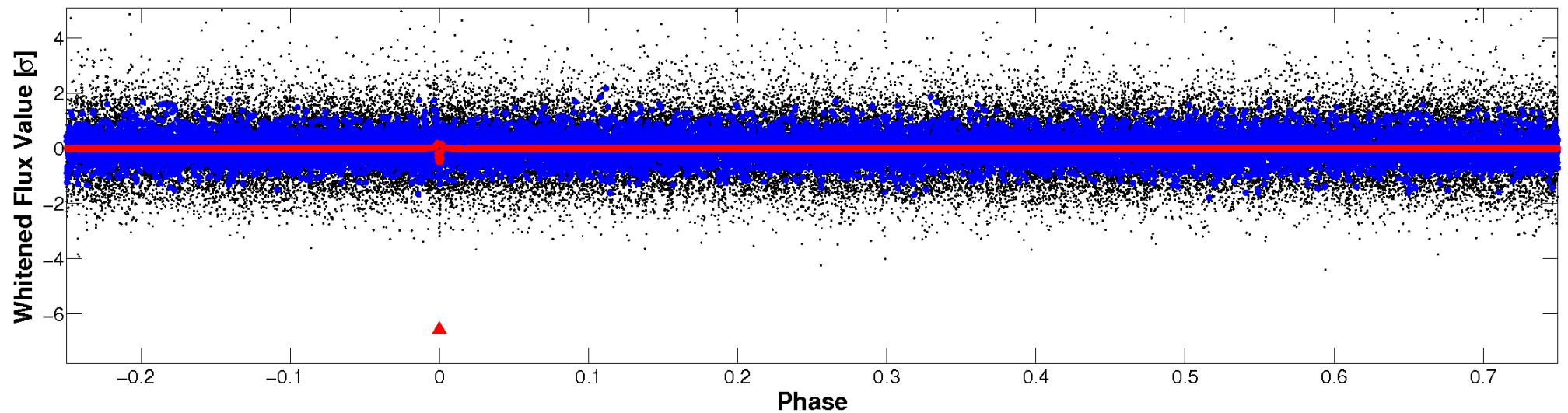


# Non-Whitened Vs. Whitened Light Curve

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

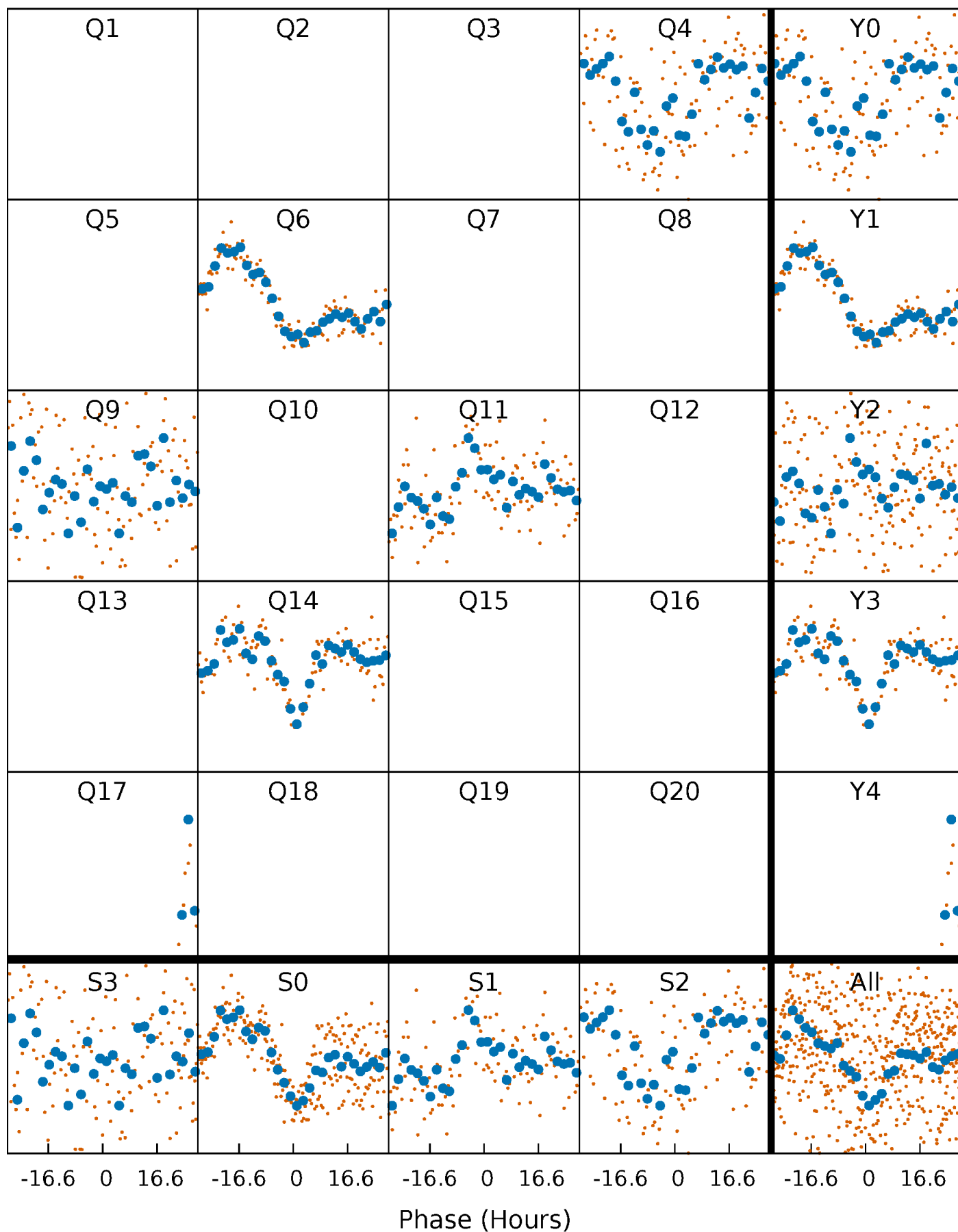


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

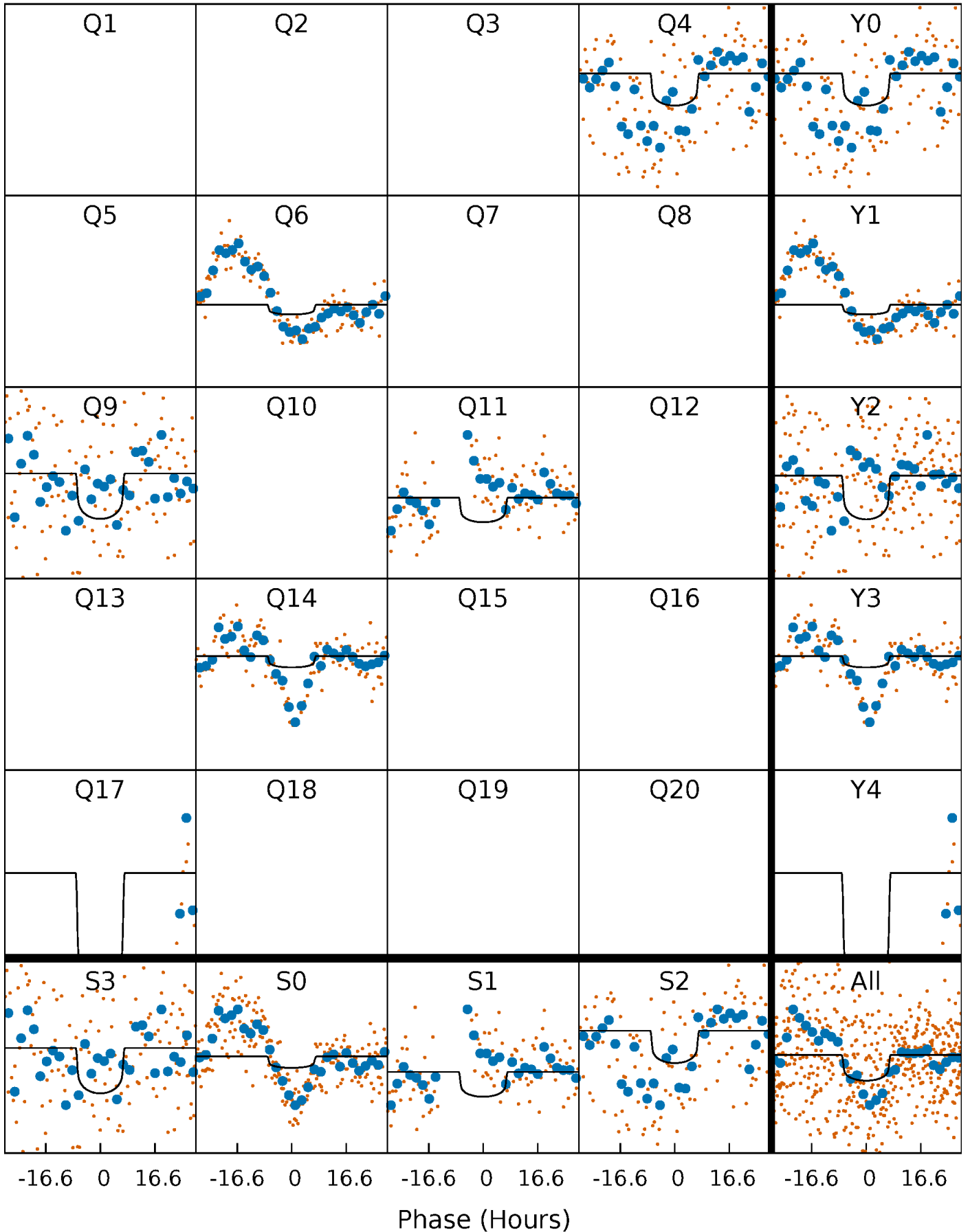
TCE 008175753-01 P=245.983557 Days  $T_0=355.944752$  (BKJD)





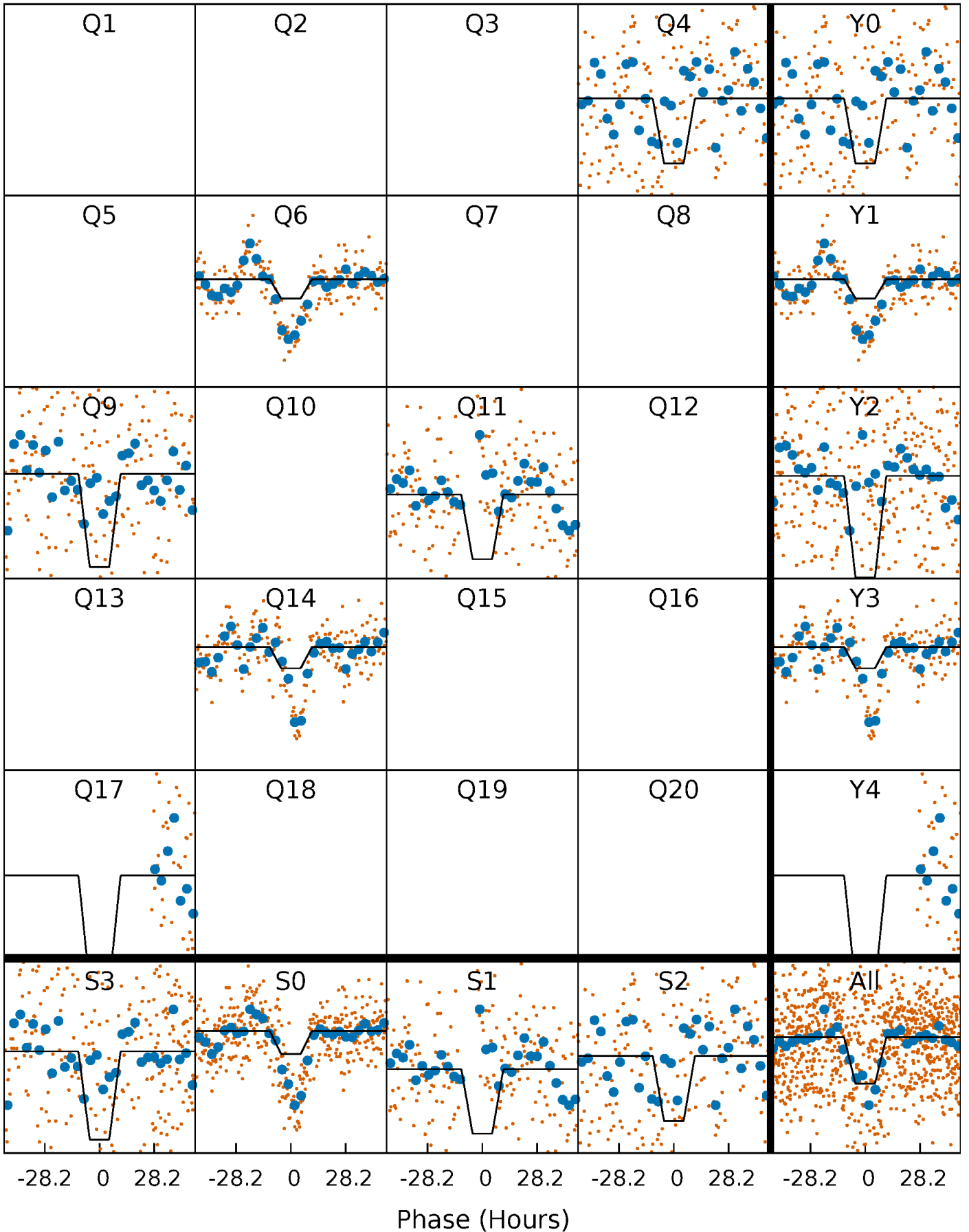
# DV Quarter-Phased Transit Curves

TCE 008175753-01 P=245.983557 Days  $T_0=355.944752$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

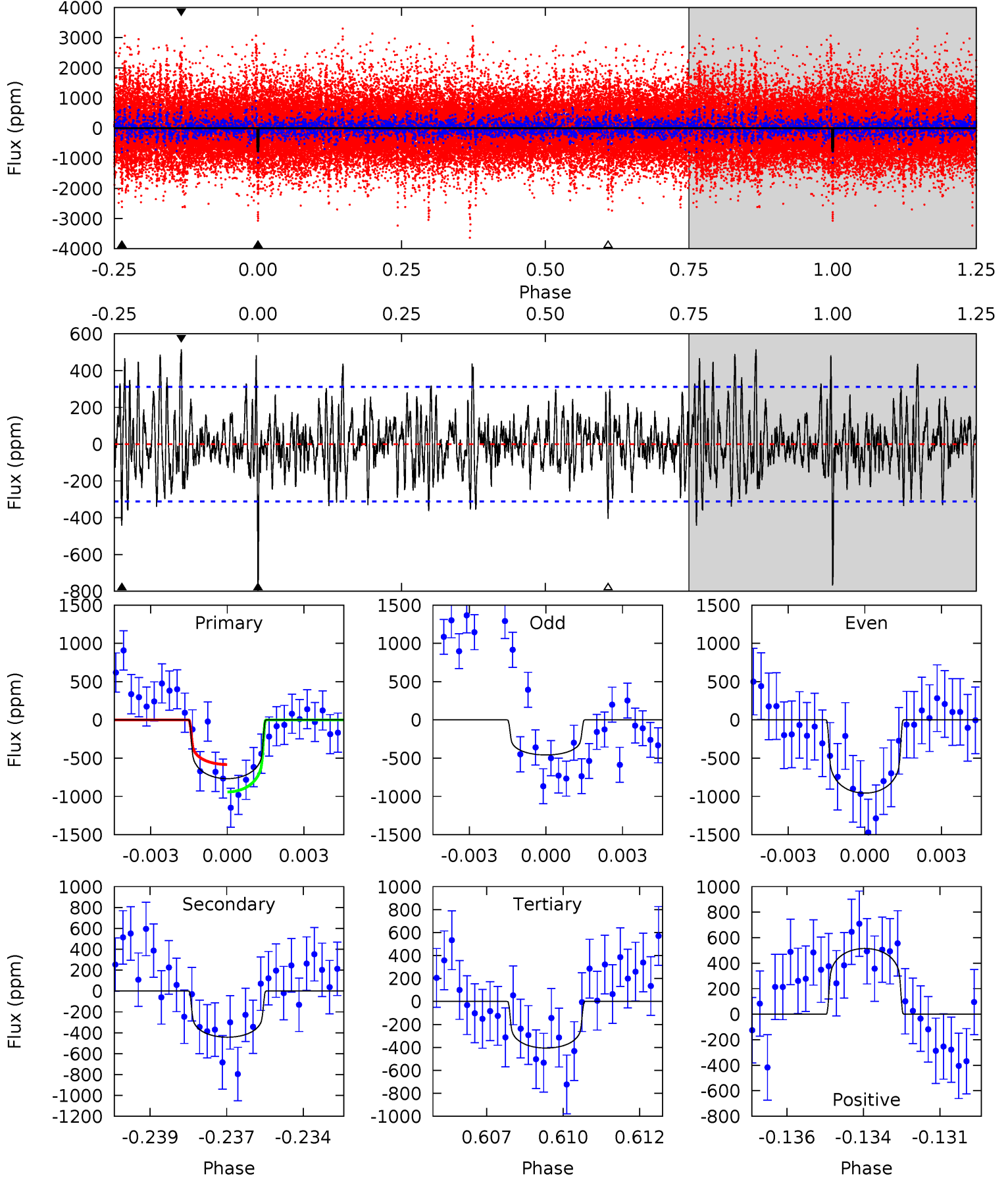
TCE 008175753-01 P=245.938328 Days  $T_0=356.016535$  (BKJD)



# DV Model-Shift Uniqueness Test

008175753-01, P = 245.983557 Days, E = 109.961195 Days

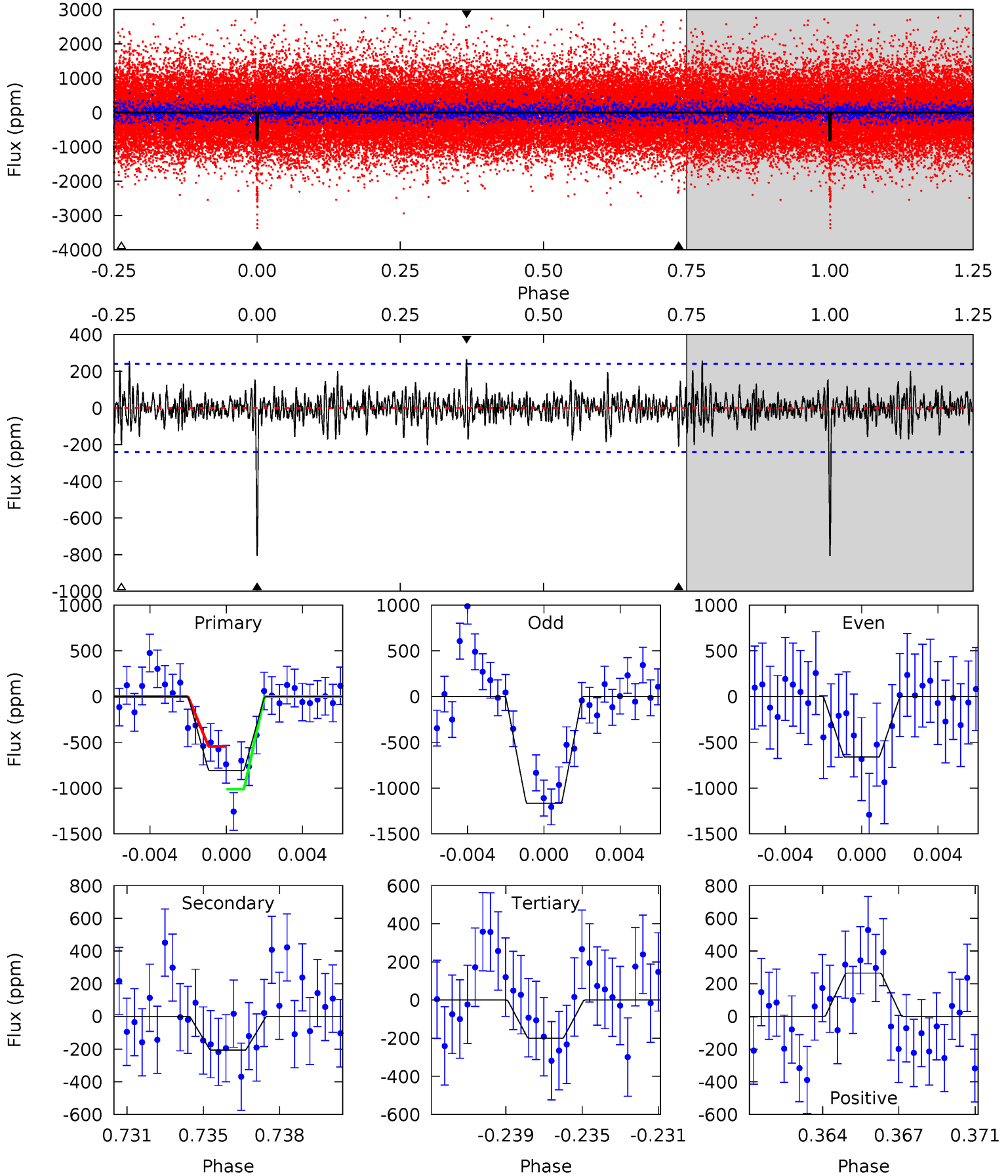
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	7.51	6.88	8.73	5.28	3.02	2.21	6.13	4.28	0.62	-1.23	4.10	0.92	0.40	3.04



# Alt Model-Shift Uniqueness Test

008175753-01, P = 245.938328 Days, E = 110.078207 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
17.5	4.47	4.33	5.73	5.22	2.90	1.20	13.1	11.7	0.14	-1.26	5.30	3.64	0.25	5.03



### Stellar Parameters For KIC 008175753

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6029^{+188}_{-230}$	$4.494^{+0.050}_{-0.200}$	$-0.100^{+0.250}_{-0.300}$	$0.956^{+0.286}_{-0.102}$	$1.040^{+0.131}_{-0.144}$	$1.675^{+0.450}_{-0.849}$
	+3%/-4%	+1%/-4%	+250%/-300%	+30%/-11%	+13%/-14%	+27%/-51%
Source	KIC0	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 008175753-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-443 \pm 59$	$2.57^{+1.67}_{-1.44}$	$421^{+29}_{-20}$	$5709^{+3142}_{-1093}$	$22891^{+82933}_{-14965}$
Alt.	$-207 \pm 46$	$3.03^{+1.83}_{-1.49}$	$420^{+31}_{-23}$	$4501^{+1609}_{-716}$	$7268^{+20500}_{-4432}$

$T_{max}$  = 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

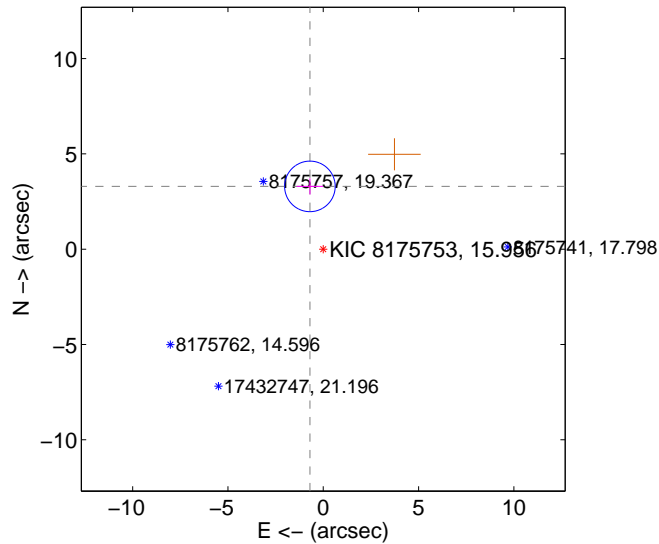
Supplemental centroid analysis for 008175753-01. Kepler magnitude: 15.96. Transit SNR 5.40

There are 0 quarters with good PRF difference image offsets

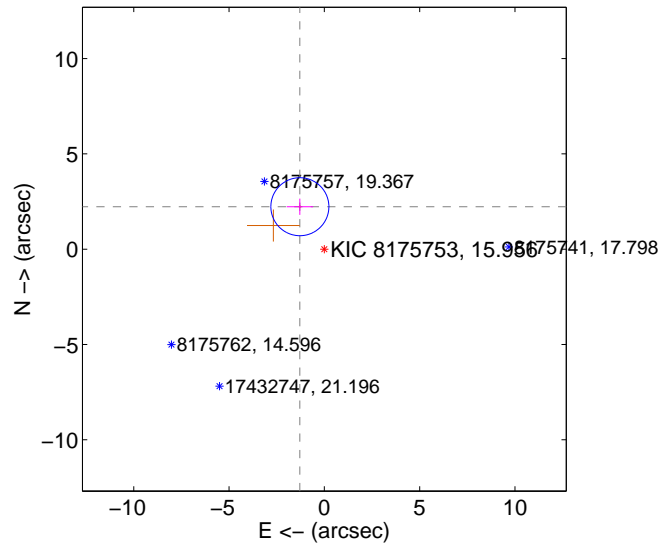
The direct PRF centroid is offset from the target star catalog position by about 1.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>3.367 <math>\pm</math> 0.442</b>	<b>7.62</b>	0.702 $\pm$ 0.694	3.293 $\pm$ 0.427
PRF-fit source offset from KIC position	<b>2.572 <math>\pm</math> 0.507</b>	<b>5.07</b>	1.286 $\pm$ 0.694	2.228 $\pm$ 0.427
photometric centroid source offset	4.97 $\pm$ 1.87	2.66	3.53 $\pm$ 1.95	-3.50 $\pm$ 1.79

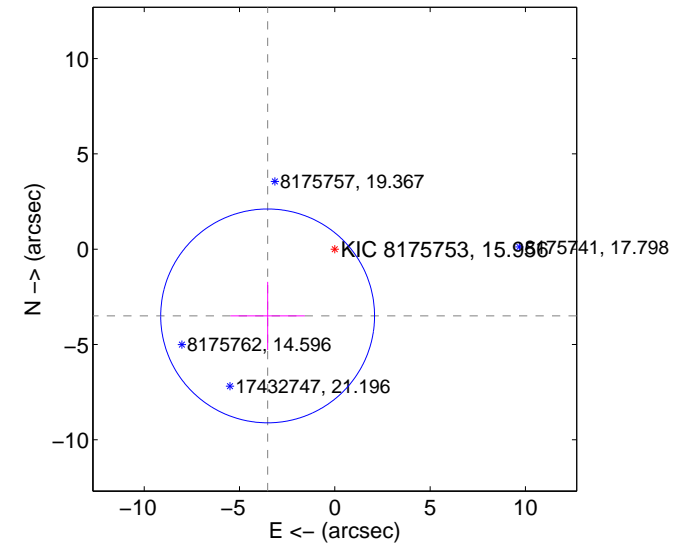
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



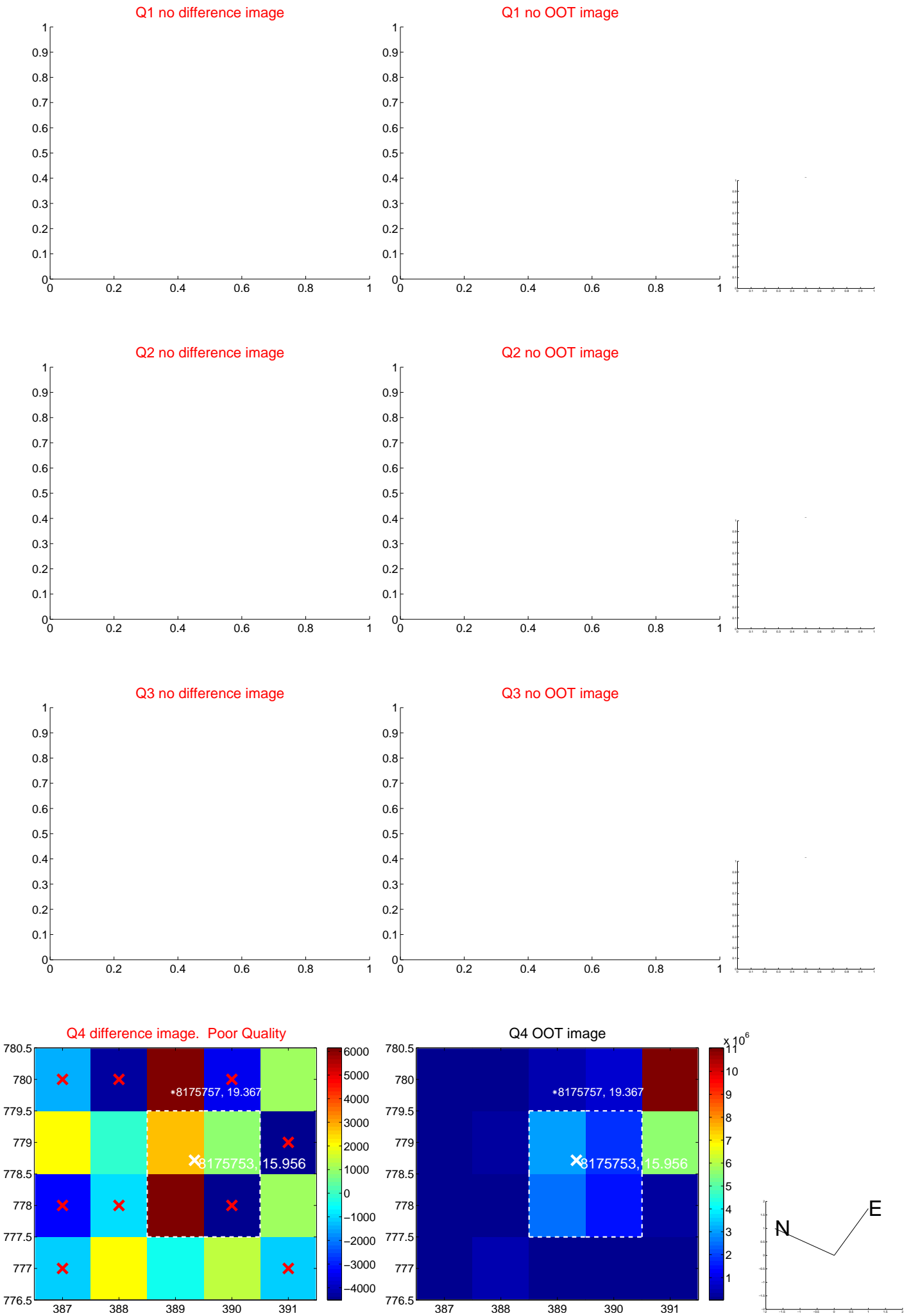
offset from photometric centroids



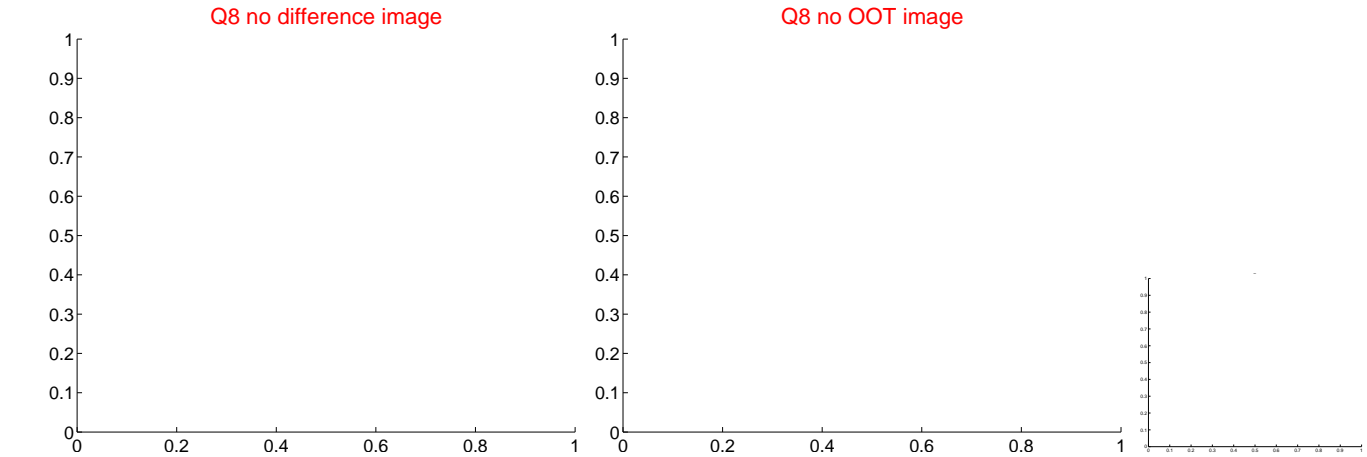
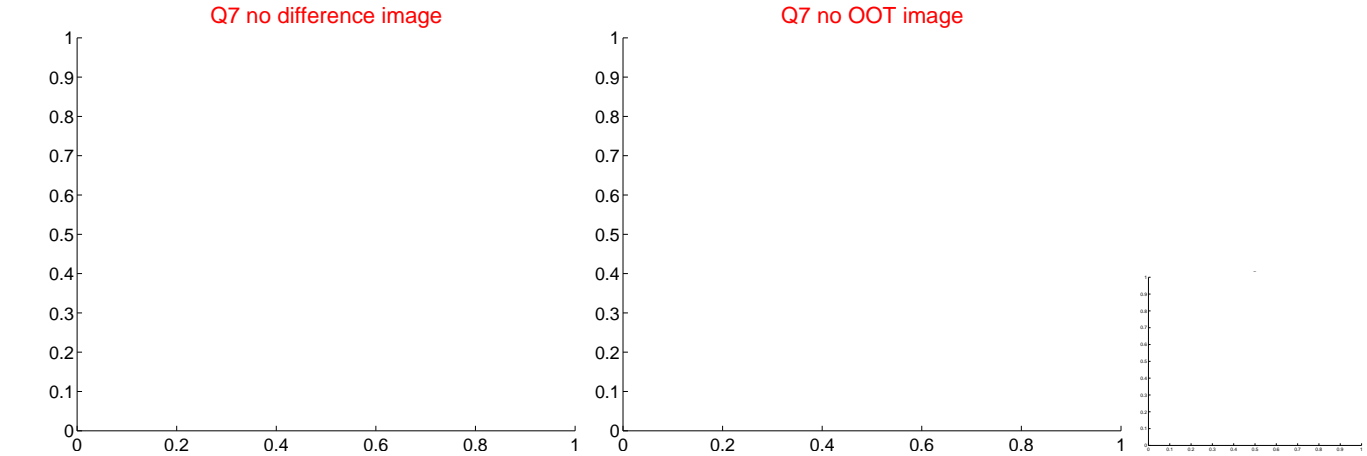
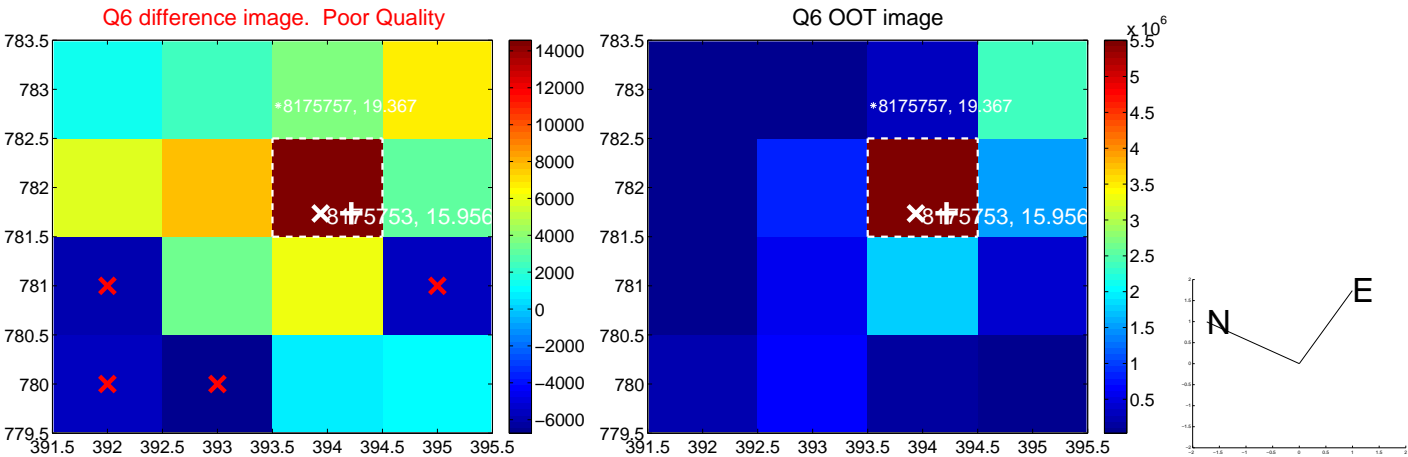
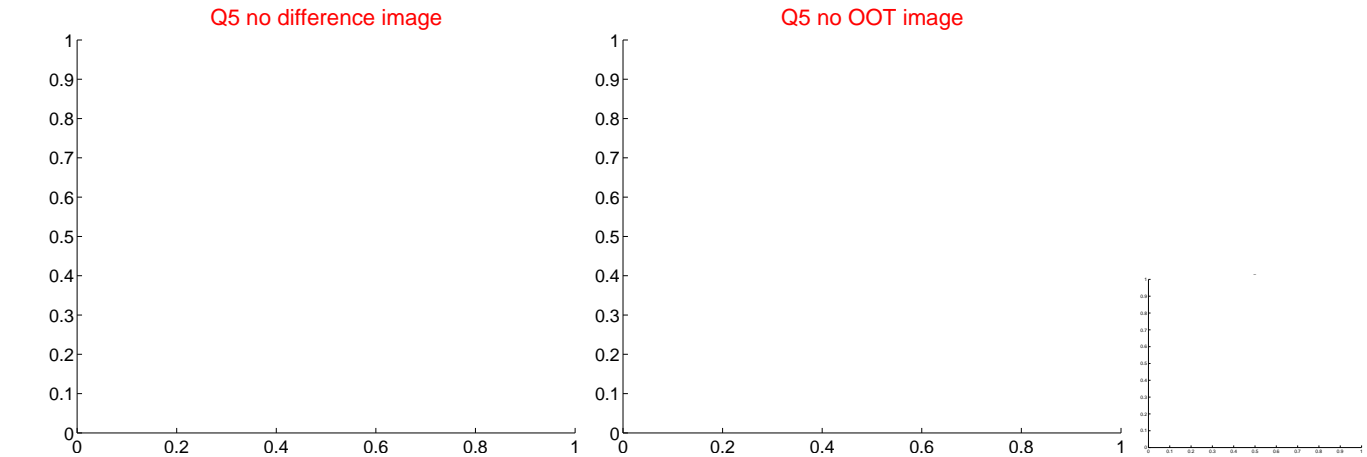
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



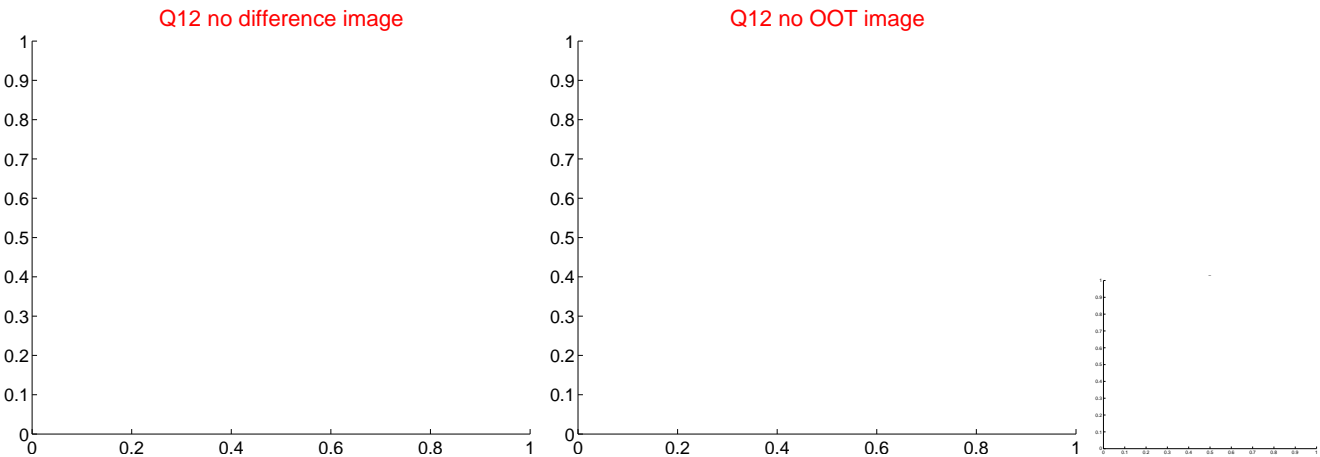
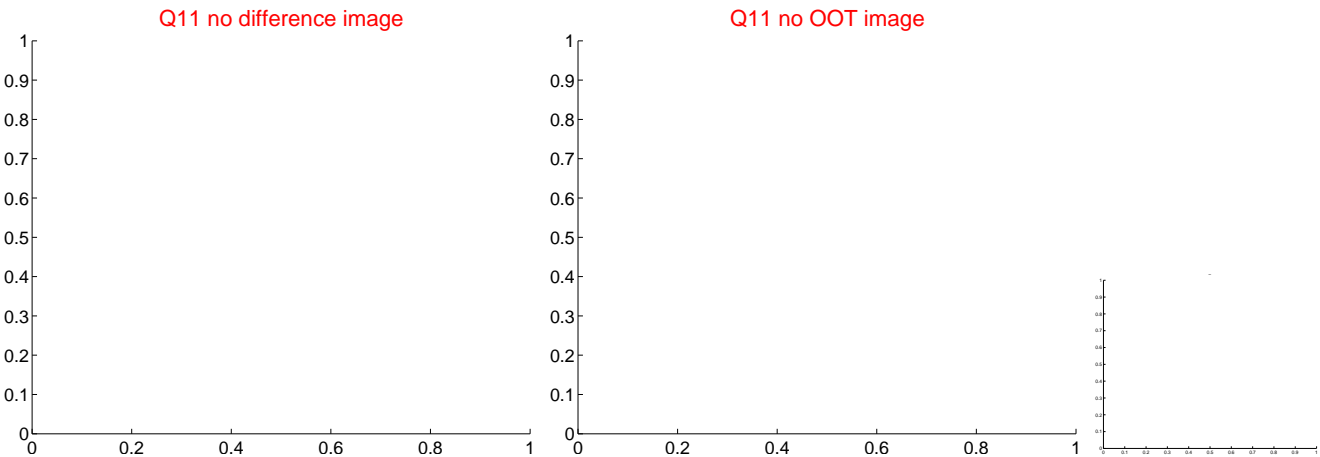
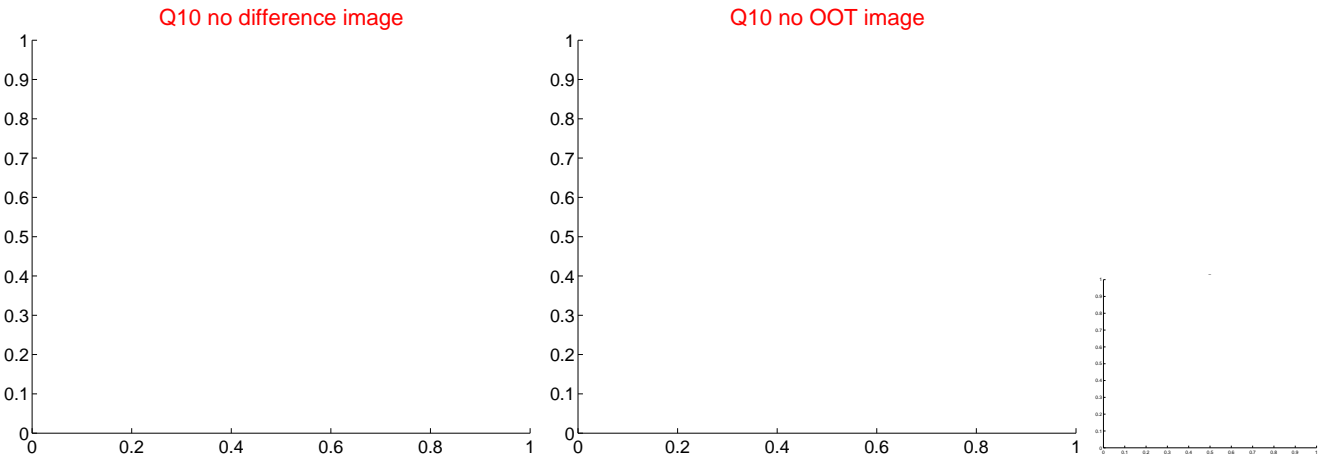
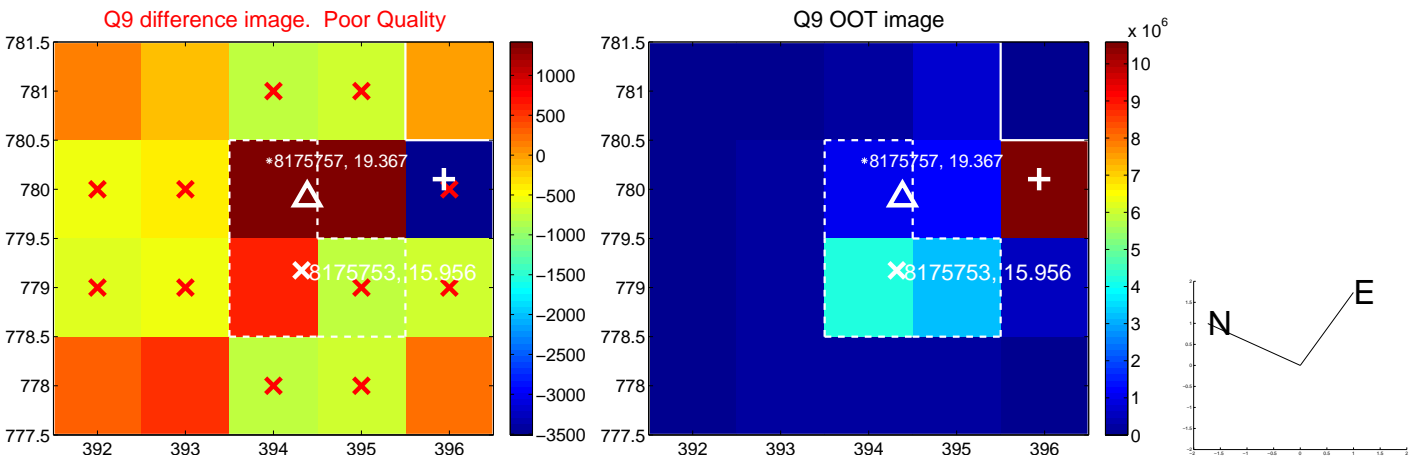
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



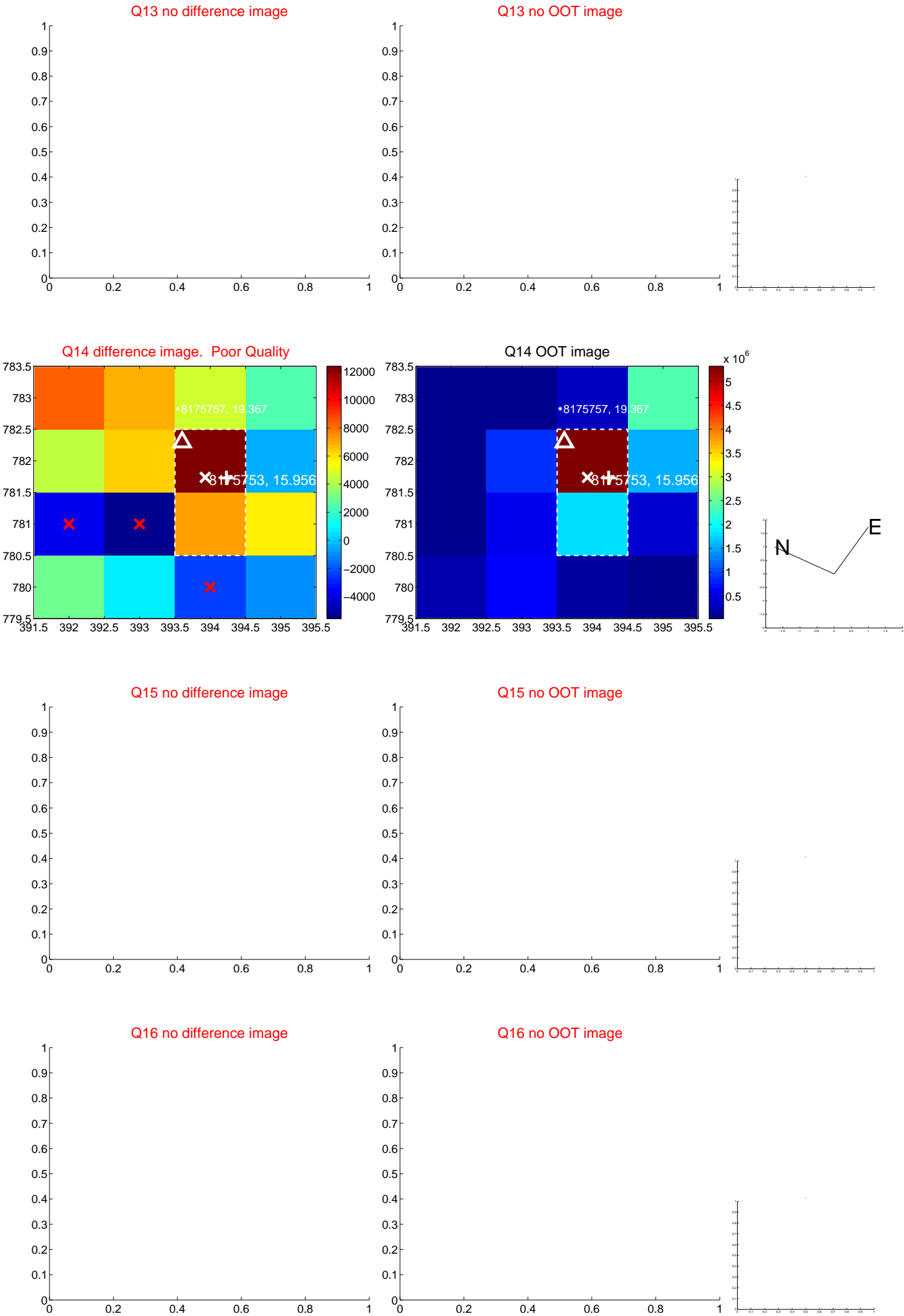
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



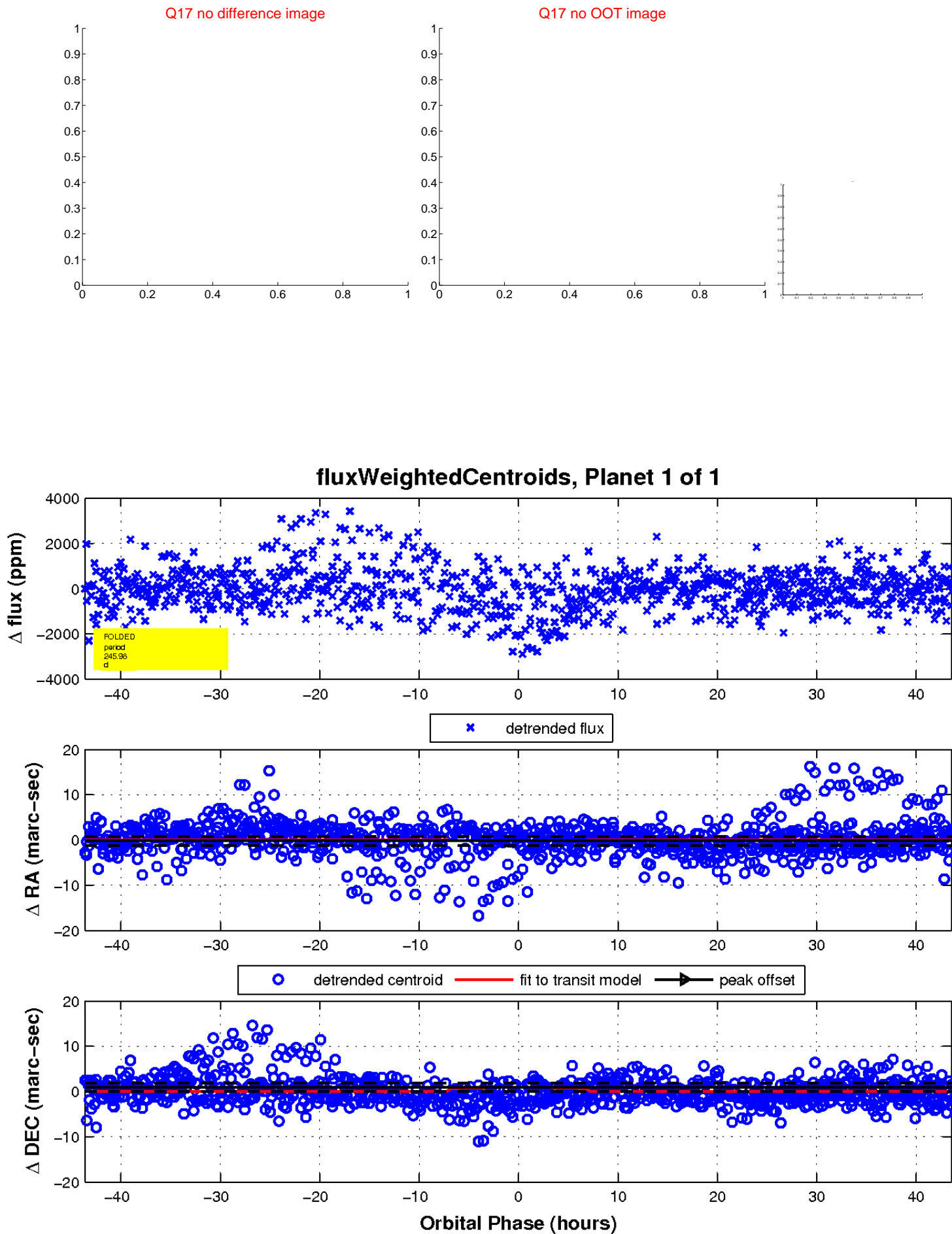
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

