

# KIC 008750155

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008750155-01	OBS	No	453.901404	183.459879	182.1	13.364	11.1	10.2	1.96	5602	3.00	2.56

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008750155-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—MOD_POS_DV—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.

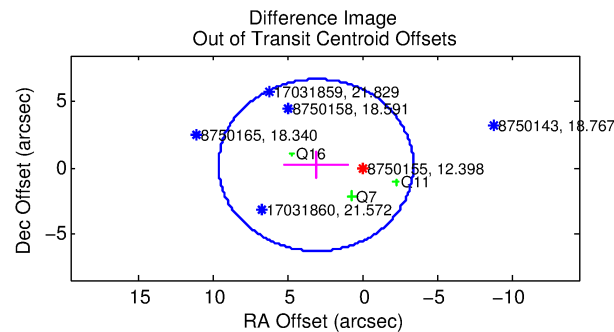
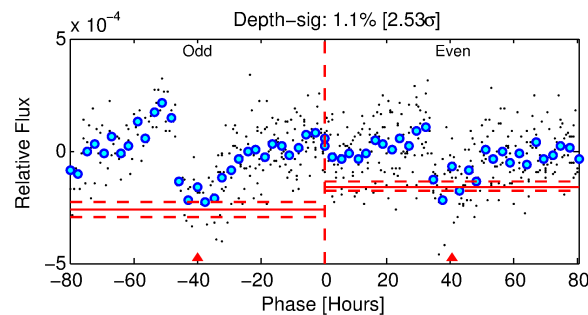
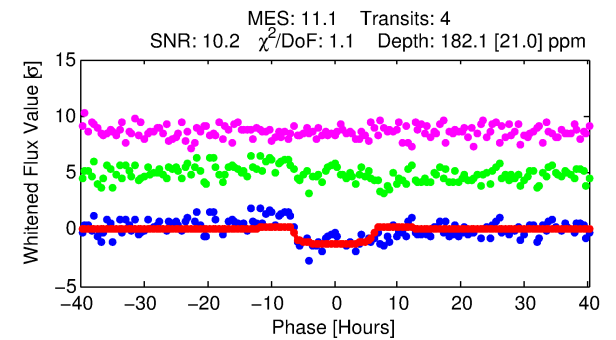
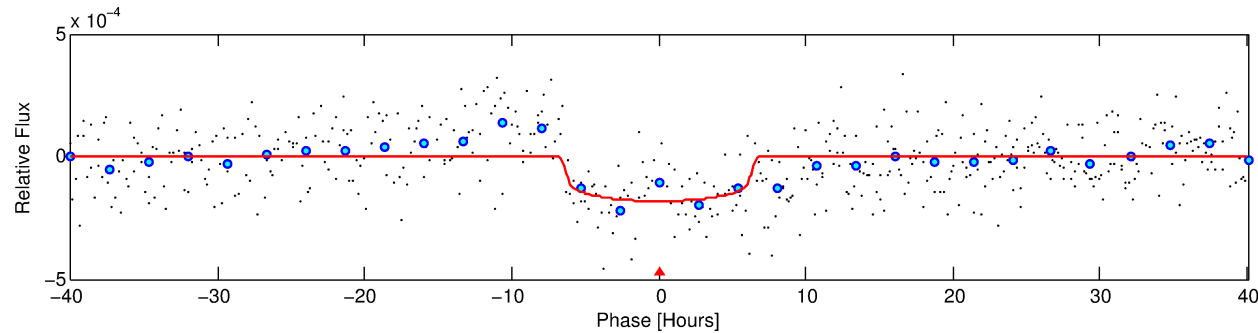
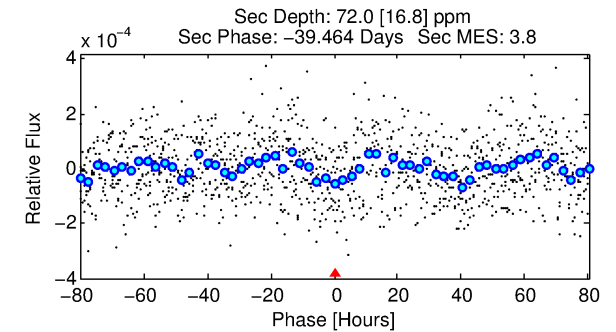
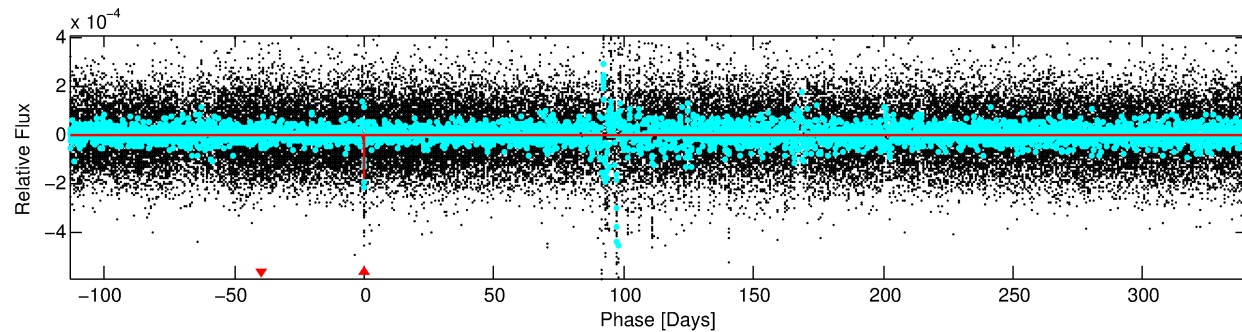
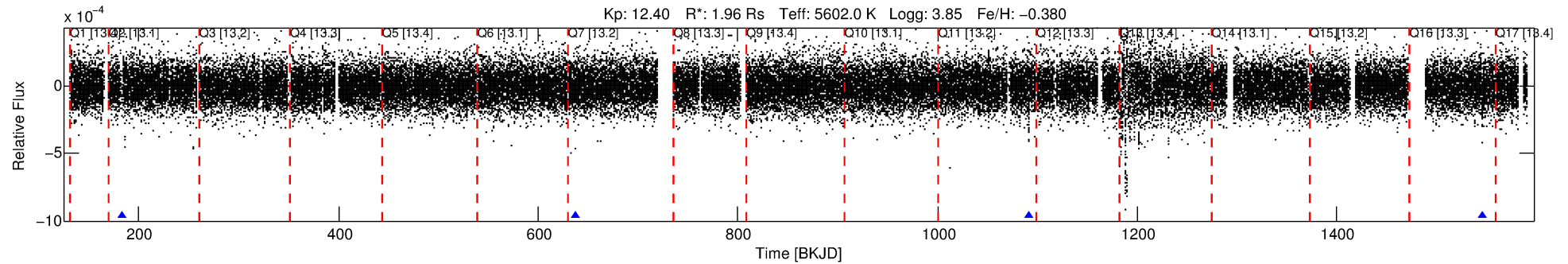
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008750155-01

No Significant Match Found

# DV One-Page Summary

KIC: 8750155 Candidate: 1 of 1 Period: 453.901 d



## DV Fit Results:

Period = 453.90140 [0.00961] d  
Epoch = 183.4599 [0.0204] BKJD  
Rp/R\* = 0.0140 [0.0032]  
a/R\* = 147.24 [152.44]  
b = 0.84 [0.36]  
Seff = 2.56 [1.26]  
Teq = 322 [40] K  
Rp = 3.00 [1.18] Re  
a = 1.1517 [0.3491] AU  
Ag = 5838.53 [4097.52] [1.42σ]  
Teffp = 4358 [574] K [7.01σ]

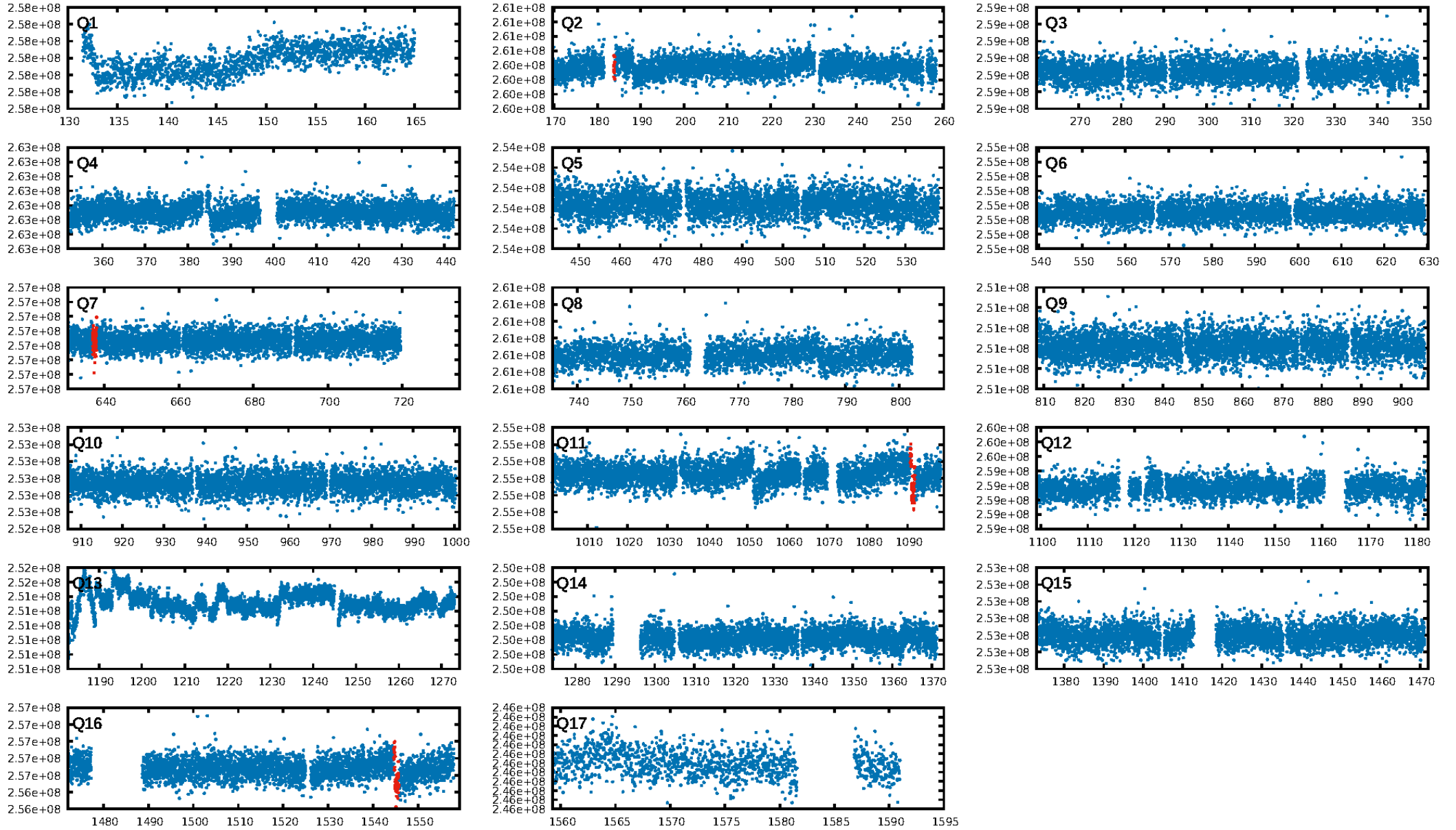
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.24e-13  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -981.8  
Centroid-sig: 96.7%  
Centroid-so: 0.479 arcsec [0.49σ]  
OotOffset-rm: 3.080 arcsec [1.42σ]  
OotOffset-st: 0/2/1/0 [3]  
KicOffset-rm: 2.970 arcsec [1.39σ]  
KicOffset-st: 0/2/1/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

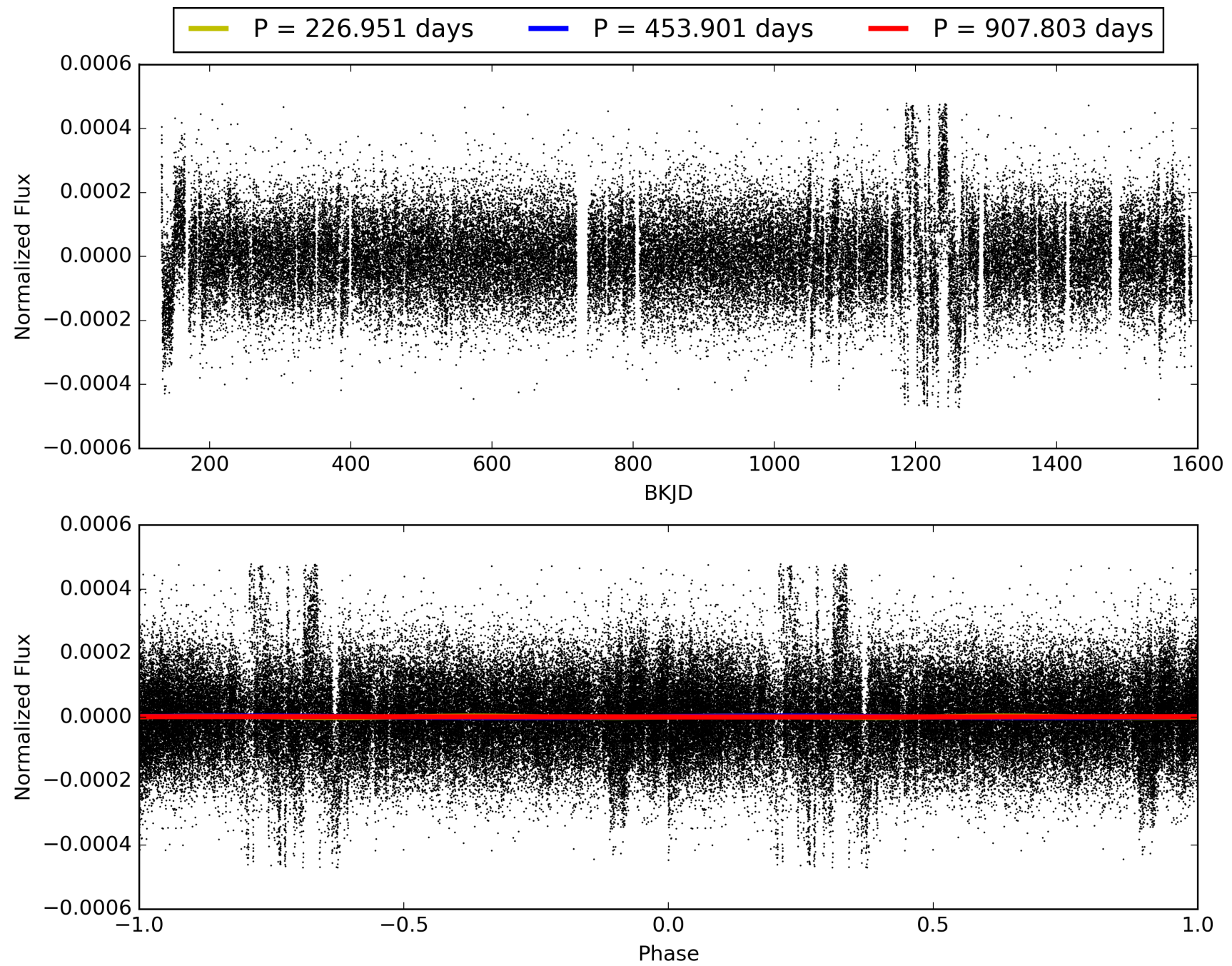
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:34:52 Z

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

# TCE 008750155-01, PDC Light Curves

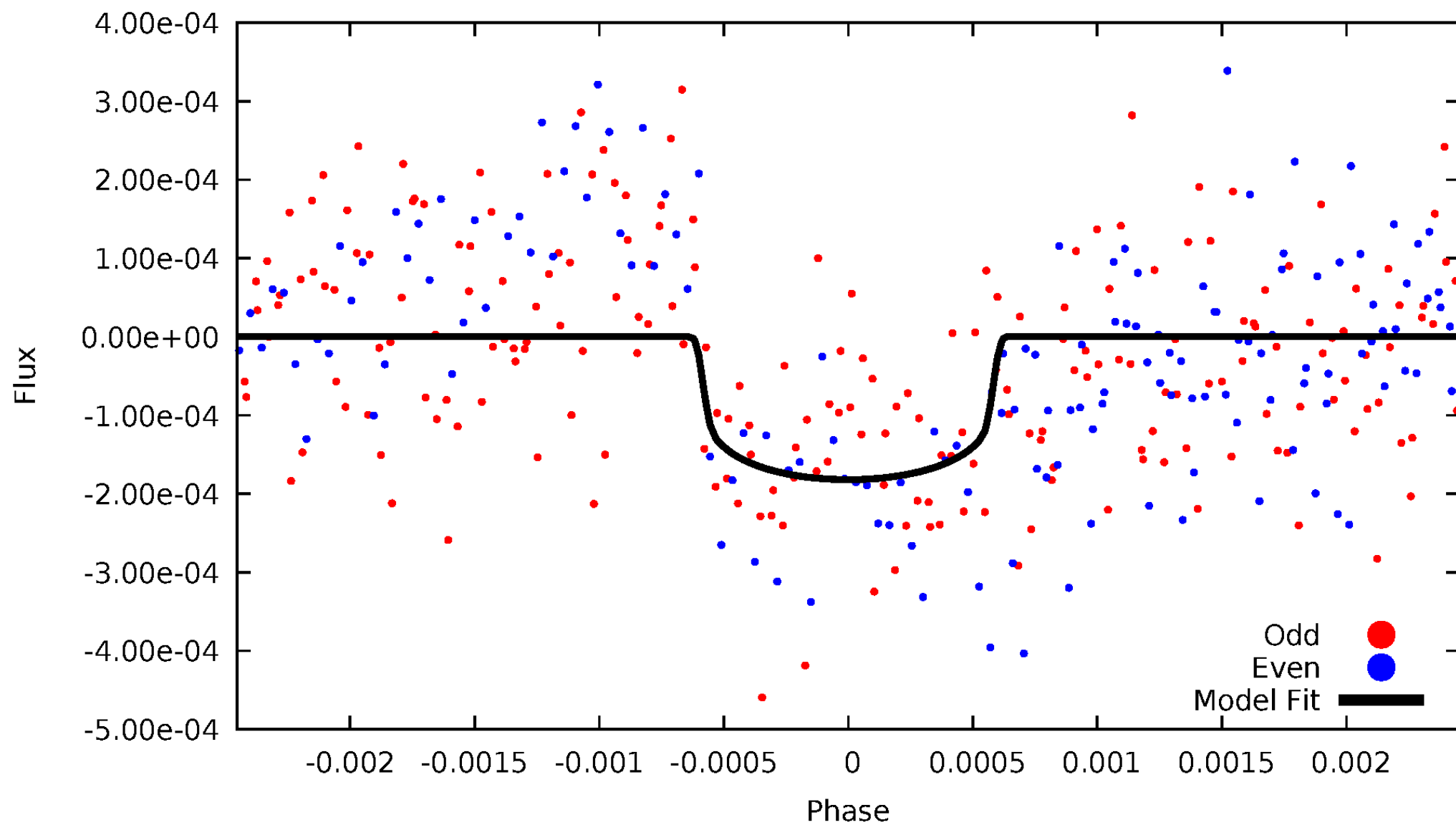


# TCE 008750155-01



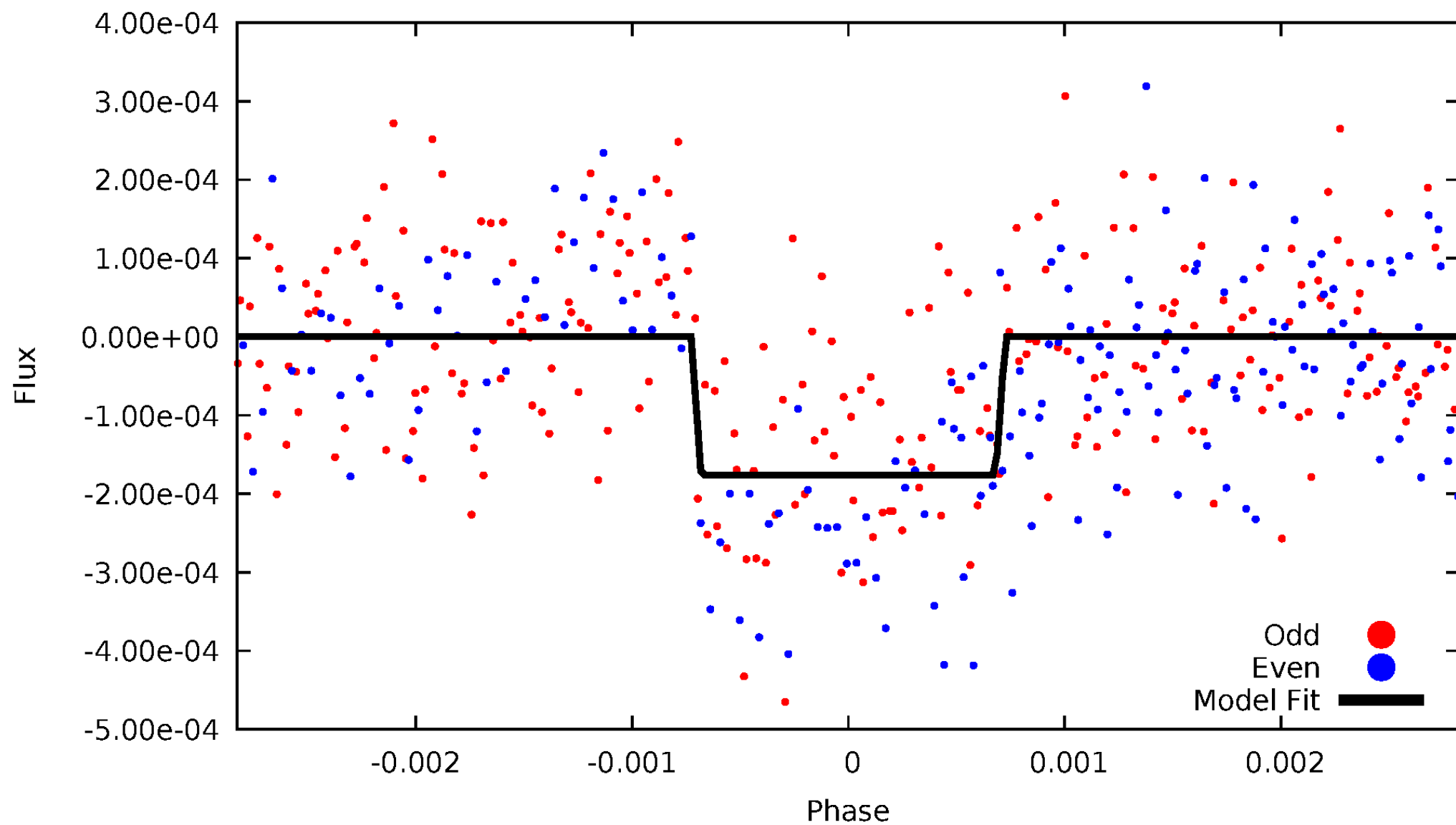
# DV Odd/Even

TCE 008750155-01



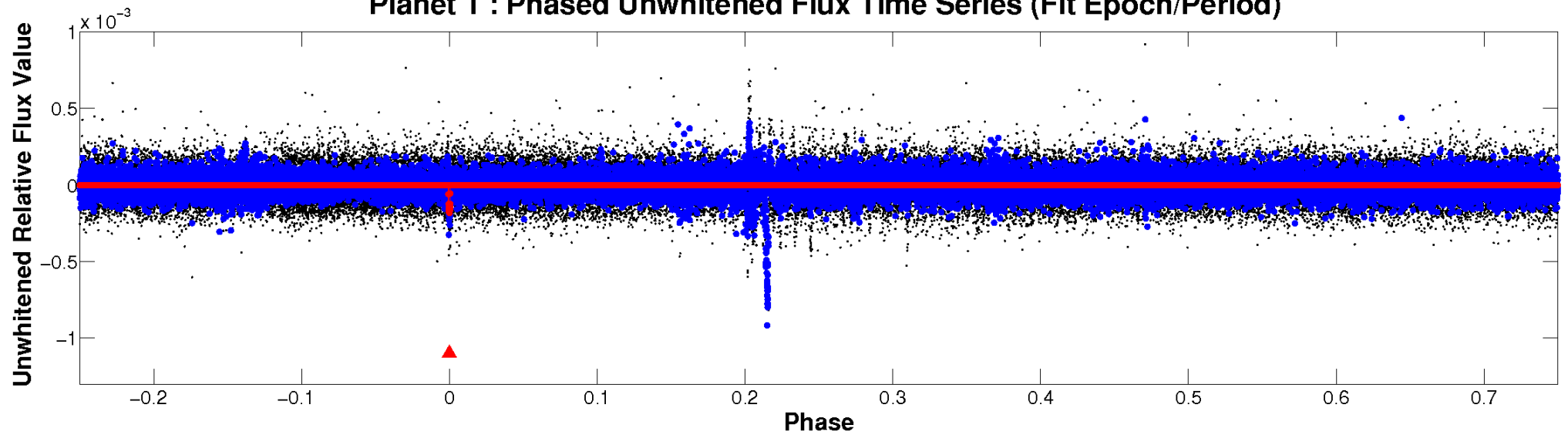
# ALT Odd/Even

TCE 008750155-01

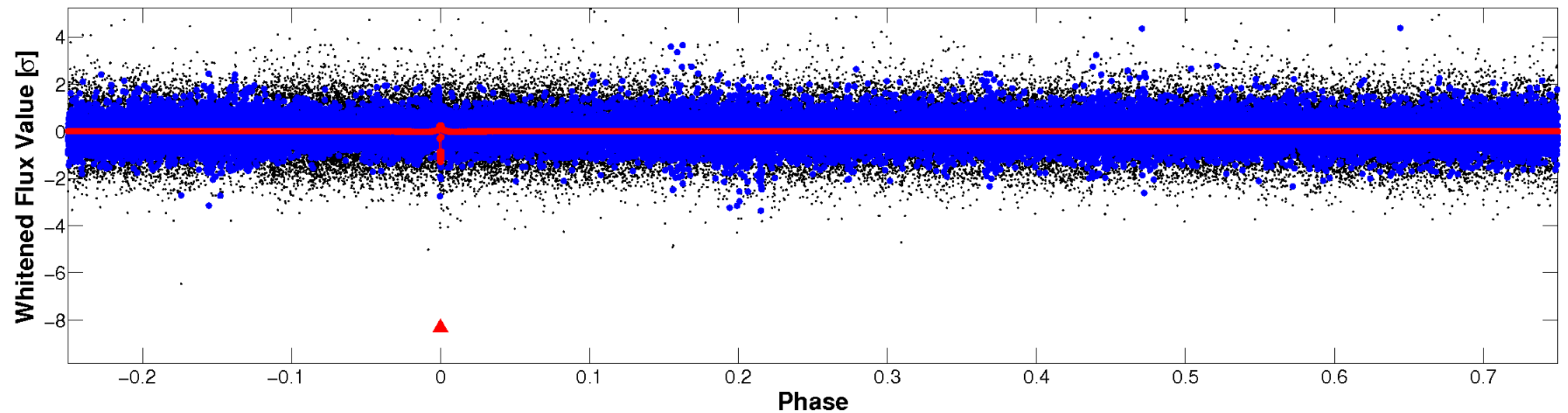


# Non-Whitened Vs. Whitened Light Curve

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



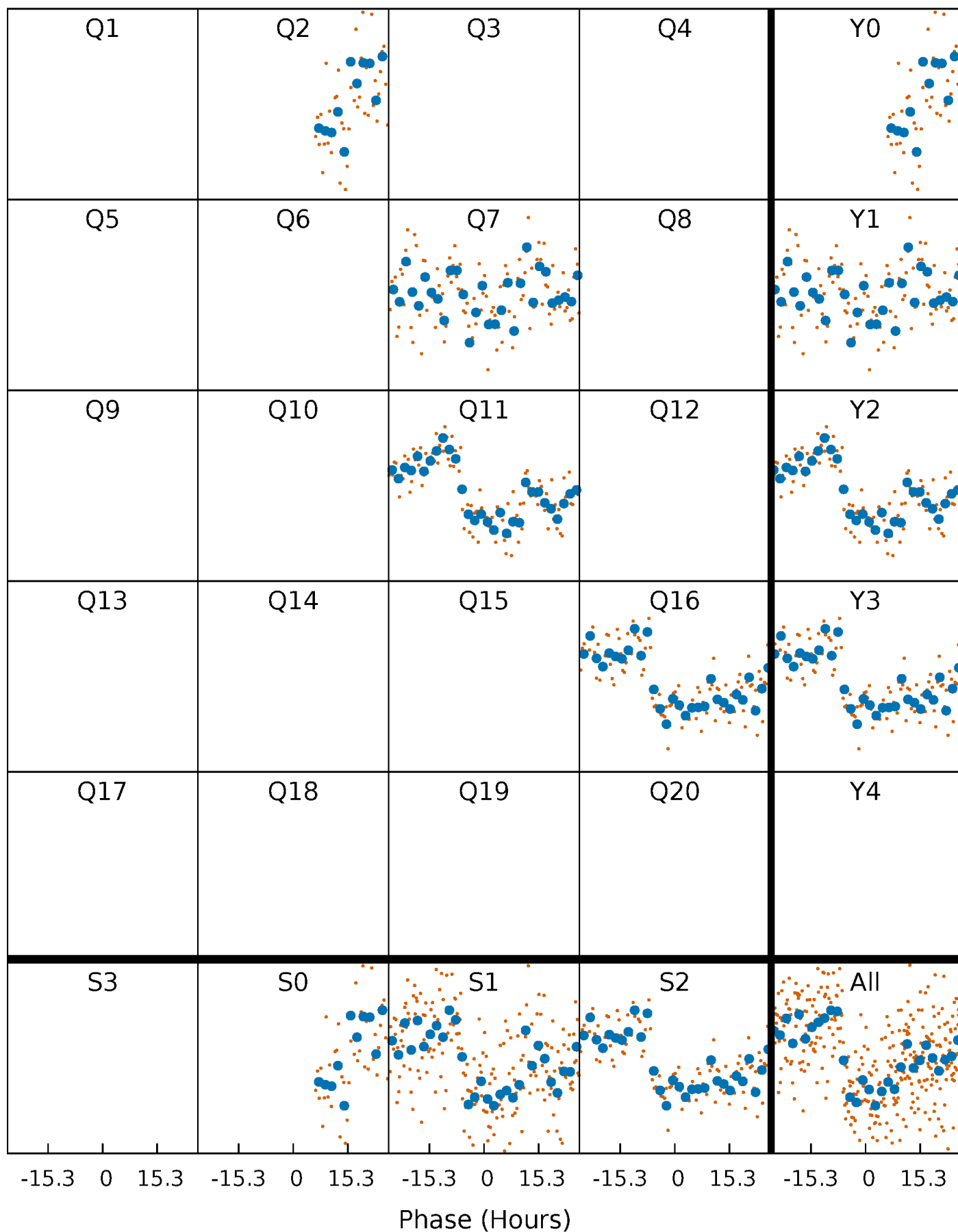
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

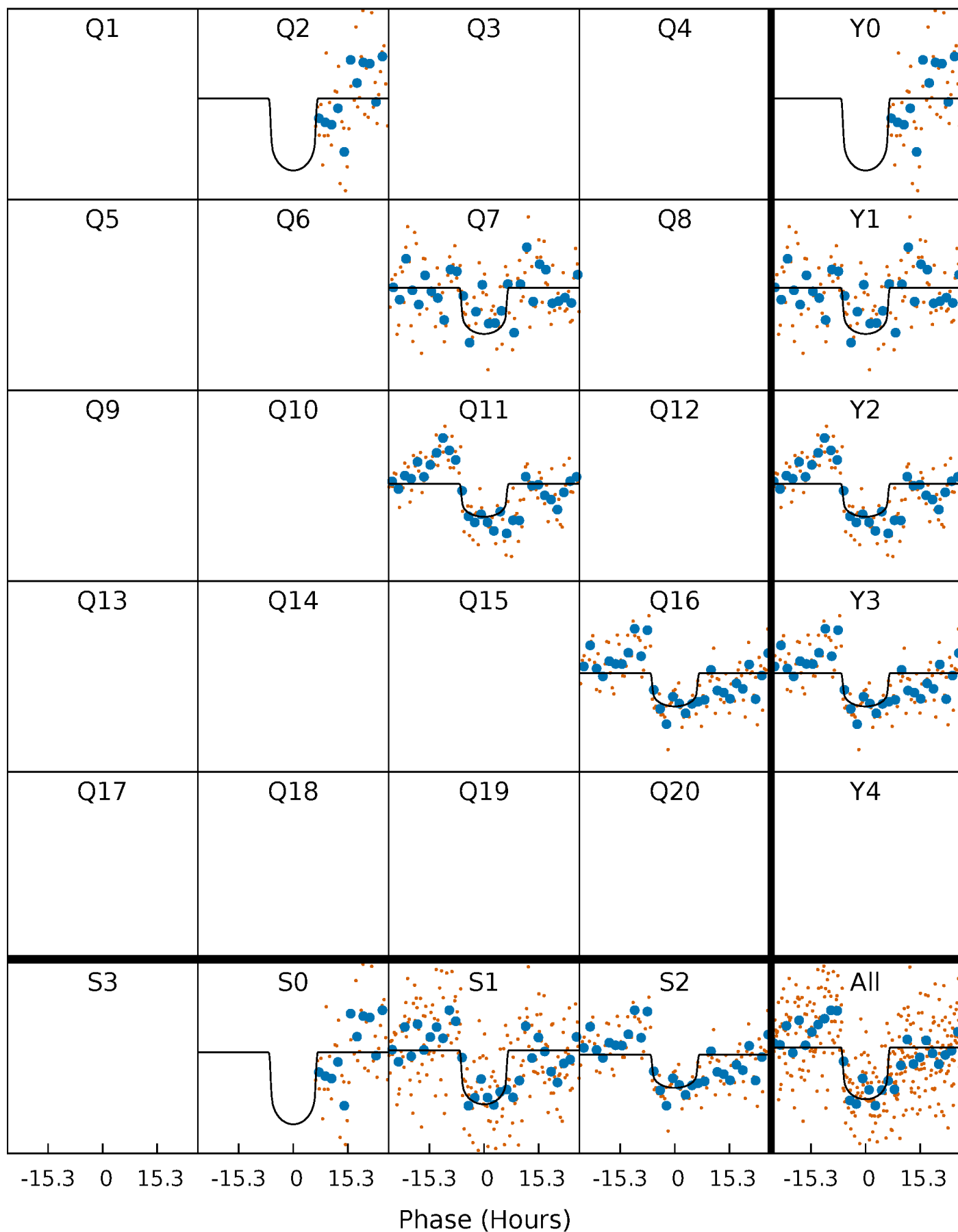
TCE 008750155-01 P=453.901404 Days  $T_0=183.459879$  (BKJD)





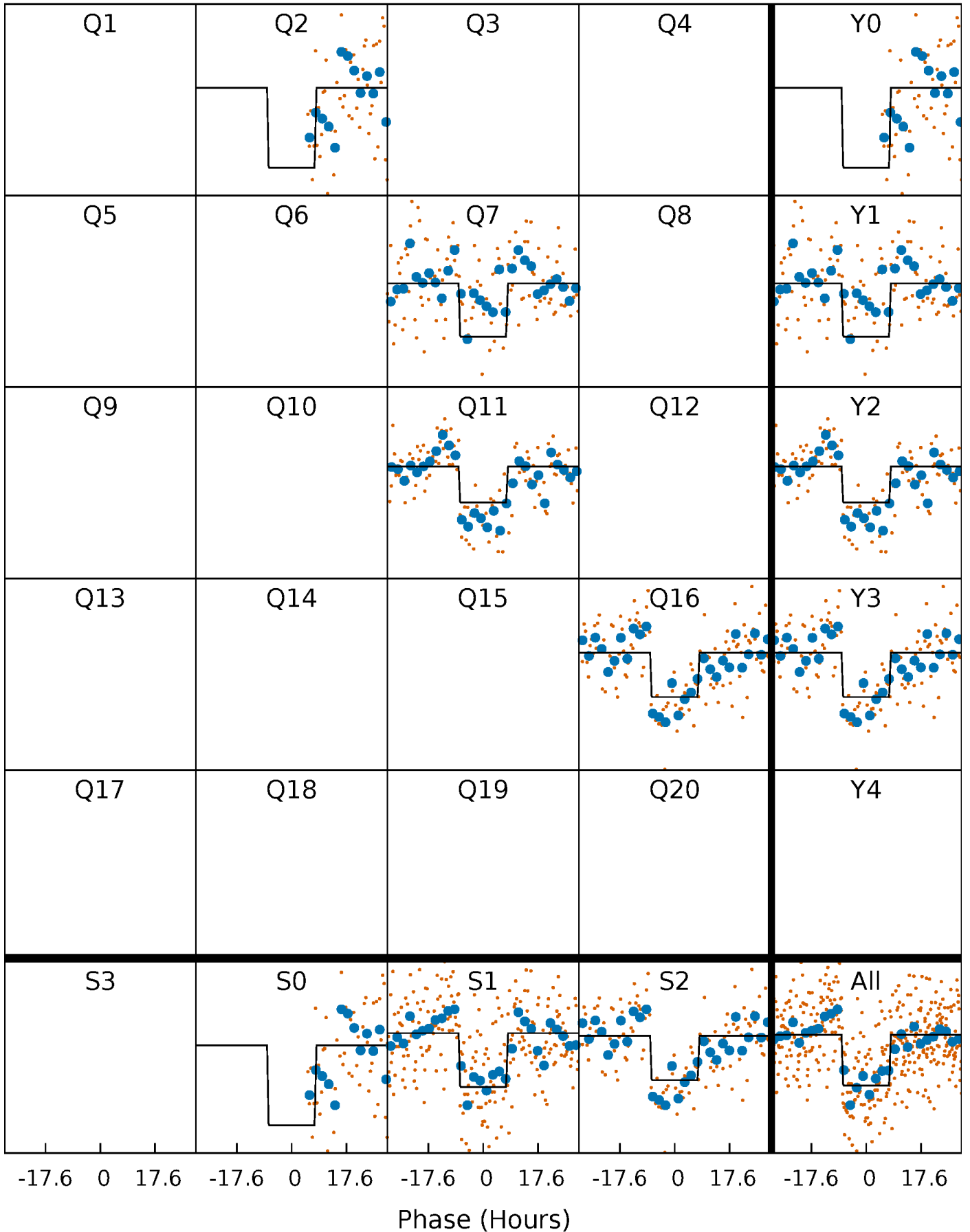
# DV Quarter-Phased Transit Curves

TCE 008750155-01 P=453.901404 Days  $T_0=183.459879$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

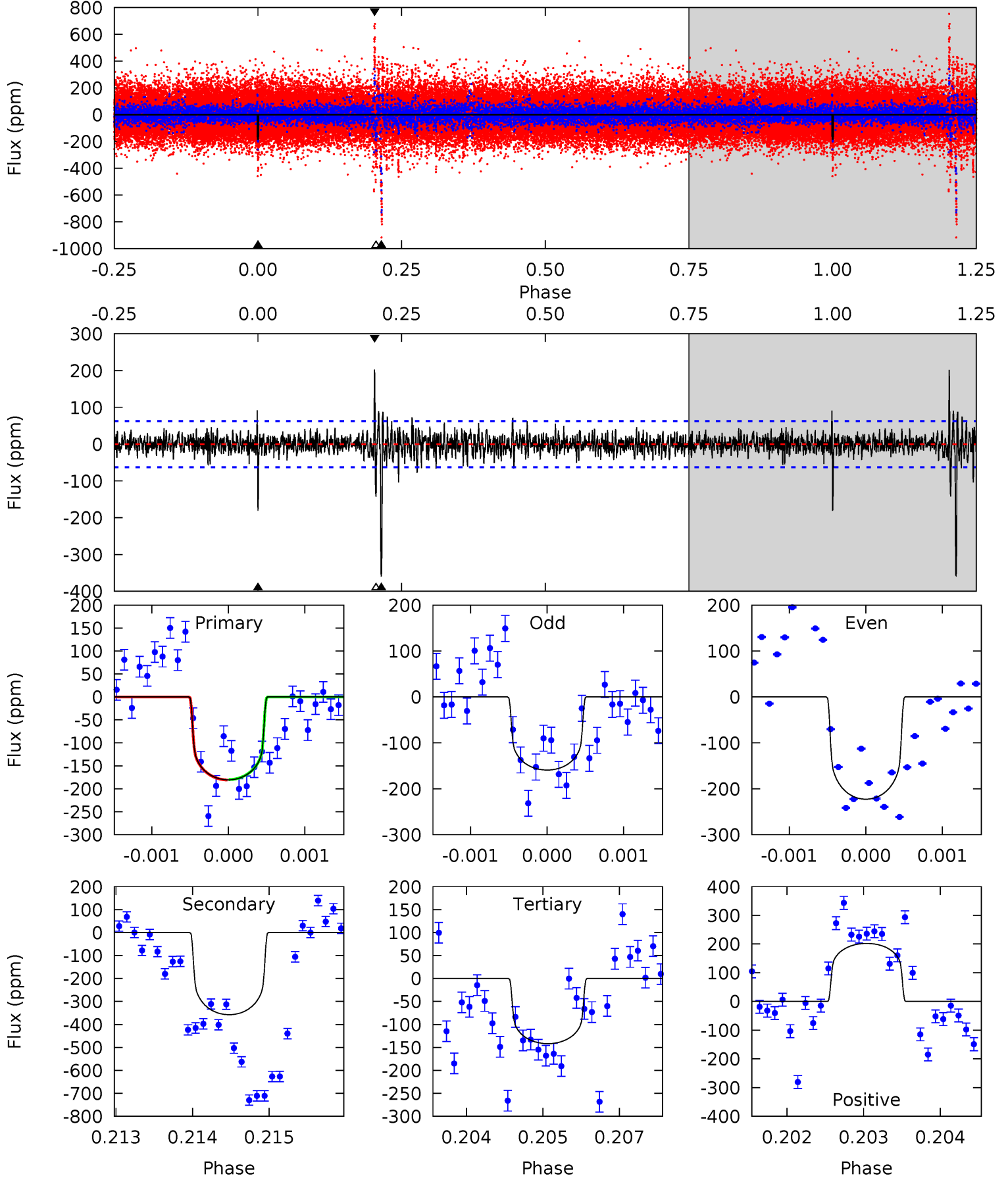
TCE 008750155-01 P=453.897479 Days  $T_0=183.525459$  (BKJD)



# DV Model-Shift Uniqueness Test

008750155-01, P = 453.901404 Days, E = 183.459879 Days

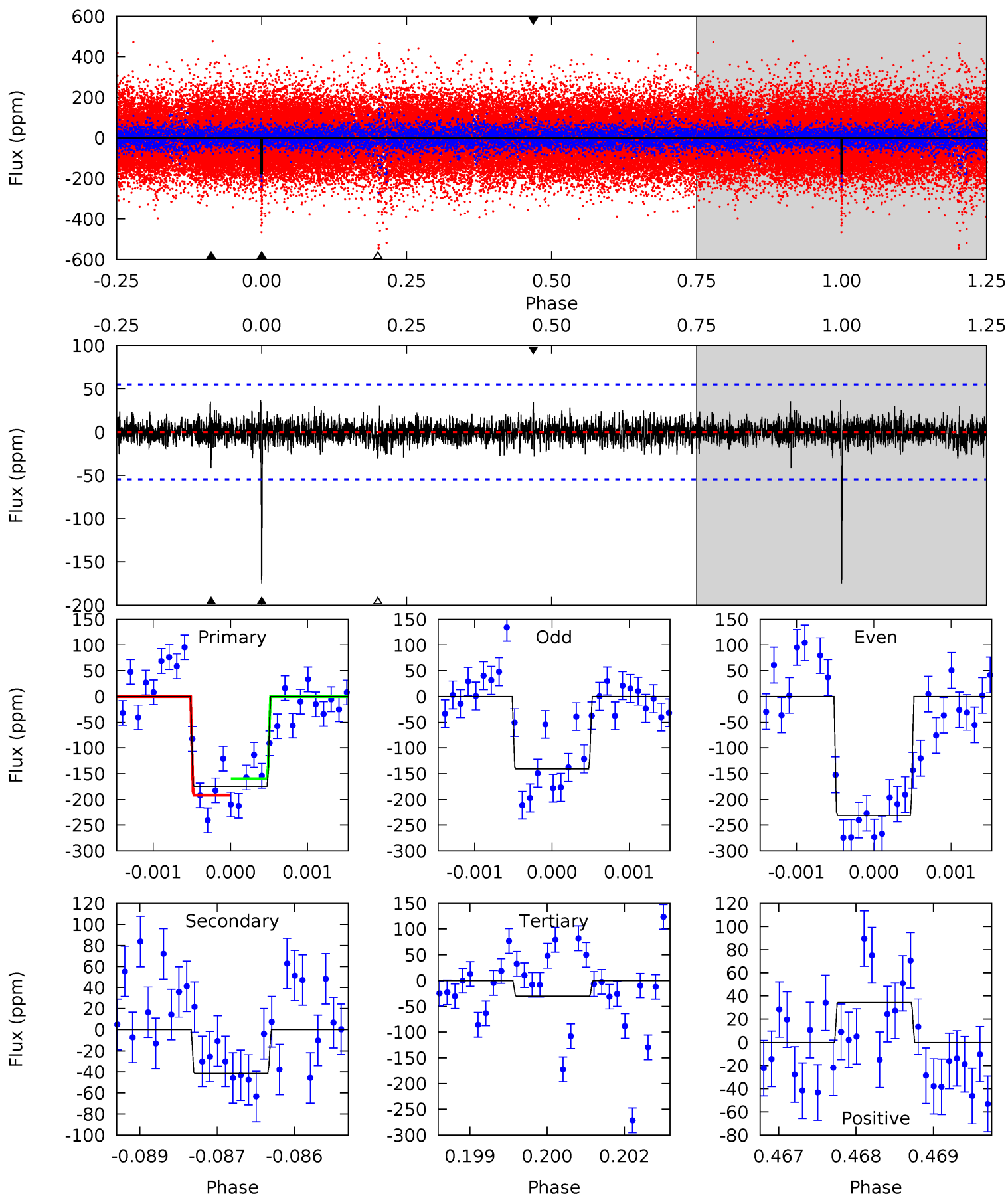
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	30.9	12.3	17.5	5.41	3.23	1.74	3.33	-1.87	18.6	13.4	2.57	0.94	0.36	0.04



# Alt Model-Shift Uniqueness Test

008750155-01,  $P = 453.897479$  Days,  $E = 183.525459$  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
17.2	4.09	2.99	3.39	5.39	3.19	0.81	14.2	13.8	1.10	0.70	4.30	1.03	0.17	1.55



### Stellar Parameters For KIC 008750155

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5602^{+169}_{-141}$	$3.848^{+0.279}_{-0.129}$	$-0.380^{+0.350}_{-0.200}$	$1.961^{+0.473}_{-0.631}$	$0.989^{+0.166}_{-0.124}$	$0.185^{+0.354}_{-0.076}$
	+3%/-3%	+7%/-3%	+92%/-53%	+24%/-32%	+17%/-13%	+191%/-41%
Source	PHO1	FLK73	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 008750155-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-358 \pm 12$	$2.91^{+0.85}_{-0.76}$	$448^{+30}_{-40}$	$6527^{+909}_{-666}$	$31520^{+25573}_{-12477}$
Alt.	$-42 \pm 10$	$2.70^{+0.86}_{-0.71}$	$445^{+32}_{-36}$	$4187^{+491}_{-382}$	$4125^{+3625}_{-1794}$

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

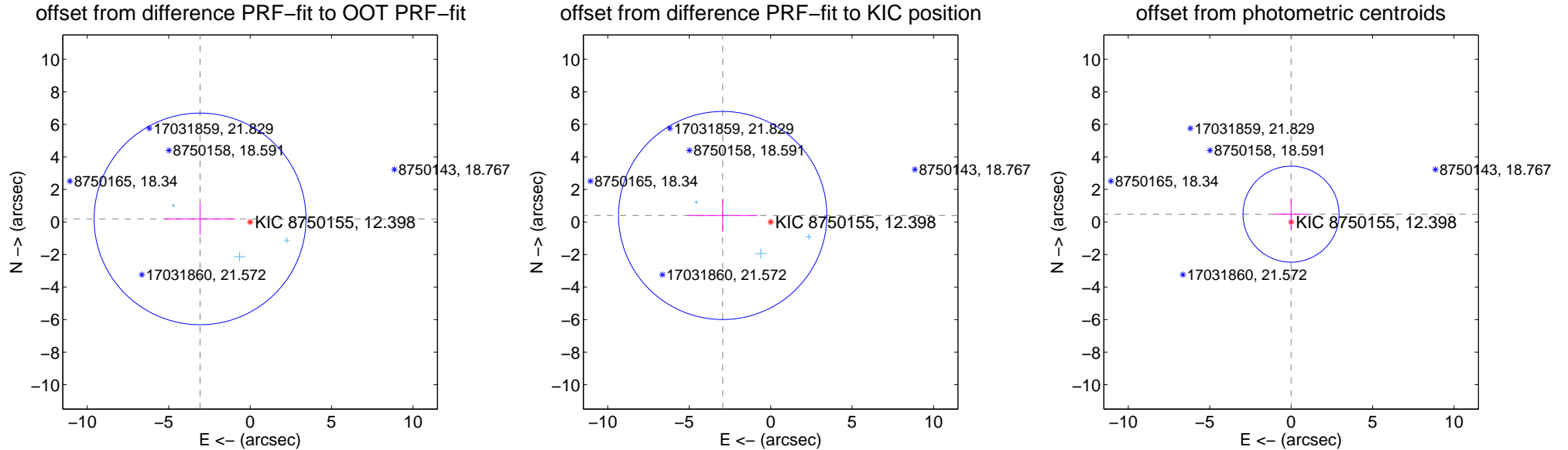
## DV Centroid Data

Supplemental centroid analysis for 008750155-01. Kepler magnitude: 12.40. Transit SNR 10.18

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.080 \pm 2.168$	1.42	$3.074 \pm 2.171$	$0.188 \pm 0.999$
PRF-fit source offset from KIC position	$2.970 \pm 2.131$	1.39	$2.943 \pm 2.146$	$0.399 \pm 1.000$
photometric centroid source offset	$0.48 \pm 0.98$	0.49	$0.01 \pm 1.08$	$0.48 \pm 0.98$



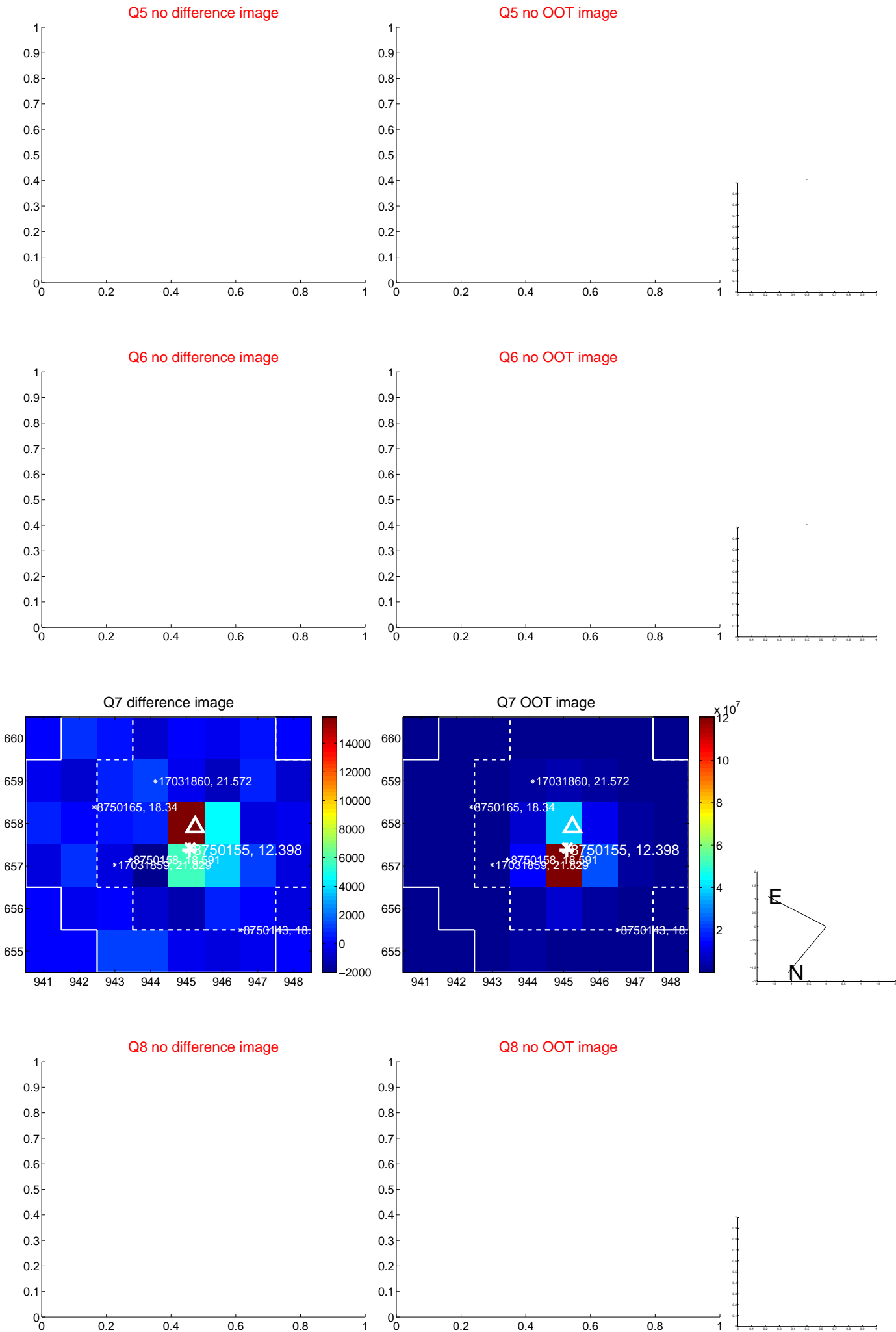
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

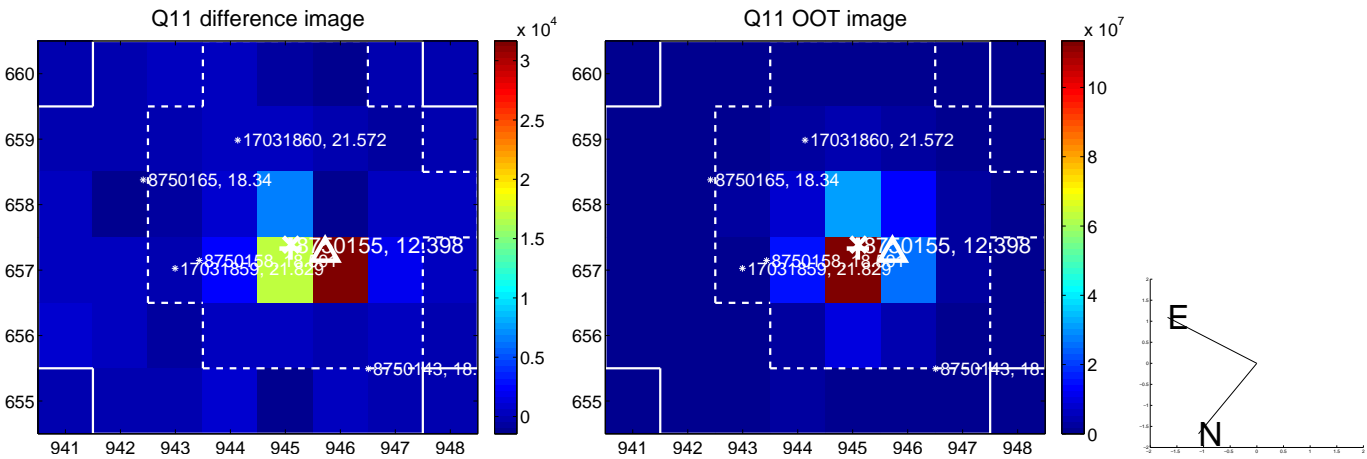




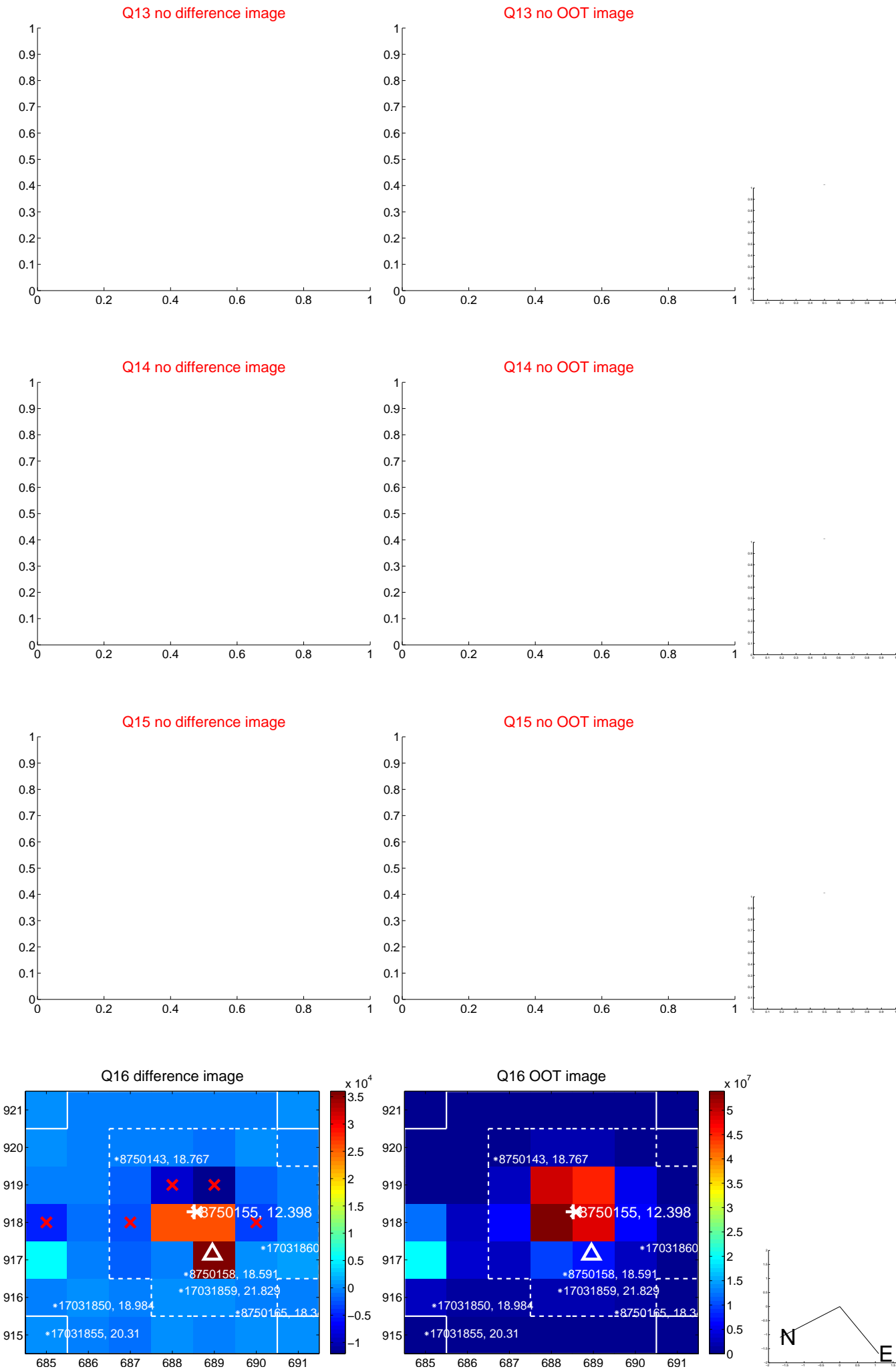
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



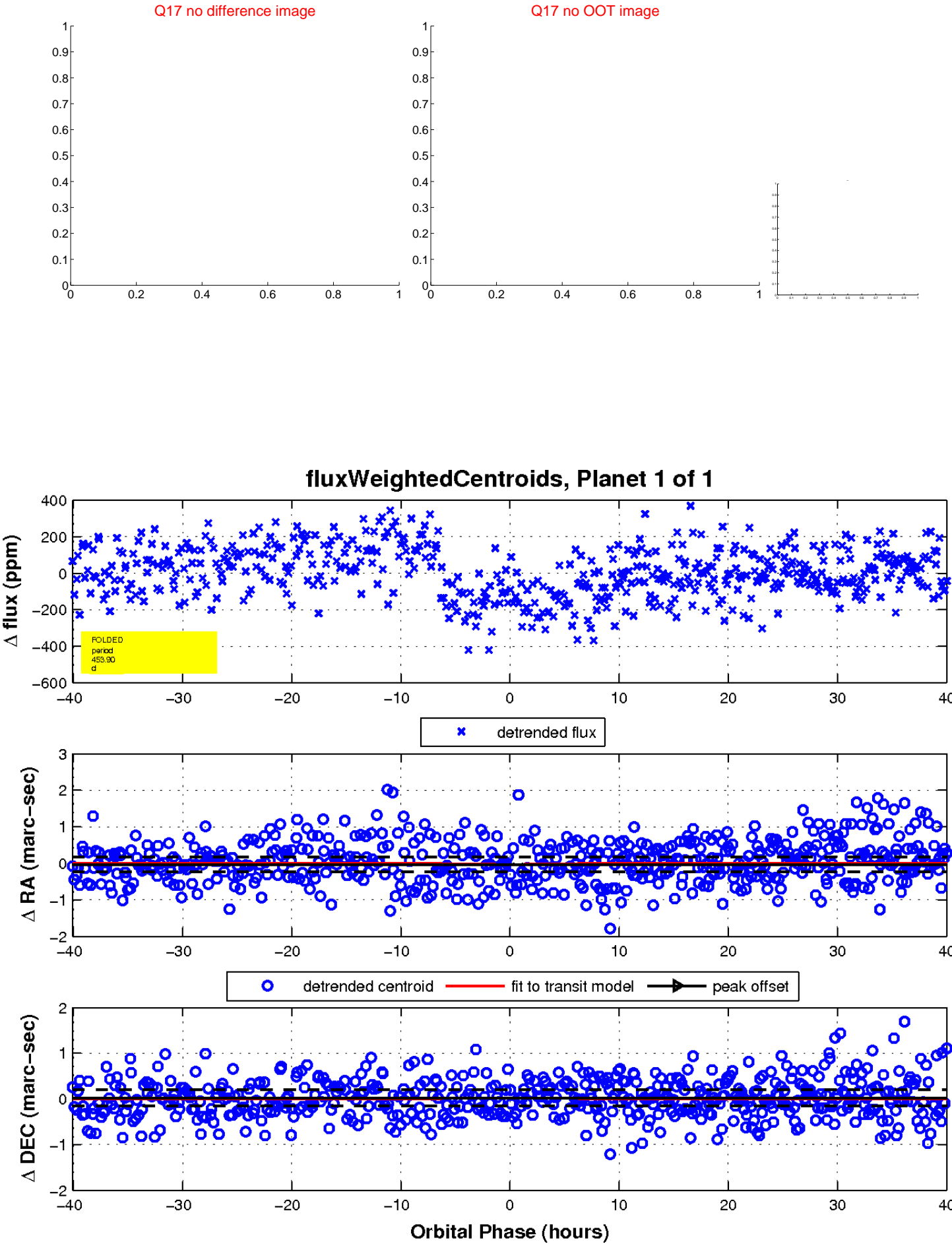
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

