

# KIC 008555779

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008555779-01	OBS	No	245.382679	184.784704	599.4	12.131	7.6	7.9	1.22	6621	3.23	3.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008555779-01	OBS	FP	0.07	1	0	0	0	INDIV_TRANS_MARSHALL—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.

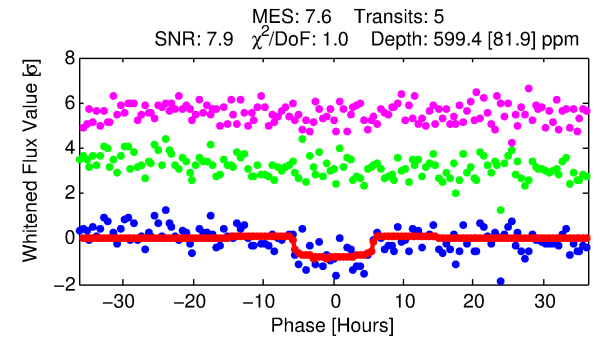
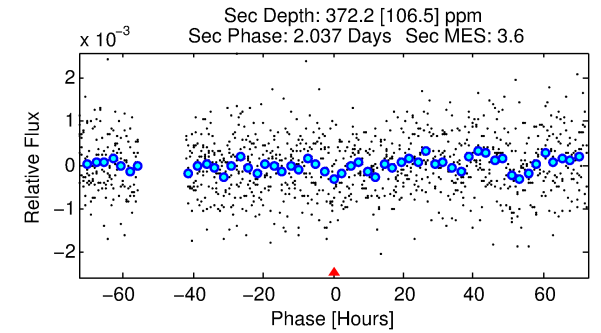
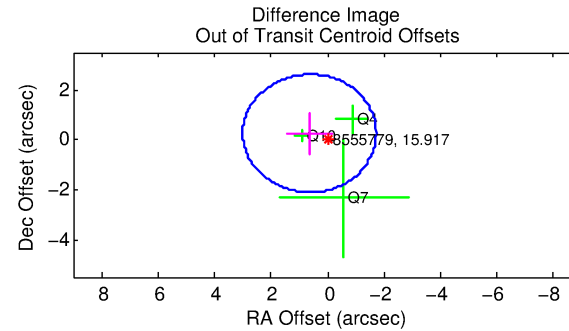
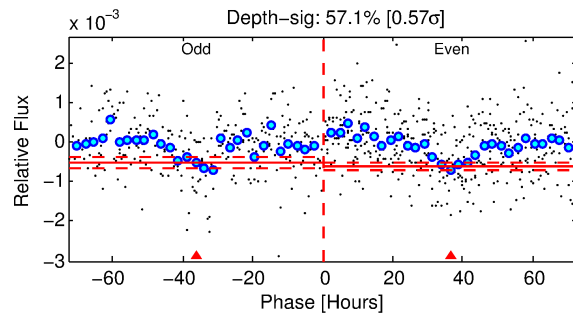
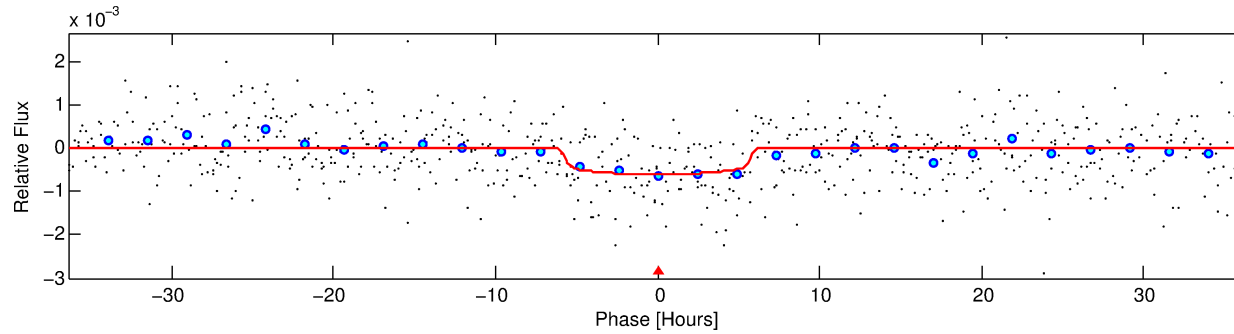
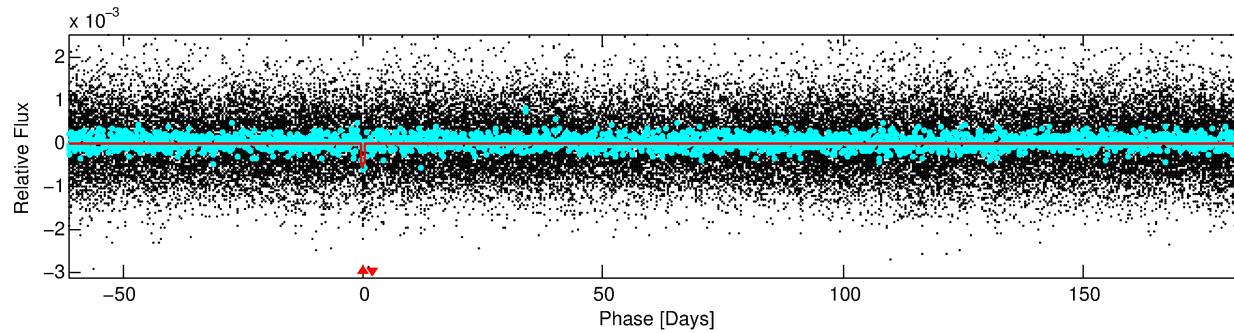
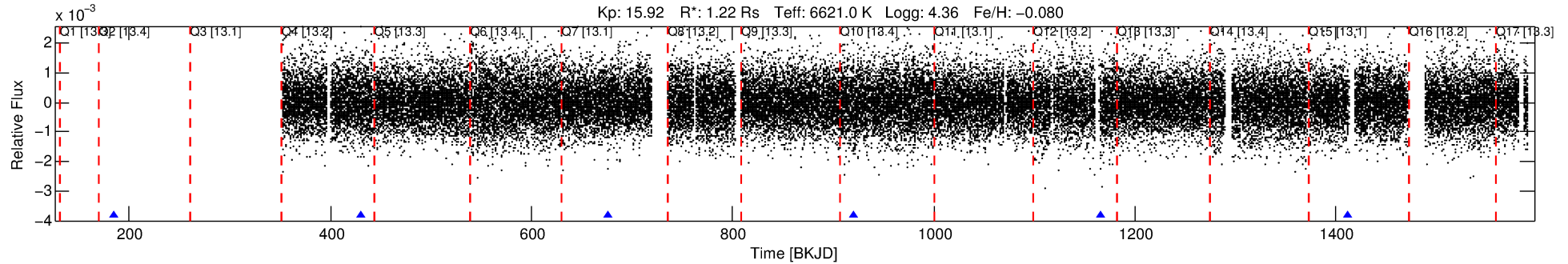
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008555779-01

No Significant Match Found

# DV One-Page Summary

KIC: 8555779 Candidate: 1 of 1 Period: 245.383 d



## DV Fit Results:

Period = 245.38268 [0.00921] d  
Epoch = 184.7847 [0.0311] BKJD  
Rp/R\* = 0.0242 [0.0081]  
a/R\* = 110.10 [197.37]  
b = 0.74 [1.12]  
Seff = 3.79 [1.38]  
Teq = 356 [32] K  
Rp = 3.22 [1.42] Re  
a = 0.8221 [0.1922] AU  
Ag = 13306.18 [10625.54] [1.25 $\sigma$ ]  
Teffp = 5906 [1098] K [5.05 $\sigma$ ]

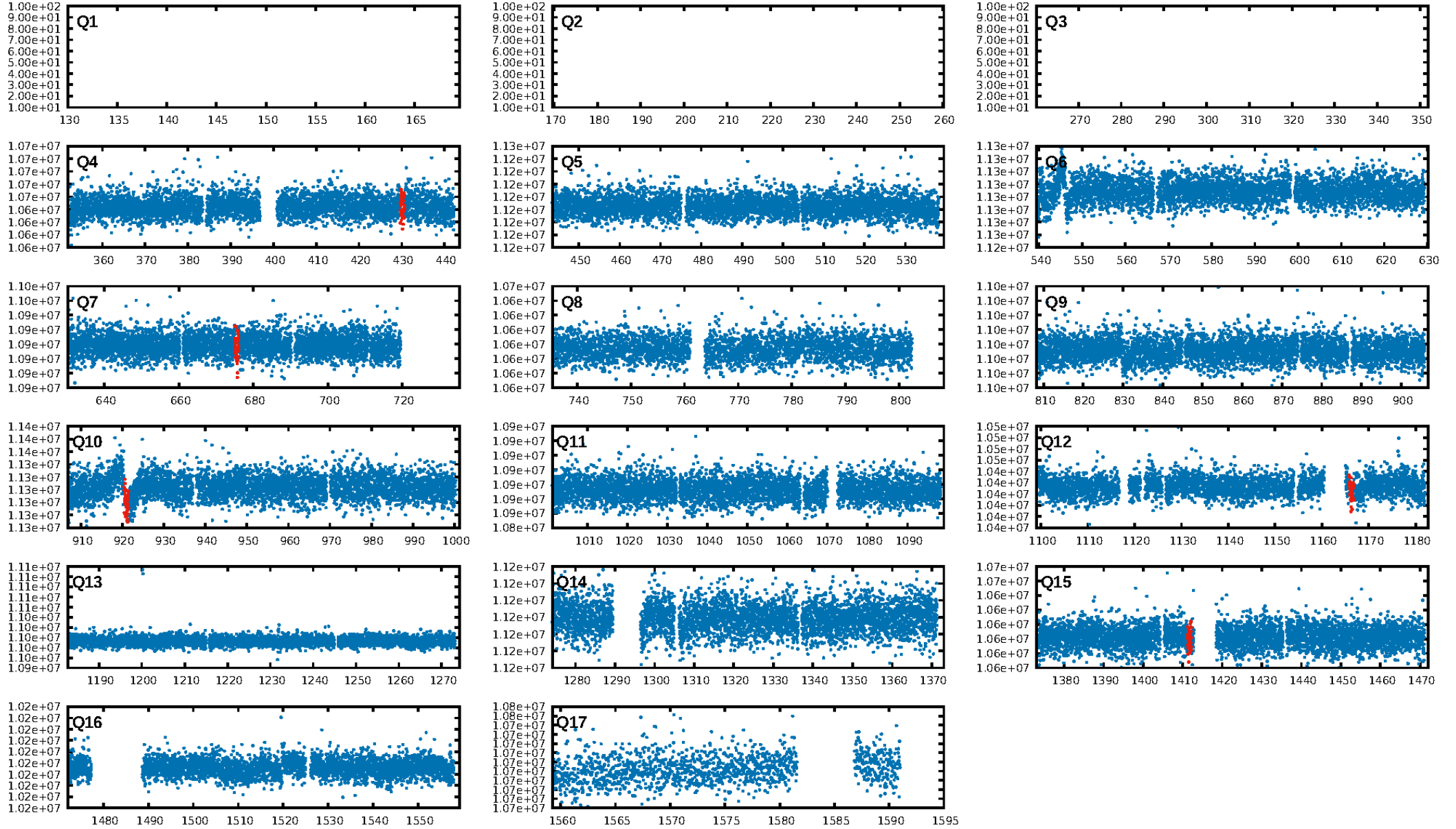
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.5%  
ModelChiSquareGof-sig: 99.8%  
Bootstrap-pfa: 4.70e-13  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 28.61  
Centroid-sig: 33.4%  
Centroid-so: 1.927 arcsec [1.07 $\sigma$ ]  
OotOffset-rm: 0.687 arcsec [0.87 $\sigma$ ]  
OotOffset-st: 1/1/1/0 [3]  
KicOffset-rm: 0.742 arcsec [0.94 $\sigma$ ]  
KicOffset-st: 1/1/1/0 [3]  
DiffImageQuality-fgm: 0.00 [0/3]  
DiffImageOverlap-fno: 1.00 [3/3]

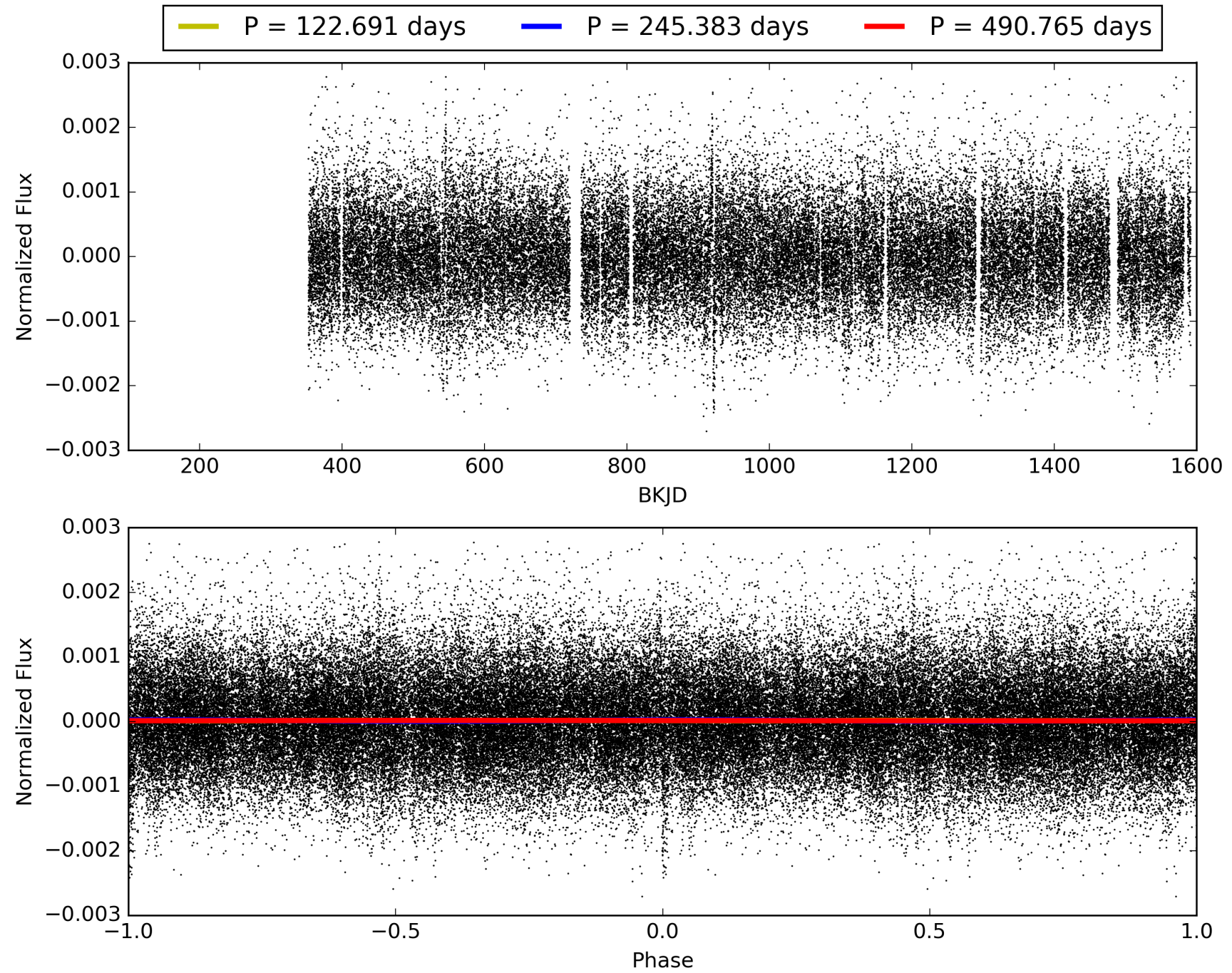
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:53:57 Z

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

# TCE 008555779-01, PDC Light Curves

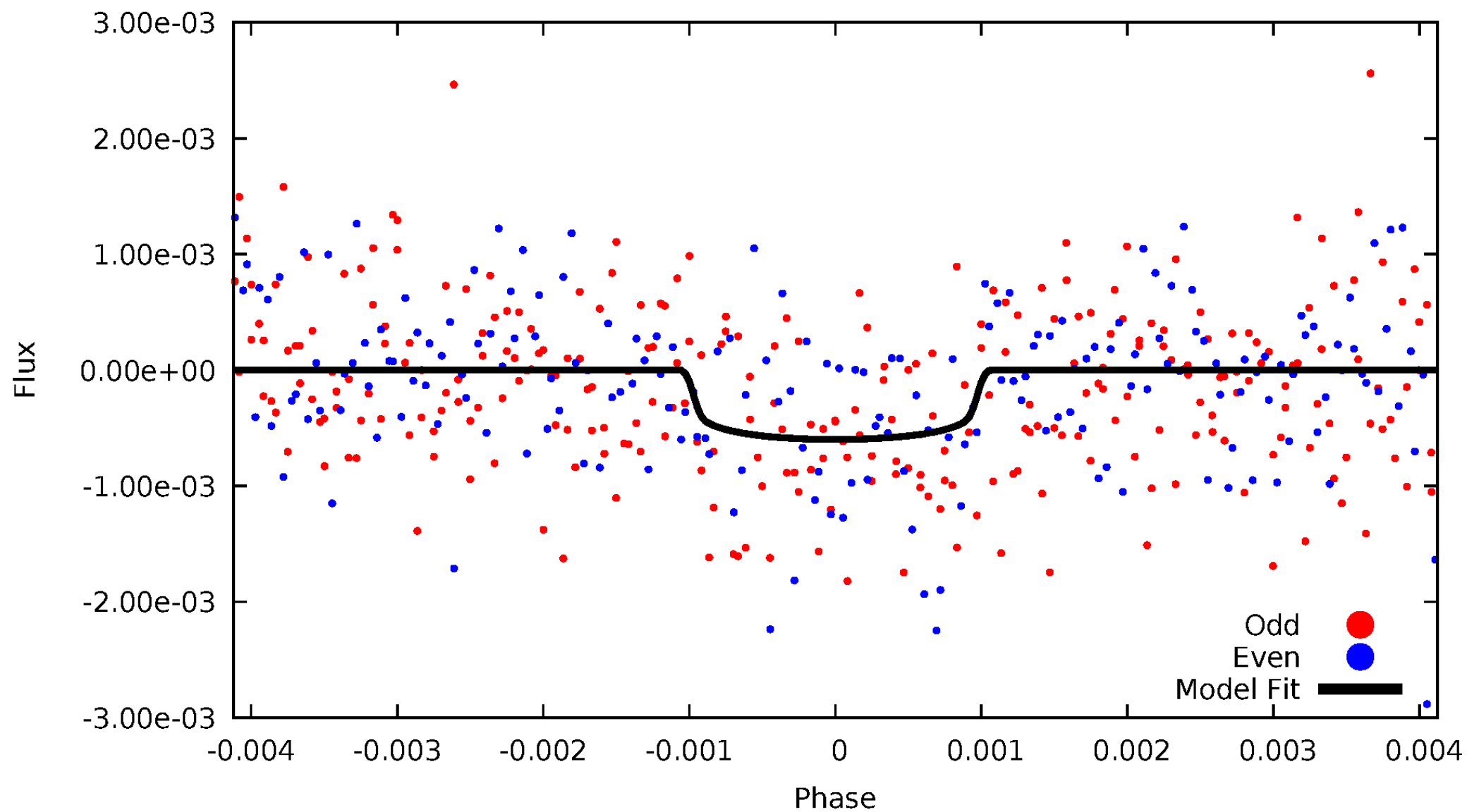


# TCE 008555779-01



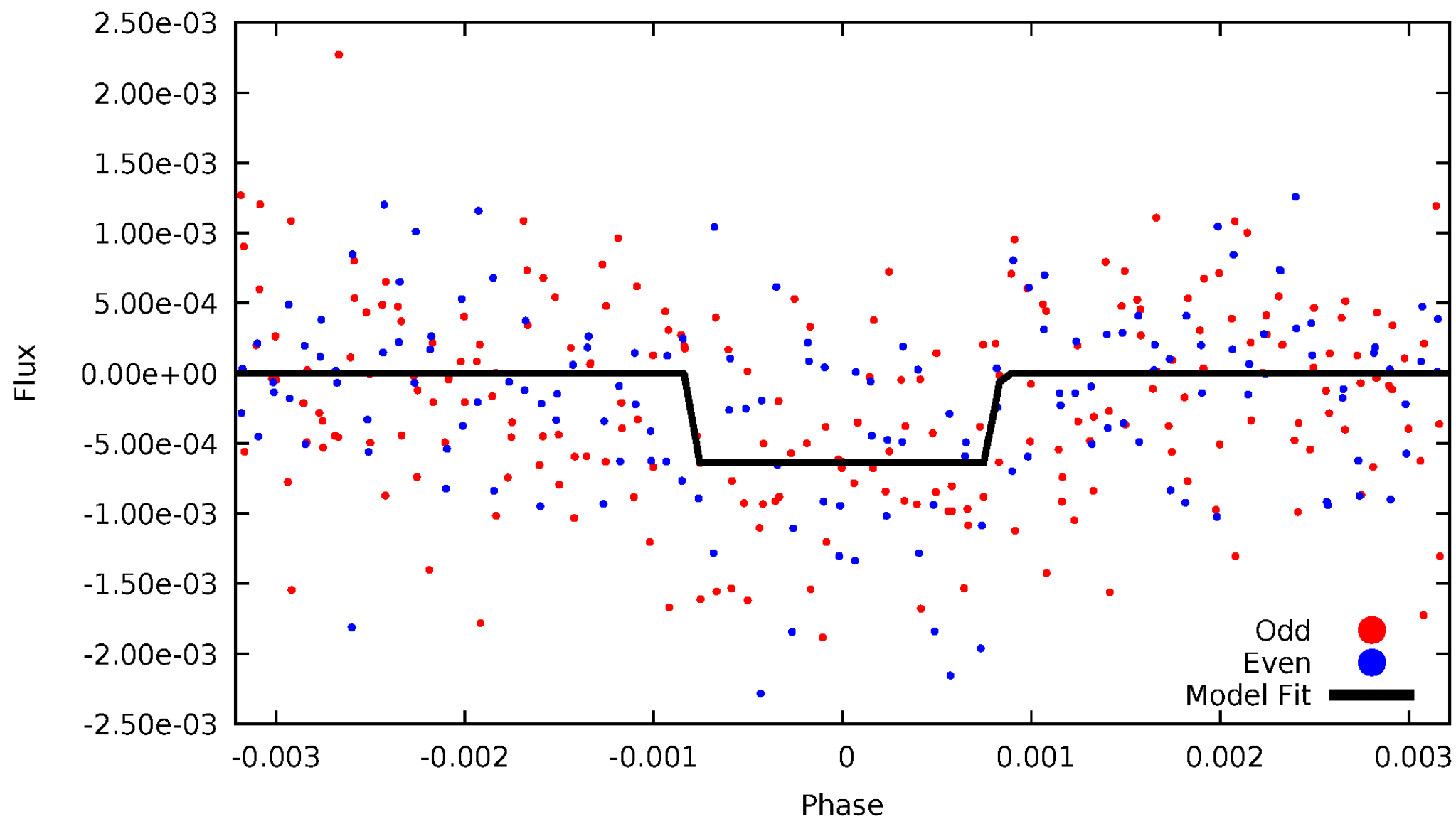
# DV Odd/Even

TCE 008555779-01



# ALT Odd/Even

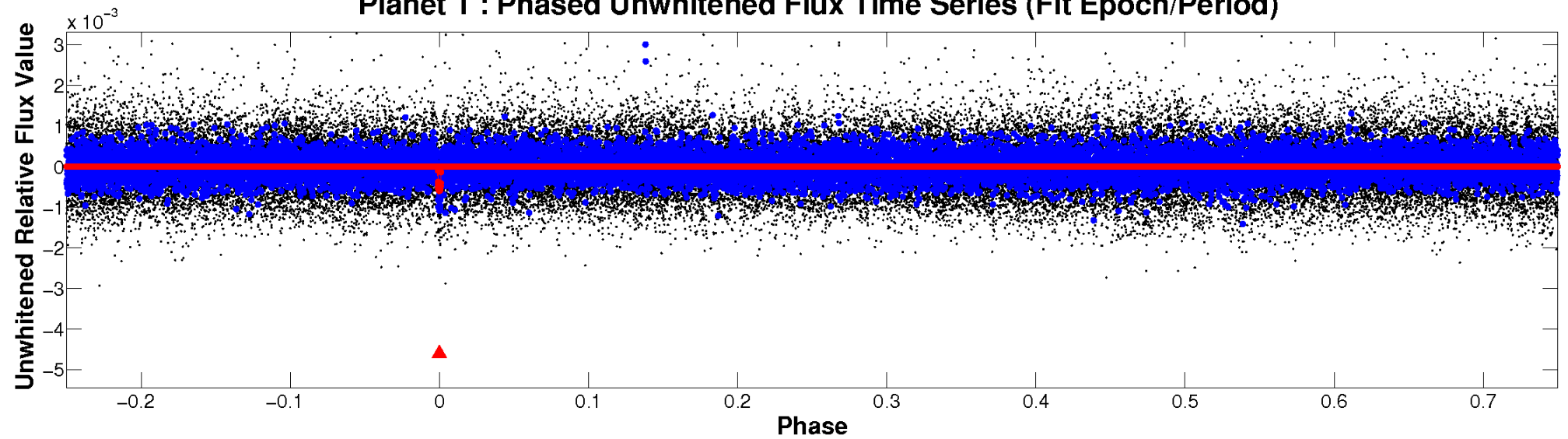
TCE 008555779-01



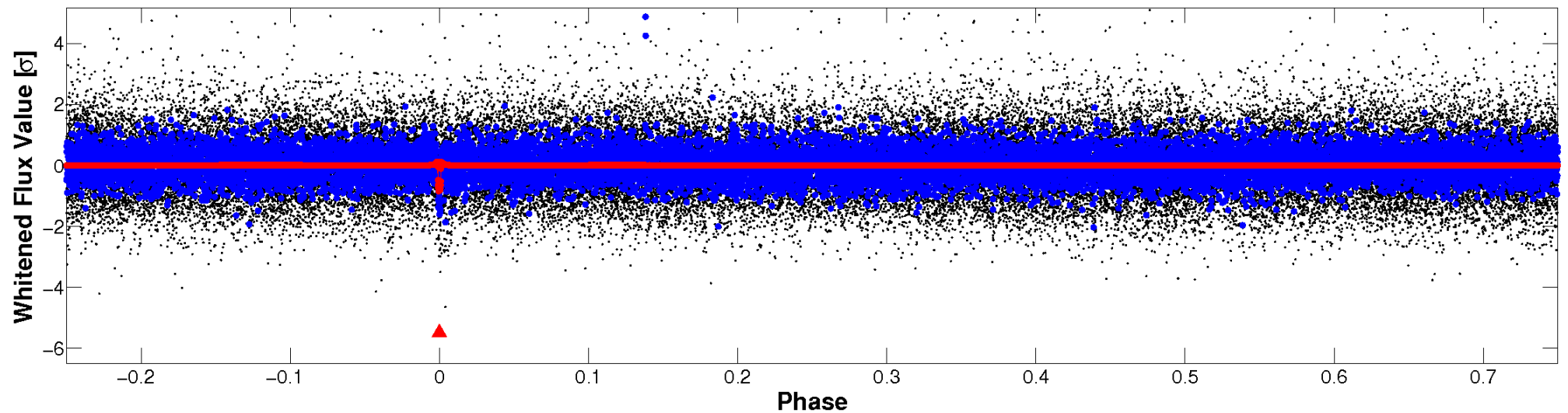


# Non-Whitened Vs. Whitened Light Curve

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

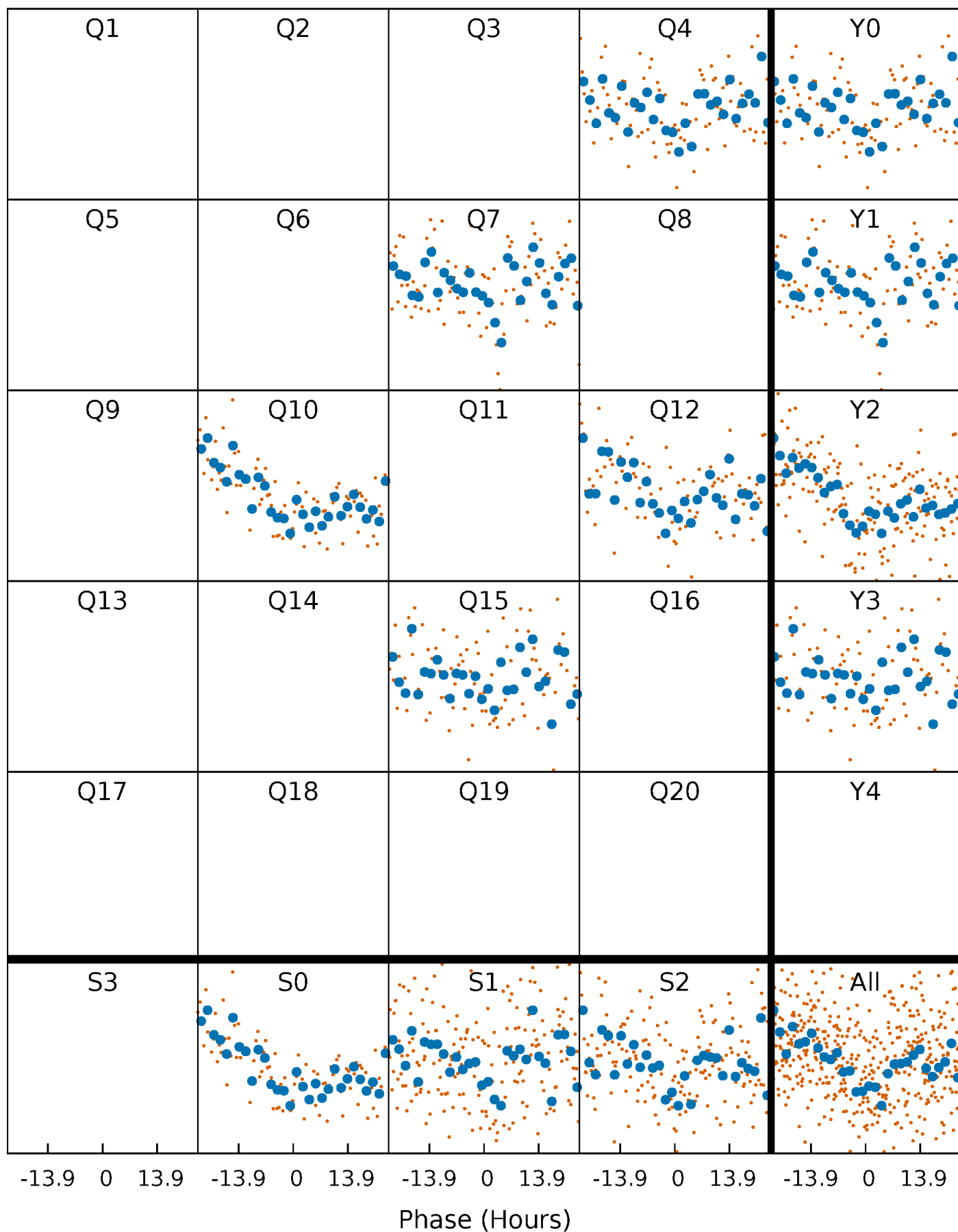


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

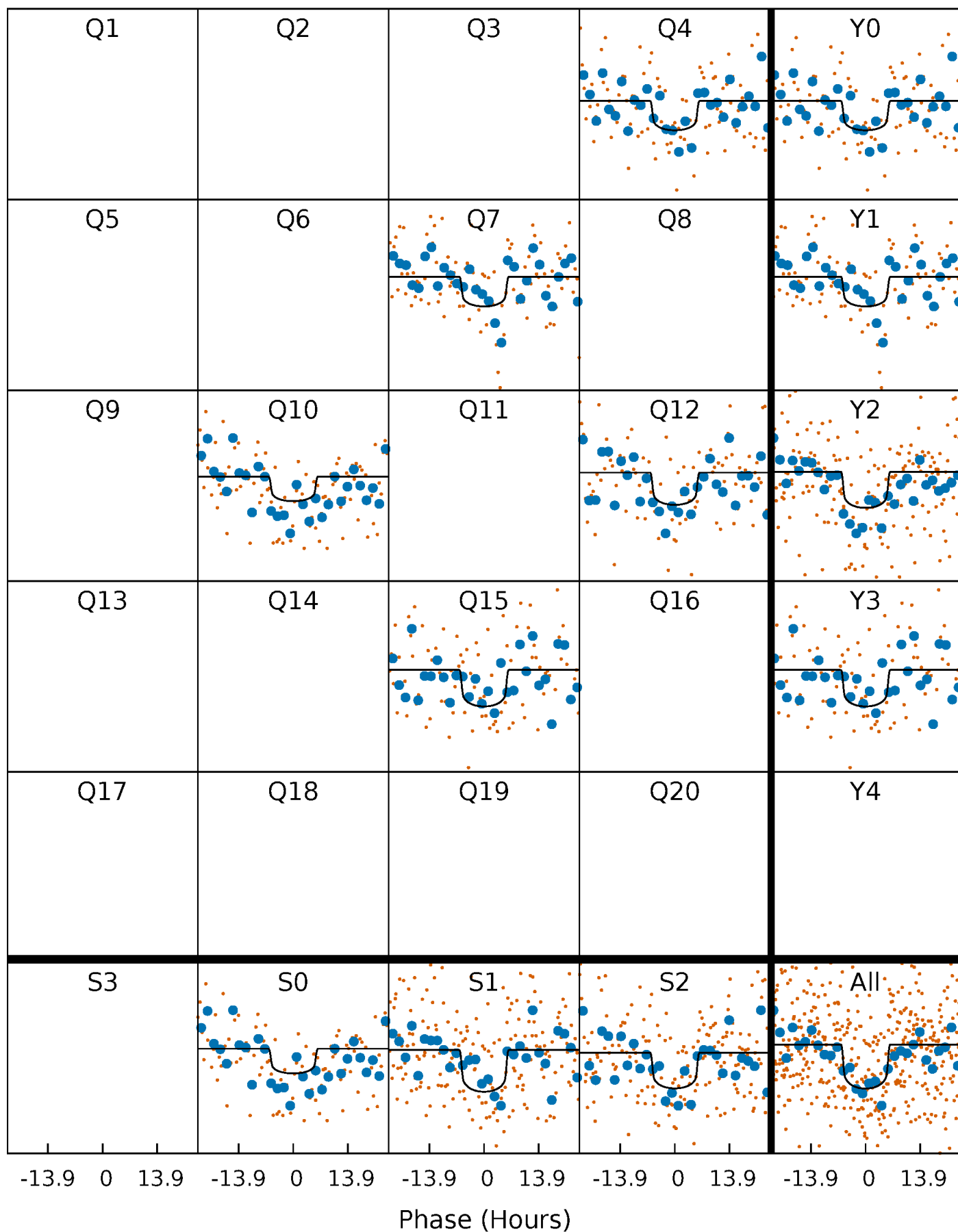
TCE 008555779-01 P=245.382678 Days  $T_0=184.784704$  (BKJD)





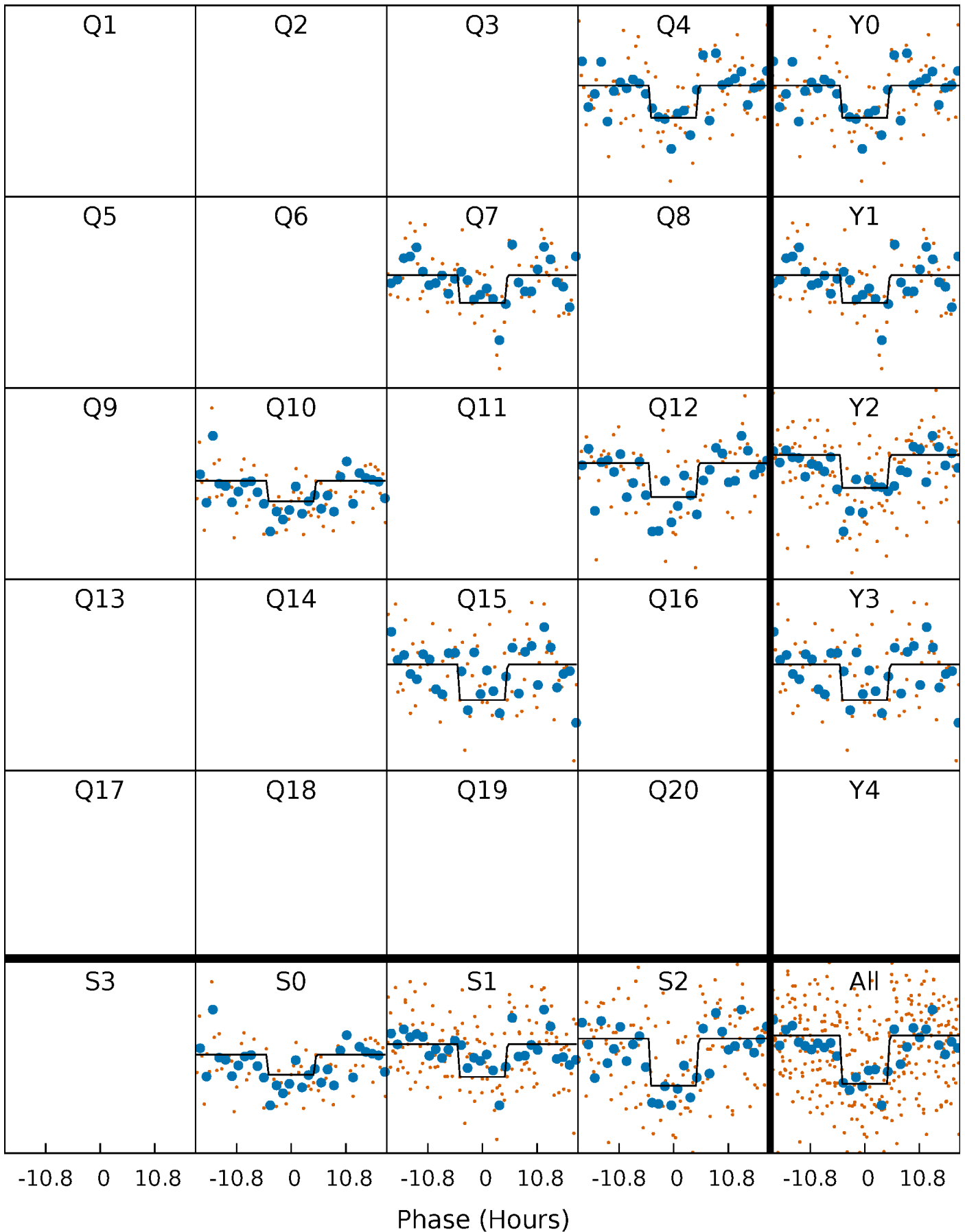
# DV Quarter-Phased Transit Curves

TCE 008555779-01 P=245.382678 Days  $T_0=184.784704$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

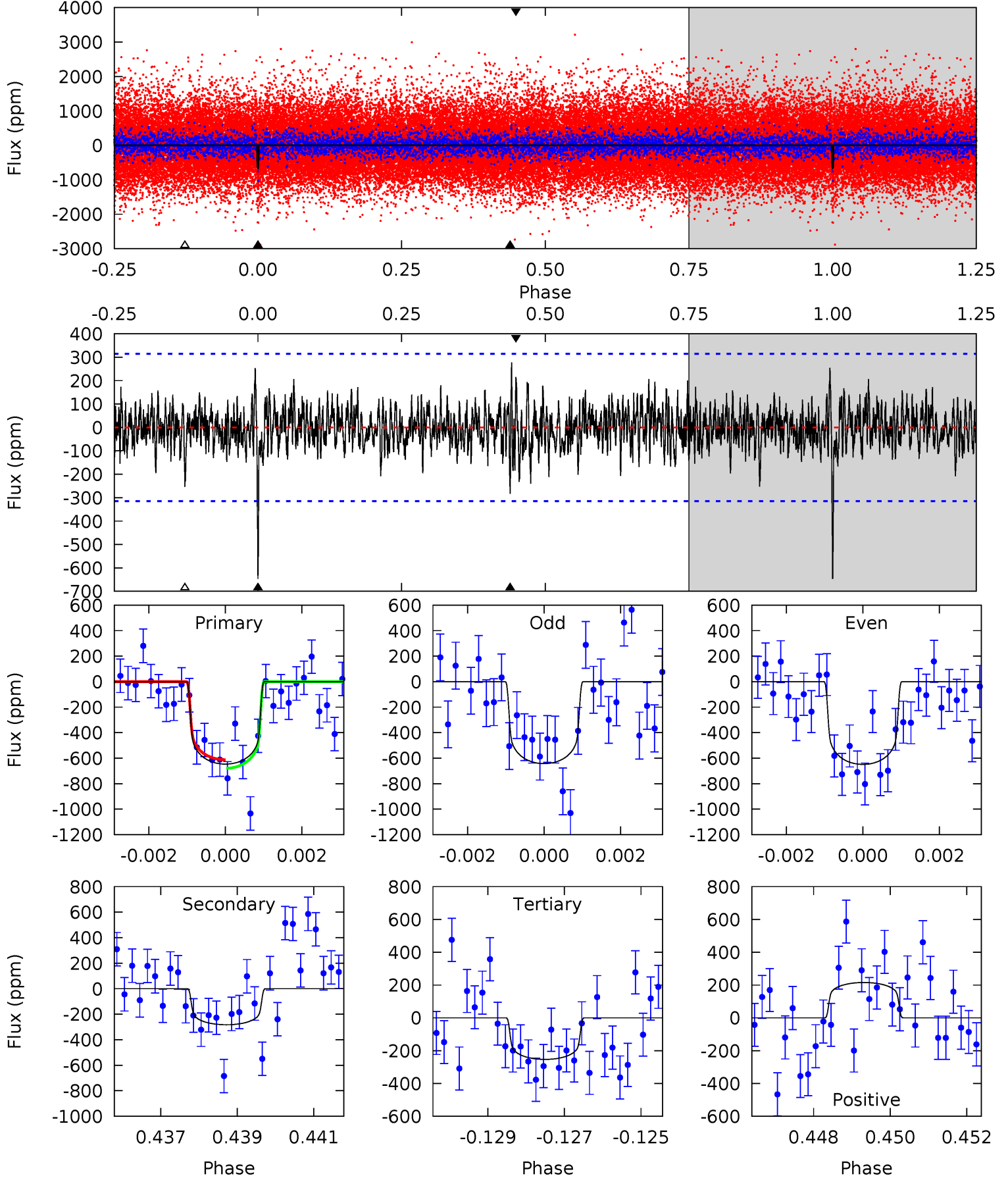
TCE 008555779-01 P=245.366188 Days  $T_0=184.847398$  (BKJD)



# DV Model-Shift Uniqueness Test

008555779-01, P = 245.382678 Days, E = 184.784704 Days

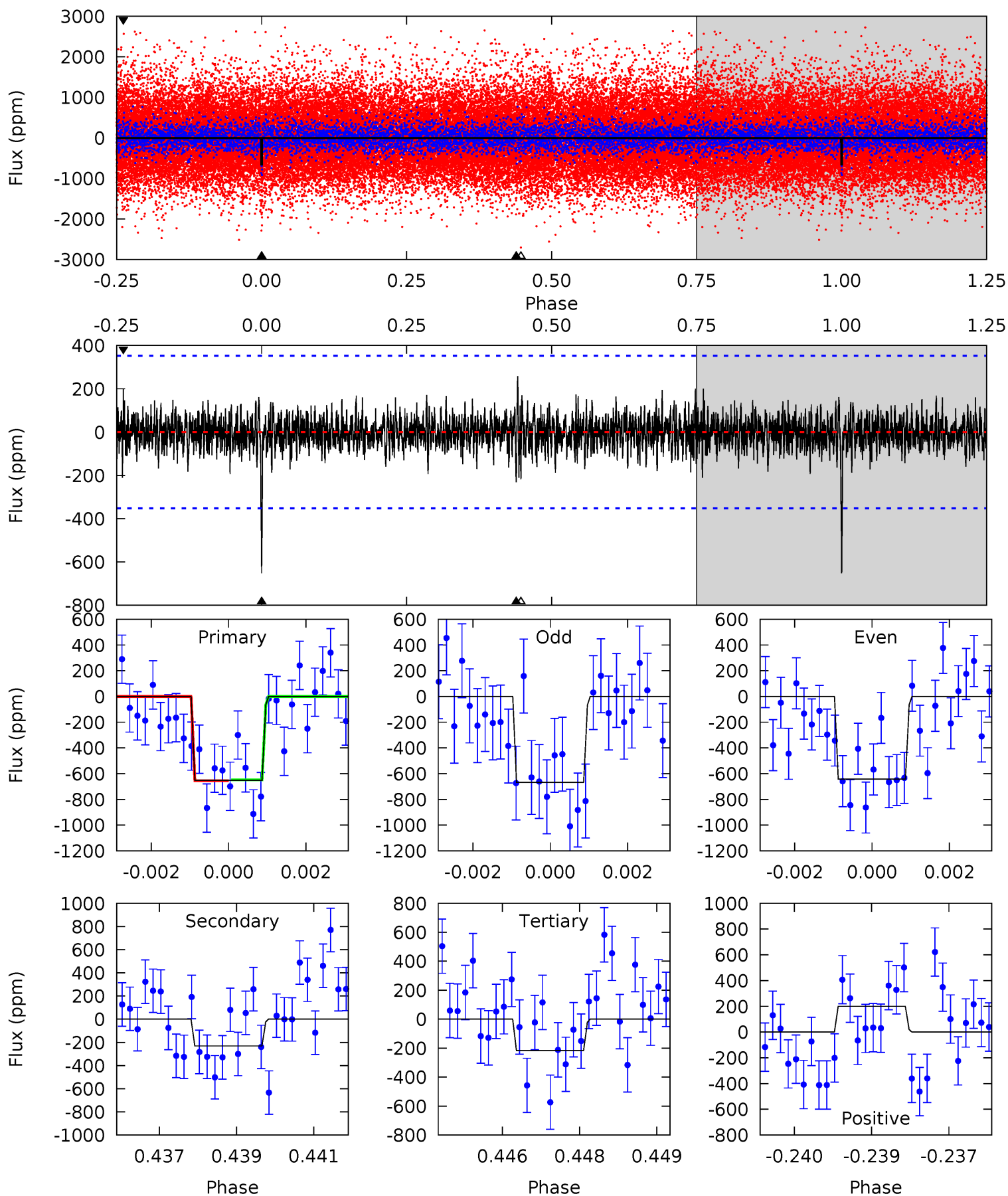
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	4.77	4.28	3.64	5.32	3.07	1.19	6.65	7.29	0.49	1.13	0.05	1.02	0.30	0.57



# Alt Model-Shift Uniqueness Test

008555779-01, P = 245.366188 Days, E = 184.847398 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
9.90	3.52	3.29	3.04	5.35	3.13	0.88	6.61	6.86	0.22	0.47	0.20	0.93	0.28	0.06



### Stellar Parameters For KIC 008555779

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6621^{+187}_{-258}$	$4.356^{+0.075}_{-0.175}$	$-0.080^{+0.250}_{-0.300}$	$1.219^{+0.350}_{-0.150}$	$1.237^{+0.174}_{-0.174}$	$0.961^{+0.319}_{-0.471}$
	+3%/-4%	+2%/-4%	+312%/-375%	+29%/-12%	+14%/-14%	+33%/-49%
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 008555779-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-282 \pm 59$	$3.35^{+1.19}_{-1.20}$	$503^{+34}_{-28}$	$5485^{+1344}_{-699}$	$9230^{+12847}_{-4372}$
Alt.	$-231 \pm 66$	$3.46^{+1.22}_{-1.21}$	$501^{+35}_{-26}$	$5111^{+1165}_{-613}$	$6790^{+9383}_{-3163}$

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

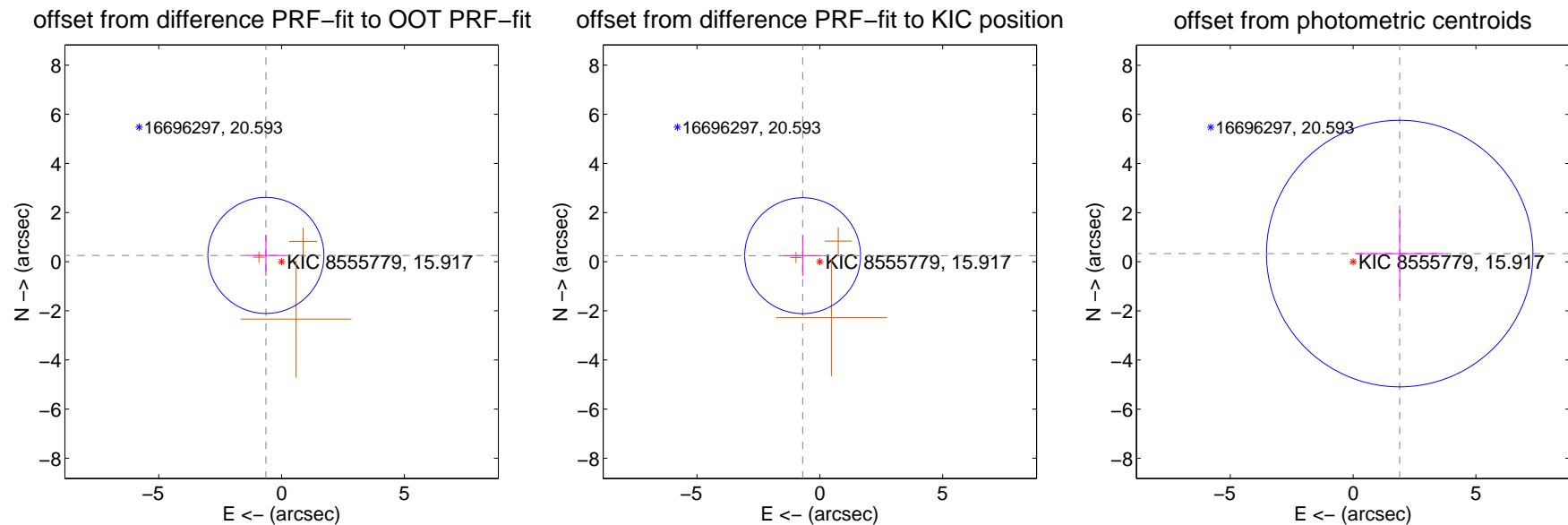
## DV Centroid Data

Supplemental centroid analysis for 008555779-01. Kepler magnitude: 15.92. Transit SNR 7.86

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

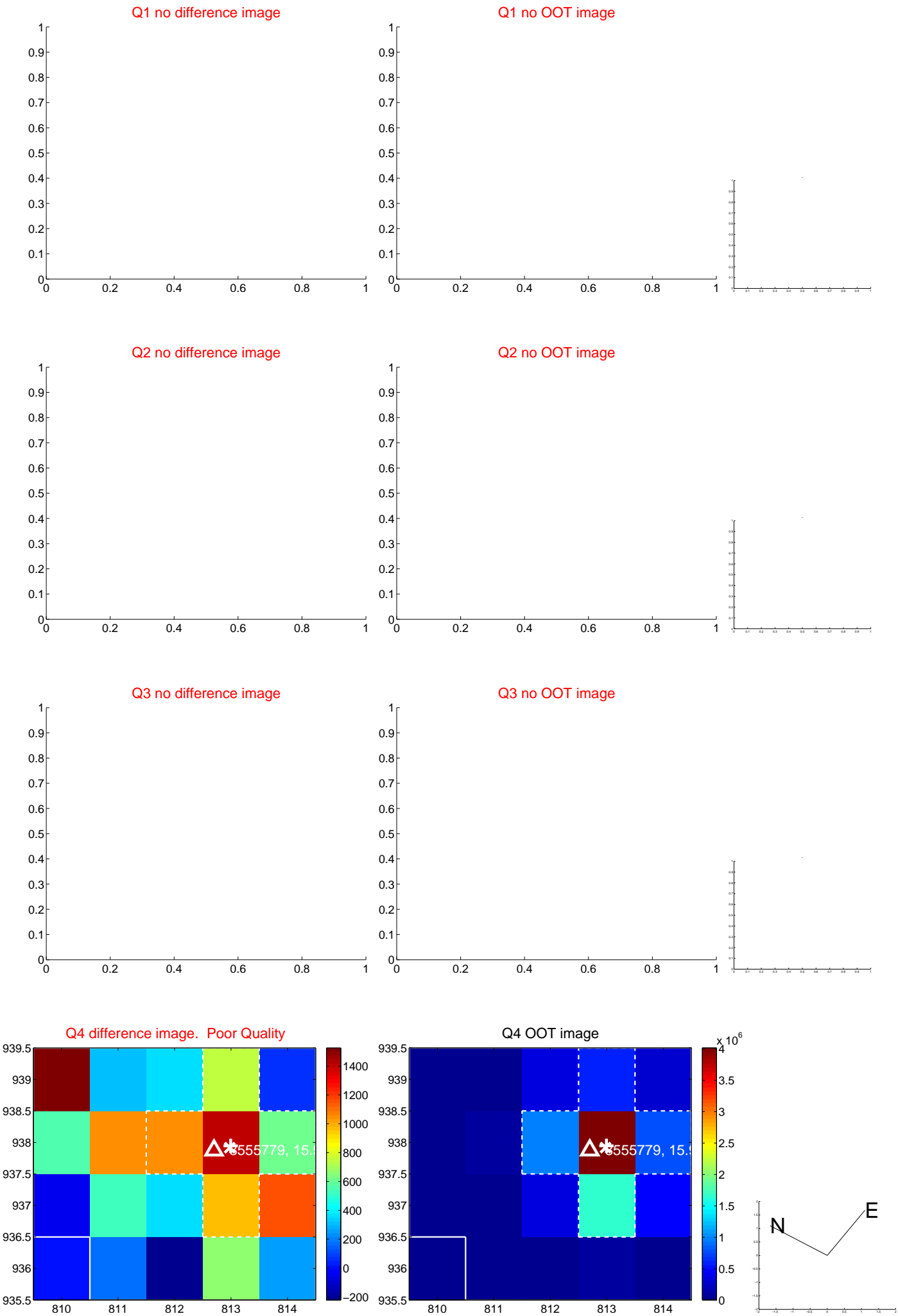
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.687 \pm 0.787$	0.87	$0.639 \pm 0.781$	$0.254 \pm 0.822$
PRF-fit source offset from KIC position	$0.742 \pm 0.786$	0.94	$0.701 \pm 0.781$	$0.245 \pm 0.822$
photometric centroid source offset	$1.93 \pm 1.81$	1.07	$-1.90 \pm 1.81$	$0.33 \pm 1.78$



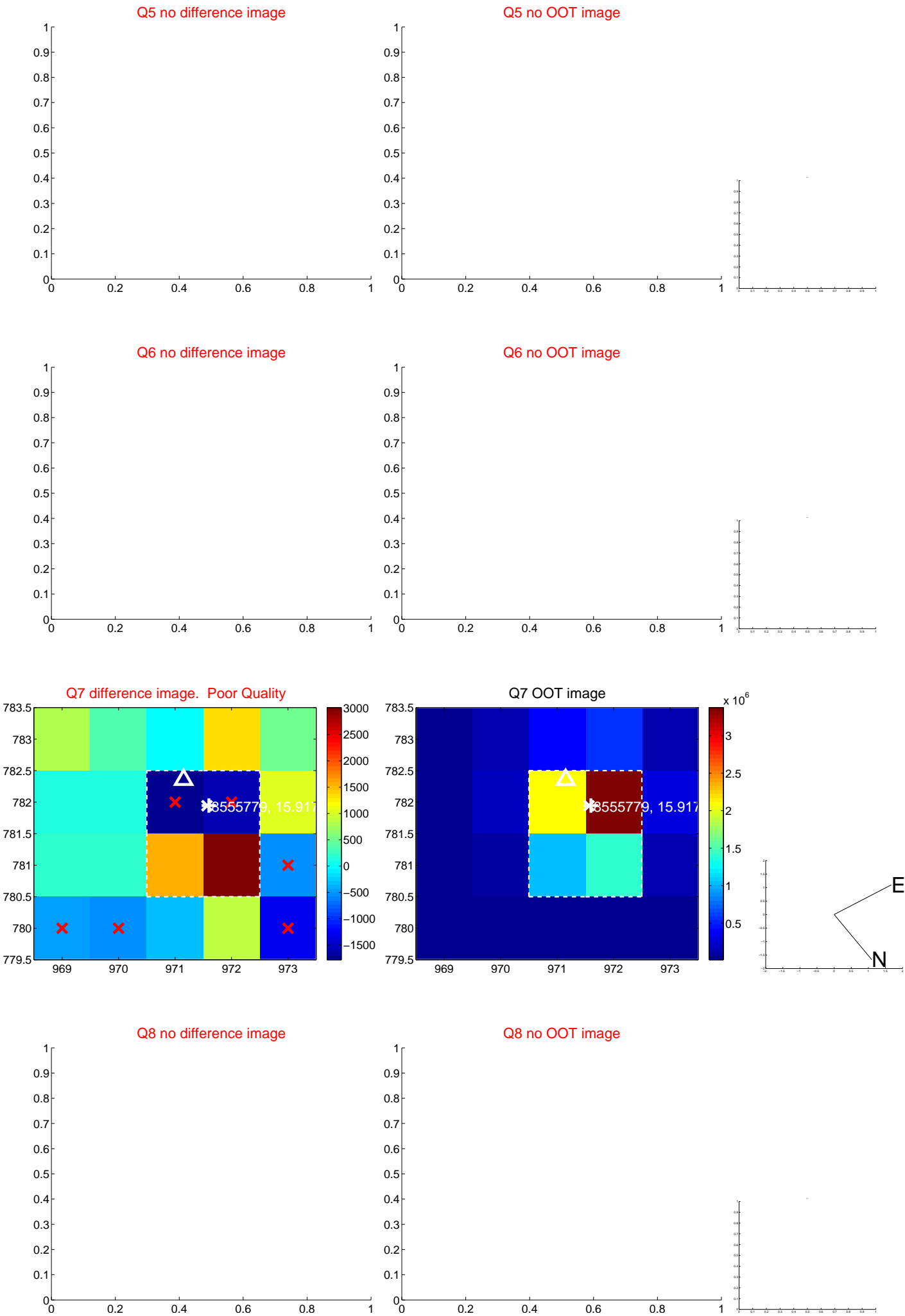
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



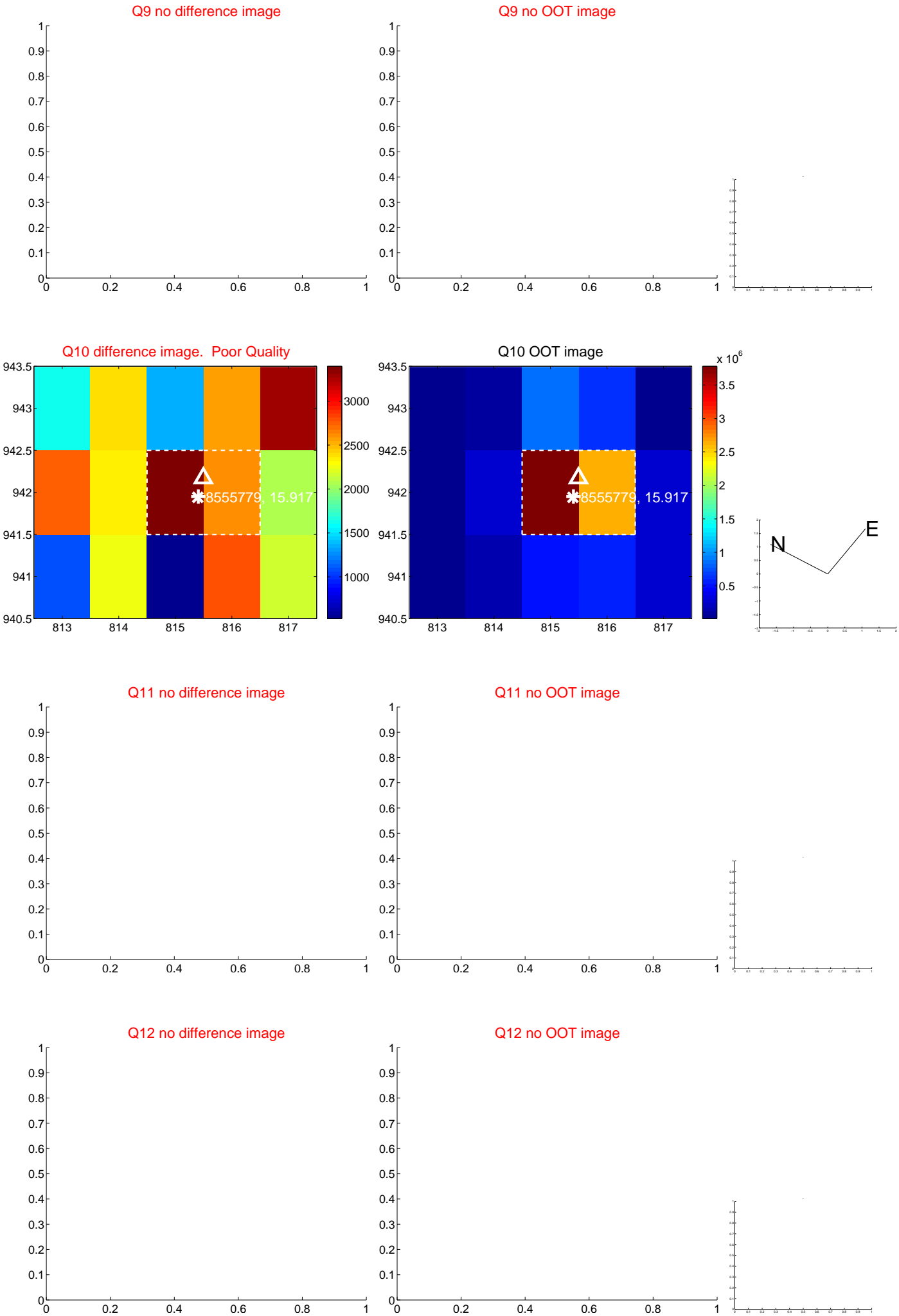
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



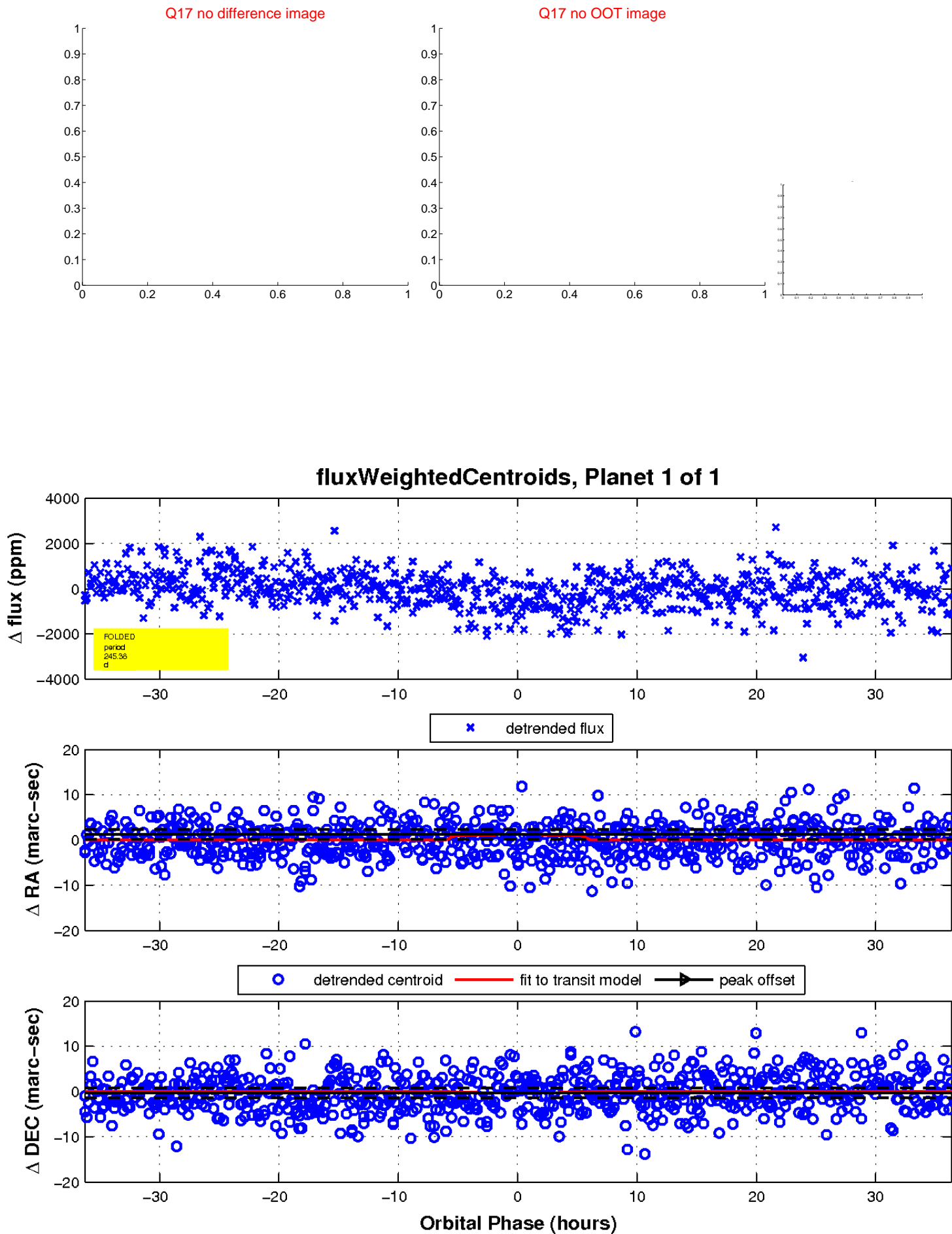
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



# UKIRT Image

Declination

