

# KIC 010779233

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010779233-01	OBS	1989.01	201.119332	187.567745	582.6	10.718	21.7	20.6	0.95	5646	2.55	1.93

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010779233-01	OBS	PC	0.86	0	0	0	0	NO_COMMENT

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

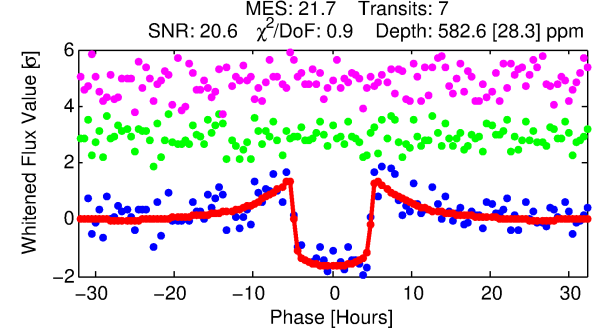
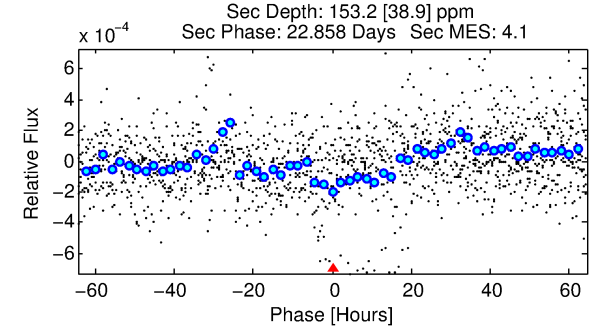
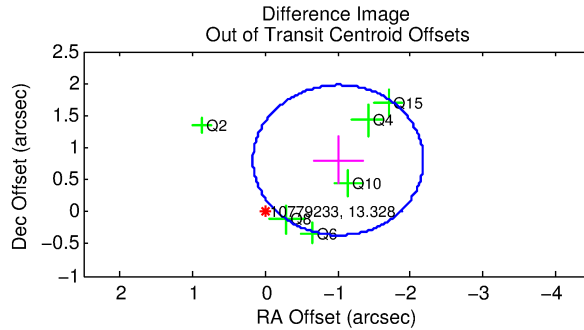
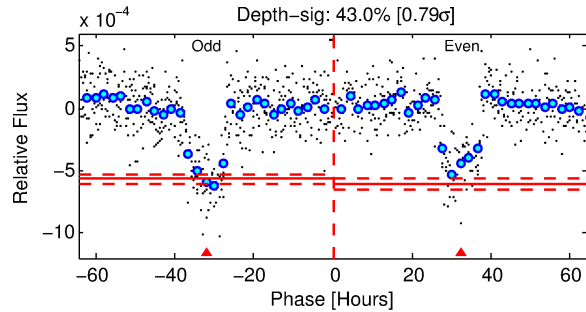
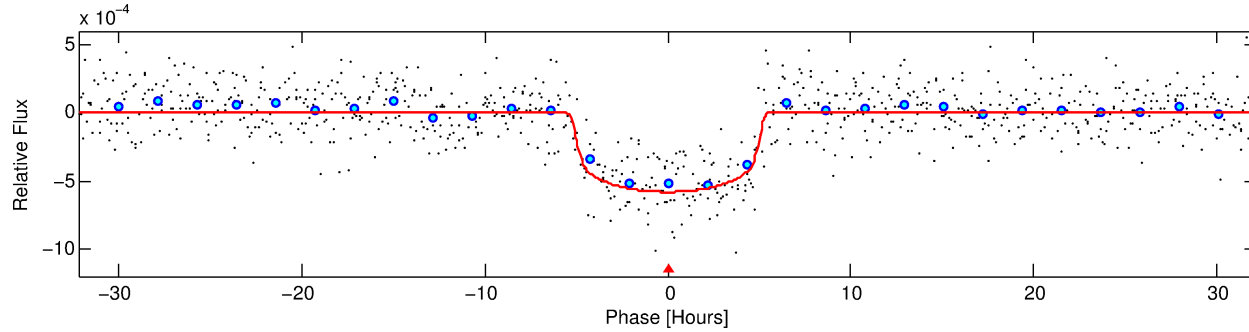
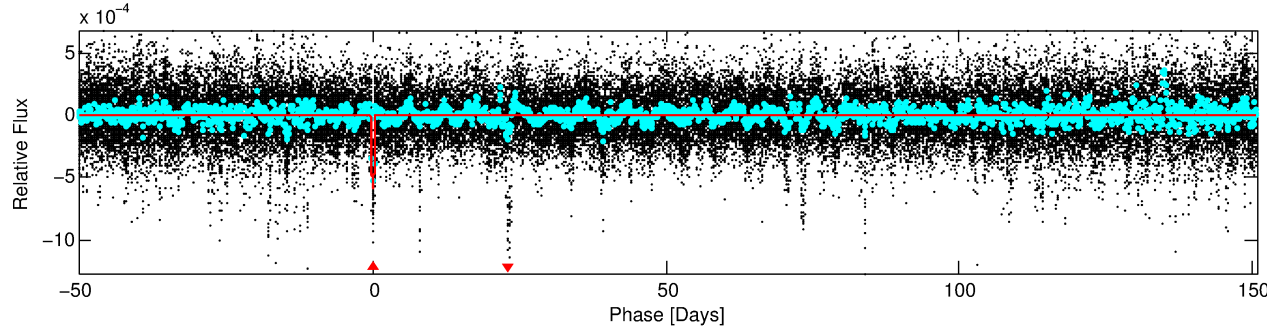
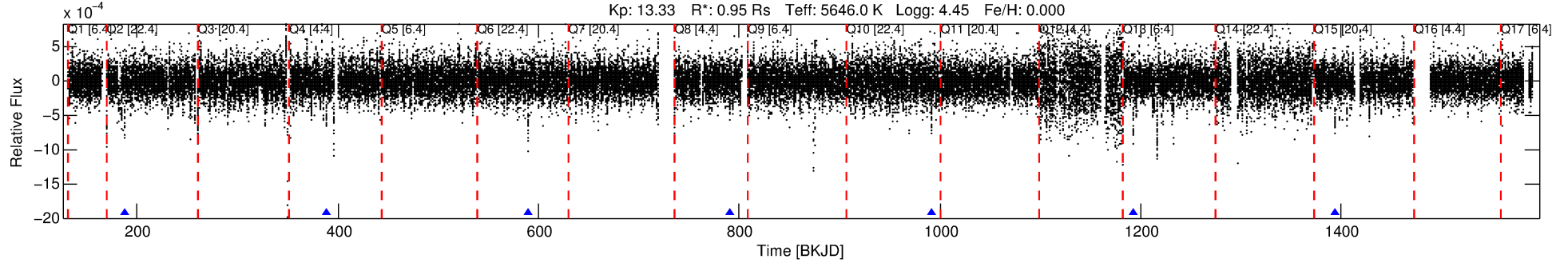
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010779233-01

No Significant Match Found

# DV One-Page Summary

KIC: 10779233 Candidate: 1 of 1 Period: 201.119 d  
KOI: K01989.01 Corr: 0.990



## DV Fit Results:

Period = 201.11933 [0.00135] d  
Epoch = 187.5677 [0.0050] BKJD  
Rp/R\* = 0.0245 [0.0020]  
a/R\* = 92.59 [30.65]  
b = 0.80 [0.15]  
Seff = 1.93 [0.40]  
Teq = 300 [16] K  
Rp = 2.55 [0.42] Re  
a = 0.6557 [0.0823] AU  
Ag = 5560.82 [1993.98] [2.79σ]  
Teffp = 4011 [315] K [11.78σ]

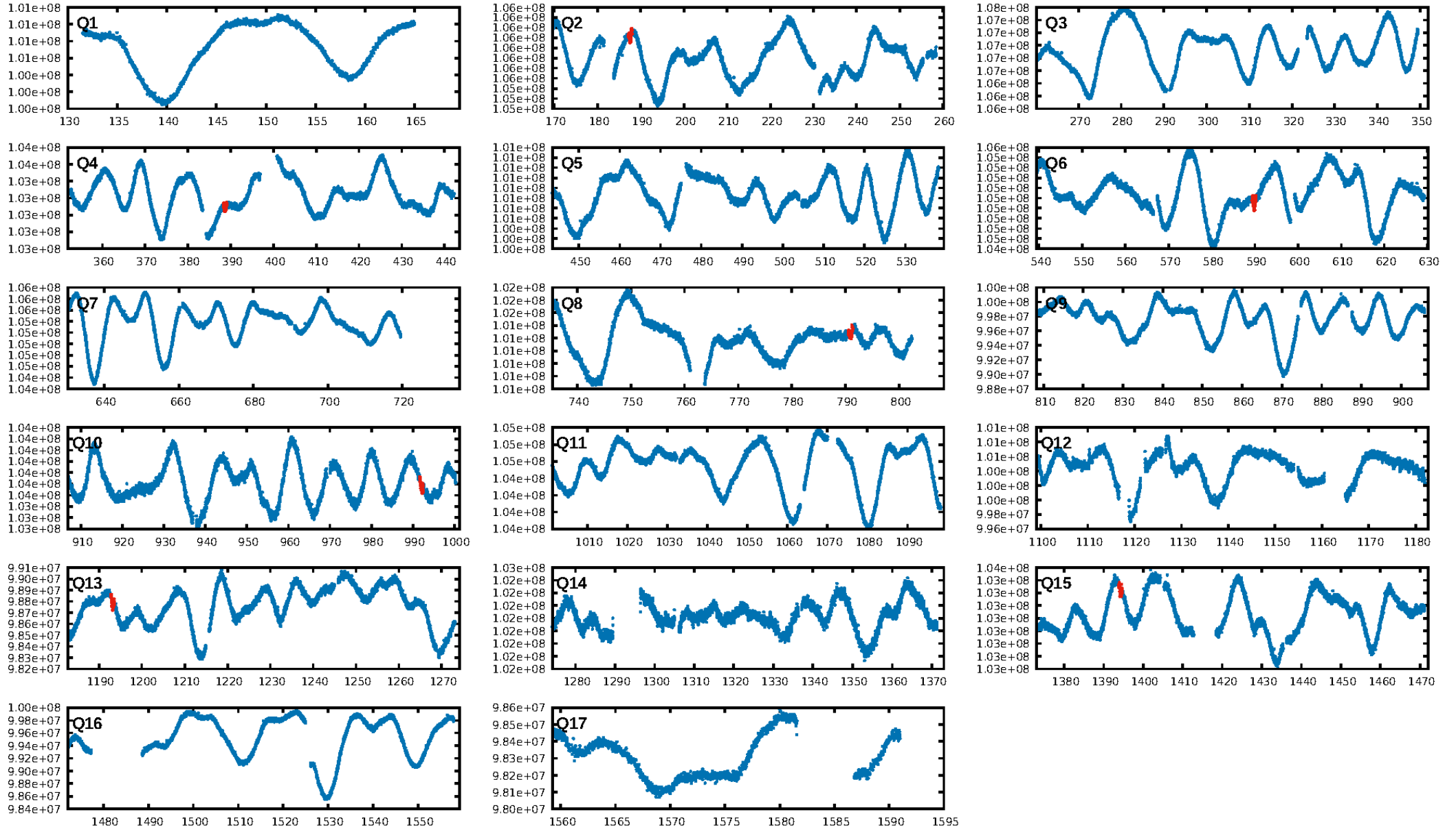
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 86.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.80e-41  
RollingBand-fgt: 1.00 [7/7]  
GhostDiagnostic-chr: 9.322  
Centroid-sig: 78.7%  
Centroid-so: 0.123 arcsec [0.33σ]  
**OotOffset-rm: 1.291 arcsec [3.31σ]**  
KicOffset-rm: 1.112 arcsec [2.58σ]  
OotOffset-st: 3/1/2/0 [6]  
KicOffset-st: 3/1/2/0 [6]  
DiffImageQuality-fgm: 1.00 [6/6]  
DiffImageOverlap-fno: 1.00 [6/6]

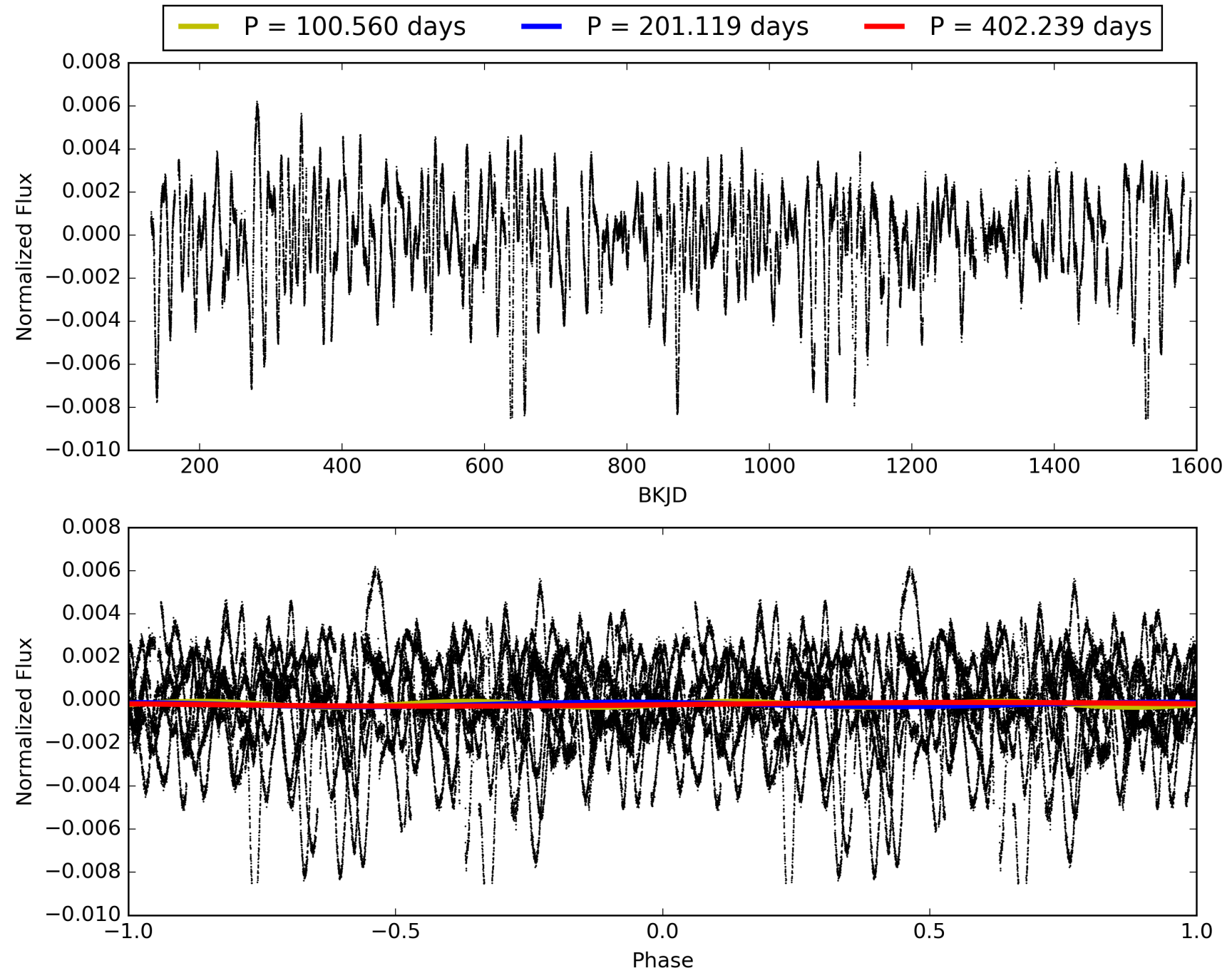
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:33:03 Z

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

# TCE 010779233-01, PDC Light Curves

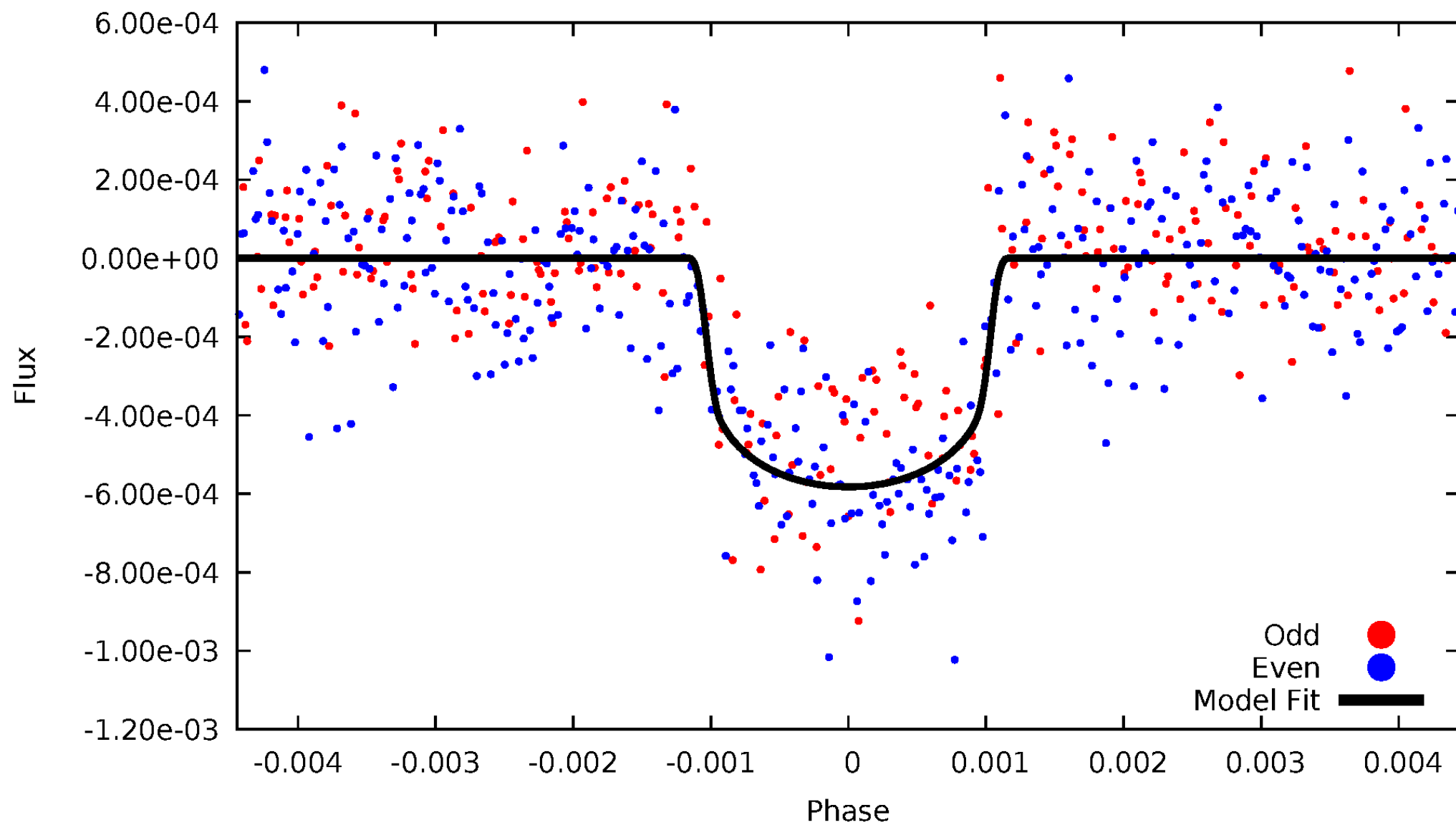


TCE 010779233-01



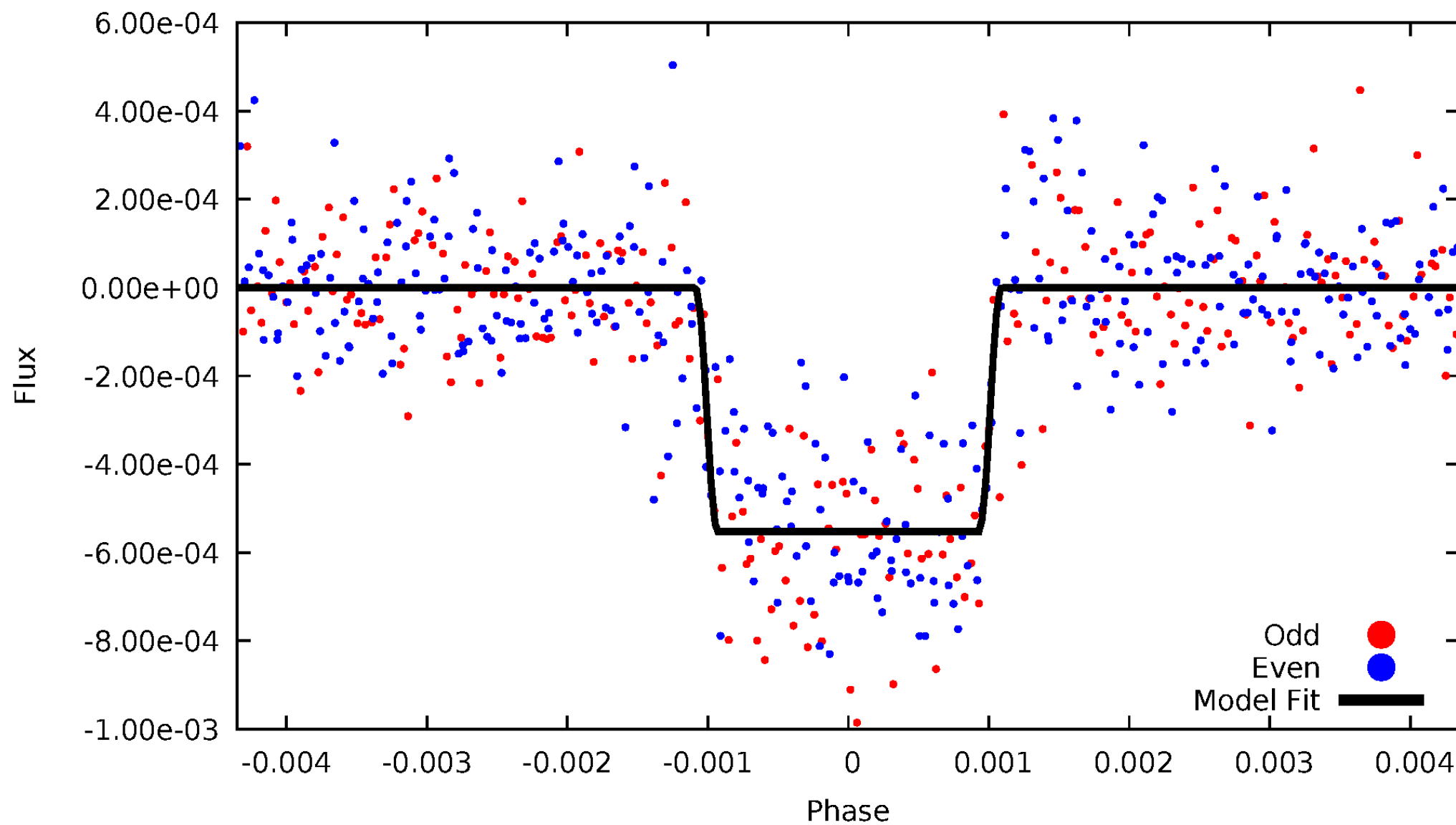
# DV Odd/Even

TCE 010779233-01



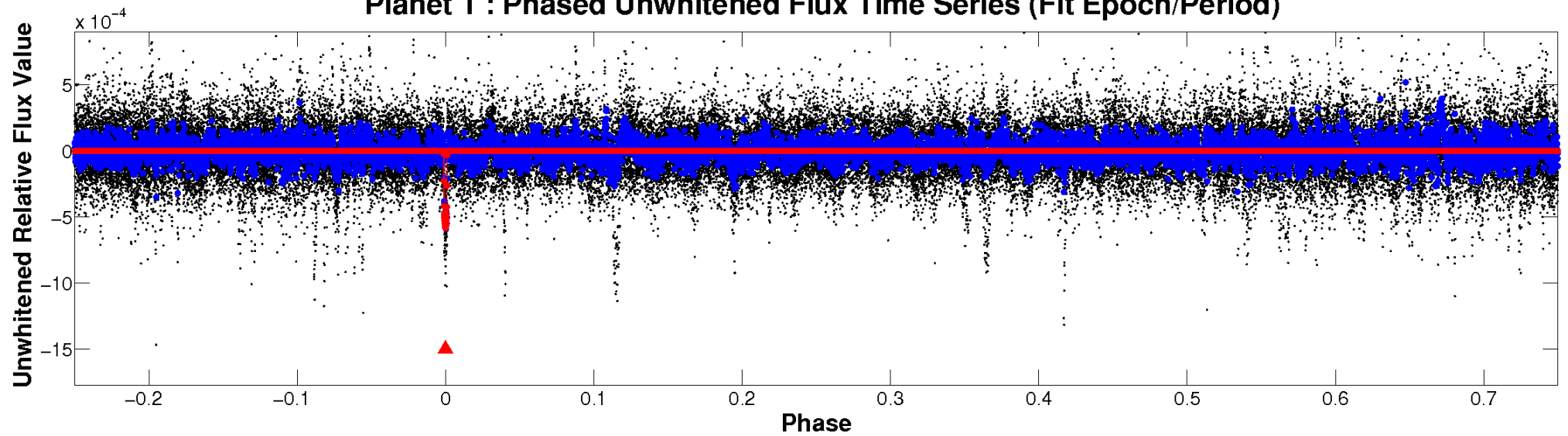
# ALT Odd/Even

TCE 010779233-01

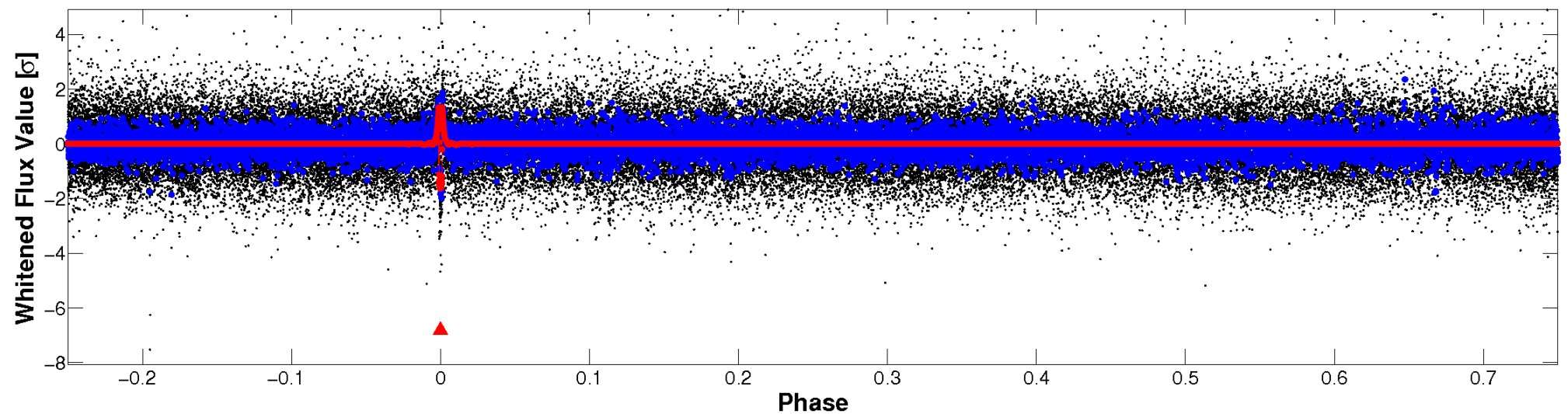


# Non-Whitened Vs. Whitened Light Curve

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

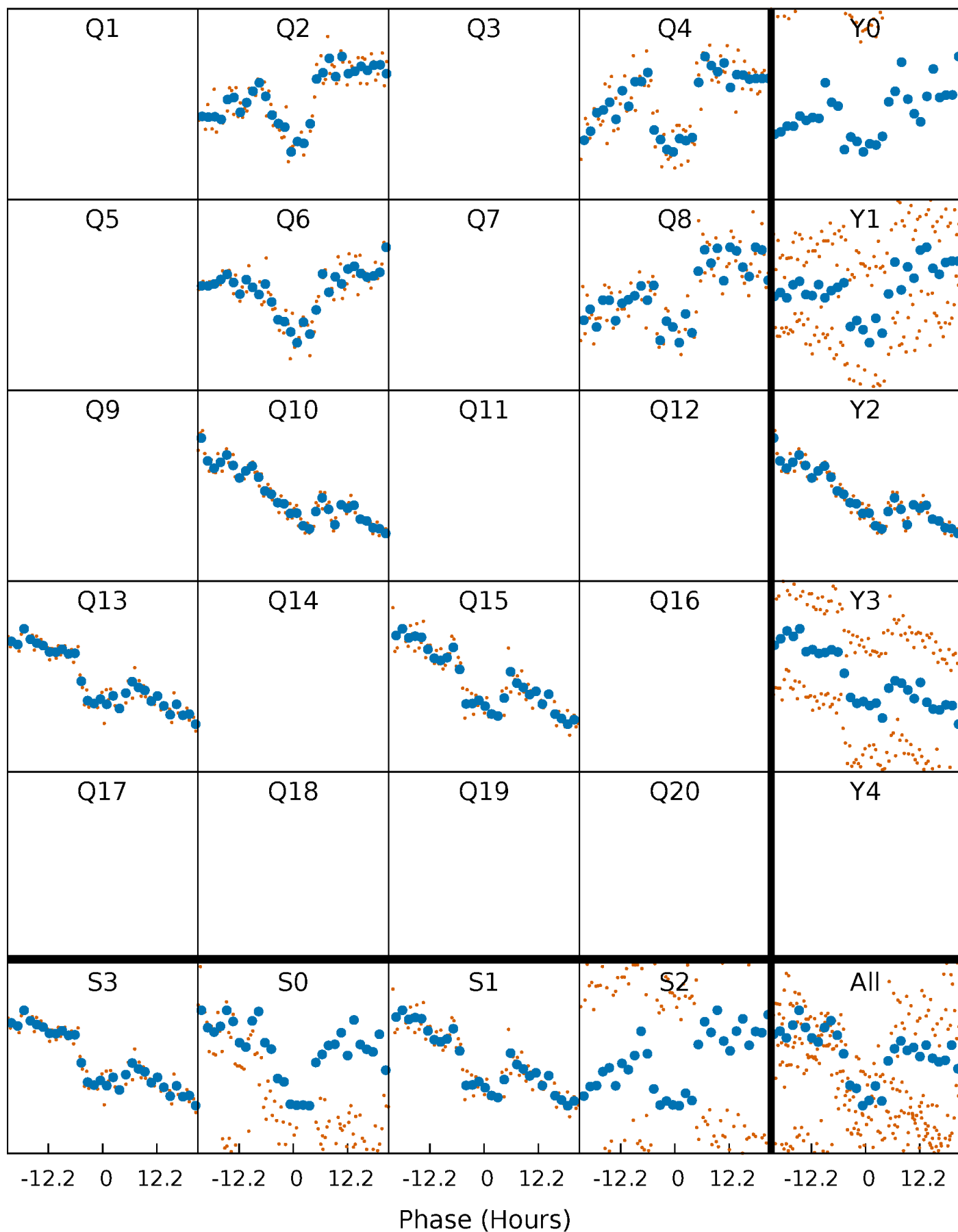


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

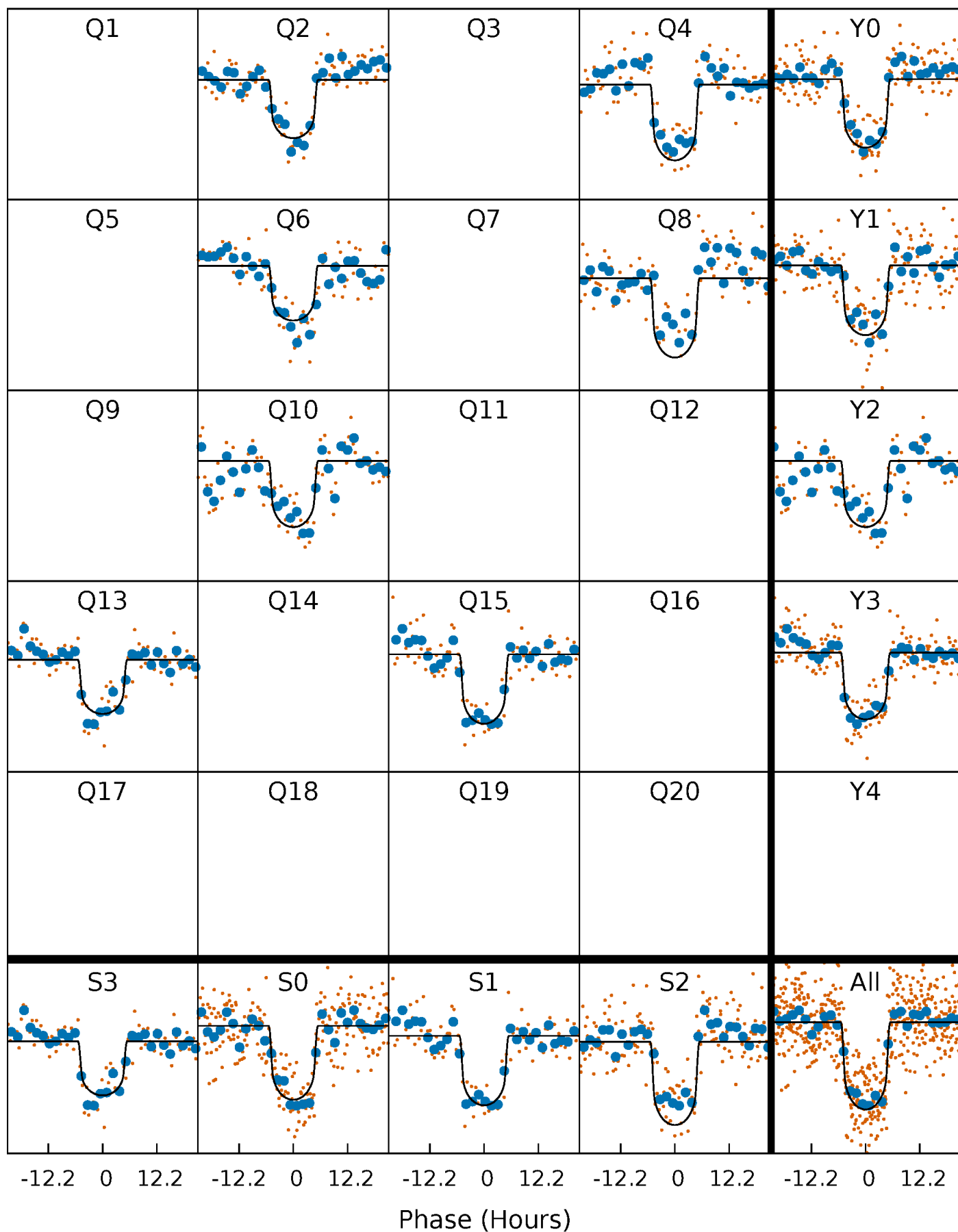
TCE 010779233-01 P=201.119331 Days  $T_0=187.567745$  (BKJD)





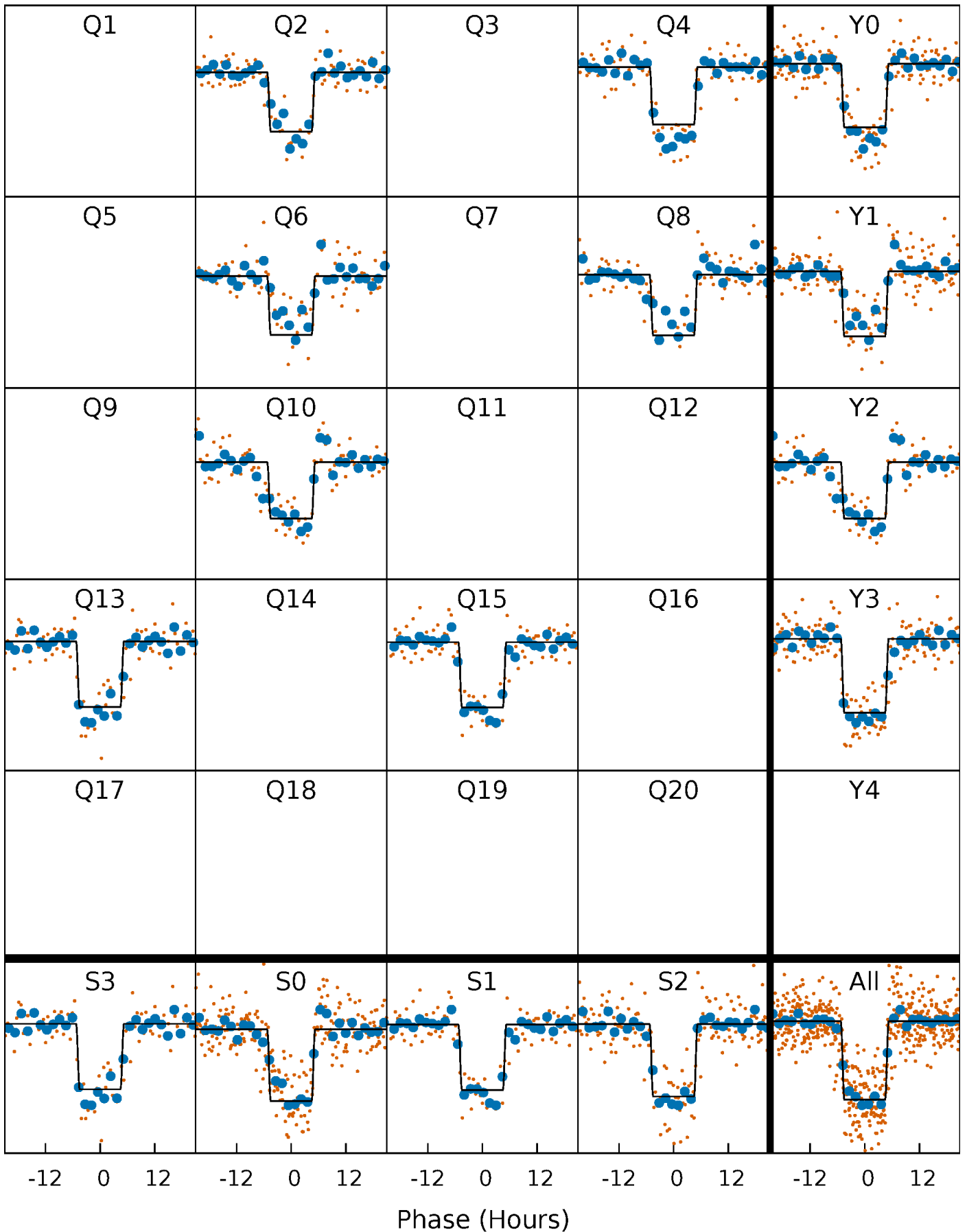
# DV Quarter-Phased Transit Curves

TCE 010779233-01 P=201.119331 Days  $T_0=187.567745$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

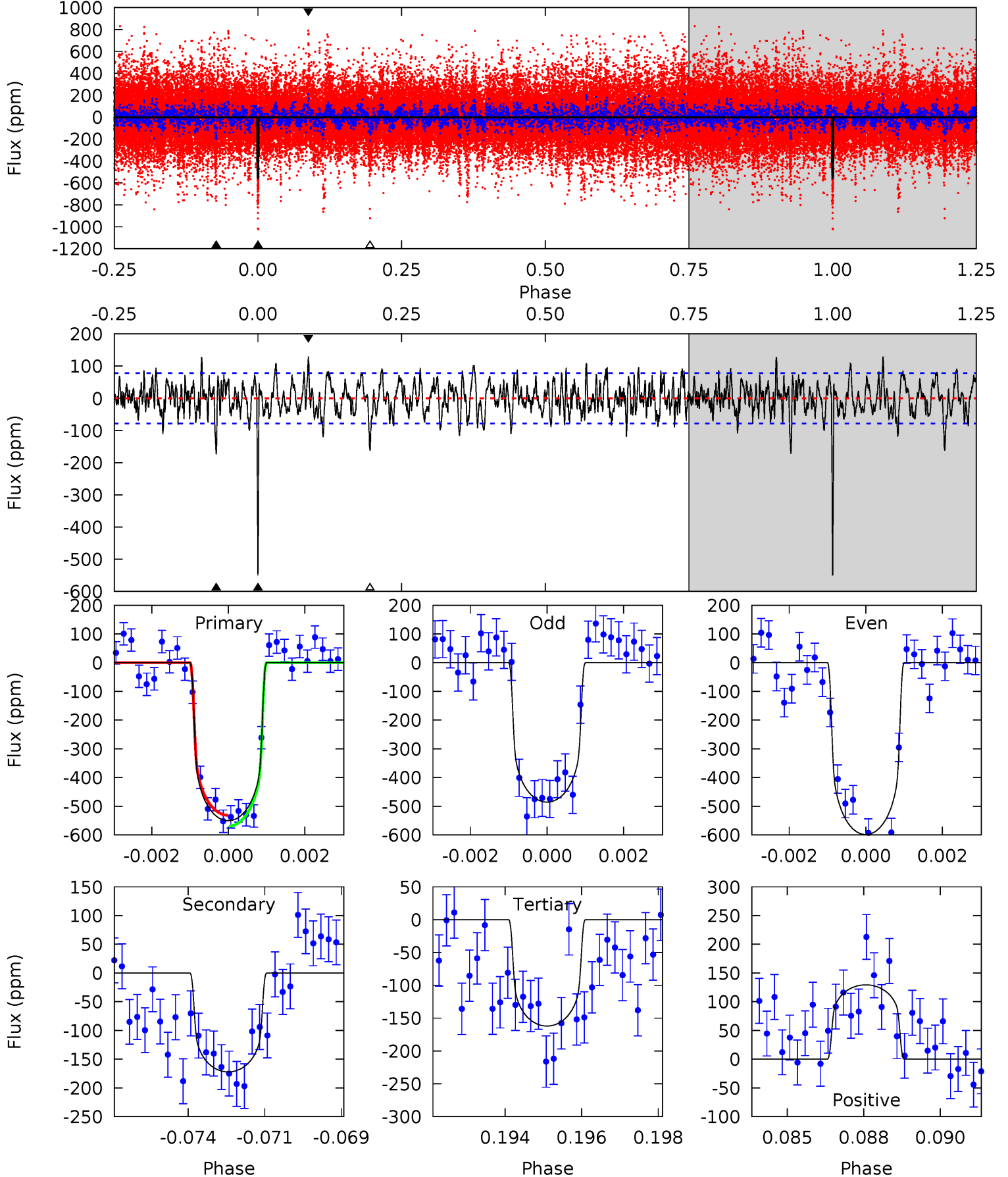
TCE 010779233-01 P=201.120720 Days  $T_0=187.563285$  (BKJD)



# DV Model-Shift Uniqueness Test

010779233-01, P = 201.119331 Days, E = 187.567745 Days

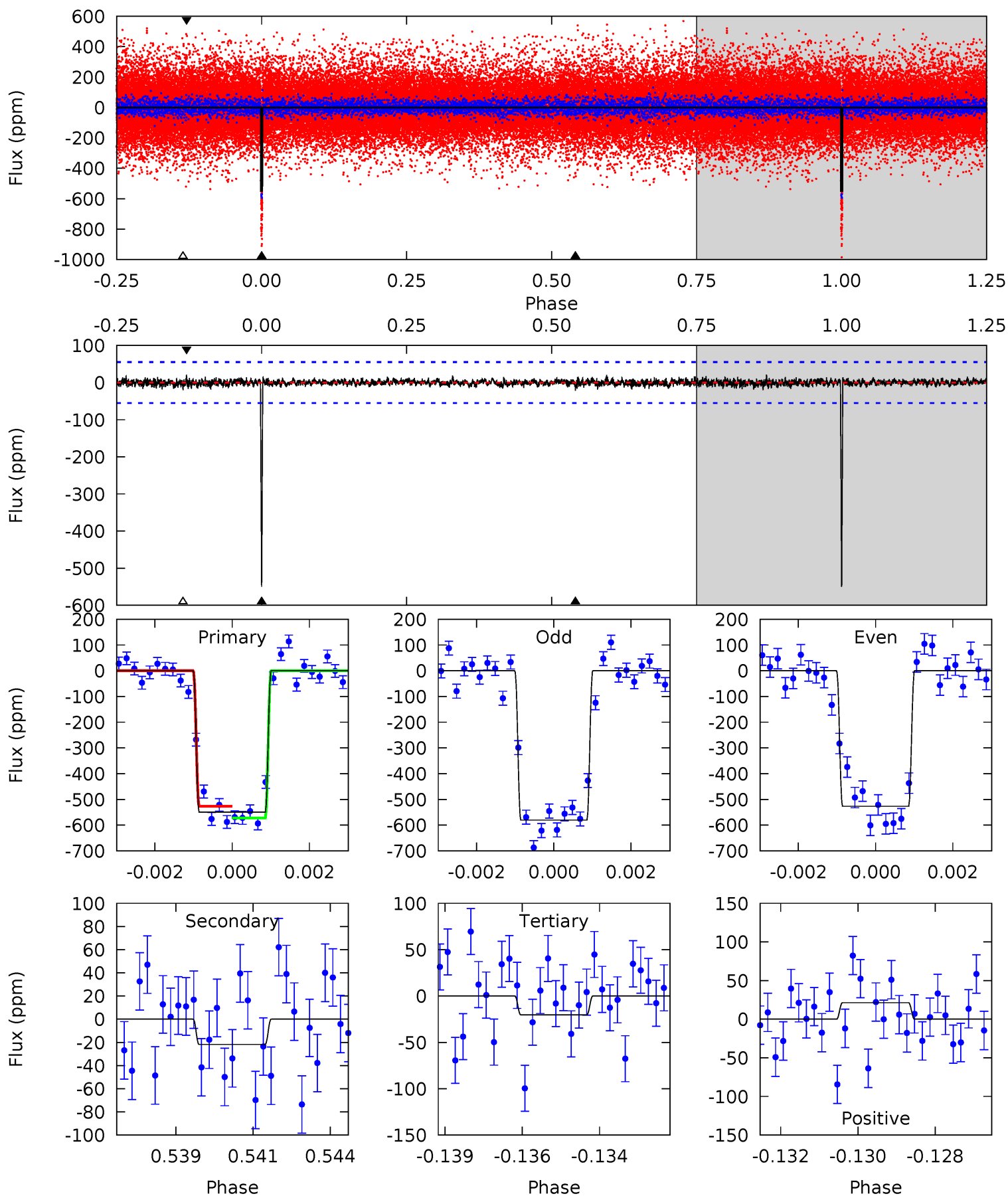
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.3	11.7	11.0	8.76	5.30	3.05	2.85	26.3	28.5	0.69	2.90	3.68	0.95	0.19	1.30



# Alt Model-Shift Uniqueness Test

010779233-01, P = 201.120720 Days, E = 187.563285 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
52.9	2.10	1.96	2.06	5.31	3.07	0.48	51.0	50.9	0.15	0.05	2.59	0.99	0.04	2.19



### Stellar Parameters For KIC 010779233

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5646^{+101}_{-112}$	$4.447^{+0.072}_{-0.108}$	$0.000^{+0.150}_{-0.150}$	$0.954^{+0.135}_{-0.083}$	$0.929^{+0.066}_{-0.053}$	$1.508^{+0.387}_{-0.490}$
	+2%/-2%	+2%/-2%	+inf%/-inf%	+14%/-9%	+7%/-6%	+26%/-32%
Source	SPE57	SPE57	SPE57	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 010779233-01 / KOI 1989.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-172 \pm 15$	$2.58^{+0.32}_{-0.26}$	$422^{+16}_{-16}$	$4336^{+189}_{-168}$	$5992^{+1675}_{-1188}$
Alt.	$-22 \pm 10$	$2.48^{+0.27}_{-0.26}$	$422^{+16}_{-15}$	$3122^{+207}_{-262}$	$822^{+464}_{-379}$

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

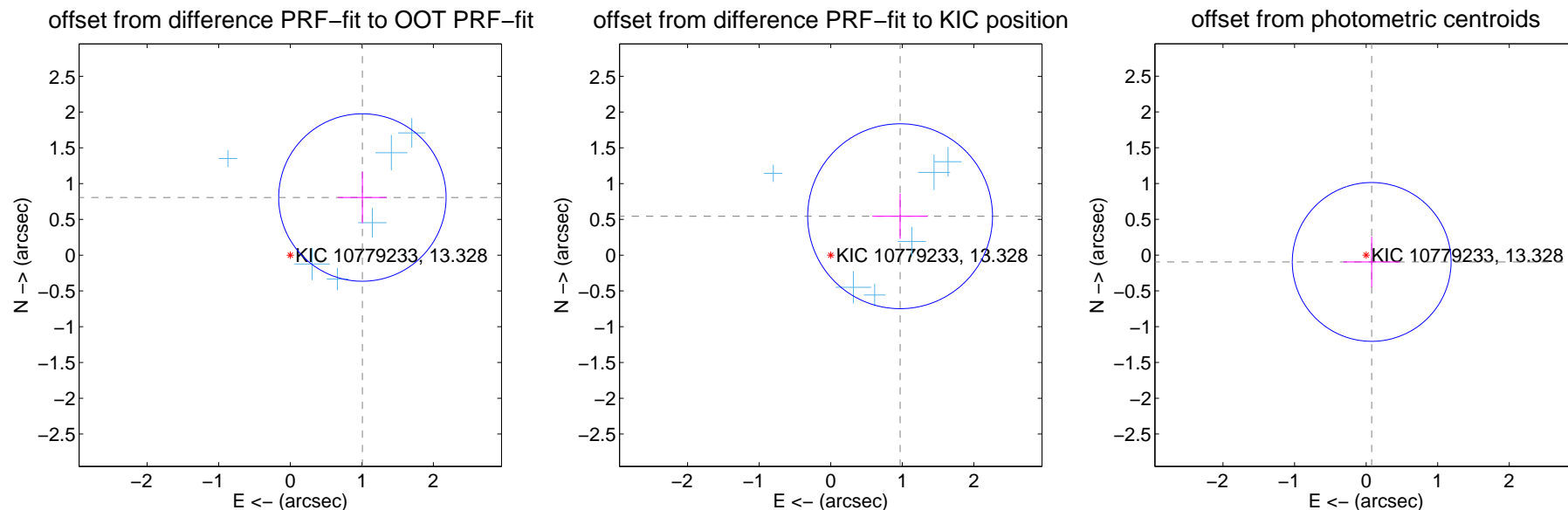
## DV Centroid Data

Supplemental centroid analysis for 010779233-01. Kepler magnitude: 13.33. Transit SNR 20.58

There are 6 quarters with good PRF difference image offsets

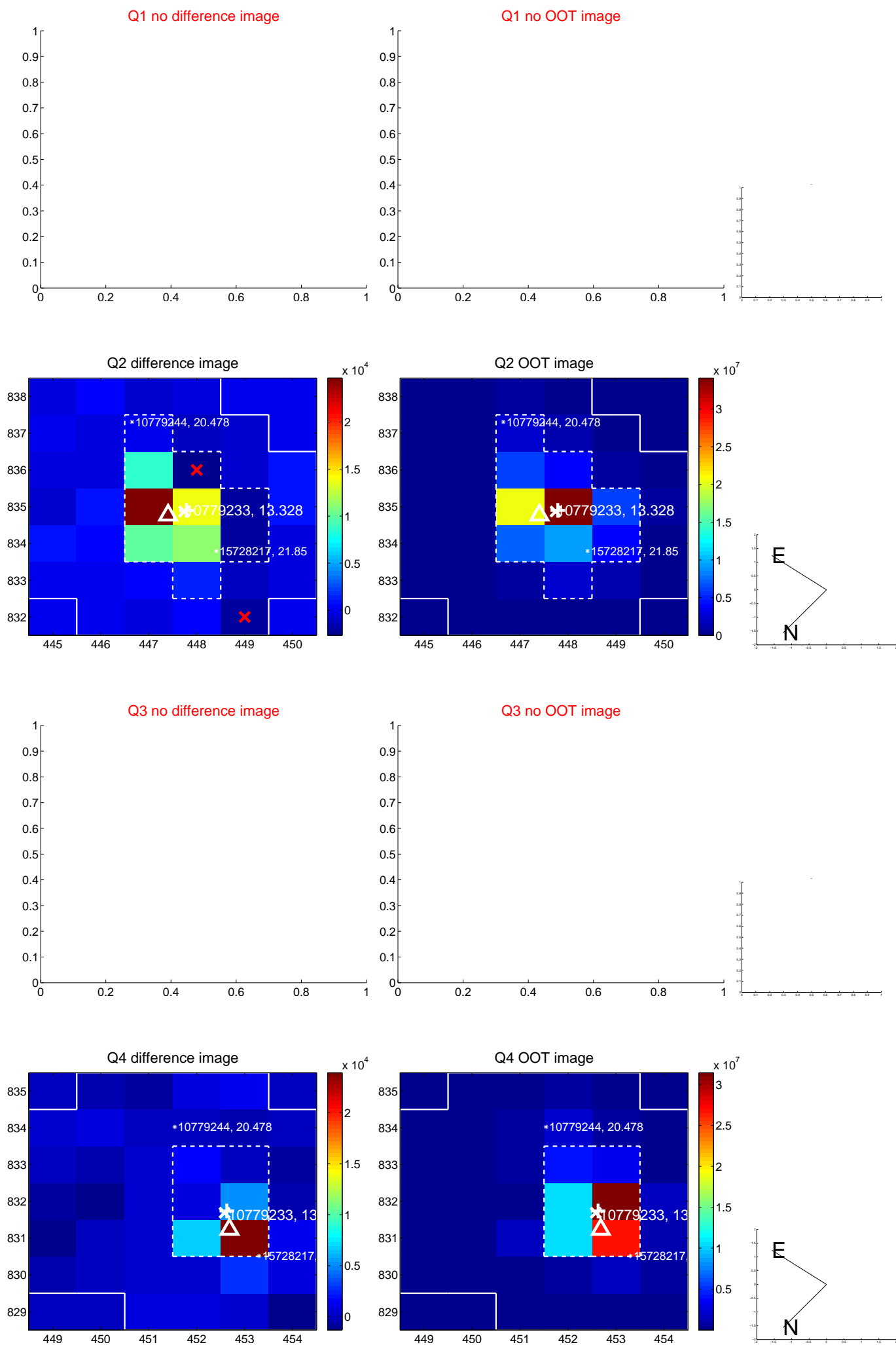
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>1.291 <math>\pm</math> 0.390</b>	<b>3.31</b>	-1.008 $\pm$ 0.341	0.806 $\pm$ 0.360
PRF-fit source offset from KIC position	1.112 $\pm$ 0.431	2.58	-0.970 $\pm$ 0.389	0.544 $\pm$ 0.317
photometric centroid source offset	0.12 $\pm$ 0.37	0.33	-0.08 $\pm$ 0.40	-0.10 $\pm$ 0.35

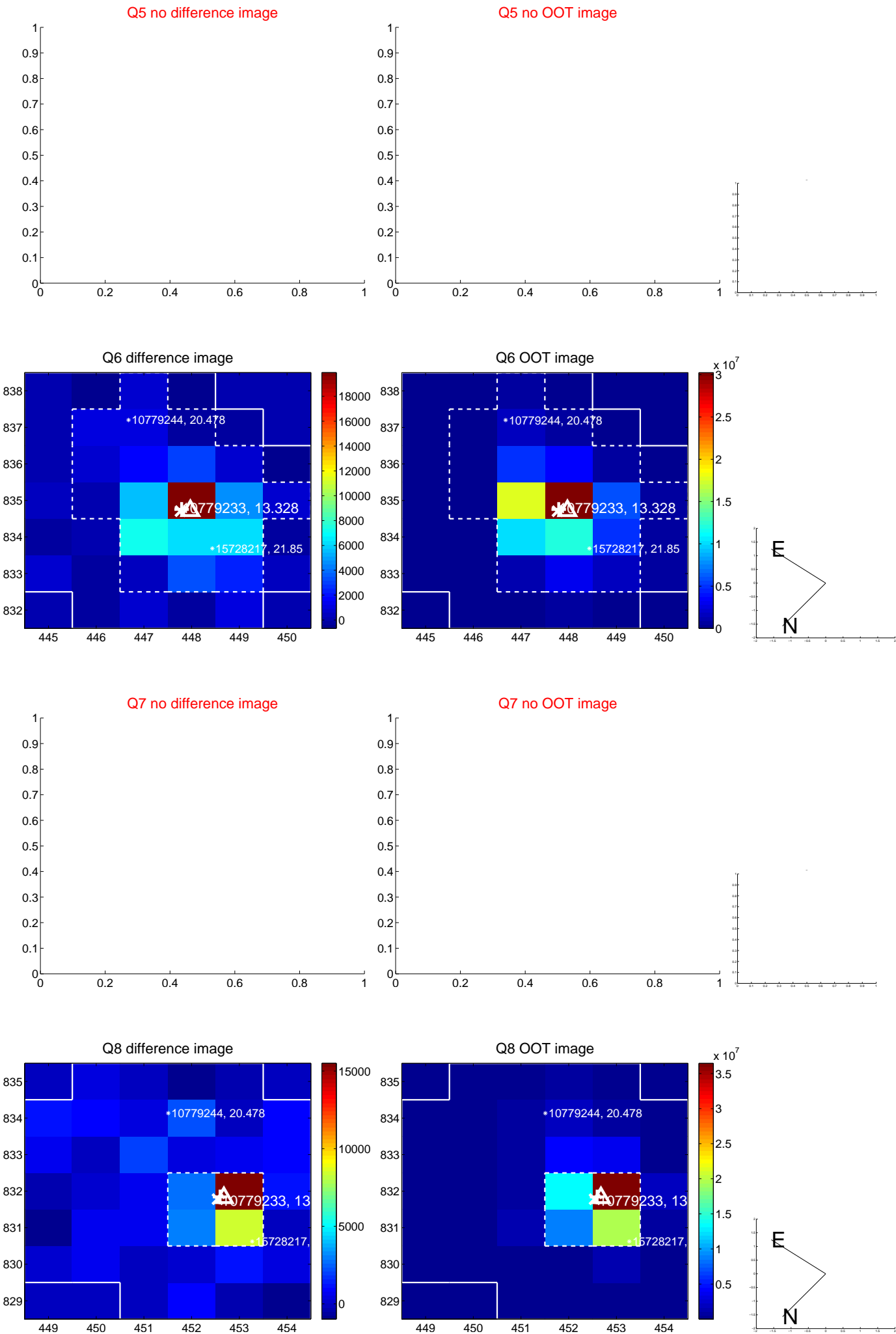


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

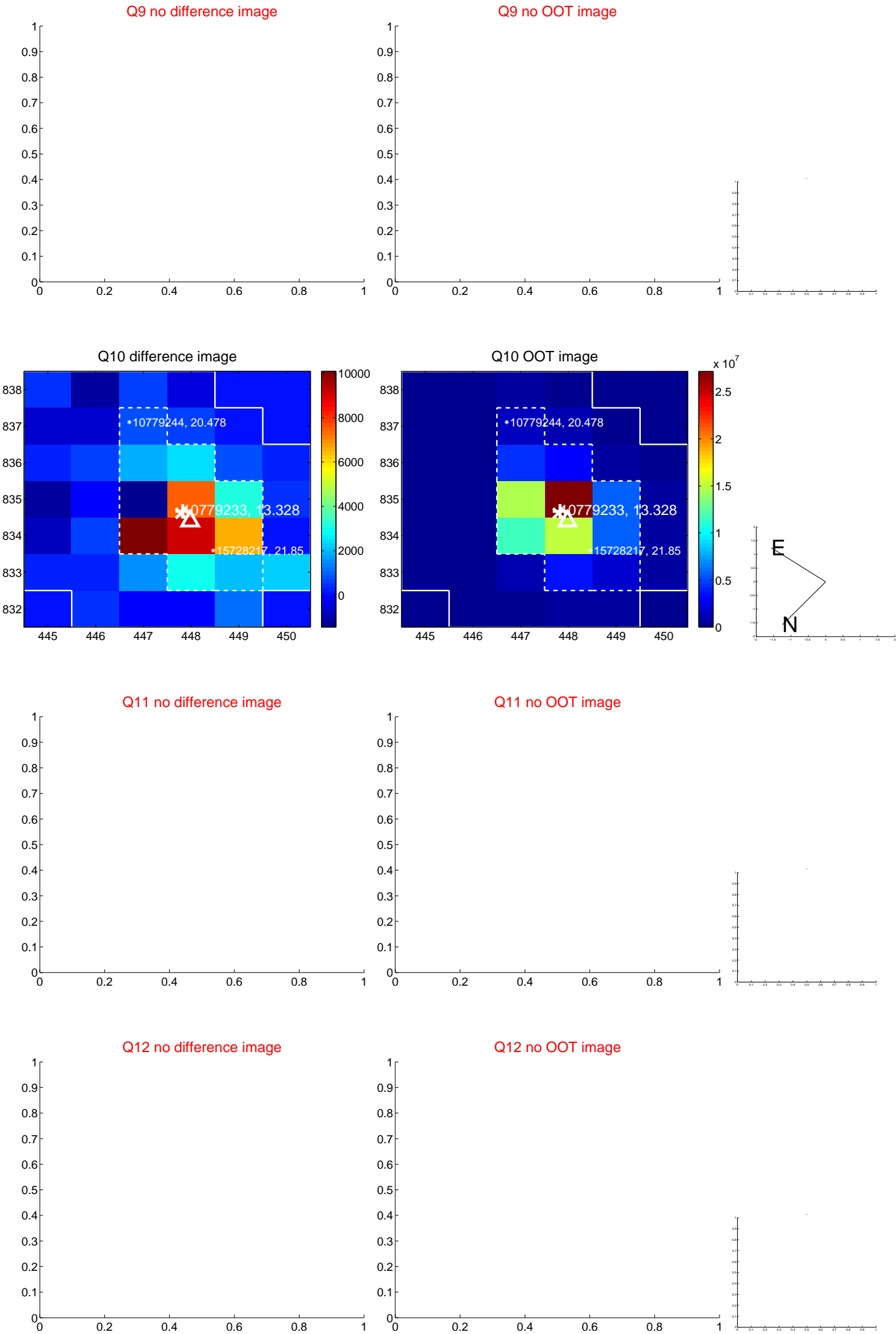


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

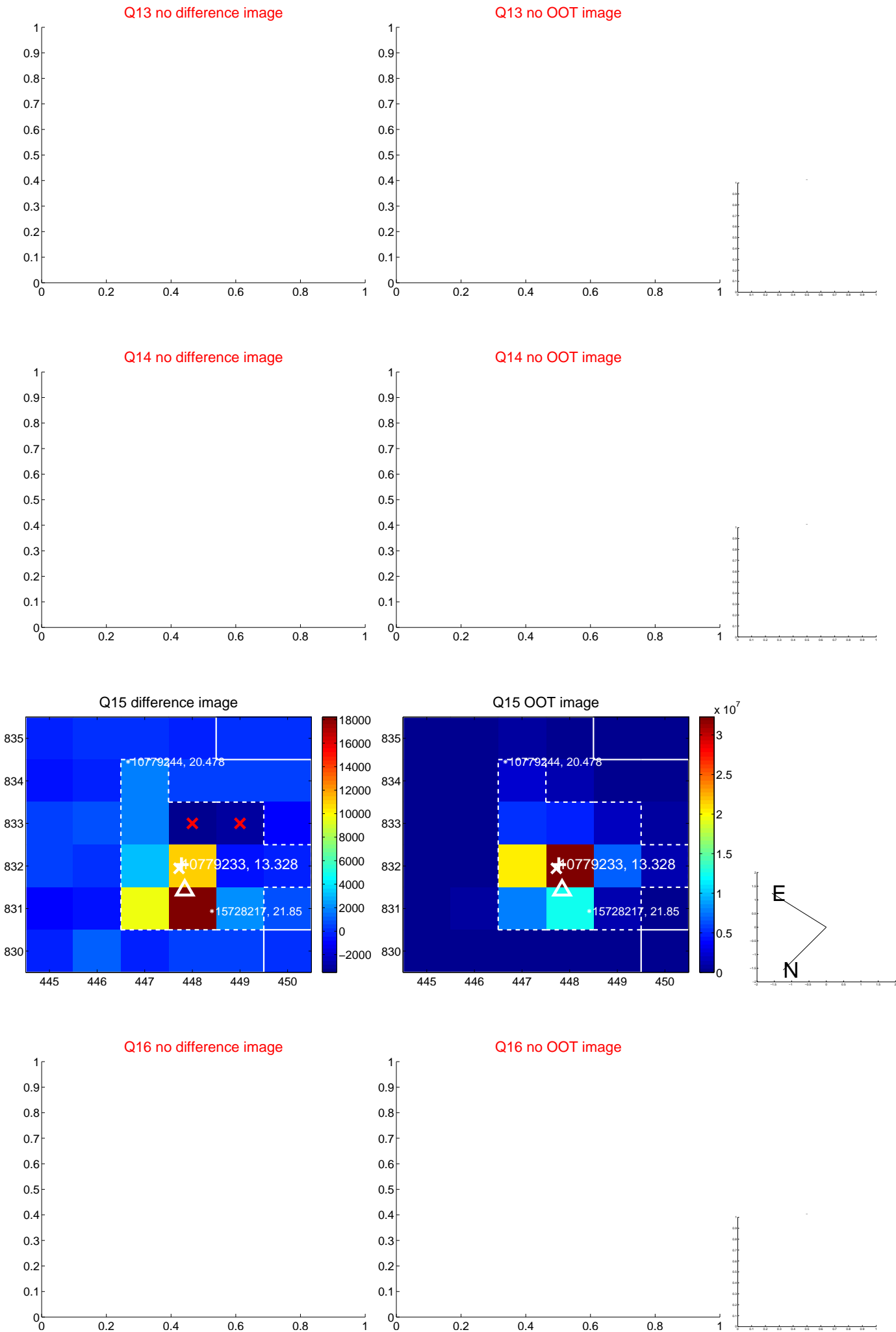




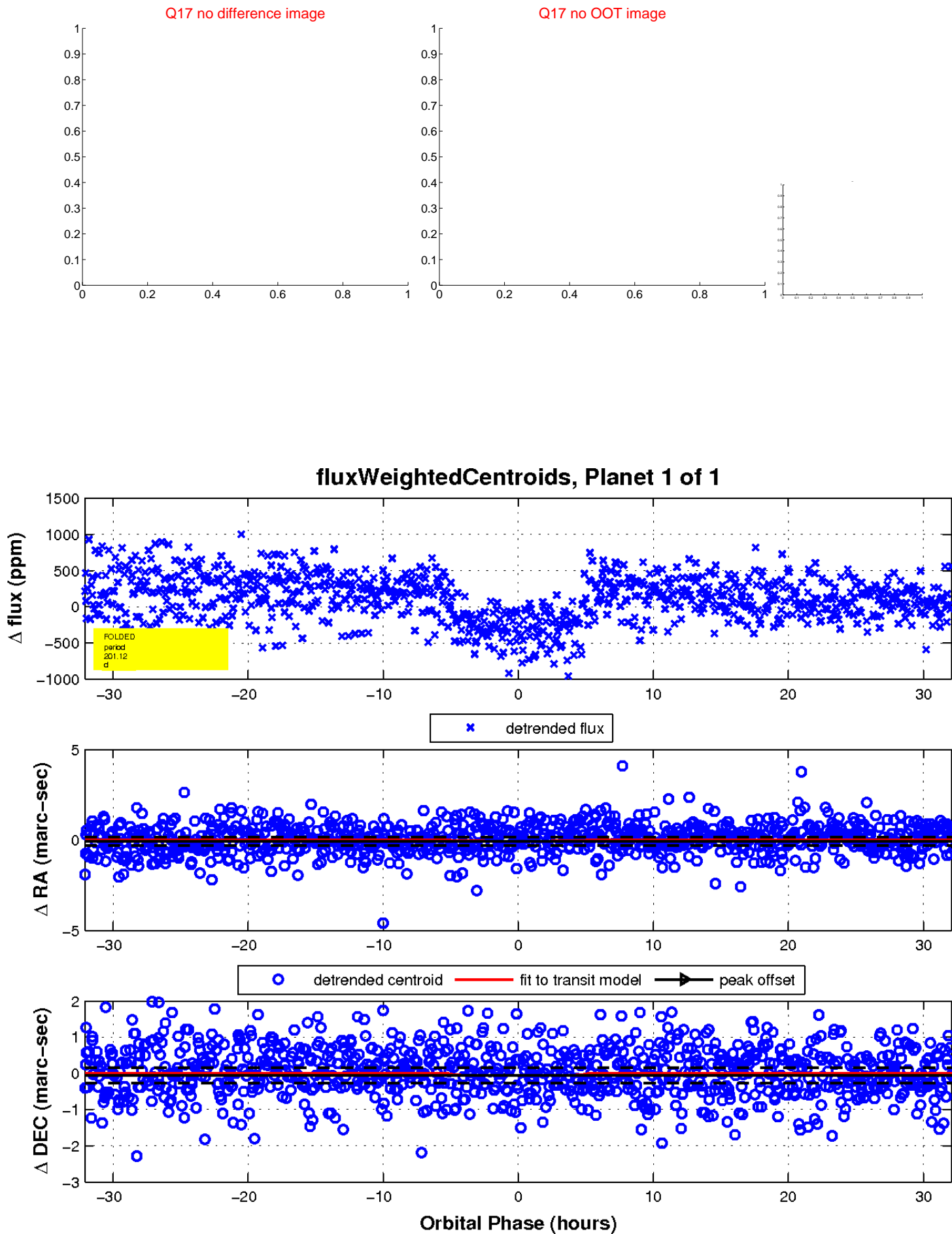
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

