

# KIC 007810483

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007810483-01	OBS	1943.01	29.922090	146.007579	342.7	2.914	31.9	33.1	1.64	6127	3.38	88.70

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007810483-01	OBS	PC	0.99	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.

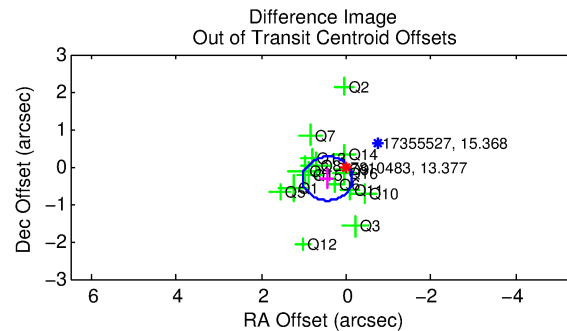
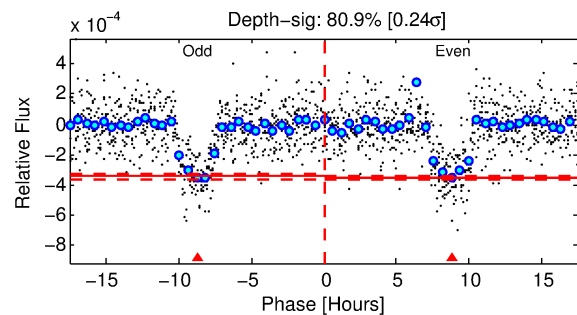
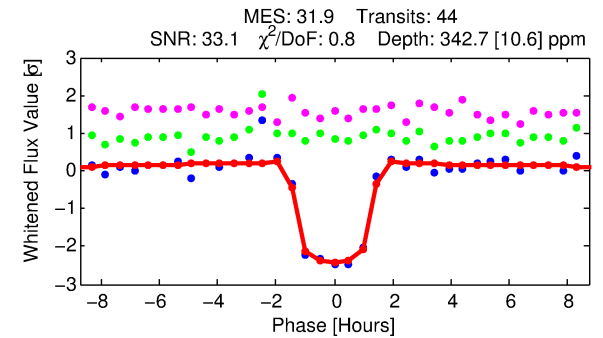
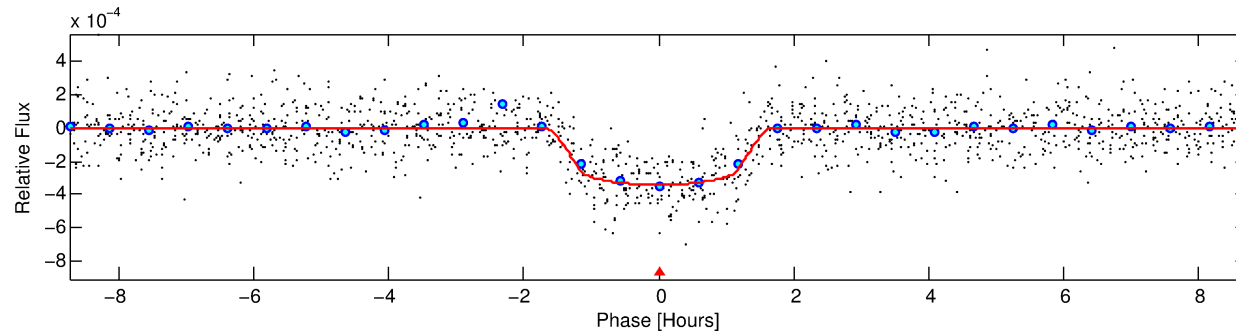
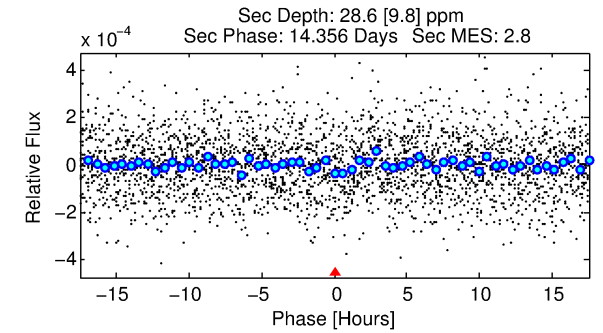
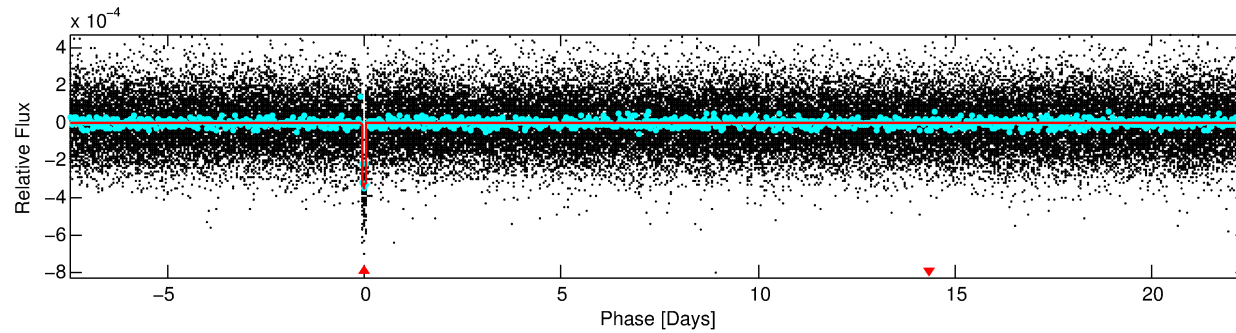
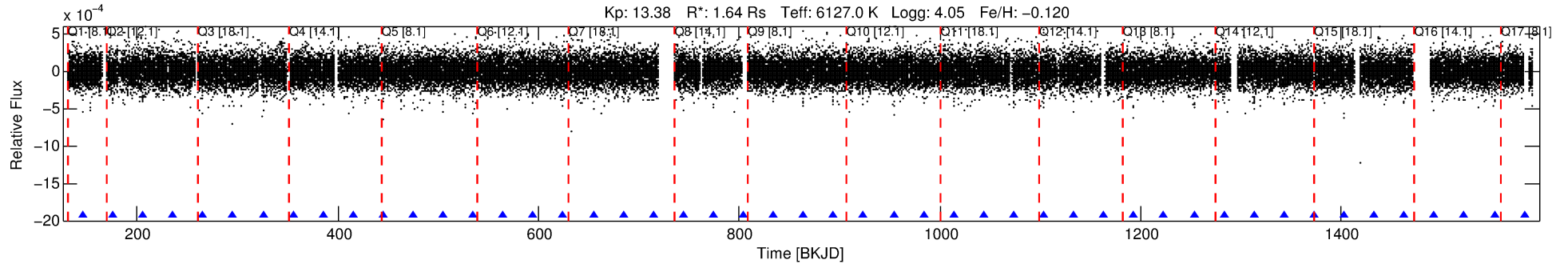
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007810483-01

No Significant Match Found

# DV One-Page Summary

KIC: 7810483 Candidate: 1 of 1 Period: 29.922 d  
KOI: K01943.01 Corr: 0.973



## DV Fit Results:

Period = 29.92209 [0.00007] d  
Epoch = 146.0076 [0.0019] BKJD  
Rp/R\* = 0.0189 [0.0040]  
a/R\* = 47.98 [52.13]  
b = 0.81 [0.45]  
Seff = 88.70 [39.82]  
Teq = 783 [88] K  
Rp = 3.38 [1.21] Re  
a = 0.1953 [0.0533] AU  
Ag = 52.65 [36.72] [1.41σ]  
Teffp = 3259 [457] K [5.32σ]

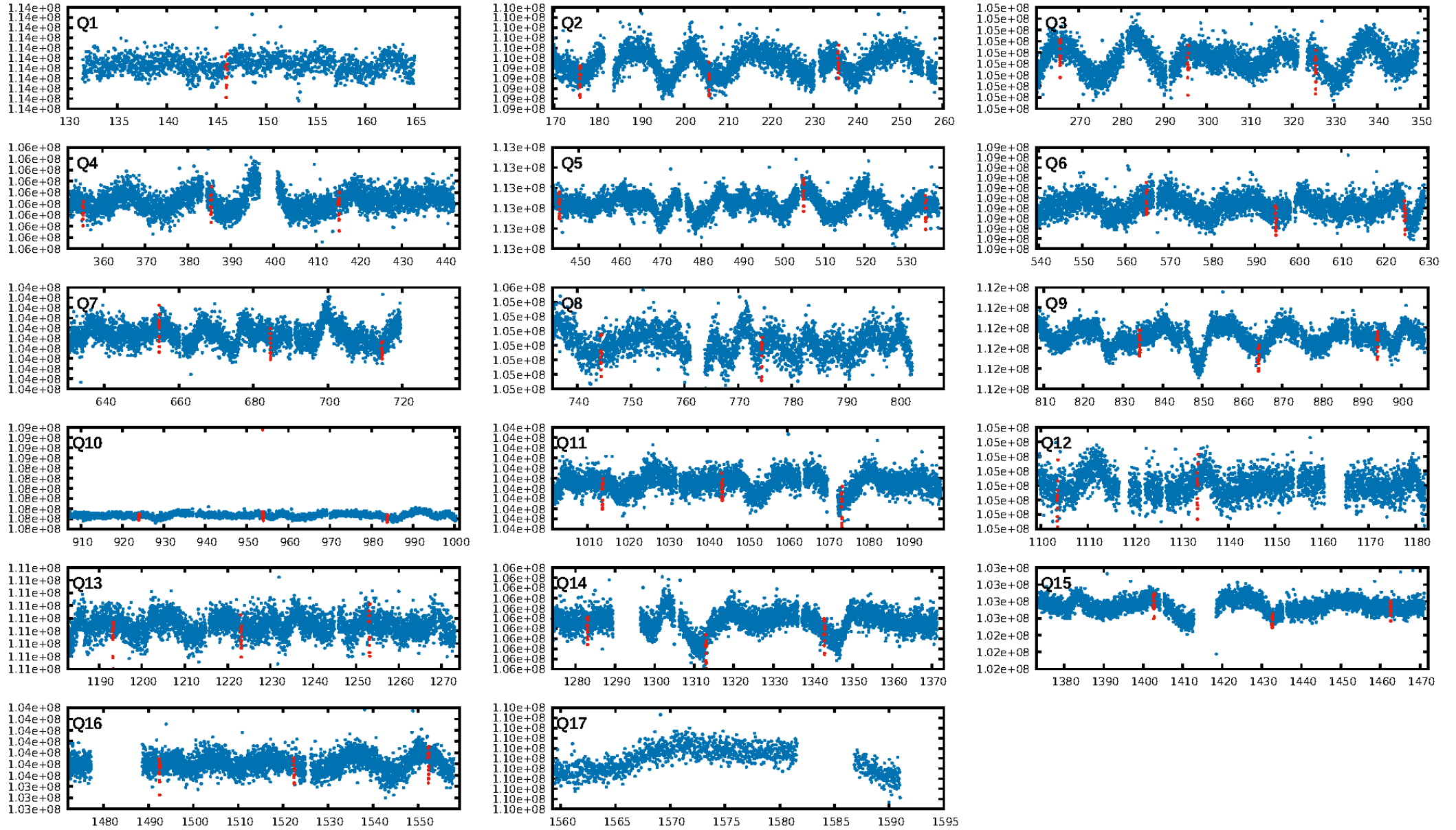
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 96.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 6.33e-208  
RollingBand-fgt: 1.00 [43/43]  
GhostDiagnostic-chr: 16.34  
Centroid-sig: 0.4%  
Centroid-so: 0.778 arcsec [2.28σ]  
OotOffset-rm: 0.541 arcsec [2.78σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-rm: 0.570 arcsec [2.93σ]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 1.00 [16/16]  
DiffImageOverlap-fno: 1.00 [16/16]

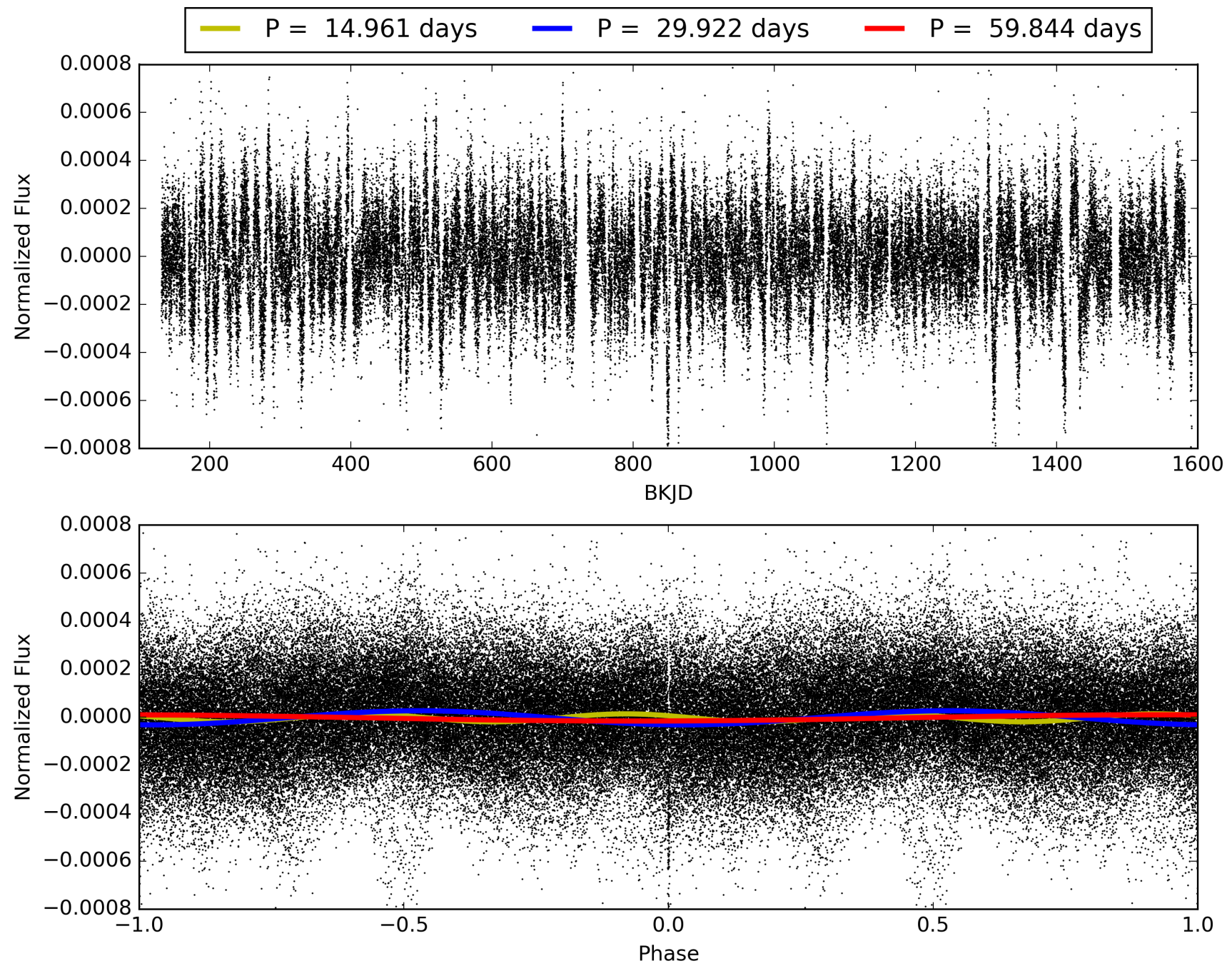
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:22:10 Z

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

# TCE 007810483-01, PDC Light Curves

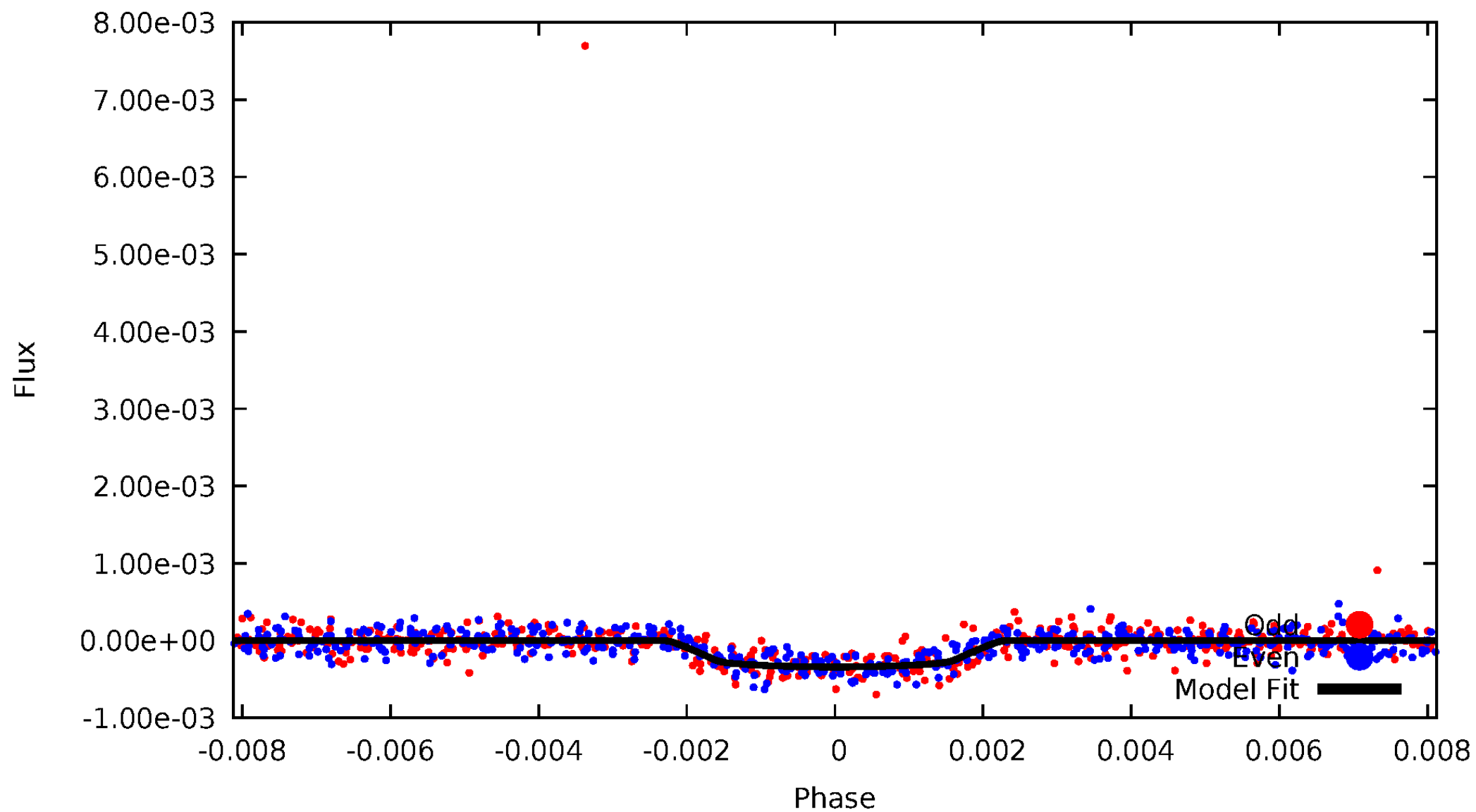


TCE 007810483-01



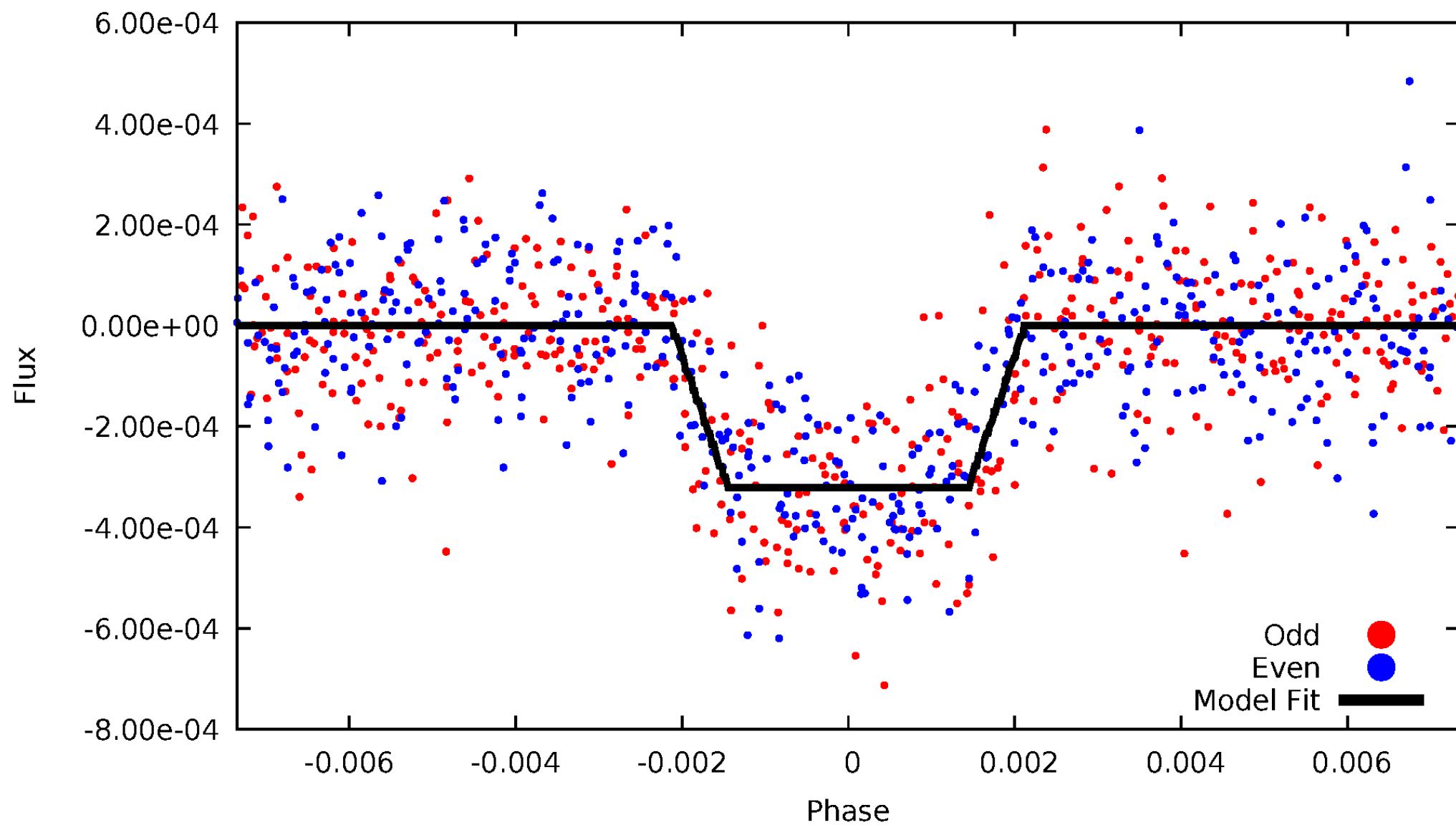
# DV Odd/Even

TCE 007810483-01



# ALT Odd/Even

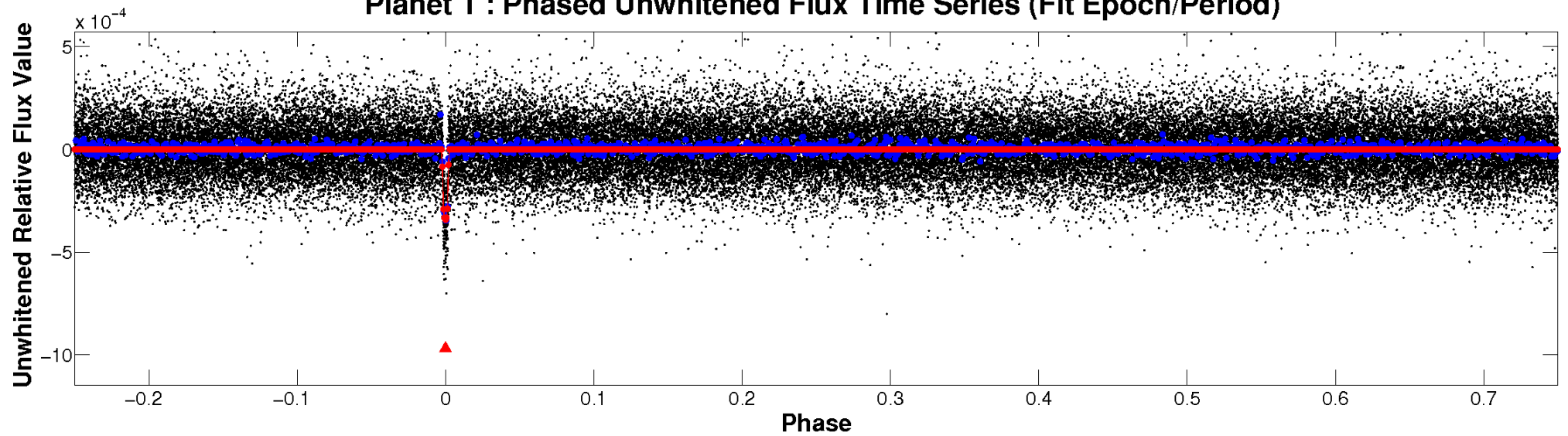
TCE 007810483-01



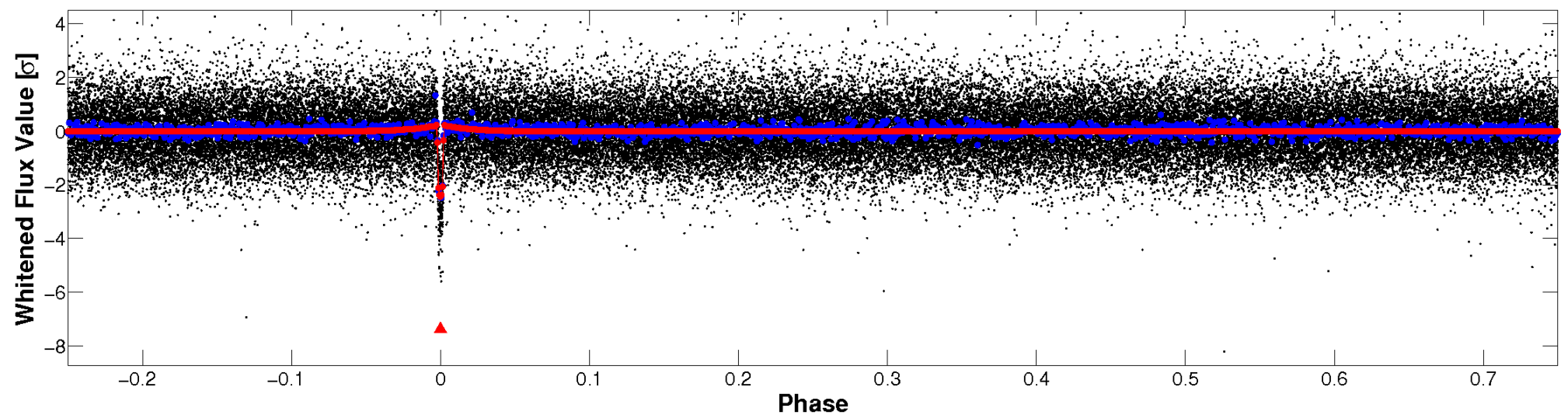


# Non-Whitened Vs. Whitened Light Curve

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

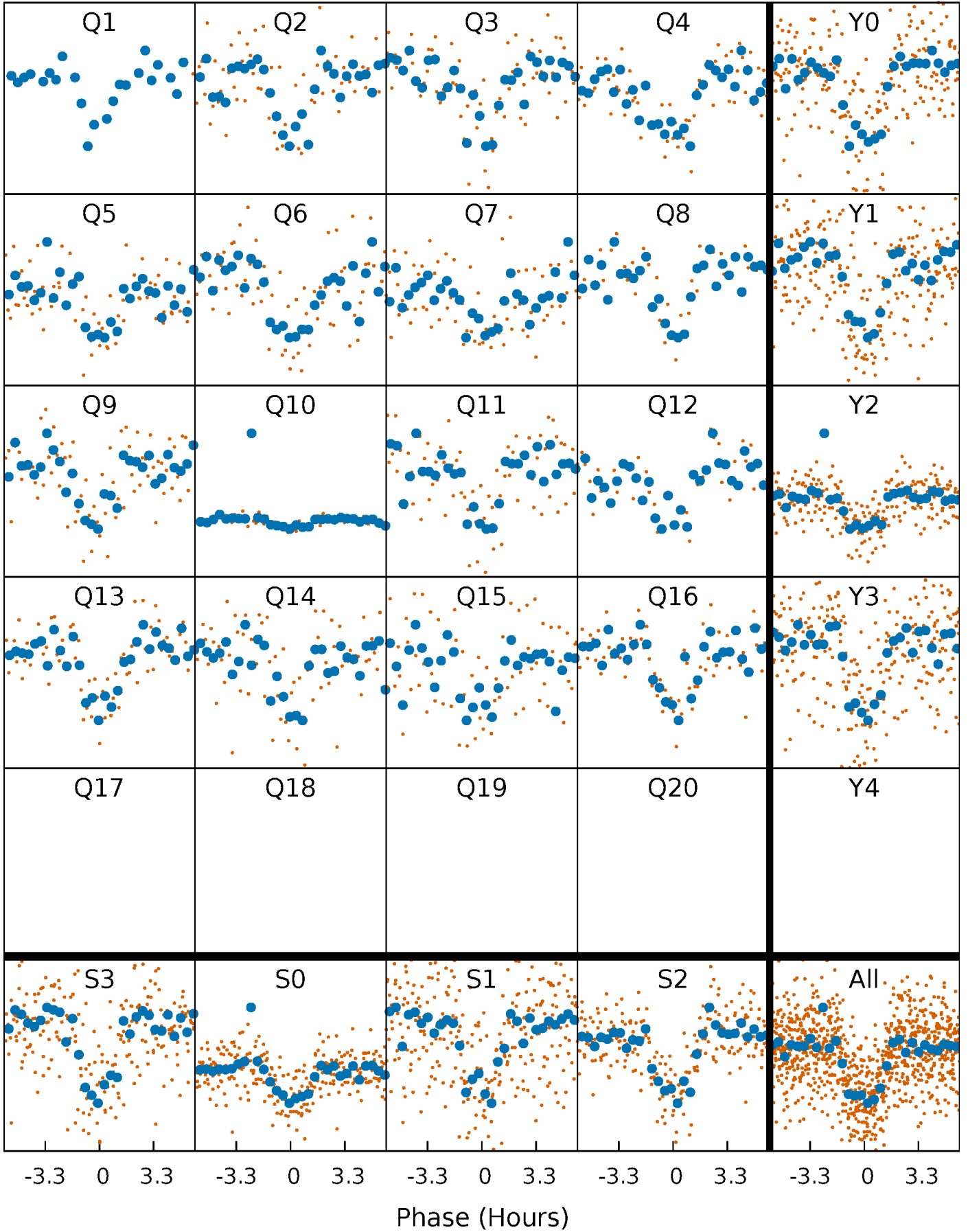


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

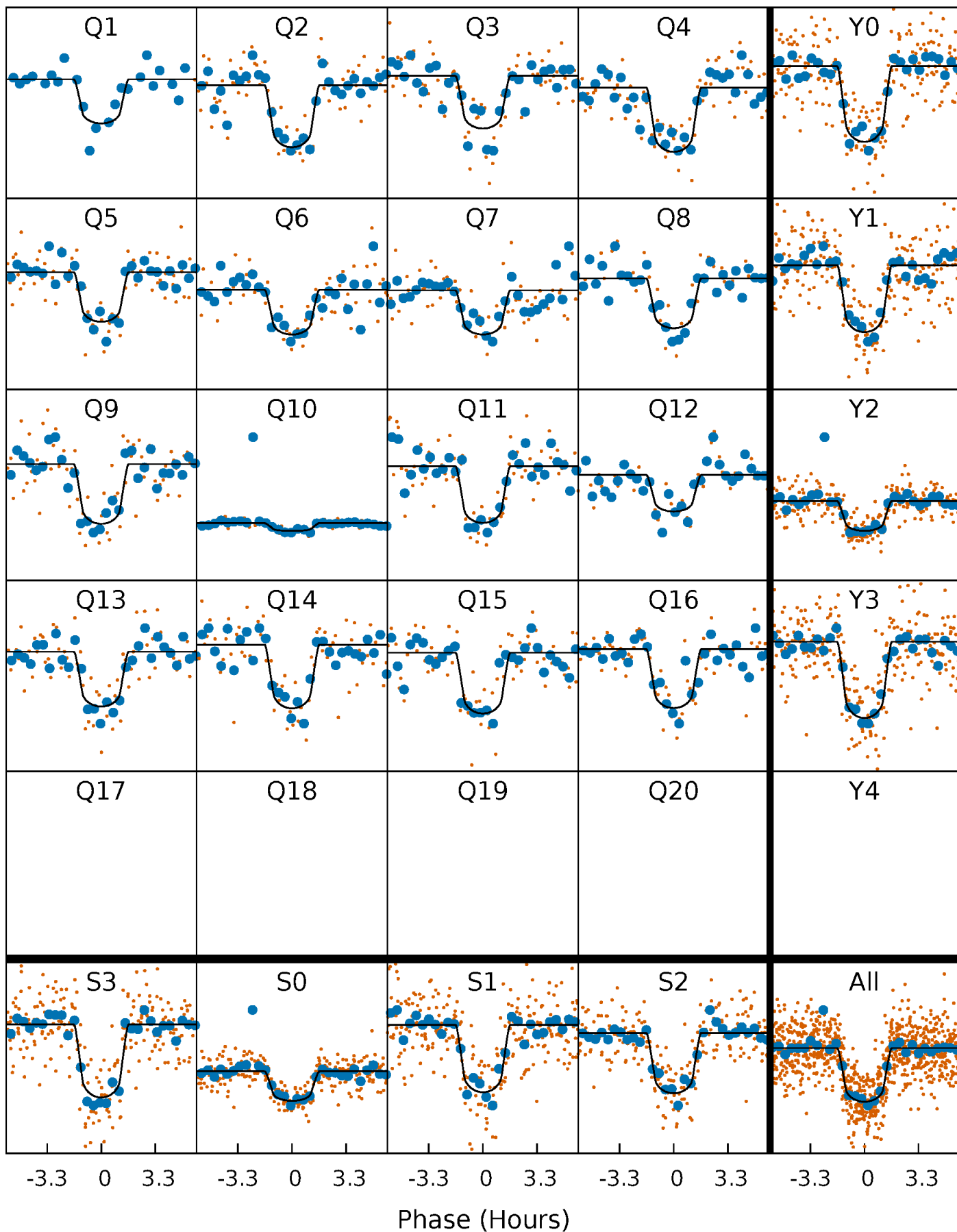
TCE 007810483-01 P= 29.922090 Days  $T_0=146.007579$  (BKJD)





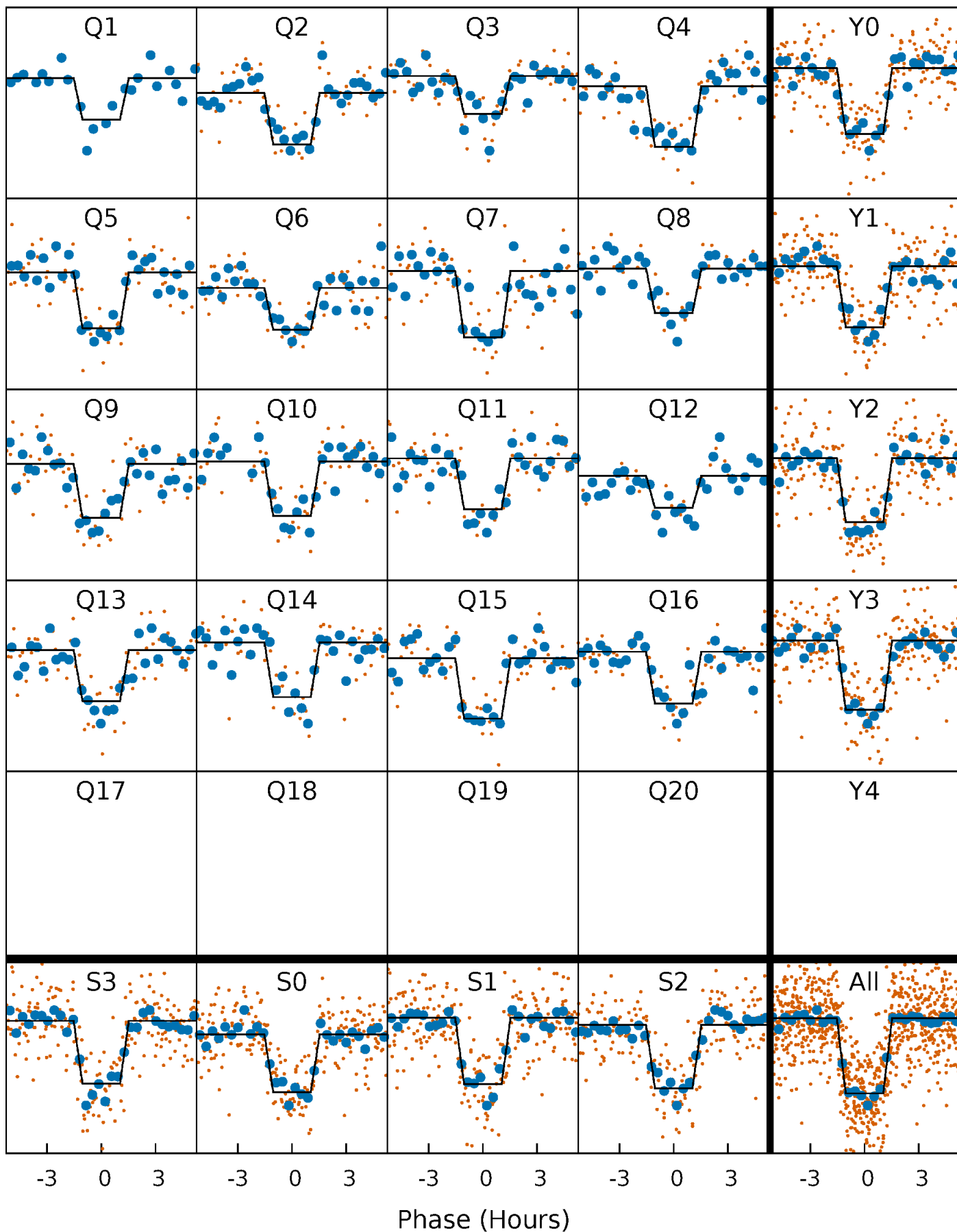
# DV Quarter-Phased Transit Curves

TCE 007810483-01 P= 29.922090 Days  $T_0=146.007579$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

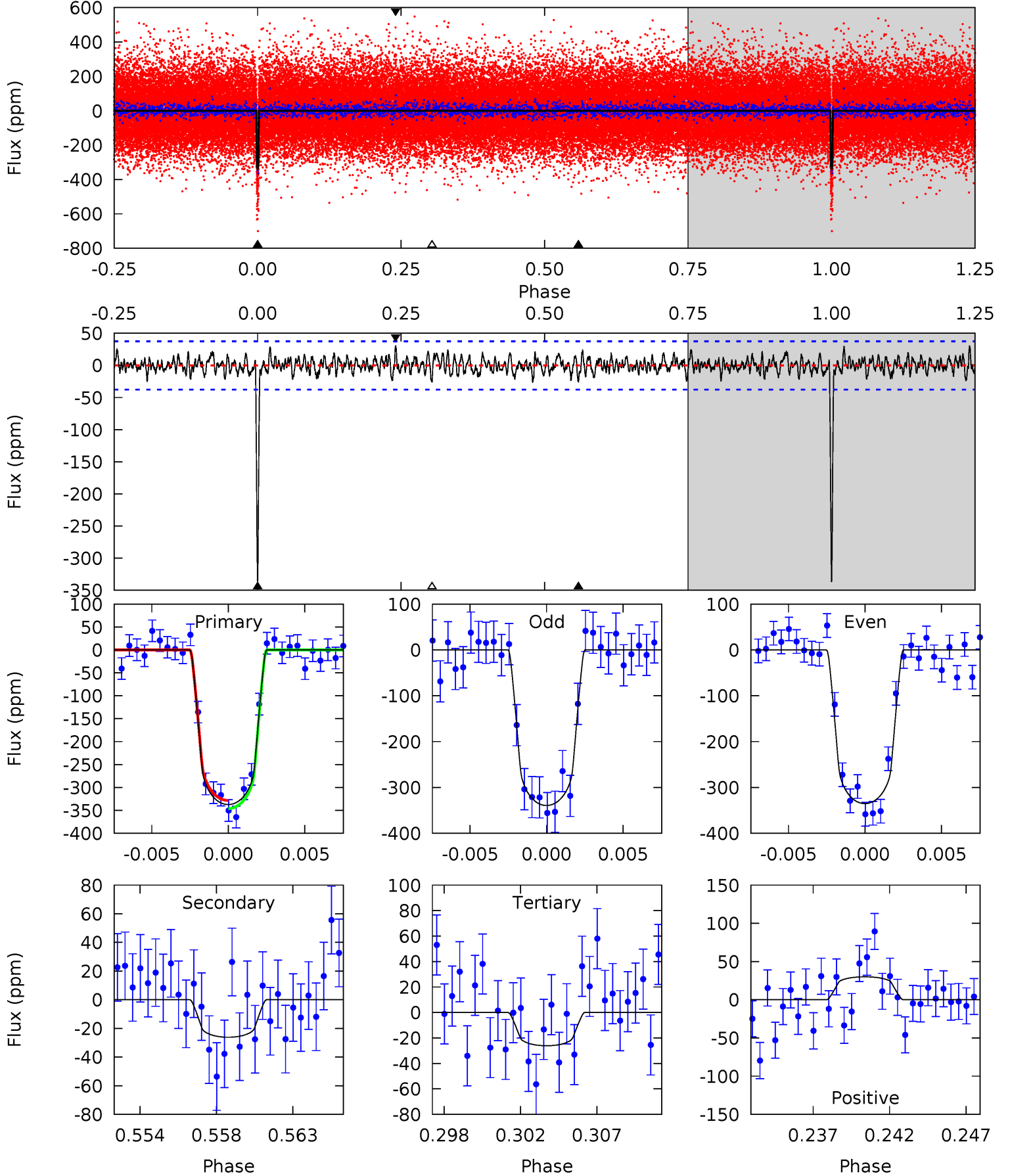
TCE 007810483-01 P= 29.921897 Days  $T_0=146.012186$  (BKJD)



# DV Model-Shift Uniqueness Test

007810483-01, P = 29.922090 Days, E = 116.085489 Days

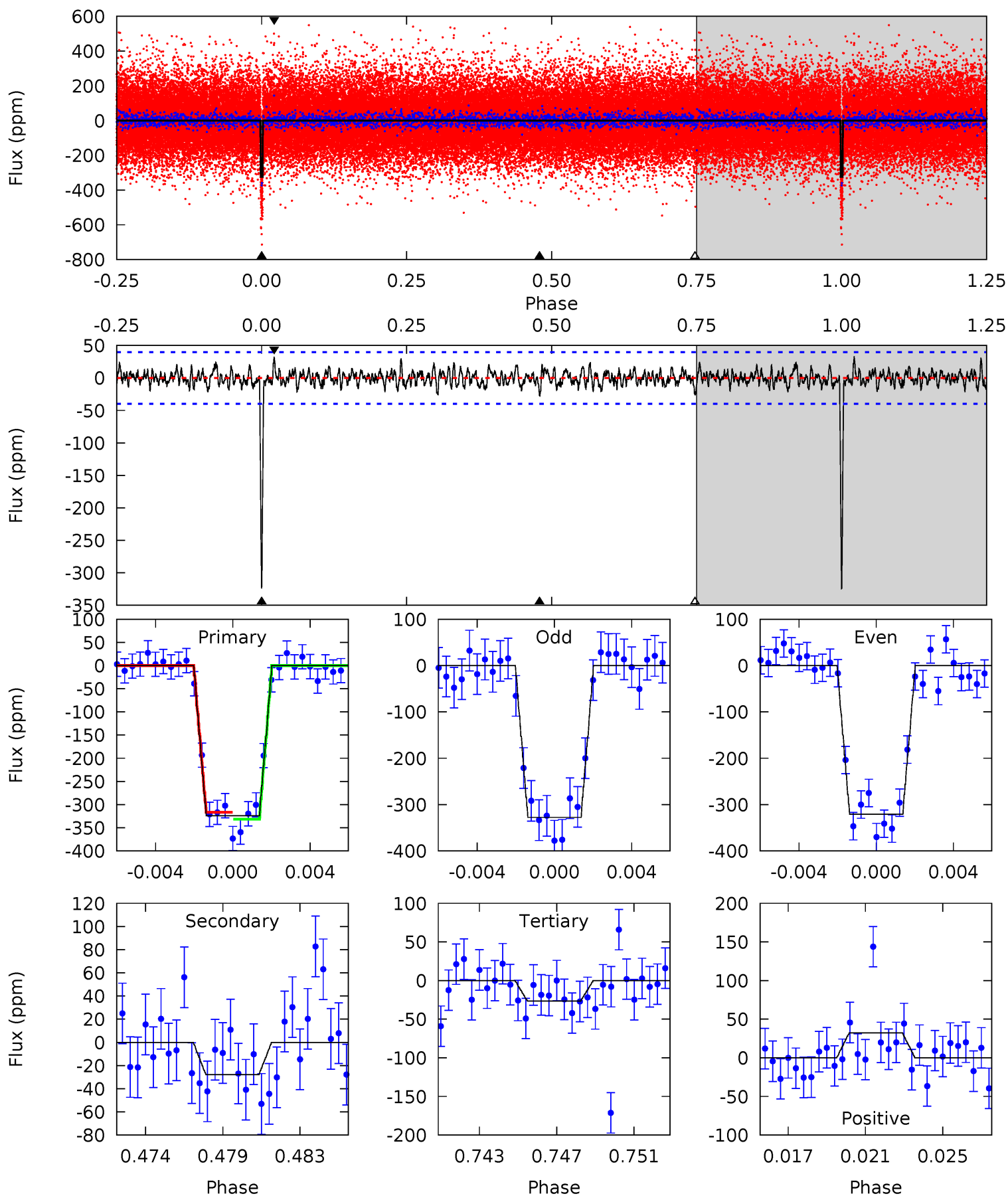
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.4	3.60	3.59	4.13	5.17	2.83	1.27	42.8	42.3	0.01	-0.53	0.28	0.97	0.08	1.23



# Alt Model-Shift Uniqueness Test

007810483-01, P = 29.921897 Days, E = 116.090289 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
42.4	3.63	3.48	4.23	5.19	2.86	1.16	38.9	38.1	0.16	-0.60	0.45	0.98	0.09	0.98



### Stellar Parameters For KIC 007810483

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6127^{+186}_{-186}$	$4.055^{+0.252}_{-0.108}$	$-0.120^{+0.300}_{-0.300}$	$1.637^{+0.354}_{-0.473}$	$1.109^{+0.189}_{-0.155}$	$0.356^{+0.534}_{-0.129}$
	+3%/-3%	+6%/-3%	+250%/-250%	+22%/-29%	+17%/-14%	+150%/-36%
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 007810483-01 / KOI 1943.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-26 \pm 7$	$3.22^{+0.89}_{-0.82}$	$1075^{+70}_{-80}$	$3633^{+354}_{-284}$	$54^{+44}_{-24}$
Alt.	$-28 \pm 8$	$3.08^{+0.90}_{-0.75}$	$1079^{+71}_{-90}$	$3729^{+356}_{-329}$	$62^{+49}_{-29}$

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

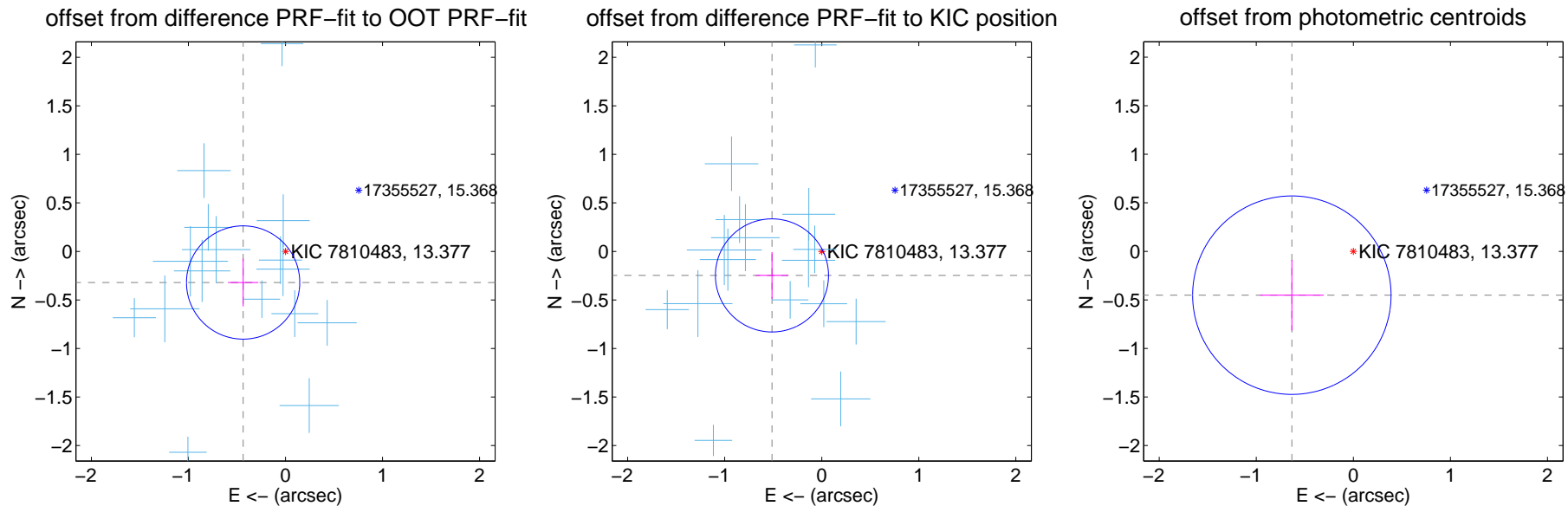
## DV Centroid Data

Supplemental centroid analysis for 007810483-01. Kepler magnitude: 13.38. Transit SNR 33.08

There are 16 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

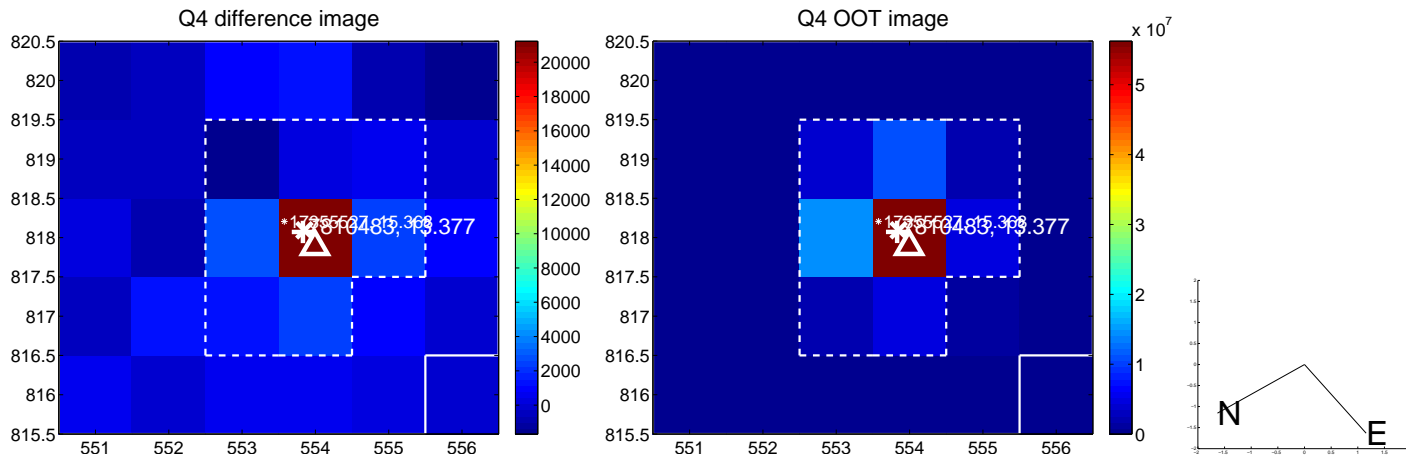
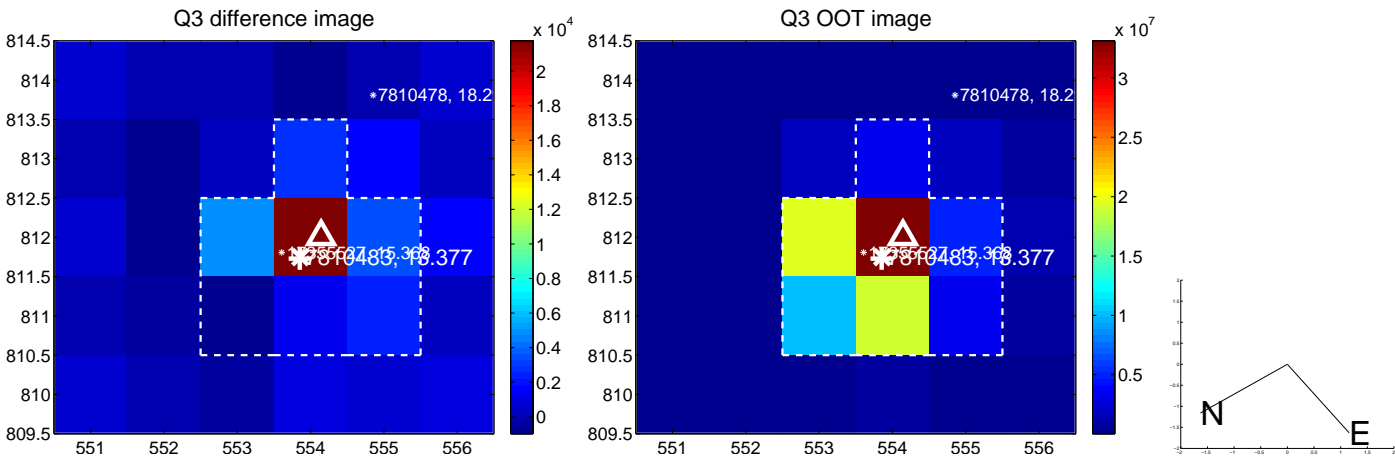
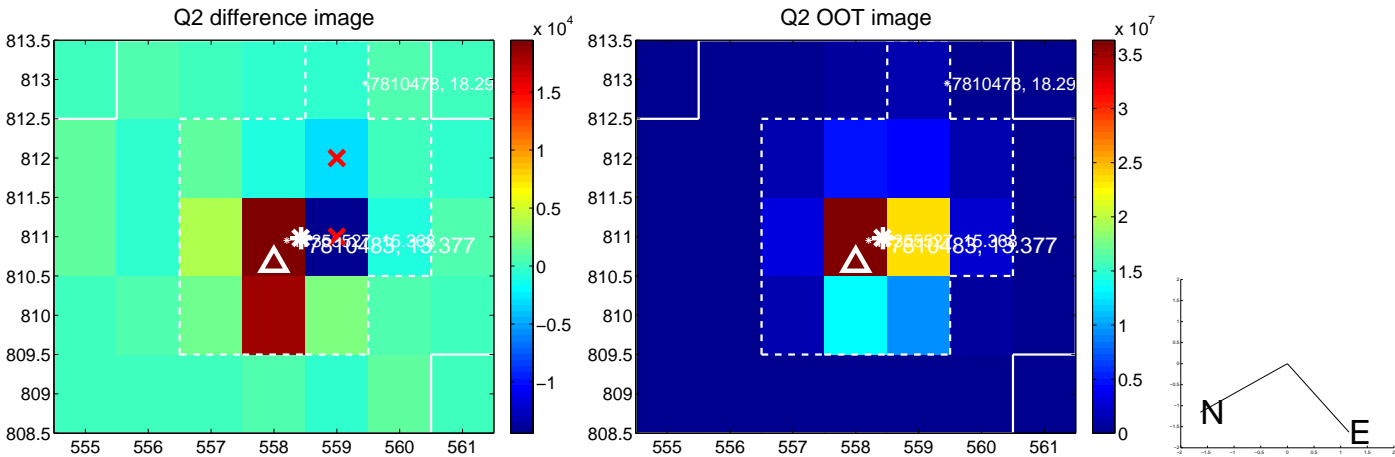
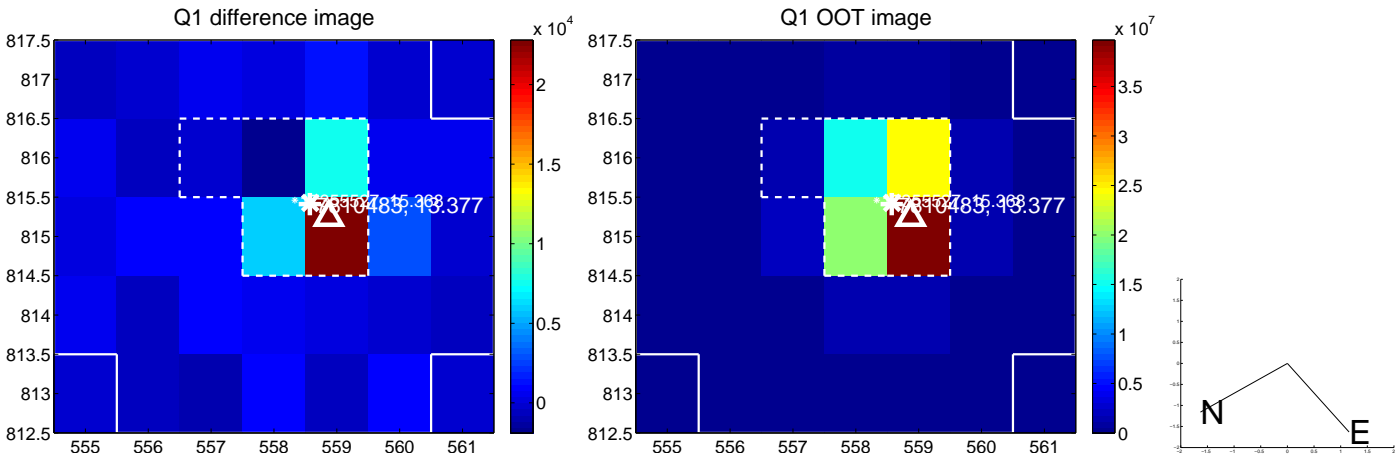
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.541 \pm 0.195$	2.78	$0.436 \pm 0.156$	$-0.320 \pm 0.246$
PRF-fit source offset from KIC position	$0.570 \pm 0.194$	2.93	$0.513 \pm 0.168$	$-0.247 \pm 0.241$
photometric centroid source offset	$0.78 \pm 0.34$	2.28	$0.63 \pm 0.33$	$-0.45 \pm 0.36$



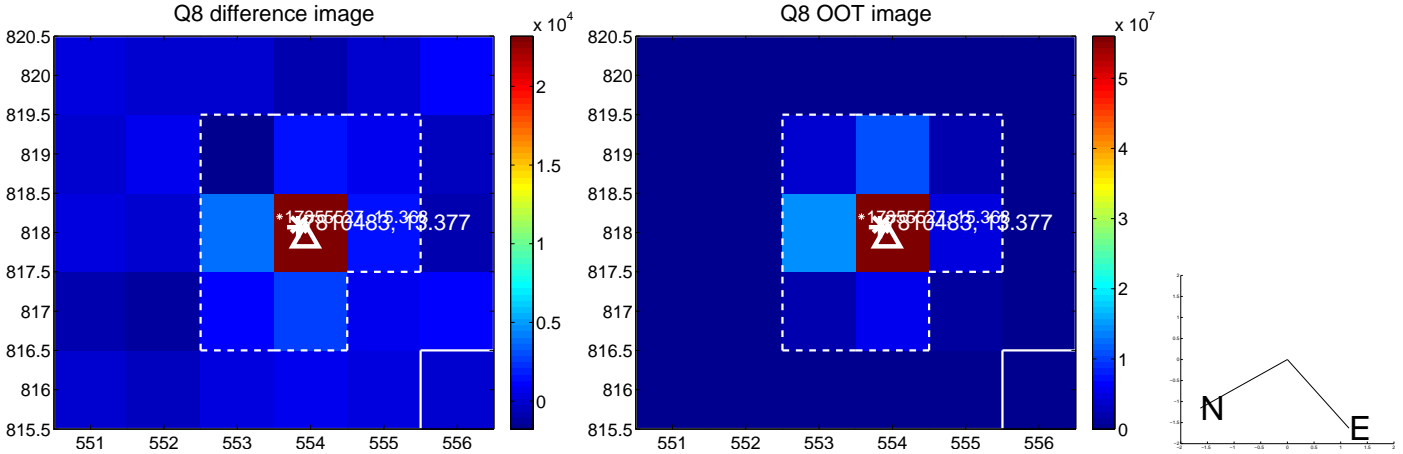
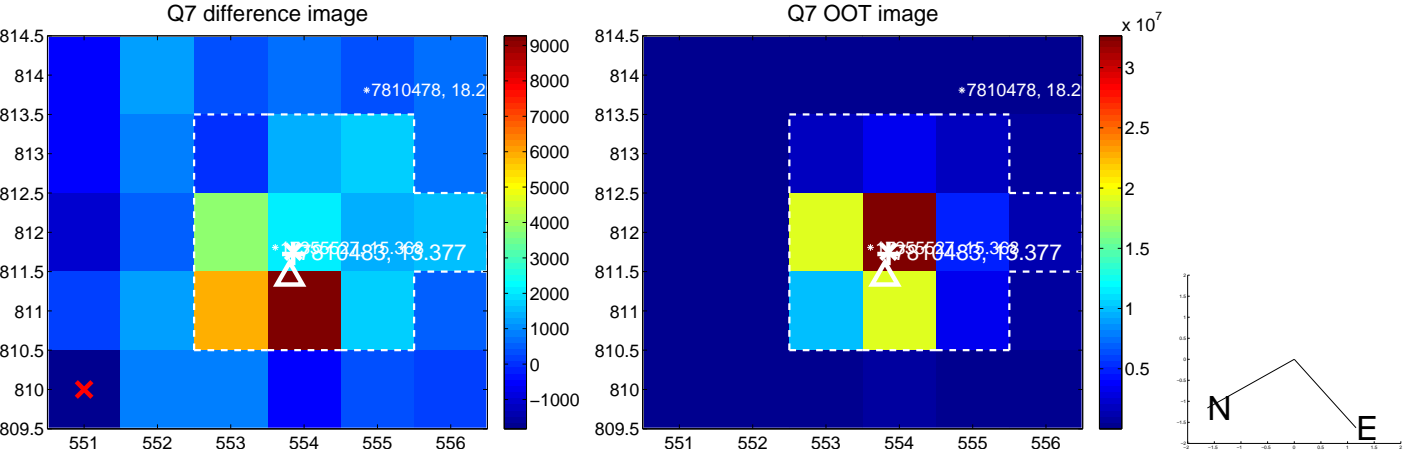
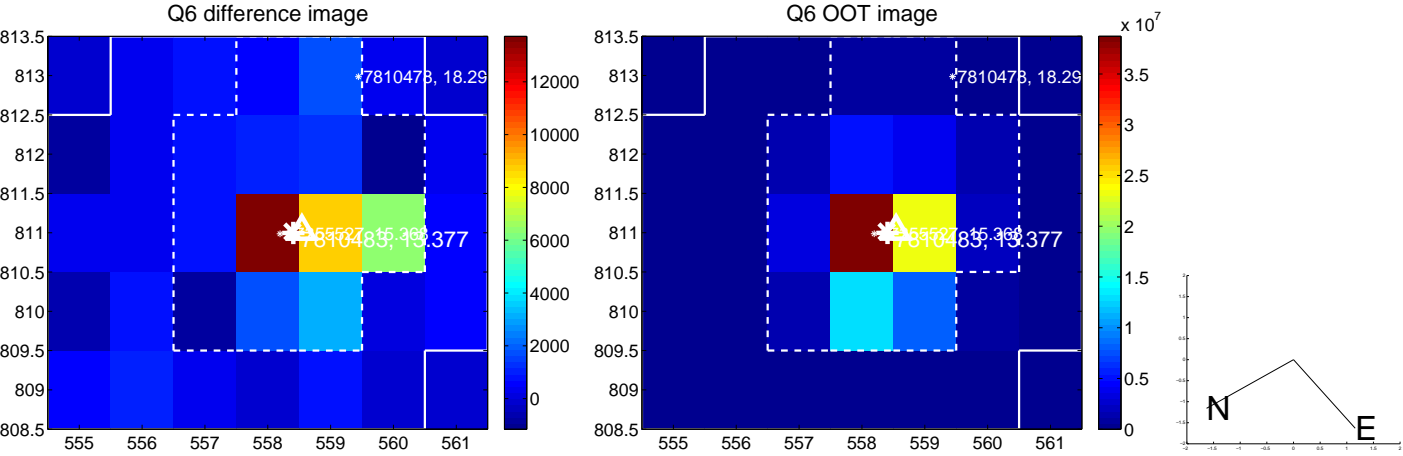
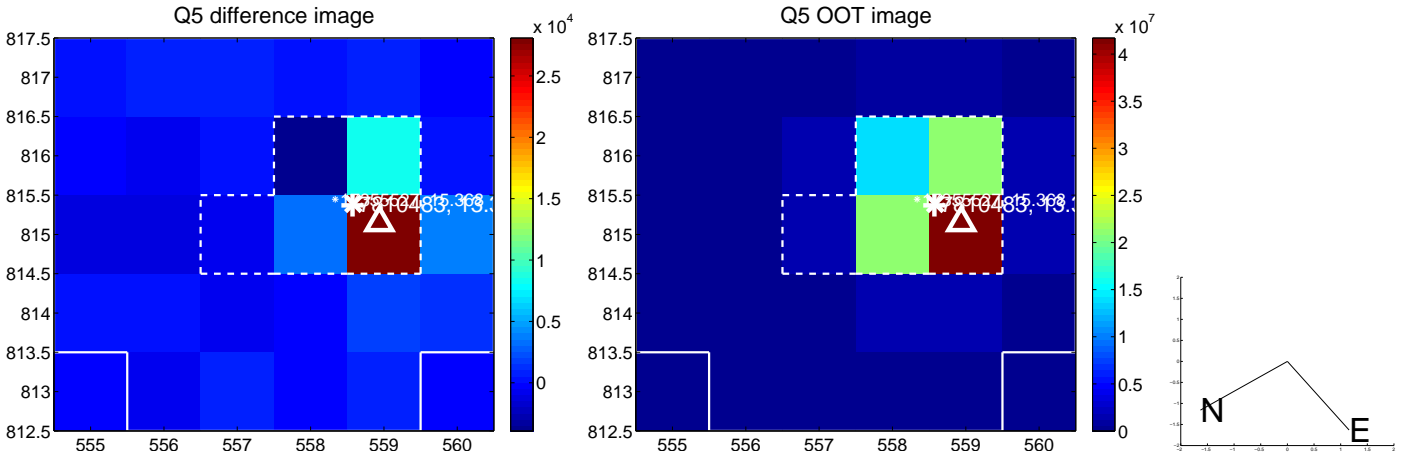
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



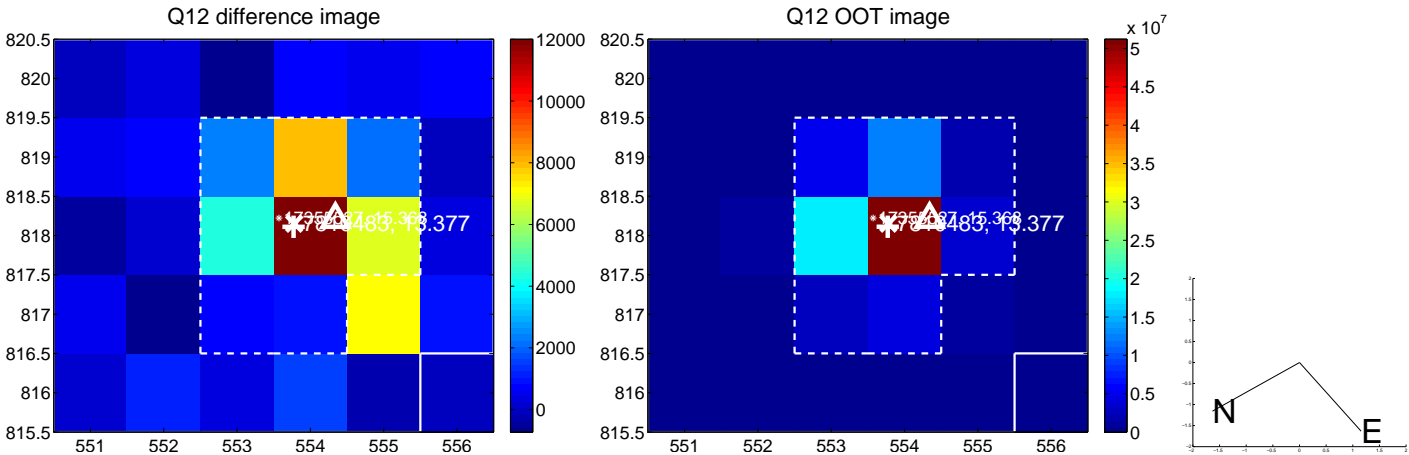
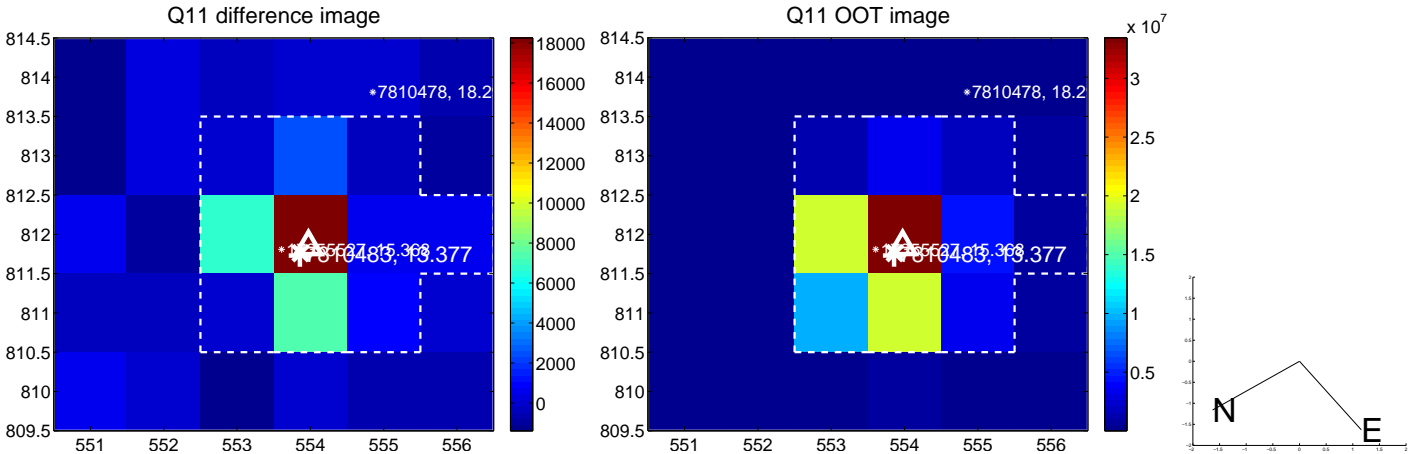
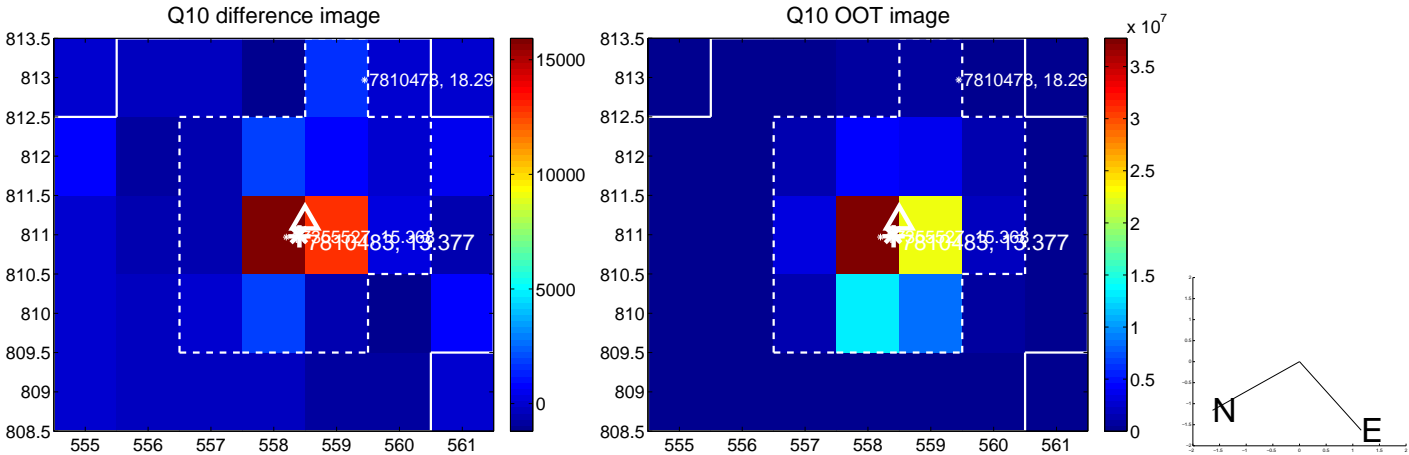
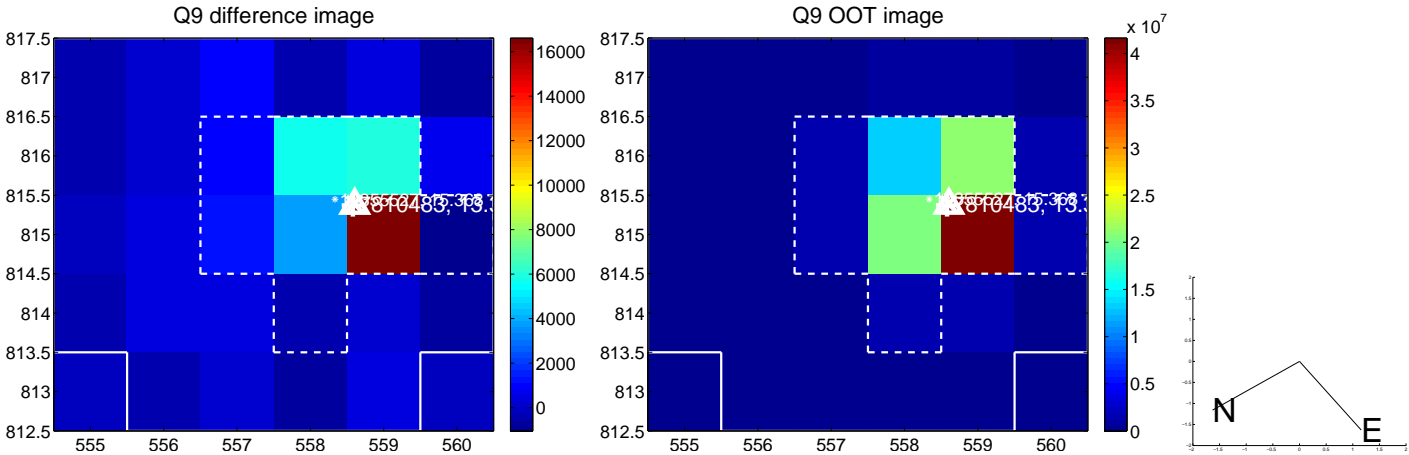
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



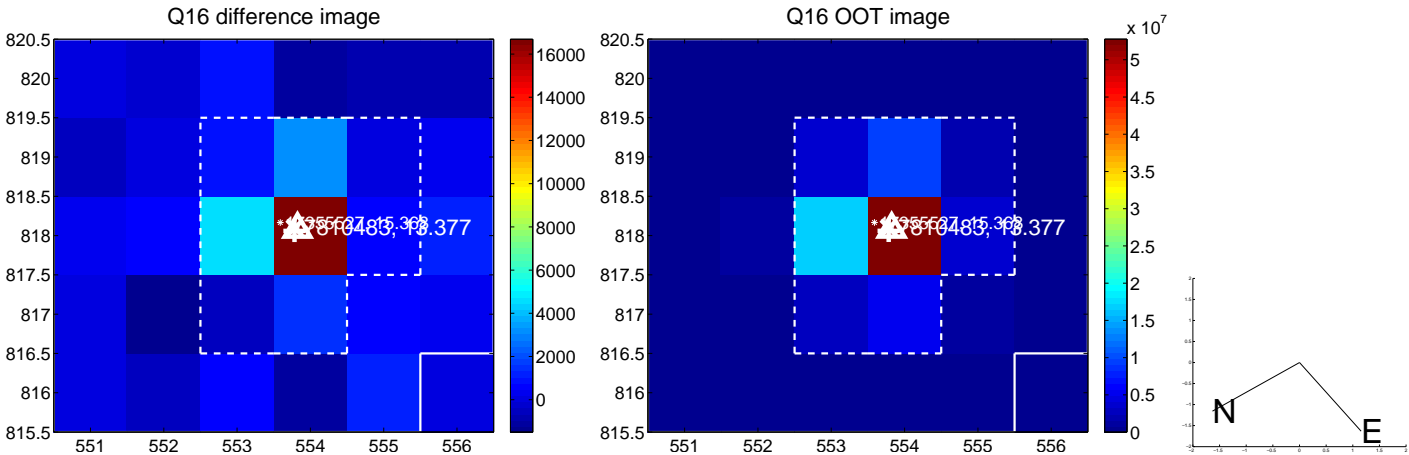
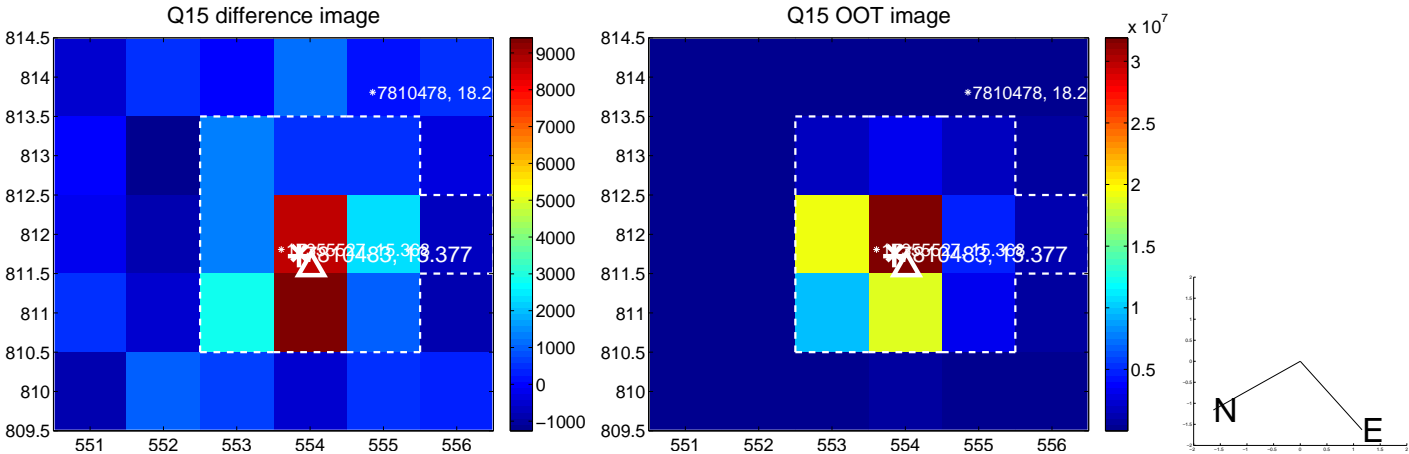
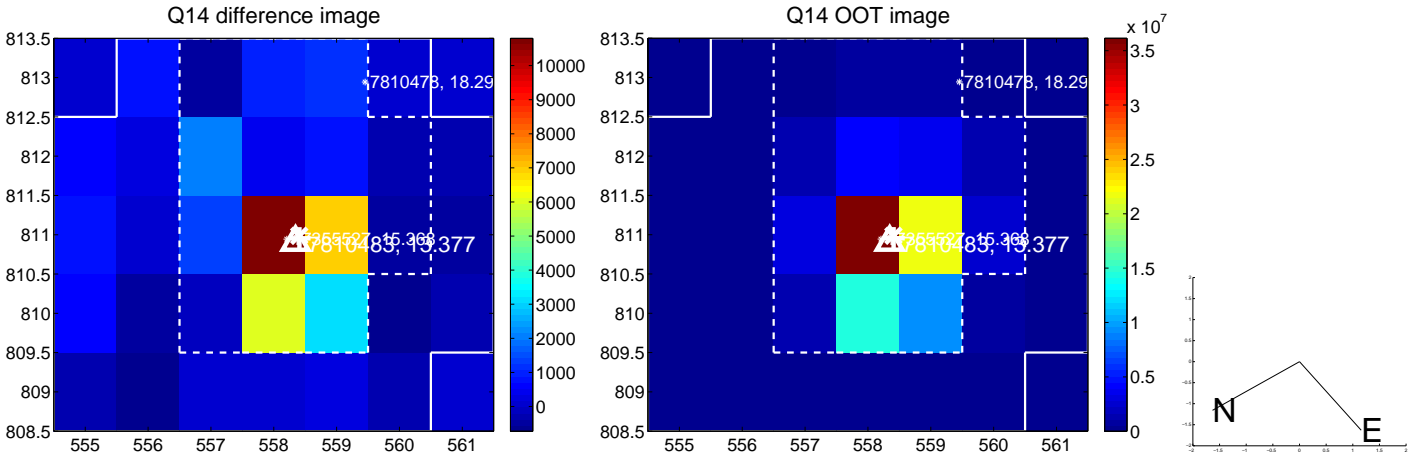
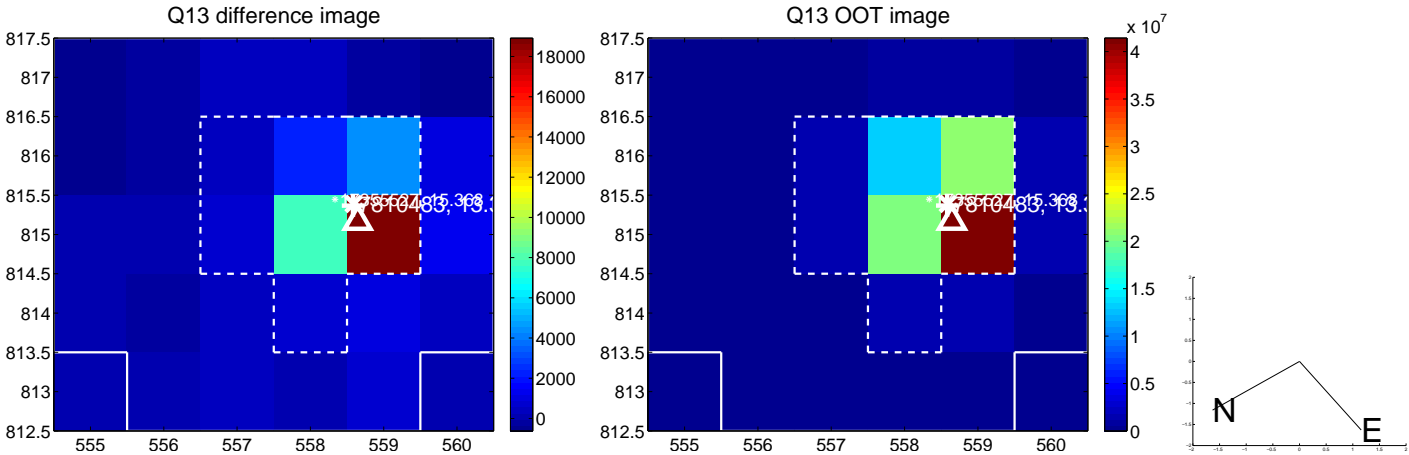
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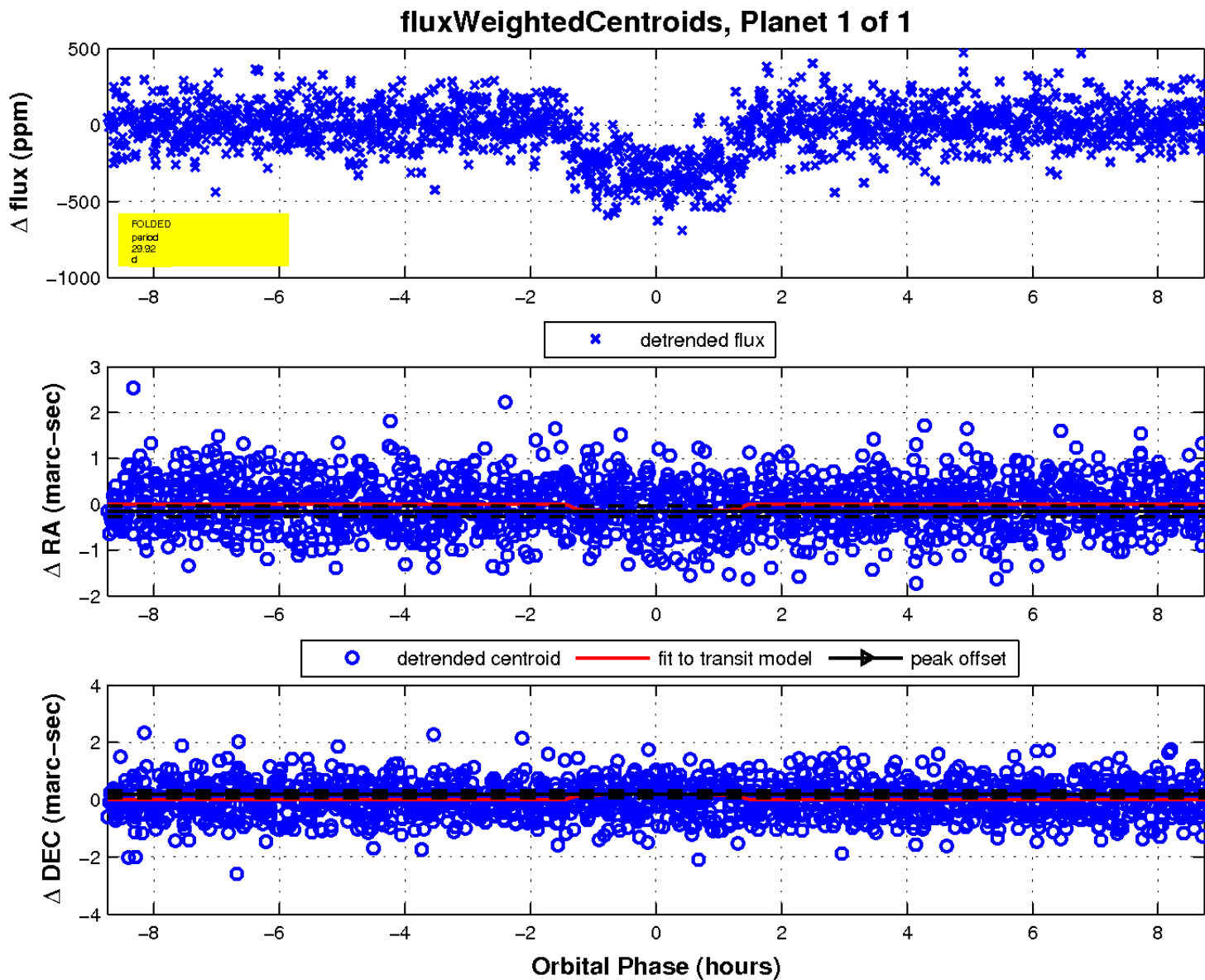
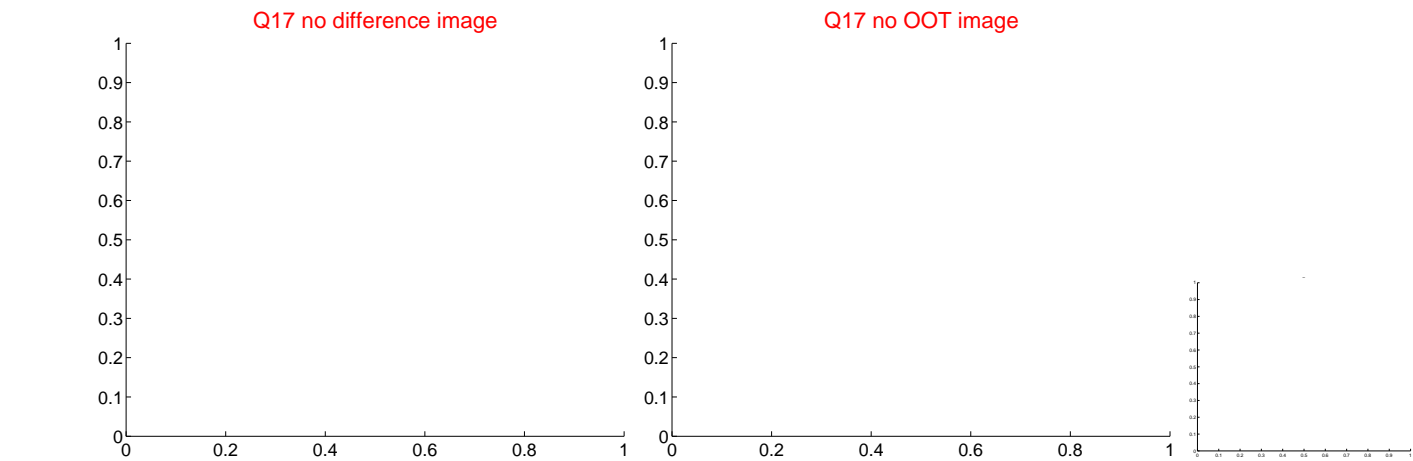
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

