

# KIC 010798143

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010798143-01	OBS	No	445.762304	134.475471	182.1	12.642	8.3	8.1	1.88	6185	2.88	3.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010798143-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

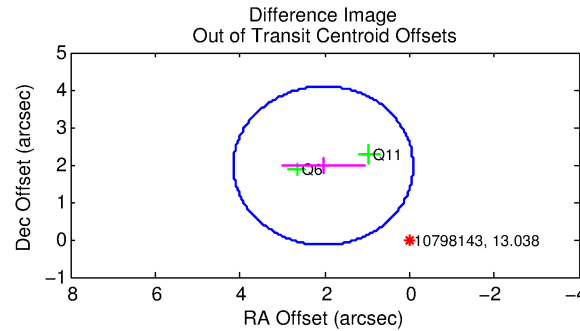
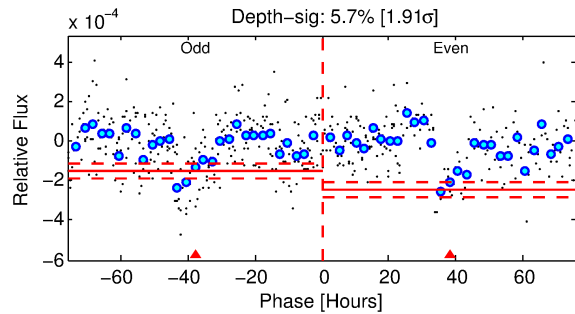
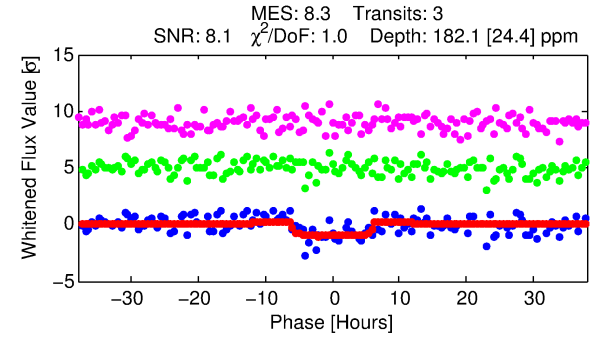
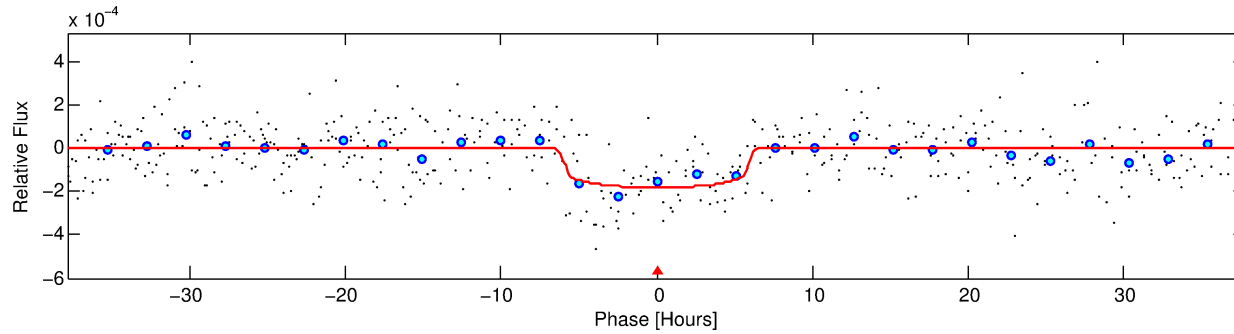
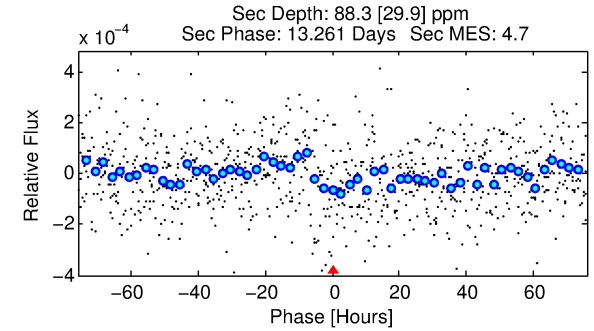
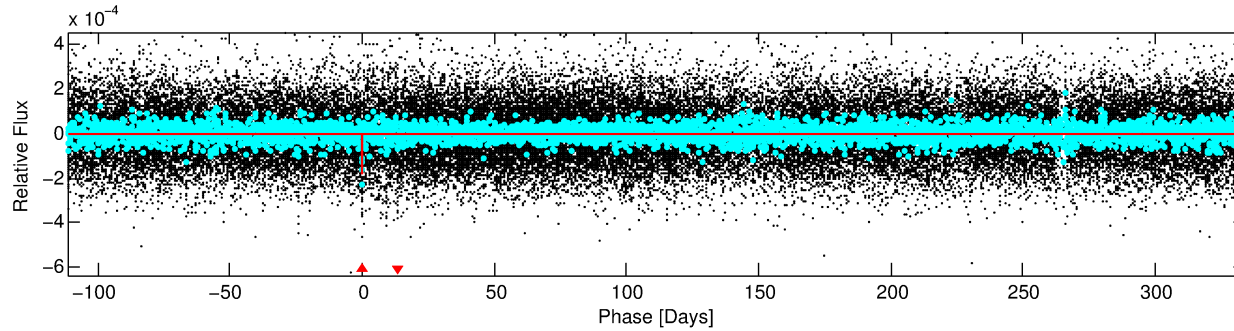
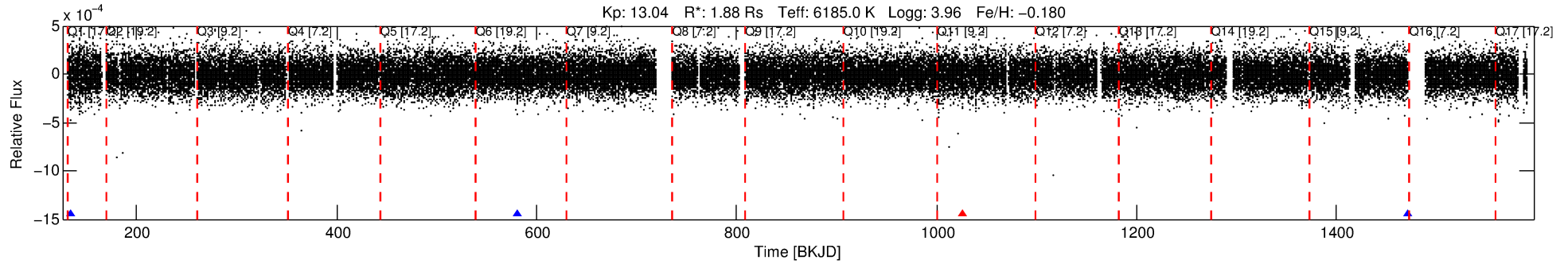
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010798143-01

No Significant Match Found

# DV One-Page Summary

KIC: 10798143 Candidate: 1 of 1 Period: 445.762 d



## DV Fit Results:

Period = 445.76230 [0.01372] d  
Epoch = 134.4755 [0.0184] BKJD  
Rp/R\* = 0.0141 [0.0031]  
a/R\* = 145.40 [159.57]  
b = 0.86 [0.34]  
Seff = 3.20 [1.64]  
Teq = 341 [44] K  
Rp = 2.88 [1.14] Re  
a = 1.2011 [0.3784] AU  
Ag = 8424.82 [6265.11] [1.34σ]  
Teffp = 5051 [712] K [6.61σ]

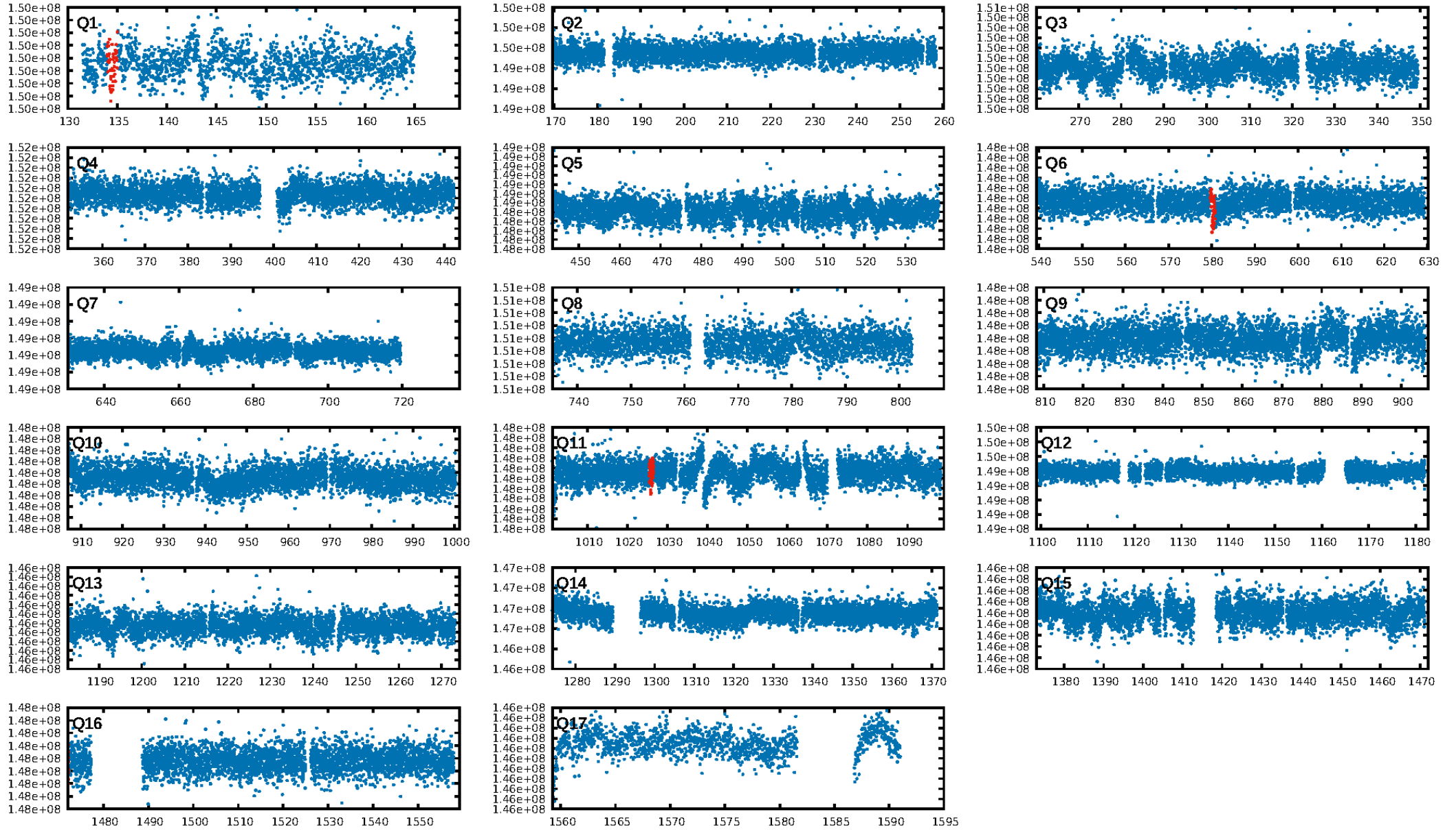
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 19.1%  
ModelChiSquareGof-sig: 93.3%  
Bootstrap-pfa: 5.23e-10  
RollingBand-fgt: 0.50 [1/2]  
GhostDiagnostic-chr: 1.352  
Centroid-sig: 0.0%  
Centroid-so: 3.850 arcsec [2.39σ]  
OotOffset-rm: 2.830 arcsec [4.00σ]  
KicOffset-rm: 2.926 arcsec [4.49σ]  
OotOffset-st: 1/1/0/0 [2]  
KicOffset-st: 1/1/0/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [3/3]

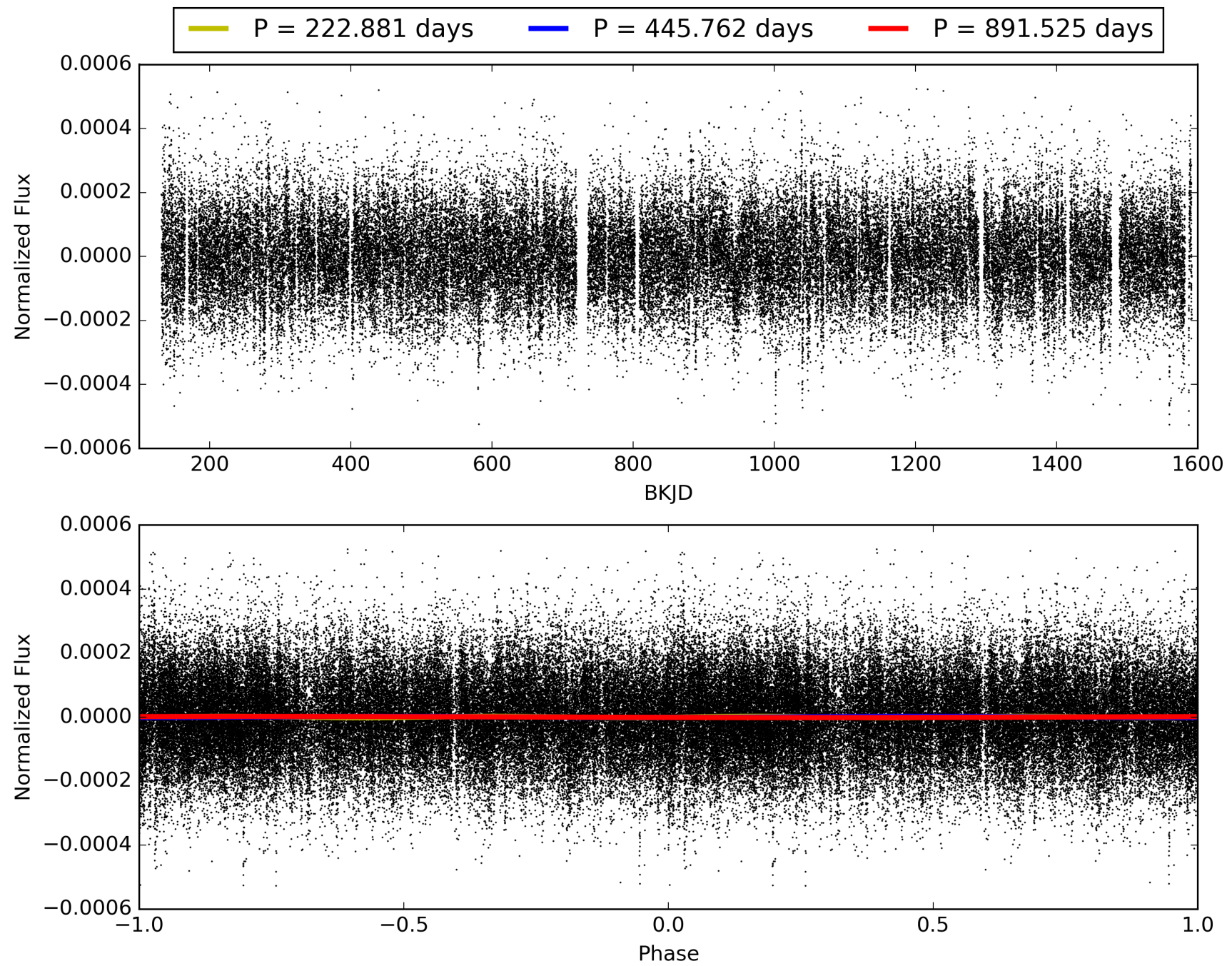
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:08:01 Z

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

# TCE 010798143-01, PDC Light Curves

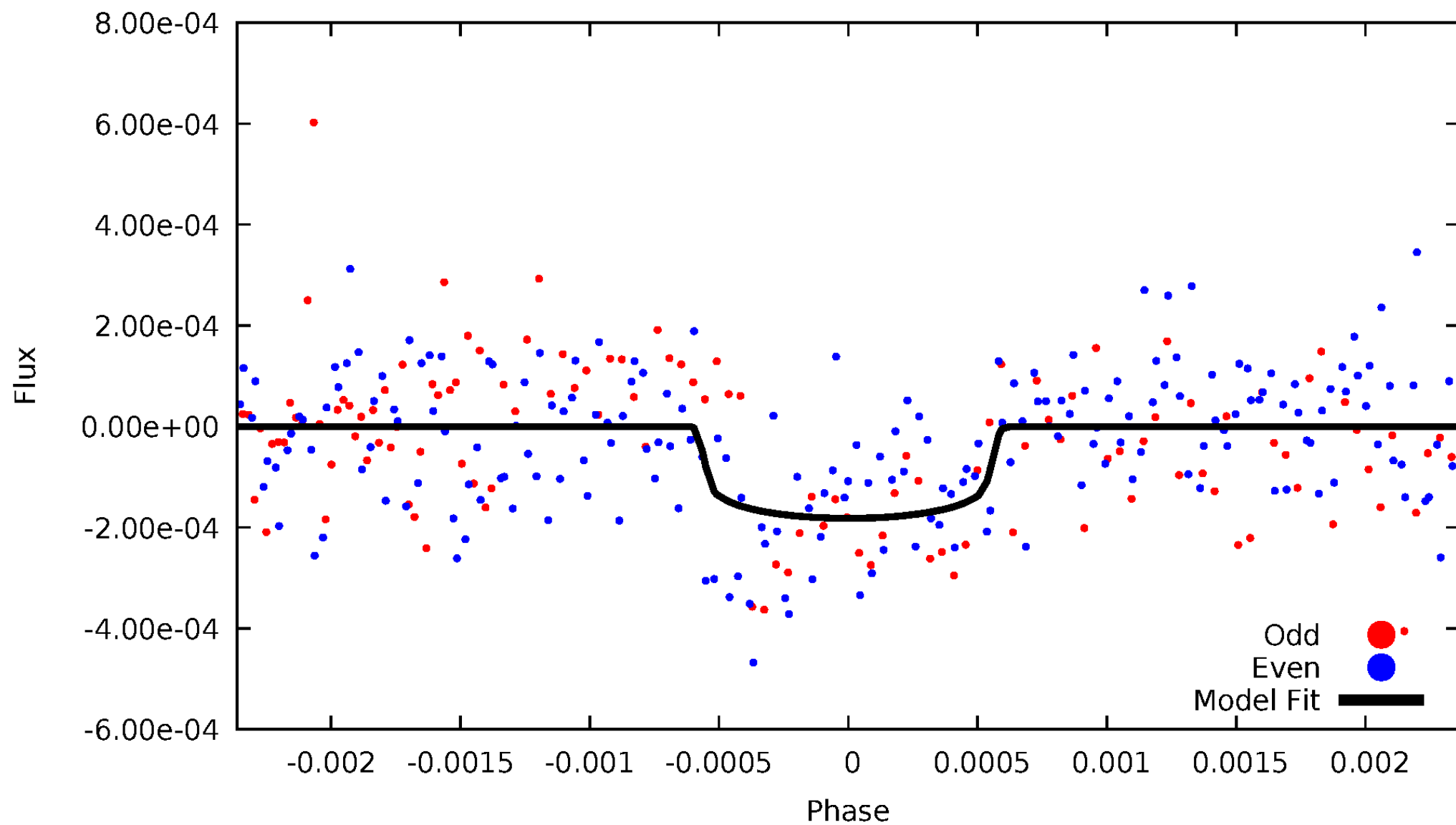


TCE 010798143-01



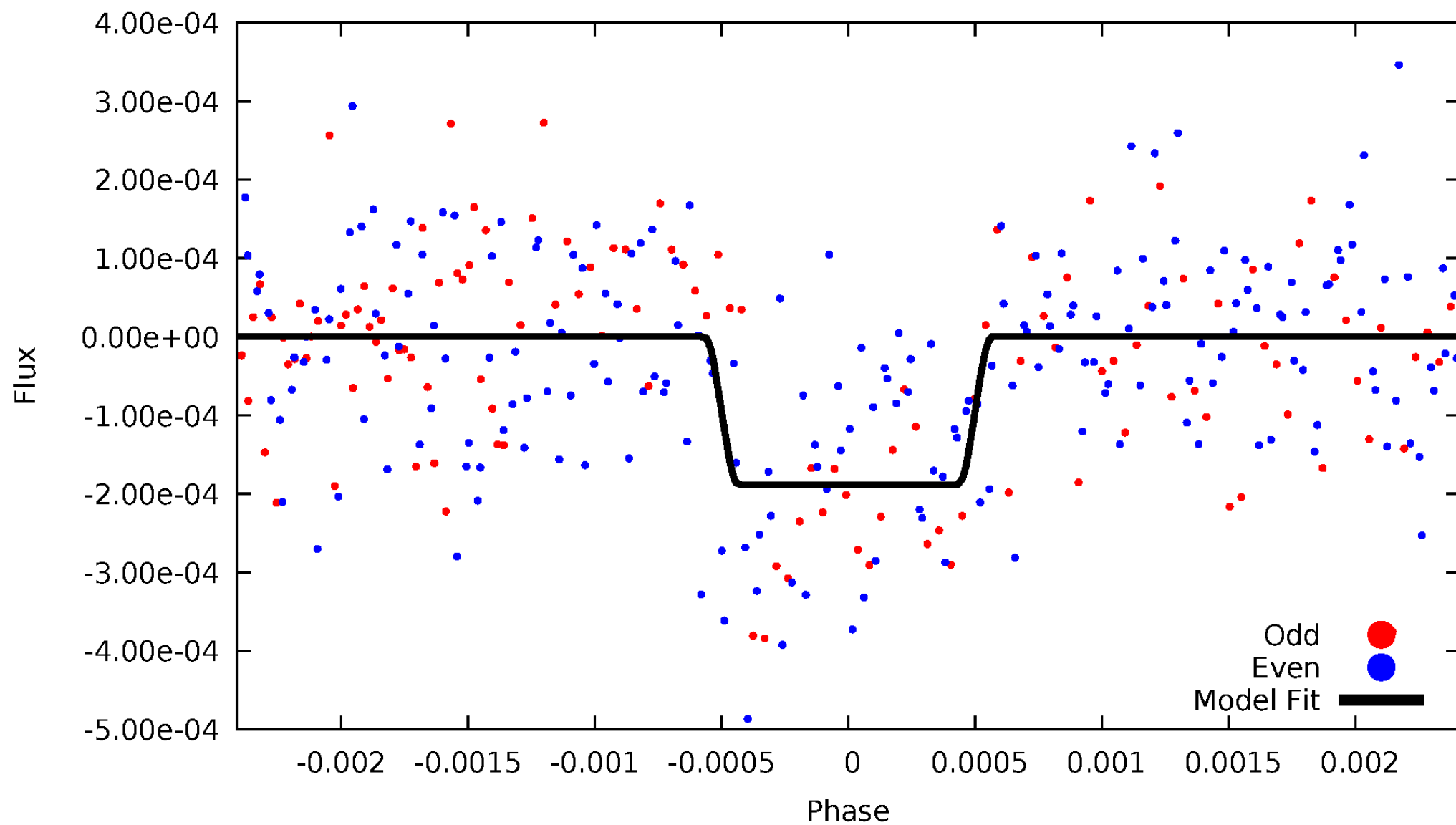
# DV Odd/Even

TCE 010798143-01



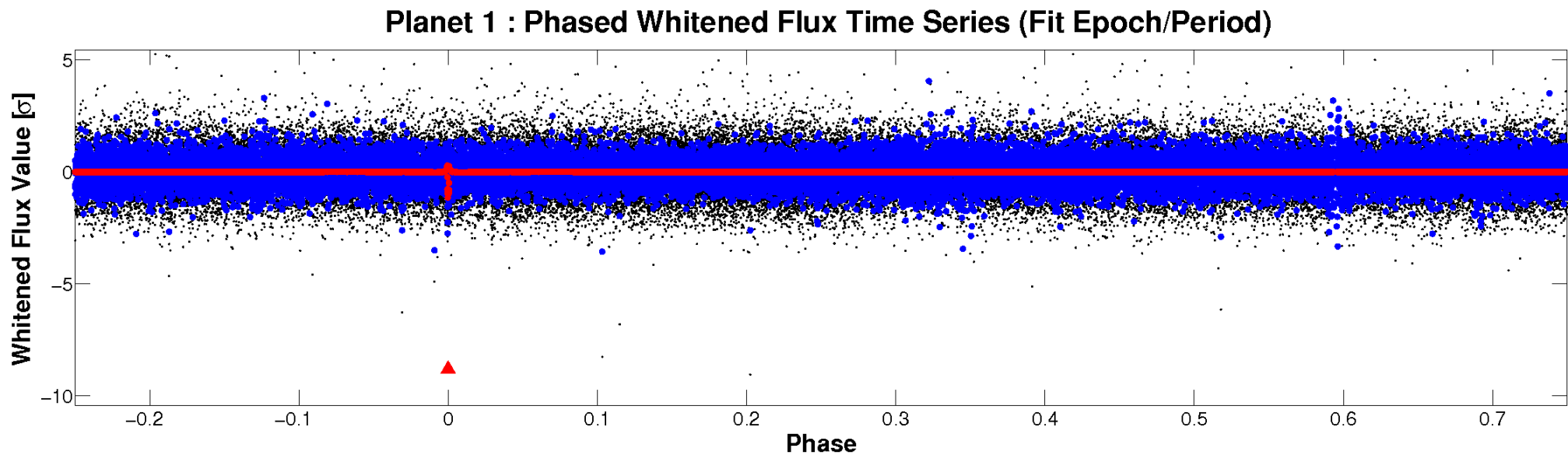
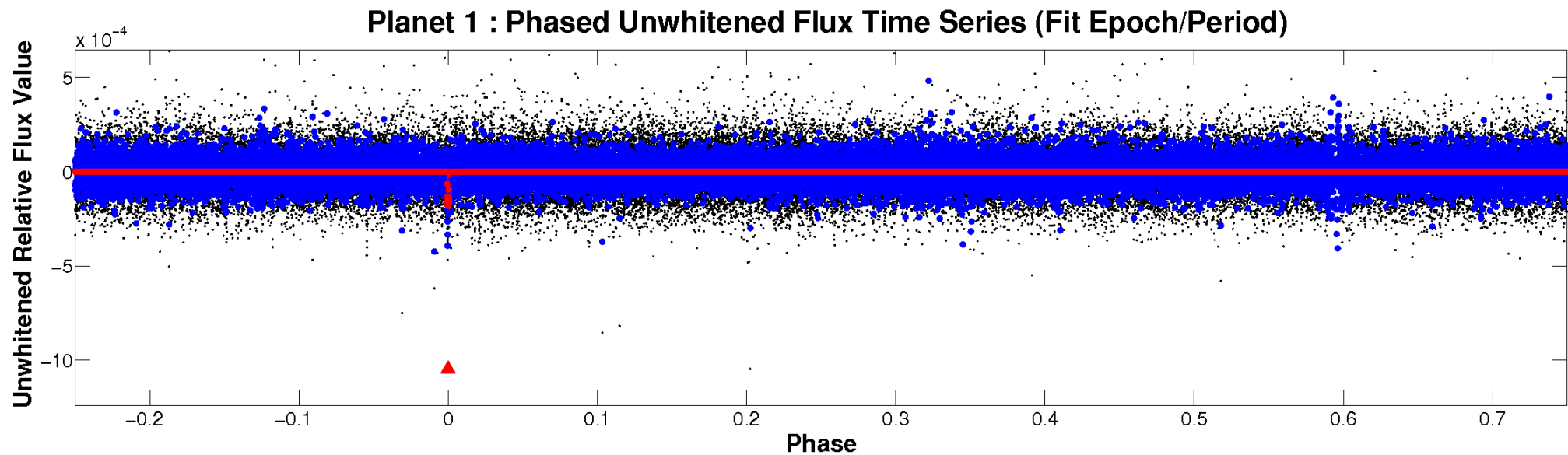
# ALT Odd/Even

TCE 010798143-01



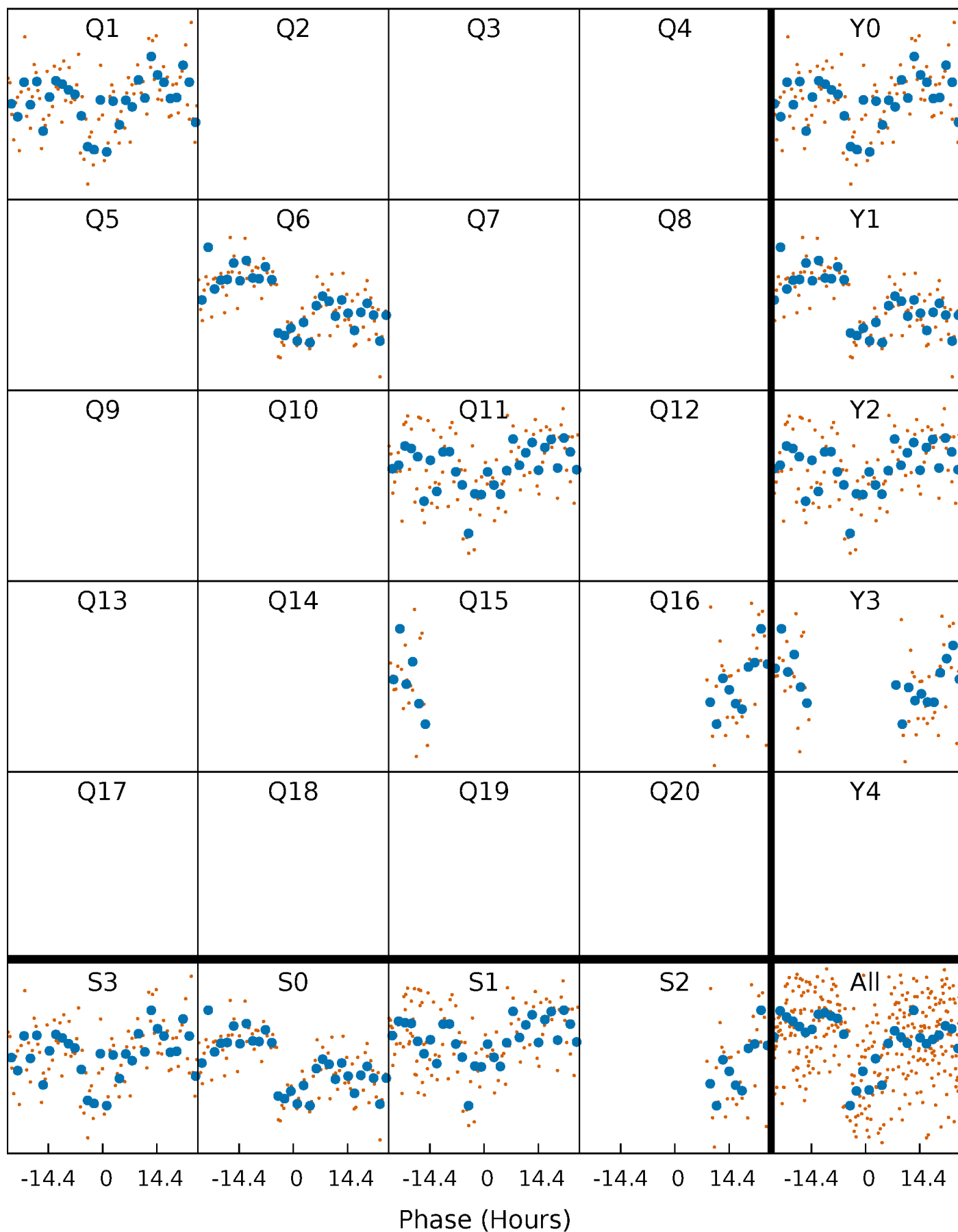


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

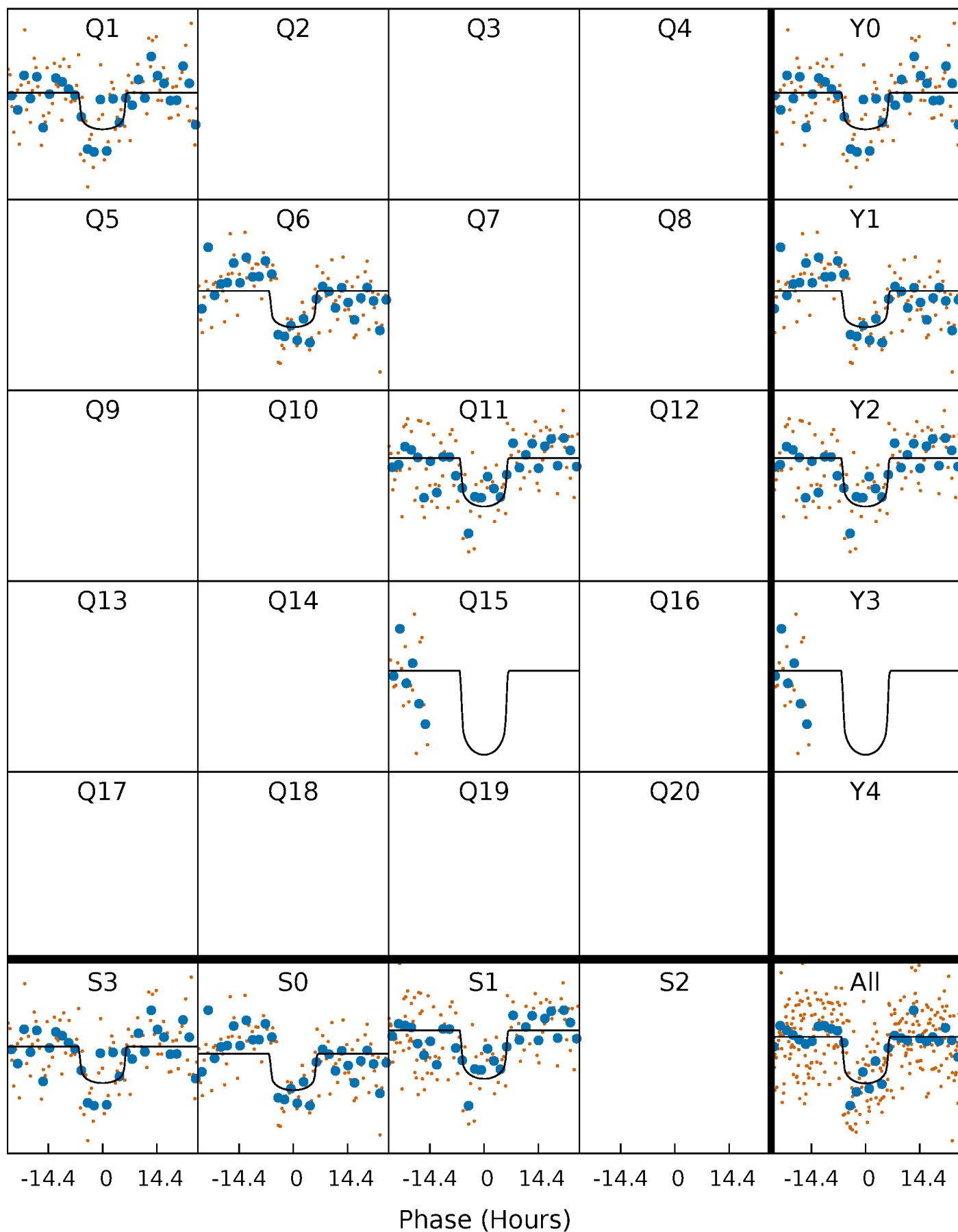
TCE 010798143-01 P=445.762304 Days  $T_0=134.475471$  (BKJD)





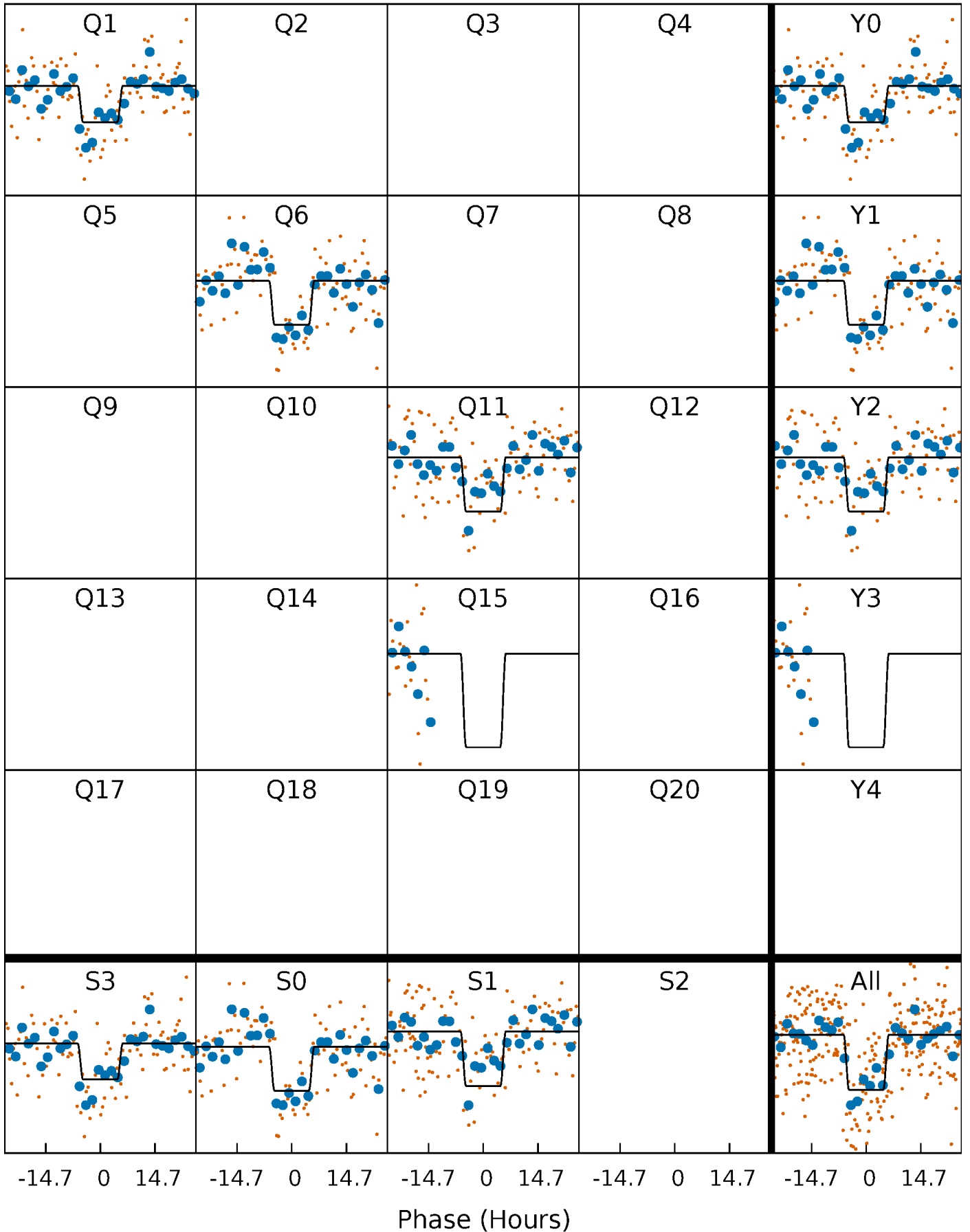
# DV Quarter-Phased Transit Curves

TCE 010798143-01 P=445.762304 Days  $T_0=134.475471$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

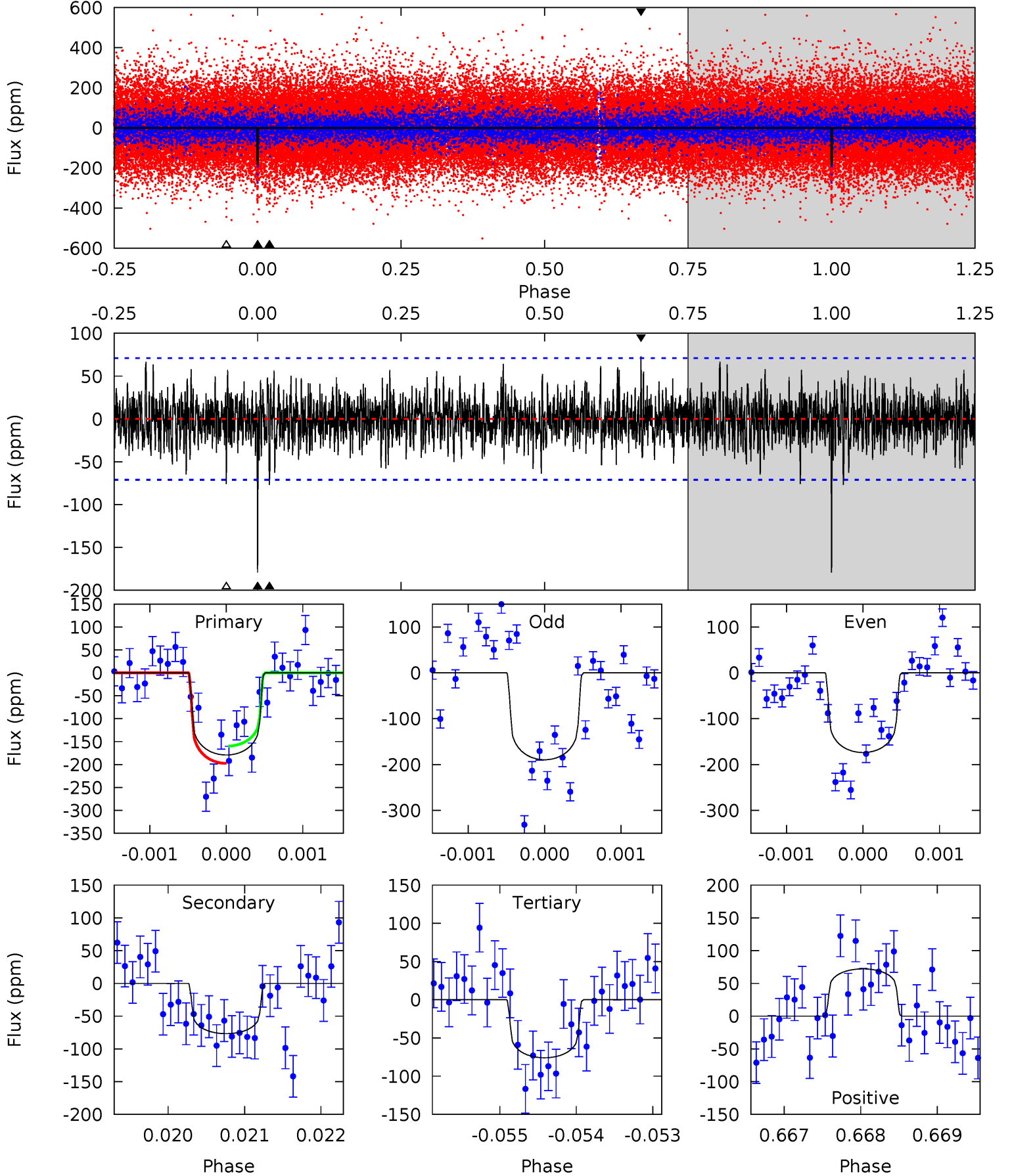
TCE 010798143-01 P=445.751300 Days  $T_0=134.488360$  (BKJD)



# DV Model-Shift Uniqueness Test

010798143-01,  $P = 445.762304$  Days,  $E = 134.475471$  Days

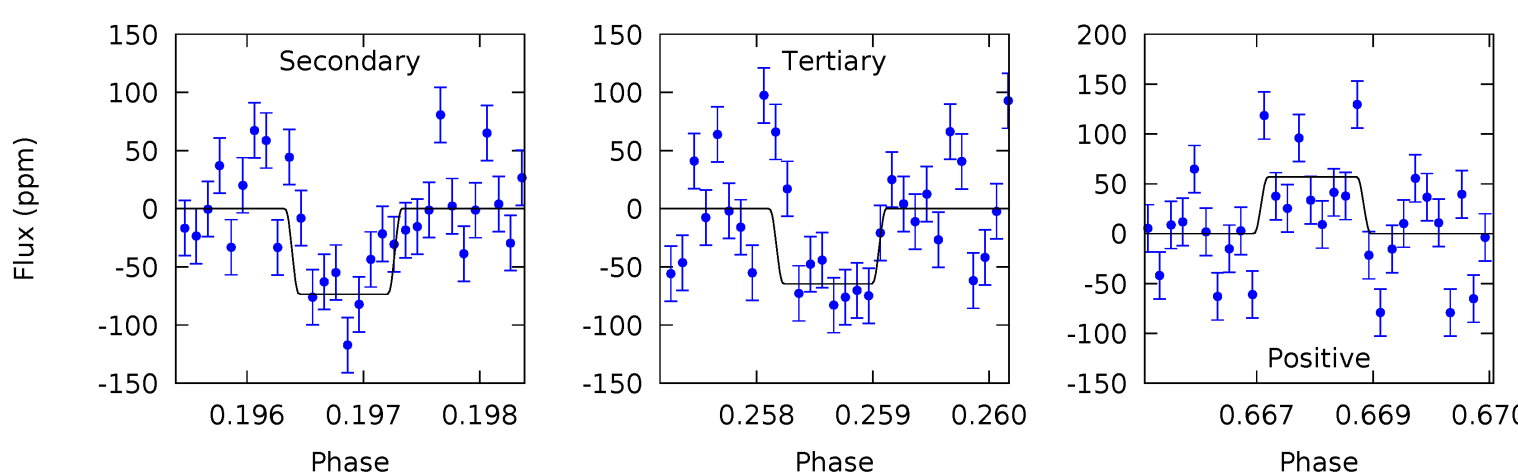
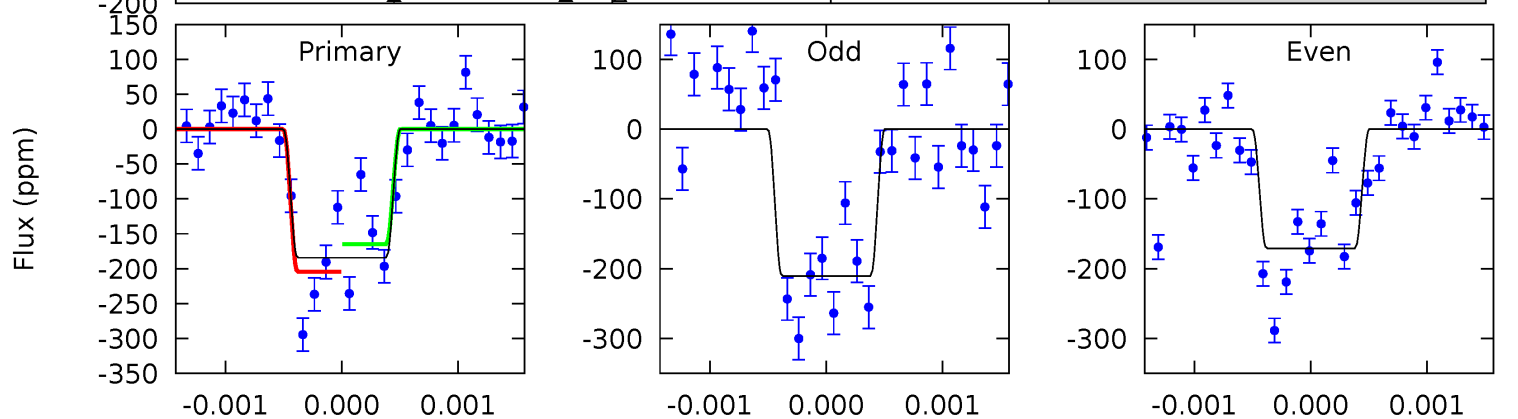
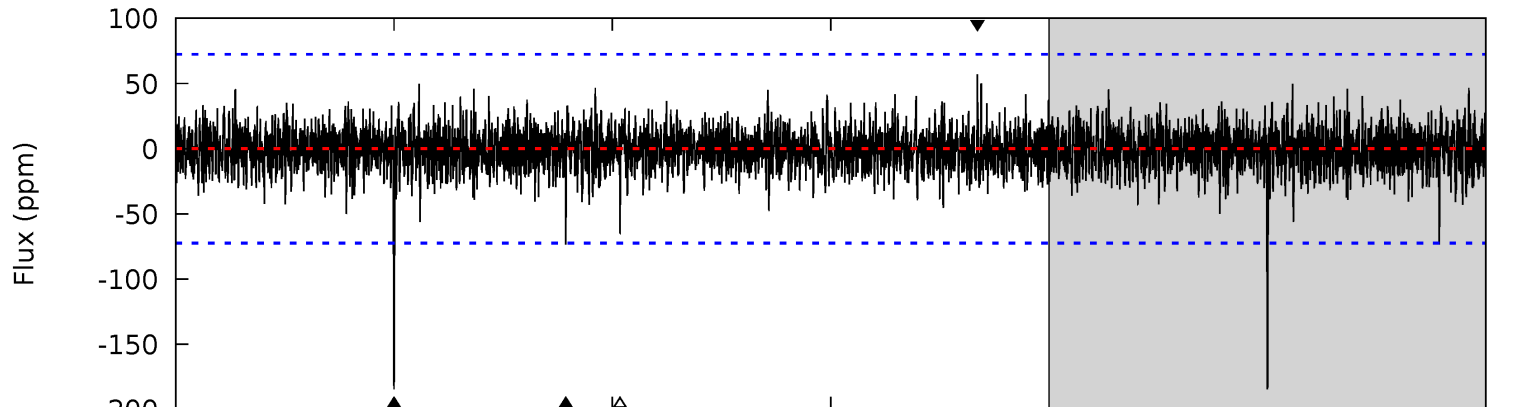
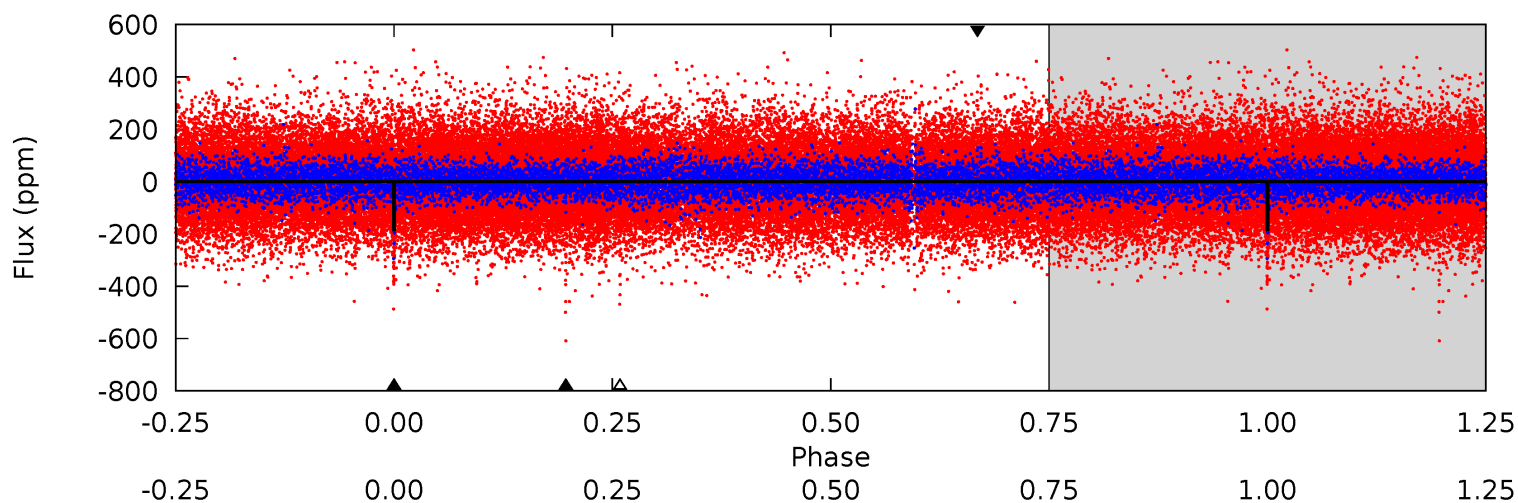
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	5.86	5.79	5.50	5.41	3.23	1.45	7.88	8.17	0.07	0.35	0.57	0.96	0.29	1.43



# Alt Model-Shift Uniqueness Test

010798143-01, P = 445.751300 Days, E = 134.488360 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
13.8	5.52	4.85	4.28	5.43	3.26	1.03	8.98	9.55	0.67	1.24	1.41	0.88	0.24	1.48



### Stellar Parameters For KIC 010798143

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6185^{+167}_{-186}$	$3.957^{+0.292}_{-0.097}$	$-0.180^{+0.300}_{-0.300}$	$1.876^{+0.383}_{-0.623}$	$1.161^{+0.198}_{-0.179}$	$0.248^{+0.449}_{-0.090}$
	+3%/-3%	+7%/-2%	+167%/-167%	+20%/-33%	+17%/-15%	+181%/-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 010798143-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-77 \pm 13$	$2.73^{+0.75}_{-0.70}$	$467^{+28}_{-39}$	$4941^{+636}_{-390}$	$8156^{+6310}_{-3193}$
Alt.	$-74 \pm 13$	$2.66^{+0.78}_{-0.68}$	$467^{+29}_{-42}$	$4953^{+668}_{-436}$	$8375^{+6967}_{-3600}$

$T_{max}$  = 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

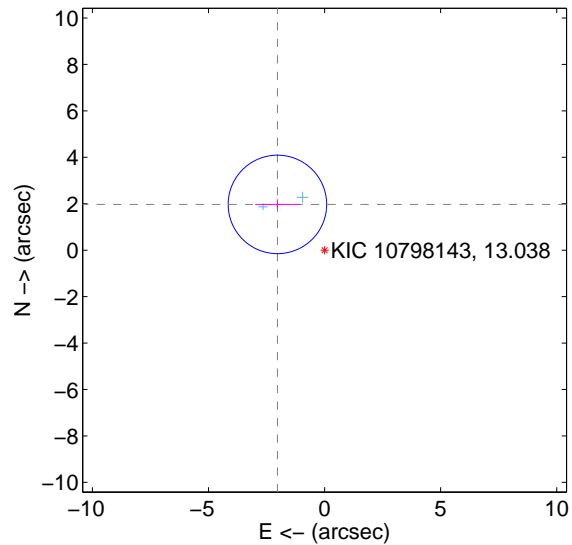
Supplemental centroid analysis for 010798143-01. Kepler magnitude: 13.04. Transit SNR 8.11

There are 2 quarters with good PRF difference image offsets

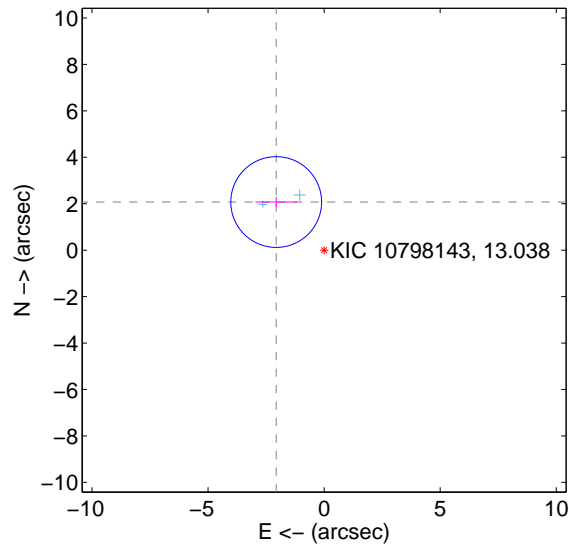
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.830 \pm 0.707$	4.00	$2.031 \pm 0.961$	$1.971 \pm 0.221$
PRF-fit source offset from KIC position	$2.926 \pm 0.652$	4.49	$2.064 \pm 0.897$	$2.073 \pm 0.218$
photometric centroid source offset	$3.85 \pm 1.61$	2.39	$3.00 \pm 1.72$	$2.41 \pm 1.43$

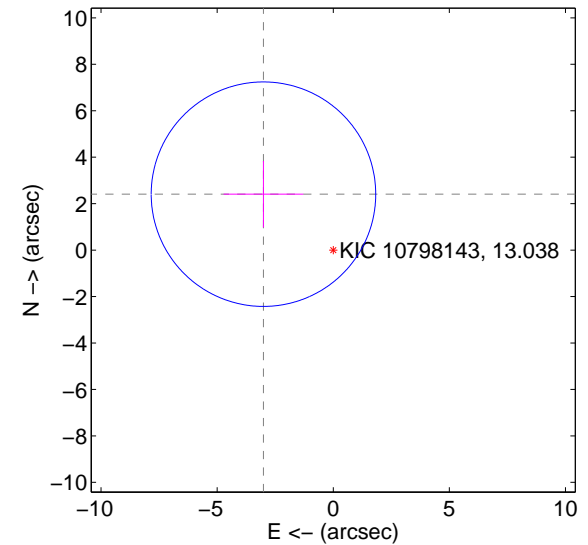
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

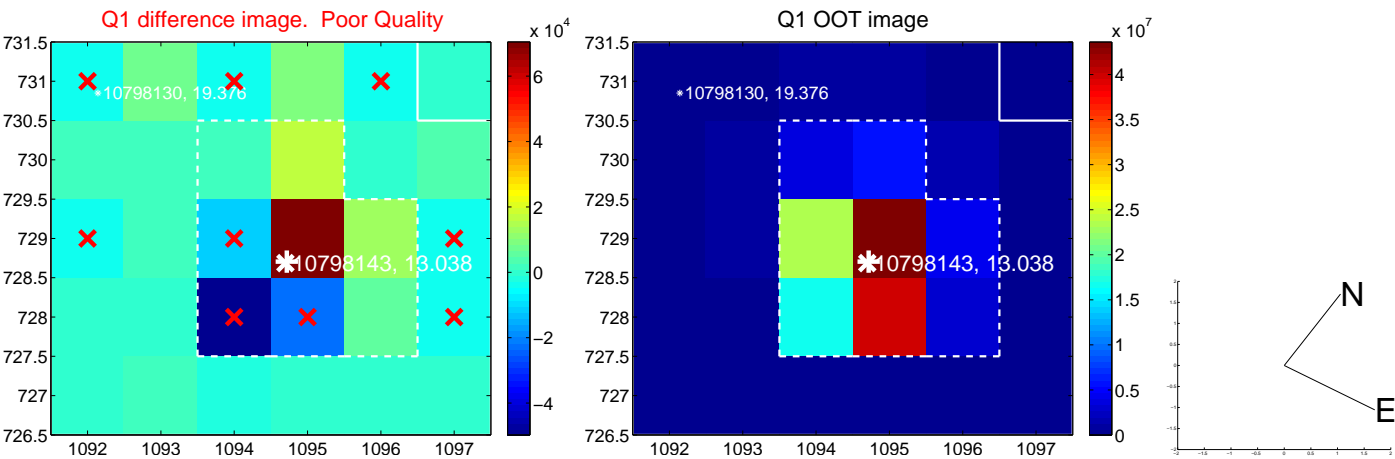


offset from photometric centroids



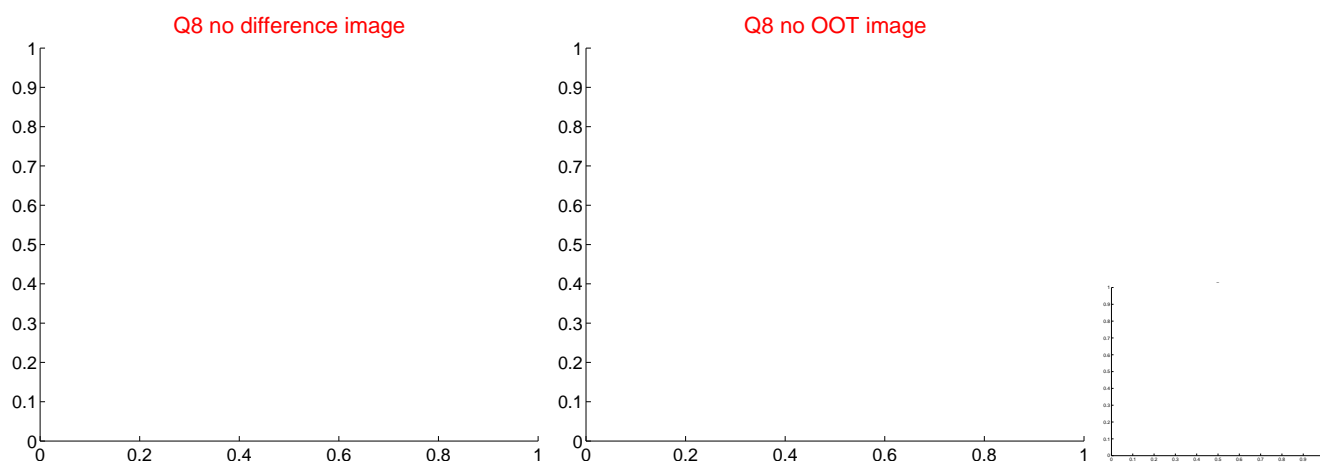
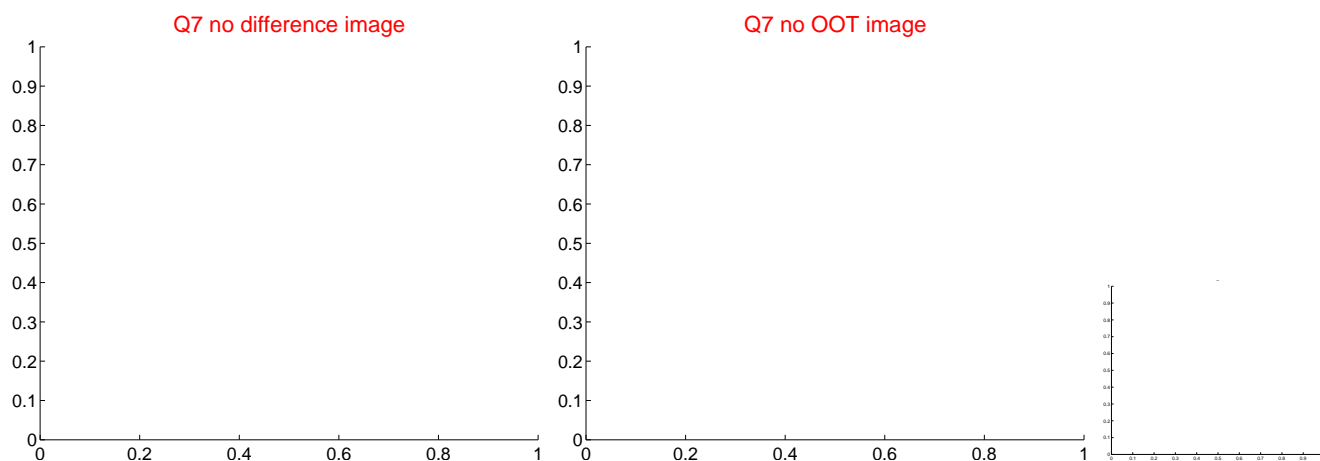
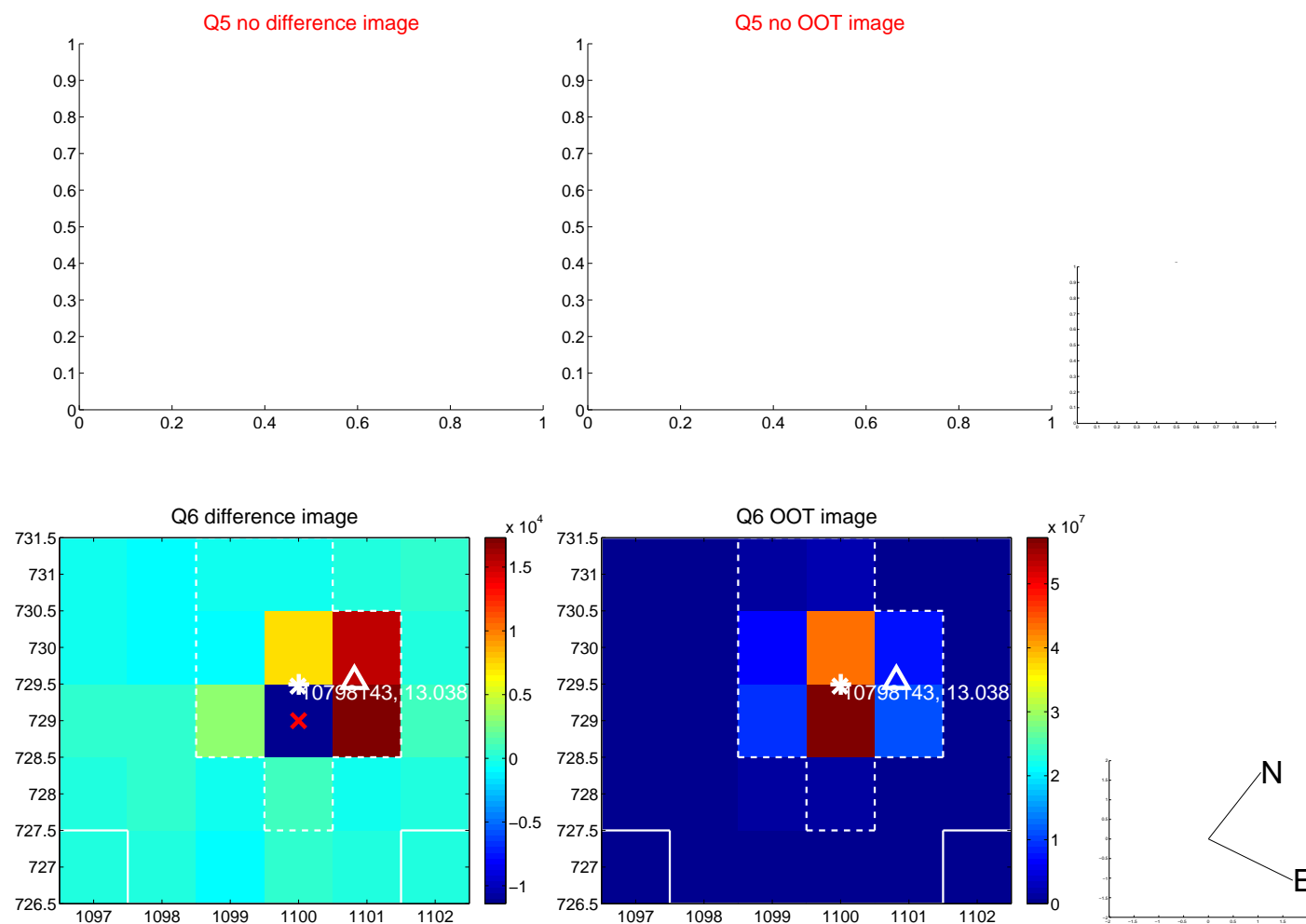
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

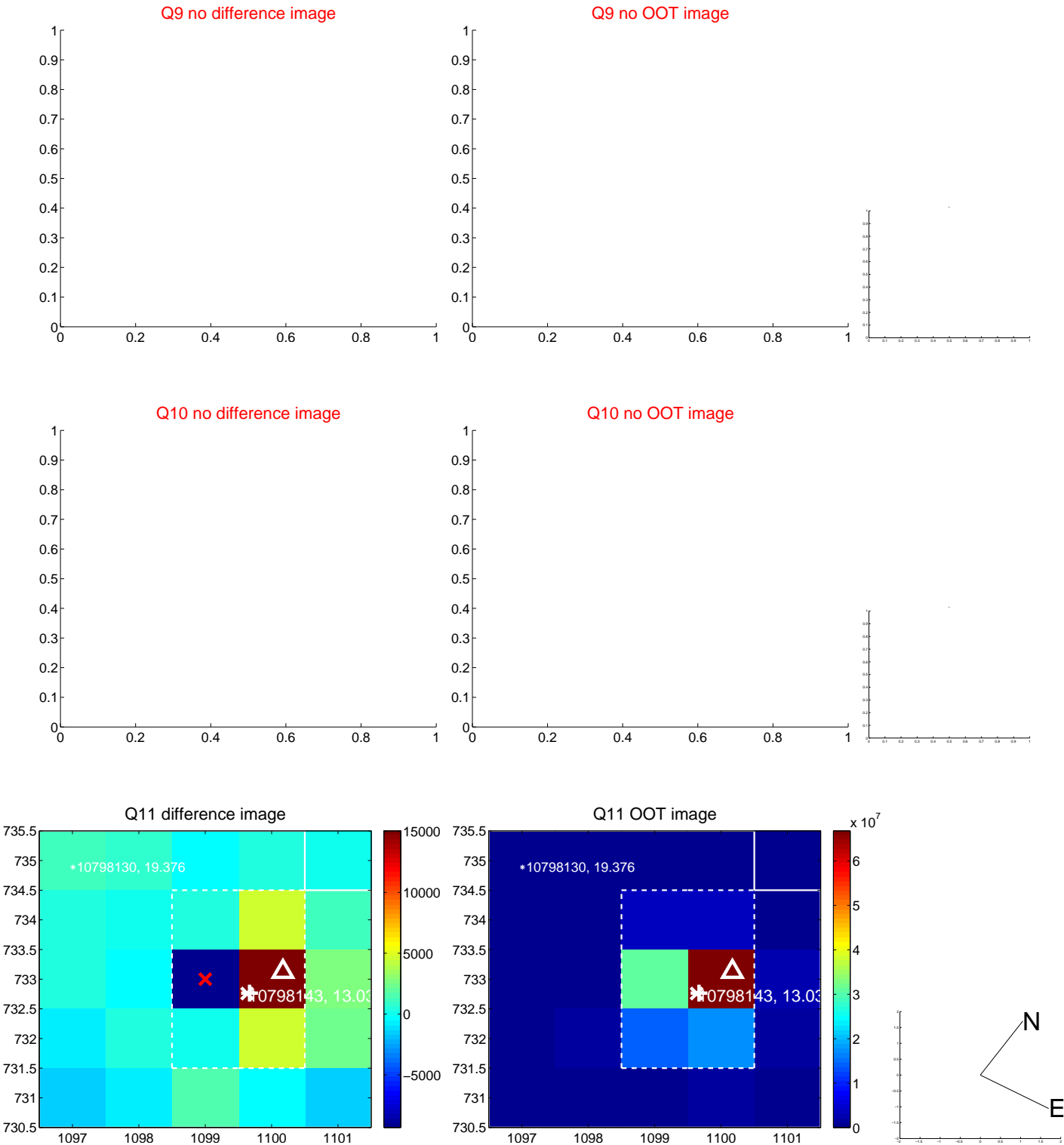




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



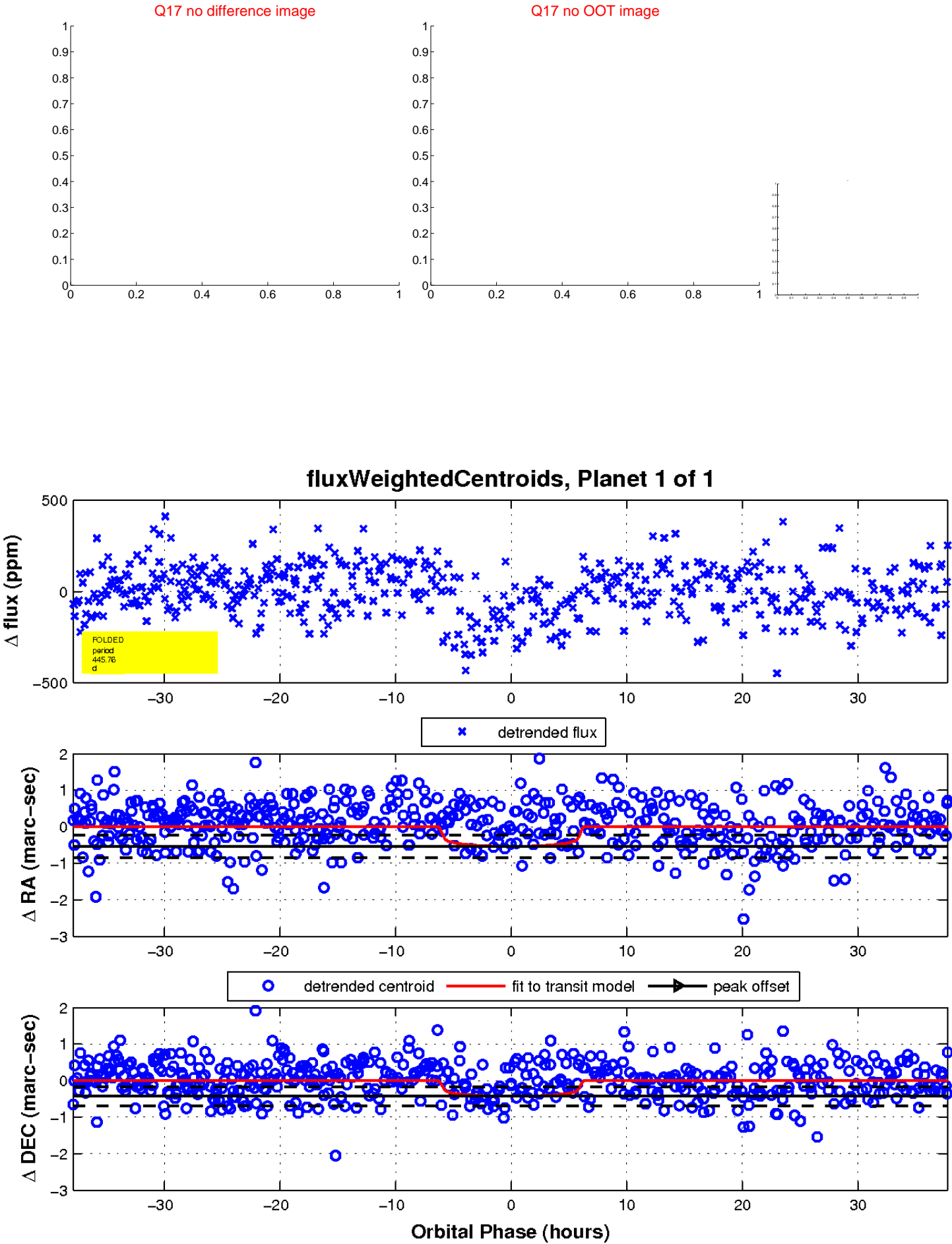
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

