

# KIC 007690844

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007690844-01	OBS	1508.01	22.045926	136.475321	802.7	5.445	26.7	27.4	0.95	5900	3.21	39.75

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007690844-01	OBS	PC	1.00	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.

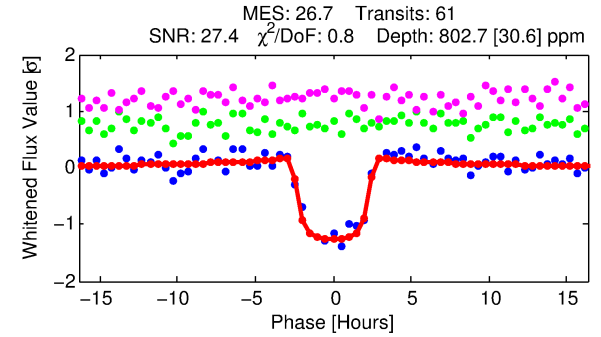
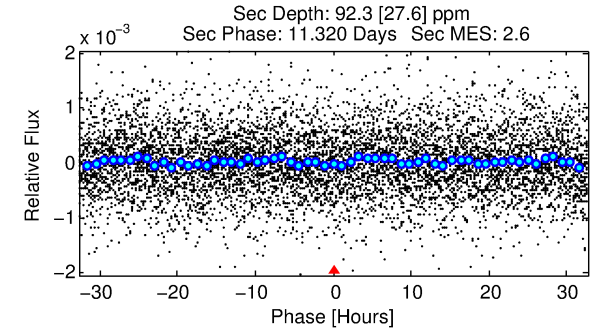
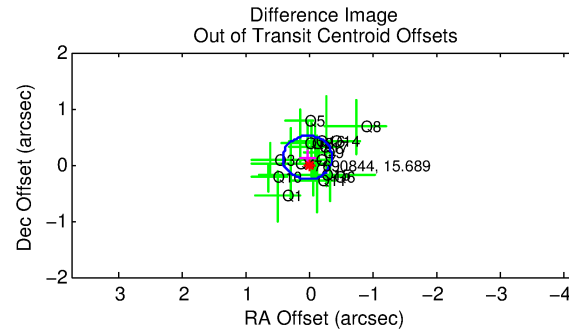
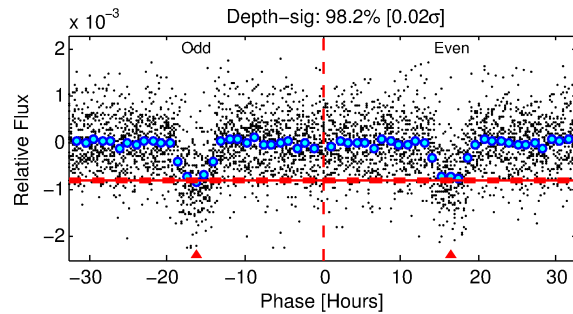
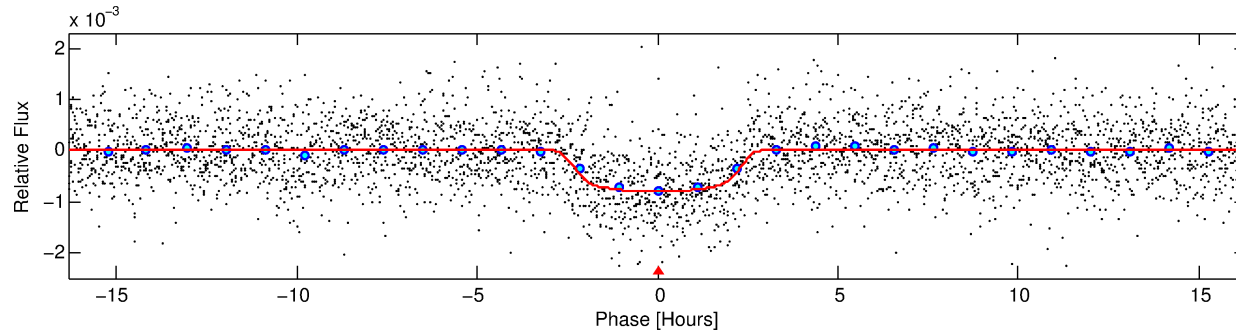
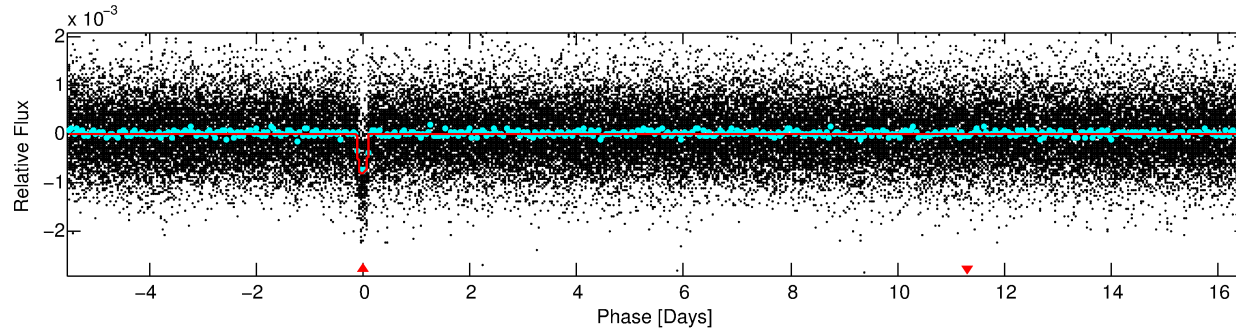
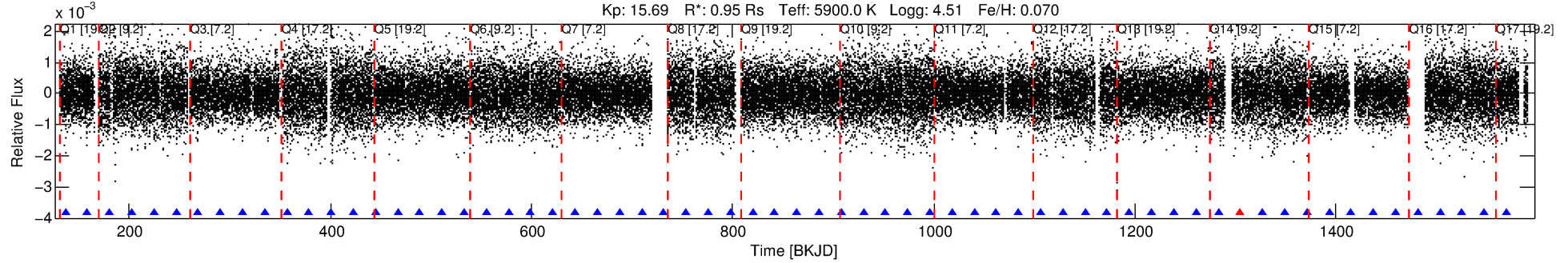
## Ephemeris Match Information For 007690844-01

No Significant Match Found

# DV One-Page Summary

KIC: 7690844 Candidate: 1 of 1 Period: 22.046 d  
KOI: K01508.01 Corr: 0.964

Kp: 15.69 R\*: 0.95 Rs Teff: 5900.0 K Logg: 4.51 Fe/H: 0.070



## DV Fit Results:

Period = 22.04593 [0.00011] d  
Epoch = 136.4753 [0.0041] BKJD  
Rp/R\* = 0.0309 [0.0015]  
a/R\* = 15.43 [3.16]  
b = 0.90 [0.04]  
Seff = 39.75 [13.72]  
Teff = 640 [55] K  
Rp = 3.21 [0.81] Re  
a = 0.1572 [0.0337] AU  
Ag = 122.00 [54.74] [2.21σ]  
Teffp = 3290 [281] K [9.27σ]

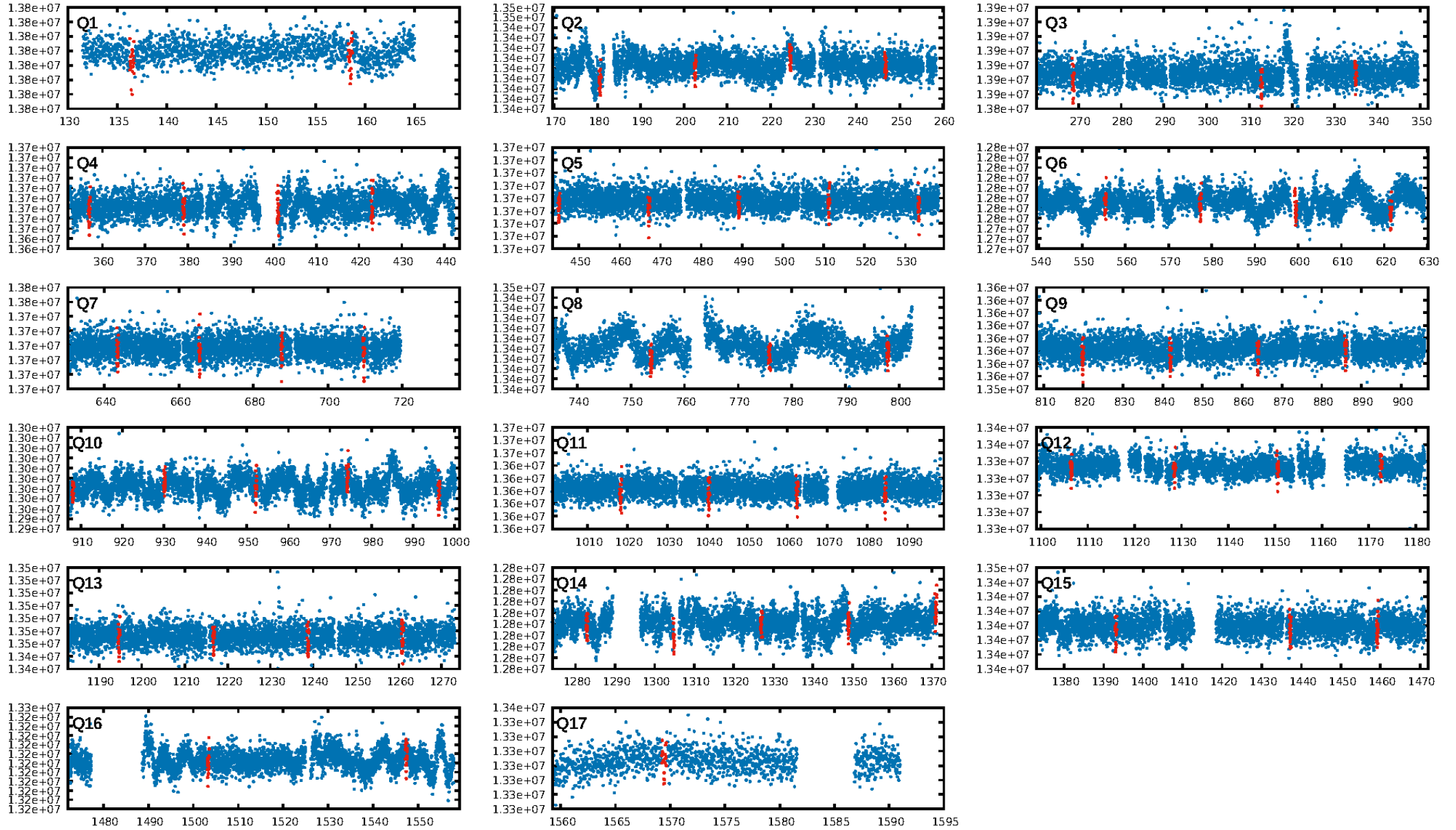
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 84.3%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 8.65e-146  
RollingBand-fgt: 0.98 [57/58]  
GhostDiagnostic-chr: -87.75  
Centroid-sig: 0.3%  
Centroid-so: 0.898 arcsec [1.52σ]  
OotOffset-rm: 0.132 arcsec [1.02σ]  
KicOffset-rm: 0.142 arcsec [1.10σ]  
OotOffset-st: 4/4/3/5 [16]  
KicOffset-st: 4/4/3/5 [16]  
DiffImageQuality-fgm: 0.94 [15/16]  
DiffImageOverlap-fno: 1.00 [17/17]

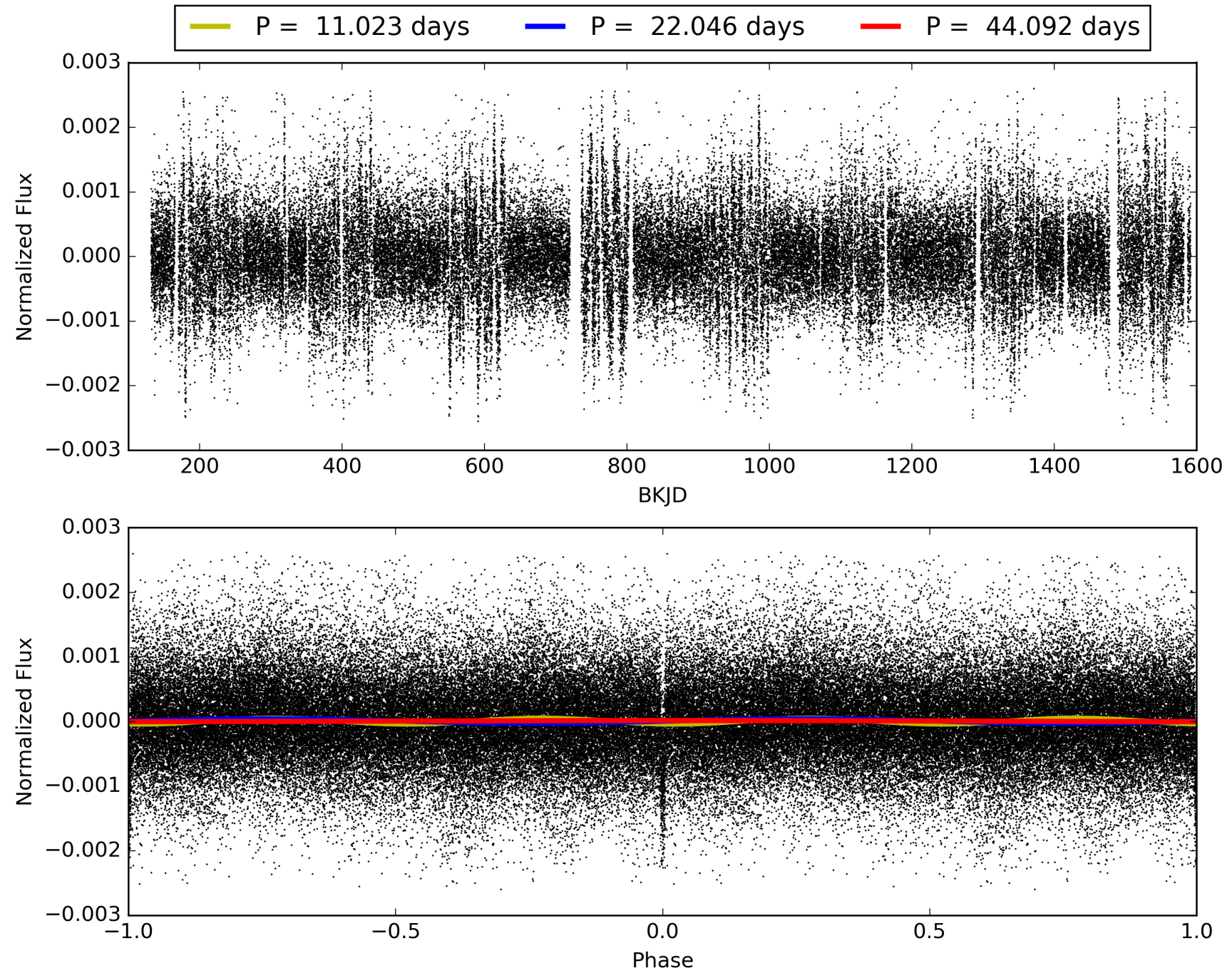
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:01:29 Z

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

# TCE 007690844-01, PDC Light Curves



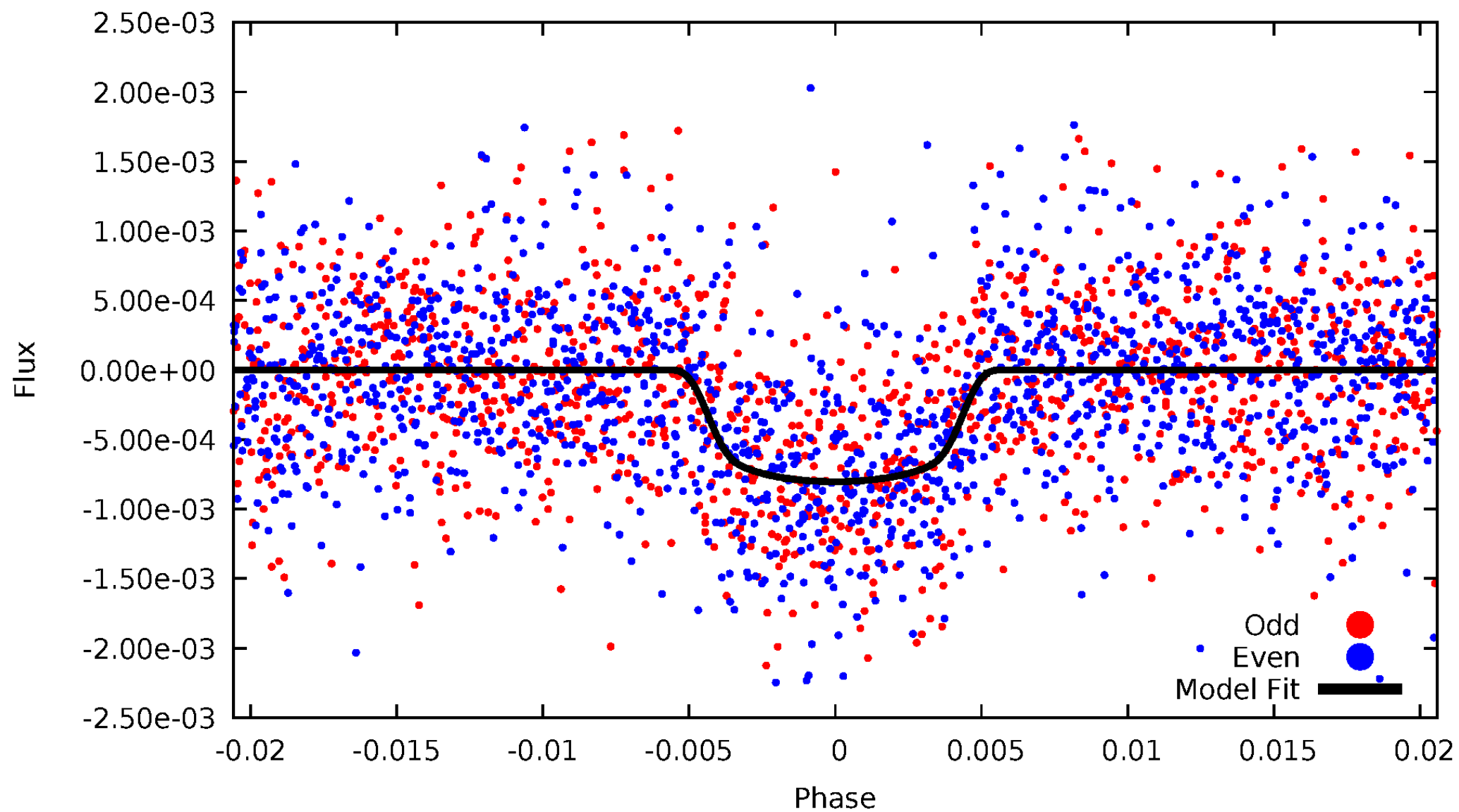
TCE 007690844-01





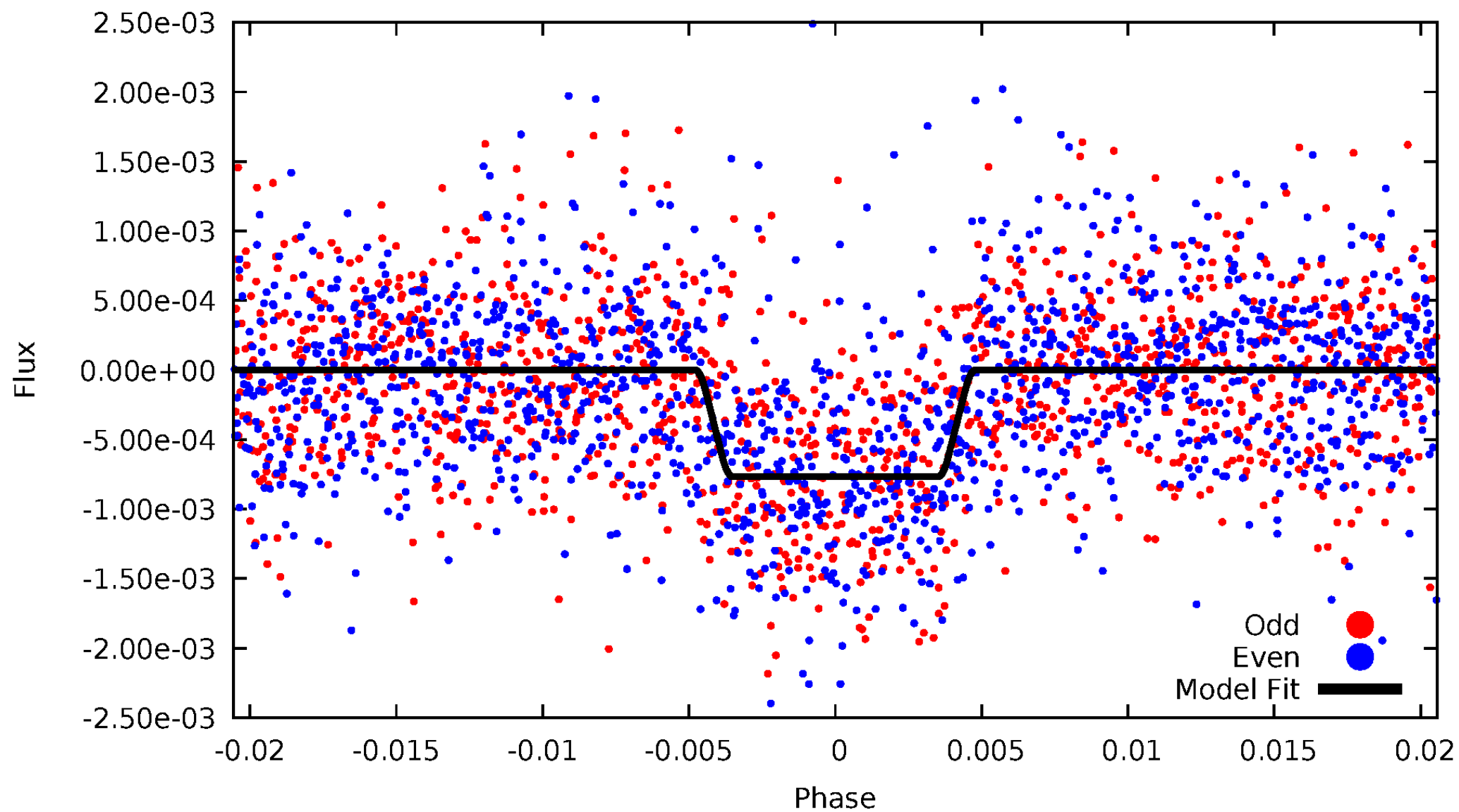
# DV Odd/Even

TCE 007690844-01

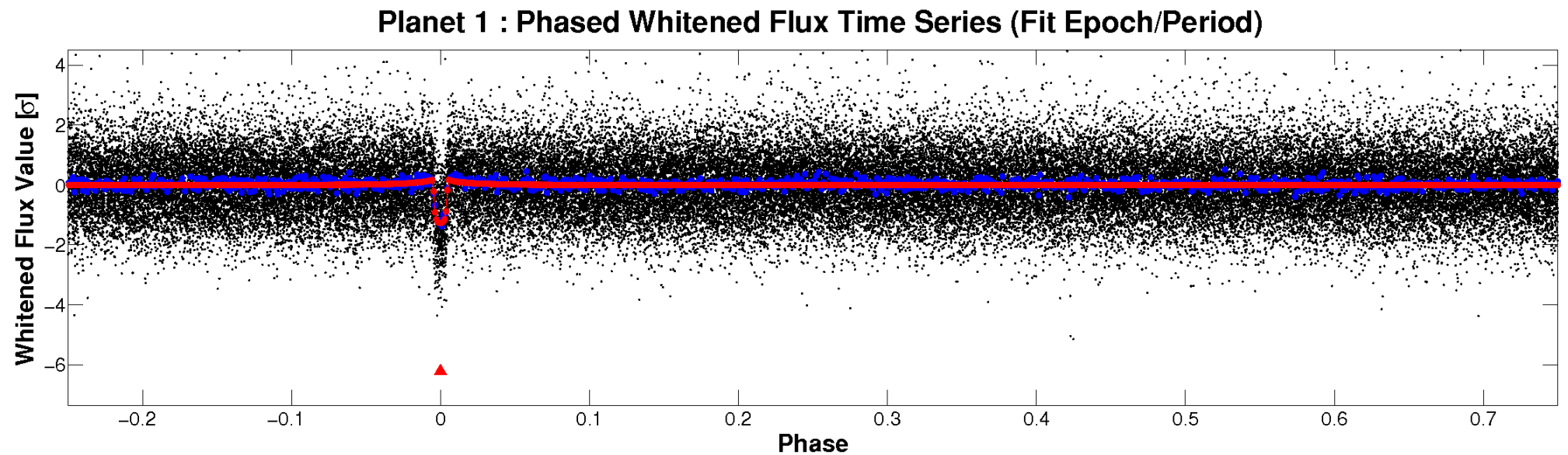
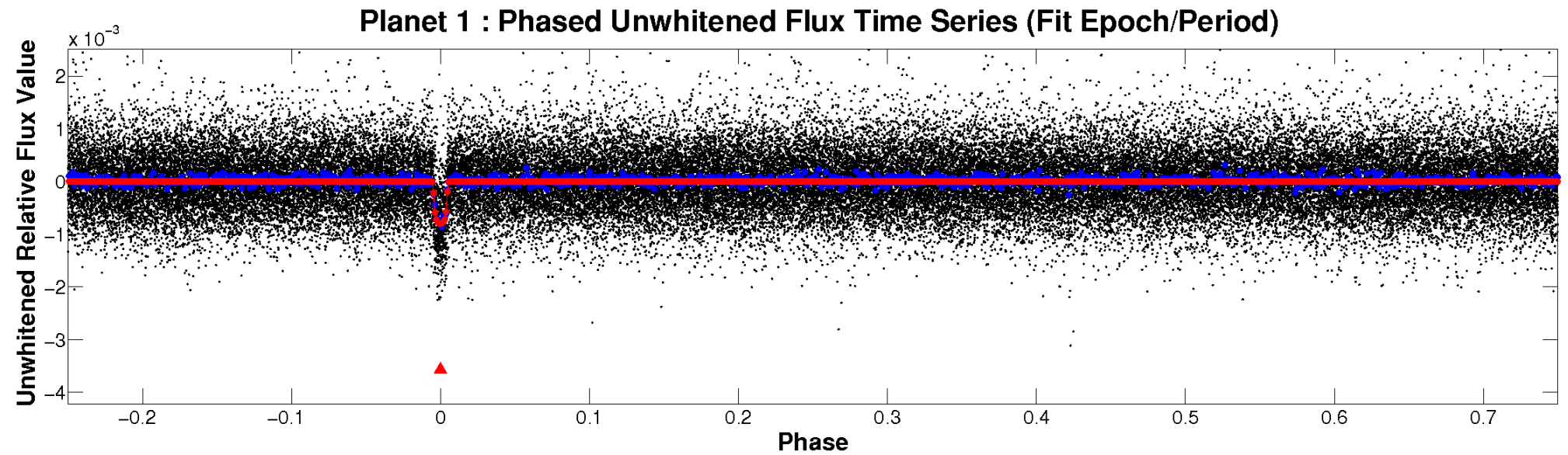


# ALT Odd/Even

TCE 007690844-01

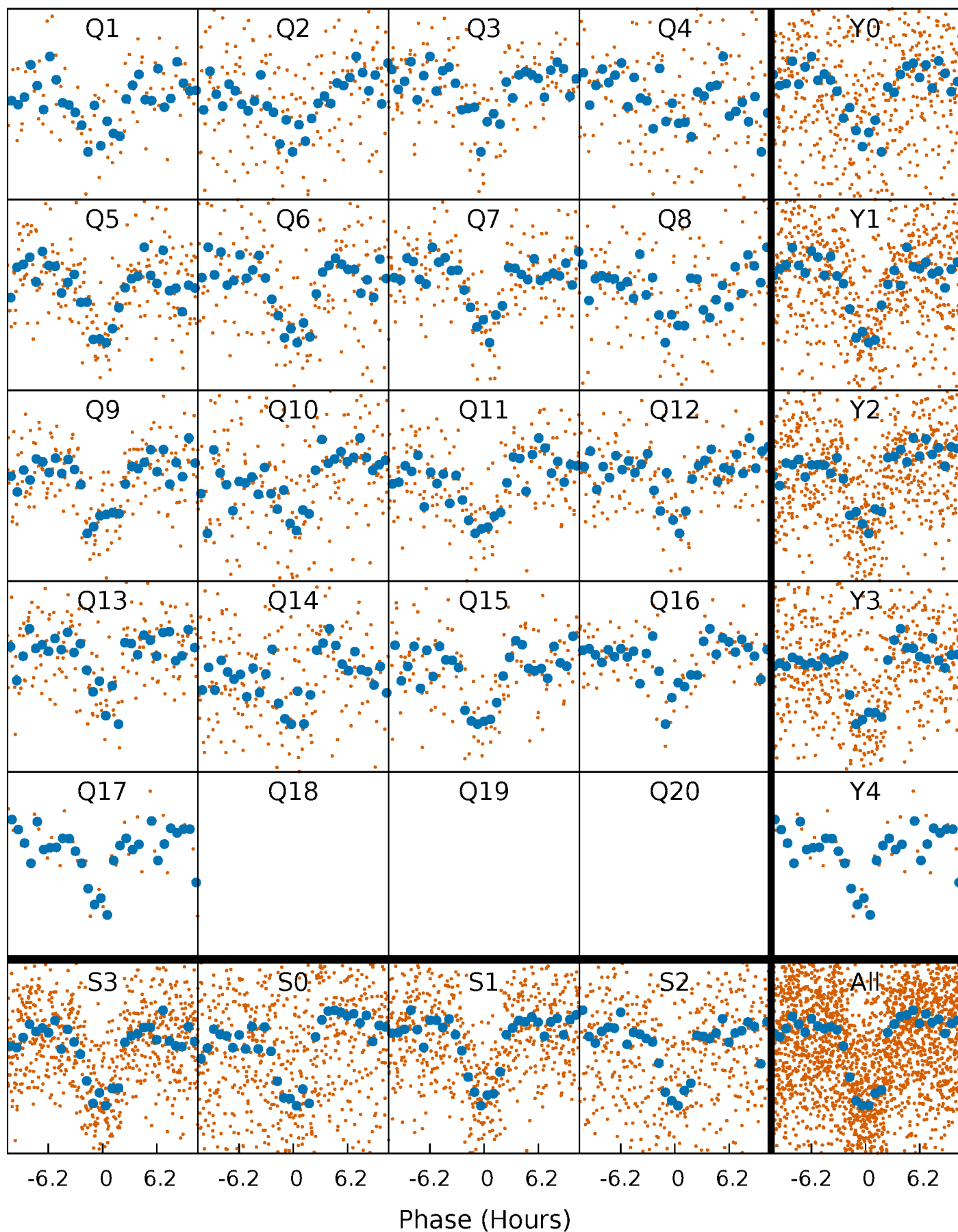


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

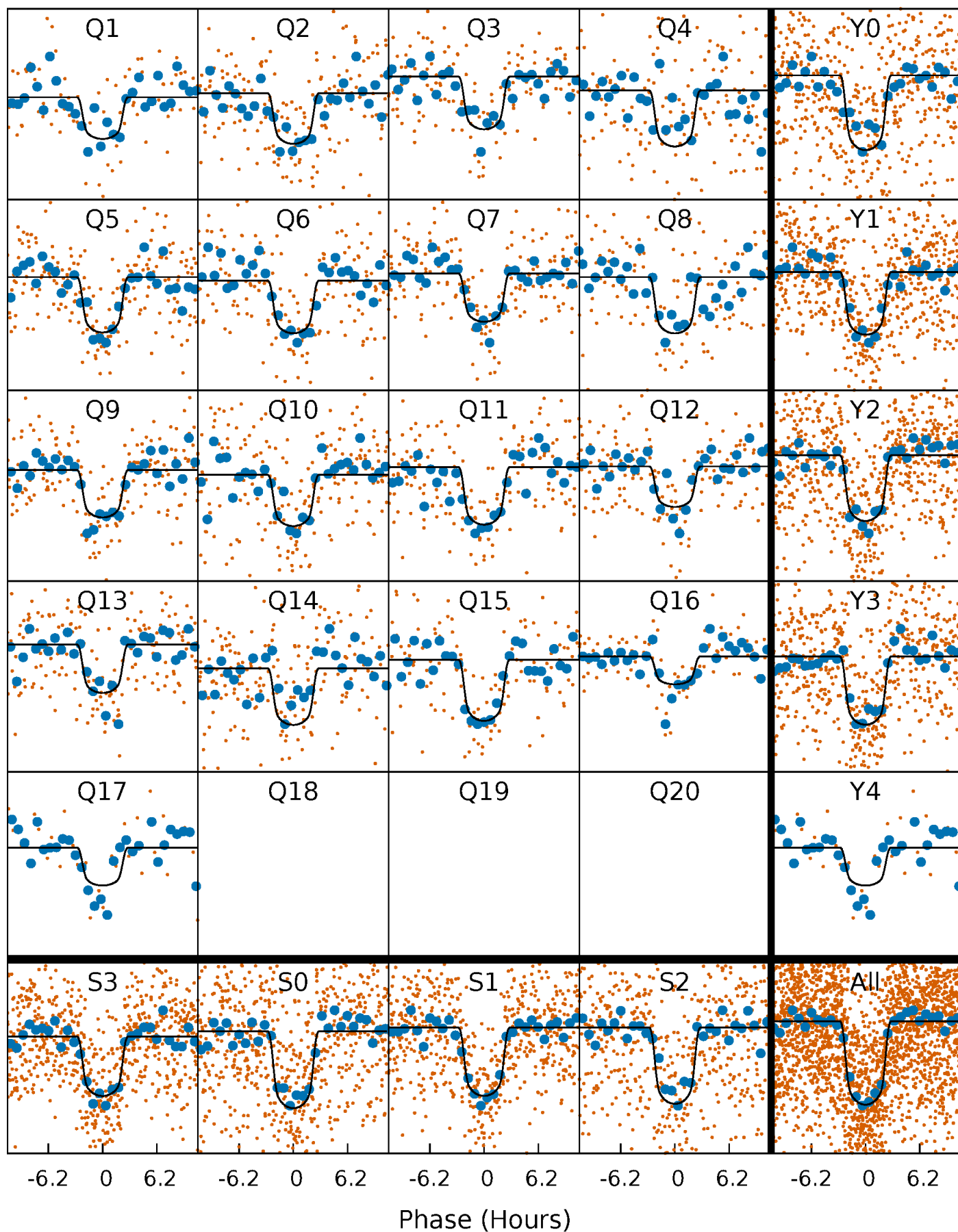
TCE 007690844-01 P= 22.045926 Days  $T_0=136.475321$  (BKJD)





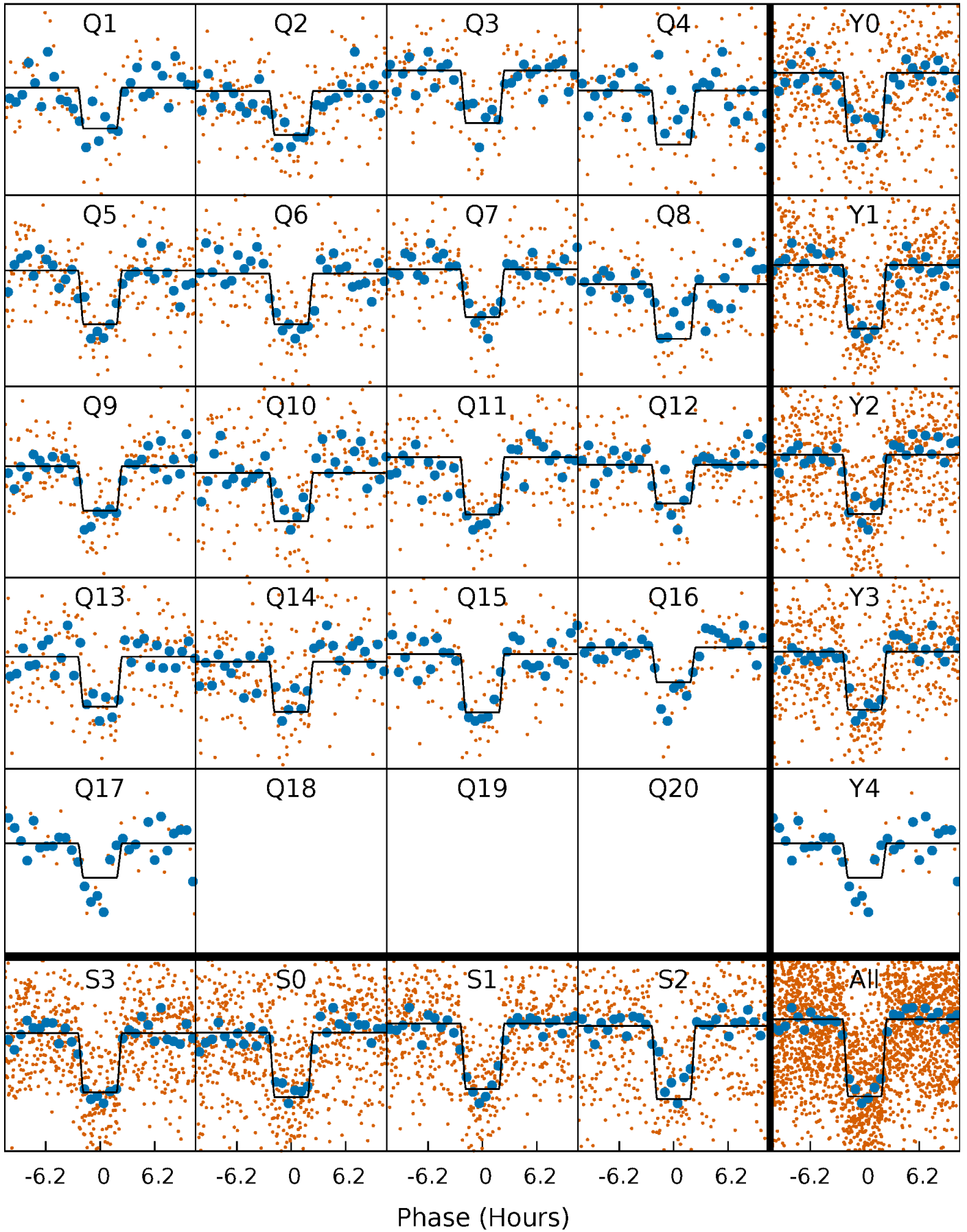
# DV Quarter-Phased Transit Curves

TCE 007690844-01 P= 22.045926 Days  $T_0=136.475321$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

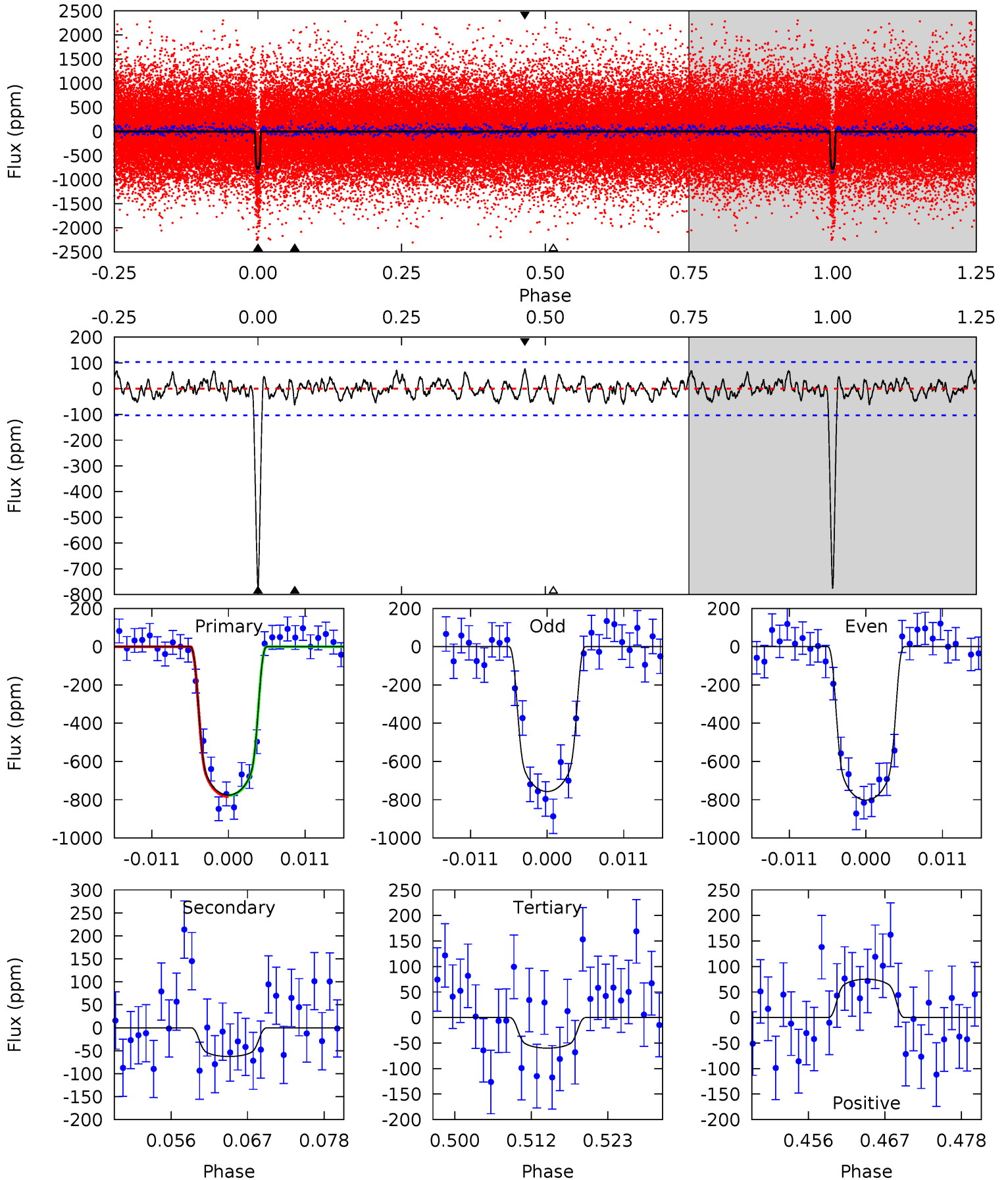
TCE 007690844-01 P= 22.046036 Days  $T_0=136.472407$  (BKJD)



# DV Model-Shift Uniqueness Test

007690844-01, P = 22.045926 Days, E = 114.429395 Days

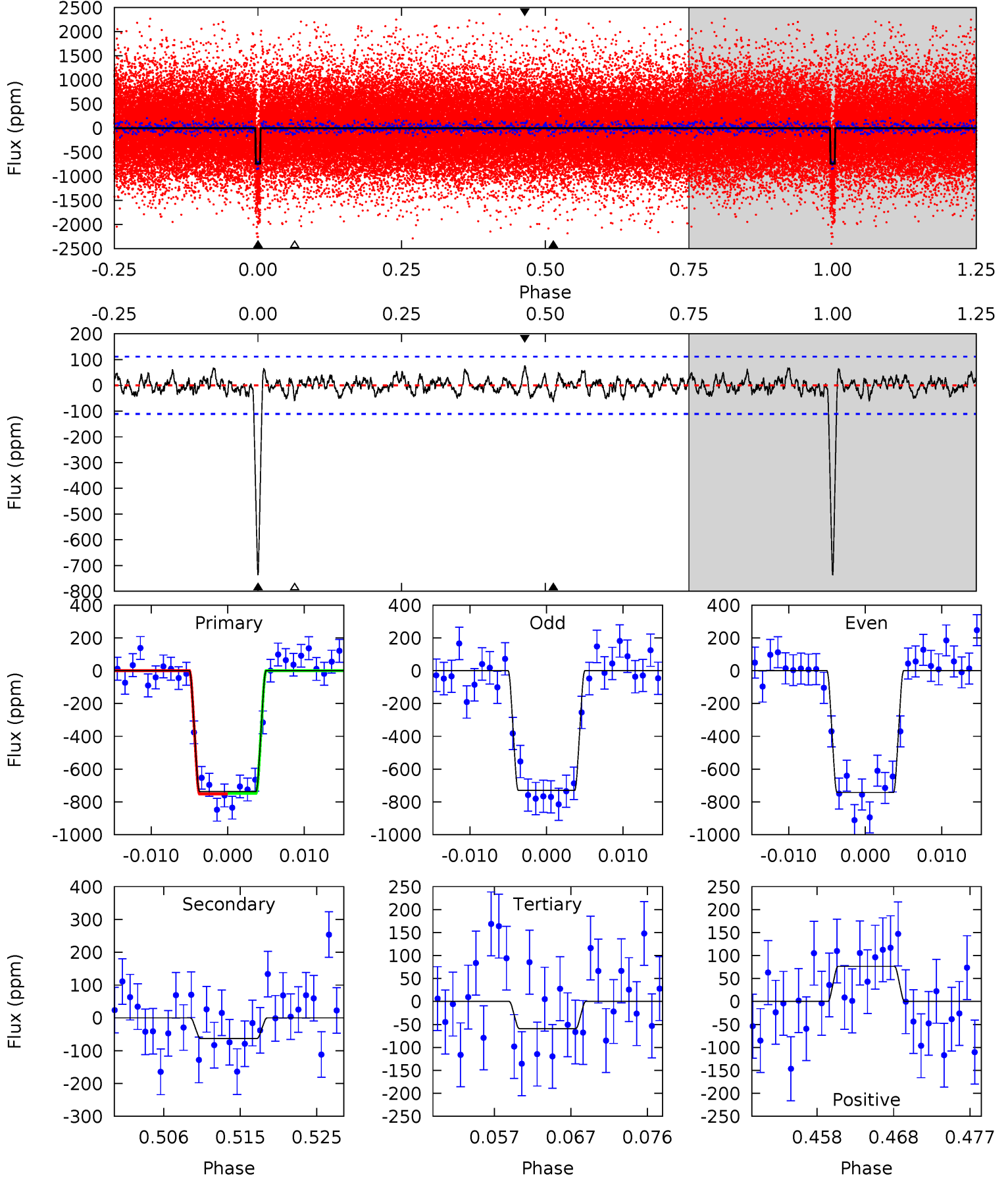
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.6	3.04	2.90	3.64	5.01	2.54	1.26	34.7	33.9	0.13	-0.60	1.09	0.92	0.09	0.14



# Alt Model-Shift Uniqueness Test

007690844-01, P = 22.046036 Days, E = 114.426371 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
33.3	2.85	2.67	3.45	5.04	2.59	1.04	30.6	29.8	0.17	-0.60	0.30	0.91	0.09	0.08



### Stellar Parameters For KIC 007690844

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5900^{+176}_{-193}$	$4.509^{+0.042}_{-0.178}$	$0.070^{+0.250}_{-0.350}$	$0.951^{+0.236}_{-0.084}$	$1.065^{+0.102}_{-0.153}$	$1.745^{+0.409}_{-0.822}$
	+3%/-3%	+1%/-4%	+357%/-500%	+25%/-9%	+10%/-14%	+23%/-47%
Source	PHO1	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 007690844-01 / KOI 1508.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-63 \pm 21$	$3.27^{+0.45}_{-0.26}$	$913^{+52}_{-42}$	$3459^{+192}_{-224}$	$72^{+33}_{-26}$
Alt.	$-63 \pm 22$	$2.97^{+0.39}_{-0.27}$	$914^{+58}_{-38}$	$3597^{+215}_{-243}$	$93^{+38}_{-35}$

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



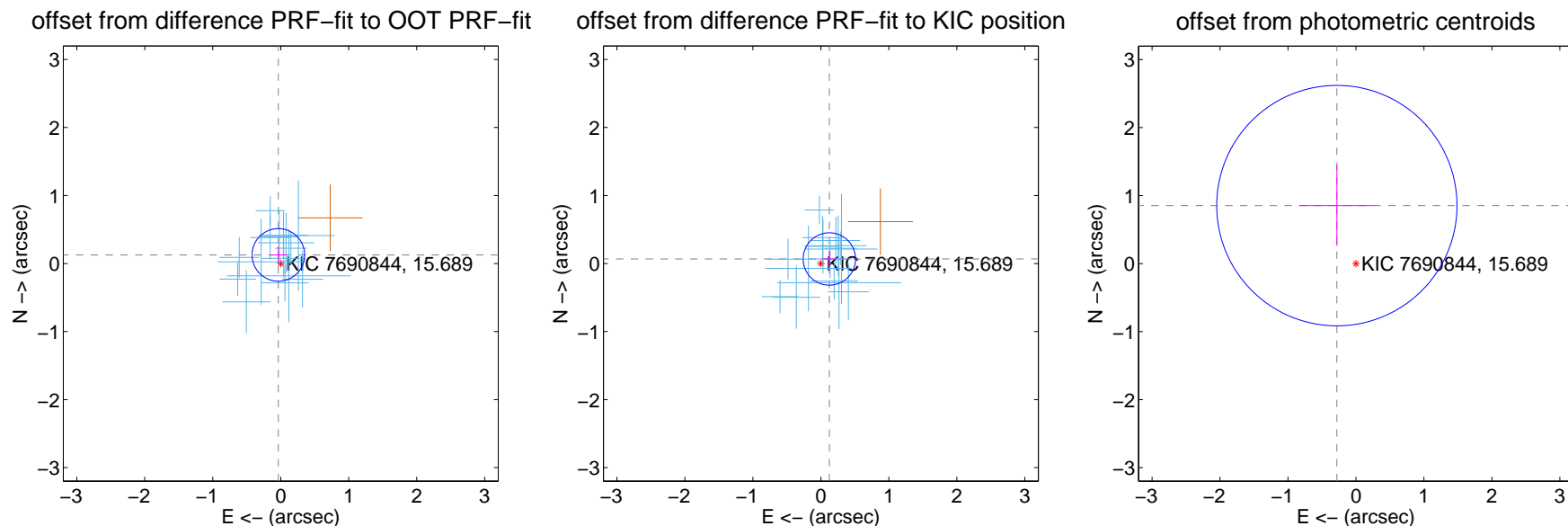
## DV Centroid Data

Supplemental centroid analysis for 007690844-01. Kepler magnitude: 15.69. Transit SNR 27.36

There are 15 quarters with good PRF difference image offsets

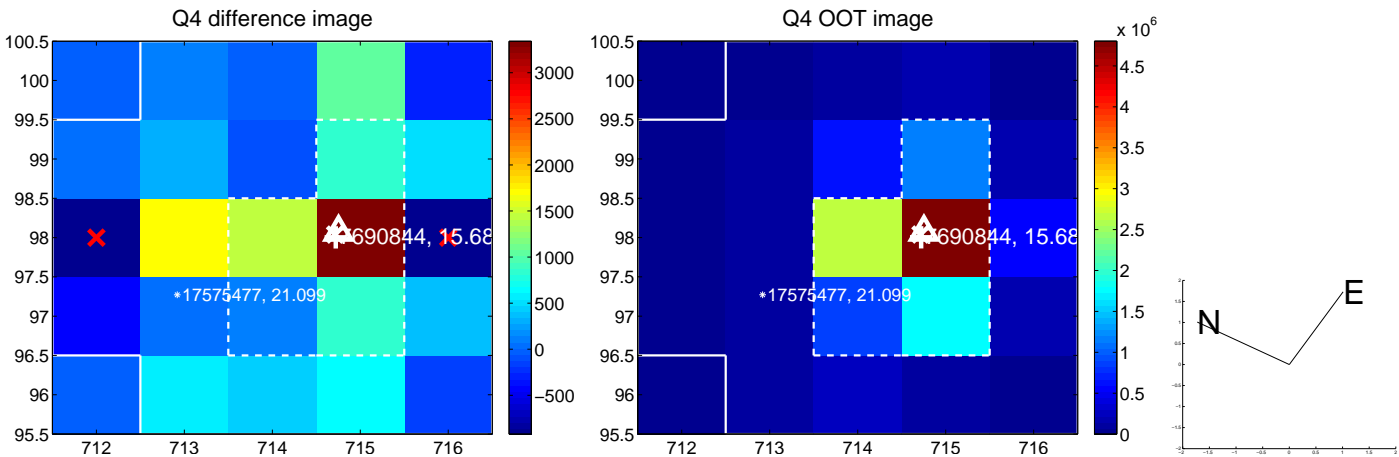
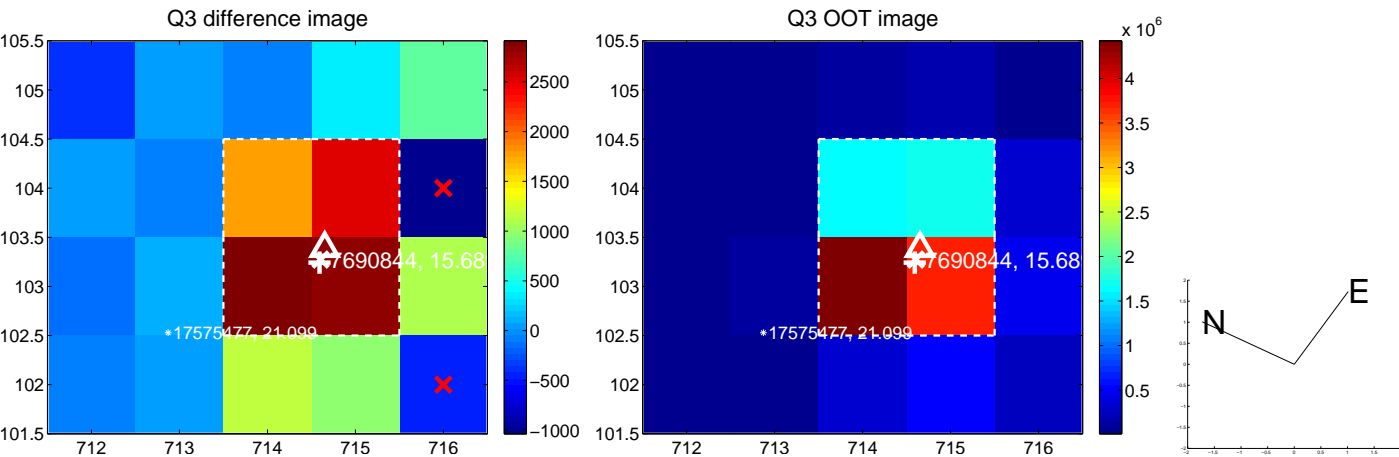
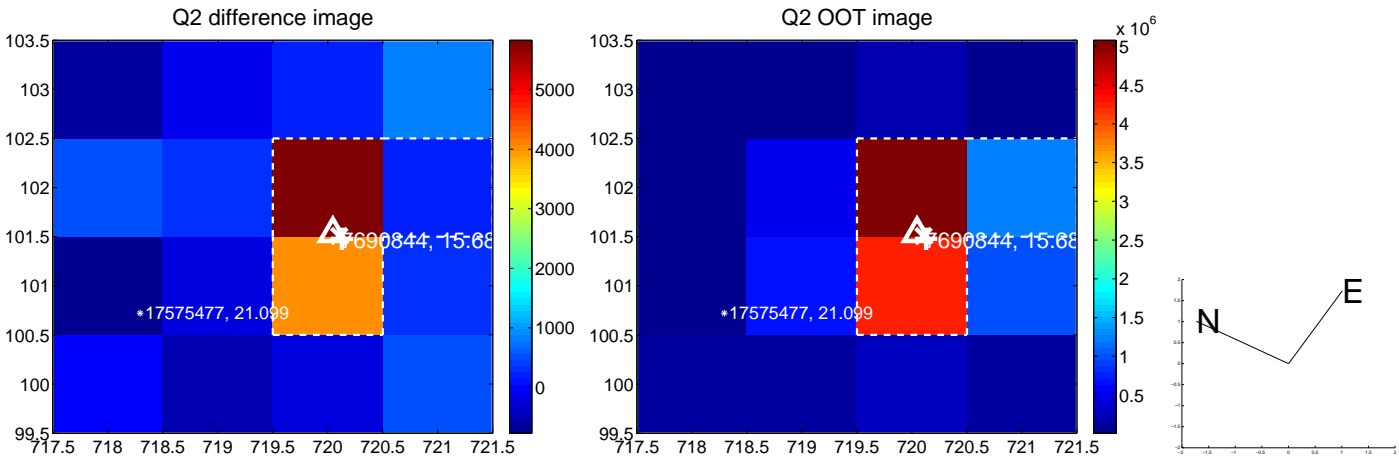
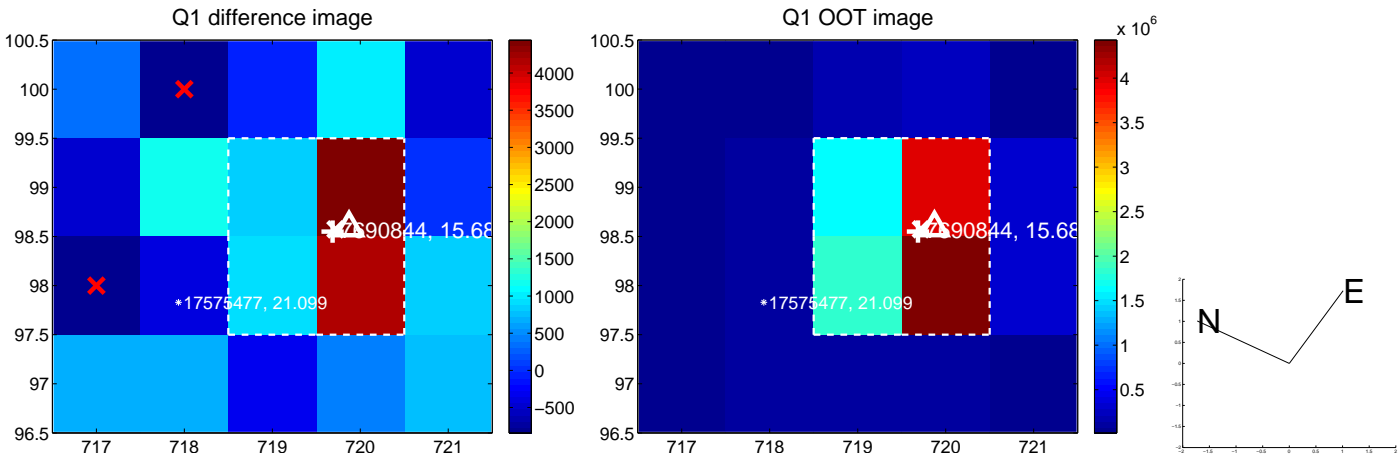
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.132 \pm 0.129$	1.02	$0.035 \pm 0.126$	$0.127 \pm 0.129$
PRF-fit source offset from KIC position	$0.142 \pm 0.128$	1.10	$-0.125 \pm 0.111$	$0.067 \pm 0.121$
photometric centroid source offset	$0.90 \pm 0.59$	1.52	$0.28 \pm 0.56$	$0.85 \pm 0.59$

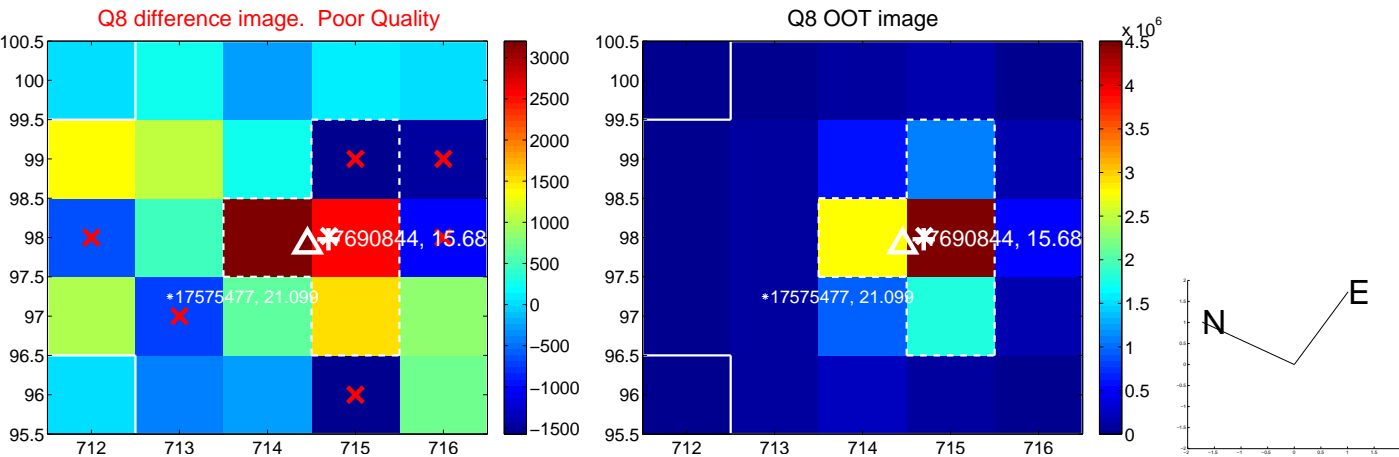
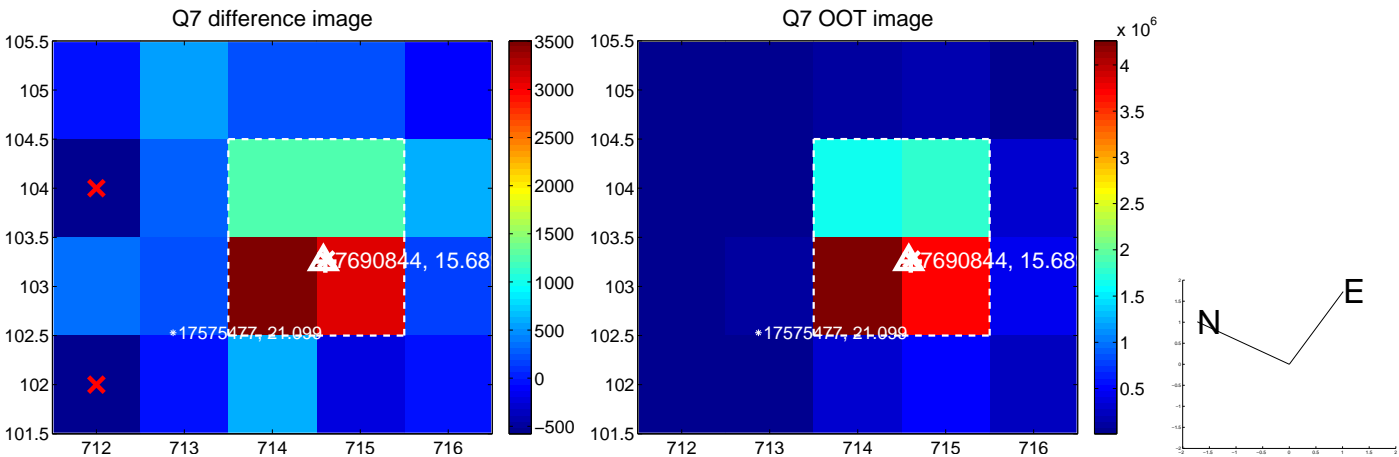
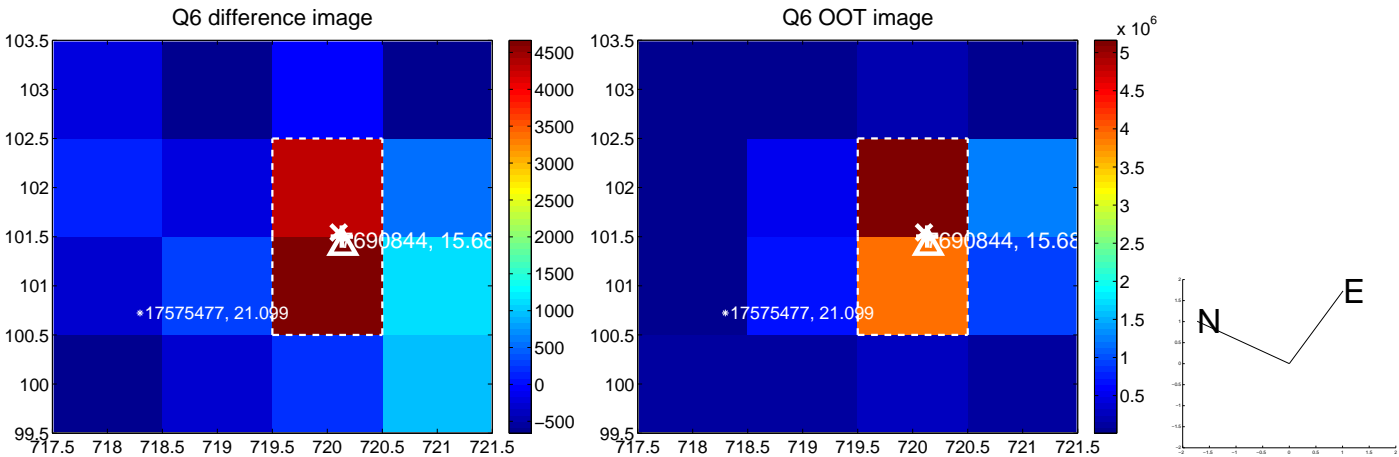
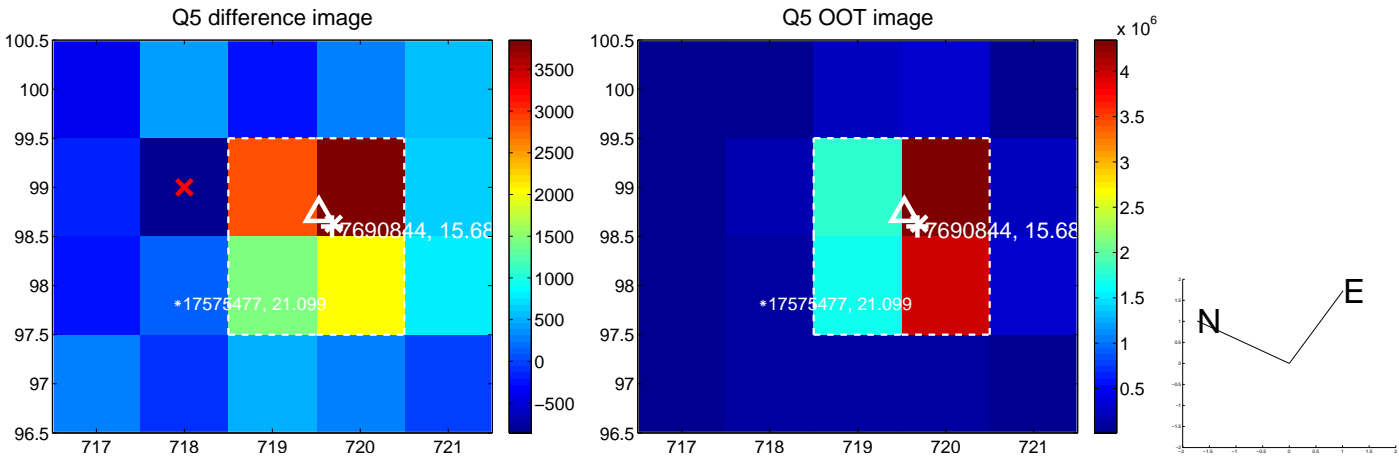


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

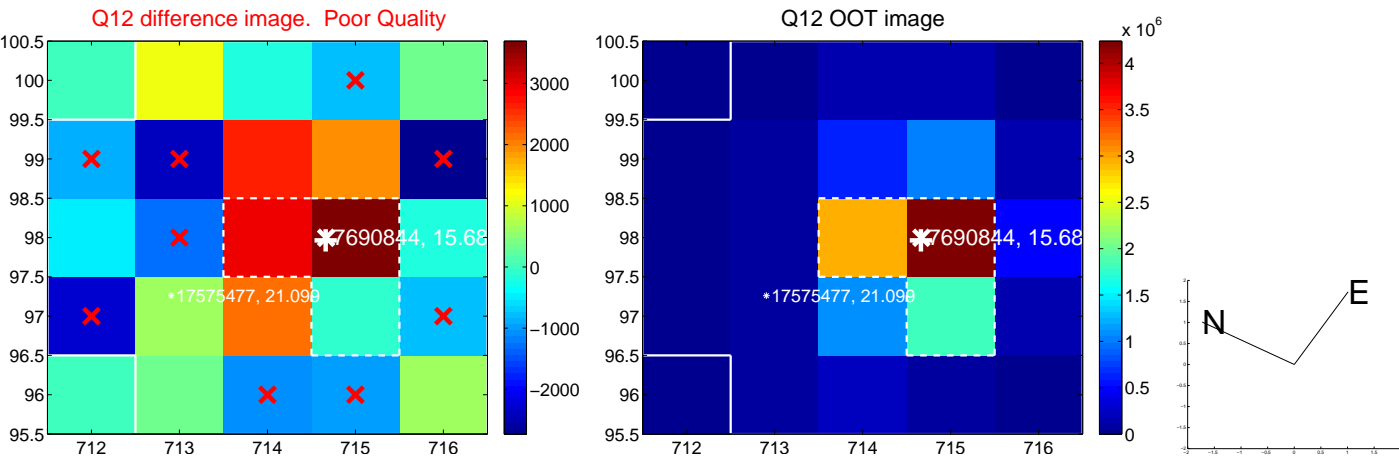
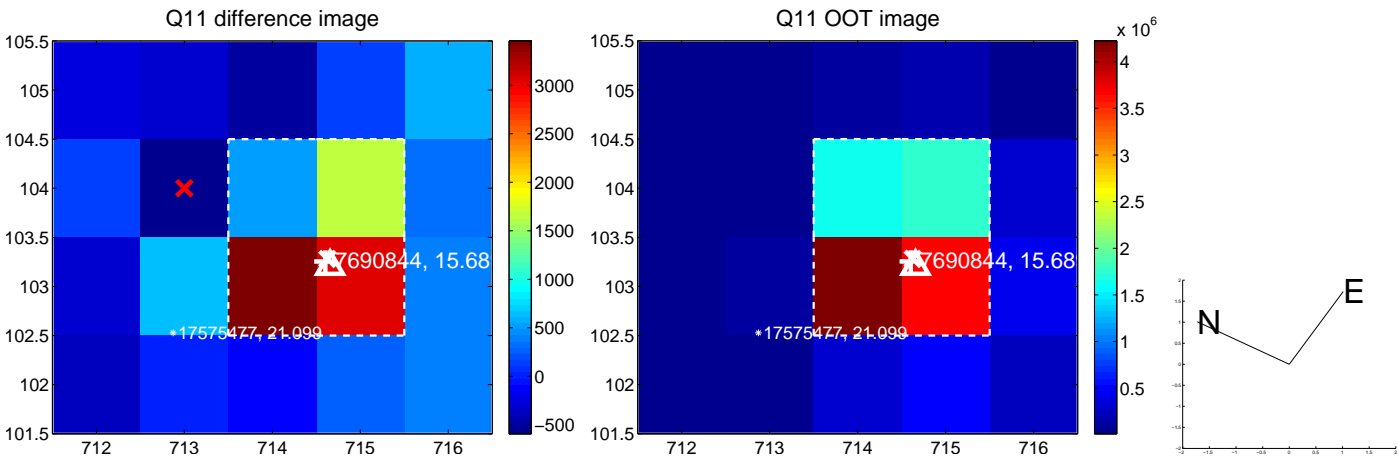
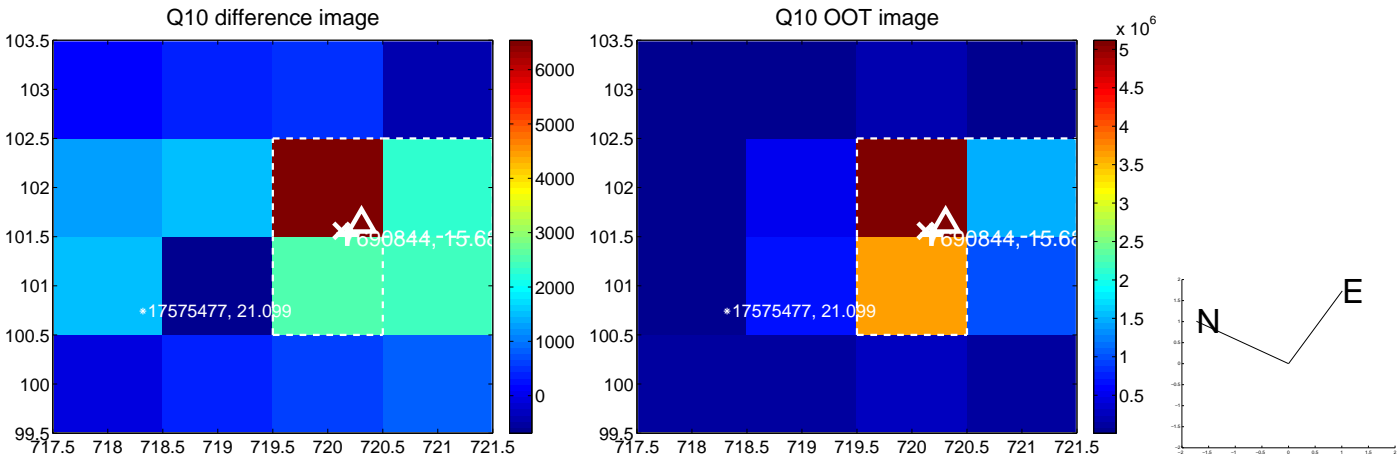
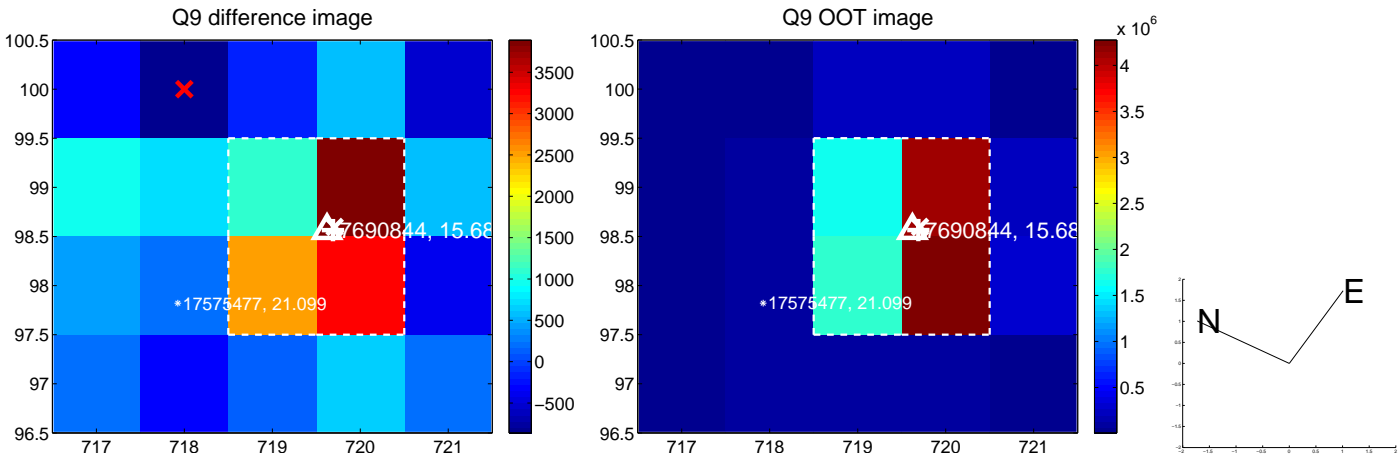
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



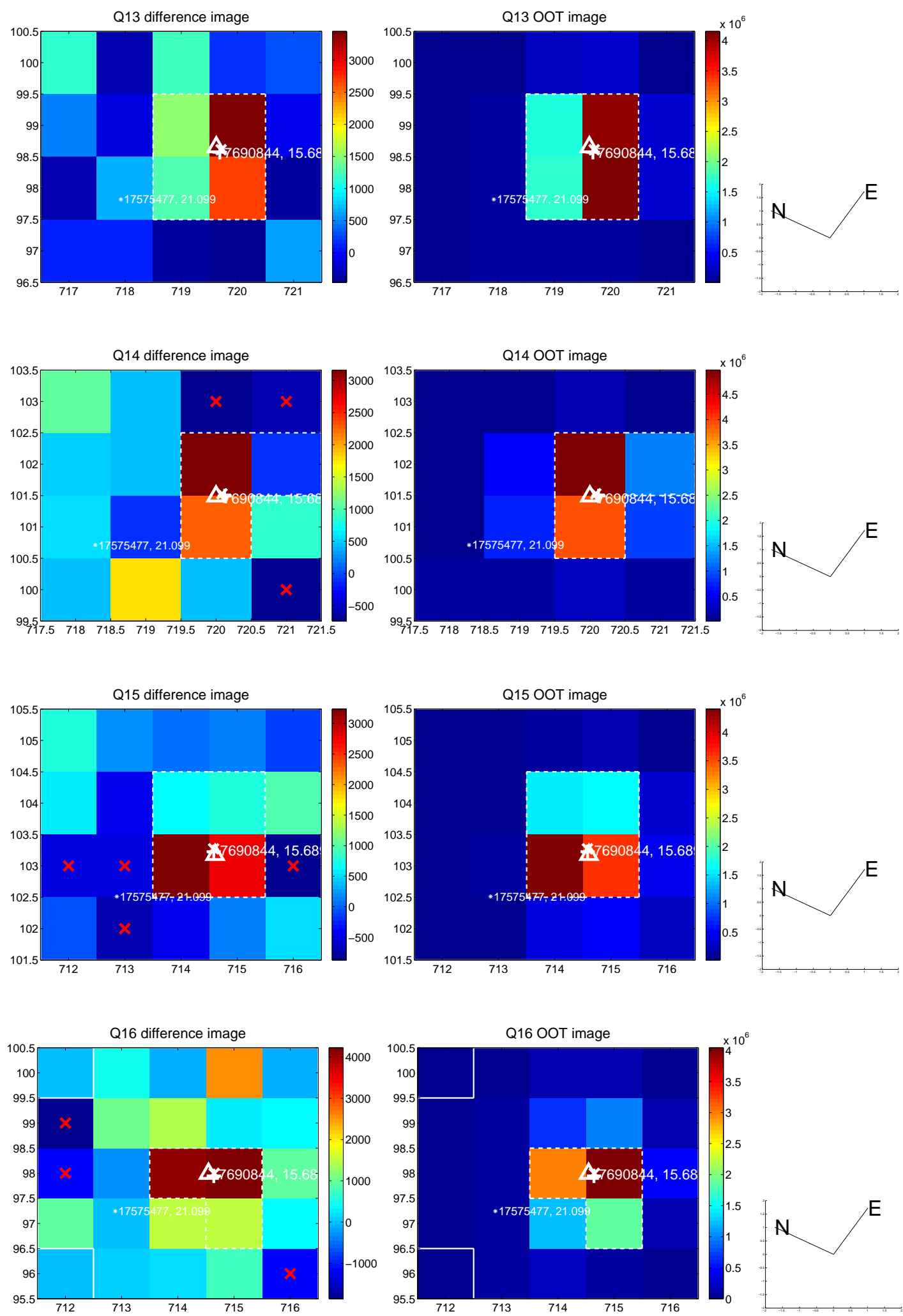
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

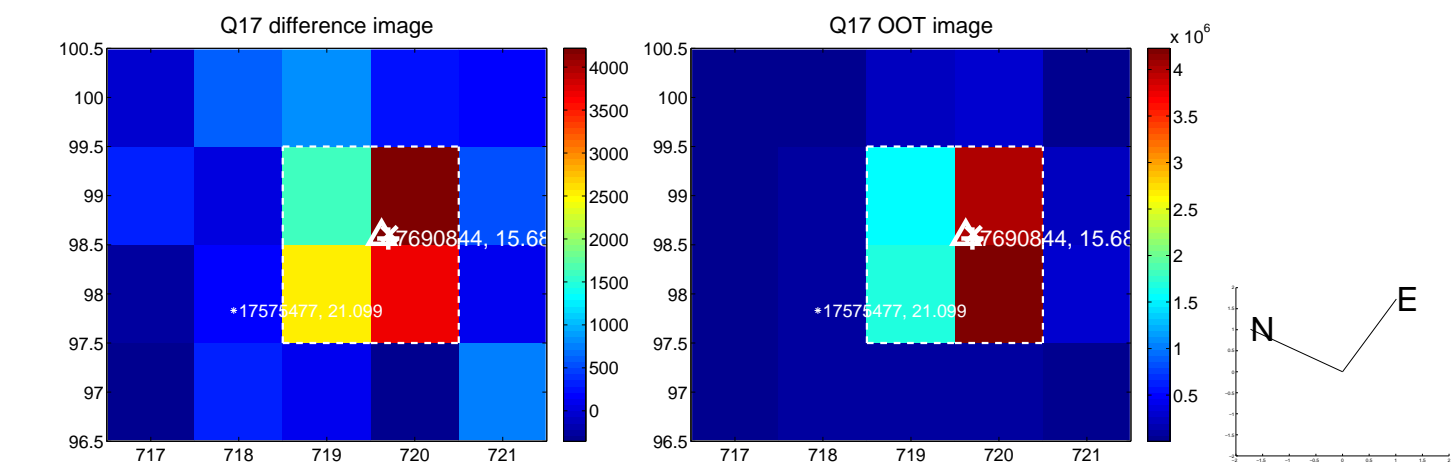


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

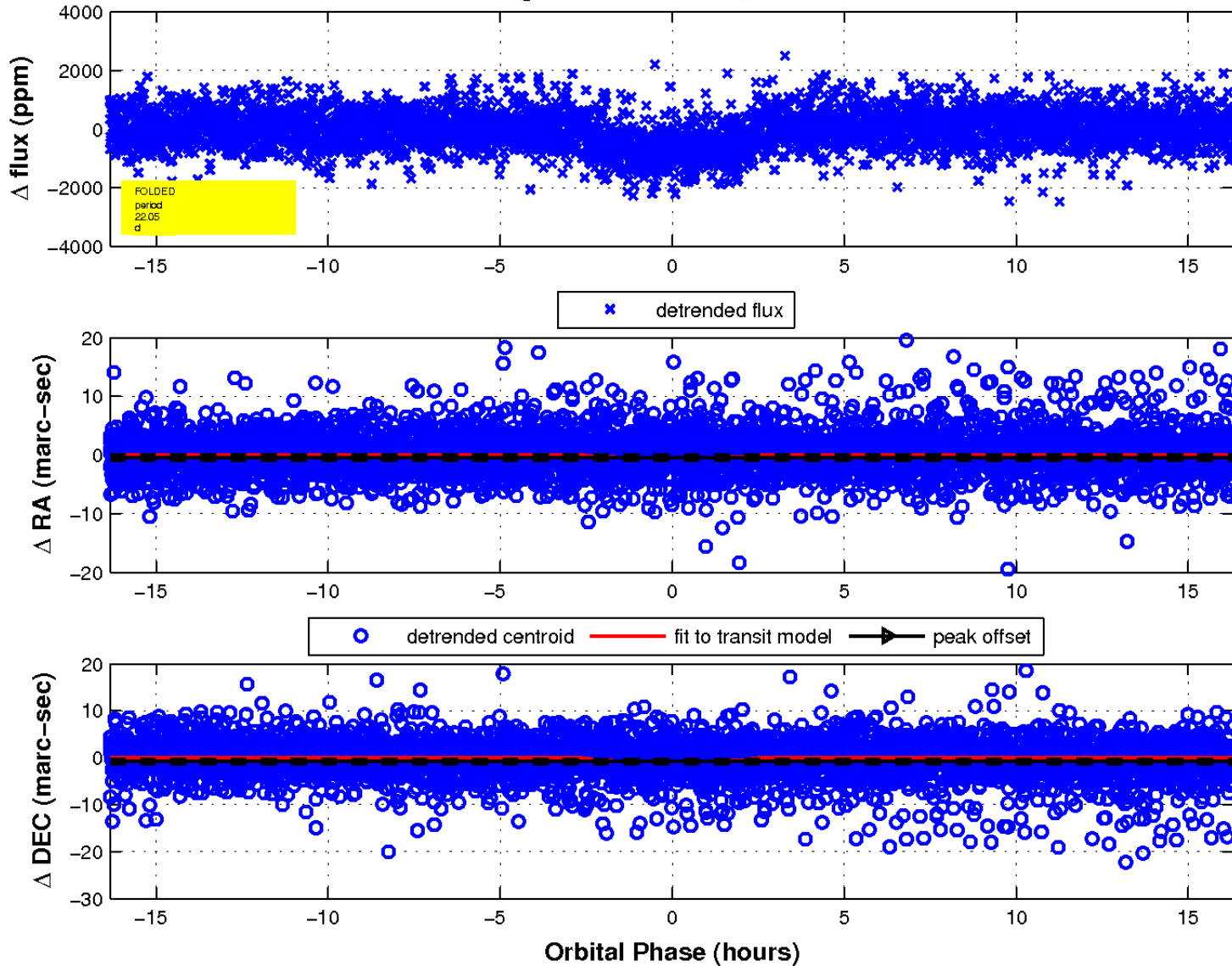




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

