

# KIC 007094944

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007094944-01	OBS	4859.01	7.502163	135.087903	207.2	3.163	7.4	7.8	0.76	4807	1.26	59.88

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007094944-01	OBS	PC	0.82	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.

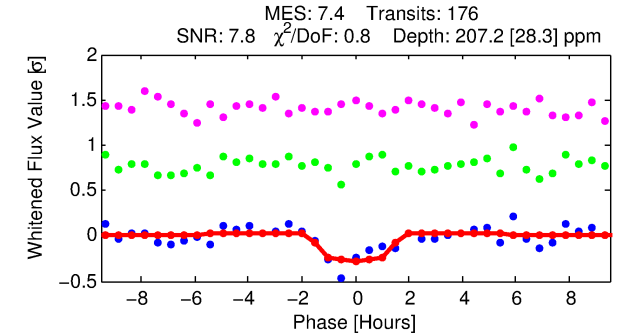
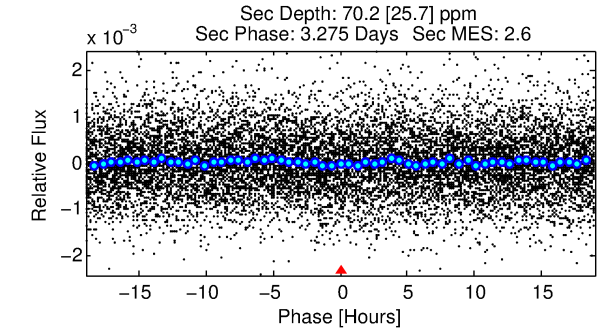
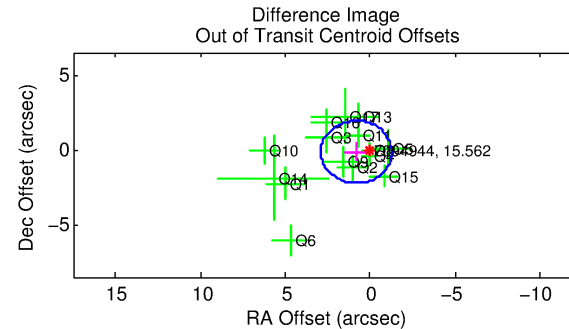
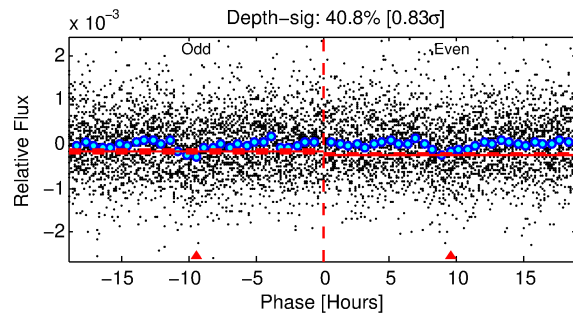
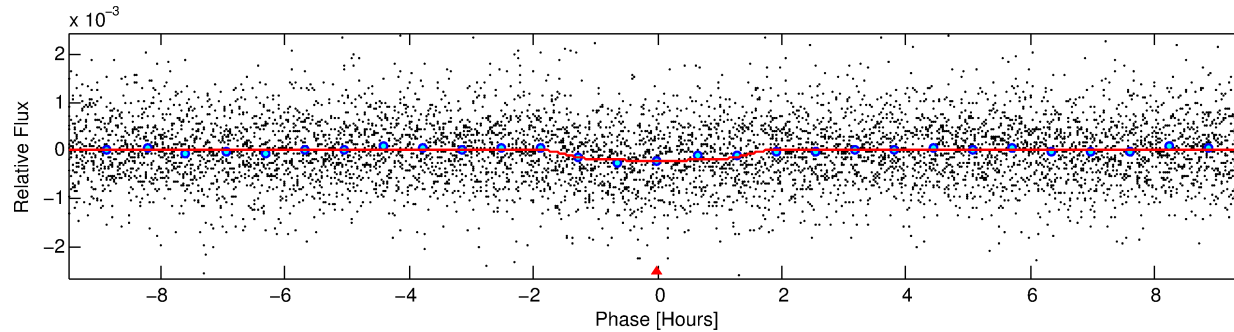
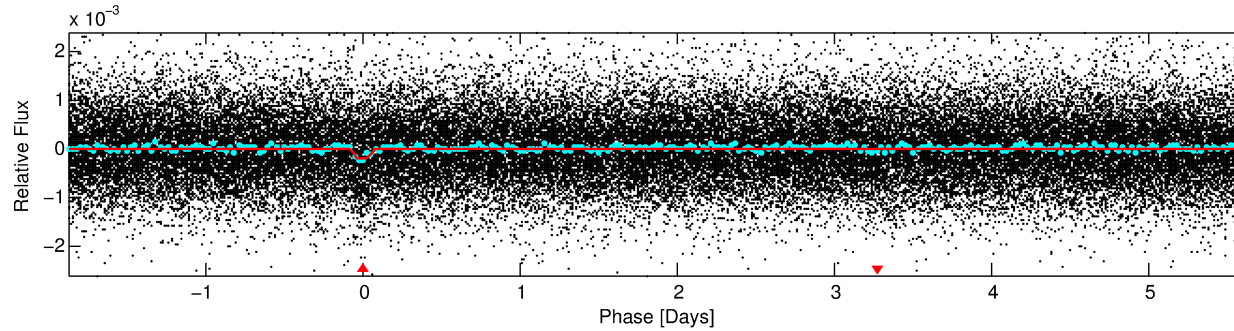
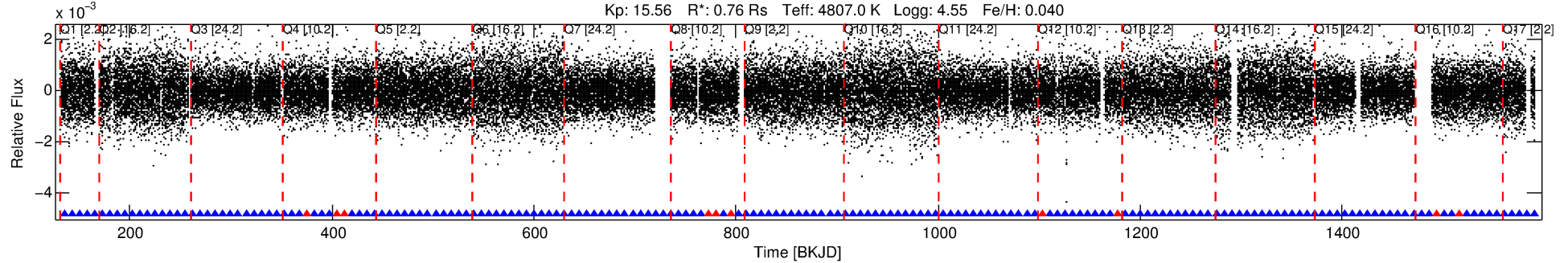
## Ephemeris Match Information For 007094944-01

No Significant Match Found

# DV One-Page Summary

KIC: 7094944 Candidate: 1 of 1 Period: 7.502 d  
KOI: K04859.01 Corr: 0.923

Kp: 15.56 R\*: 0.76 Rs Teff: 4807.0 K Logg: 4.55 Fe/H: 0.040



## DV Fit Results:

Period = 7.50216 [0.00007] d  
Epoch = 135.0879 [0.0076] BKJD  
Rp/R\* = 0.0152 [0.0175]  
a/R\* = 10.50 [42.75]  
b = 0.83 [1.54]  
Seff = 59.88 [10.14]  
Teq = 709 [30] K  
Rp = 1.26 [1.45] Re  
a = 0.0678 [0.0056] AU  
Ag = 112.23 [262.29] [0.42σ]  
Teffp = 3570 [2085] K [1.37σ]

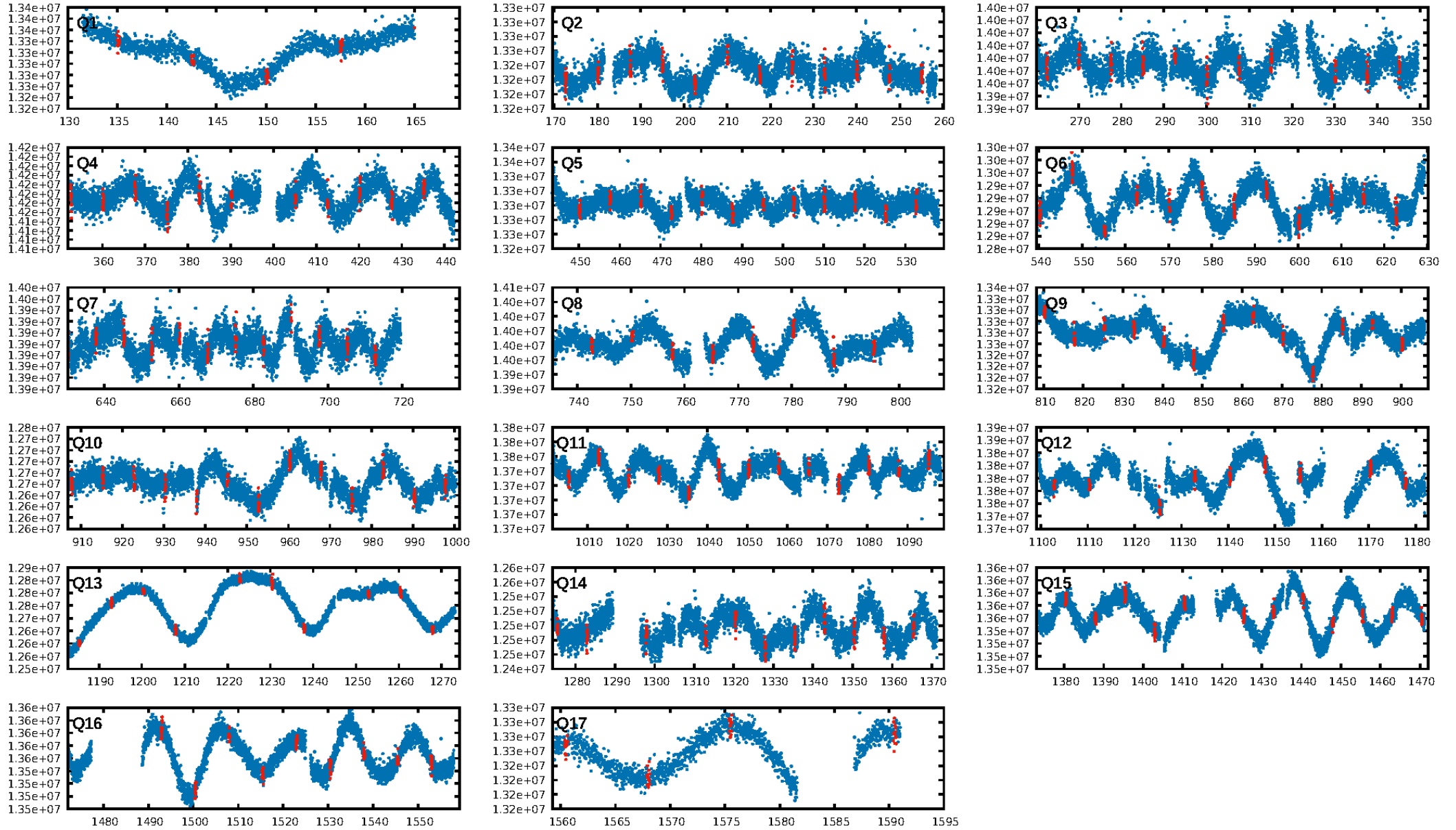
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.28e-13  
RollingBand-fgt: 0.94 [158/168]  
GhostDiagnostic-chr: -1.536  
Centroid-sig: 57.4%  
Centroid-so: 1.283 arcsec [0.74σ]  
OotOffset-rm: 0.833 arcsec [1.20σ]  
KicOffset-rm: 0.811 arcsec [1.22σ]  
OotOffset-st: 4/3/3/5 [15]  
KicOffset-st: 4/3/3/5 [15]  
DiffImageQuality-fgm: 0.13 [2/15]  
DiffImageOverlap-fno: 1.00 [17/17]

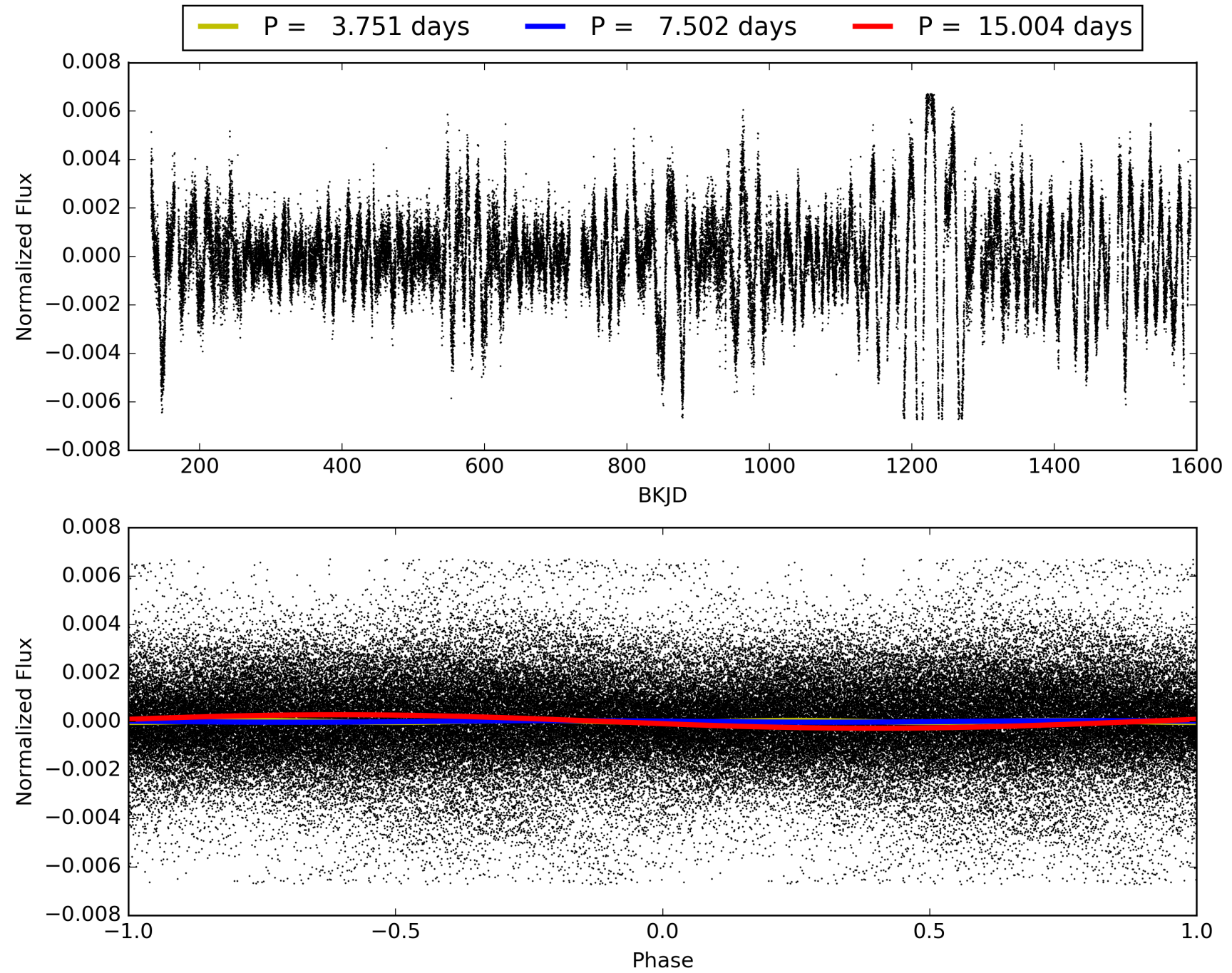
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:56:56 Z

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

# TCE 007094944-01, PDC Light Curves

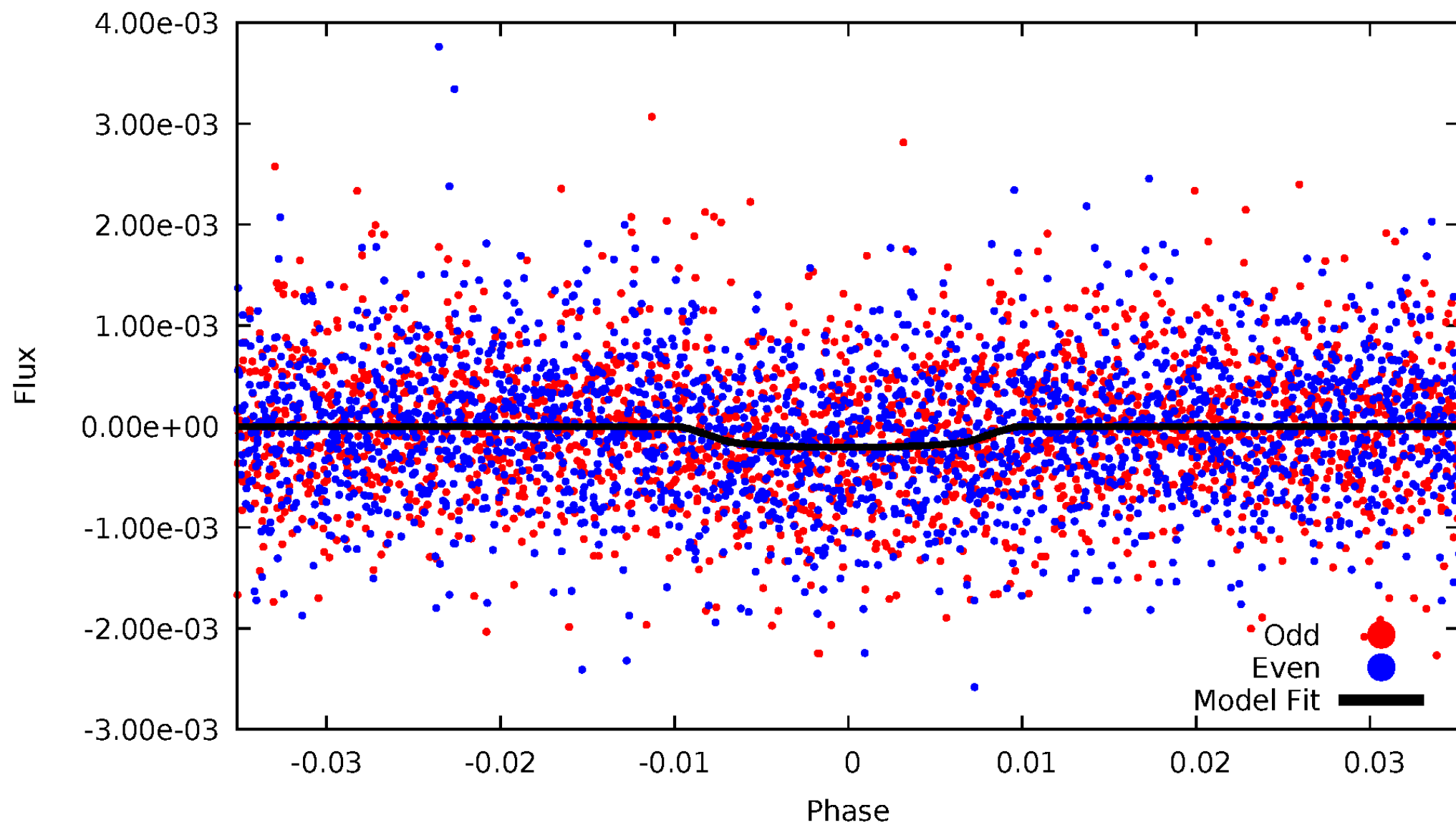


TCE 007094944-01



# DV Odd/Even

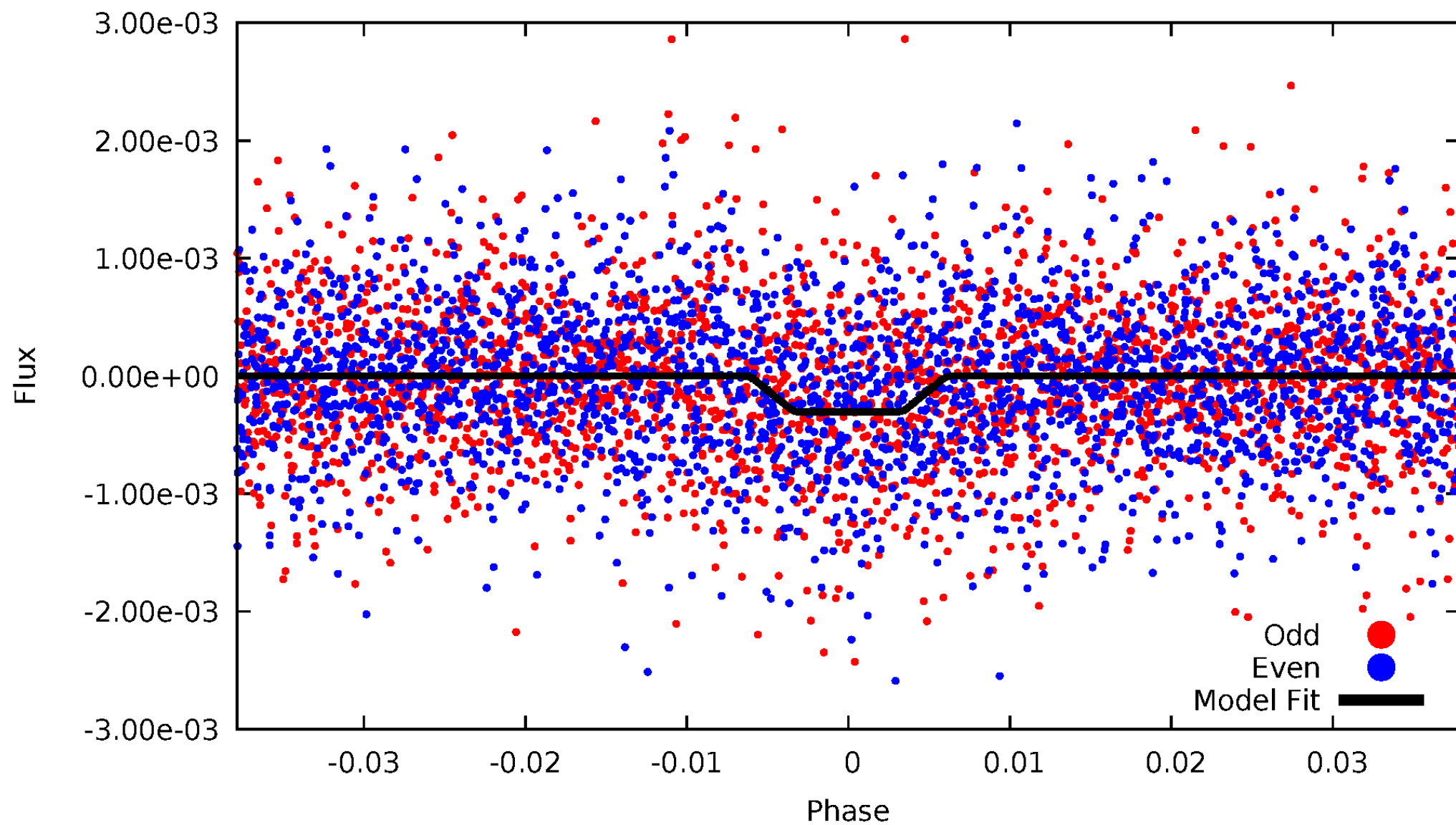
TCE 007094944-01



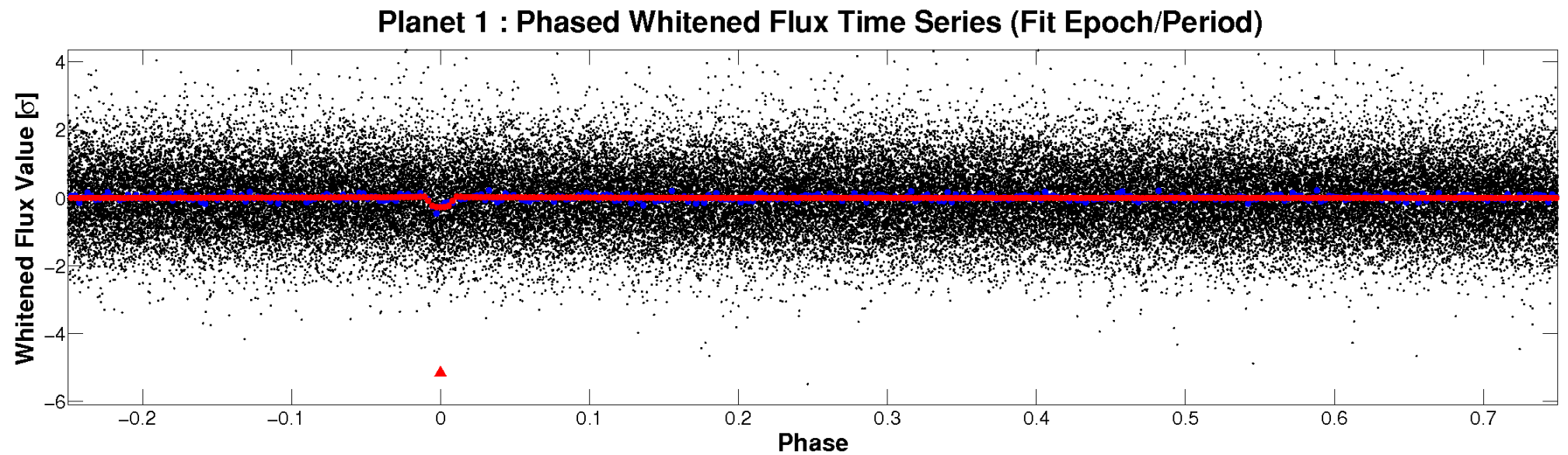
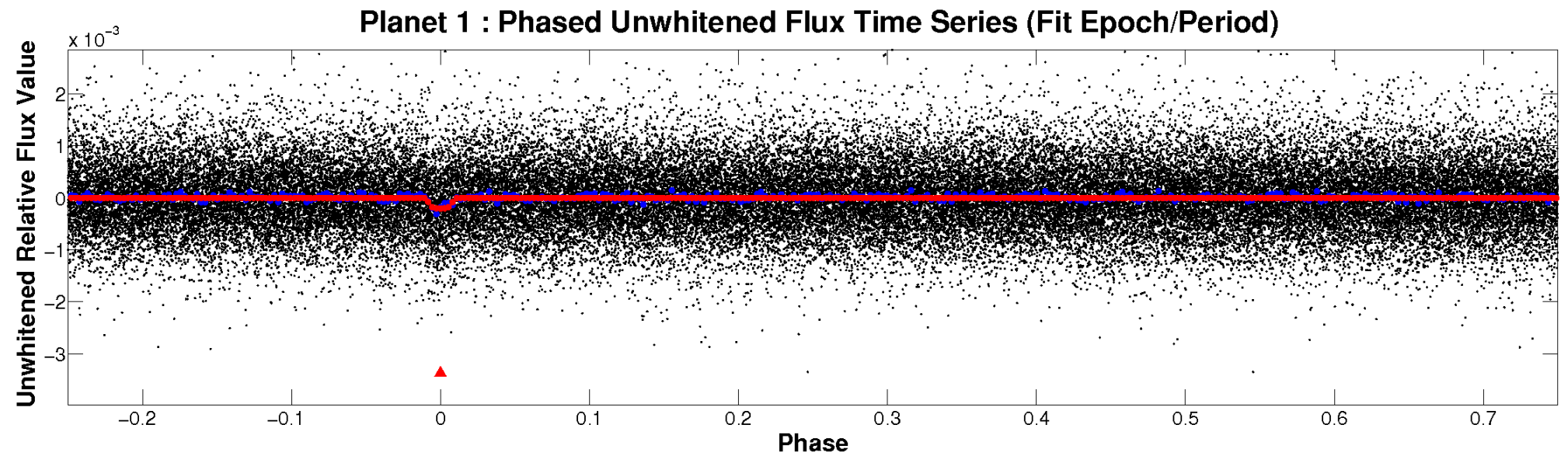


# ALT Odd/Even

TCE 007094944-01

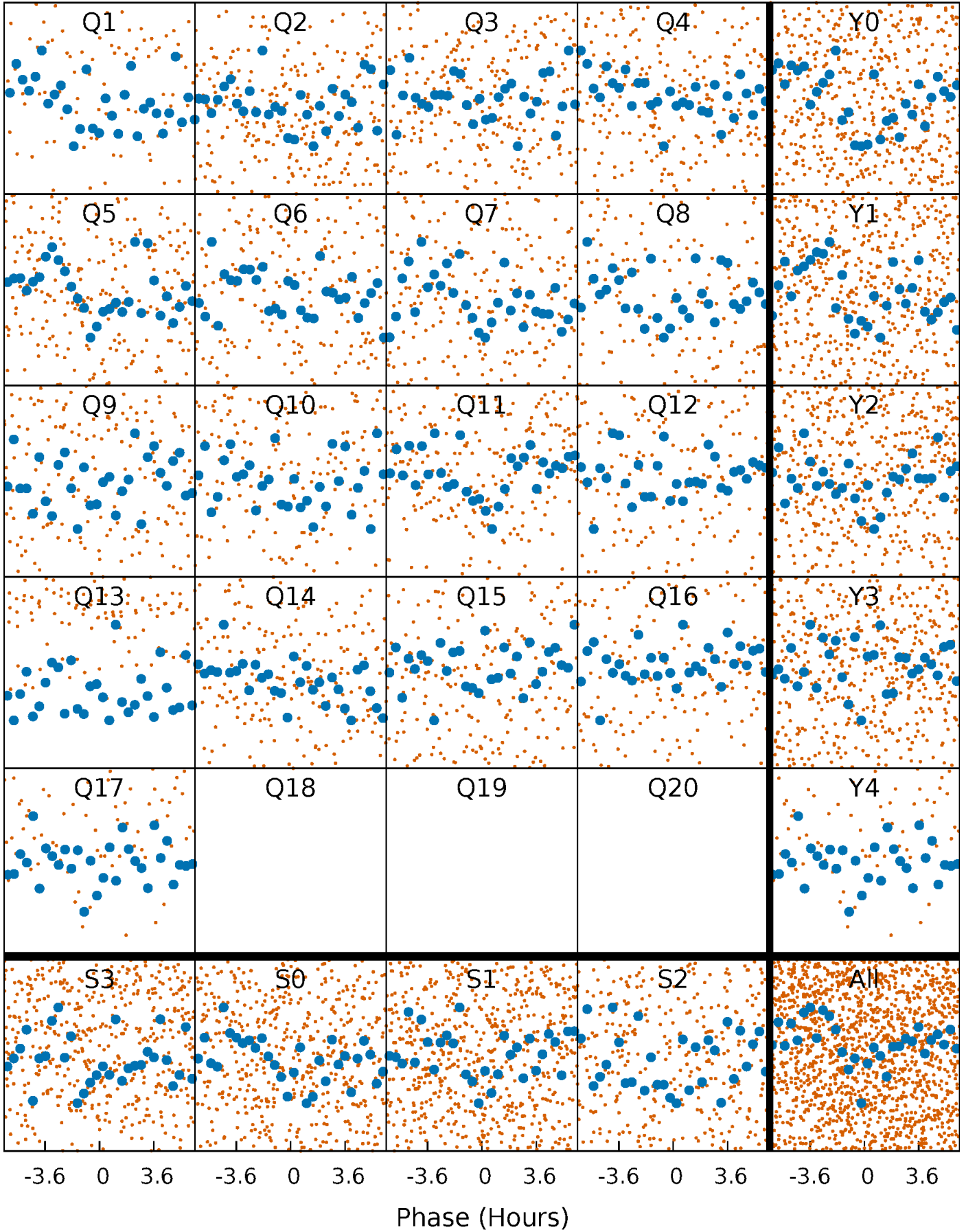


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

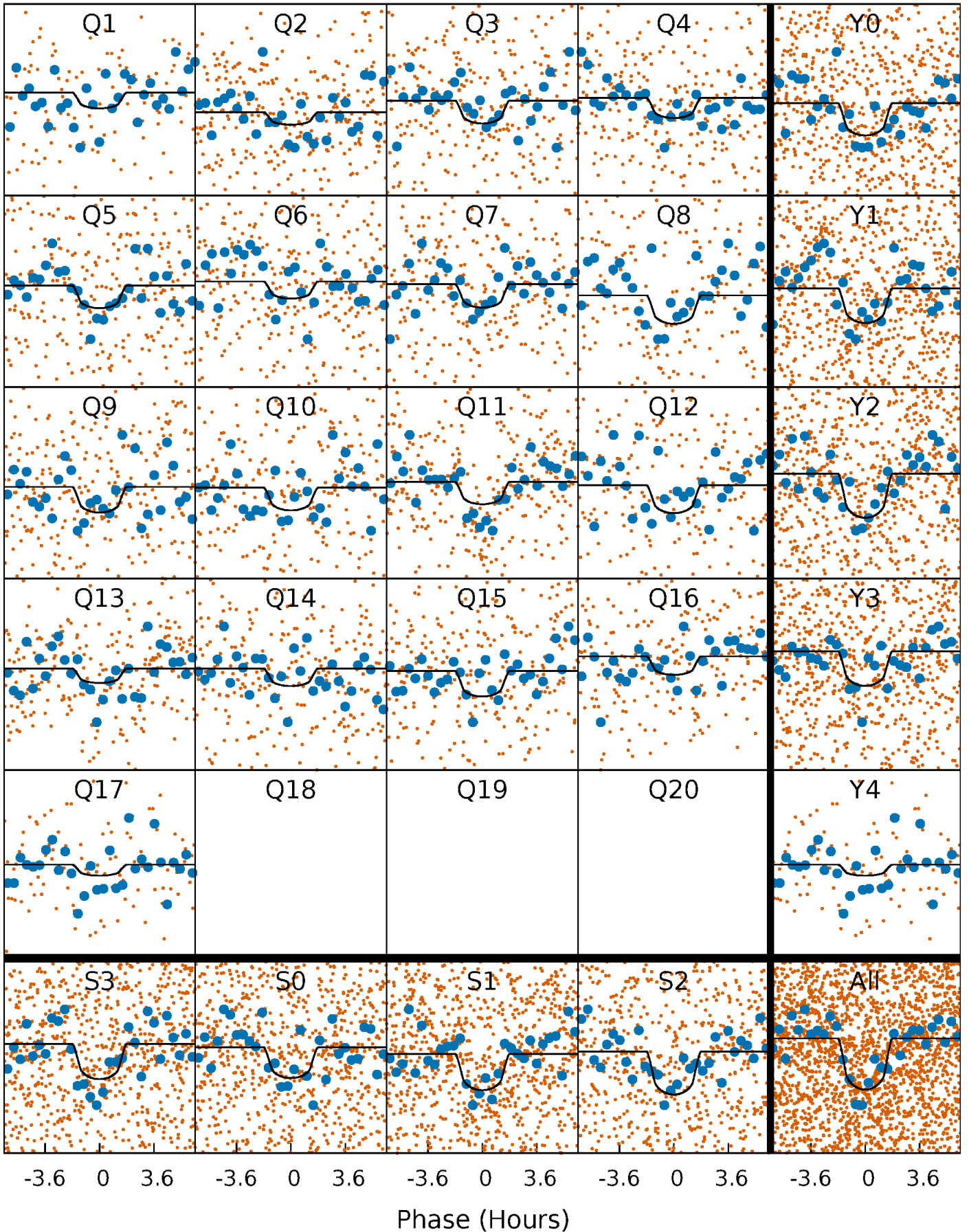
TCE 007094944-01 P= 7.502163 Days  $T_0=135.087903$  (BKJD)





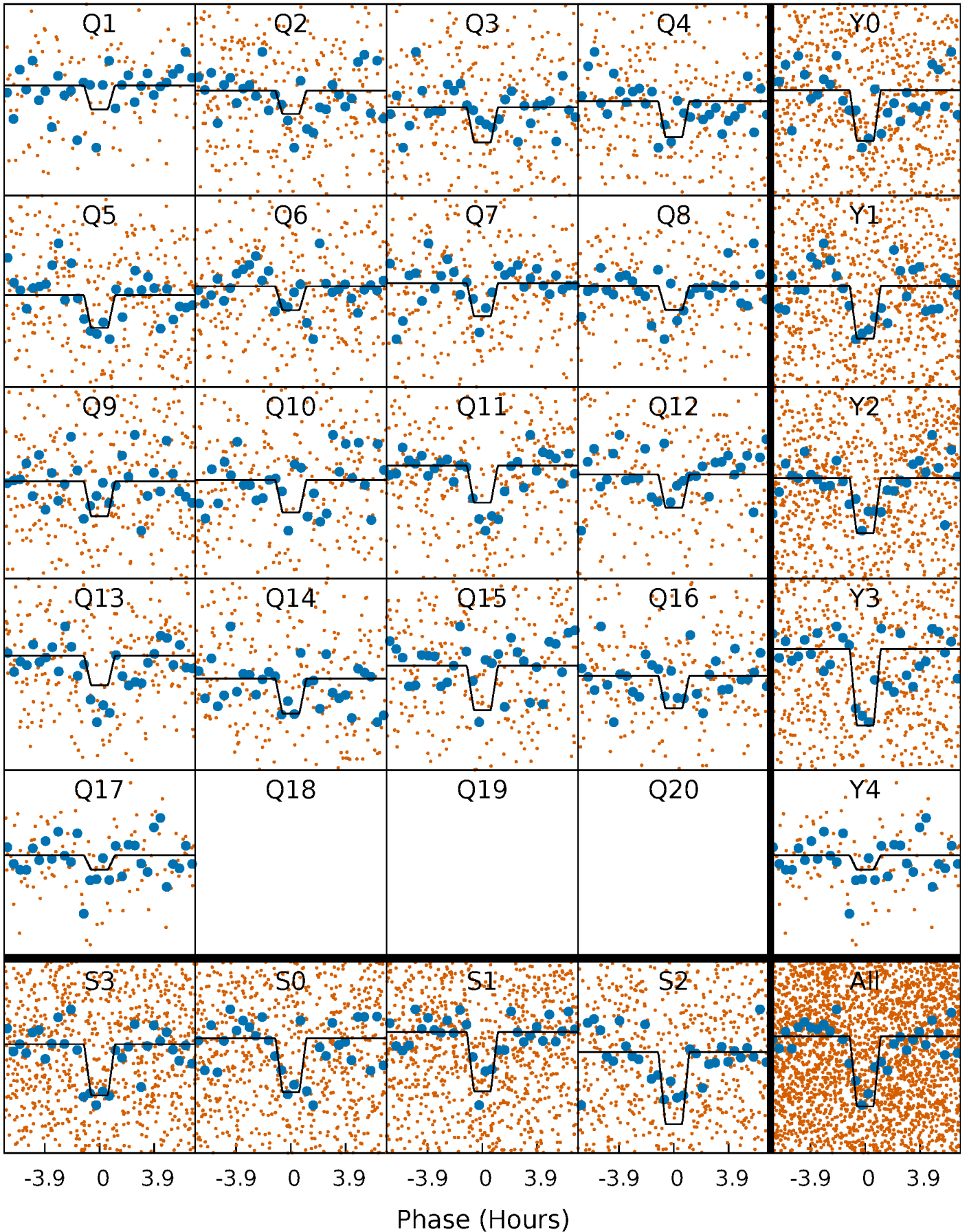
# DV Quarter-Phased Transit Curves

TCE 007094944-01 P= 7.502163 Days  $T_0=135.087903$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

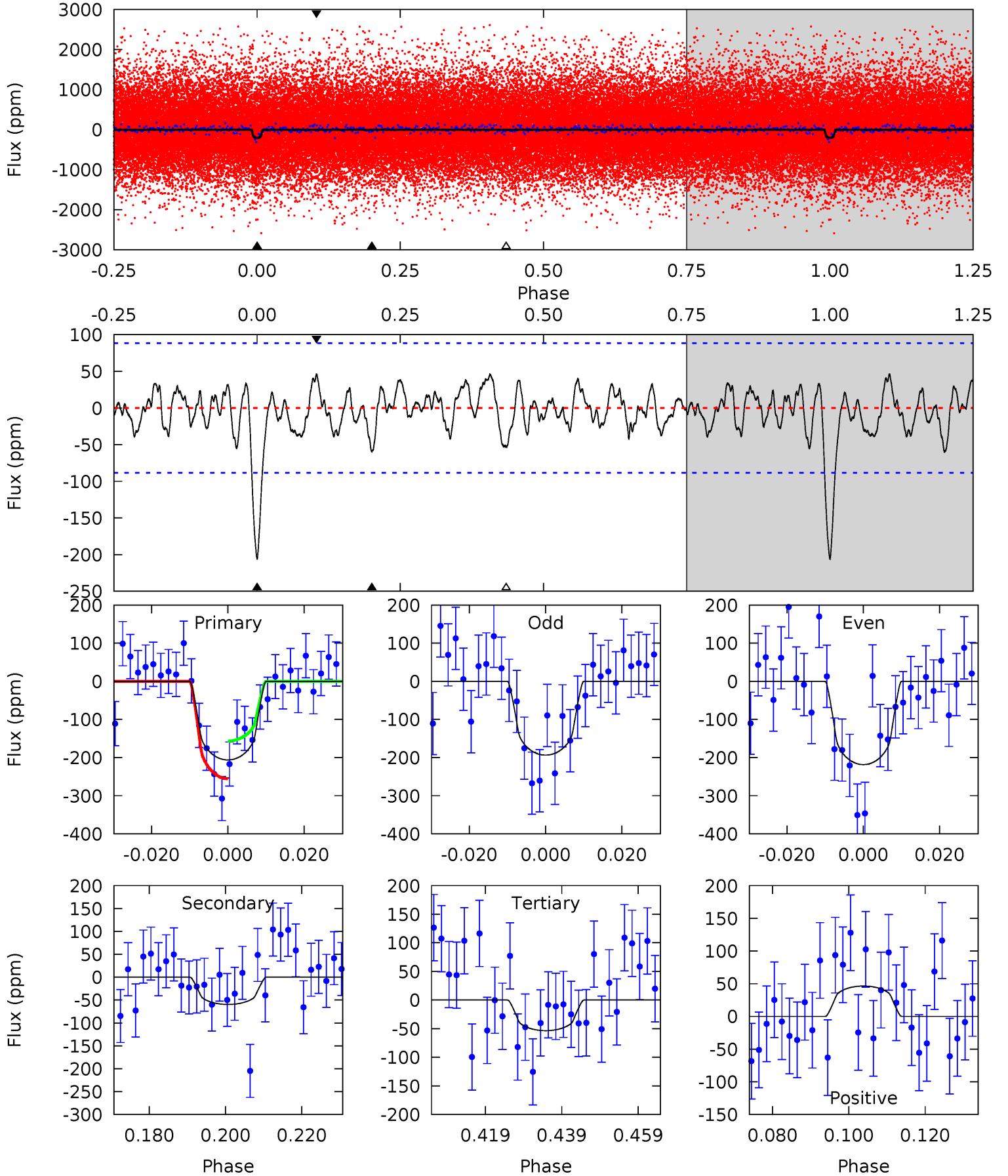
TCE 007094944-01 P= 7.502071 Days  $T_0=135.086587$  (BKJD)



# DV Model-Shift Uniqueness Test

007094944-01, P = 7.502163 Days, E = 127.585740 Days

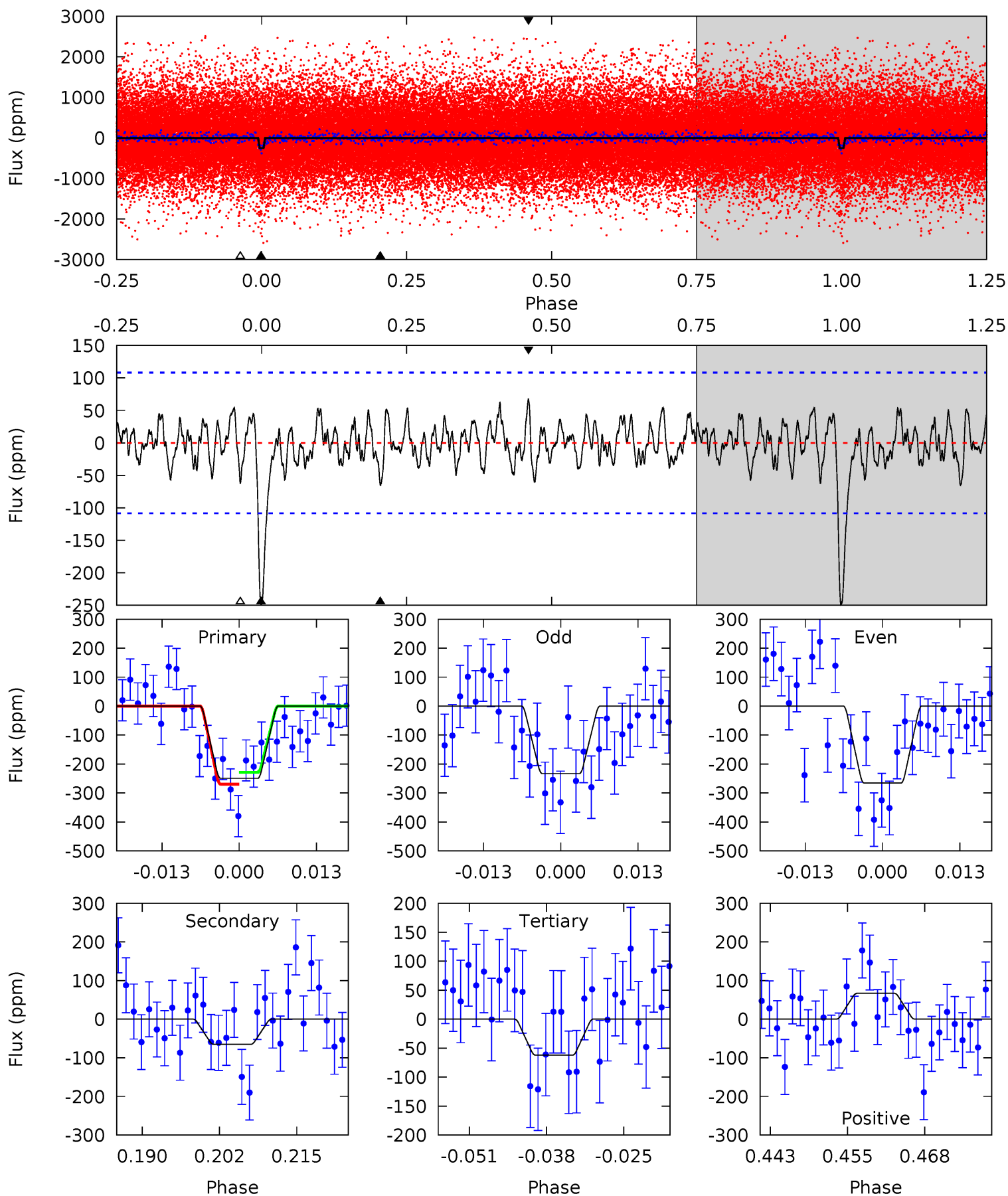
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	3.30	2.96	2.57	4.89	2.33	1.19	8.45	8.84	0.34	0.73	0.69	1.16	0.18	2.73



# Alt Model-Shift Uniqueness Test

007094944-01, P = 7.502071 Days, E = 127.584516 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
11.5	2.99	2.85	3.08	4.98	2.49	1.14	8.62	8.39	0.14	-0.09	0.74	1.32	0.21	0.94



### Stellar Parameters For KIC 007094944

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4807^{+143}_{-129}$	$4.546^{+0.066}_{-0.039}$	$0.040^{+0.250}_{-0.300}$	$0.758^{+0.049}_{-0.074}$	$0.737^{+0.081}_{-0.054}$	$2.383^{+0.695}_{-0.307}$
	+3%/-3%	+1%/-1%	+625%/-750%	+6%/-10%	+11%/-7%	+29%/-13%
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 007094944-01 / KOI 4859.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-60 \pm 18$	$1.67^{+1.22}_{-1.11}$	$987^{+35}_{-34}$	$3405^{+1674}_{-572}$	$56^{+427}_{-40}$
Alt.	$-65 \pm 22$	$1.71^{+1.39}_{-1.02}$	$986^{+37}_{-32}$	$3390^{+1387}_{-573}$	$53^{+307}_{-39}$

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



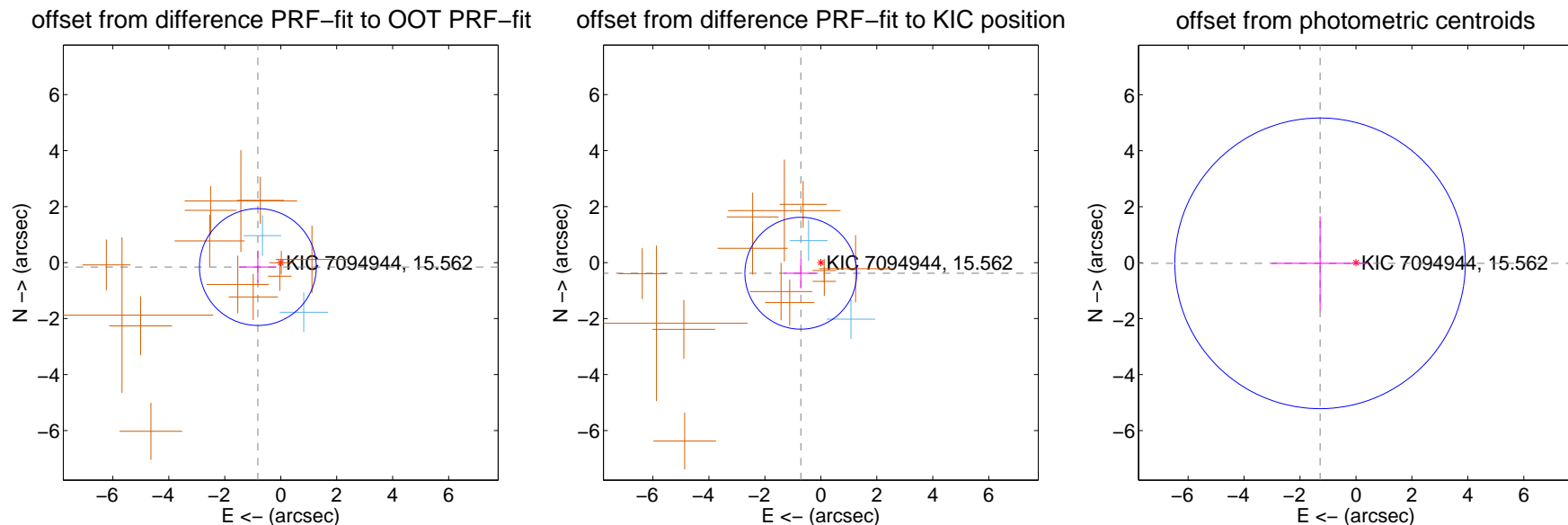
## DV Centroid Data

Supplemental centroid analysis for 007094944-01. Kepler magnitude: 15.56. Transit SNR 7.84

There are 2 quarters with good PRF difference image offsets

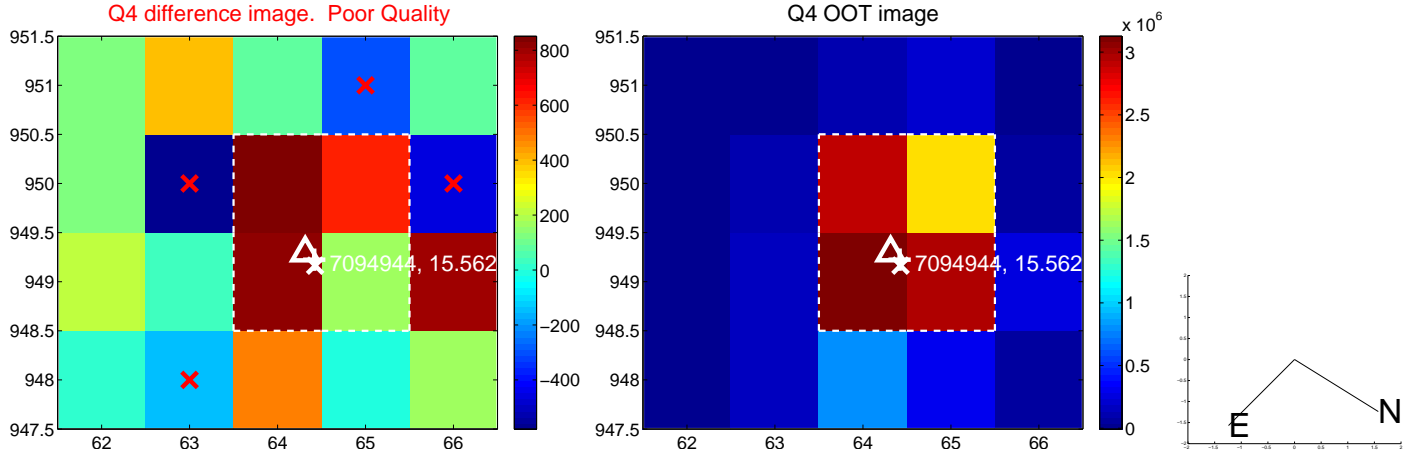
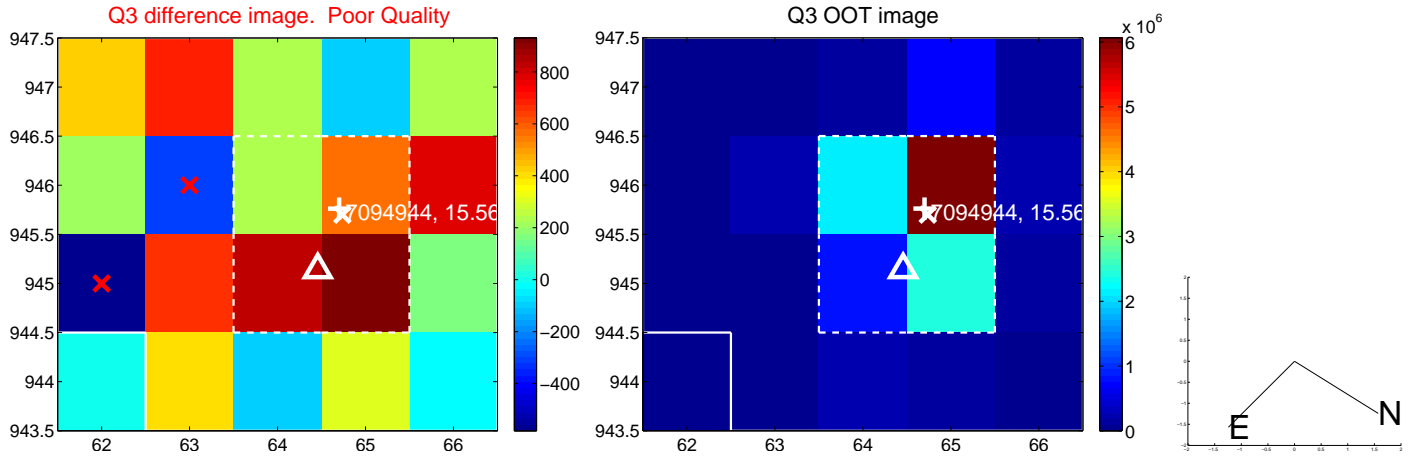
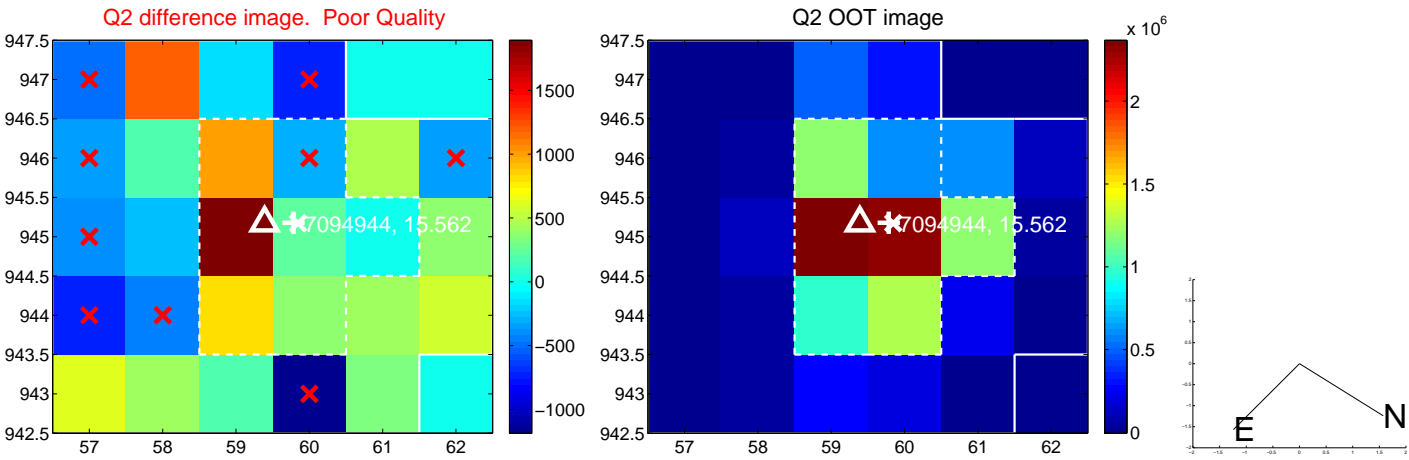
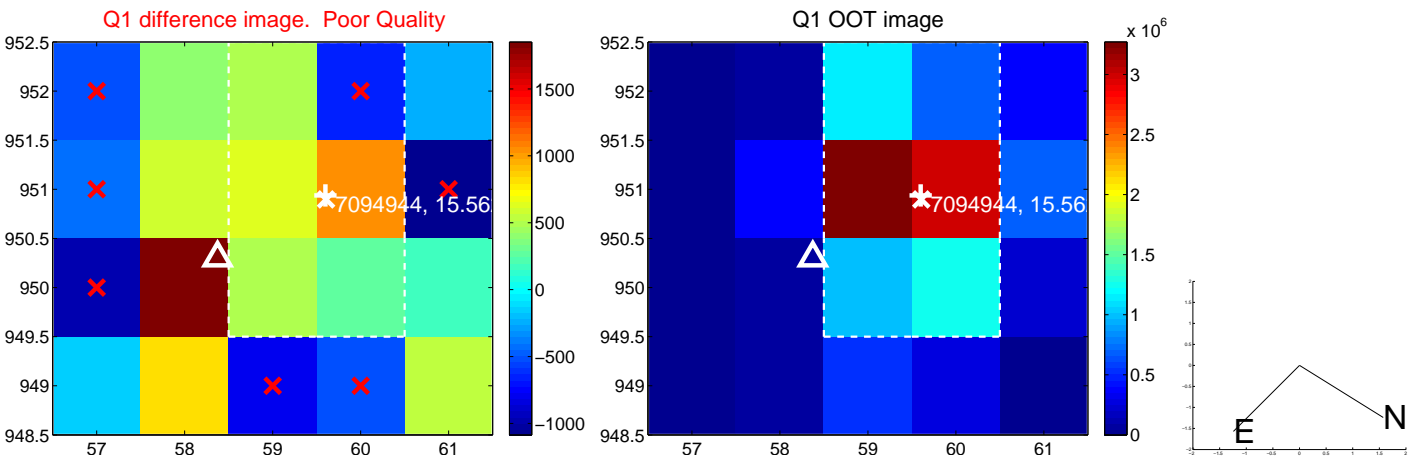
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.833 \pm 0.695$	1.20	$0.817 \pm 0.663$	$-0.159 \pm 0.559$
PRF-fit source offset from KIC position	$0.811 \pm 0.666$	1.22	$0.716 \pm 0.610$	$-0.380 \pm 0.540$
photometric centroid source offset	$1.28 \pm 1.73$	0.74	$1.28 \pm 1.73$	$-0.02 \pm 1.68$

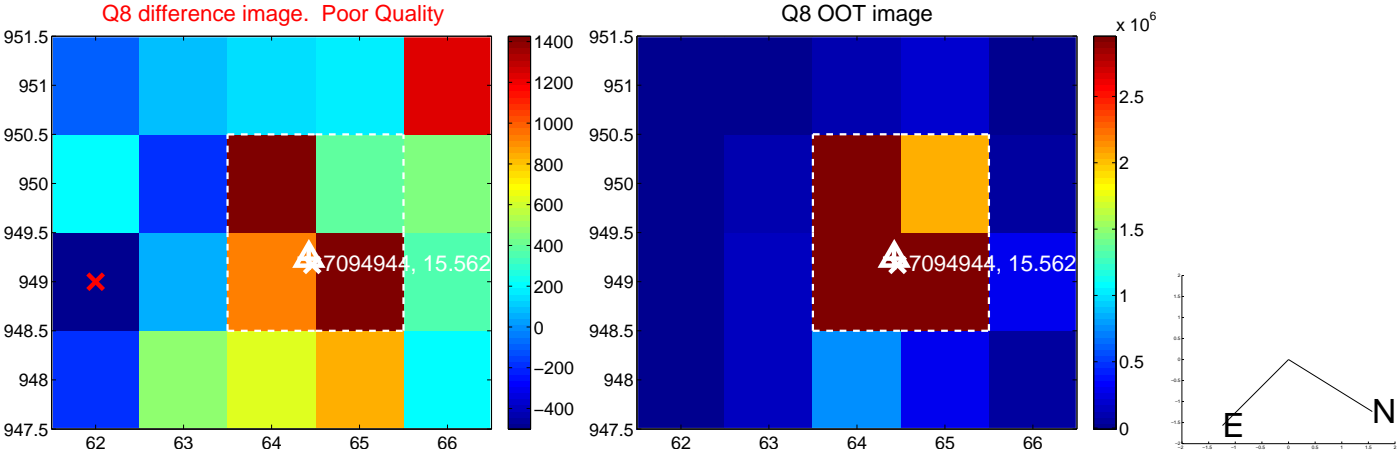
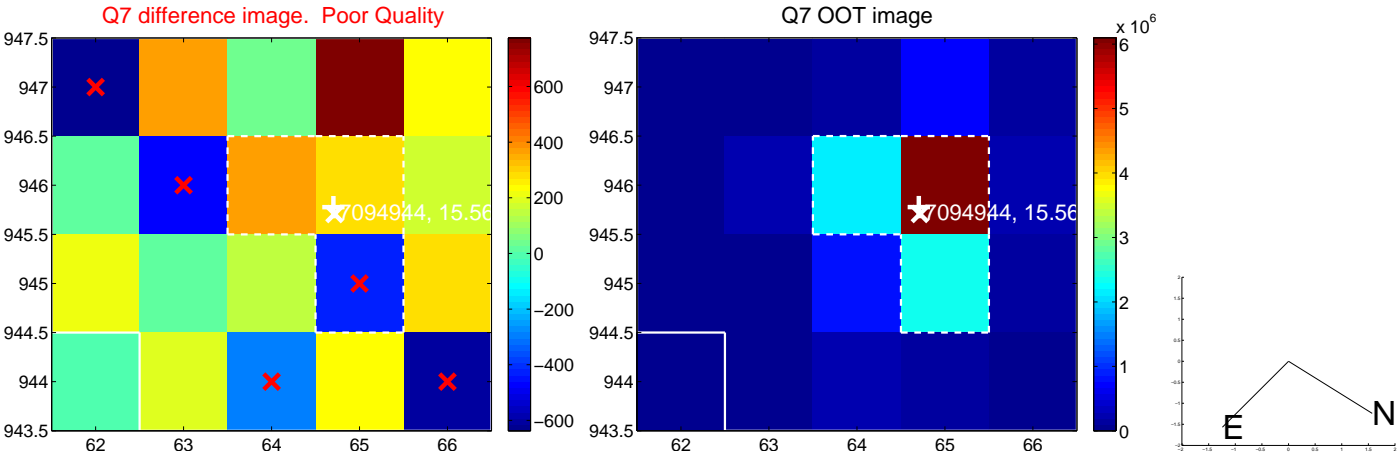
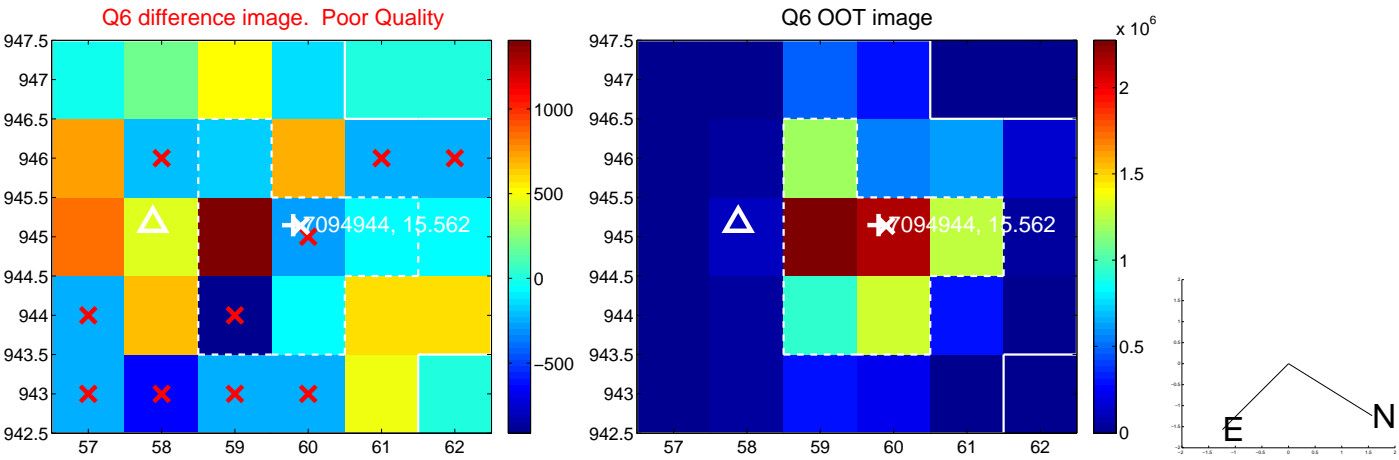
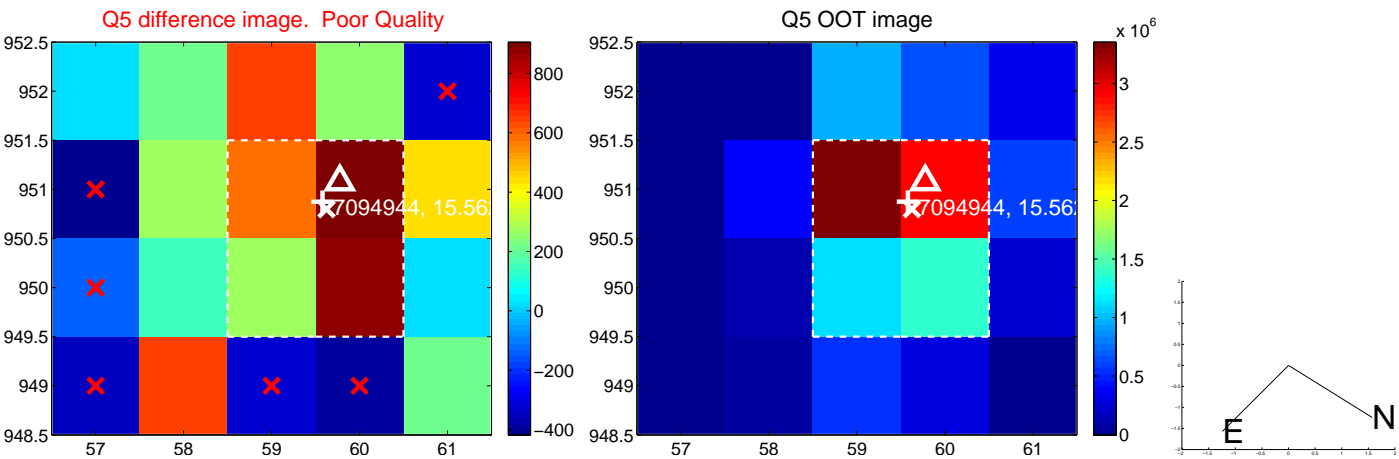


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

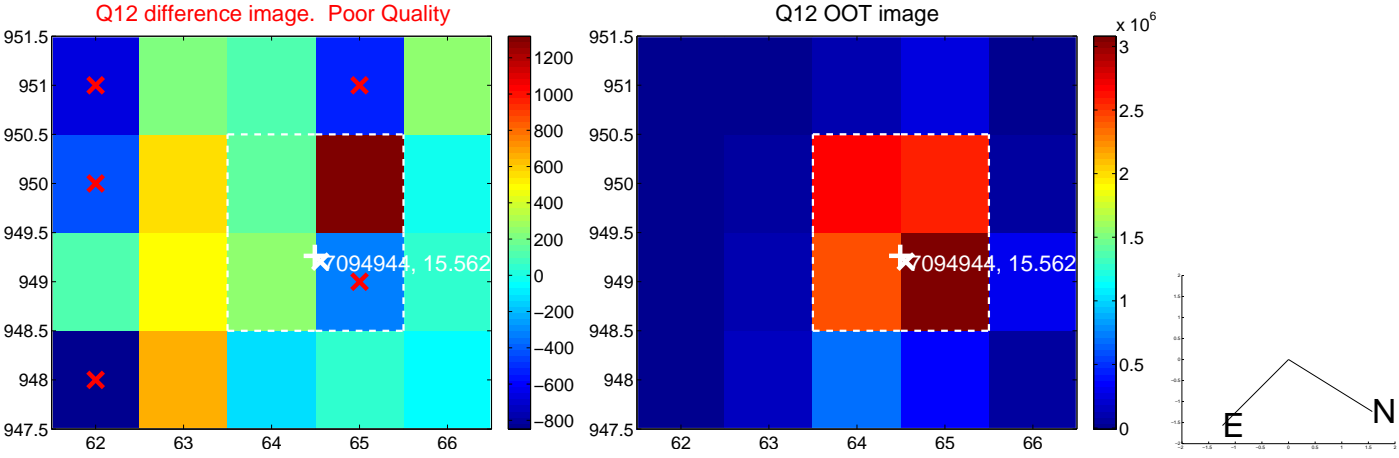
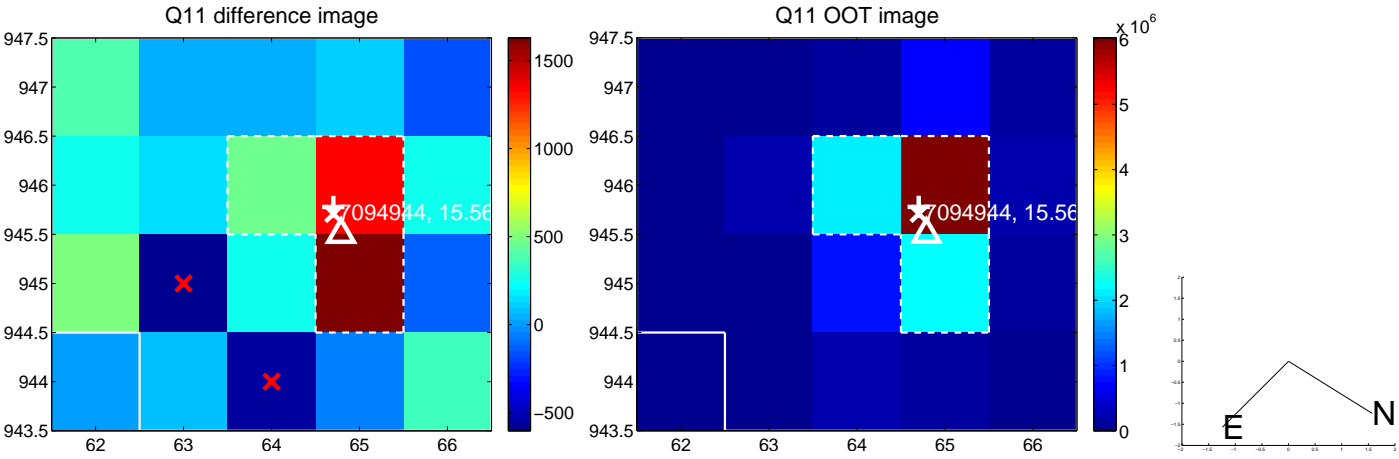
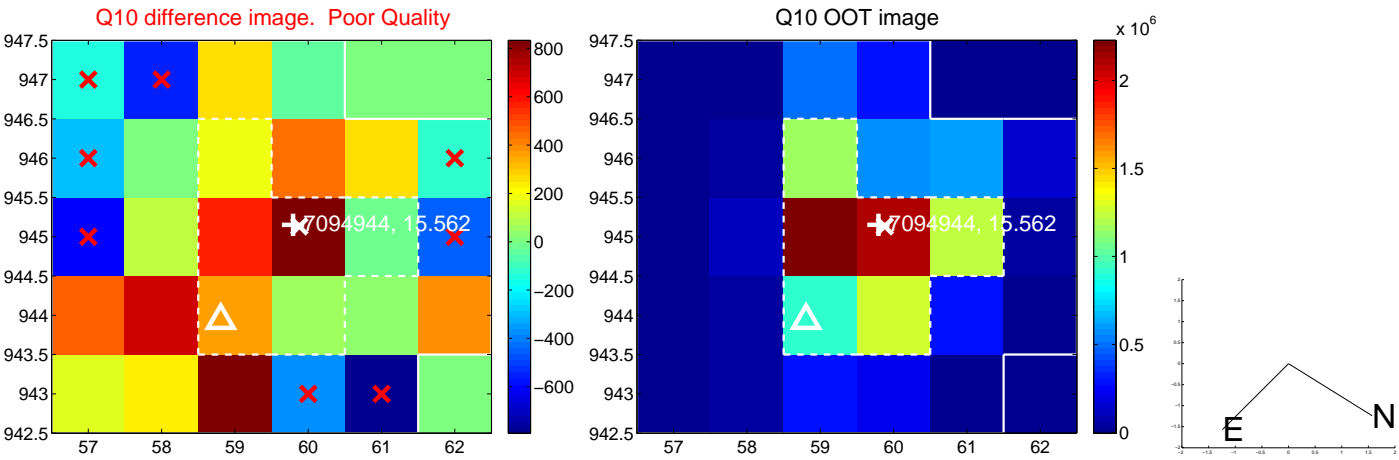
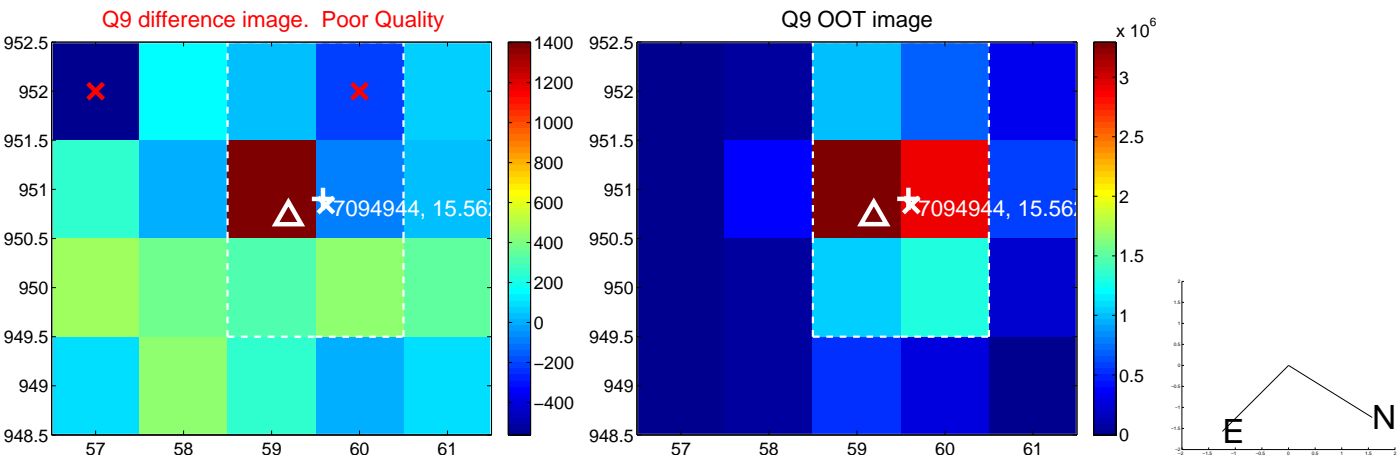
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



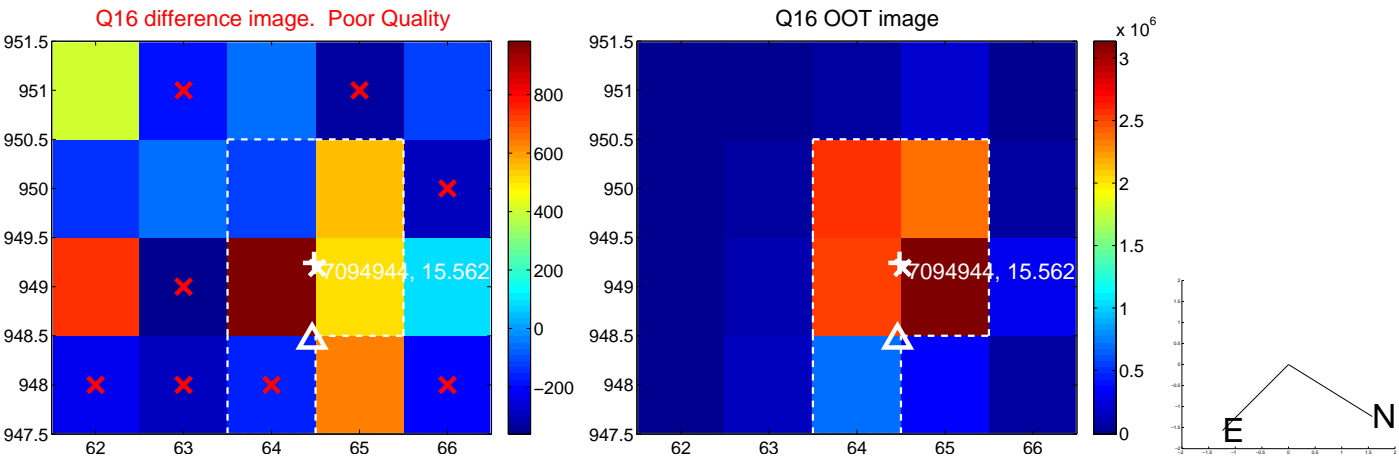
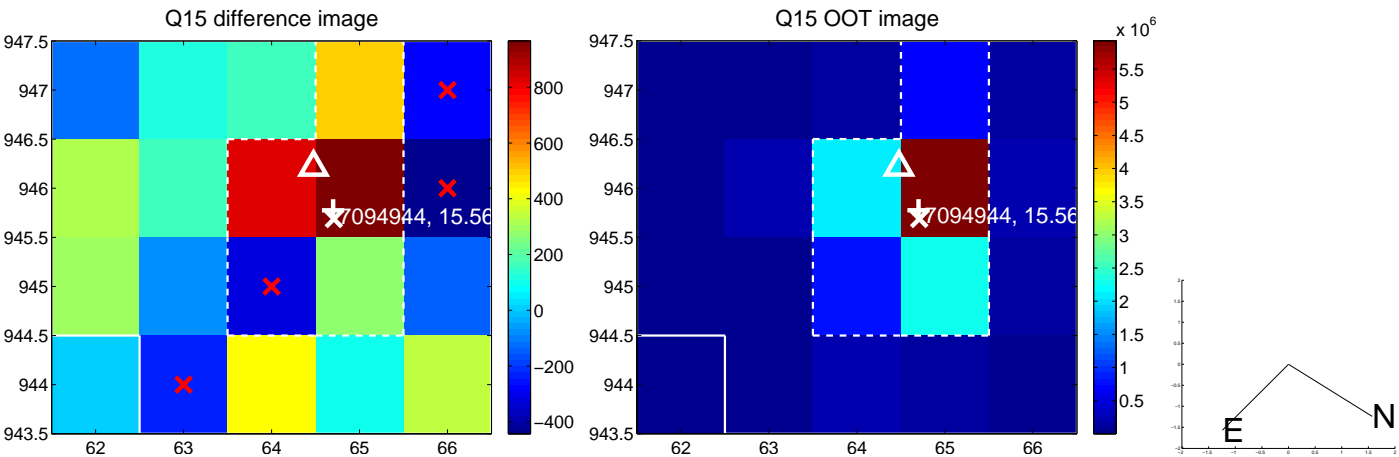
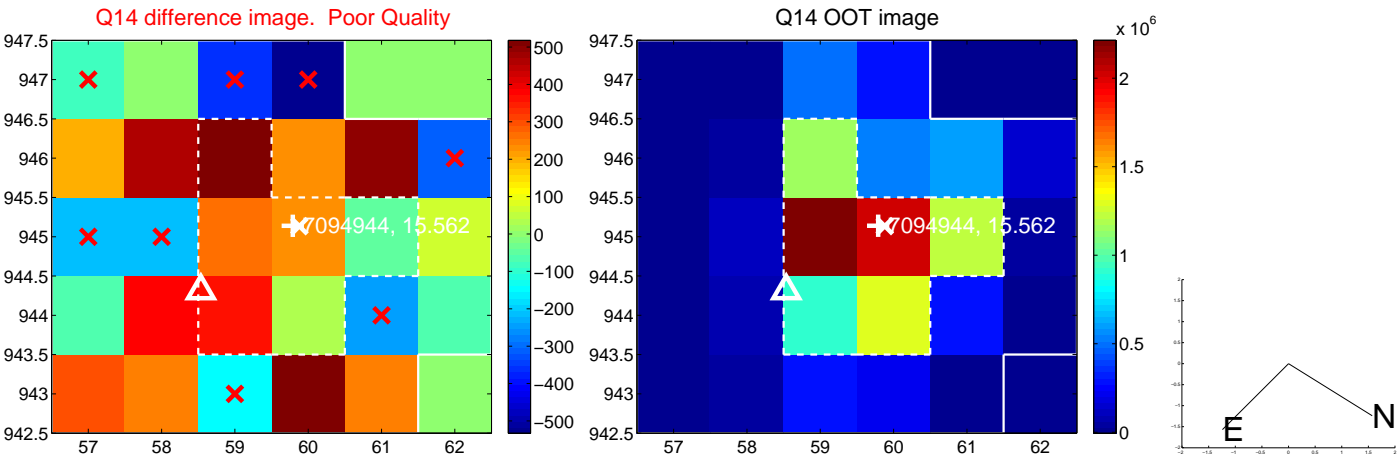
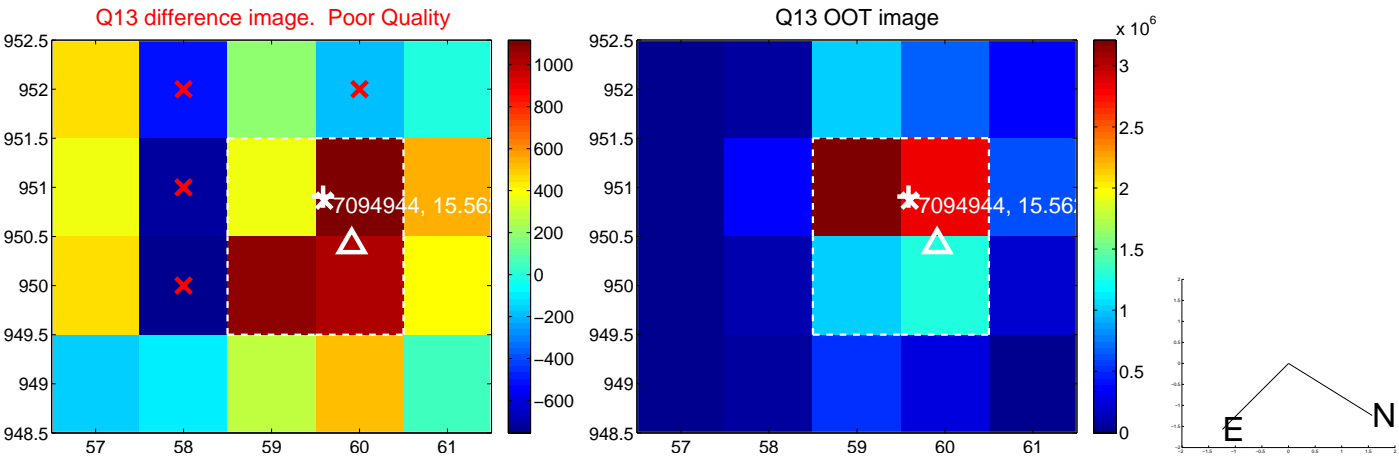
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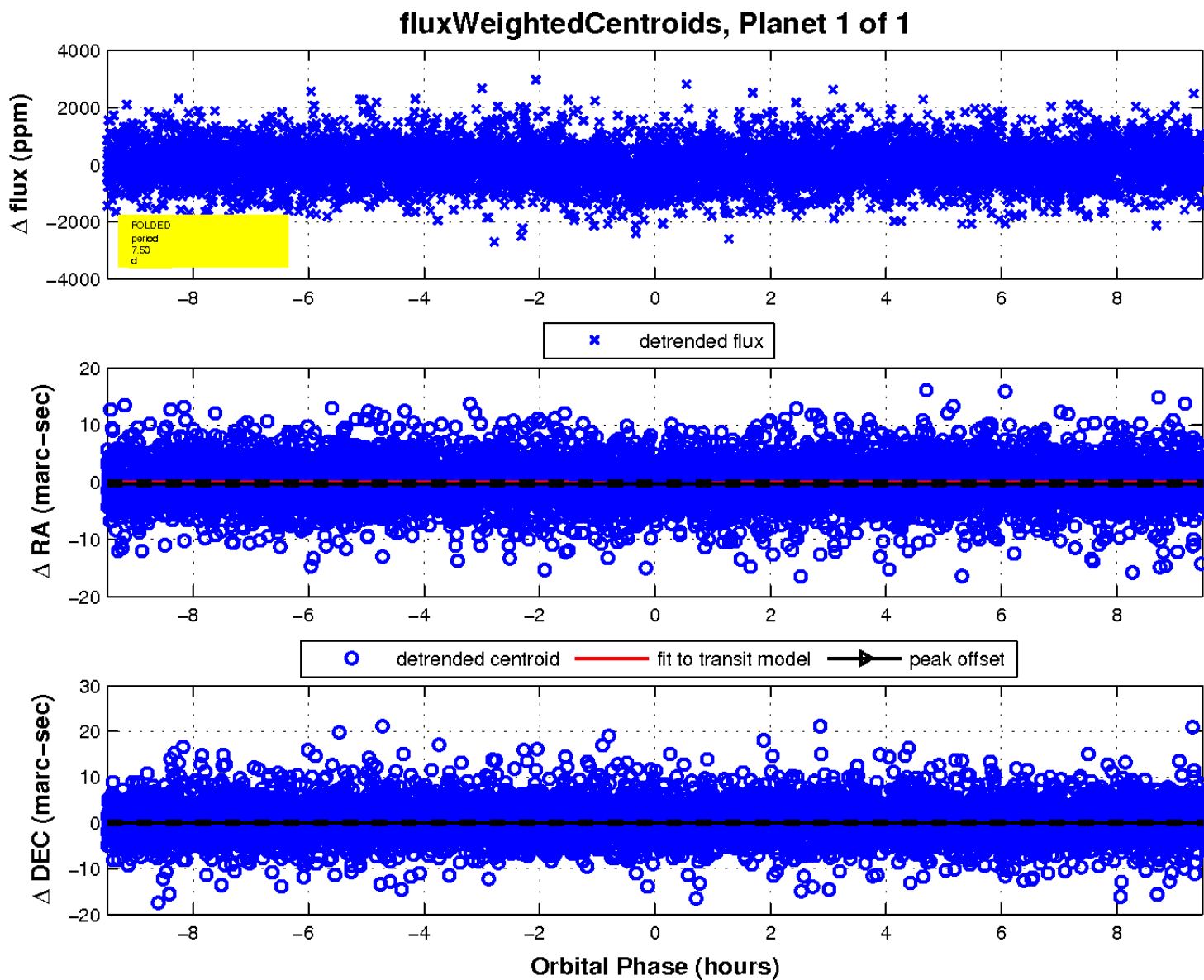
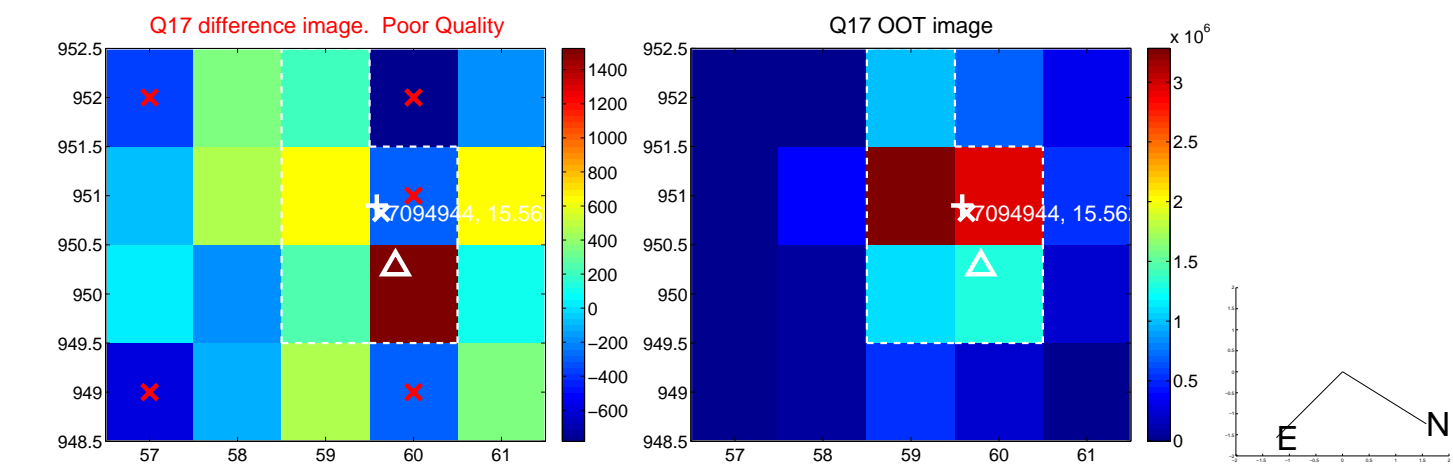


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

