

# KIC 008701124

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008701124-01	OBS	No	4.722890	131.510994	122.1	15.000	10.1	-1.0	1.55	6903	1.73	1294.84

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008701124-01	OBS	FP	0.00	1	0	0	0	<del>LPP_DV</del> <del>LPP_ALT</del> <del>CENT_NOFITS</del>

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

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

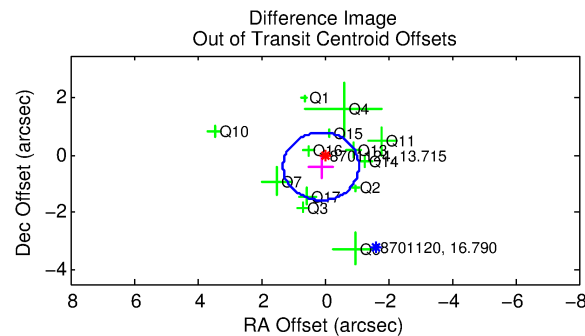
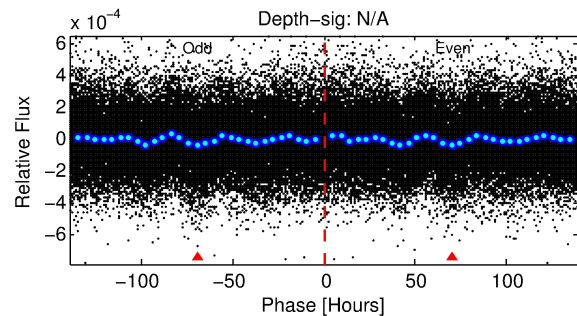
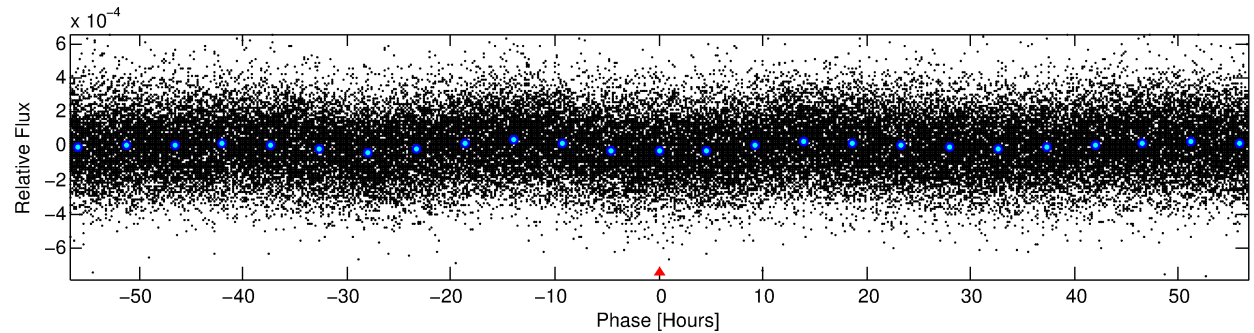
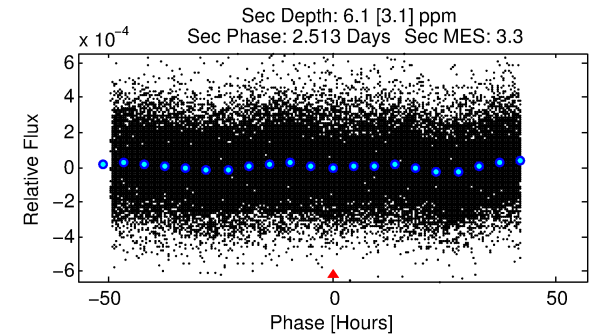
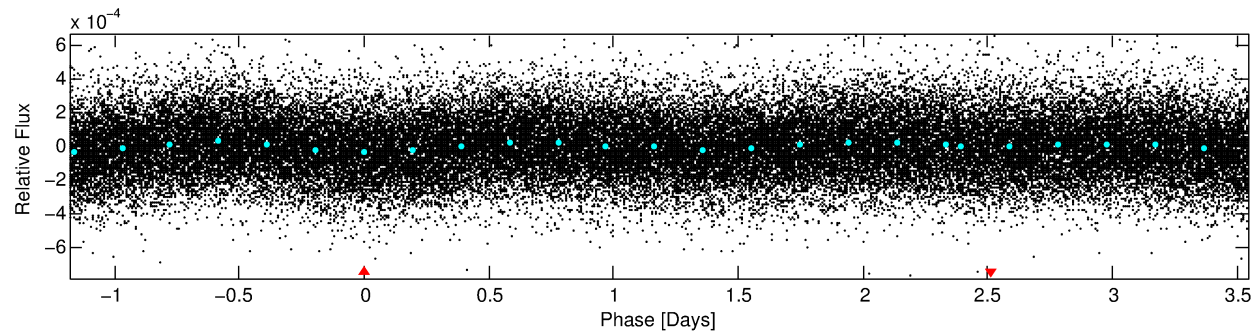
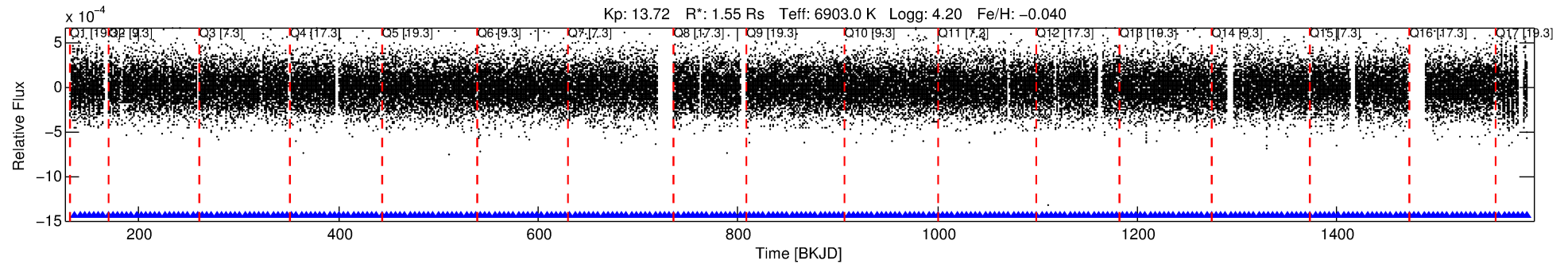
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 008701124-01

No Significant Match Found

# DV One-Page Summary

KIC: 8701124 Candidate: 1 of 1 Period: 4.723 d



## TPS TCE Results:

Period = 4.72289 d  
Epoch = 131.5110 BKJD

DV fit results are unavailable

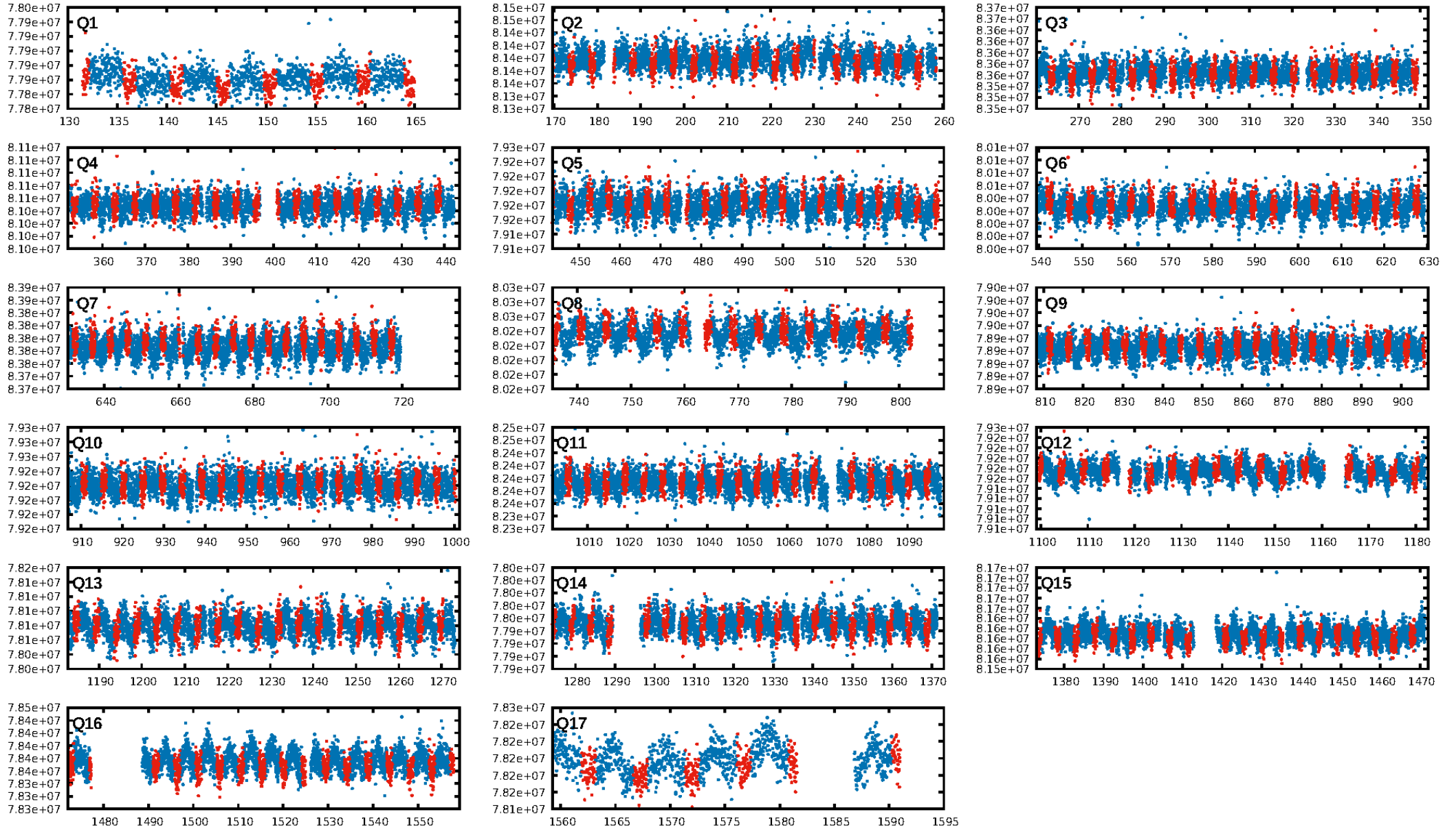
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.75e-23  
RollingBand-fgt: 1.00 [281/281]  
GhostDiagnostic-chr: 1.927  
Centroid-sig: 67.8%  
Centroid-so: 0.119 arcsec [0.57σ]  
OotOffset-rm: 0.397 arcsec [1.00σ]  
KicOffset-rm: 0.326 arcsec [0.89σ]  
OotOffset-st: 4/4/2/3 [13]  
KicOffset-st: 4/4/2/3 [13]  
DiffImageQuality-fgm: 0.77 [10/13]  
DiffImageOverlap-fno: 1.00 [17/17]

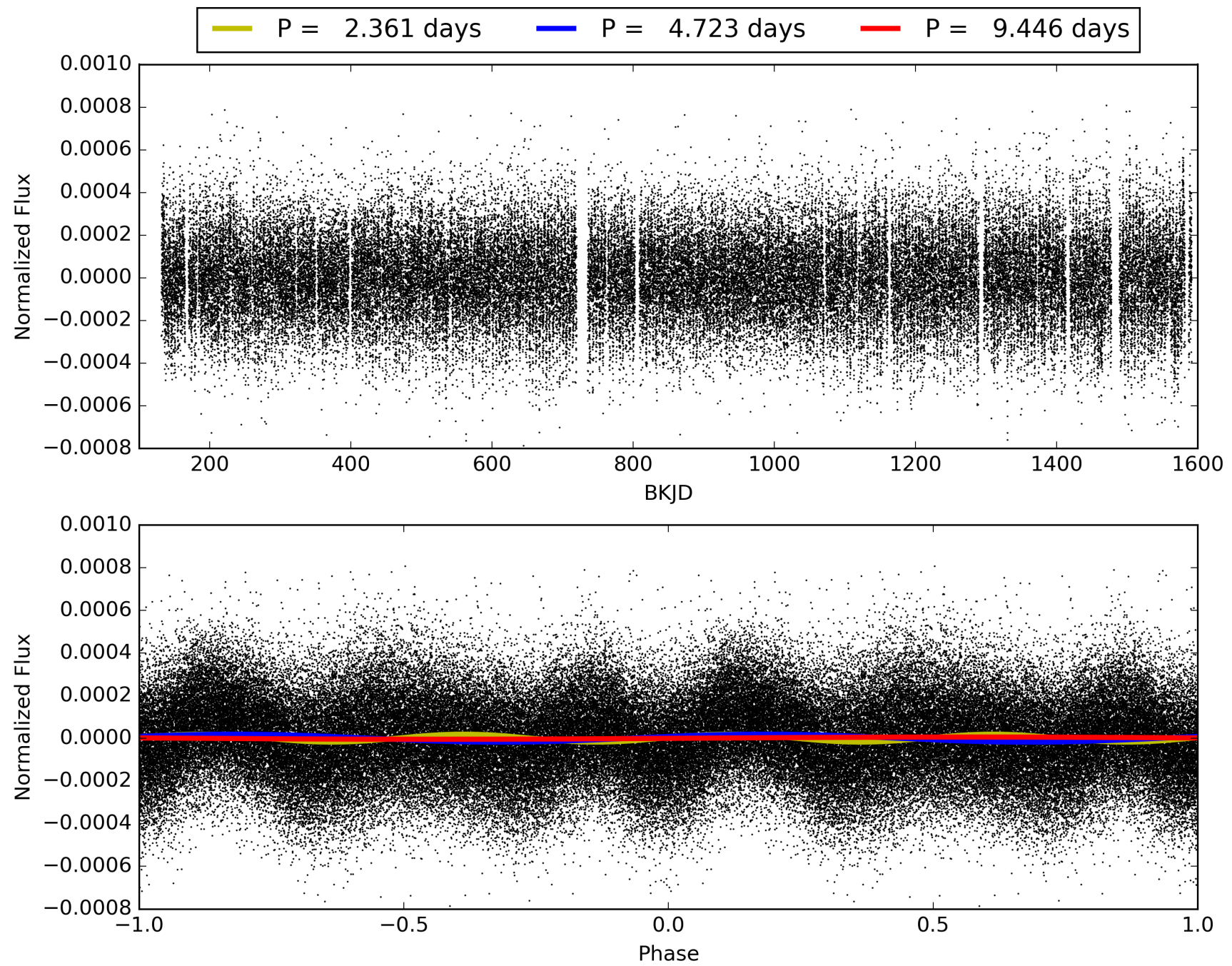
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:47:04 Z

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

# TCE 008701124-01, PDC Light Curves



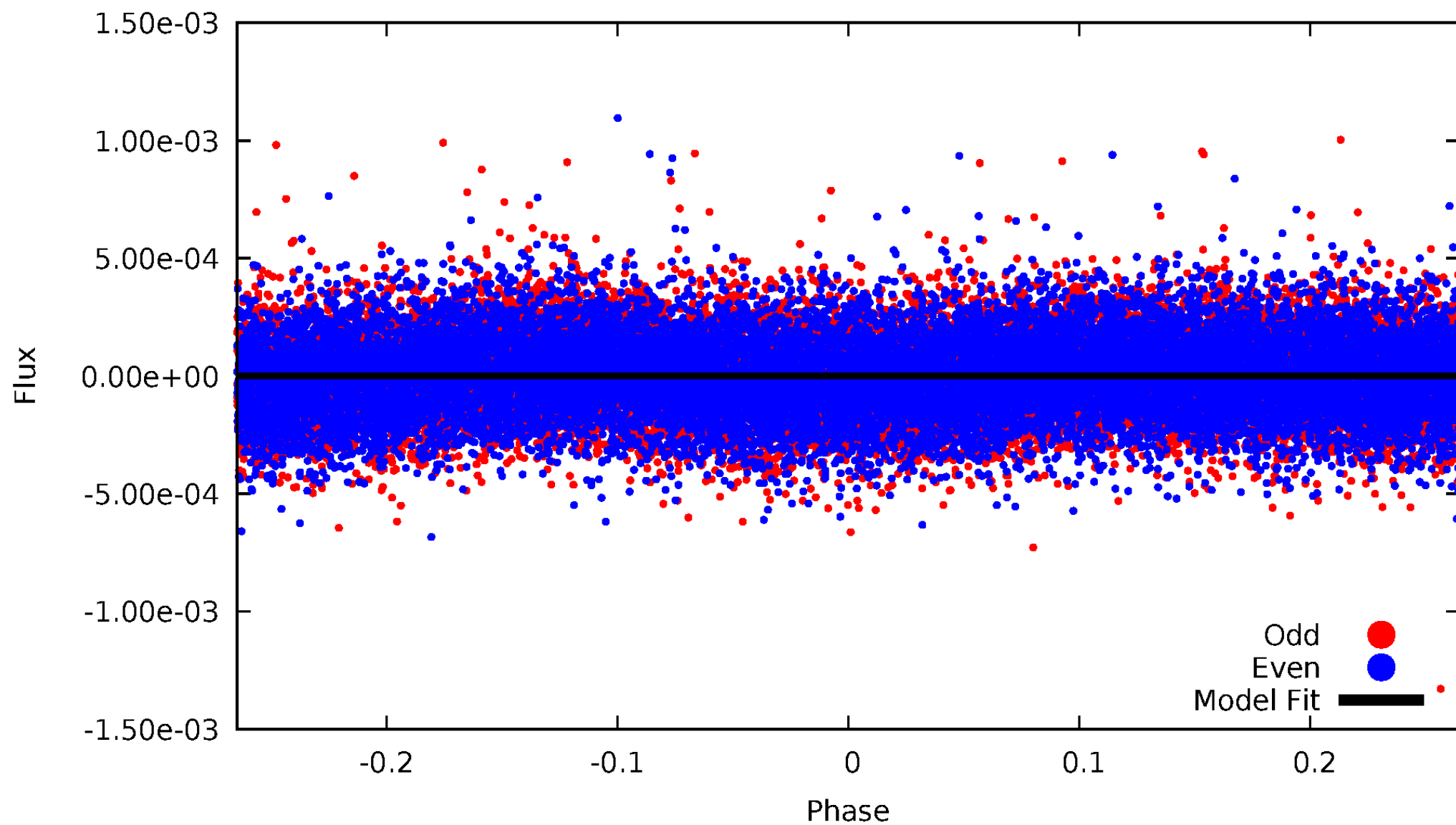
TCE 008701124-01





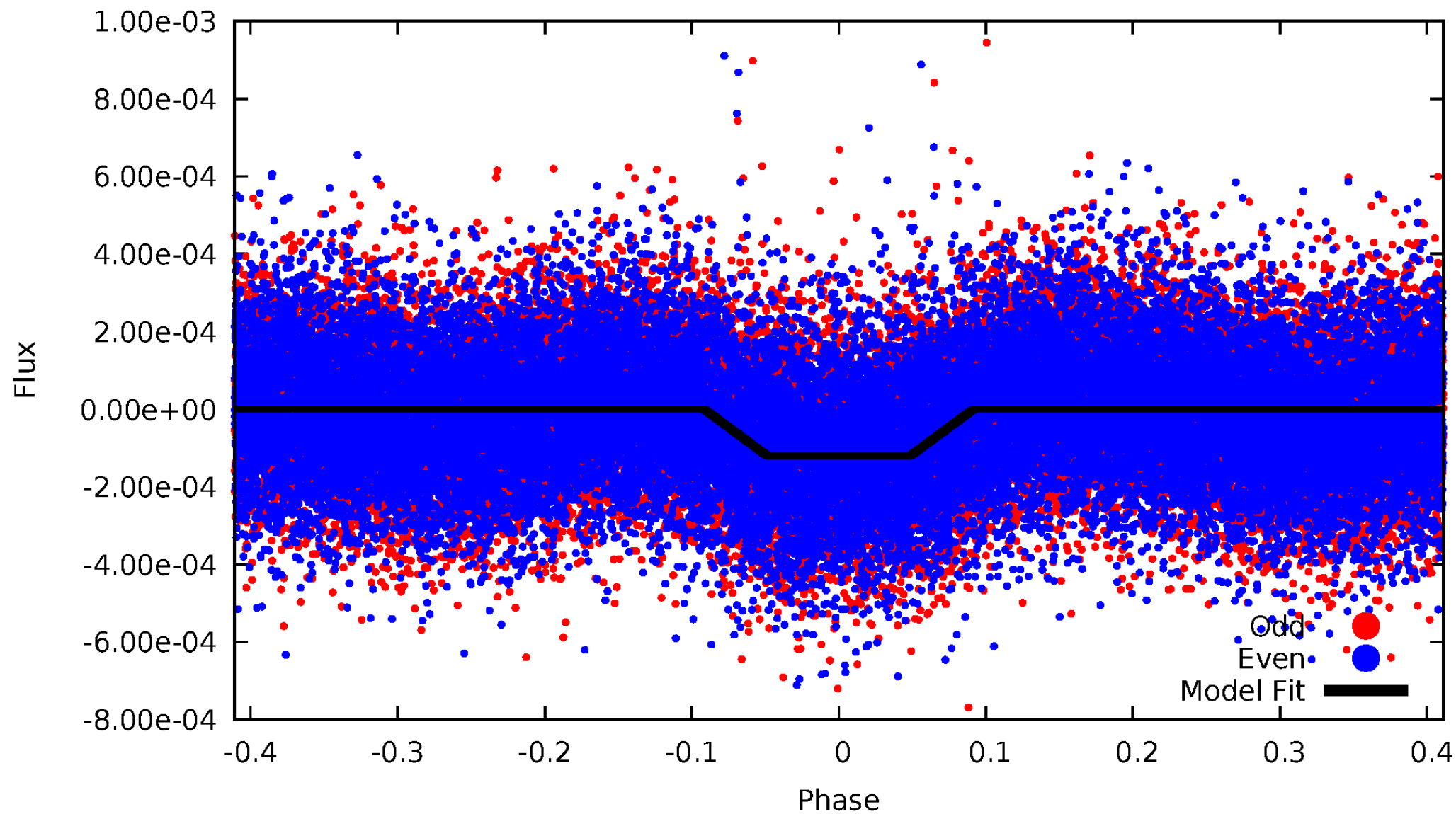
DV Odd/Even

TCE 008701124-01

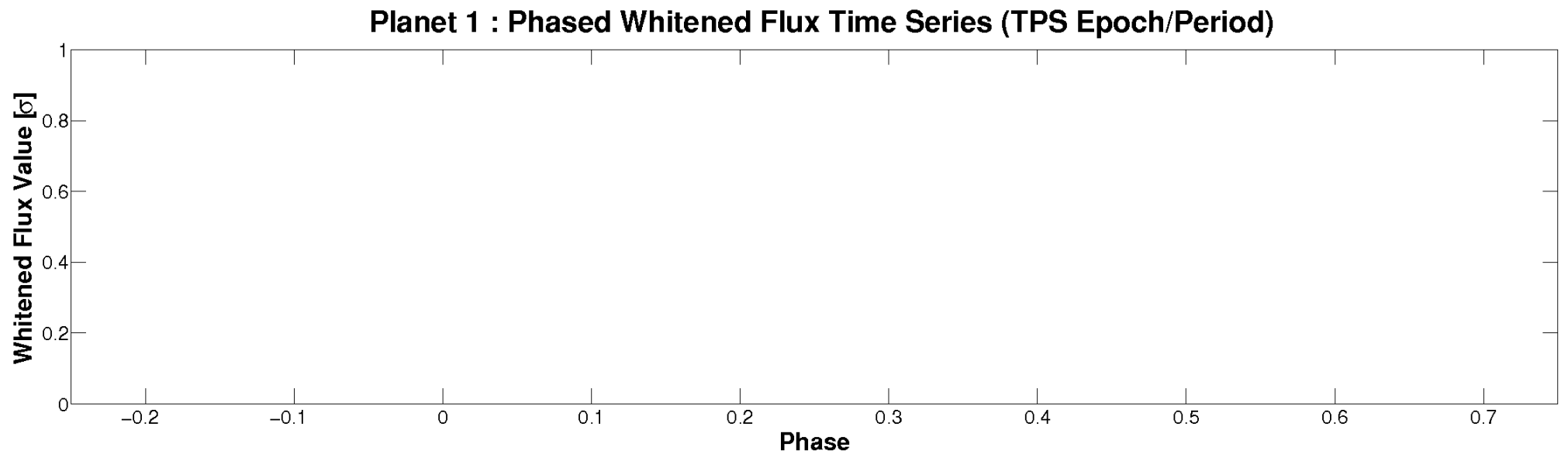
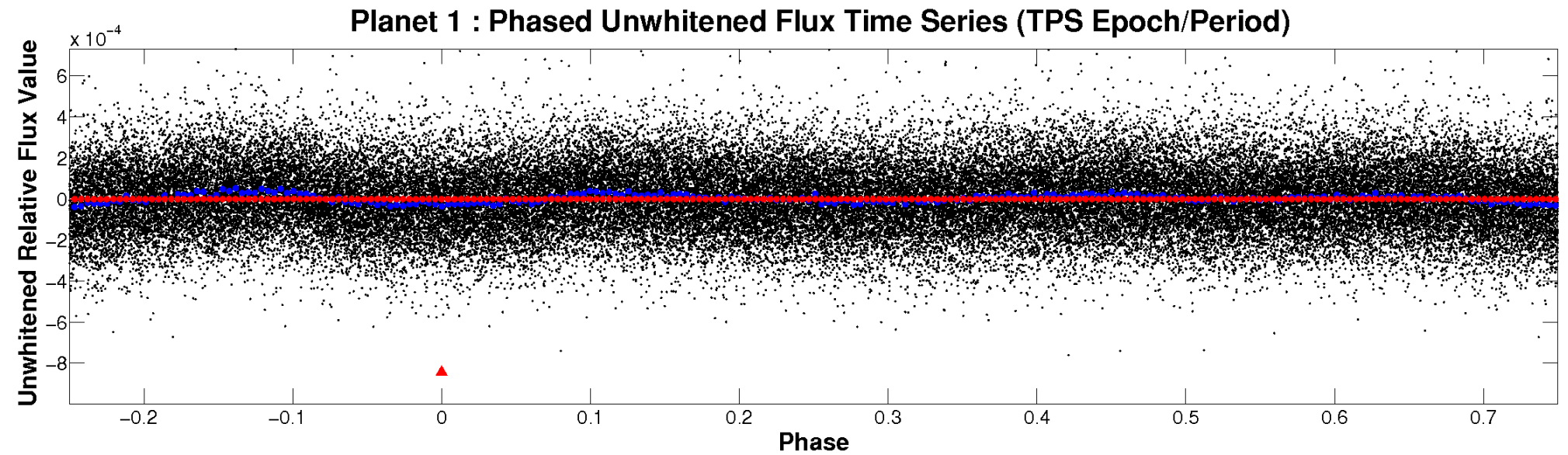


# ALT Odd/Even

TCE 008701124-01

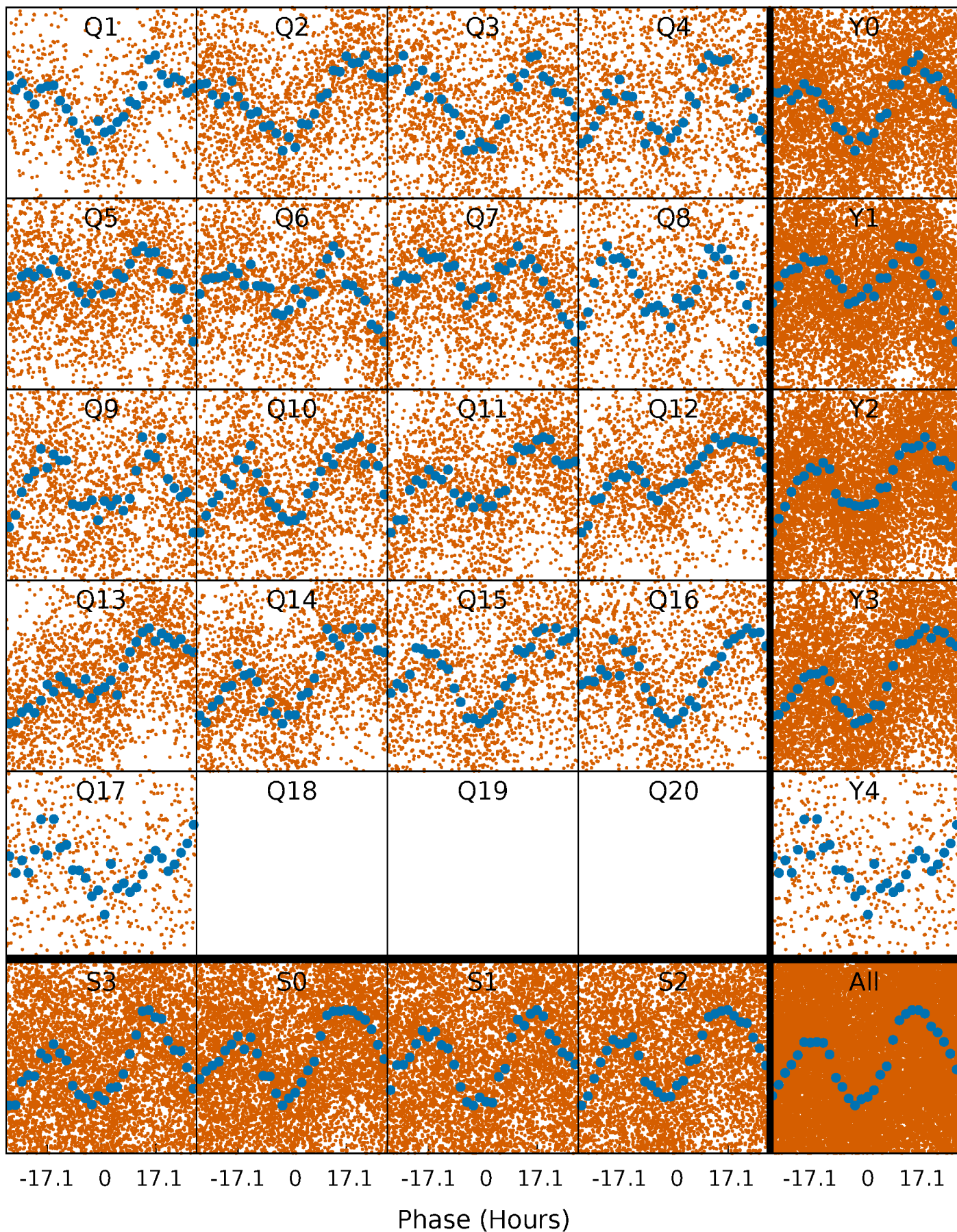


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

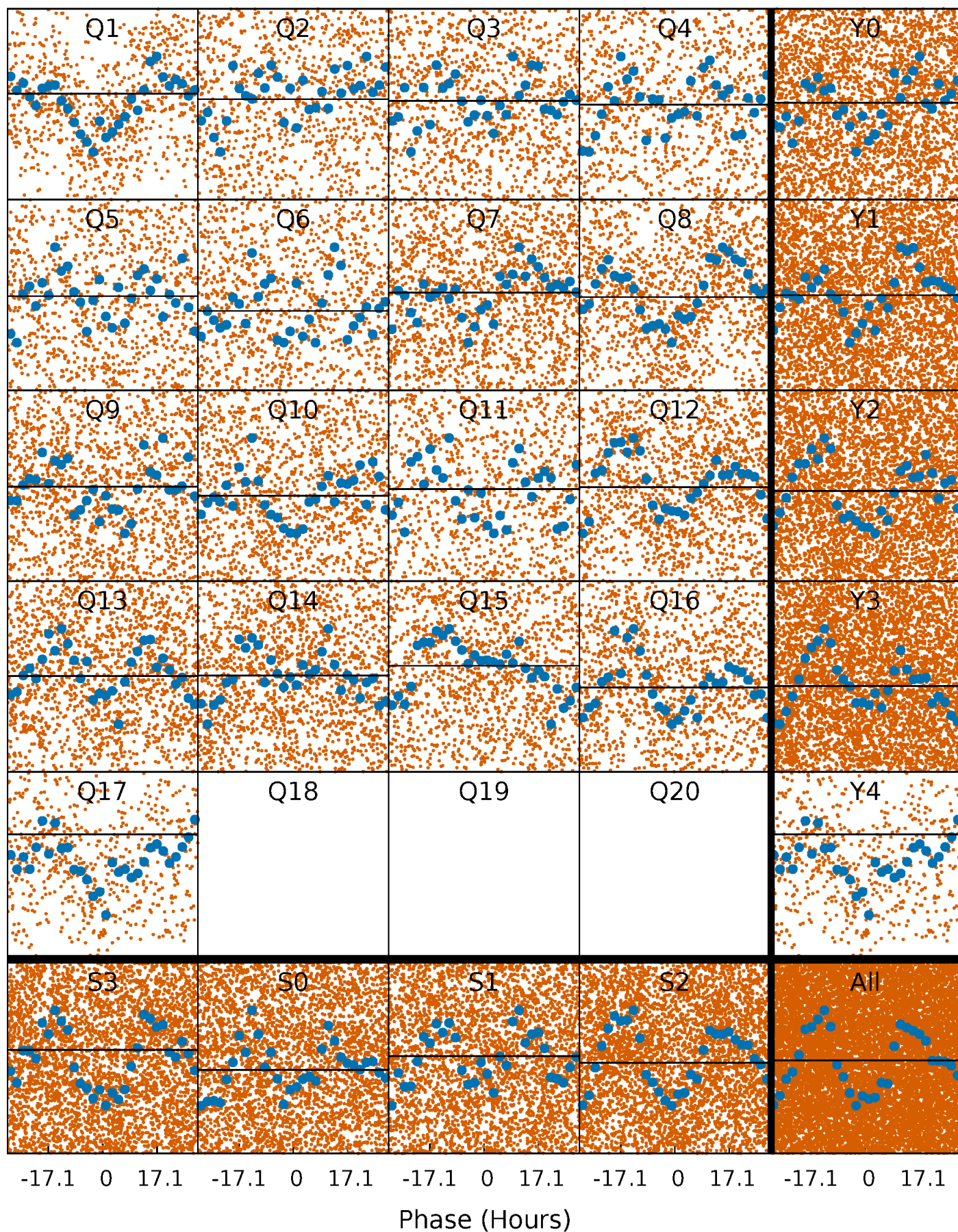
TCE 008701124-01 P= 4.722890 Days  $T_0=131.510994$  (BKJD)





# DV Quarter-Phased Transit Curves

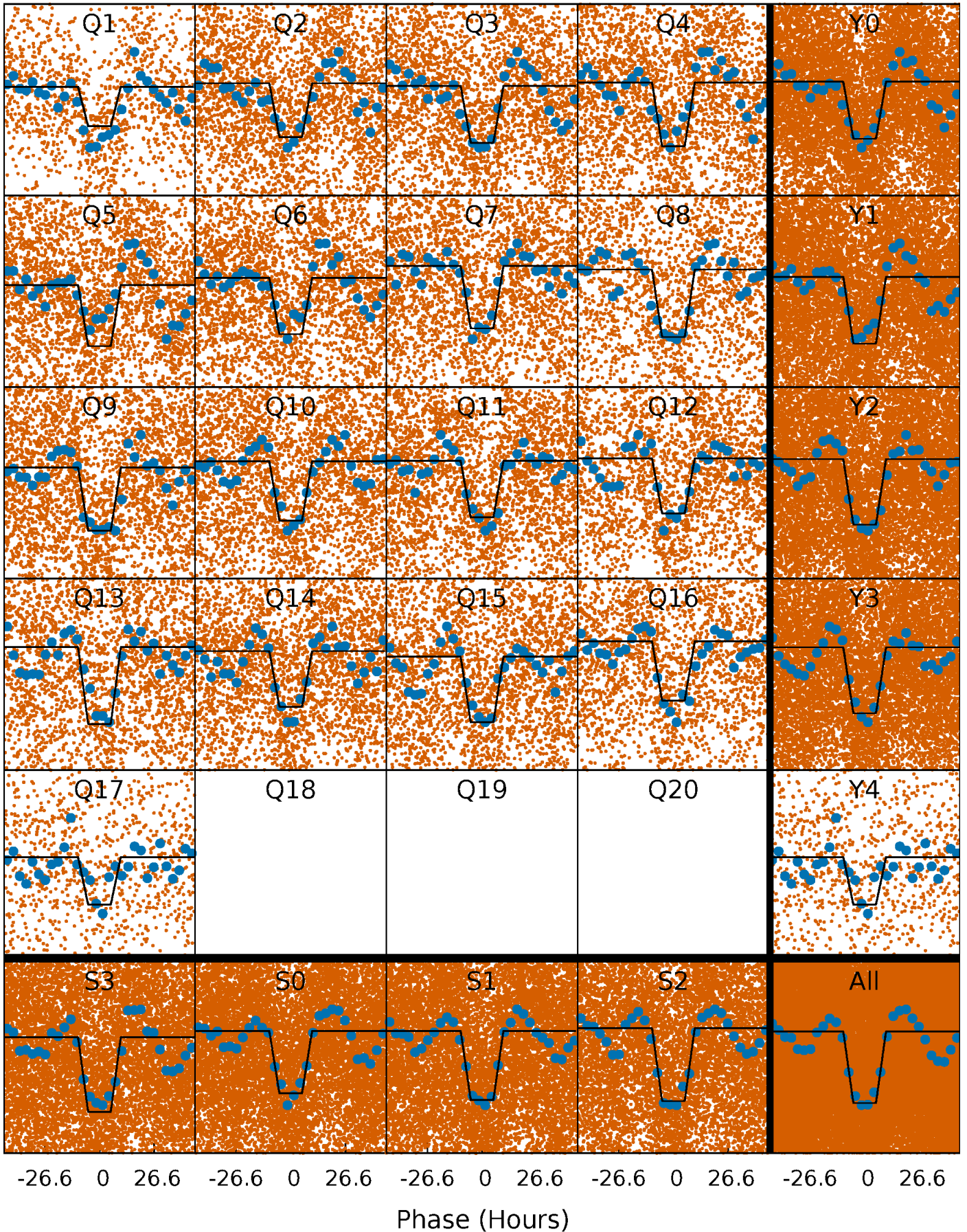
TCE 008701124-01 P= 4.722890 Days  $T_0=131.510994$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

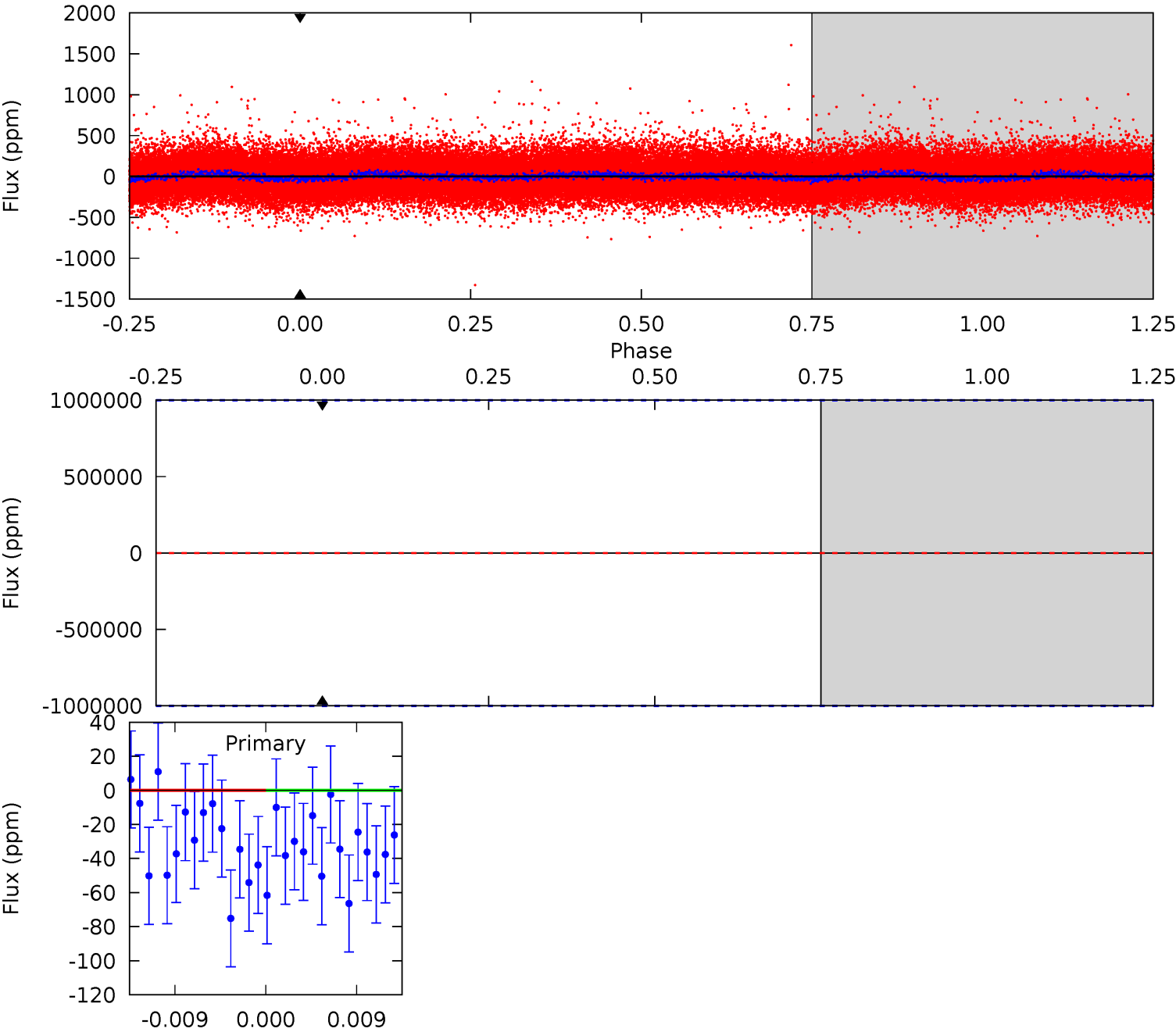
TCE 008701124-01 P= 4.722890 Days  $T_0=136.196128$  (BKJD)



# DV Model-Shift Uniqueness Test

008701124-01, P = 4.722890 Days, E = 131.510994 Days

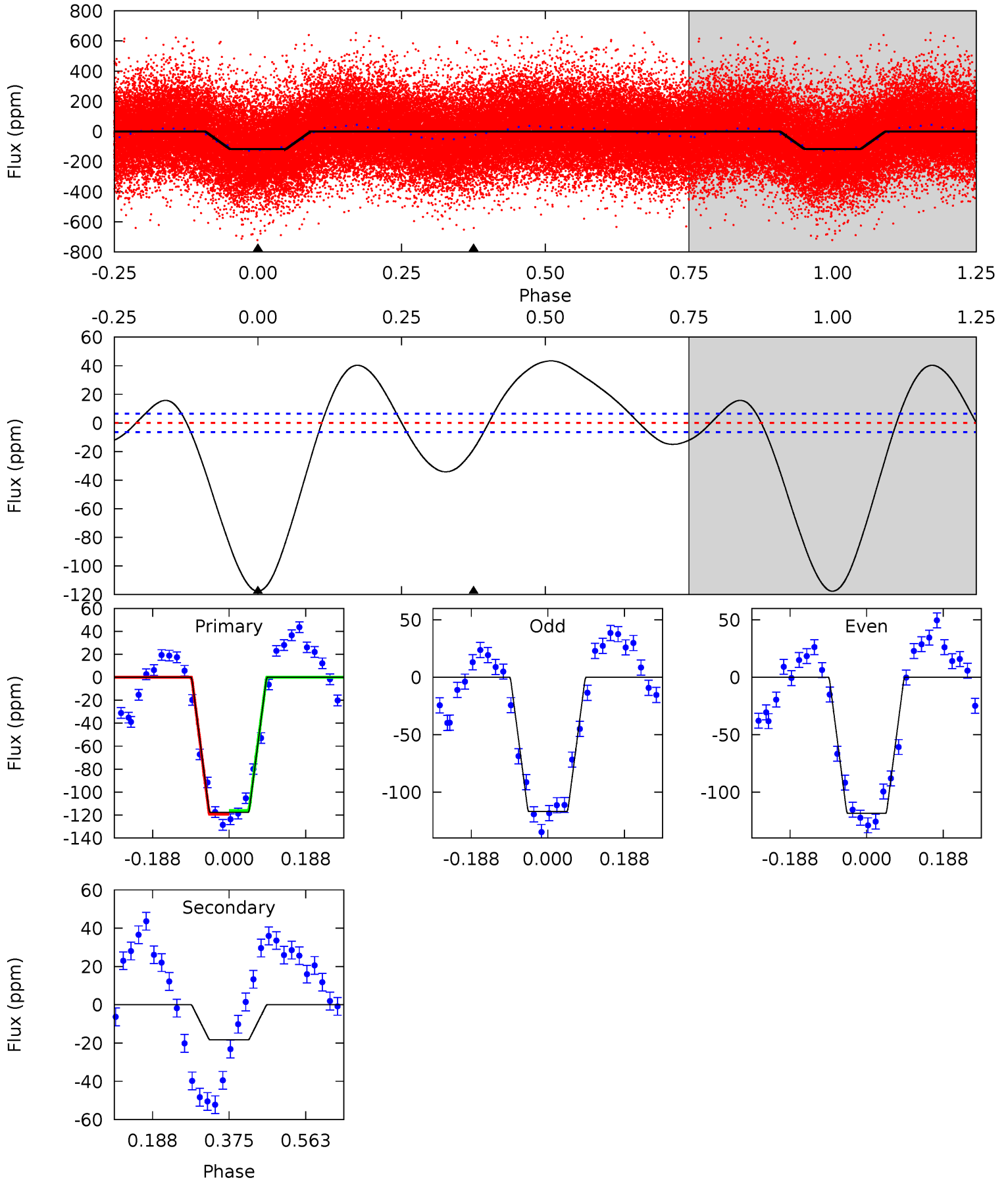
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

008701124-01, P = 4.722890 Days, E = 131.473238 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
80.8	12.6	0	0	4.43	1.32	10.3	80.8	80.8	12.6	12.6	0.49	1.01	0.27	1.14





### Stellar Parameters For KIC 008701124

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6903^{+193}_{-289}$	$4.200^{+0.108}_{-0.201}$	$-0.040^{+0.250}_{-0.350}$	$1.553^{+0.516}_{-0.278}$	$1.400^{+0.213}_{-0.213}$	$0.526^{+0.317}_{-0.264}$
	+3%/-4%	+3%/-5%	+625%/-875%	+33%/-18%	+15%/-15%	+60%/-50%
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 008701124-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$12.52^{+13.09}_{-8.71}$	$2152^{+162}_{-125}$	$-4184^{+40657}_{-28575}$	$-7.593^{+2503.997}_{-2169.107}$
Alt.	$-18 \pm 1$	$12.35^{+14.52}_{-8.77}$	$2152^{+162}_{-129}$	$-2087^{+5664}_{-460}$	$0.250^{+2.846}_{-0.200}$

$T_{max}$  = 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

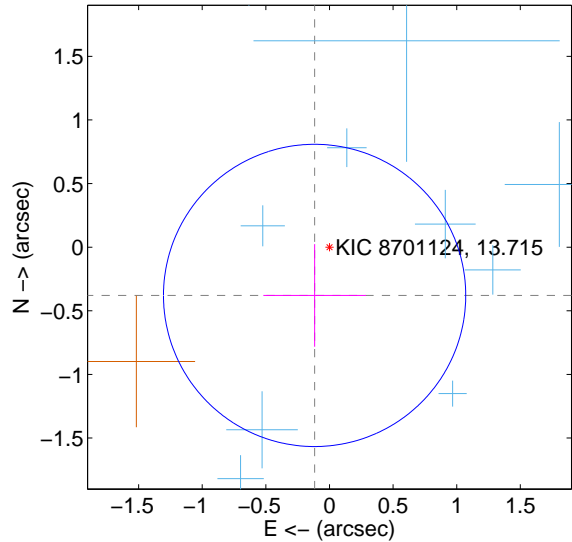
Supplemental centroid analysis for 008701124-01. Kepler magnitude: 13.71. Transit SNR -1.00

There are 10 quarters with good PRF difference image offsets

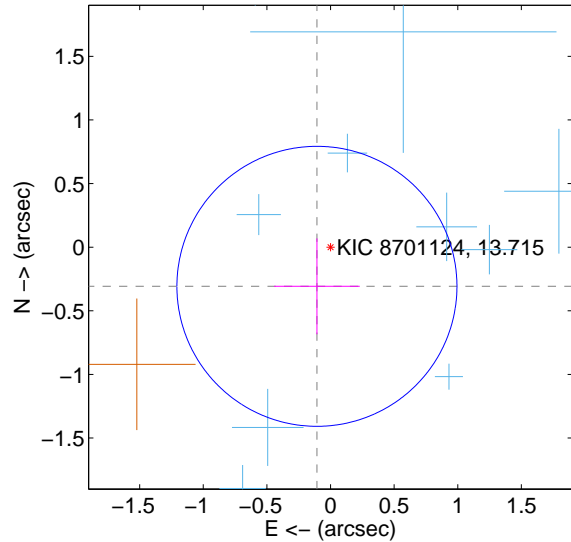
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.397 \pm 0.396$	1.00	$0.117 \pm 0.403$	$-0.379 \pm 0.403$
PRF-fit source offset from KIC position	$0.326 \pm 0.367$	0.89	$0.107 \pm 0.336$	$-0.308 \pm 0.377$
photometric centroid source offset	$0.12 \pm 0.21$	0.57	$-0.08 \pm 0.20$	$-0.08 \pm 0.21$

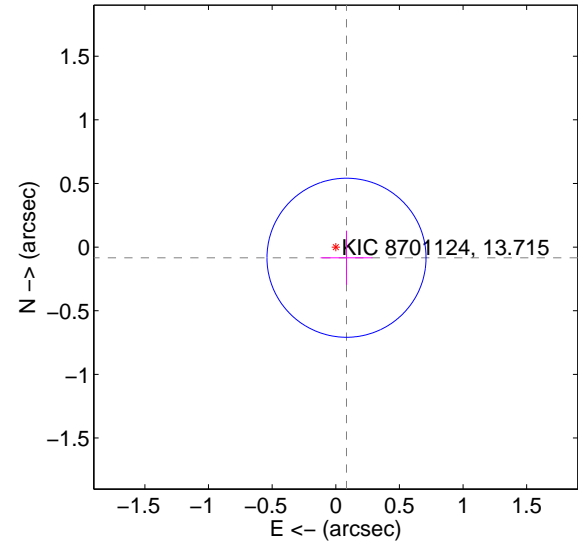
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



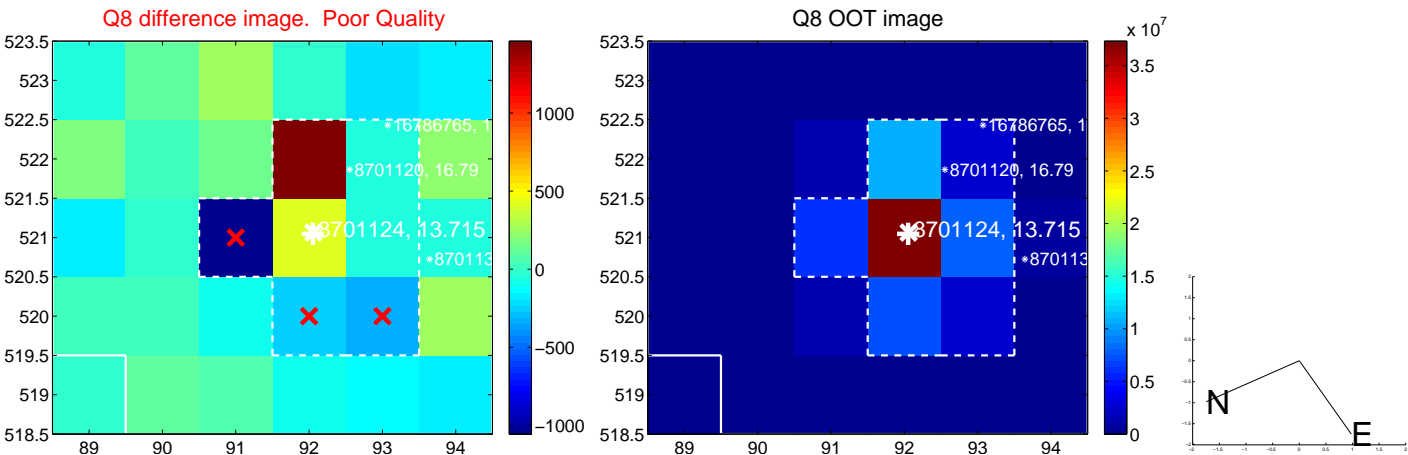
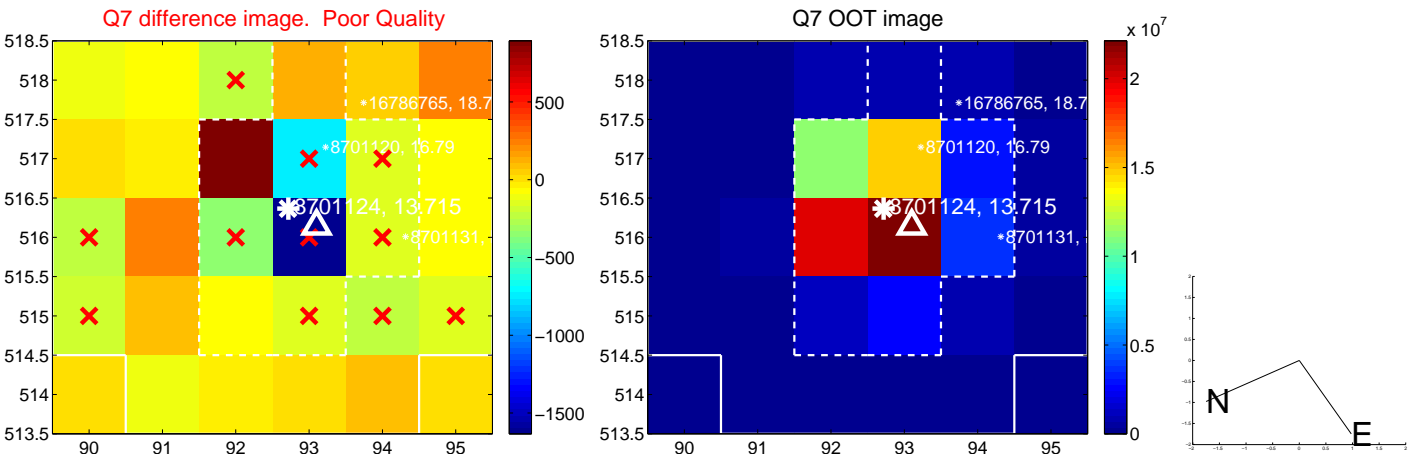
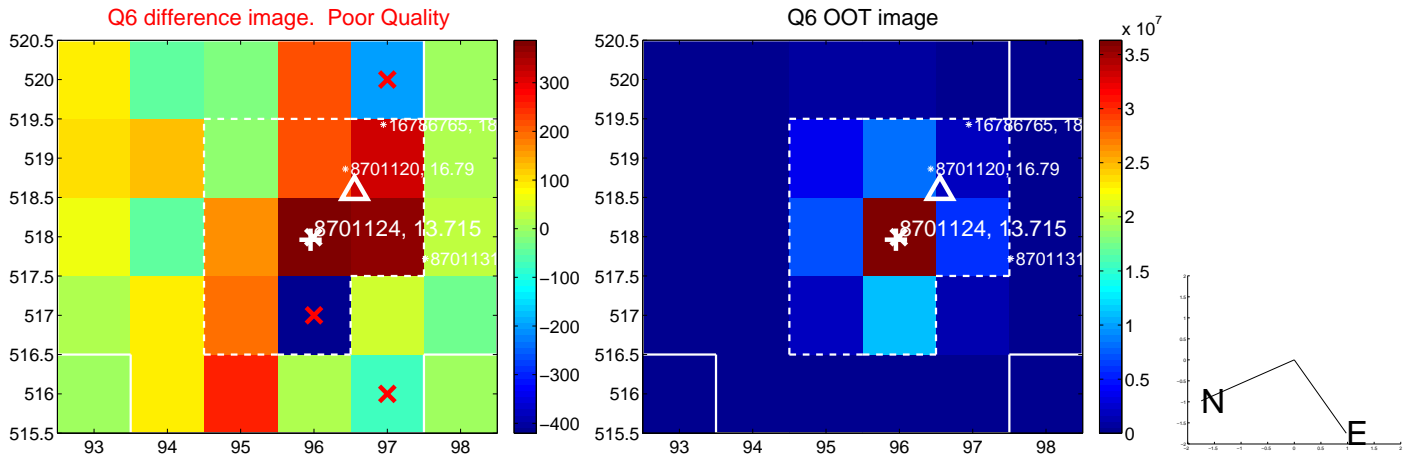
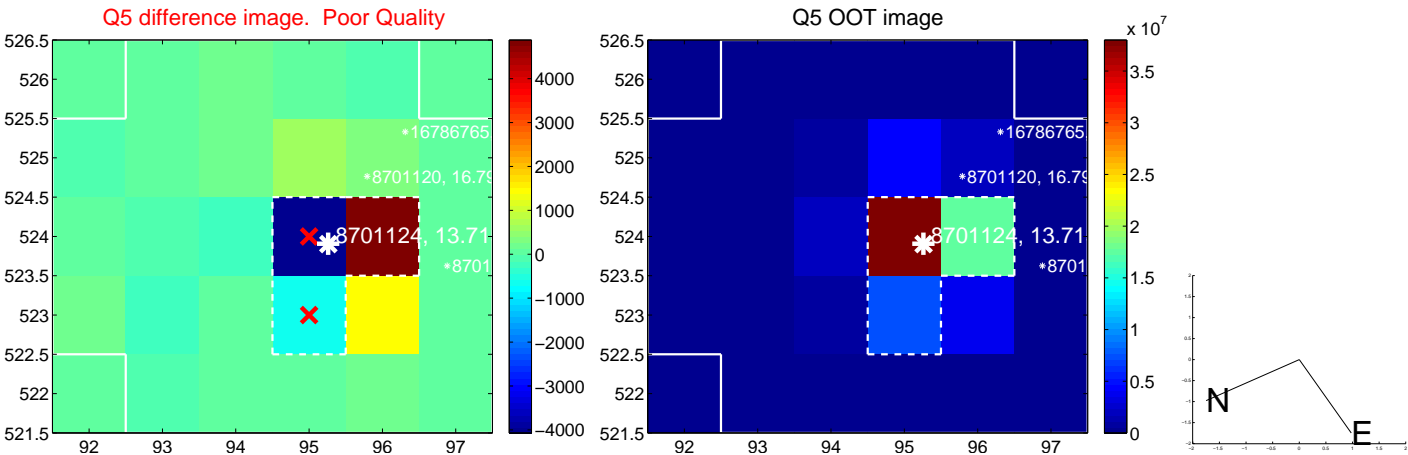
offset from photometric centroids



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.

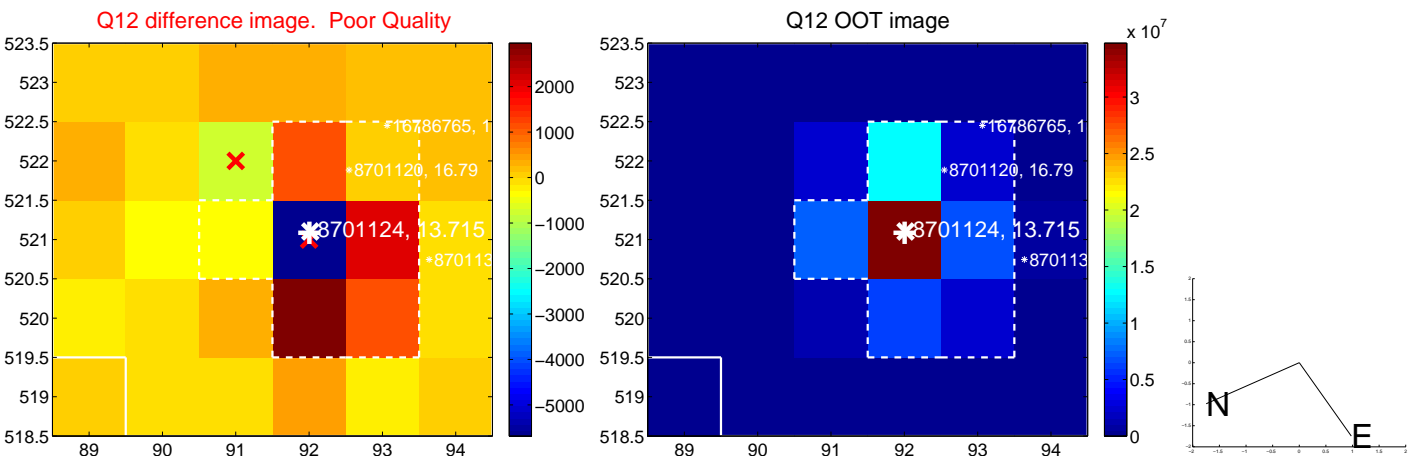
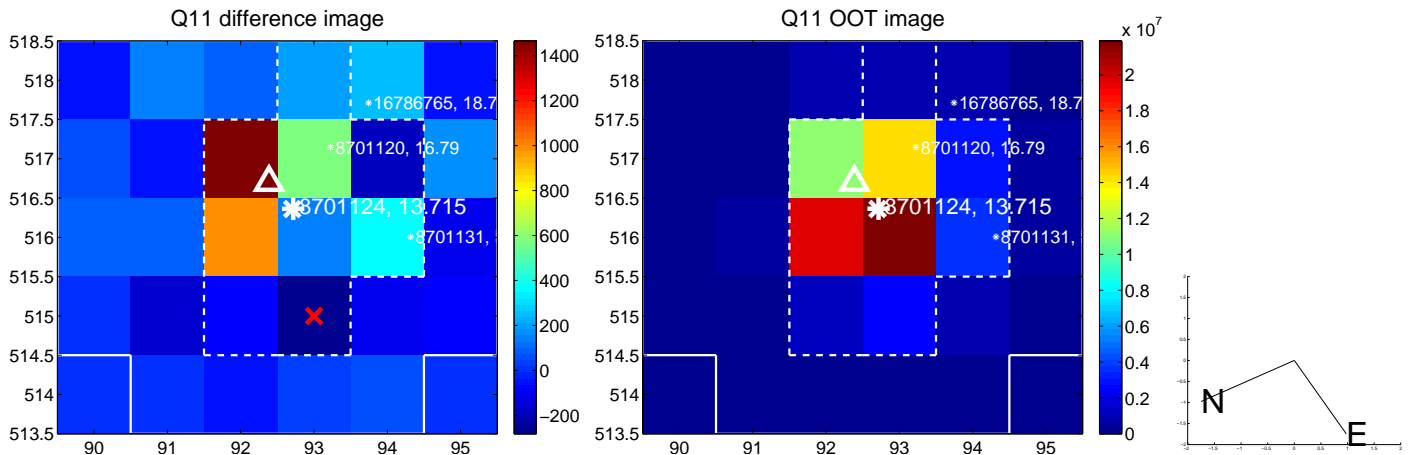
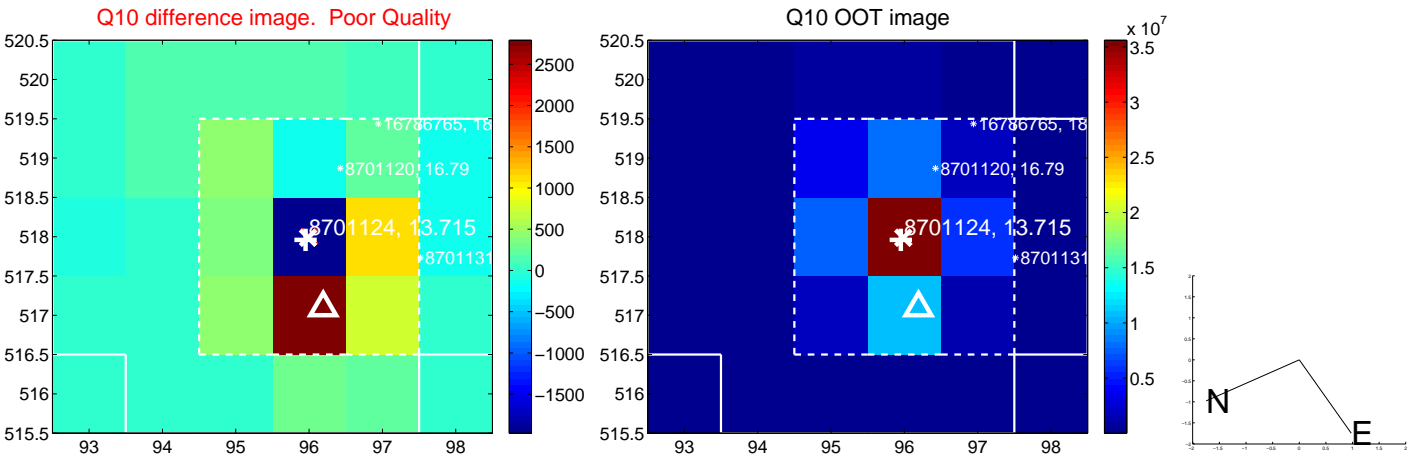
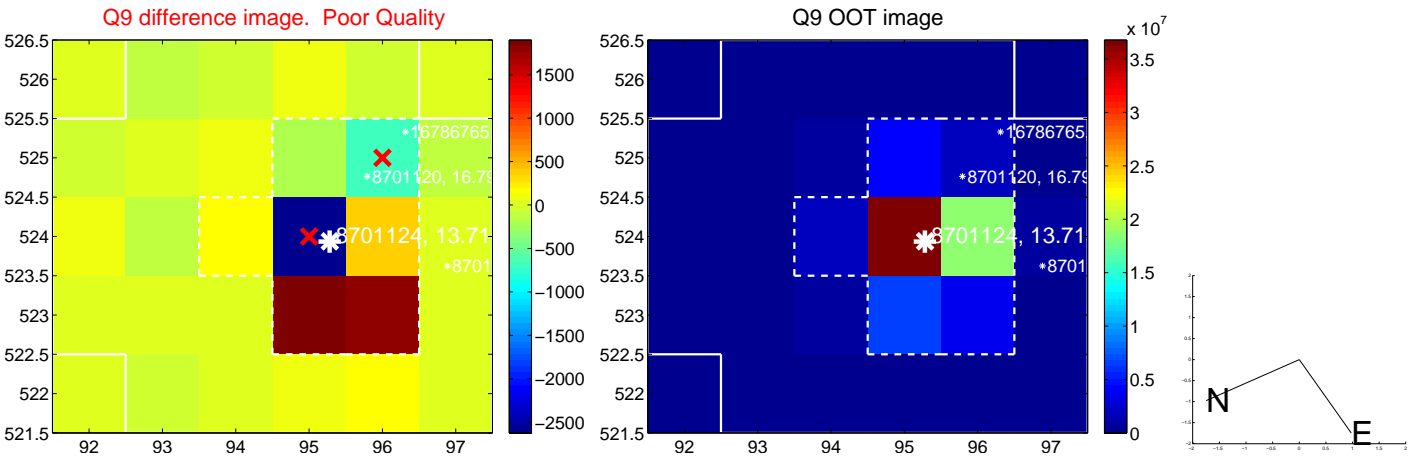


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

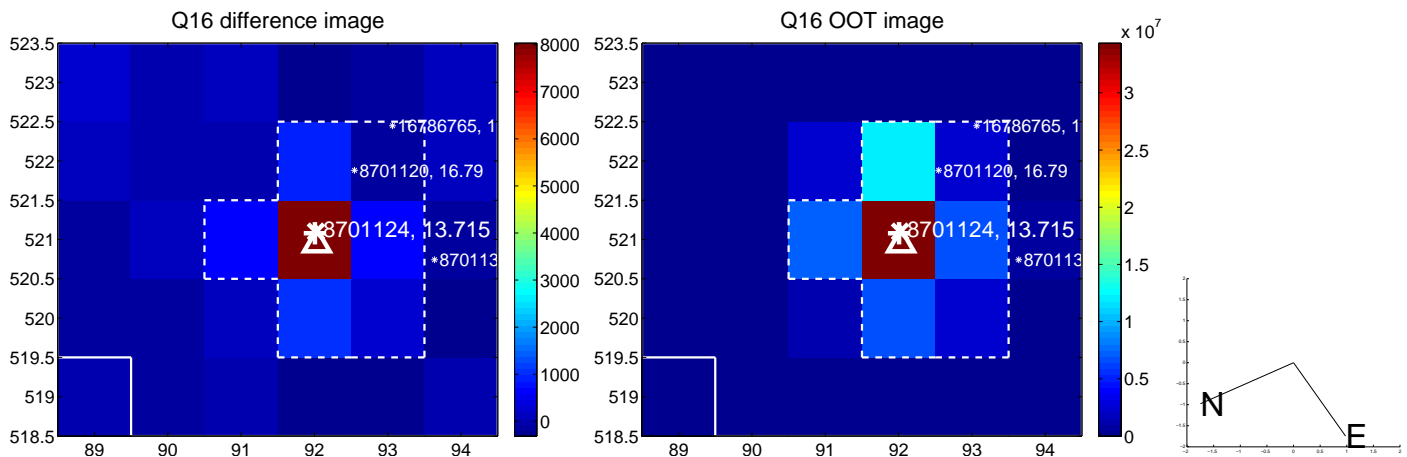
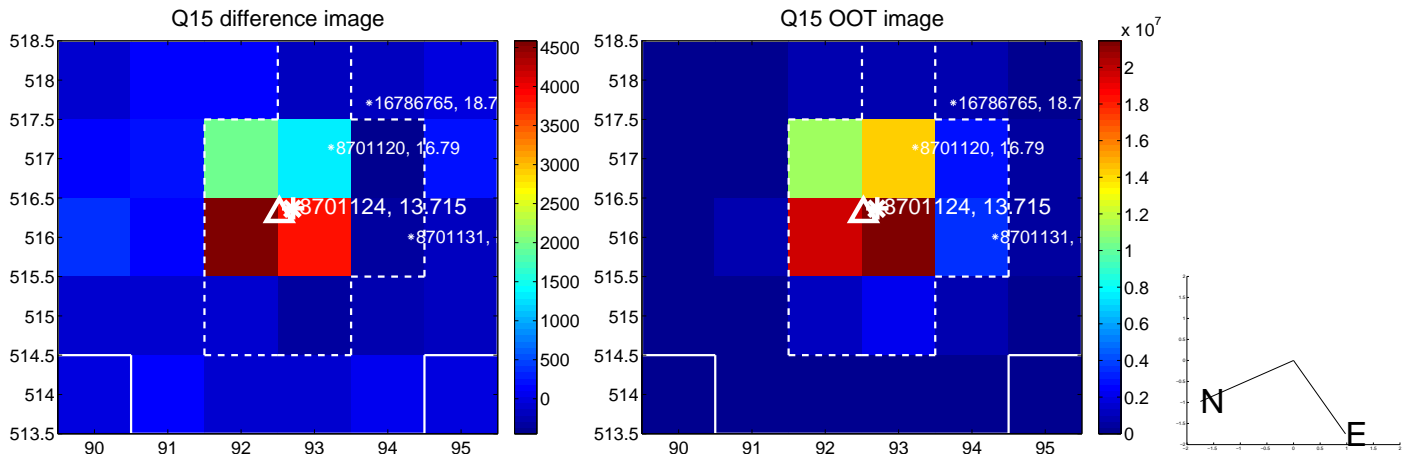
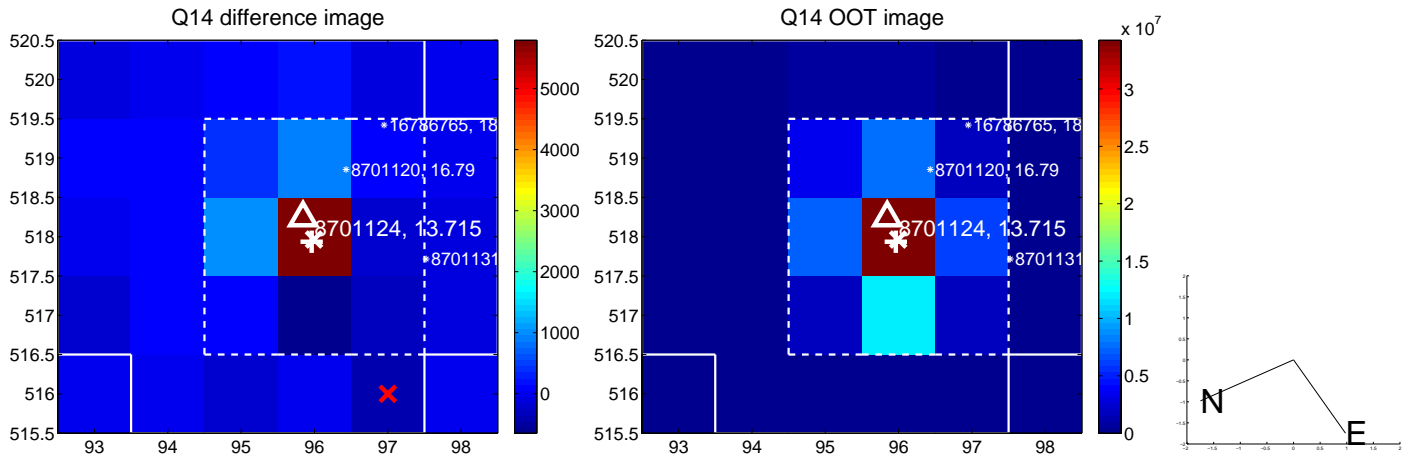
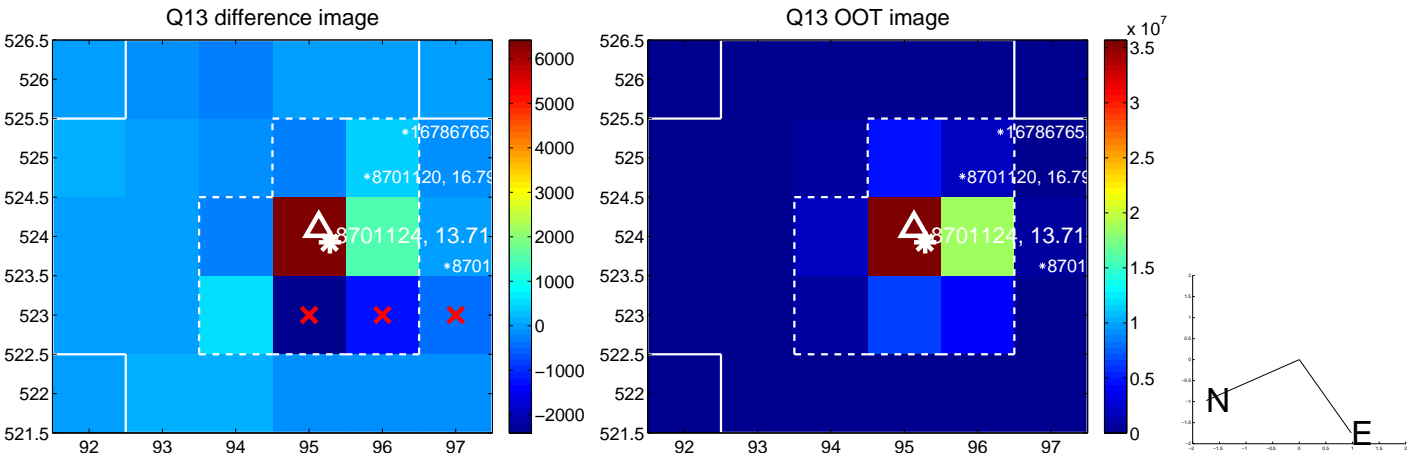




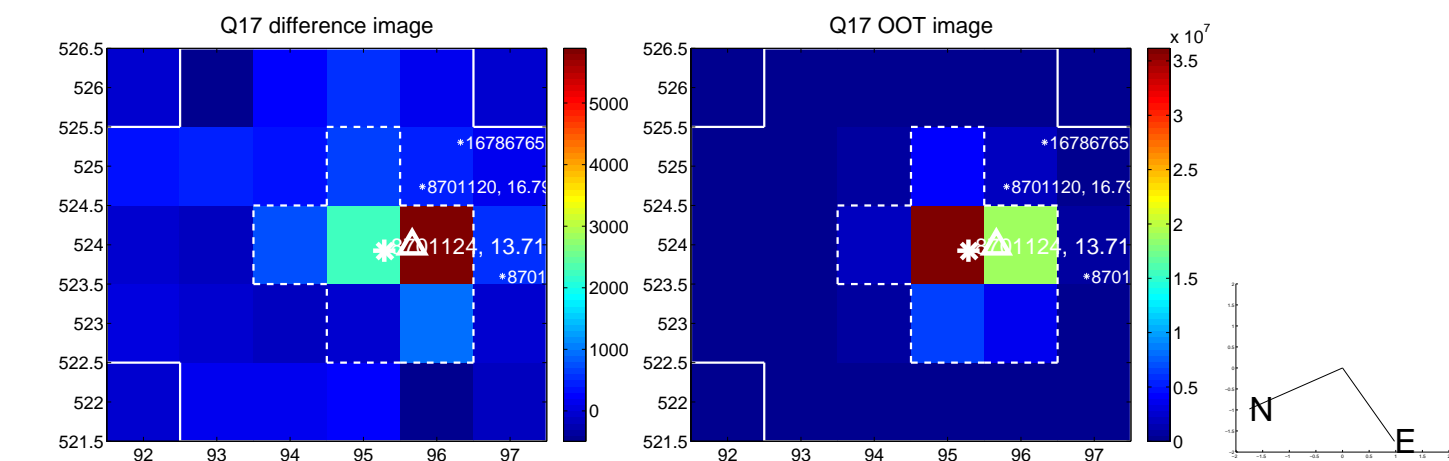
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



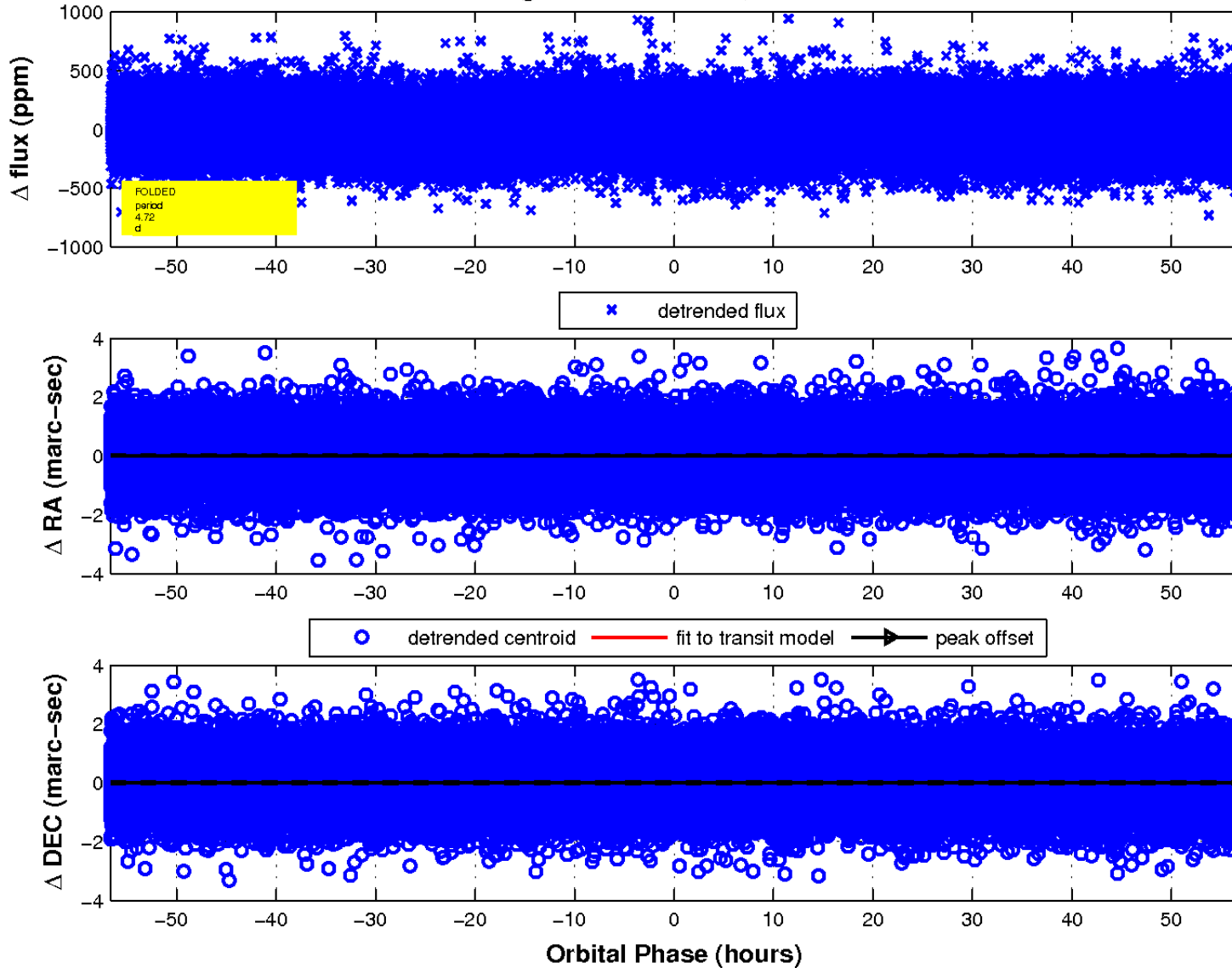
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

