

# KIC 008673511

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008673511-01	OBS	8277.01	0.757260	131.620372	35.3	0.753	8.2	9.1	0.95	5651	0.59	3141.45

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008673511-01	OBS	PC	0.45	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.

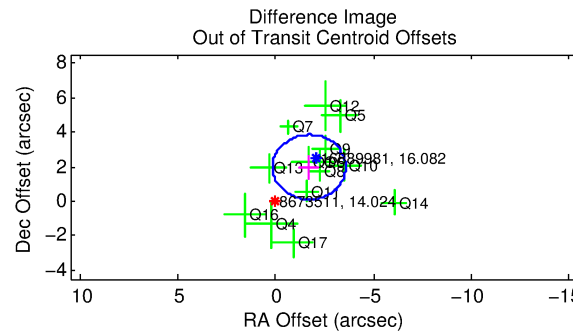
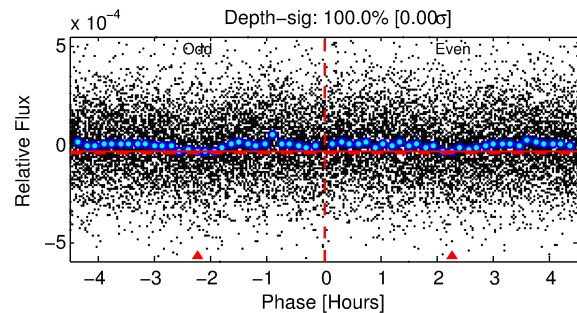
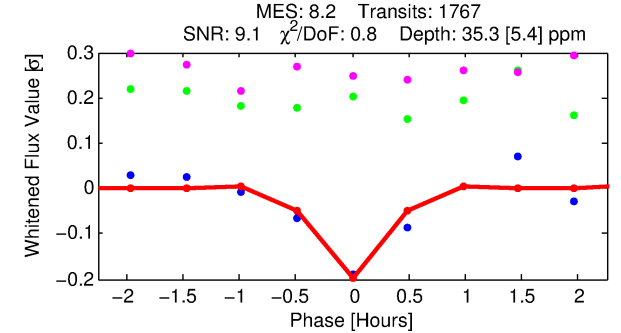
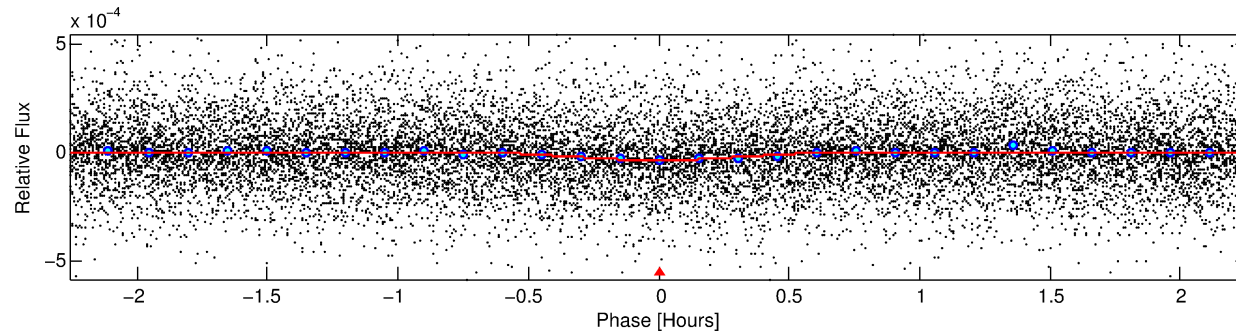
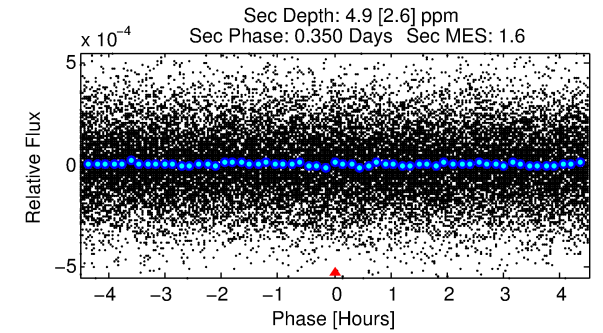
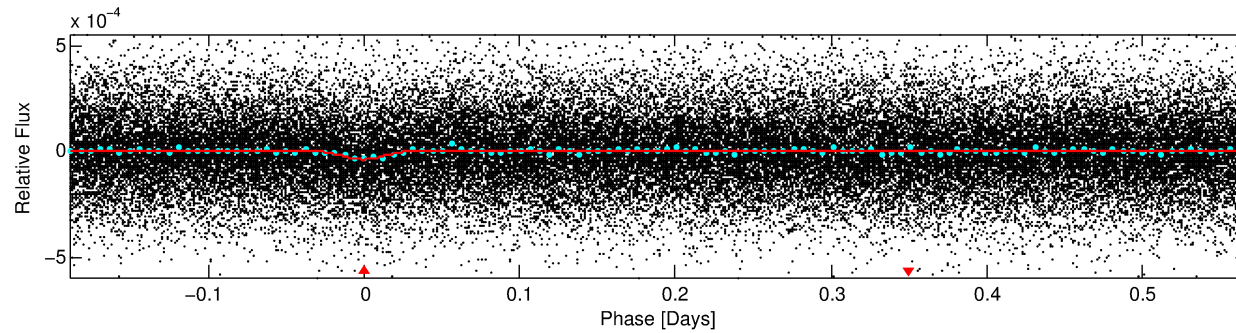
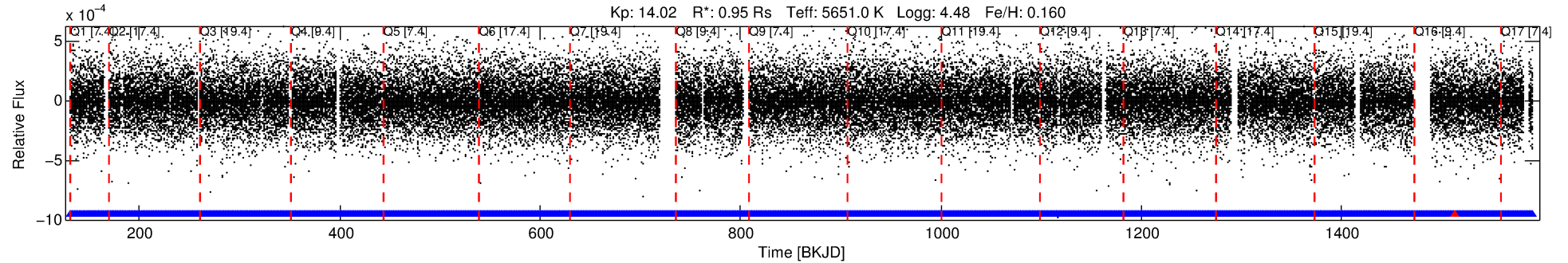
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008673511-01

No Significant Match Found

# DV One-Page Summary

KIC: 8673511 Candidate: 1 of 1 Period: 0.757 d



## DV Fit Results:

Period = 0.75726 [0.00001] d  
Epoch = 131.6204 [0.0016] BKJD  
Rp/R\* = 0.0057 [0.0027]  
a/R\* = 6.75 [12.85]  
b = 0.50 [2.95]  
Seff = 3141.45 [1204.45]  
Teff = 1909 [183] K  
Rp = 0.59 [0.33] Re  
a = 0.0163 [0.0040] AU  
Ag = 2.06 [2.36] [0.45σ]  
Teffp = 3535 [968] K [1.65σ]

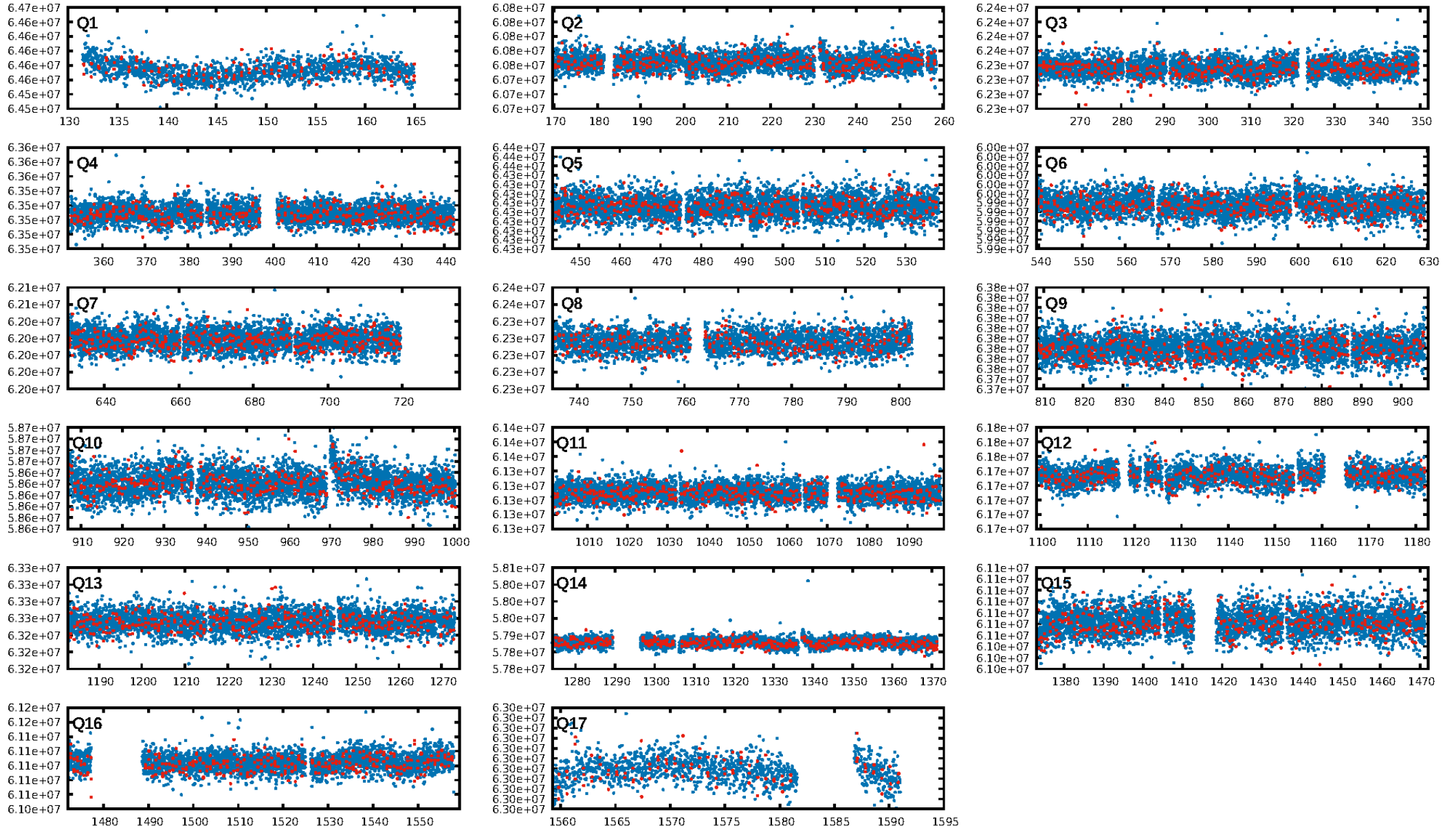
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.69e-16  
RollingBand-fgt: 1.00 [1686/1687]  
GhostDiagnostic-chr: 8.106  
Centroid-sig: 0.0%  
Centroid-so: 4.329 arcsec [3.58σ]  
OotOffset-rm: 2.603 arcsec [4.17σ]  
KicOffset-rm: 2.842 arcsec [4.74σ]  
OotOffset-st: 3/2/4/5 [14]  
KicOffset-st: 3/2/4/5 [14]  
DiffImageQuality-fgm: 0.57 [8/14]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:07:00 Z

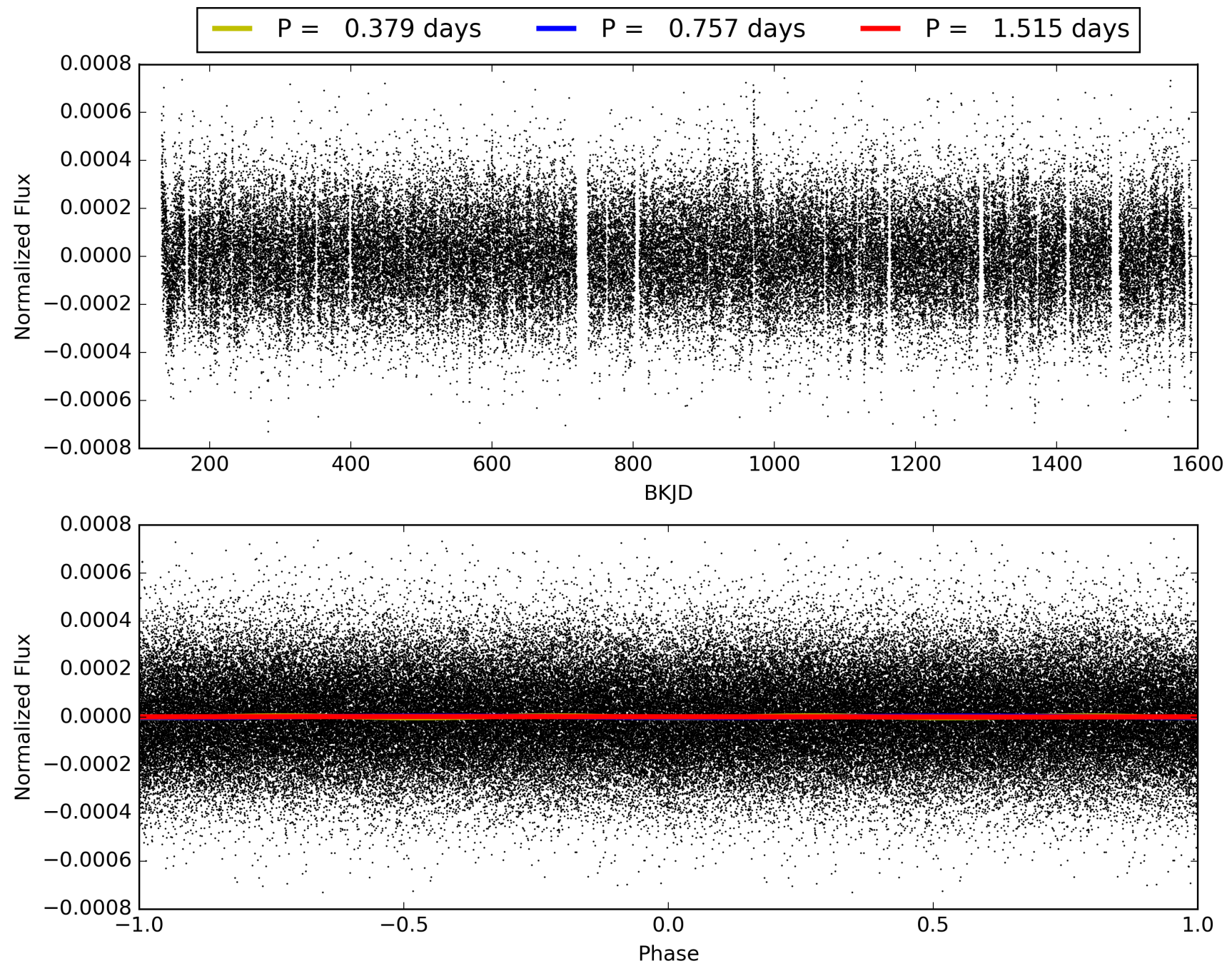
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008673511-01, PDC Light Curves



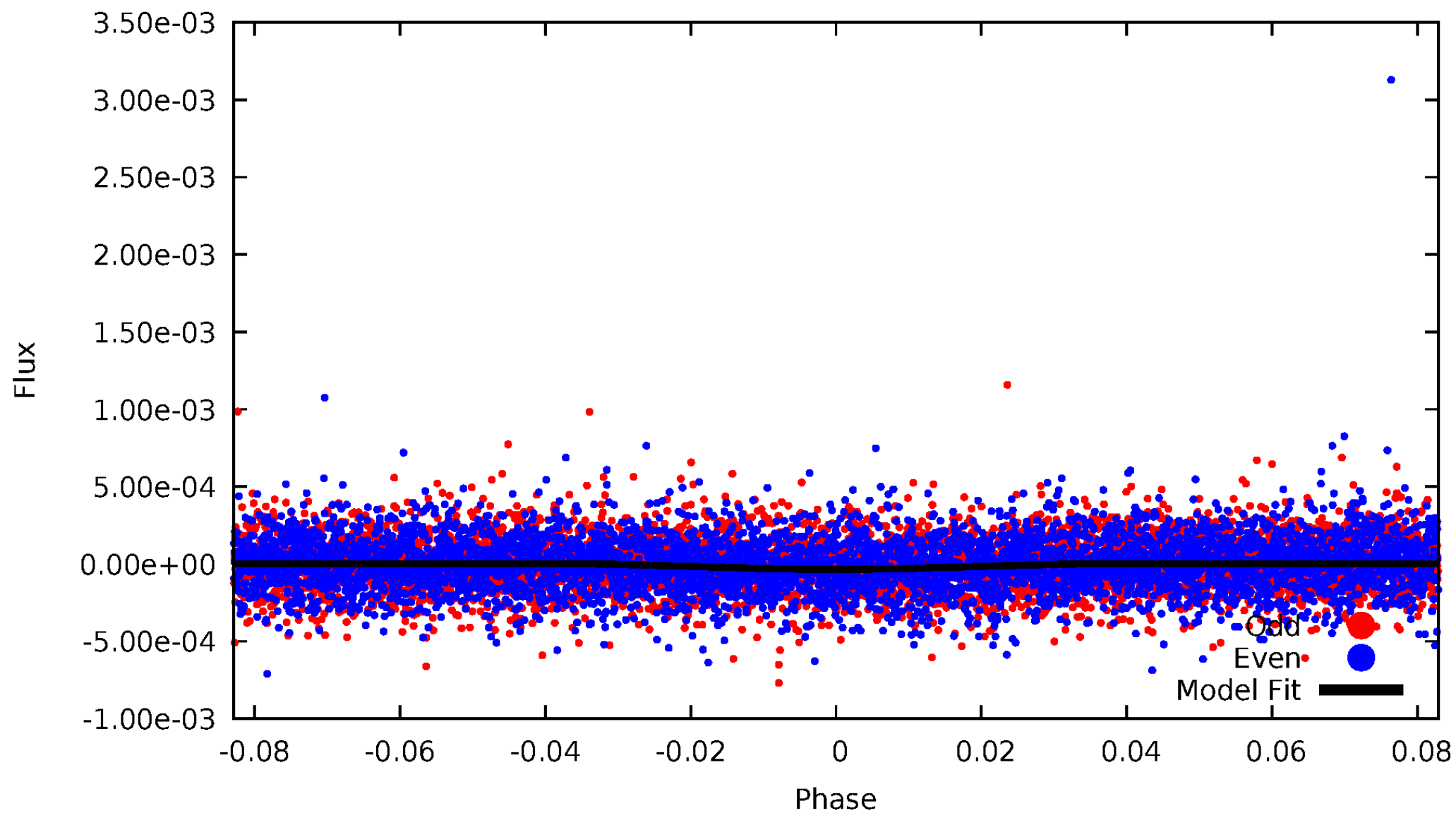


# TCE 008673511-01



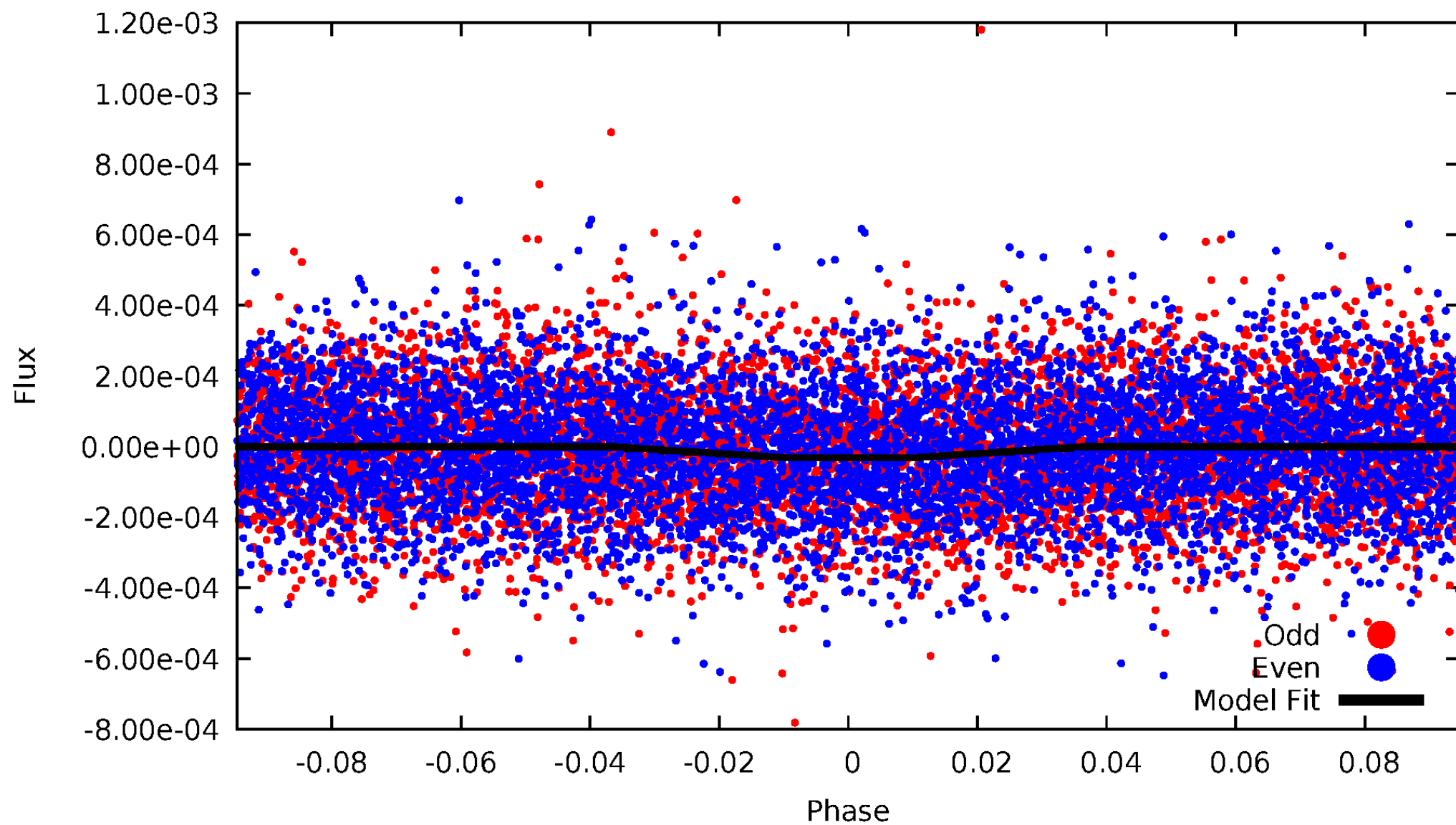
# DV Odd/Even

TCE 008673511-01



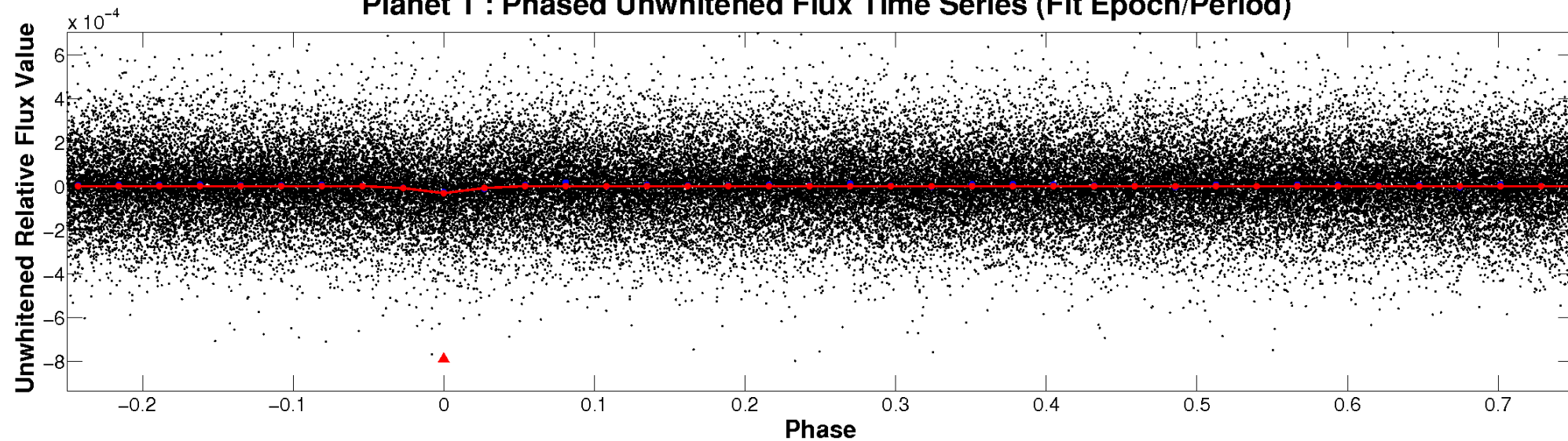
# ALT Odd/Even

TCE 008673511-01

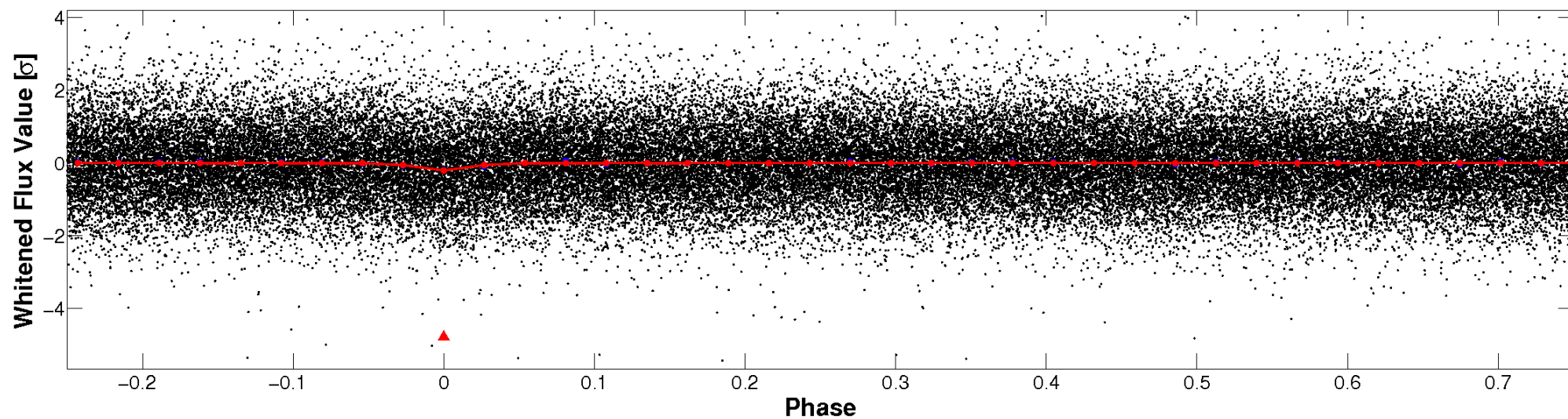


# Non-Whitened Vs. Whitened Light Curve

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



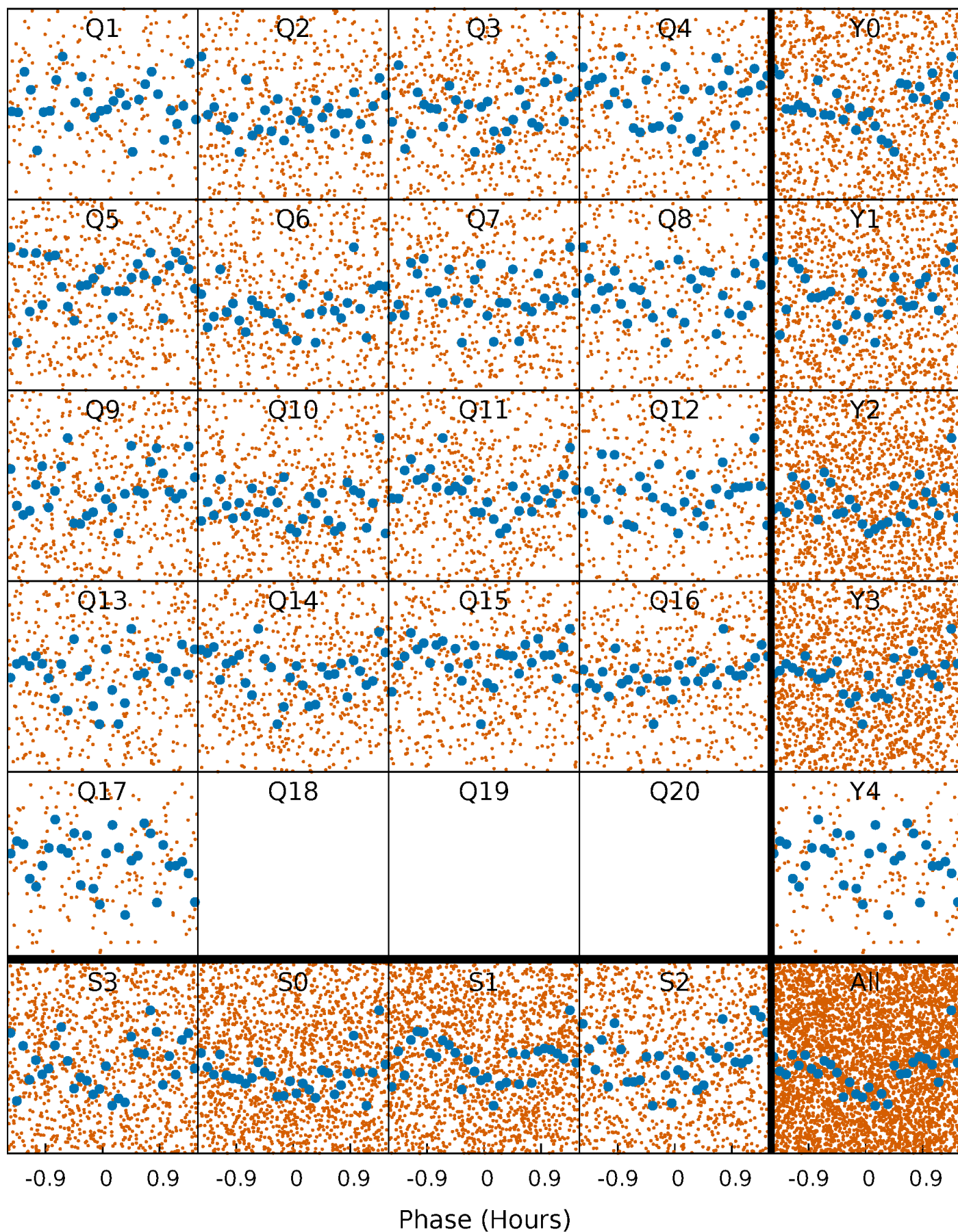
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

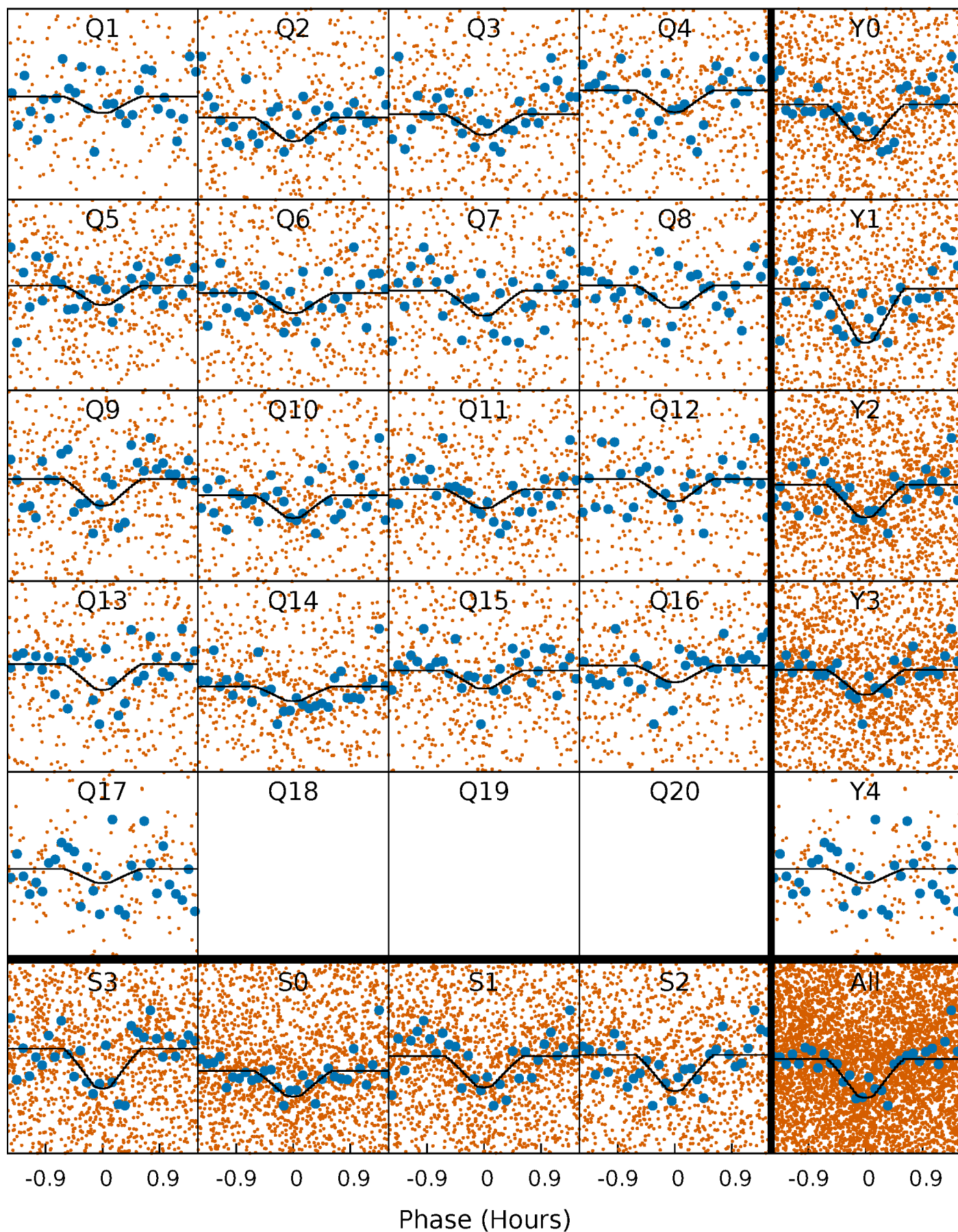
TCE 008673511-01   P= 0.757260 Days    $T_0=131.620372$  (BKJD)





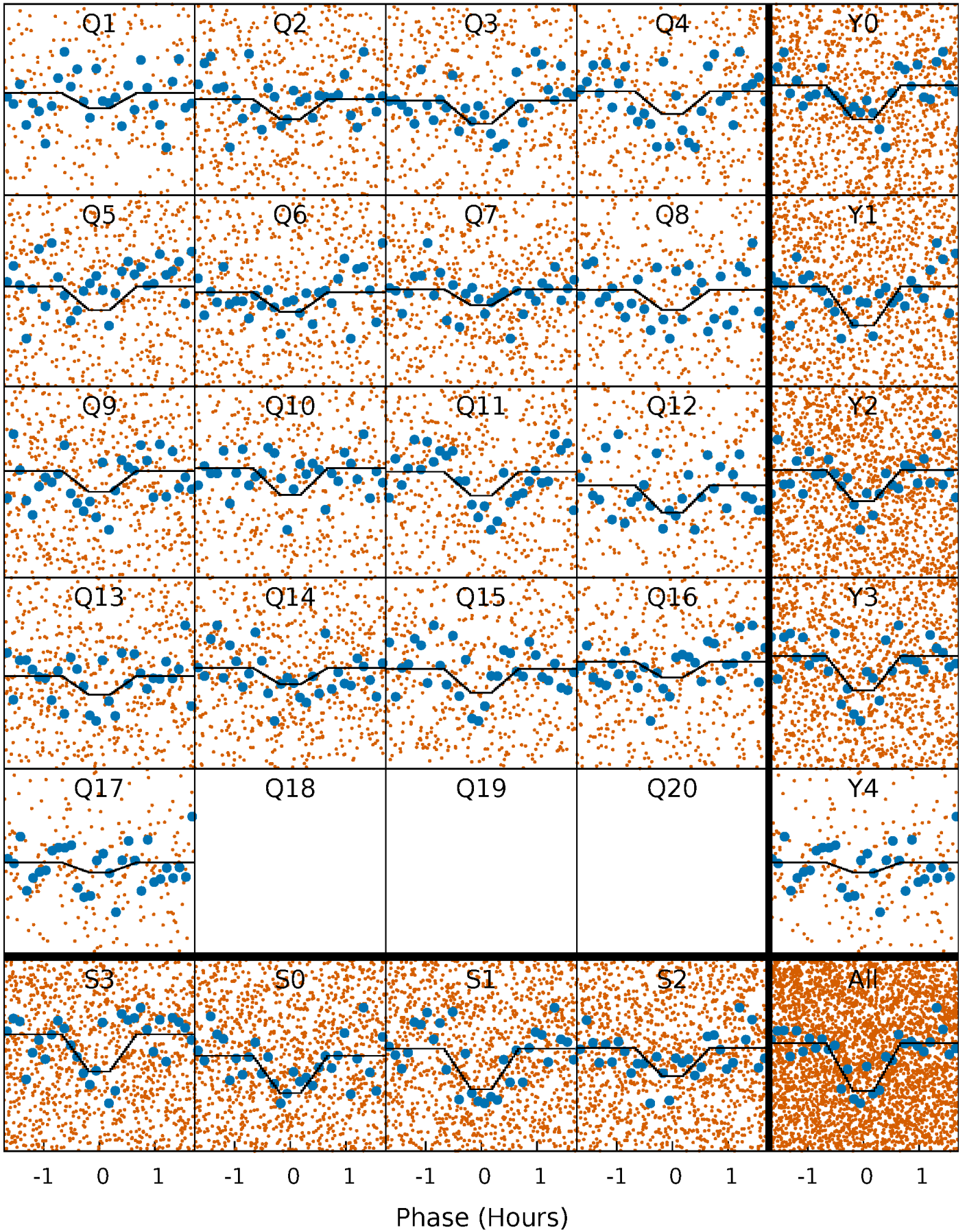
# DV Quarter-Phased Transit Curves

TCE 008673511-01   P= 0.757260 Days    $T_0=131.620372$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

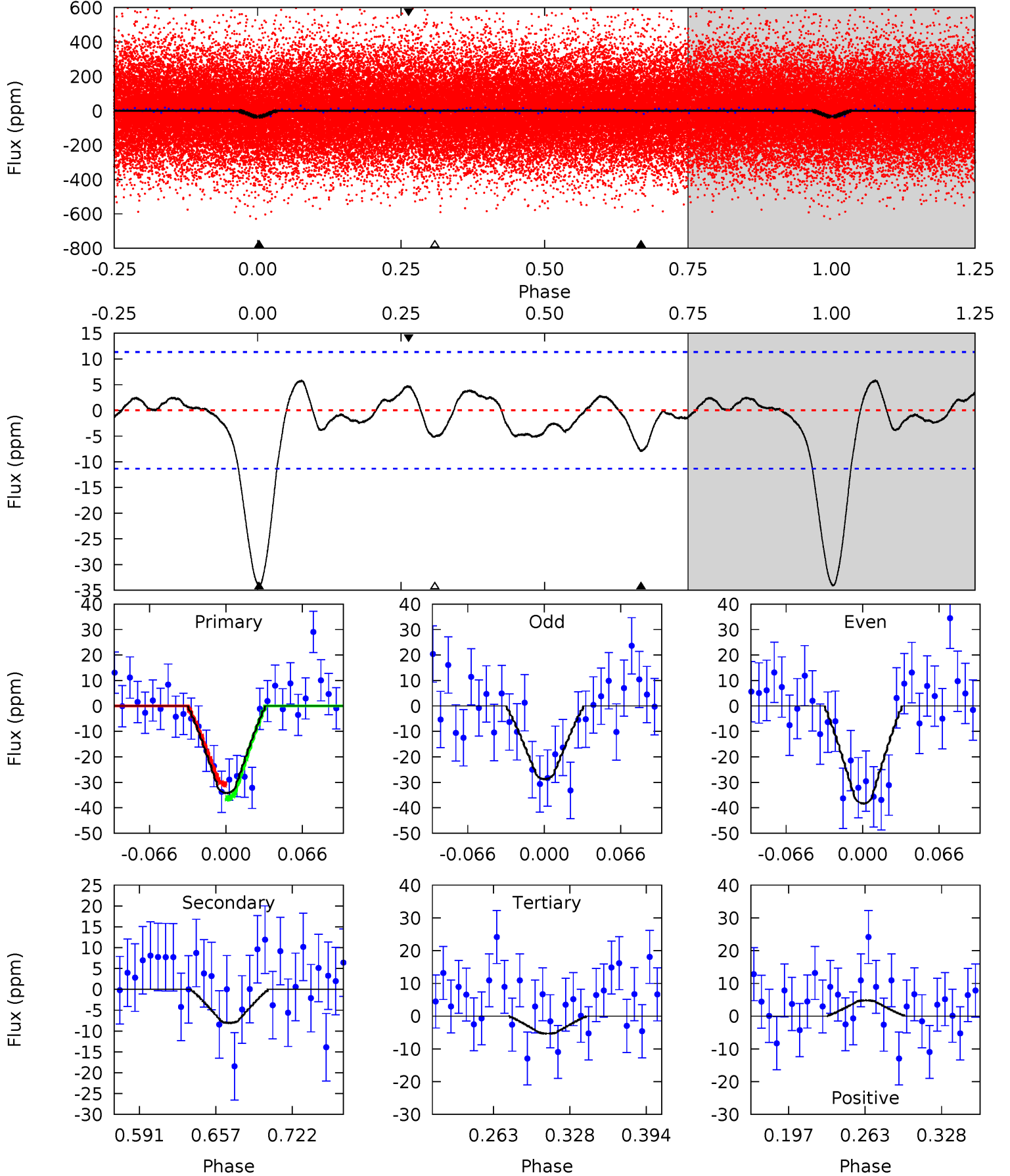
TCE 008673511-01 P= 0.757262 Days  $T_0=131.620357$  (BKJD)



# DV Model-Shift Uniqueness Test

008673511-01, P = 0.757260 Days, E = 130.863112 Days

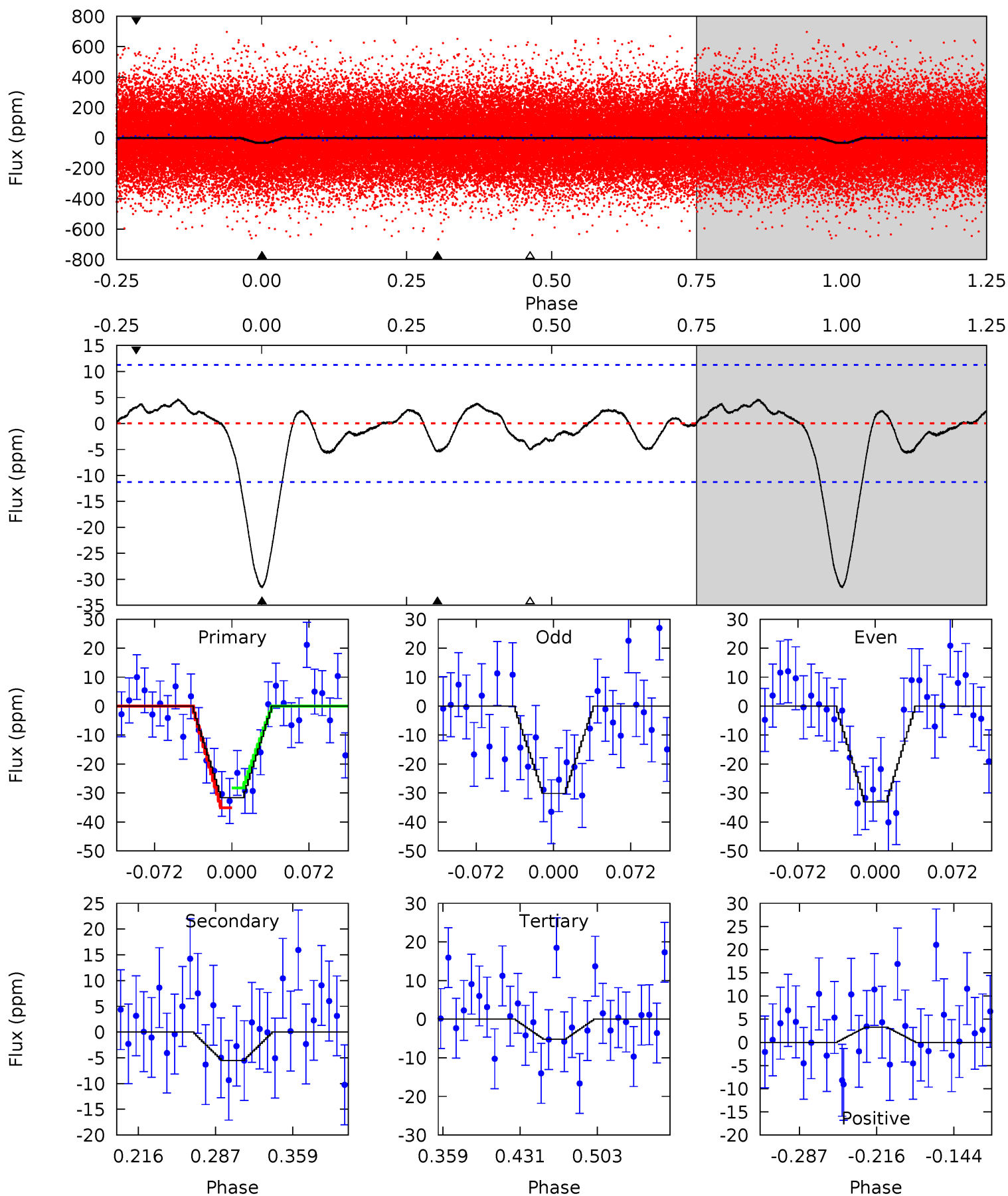
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	3.31	2.19	1.97	4.65	1.84	1.13	11.9	12.1	1.12	1.33	1.97	0.88	0.15	1.13



# Alt Model-Shift Uniqueness Test

008673511-01, P = 0.757262 Days, E = 130.863095 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
13.0	2.27	2.13	1.34	4.63	1.80	1.07	10.9	11.7	0.13	0.93	0.62	0.97	0.13	1.41





### Stellar Parameters For KIC 008673511

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5651^{+154}_{-171}$	$4.479^{+0.062}_{-0.200}$	$0.160^{+0.200}_{-0.300}$	$0.953^{+0.279}_{-0.093}$	$0.998^{+0.100}_{-0.110}$	$1.624^{+0.411}_{-0.792}$
	+3%/-3%	+1%/-4%	+125%/-188%	+29%/-10%	+10%/-11%	+25%/-49%
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 008673511-01 / KOI 8277.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-8 \pm 2$	$0.62^{+0.32}_{-0.28}$	$2714^{+198}_{-128}$	$4083^{+1218}_{-651}$	$2.853^{+6.139}_{-1.661}$
Alt.	$-6 \pm 2$	$0.60^{+0.32}_{-0.26}$	$2718^{+185}_{-135}$	$3853^{+1134}_{-732}$	$2.076^{+4.965}_{-1.319}$

$T_{max}$  = 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

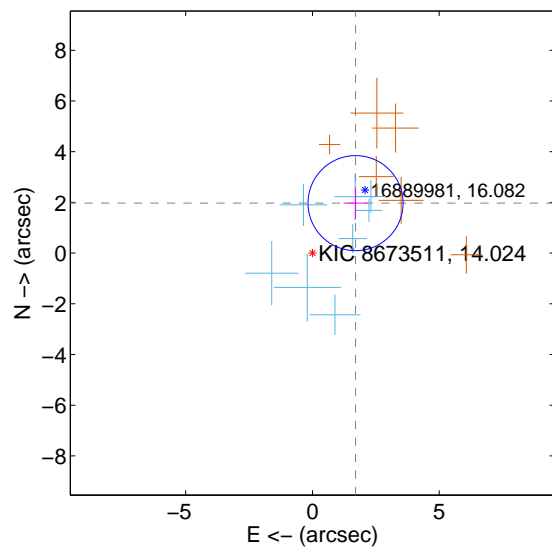
Supplemental centroid analysis for 008673511-01. Kepler magnitude: 14.02. Transit SNR 9.11

There are 8 quarters with good PRF difference image offsets

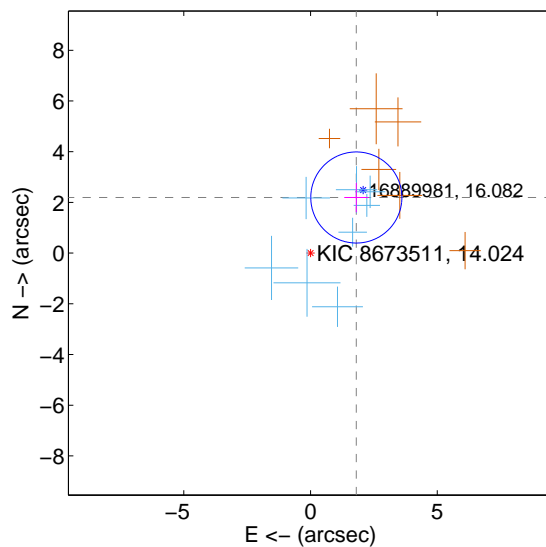
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.603 \pm 0.625$	4.17	$-1.700 \pm 0.474$	$1.971 \pm 0.626$
PRF-fit source offset from KIC position	$2.842 \pm 0.599$	4.74	$-1.807 \pm 0.478$	$2.193 \pm 0.583$
photometric centroid source offset	$4.33 \pm 1.21$	3.58	$-4.19 \pm 1.20$	$1.08 \pm 1.31$

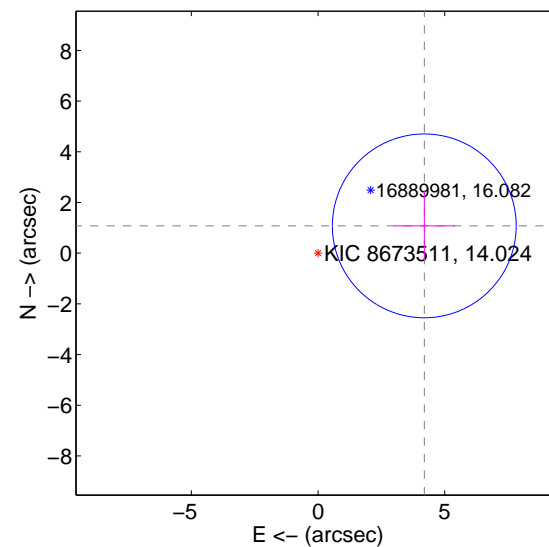
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

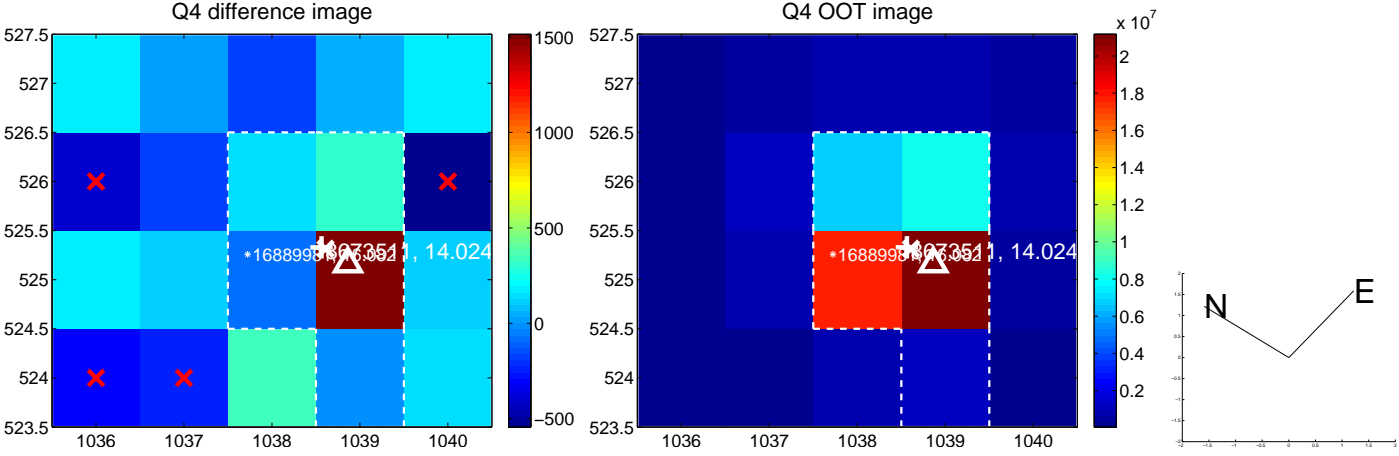
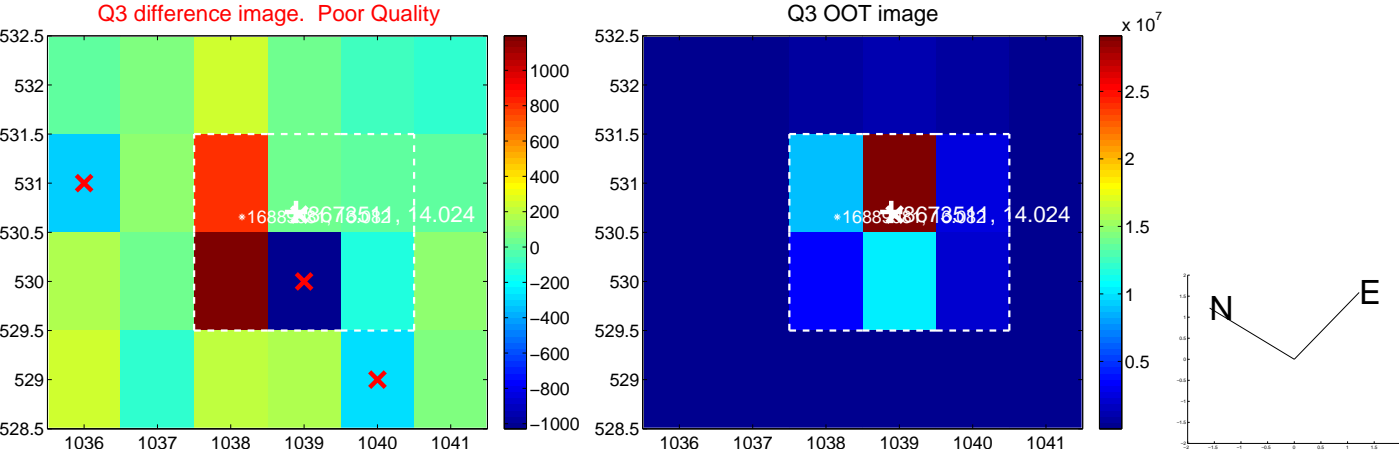
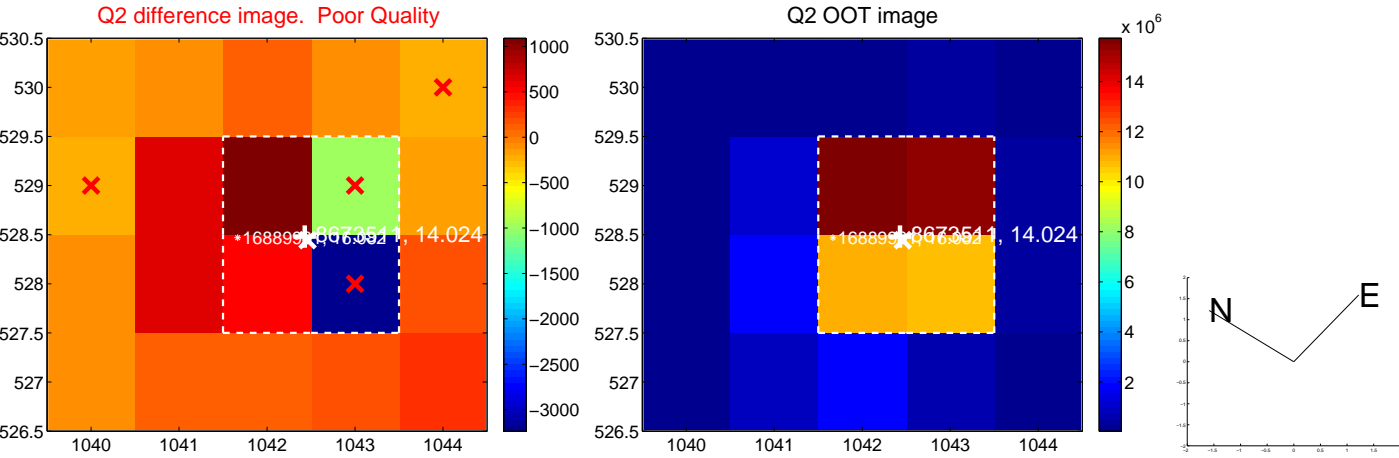
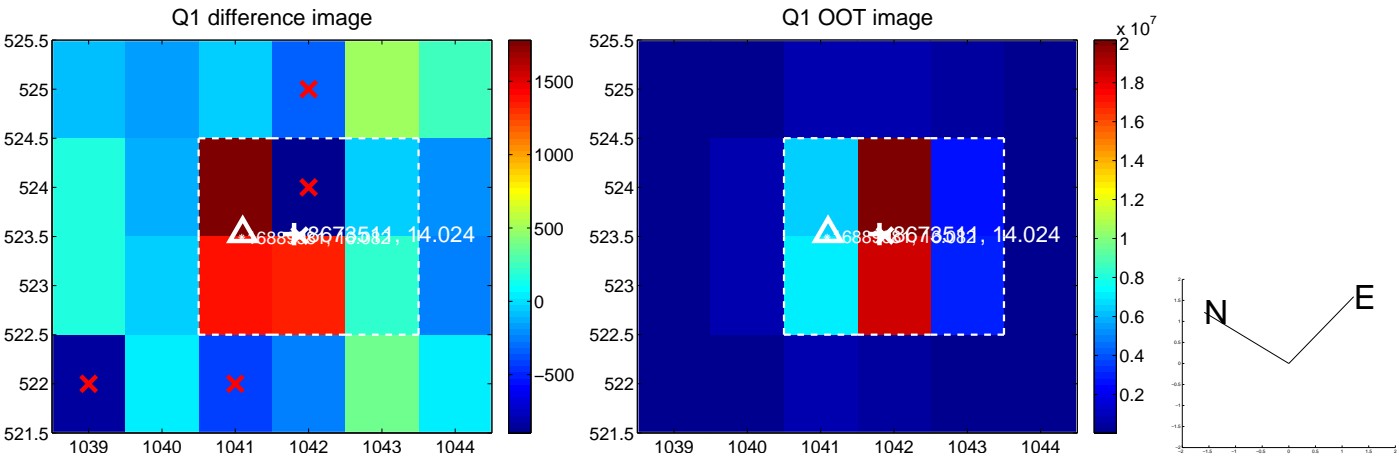


offset from photometric centroids

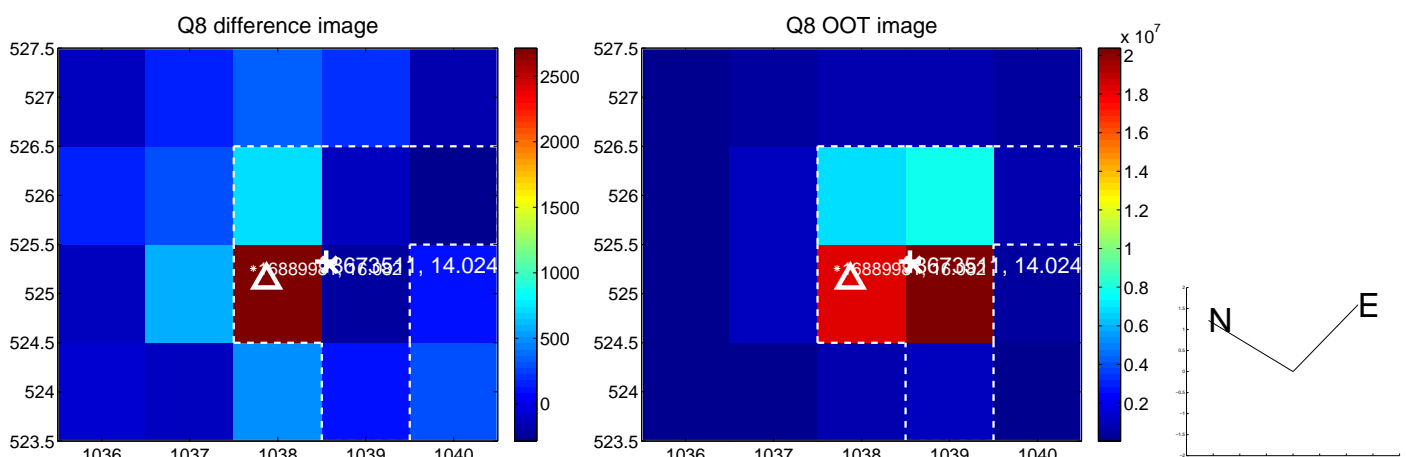
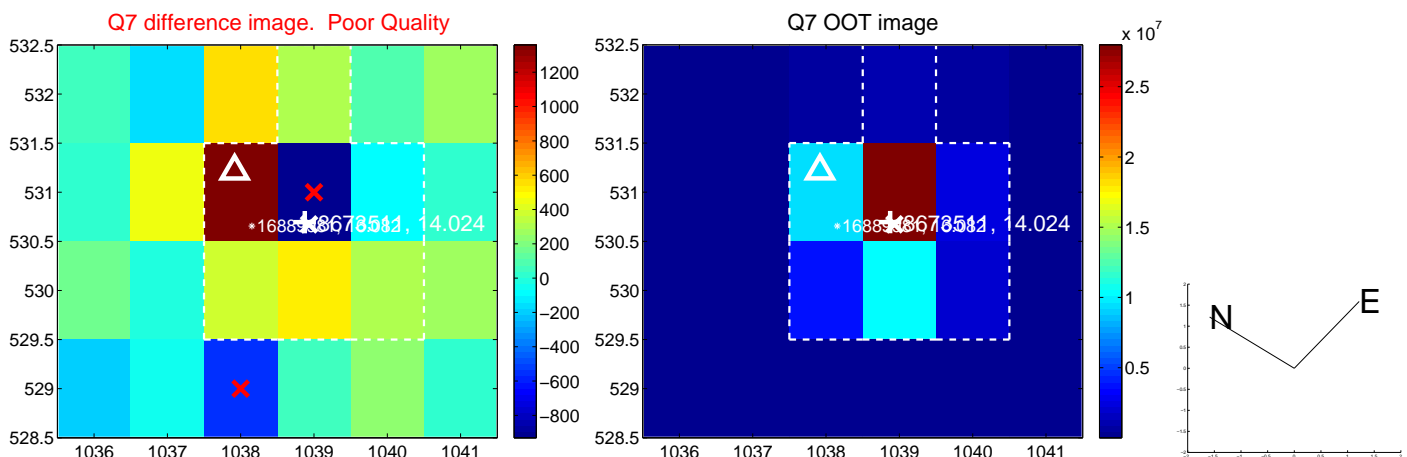
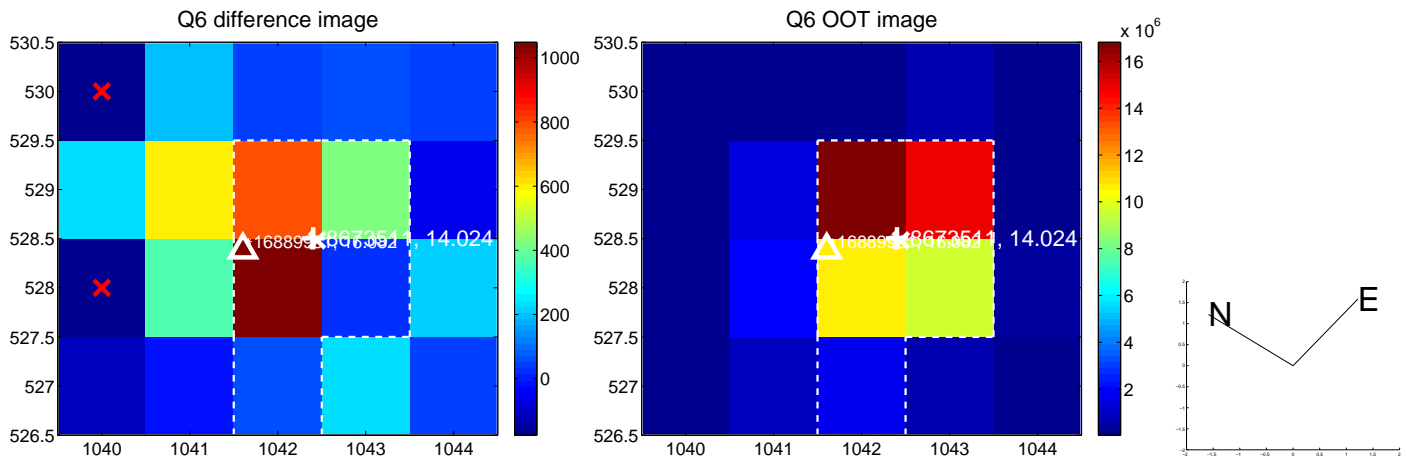
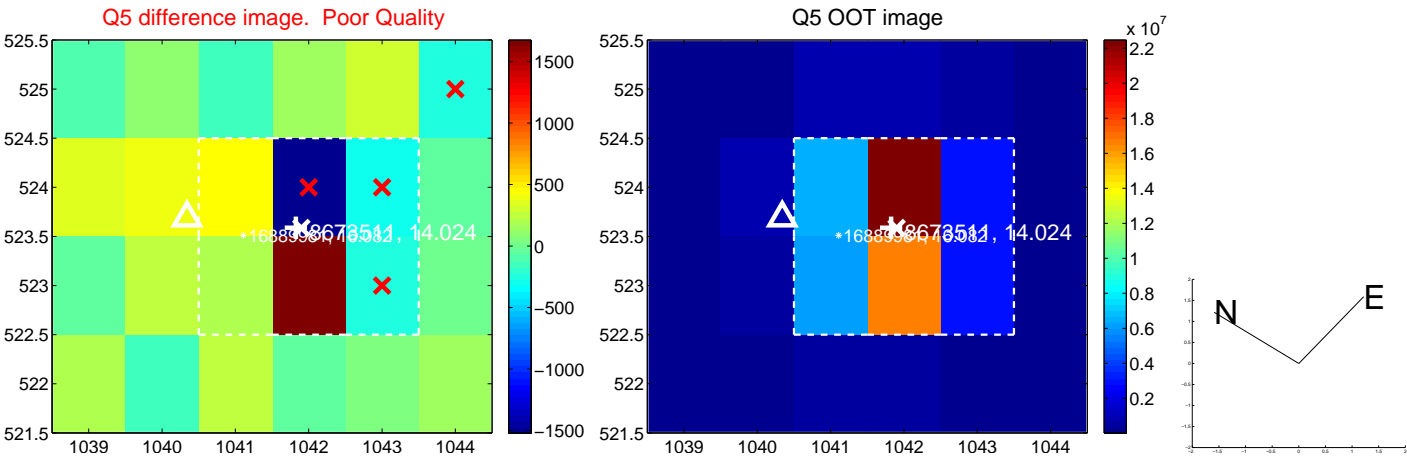


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

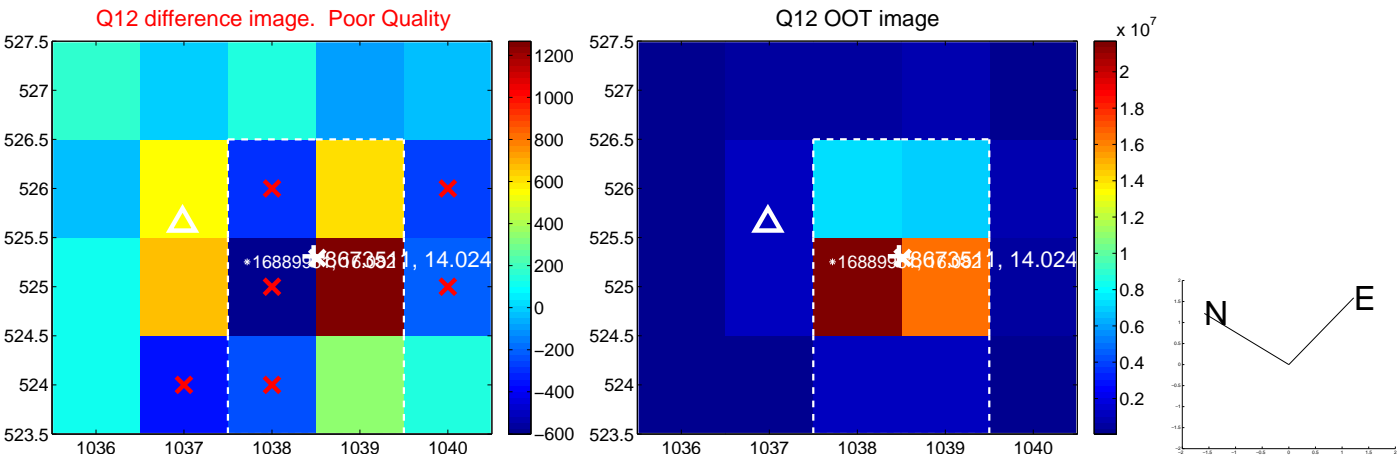
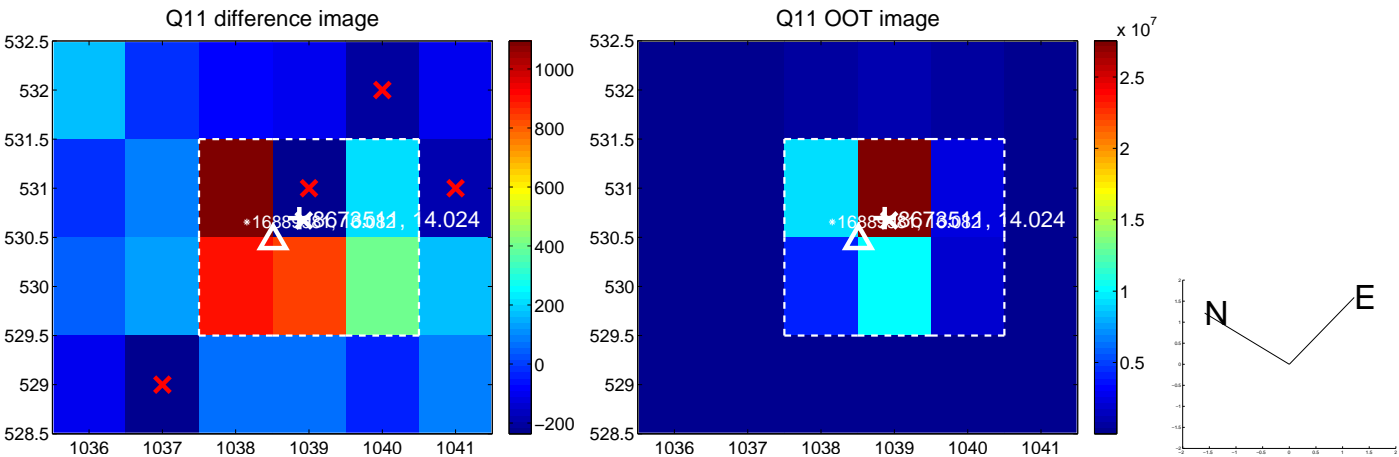
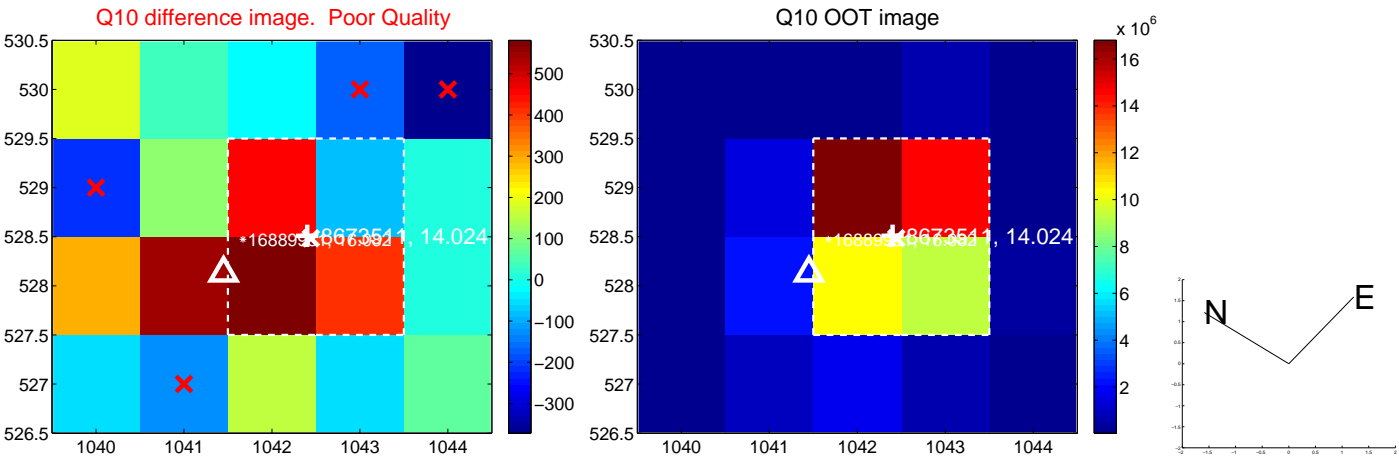
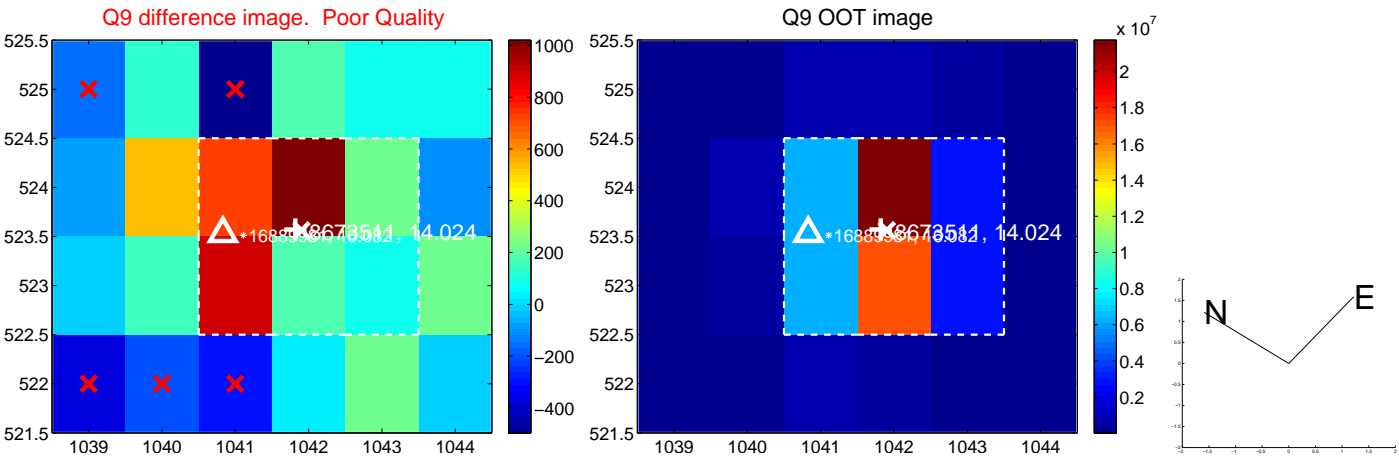


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

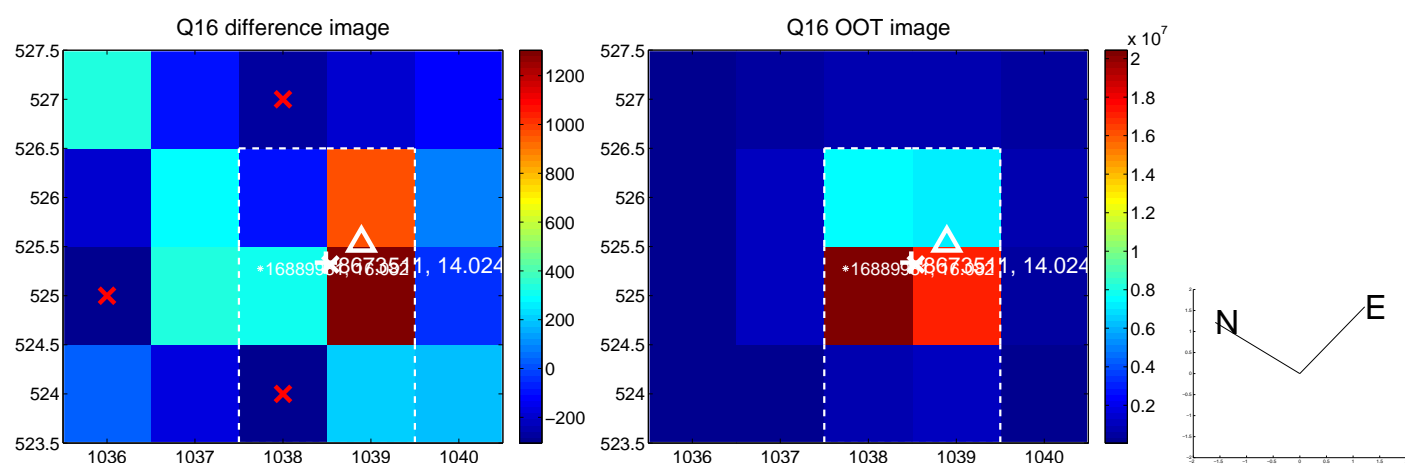
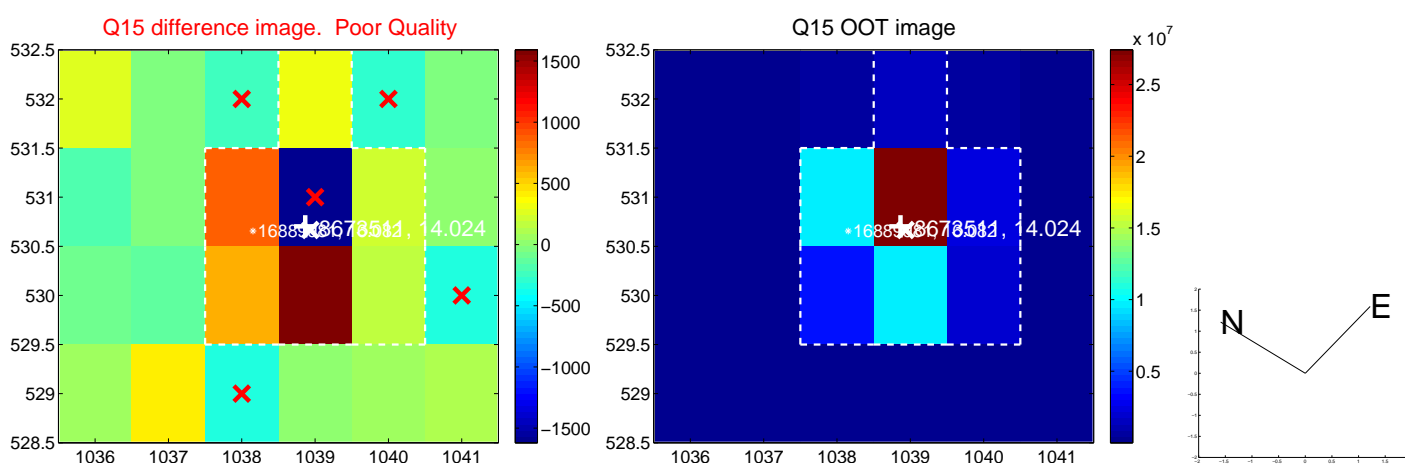
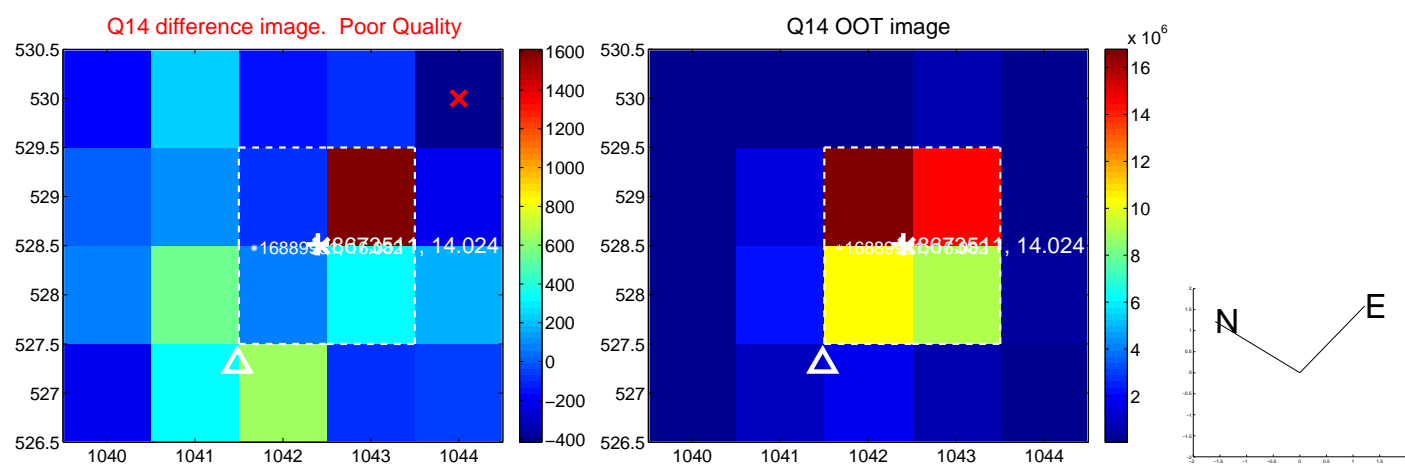
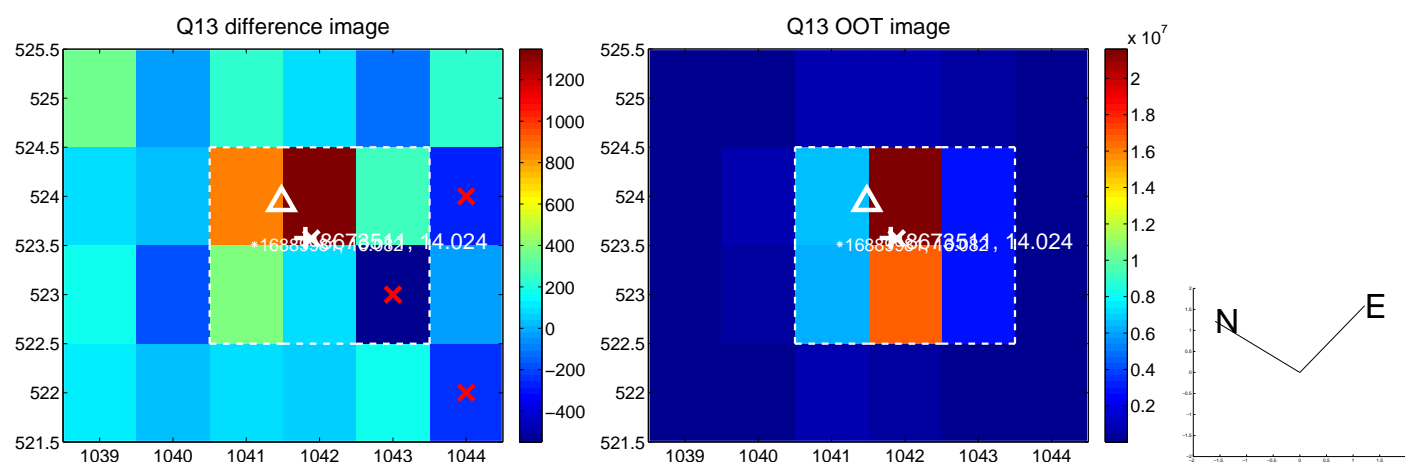




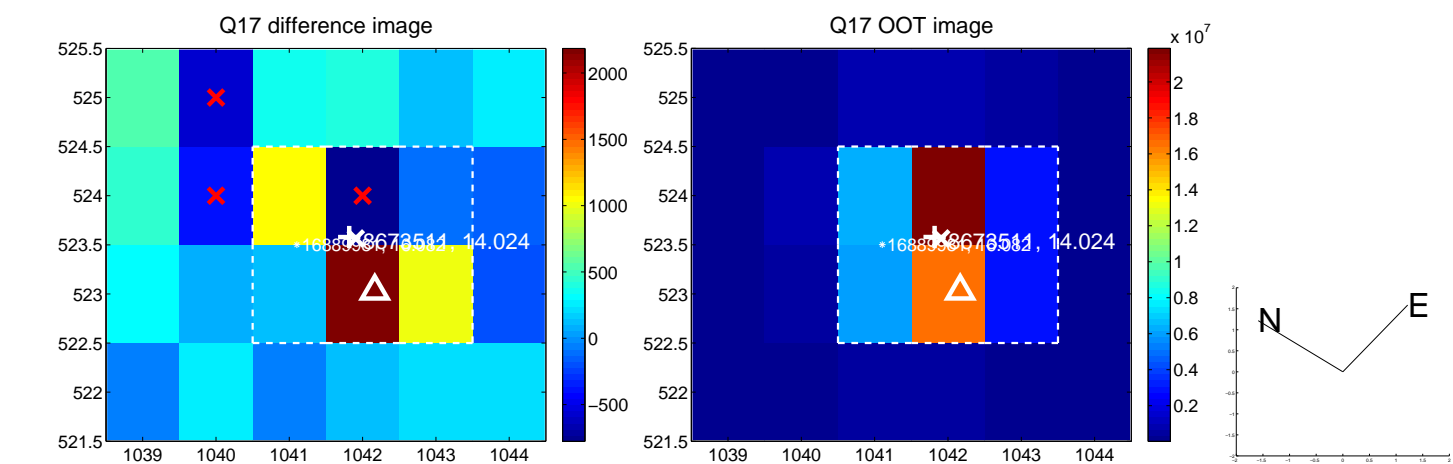
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



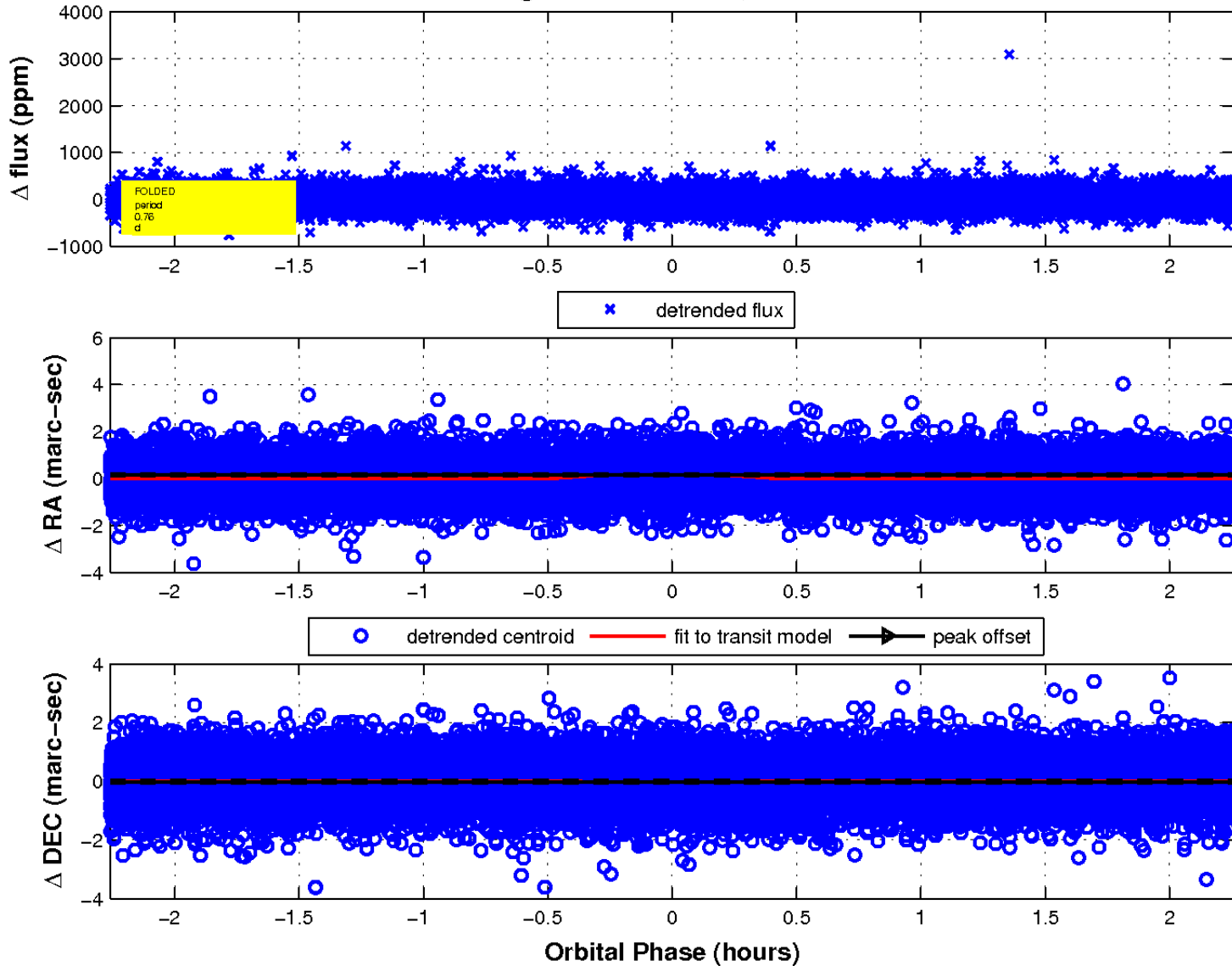
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

