

# KIC 010801249

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010801249-01	OBS	4611.01	1.674951	131.806590	32.9	3.417	12.5	13.5	1.26	6323	0.85	2730.15

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010801249-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH

**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.

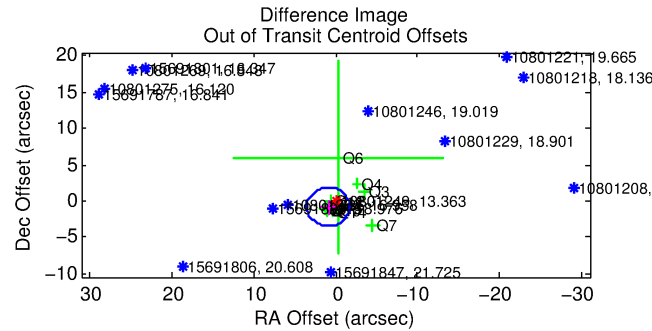
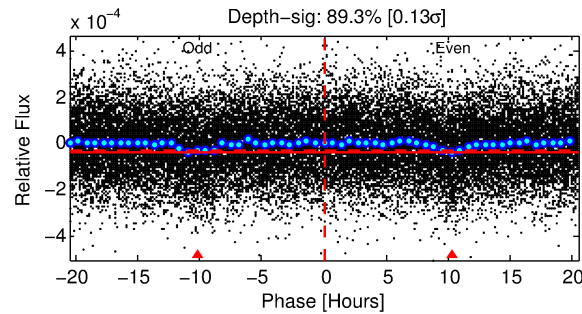
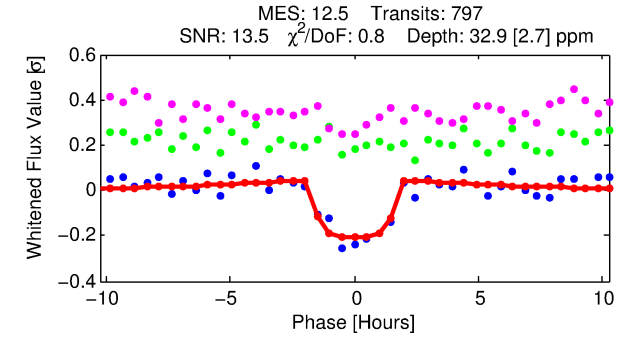
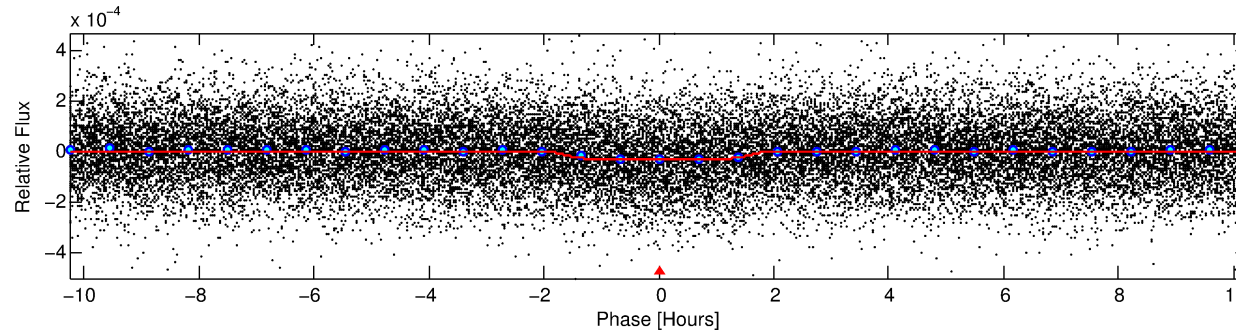
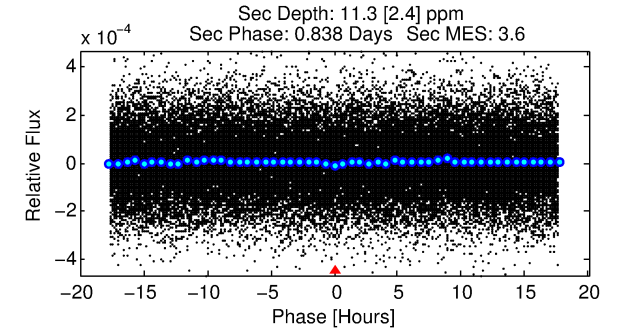
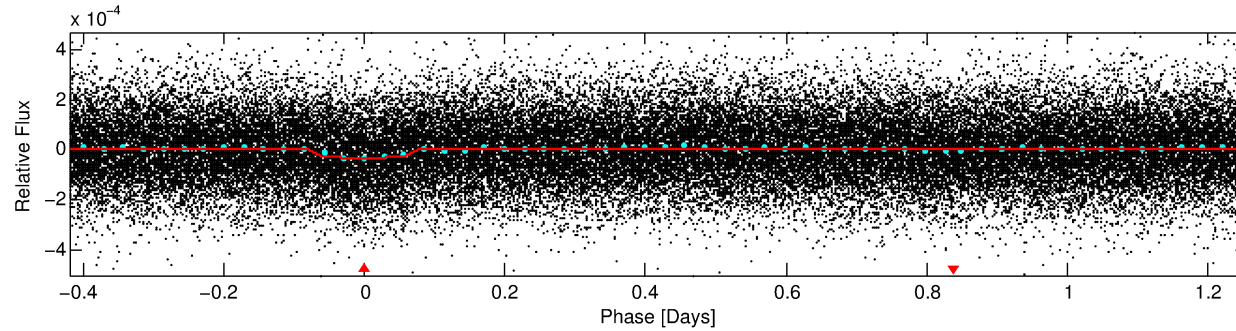
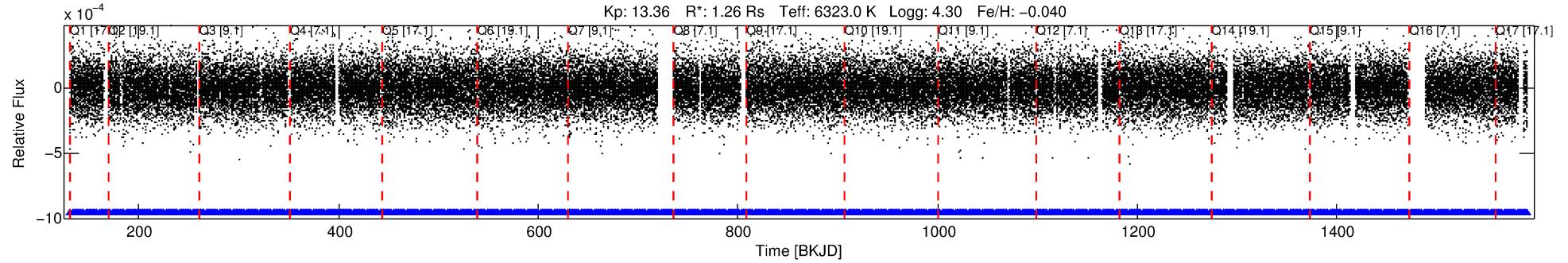
## Ephemeris Match Information For 010801249-01

TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	$\sigma_P$	$\sigma_T$
010801249-01	10801249	3617.01	10735564	1:1	498.2	125	0	14.57	13.37	7525.50	Col-Anomaly	0	1.53	0.83

**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 10801249 Candidate: 1 of 1 Period: 1.675 d  
KOI: K04611.01 Corr: 0.943



## DV Fit Results:

Period = 1.67495 [0.00001] d  
Epoch = 131.8066 [0.0028] BKJD  
Rp/R\* = 0.0062 [0.0019]  
a/R\* = 1.94 [2.40]  
b = 0.90 [0.37]  
Teff = 2730.15 [789.00]  
Teq = 1843 [133] K  
Rp = 0.85 [0.32] Re  
a = 0.0289 [0.0053] AU  
Ag = 7.22 [5.03] [1.24σ]  
Teffp = 4671 [770] K [3.62σ]

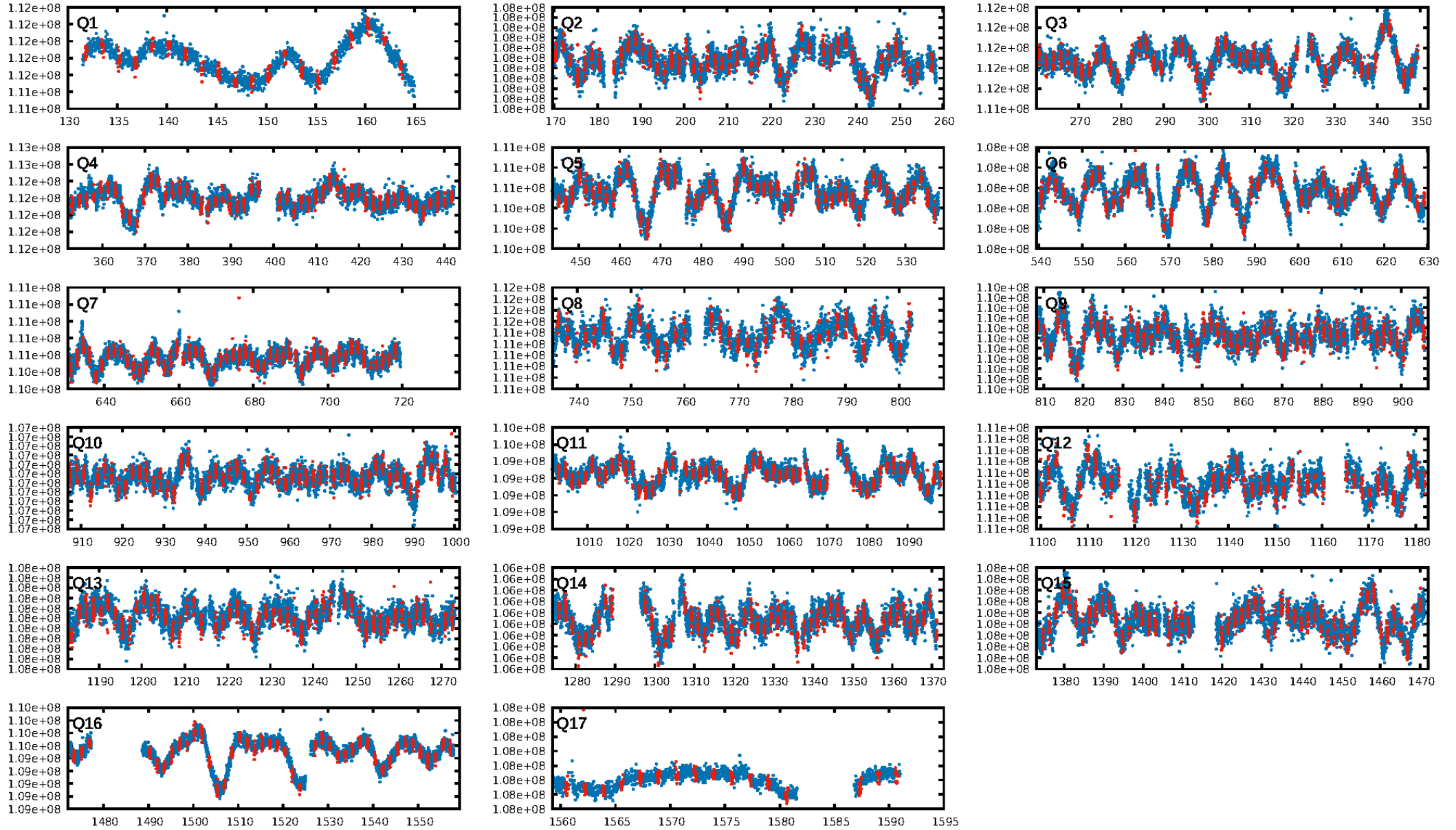
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.56e-35  
RollingBand-fgt: 1.00 [761/761]  
GhostDiagnostic-chr: 1.316  
Centroid-sig: 0.0%  
Centroid-so: 2.693 arcsec [4.02σ]  
OotOffset-rm: 1.230 arcsec [1.40σ]  
KicOffset-rm: 1.231 arcsec [1.40σ]  
OotOffset-st: 3/4/4/4 [15]  
KicOffset-st: 3/4/4/4 [15]  
DiffImageQuality-fgm: 0.73 [11/15]  
DiffImageOverlap-fno: 1.00 [17/17]

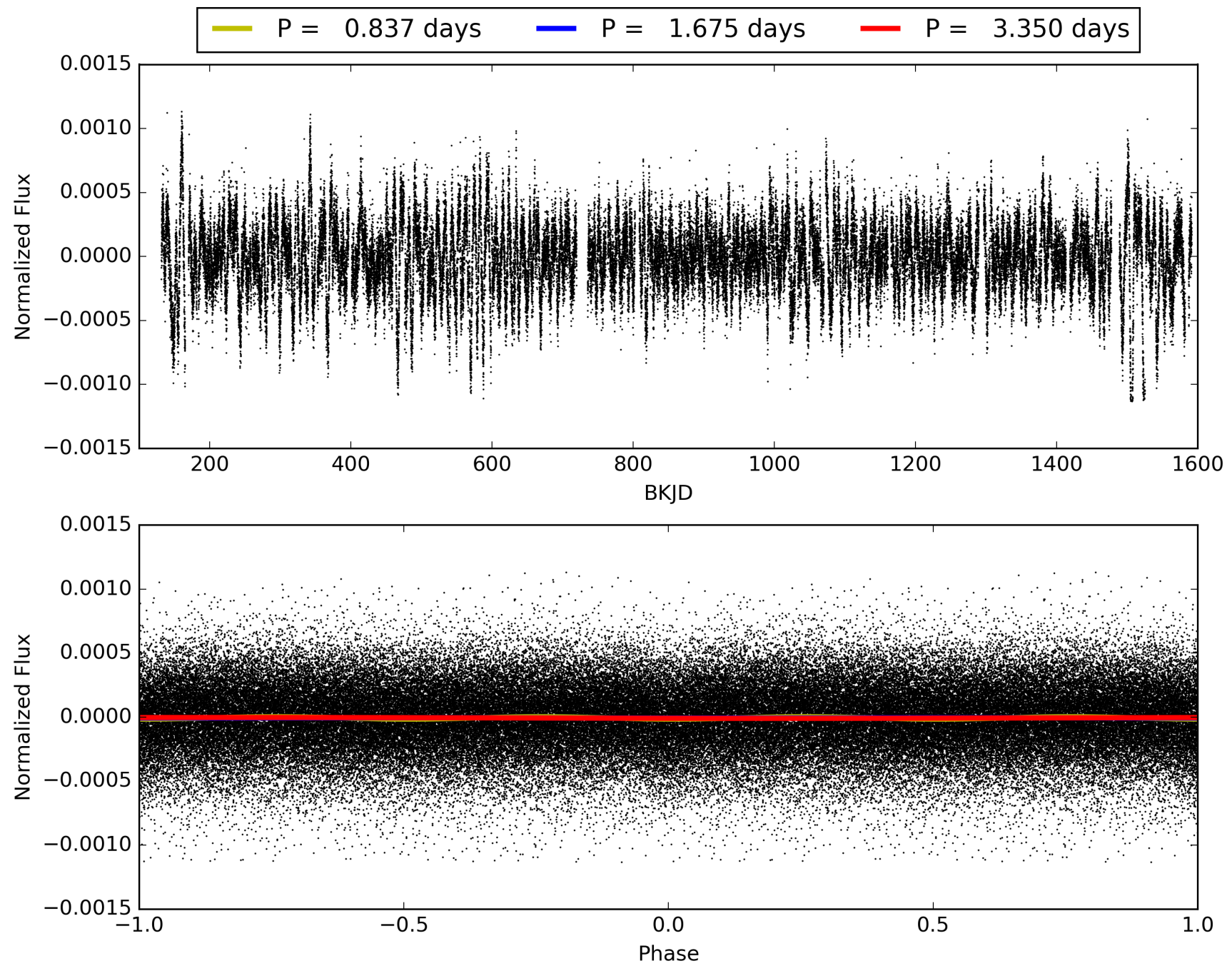
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:46:52 Z

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

# TCE 010801249-01, PDC Light Curves

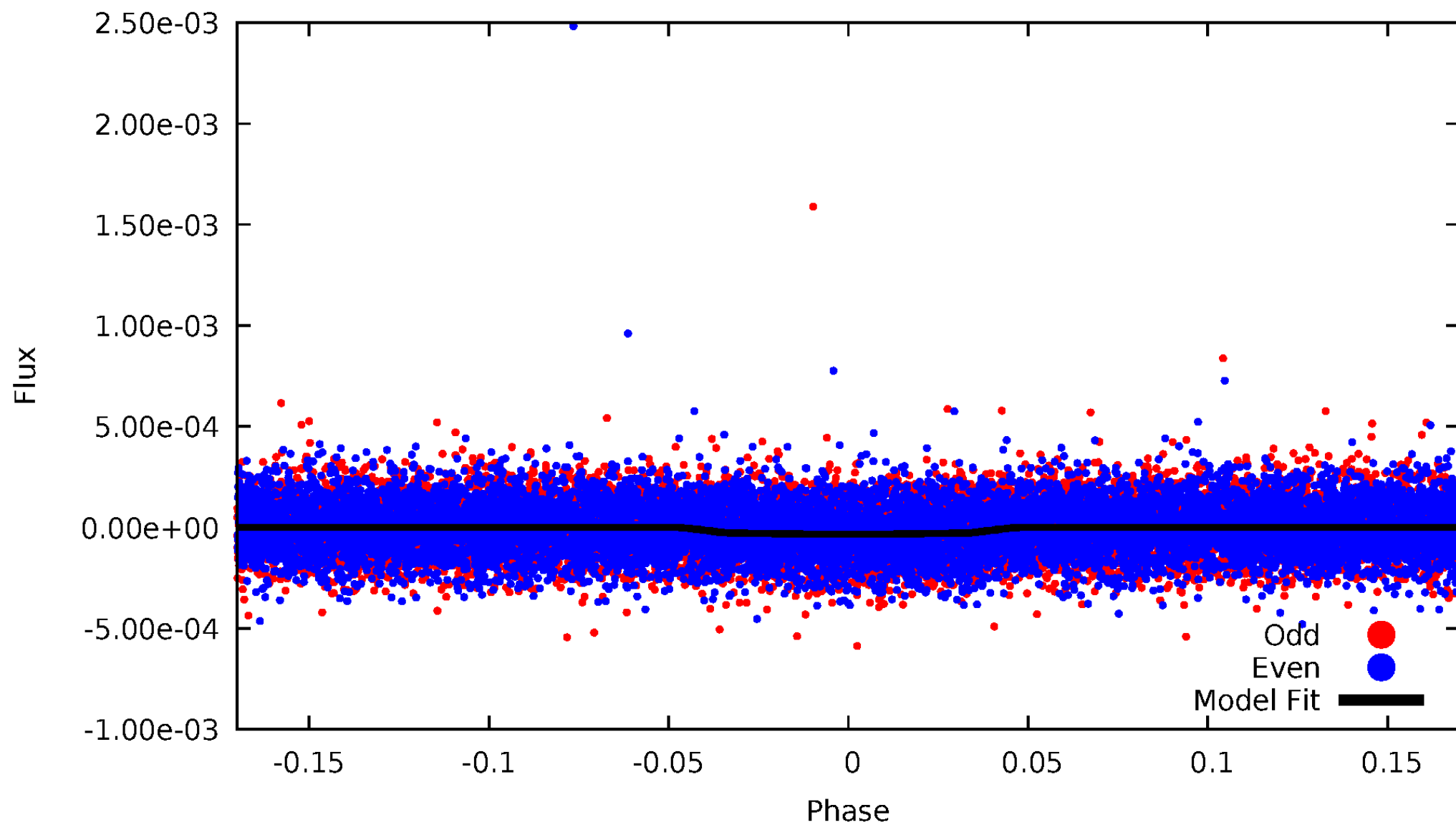


TCE 010801249-01



# DV Odd/Even

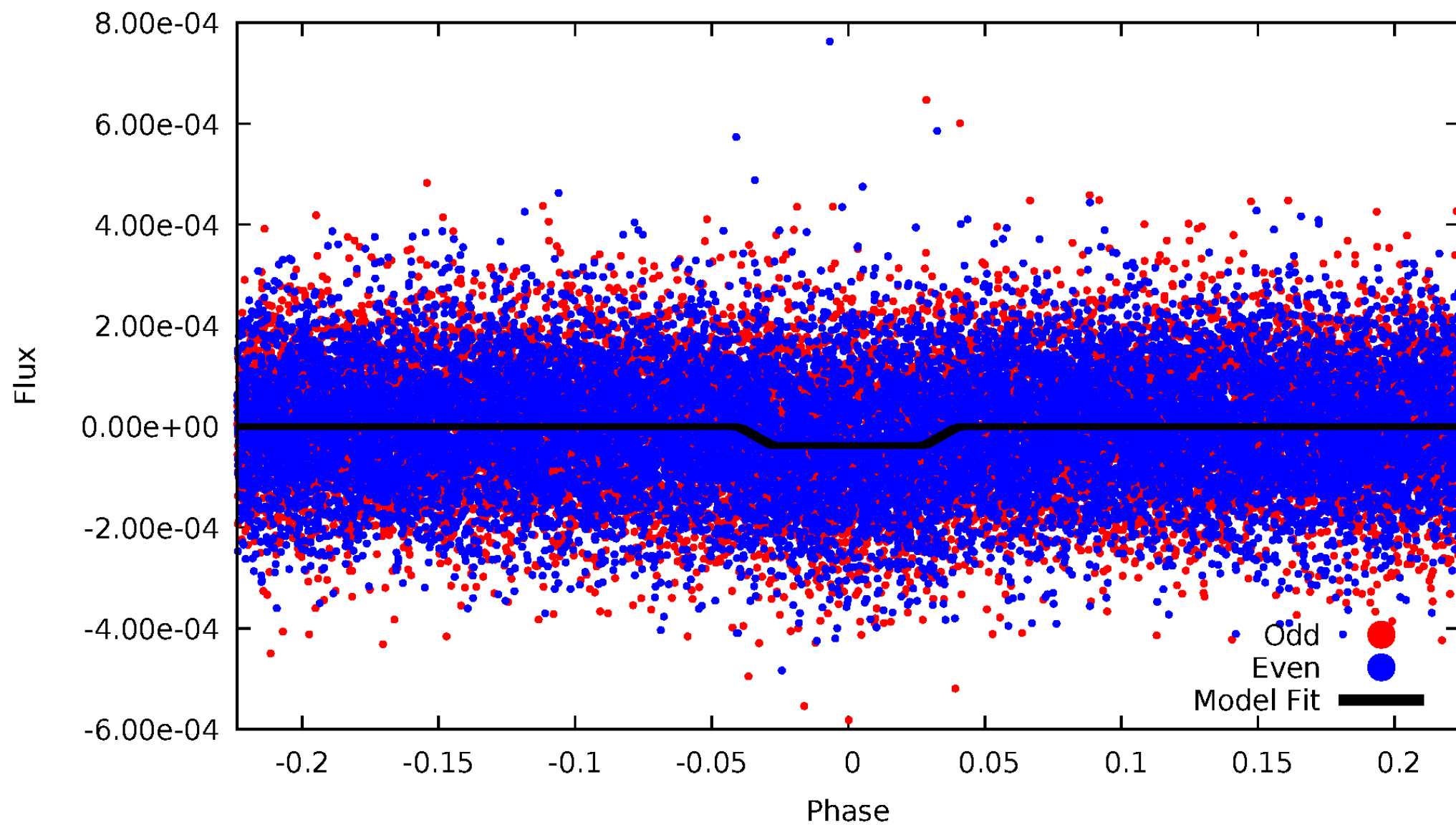
TCE 010801249-01





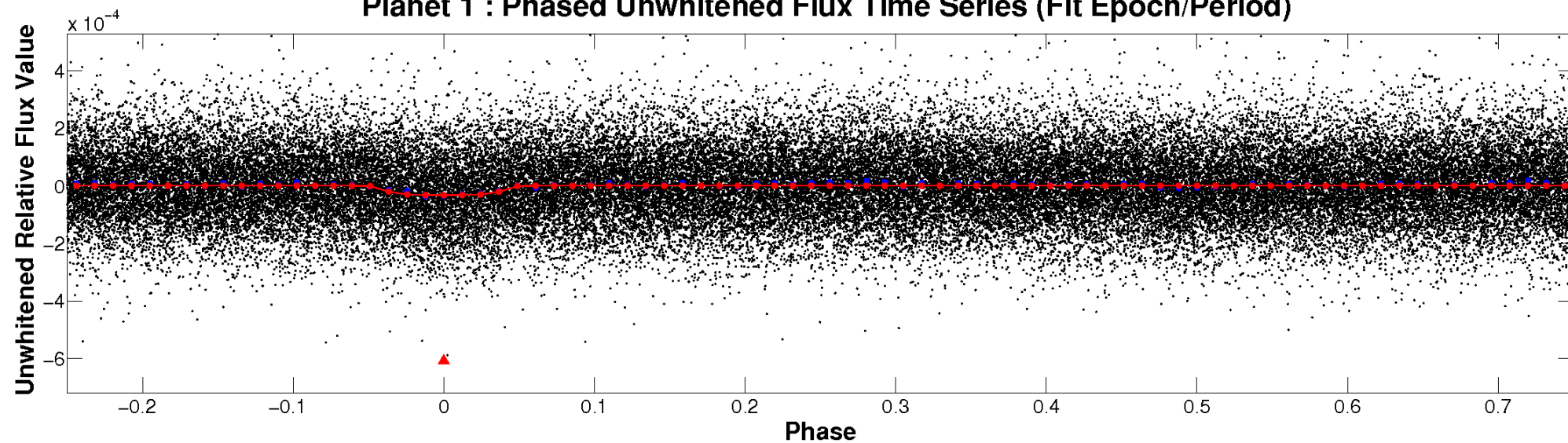
# ALT Odd/Even

TCE 010801249-01

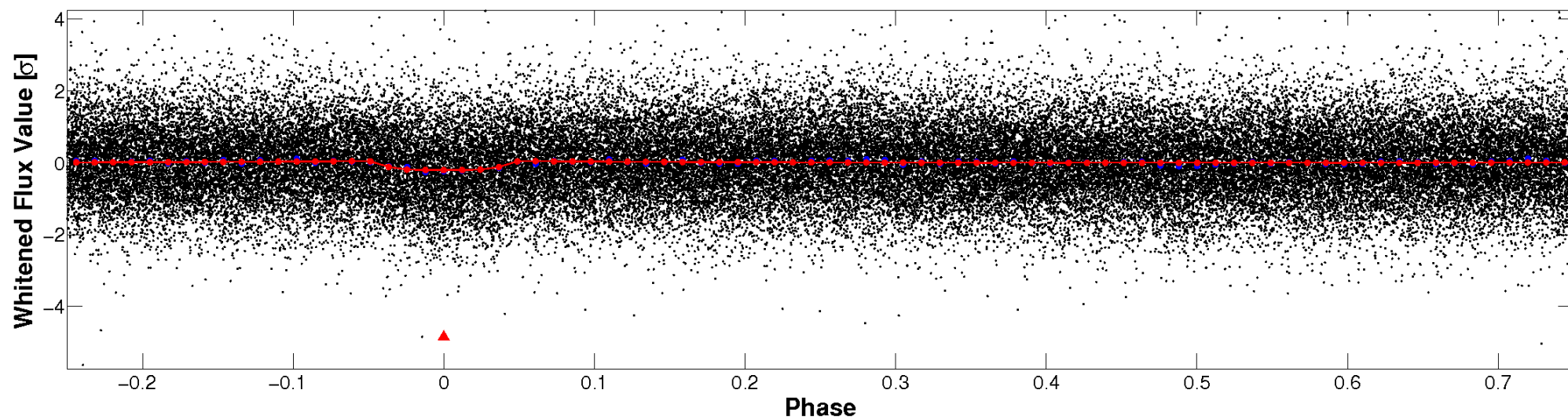


# Non-Whitened Vs. Whitened Light Curve

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

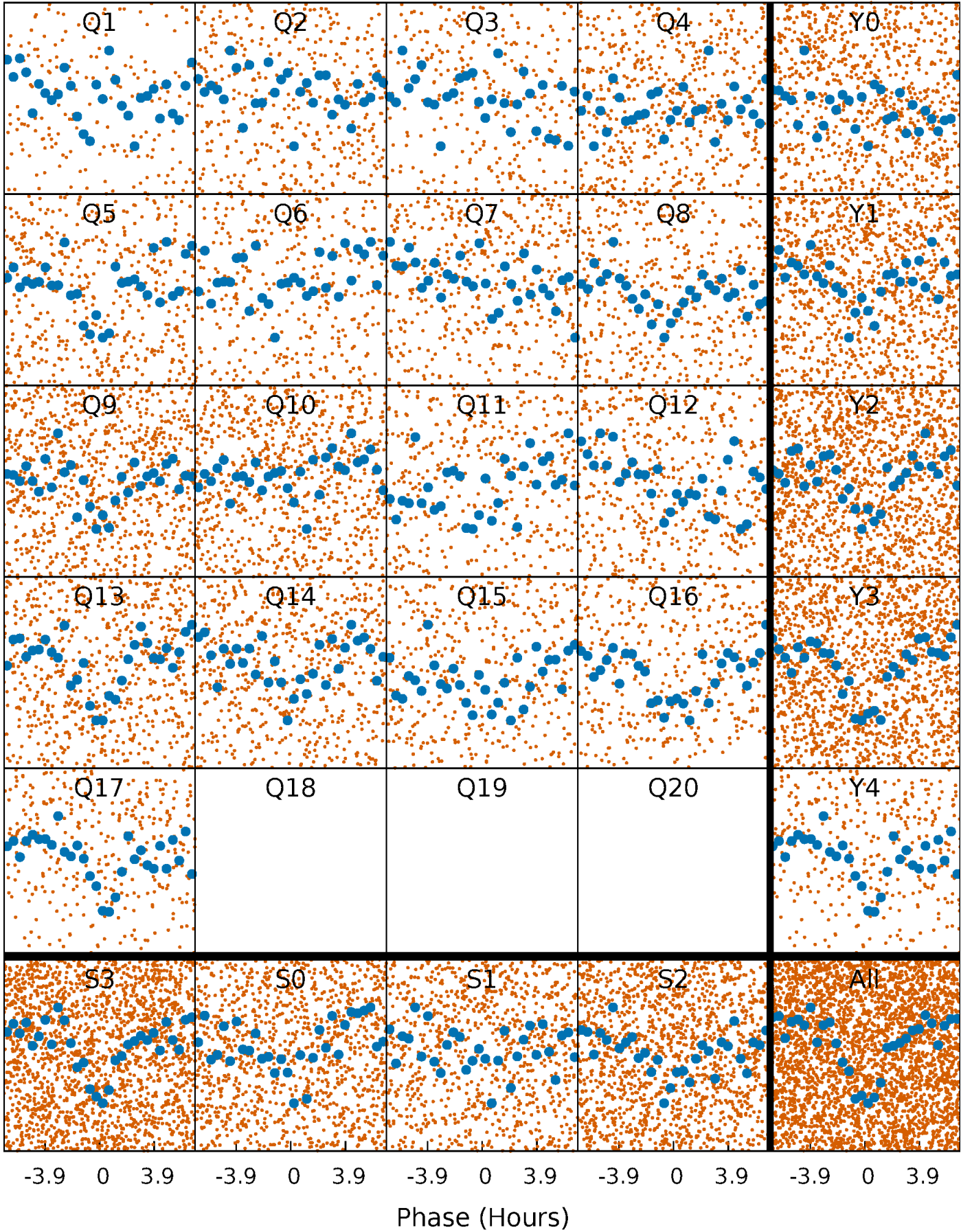


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

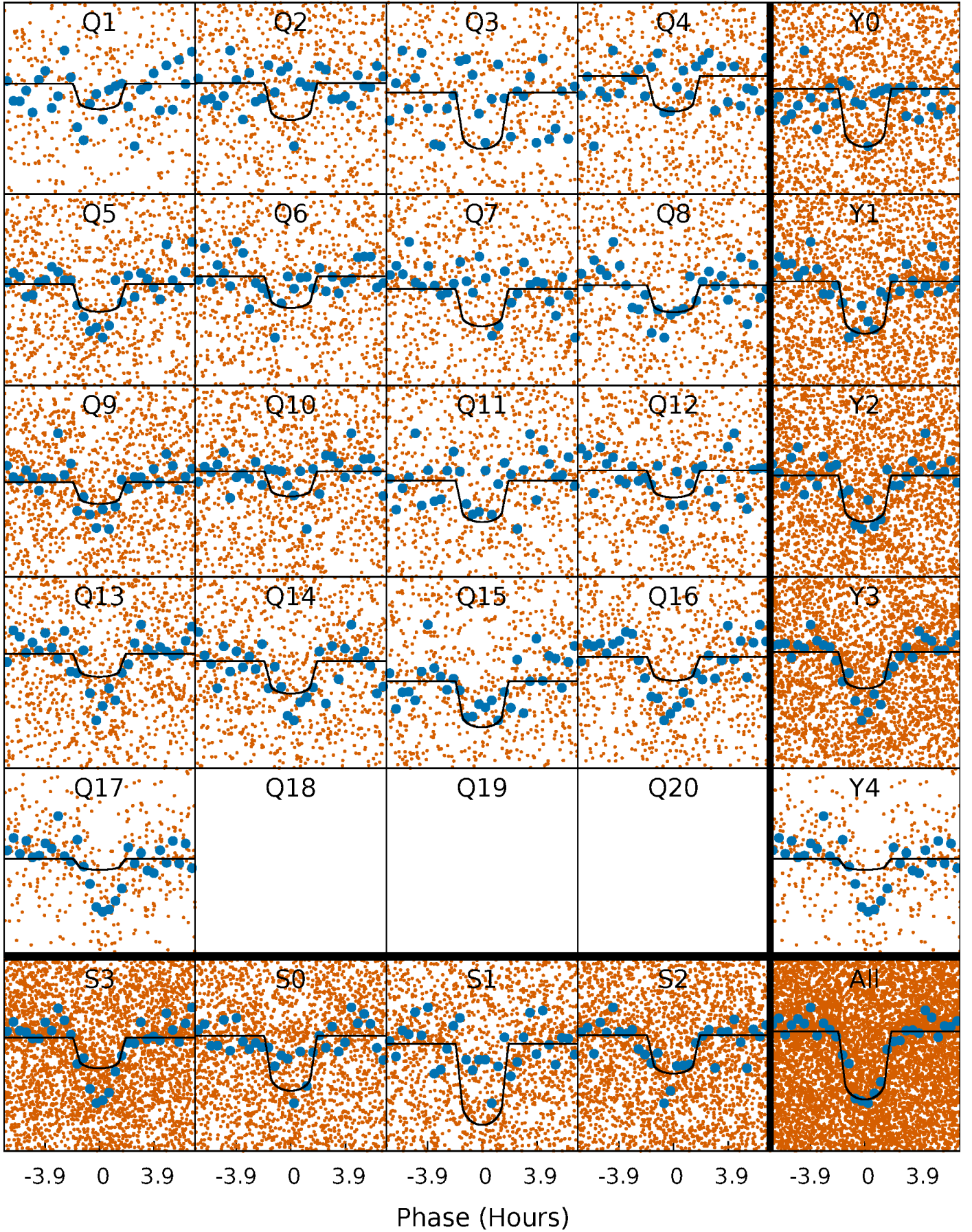
TCE 010801249-01     $P = 1.674951$  Days     $T_0 = 131.806590$  (BKJD)





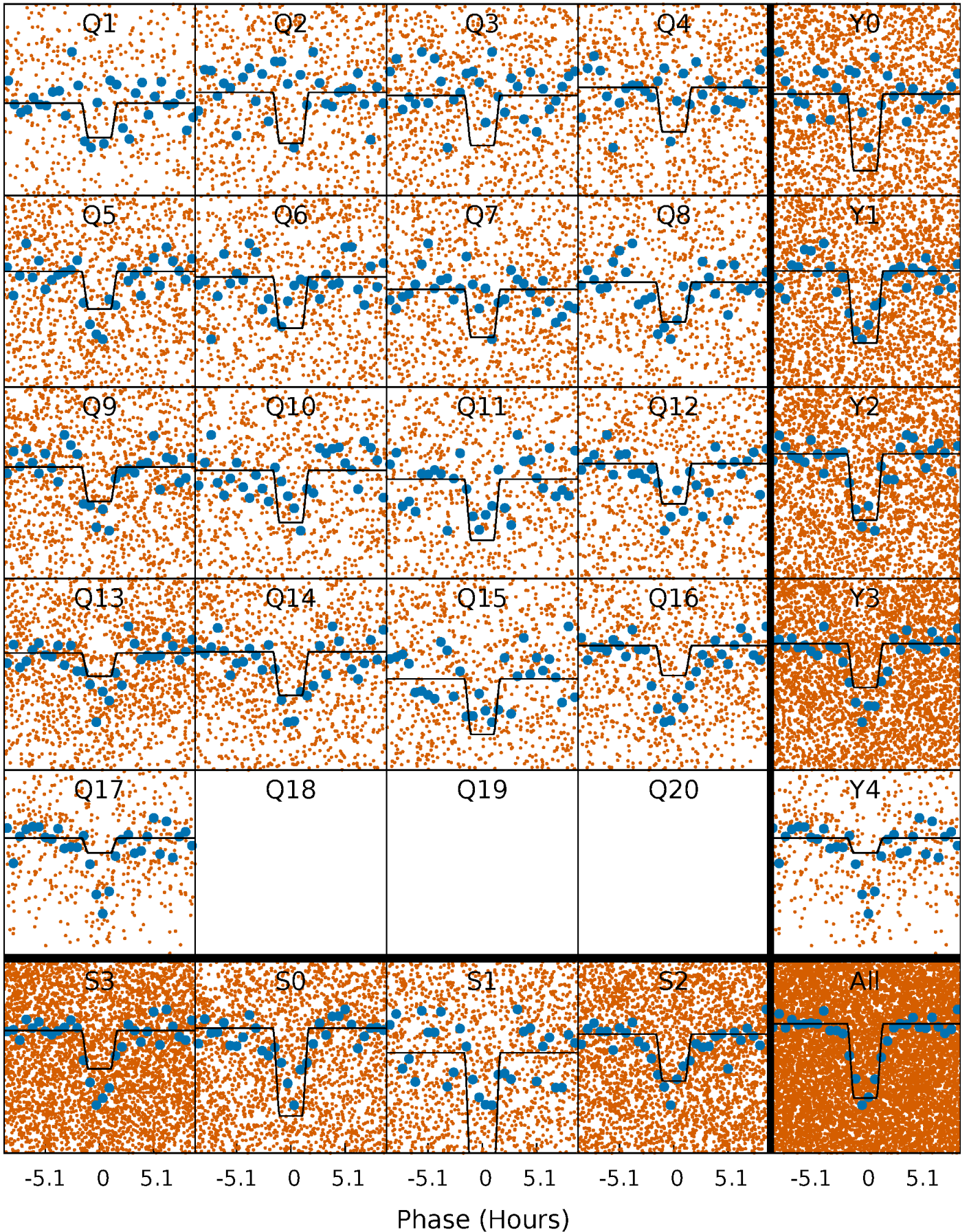
# DV Quarter-Phased Transit Curves

TCE 010801249-01   P= 1.674951 Days    $T_0=131.806590$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 010801249-01 P= 1.674966 Days  $T_0=131.801206$  (BKJD)

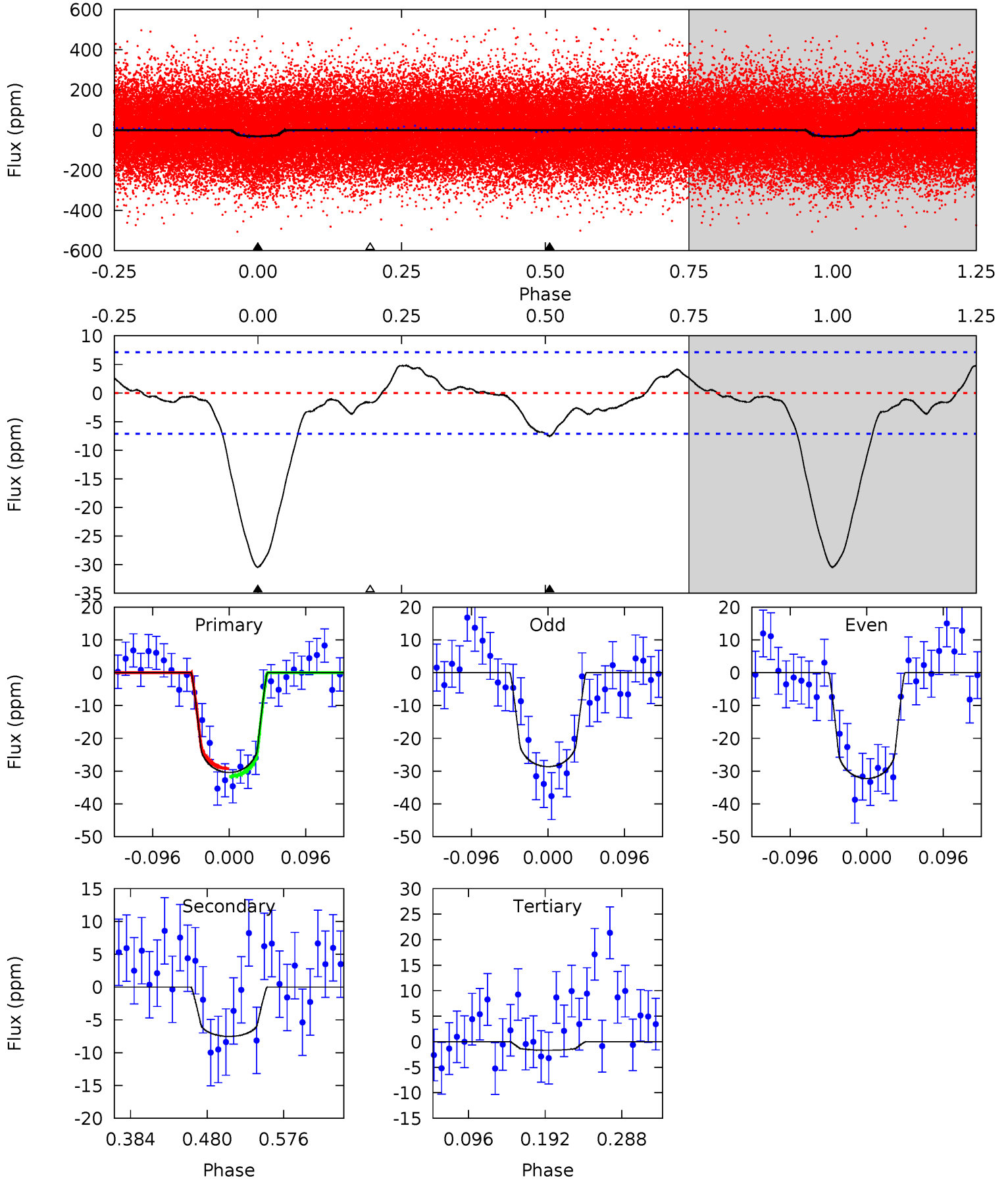




# DV Model-Shift Uniqueness Test

010801249-01, P = 1.674951 Days, E = 130.131639 Days

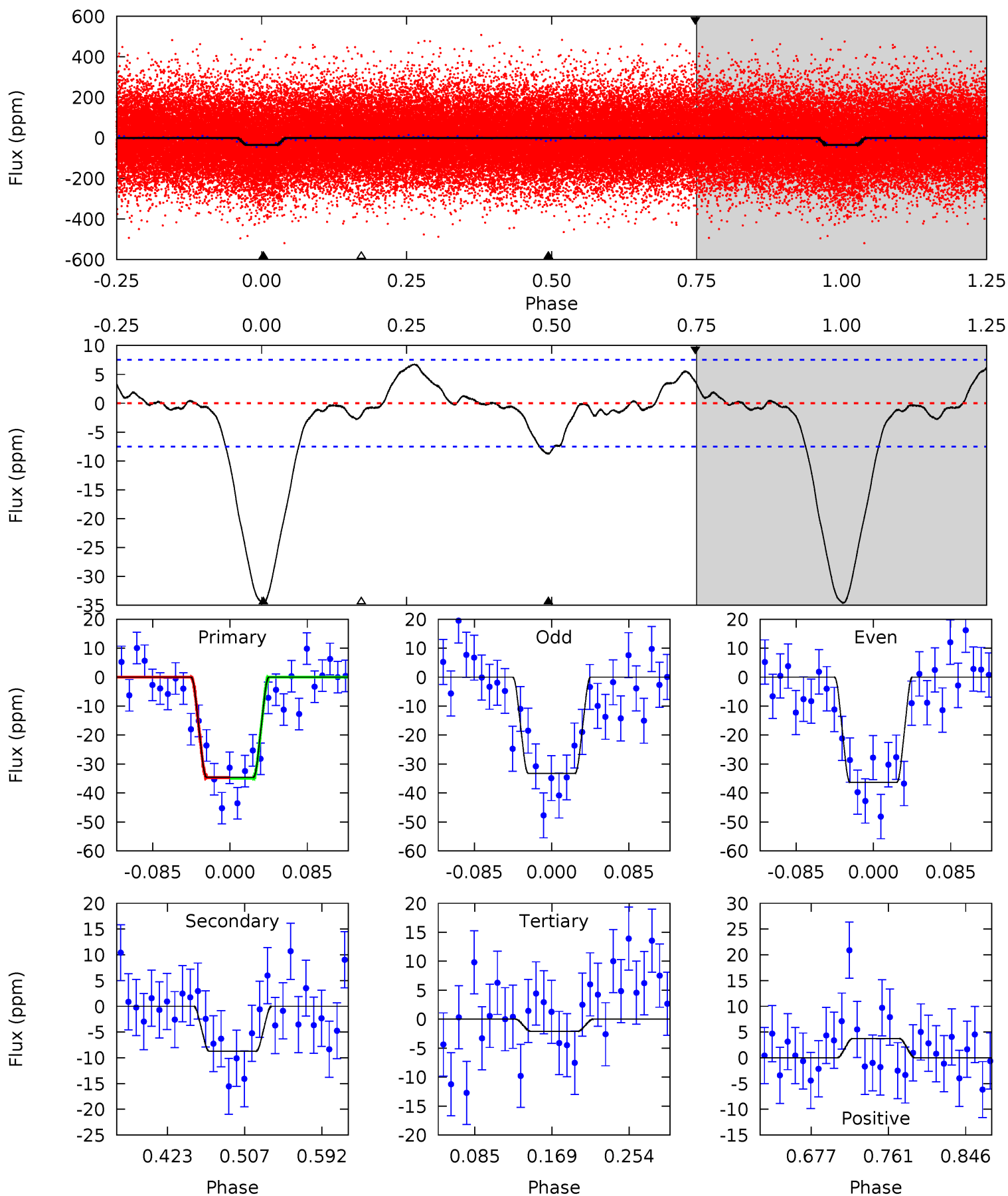
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.5	4.83	1.07	0	4.57	1.66	1.39	18.4	19.5	3.76	4.83	1.16	1.02	0.14	0.77



# Alt Model-Shift Uniqueness Test

010801249-01, P = 1.674966 Days, E = 130.126240 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
21.2	5.34	1.29	2.28	4.60	1.72	1.41	19.9	18.9	4.06	3.06	0.95	1.01	0.16	0.06





### Stellar Parameters For KIC 010801249

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6323^{+158}_{-205}$	$4.296^{+0.113}_{-0.137}$	$-0.040^{+0.250}_{-0.300}$	$1.263^{+0.284}_{-0.190}$	$1.150^{+0.152}_{-0.152}$	$0.803^{+0.427}_{-0.327}$
	+2%/-3%	+3%/-3%	+625%/-750%	+22%/-15%	+13%/-13%	+53%/-41%
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 010801249-01 / KOI 4611.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-8 \pm 2$	$0.85^{+0.29}_{-0.25}$	$2575^{+150}_{-135}$	$4345^{+700}_{-465}$	$4.801^{+4.831}_{-2.255}$
Alt.	$-9 \pm 2$	$0.85^{+0.27}_{-0.29}$	$2584^{+144}_{-142}$	$4527^{+809}_{-503}$	$5.593^{+6.782}_{-2.512}$

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

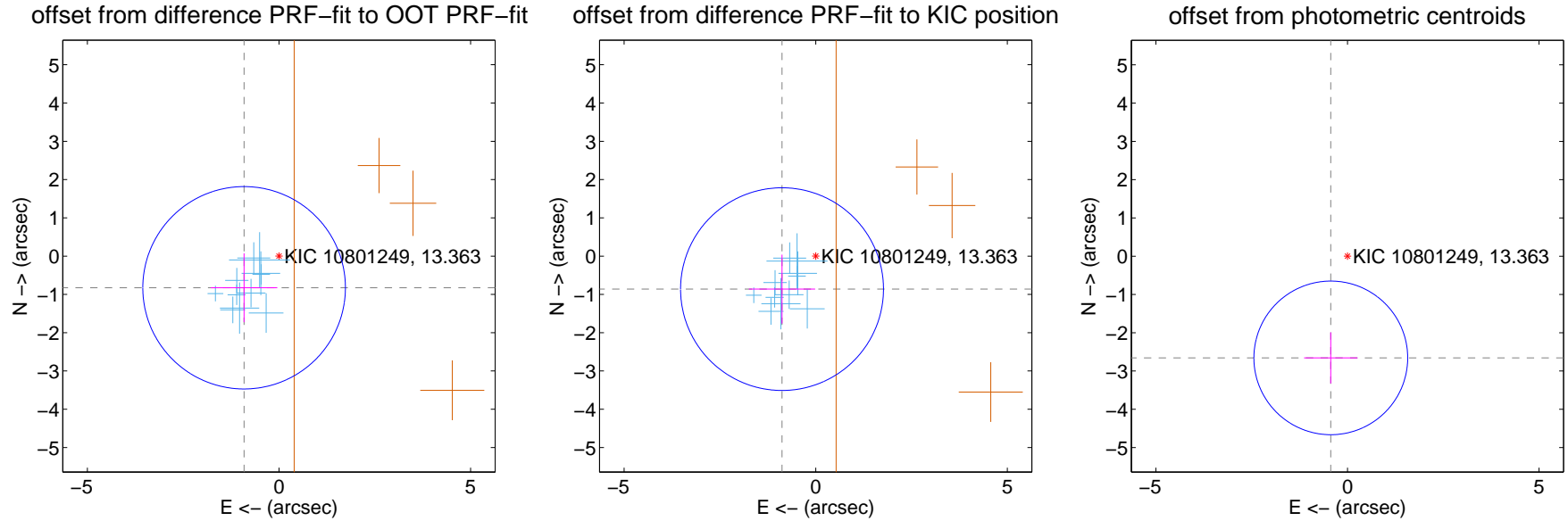
## DV Centroid Data

Supplemental centroid analysis for 010801249-01. Kepler magnitude: 13.36. Transit SNR 13.47

There are 11 quarters with good PRF difference image offsets

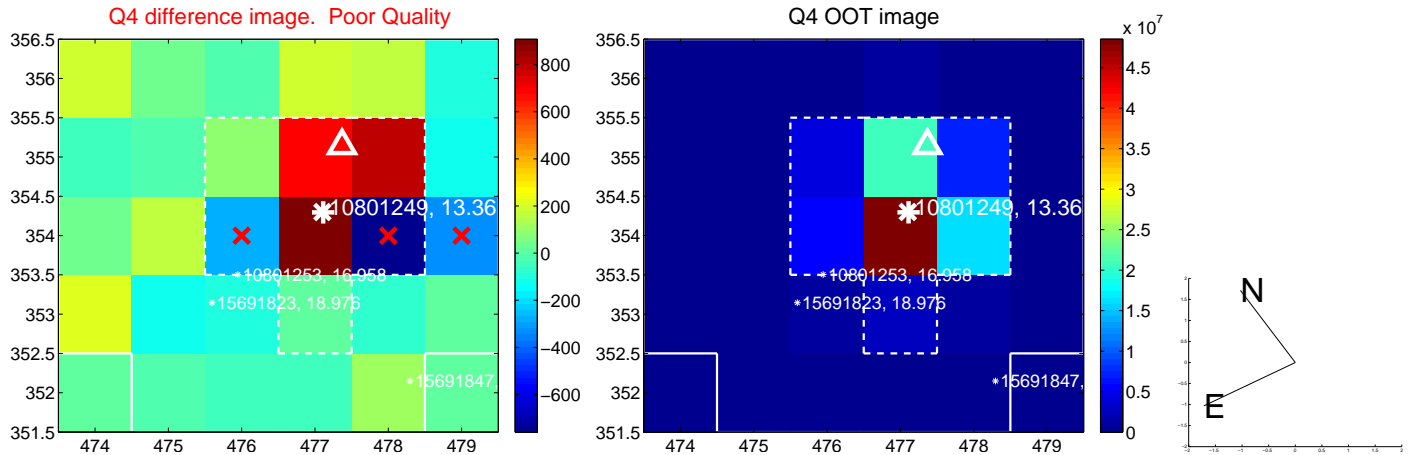
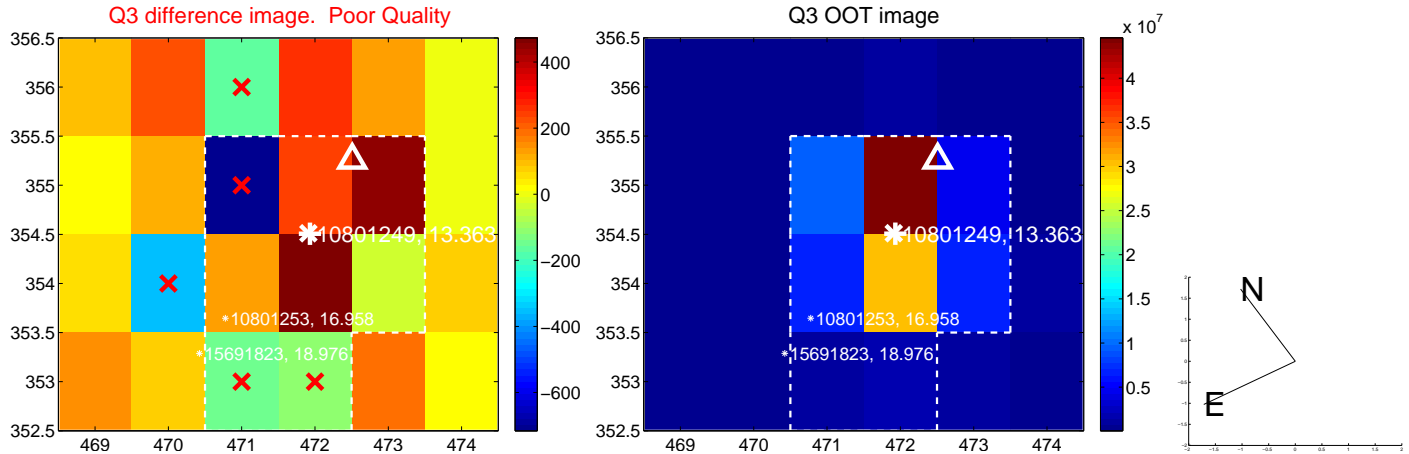
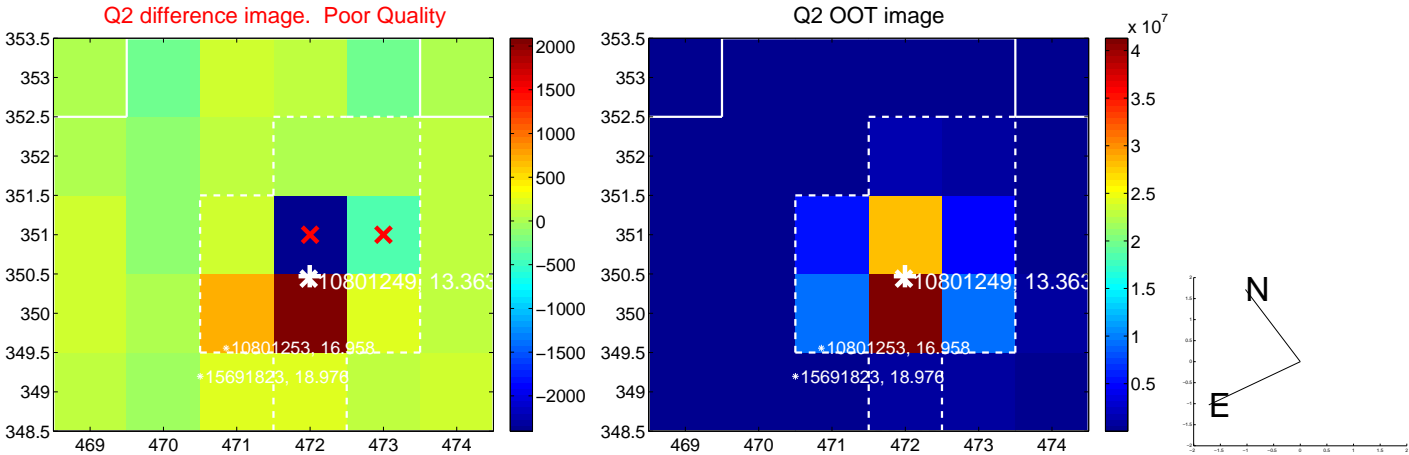
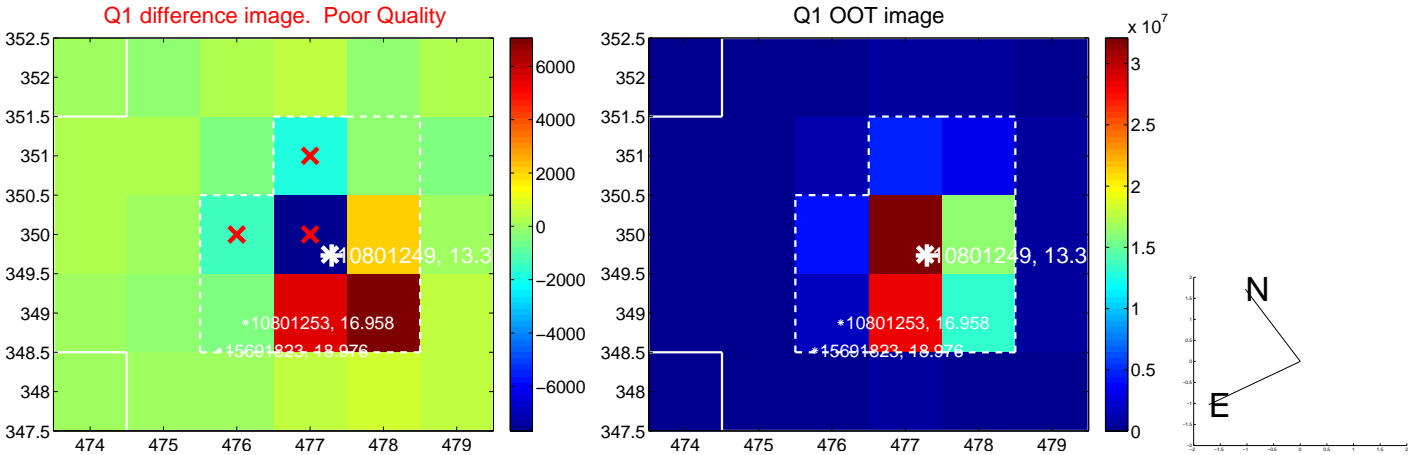
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.230 \pm 0.881$	1.40	$0.910 \pm 0.866$	$-0.827 \pm 0.900$
PRF-fit source offset from KIC position	$1.231 \pm 0.883$	1.40	$0.879 \pm 0.866$	$-0.862 \pm 0.900$
photometric centroid source offset	$2.69 \pm 0.67$	4.02	$0.44 \pm 0.70$	$-2.66 \pm 0.67$

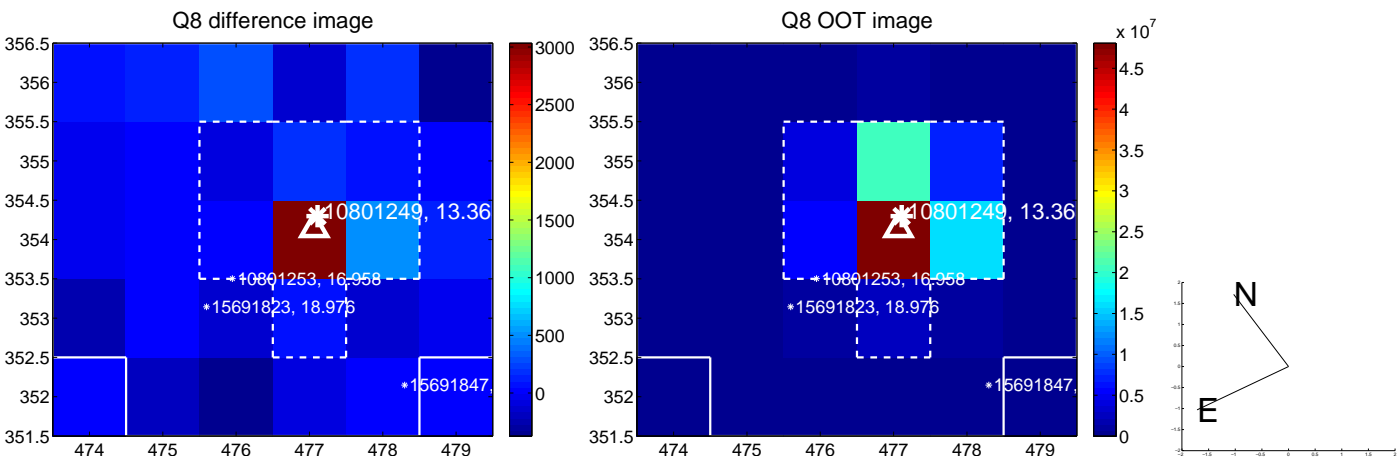
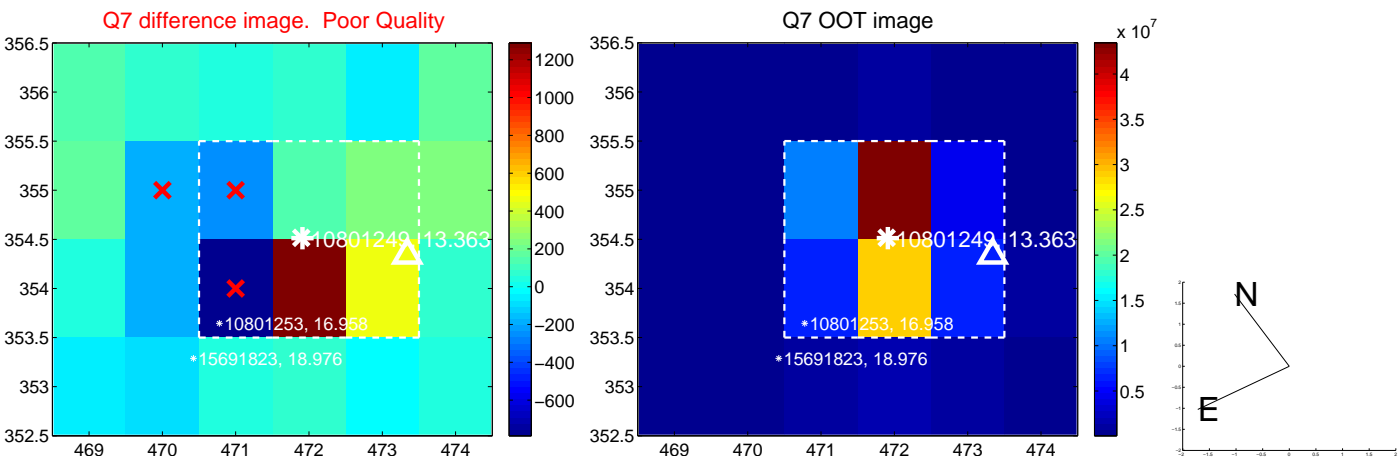
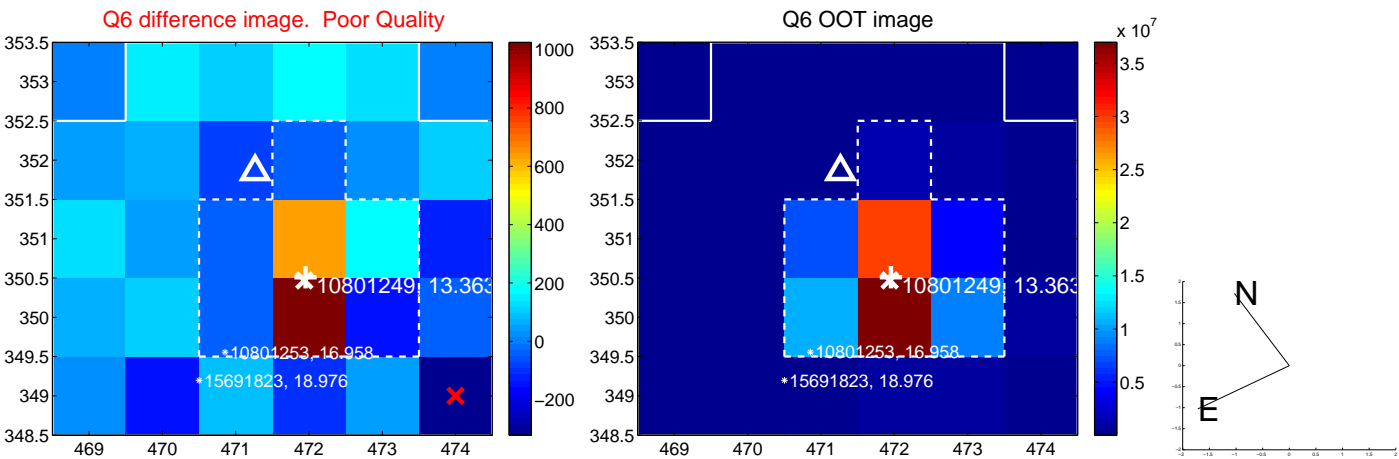
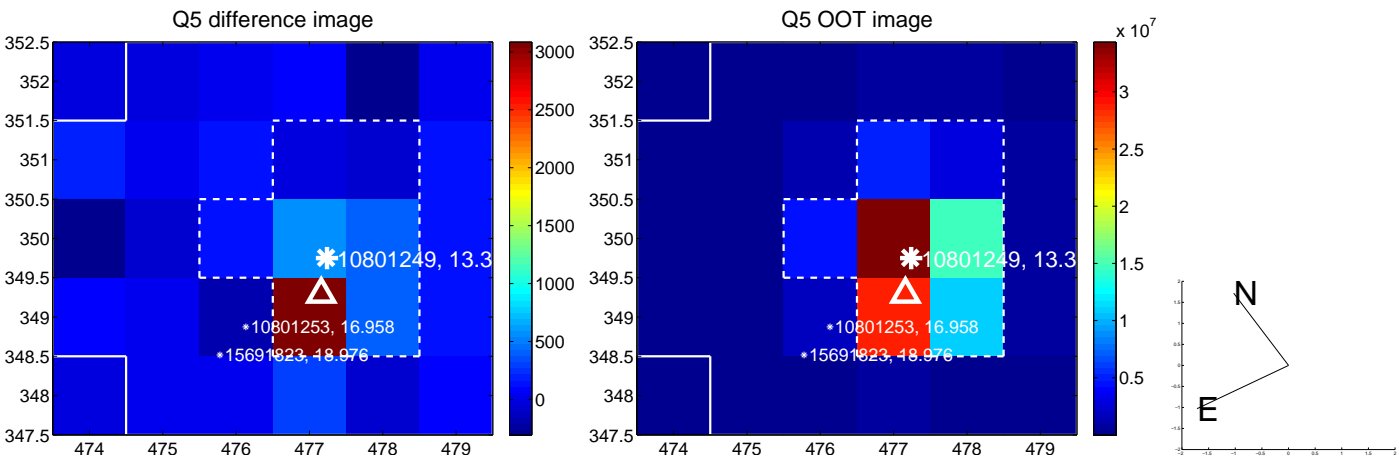


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

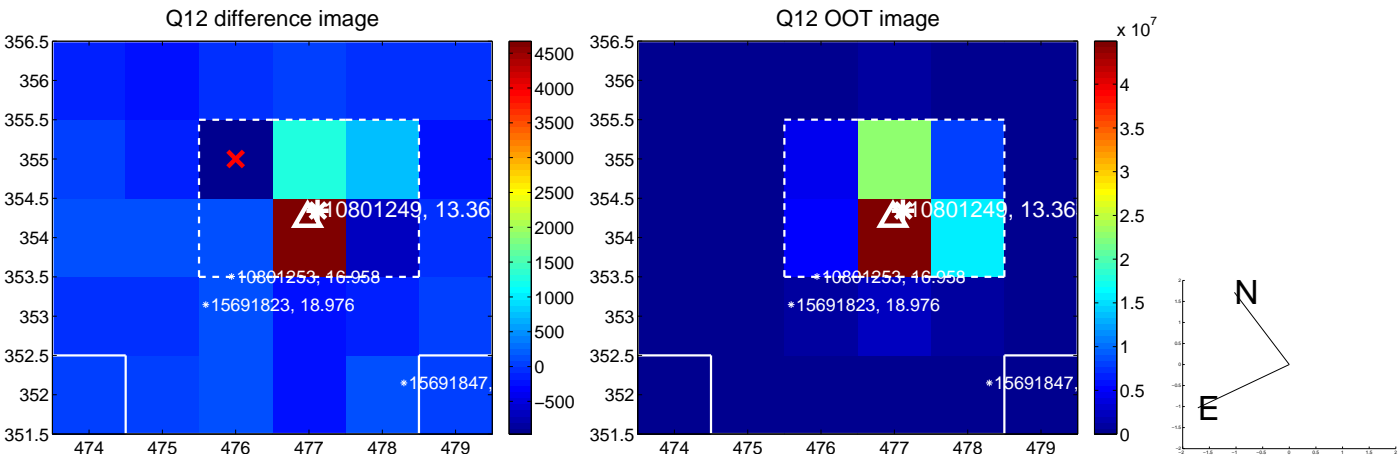
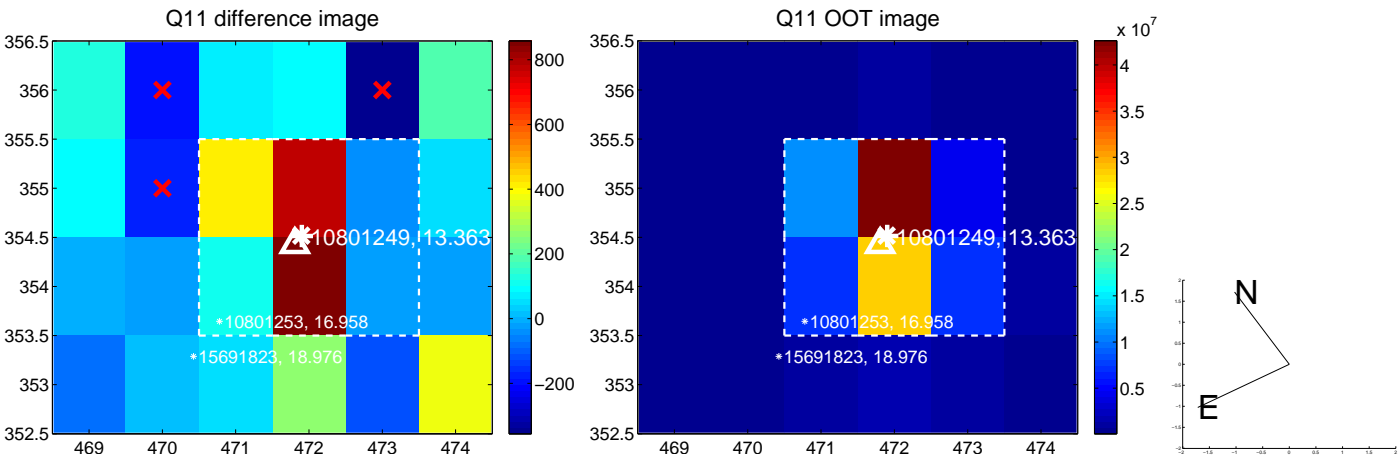
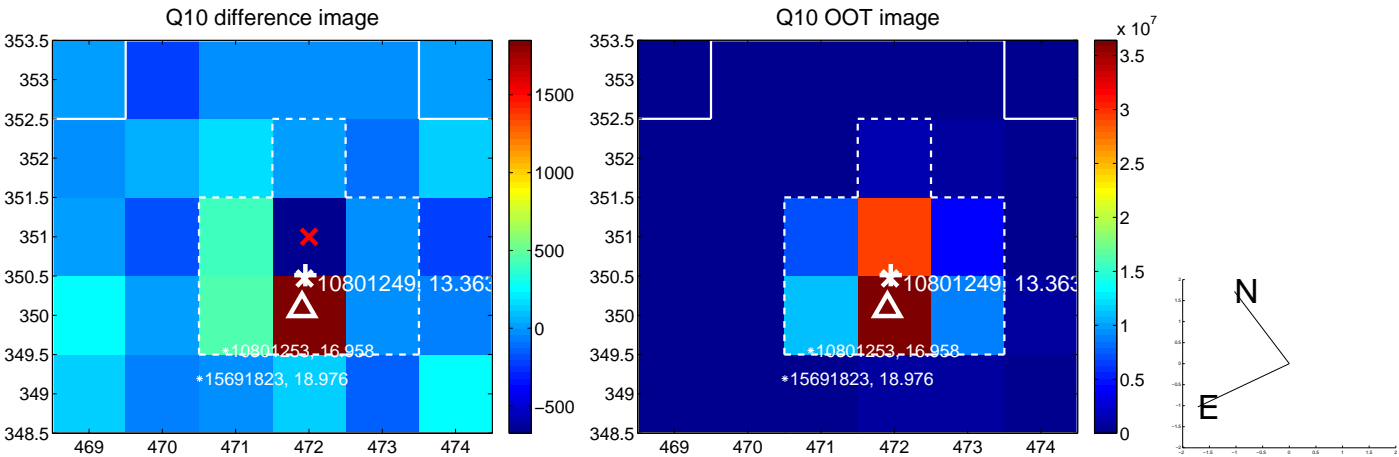
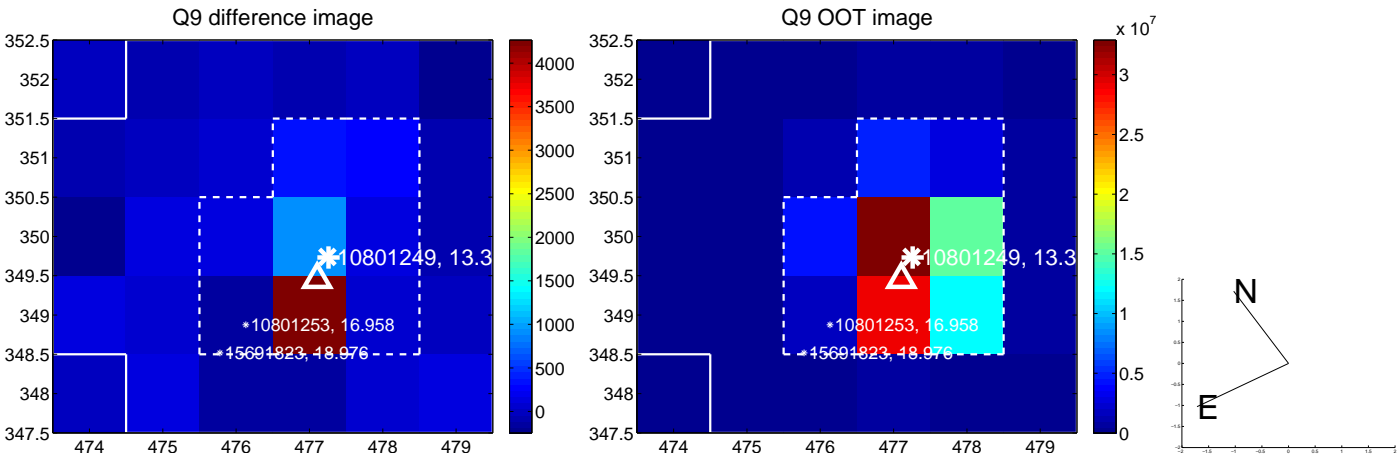


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

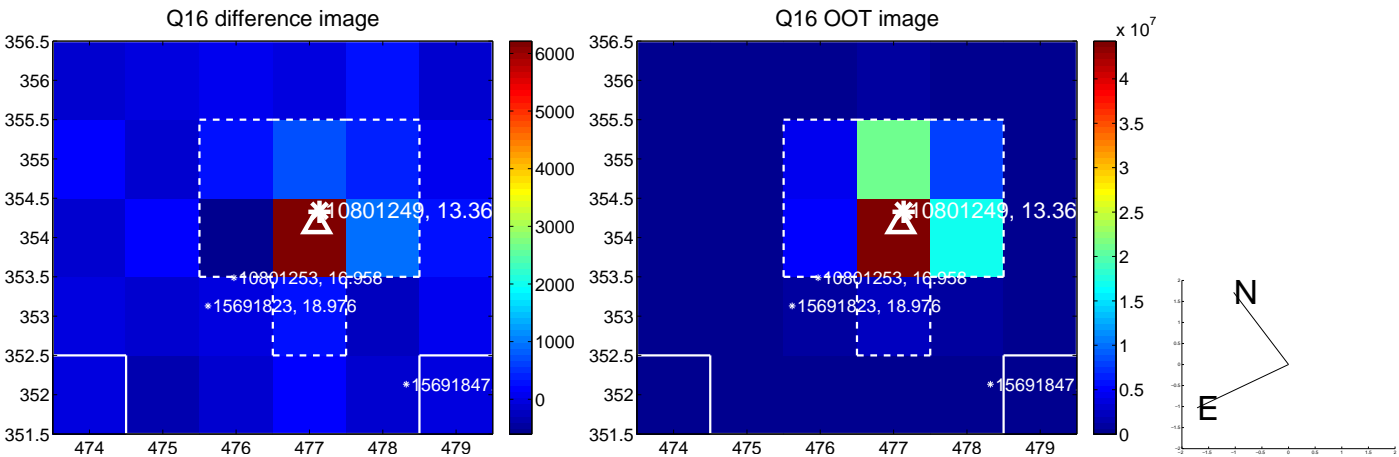
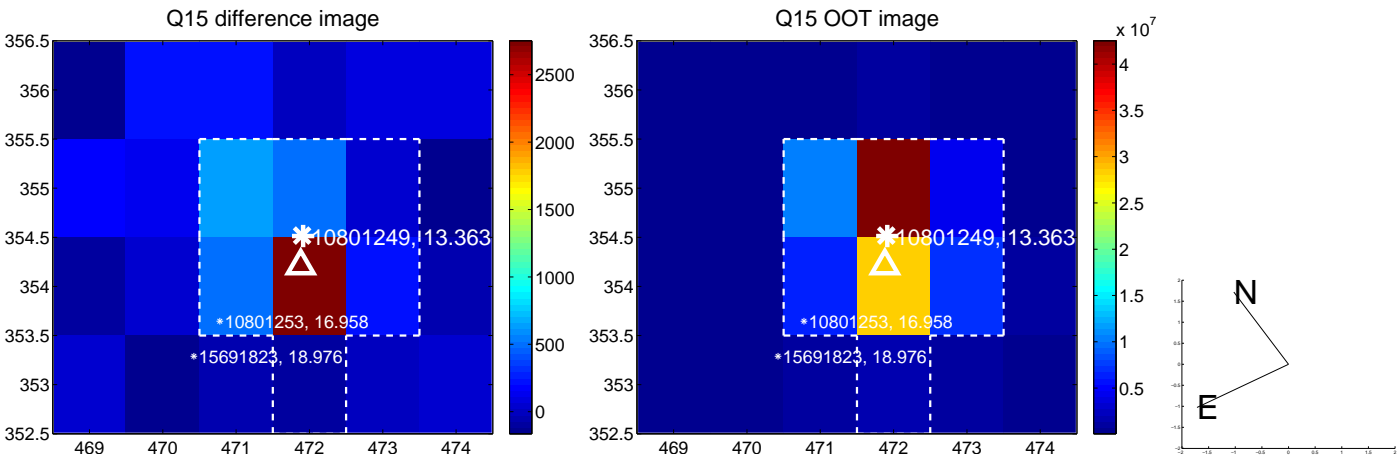
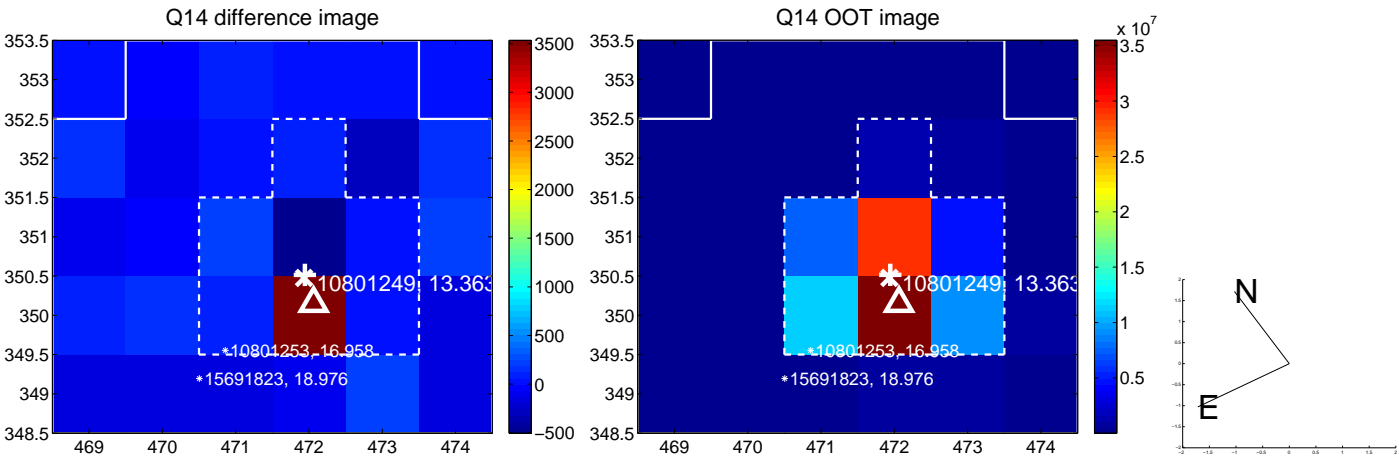
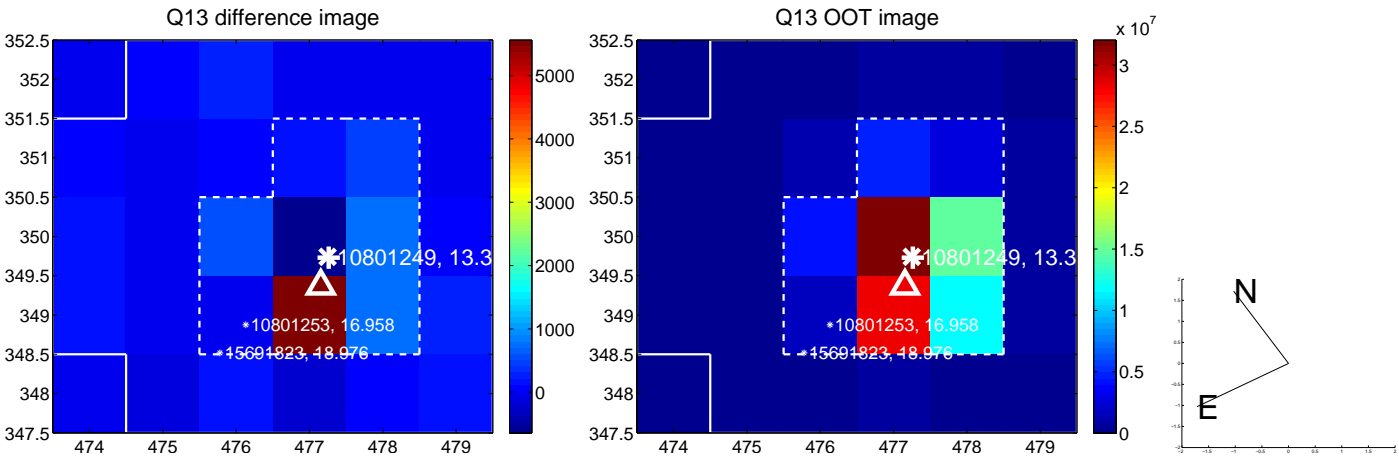




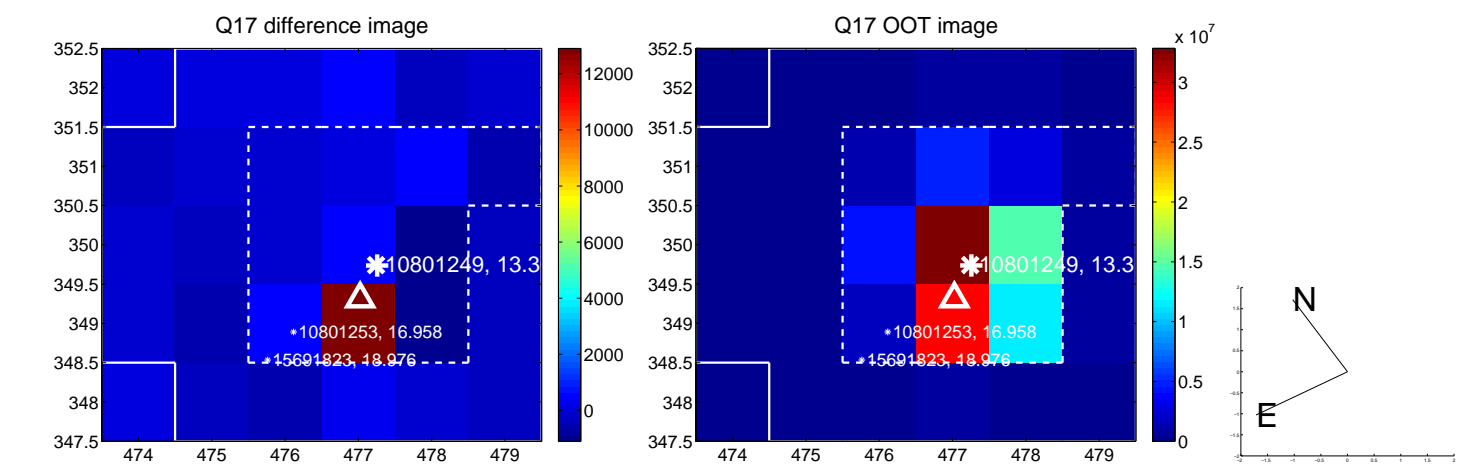
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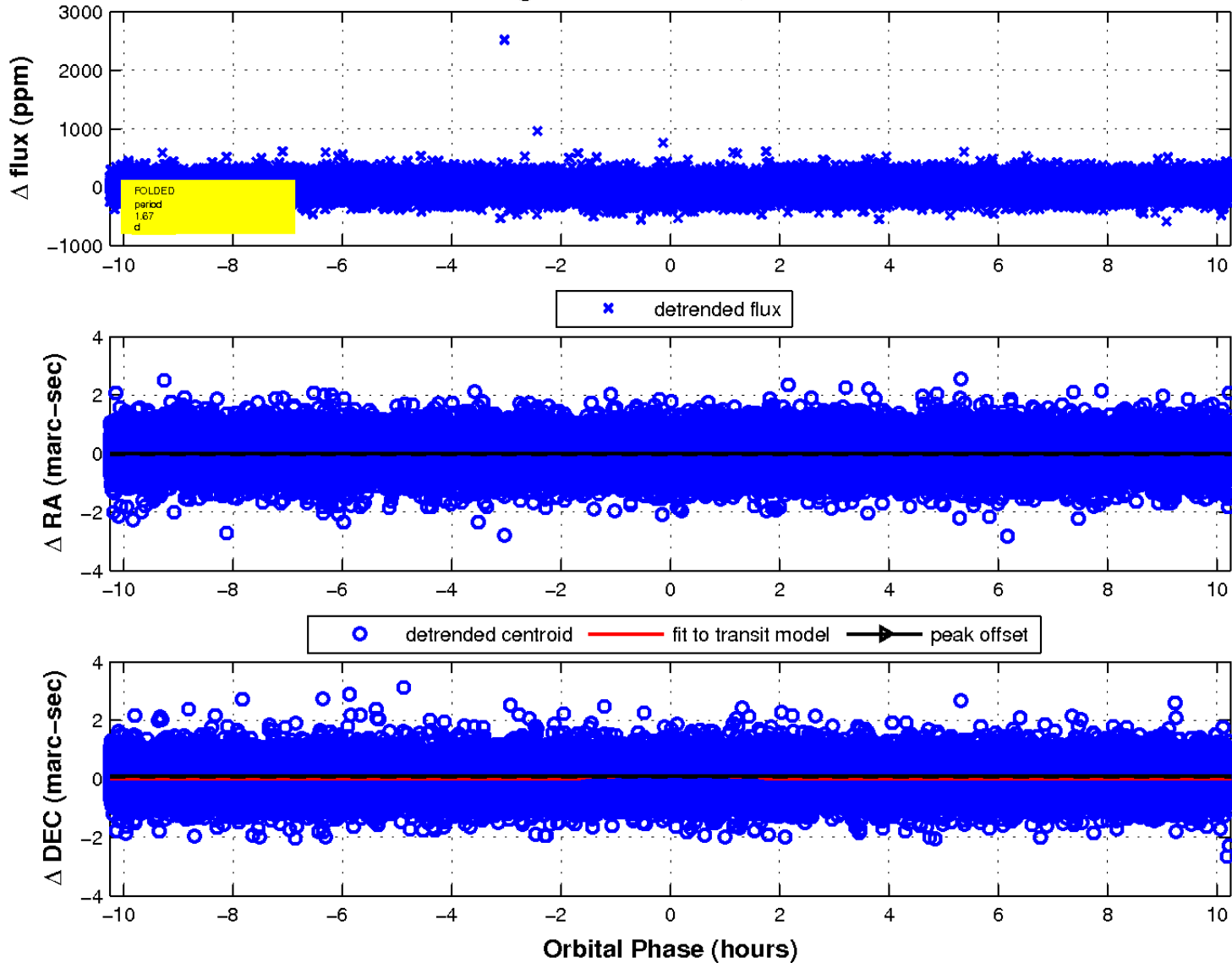
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

