

# KIC 009479273

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009479273-01	OBS	0940.01	6.104851	132.944216	2084.4	4.772	276.2	278.8	0.71	5085	3.35	89.29

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009479273-01	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.

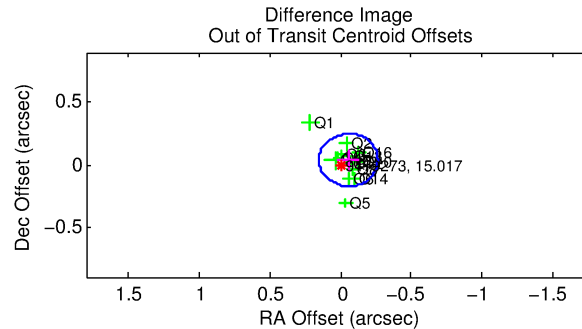
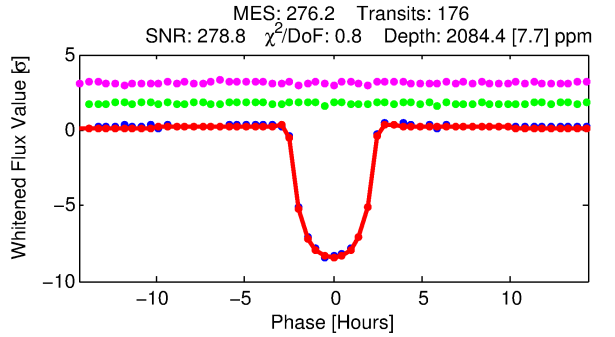
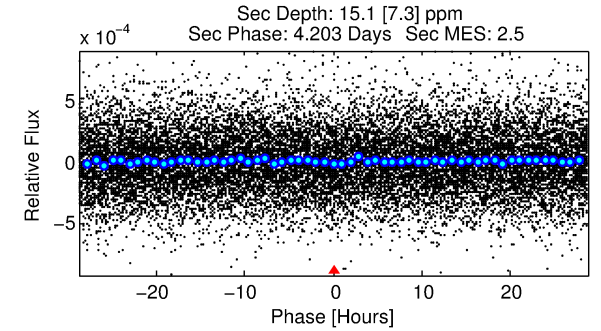
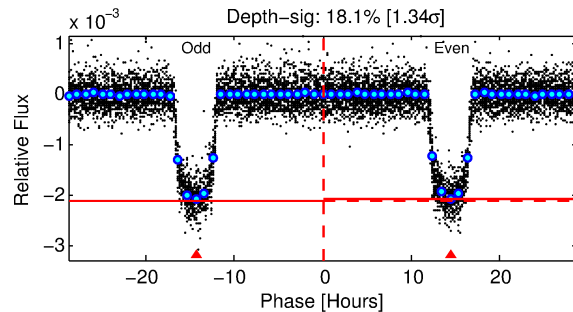
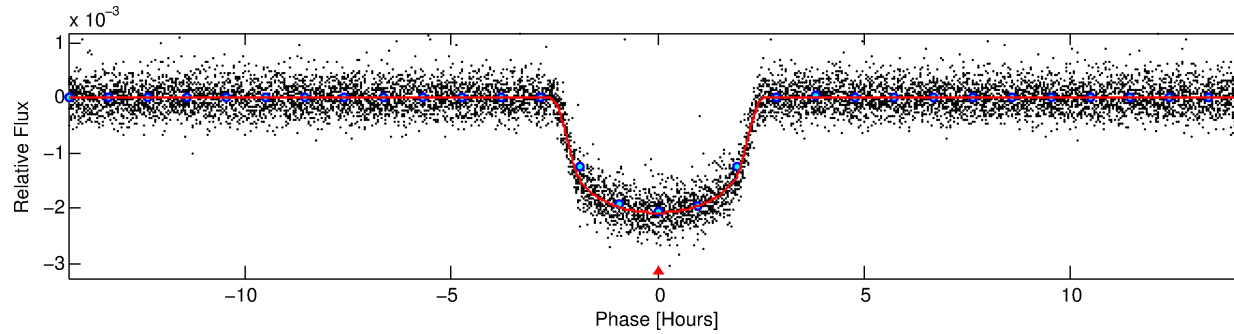
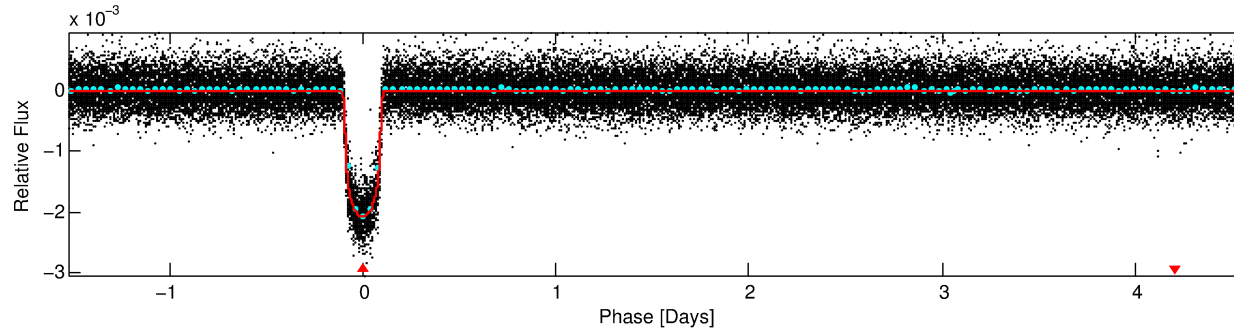
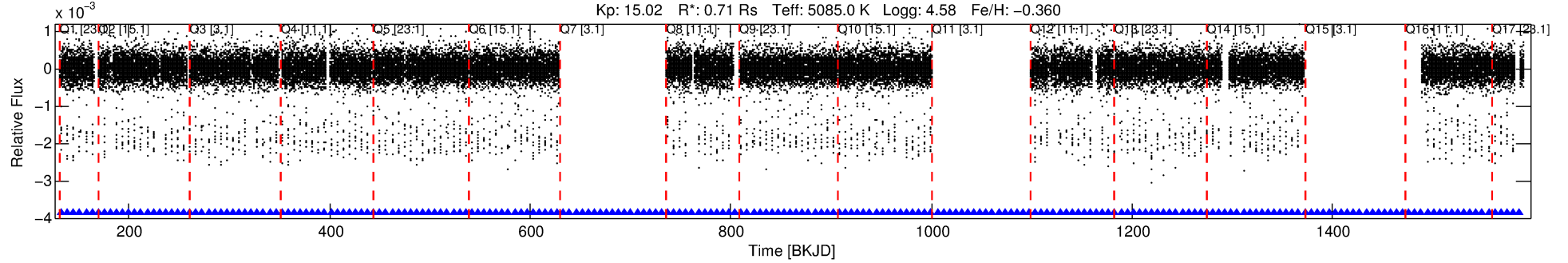
## Ephemeris Match Information For 009479273-01

No Significant Match Found

# DV One-Page Summary

KIC: 9479273 Candidate: 1 of 1 Period: 6.105 d  
KOI: K00940.01 Corr: 0.990

Kp: 15.02 R\*: 0.71 Rs Teff: 5085.0 K Logg: 4.58 Fe/H: -0.360



## DV Fit Results:

Period = 6.10485 [0.00000] d  
Epoch = 132.9442 [0.0003] BKJD  
Rp/R\* = 0.0431 [0.0016]  
a/R\* = 8.51 [1.10]  
b = 0.58 [0.15]  
Seff = 89.29 [10.34]  
Teq = 784 [23] K  
Rp = 3.35 [0.23] Re  
a = 0.0583 [0.0031] AU  
Ag = 2.52 [1.26] [1.21σ]  
Teffp = 1527 [190] K [3.88σ]

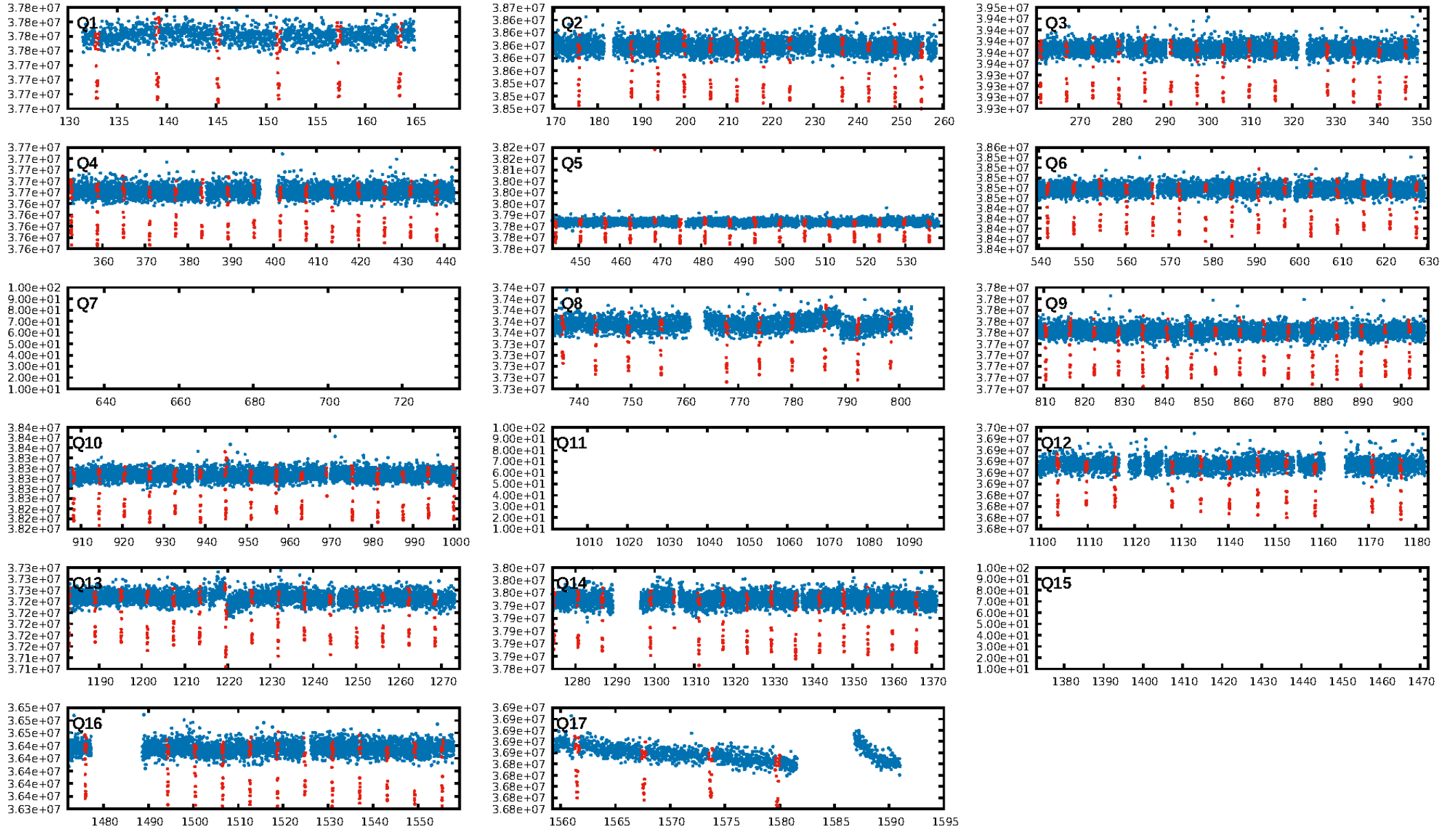
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 72.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [166/166]  
GhostDiagnostic-chr: 7.332  
Centroid-sig: 0.0%  
Centroid-so: 0.174 arcsec [3.51σ]  
OotOffset-rm: 0.067 arcsec [0.95σ]  
KicOffset-rm: 0.118 arcsec [1.54σ]  
OotOffset-st: 4/1/4/5 [14]  
KicOffset-st: 4/1/4/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

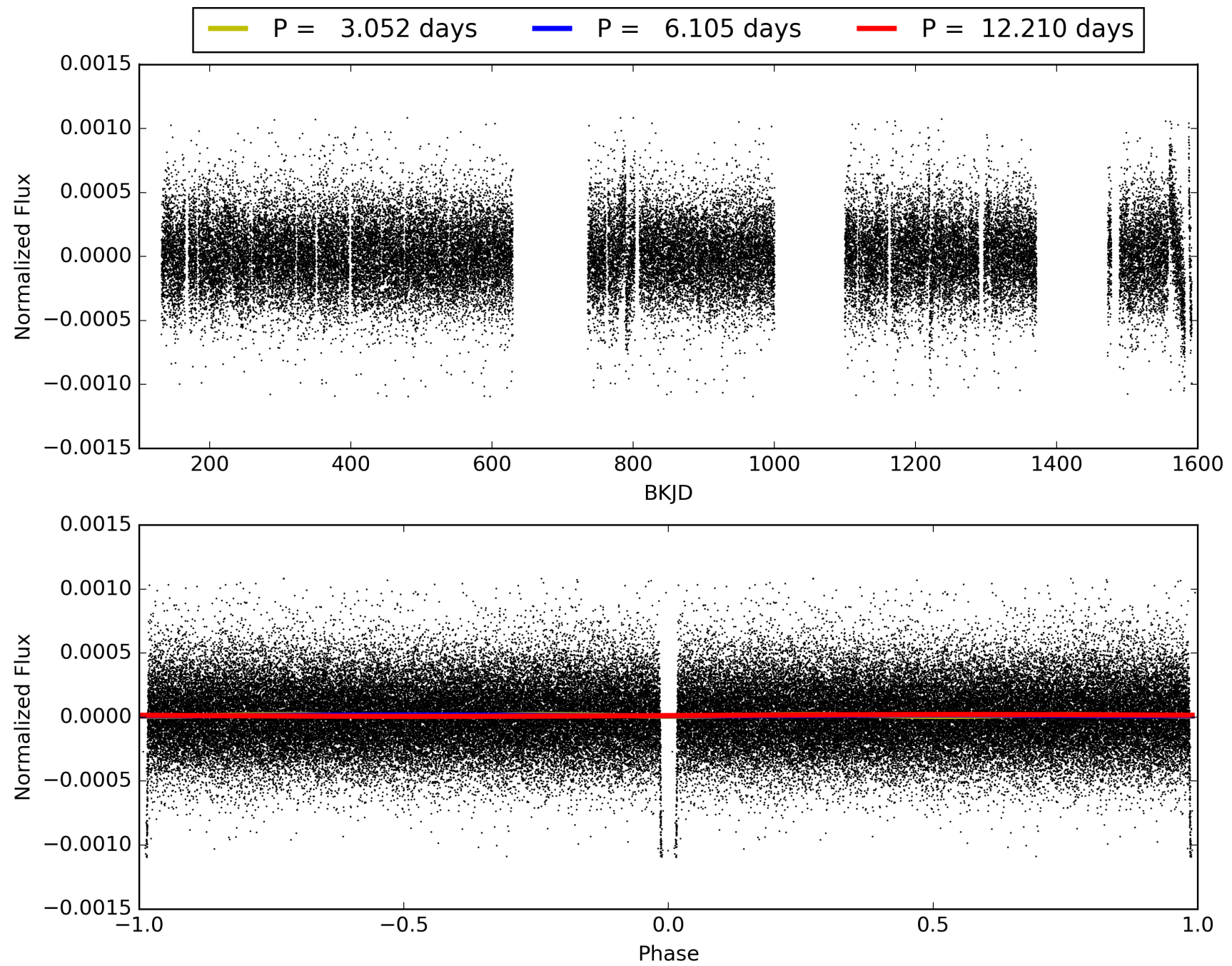
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:37:07 Z

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

# TCE 009479273-01, PDC Light Curves

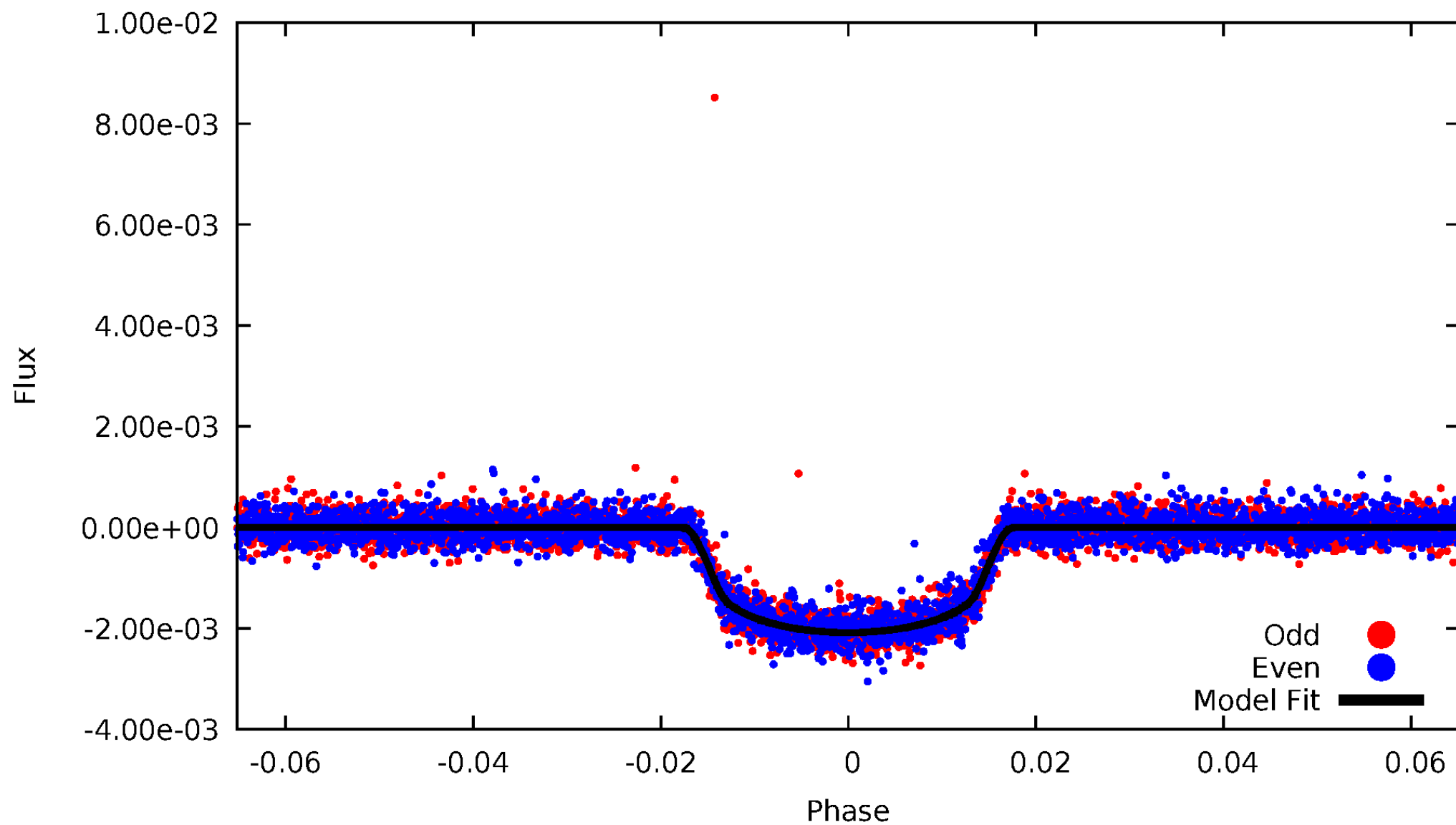


TCE 009479273-01



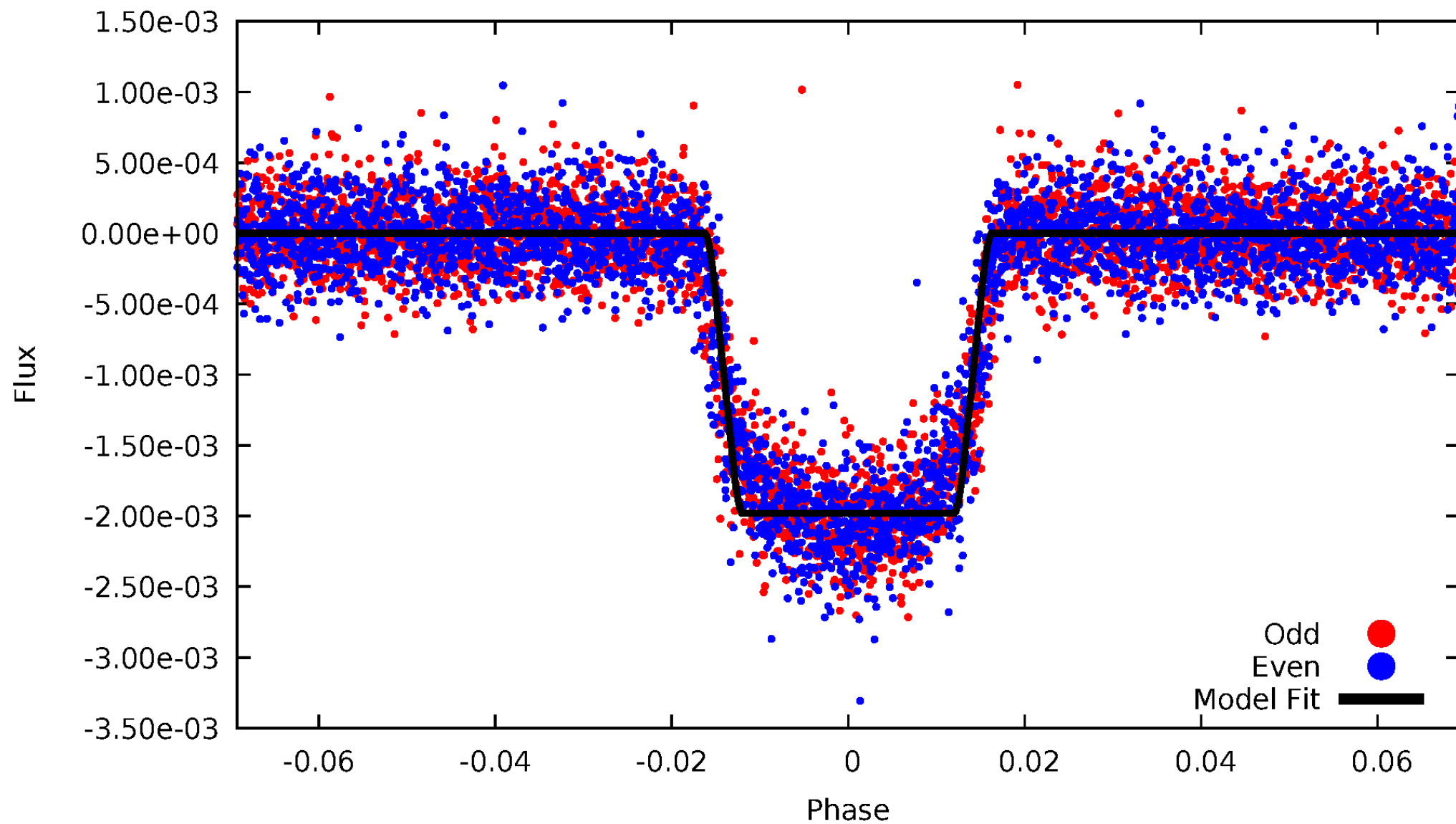
# DV Odd/Even

TCE 009479273-01



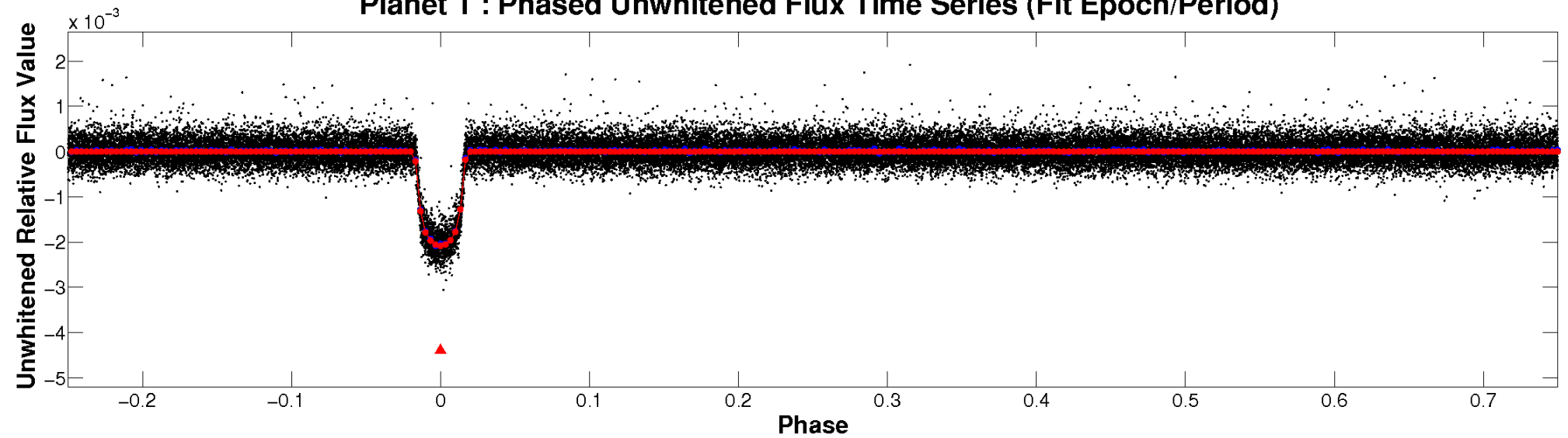
# ALT Odd/Even

TCE 009479273-01

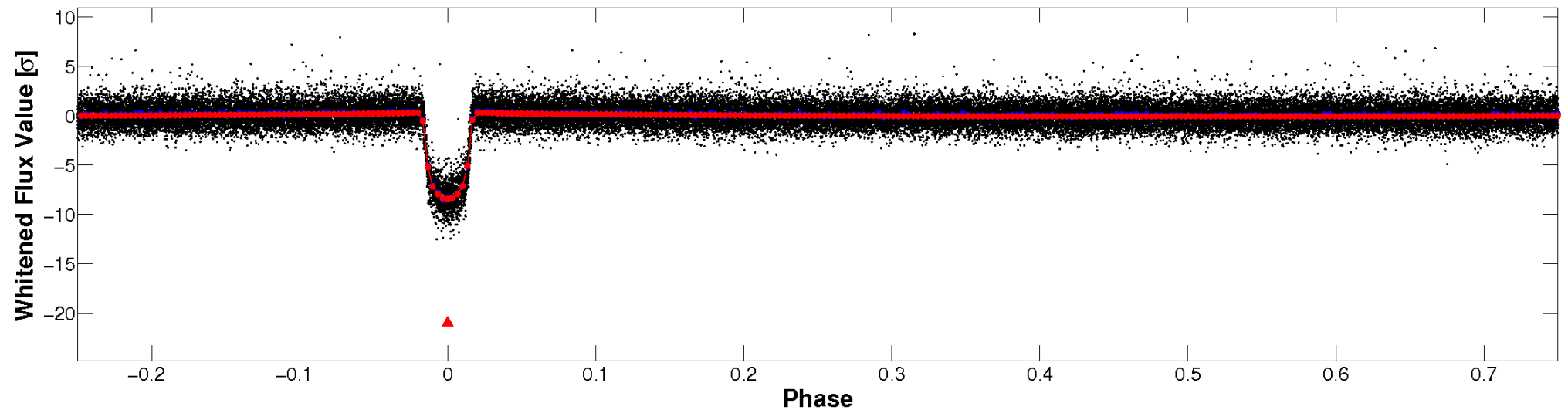


# Non-Whitened Vs. Whitened Light Curve

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



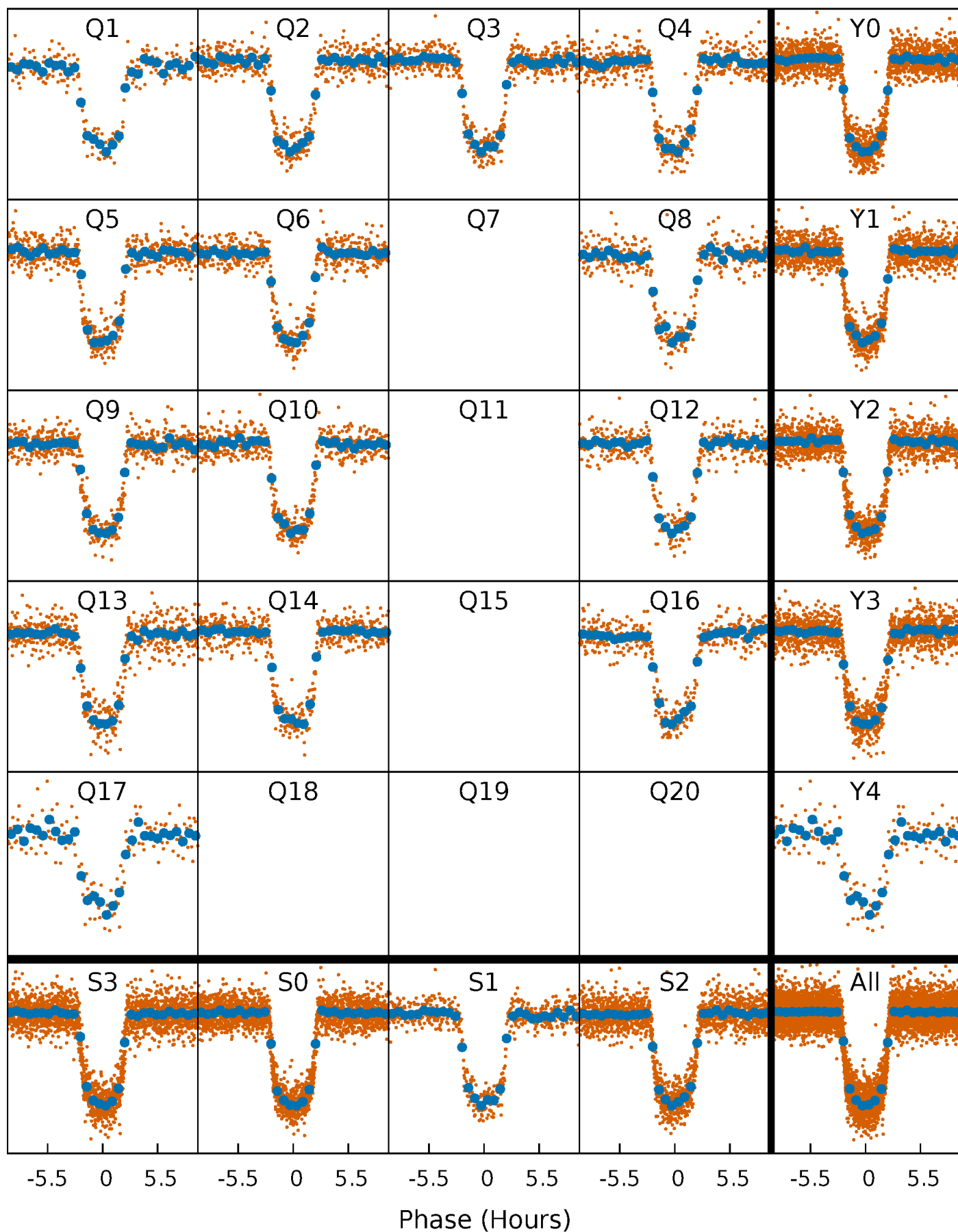
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

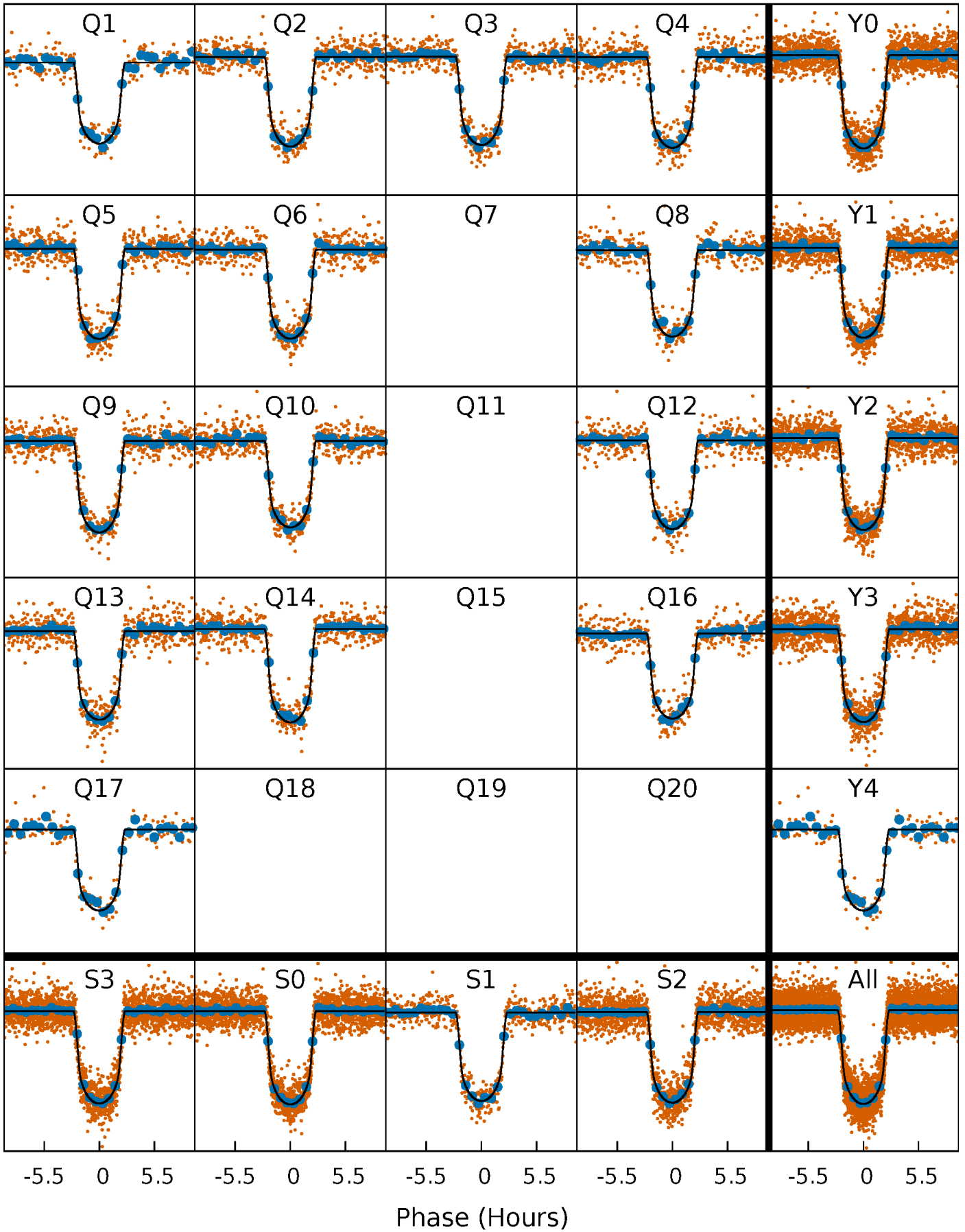
TCE 009479273-01 P= 6.104851 Days  $T_0=132.944216$  (BKJD)





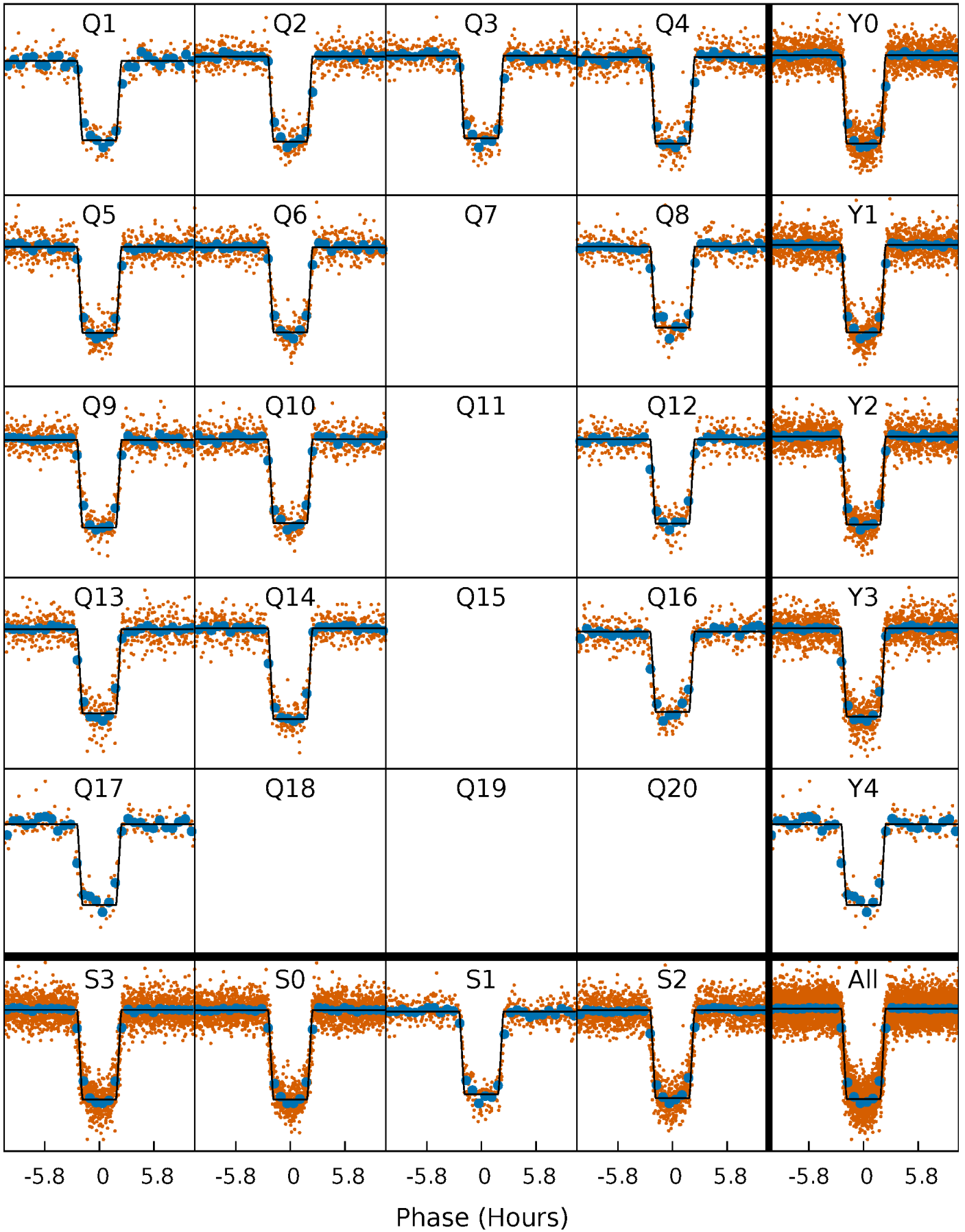
# DV Quarter-Phased Transit Curves

TCE 009479273-01 P= 6.104851 Days  $T_0=132.944216$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

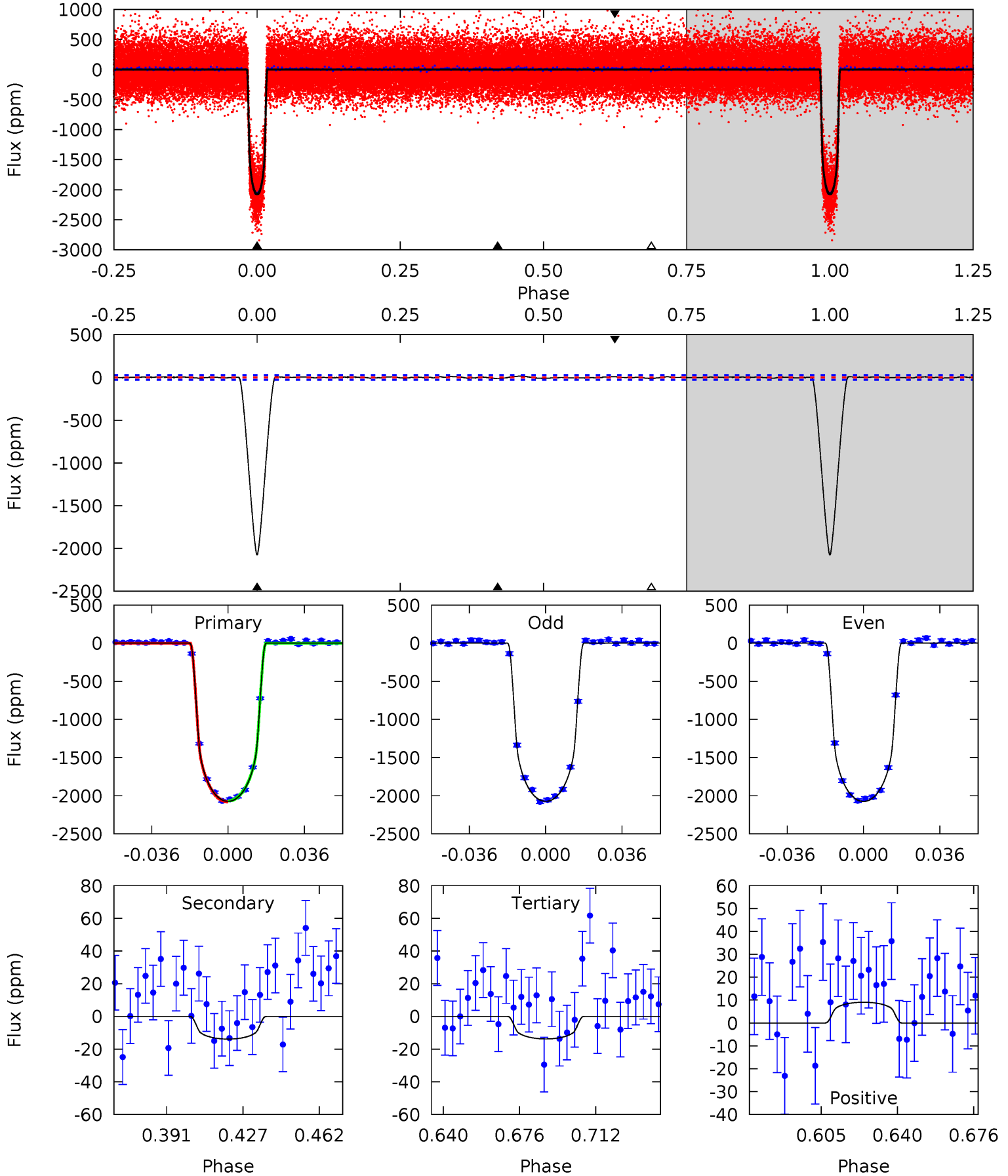
TCE 009479273-01 P= 6.104917 Days  $T_0=132.936999$  (BKJD)



# DV Model-Shift Uniqueness Test

009479273-01, P = 6.104851 Days, E = 126.839365 Days

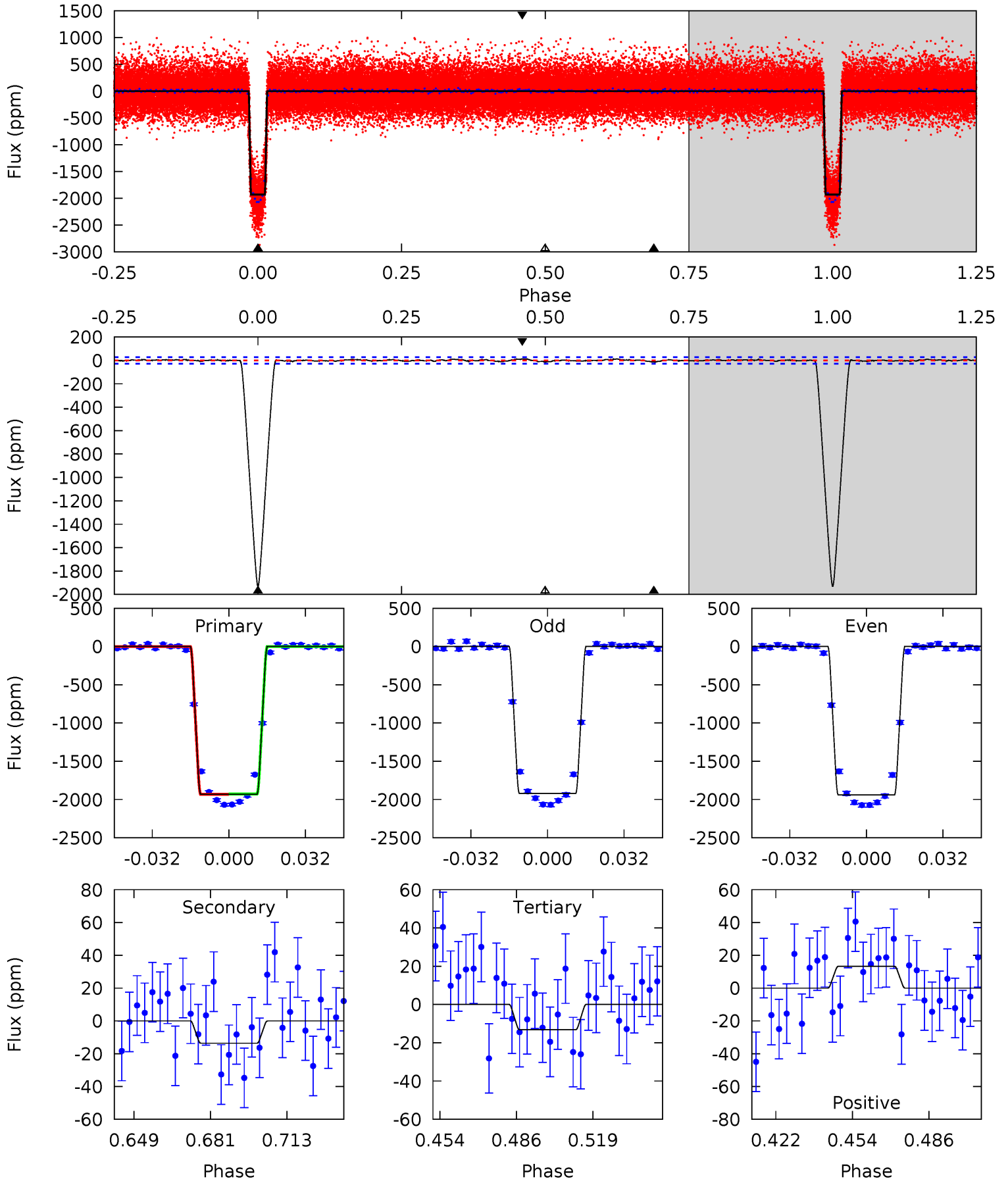
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
366.1	2.45	2.43	1.60	4.78	2.10	0.88	363.7	364.5	0.02	0.85	0.13	0.99	0.01	1.04



# Alt Model-Shift Uniqueness Test

009479273-01, P = 6.104917 Days, E = 126.832082 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
325.2	2.29	2.22	2.23	4.80	2.14	0.84	323.0	322.9	0.07	0.06	1.49	1.00	0.01	0.36



### Stellar Parameters For KIC 009479273

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5085^{+102}_{-102}$	$4.584^{+0.048}_{-0.032}$	$-0.360^{+0.150}_{-0.150}$	$0.712^{+0.038}_{-0.042}$	$0.710^{+0.048}_{-0.031}$	$2.766^{+0.499}_{-0.323}$
	+2%/-2%	+1%/-1%	+42%/-42%	+5%/-6%	+7%/-4%	+18%/-12%
Source	SPE60	SPE60	SPE60	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 009479273-01 / KOI 0940.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-14 \pm 6$	$3.34^{+0.16}_{-0.17}$	$1091^{+27}_{-27}$	$2331^{+113}_{-156}$	$2.318^{+0.999}_{-0.882}$
Alt.	$-14 \pm 6$	$3.45^{+0.18}_{-0.17}$	$1091^{+27}_{-28}$	$2301^{+125}_{-164}$	$2.112^{+0.994}_{-0.853}$

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

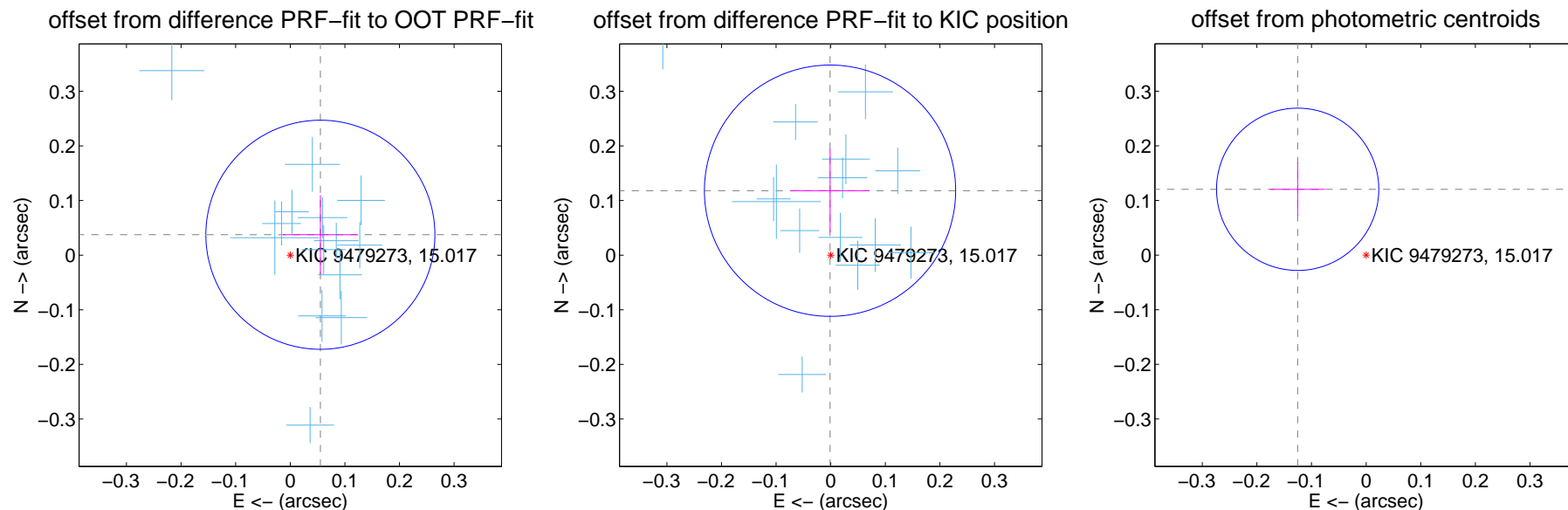
## DV Centroid Data

Supplemental centroid analysis for 009479273-01. Kepler magnitude: 15.02. Transit SNR 278.83

There are 14 quarters with good PRF difference image offsets

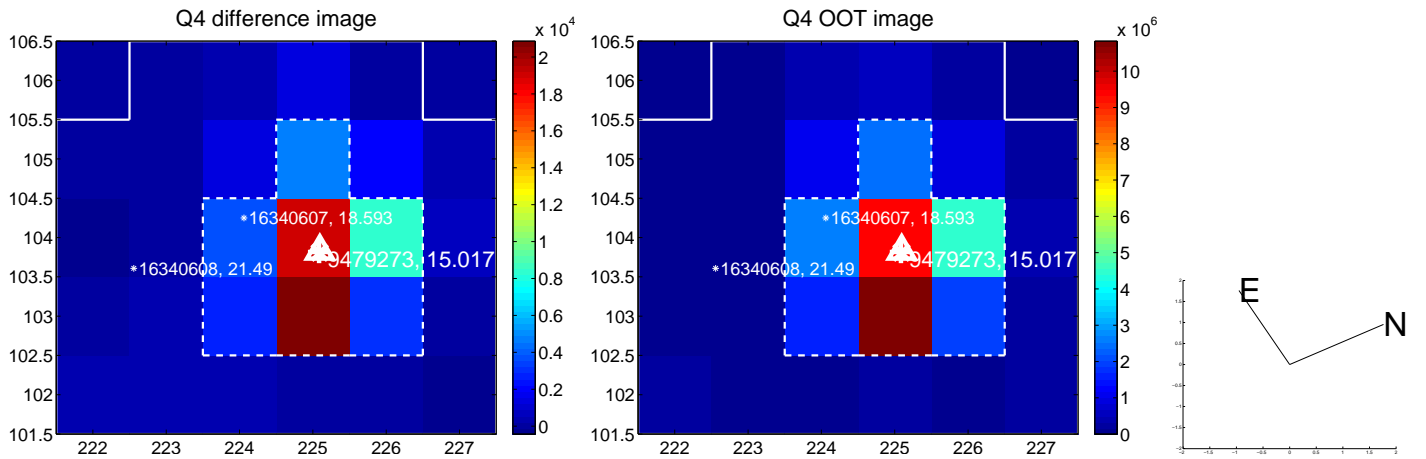
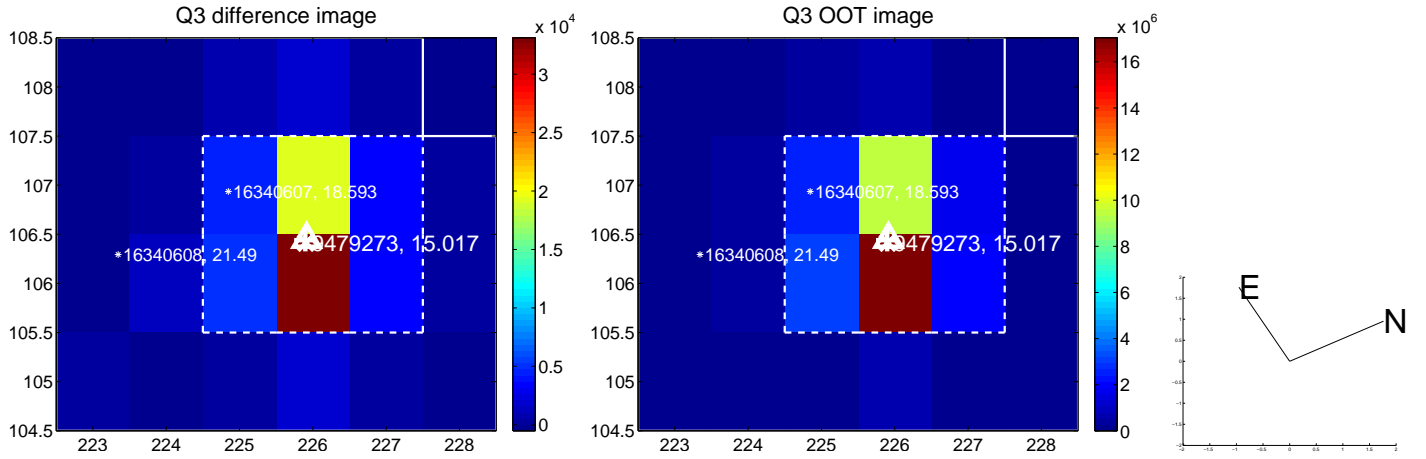
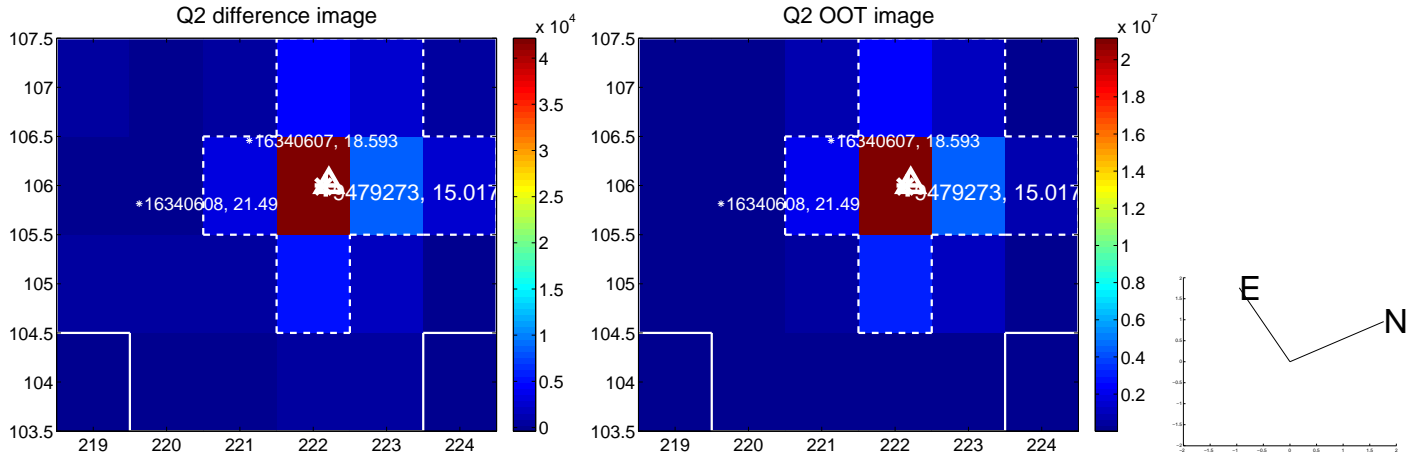
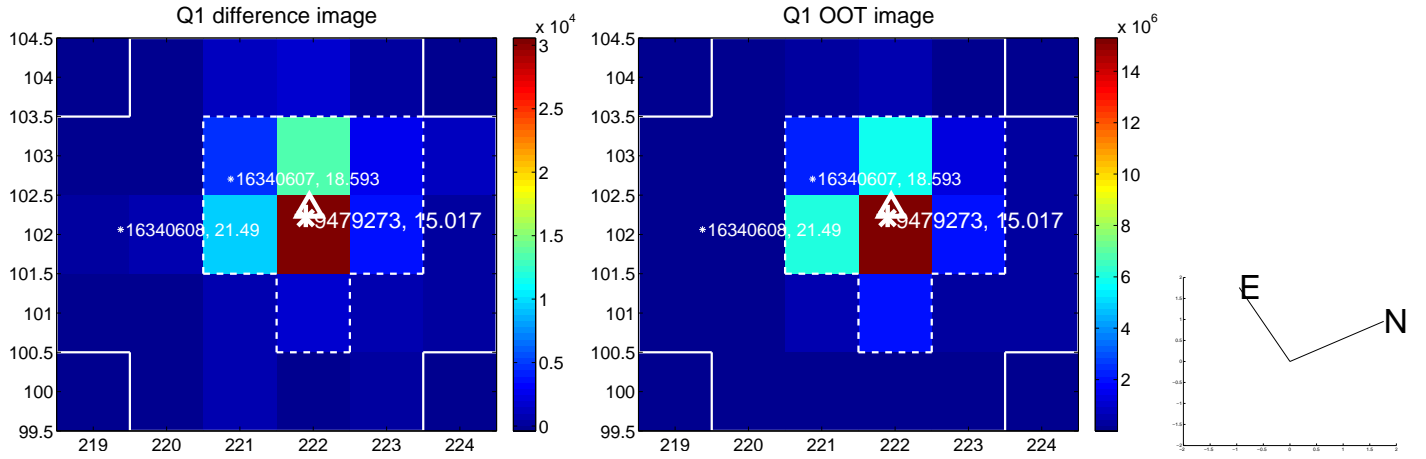
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.067 \pm 0.070$	0.95	$-0.055 \pm 0.069$	$0.037 \pm 0.072$
PRF-fit source offset from KIC position	$0.118 \pm 0.077$	1.54	$0.001 \pm 0.073$	$0.118 \pm 0.077$
photometric centroid source offset	$0.17 \pm 0.05$	3.51	$0.13 \pm 0.05$	$0.12 \pm 0.05$



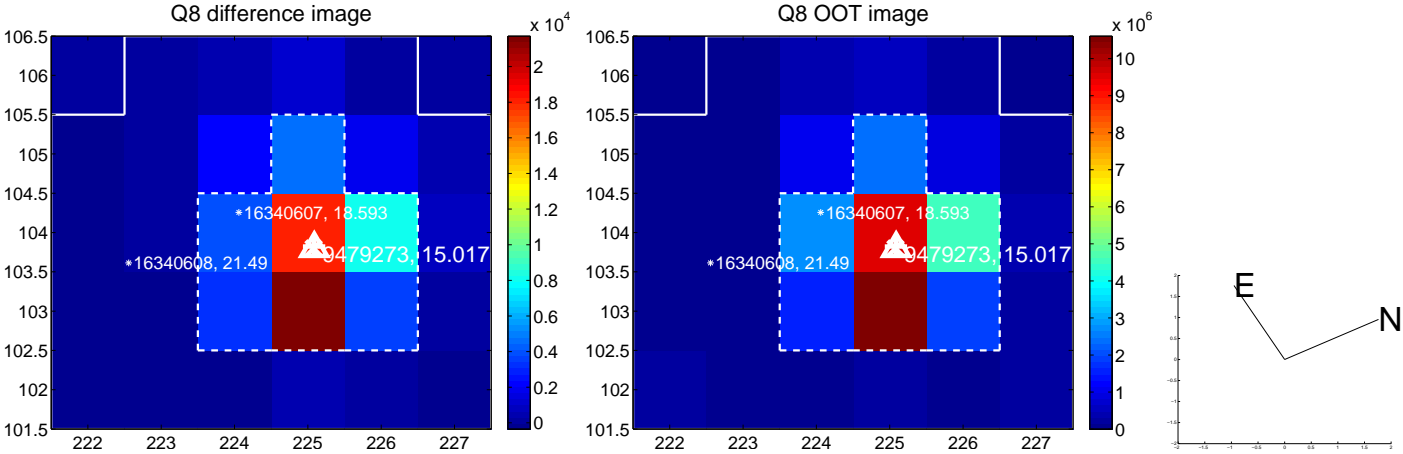
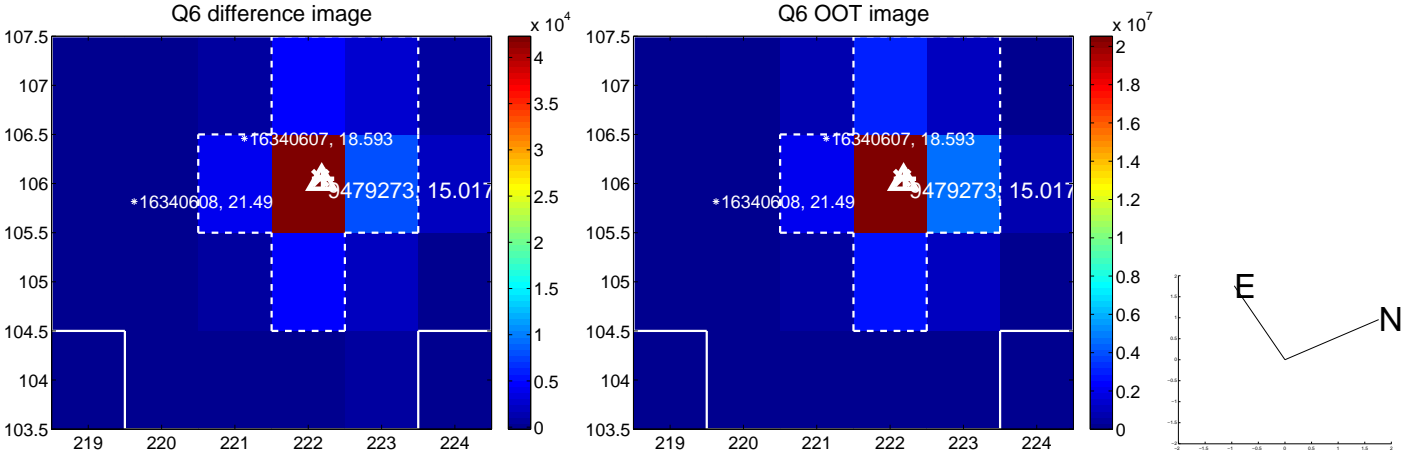
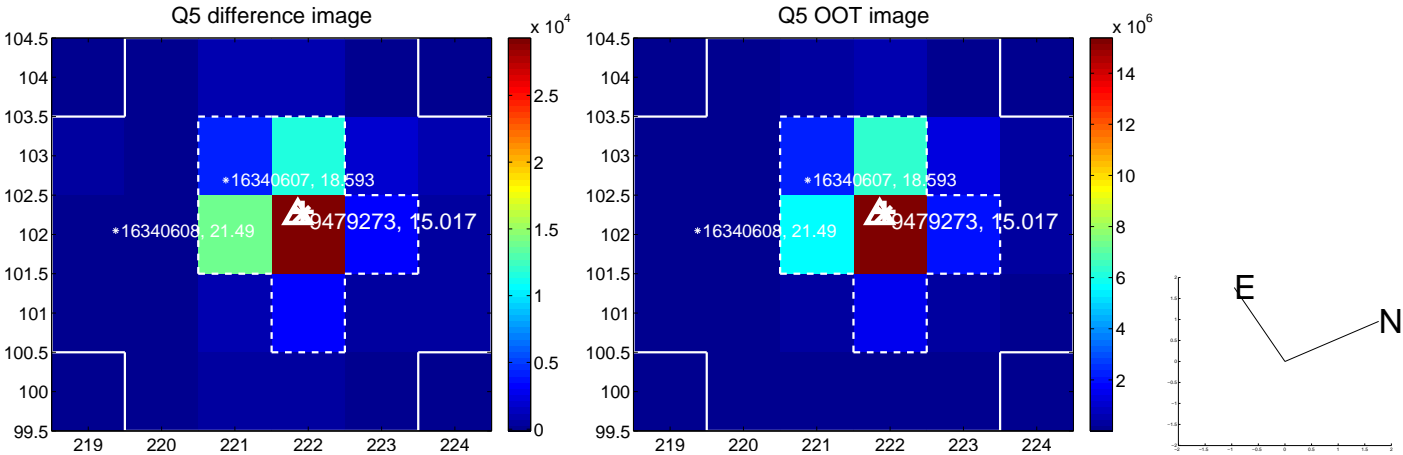
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

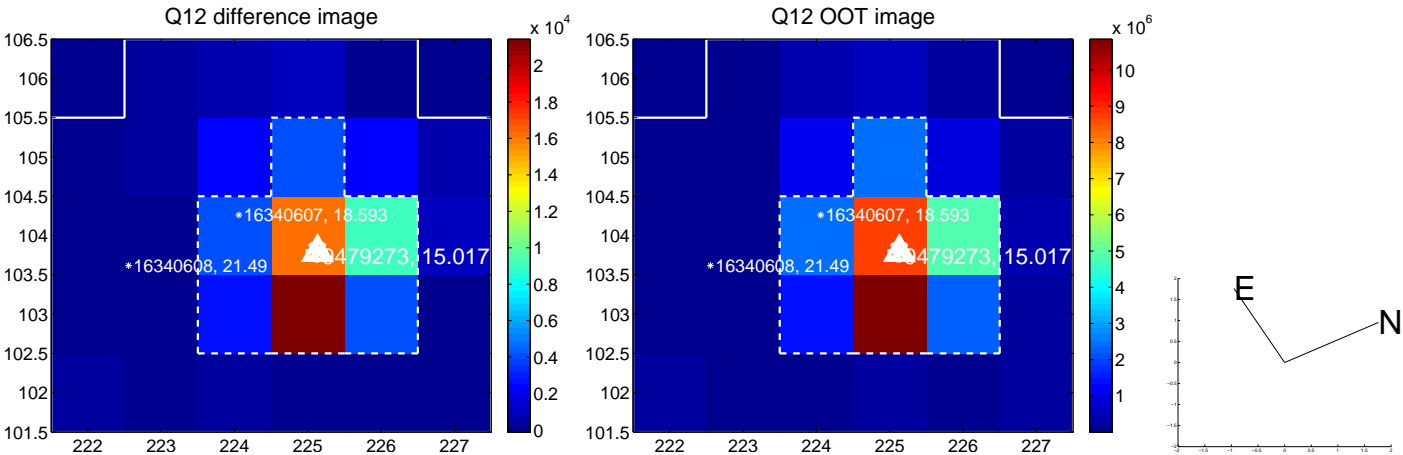
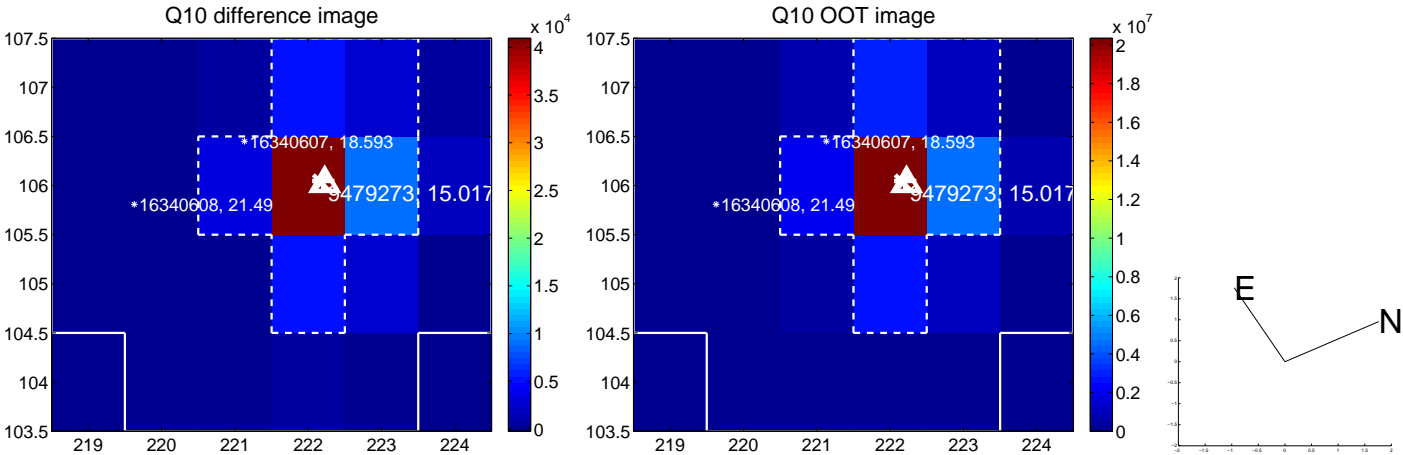
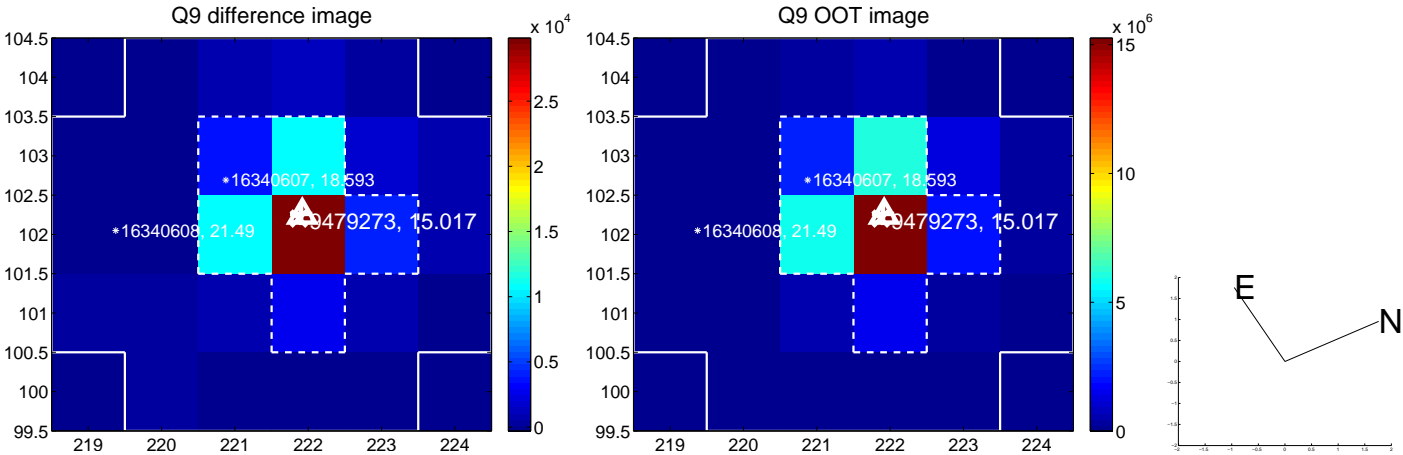




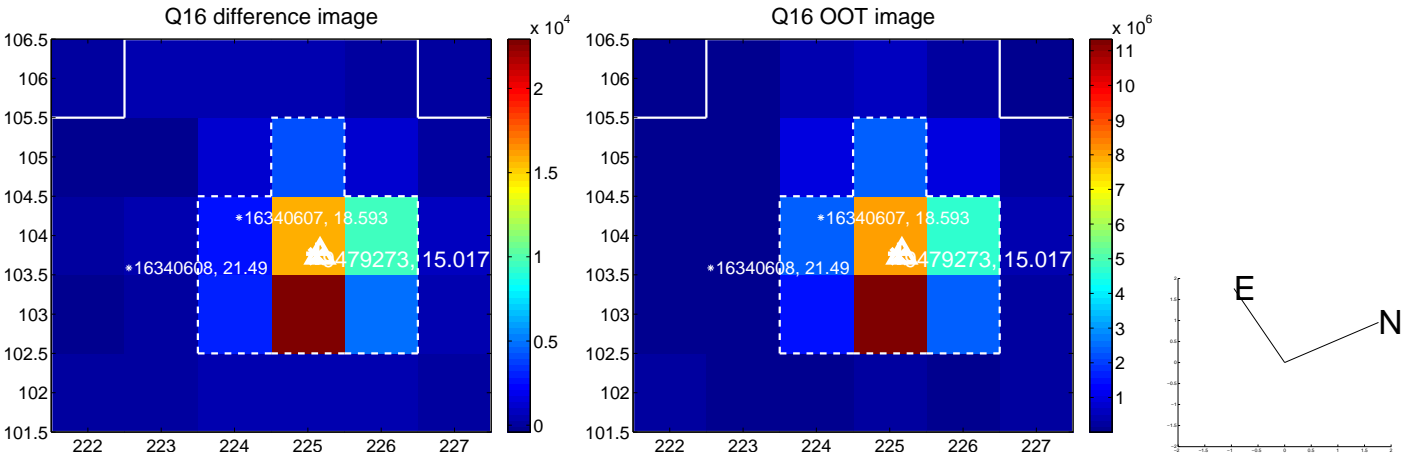
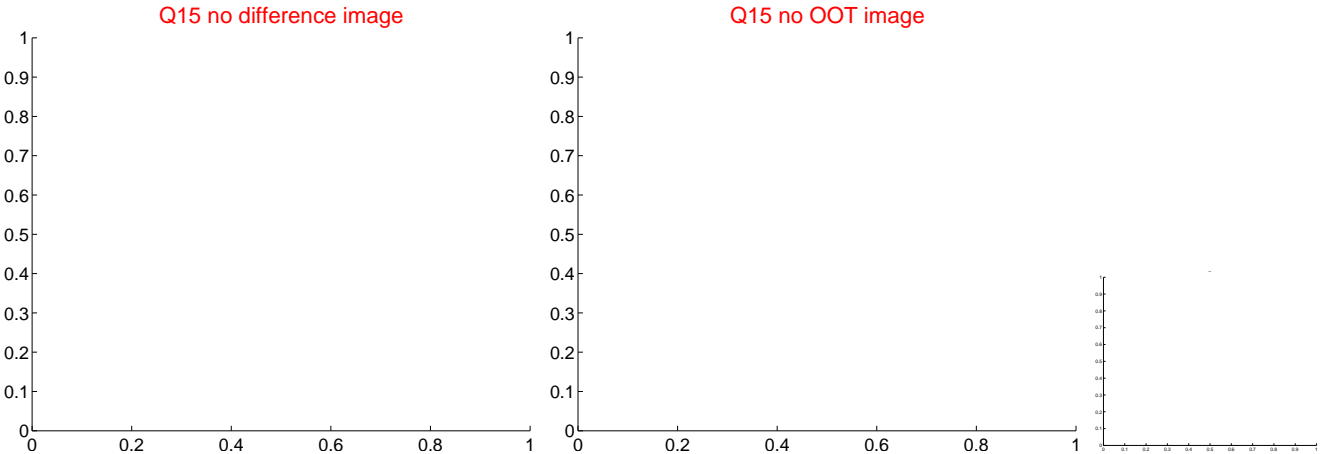
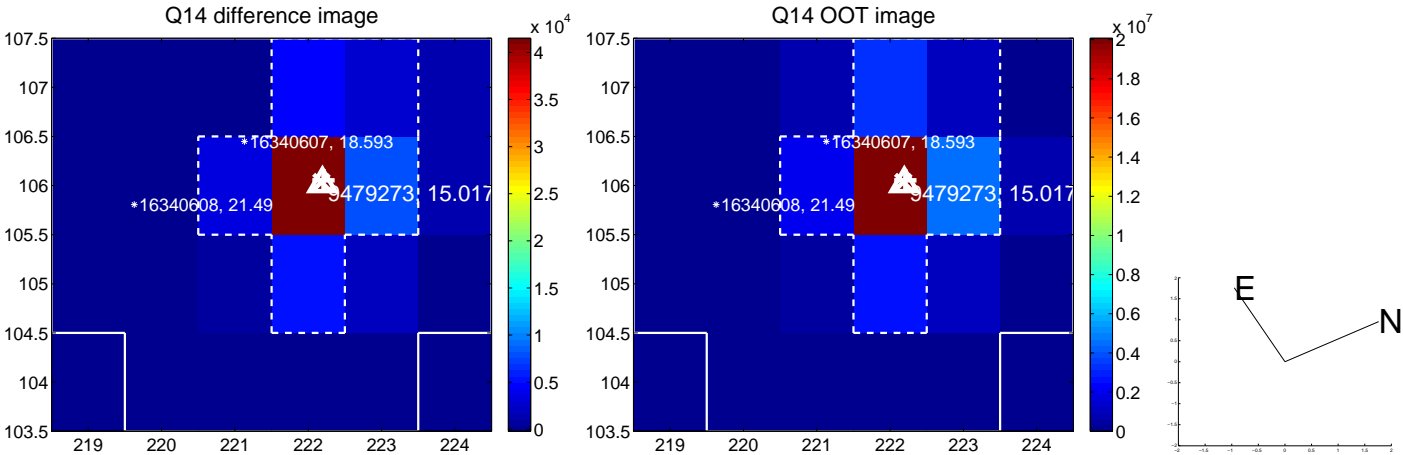
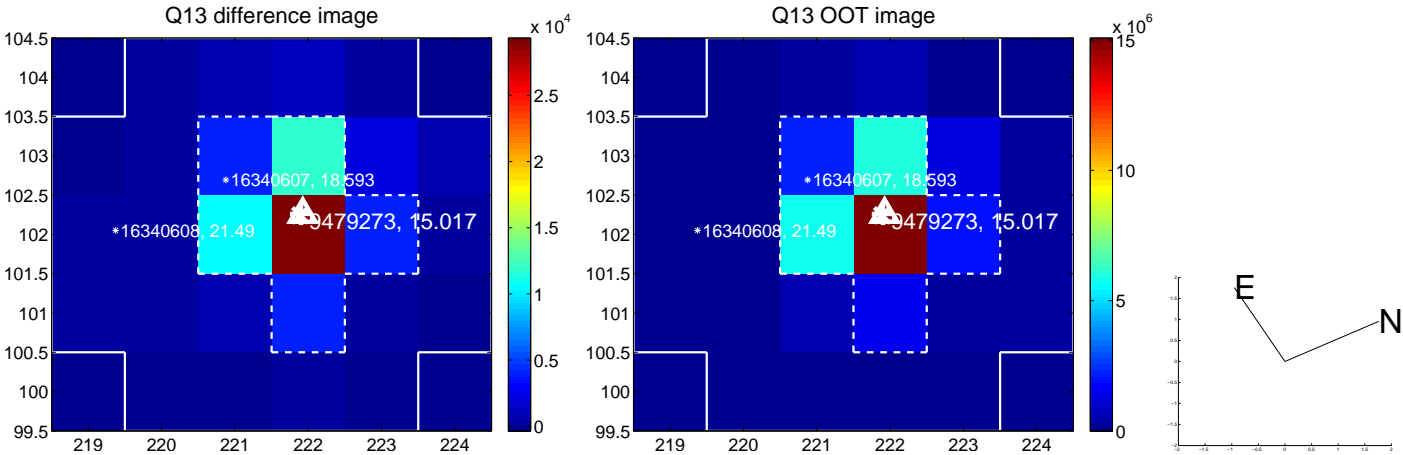
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



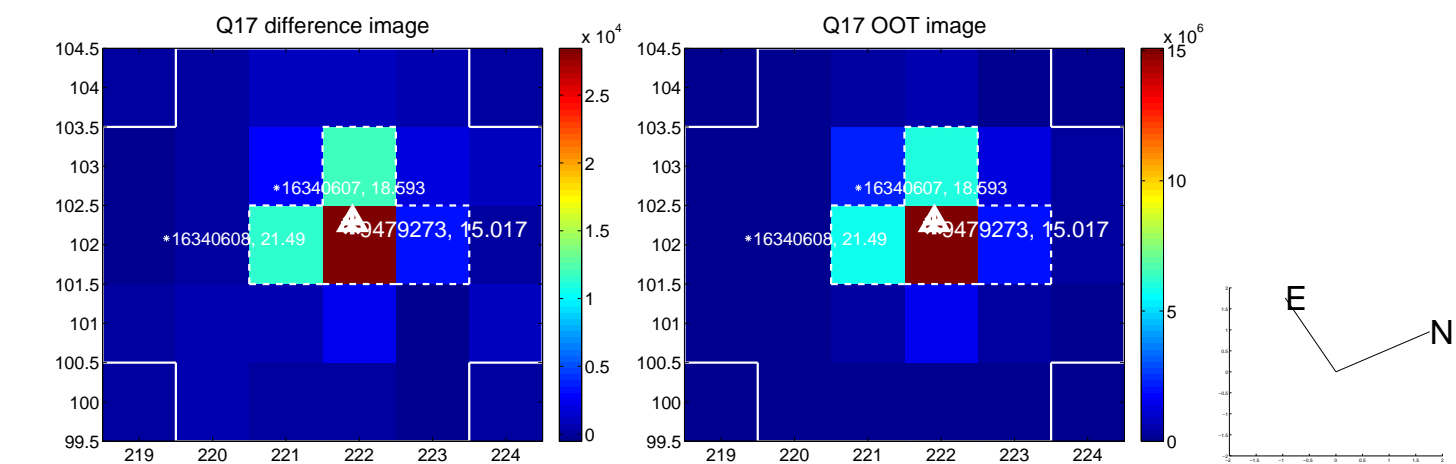
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



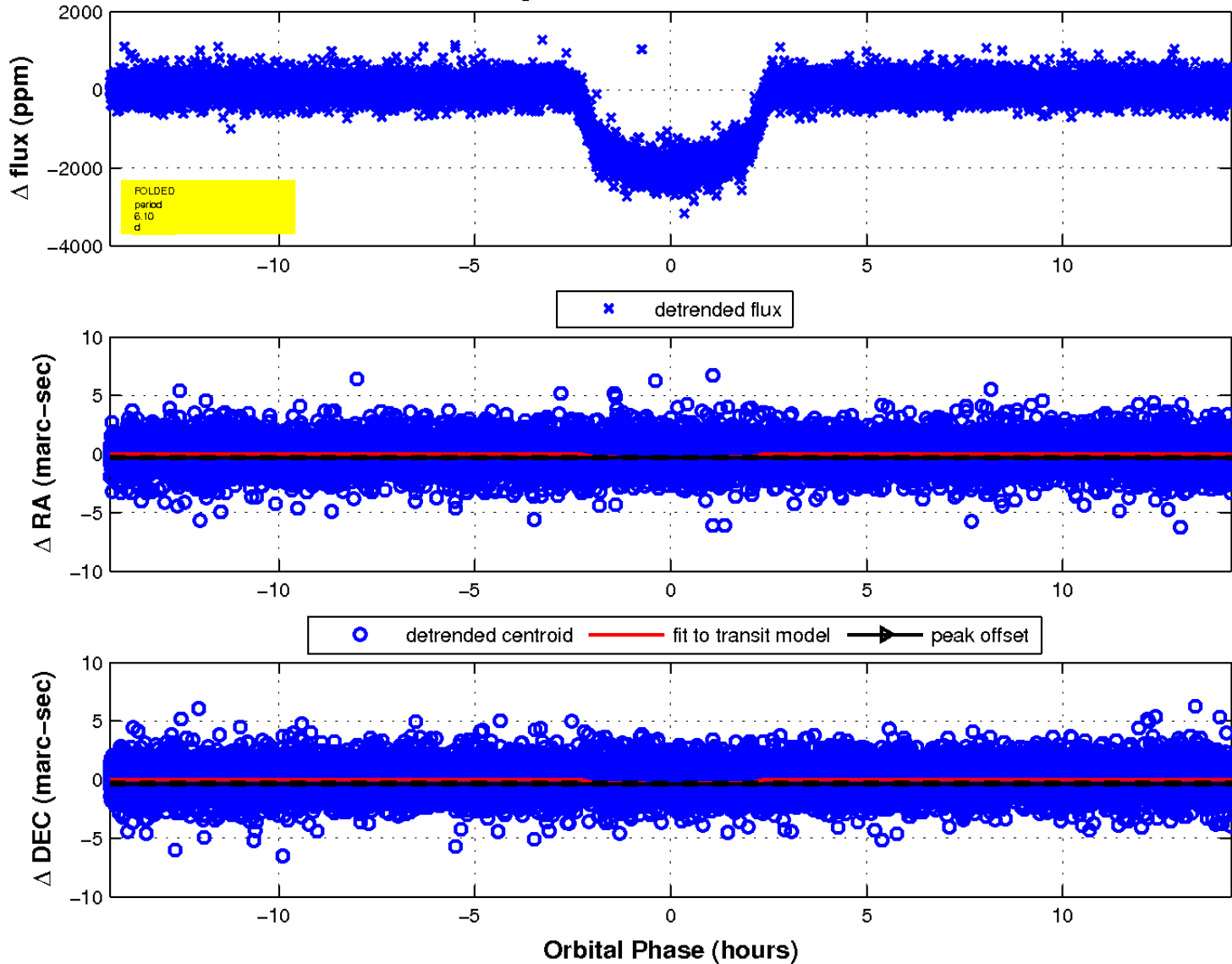
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

