

# KIC 011147276

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011147276-01	OBS	7413.01	1.566535	132.534838	67551.5	3.219	4630.5	4246.4	0.91	5883	28.28	1369.21

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011147276-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

**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 011147276-01

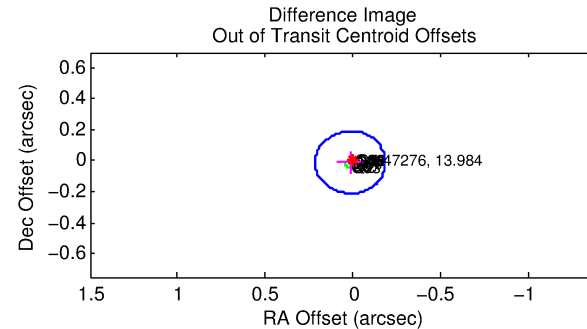
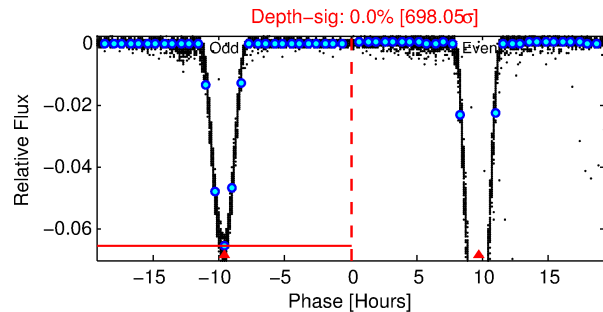
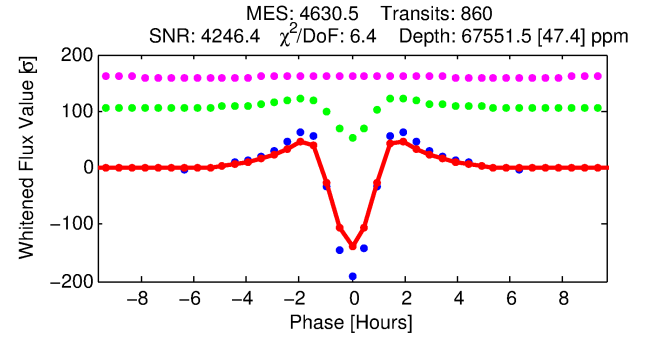
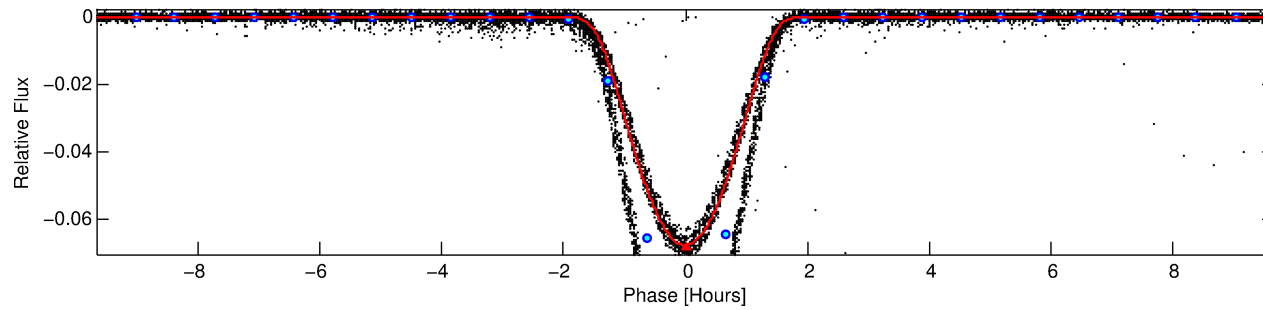
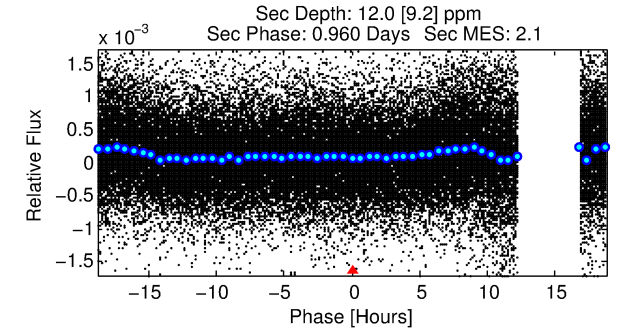
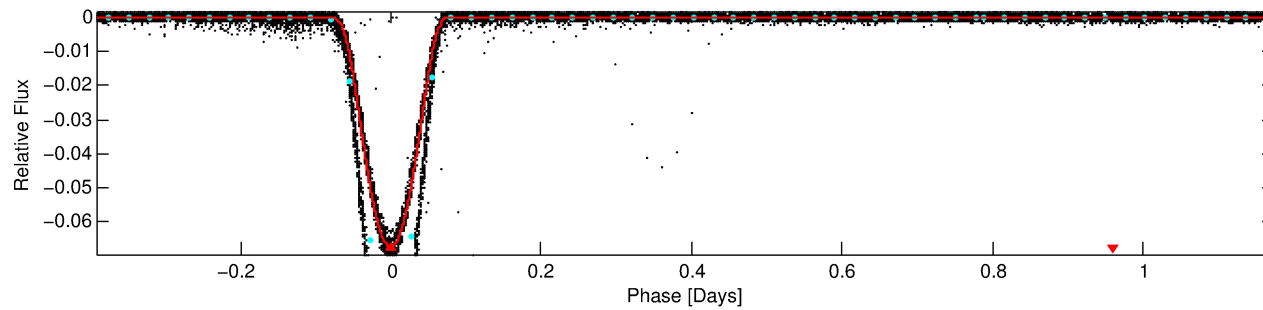
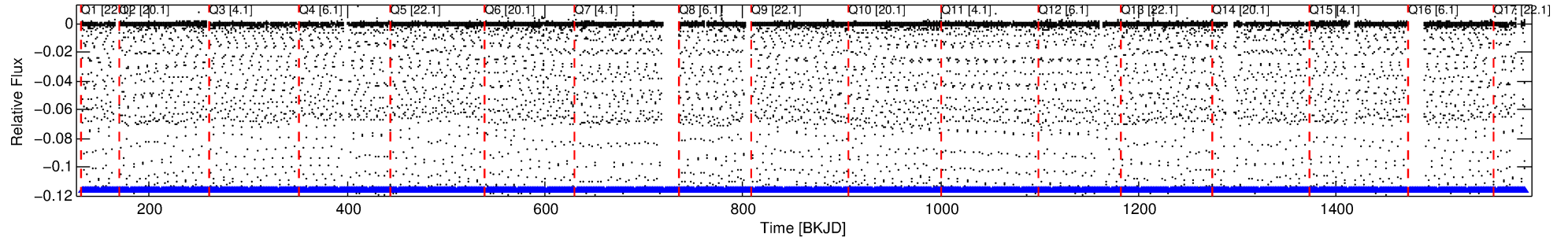
No Significant Match Found

# DV One-Page Summary

KIC: 11147276 Candidate: 1 of 1 Period: 1.567 d

KOI: K07413.01 Corr: 0.989

Kp: 13.98 R\*: 0.91 Rs Teff: 5883.0 K Logg: 4.47 Fe/H: -0.360



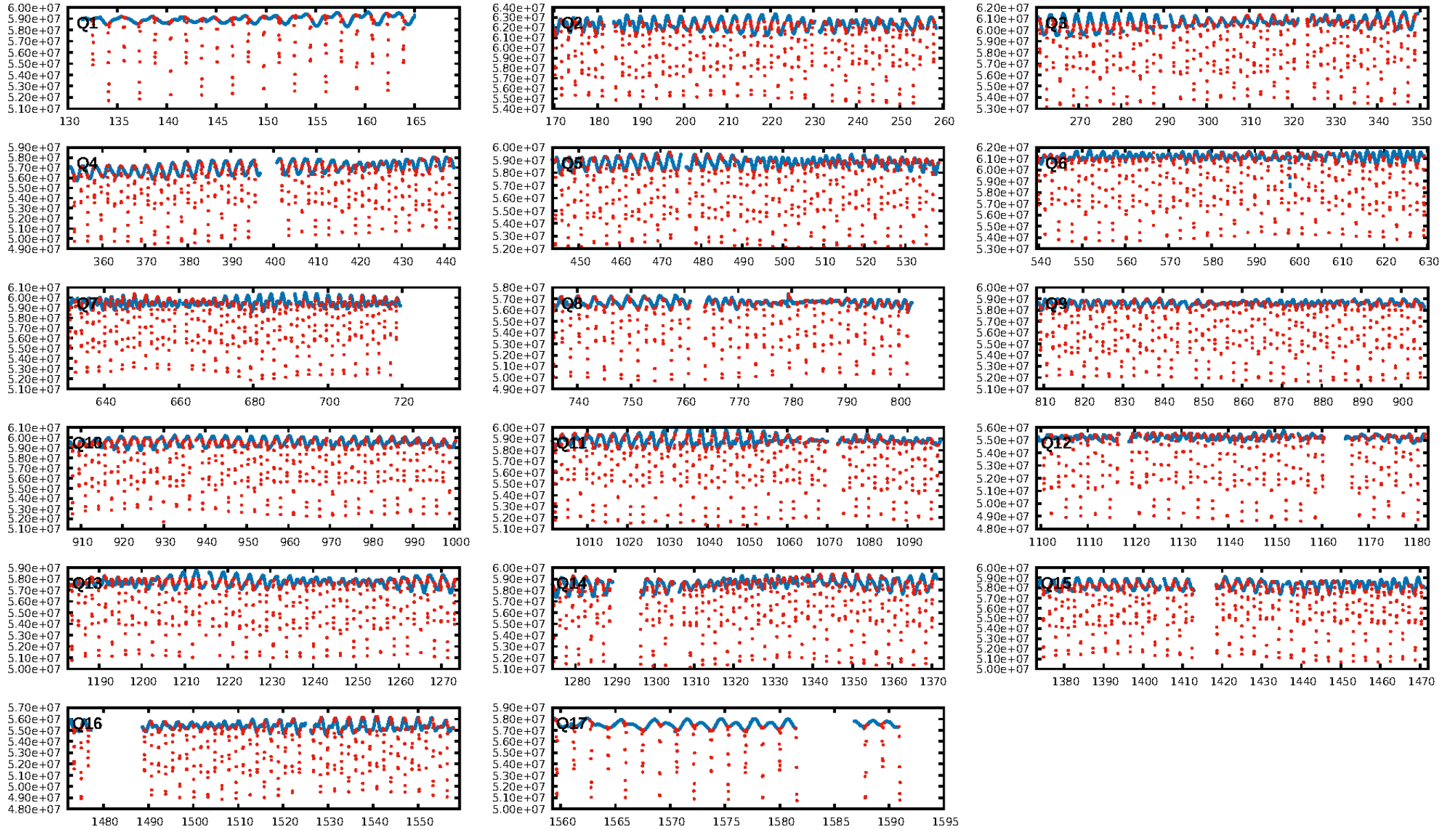
## DV Fit Results:

Period = 1.56653 [0.00000] d  
Epoch = 132.5348 [0.0000] BKJD  
Rp/R\* = 0.2864 [0.0013]  
a/R\* = 3.86 [0.00]  
b = 0.80 [0.00]  
Seff = 1369.21 [490.92]  
Teq = 1551 [139] K  
Rp = 28.28 [7.38] Re  
a = 0.0253 [0.0057] AU  
Ag = 0.01 [0.00] [-224.21σ]  
Teffp = 647 [125] K [-4.83σ]

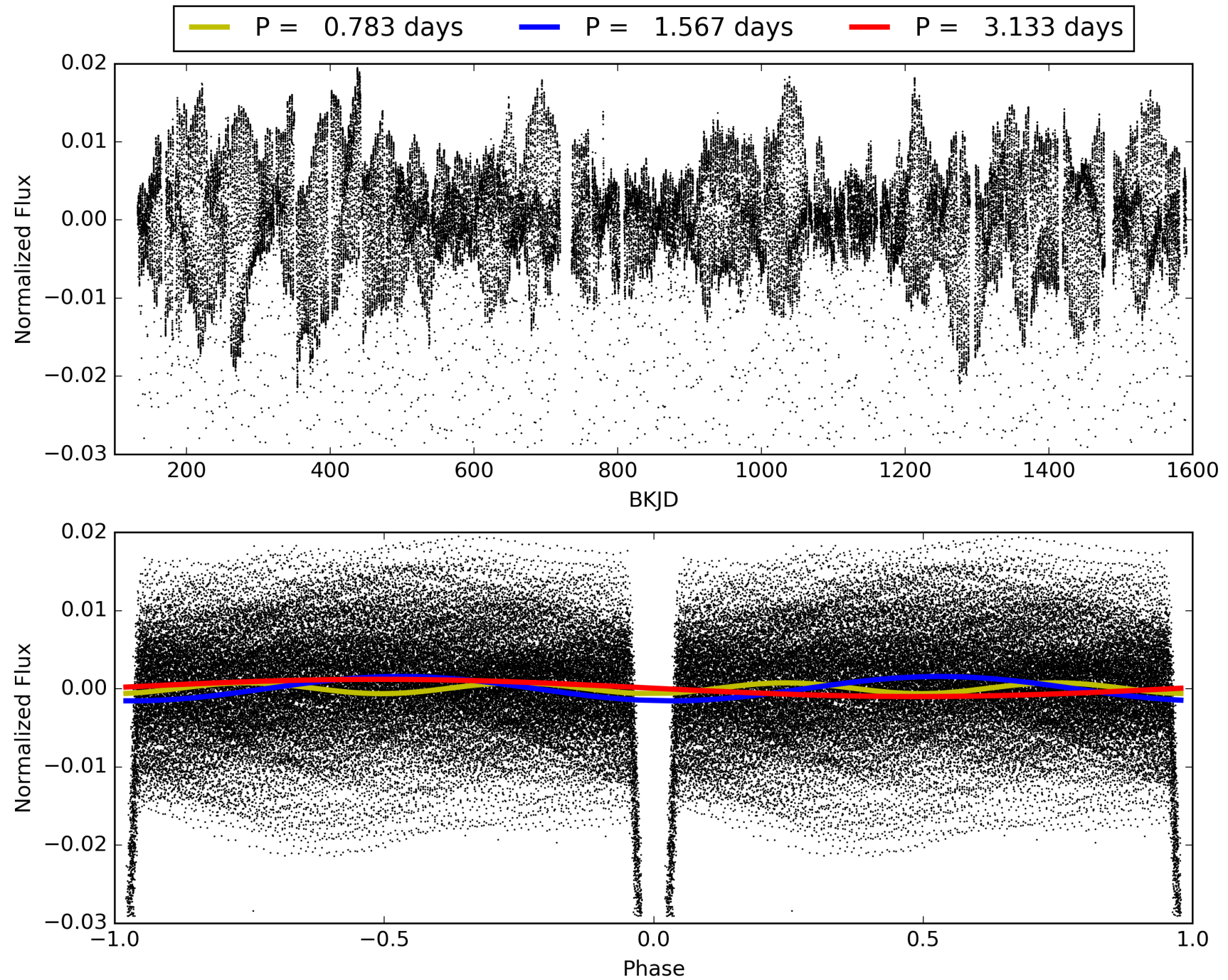
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [821/821]  
GhostDiagnostic-chr: 2.032  
Centroid-sig: 0.0%  
Centroid-so: 0.200 arcsec [213.65σ]  
OotOffset-rm: 0.019 arcsec [0.29σ]  
KicOffset-rm: 0.219 arcsec [3.20σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 011147276-01, PDC Light Curves

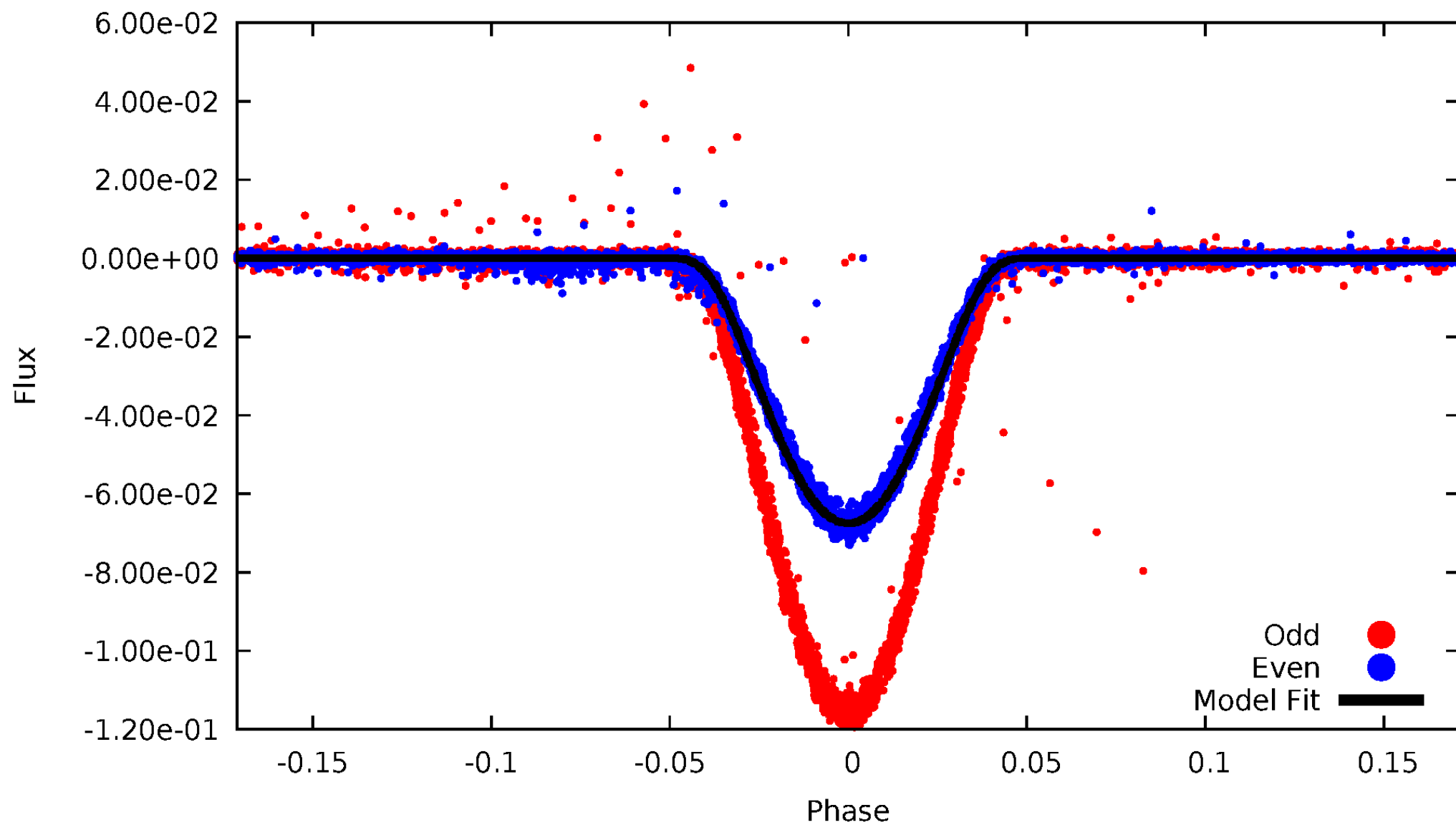


TCE 011147276-01



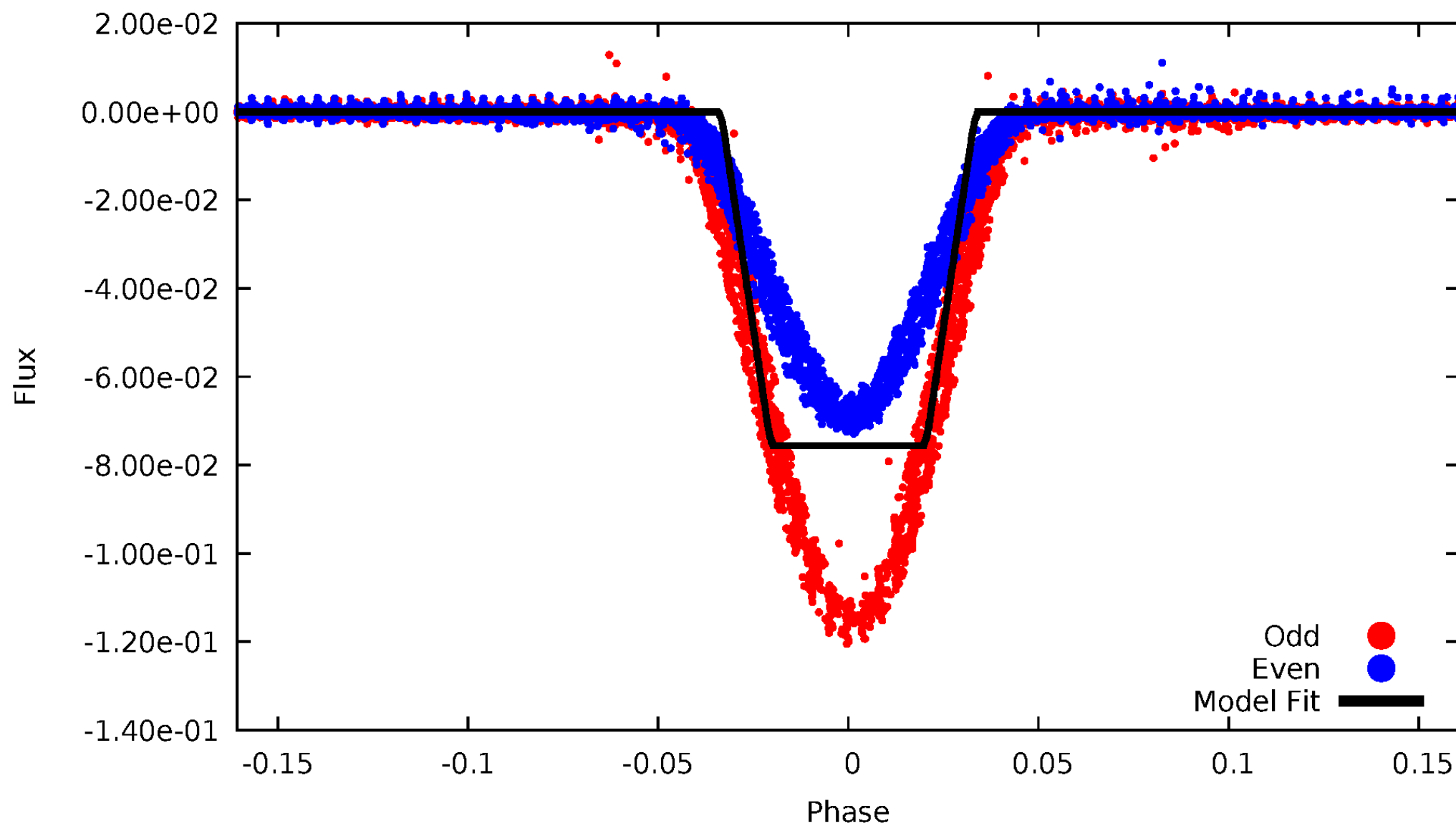
# DV Odd/Even

TCE 011147276-01



# ALT Odd/Even

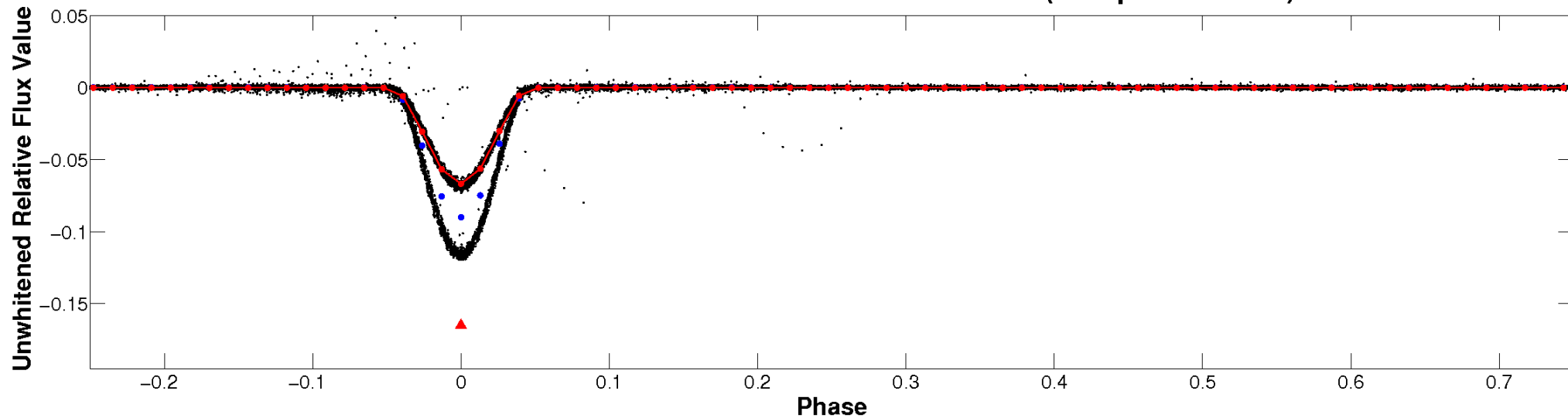
TCE 011147276-01



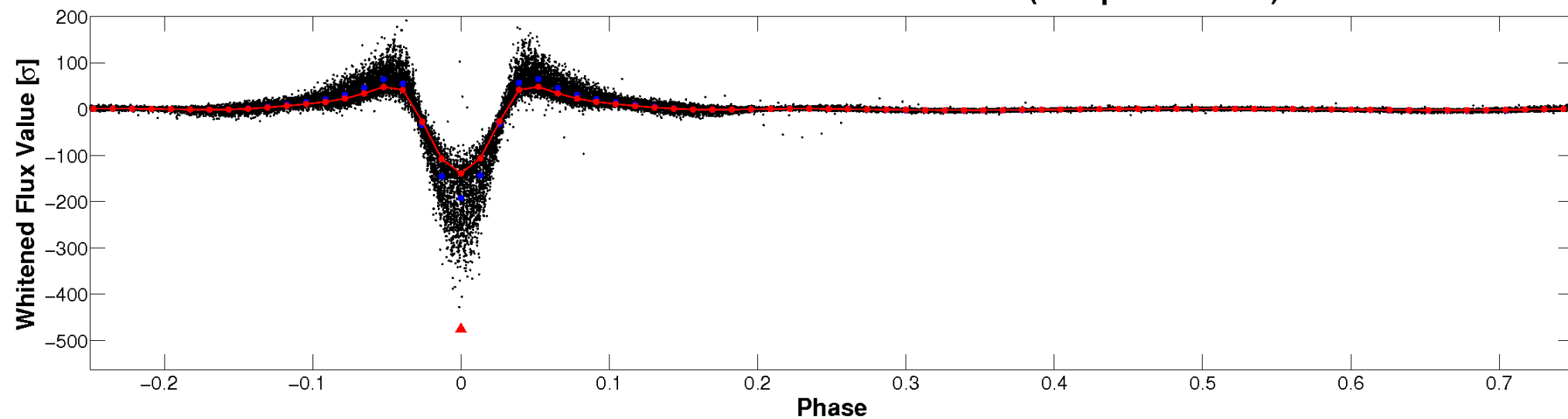


# Non-Whitened Vs. Whitened Light Curve

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

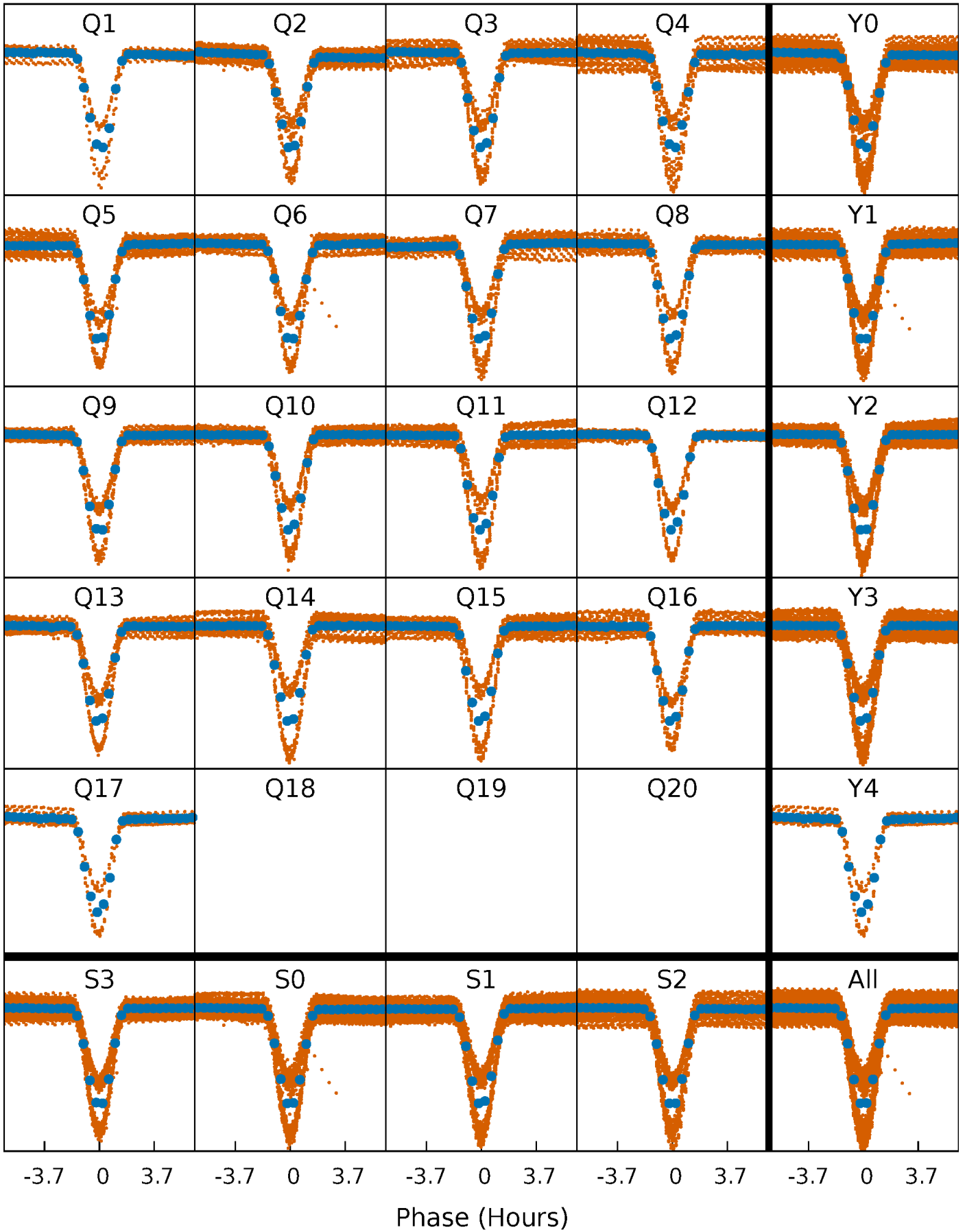


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

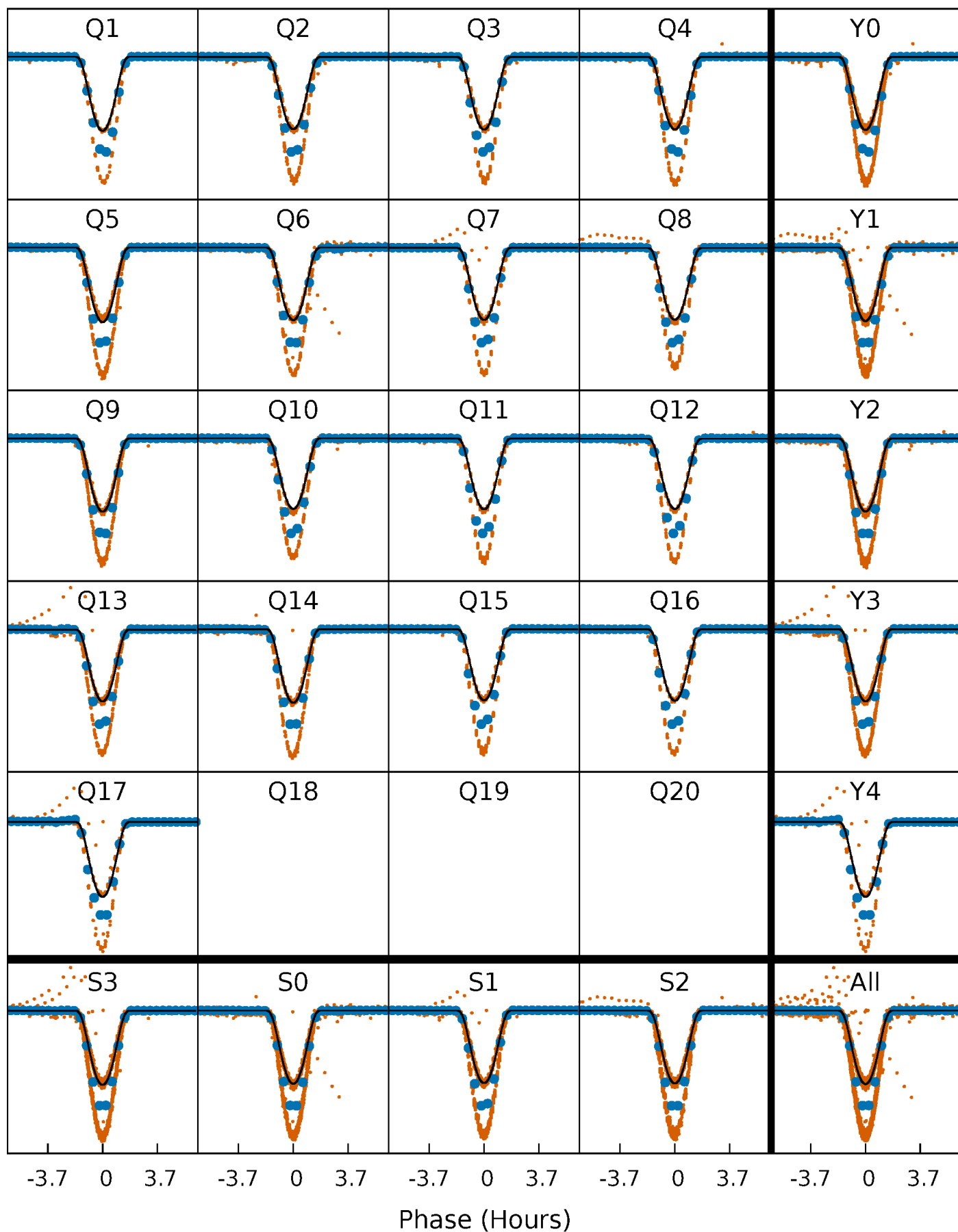
TCE 011147276-01 P= 1.566535 Days  $T_0=132.534838$  (BKJD)





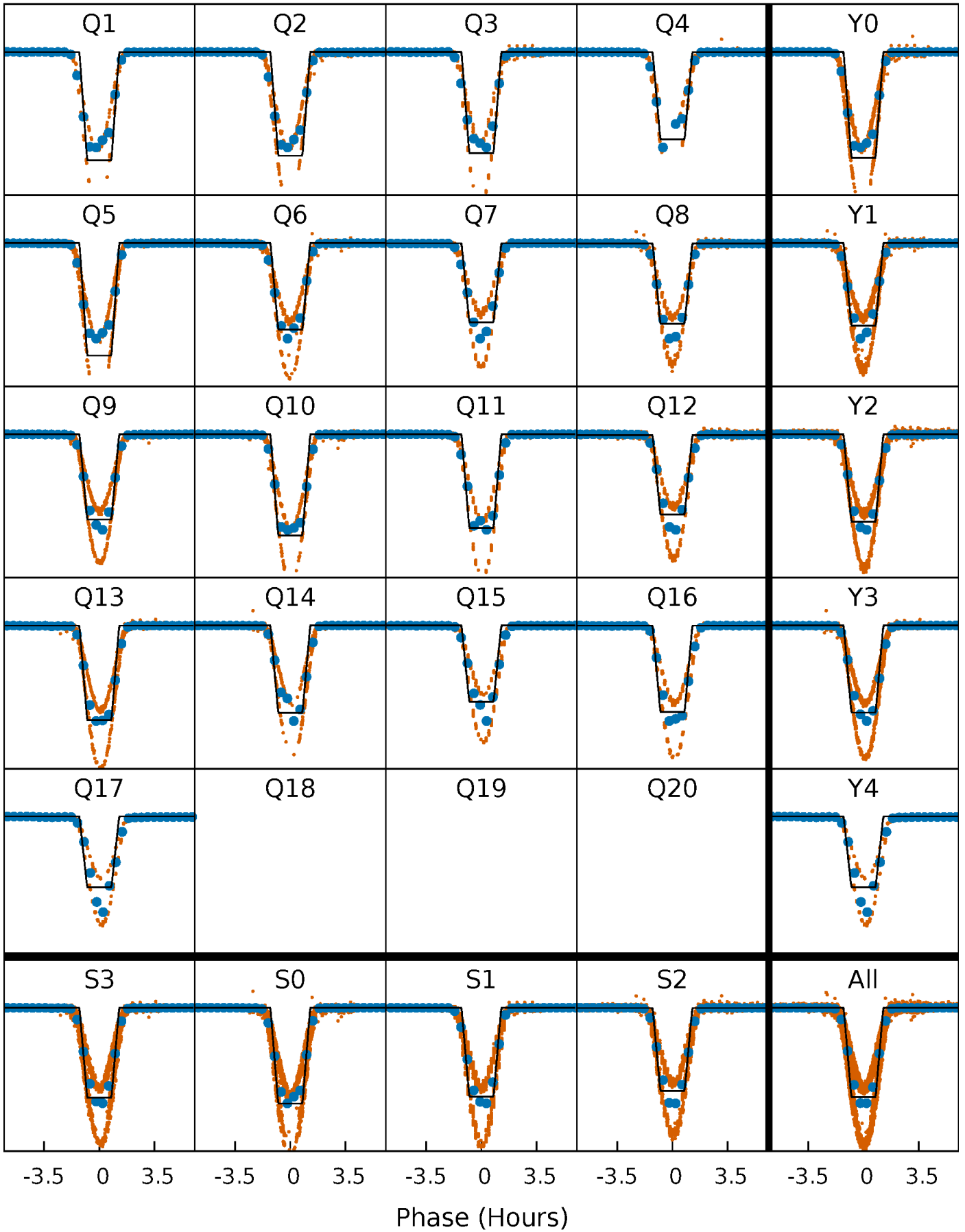
# DV Quarter-Phased Transit Curves

TCE 011147276-01 P= 1.566535 Days  $T_0=132.534838$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

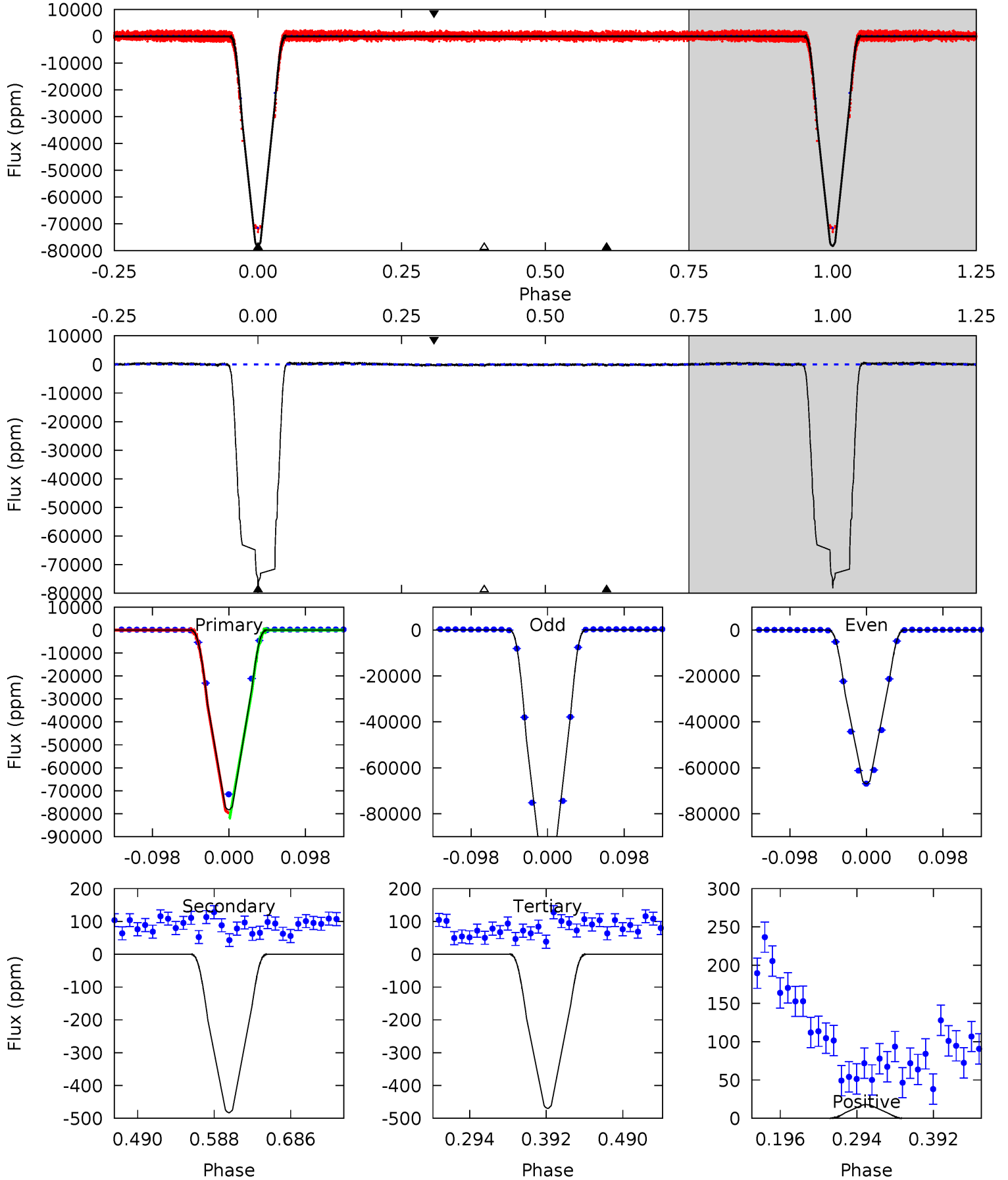
TCE 011147276-01 P= 1.566518 Days  $T_0=132.541647$  (BKJD)



# DV Model-Shift Uniqueness Test

011147276-01, P = 1.566535 Days, E = 130.968303 Days

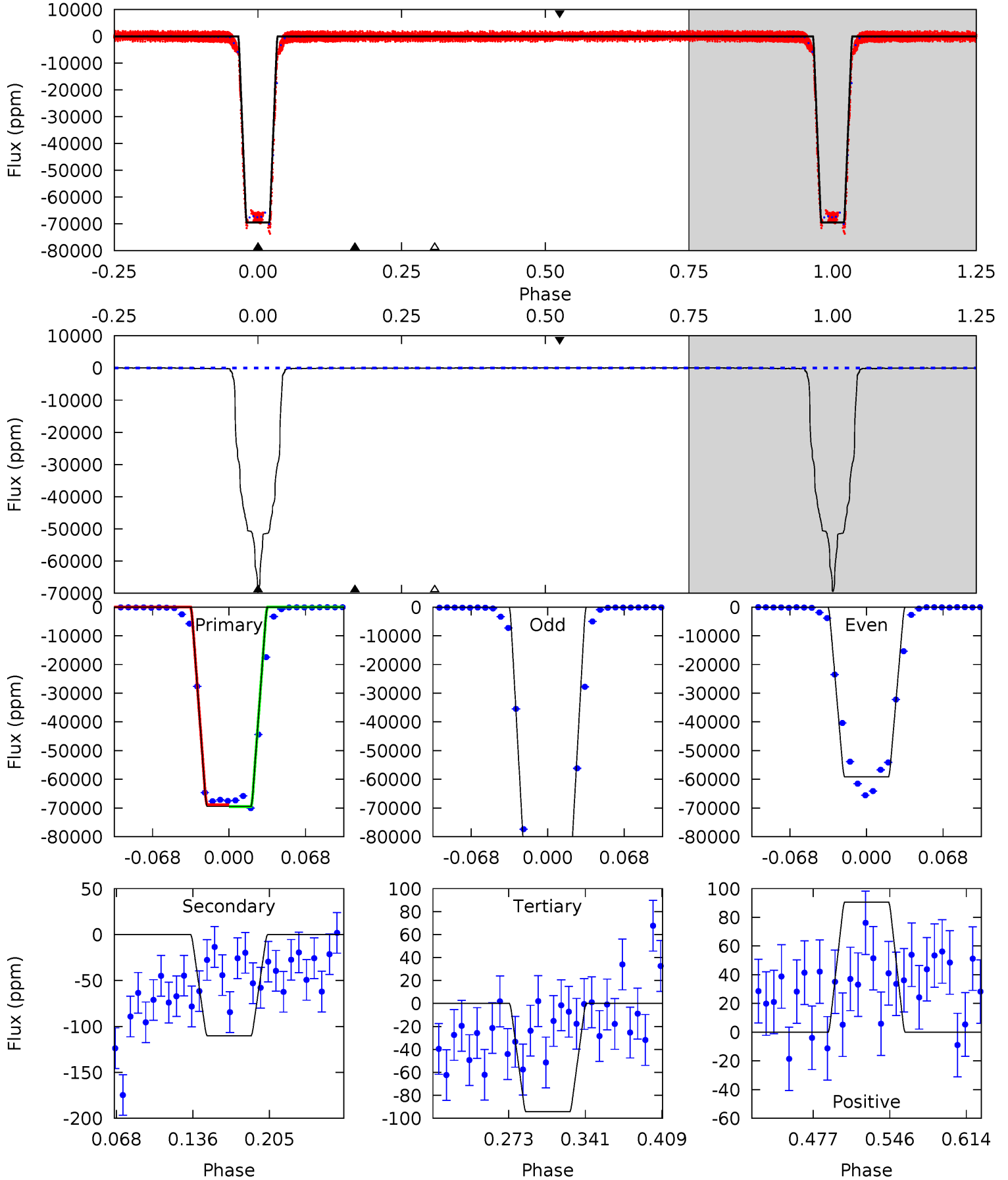
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5723	35.3	34.4	1.30	4.57	1.65	16.7	5689	5722	0.96	34.0	2806	1.27	0.01	0



# Alt Model-Shift Uniqueness Test

011147276-01, P = 1.566518 Days, E = 130.975129 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
2905	4.61	3.94	3.79	4.64	1.82	2.40	2901	2901	0.66	0.82	730.3	1.15	0.00	0



### Stellar Parameters For KIC 011147276

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5883^{+158}_{-175}$	$4.471^{+0.081}_{-0.189}$	$-0.360^{+0.300}_{-0.300}$	$0.905^{+0.236}_{-0.109}$	$0.885^{+0.109}_{-0.089}$	$1.681^{+0.674}_{-0.823}$
	+3%/-3%	+2%/-4%	+83%/-83%	+26%/-12%	+12%/-10%	+40%/-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 011147276-01 / KOI 7413.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-483 \pm 14$	$28.72^{+4.04}_{-2.05}$	$2196^{+146}_{-106}$	$-2278^{+150}_{-170}$	$0.204^{+0.034}_{-0.043}$
Alt.	$-110 \pm 24$	$27.67^{+4.23}_{-2.09}$	$2195^{+154}_{-109}$	$-2553^{+75}_{-103}$	$0.049^{+0.015}_{-0.013}$

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

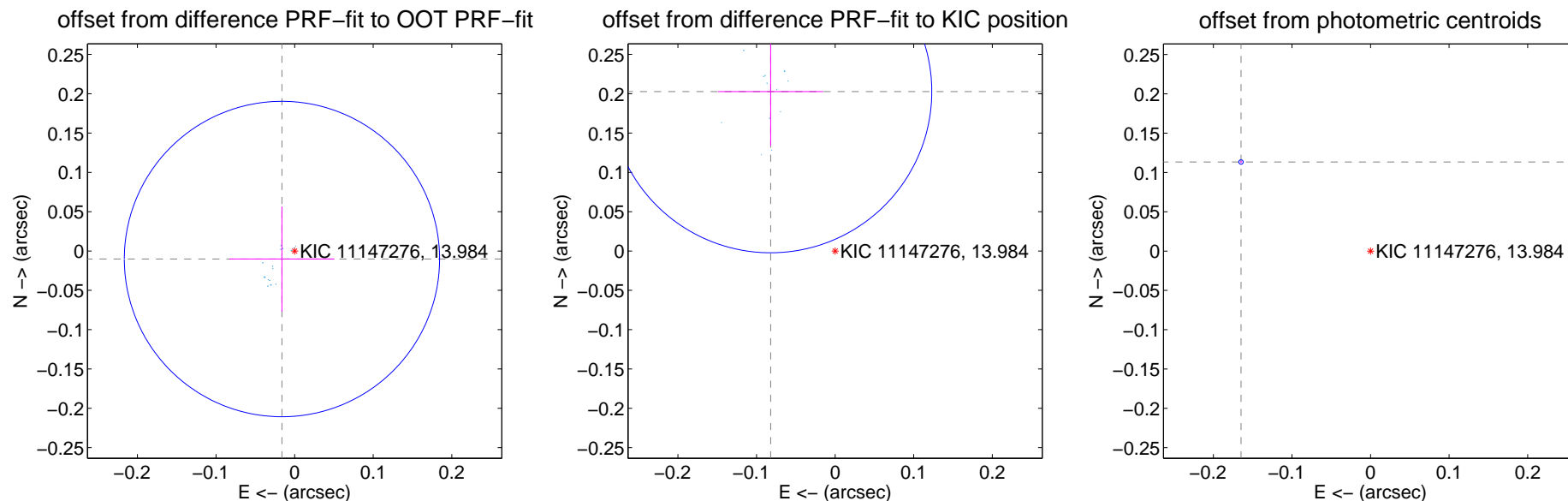
## DV Centroid Data

Supplemental centroid analysis for 011147276-01. Kepler magnitude: 13.98. Transit SNR 4246.41

There are 17 quarters with good PRF difference image offsets

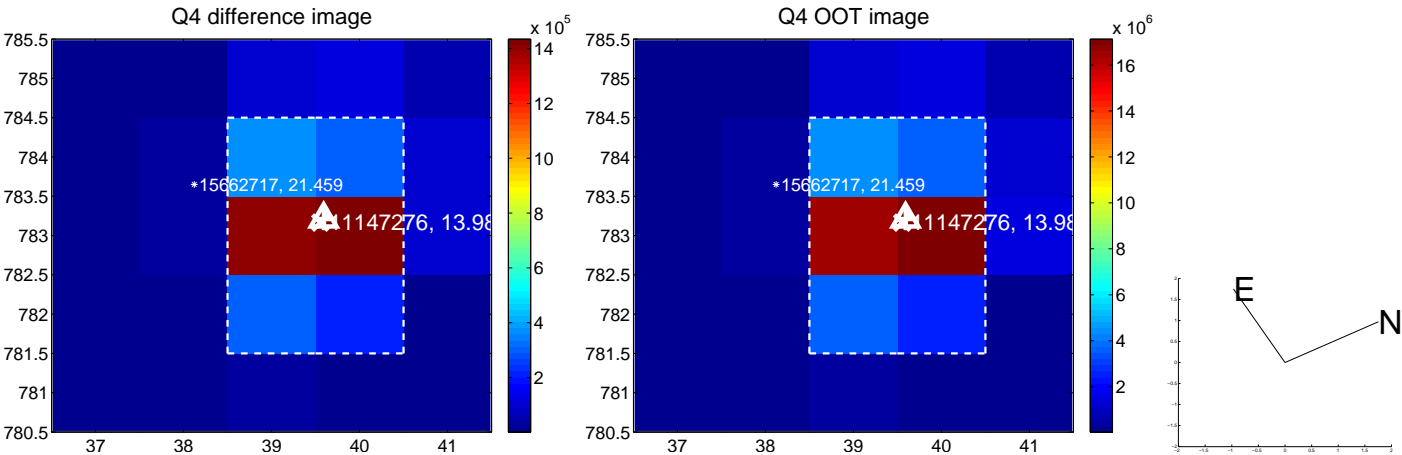
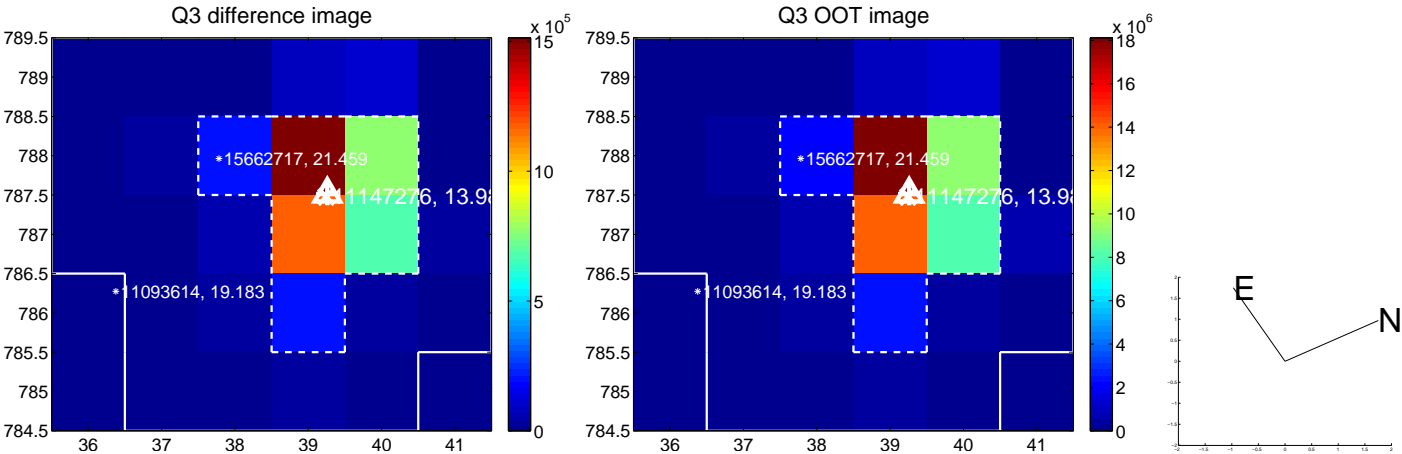
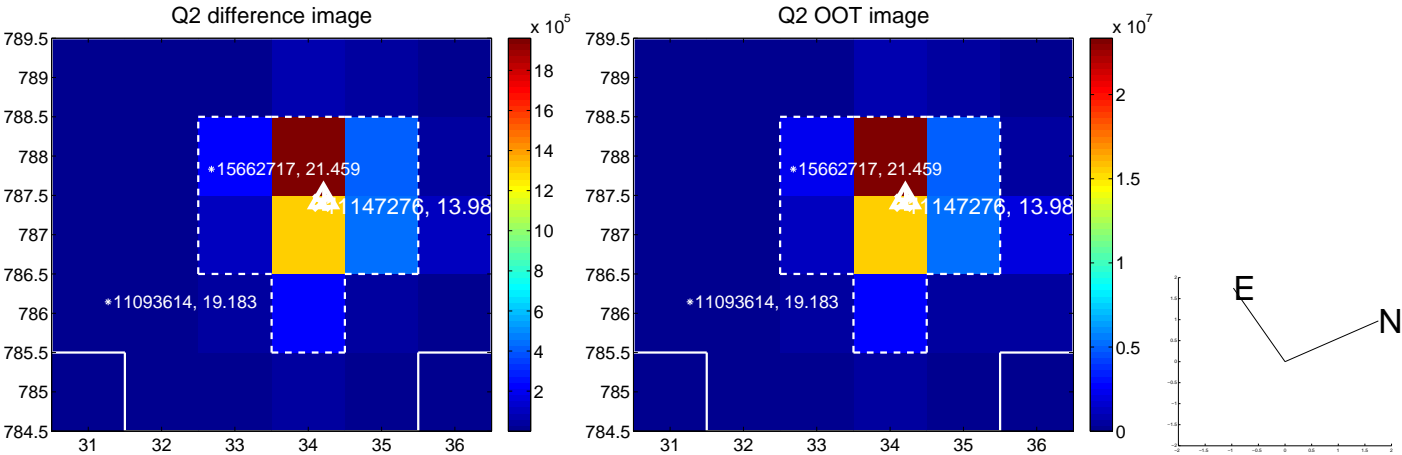
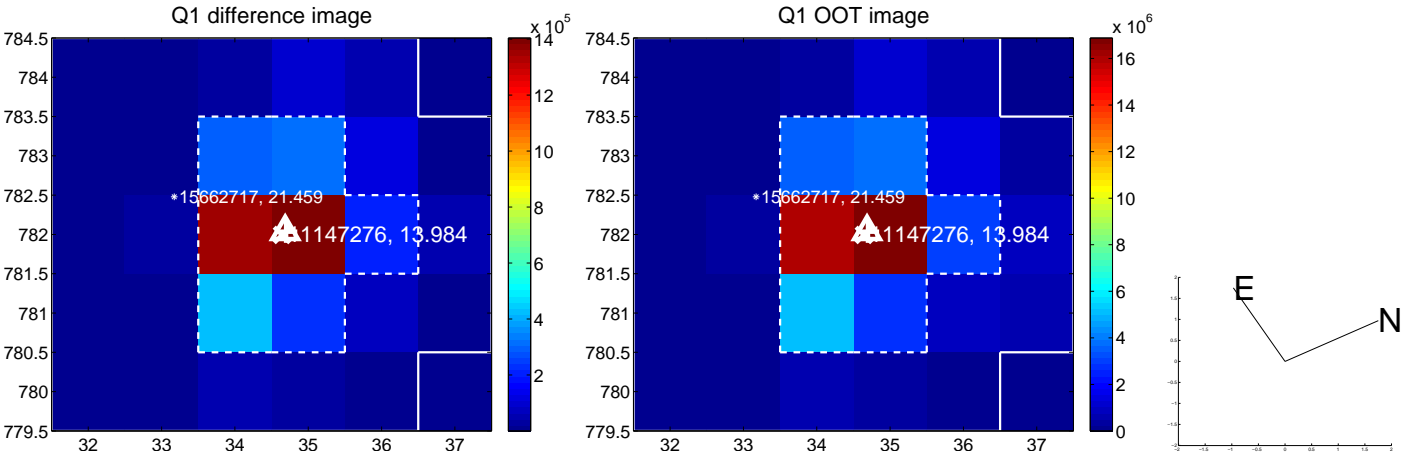
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.019 \pm 0.067$	0.29	$0.016 \pm 0.067$	$-0.010 \pm 0.067$
PRF-fit source offset from KIC position	$0.219 \pm 0.068$	3.20	$0.082 \pm 0.067$	$0.203 \pm 0.069$
photometric centroid source offset	$0.20 \pm 0.00$	213.65	$0.16 \pm 0.00$	$0.11 \pm 0.00$



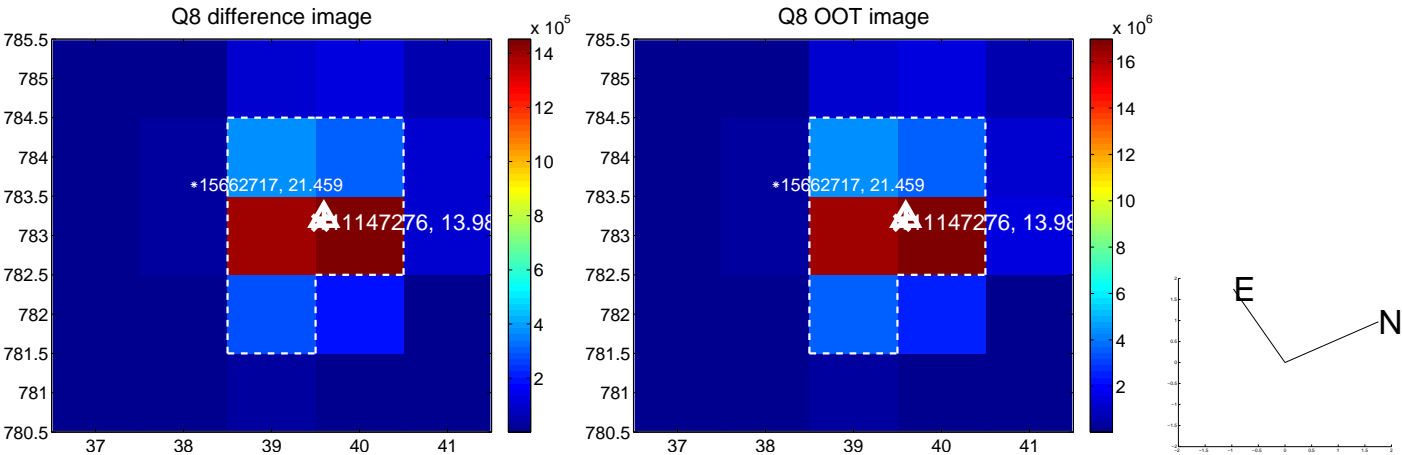
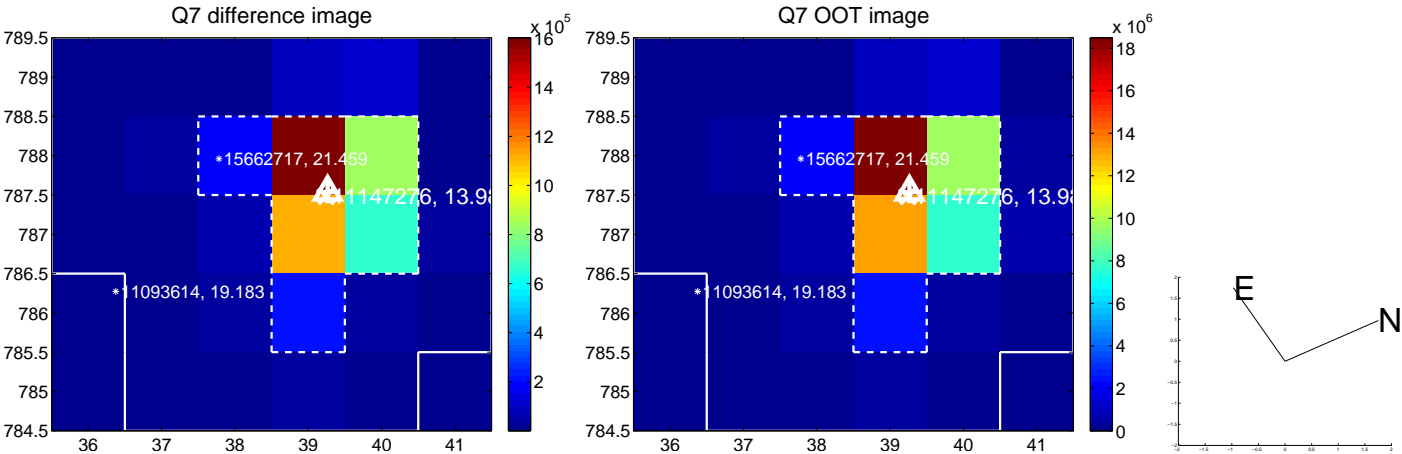
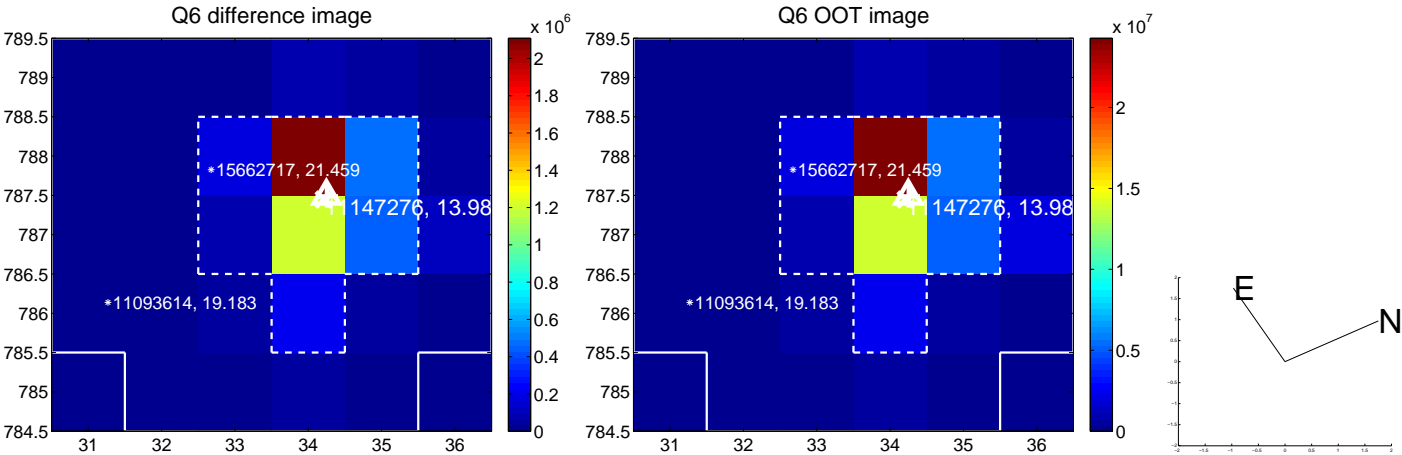
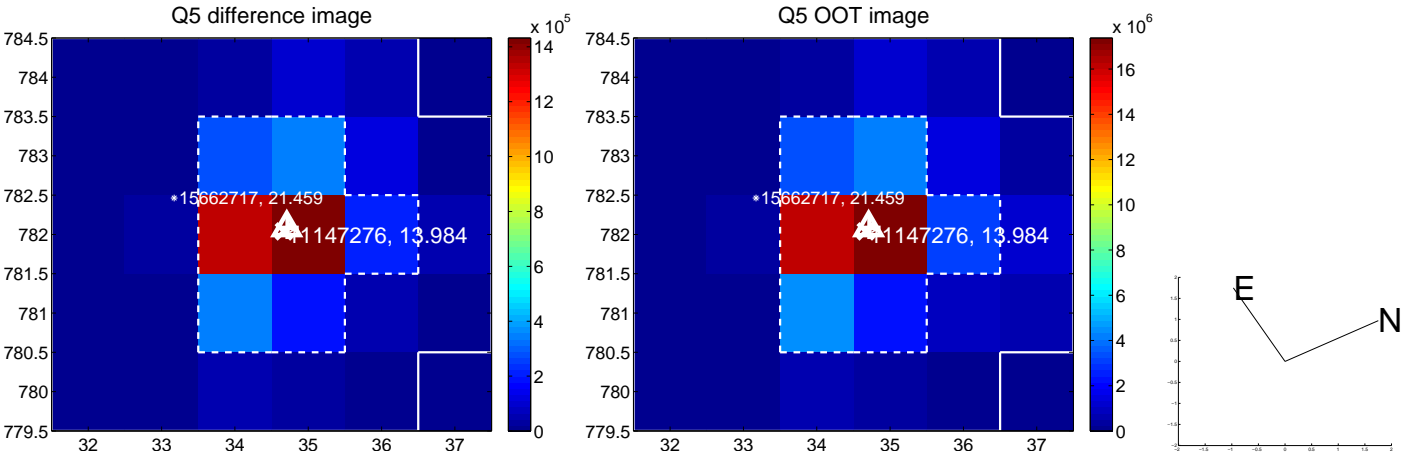
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

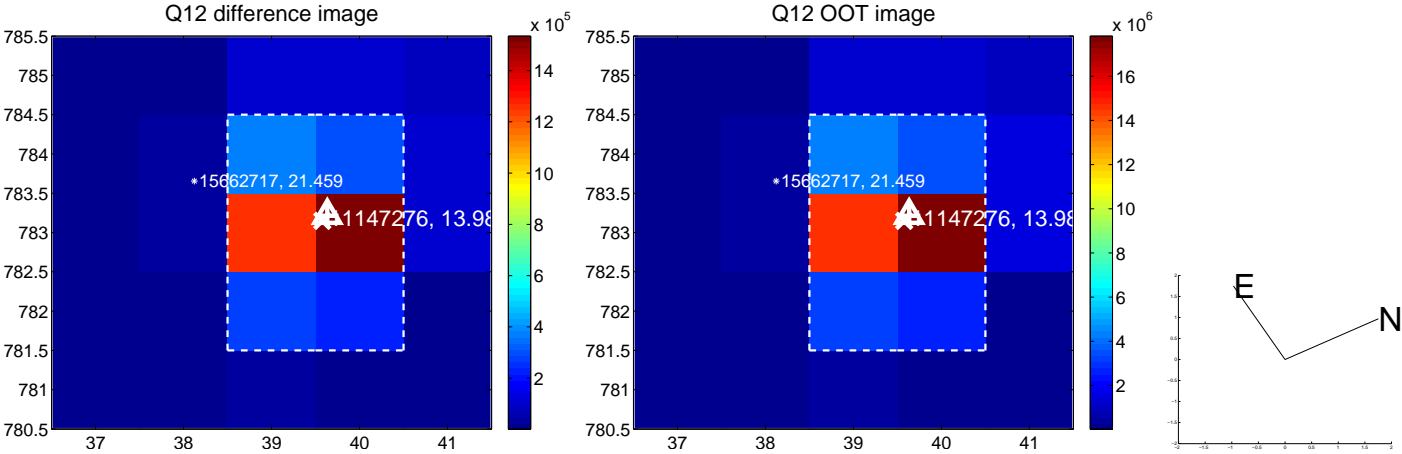
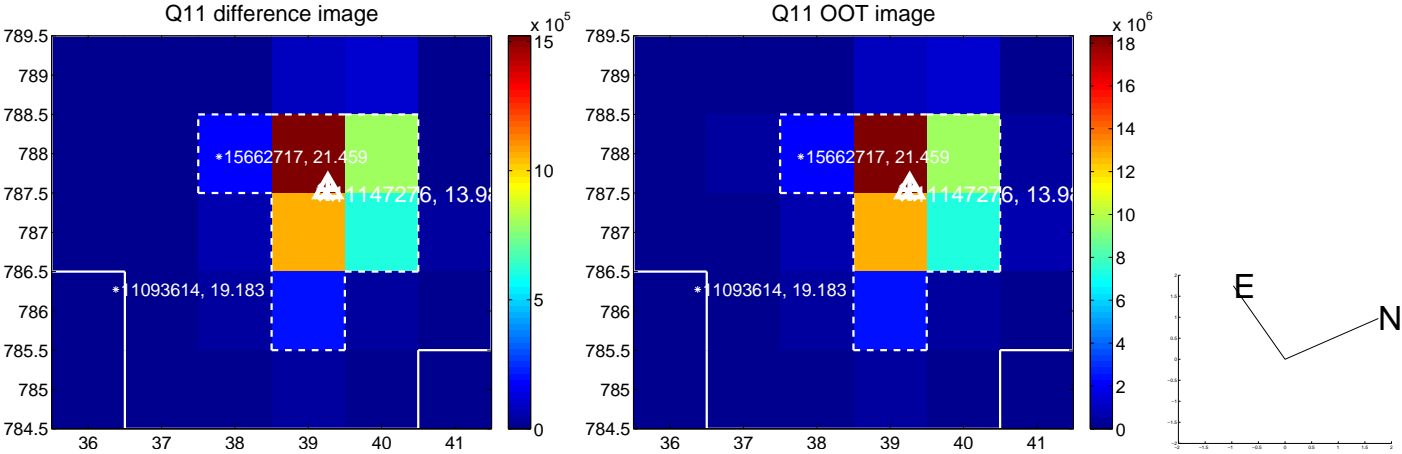
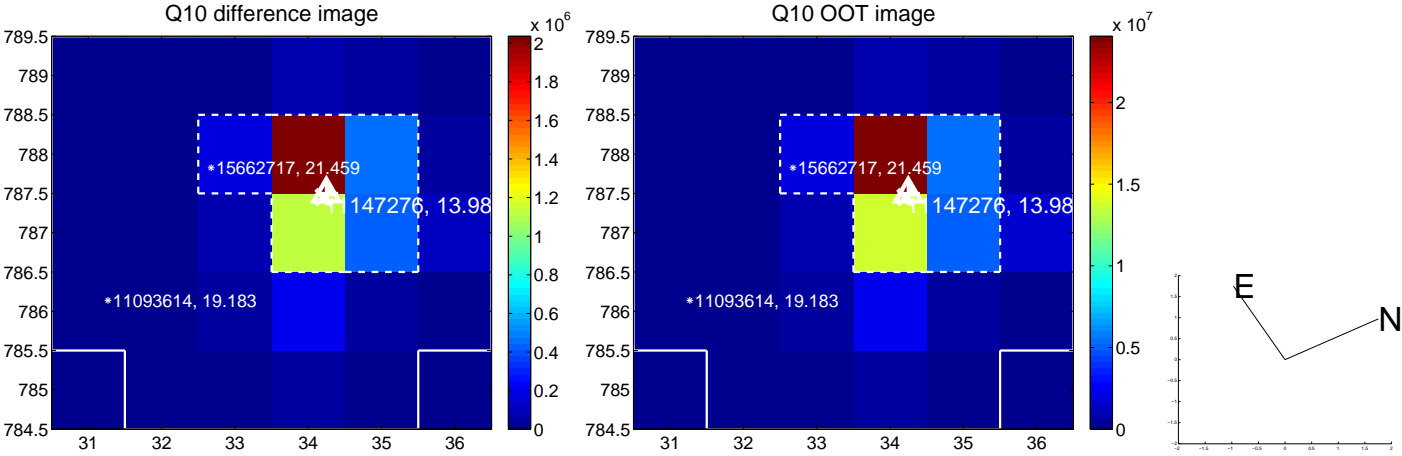
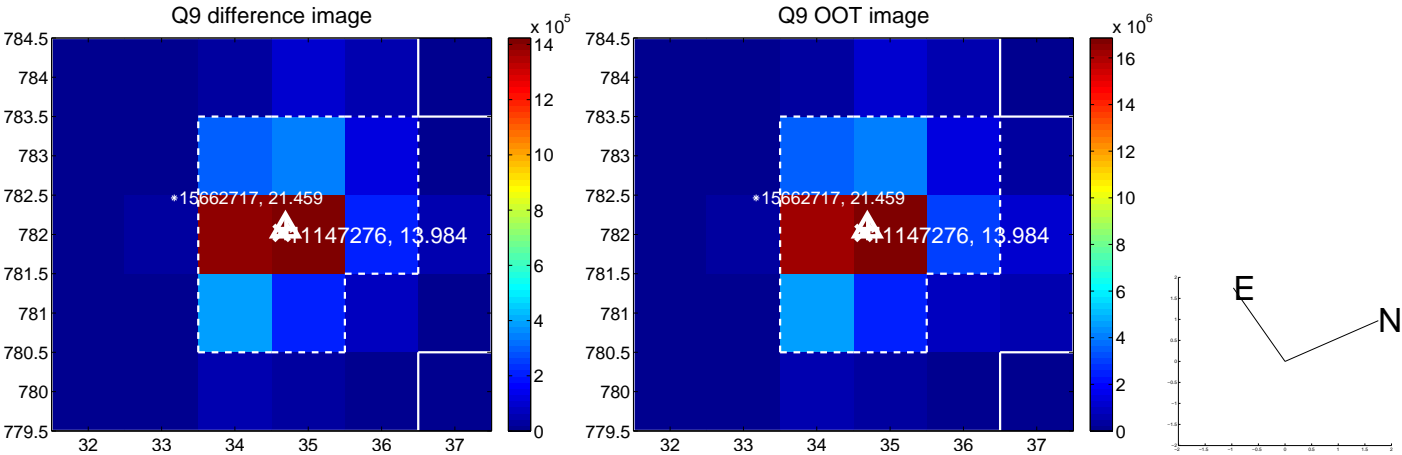




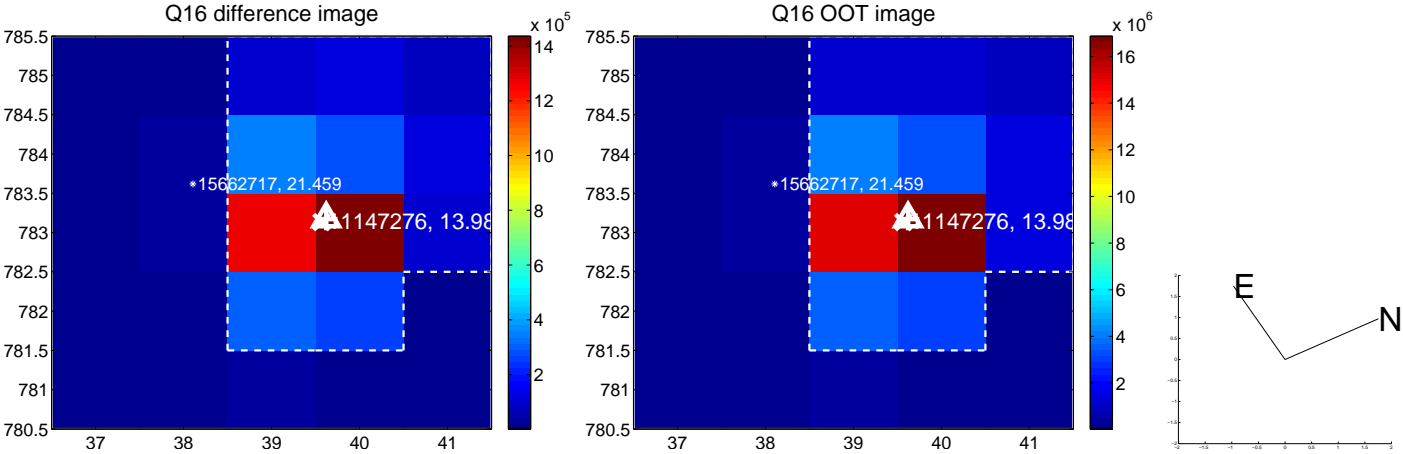
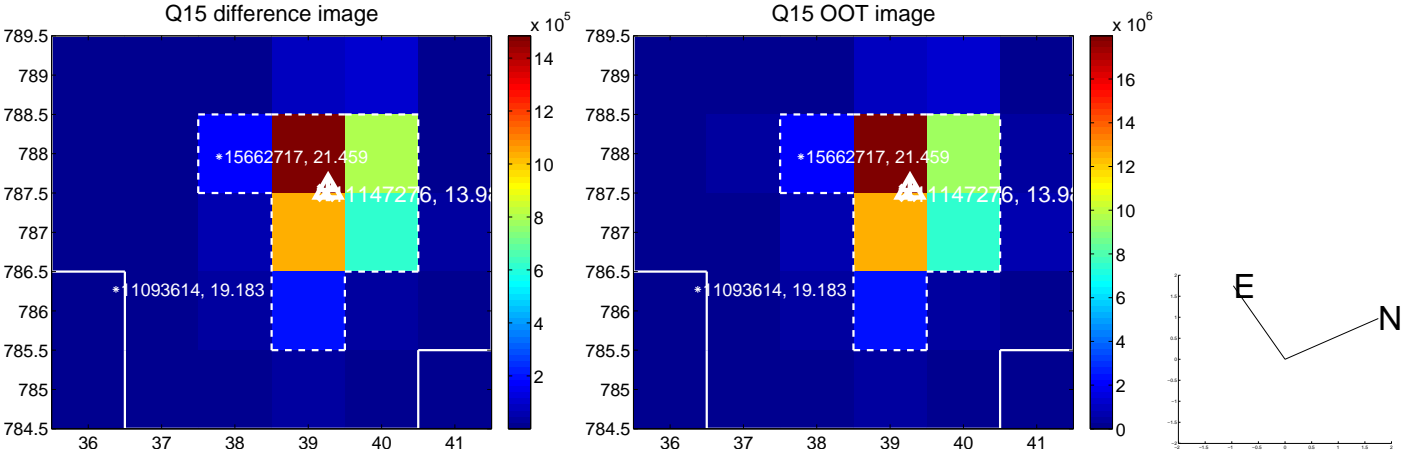
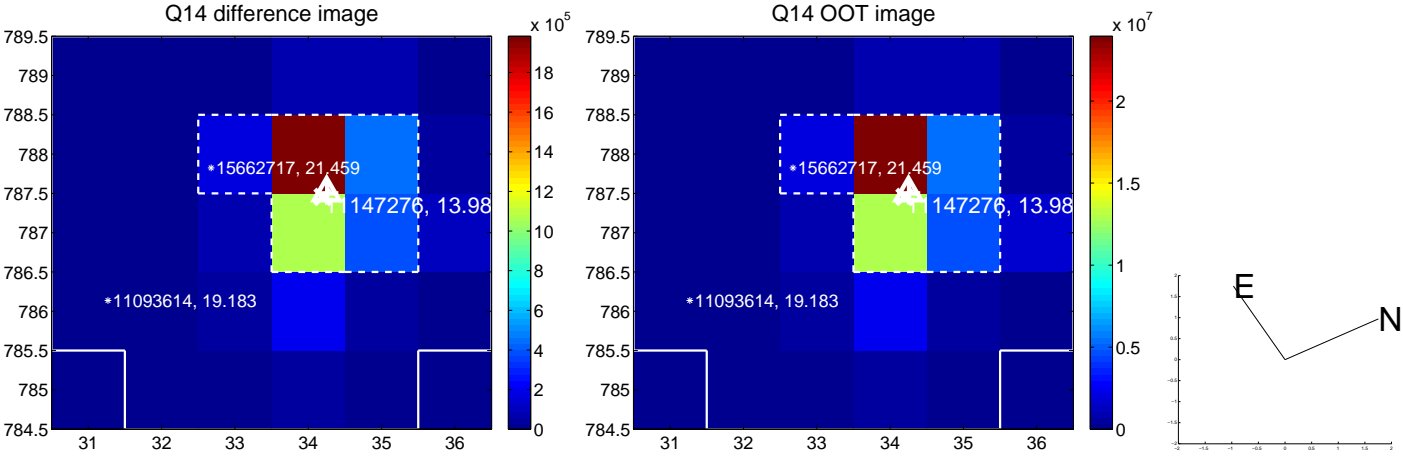
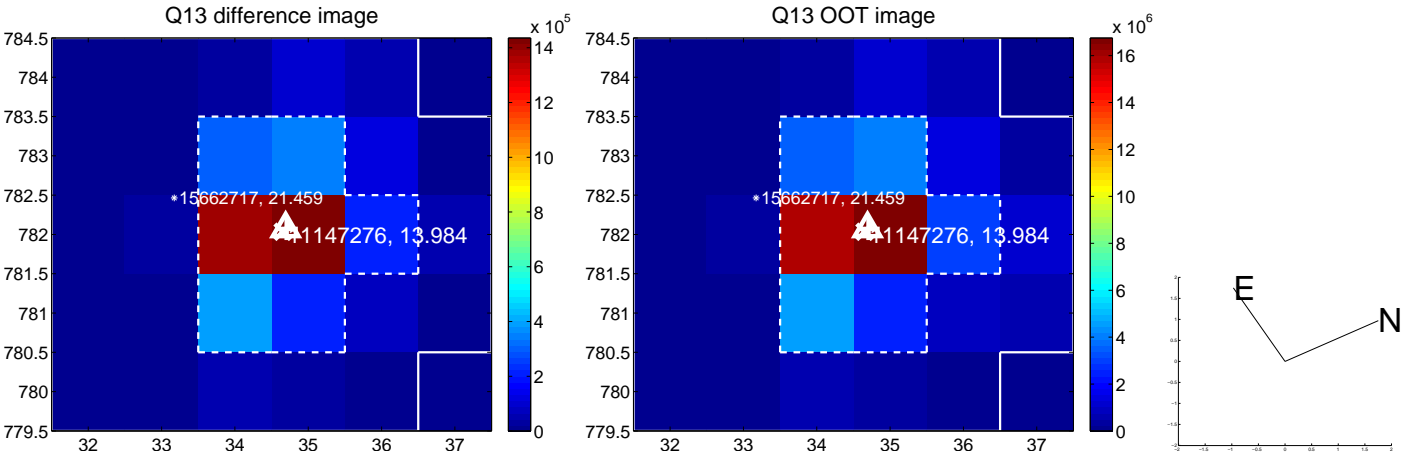
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



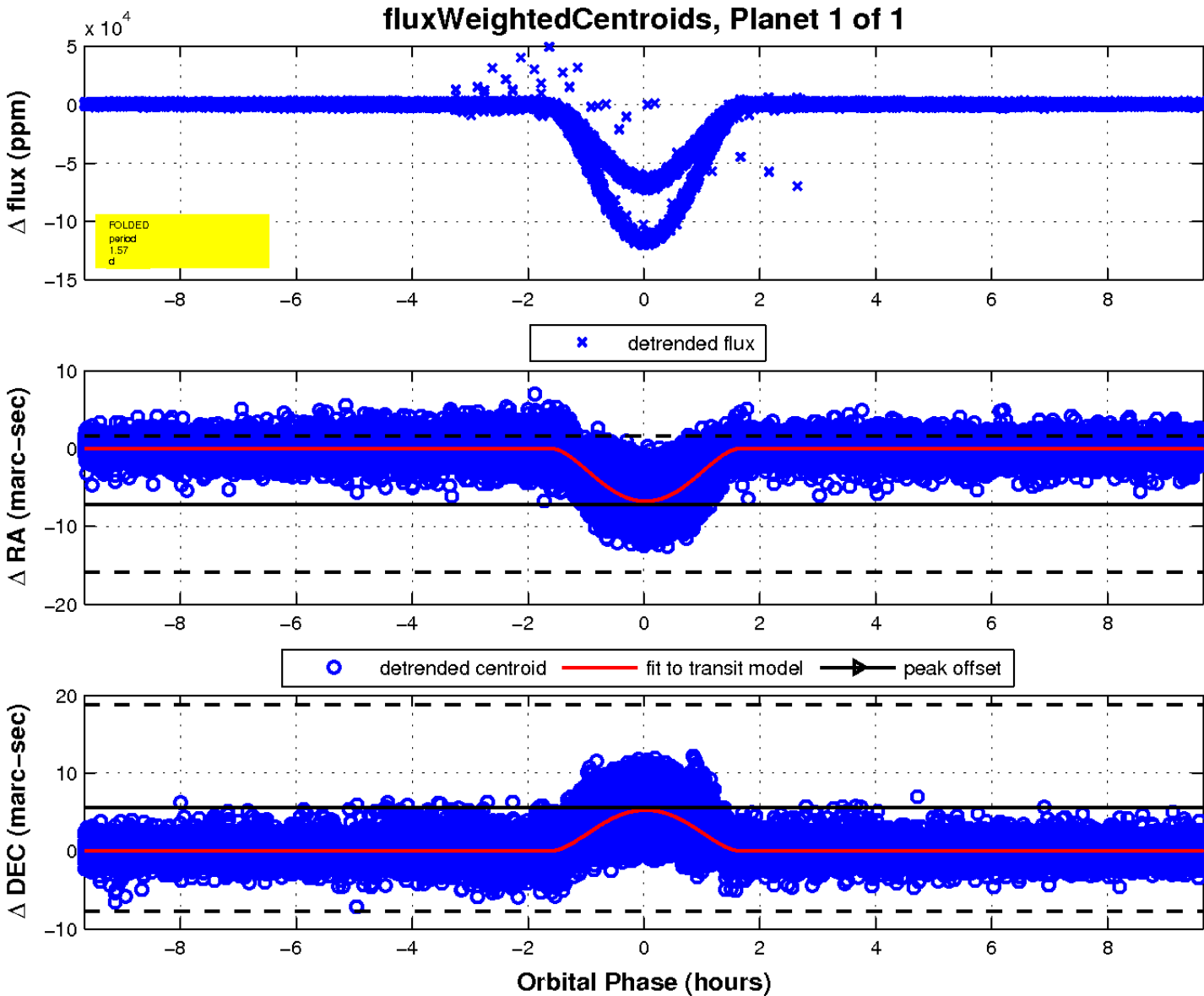
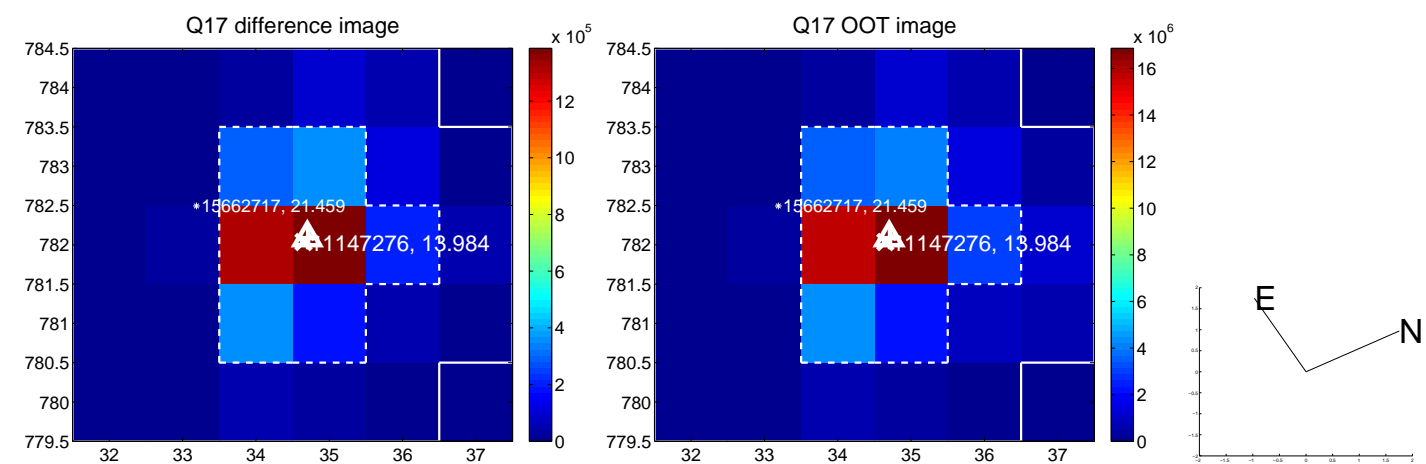
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



# UKIRT Image

Declination

