

# KIC 006767227

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006767227-01	OBS	4871.01	4.081967	132.112453	27.1	2.881	7.9	8.6	1.16	6538	0.69	839.76

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006767227-01	OBS	PC	0.88	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.

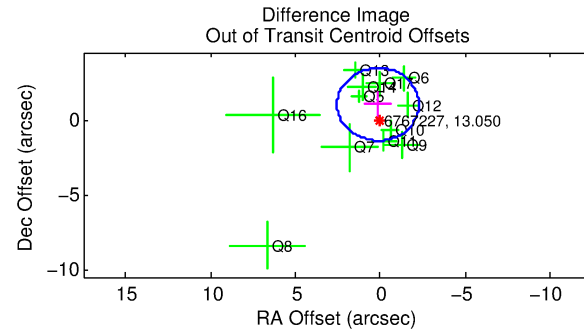
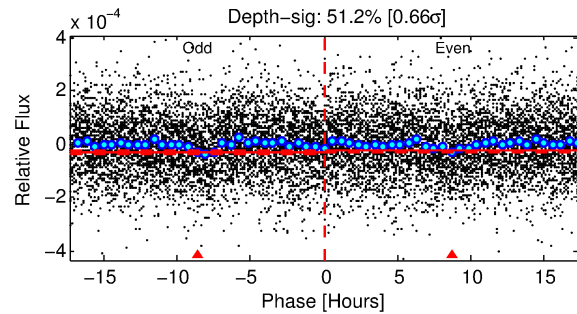
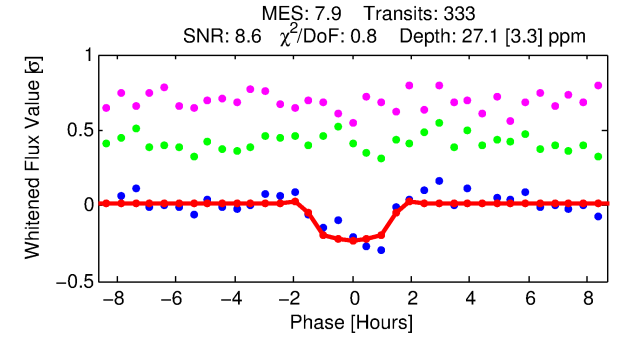
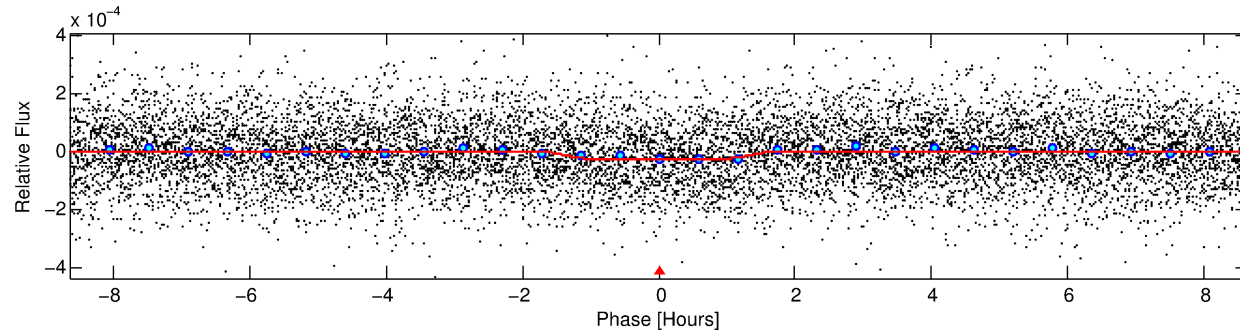
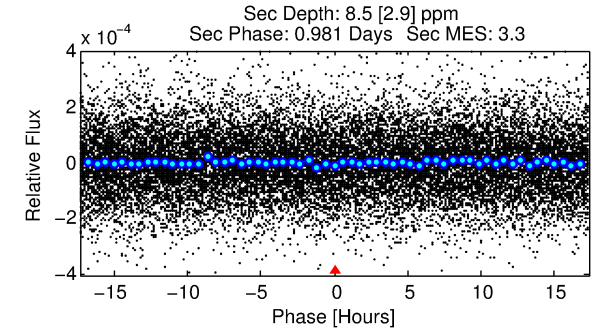
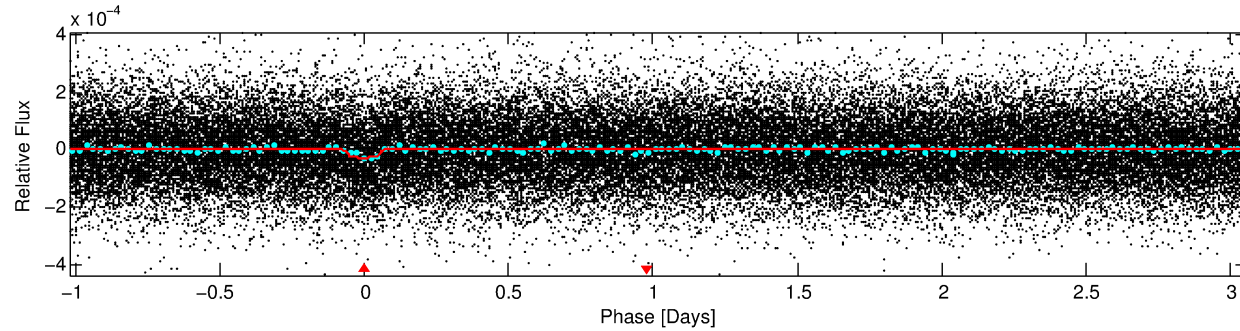
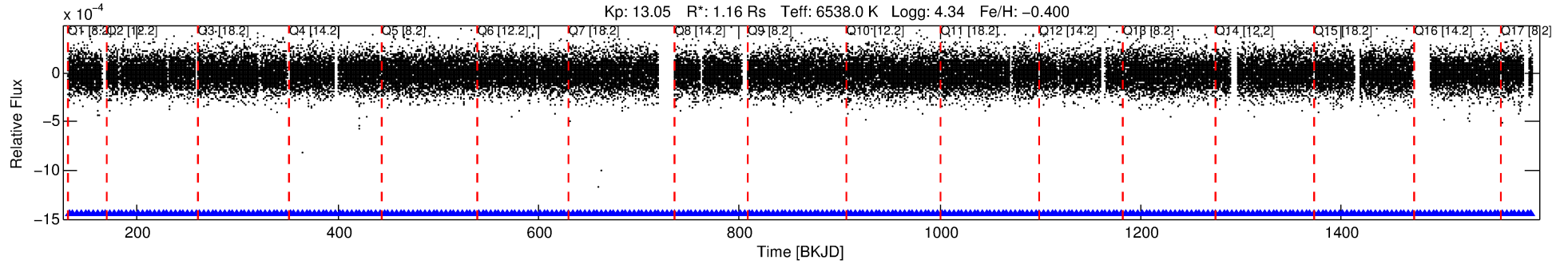
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006767227-01

No Significant Match Found

# DV One-Page Summary

KIC: 6767227 Candidate: 1 of 1 Period: 4.082 d  
KOI: K04871.01 Corr: 0.950



## DV Fit Results:

Period = 4.08197 [0.00003] d  
Epoch = 132.1125 [0.0052] BKJD  
Rp/R\* = 0.0054 [0.0021]  
a/R\* = 5.58 [11.83]  
b = 0.87 [0.63]  
Seff = 839.76 [235.39]  
Teff = 1373 [96] K  
Rp = 0.69 [0.30] Re  
a = 0.0510 [0.0089] AU  
Ag = 25.84 [22.47] [1.11σ]  
Teffp = 4785 [1005] K [3.38σ]

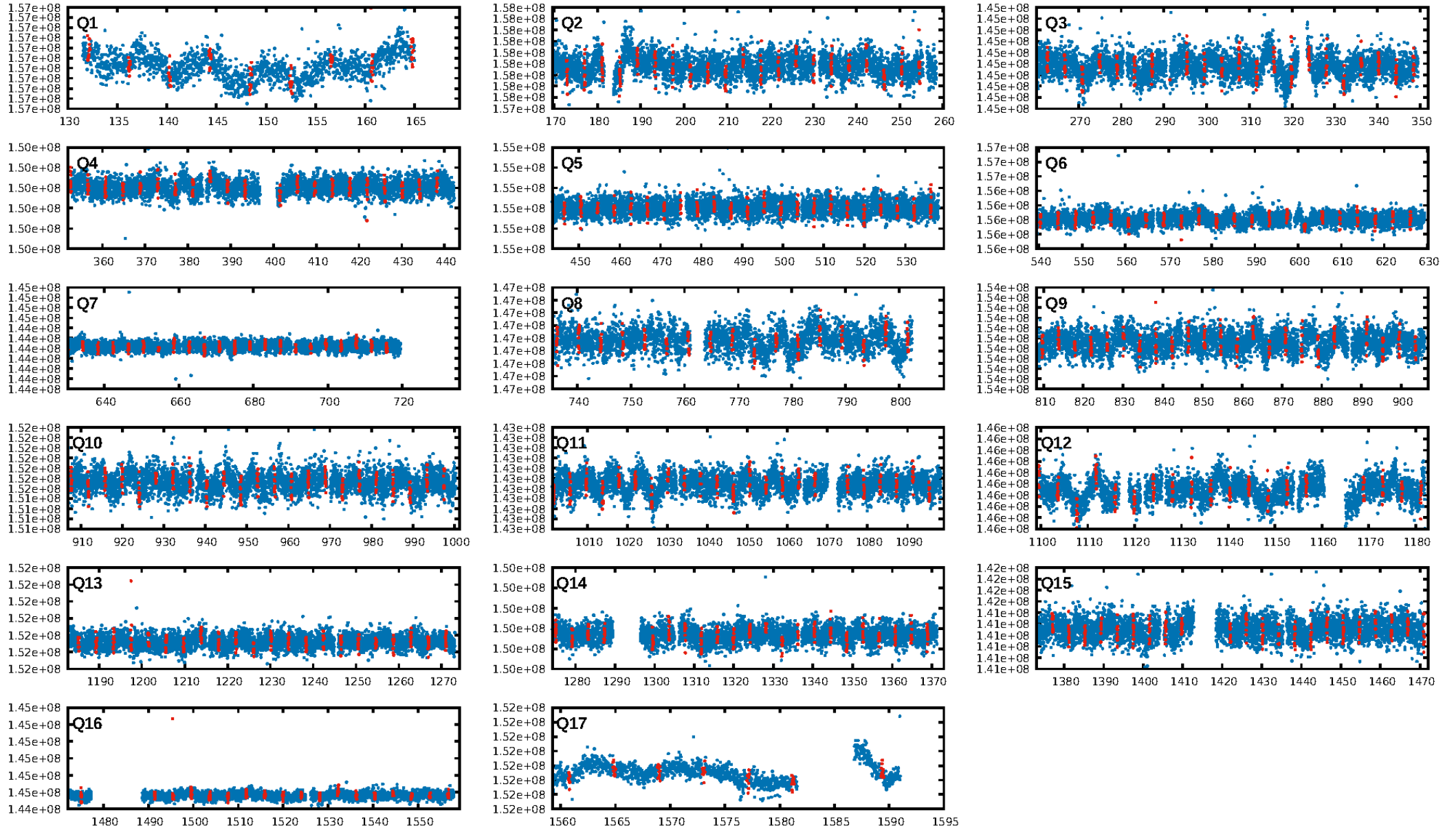
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.62e-15  
RollingBand-fgt: 1.00 [317/317]  
GhostDiagnostic-chr: -8.078  
Centroid-sig: 0.4%  
Centroid-so: 2.237 arcsec [1.64σ]  
OotOffset-rm: 1.033 arcsec [1.28σ]  
KicOffset-rm: 1.148 arcsec [1.23σ]  
OotOffset-st: 3/2/3/4 [12]  
KicOffset-st: 3/2/3/4 [12]  
DiffImageQuality-fgm: 0.58 [7/12]  
DiffImageOverlap-fno: 1.00 [17/17]

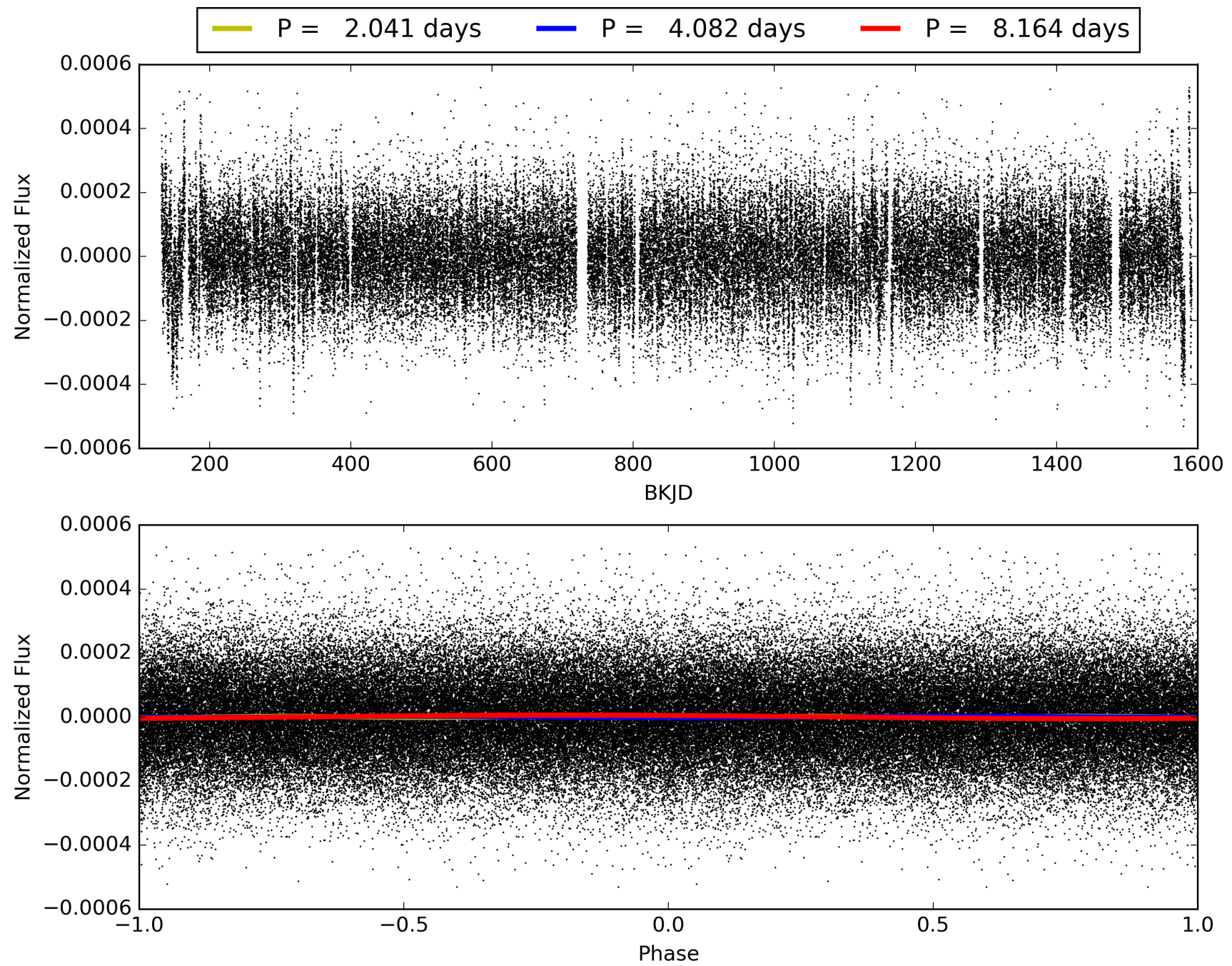
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:48:11 Z

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

# TCE 006767227-01, PDC Light Curves

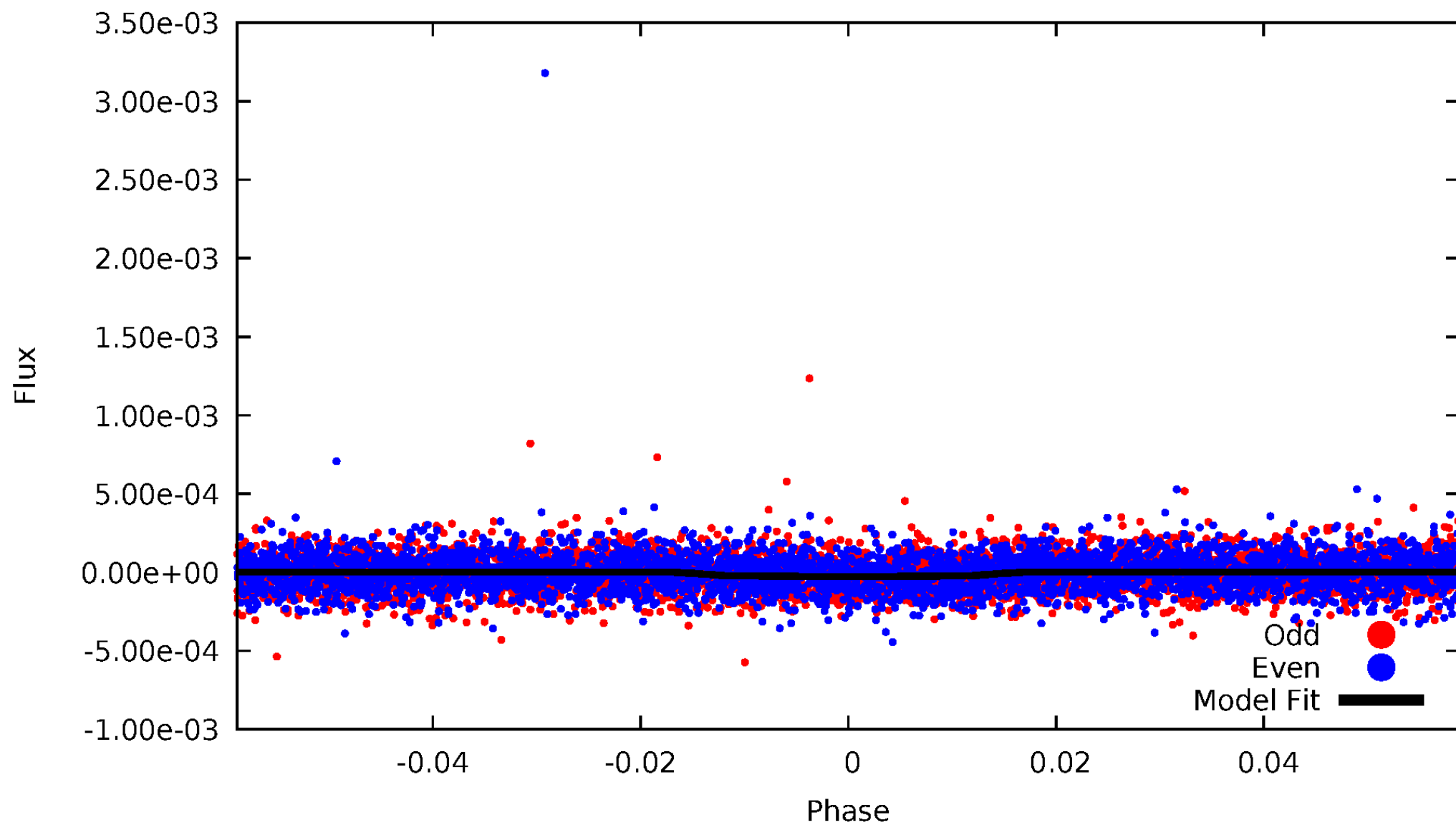


TCE 006767227-01



# DV Odd/Even

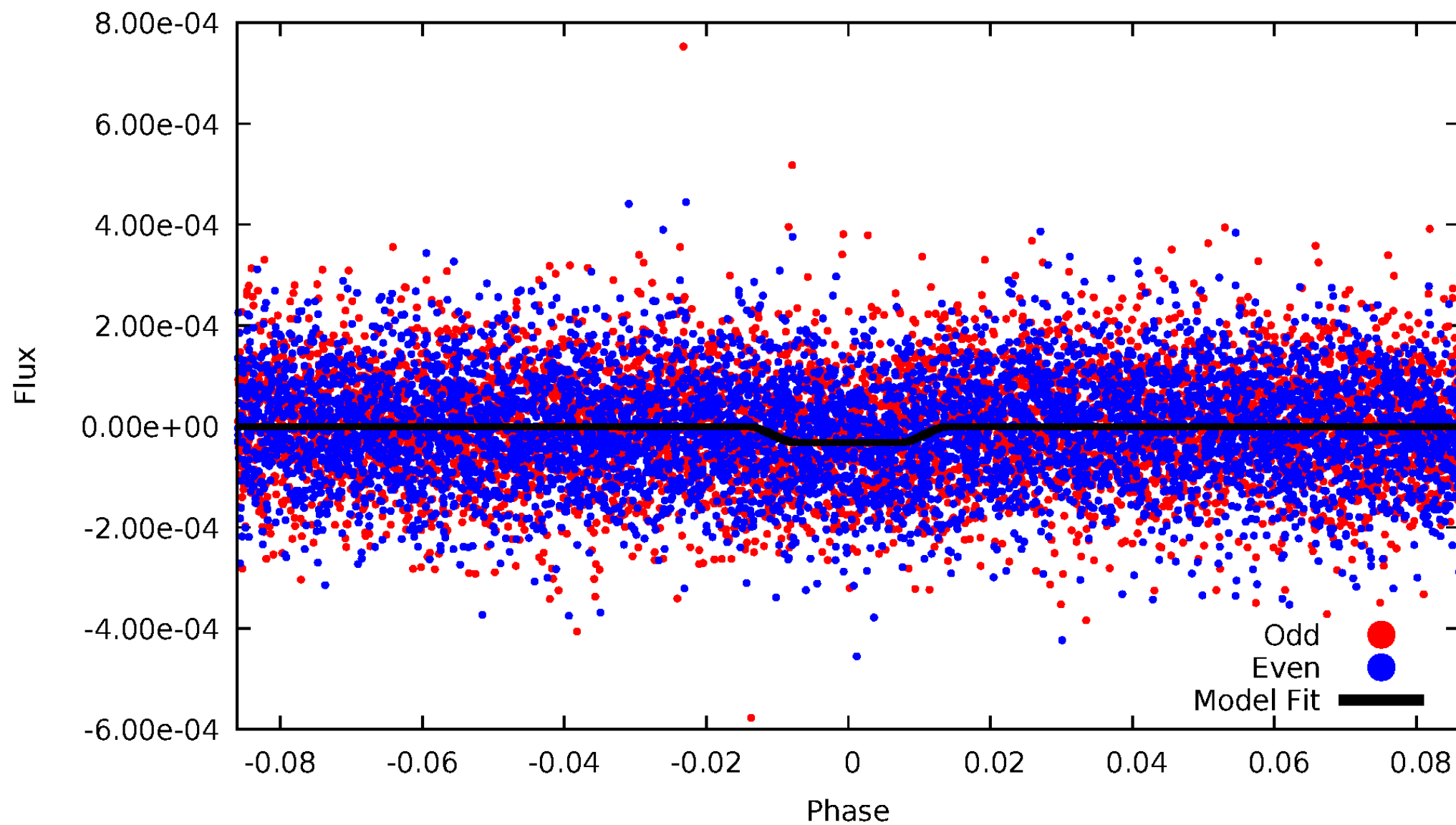
TCE 006767227-01





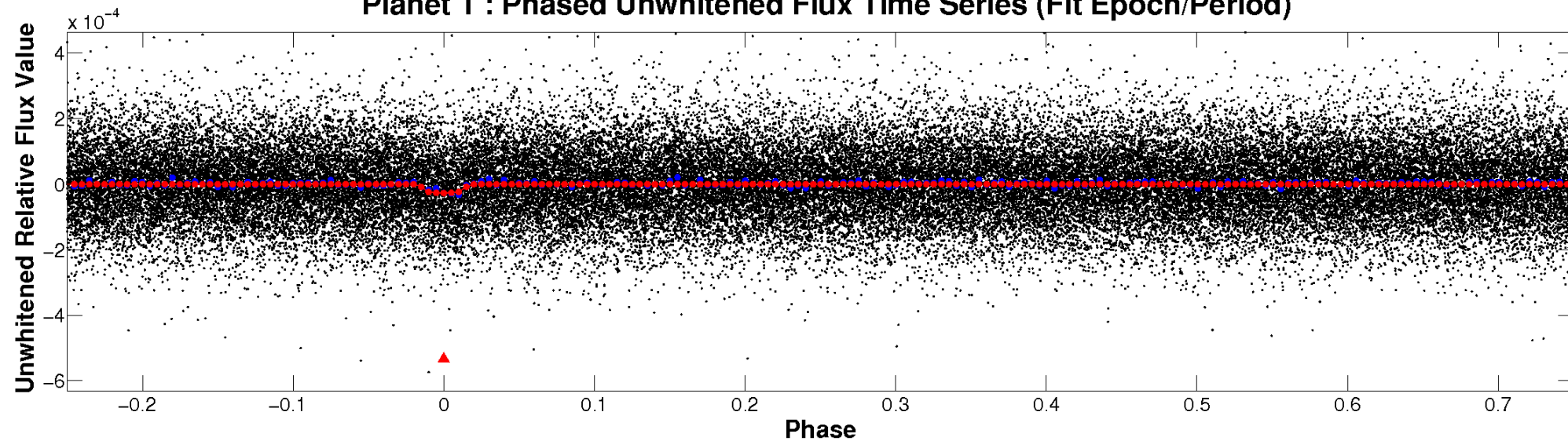
# ALT Odd/Even

TCE 006767227-01

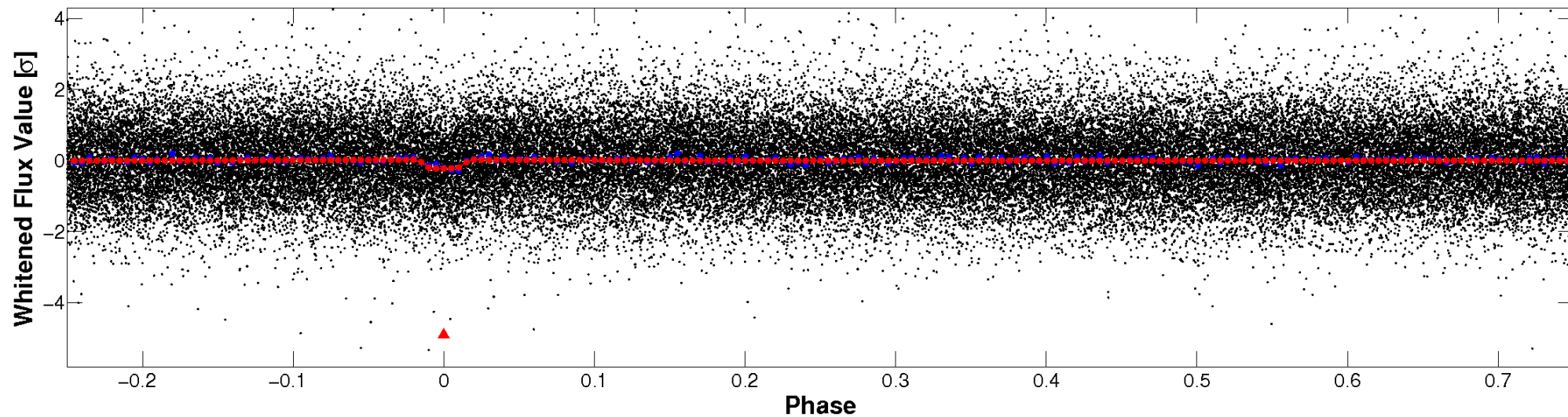


# Non-Whitened Vs. Whitened Light Curve

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

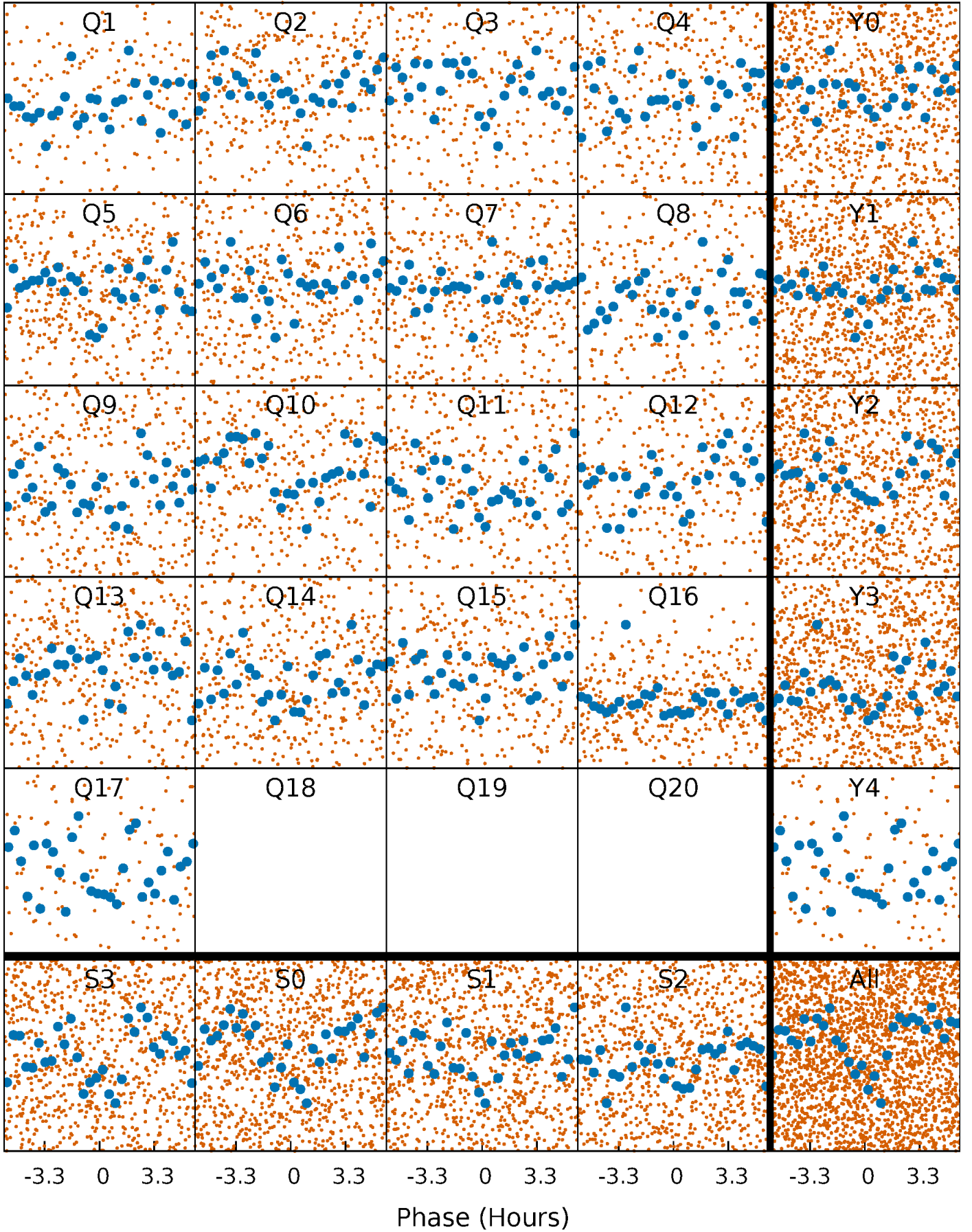


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

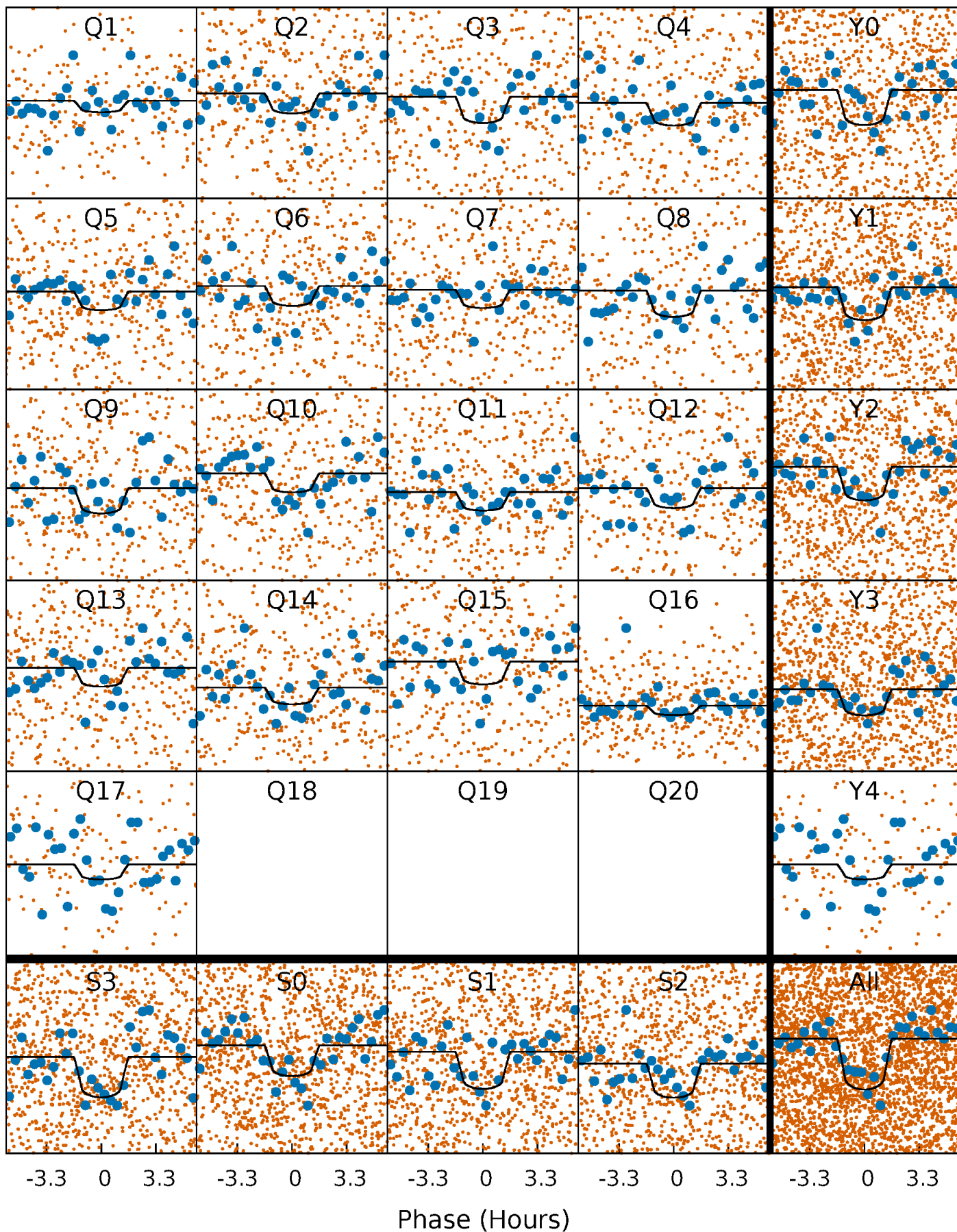
TCE 006767227-01   P= 4.081967 Days    $T_0=132.112453$  (BKJD)





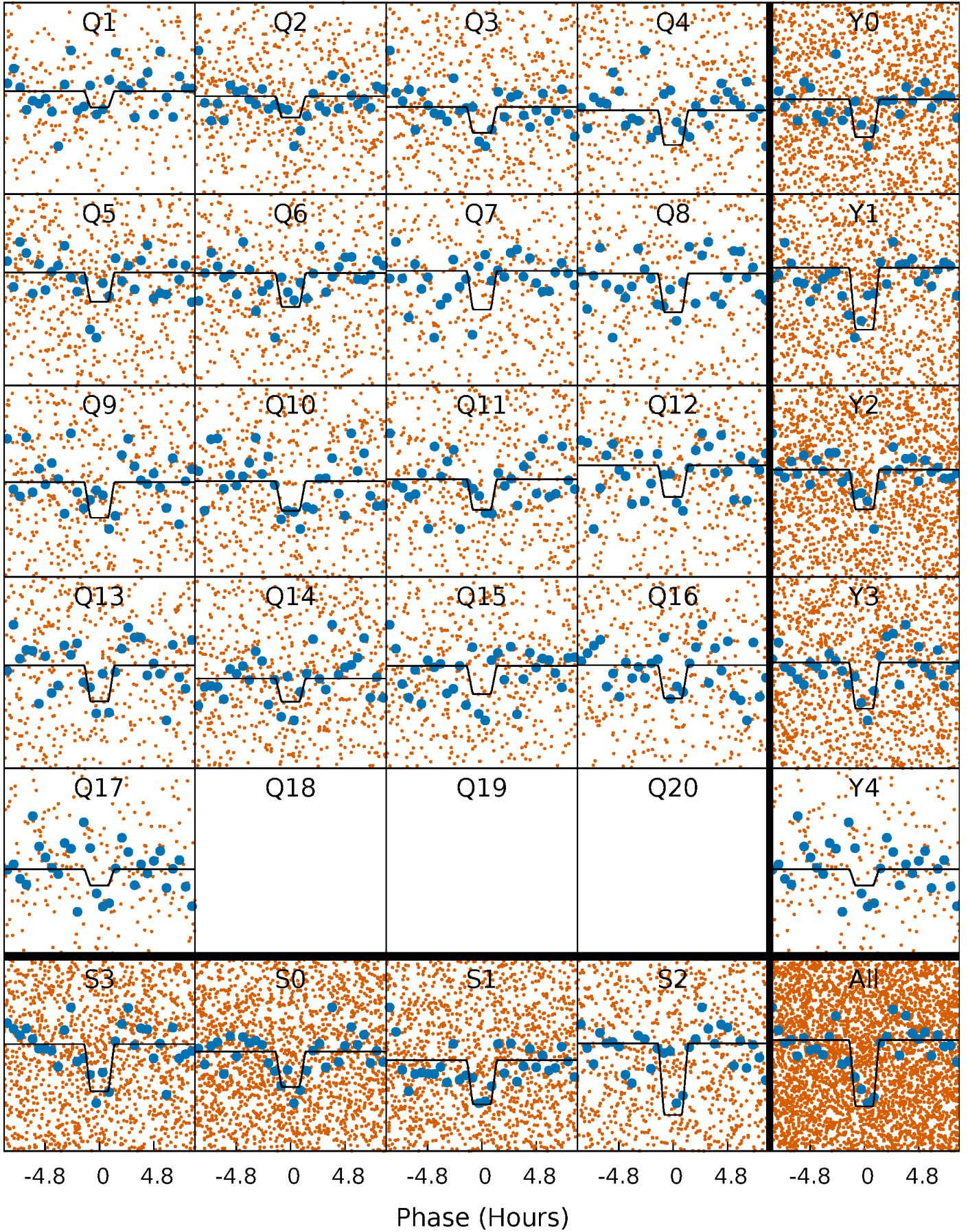
# DV Quarter-Phased Transit Curves

TCE 006767227-01 P= 4.081967 Days  $T_0=132.112453$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

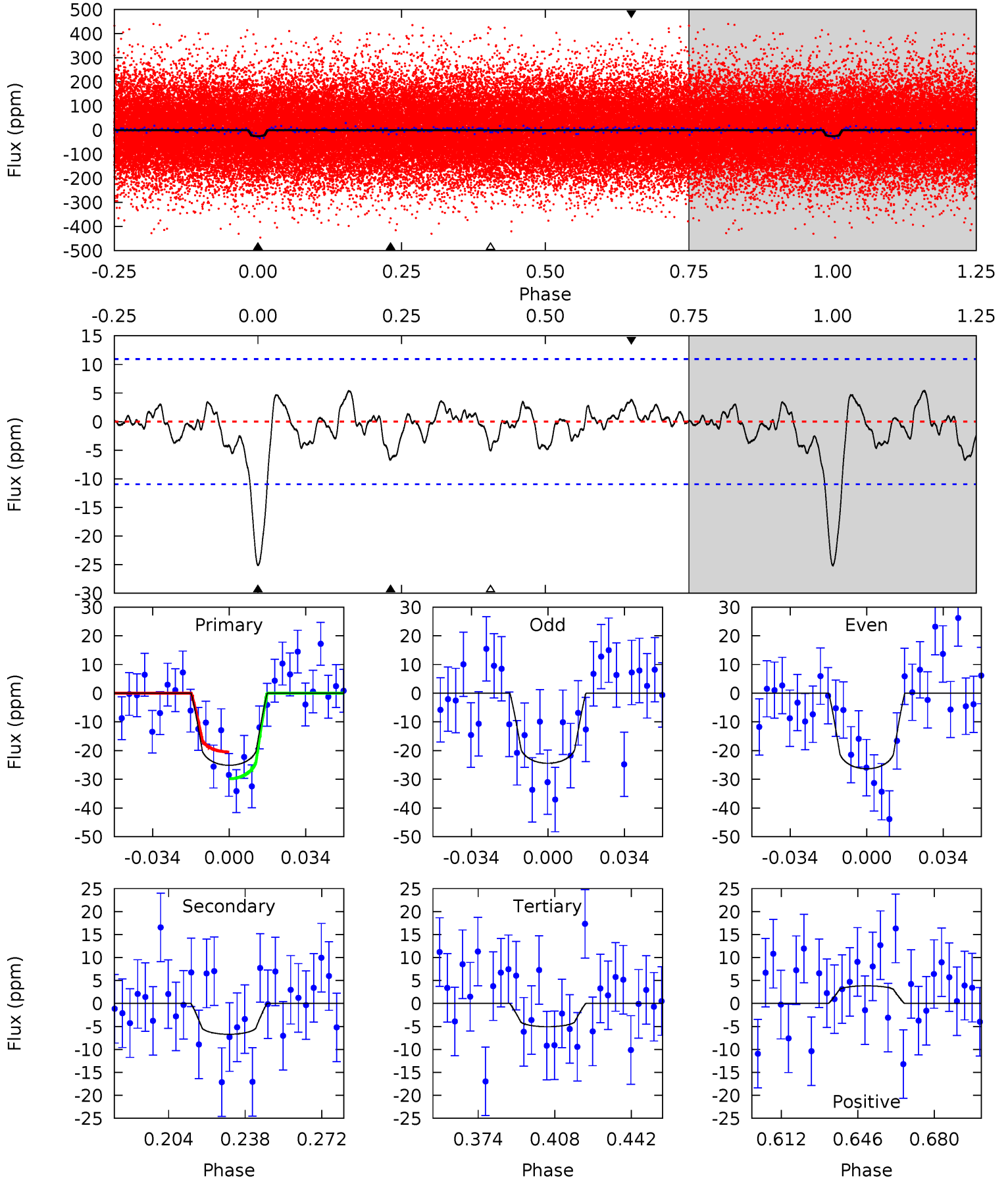
TCE 006767227-01 P= 4.081897 Days  $T_0=132.132583$  (BKJD)



# DV Model-Shift Uniqueness Test

006767227-01, P = 4.081967 Days, E = 128.030486 Days

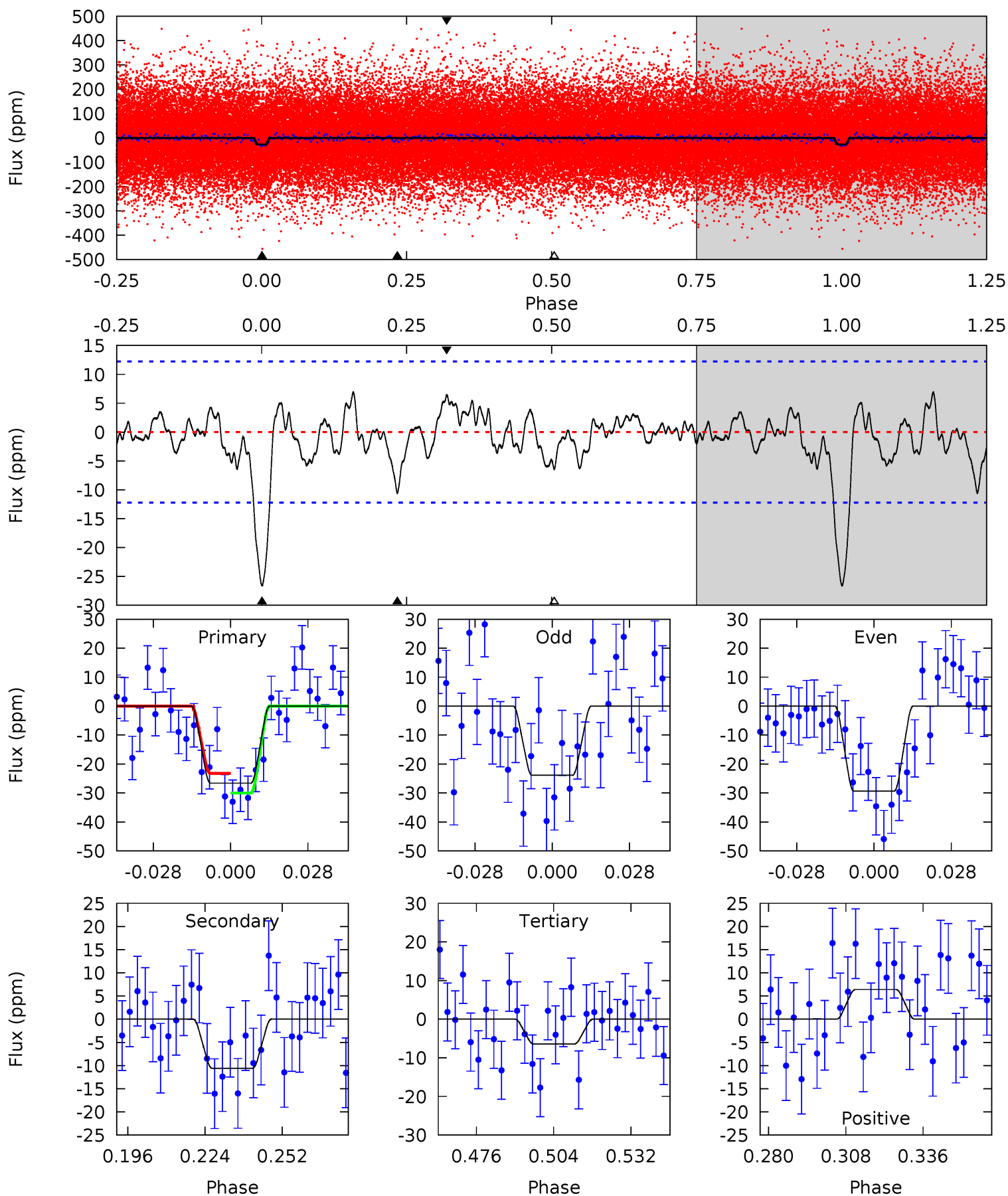
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	2.94	2.21	1.68	4.79	2.12	0.96	8.78	9.31	0.72	1.26	0.42	0.93	0.18	2.05



# Alt Model-Shift Uniqueness Test

006767227-01, P = 4.081897 Days, E = 128.050686 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
10.5	4.18	2.54	2.53	4.82	2.20	1.09	7.96	7.98	1.64	1.65	1.08	0.86	0.21	1.34





### Stellar Parameters For KIC 006767227

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6538^{+147}_{-196}$	$4.339^{+0.092}_{-0.138}$	$-0.400^{+0.250}_{-0.300}$	$1.156^{+0.241}_{-0.161}$	$1.061^{+0.137}_{-0.112}$	$0.968^{+0.393}_{-0.362}$
	+2%/-3%	+2%/-3%	+62%/-75%	+21%/-14%	+13%/-11%	+41%/-37%
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 006767227-01 / KOI 4871.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-7 \pm 2$	$0.71^{+0.27}_{-0.29}$	$1925^{+98}_{-93}$	$4578^{+1113}_{-630}$	$19^{+33}_{-10}$
Alt.	$-11 \pm 3$	$0.71^{+0.29}_{-0.27}$	$1926^{+108}_{-91}$	$5017^{+1251}_{-687}$	$29^{+48}_{-15}$

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

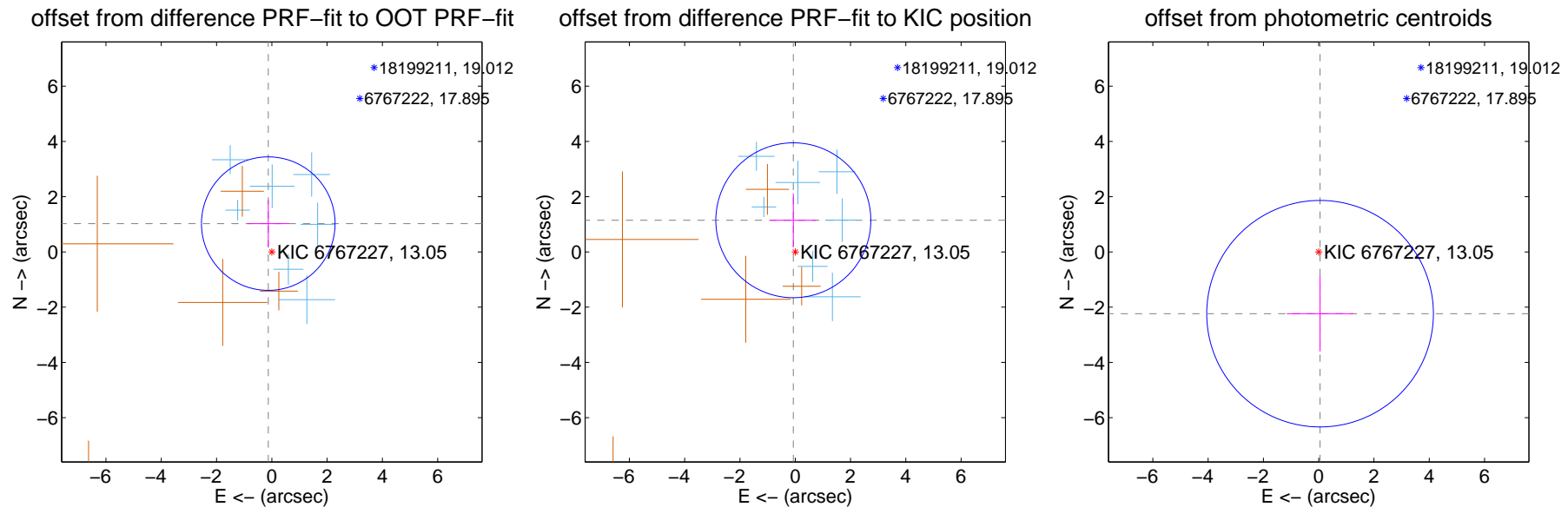
## DV Centroid Data

Supplemental centroid analysis for 006767227-01. Kepler magnitude: 13.05. Transit SNR 8.63

There are 7 quarters with good PRF difference image offsets

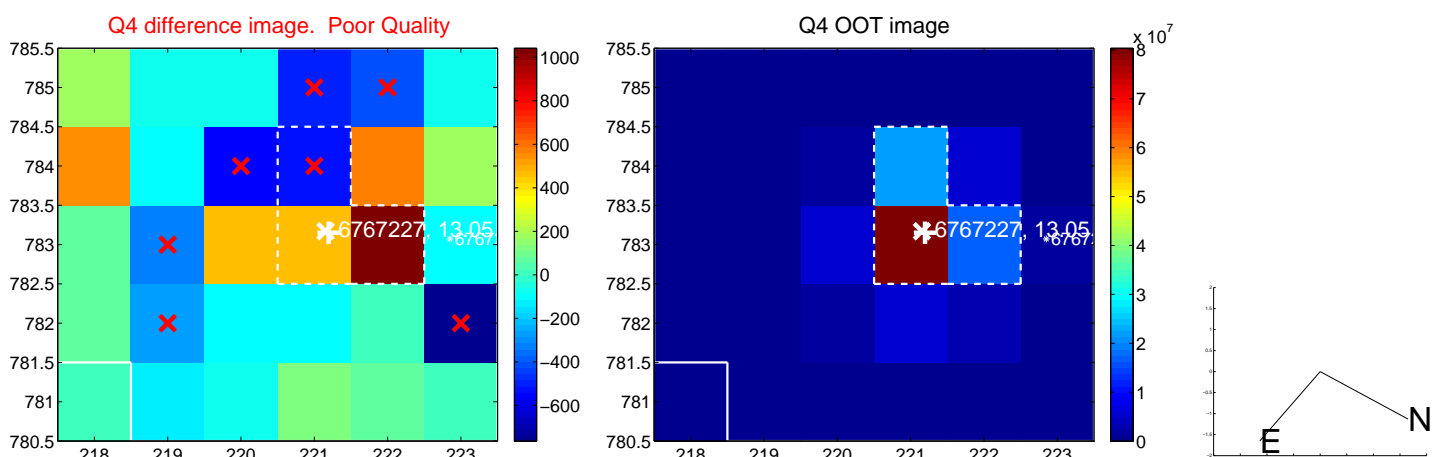
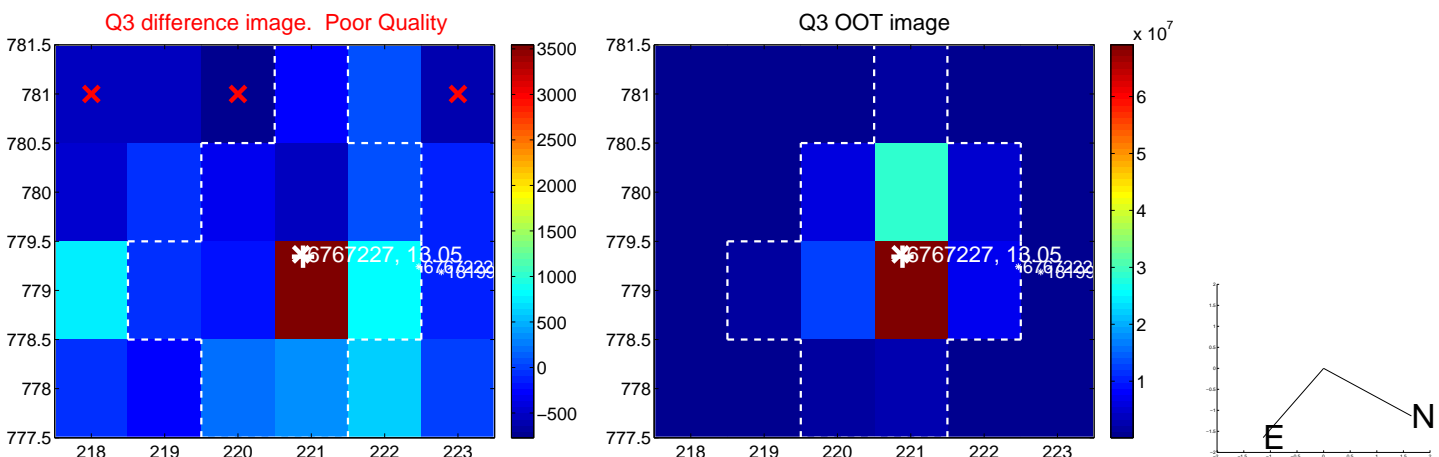
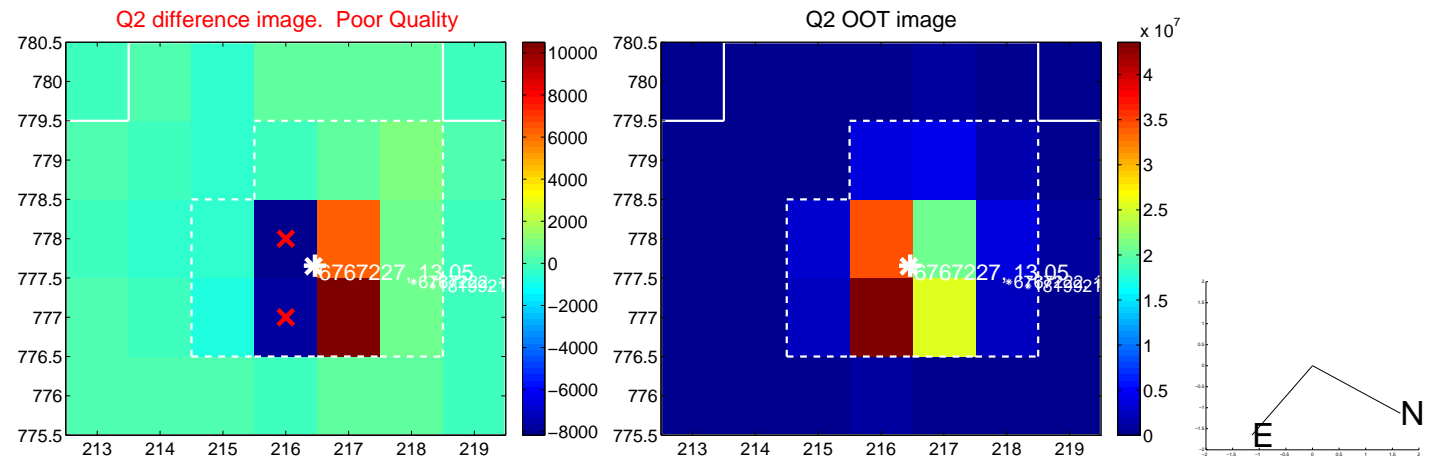
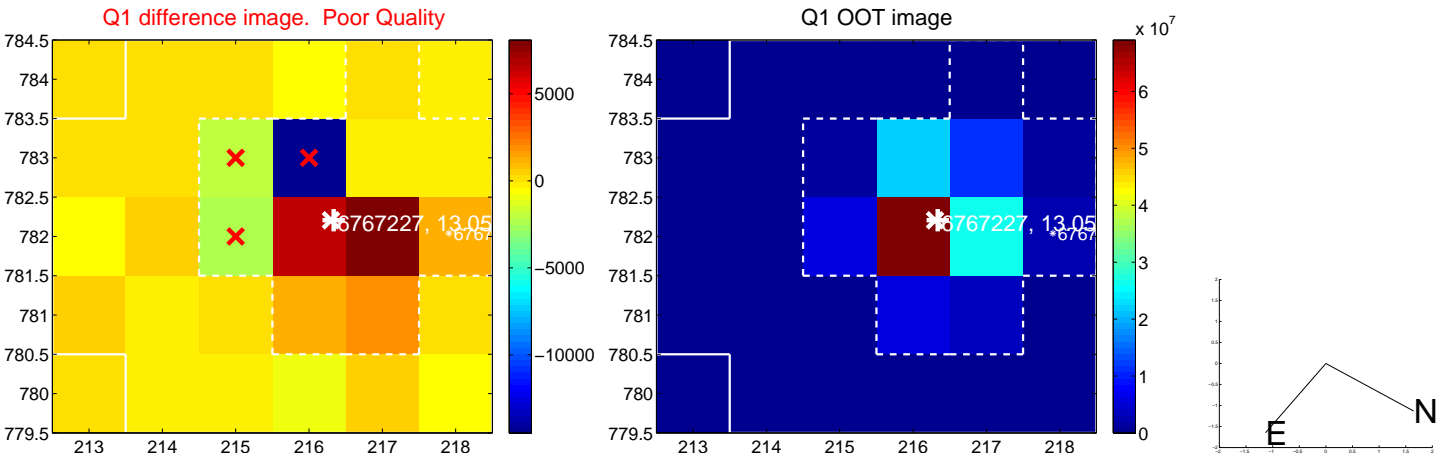
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.033 \pm 0.806$	1.28	$0.128 \pm 0.756$	$1.025 \pm 0.848$
PRF-fit source offset from KIC position	$1.148 \pm 0.935$	1.23	$0.070 \pm 0.838$	$1.146 \pm 0.964$
photometric centroid source offset	$2.24 \pm 1.37$	1.64	$-0.05 \pm 1.20$	$-2.24 \pm 1.37$

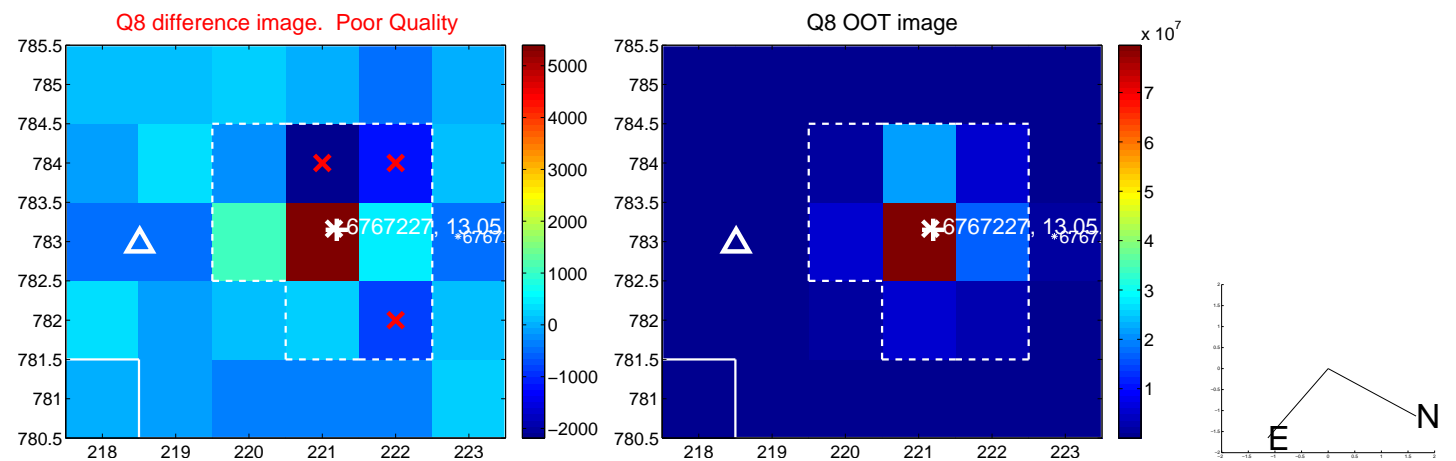
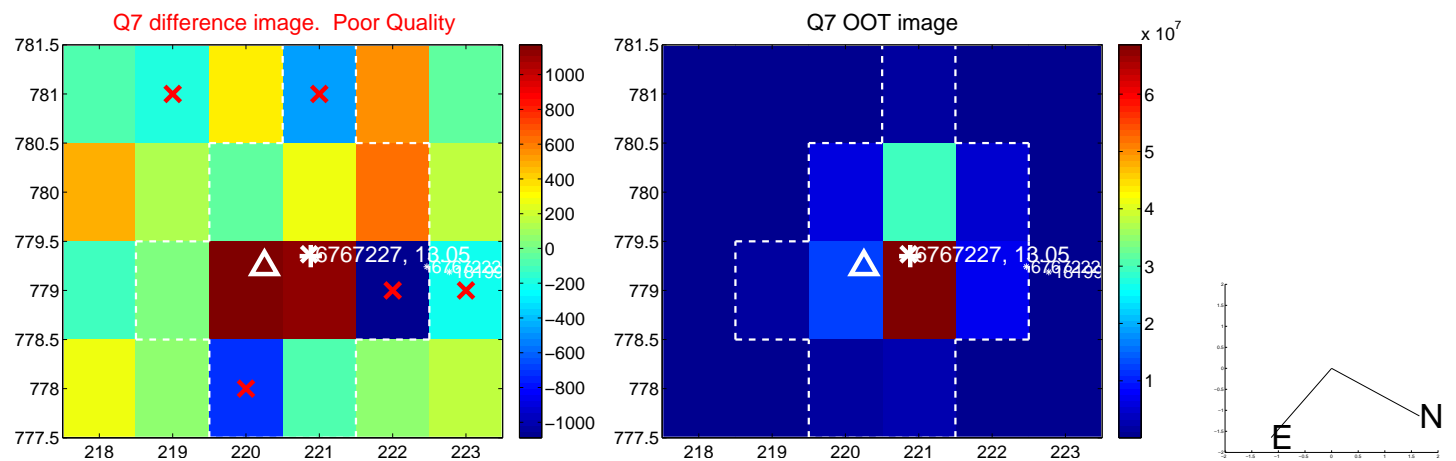
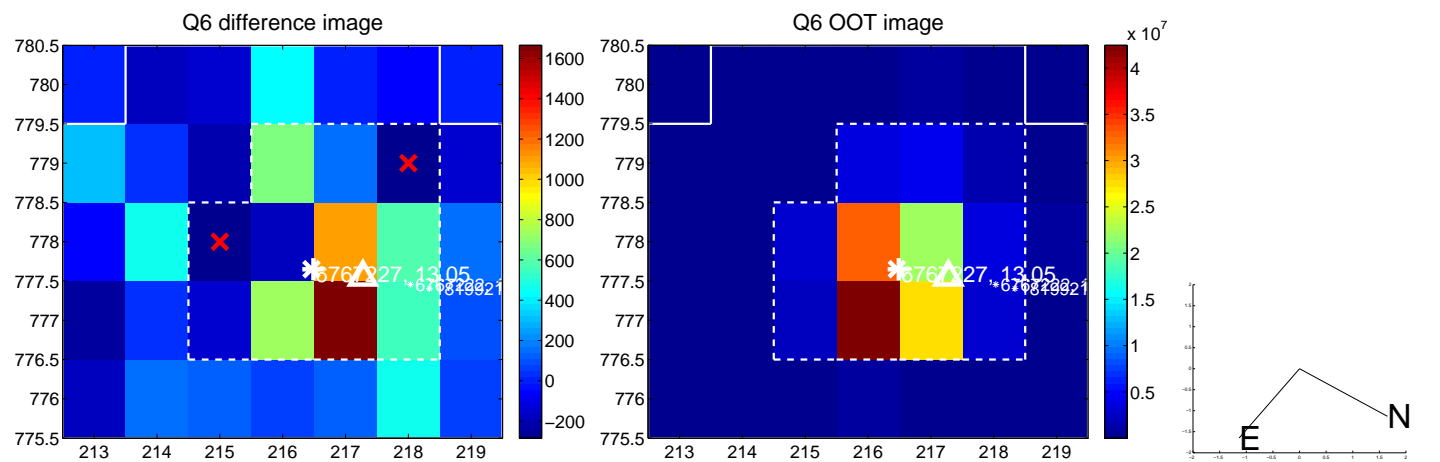
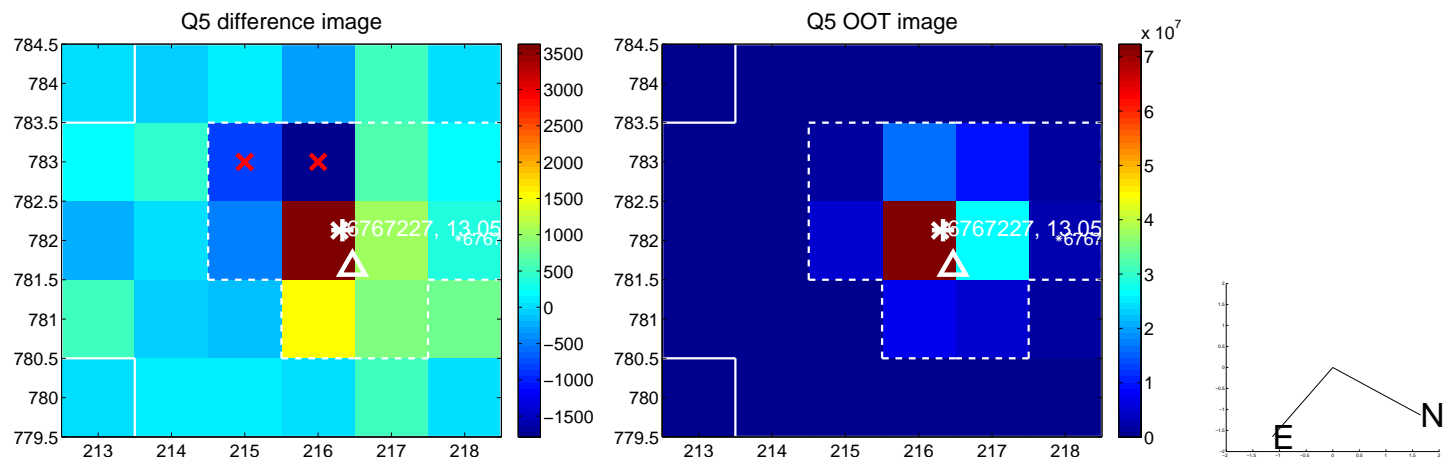


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

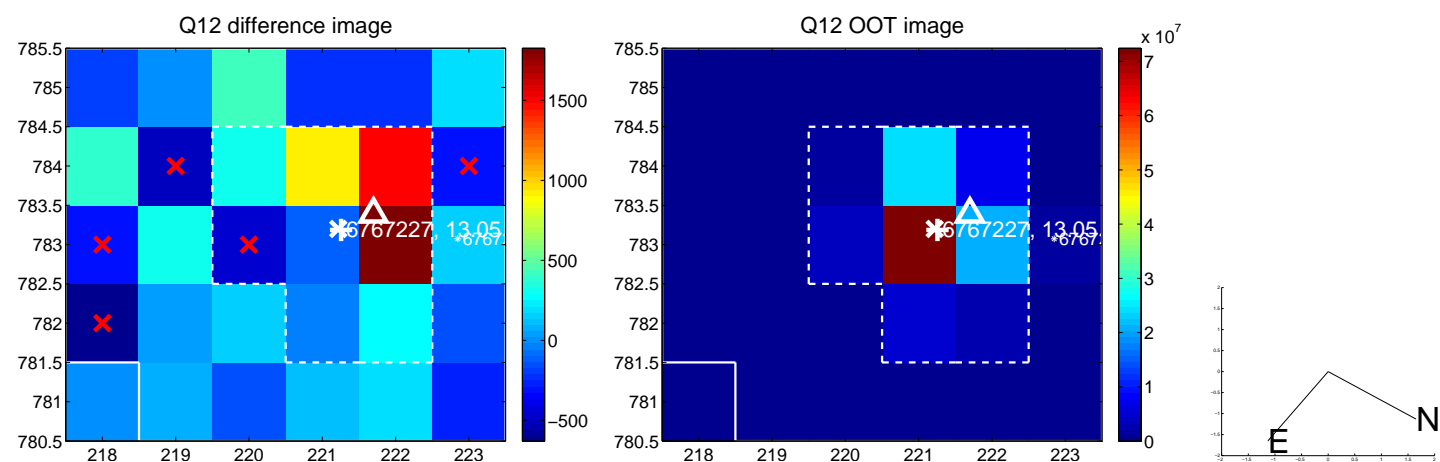
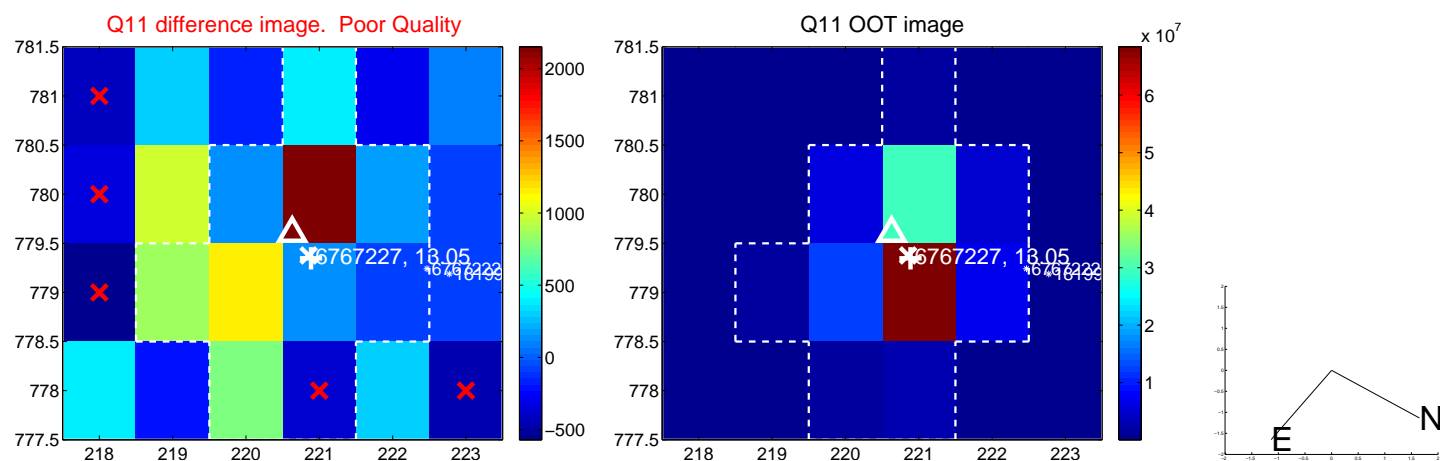
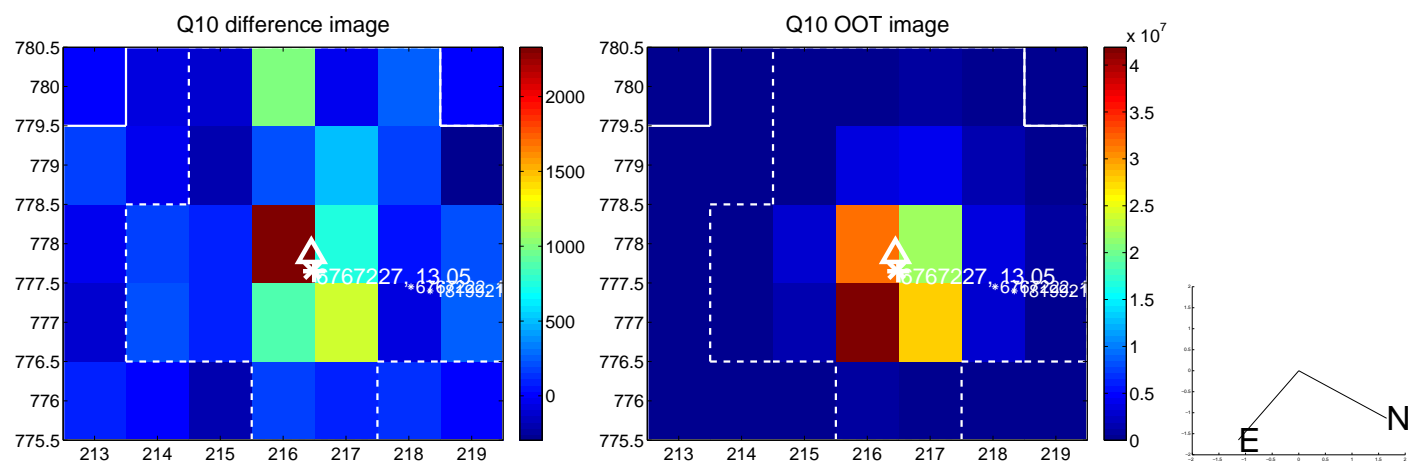
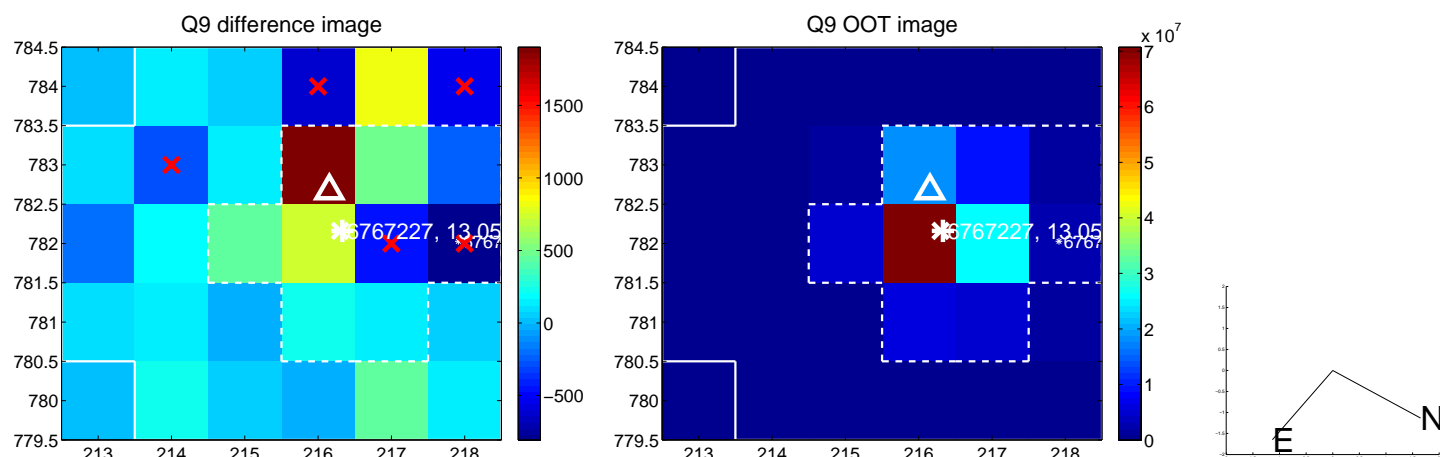


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

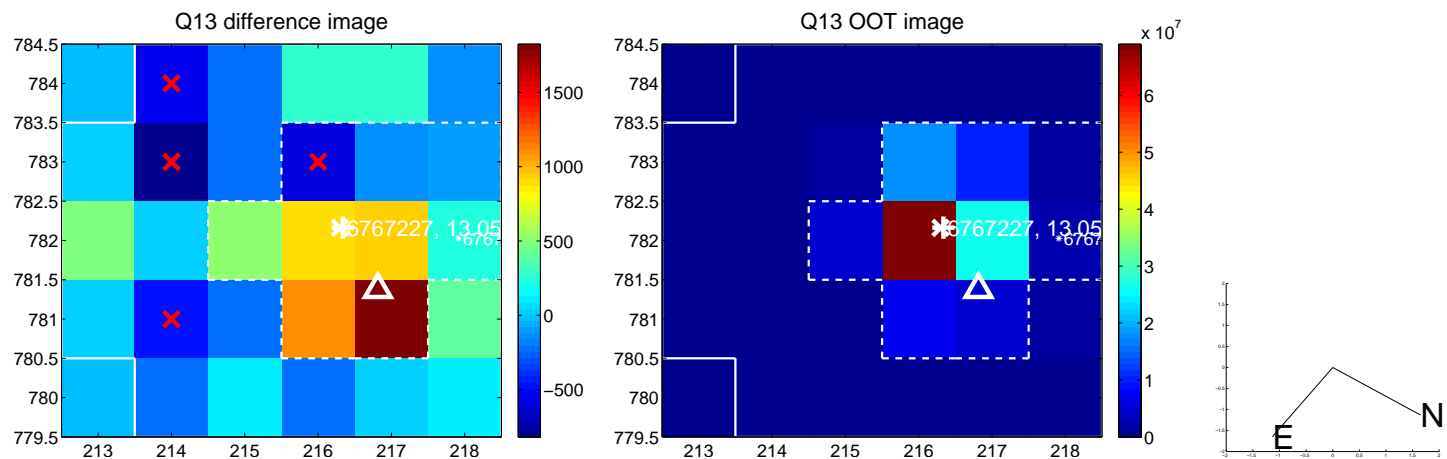




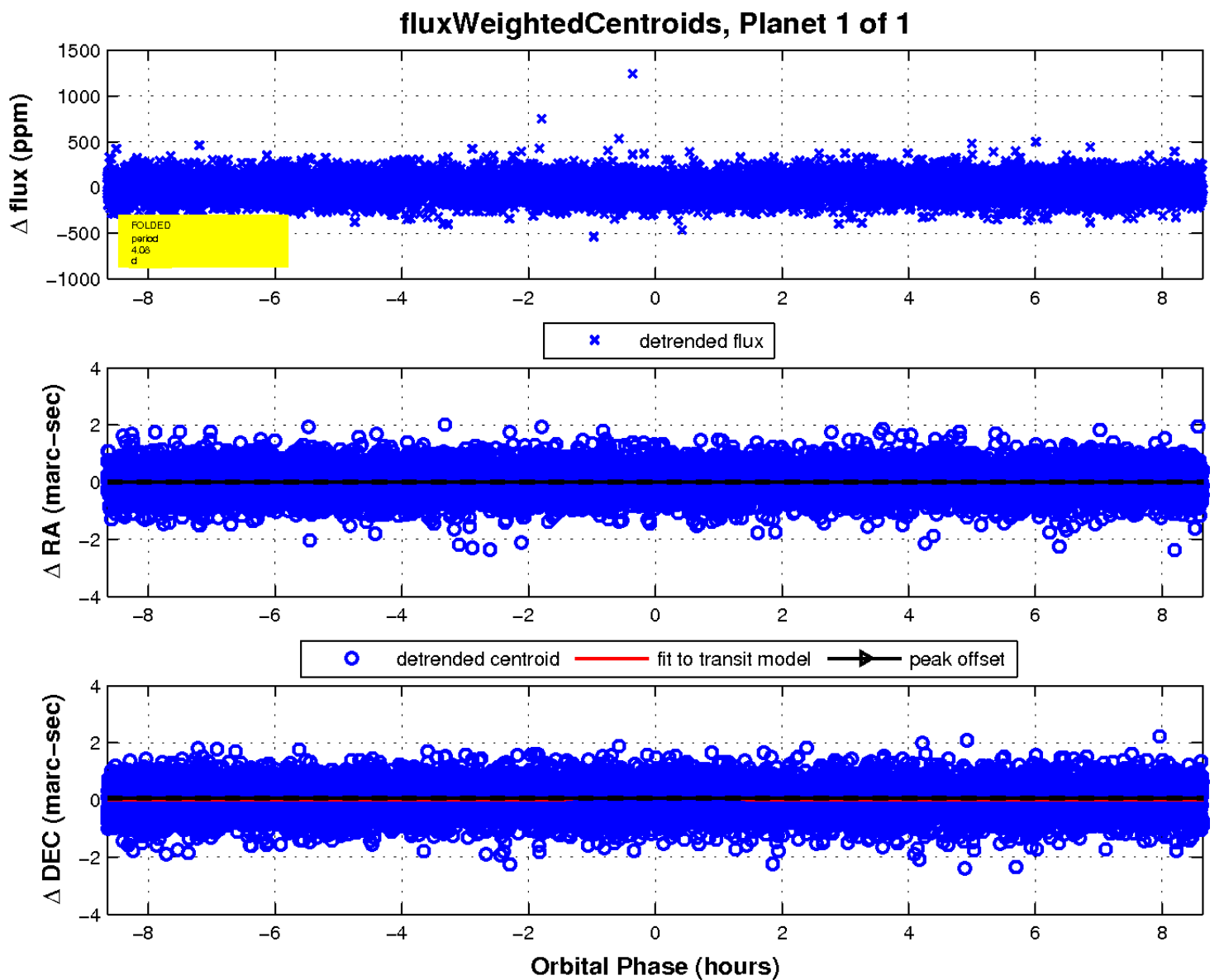
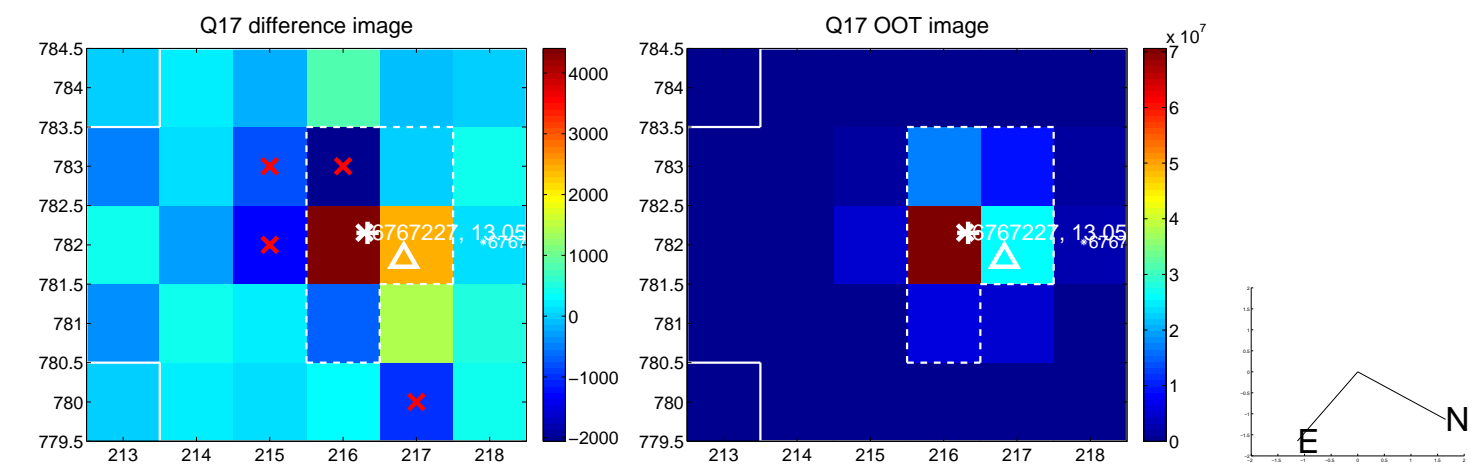
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

