

# KIC 007176080

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007176080-01	OBS	No	0.507054	131.924386	163928.2	3.050	382.5	122.6	1.30	6613	66.34	16593.29

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007176080-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_KIC_POS

**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.

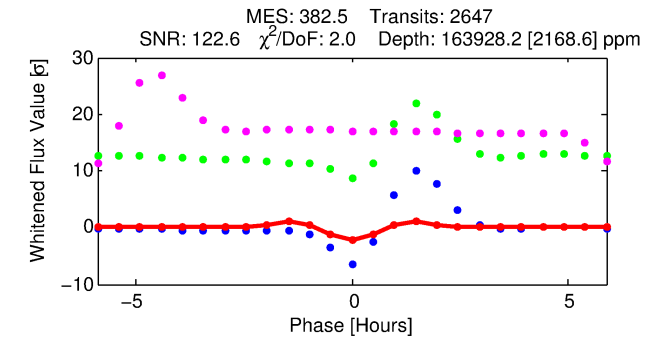
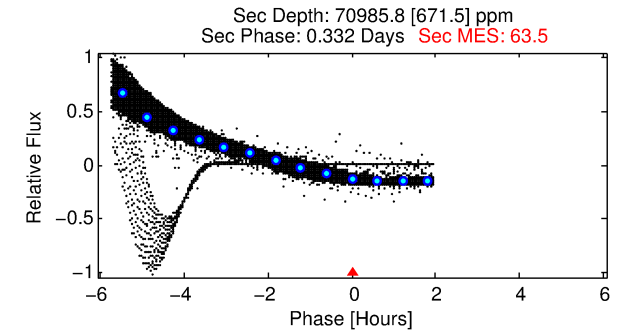
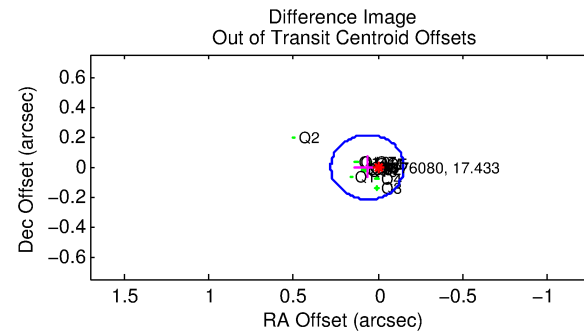
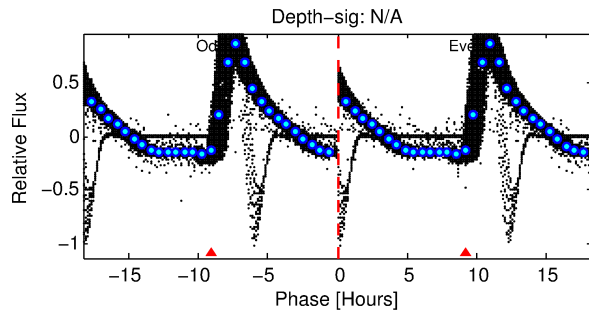
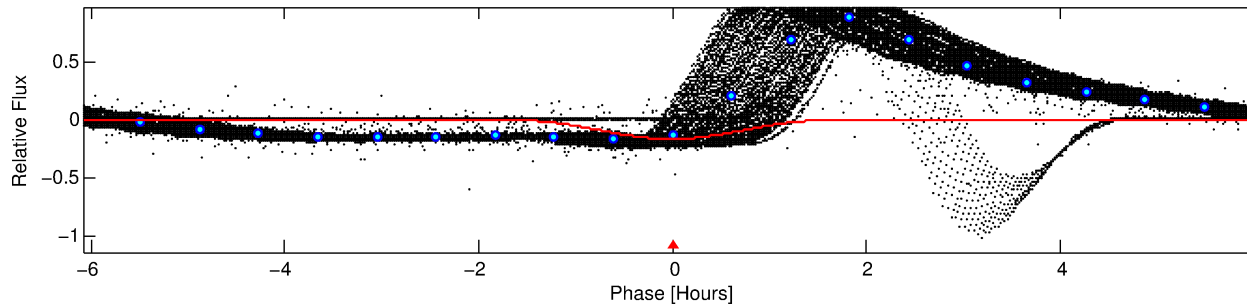
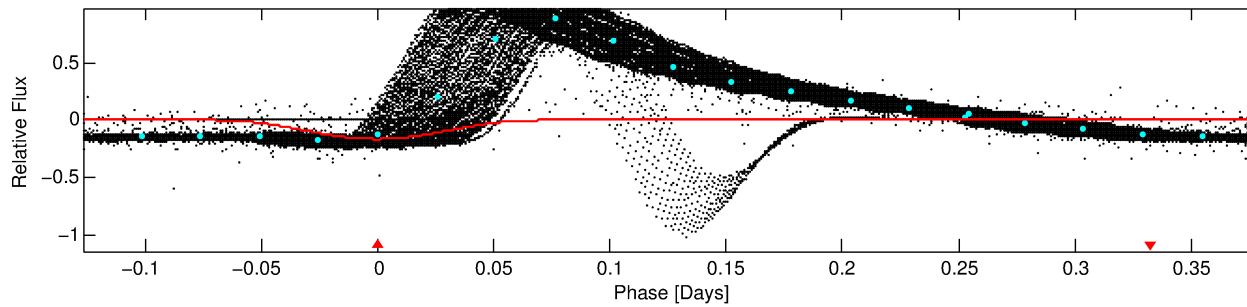
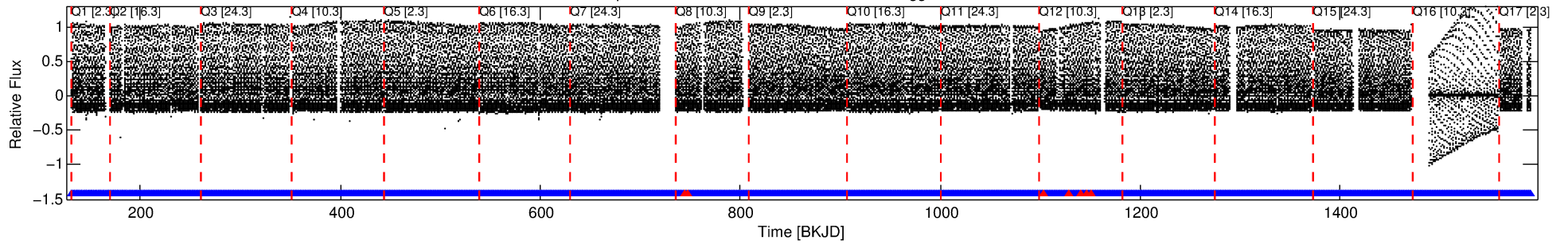
## Ephemeris Match Information For 007176080-01

No Significant Match Found

# DV One-Page Summary

KIC: 7176080 Candidate: 1 of 1 Period: 0.507 d

Kp: 17.43 R\*: 1.30 Rs Teff: 6613.0 K Logg: 4.29 Fe/H: -0.220



## DV Fit Results:

Period = 0.50705 [0.00000] d  
Epoch = 131.9244 [0.0002] BKJD  
Rp/R\* = 0.4684 [0.0714]  
a/R\* = 1.93 [0.05]  
b = 0.76 [0.12]  
Seff = 16593.29 [6792.98]  
Teq = 2894 [296] K  
Rp = 66.34 [23.18] Re  
a = 0.0132 [0.0034] AU  
Ag = 1.54 [0.74] [0.73σ]  
Teffp = 4988 [435] K [3.98σ]

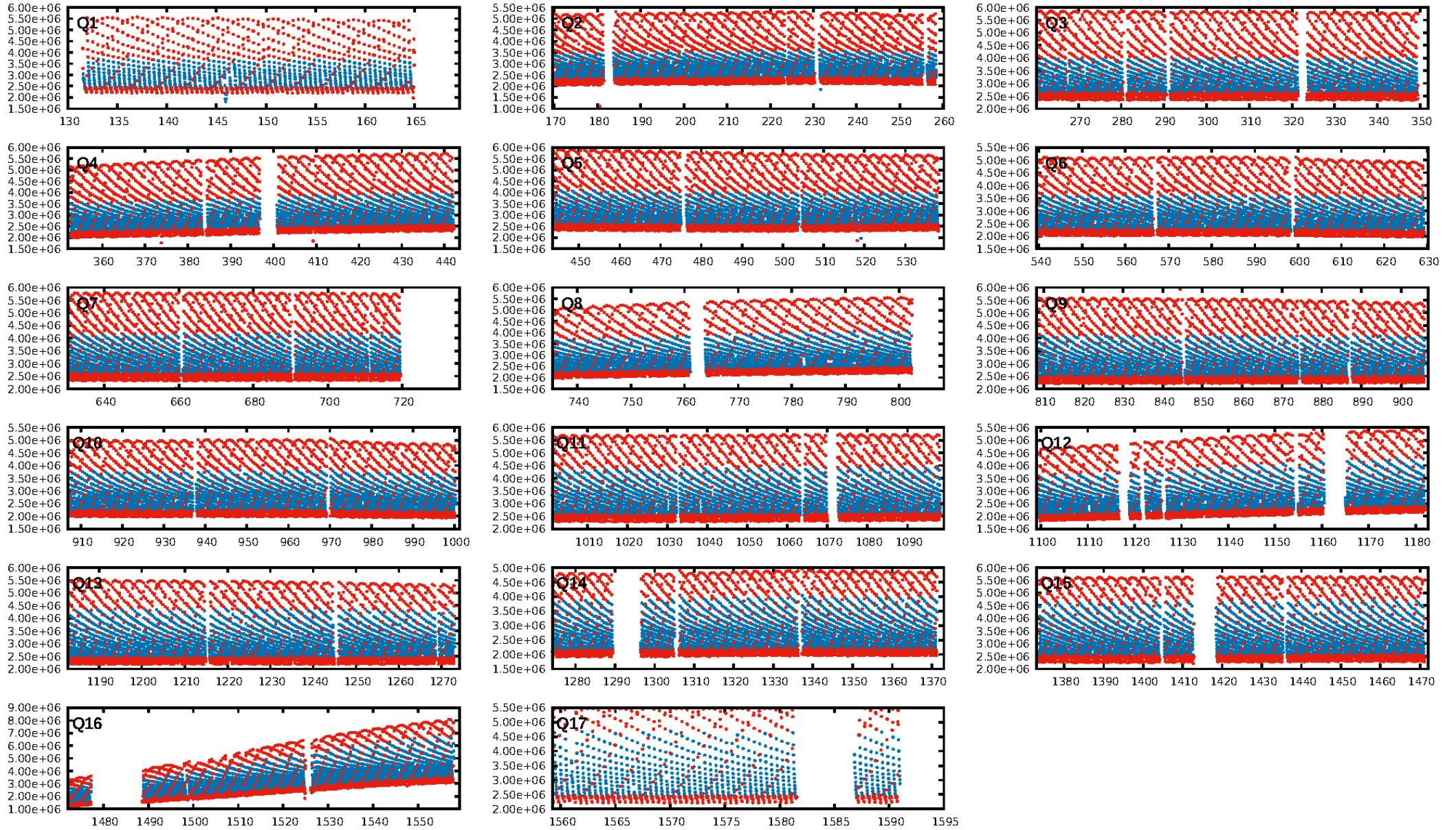
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2521/2528]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 1.4%  
Centroid-so: 0.628 arcsec [195.15σ]  
OotOffset-rm: 0.063 arcsec [0.88σ]  
KicOffset-rm: 0.511 arcsec [7.38σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.82 [14/17]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:46:06 Z

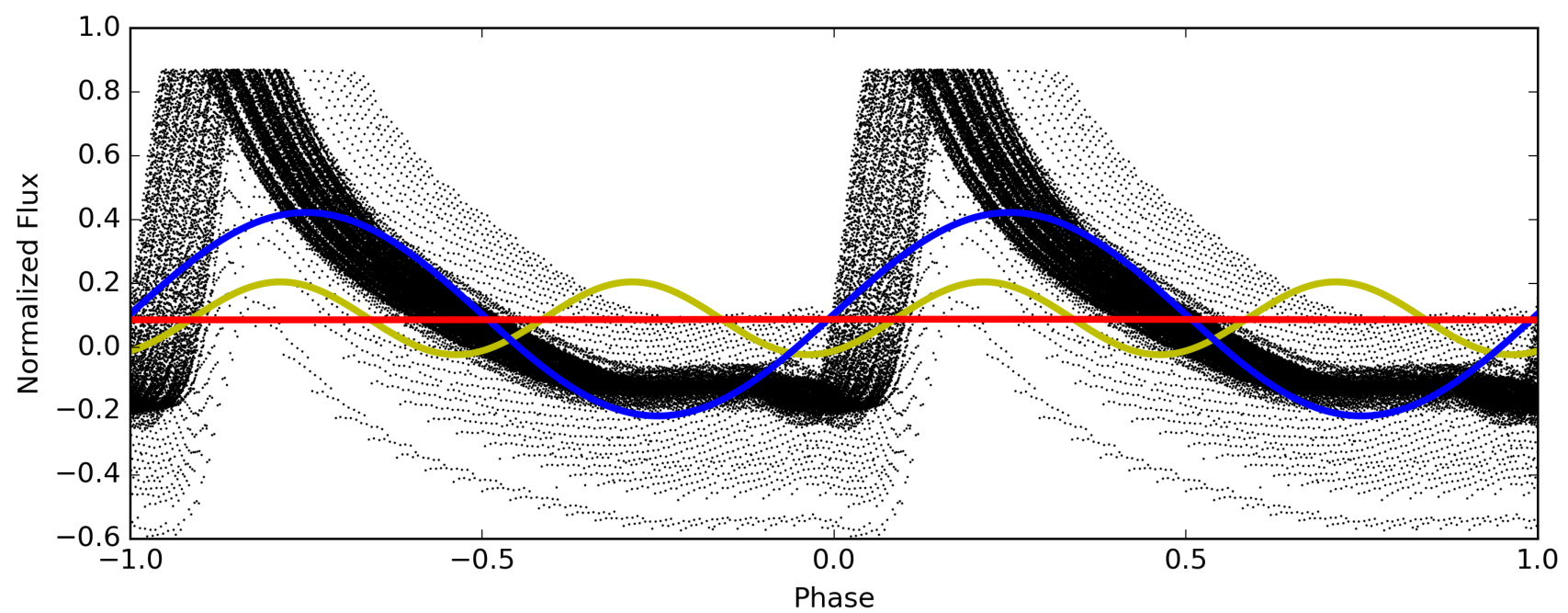
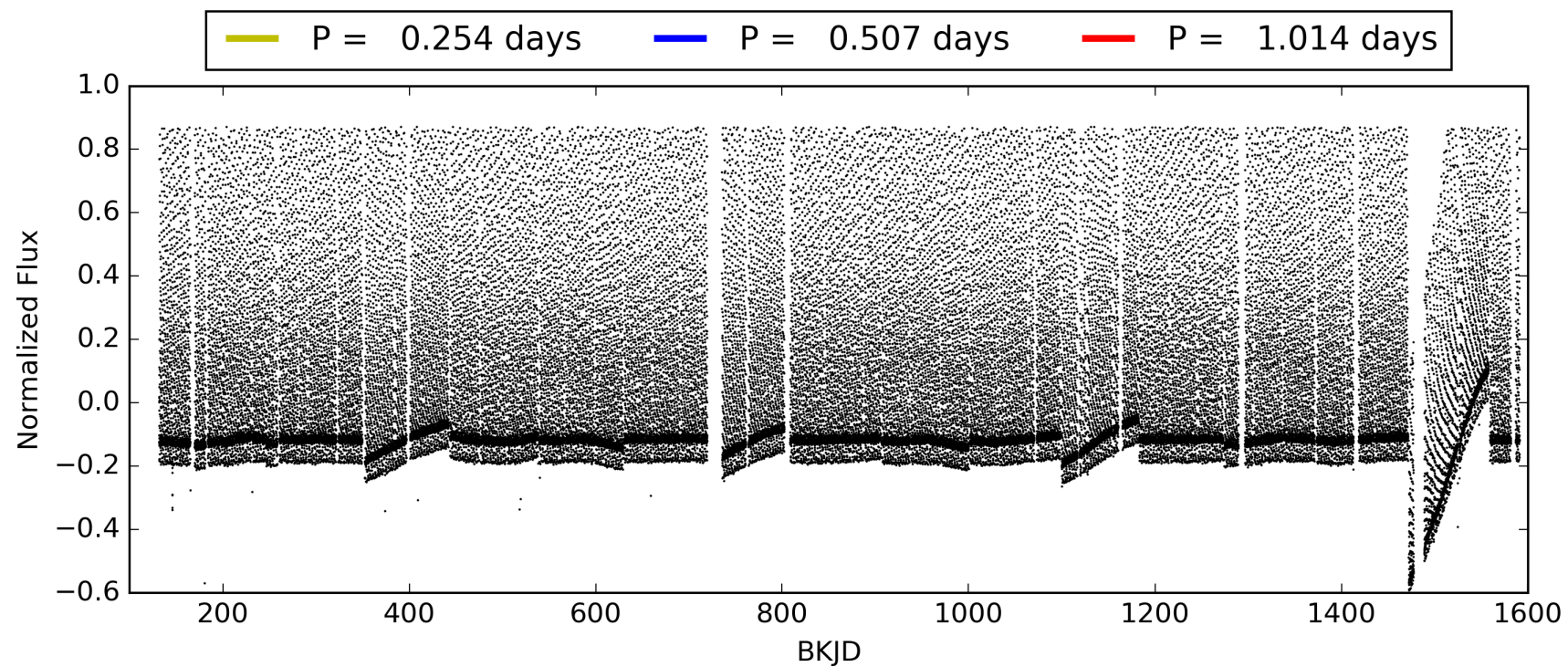
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007176080-01, PDC Light Curves



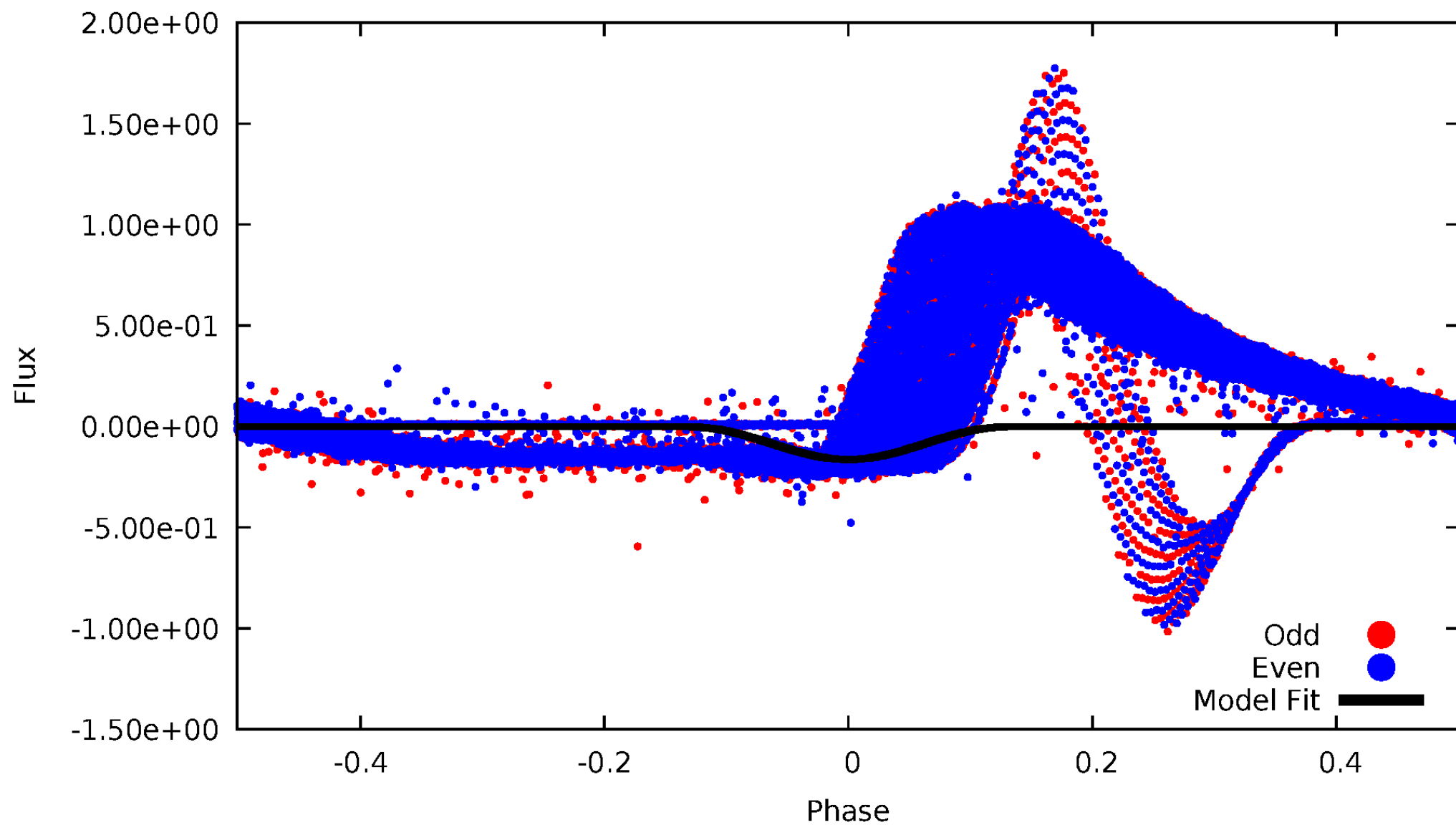


TCE 007176080-01



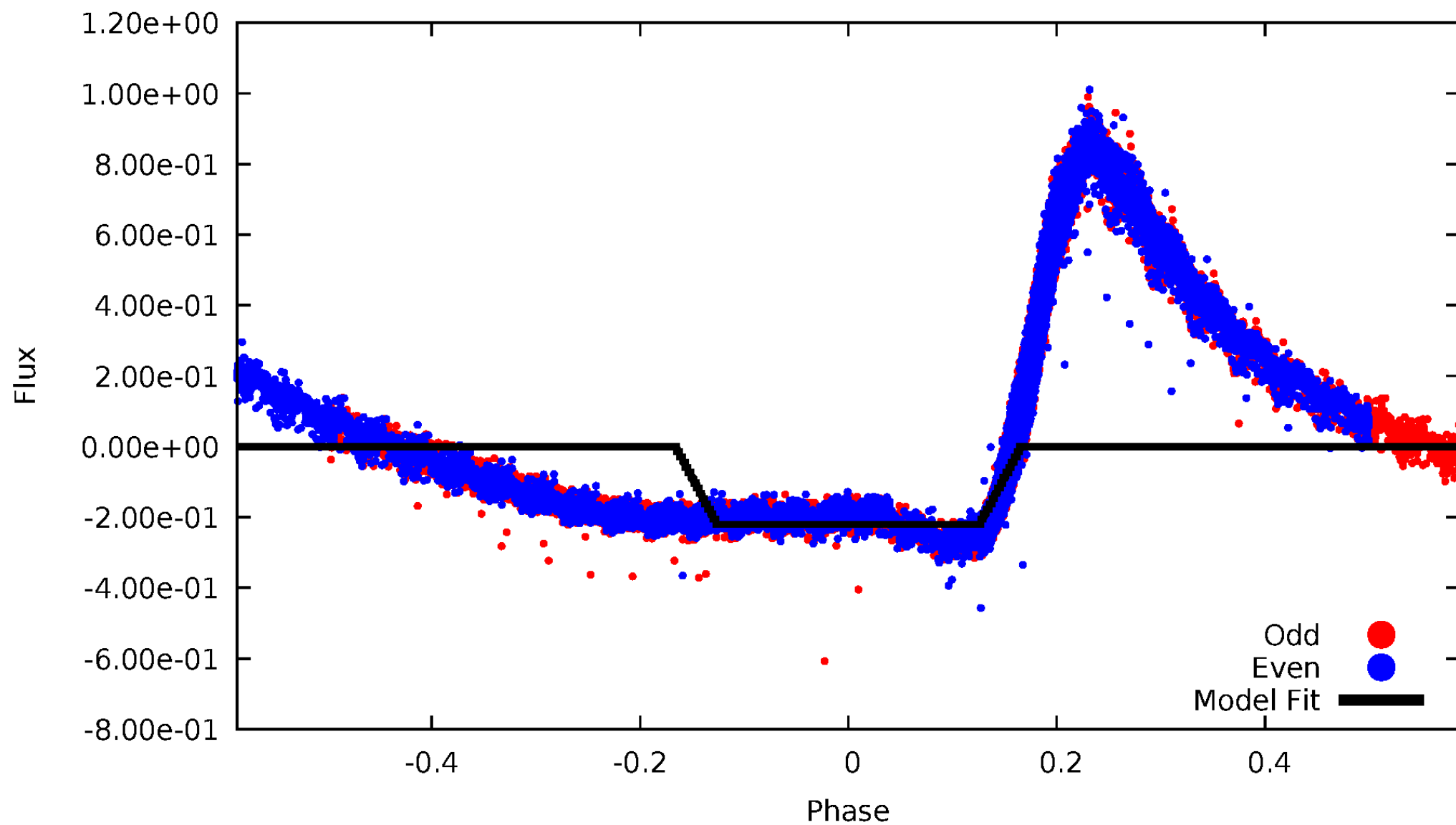
DV Odd/Even

TCE 007176080-01



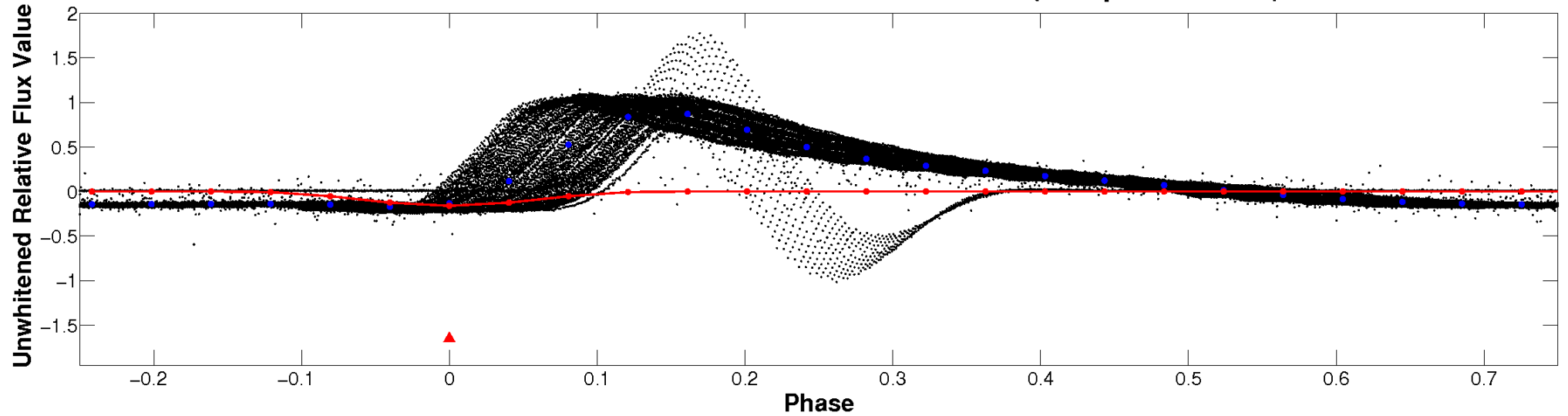
# ALT Odd/Even

TCE 007176080-01

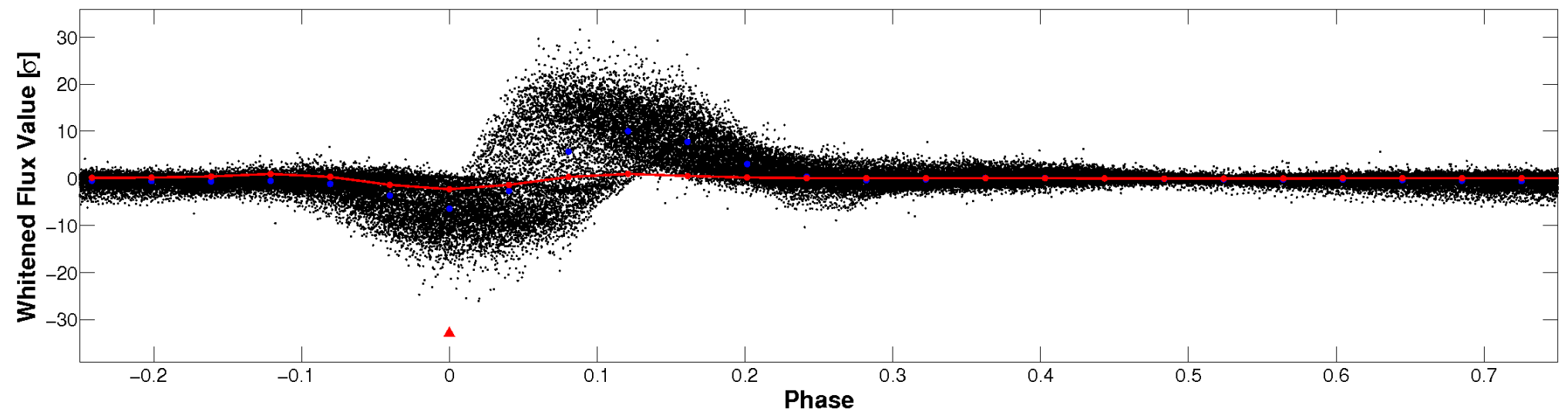


# Non-Whitened Vs. Whitened Light Curve

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

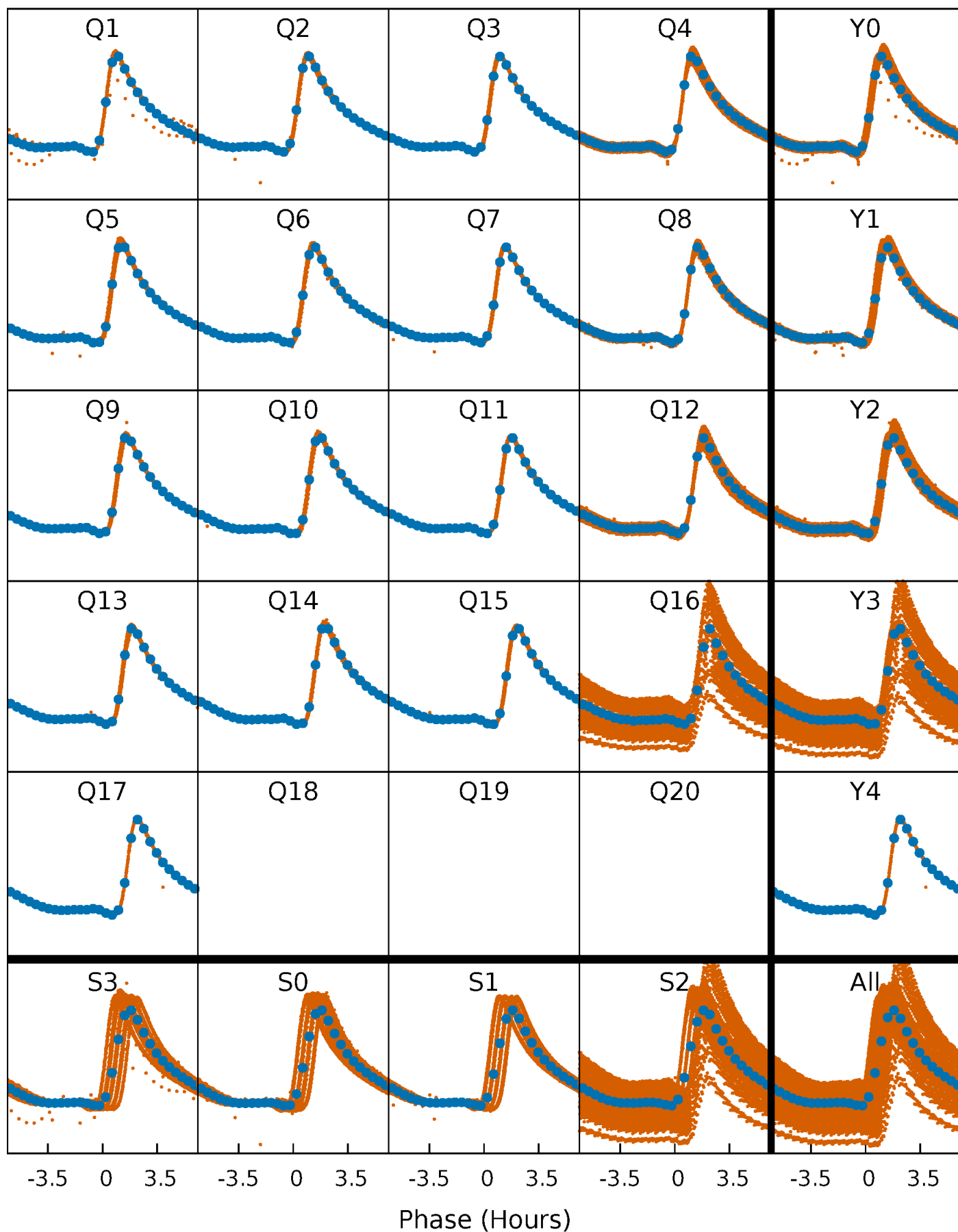


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

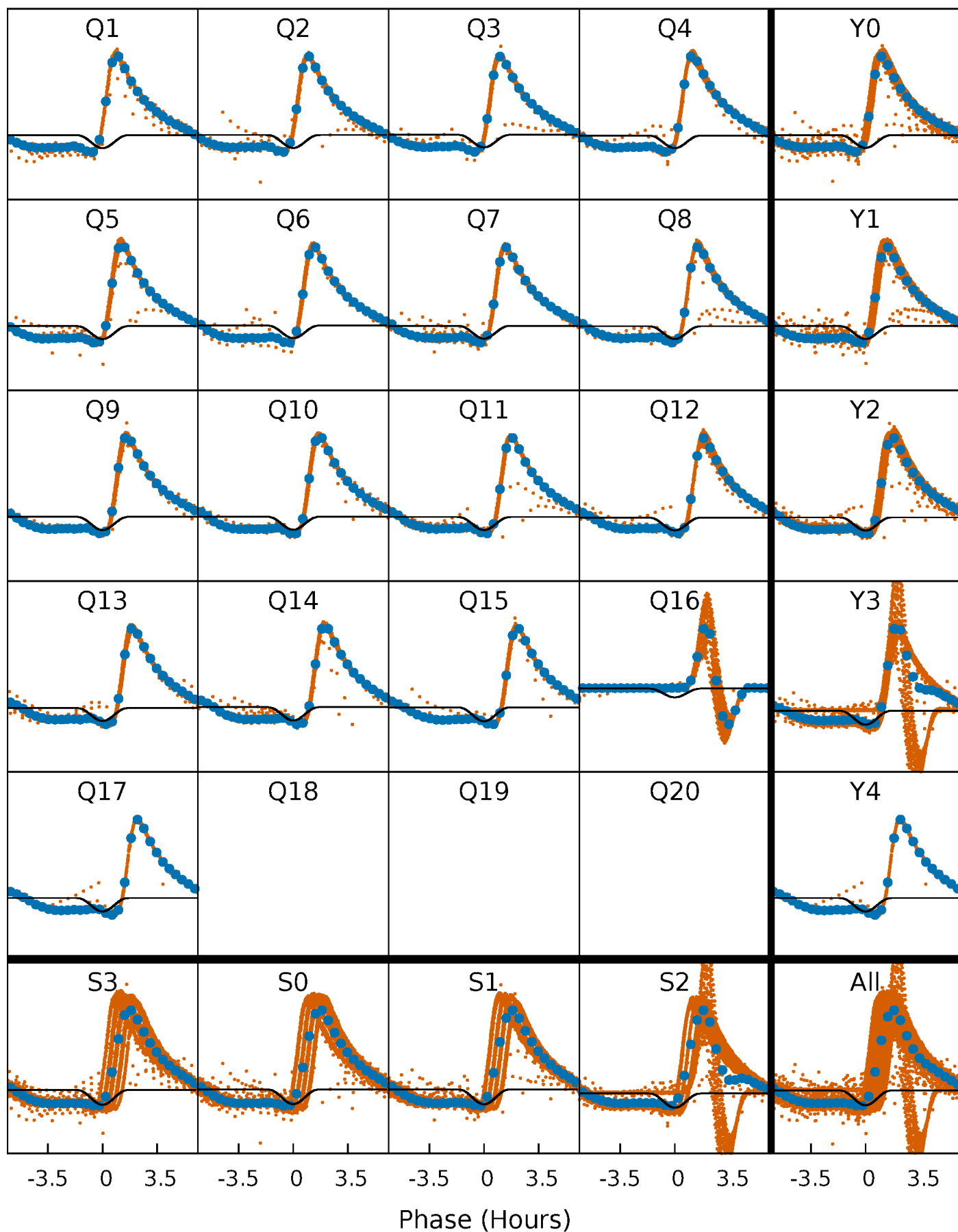
TCE 007176080-01 P= 0.507054 Days  $T_0=131.924386$  (BKJD)





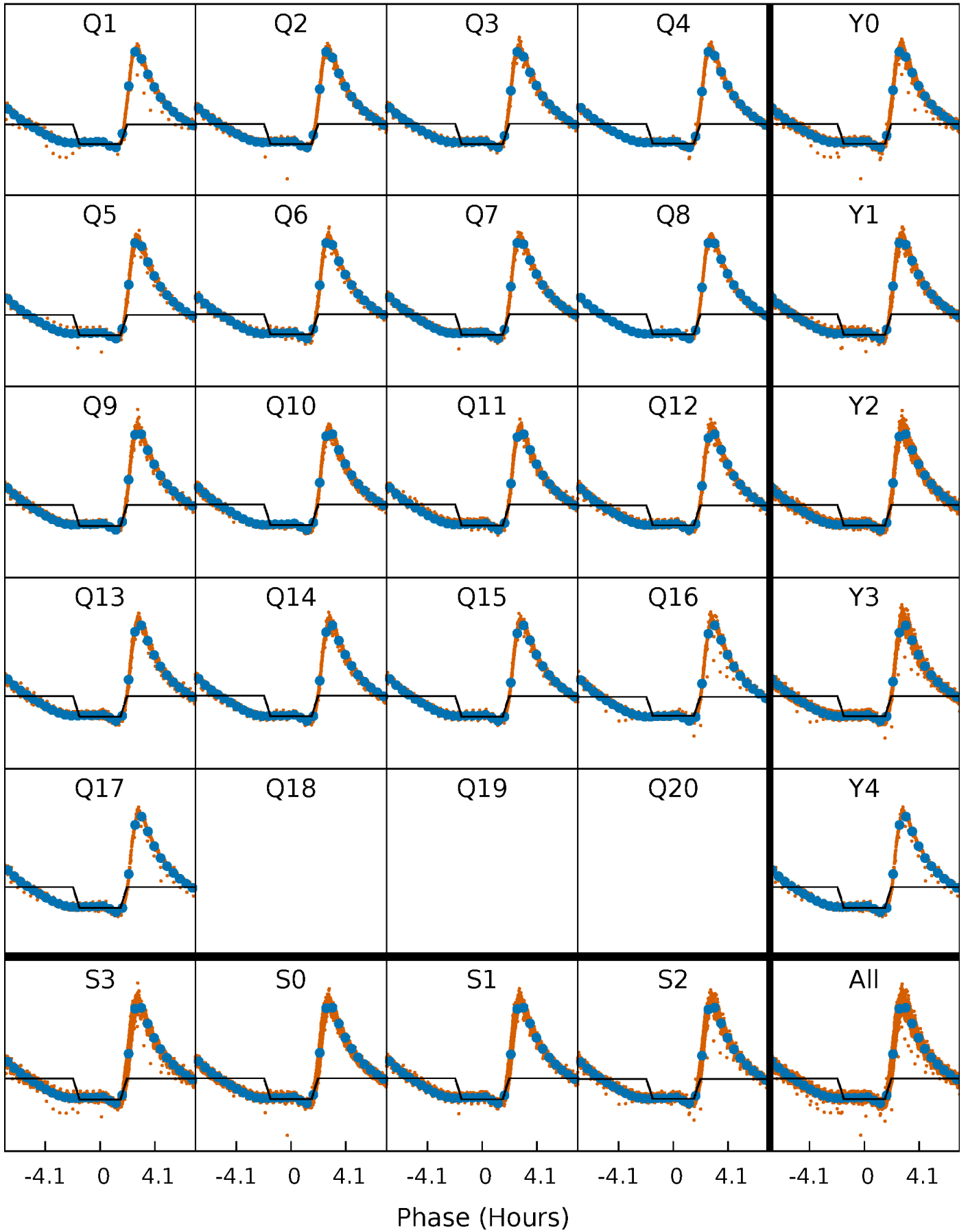
# DV Quarter-Phased Transit Curves

TCE 007176080-01   P= 0.507054 Days    $T_0=131.924386$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

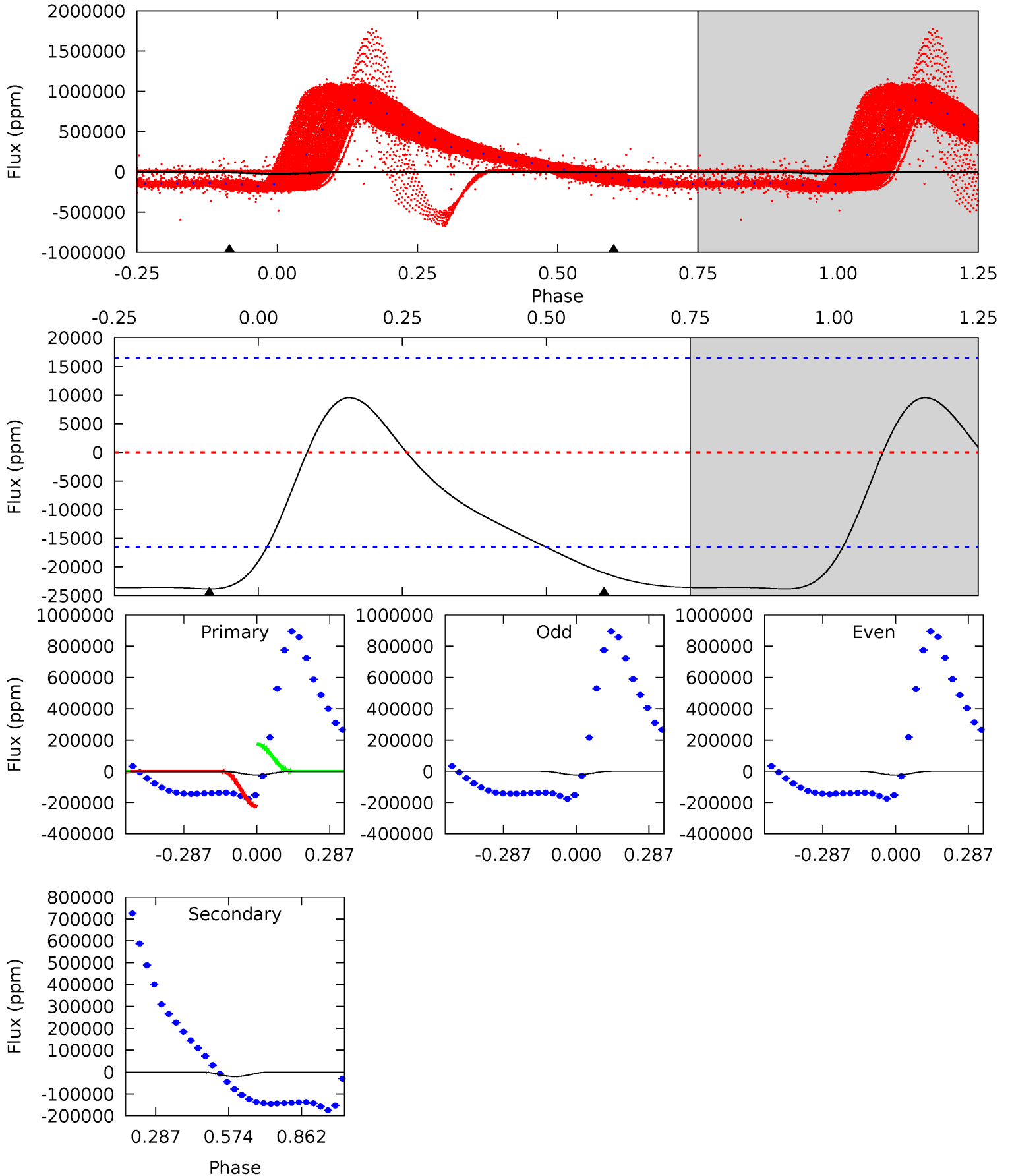
TCE 007176080-01 P= 0.507071 Days  $T_0=131.846654$  (BKJD)



# DV Model-Shift Uniqueness Test

007176080-01, P = 0.507054 Days, E = 131.417332 Days

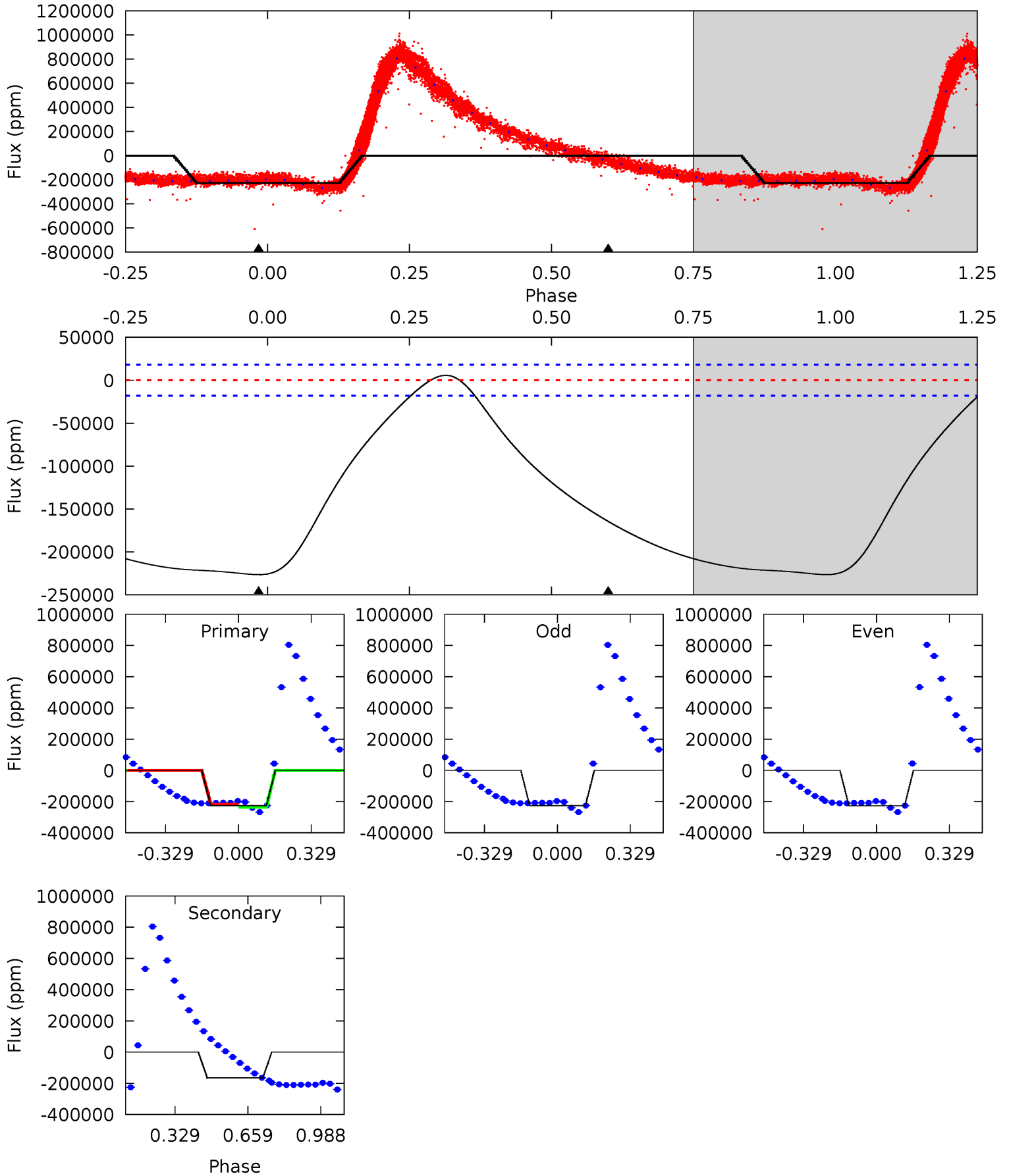
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.26	5.52	0	0	4.34	1.06	0.99	6.26	6.26	5.52	5.52	0.17	0.32	0.29	0



# Alt Model-Shift Uniqueness Test

007176080-01, P = 0.507071 Days, E = 131.339583 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
54.0	39.2	0	0	4.31	0.98	2.14	54.0	54.0	39.2	39.2	0.03	1.00	0.02	2.56



### Stellar Parameters For KIC 007176080

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6613^{+186}_{-279}$	$4.287^{+0.108}_{-0.201}$	$-0.220^{+0.250}_{-0.300}$	$1.298^{+0.408}_{-0.220}$	$1.194^{+0.183}_{-0.183}$	$0.770^{+0.389}_{-0.412}$
	+3%/-4%	+3%/-5%	+114%/-136%	+31%/-17%	+15%/-15%	+50%/-54%
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 007176080-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-21038 \pm 3809$	$68.03^{+15.06}_{-12.75}$	$4077^{+315}_{-272}$	$3257^{+551}_{-5779}$	$0.434^{+0.239}_{-0.151}$
Alt.	$-164395 \pm 4193$	$67.61^{+15.45}_{-12.22}$	$4066^{+332}_{-252}$	$6257^{+657}_{-491}$	$4.055^{+1.925}_{-1.327}$

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

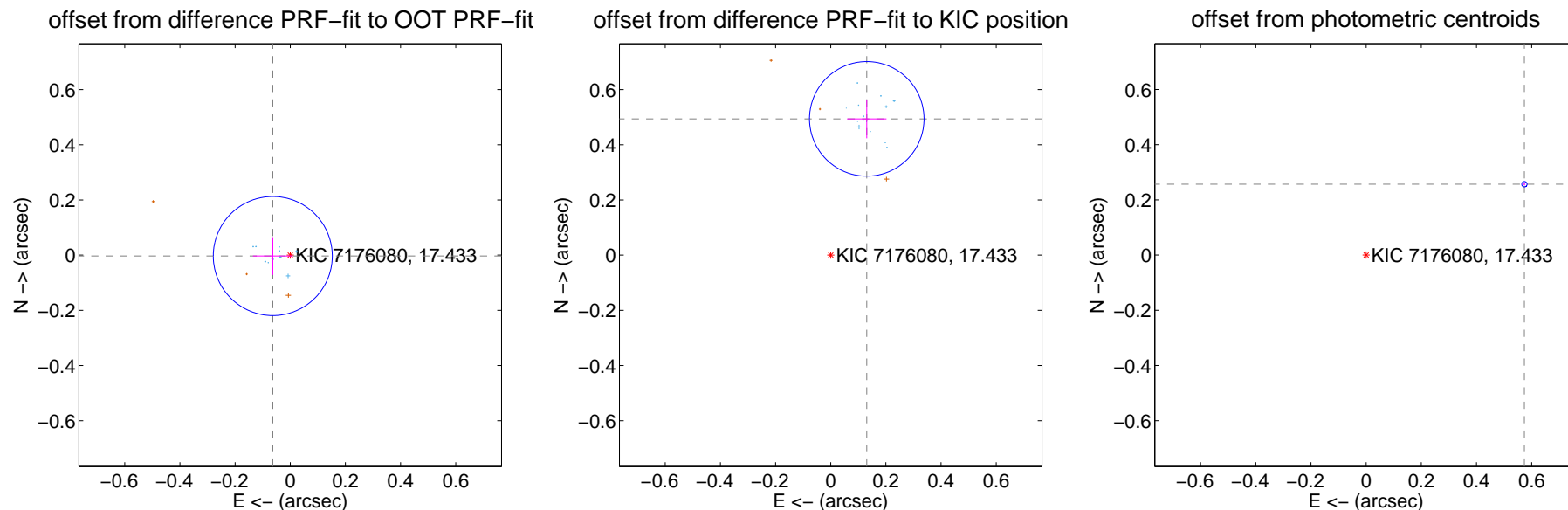
## DV Centroid Data

Supplemental centroid analysis for 007176080-01. Kepler magnitude: 17.43. Transit SNR 122.63

There are 14 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

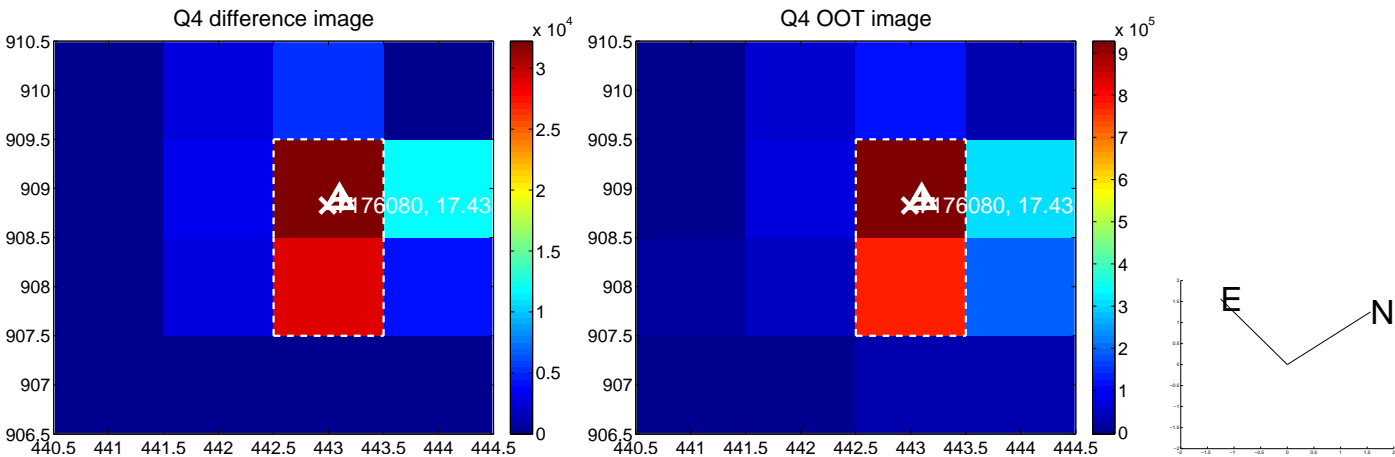
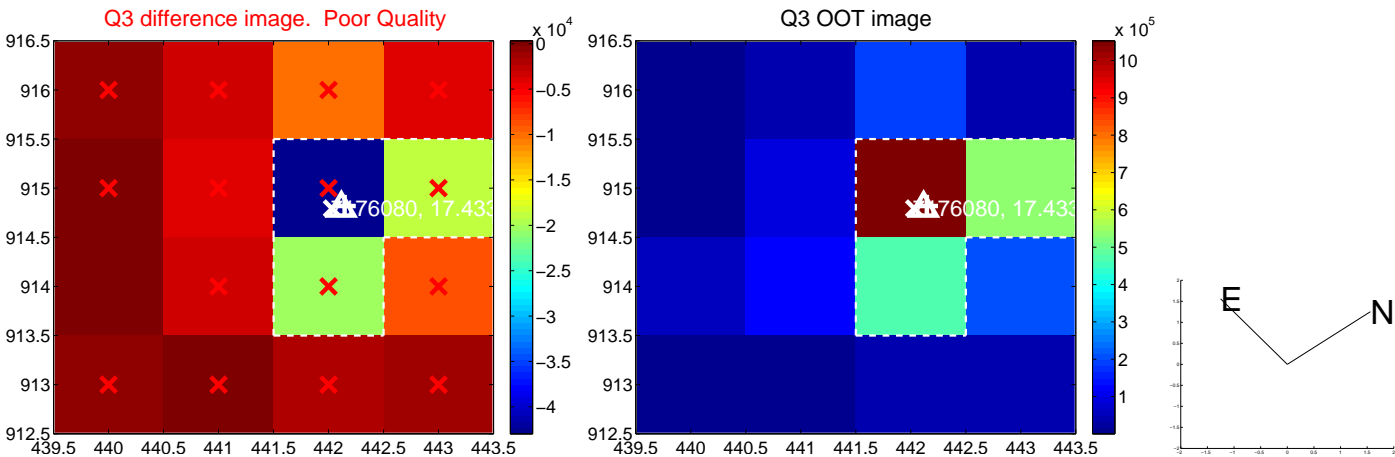
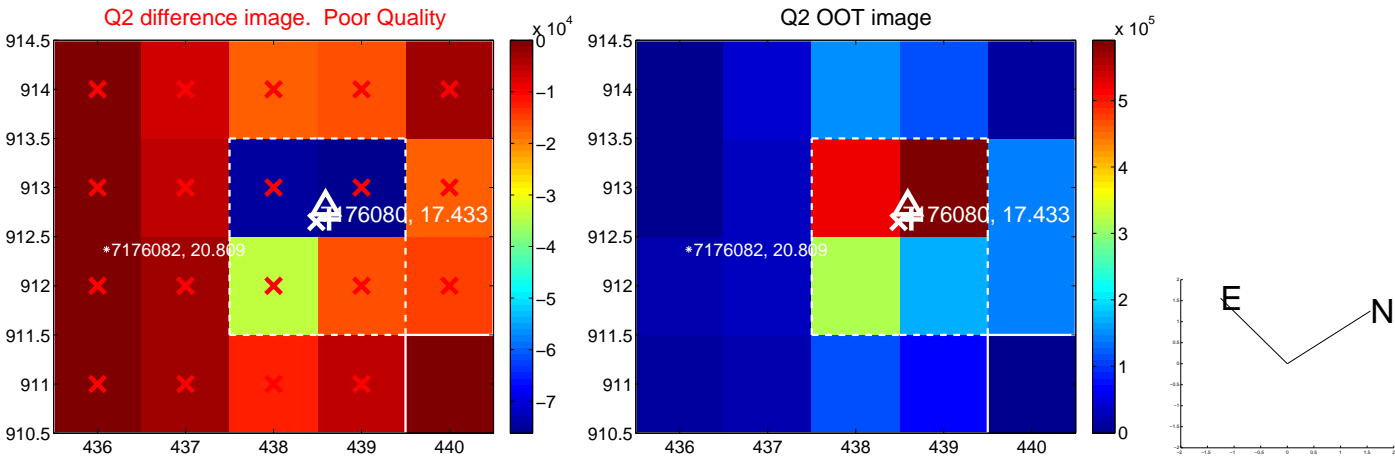
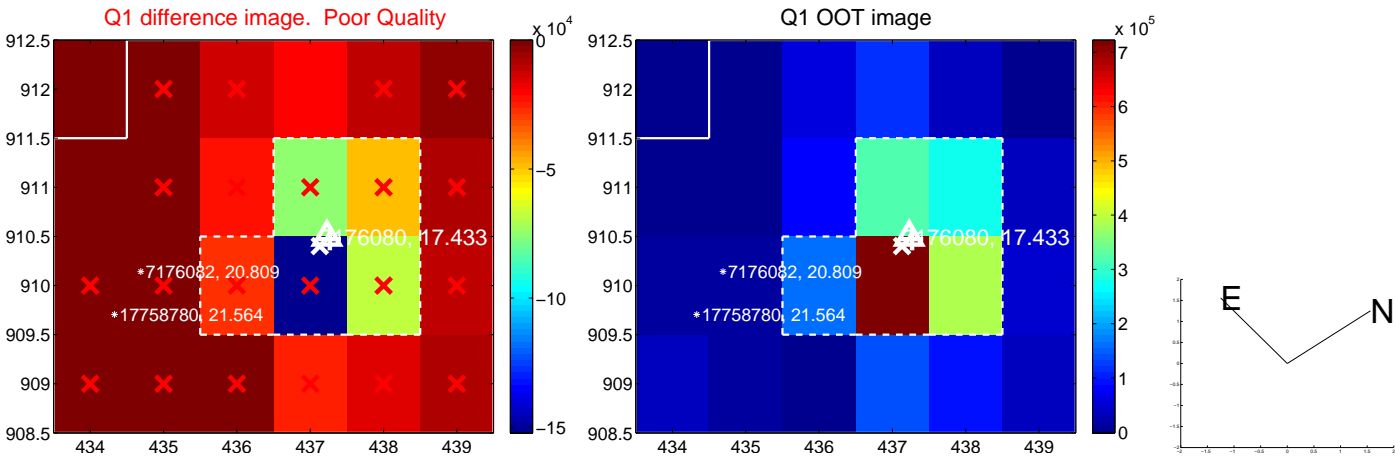
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.063 \pm 0.072$	0.88	$0.063 \pm 0.072$	$-0.003 \pm 0.069$
PRF-fit source offset from KIC position	$0.511 \pm 0.069$	7.38	$-0.131 \pm 0.071$	$0.494 \pm 0.070$
photometric centroid source offset	$0.63 \pm 0.00$	195.15	$-0.57 \pm 0.00$	$0.26 \pm 0.00$



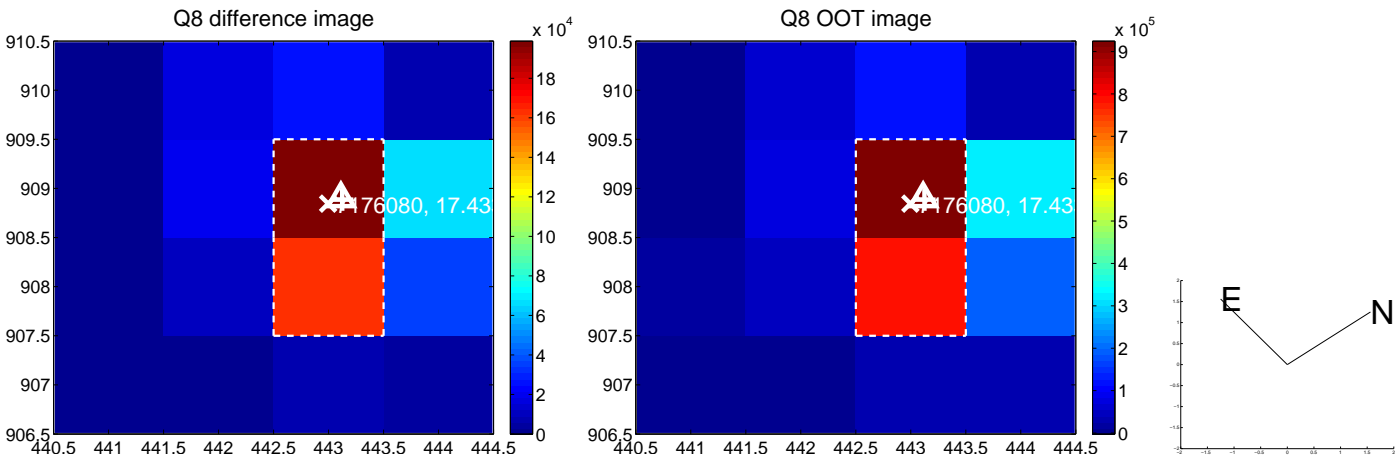
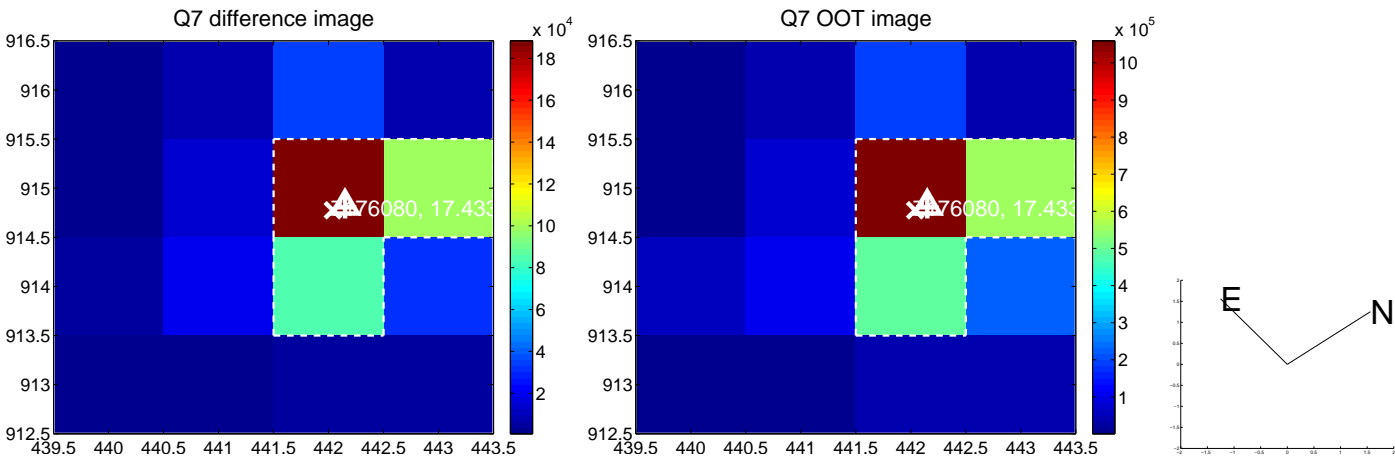
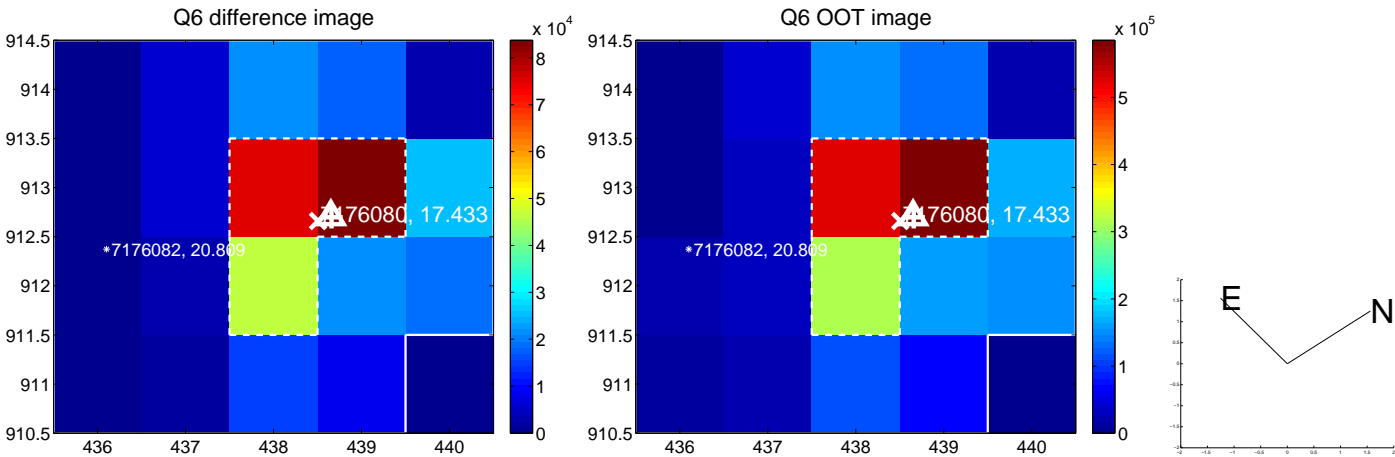
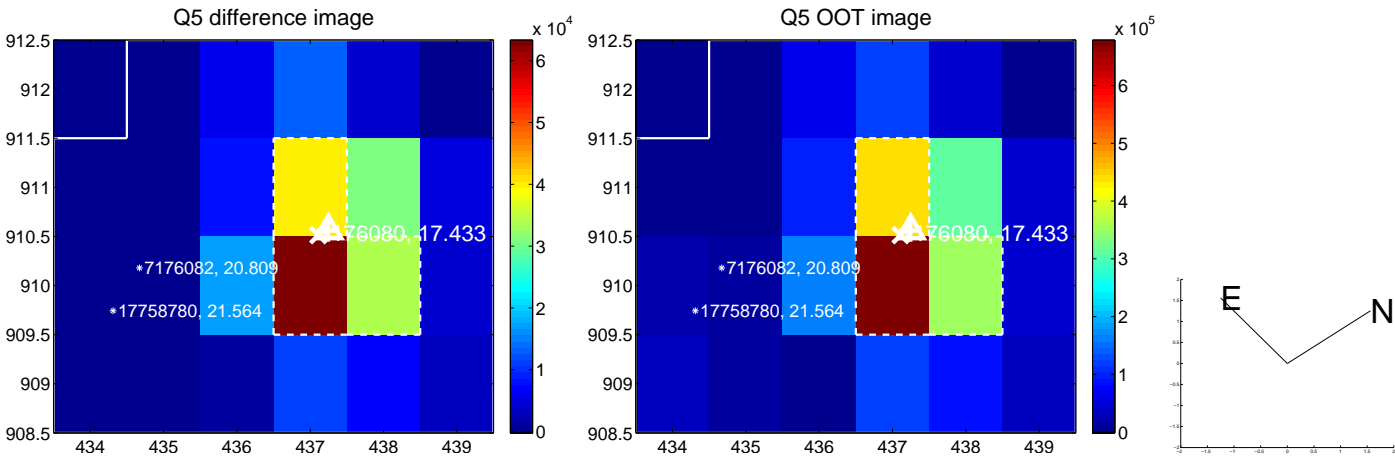
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



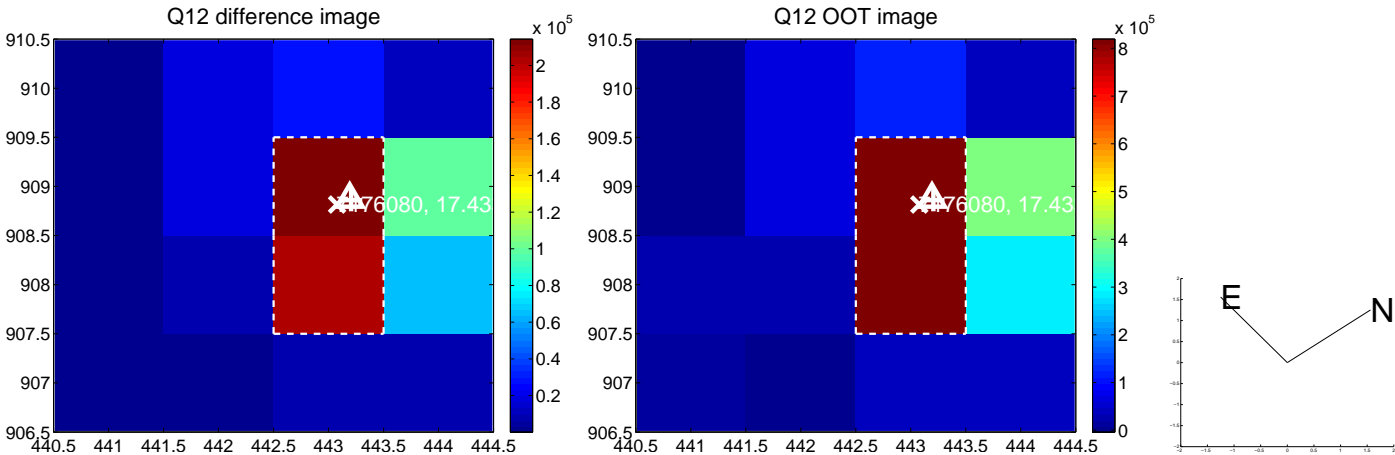
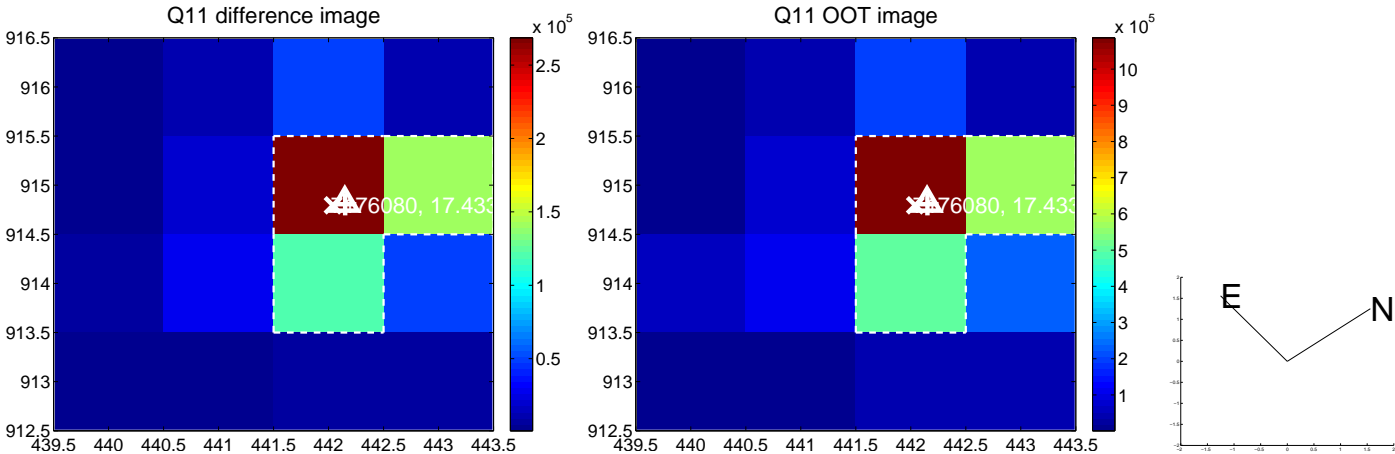
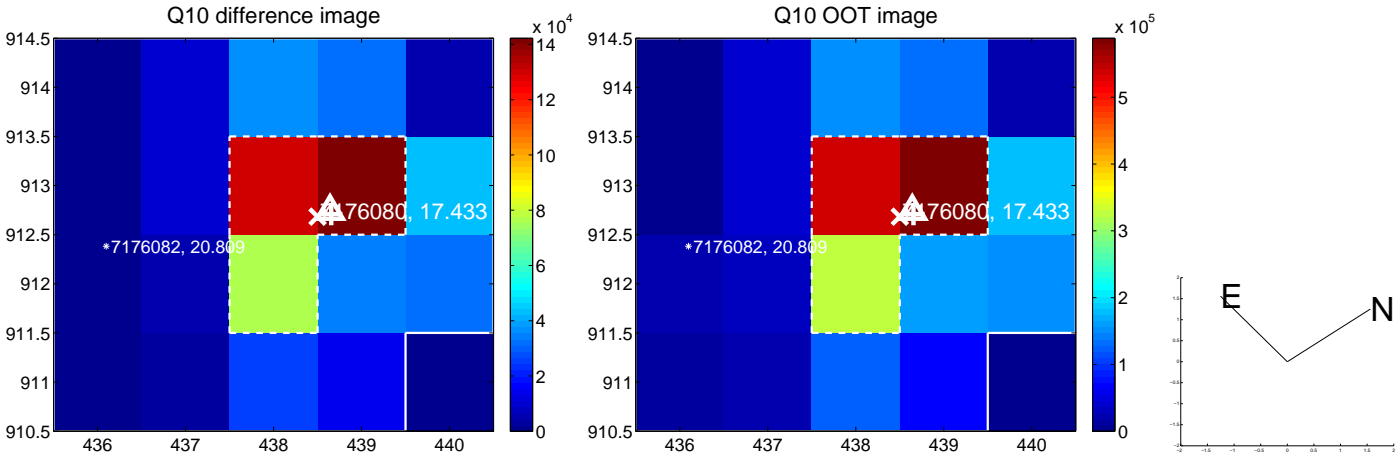
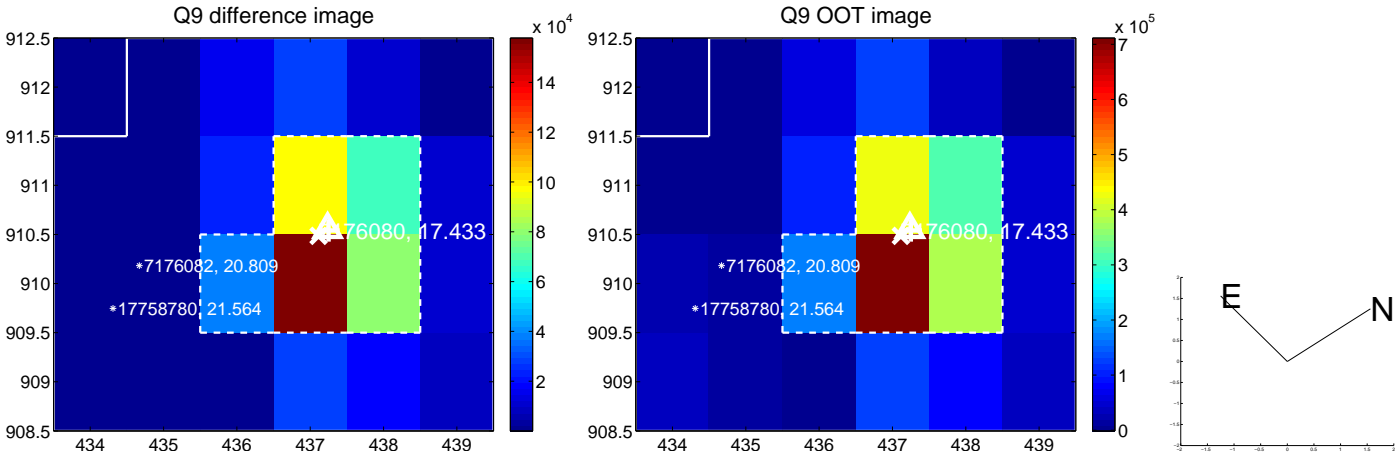
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



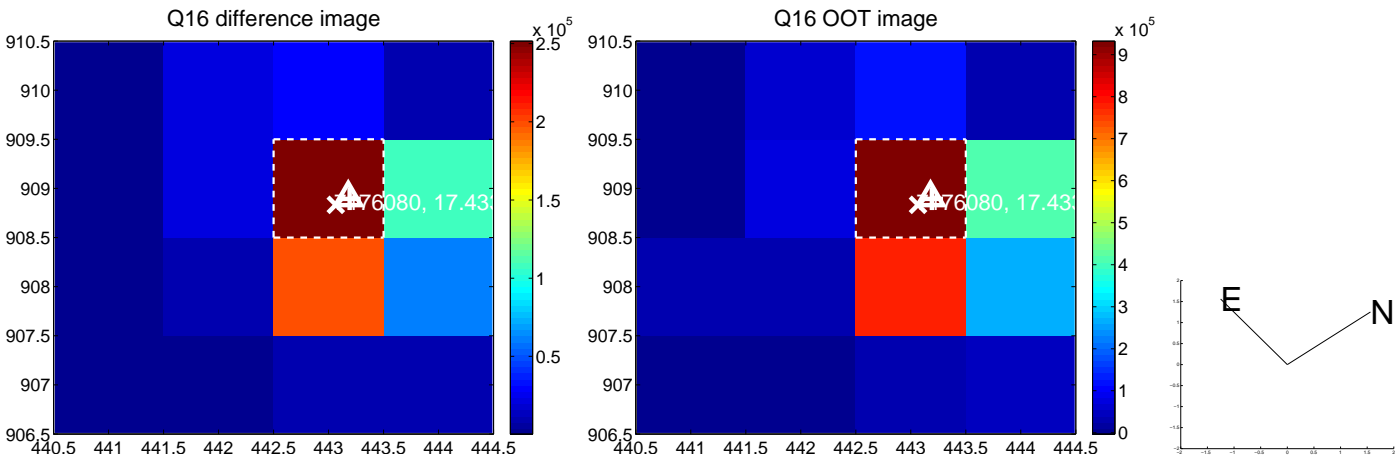
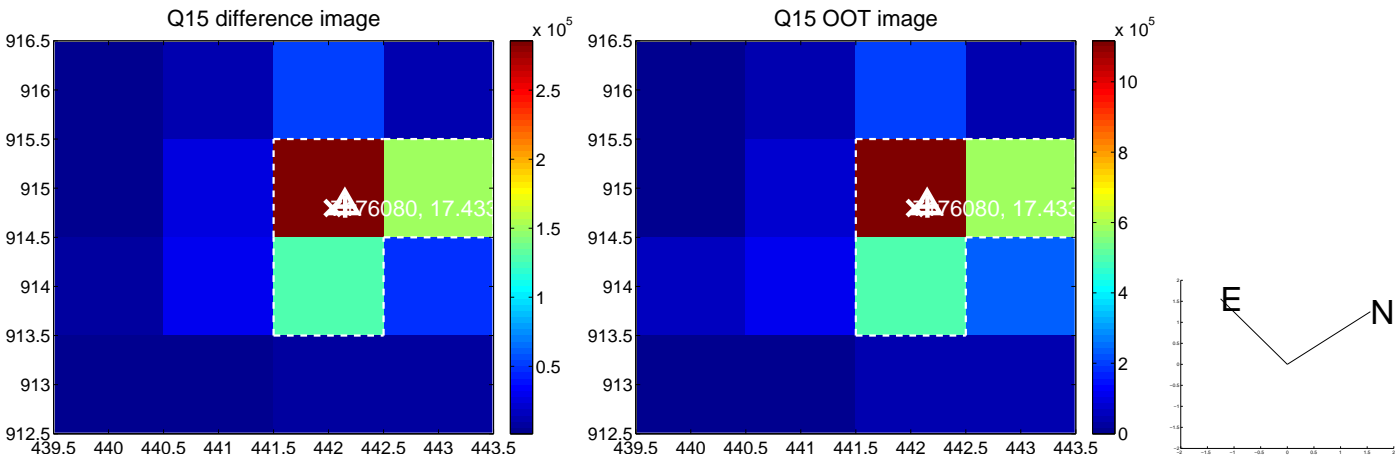
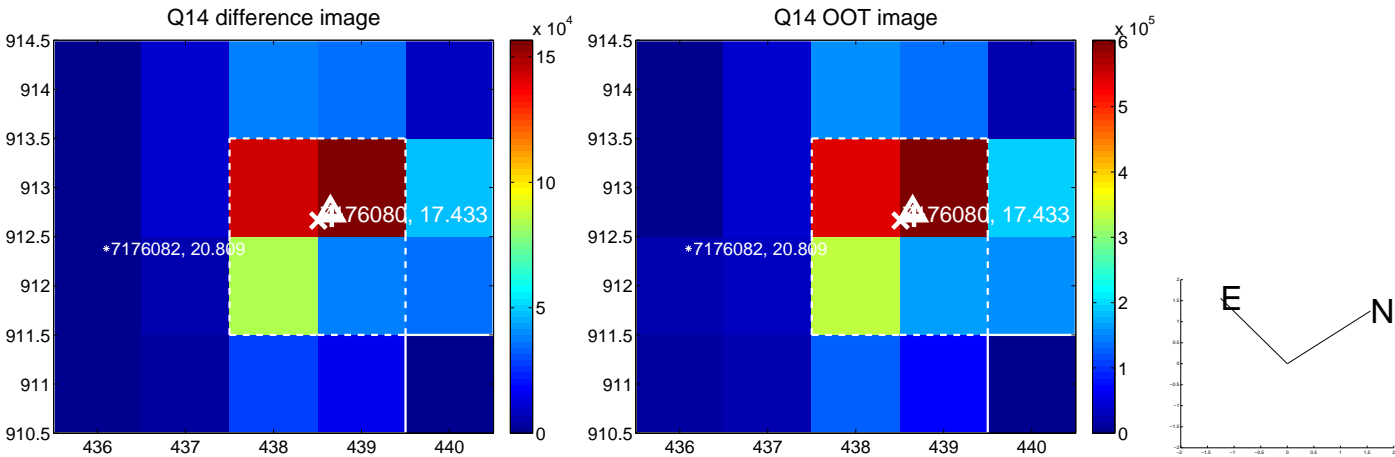
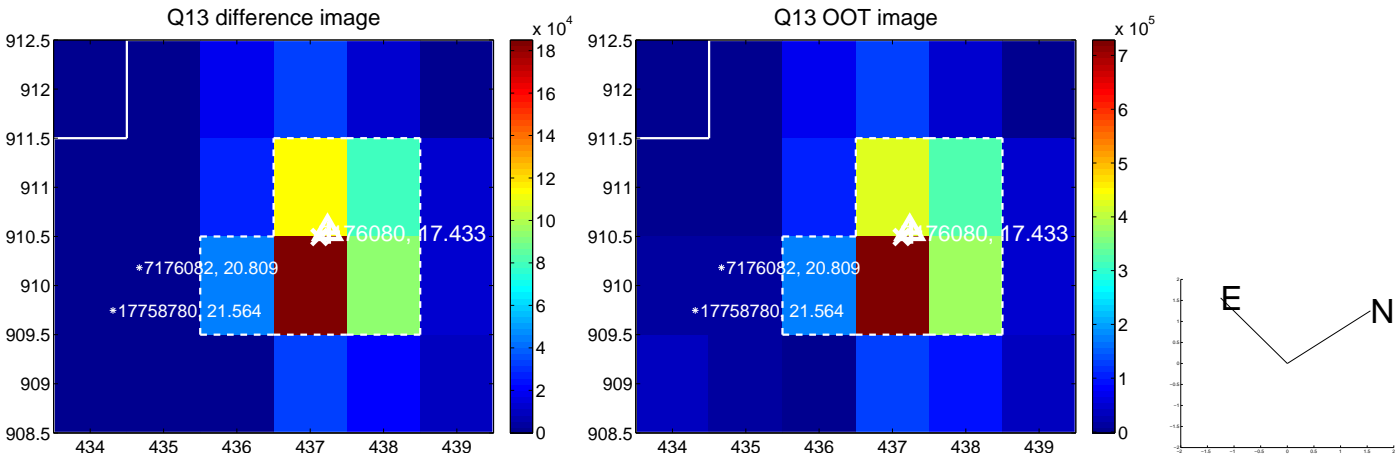
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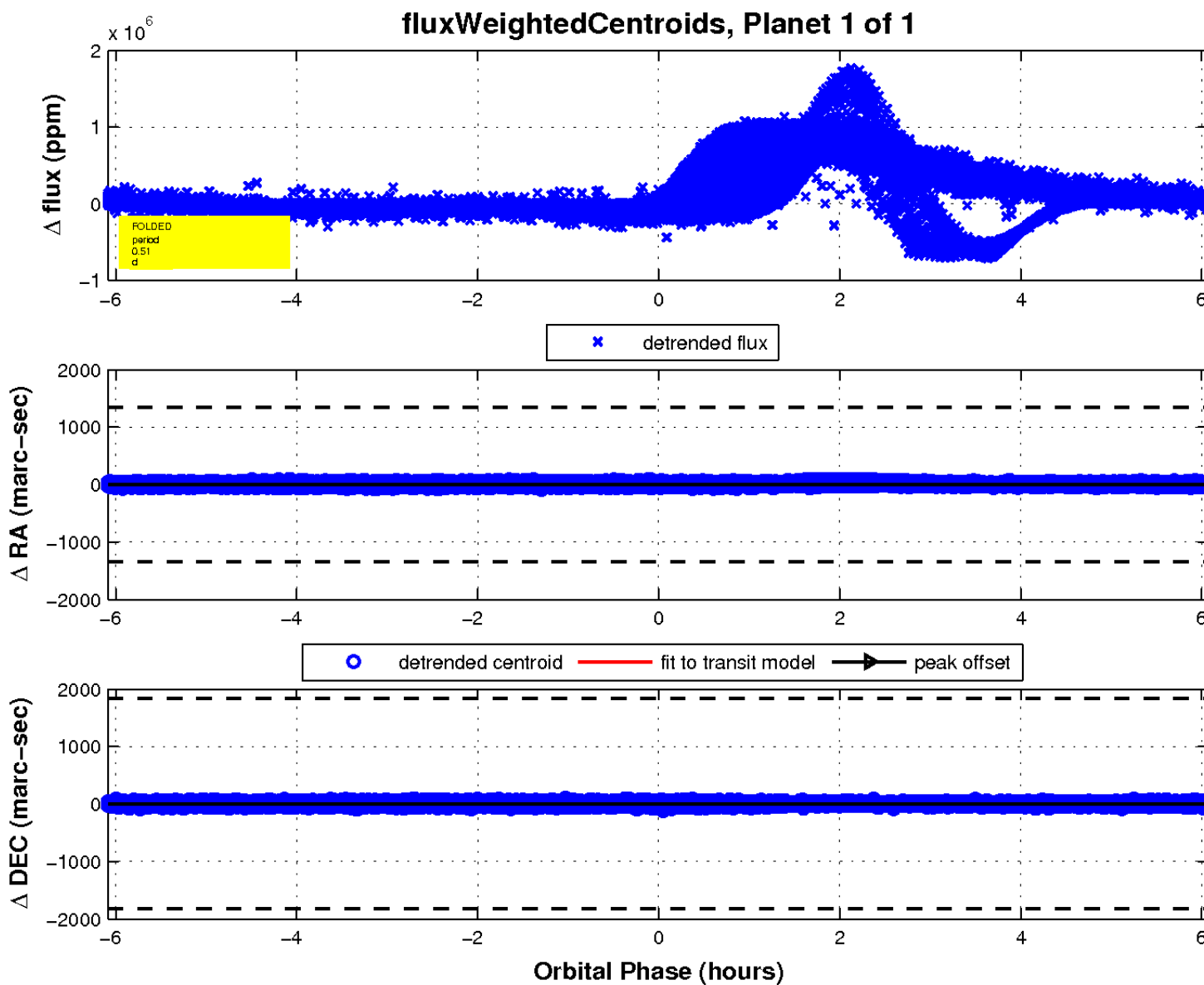
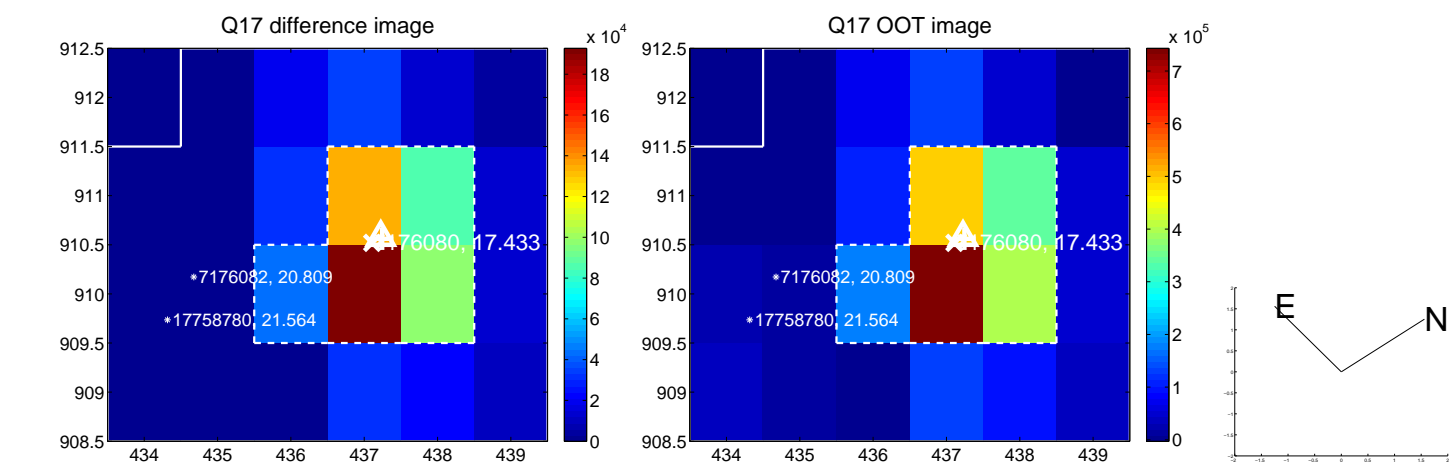
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination

