

# KIC 011774387

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R <sub>★</sub> (R <sub>☉</sub> )	T <sub>★</sub> (K)	R <sub>p</sub> (R <sub>⊕</sub> )	S <sub>p</sub> (S <sub>⊕</sub> )
011774387-01	OBS	1497.01	0.520222	131.848333	152.6	1.008	11.9	14.8	0.89	5776	1.32	5016.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011774387-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_ALT—CENT_UNRESOLVED_OFFSET—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 011774387-01

TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist (″)	ΔRow	ΔCol	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	σ <sub>P</sub>	σ <sub>T</sub>
011774387-01	11774387	011774383-pri	11774383	1:1	5.1	-1	0	19.17	15.63	90.20	Direct-PRF	0	1.09	1.30

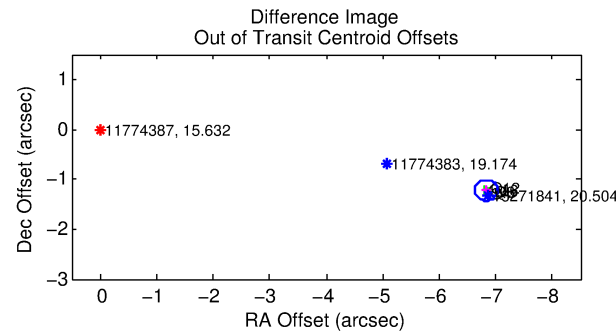
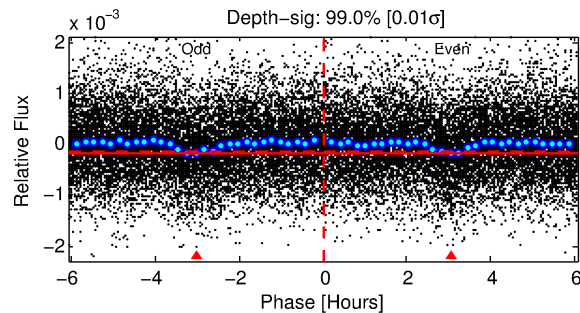
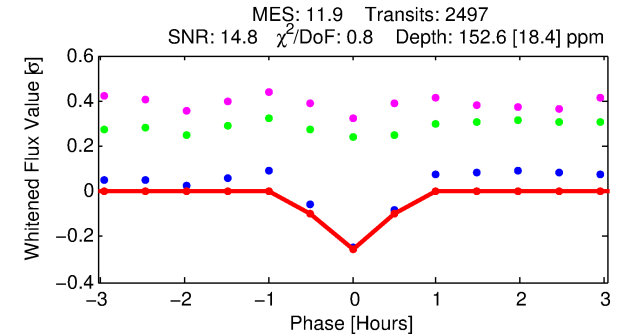
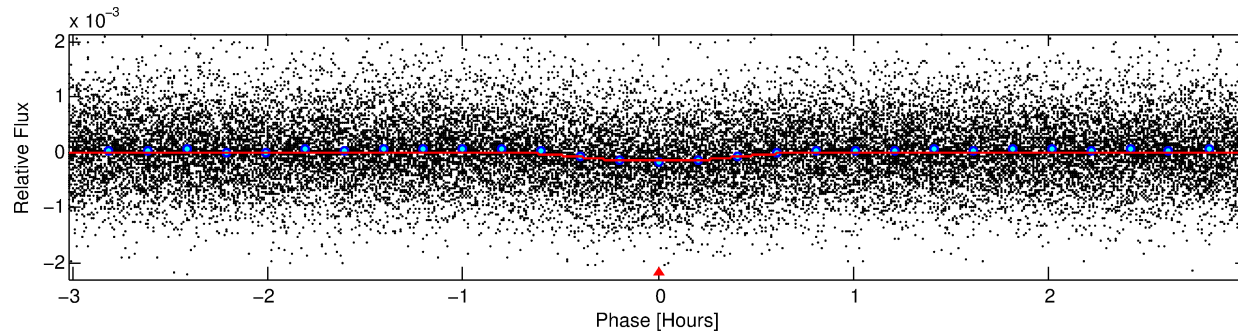
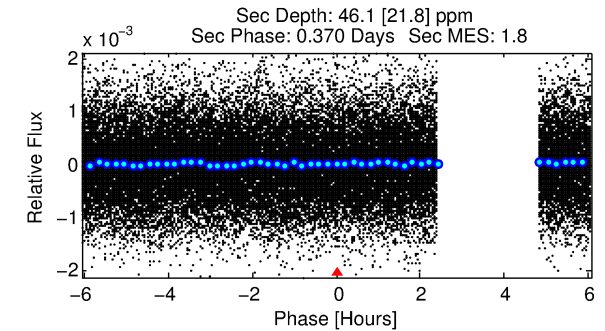
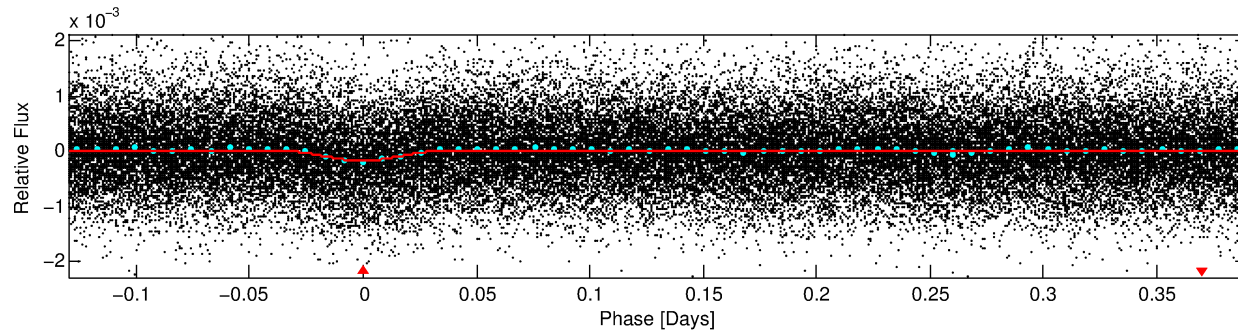
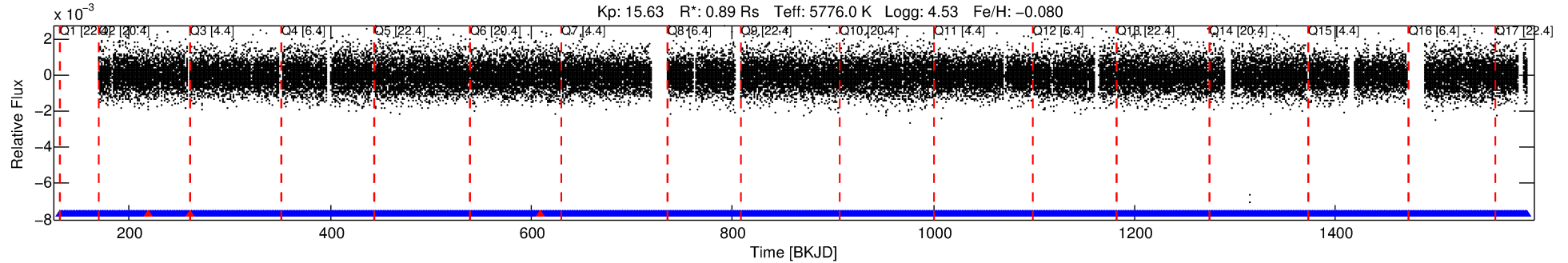
**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided by the child's. σ<sub>P</sub> and σ<sub>T</sub> are the significance of the match in period and epoch. For a match to be considered significant σ<sub>P</sub> < 5.0 and σ<sub>T</sub> < 5.0. Matches which have σ<sub>P</sub> and σ<sub>T</sub> very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 11774387 Candidate: 1 of 1 Period: 0.520 d

KOI: K01497.01 Corr: 0.894

Kp: 15.63 R\*: 0.89 Rs Teff: 5776.0 K Logg: 4.53 Fe/H: -0.080



## DV Fit Results:

Period = 0.52022 [0.00001] d  
Epoch = 131.8483 [0.0012] BKJD  
Rp/R\* = 0.0136 [0.0089]  
a/R\* = 2.05 [4.93]  
b = 0.90 [0.67]  
Seff = 5016.71 [2020.26]  
Teq = 2146 [216] K  
Rp = 1.32 [0.95] Re  
a = 0.0125 [0.0033] AU  
Ag = 2.29 [3.31] [0.39σ]  
Teff = 4083 [1426] K [1.34σ]

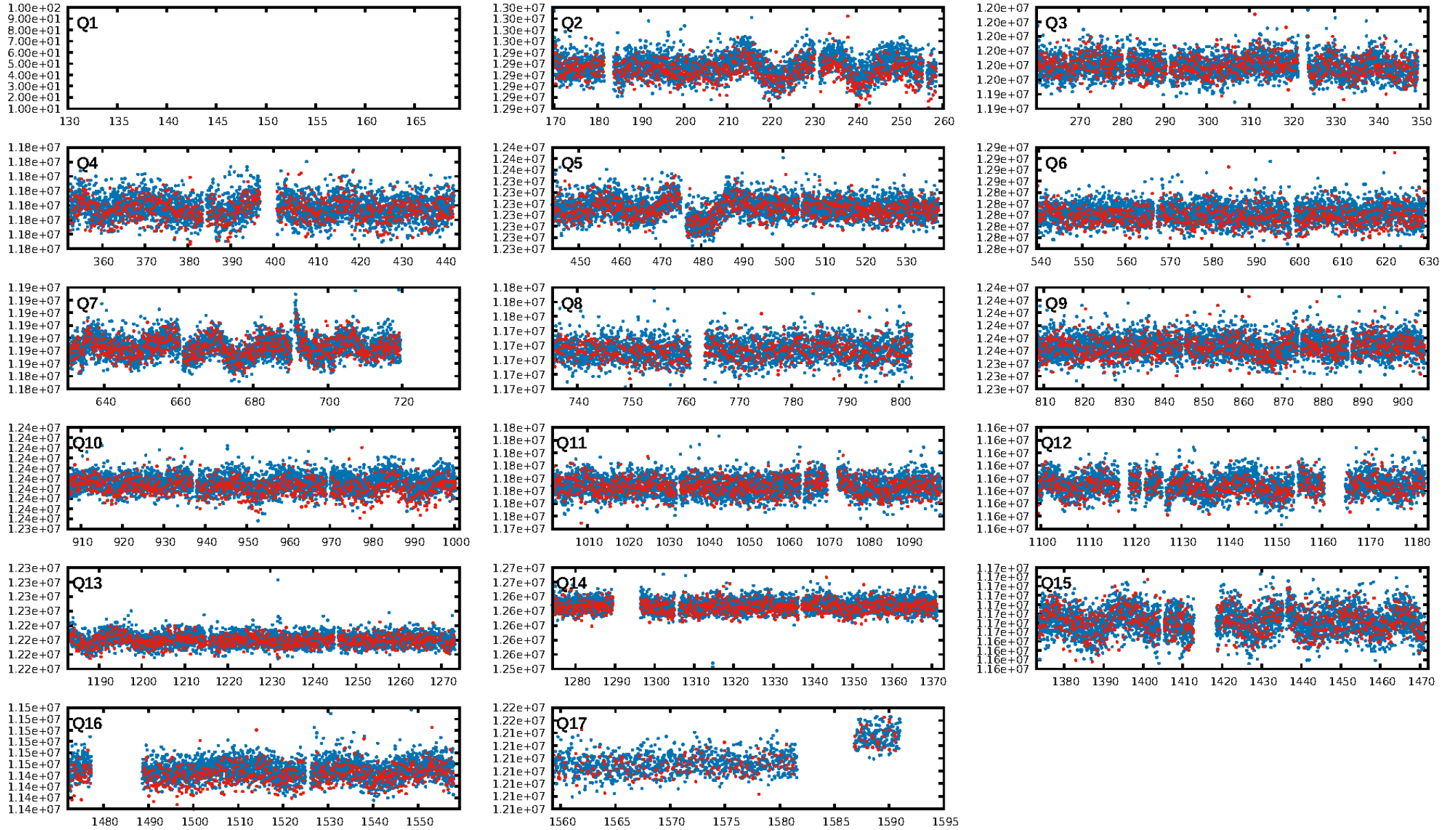
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.45e-32  
RollingBand-fgt: 1.00 [2444/2447]  
GhostDiagnostic-chr: -0.7081  
Centroid-sig: 0.0%  
Centroid-so: 9.141 arcsec [9.92σ]  
OotOffset-rm: 6.931 arcsec [100.02σ]  
KicOffset-rm: 6.985 arcsec [100.21σ]  
OotOffset-st: 0/0/4/0 [4]  
KicOffset-st: 0/0/4/0 [4]  
DiffImageQuality-fgm: 1.00 [4/4]  
DiffImageOverlap-fno: 1.00 [16/16]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:40:05 Z

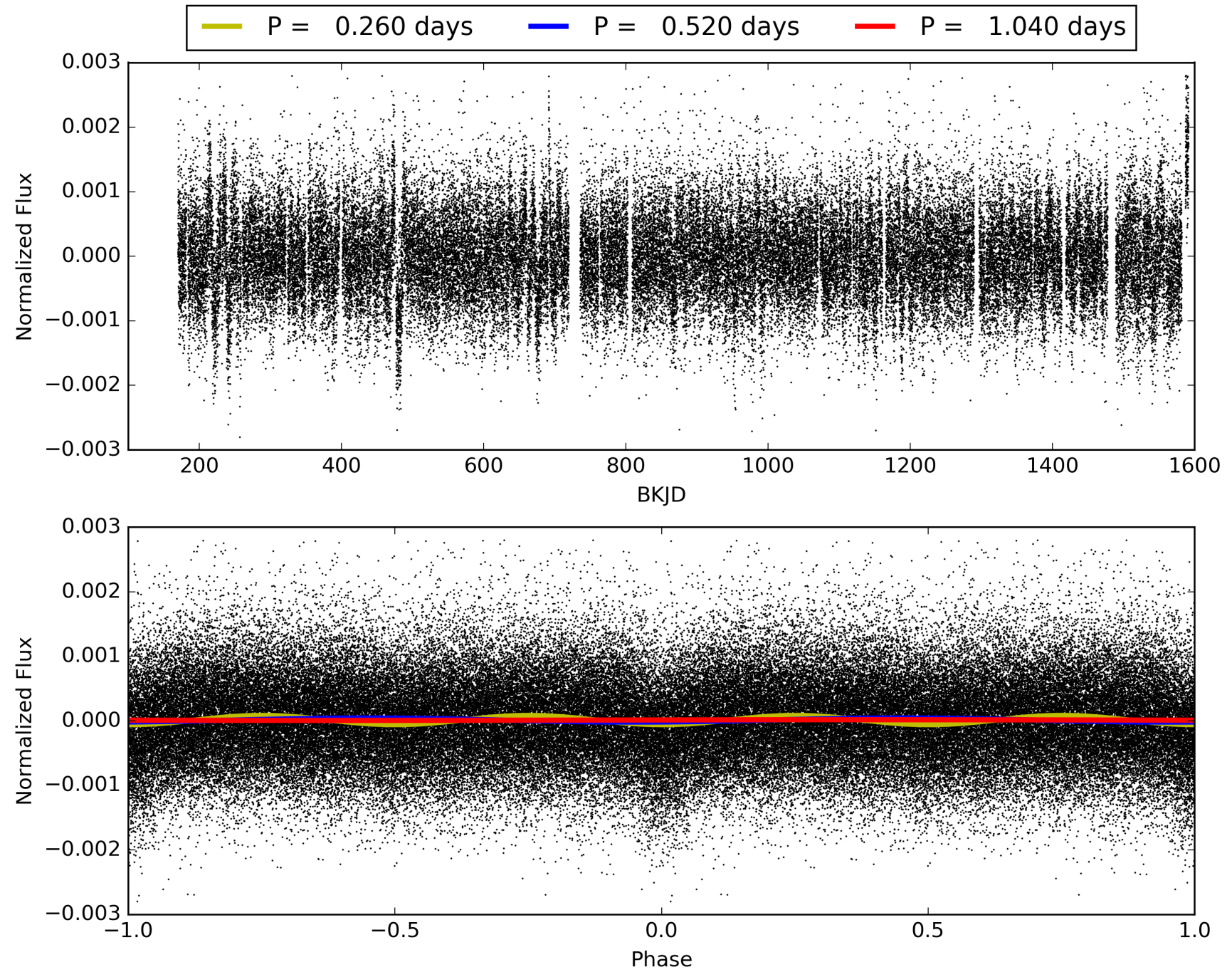
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 011774387-01, PDC Light Curves



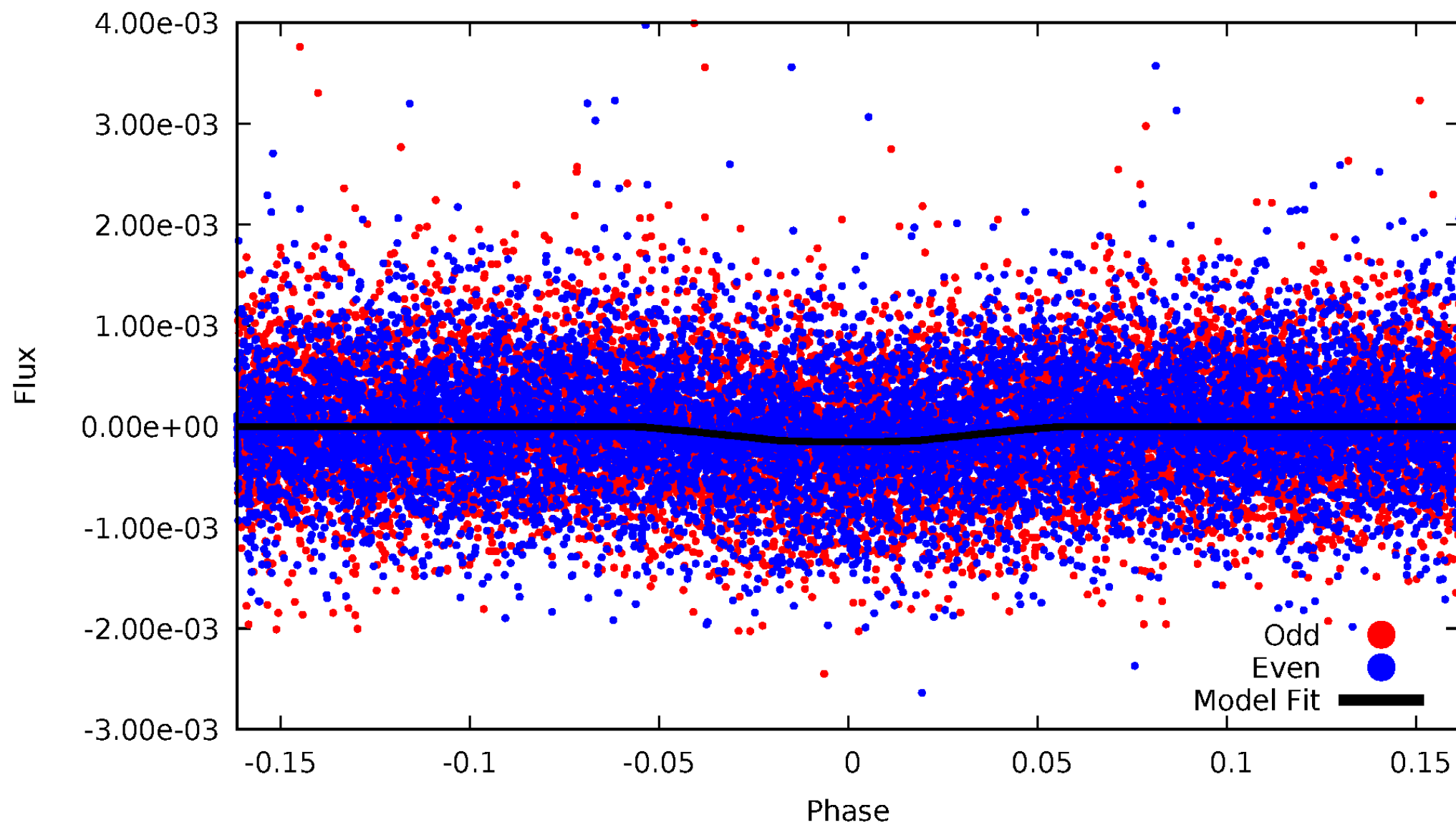


# TCE 011774387-01



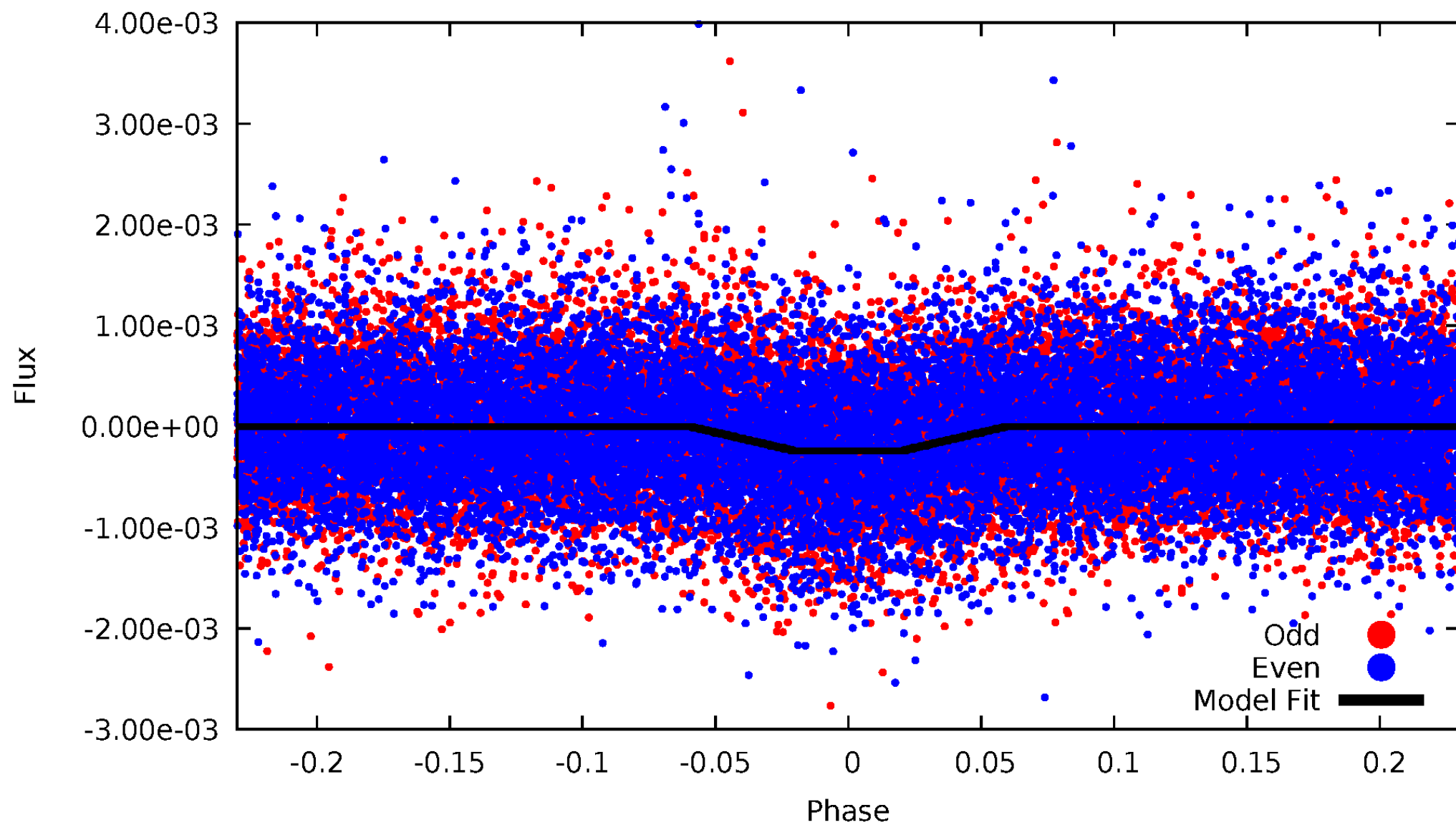
# DV Odd/Even

TCE 011774387-01

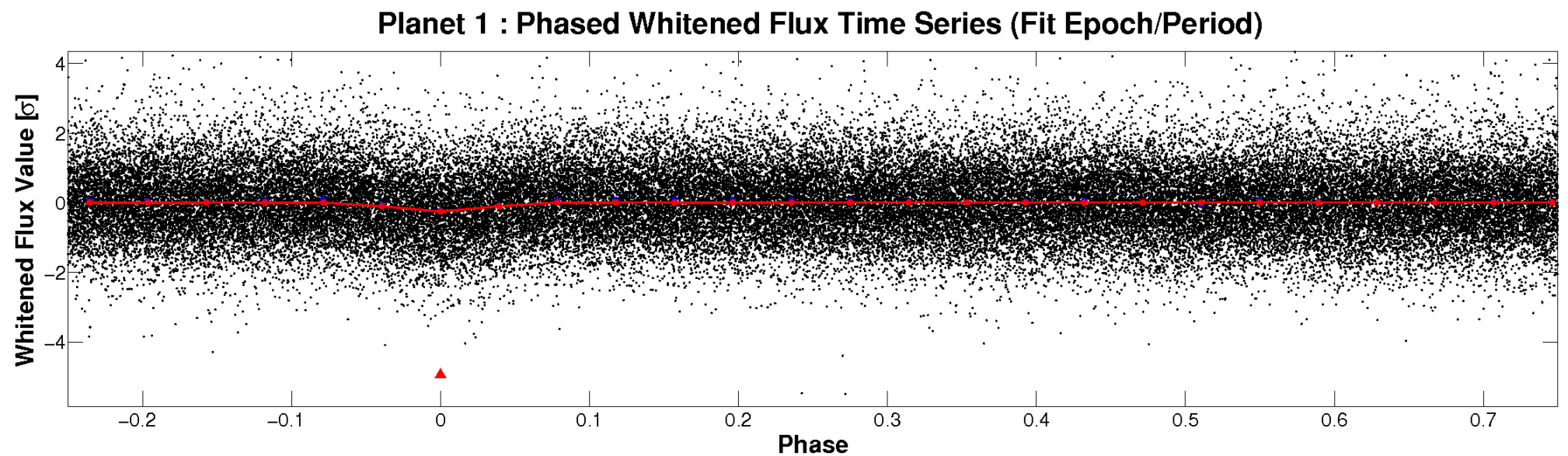
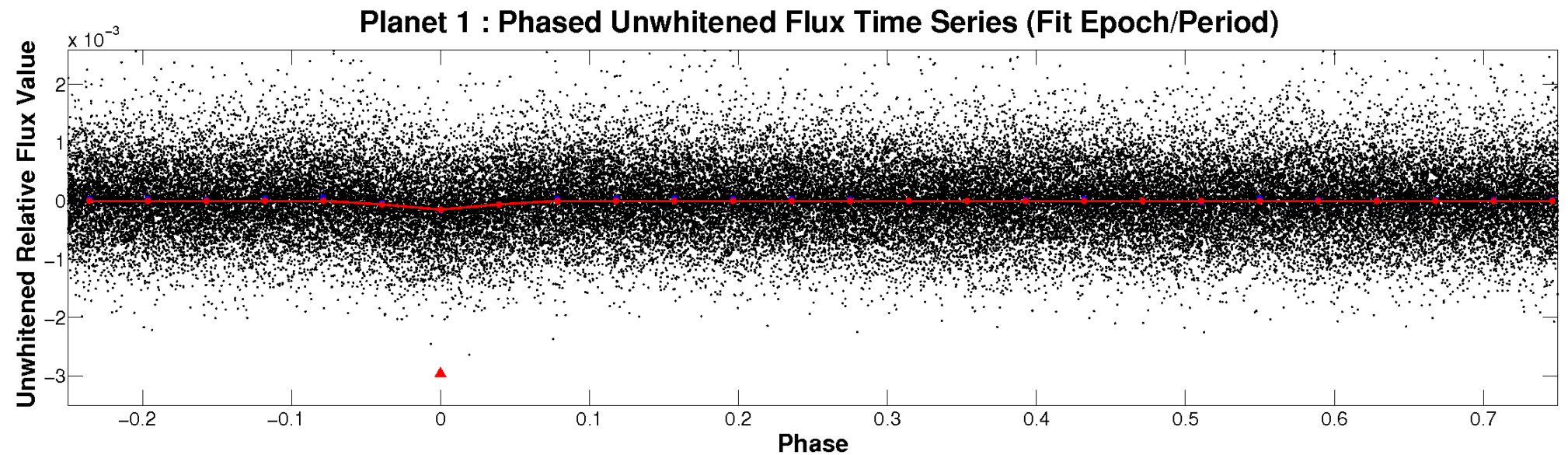


# ALT Odd/Even

TCE 011774387-01



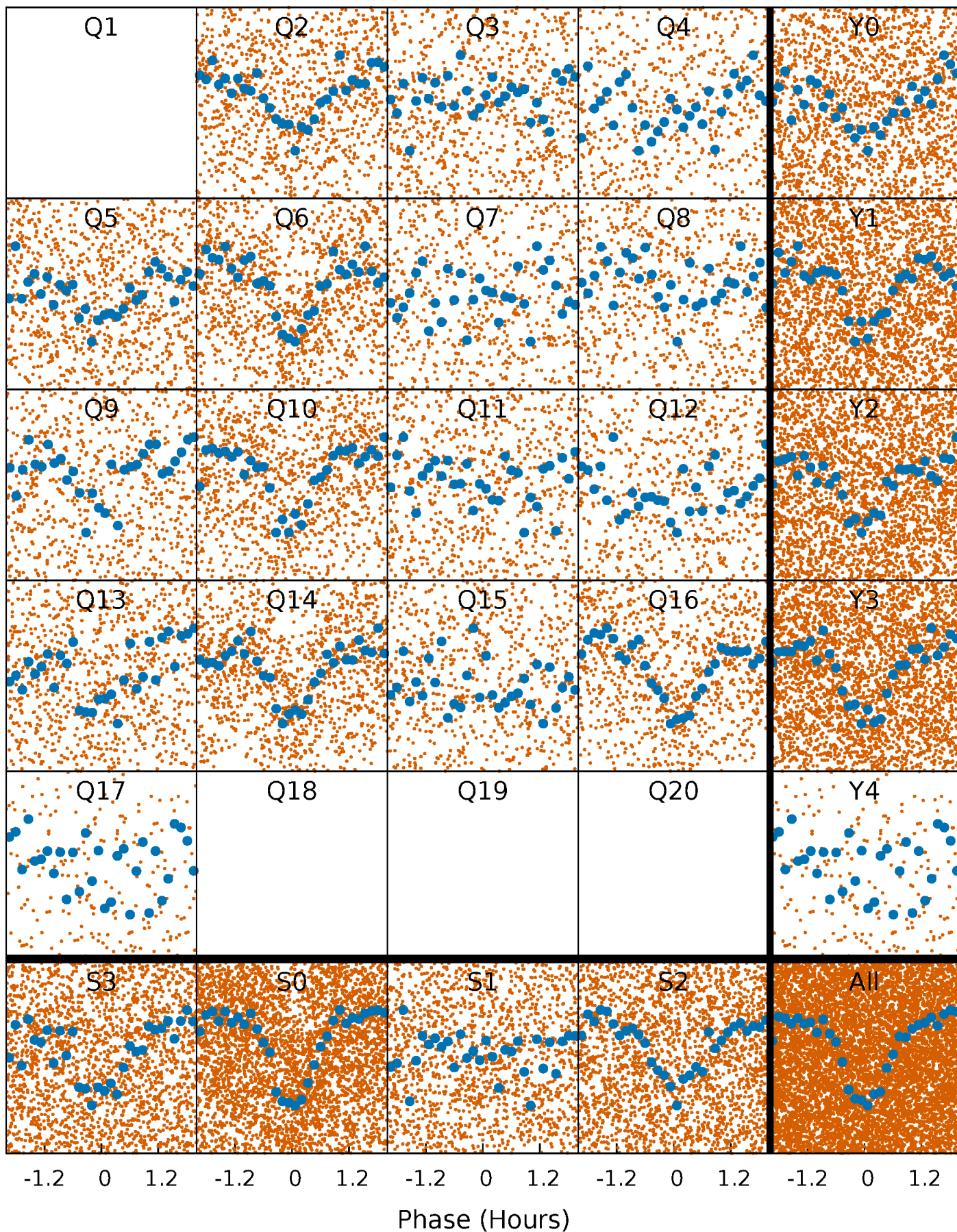
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

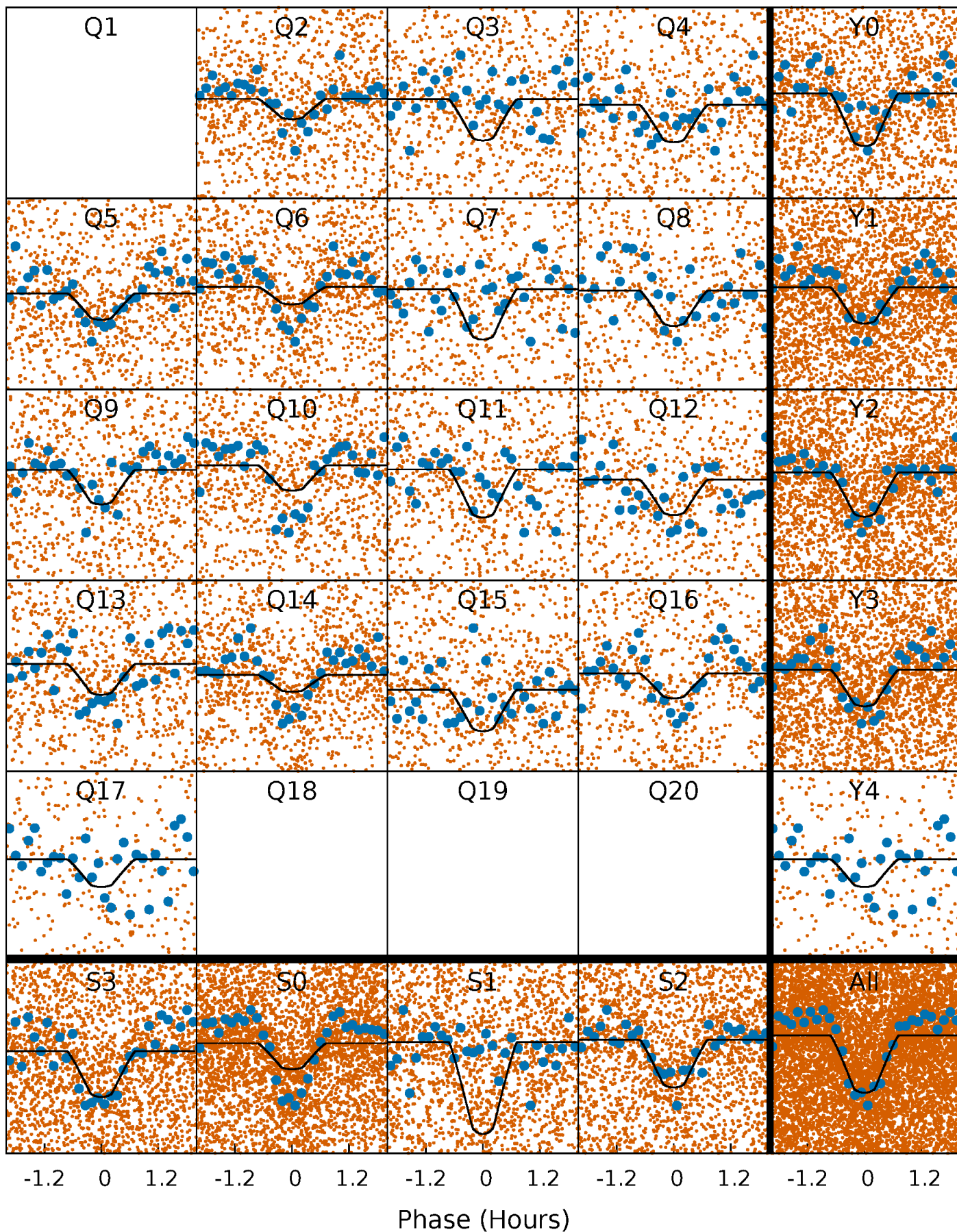
TCE 011774387-01 P= 0.520222 Days  $T_0=131.848333$  (BKJD)





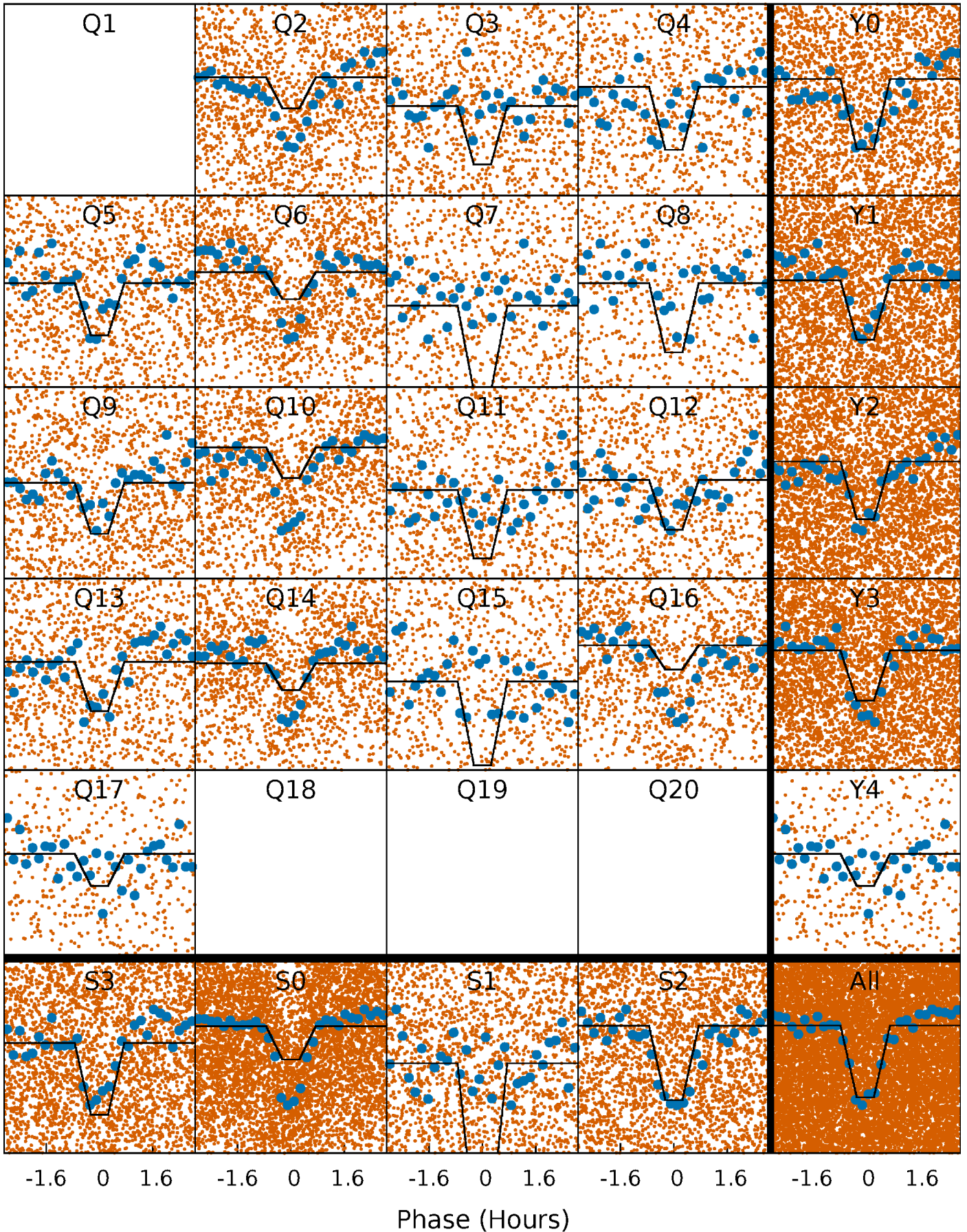
# DV Quarter-Phased Transit Curves

TCE 011774387-01 P= 0.520222 Days  $T_0=131.848333$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 011774387-01 P= 0.520222 Days  $T_0=131.850458$  (BKJD)

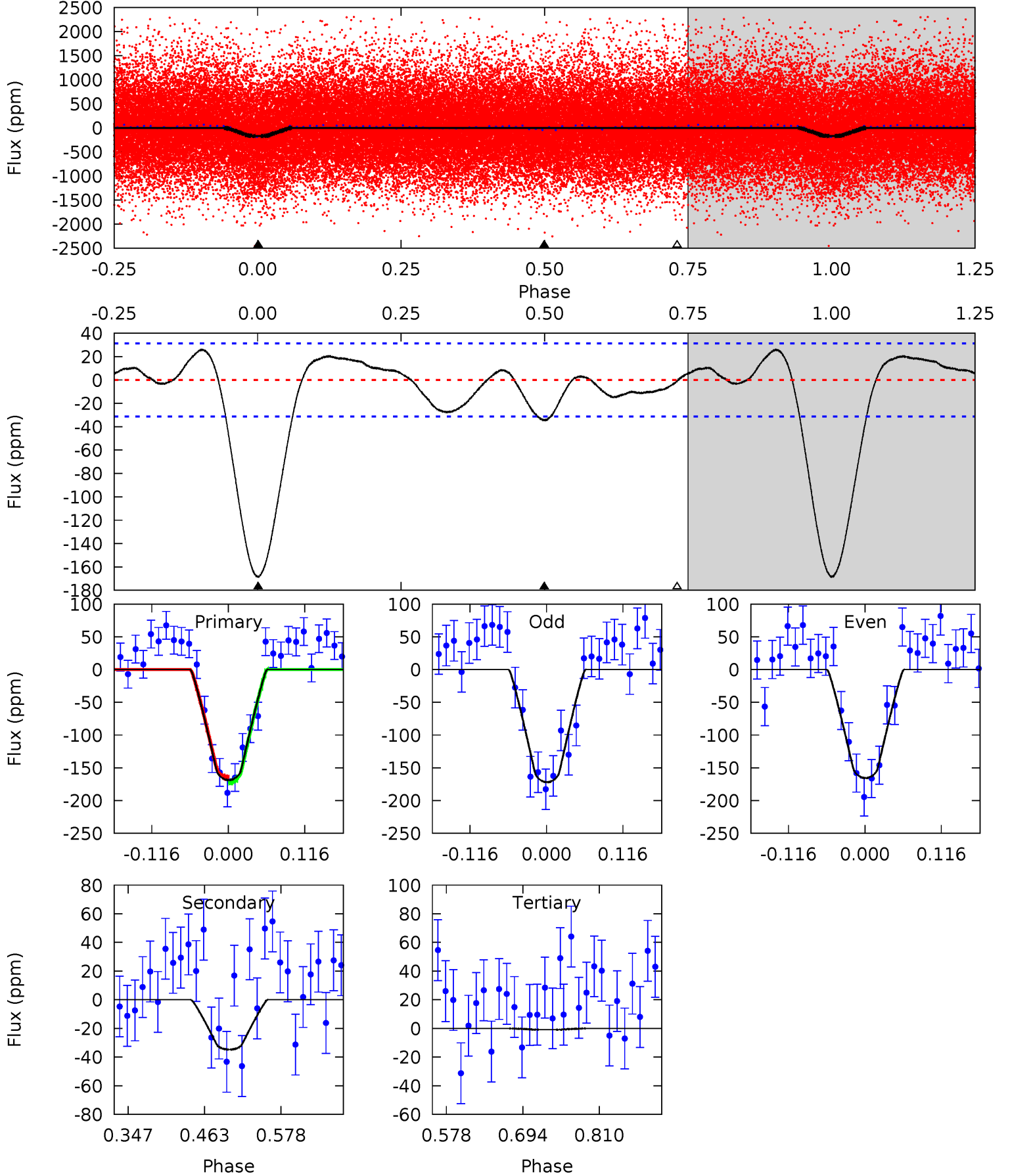




# DV Model-Shift Uniqueness Test

011774387-01, P = 0.520222 Days, E = 131.848333 Days

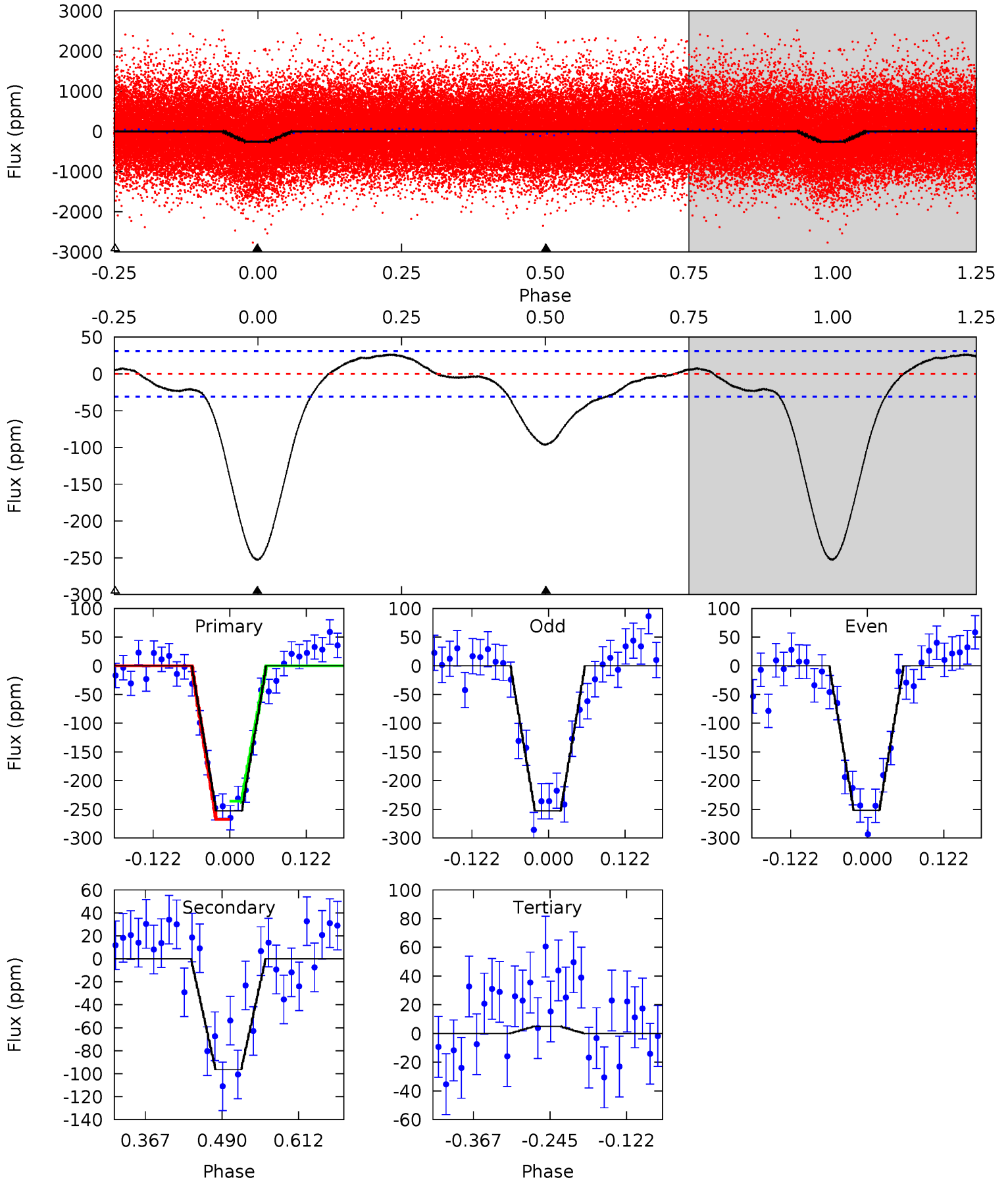
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	5.05	0.13	0	4.53	1.57	1.93	24.3	24.5	4.91	5.05	0.46	0.96	0.13	0.50



# Alt Model-Shift Uniqueness Test

011774387-01, P = 0.520222 Days, E = 131.850458 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
37.0	14.1	-0.73	0	4.52	1.54	2.10	37.7	37.0	14.9	14.1	0.08	1.01	0.09	2.31





### Stellar Parameters For KIC 011774387

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5776^{+156}_{-173}$	$4.527^{+0.038}_{-0.212}$	$-0.080^{+0.300}_{-0.300}$	$0.889^{+0.273}_{-0.091}$	$0.970^{+0.114}_{-0.114}$	$1.945^{+0.398}_{-0.973}$
	+3%/-3%	+1%/-5%	+375%/-375%	+31%/-10%	+12%/-12%	+20%/-50%
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 011774387-01 / KOI 1497.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-35 \pm 7$	$1.51^{+0.88}_{-0.85}$	$3071^{+216}_{-133}$	$3819^{+1626}_{-841}$	$1.327^{+5.201}_{-0.838}$
Alt.	$-97 \pm 7$	$1.60^{+0.97}_{-0.82}$	$3086^{+217}_{-148}$	$4609^{+1911}_{-834}$	$3.124^{+10.377}_{-1.861}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

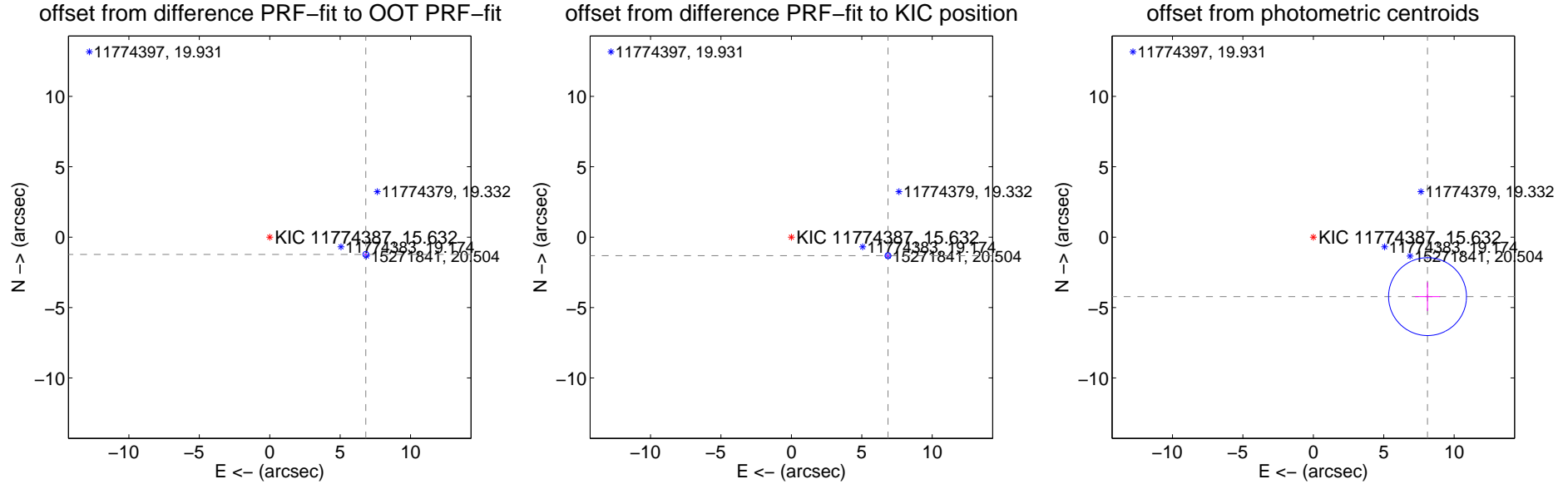
## DV Centroid Data

Supplemental centroid analysis for 011774387-01. Kepler magnitude: 15.63. Transit SNR 14.84

There are 4 quarters with good PRF difference image offsets

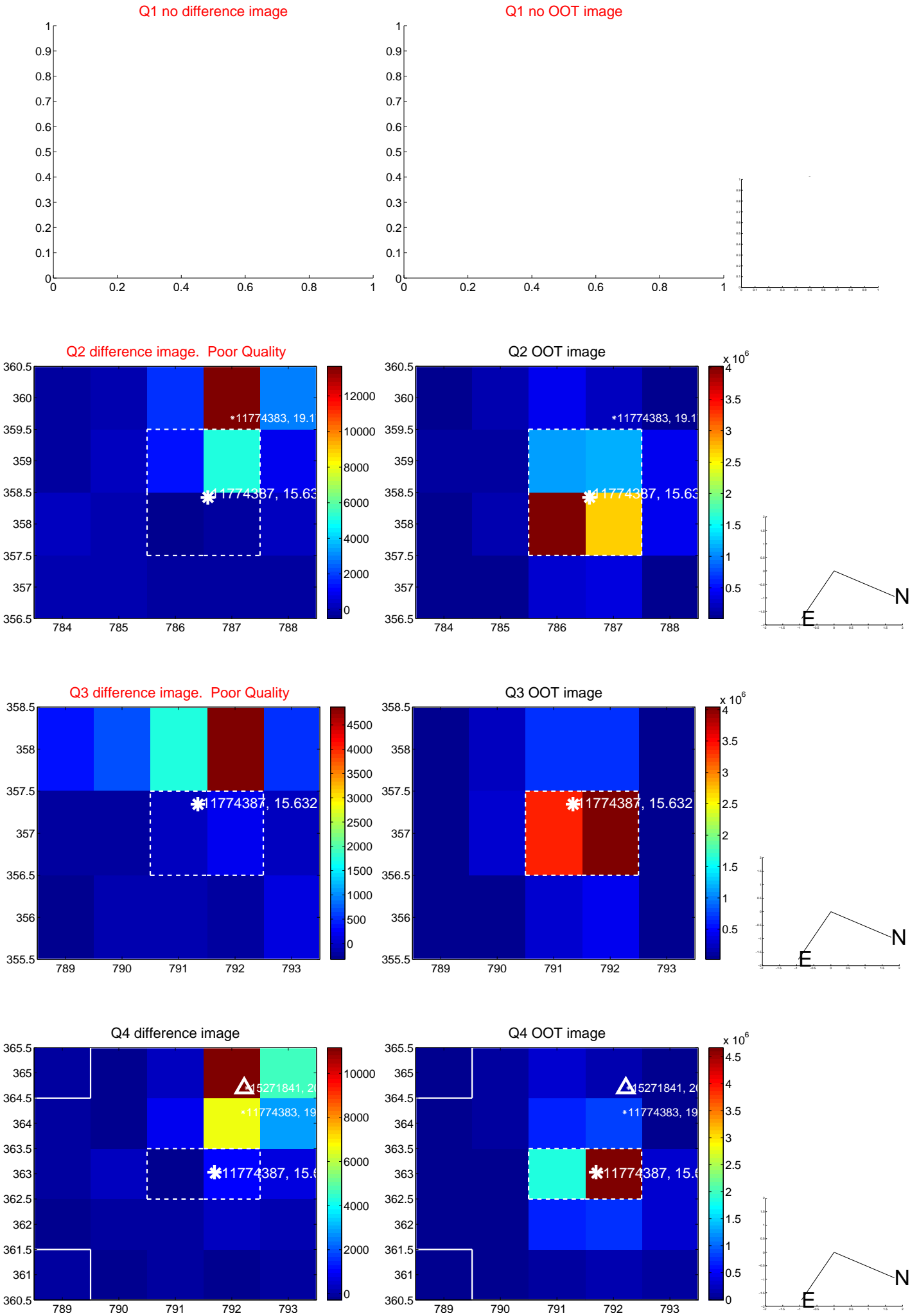
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$6.931 \pm 0.069$	100.02	$-6.822 \pm 0.069$	$-1.225 \pm 0.070$
PRF-fit source offset from KIC position	$6.985 \pm 0.070$	100.21	$-6.860 \pm 0.070$	$-1.316 \pm 0.073$
photometric centroid source offset	$9.14 \pm 0.92$	9.92	$-8.11 \pm 0.89$	$-4.22 \pm 1.02$

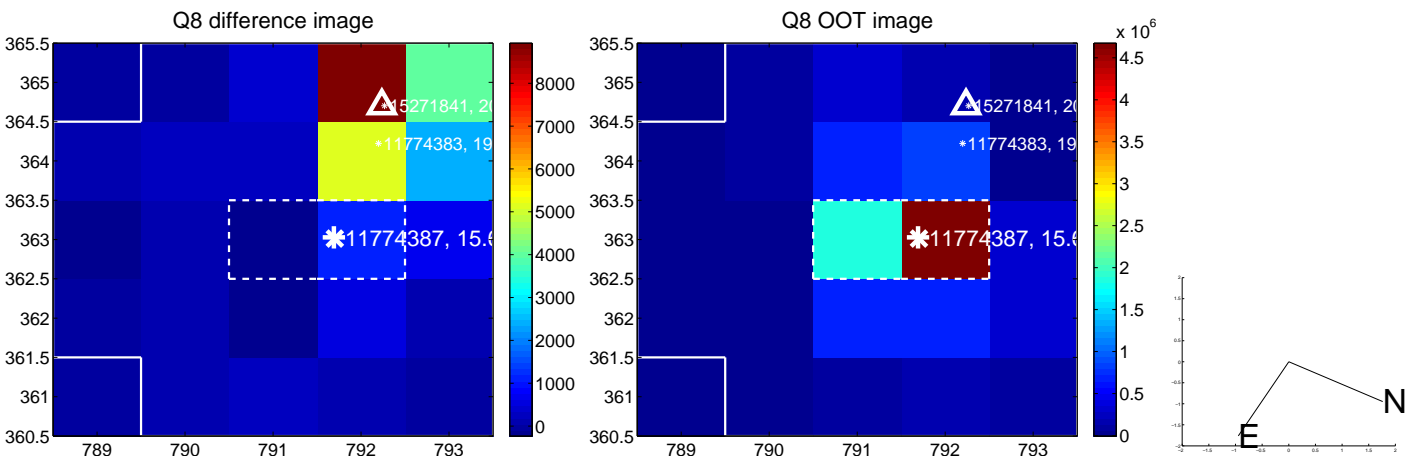
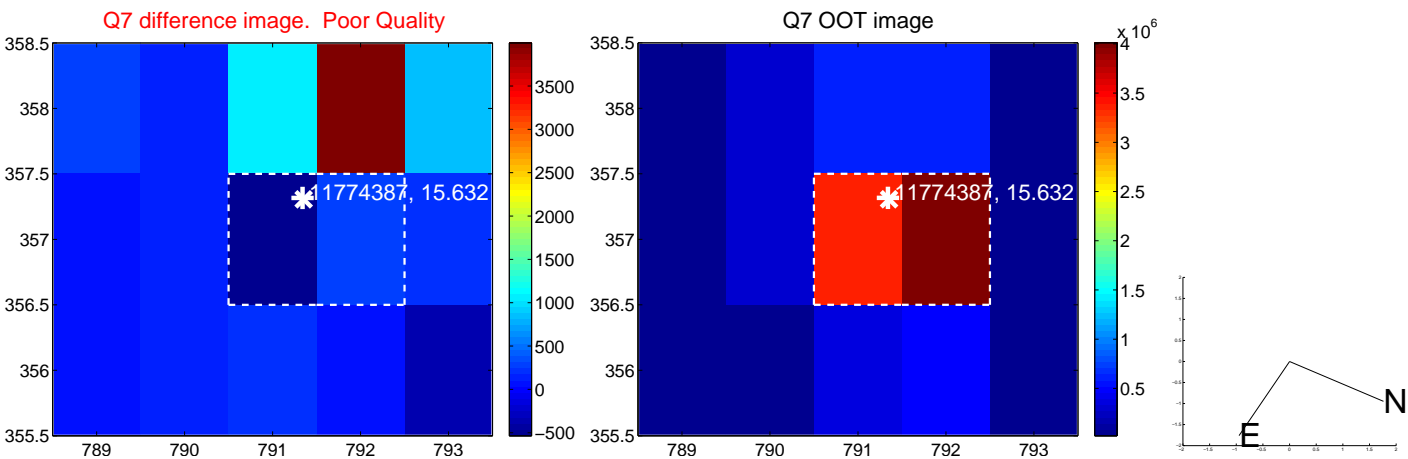
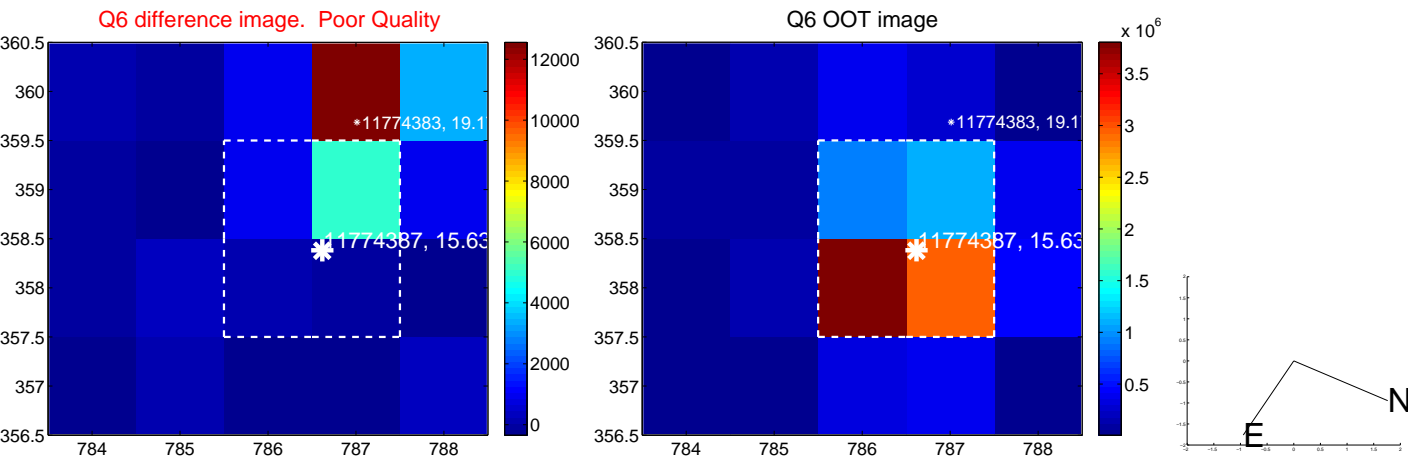
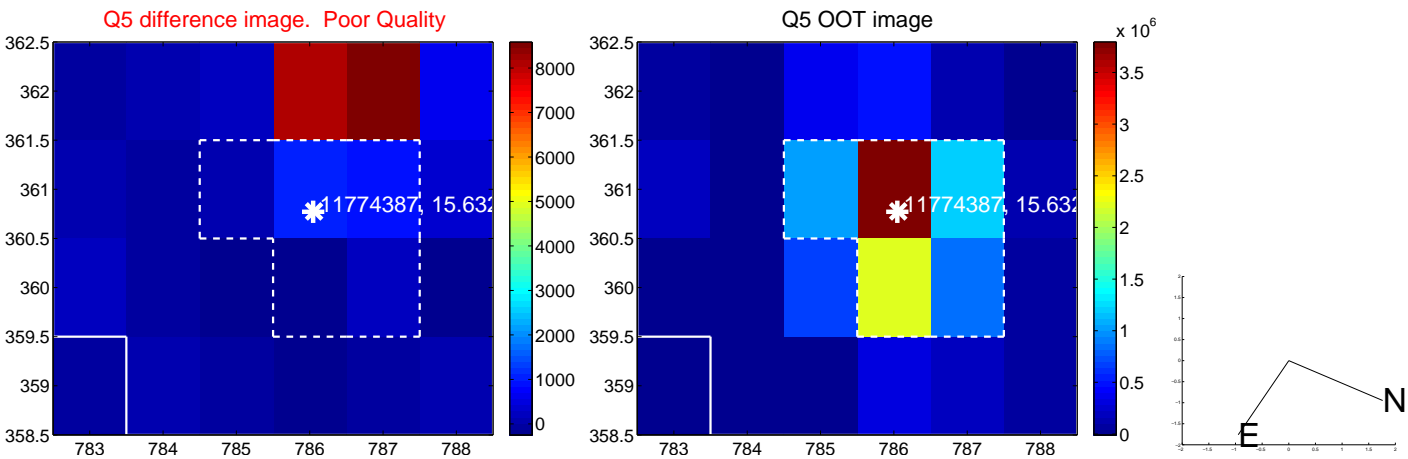


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

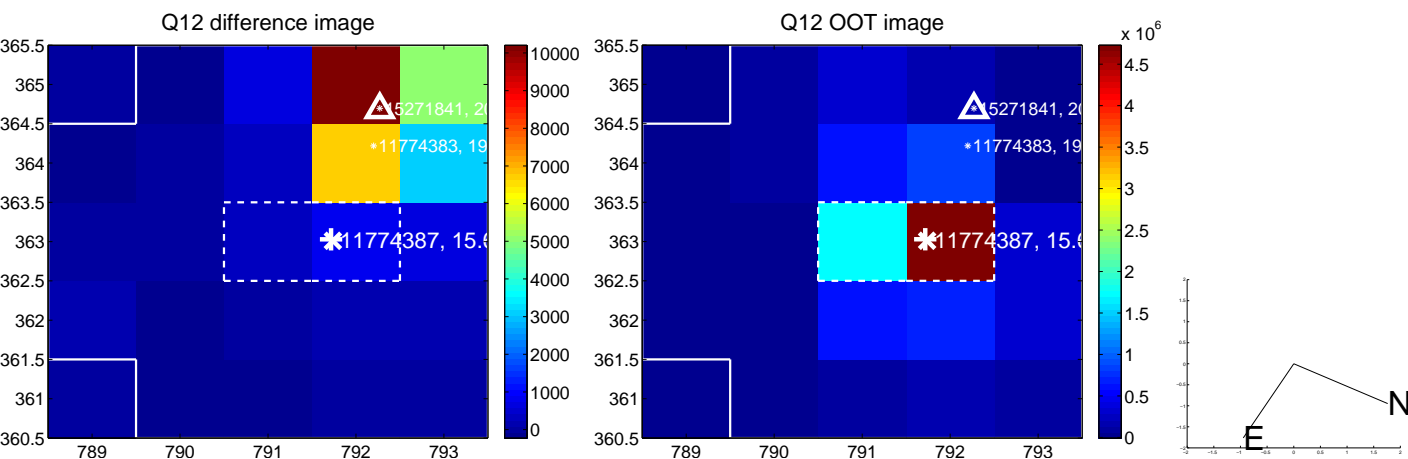
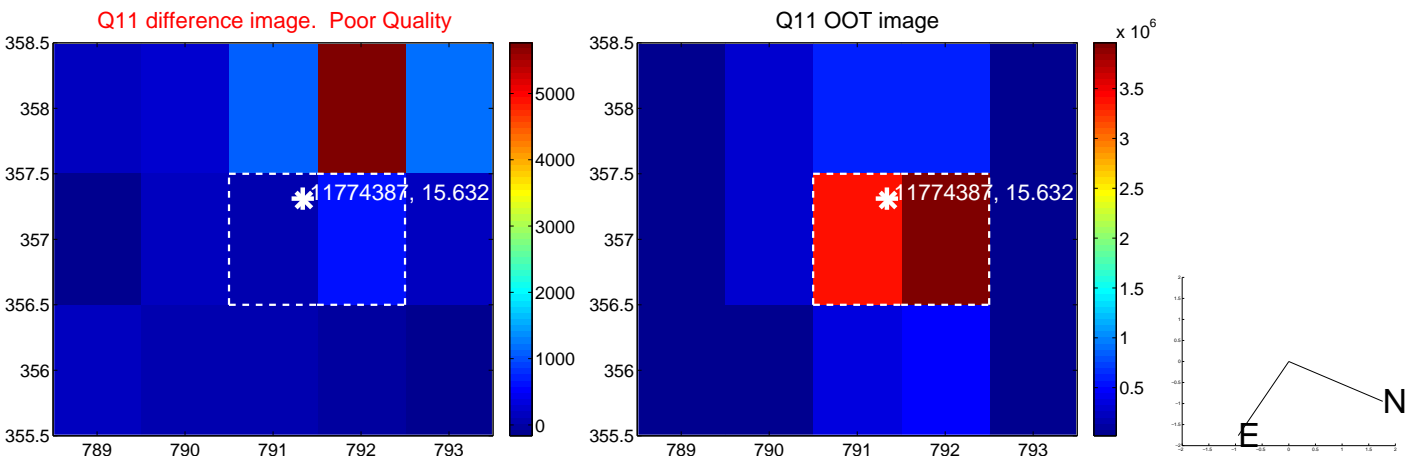
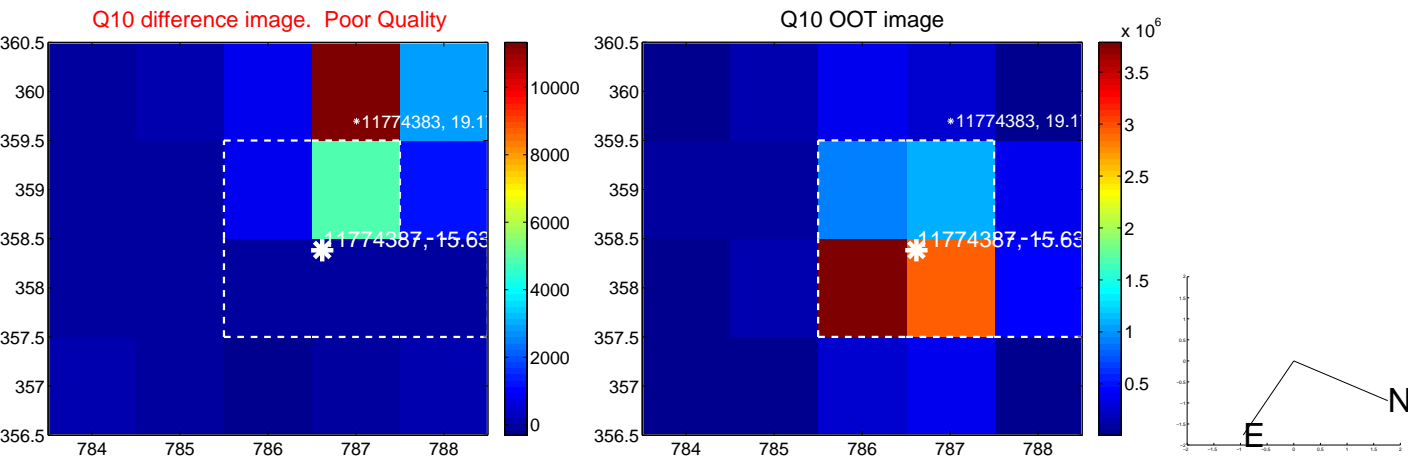
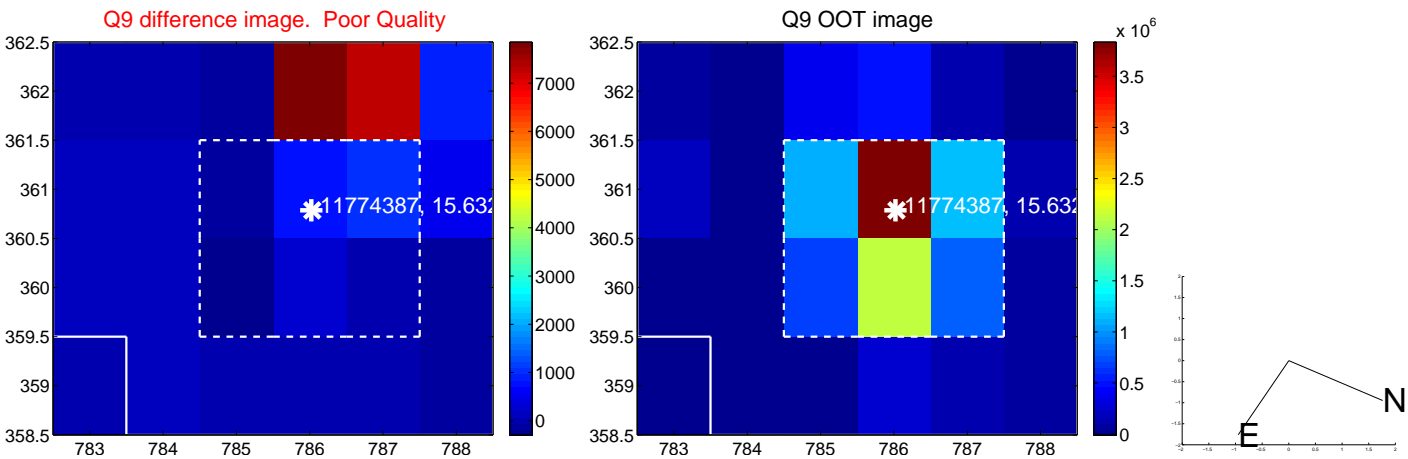


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

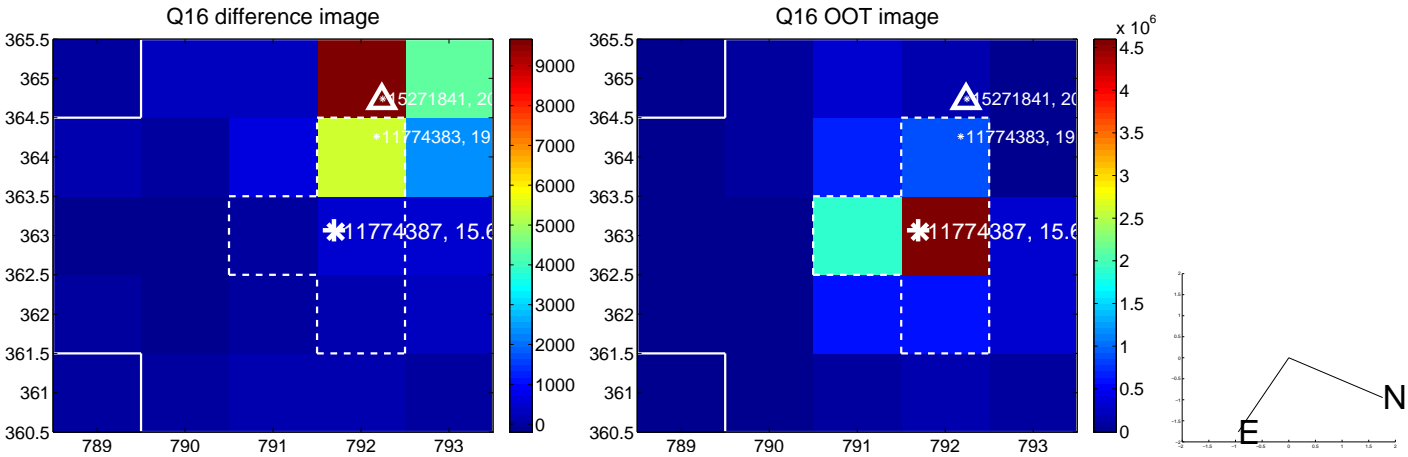
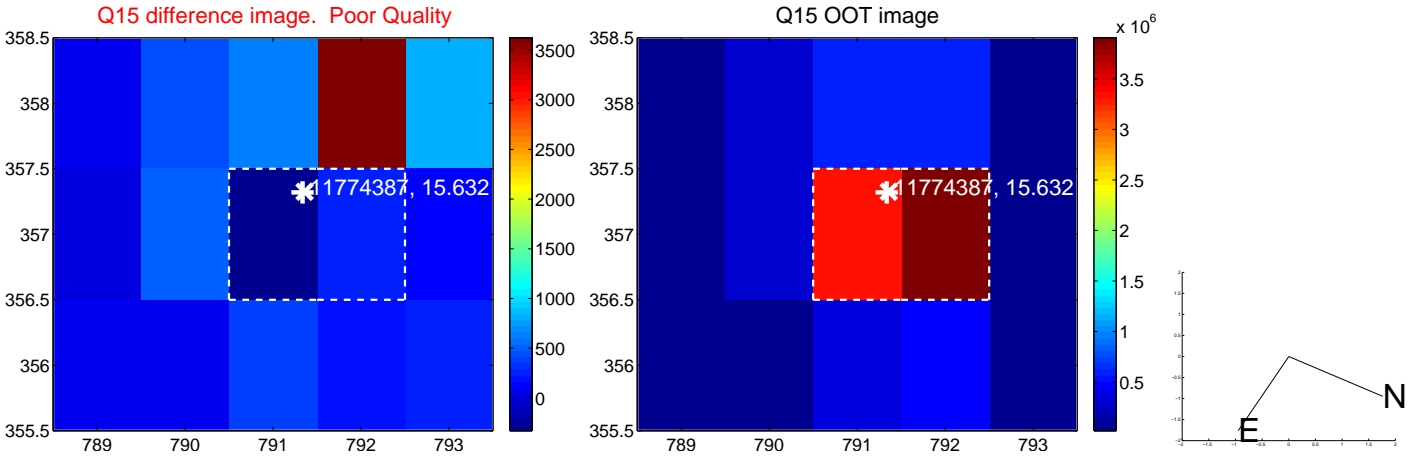
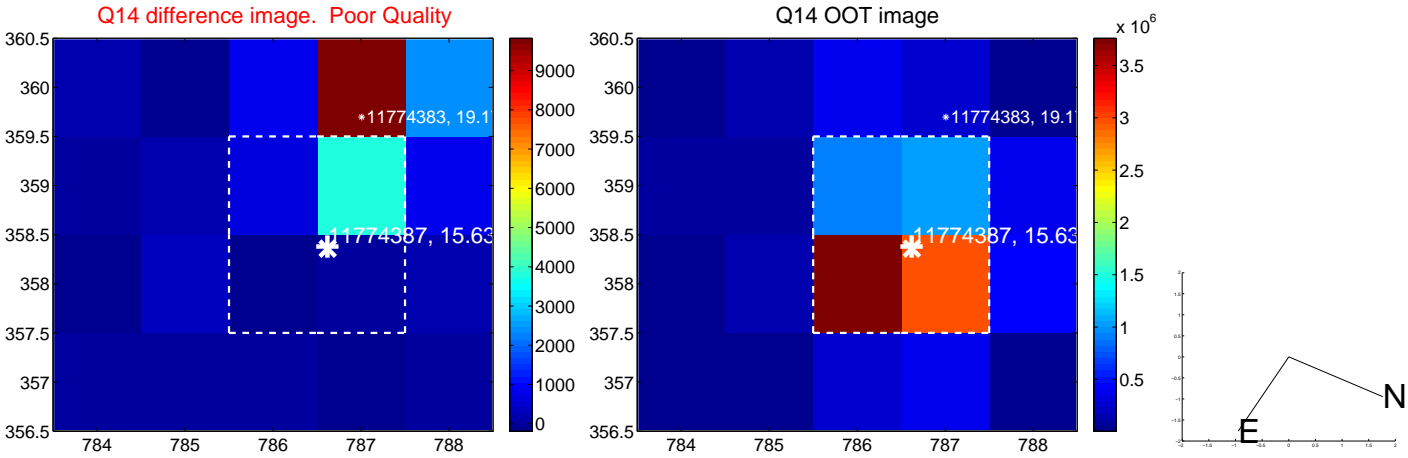
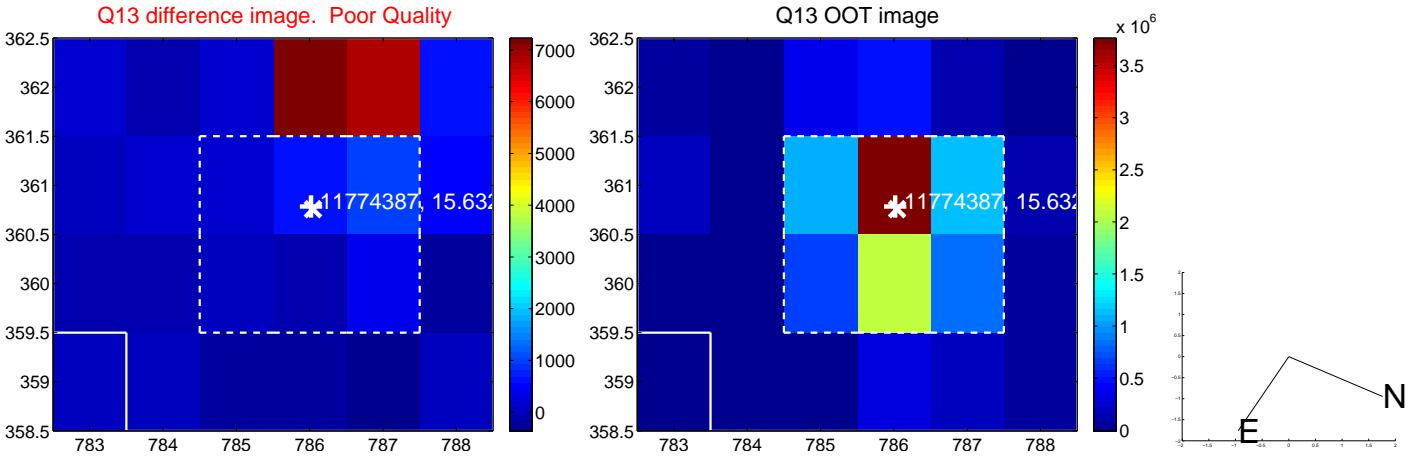




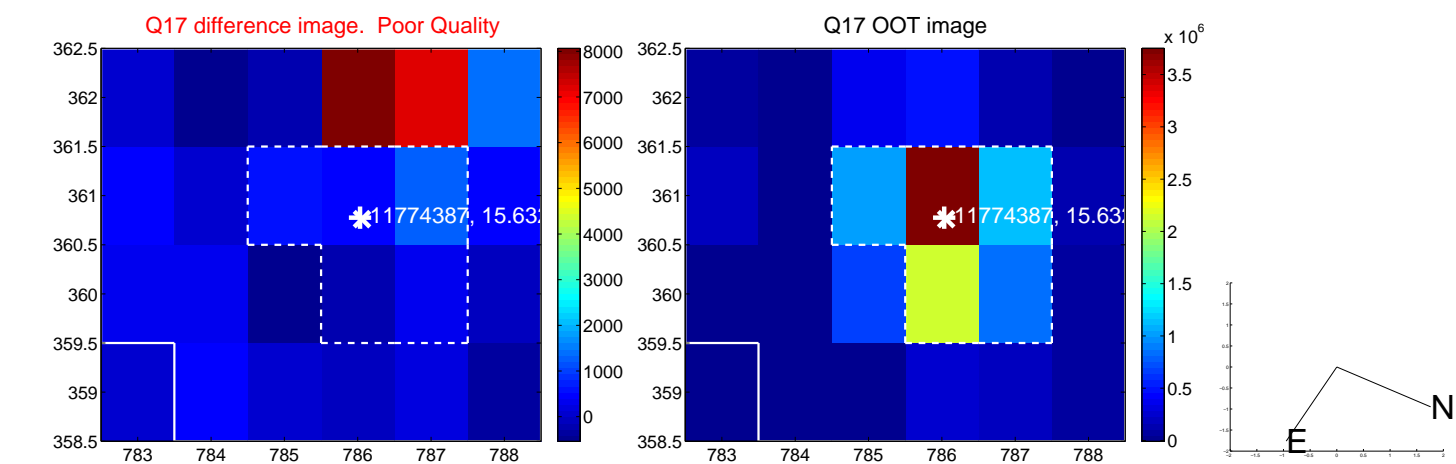
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



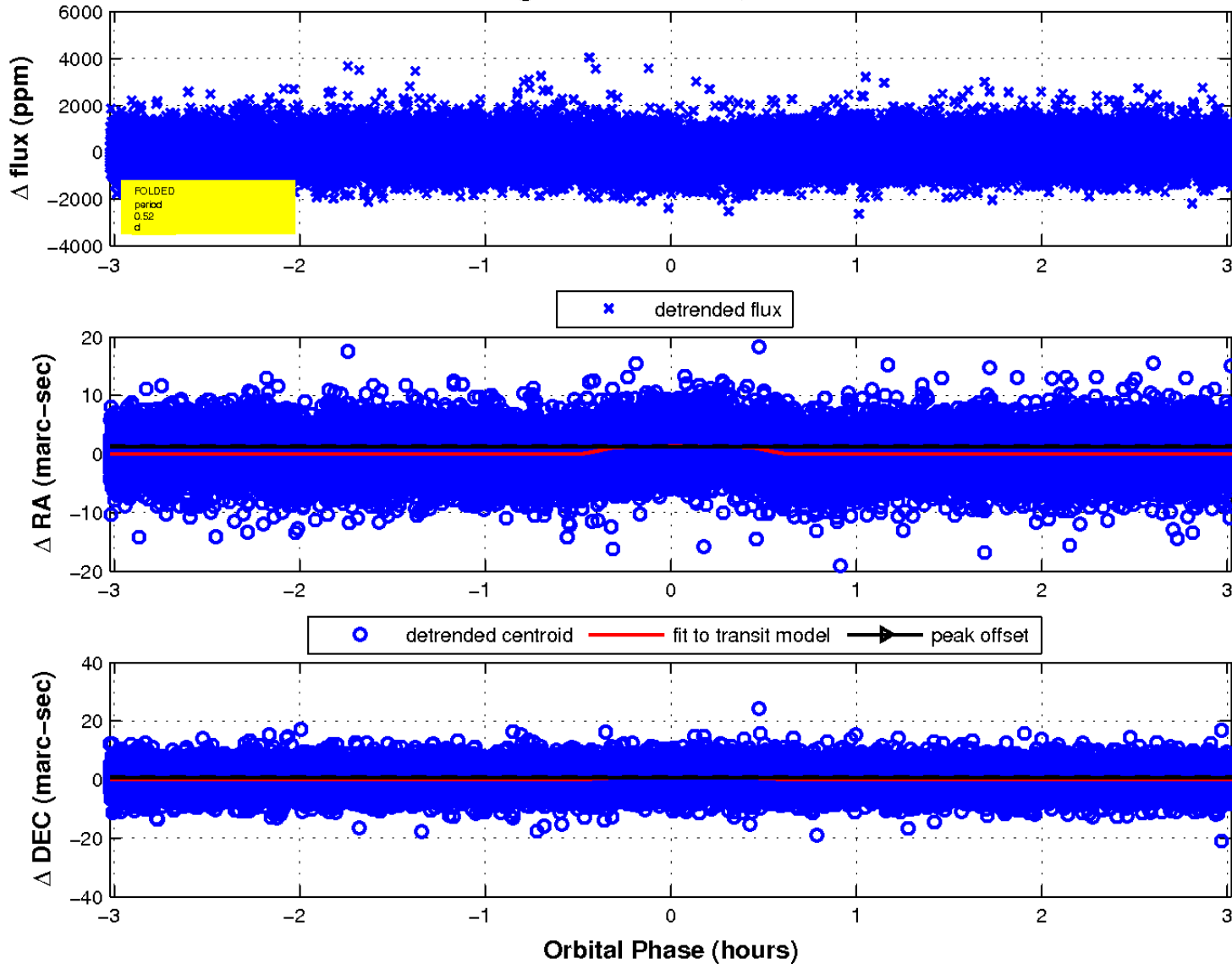
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

