

# KIC 005476495

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005476495-01	OBS	No	0.995222	131.752214	12.6	1.557	8.3	7.8	2.45	7582	1.00	32080.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005476495-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

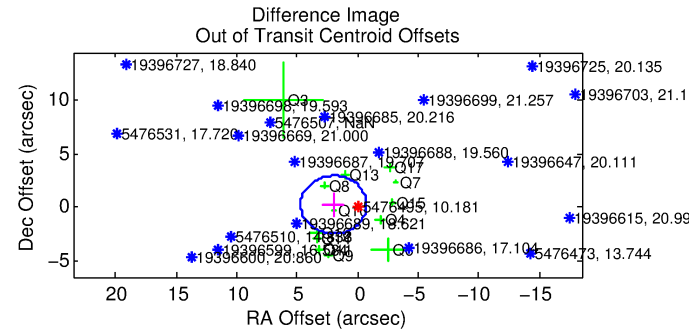
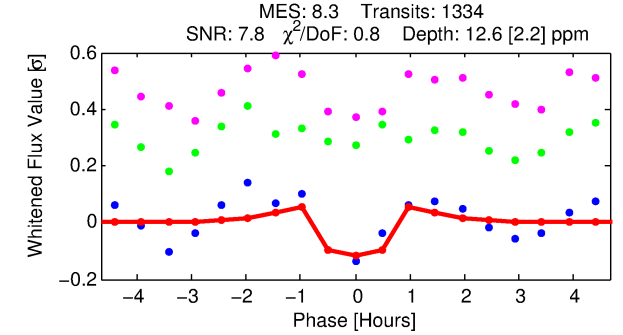
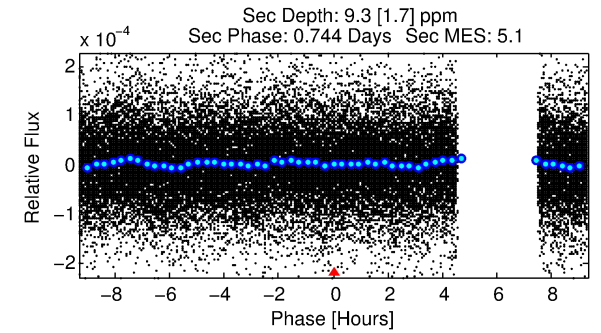
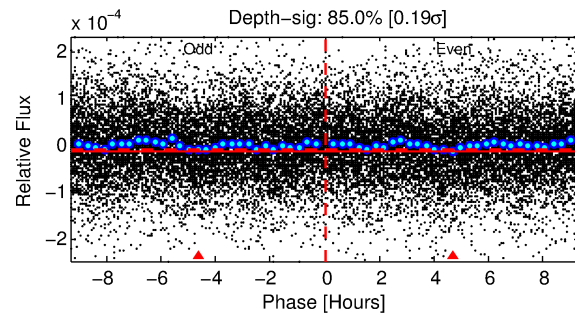
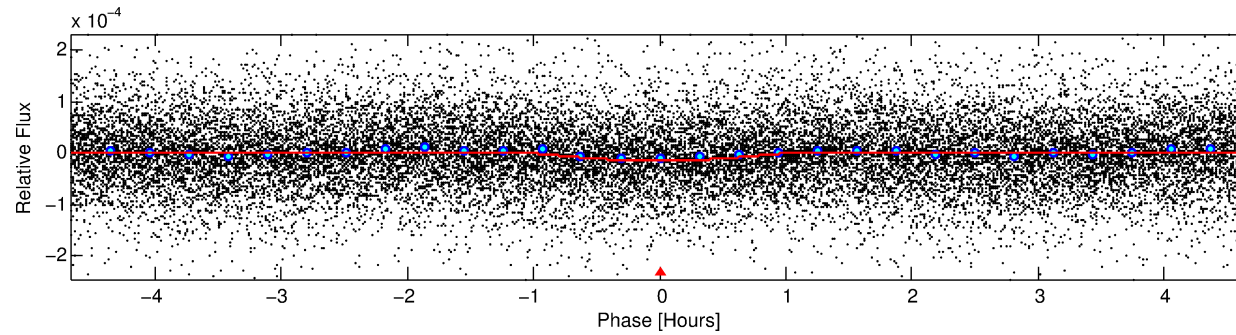
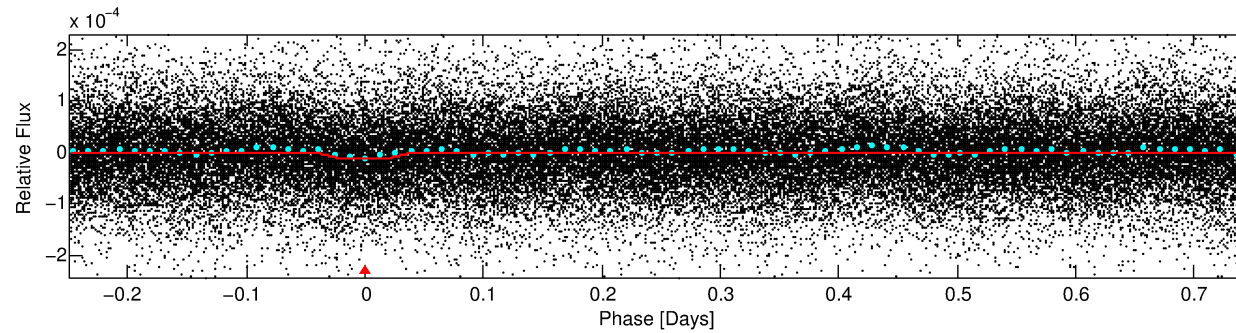
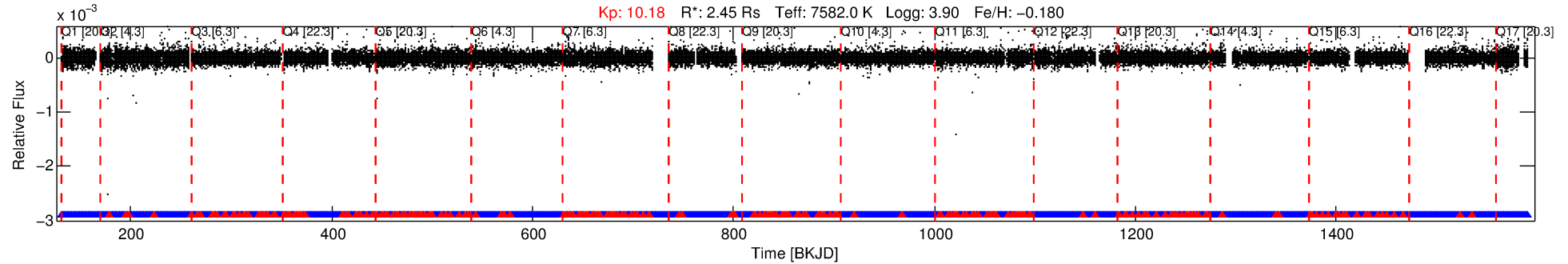
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 005476495-01

No Significant Match Found

# DV One-Page Summary

KIC: 5476495 Candidate: 1 of 1 Period: 0.995 d



## DV Fit Results:

Period = 0.99522 [0.00001] d  
Epoch = 131.7522 [0.0018] BKJD  
Rp/R\* = 0.0037 [0.0005]  
a/R\* = 2.65 [1.27]  
b = 0.86 [0.17]  
Seff = 32080.92 [17303.28]  
Teq = 3413 [460] K  
Rp = 1.00 [0.39] Re  
a = 0.0235 [0.0078] AU  
Ag = 2.84 [1.73] [1.07 $\sigma$ ]  
Teff = 6852 [626] K [4.43 $\sigma$ ]

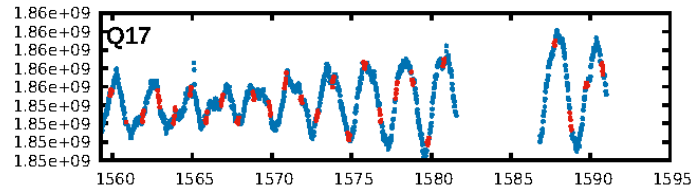
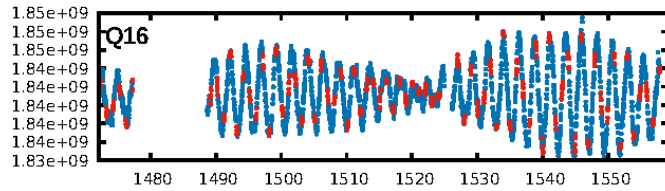
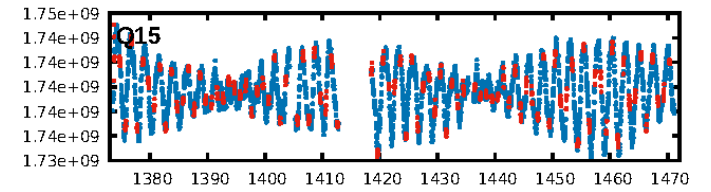
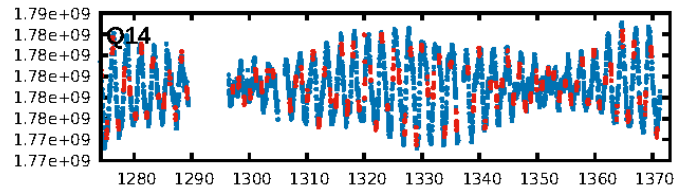
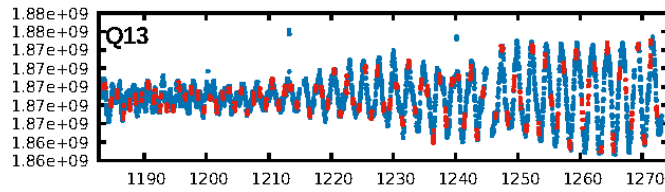
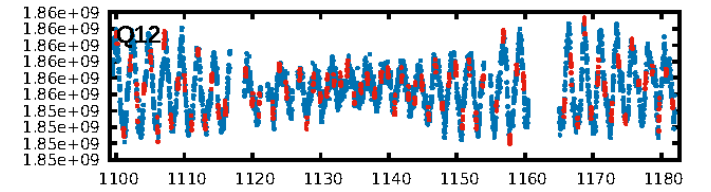
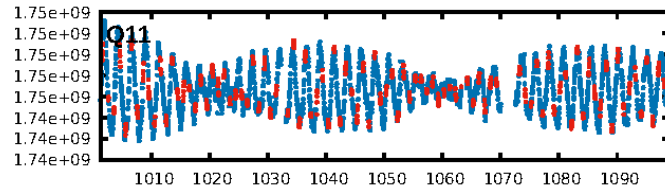
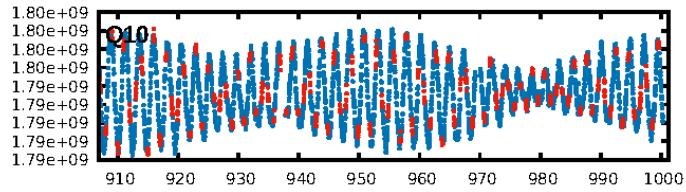
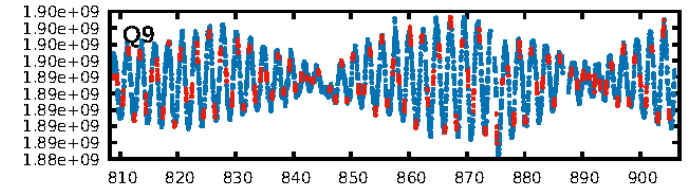
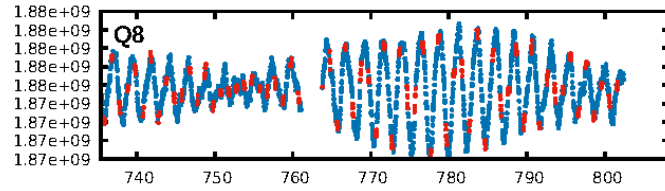
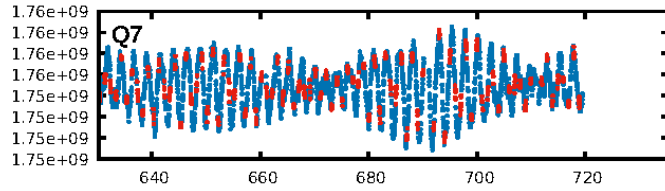
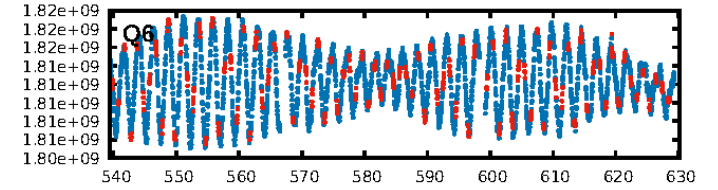
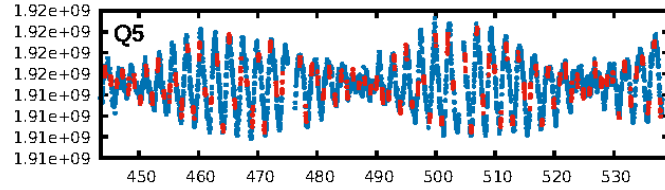
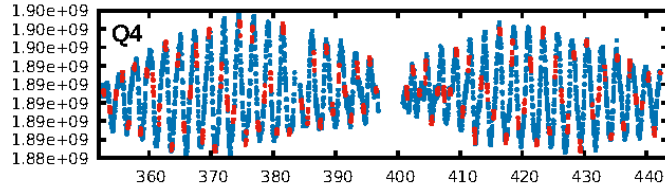
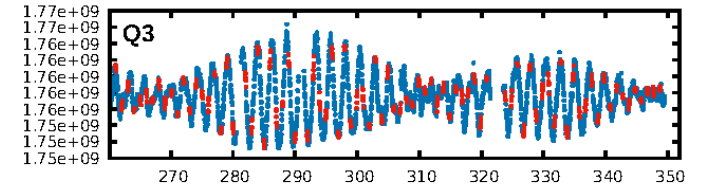
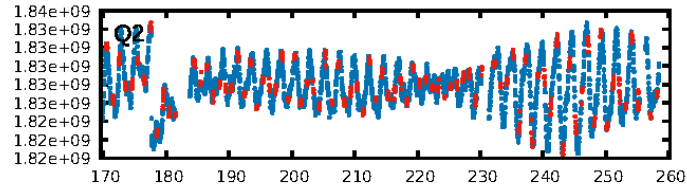
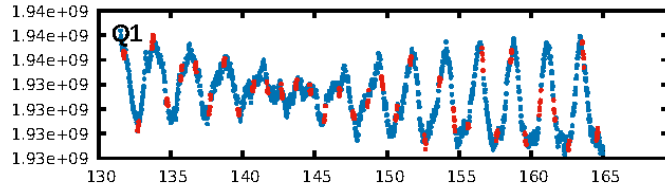
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.89e-14  
RollingBand-fgt: 0.81 [1039/1275]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: 2.321 arcsec [2.10 $\sigma$ ]  
OotOffset-rm: 2.024 arcsec [2.23 $\sigma$ ]  
KicOffset-rm: 1.057 arcsec [1.33 $\sigma$ ]  
OotOffset-st: 3/4/3/3 [13]  
KicOffset-st: 3/4/3/3 [13]  
DiffImageQuality-fgm: 0.23 [3/13]  
DiffImageOverlap-fno: 1.00 [17/17]

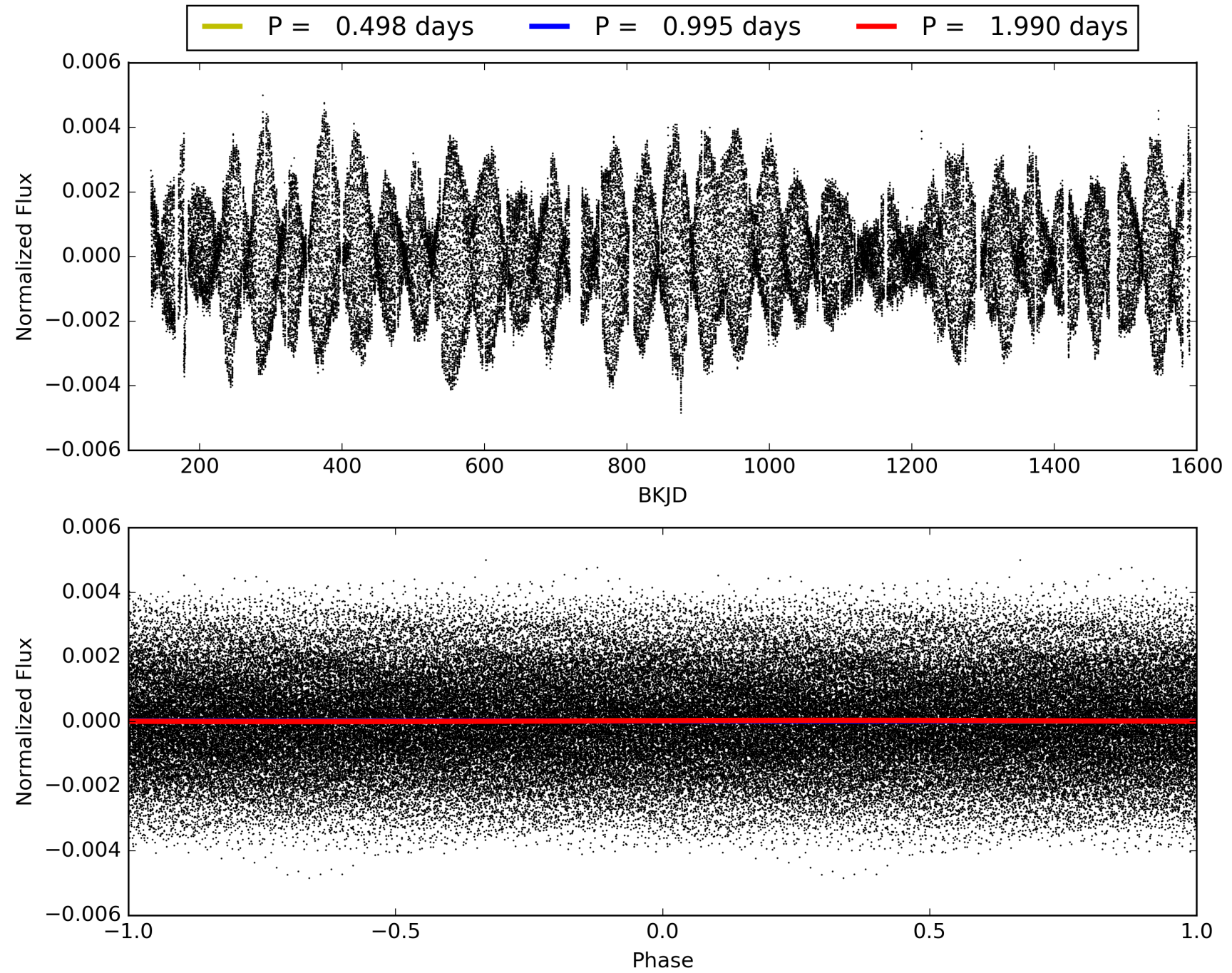
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:22:14 Z

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

# TCE 005476495-01, PDC Light Curves



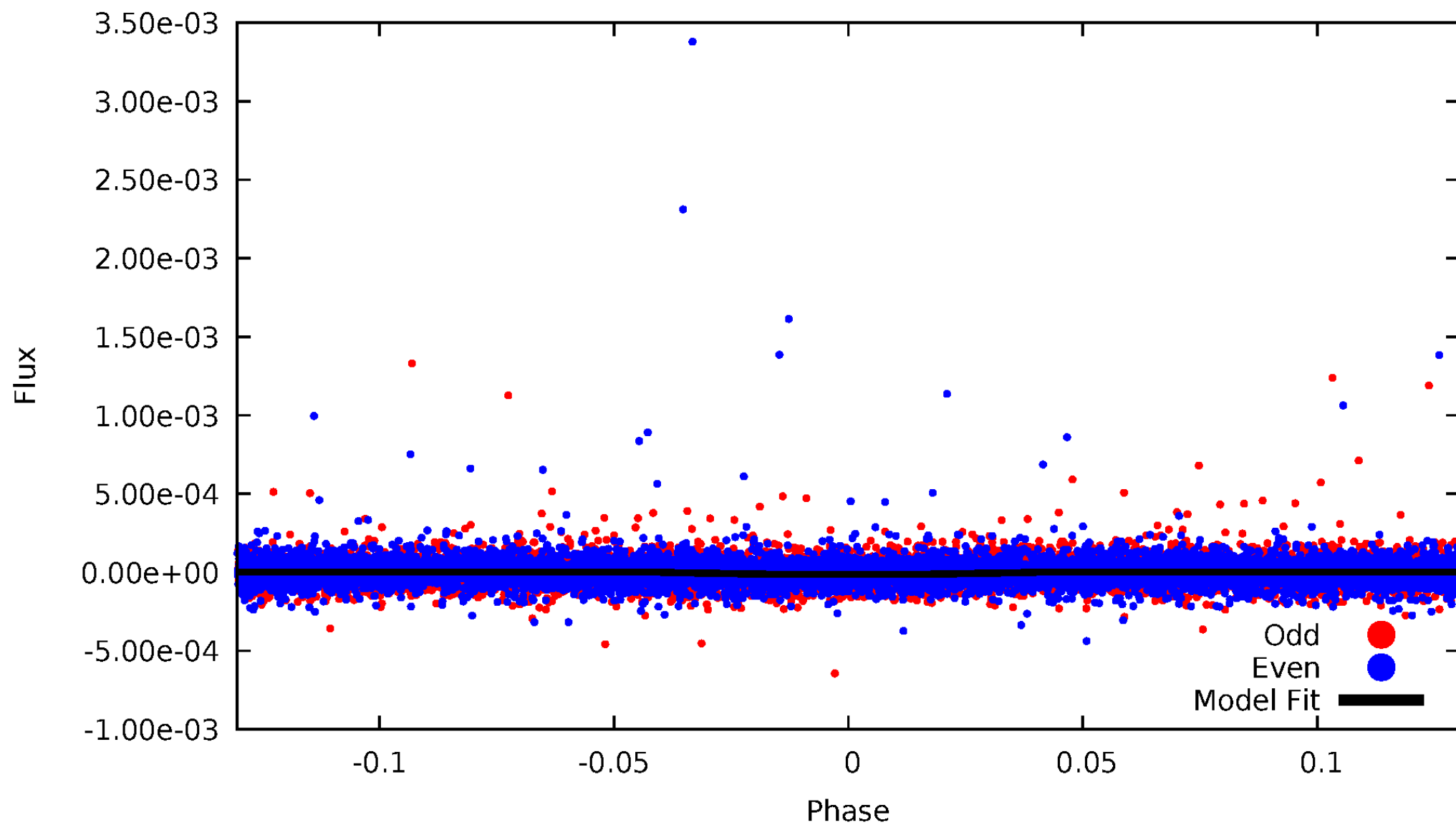
TCE 005476495-01





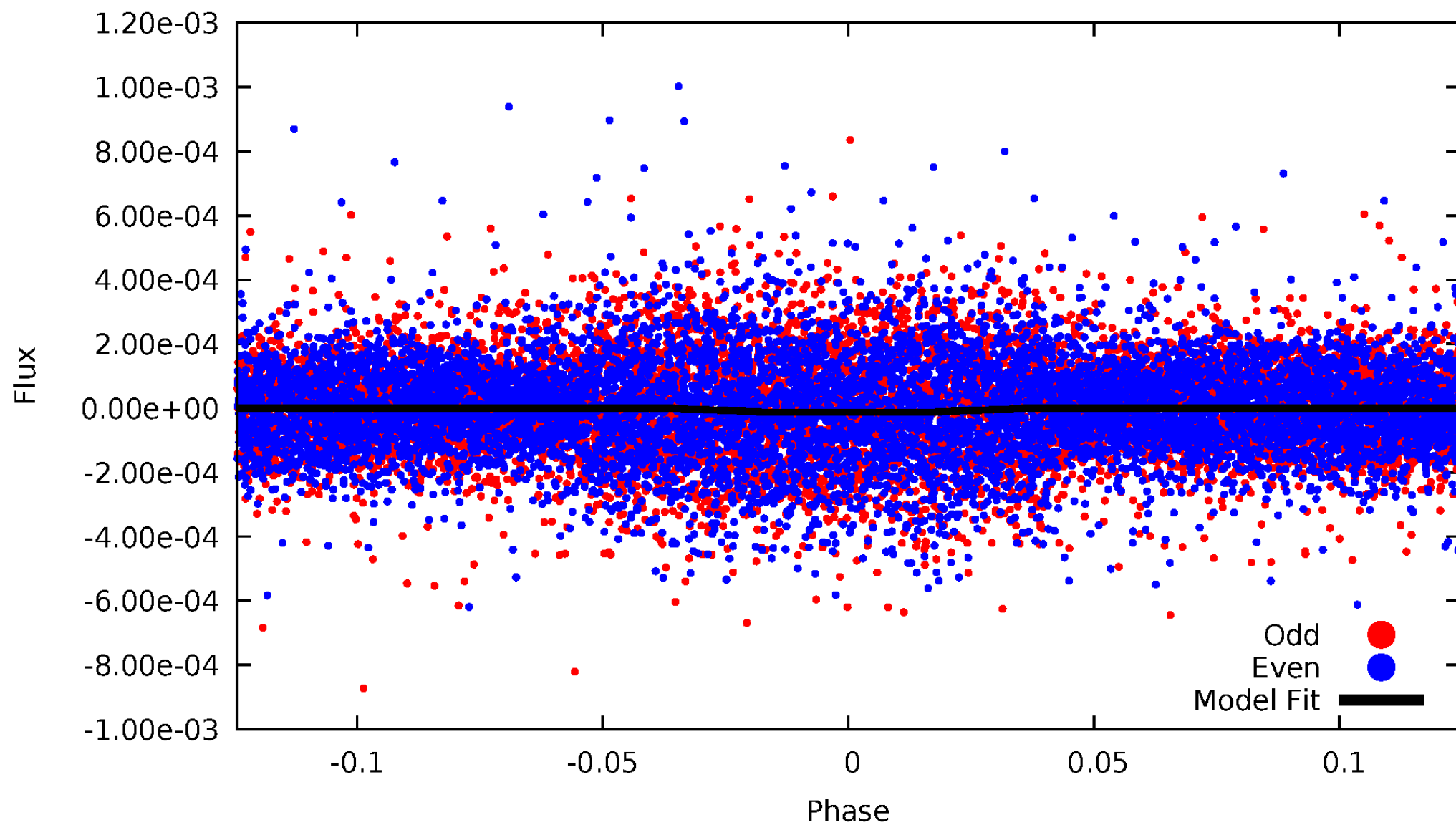
# DV Odd/Even

TCE 005476495-01

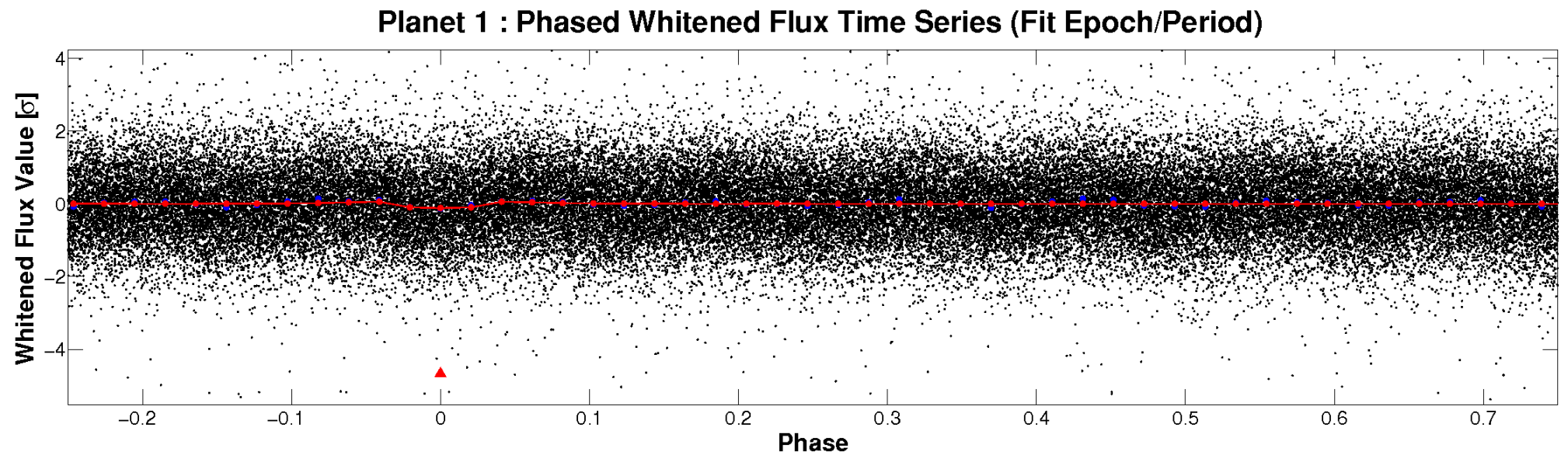
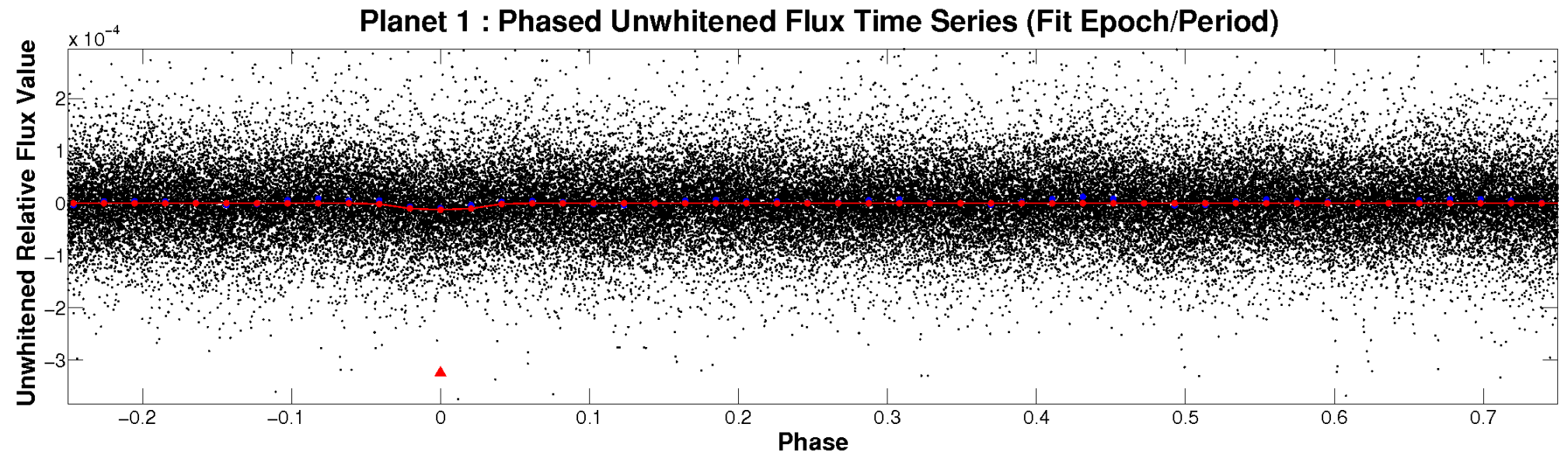


# ALT Odd/Even

TCE 005476495-01

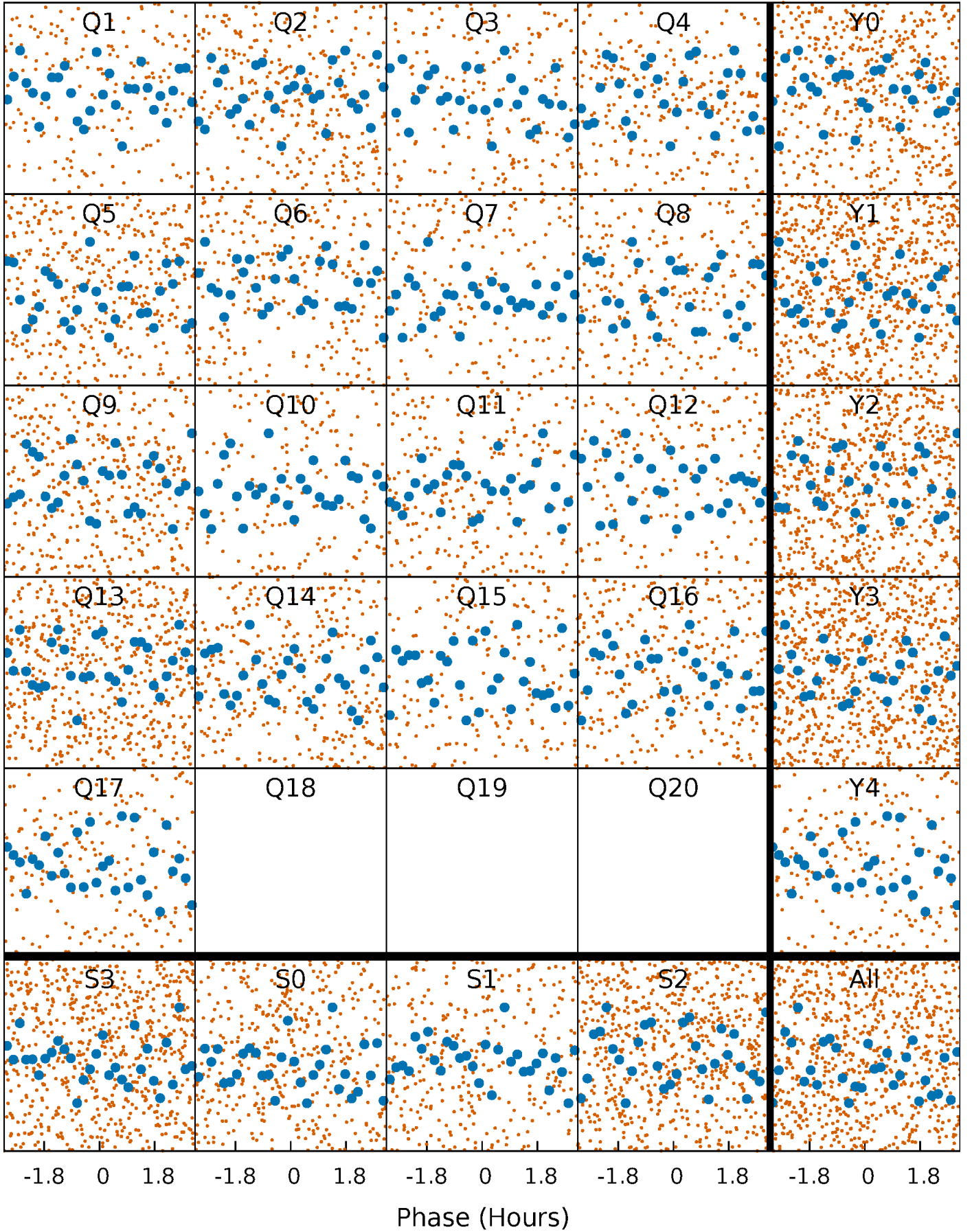


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

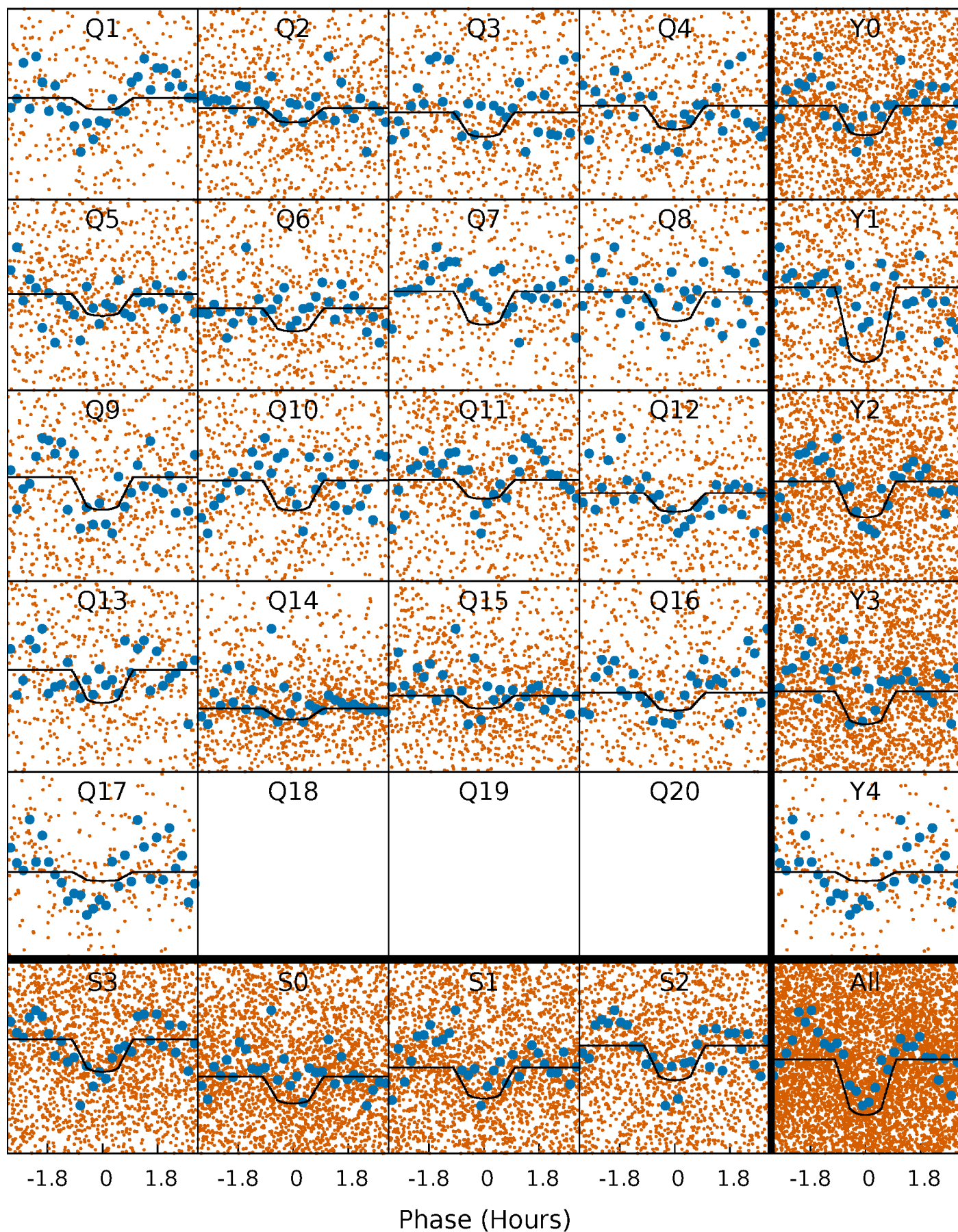
TCE 005476495-01   P= 0.995222 Days    $T_0=131.752214$  (BKJD)





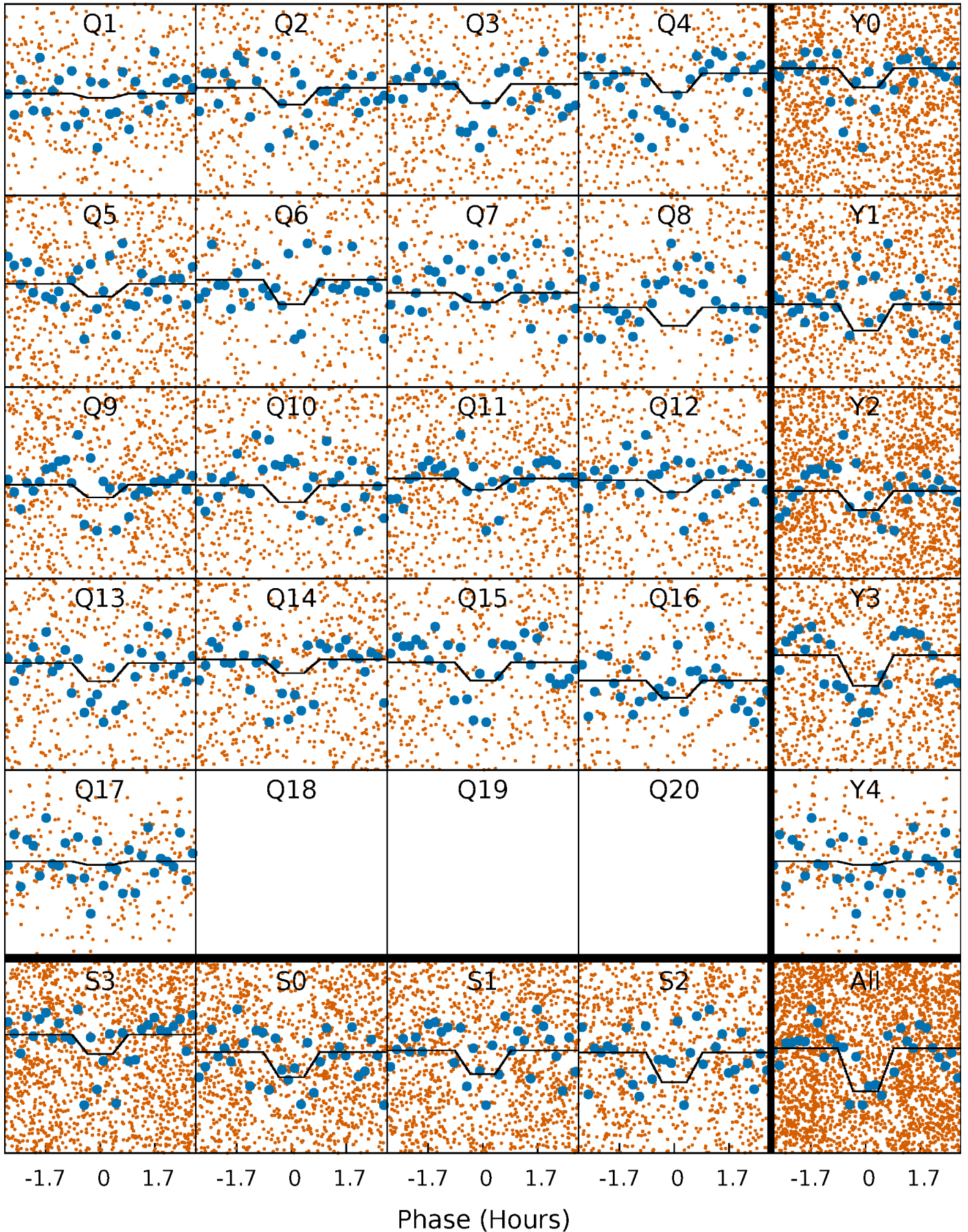
# DV Quarter-Phased Transit Curves

TCE 005476495-01 P= 0.995222 Days  $T_0=131.752214$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

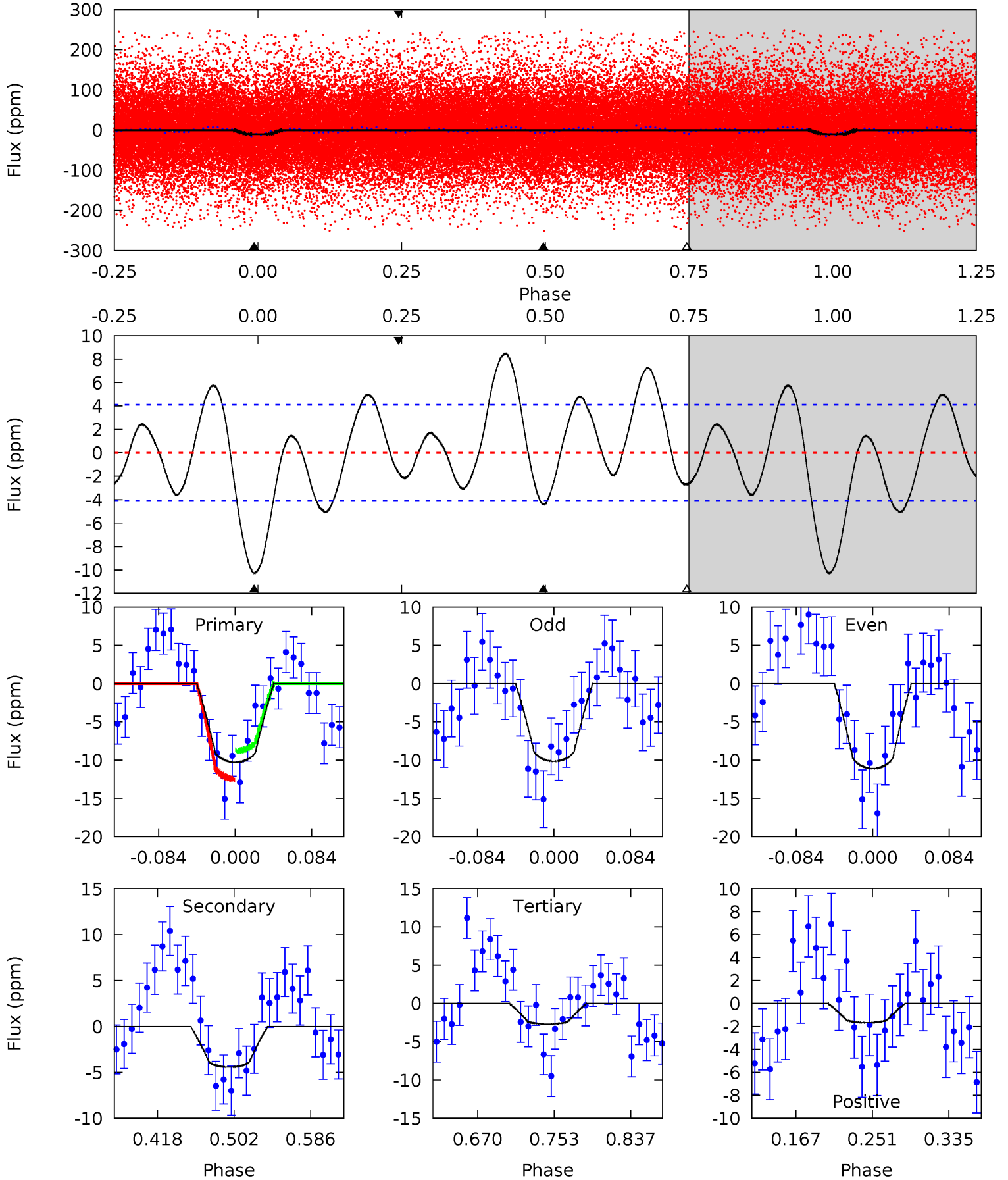
TCE 005476495-01 P= 0.995220 Days  $T_0=131.743149$  (BKJD)



# DV Model-Shift Uniqueness Test

005476495-01, P = 0.995222 Days, E = 130.756992 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
11.5	4.97	3.04	-1.88	4.60	1.73	3.28	8.48	13.4	1.93	6.85	0.54	0.65	0.45	2.08

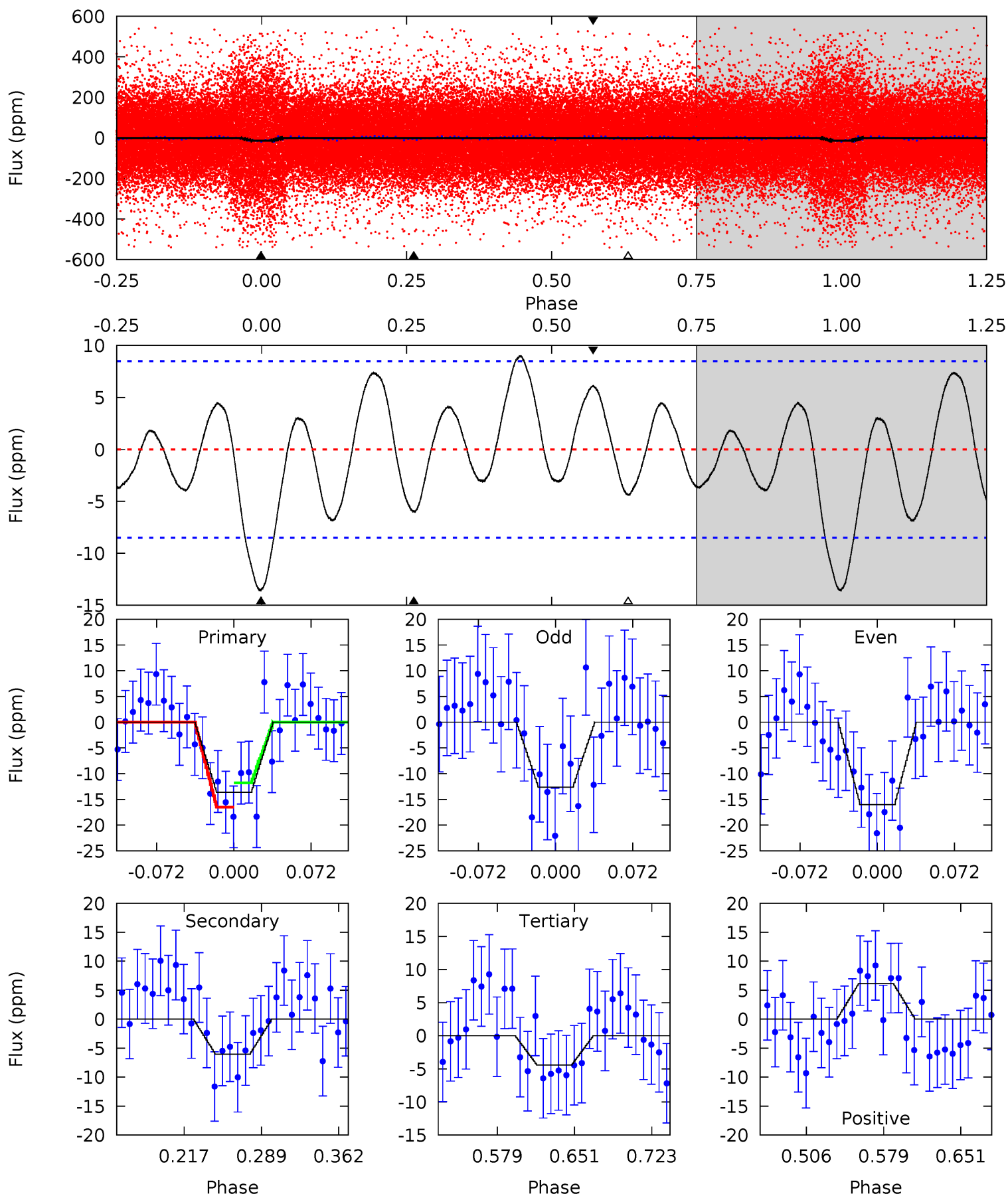




# Alt Model-Shift Uniqueness Test

005476495-01, P = 0.995220 Days, E = 130.747929 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
7.43	3.29	2.42	3.35	4.63	1.80	2.01	5.02	4.08	0.87	-0.07	0.94	0.83	0.40	1.29





### Stellar Parameters For KIC 005476495

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7582^{+237}_{-316}$	$3.904^{+0.294}_{-0.126}$	$-0.180^{+0.200}_{-0.350}$	$2.450^{+0.482}_{-0.896}$	$1.756^{+0.166}_{-0.388}$	$0.168^{+0.385}_{-0.063}$
	+3%/-4%	+8%/-3%	+111%/-194%	+20%/-37%	+9%/-22%	+229%/-37%
Source	KIC0	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 005476495-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-4 \pm 1$	$0.96^{+0.19}_{-0.20}$	$4720^{+328}_{-444}$	$5308^{+545}_{-490}$	$1.415^{+0.870}_{-0.483}$
Alt.	$-6 \pm 2$	$0.94^{+0.18}_{-0.20}$	$4682^{+341}_{-396}$	$5862^{+729}_{-685}$	$2.101^{+1.378}_{-0.882}$

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

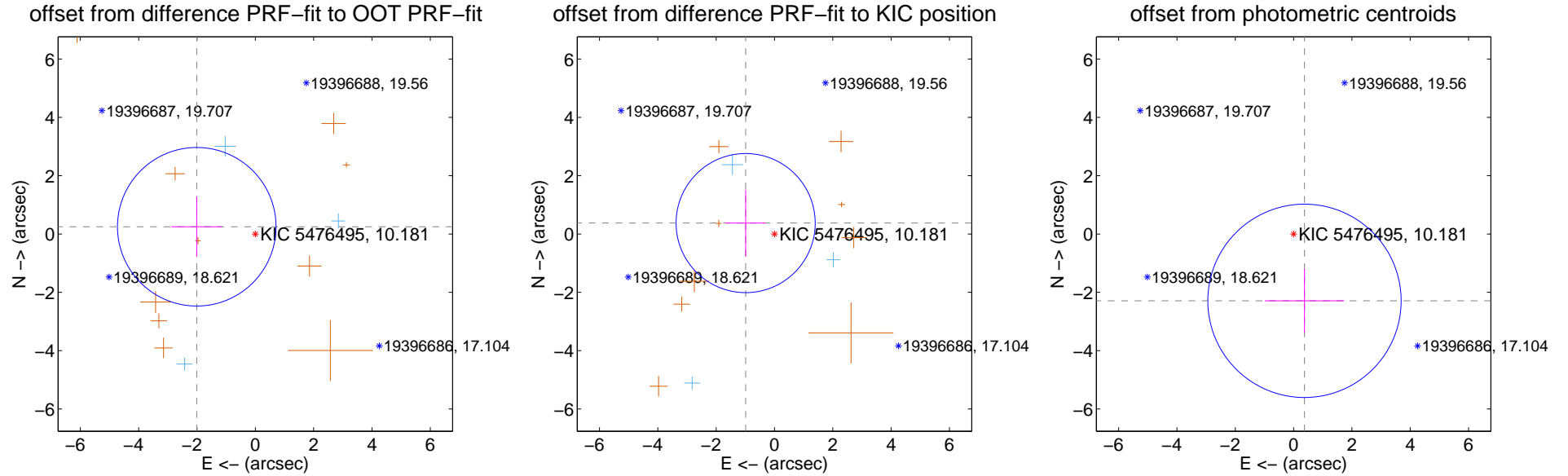
## DV Centroid Data

Supplemental centroid analysis for 005476495-01. **Kepler magnitude: 10.18.** Transit SNR 7.80

**There are 3 quarters with good PRF difference image offsets**

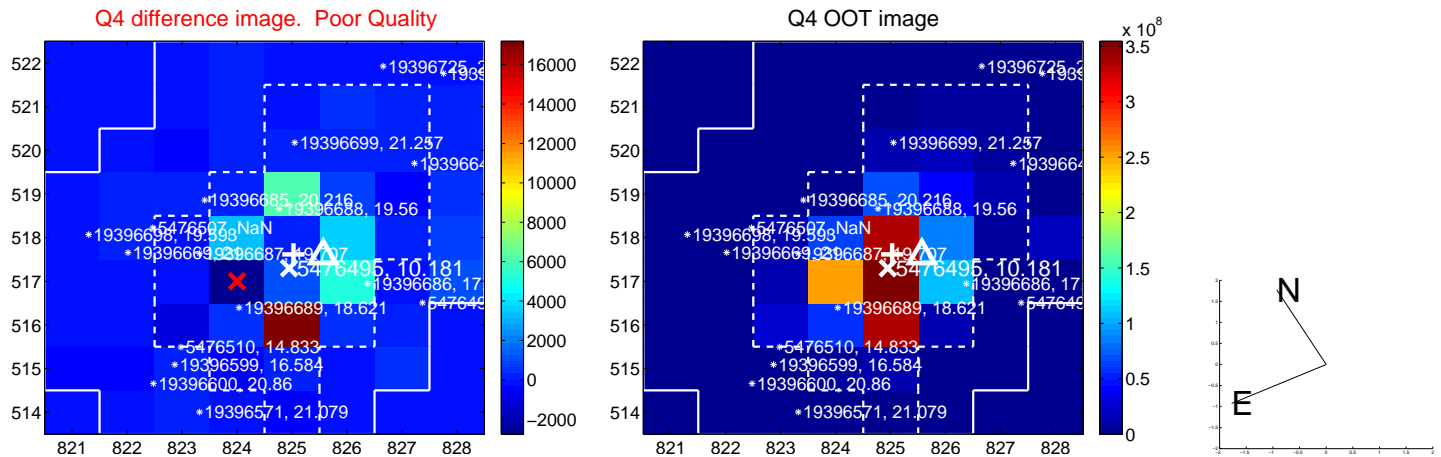
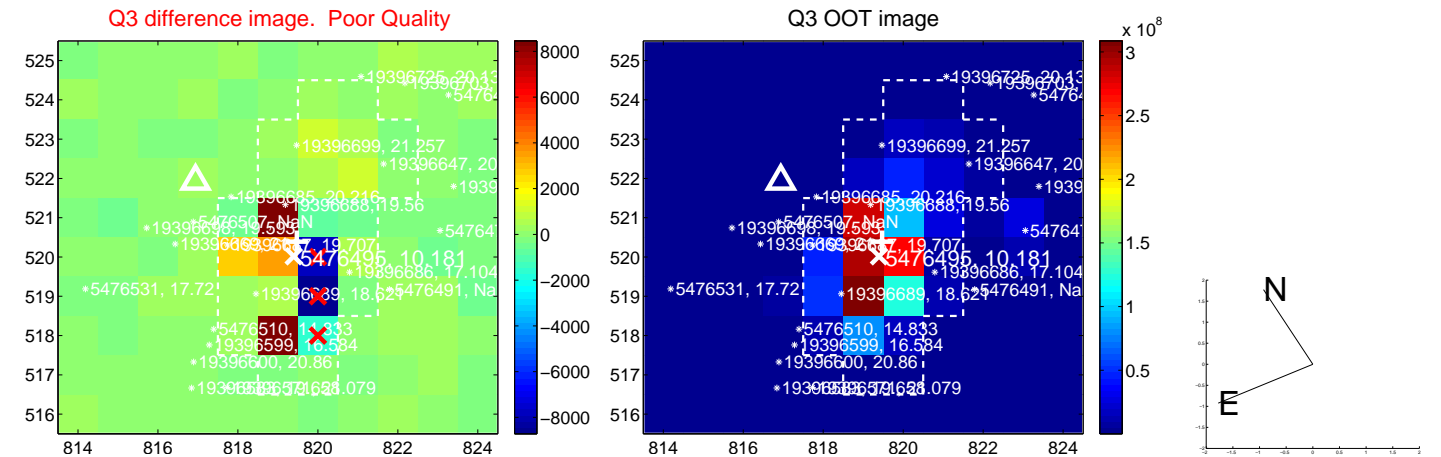
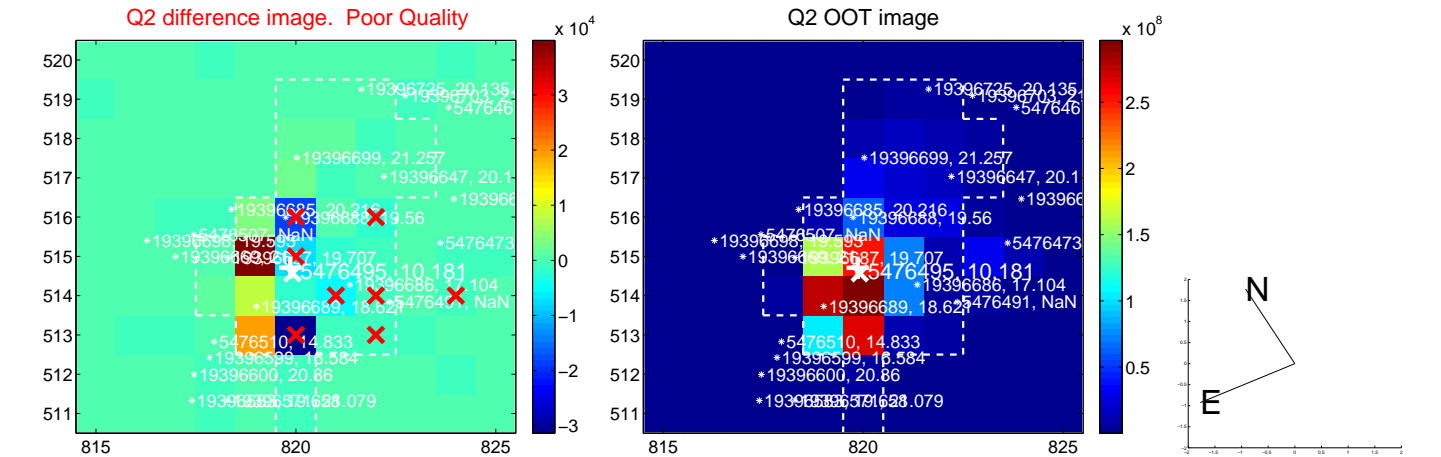
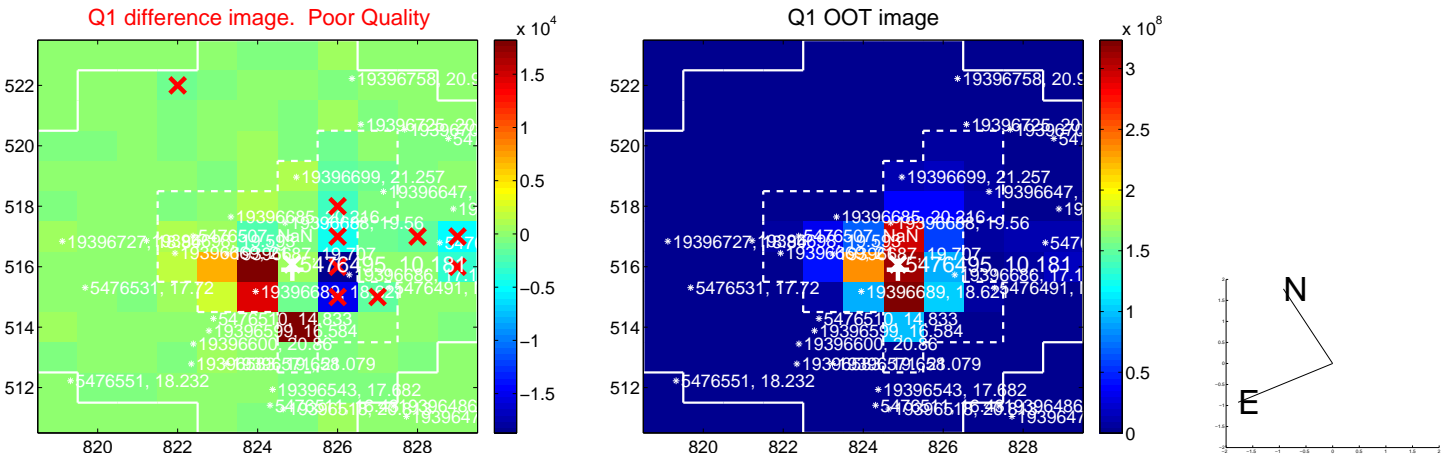
The direct PRF centroid is offset from the target star catalog position by about 0.74 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.024 \pm 0.906$	2.23	$2.008 \pm 0.871$	$0.248 \pm 1.031$
PRF-fit source offset from KIC position	$1.057 \pm 0.795$	1.33	$0.988 \pm 0.676$	$0.375 \pm 1.142$
photometric centroid source offset	$2.32 \pm 1.10$	2.10	$-0.37 \pm 1.36$	$-2.29 \pm 1.10$

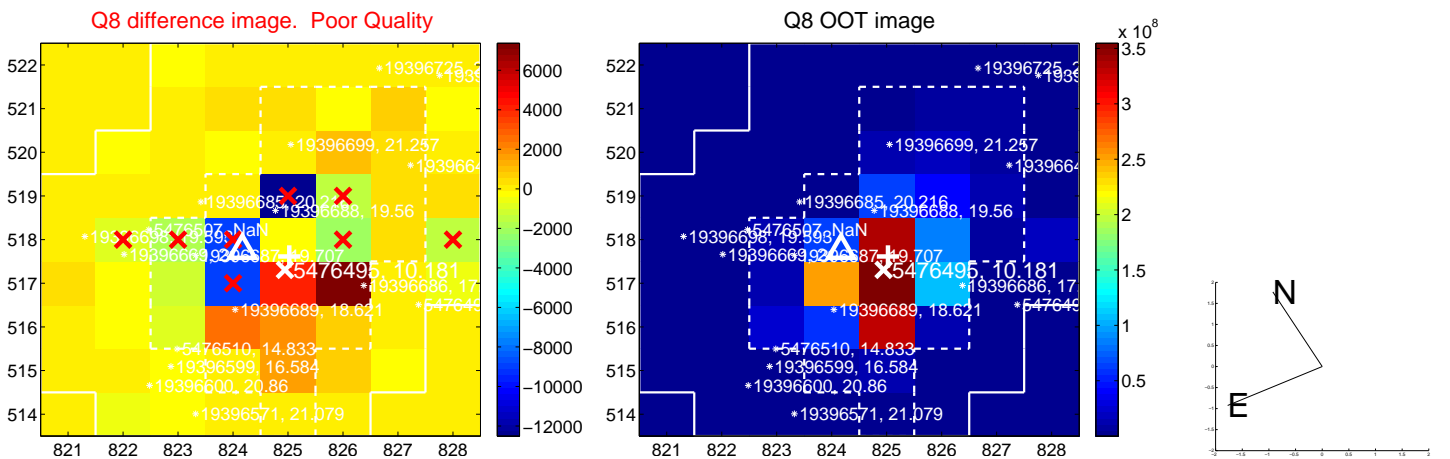
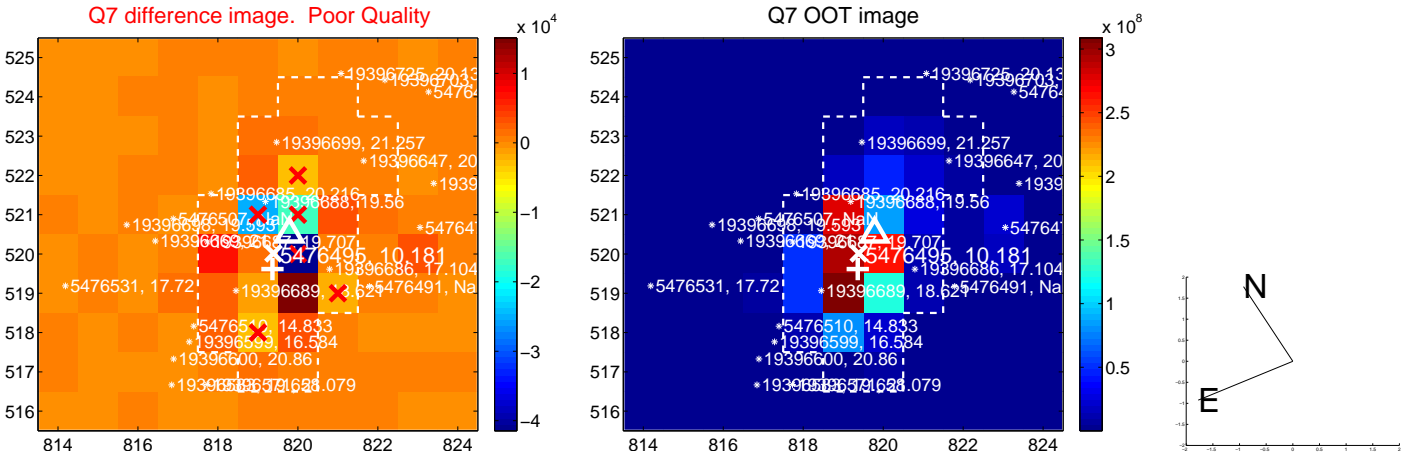
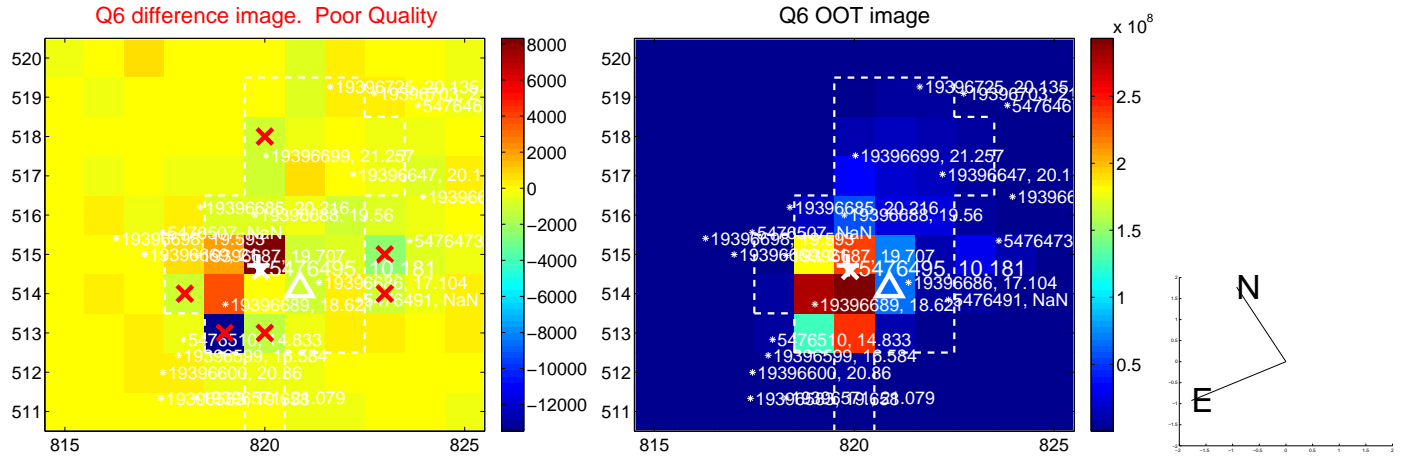
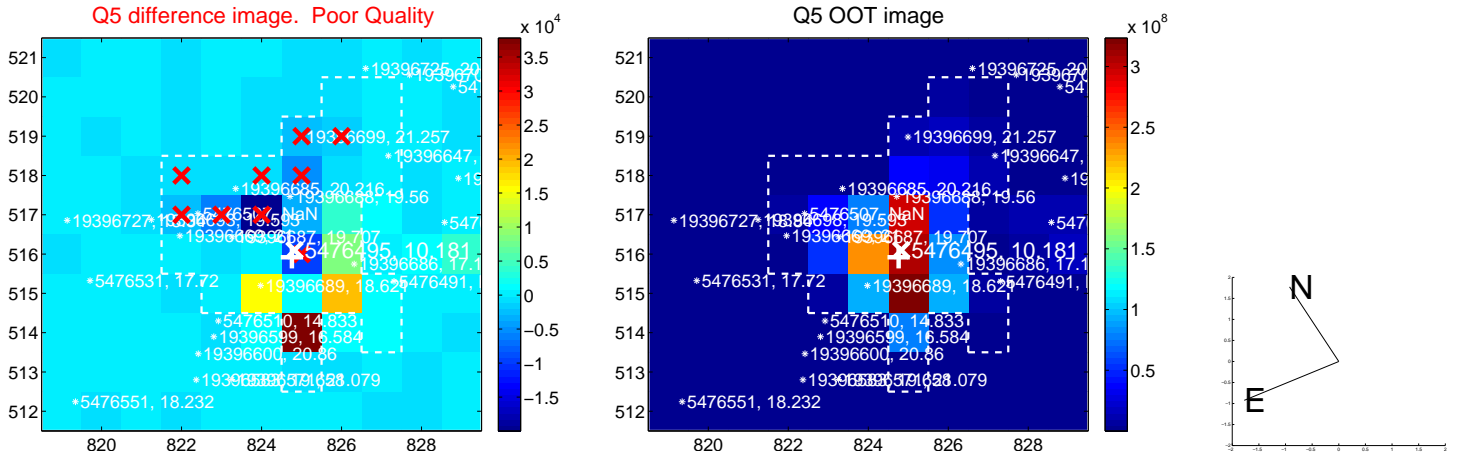


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

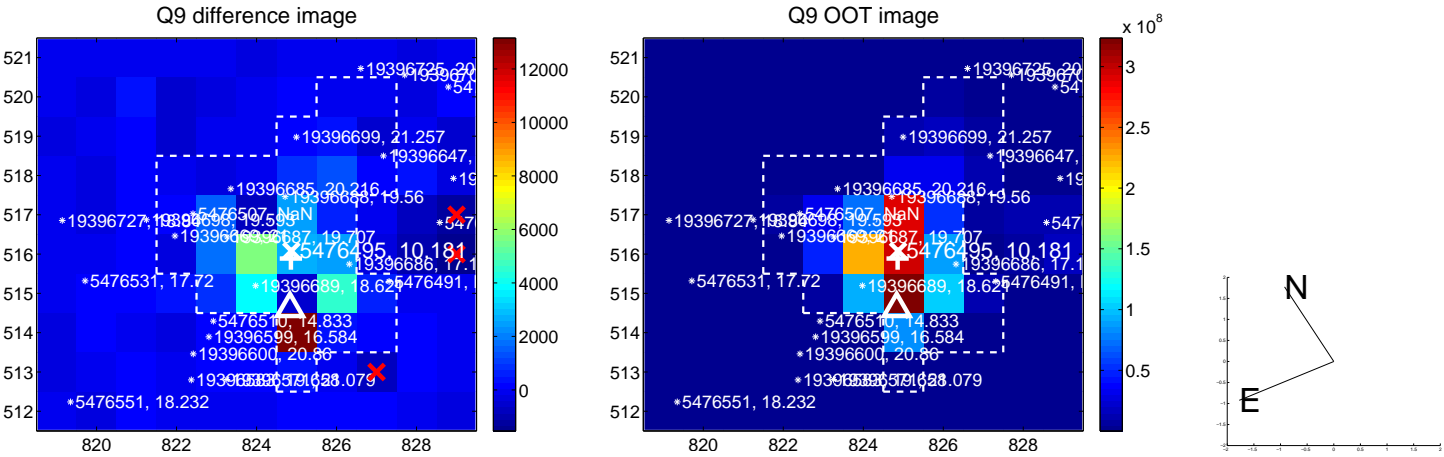


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

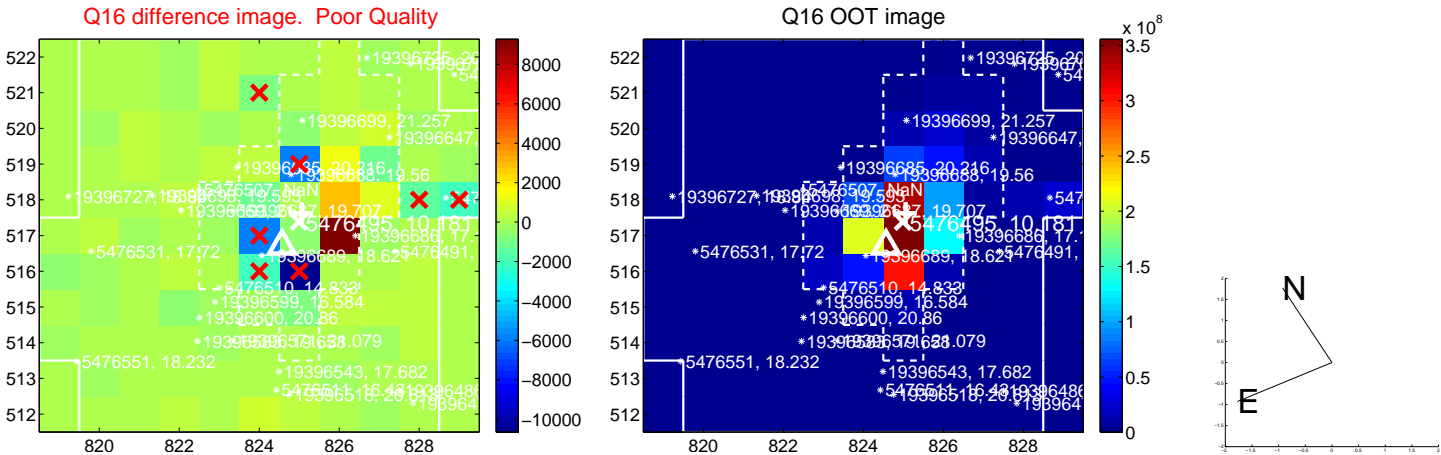
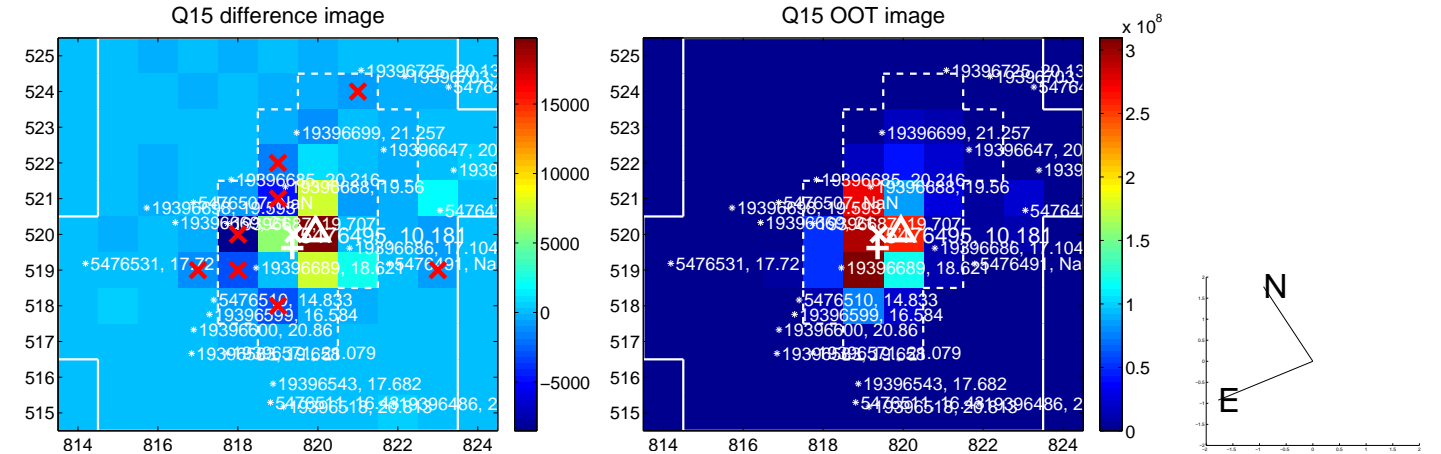
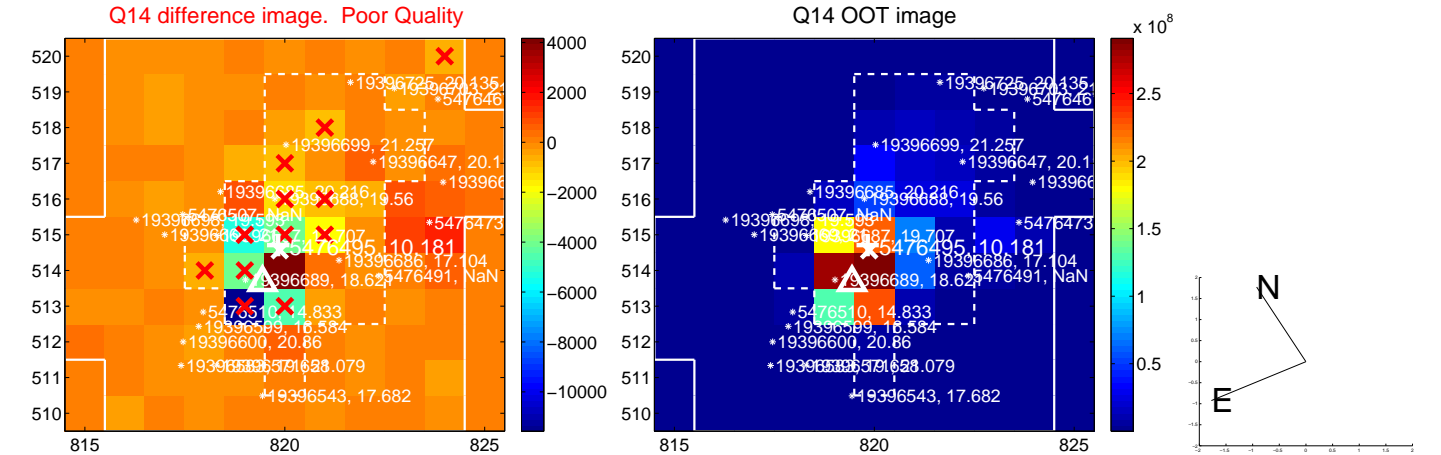
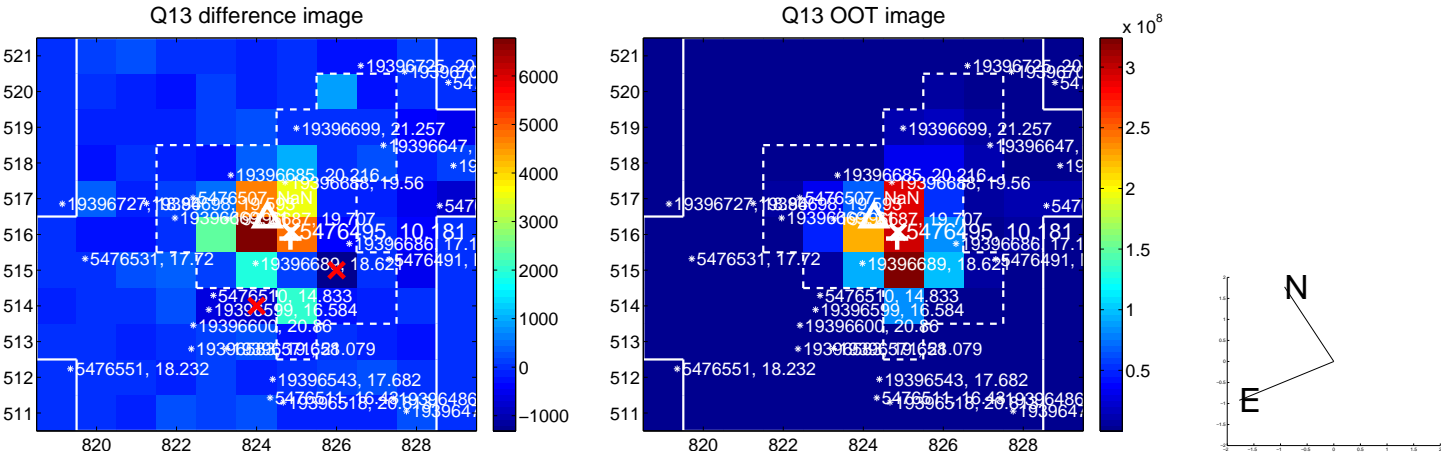




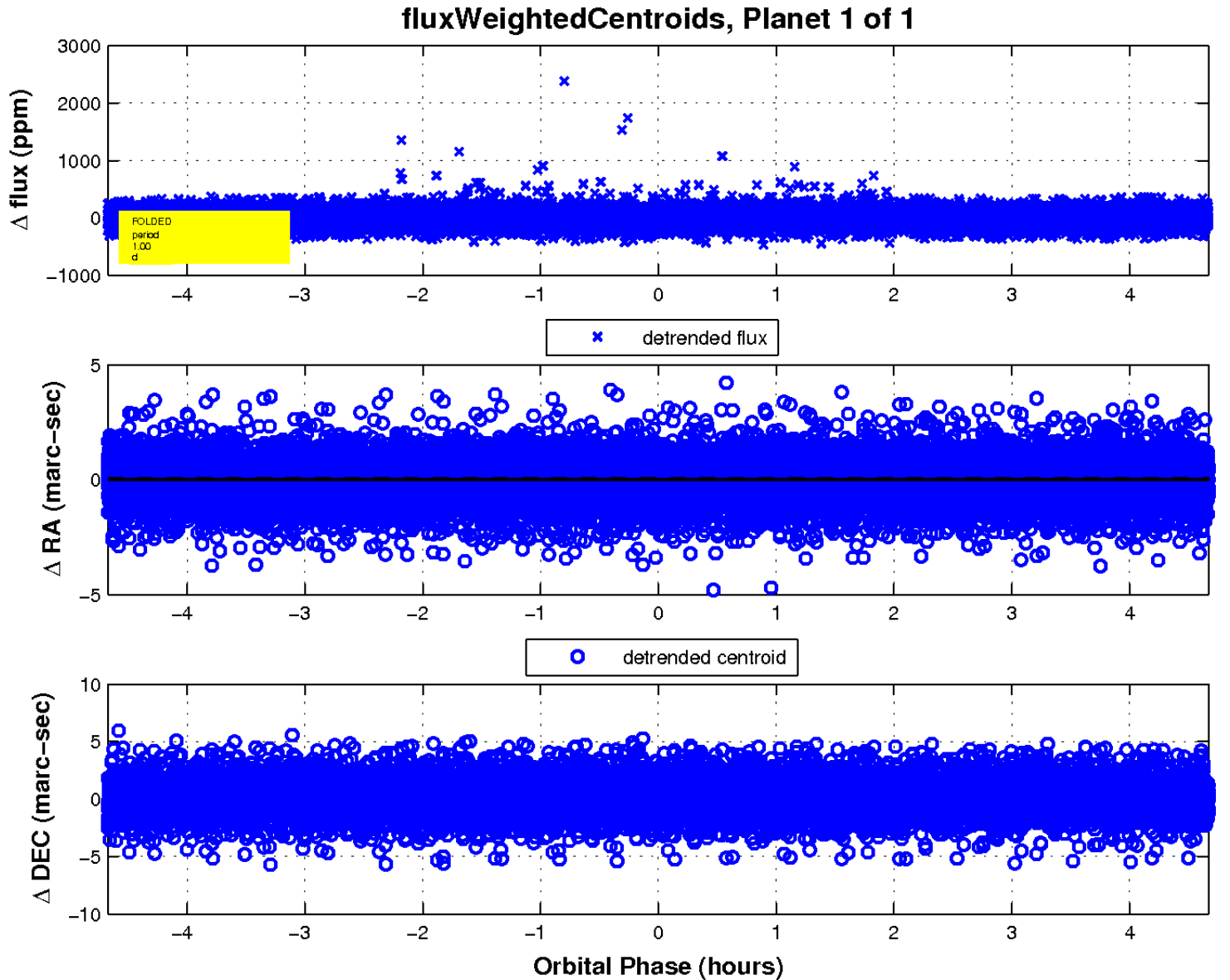
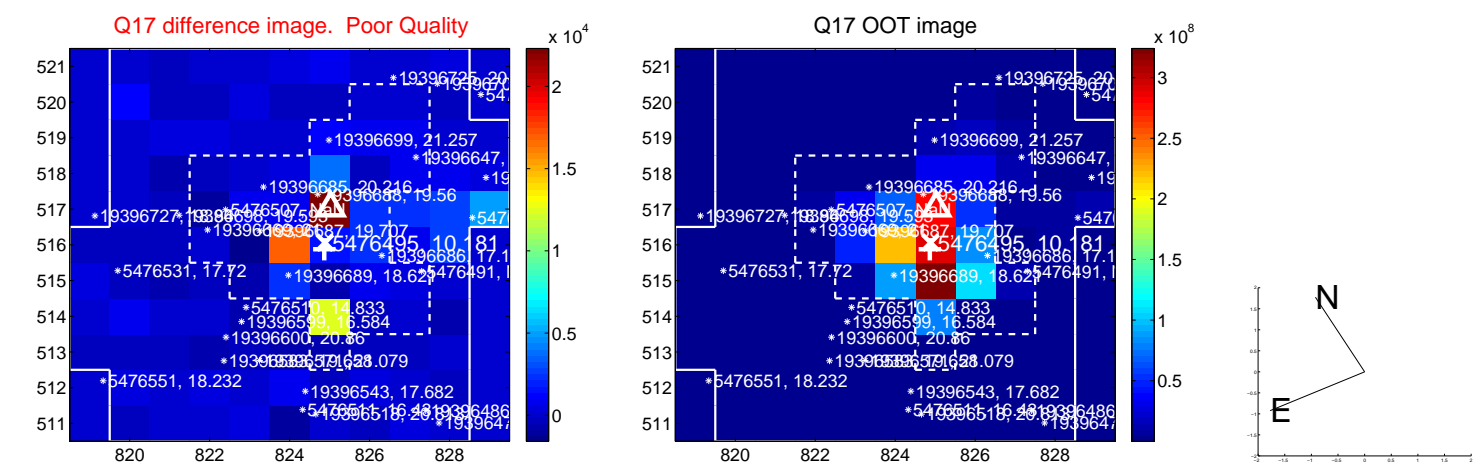
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

