

# KIC 006364195

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006364195-01	OBS	6691.01	5.243657	132.700940	113.3	14.719	8.5	8.8	0.69	4920	0.94	86.74

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006364195-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_UNRESOLVED_OFFSET—HALO_GHOST—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.

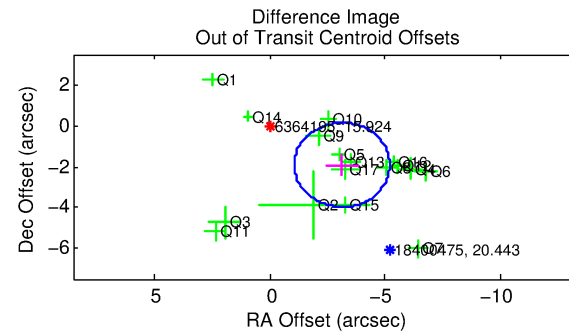
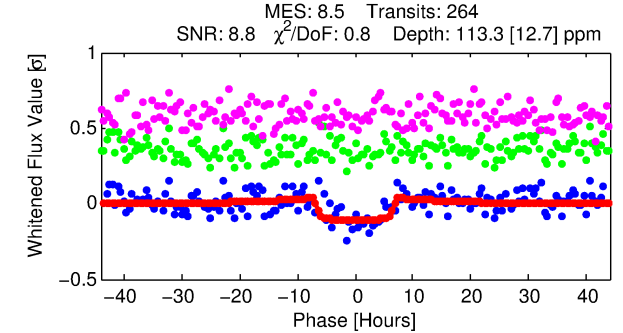
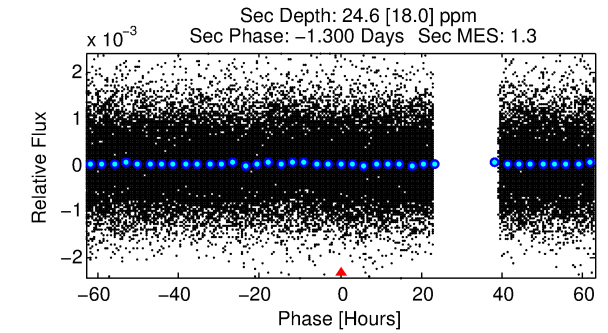
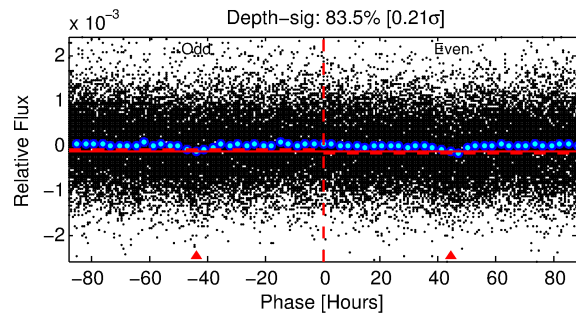
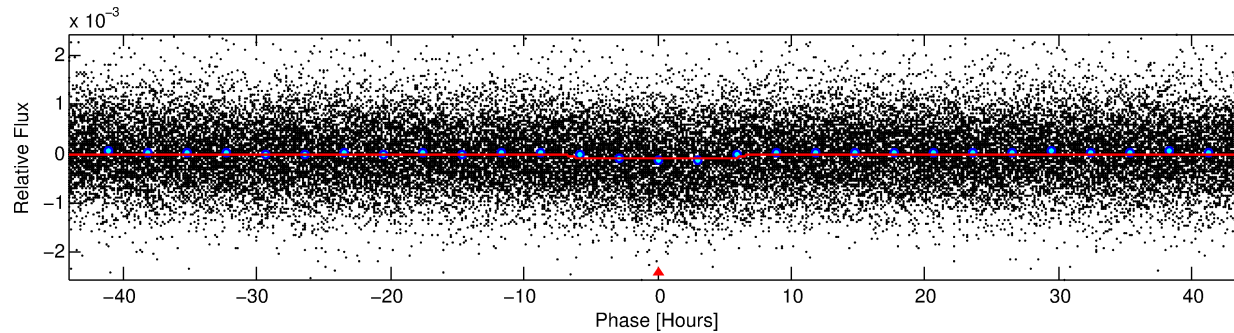
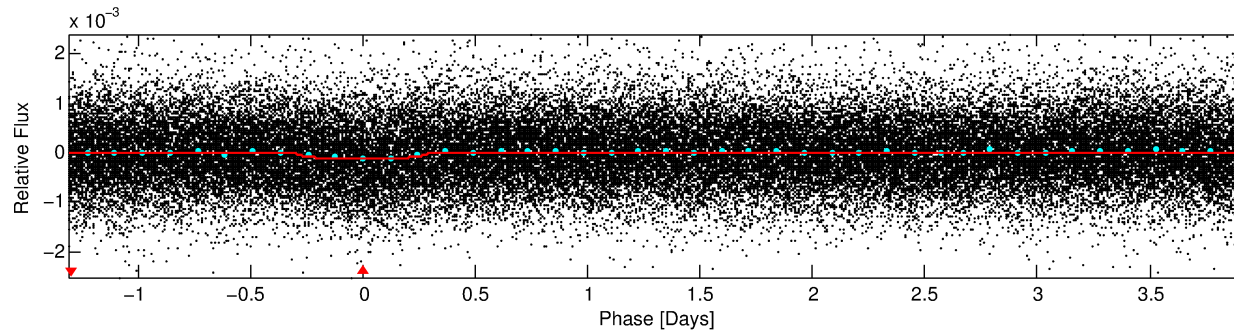
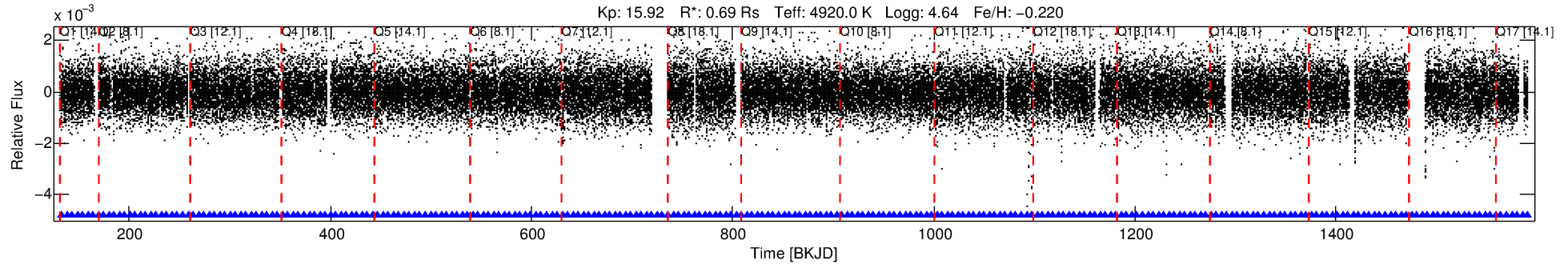
## Ephemeris Match Information For 006364195-01

TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist (″)	$\Delta$ Row	$\Delta$ Col	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	$\sigma_P$	$\sigma_T$
006364195-01	6364195	TT-Lyr-pri	6364290	1:1	253.4	-62	14	9.49	15.92	7558.60	Direct-PRF	0	0.66	0.28

**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col 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.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 6364195 Candidate: 1 of 1 Period: 5.244 d  
KOI: K06691.01 Corr: 0.877



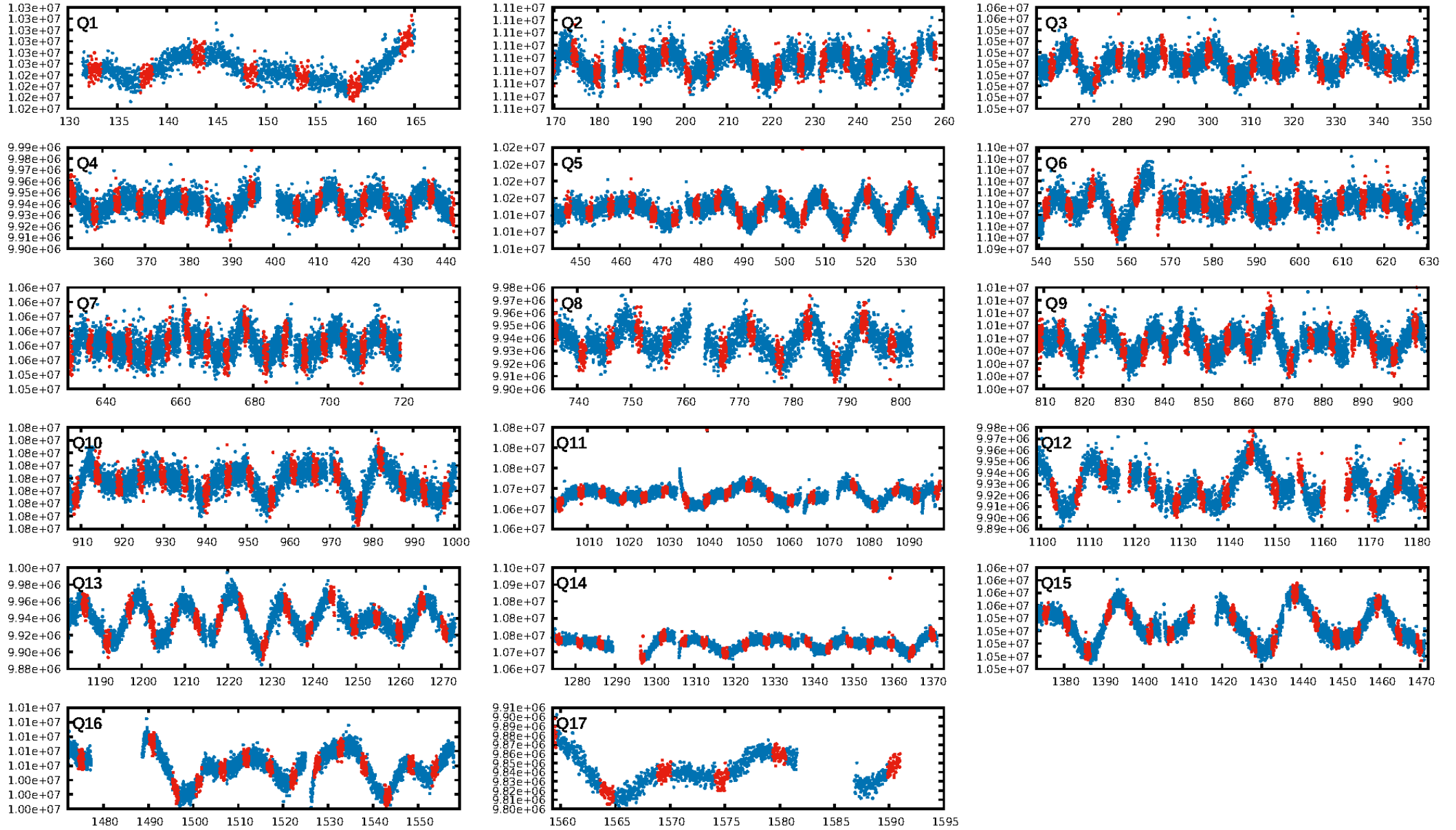
## DV Fit Results:

Period = 5.24366 [0.00015] d  
Epoch = 132.7009 [0.0213] BKJD  
Rp/R\* = 0.0125 [0.0016]  
a/R\* = 1.43 [0.37]  
b = 0.93 [0.07]  
Seff = 86.74 [14.36]  
Teq = 778 [32] K  
Rp = 0.94 [0.16] Re  
a = 0.0538 [0.0045] AU  
Ag = 44.31 [34.77] [1.25 $\sigma$ ]  
Teffp = 3104 [609] K [3.81 $\sigma$ ]

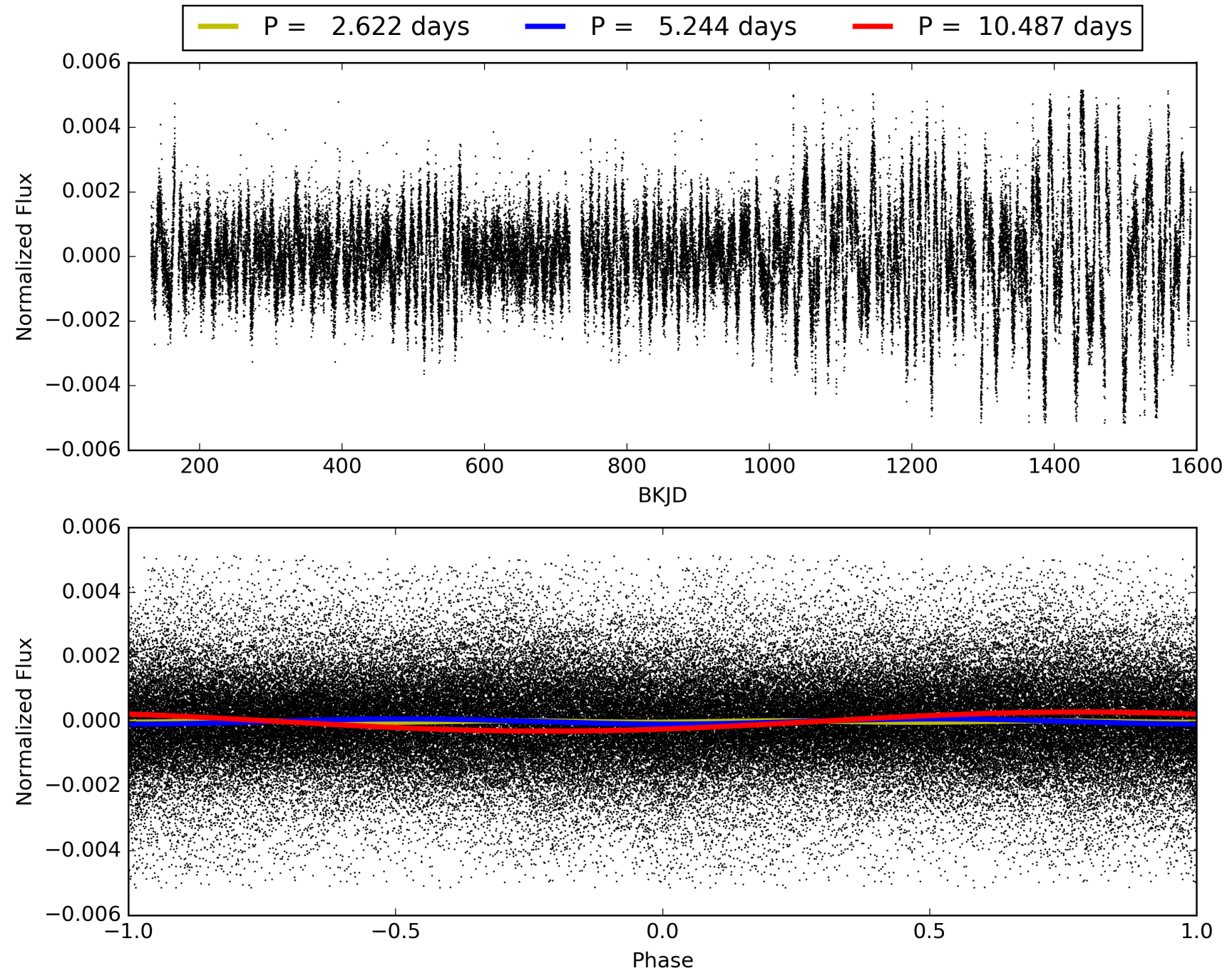
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.52e-16  
RollingBand-fgt: 1.00 [251/251]  
GhostDiagnostic-chr: -0.05009  
Centroid-sig: 0.0%  
Centroid-so: 3.128 arcsec [3.24 $\sigma$ ]  
OotOffset-rm: 3.663 arcsec [5.32 $\sigma$ ]  
KicOffset-rm: 3.621 arcsec [5.38 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.12 [2/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 006364195-01, PDC Light Curves

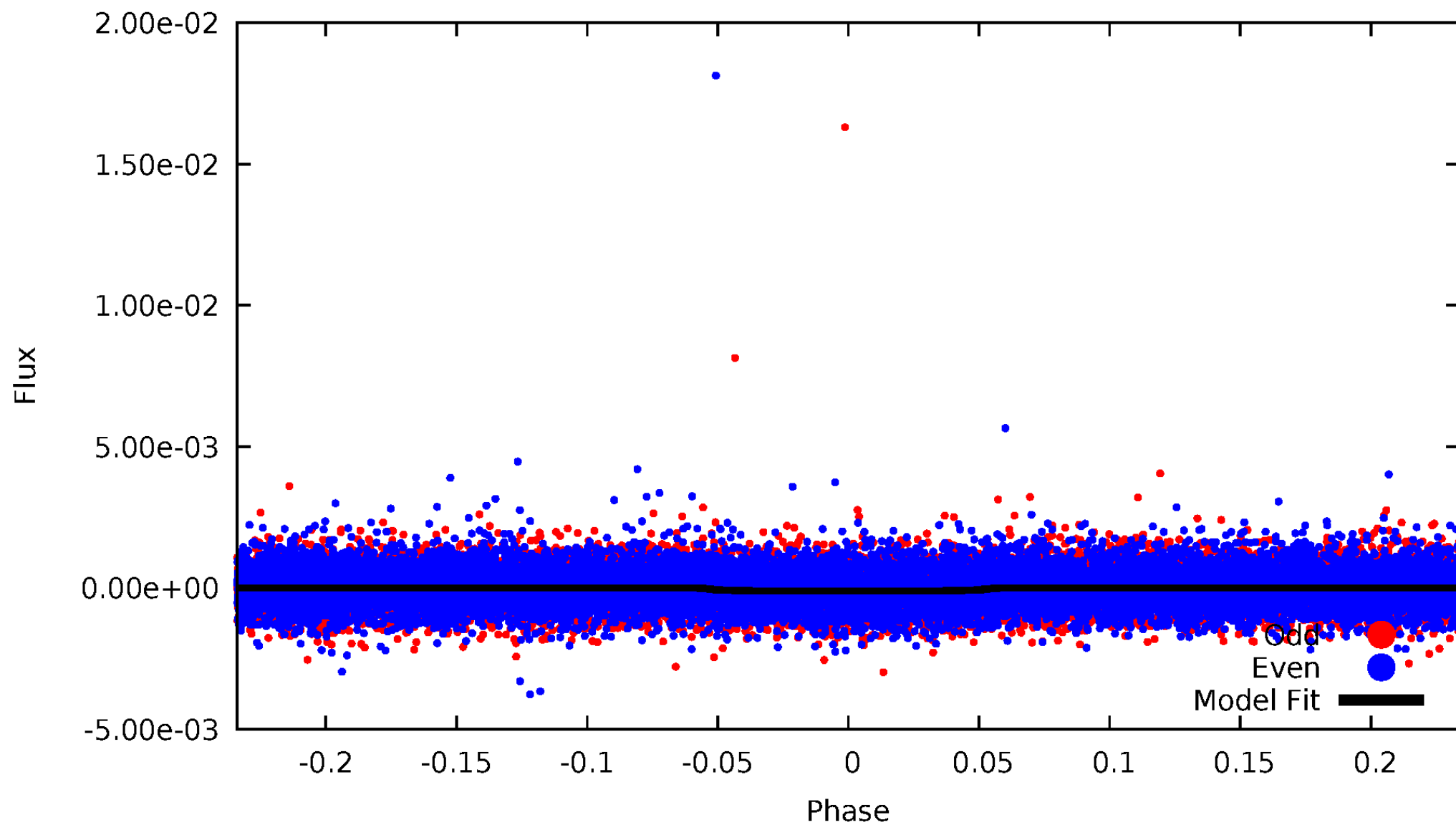


TCE 006364195-01



# DV Odd/Even

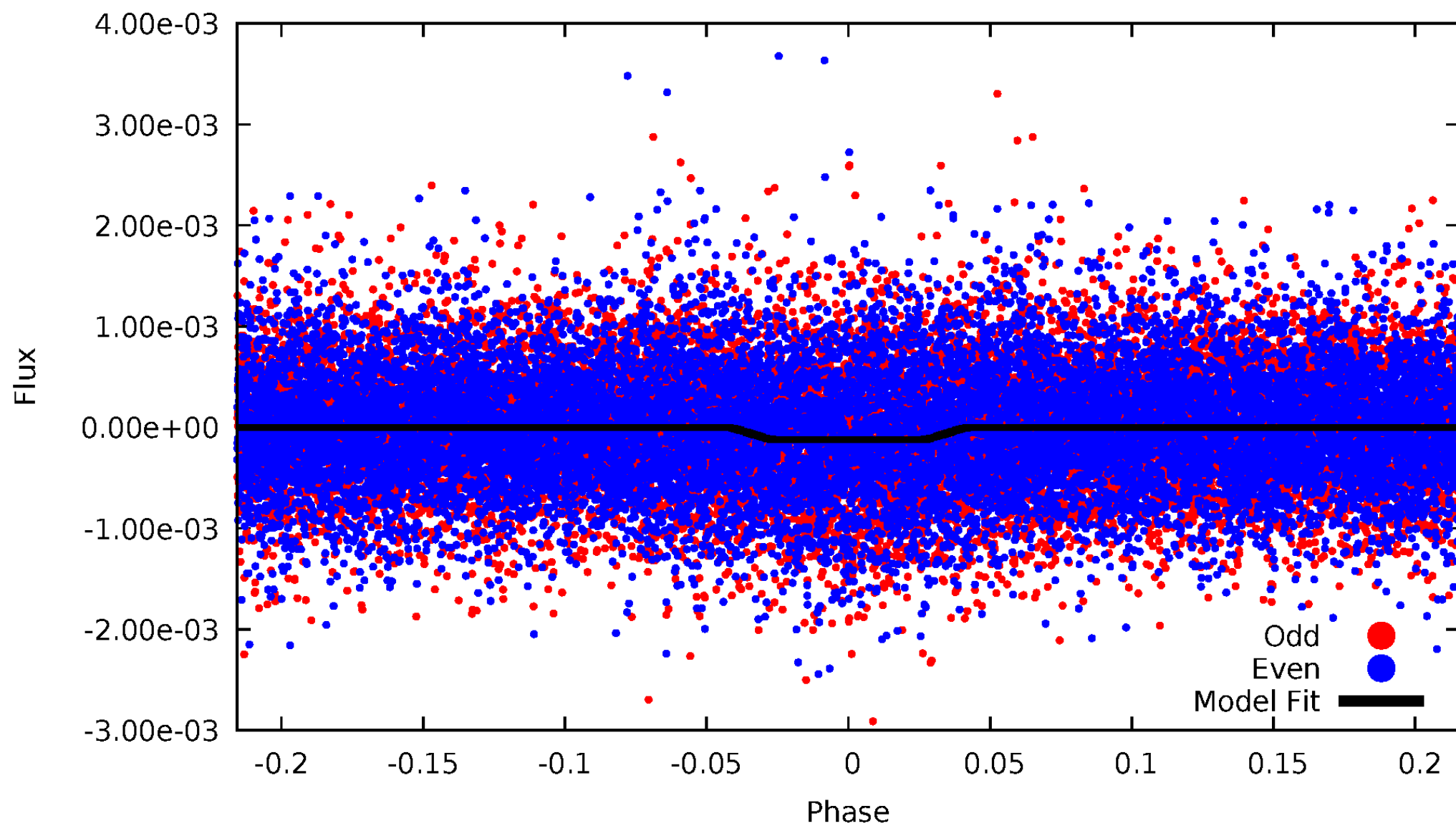
TCE 006364195-01



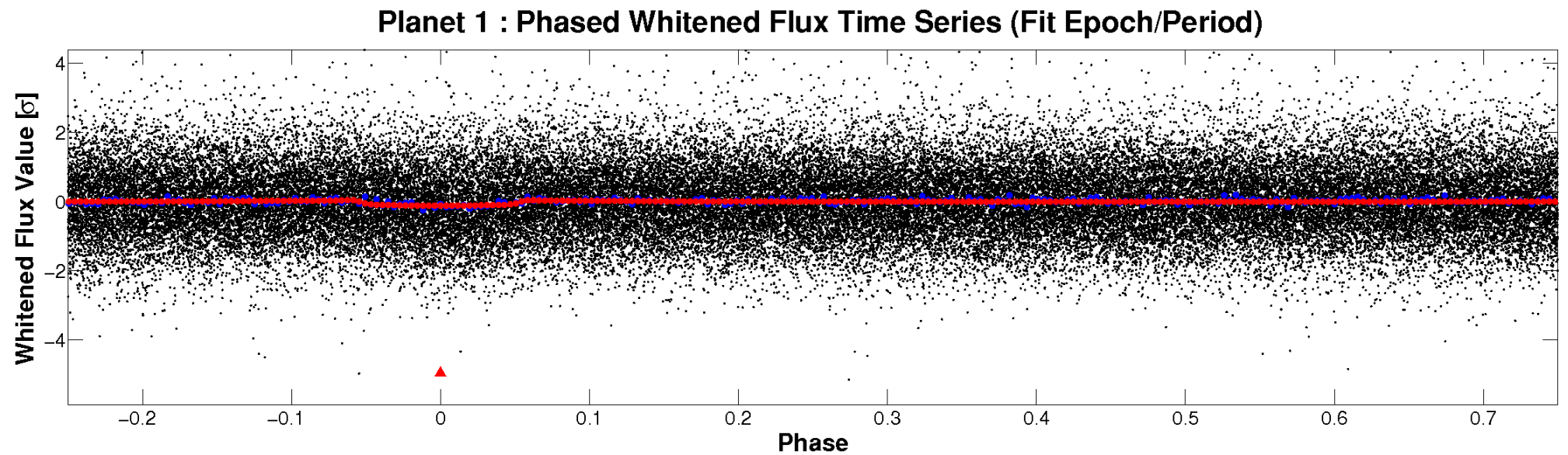
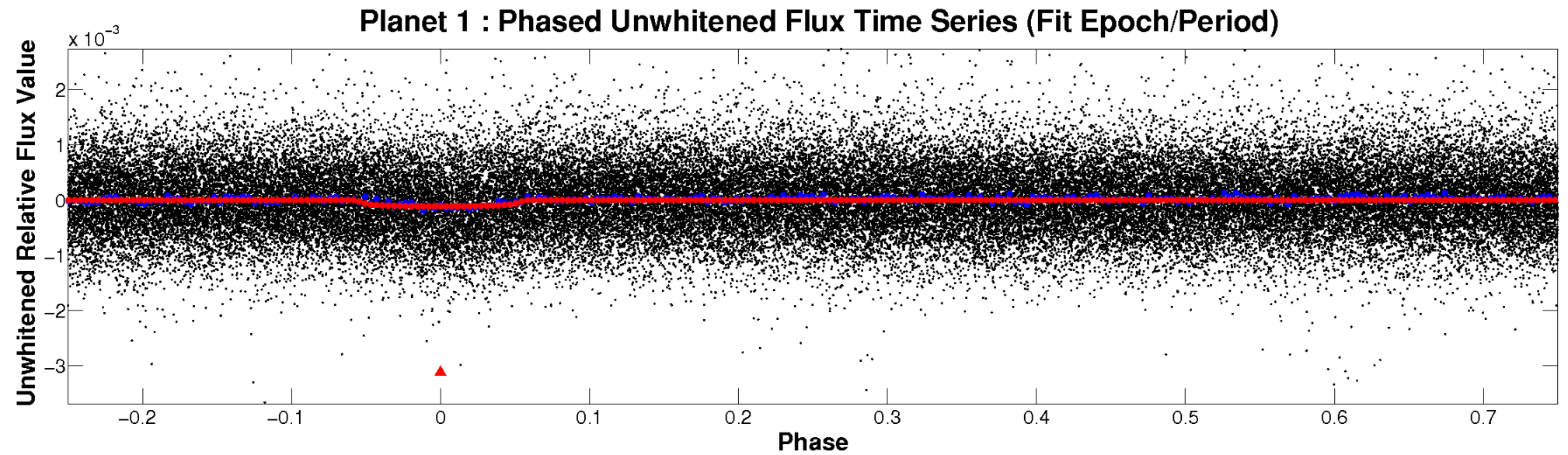


# ALT Odd/Even

TCE 006364195-01

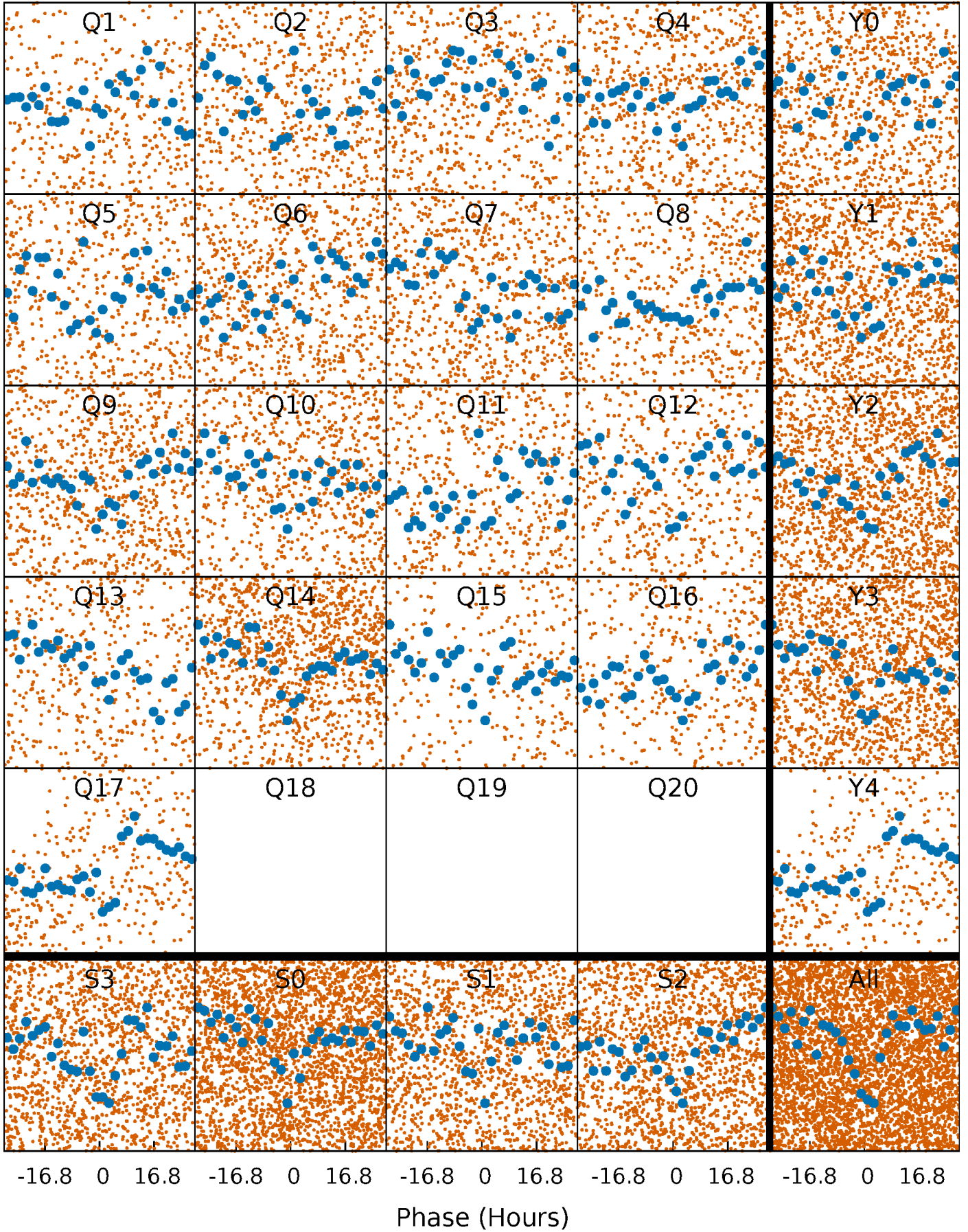


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

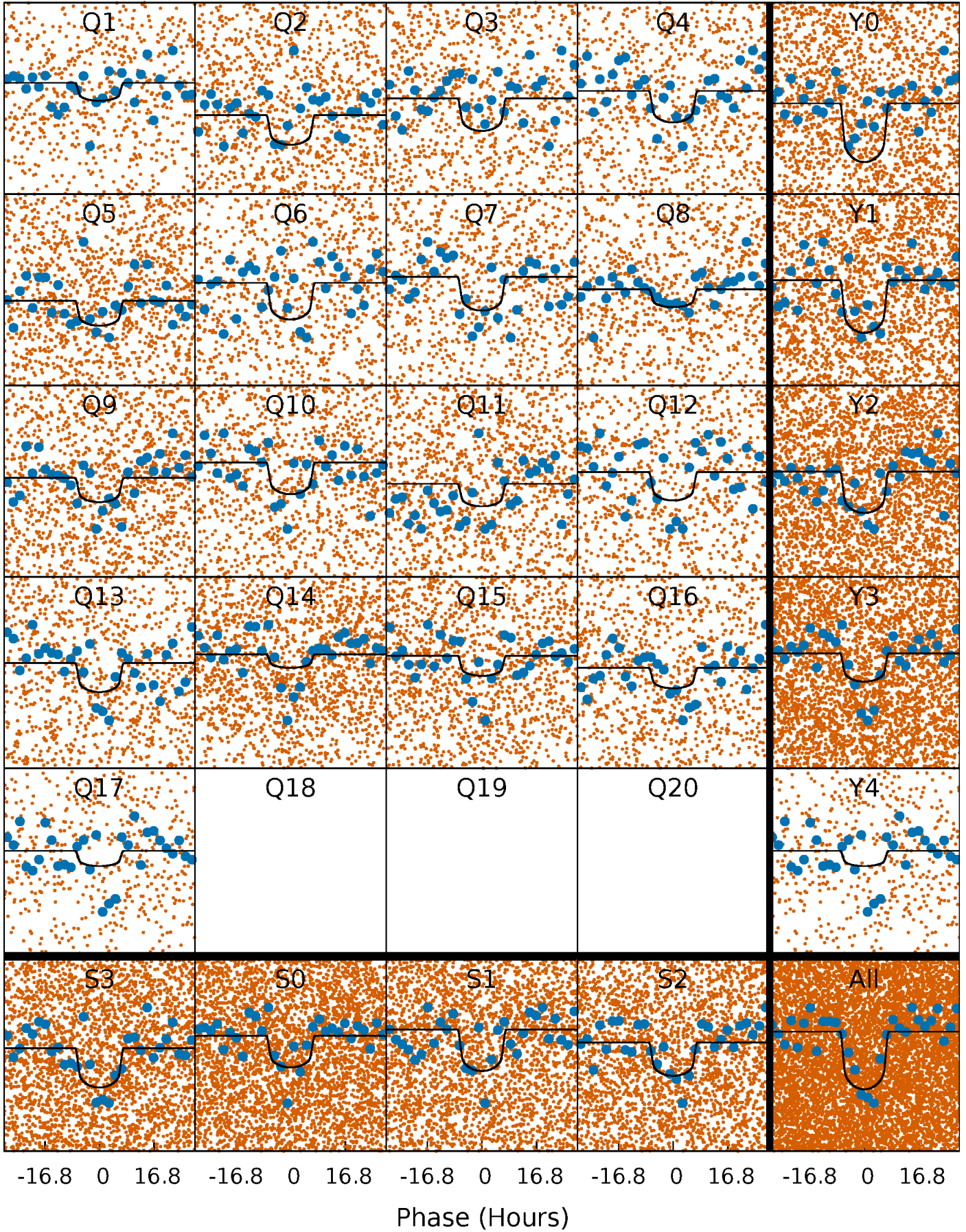
TCE 006364195-01 P= 5.243657 Days  $T_0=132.700940$  (BKJD)





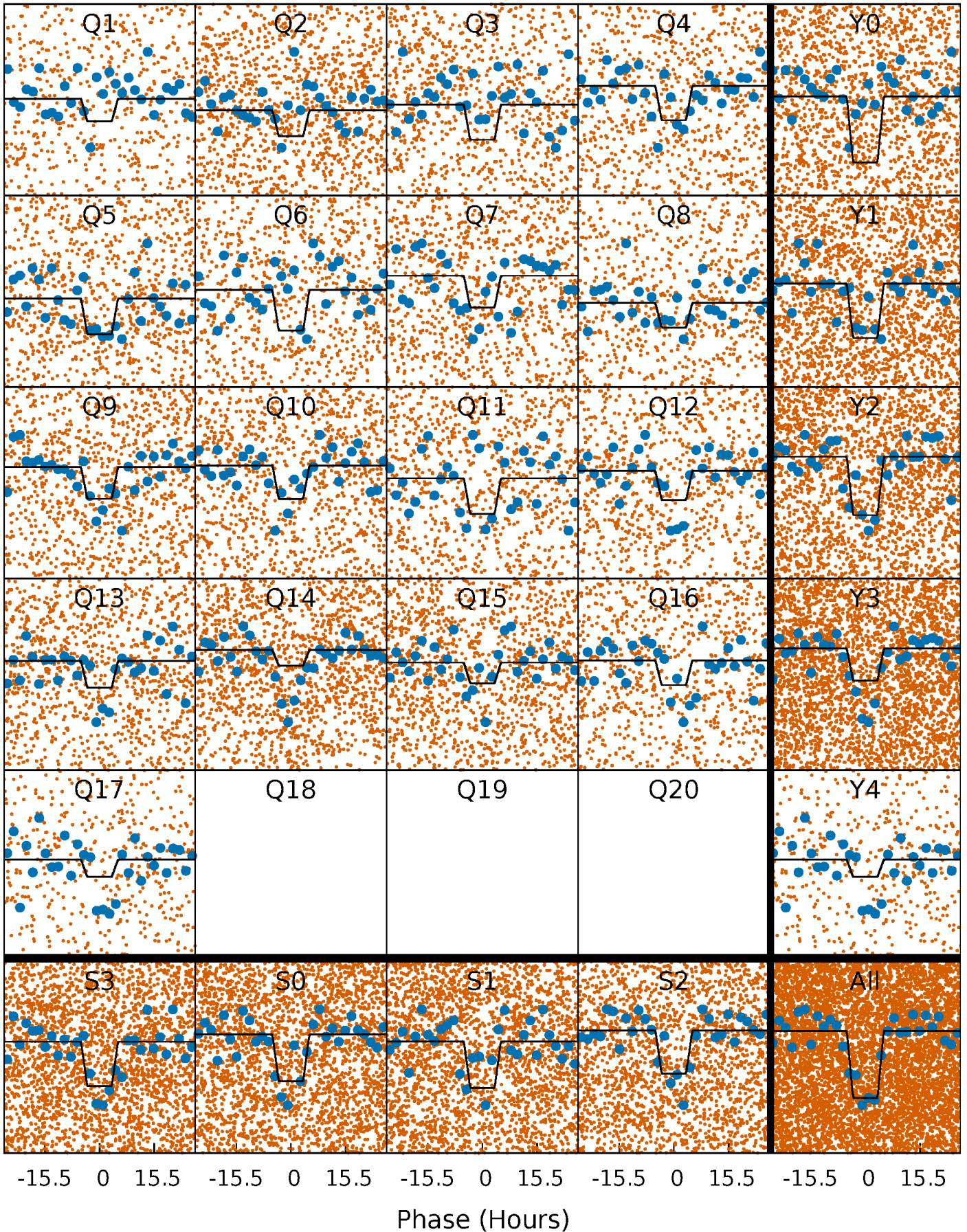
# DV Quarter-Phased Transit Curves

TCE 006364195-01 P= 5.243657 Days  $T_0=132.700940$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006364195-01 P= 5.243719 Days  $T_0=132.715849$  (BKJD)

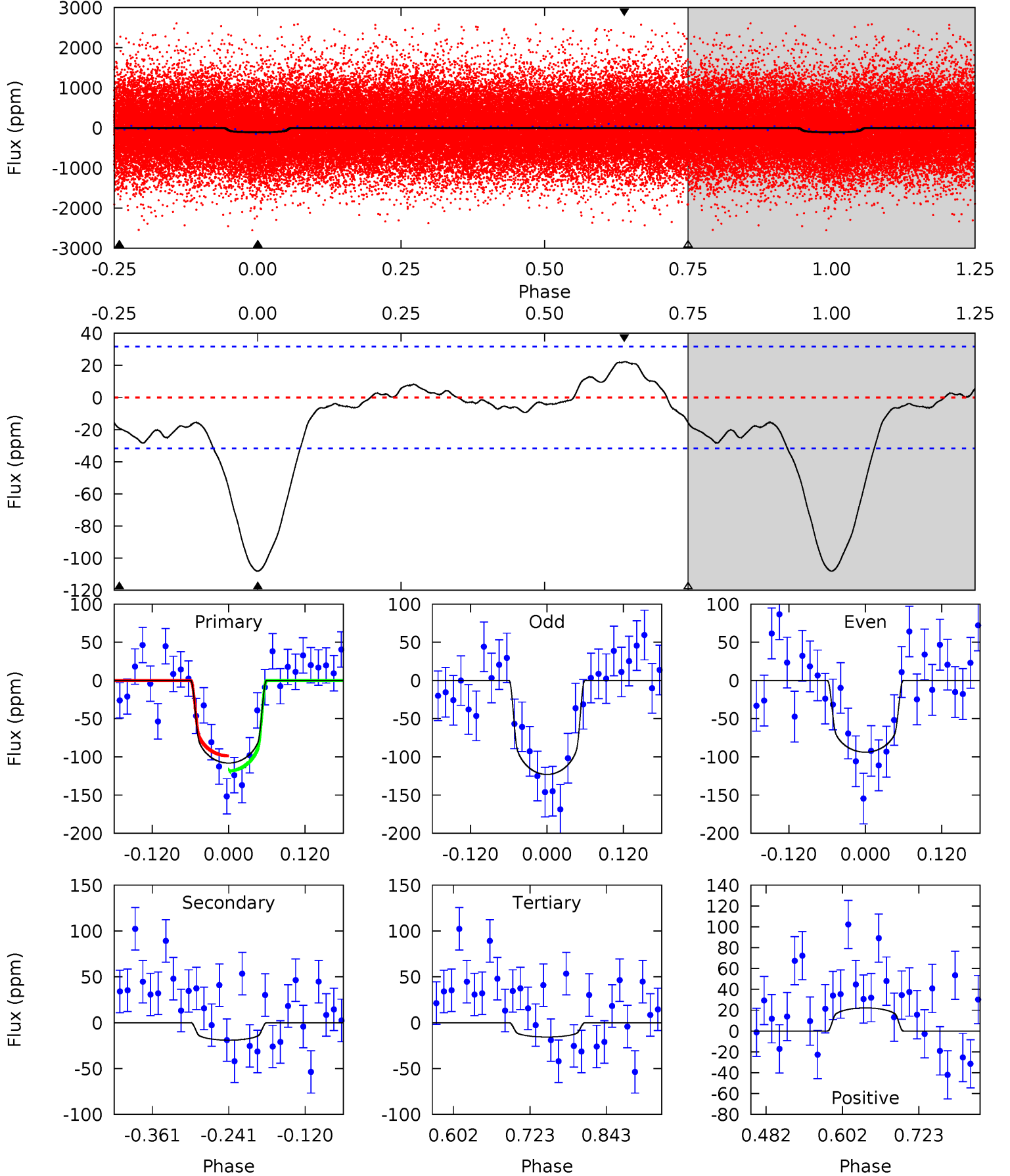




# DV Model-Shift Uniqueness Test

006364195-01, P = 5.243657 Days, E = 127.457283 Days

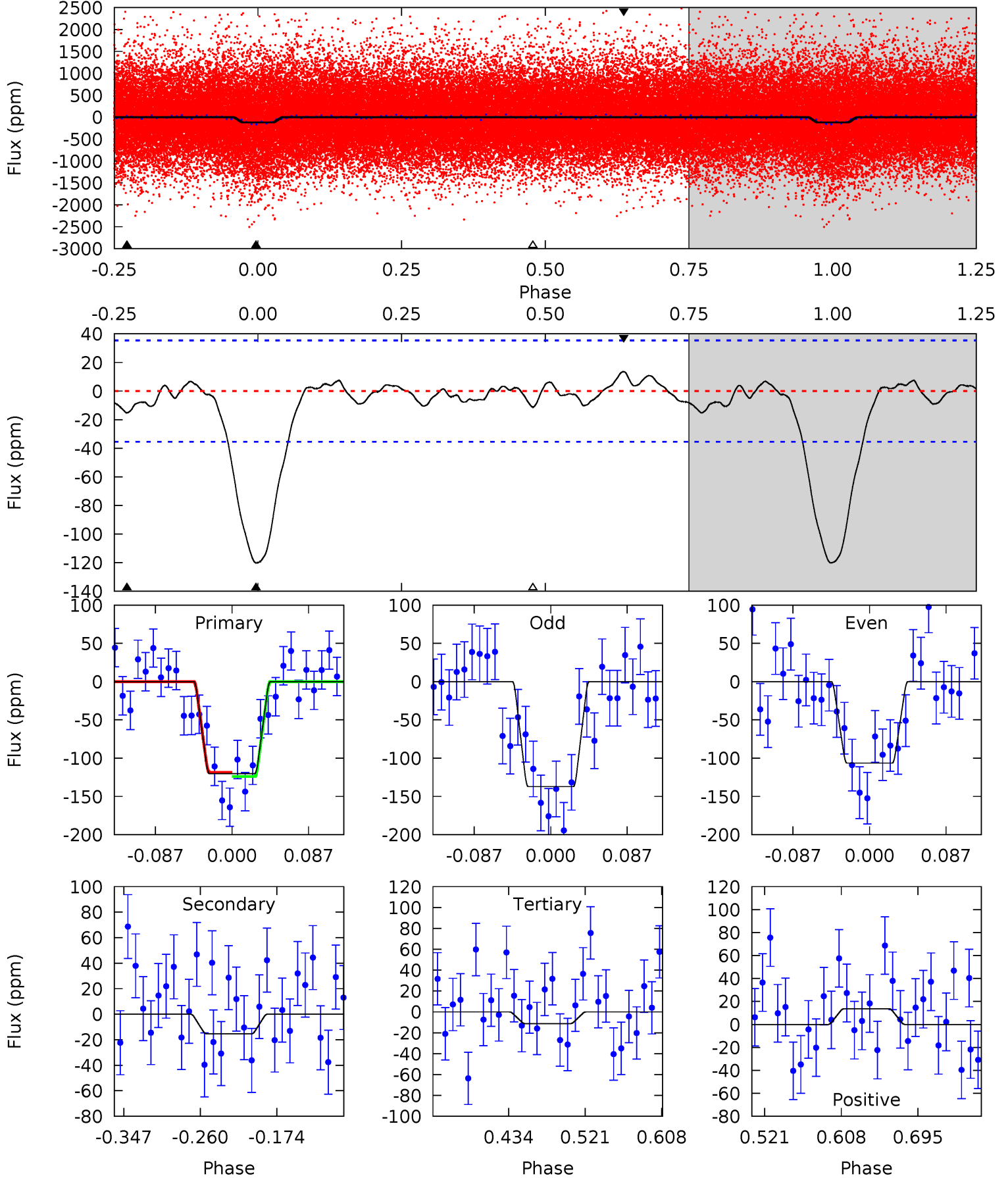
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	2.72	2.23	3.17	4.53	1.55	1.20	13.2	12.2	0.49	-0.44	2.07	1.00	0.17	1.39



# Alt Model-Shift Uniqueness Test

006364195-01, P = 5.243719 Days, E = 127.472130 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
15.6	1.98	1.46	1.76	4.59	1.71	0.71	14.1	13.8	0.52	0.22	1.98	1.53	0.10	0.34





### Stellar Parameters For KIC 006364195

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4920^{+146}_{-131}$	$4.636^{+0.032}_{-0.059}$	$-0.220^{+0.300}_{-0.300}$	$0.691^{+0.074}_{-0.056}$	$0.768^{+0.060}_{-0.090}$	$3.277^{+0.484}_{-0.741}$
	+3%/-3%	+1%/-1%	+136%/-136%	+11%/-8%	+8%/-12%	+15%/-23%
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 006364195-01 / KOI 6691.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-19 \pm 7$	$0.96^{+0.13}_{-0.13}$	$1095^{+42}_{-34}$	$3371^{+240}_{-225}$	$33^{+16}_{-12}$
Alt.	$-15 \pm 8$	$0.84^{+0.14}_{-0.12}$	$1095^{+39}_{-36}$	$3357^{+331}_{-347}$	$32^{+24}_{-17}$

$T_{\text{max}}$  = 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

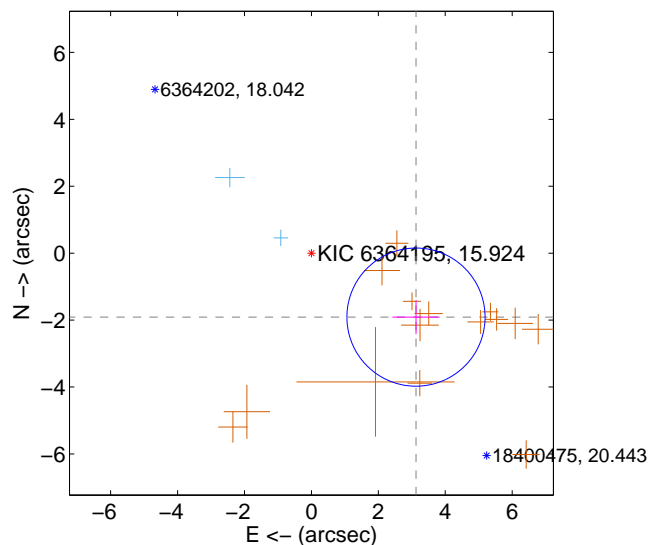
Supplemental centroid analysis for 006364195-01. Kepler magnitude: 15.92. Transit SNR 8.79

There are 2 quarters with good PRF difference image offsets

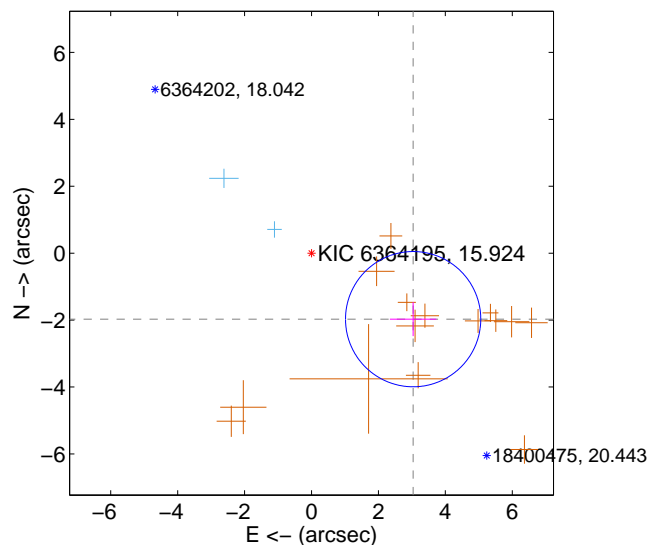
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.663 \pm 0.688$	5.32	$-3.125 \pm 0.705$	$-1.911 \pm 0.509$
PRF-fit source offset from KIC position	$3.621 \pm 0.674$	5.38	$-3.037 \pm 0.695$	$-1.972 \pm 0.506$
photometric centroid source offset	$3.13 \pm 0.97$	3.24	$-2.40 \pm 0.99$	$-2.01 \pm 0.93$

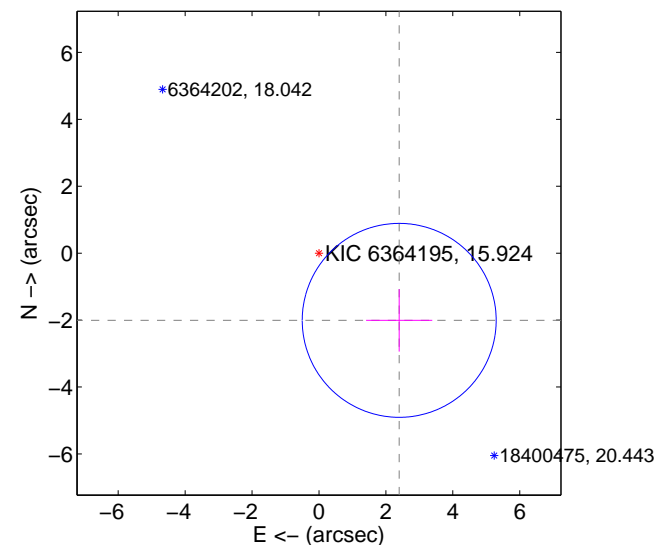
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

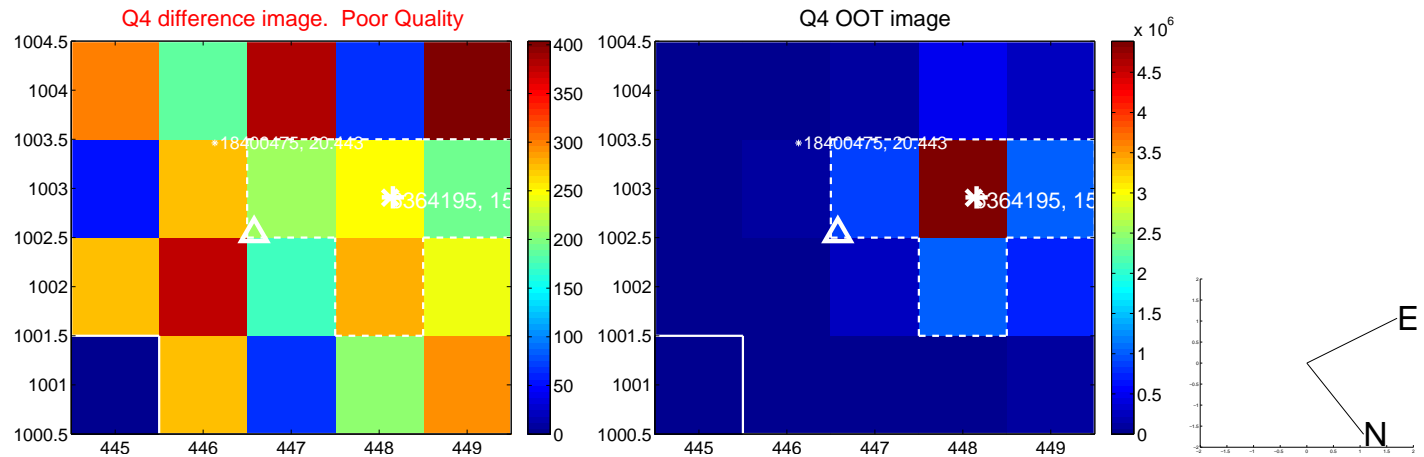
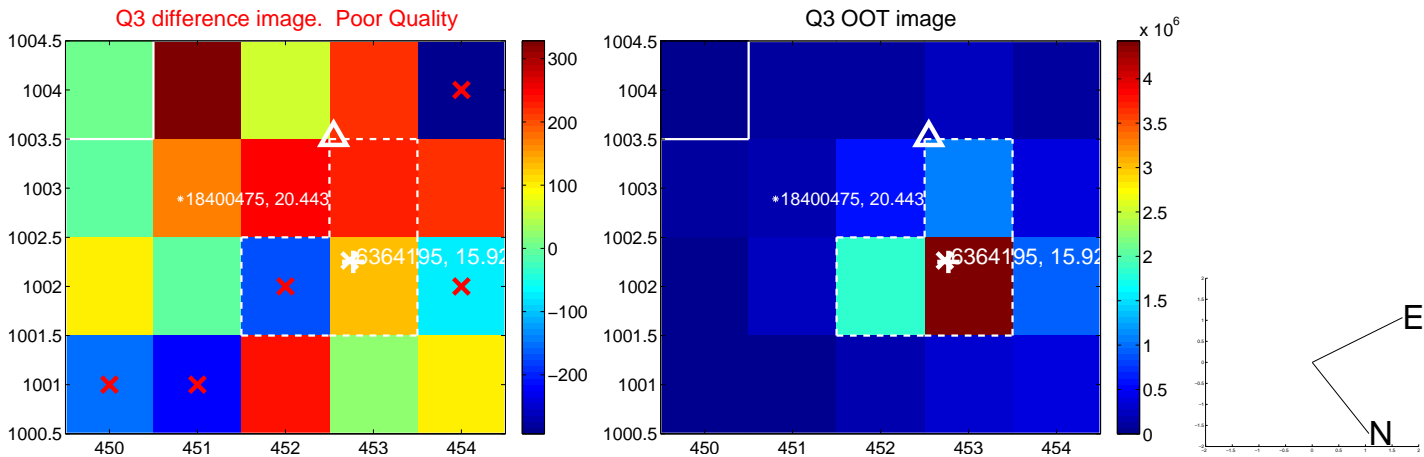
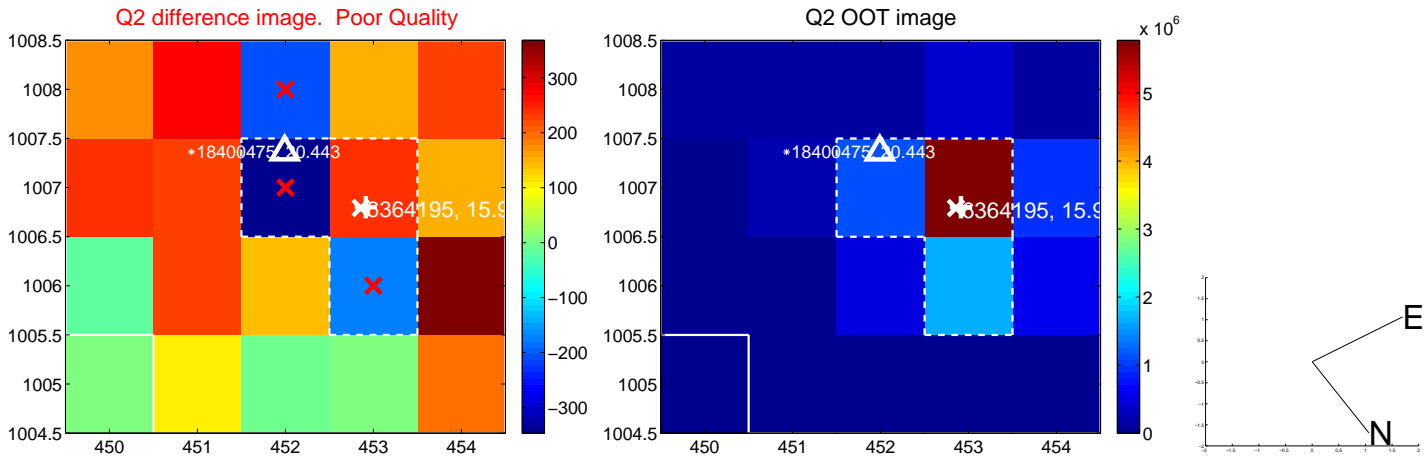
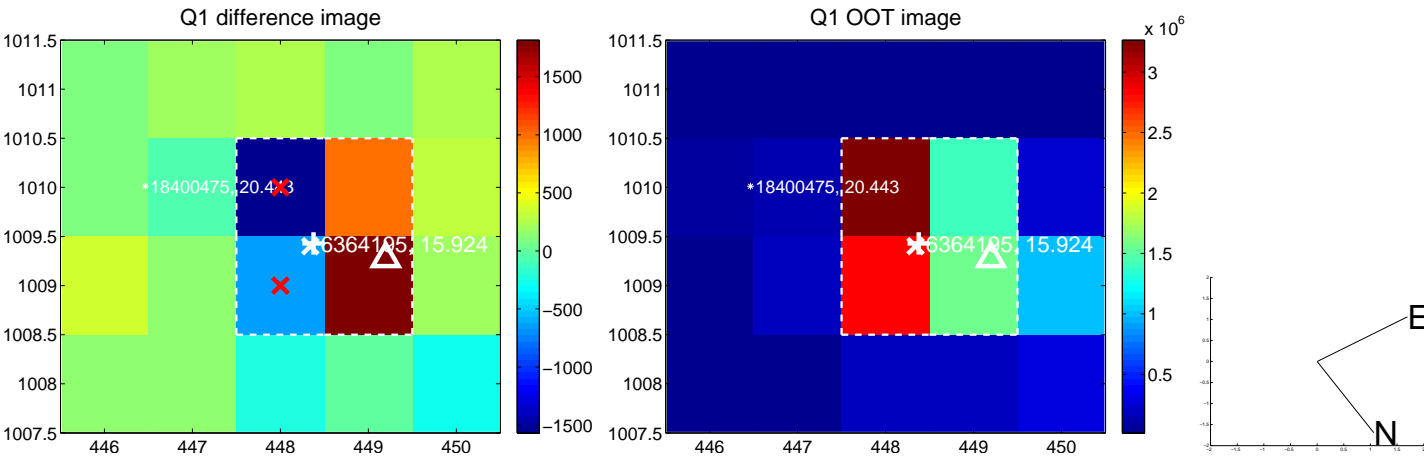


offset from photometric centroids

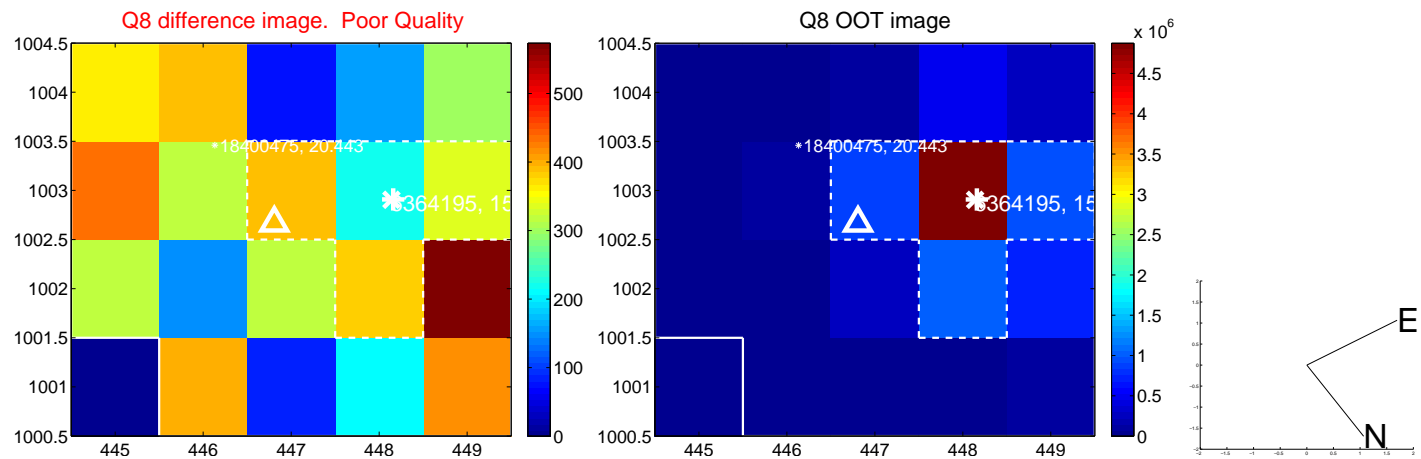
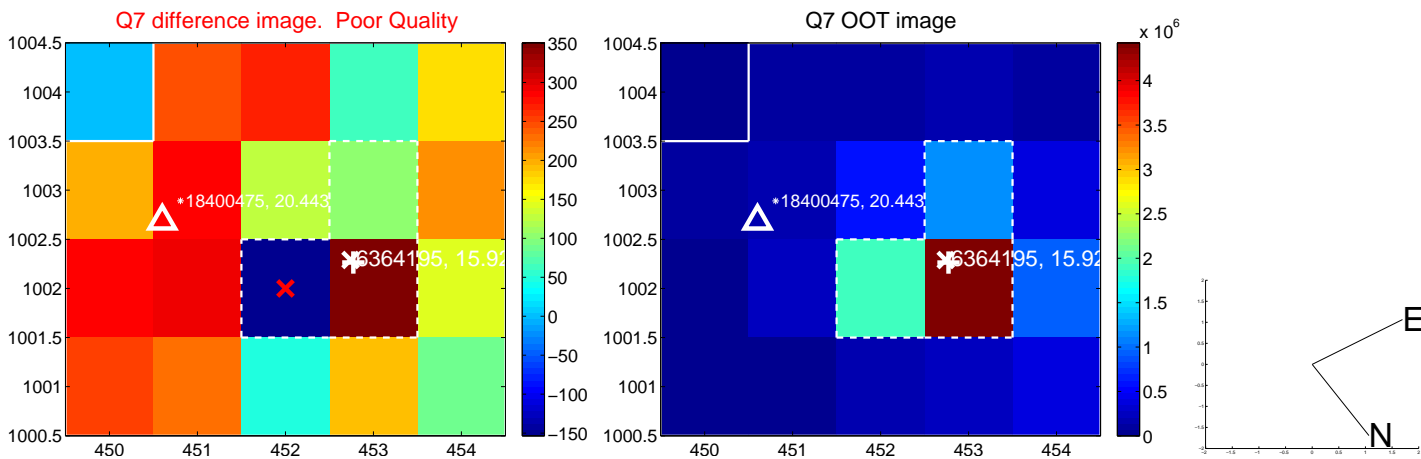
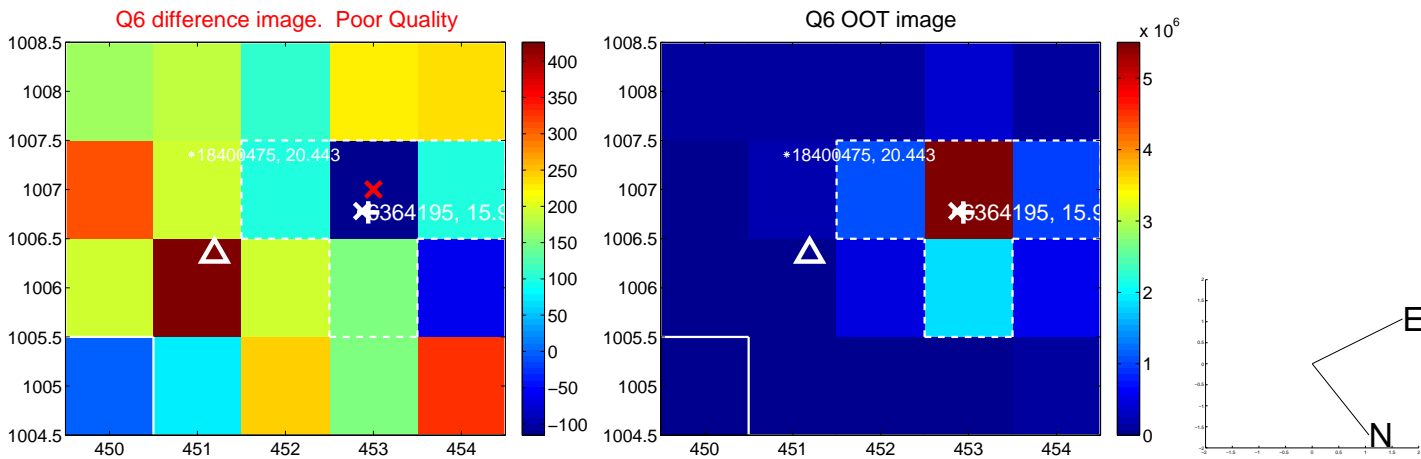
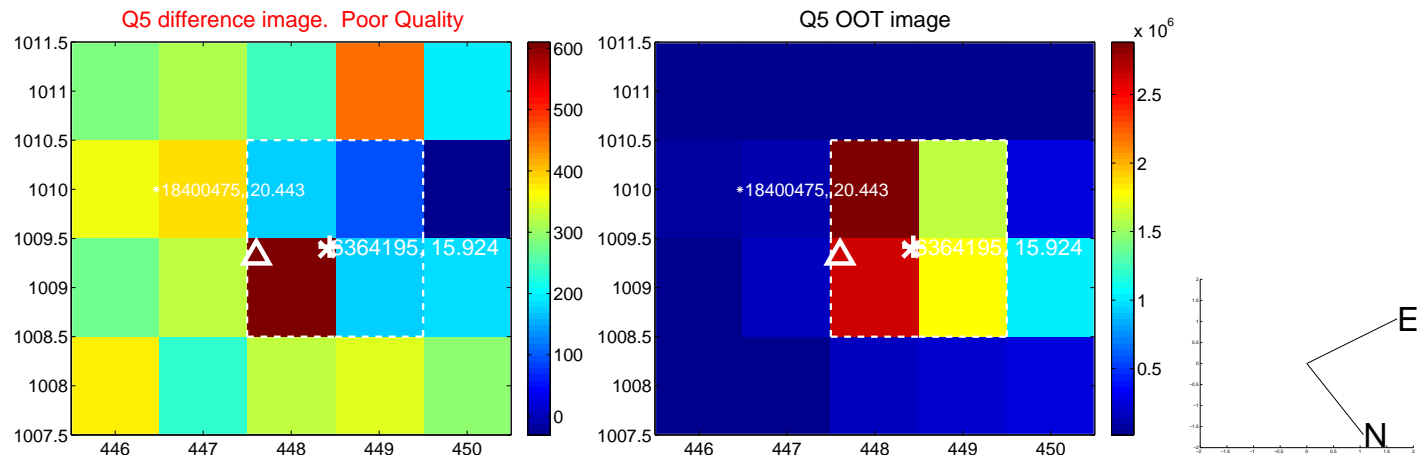


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

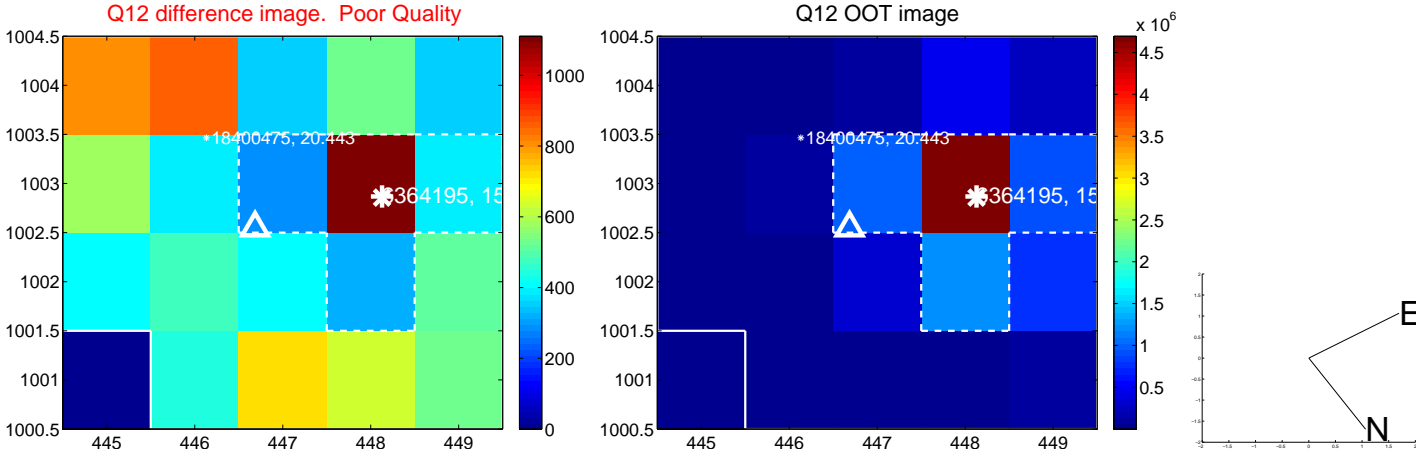
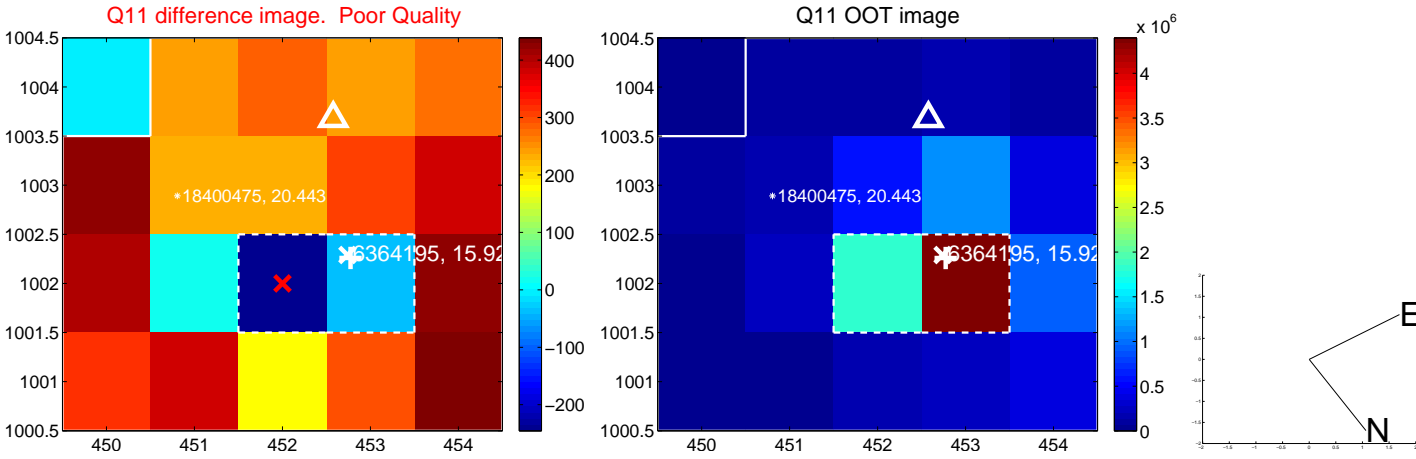
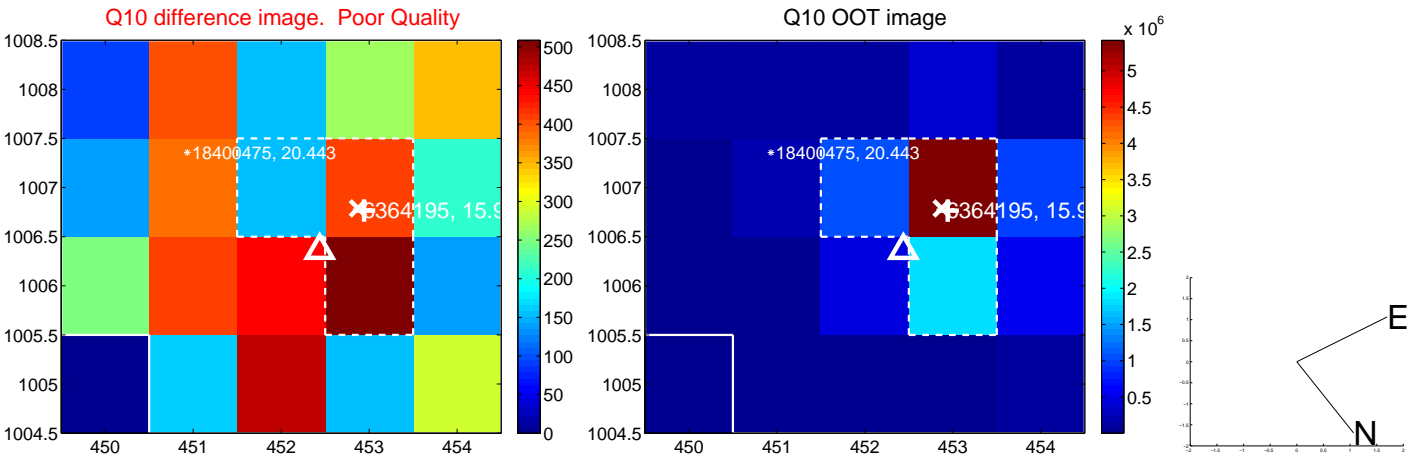
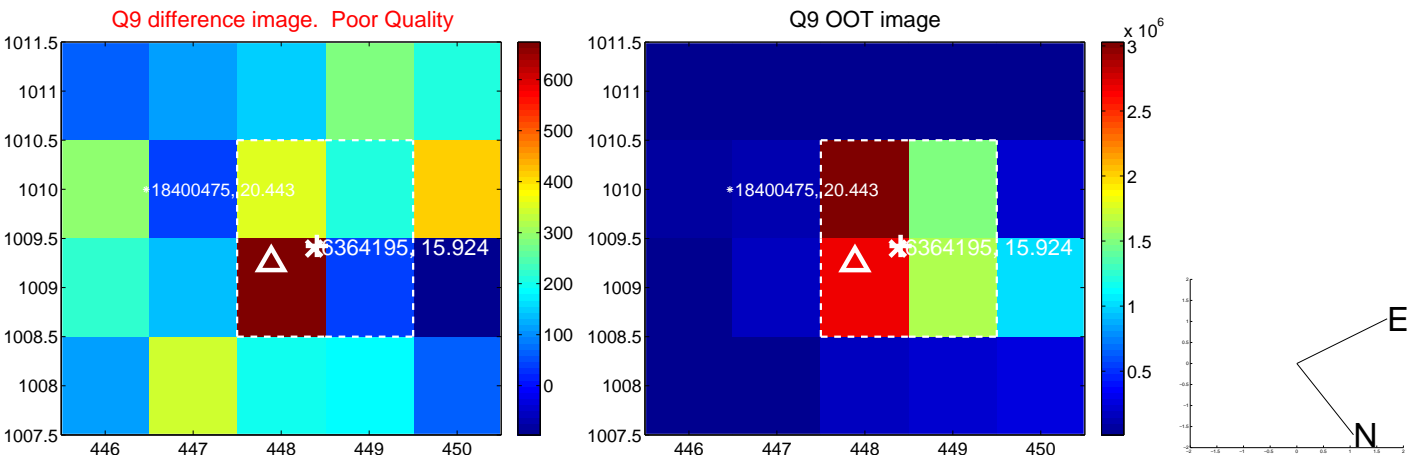


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

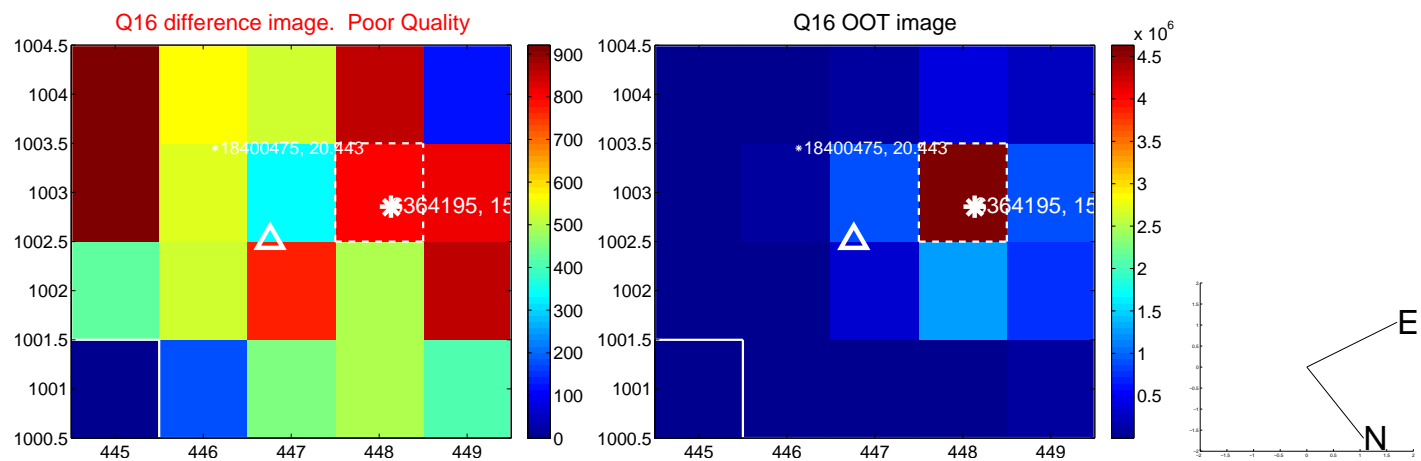
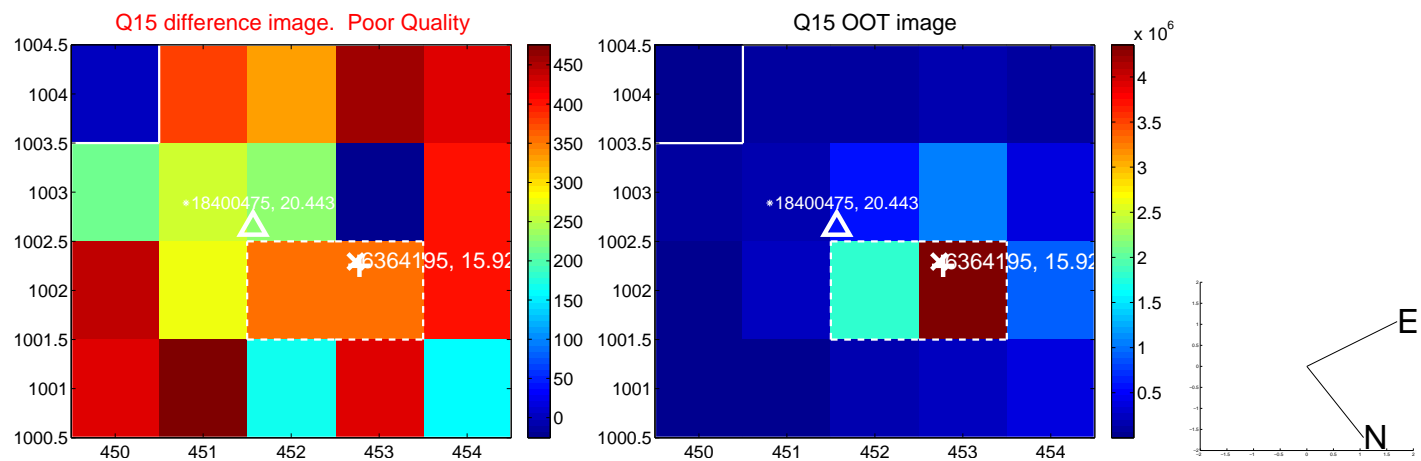
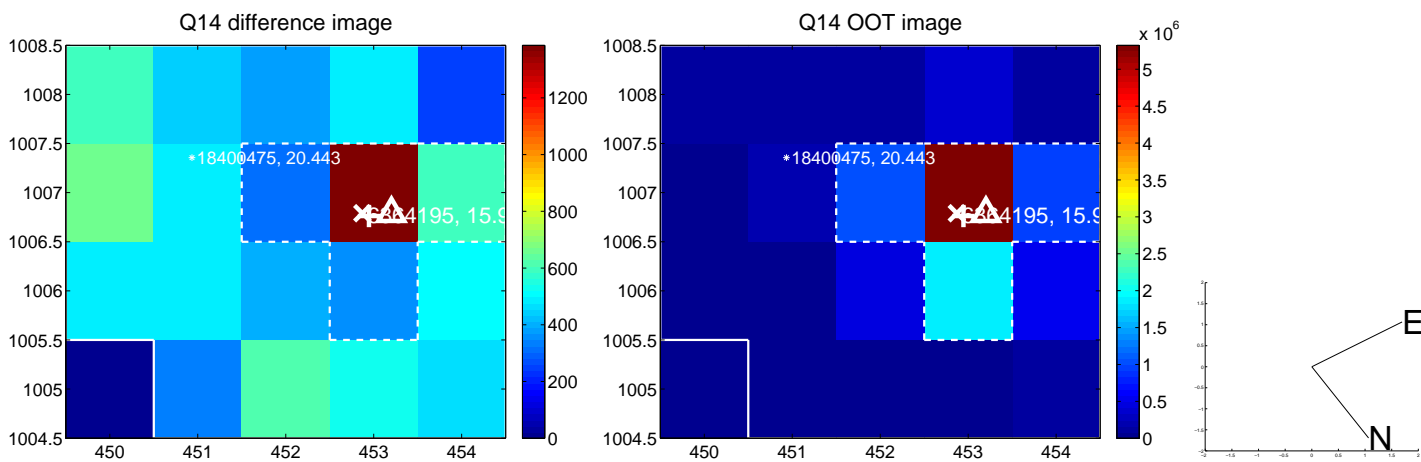
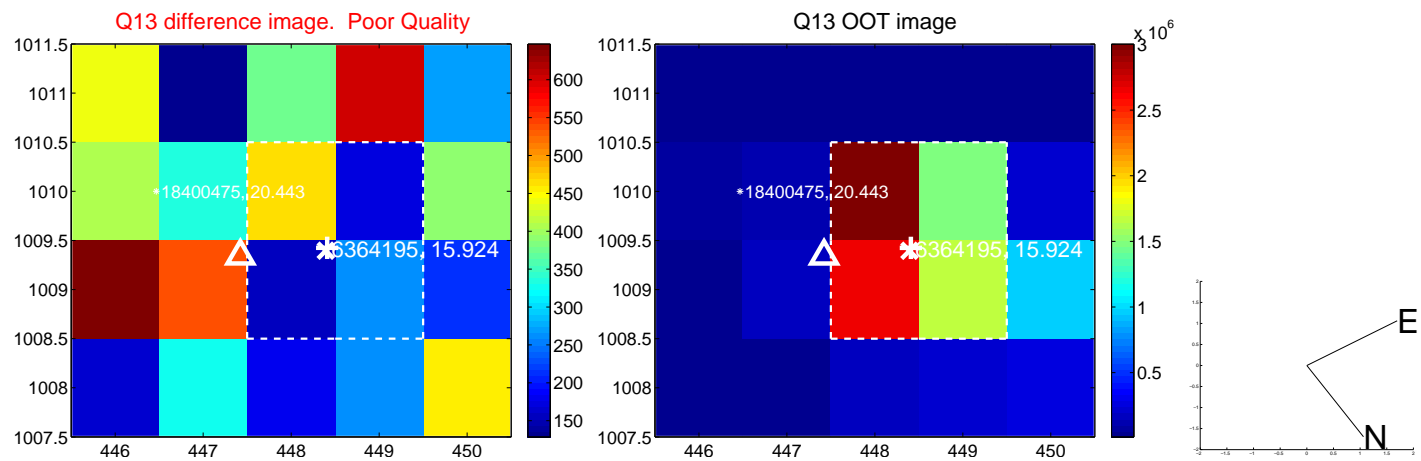




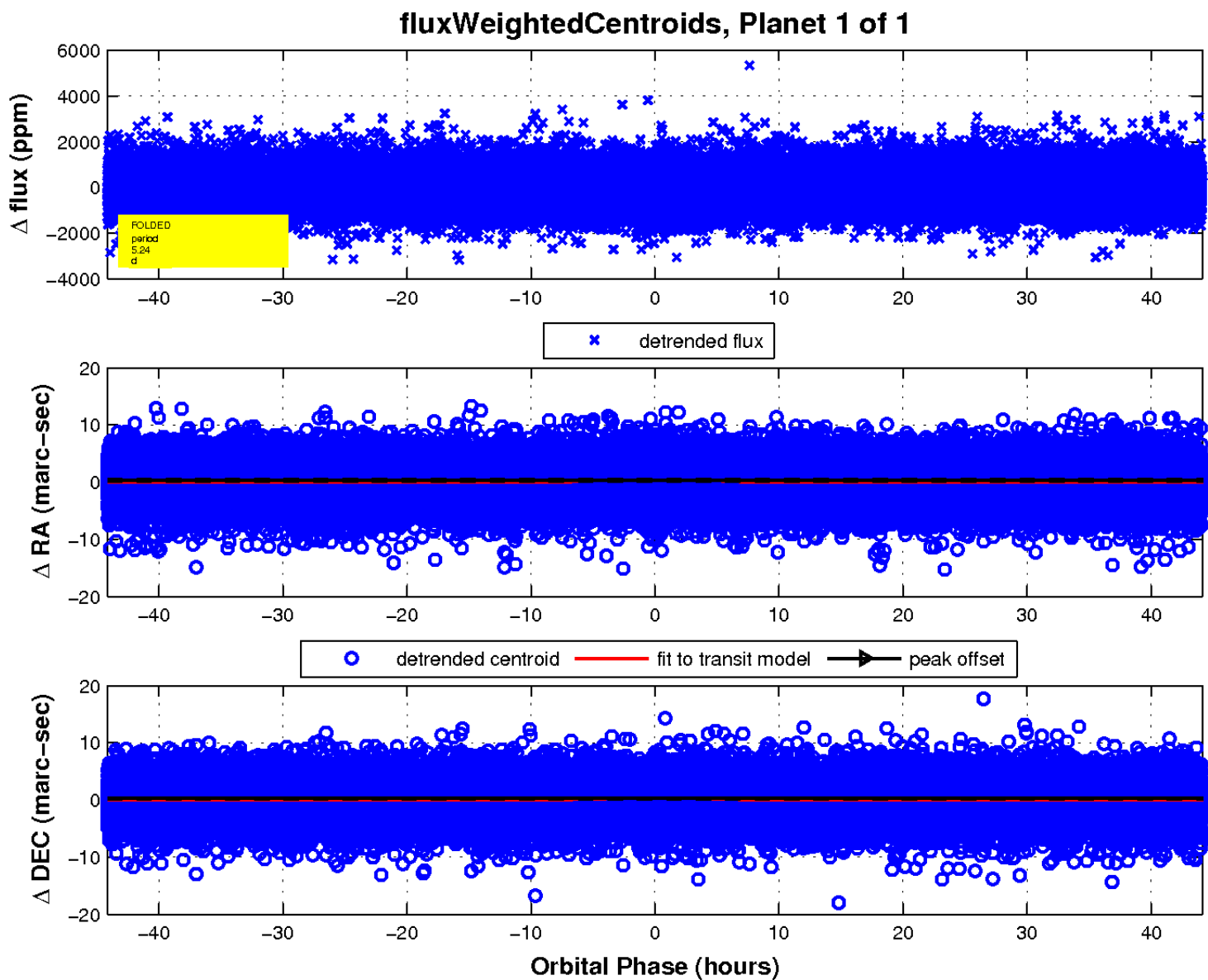
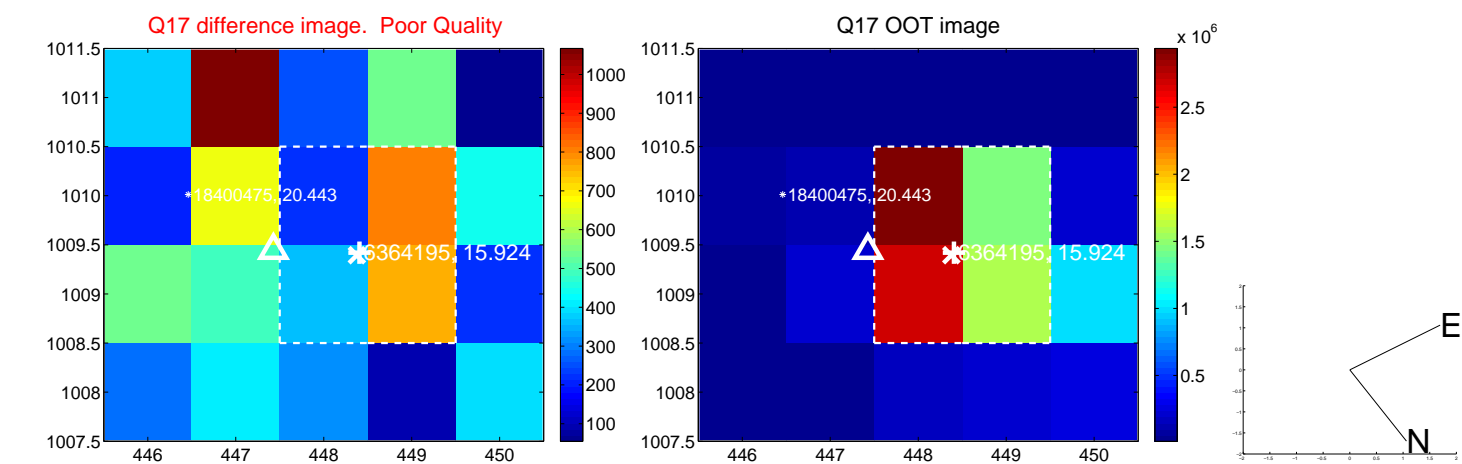
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



# UKIRT Image

Declination

