

# KIC 007117513

## 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> )
007117513-01	OBS	6829.01	0.566775	131.858833	81.3	2.781	10.7	10.9	1.01	6046	0.91	6293.69

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007117513-01	OBS	FP	0.00	0	0	0	1	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.

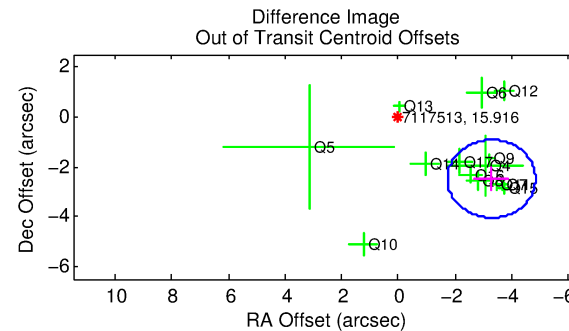
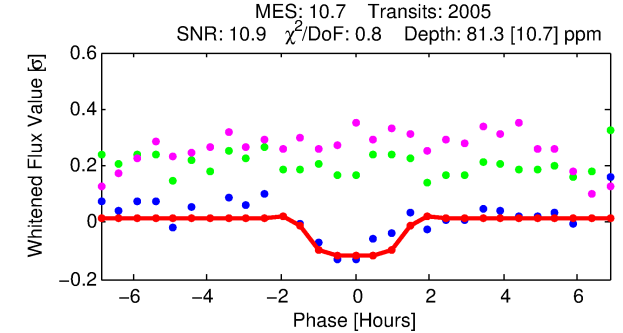
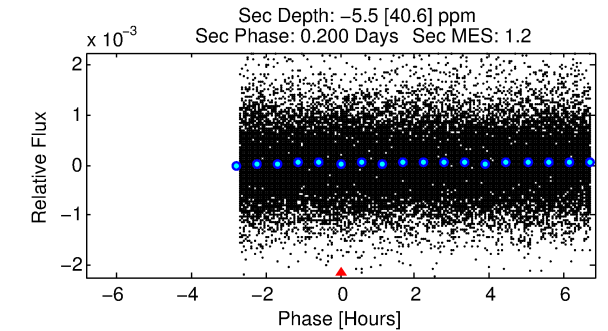
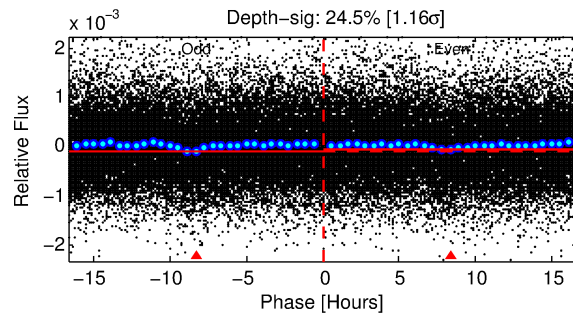
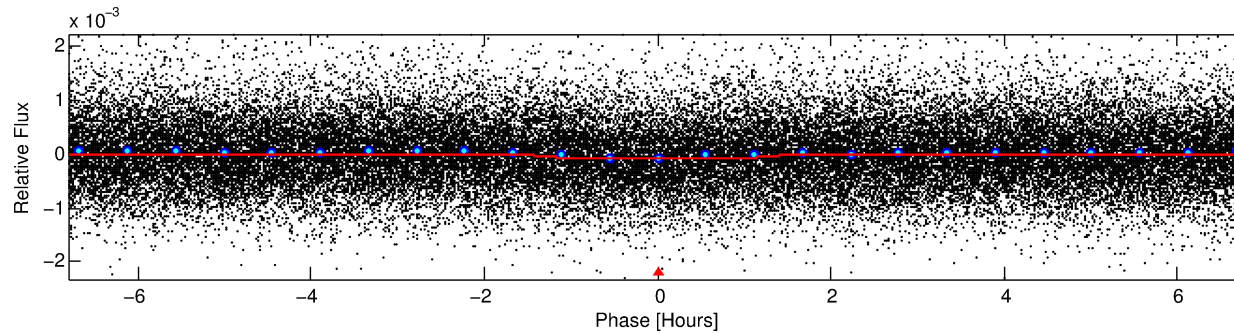
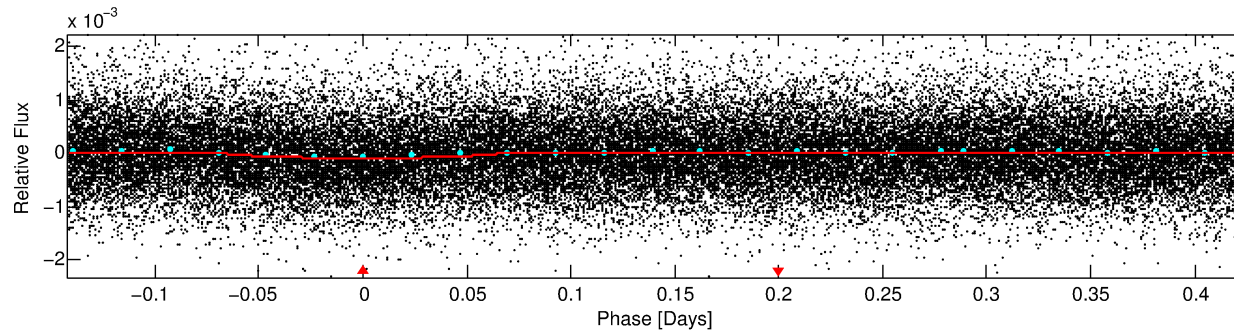
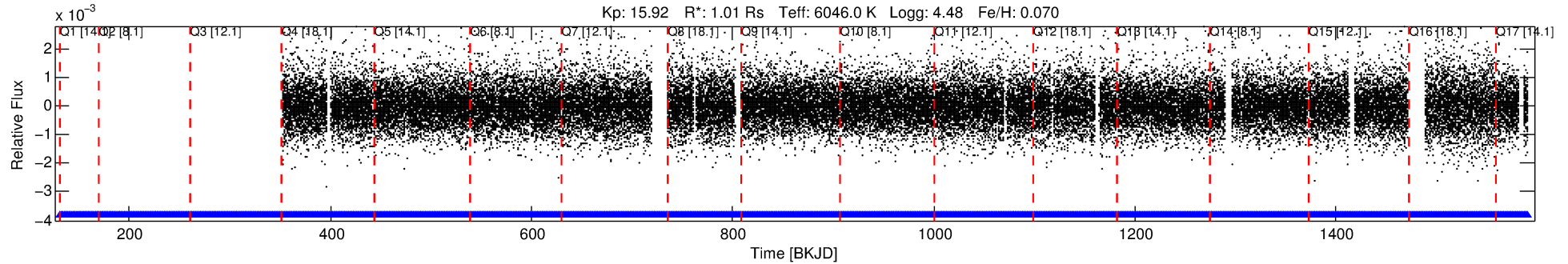
## Ephemeris Match Information For 007117513-01

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>
007117513-01	7117513	RR-Lyr-pri	7198959	1:1	987.0	198	149	7.86	15.91	7695.00	Direct-PRF	0	4.59	15.87

**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: 7117513 Candidate: 1 of 1 Period: 0.567 d  
KOI: K06829.01 Corr: 0.821



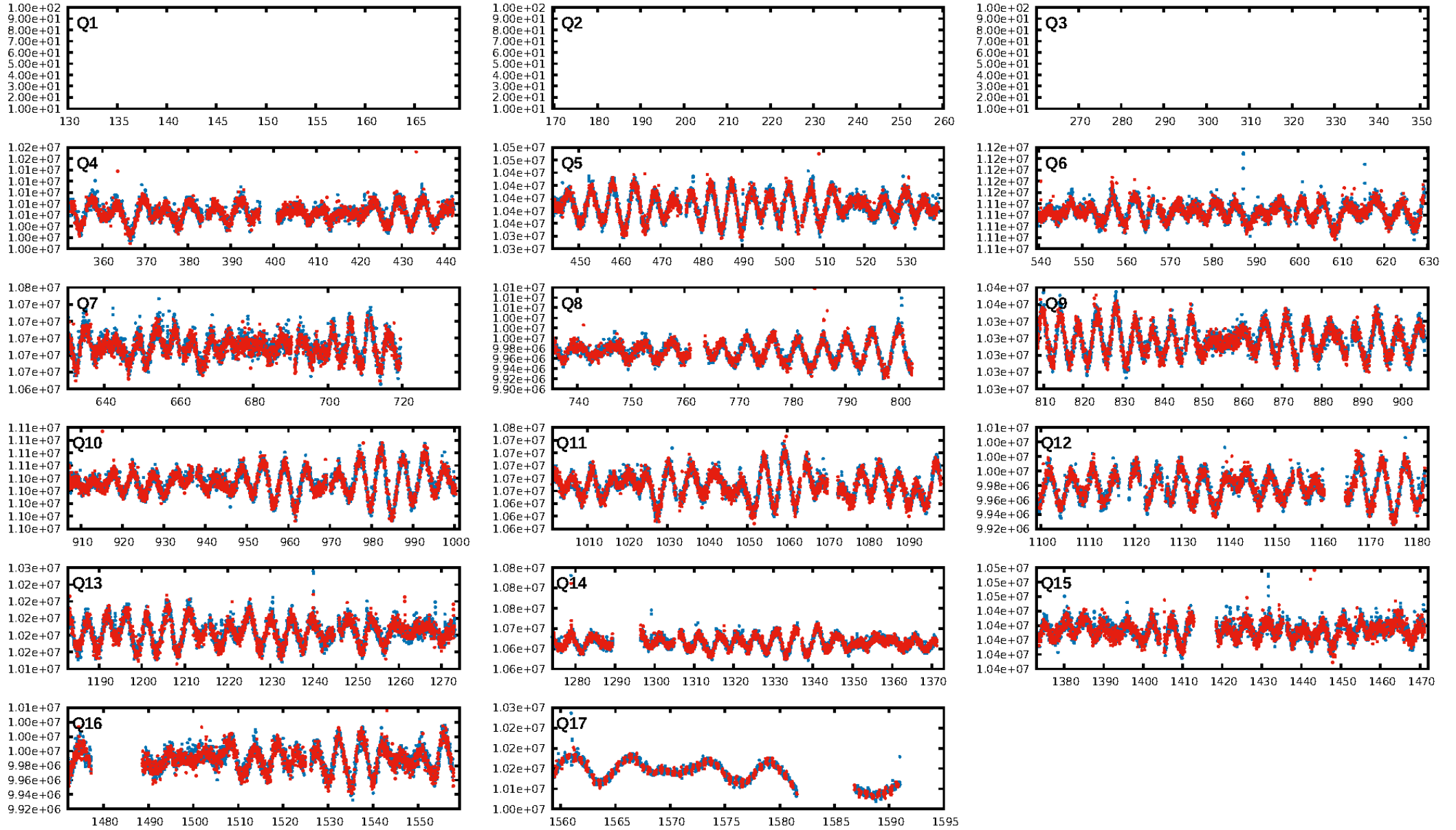
## DV Fit Results:

Period = 0.56678 [0.00001] d  
Epoch = 131.8588 [0.0030] BKJD  
Rp/R\* = 0.0082 [0.0124]  
a/R\* = 1.68 [7.63]  
b = 0.10 [67.45]  
Seff = 6293.69 [2500.02]  
Teff = 2271 [226] K  
Rp = 0.91 [1.39] Re  
a = 0.0139 [0.0035] AU  
Ag = N/A  
Teffp = N/A

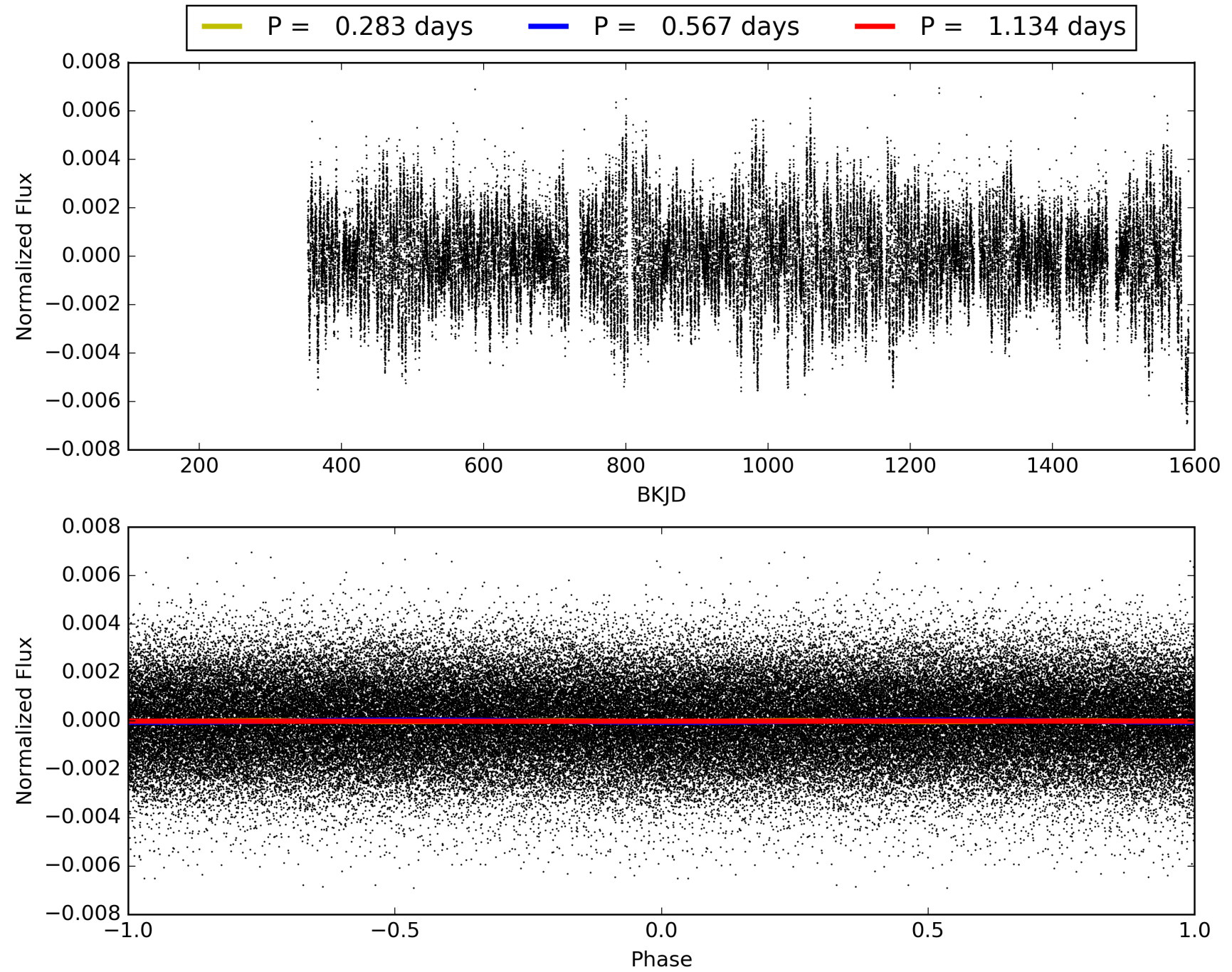
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.31e-21  
RollingBand-fgt: 1.00 [1958/1958]  
GhostDiagnostic-chr: 0.2525  
Centroid-sig: 0.0%  
Centroid-so: 4.620 arcsec [3.42 $\sigma$ ]  
OotOffset-rm: 4.133 arcsec [7.95 $\sigma$ ]  
KicOffset-rm: 4.191 arcsec [9.25 $\sigma$ ]  
OotOffset-st: 3/3/4/4 [14]  
KicOffset-st: 3/3/4/4 [14]  
DiffImageQuality-fgm: 0.00 [0/14]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 007117513-01, PDC Light Curves

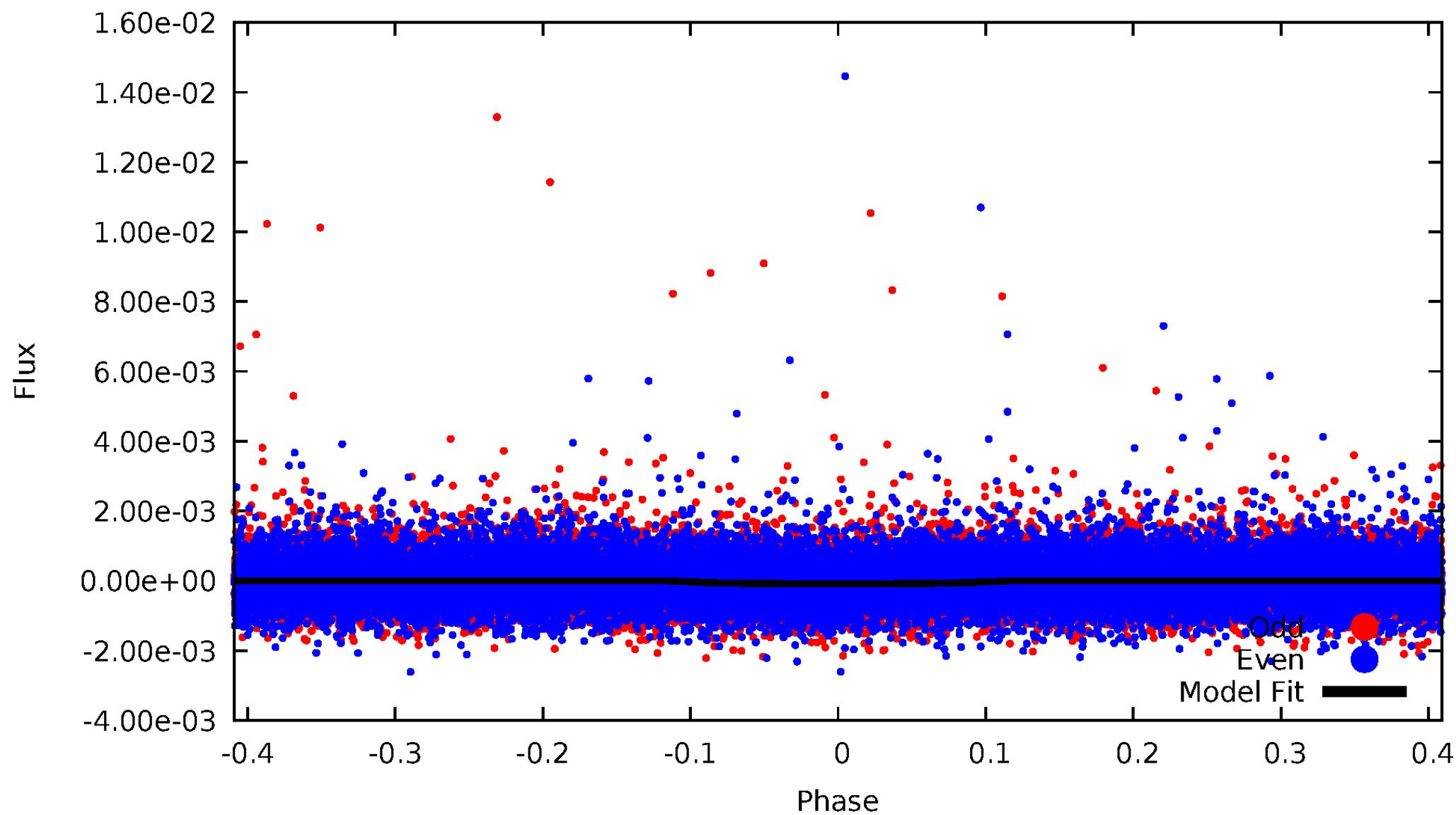


# TCE 007117513-01



# DV Odd/Even

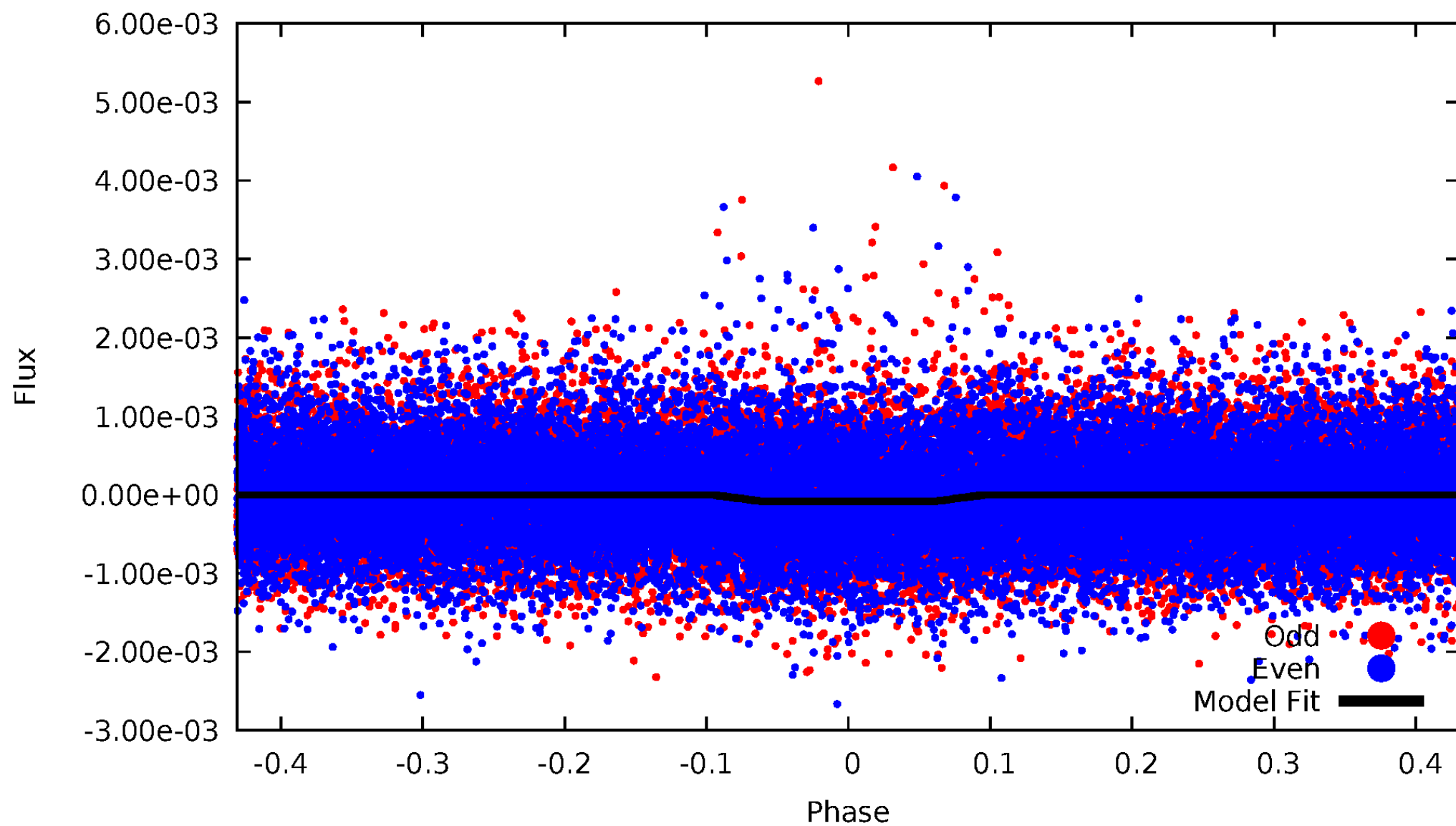
TCE 007117513-01





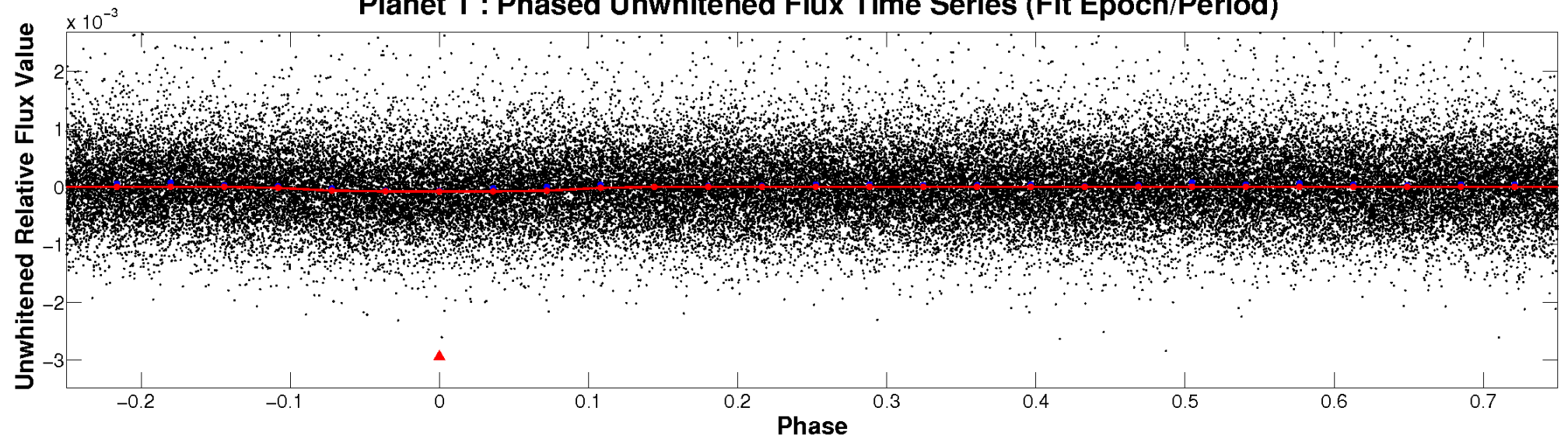
# ALT Odd/Even

TCE 007117513-01

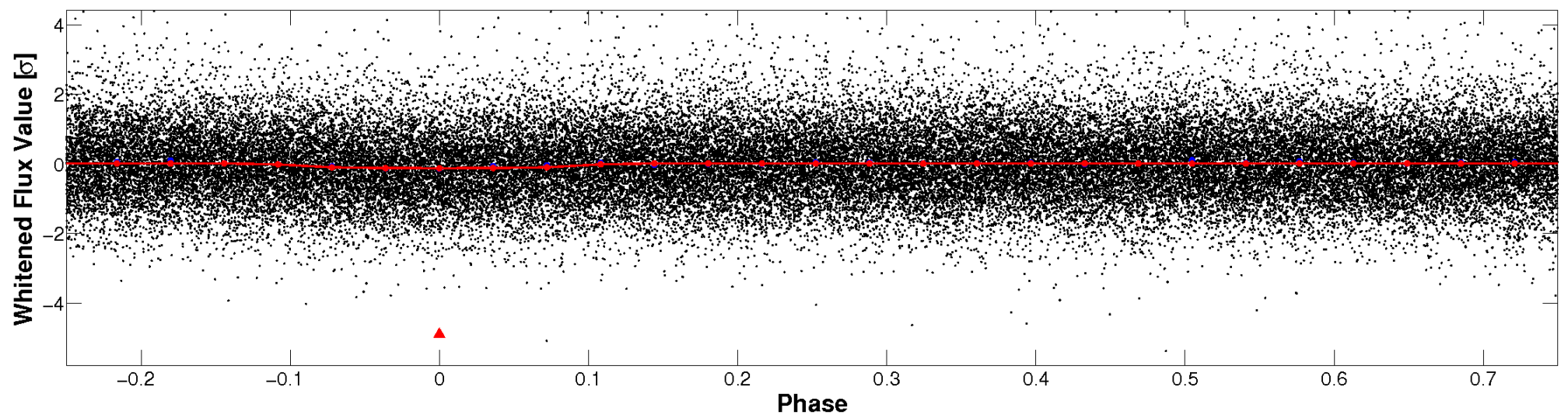


# Non-Whitened Vs. Whitened Light Curve

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

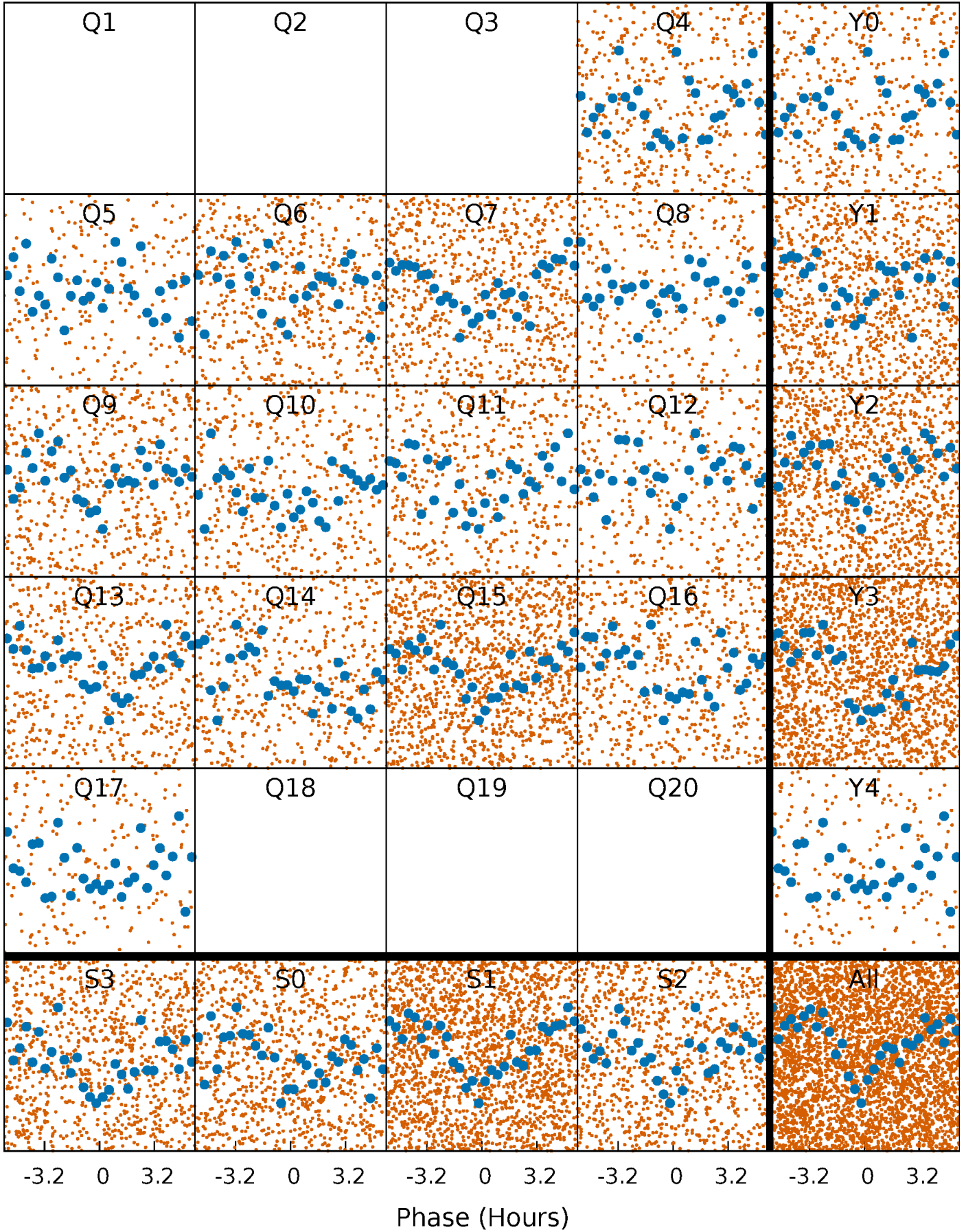


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

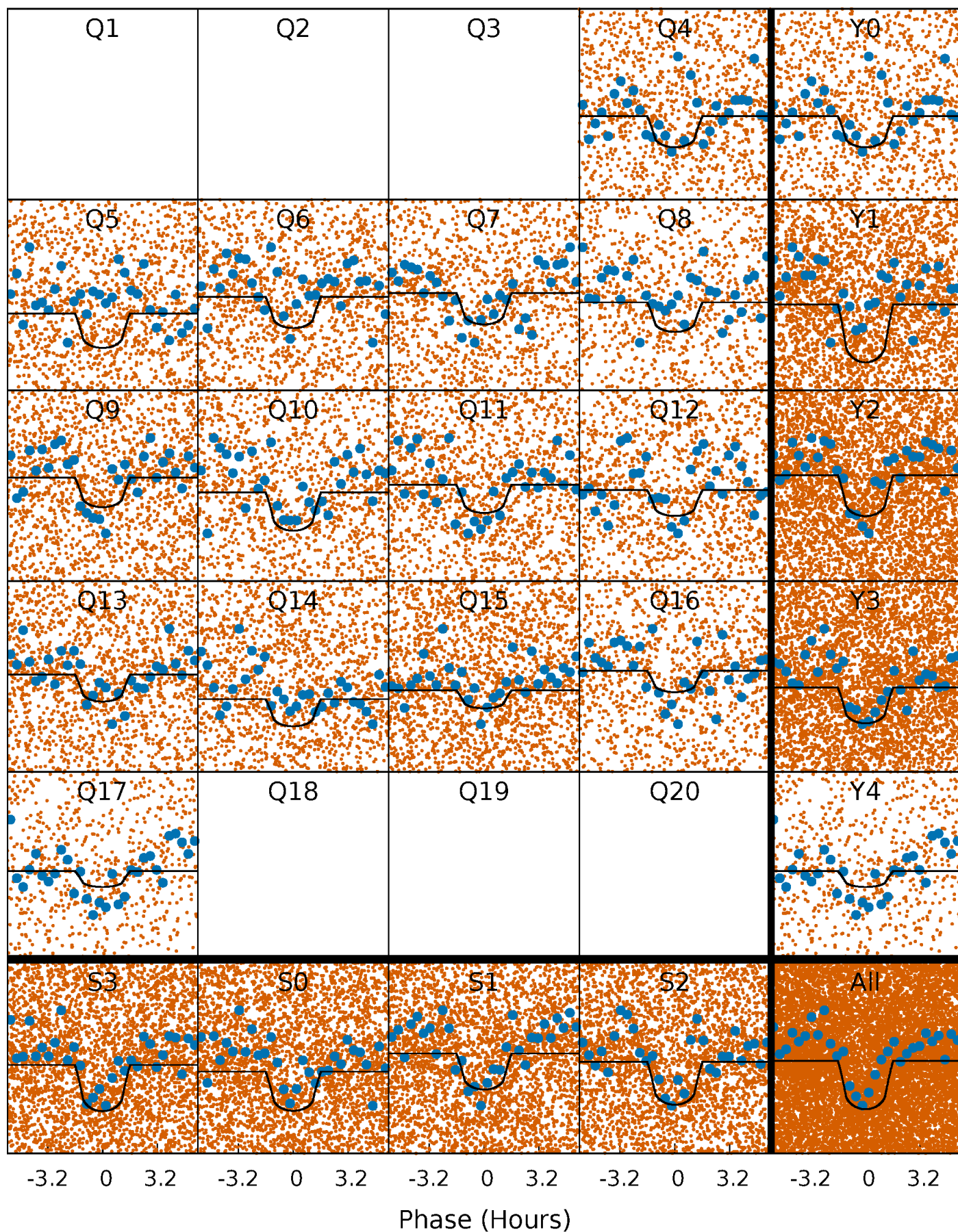
TCE 007117513-01 P= 0.566775 Days  $T_0=131.858833$  (BKJD)





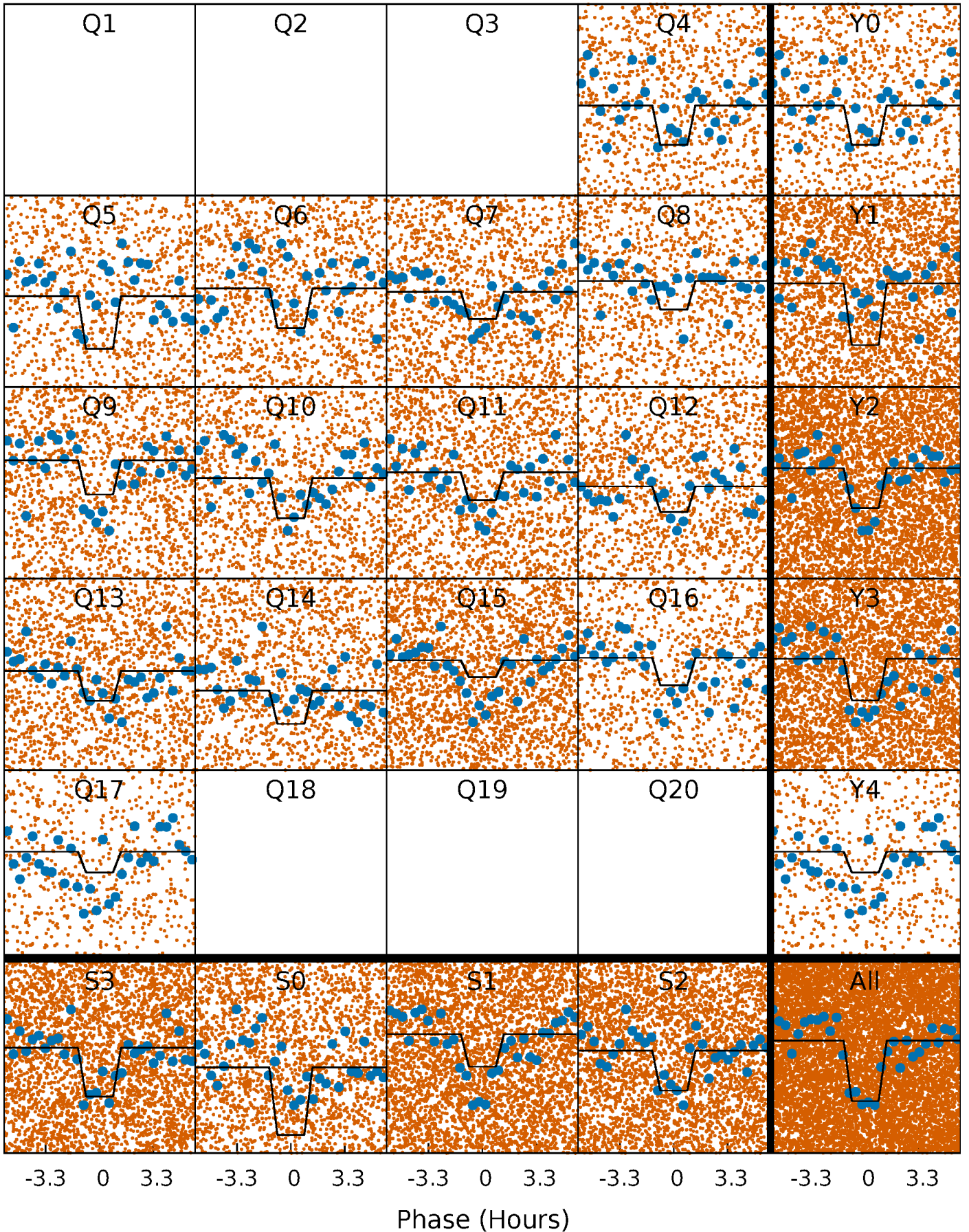
# DV Quarter-Phased Transit Curves

TCE 007117513-01 P= 0.566775 Days  $T_0=131.858833$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007117513-01 P= 0.566795 Days  $T_0=131.816768$  (BKJD)

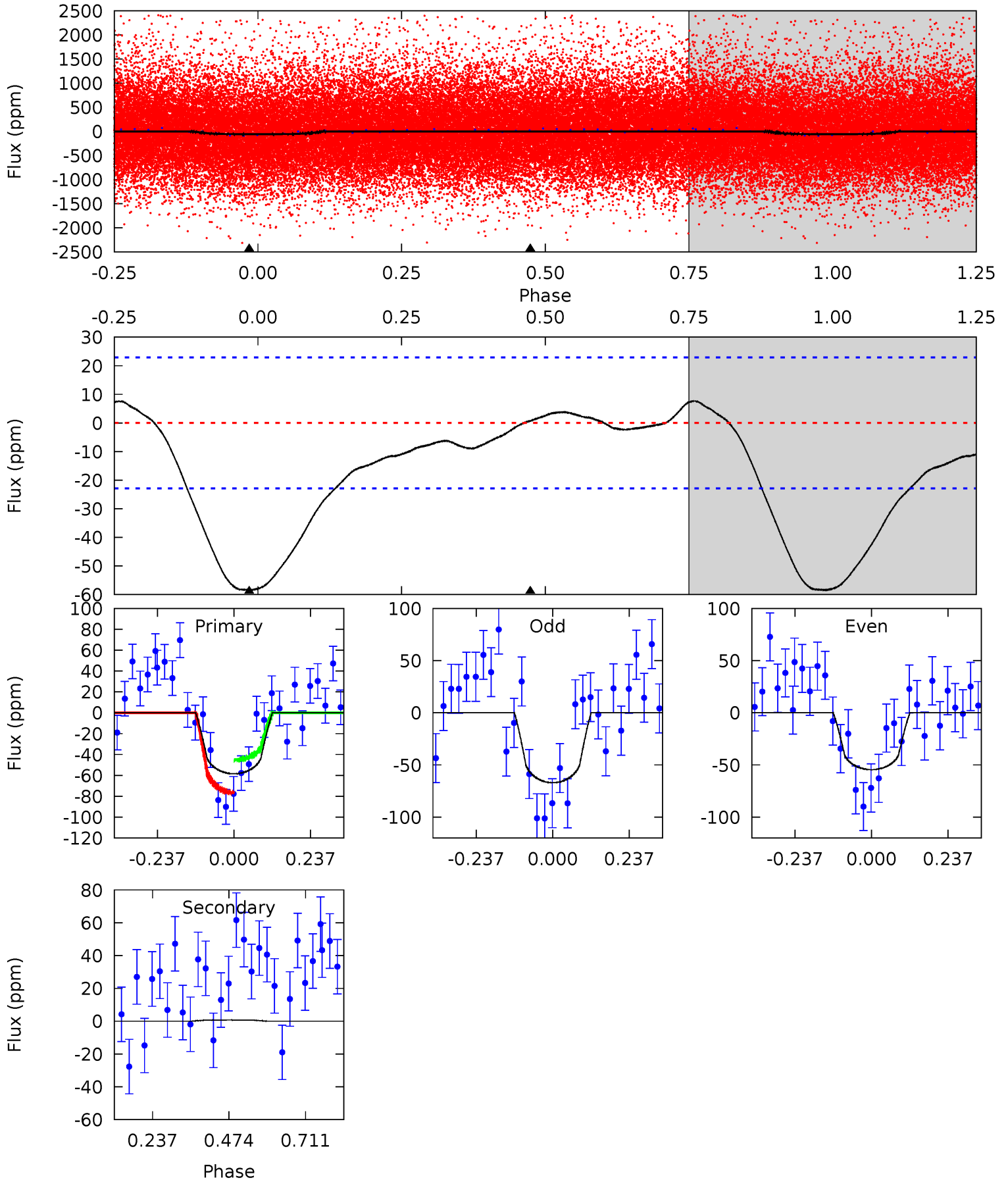




# DV Model-Shift Uniqueness Test

007117513-01, P = 0.566775 Days, E = 131.858833 Days

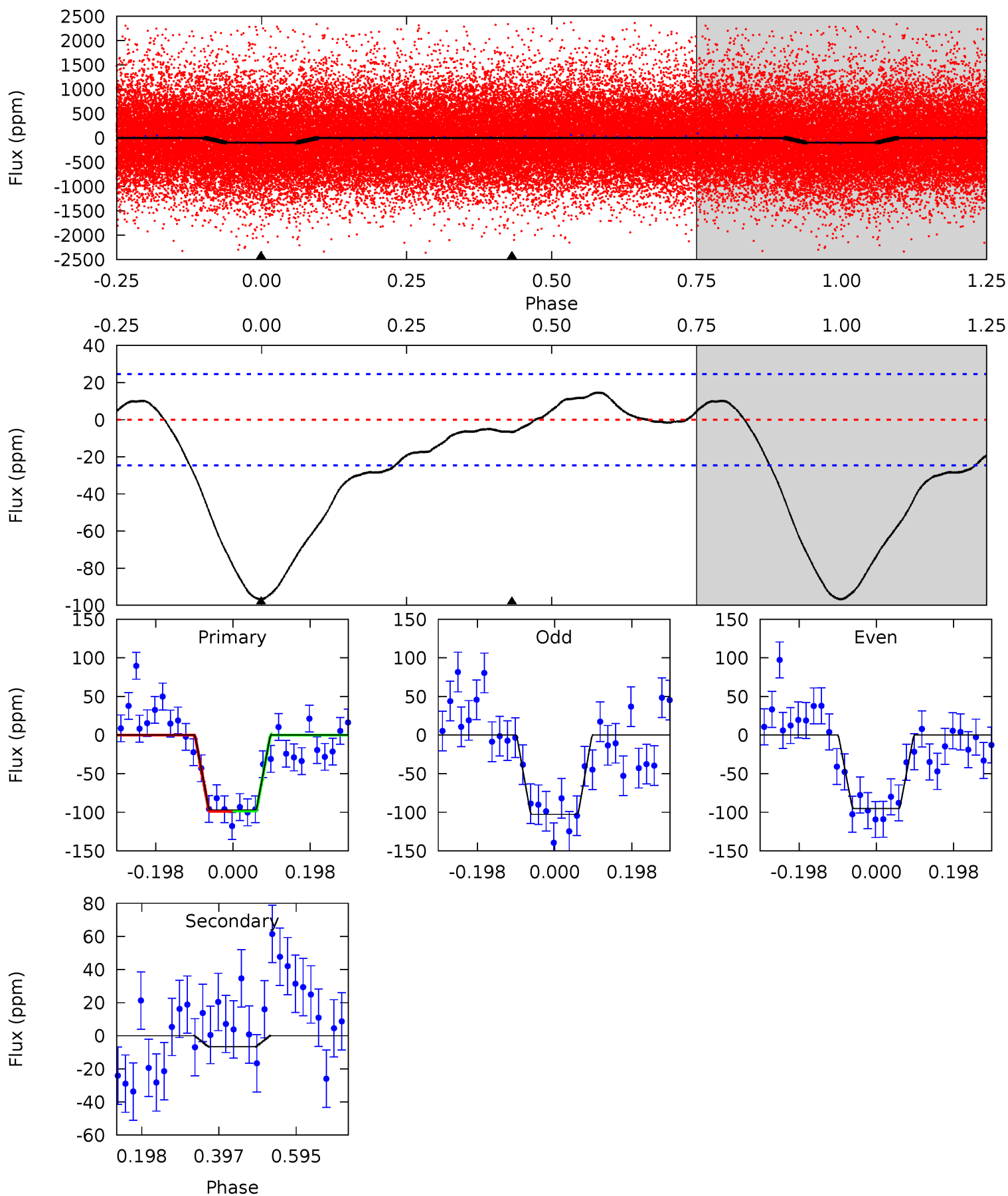
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	-0.13	0	0	4.38	1.18	1.51	11.2	11.2	-0.13	-0.13	1.19	0.71	0.12	3.04



# Alt Model-Shift Uniqueness Test

007117513-01, P = 0.566795 Days, E = 131.816768 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
17.4	1.20	0	0	4.42	1.29	2.14	17.4	17.4	1.20	1.20	0.69	0.98	0.13	0.04





### Stellar Parameters For KIC 007117513

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6046^{+190}_{-232}$	$4.478^{+0.050}_{-0.200}$	$0.070^{+0.250}_{-0.300}$	$1.007^{+0.302}_{-0.101}$	$1.111^{+0.130}_{-0.145}$	$1.532^{+0.405}_{-0.772}$
	+3%/-4%	+1%/-4%	+357%/-429%	+30%/-10%	+12%/-13%	+26%/-50%
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 007117513-01 / KOI 6829.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$1 \pm 5$	$1.43^{+1.16}_{-0.96}$	$3251^{+236}_{-180}$	$-3284^{+5770}_{-492}$	$-0.021^{+0.374}_{-0.406}$
Alt.	$-7 \pm 6$	$1.49^{+1.34}_{-0.98}$	$3230^{+222}_{-160}$	$-2637^{+7110}_{-592}$	$0.230^{+2.028}_{-0.207}$

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

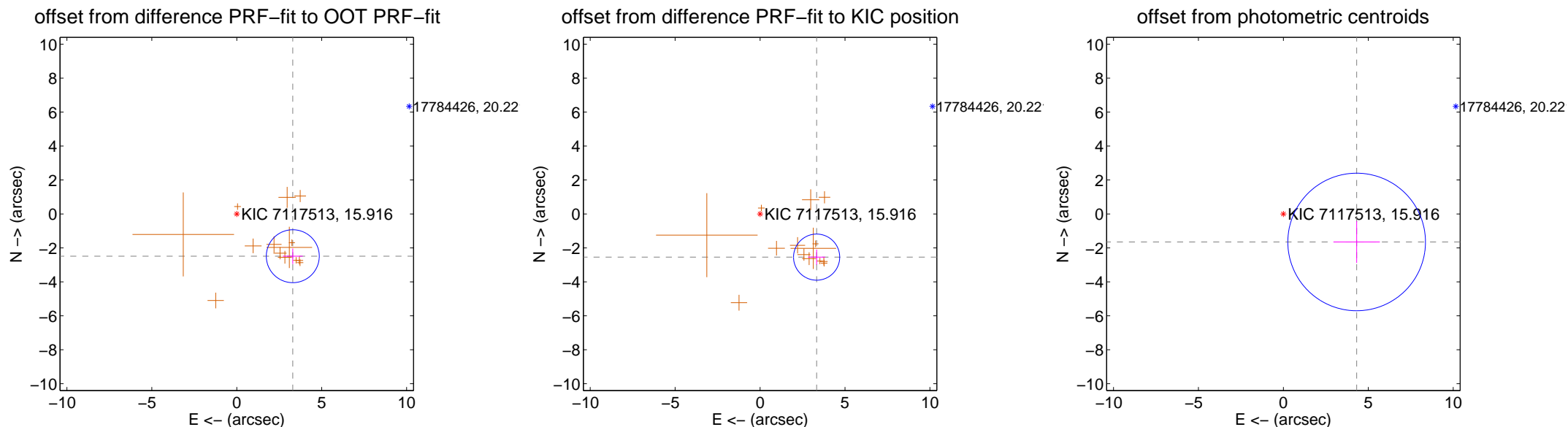
## DV Centroid Data

Supplemental centroid analysis for 007117513-01. Kepler magnitude: 15.92. Transit SNR 10.87

There are 0 quarters with good PRF difference image offsets

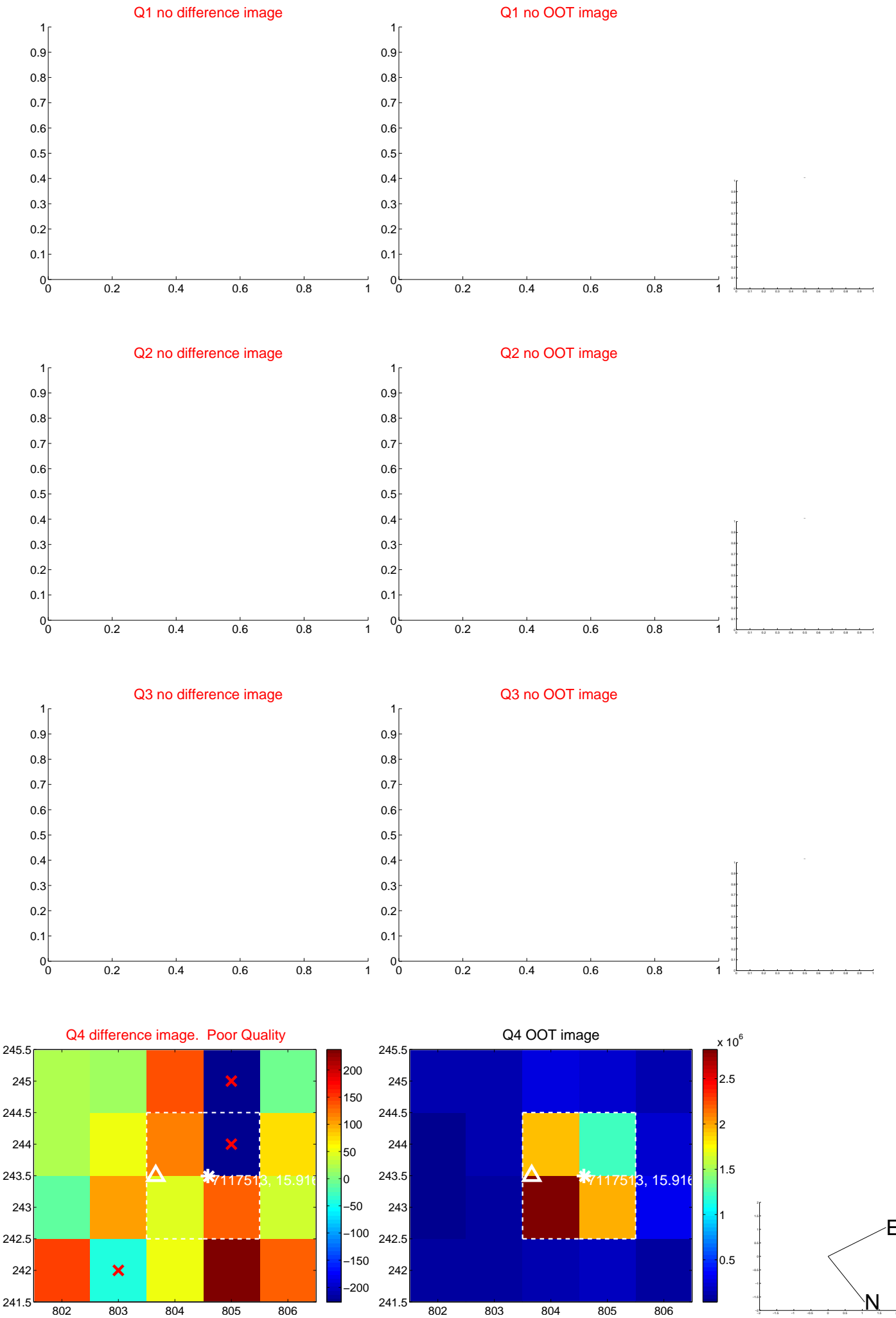
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.133 \pm 0.520$	7.95	$-3.299 \pm 0.586$	$-2.490 \pm 0.455$
PRF-fit source offset from KIC position	$4.191 \pm 0.453$	9.25	$-3.330 \pm 0.504$	$-2.545 \pm 0.444$
photometric centroid source offset	$4.62 \pm 1.35$	3.42	$-4.31 \pm 1.37$	$-1.65 \pm 1.24$

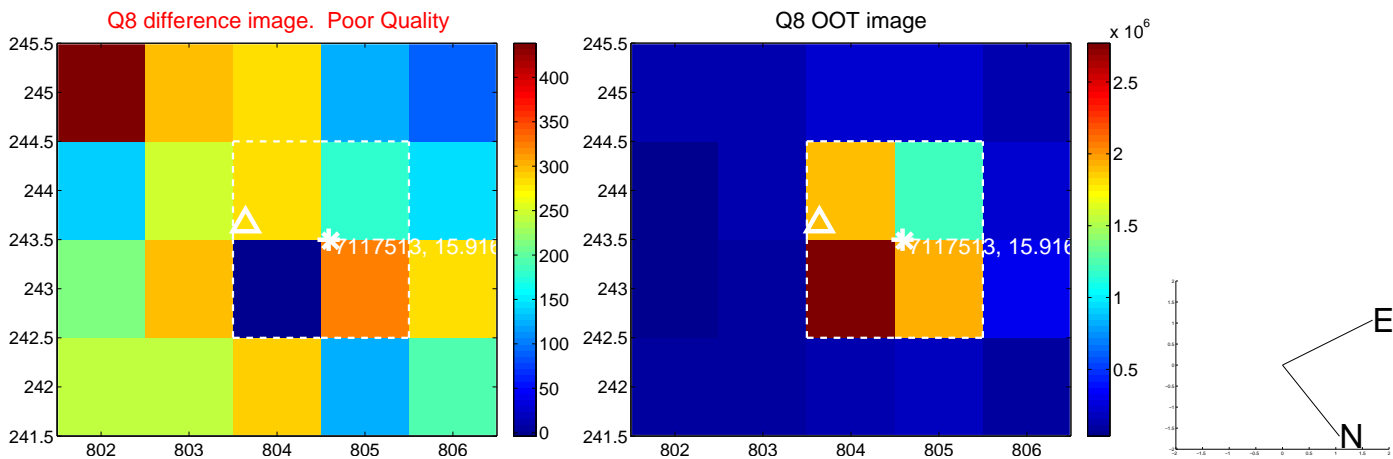
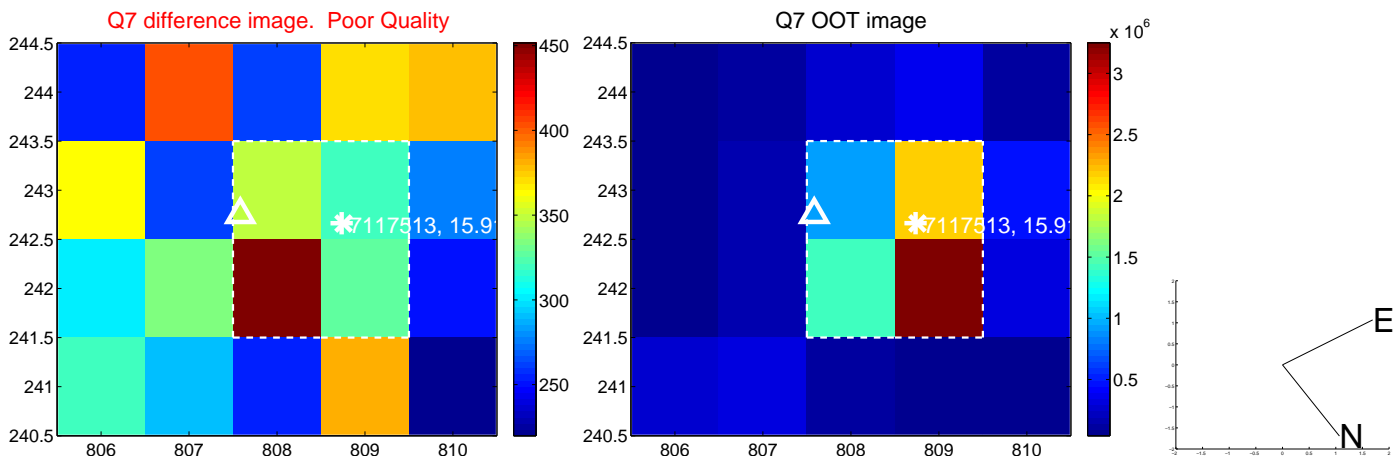
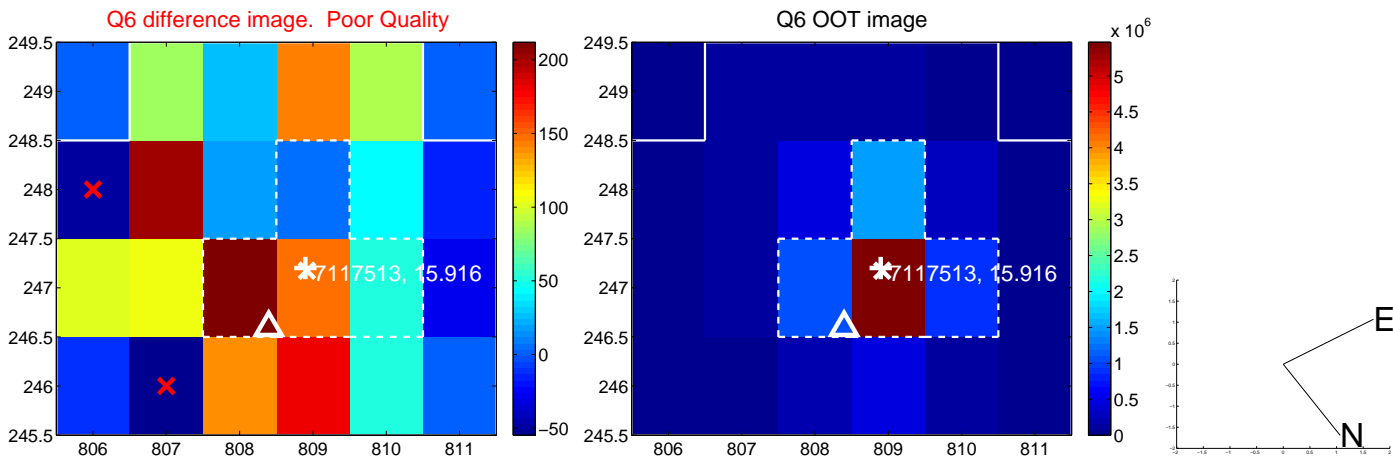
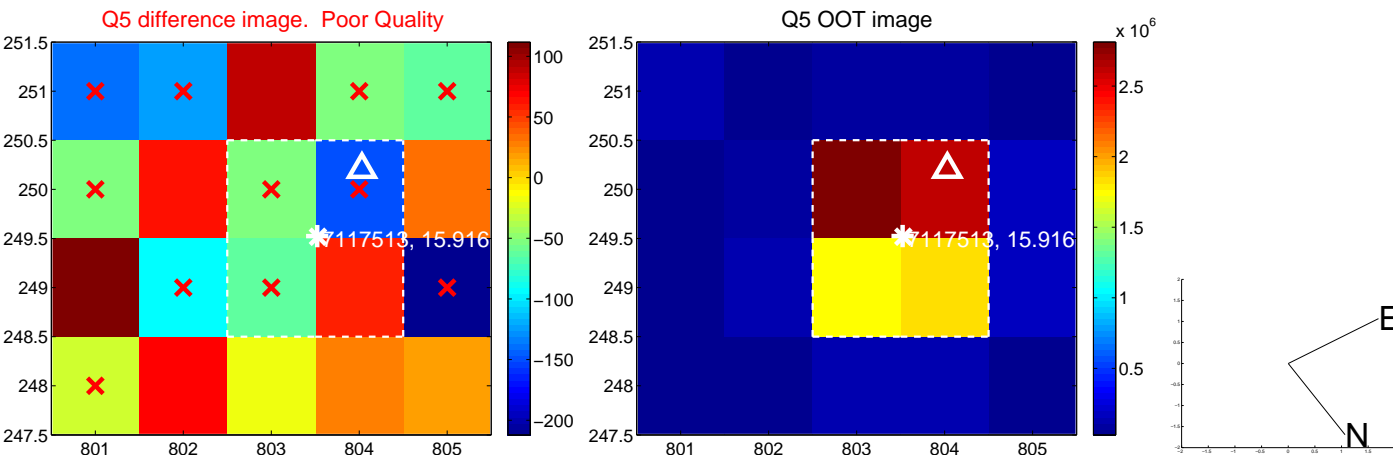


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

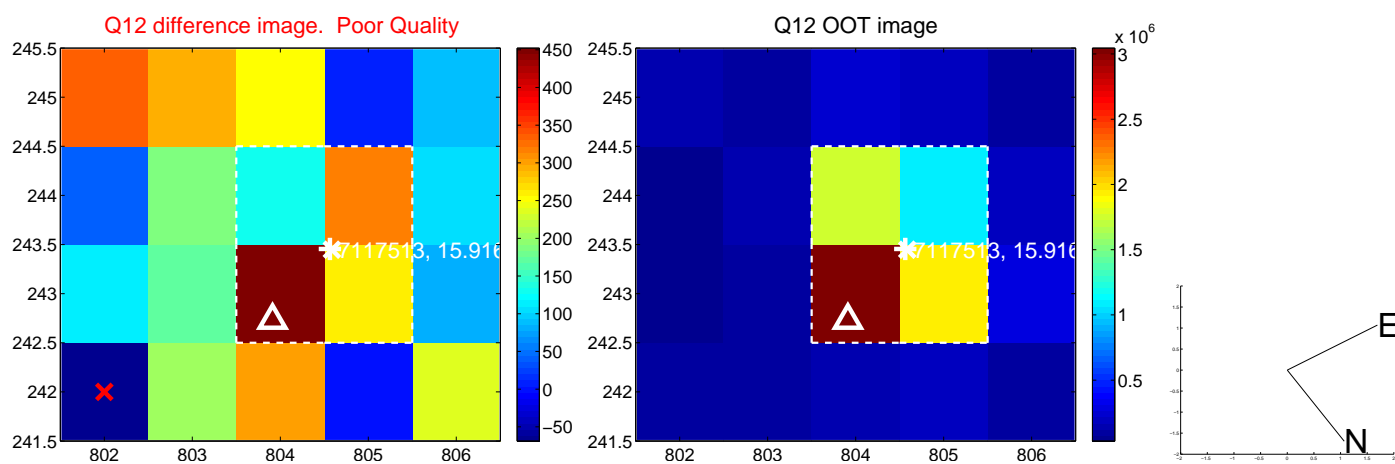
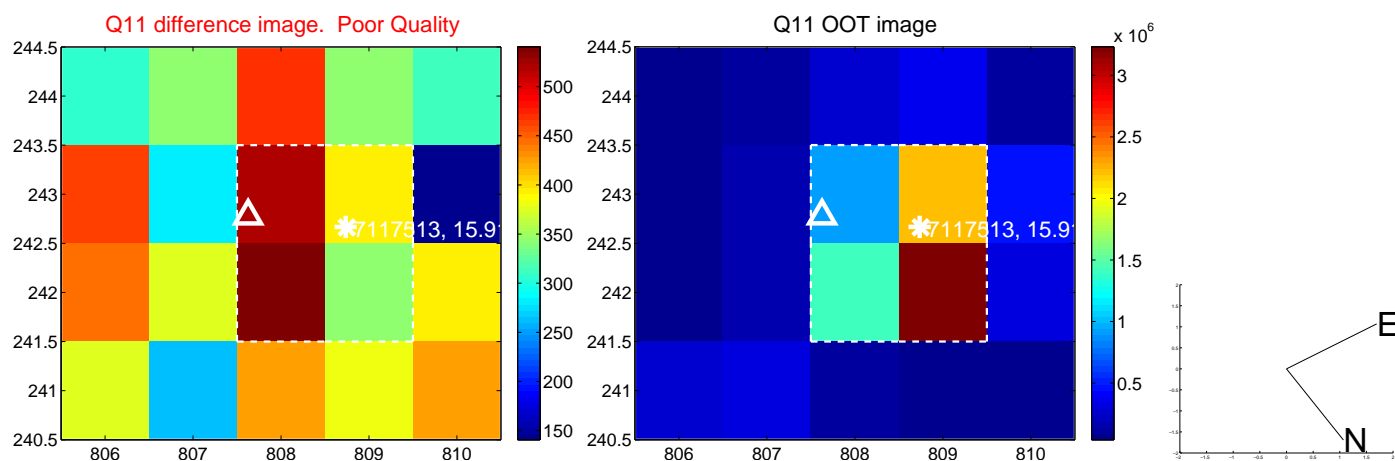
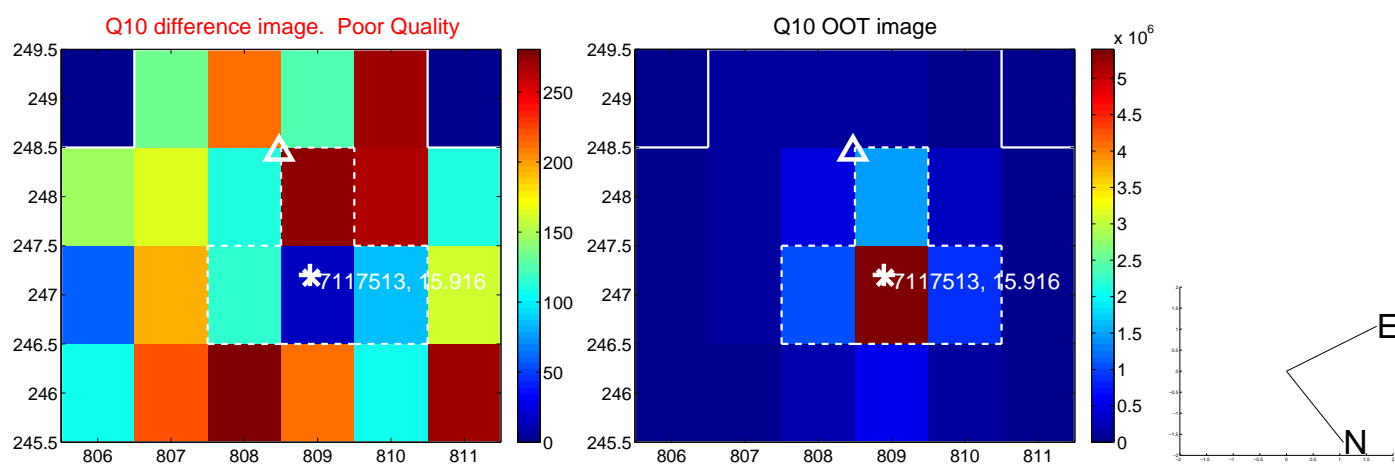
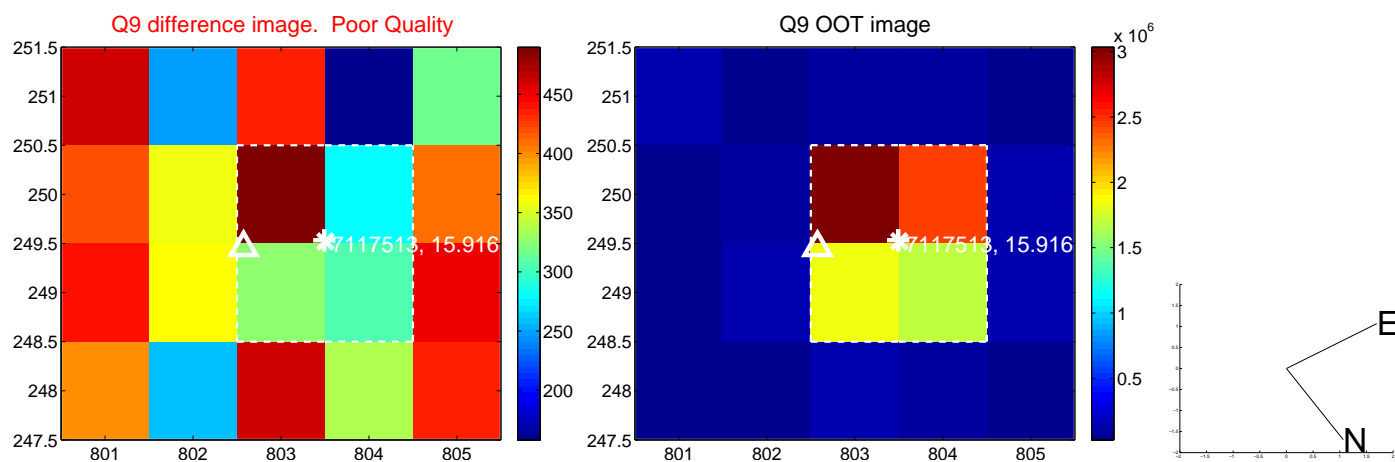


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

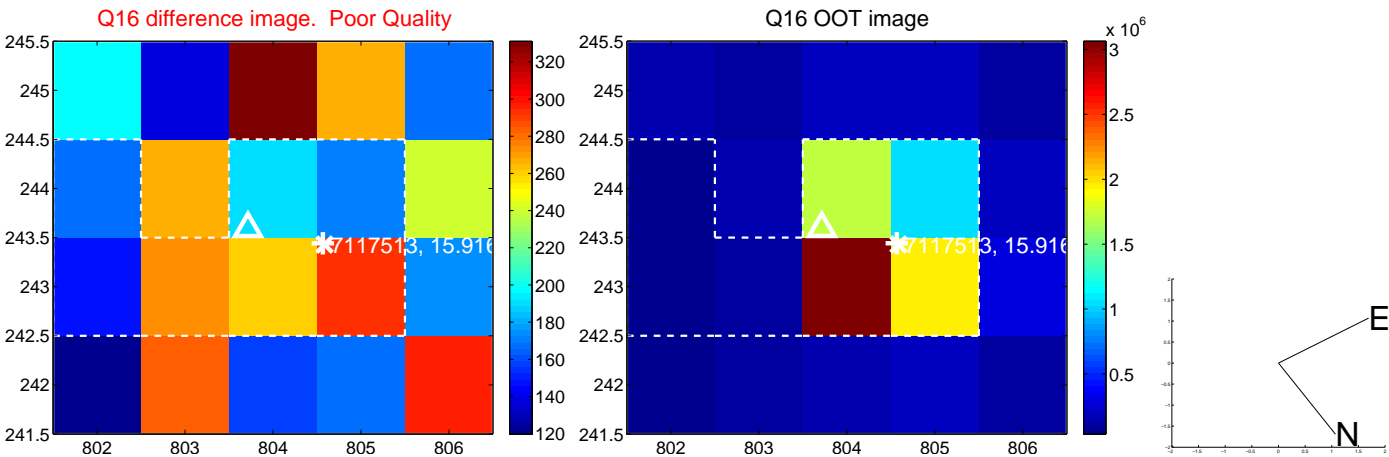
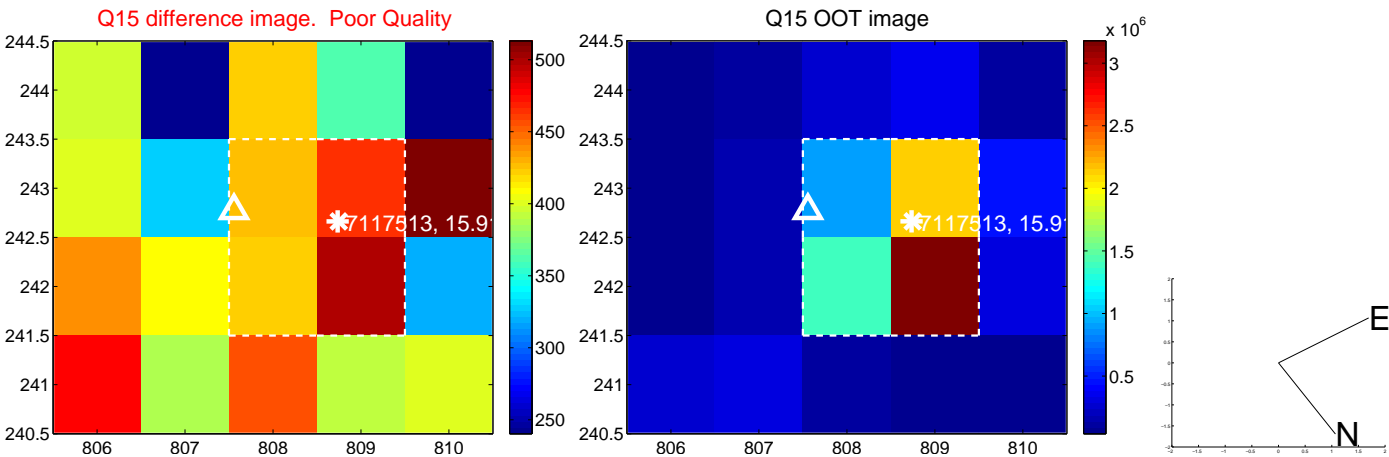
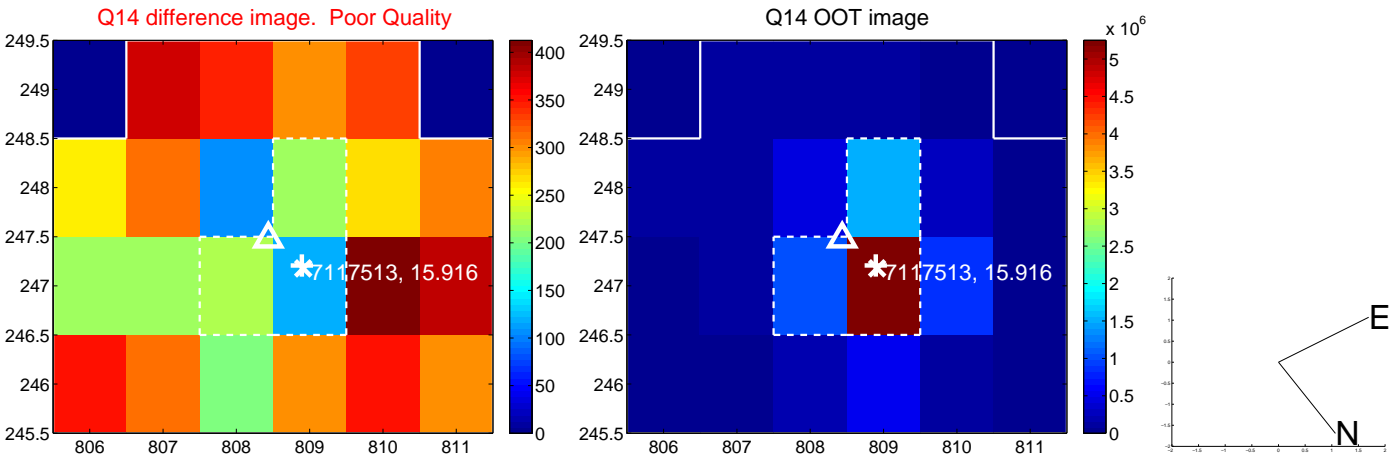
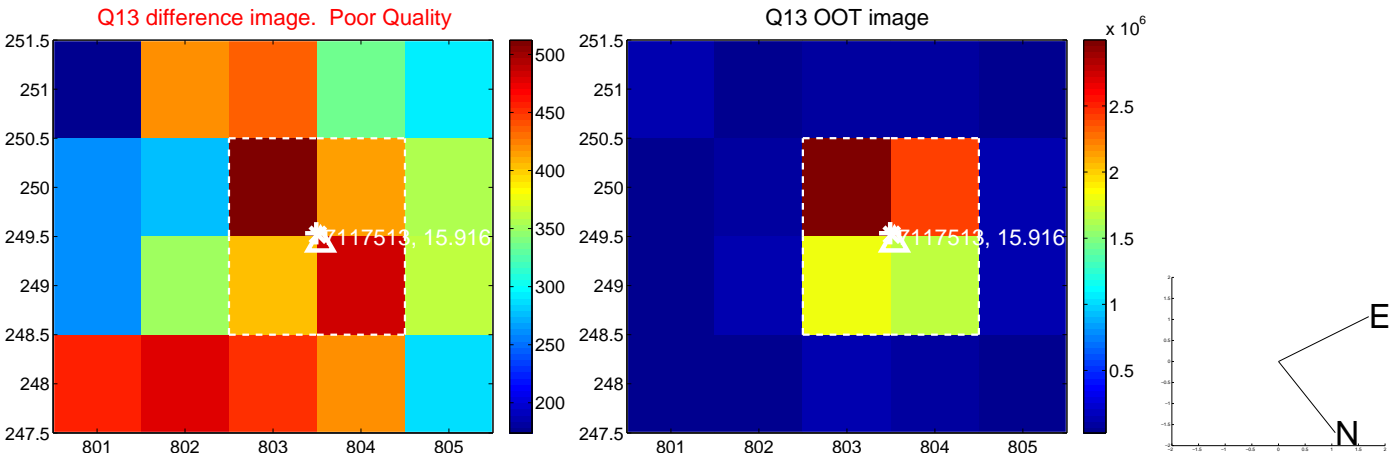




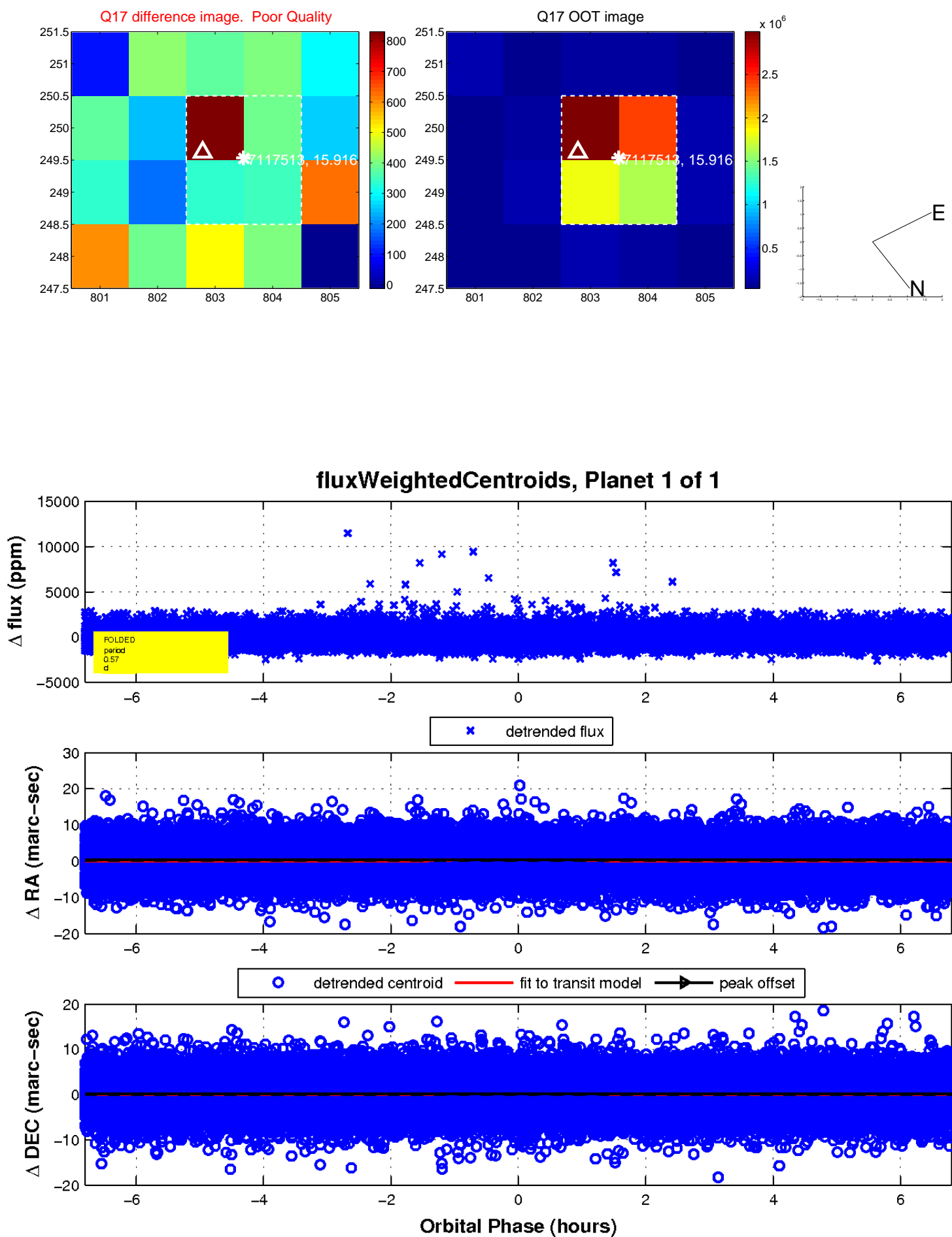
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

