

# KIC 007115332

## 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> )
007115332-01	OBS	6822.01	0.566889	132.189980	0.0	3.082	7.8	0.0	1.05	6395	0.01	8631.96

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007115332-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_FEW_DIFFS—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 007115332-01

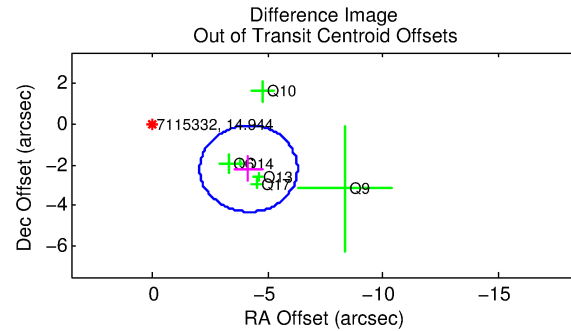
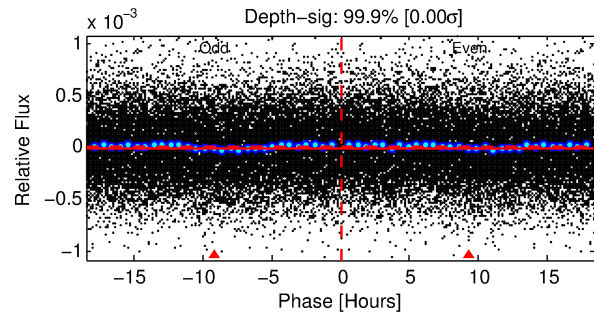
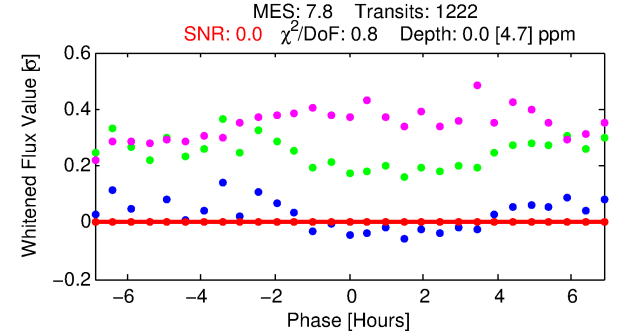
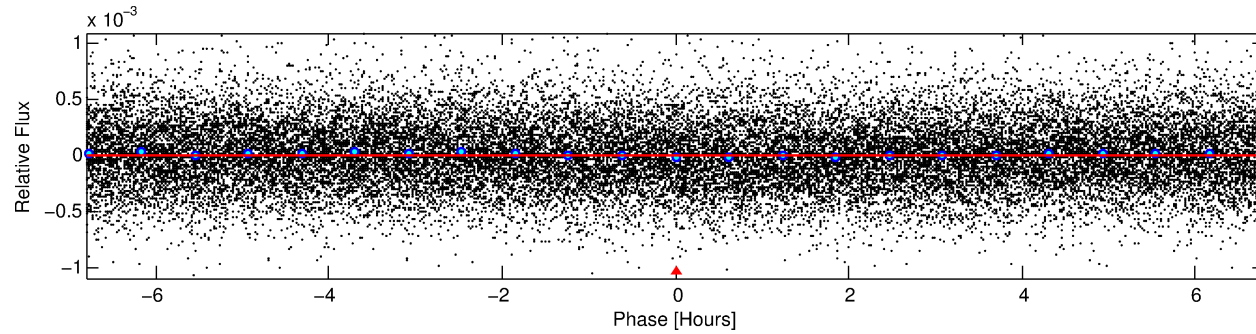
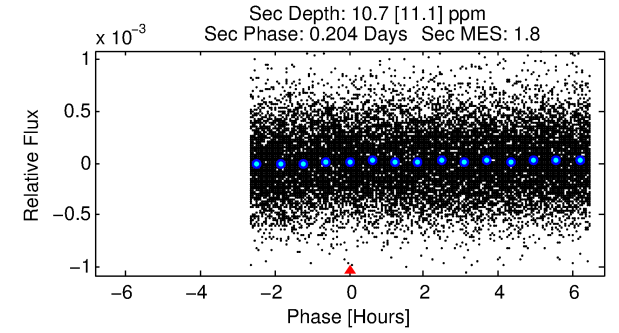
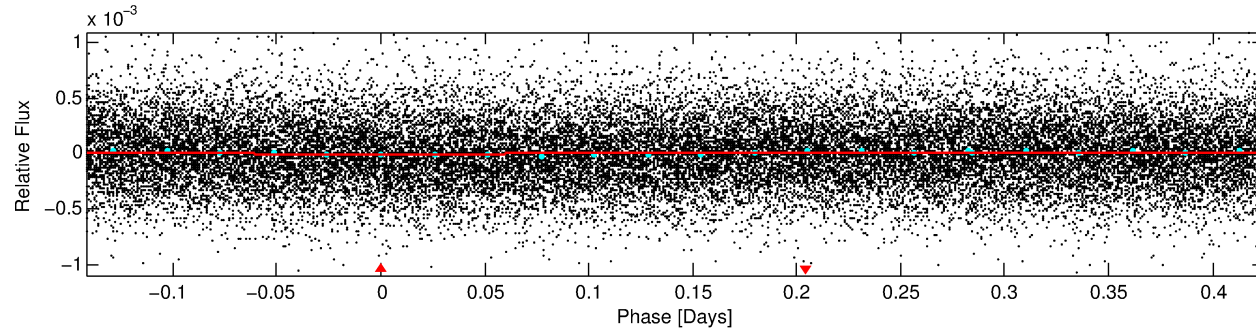
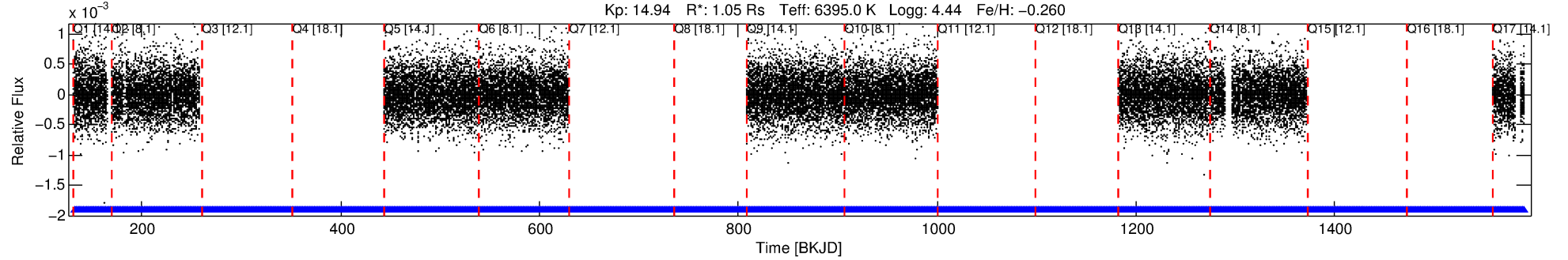
TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist (″)	ΔRow	ΔCol	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	σ <sub>P</sub>	σ <sub>T</sub>
007115332-01	7115332	RR-Lyr-pri	7198959	1:1	1042.7	-26	-261	7.86	14.94	623300.00	Direct-PRF	0	3.81	7.54

**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: 7115332 Candidate: 1 of 1 Period: 0.567 d  
KOI: K06822 Corr: No Ephemeris Match

Kp: 14.94 R\*: 1.05 Rs Teff: 6395.0 K Logg: 4.44 Fe/H: -0.260



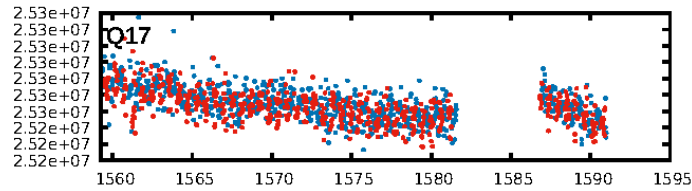
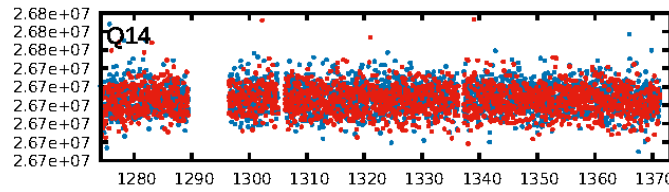
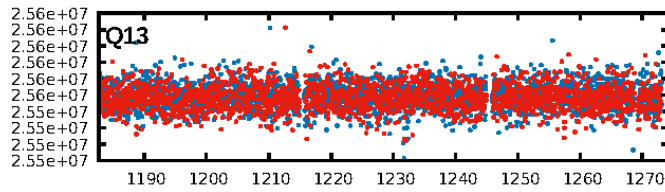
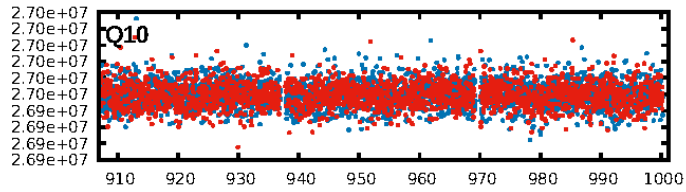
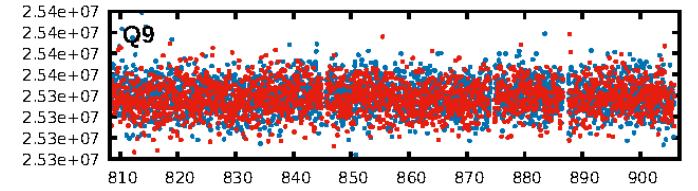
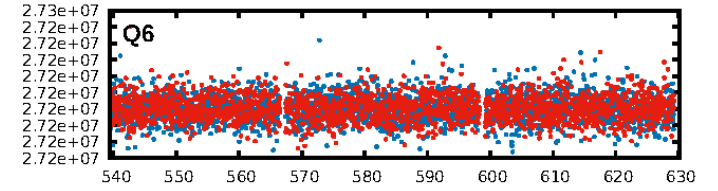
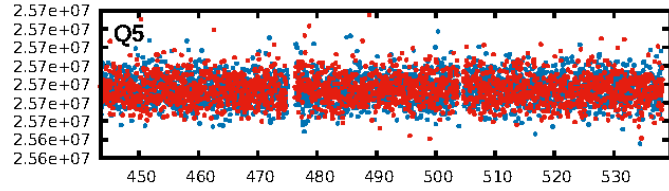
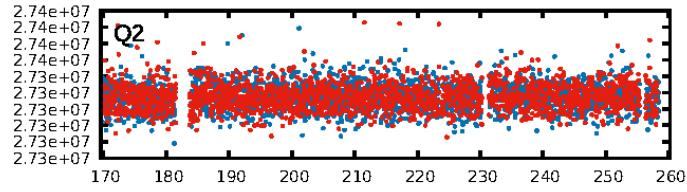
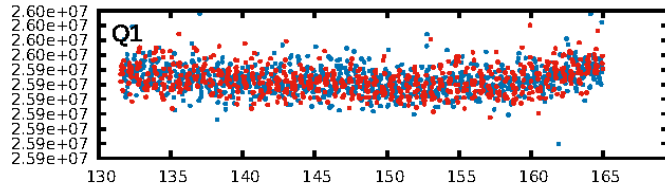
## DV Fit Results:

Period = 0.56689 [0.17738] d  
Epoch = 132.1900 [66.9884] BKJD  
Rp/R\* = 0.0000 [0.0490]  
a/R\* = 1.30 [138.08]  
b = 0.70 [310.33]  
Seff = 8631.96 [5044.98]  
Teff = 2458 [359] K  
Rp = 0.01 [5.61] Re  
a = 0.0138 [0.0046] AU  
Ag = 39880.99 [84456971.41] [0.00σ]  
Teffp = 53701 [28434530] K [0.00σ]

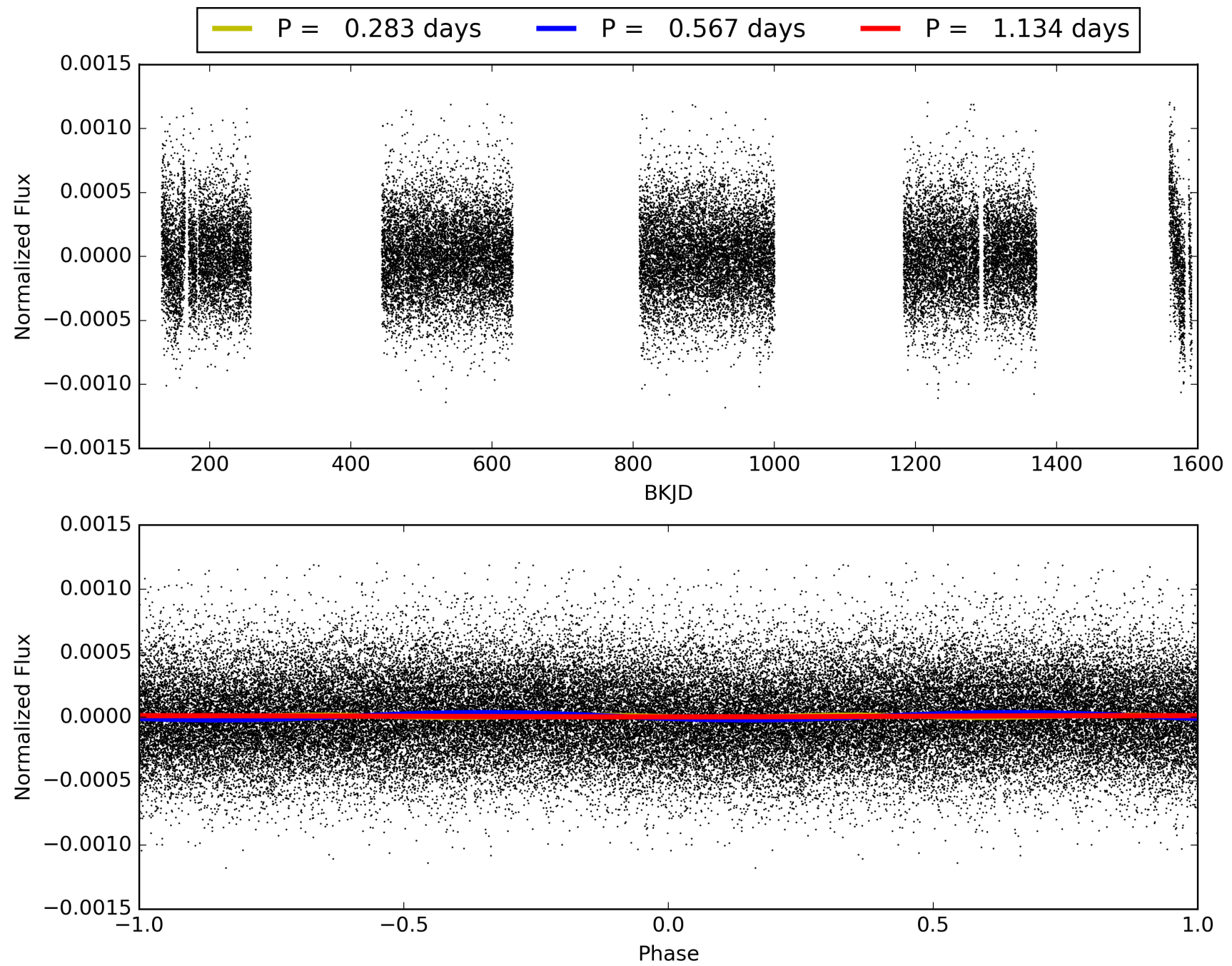
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.99e-16  
RollingBand-fgt: 1.00 [1116/1116]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 4.722 arcsec [6.70σ]  
KicOffset-rm: 4.789 arcsec [7.05σ]  
OotOffset-st: 3/0/0/3 [6]  
KicOffset-st: 3/0/0/3 [6]  
DiffImageQuality-fgm: 0.00 [0/6]  
DiffImageOverlap-fno: 1.00 [9/9]

# TCE 007115332-01, PDC Light Curves

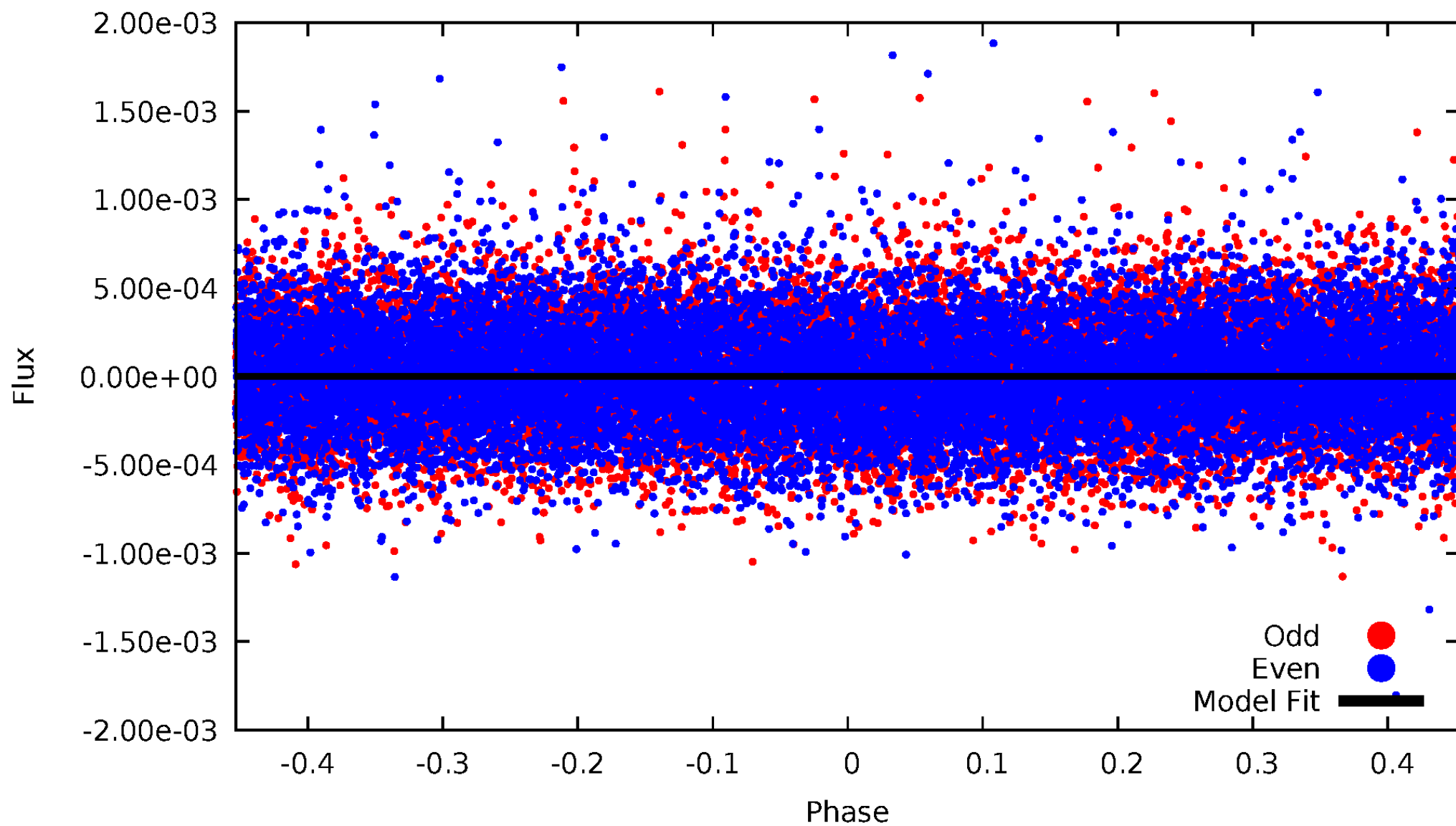


TCE 007115332-01



# DV Odd/Even

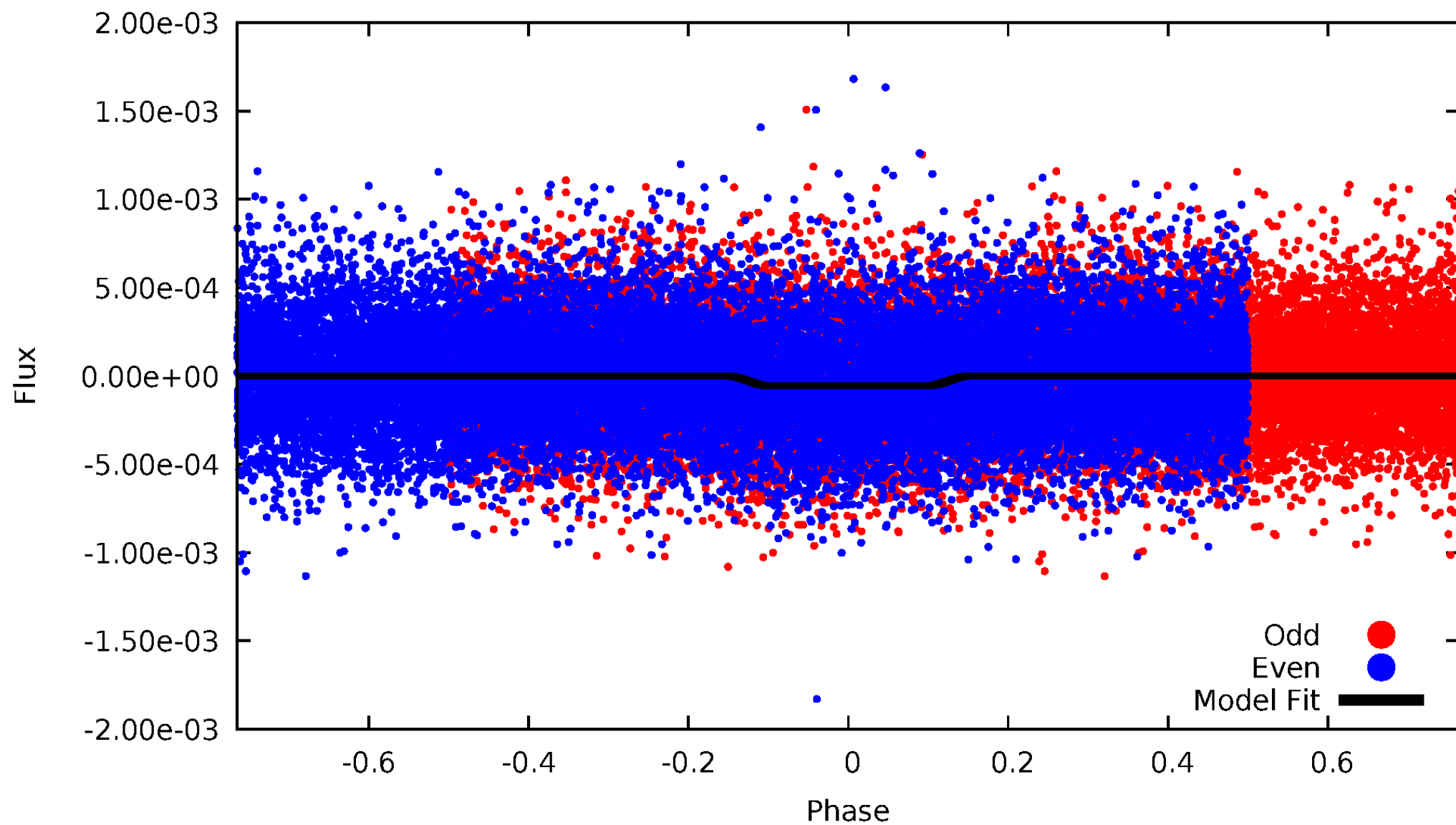
TCE 007115332-01



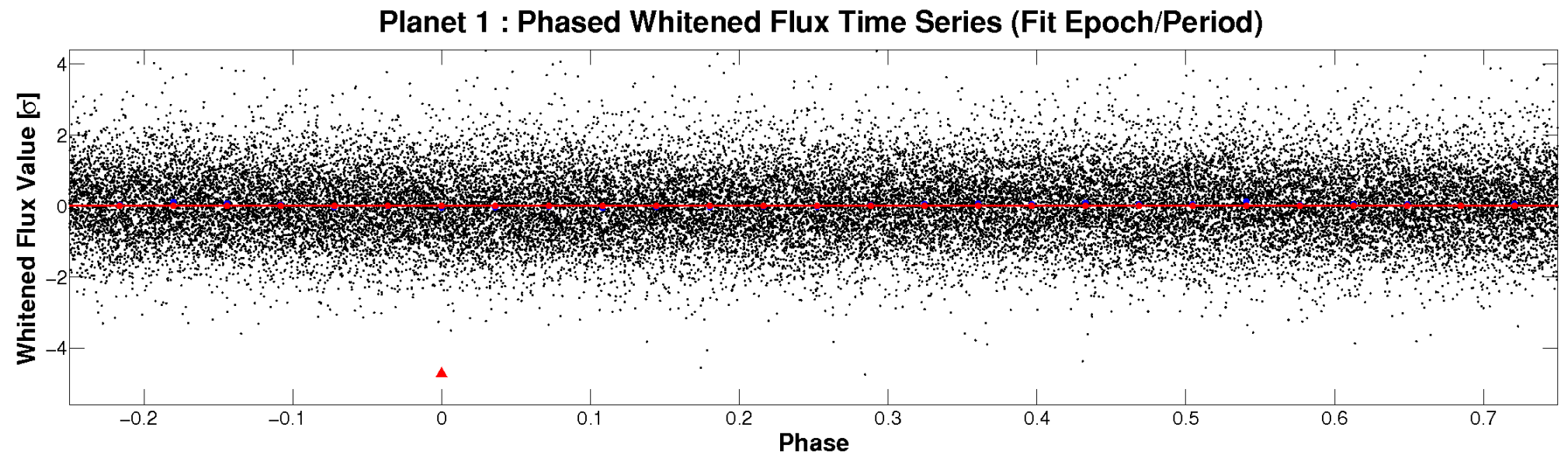
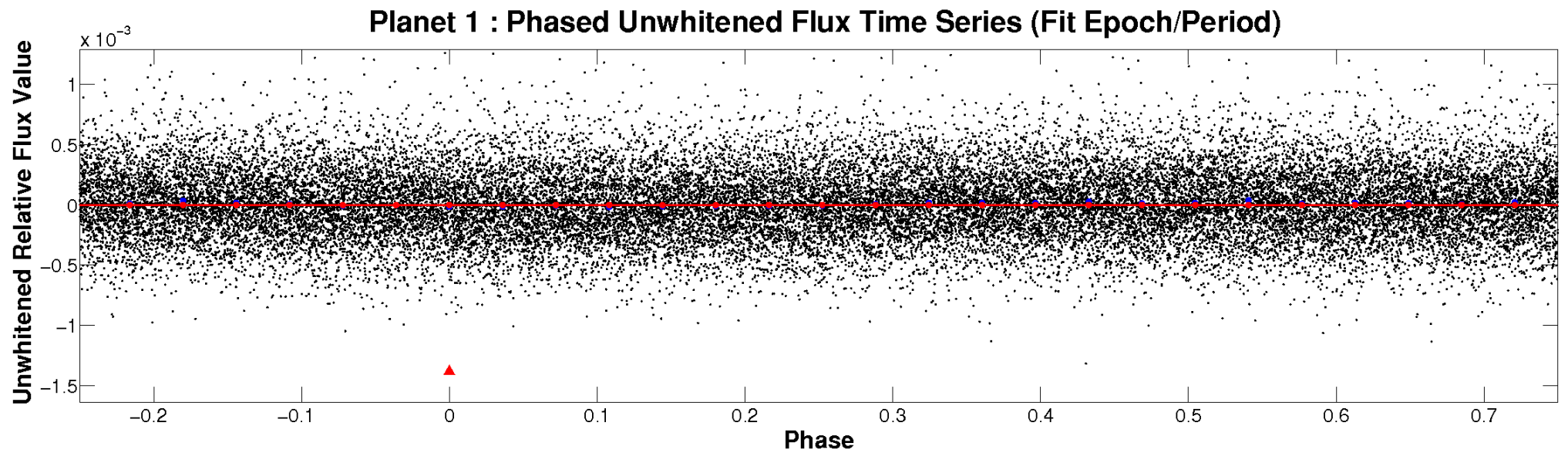


# ALT Odd/Even

TCE 007115332-01

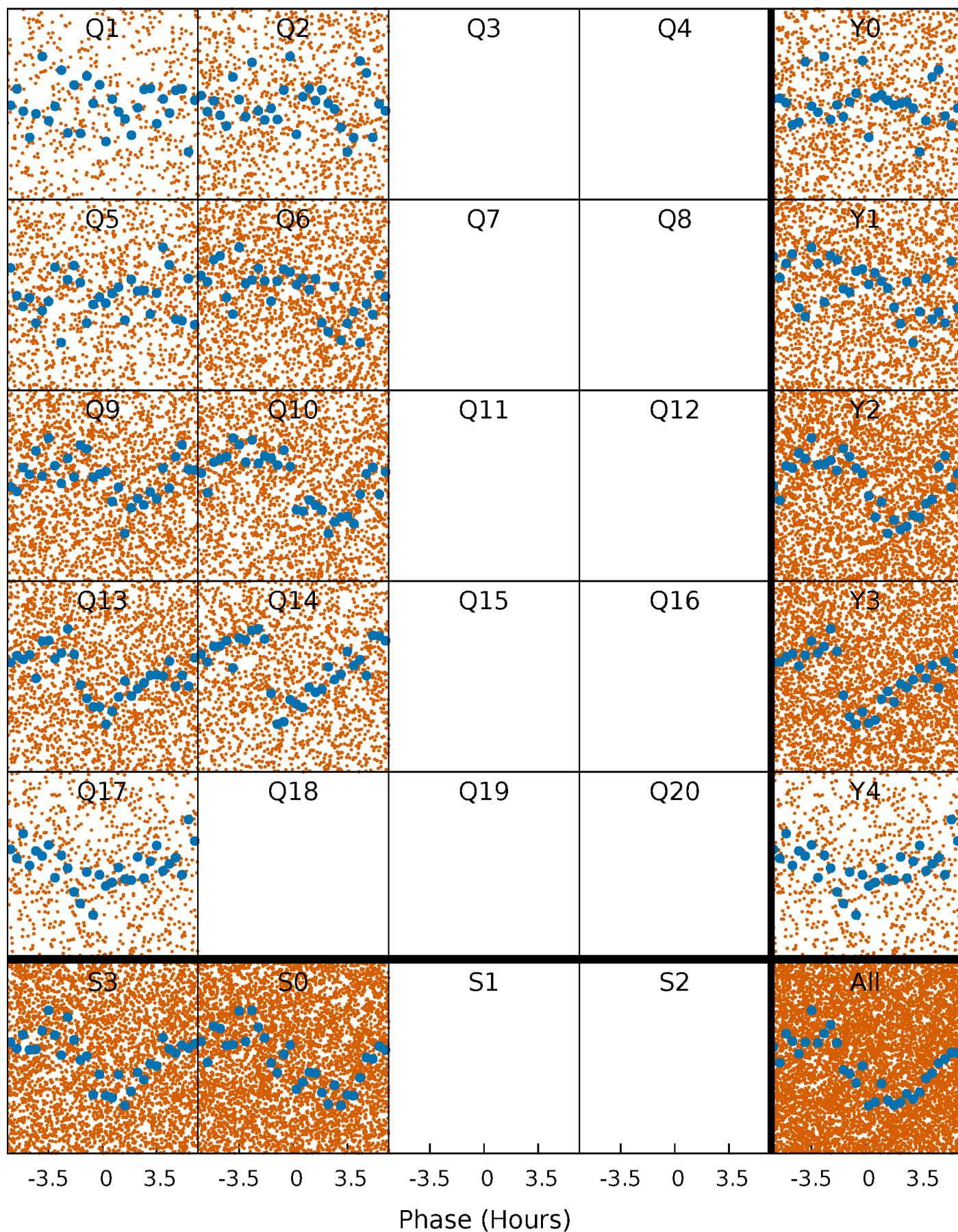


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

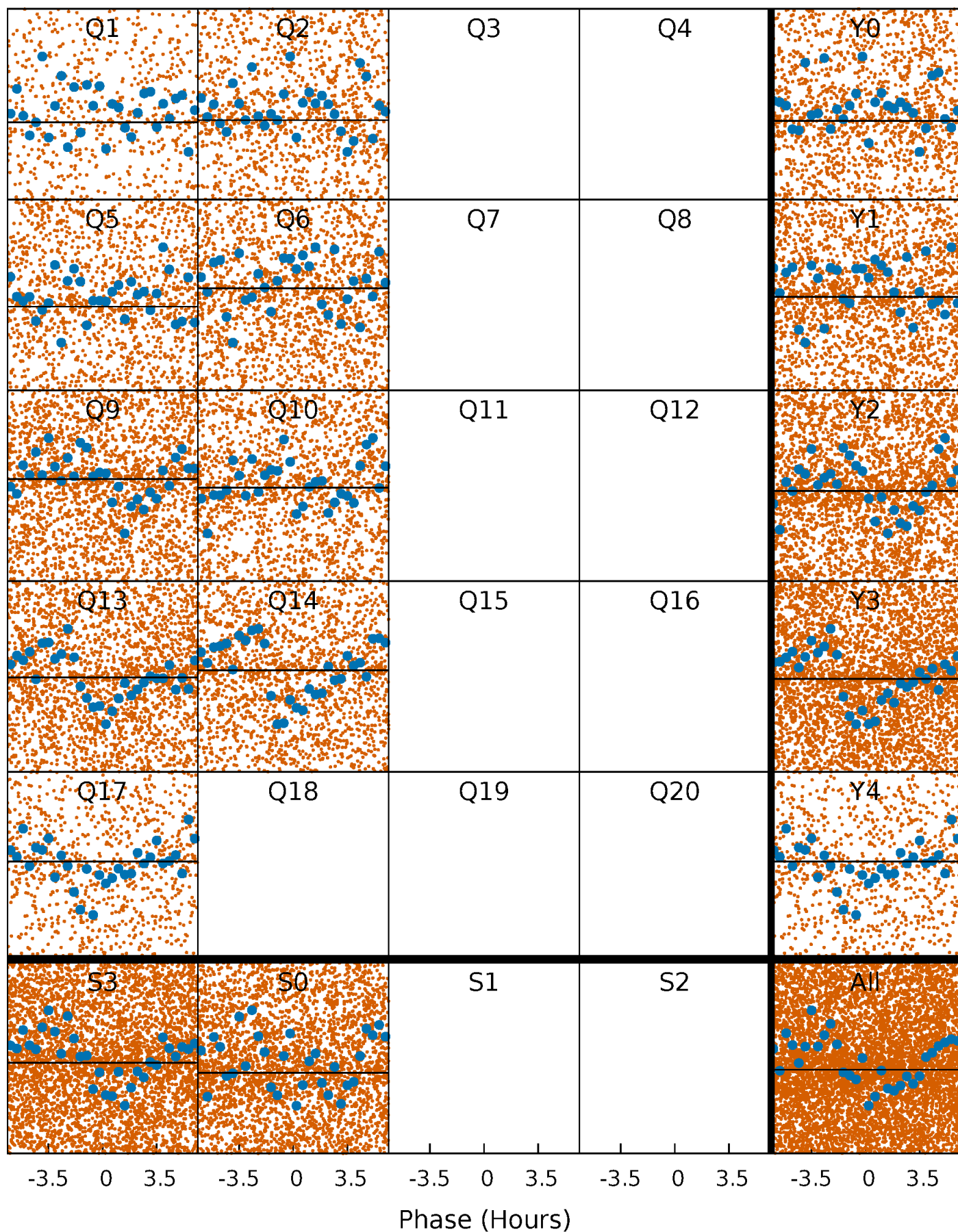
TCE 007115332-01 P= 0.566889 Days  $T_0=132.189980$  (BKJD)





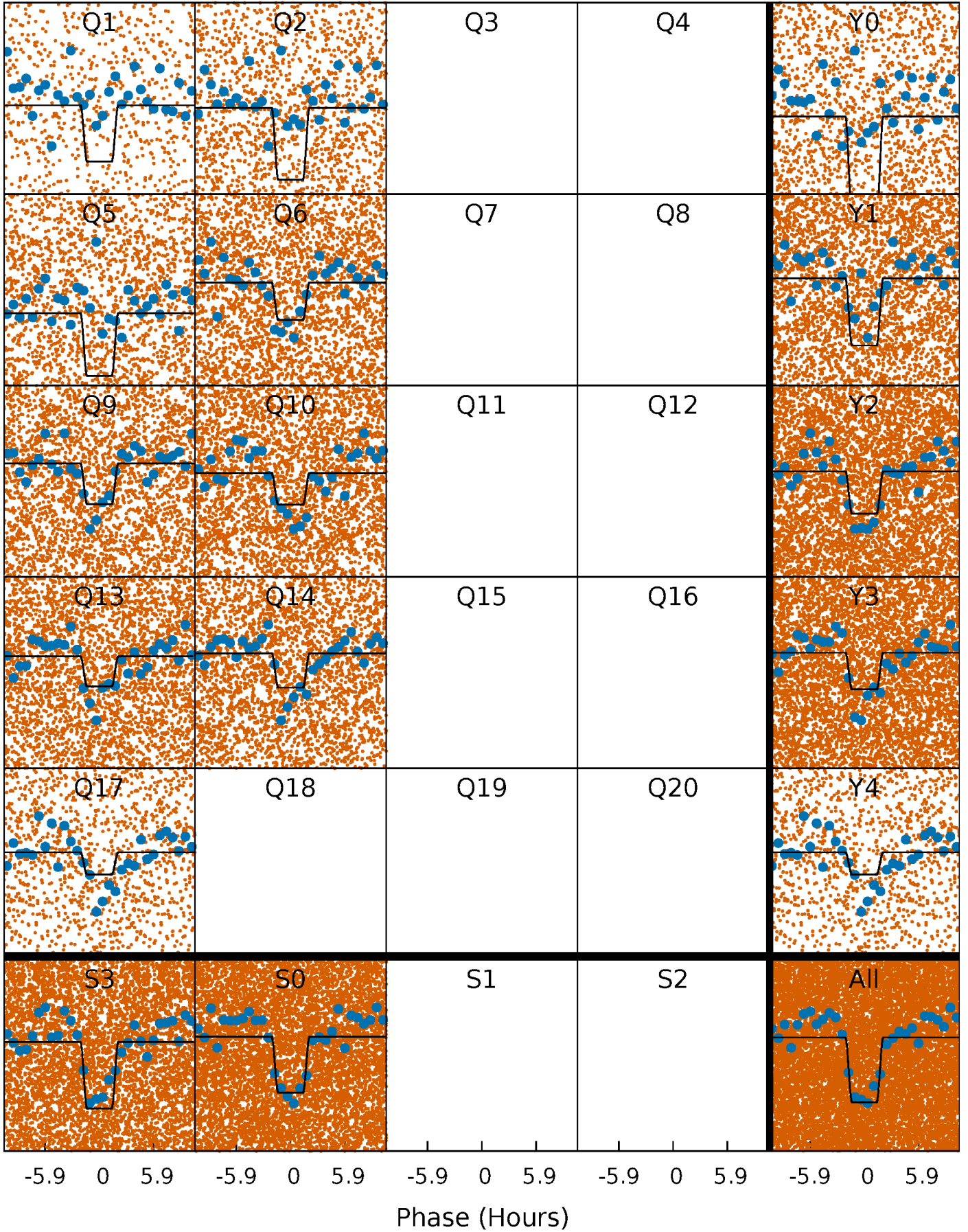
# DV Quarter-Phased Transit Curves

TCE 007115332-01 P= 0.566889 Days  $T_0=132.189980$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

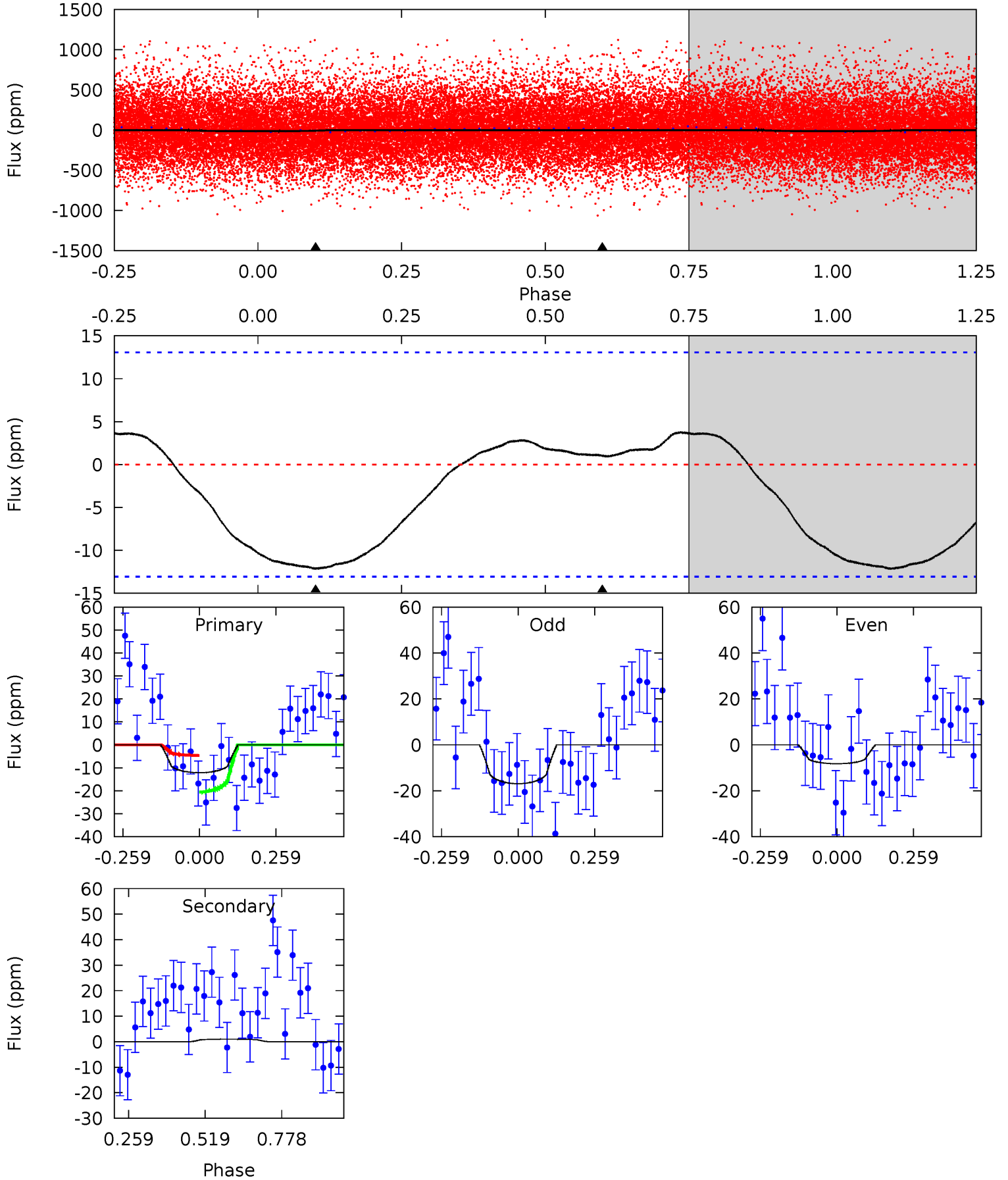
TCE 007115332-01   P= 0.566769 Days    $T_0=131.882024$  (BKJD)



# DV Model-Shift Uniqueness Test

007115332-01, P = 0.566889 Days, E = 131.056202 Days

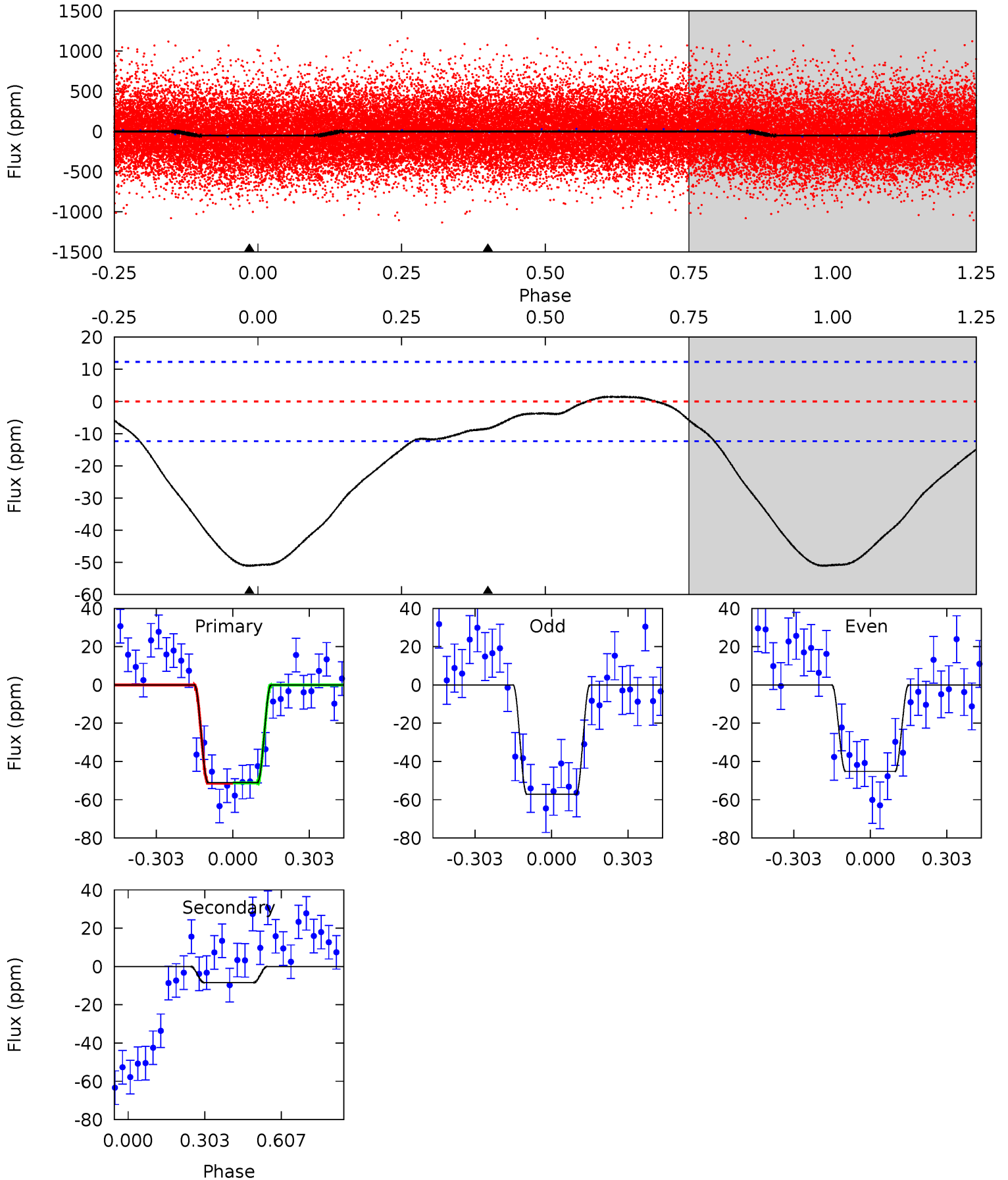
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.05	-0.34	0	0	4.36	1.13	0.34	4.05	4.05	-0.34	-0.34	1.43	0.96	0.24	2.56



# Alt Model-Shift Uniqueness Test

007115332-01, P = 0.566769 Days, E = 131.315255 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
17.9	2.95	0	0	4.33	1.03	0.62	17.9	17.9	2.95	2.95	2.09	0.95	0.03	0.04





### Stellar Parameters For KIC 007115332

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6395^{+176}_{-242}$	$4.436^{+0.065}_{-0.208}$	$-0.260^{+0.250}_{-0.300}$	$1.049^{+0.325}_{-0.139}$	$1.094^{+0.157}_{-0.157}$	$1.335^{+0.391}_{-0.722}$
	+3%/-4%	+1%/-5%	+96%/-115%	+31%/-13%	+14%/-14%	+29%/-54%
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 007115332-01 / KOI 6822.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$1 \pm 3$	$4.02^{+4.47}_{-3.03}$	$3494^{+563}_{-360}$	$-3435^{+270}_{-476}$	$-0.002^{+0.016}_{-0.089}$
Alt.	$-8 \pm 3$	$4.08^{+4.78}_{-2.89}$	$3533^{+518}_{-367}$	$-3224^{+6628}_{-356}$	$0.050^{+0.534}_{-0.041}$

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

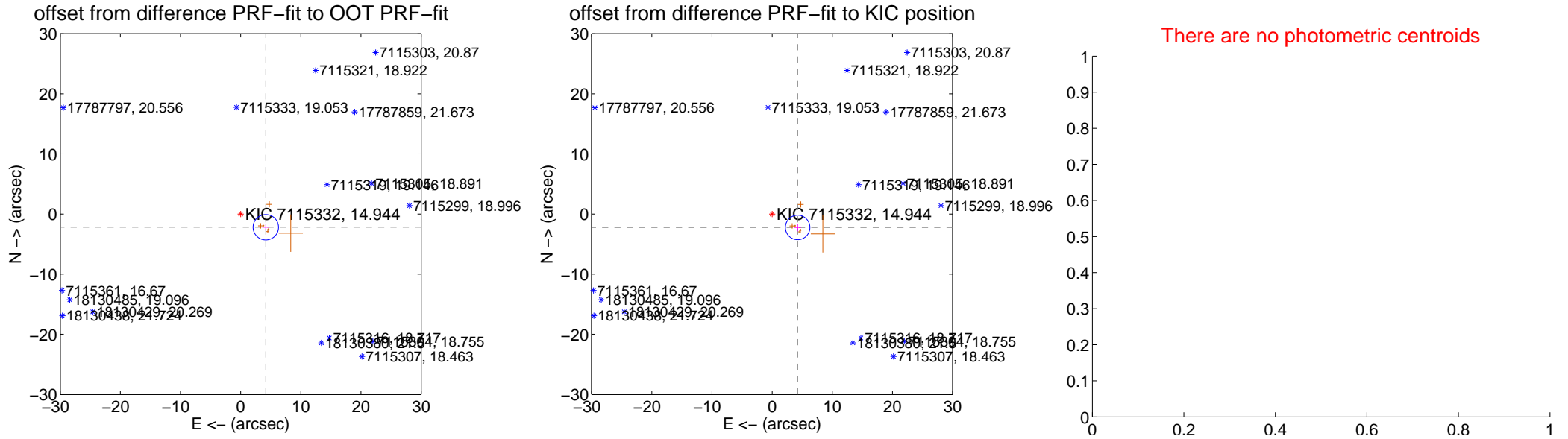
## DV Centroid Data

Supplemental centroid analysis for 007115332-01. Kepler magnitude: 14.94. Transit SNR 0.00

There are 0 quarters with good PRF difference image offsets

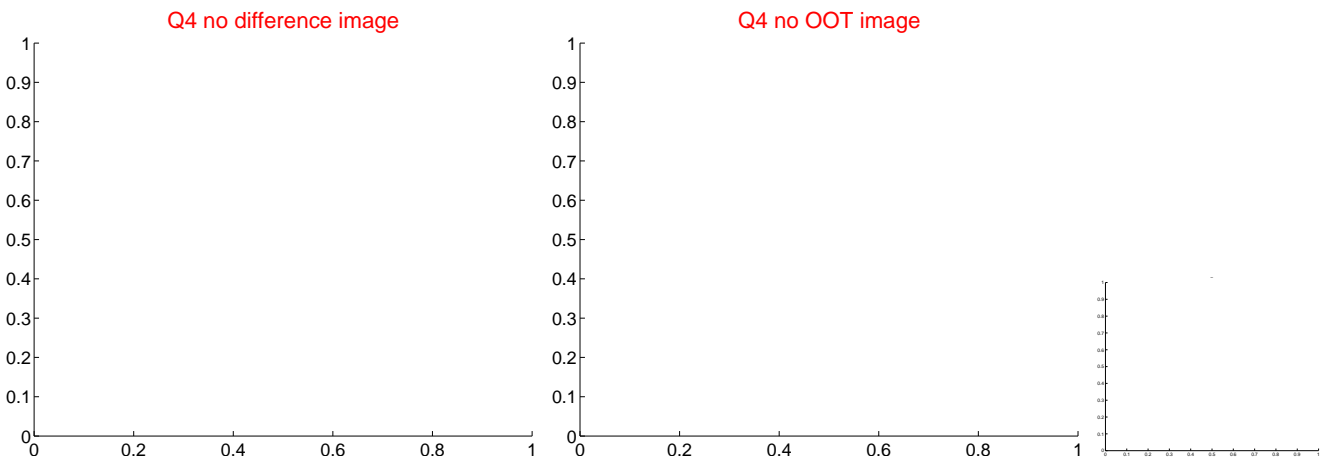
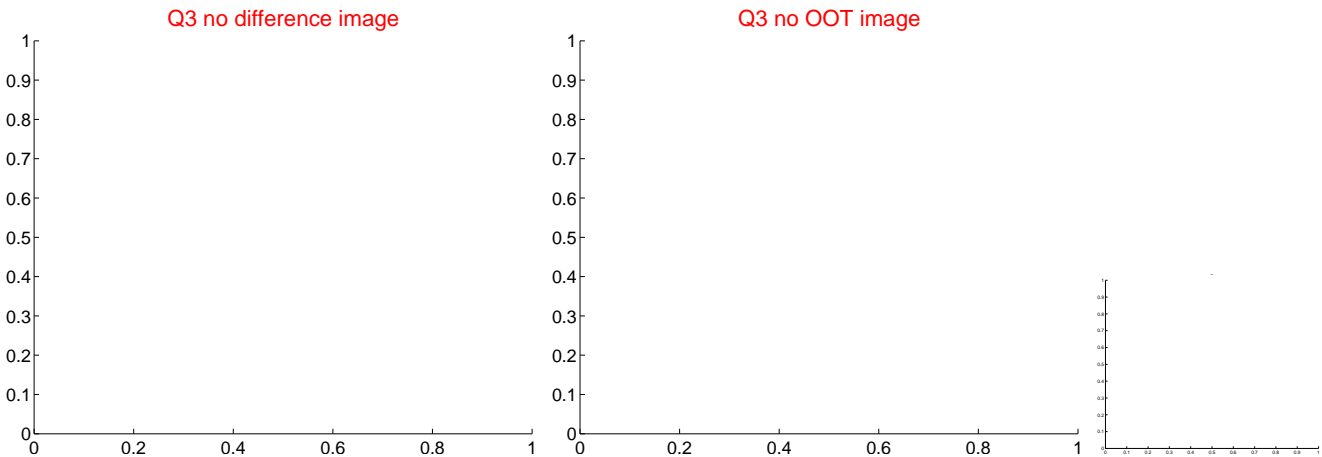
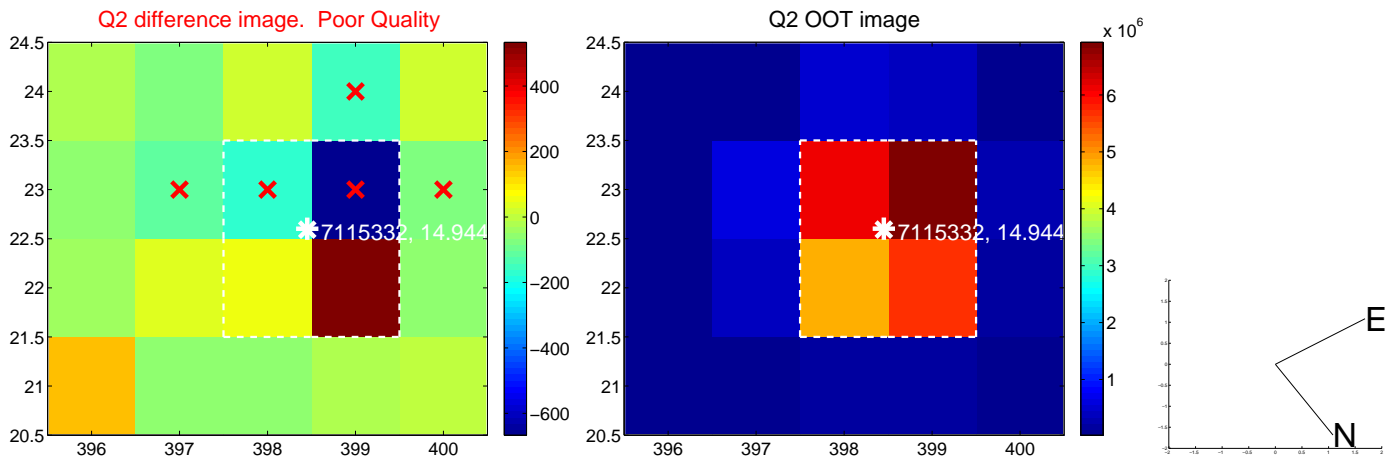
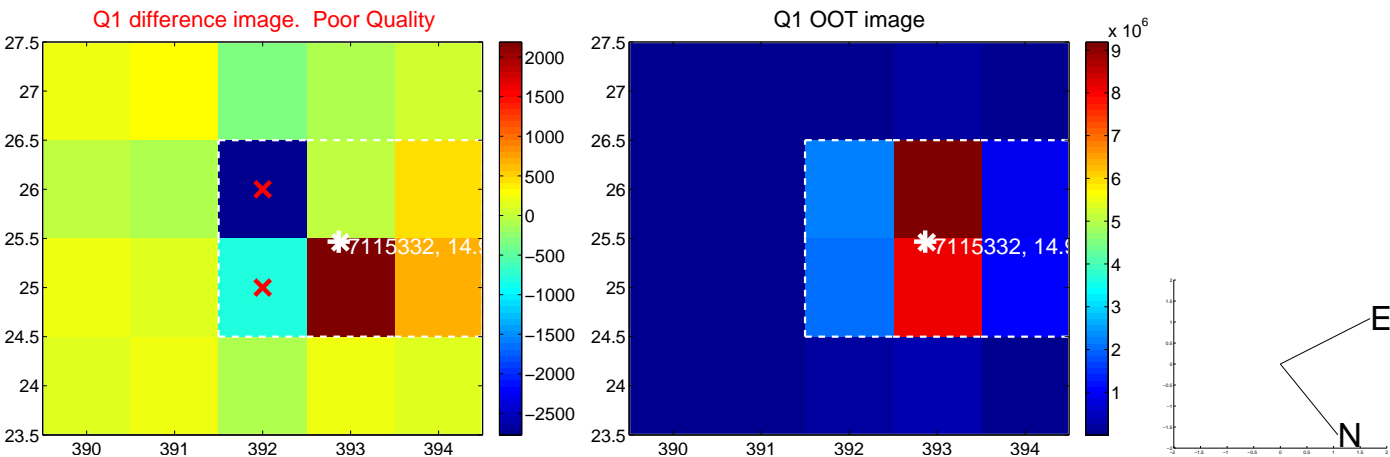
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.722 \pm 0.704$	6.70	$-4.180 \pm 0.596$	$-2.196 \pm 0.569$
PRF-fit source offset from KIC position	$4.789 \pm 0.679$	7.05	$-4.238 \pm 0.567$	$-2.231 \pm 0.623$
photometric centroid source offset	—	—	—	—

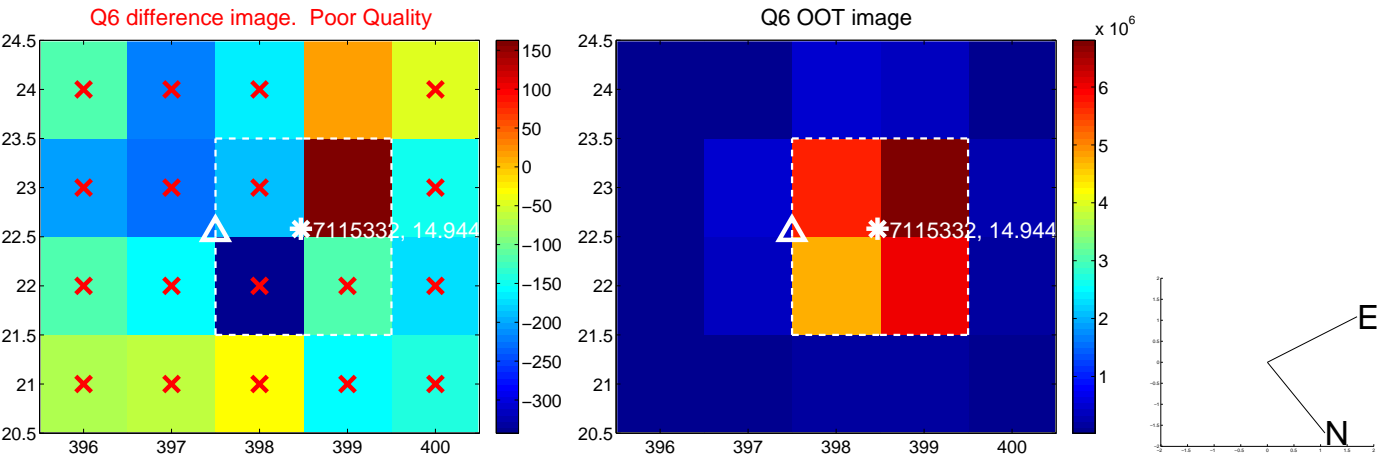
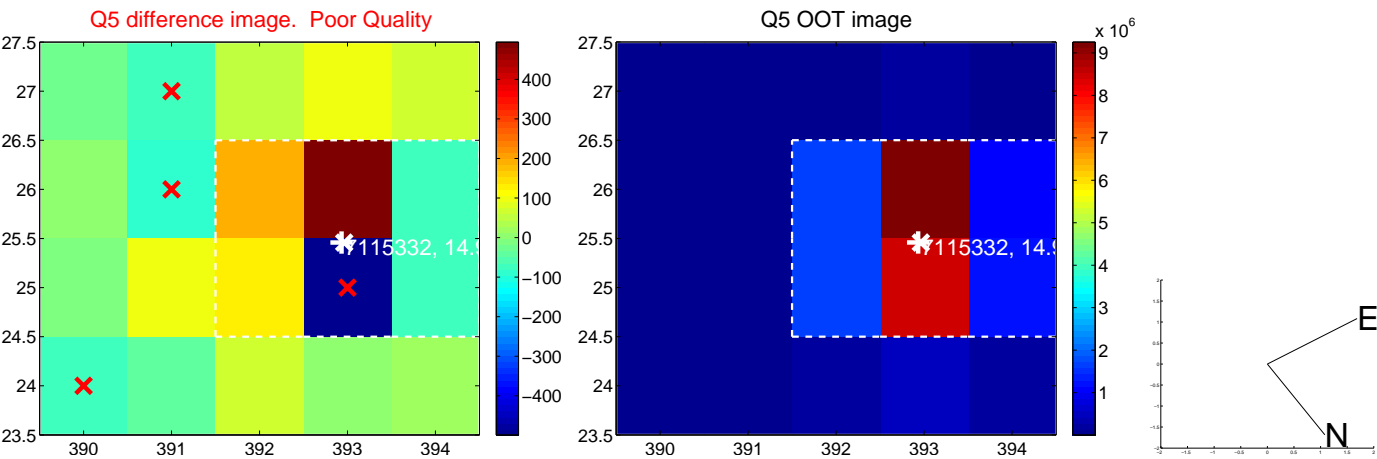


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

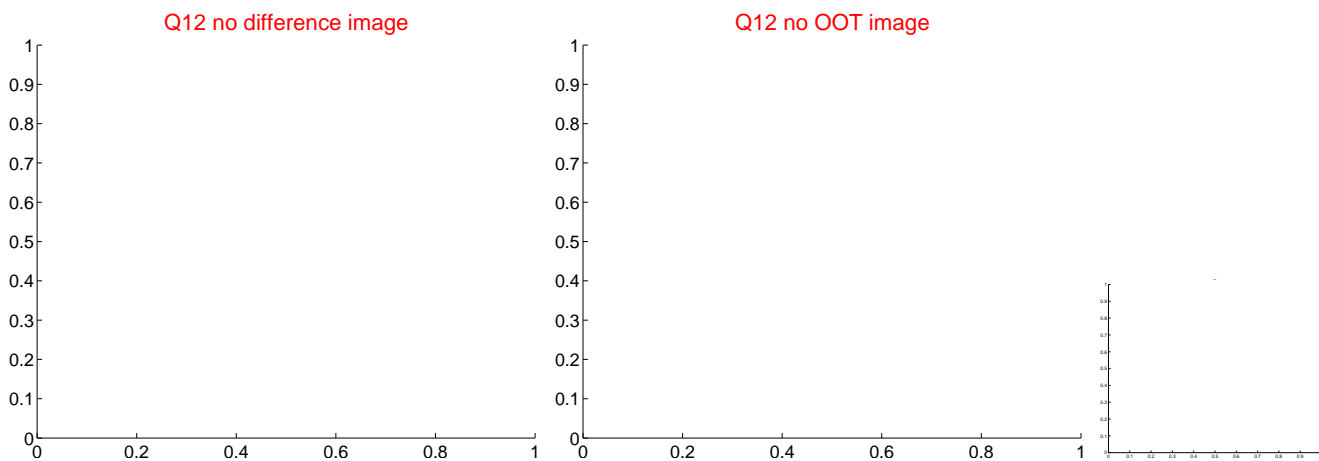
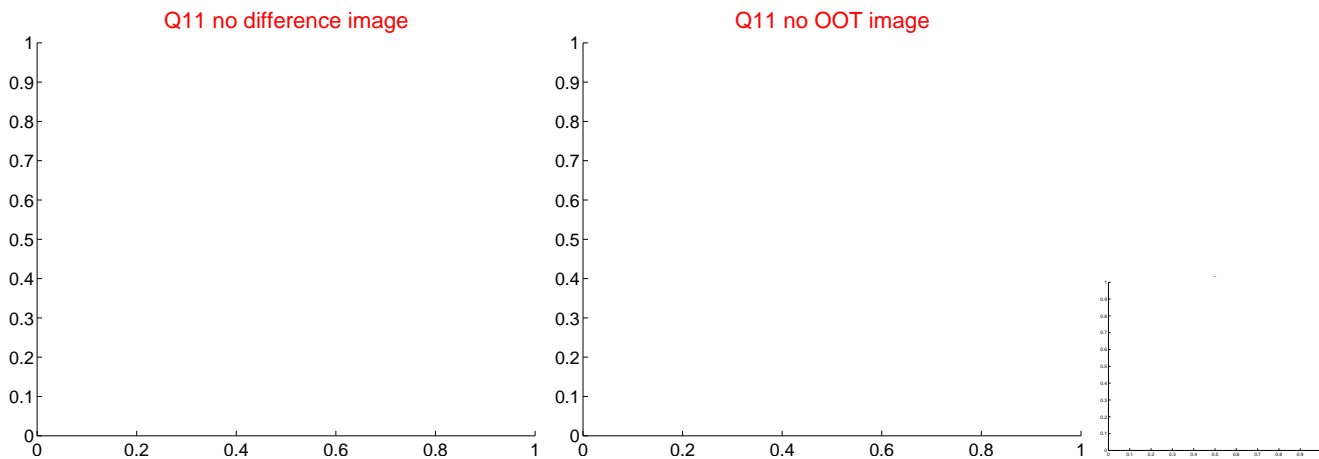
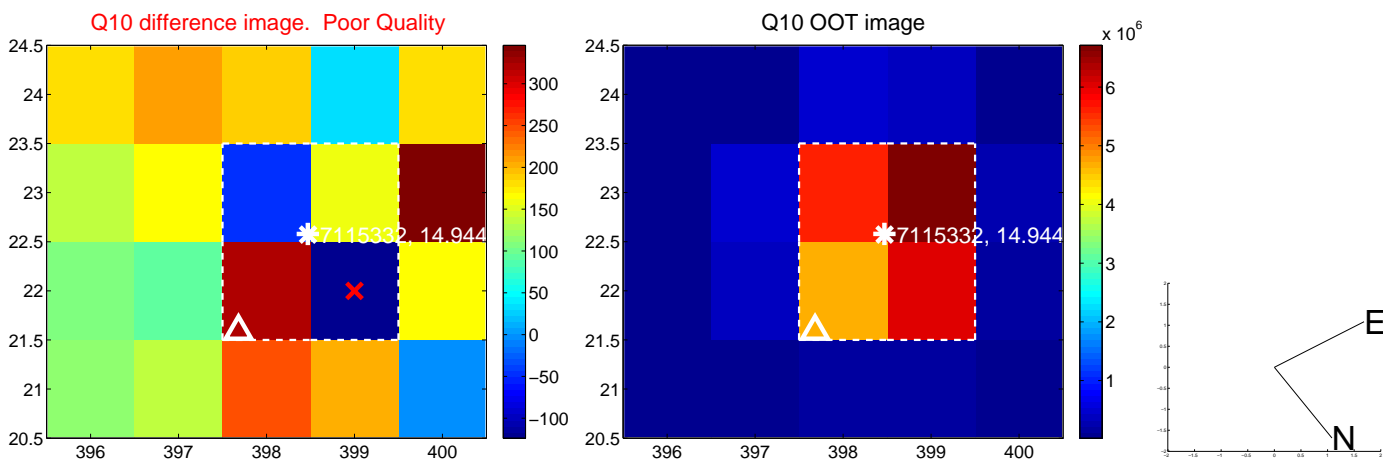
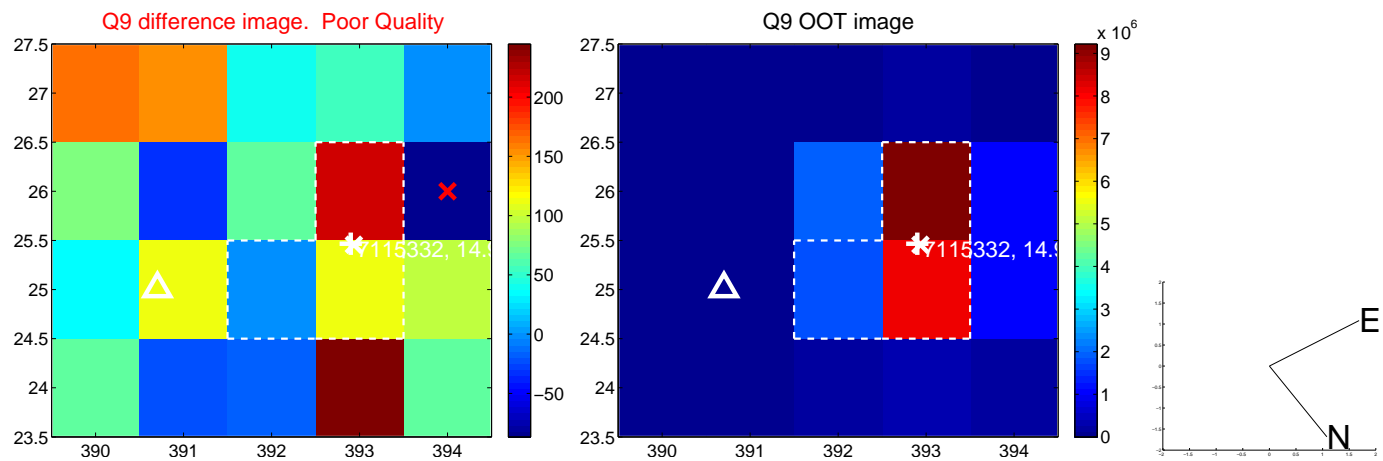


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

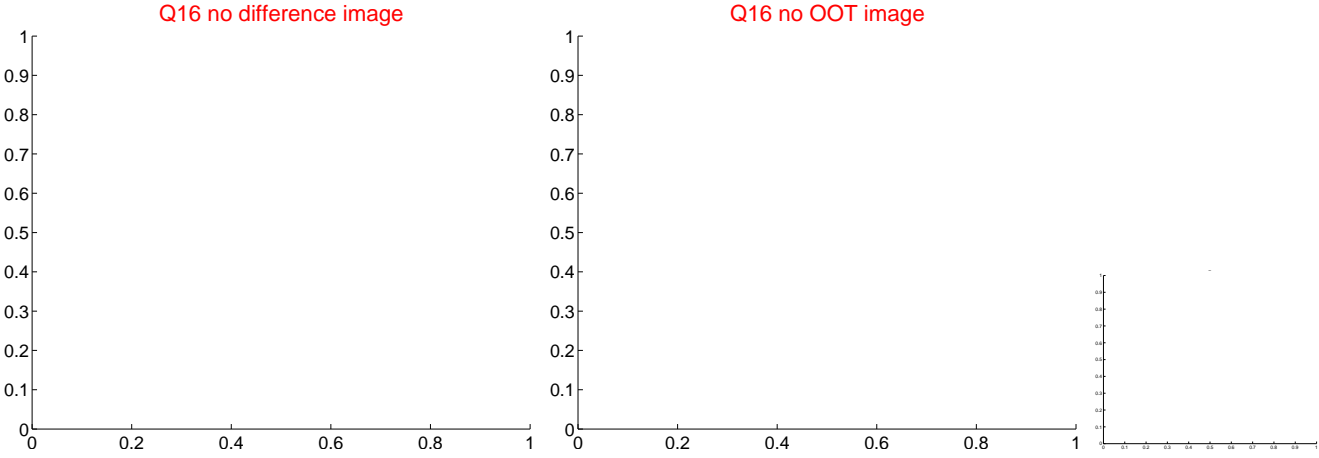
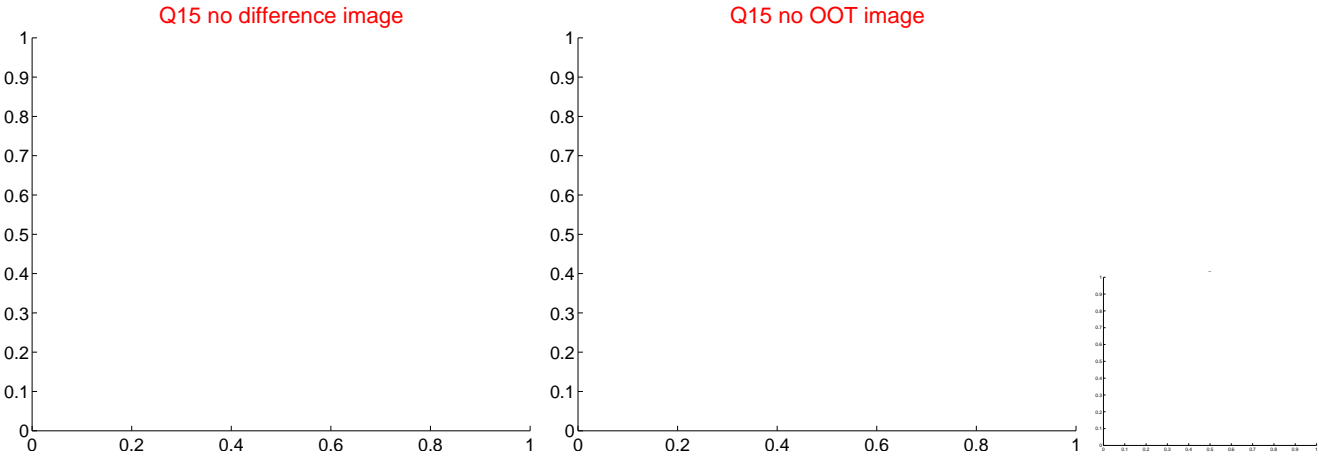
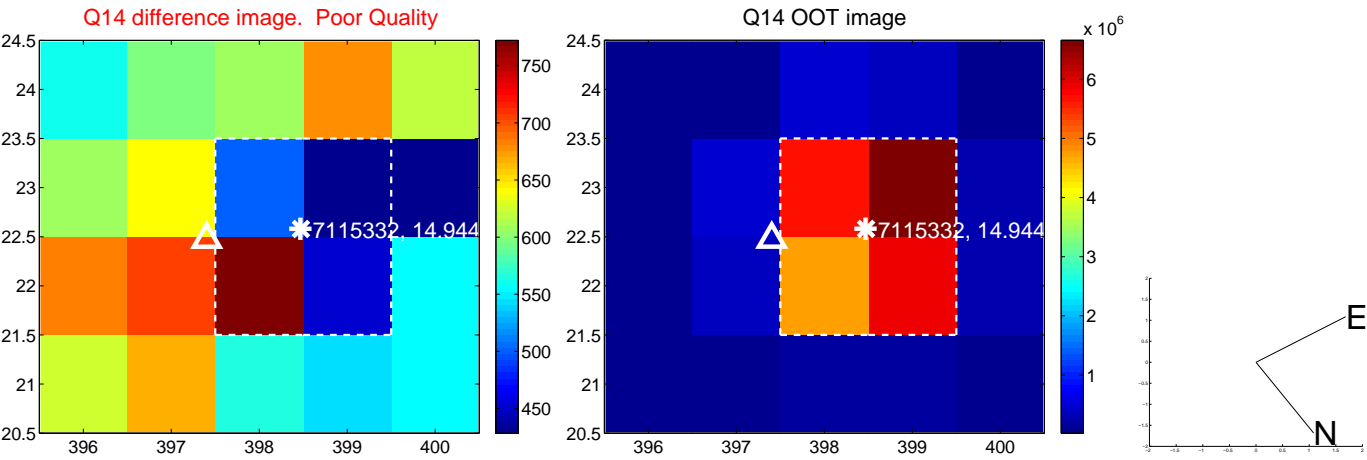
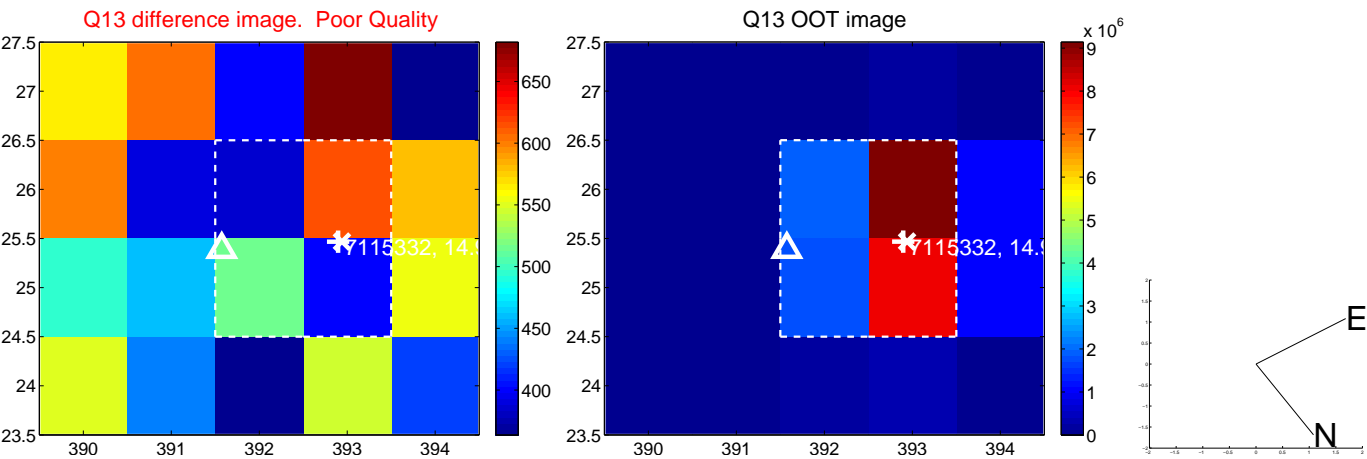




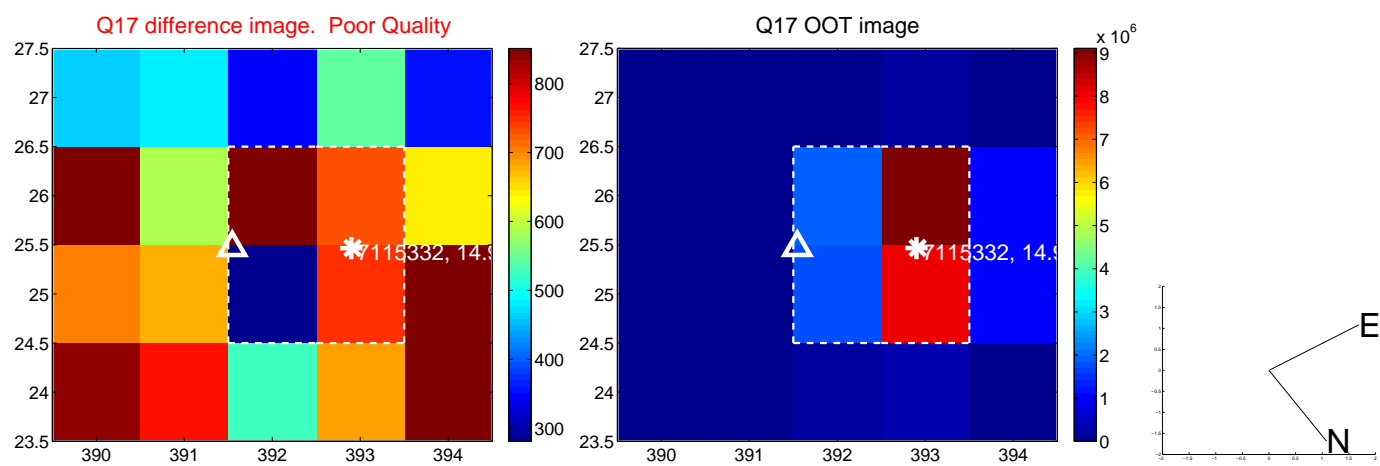
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



folded centroid time series figure for this object.

UKIRT Image

Longitude

