

# KIC 003545038

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003545038-01	OBS	No	0.572130	132.022785	10.6	5.868	9.5	2.4	0.90	5763	0.30	4428.69

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003545038-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET

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

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

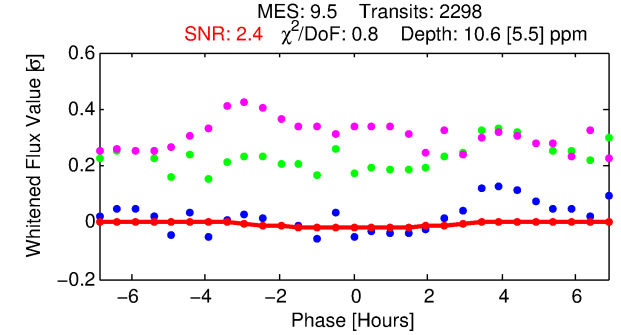
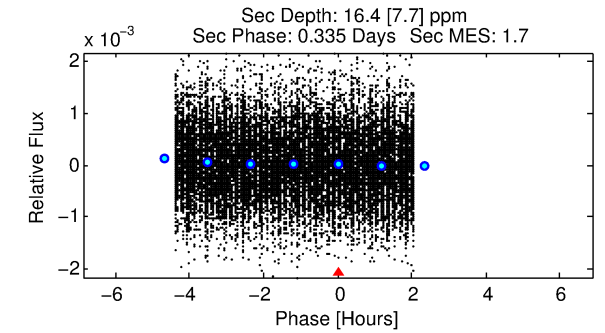
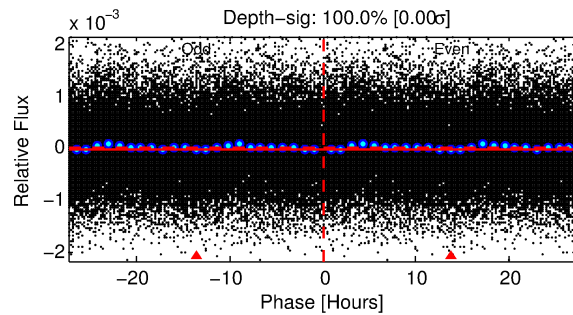
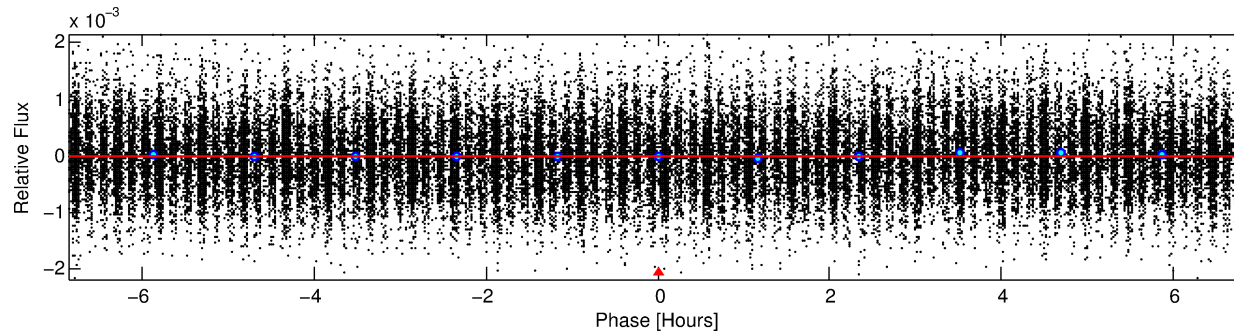
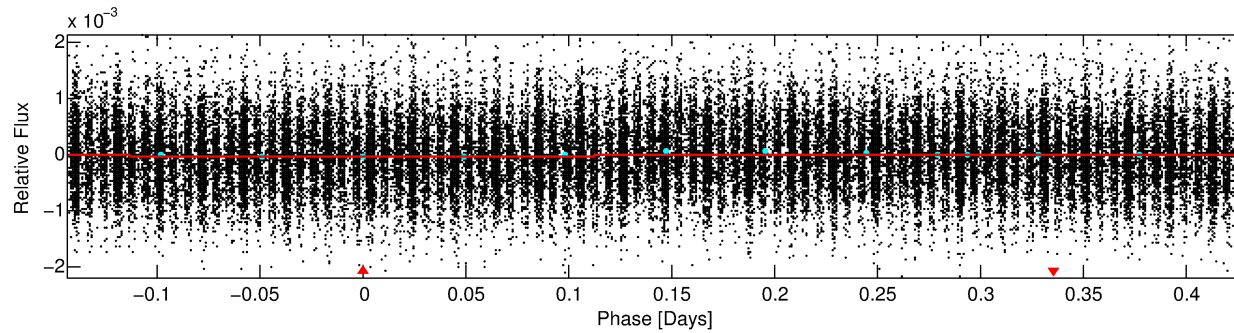
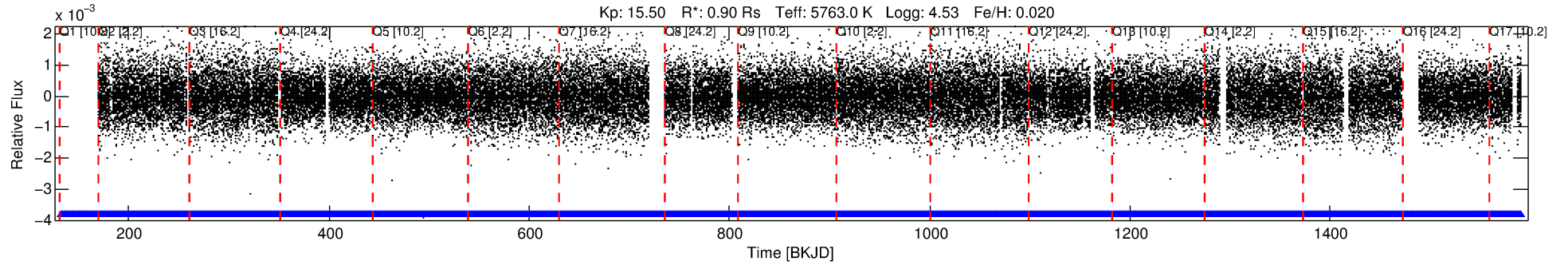
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003545038-01

No Significant Match Found

# DV One-Page Summary

KIC: 3545038 Candidate: 1 of 1 Period: 0.572 d



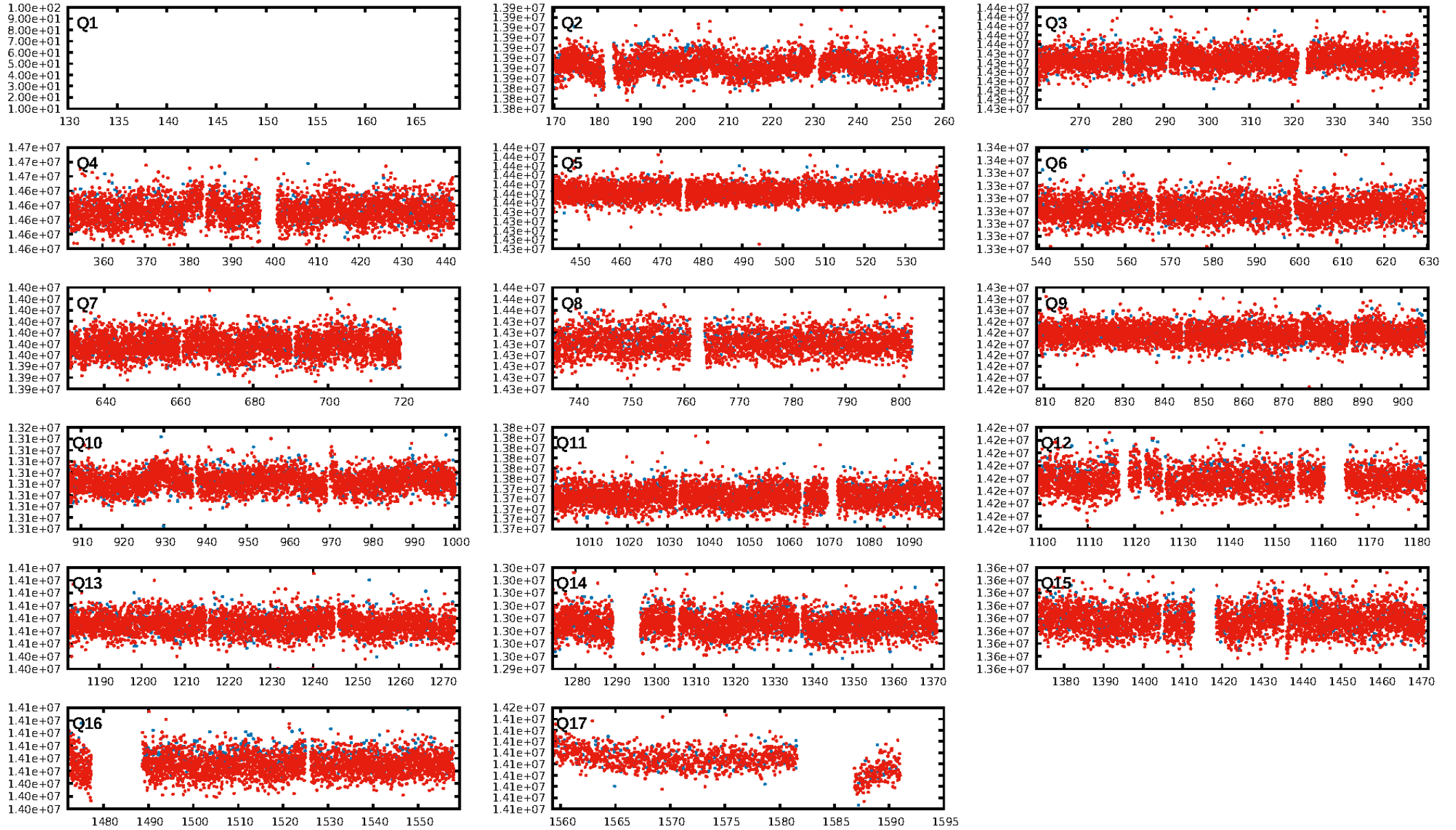
## DV Fit Results:

Period = 0.57213 [0.00005] d  
Epoch = 132.0228 [0.0275] BKJD  
Rp/R\* = 0.0030 [0.0117]  
a/R\* = 1.02 [0.72]  
b = 0.50 [25.72]  
Seff = 4428.69 [1594.01]  
Teq = 2080 [187] K  
Rp = 0.30 [1.16] Re  
a = 0.0135 [0.0031] AU  
Ag = 18.23 [140.41] [0.12 $\sigma$ ]  
Teffp = 6646 [12785] K [0.36 $\sigma$ ]

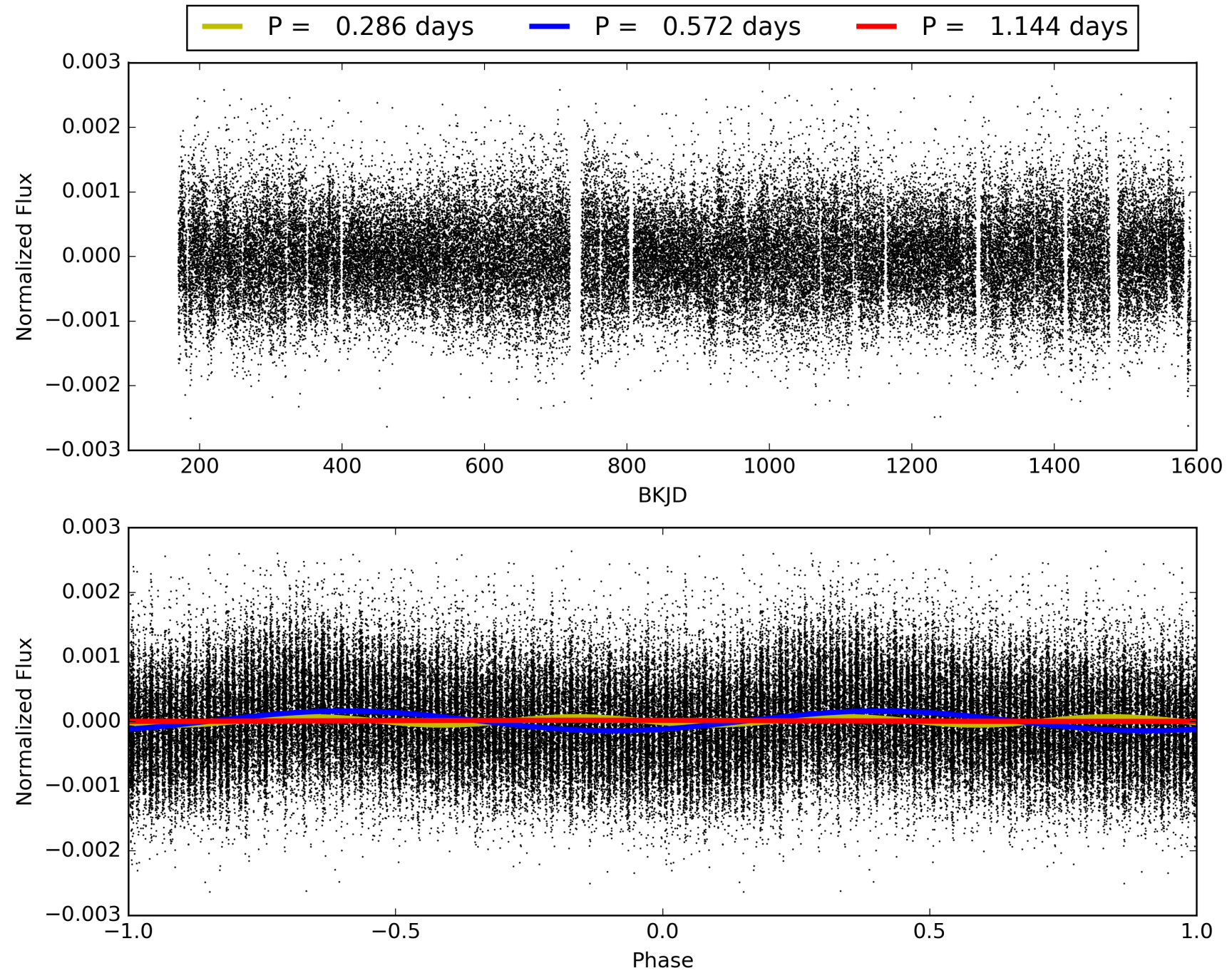
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2251/2251]  
GhostDiagnostic-chr: -0.3618  
Centroid-sig: 0.0%  
Centroid-so: 131.067 arcsec [14.18 $\sigma$ ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [16/16]

# TCE 003545038-01, PDC Light Curves



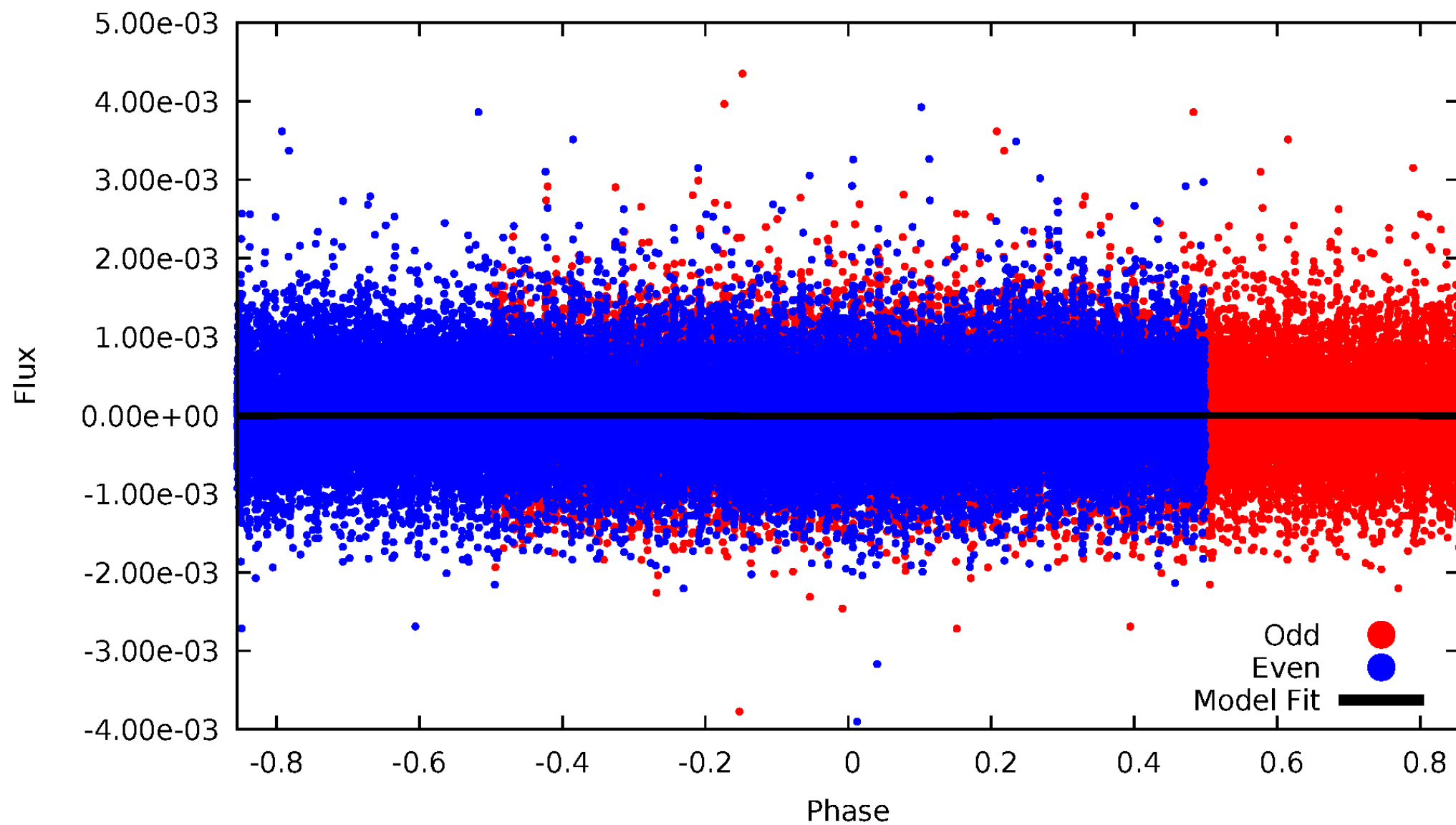
TCE 003545038-01





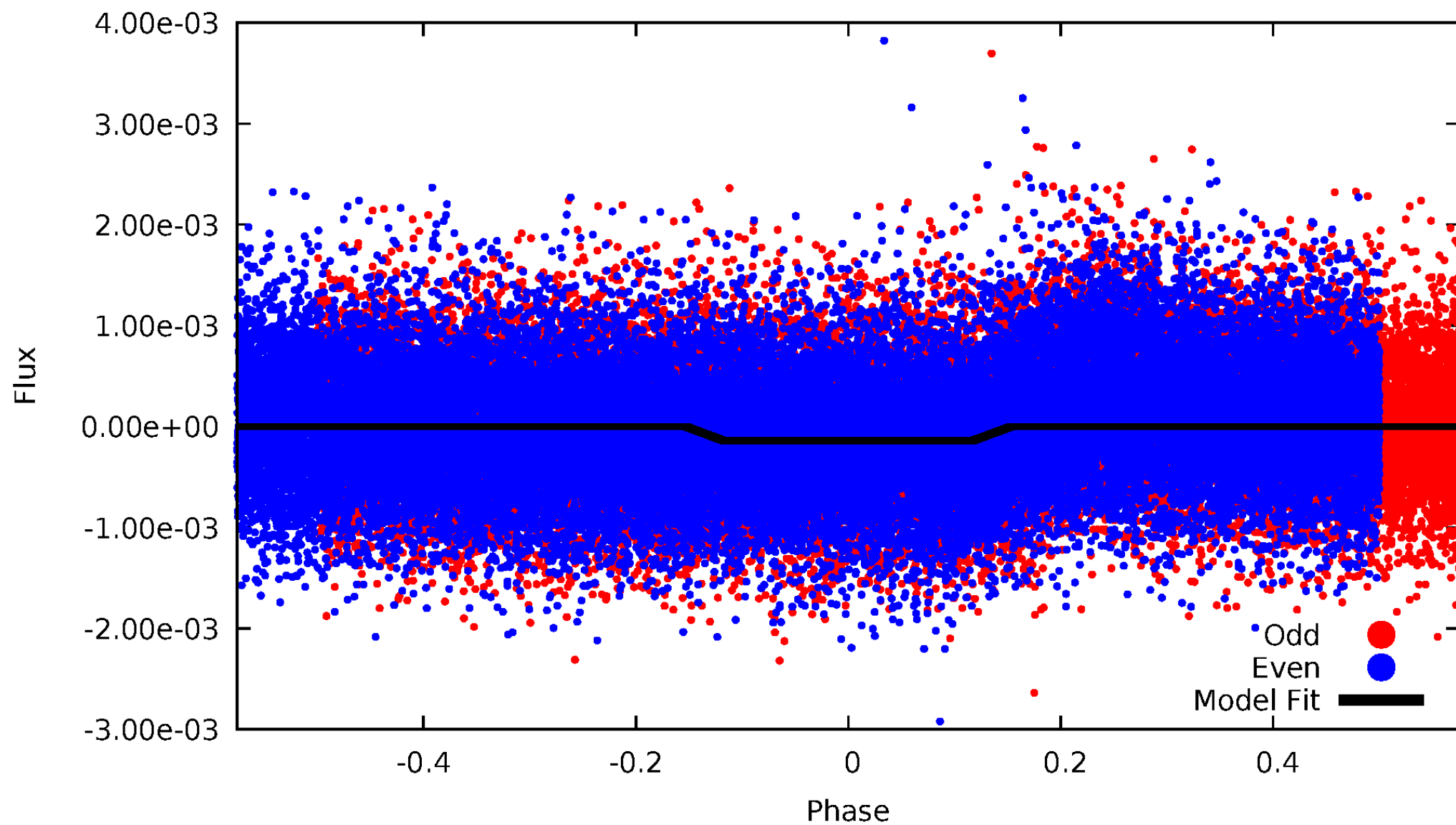
# DV Odd/Even

TCE 003545038-01



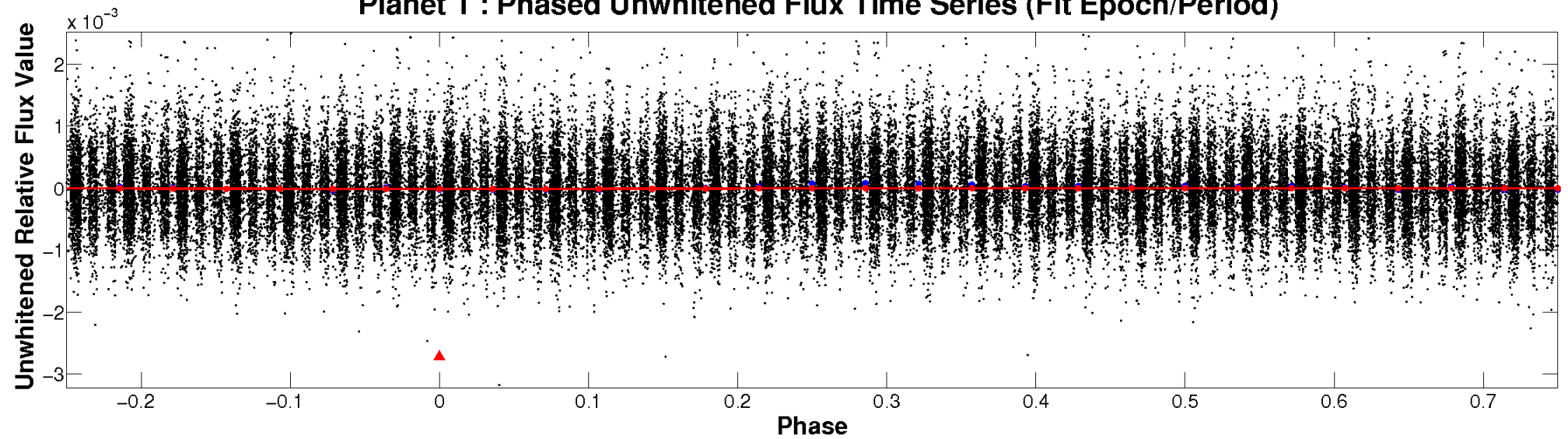
# ALT Odd/Even

TCE 003545038-01

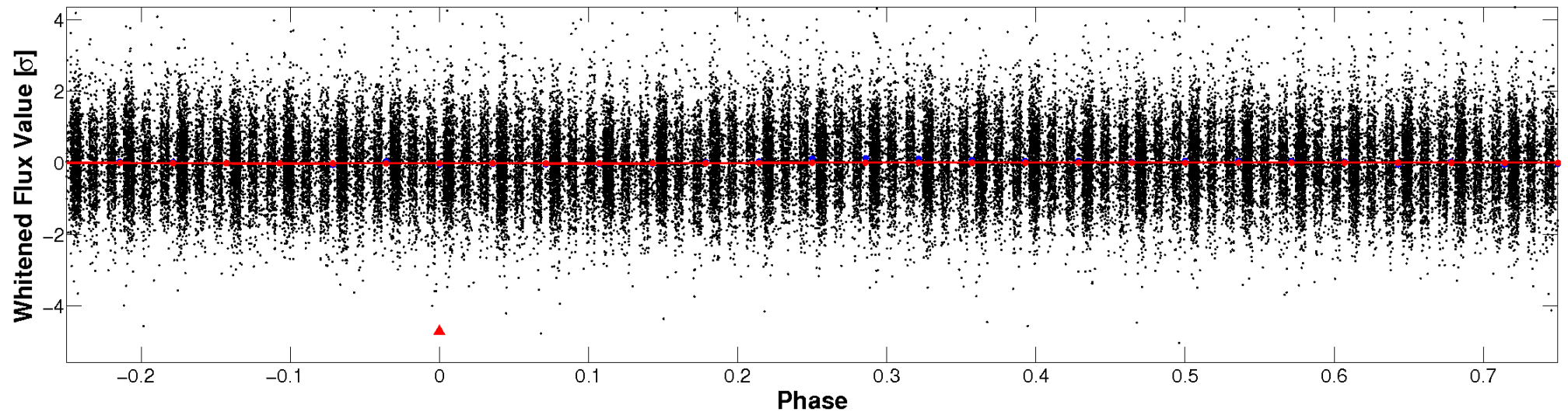


# Non-Whitened Vs. Whitened Light Curve

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

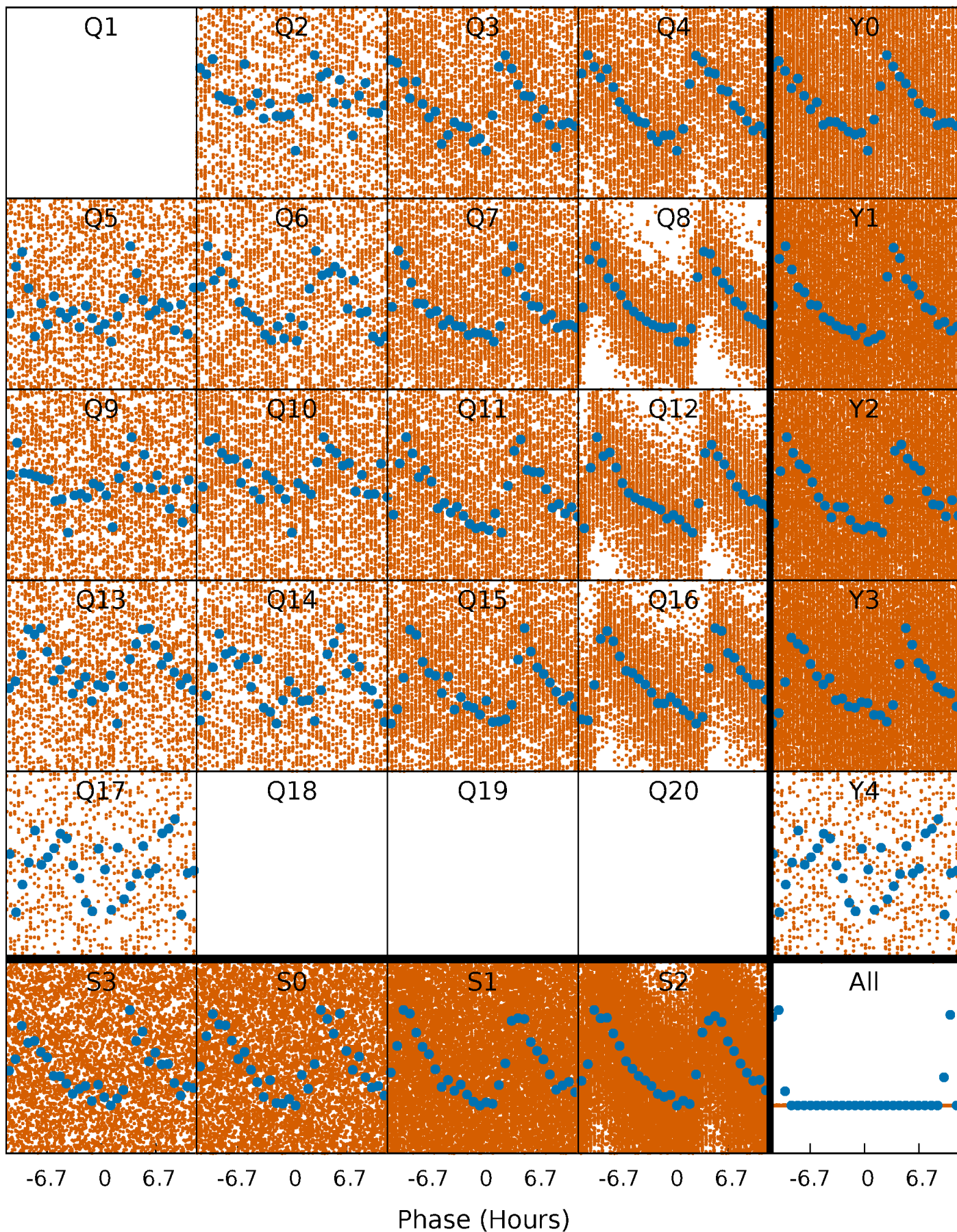


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

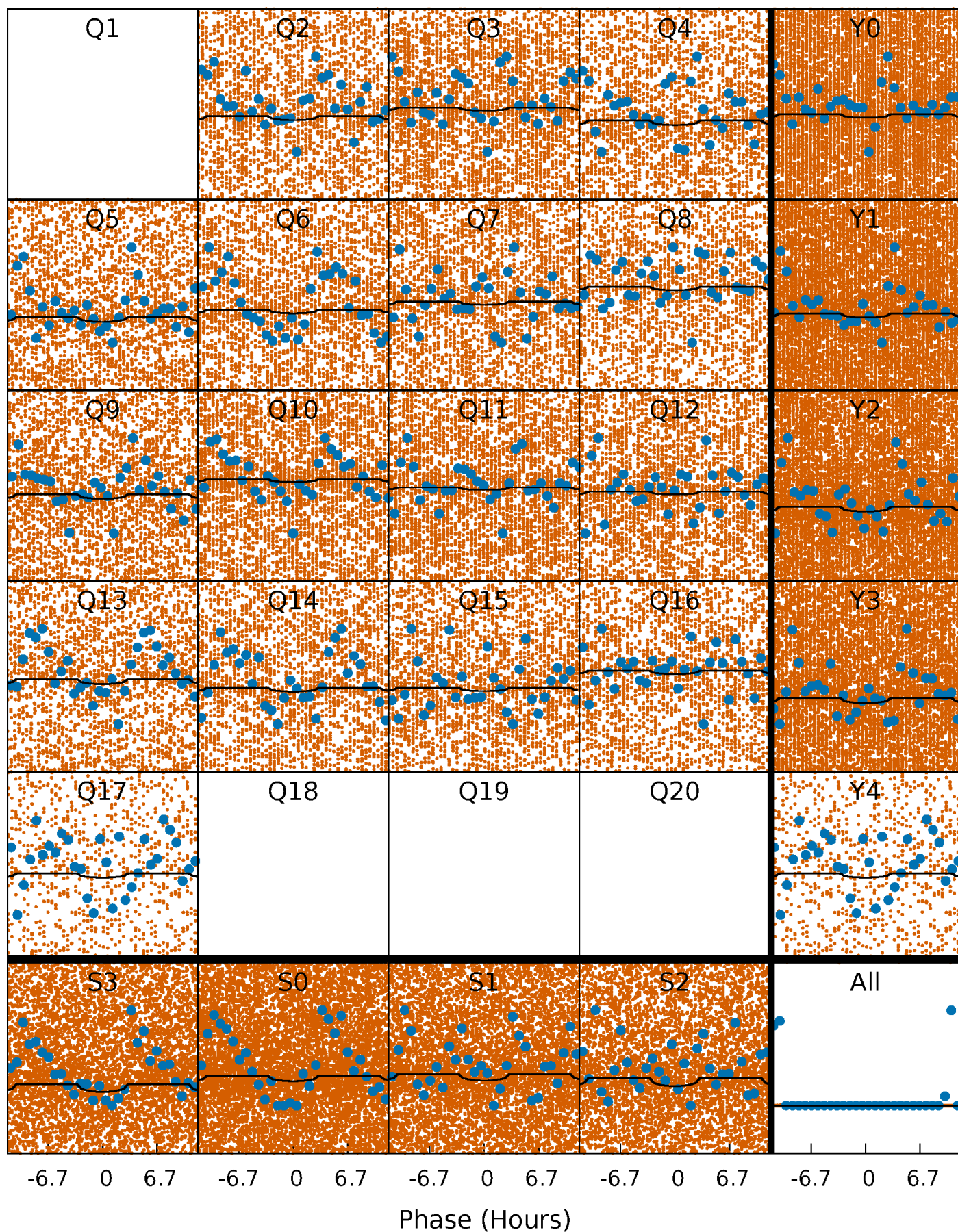
TCE 003545038-01   P= 0.572130 Days    $T_0=132.022785$  (BKJD)





# DV Quarter-Phased Transit Curves

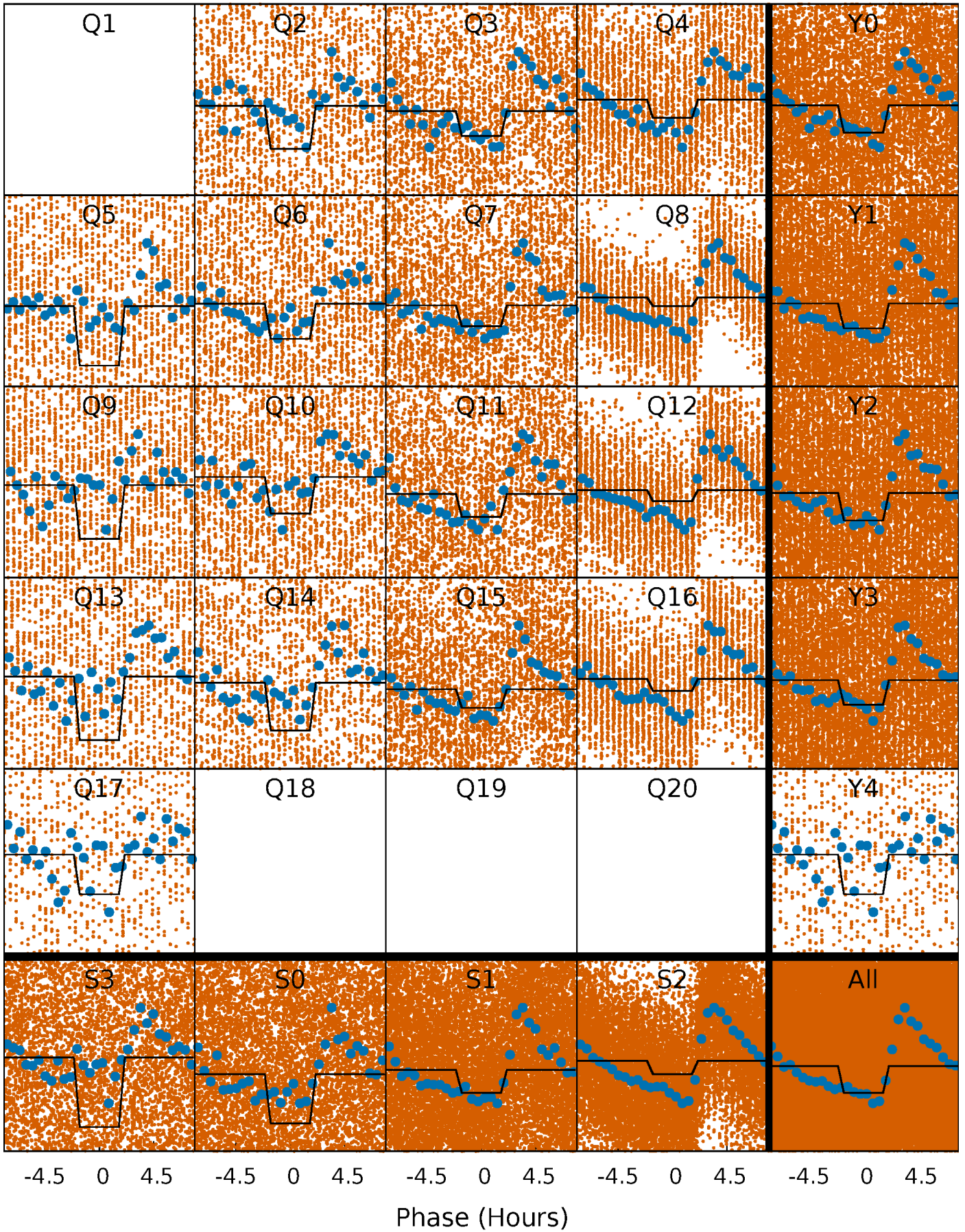
TCE 003545038-01 P= 0.572130 Days  $T_0=132.022785$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

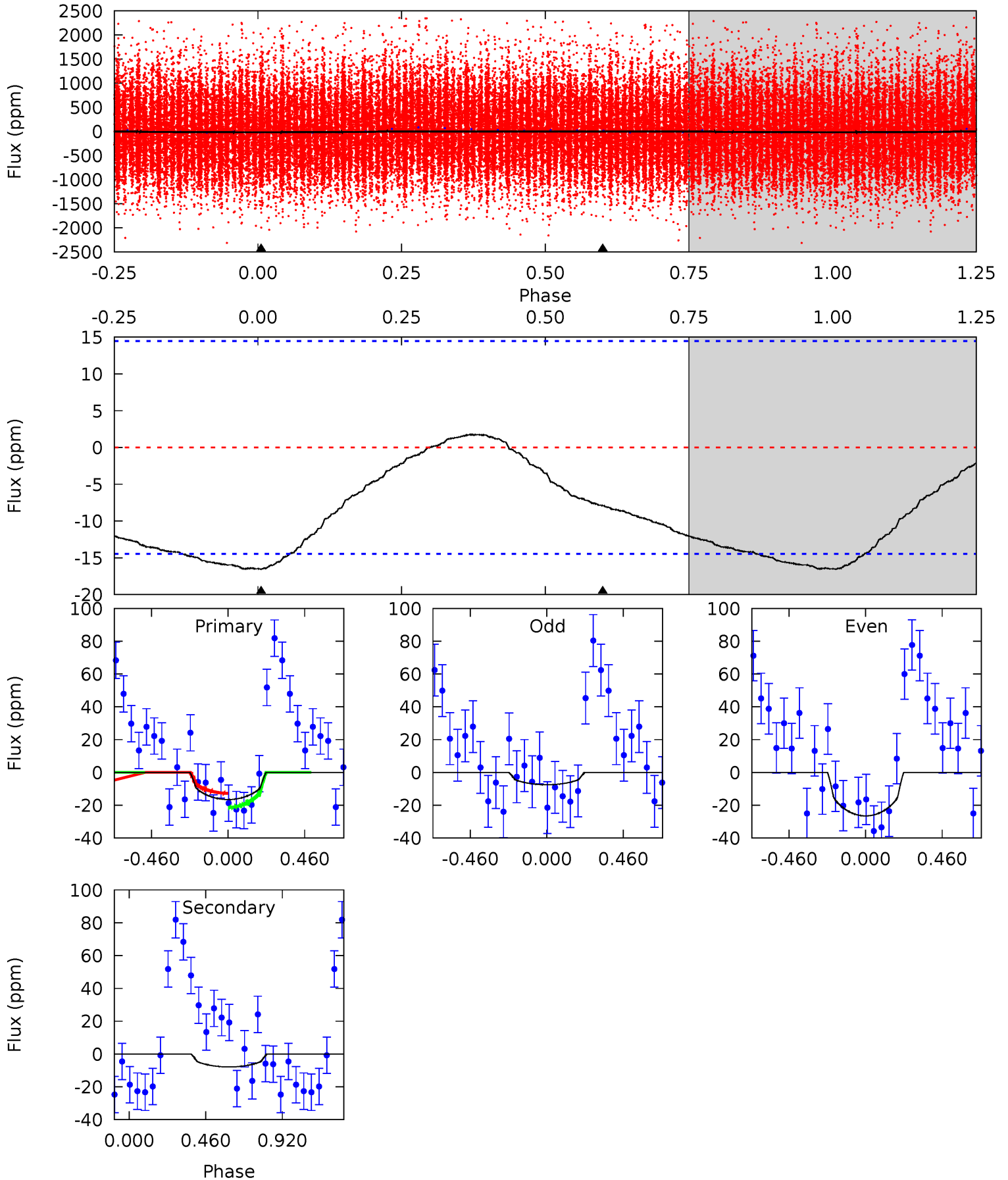
TCE 003545038-01 P= 0.572182 Days  $T_0=131.979193$  (BKJD)



# DV Model-Shift Uniqueness Test

003545038-01, P = 0.572130 Days, E = 132.022785 Days

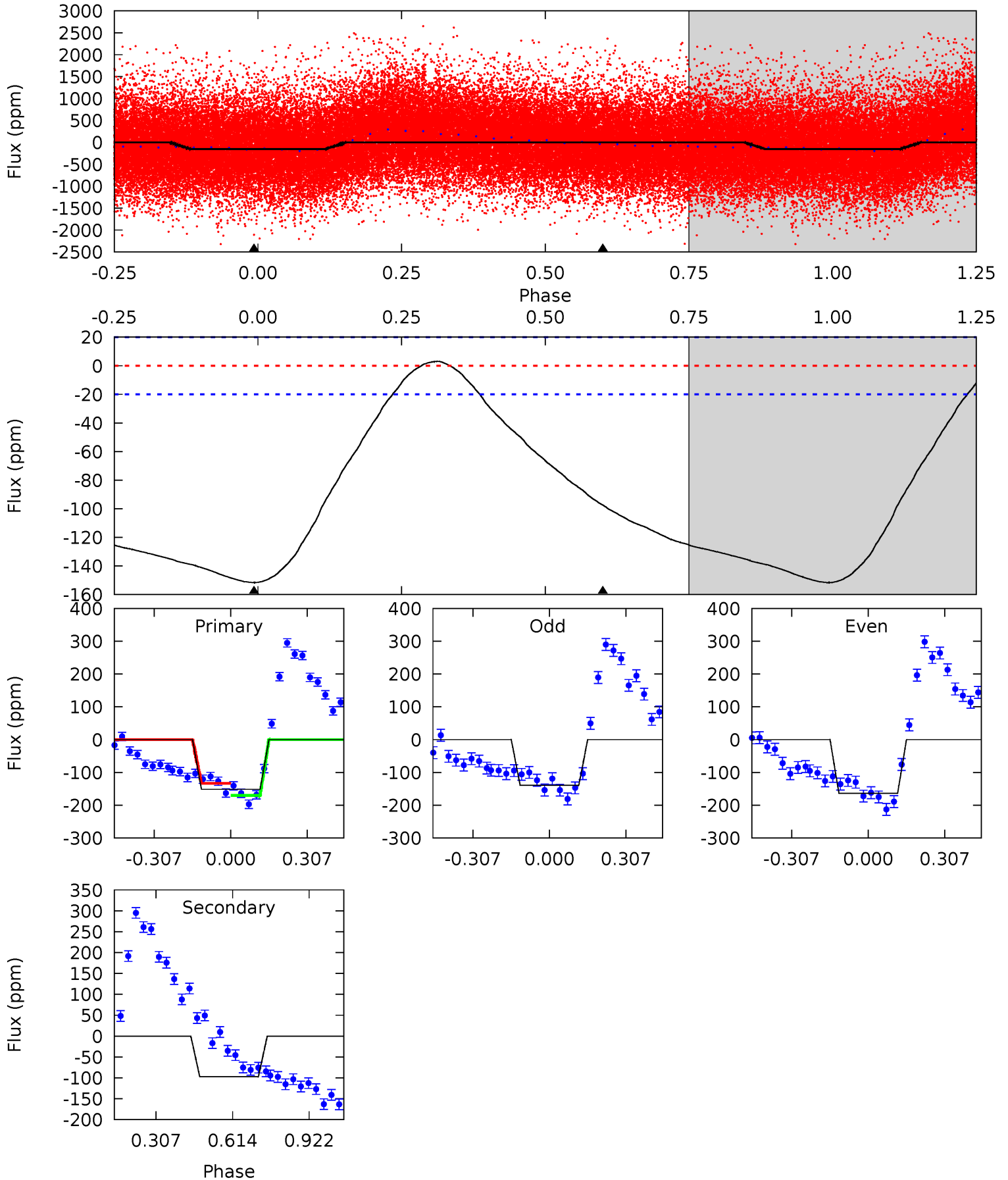
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.84	2.31	0	0	4.23	0.74	0.32	4.84	4.84	2.31	2.31	2.78	0.98	0.10	1.26



# Alt Model-Shift Uniqueness Test

003545038-01, P = 0.572182 Days, E = 131.979193 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
32.8	21.1	0	0	4.32	1.02	0.97	32.8	32.8	21.1	21.1	2.69	1.02	0.02	4.34





### Stellar Parameters For KIC 003545038

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5763^{+156}_{-190}$	$4.527^{+0.046}_{-0.184}$	$0.020^{+0.250}_{-0.300}$	$0.904^{+0.244}_{-0.081}$	$1.002^{+0.102}_{-0.125}$	$1.913^{+0.431}_{-0.908}$
	+3%/-3%	+1%/-4%	+1250%/-1500%	+27%/-9%	+10%/-12%	+23%/-47%
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 003545038-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-8 \pm 3$	$0.92^{+0.98}_{-0.63}$	$2961^{+187}_{-137}$	$3362^{+2429}_{-6063}$	$0.867^{+8.726}_{-0.683}$
Alt.	$-97 \pm 5$	$1.46^{+1.01}_{-0.89}$	$2955^{+176}_{-128}$	$4823^{+2943}_{-957}$	$4.424^{+26.850}_{-2.859}$

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

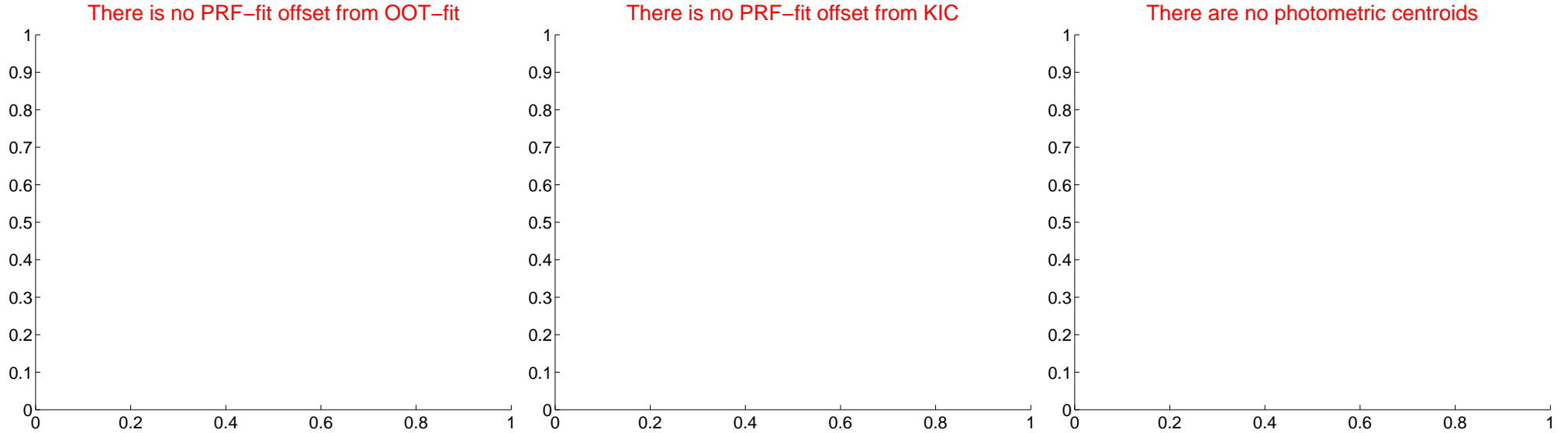
## DV Centroid Data

Supplemental centroid analysis for 003545038-01. Kepler magnitude: 15.50. Transit SNR 2.41

There are 0 quarters with good PRF difference image offsets

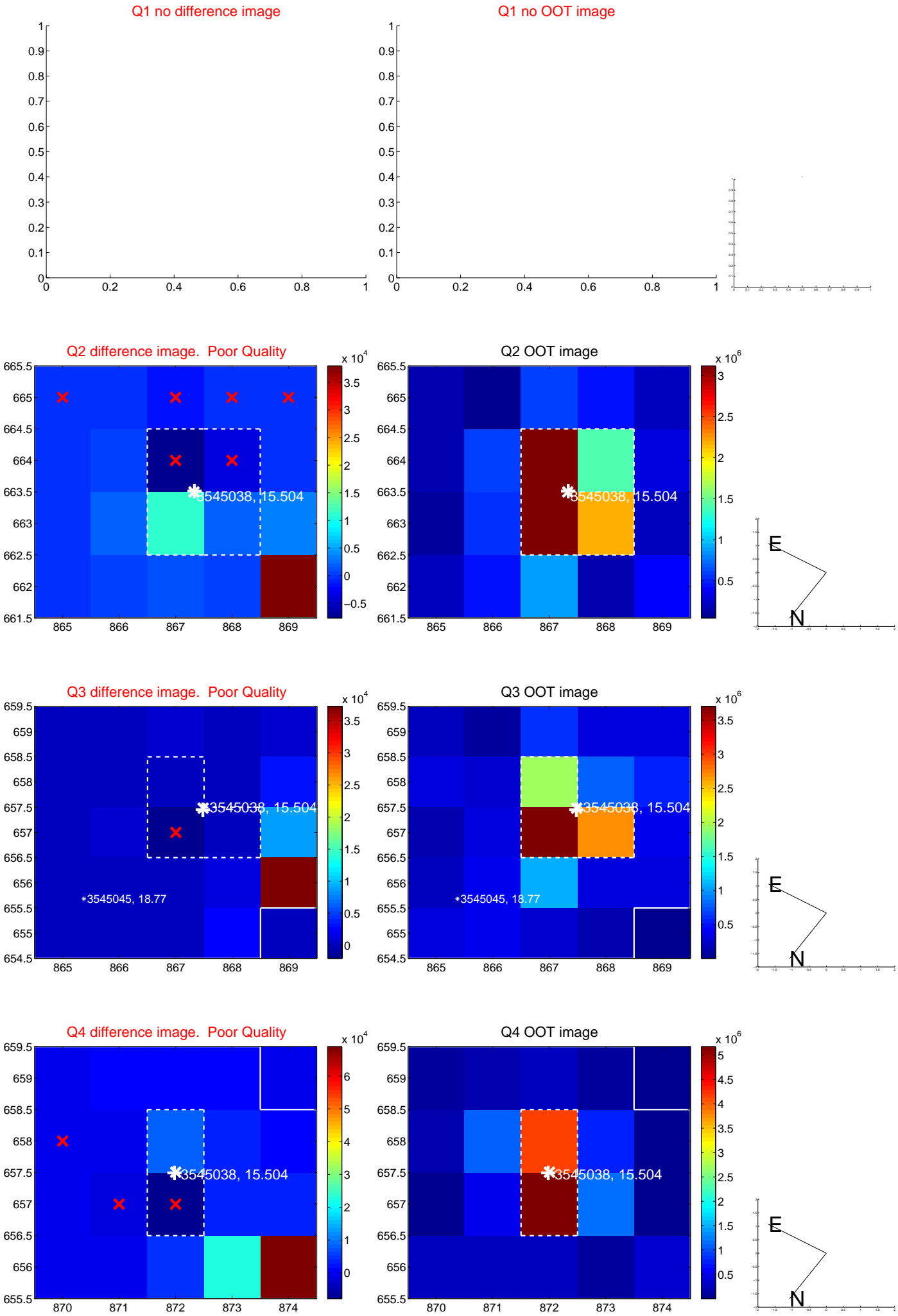
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—

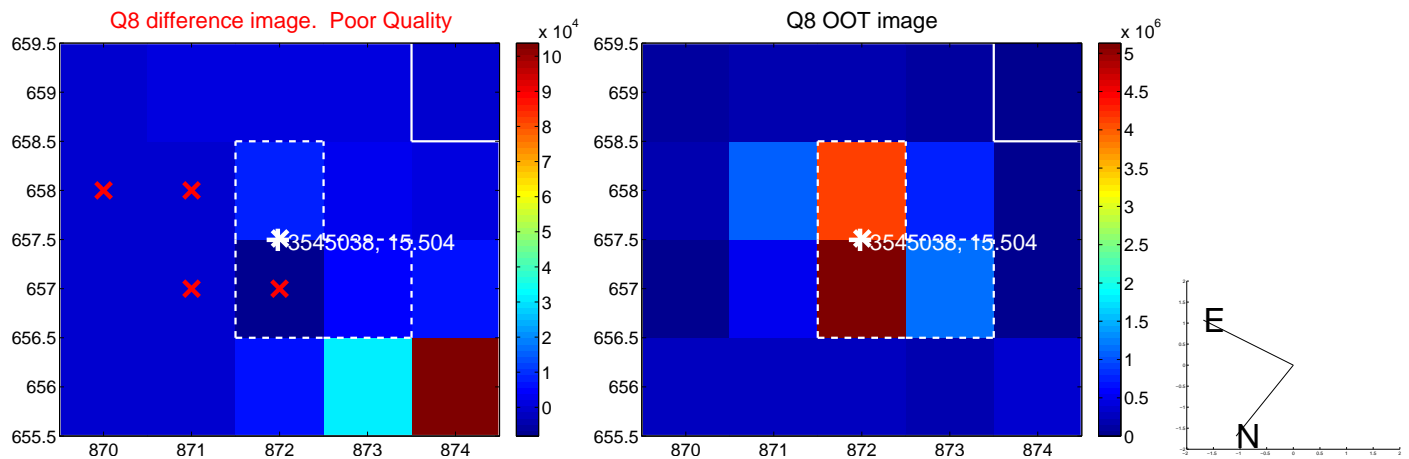
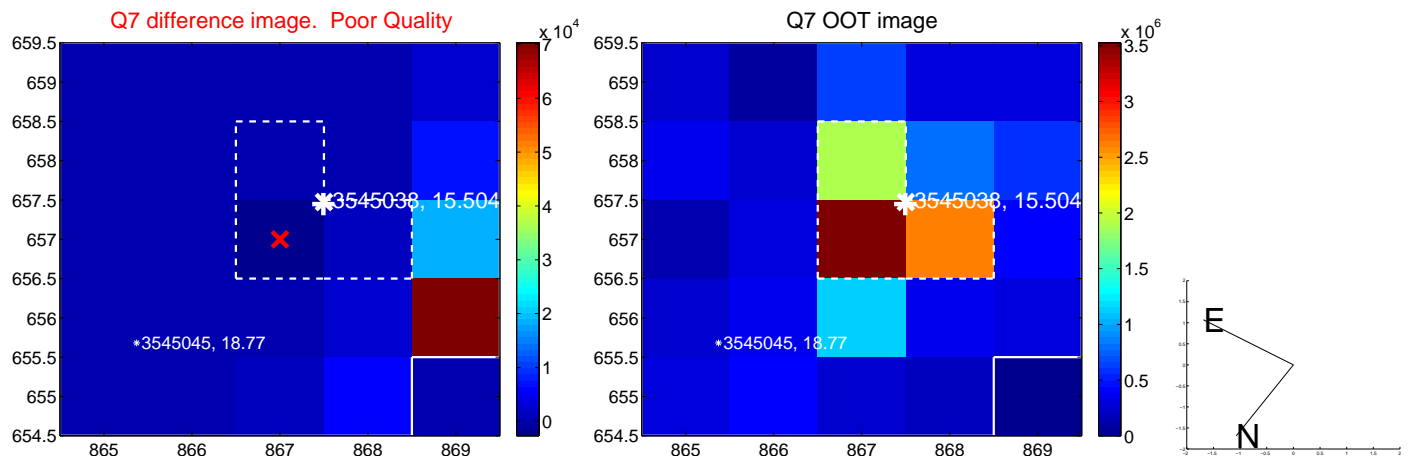
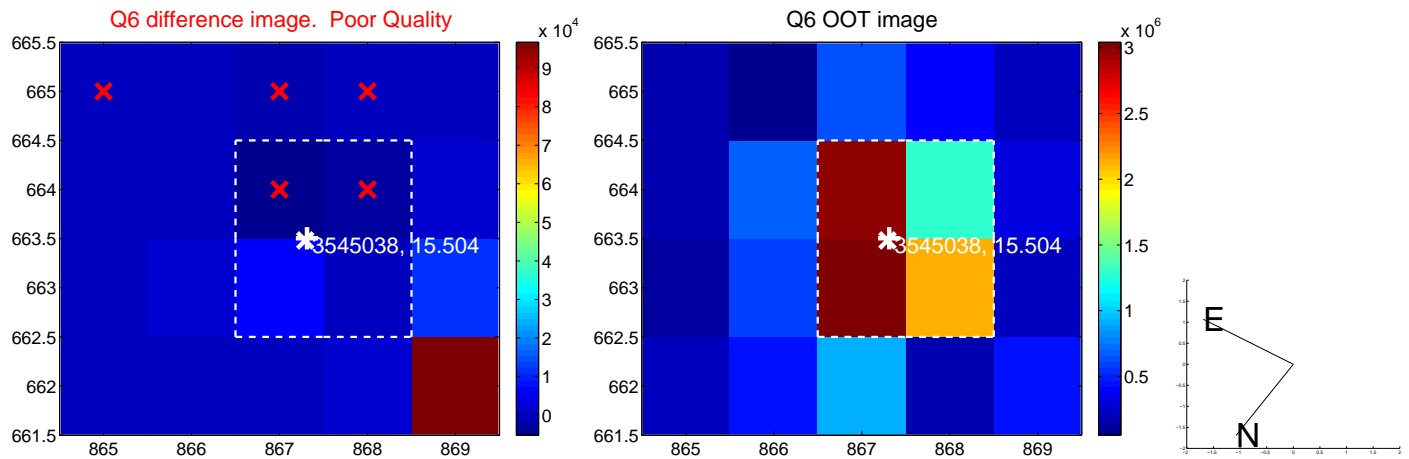
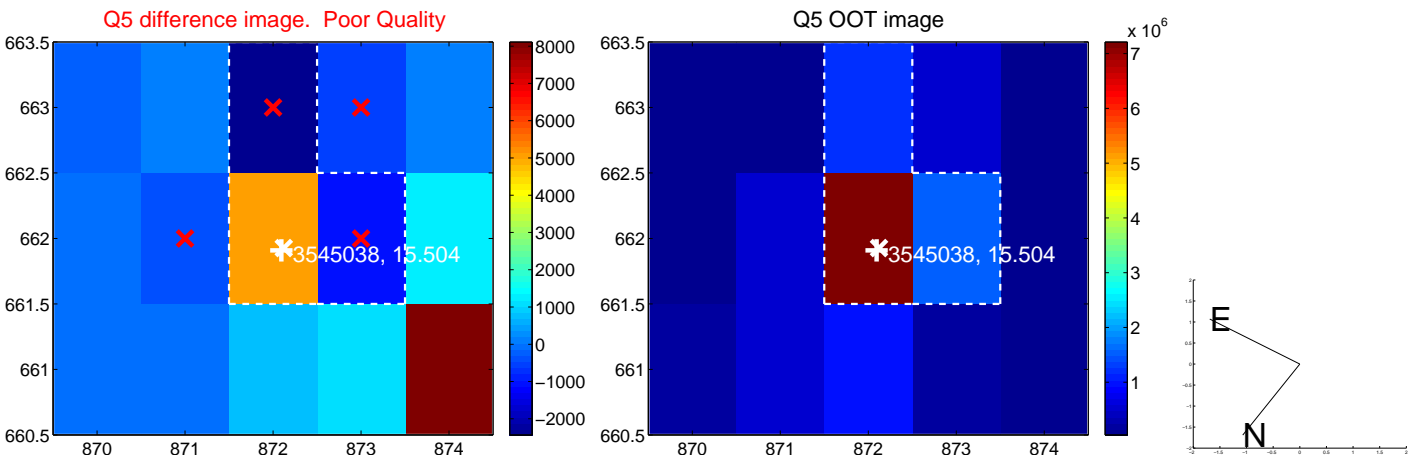


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

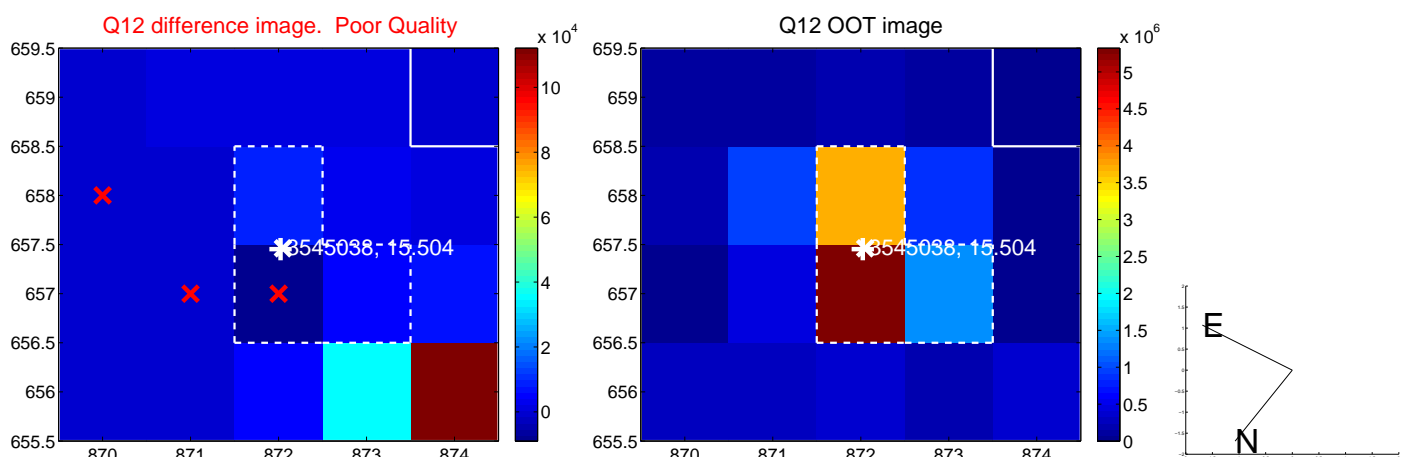
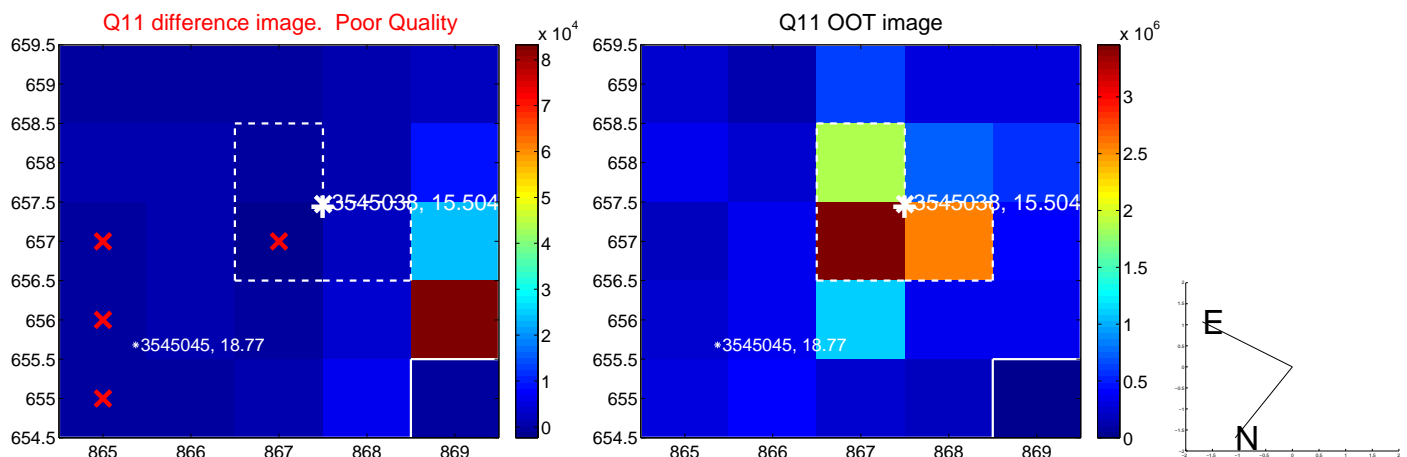
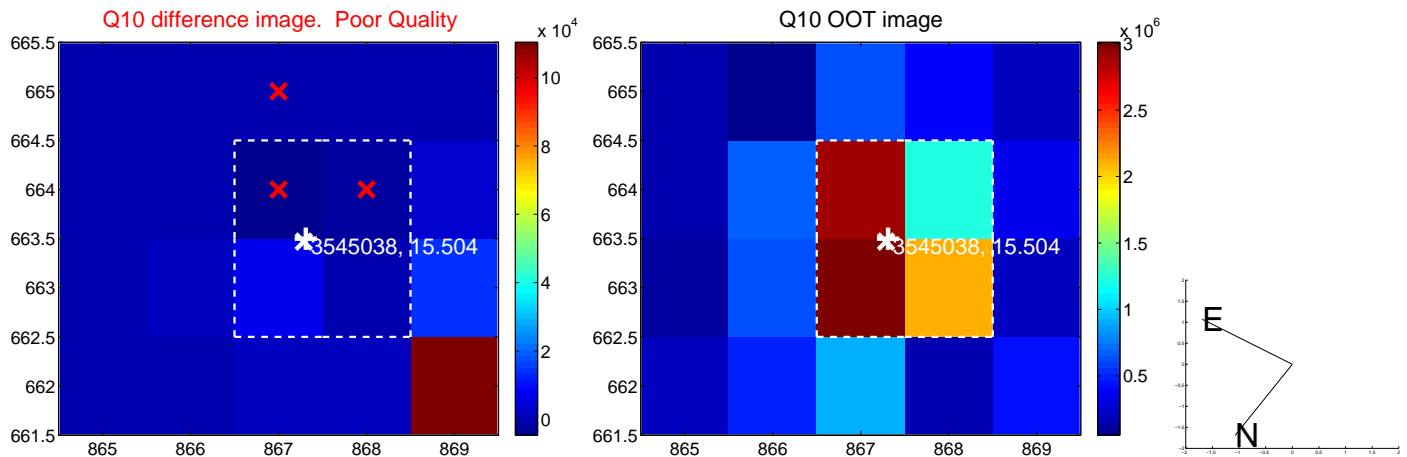
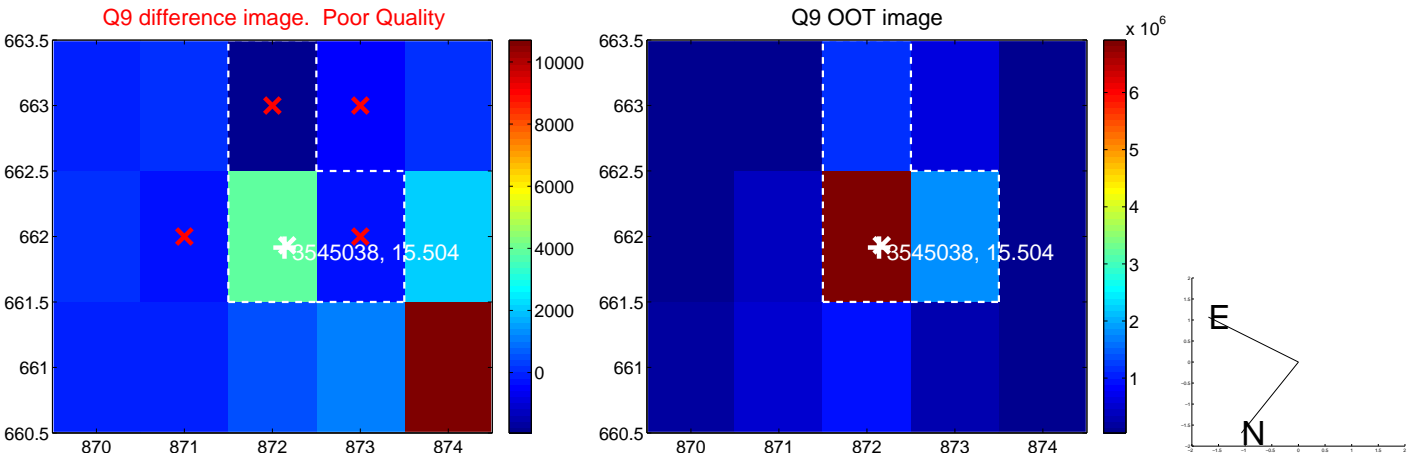


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

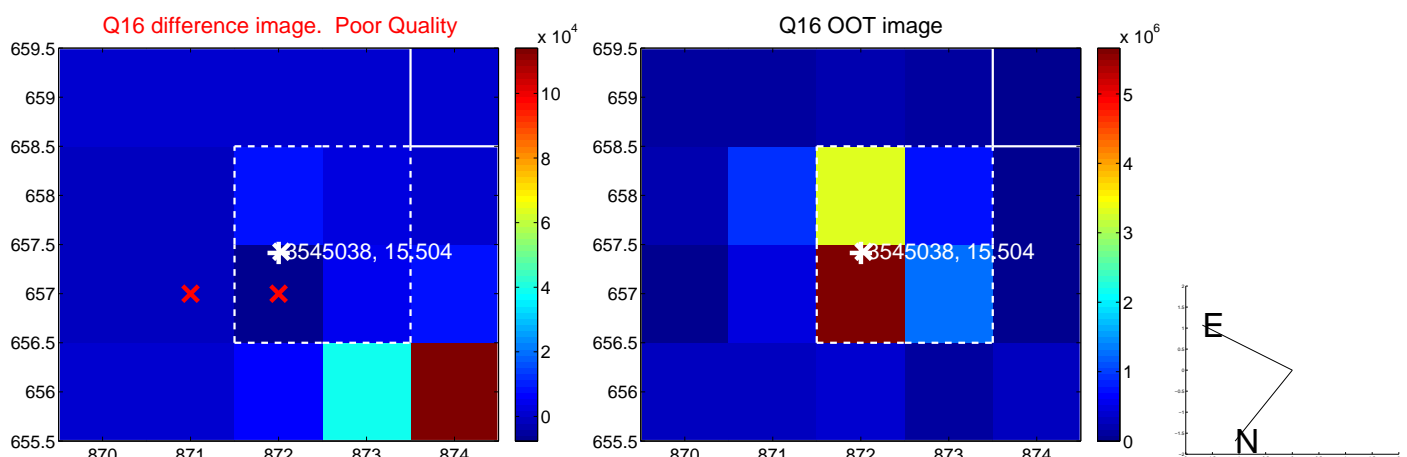
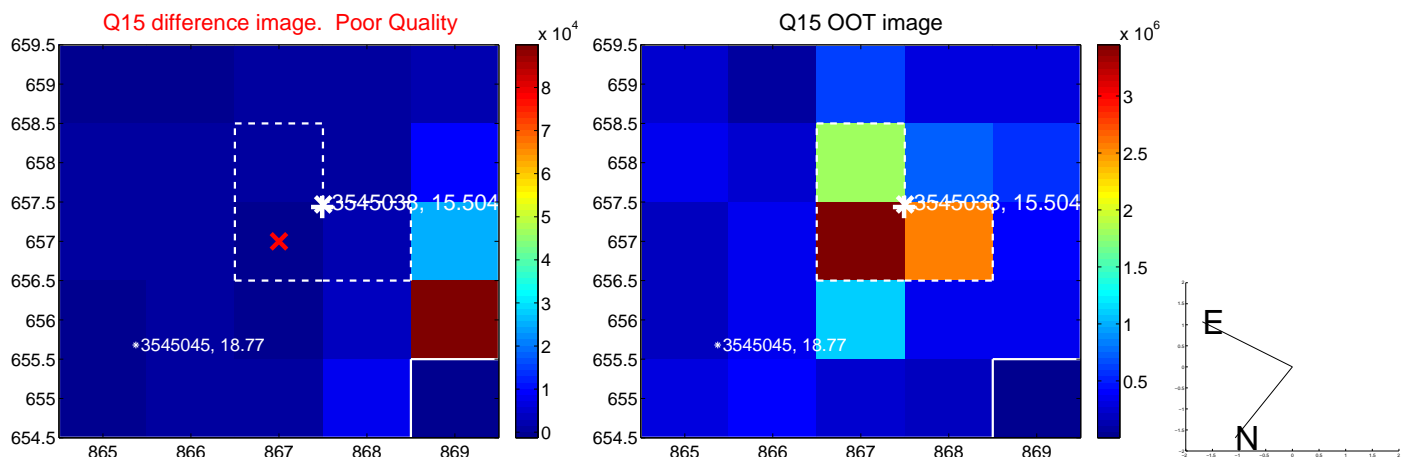
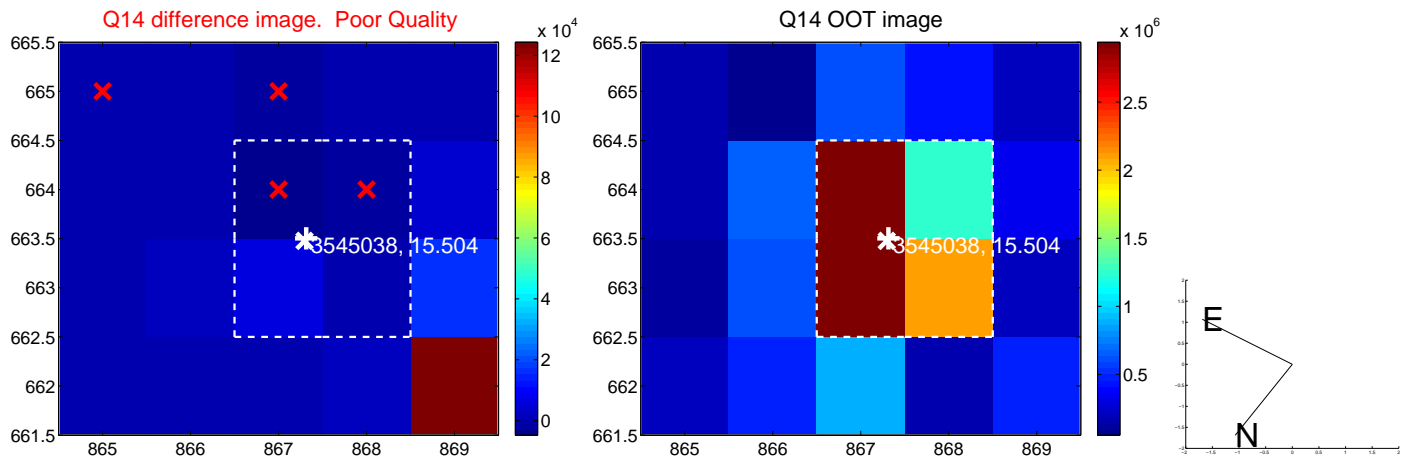
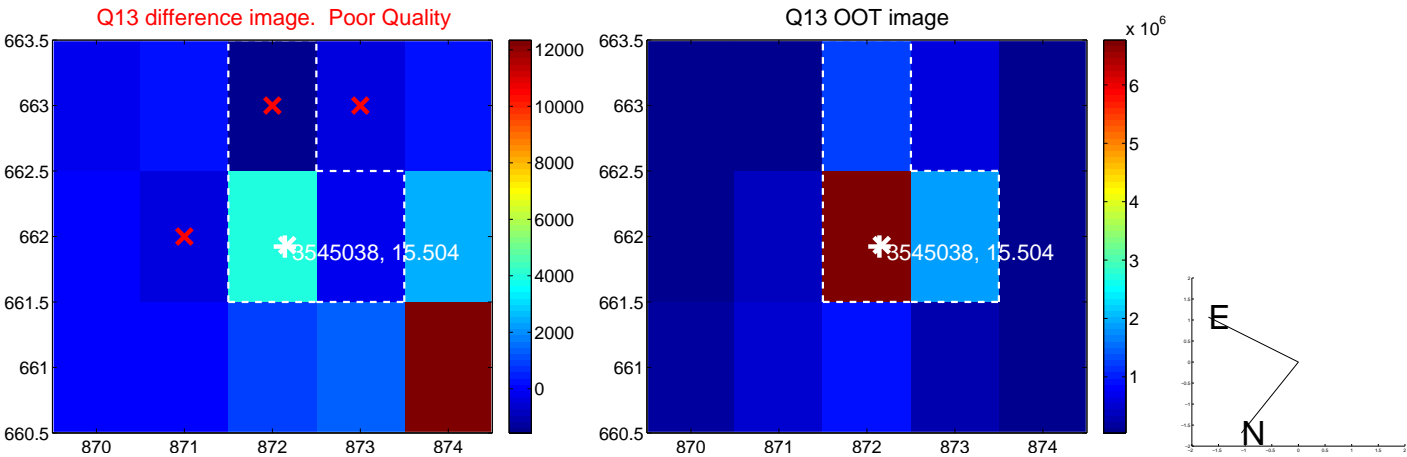




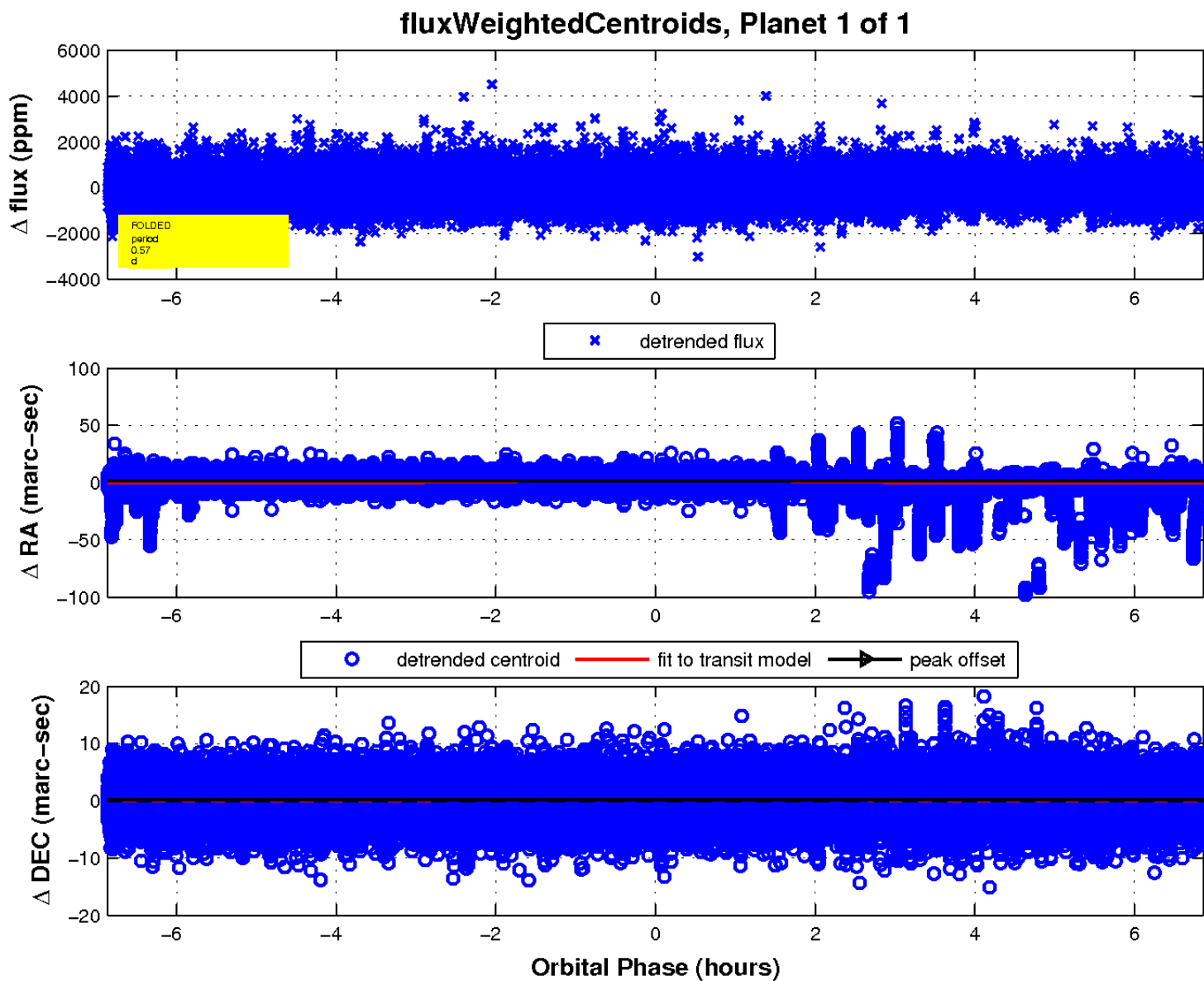
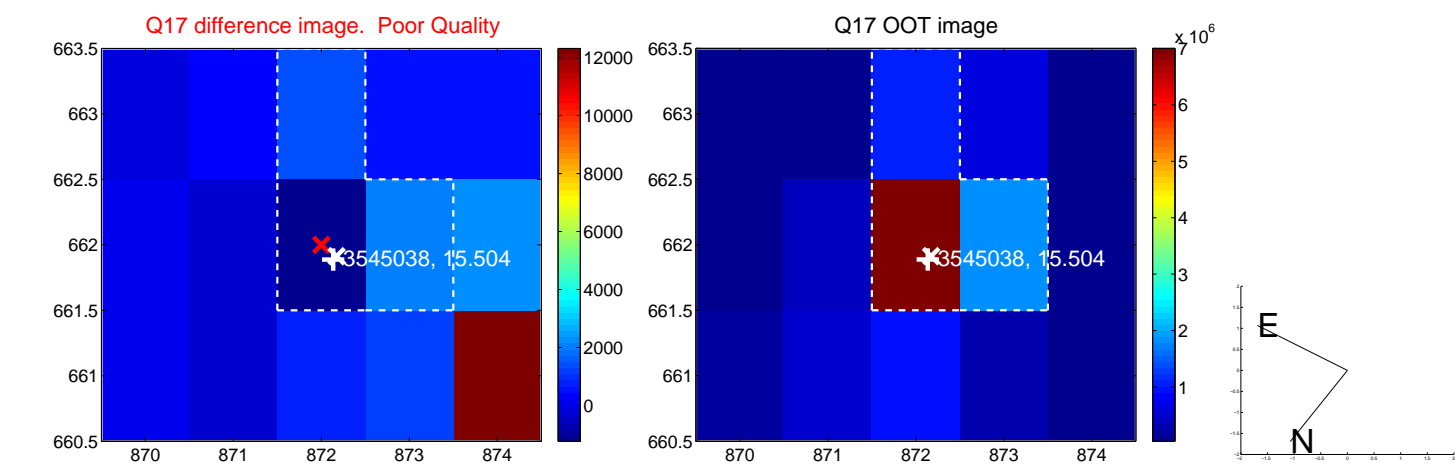
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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# UKIRT Image

Declination

