

# KIC 005443518

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005443518-01	OBS	No	332.462481	325.704347	414.7	17.739	8.1	11.1	1.35	5864	2.91	2.32

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005443518-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

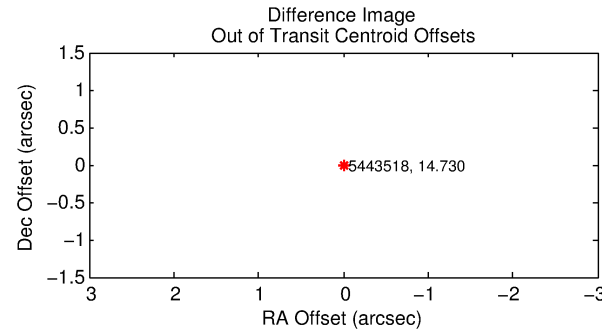
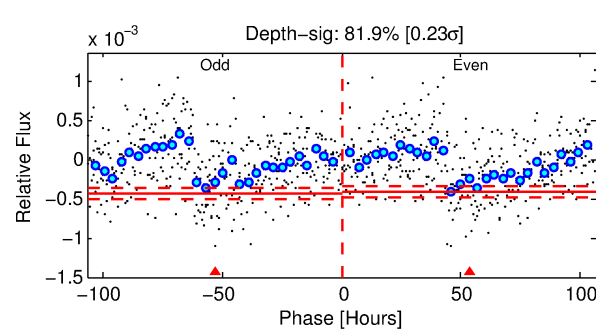
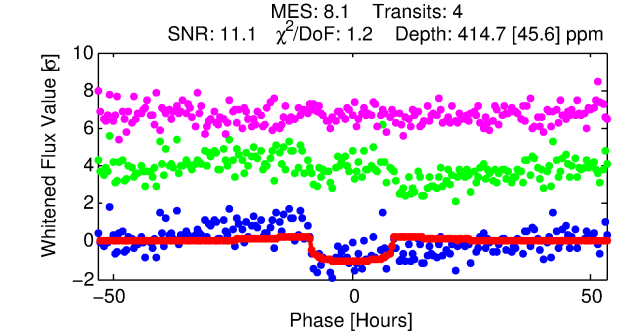
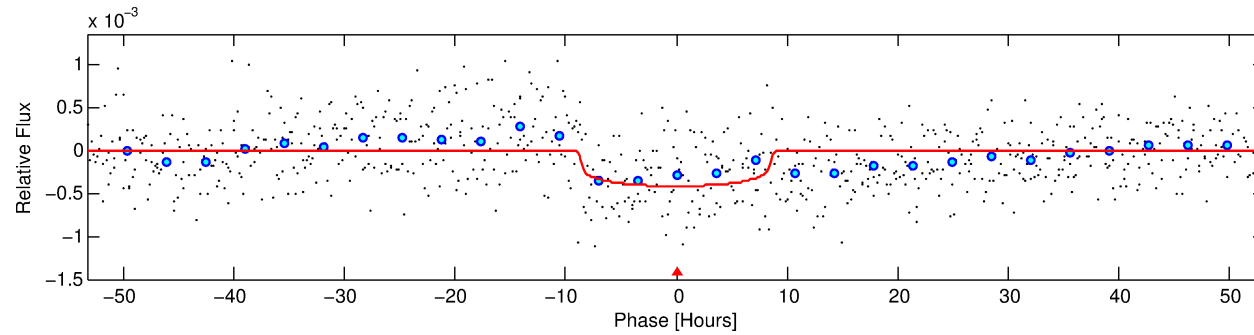
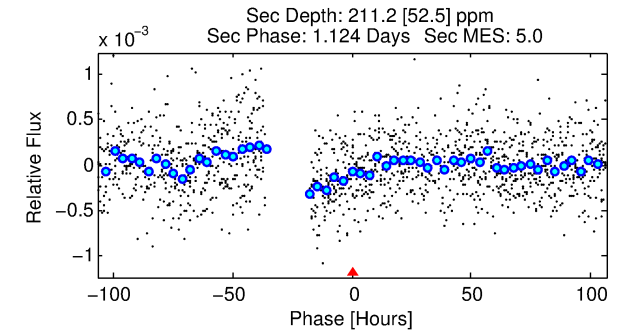
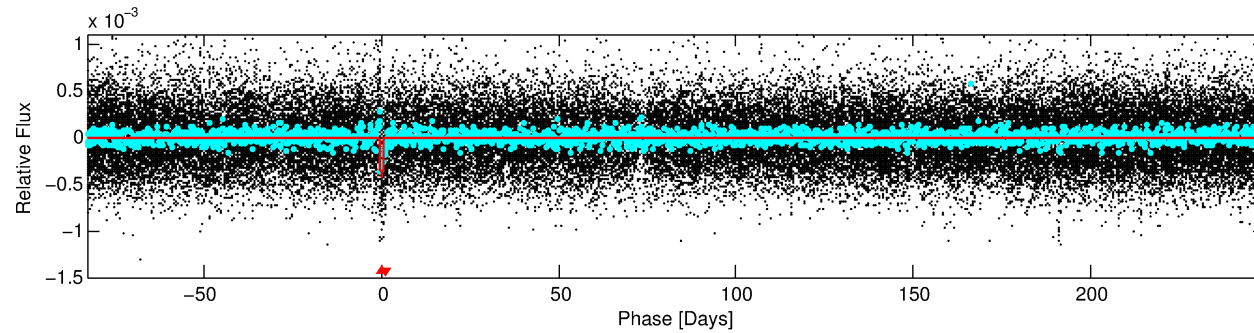
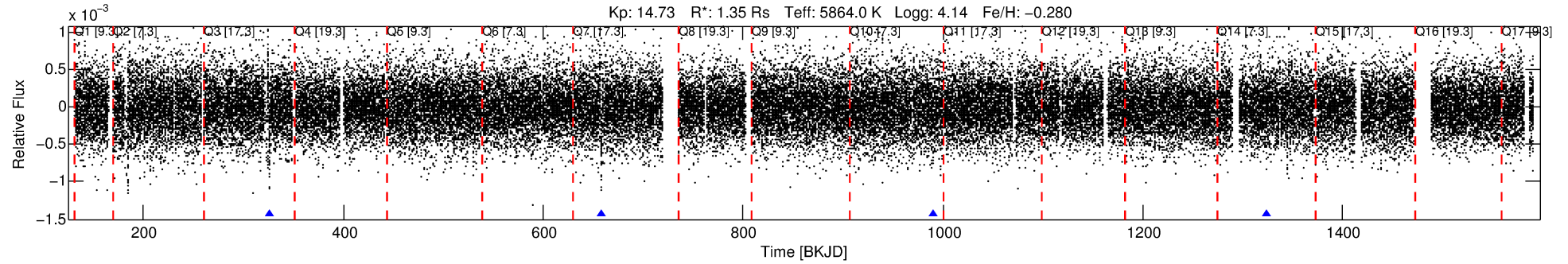
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005443518-01

No Significant Match Found

# DV One-Page Summary

KIC: 5443518 Candidate: 1 of 1 Period: 332.462 d



## DV Fit Results:

Period = 332.46248 [0.01061] d  
Epoch = 325.7043 [0.0210] BKJD  
Rp/R\* = 0.0198 [0.0067]  
a/R\* = 110.18 [173.95]  
b = 0.67 [1.31]  
Seff = 2.32 [0.78]  
Teq = 315 [26] K  
Rp = 2.91 [1.15] Re  
a = 0.9126 [0.1856] AU  
Ag = 11396.20 [9029.84] [1.26σ]  
Teffp = 5028 [908] K [5.19σ]

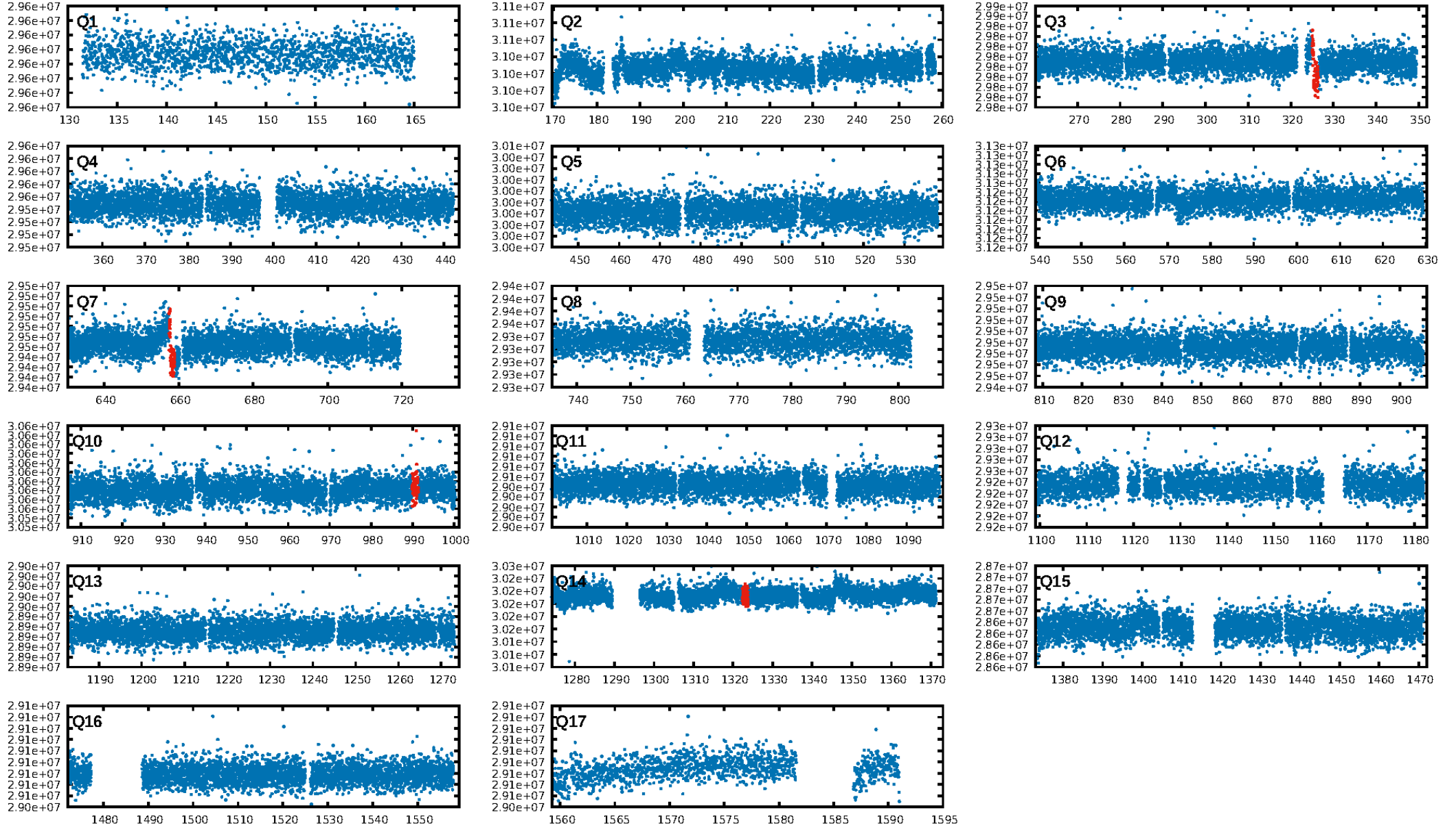
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGot-sig: 91.6%  
Bootstrap-pfa: 1.54e-14  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 5.733  
Centroid-sig: 30.8%  
Centroid-so: 2.129 arcsec [2.61σ]  
OotOffset-rm: N/A  
KicOffset-rm: 2.660 arcsec [1.20σ]  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/2/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [4/4]

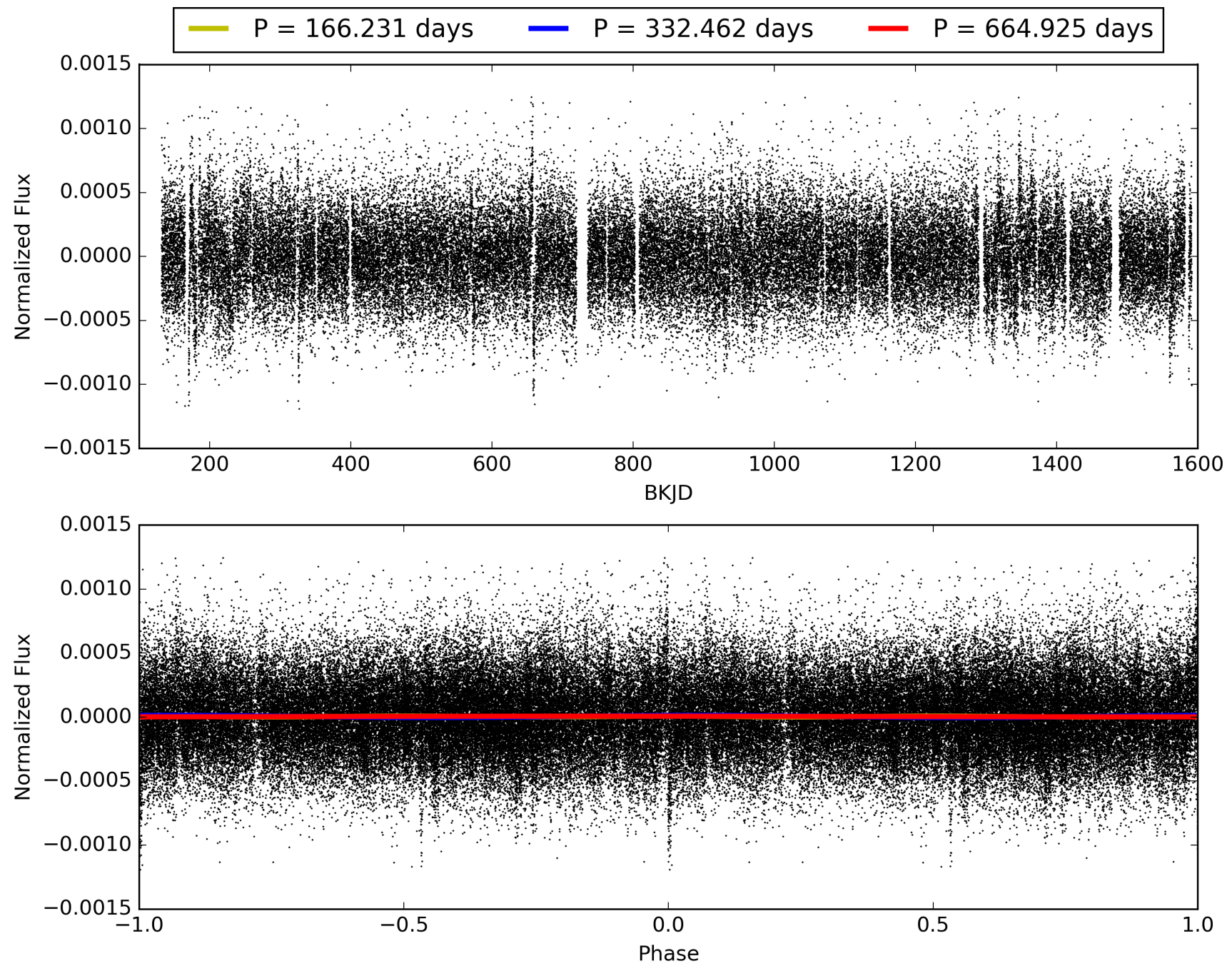
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:18:12 Z

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

# TCE 005443518-01, PDC Light Curves

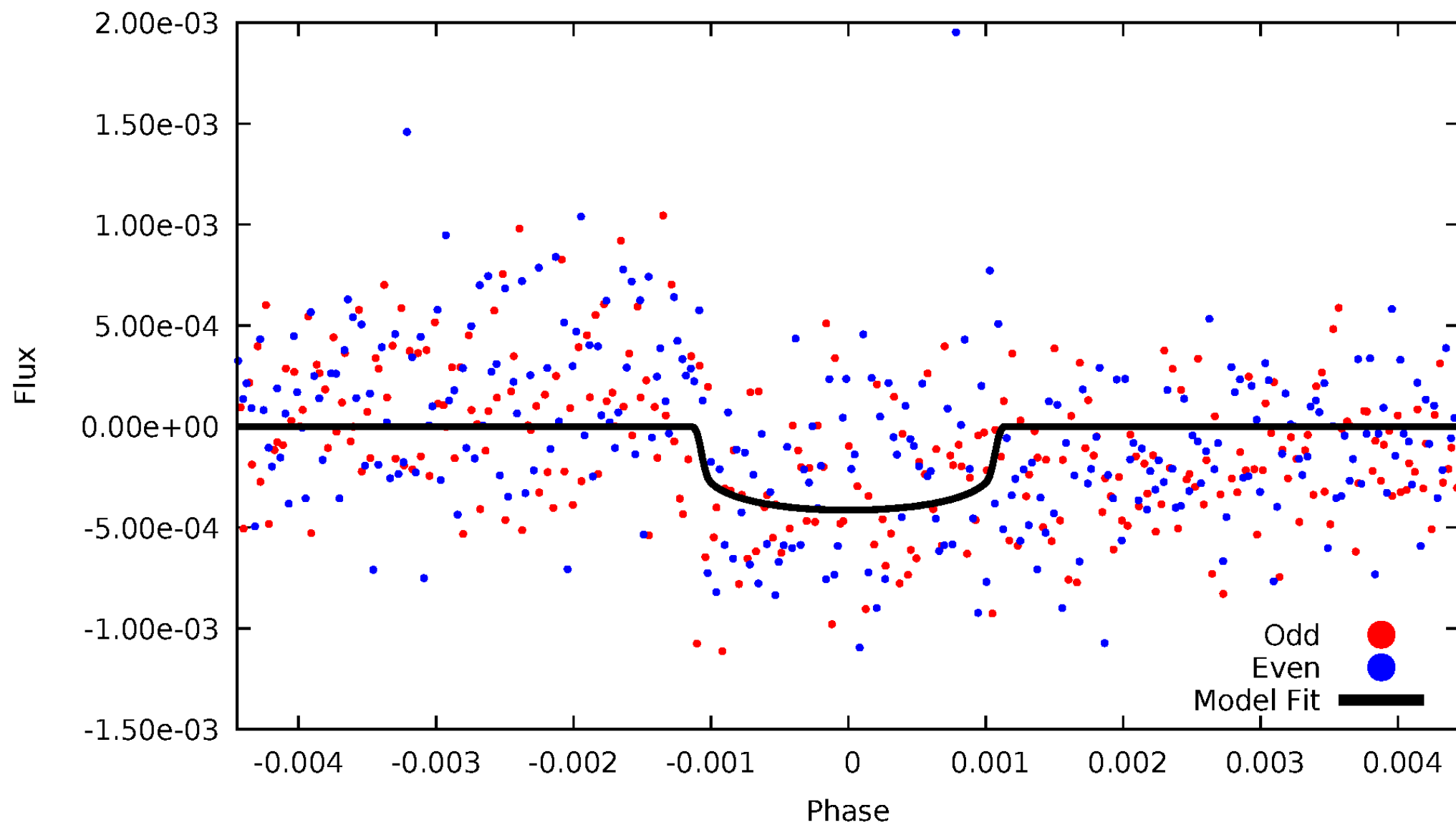


TCE 005443518-01



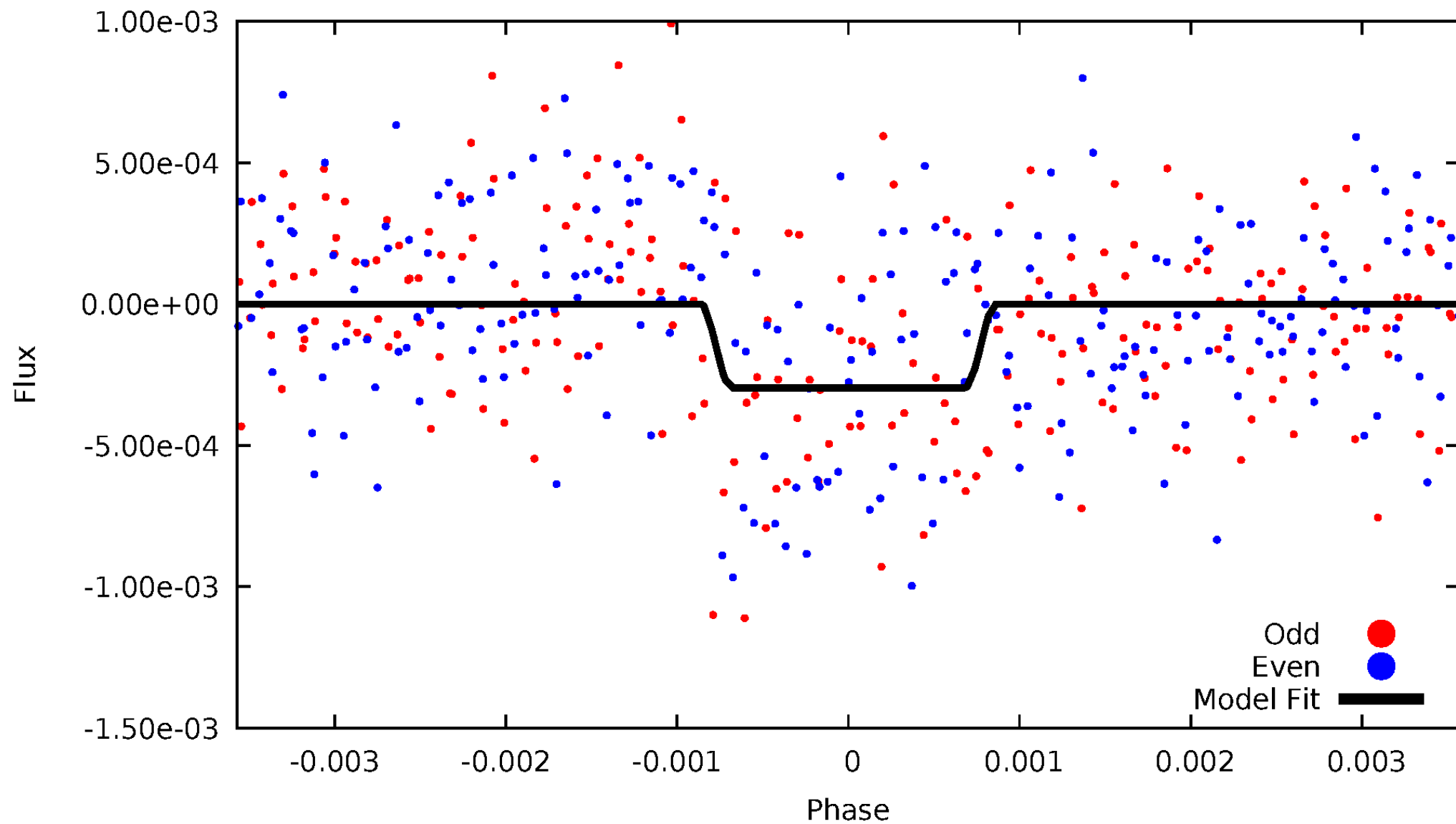
# DV Odd/Even

TCE 005443518-01



# ALT Odd/Even

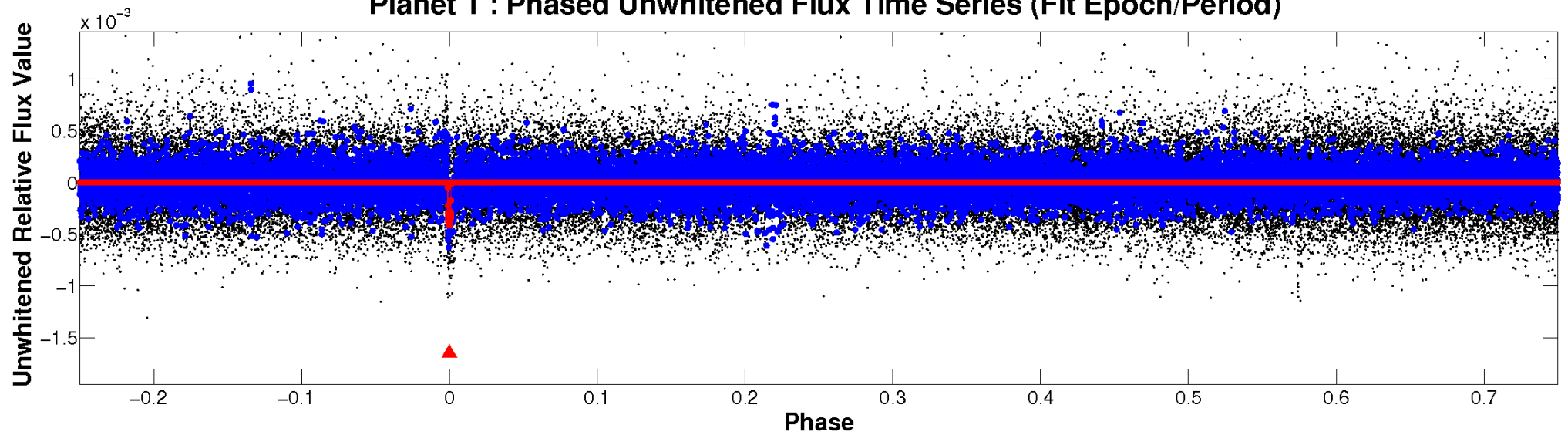
TCE 005443518-01



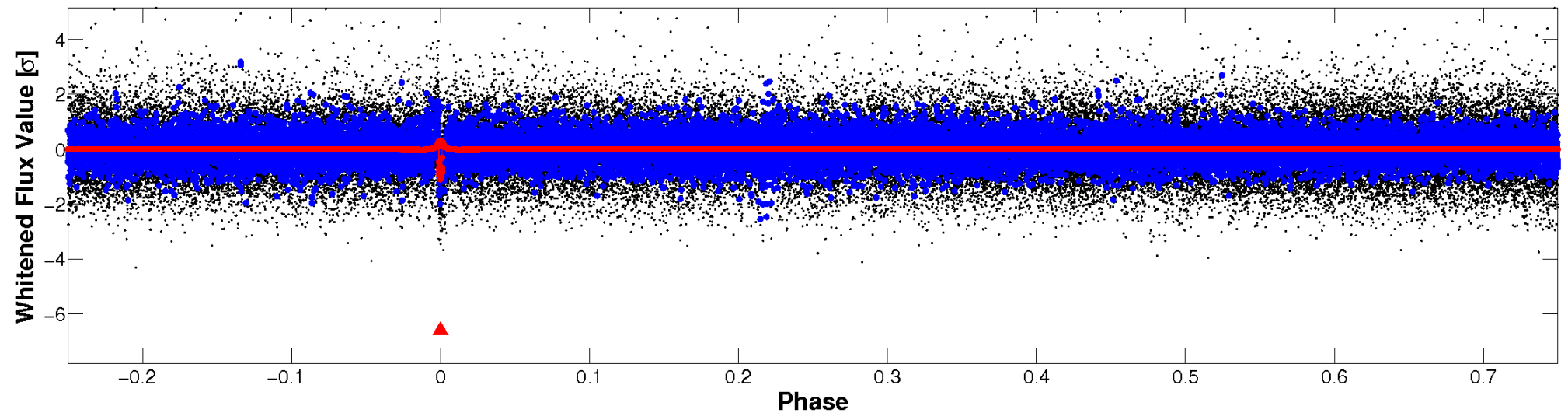


# Non-Whitened Vs. Whitened Light Curve

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

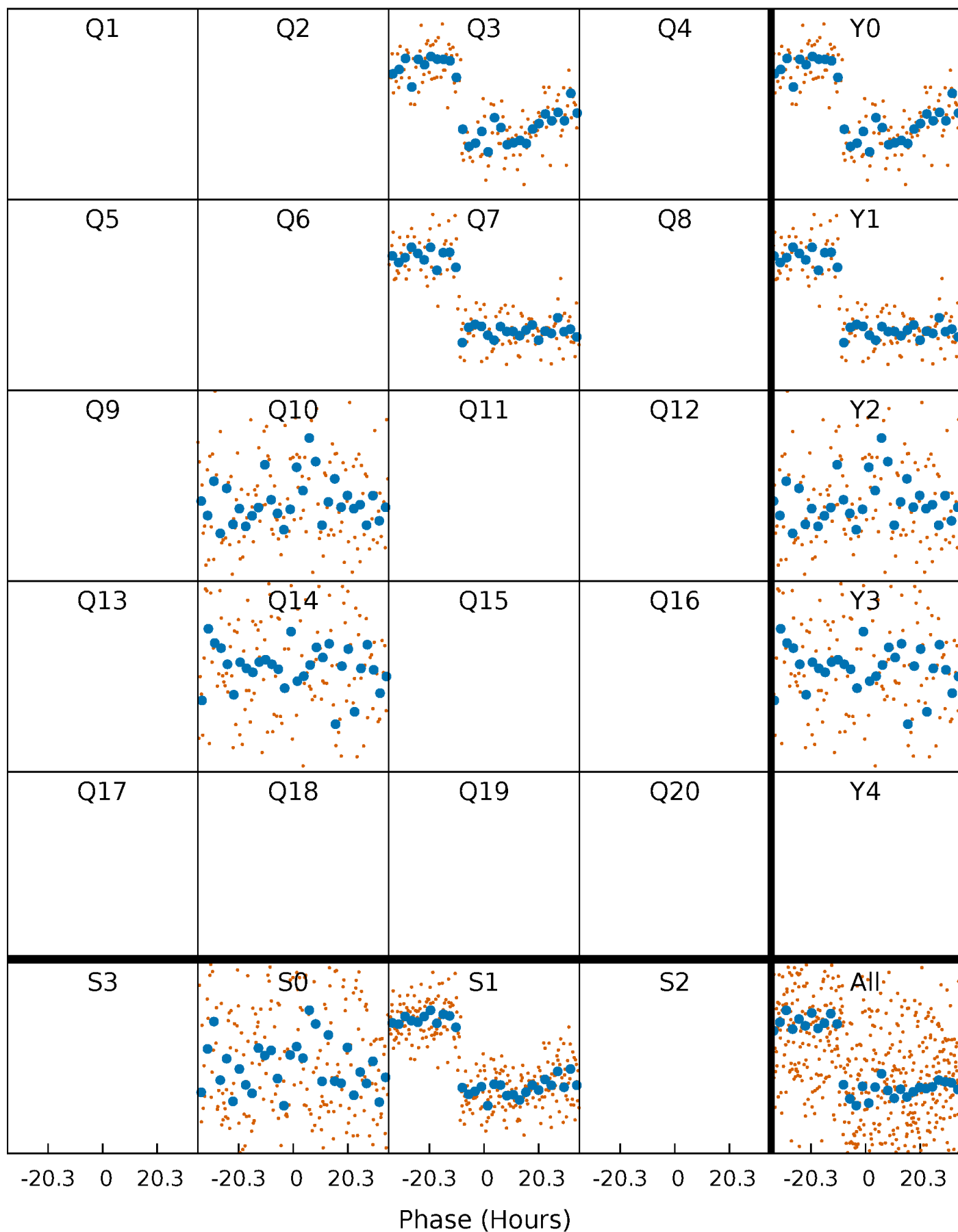


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

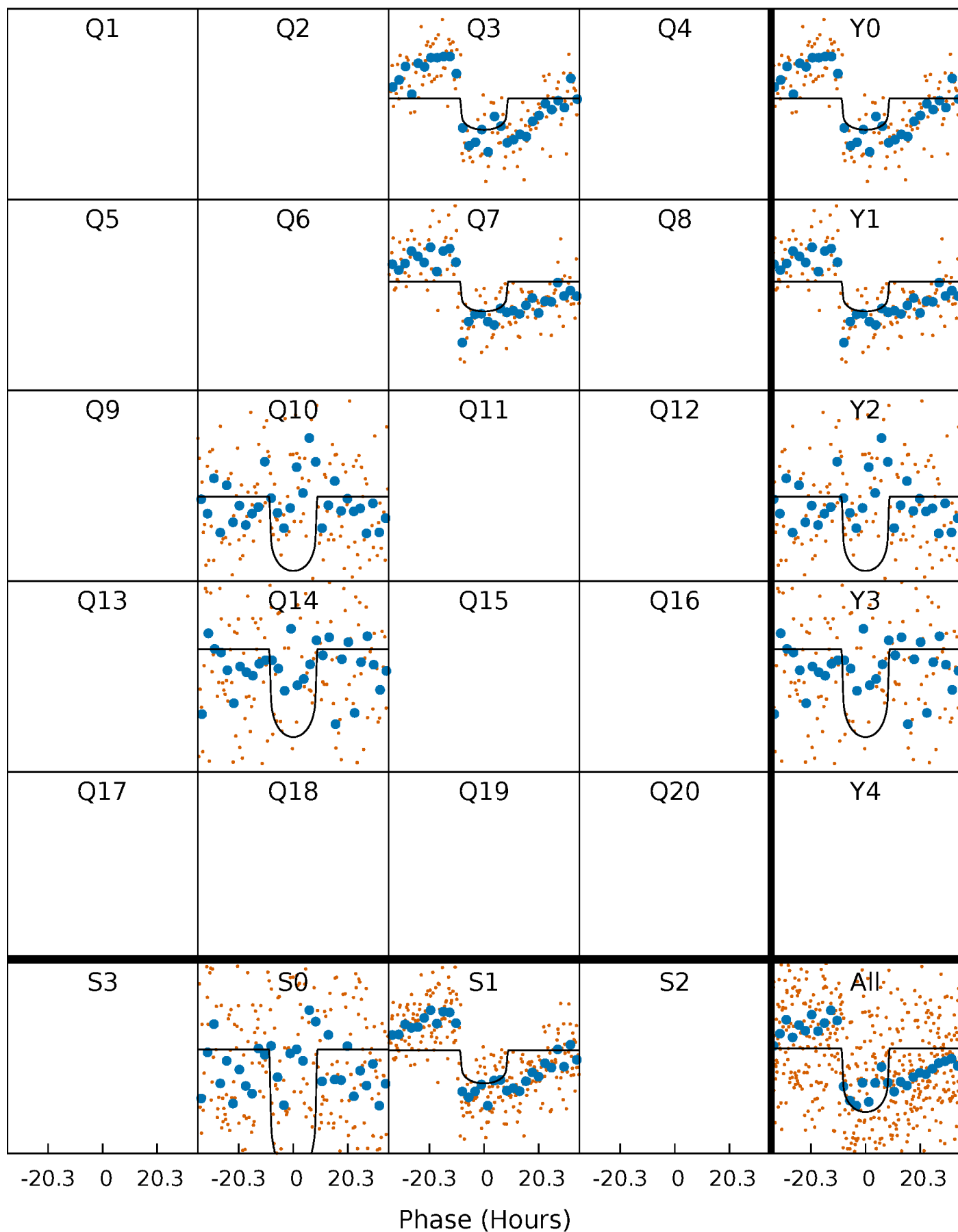
TCE 005443518-01 P=332.462481 Days  $T_0=325.704347$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 005443518-01 P=332.462481 Days  $T_0=325.704347$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

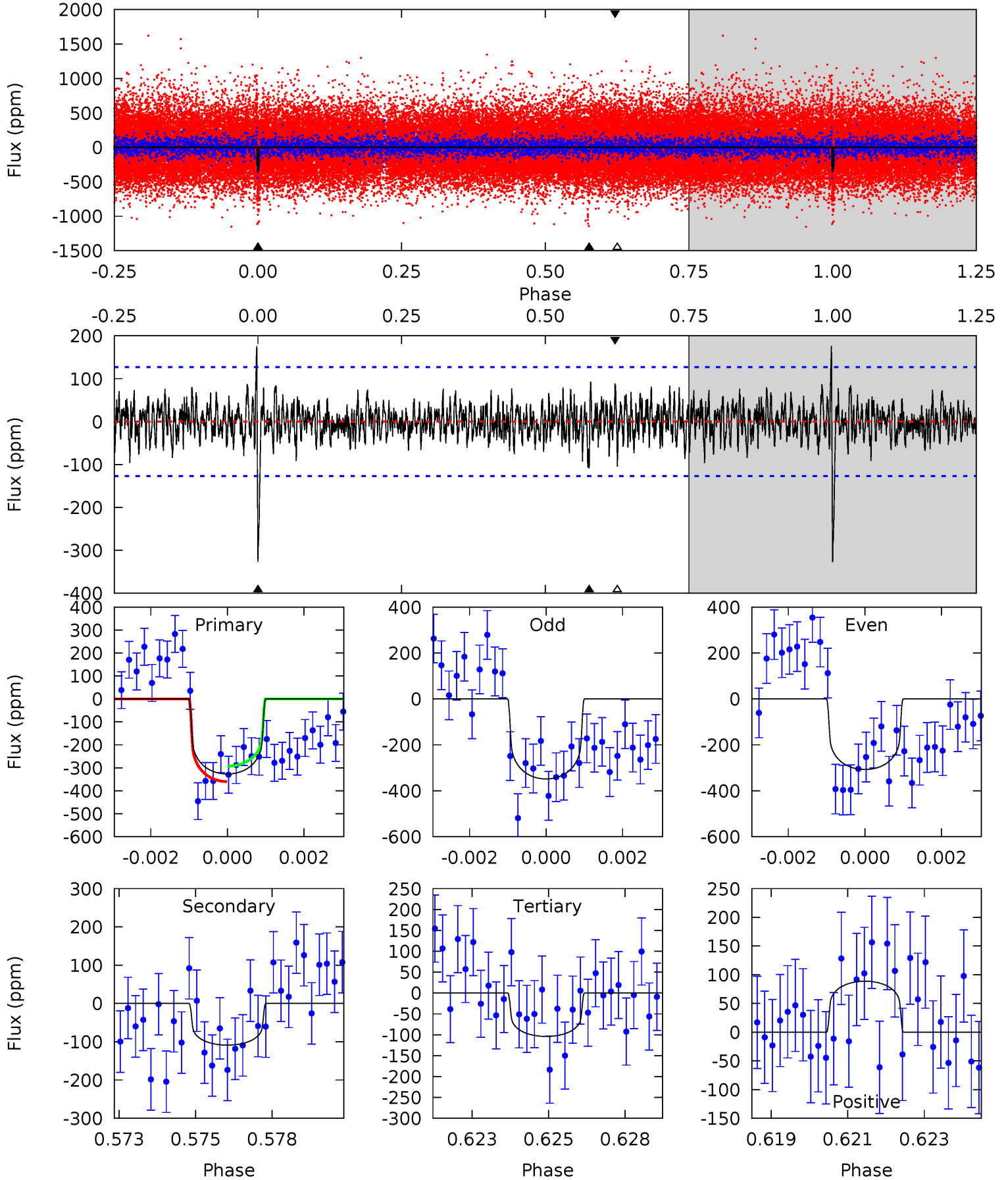
TCE 005443518-01 P=332.454021 Days  $T_0=325.608712$  (BKJD)



# DV Model-Shift Uniqueness Test

005443518-01, P = 332.462481 Days, E = 325.704347 Days

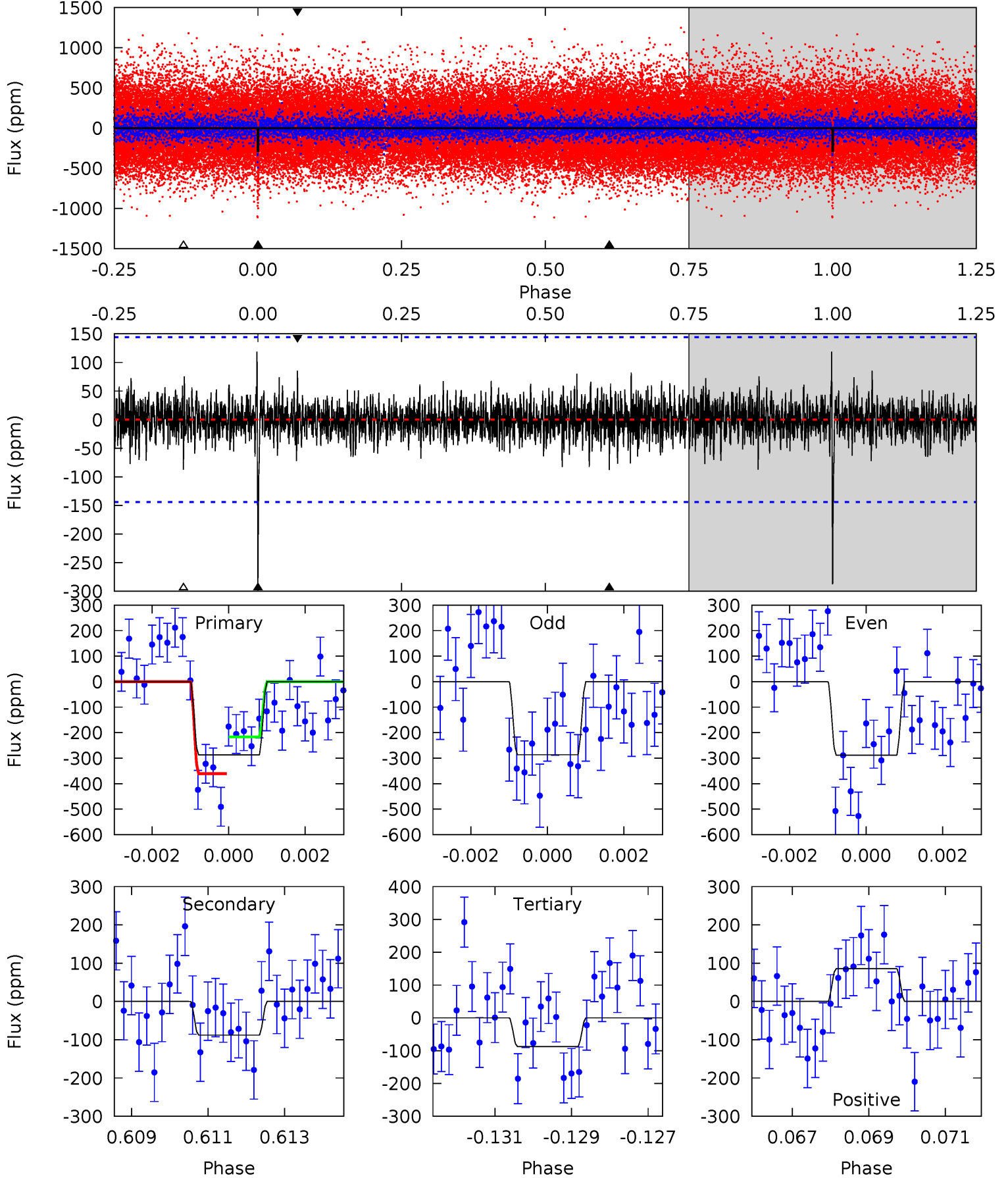
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	4.54	4.34	3.71	5.30	3.05	1.33	9.31	9.94	0.20	0.84	0.86	0.91	0.35	1.40



# Alt Model-Shift Uniqueness Test

005443518-01, P = 332.454021 Days, E = 325.608712 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
10.7	3.27	3.25	3.18	5.35	3.13	0.86	7.44	7.51	0.02	0.09	0.03	1.02	0.29	2.68



### Stellar Parameters For KIC 005443518

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5864^{+79}_{-79}$	$4.139^{+0.195}_{-0.105}$	$-0.280^{+0.150}_{-0.150}$	$1.351^{+0.203}_{-0.279}$	$0.918^{+0.063}_{-0.063}$	$0.524^{+0.541}_{-0.167}$
	+1%/-1%	+5%/-3%	+54%/-54%	+15%/-21%	+7%/-7%	+103%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005443518-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-109 \pm 24$	$2.80^{+1.05}_{-0.98}$	$439^{+20}_{-25}$	$4465^{+865}_{-504}$	$6103^{+9017}_{-3027}$
Alt.	$-88 \pm 27$	$2.46^{+1.00}_{-1.01}$	$435^{+21}_{-24}$	$4478^{+1059}_{-532}$	$6396^{+11769}_{-3392}$

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

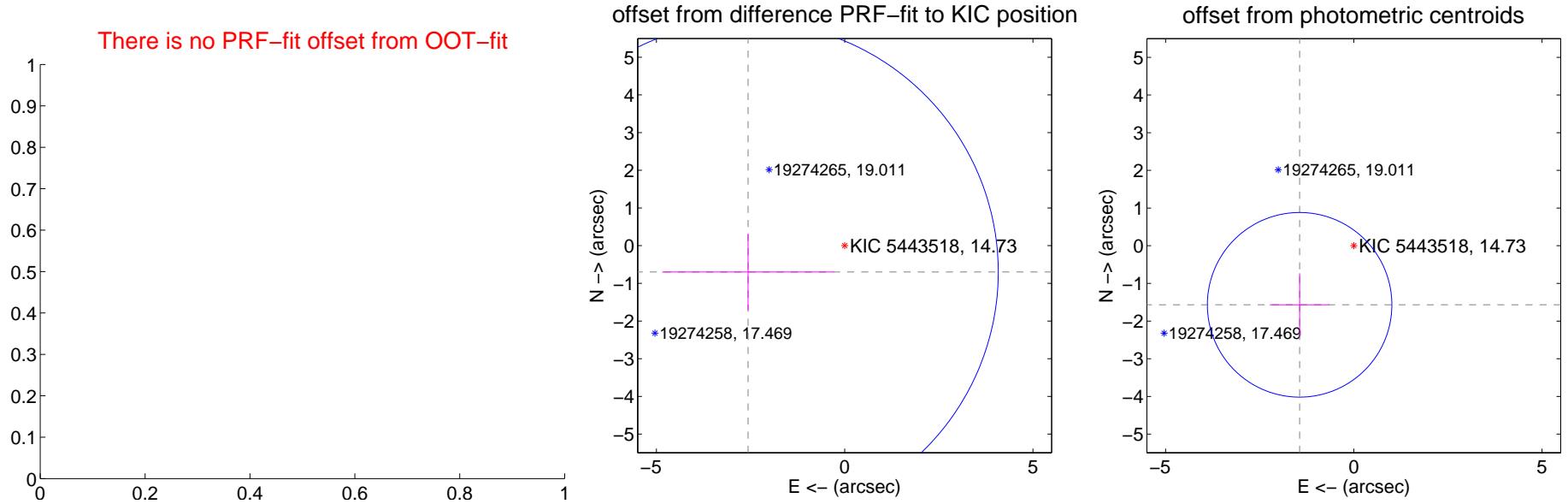
## DV Centroid Data

Supplemental centroid analysis for 005443518-01. Kepler magnitude: 14.73. Transit SNR 11.06

There are 1 quarters with good PRF difference image offsets

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

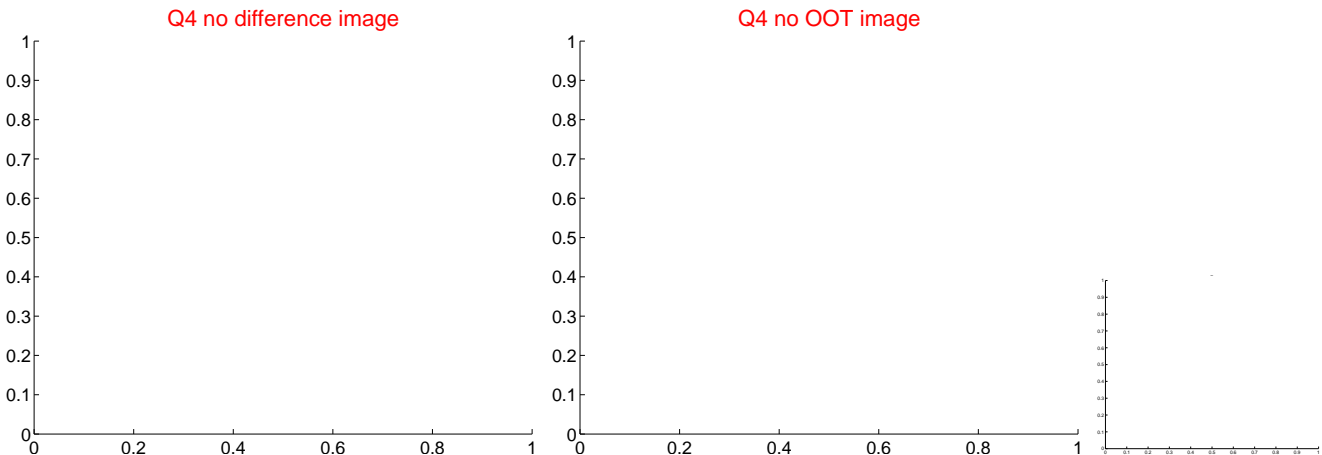
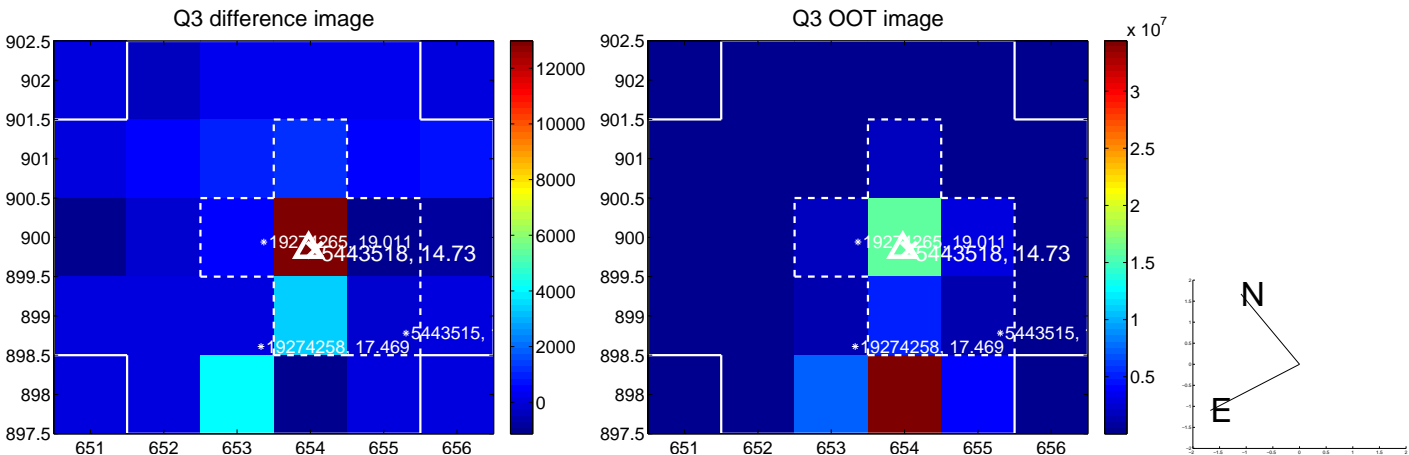
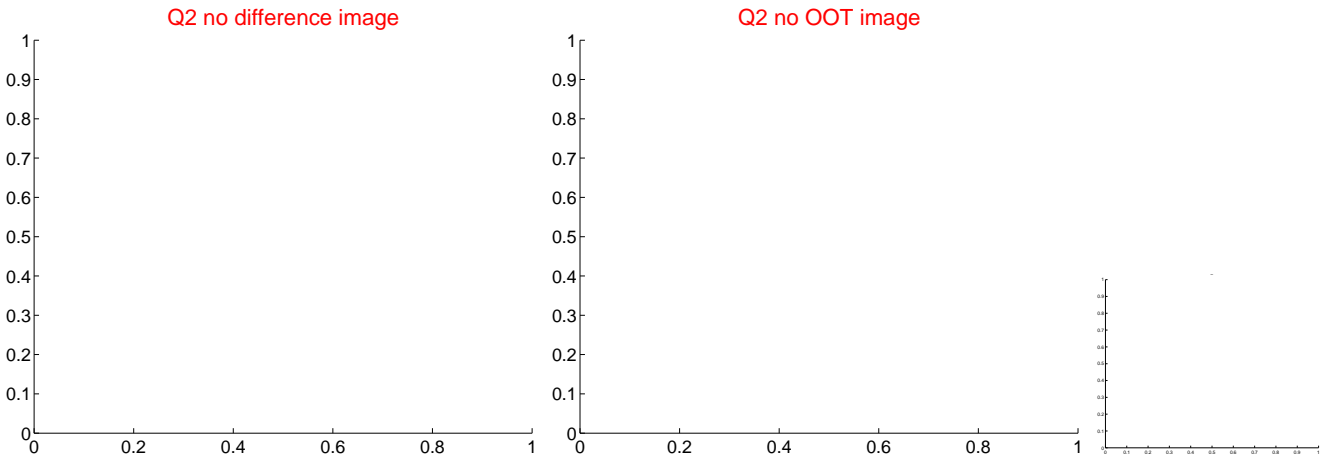
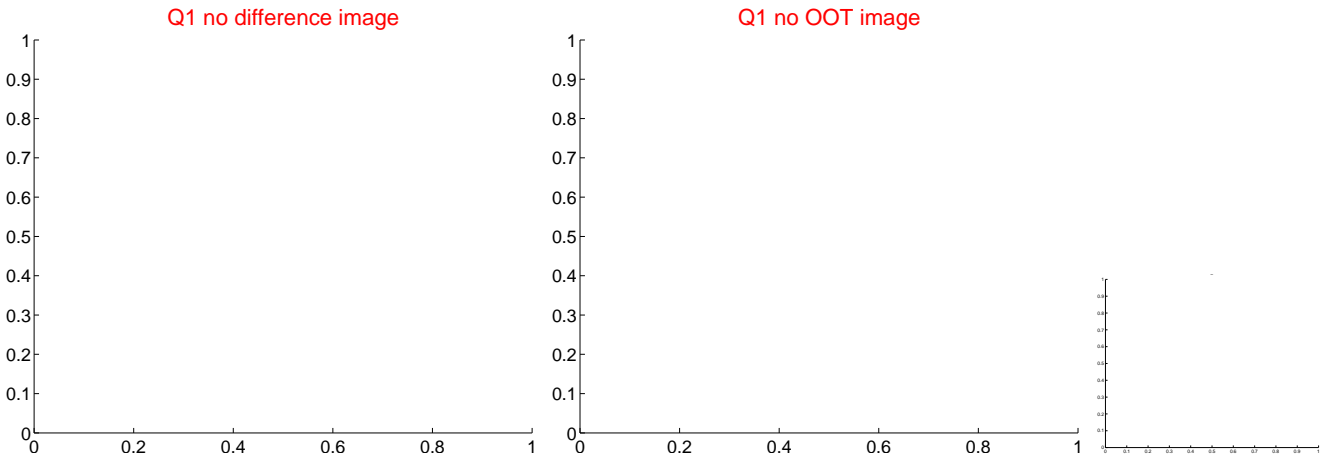
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	$2.660 \pm 2.215$	1.20	$2.566 \pm 2.279$	$-0.698 \pm 1.014$
photometric centroid source offset	$2.13 \pm 0.82$	2.61	$1.44 \pm 0.79$	$-1.57 \pm 0.84$



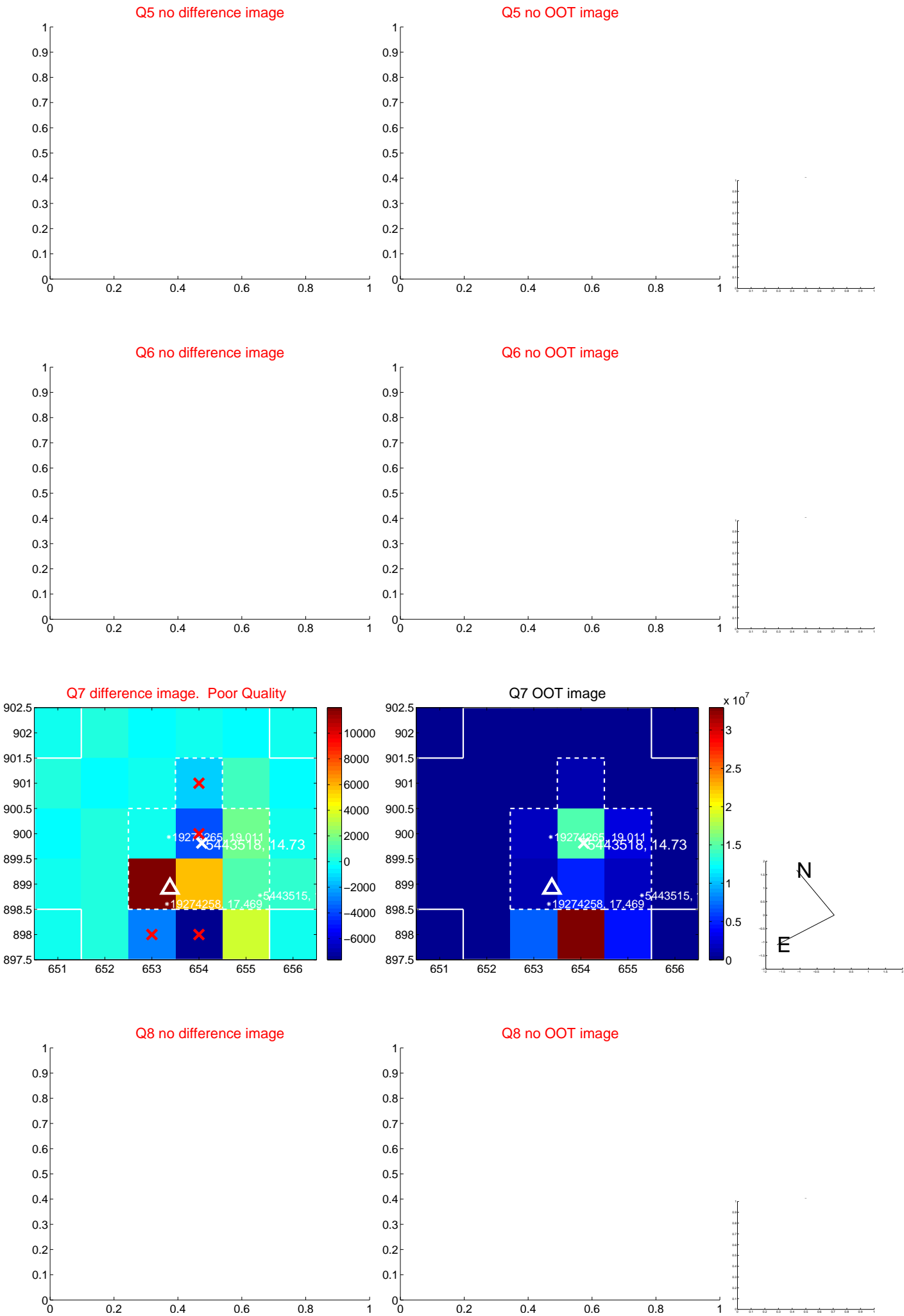
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



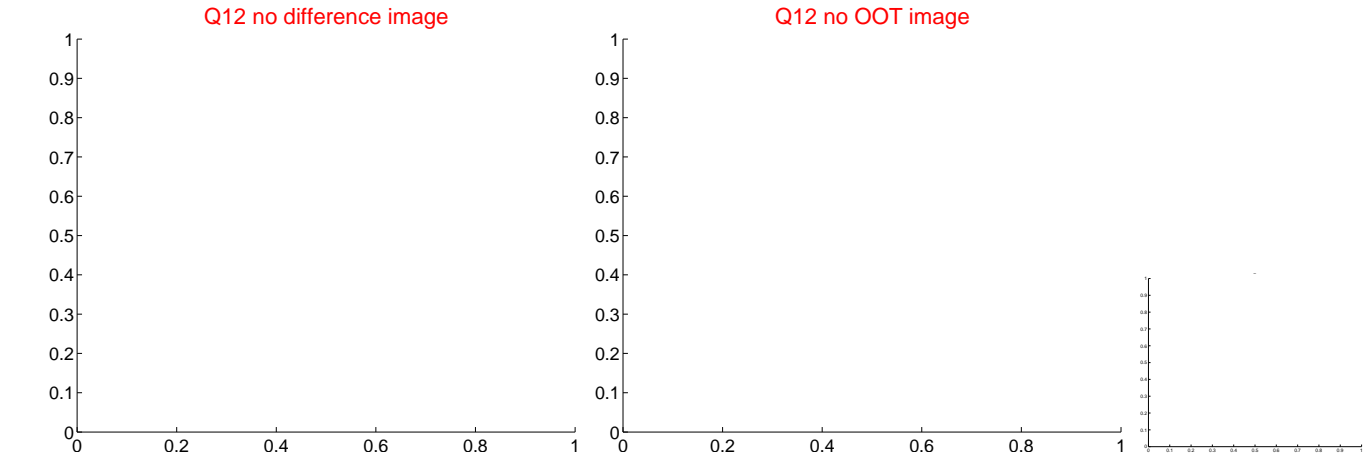
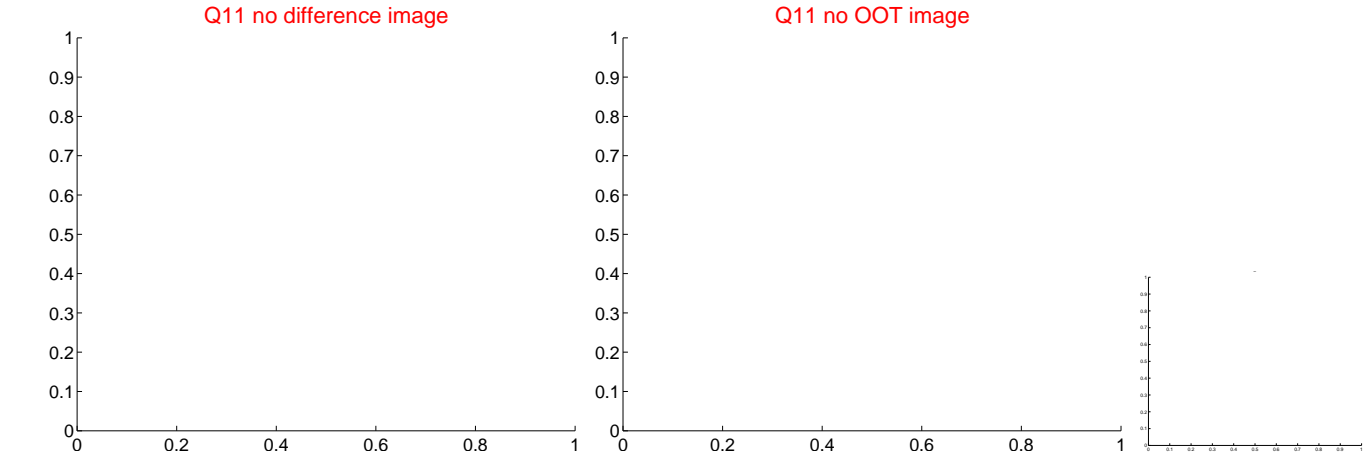
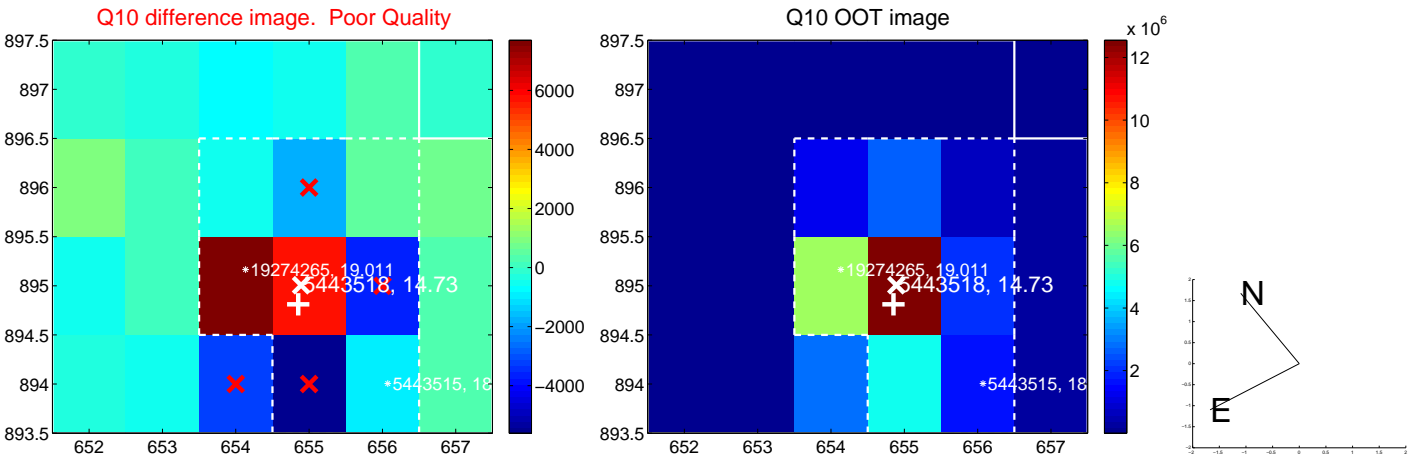
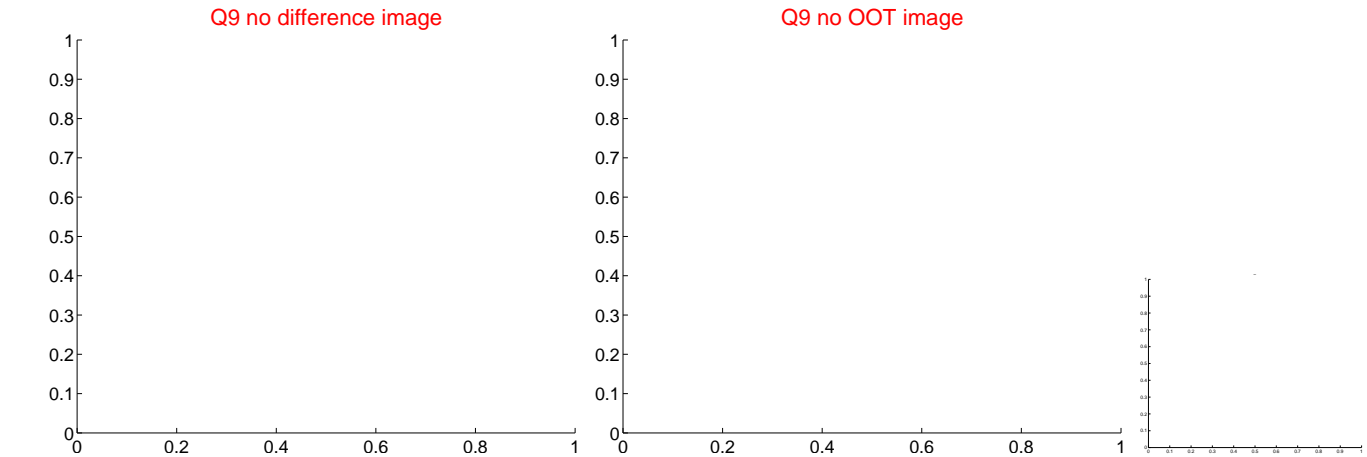
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



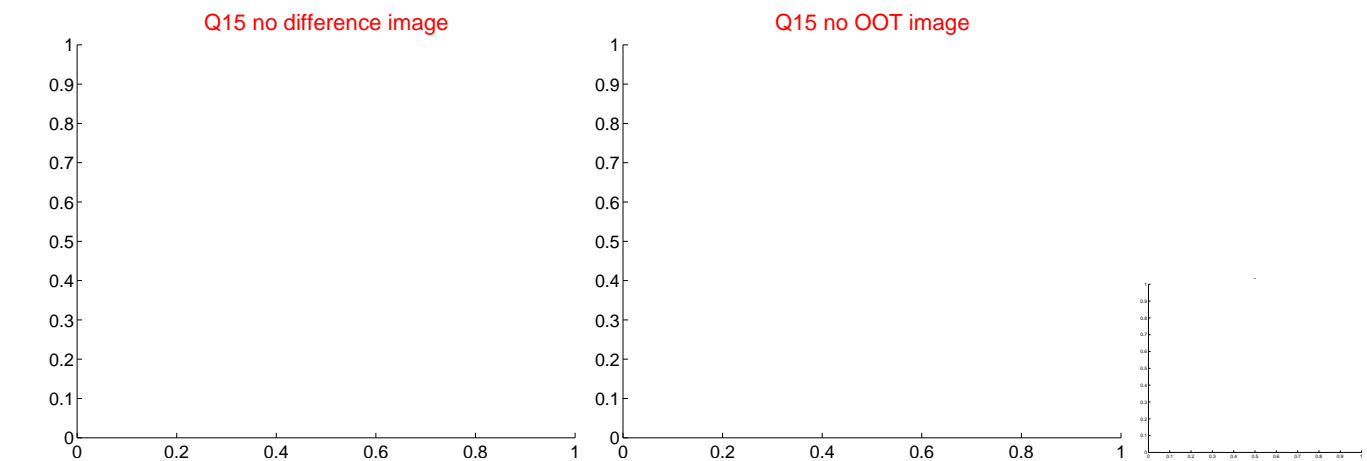
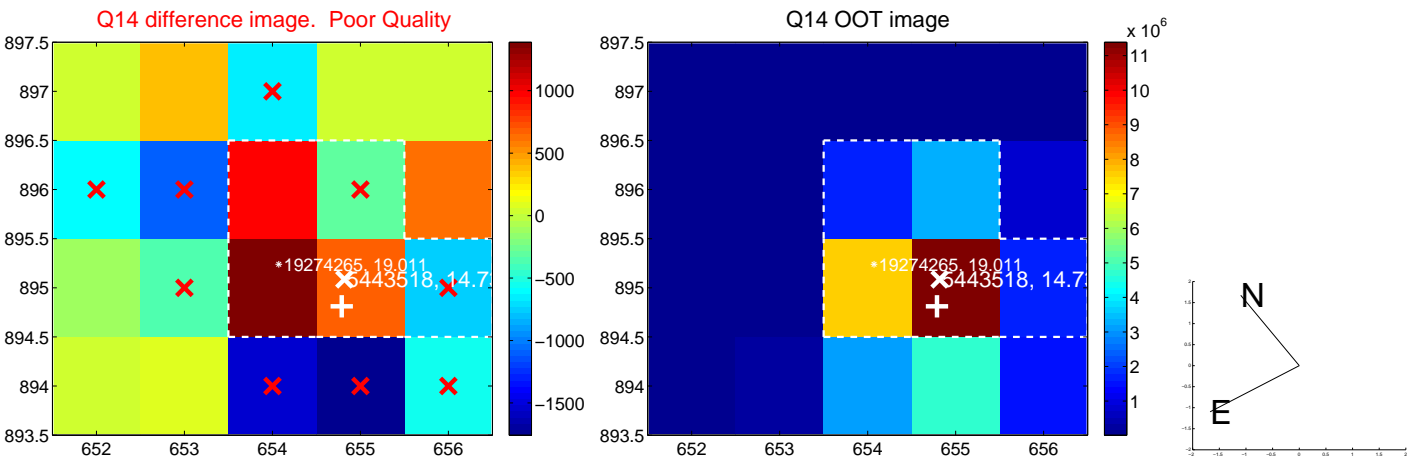
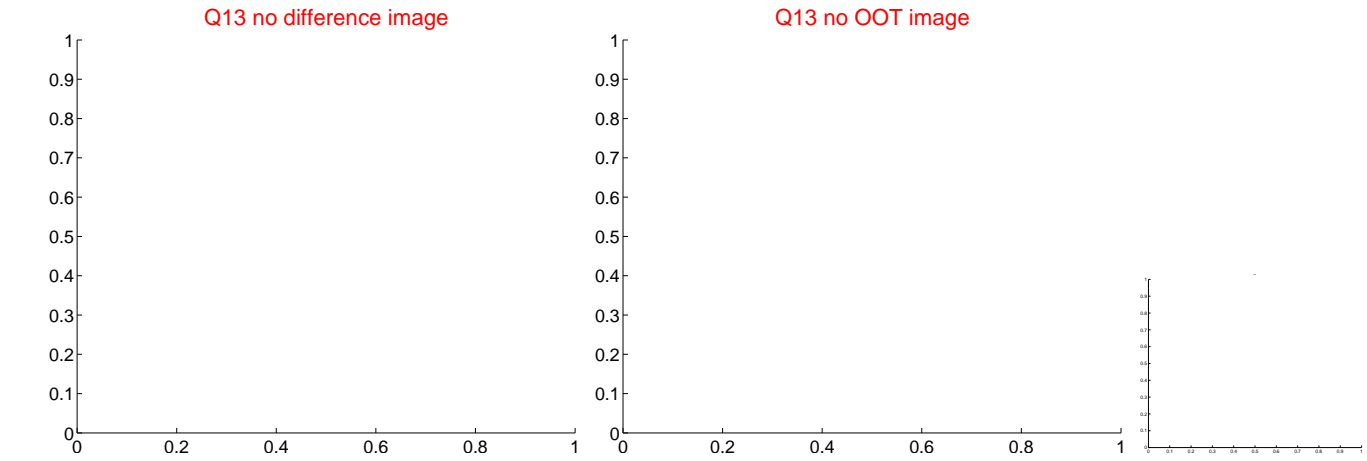
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



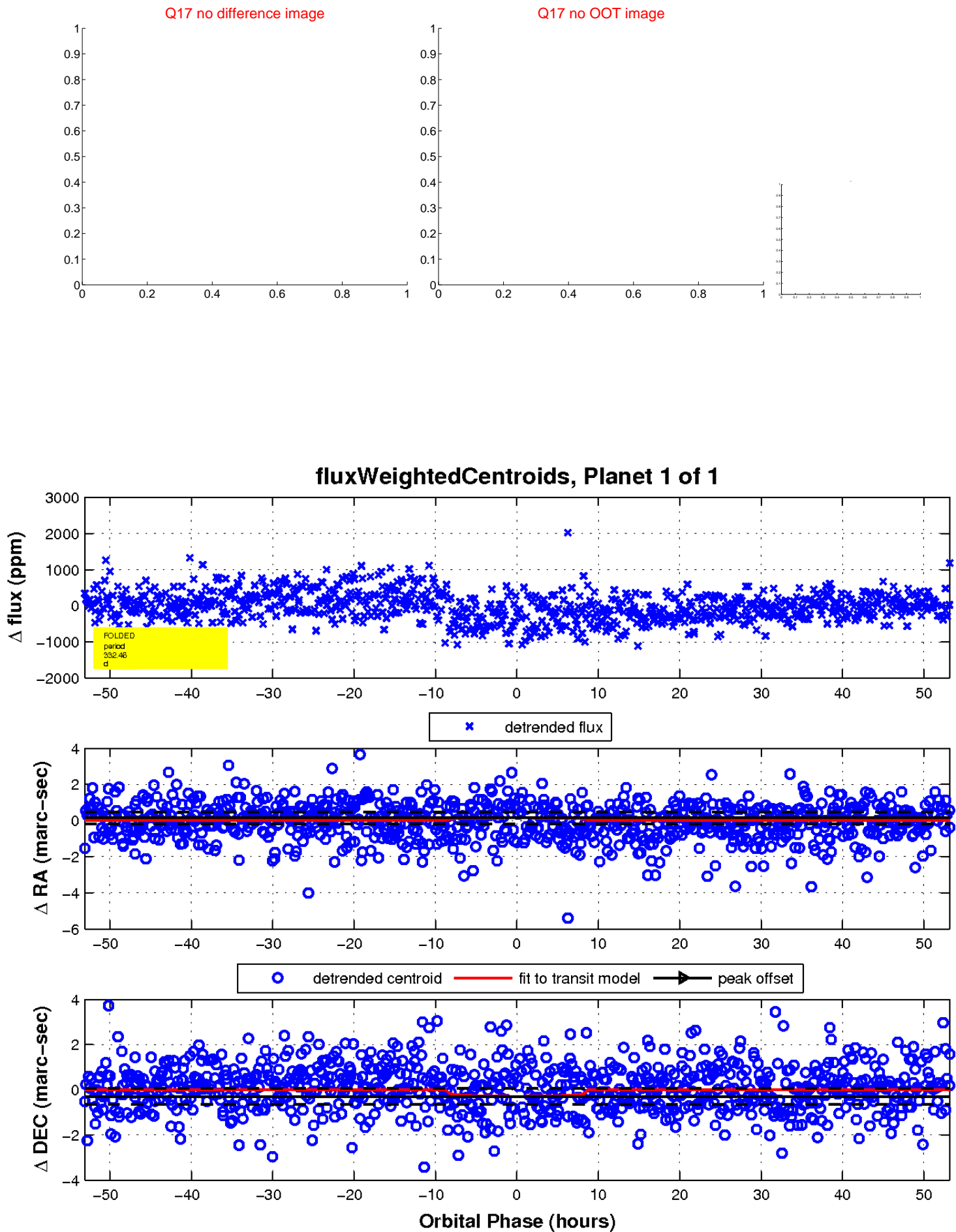
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

