

# KIC 007955100

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007955100-01	OBS	No	543.142701	482.669308	199.7	7.272	7.3	6.5	1.12	6340	1.79	1.08

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007955100-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

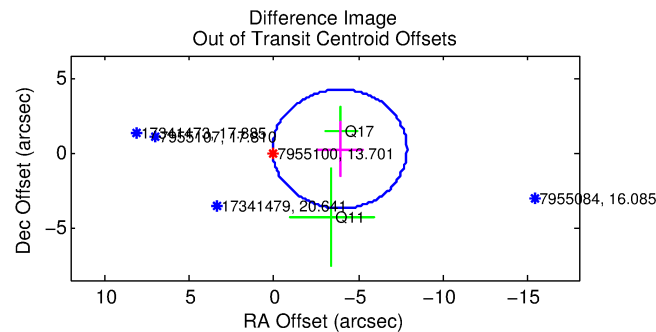
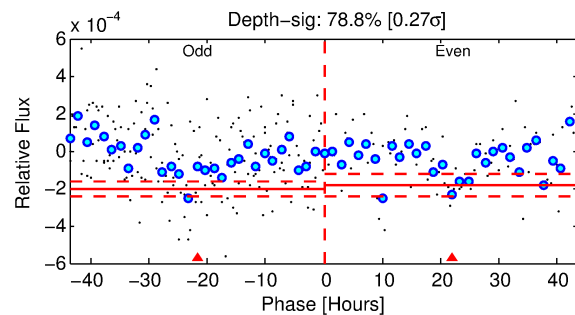
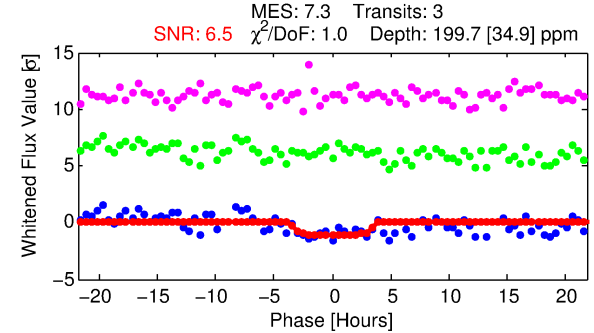
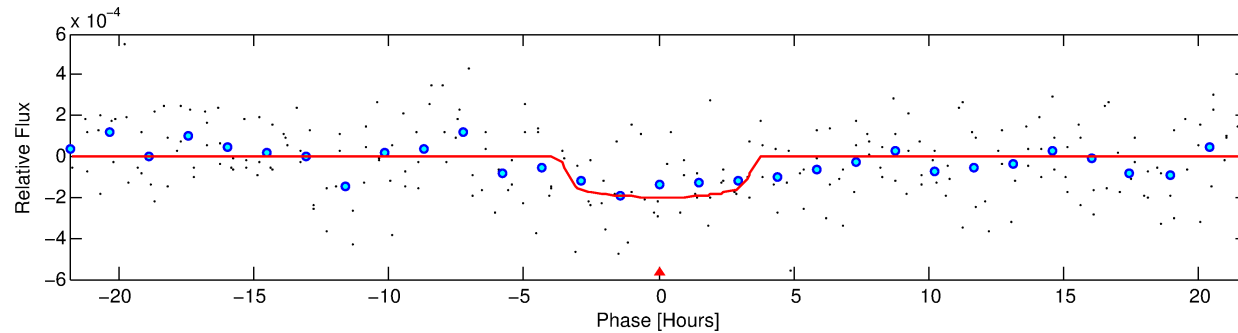
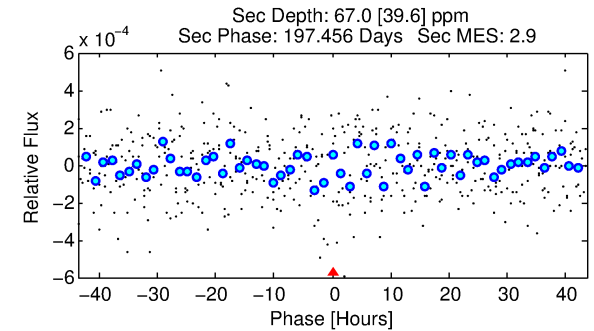
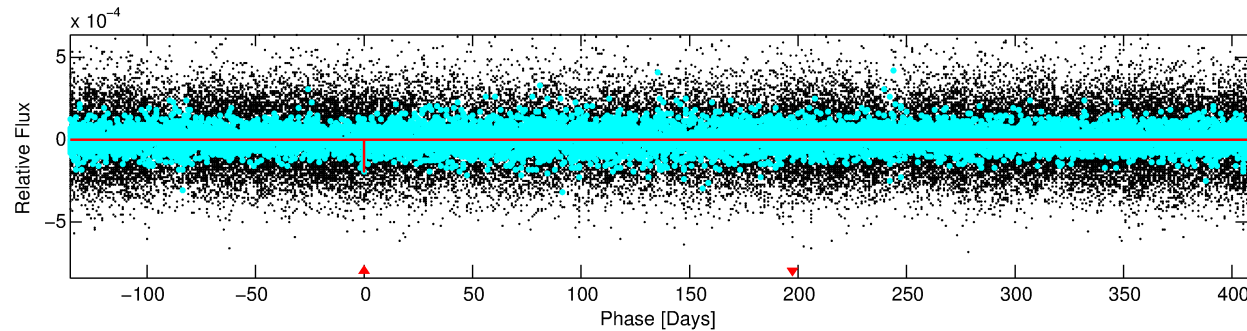
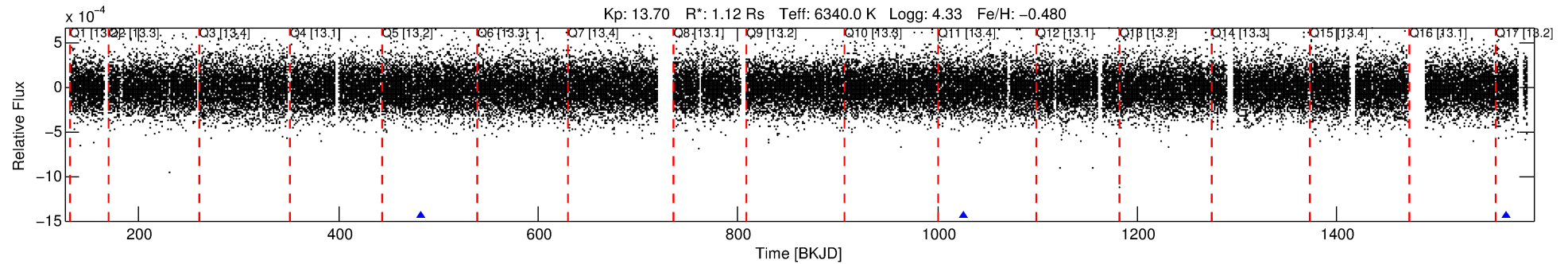
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007955100-01

No Significant Match Found

# DV One-Page Summary

KIC: 7955100 Candidate: 1 of 1 Period: 543.143 d



## DV Fit Results:

Period = 543.14270 [0.01435] d  
Epoch = 482.6693 [0.0208] BKJD  
Rp/R\* = 0.0147 [0.0139]  
a/R\* = 309.99 [1655.43]  
b = 0.86 [1.67]  
Seff = 1.08 [0.38]  
Teq = 260 [23] K  
Rp = 1.79 [1.76] Re  
a = 1.2895 [0.2894] AU  
Ag = 19129.76 [38465.16] [0.50σ]  
Teffp = 4731 [2352] K [1.90σ]

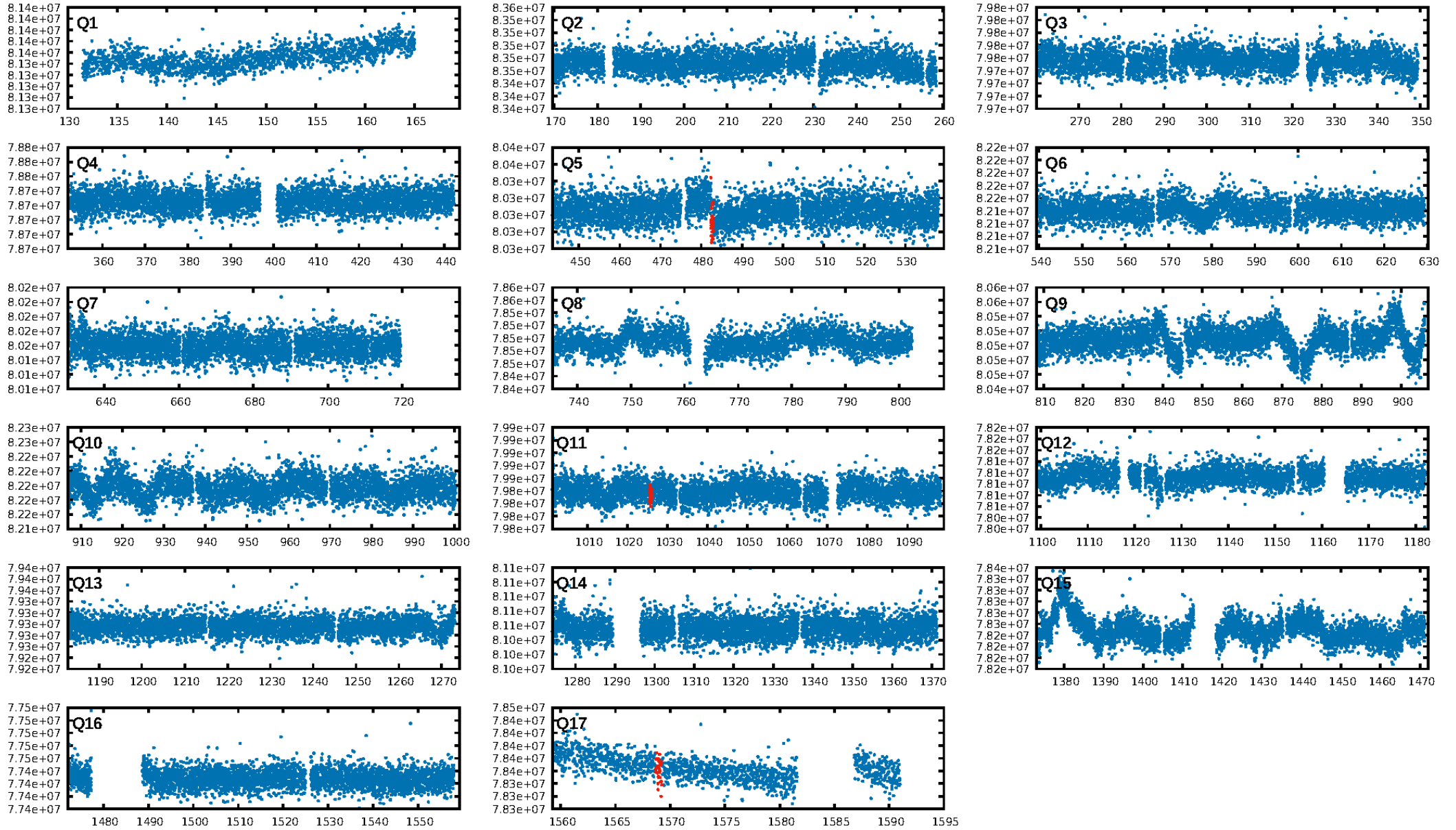
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 16.3%  
ModelChiSquareGof-sig: 99.6%  
Bootstrap-pfa: 6.90e-14  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: 8.804  
Centroid-sig: 90.5%  
Centroid-so: 0.790 arcsec [0.36σ]  
OotOffset-rm: 3.902 arcsec [2.95σ]  
OotOffset-st: 0/1/0/1 [2]  
KicOffset-rm: 3.860 arcsec [2.92σ]  
KicOffset-st: 0/1/0/1 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [3/3]

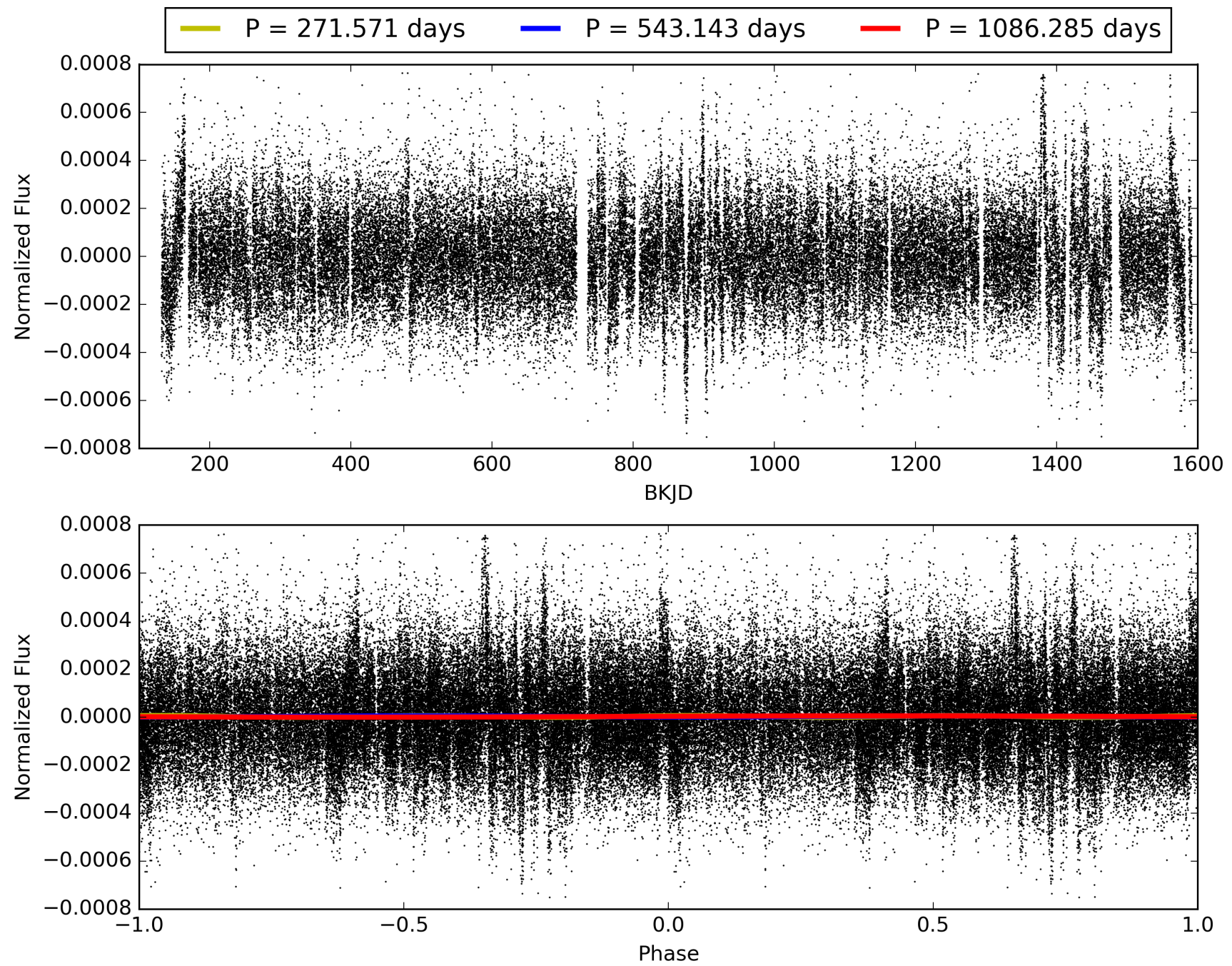
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:37:40 Z

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

# TCE 007955100-01, PDC Light Curves

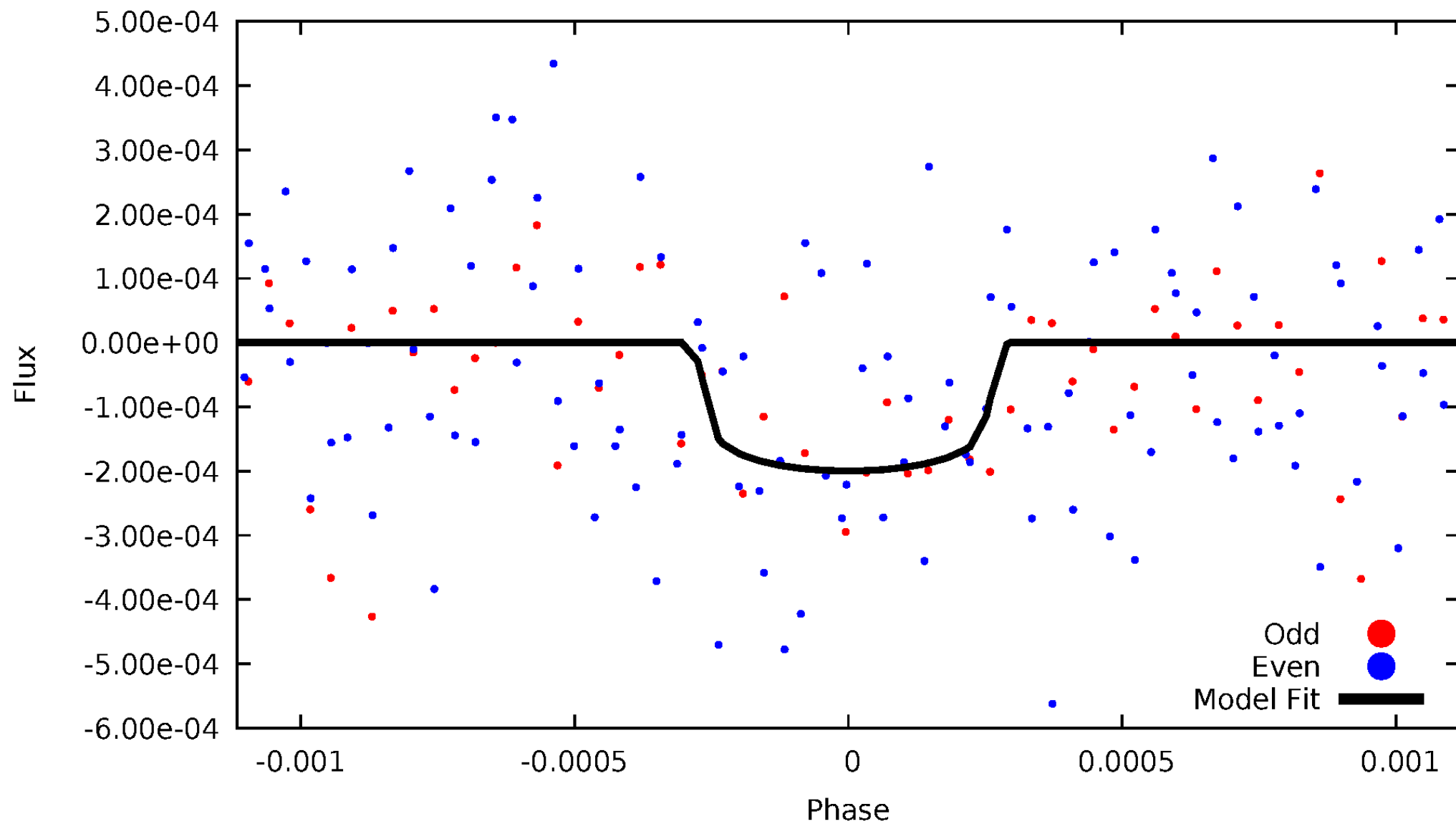


TCE 007955100-01



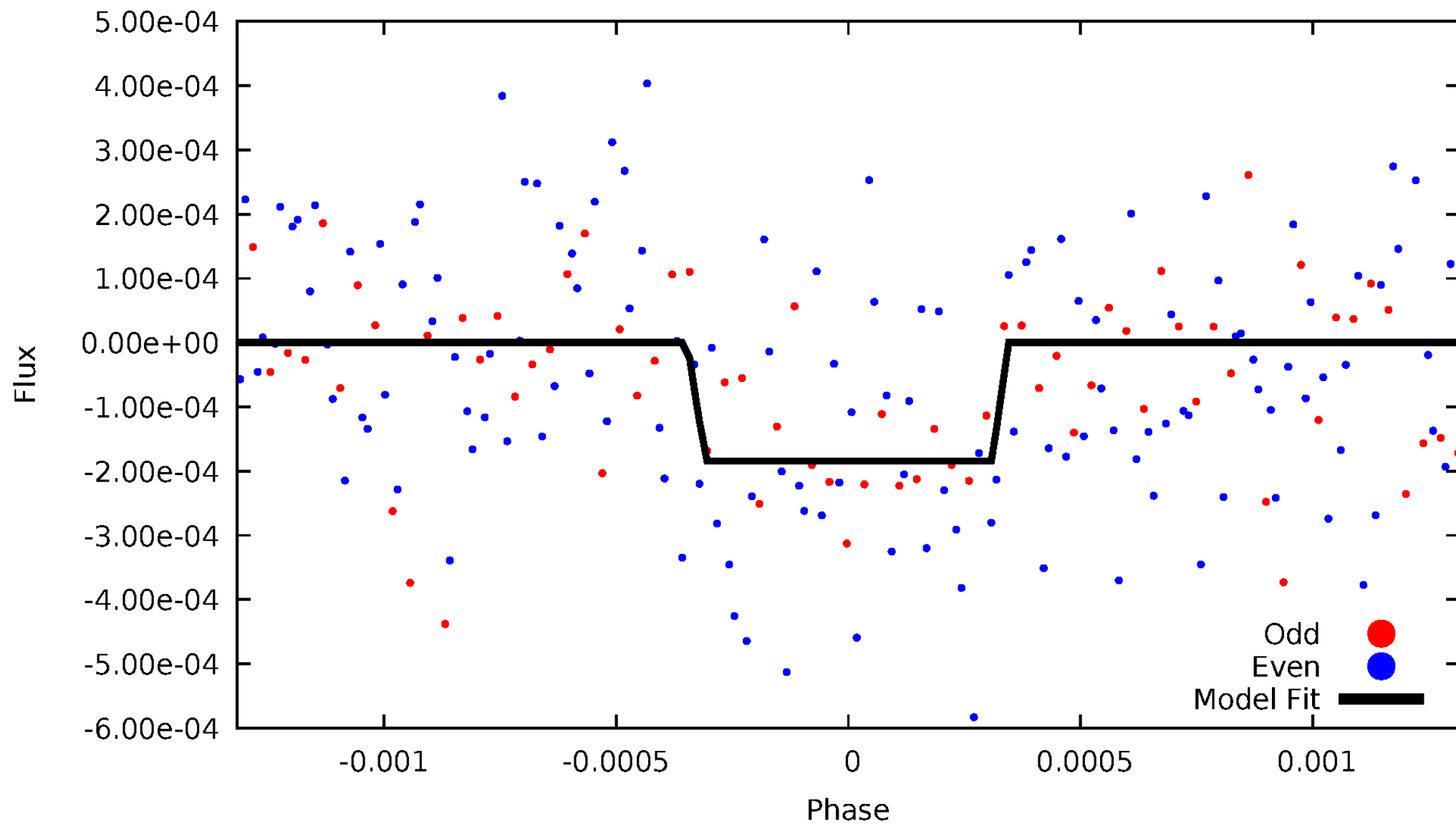
# DV Odd/Even

TCE 007955100-01



# ALT Odd/Even

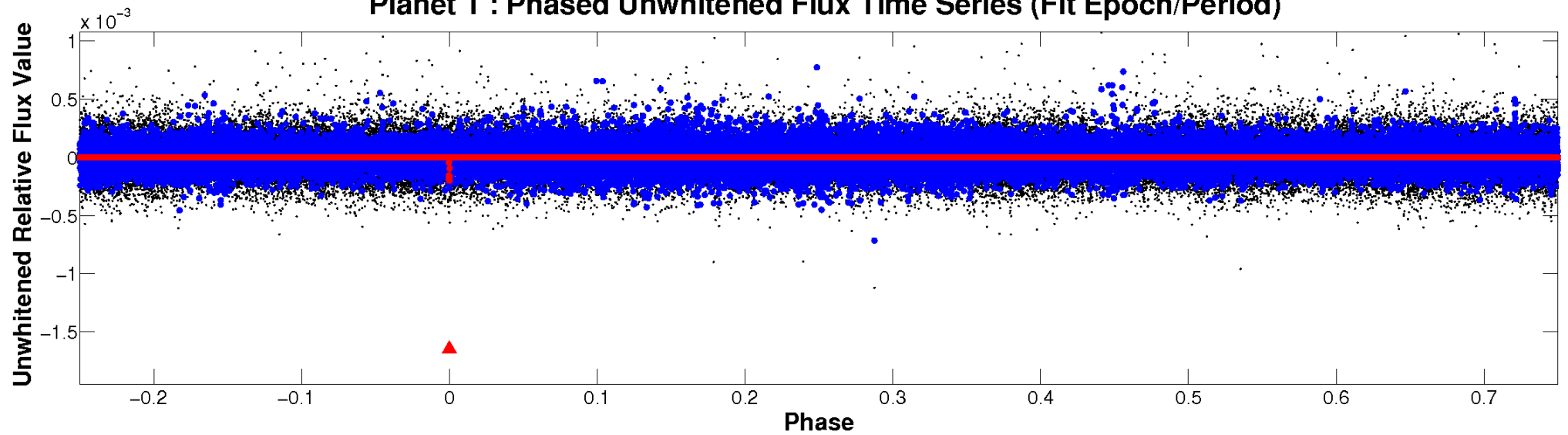
TCE 007955100-01



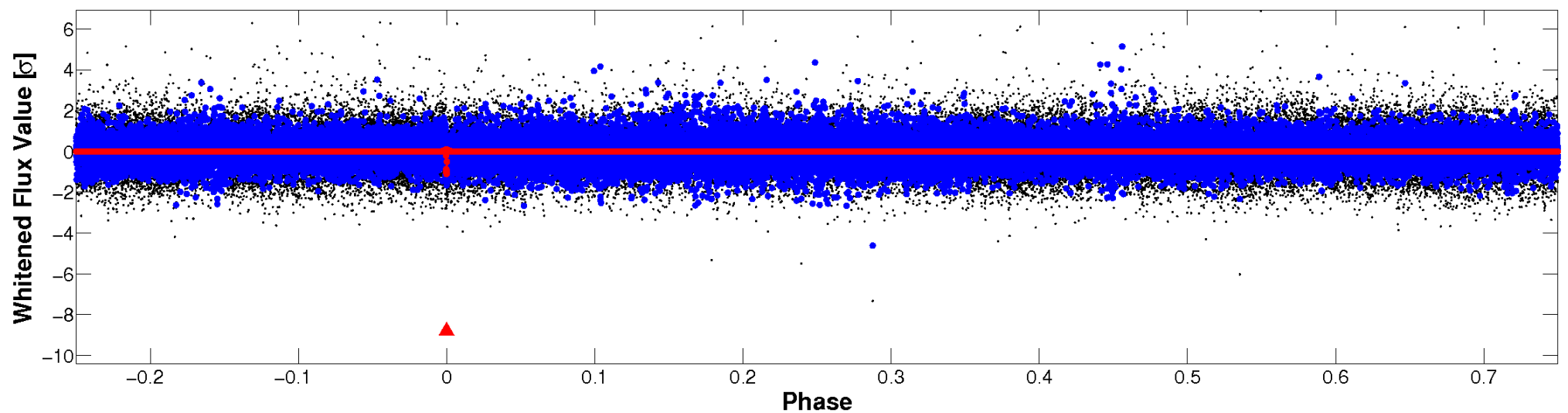


# Non-Whitened Vs. Whitened Light Curve

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

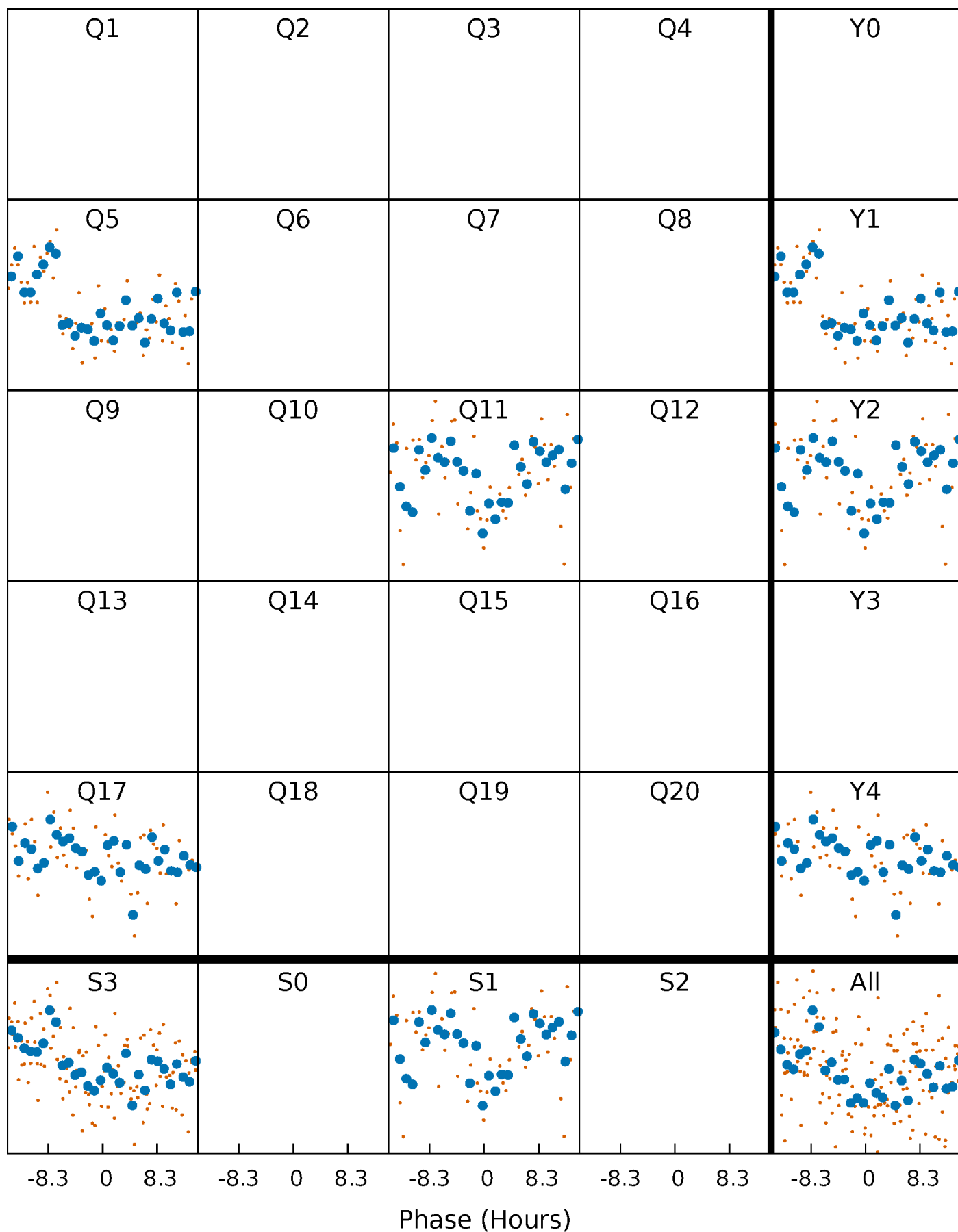


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 007955100-01 P=543.142701 Days  $T_0=482.669308$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 007955100-01 P=543.142701 Days  $T_0=482.669308$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

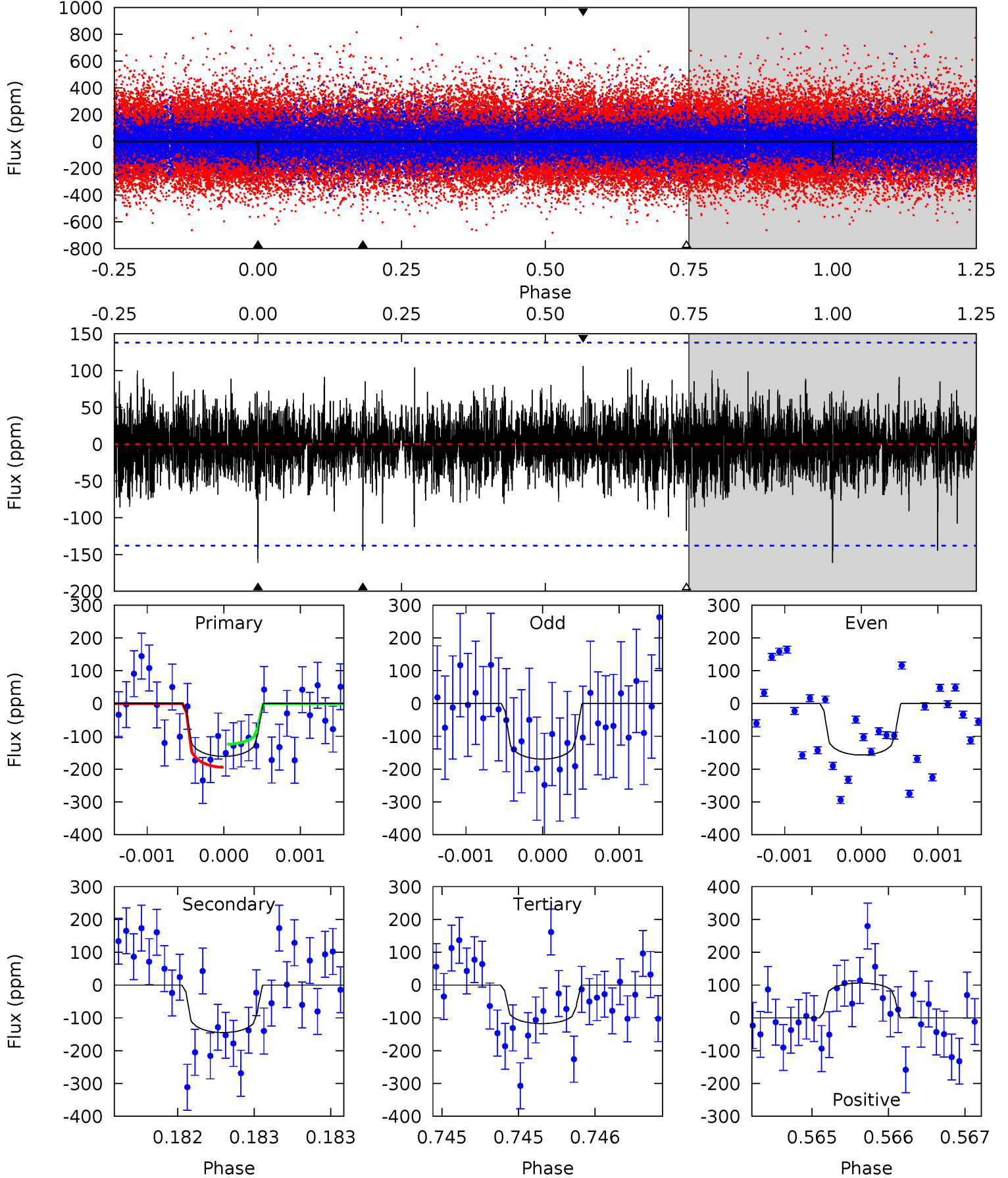
TCE 007955100-01 P=543.198948 Days  $T_0=482.612387$  (BKJD)



# DV Model-Shift Uniqueness Test

007955100-01, P = 543.142701 Days, E = 482.669308 Days

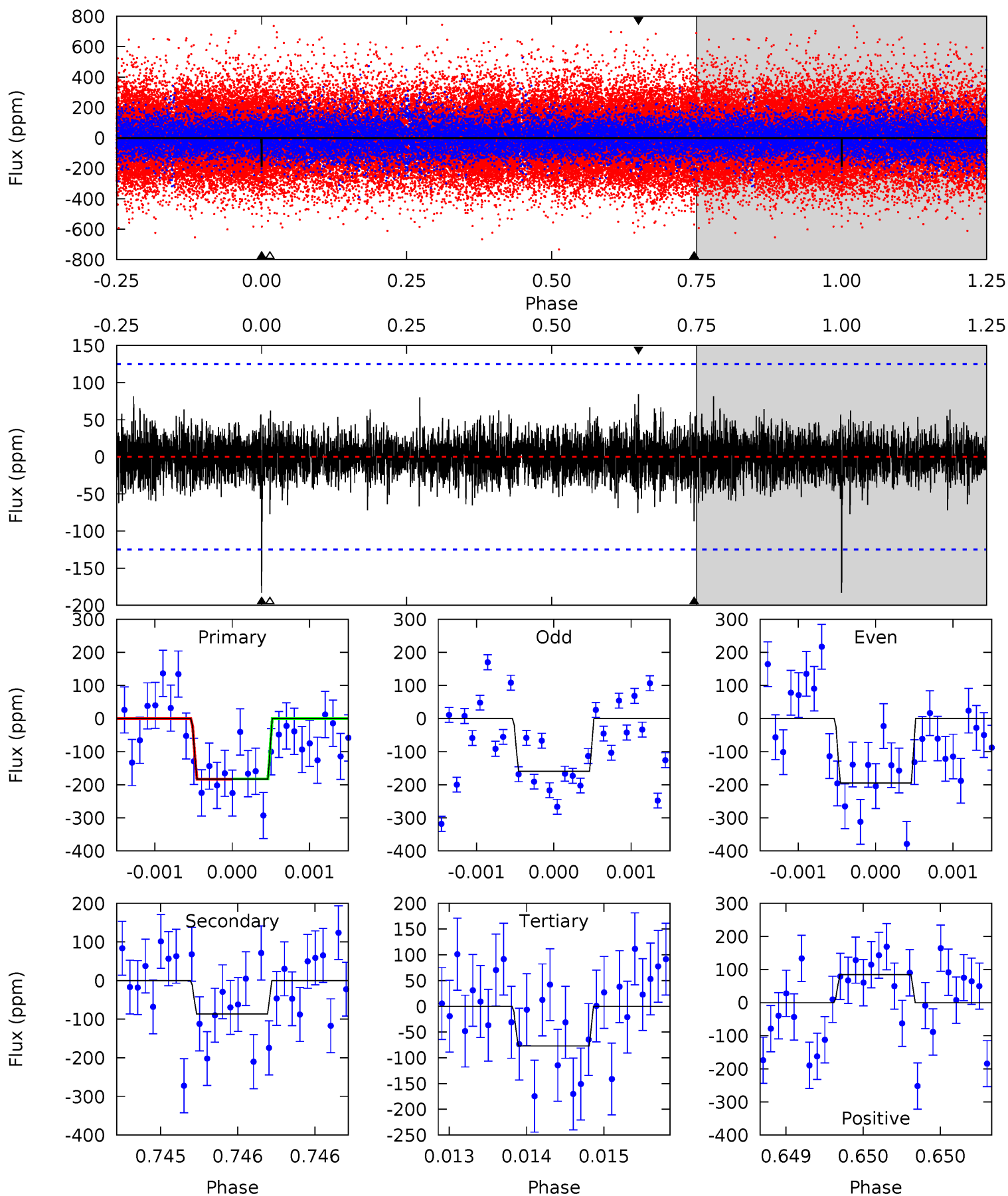
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.49	5.83	4.73	4.27	5.55	3.45	1.09	1.76	2.22	1.10	1.56	0.24	0.95	0.40	1.41



# Alt Model-Shift Uniqueness Test

007955100-01, P = 543.198948 Days, E = 482.612387 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
8.10	3.83	3.41	3.74	5.52	3.40	0.87	4.70	4.36	0.43	0.09	0.74	1.15	0.32	0.02



### Stellar Parameters For KIC 007955100

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6340^{+171}_{-209}$	$4.329^{+0.144}_{-0.176}$	$-0.480^{+0.300}_{-0.300}$	$1.116^{+0.300}_{-0.200}$	$0.968^{+0.146}_{-0.110}$	$0.981^{+0.678}_{-0.463}$
	+3%/-3%	+3%/-4%	+62%/-62%	+27%/-18%	+15%/-11%	+69%/-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 007955100-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-145 \pm 25$	$2.11^{+1.69}_{-1.35}$	$364^{+28}_{-20}$	$5303^{+4044}_{-1104}$	$28460^{+194907}_{-19251}$
Alt.	$-87 \pm 23$	$1.96^{+1.63}_{-1.19}$	$365^{+26}_{-23}$	$4909^{+2921}_{-1020}$	$19522^{+105320}_{-13402}$

$T_{\text{max}}$  = 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

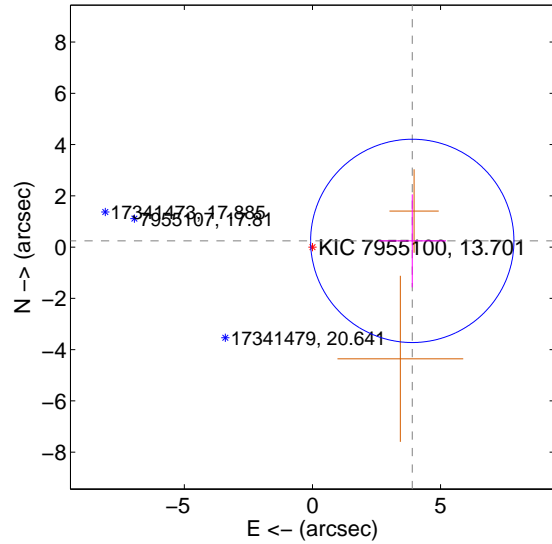
Supplemental centroid analysis for 007955100-01. Kepler magnitude: 13.70. Transit SNR 6.46

There are 0 quarters with good PRF difference image offsets

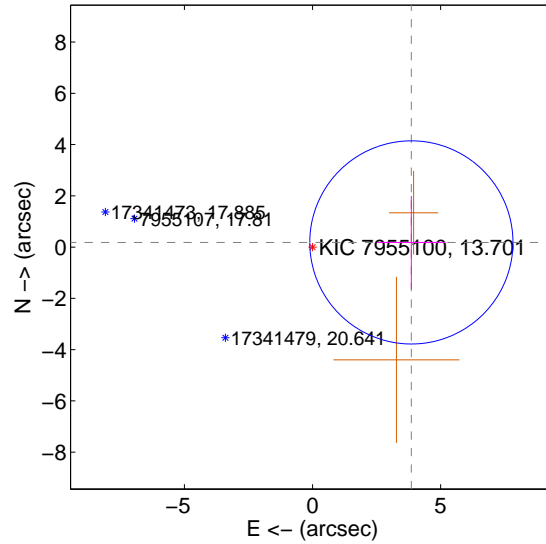
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.902 \pm 1.322$	2.95	$-3.895 \pm 1.320$	$0.242 \pm 1.814$
PRF-fit source offset from KIC position	$3.860 \pm 1.321$	2.92	$-3.856 \pm 1.320$	$0.182 \pm 1.814$
photometric centroid source offset	$0.79 \pm 2.20$	0.36	$0.70 \pm 2.25$	$-0.36 \pm 2.02$

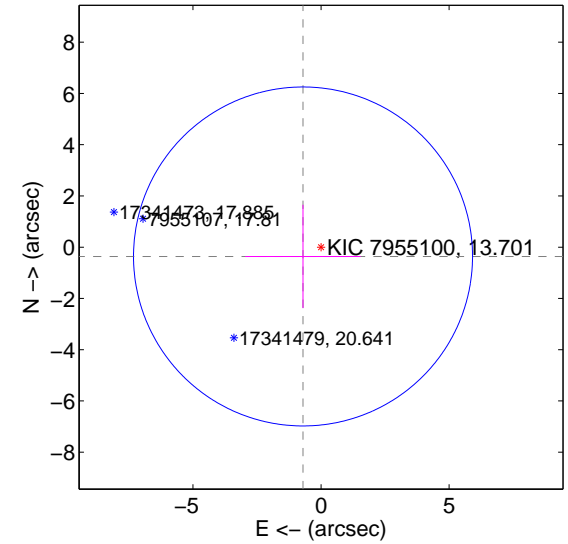
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



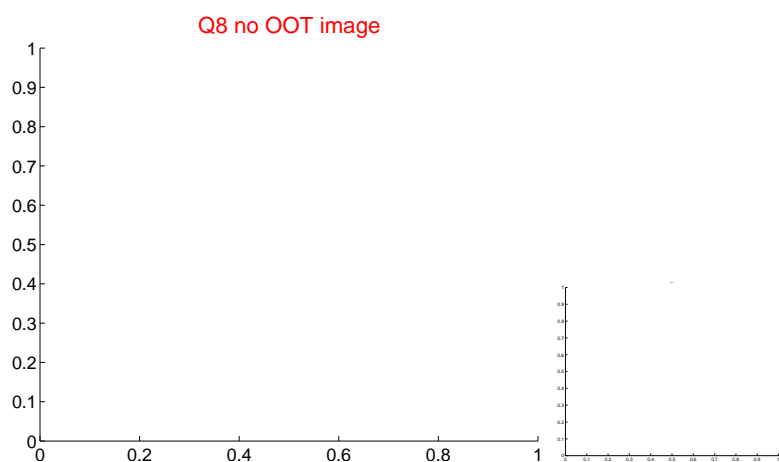
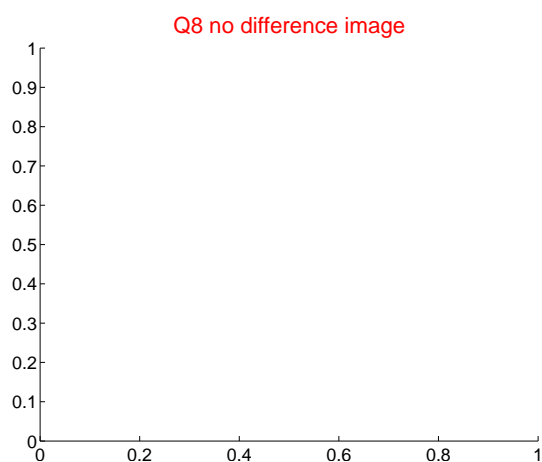
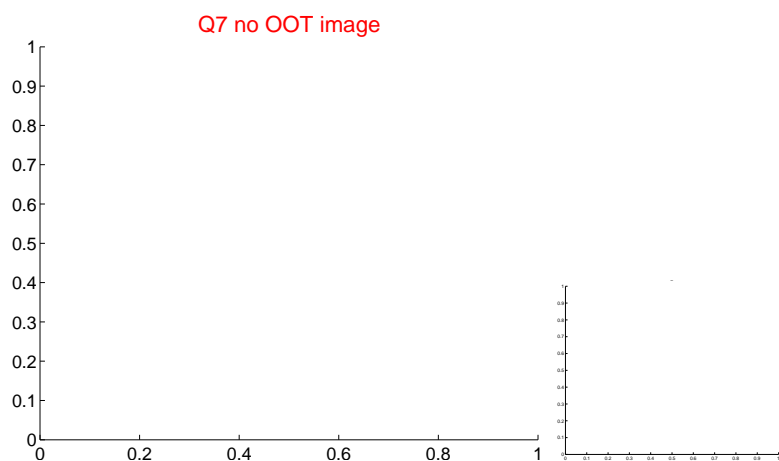
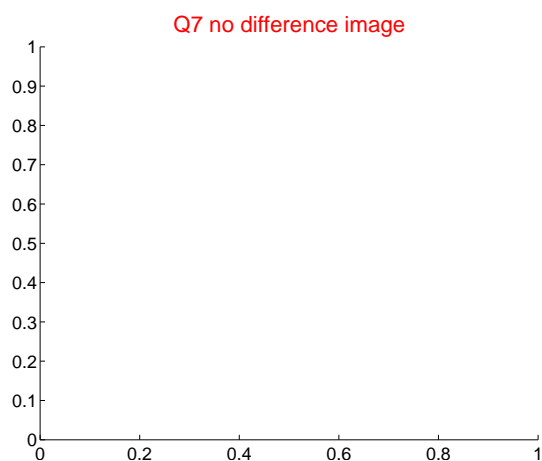
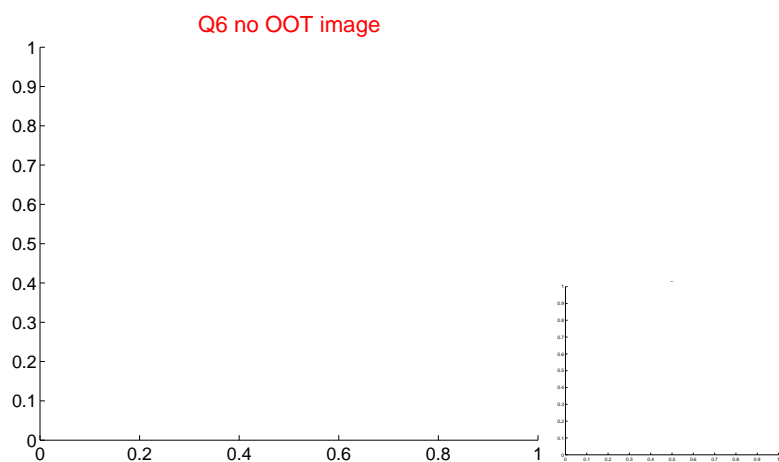
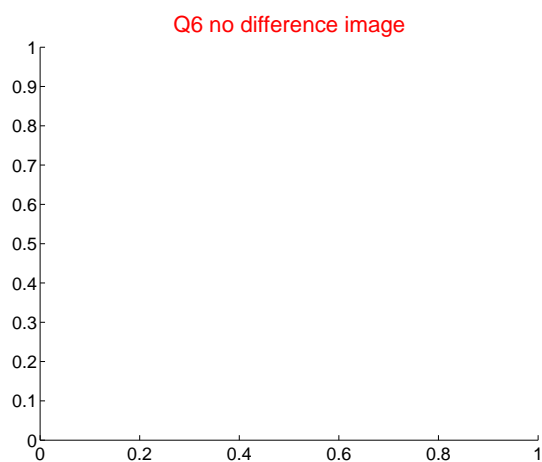
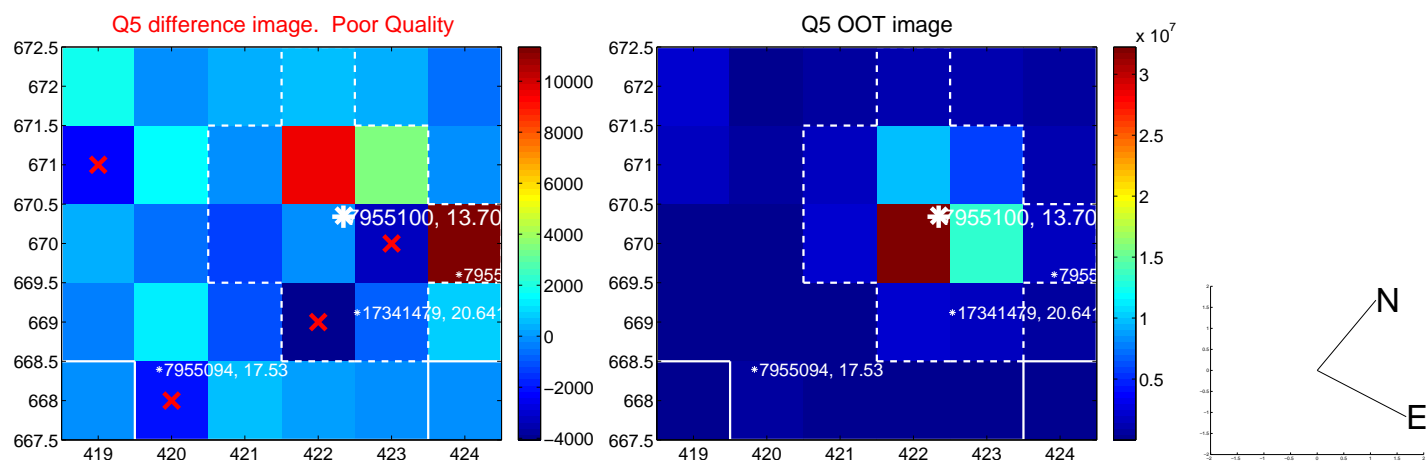
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

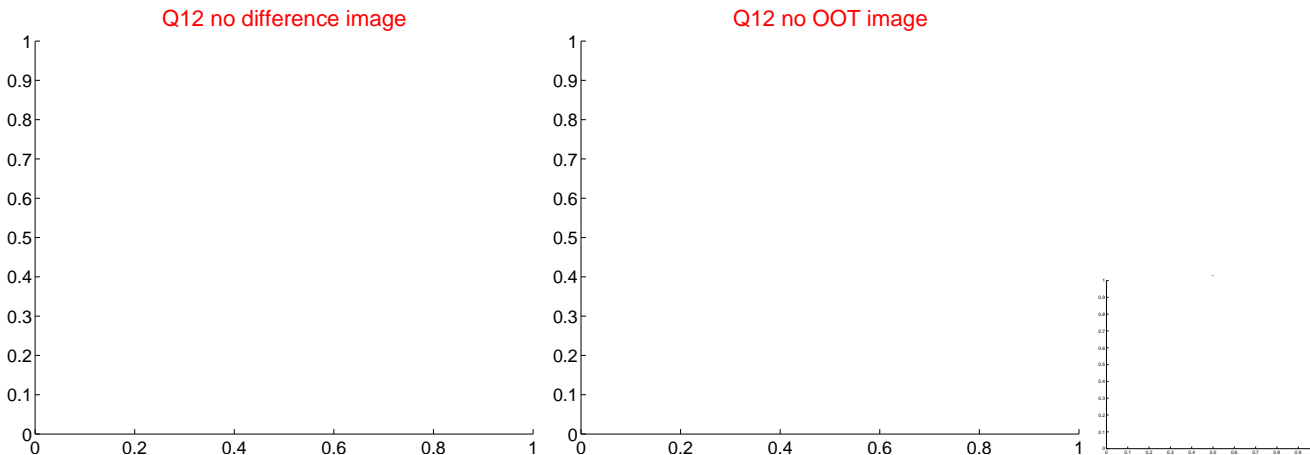
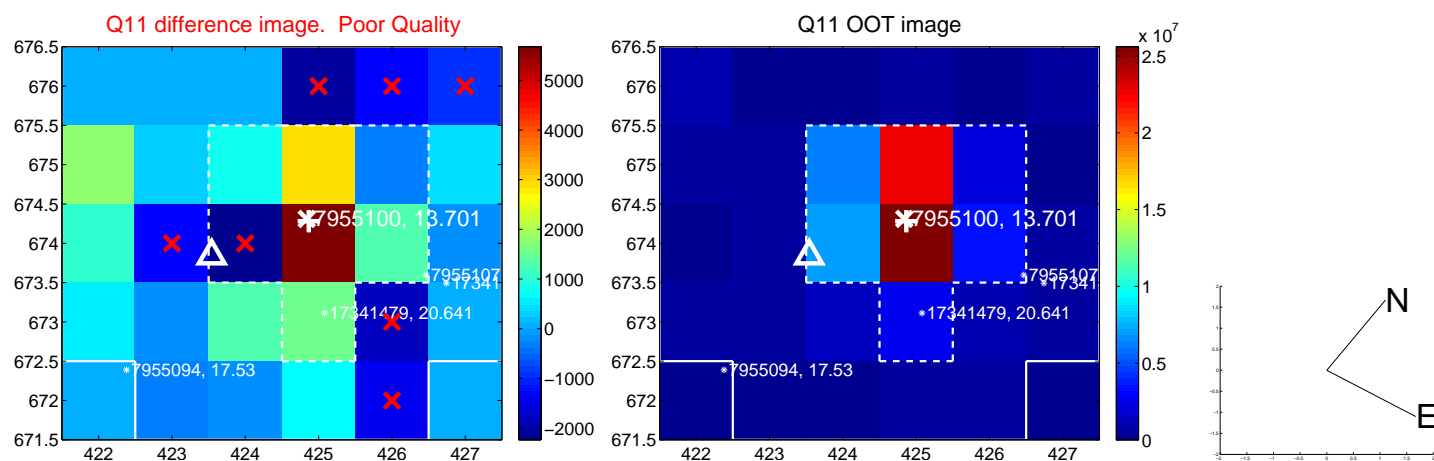
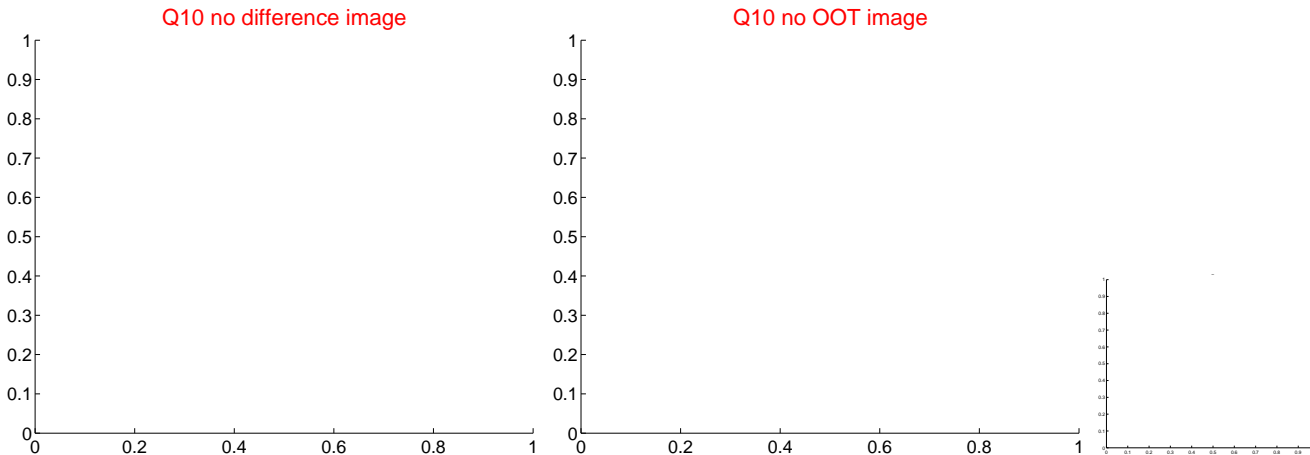
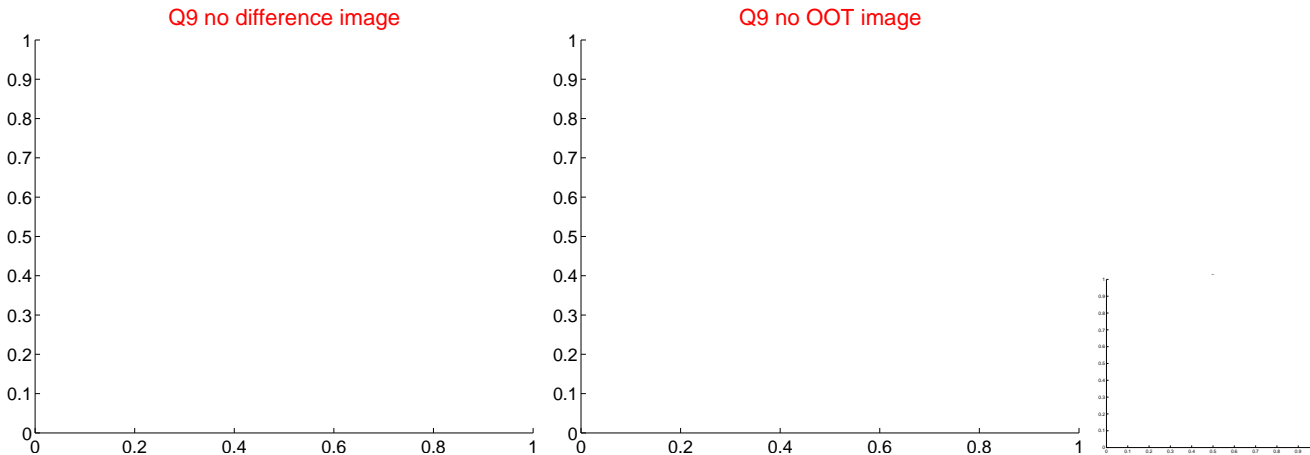




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



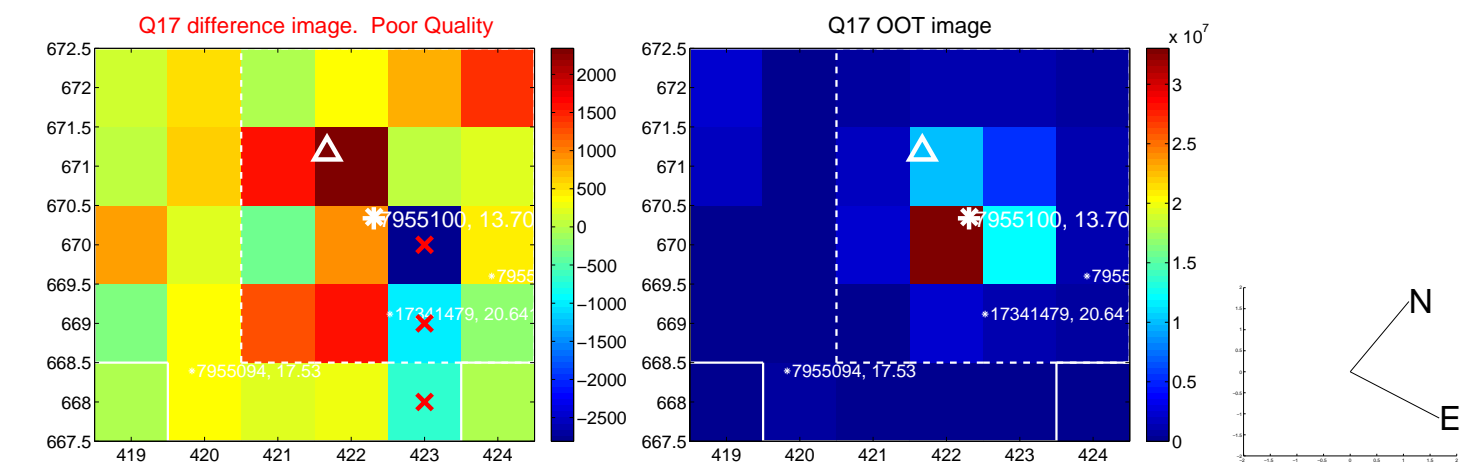
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



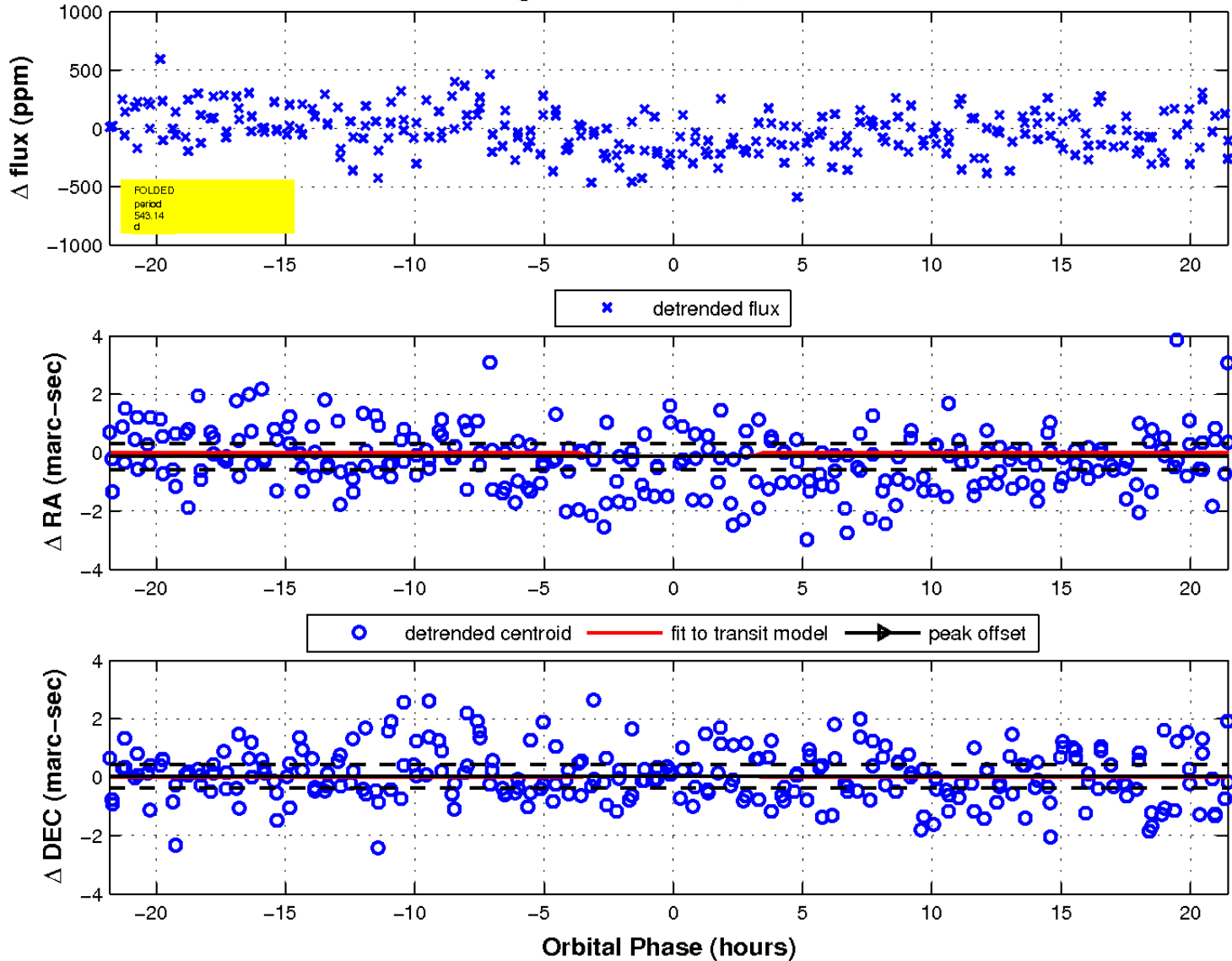
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

