

# KIC 005954001

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005954001-01	OBS	4633.01	11.693267	142.666357	66.6	6.220	9.4	9.9	1.35	6049	1.37	193.25

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005954001-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

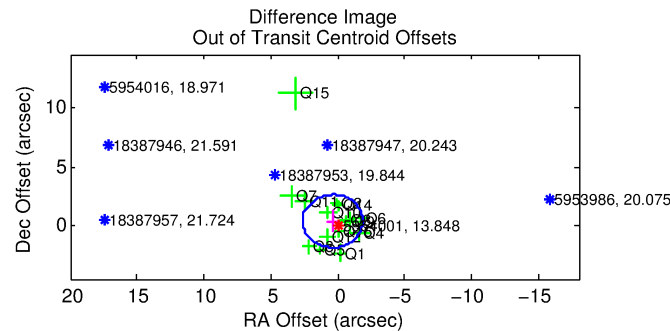
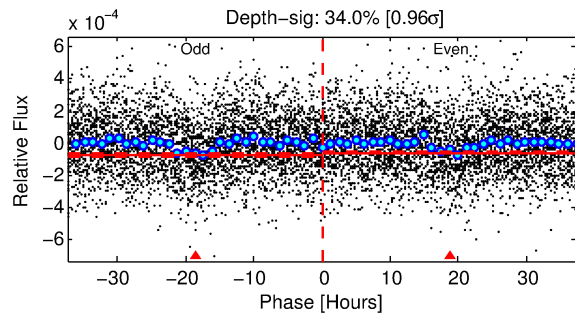
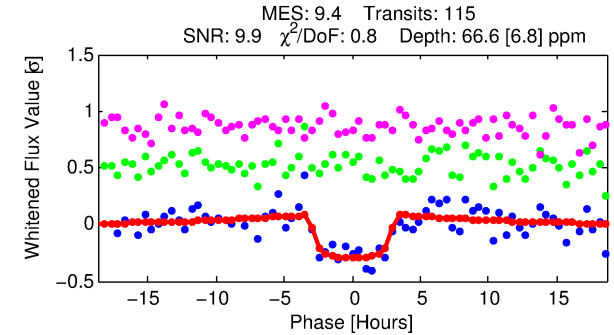
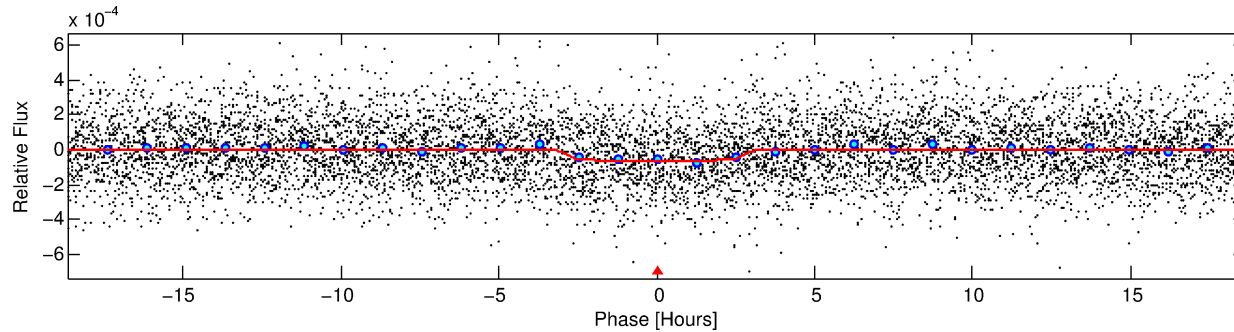
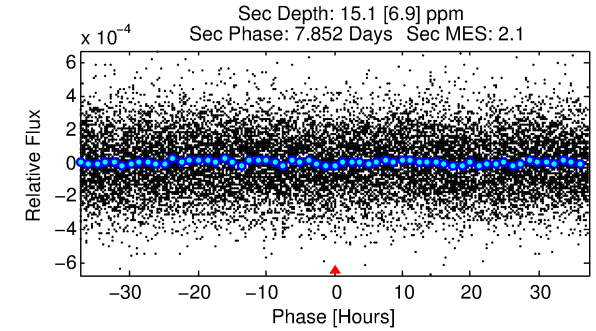
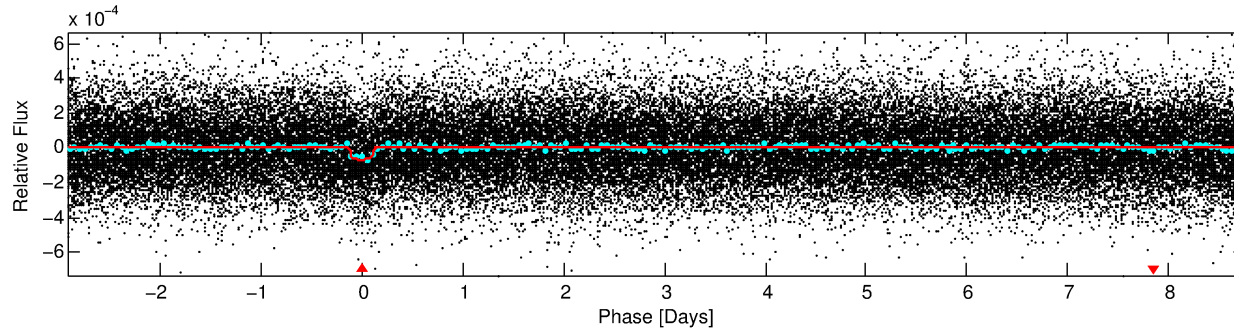
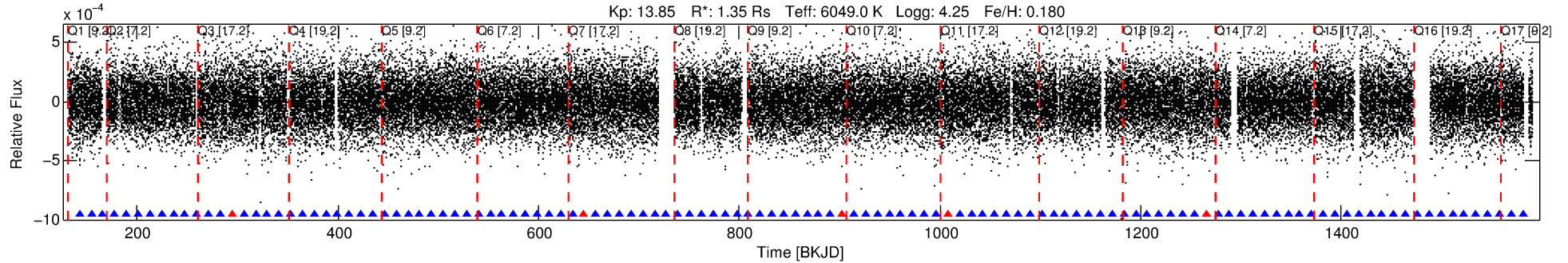
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005954001-01

No Significant Match Found

# DV One-Page Summary

KIC: 5954001 Candidate: 1 of 1 Period: 11.693 d  
KOI: K04633.01 Corr: 0.968



## DV Fit Results:

Period = 11.69327 [0.00015] d  
Epoch = 142.6664 [0.0101] BKJD  
Rp/R\* = 0.0093 [0.0018]  
a/R\* = 5.32 [4.93]  
b = 0.94 [0.12]  
Seff = 193.25 [45.58]  
Teq = 951 [56] K  
Rp = 1.37 [0.36] Re  
a = 0.1067 [0.0167] AU  
Ag = 50.44 [32.21] [1.53σ]  
Teffp = 3917 [587] K [5.03σ]

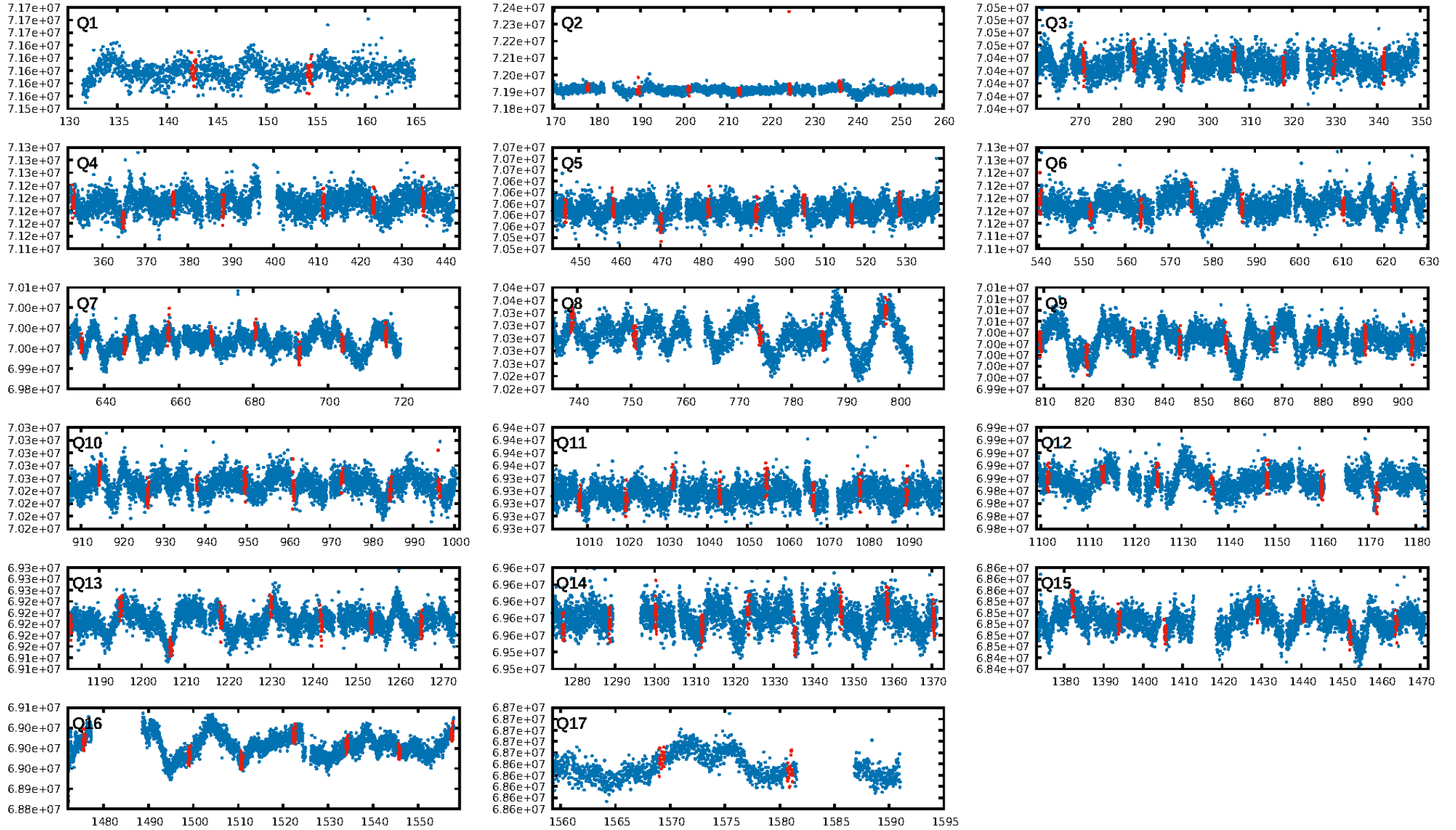
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.6%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.41e-20  
RollingBand-fgt: 0.95 [106/111]  
GhostDiagnostic-chr: 3.654  
Centroid-sig: N/A  
Centroid-so: 0.561 arcsec [0.52σ]  
OotOffset-rm: 0.561 arcsec [0.75σ]  
KicOffset-rm: 0.566 arcsec [0.91σ]  
OotOffset-st: 4/4/4/3 [15]  
KicOffset-st: 4/4/4/3 [15]  
DiffImageQuality-fgm: 0.53 [8/15]  
DiffImageOverlap-fno: 1.00 [17/17]

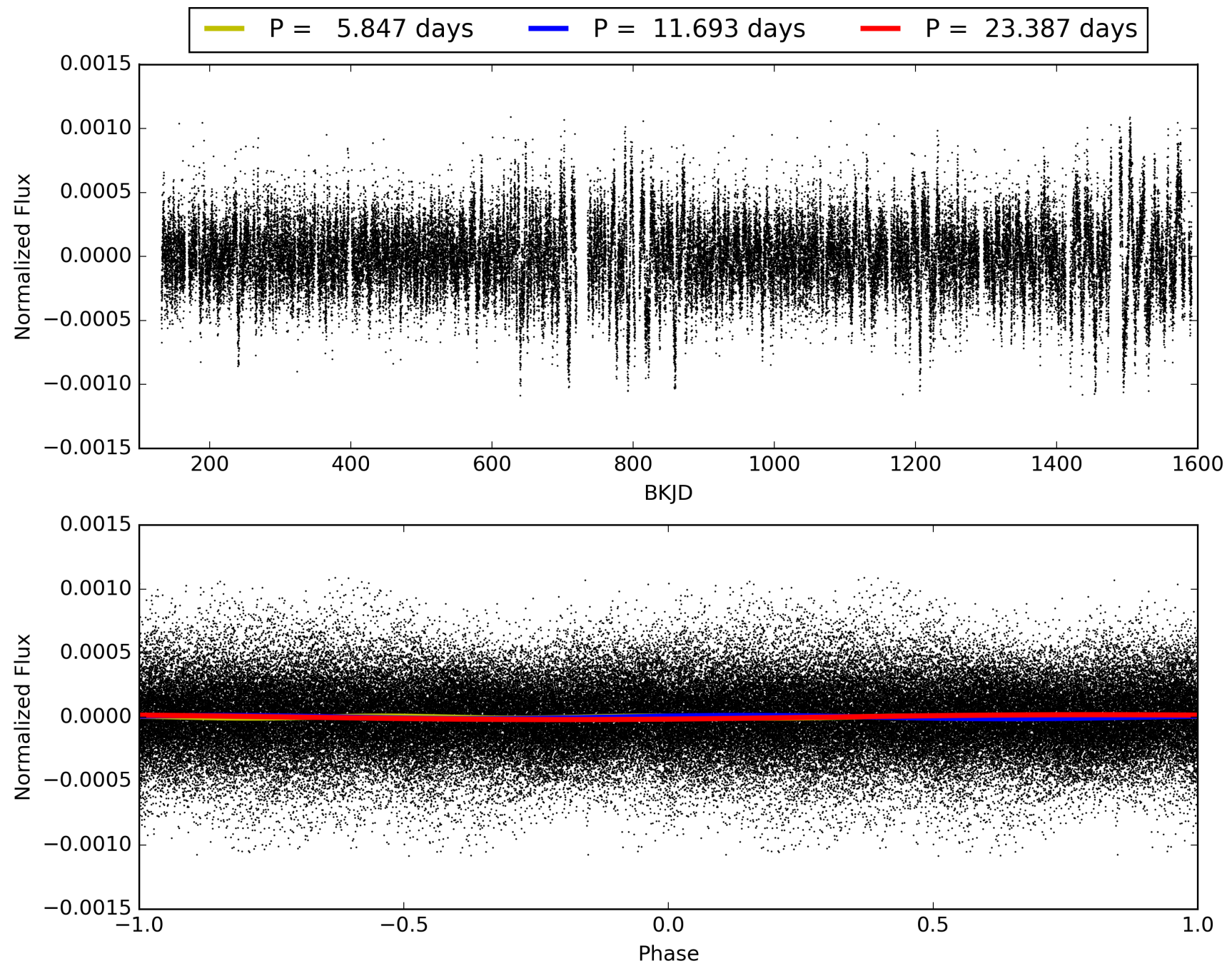
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 14:55:54 Z

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

# TCE 005954001-01, PDC Light Curves

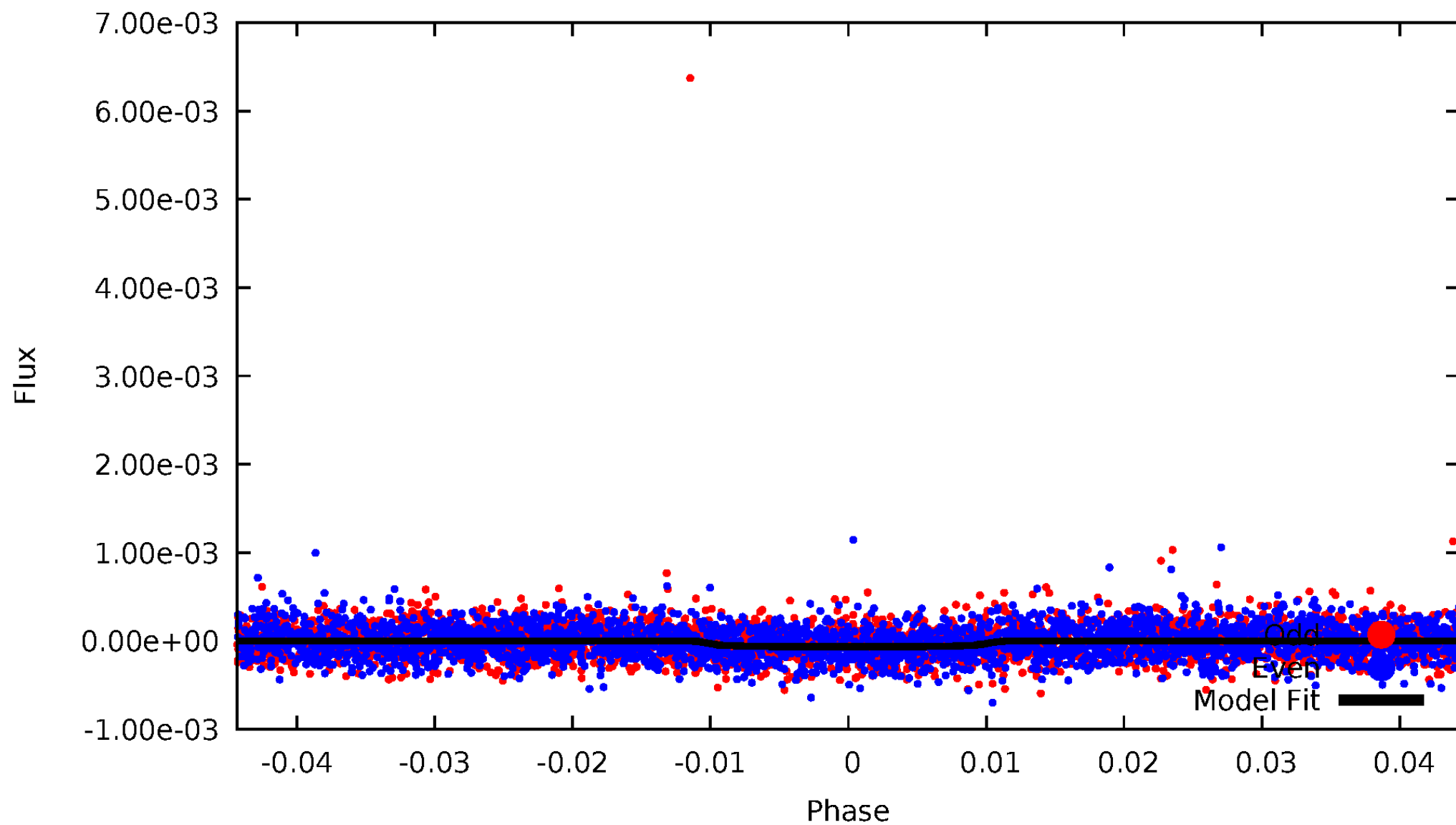


TCE 005954001-01



# DV Odd/Even

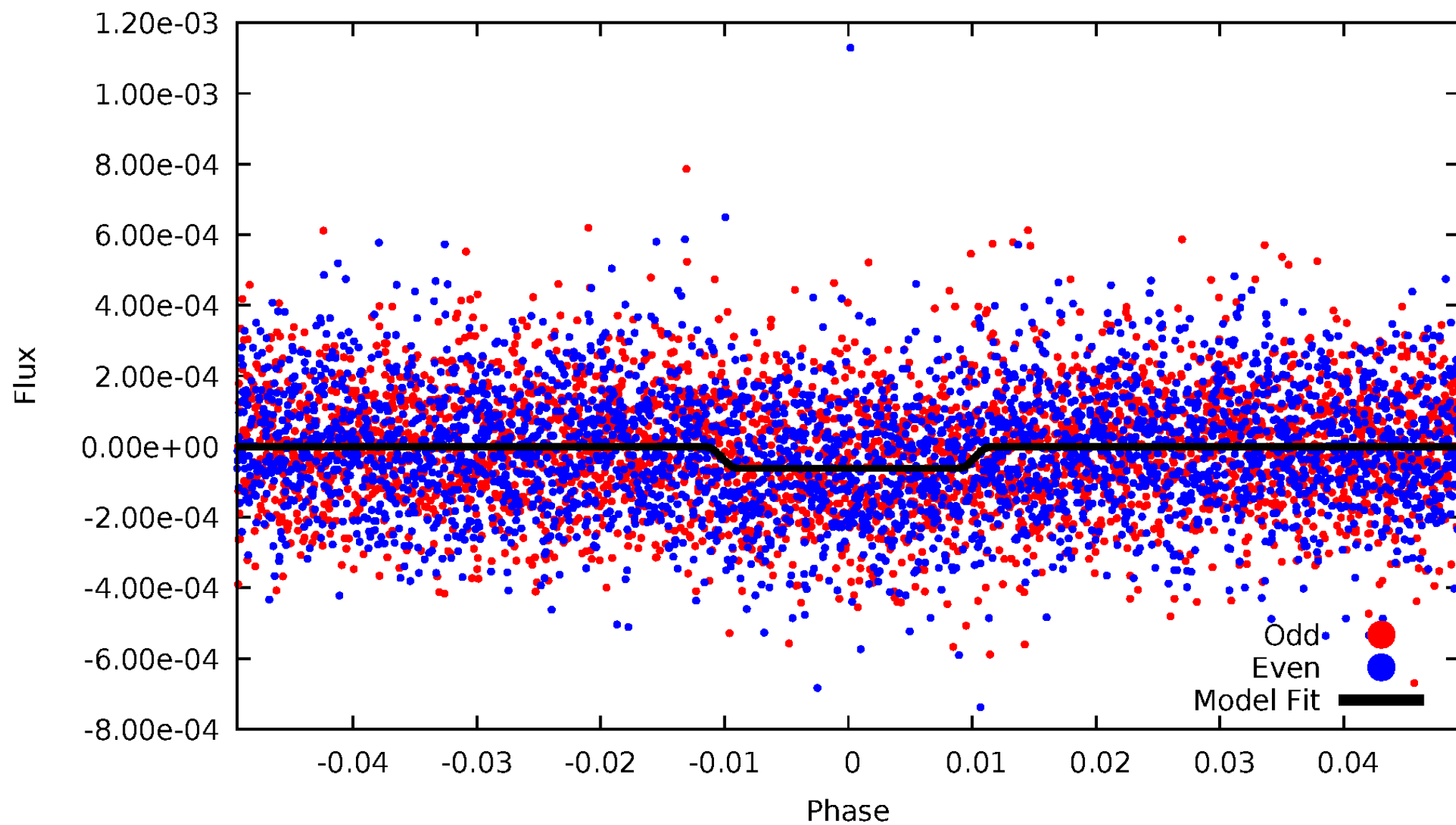
TCE 005954001-01





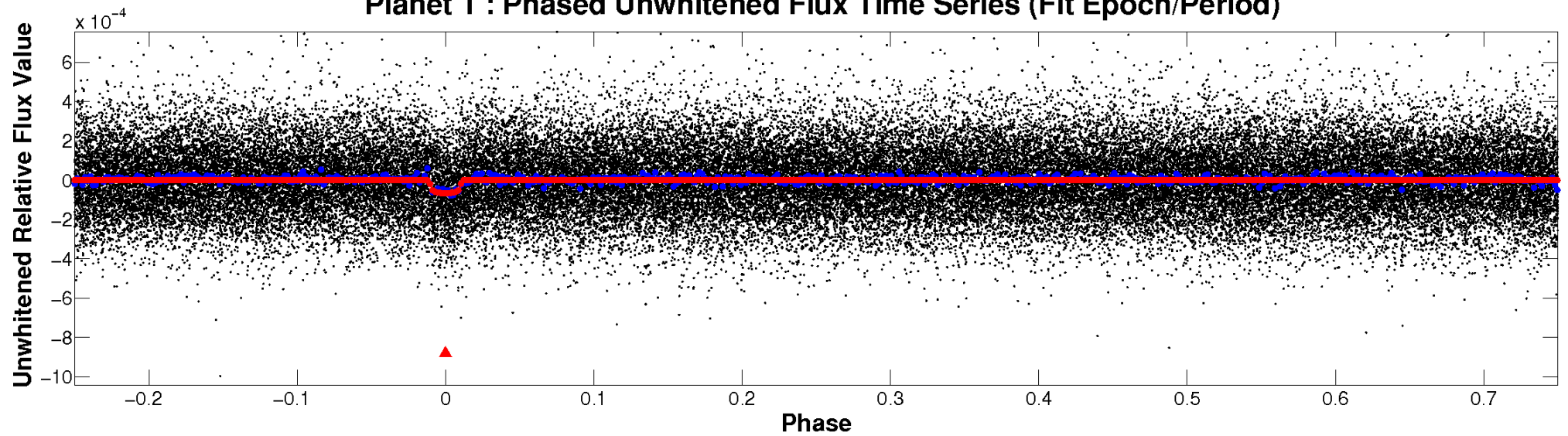
# ALT Odd/Even

TCE 005954001-01

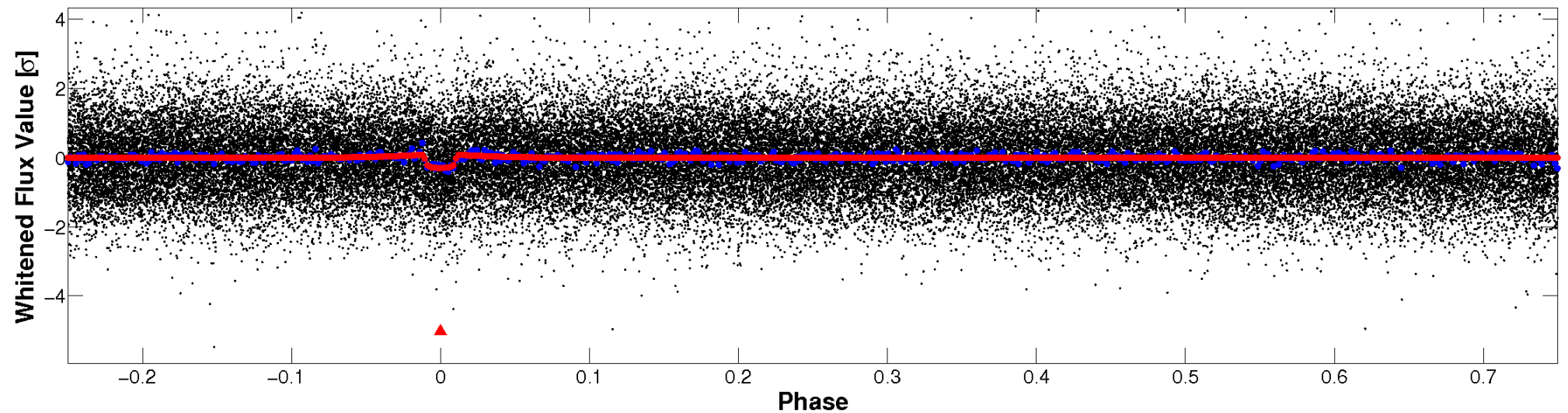


# Non-Whitened Vs. Whitened Light Curve

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

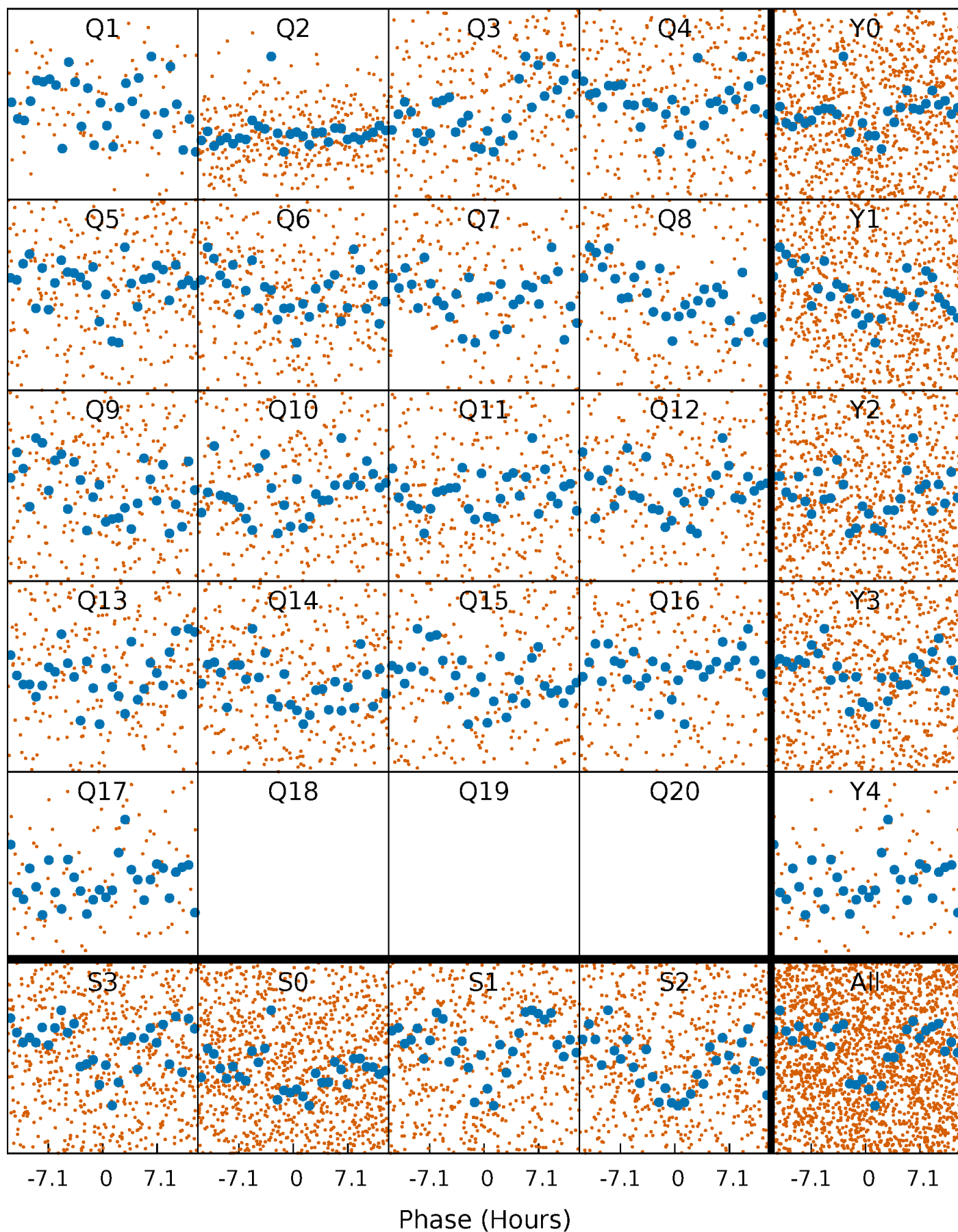


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

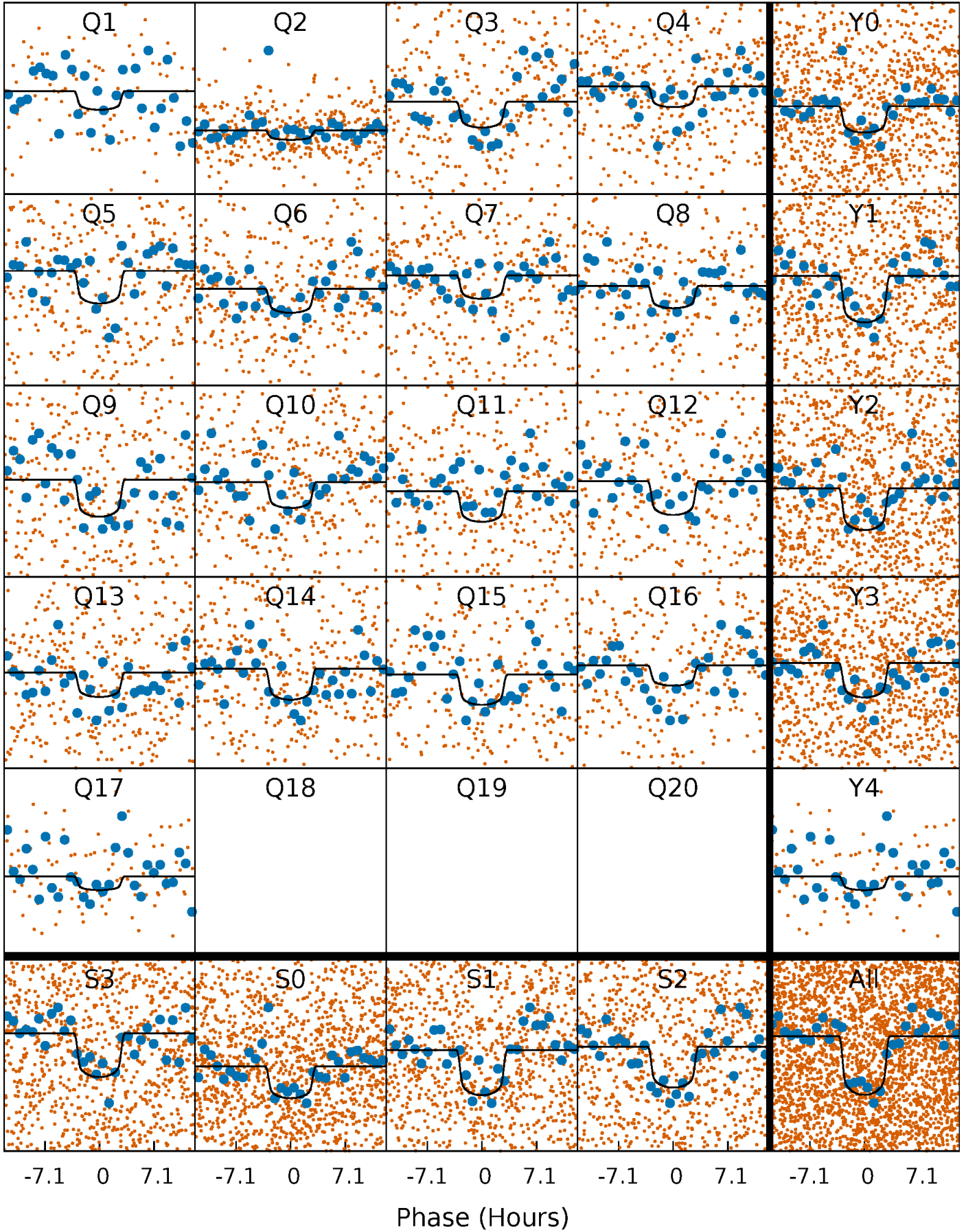
TCE 005954001-01 P= 11.693267 Days  $T_0=142.666357$  (BKJD)





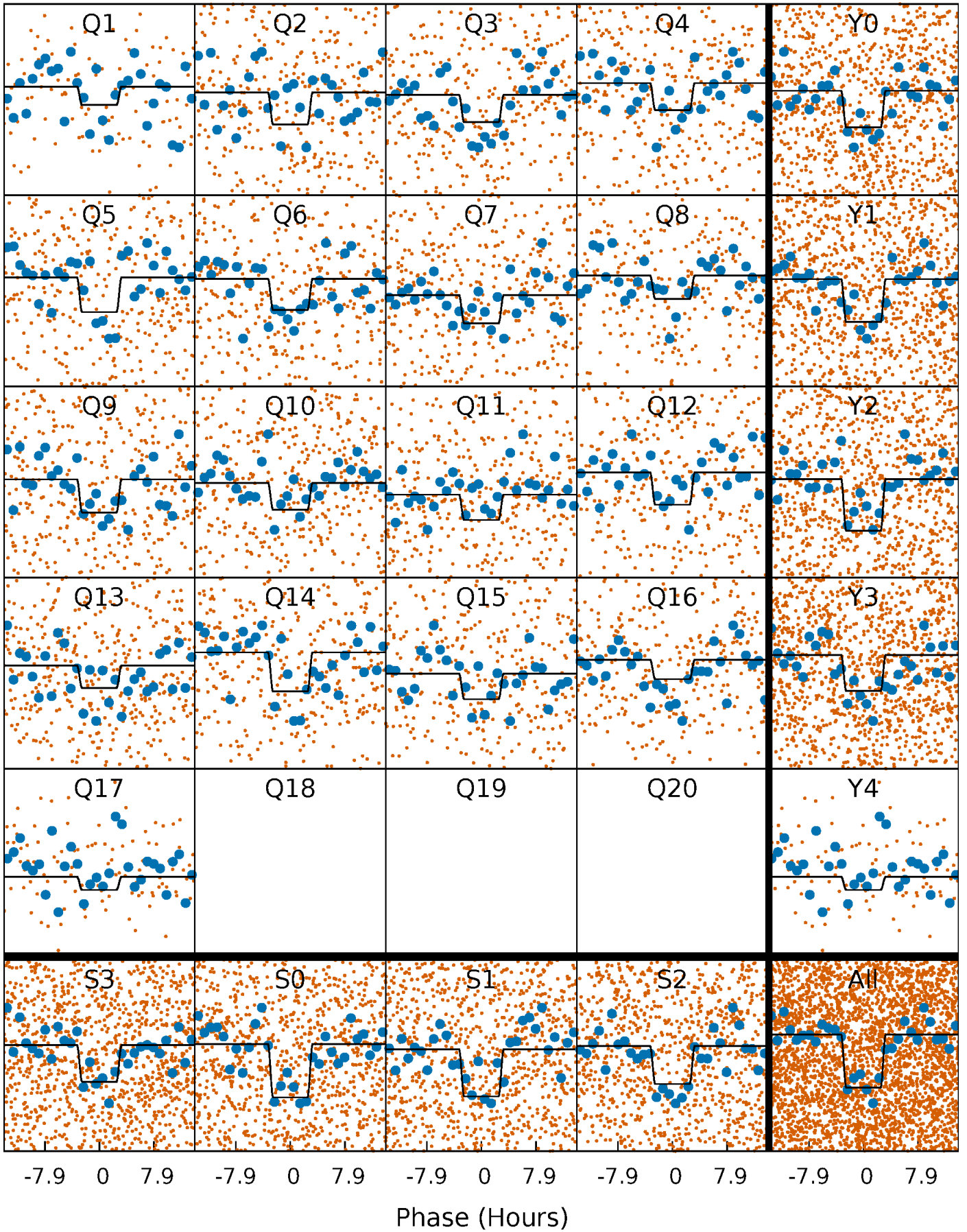
# DV Quarter-Phased Transit Curves

TCE 005954001-01 P= 11.693267 Days  $T_0=142.666357$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

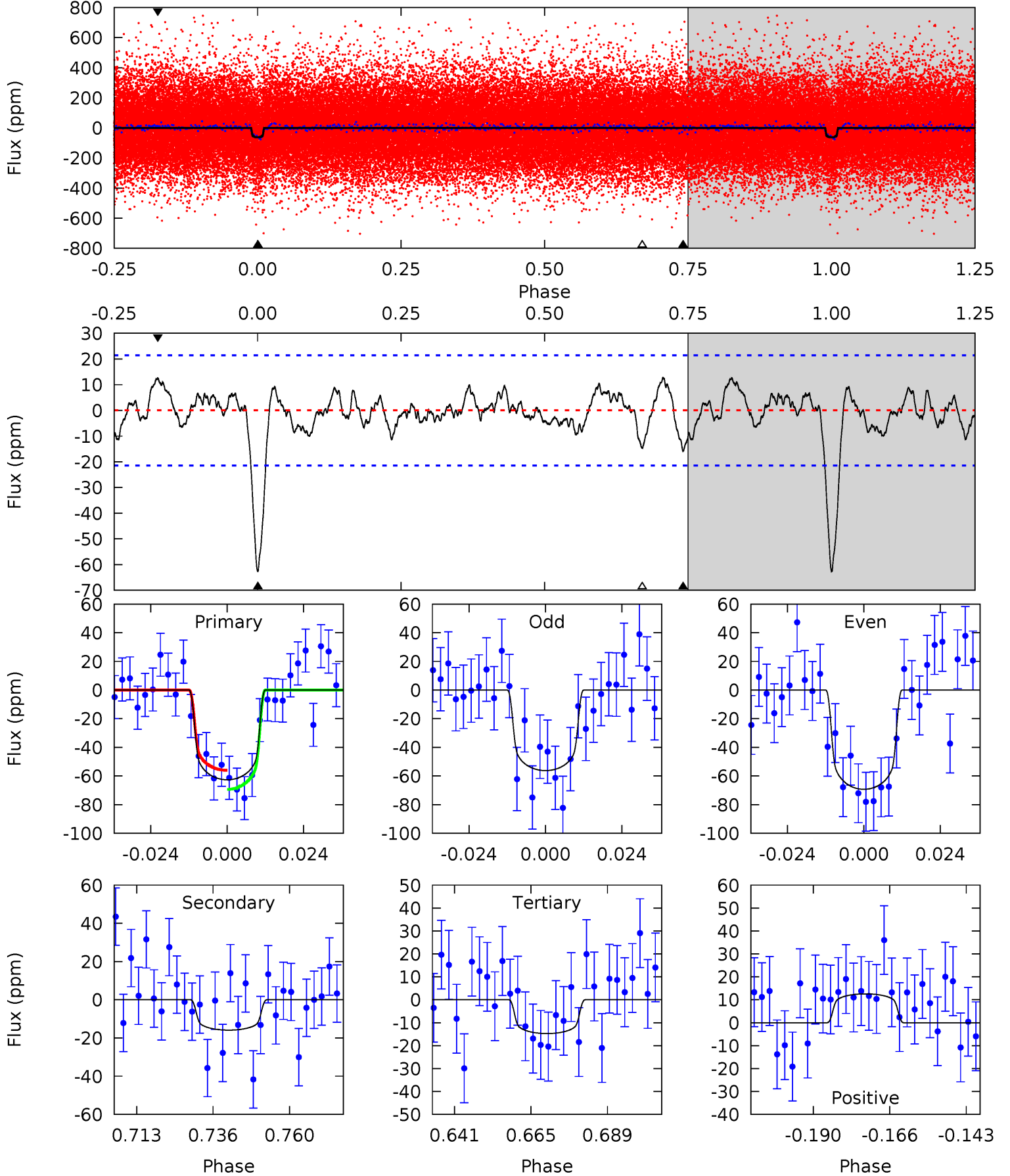
TCE 005954001-01 P= 11.693216 Days  $T_0=142.668733$  (BKJD)



# DV Model-Shift Uniqueness Test

005954001-01, P = 11.693267 Days, E = 130.973090 Days

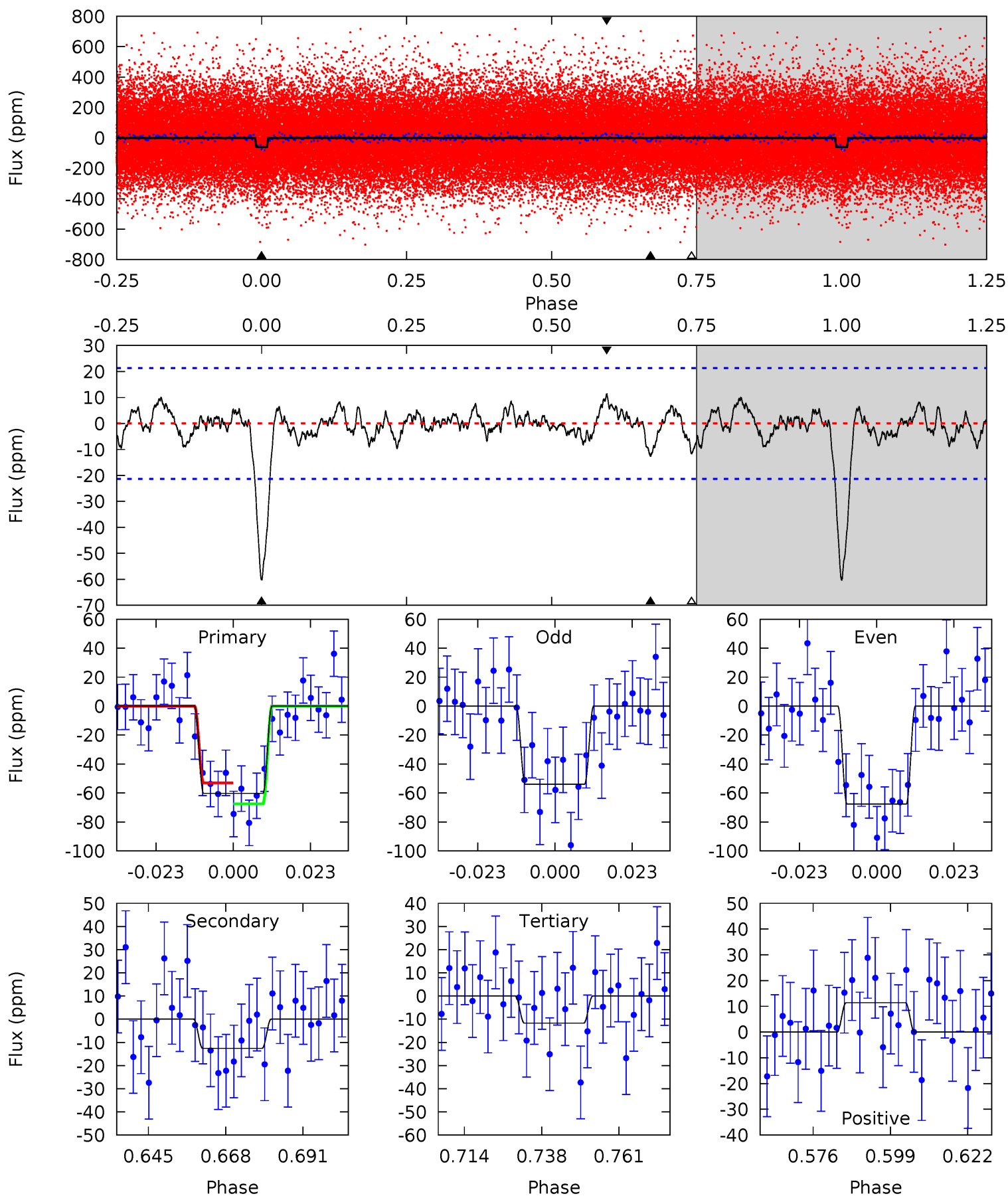
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	3.60	3.34	2.85	4.86	2.26	1.17	10.9	11.3	0.26	0.76	1.48	0.95	0.17	1.51



# Alt Model-Shift Uniqueness Test

005954001-01, P = 11.693216 Days, E = 130.975517 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
13.7	2.88	2.67	2.60	4.86	2.27	0.94	11.1	11.1	0.20	0.27	1.56	0.94	0.16	1.65



### Stellar Parameters For KIC 005954001

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6049^{+72}_{-90}$	$4.248^{+0.125}_{-0.125}$	$0.180^{+0.150}_{-0.150}$	$1.354^{+0.251}_{-0.205}$	$1.189^{+0.081}_{-0.097}$	$0.674^{+0.382}_{-0.244}$
	+1%/-1%	+3%/-3%	+83%/-83%	+19%/-15%	+7%/-8%	+57%/-36%
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 005954001-01 / KOI 4633.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-16 \pm 4$	$1.35^{+0.32}_{-0.27}$	$1326^{+66}_{-60}$	$4240^{+388}_{-374}$	$55^{+35}_{-23}$
Alt.	$-13 \pm 4$	$1.16^{+0.31}_{-0.27}$	$1328^{+69}_{-58}$	$4274^{+511}_{-434}$	$56^{+51}_{-27}$

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



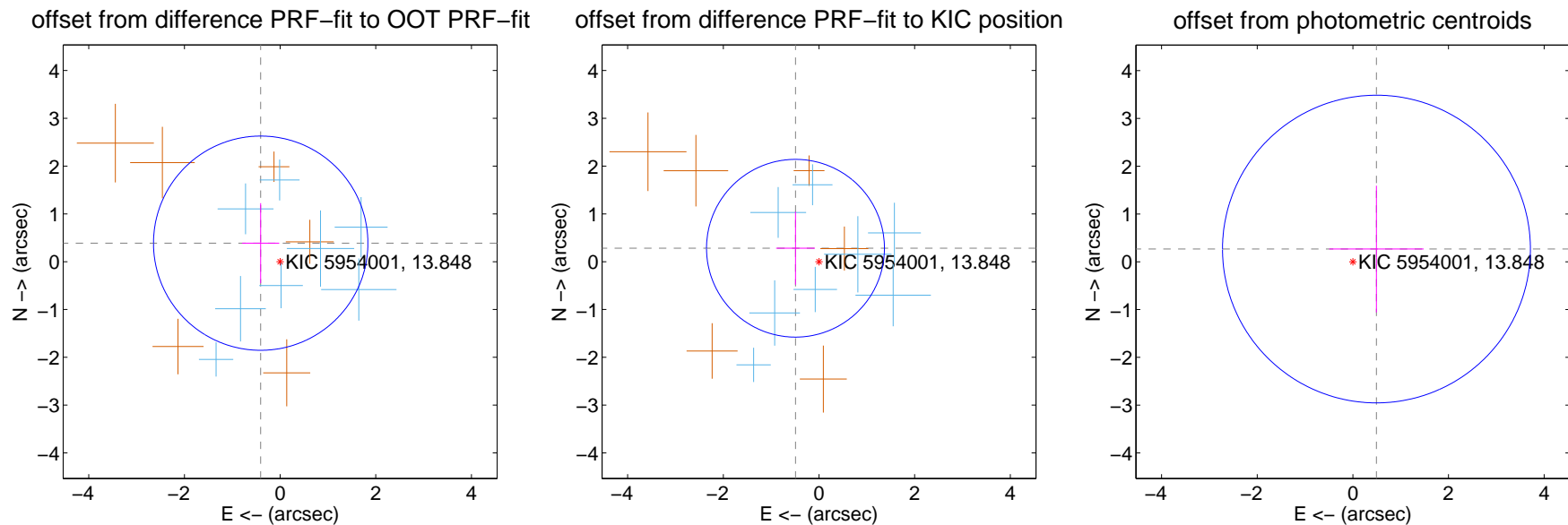
## DV Centroid Data

Supplemental centroid analysis for 005954001-01. Kepler magnitude: 13.85. Transit SNR 9.88

There are 8 quarters with good PRF difference image offsets

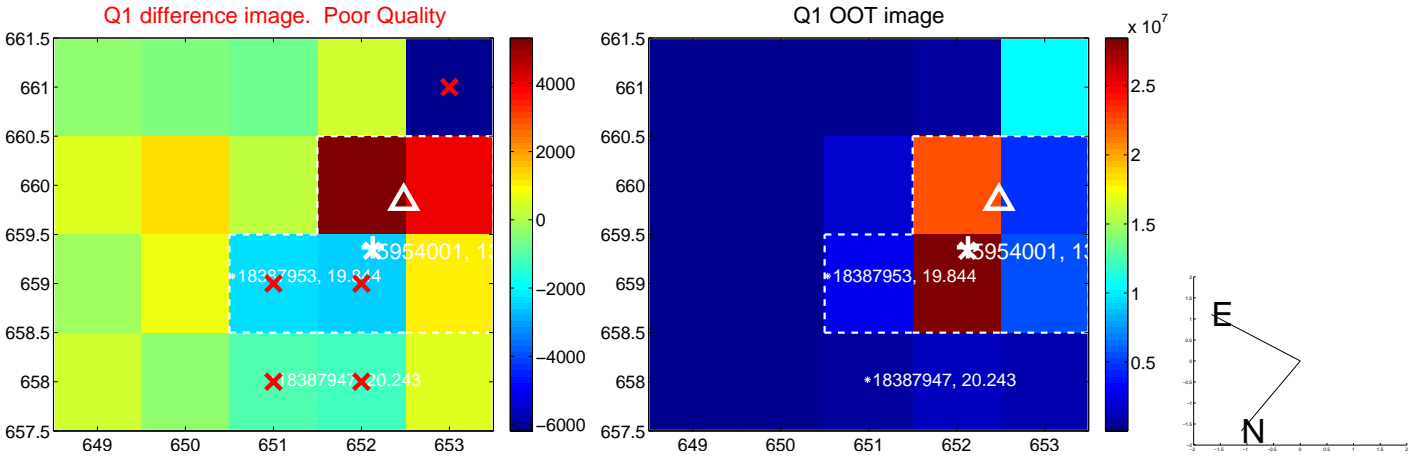
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.561 \pm 0.747$	0.75	$0.406 \pm 0.388$	$0.387 \pm 0.838$
PRF-fit source offset from KIC position	$0.566 \pm 0.620$	0.91	$0.491 \pm 0.406$	$0.281 \pm 0.764$
photometric centroid source offset	$0.56 \pm 1.07$	0.52	$-0.49 \pm 0.99$	$0.27 \pm 1.33$



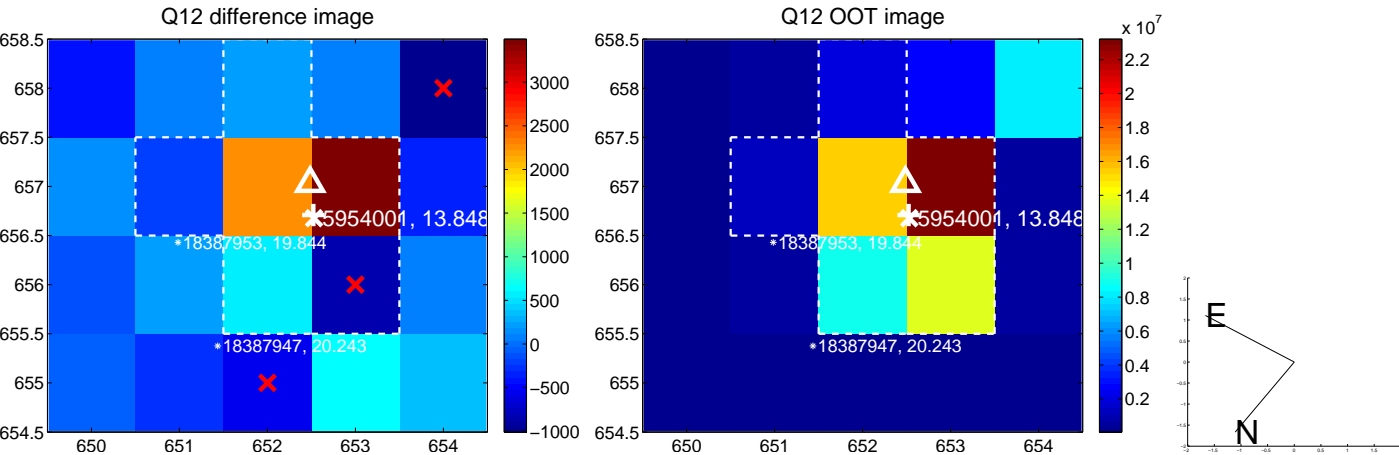
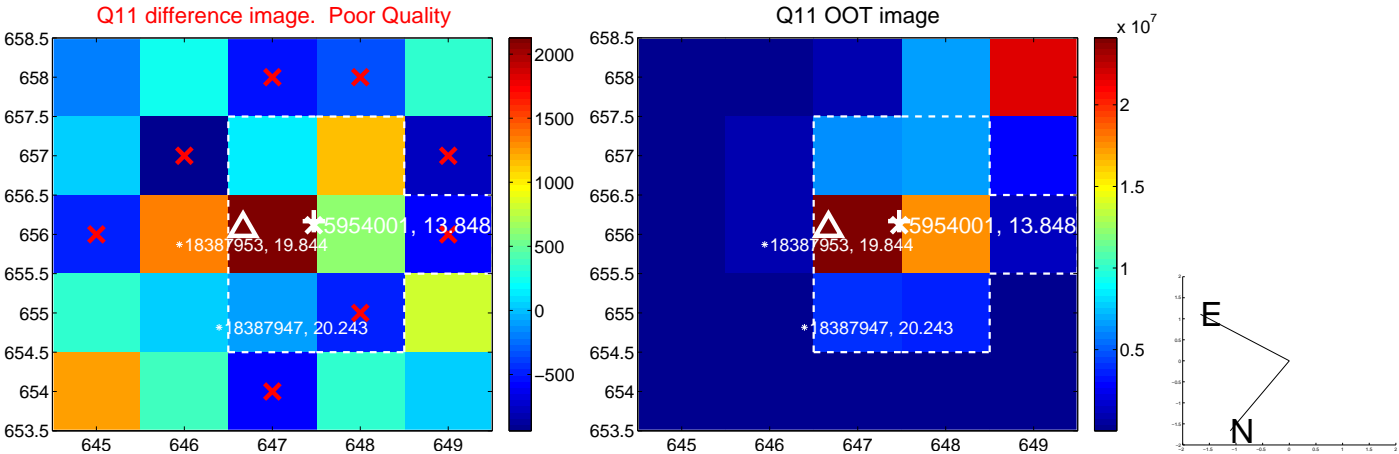
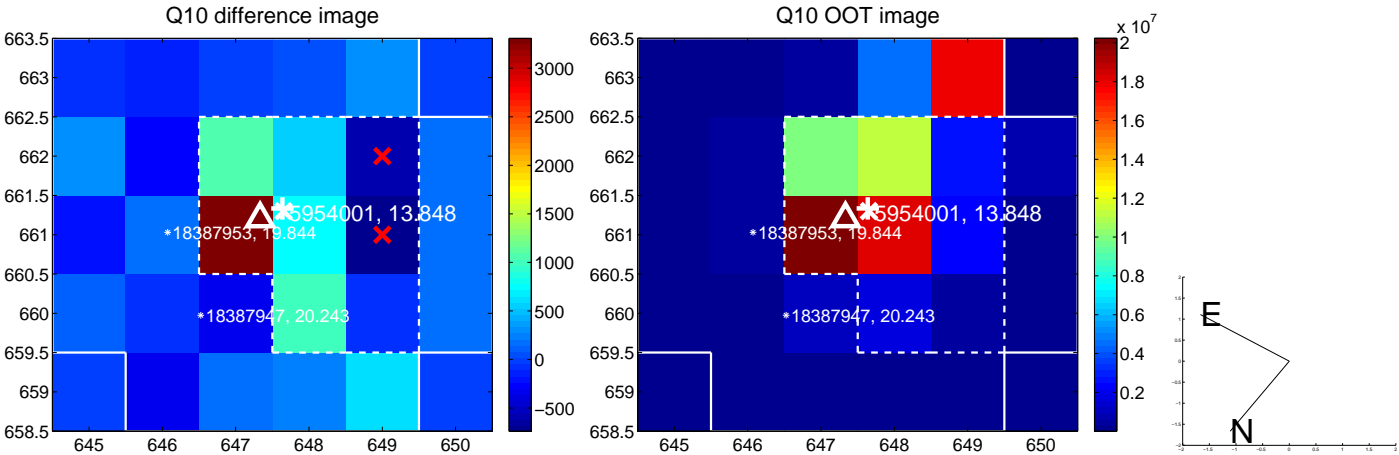
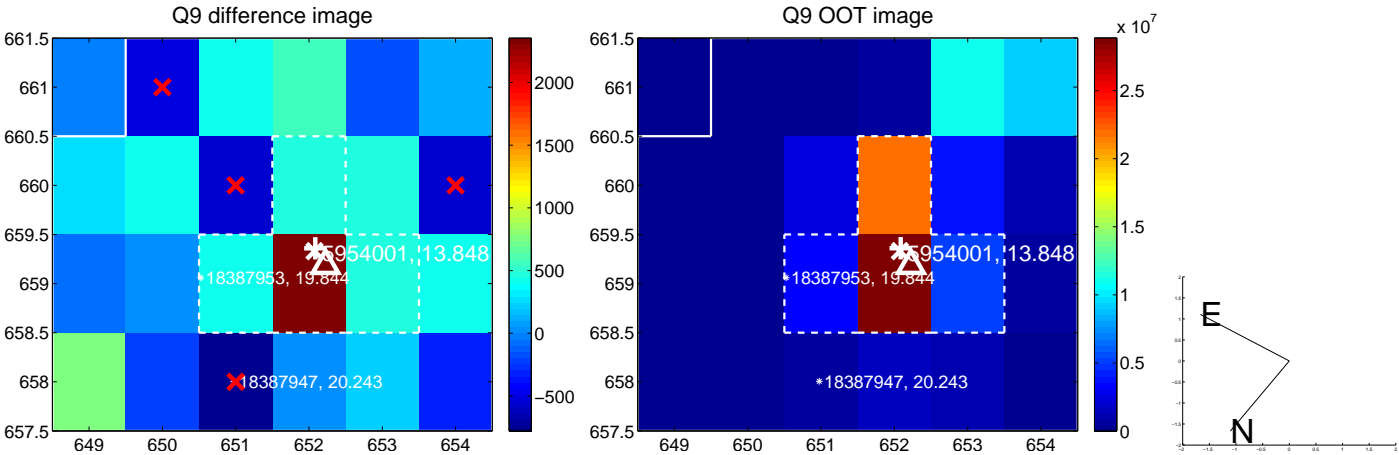
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

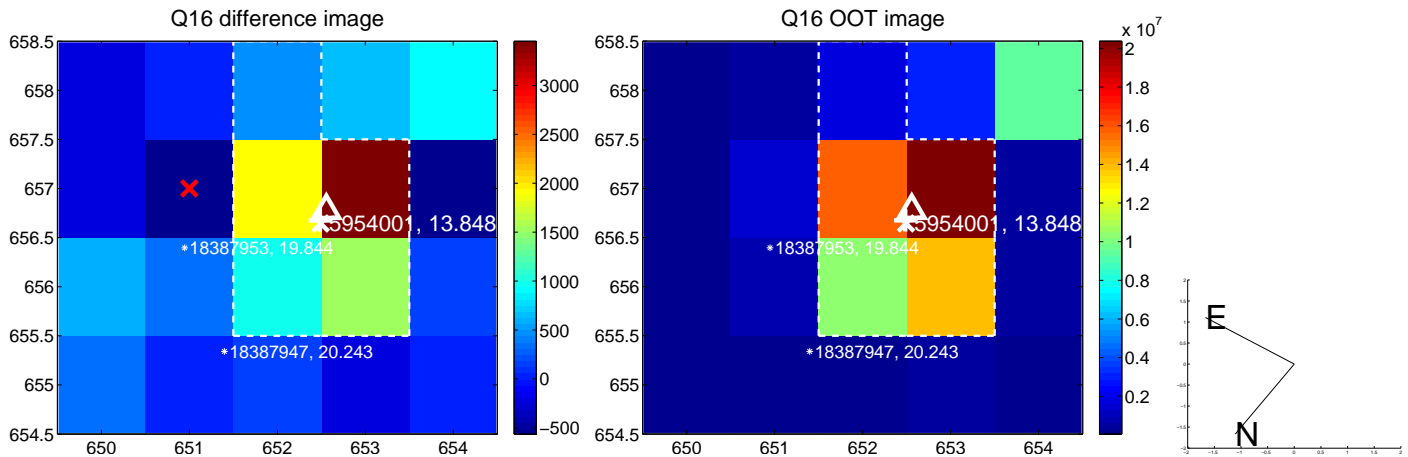
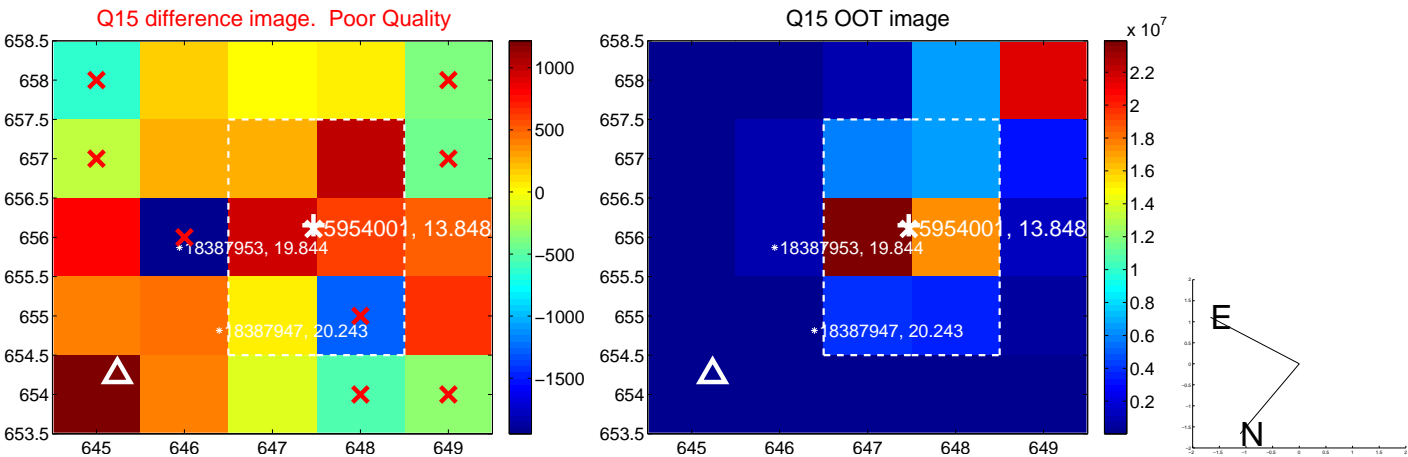
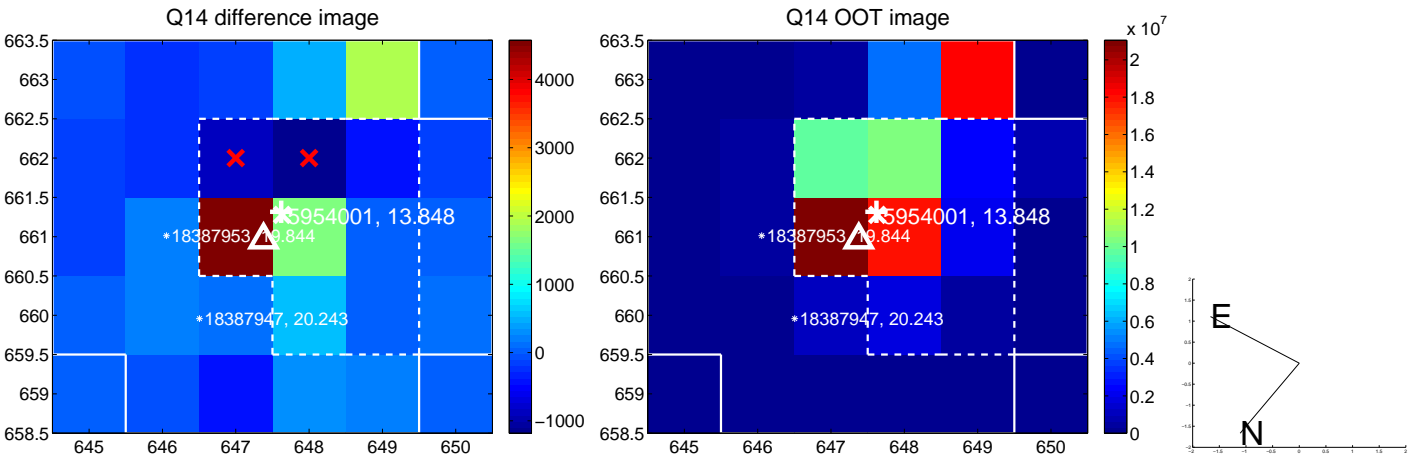
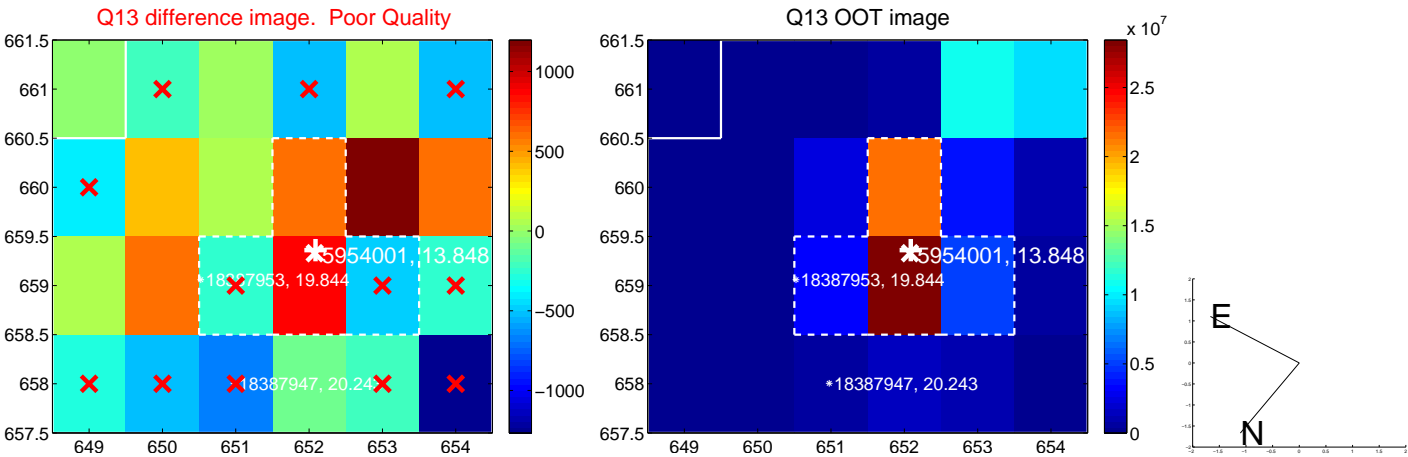




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

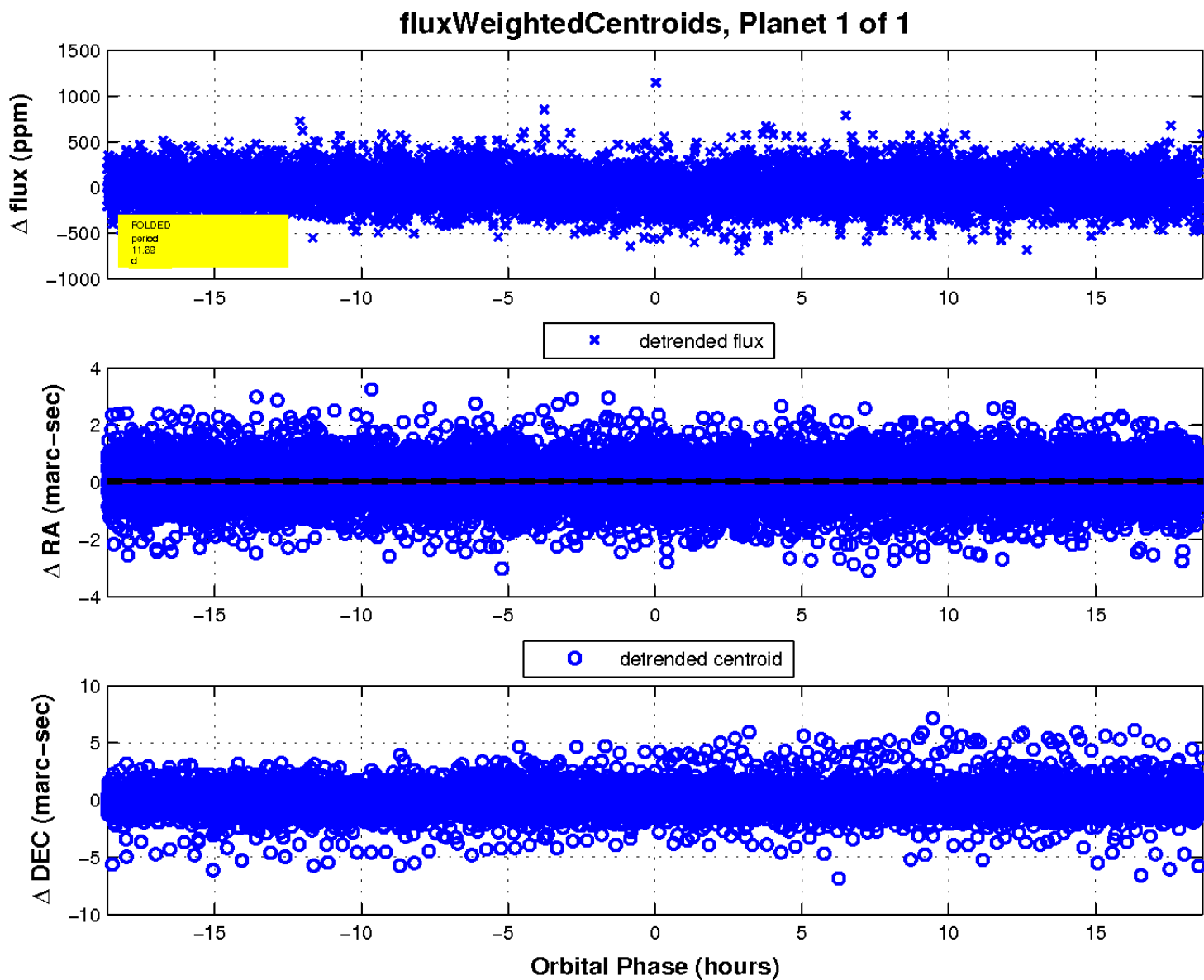
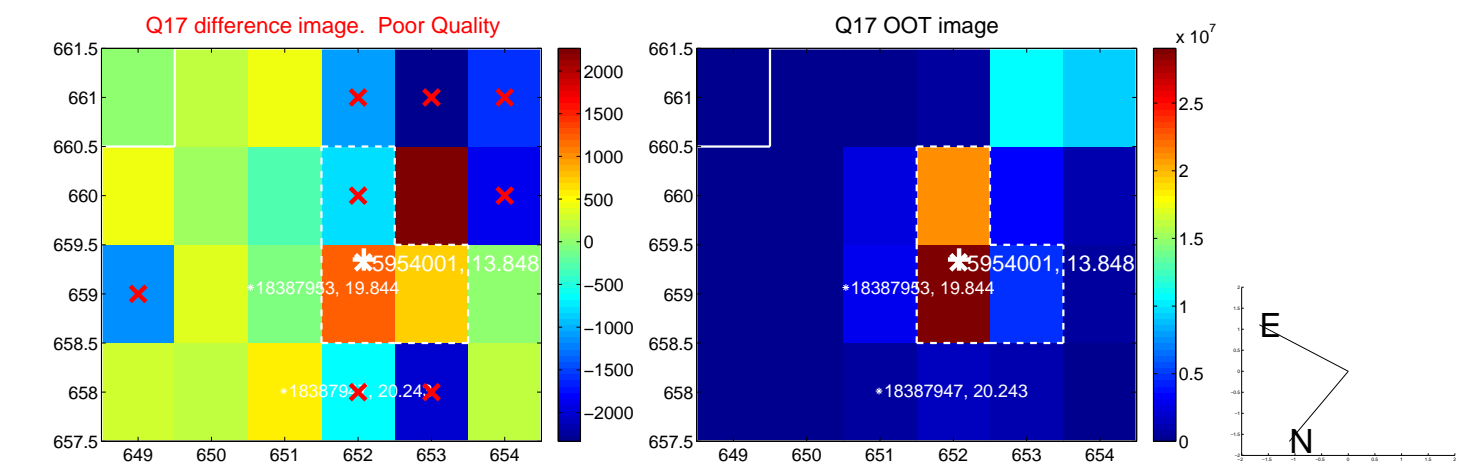


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

