

# KIC 010035363

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010035363-01	OBS	No	5.839995	136.869353	25.1	24.769	8.1	9.7	1.69	6555	0.98	952.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010035363-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_SATURATED—HALO_GHOST

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

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

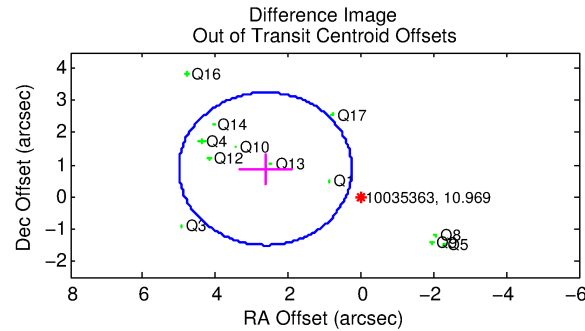
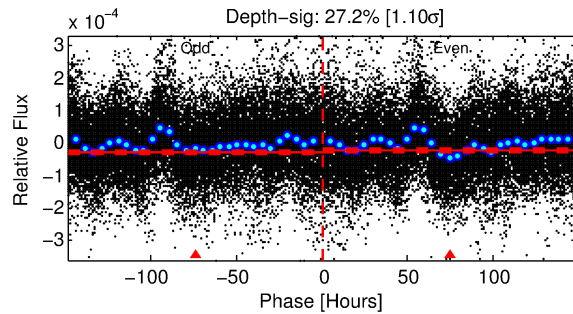
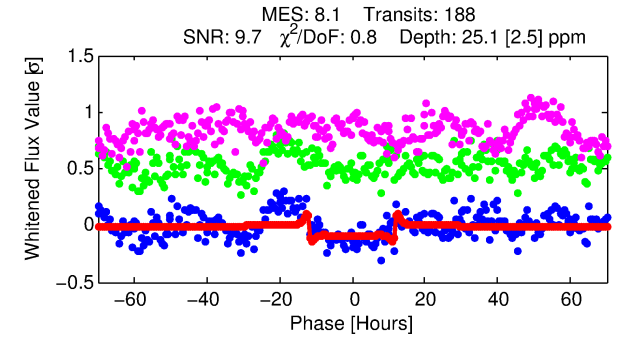
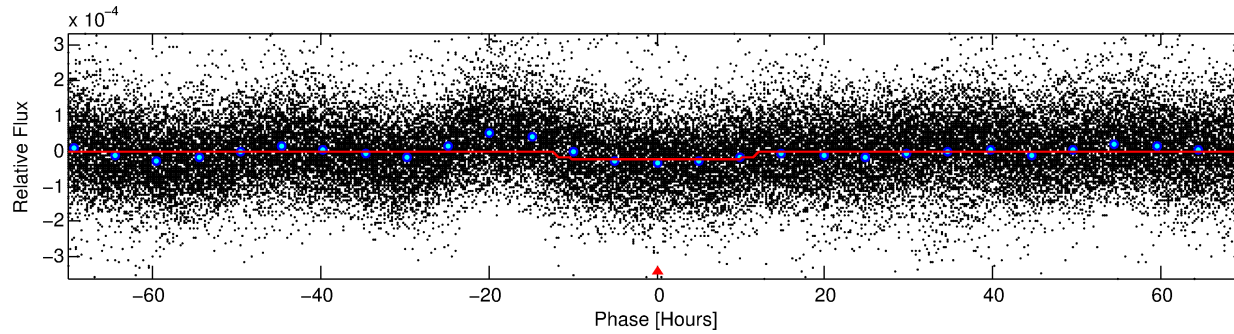
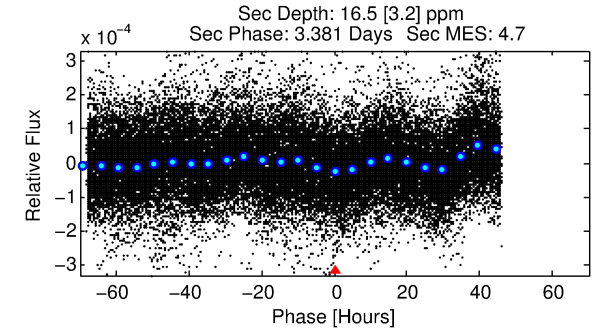
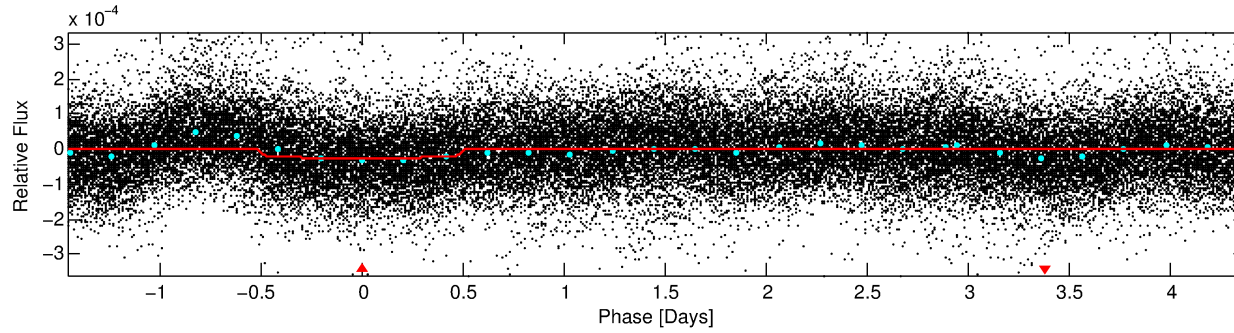
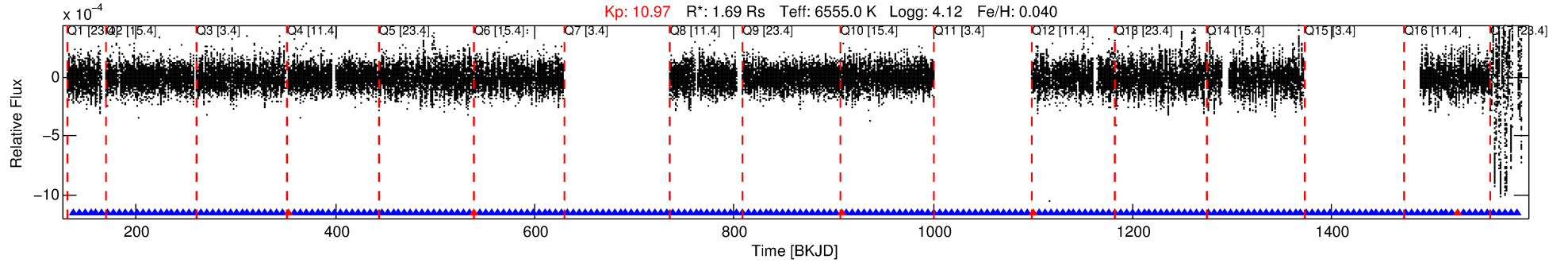
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010035363-01

No Significant Match Found

# DV One-Page Summary

KIC: 10035363 Candidate: 1 of 1 Period: 5.840 d



## DV Fit Results:

Period = 5.83999 [0.00006] d  
Epoch = 136.8694 [0.0073] BKJD  
Rp/R\* = 0.0053 [0.0004]  
a/R\* = 1.26 [0.11]  
b = 0.89 [0.06]  
Seff = 952.92 [304.20]  
Teq = 1417 [113] K  
Rp = 0.98 [0.24] Re  
a = 0.0704 [0.0144] AU  
Ag = 46.91 [17.90] [2.56σ]  
Teffp = 5732 [374] K [11.04σ]

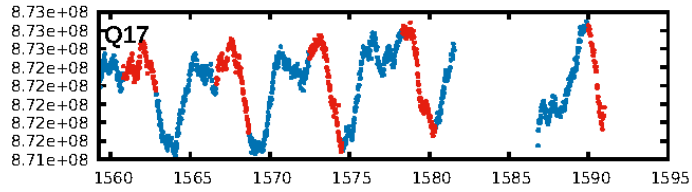
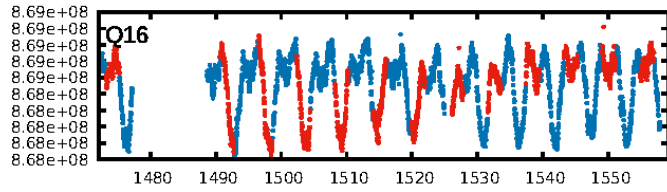
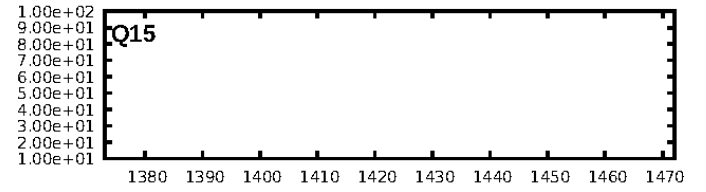
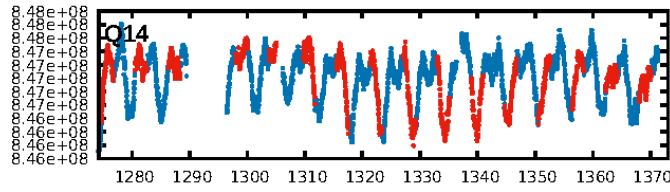
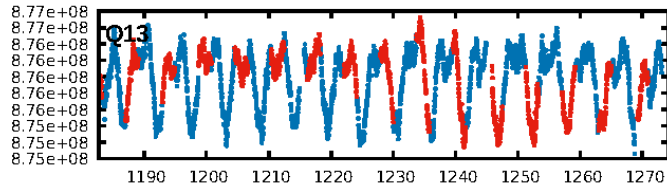
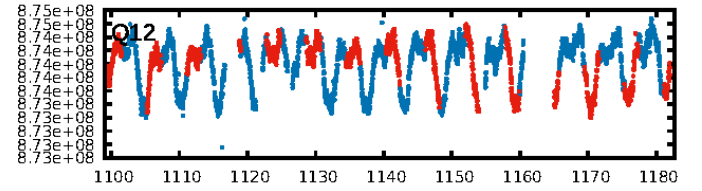
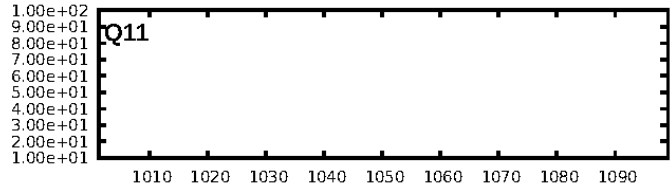
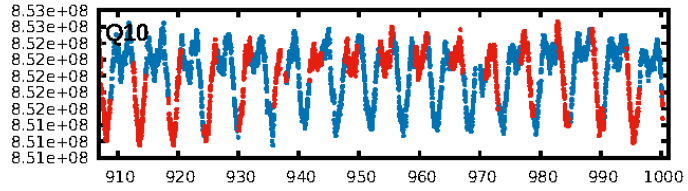
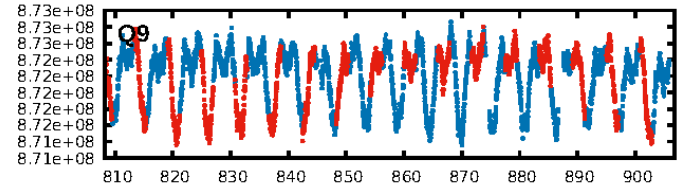
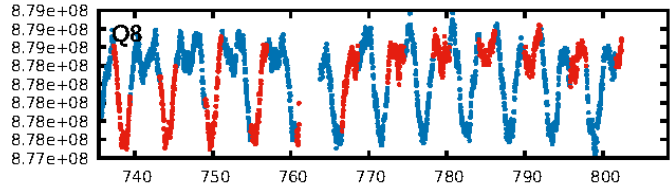
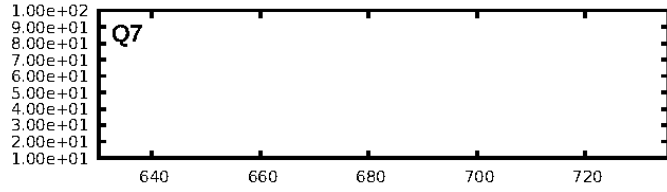
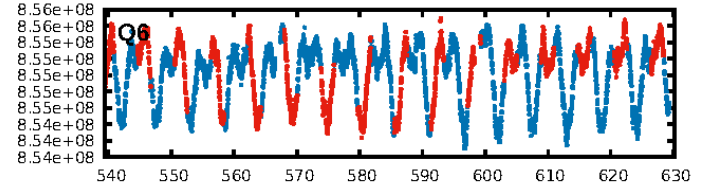
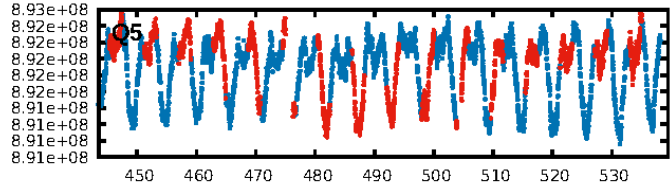
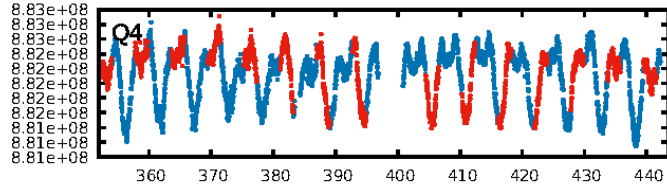
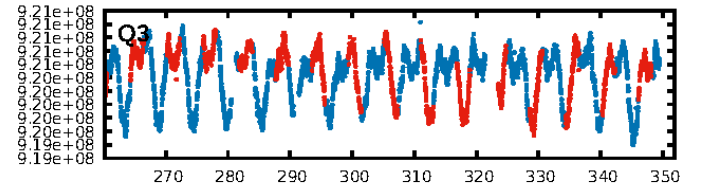
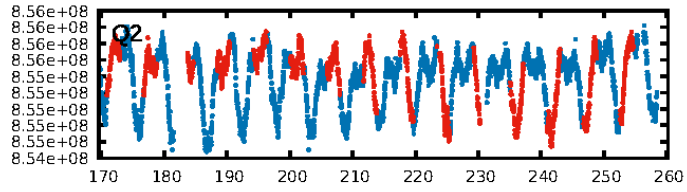
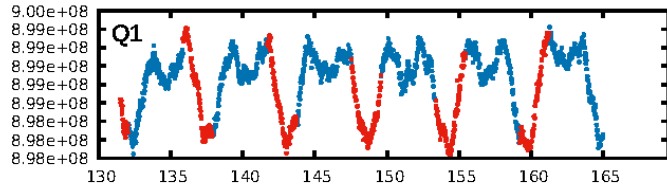
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.62e-16  
RollingBand-fgt: 0.97 [172/177]  
GhostDiagnostic-chr: 0.2322  
Centroid-sig: 34.3%  
Centroid-so: 0.531 arcsec [0.70σ]  
OotOffset-rm: 2.771 arcsec [3.49σ]  
KicOffset-rm: 2.829 arcsec [3.44σ]  
OotOffset-st: 2/1/4/5 [12]  
KicOffset-st: 2/1/4/5 [12]  
DiffImageQuality-fgm: 0.50 [6/12]  
DiffImageOverlap-fno: 1.00 [14/14]

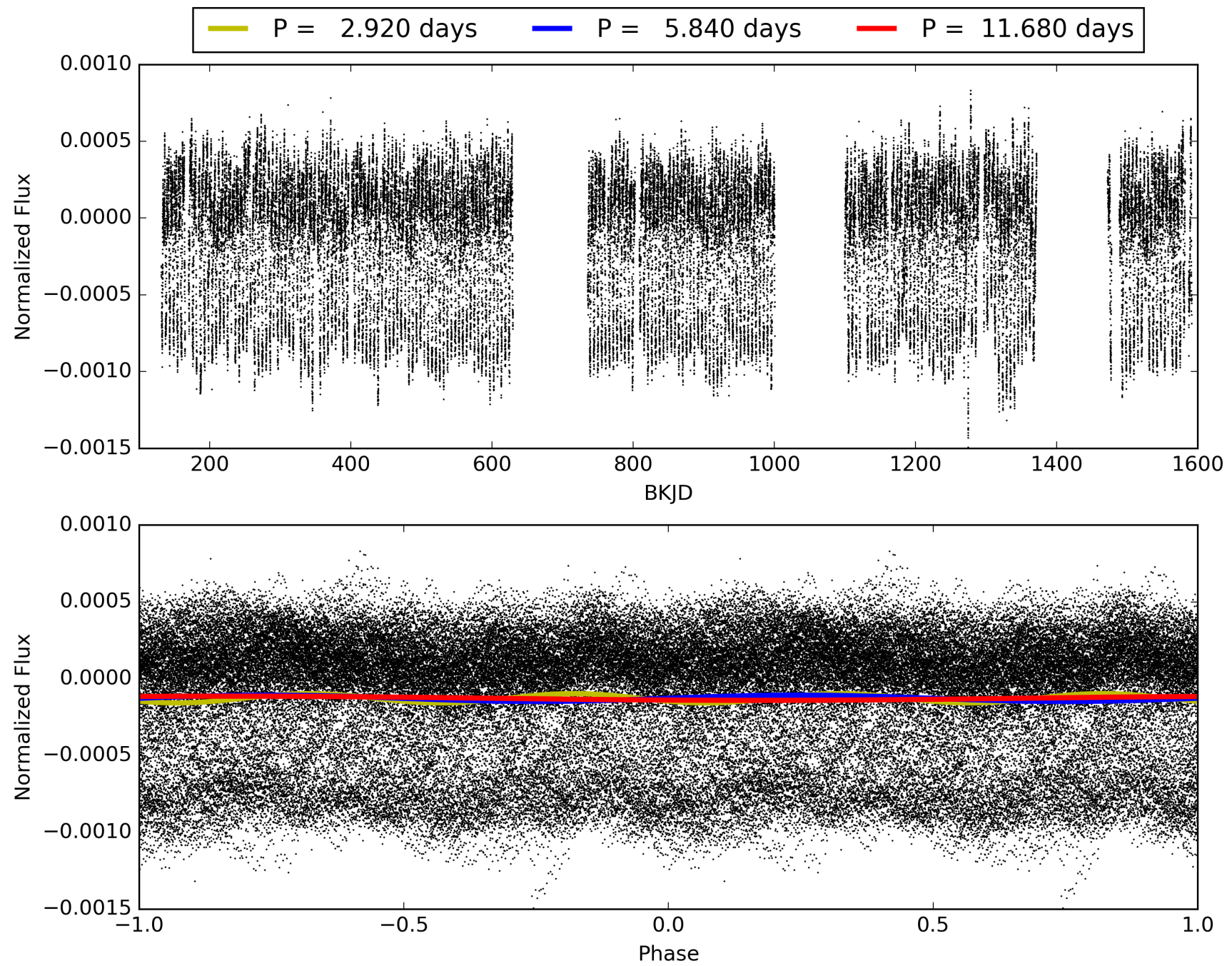
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:37:46 Z

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

## TCE 010035363-01, PDC Light Curves



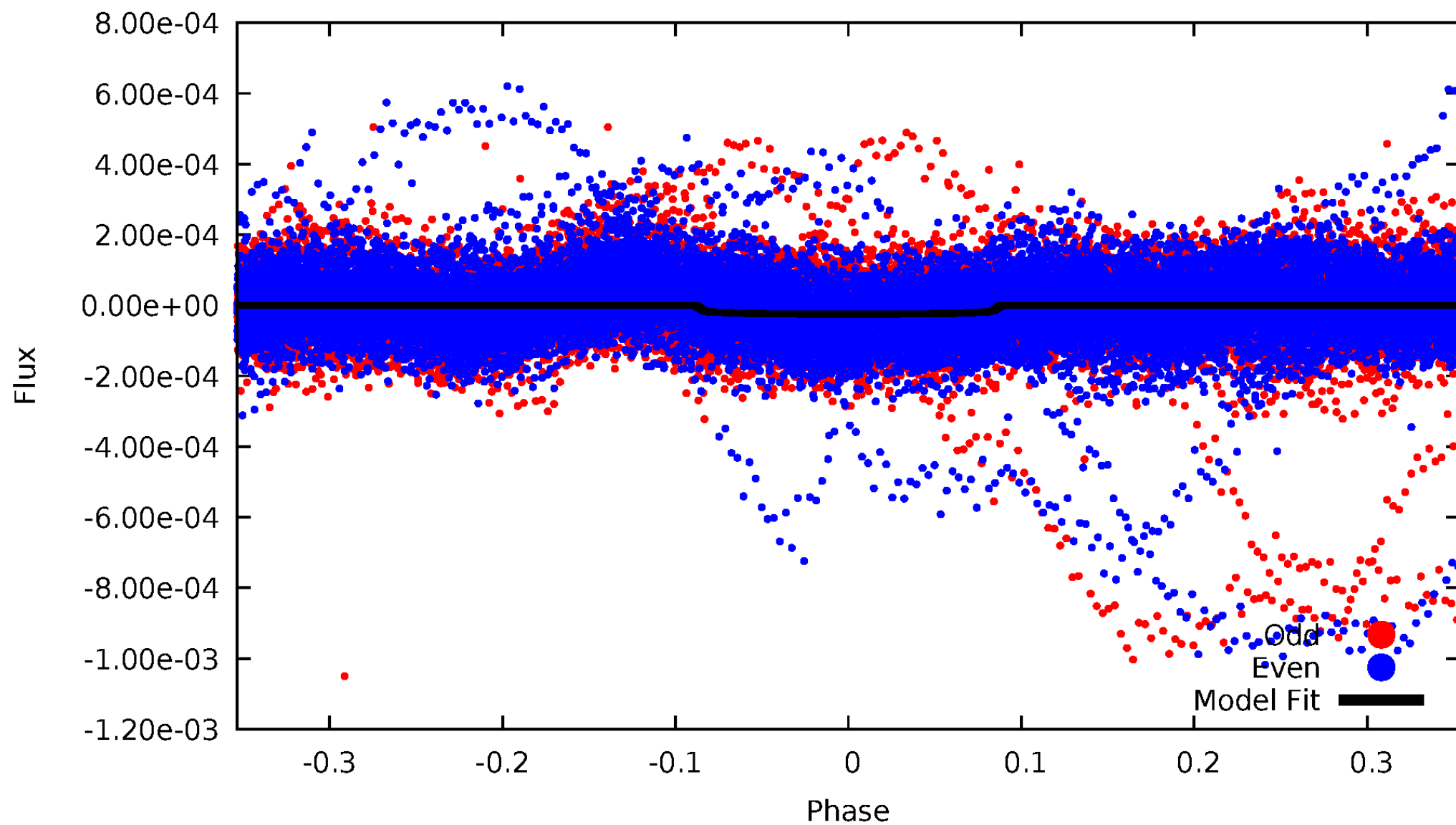
TCE 010035363-01





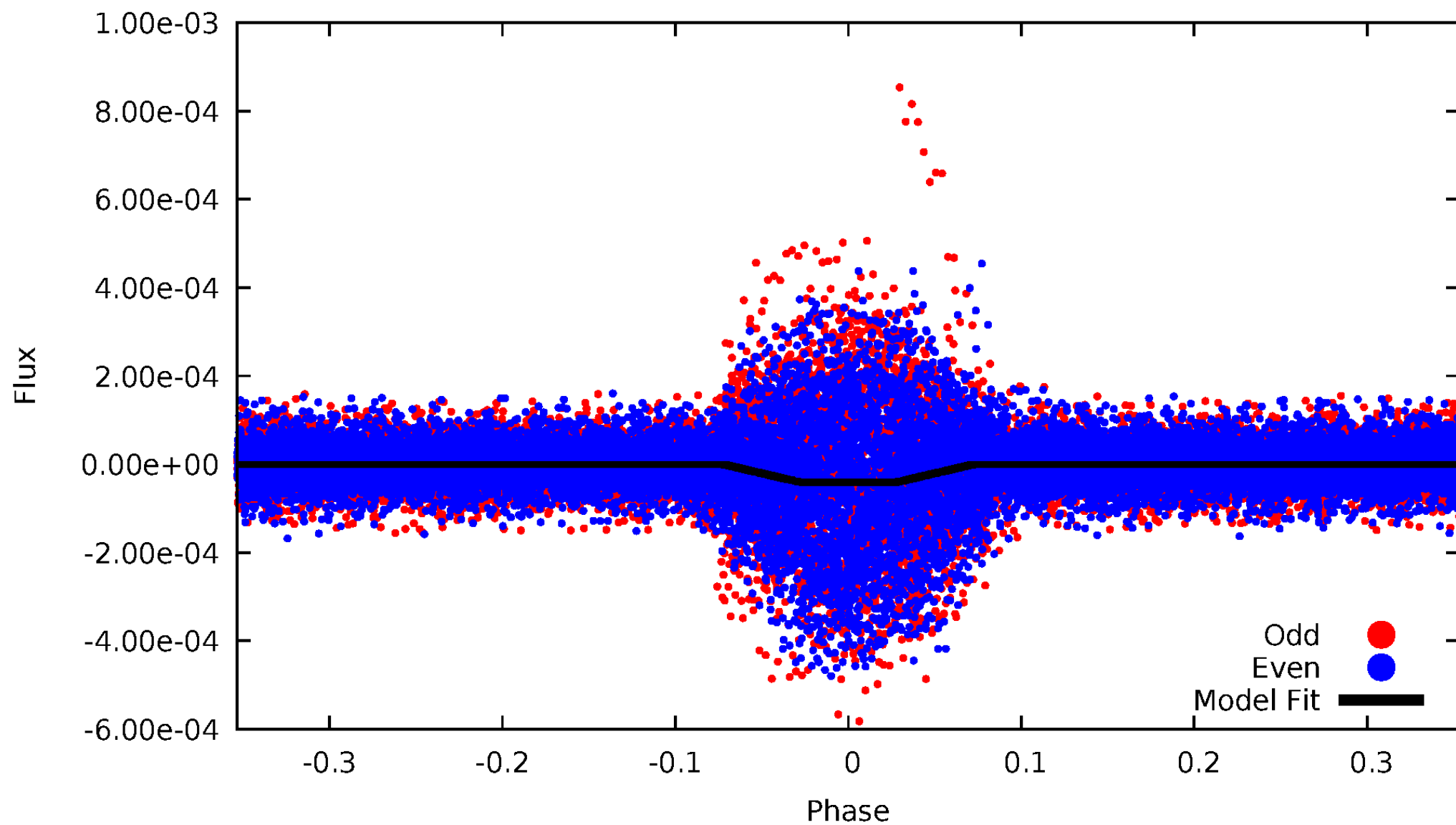
# DV Odd/Even

TCE 010035363-01

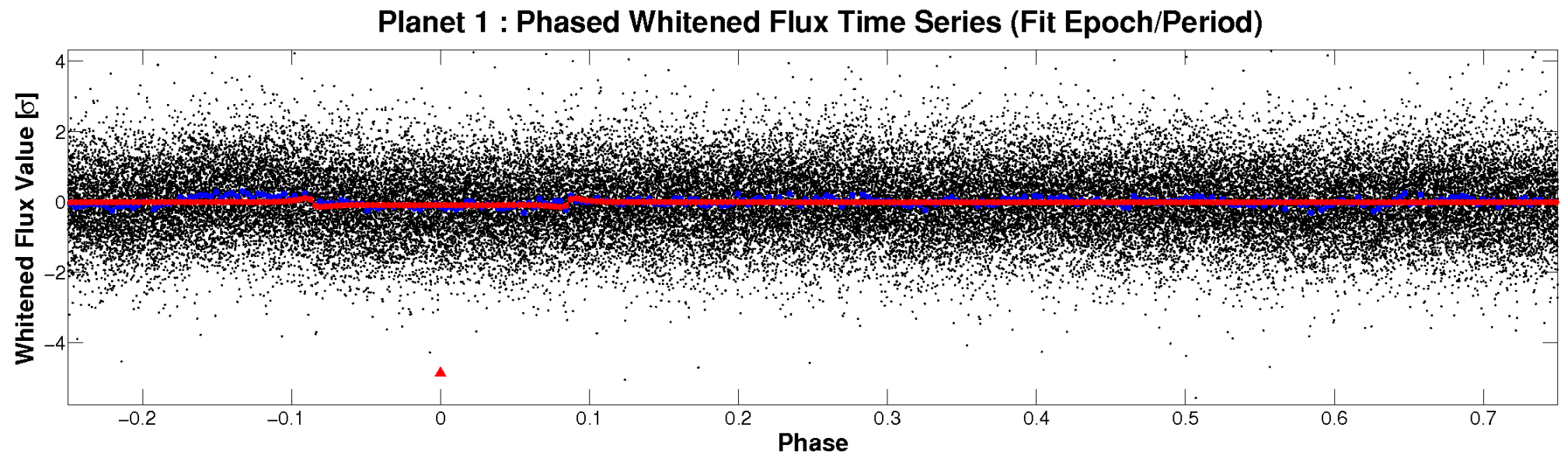
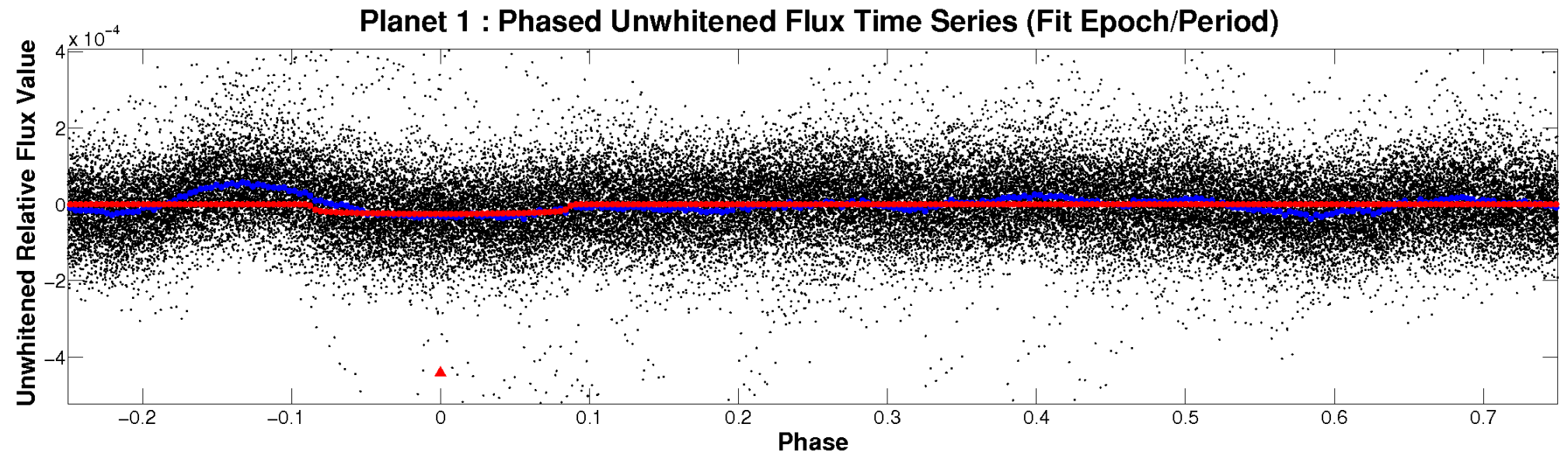


# ALT Odd/Even

TCE 010035363-01

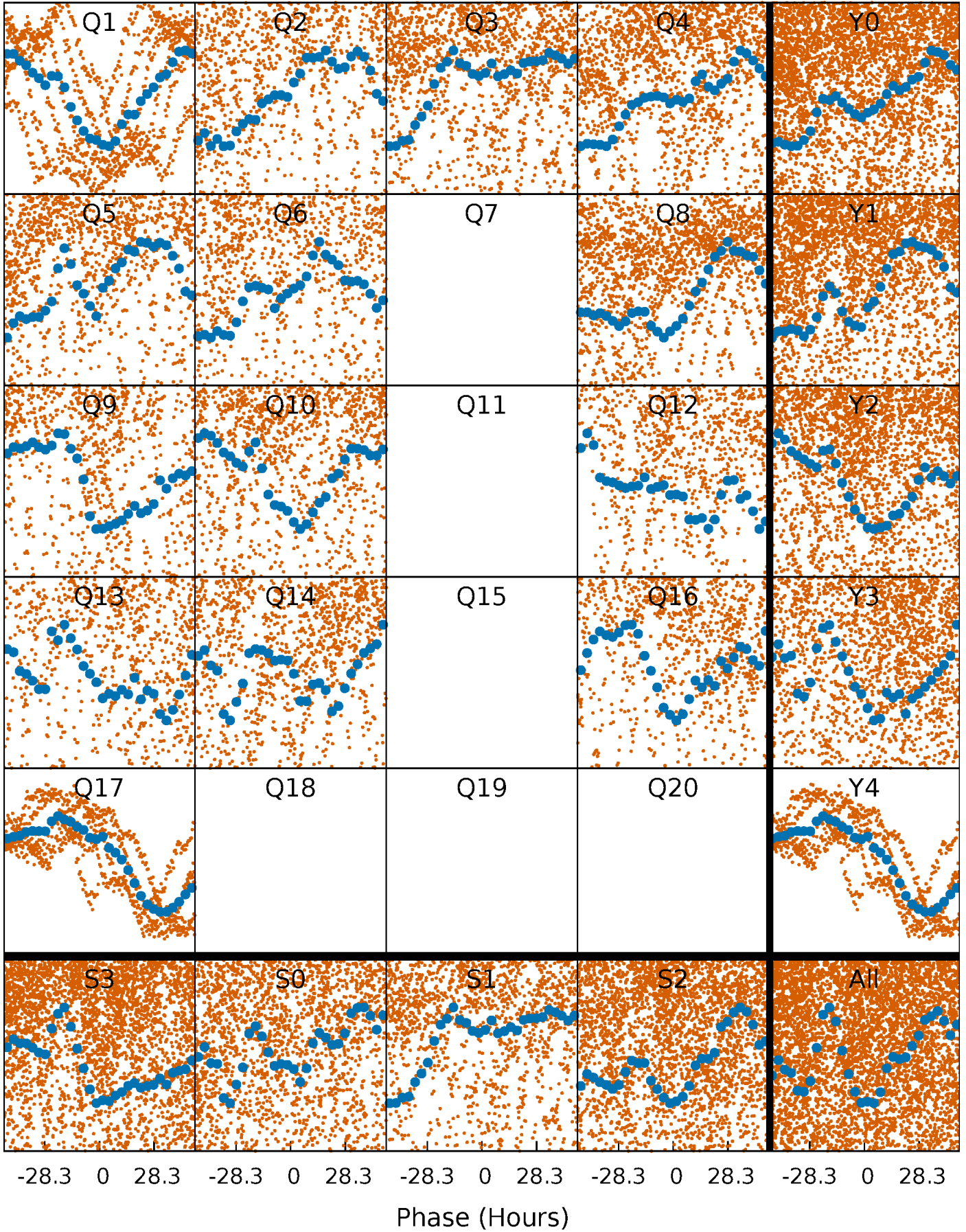


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

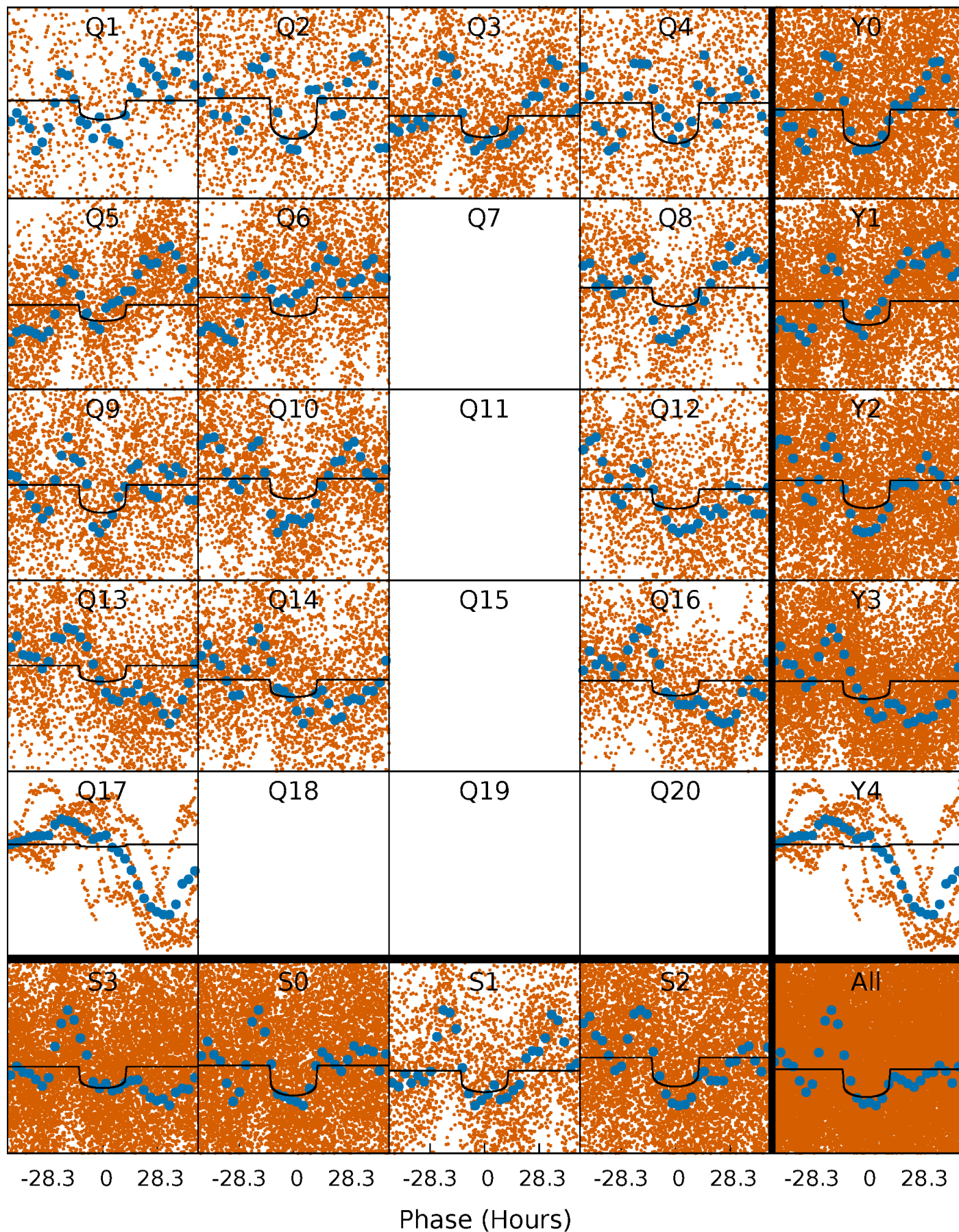
TCE 010035363-01   P= 5.839995 Days    $T_0=136.869353$  (BKJD)





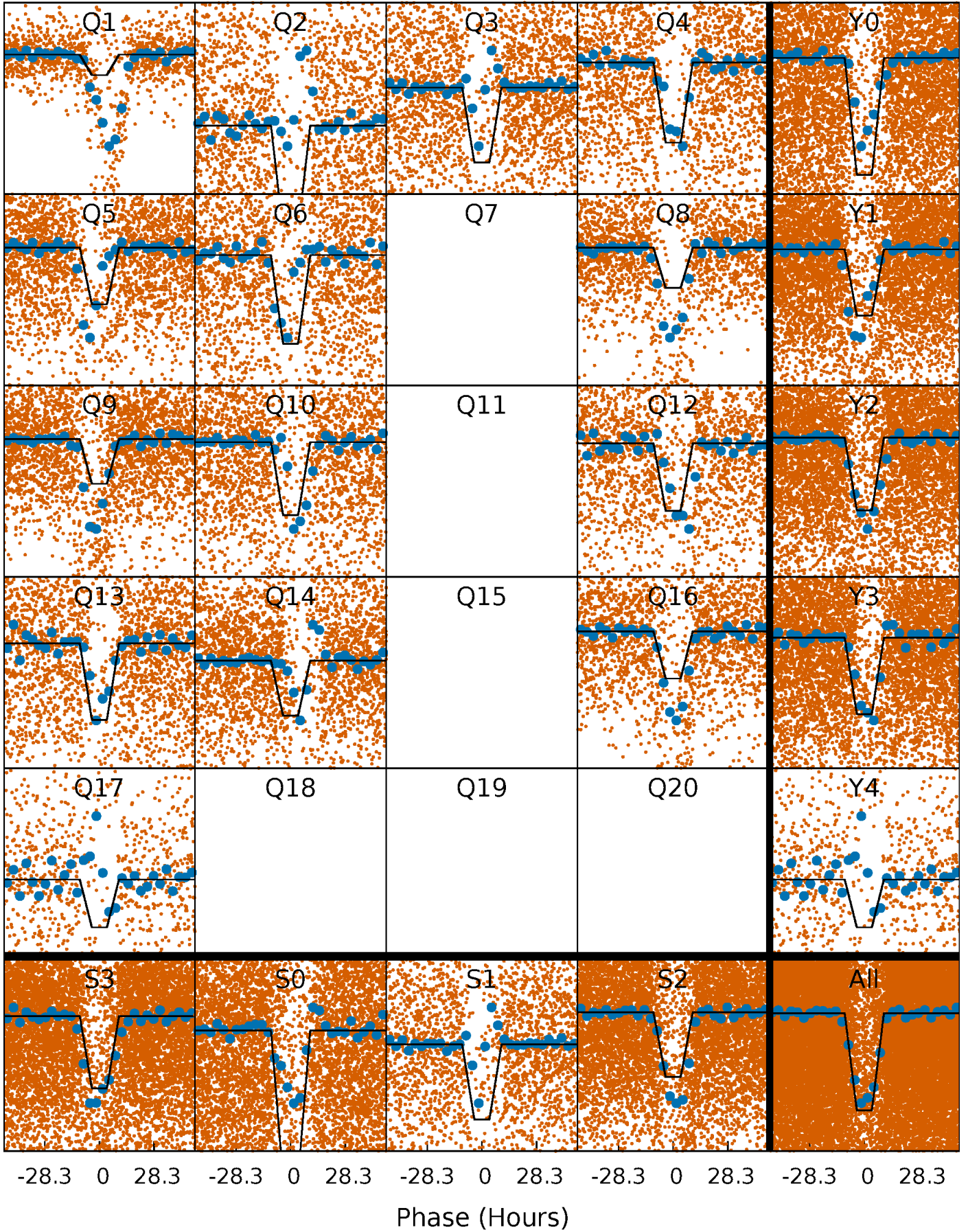
# DV Quarter-Phased Transit Curves

TCE 010035363-01 P= 5.839995 Days  $T_0=136.869353$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 010035363-01   P= 5.840244 Days    $T_0=136.846413$  (BKJD)

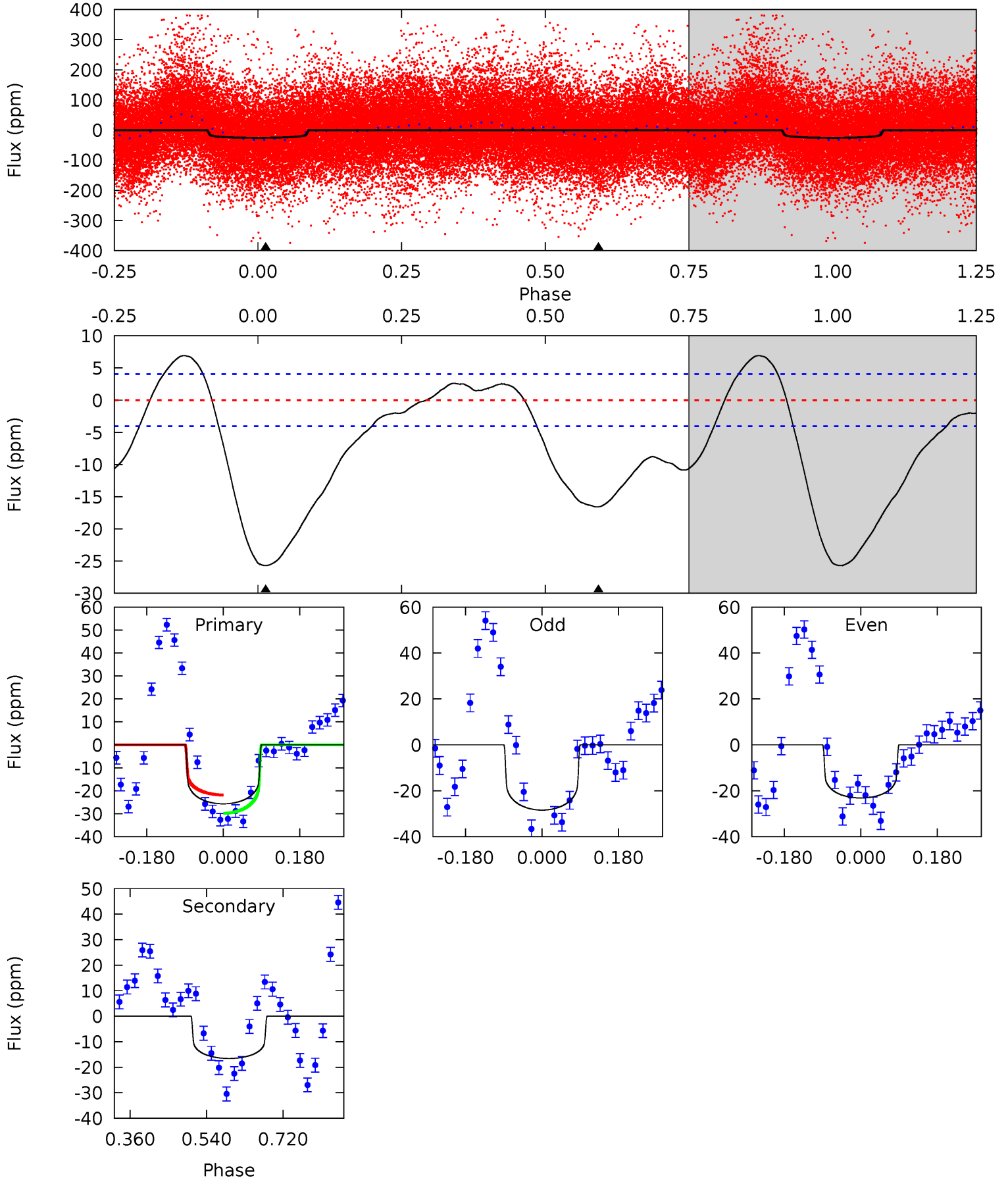




# DV Model-Shift Uniqueness Test

010035363-01, P = 5.839995 Days, E = 131.029358 Days

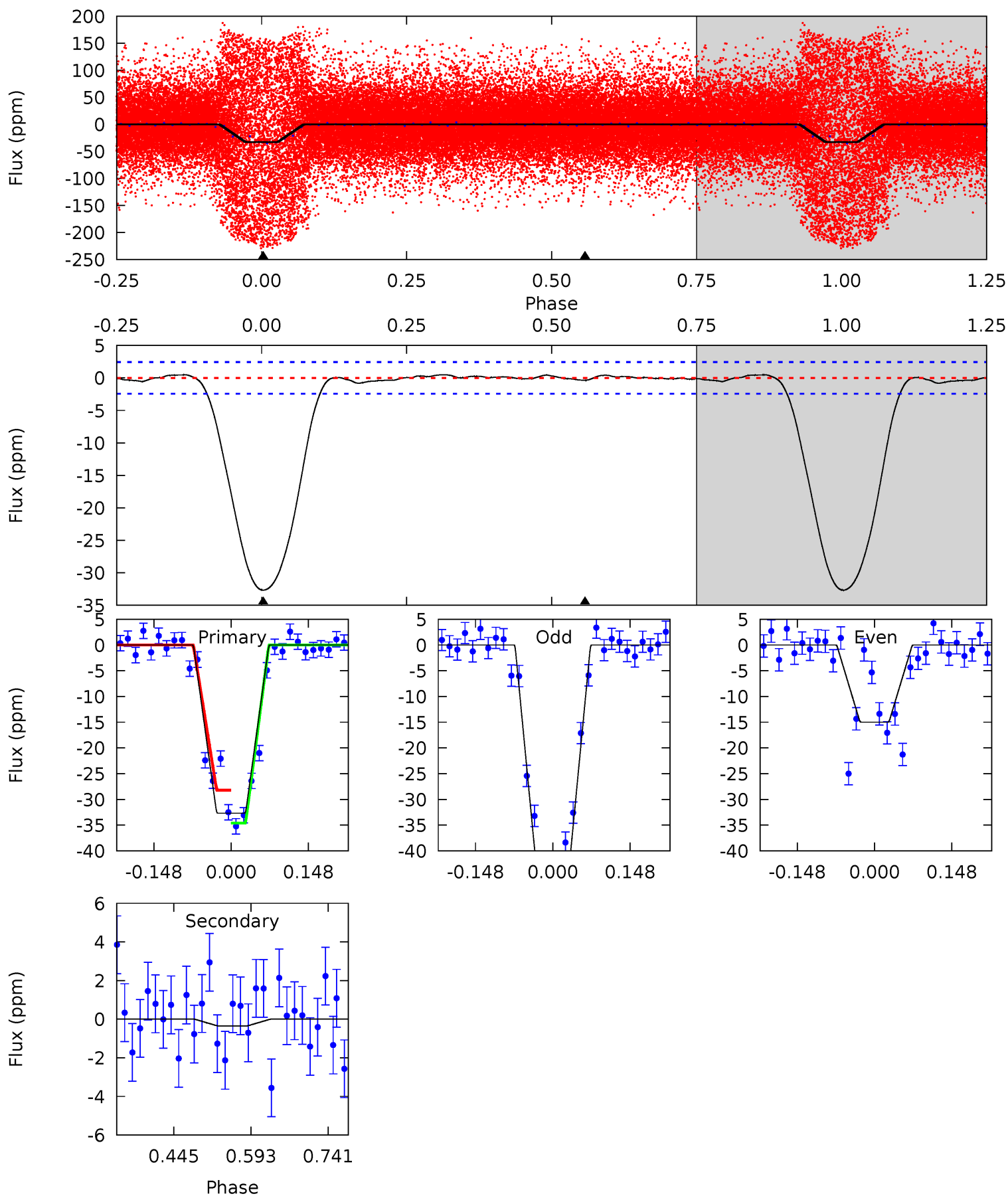
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.2	18.2	0	0	4.44	1.34	2.89	28.2	28.2	18.2	18.2	2.92	0.89	0.21	4.25



# Alt Model-Shift Uniqueness Test

010035363-01, P = 5.840244 Days, E = 131.006169 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
60.0	0.65	0	0	4.48	1.45	0.61	60.0	60.0	0.65	0.65	29.3	0.87	0.02	5.78





### Stellar Parameters For KIC 010035363

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6555^{+148}_{-181}$	$4.117^{+0.165}_{-0.135}$	$0.040^{+0.250}_{-0.300}$	$1.689^{+0.369}_{-0.405}$	$1.361^{+0.156}_{-0.214}$	$0.398^{+0.358}_{-0.164}$
	+2%/-3%	+4%/-3%	+625%/-750%	+22%/-24%	+11%/-16%	+90%/-41%
Source	PHO1	FLK73	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 010035363-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-17 \pm 1$	$0.96^{+0.13}_{-0.12}$	$1971^{+111}_{-111}$	$5729^{+247}_{-237}$	$48^{+13}_{-11}$
Alt.	$-0 \pm 1$	$1.16^{+0.18}_{-0.16}$	$1969^{+119}_{-128}$	$2569^{+471}_{-5318}$	$0.678^{+1.147}_{-1.020}$

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

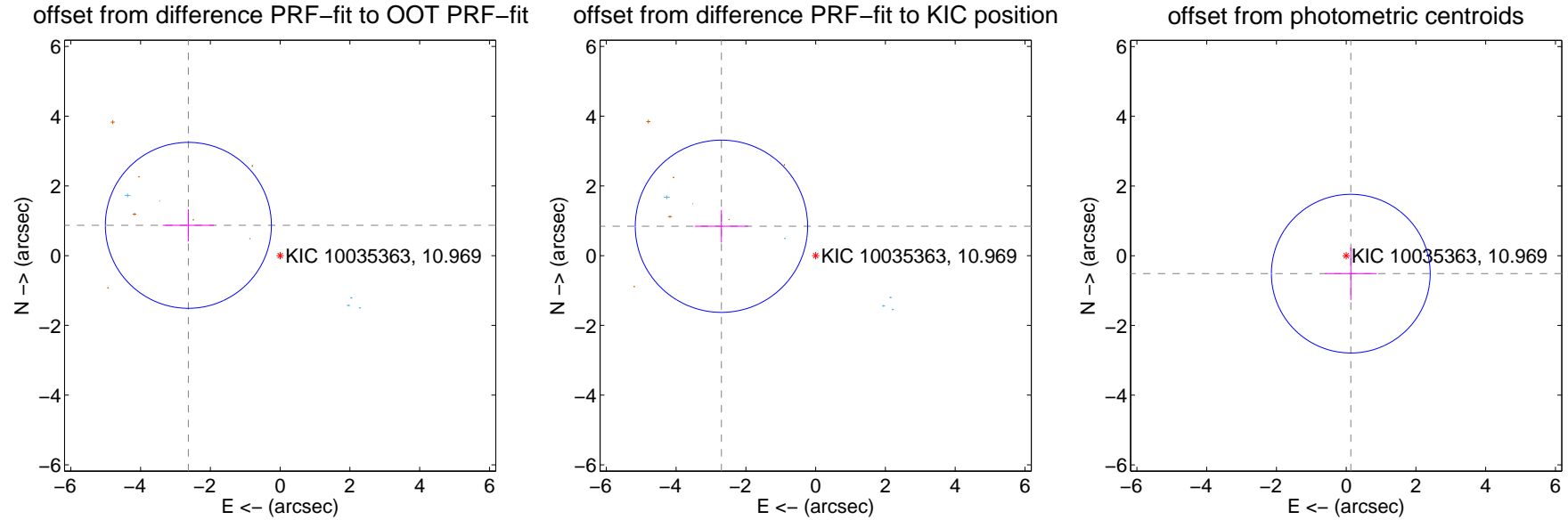
## DV Centroid Data

Supplemental centroid analysis for 010035363-01. **Kepler magnitude: 10.97.** Transit SNR 9.67

There are 6 quarters with good PRF difference image offsets

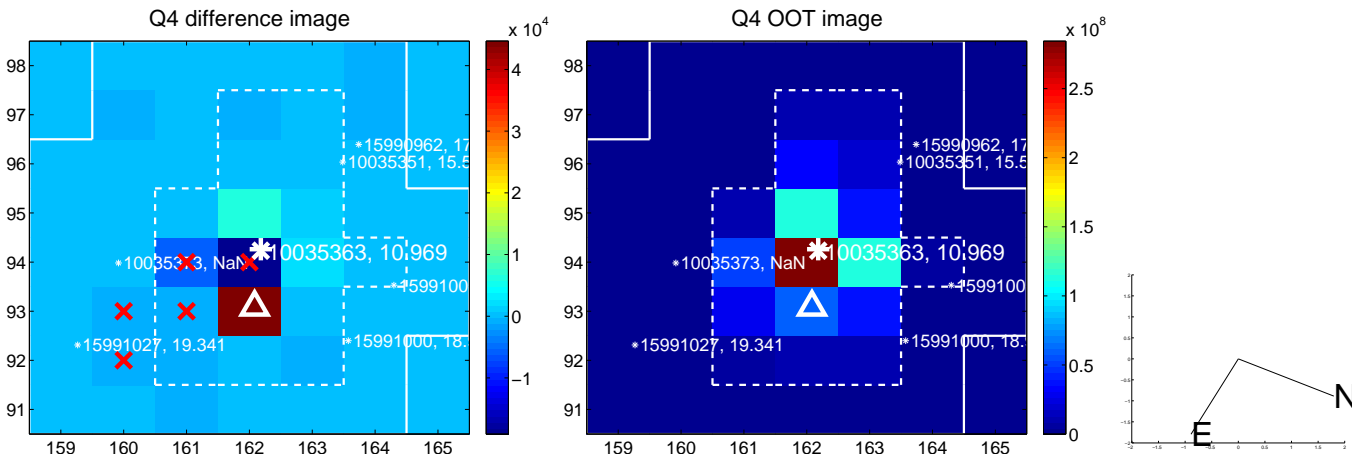
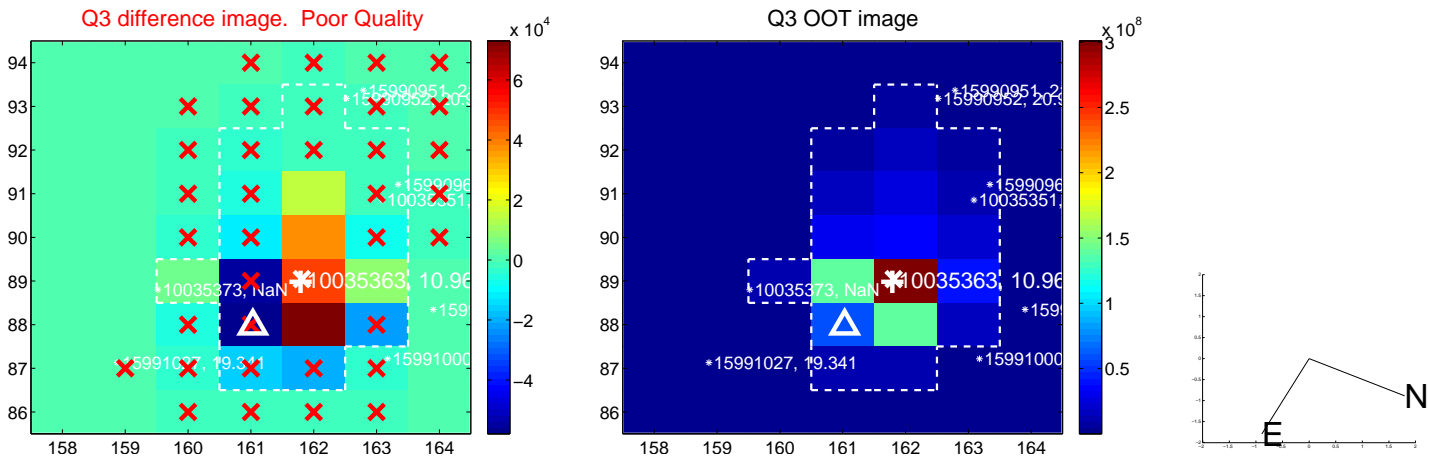
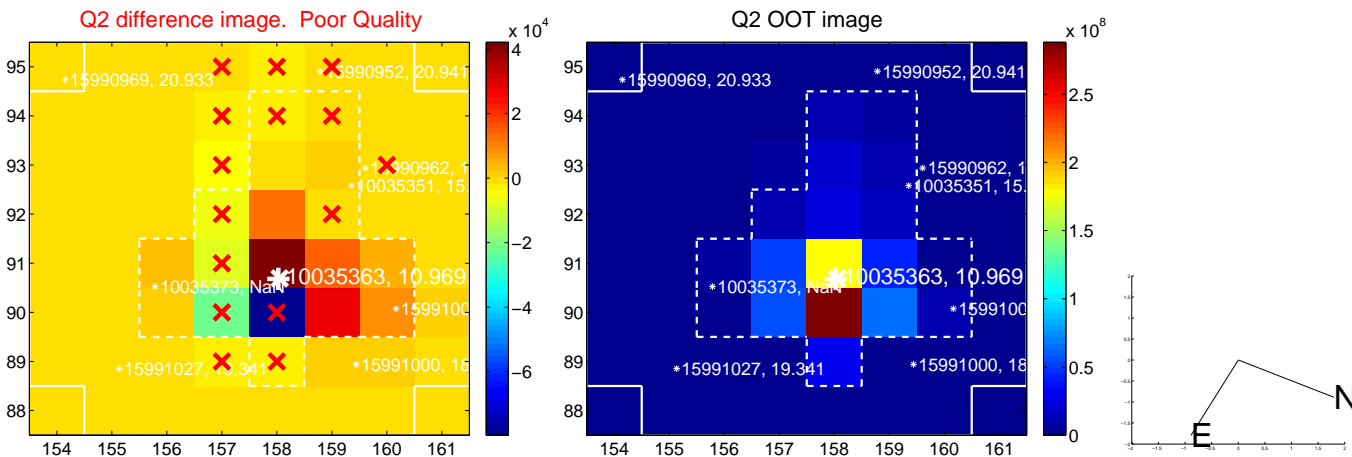
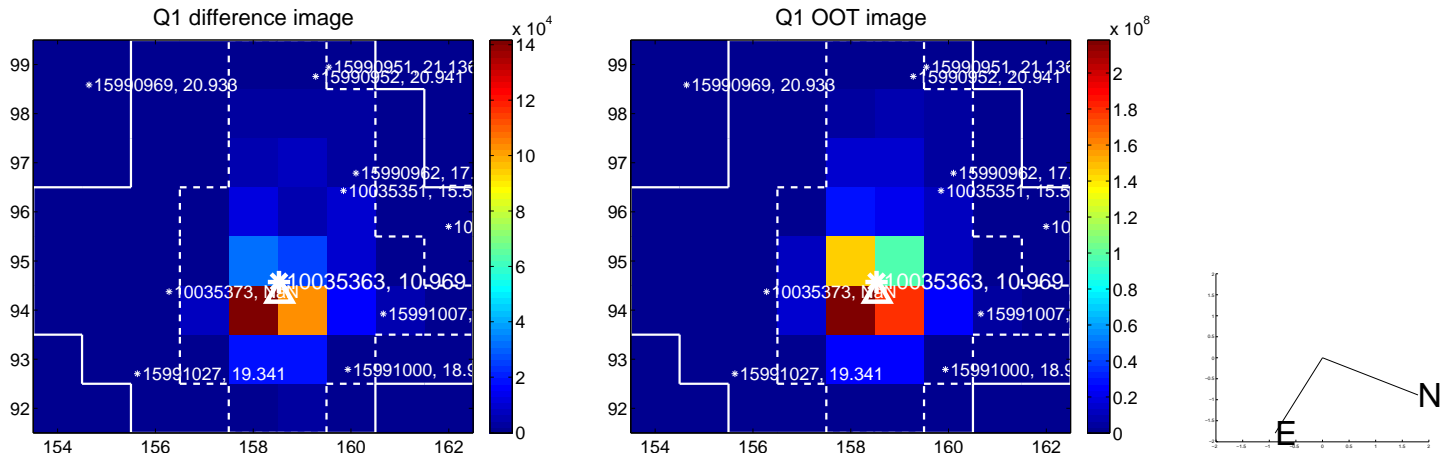
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>2.771 \pm 0.793</math></b>	<b>3.49</b>	$2.631 \pm 0.735$	$0.869 \pm 0.461$
PRF-fit source offset from KIC position	<b><math>2.829 \pm 0.823</math></b>	<b>3.44</b>	$2.700 \pm 0.764$	$0.843 \pm 0.468$
photometric centroid source offset	$0.53 \pm 0.76$	0.70	$-0.13 \pm 0.74$	$-0.51 \pm 0.76$

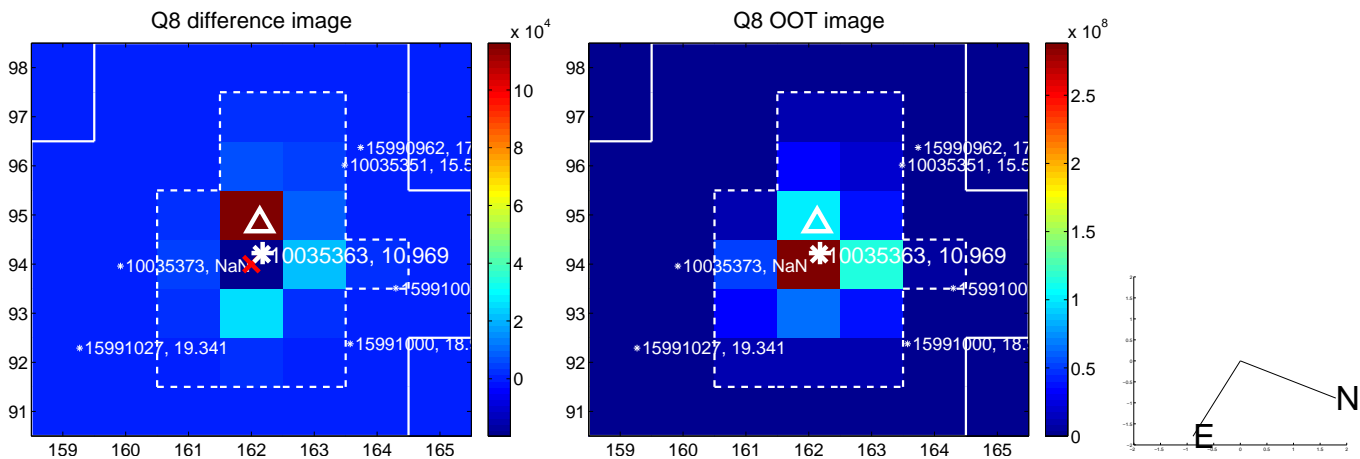
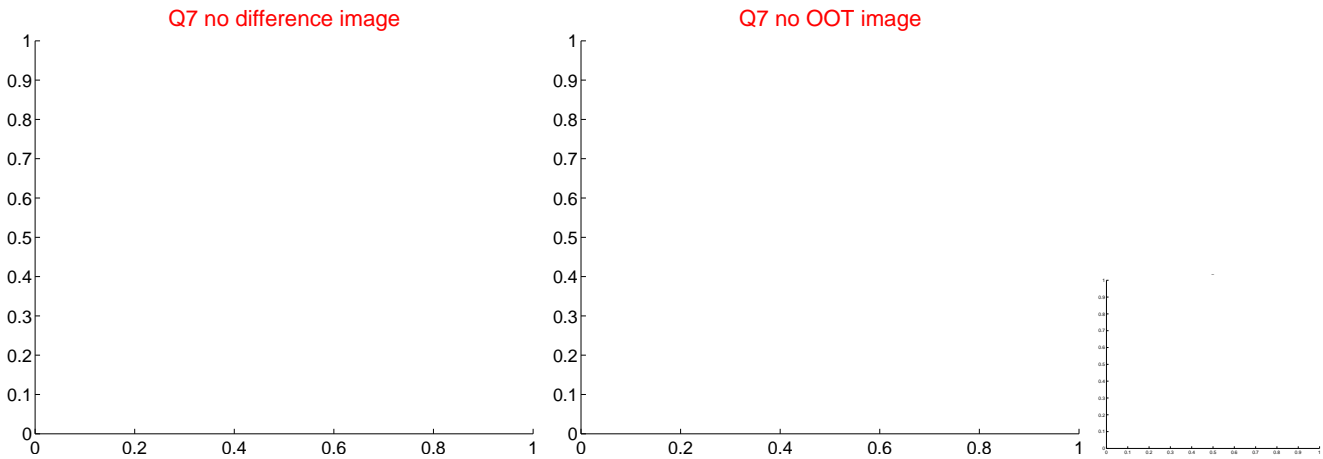
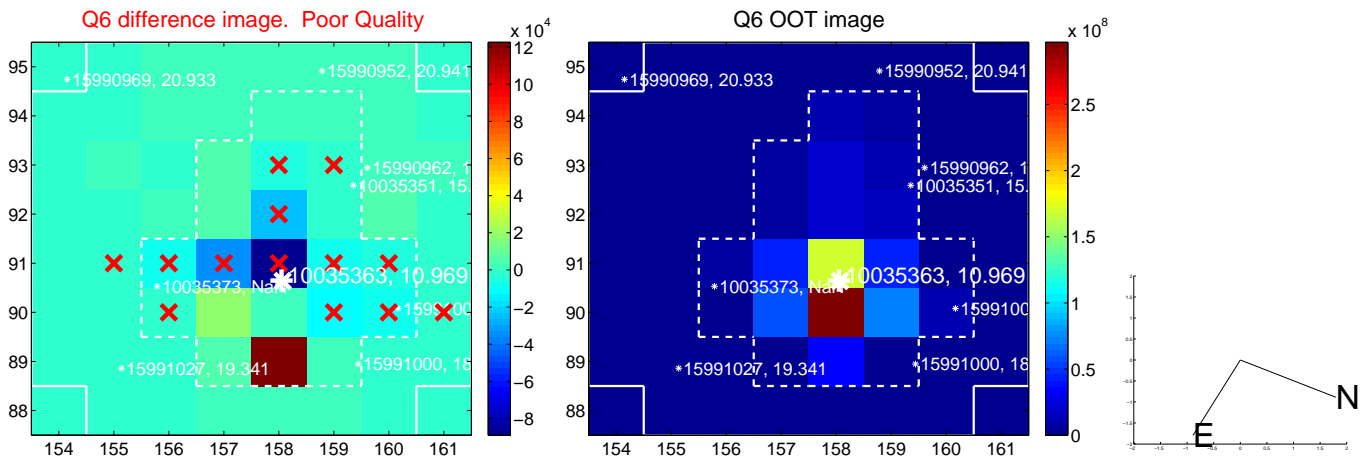
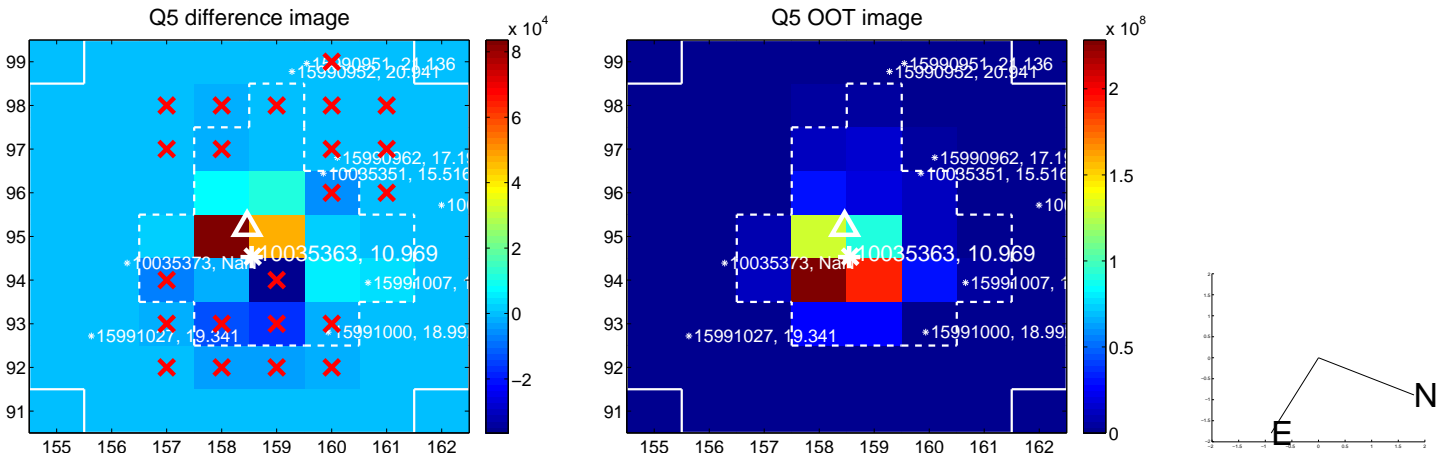


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

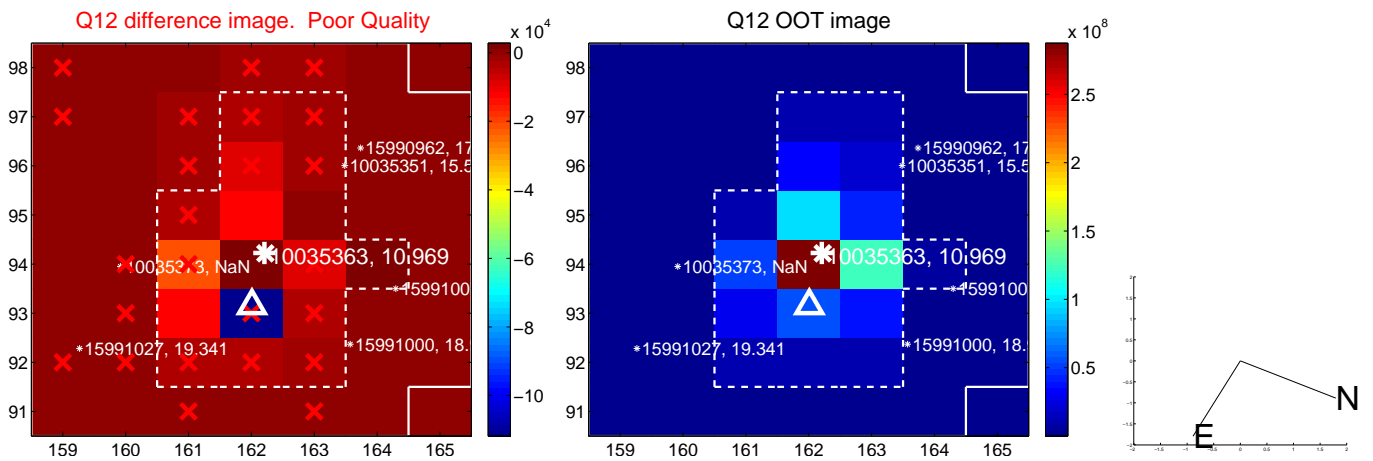
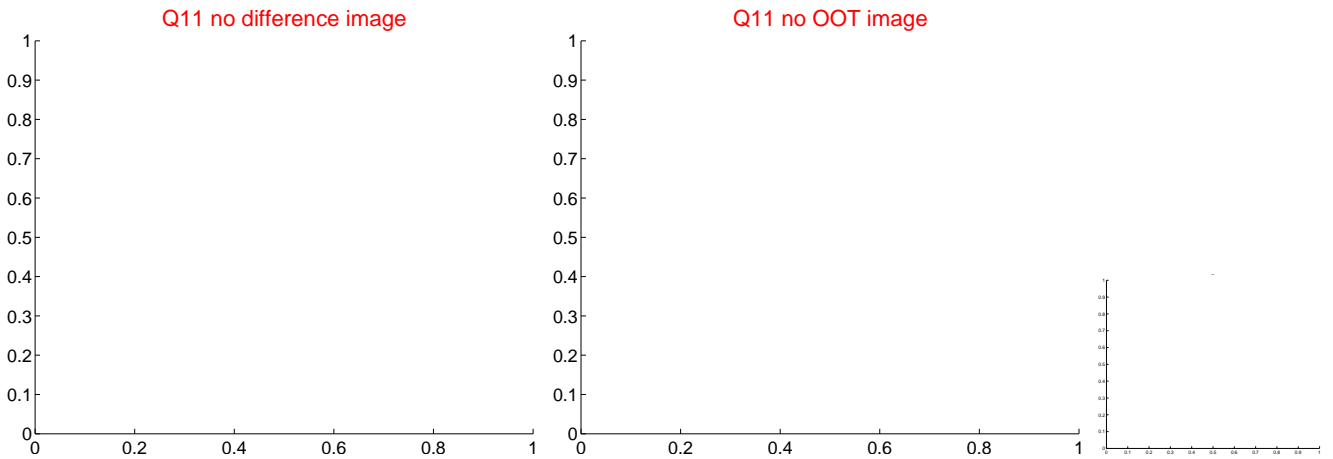
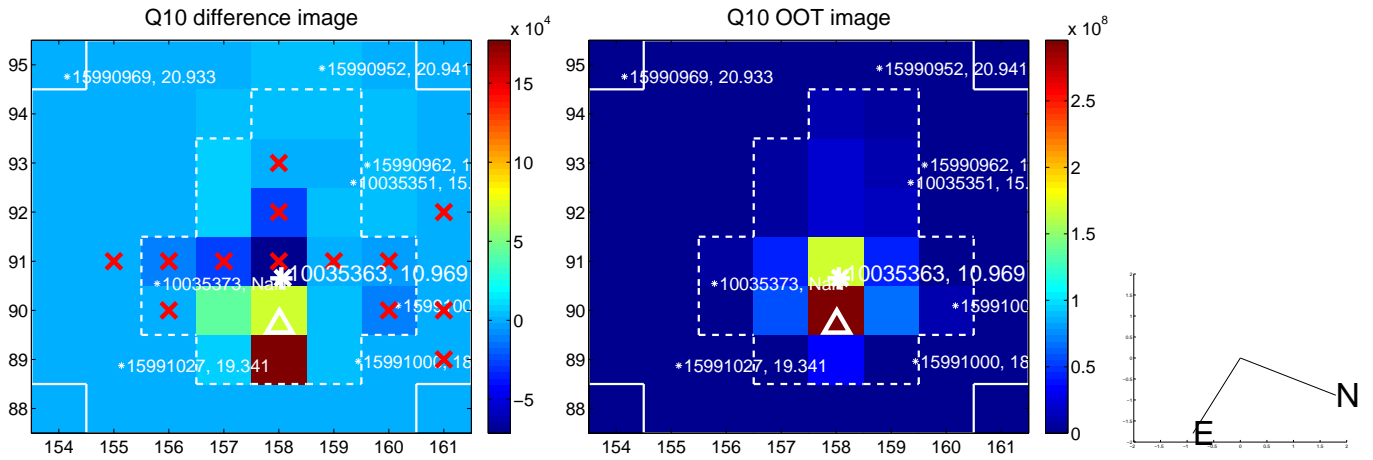
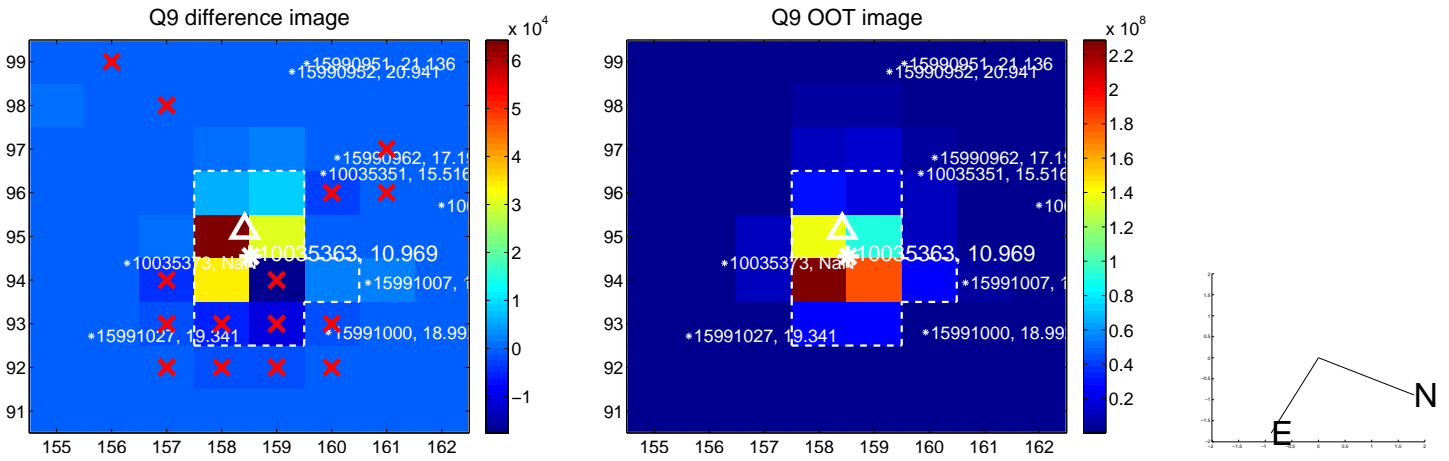


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

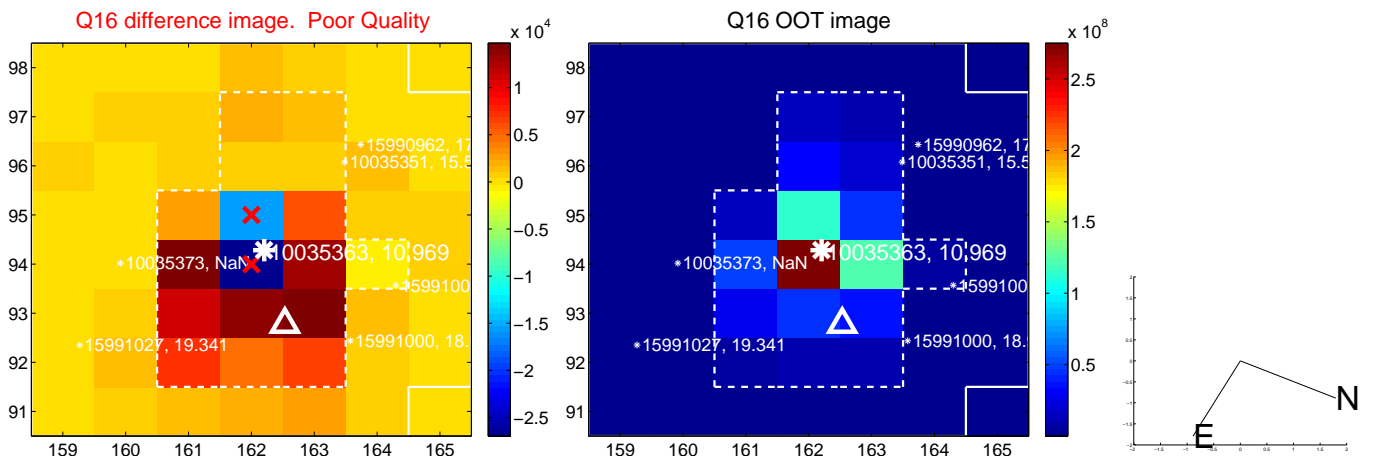
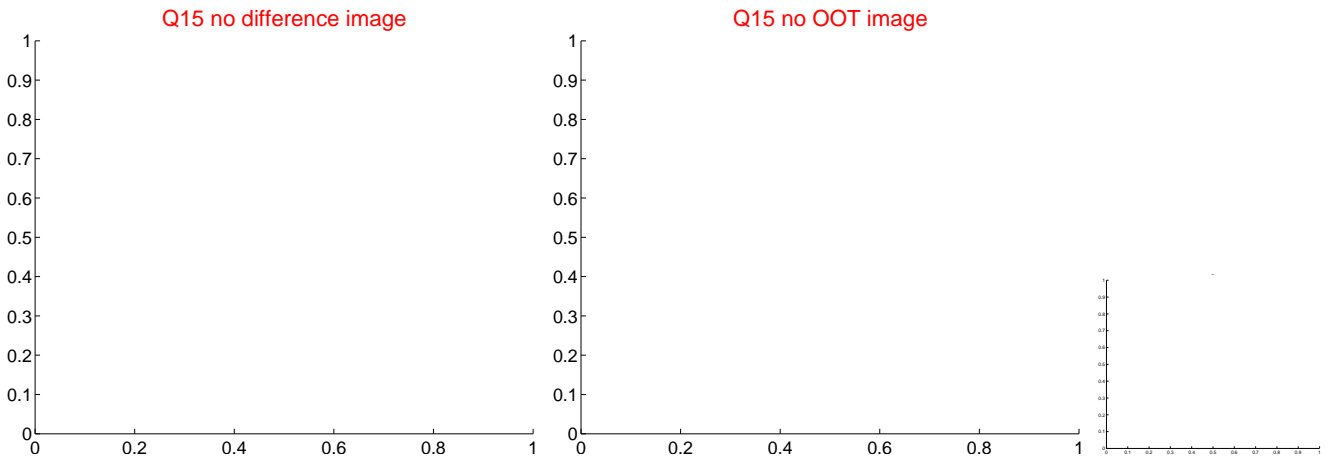
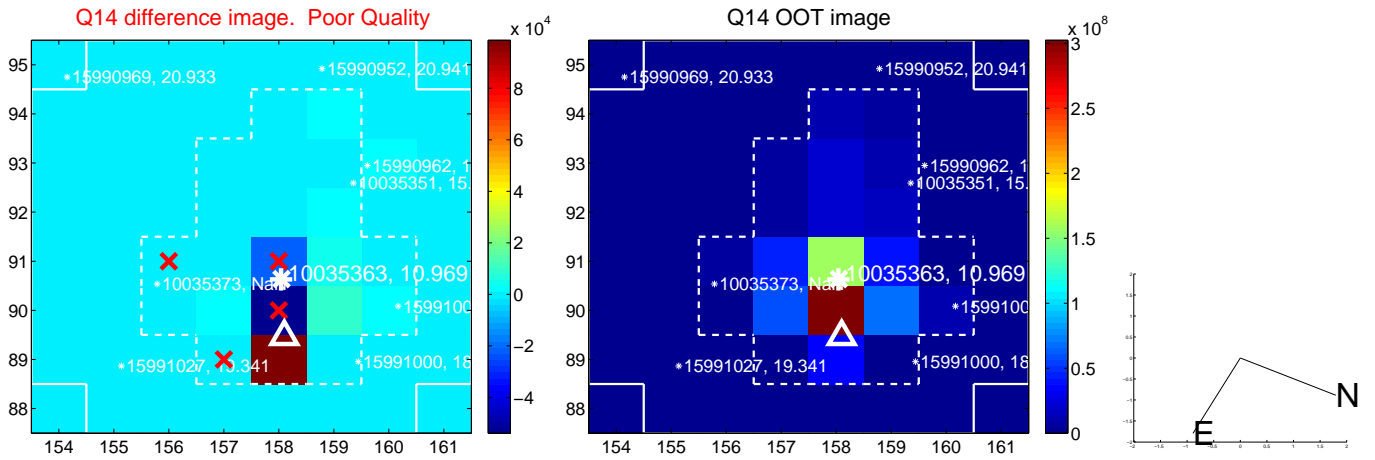
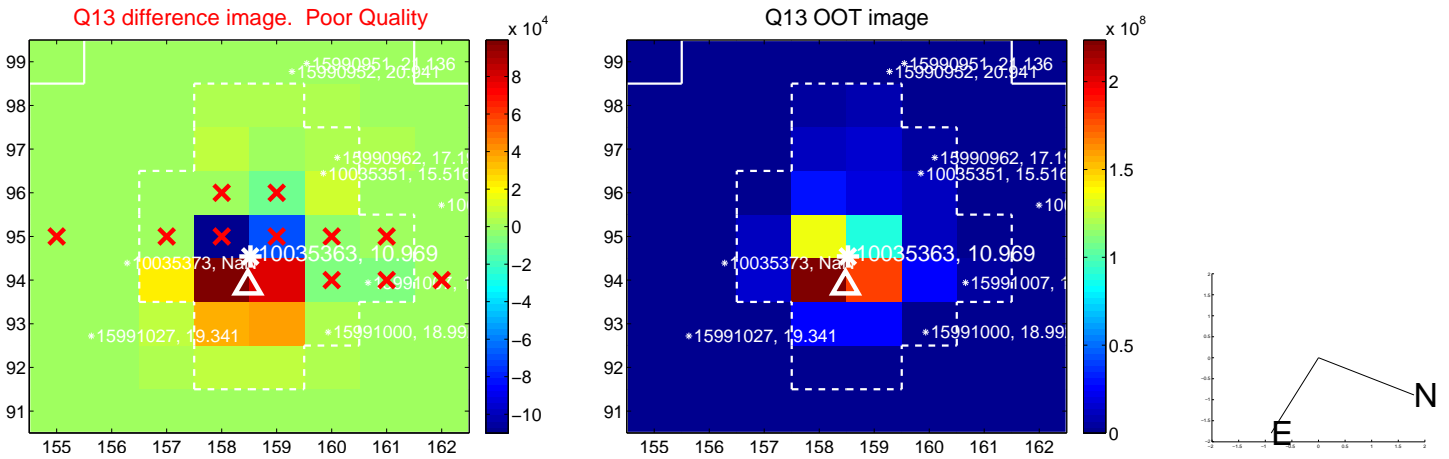




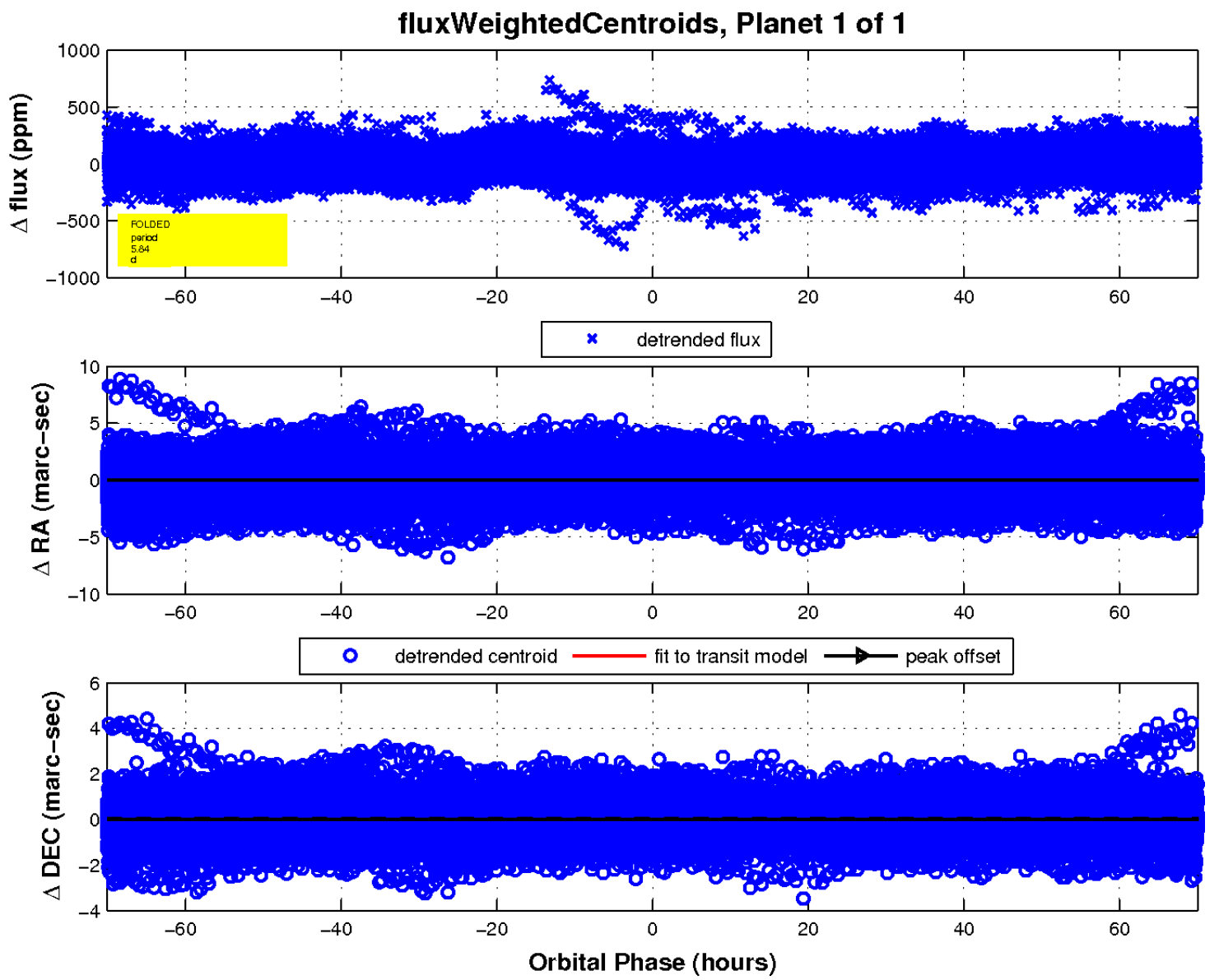
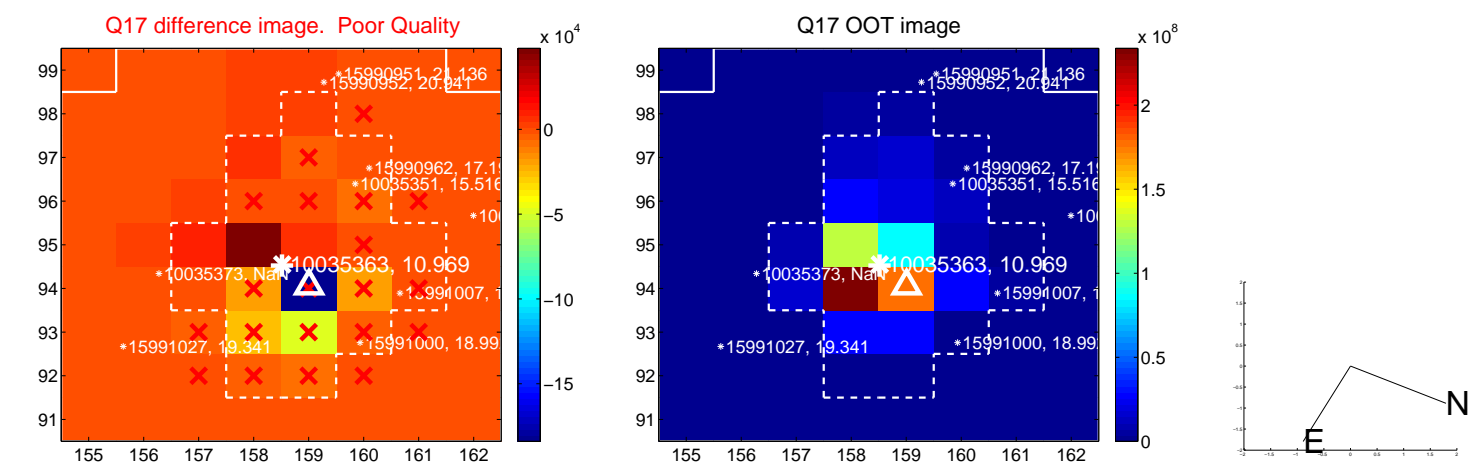
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

