

# KIC 007583939

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007583939-01	OBS	No	1.519988	132.907482	58.2	12.207	9.4	12.1	3.06	8529	2.63	41717.70

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007583939-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

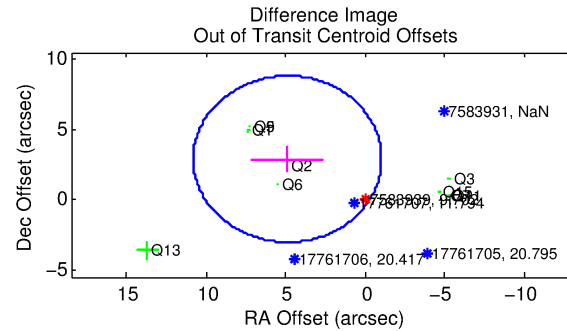
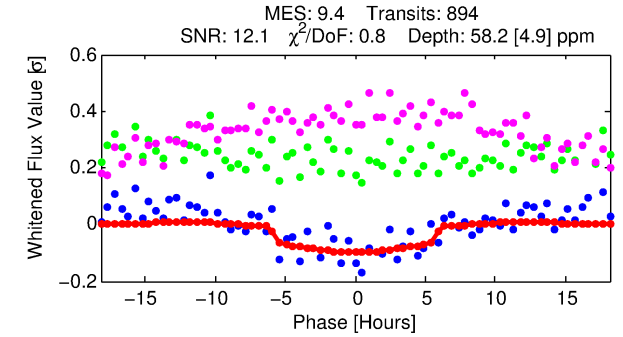
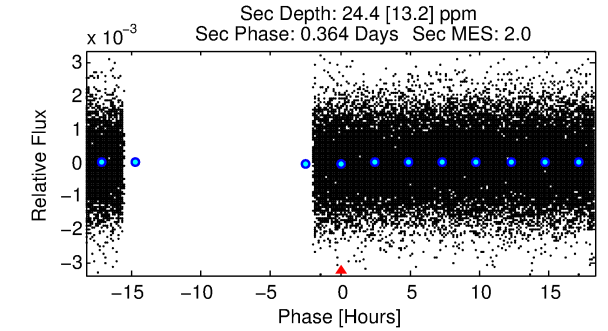
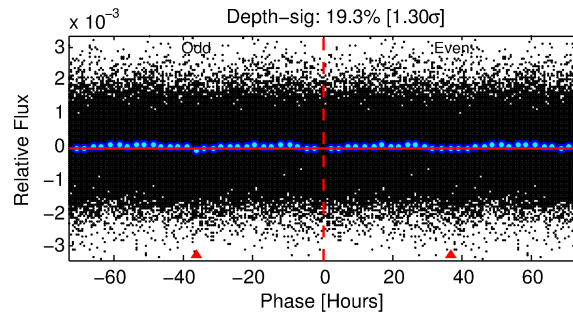
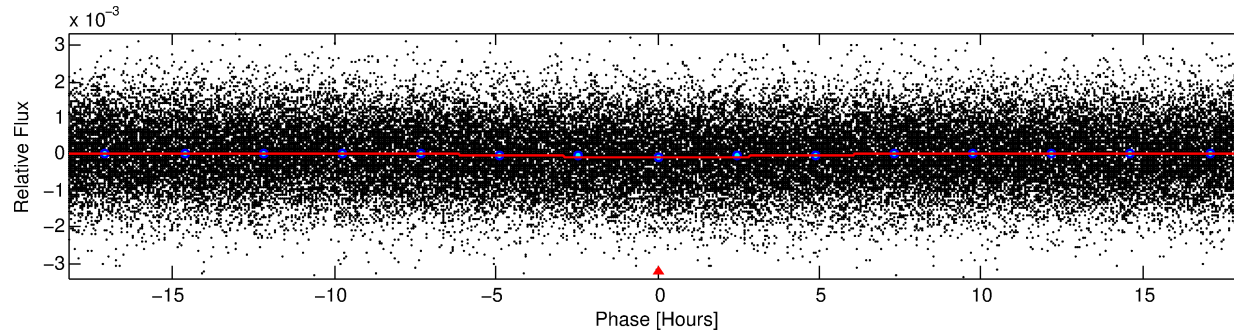
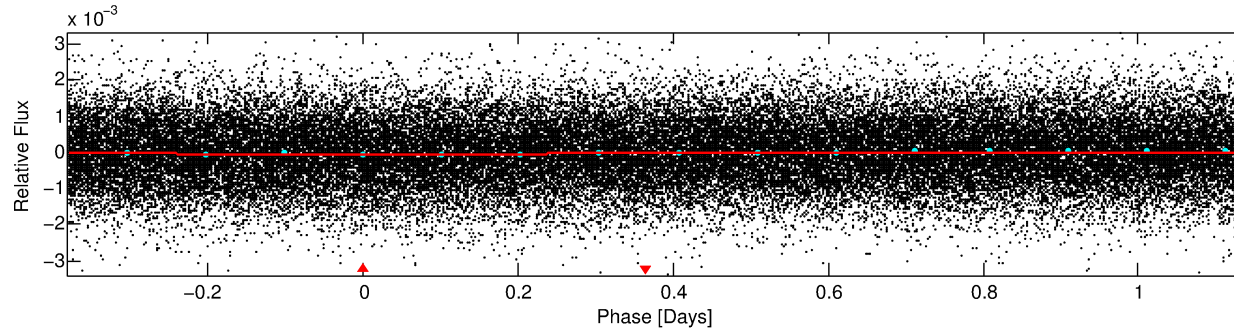
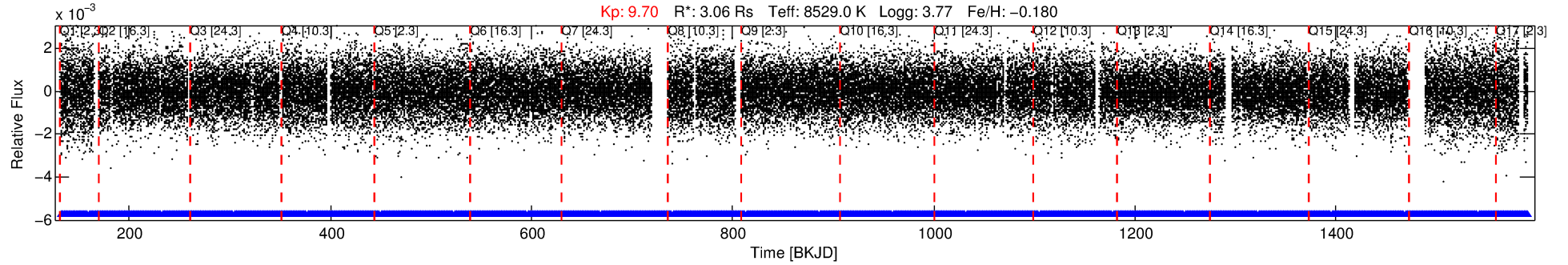
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007583939-01

No Significant Match Found

# DV One-Page Summary

KIC: 7583939 Candidate: 1 of 1 Period: 1.520 d



## DV Fit Results:

Period = 1.51999 [0.00003] d  
Epoch = 132.9075 [0.0117] BKJD  
 $R_p/R^* = 0.0079$  [0.0027]  
 $a/R^* = 1.05$  [0.24]  
 $b = 0.85$  [0.74]  
 $\text{Seff} = 41717.70$  [30326.89]  
 $T_{\text{eq}} = 3644$  [662] K  
 $R_p = 2.63$  [1.45]  $R_{\text{e}}$   
 $a = 0.0327$  [0.0141] AU  
 $A_g = 2.07$  [2.32] [0.46 $\sigma$ ]  
 $T_{\text{eff}} = 6756$  [1502] K [1.90 $\sigma$ ]

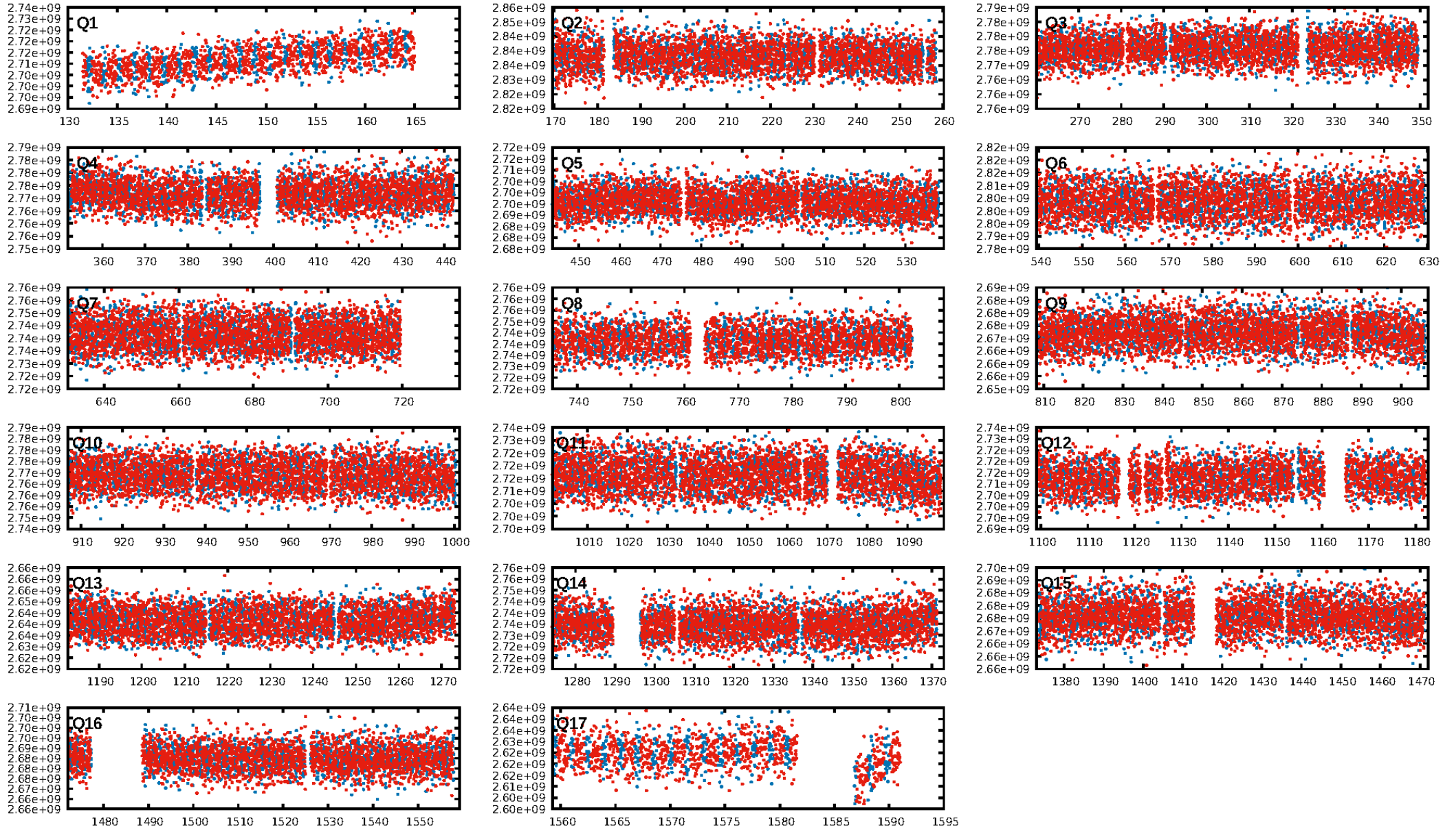
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [853/853]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 1.7%  
Centroid-so: 0.353 arcsec [1.49 $\sigma$ ]  
OotOffset-rm: 5.692 arcsec [2.88 $\sigma$ ]  
OotOffset-st: 2/4/0/4 [10]  
KicOffset-rm: 6.521 arcsec [3.34 $\sigma$ ]  
KicOffset-st: 2/4/0/4 [10]  
DiffImageQuality-fgm: 0.20 [2/10]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:07:59 Z

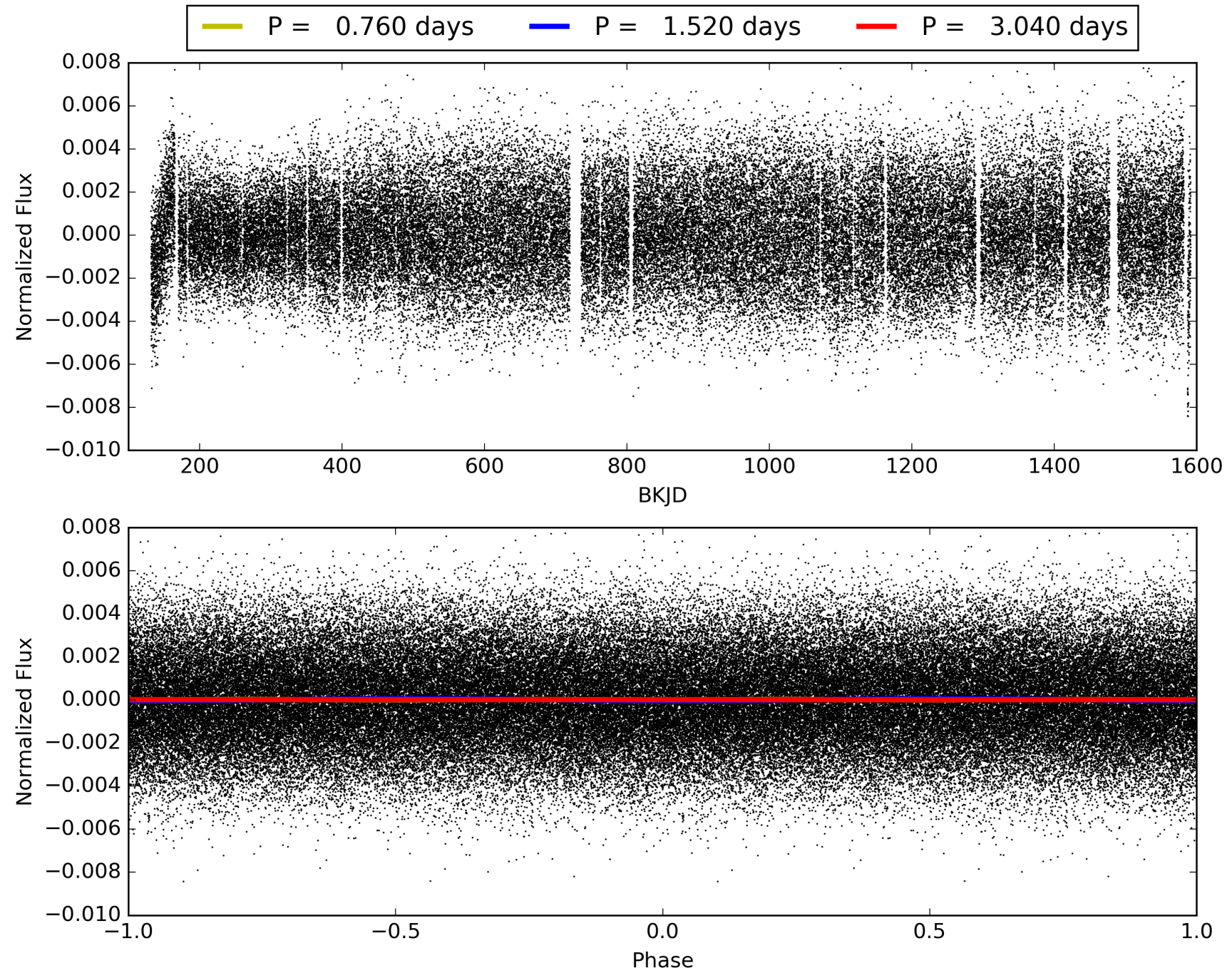
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007583939-01, PDC Light Curves



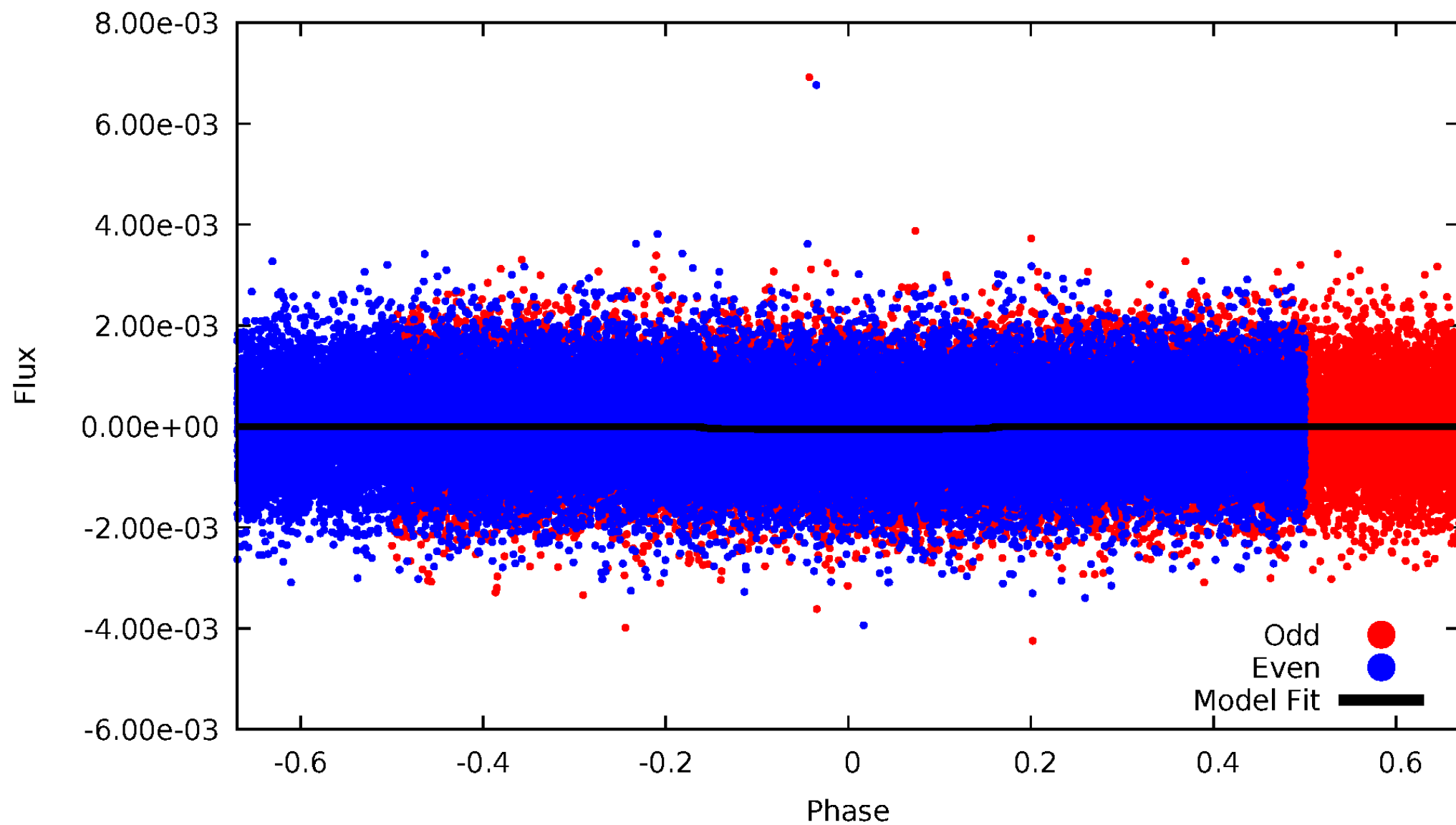


TCE 007583939-01



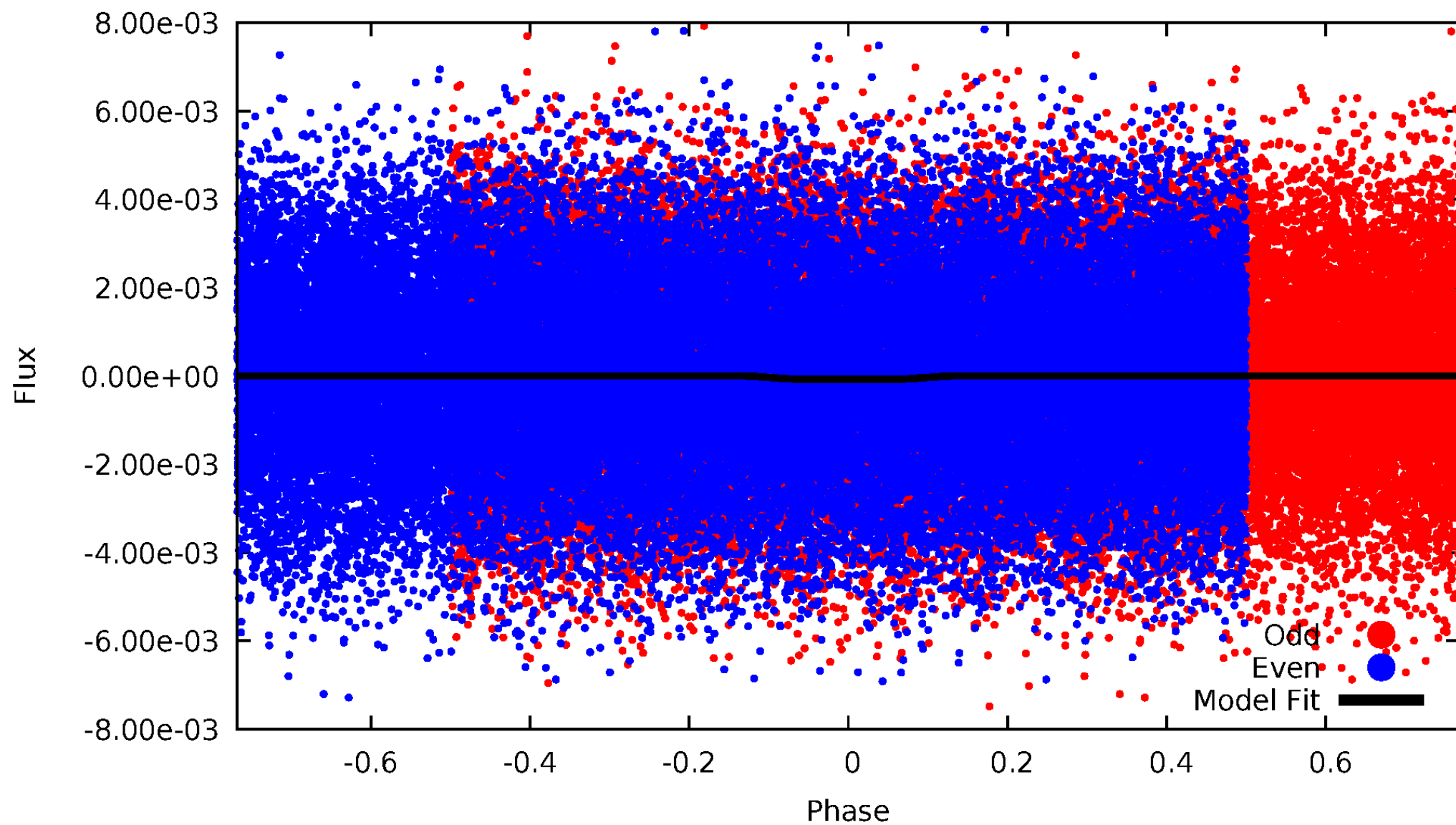
# DV Odd/Even

TCE 007583939-01

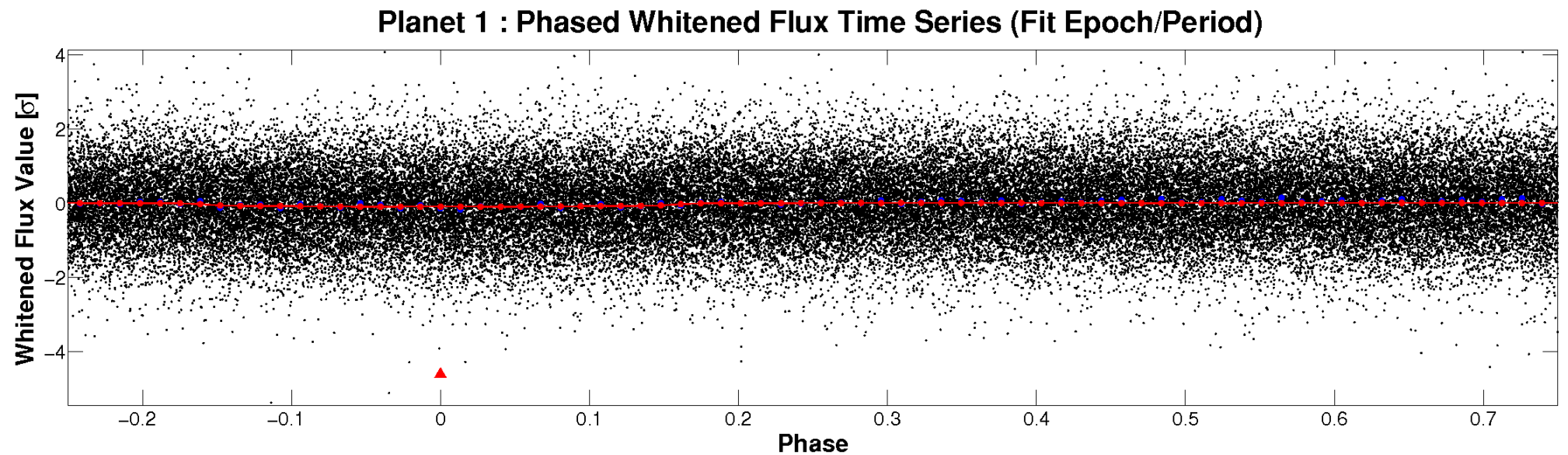
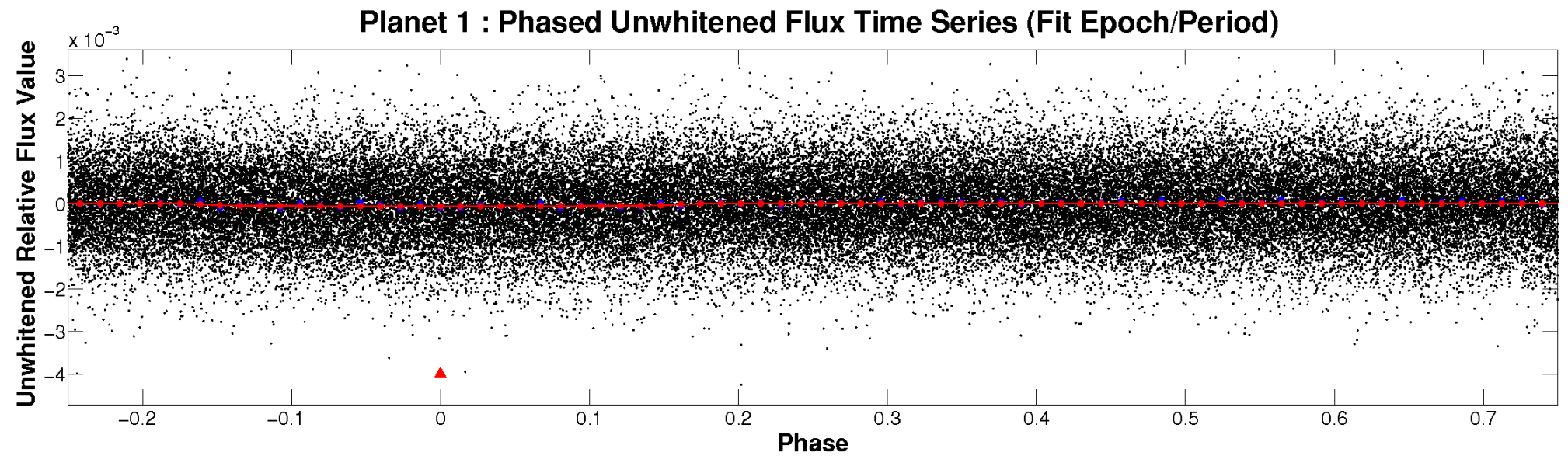


# ALT Odd/Even

TCE 007583939-01



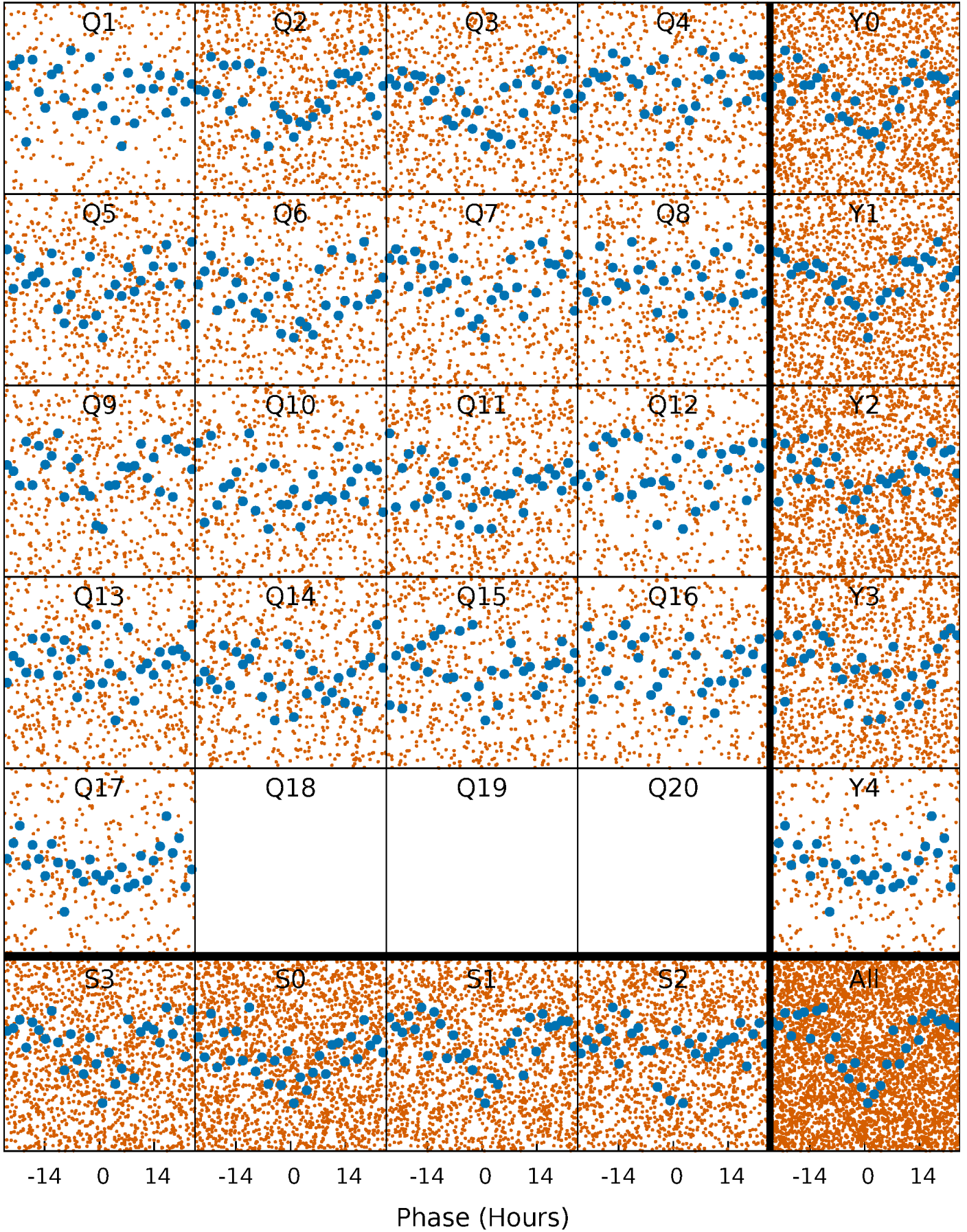
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

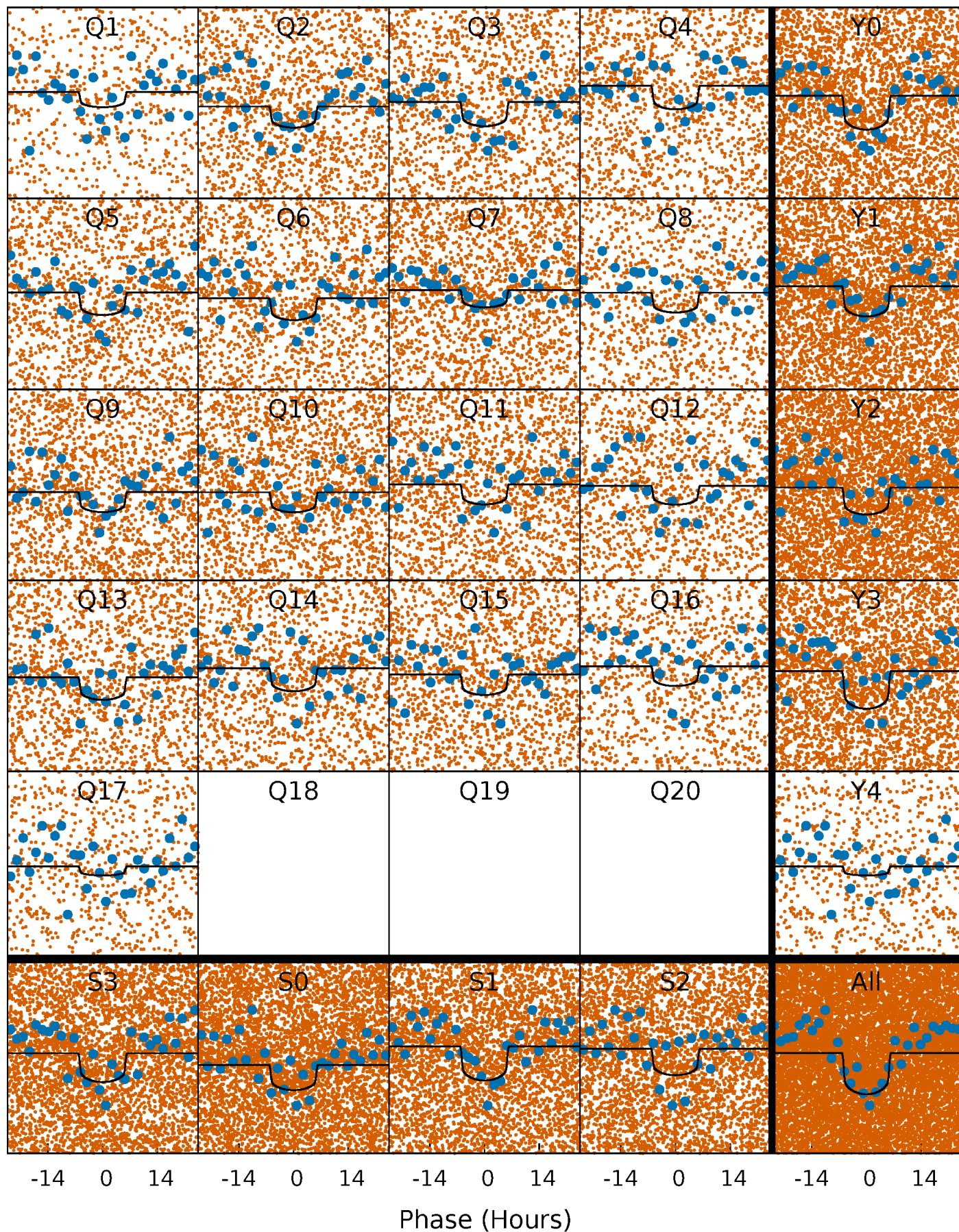
TCE 007583939-01 P= 1.519988 Days  $T_0=132.907482$  (BKJD)





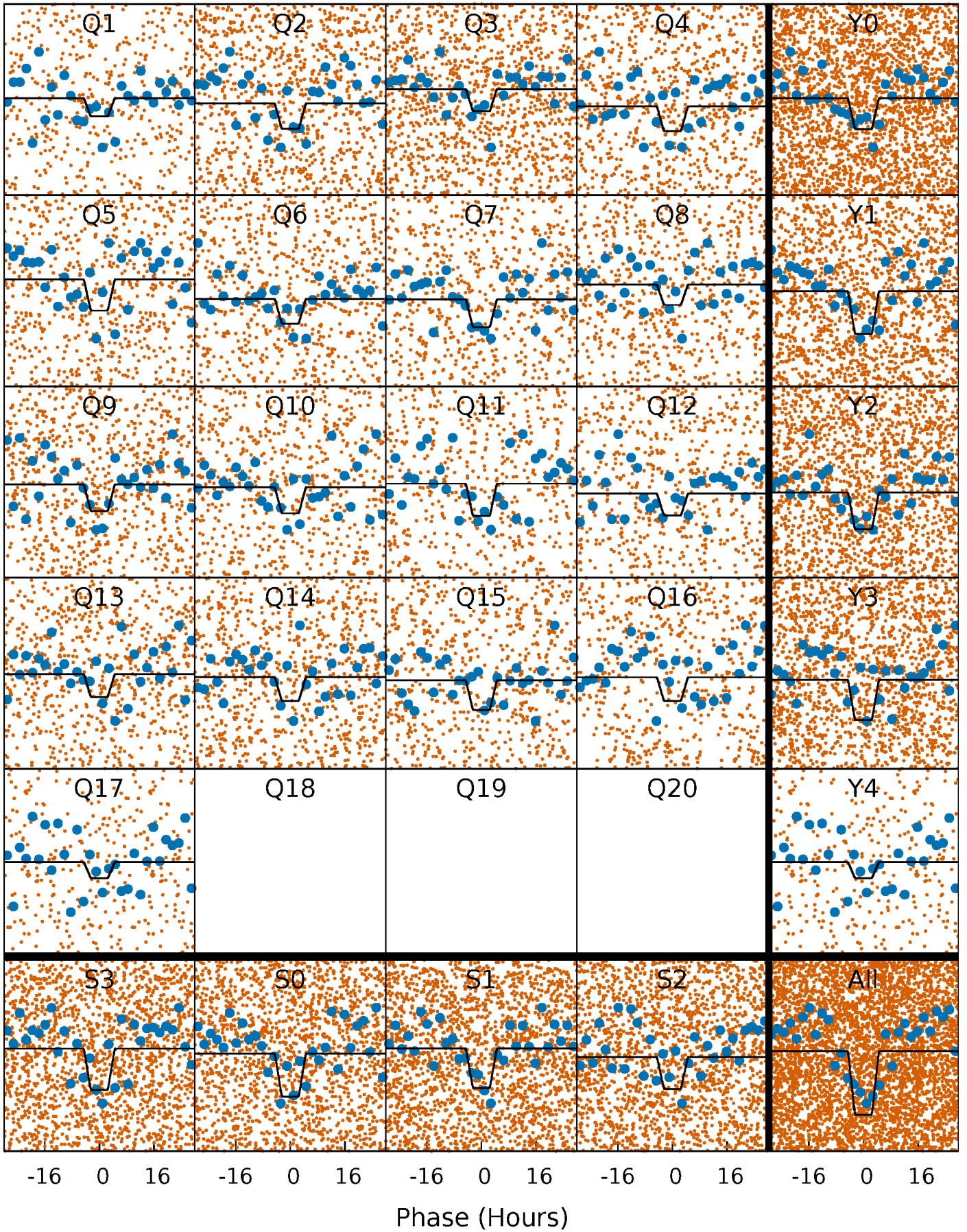
# DV Quarter-Phased Transit Curves

TCE 007583939-01 P= 1.519988 Days  $T_0=132.907482$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007583939-01 P= 1.519946 Days  $T_0=132.943038$  (BKJD)

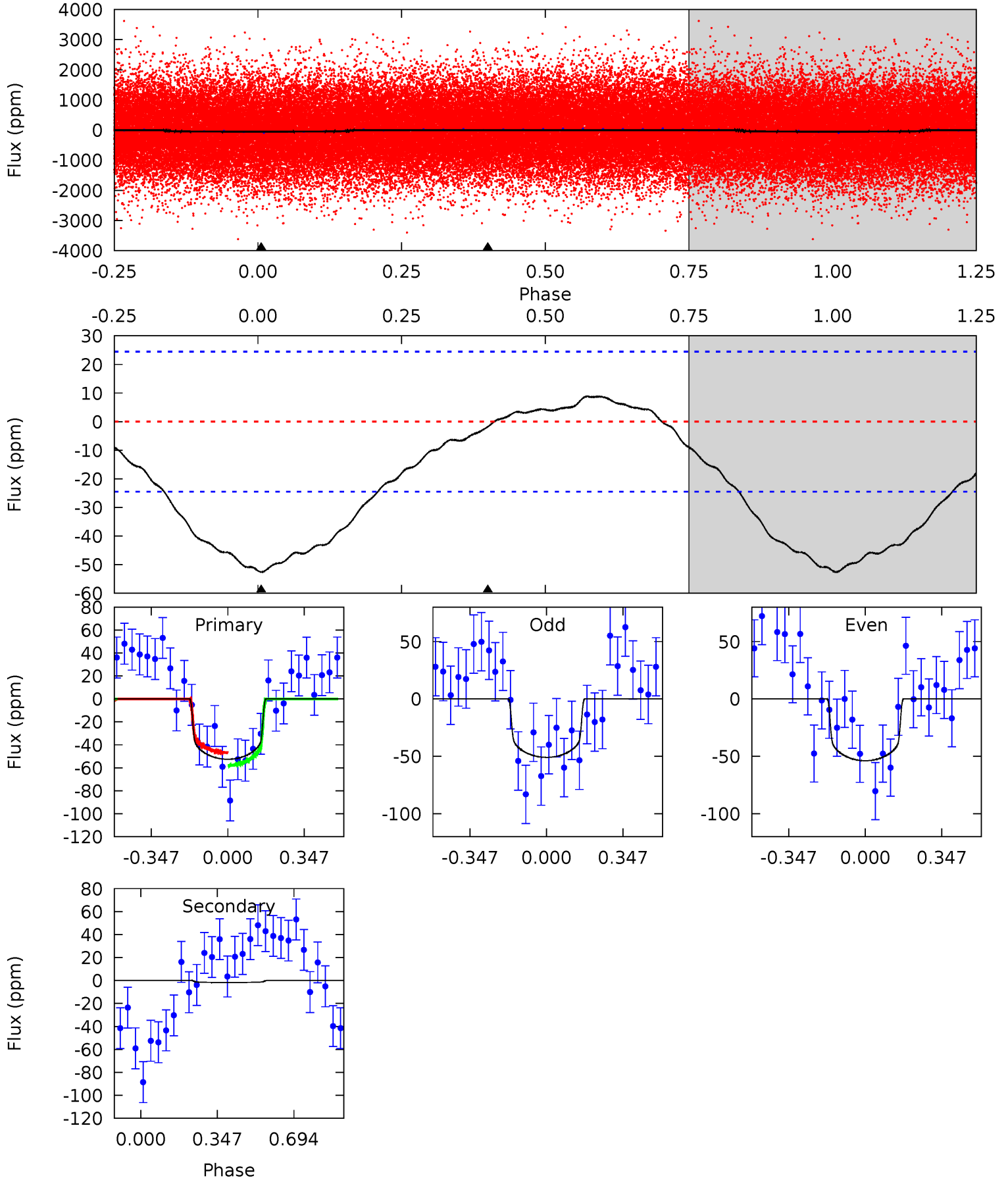




# DV Model-Shift Uniqueness Test

007583939-01, P = 1.519988 Days, E = 131.387494 Days

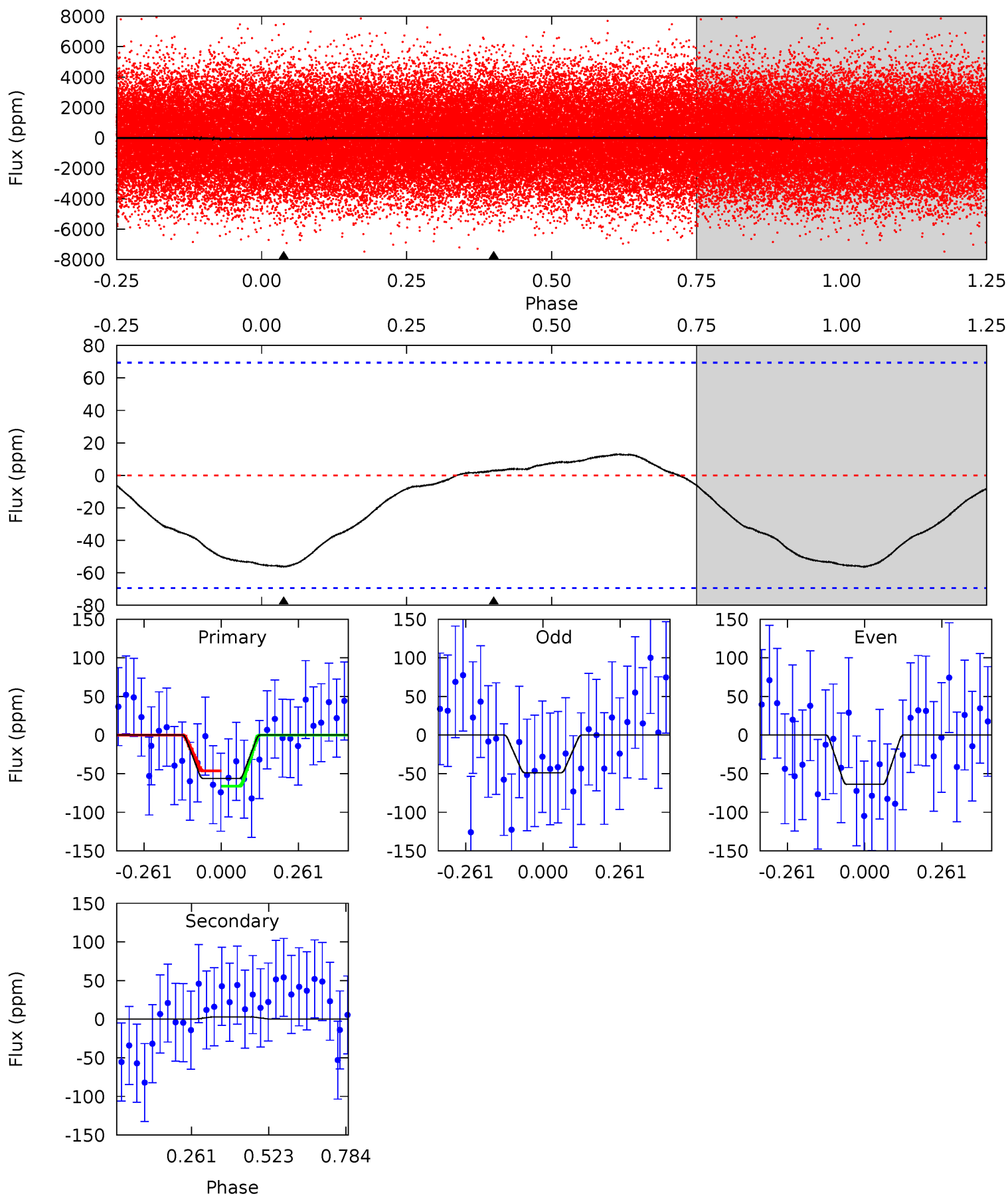
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.23	0.31	0	0	4.30	0.94	0.83	9.23	9.23	0.31	0.31	0.26	1.07	0.14	0.98



# Alt Model-Shift Uniqueness Test

007583939-01, P = 1.519946 Days, E = 131.423092 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
3.53	-0.19	0	0	4.36	1.12	0.40	3.53	3.53	-0.19	-0.19	0.48	1.04	0.19	0.62





### Stellar Parameters For KIC 007583939

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8529^{+235}_{-370}$	$3.769^{+0.420}_{-0.140}$	$-0.180^{+0.350}_{-0.350}$	$3.065^{+0.881}_{-1.322}$	$2.017^{+0.372}_{-0.455}$	$0.099^{+0.359}_{-0.044}$
	+3%/-4%	+11%/-4%	+194%/-194%	+29%/-43%	+18%/-23%	+364%/-45%
Source	KIC0	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 007583939-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-2 \pm 6$	$2.37^{+1.07}_{-0.90}$	$4951^{+434}_{-611}$	$-3758^{+8415}_{-1306}$	$0.128^{+0.749}_{-0.671}$
Alt.	$3 \pm 16$	$2.67^{+1.06}_{-1.03}$	$4926^{+433}_{-567}$	$-4579^{+9536}_{-1738}$	$-0.199^{+1.281}_{-1.833}$

$T_{max}$  = 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

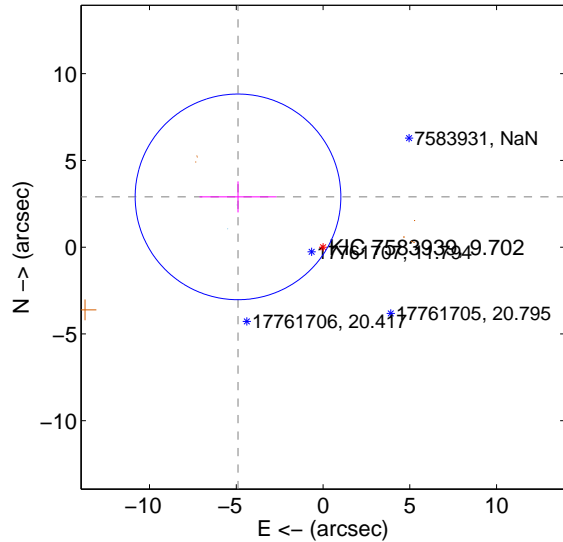
Supplemental centroid analysis for 007583939-01. **Kepler magnitude: 9.70.** Transit SNR 12.15

**There are 2 quarters with good PRF difference image offsets**

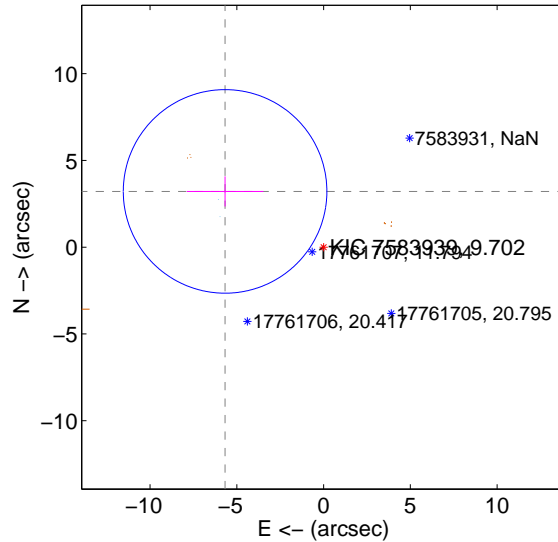
The direct PRF centroid is offset from the target star catalog position by about 1.42 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.692 \pm 1.975$	2.88	$4.899 \pm 2.216$	$2.898 \pm 0.893$
PRF-fit source offset from KIC position	<b><math>6.521 \pm 1.955</math></b>	<b>3.34</b>	$5.675 \pm 2.206$	$3.212 \pm 0.865$
photometric centroid source offset	$0.35 \pm 0.24$	1.49	$0.04 \pm 0.29$	$0.35 \pm 0.24$

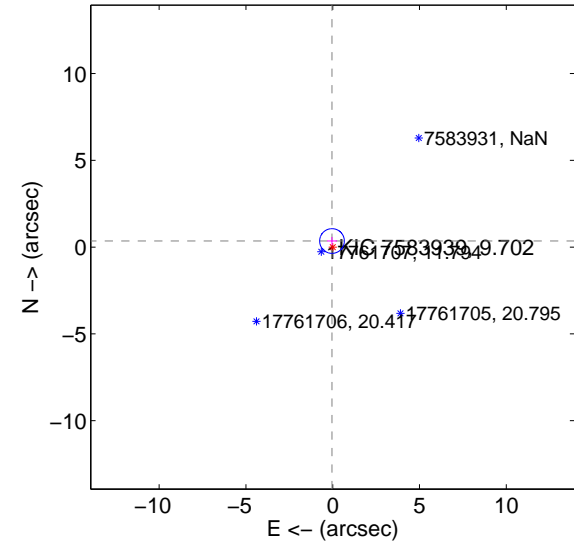
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

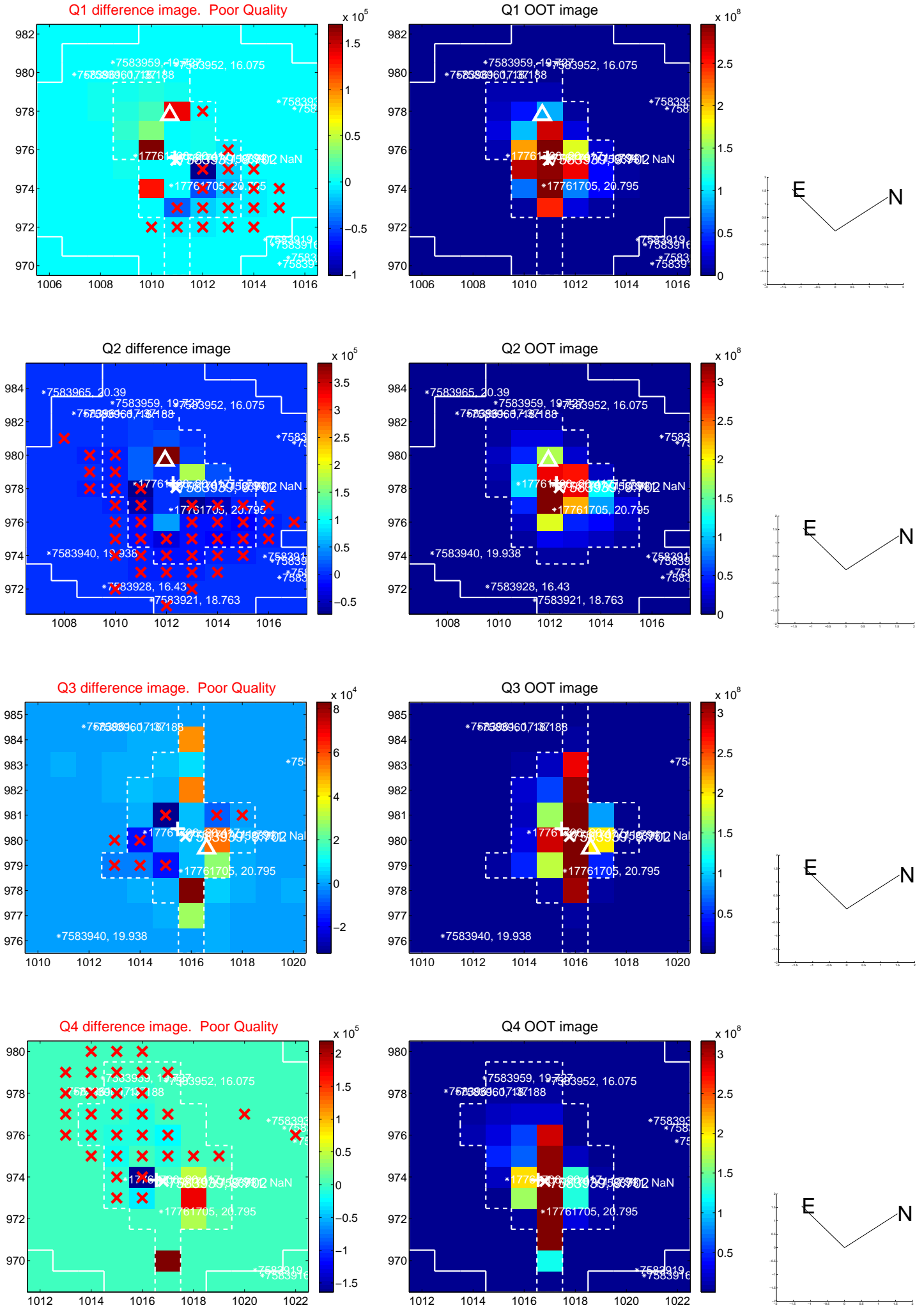


offset from photometric centroids

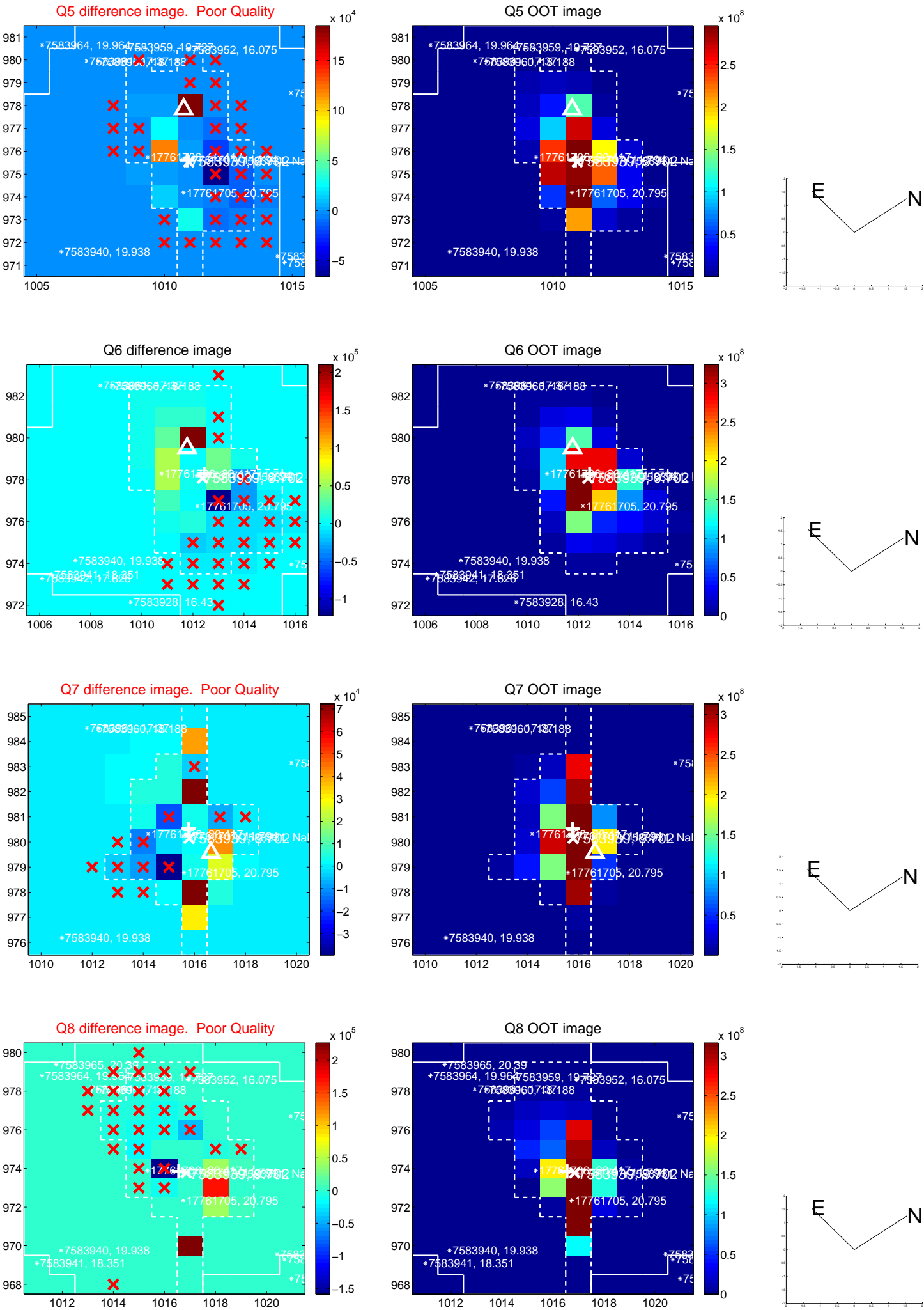


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

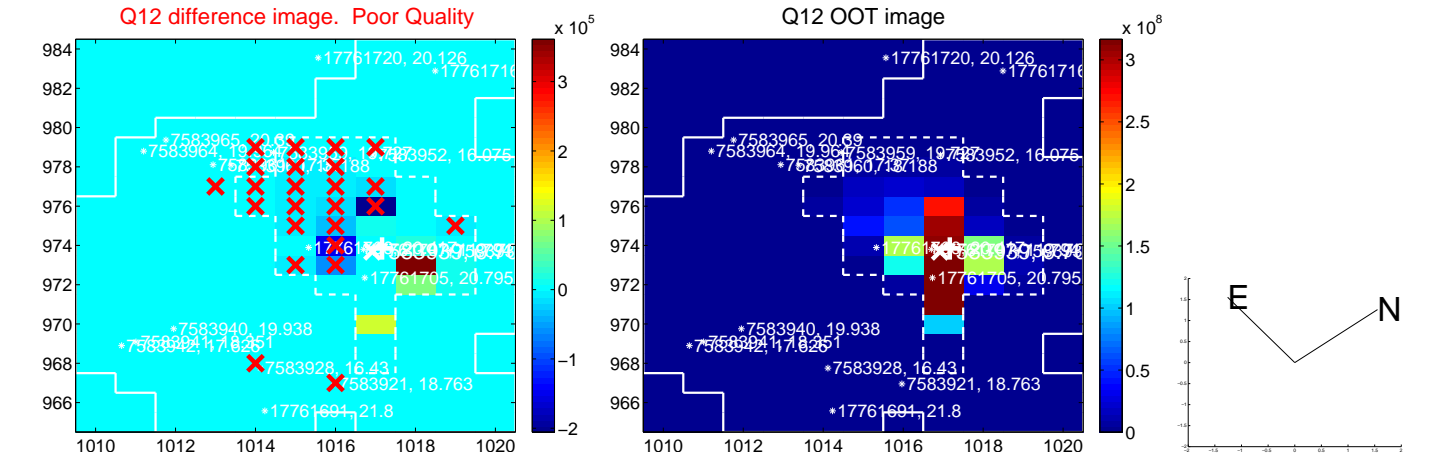
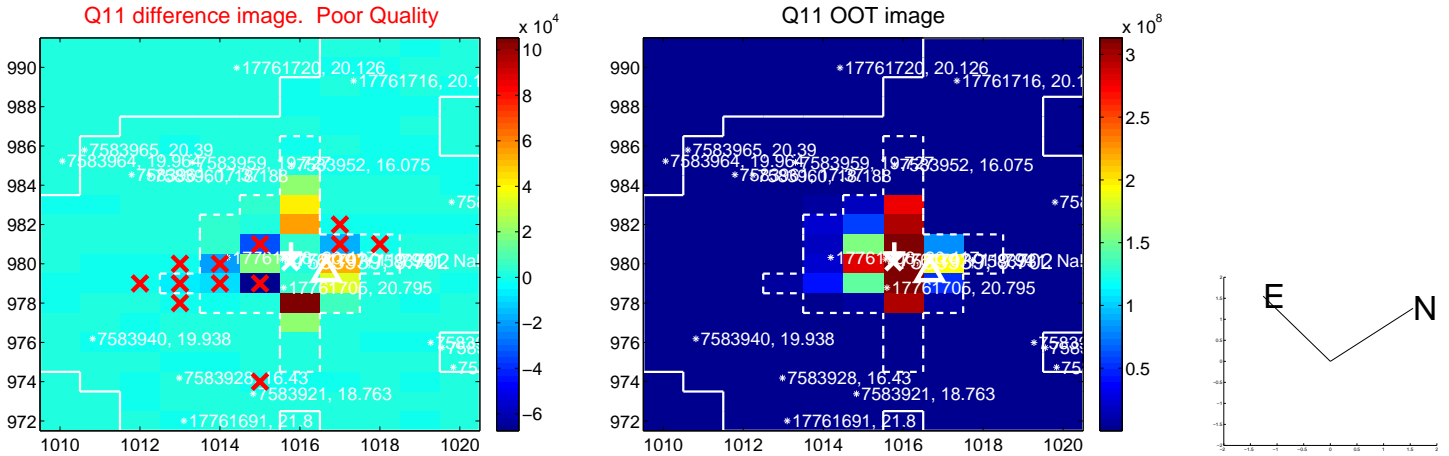
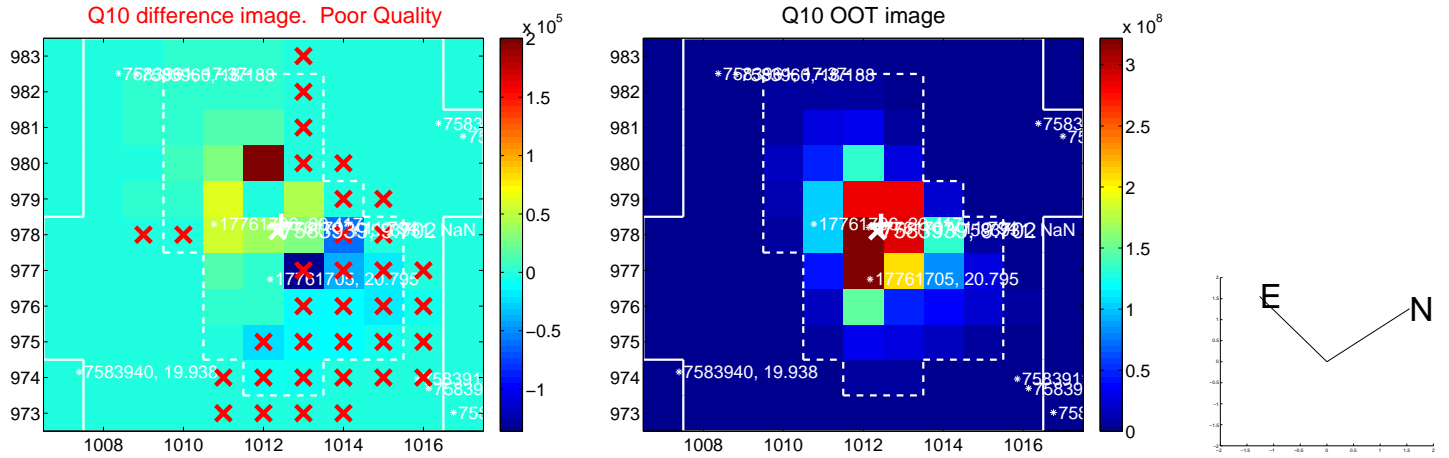
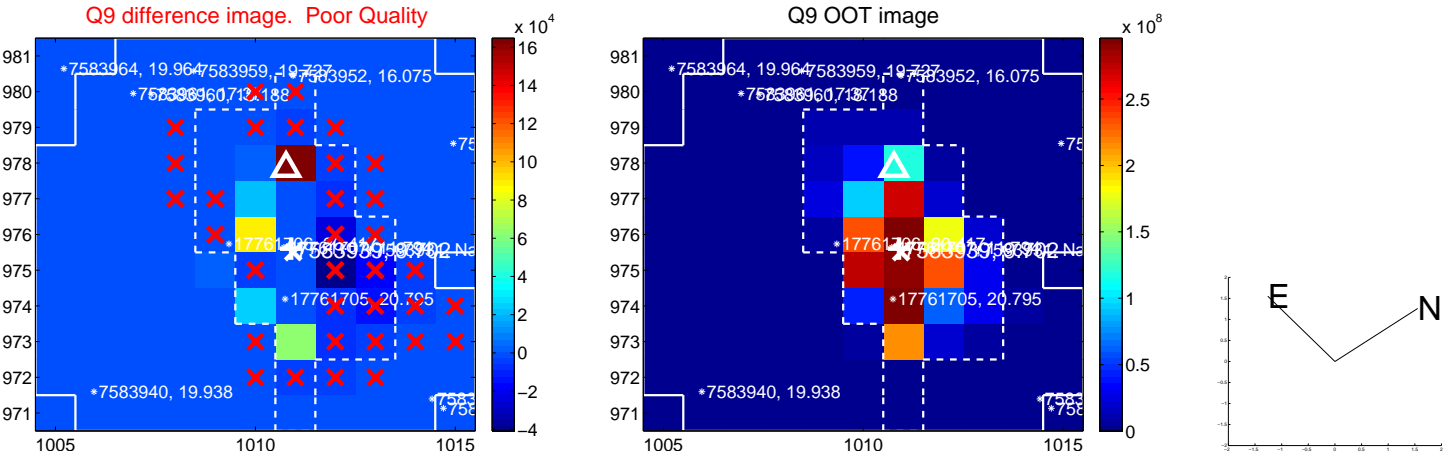


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

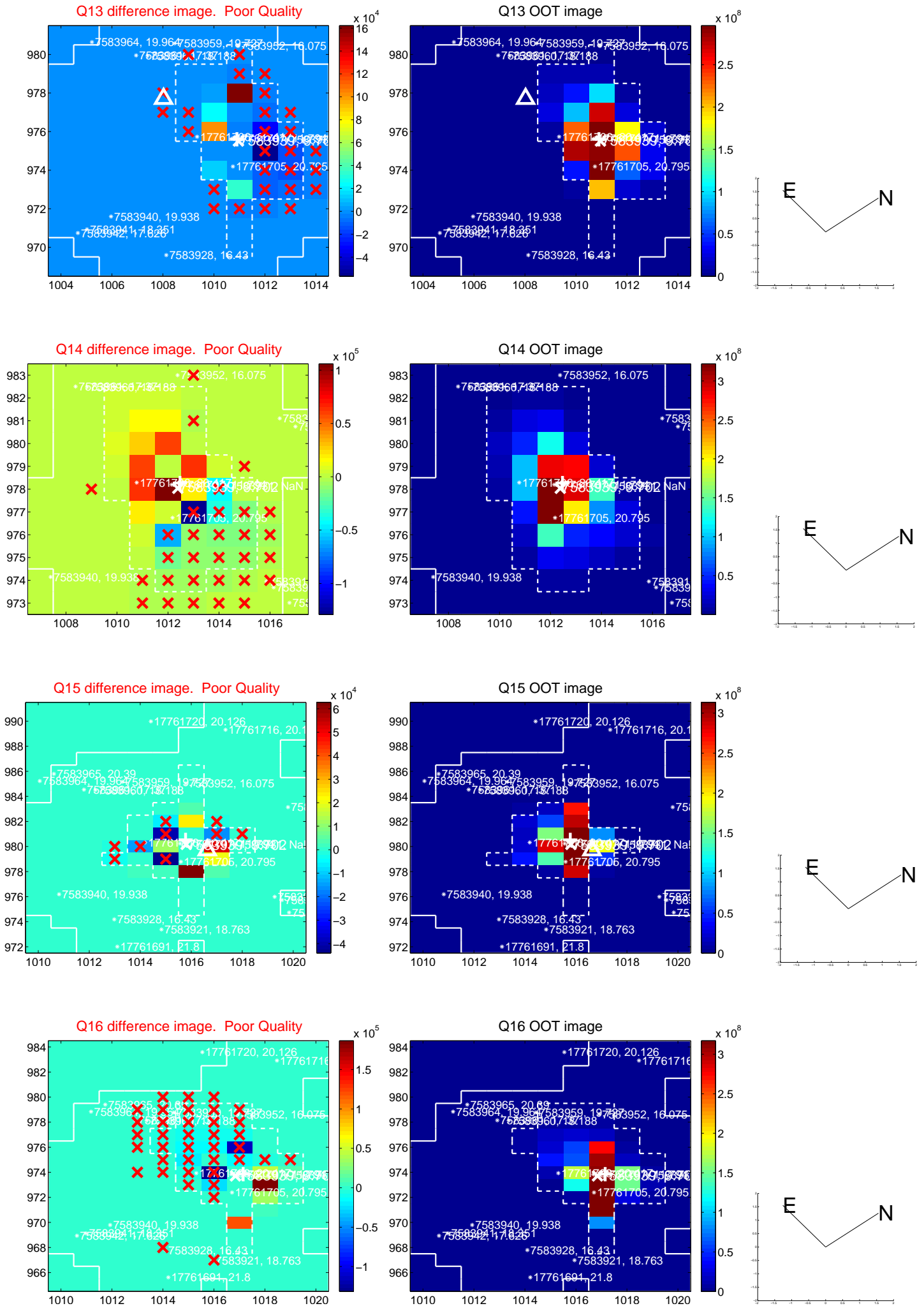




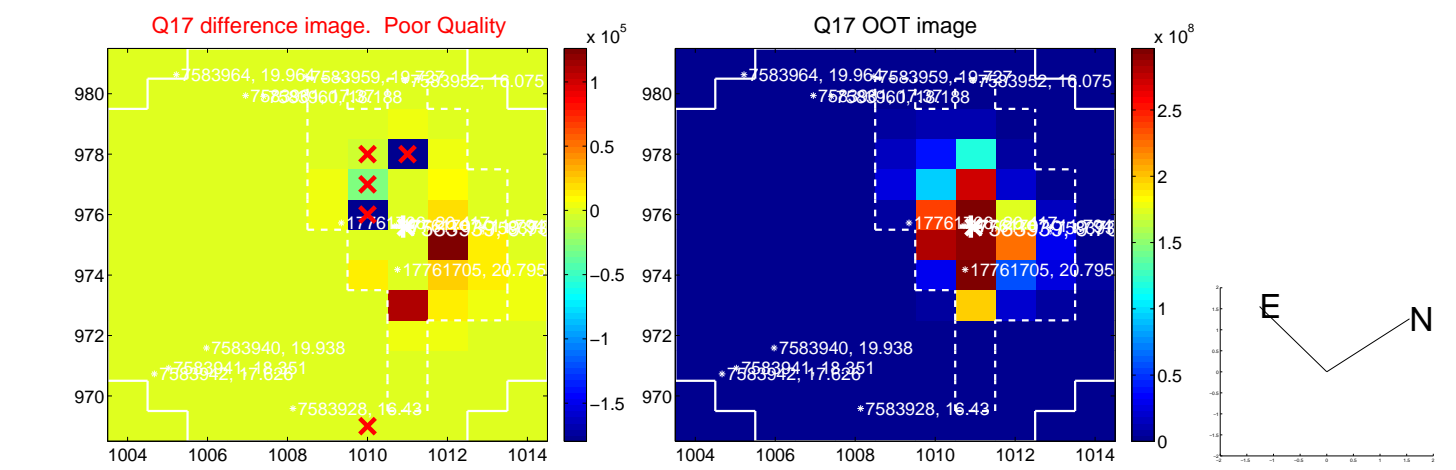
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



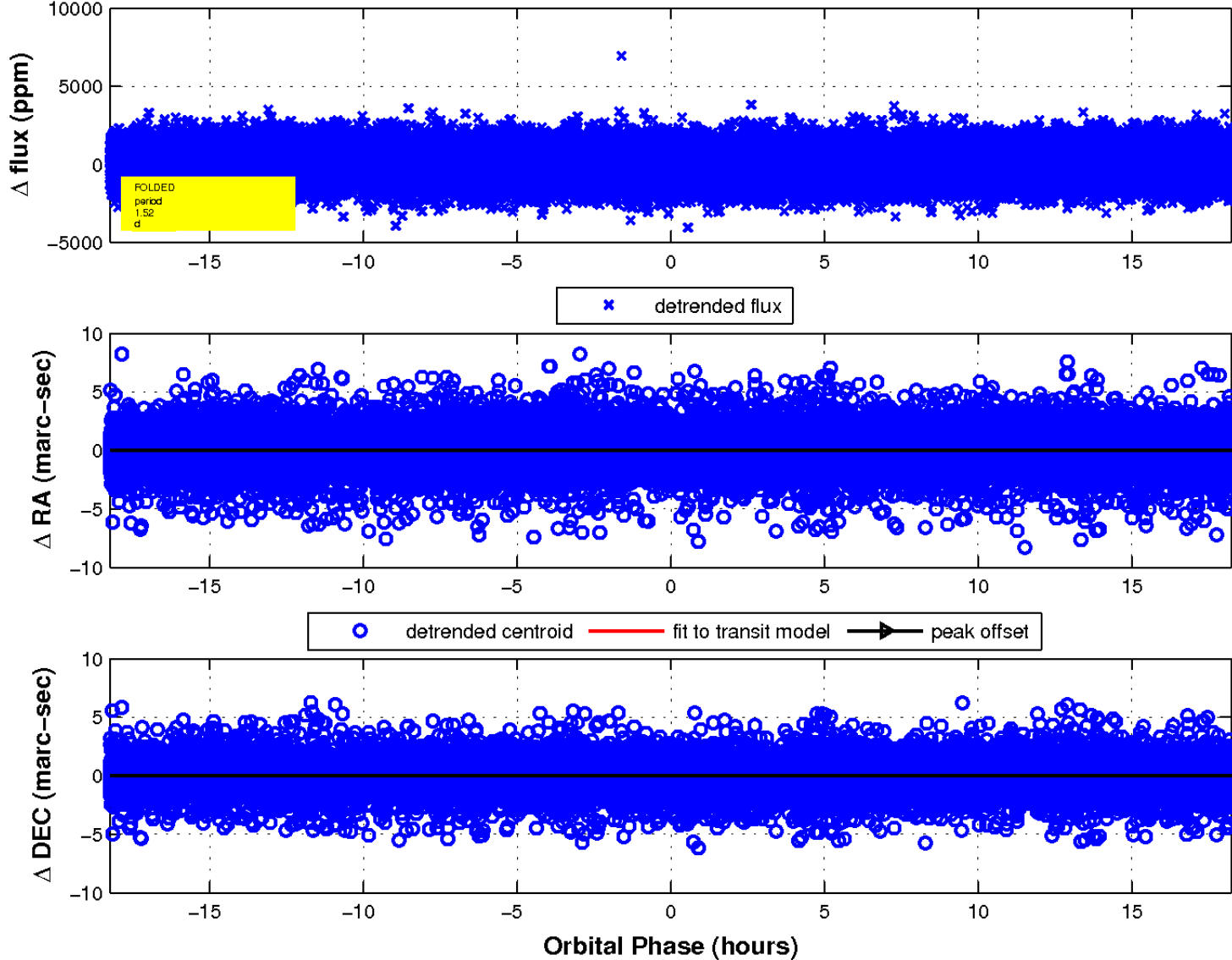
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

