

# KIC 005631648

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005631648-01	OBS	No	0.553368	131.576394	35.7	2.326	10.3	10.3	1.30	6984	0.83	17825.16

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005631648-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS

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

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

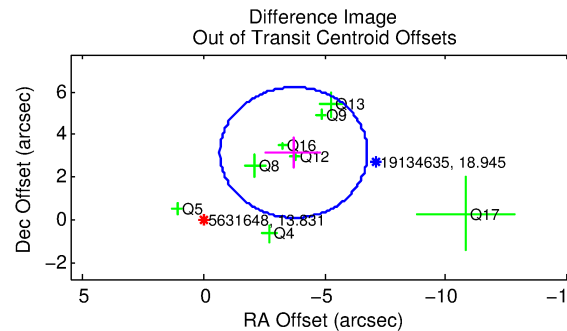
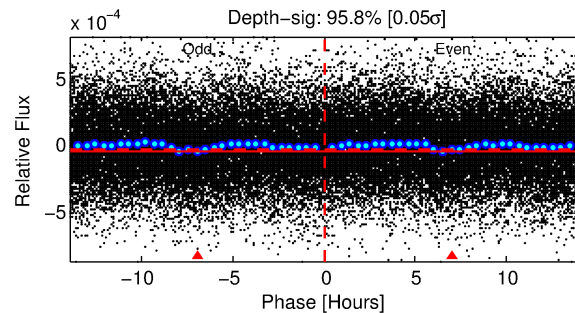
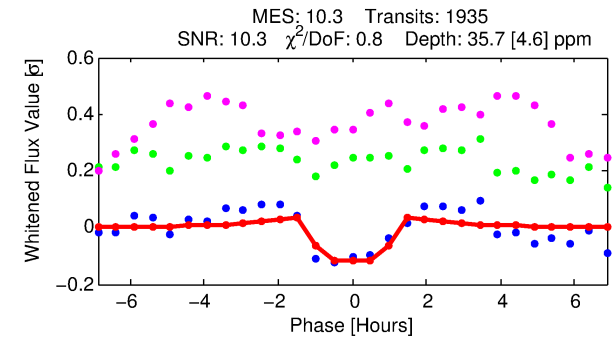
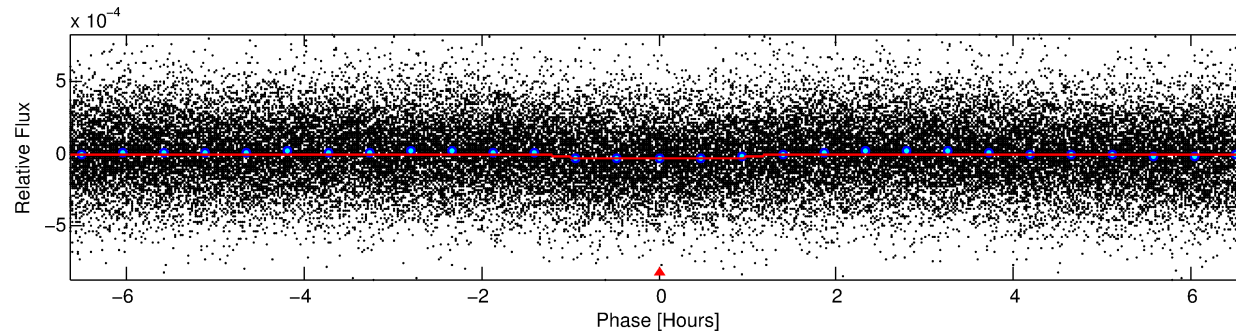
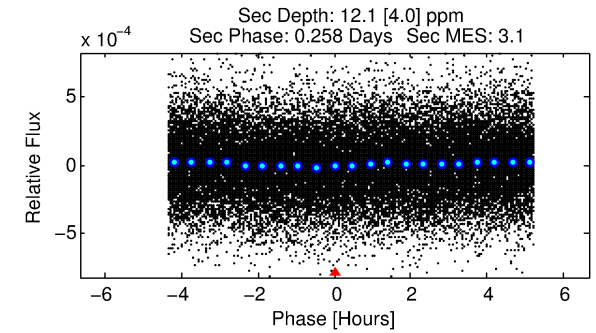
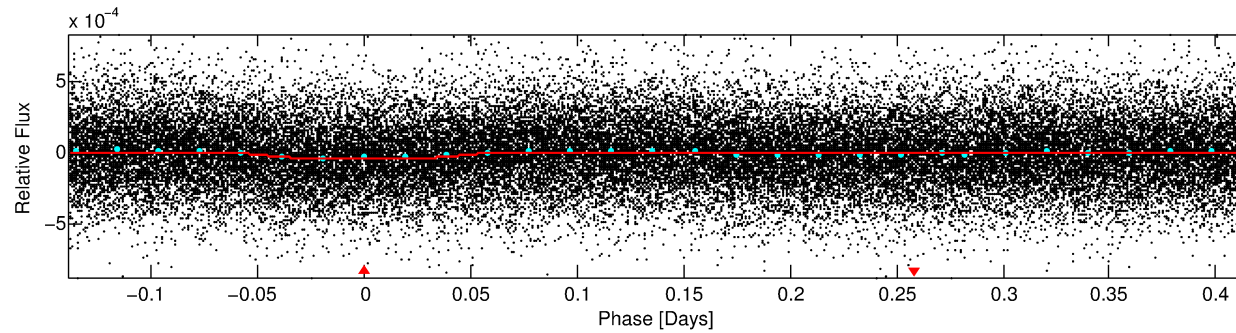
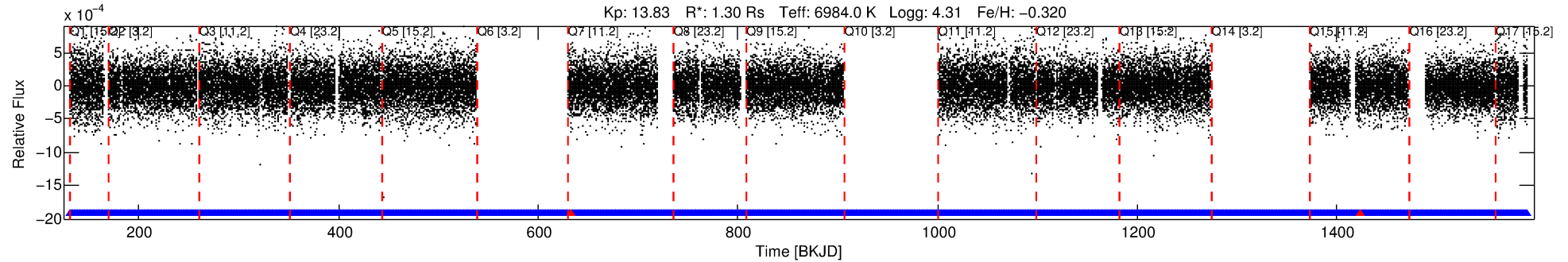
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005631648-01

No Significant Match Found

# DV One-Page Summary

KIC: 5631648 Candidate: 1 of 1 Period: 0.553 d



## DV Fit Results:

Period = 0.55337 [0.00001] d  
Epoch = 131.5764 [0.0023] BKJD  
Rp/R\* = 0.0058 [0.0014]  
a/R\* = 1.58 [1.34]  
b = 0.67 [1.17]  
Seff = 17825.16 [7512.84]  
Teq = 2946 [310] K  
Rp = 0.83 [0.35] Re  
a = 0.0142 [0.0040] AU  
Ag = 1.97 [1.39] [0.70σ]  
Teffp = 5394 [826] K [2.77σ]

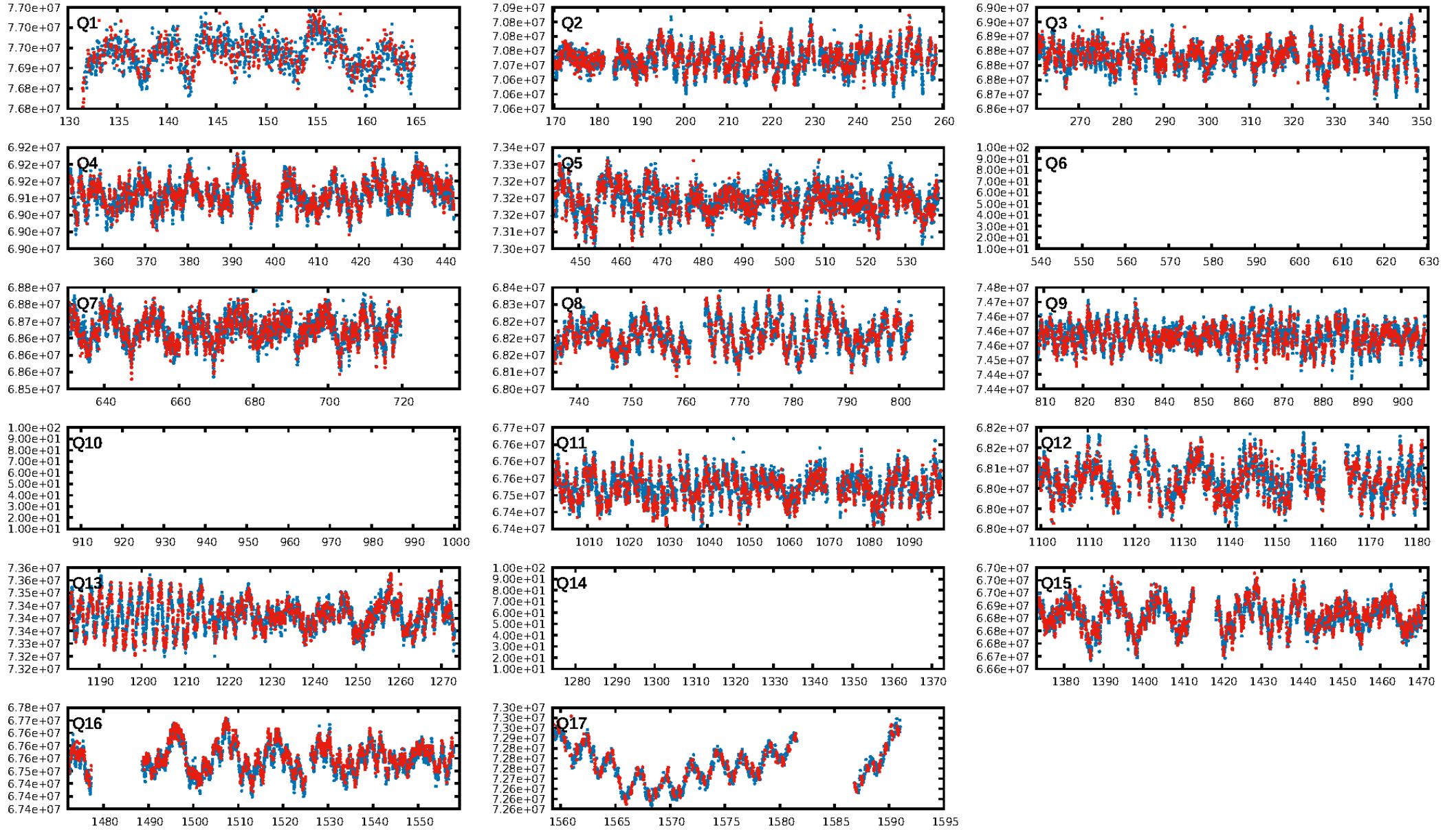
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 9.28e-22  
RollingBand-fgt: 1.00 [1823/1825]  
GhostDiagnostic-chr: 2.335  
Centroid-sig: 0.0%  
Centroid-so: 2.132 arcsec [4.94σ]  
OotOffset-rm: 4.882 arcsec [4.81σ]  
KicOffset-rm: 0.330 arcsec [0.39σ]  
OotOffset-st: 0/0/4/4 [8]  
KicOffset-st: 0/2/4/4 [10]  
DiffImageQuality-fgm: 0.50 [5/10]  
DiffImageOverlap-fno: 1.00 [14/14]

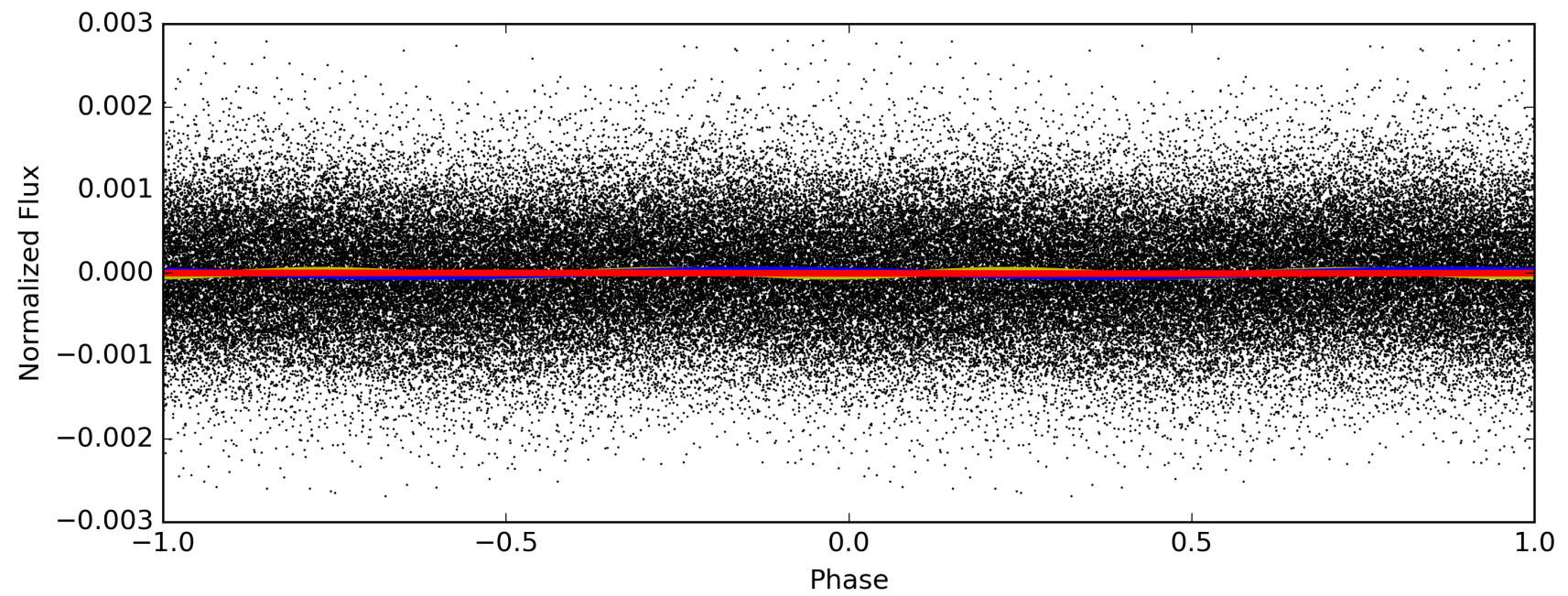
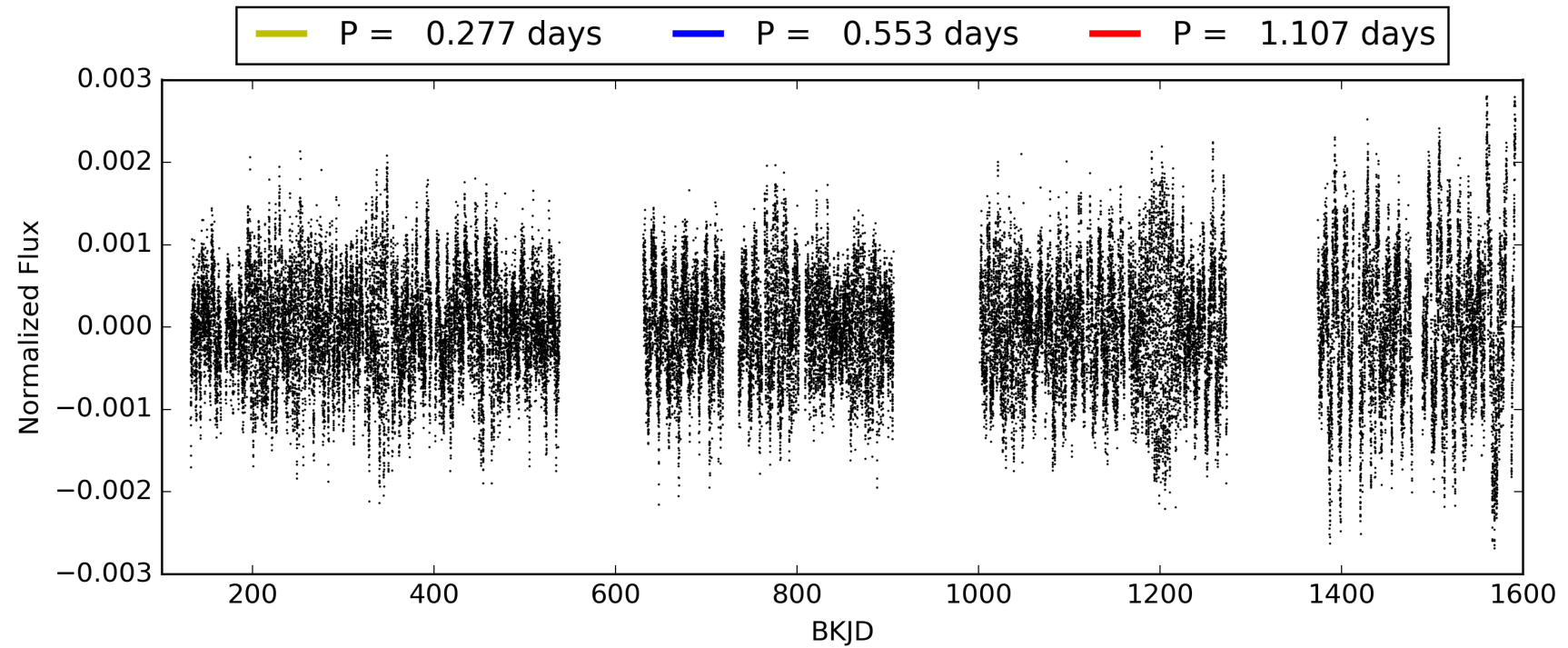
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:39:50 Z

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

# TCE 005631648-01, PDC Light Curves



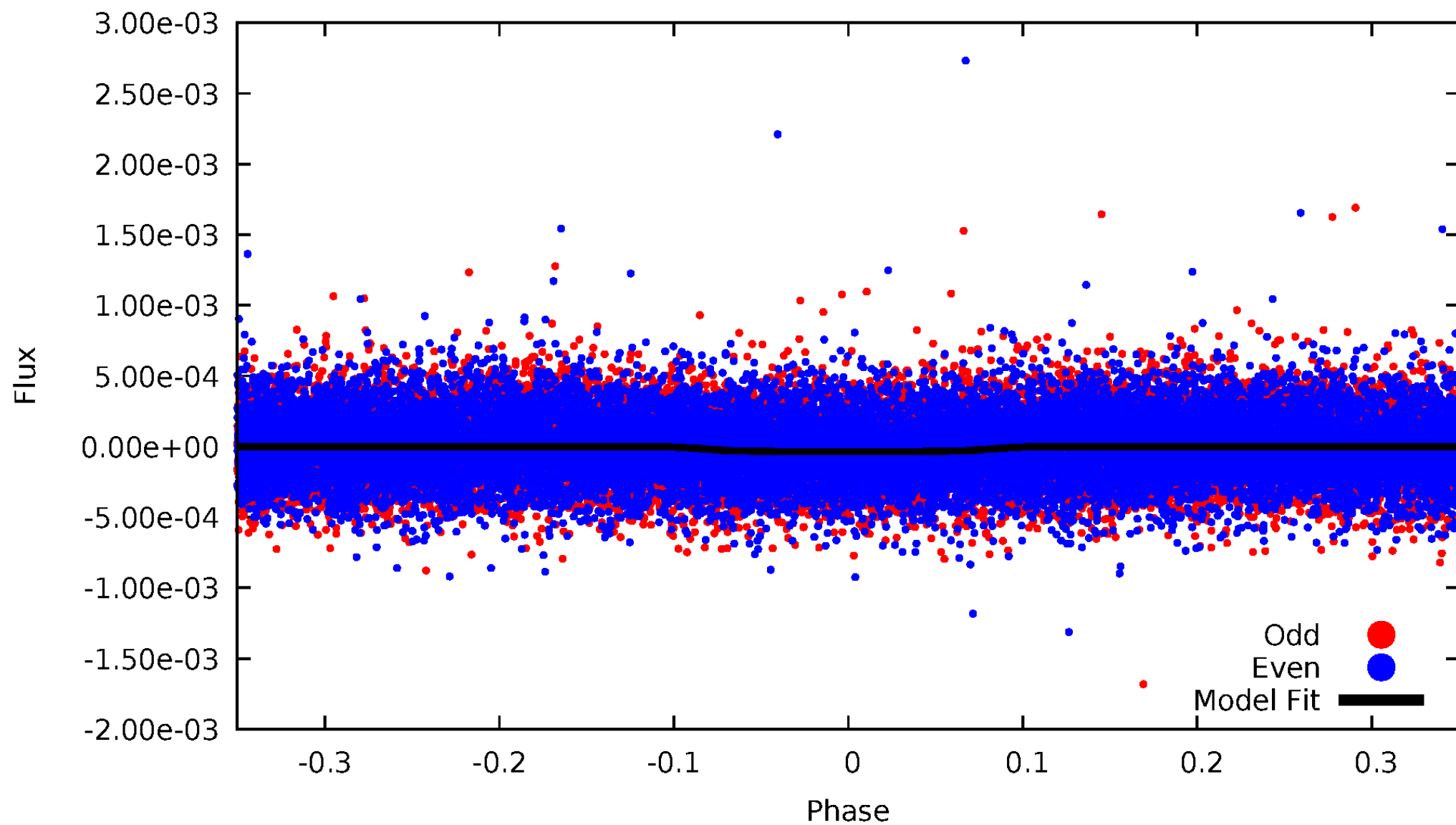
TCE 005631648-01





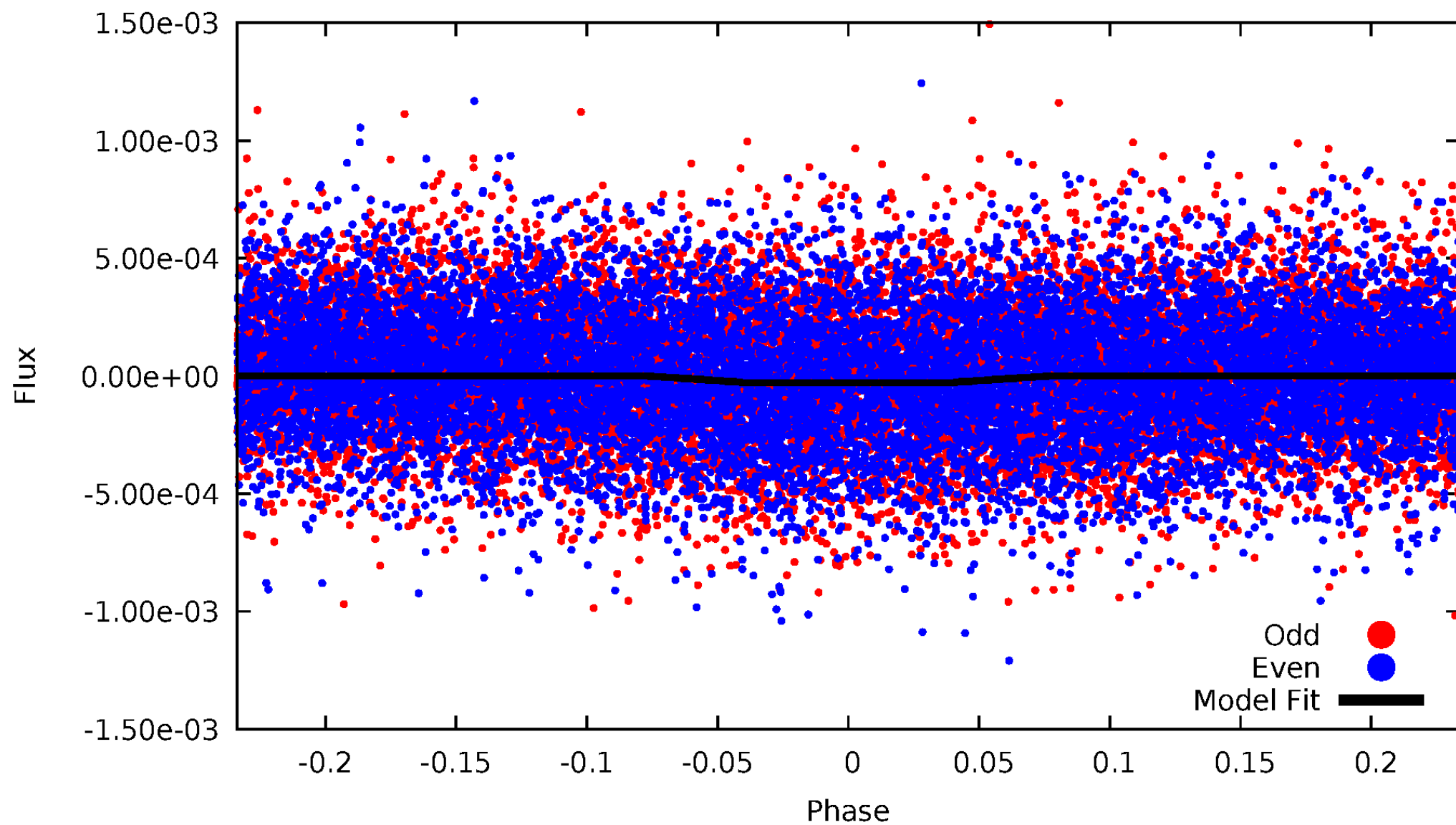
# DV Odd/Even

TCE 005631648-01

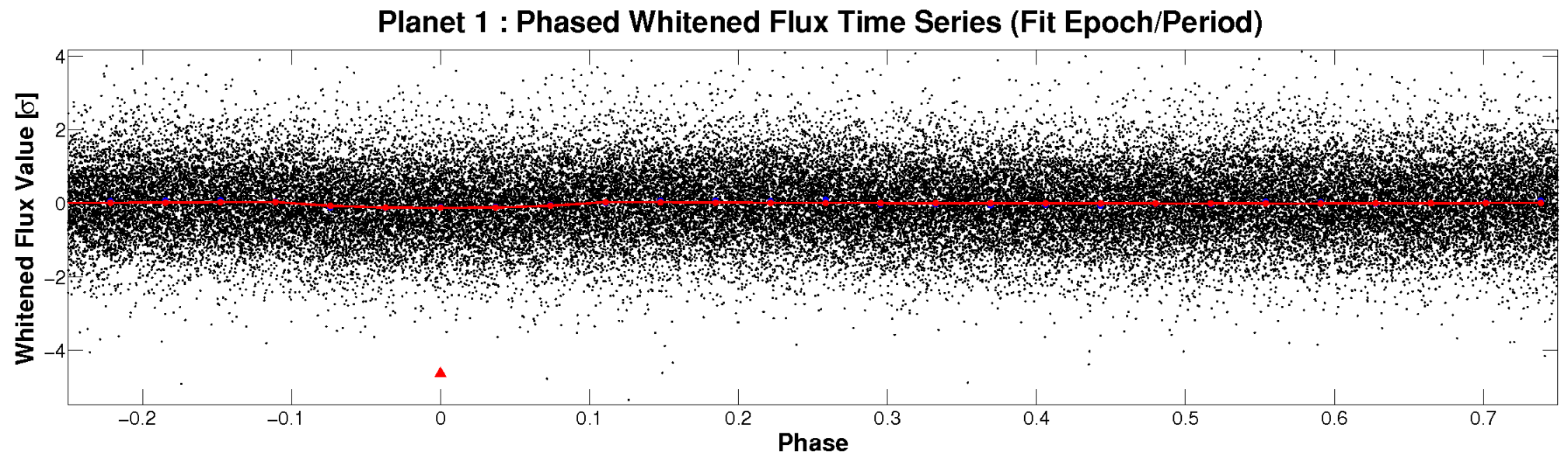
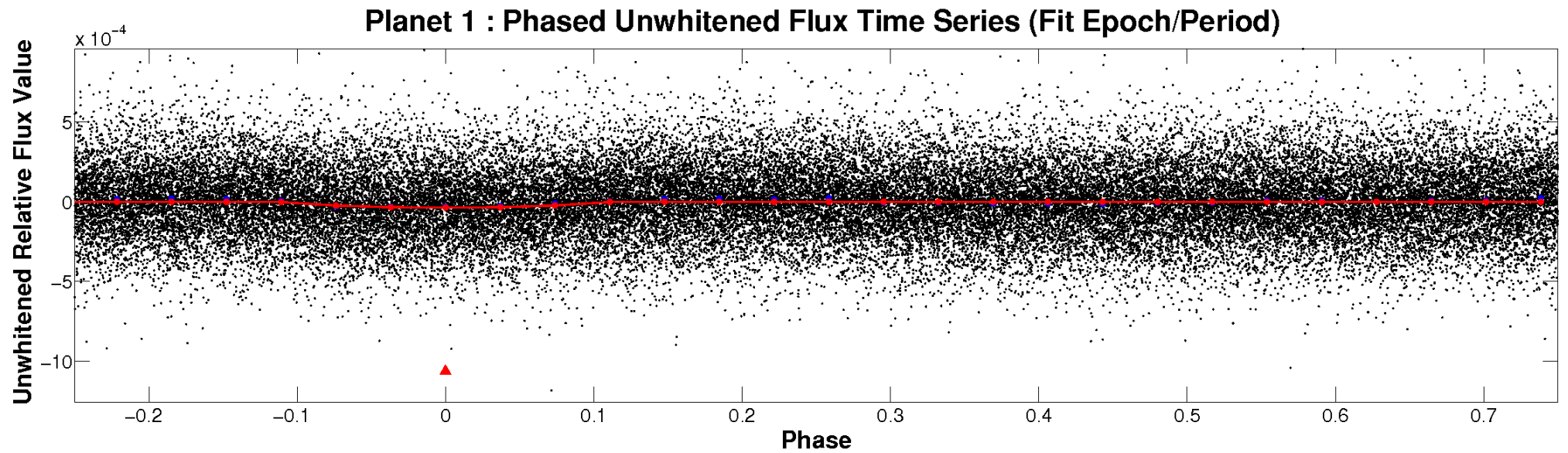


# ALT Odd/Even

TCE 005631648-01

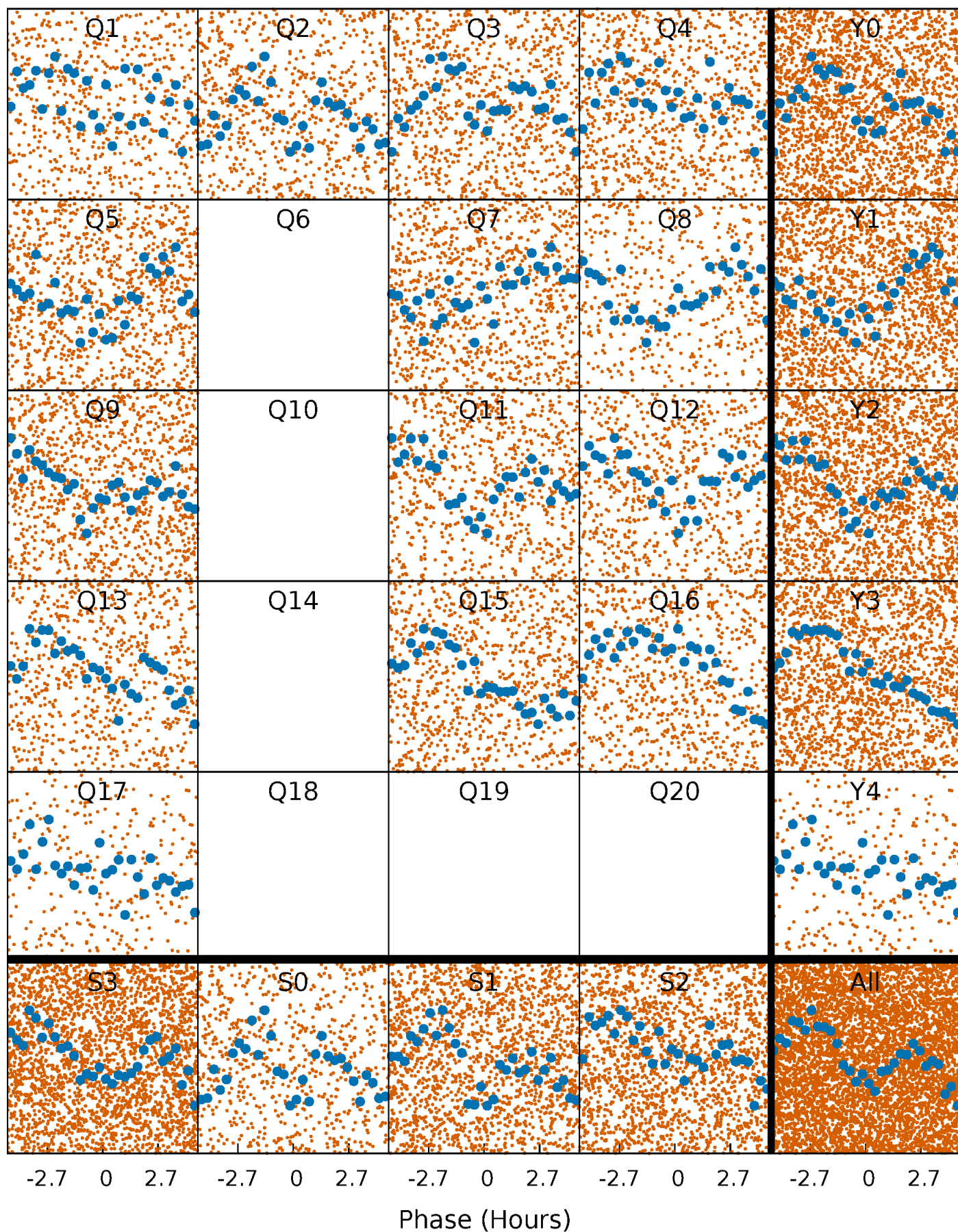


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

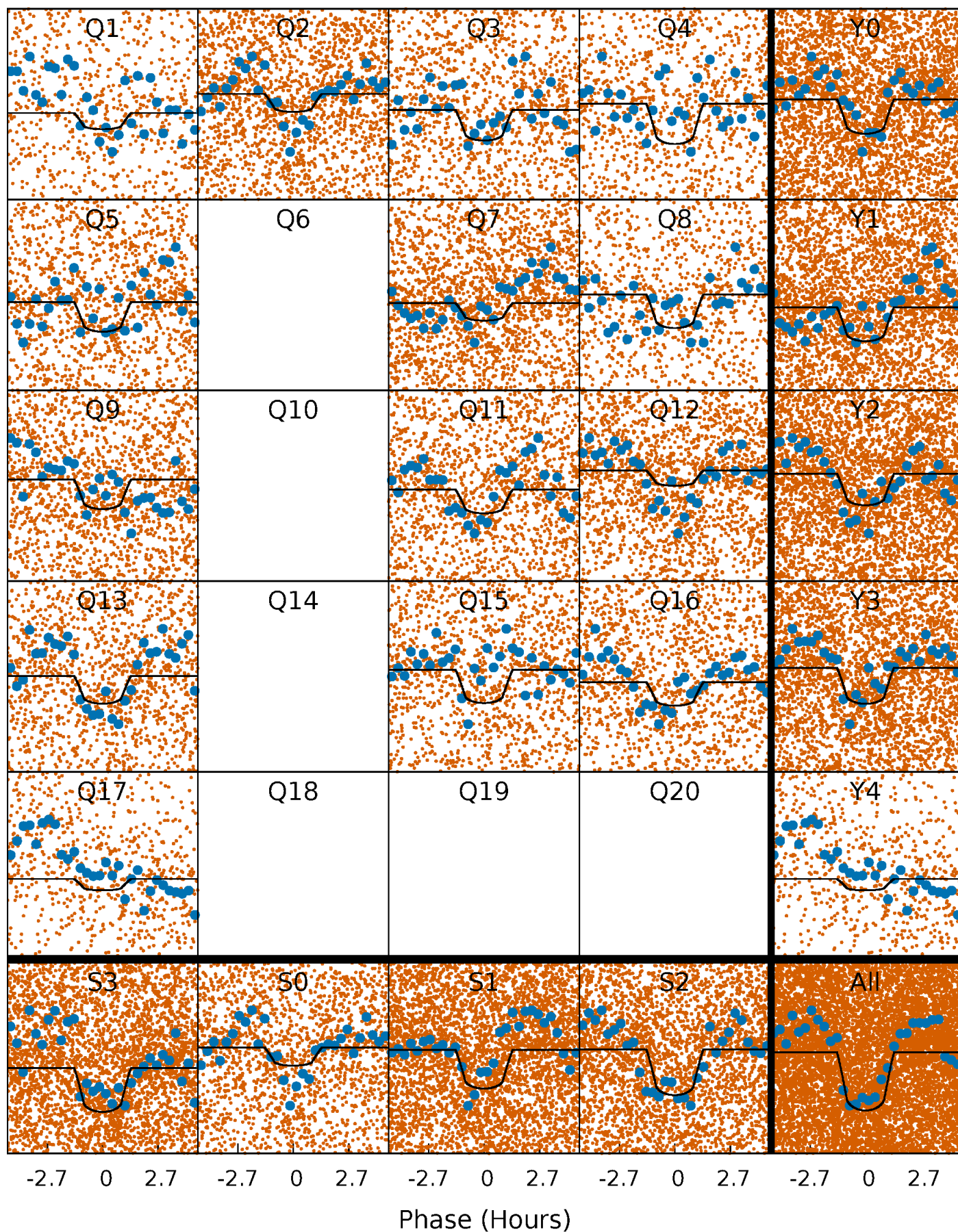
TCE 005631648-01 P= 0.553368 Days  $T_0=131.576394$  (BKJD)





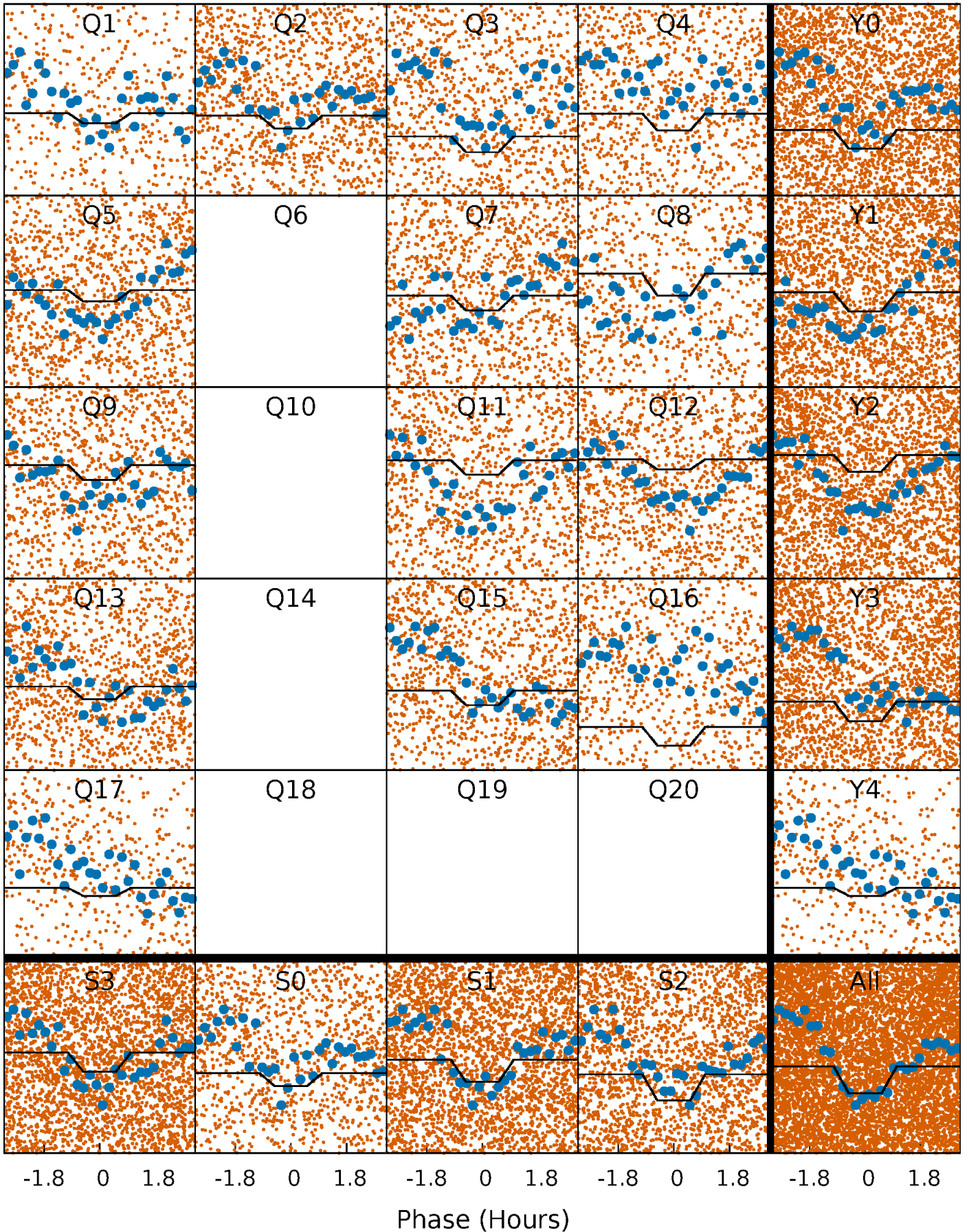
# DV Quarter-Phased Transit Curves

TCE 005631648-01 P= 0.553368 Days  $T_0=131.576394$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005631648-01 P= 0.553354 Days  $T_0=131.586543$  (BKJD)

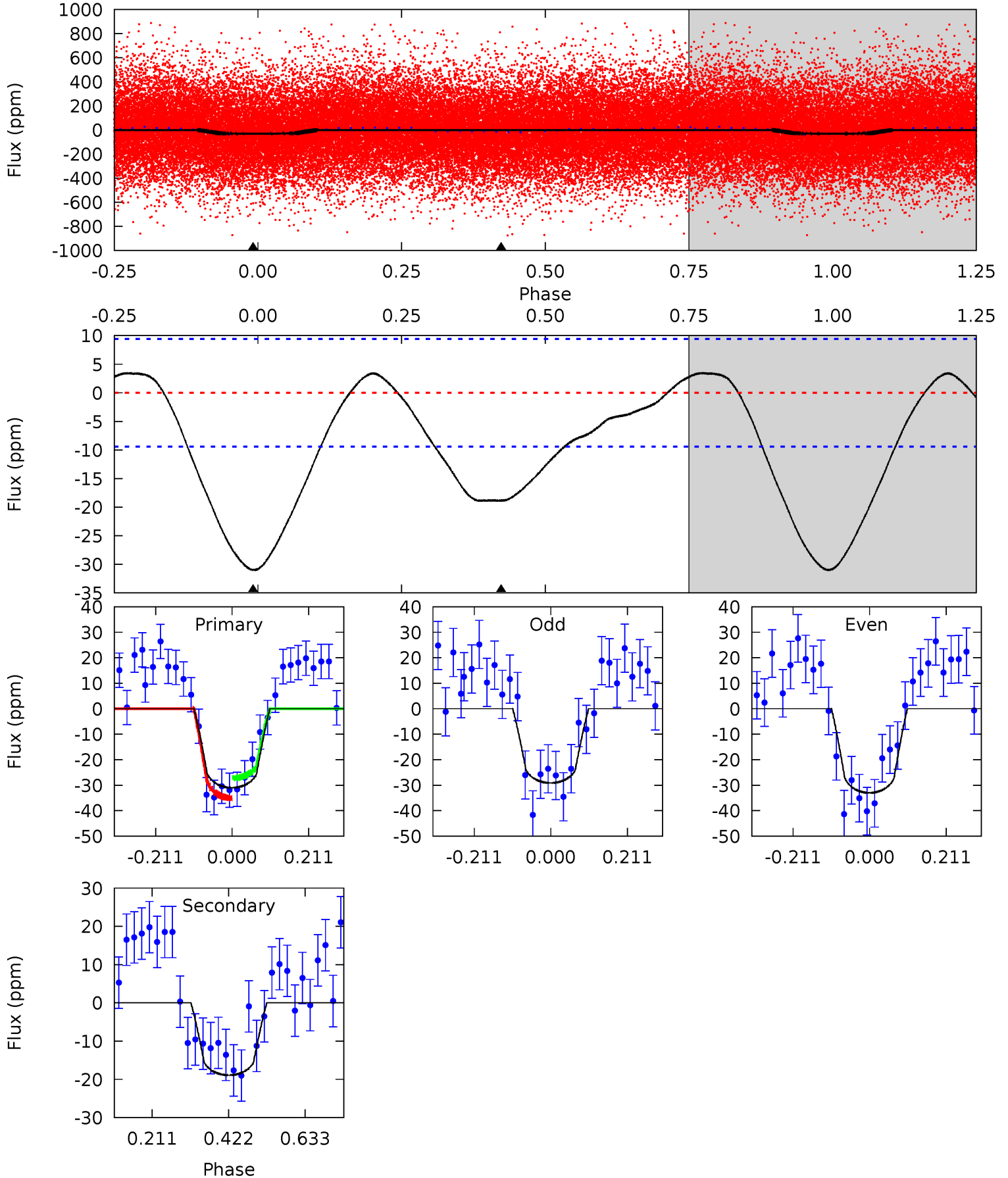




# DV Model-Shift Uniqueness Test

005631648-01, P = 0.553368 Days, E = 131.023026 Days

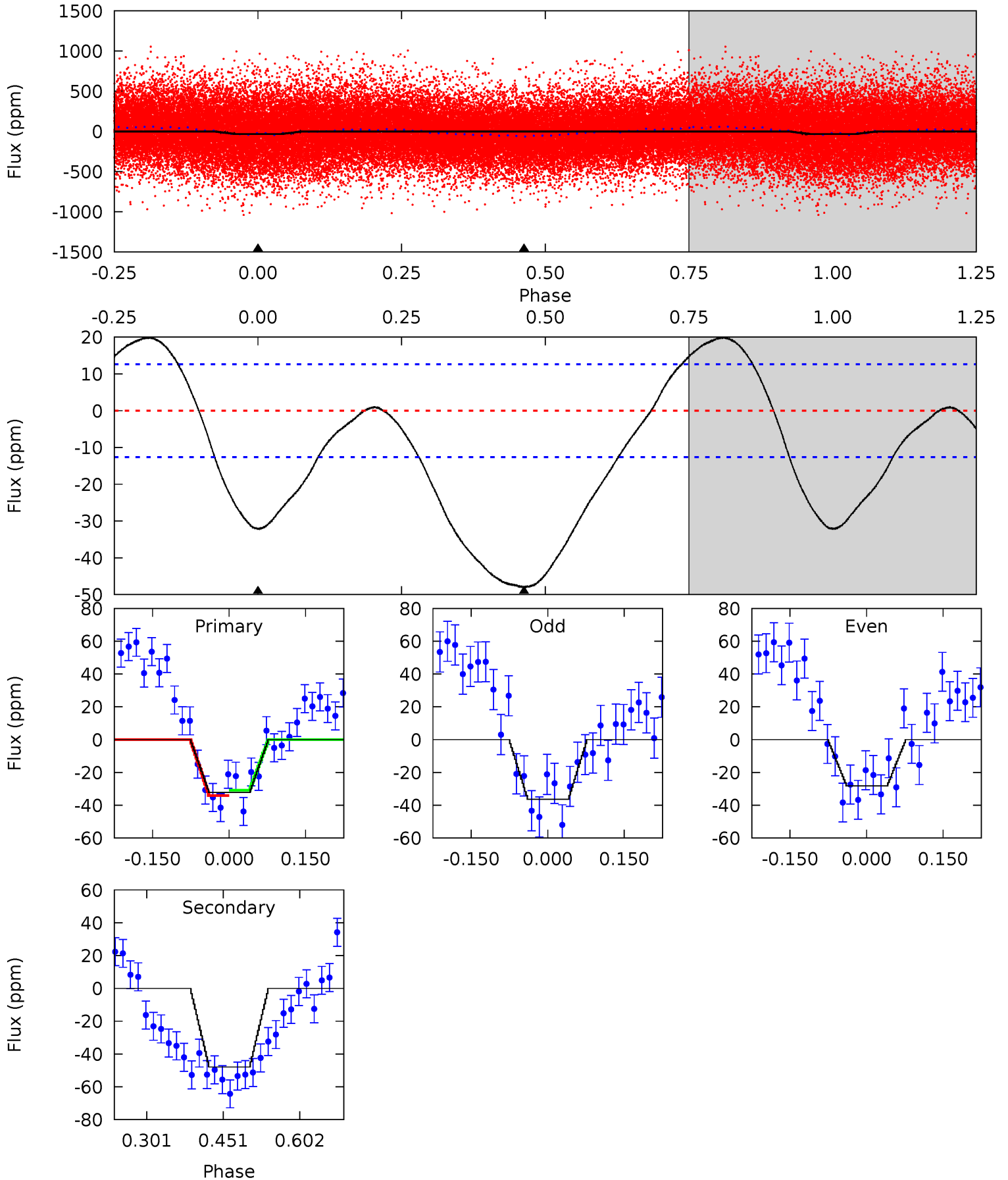
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	8.85	0	0	4.41	1.25	1.25	14.5	14.5	8.85	8.85	0.91	0.82	0.10	1.82



# Alt Model-Shift Uniqueness Test

005631648-01, P = 0.553354 Days, E = 131.033189 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
11.5	17.0	0	0	4.48	1.44	4.22	11.5	11.5	17.0	17.0	1.47	1.17	0.29	0.53





### Stellar Parameters For KIC 005631648

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6984^{+192}_{-288}$	$4.308^{+0.072}_{-0.203}$	$-0.320^{+0.250}_{-0.350}$	$1.302^{+0.451}_{-0.181}$	$1.264^{+0.203}_{-0.166}$	$0.807^{+0.303}_{-0.420}$
	+3%/-4%	+2%/-5%	+78%/-109%	+35%/-14%	+16%/-13%	+38%/-52%
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 005631648-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-19 \pm 2$	$0.86^{+0.25}_{-0.25}$	$4189^{+324}_{-248}$	$5811^{+1202}_{-676}$	$2.833^{+2.696}_{-1.162}$
Alt.	$-48 \pm 3$	$0.78^{+0.25}_{-0.23}$	$4183^{+332}_{-238}$	$8184^{+1934}_{-1289}$	$8.873^{+8.900}_{-3.802}$

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

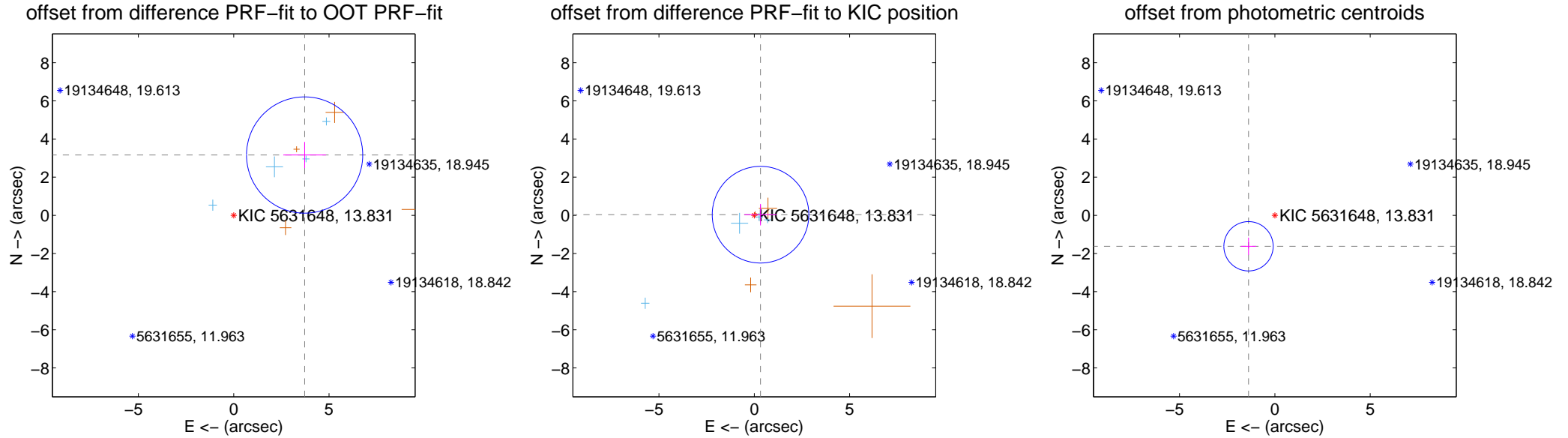
## DV Centroid Data

Supplemental centroid analysis for 005631648-01. Kepler magnitude: 13.83. Transit SNR 10.26

There are 5 quarters with good PRF difference image offsets

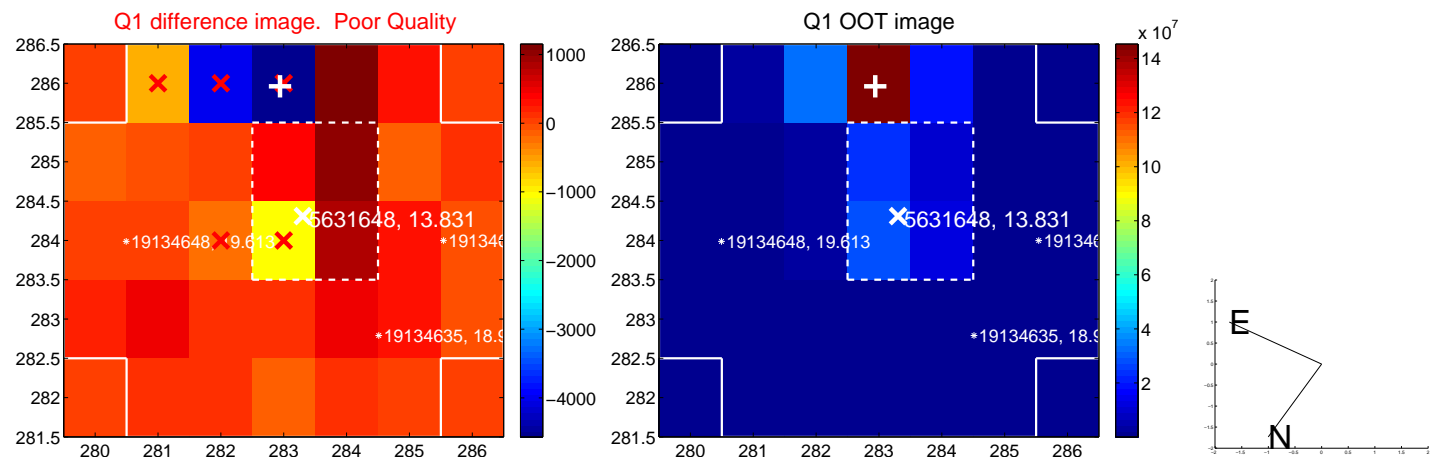
The OOT PRF centroid is offset from the target star catalog position by about 6.89 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.882 \pm 1.016$	4.81	$-3.720 \pm 1.119$	$3.162 \pm 0.688$
PRF-fit source offset from KIC position	$0.330 \pm 0.845$	0.39	$-0.328 \pm 0.851$	$0.034 \pm 0.563$
photometric centroid source offset	$2.13 \pm 0.43$	4.94	$1.38 \pm 0.40$	$-1.62 \pm 0.45$

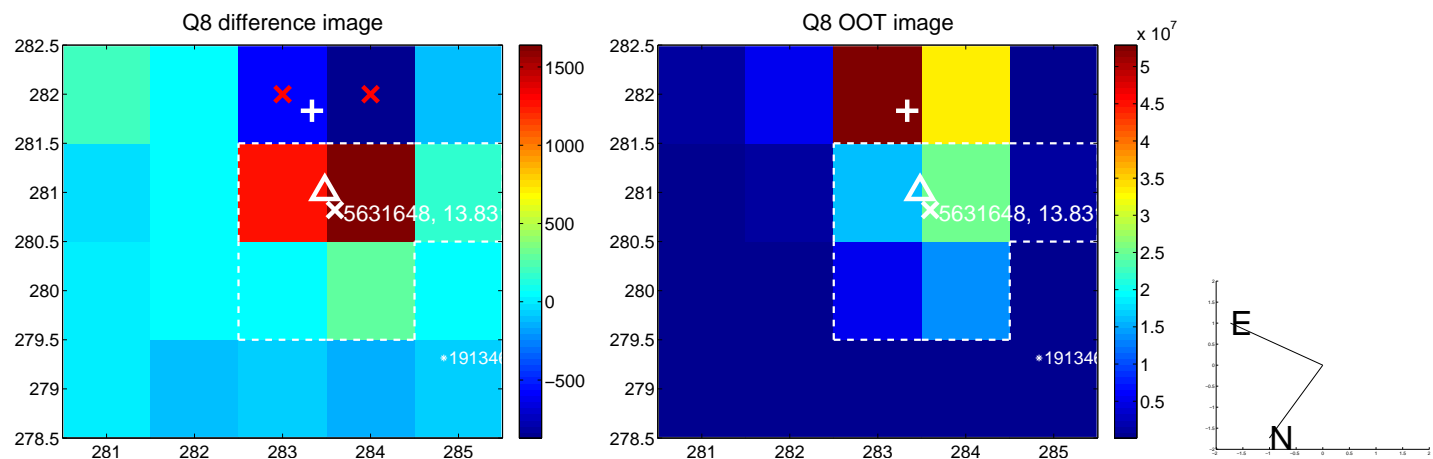
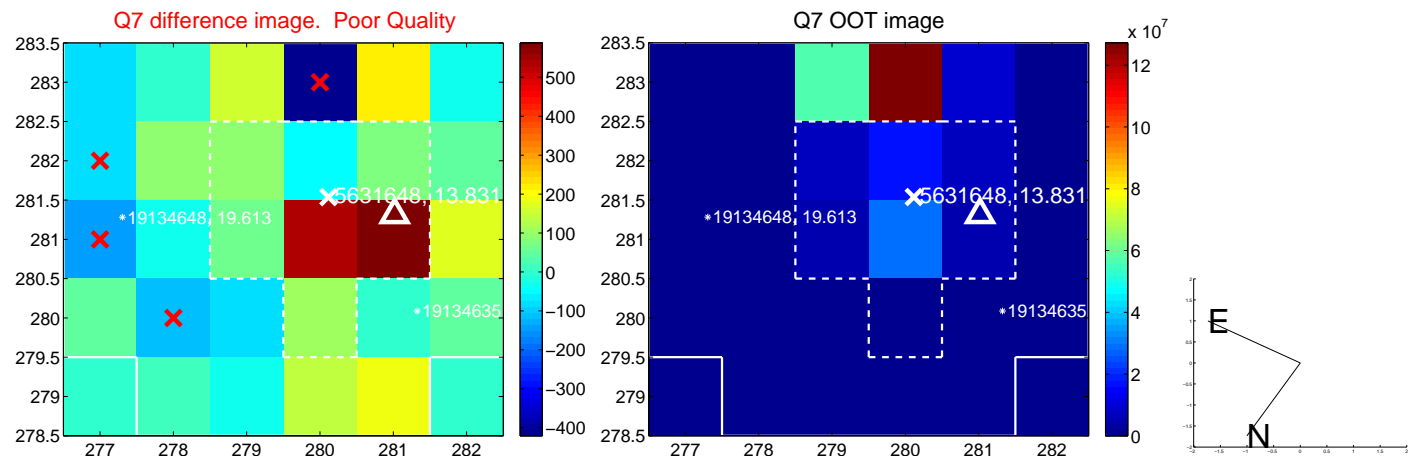
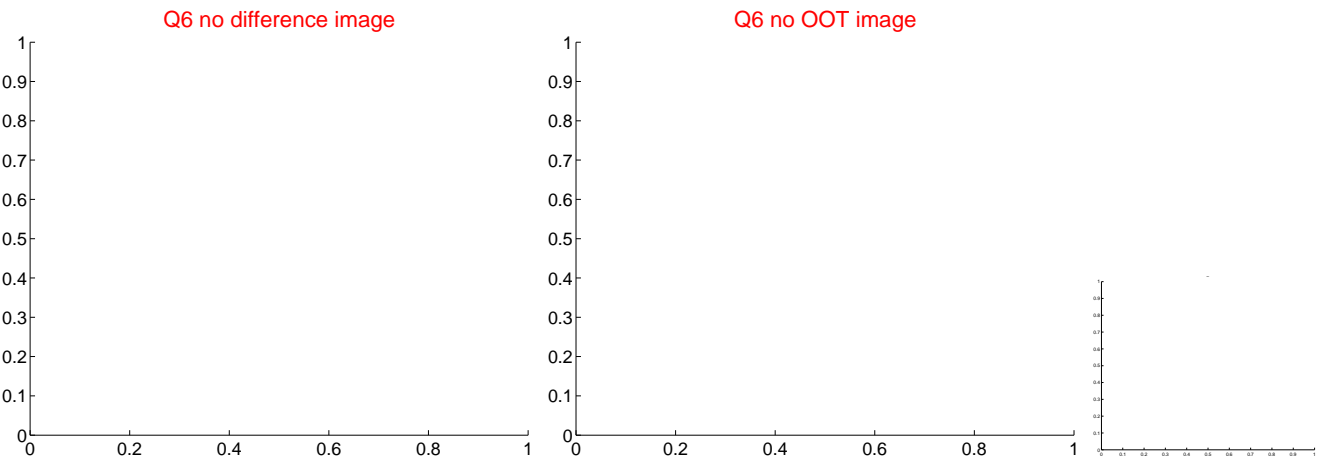
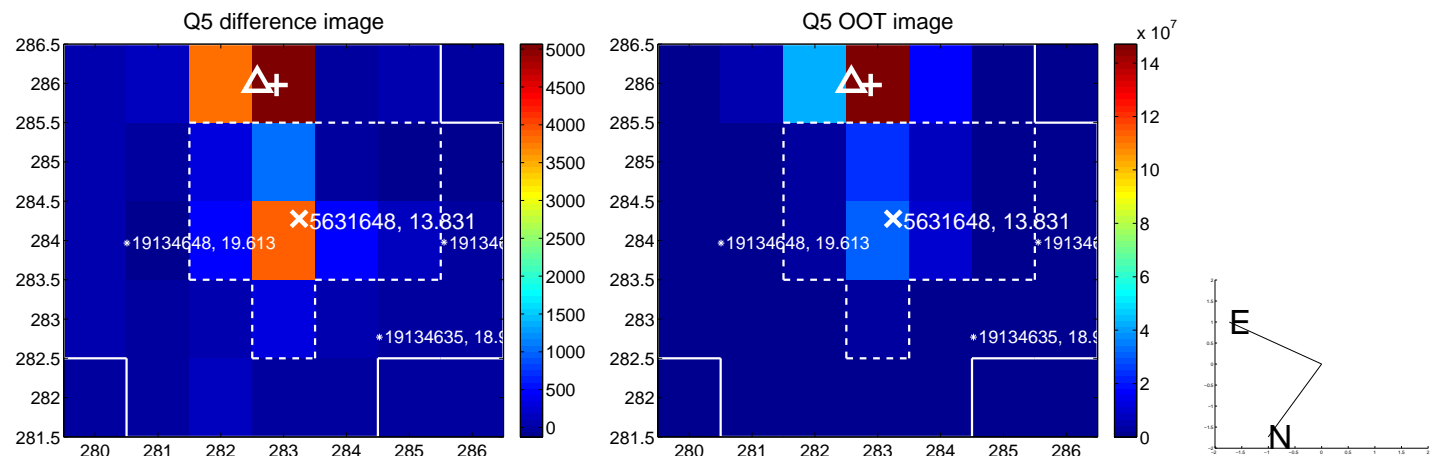


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

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

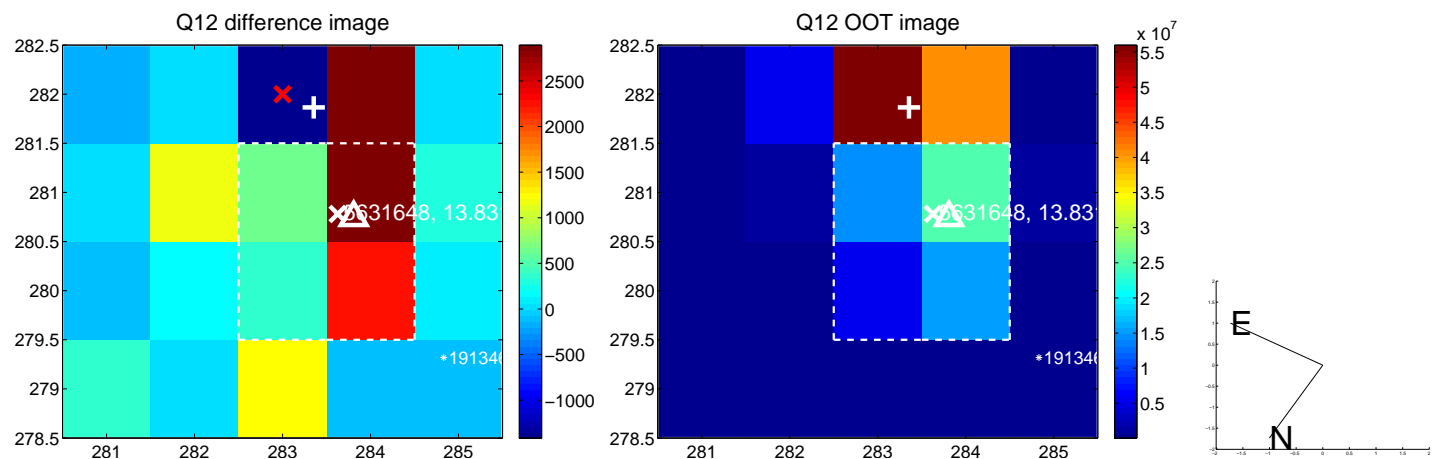
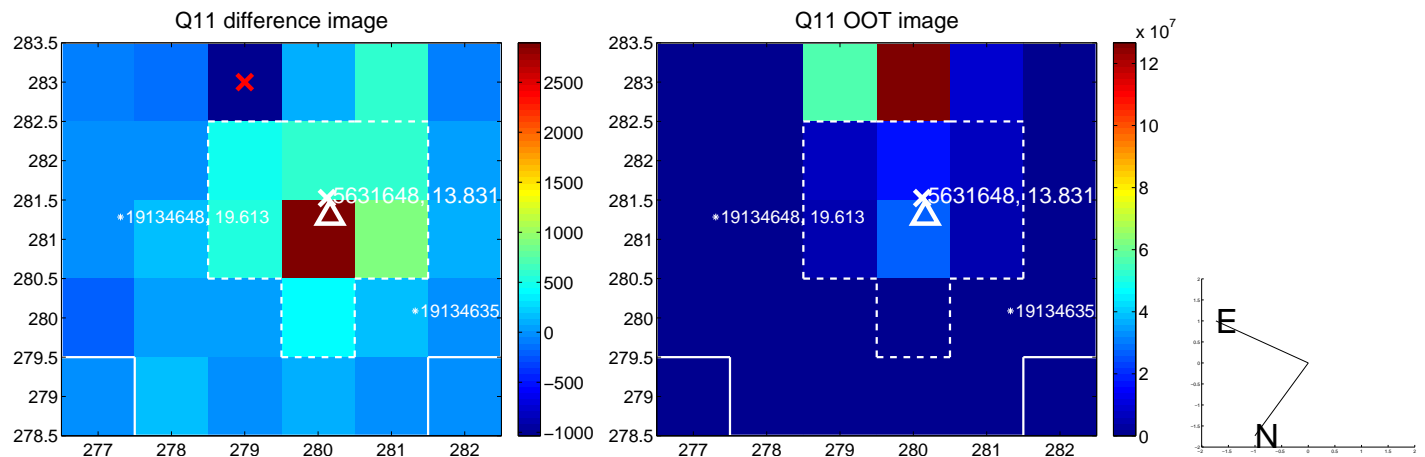
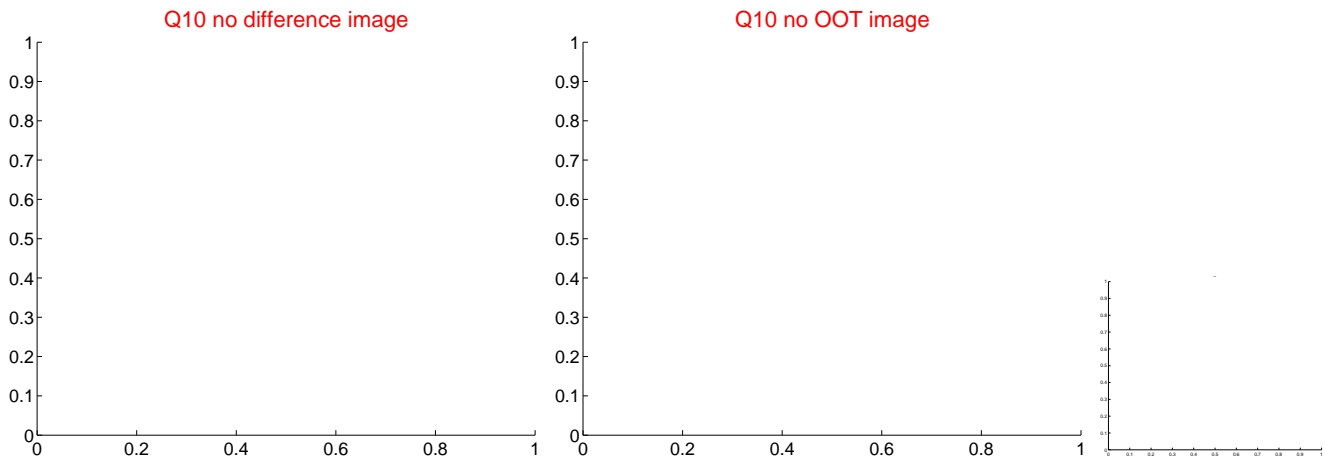
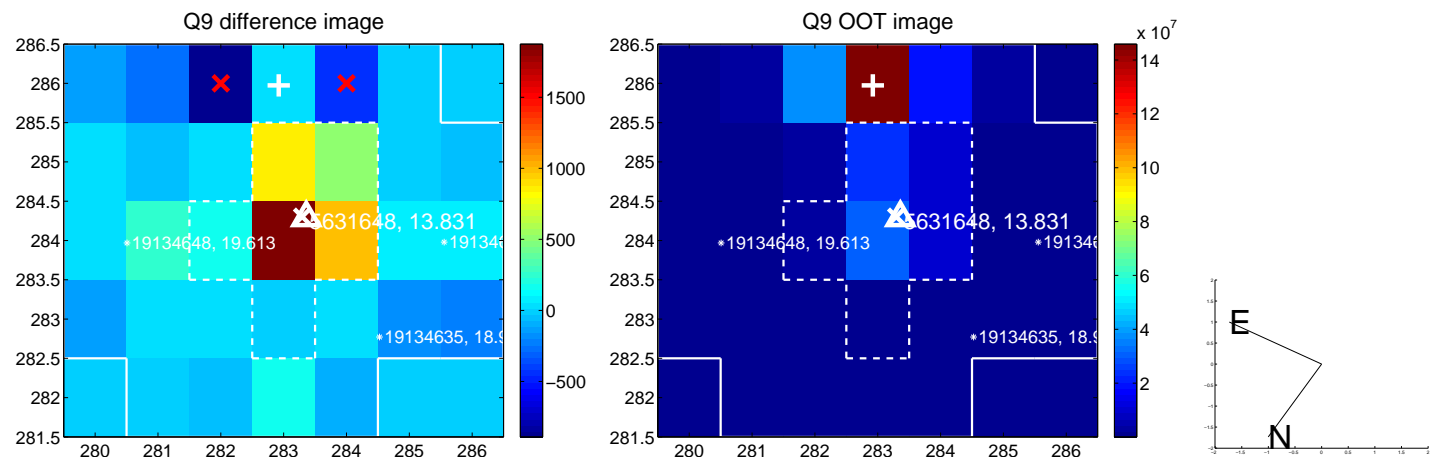


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

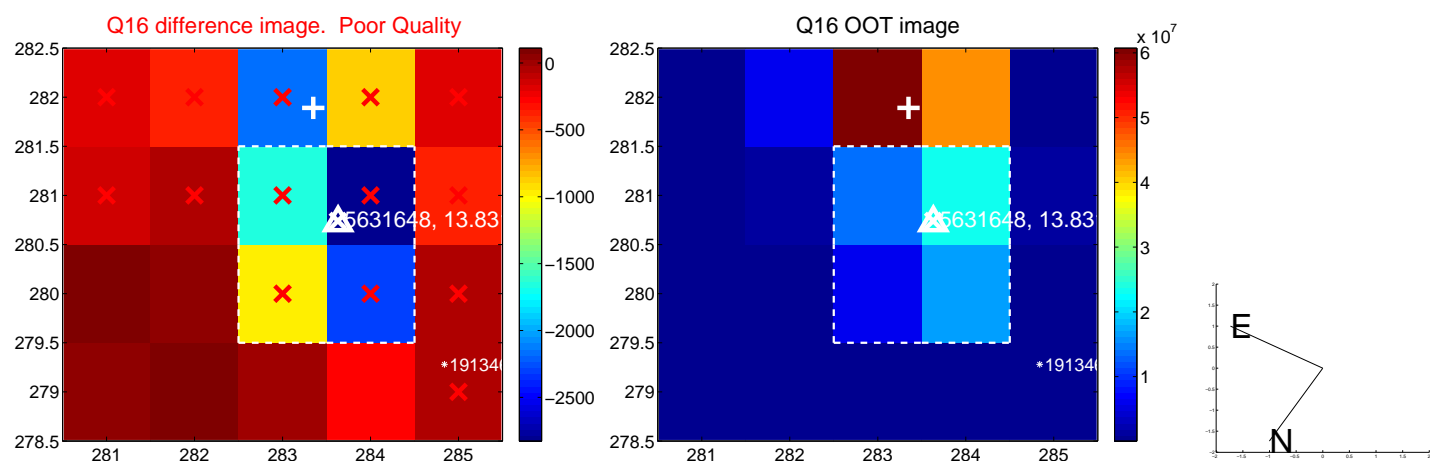
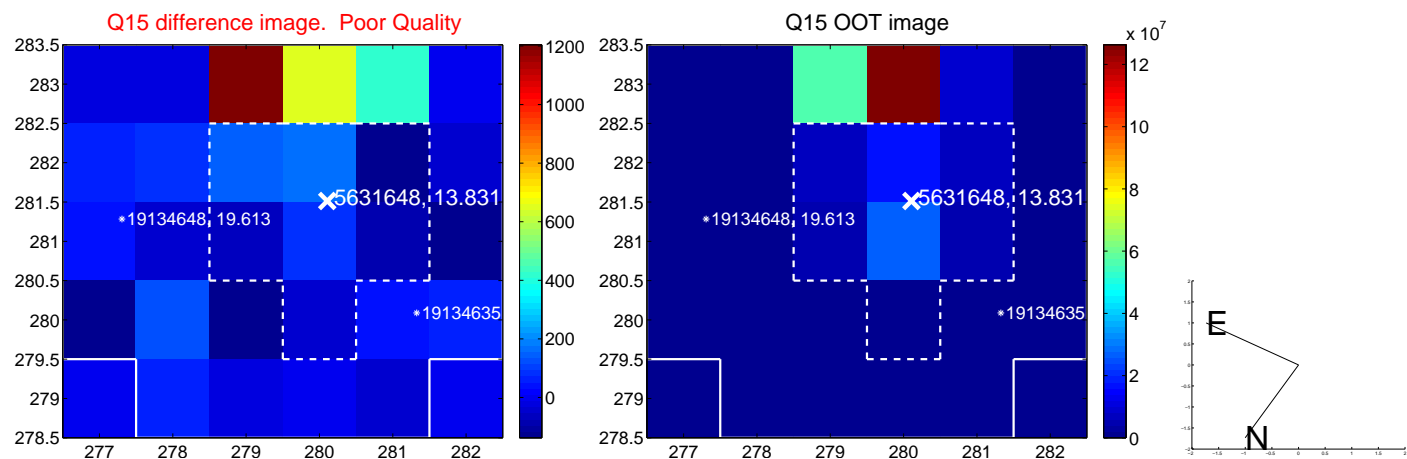
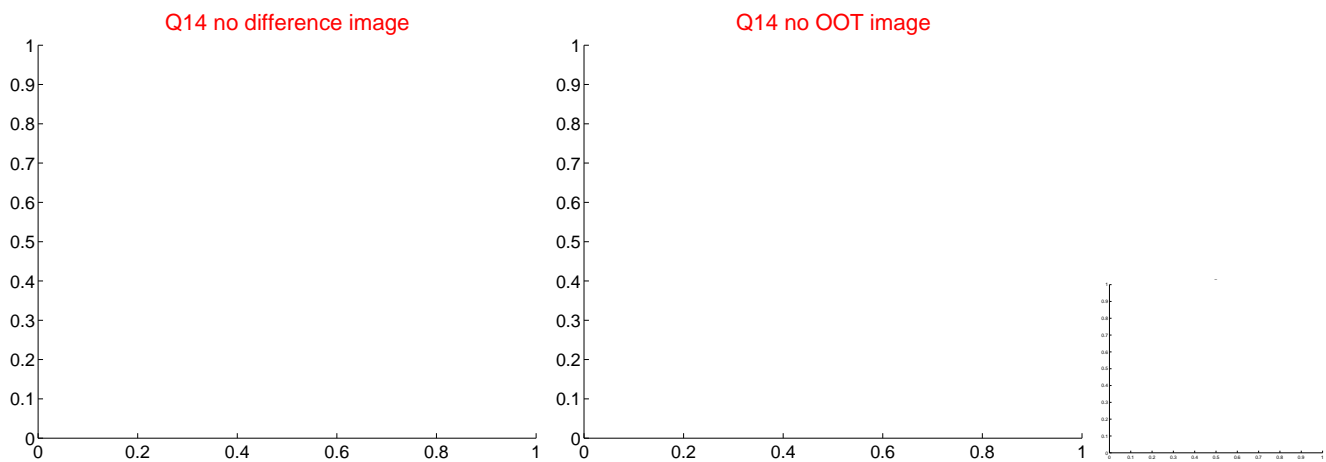
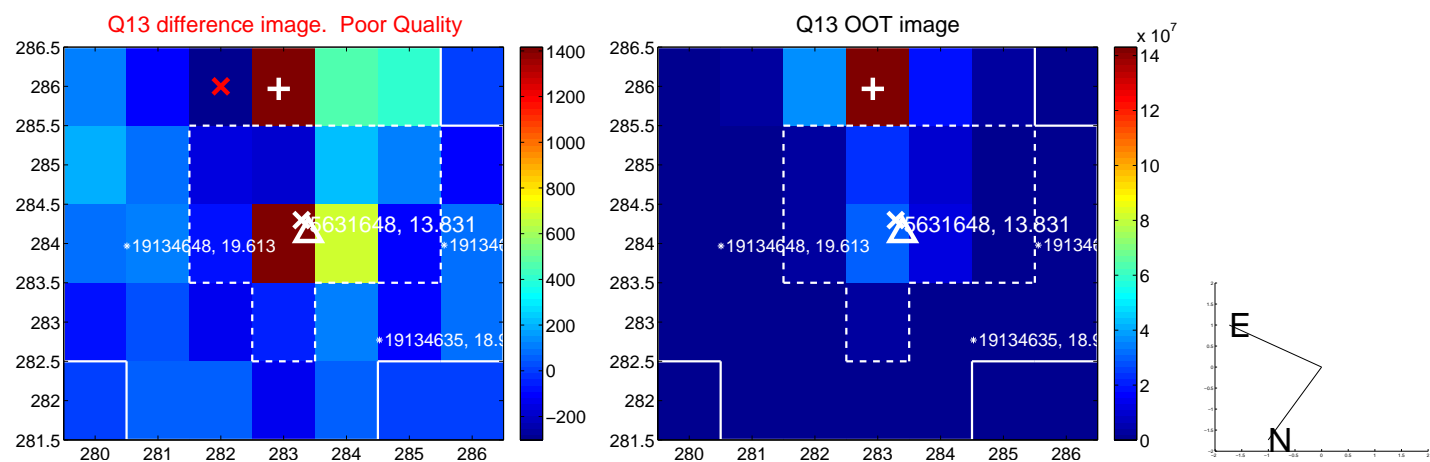




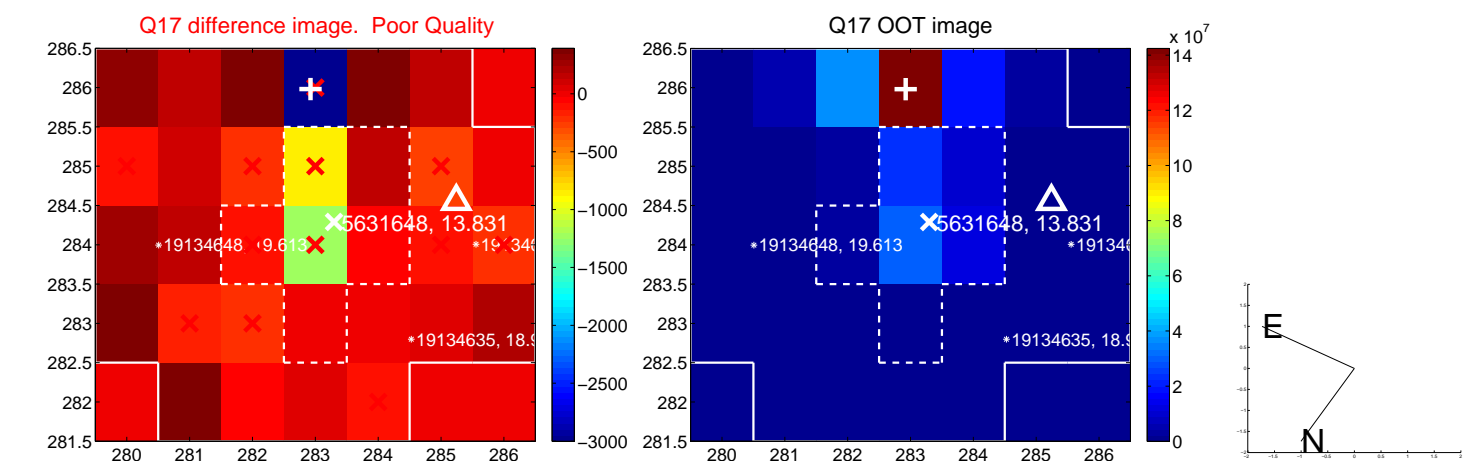
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



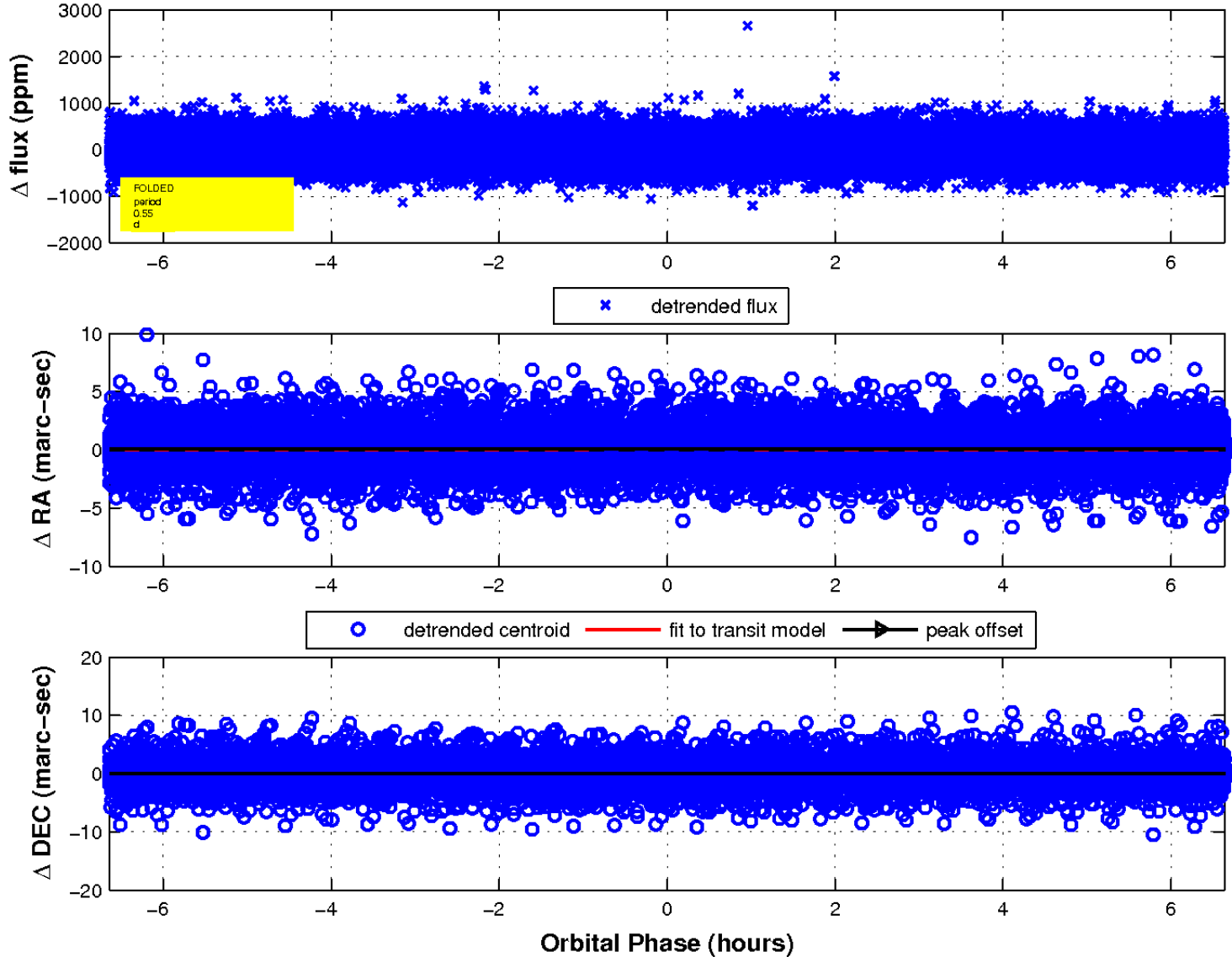
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

