

# KIC 005882631

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005882631-01	OBS	No	1.226561	131.569371	7.7	11.738	7.2	2.7	1.75	7041	0.49	10440.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005882631-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_UNRESOLVED_OFFSET—HALO_GHOST

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

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

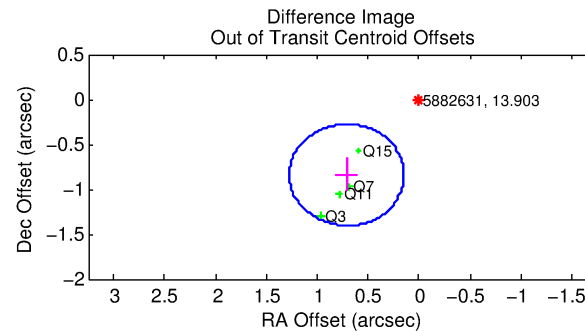
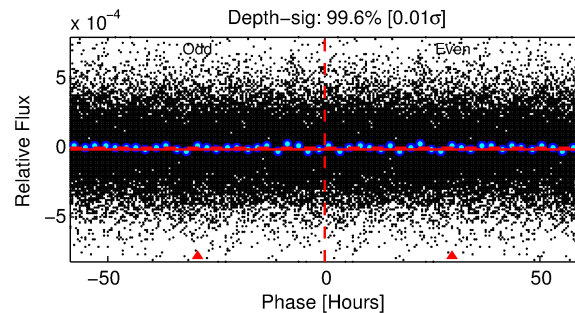
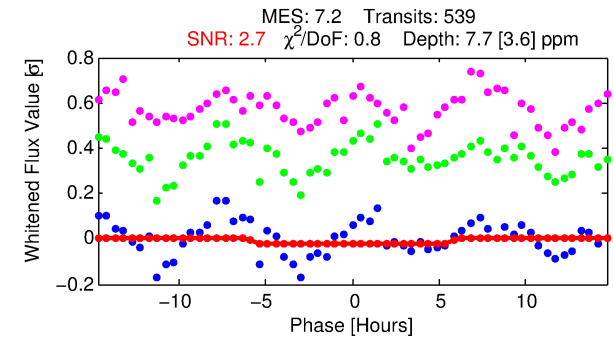
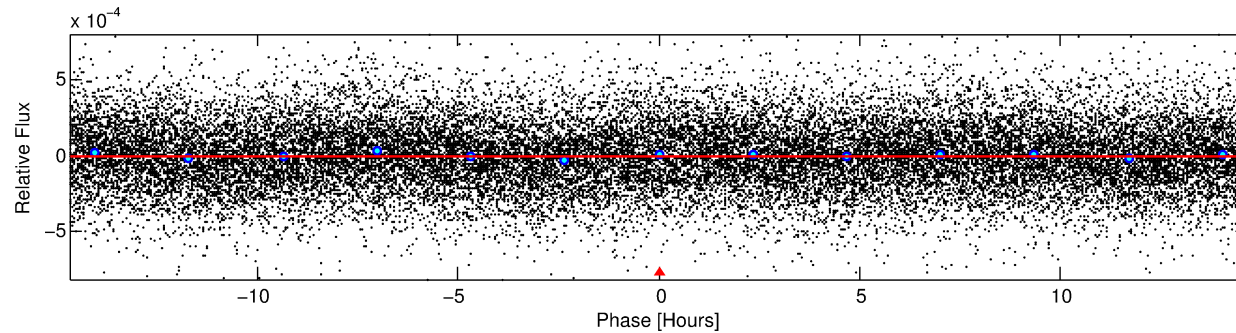
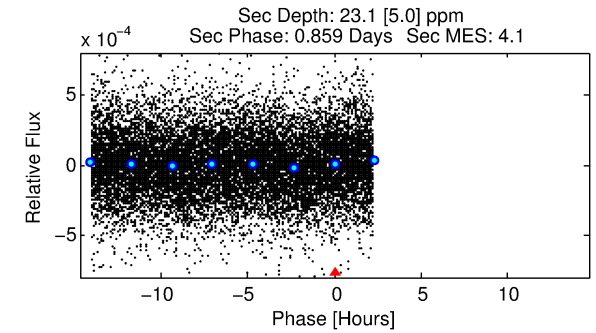
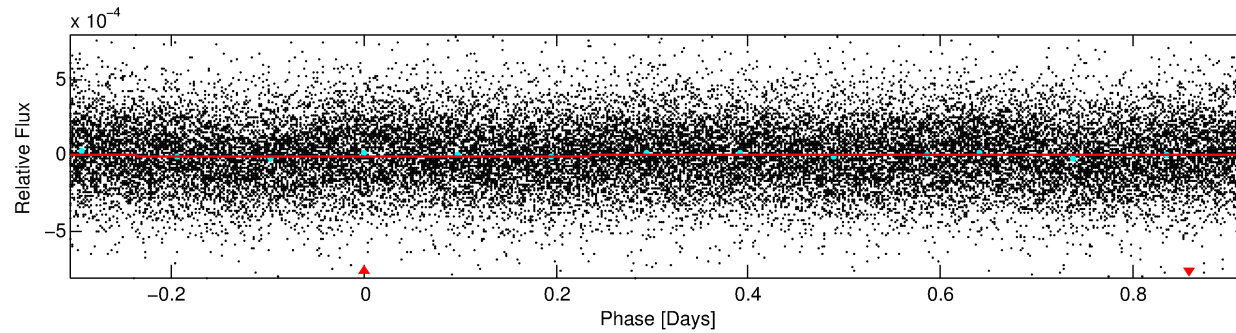
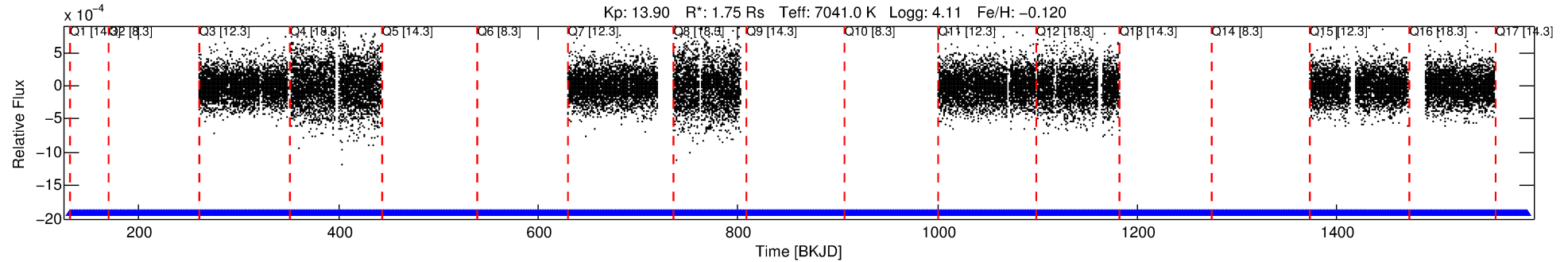
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 005882631-01

No Significant Match Found

# DV One-Page Summary

KIC: 5882631 Candidate: 1 of 1 Period: 1.227 d



## DV Fit Results:

Period = 1.22656 [0.00008] d  
Epoch = 131.5694 [0.0300] BKJD  
Rp/R\* = 0.0026 [0.0089]  
a/R\* = 1.05 [1.95]  
b = 0.32 [56.62]  
Seff = 10440.19 [3925.21]  
Teq = 2578 [242] K  
Rp = 0.49 [1.70] Re  
a = 0.0254 [0.0060] AU  
Ag = 33.66 [232.19] [0.14σ]  
Teffp = 9599 [16540] K [0.42σ]

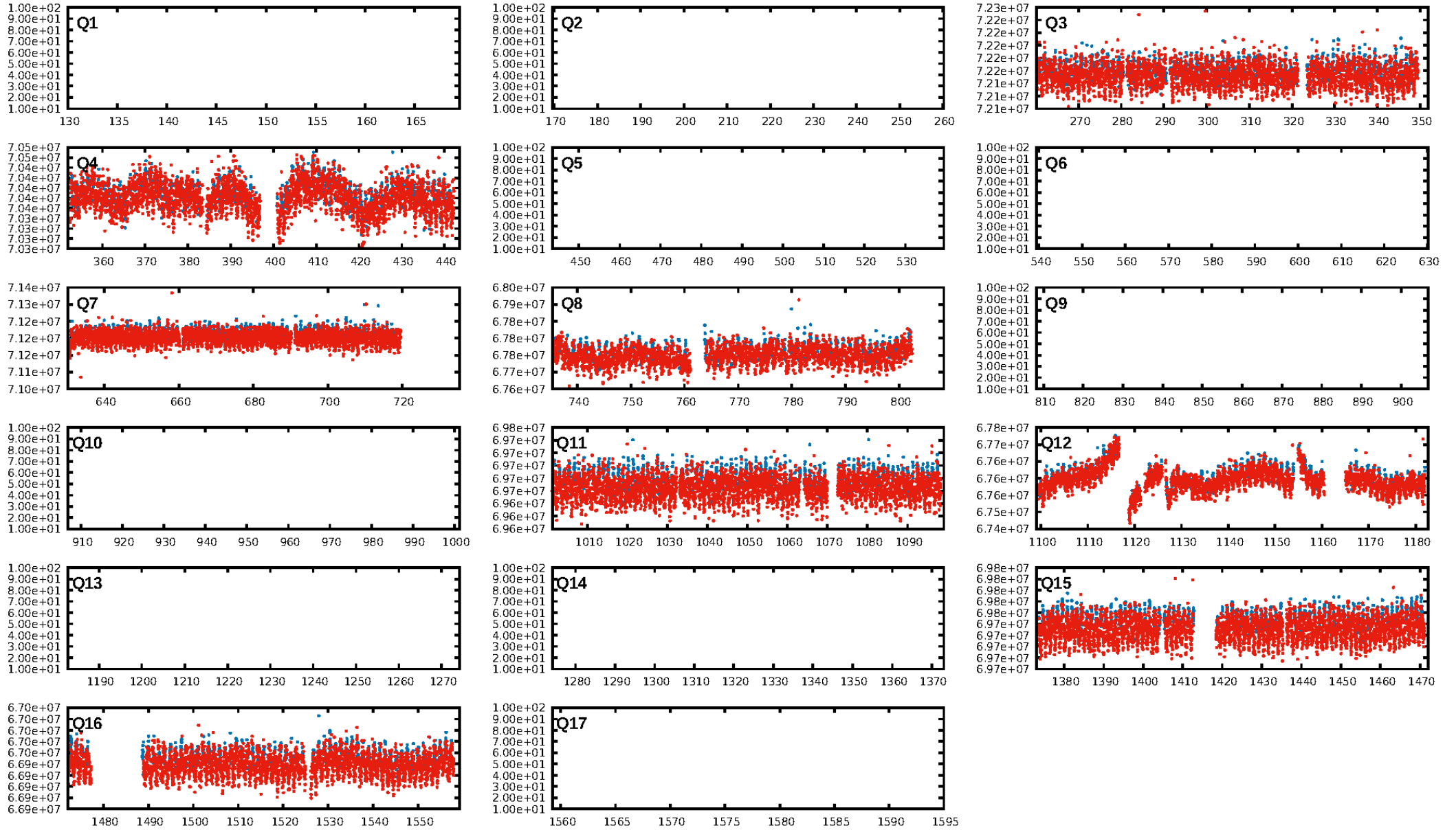
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [539/539]  
GhostDiagnostic-chr: 0.1472  
Centroid-sig: 0.5%  
Centroid-so: 5.035 arcsec [1.84σ]  
OotOffset-rm: 1.101 arcsec [5.85σ]  
KicOffset-rm: 0.983 arcsec [6.28σ]  
OotOffset-st: 0/4/0/0 [4]  
KicOffset-st: 0/4/0/0 [4]  
DiffImageQuality-fgm: 1.00 [4/4]  
DiffImageOverlap-fno: 1.00 [8/8]

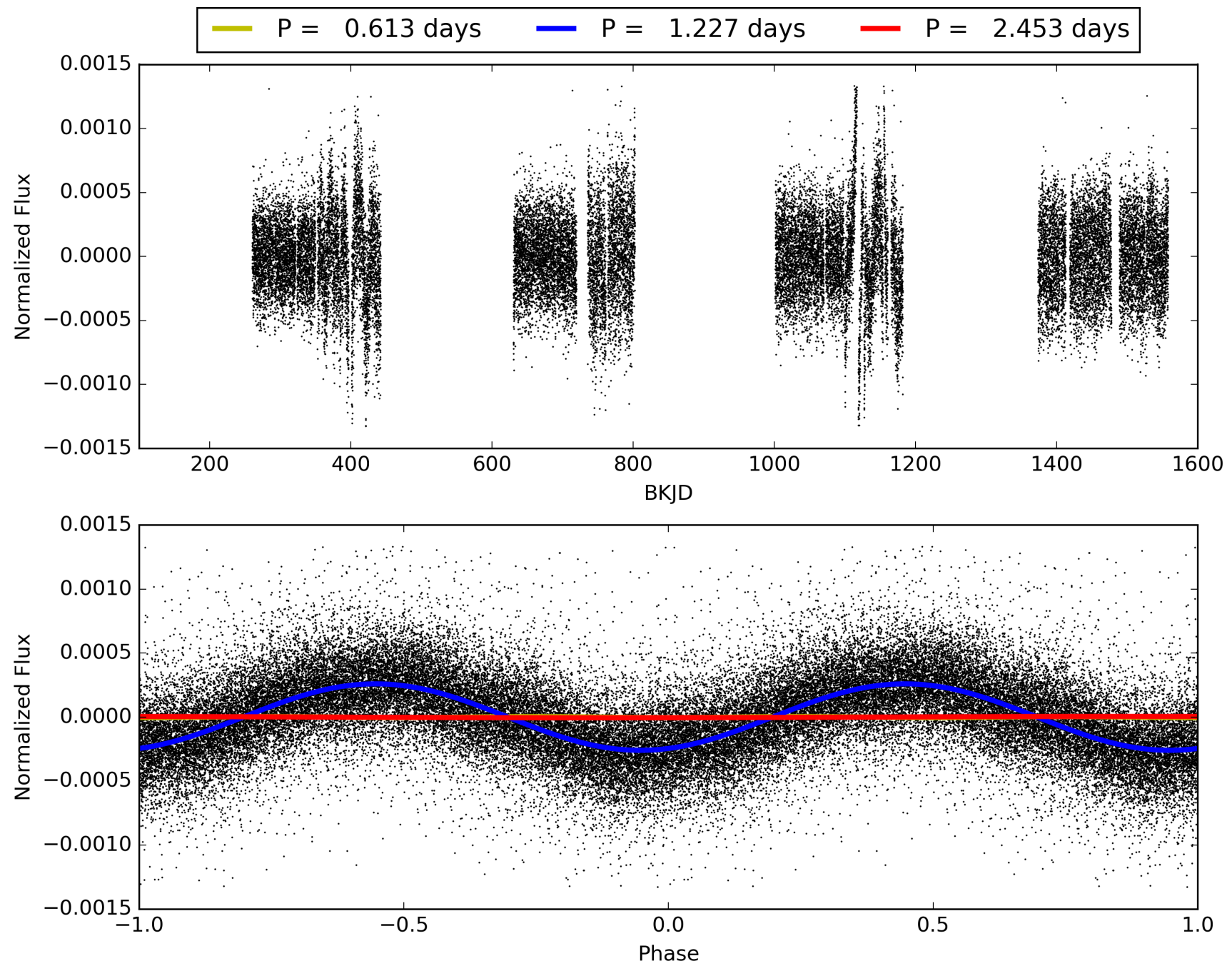
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:05:04 Z

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

# TCE 005882631-01, PDC Light Curves

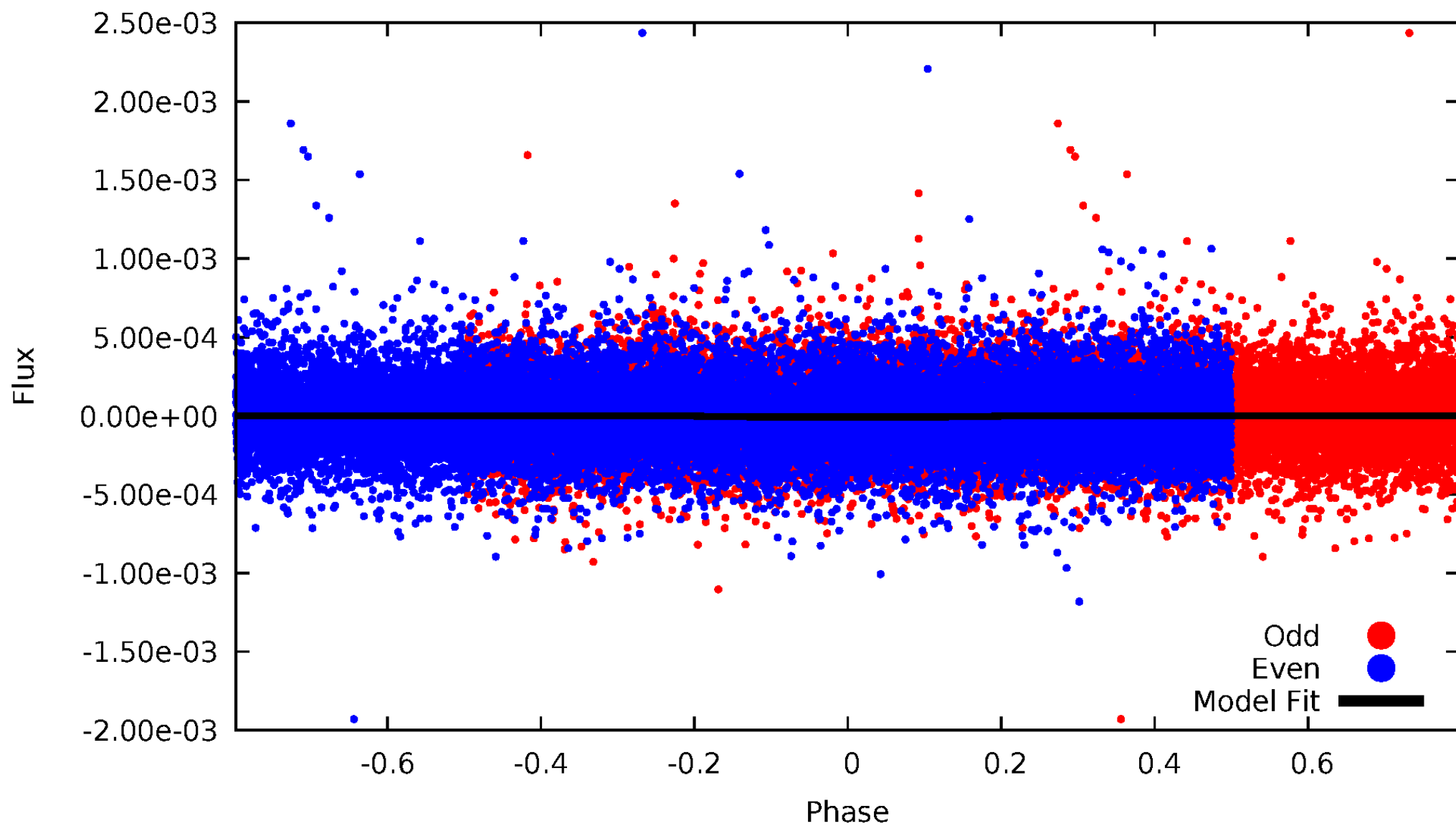


TCE 005882631-01



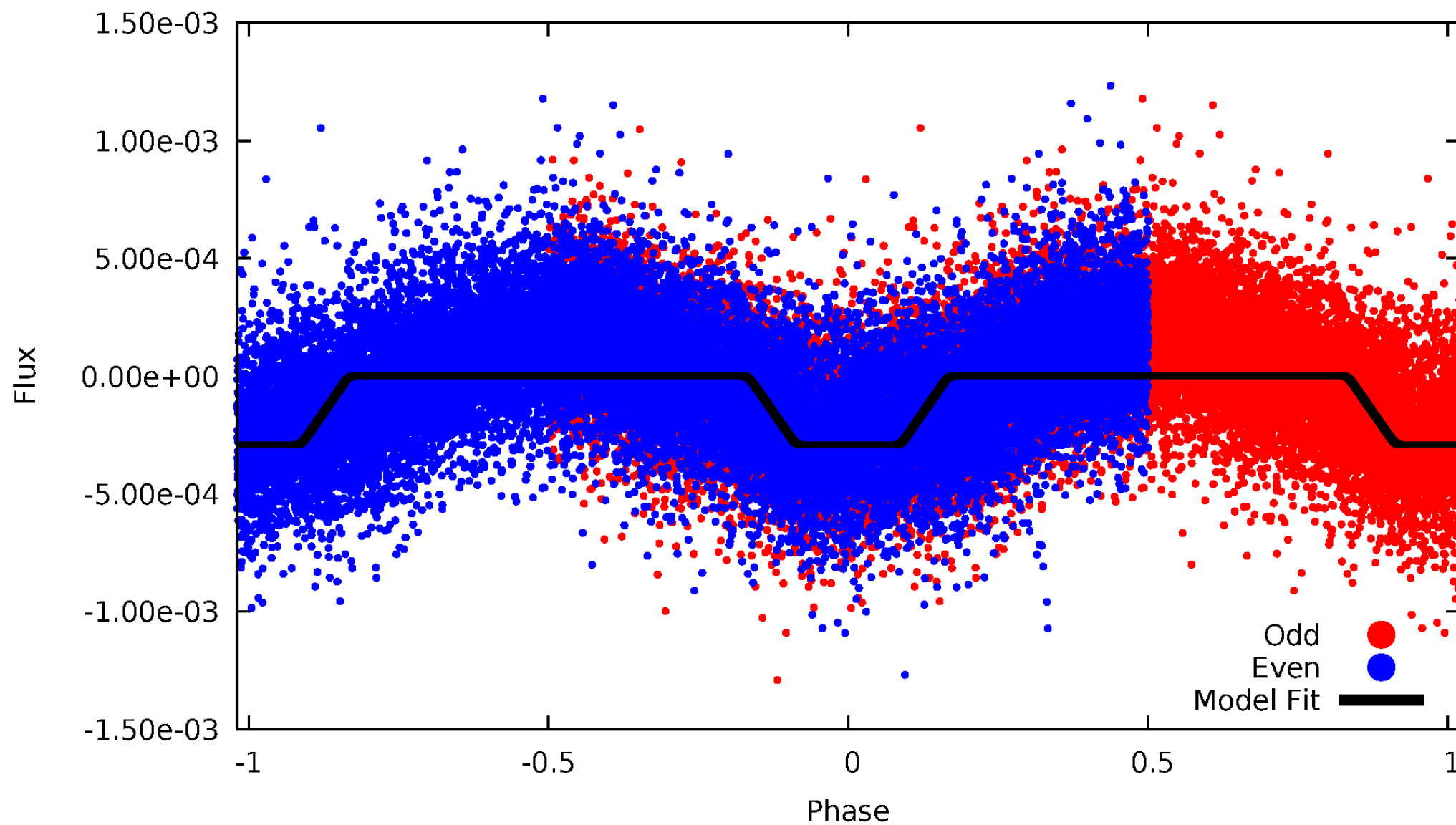
# DV Odd/Even

TCE 005882631-01



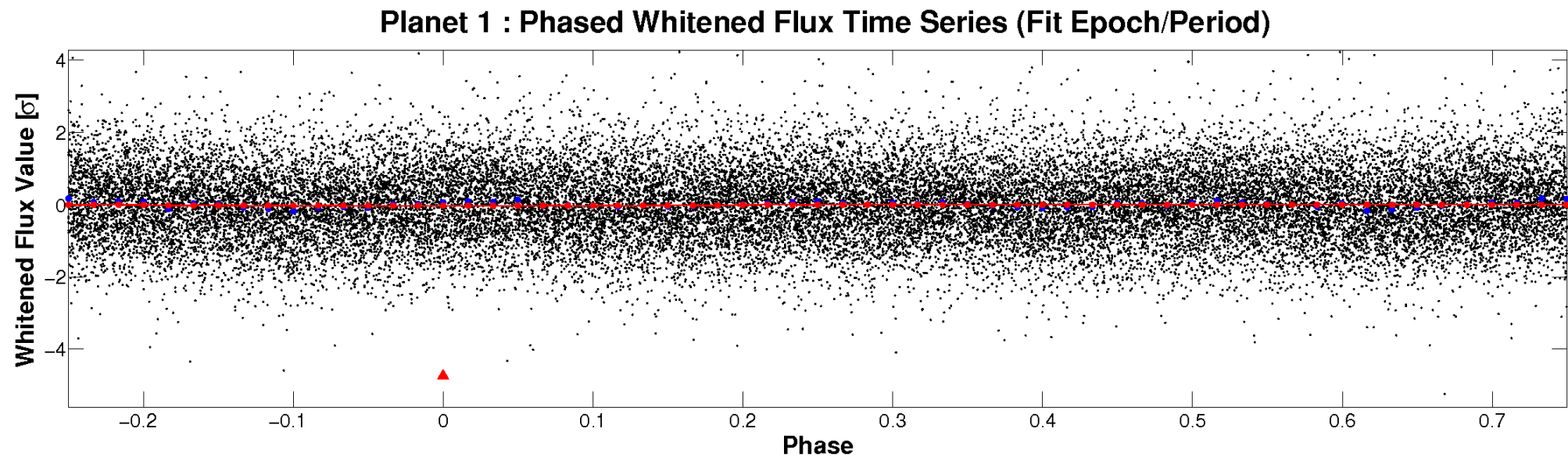
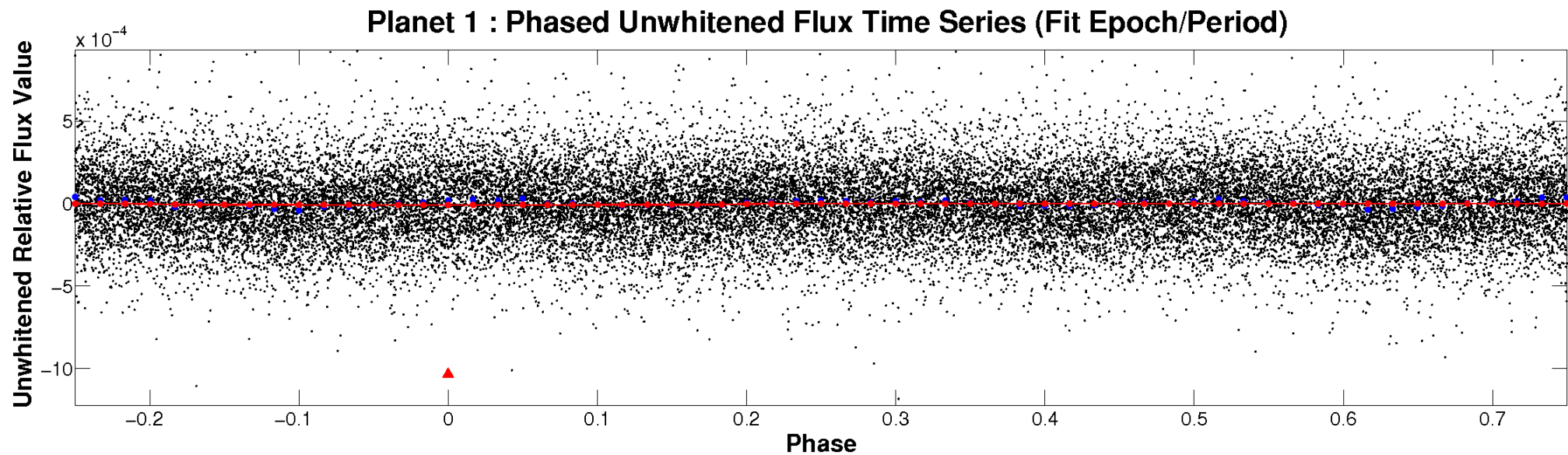
# ALT Odd/Even

TCE 005882631-01



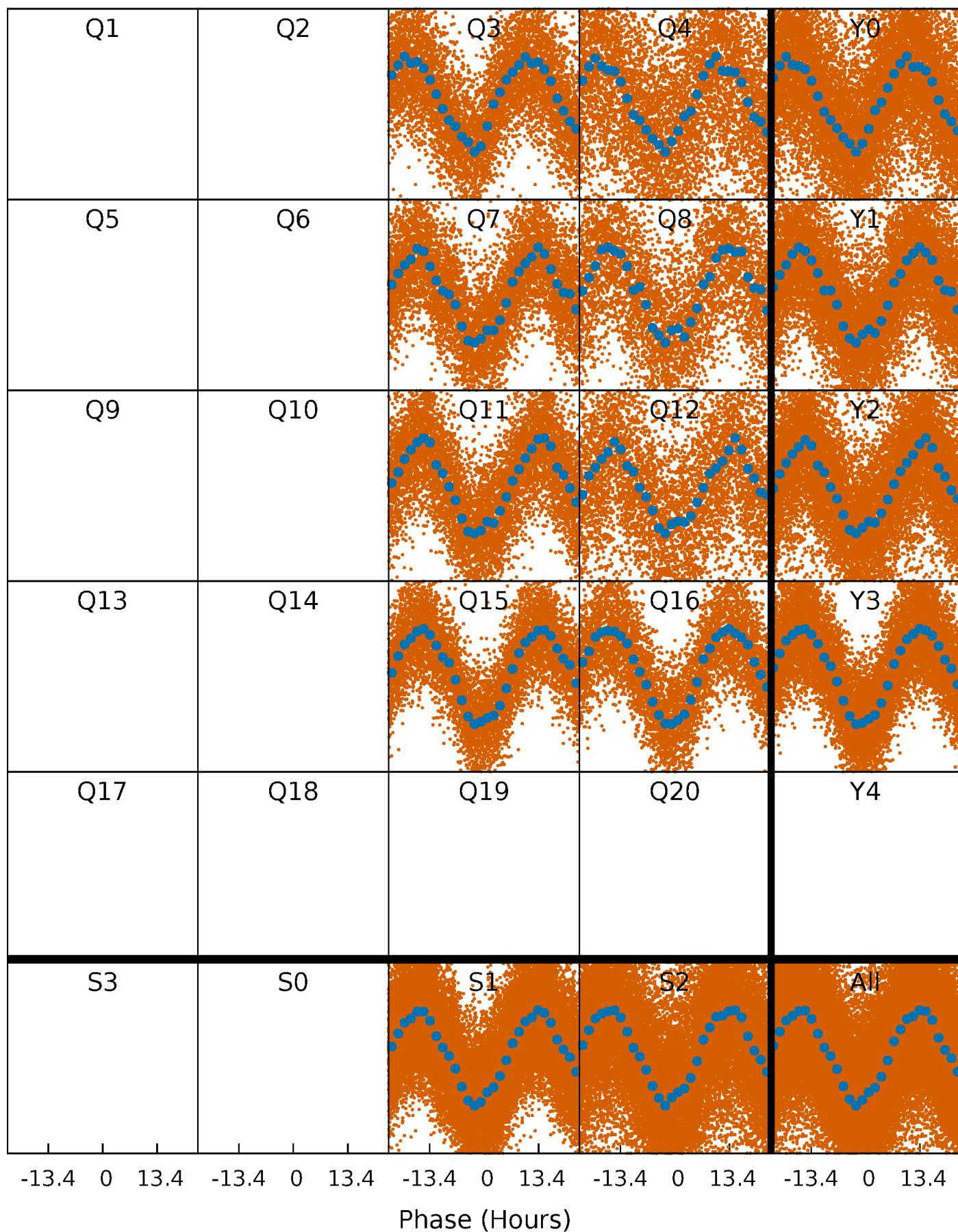


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

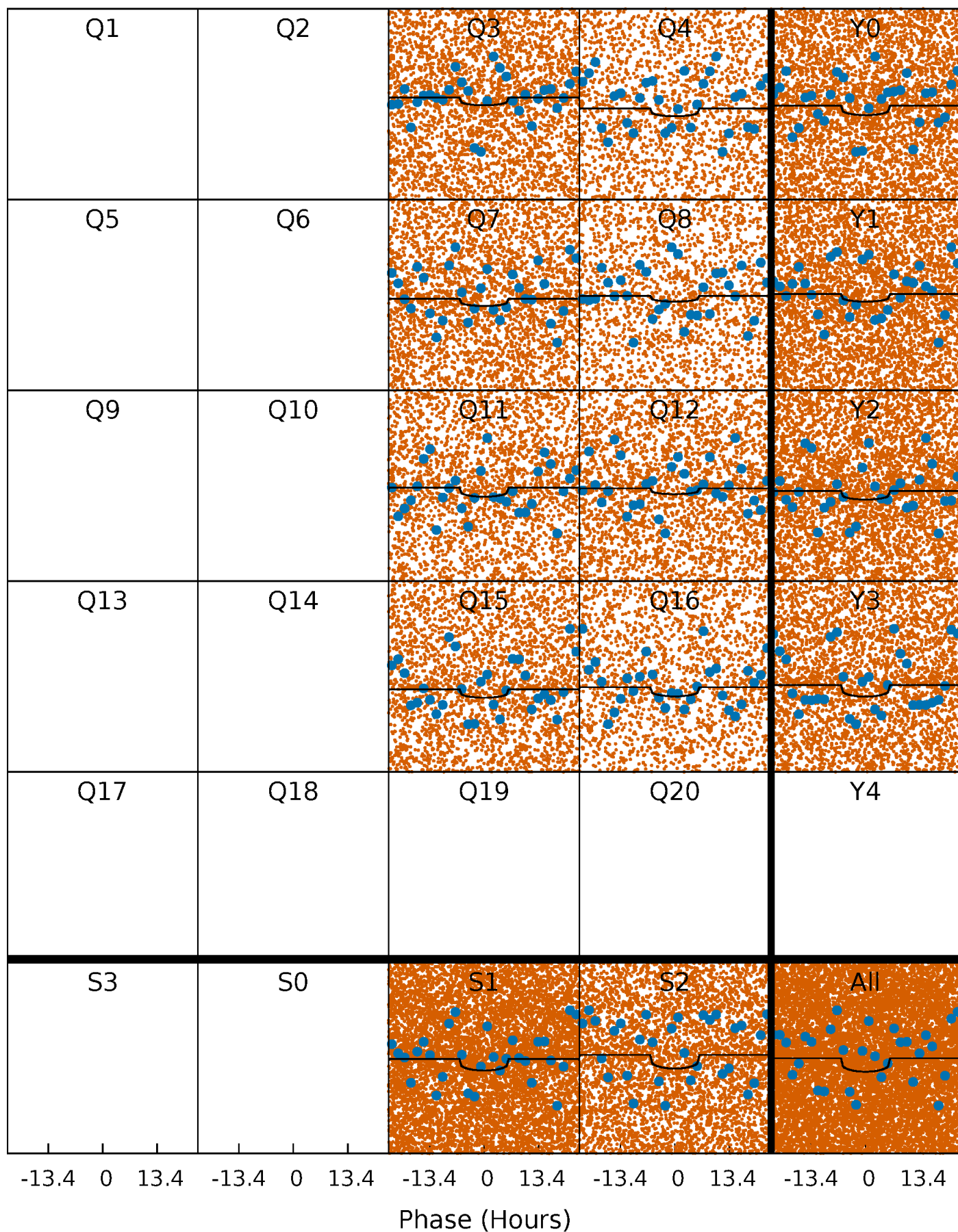
TCE 005882631-01 P= 1.226561 Days  $T_0=131.569371$  (BKJD)





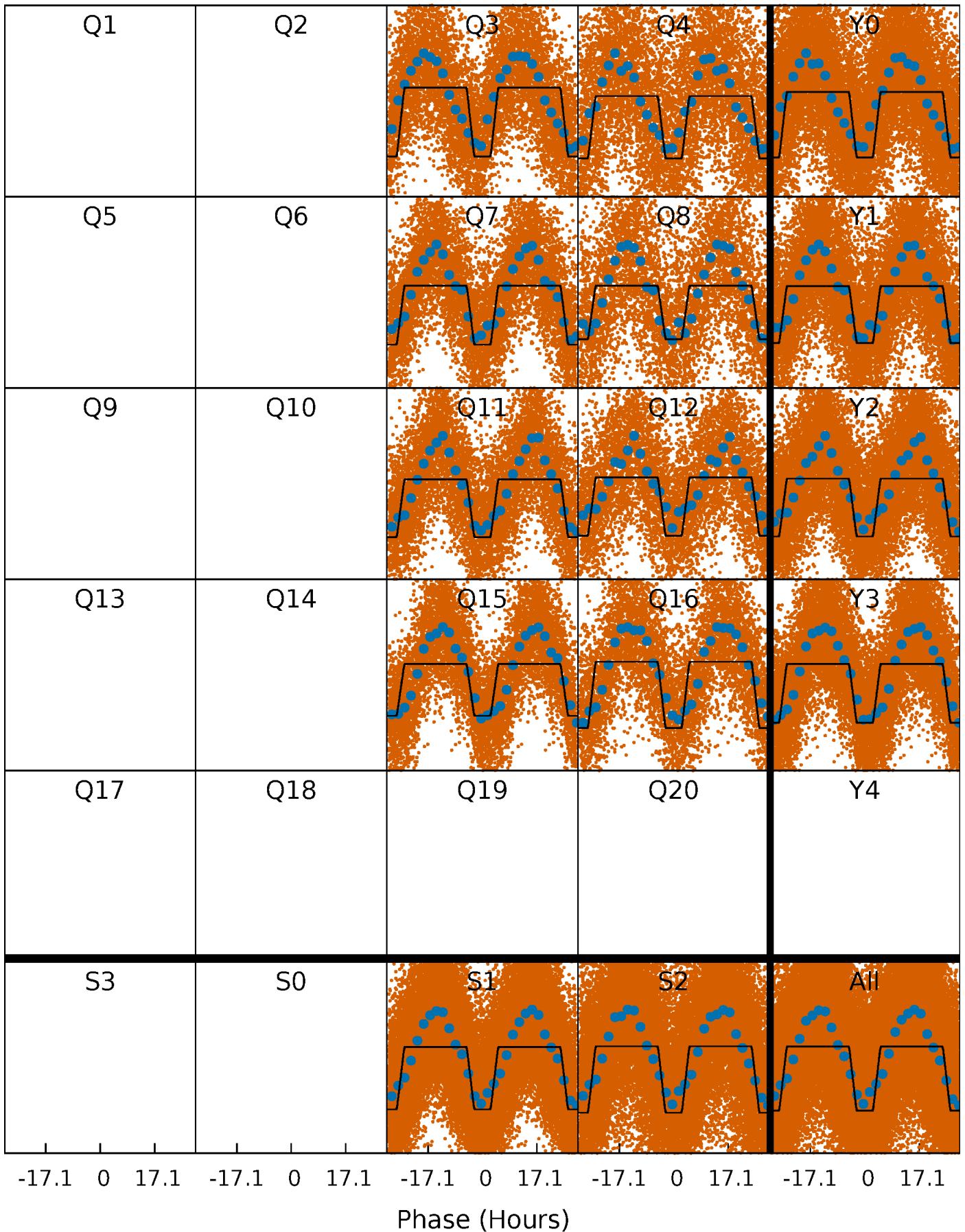
# DV Quarter-Phased Transit Curves

TCE 005882631-01 P= 1.226561 Days  $T_0=131.569371$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

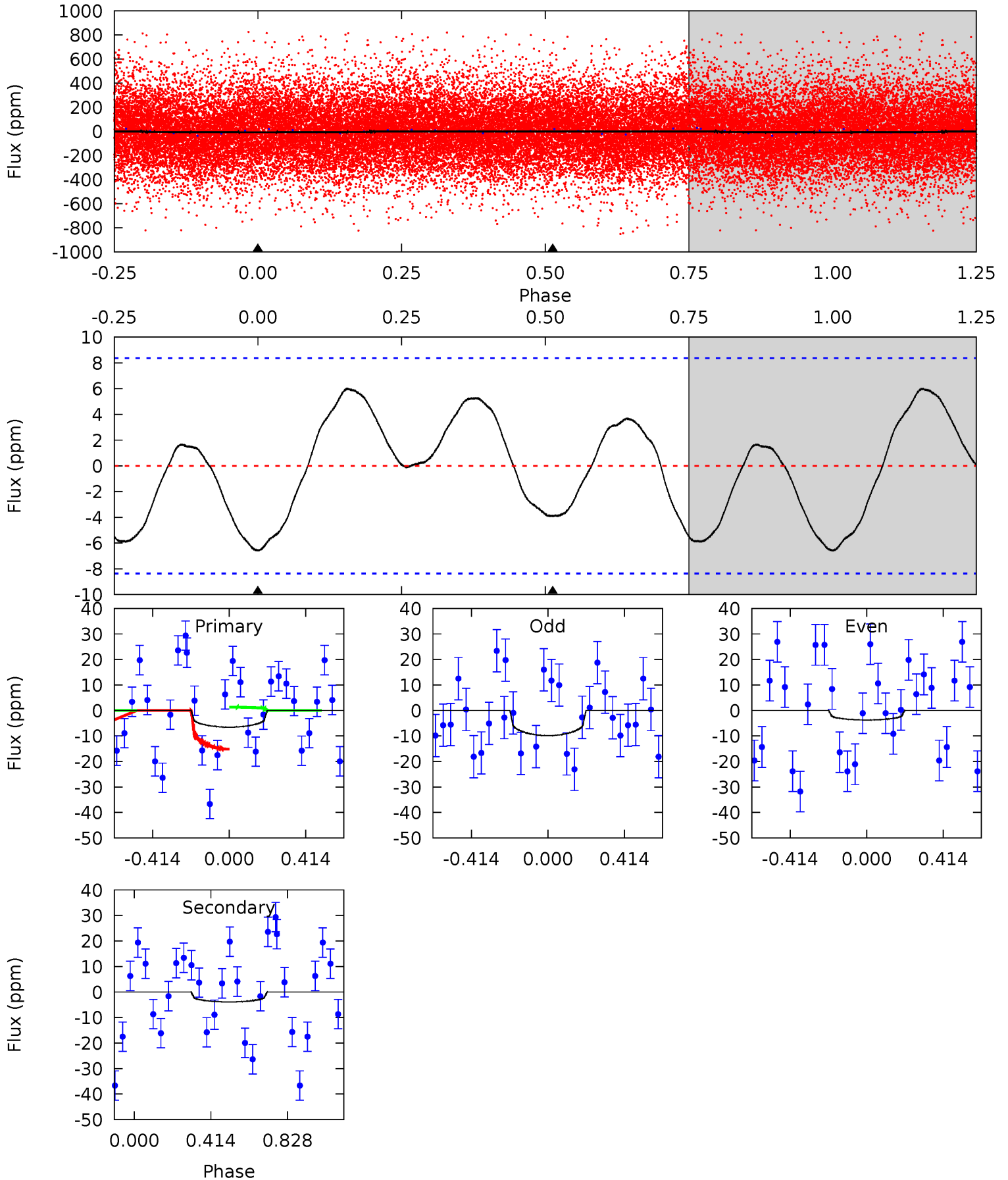
TCE 005882631-01 P= 1.226464 Days  $T_0=131.554966$  (BKJD)



# DV Model-Shift Uniqueness Test

005882631-01, P = 1.226561 Days, E = 131.569371 Days

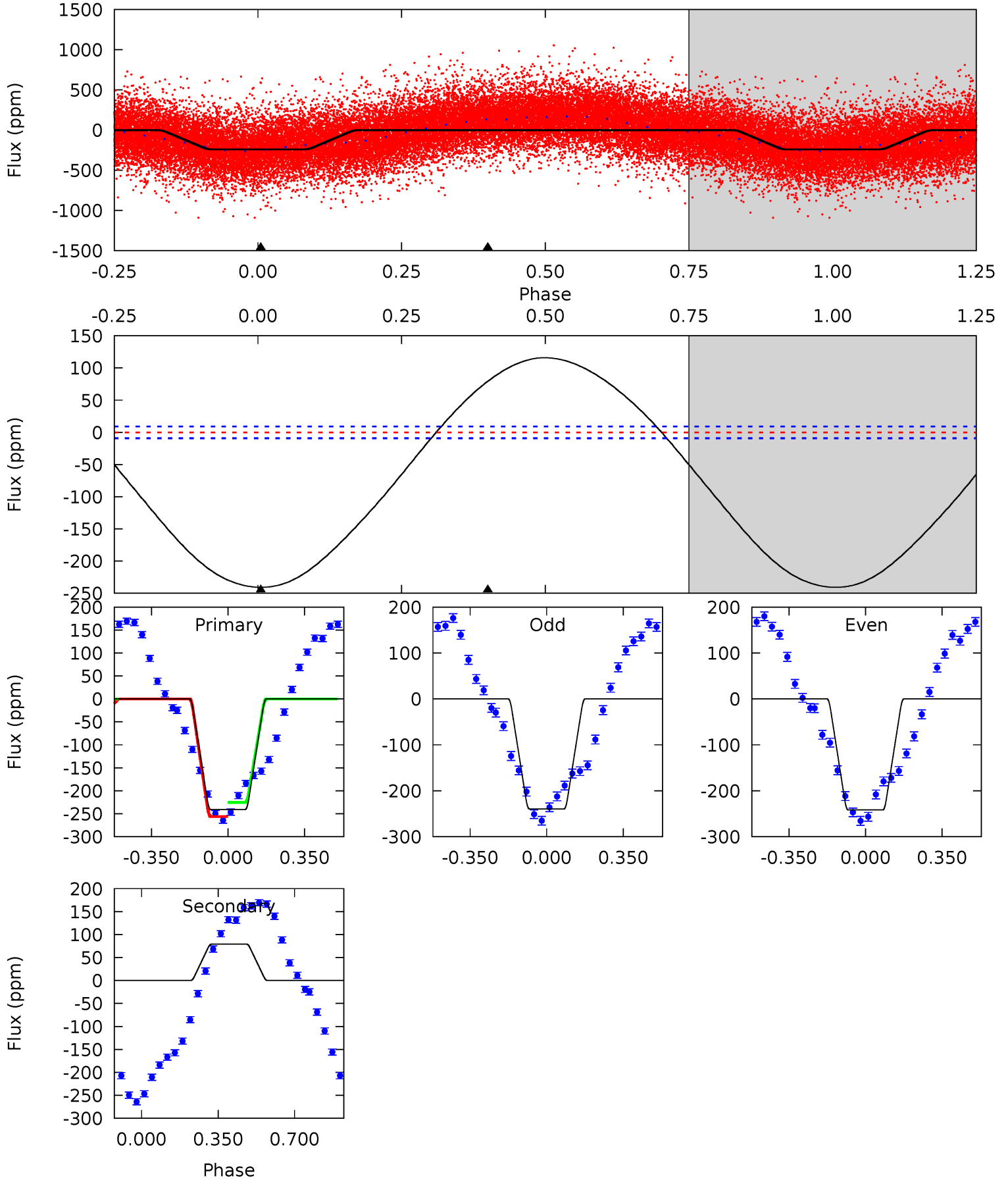
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.34	1.99	0	0	4.26	0.82	1.49	3.34	3.34	1.99	1.99	1.59	1.27	0.48	3.64



# Alt Model-Shift Uniqueness Test

005882631-01, P = 1.226464 Days, E = 131.554966 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
113.0	-37.2	0	0	4.29	0.93	13.6	113.0	113.0	-37.2	-37.2	0.55	1.02	0.33	7.10



### Stellar Parameters For KIC 005882631

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7041^{+197}_{-310}$	$4.114^{+0.175}_{-0.175}$	$-0.120^{+0.250}_{-0.350}$	$1.747^{+0.512}_{-0.419}$	$1.448^{+0.211}_{-0.258}$	$0.382^{+0.329}_{-0.193}$
	+3%/-4%	+4%/-4%	+208%/-292%	+29%/-24%	+15%/-18%	+86%/-50%
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 005882631-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-4 \pm 2$	$1.41^{+1.31}_{-0.95}$	$3594^{+279}_{-253}$	$3390^{+2574}_{-6588}$	$0.587^{+4.888}_{-0.462}$
Alt.	$79 \pm 2$	$3.25^{+1.80}_{-1.65}$	$3571^{+291}_{-247}$	$-5247^{+710}_{-1942}$	$-2.601^{+1.532}_{-8.416}$

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



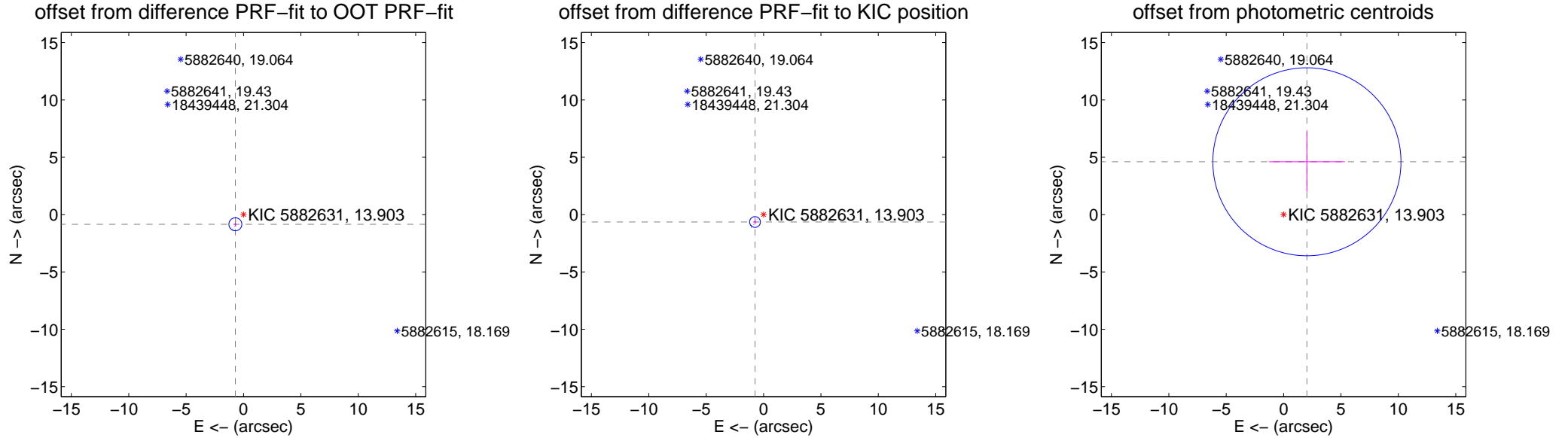
## DV Centroid Data

Supplemental centroid analysis for 005882631-01. Kepler magnitude: 13.90. Transit SNR 2.70

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.101 \pm 0.188$	5.85	$0.710 \pm 0.106$	$-0.842 \pm 0.176$
PRF-fit source offset from KIC position	$0.983 \pm 0.157$	6.28	$0.744 \pm 0.134$	$-0.643 \pm 0.182$
photometric centroid source offset	$5.03 \pm 2.73$	1.84	$-2.03 \pm 3.31$	$4.61 \pm 2.61$



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.

Q1 no difference image



Q1 no OOT image



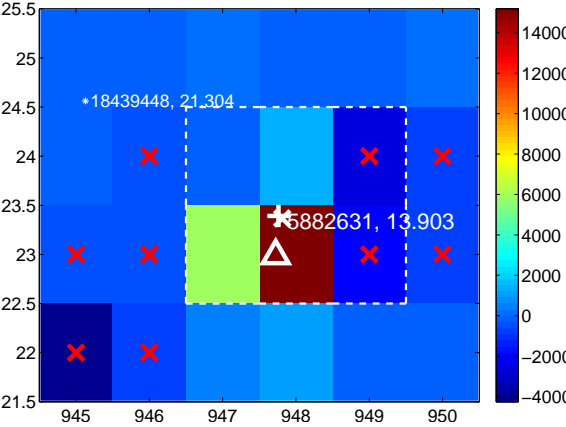
Q2 no difference image



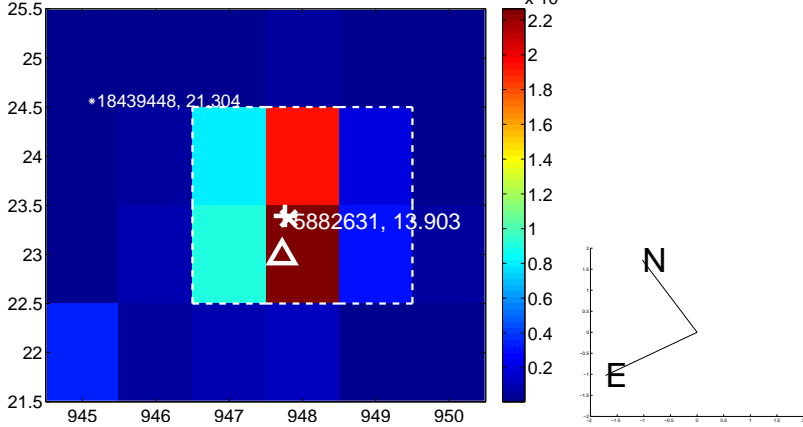
Q2 no OOT image



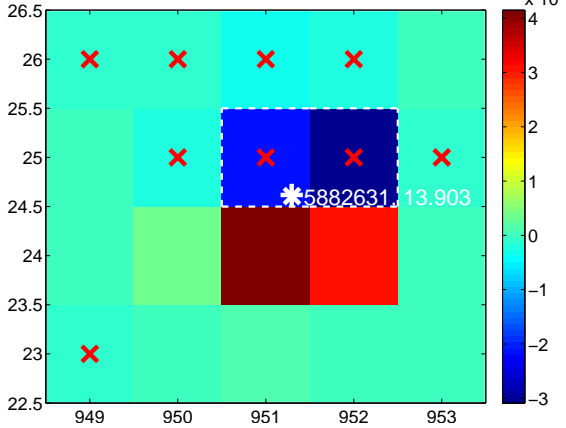
Q3 difference image



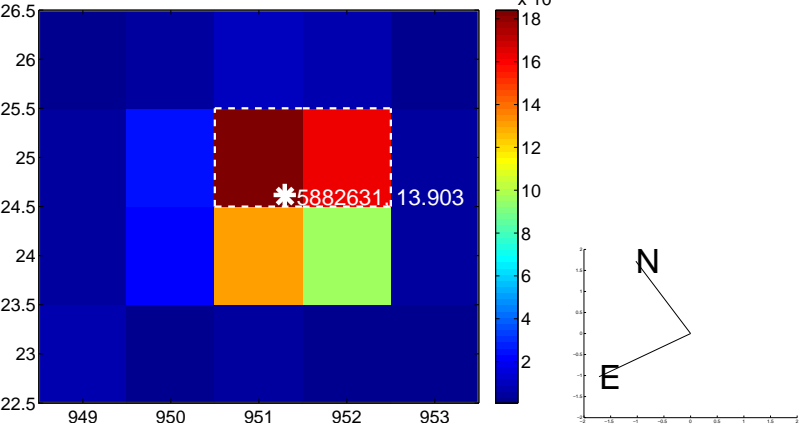
Q3 OOT image



Q4 difference image. Poor Quality



Q4 OOT image



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

Q5 no difference image



Q5 no OOT image



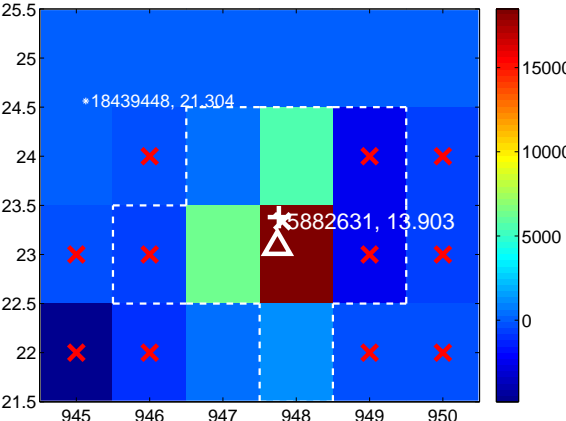
Q6 no difference image



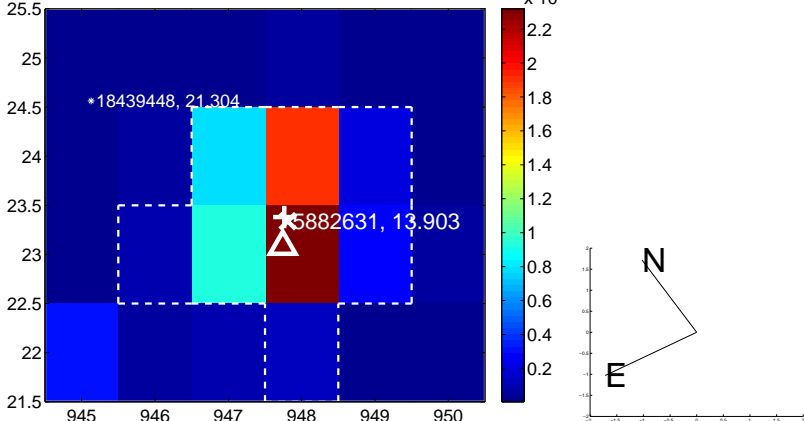
Q6 no OOT image



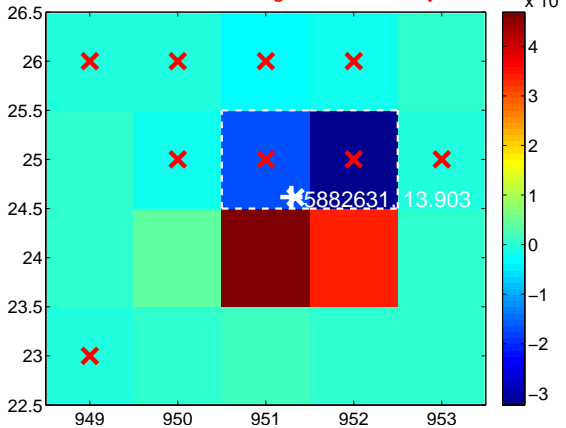
Q7 difference image



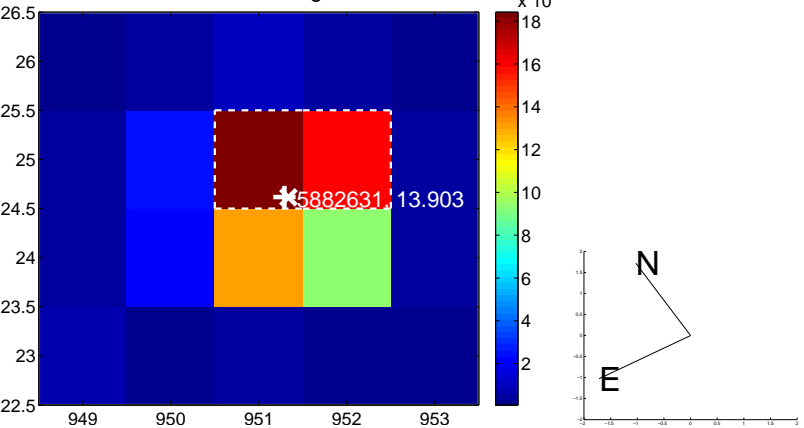
Q7 OOT image



Q8 difference image. Poor Quality



Q8 OOT image



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

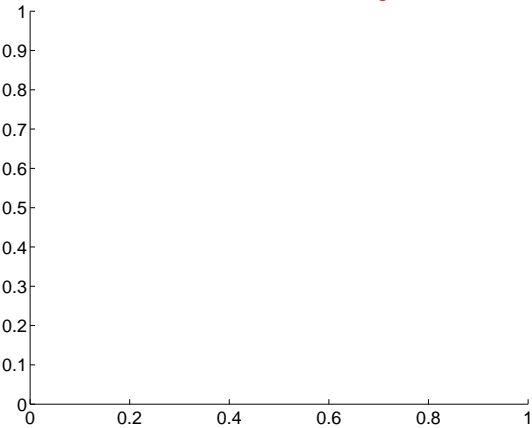
Q9 no difference image



Q9 no OOT image



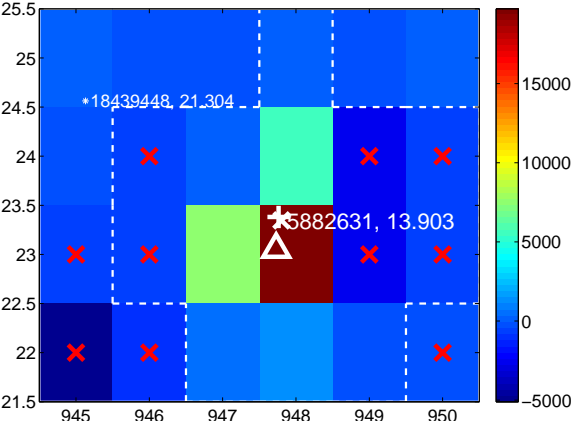
Q10 no difference image



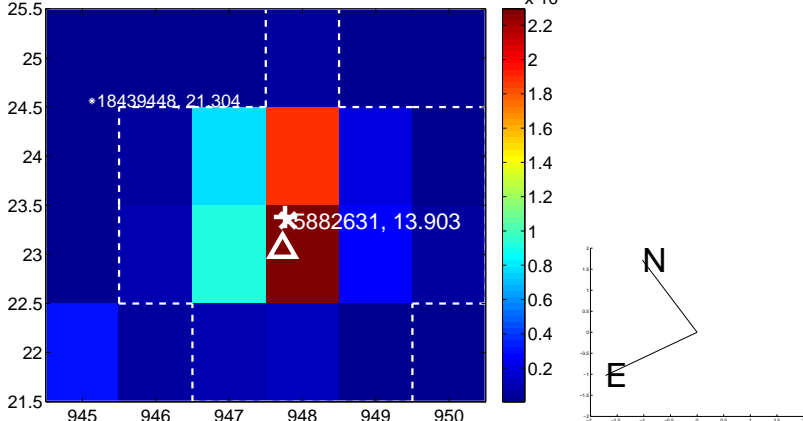
Q10 no OOT image



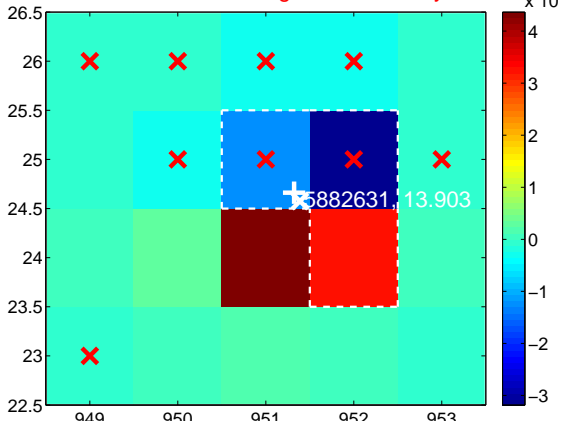
Q11 difference image



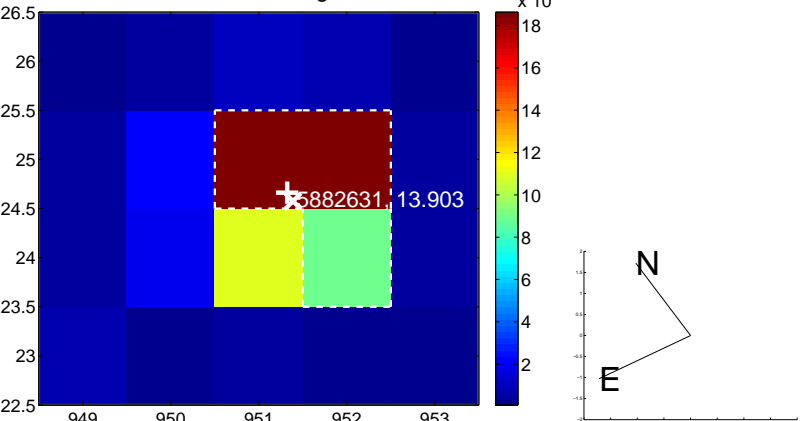
Q11 OOT image



Q12 difference image. Poor Quality

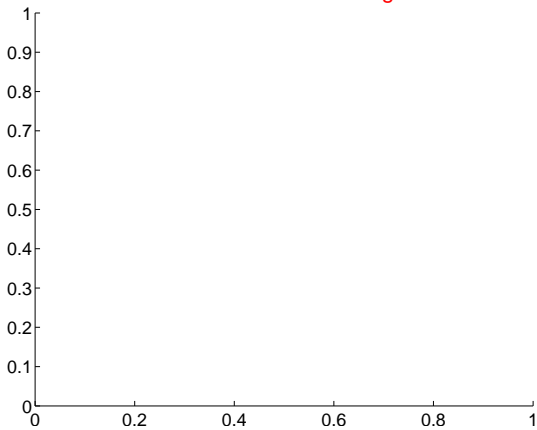


Q12 OOT image

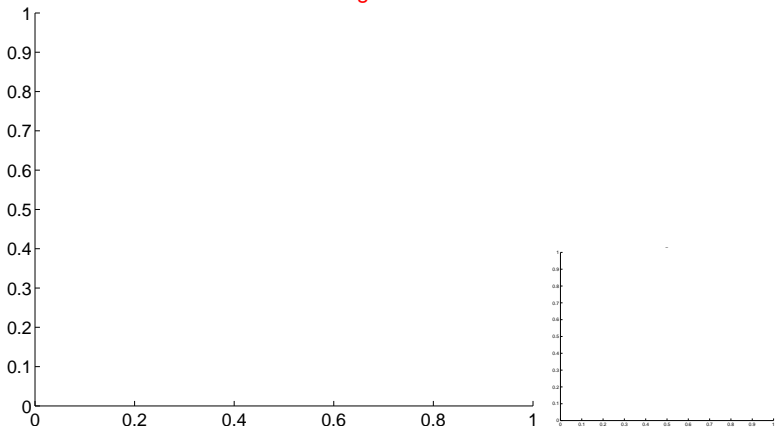


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

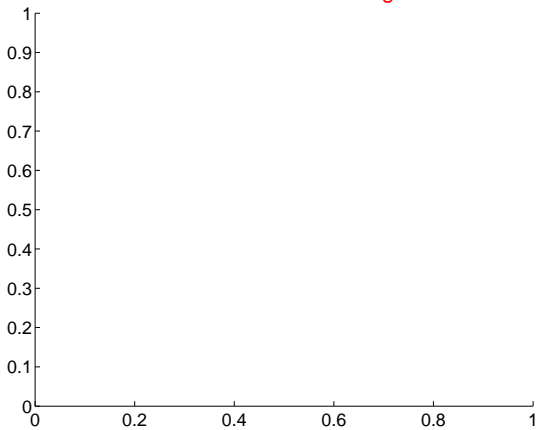
Q13 no difference image



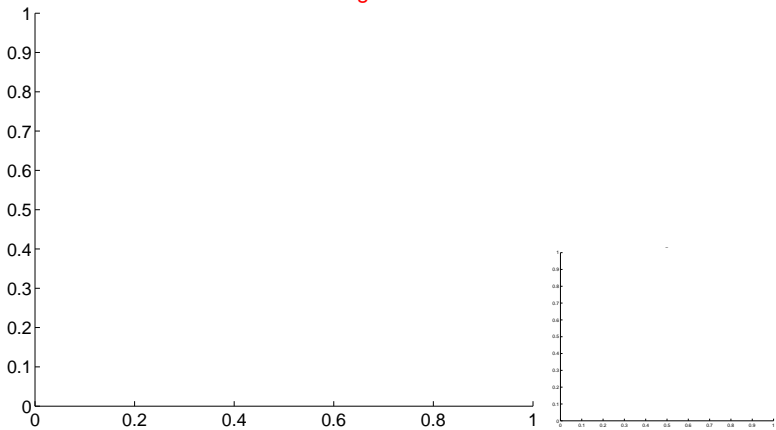
Q13 no OOT image



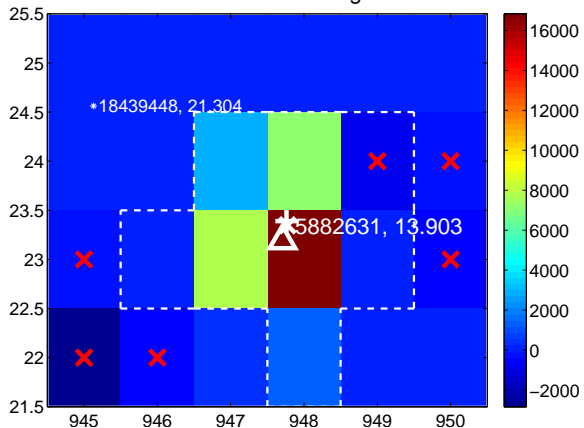
Q14 no difference image



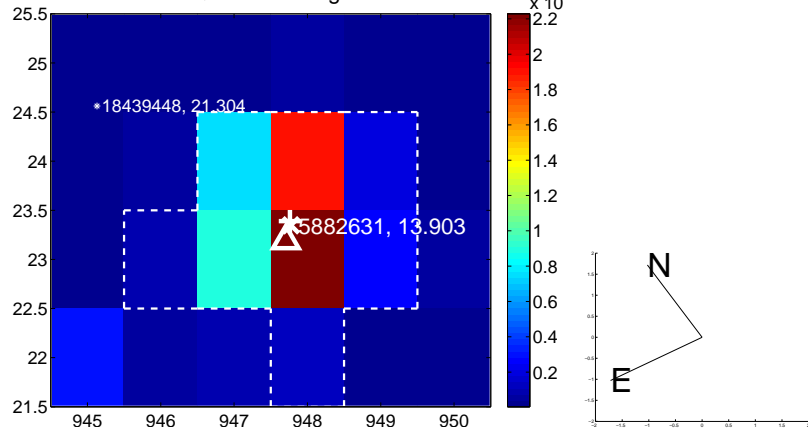
Q14 no OOT image



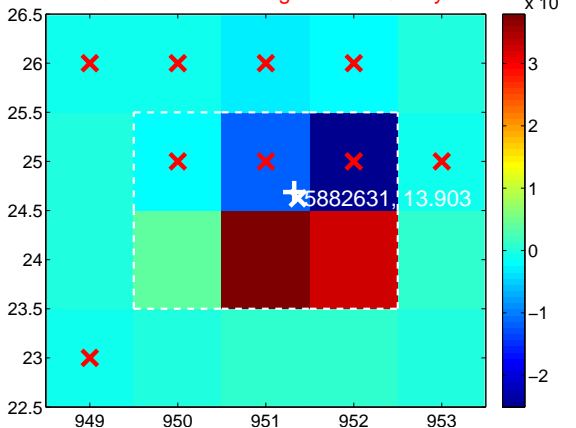
Q15 difference image



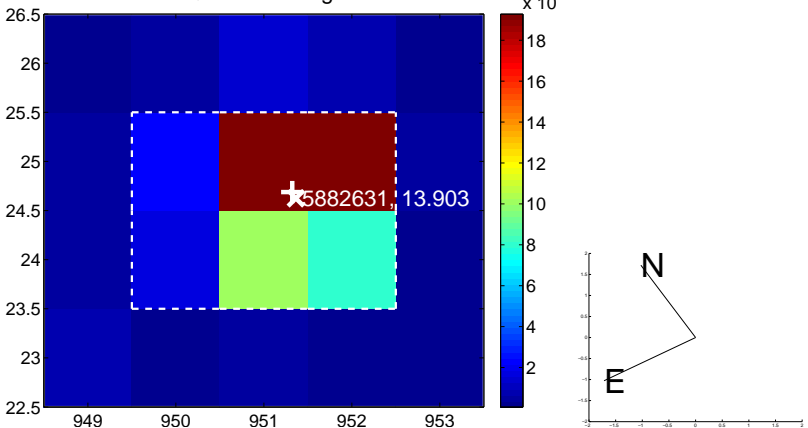
Q15 OOT image



Q16 difference image. Poor Quality

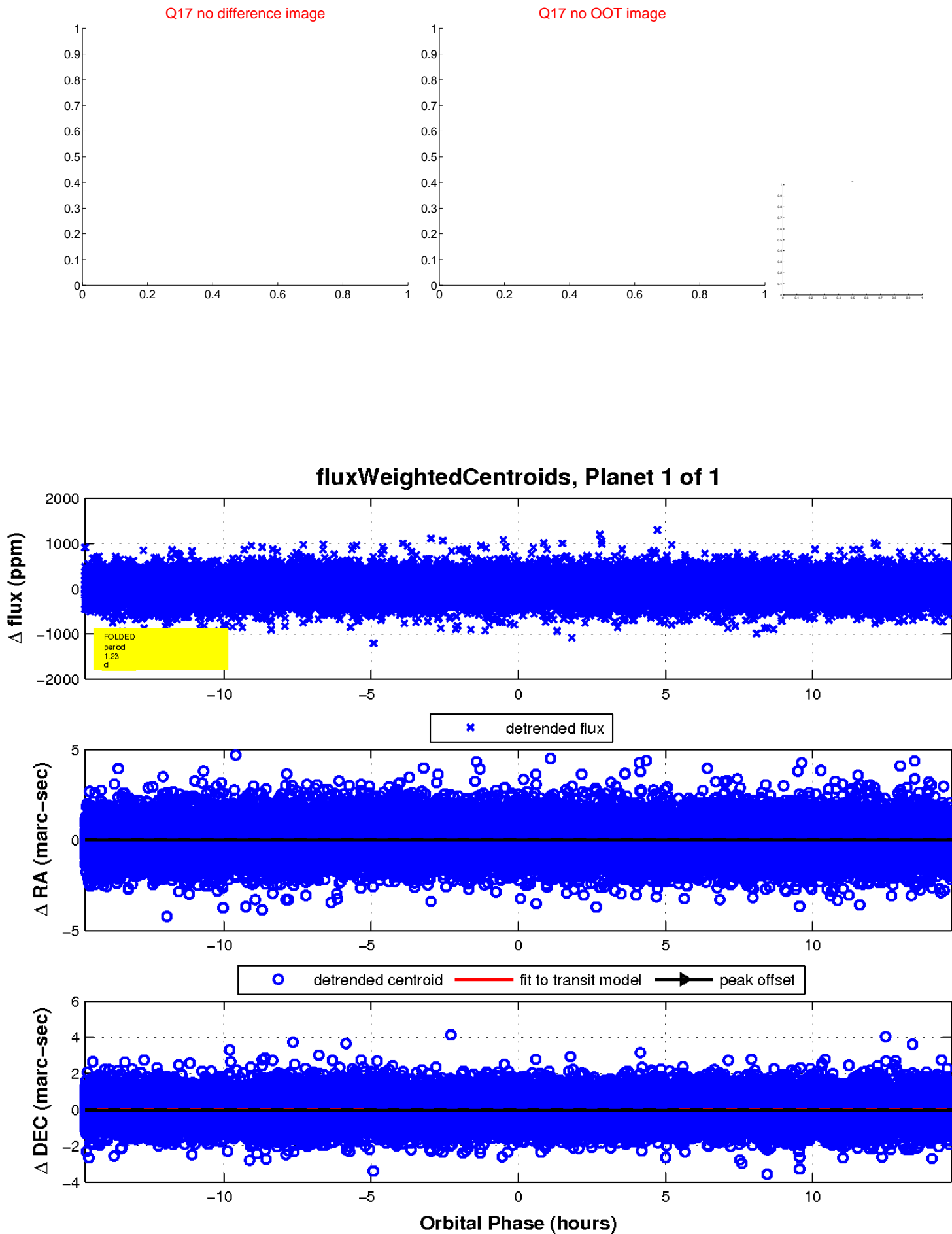


Q16 OOT image





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



UKIRT Image

Declination

