

# KIC 011081151

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011081151-01	OBS	No	349.091211	217.590421	314.3	13.113	7.2	6.5	1.02	6137	1.89	1.32

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011081151-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

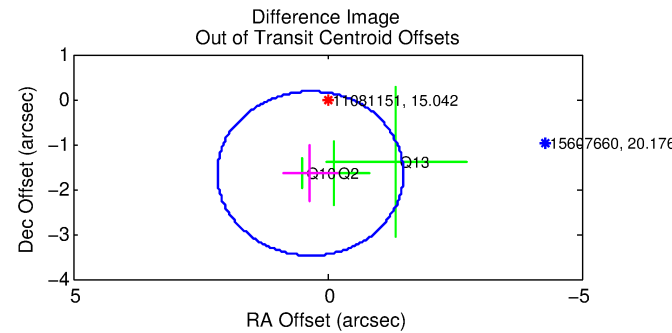
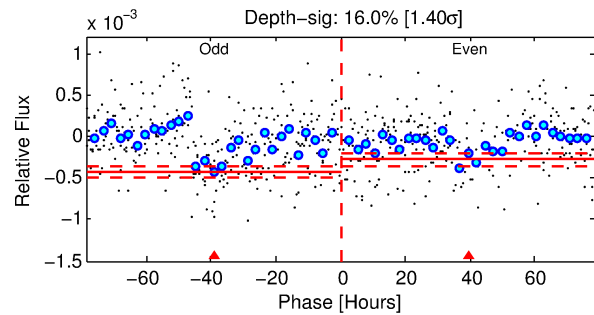
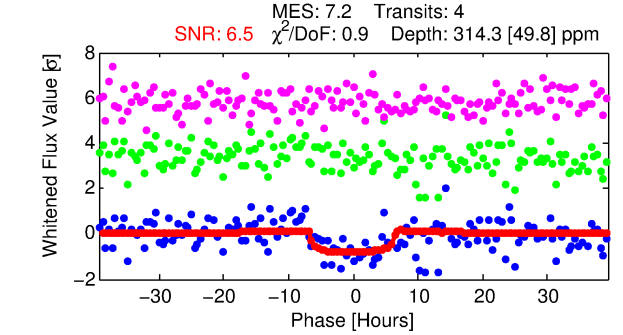
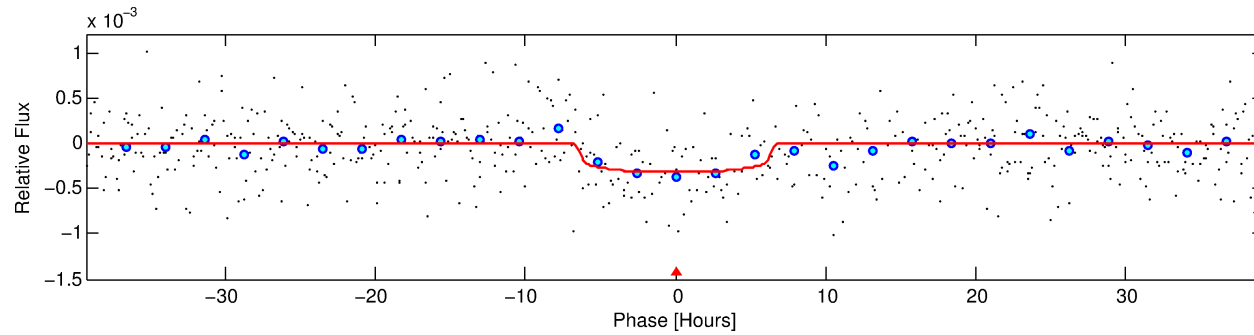
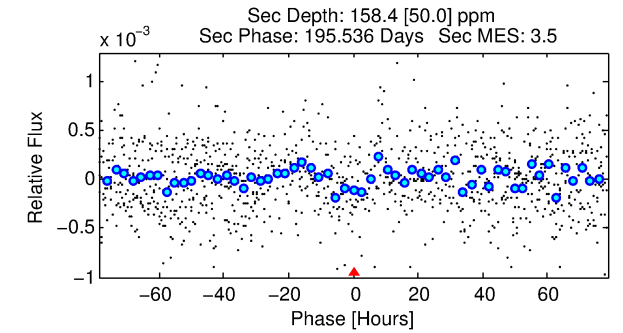
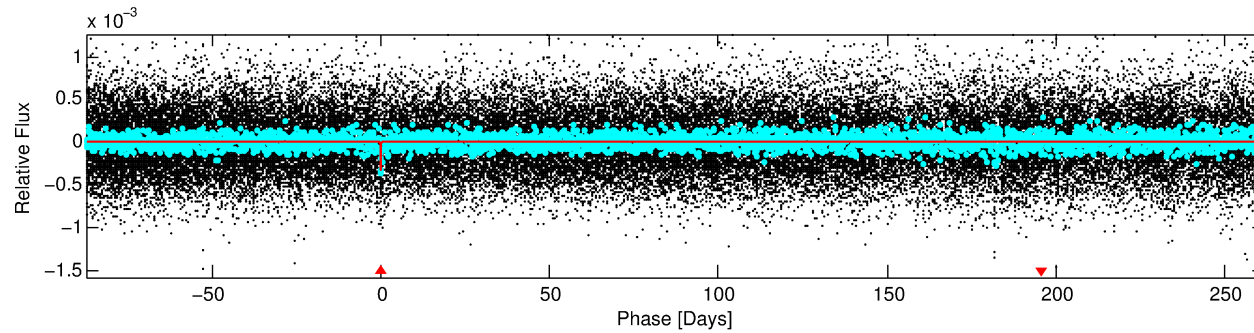
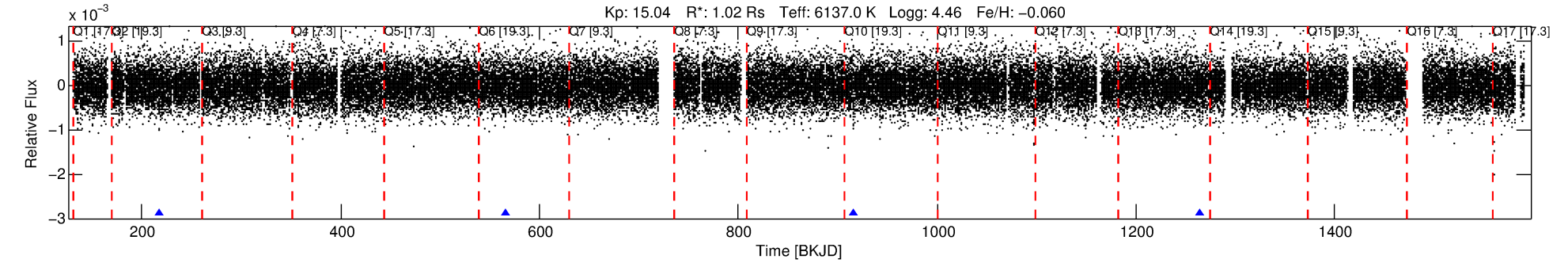
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011081151-01

No Significant Match Found

# DV One-Page Summary

KIC: 11081151 Candidate: 1 of 1 Period: 349.091 d



## DV Fit Results:

Period = 349.09121 [0.01181] d  
Epoch = 217.5904 [0.0245] BKJD  
Rp/R\* = 0.0170 [0.0137]  
a/R\* = 165.51 [656.70]  
b = 0.61 [4.11]  
Seff = 1.32 [0.50]  
Teff = 273 [26] K  
Rp = 1.89 [1.62] Re  
a = 0.9988 [0.2420] AU  
Ag = 24373.32 [41049.13] [0.59 $\sigma$ ]  
Teffp = 5280 [2181] K [2.30 $\sigma$ ]

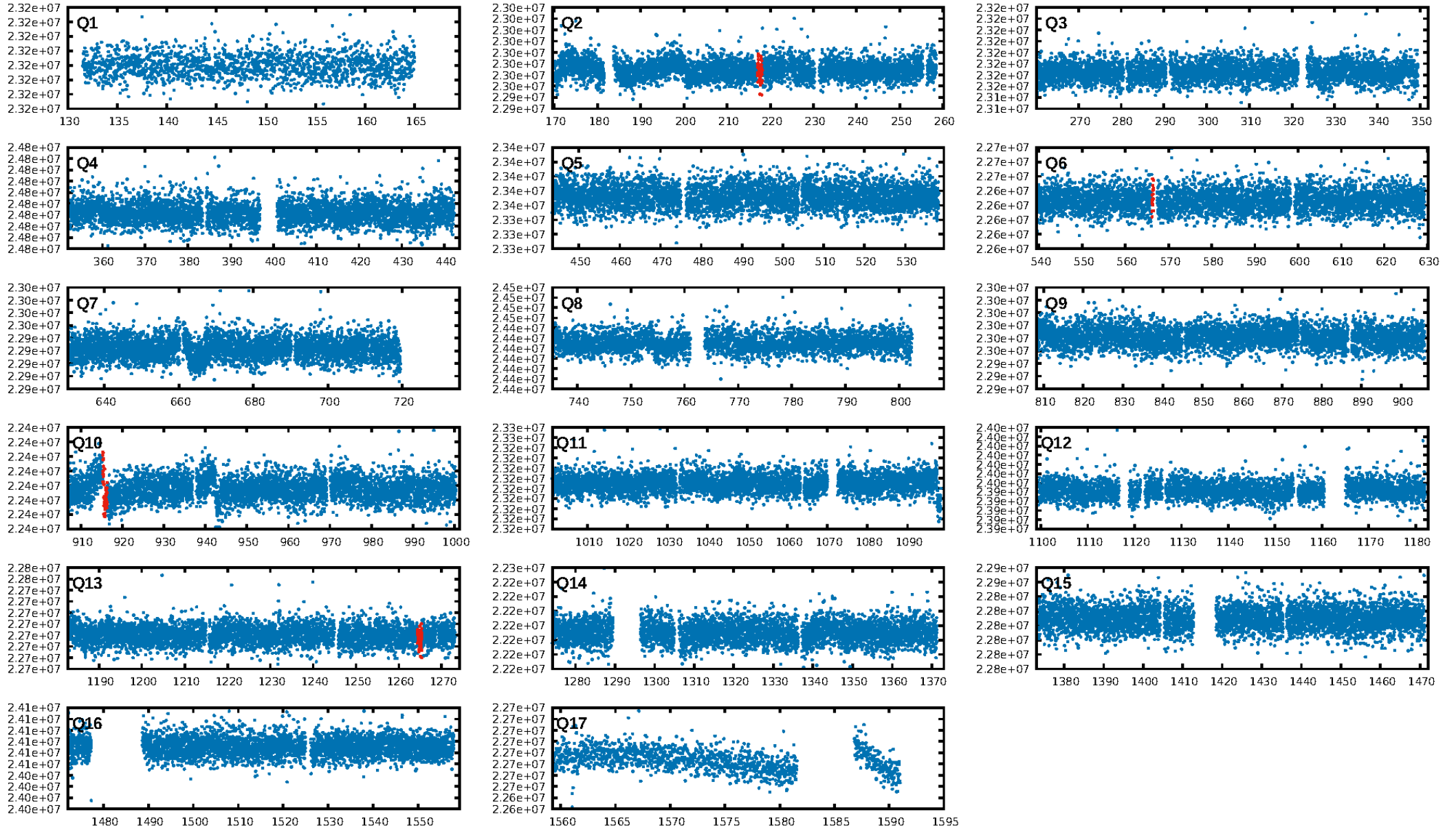
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 4.5%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.12e-09**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 73.73  
Centroid-sig: 0.6%  
Centroid-so: 4.868 arcsec [2.37 $\sigma$ ]  
OotOffset-rm: 1.686 arcsec [2.77 $\sigma$ ]  
KicOffset-rm: 1.780 arcsec [2.91 $\sigma$ ]  
OotOffset-st: 2/0/0/1 [3]  
KicOffset-st: 2/0/0/1 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [3/3]

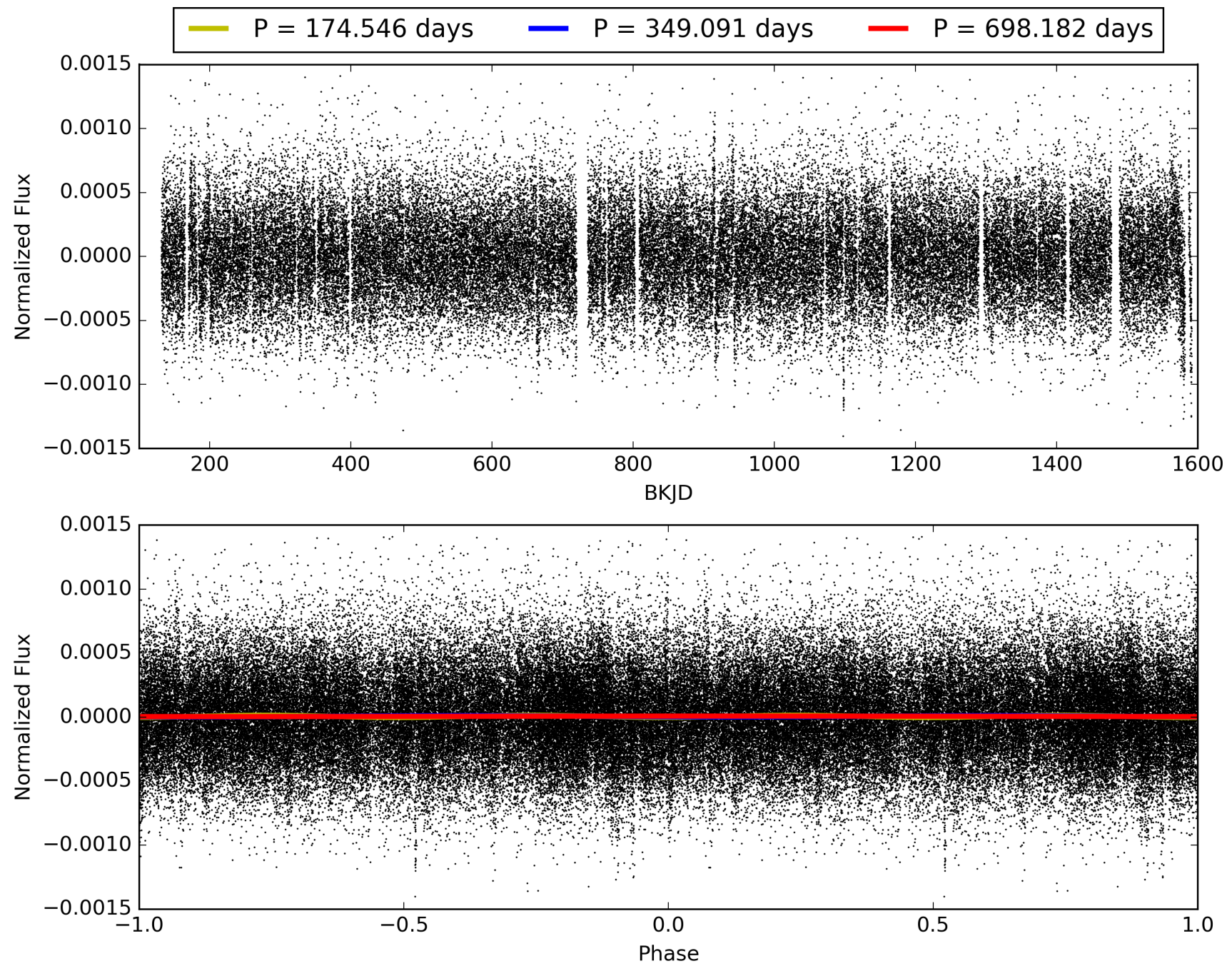
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:52:49 Z

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

# TCE 011081151-01, PDC Light Curves

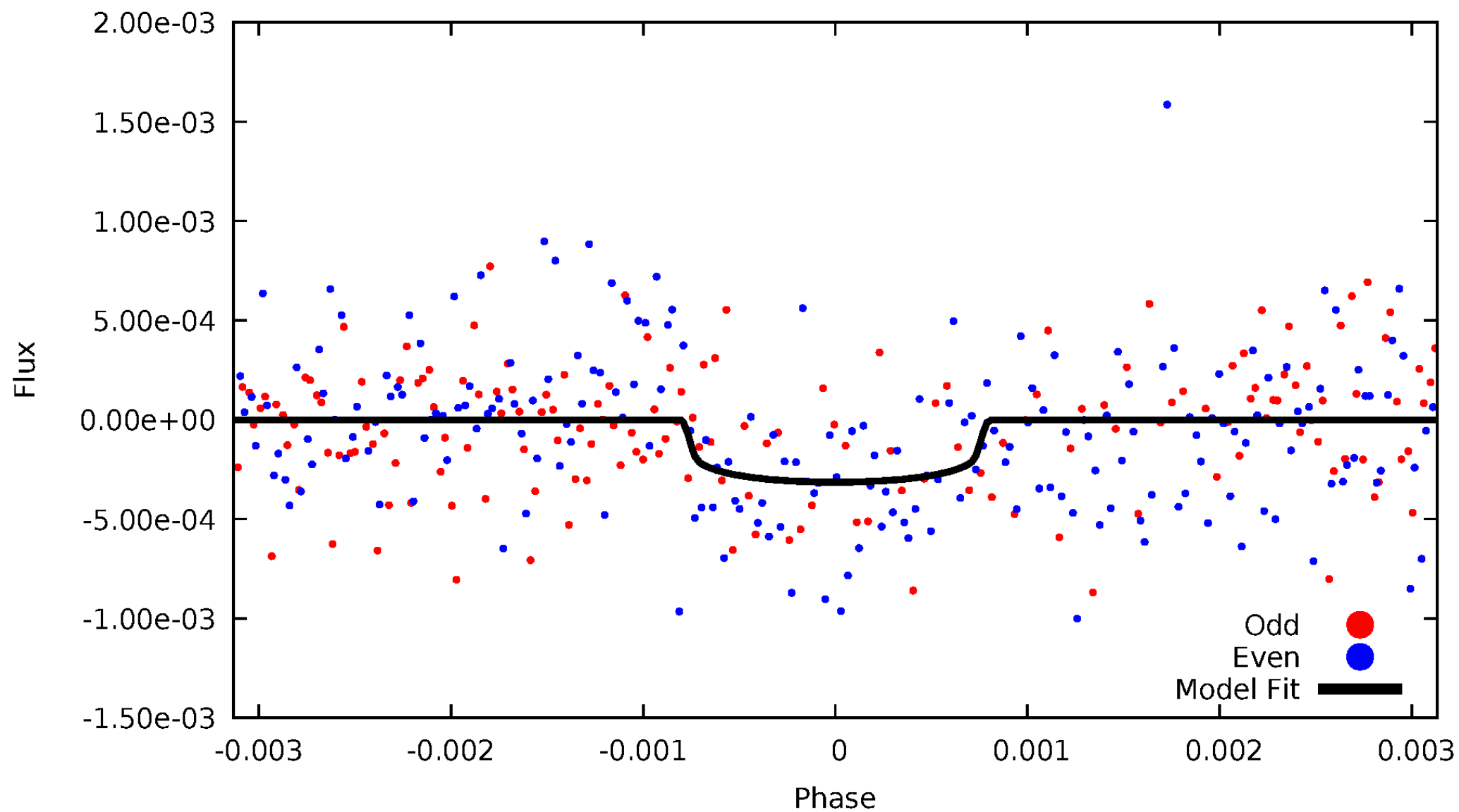


# TCE 011081151-01



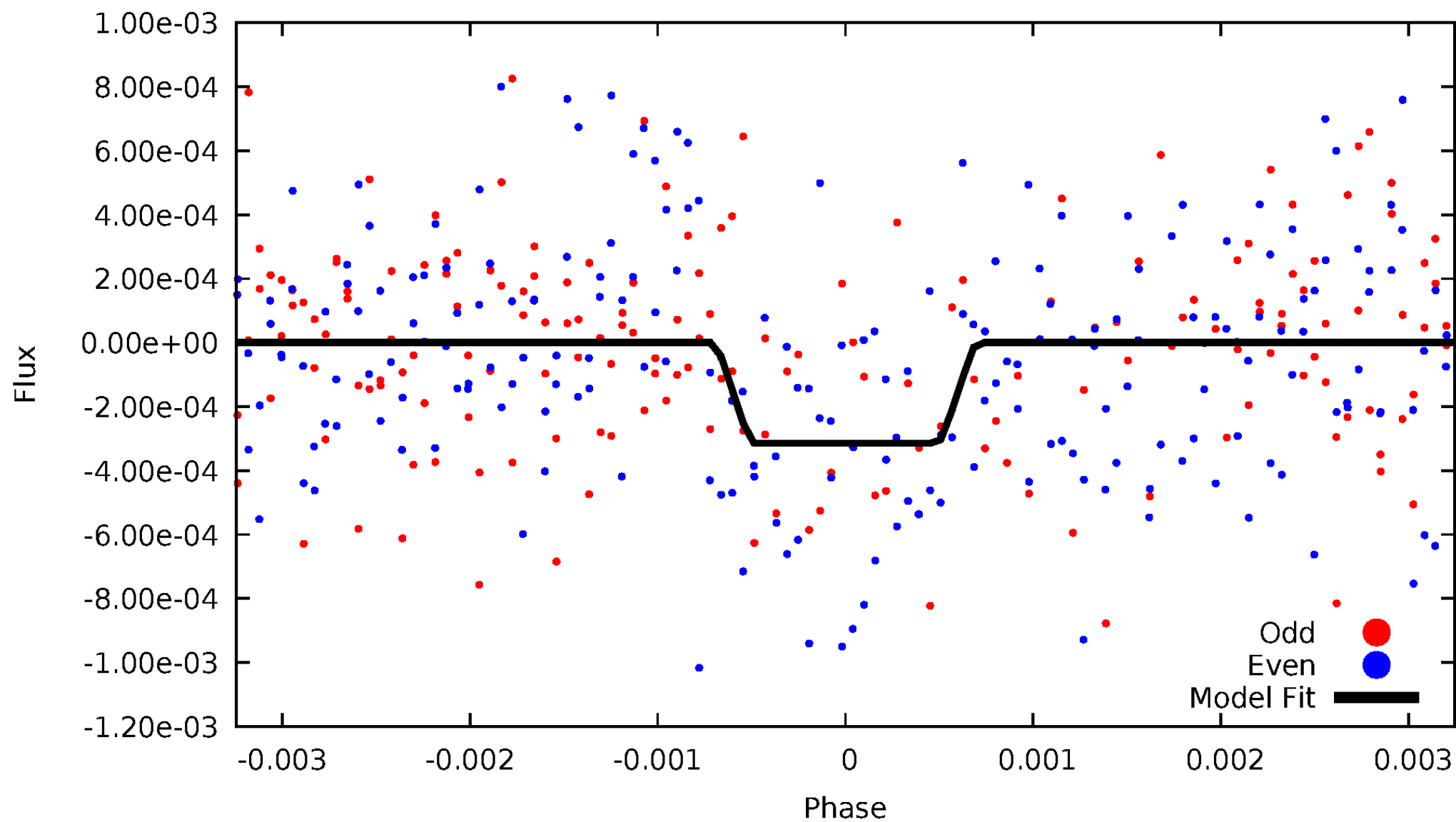
# DV Odd/Even

TCE 011081151-01



# ALT Odd/Even

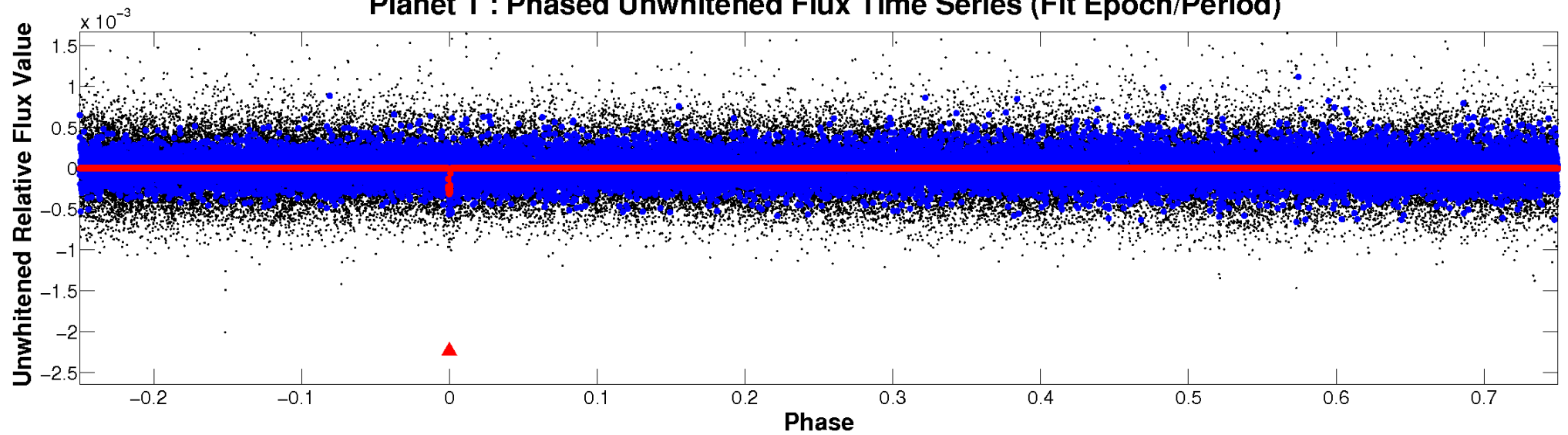
TCE 011081151-01



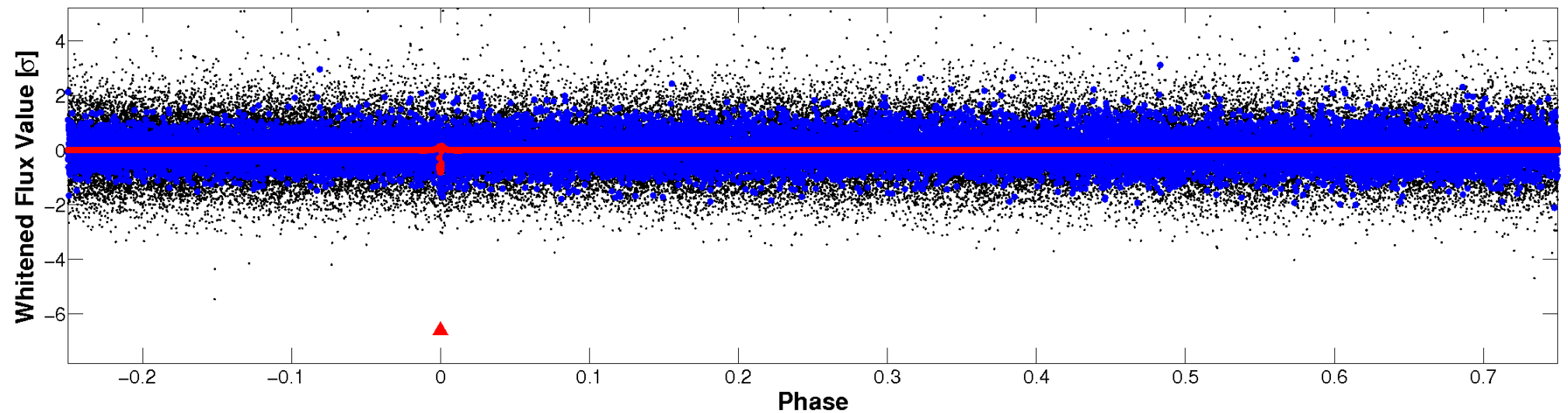


# Non-Whitened Vs. Whitened Light Curve

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

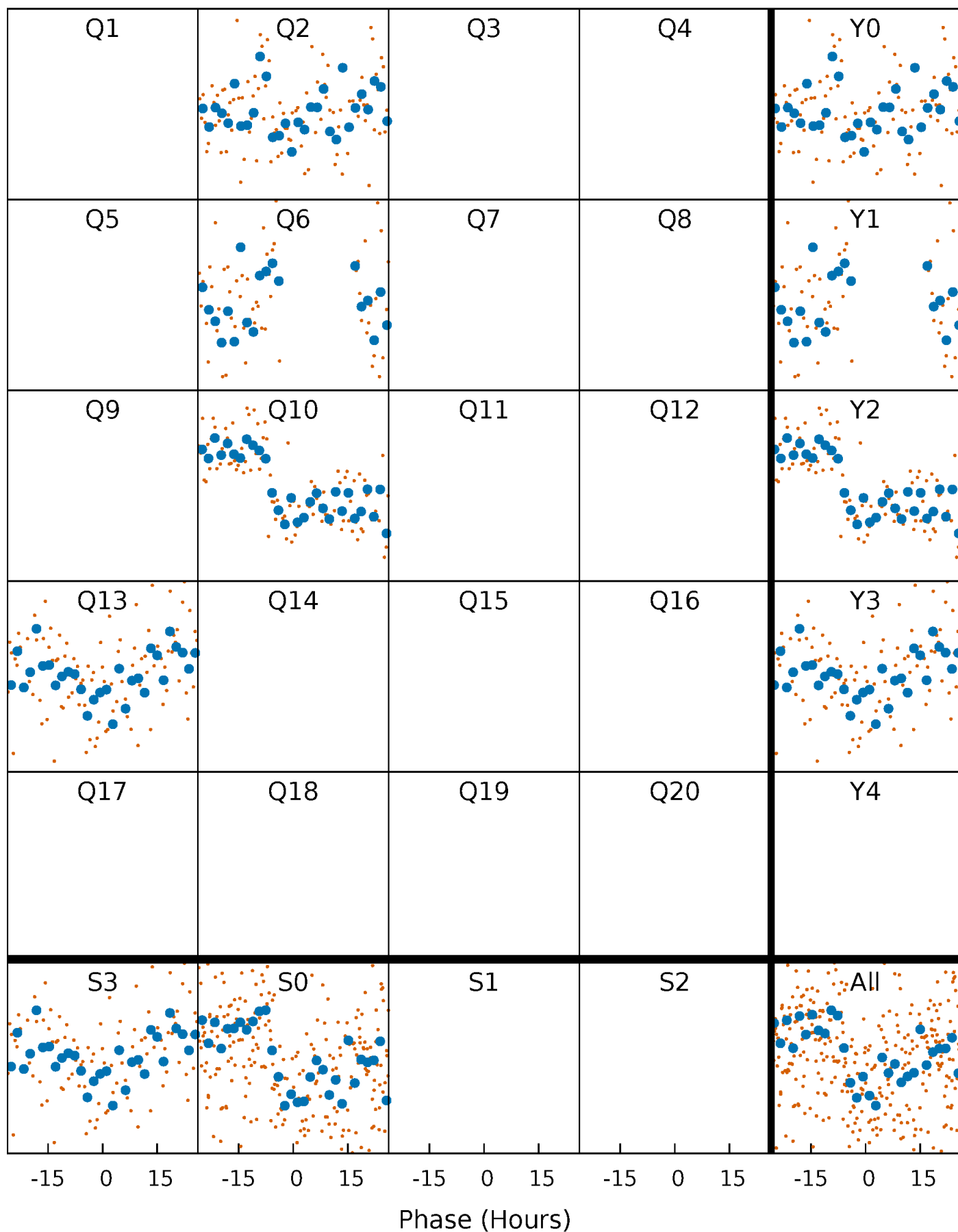


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

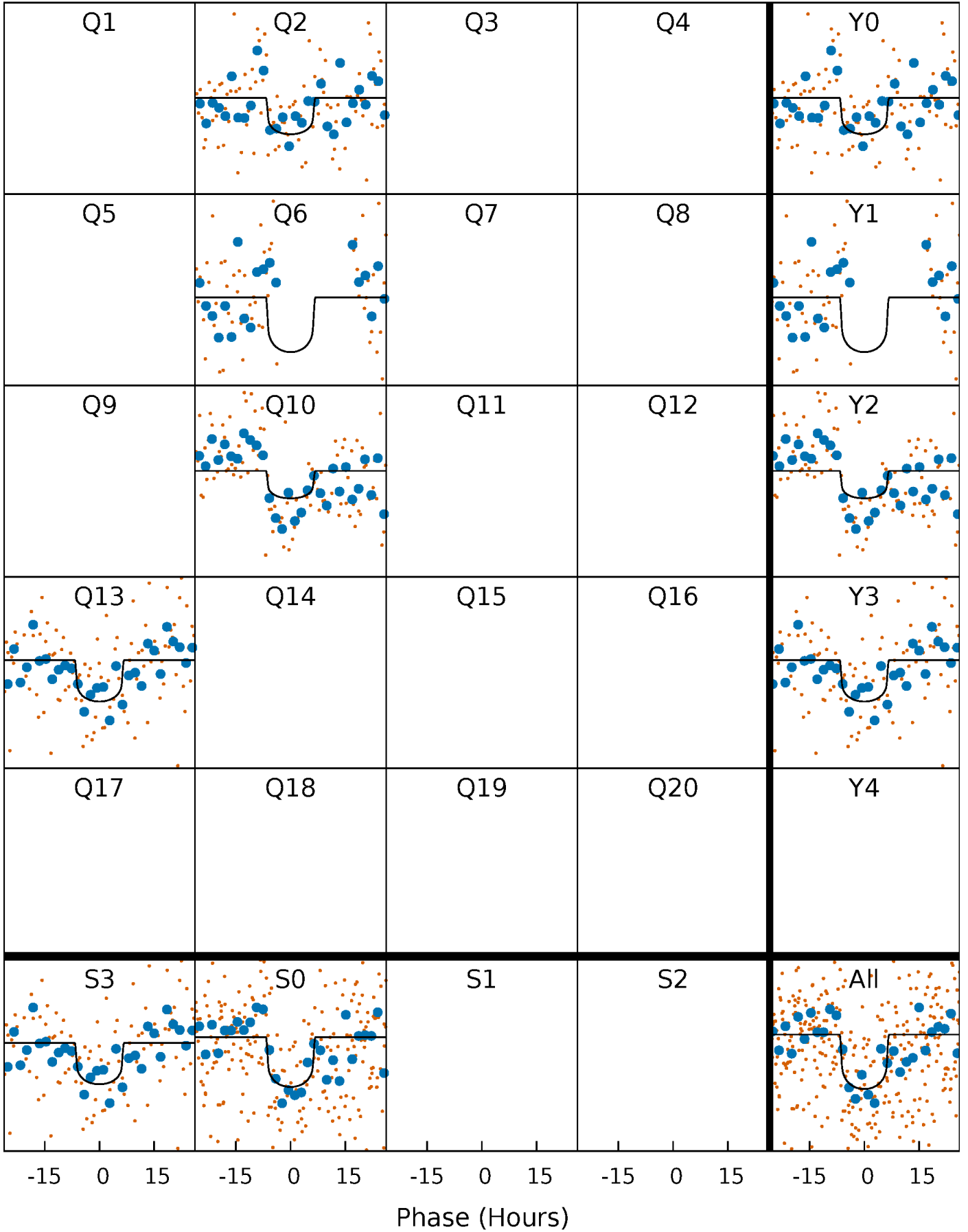
TCE 011081151-01 P=349.091211 Days  $T_0=217.590421$  (BKJD)





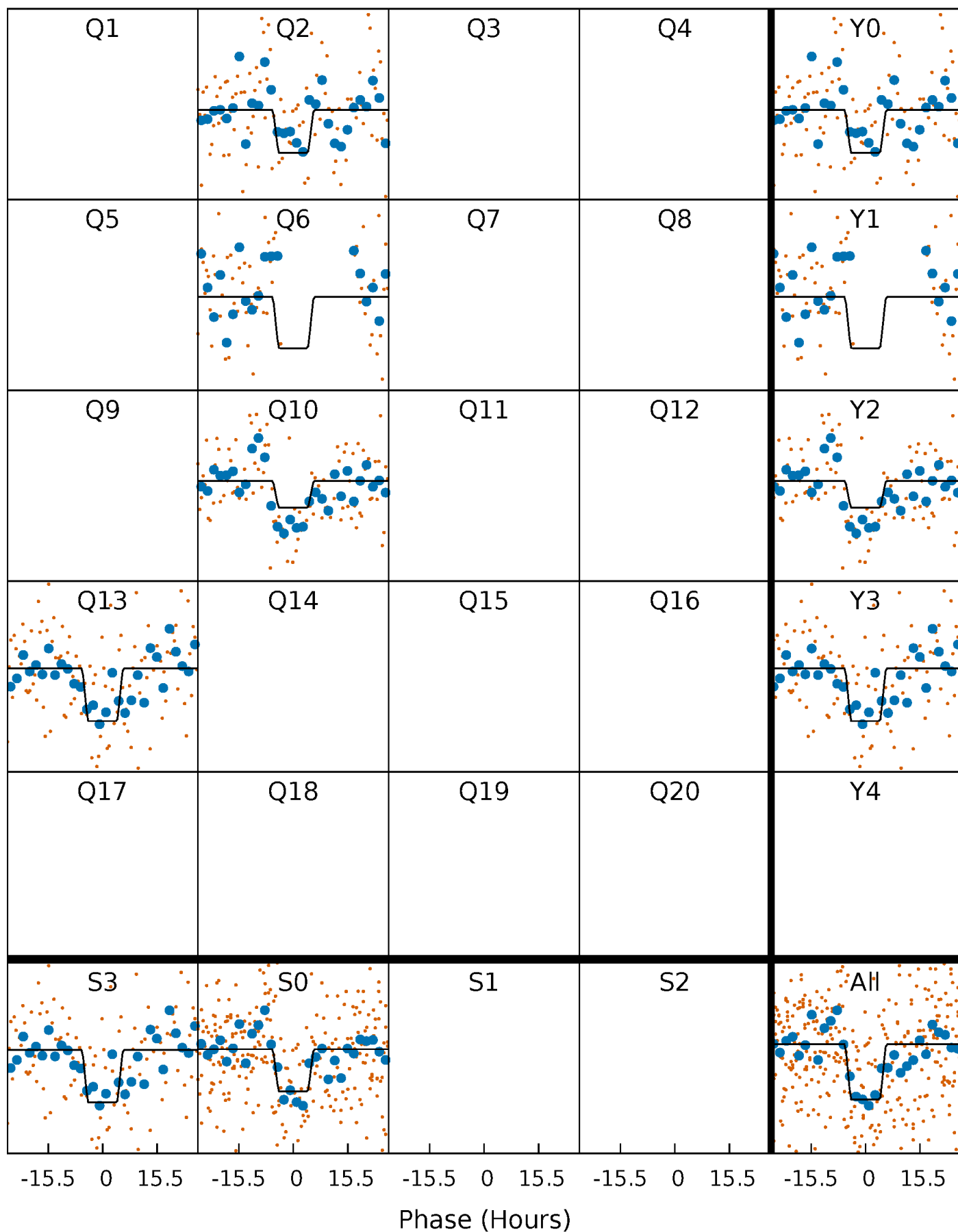
# DV Quarter-Phased Transit Curves

TCE 011081151-01 P=349.091211 Days  $T_0=217.590421$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

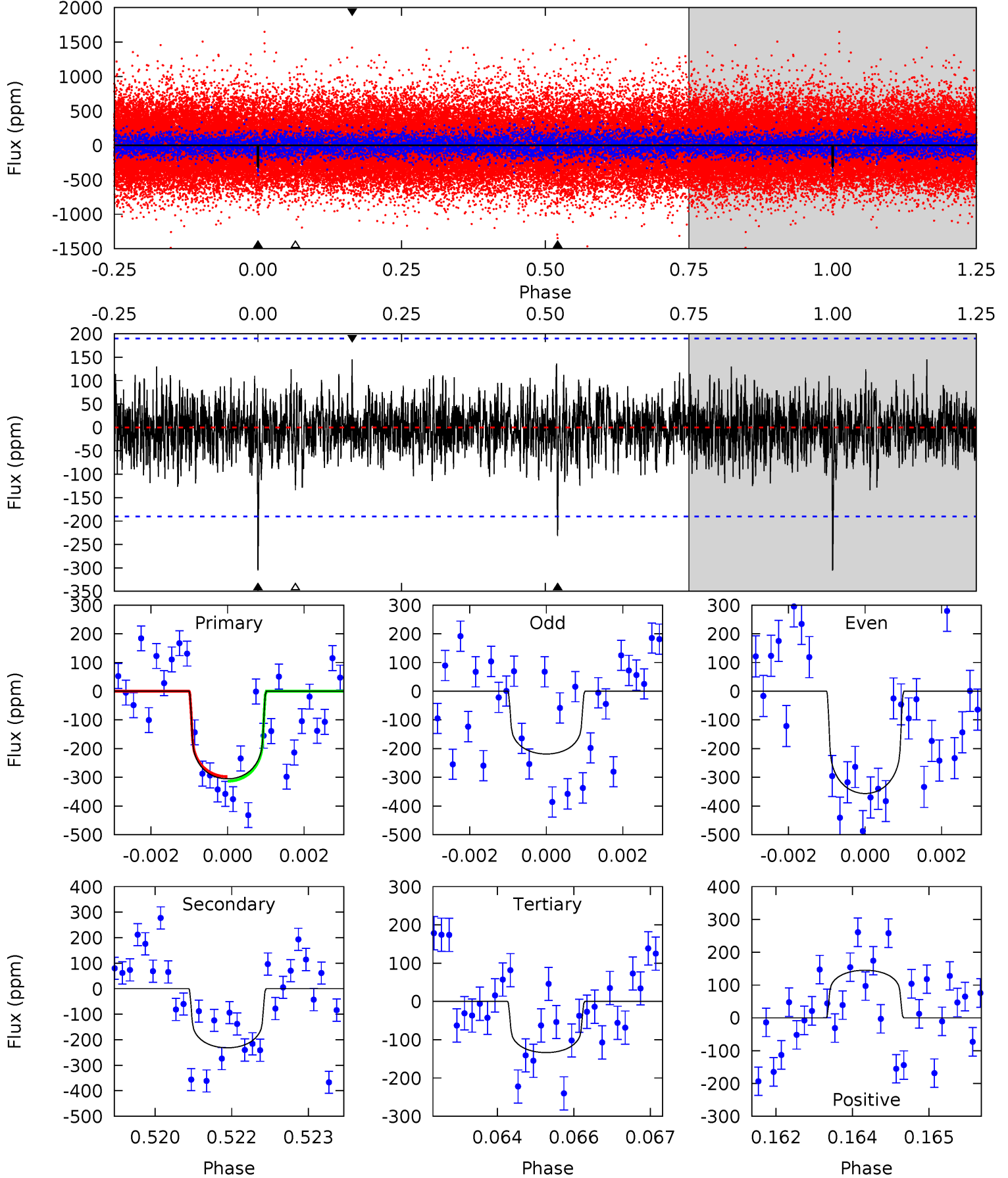
TCE 011081151-01 P=349.086939 Days  $T_0=217.587119$  (BKJD)



# DV Model-Shift Uniqueness Test

011081151-01, P = 349.091211 Days, E = 217.590421 Days

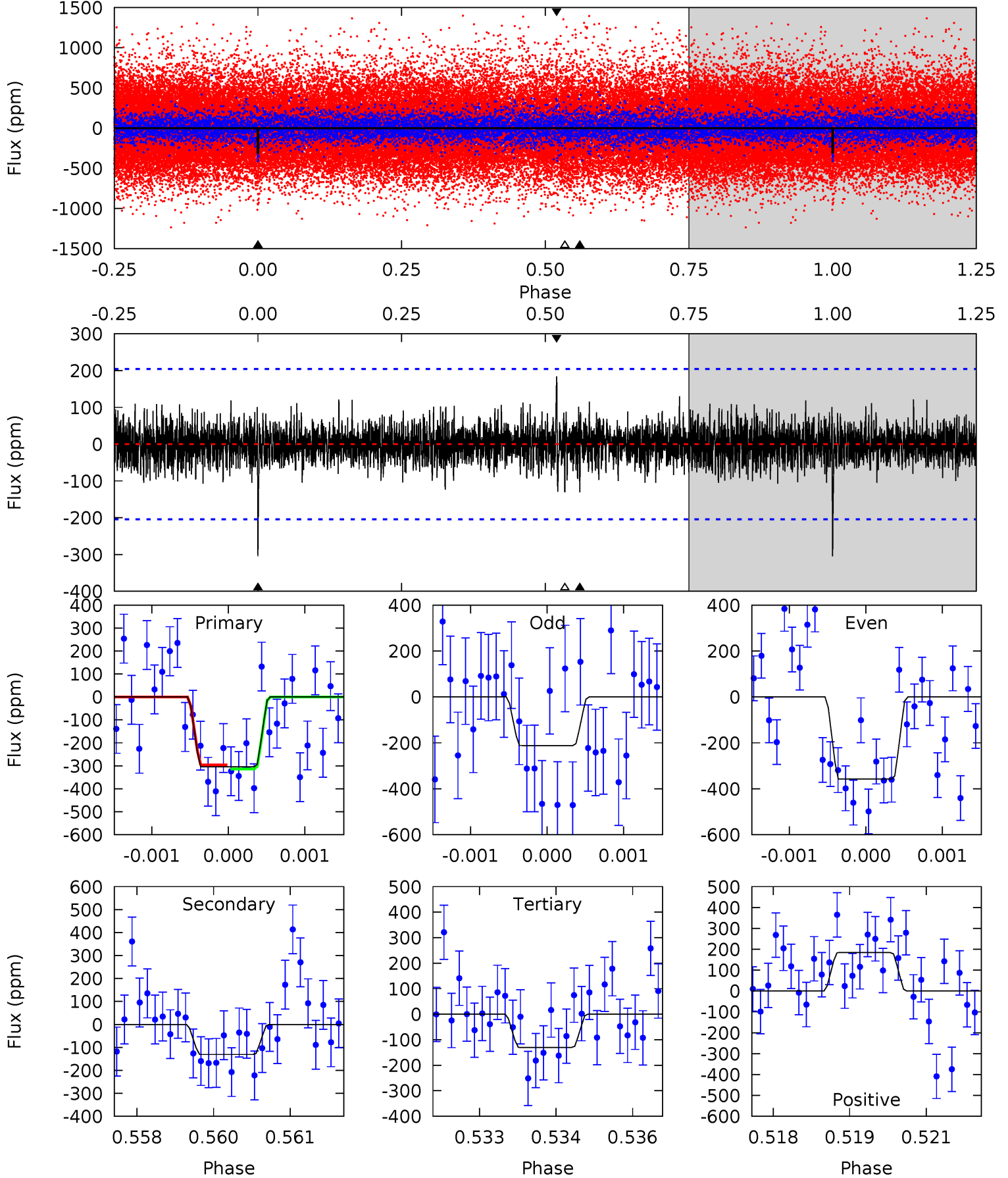
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.62	6.54	3.77	4.10	5.37	3.16	1.14	4.85	4.52	2.77	2.44	1.89	0.76	0.32	0.22



# Alt Model-Shift Uniqueness Test

011081151-01, P = 349.086939 Days, E = 217.587119 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
8.05	3.46	3.44	4.87	5.40	3.21	0.96	4.61	3.19	0.02	-1.41	1.87	0.81	0.38	0.24



### Stellar Parameters For KIC 011081151

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6137^{+171}_{-214}$	$4.460^{+0.052}_{-0.195}$	$-0.060^{+0.250}_{-0.350}$	$1.018^{+0.291}_{-0.104}$	$1.086^{+0.137}_{-0.150}$	$1.452^{+0.388}_{-0.739}$
	+3%/-3%	+1%/-4%	+417%/-583%	+29%/-10%	+13%/-14%	+27%/-51%
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 011081151-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-232 \pm 35$	$2.17^{+1.62}_{-1.32}$	$389^{+26}_{-19}$	$5527^{+4252}_{-1128}$	$26186^{+160144}_{-17226}$
Alt.	$-131 \pm 38$	$2.23^{+1.47}_{-1.30}$	$390^{+27}_{-17}$	$4816^{+2581}_{-914}$	$13865^{+60256}_{-9236}$

$T_{max}$  = 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

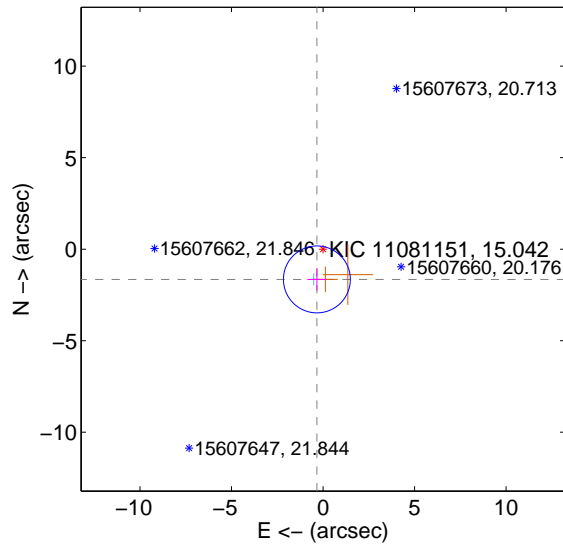
Supplemental centroid analysis for 011081151-01. Kepler magnitude: 15.04. Transit SNR 6.46

There are 1 quarters with good PRF difference image offsets

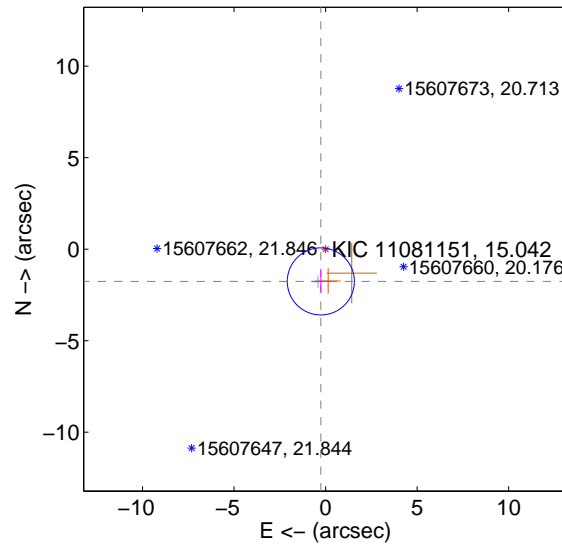
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.686 \pm 0.609$	2.77	$0.336 \pm 0.525$	$-1.652 \pm 0.613$
PRF-fit source offset from KIC position	$1.780 \pm 0.611$	2.91	$0.260 \pm 0.525$	$-1.761 \pm 0.613$
photometric centroid source offset	$4.87 \pm 2.05$	2.37	$-4.32 \pm 2.05$	$2.24 \pm 2.05$

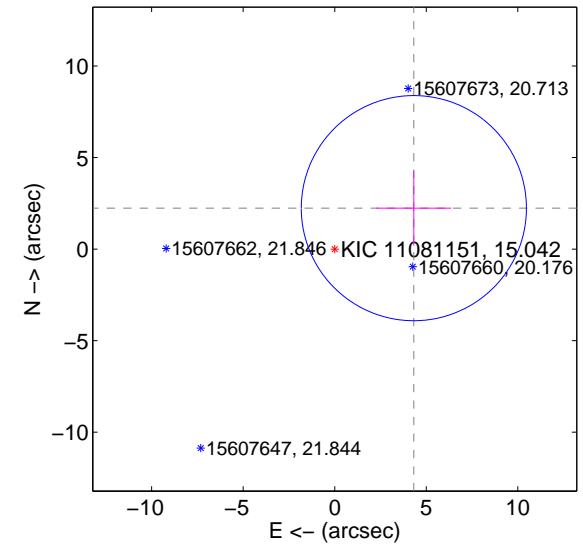
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



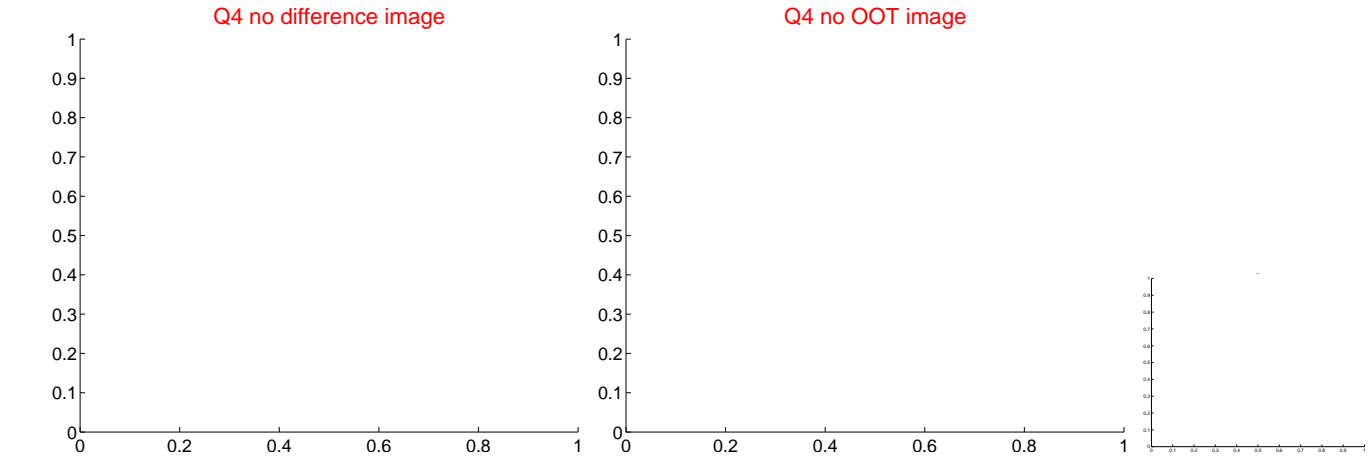
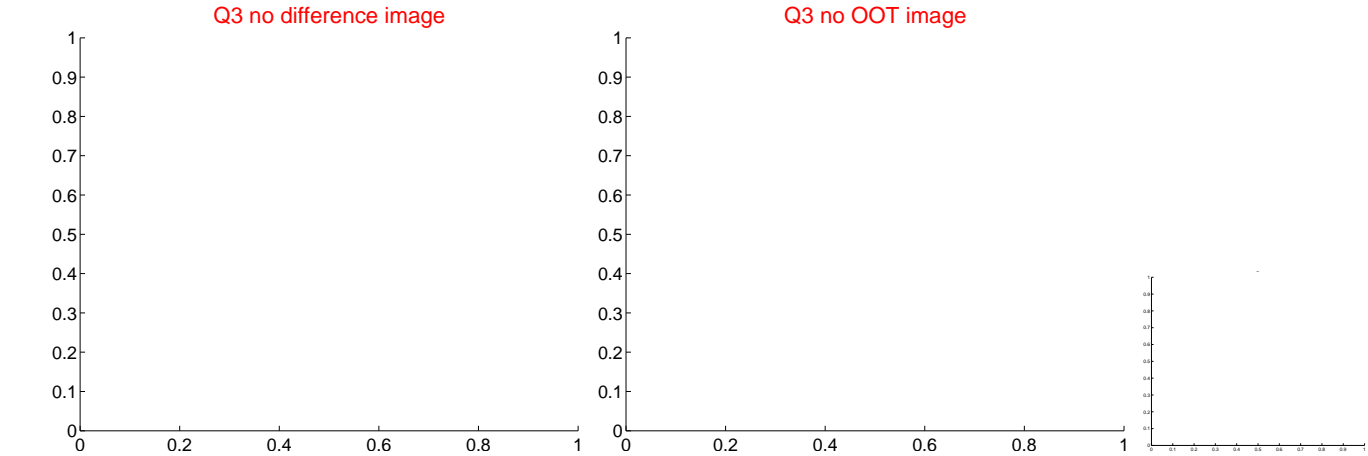
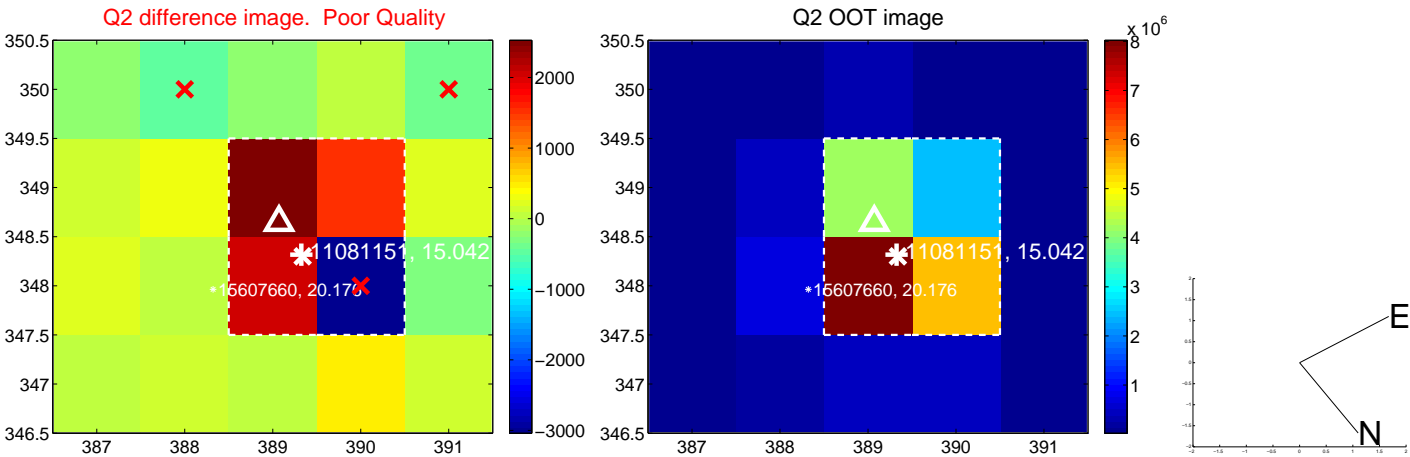
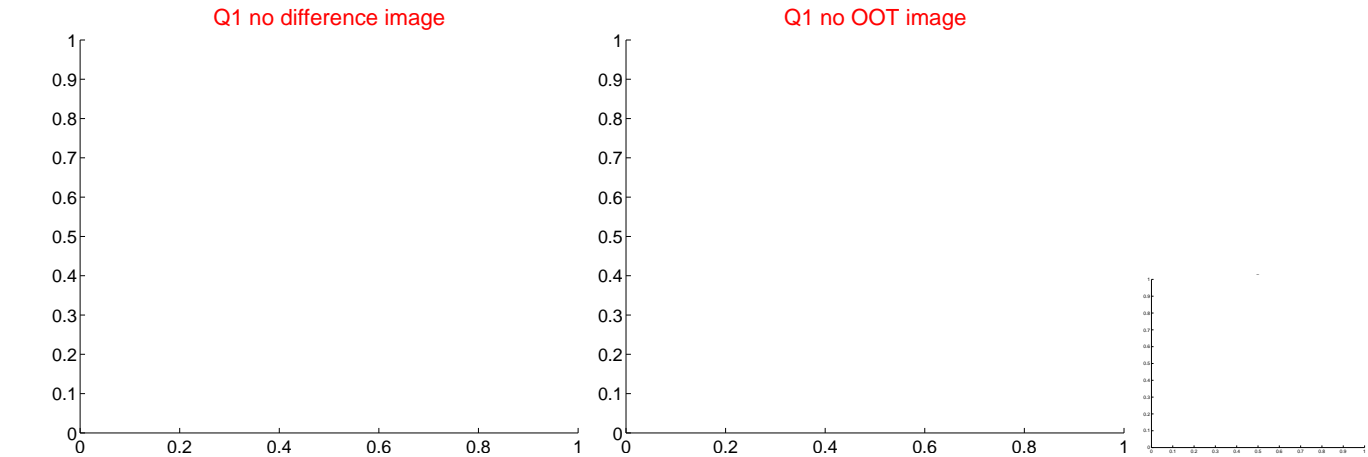
offset from photometric centroids



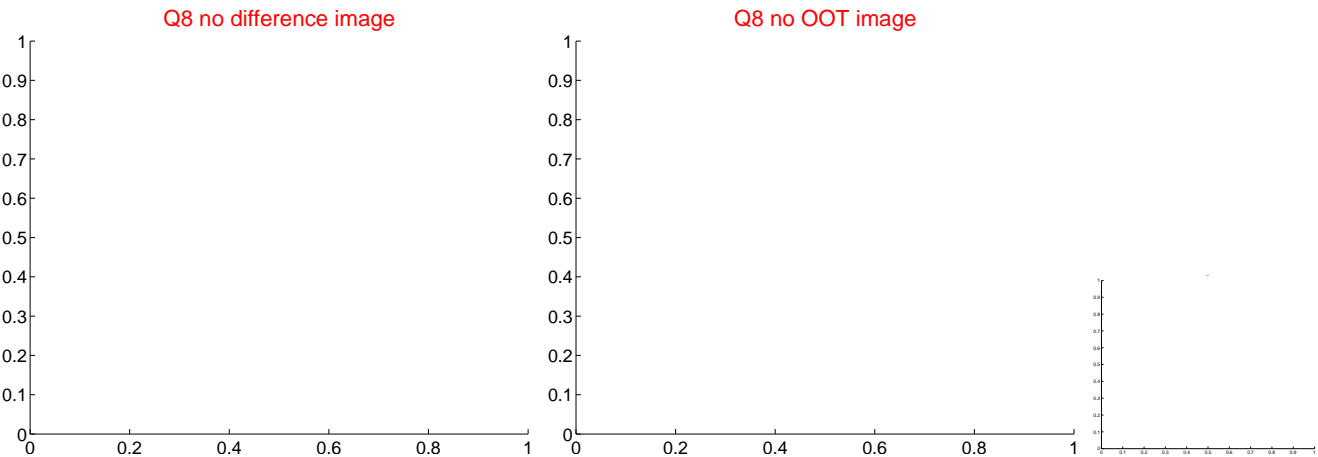
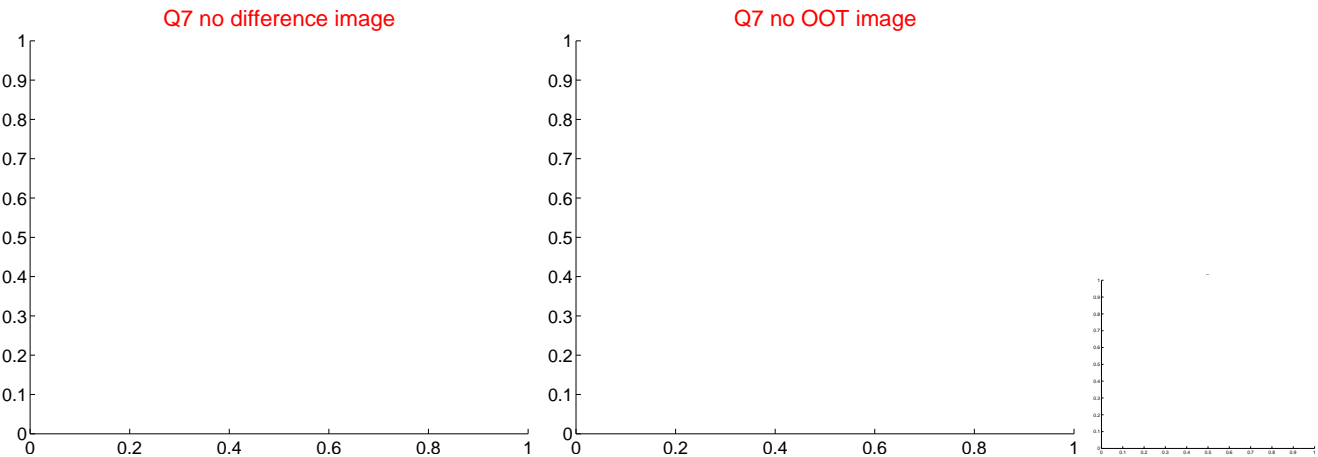
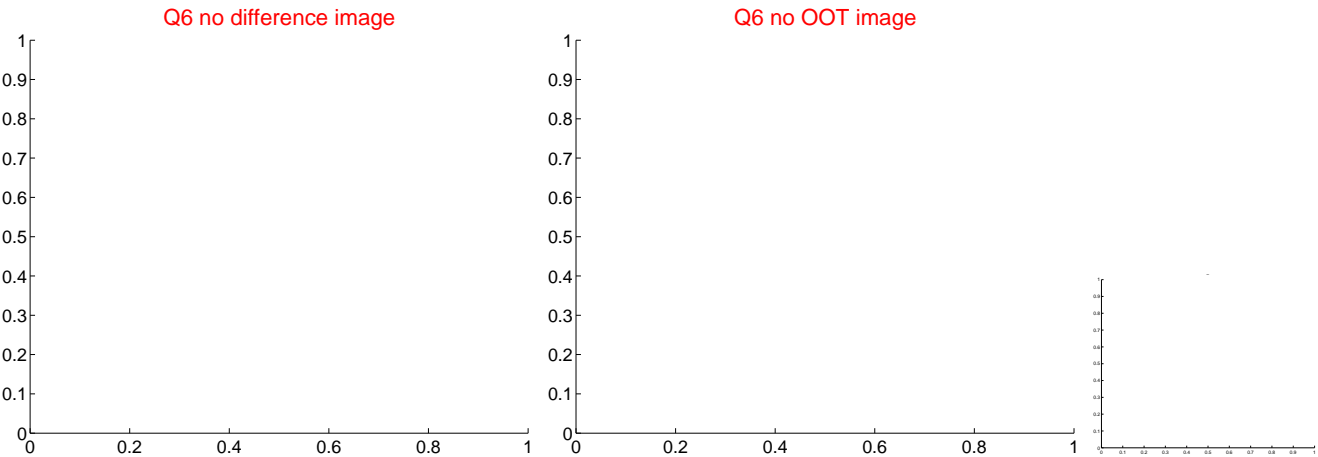
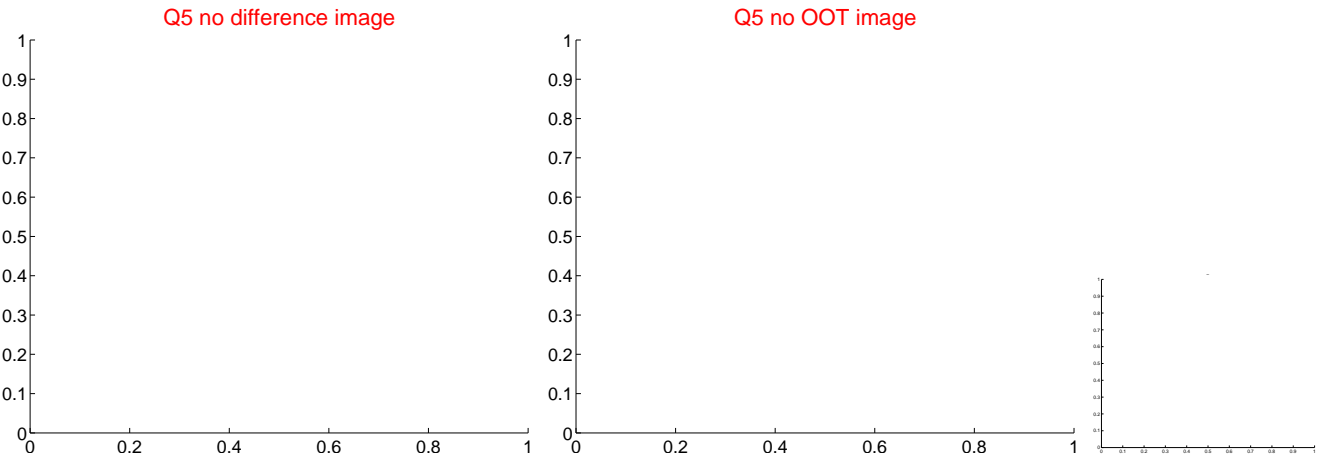
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

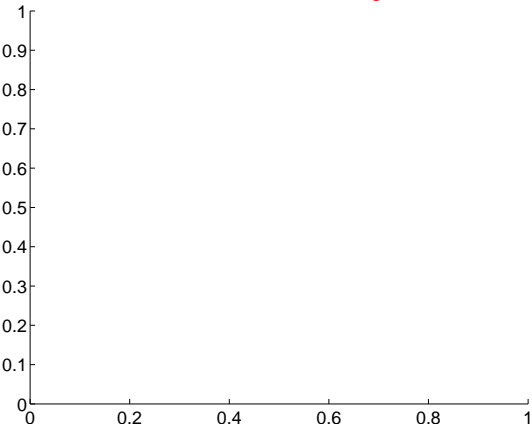


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

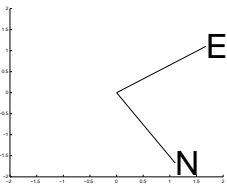
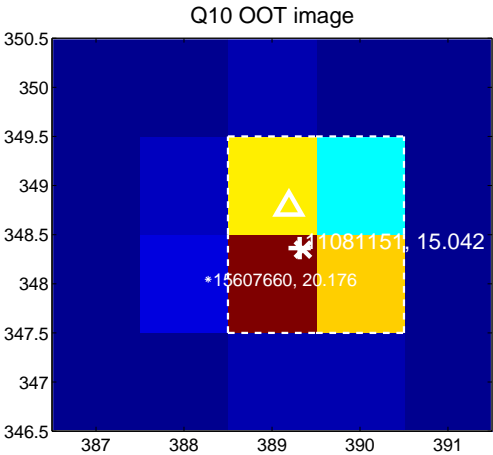
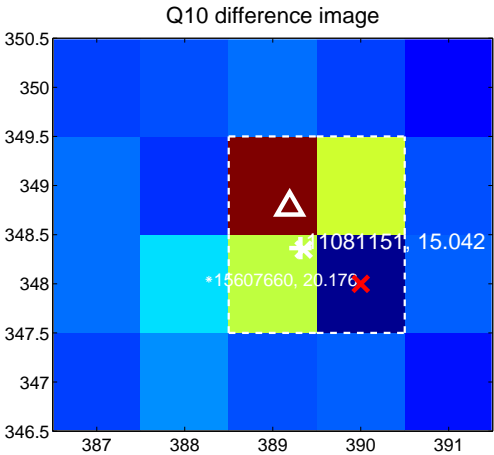
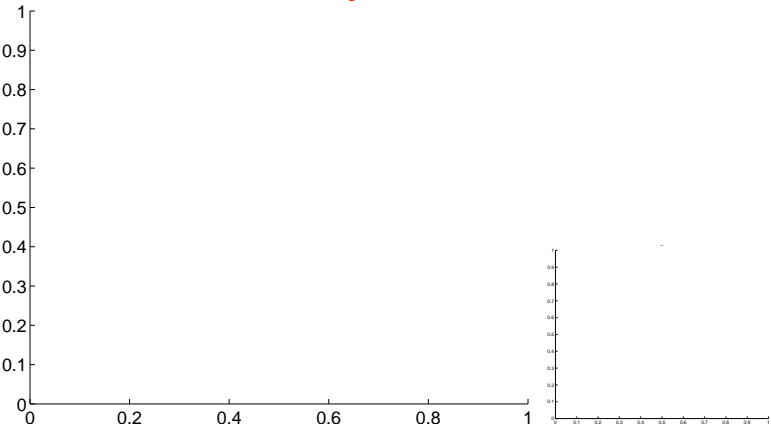


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

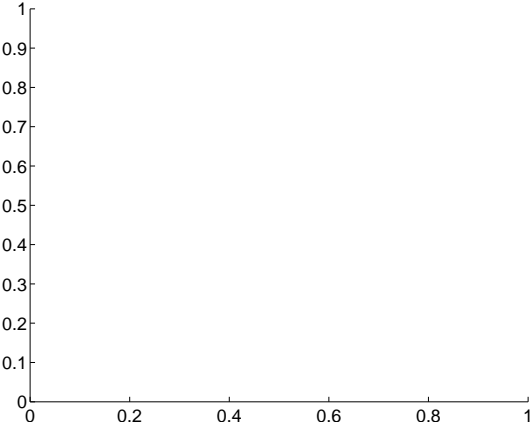
Q9 no difference image



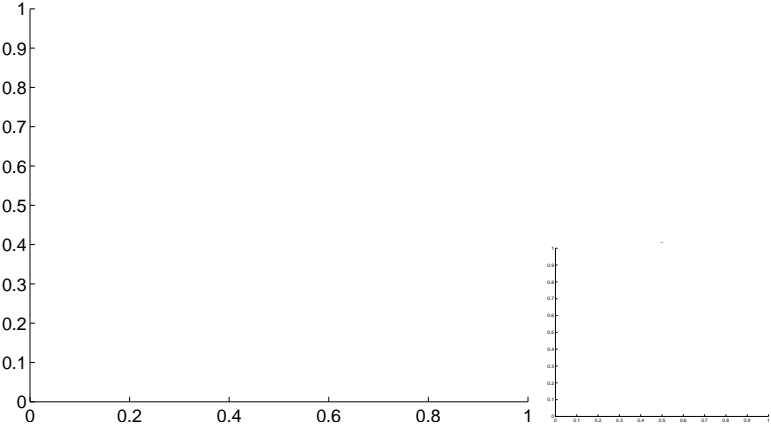
Q9 no OOT image



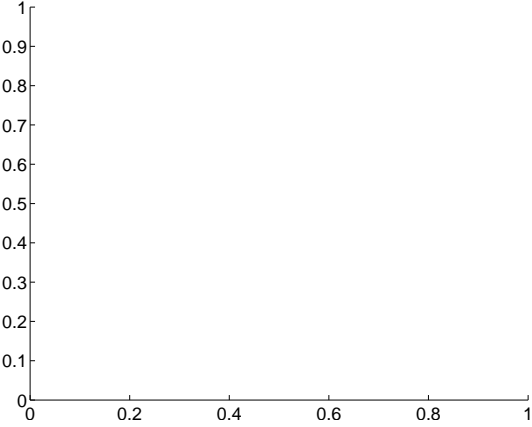
Q11 no difference image



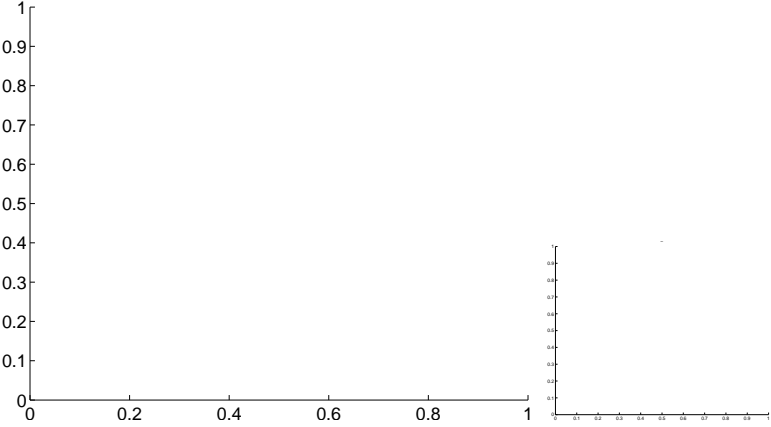
Q11 no OOT image



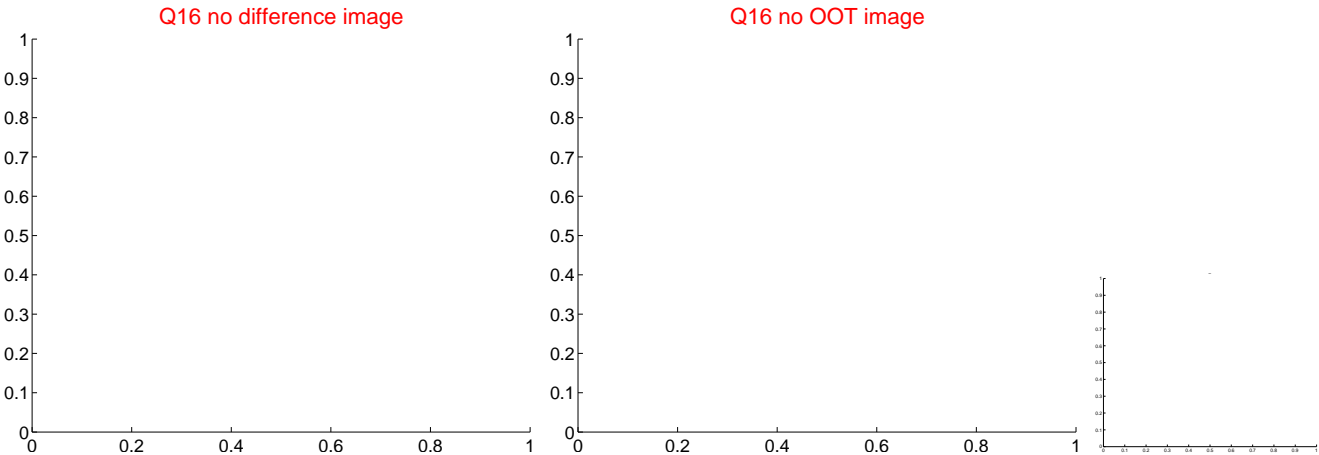
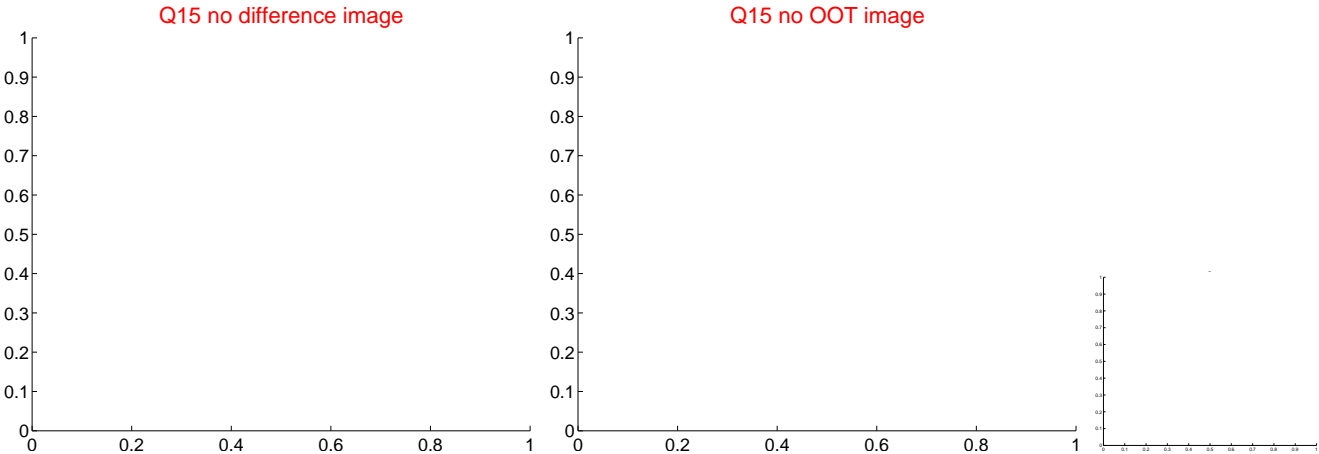
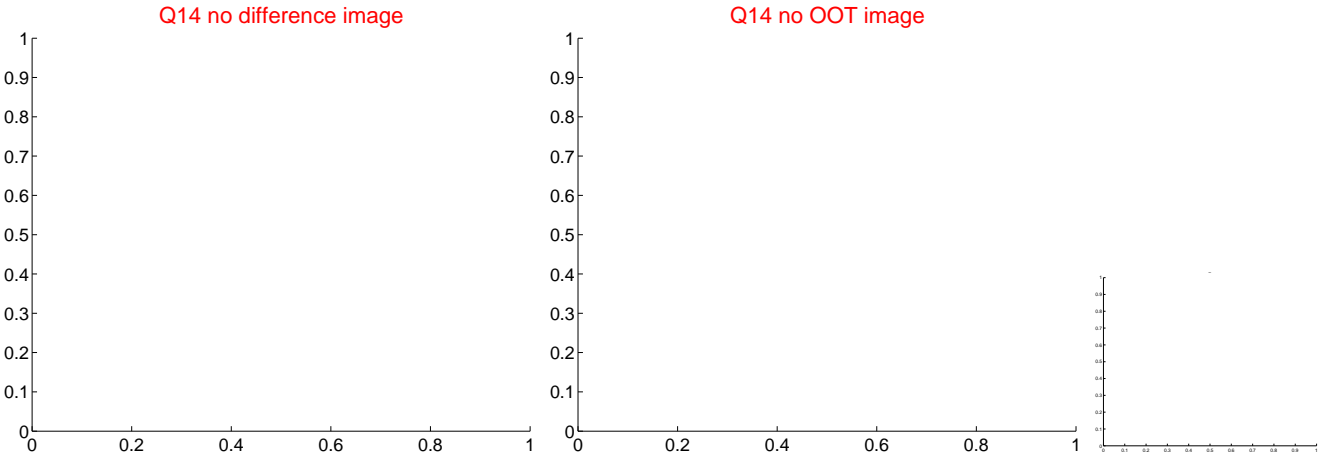
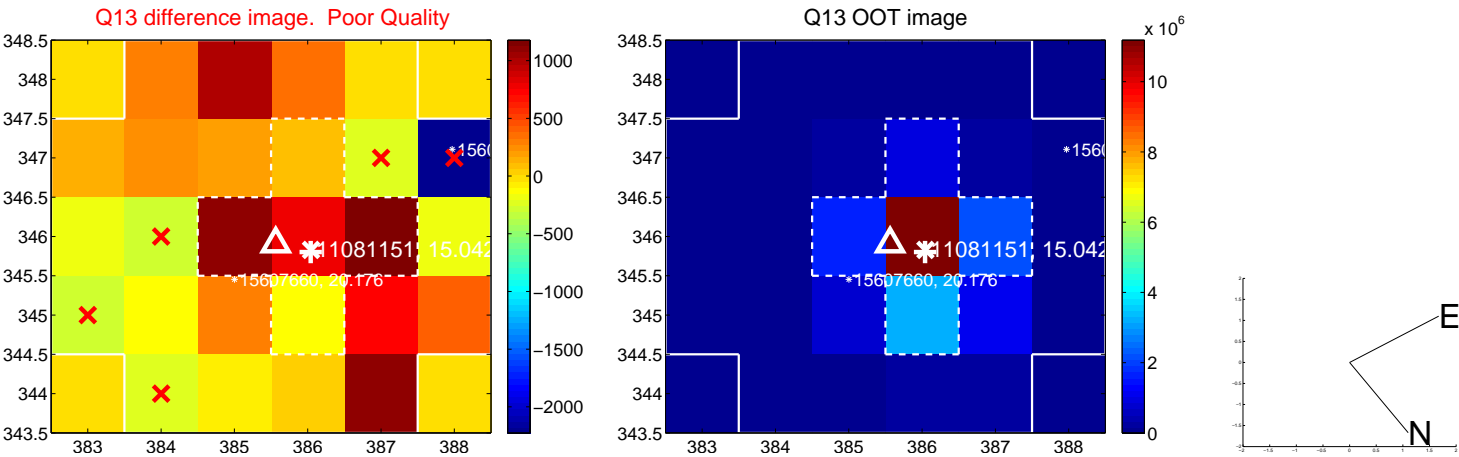
Q12 no difference image



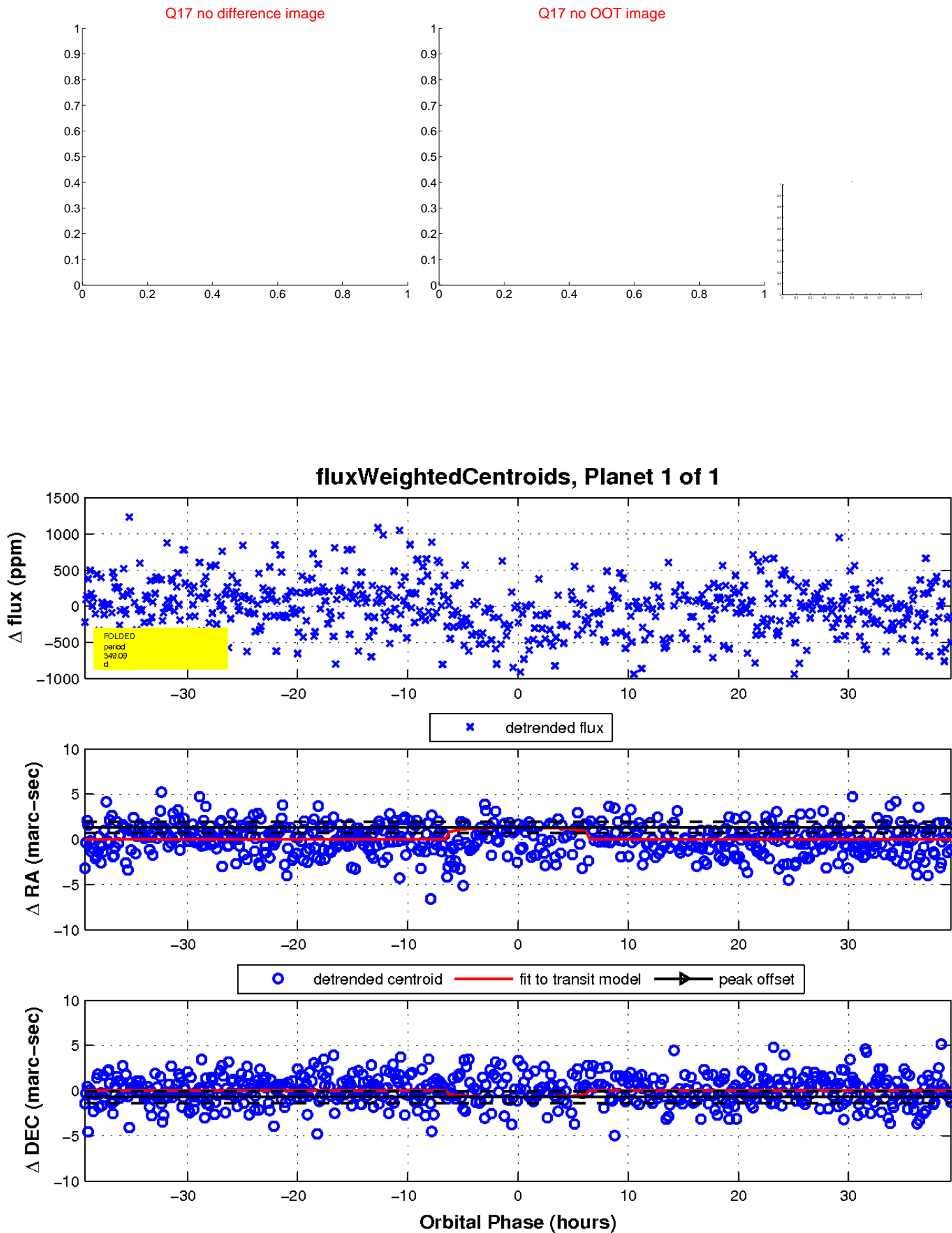
Q12 no OOT image



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

