

# KIC 012067111

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
012067111-01	OBS	No	463.191588	451.223819	371.0	9.193	7.4	6.8	0.98	6084	2.07	0.88

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012067111-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

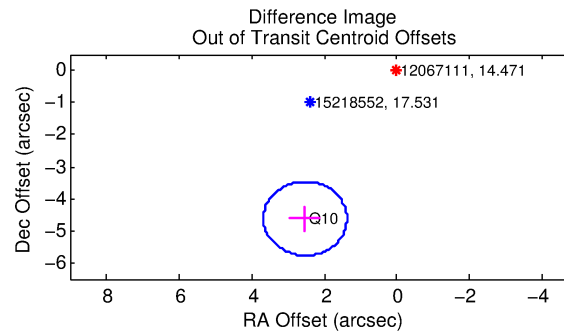
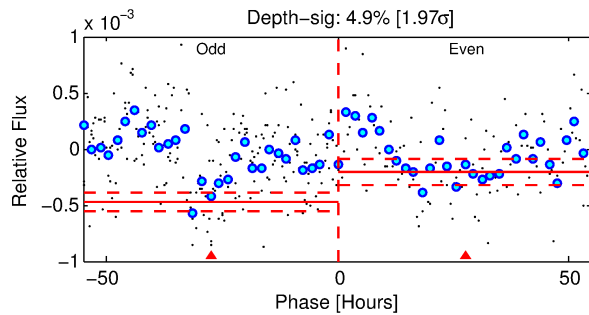
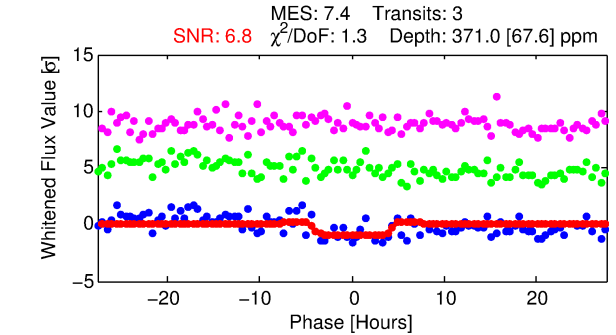
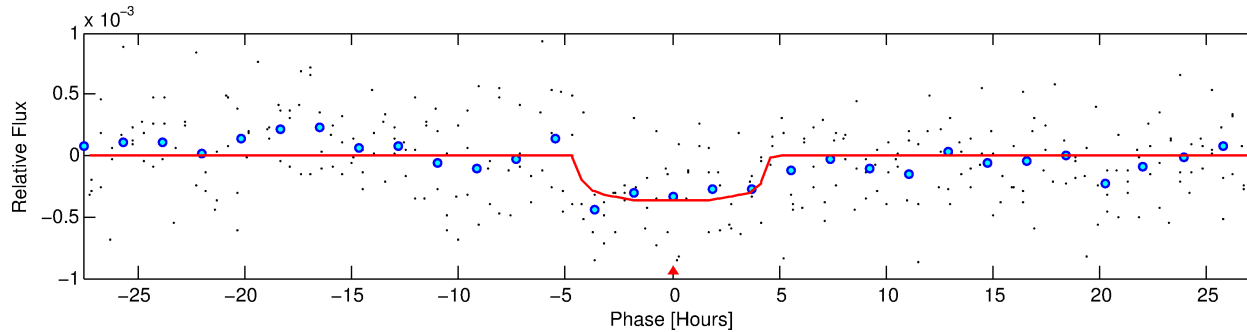
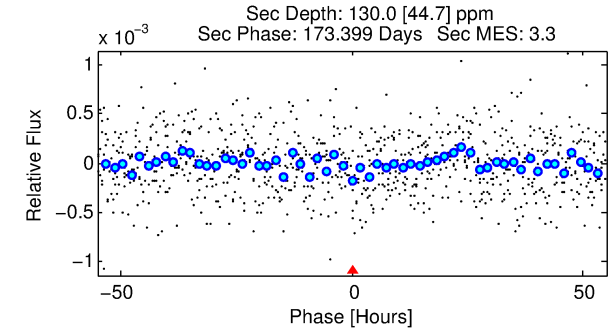
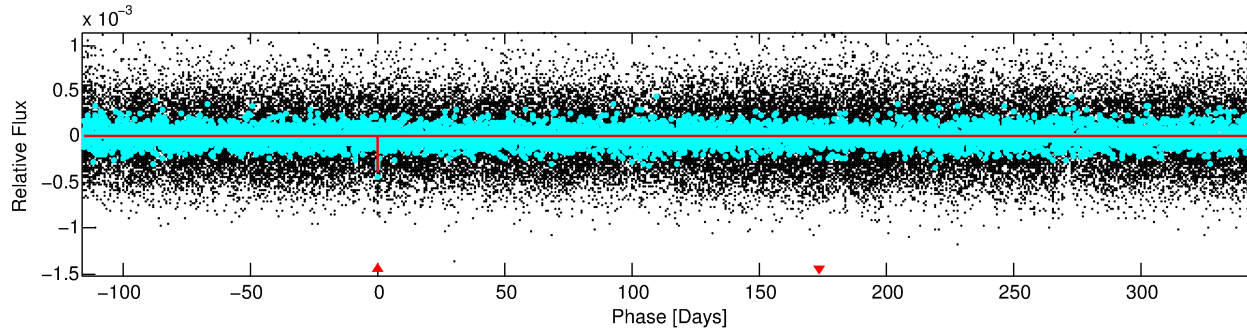
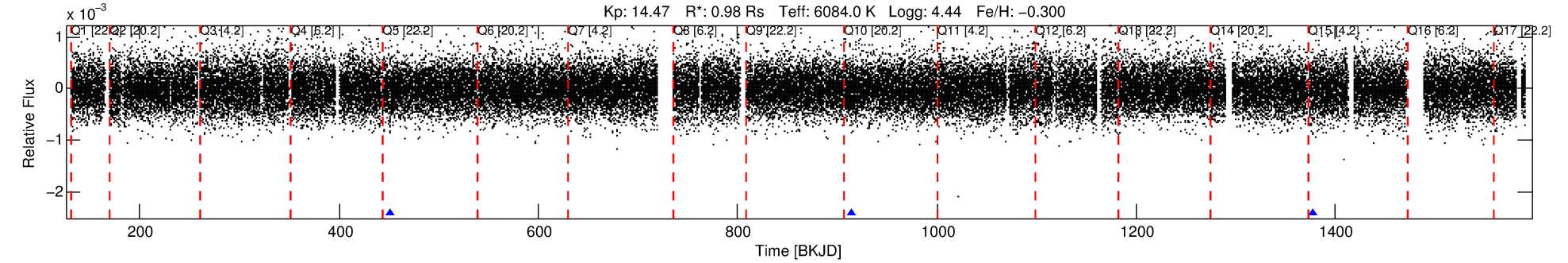
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 012067111-01

No Significant Match Found

# DV One-Page Summary

KIC: 12067111 Candidate: 1 of 1 Period: 463.192 d



## DV Fit Results:

Period = 463.19159 [0.01748] d  
Epoch = 451.2238 [0.0219] BKJD  
Rp/R\* = 0.0194 [0.0092]  
a/R\* = 250.80 [596.21]  
b = 0.78 [1.17]  
Seff = 0.88 [0.34]  
Teq = 247 [24] K  
Rp = 2.07 [1.16] Re  
a = 1.1580 [0.2906] AU  
Ag = 22333.84 [23850.21] [0.94σ]  
Teffp = 4664 [1182] K [3.74σ]

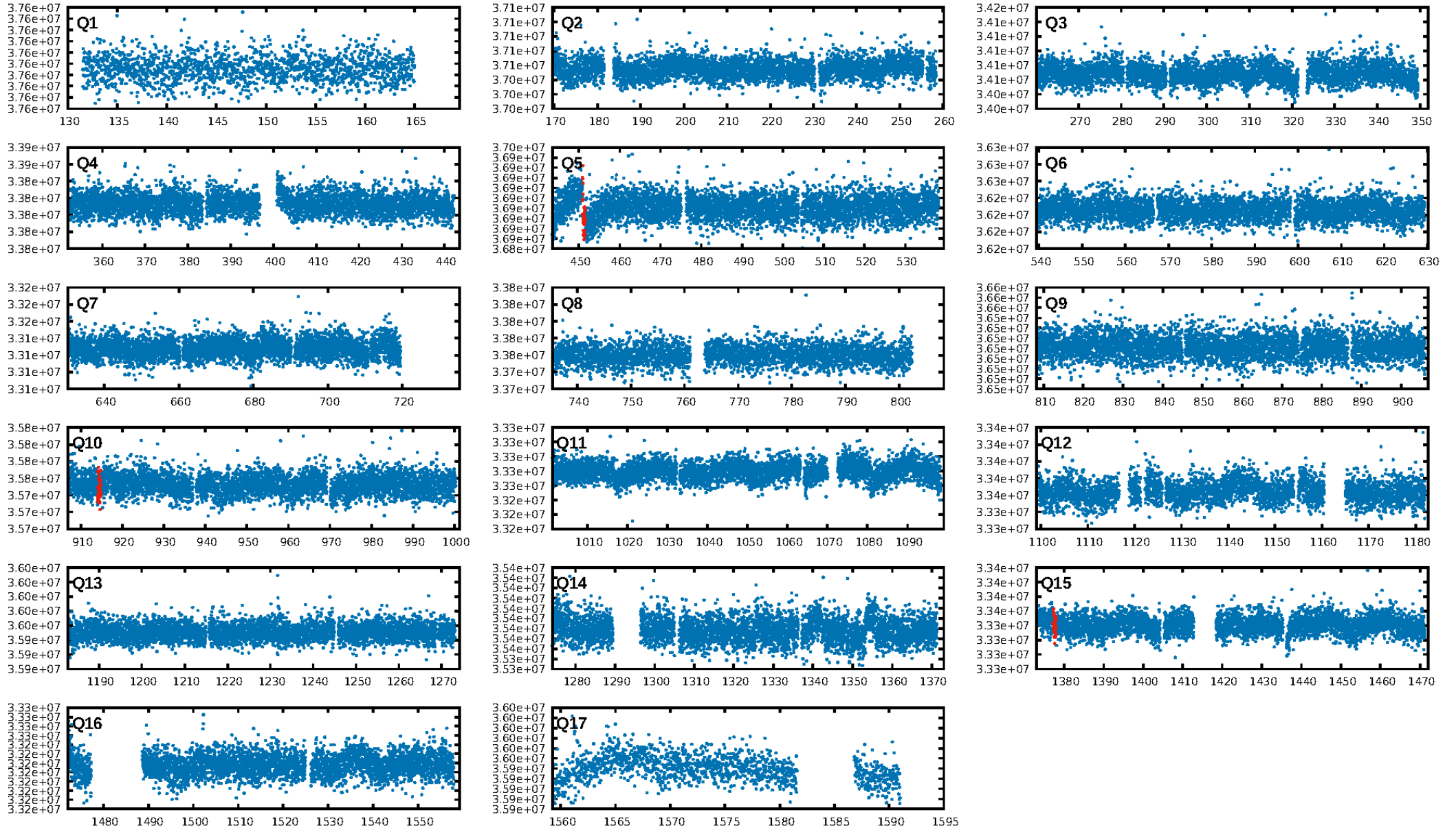
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 3.1%  
ModelChiSquareGof-sig: 90.9%  
Bootstrap-pfa: 1.10e-08  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.644  
Centroid-sig: 8.7%  
Centroid-so: 1.631 arcsec [1.35σ]  
OotOffset-rm: 5.264 arcsec [13.72σ]  
KicOffset-rm: 5.099 arcsec [13.65σ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [3/3]

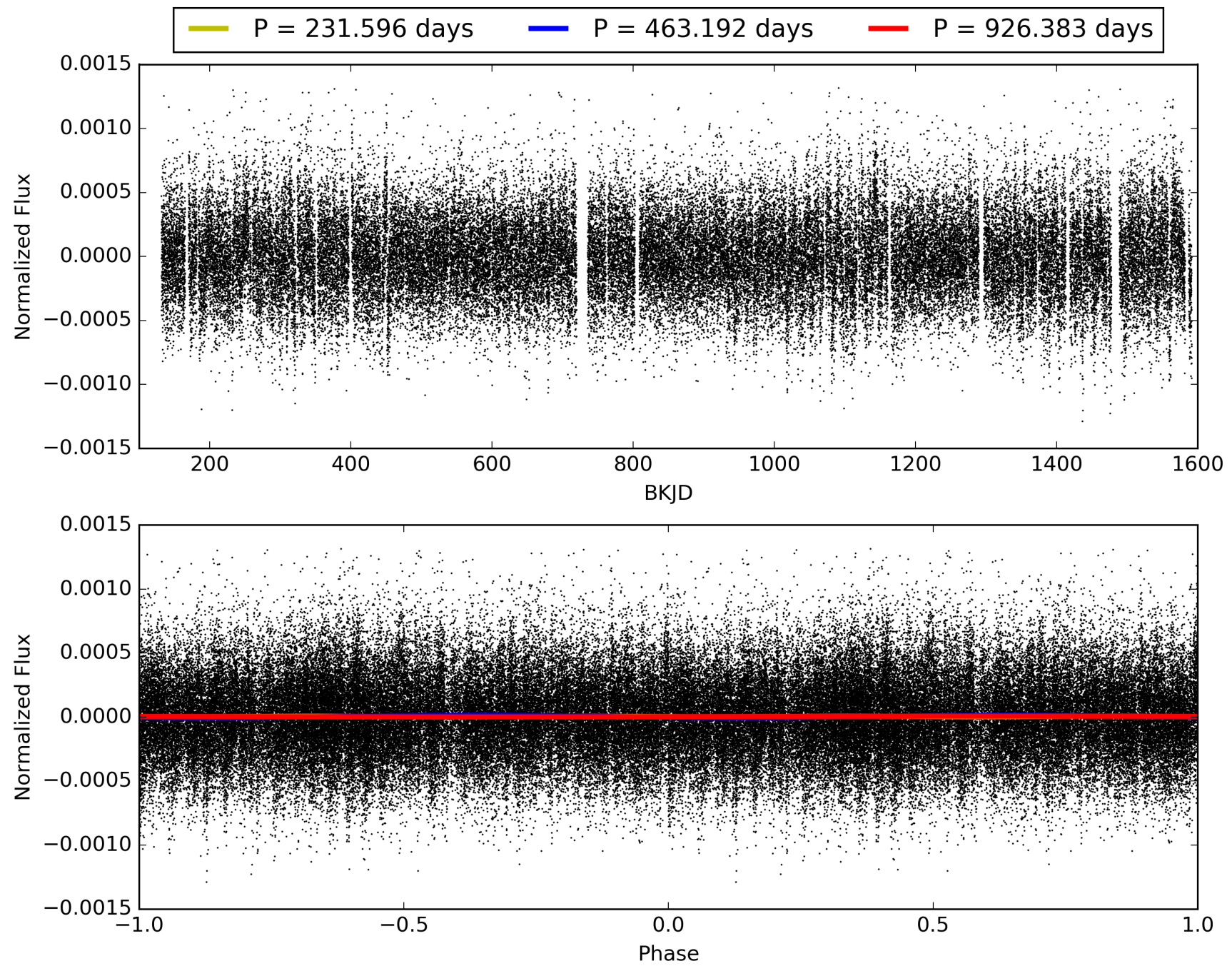
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:46:08 Z

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

# TCE 012067111-01, PDC Light Curves

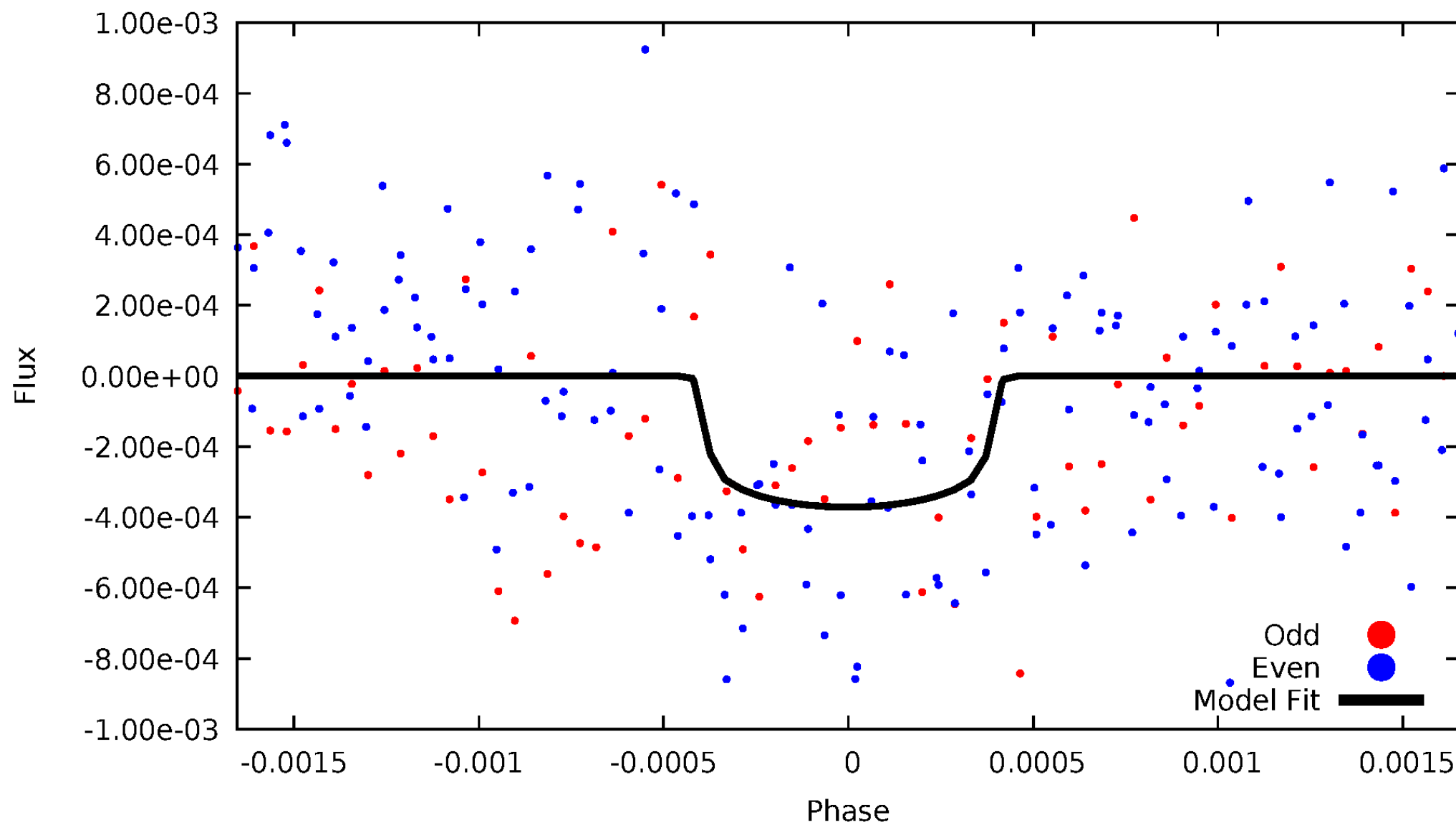


TCE 012067111-01



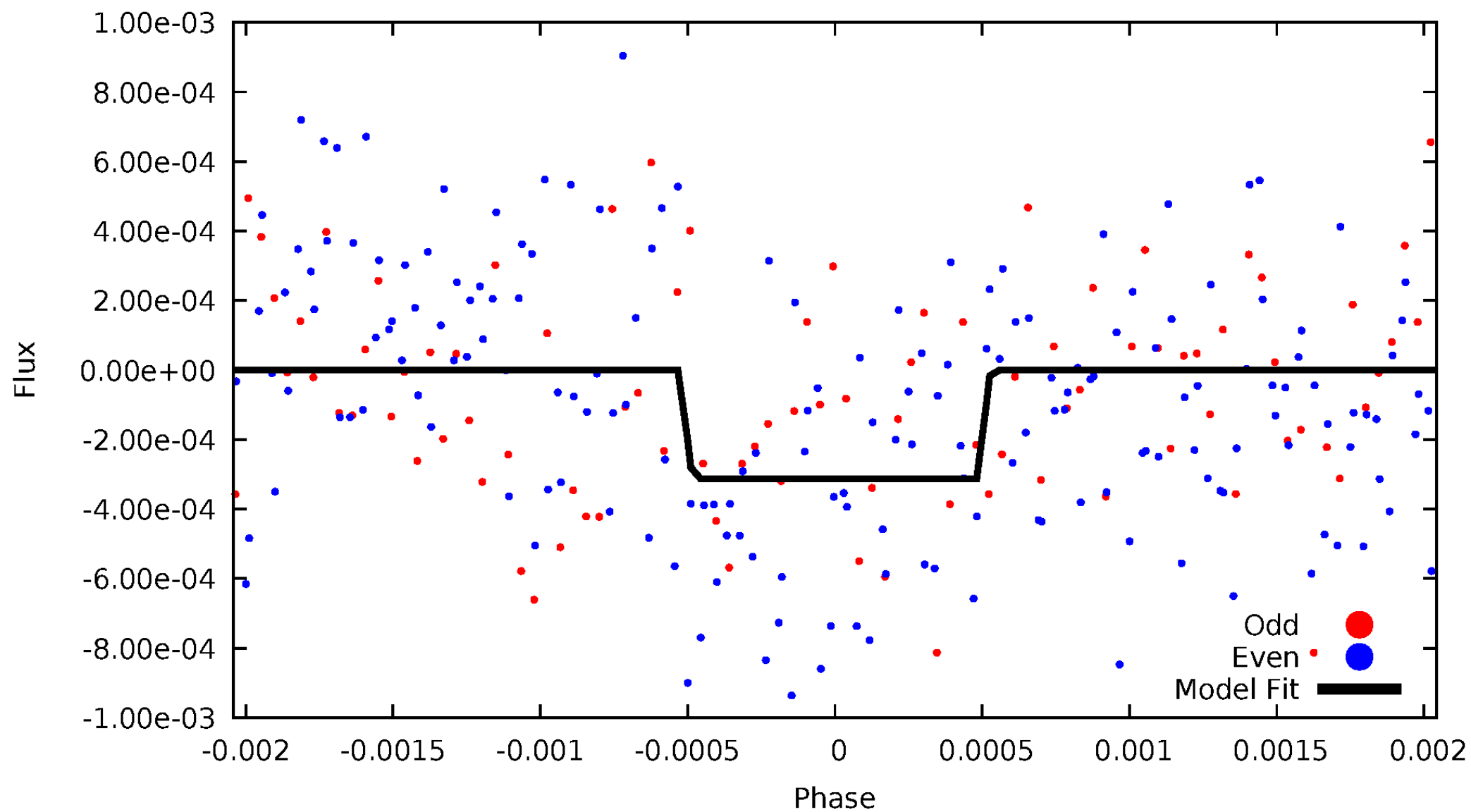
# DV Odd/Even

TCE 012067111-01



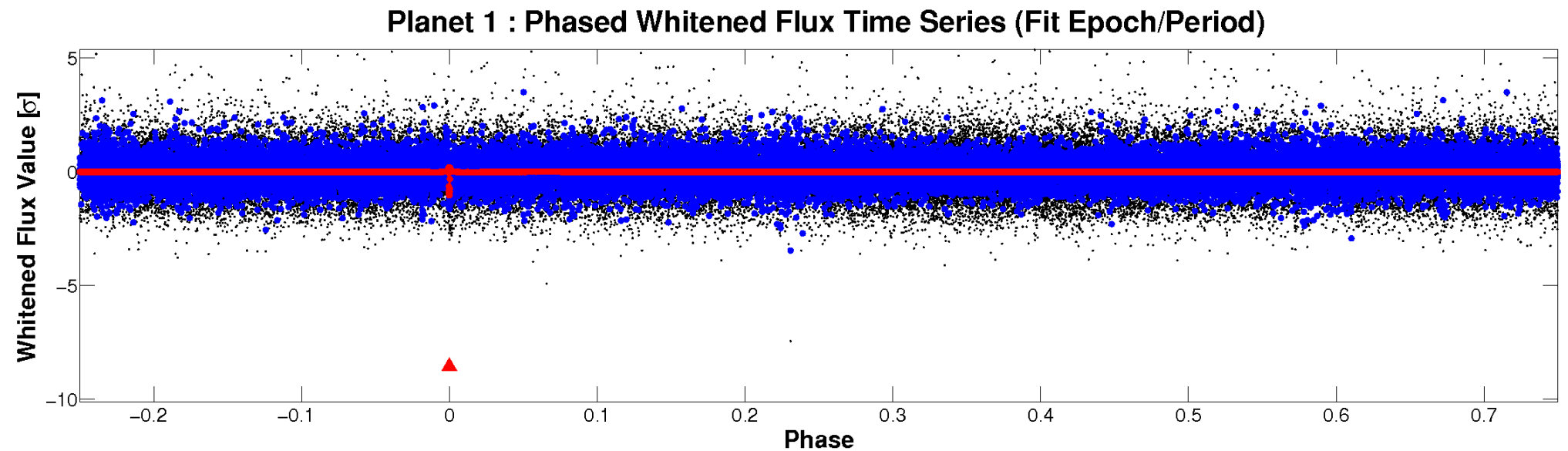
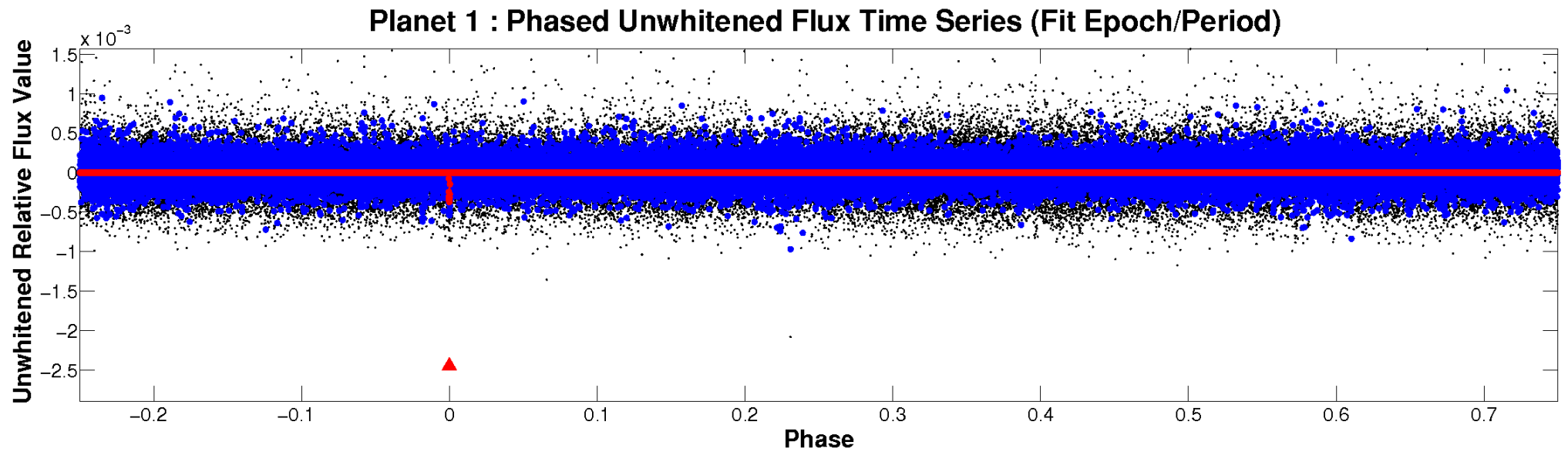
# ALT Odd/Even

TCE 012067111-01



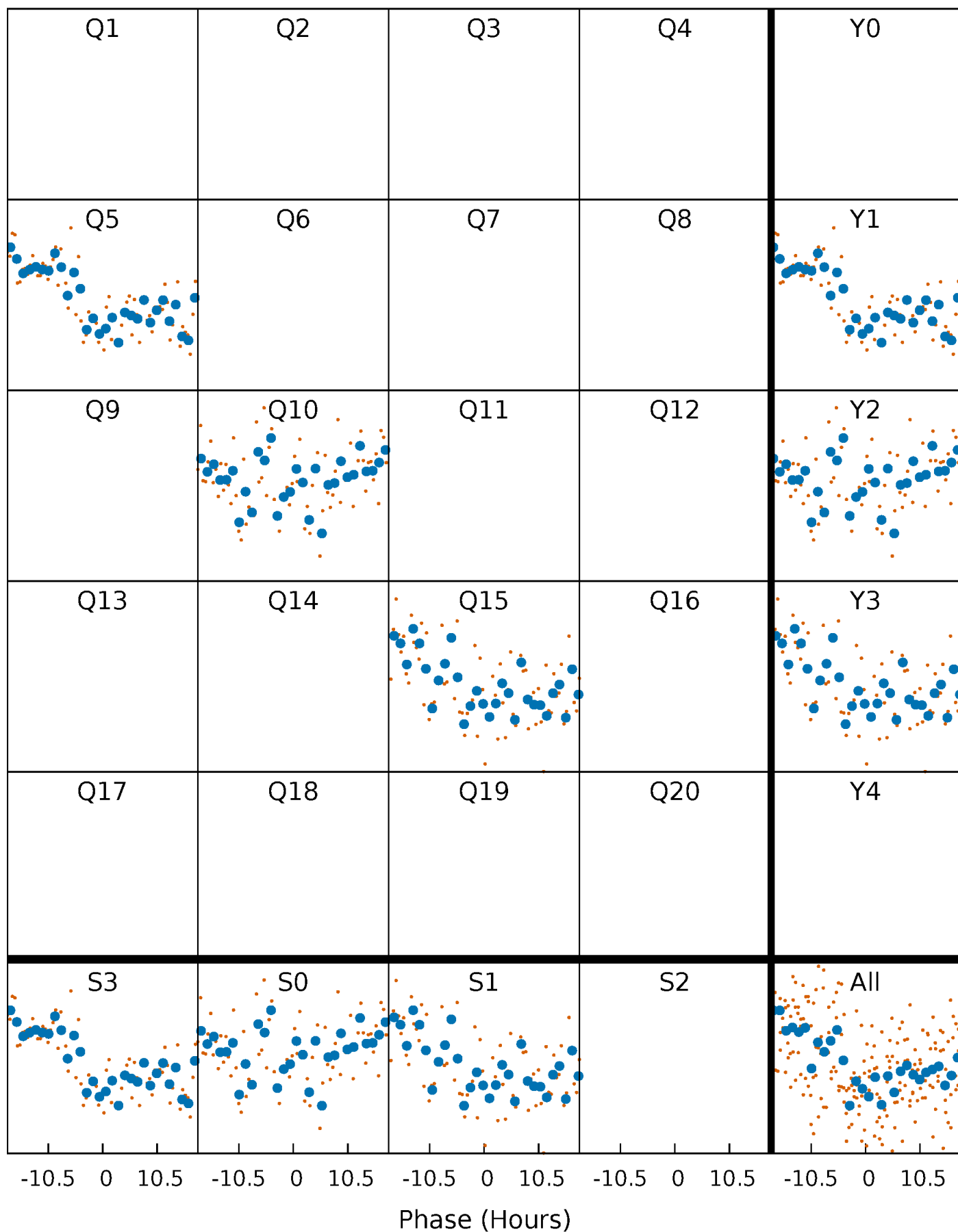


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

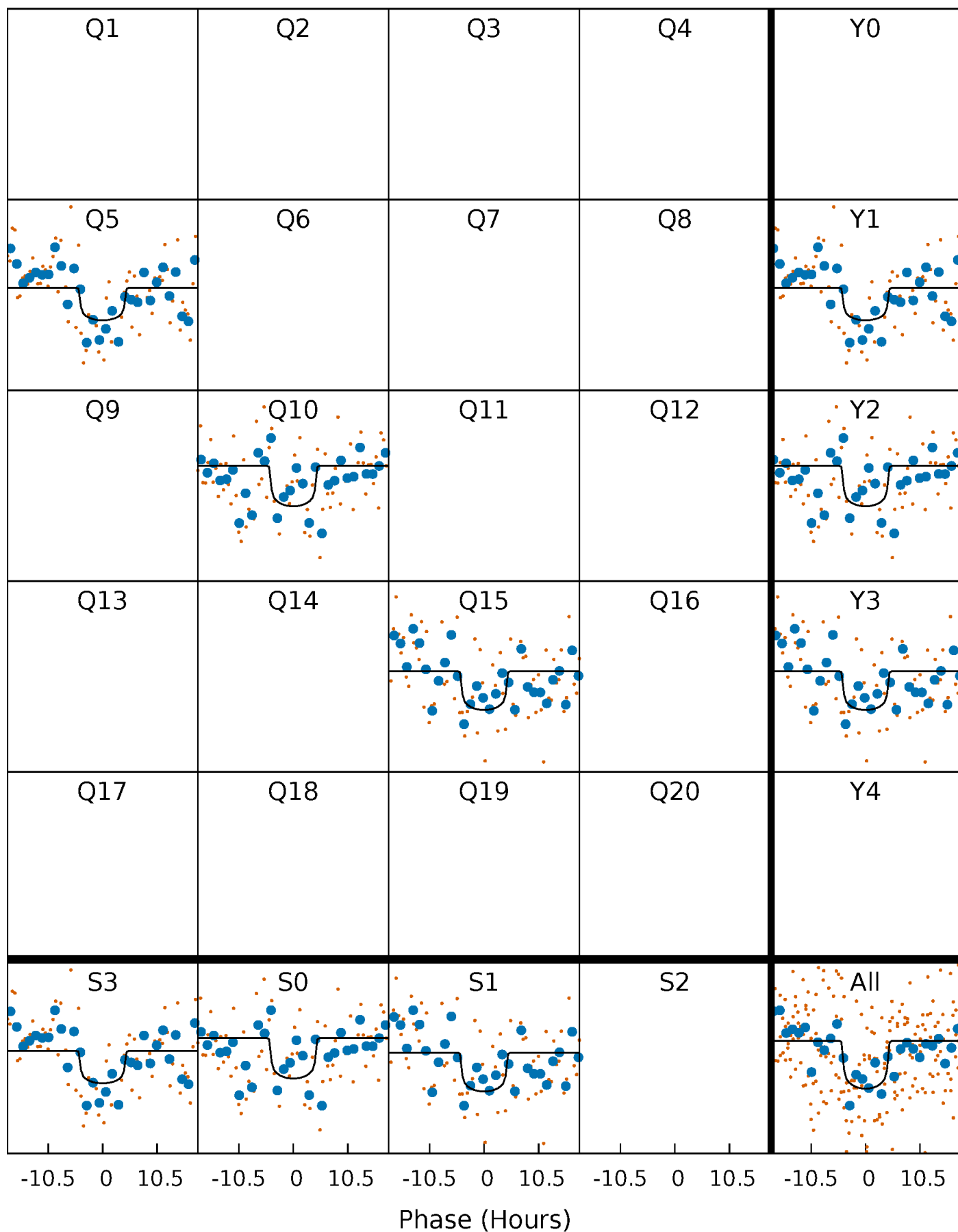
TCE 012067111-01 P=463.191588 Days  $T_0=451.223819$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 012067111-01 P=463.191588 Days  $T_0=451.223819$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

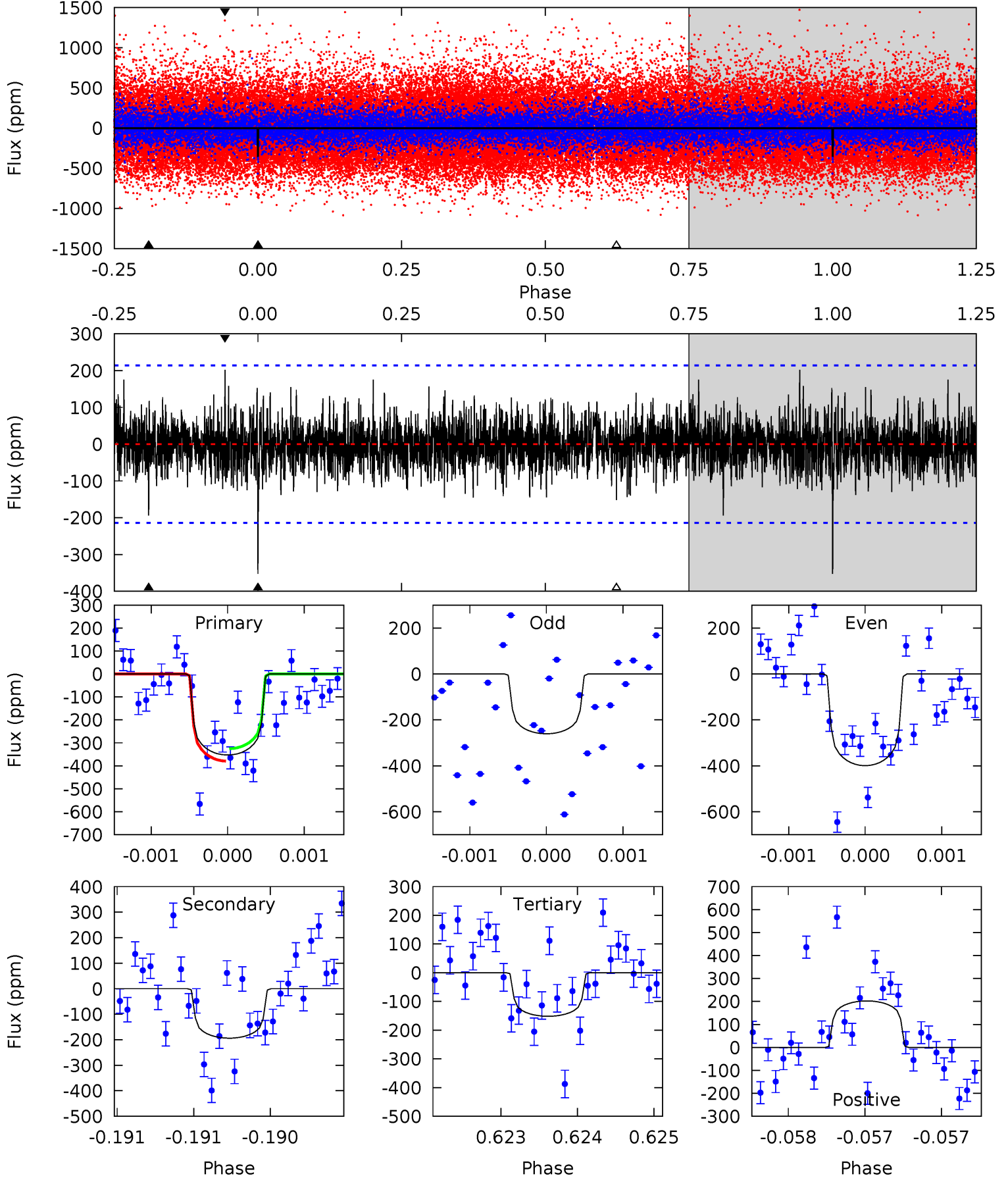
TCE 012067111-01 P=463.167505 Days  $T_0=451.302662$  (BKJD)



# DV Model-Shift Uniqueness Test

012067111-01, P = 463.191588 Days, E = 451.223819 Days

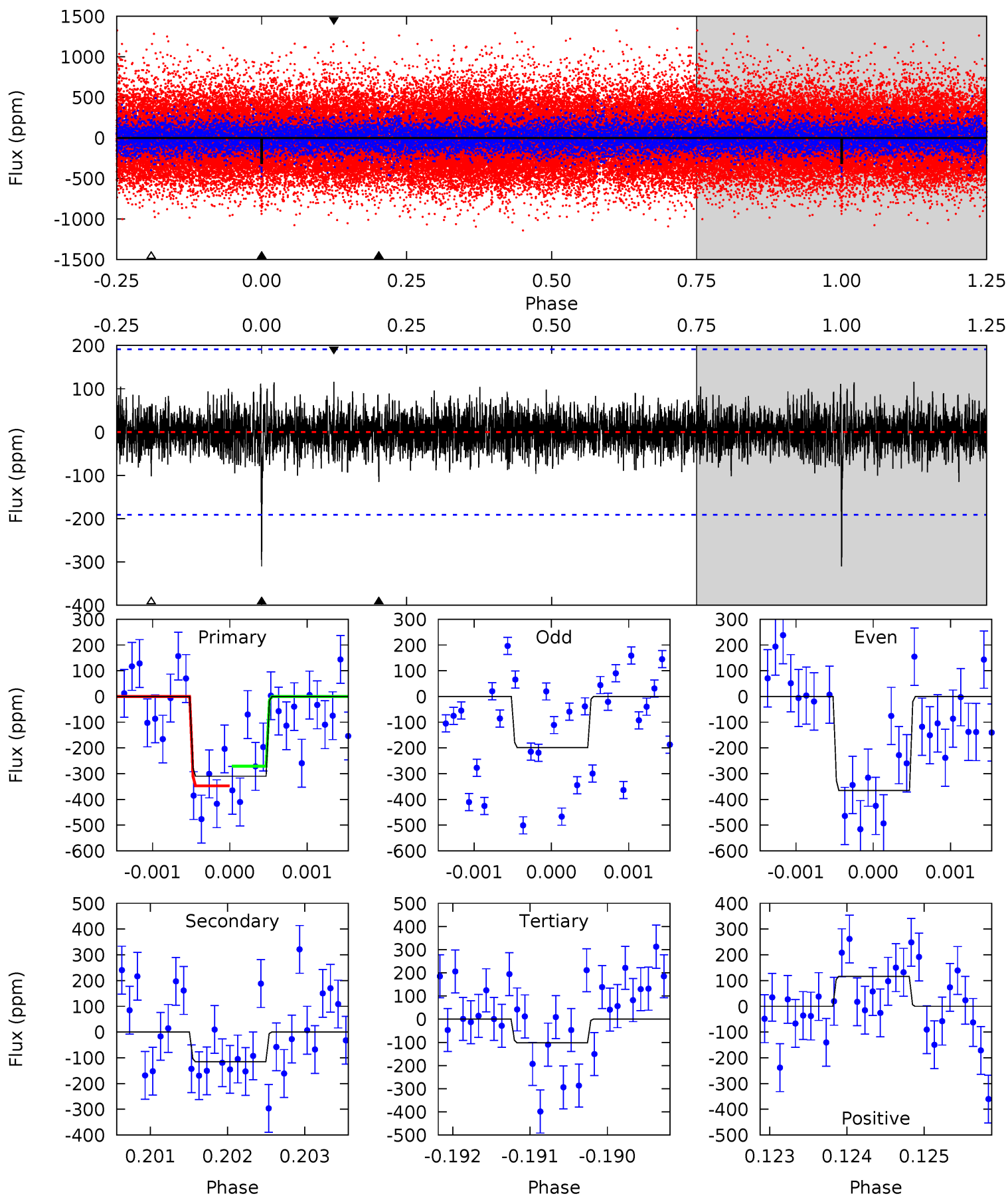
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.04	4.96	3.88	5.18	5.48	3.34	1.17	5.15	3.86	1.08	-0.22	1.70	1.21	0.36	0.69



# Alt Model-Shift Uniqueness Test

012067111-01, P = 463.167505 Days, E = 451.302662 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
8.83	3.27	2.89	3.30	5.45	3.28	0.87	5.94	5.53	0.38	-0.03	2.27	1.21	0.27	1.09



### Stellar Parameters For KIC 012067111

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6084^{+164}_{-200}$	$4.441^{+0.084}_{-0.196}$	$-0.300^{+0.300}_{-0.300}$	$0.979^{+0.295}_{-0.126}$	$0.966^{+0.129}_{-0.116}$	$1.449^{+0.537}_{-0.759}$
	+3%/-3%	+2%/-4%	+100%/-100%	+30%/-13%	+13%/-12%	+37%/-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 012067111-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-194 \pm 39$	$2.29^{+0.98}_{-1.08}$	$350^{+23}_{-19}$	$5106^{+1677}_{-739}$	$27616^{+70321}_{-14985}$
Alt.	$-115 \pm 35$	$1.93^{+1.15}_{-0.90}$	$350^{+22}_{-18}$	$4778^{+1751}_{-729}$	$20848^{+57613}_{-12322}$

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

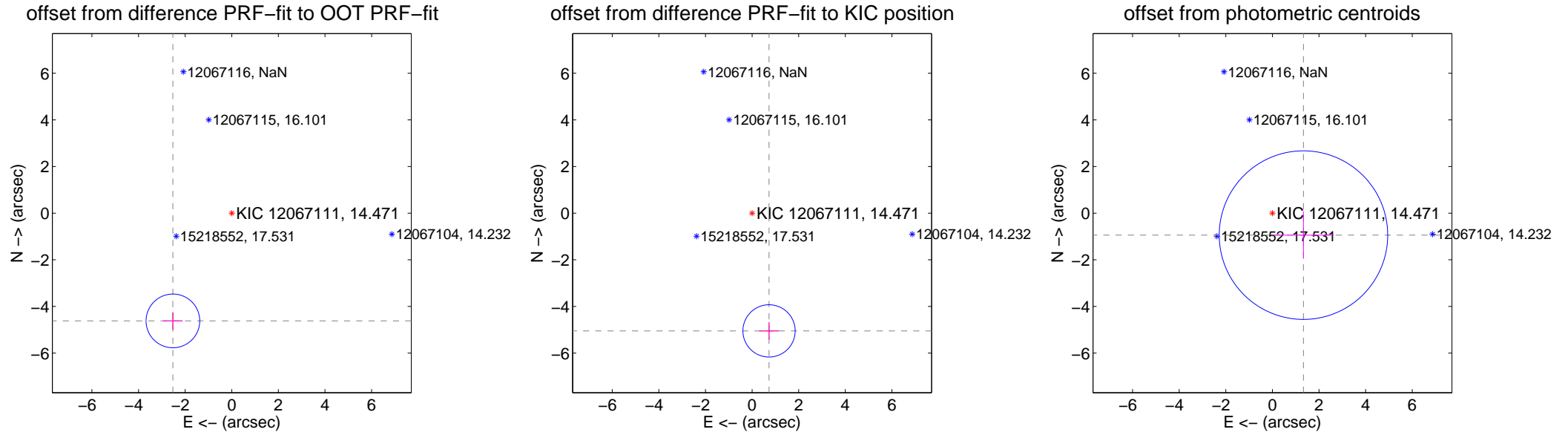
## DV Centroid Data

Supplemental centroid analysis for 012067111-01. Kepler magnitude: 14.47. Transit SNR 6.82

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 3.28 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	$5.264 \pm 0.384$	13.72	$2.525 \pm 0.419$	$-4.618 \pm 0.373$
PRF-fit source offset from KIC position	$5.099 \pm 0.374$	13.65	$-0.727 \pm 0.419$	$-5.047 \pm 0.373$
photometric centroid source offset	$1.63 \pm 1.20$	1.35	$-1.33 \pm 1.29$	$-0.94 \pm 1.01$

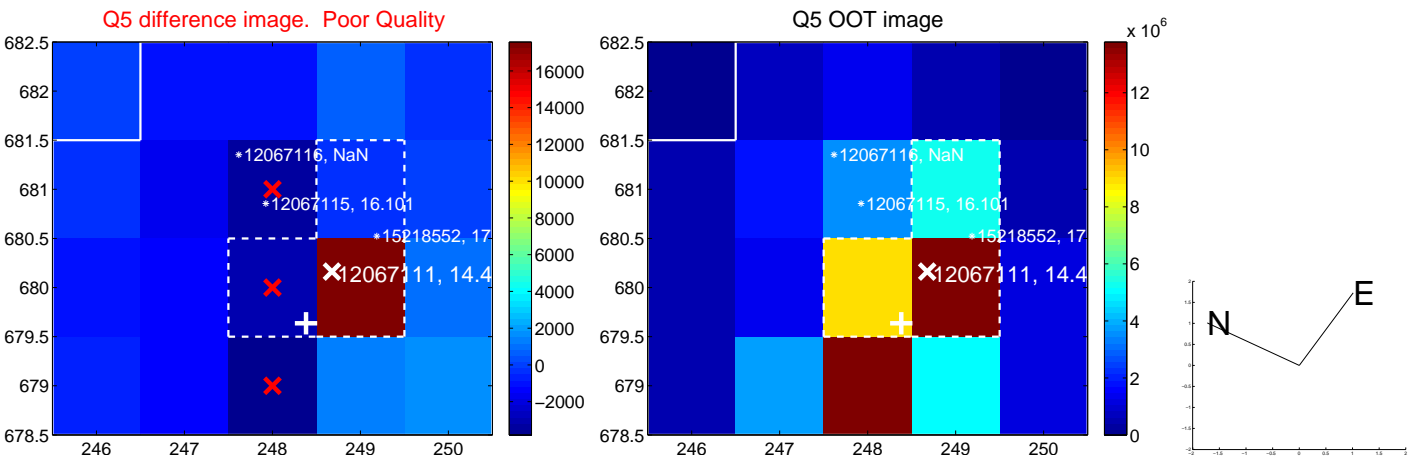


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

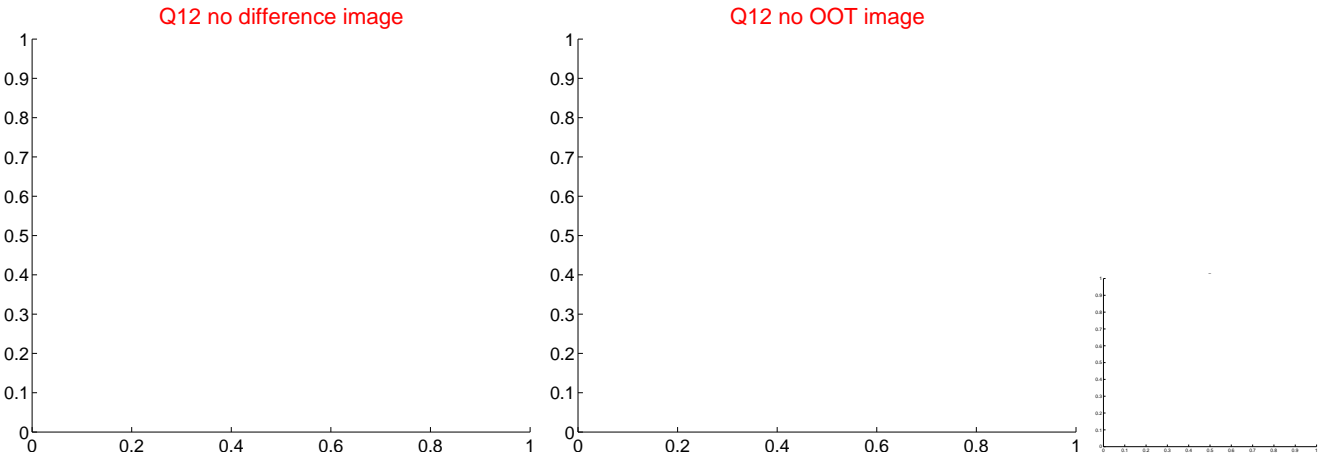
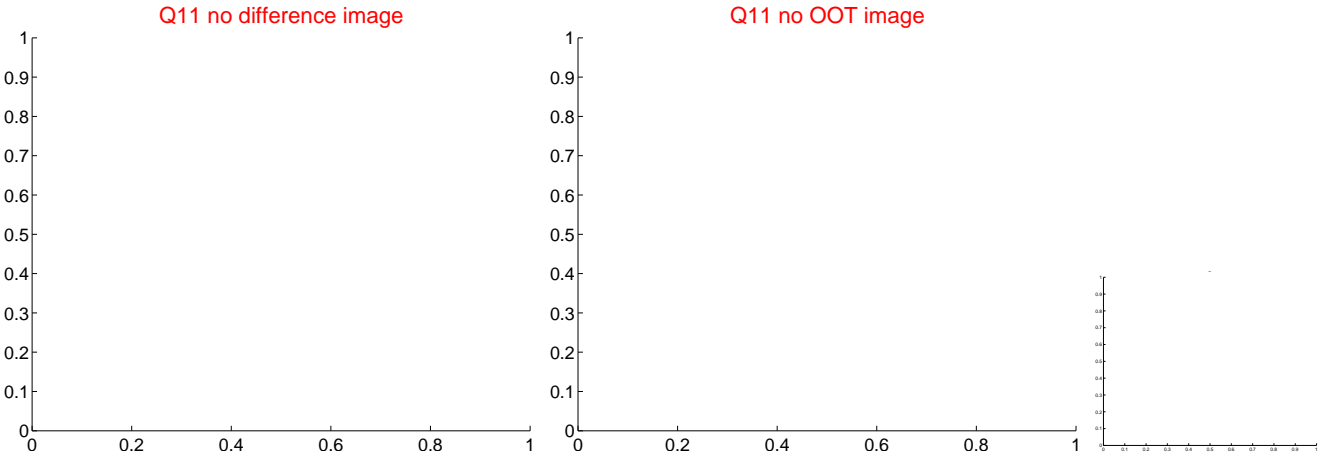
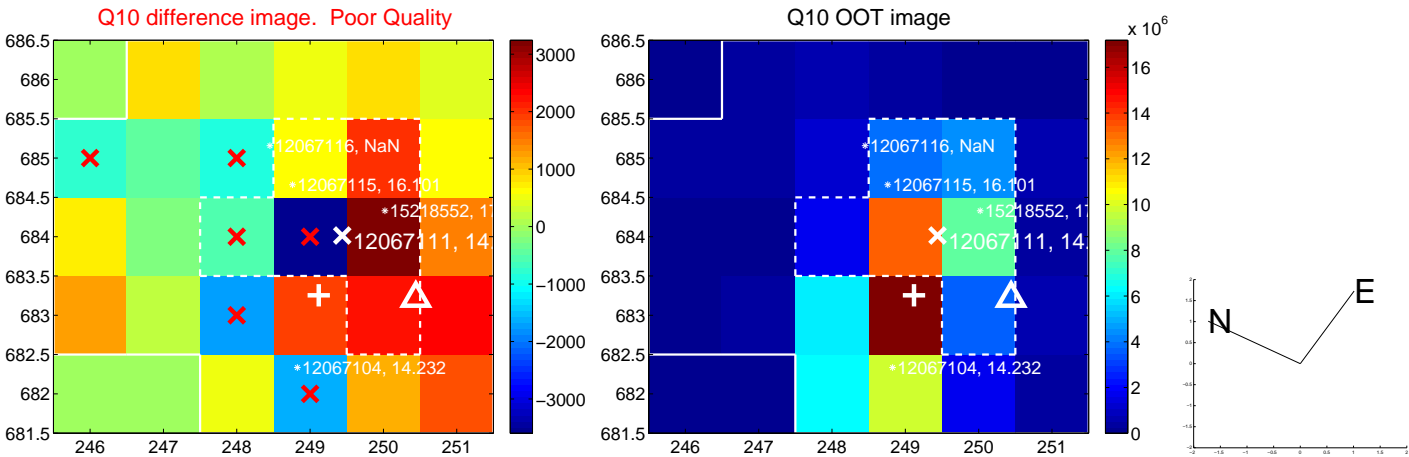
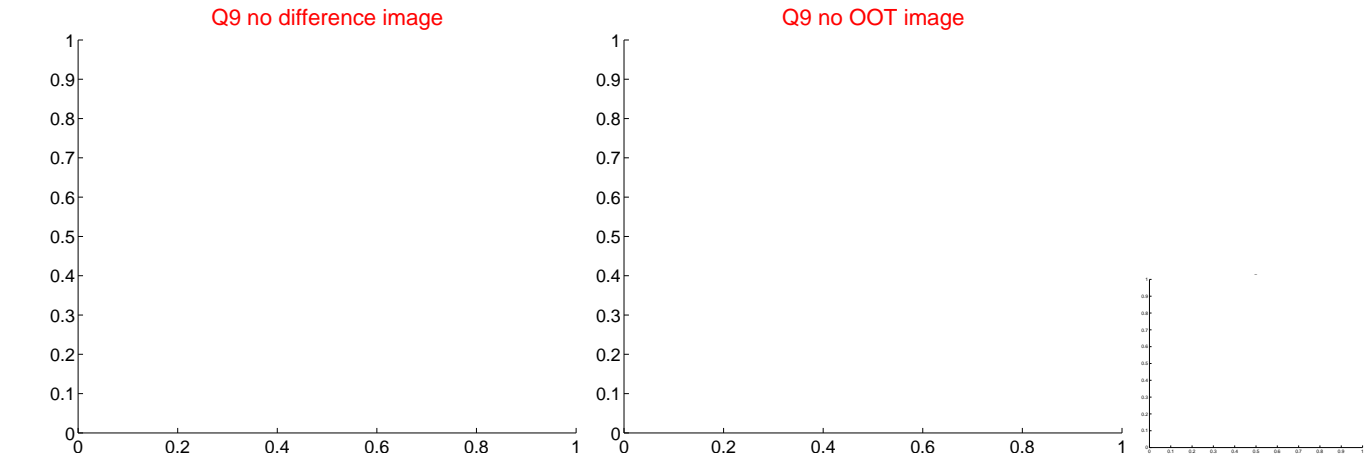




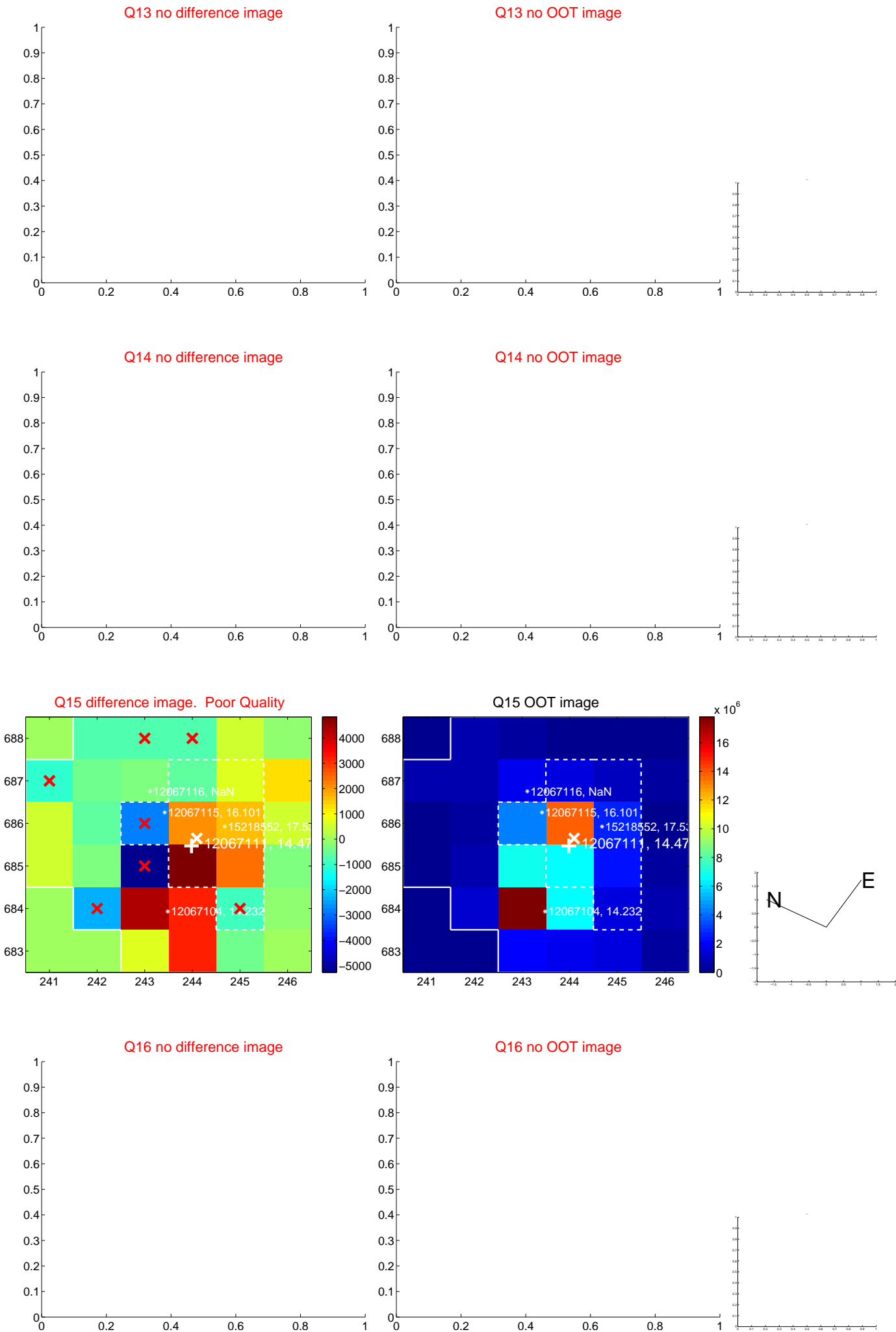
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



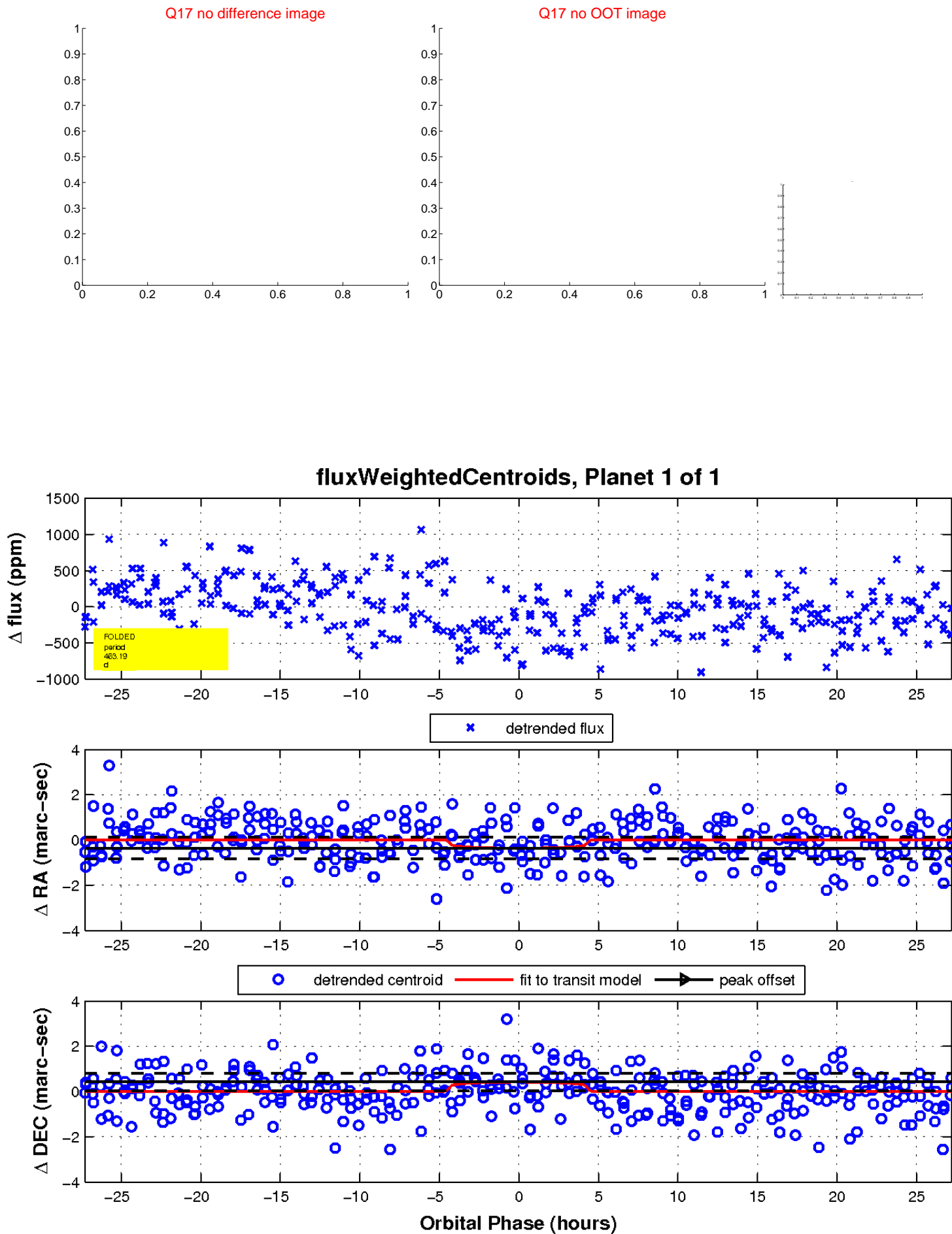
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

