

# KIC 011338720

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011338720-01	OBS	No	443.126865	544.331338	153.2	20.361	13.0	13.1	2.94	9421	3.85	25.50

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011338720-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—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.

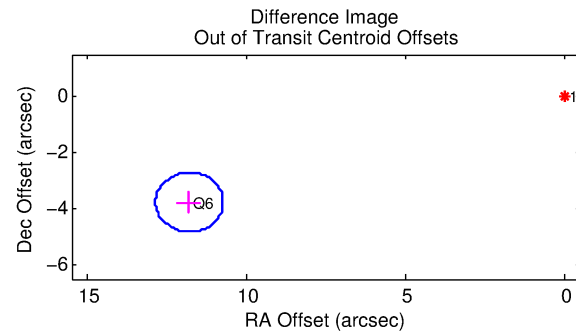
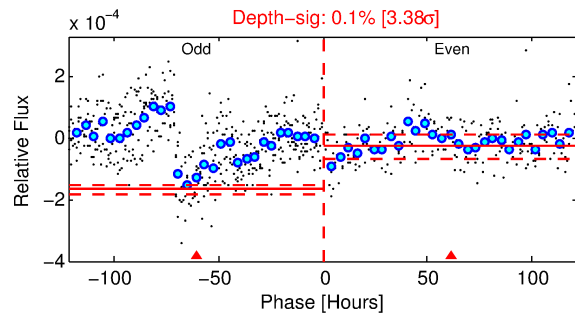
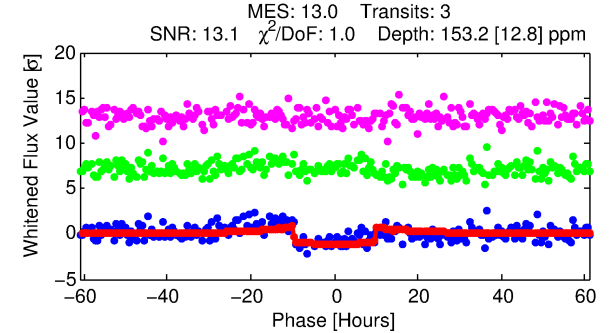
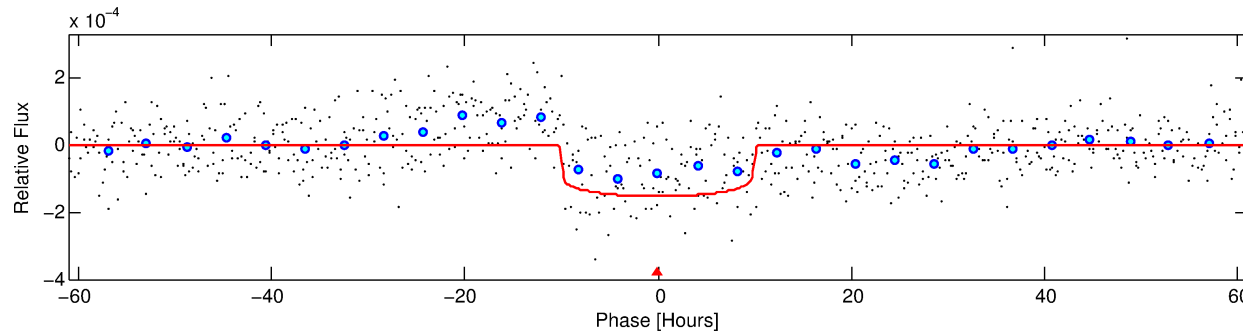
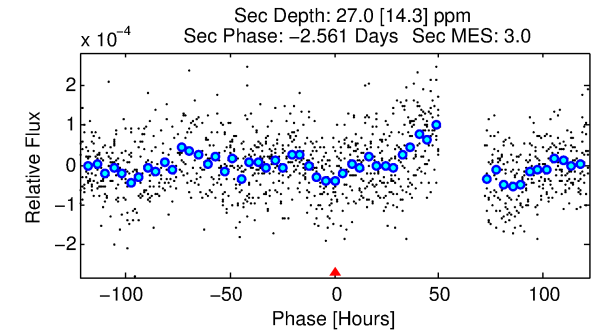
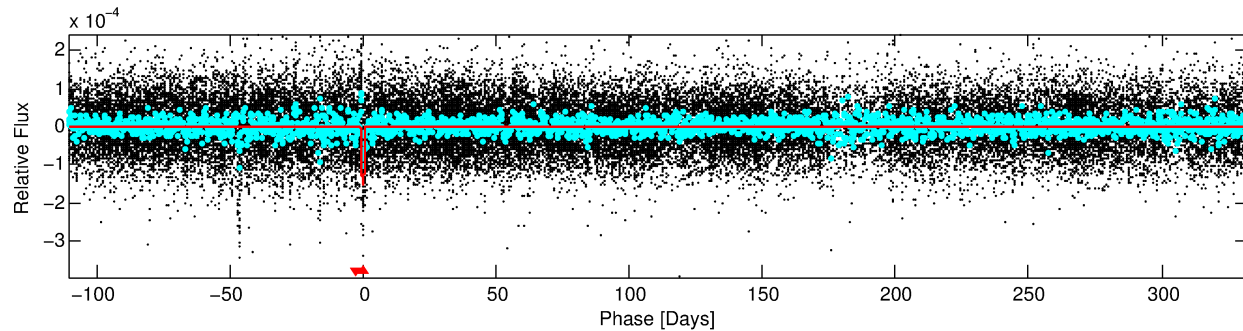
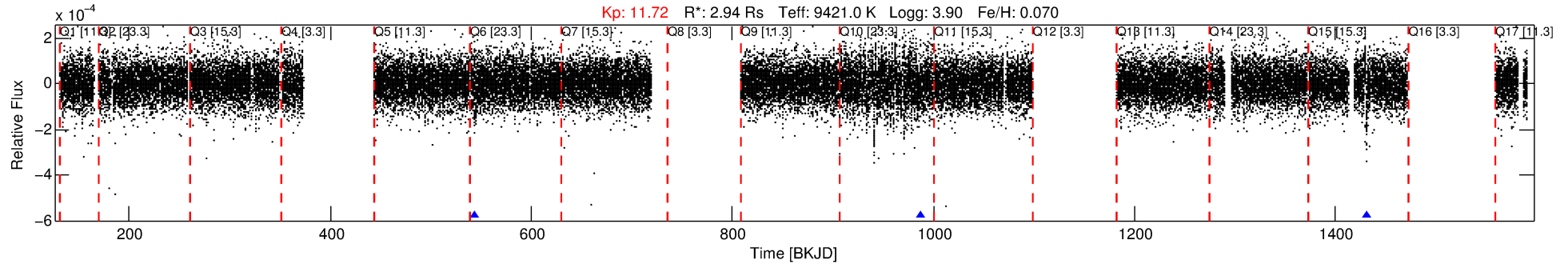
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011338720-01

No Significant Match Found

# DV One-Page Summary

KIC: 11338720 Candidate: 1 of 1 Period: 443.127 d



## DV Fit Results:

Period = 443.12686 [0.00792] d  
Epoch = 544.3313 [0.0109] BKJD  
Rp/R\* = 0.0120 [0.0014]  
a/R\* = 136.08 [103.01]  
b = 0.60 [0.82]  
Seff = 25.50 [13.79]  
Teff = 573 [77] K  
Rp = 3.85 [1.58] Re  
a = 1.5488 [0.5256] AU  
Ag = 2406.10 [1855.04] [1.30σ]  
Teffp = 6205 [950] K [5.91σ]

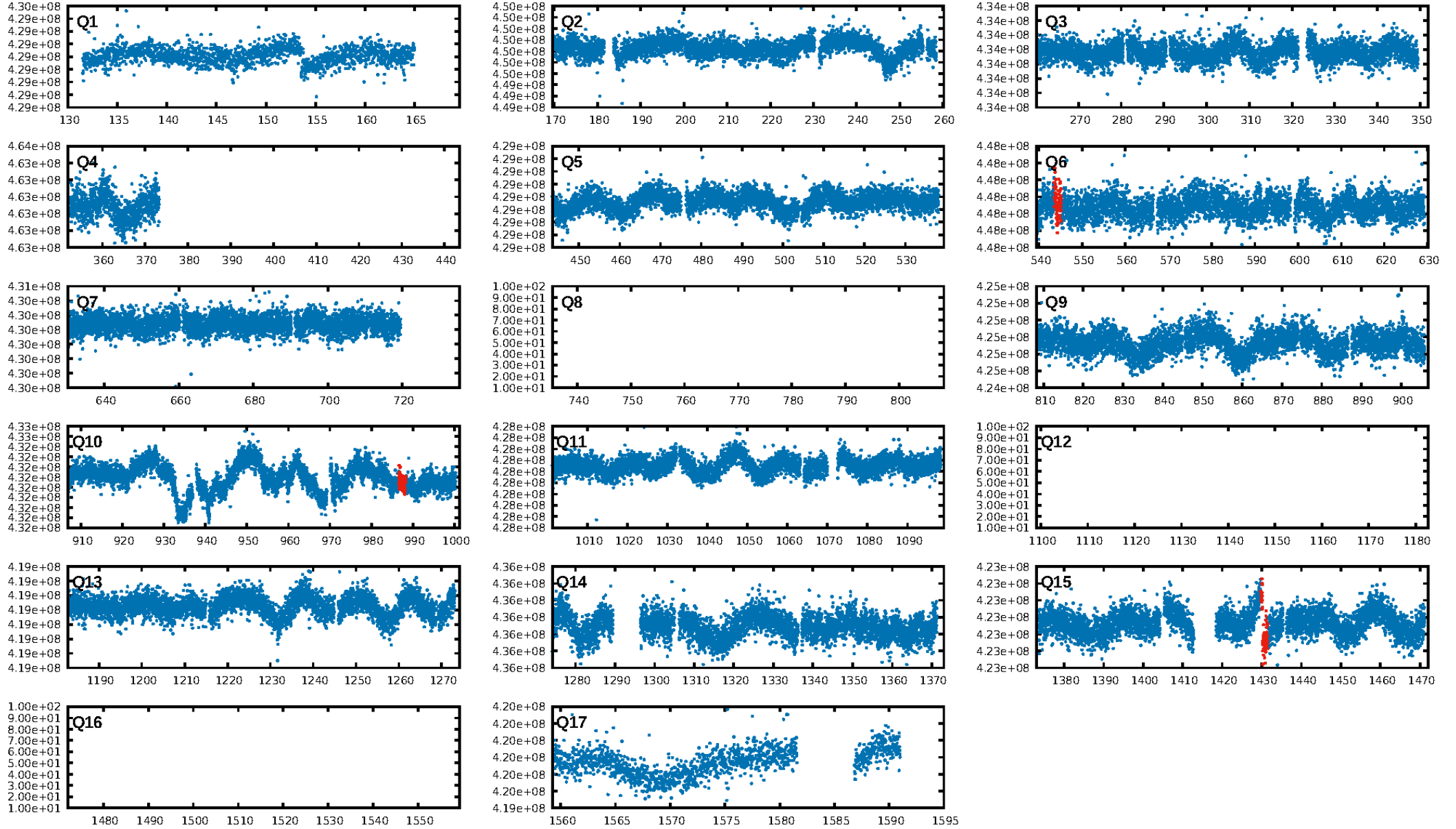
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 99.8%  
Bootstrap-pfa: 7.42e-20  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 3.27  
Centroid-sig: 0.0%  
Centroid-so: 3.465 arcsec [3.07σ]  
OotOffset-rm: 12.385 arcsec [35.00σ]  
KicOffset-rm: 12.413 arcsec [35.08σ]  
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]

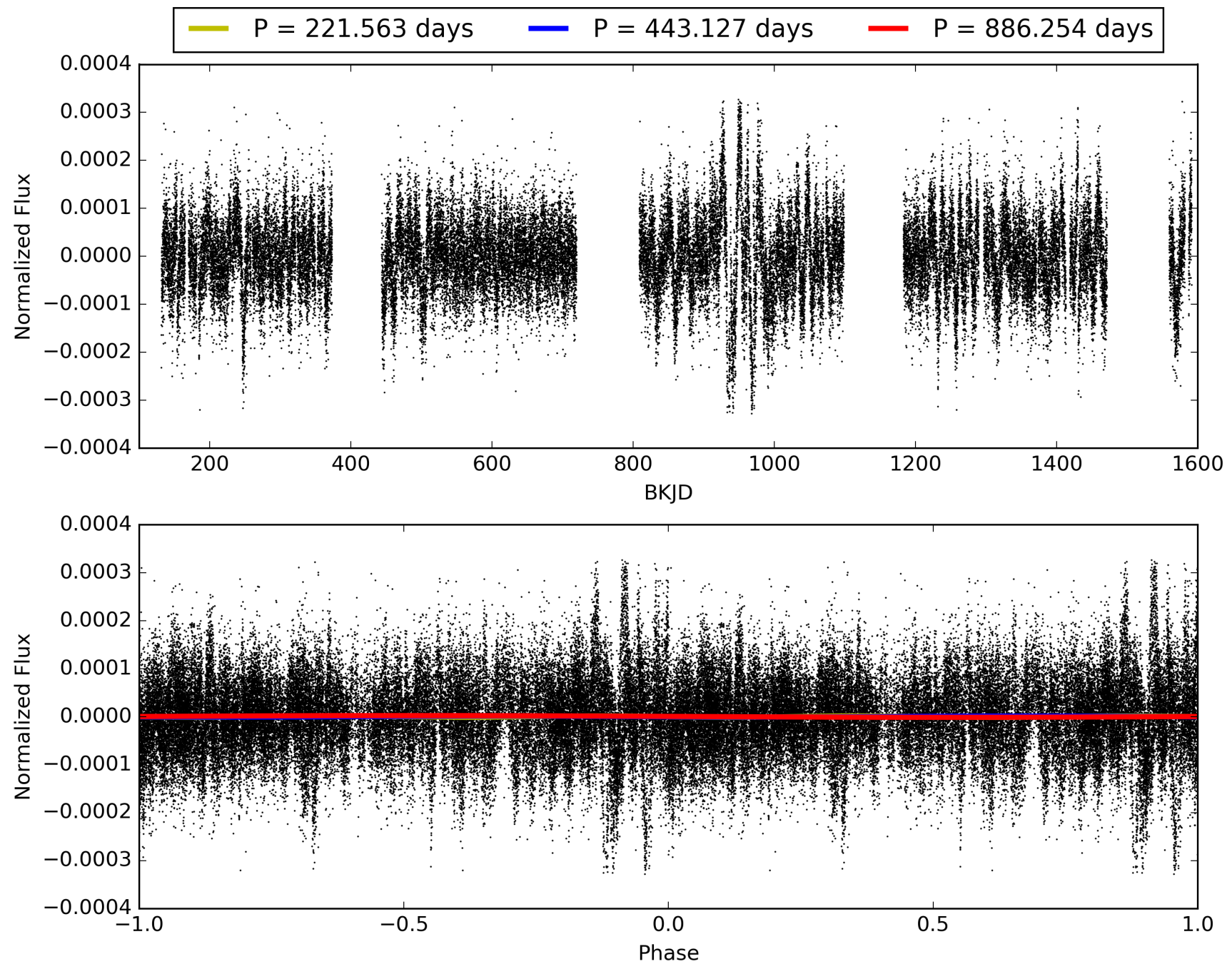
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:19:23 Z

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

# TCE 011338720-01, PDC Light Curves

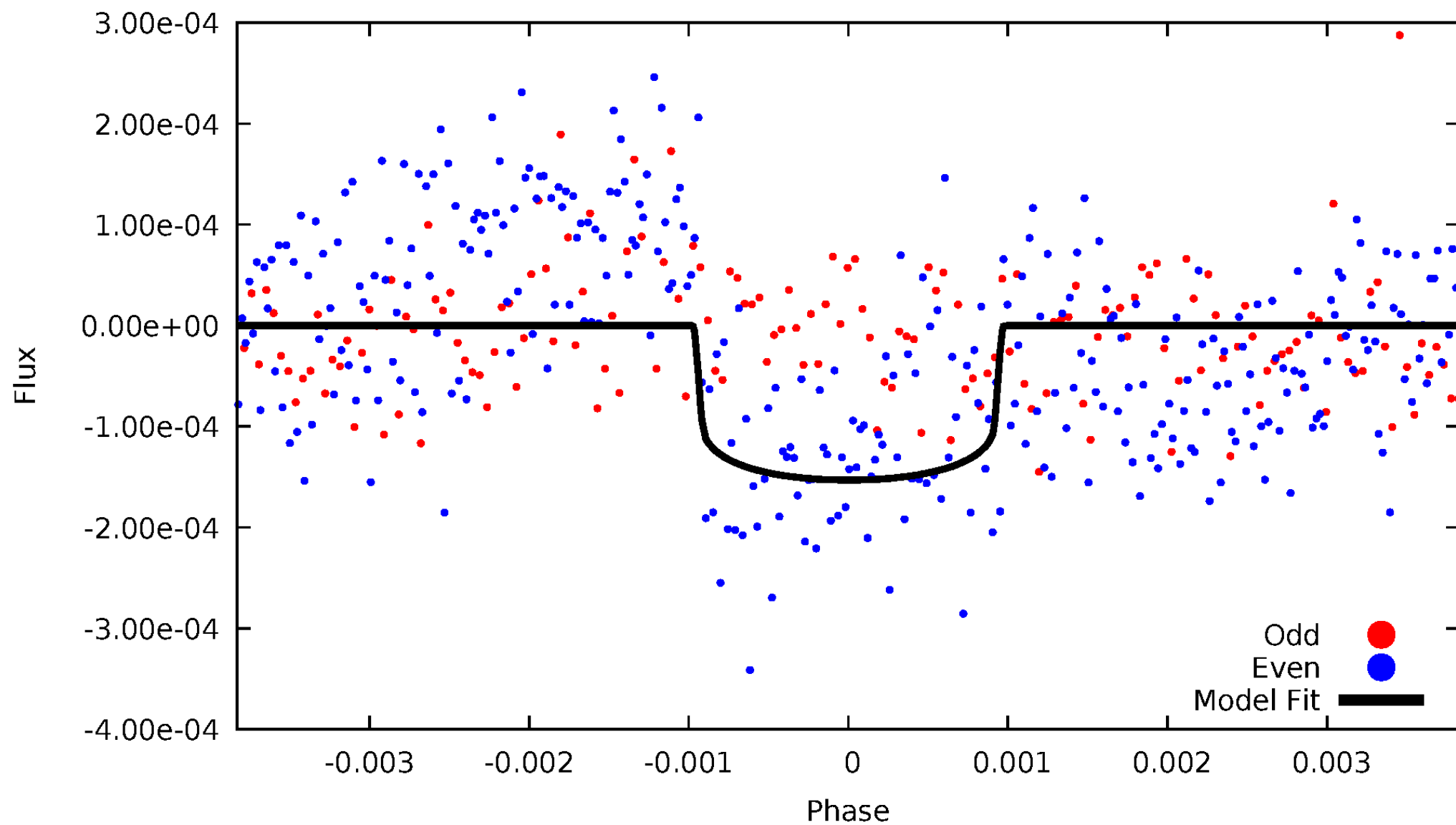


# TCE 011338720-01



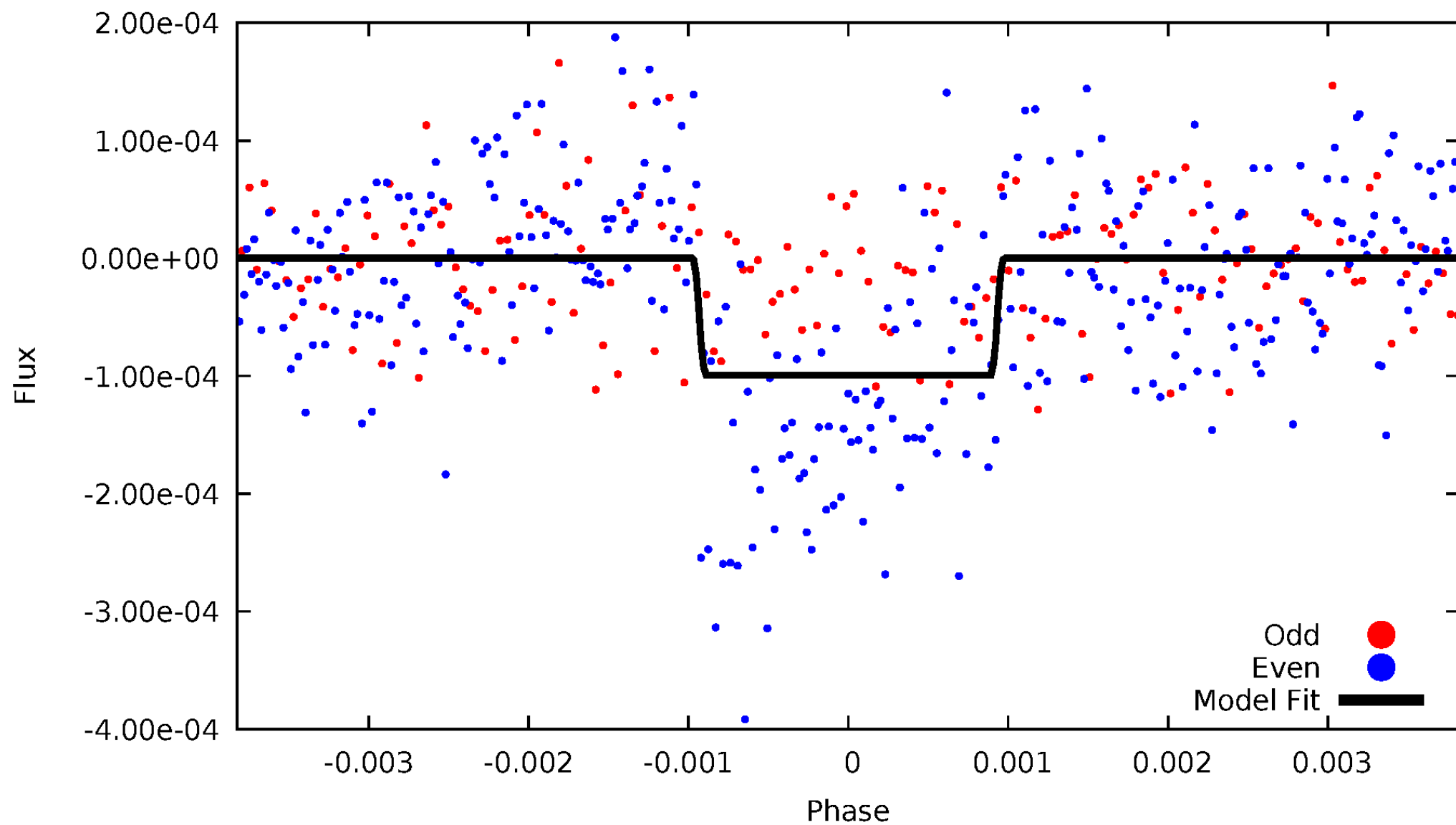
# DV Odd/Even

TCE 011338720-01



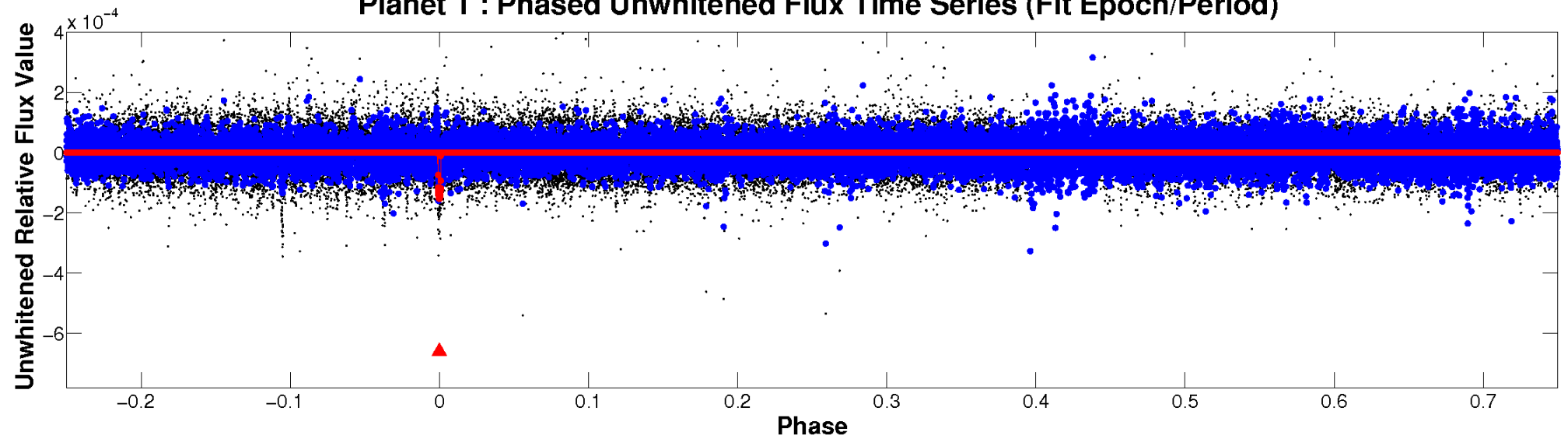
# ALT Odd/Even

TCE 011338720-01

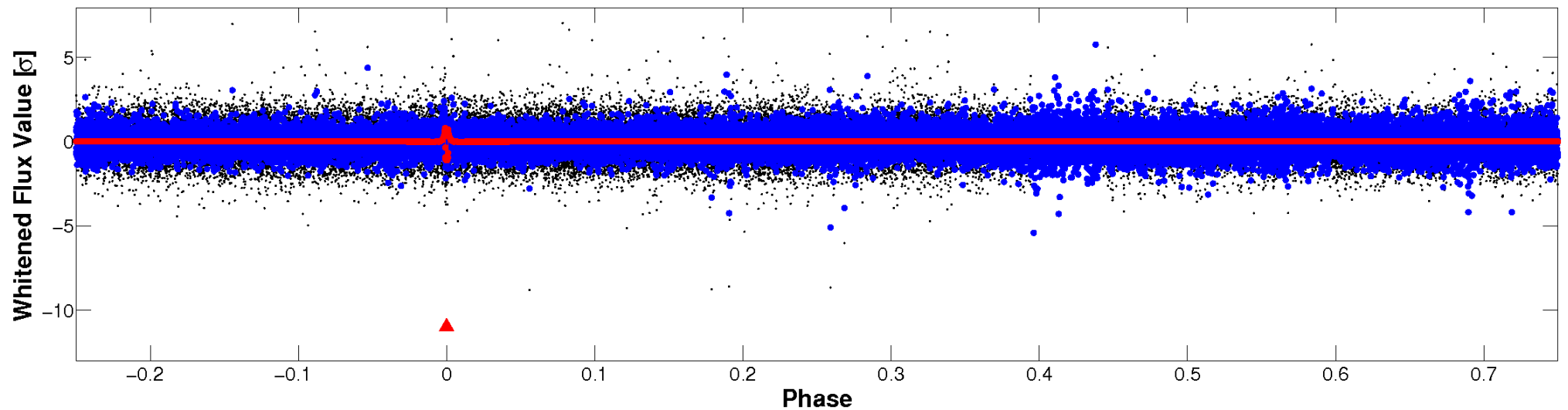


# Non-Whitened Vs. Whitened Light Curve

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

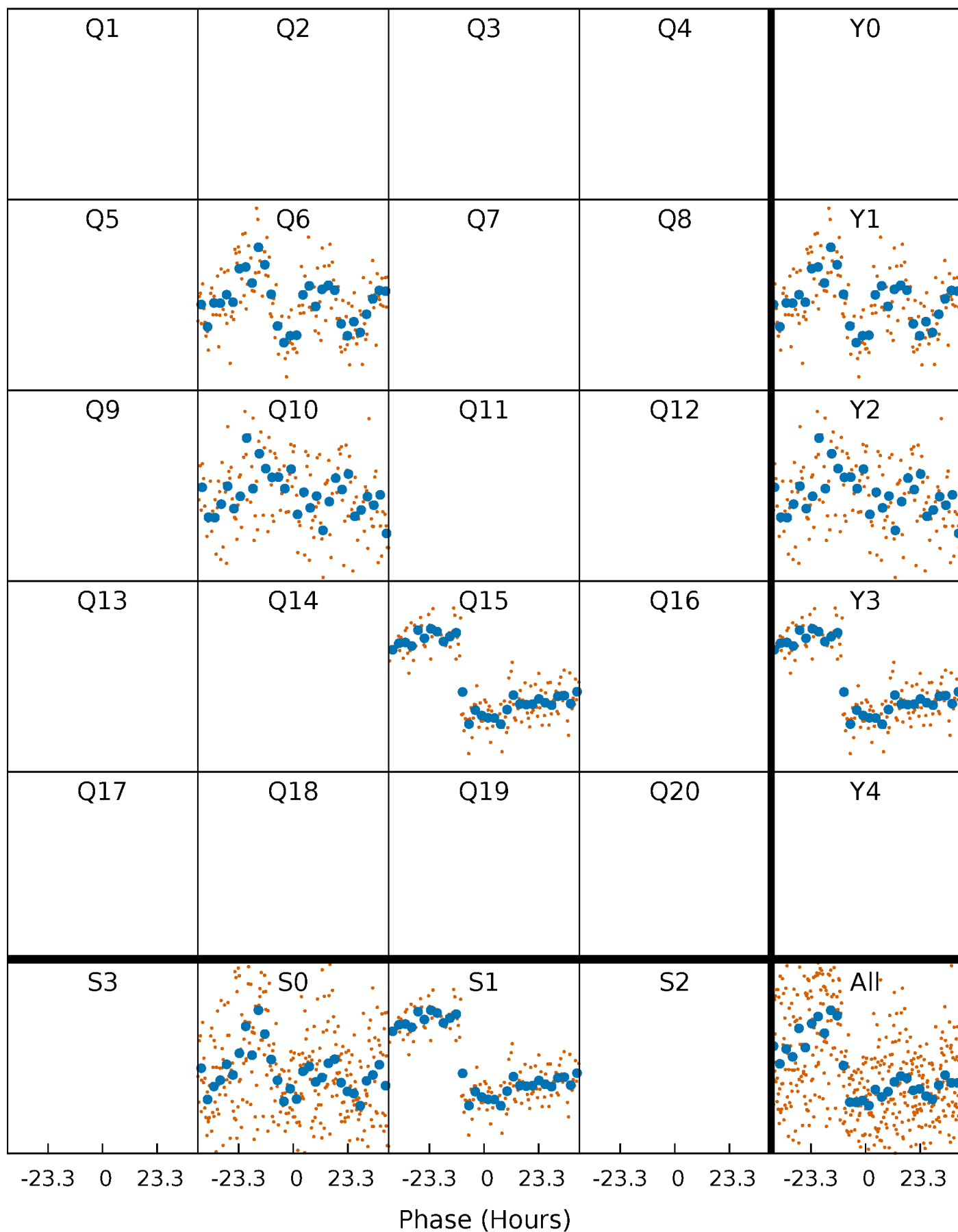


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

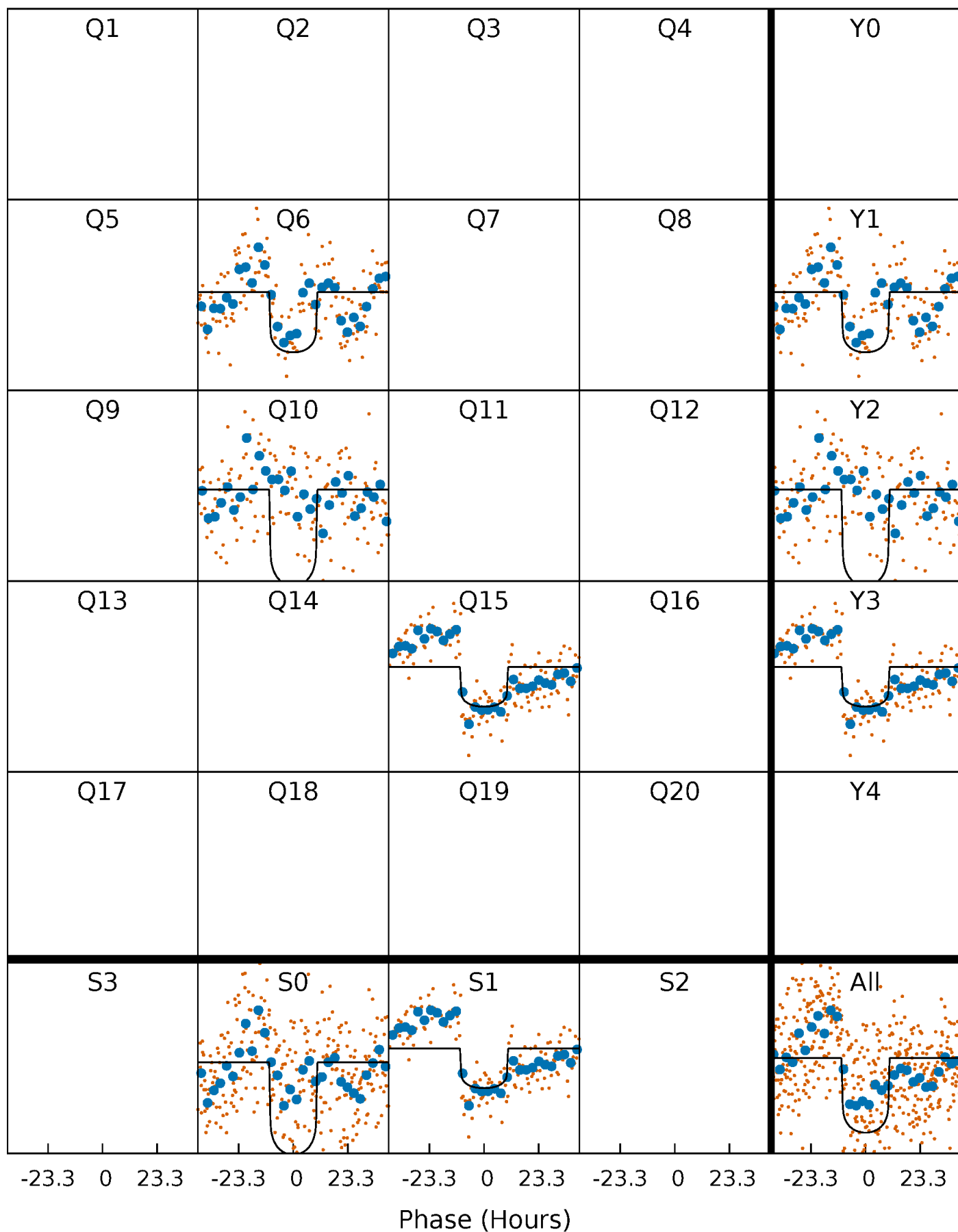
TCE 011338720-01 P=443.126865 Days  $T_0=544.331338$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 011338720-01 P=443.126865 Days  $T_0=544.331338$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

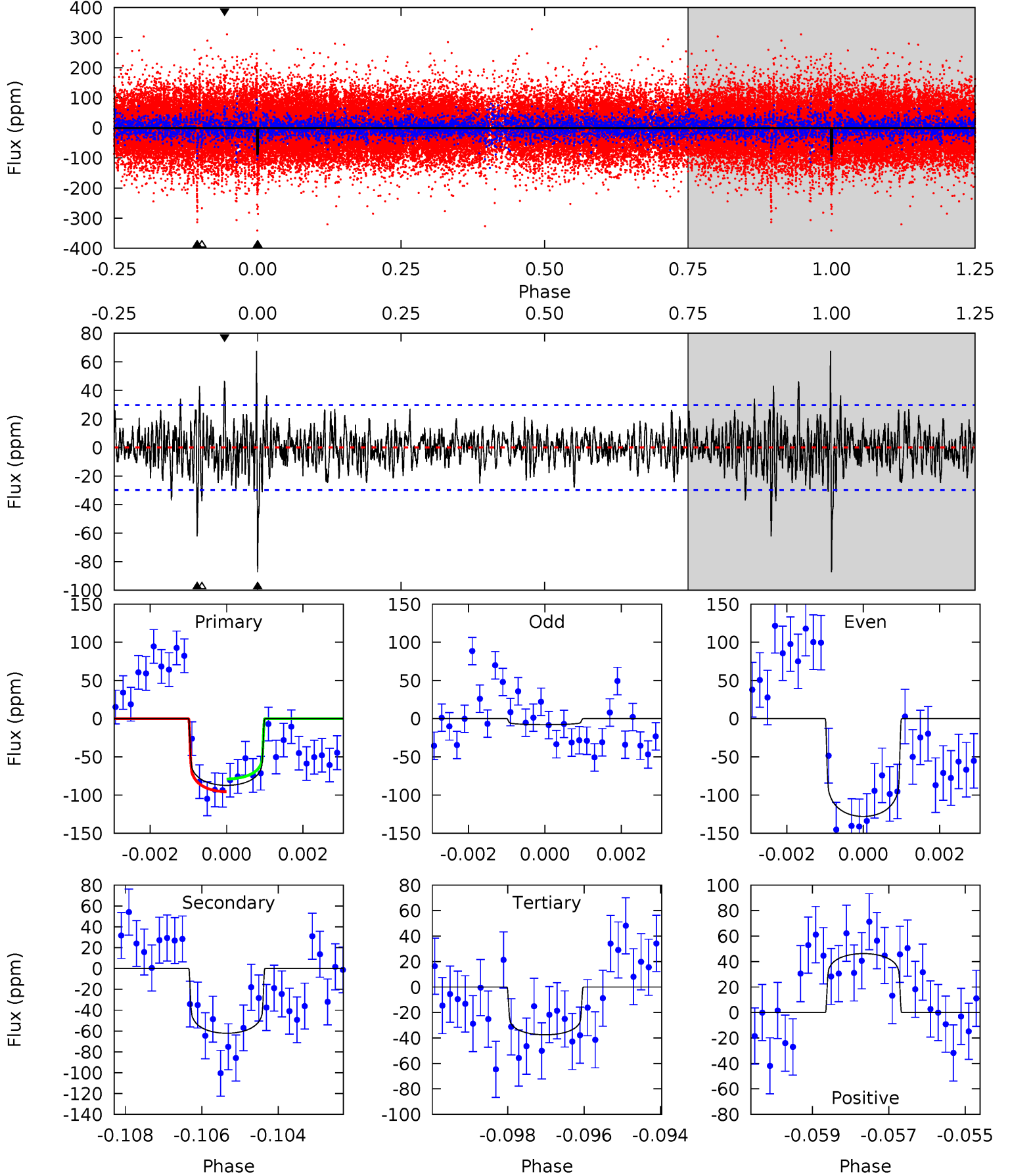
TCE 011338720-01 P=443.135805 Days  $T_0=544.326100$  (BKJD)



# DV Model-Shift Uniqueness Test

011338720-01, P = 443.126865 Days, E = 101.204473 Days

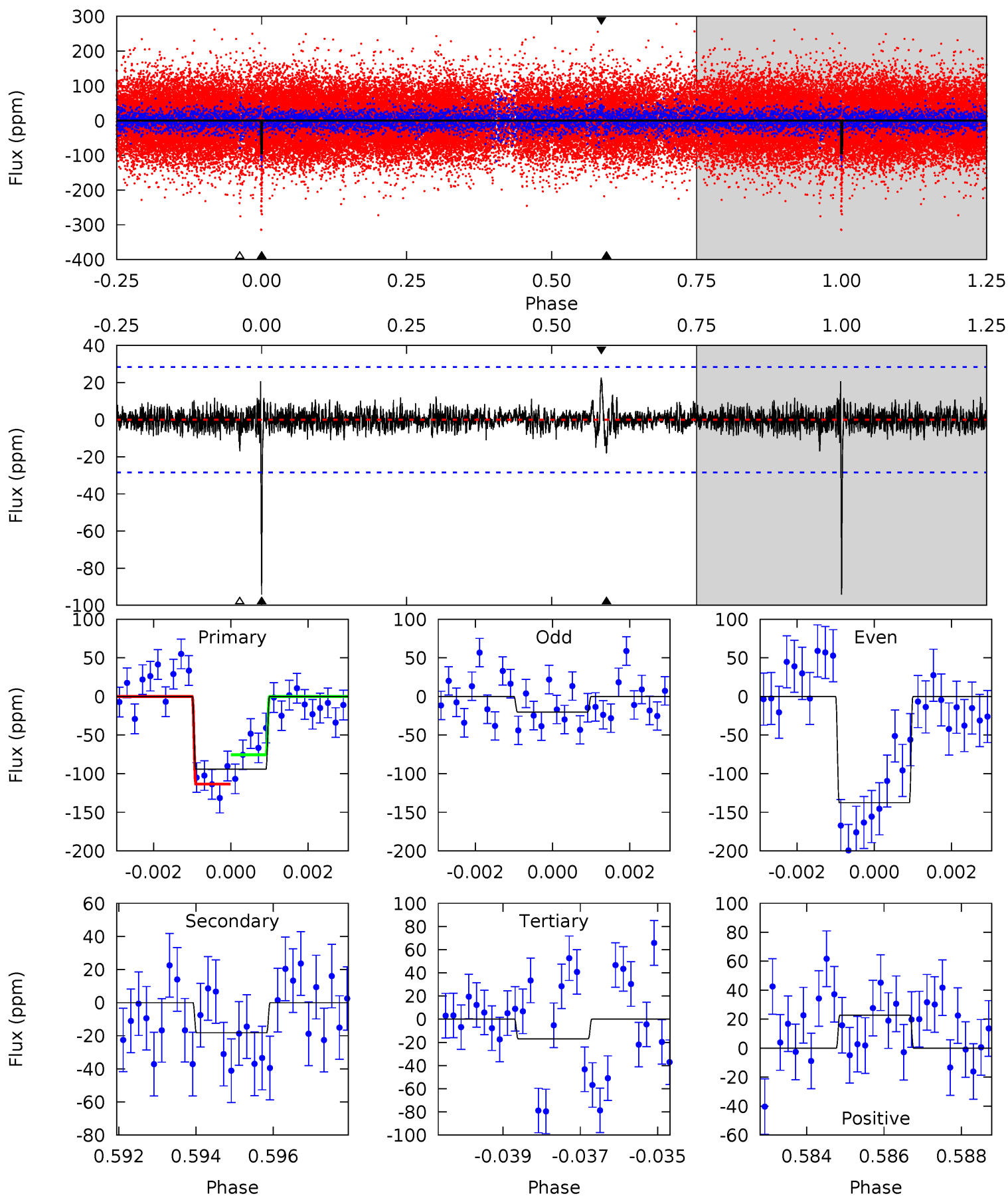
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	11.1	6.72	8.29	5.33	3.10	1.88	8.92	7.35	4.42	2.85	10.1	1.21	0.44	1.49



# Alt Model-Shift Uniqueness Test

011338720-01, P = 443.135805 Days, E = 101.190295 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
17.7	3.42	3.17	4.26	5.33	3.10	0.71	14.5	13.4	0.24	-0.85	10.6	1.23	0.19	3.57



### Stellar Parameters For KIC 011338720

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$9421^{+263}_{-451}$	$3.902^{+0.282}_{-0.188}$	$0.070^{+0.150}_{-0.650}$	$2.944^{+0.839}_{-1.154}$	$2.524^{+0.336}_{-0.841}$	$0.139^{+0.297}_{-0.069}$
	+3%/-5%	+7%/-5%	+214%/-929%	+28%/-39%	+13%/-33%	+214%/-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 011338720-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-62 \pm 6$	$3.78^{+0.88}_{-0.89}$	$790^{+75}_{-71}$	$7201^{+595}_{-543}$	$5760^{+3164}_{-2004}$
Alt.	$-18 \pm 5$	$3.07^{+0.75}_{-0.70}$	$796^{+62}_{-80}$	$5724^{+653}_{-516}$	$2383^{+1837}_{-979}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

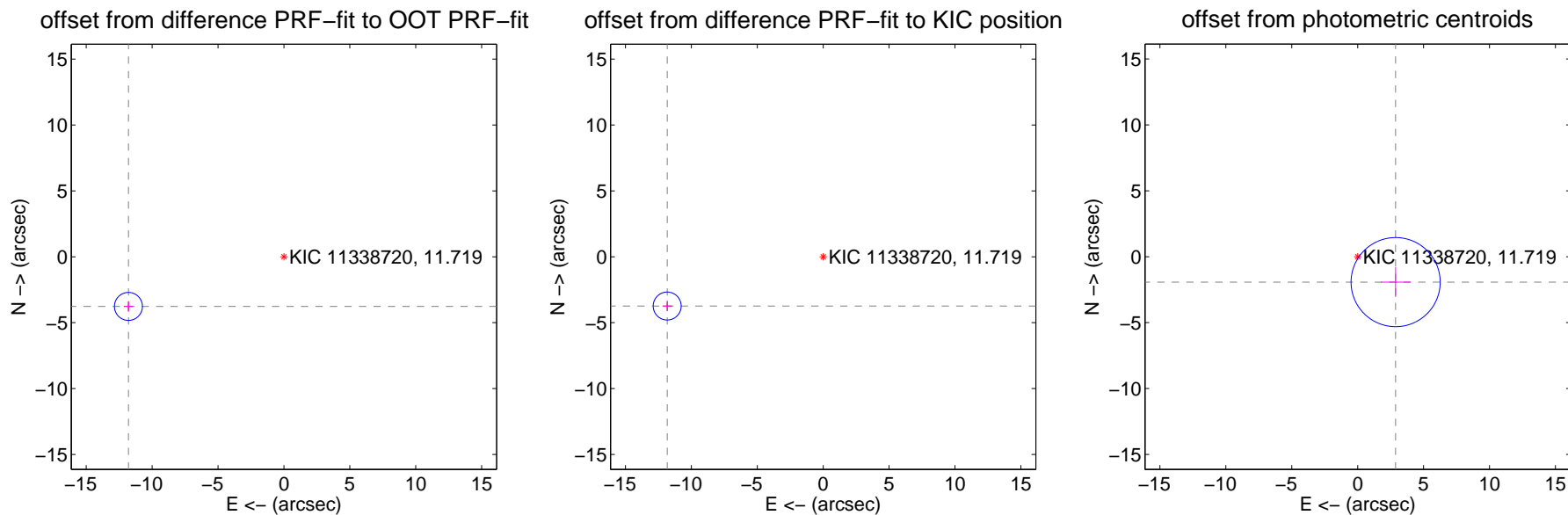
## DV Centroid Data

Supplemental centroid analysis for 011338720-01. **Kepler magnitude: 11.72.** Transit SNR 13.08

**There are 0 quarters with good PRF difference image offsets**

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>12.385 \pm 0.354</math></b>	<b>35.00</b>	$11.799 \pm 0.350$	$-3.767 \pm 0.392$
PRF-fit source offset from KIC position	<b><math>12.413 \pm 0.354</math></b>	<b>35.08</b>	$11.836 \pm 0.350$	$-3.738 \pm 0.392$
photometric centroid source offset	<b><math>3.46 \pm 1.13</math></b>	<b>3.07</b>	$-2.88 \pm 1.13$	$-1.93 \pm 1.13$

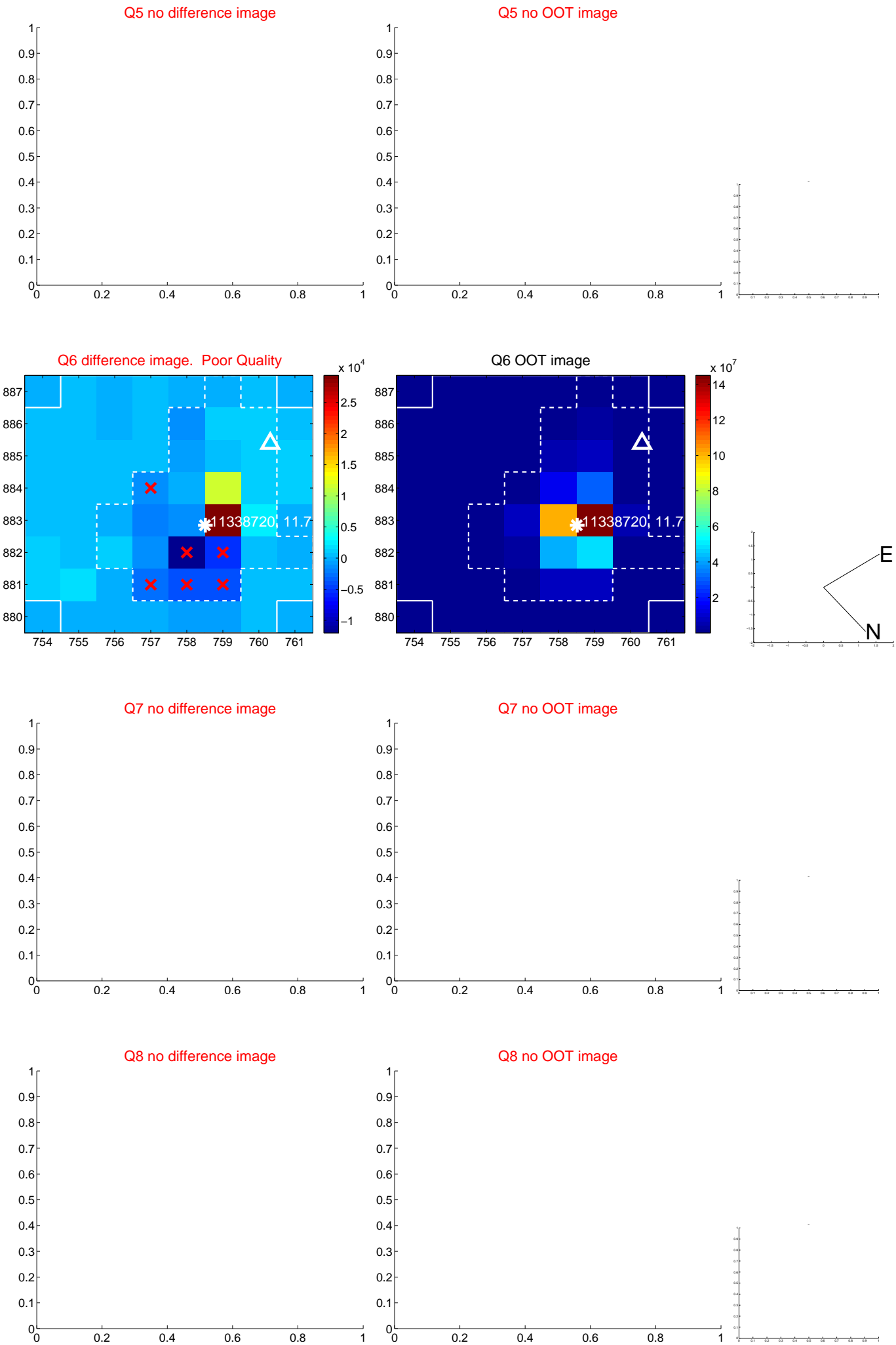


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

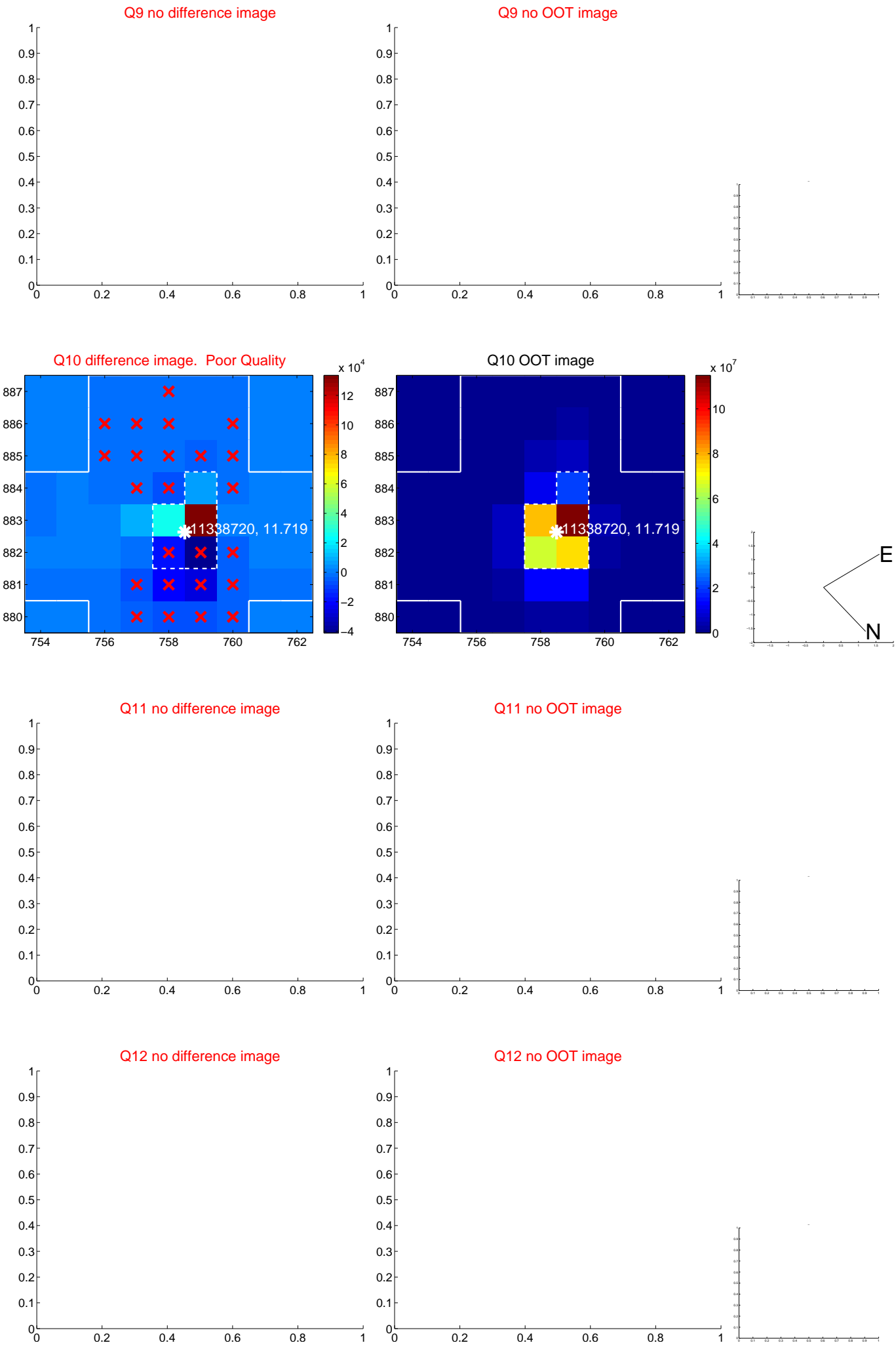


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

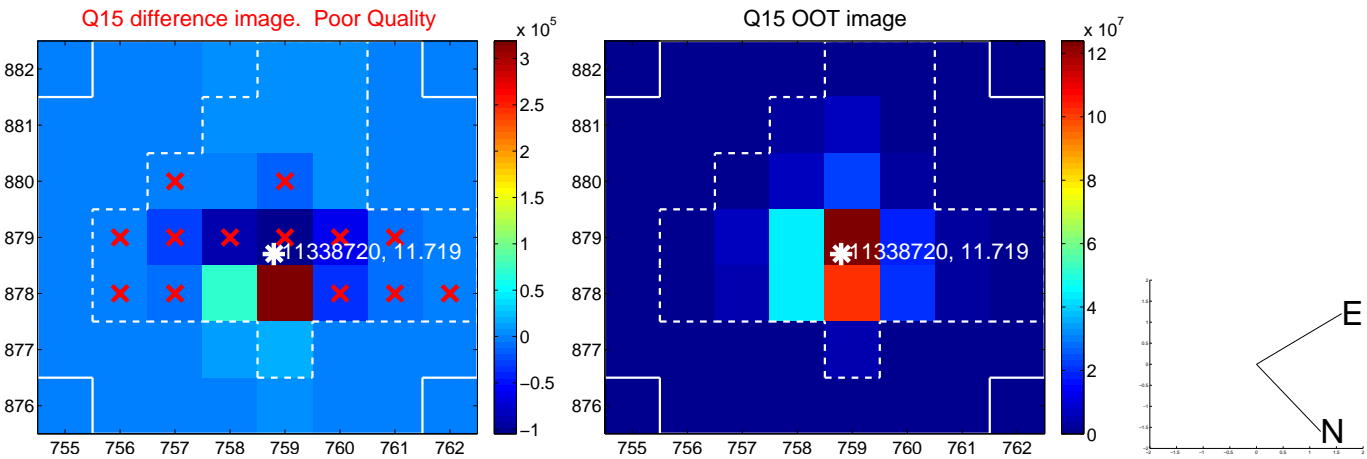




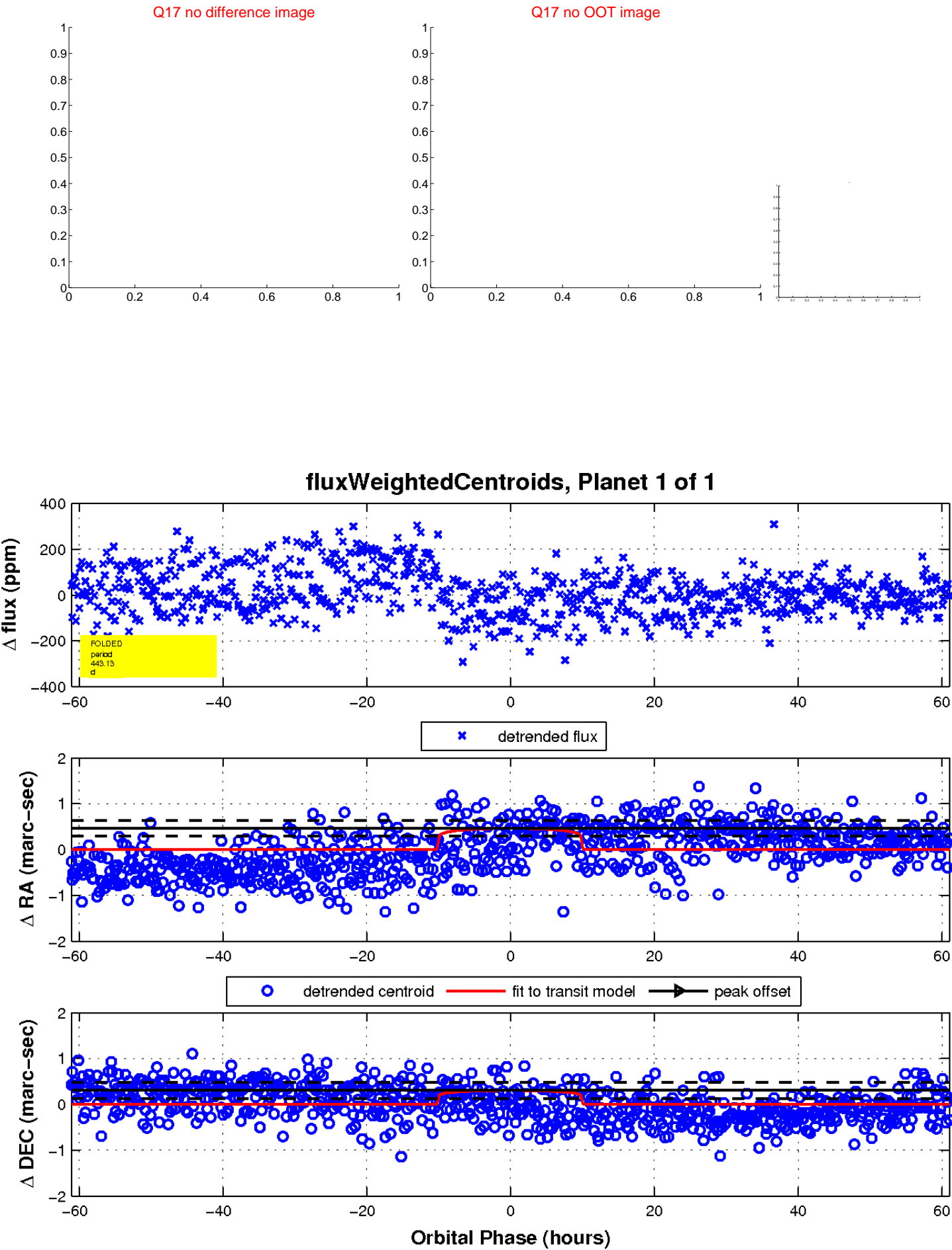
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

