

# KIC 012252732

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
012252732-01	OBS	8236.01	595.813187	363.752529	99.0	15.503	7.8	7.6	1.29	5618	1.47	0.85

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012252732-01	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

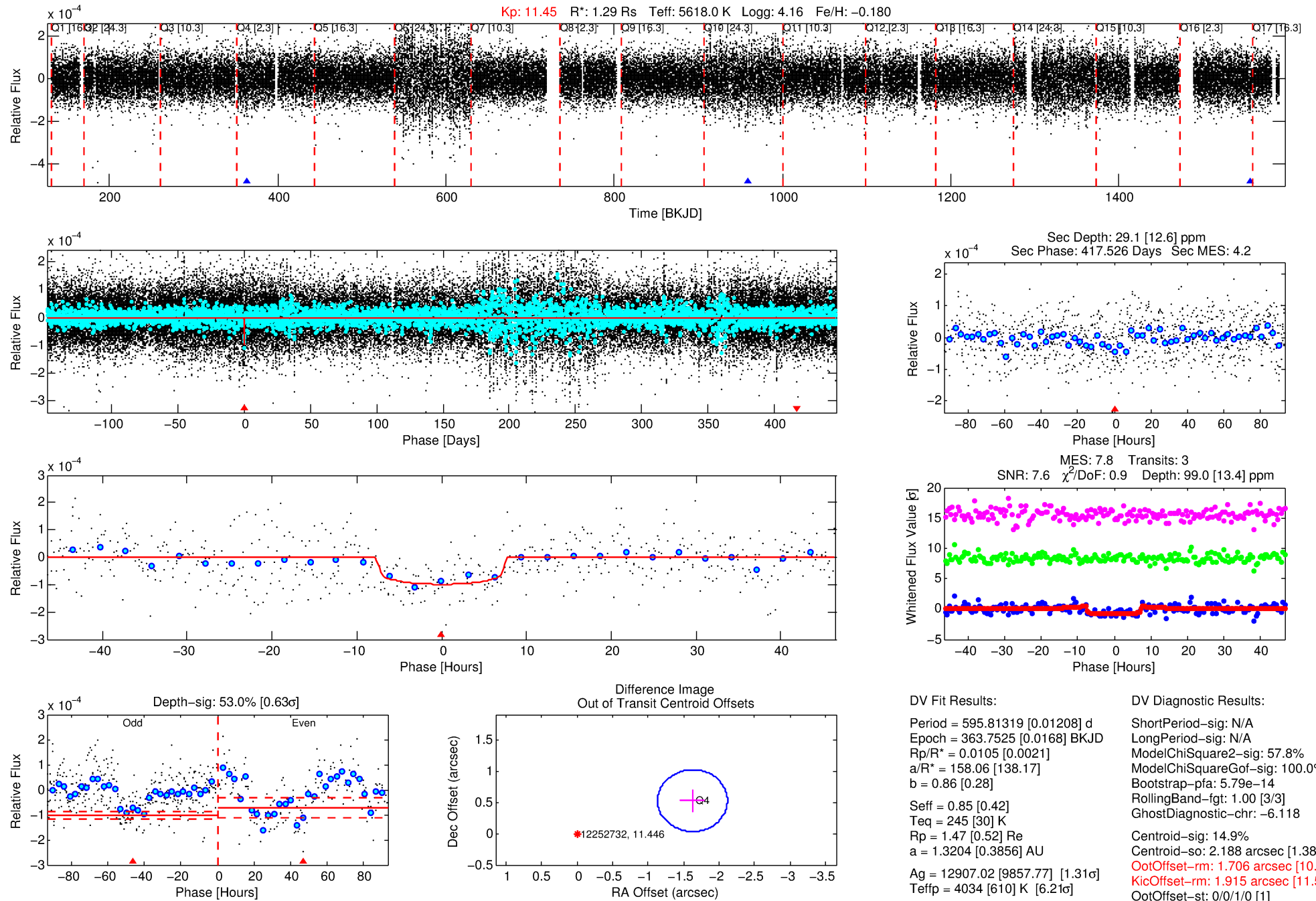
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 012252732-01

No Significant Match Found

# DV One-Page Summary

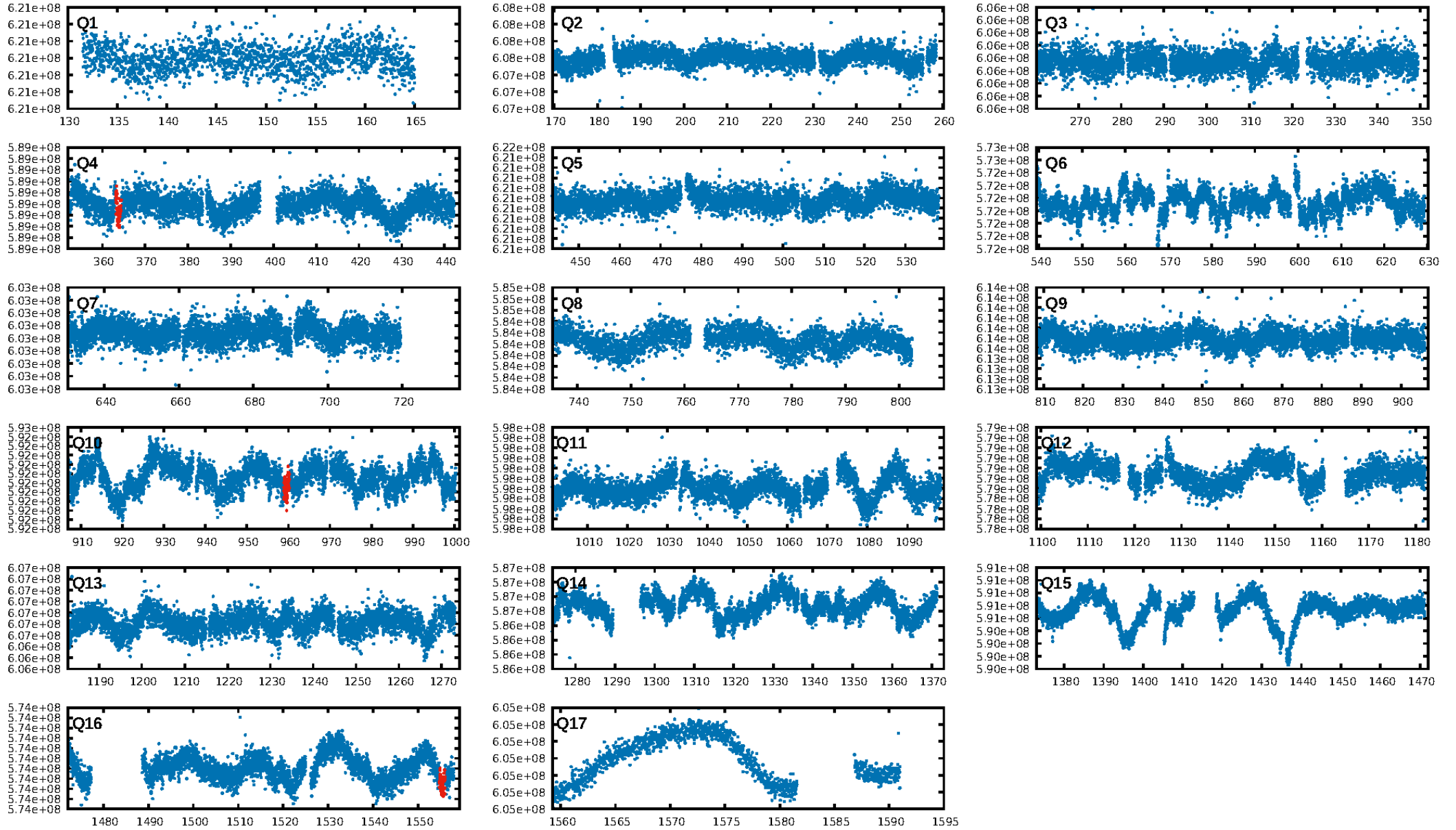
KIC: 12252732 Candidate: 1 of 1 Period: 595.813 d



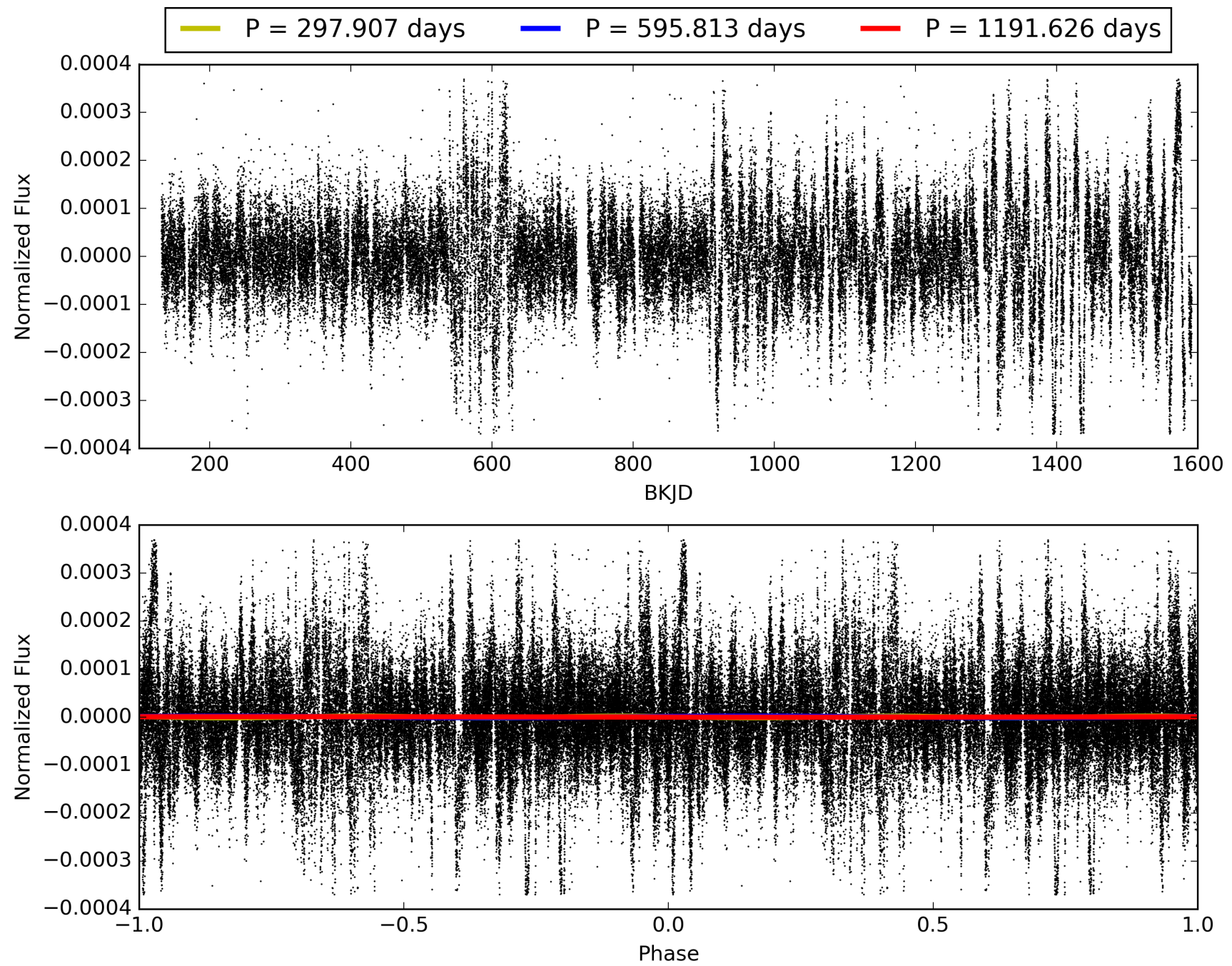
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:10:24 Z

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

# TCE 012252732-01, PDC Light Curves

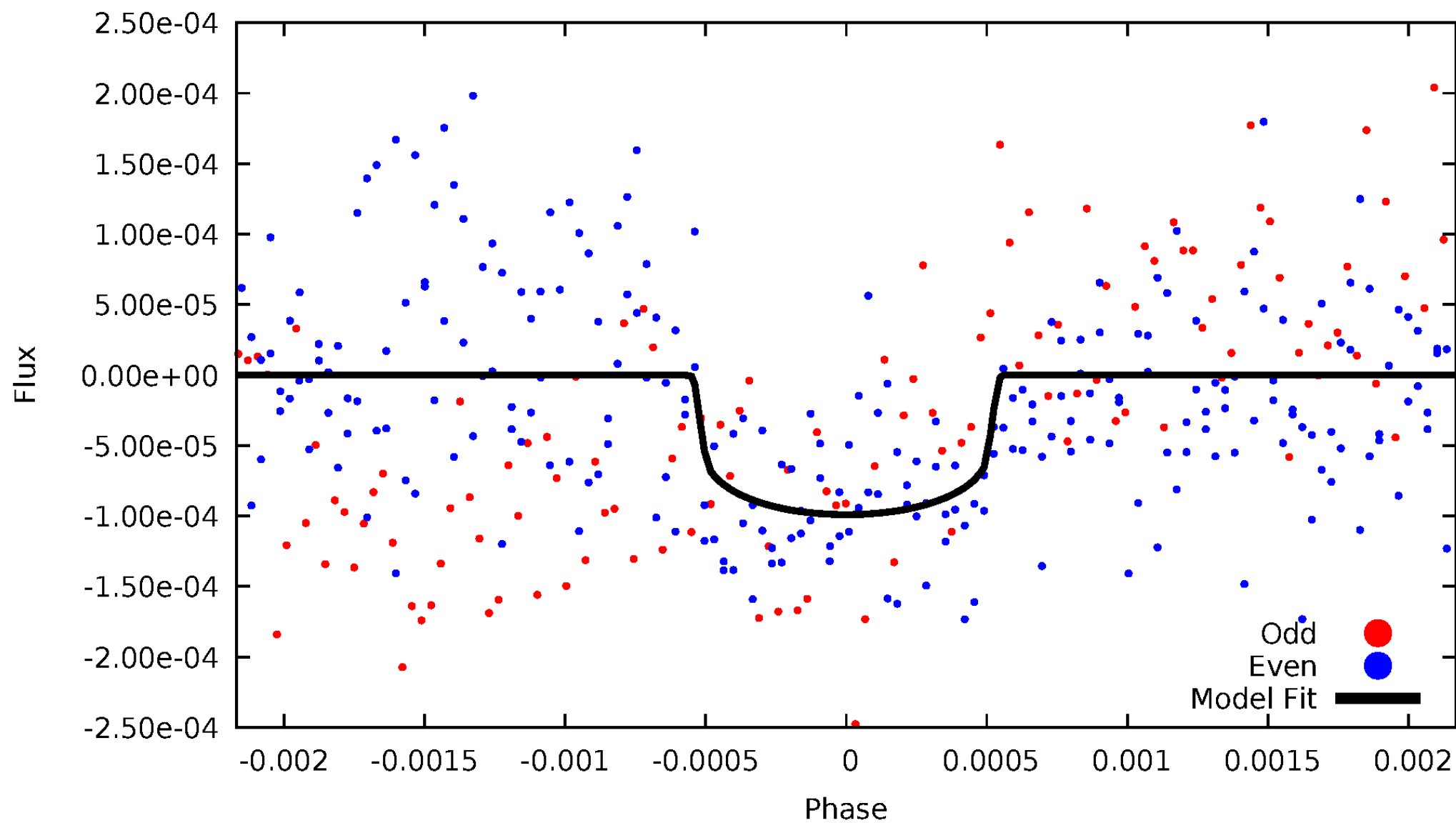


# TCE 012252732-01



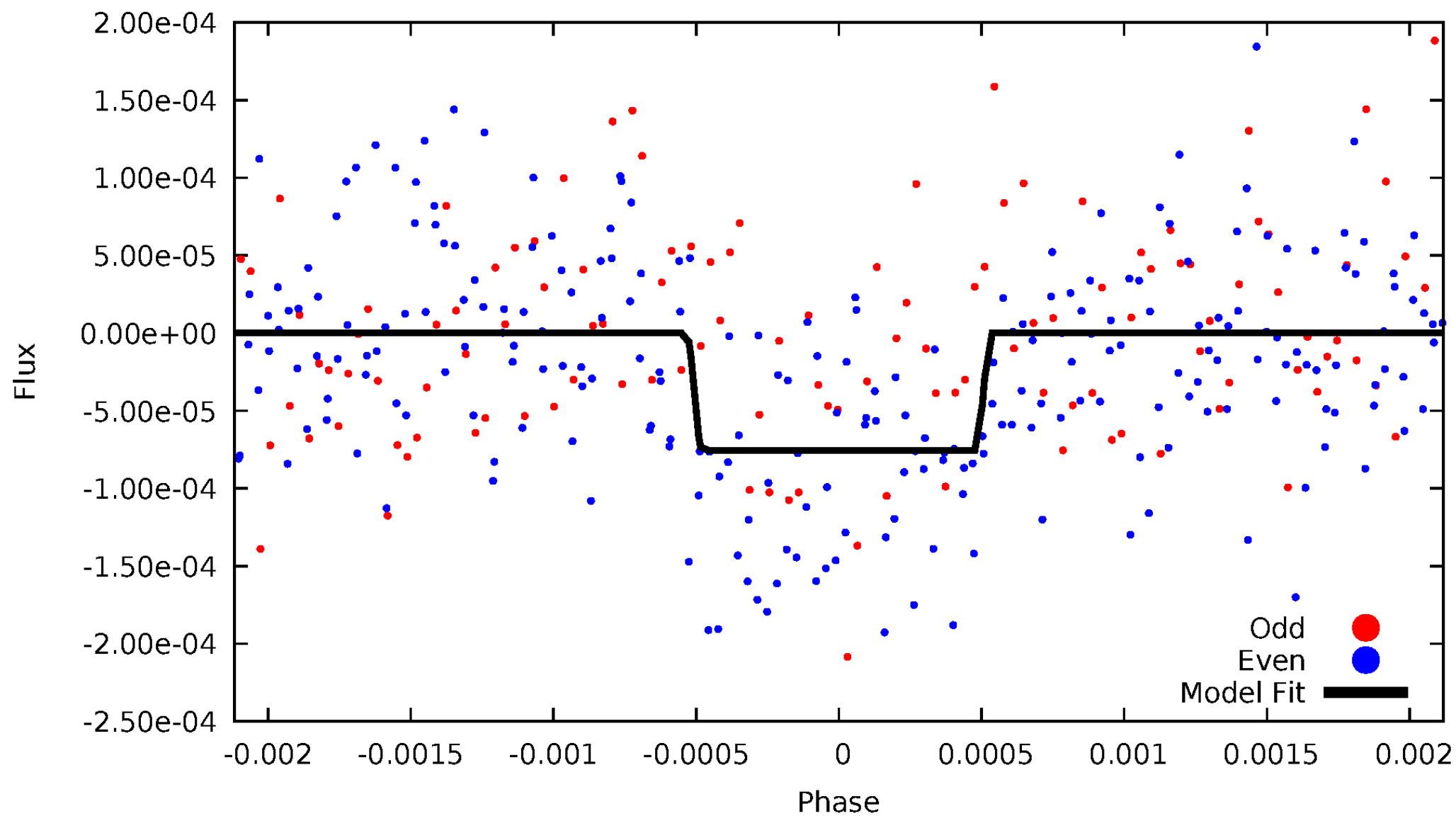
# DV Odd/Even

TCE 012252732-01



# ALT Odd/Even

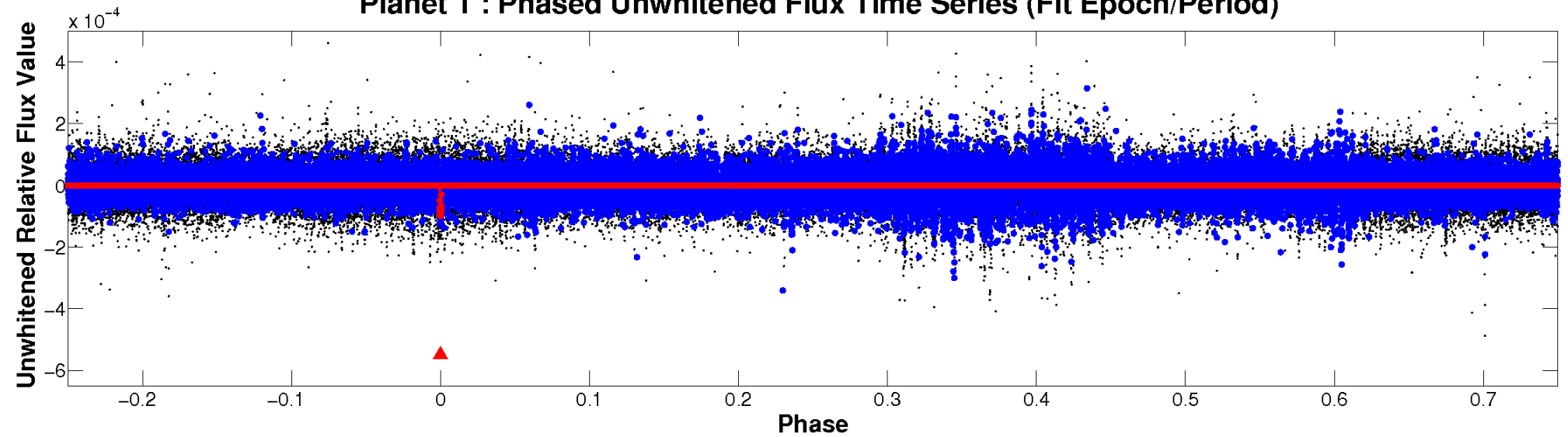
TCE 012252732-01



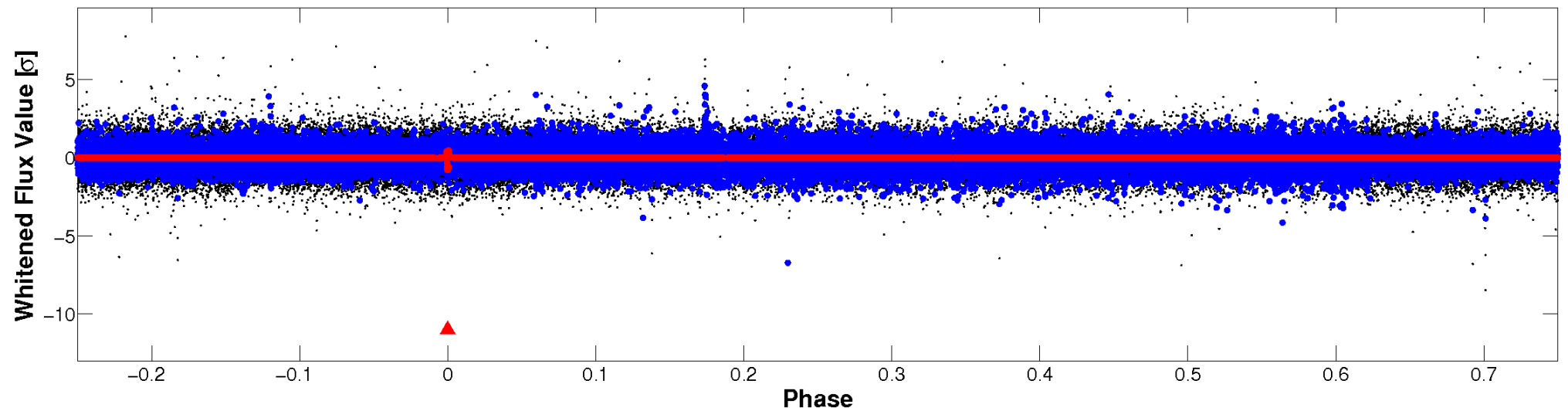


# Non-Whitened Vs. Whitened Light Curve

**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 012252732-01 P=595.813187 Days  $T_0=363.752529$  (BKJD)





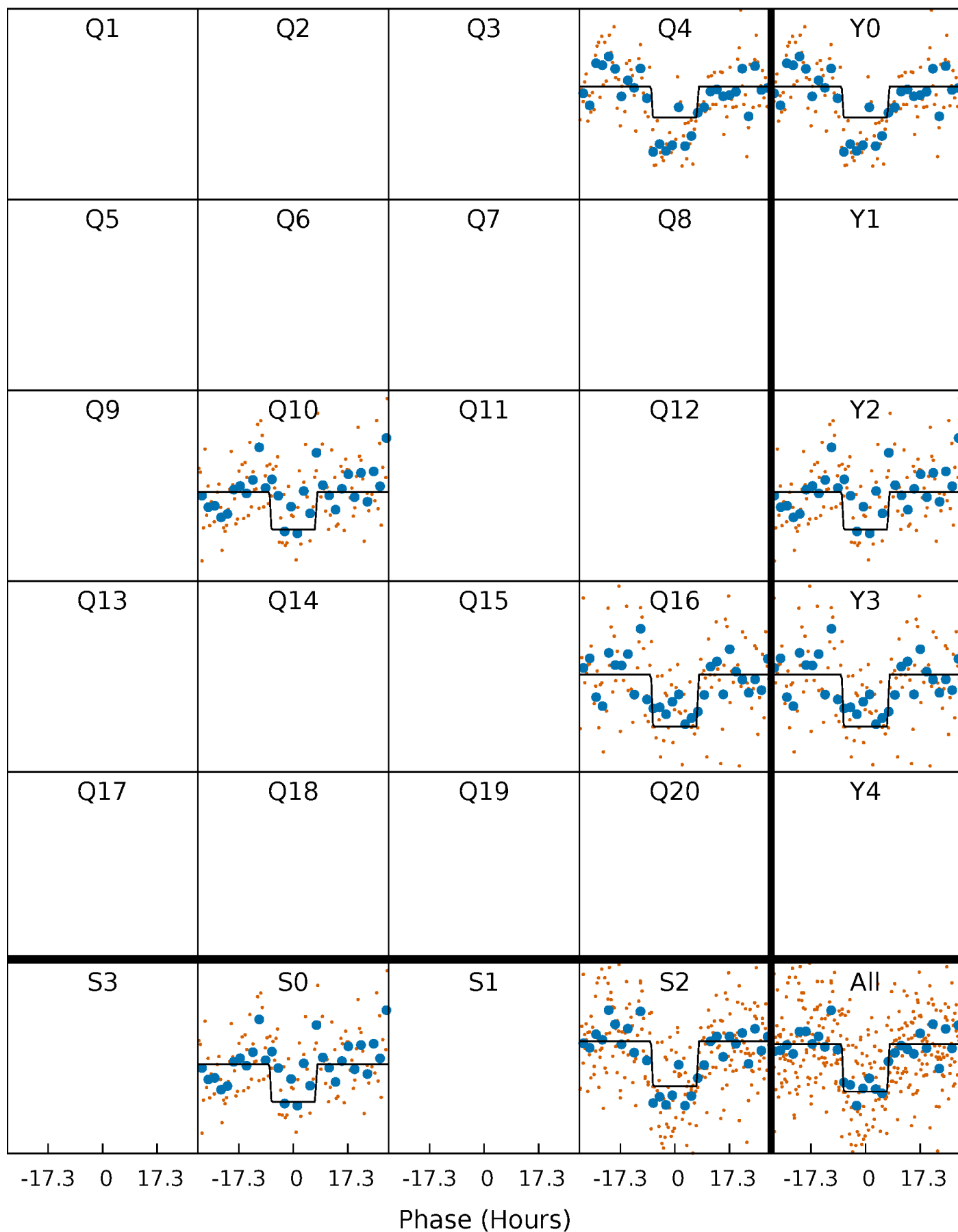
# DV Quarter-Phased Transit Curves

TCE 012252732-01 P=595.813187 Days  $T_0=363.752529$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

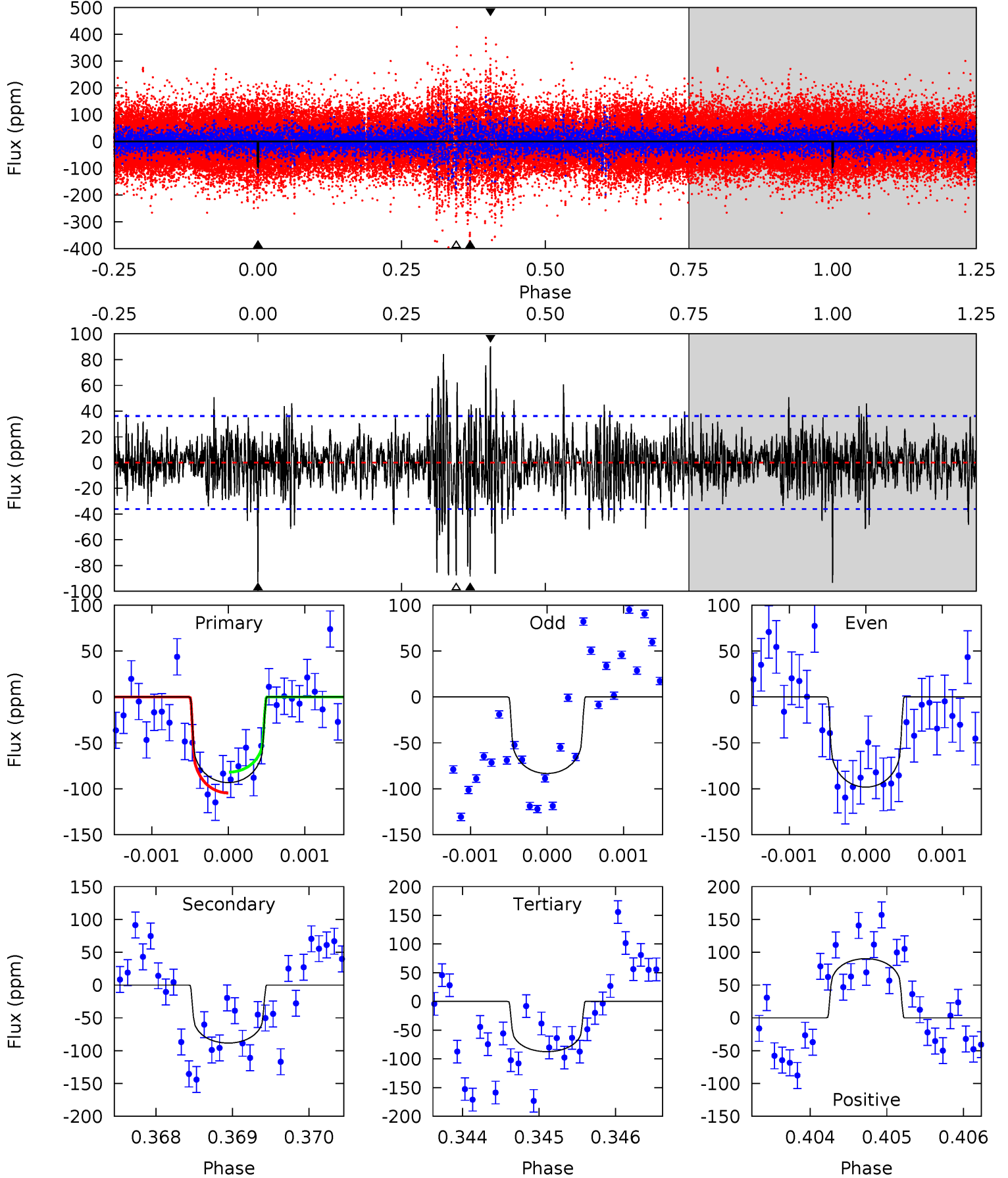
TCE 012252732-01 P=595.801743 Days  $T_0=363.765173$  (BKJD)



# DV Model-Shift Uniqueness Test

012252732-01, P = 595.813187 Days, E = 363.752529 Days

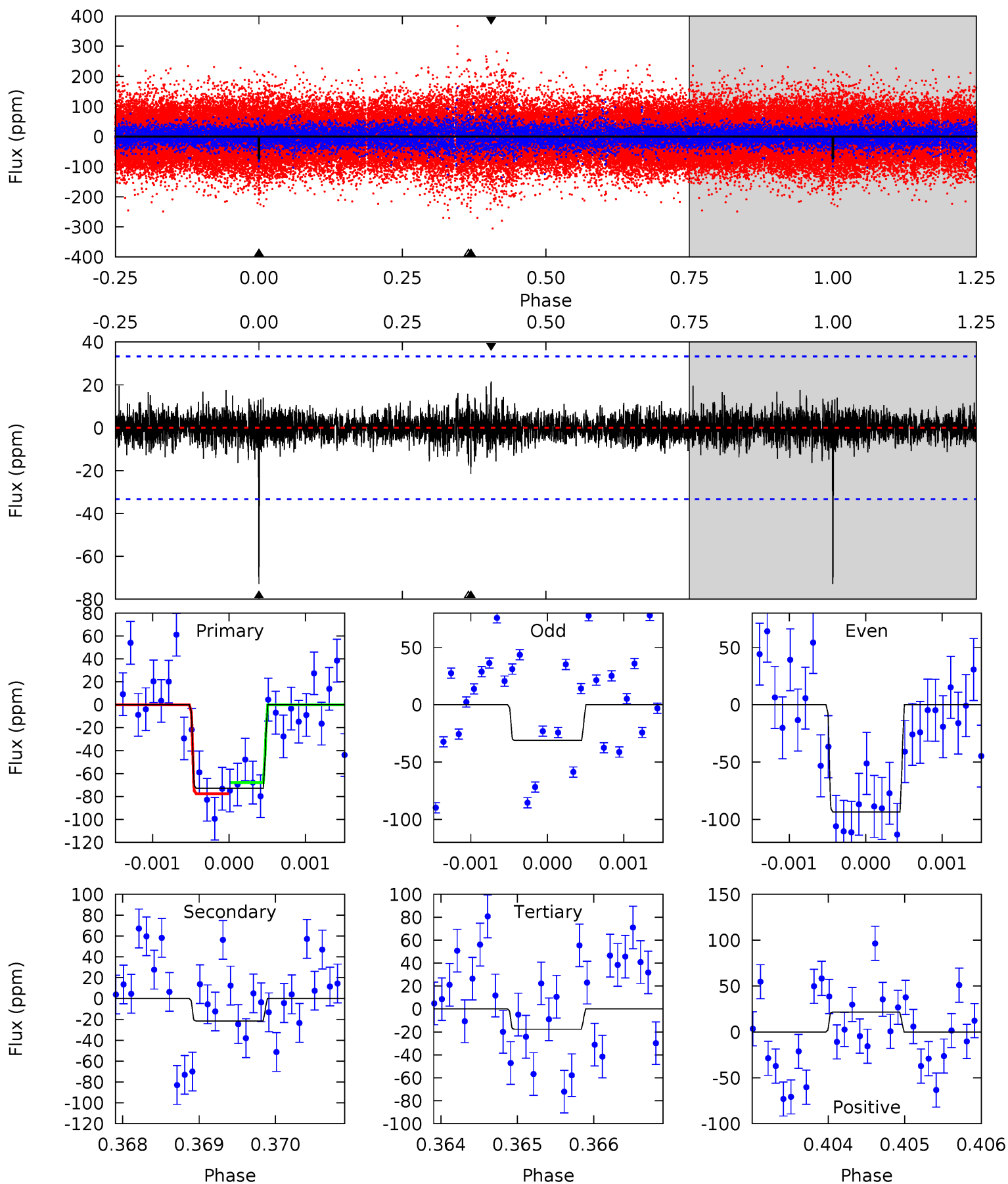
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	13.3	13.2	13.6	5.43	3.26	2.56	0.87	0.45	0.14	-0.28	1.08	0.97	0.49	1.69



# Alt Model-Shift Uniqueness Test

012252732-01, P = 595.801743 Days, E = 363.765173 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
11.9	3.50	2.88	3.50	5.44	3.27	0.70	9.01	8.38	0.63	0.00	4.90	1.24	0.23	0.78



### Stellar Parameters For KIC 012252732

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5618^{+154}_{-126}$	$4.155^{+0.286}_{-0.132}$	$-0.180^{+0.300}_{-0.250}$	$1.288^{+0.271}_{-0.372}$	$0.865^{+0.118}_{-0.064}$	$0.571^{+1.019}_{-0.246}$
	+3%/-2%	+7%/-3%	+167%/-139%	+21%/-29%	+14%/-7%	+179%/-43%
Source	PHO1	FLK73	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 012252732-01 / KOI 8236.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-88 \pm 7$	$1.44^{+0.37}_{-0.34}$	$339^{+22}_{-28}$	$5323^{+618}_{-392}$	$41284^{+30606}_{-14975}$
Alt.	$-21 \pm 6$	$1.18^{+0.36}_{-0.33}$	$339^{+21}_{-27}$	$4334^{+574}_{-417}$	$14992^{+14970}_{-6841}$

$T_{\text{max}}$  = 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

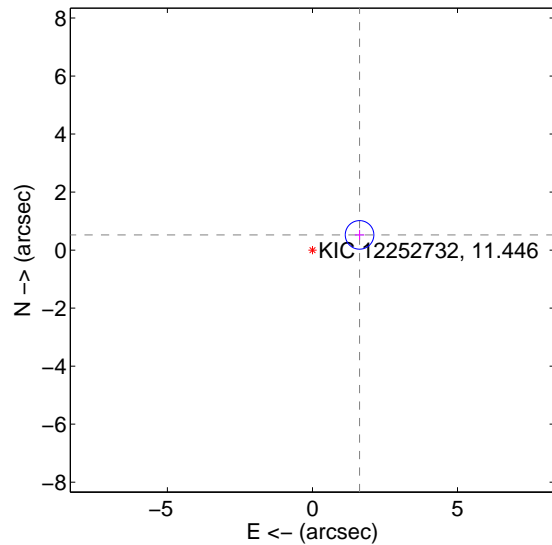
Supplemental centroid analysis for 012252732-01. **Kepler magnitude: 11.45.** Transit SNR 7.56

**There are 1 quarters with good PRF difference image offsets**

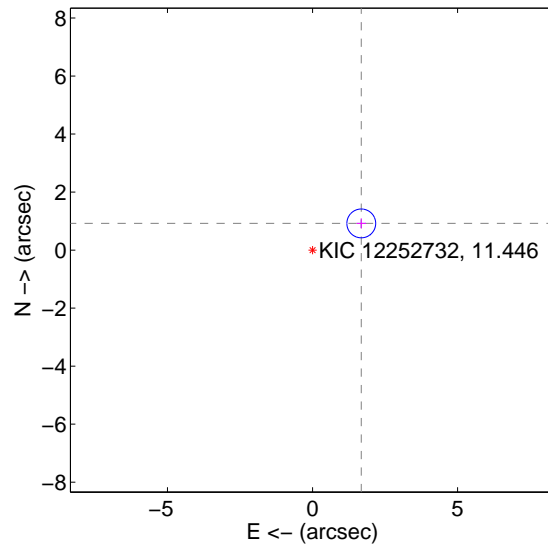
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>1.706 <math>\pm</math> 0.164</b>	<b>10.39</b>	-1.624 $\pm$ 0.163	0.524 $\pm$ 0.173
PRF-fit source offset from KIC position	<b>1.915 <math>\pm</math> 0.166</b>	<b>11.57</b>	-1.680 $\pm$ 0.163	0.920 $\pm$ 0.173
photometric centroid source offset	2.19 $\pm$ 1.59	1.38	2.04 $\pm$ 1.52	-0.80 $\pm$ 1.95

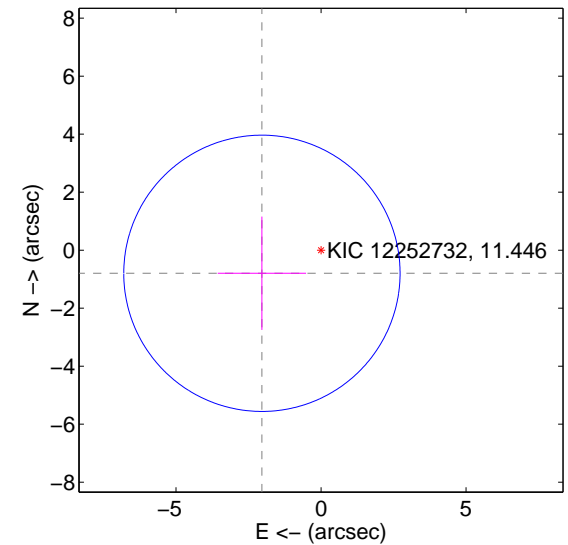
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

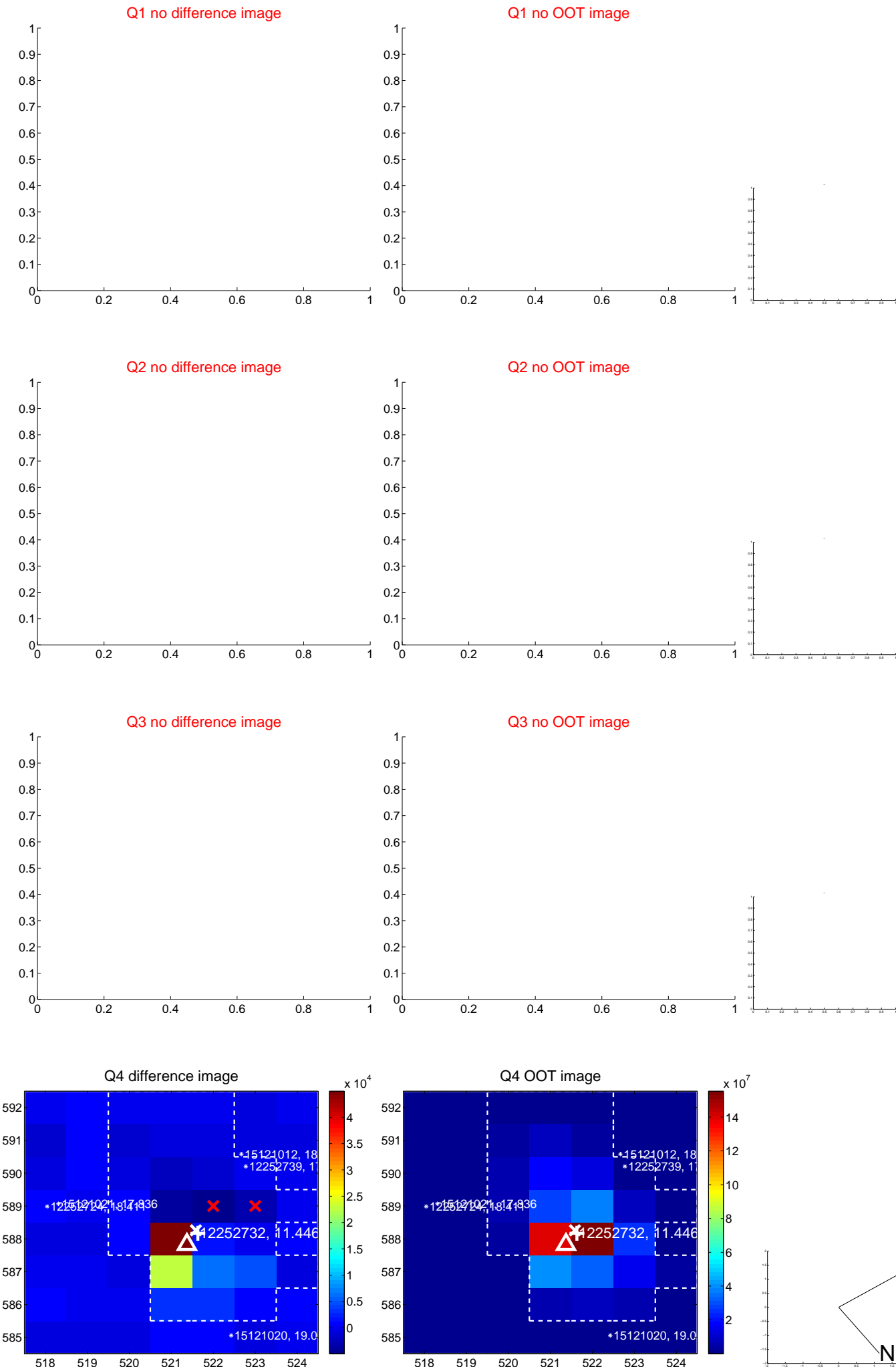


offset from photometric centroids



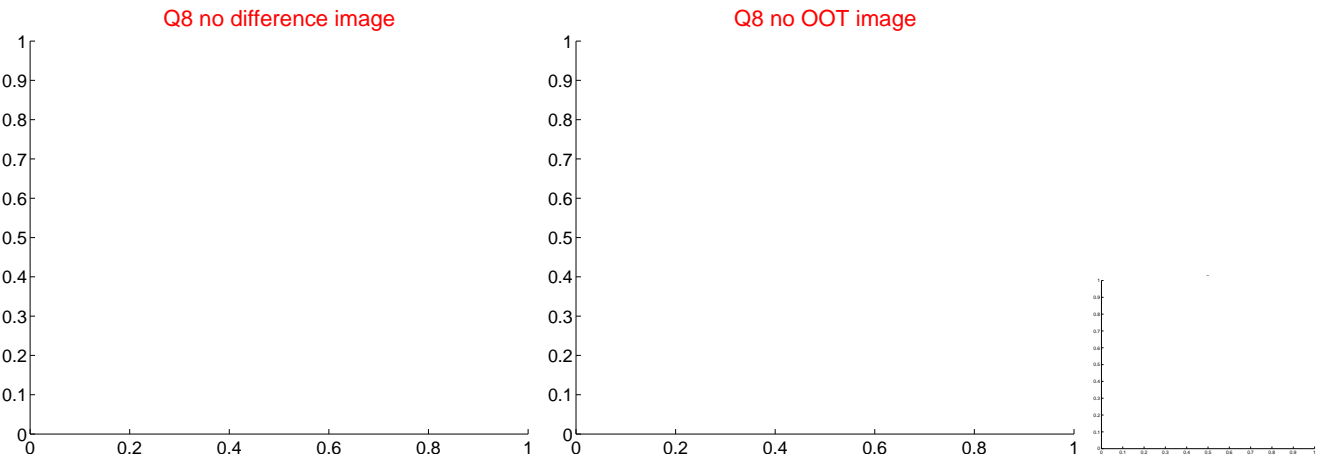
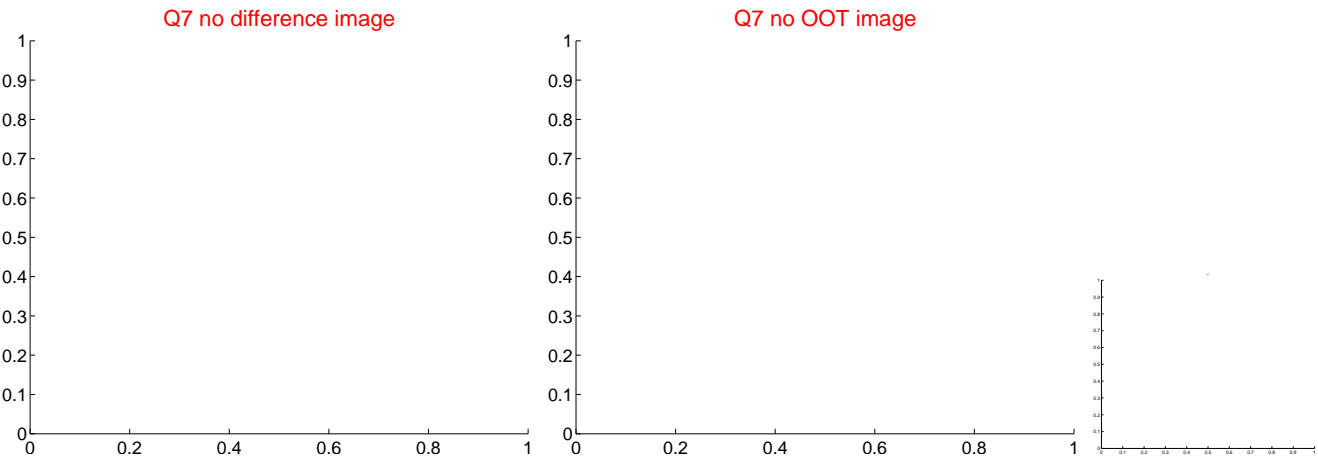
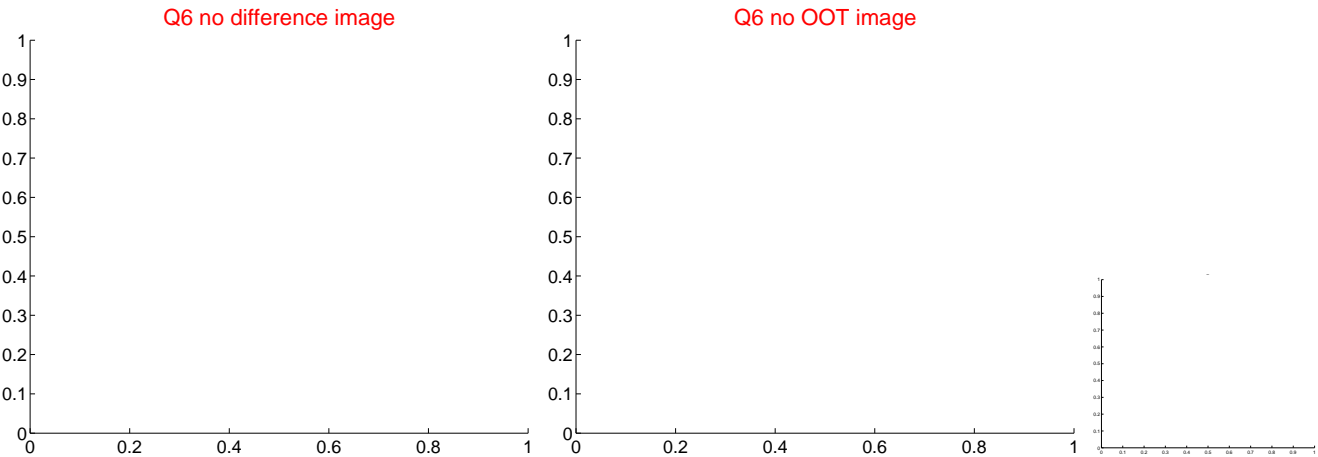
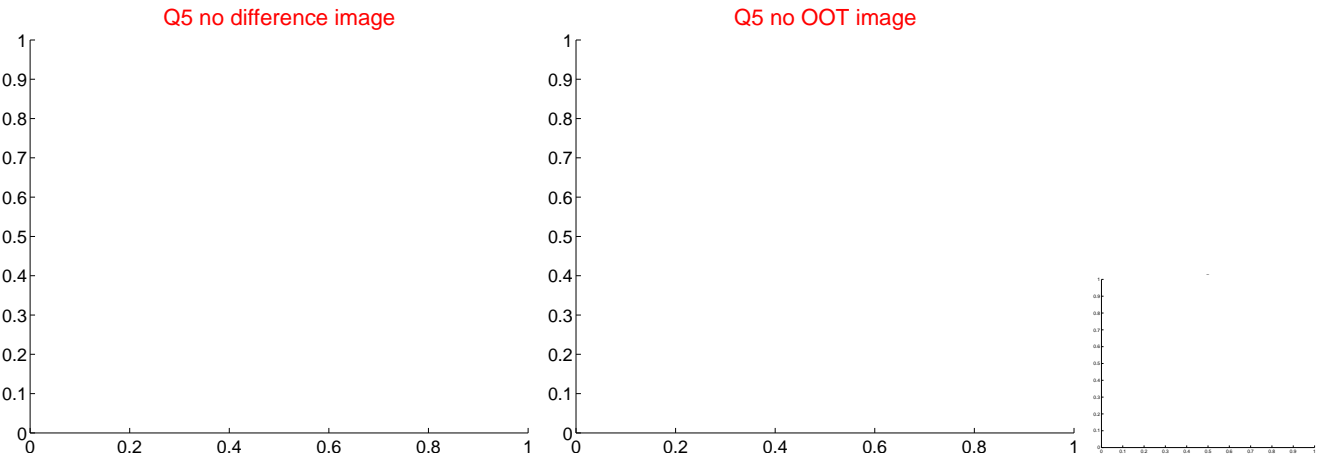
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

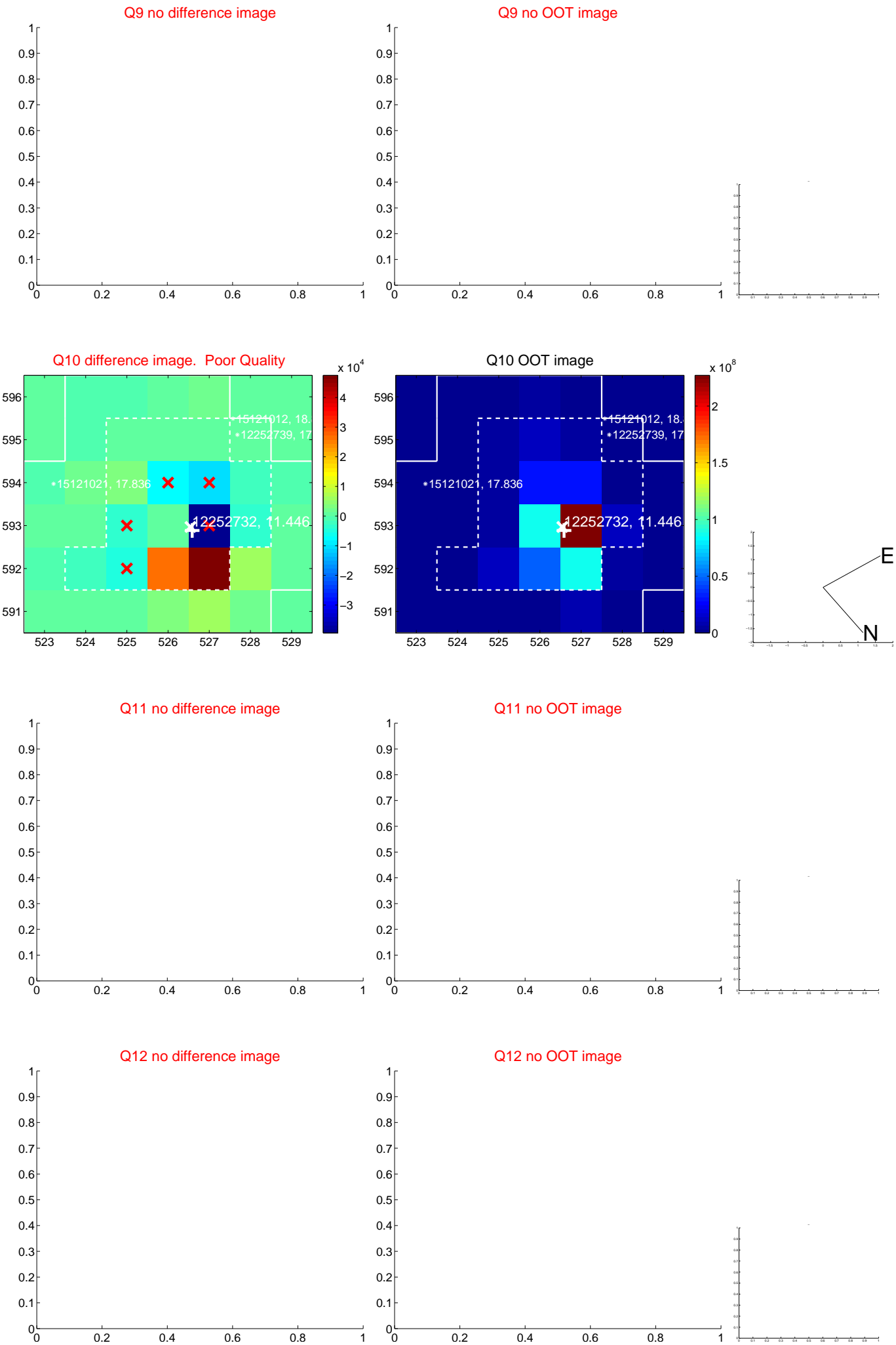




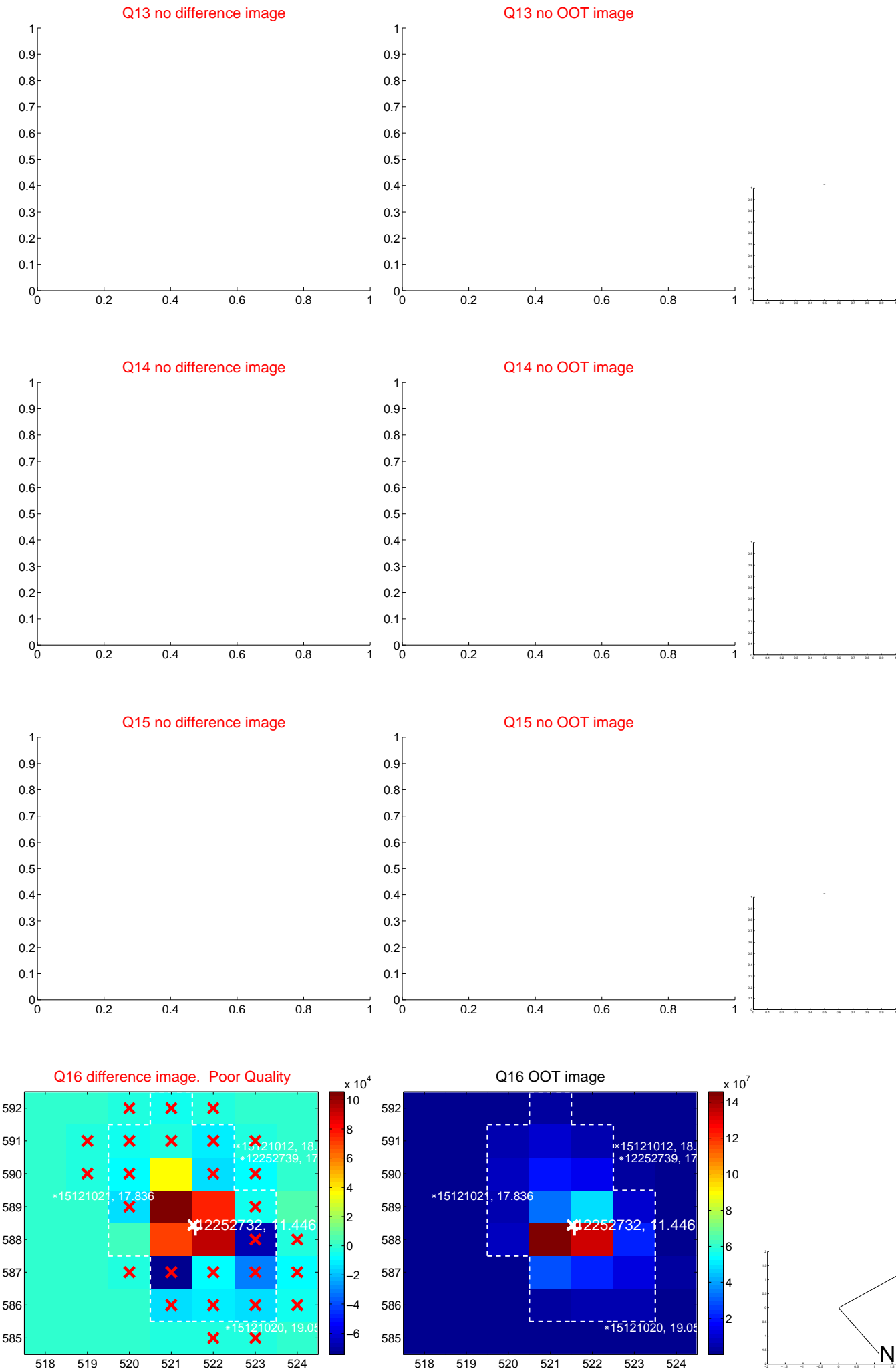
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



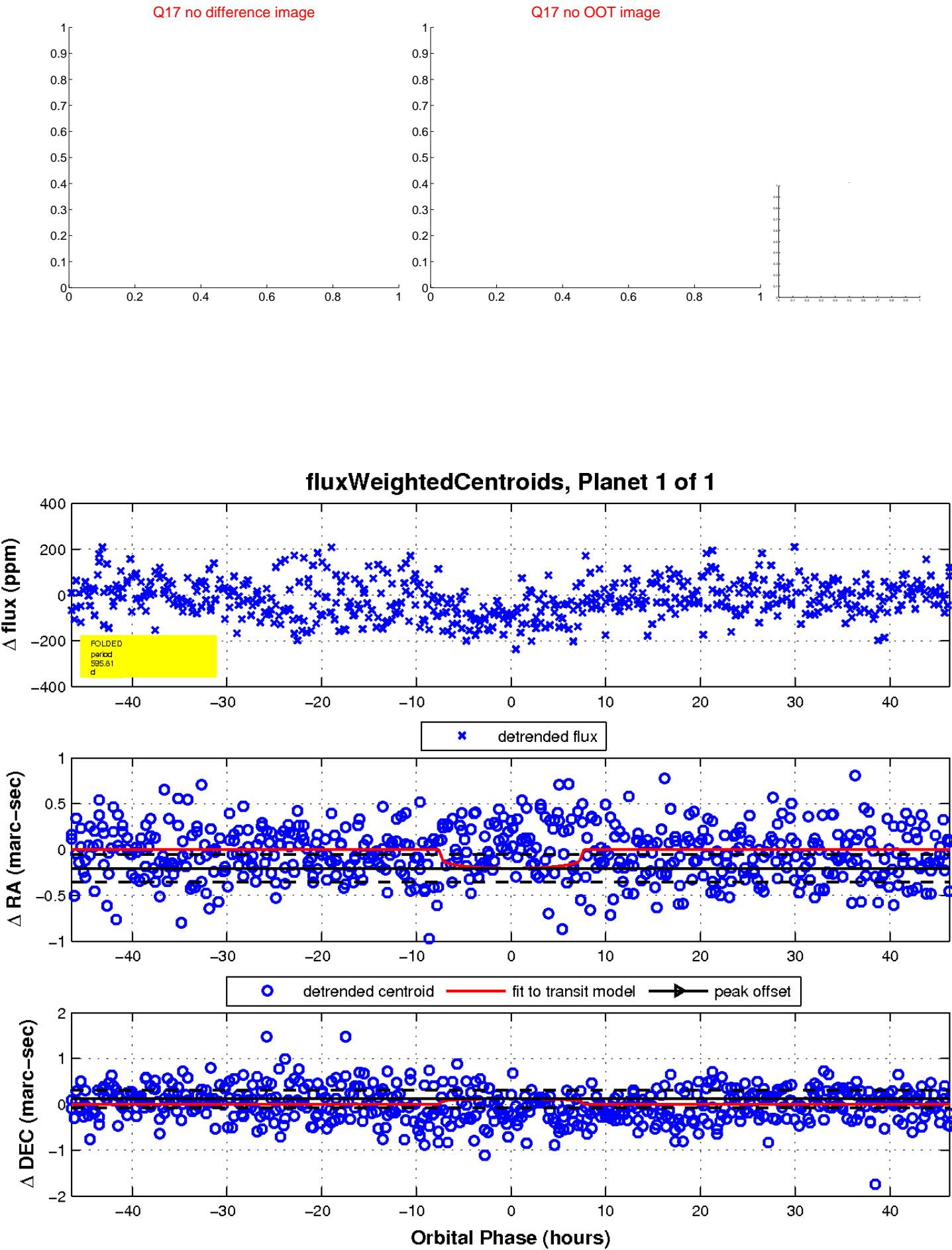
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

