

# KIC 010146667

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010146667-01	OBS	No	249.626557	336.202492	285.2	7.808	7.4	7.2	0.90	6008	1.63	1.59

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010146667-01	OBS	FP	0.05	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

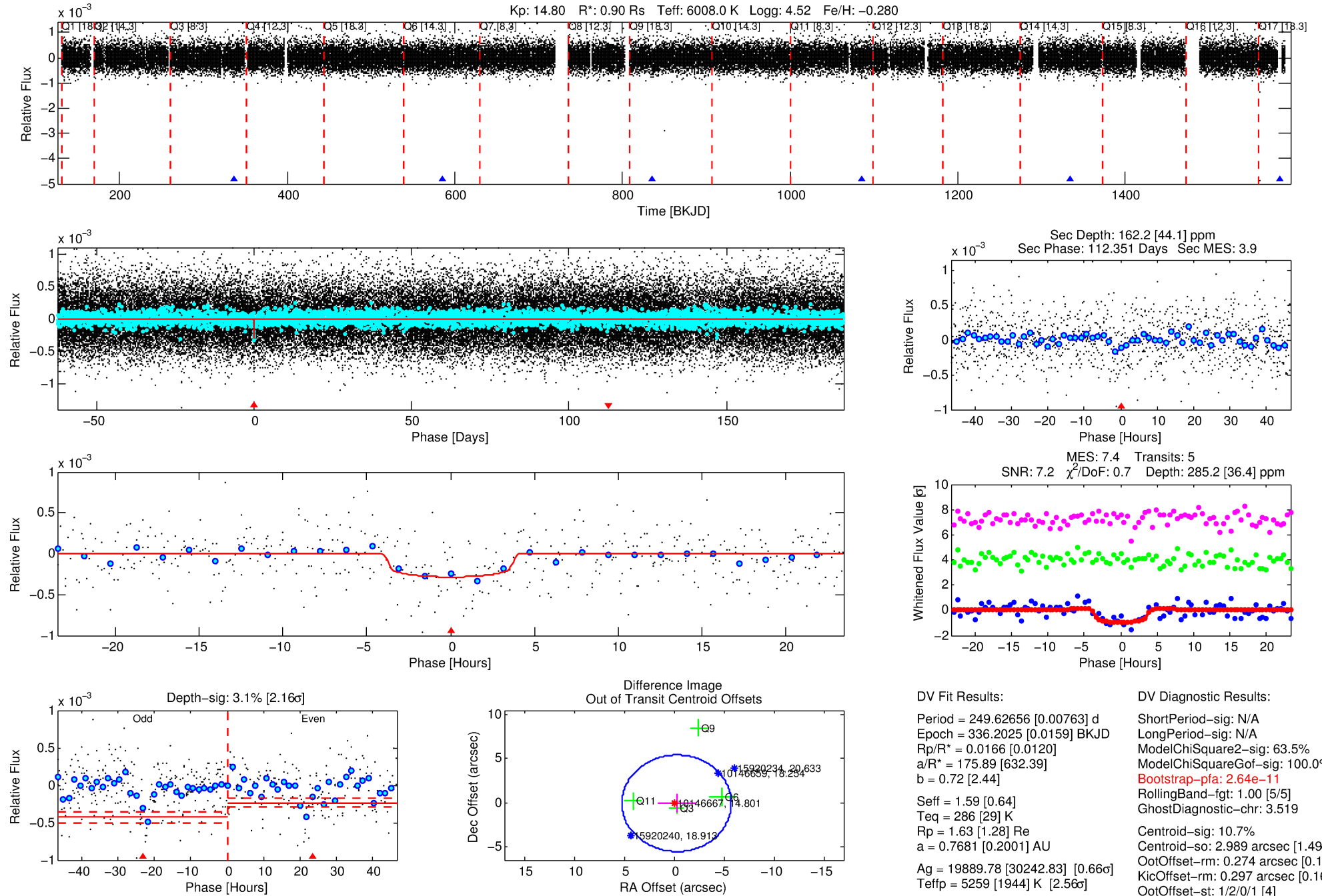
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010146667-01

No Significant Match Found

# DV One-Page Summary

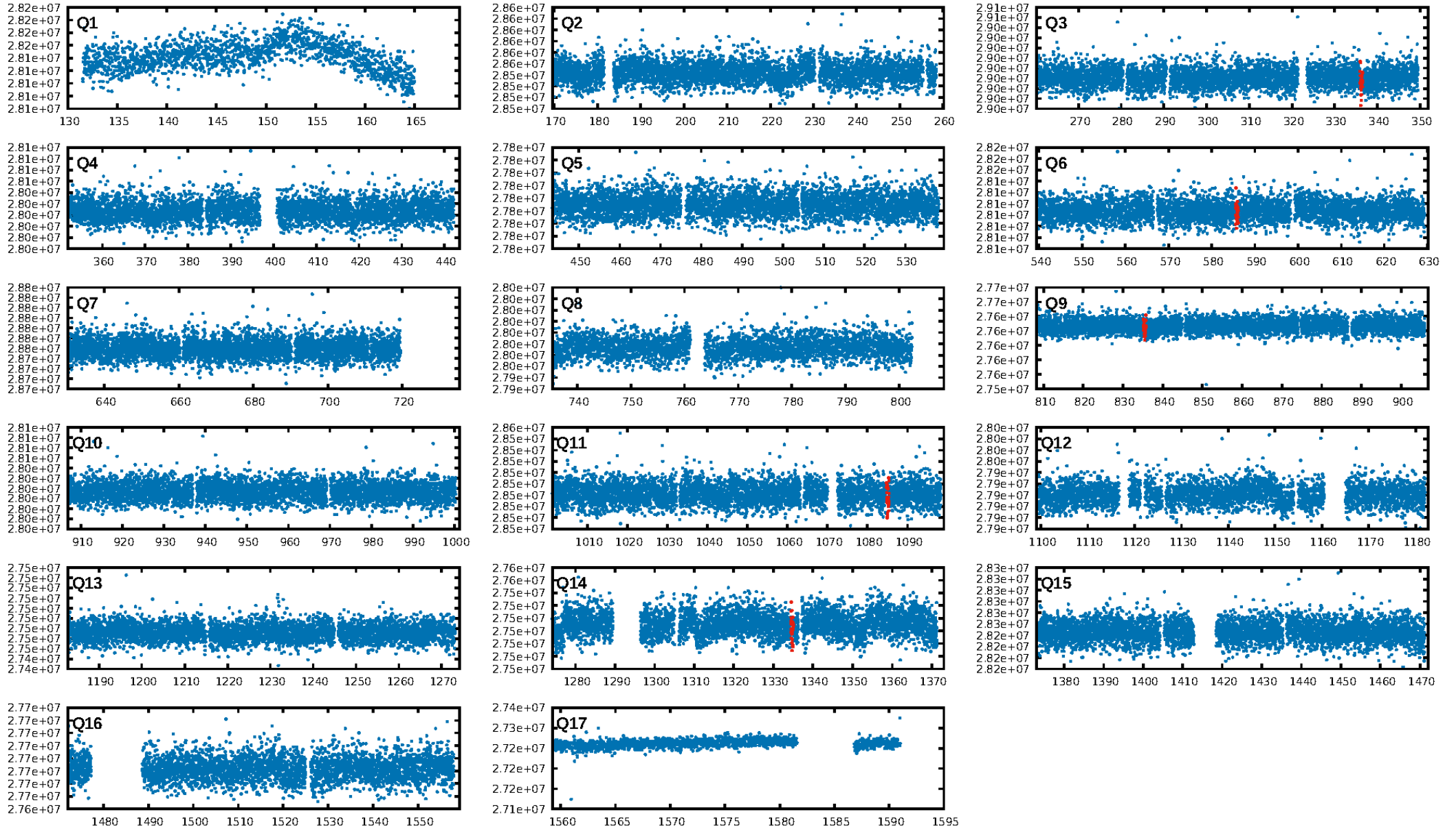
KIC: 10146667 Candidate: 1 of 1 Period: 249.627 d



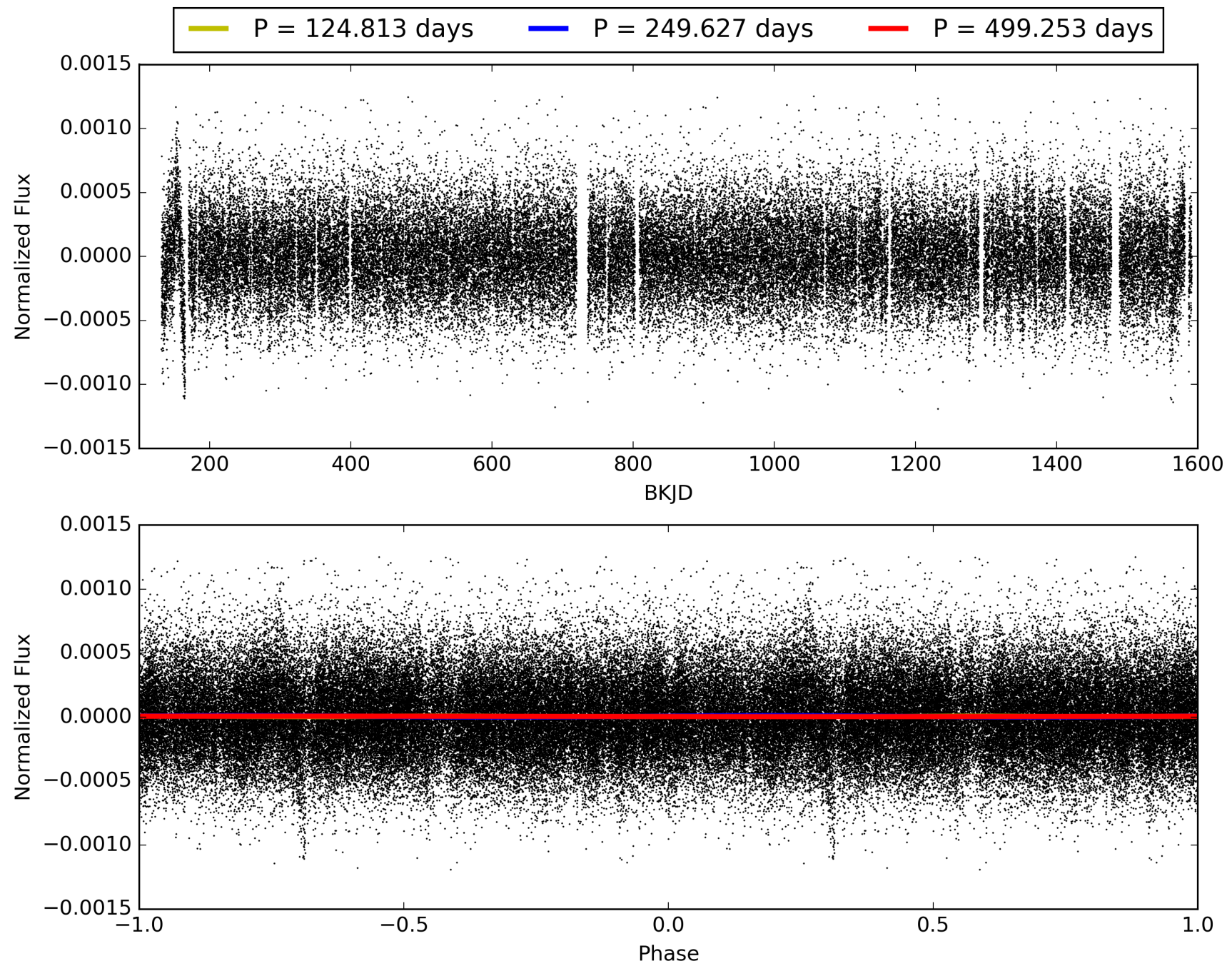
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:12:45 Z

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

# TCE 010146667-01, PDC Light Curves

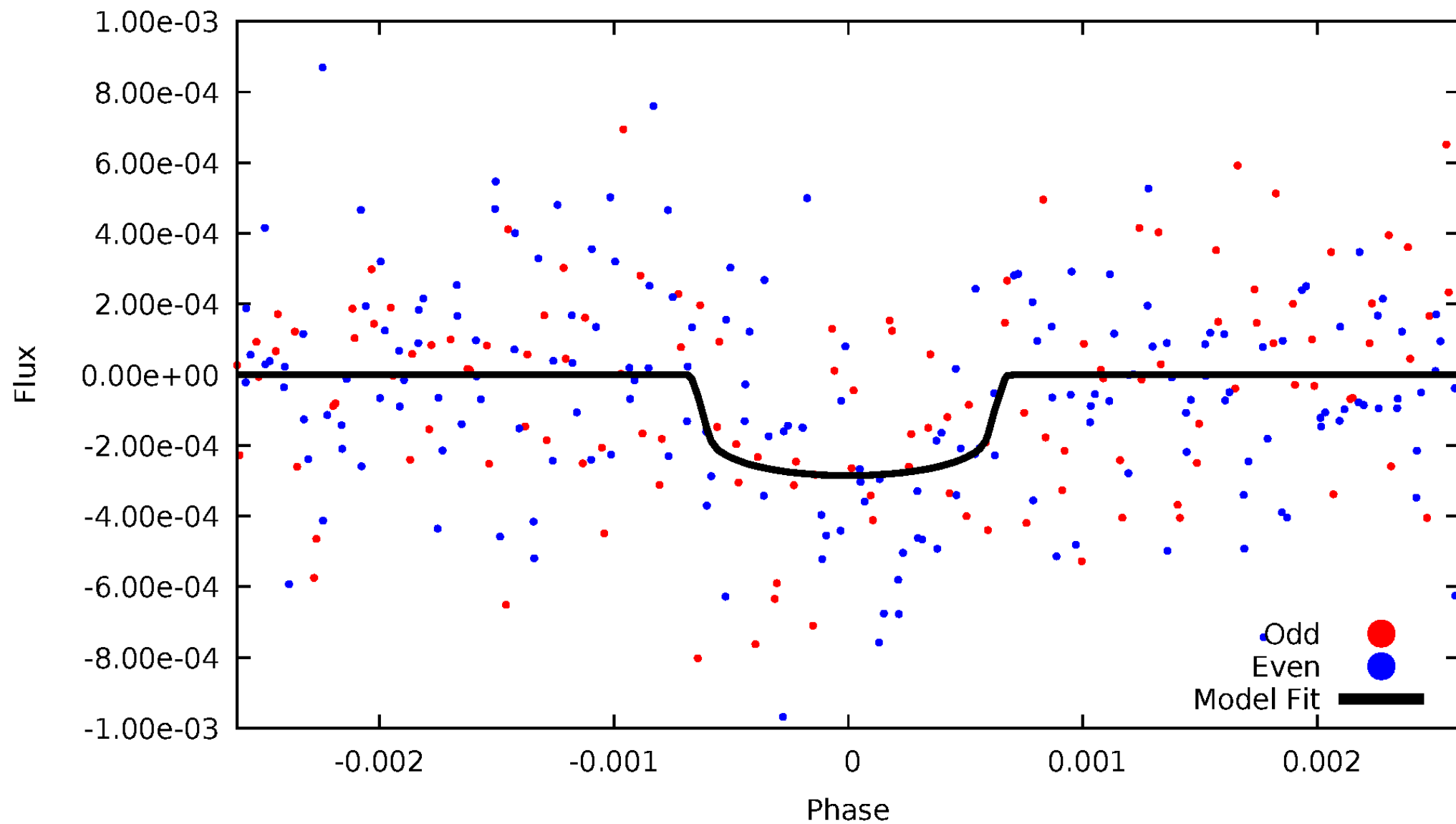


# TCE 010146667-01



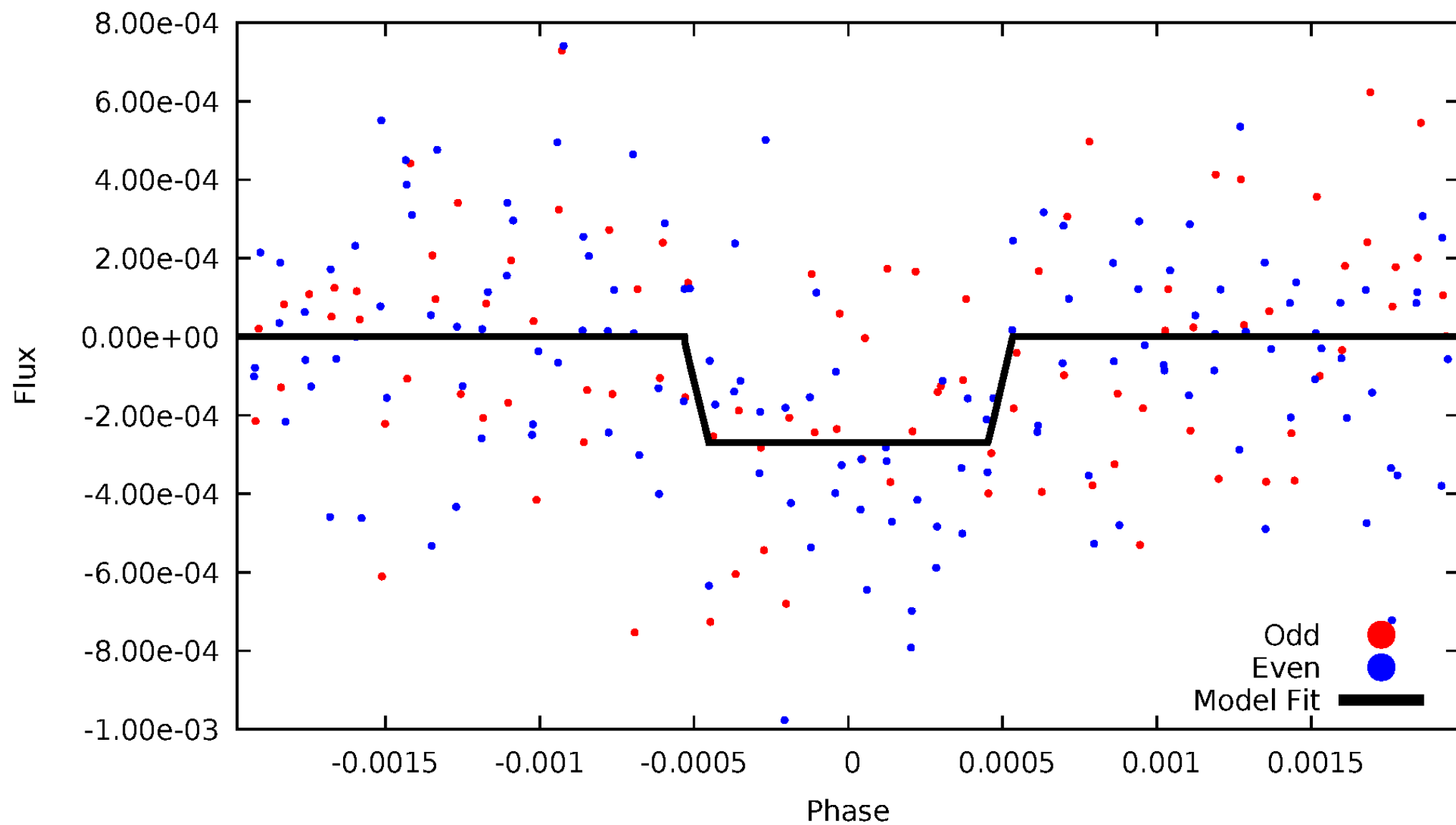
# DV Odd/Even

TCE 010146667-01



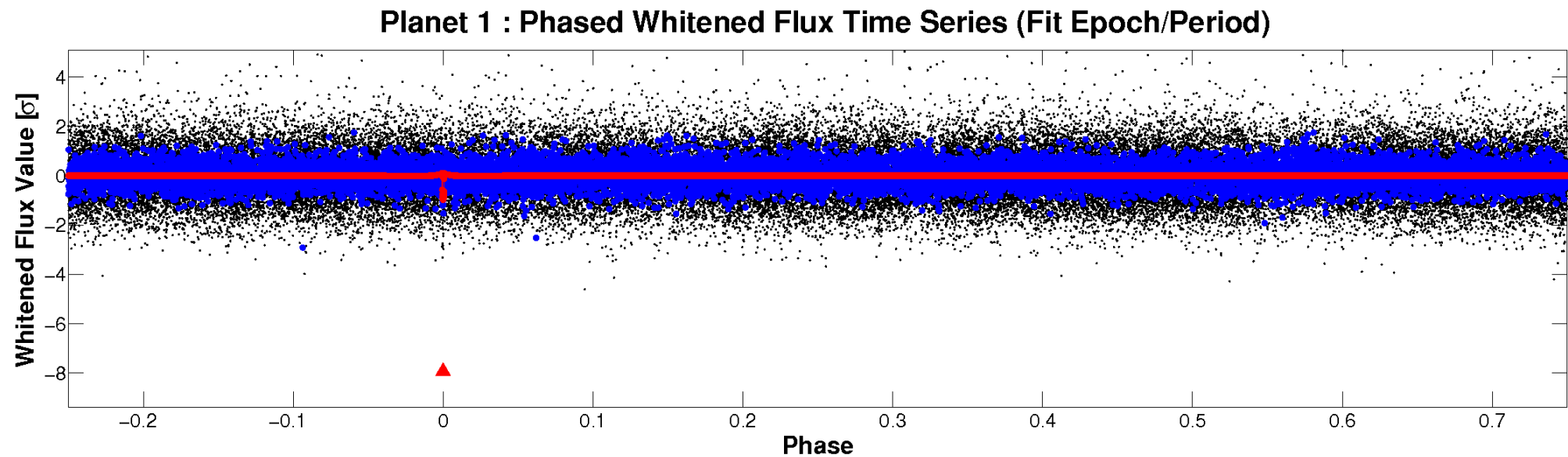
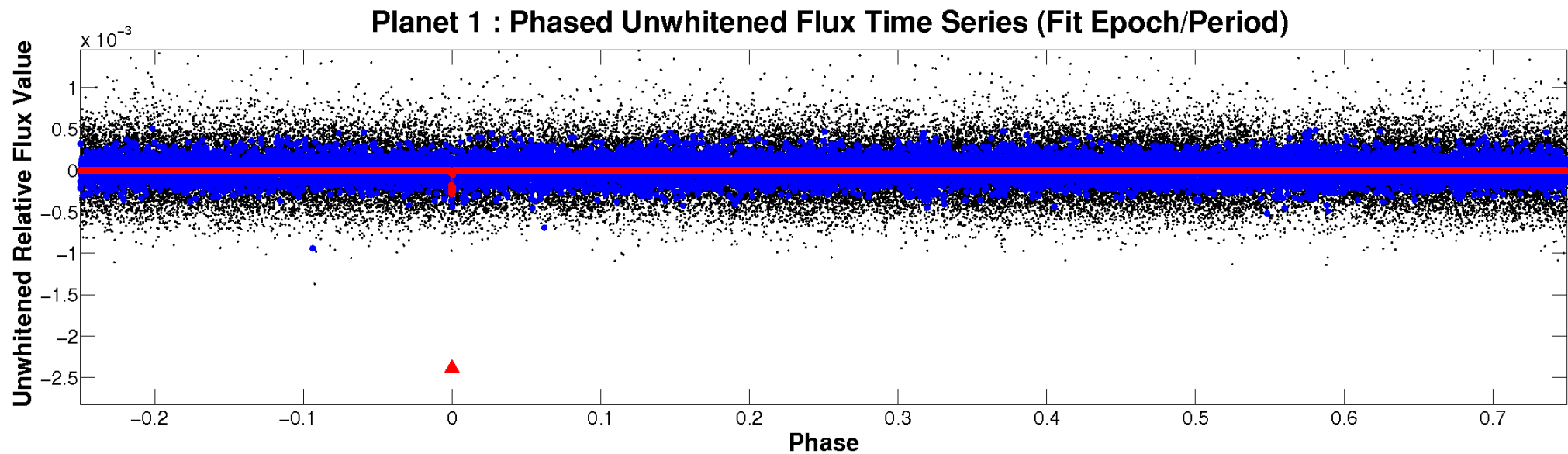
# ALT Odd/Even

TCE 010146667-01



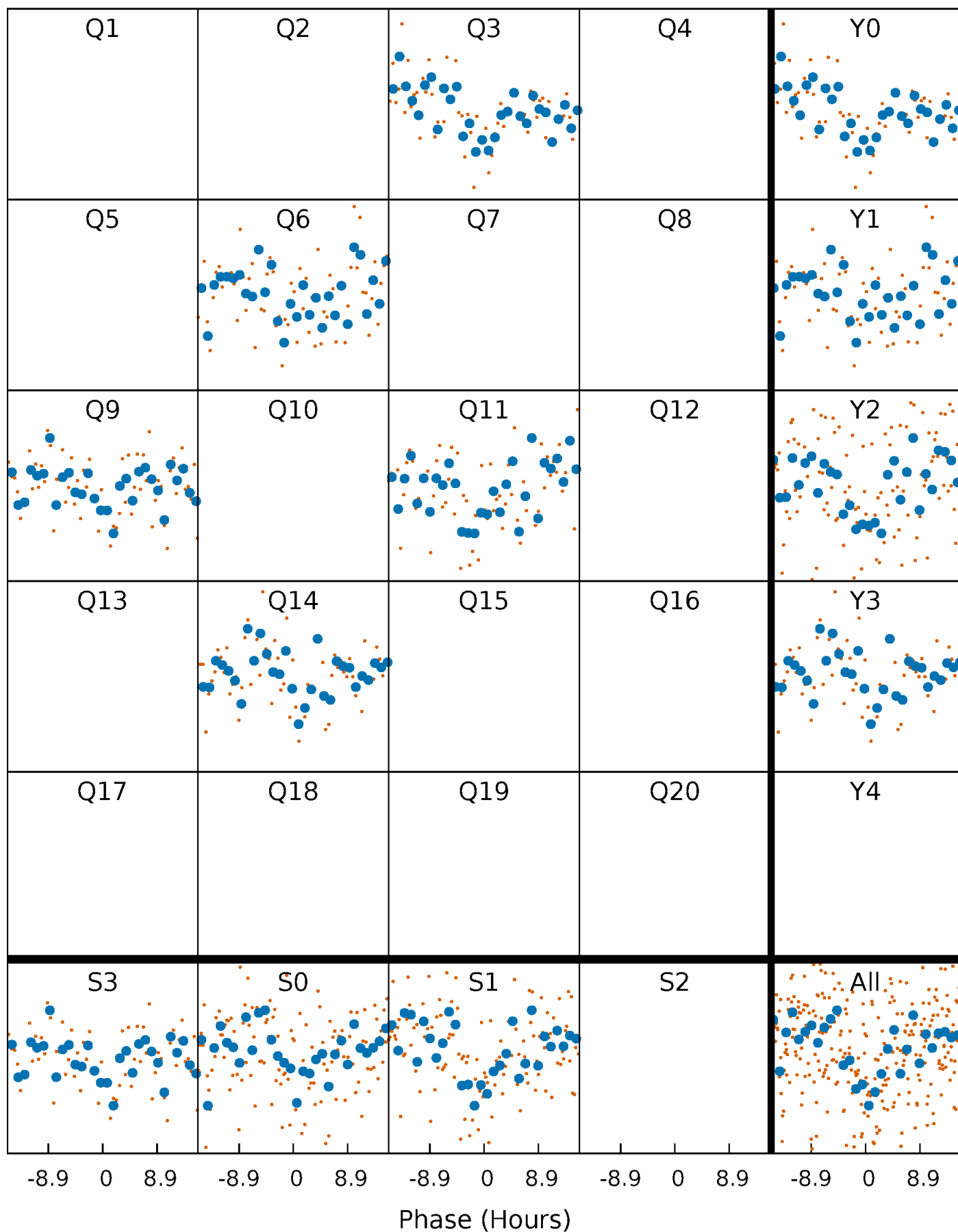


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

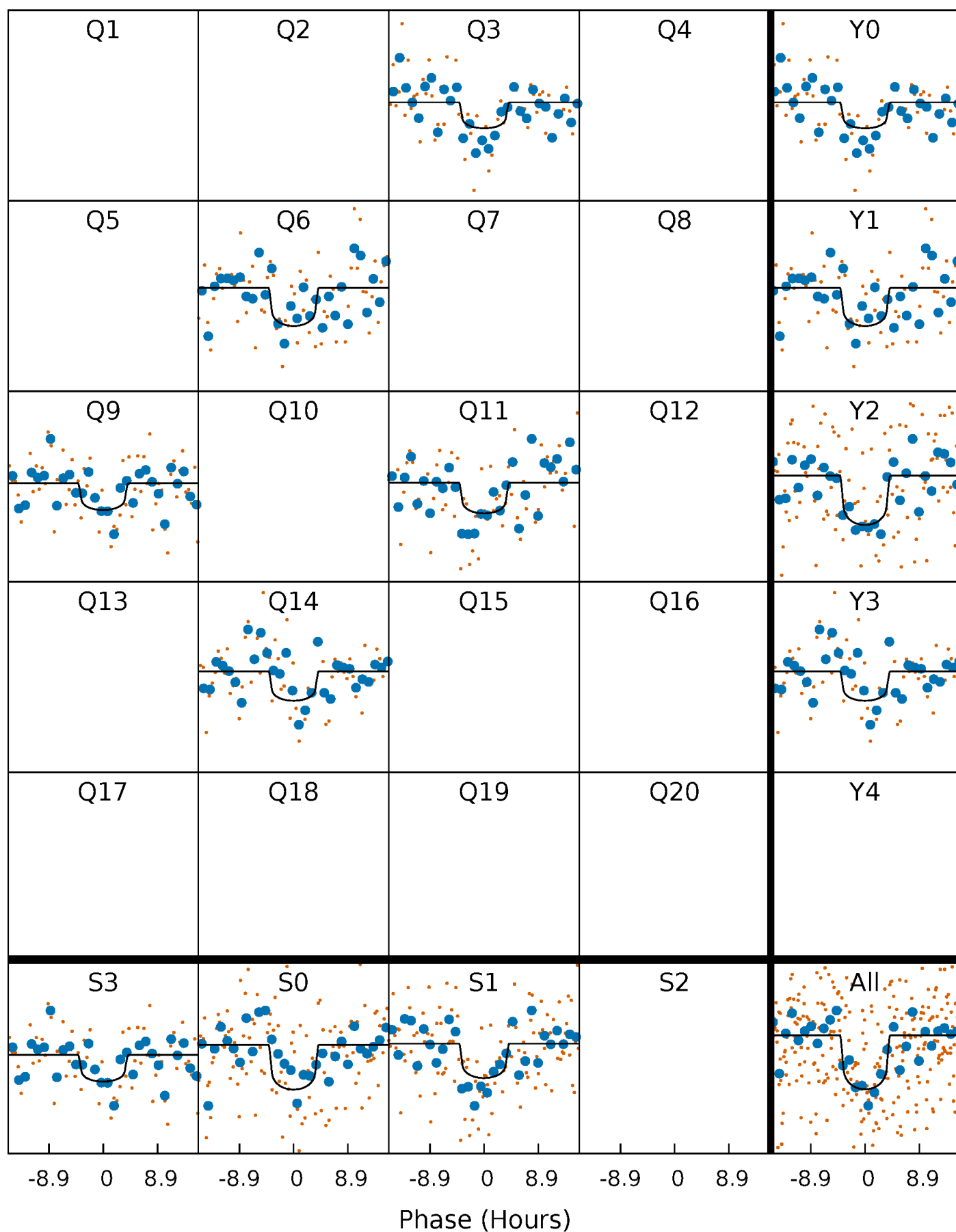
TCE 010146667-01 P=249.626557 Days  $T_0=336.202492$  (BKJD)





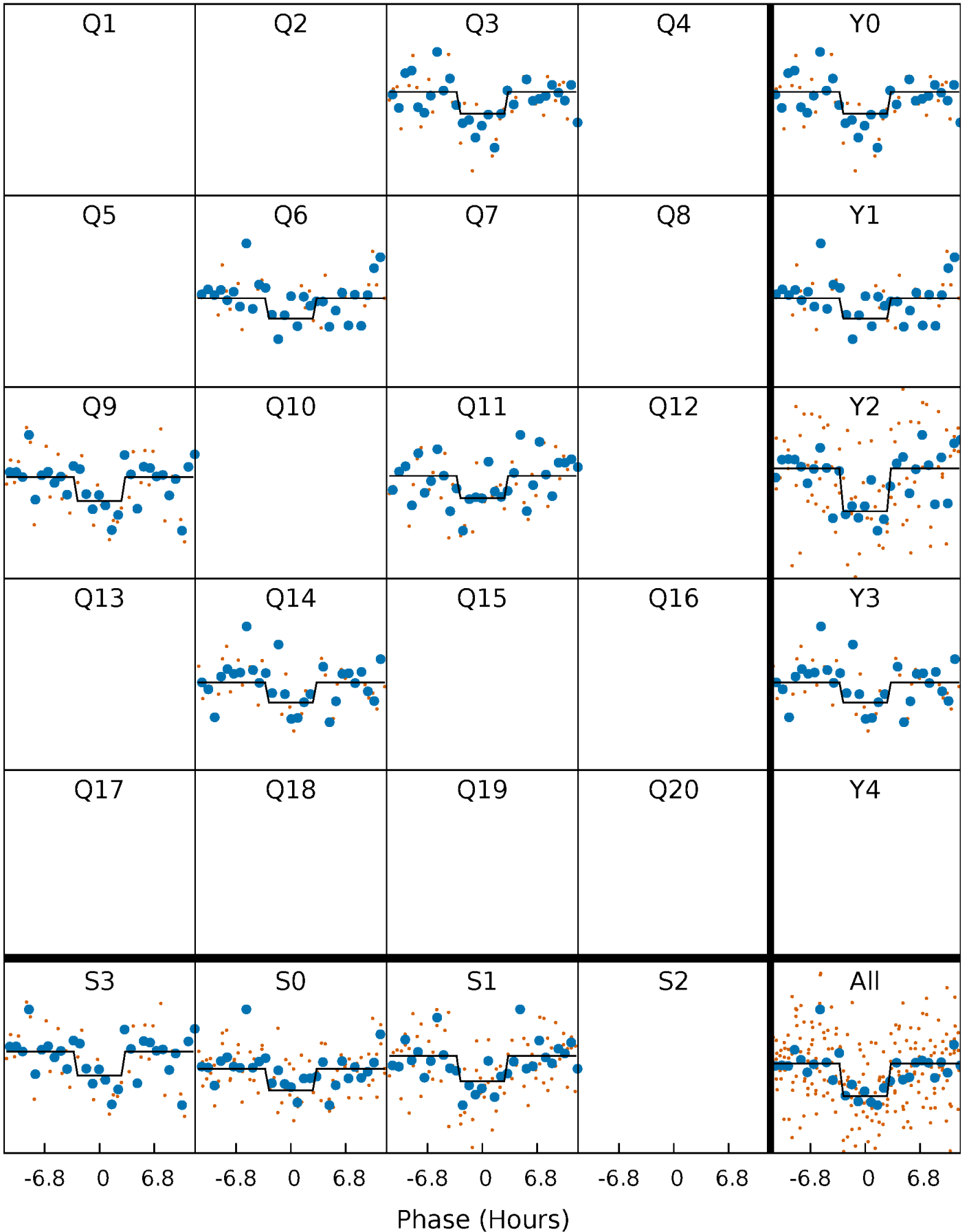
## DV Quarter-Phased Transit Curves

TCE 010146667-01 P=249.626557 Days  $T_0=336.202492$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

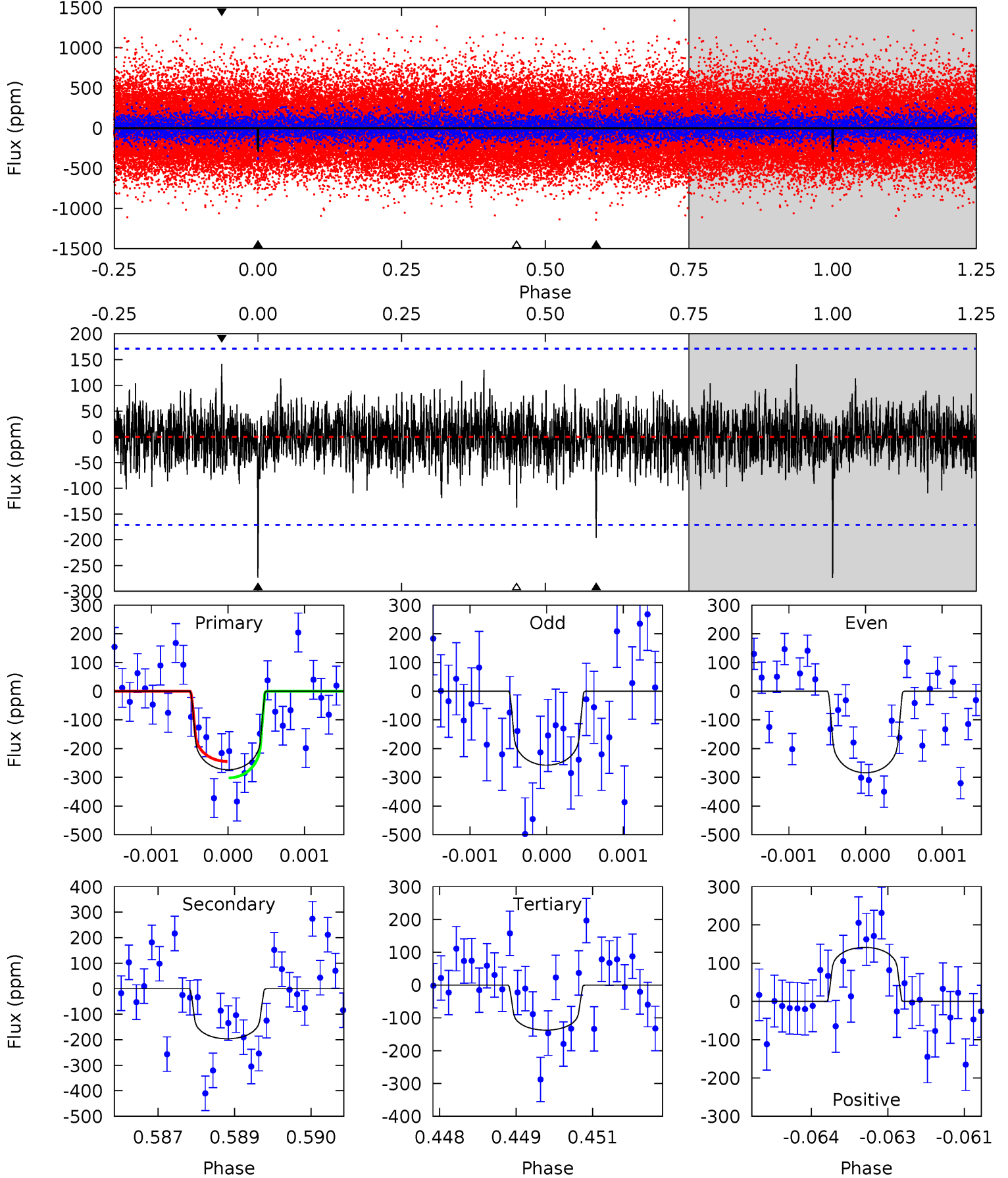
TCE 010146667-01 P=249.636802 Days  $T_0=336.184414$  (BKJD)



# DV Model-Shift Uniqueness Test

010146667-01,  $P = 249.626557$  Days,  $E = 86.575935$  Days

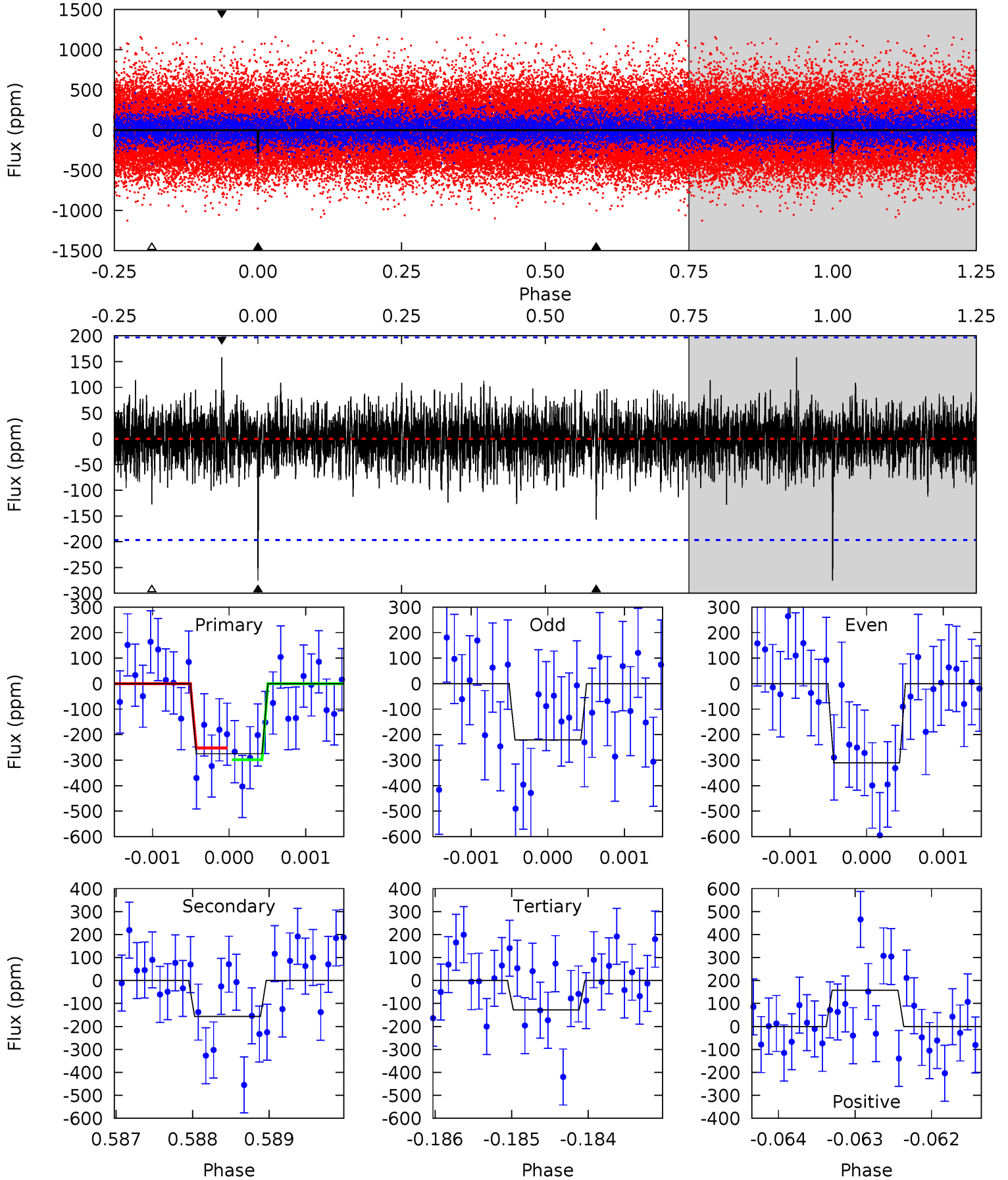
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.63	6.20	4.34	4.46	5.39	3.20	1.09	4.30	4.18	1.86	1.74	0.41	1.12	0.34	0.91



# Alt Model-Shift Uniqueness Test

010146667-01, P = 249.636802 Days, E = 86.547612 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
7.60	4.33	3.53	4.37	5.44	3.28	0.93	4.07	3.23	0.80	-0.04	1.21	0.96	0.37	0.63



### Stellar Parameters For KIC 010146667

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6008^{+163}_{-199}$	$4.519^{+0.052}_{-0.208}$	$-0.280^{+0.300}_{-0.300}$	$0.897^{+0.277}_{-0.092}$	$0.970^{+0.120}_{-0.120}$	$1.892^{+0.396}_{-0.966}$
	+3%/-3%	+1%/-5%	+107%/-107%	+31%/-10%	+12%/-12%	+21%/-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 010146667-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-196 \pm 32$	$1.86^{+1.28}_{-1.01}$	$408^{+30}_{-20}$	$5325^{+2987}_{-1029}$	$17665^{+67227}_{-11492}$
Alt.	$-157 \pm 36$	$1.78^{+1.16}_{-1.04}$	$408^{+30}_{-20}$	$5164^{+2934}_{-973}$	$15364^{+77535}_{-10036}$

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

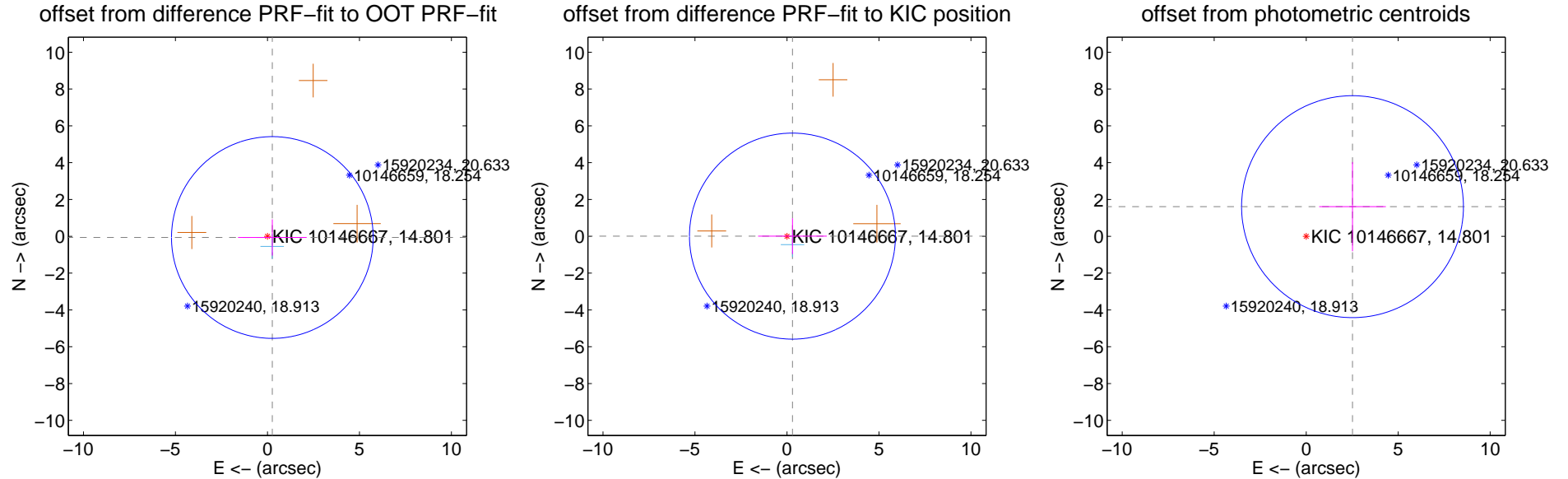
## DV Centroid Data

Supplemental centroid analysis for 010146667-01. Kepler magnitude: 14.80. Transit SNR 7.18

There are 1 quarters with good PRF difference image offsets

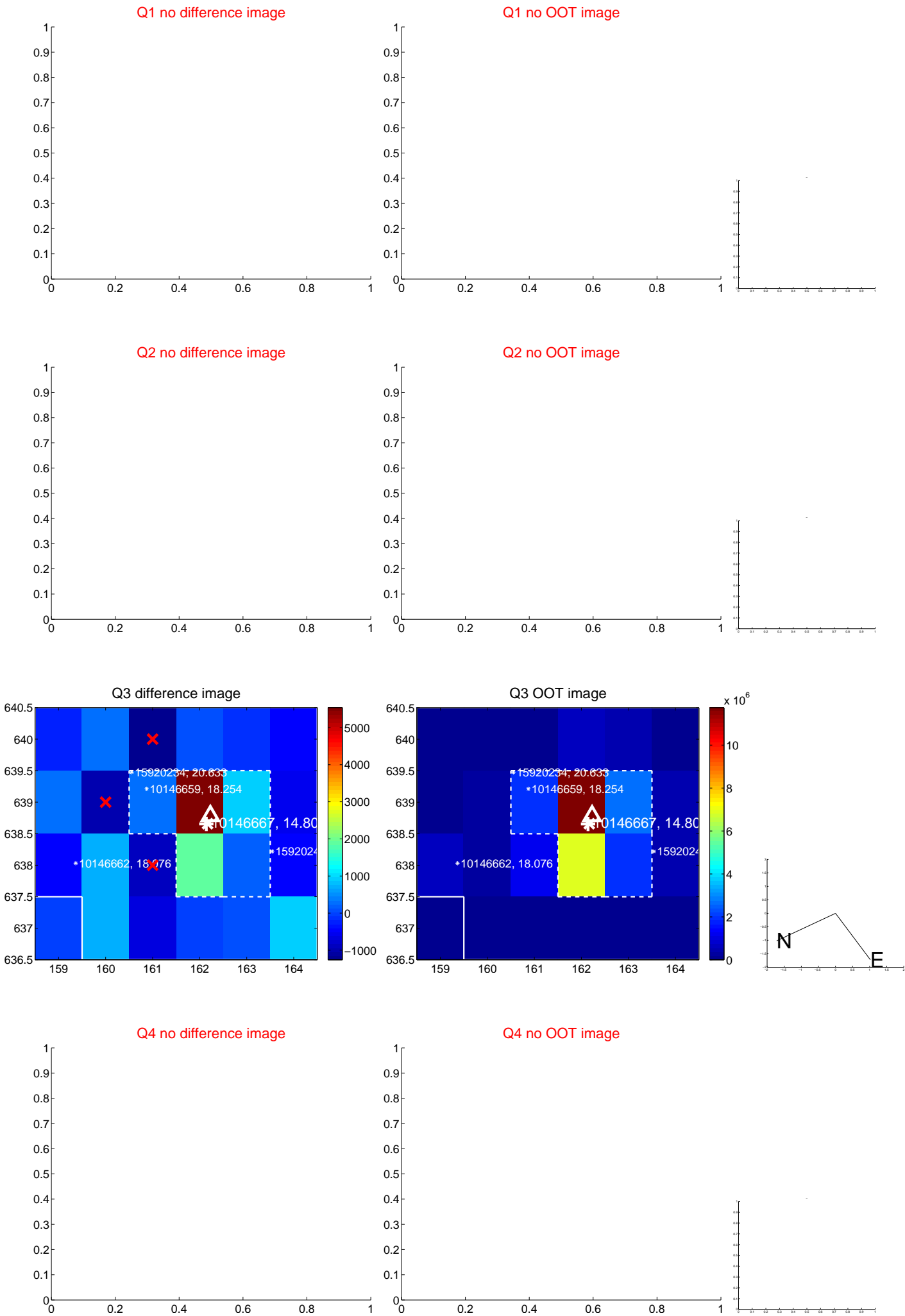
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.274 \pm 1.827$	0.15	$-0.266 \pm 1.866$	$-0.065 \pm 0.983$
PRF-fit source offset from KIC position	$0.297 \pm 1.866$	0.16	$-0.297 \pm 1.866$	$0.009 \pm 0.970$
photometric centroid source offset	$2.99 \pm 2.01$	1.49	$-2.52 \pm 1.81$	$1.61 \pm 2.42$



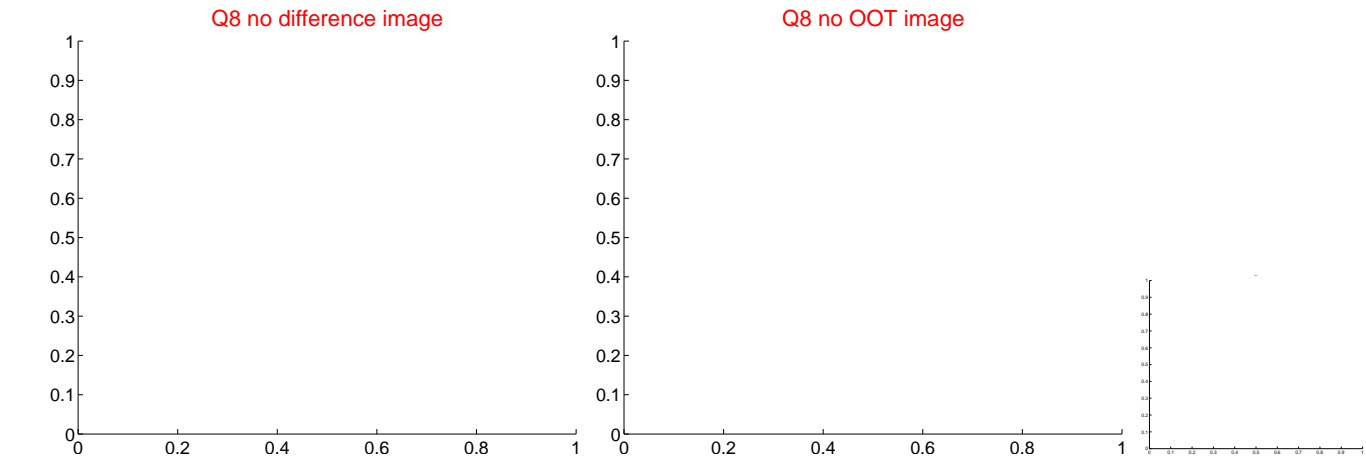
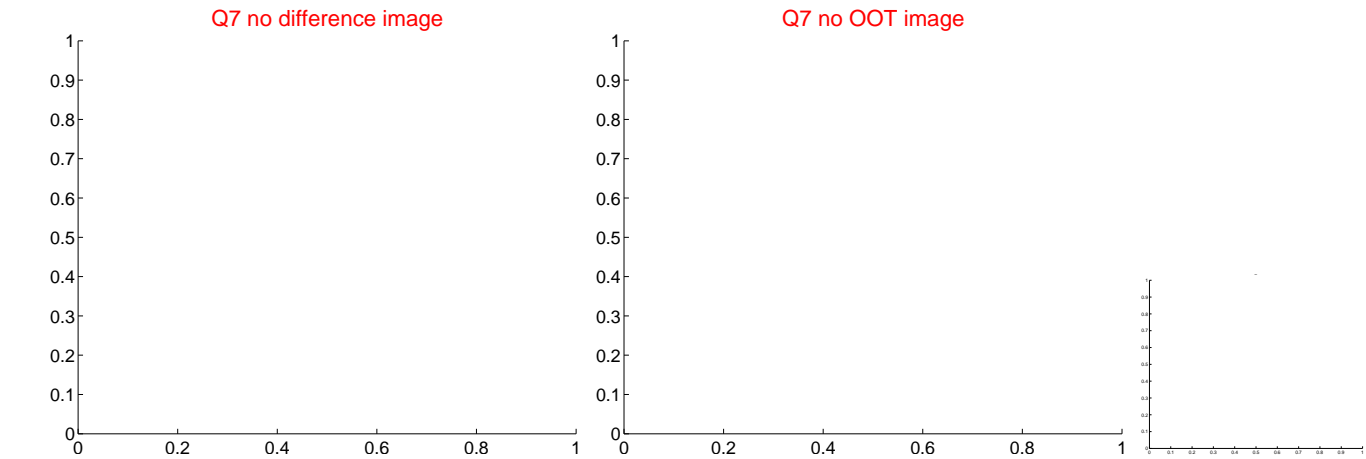
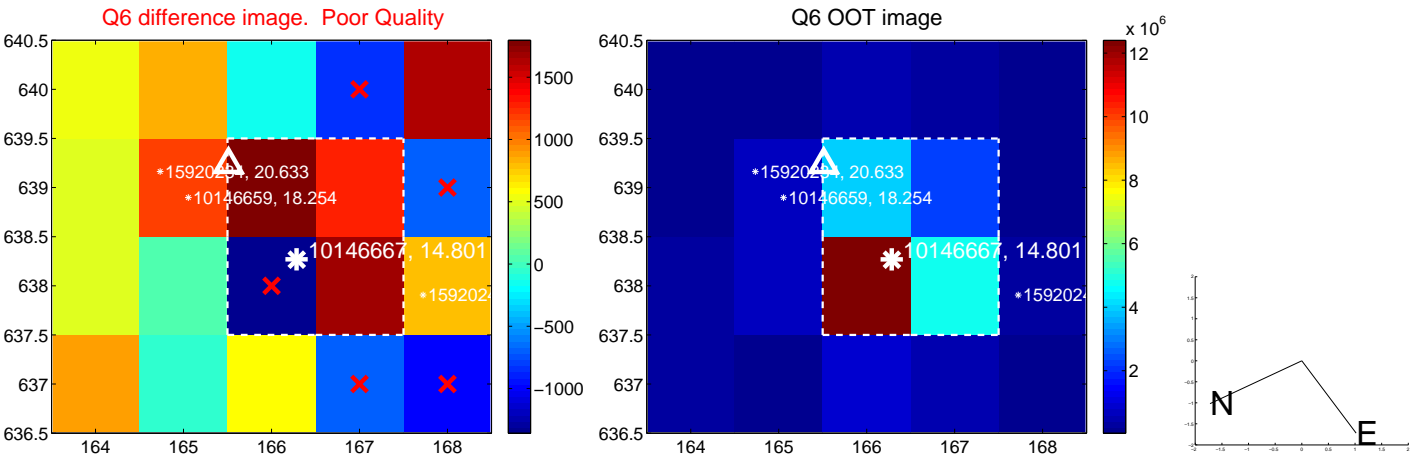
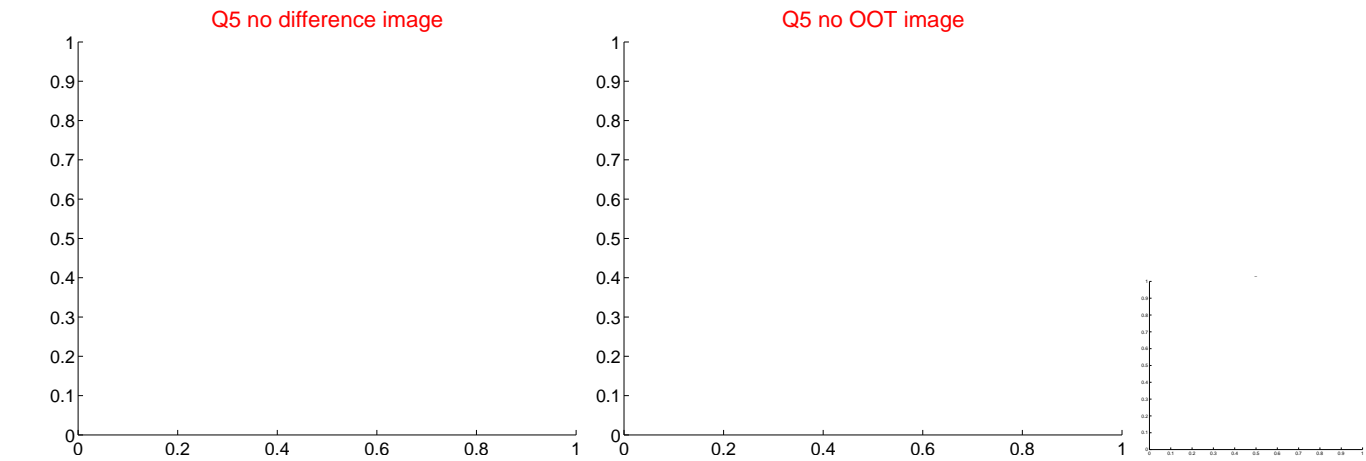
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

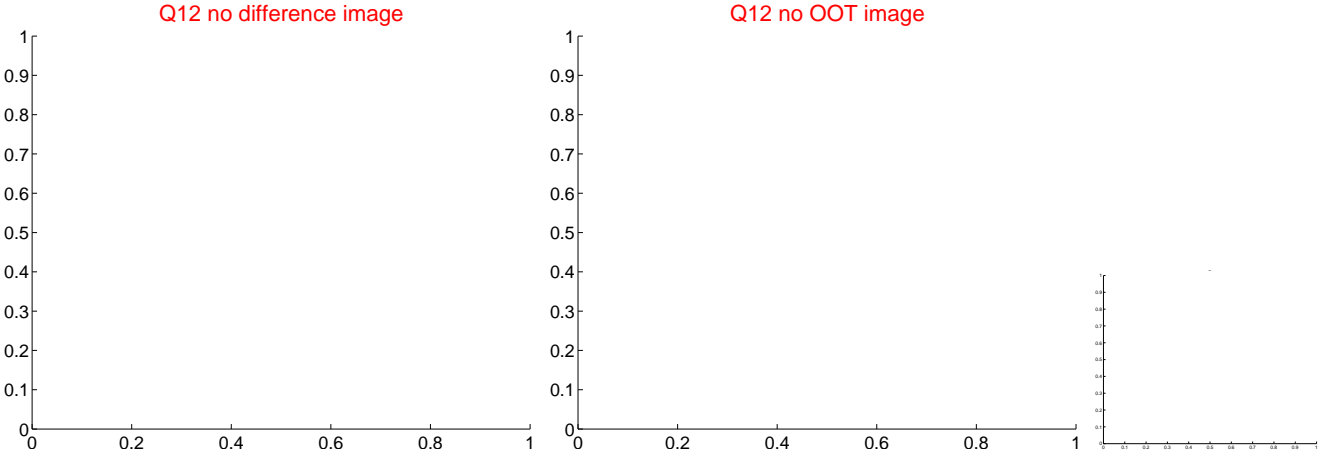
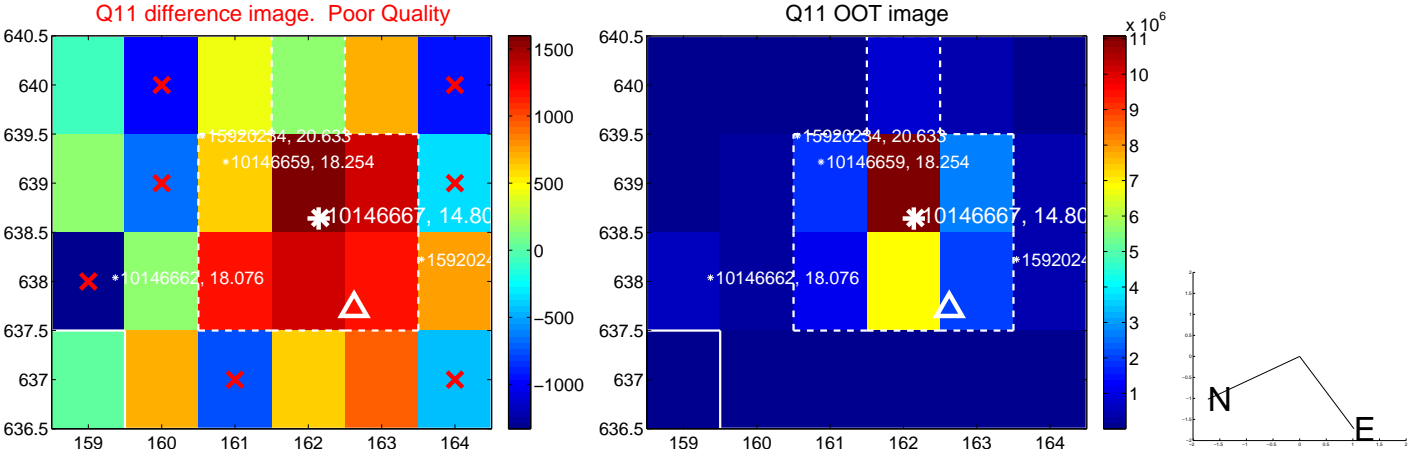
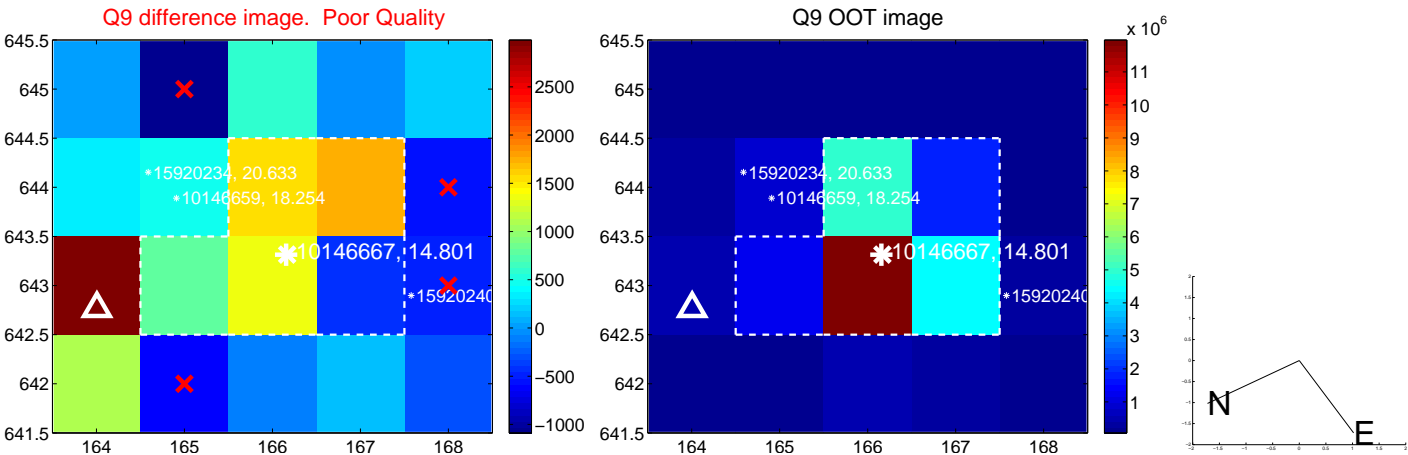




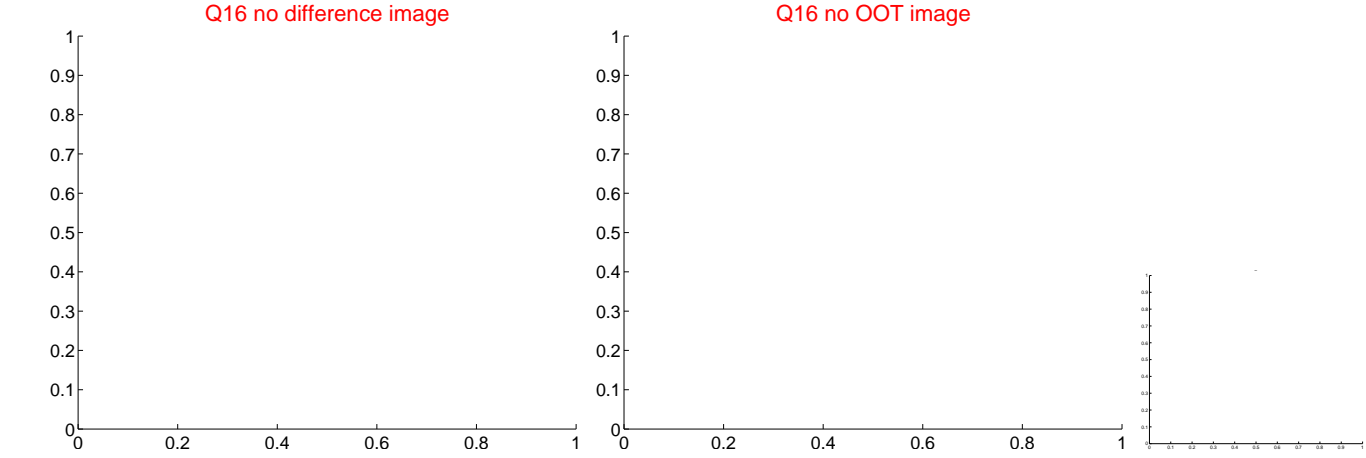
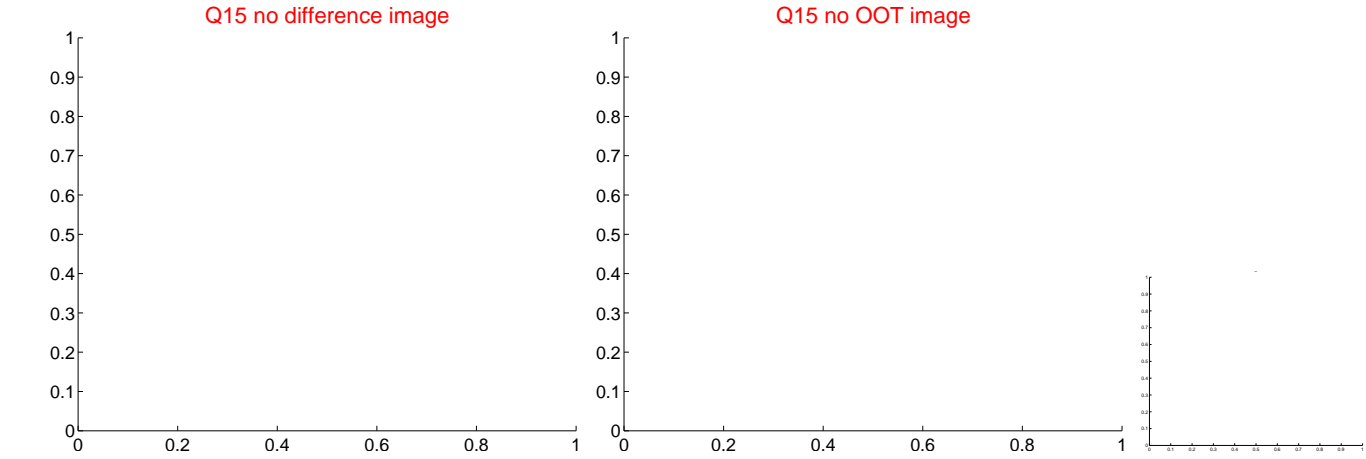
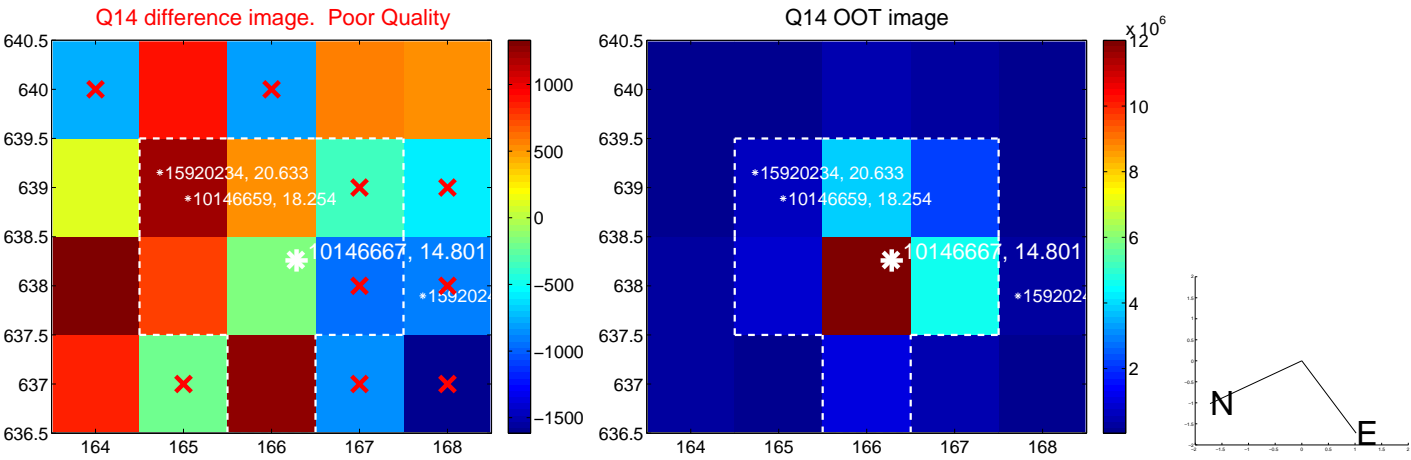
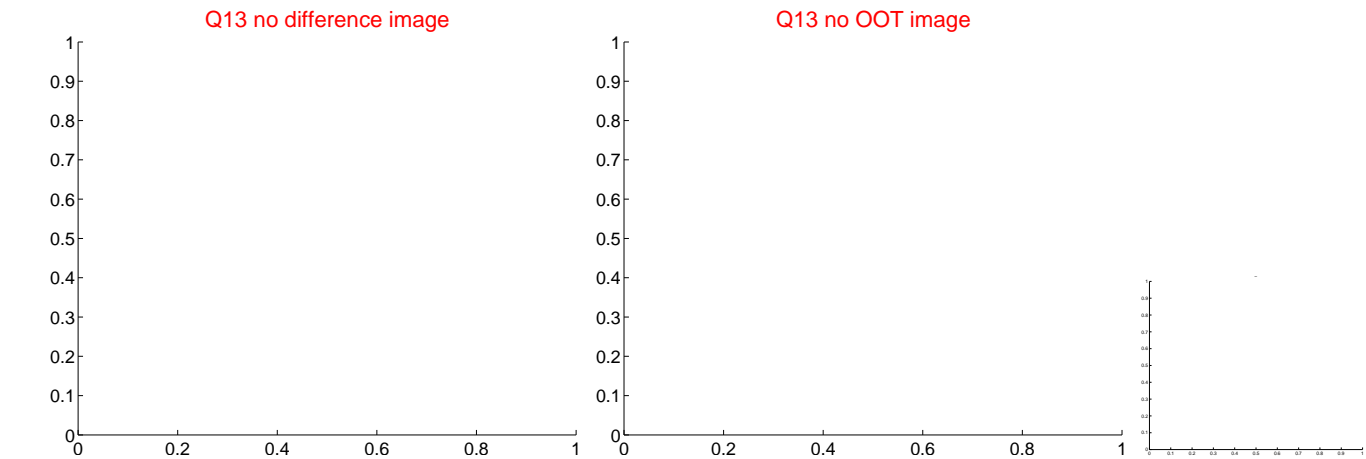
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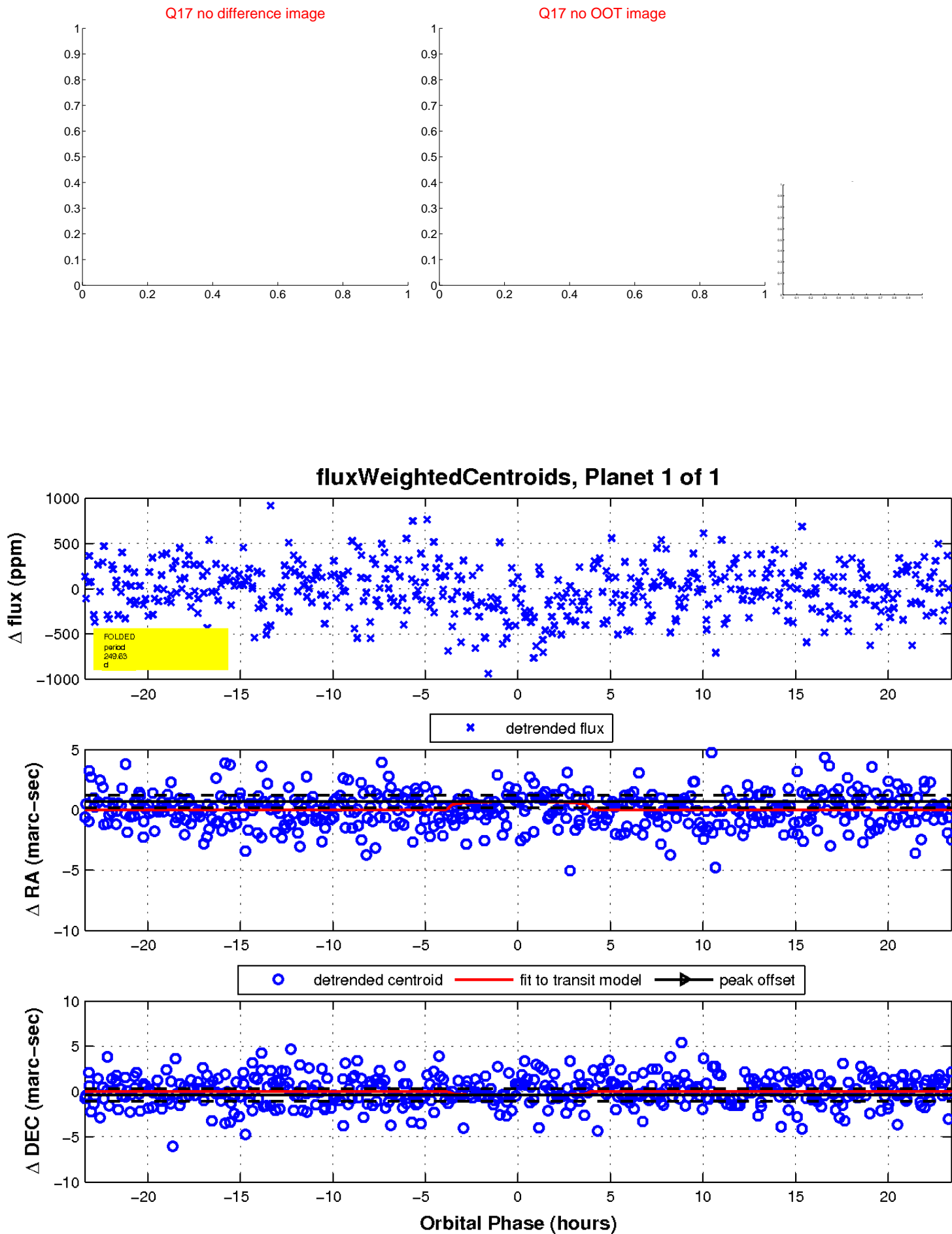
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

