

# KIC 006517250

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006517250-01	OBS	No	213.481929	310.641901	349.6	29.083	9.4	9.5	1.06	6247	2.02	2.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006517250-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

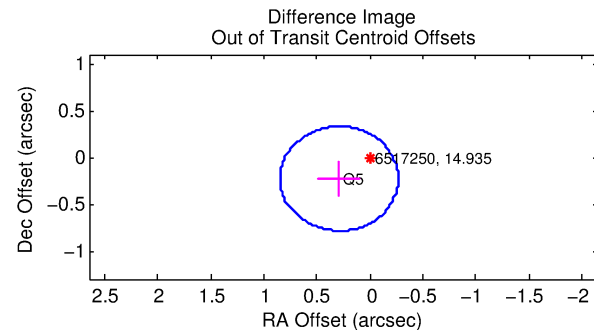
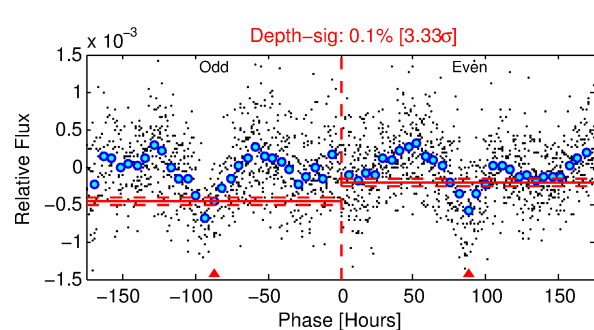
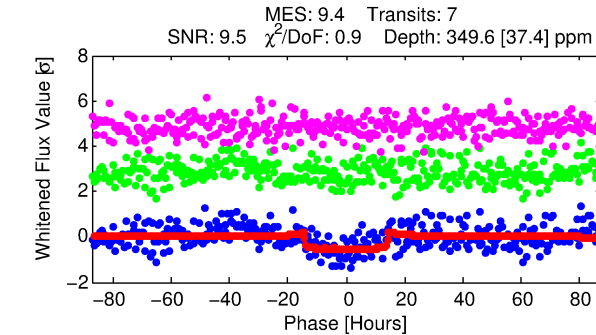
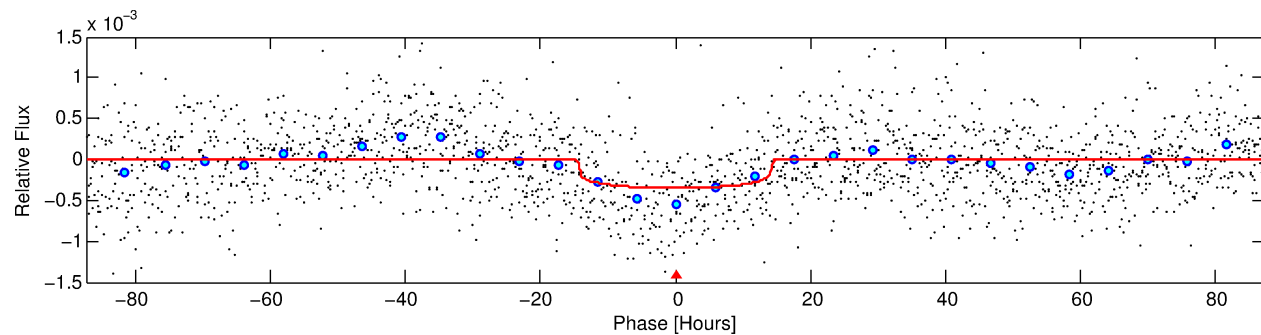
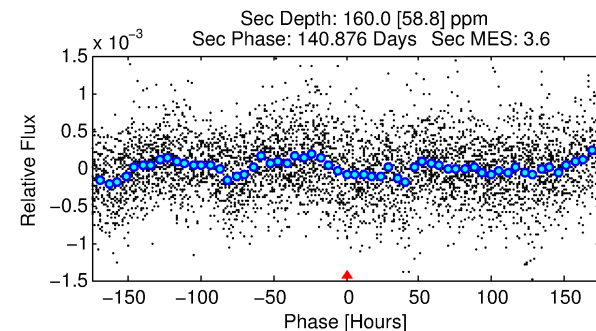
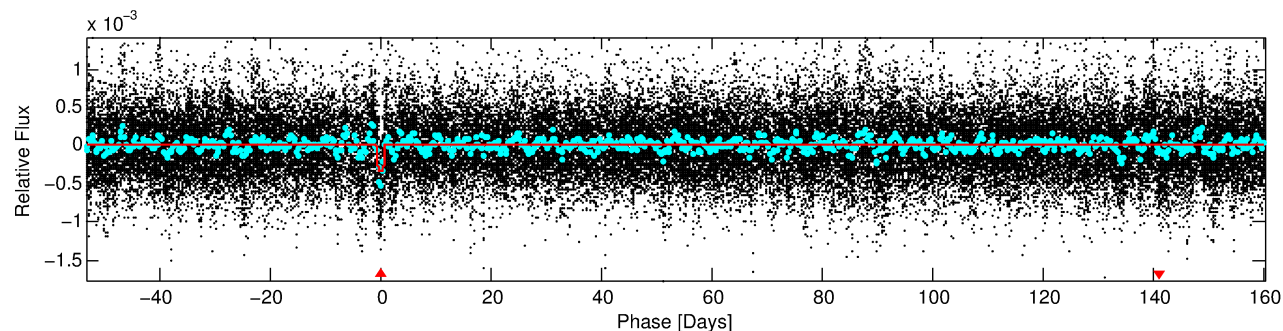
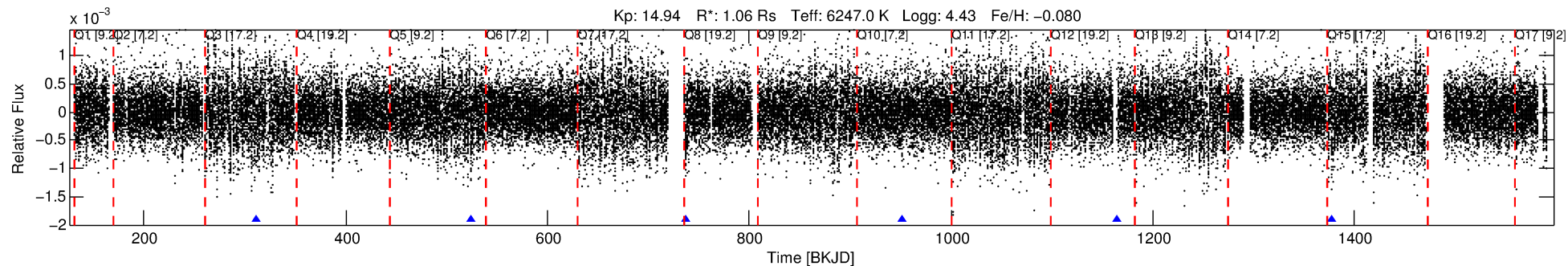
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006517250-01

No Significant Match Found

# DV One-Page Summary

KIC: 6517250 Candidate: 1 of 1 Period: 213.482 d



## DV Fit Results:

Period = 213.48193 [0.00714] d  
Epoch = 310.6419 [0.0240] BKJD  
Rp/R\* = 0.0174 [0.0069]  
a/R\* = 53.13 [105.03]  
b = 0.37 [4.61]  
Seff = 2.95 [1.28]  
Teq = 334 [36] K  
Rp = 2.02 [1.07] Re  
a = 0.7242 [0.2099] AU  
Ag = 11301.06 [10881.08] [1.04 $\sigma$ ]  
Teffp = 5328 [1176] K [4.24 $\sigma$ ]

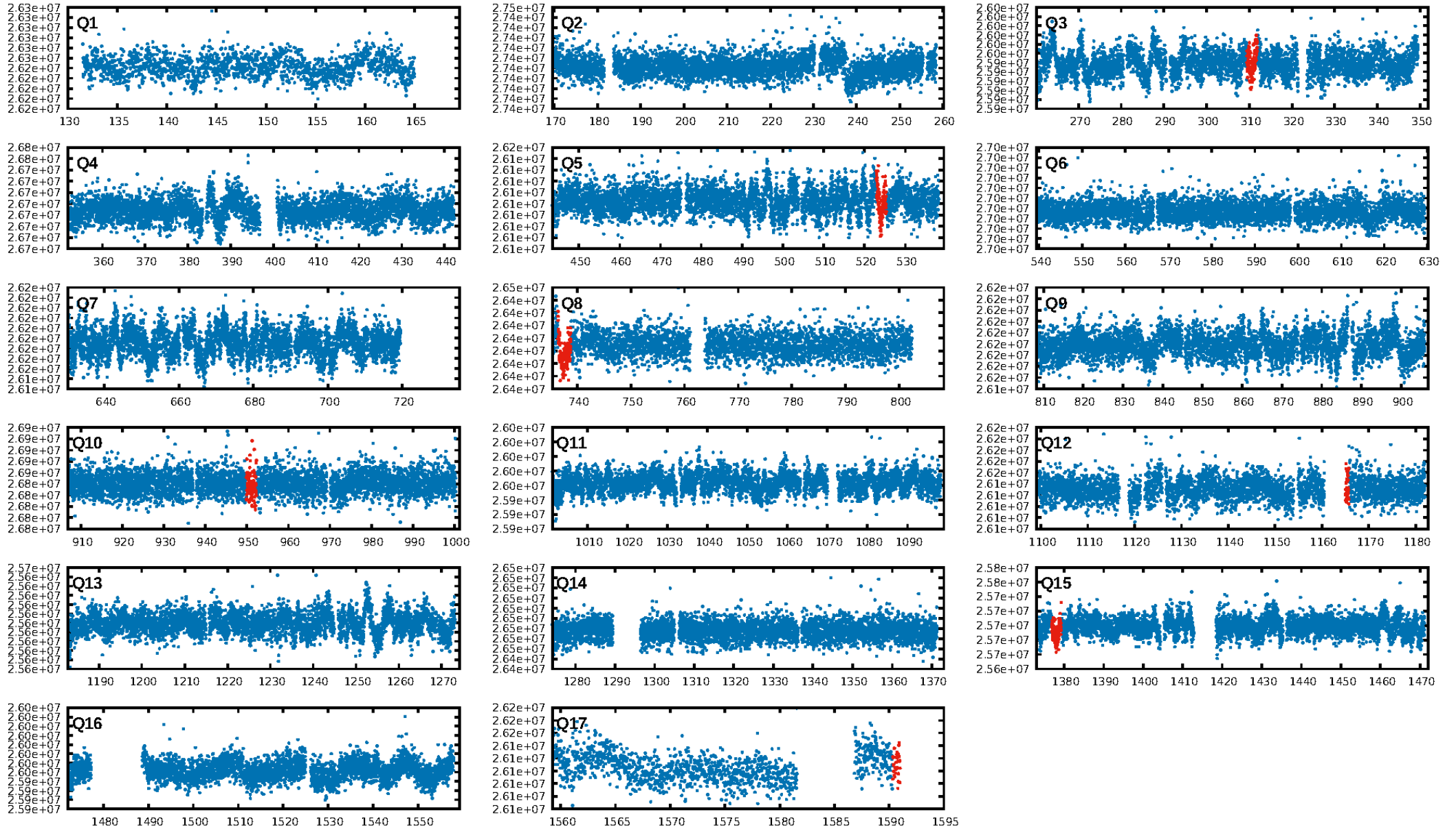
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 2.3%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 2.43e-12**  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: 2.665  
Centroid-sig: 2.2%  
Centroid-so: 2.427 arcsec [1.50 $\sigma$ ]  
OotOffset-rm: 0.370 arcsec [1.99 $\sigma$ ]  
KicOffset-rm: 0.369 arcsec [2.00 $\sigma$ ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [4/4]

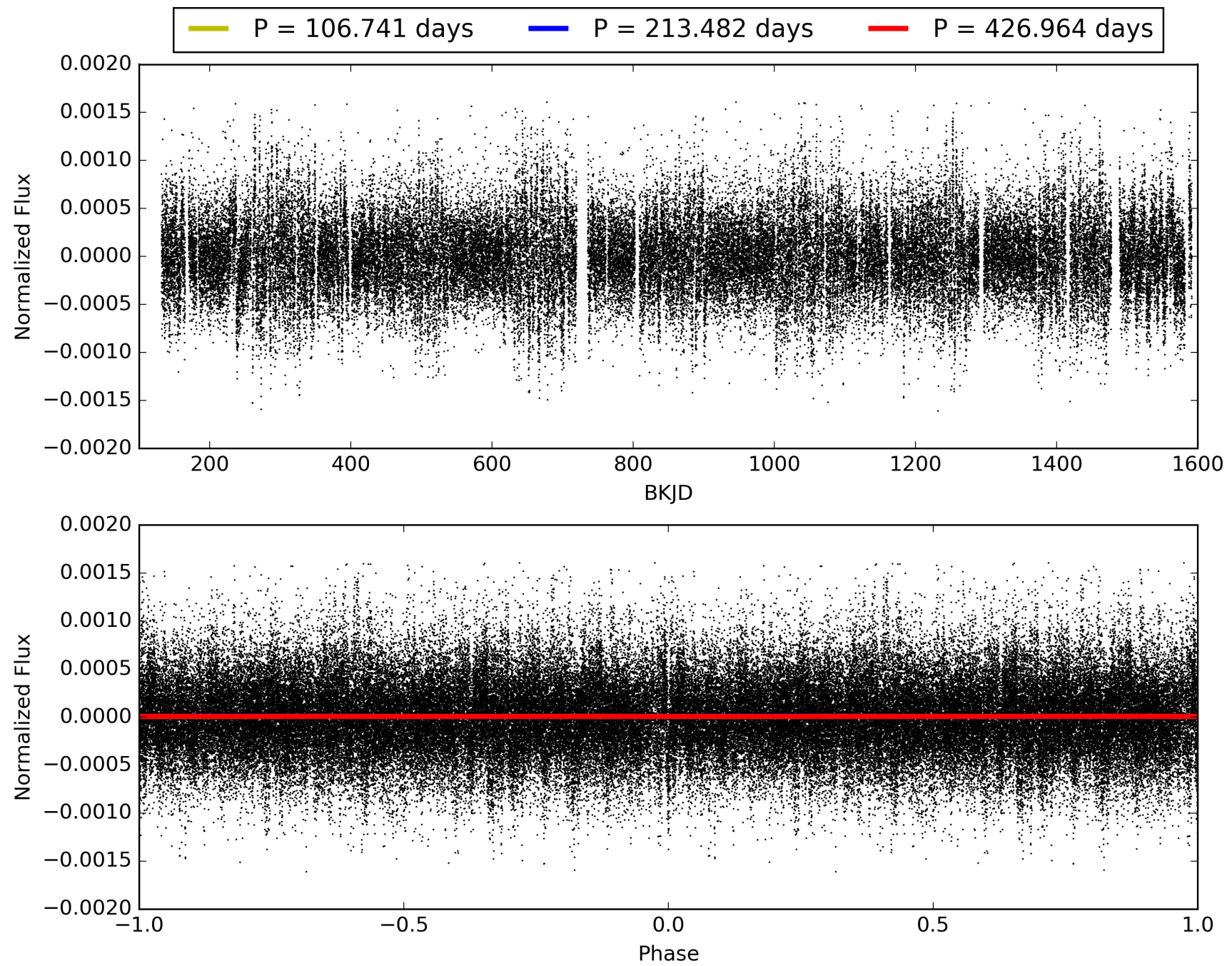
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:06:37 Z

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

# TCE 006517250-01, PDC Light Curves

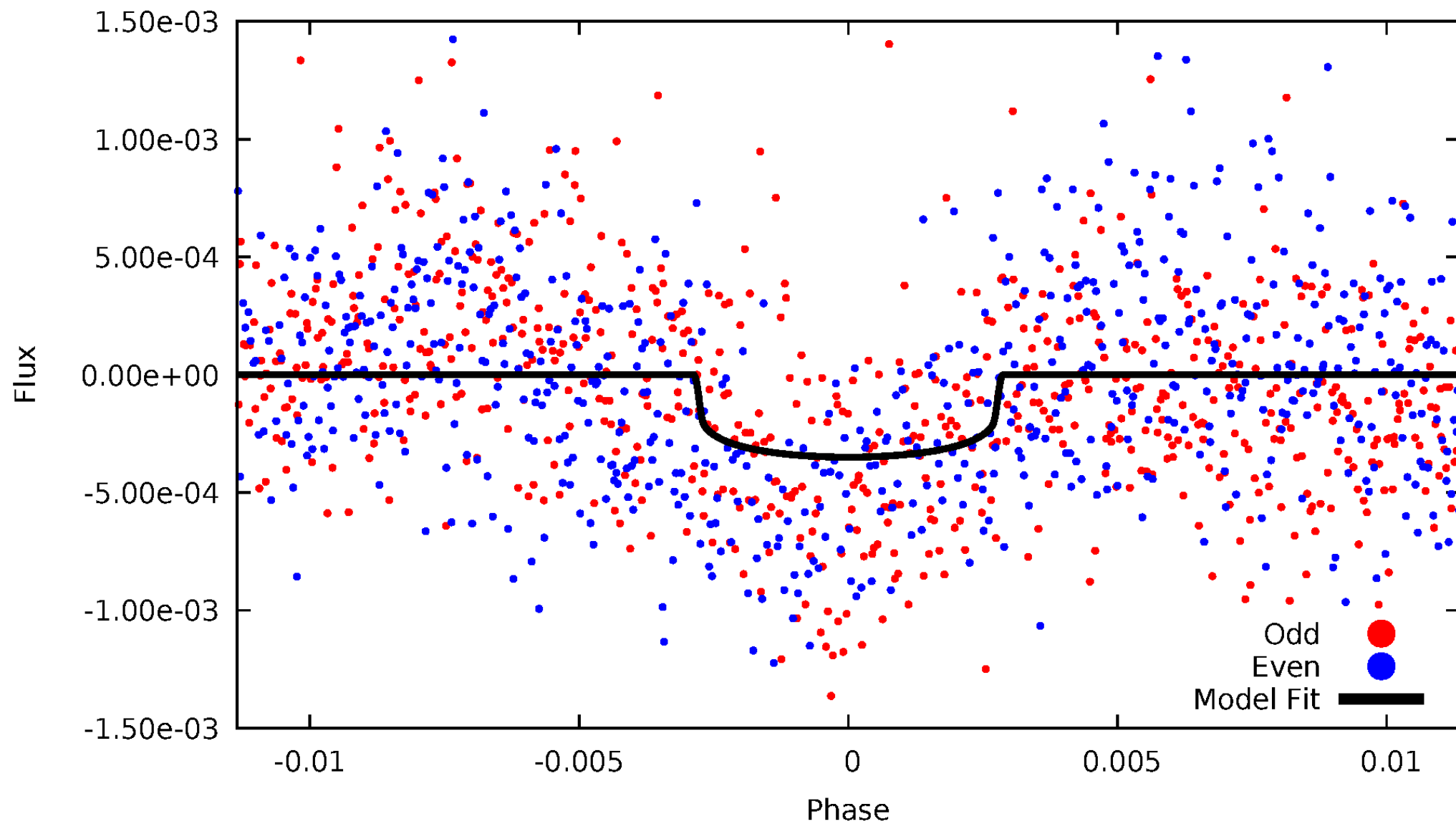


TCE 006517250-01



# DV Odd/Even

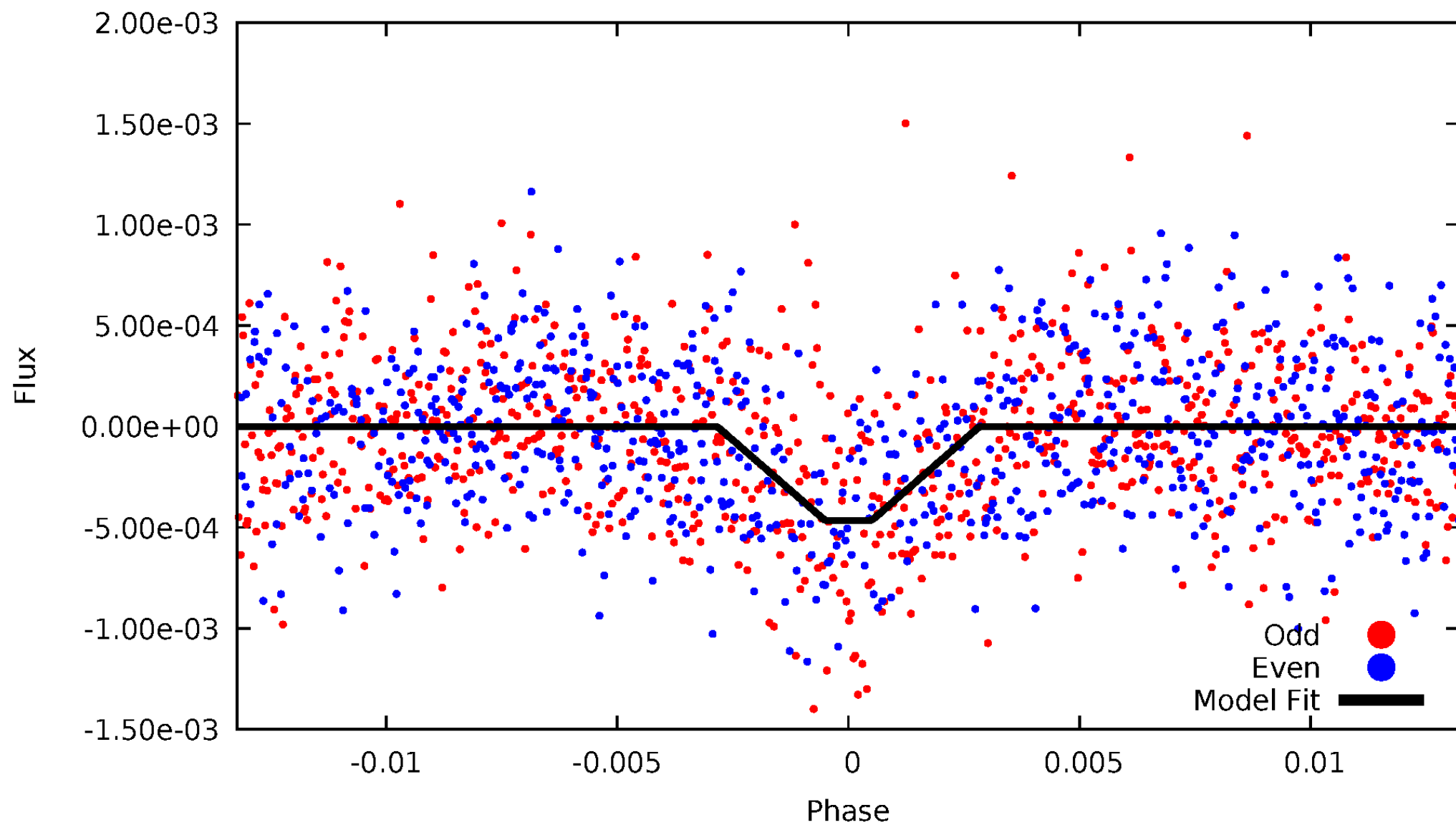
TCE 006517250-01





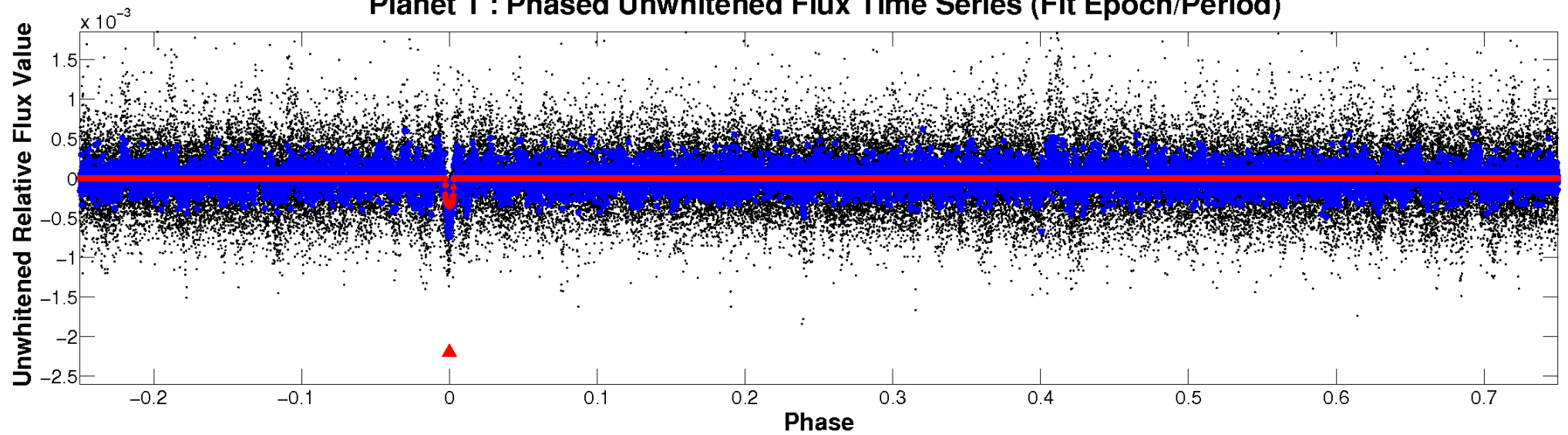
# ALT Odd/Even

TCE 006517250-01

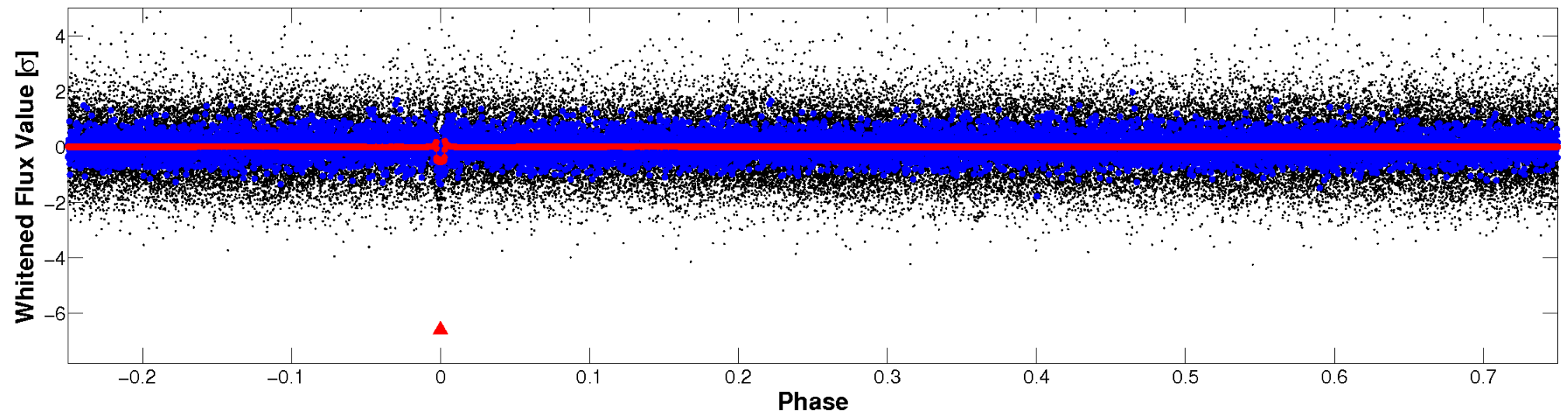


# Non-Whitened Vs. Whitened Light Curve

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

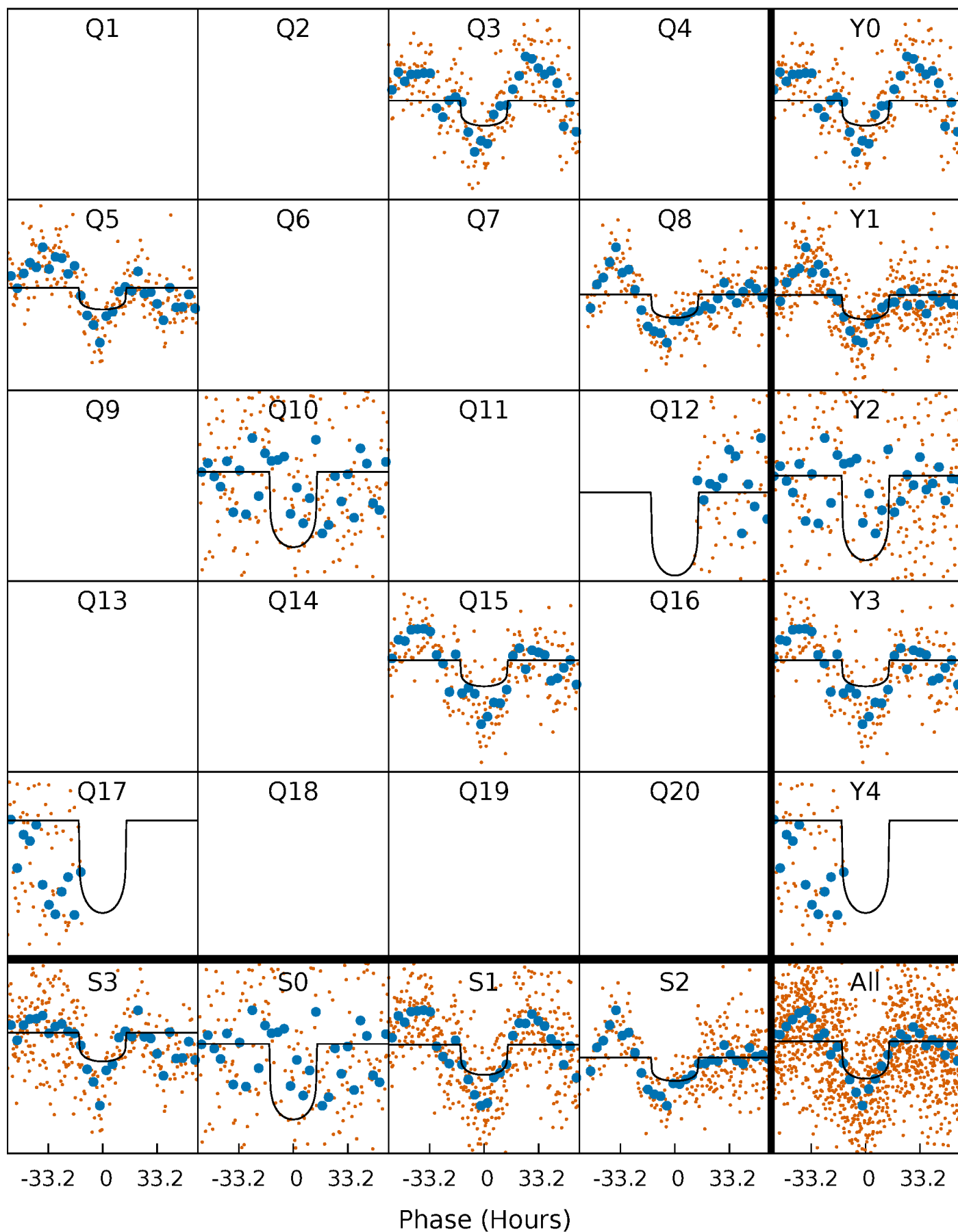
TCE 006517250-01 P=213.481929 Days  $T_0=310.641901$  (BKJD)





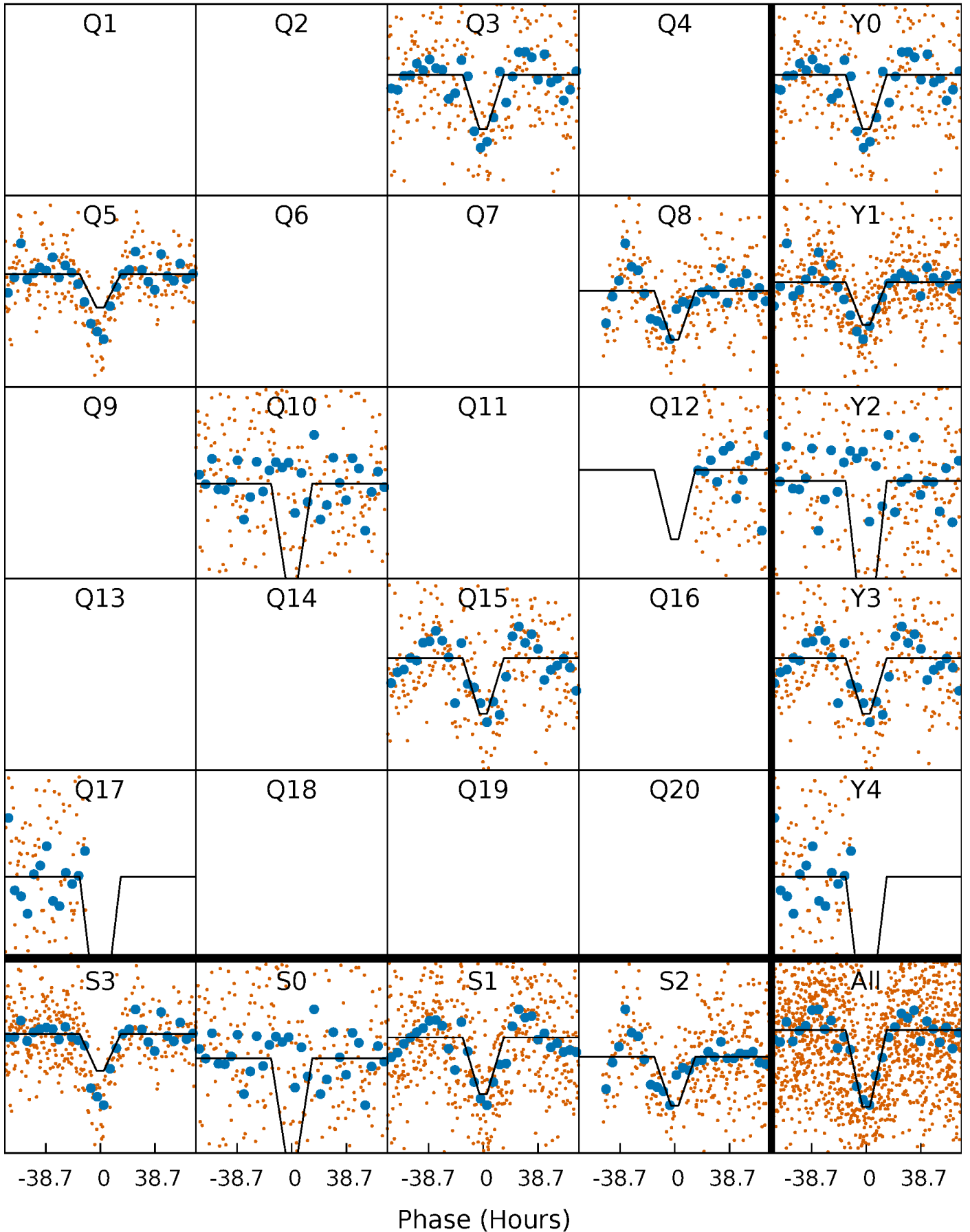
# DV Quarter-Phased Transit Curves

TCE 006517250-01 P=213.481929 Days  $T_0=310.641901$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

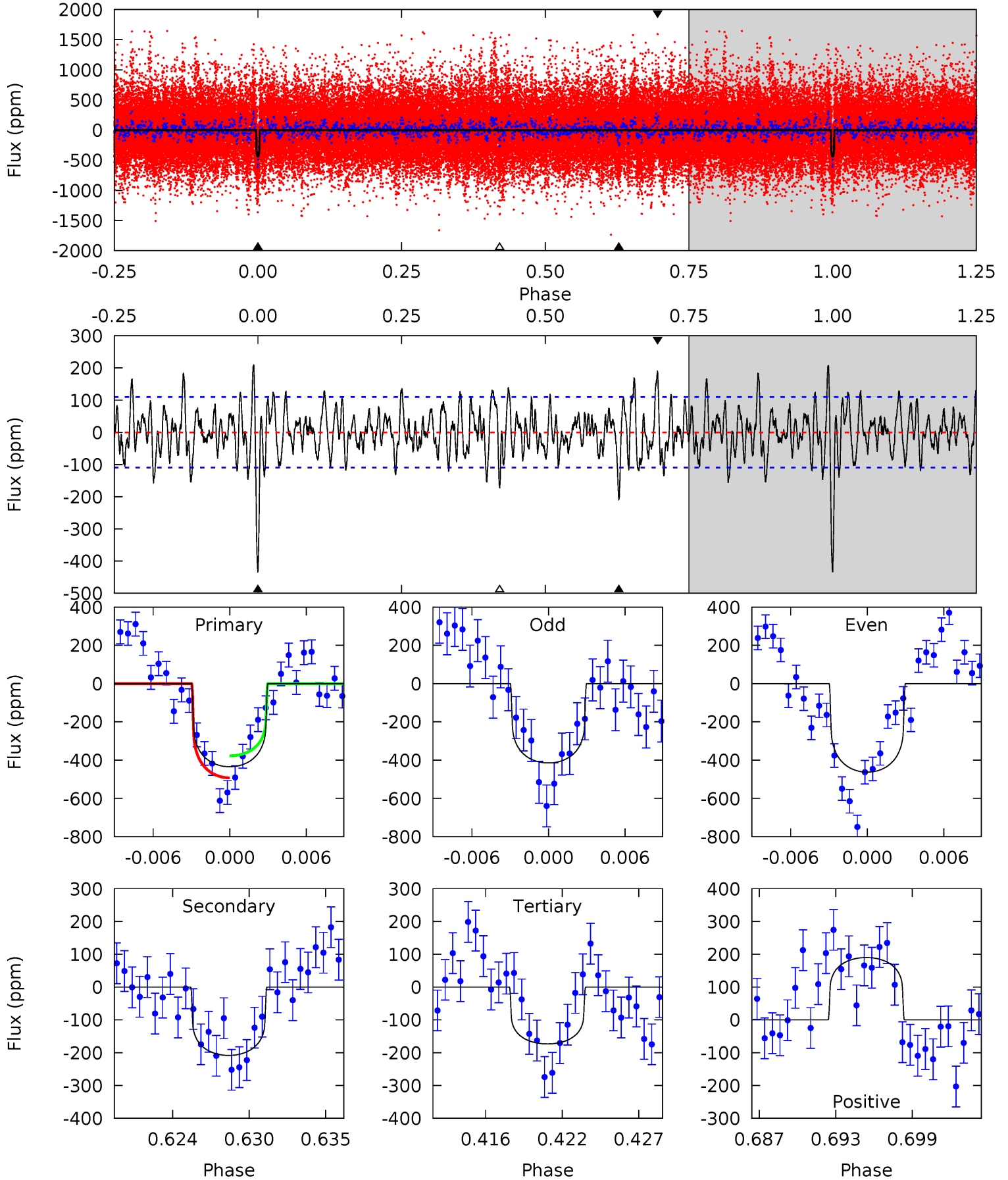
TCE 006517250-01 P=213.483024 Days  $T_0=310.535930$  (BKJD)



# DV Model-Shift Uniqueness Test

006517250-01, P = 213.481929 Days, E = 97.159972 Days

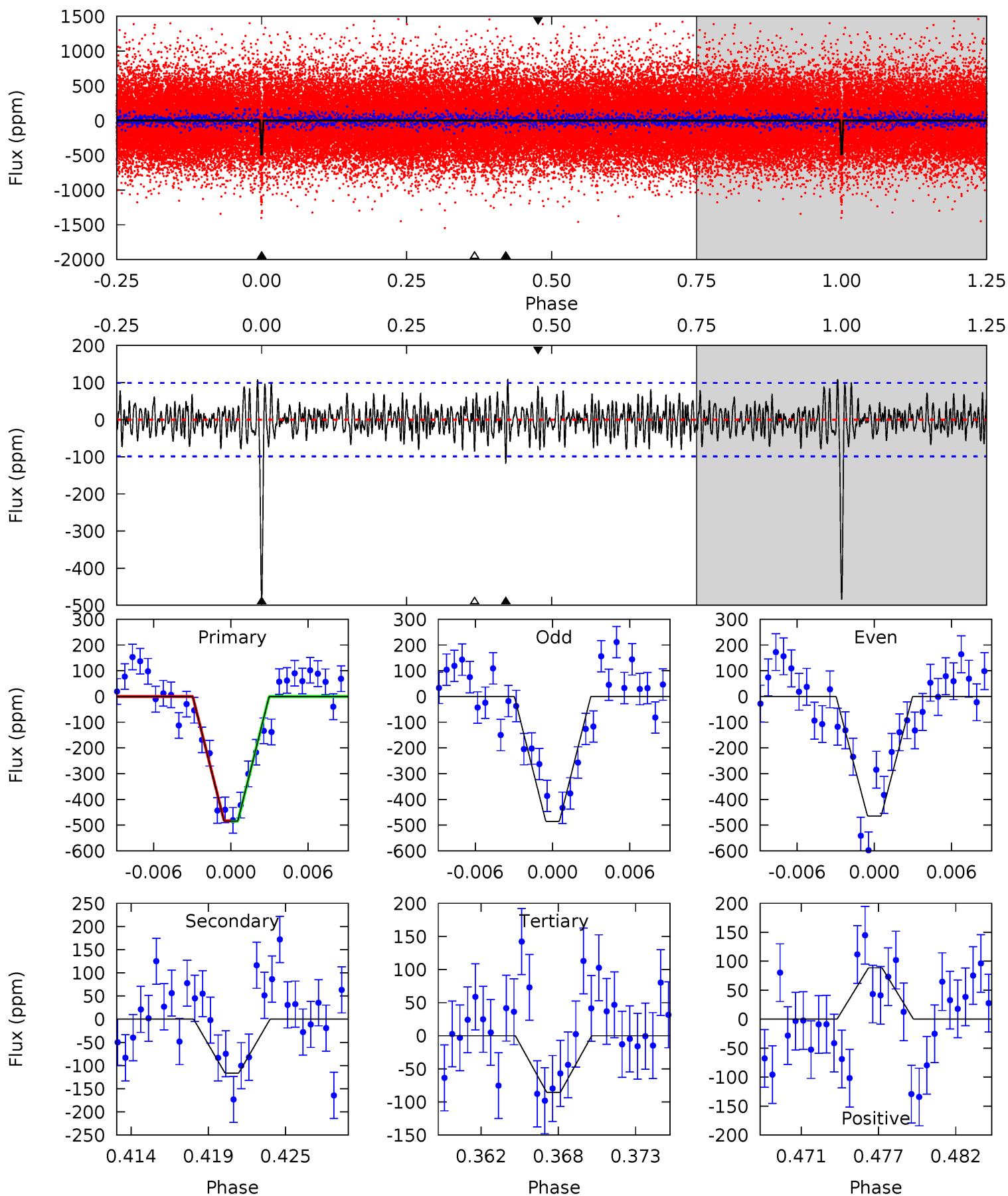
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	9.76	8.12	8.90	5.13	2.76	2.88	12.2	11.4	1.64	0.86	1.11	0.84	0.32	2.70



# Alt Model-Shift Uniqueness Test

006517250-01, P = 213.483024 Days, E = 97.052906 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
25.1	6.03	4.43	4.59	5.13	2.76	1.63	20.7	20.5	1.60	1.44	0.53	4.08	0.18	0.05



### Stellar Parameters For KIC 006517250

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6247^{+174}_{-218}$	$4.429^{+0.058}_{-0.217}$	$-0.080^{+0.250}_{-0.300}$	$1.065^{+0.379}_{-0.126}$	$1.110^{+0.156}_{-0.156}$	$1.296^{+0.392}_{-0.708}$
	+3%/-3%	+1%/-5%	+312%/-375%	+36%/-12%	+14%/-14%	+30%/-55%
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 006517250-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-208 \pm 21$	$2.11^{+0.88}_{-0.86}$	$477^{+35}_{-26}$	$5697^{+1775}_{-802}$	$13058^{+24787}_{-6351}$
Alt.	$-116 \pm 19$	$2.61^{+1.02}_{-0.85}$	$475^{+36}_{-23}$	$4571^{+777}_{-494}$	$4728^{+5617}_{-2292}$

$T_{\text{max}}$  = 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

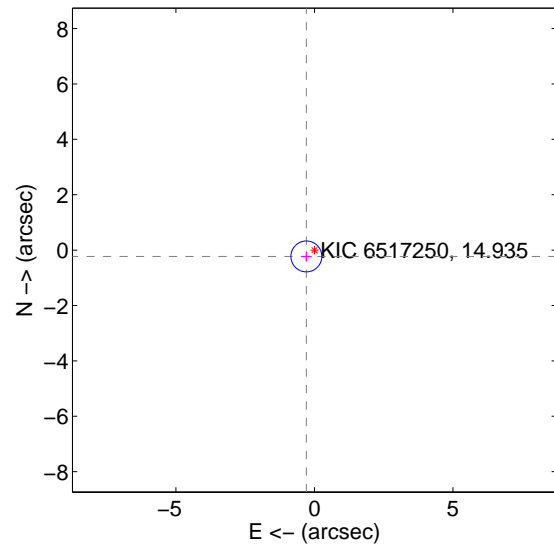
Supplemental centroid analysis for 006517250-01. Kepler magnitude: 14.94. Transit SNR 9.53

There are 0 quarters with good PRF difference image offsets

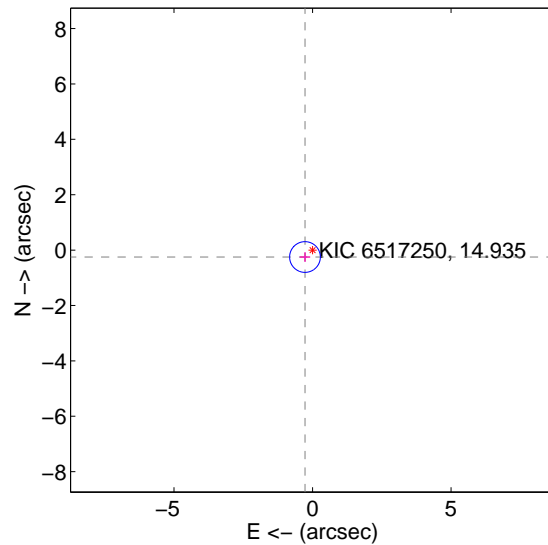
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.370 \pm 0.186$	1.99	$0.291 \pm 0.191$	$-0.228 \pm 0.177$
PRF-fit source offset from KIC position	$0.369 \pm 0.185$	2.00	$0.272 \pm 0.191$	$-0.250 \pm 0.177$
photometric centroid source offset	$2.43 \pm 1.62$	1.50	$1.04 \pm 1.31$	$-2.19 \pm 1.68$

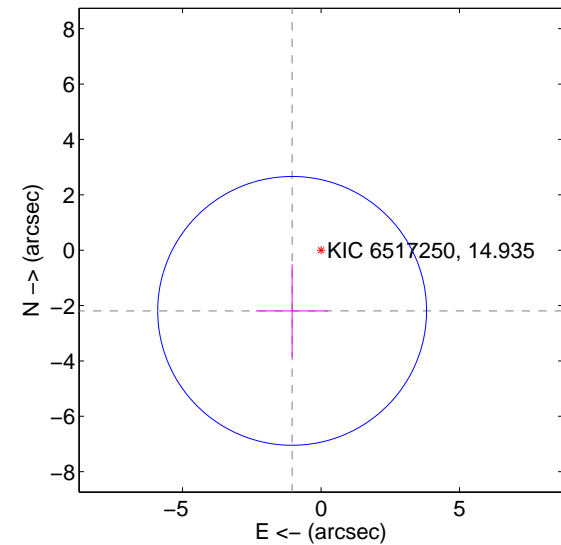
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

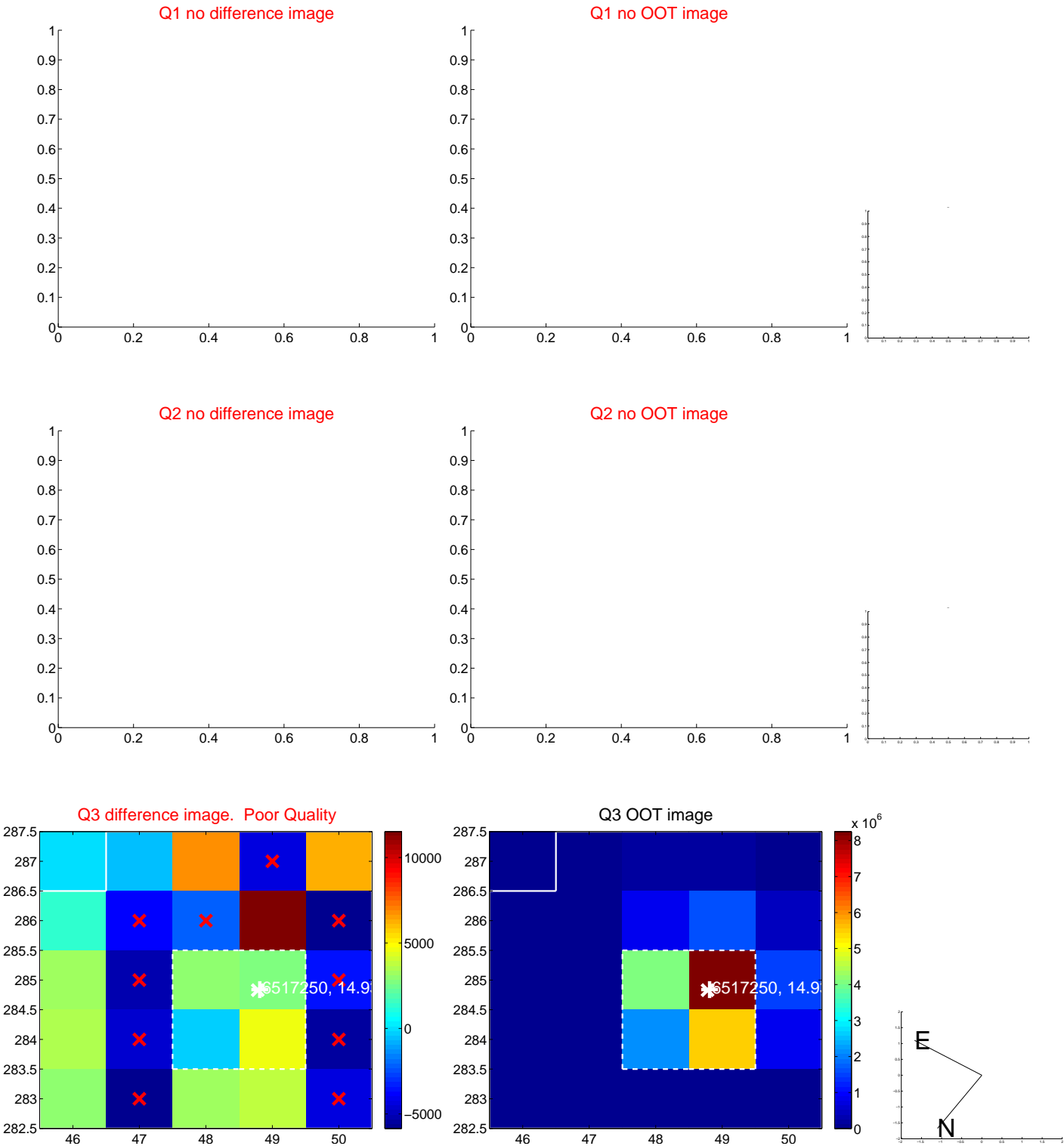


offset from photometric centroids

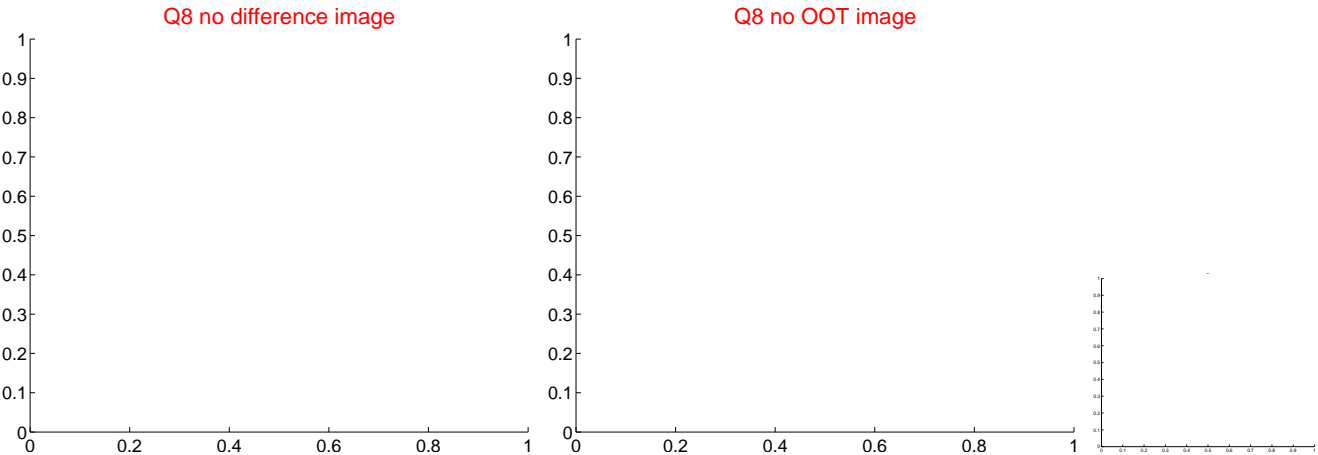
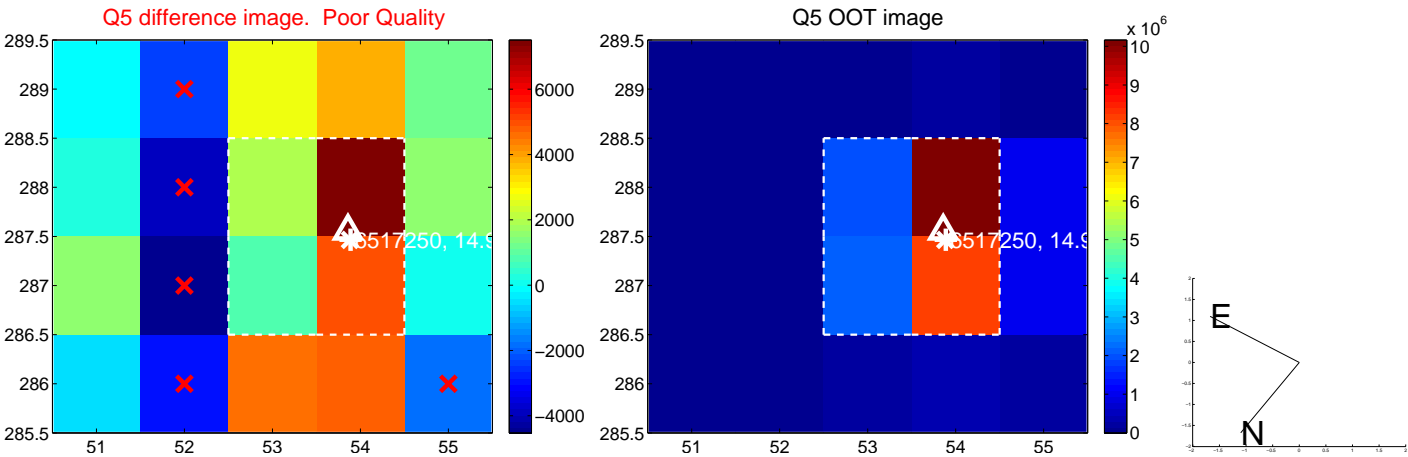


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

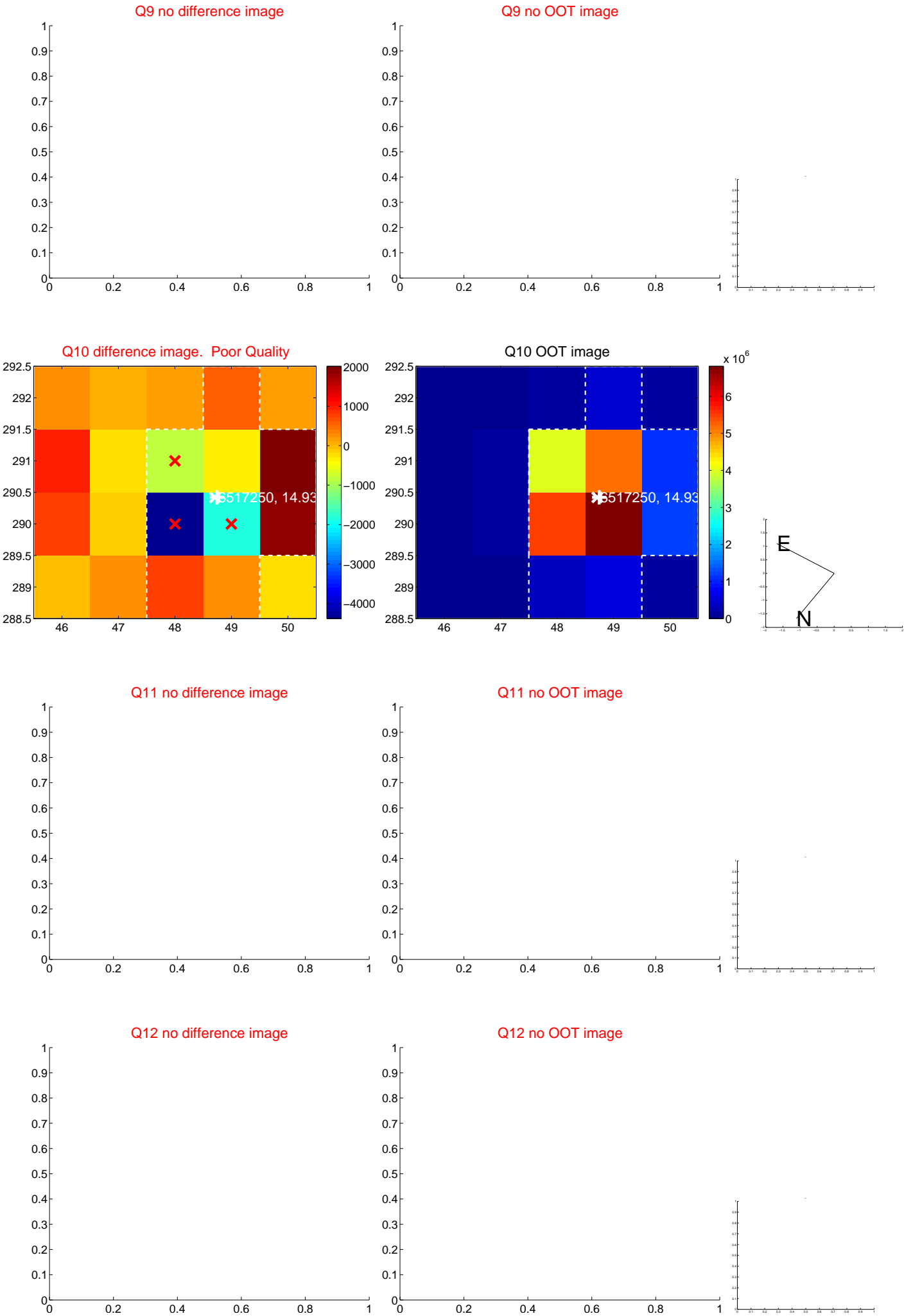
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



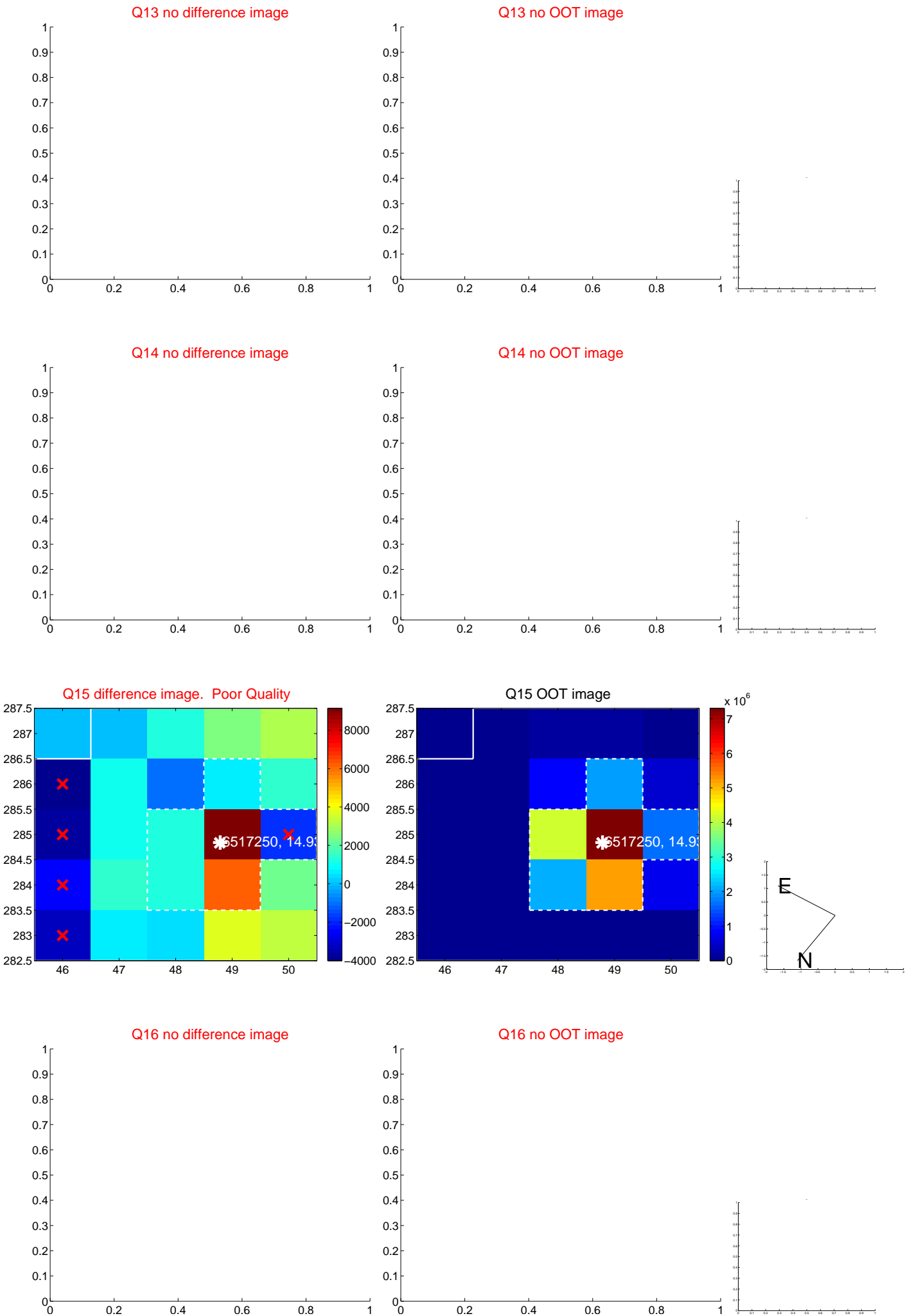
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

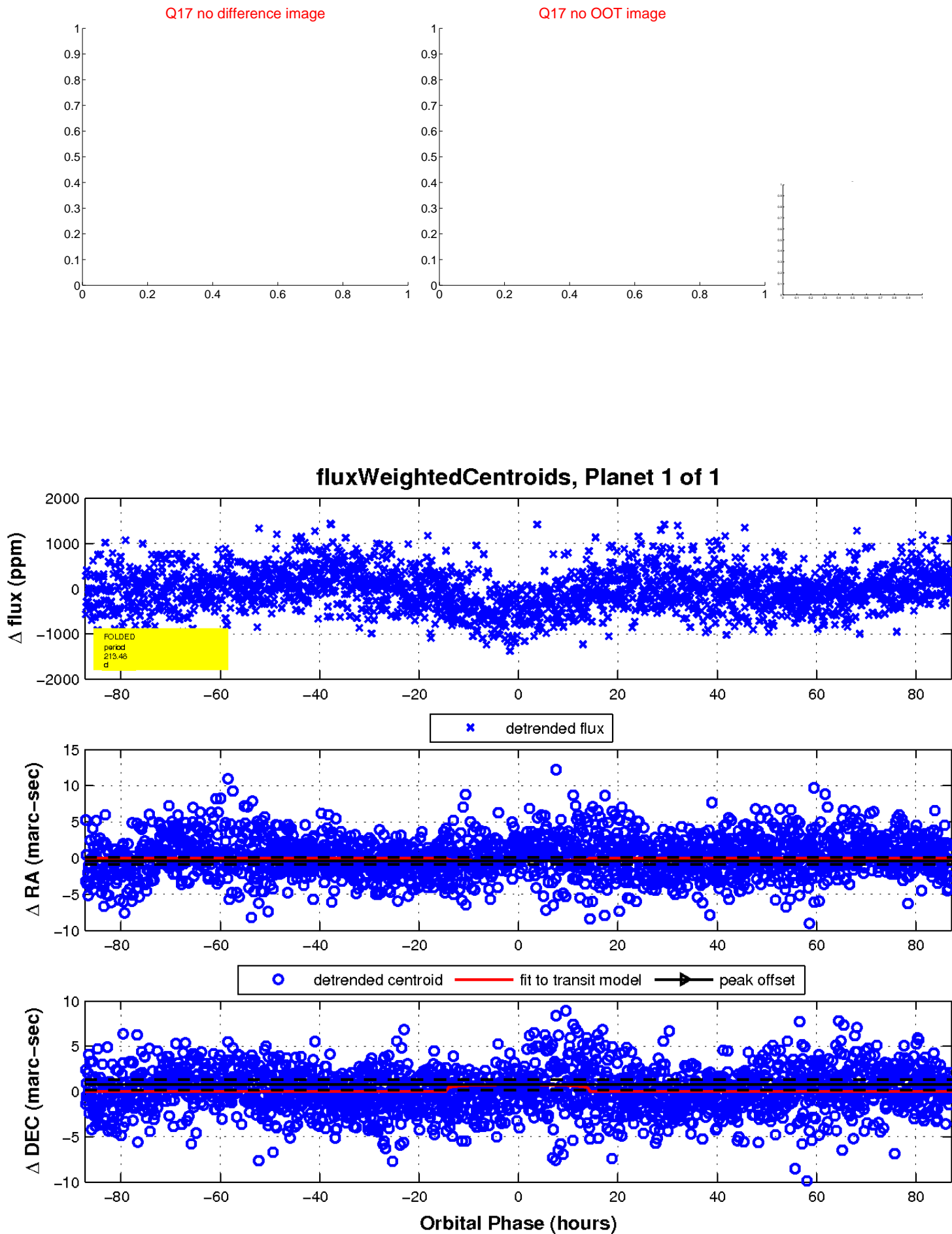


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





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



UKIRT Image

Declination

