

# KIC 007434273

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007434273-01	OBS	No	115.282738	165.066439	61.5	22.616	8.6	8.0	1.47	6085	1.29	12.45

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007434273-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

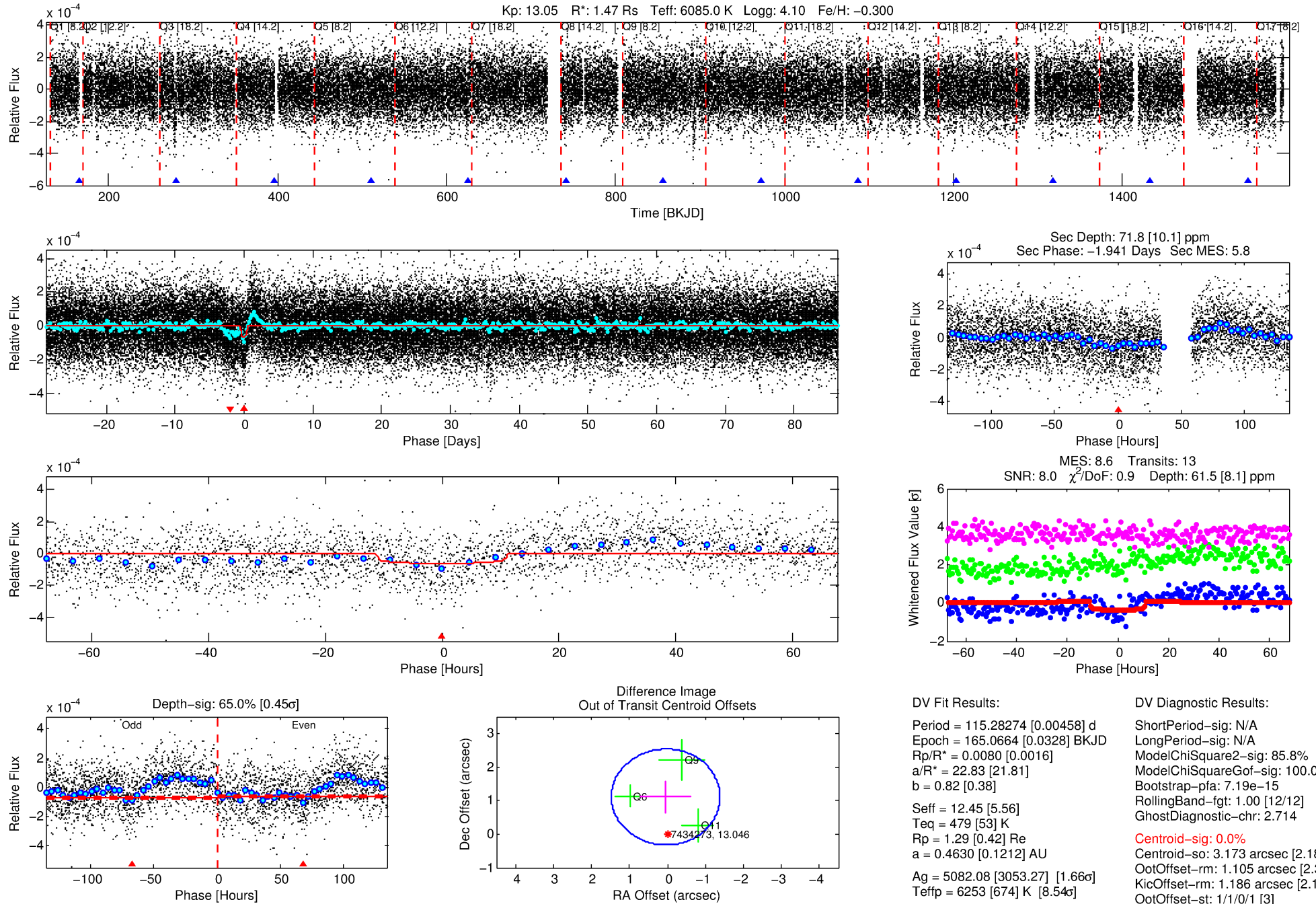
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007434273-01

No Significant Match Found

# DV One-Page Summary

KIC: 7434273 Candidate: 1 of 1 Period: 115.283 d



## DV Fit Results:

Period = 115.28274 [0.00458] d  
Epoch = 165.0664 [0.0328] BKJD  
Rp/R\* = 0.0080 [0.0016]  
a/R\* = 22.83 [21.81]  
b = 0.82 [0.38]  
Seff = 12.45 [5.56]  
Teq = 479 [53] K  
Rp = 1.29 [0.42] Re  
a = 0.4630 [0.1212] AU  
Ag = 5082.08 [3053.27] [1.66 $\sigma$ ]  
Teffp = 6253 [674] K [8.54 $\sigma$ ]

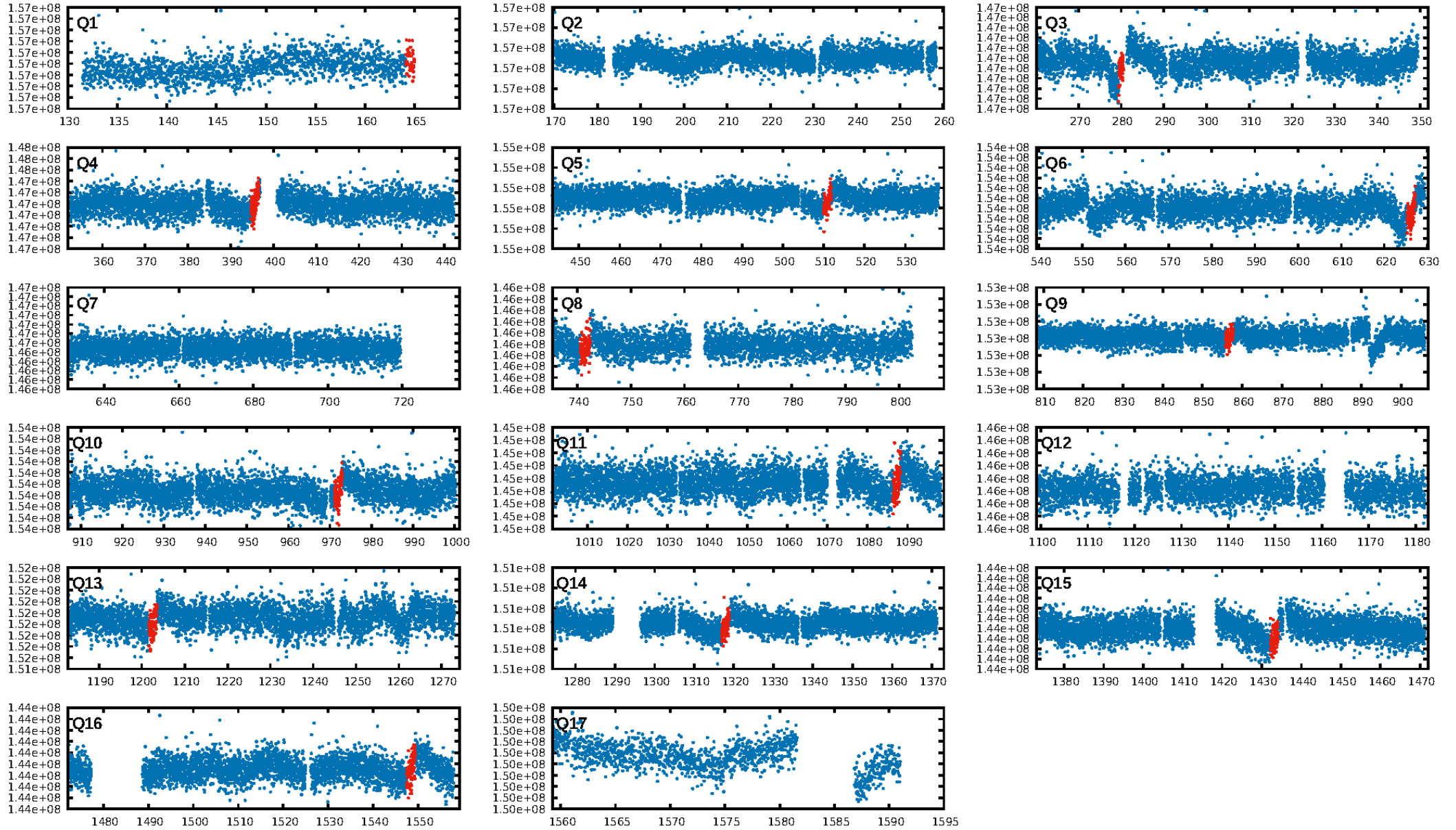
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 85.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 7.19e-15  
RollingBand-fgt: 1.00 [12/12]  
GhostDiagnostic-chr: 2.714  
Centroid-sig: 0.0%  
Centroid-so: 3.173 arcsec [2.18 $\sigma$ ]  
OotOffset-rm: 1.105 arcsec [2.32 $\sigma$ ]  
KicOffset-rm: 1.186 arcsec [2.18 $\sigma$ ]  
OotOffset-st: 1/1/0/1 [3]  
KicOffset-st: 1/1/0/1 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [8/8]

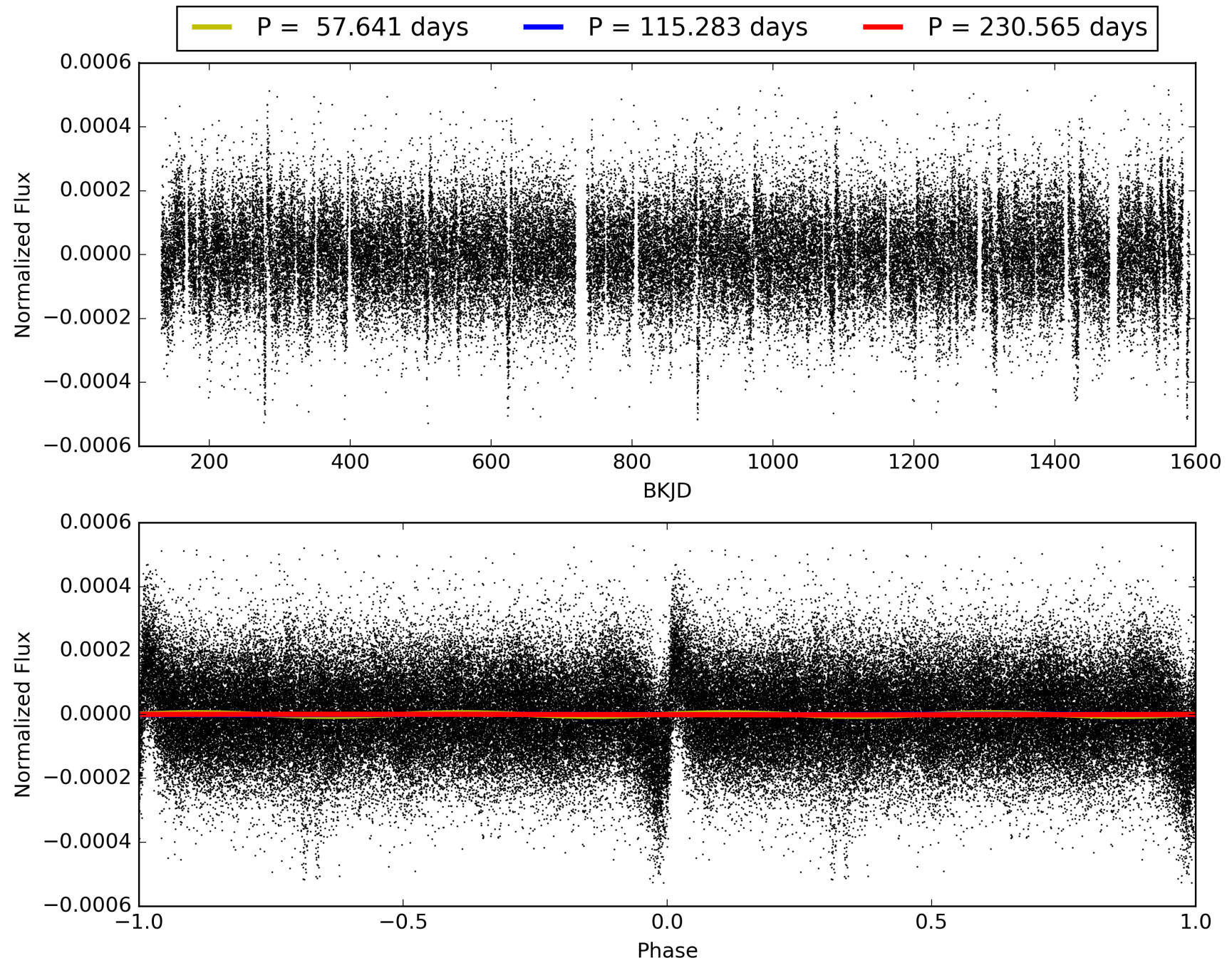
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:48:43 Z

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

# TCE 007434273-01, PDC Light Curves

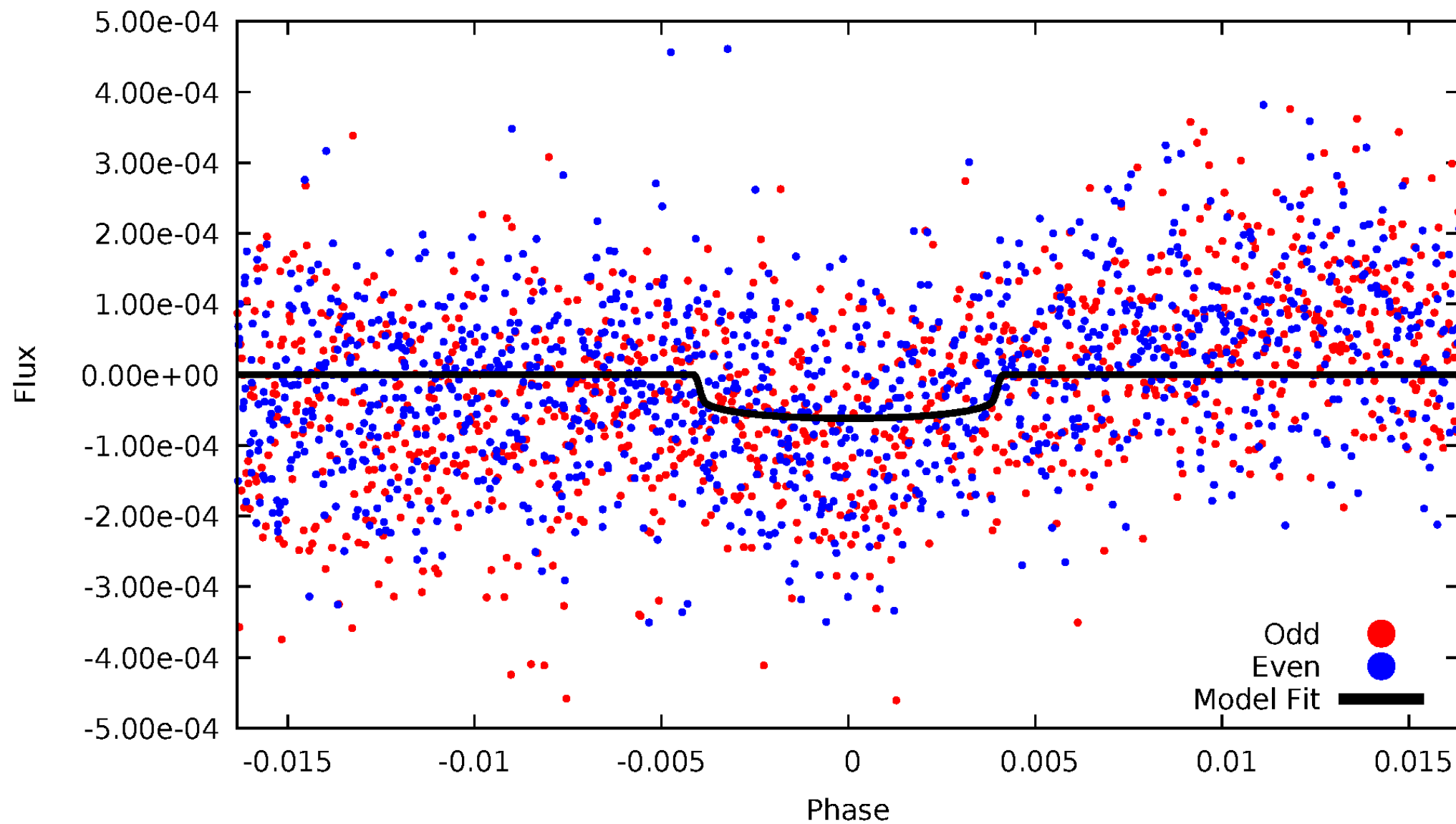


TCE 007434273-01



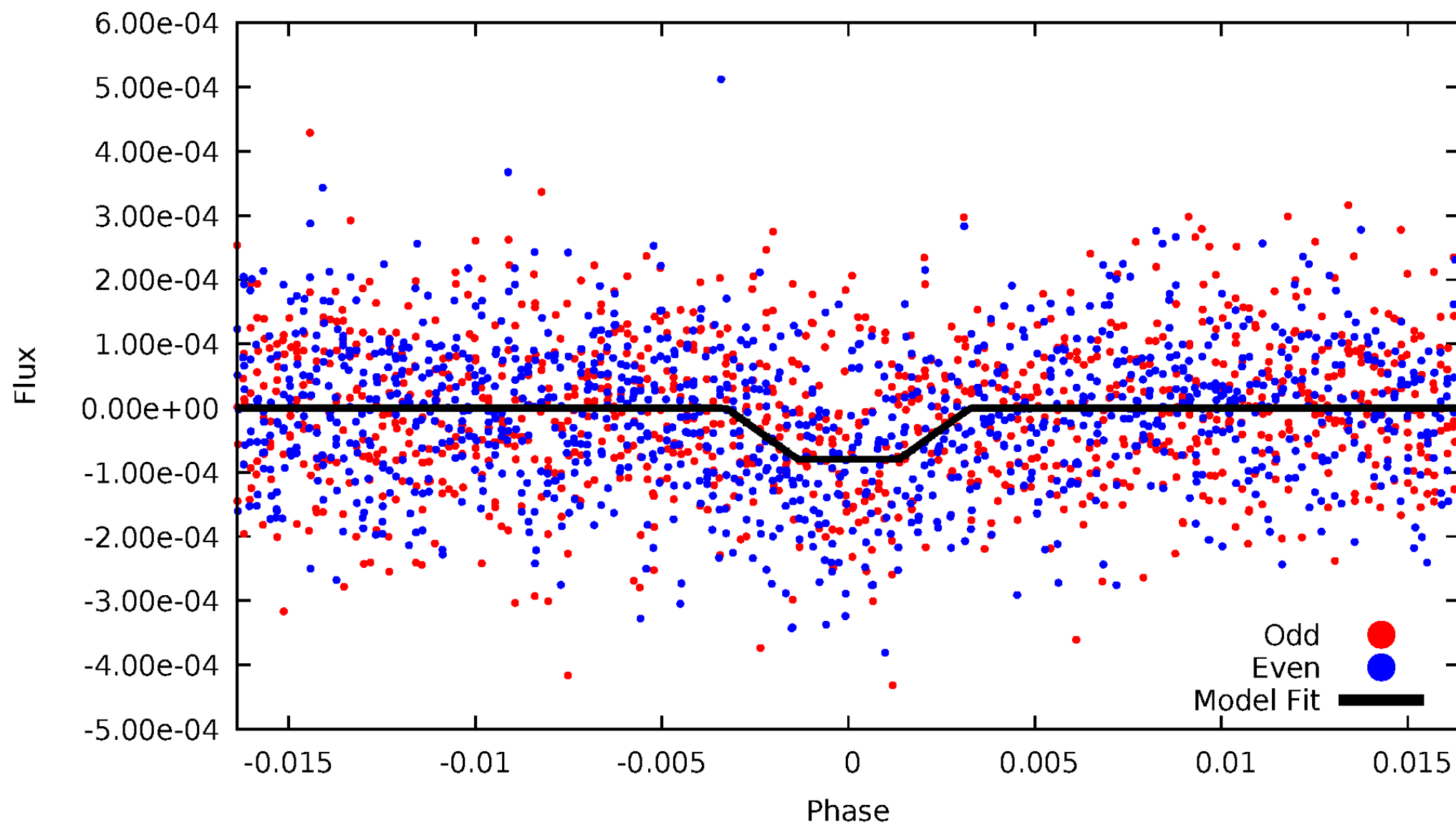
# DV Odd/Even

TCE 007434273-01

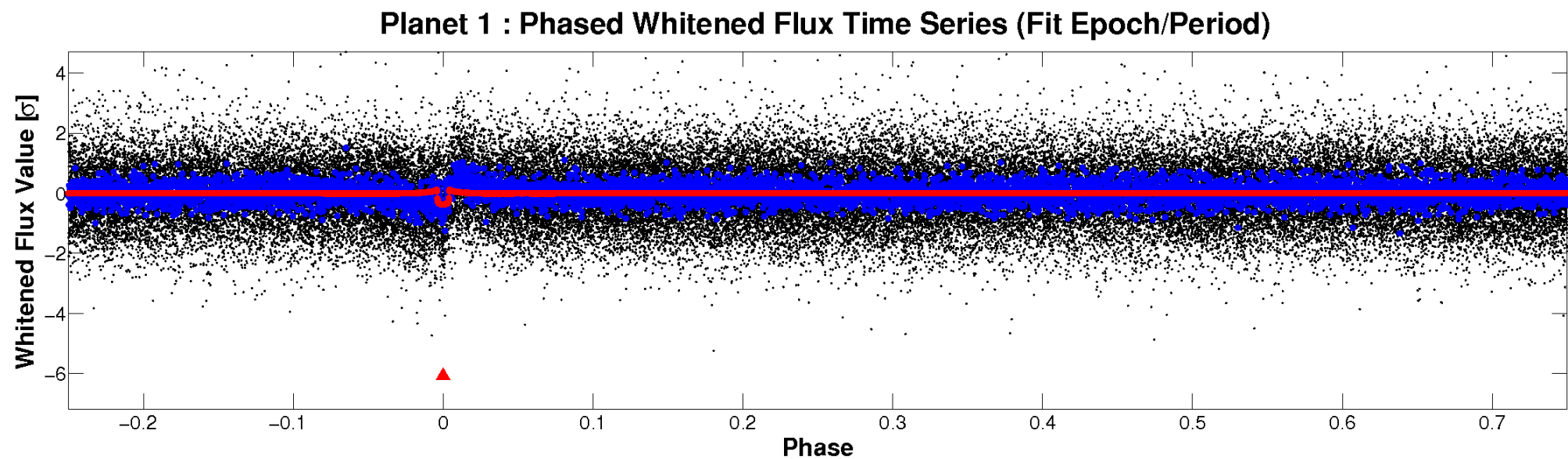
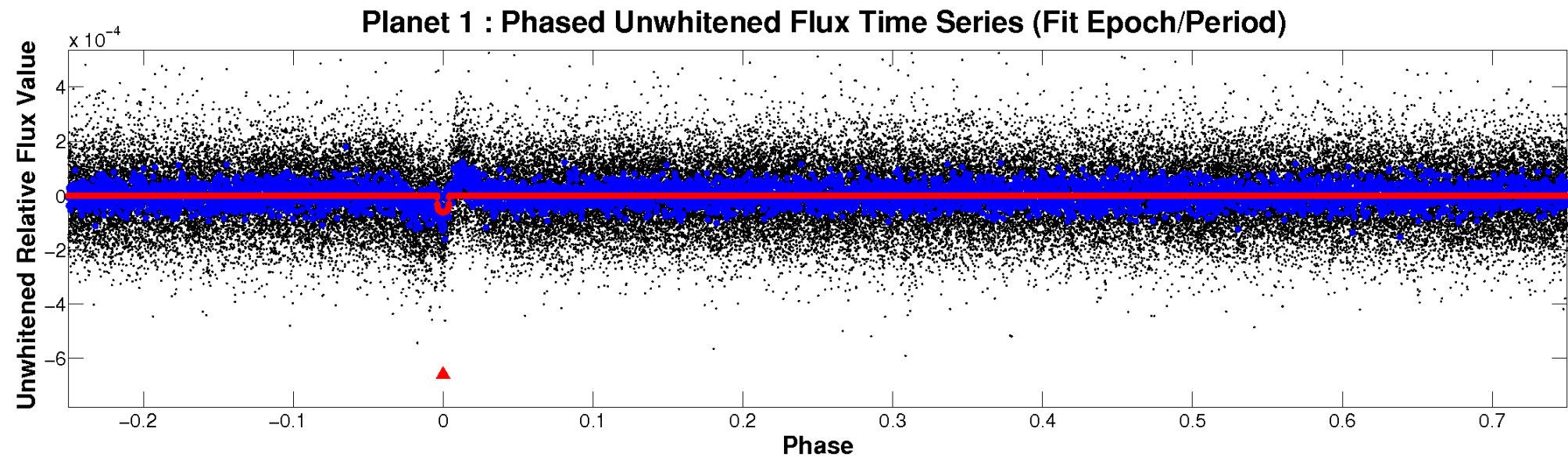


# ALT Odd/Even

TCE 007434273-01



# Non-Whitened Vs. Whitened Light Curve



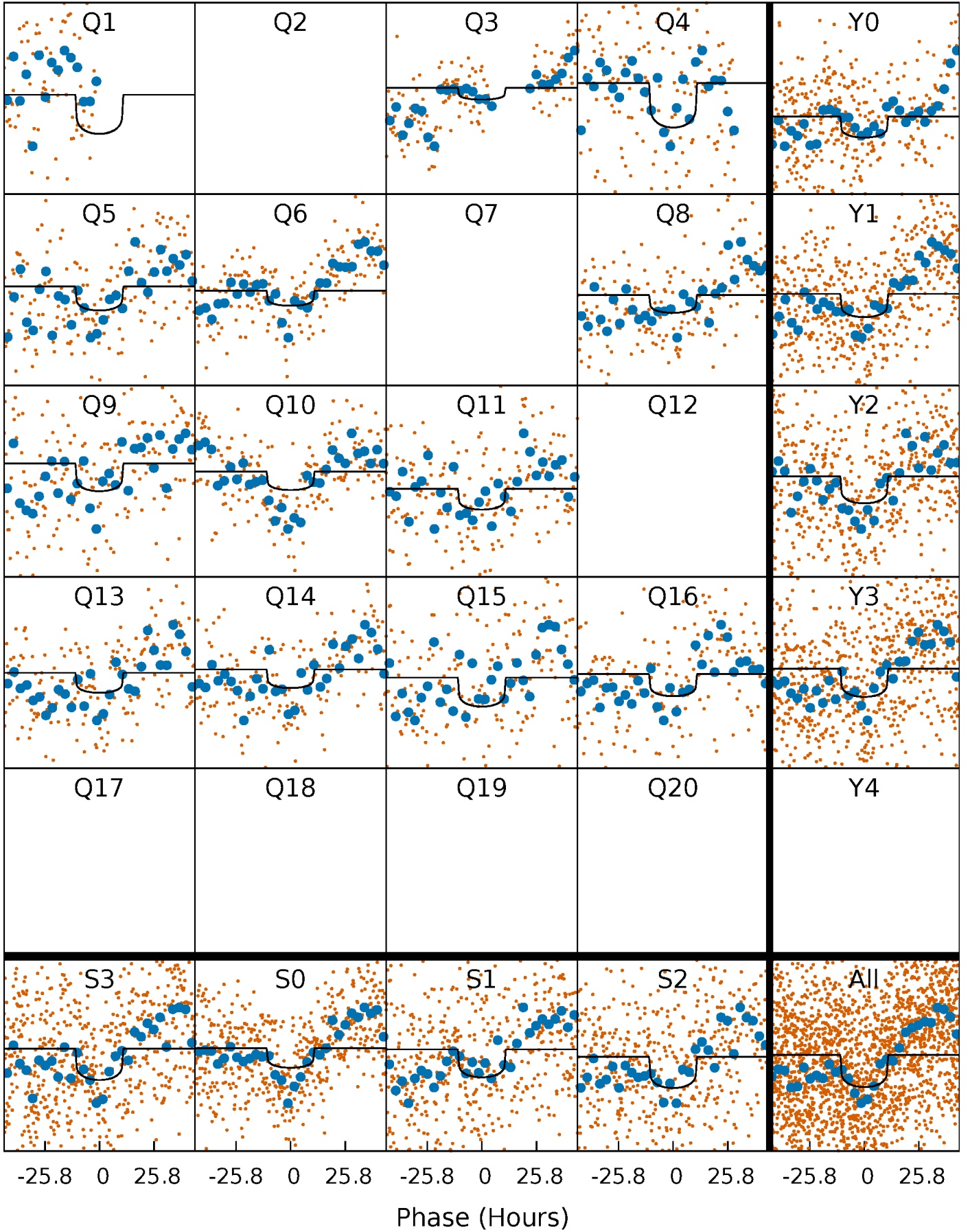
# PDC Quarter-Phased Transit Curves

TCE 007434273-01 P=115.282738 Days  $T_0=165.066439$  (BKJD)



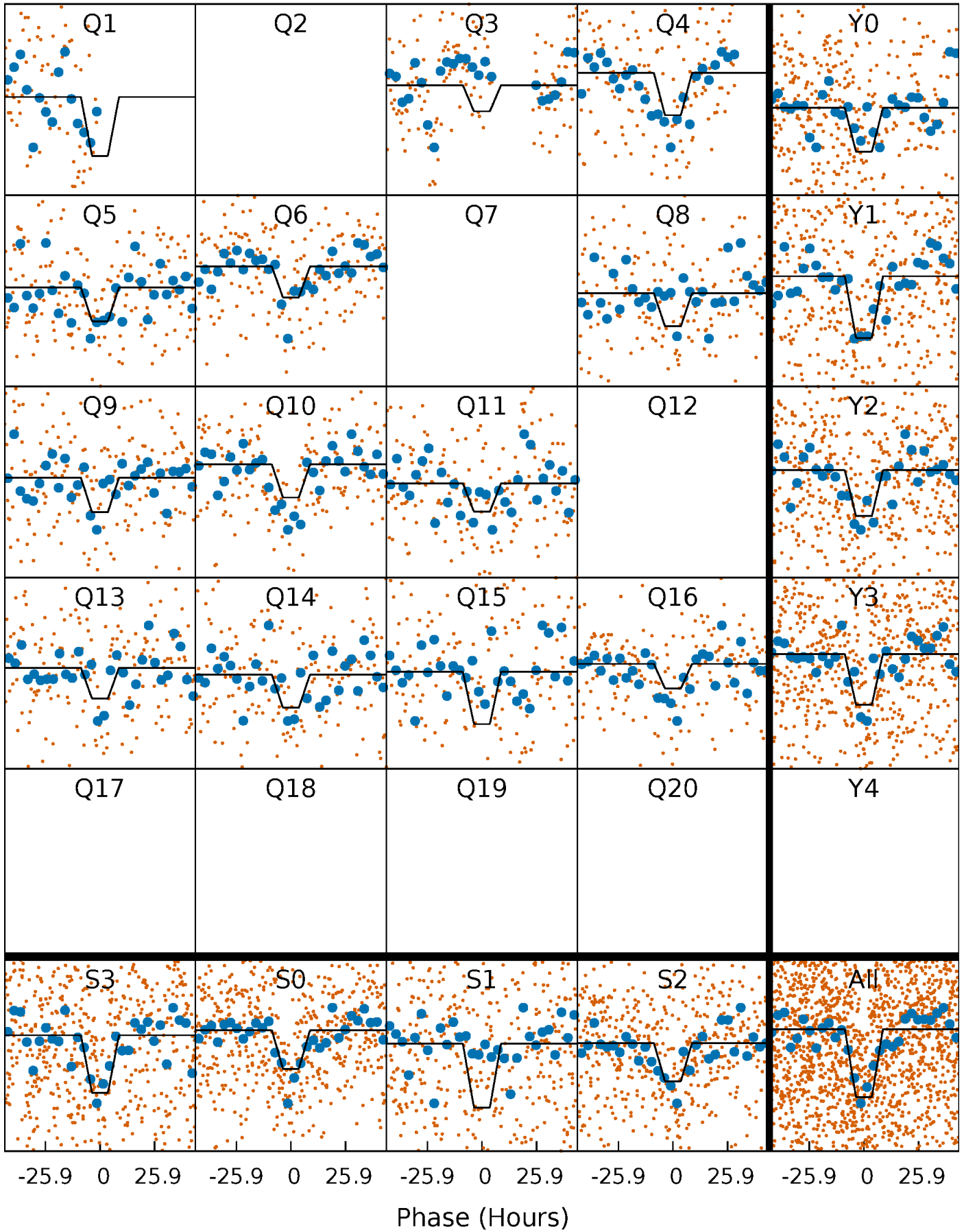
# DV Quarter-Phased Transit Curves

TCE 007434273-01 P=115.282738 Days  $T_0=165.066439$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

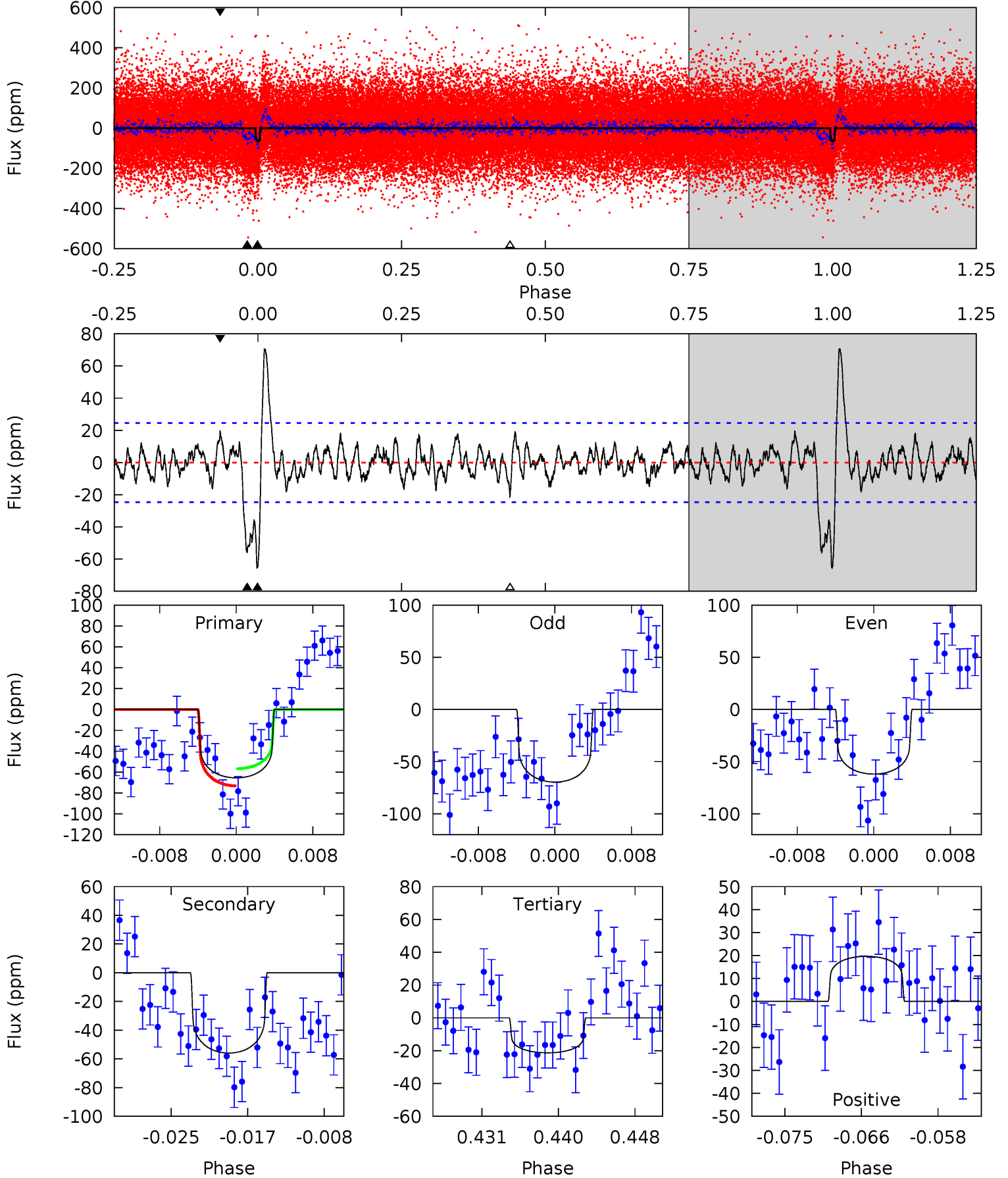
TCE 007434273-01 P=115.286146 Days  $T_0=165.052983$  (BKJD)



# DV Model-Shift Uniqueness Test

007434273-01, P = 115.282738 Days, E = 49.783701 Days

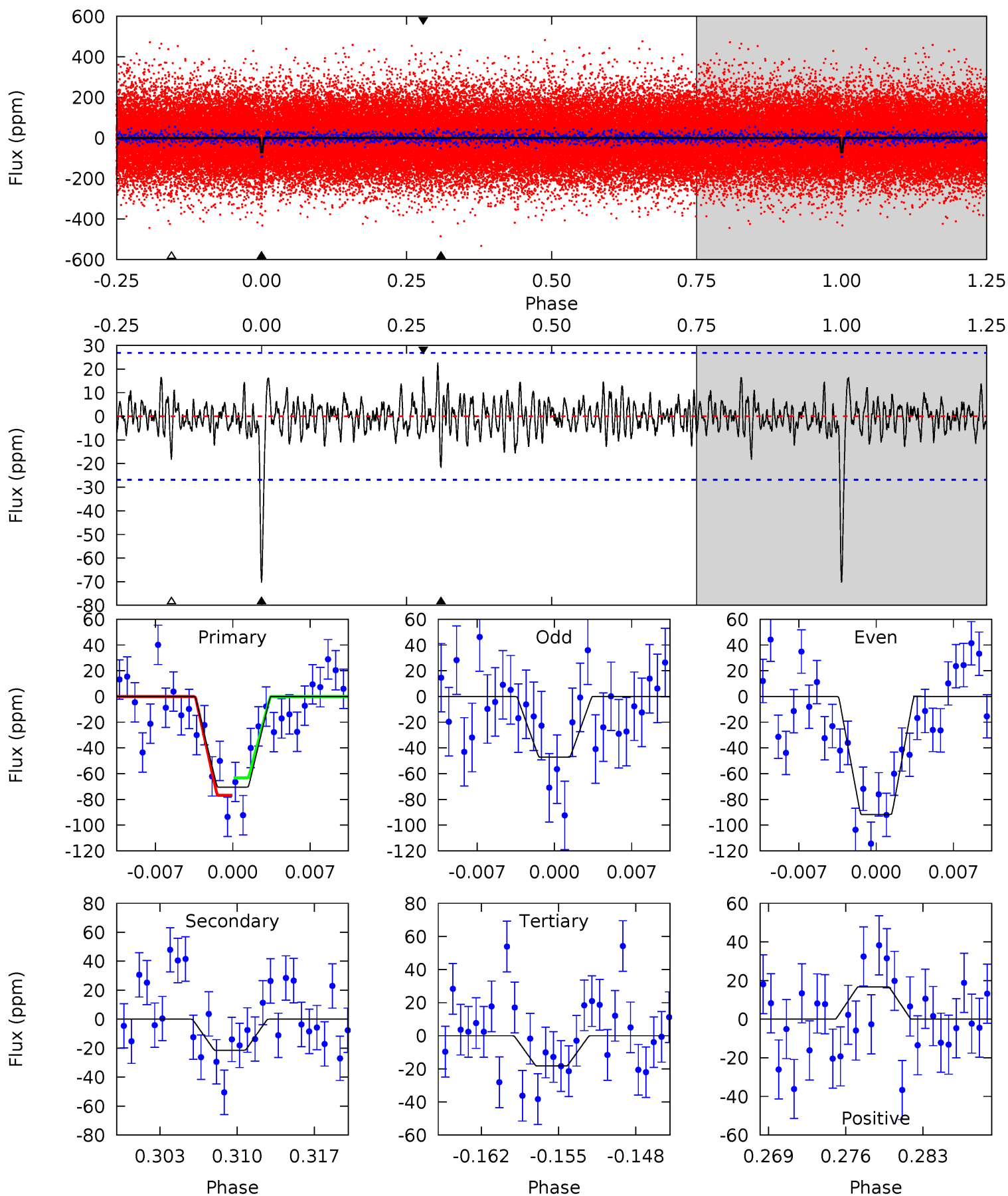
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	11.5	4.38	4.04	5.06	2.64	2.01	9.09	9.43	7.12	7.46	0.79	0.97	0.52	1.68



# Alt Model-Shift Uniqueness Test

007434273-01,  $P = 115.286146$  Days,  $E = 49.766837$  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
13.4	4.07	3.47	3.18	5.10	2.71	1.04	9.89	10.2	0.60	0.89	4.22	1.00	0.24	1.28



### Stellar Parameters For KIC 007434273

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6085^{+167}_{-167}$	$4.099^{+0.259}_{-0.130}$	$-0.300^{+0.350}_{-0.250}$	$1.474^{+0.308}_{-0.377}$	$0.995^{+0.159}_{-0.119}$	$0.438^{+0.615}_{-0.164}$
	+3%/-3%	+6%/-3%	+117%/-83%	+21%/-26%	+16%/-12%	+140%/-37%
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 007434273-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-56 \pm 5$	$1.23^{+0.36}_{-0.29}$	$659^{+44}_{-54}$	$5863^{+772}_{-478}$	$4362^{+3227}_{-1675}$
Alt.	$-21 \pm 5$	$1.39^{+0.33}_{-0.32}$	$660^{+46}_{-47}$	$4551^{+454}_{-357}$	$1328^{+981}_{-529}$

$T_{max}$  = 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

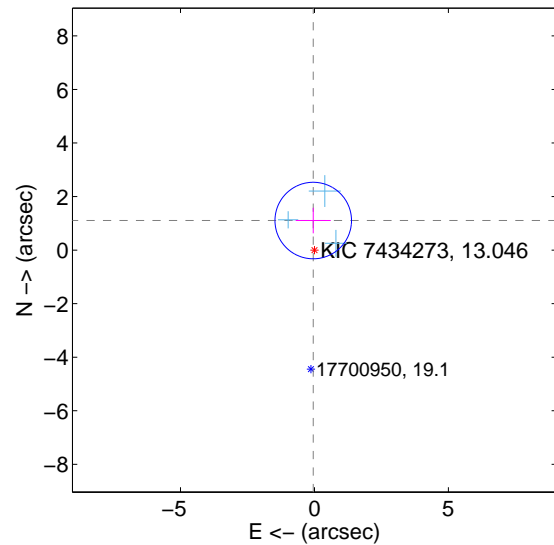
Supplemental centroid analysis for 007434273-01. Kepler magnitude: 13.05. Transit SNR 7.96

There are 3 quarters with good PRF difference image offsets

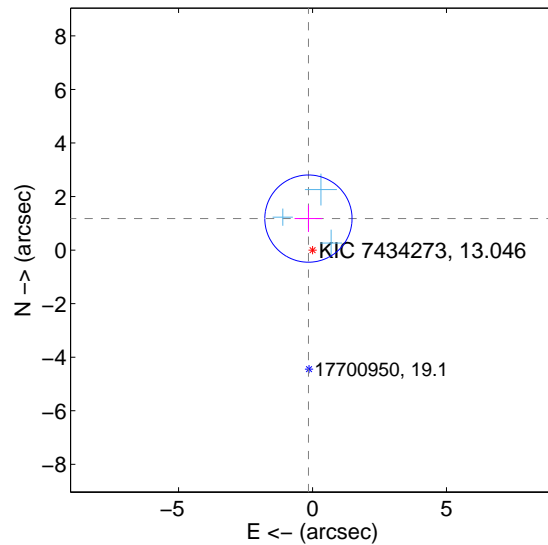
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.105 \pm 0.476$	2.32	$0.045 \pm 0.654$	$1.104 \pm 0.476$
PRF-fit source offset from KIC position	$1.186 \pm 0.543$	2.18	$0.153 \pm 0.515$	$1.176 \pm 0.499$
photometric centroid source offset	$3.17 \pm 1.45$	2.18	$0.88 \pm 1.41$	$3.05 \pm 1.46$

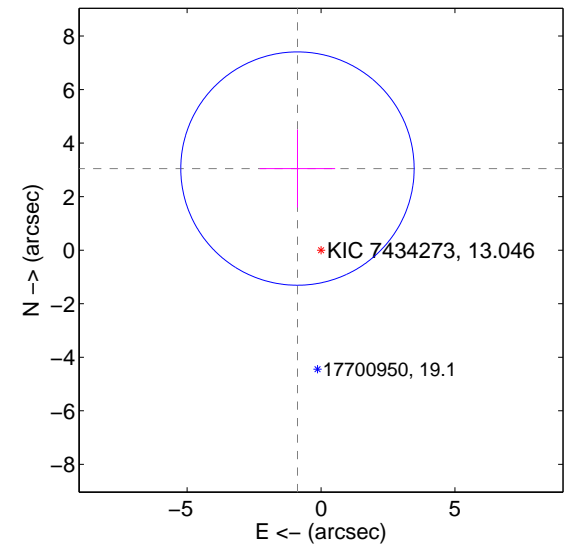
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

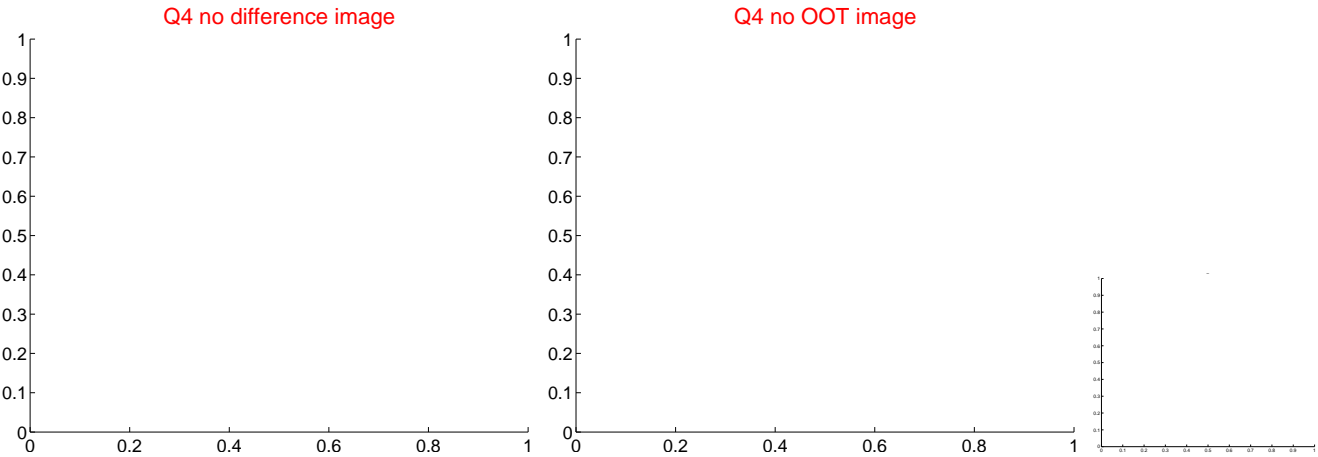
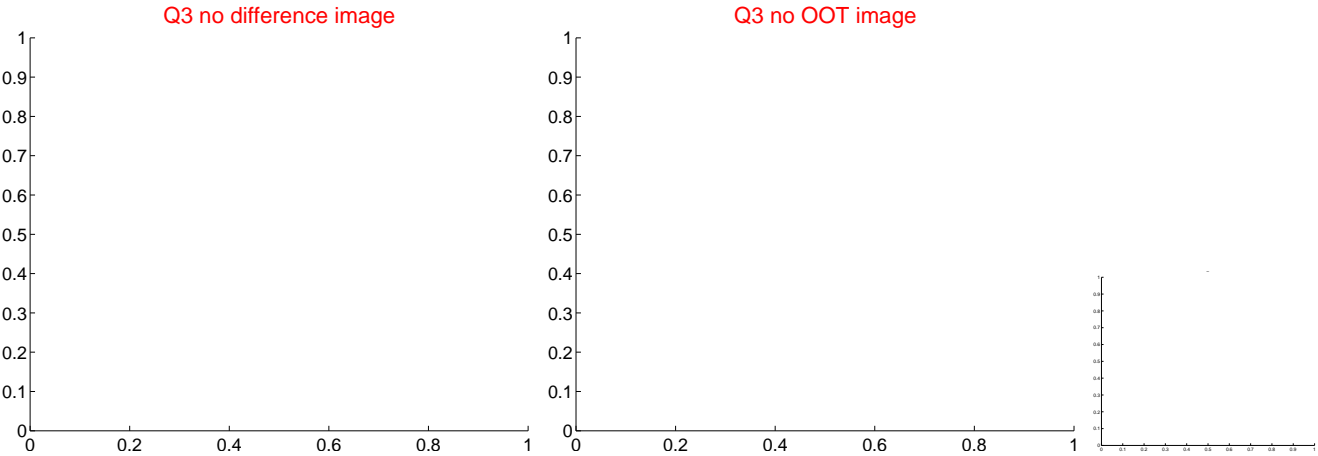
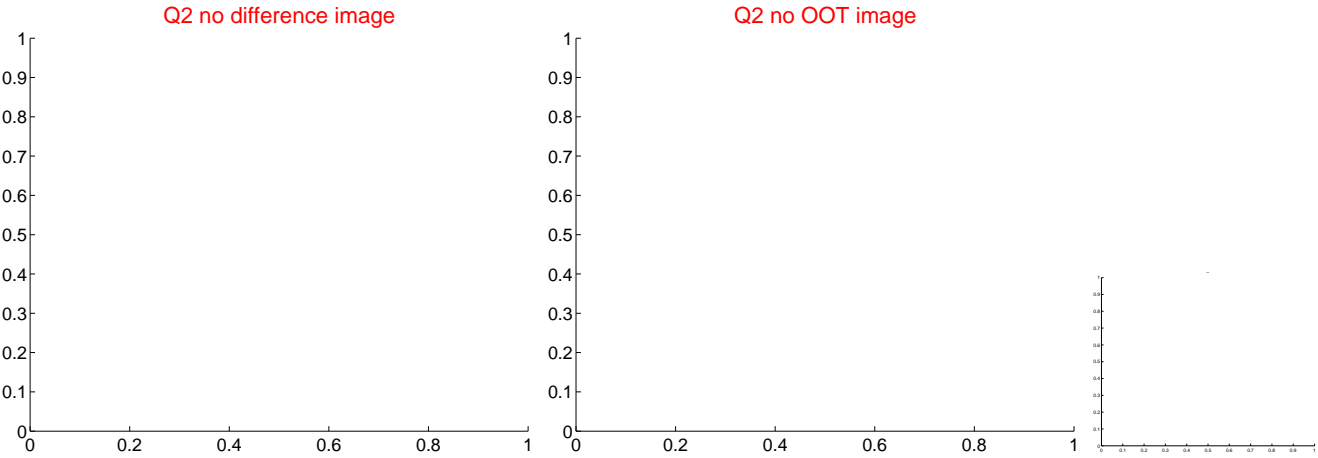
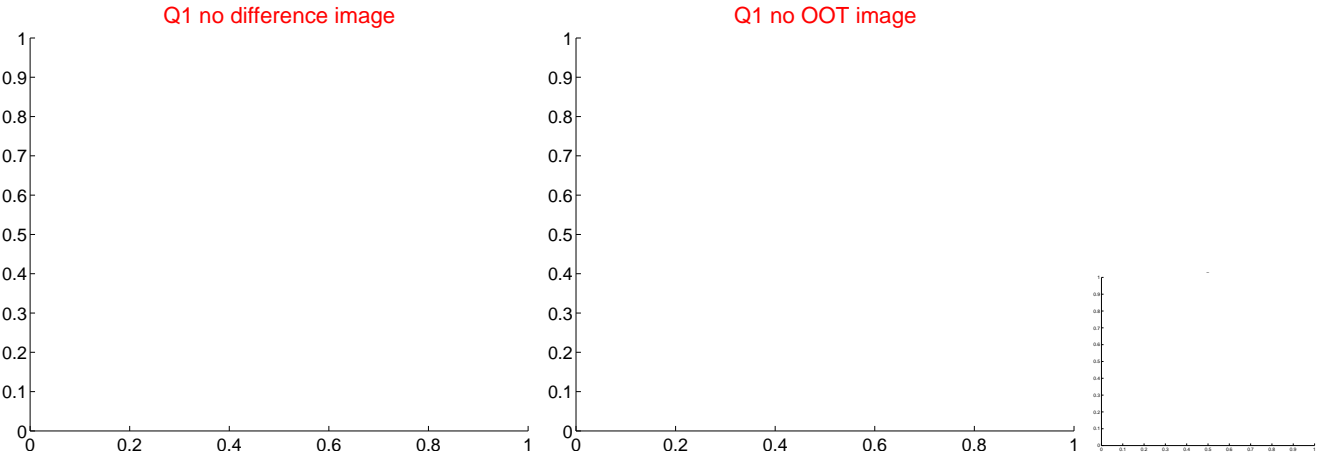


offset from photometric centroids

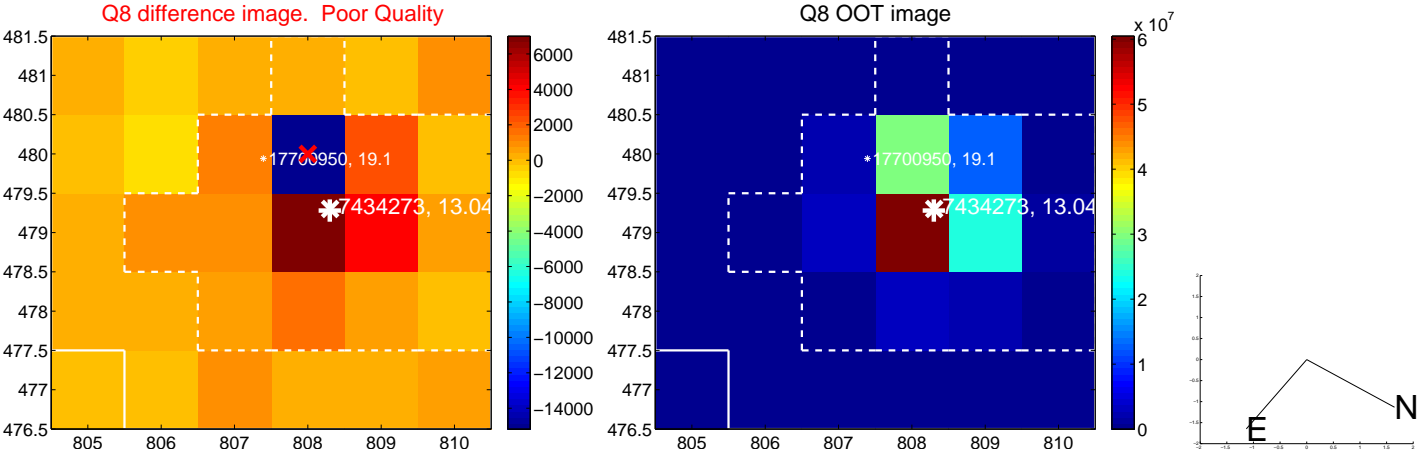
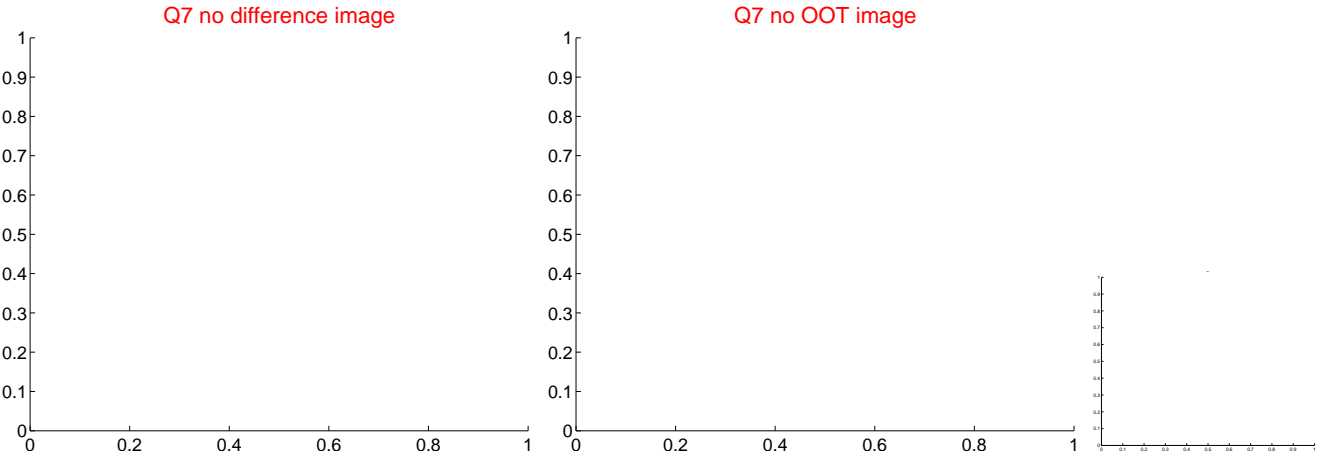
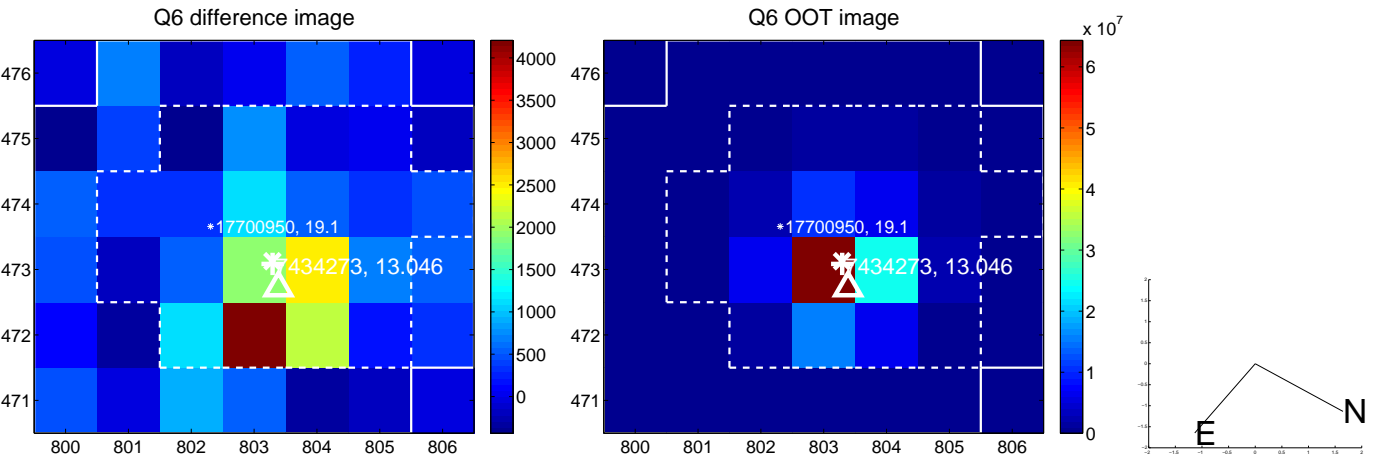
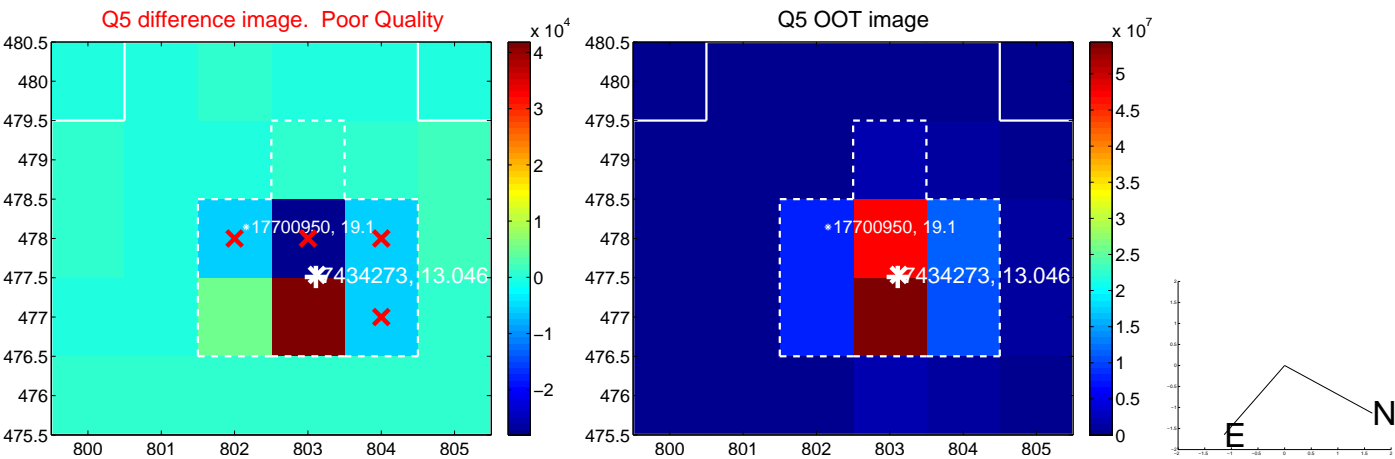


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

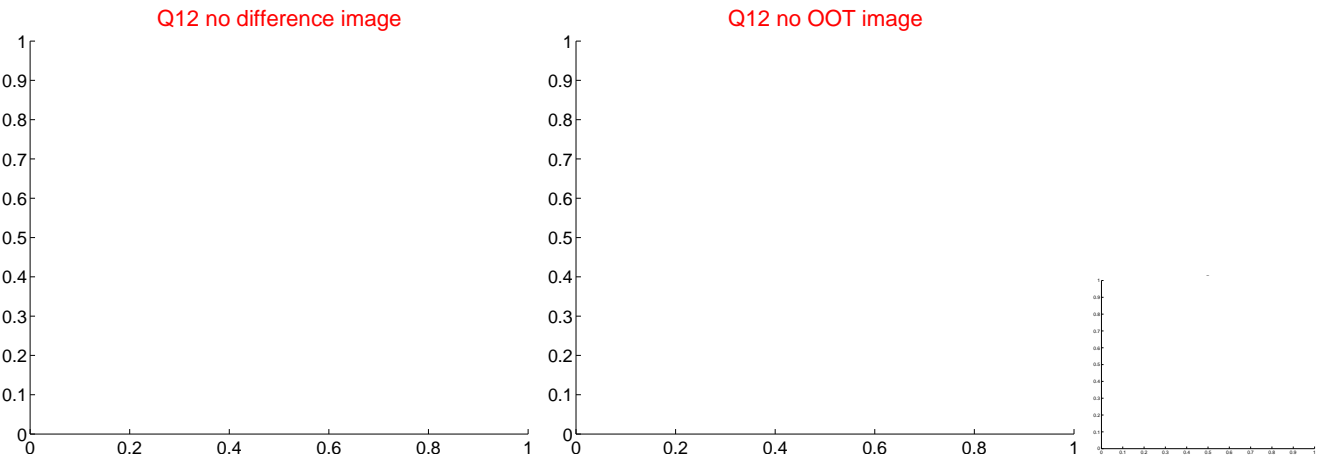
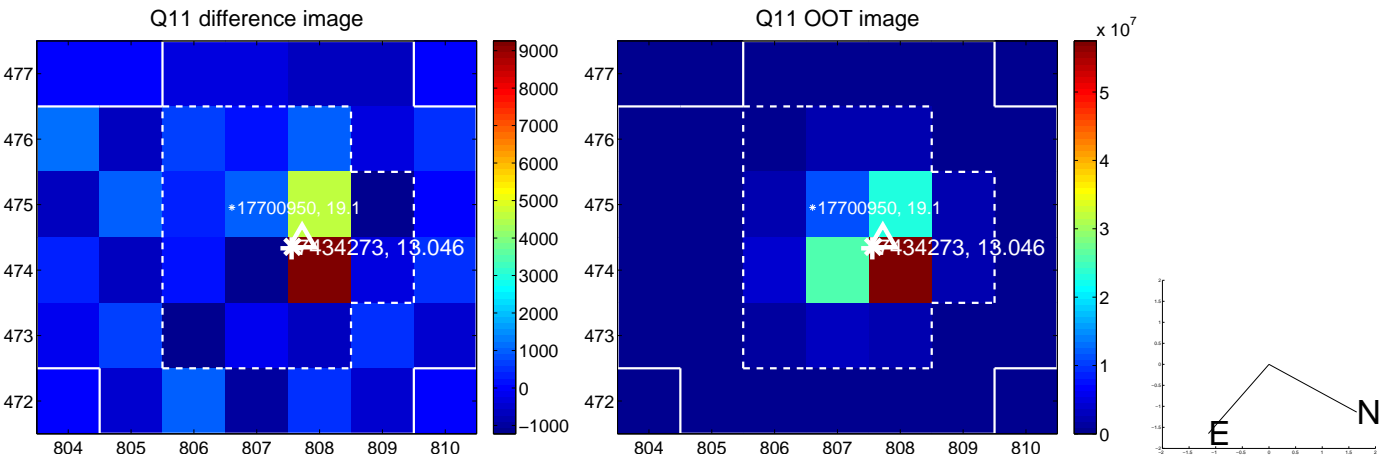
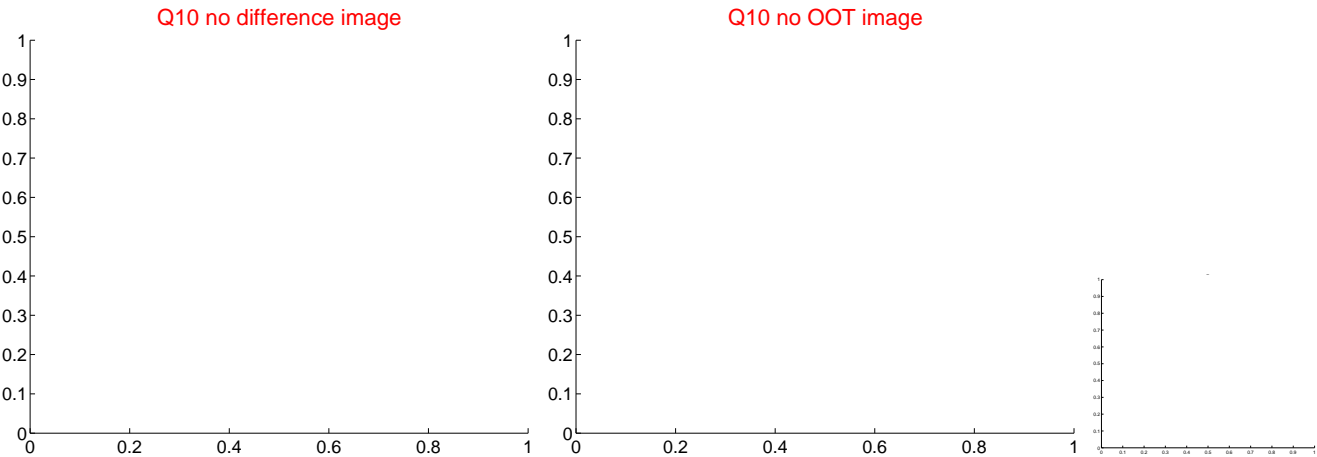
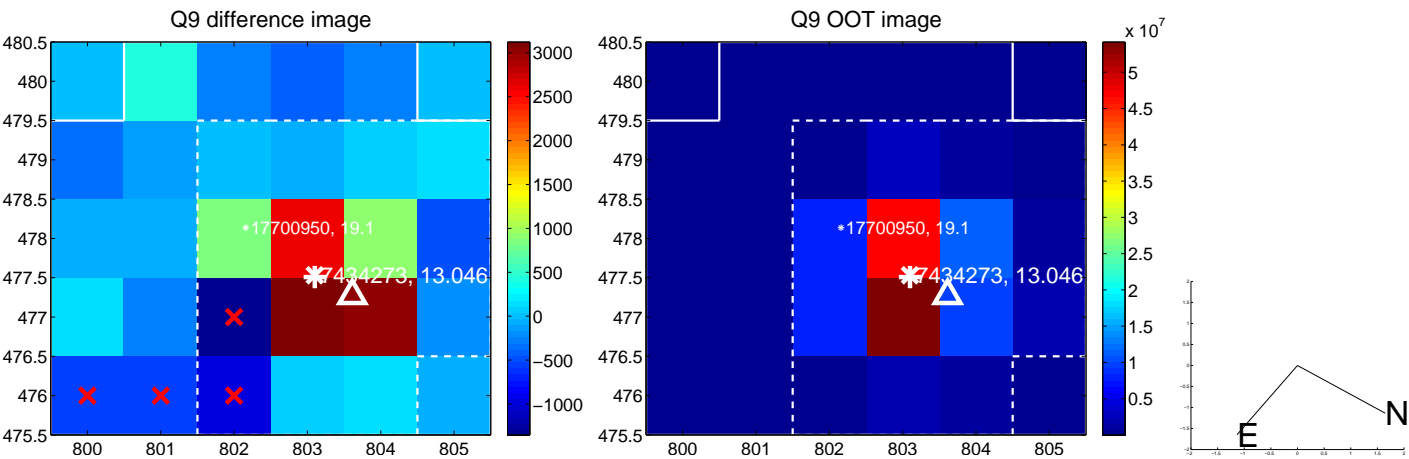
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



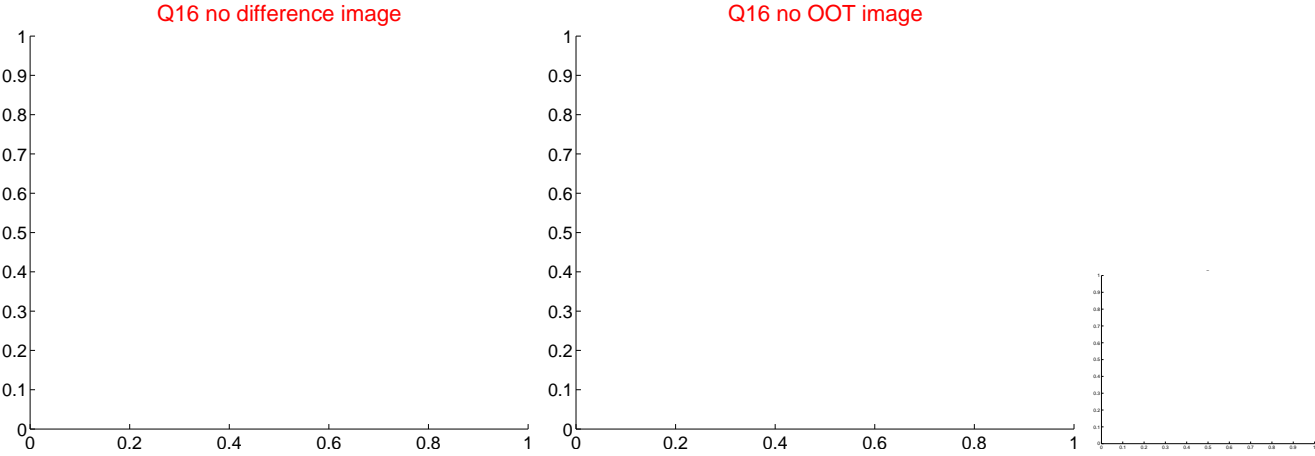
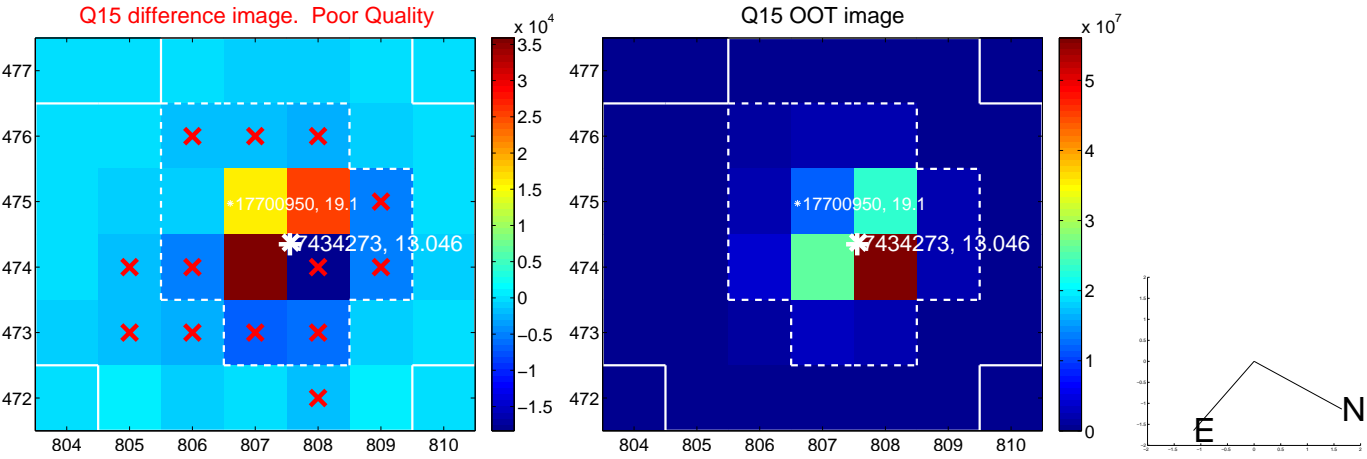
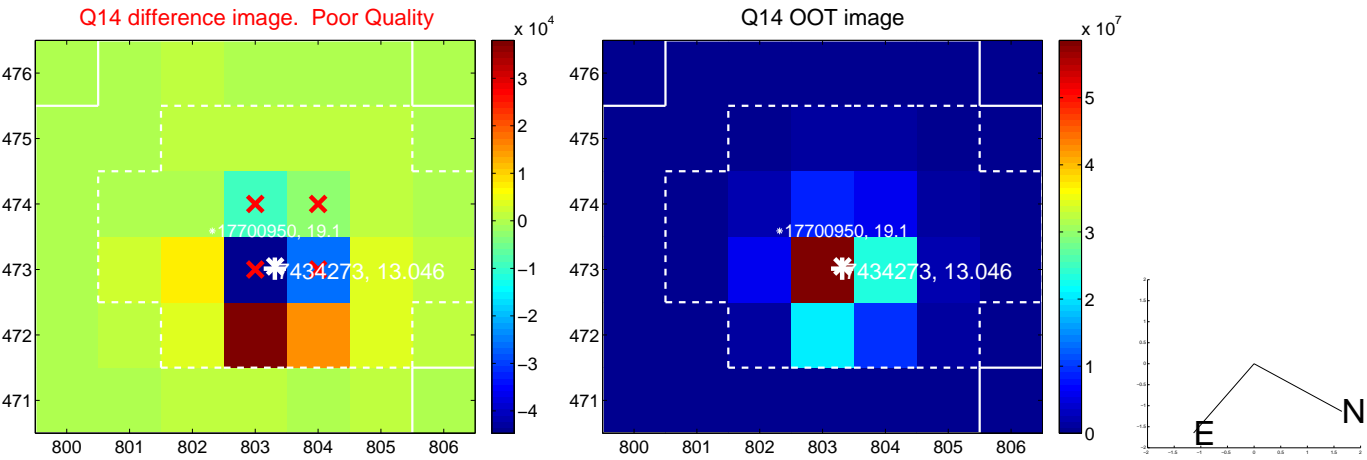
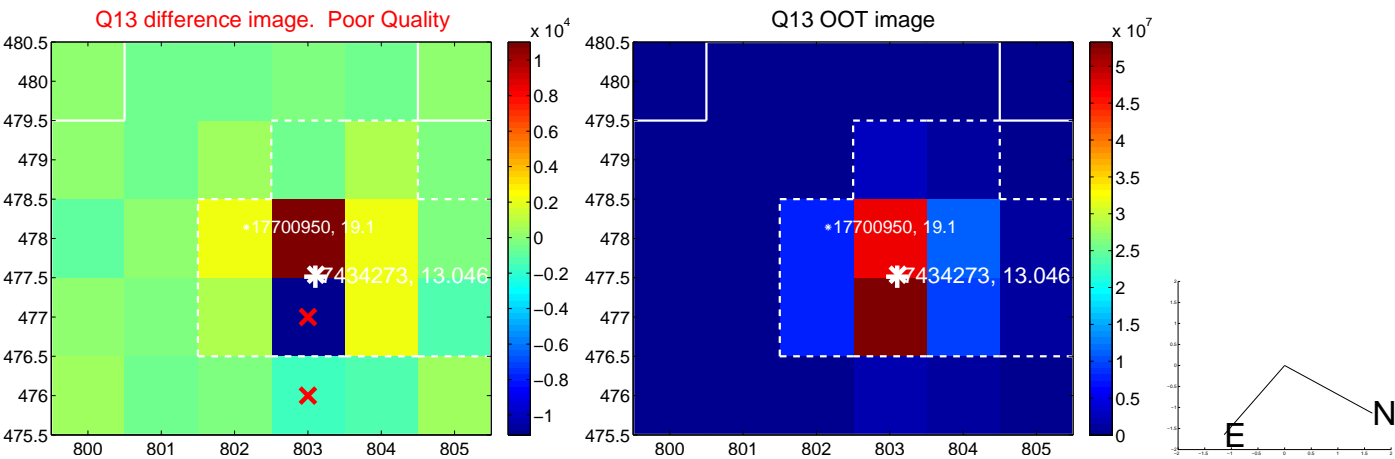
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



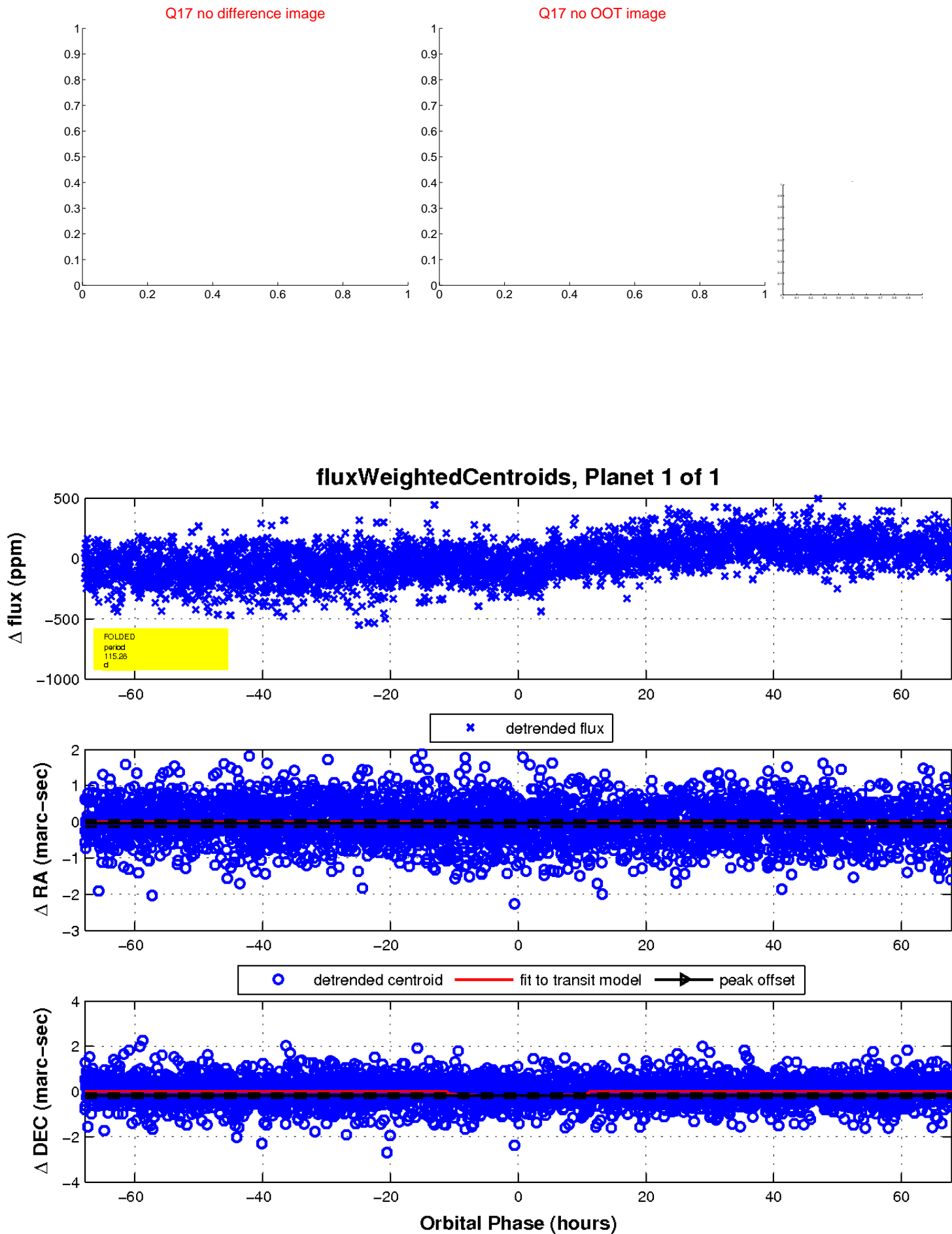
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

