

# KIC 008005470

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008005470-01	OBS	No	302.914741	300.566081	717.3	5.098	10.6	5.4	1.30	5573	3.58	2.04

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008005470-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

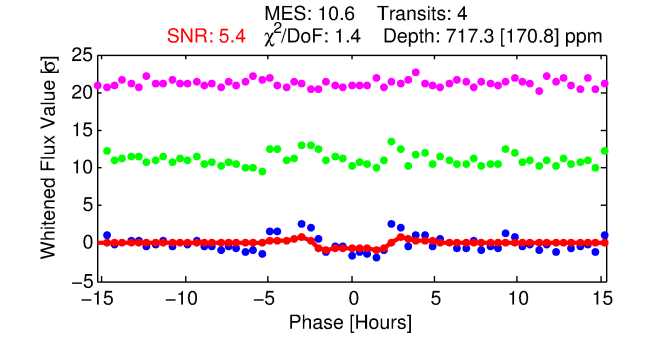
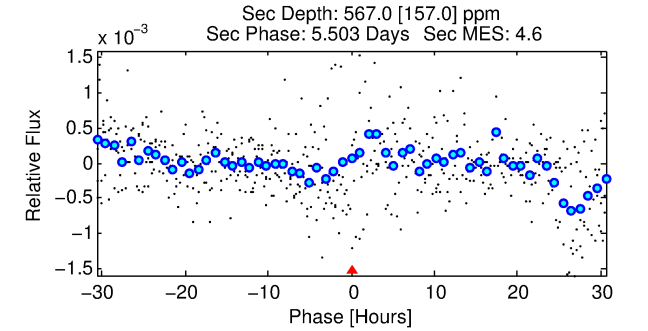
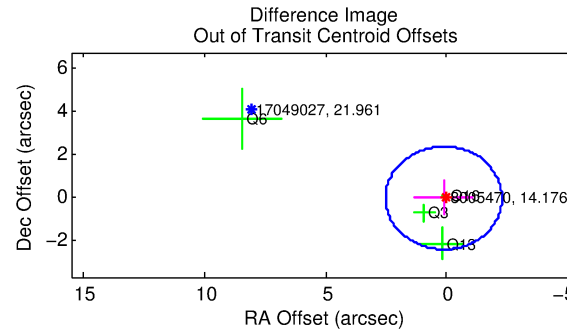
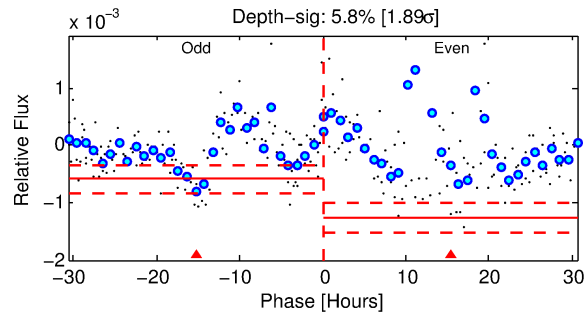
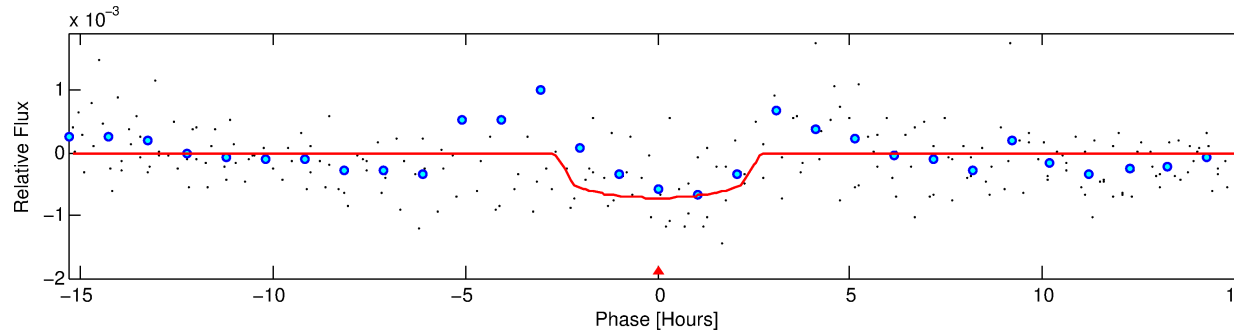
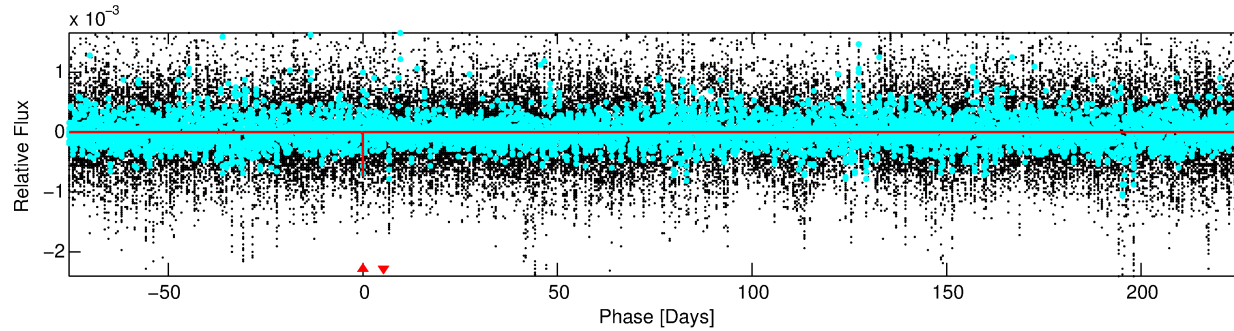
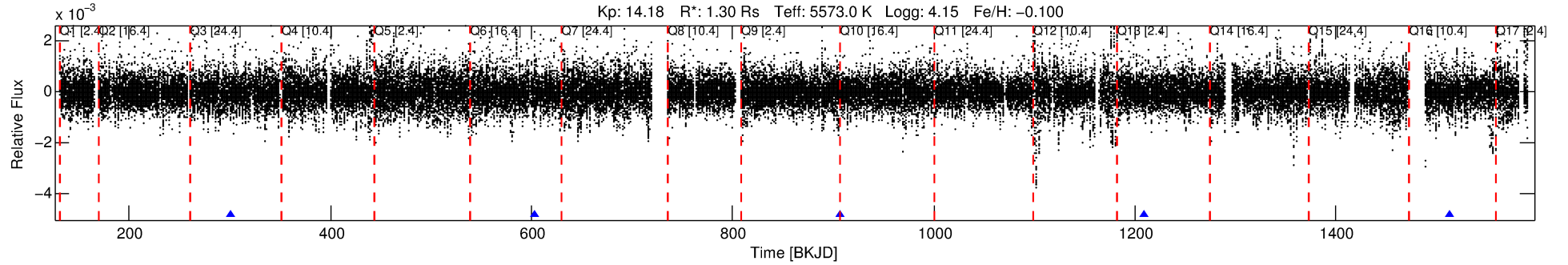
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008005470-01

No Significant Match Found

# DV One-Page Summary

KIC: 8005470 Candidate: 1 of 1 Period: 302.915 d



## DV Fit Results:

Period = 302.91474 [0.00380] d  
Epoch = 300.5661 [0.0110] BKJD  
Rp/R\* = 0.0252 [0.0466]  
a/R\* = 395.25 [3019.38]  
b = 0.54 [10.07]  
Seff = 2.04 [1.22]  
Teq = 305 [46] K  
Rp = 3.58 [6.71] Re  
a = 0.8457 [0.2947] AU  
Ag = 17451.62 [65560.68] [0.27 $\sigma$ ]  
Teffp = 5417 [5026] K [1.02 $\sigma$ ]

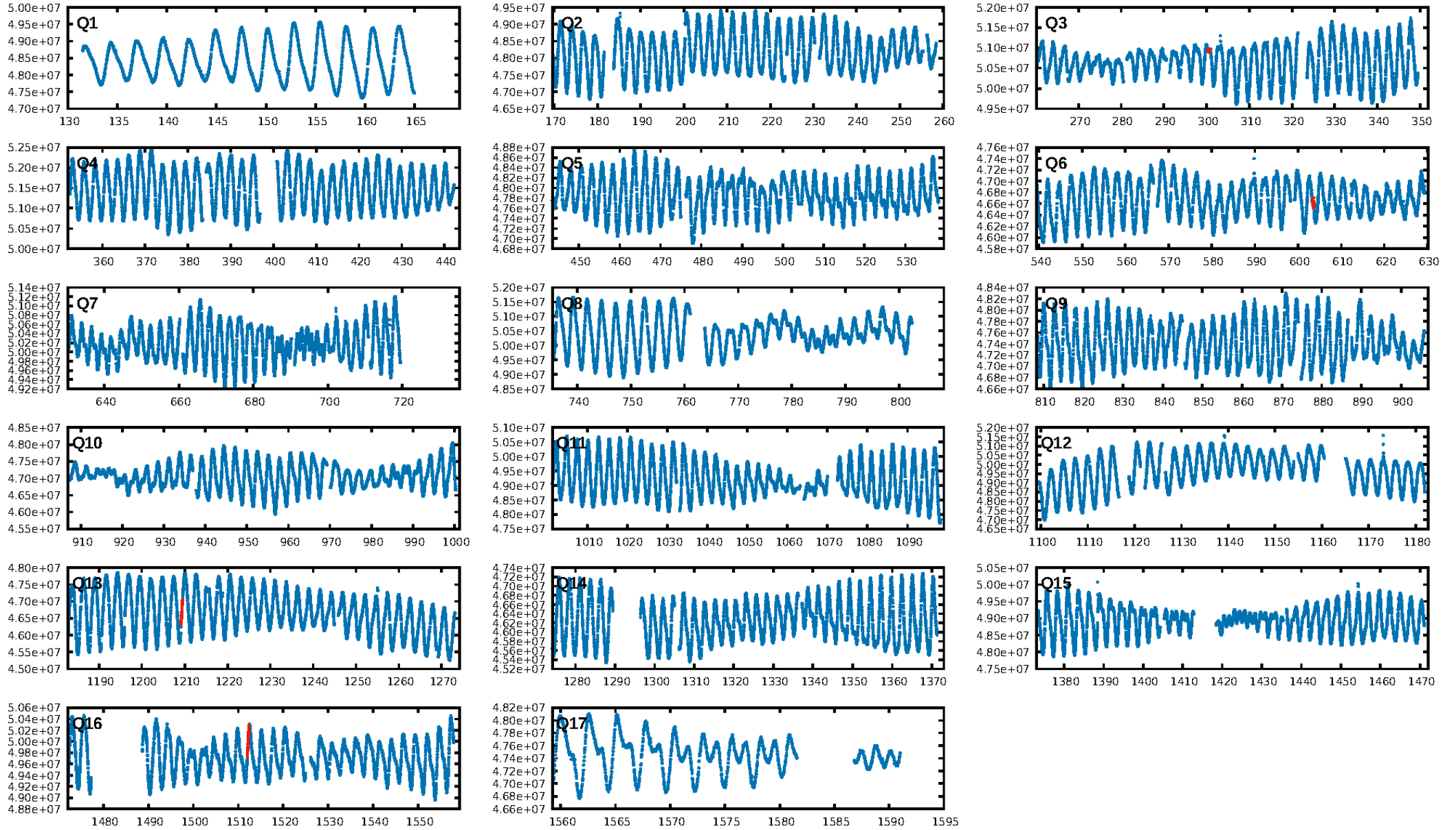
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 12.9%  
ModelChiSquareGof-sig: 40.3%  
**Bootstrap-pfa: 2.06e-12**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -2.081  
Centroid-sig: 1.2%  
Centroid-so: 2.203 arcsec [1.78 $\sigma$ ]  
OotOffset-rm: 0.138 arcsec [0.17 $\sigma$ ]  
OotOffset-st: 1/1/1/1 [4]  
KicOffset-rm: 0.244 arcsec [0.54 $\sigma$ ]  
KicOffset-st: 1/1/1/1 [4]  
DiffImageQuality-fgm: 0.25 [1/4]  
DiffImageOverlap-fno: 1.00 [4/4]

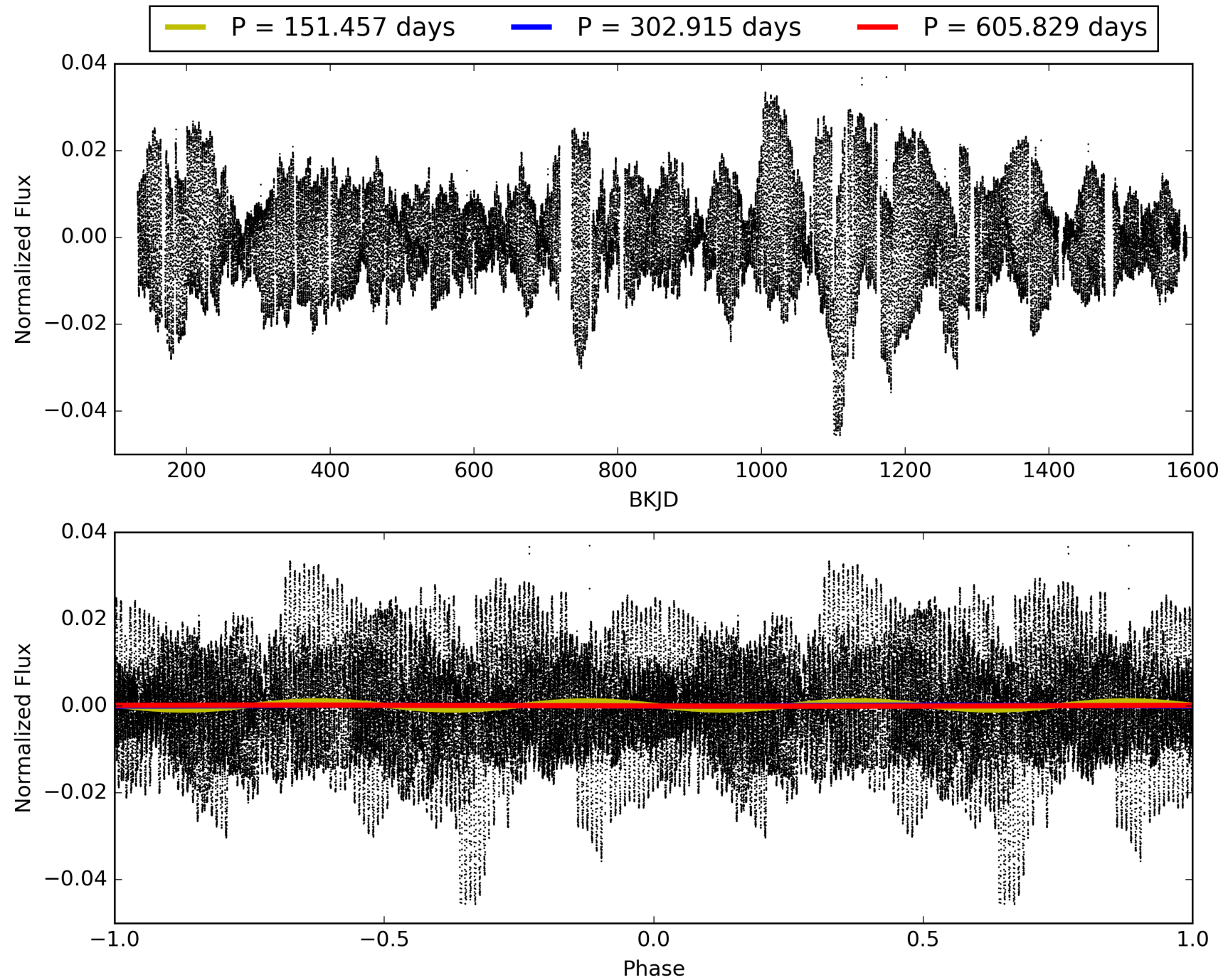
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:06:38 Z

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

# TCE 008005470-01, PDC Light Curves

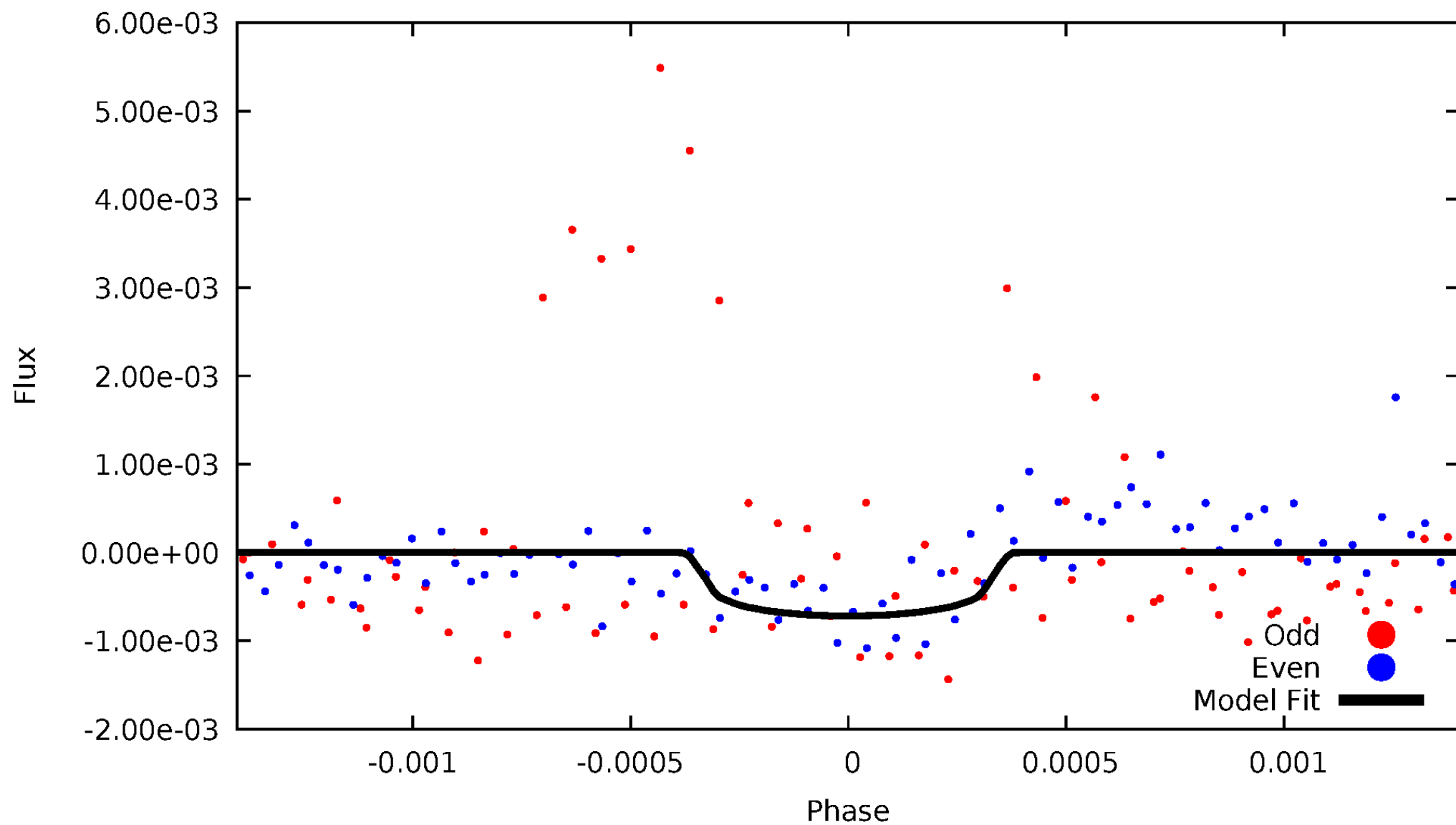


TCE 008005470-01



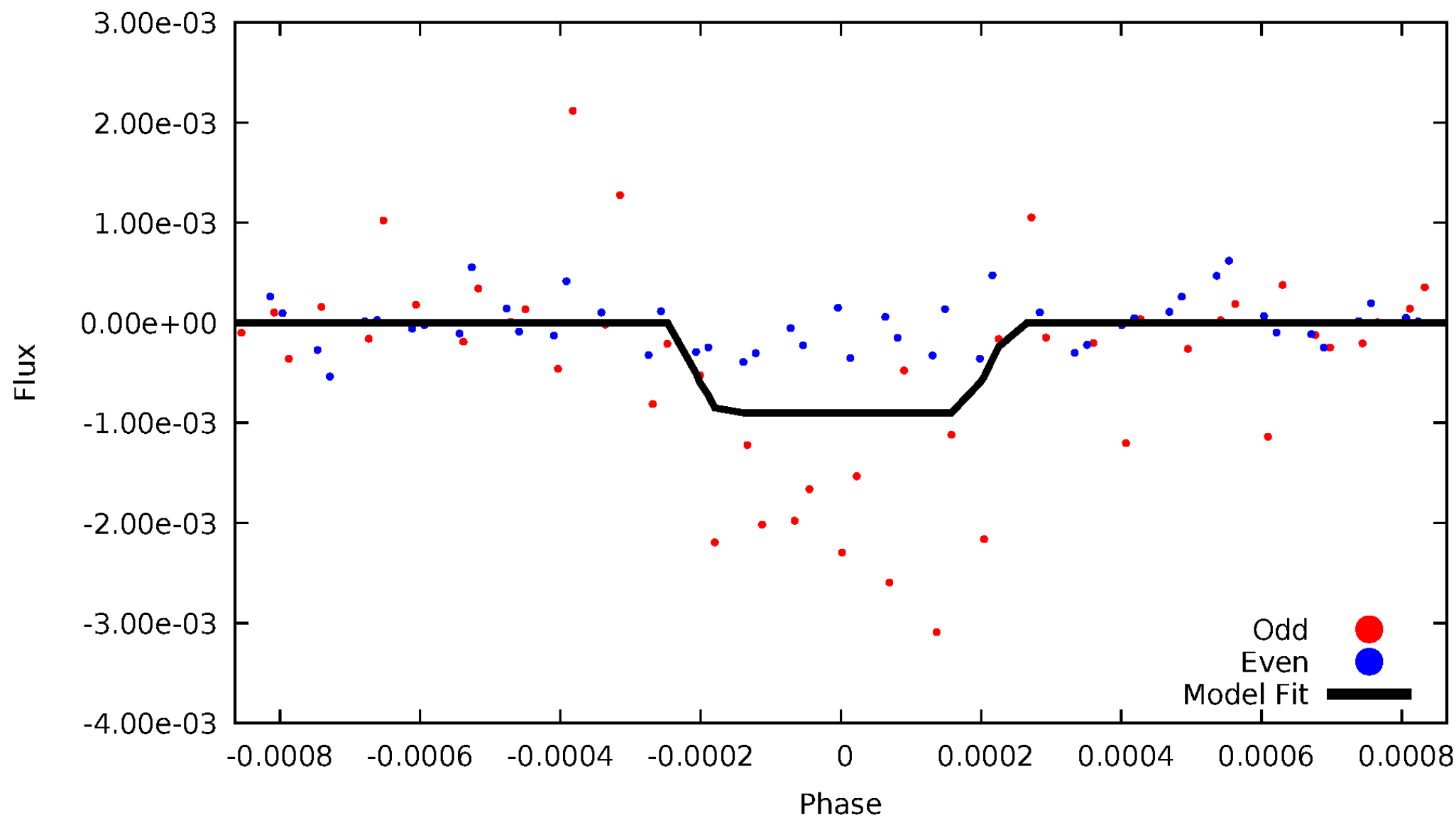
# DV Odd/Even

TCE 008005470-01



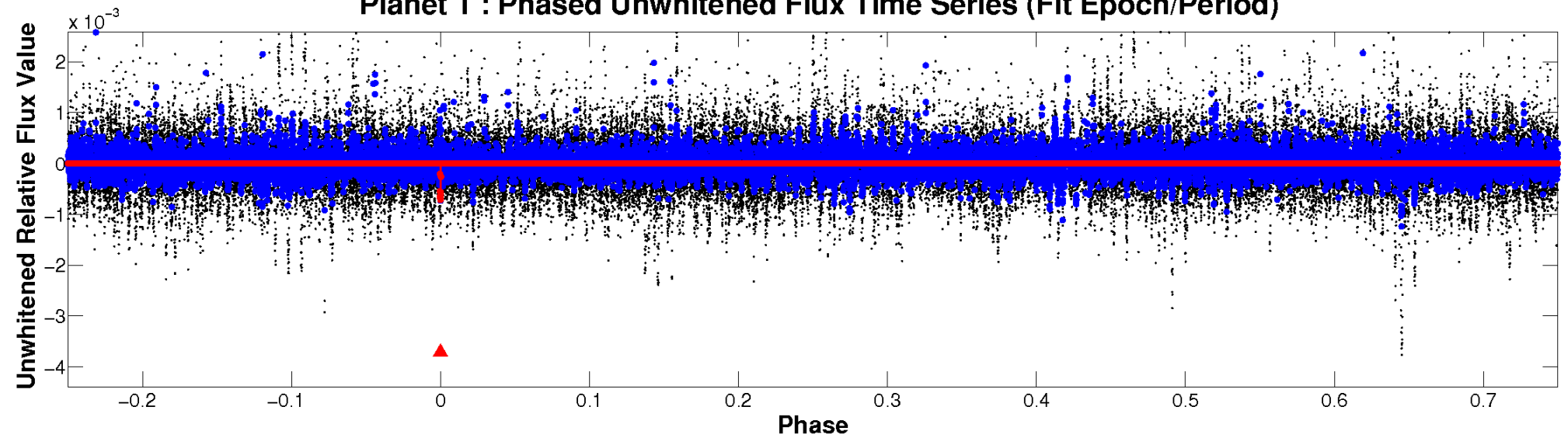
# ALT Odd/Even

TCE 008005470-01

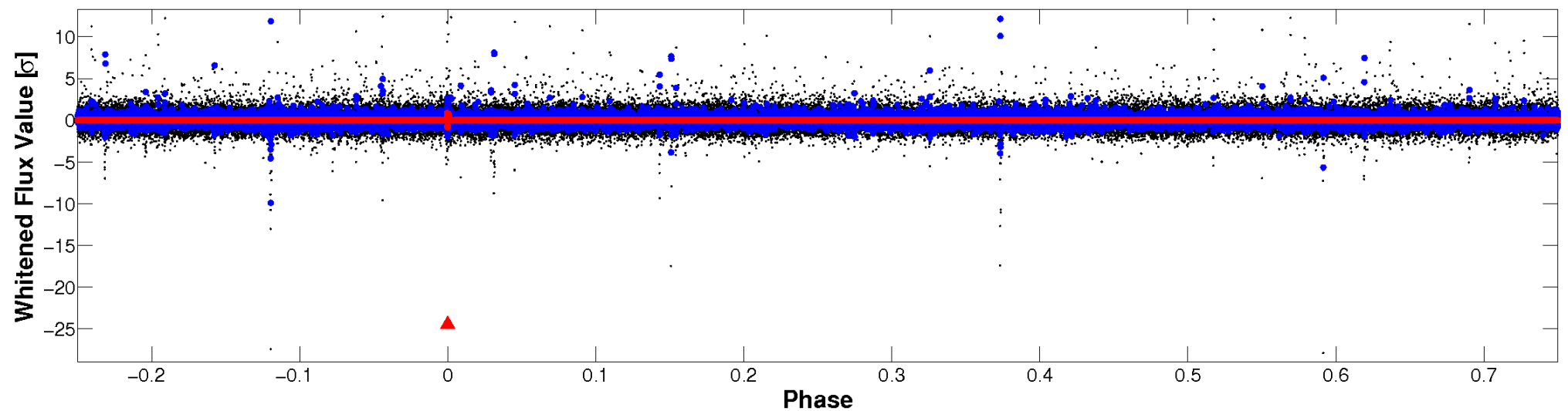


# Non-Whitened Vs. Whitened Light Curve

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



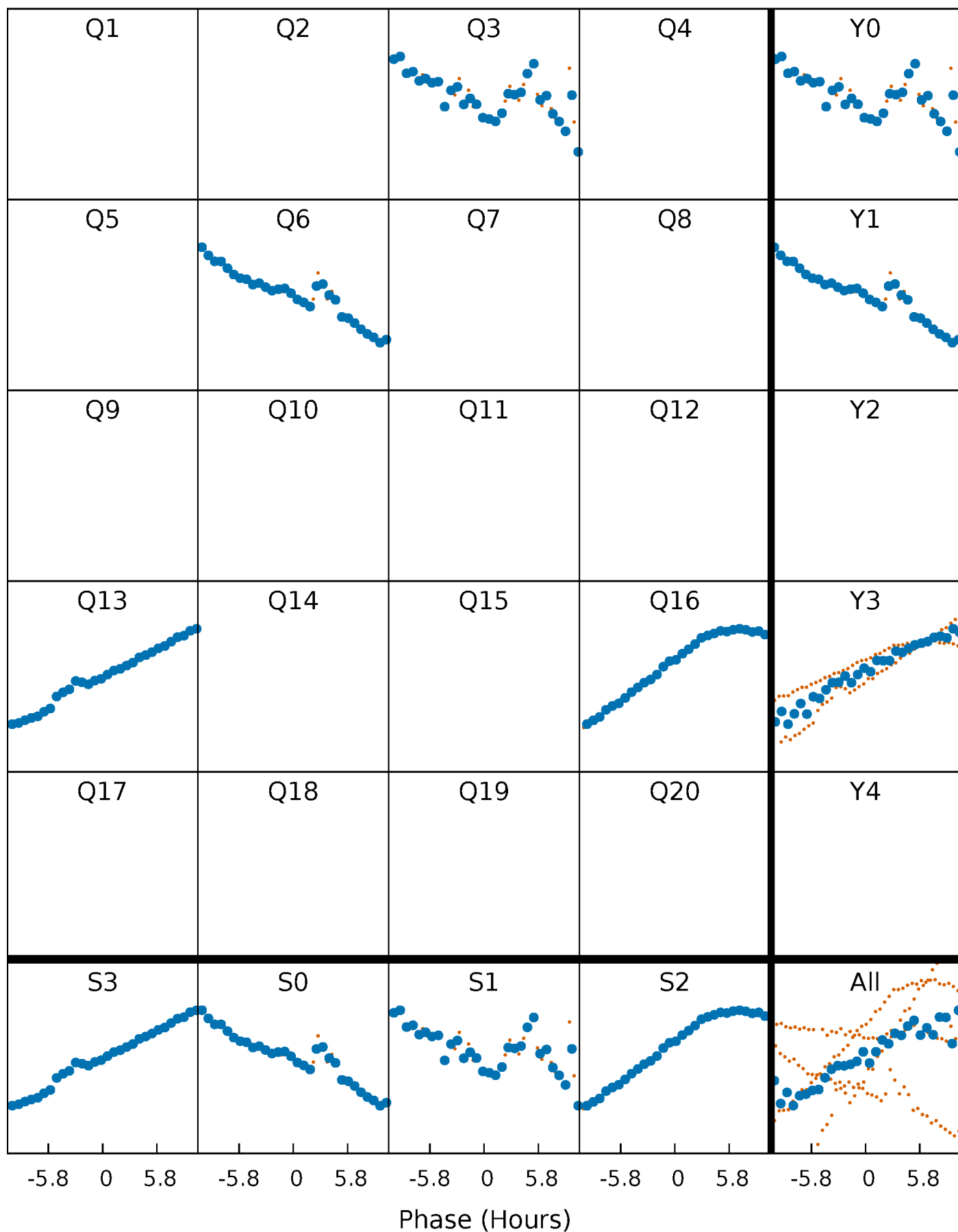
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

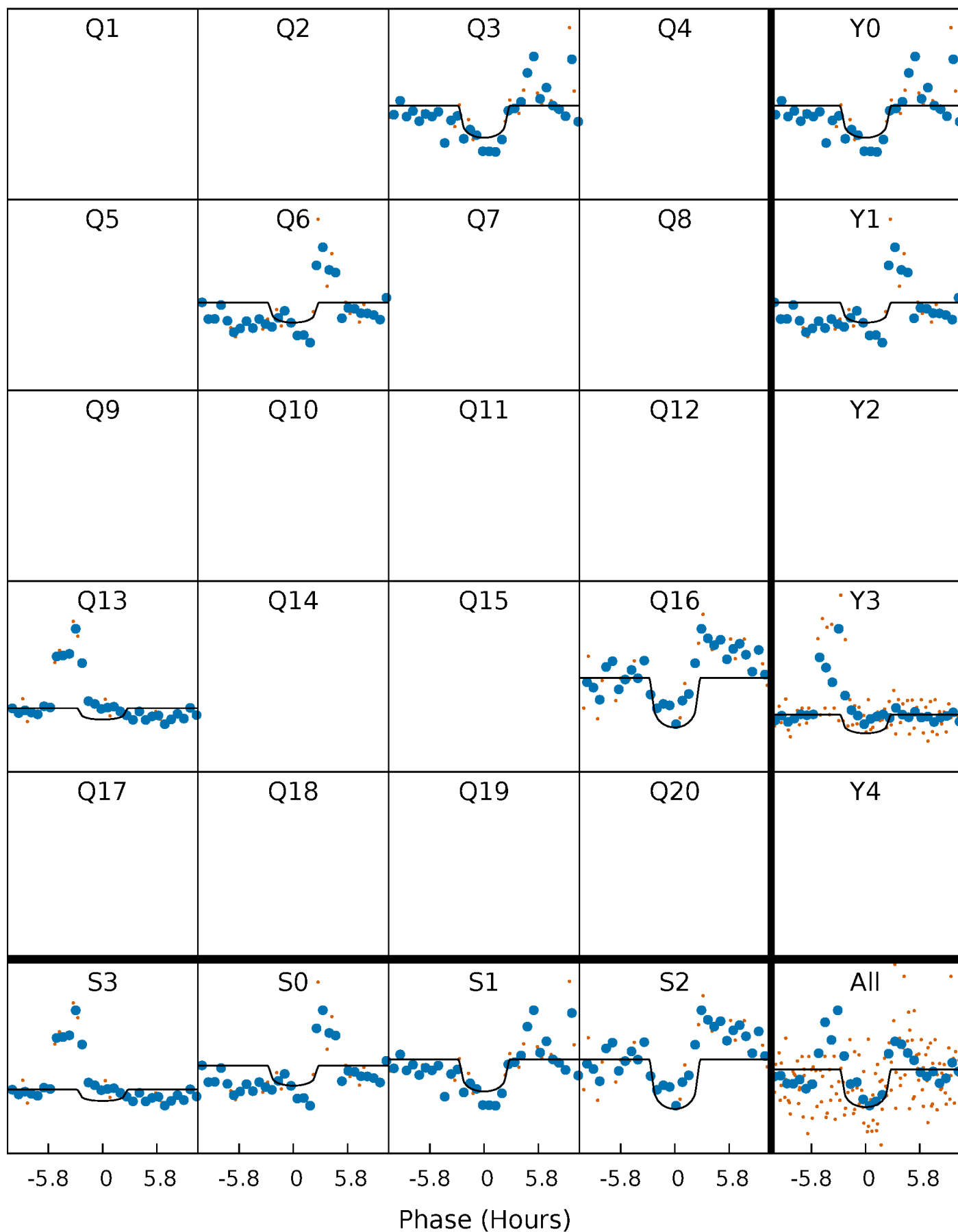
TCE 008005470-01 P=302.914741 Days  $T_0=300.566081$  (BKJD)





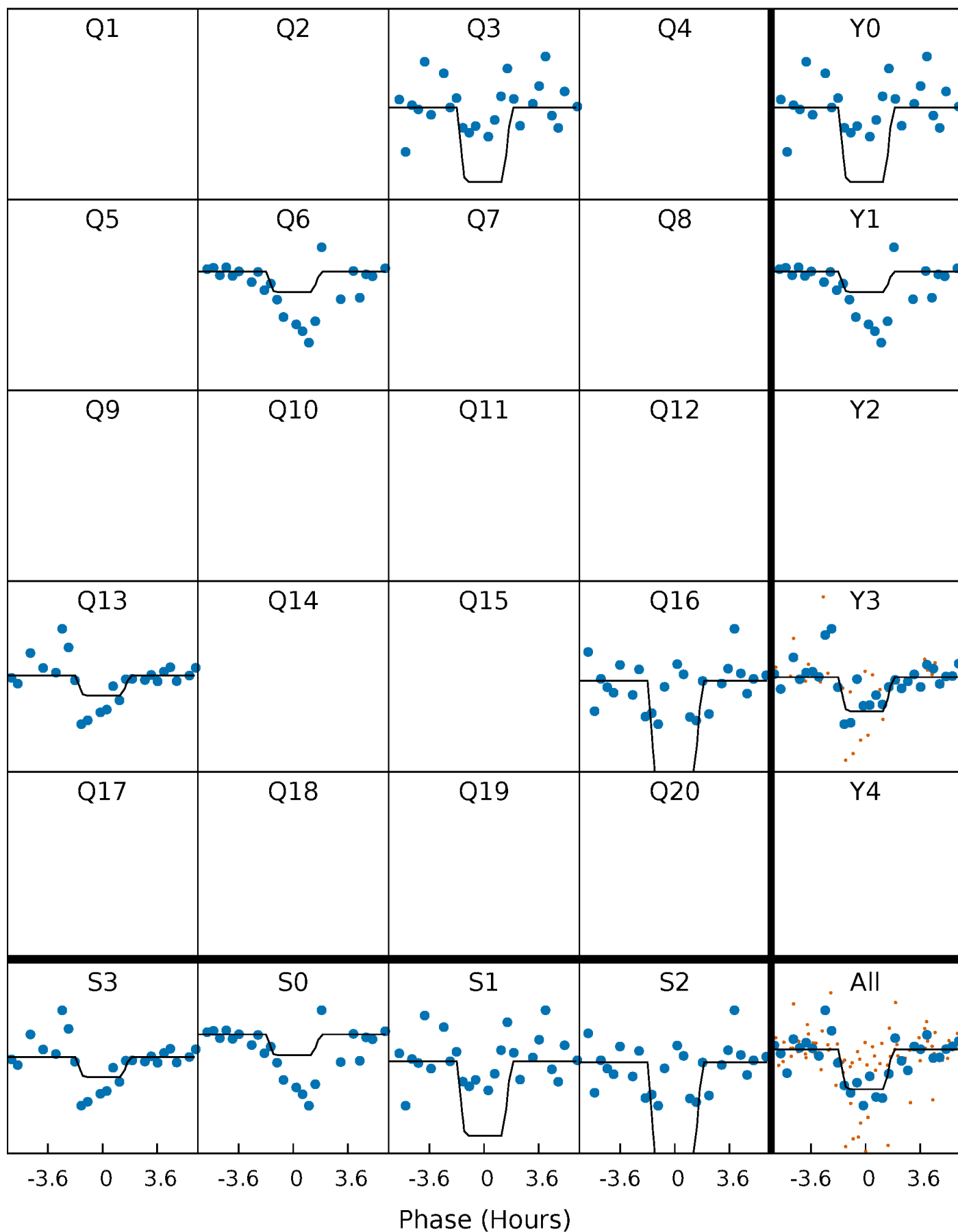
# DV Quarter-Phased Transit Curves

TCE 008005470-01 P=302.914741 Days  $T_0=300.566081$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

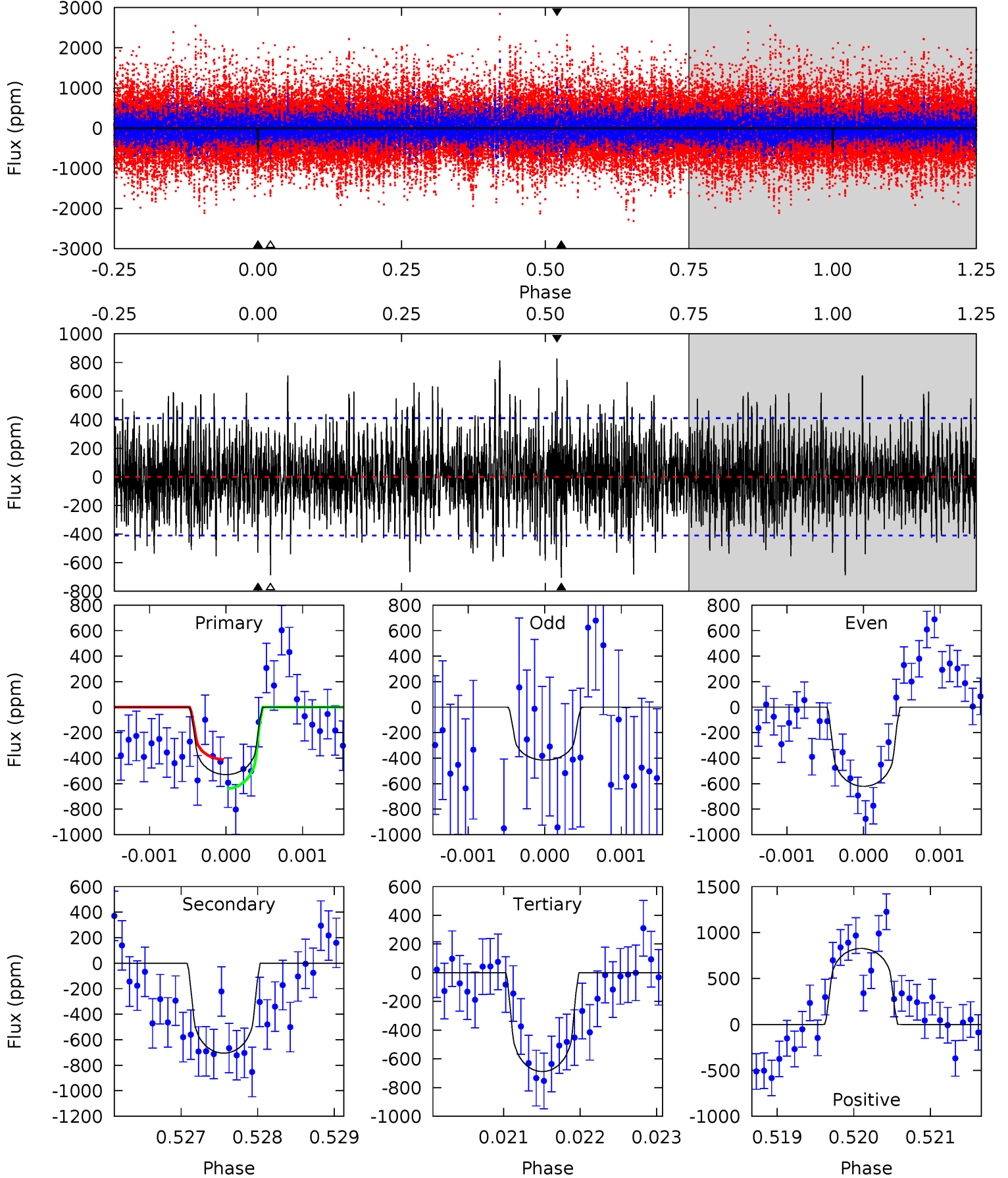
TCE 008005470-01 P=302.893232 Days  $T_0=300.615671$  (BKJD)



# DV Model-Shift Uniqueness Test

008005470-01, P = 302.914741 Days, E = 300.566081 Days

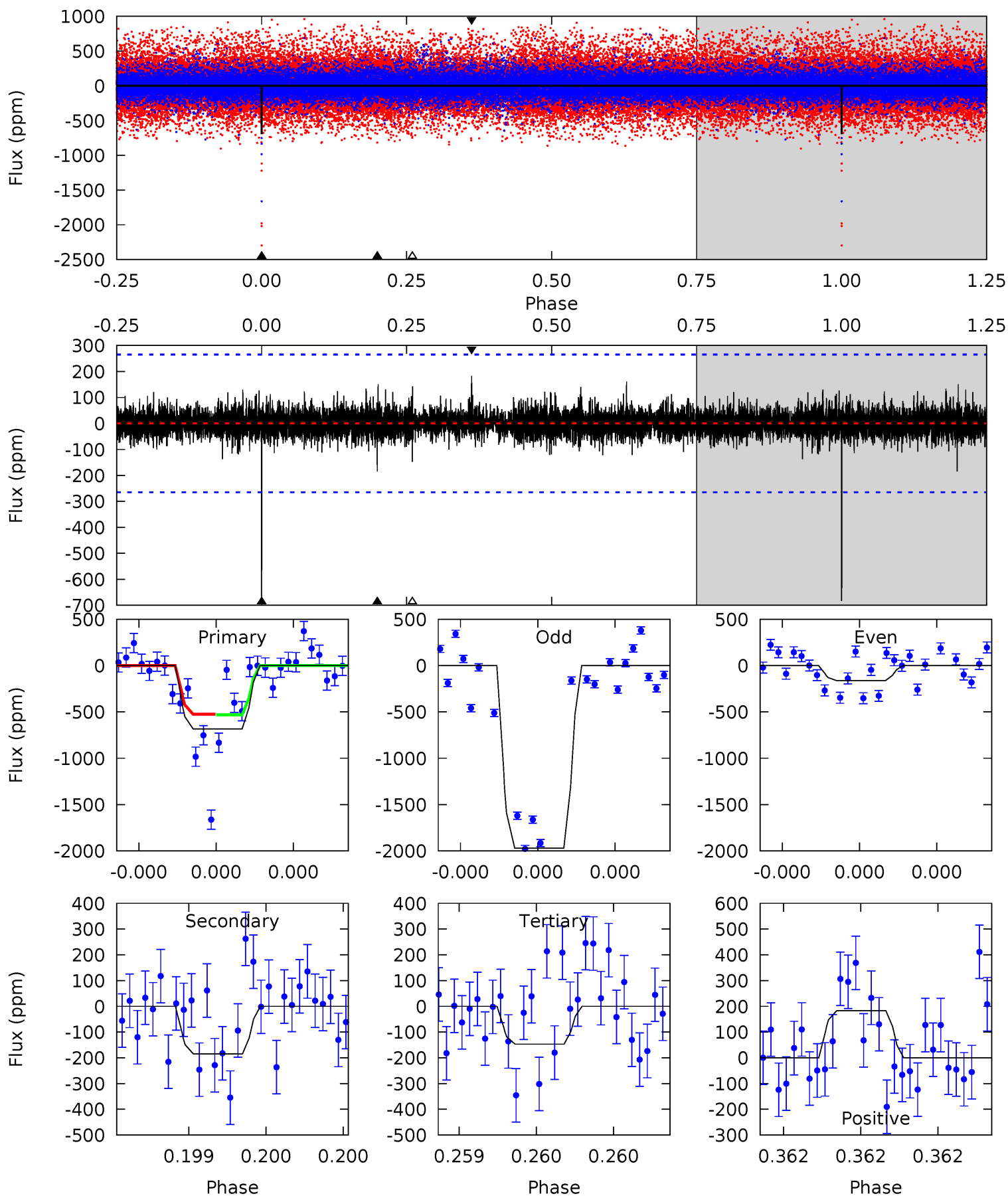
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.08	9.44	9.21	11.1	5.49	3.36	2.66	-2.14	-3.99	0.22	-1.63	1.33	0.71	0.54	1.53



# Alt Model-Shift Uniqueness Test

008005470-01, P = 302.893232 Days, E = 300.615671 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
14.4	3.89	3.10	3.85	5.59	3.50	0.66	11.3	10.5	0.80	0.04	20.6	1.21	0.21	0.07



### Stellar Parameters For KIC 008005470

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5573^{+149}_{-149}$	$4.154^{+0.358}_{-0.193}$	$-0.100^{+0.300}_{-0.250}$	$1.300^{+0.376}_{-0.418}$	$0.879^{+0.111}_{-0.083}$	$0.564^{+1.407}_{-0.275}$
	+3%/-3%	+9%/-5%	+300%/-250%	+29%/-32%	+13%/-9%	+249%/-49%
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 008005470-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-705 \pm 75$	$5.49^{+5.99}_{-3.73}$	$421^{+37}_{-44}$	$4604^{+3700}_{-969}$	$9396^{+84689}_{-7280}$
Alt.	$-185 \pm 47$	$5.98^{+6.15}_{-3.90}$	$421^{+34}_{-42}$	$3533^{+1676}_{-653}$	$1975^{+14598}_{-1474}$

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

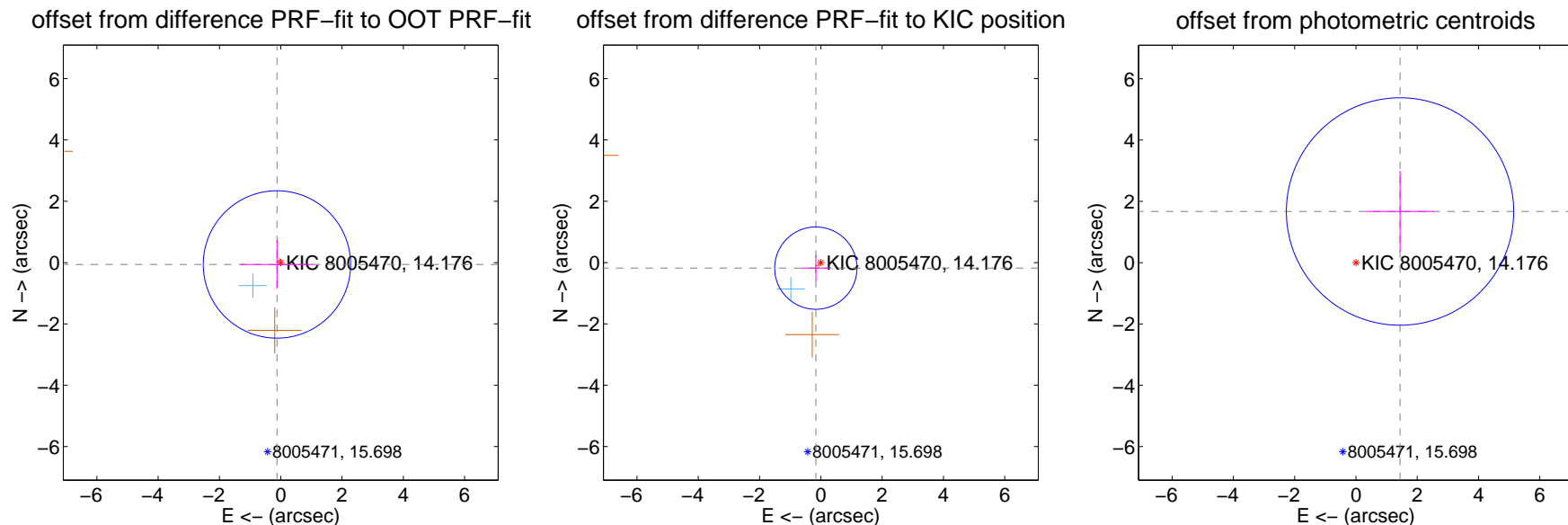
## DV Centroid Data

Supplemental centroid analysis for 008005470-01. Kepler magnitude: 14.18. Transit SNR 5.37

There are 1 quarters with good PRF difference image offsets

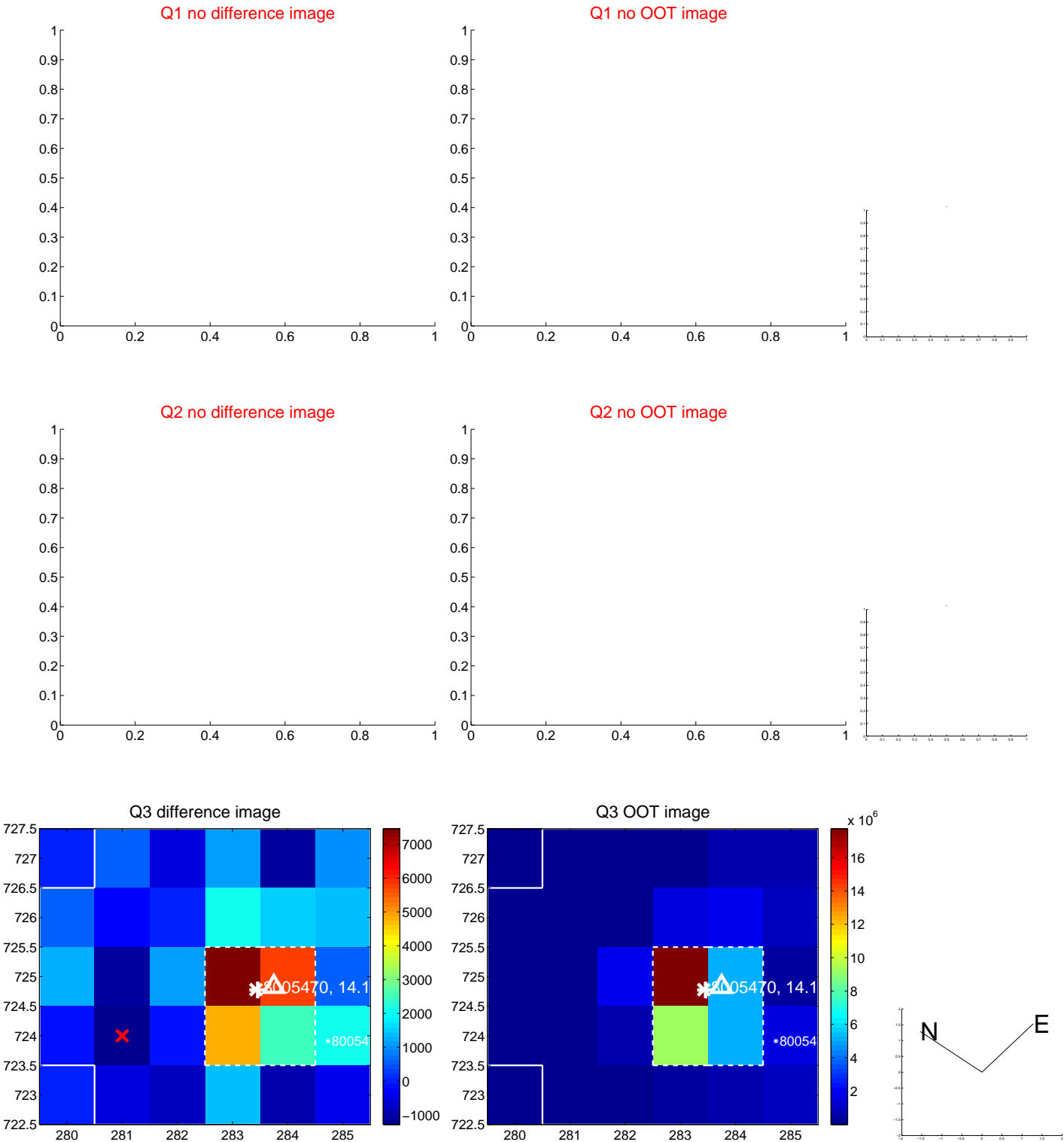
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.138 \pm 0.801$	0.17	$0.124 \pm 1.192$	$-0.061 \pm 0.796$
PRF-fit source offset from KIC position	$0.244 \pm 0.447$	0.54	$0.164 \pm 0.482$	$-0.180 \pm 0.416$
photometric centroid source offset	$2.20 \pm 1.24$	1.78	$-1.44 \pm 1.11$	$1.67 \pm 1.32$



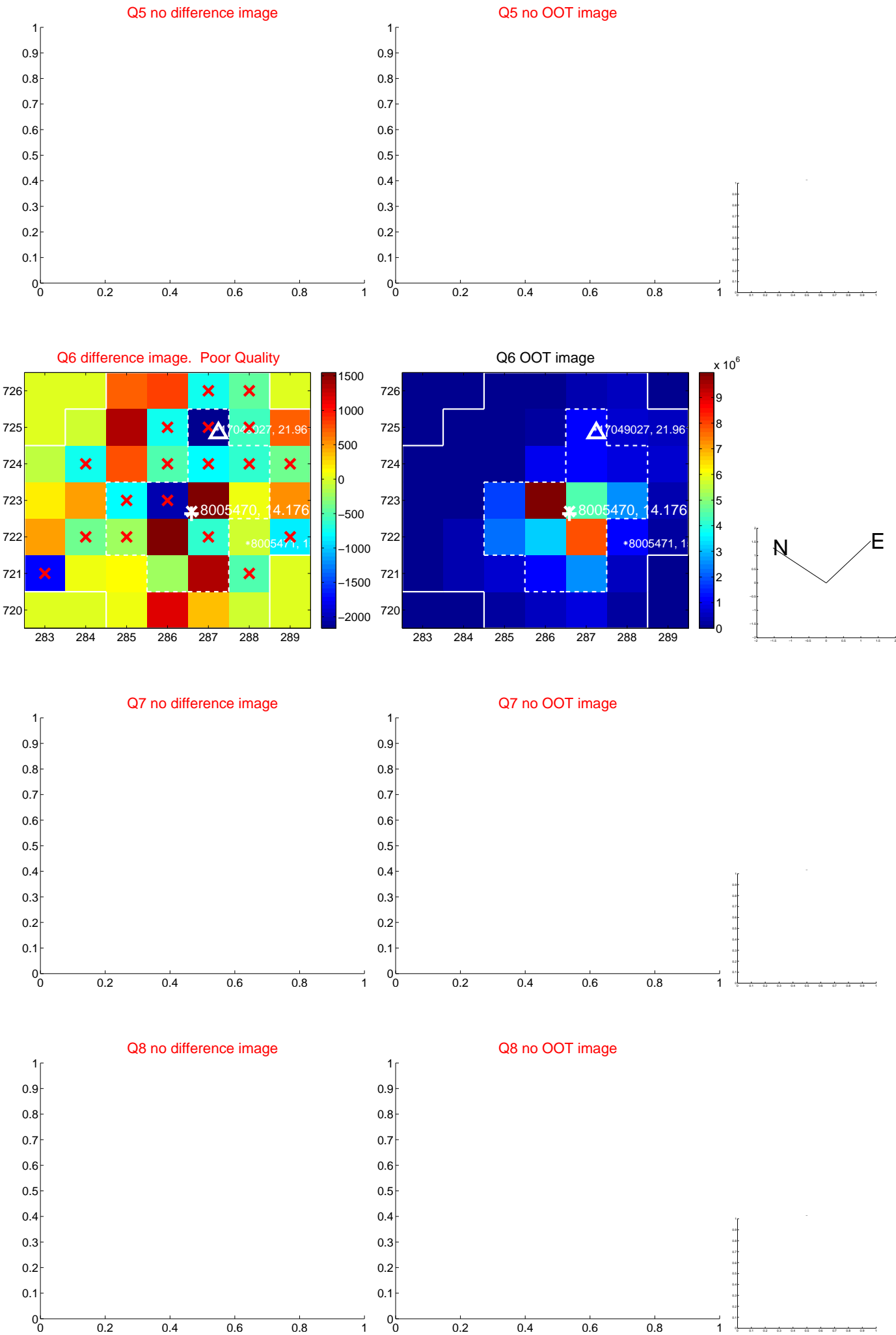
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





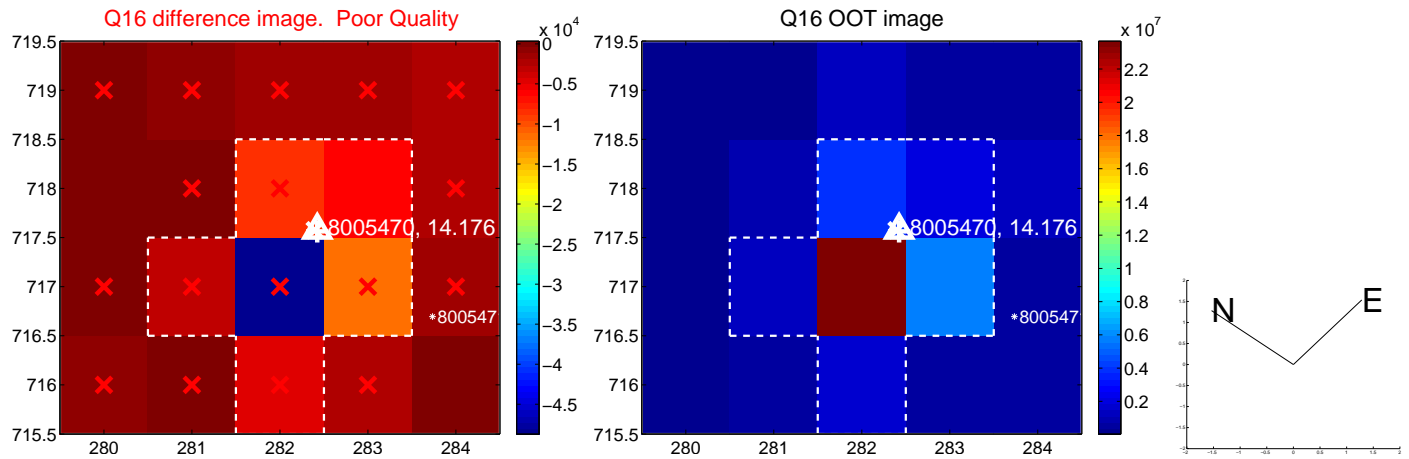
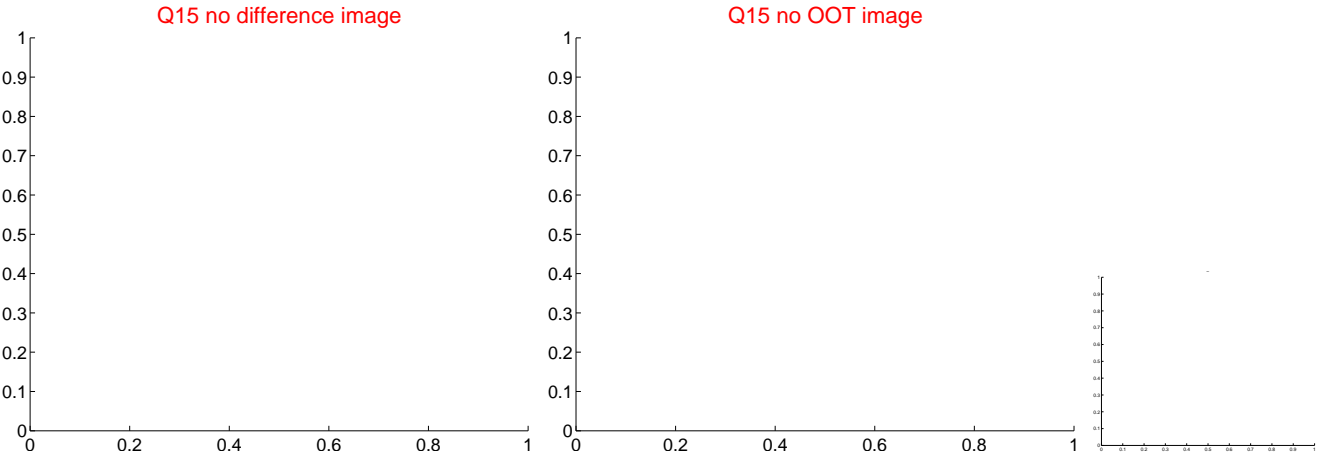
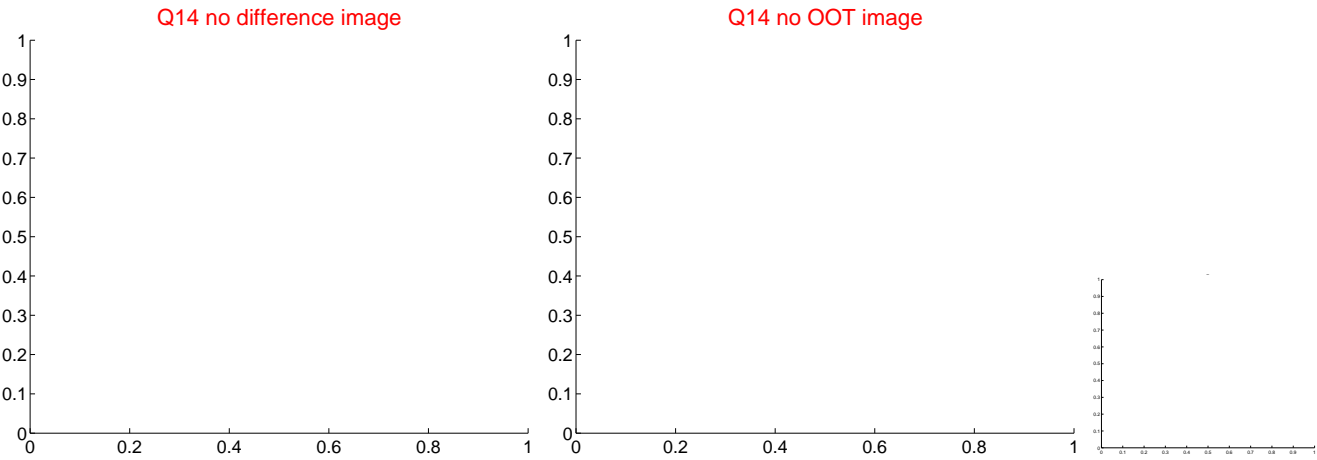
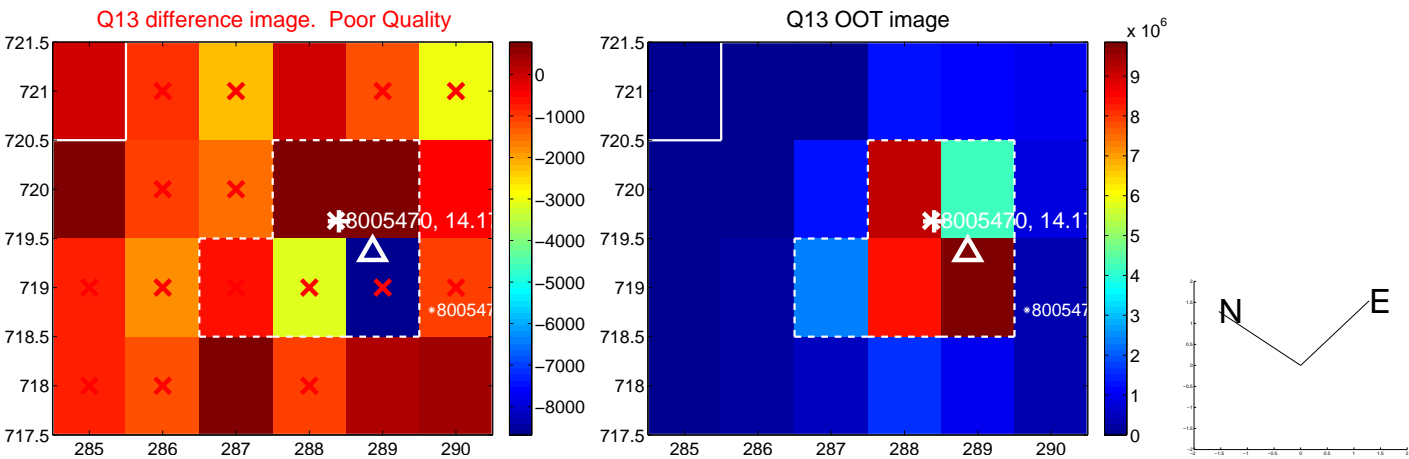
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



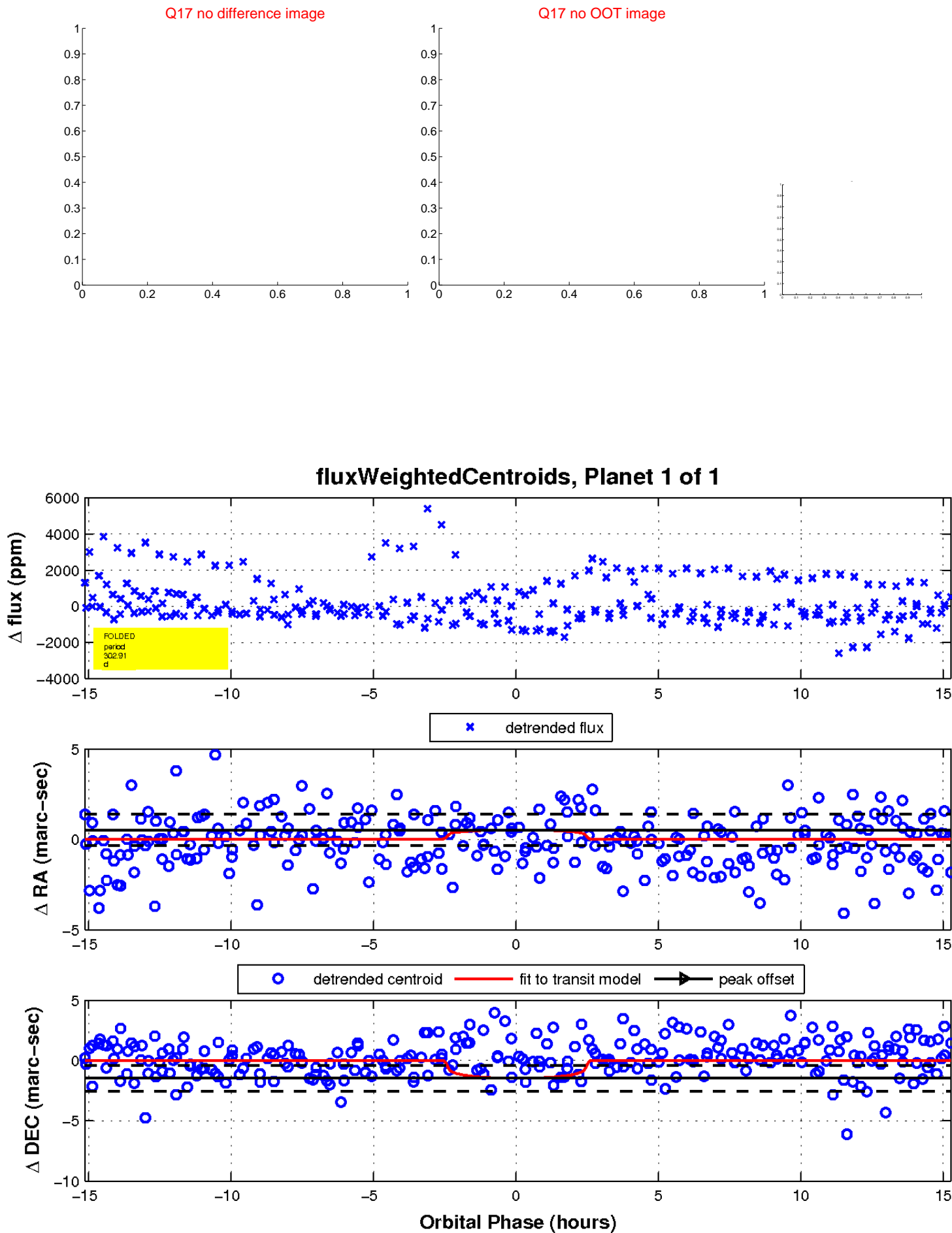
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

