

# KIC 005562913

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005562913-01	OBS	No	291.763076	241.331028	818.5	4.112	9.6	7.3	12.79	4968	50.14	60.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005562913-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

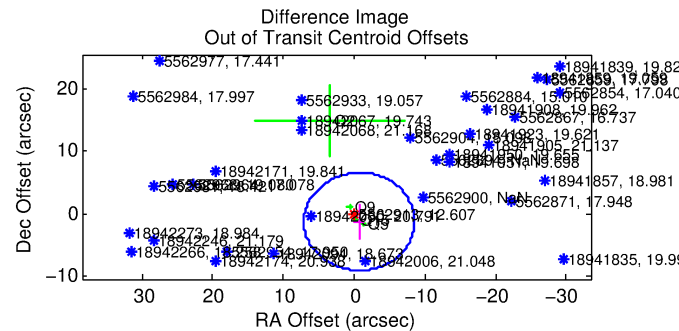
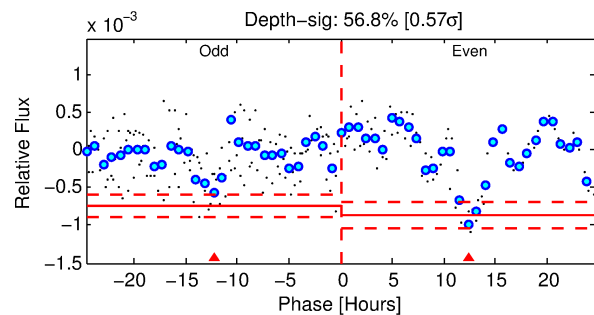
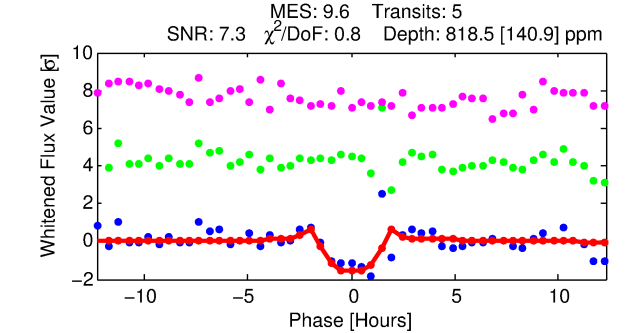
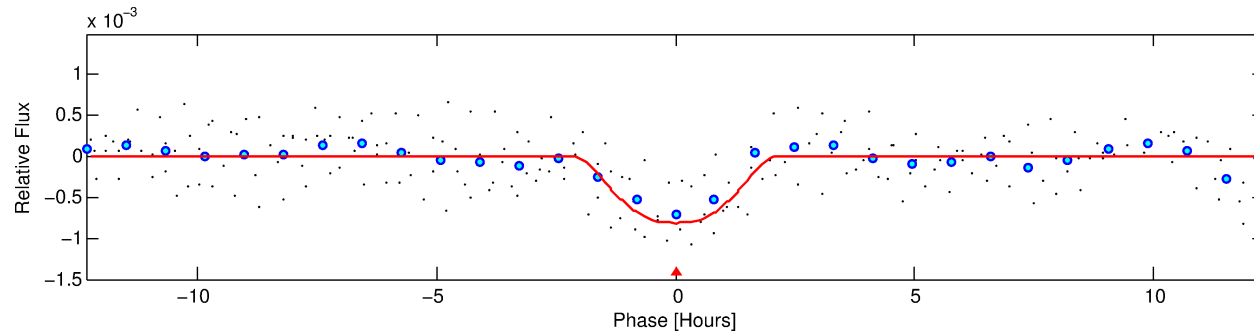
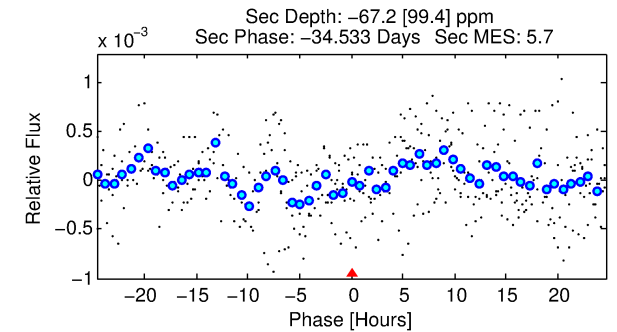
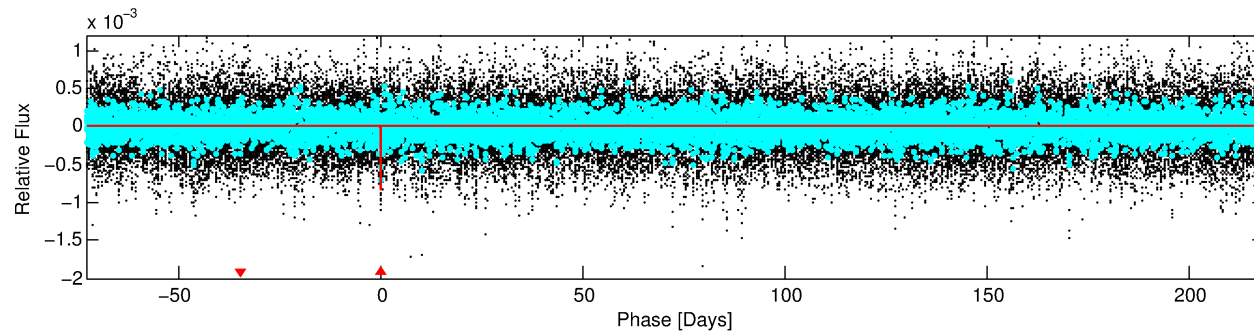
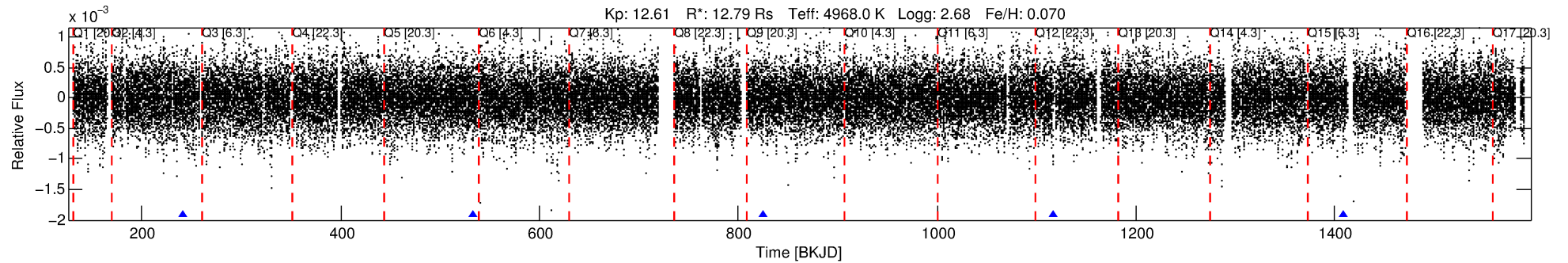
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005562913-01

No Significant Match Found

# DV One-Page Summary

KIC: 5562913 Candidate: 1 of 1 Period: 291.763 d



## DV Fit Results:

Period = 291.76308 [0.00316] d  
Epoch = 241.3310 [0.0081] BKJD  
Rp/R\* = 0.0359 [0.0040]  
a/R\* = 206.96 [25.27]  
b = 0.96 [0.01]  
Seff = 60.02 [13.14]  
Teq = 710 [39] K  
Re = 50.14 [14.74] Re  
a = 1.2201 [0.2234] AU  
Ag = N/A  
Teffp = N/A

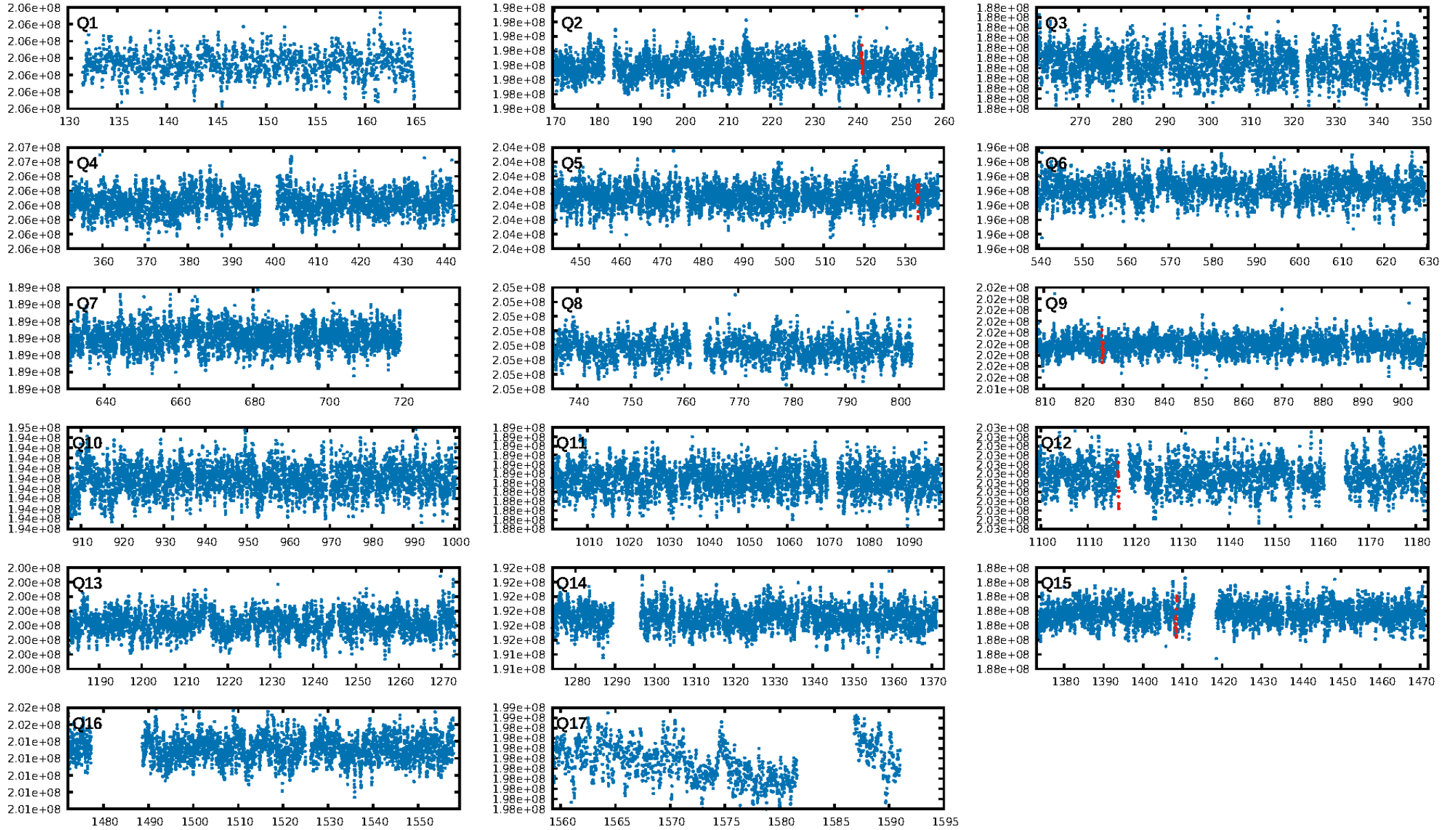
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 68.1%  
ModelChiSquareGof-sig: 99.6%  
Bootstrap-pfa: 3.23e-12  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 1.863  
Centroid-sig: 32.7%  
Centroid-so: 0.409 arcsec [0.77 $\sigma$ ]  
OotOffset-rm: 1.490 arcsec [0.57 $\sigma$ ]  
KicOffset-rm: 1.478 arcsec [0.62 $\sigma$ ]  
OotOffset-st: 1/1/0/2 [4]  
KicOffset-st: 1/1/0/2 [4]  
DiffImageQuality-fgm: 0.75 [3/4]  
DiffImageOverlap-fno: 1.00 [4/4]

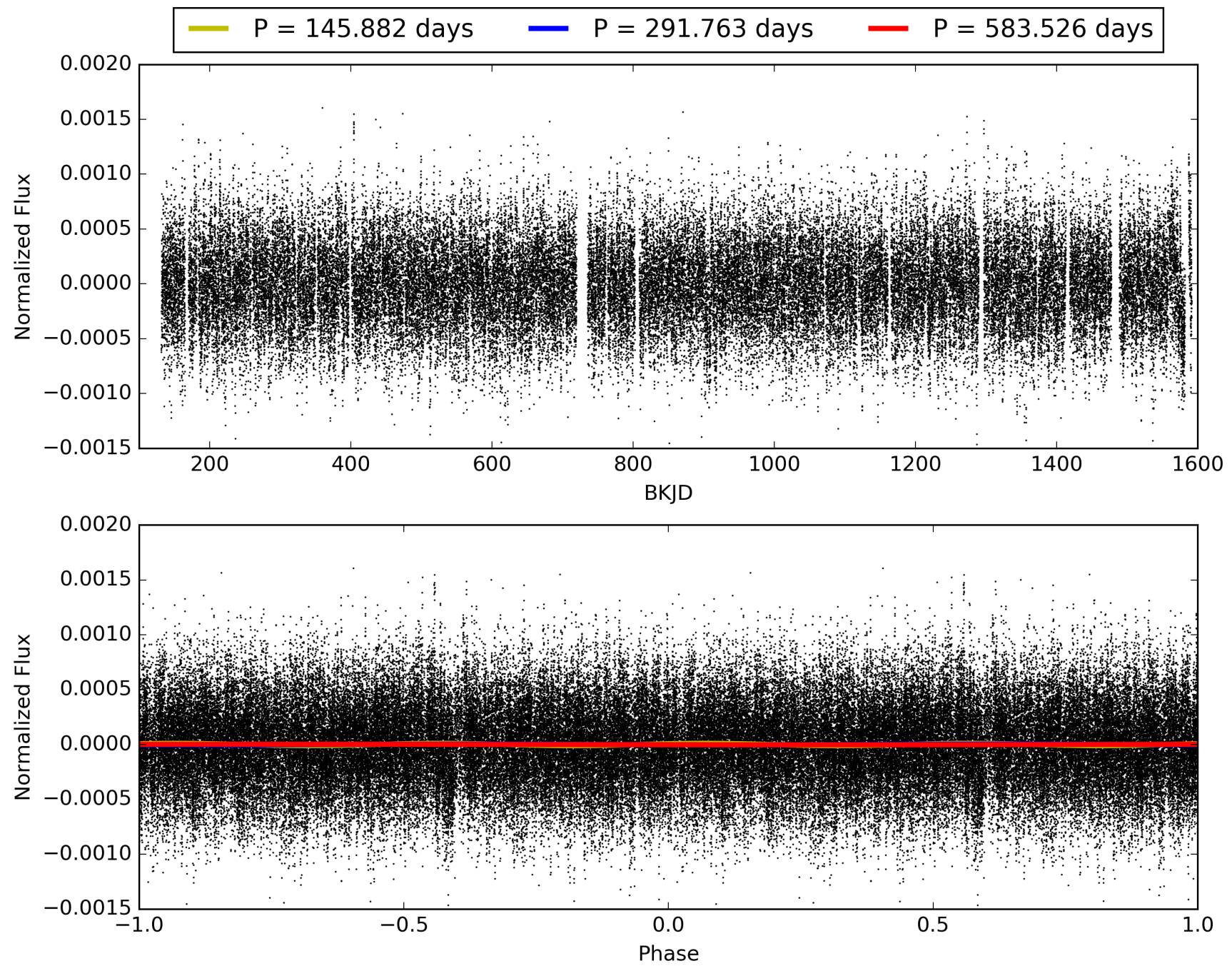
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:34:53 Z

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

# TCE 005562913-01, PDC Light Curves

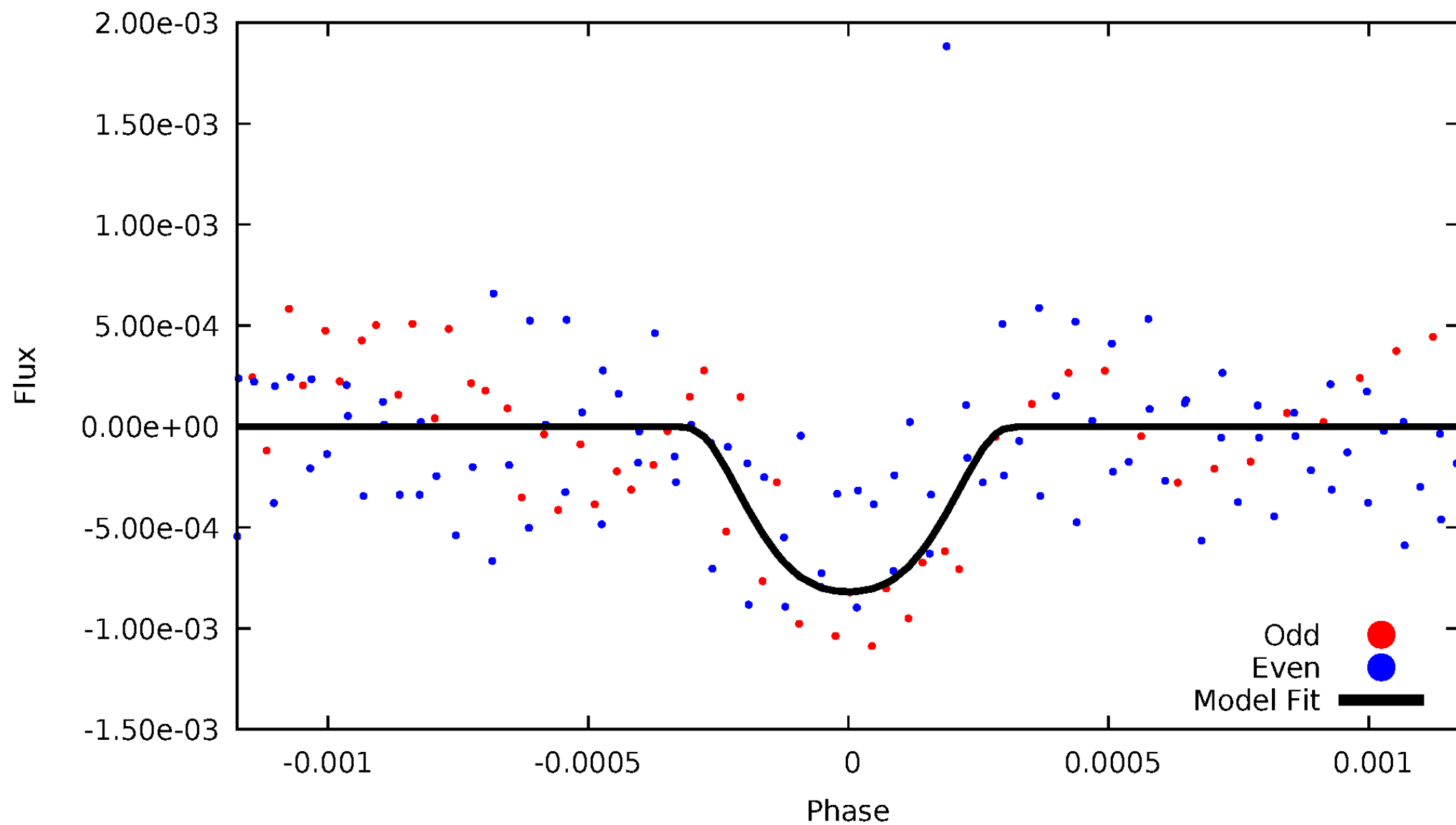


TCE 005562913-01



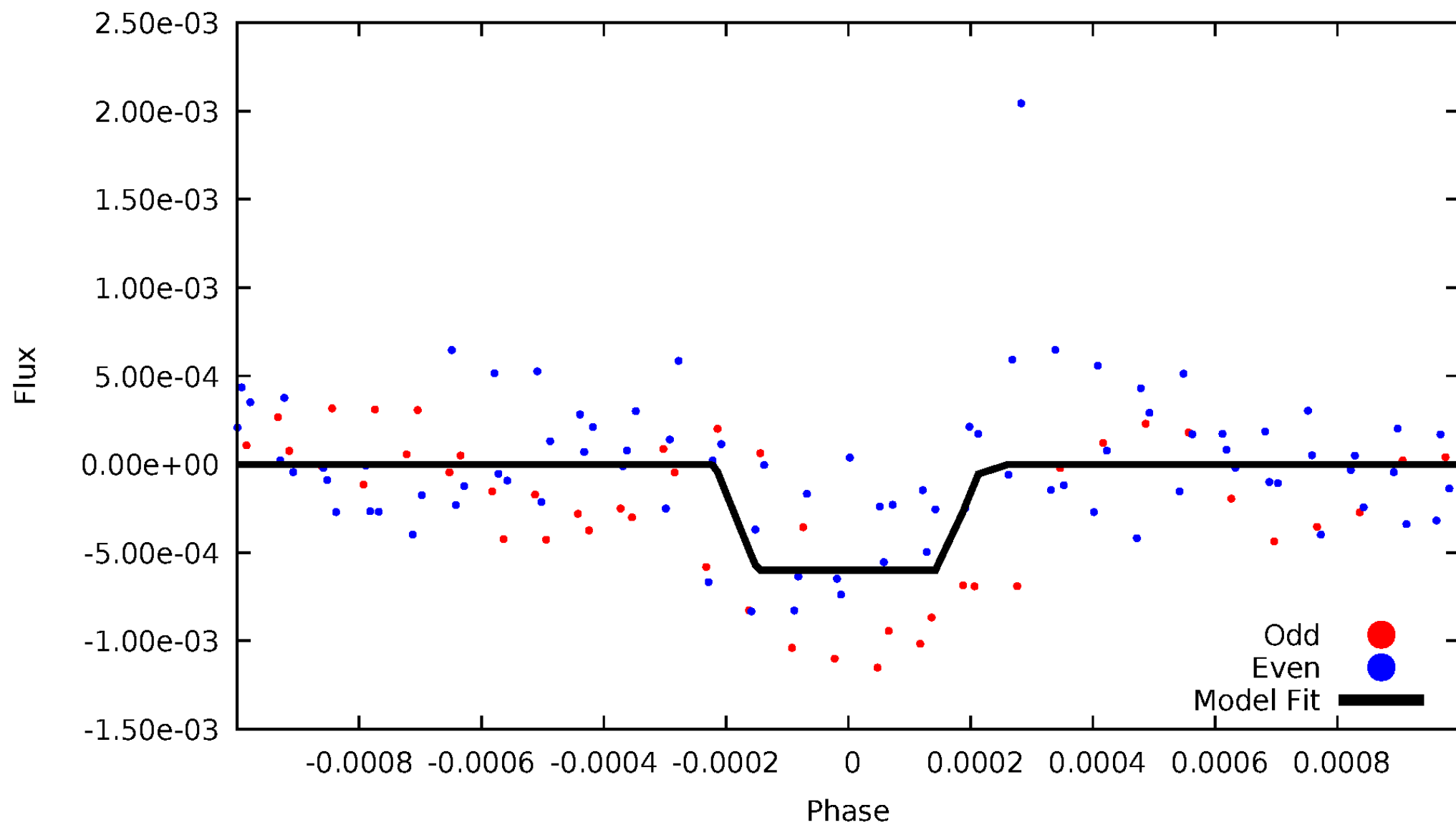
# DV Odd/Even

TCE 005562913-01



# ALT Odd/Even

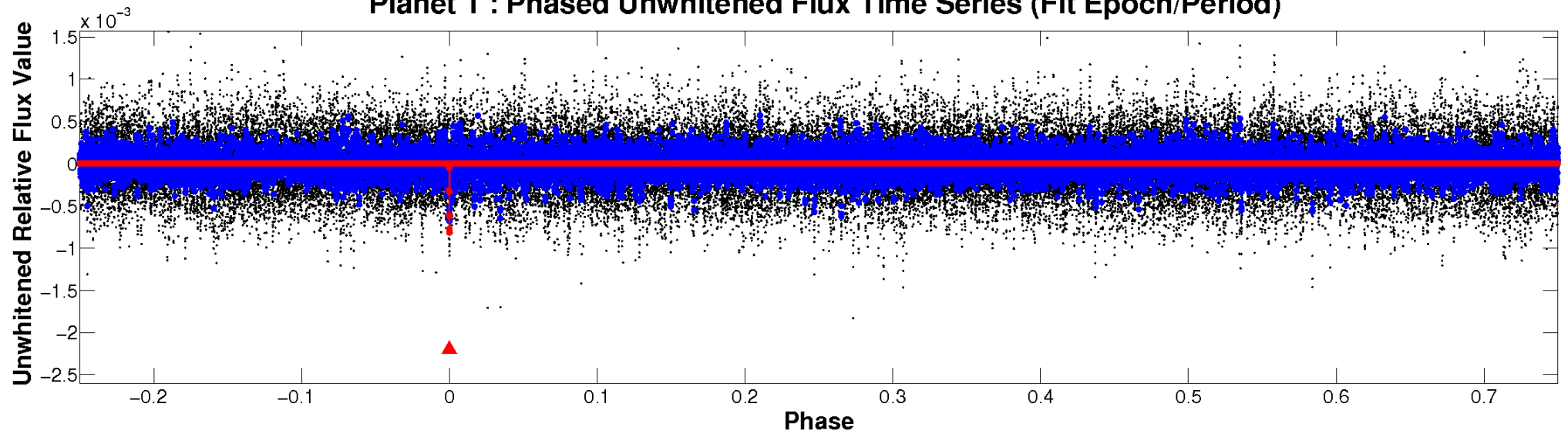
TCE 005562913-01



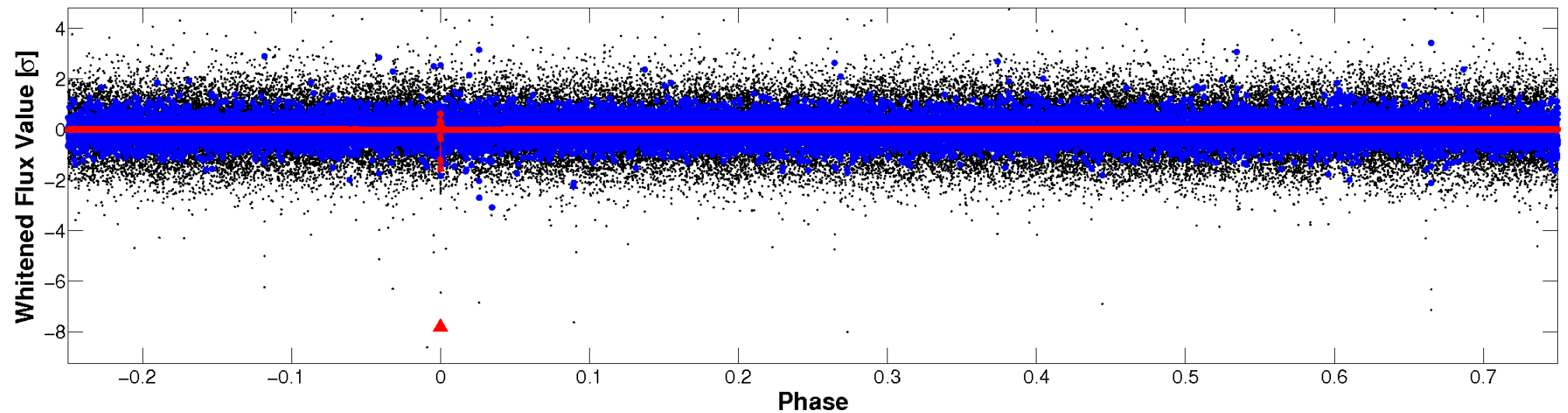


# Non-Whitened Vs. Whitened Light Curve

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

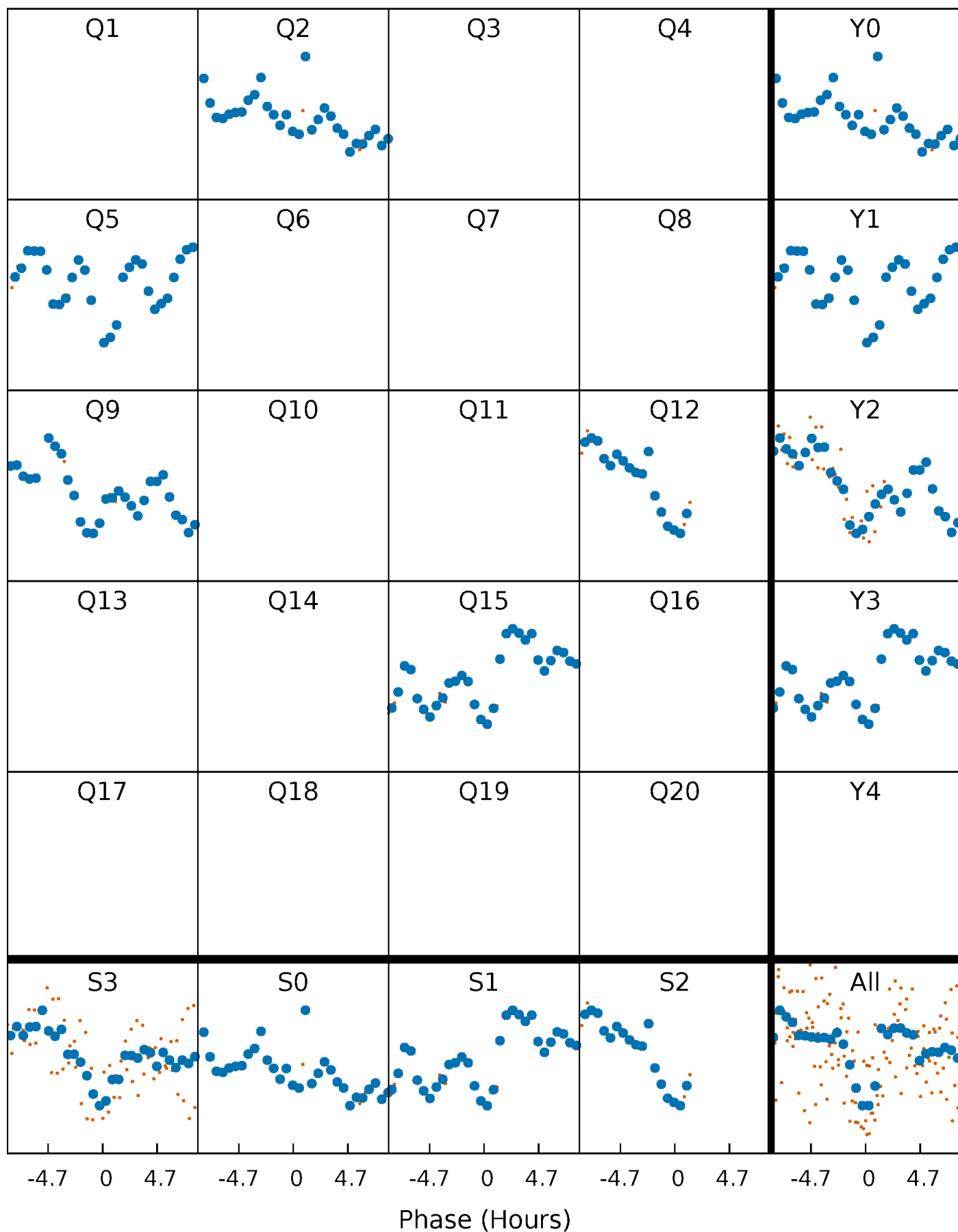


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

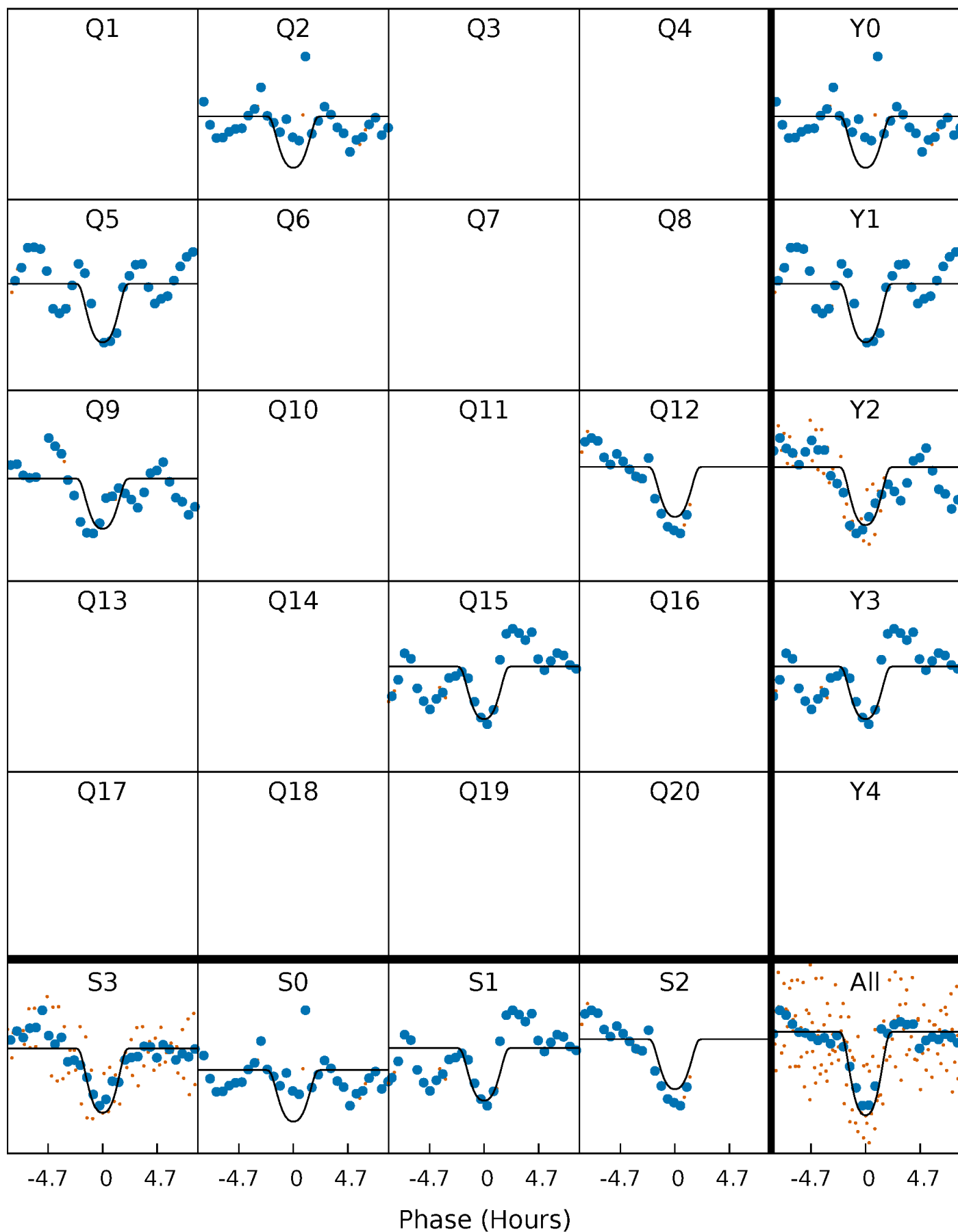
TCE 005562913-01 P=291.763076 Days  $T_0=241.331028$  (BKJD)





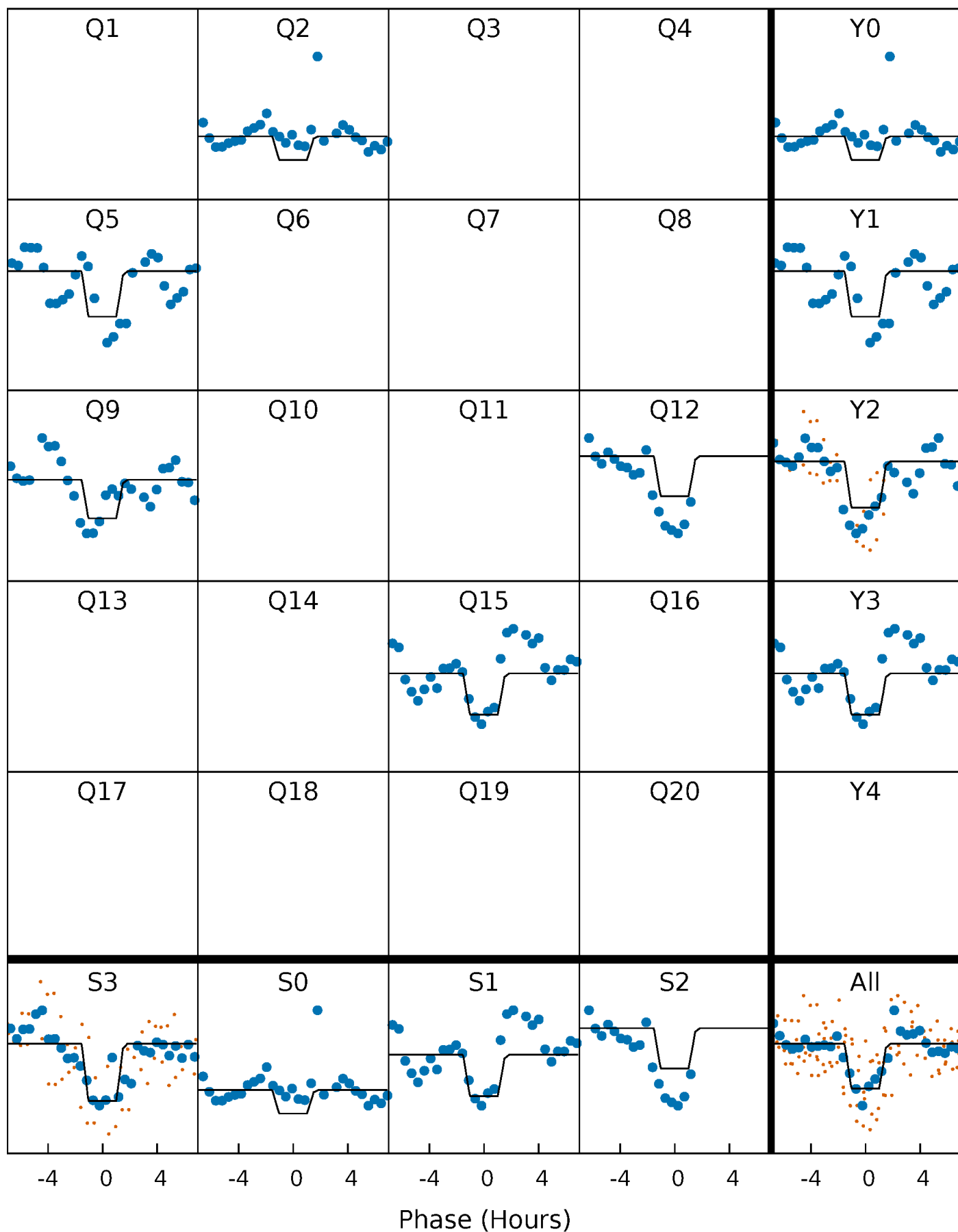
# DV Quarter-Phased Transit Curves

TCE 005562913-01 P=291.763076 Days  $T_0=241.331028$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

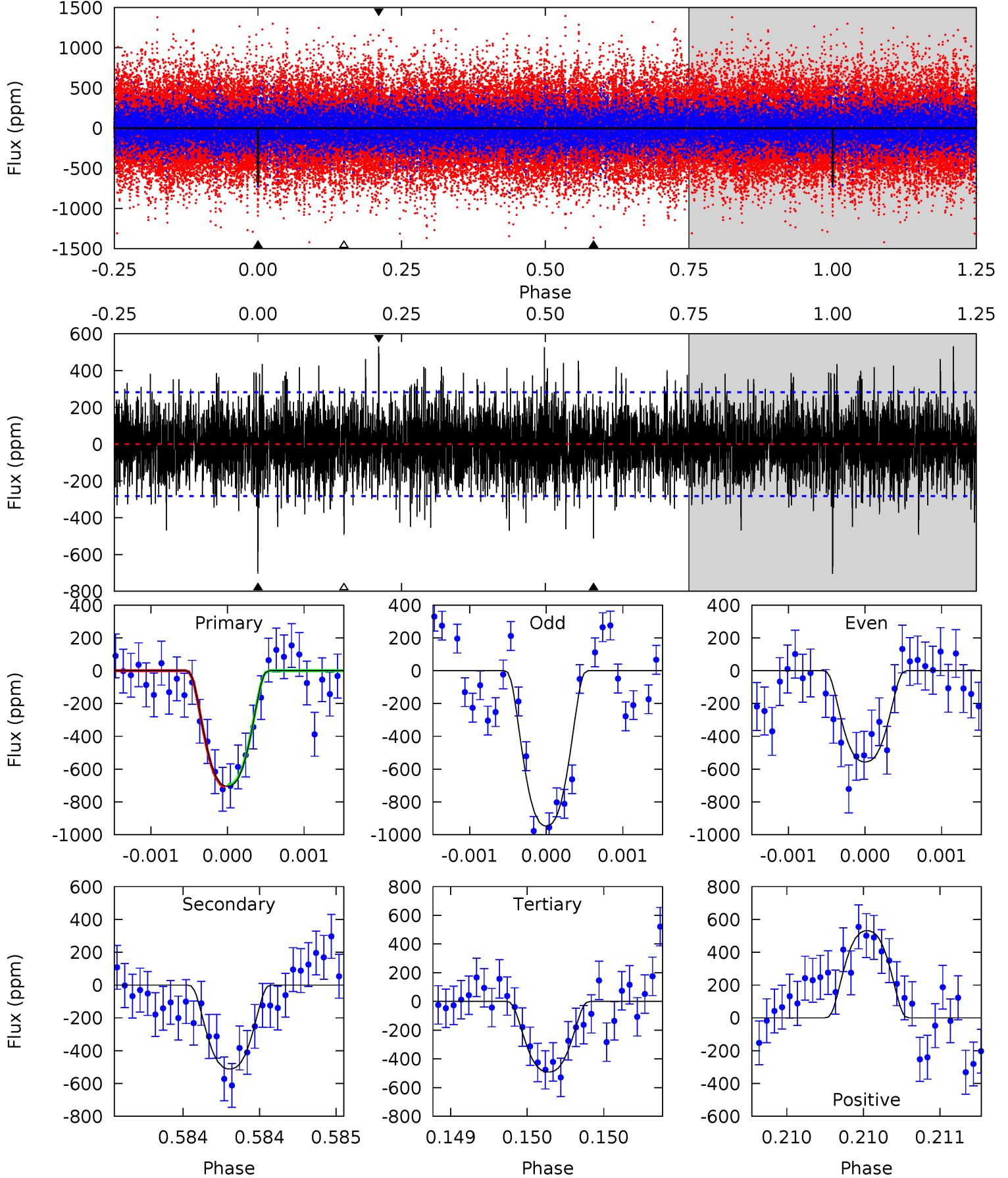
TCE 005562913-01 P=291.771979 Days  $T_0=241.303624$  (BKJD)



# DV Model-Shift Uniqueness Test

005562913-01, P = 291.763076 Days, E = 241.331028 Days

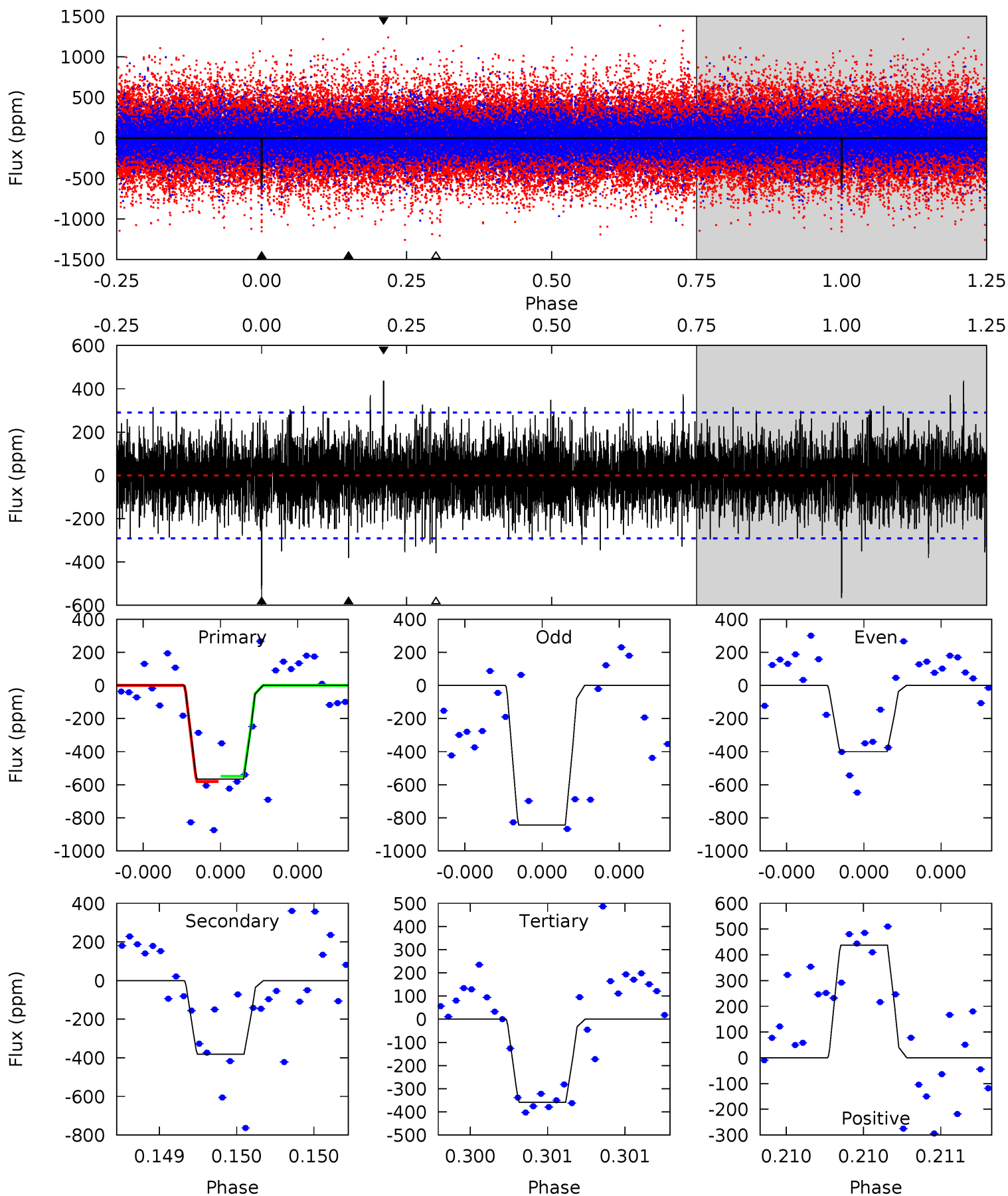
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	10.0	9.65	10.4	5.54	3.43	2.64	4.17	3.40	0.39	-0.38	3.74	0.88	0.43	0.11



# Alt Model-Shift Uniqueness Test

005562913-01, P = 291.771979 Days, E = 241.303624 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
10.9	7.32	6.88	8.40	5.58	3.49	1.88	3.98	2.46	0.43	-1.08	4.12	1.04	0.44	0.30



### Stellar Parameters For KIC 005562913

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4968^{+59}_{-139}$	$2.678^{+0.033}_{-0.027}$	$0.070^{+0.150}_{-0.250}$	$12.795^{+0.614}_{-3.480}$	$2.841^{+0.142}_{-1.278}$	$0.002^{+0.001}_{-0.000}$
	+1%/-3%	+1%/-1%	+214%/-357%	+5%/-27%	+5%/-45%	+42%/-10%
Source	SPE74	AST9	SPE74	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005562913-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-512 \pm 51$	$50.30^{+5.97}_{-6.22}$	$991^{+19}_{-30}$	$4137^{+216}_{-184}$	$167^{+51}_{-34}$
Alt.	$-381 \pm 52$	$34.25^{+5.96}_{-6.04}$	$991^{+20}_{-30}$	$4502^{+367}_{-296}$	$263^{+127}_{-75}$

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

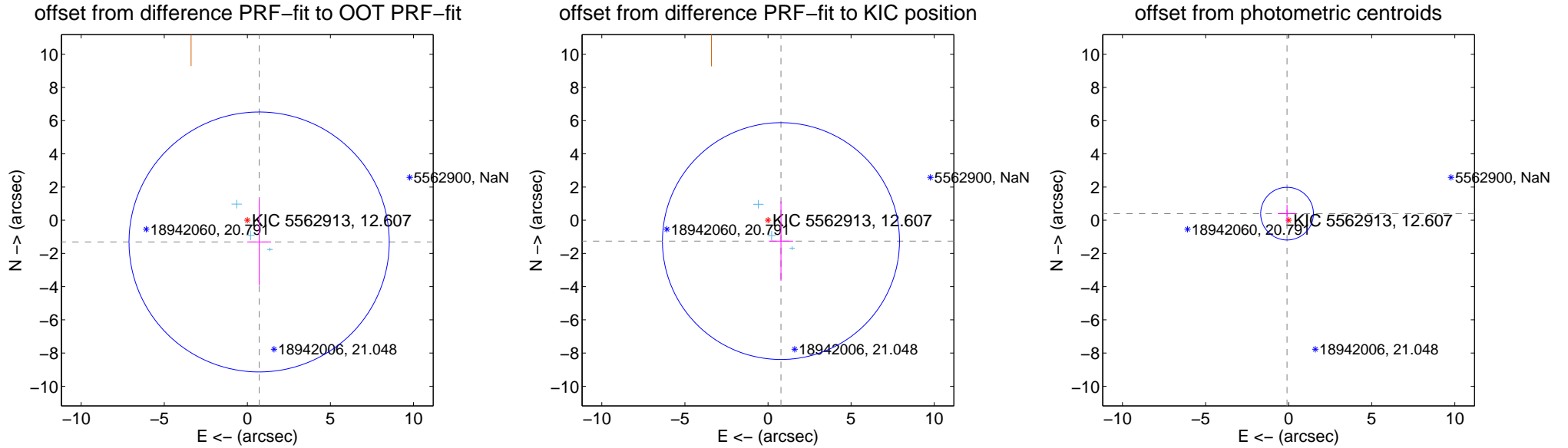
## DV Centroid Data

Supplemental centroid analysis for 005562913-01. Kepler magnitude: 12.61. Transit SNR 7.30

There are 3 quarters with good PRF difference image offsets

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

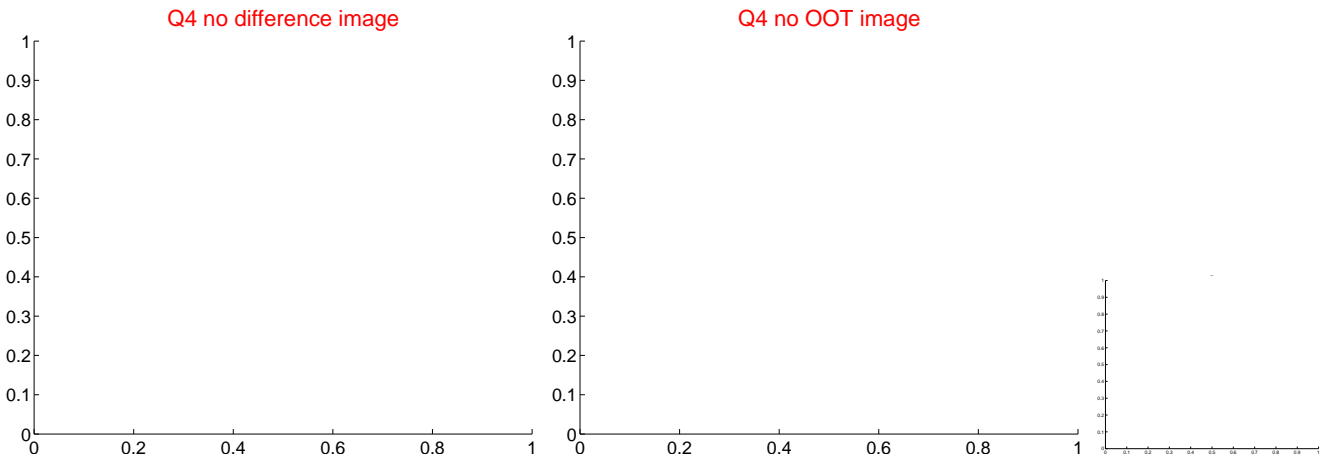
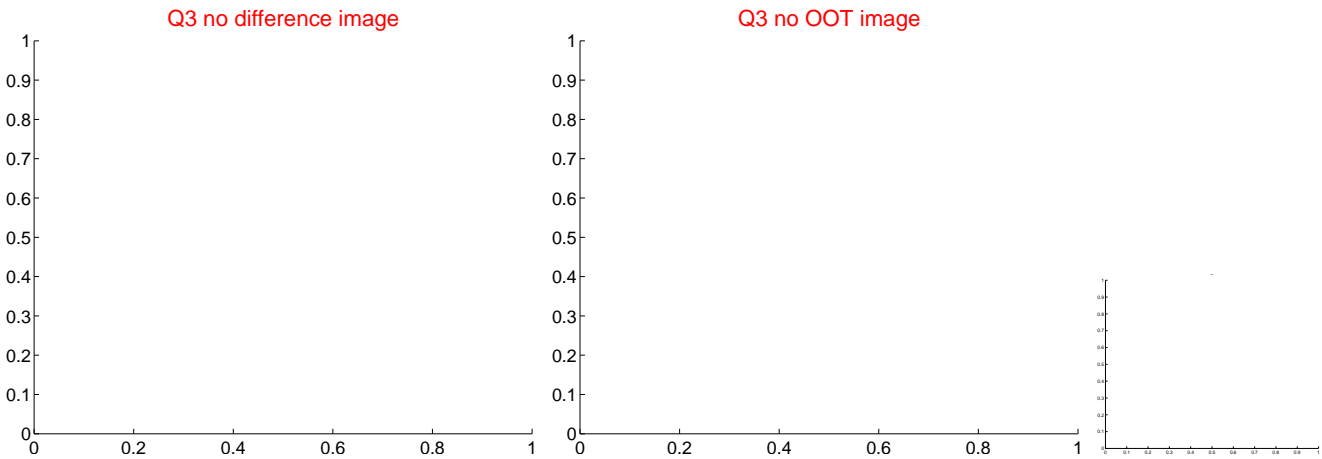
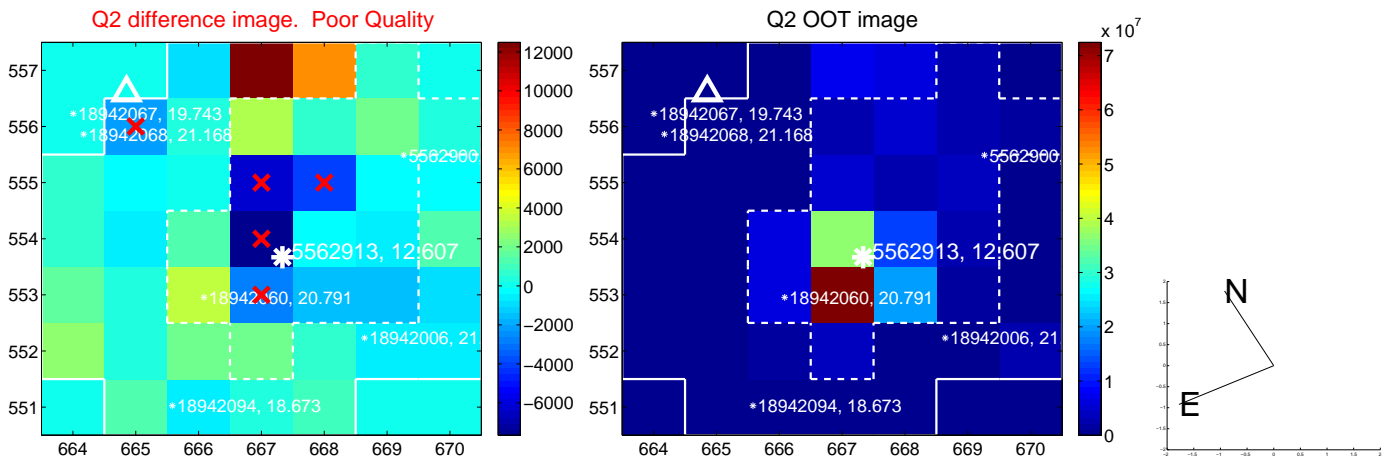
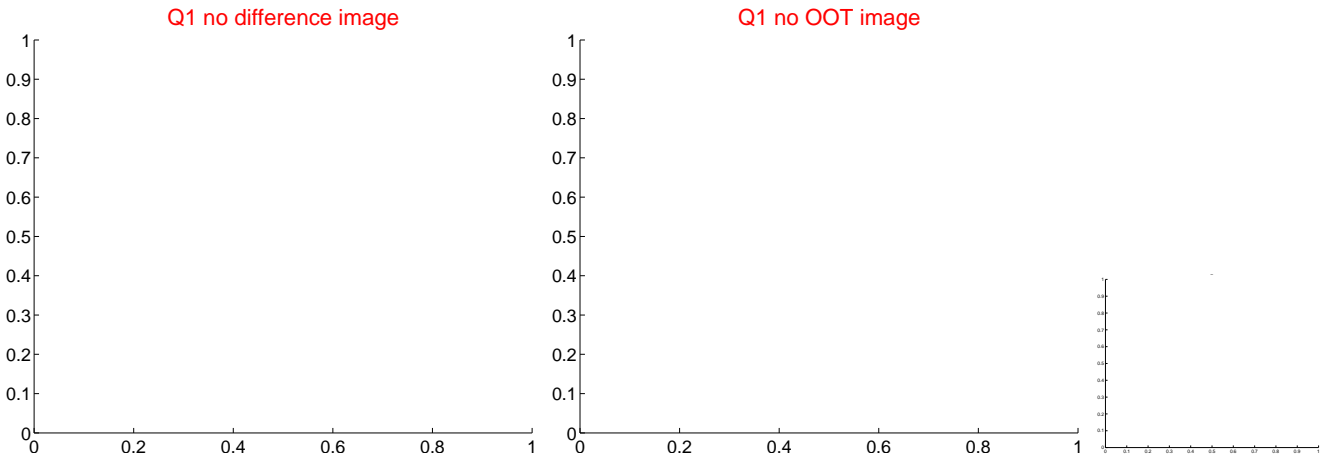
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.490 \pm 2.610$	0.57	$-0.711 \pm 0.721$	$-1.309 \pm 2.607$
PRF-fit source offset from KIC position	$1.478 \pm 2.378$	0.62	$-0.781 \pm 0.729$	$-1.255 \pm 2.391$
photometric centroid source offset	$0.41 \pm 0.53$	0.77	$0.10 \pm 0.54$	$0.40 \pm 0.53$



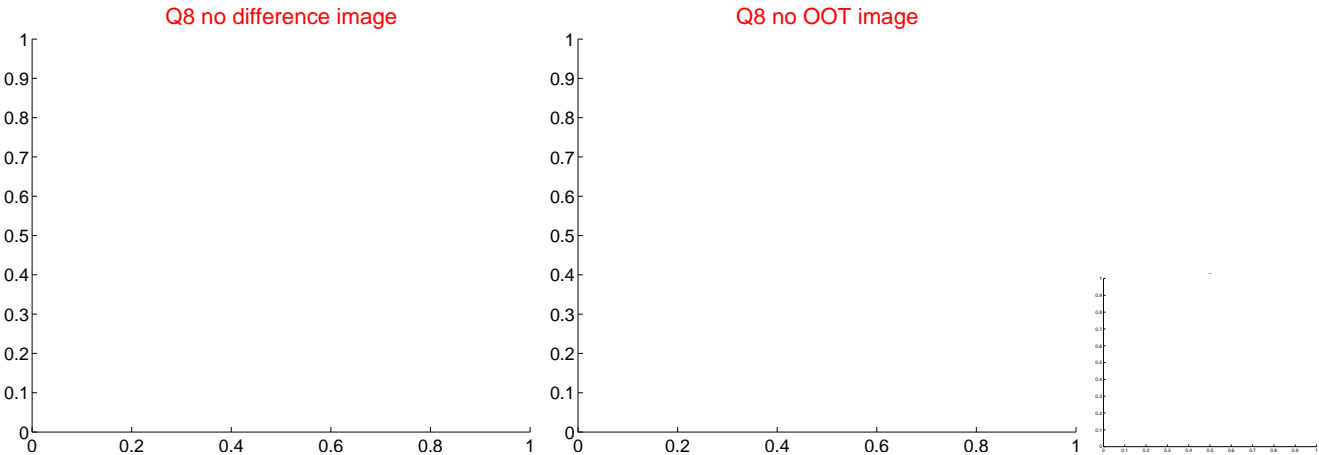
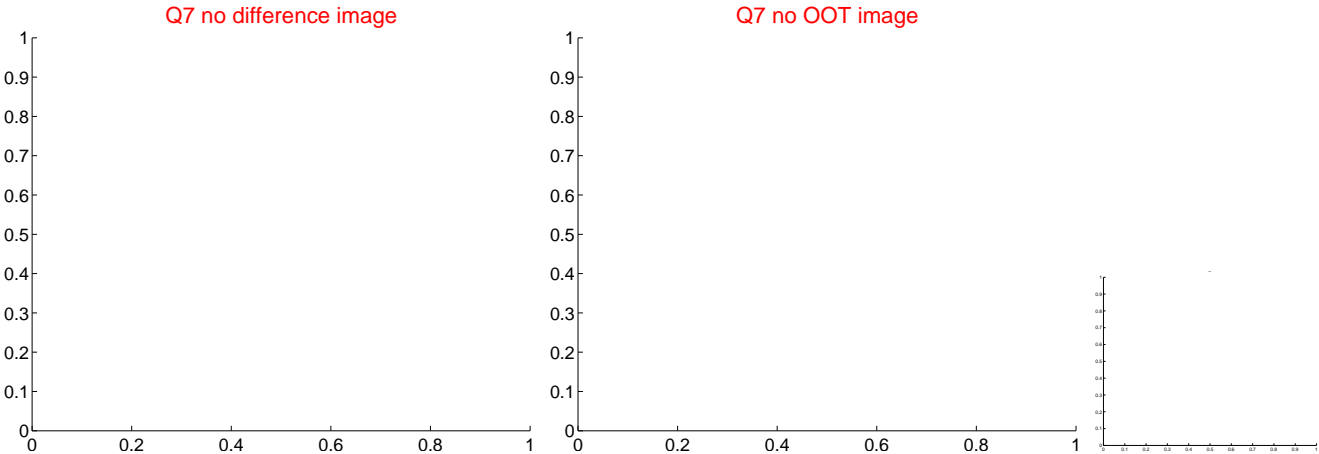
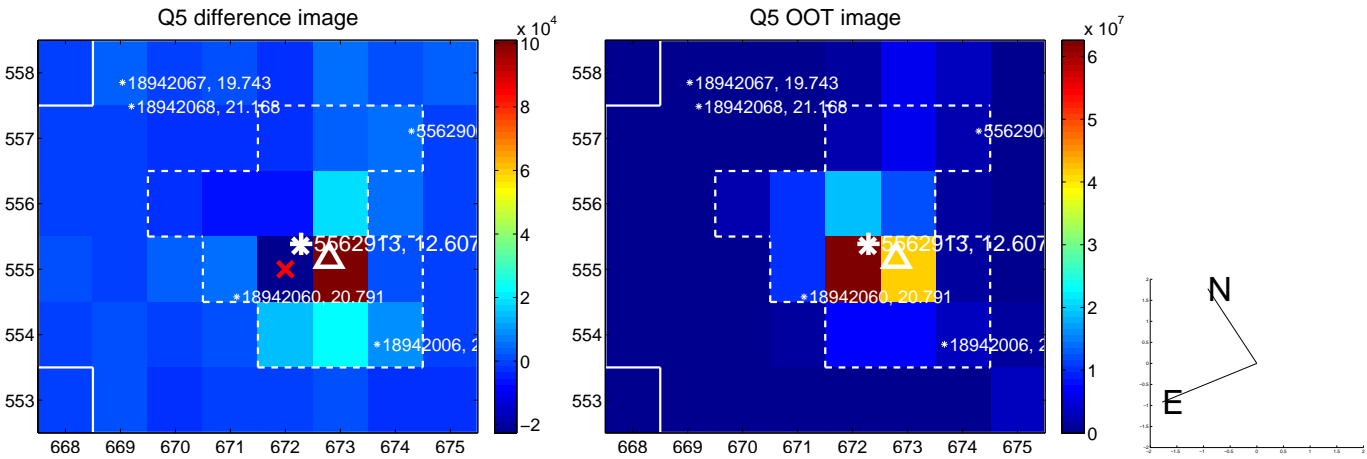
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



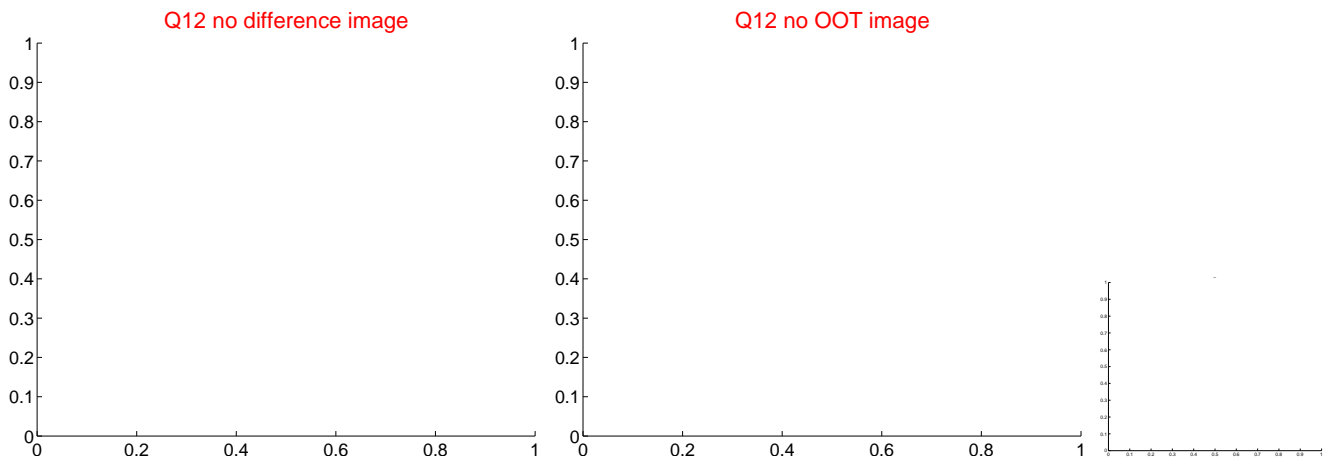
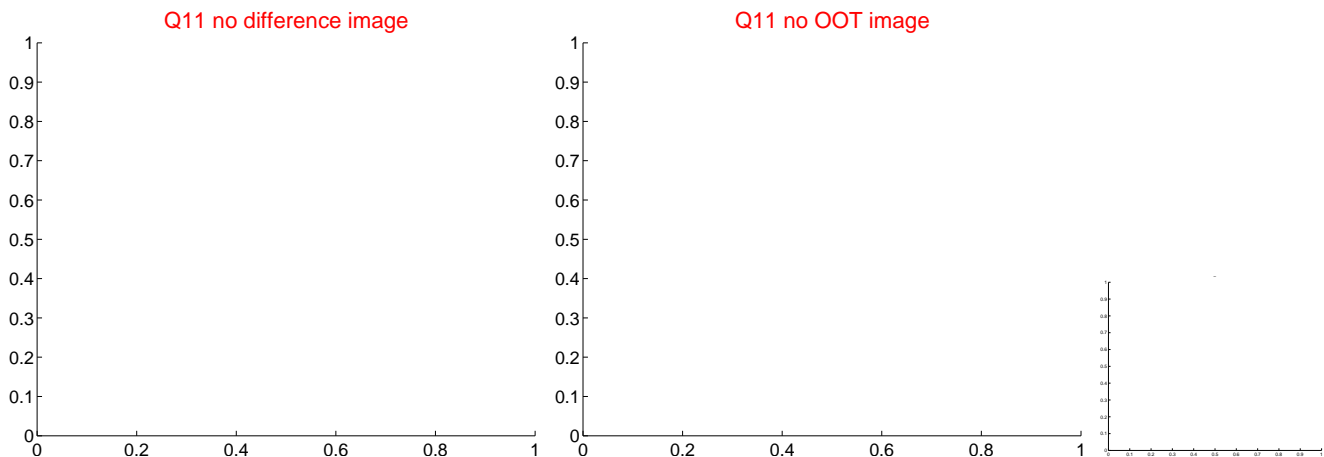
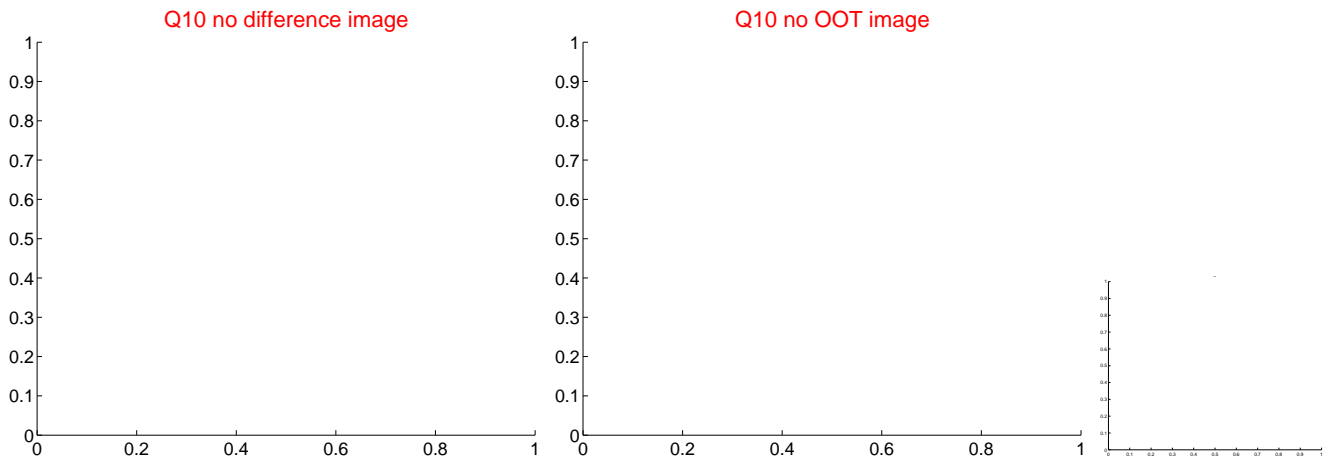
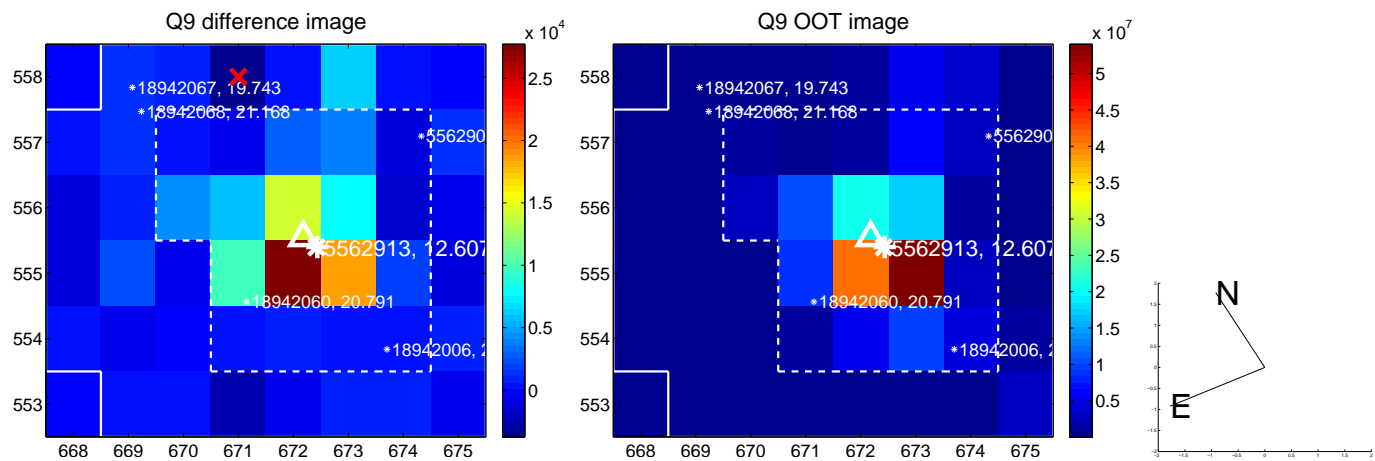
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



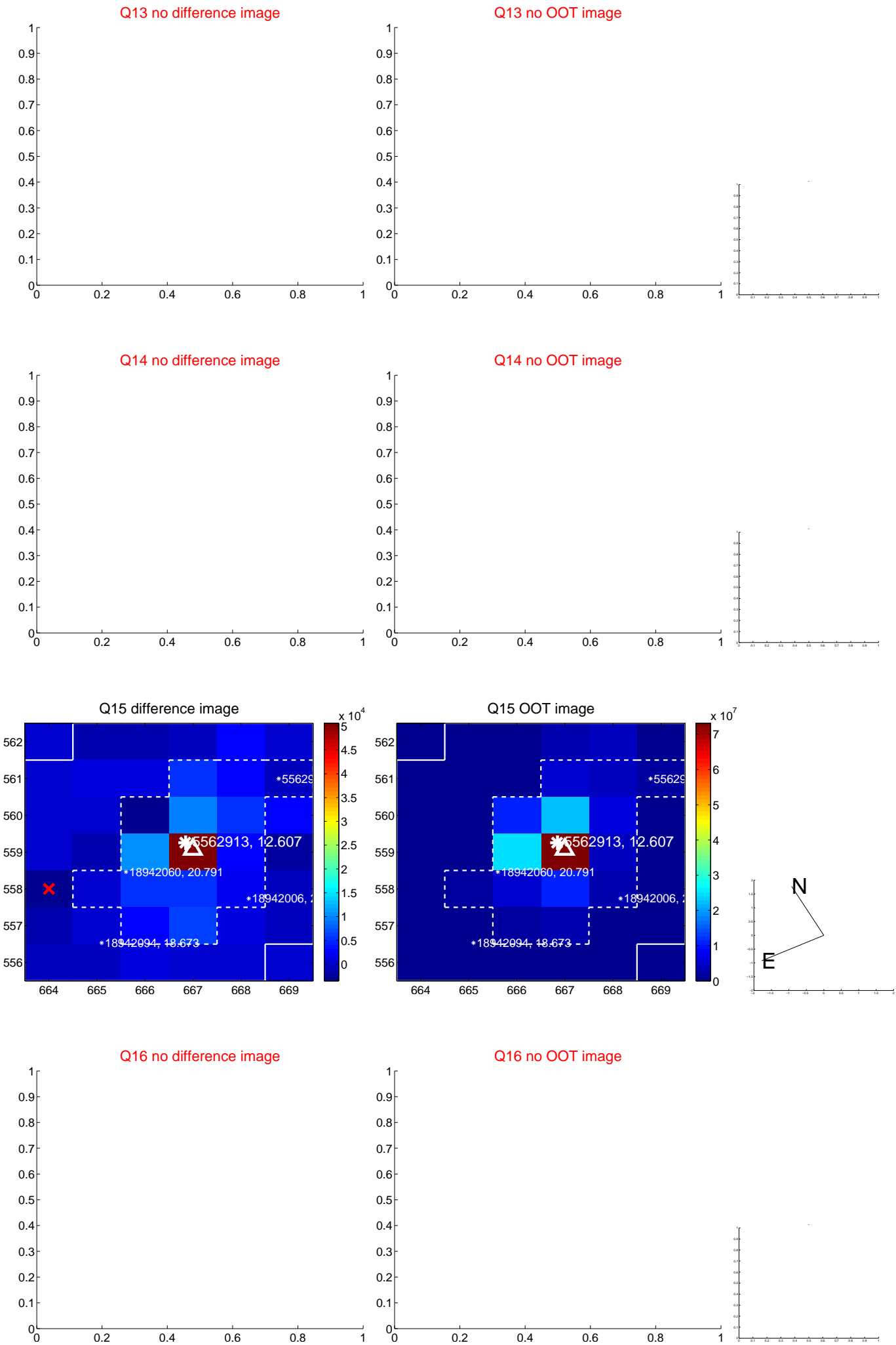
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



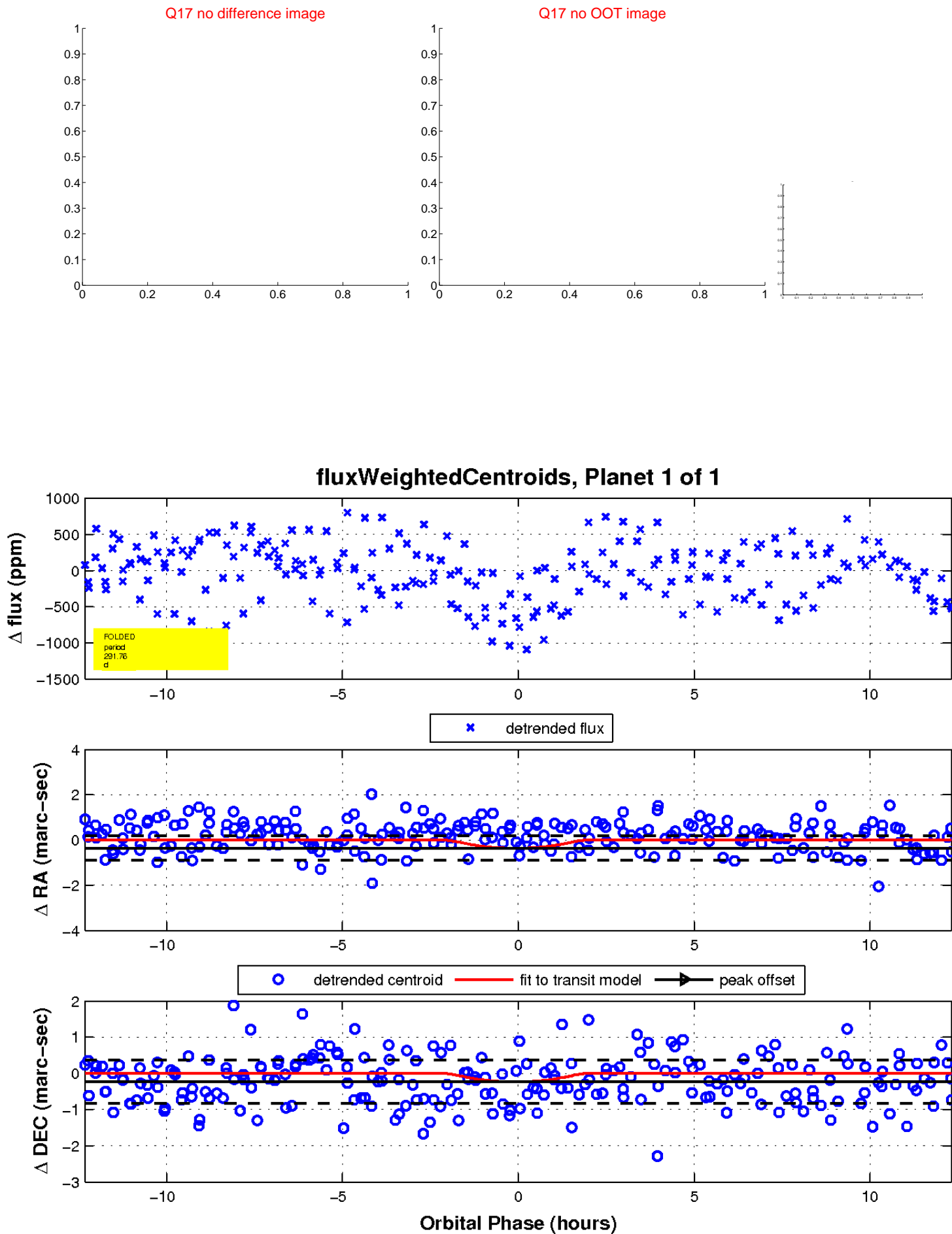
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

