

# KIC 005601258

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005601258-01	OBS	2191.01	8.847943	140.147179	456.5	2.184	18.3	20.8	0.55	3867	1.43	12.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005601258-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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.

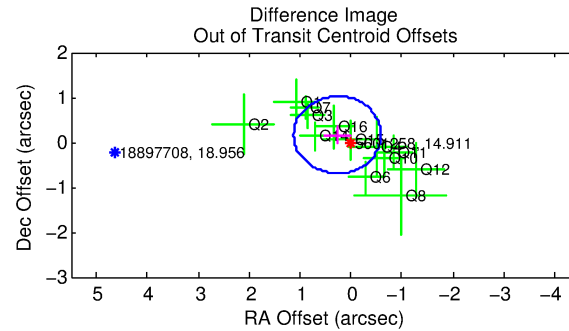
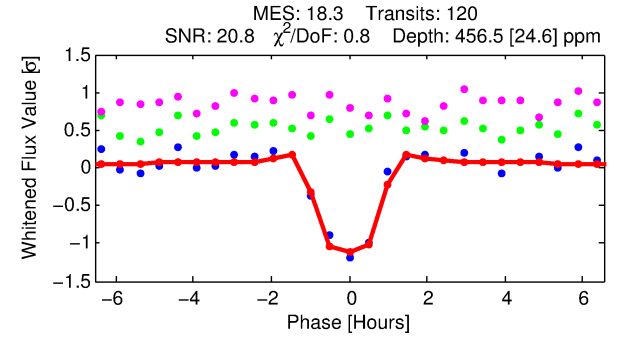
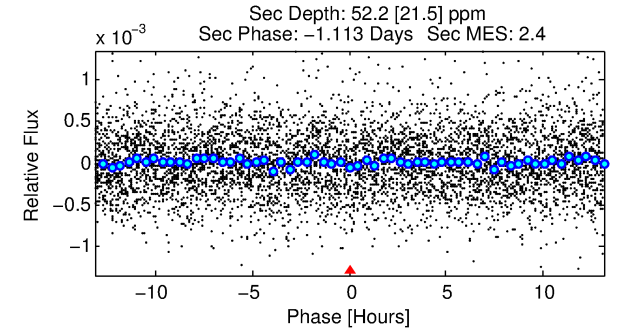
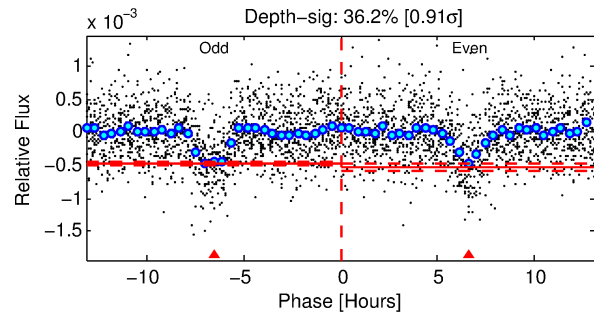
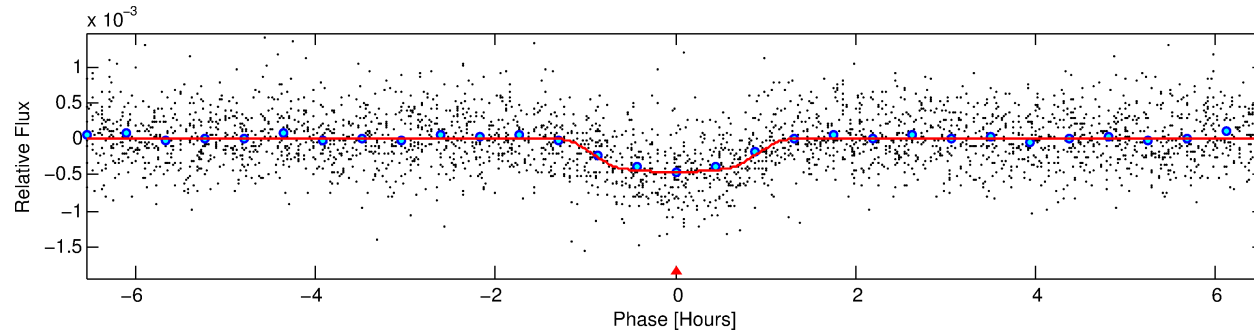
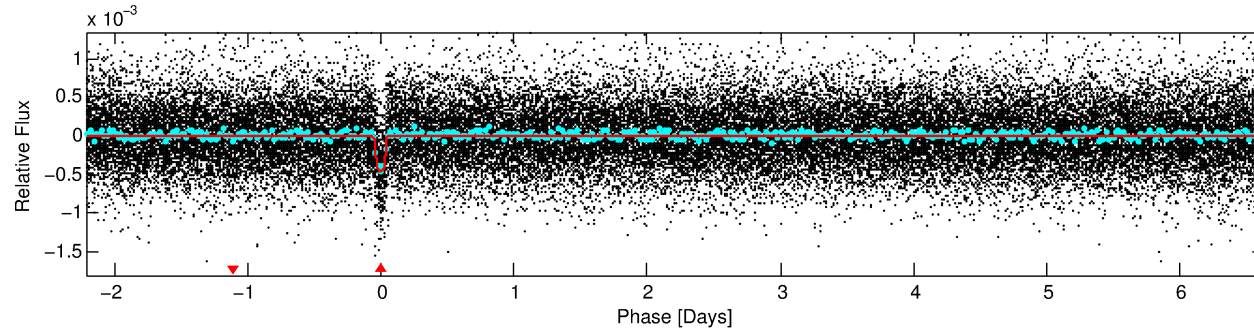
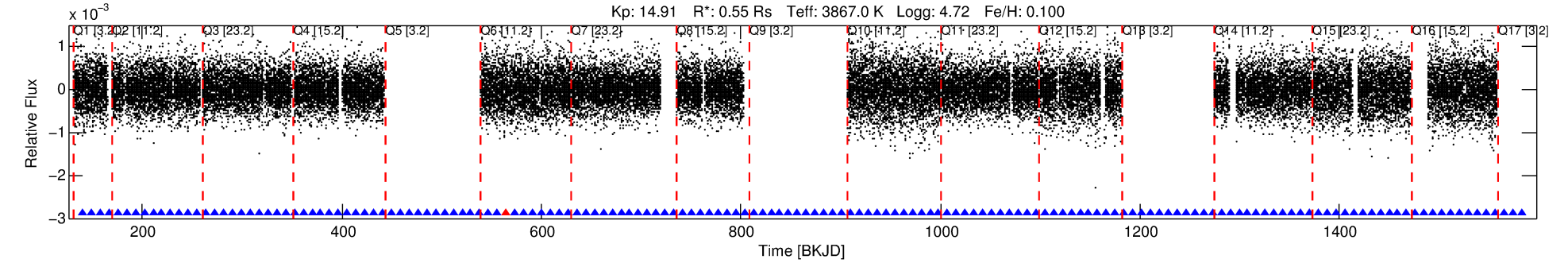
## Ephemeris Match Information For 005601258-01

No Significant Match Found

# DV One-Page Summary

KIC: 5601258 Candidate: 1 of 1 Period: 8.848 d

KOI: K02191.01 Corr: 0.959



## DV Fit Results:

Period = 8.84794 [0.00002] d  
Epoch = 140.1472 [0.0020] BKJD  
Rp/R\* = 0.0238 [0.0050]  
a/R\* = 14.74 [12.66]  
b = 0.91 [0.17]  
Seff = 12.51 [1.35]  
Teq = 480 [13] K  
Rp = 1.43 [0.32] Re  
a = 0.0699 [0.0033] AU  
Ag = 68.30 [40.61] [1.66 $\sigma$ ]  
Teffp = 2131 [318] K [5.19 $\sigma$ ]

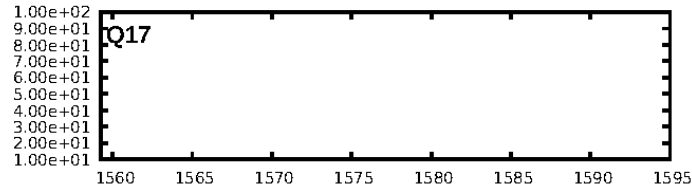
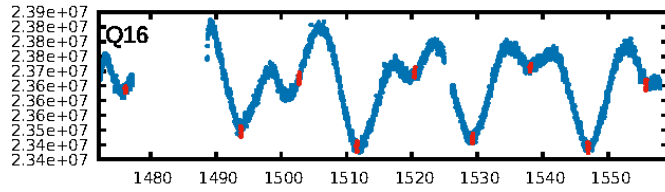
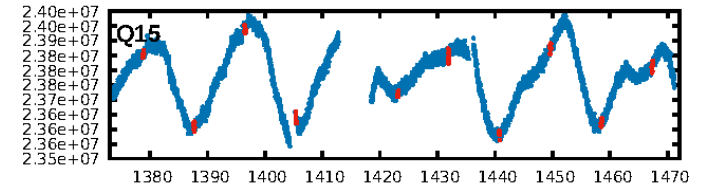
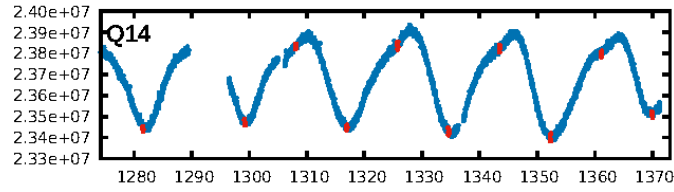
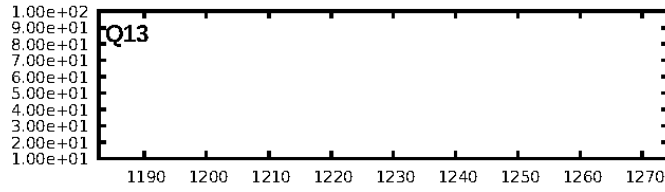
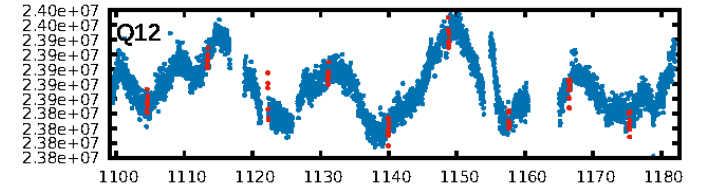
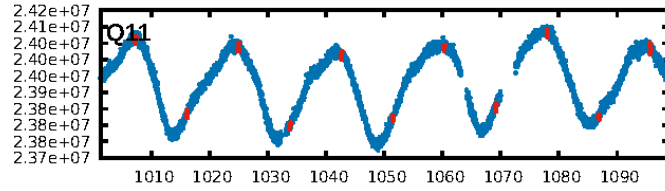
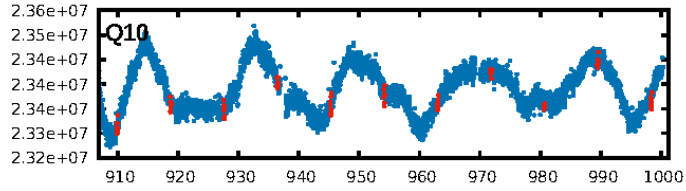
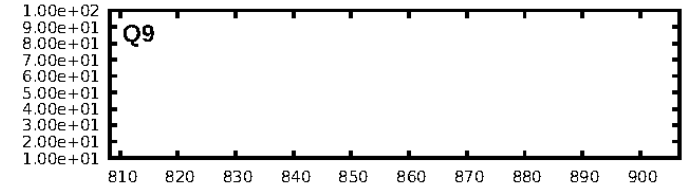
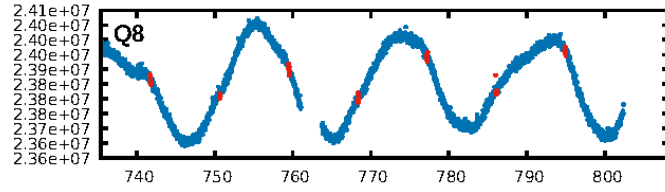
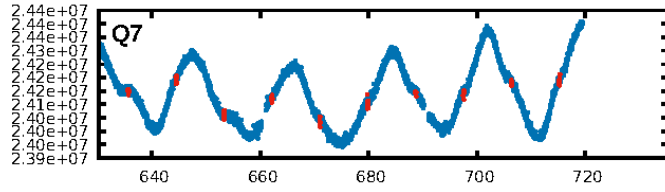
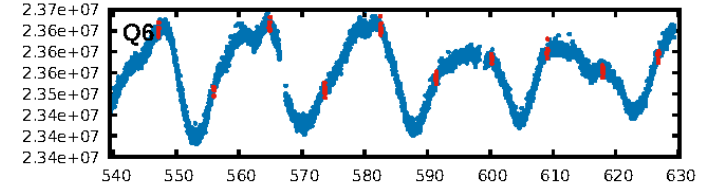
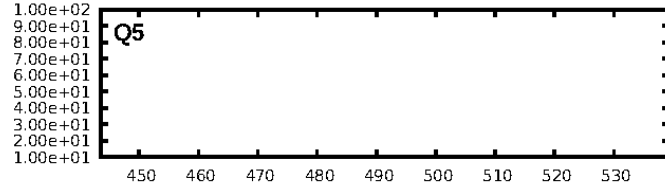
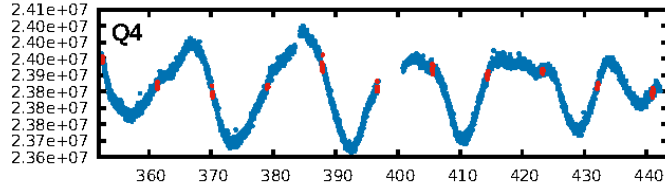
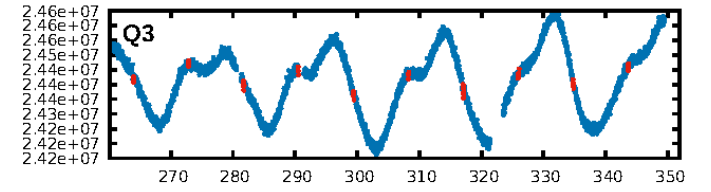
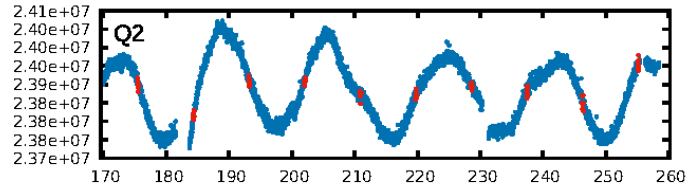
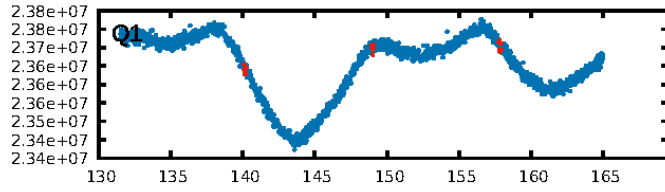
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 5.60e-73  
RollingBand-fgt: 0.99 [116/117]  
GhostDiagnostic-chr: 2.535  
Centroid-sig: 7.3%  
Centroid-so: 0.982 arcsec [1.57 $\sigma$ ]  
OotOffset-rm: 0.314 arcsec [1.10 $\sigma$ ]  
KicOffset-rm: 0.385 arcsec [1.48 $\sigma$ ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [13/13]

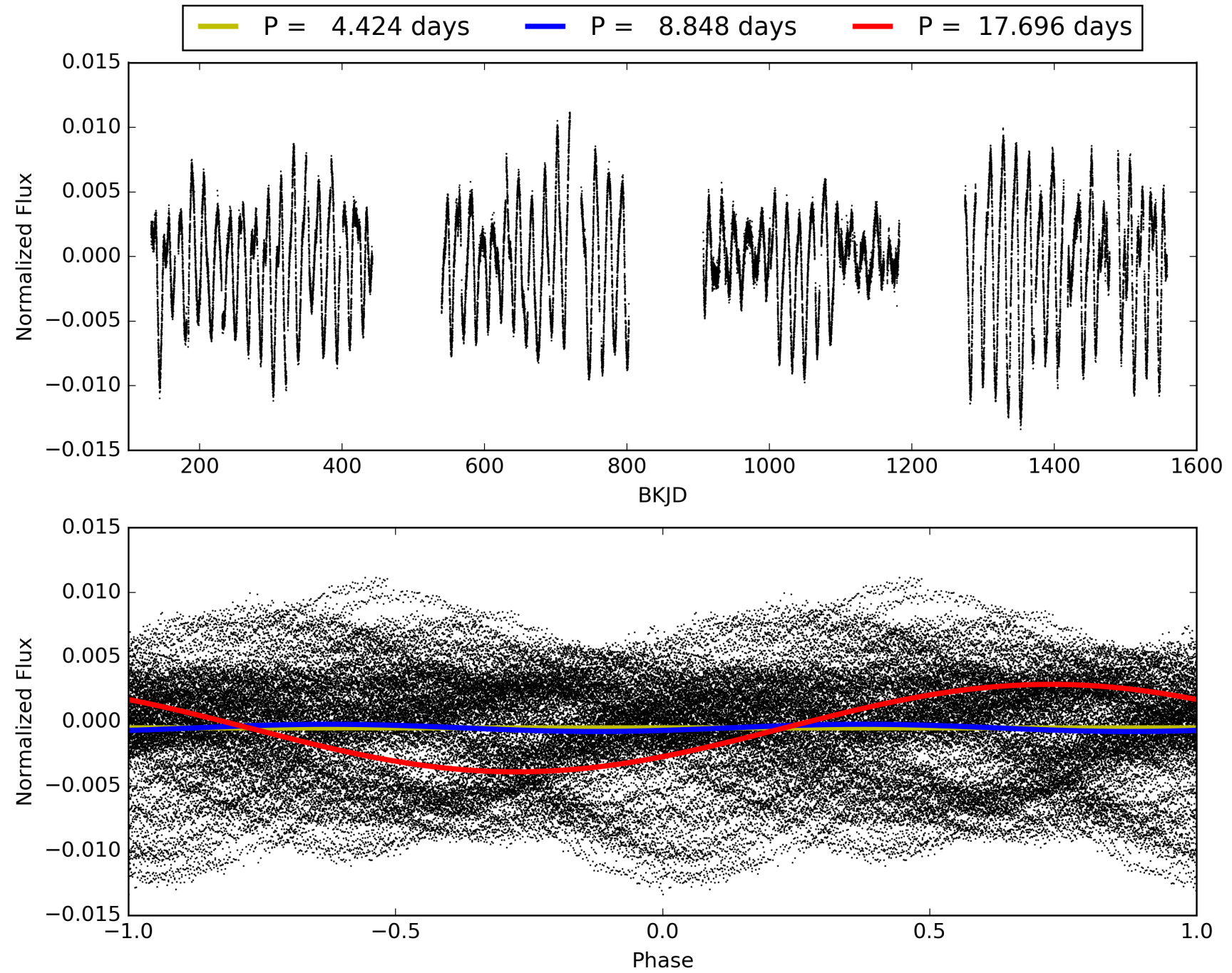
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:18:41 Z

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

# TCE 005601258-01, PDC Light Curves

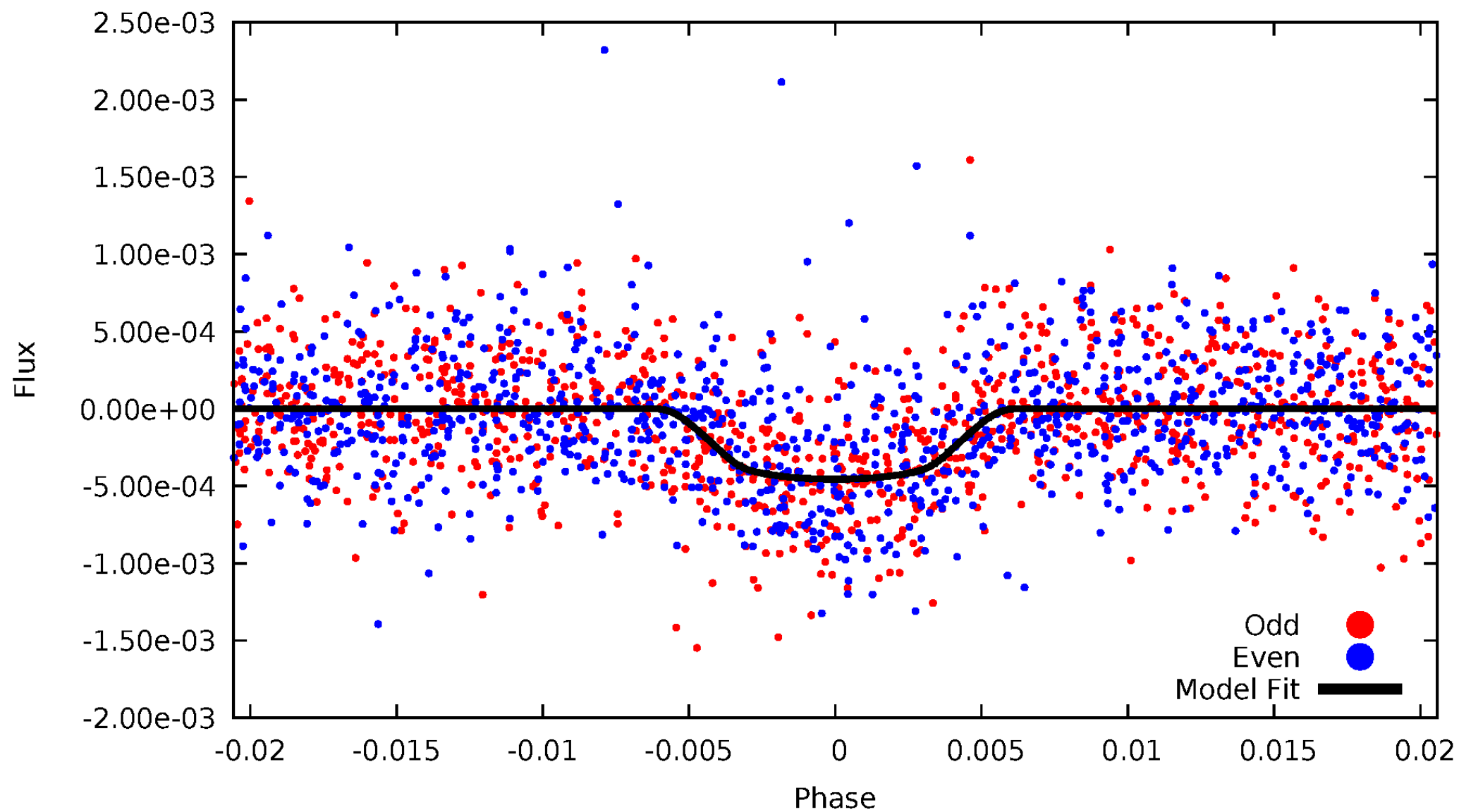


TCE 005601258-01



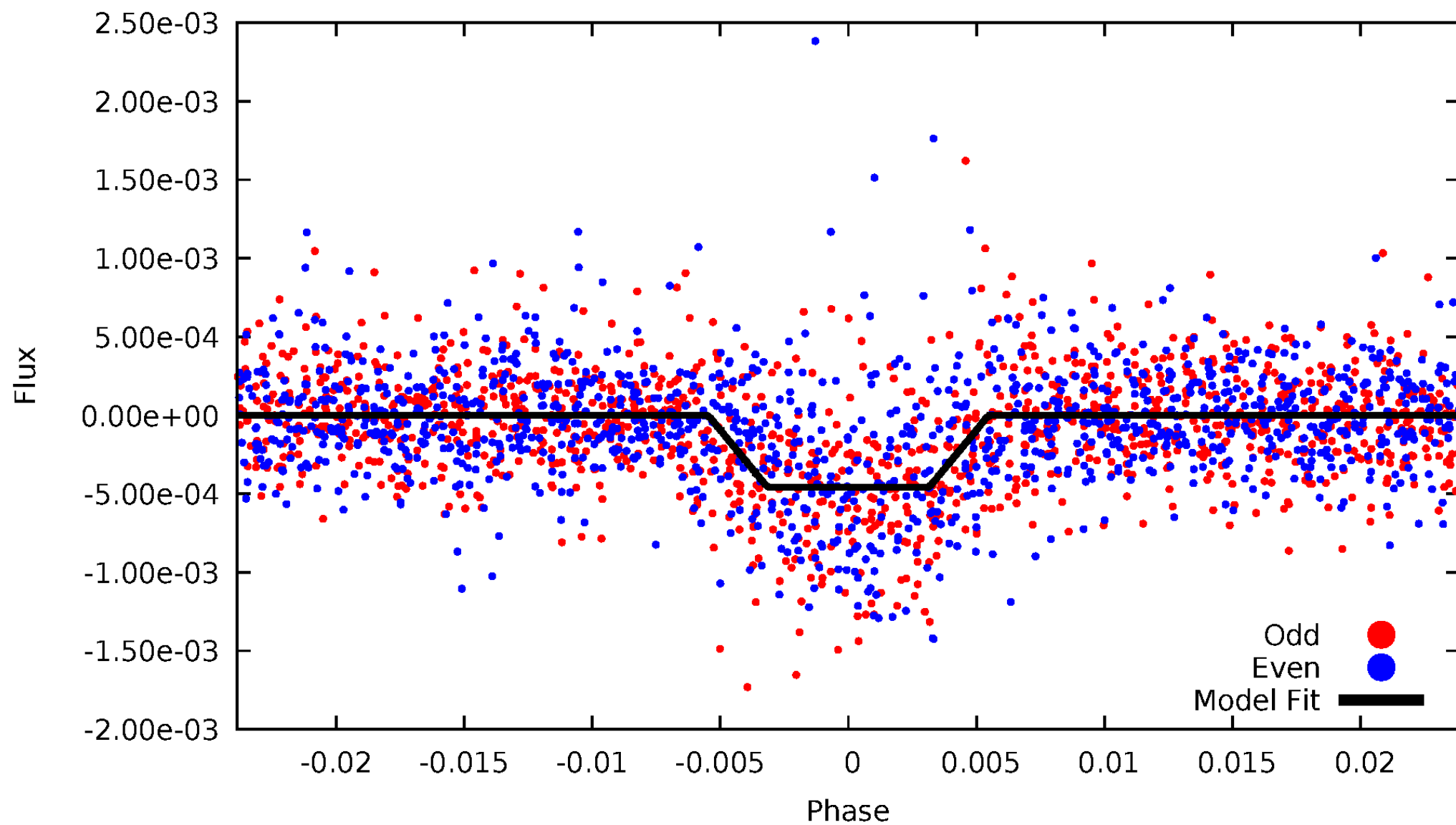
# DV Odd/Even

TCE 005601258-01



# ALT Odd/Even

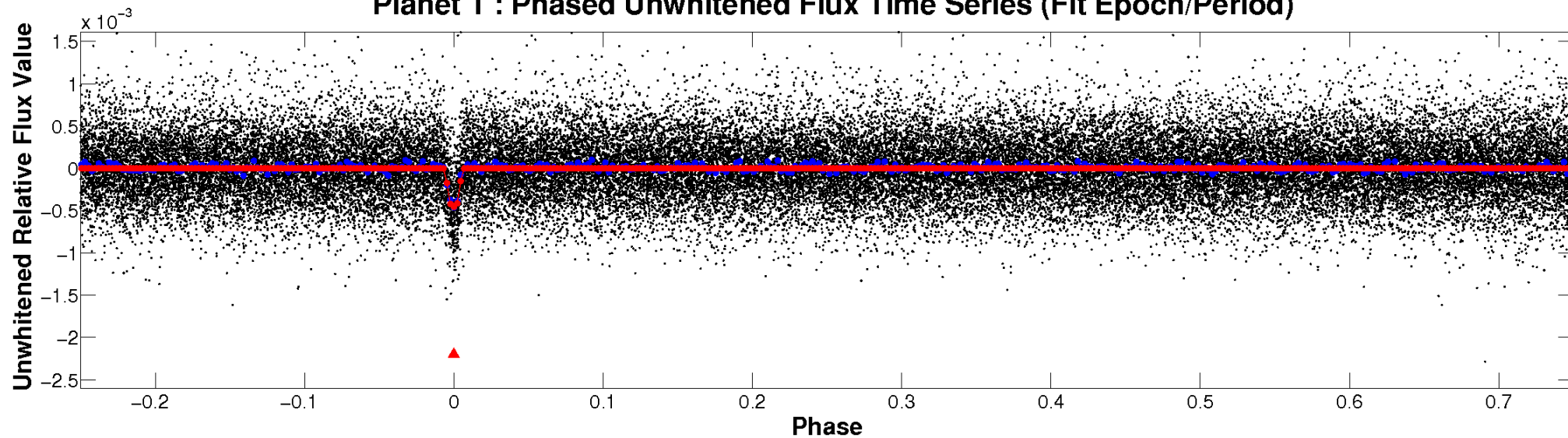
TCE 005601258-01



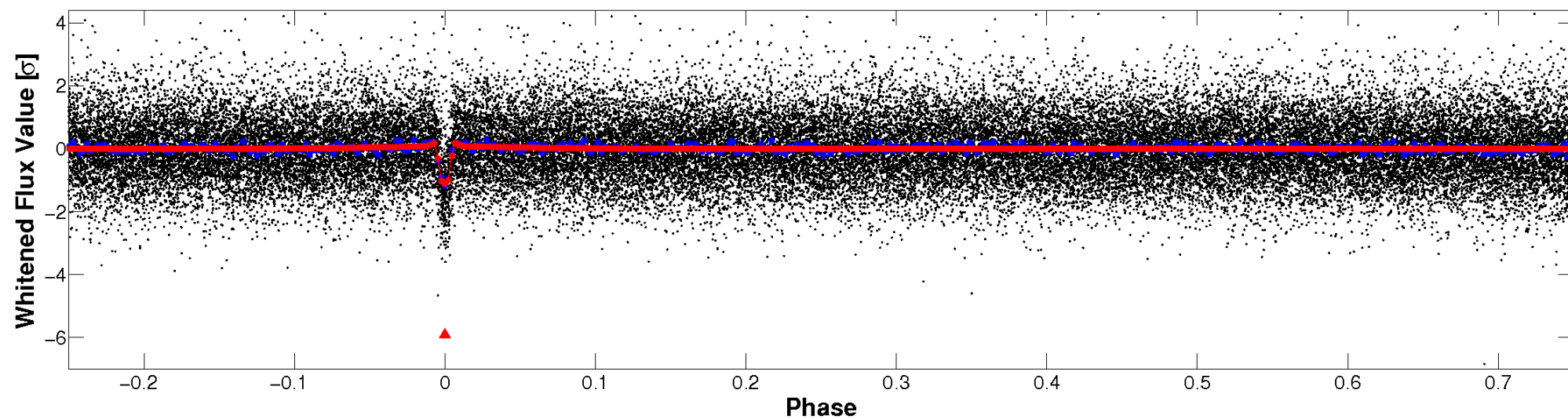


# Non-Whitened Vs. Whitened Light Curve

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

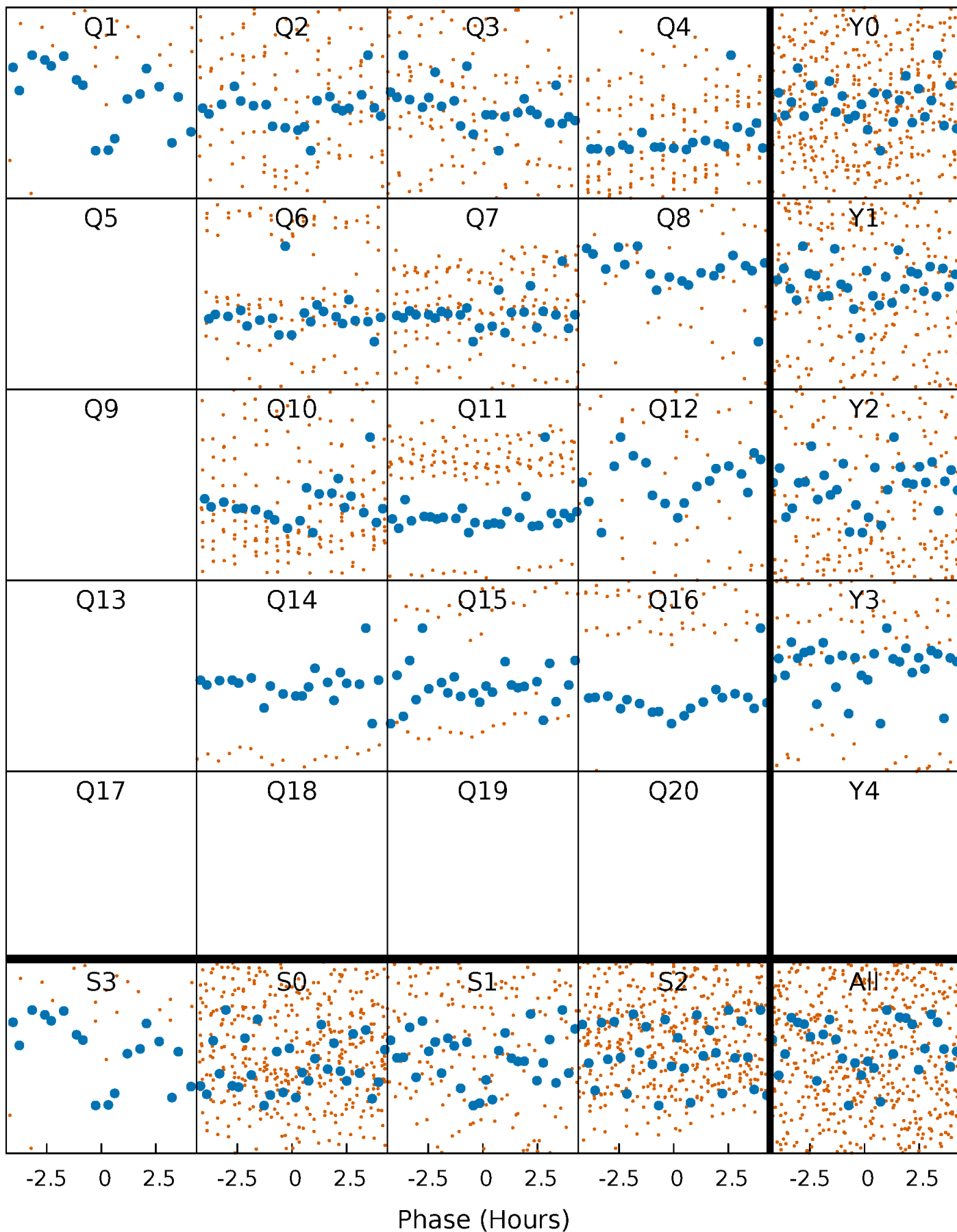


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

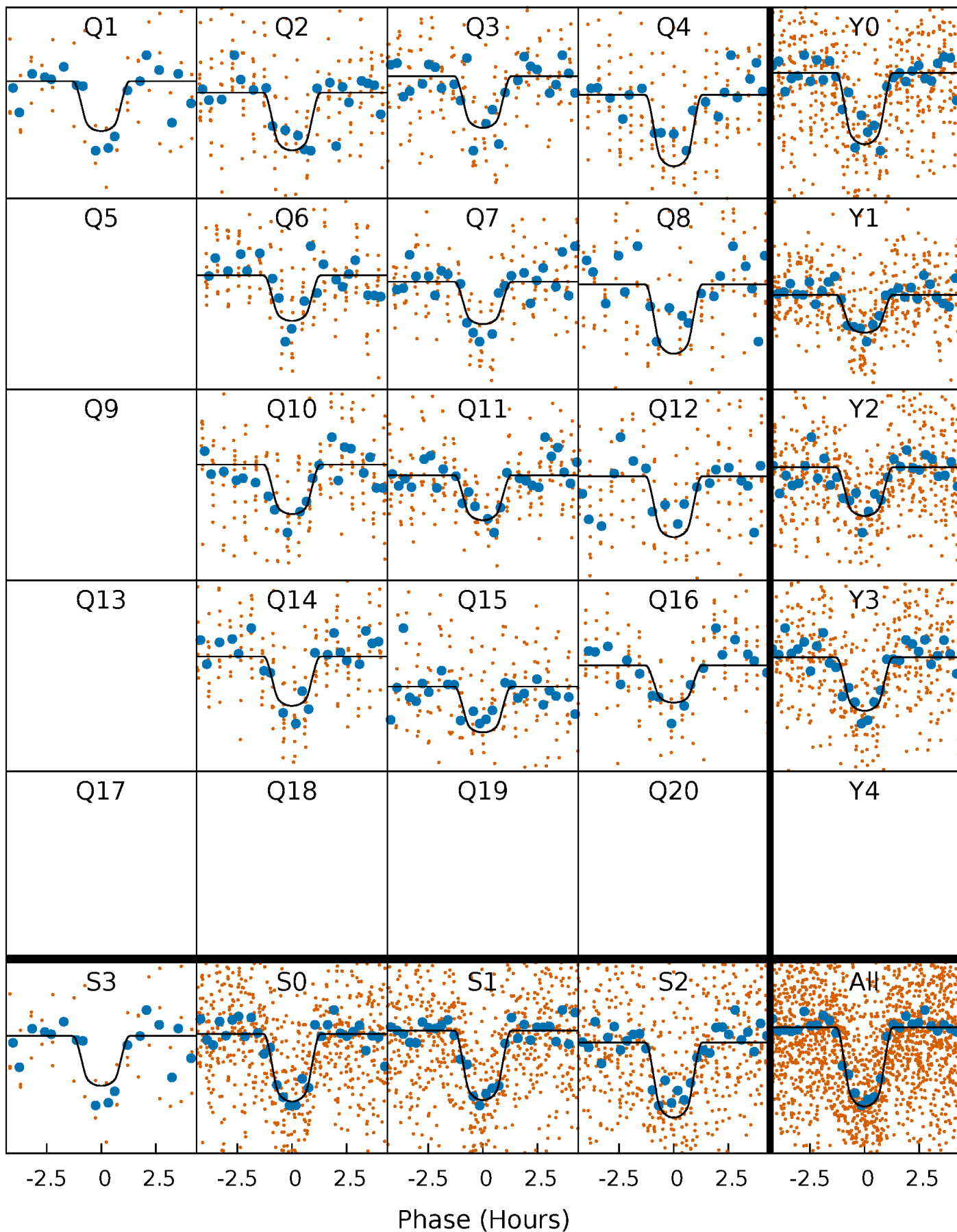
TCE 005601258-01 P= 8.847943 Days  $T_0=140.147179$  (BKJD)





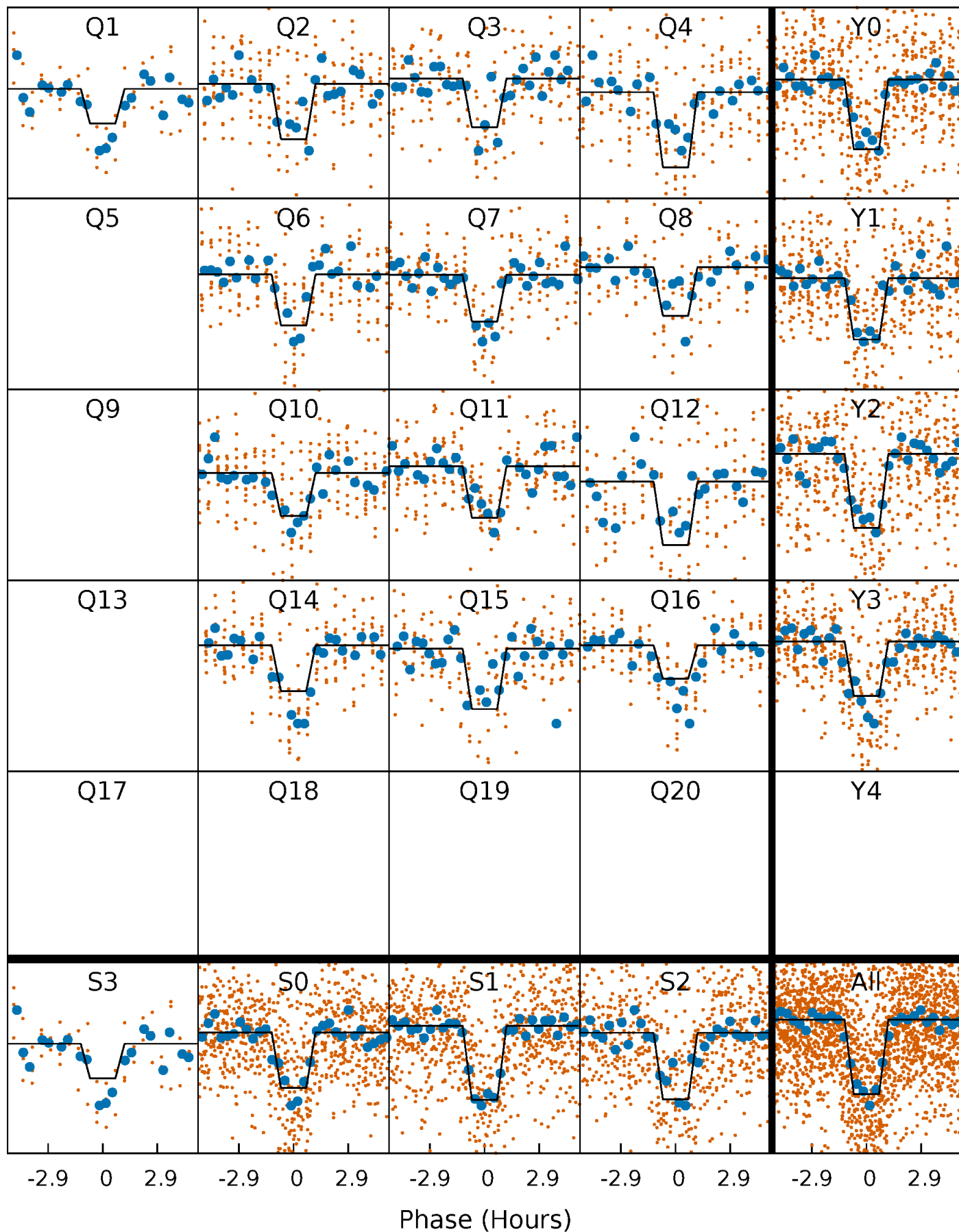
# DV Quarter-Phased Transit Curves

TCE 005601258-01 P= 8.847943 Days  $T_0=140.147179$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

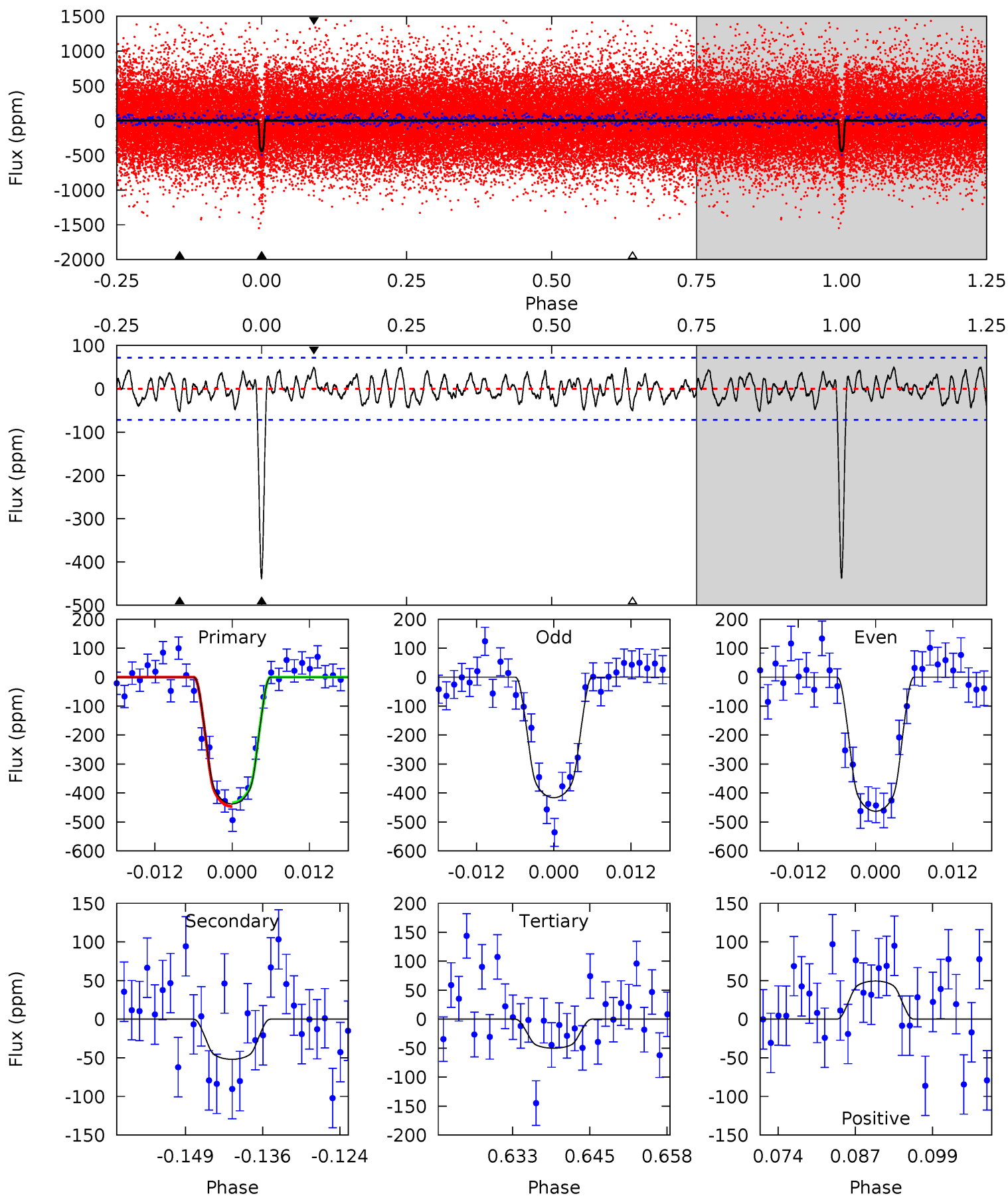
TCE 005601258-01 P= 8.847882 Days  $T_0=140.149107$  (BKJD)



## DV Model-Shift Uniqueness Test

005601258-01, P = 8.847943 Days, E = 131.299236 Days

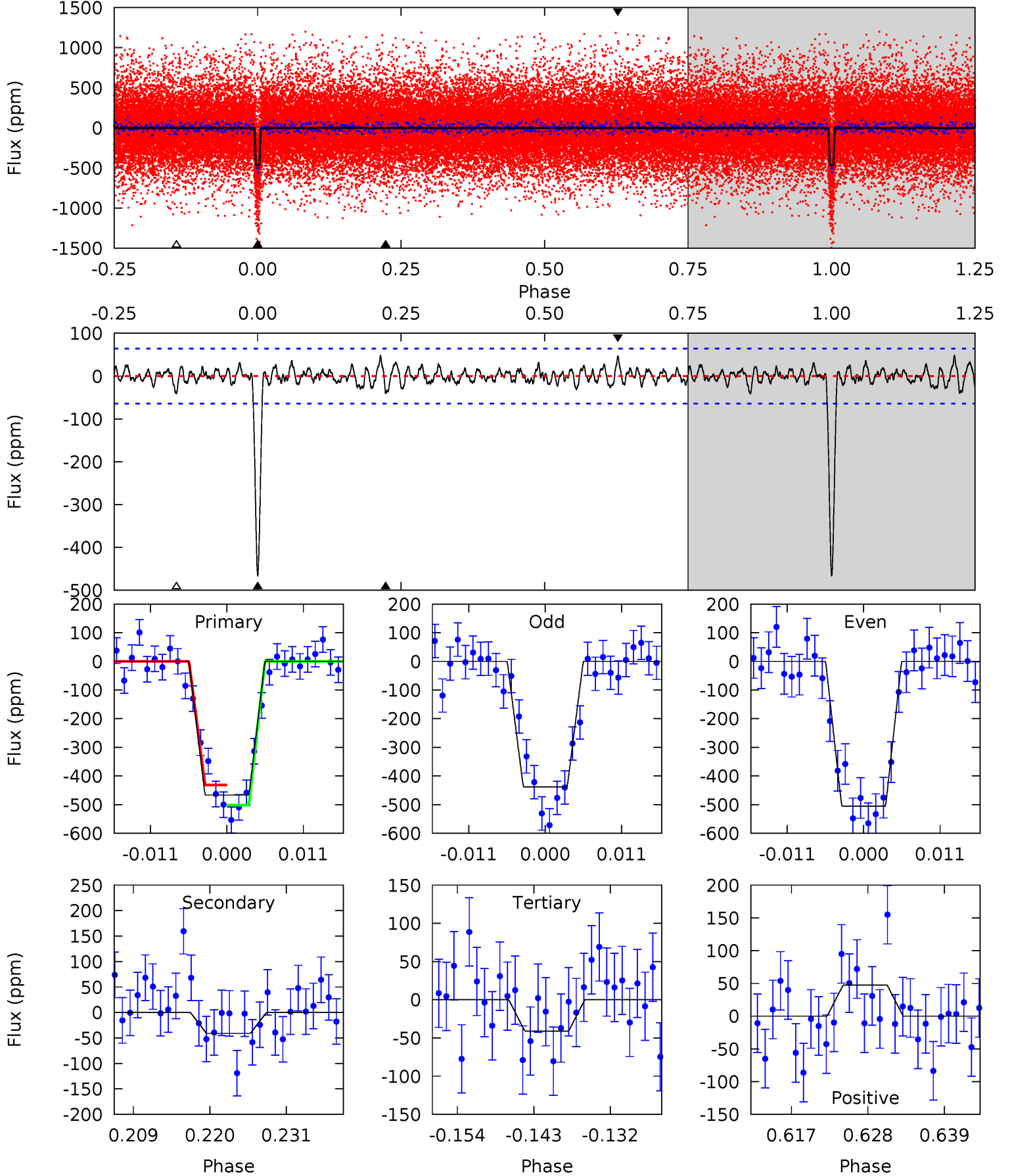
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.4	3.61	3.48	3.43	4.98	2.50	1.46	26.9	27.0	0.13	0.18	1.62	0.99	0.10	0.46



# Alt Model-Shift Uniqueness Test

005601258-01, P = 8.847882 Days, E = 131.301225 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
36.5	3.20	3.20	3.72	5.01	2.54	1.04	33.3	32.8	0.00	-0.52	2.62	0.95	0.09	2.75



### Stellar Parameters For KIC 005601258

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3867^{+77}_{-84}$	$4.718^{+0.027}_{-0.033}$	$0.100^{+0.150}_{-0.150}$	$0.552^{+0.033}_{-0.033}$	$0.581^{+0.028}_{-0.038}$	$4.868^{+0.659}_{-0.581}$
	+2%/-2%	+1%/-1%	+150%/-150%	+6%/-6%	+5%/-7%	+14%/-12%
Source	SPE70	SPE60	SPE70	DSEP		

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

### Secondary Eclipse Parameters for KIC 005601258-01 / KOI 2191.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-52 \pm 14$	$1.45^{+0.30}_{-0.32}$	$672^{+17}_{-17}$	$2705^{+191}_{-181}$	$67^{+45}_{-28}$
Alt.	$-41 \pm 13$	$1.30^{+0.32}_{-0.32}$	$672^{+16}_{-17}$	$2692^{+226}_{-183}$	$65^{+53}_{-28}$

$T_{max}$  = 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

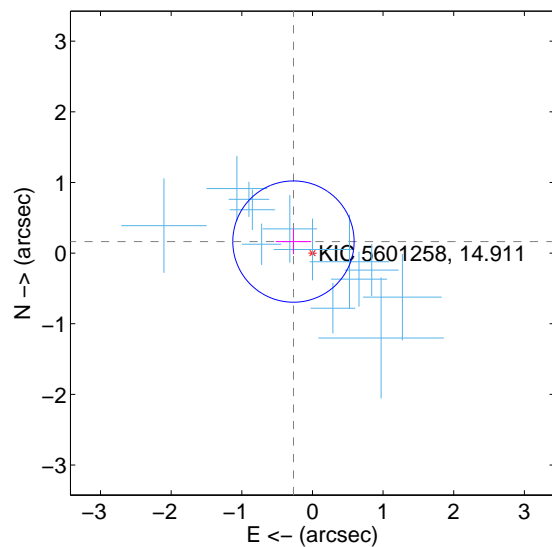
Supplemental centroid analysis for 005601258-01. Kepler magnitude: 14.91. Transit SNR 20.84

There are 13 quarters with good PRF difference image offsets

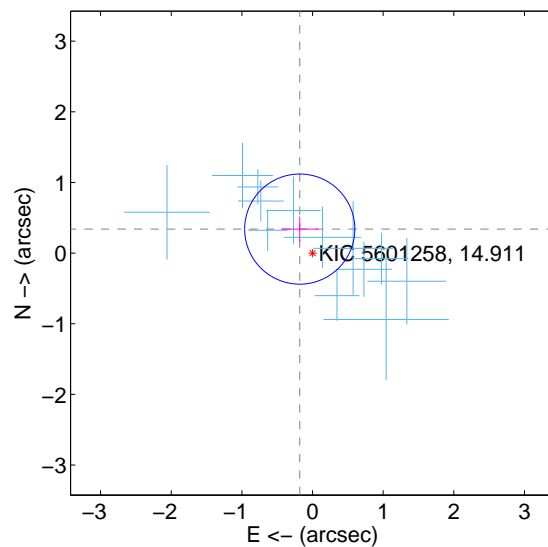
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.314 \pm 0.286$	1.10	$0.269 \pm 0.251$	$0.163 \pm 0.178$
PRF-fit source offset from KIC position	$0.385 \pm 0.260$	1.48	$0.181 \pm 0.262$	$0.340 \pm 0.177$
photometric centroid source offset	$0.98 \pm 0.62$	1.57	$0.13 \pm 0.57$	$0.97 \pm 0.63$

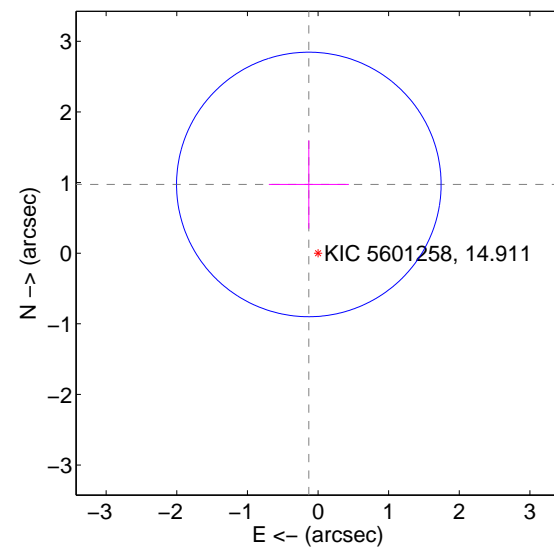
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



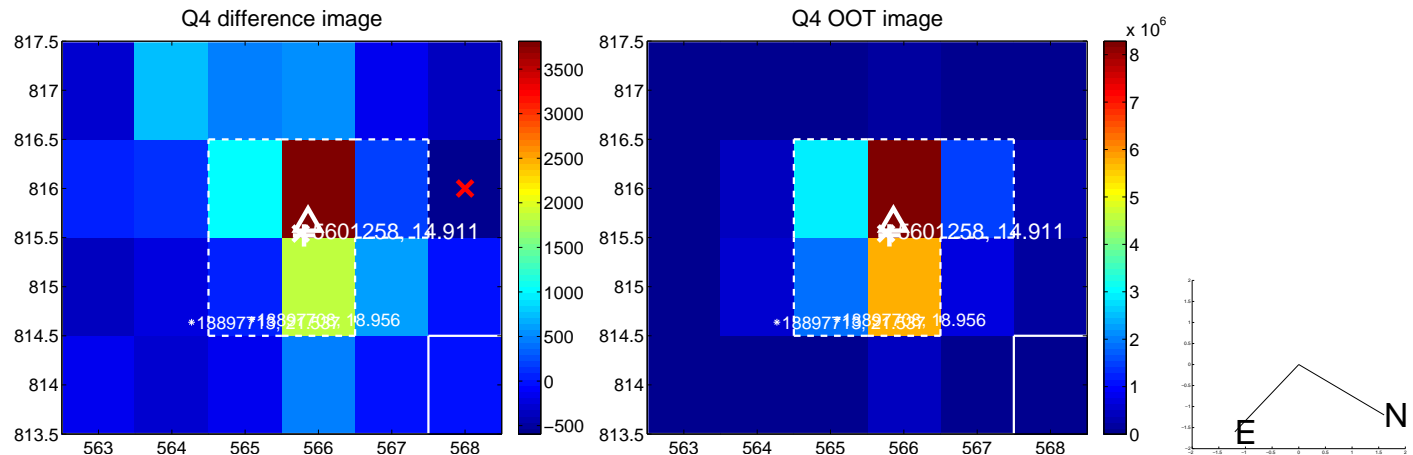
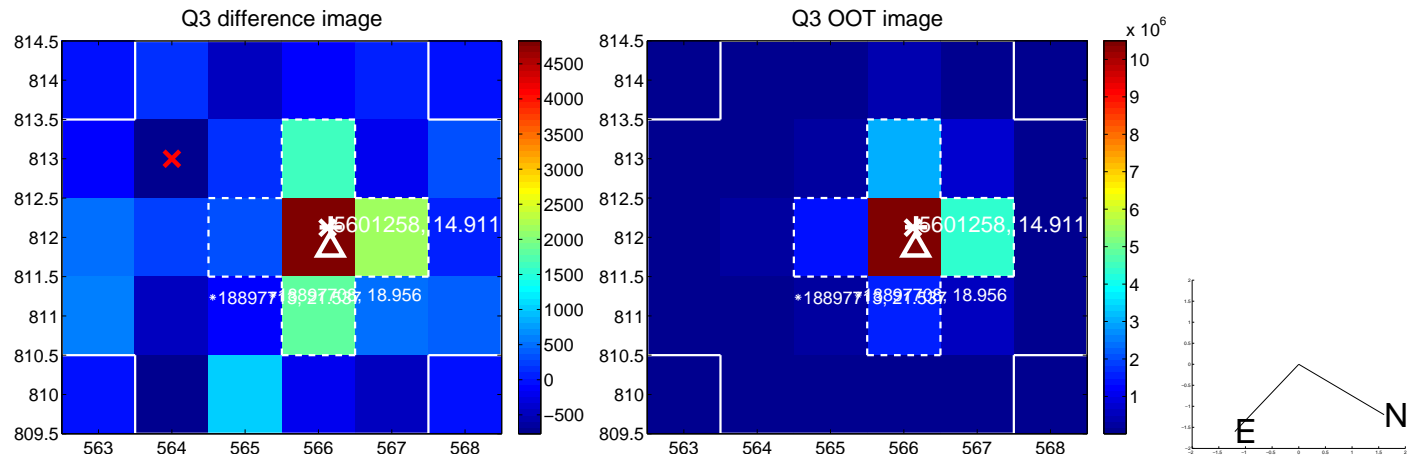
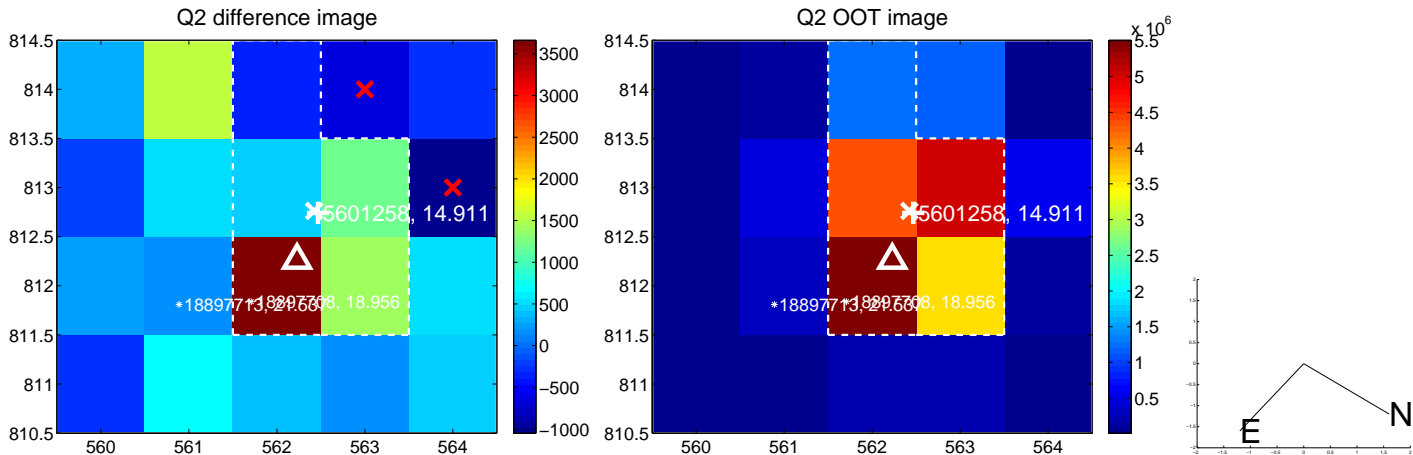
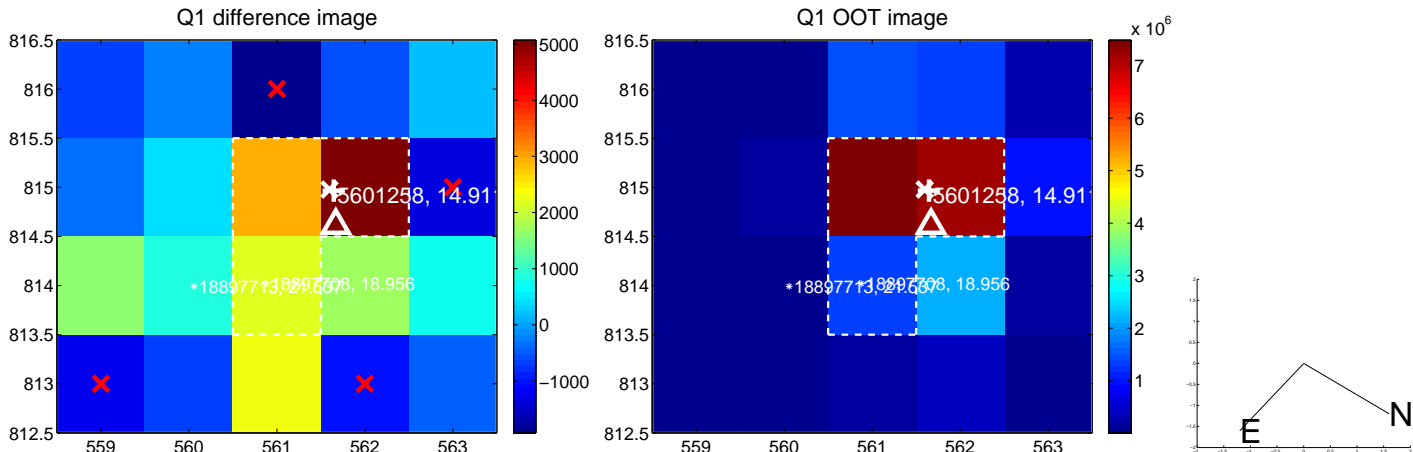
offset from photometric centroids



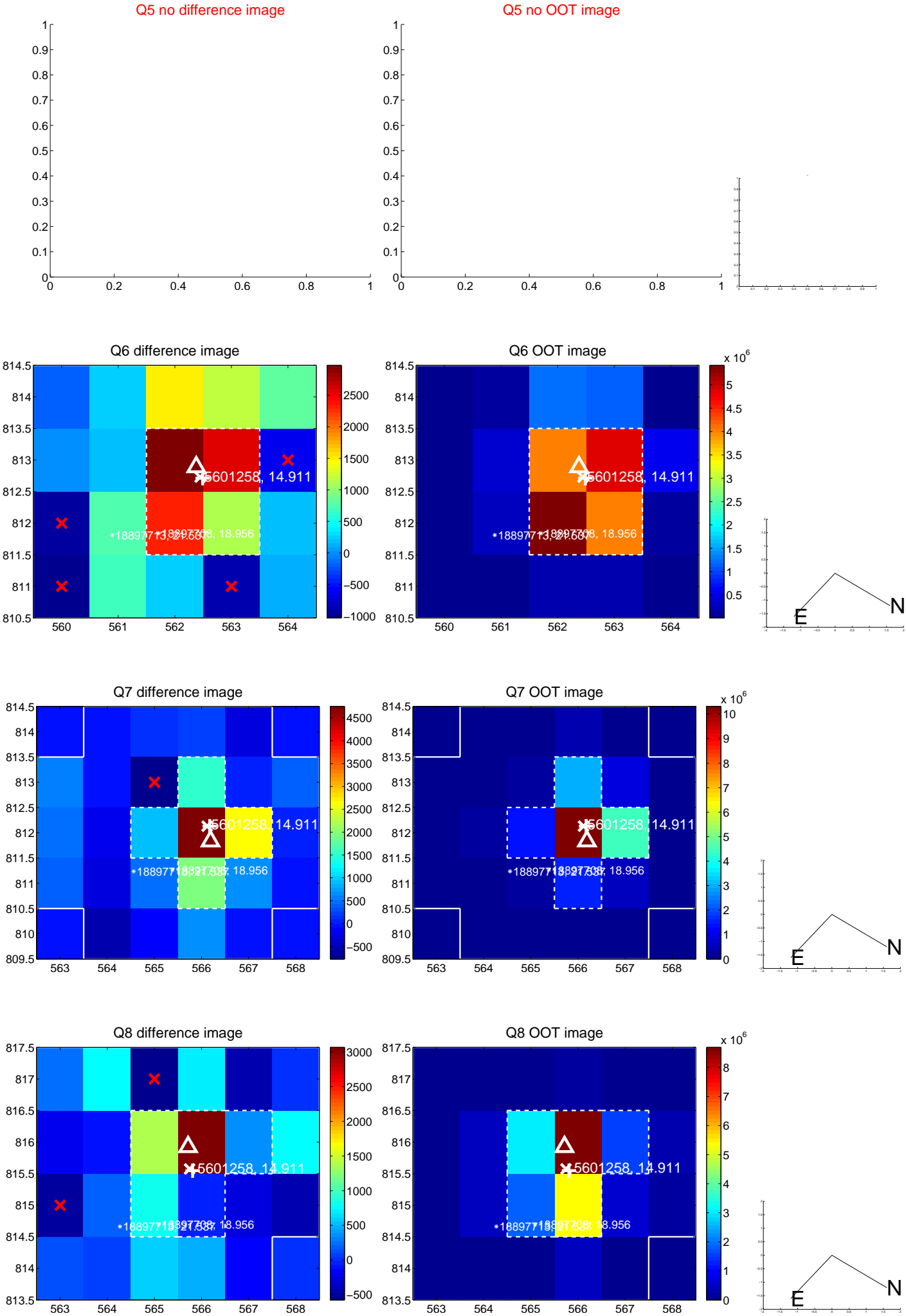
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



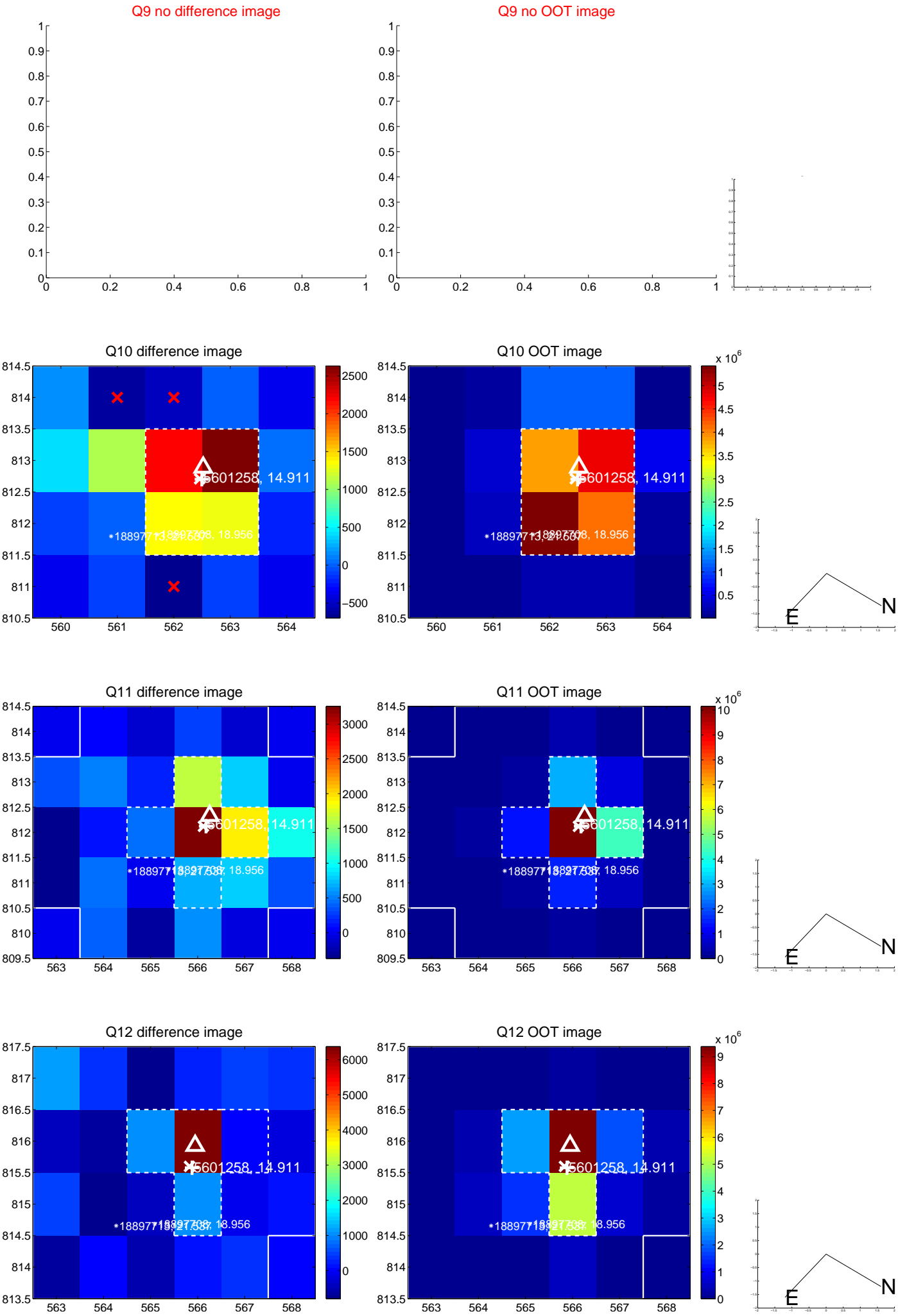
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



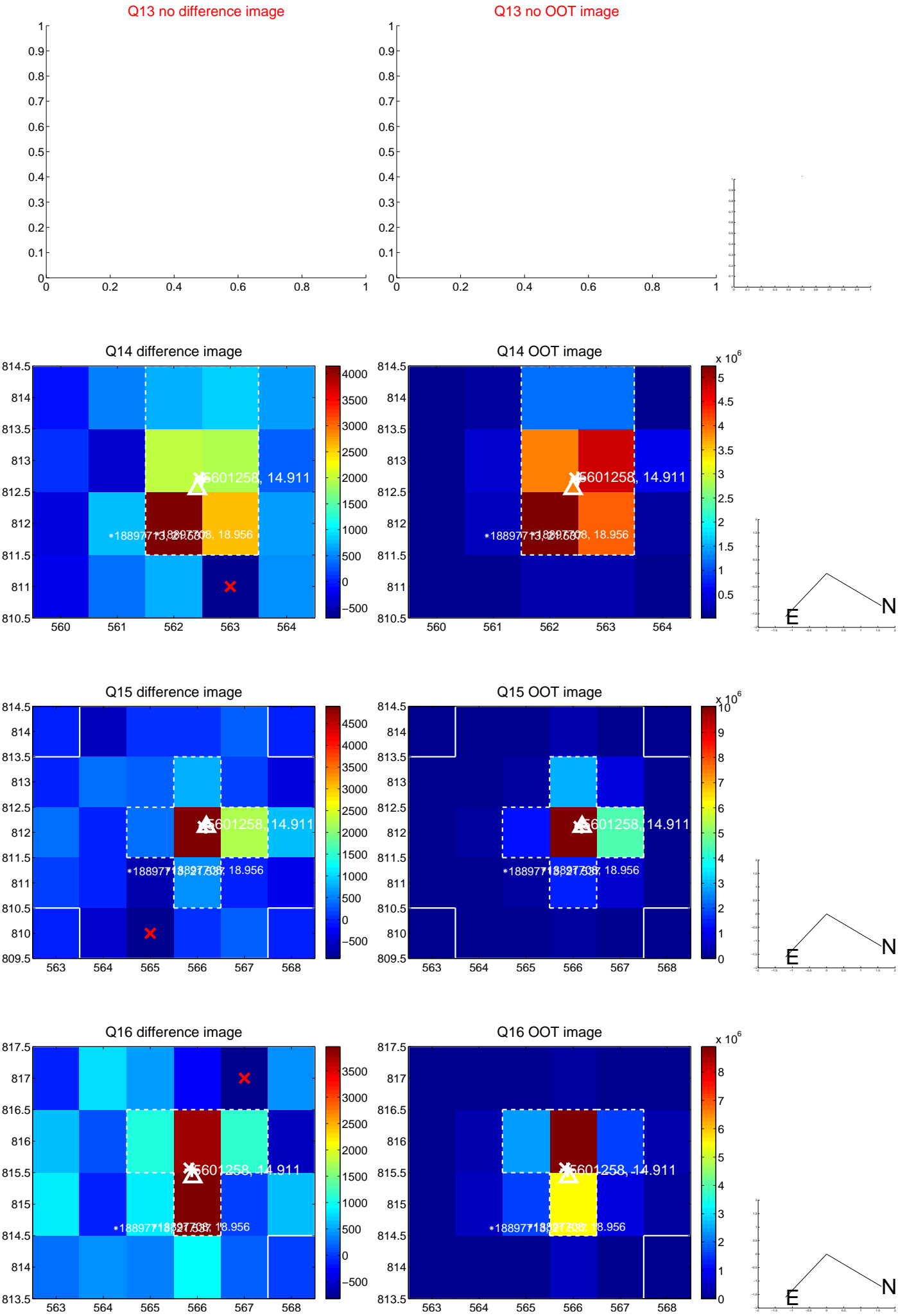
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



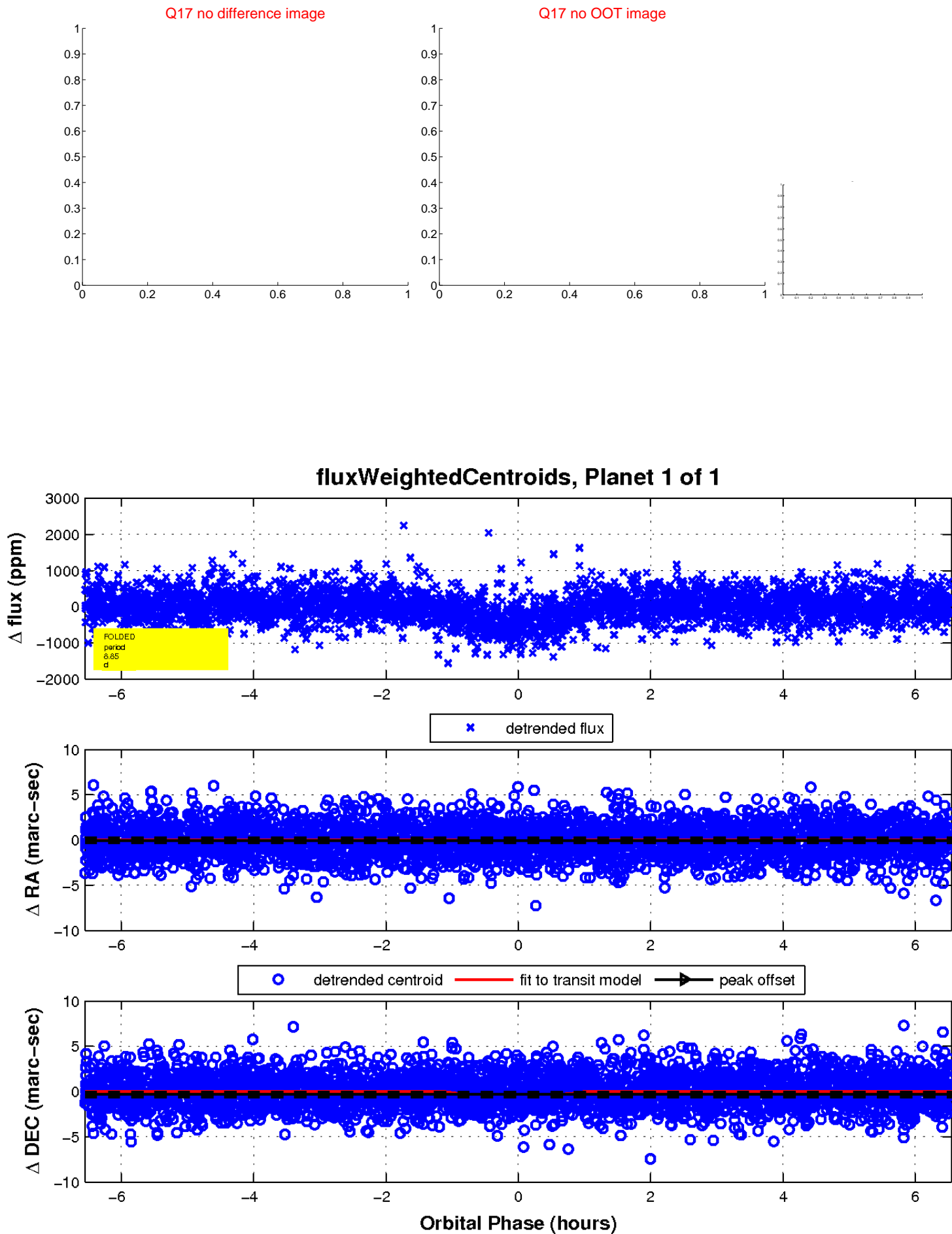
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

