

# KIC 008636333

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008636333-01	OBS	3349.01	82.175237	197.202043	519.9	9.241	14.9	16.0	0.95	6247	2.52	8.93

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008636333-01	OBS	PC	0.97	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.

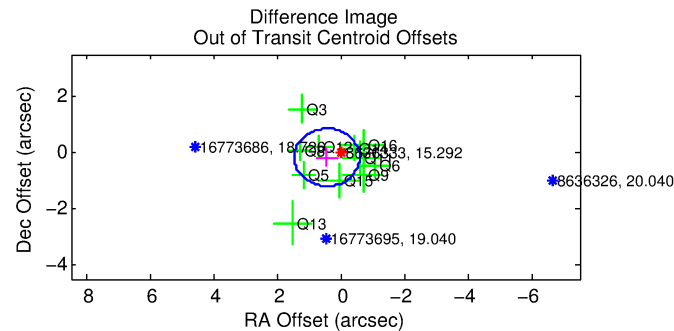
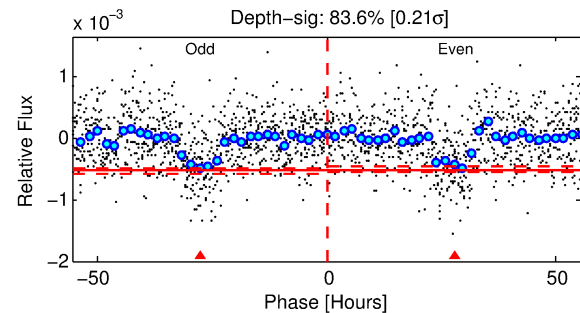
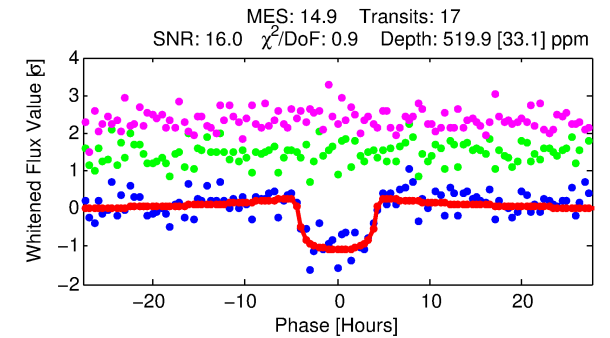
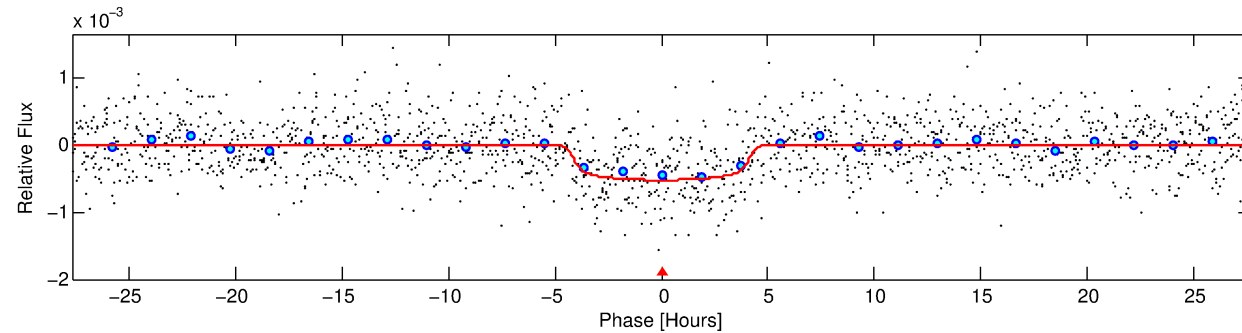
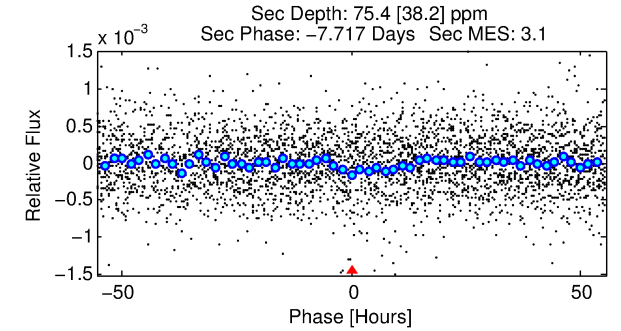
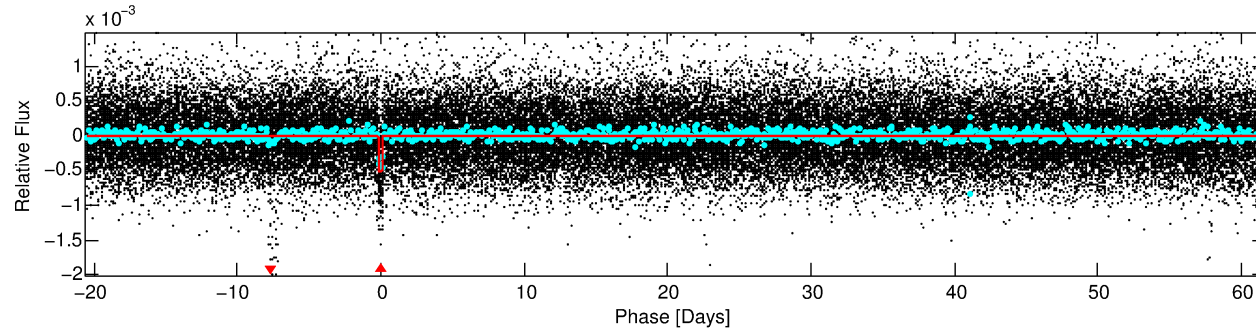
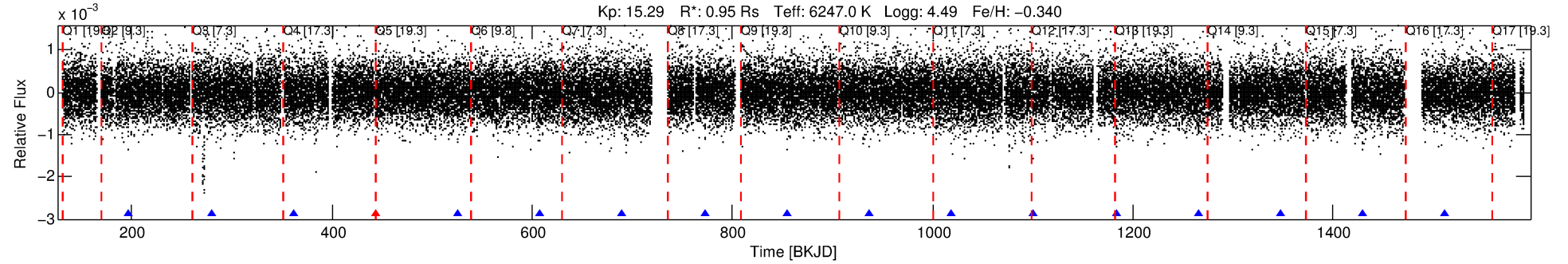
## Ephemeris Match Information For 008636333-01

No Significant Match Found

# DV One-Page Summary

KIC: 8636333 Candidate: 1 of 1 Period: 82.175 d

KOI: K03349.01 Corr: 0.971



## DV Fit Results:

Period = 82.17524 [0.00099] d  
Epoch = 197.2020 [0.0096] BKJD  
Rp/R\* = 0.0242 [0.0019]  
a/R\* = 35.12 [13.00]  
b = 0.88 [0.09]  
Seff = 8.93 [3.49]  
Teff = 441 [43] K  
Rp = 2.52 [0.79] Re  
a = 0.3729 [0.0950] AU  
Ag = 911.30 [587.92] [1.55σ]  
Teffp = 3745 [511] K [6.44σ]

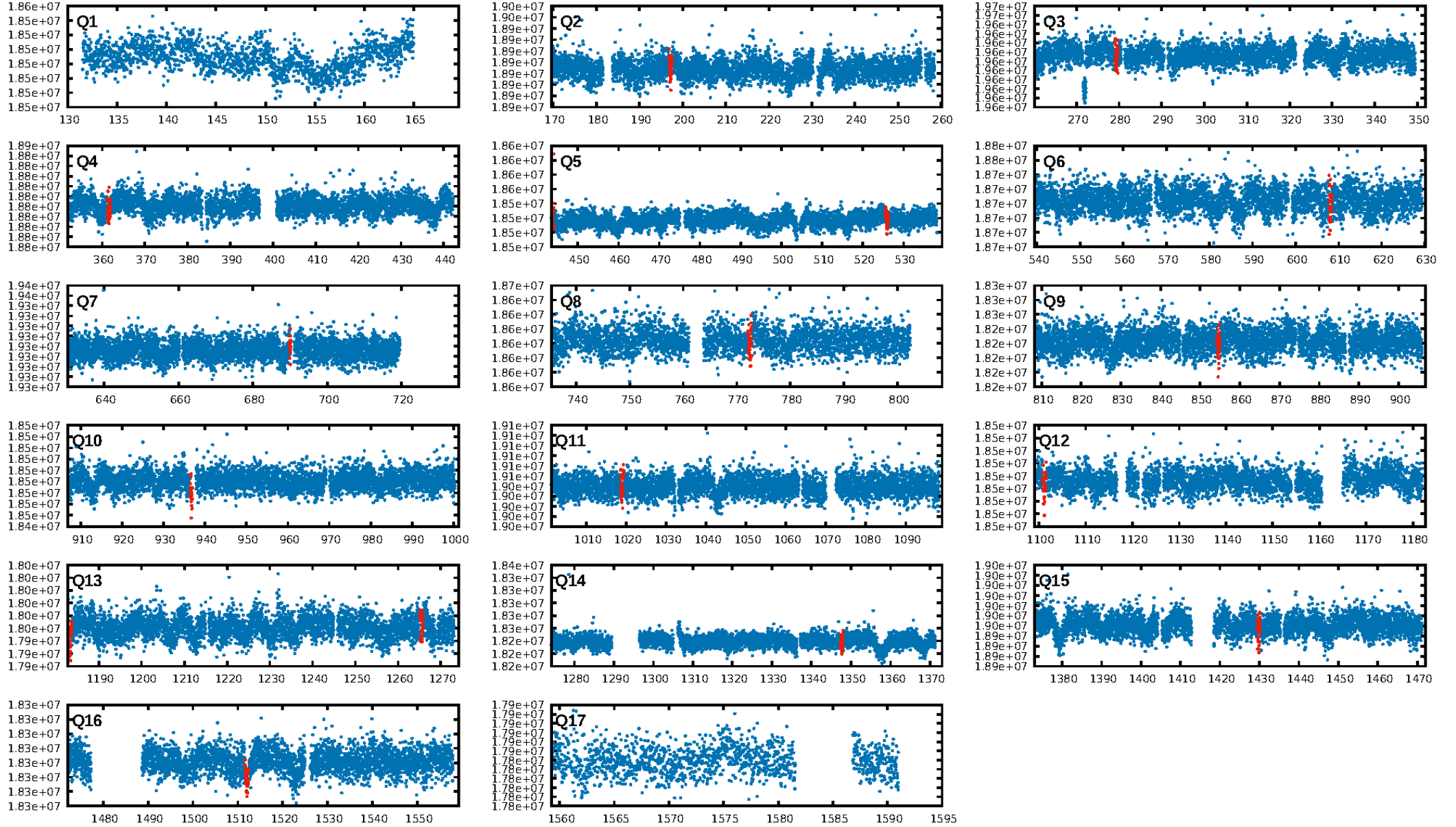
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 78.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.27e-50  
RollingBand-fgt: 0.94 [16/17]  
GhostDiagnostic-chr: 18.17  
Centroid-sig: 48.9%  
Centroid-so: 1.882 arcsec [3.19σ]  
OotOffset-rm: 0.486 arcsec [1.42σ]  
KicOffset-rm: 0.311 arcsec [1.09σ]  
OotOffset-st: 2/3/3/3 [11]  
KicOffset-st: 2/3/3/3 [11]  
DiffImageQuality-fgm: 0.73 [8/11]  
DiffImageOverlap-fno: 1.00 [13/13]

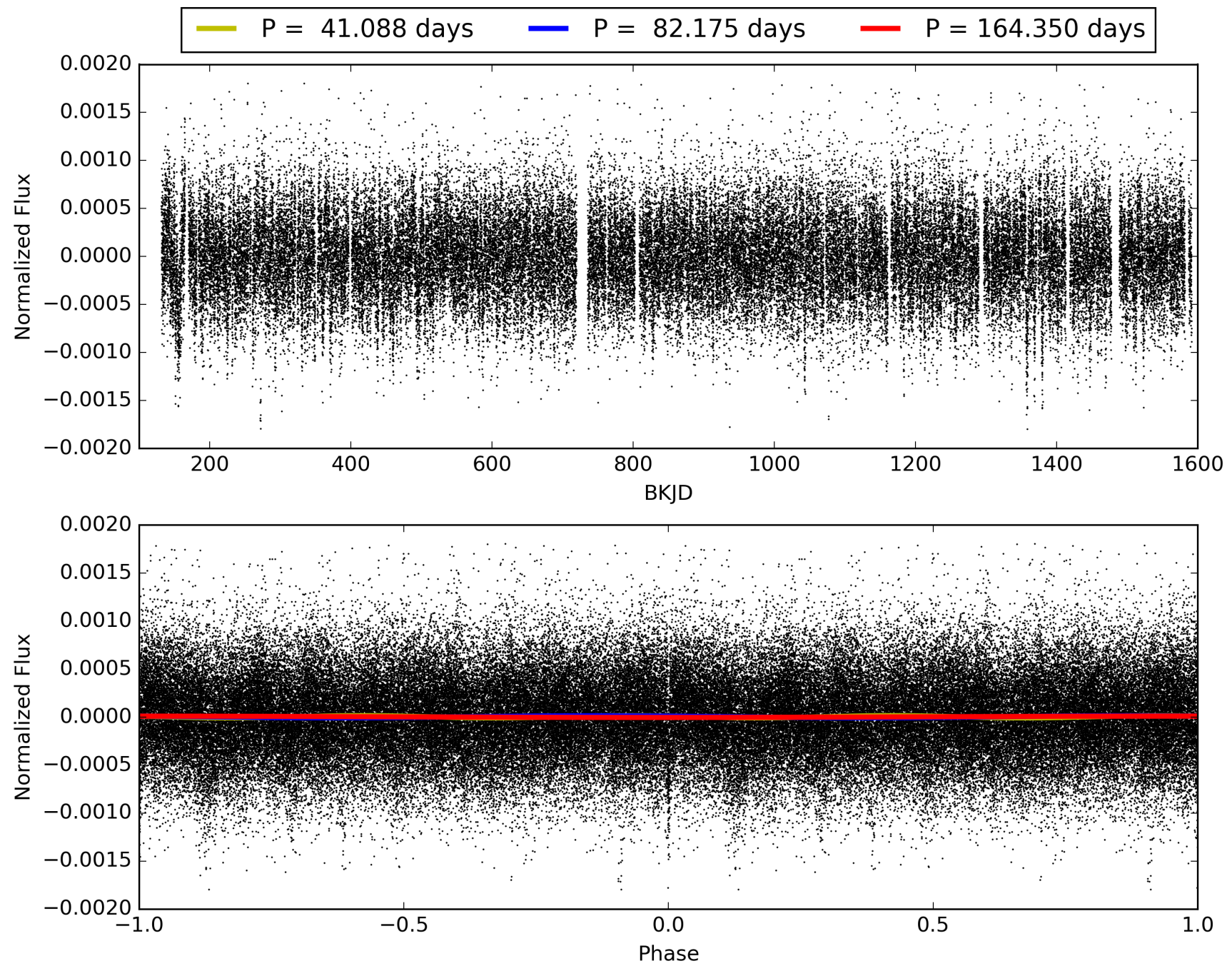
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:05:20 Z

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

# TCE 008636333-01, PDC Light Curves

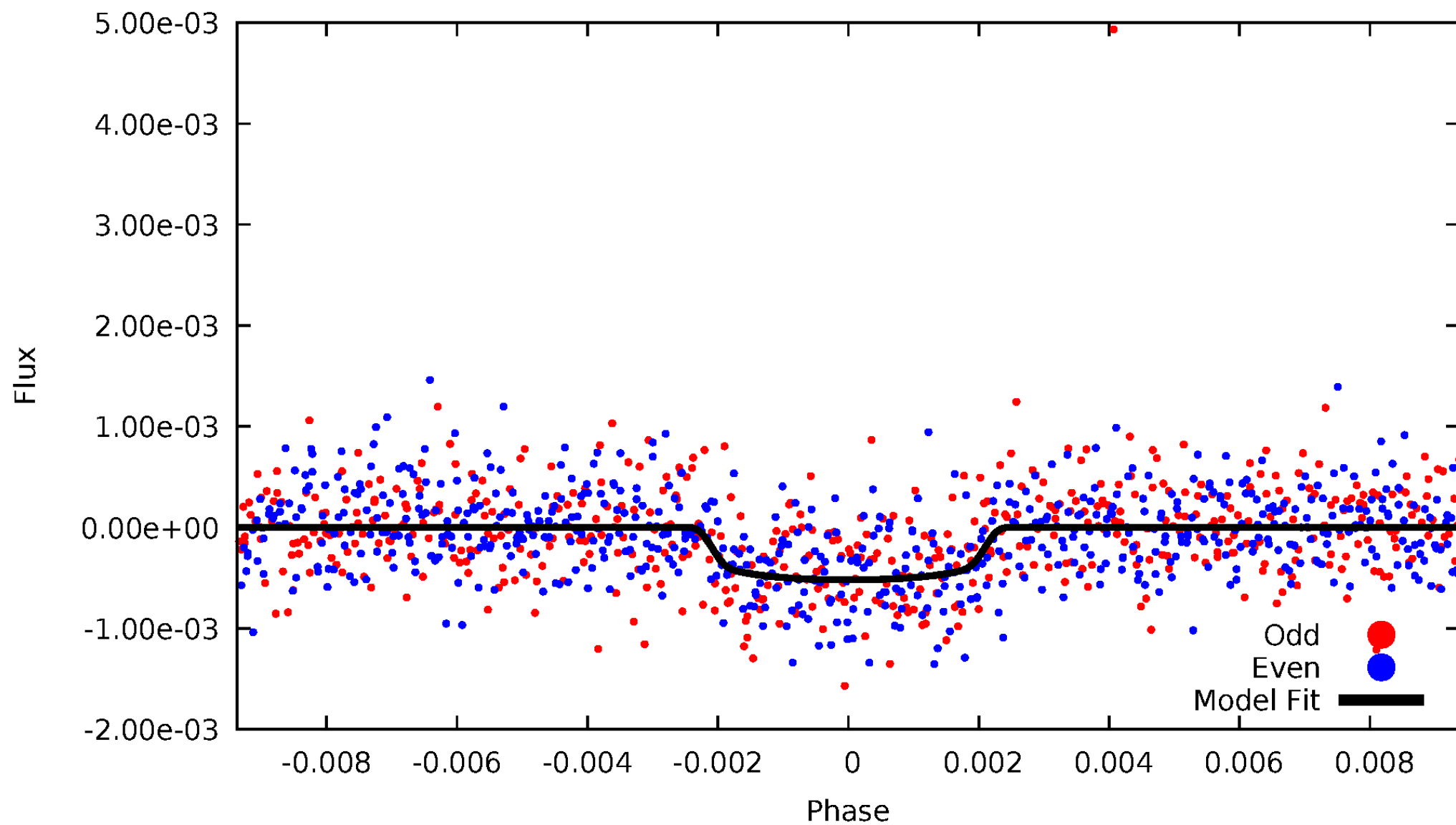


TCE 008636333-01



# DV Odd/Even

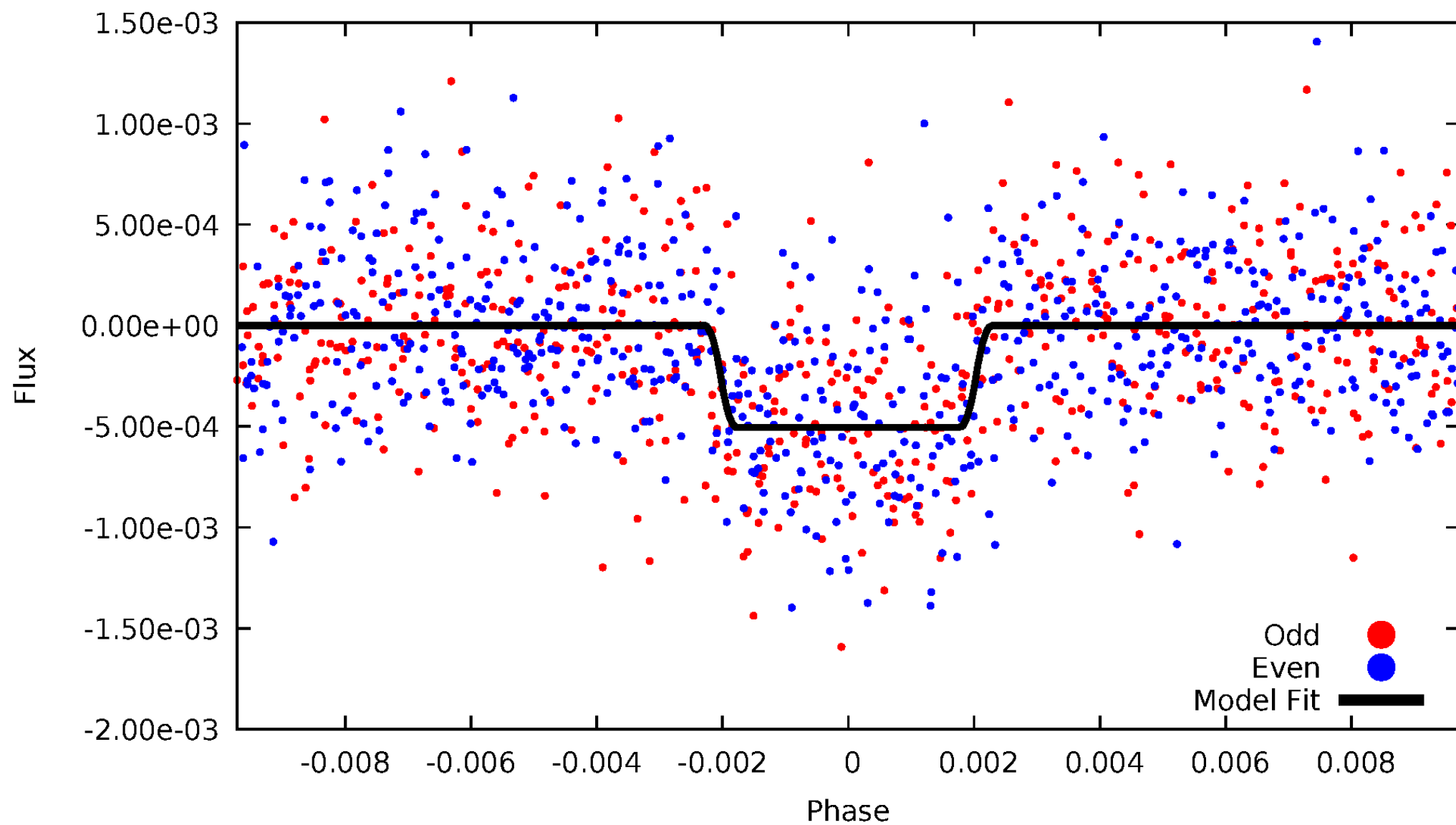
TCE 008636333-01



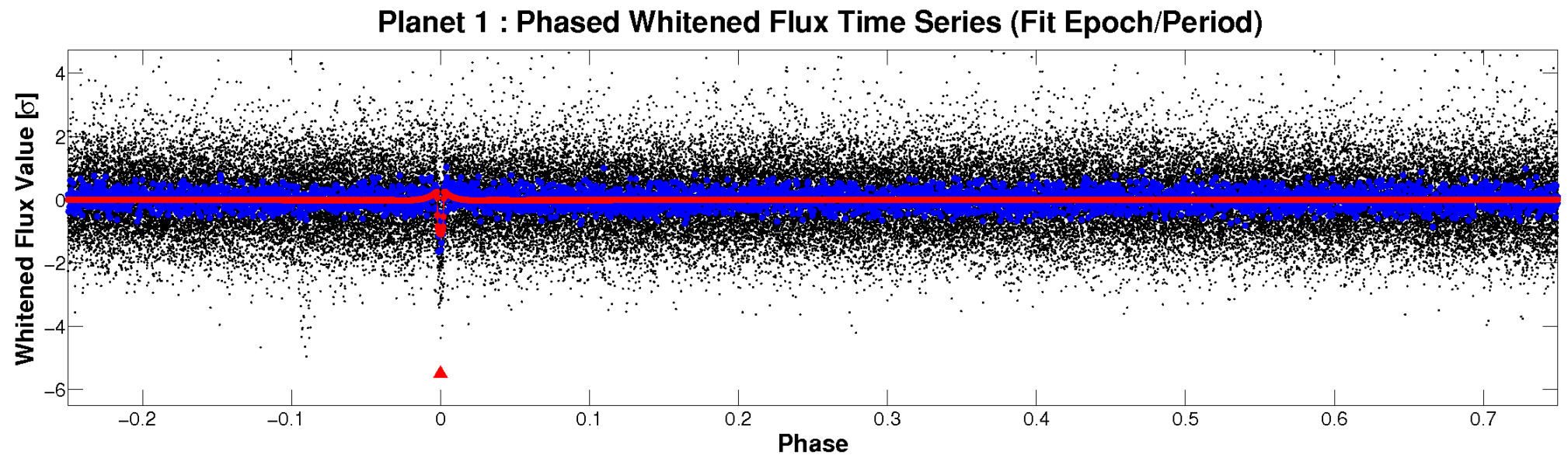
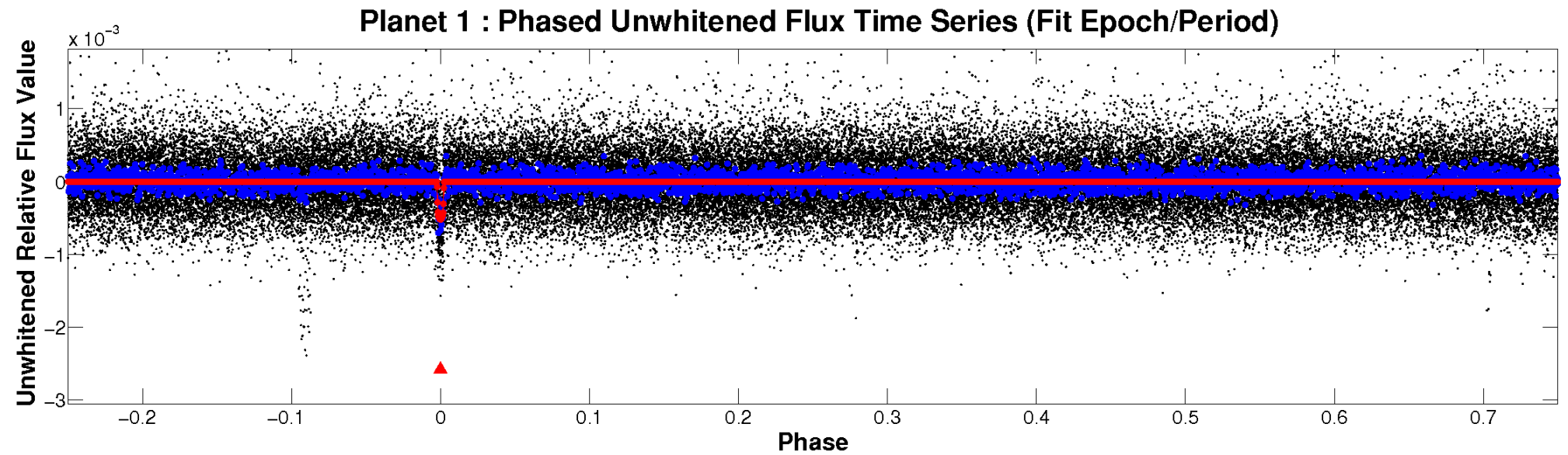


# ALT Odd/Even

TCE 008636333-01

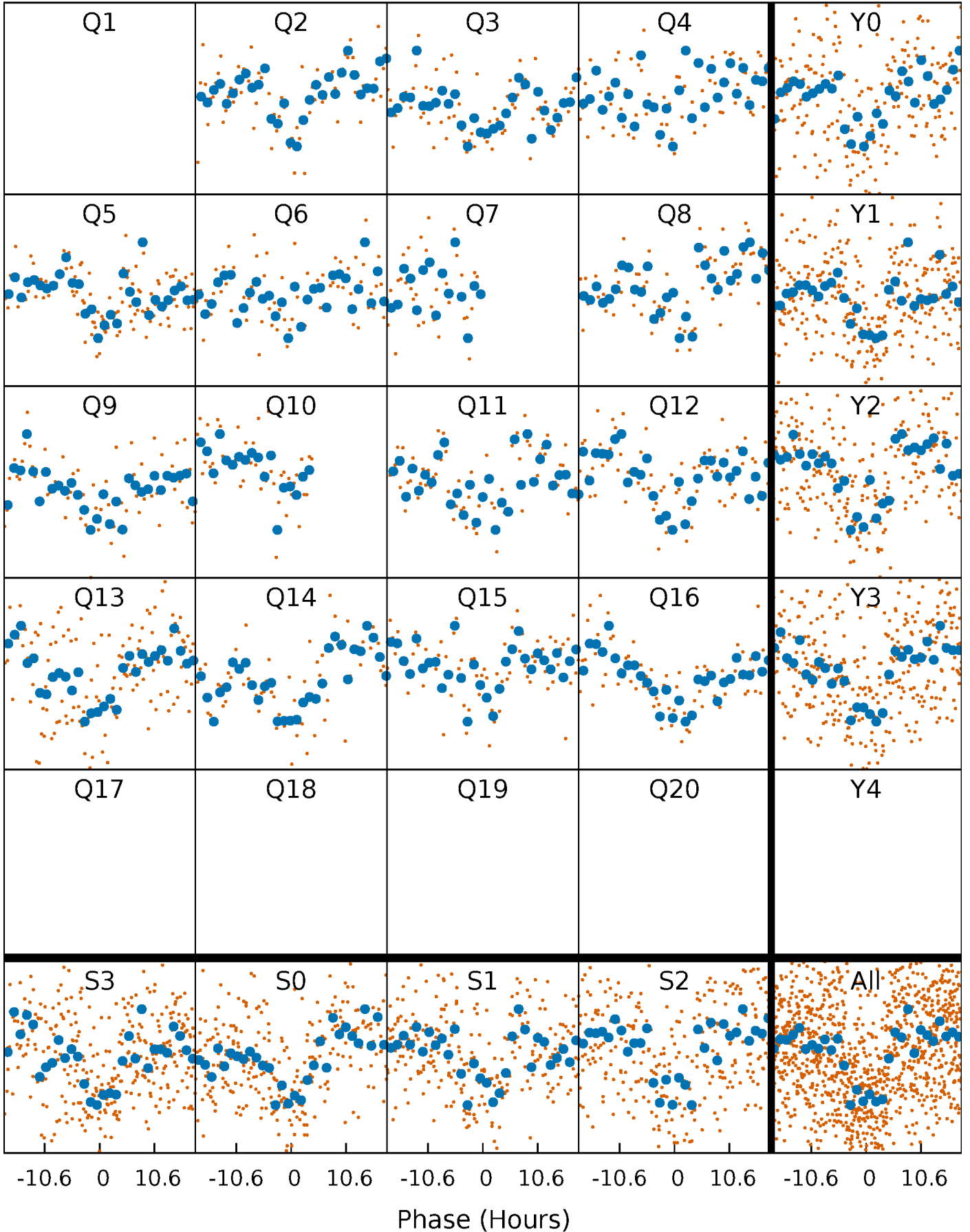


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

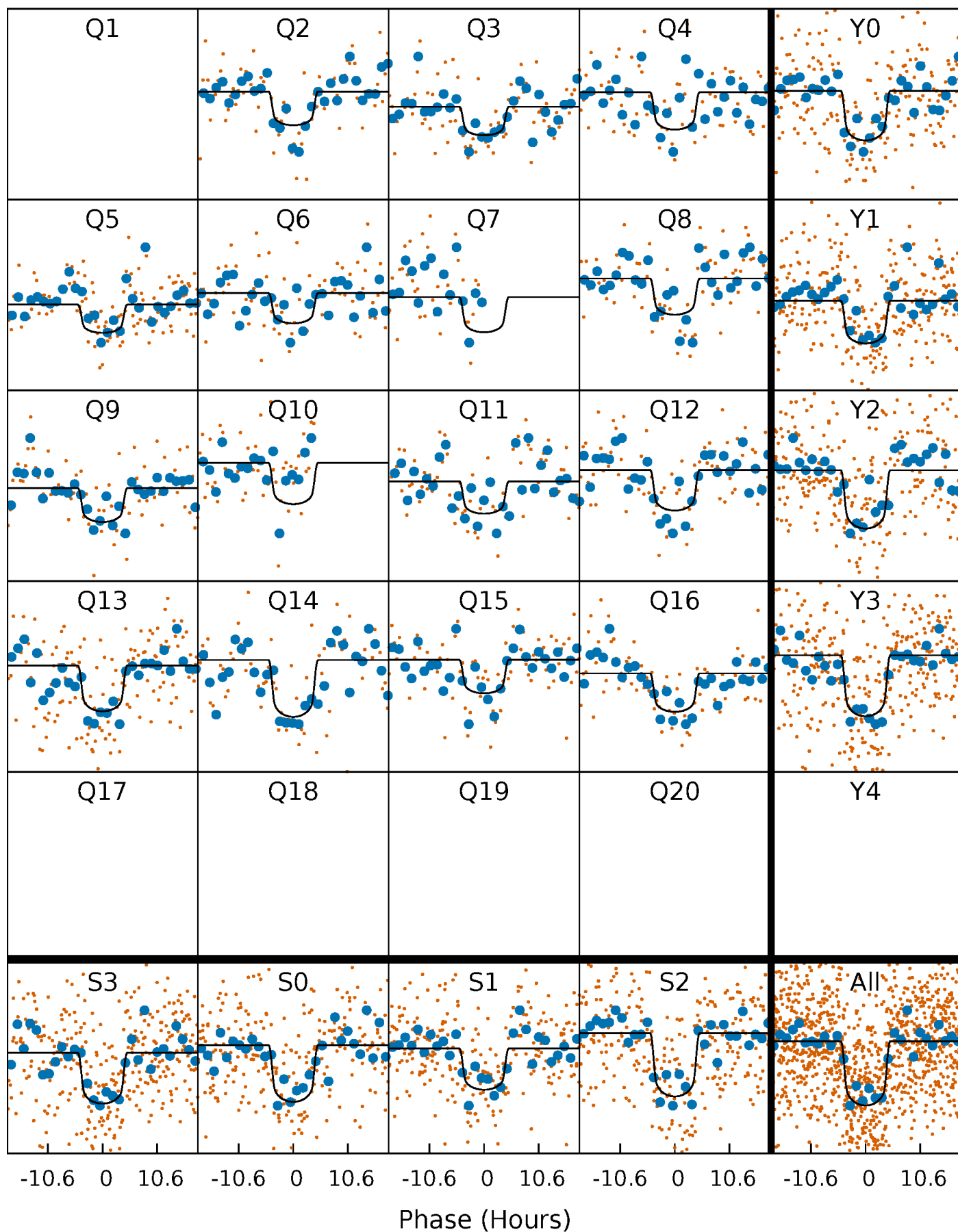
TCE 008636333-01 P= 82.175237 Days  $T_0=197.202044$  (BKJD)





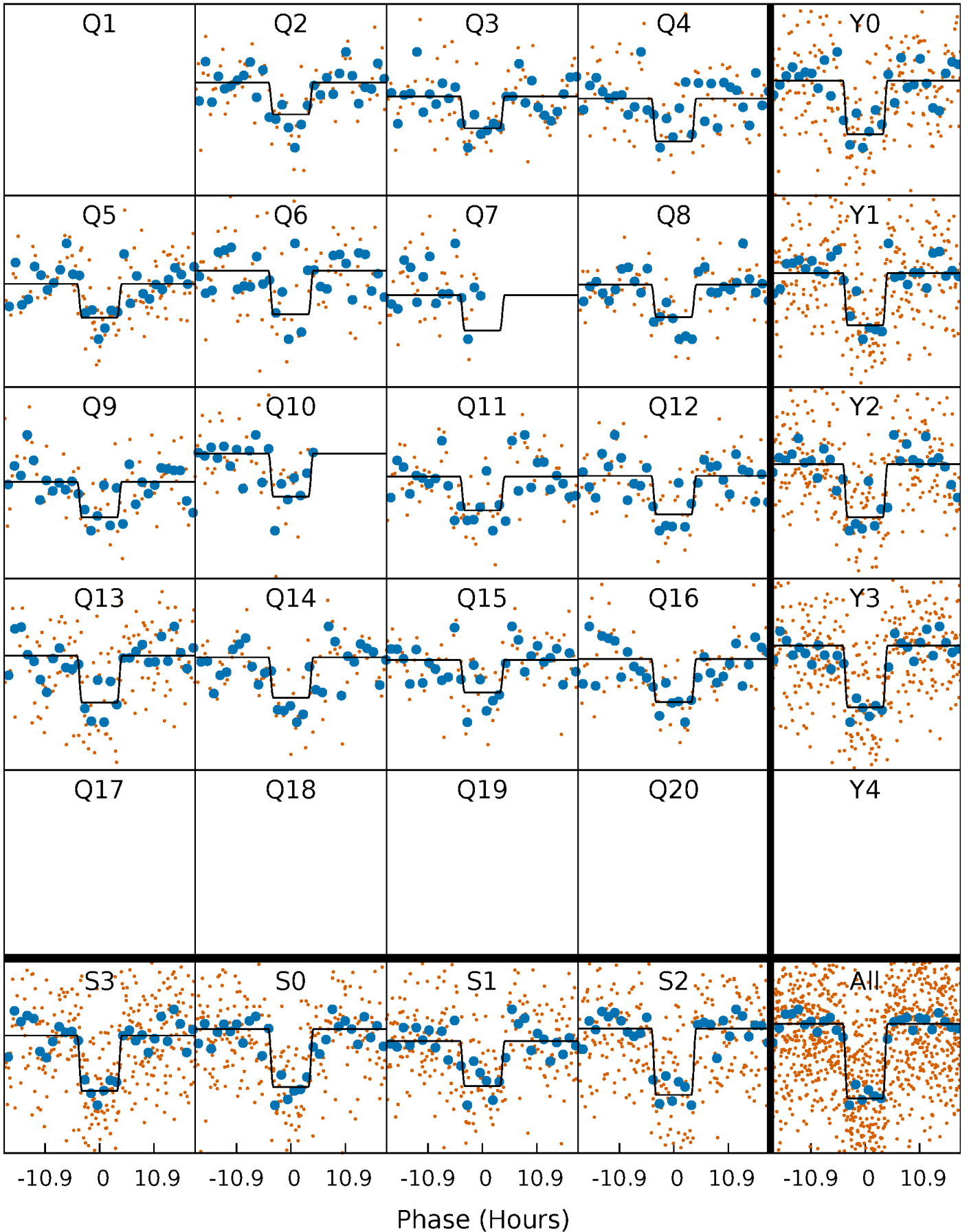
# DV Quarter-Phased Transit Curves

TCE 008636333-01 P= 82.175237 Days  $T_0=197.202044$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

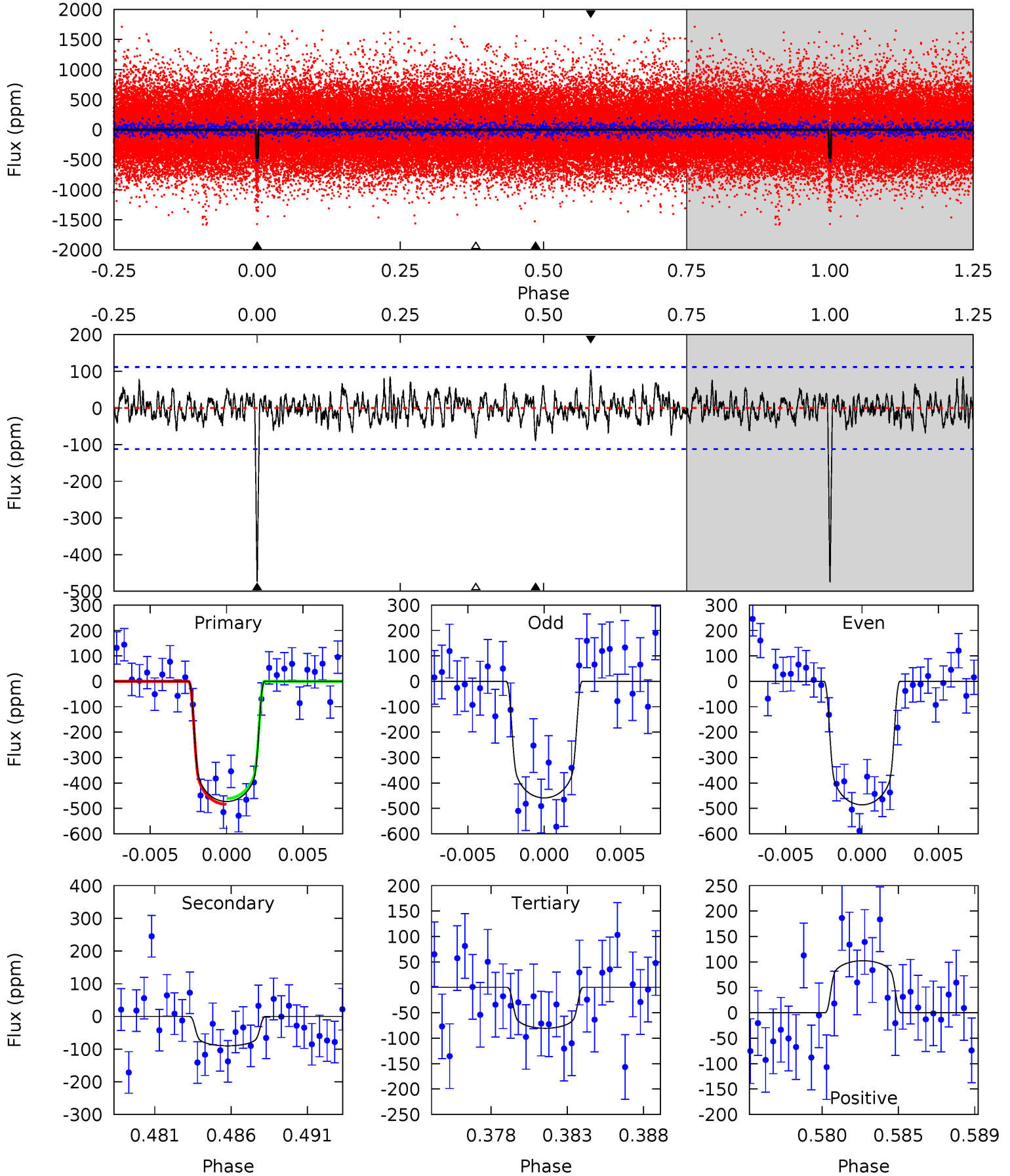
TCE 008636333-01 P= 82.175525 Days  $T_0=197.203309$  (BKJD)



# DV Model-Shift Uniqueness Test

008636333-01, P = 82.175237 Days, E = 115.026807 Days

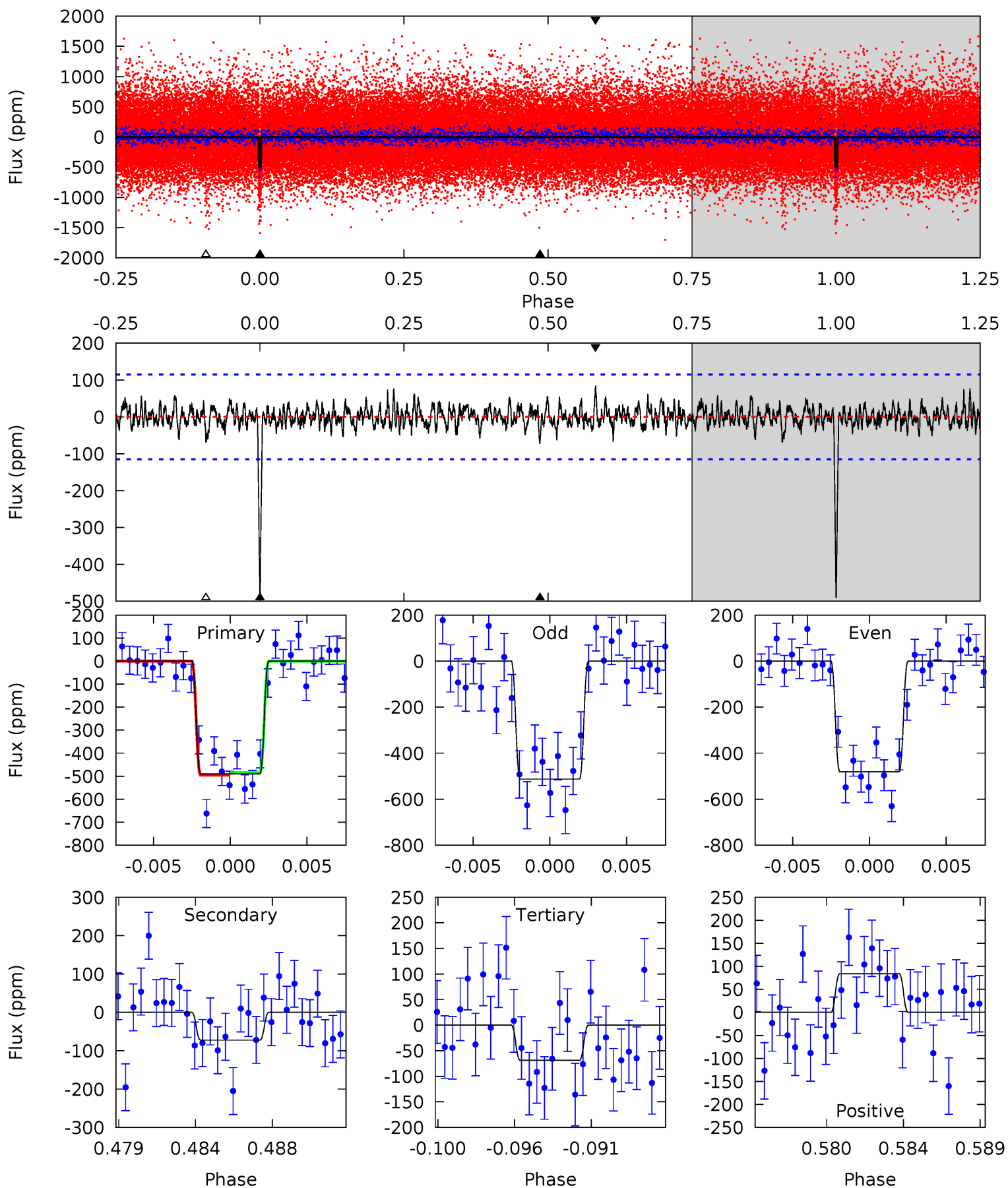
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.8	4.15	3.71	4.72	5.16	2.81	1.24	18.1	17.1	0.44	-0.56	0.63	0.86	0.18	0.53



# Alt Model-Shift Uniqueness Test

008636333-01, P = 82.175525 Days, E = 115.027784 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
22.1	3.26	3.10	3.78	5.17	2.84	0.99	19.0	18.3	0.16	-0.53	0.71	0.94	0.15	0.26



### Stellar Parameters For KIC 008636333

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6247^{+188}_{-206}$	$4.489^{+0.050}_{-0.200}$	$-0.340^{+0.300}_{-0.300}$	$0.954^{+0.291}_{-0.097}$	$1.022^{+0.134}_{-0.134}$	$1.657^{+0.444}_{-0.845}$
	+3%/-3%	+1%/-4%	+88%/-88%	+31%/-10%	+13%/-13%	+27%/-51%
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 008636333-01 / KOI 3349.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-90 \pm 22$	$2.60^{+0.44}_{-0.29}$	$630^{+41}_{-30}$	$4177^{+246}_{-229}$	$974^{+373}_{-302}$
Alt.	$-72 \pm 22$	$2.44^{+0.39}_{-0.31}$	$631^{+46}_{-31}$	$4135^{+246}_{-293}$	$882^{+398}_{-315}$

$T_{max}$  = 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

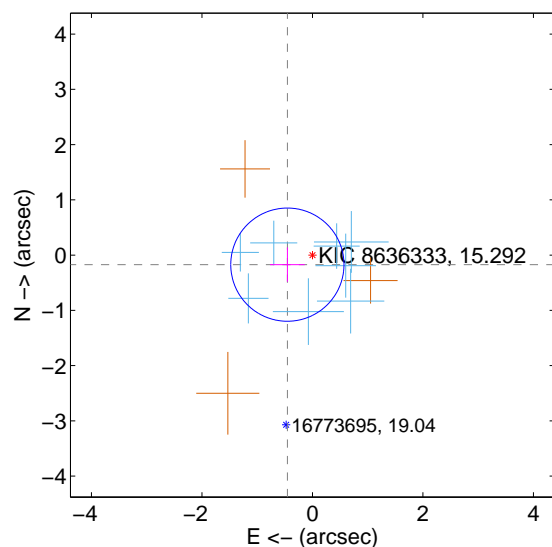
Supplemental centroid analysis for 008636333-01. Kepler magnitude: 15.29. Transit SNR 16.01

There are 8 quarters with good PRF difference image offsets

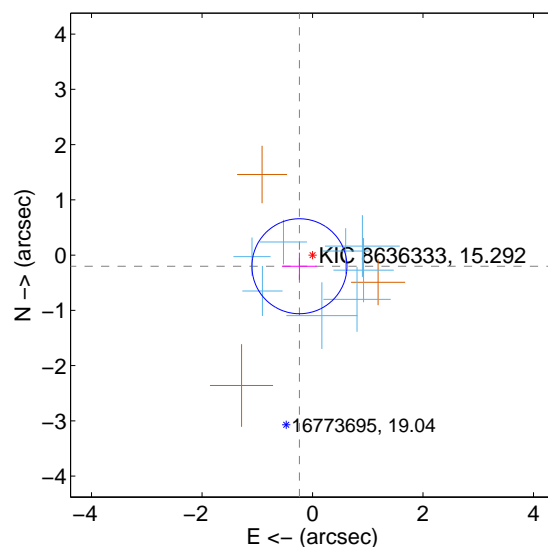
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.486 \pm 0.342$	1.42	$0.454 \pm 0.314$	$-0.173 \pm 0.310$
PRF-fit source offset from KIC position	$0.311 \pm 0.287$	1.09	$0.237 \pm 0.313$	$-0.202 \pm 0.246$
photometric centroid source offset	$1.88 \pm 0.59$	3.19	$-1.76 \pm 0.60$	$0.66 \pm 0.51$

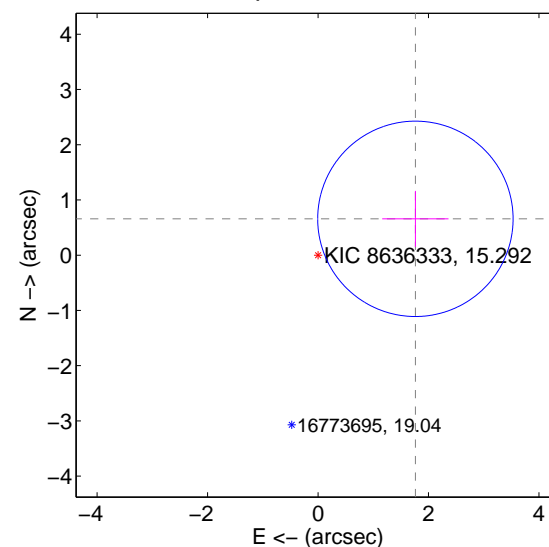
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

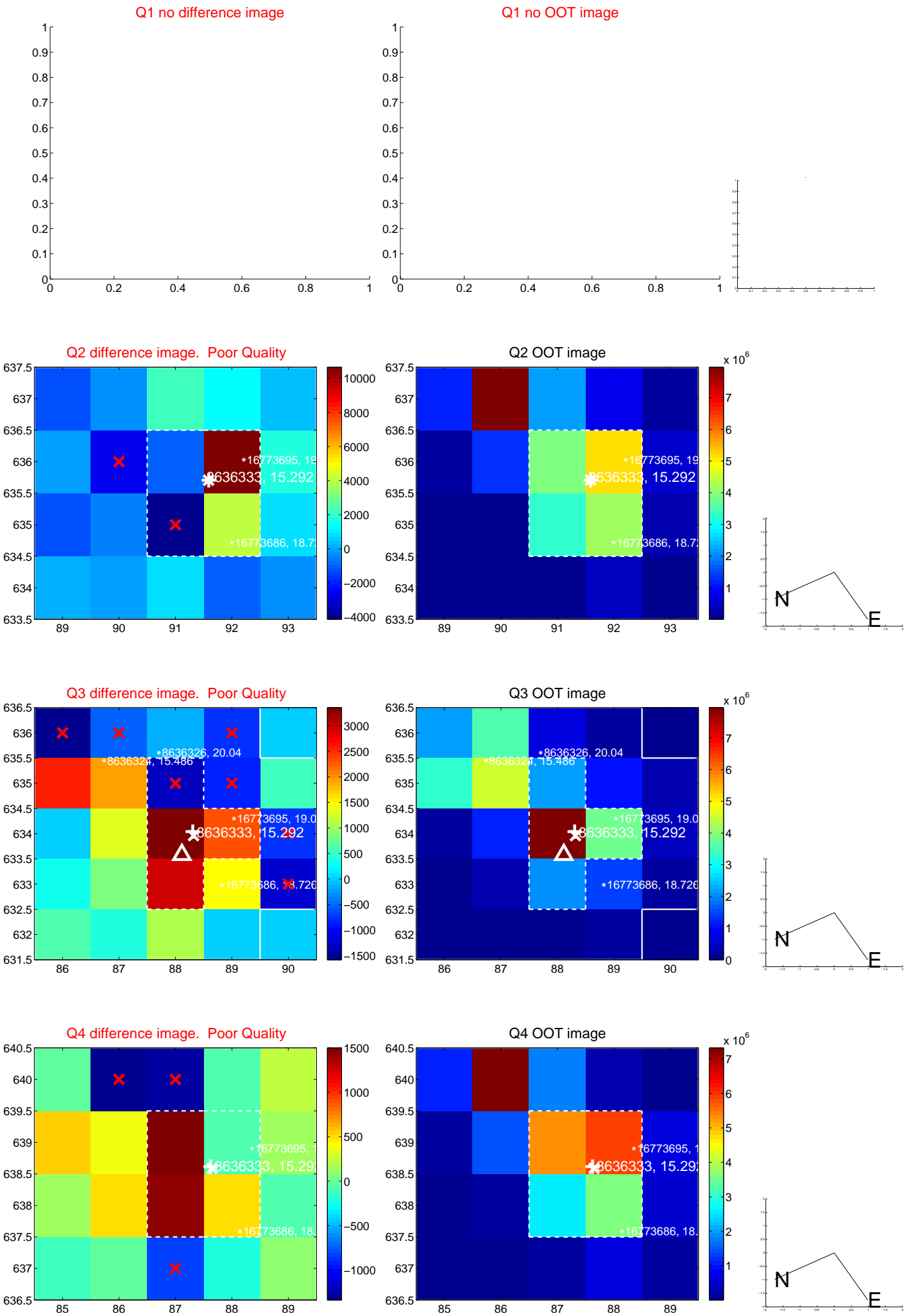


offset from photometric centroids

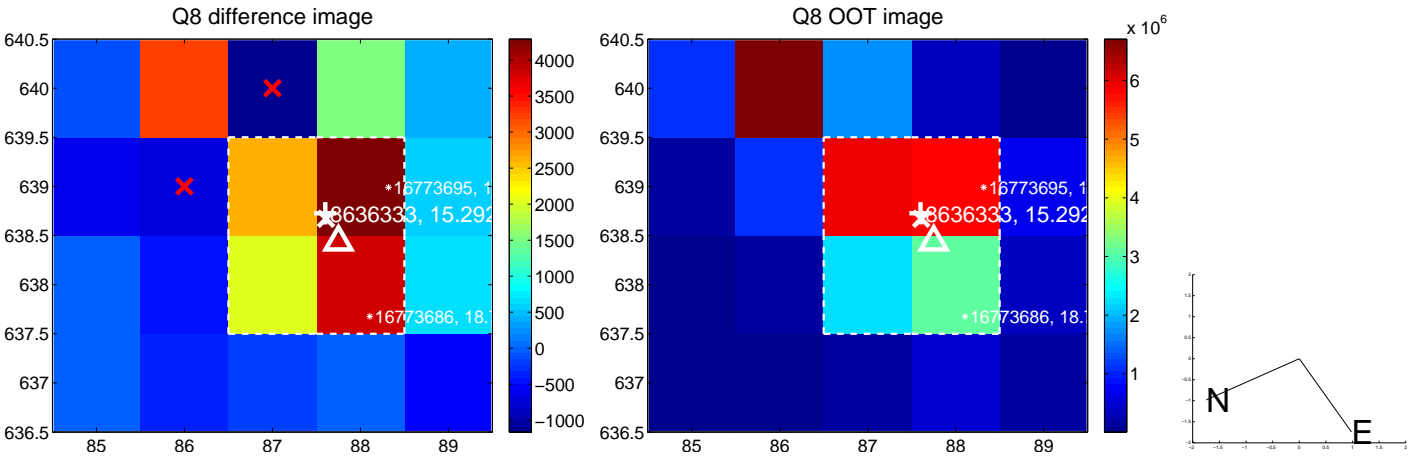
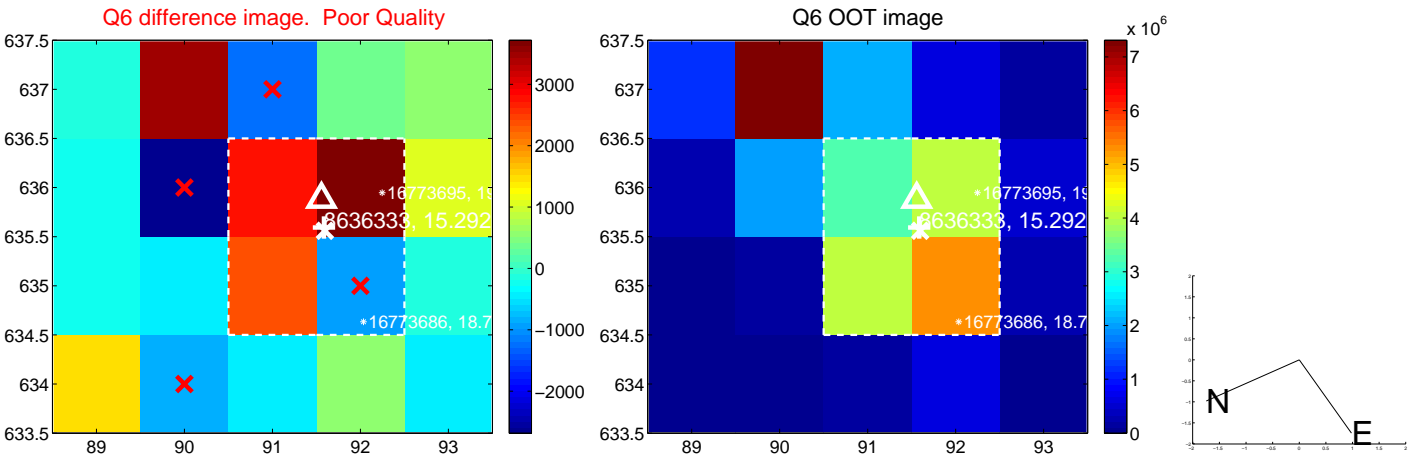
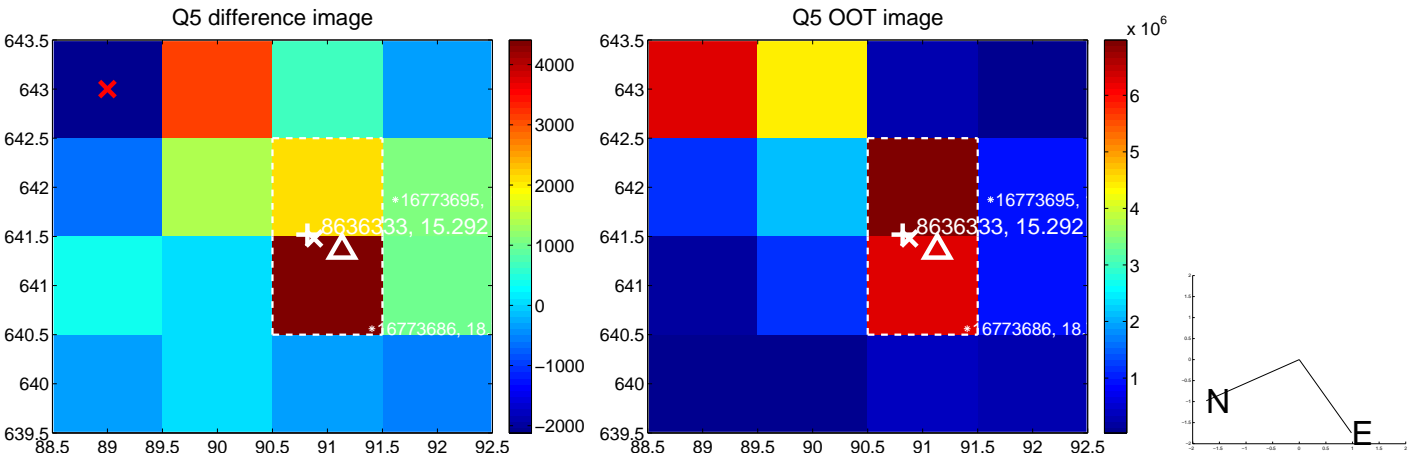


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

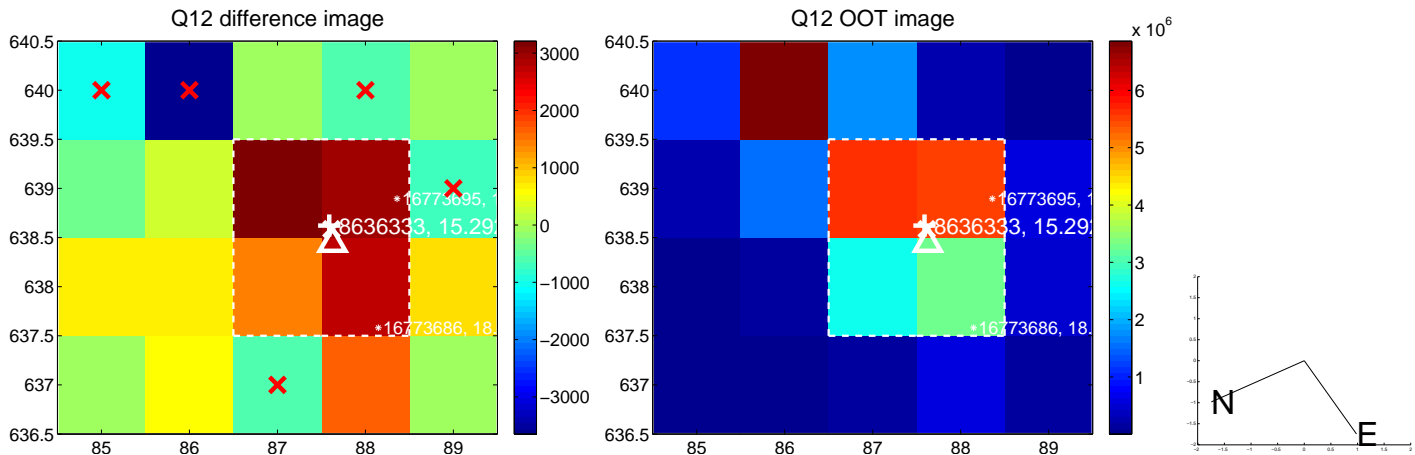
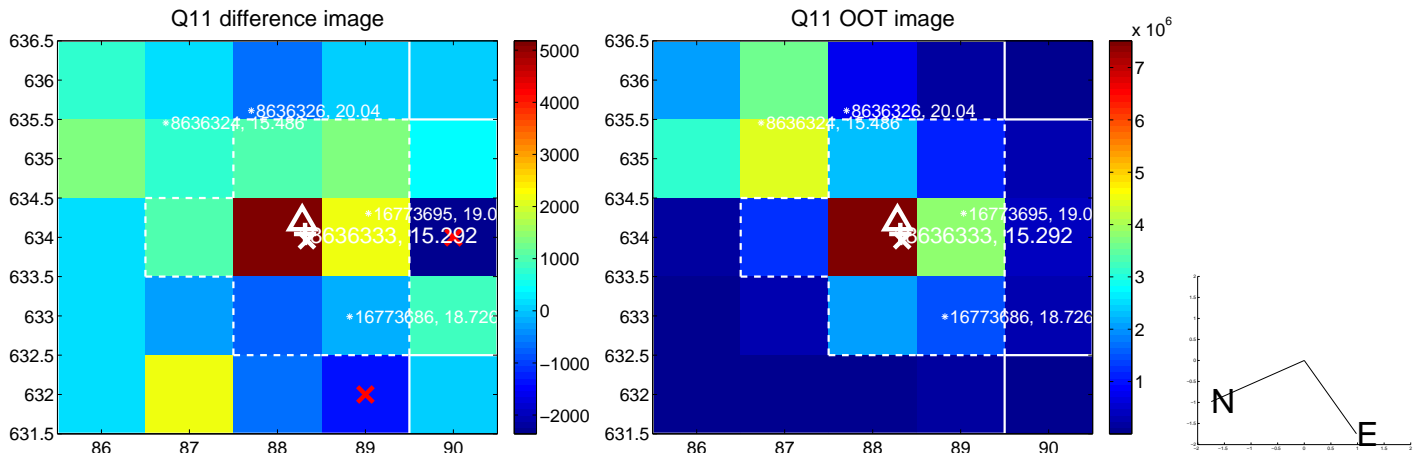
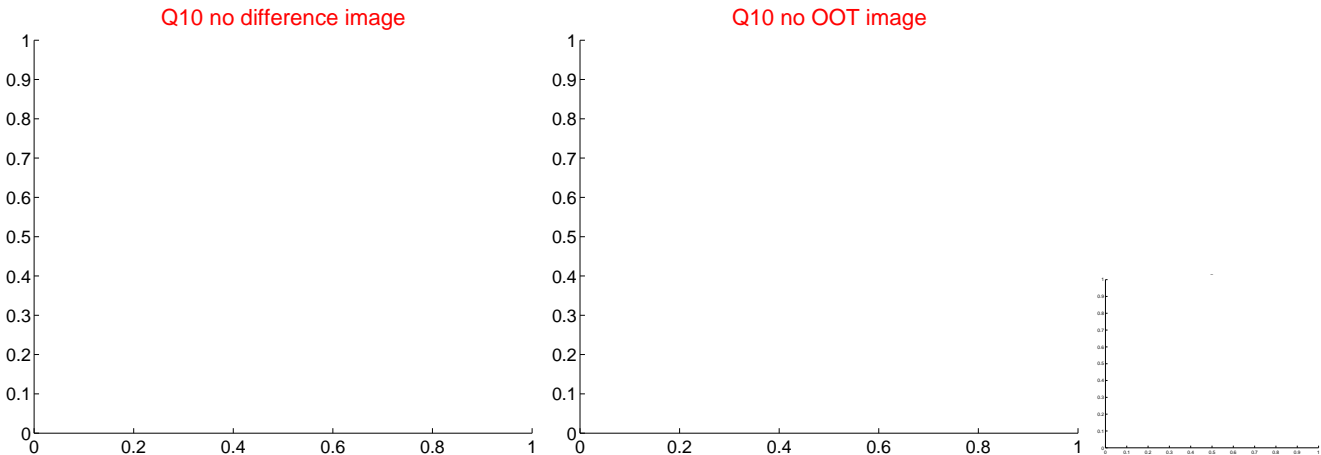
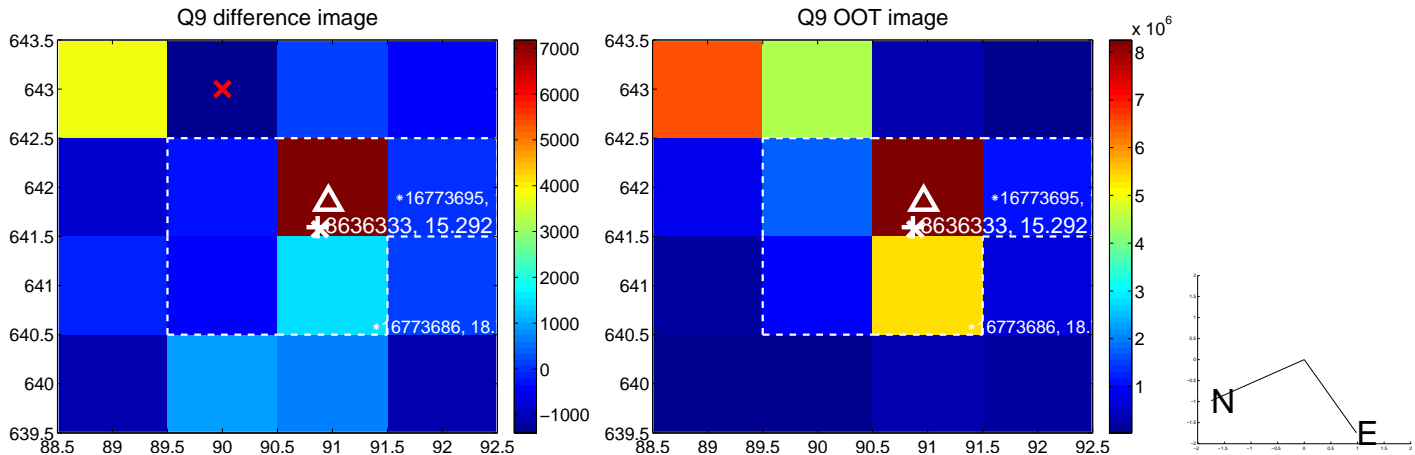
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



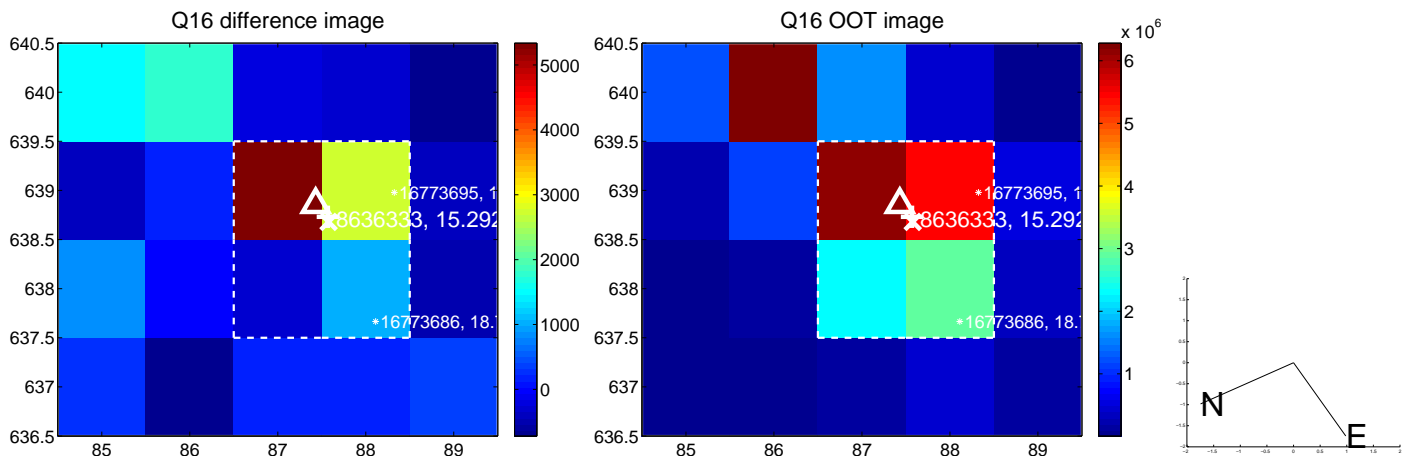
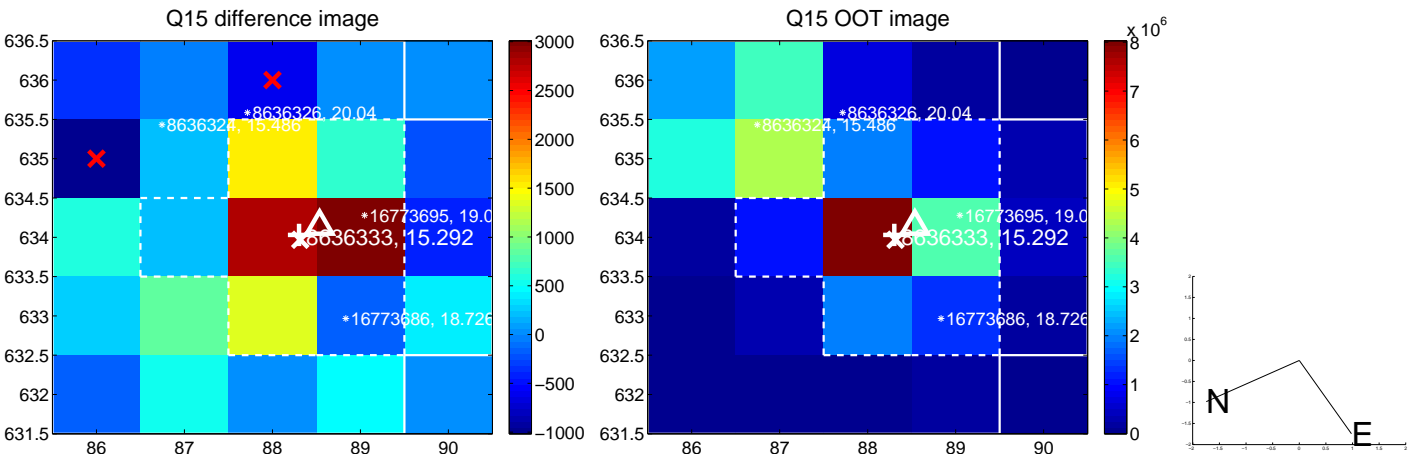
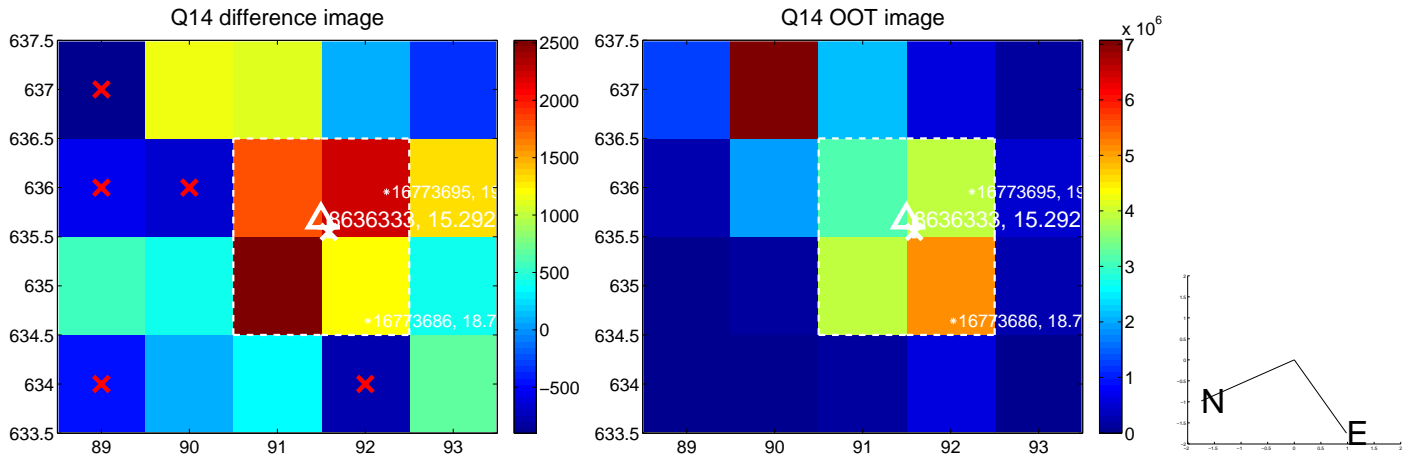
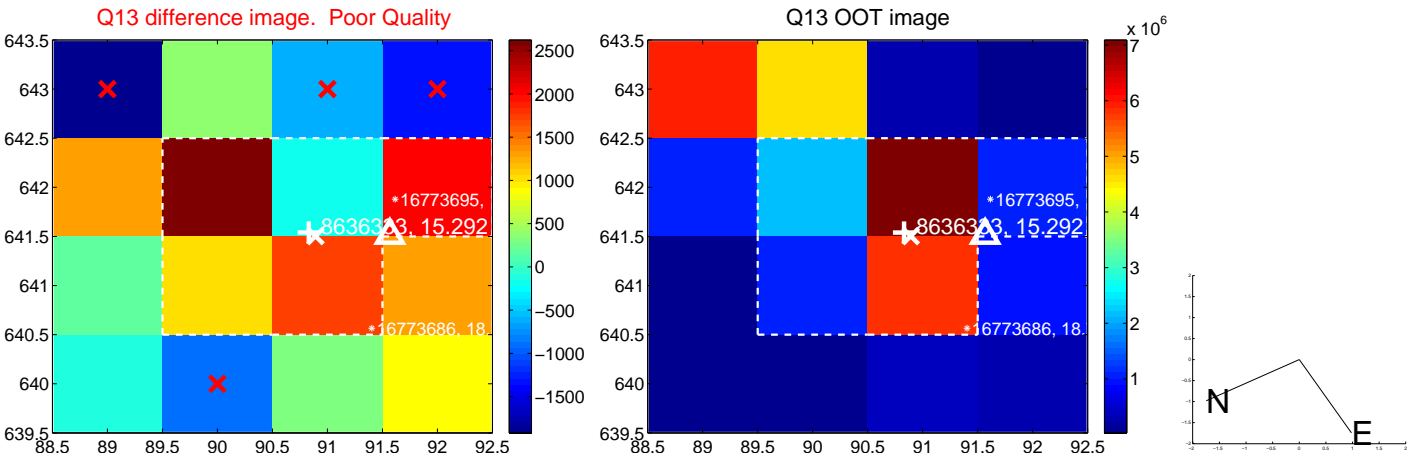
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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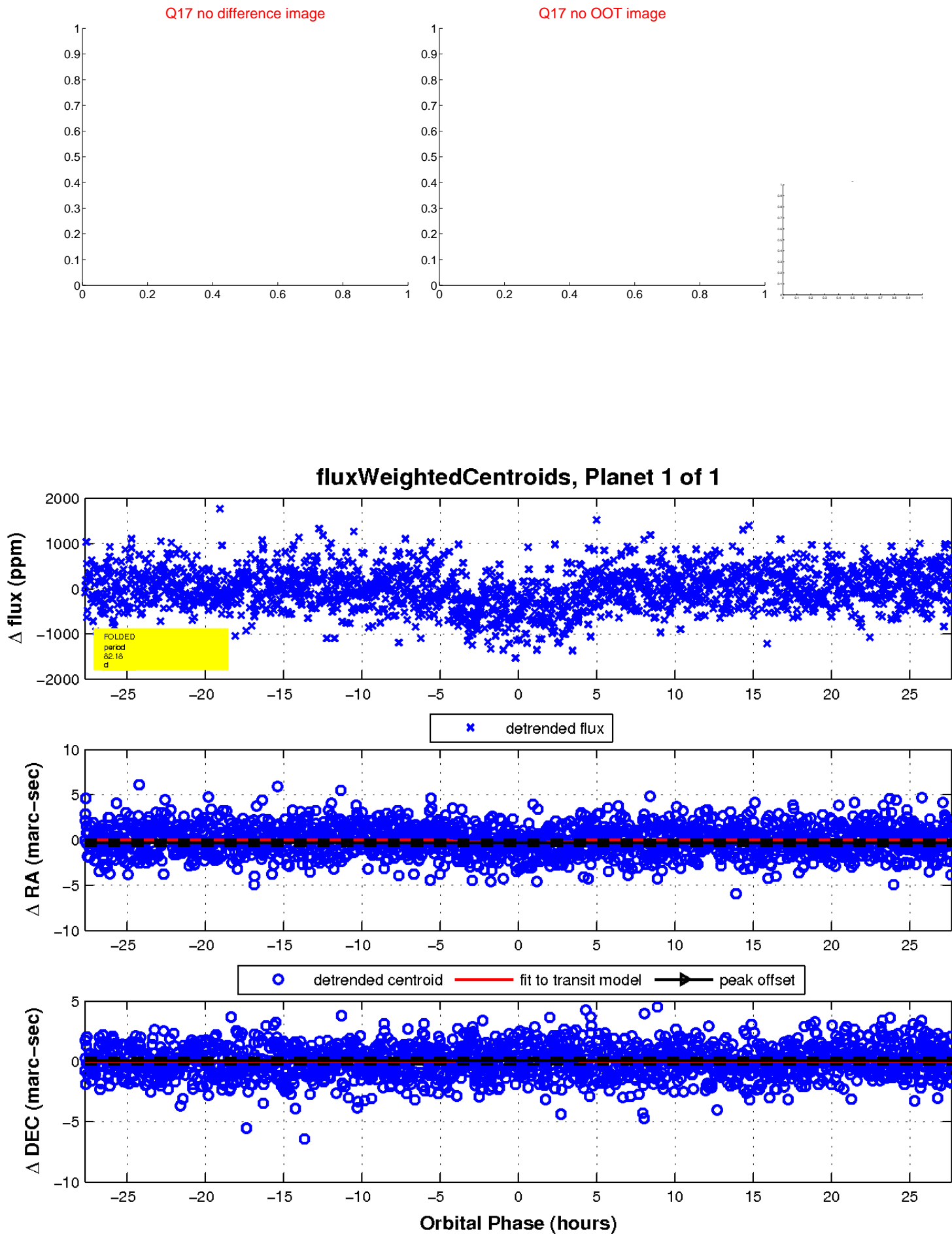


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

