

# KIC 008327660

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008327660-01	OBS	No	43.435274	152.190973	254.5	46.875	12.1	17.3	3.86	5316	12.60	145.06

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008327660-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—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.

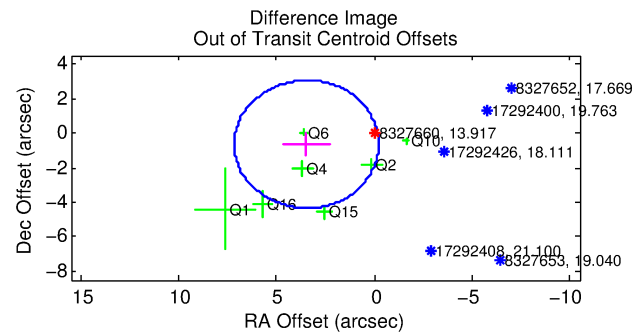
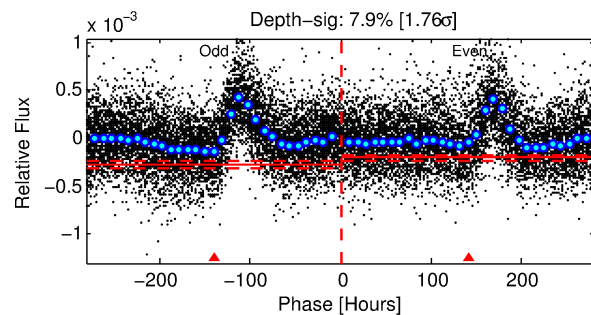
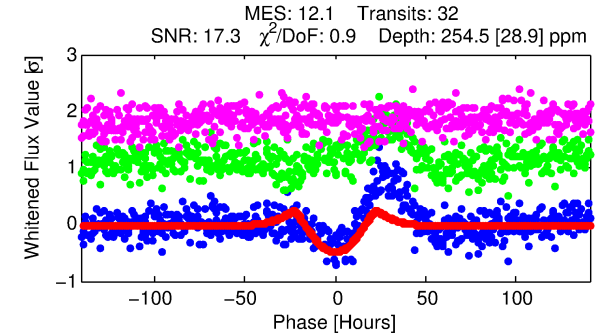
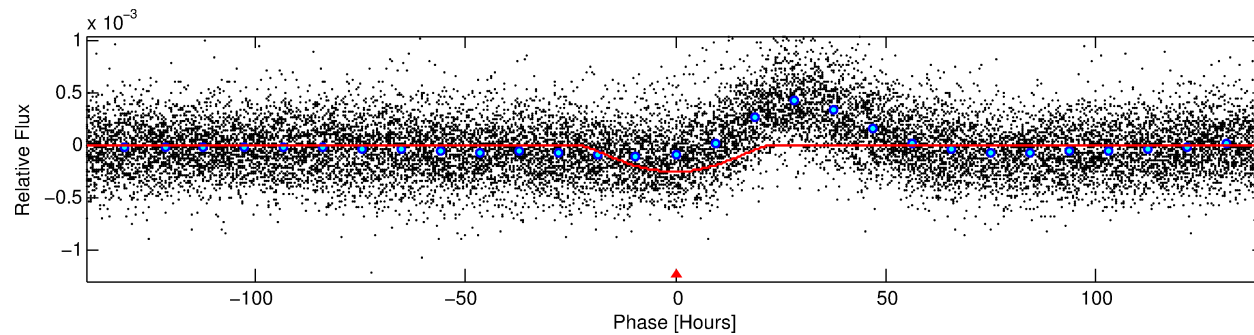
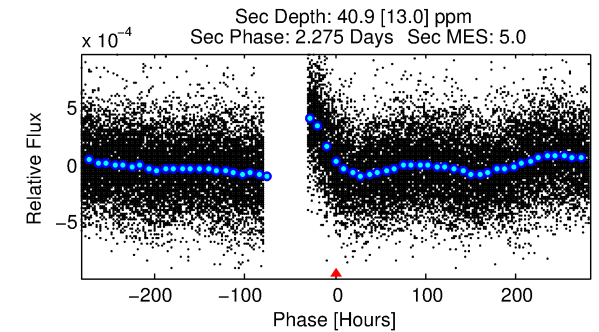
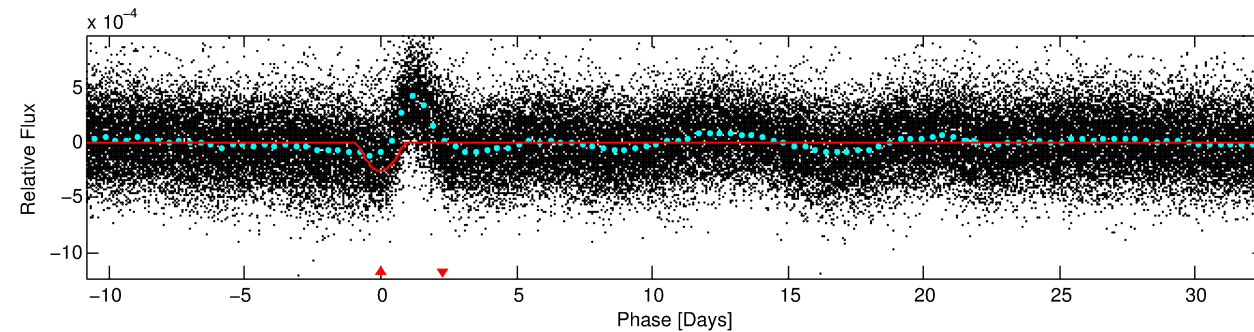
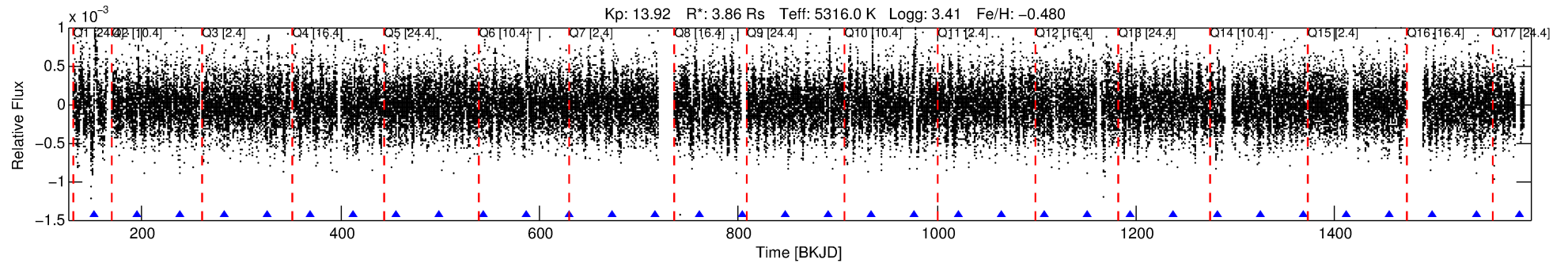
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008327660-01

No Significant Match Found

# DV One-Page Summary

KIC: 8327660 Candidate: 1 of 1 Period: 43.435 d



## DV Fit Results:

Period = 43.43527 [0.00229] d  
Epoch = 152.1910 [0.0429] BKJD  
Rp/R\* = 0.0299 [0.0303]  
a/R\* = 2.02 [0.38]  
b = 1.00 [0.05]  
Seff = 145.06 [104.76]  
Teq = 885 [160] K  
Rp = 12.60 [14.00] Re  
a = 0.2708 [0.1199] AU  
Ag = 10.40 [22.53] [0.42σ]  
Teffp = 2457 [1261] K [1.24σ]

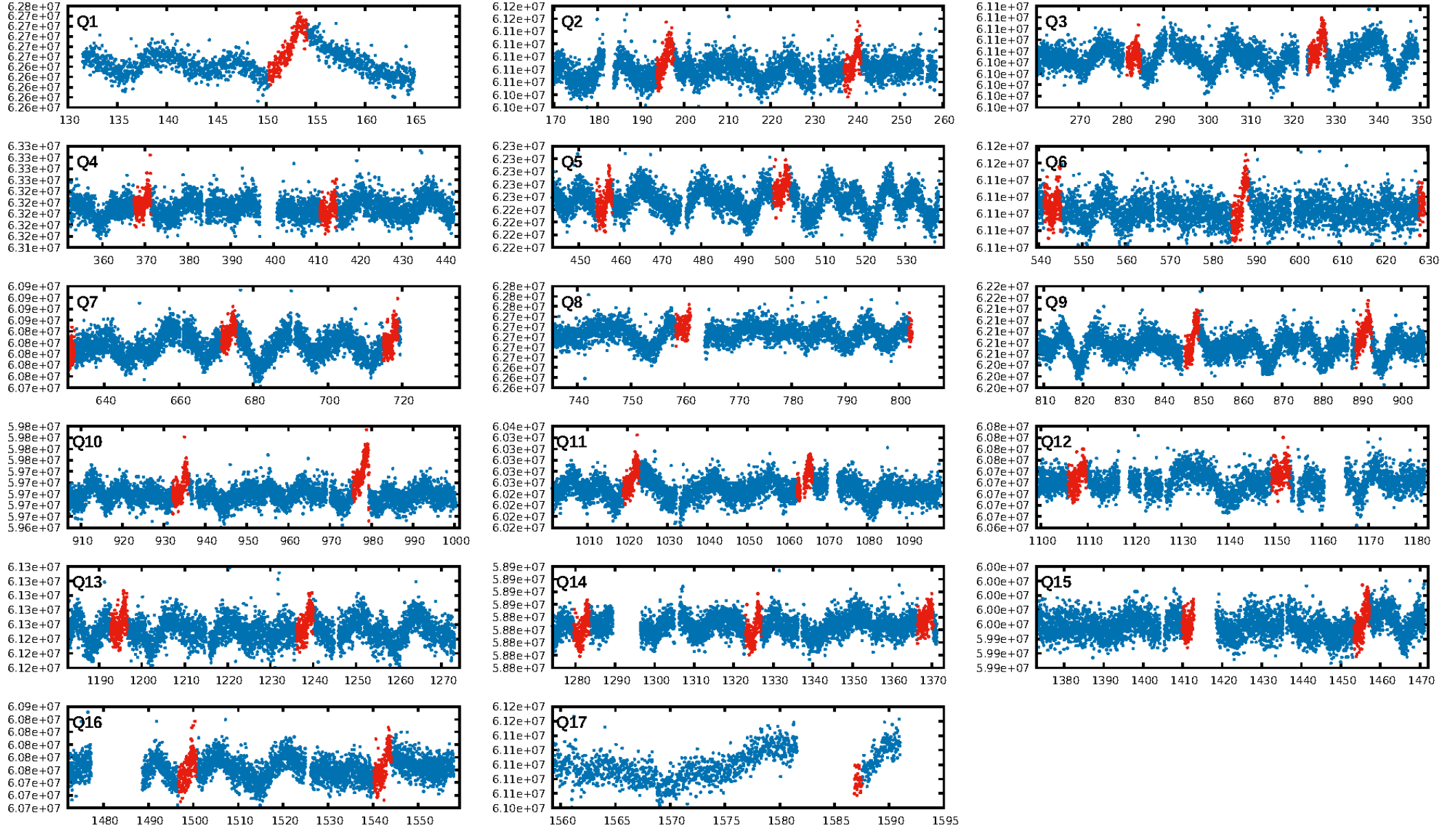
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 98.4%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 6.66e-34  
RollingBand-fgt: 1.00 [31/31]  
GhostDiagnostic-chr: 1.846  
Centroid-sig: 90.3%  
Centroid-so: 0.438 arcsec [0.89σ]  
OotOffset-rm: 3.527 arcsec [2.86σ]  
**KicOffset-rm: 3.619 arcsec [3.25σ]**  
OotOffset-st: 3/1/2/1 [7]  
KicOffset-st: 3/1/2/1 [7]  
DiffImageQuality-fgm: 0.00 [0/7]  
DiffImageOverlap-fno: 1.00 [12/12]

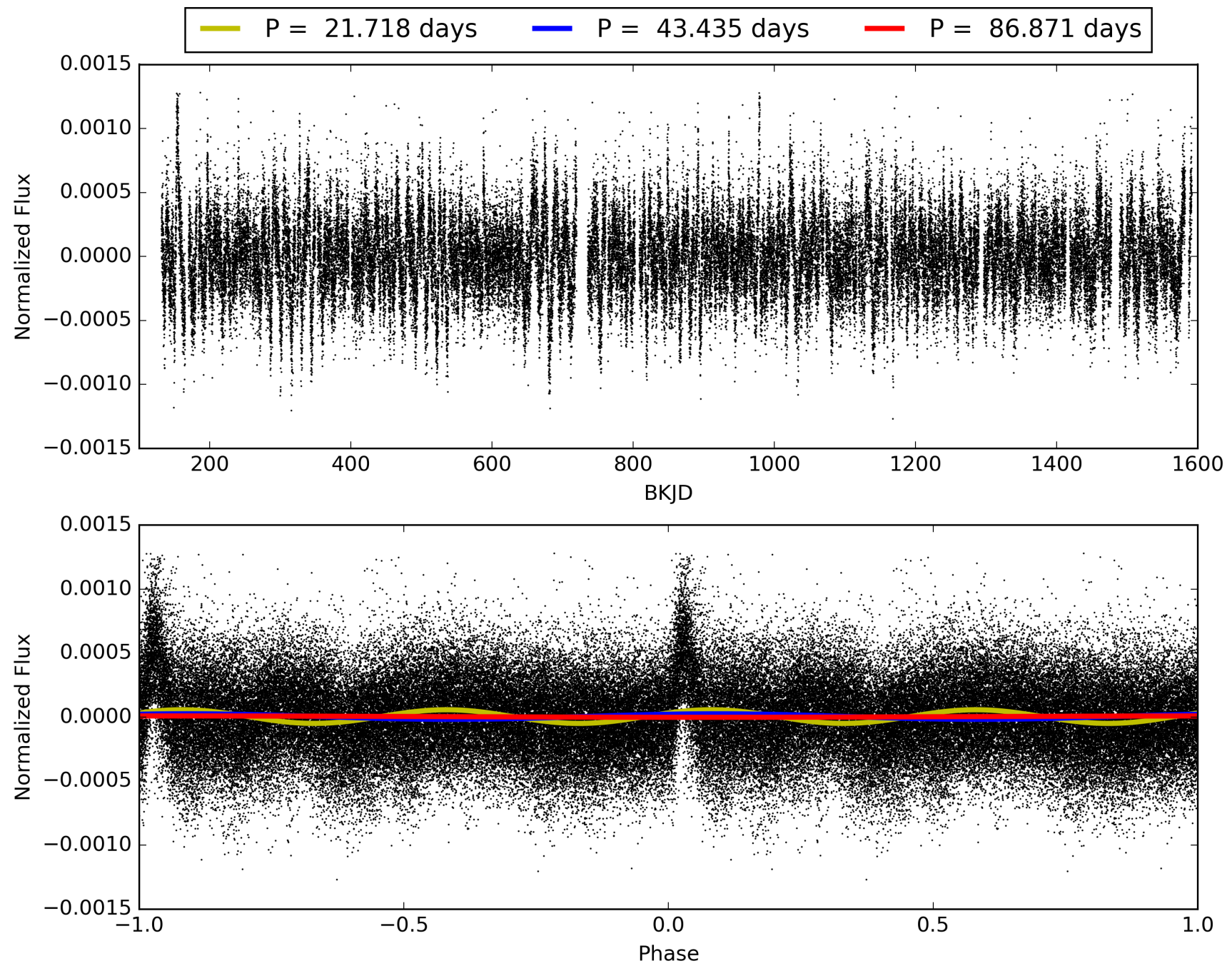
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:59:14 Z

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

# TCE 008327660-01, PDC Light Curves



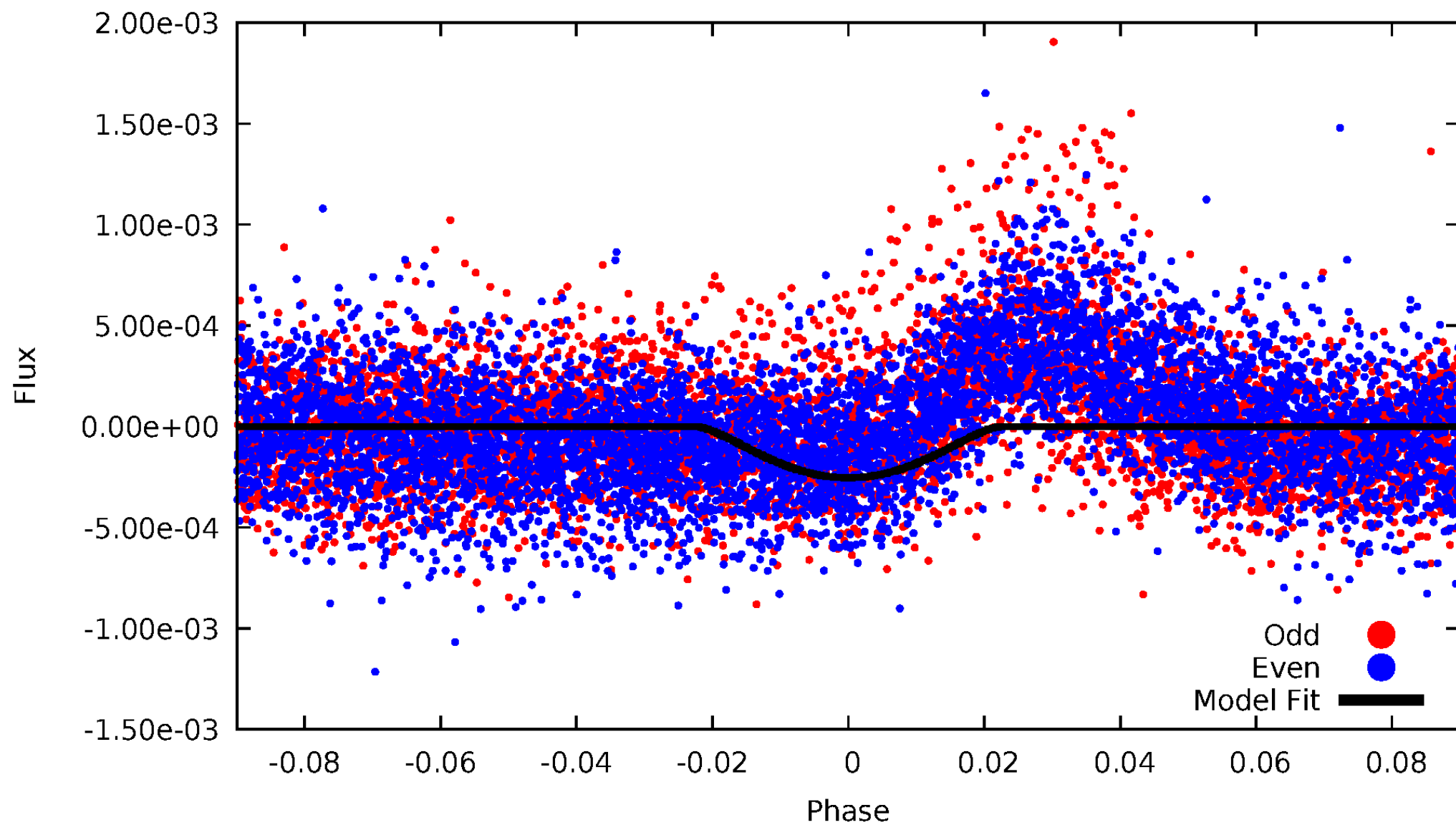
TCE 008327660-01





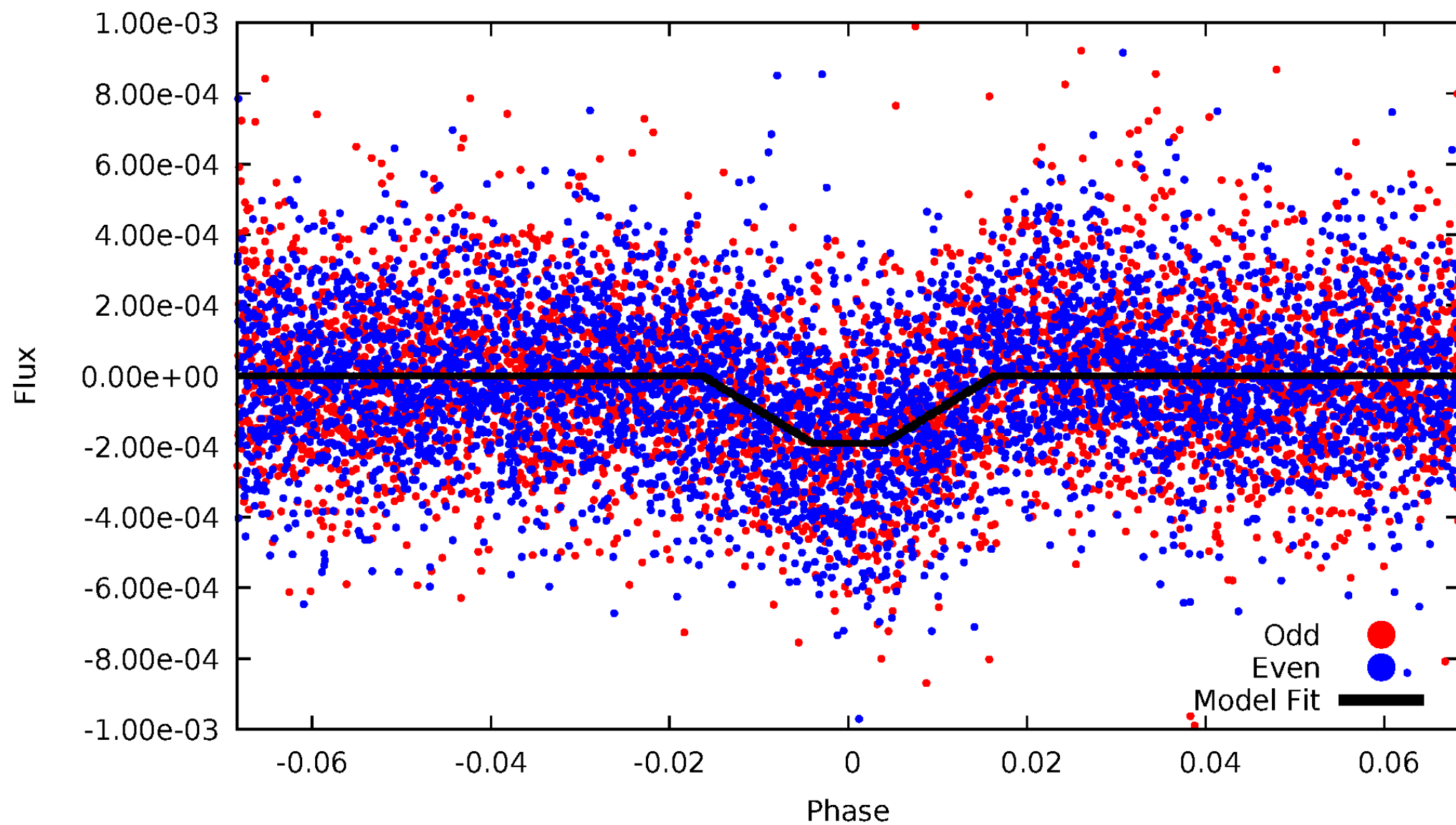
# DV Odd/Even

TCE 008327660-01



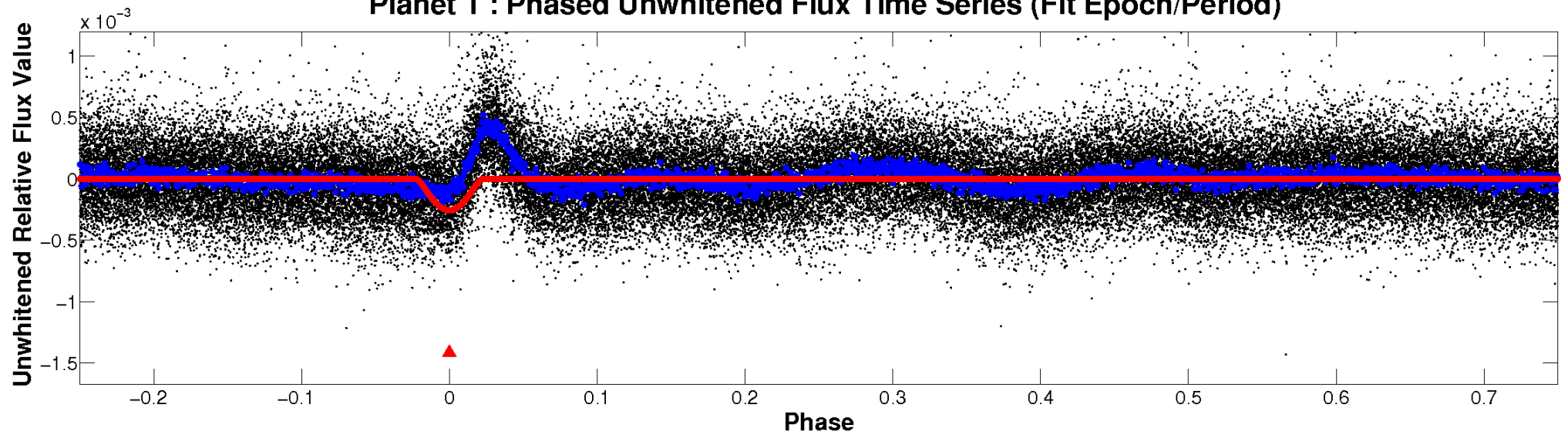
# ALT Odd/Even

TCE 008327660-01

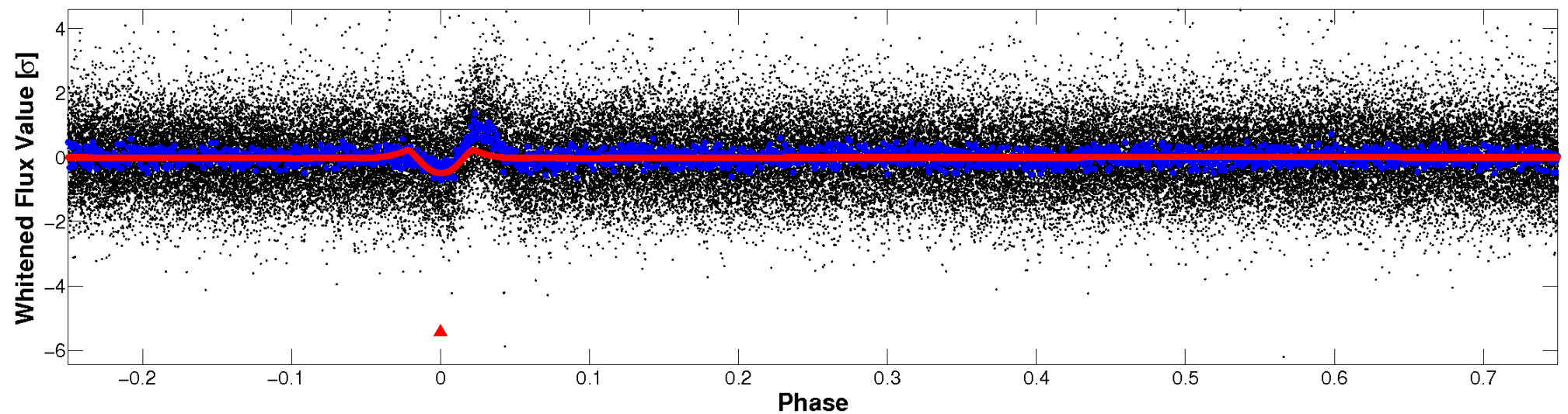


# Non-Whitened Vs. Whitened Light Curve

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

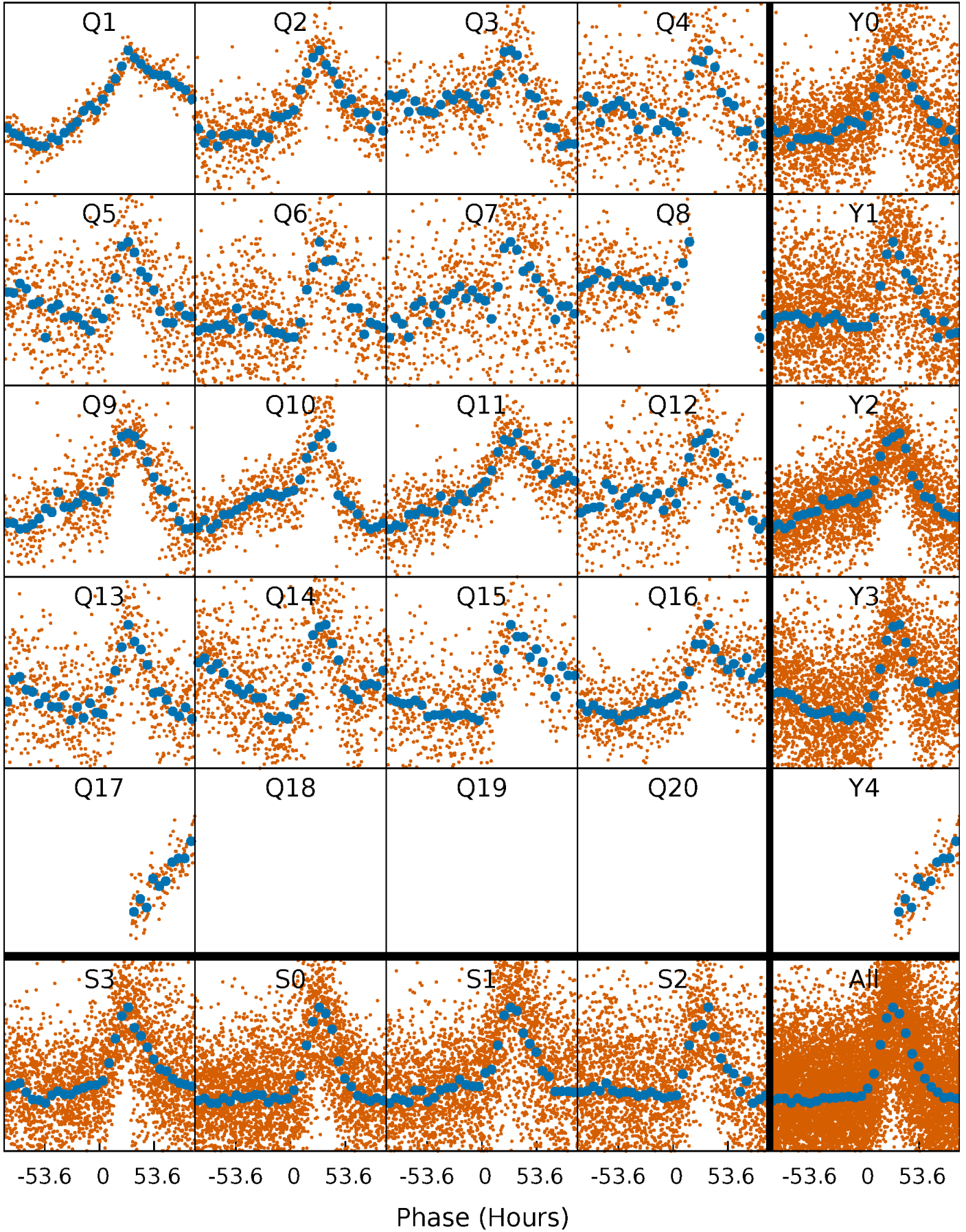


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

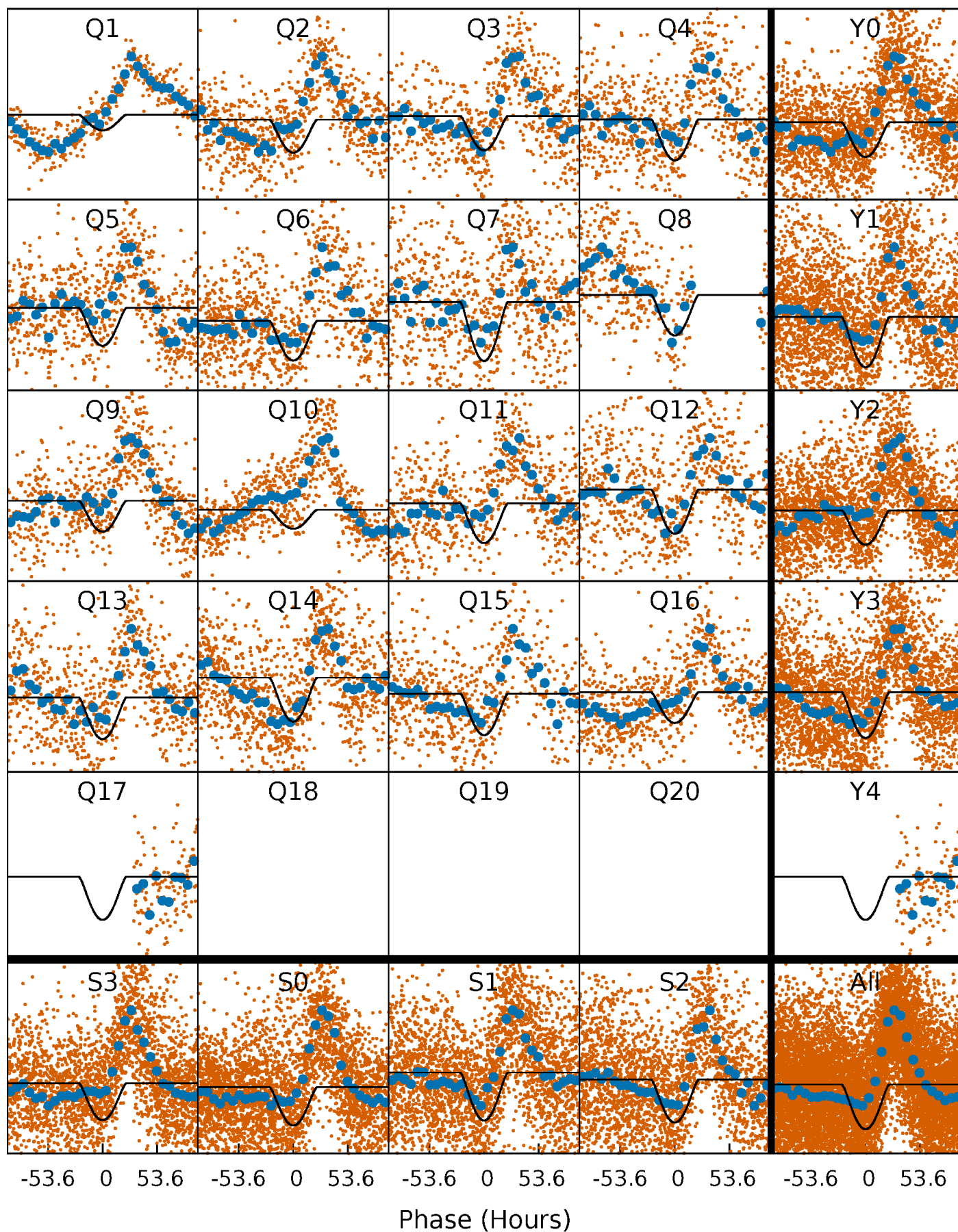
TCE 008327660-01 P= 43.435274 Days  $T_0=152.190973$  (BKJD)





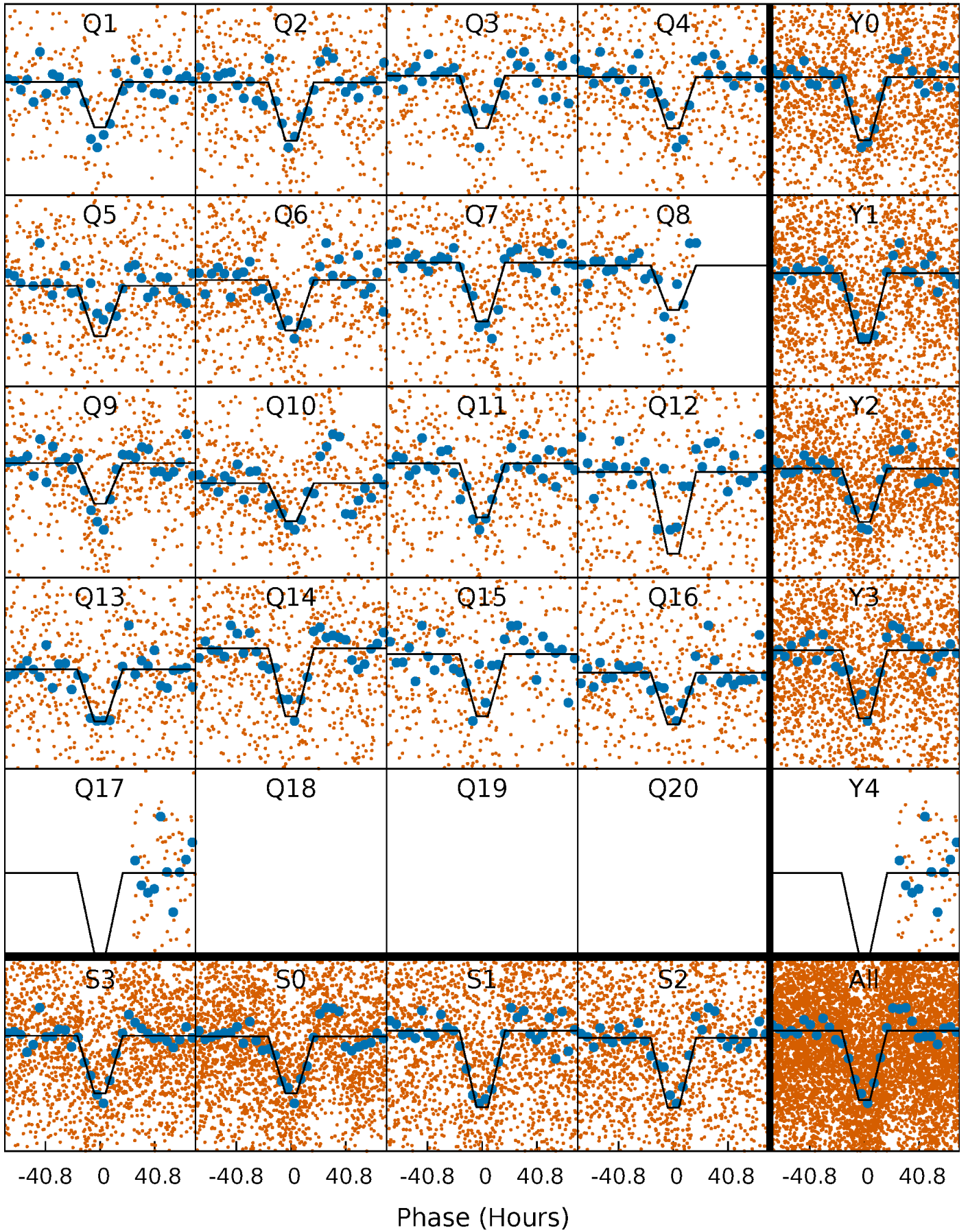
# DV Quarter-Phased Transit Curves

TCE 008327660-01 P= 43.435274 Days  $T_0=152.190973$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

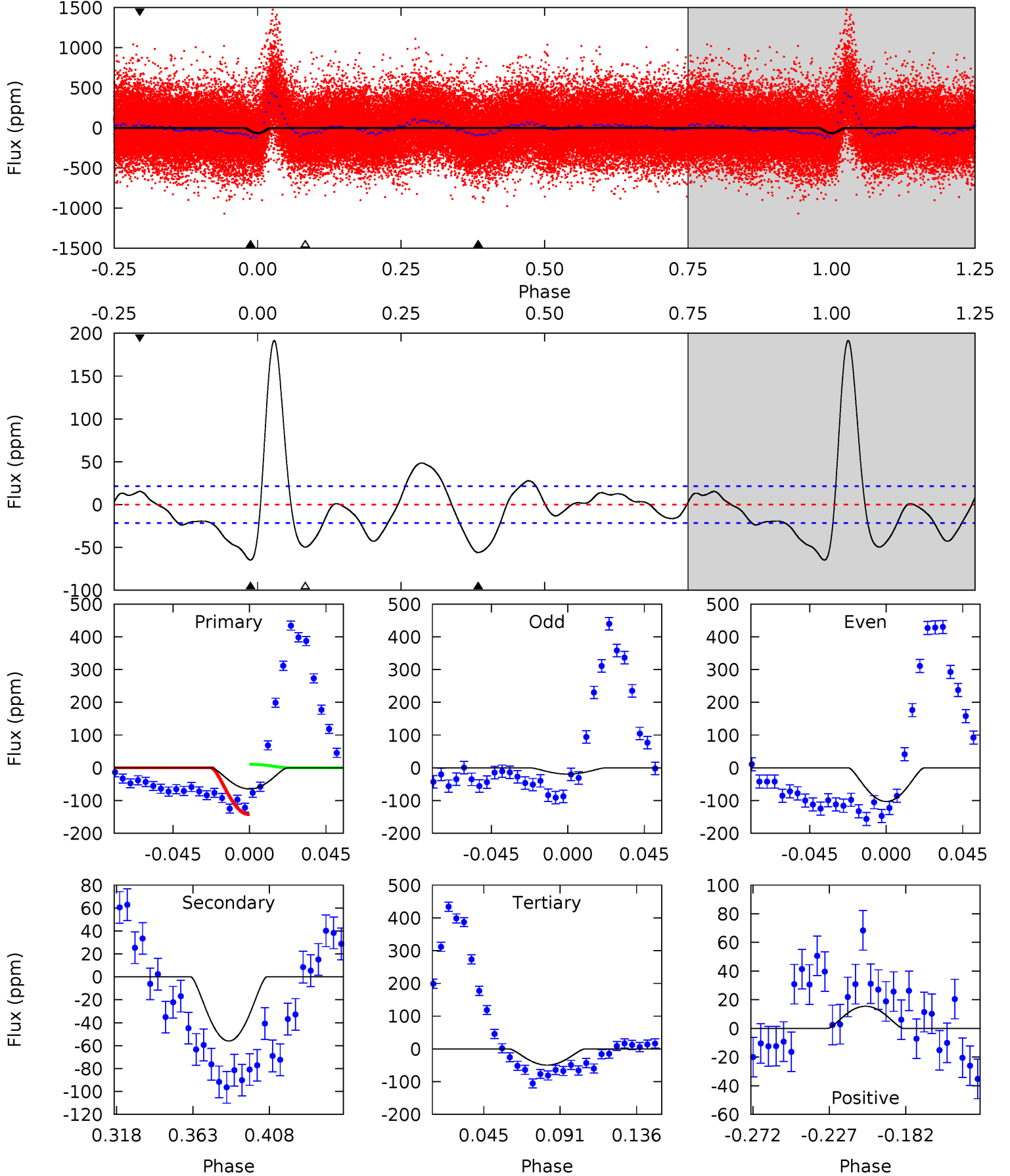
TCE 008327660-01 P= 43.442842 Days  $T_0=152.226272$  (BKJD)



# DV Model-Shift Uniqueness Test

008327660-01, P = 43.435274 Days, E = 108.755699 Days

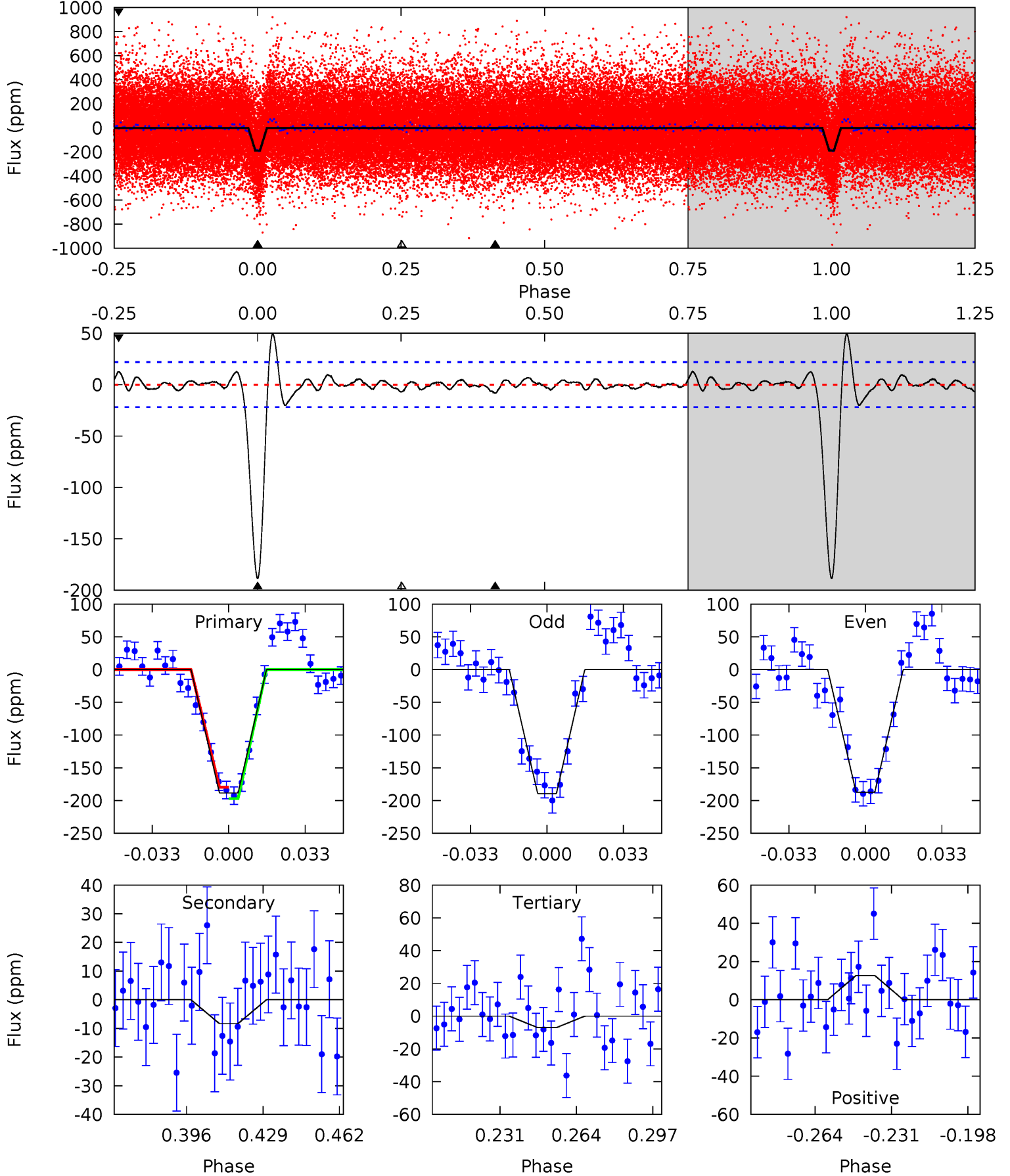
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	12.2	10.8	3.38	4.73	2.00	6.17	3.31	10.8	1.40	8.87	9.09	0.64	0.75	14.7



# Alt Model-Shift Uniqueness Test

008327660-01, P = 43.442842 Days, E = 108.783430 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
41.2	1.82	1.54	2.78	4.79	2.13	1.02	39.7	38.5	0.28	-0.96	0.22	1.02	0.21	1.91





### Stellar Parameters For KIC 008327660

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5316^{+168}_{-186}$	$3.413^{+0.416}_{-0.224}$	$-0.480^{+0.300}_{-0.300}$	$3.856^{+1.331}_{-1.775}$	$1.406^{+0.172}_{-0.483}$	$0.035^{+0.117}_{-0.018}$
	+3%/-3%	+12%/-7%	+62%/-62%	+35%/-46%	+12%/-34%	+338%/-53%
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 008327660-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-56 \pm 5$	$14.65^{+12.43}_{-9.39}$	$1227^{+121}_{-152}$	$3009^{+1137}_{-443}$	$10^{+68}_{-7}$
Alt.	$-8 \pm 5$	$9.74^{+10.51}_{-6.63}$	$1221^{+130}_{-149}$	$2513^{+969}_{-520}$	$2.939^{+27.717}_{-2.321}$

$T_{\text{max}}$  = 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

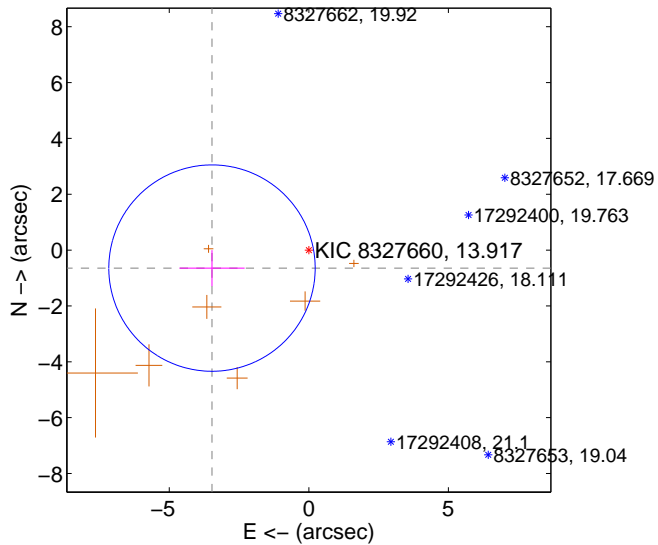
Supplemental centroid analysis for 008327660-01. Kepler magnitude: 13.92. Transit SNR 17.26

There are 0 quarters with good PRF difference image offsets

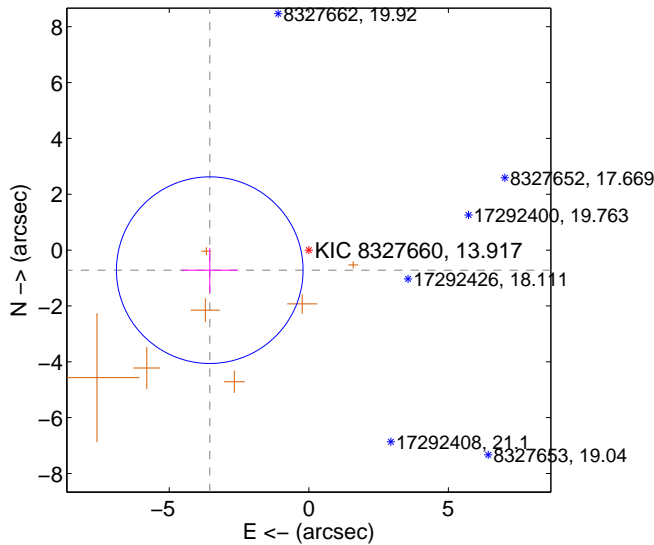
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.527 \pm 1.232$	2.86	$3.468 \pm 1.167$	$-0.645 \pm 0.644$
PRF-fit source offset from KIC position	$3.619 \pm 1.114$	3.25	$3.547 \pm 1.016$	$-0.719 \pm 0.801$
photometric centroid source offset	$0.44 \pm 0.49$	0.89	$0.43 \pm 0.49$	$-0.10 \pm 0.45$

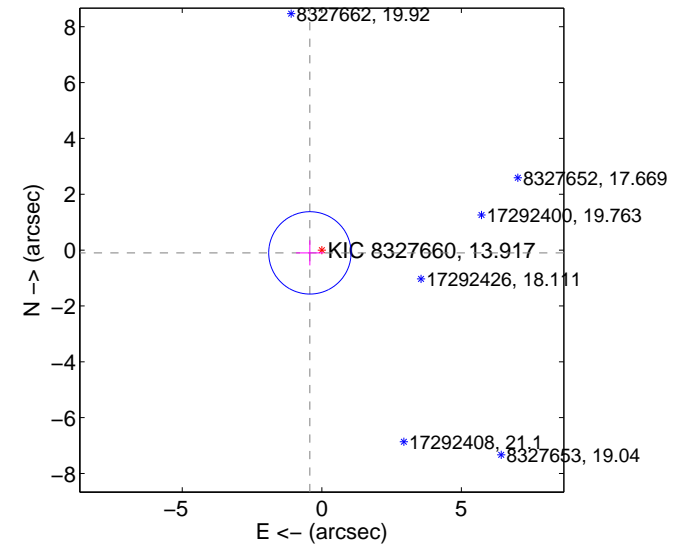
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

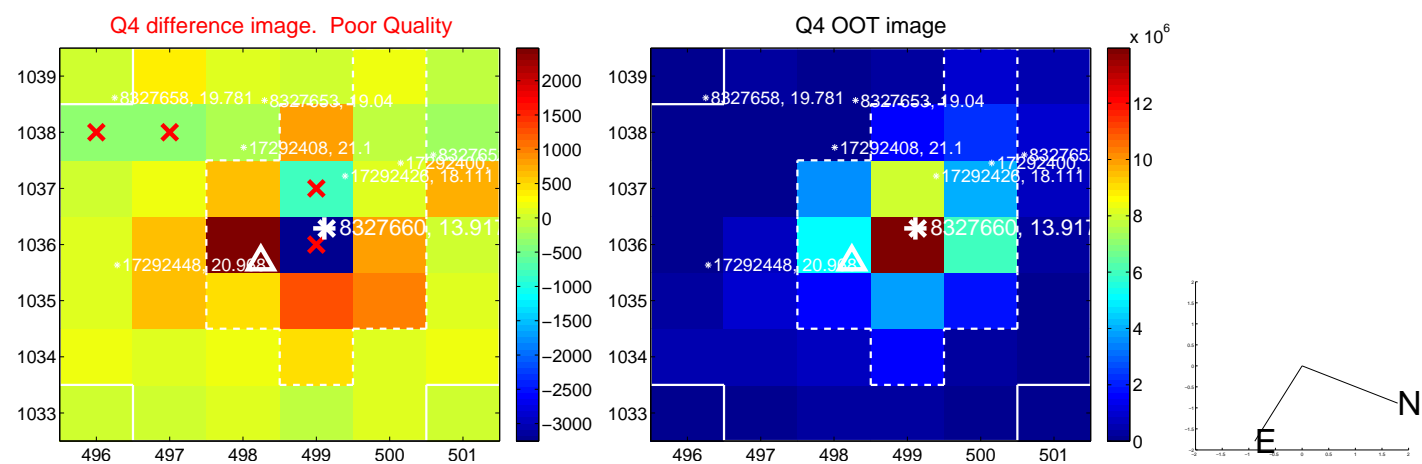
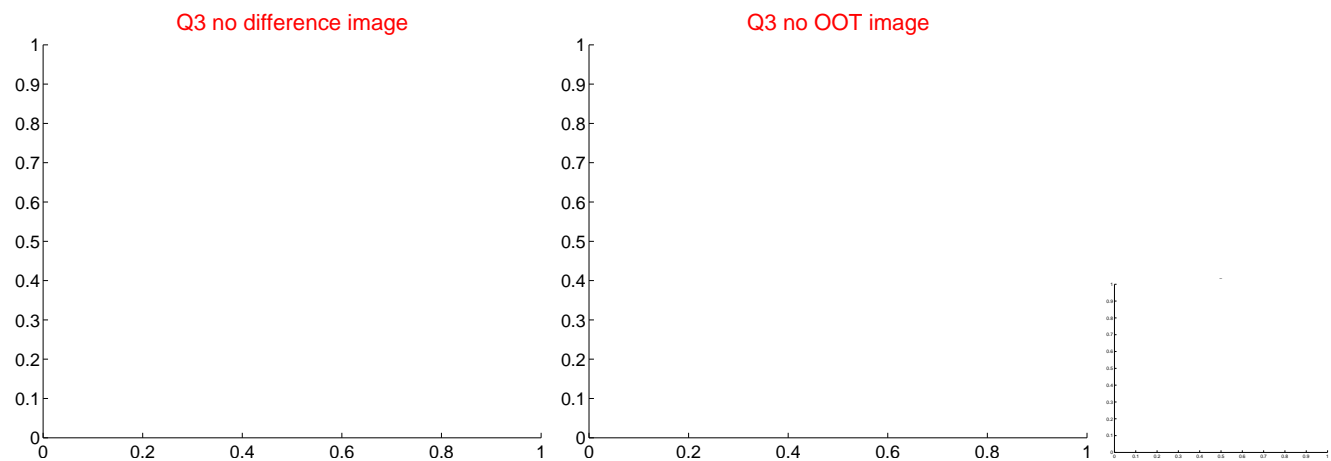
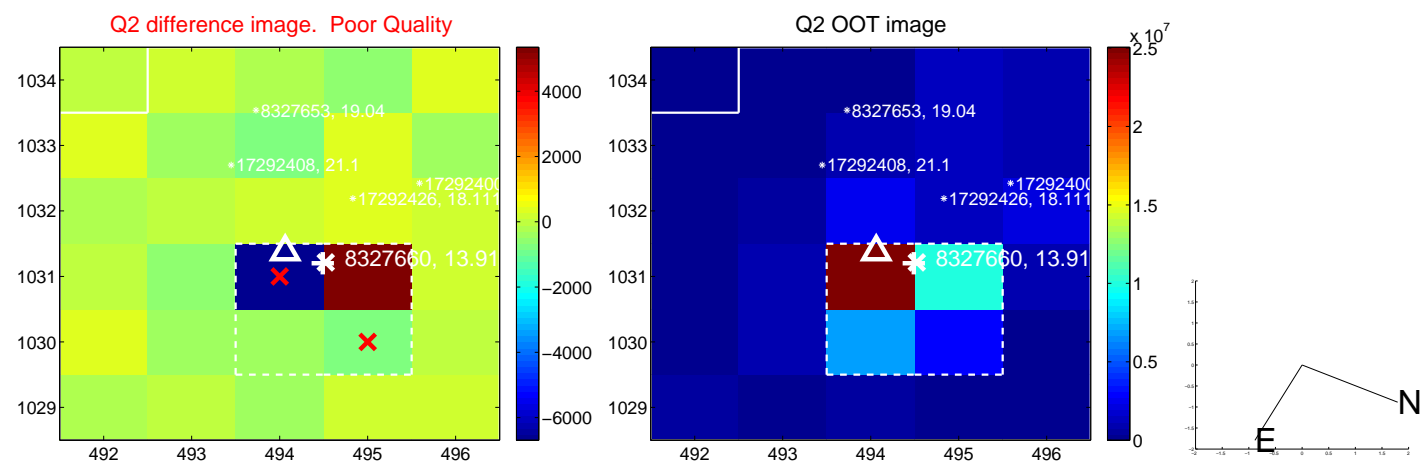
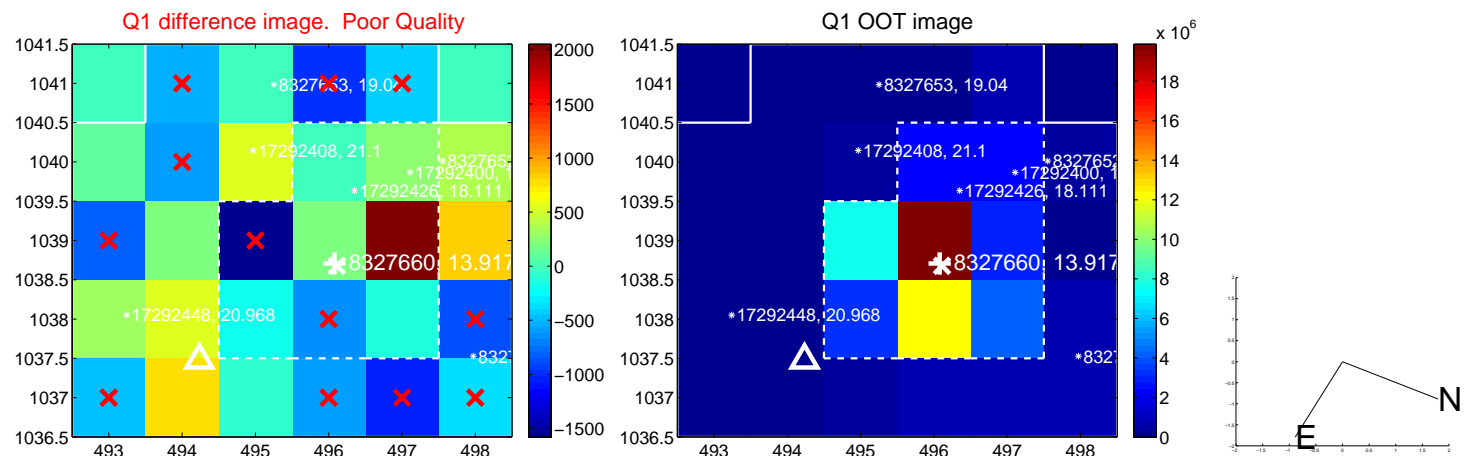


offset from photometric centroids

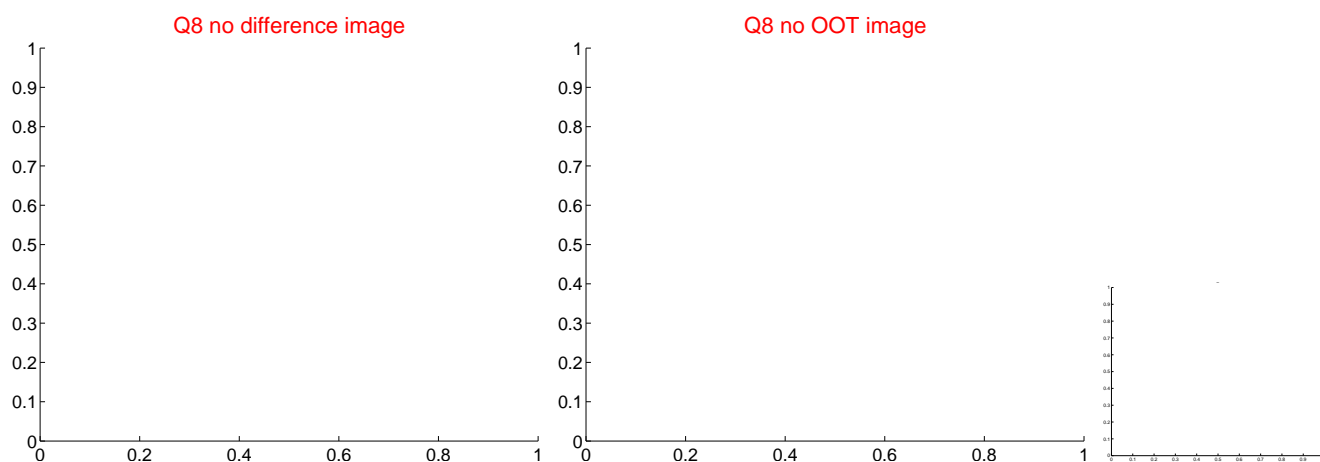
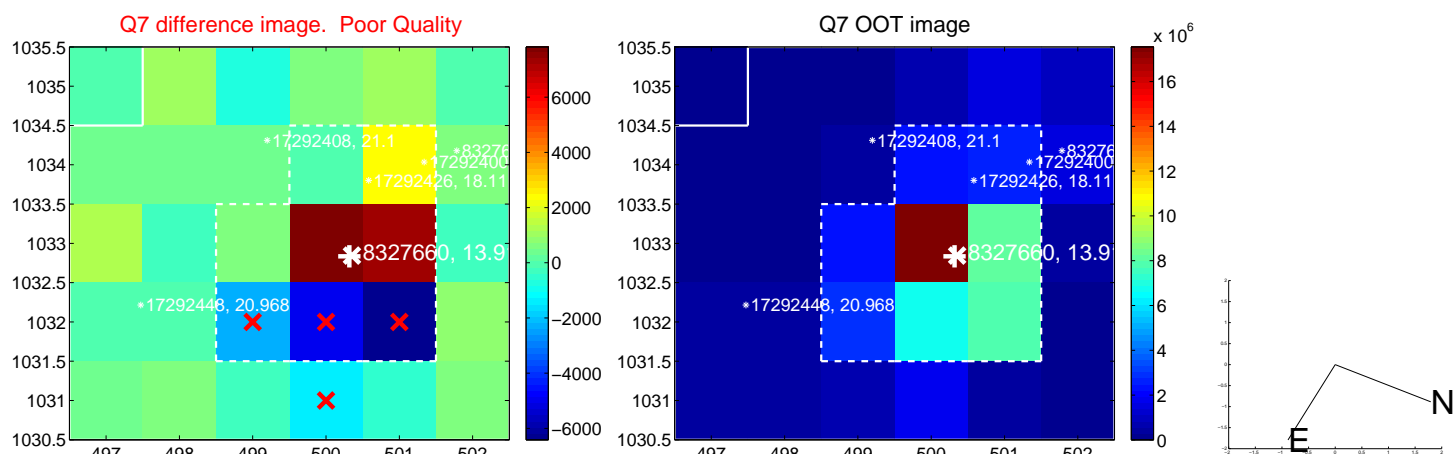
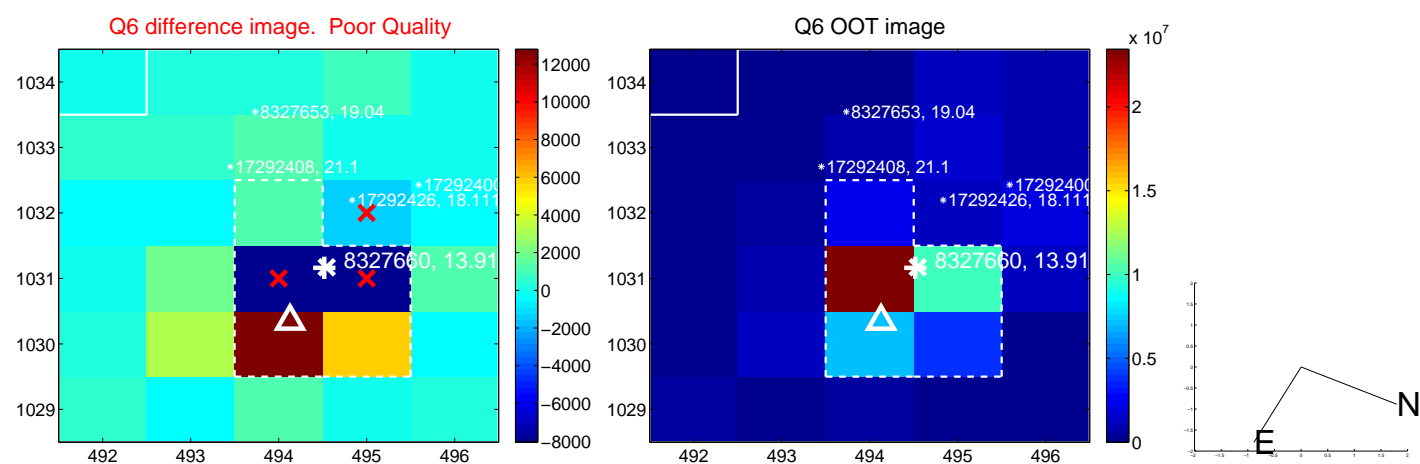
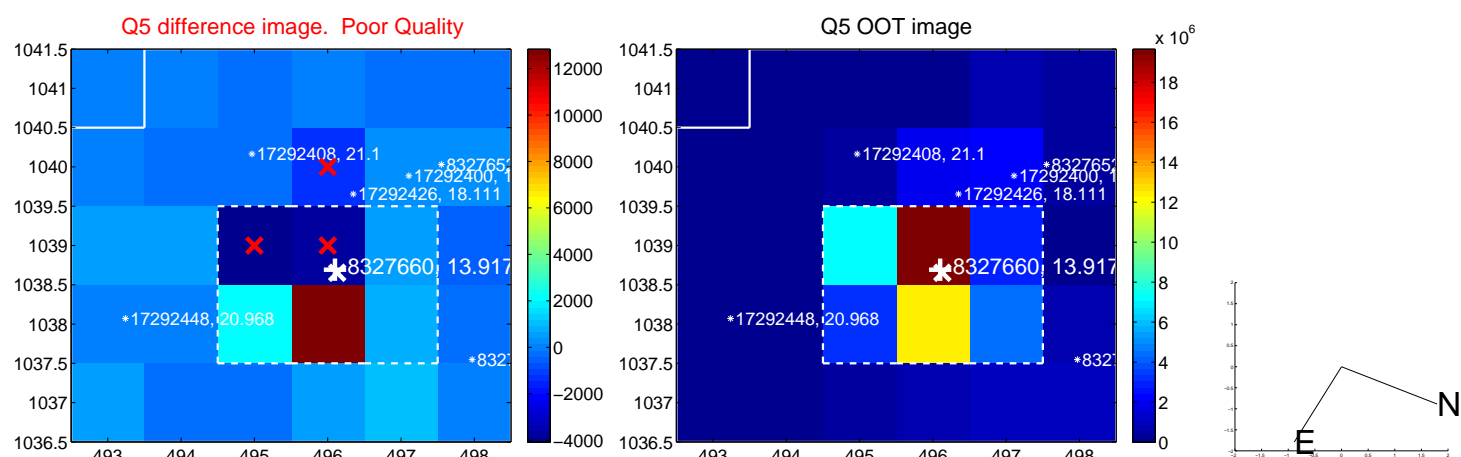


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

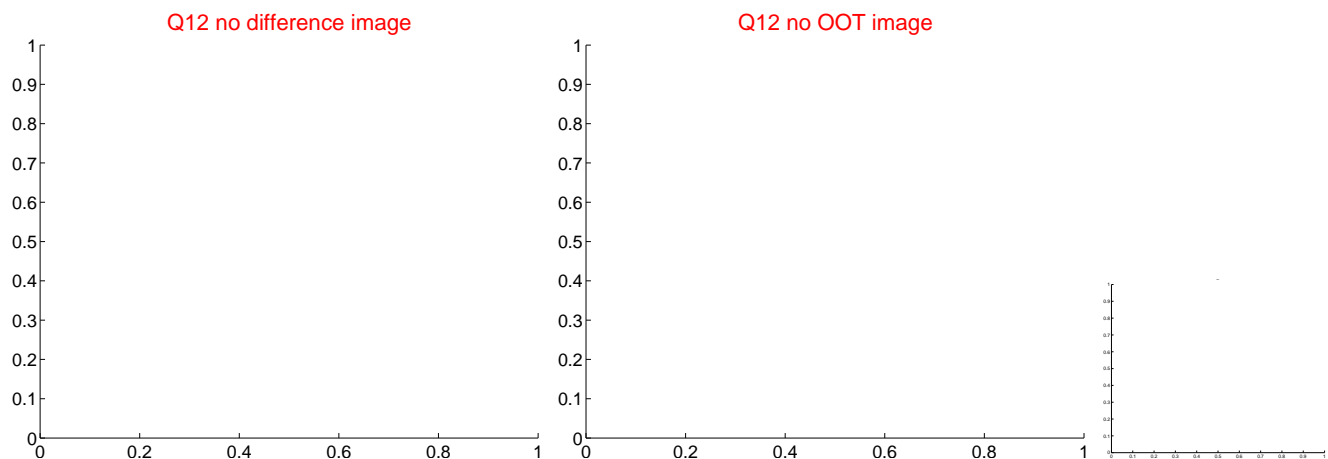
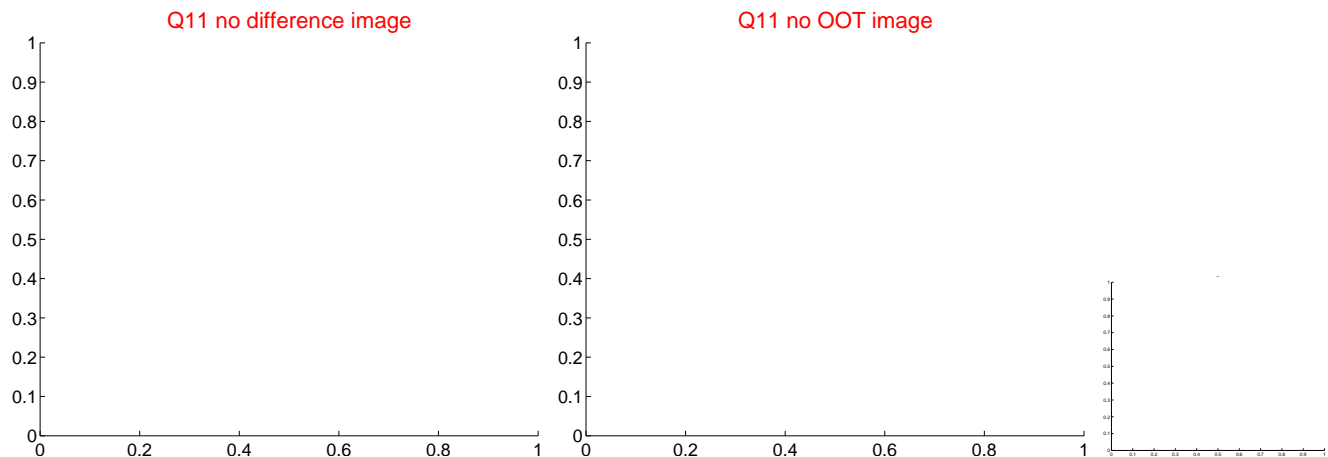
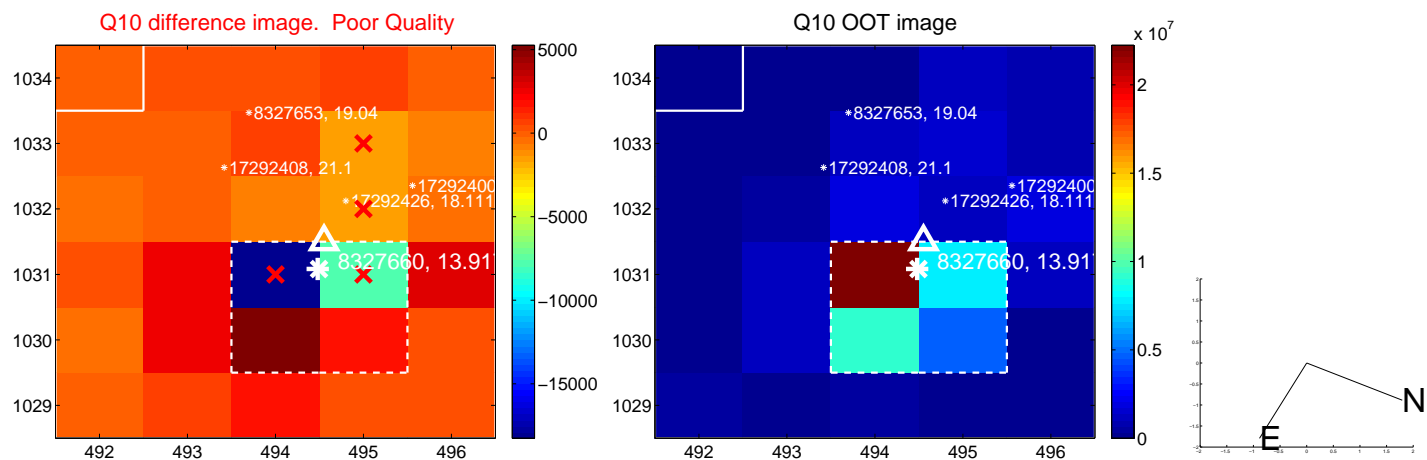
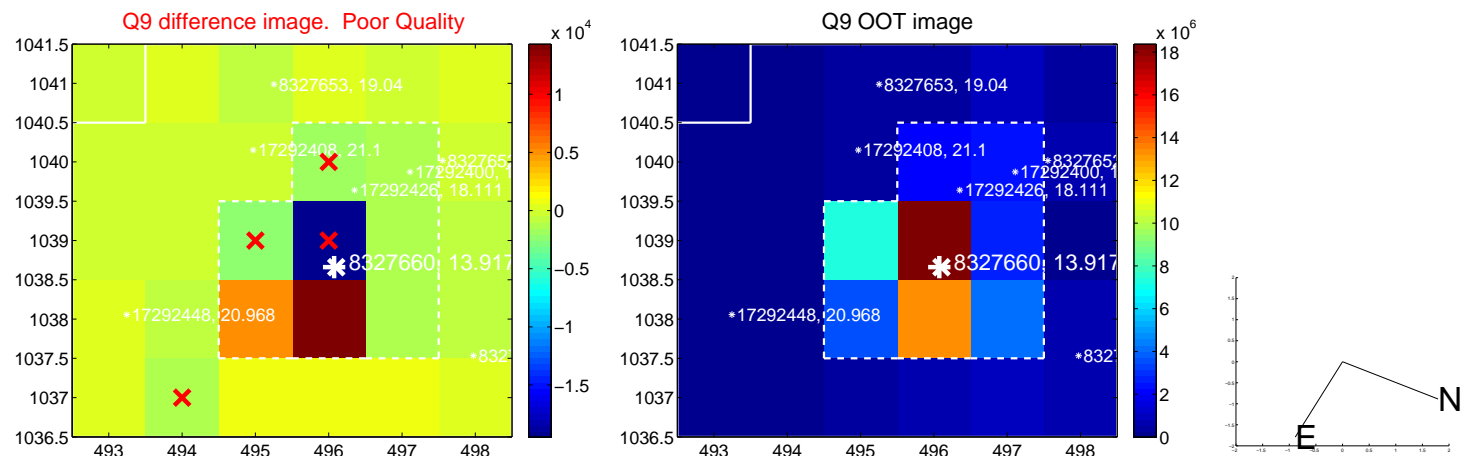


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

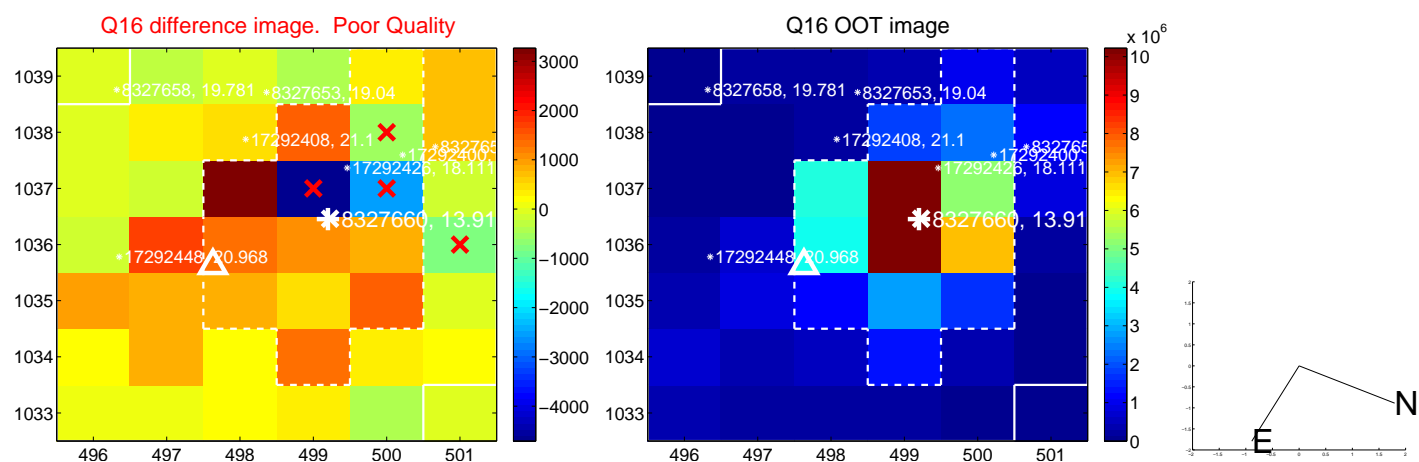
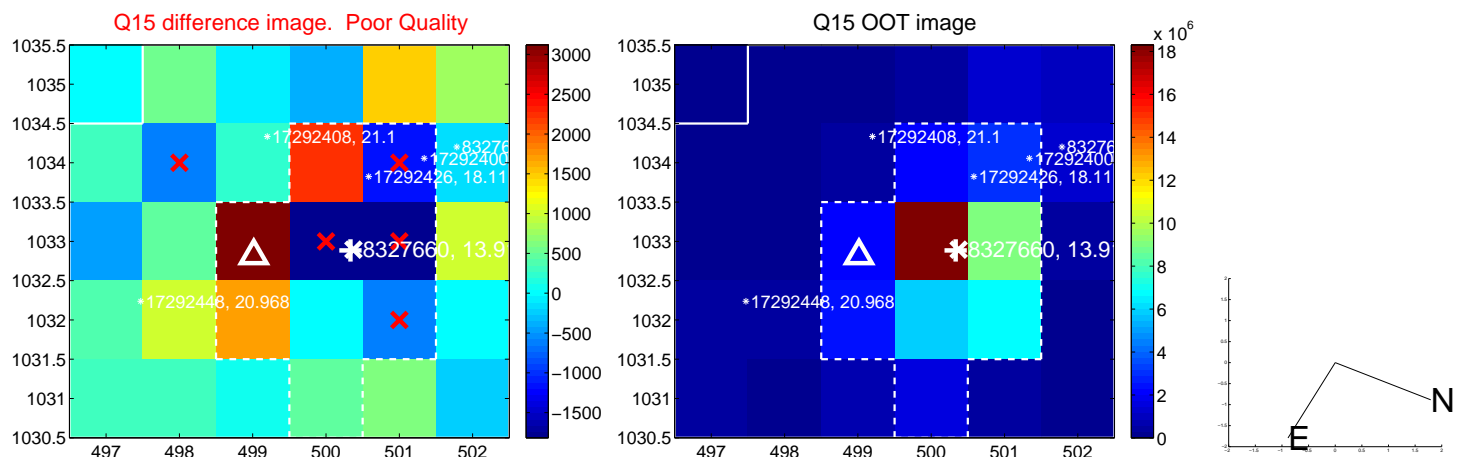
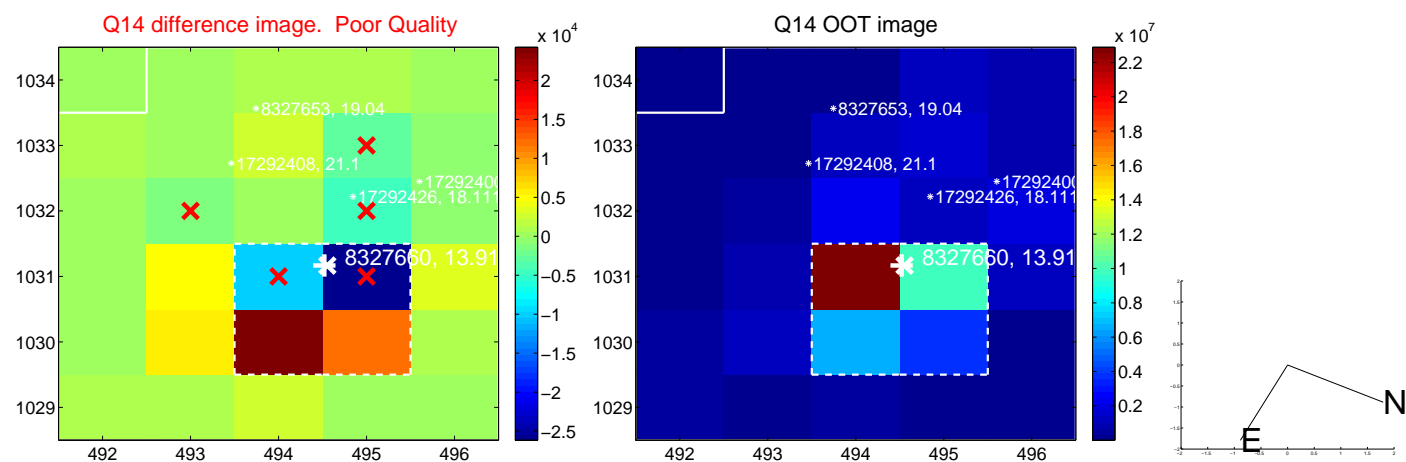
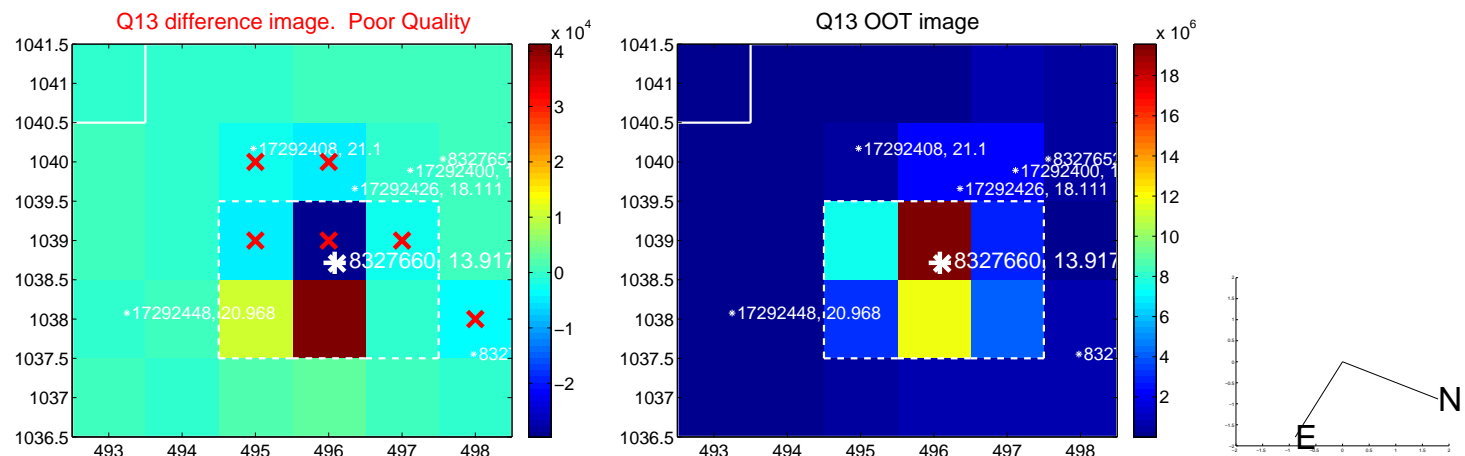




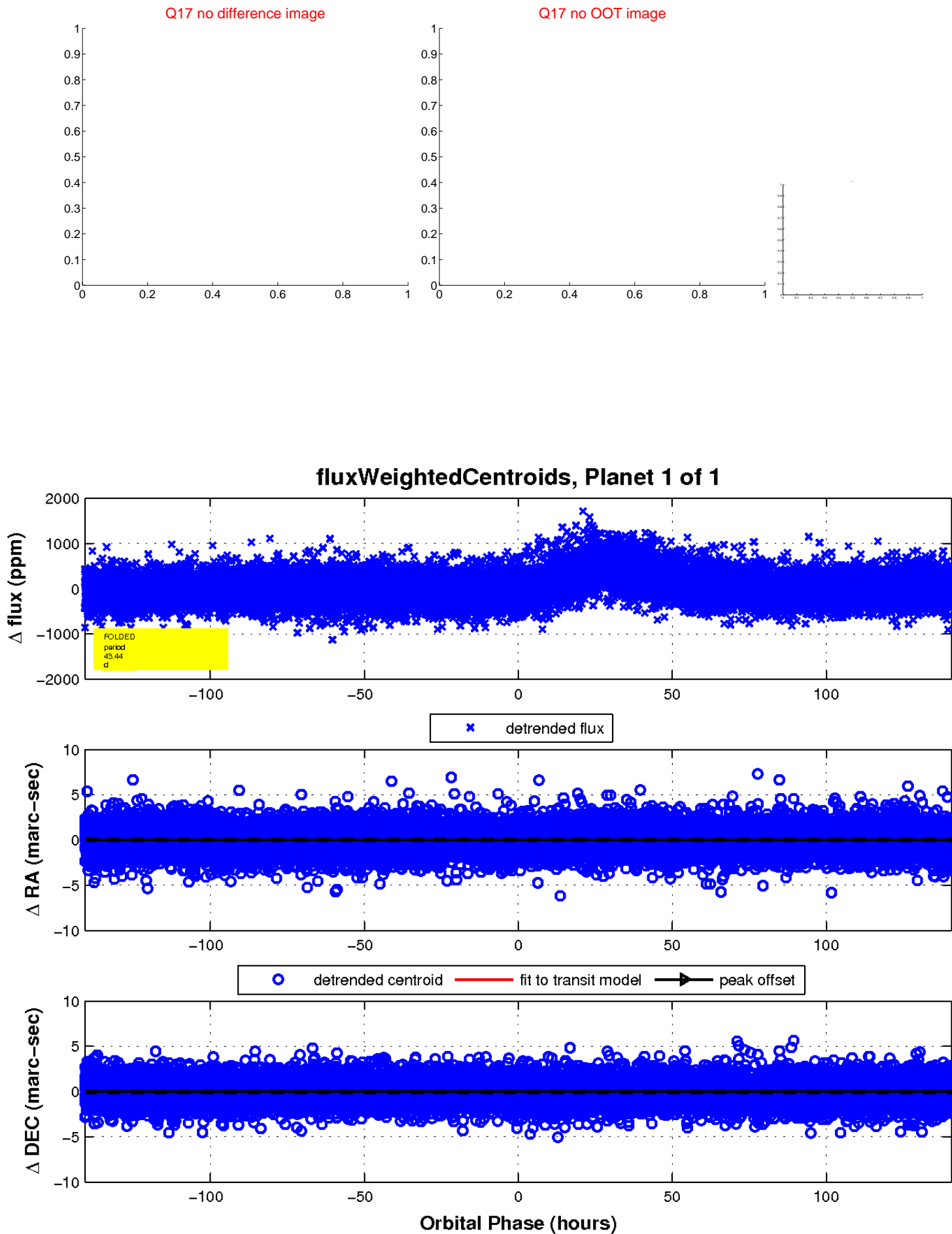
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

