

# KIC 008382508

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008382508-01	OBS	No	1.617760	132.694953	50.6	6.183	7.8	7.8	0.55	3929	0.40	130.73

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008382508-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

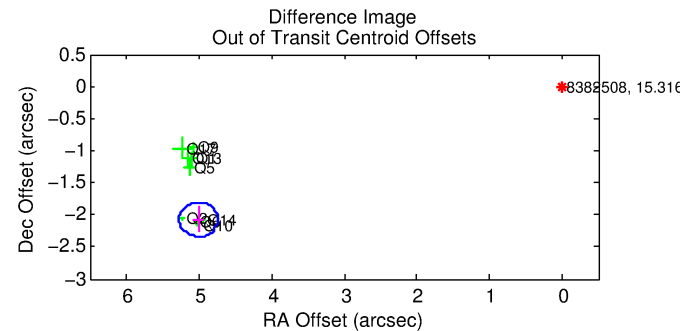
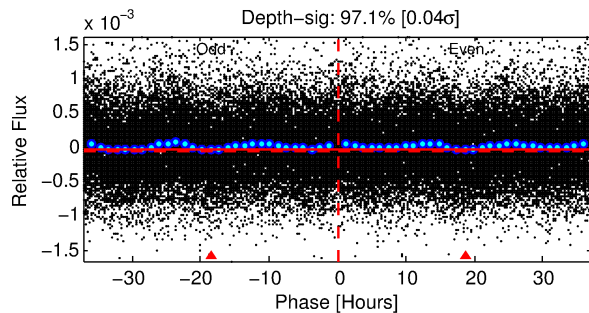
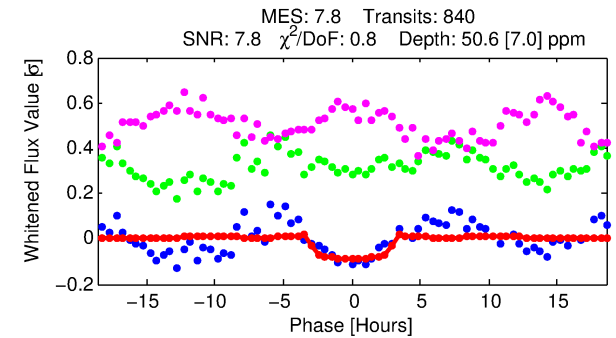
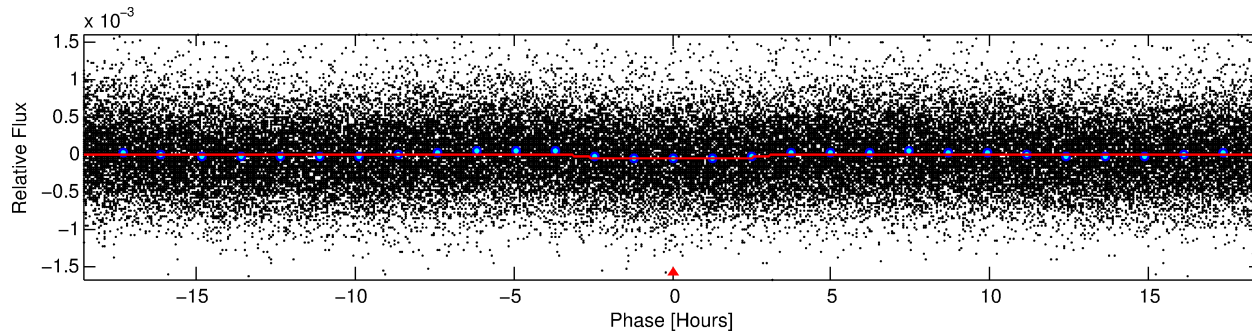
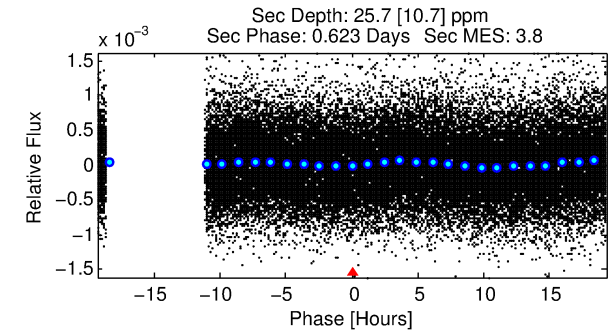
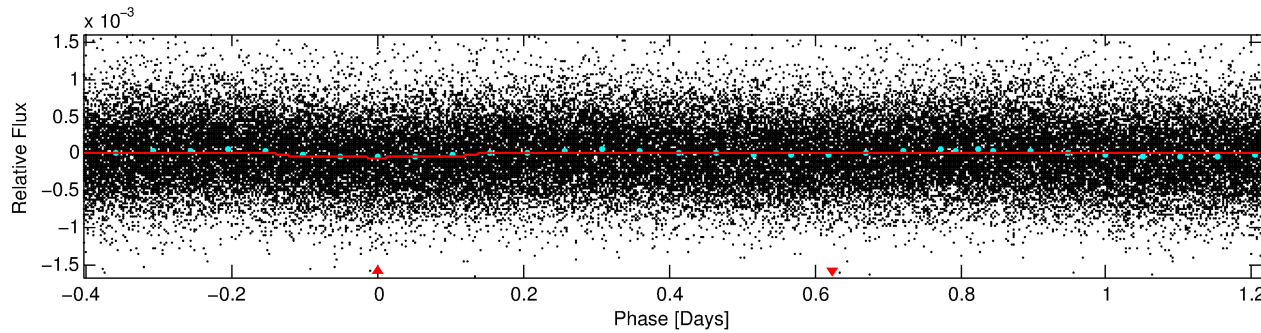
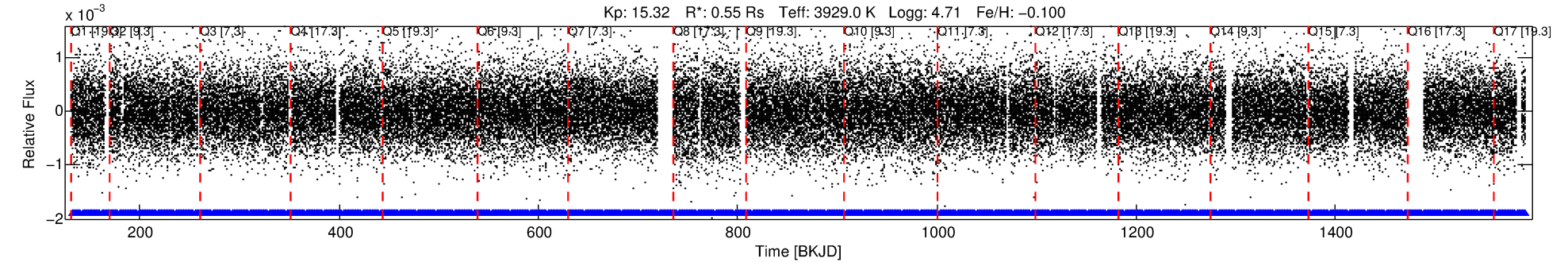
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008382508-01

No Significant Match Found

# DV One-Page Summary

KIC: 8382508 Candidate: 1 of 1 Period: 1.618 d



## DV Fit Results:

Period = 1.61776 [0.00002] d  
Epoch = 132.6950 [0.0073] BKJD  
Rp/R\* = 0.0066 [0.0064]  
a/R\* = 1.91 [5.53]  
b = 0.47 [6.62]  
Seff = 130.73 [15.65]  
Teff = 862 [26] K  
Rp = 0.40 [0.38] Re  
a = 0.0222 [0.0011] AU  
Ag = 44.31 [87.61] [0.49σ]  
Teffp = 3439 [1701] K [1.51σ]

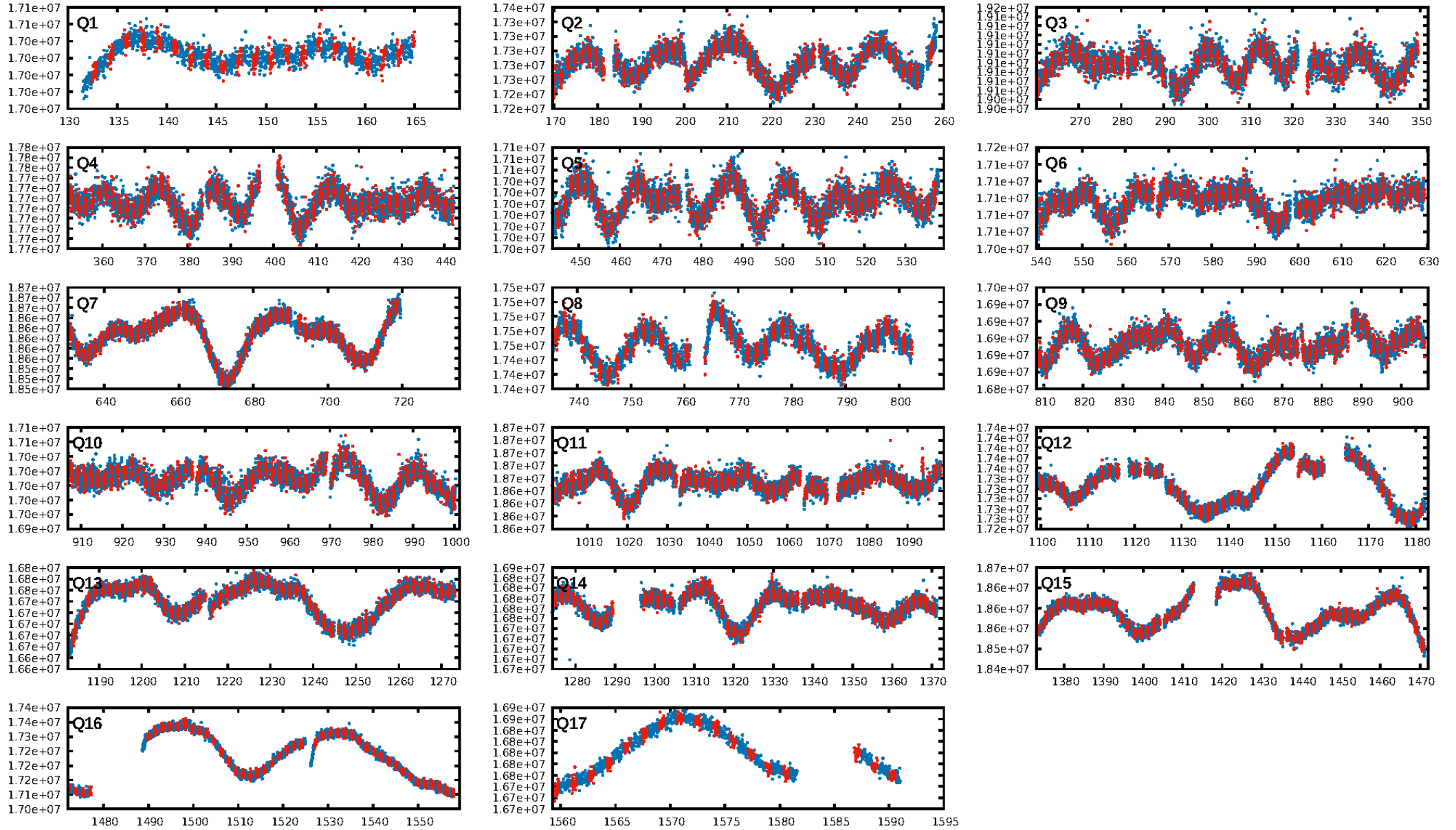
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.81e-14  
RollingBand-fgt: 1.00 [802/802]  
GhostDiagnostic-chr: -0.05098  
Centroid-sig: 0.0%  
Centroid-so: 13.103 arcsec [4.35σ]  
OotOffset-rm: 5.418 arcsec [60.88σ]  
KicOffset-rm: 5.755 arcsec [61.73σ]  
OotOffset-st: 4/0/0/5 [9]  
KicOffset-st: 4/0/0/5 [9]  
DiffImageQuality-fgm: 1.00 [9/9]  
DiffImageOverlap-fno: 1.00 [17/17]

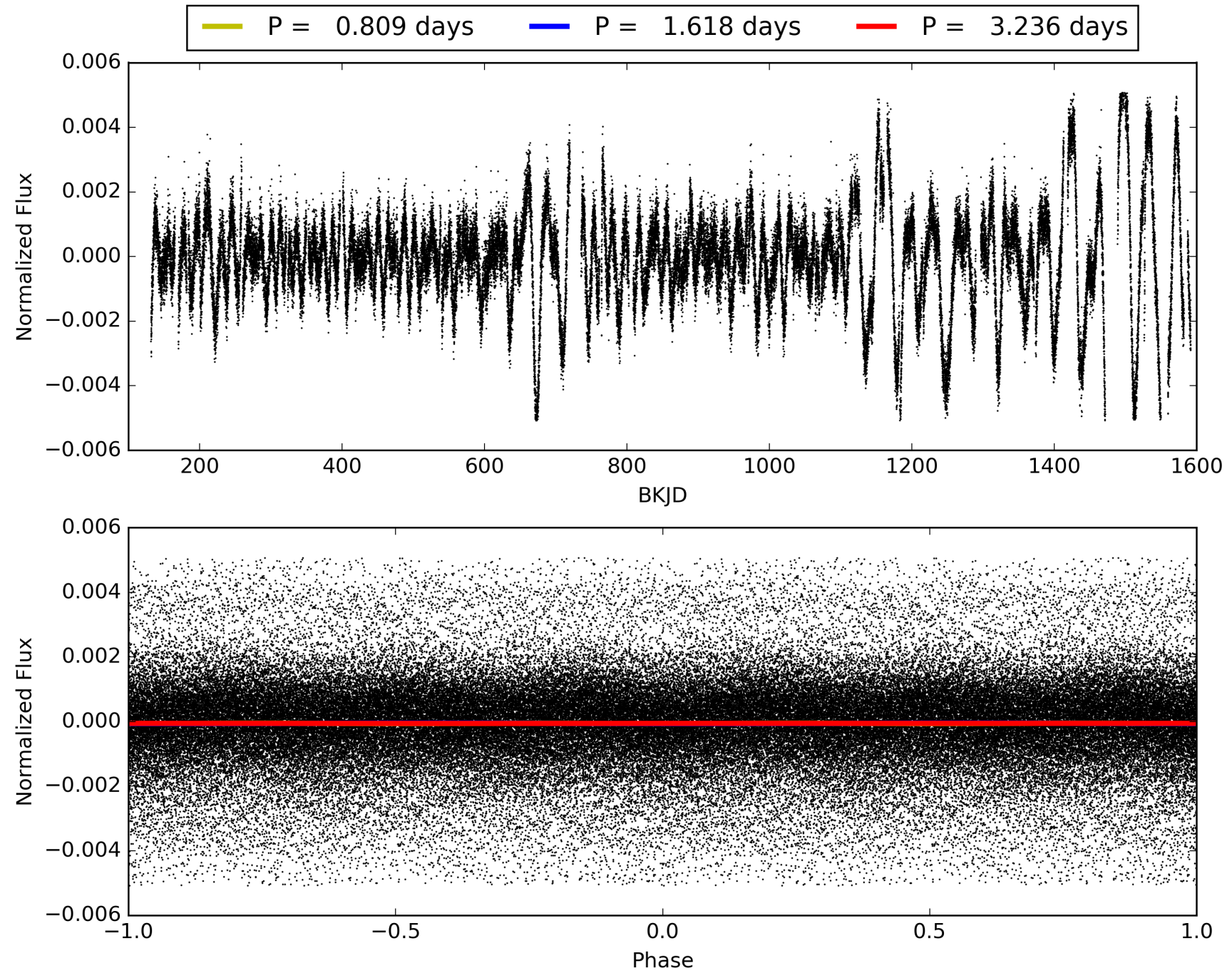
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:00:25 Z

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

# TCE 008382508-01, PDC Light Curves



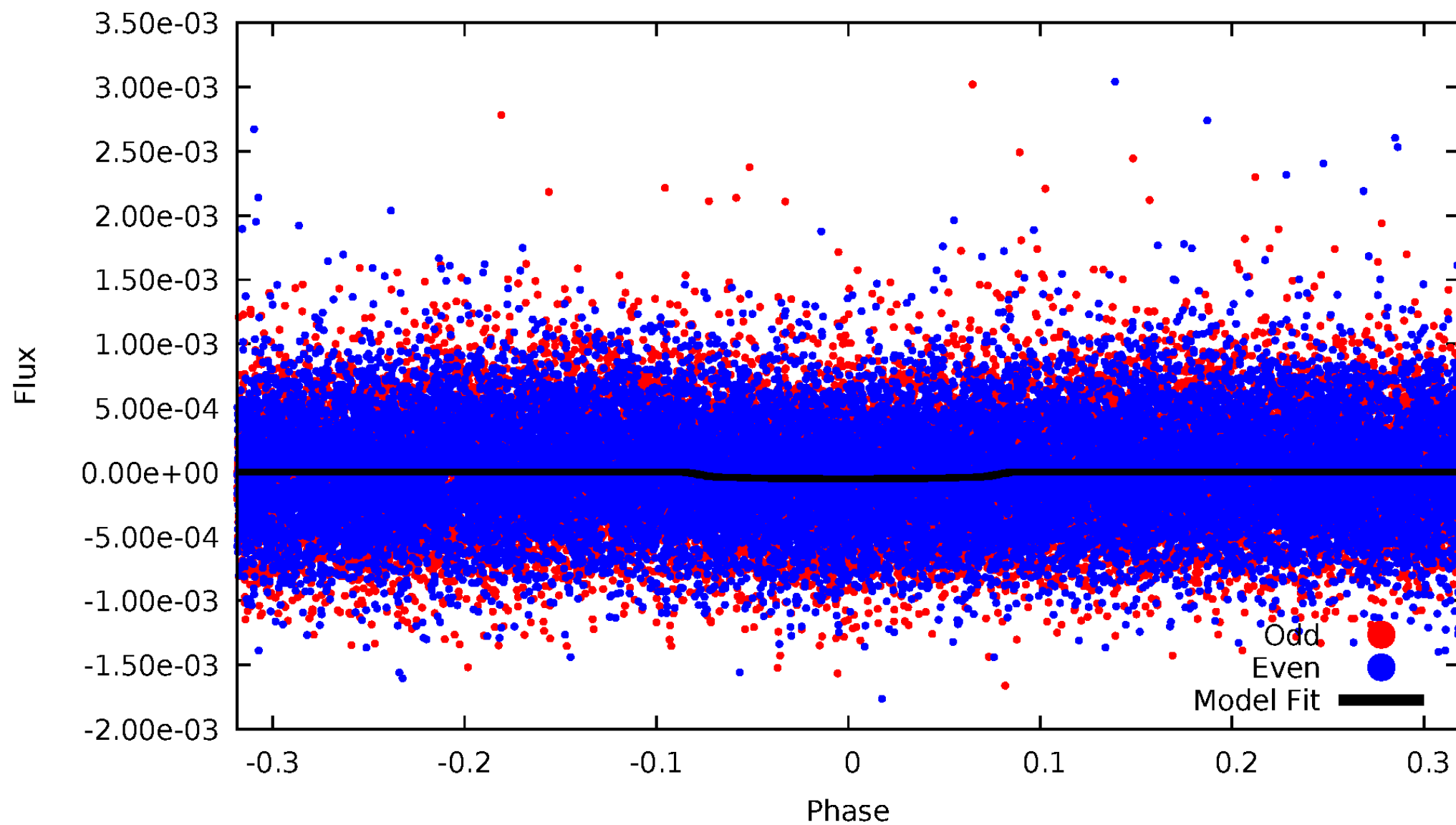
TCE 008382508-01





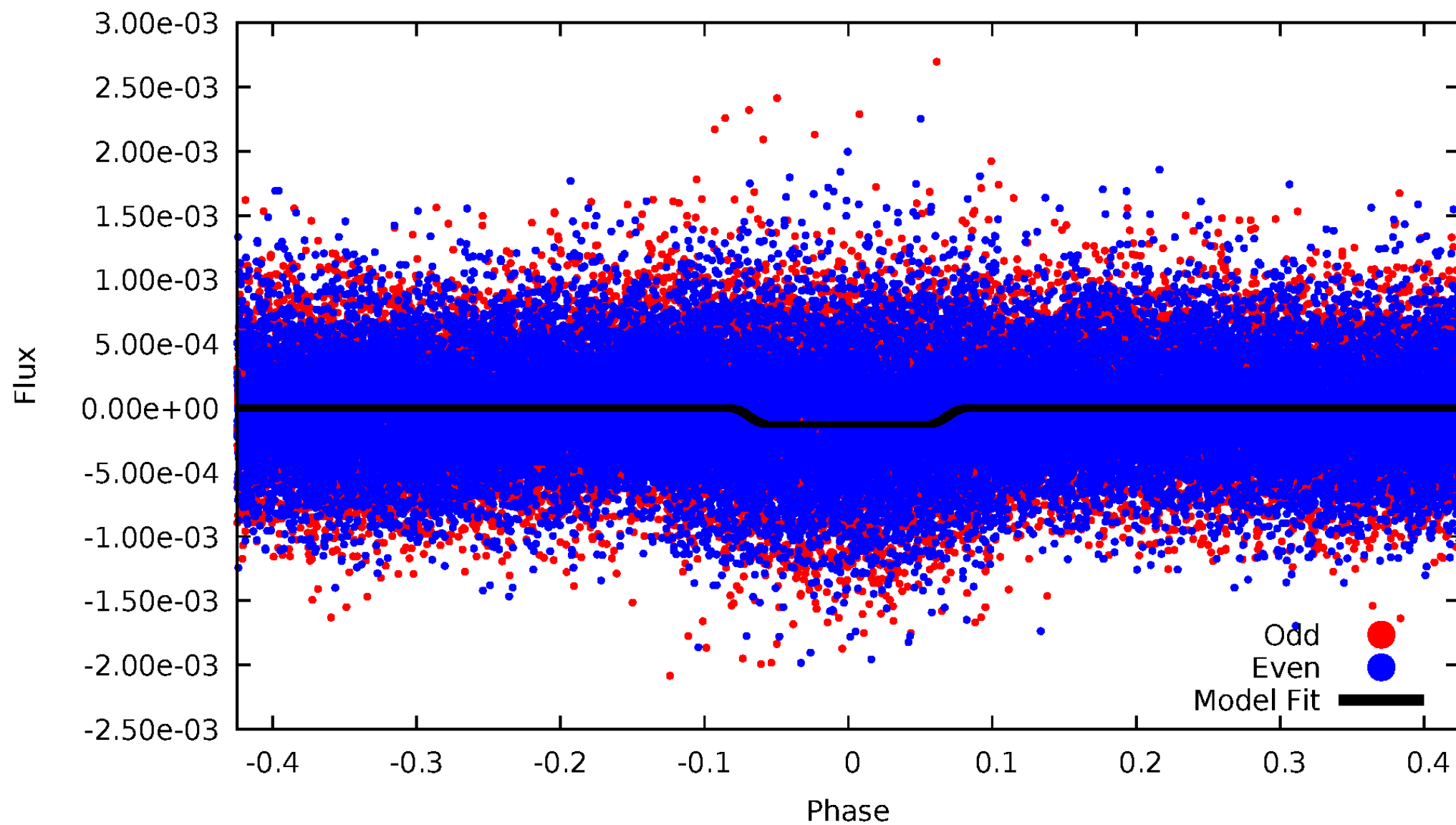
# DV Odd/Even

TCE 008382508-01



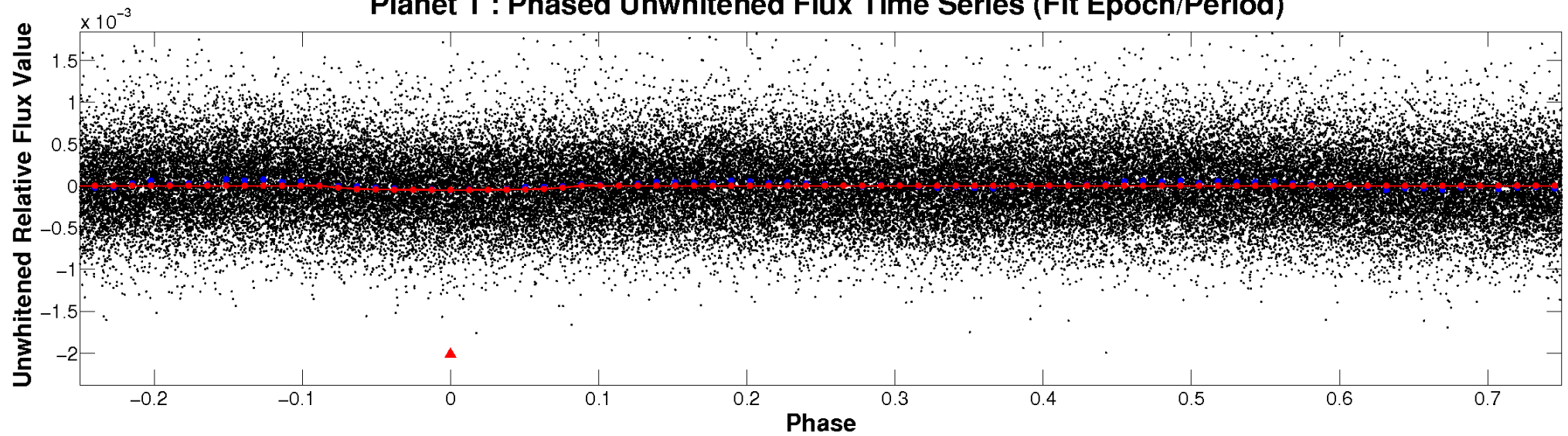
# ALT Odd/Even

TCE 008382508-01

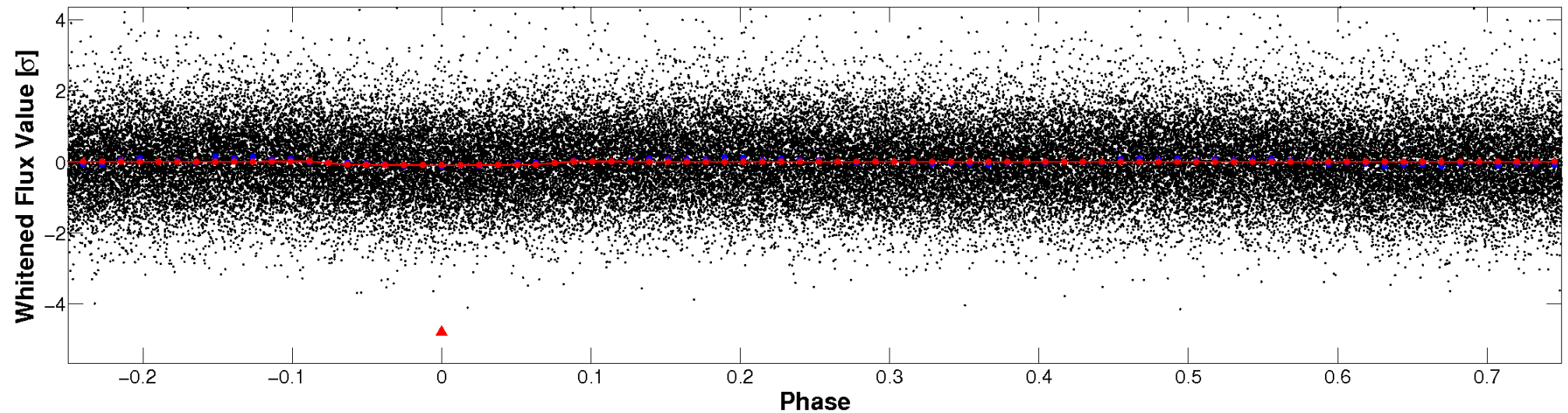


# Non-Whitened Vs. Whitened Light Curve

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

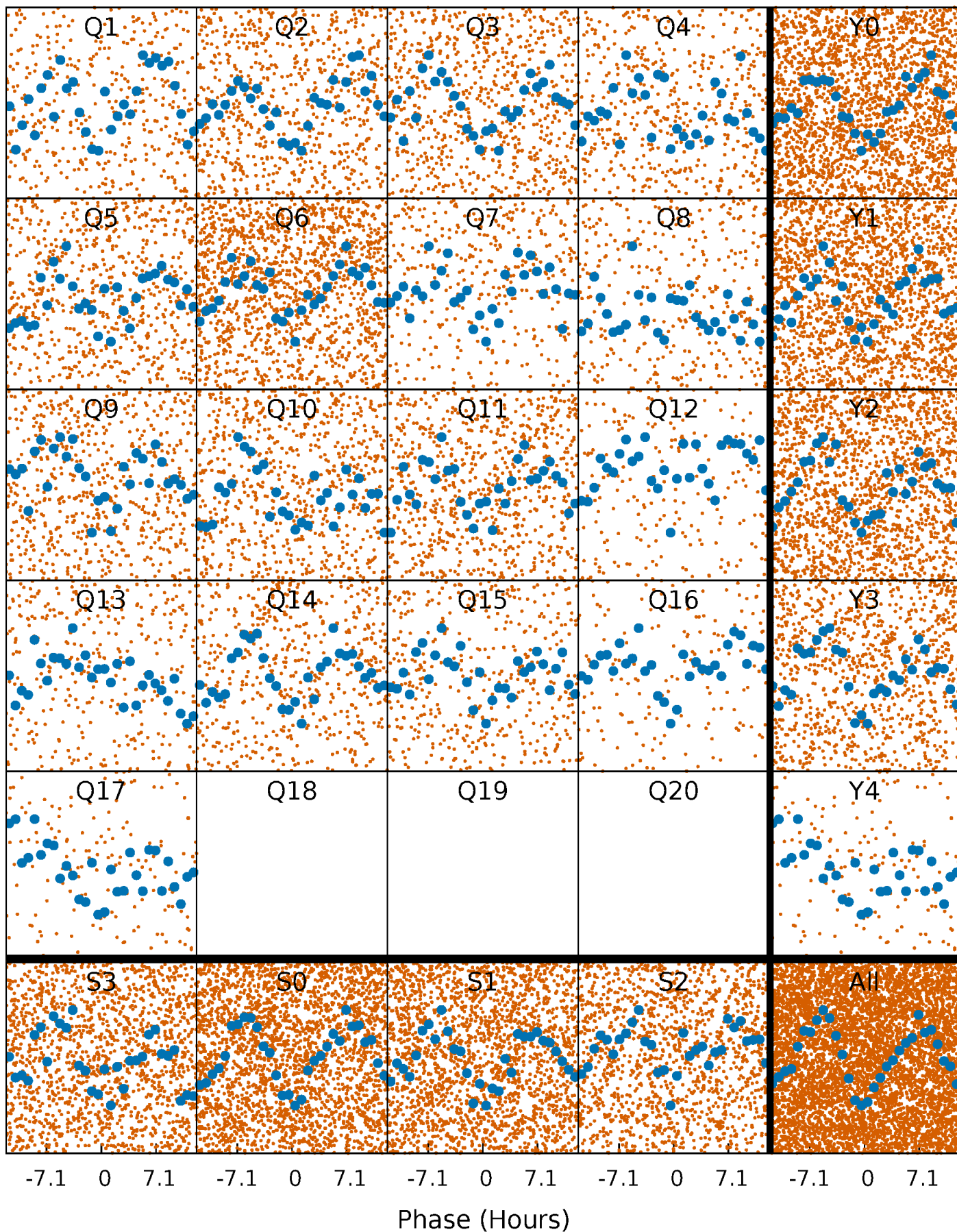


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

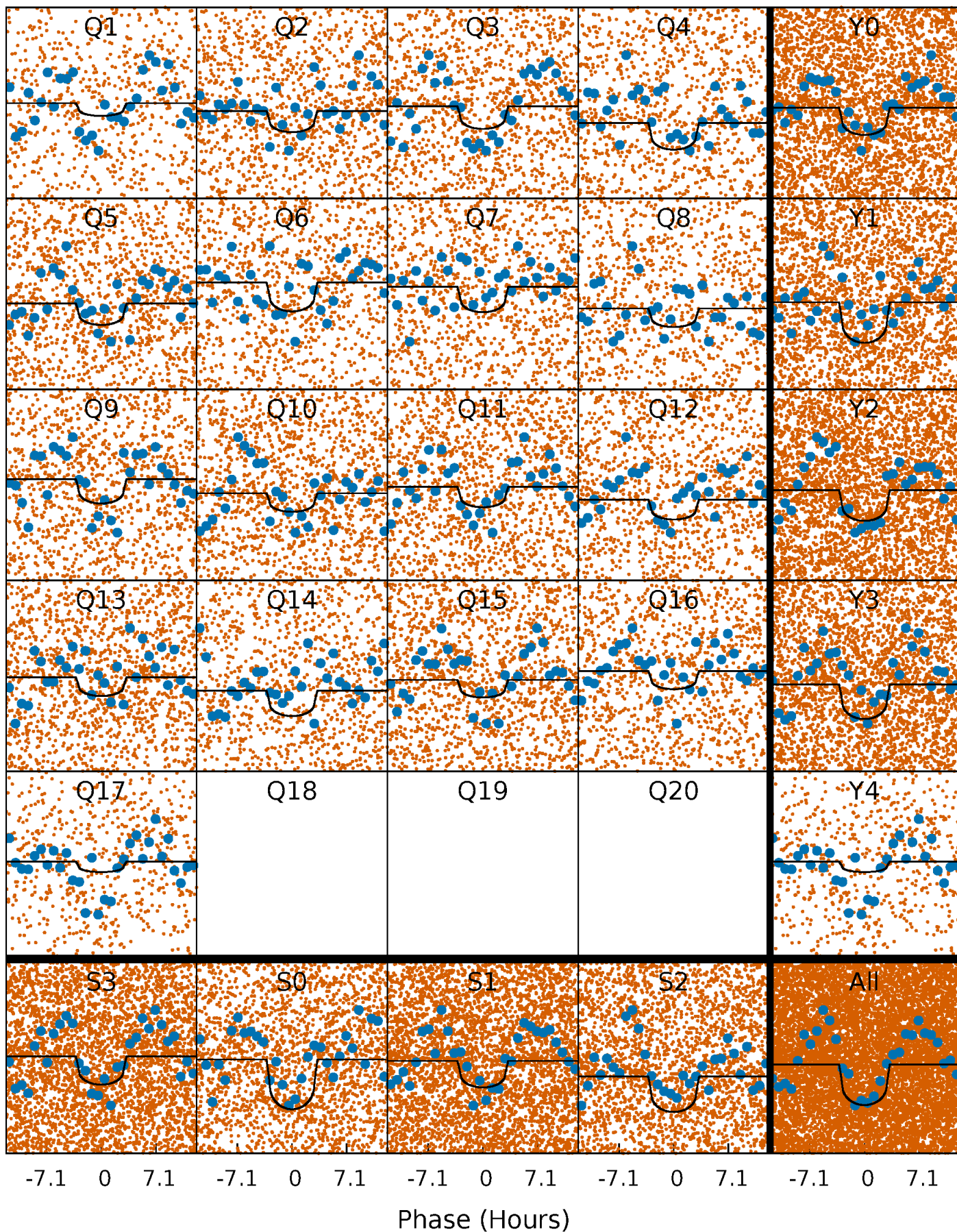
TCE 008382508-01 P= 1.617760 Days  $T_0=132.694953$  (BKJD)





# DV Quarter-Phased Transit Curves

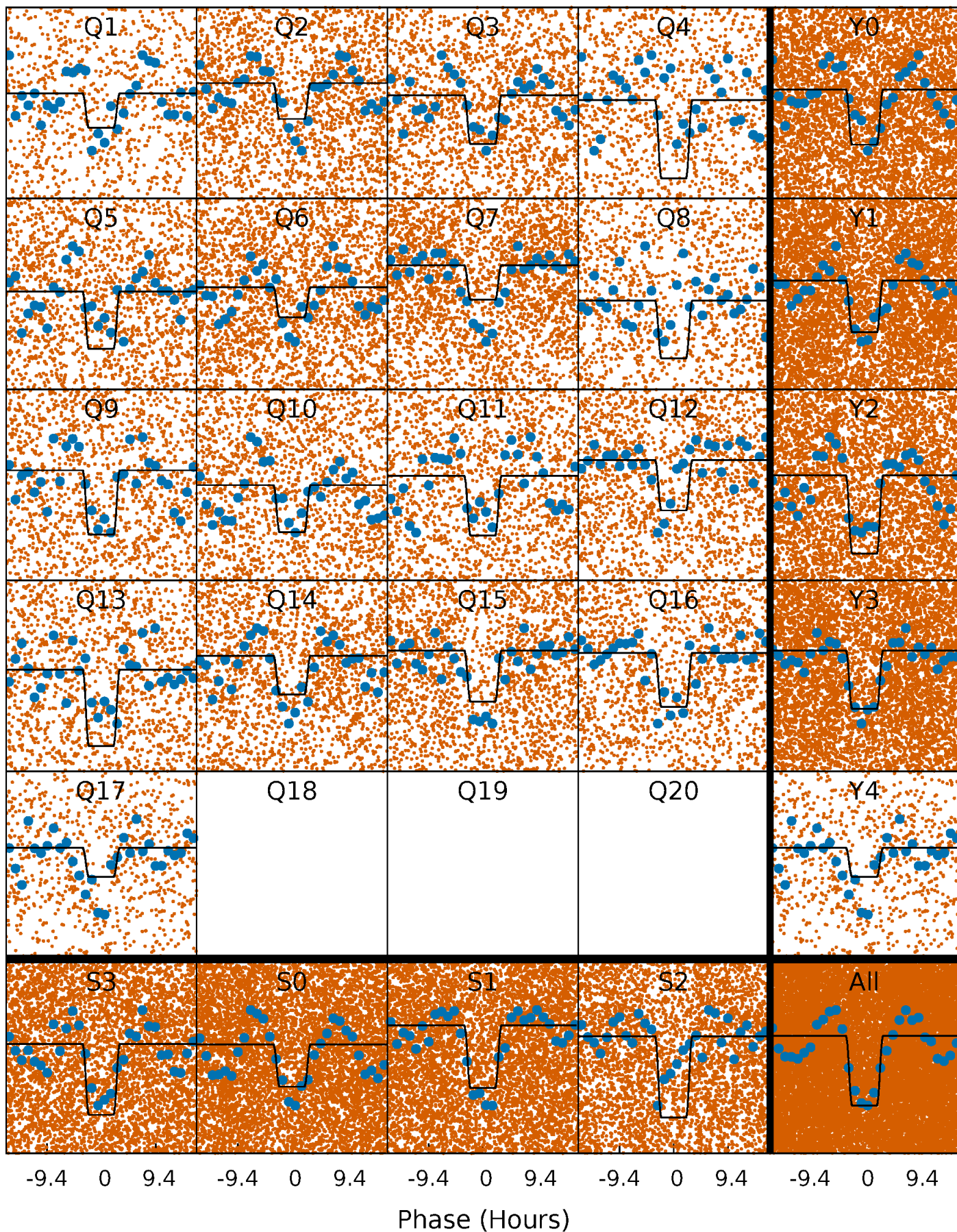
TCE 008382508-01 P= 1.617760 Days  $T_0=132.694953$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

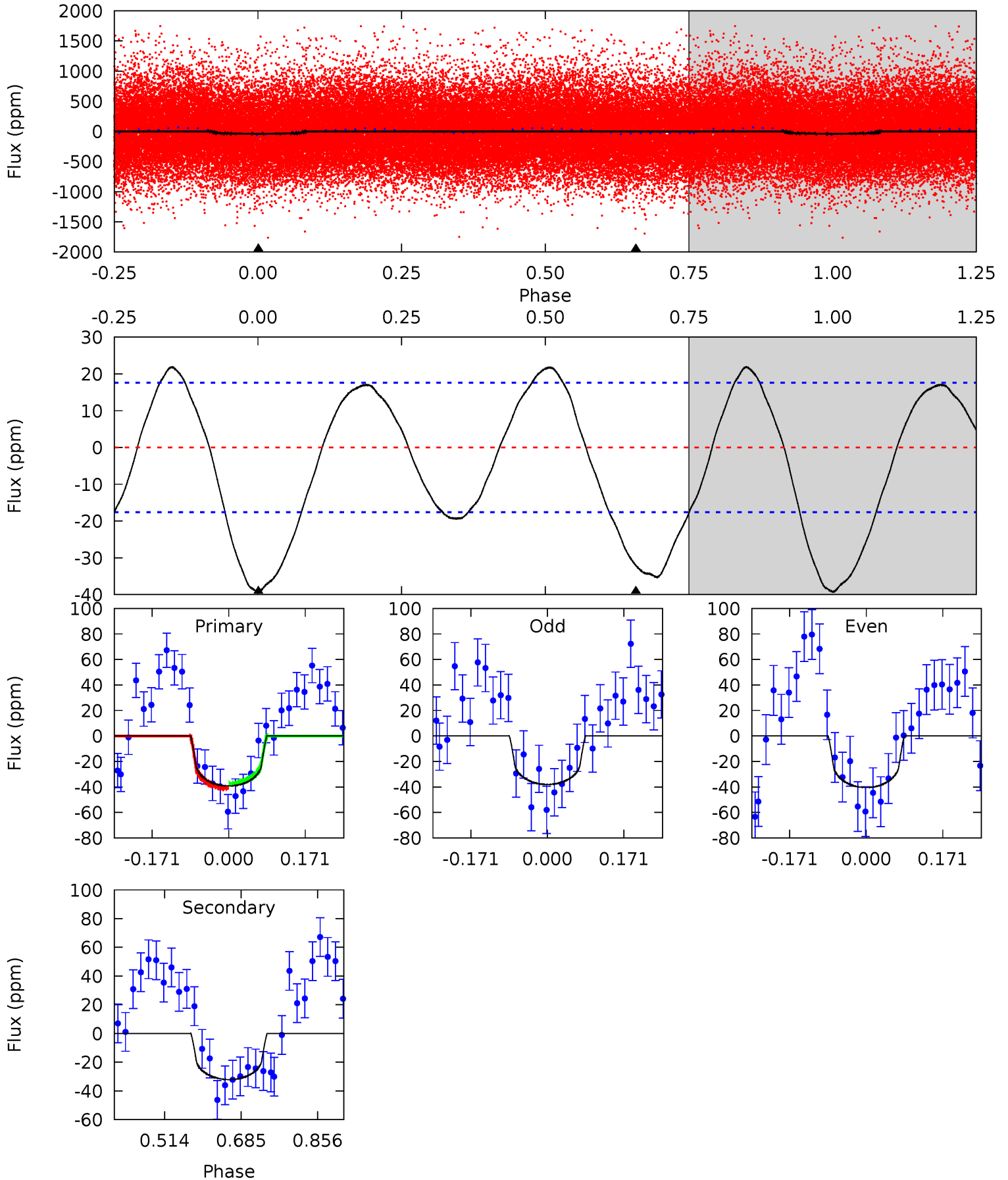
TCE 008382508-01 P= 1.617811 Days  $T_0=132.669906$  (BKJD)



# DV Model-Shift Uniqueness Test

008382508-01, P = 1.617760 Days, E = 131.077193 Days

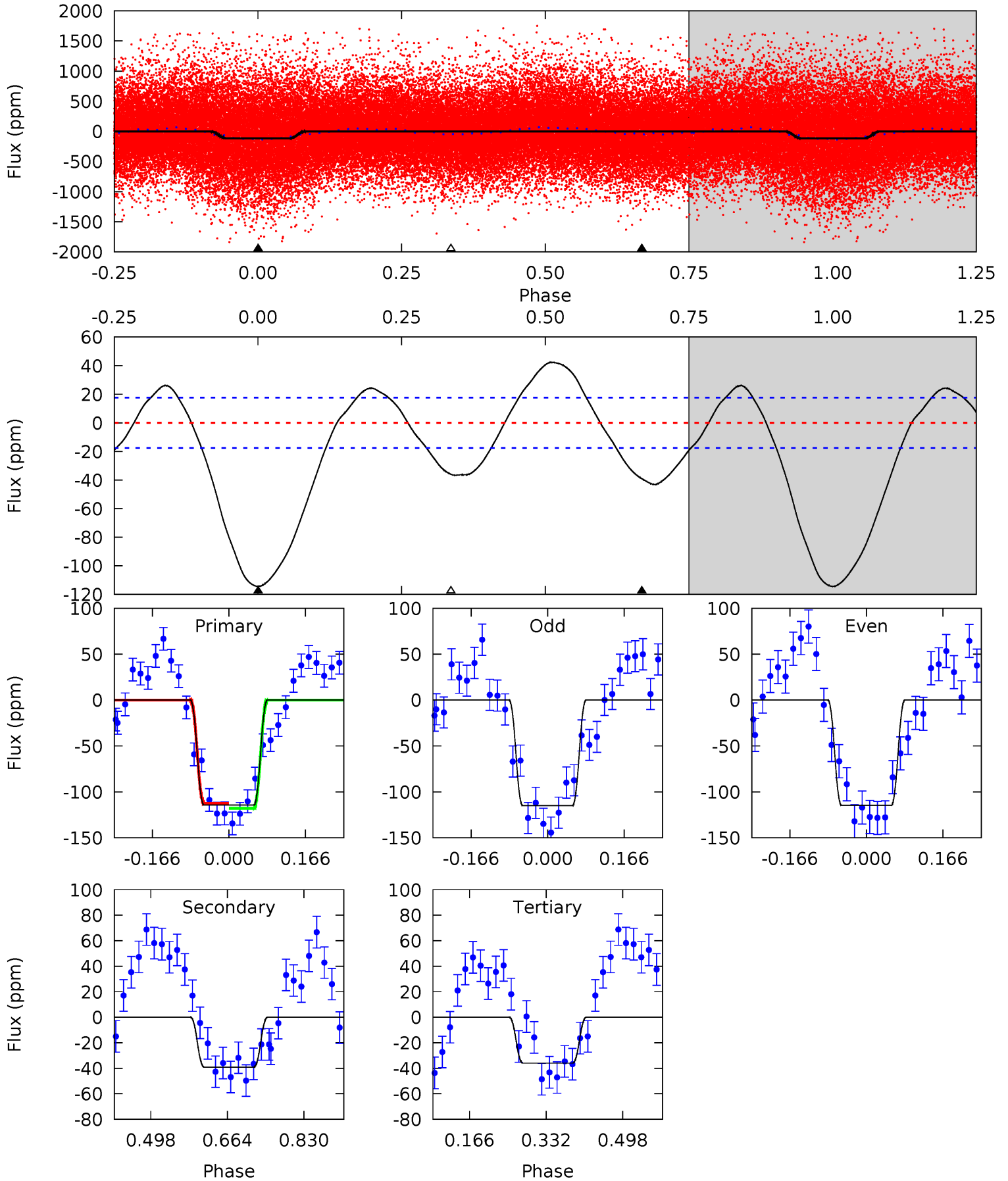
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.92	8.12	0	0	4.45	1.37	3.36	9.92	9.92	8.12	8.12	0.30	0.83	0.36	0.46



# Alt Model-Shift Uniqueness Test

008382508-01, P = 1.617811 Days, E = 131.052095 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
29.0	9.91	9.14	0	4.46	1.39	6.12	19.9	29.0	0.78	9.91	0.04	0.99	0.27	0.69





### Stellar Parameters For KIC 008382508

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3929^{+99}_{-1}$	$4.705^{+0.033}_{-0.023}$	$-0.100^{+0.100}_{-0.100}$	$0.550^{+0.028}_{-0.033}$	$0.559^{+0.031}_{-0.031}$	$4.736^{+0.706}_{-0.455}$
	+3%/-0%	+1%/-0%	+100%/-100%	+5%/-6%	+6%/-6%	+15%/-10%
Source	PHO2	PHO2	PHO2	DSEP		

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

### Secondary Eclipse Parameters for KIC 008382508-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-32 \pm 4$	$0.48^{+0.32}_{-0.29}$	$1200^{+36}_{-58}$	$3482^{+1413}_{-523}$	$39^{+210}_{-26}$
Alt.	$-39 \pm 4$	$0.70^{+0.37}_{-0.35}$	$1199^{+36}_{-60}$	$3186^{+765}_{-388}$	$22^{+66}_{-13}$

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

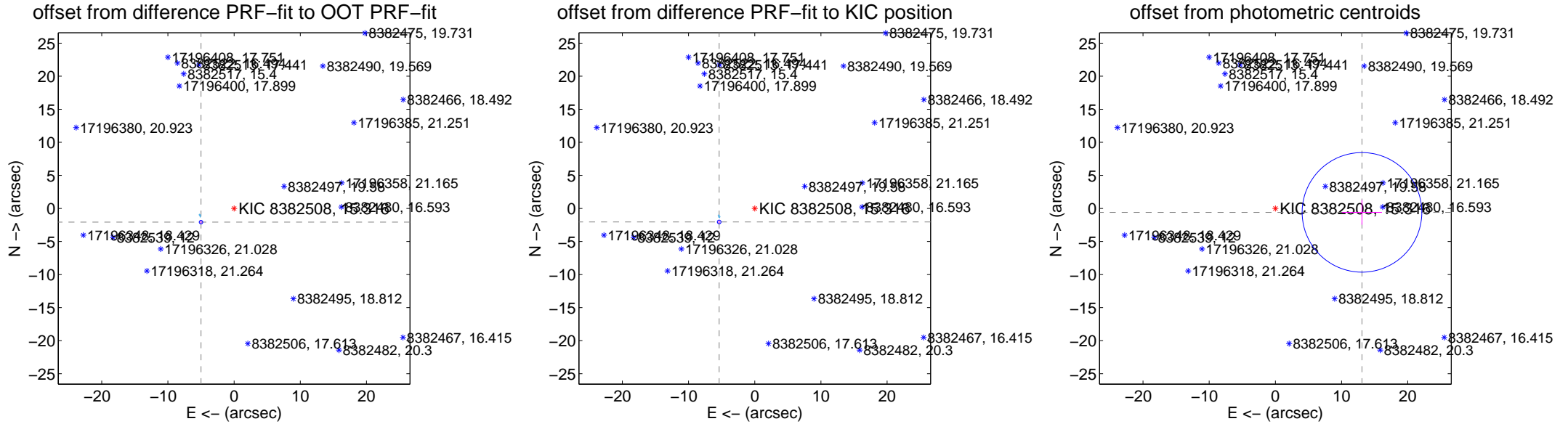
## DV Centroid Data

Supplemental centroid analysis for 008382508-01. Kepler magnitude: 15.32. Transit SNR 7.76

There are 9 quarters with good PRF difference image offsets

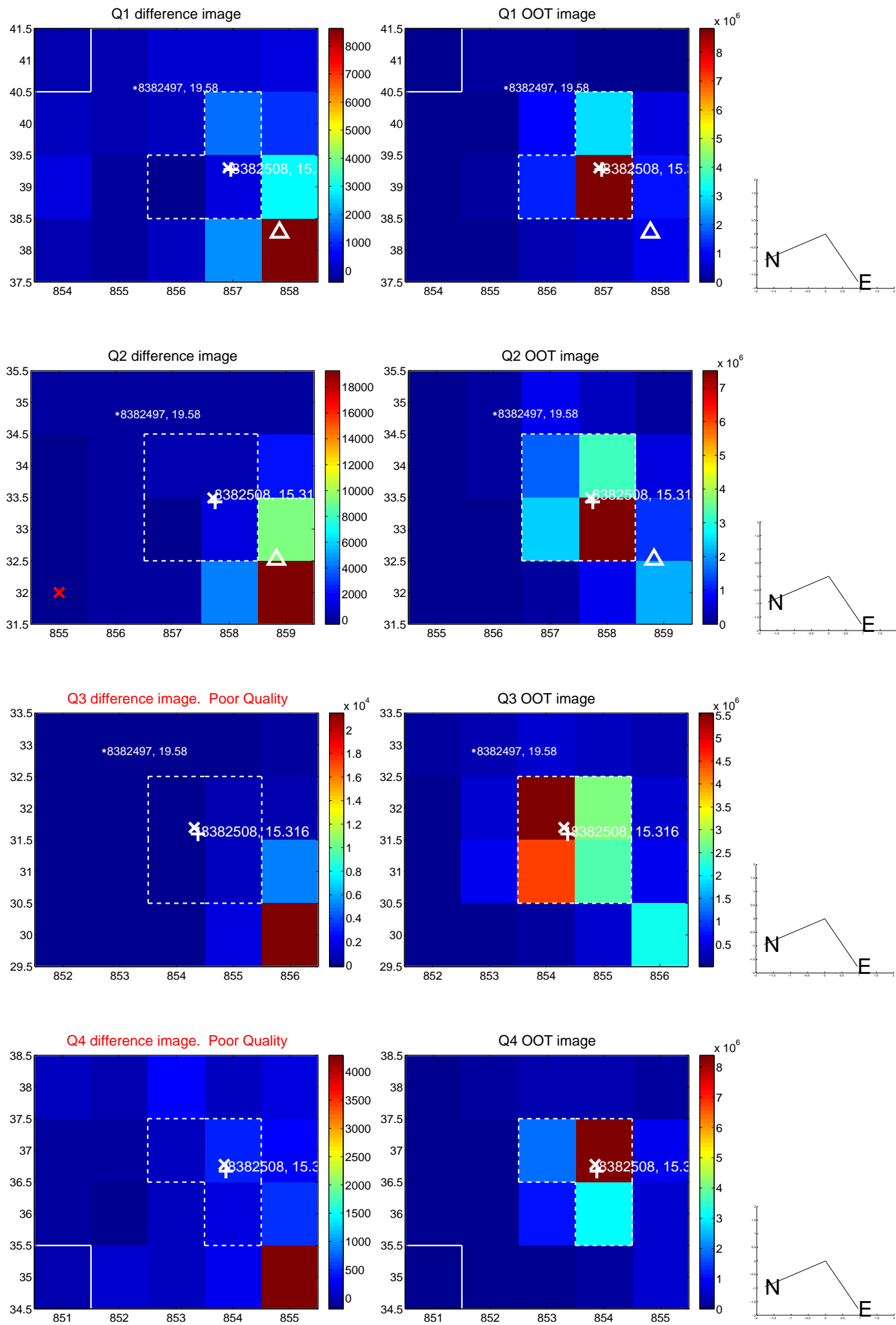
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>5.418 <math>\pm</math> 0.089</b>	<b>60.88</b>	5.006 $\pm$ 0.073	-2.073 $\pm$ 0.196
PRF-fit source offset from KIC position	<b>5.755 <math>\pm</math> 0.093</b>	<b>61.73</b>	5.379 $\pm$ 0.071	-2.047 $\pm$ 0.167
photometric centroid source offset	<b>13.10 <math>\pm</math> 3.01</b>	<b>4.35</b>	-13.09 $\pm$ 3.02	-0.59 $\pm$ 1.87

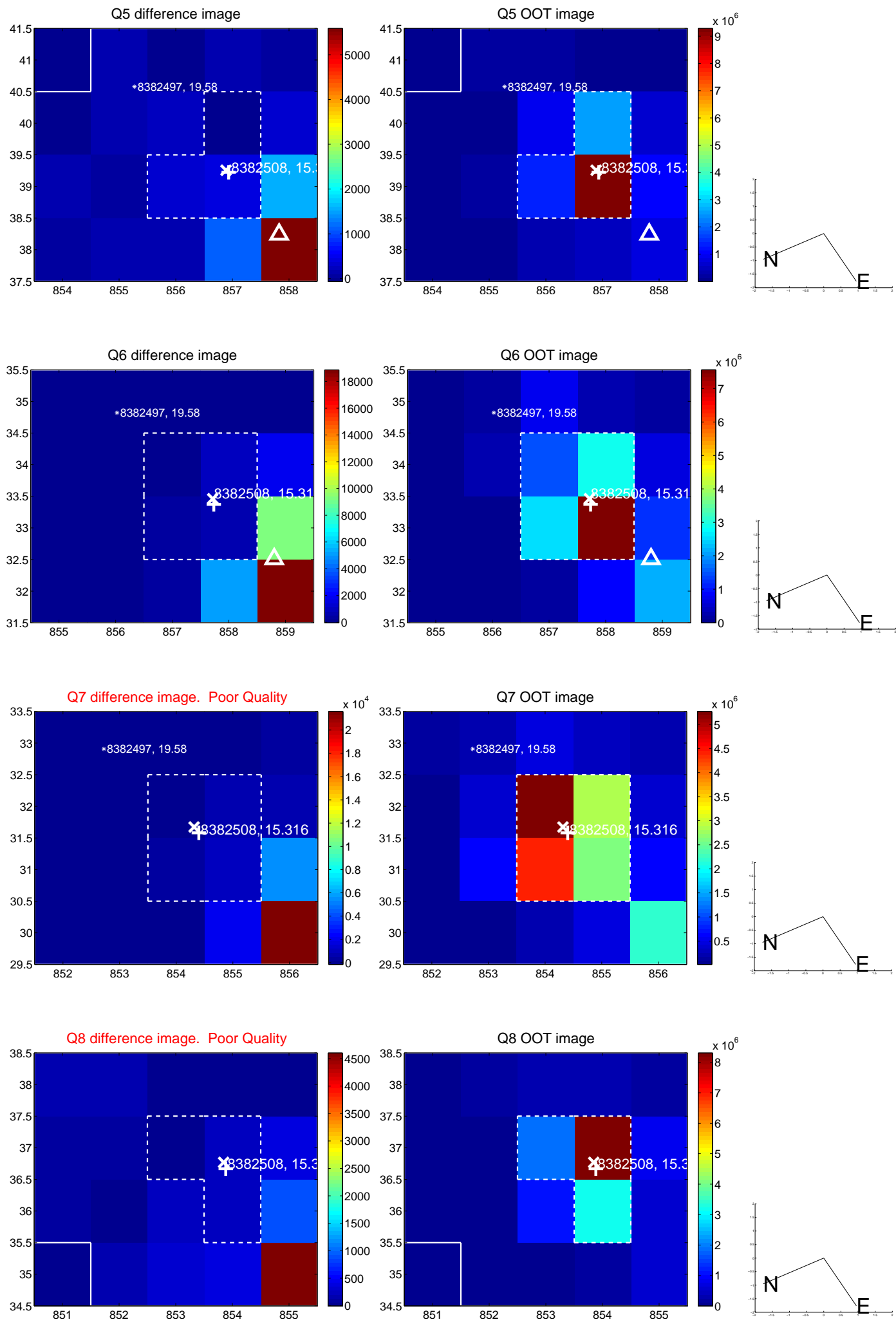


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

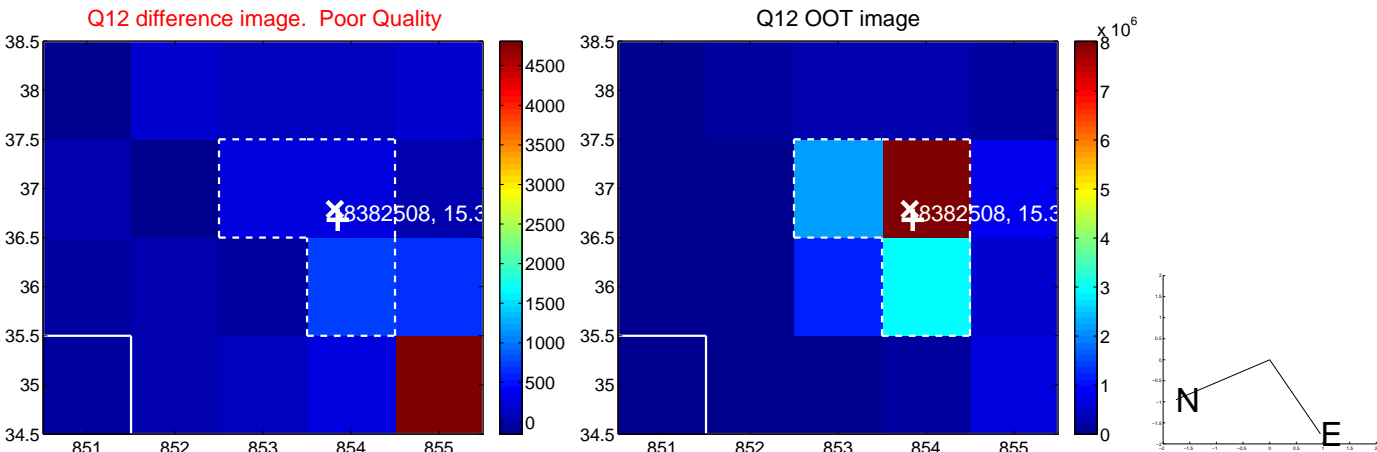
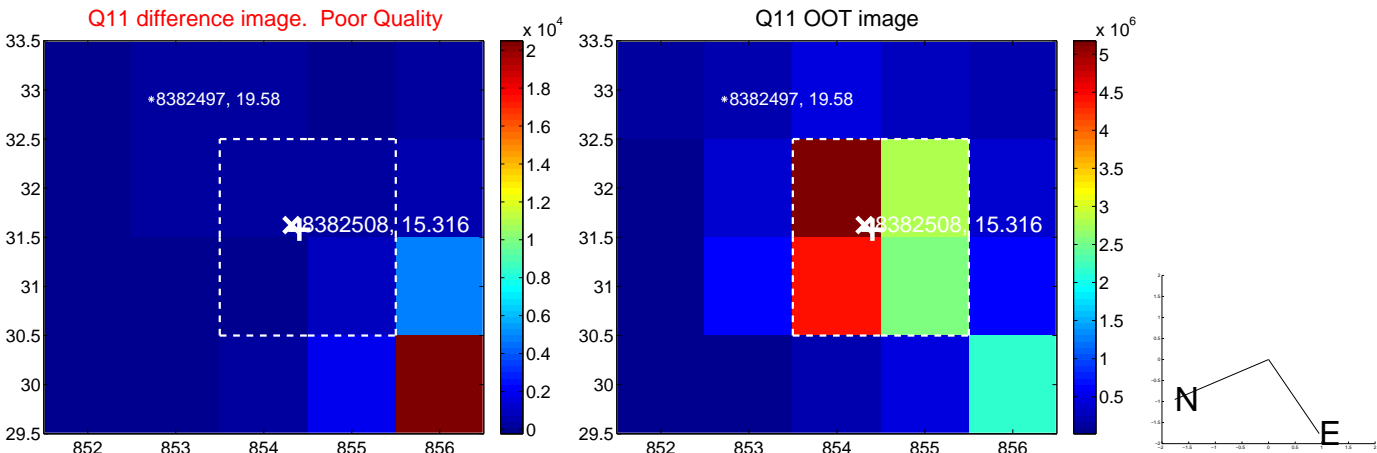
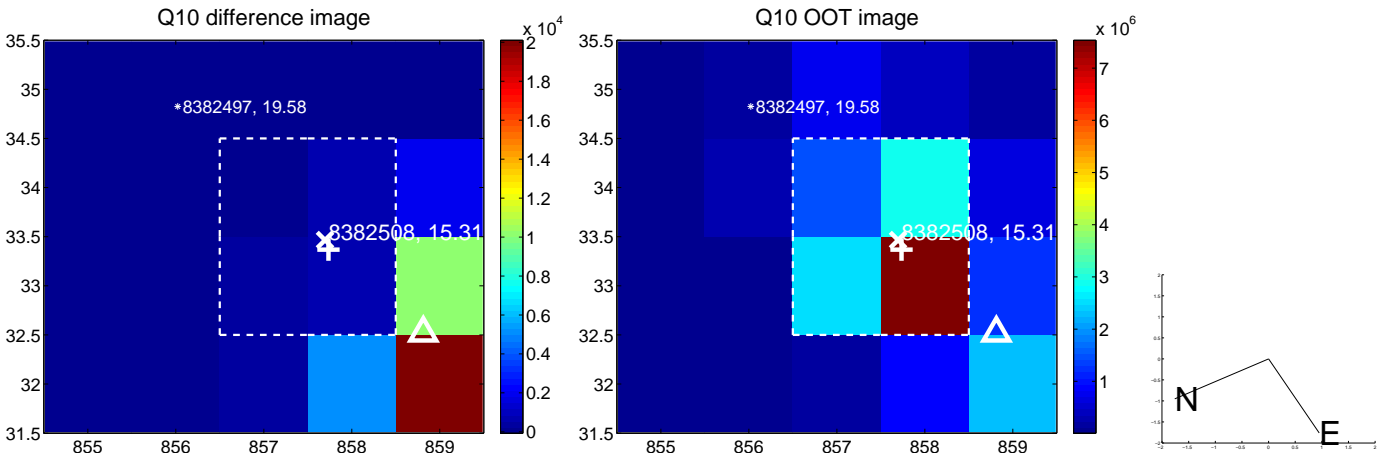
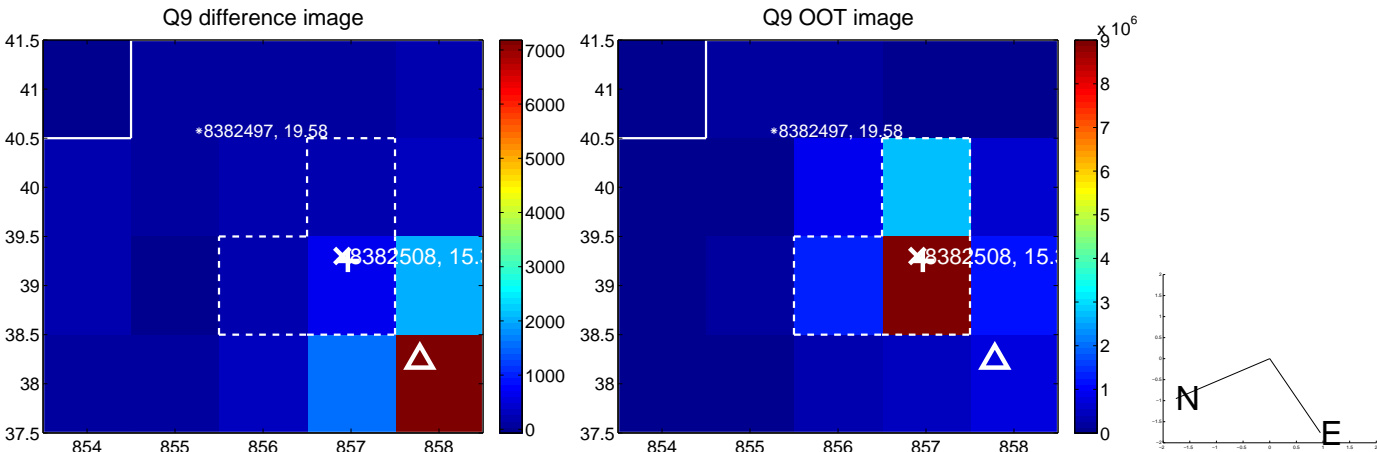


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

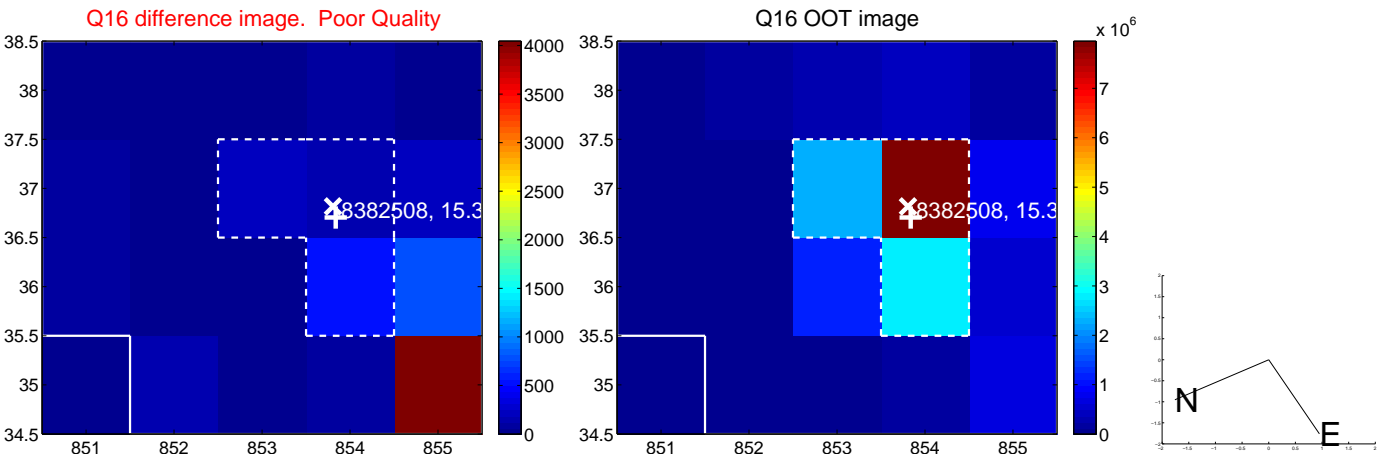
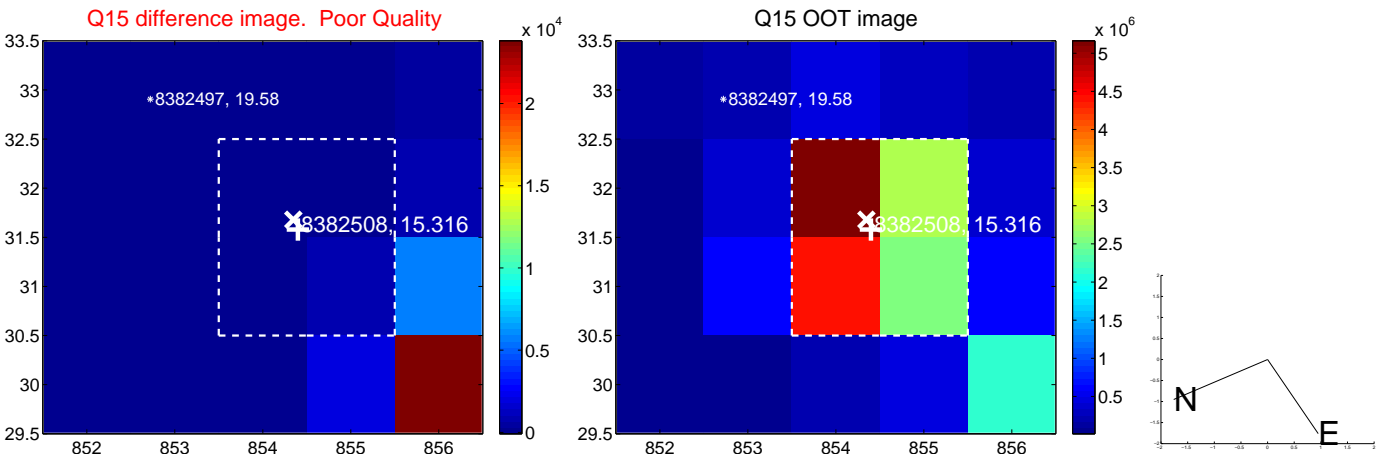
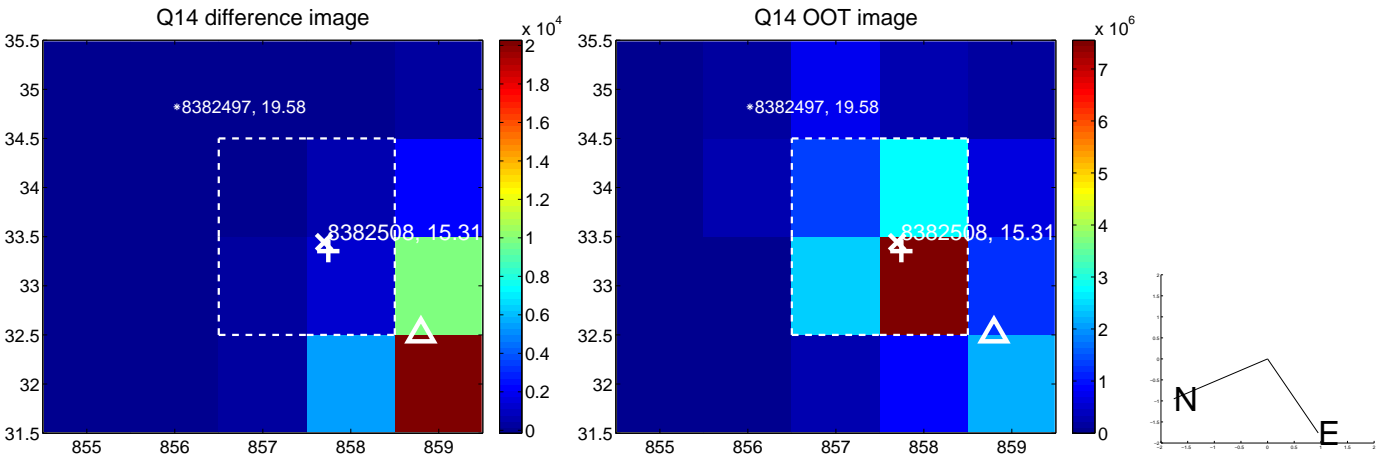
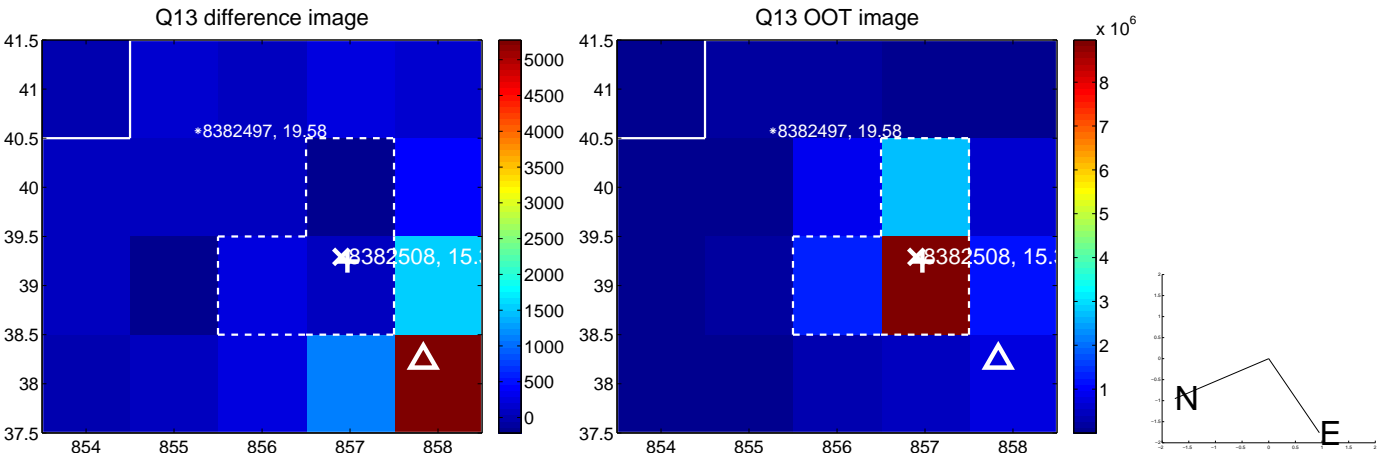




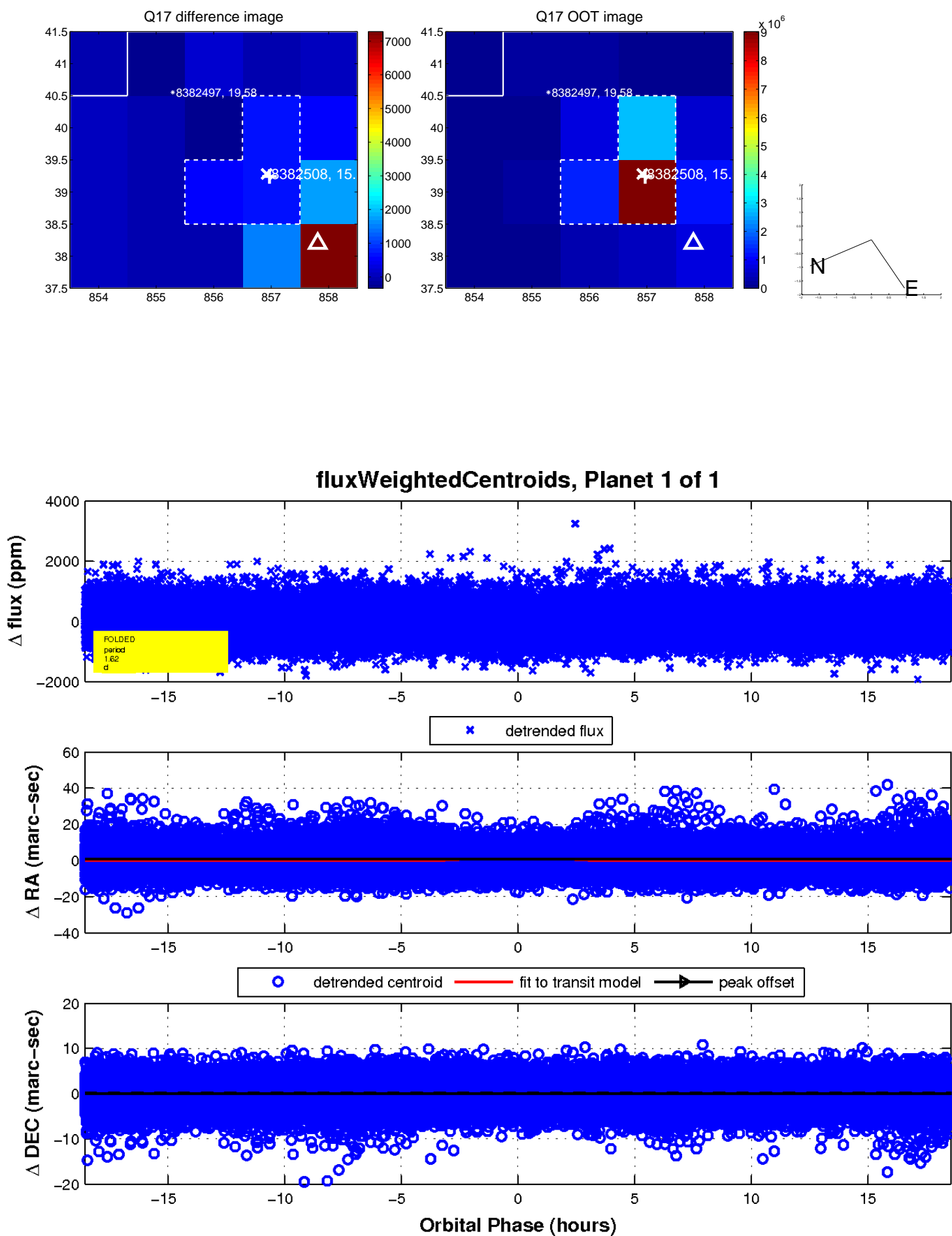
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

