

# KIC 008826007

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008826007-01	OBS	3266.01	54.509147	140.829577	588.1	4.585	14.1	14.2	0.60	4406	1.78	2.13

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826007-01	OBS	PC	0.99	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 008826007-01

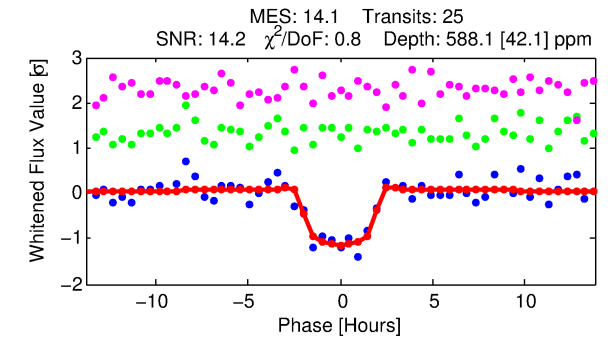
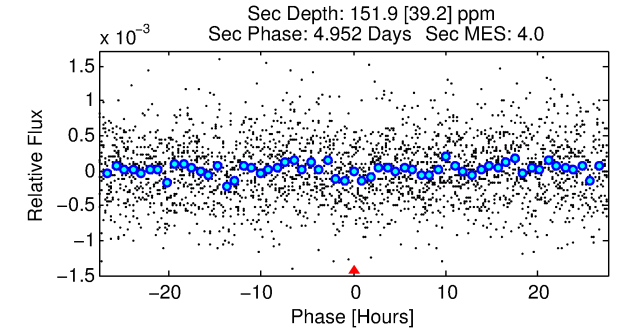
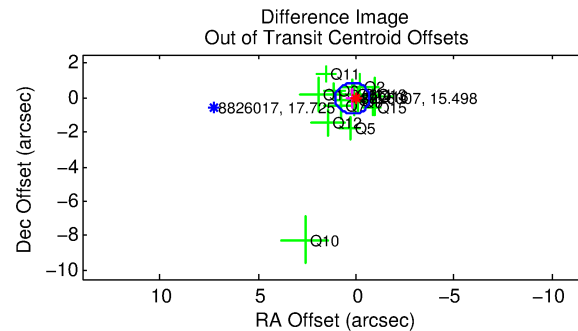
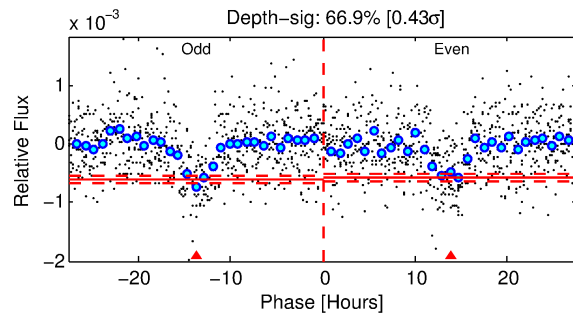
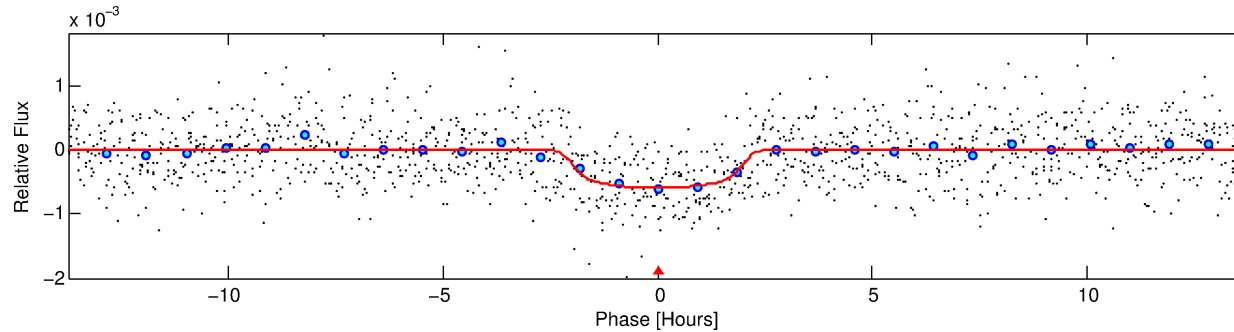
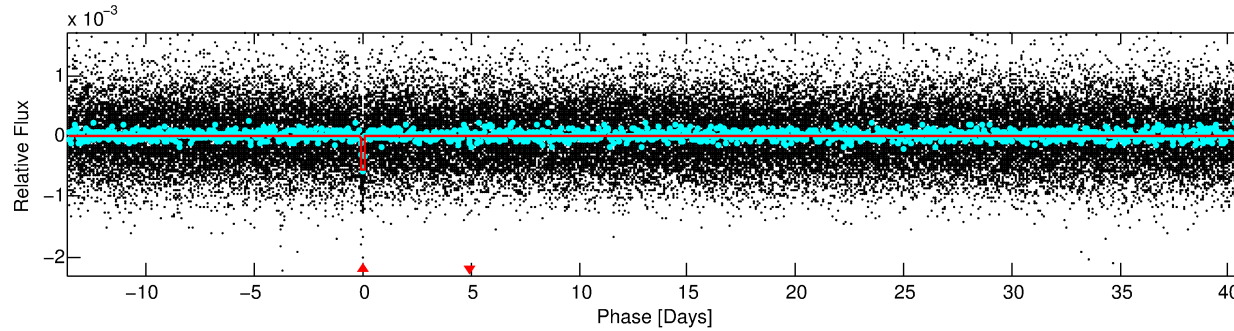
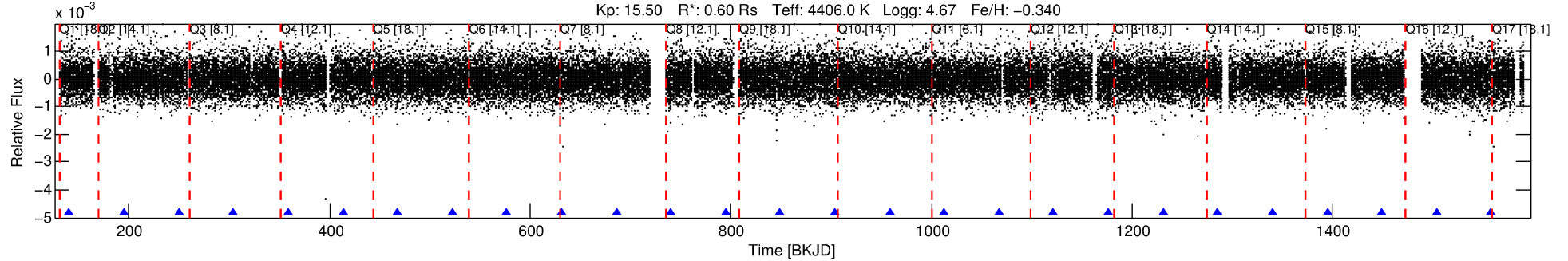
No Significant Match Found

# DV One-Page Summary

KIC: 8826007 Candidate: 1 of 1 Period: 54.509 d

KOI: K03266.01 Corr: 0.961

Kp: 15.50 R\*: 0.60 Rs Teff: 4406.0 K Logg: 4.67 Fe/H: -0.340



## DV Fit Results:

Period = 54.50915 [0.00043] d  
Epoch = 140.8296 [0.0063] BKJD  
Rp/R\* = 0.0270 [0.0045]  
a/R\* = 45.26 [28.55]  
b = 0.90 [0.14]  
Seff = 2.13 [0.31]  
Teq = 308 [11] K  
Rp = 1.78 [0.34] Re  
a = 0.2400 [0.0166] AU  
Ag = 1521.41 [657.63] [2.31σ]  
Teffp = 2975 [327] K [8.15σ]

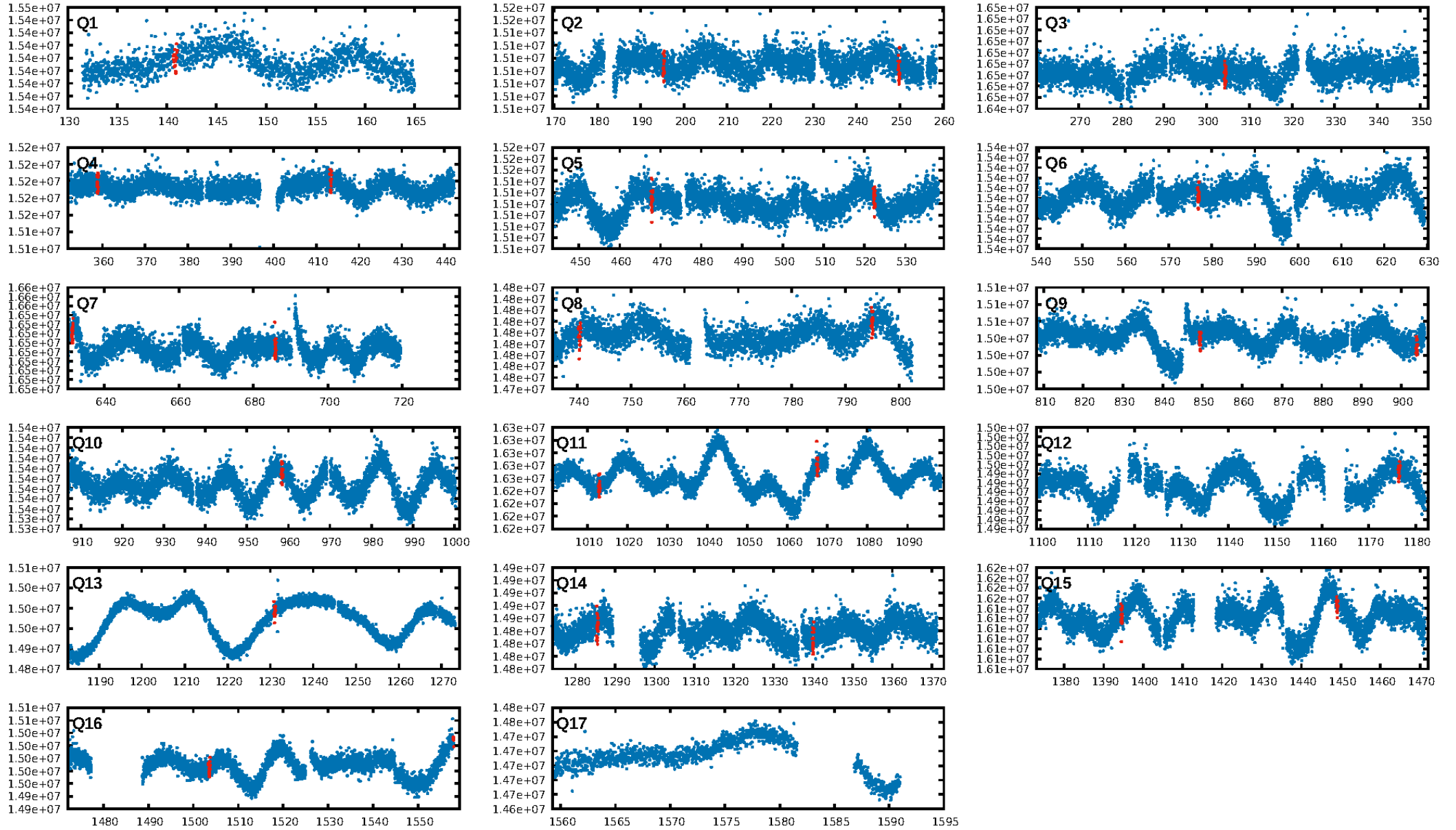
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 91.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 3.94e-45  
RollingBand-fgt: 1.00 [24/24]  
GhostDiagnostic-chr: 3.774  
Centroid-sig: 14.8%  
Centroid-so: 0.338 arcsec [0.41σ]  
OotOffset-rm: 0.195 arcsec [0.65σ]  
KicOffset-rm: 0.300 arcsec [0.54σ]  
OotOffset-st: 4/3/4/4 [15]  
KicOffset-st: 4/3/4/4 [15]  
DiffImageQuality-fgm: 0.93 [14/15]  
DiffImageOverlap-fno: 1.00 [16/16]

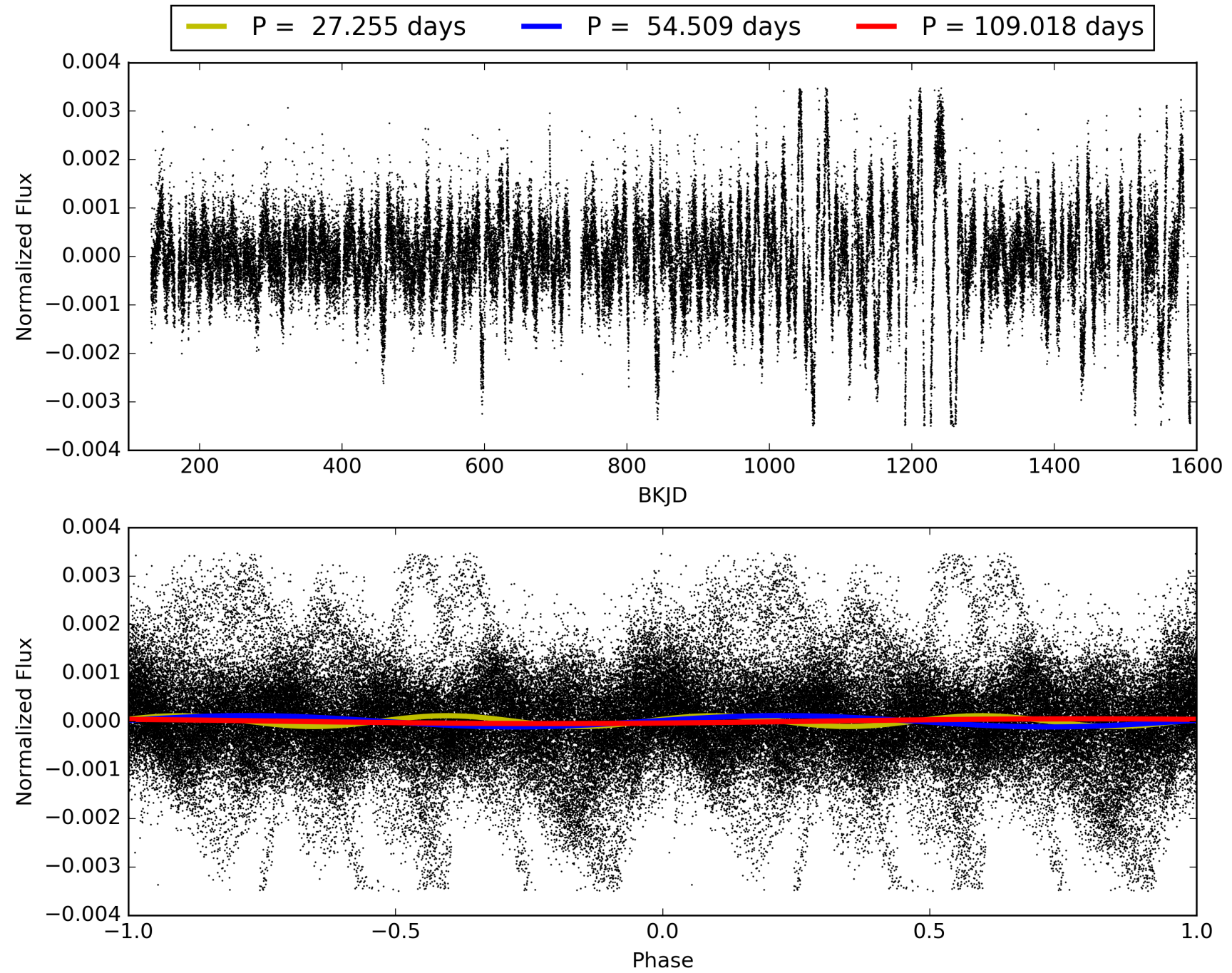
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:59:20 Z

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

# TCE 008826007-01, PDC Light Curves

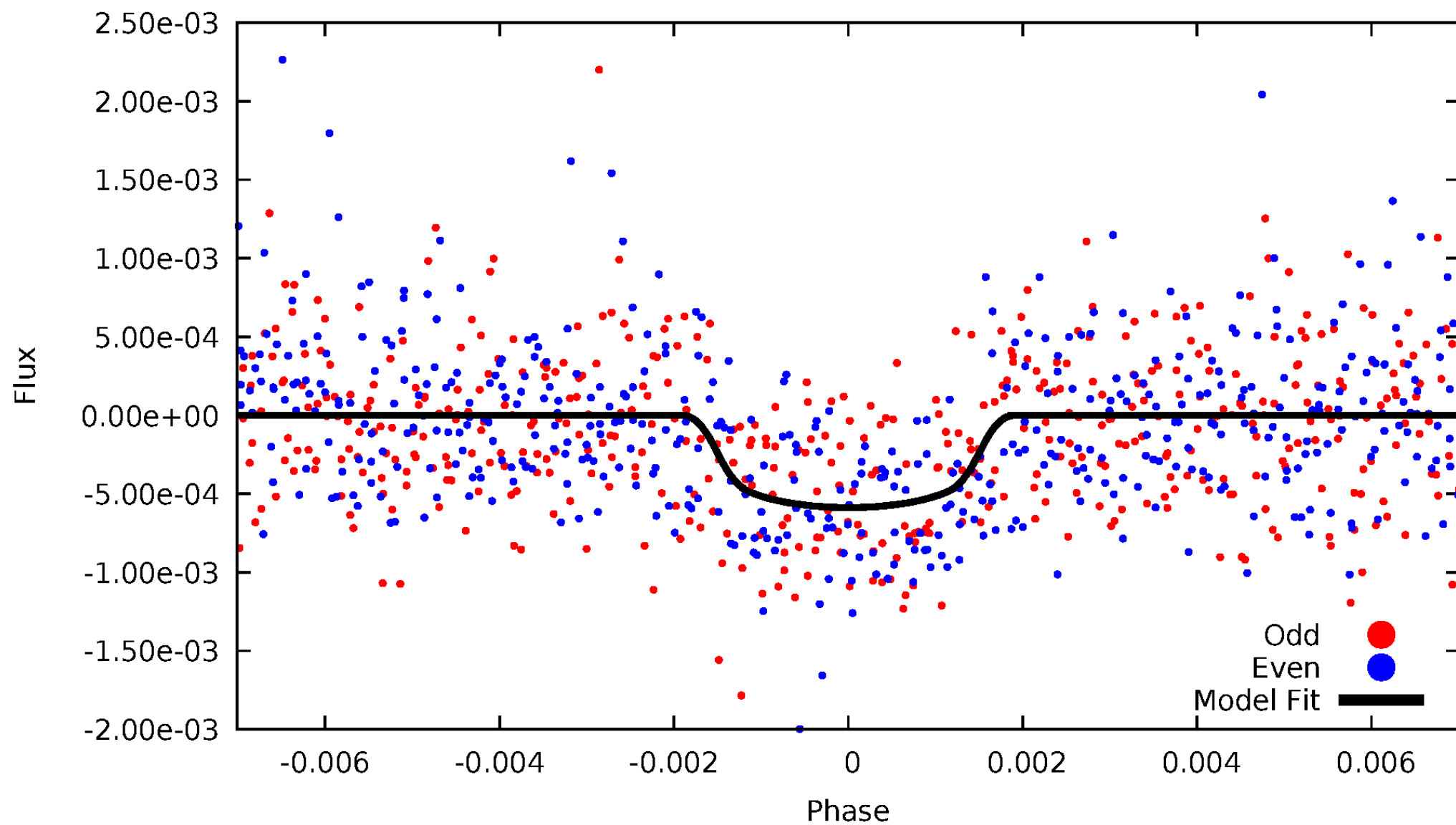


TCE 008826007-01



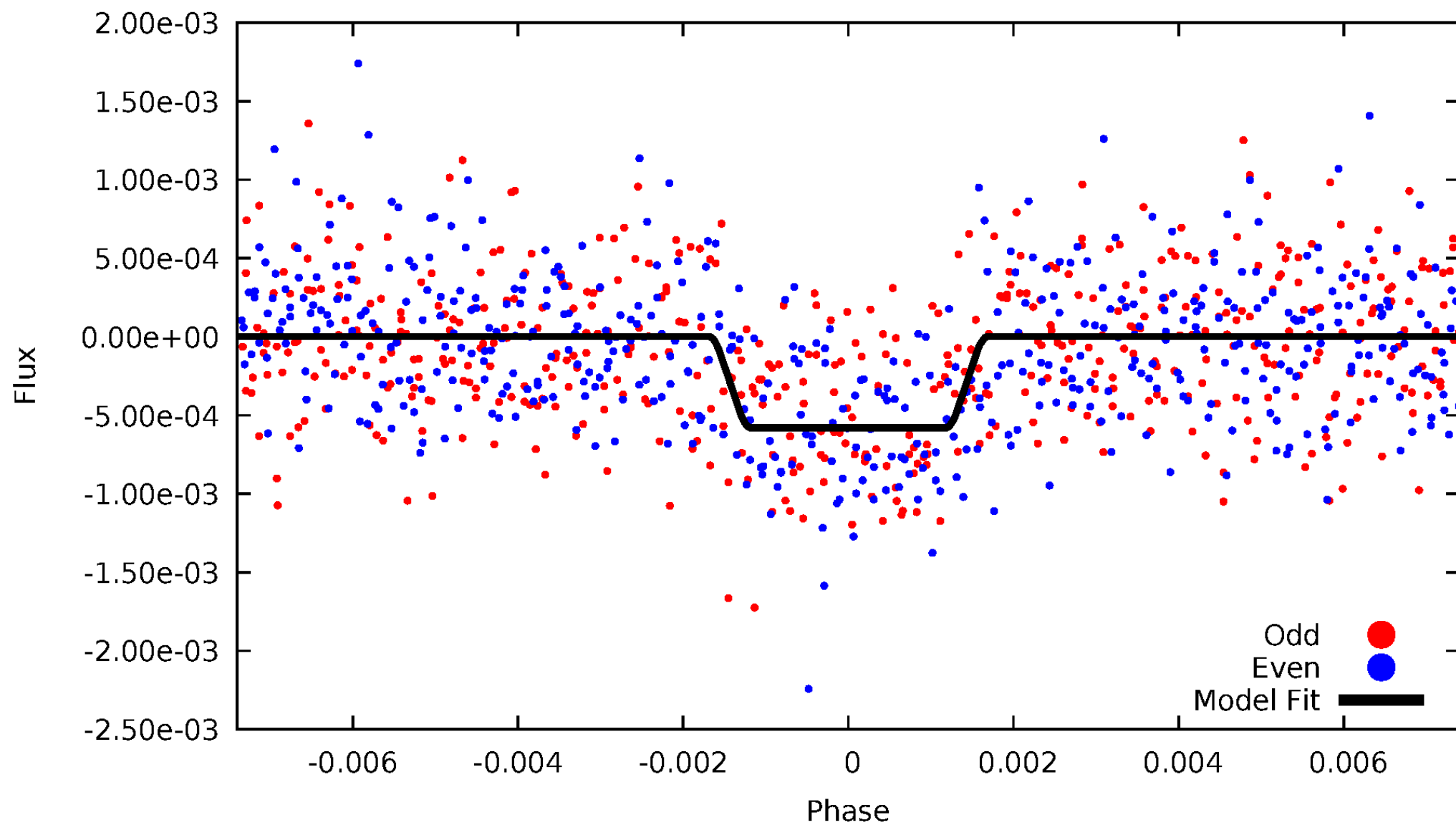
# DV Odd/Even

TCE 008826007-01



# ALT Odd/Even

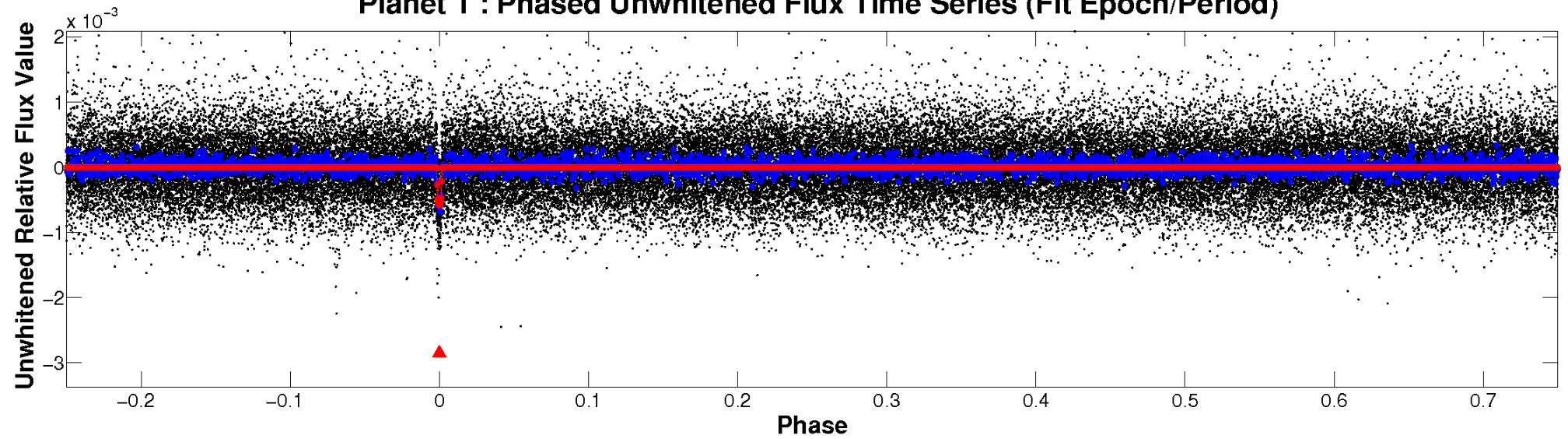
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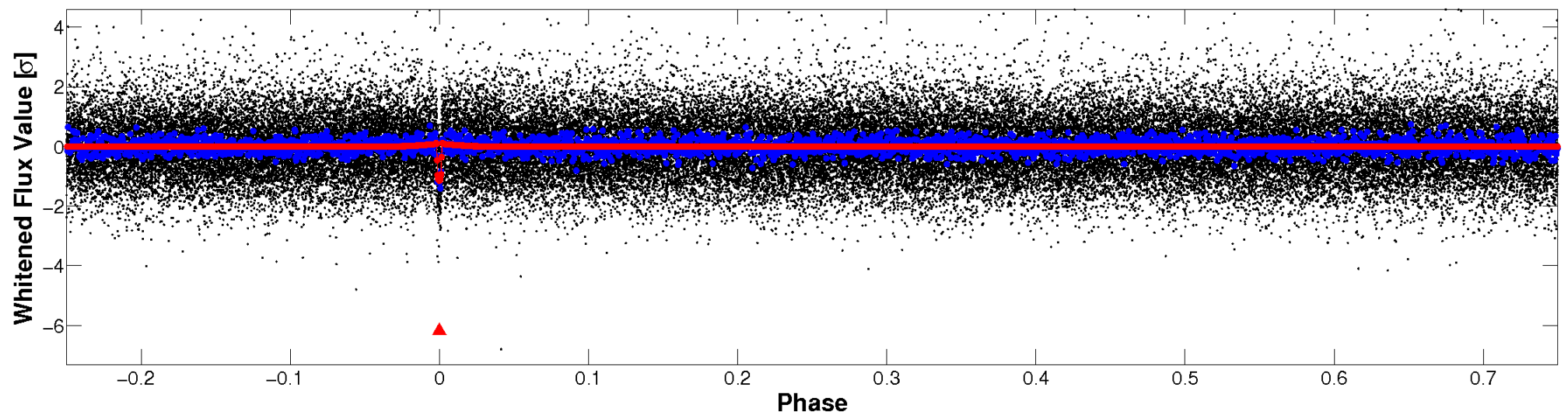


# Non-Whitened Vs. Whitened Light Curve

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

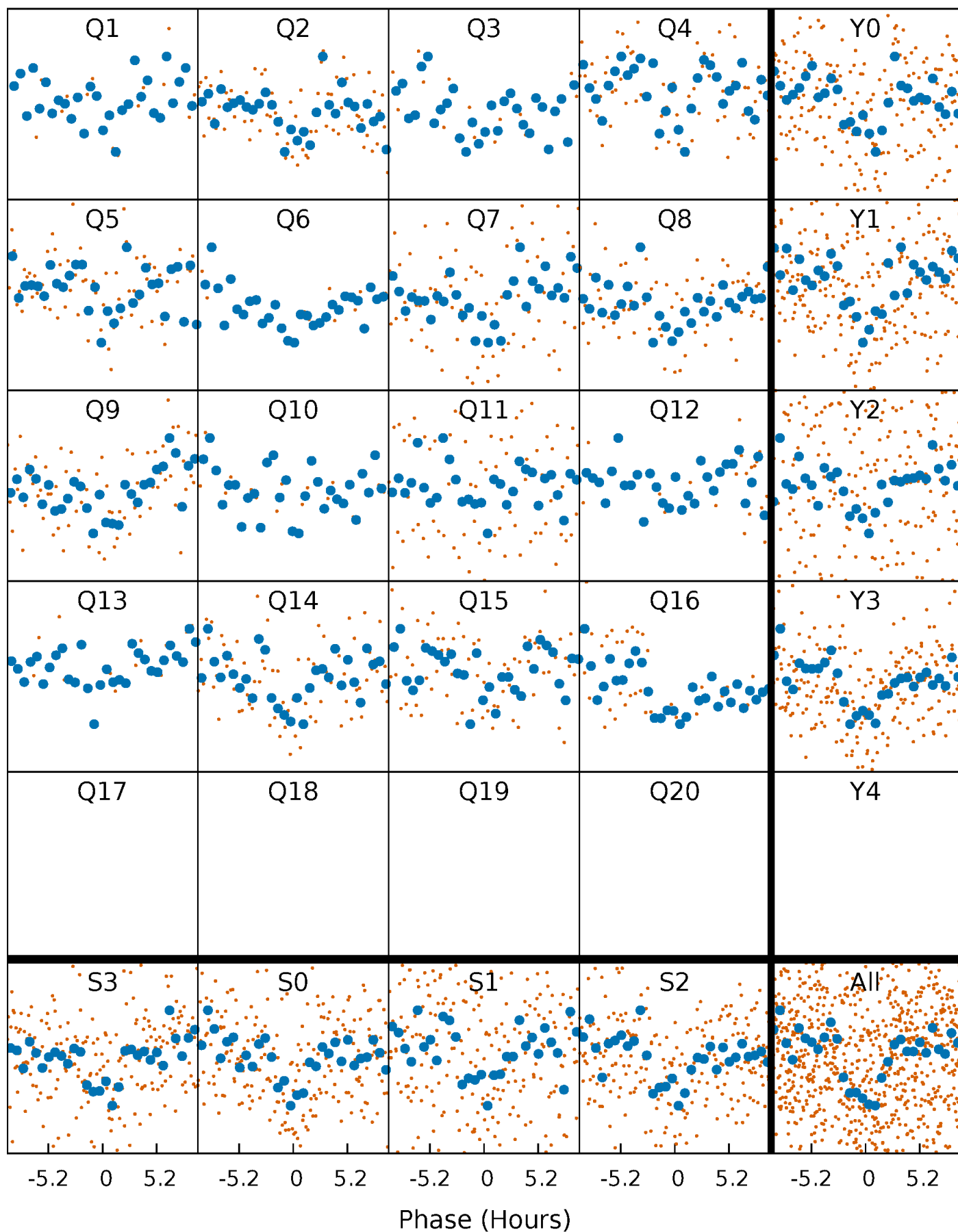


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

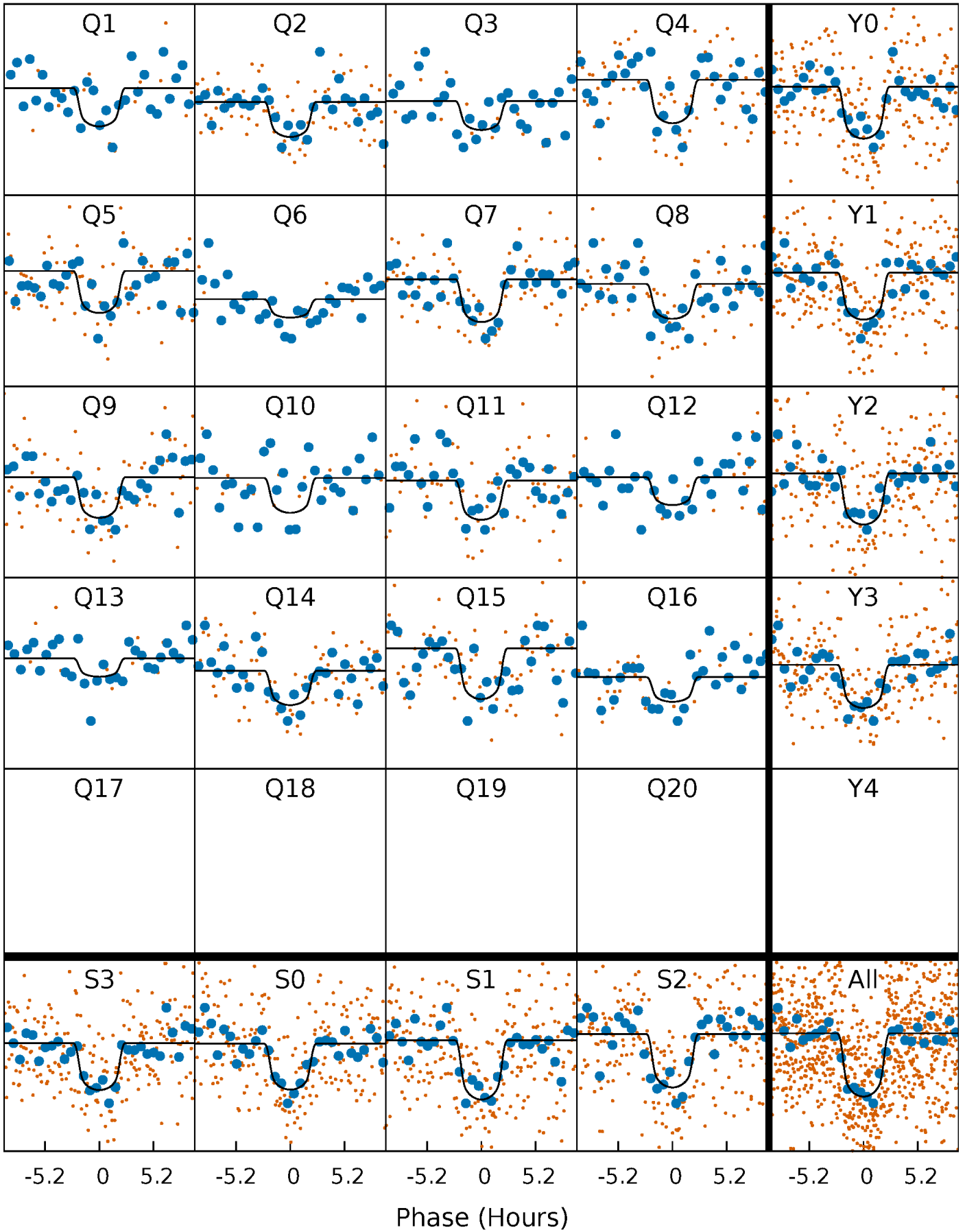
TCE 008826007-01 P= 54.509147 Days  $T_0=140.829577$  (BKJD)





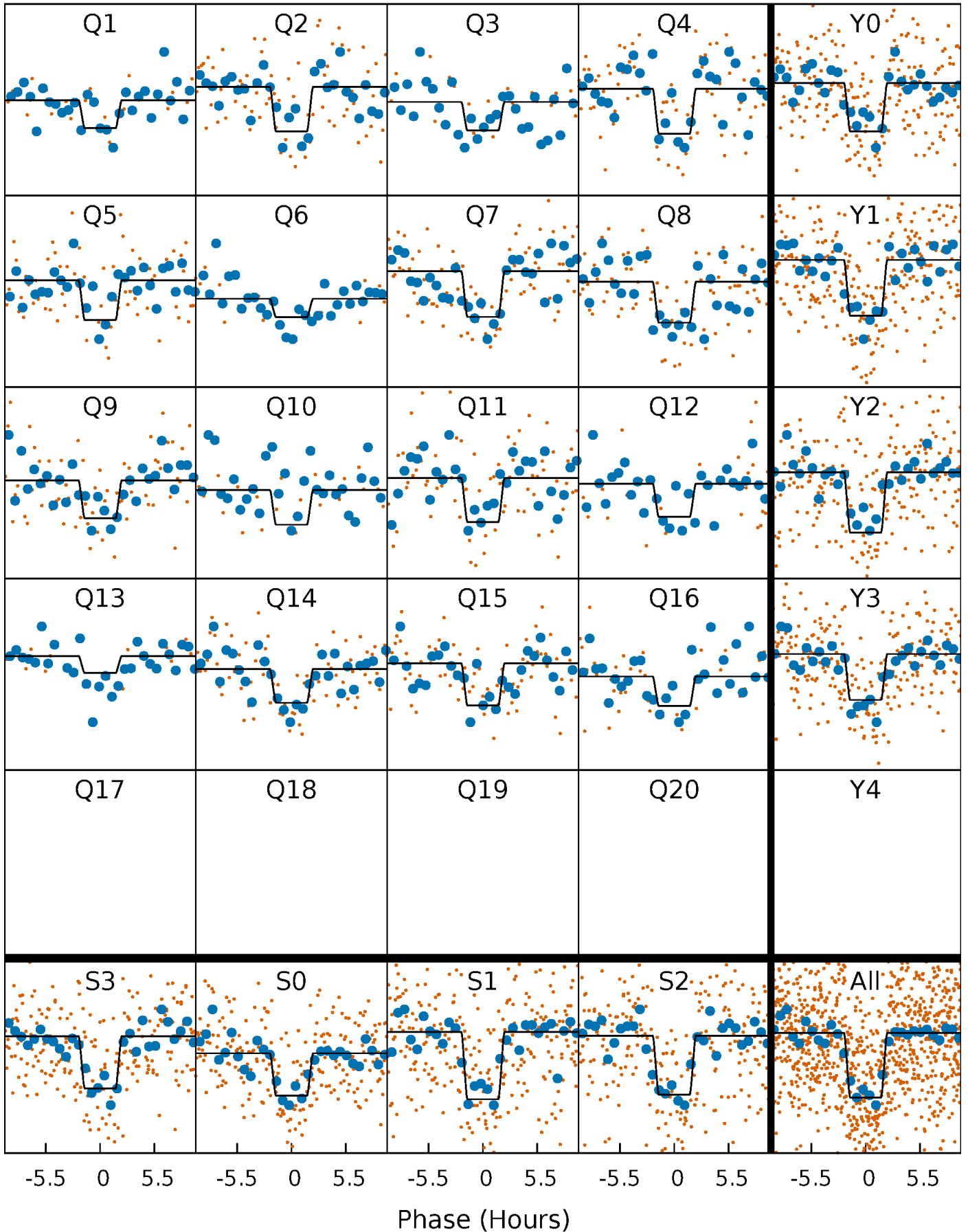
# DV Quarter-Phased Transit Curves

TCE 008826007-01 P= 54.509147 Days  $T_0=140.829577$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

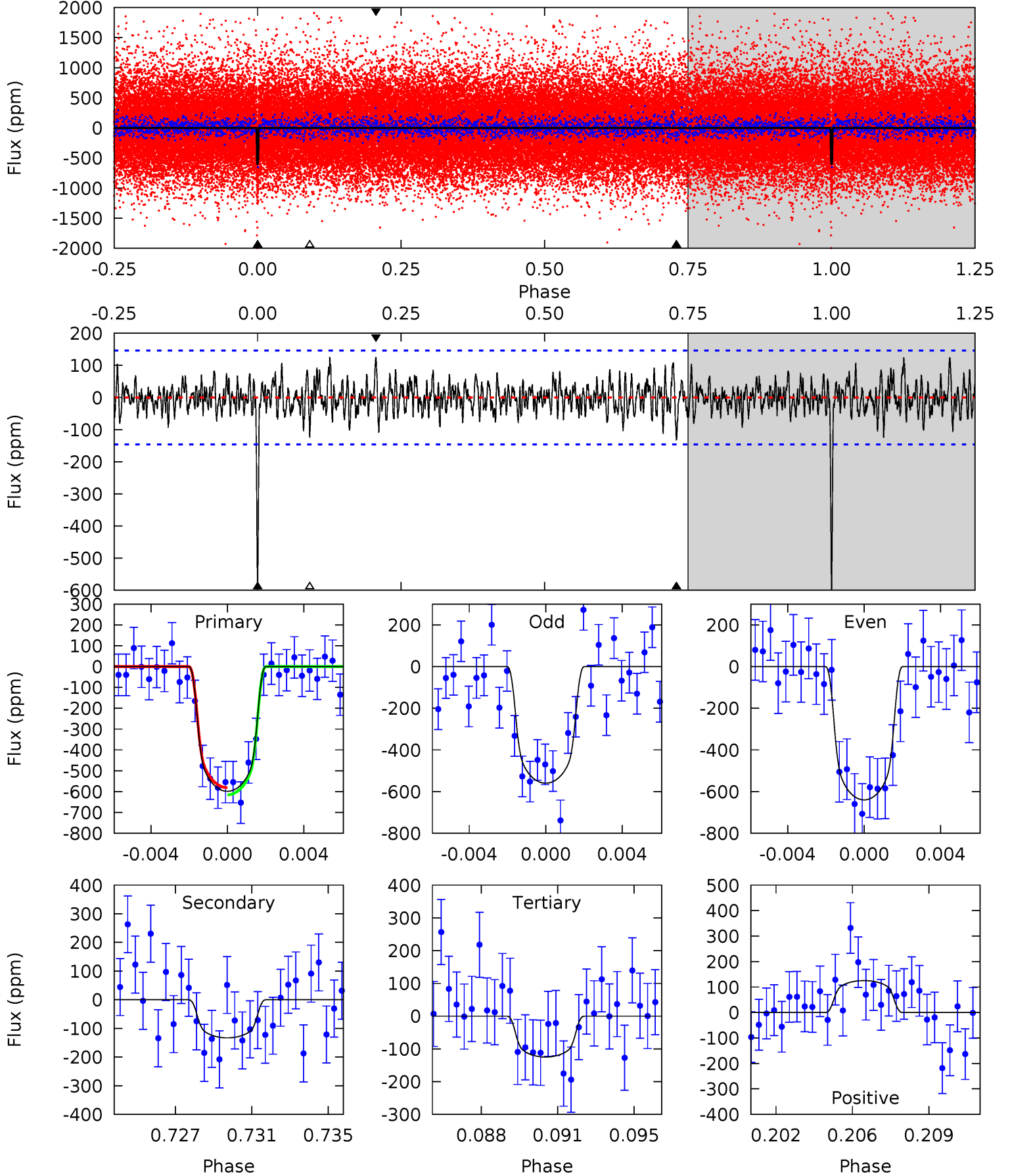
TCE 008826007-01 P= 54.508873 Days  $T_0=140.830880$  (BKJD)



# DV Model-Shift Uniqueness Test

008826007-01, P = 54.509147 Days, E = 86.320430 Days

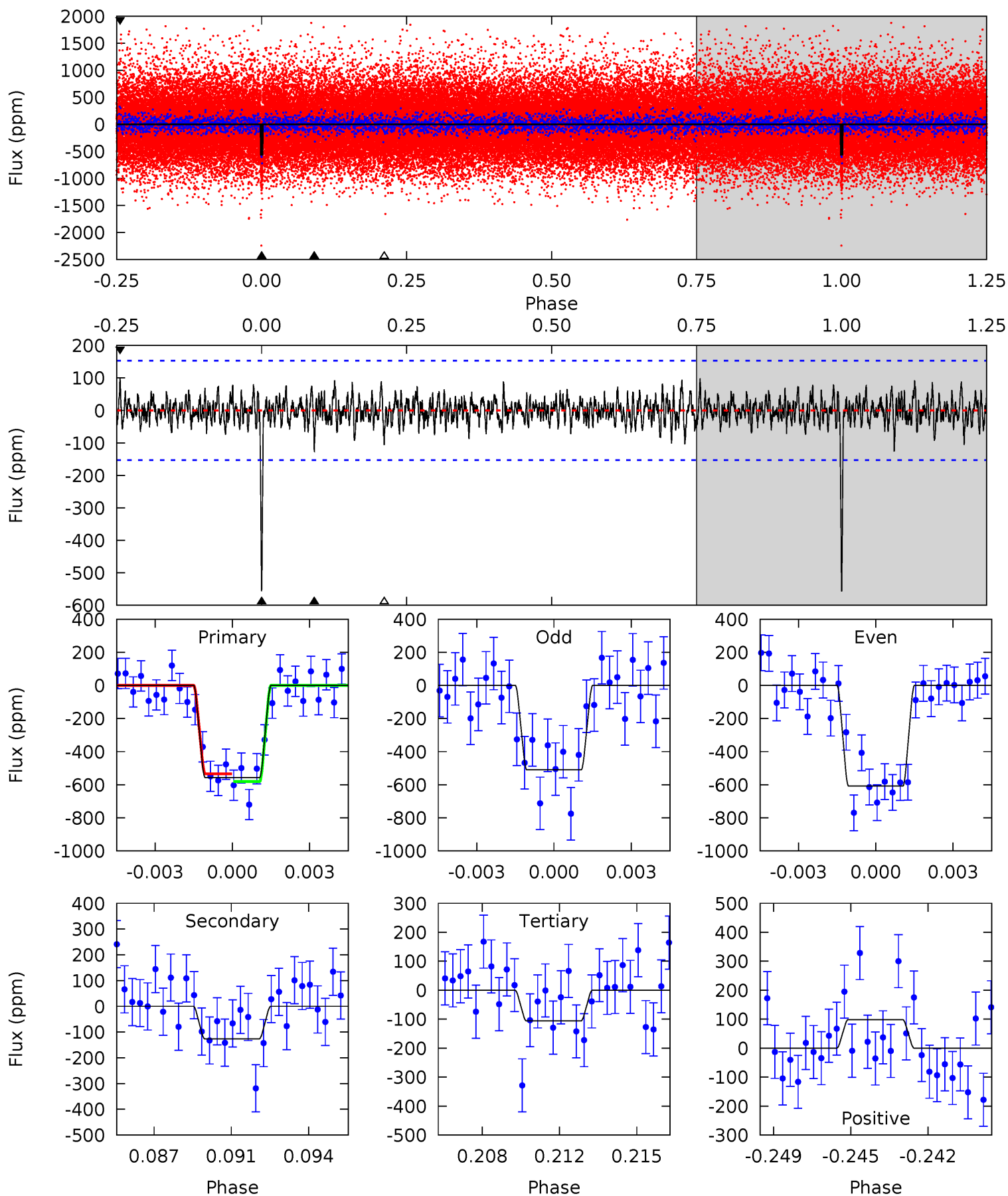
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.3	4.74	4.45	4.46	5.21	2.89	1.33	16.9	16.9	0.29	0.28	1.43	1.04	0.17	0.61



# Alt Model-Shift Uniqueness Test

008826007-01, P = 54.508873 Days, E = 86.322007 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
19.1	4.31	3.63	3.37	5.23	2.93	1.06	15.4	15.7	0.68	0.94	1.67	0.99	0.15	0.80



### Stellar Parameters For KIC 008826007

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4406^{+118}_{-131}$	$4.670^{+0.036}_{-0.040}$	$-0.340^{+0.300}_{-0.300}$	$0.603^{+0.056}_{-0.050}$	$0.621^{+0.065}_{-0.053}$	$3.984^{+0.698}_{-0.648}$
	+3%/-3%	+1%/-1%	+88%/-88%	+9%/-8%	+10%/-9%	+18%/-16%
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 008826007-01 / KOI 3266.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-133 \pm 28$	$1.78^{+0.33}_{-0.31}$	$431^{+15}_{-14}$	$3296^{+222}_{-205}$	$1315^{+636}_{-434}$
Alt.	$-126 \pm 29$	$1.59^{+0.32}_{-0.30}$	$432^{+13}_{-15}$	$3374^{+278}_{-221}$	$1577^{+898}_{-585}$

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

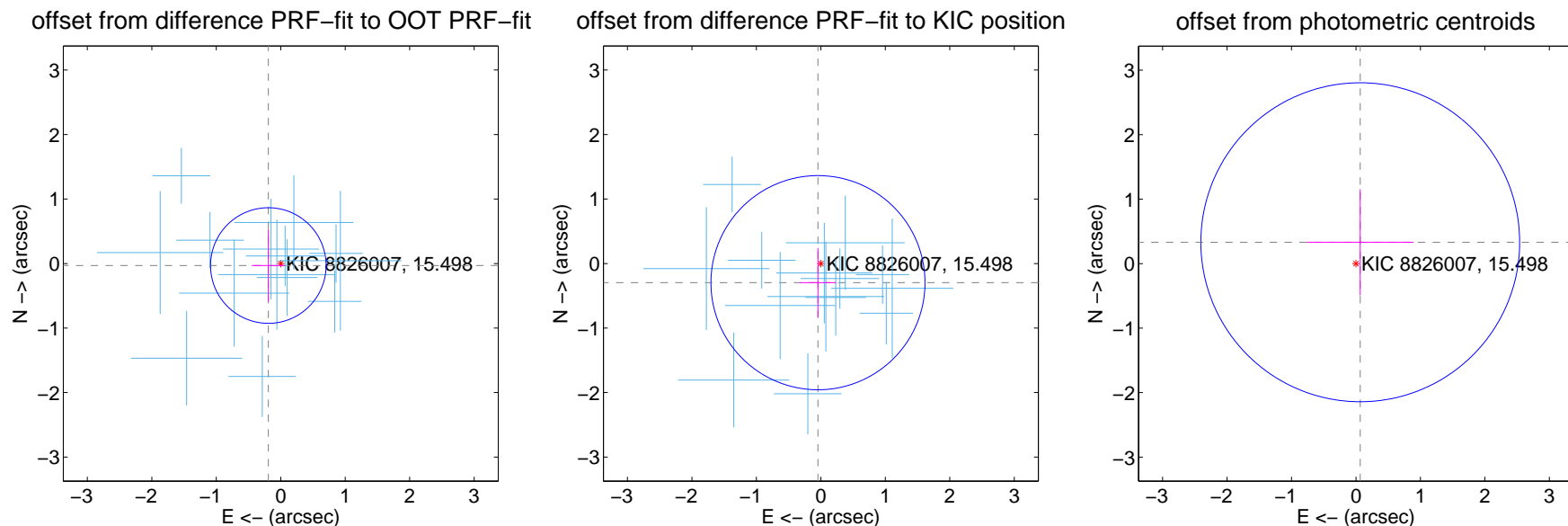
## DV Centroid Data

Supplemental centroid analysis for 008826007-01. Kepler magnitude: 15.50. Transit SNR 14.18

There are 14 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

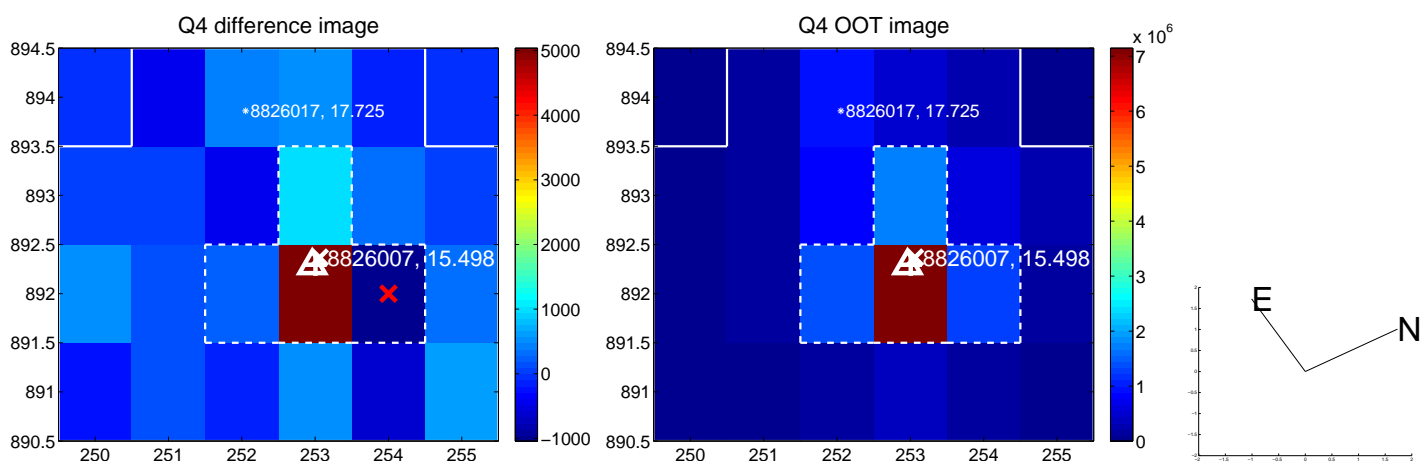
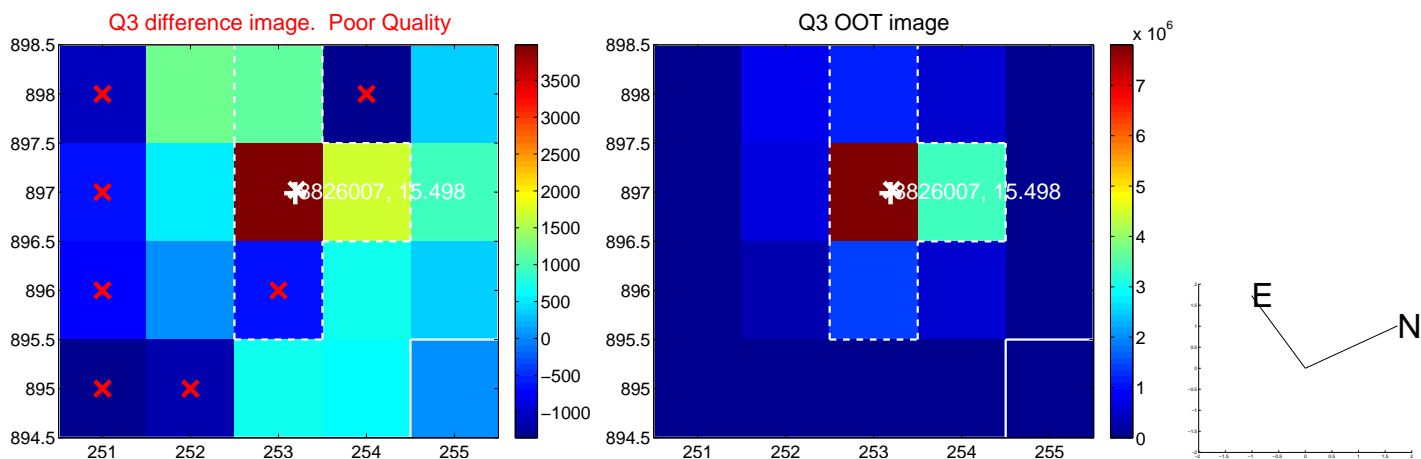
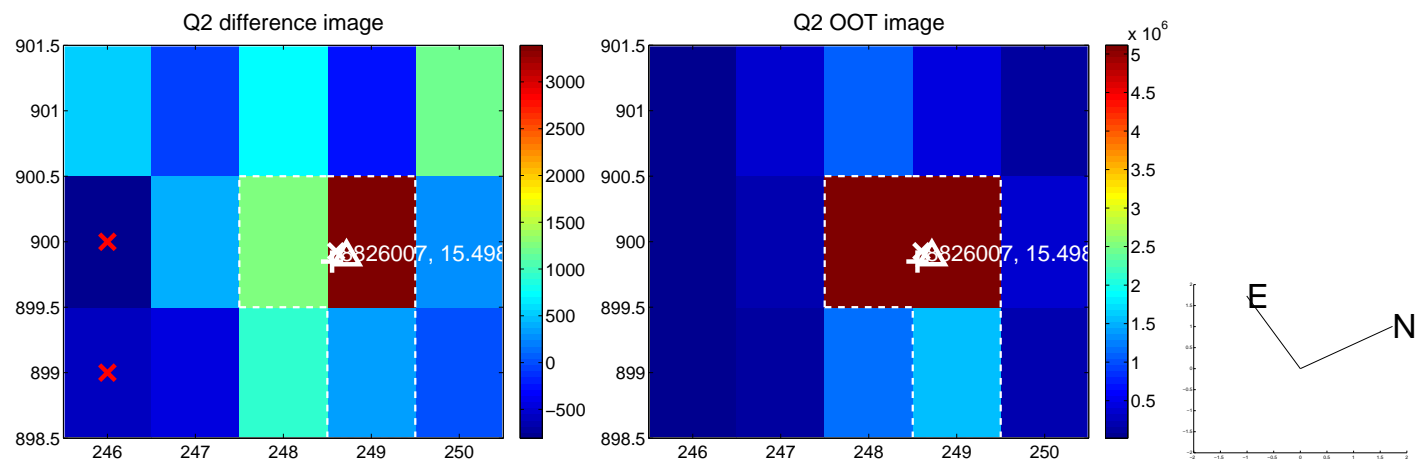
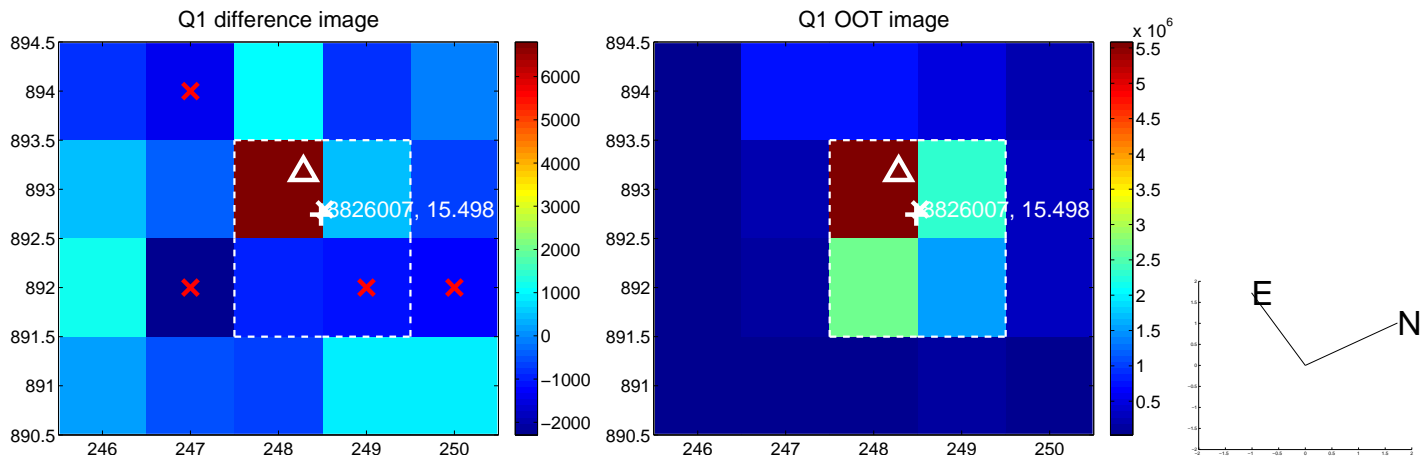
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.195 \pm 0.299$	0.65	$0.193 \pm 0.257$	$-0.031 \pm 0.560$
PRF-fit source offset from KIC position	$0.300 \pm 0.553$	0.54	$0.045 \pm 0.281$	$-0.297 \pm 0.537$
photometric centroid source offset	$0.34 \pm 0.82$	0.41	$-0.07 \pm 0.83$	$0.33 \pm 0.82$



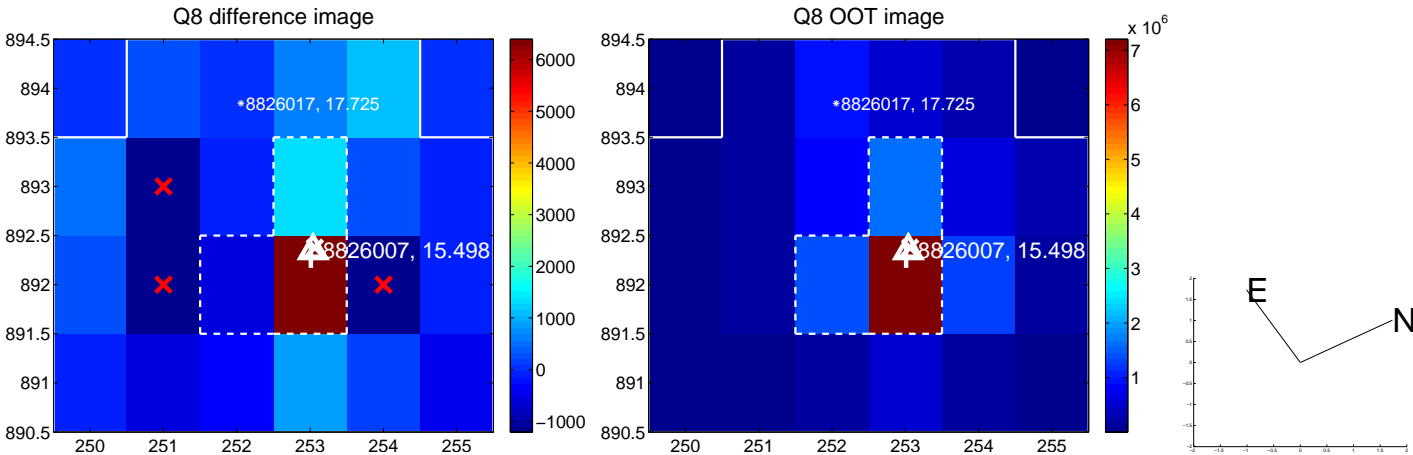
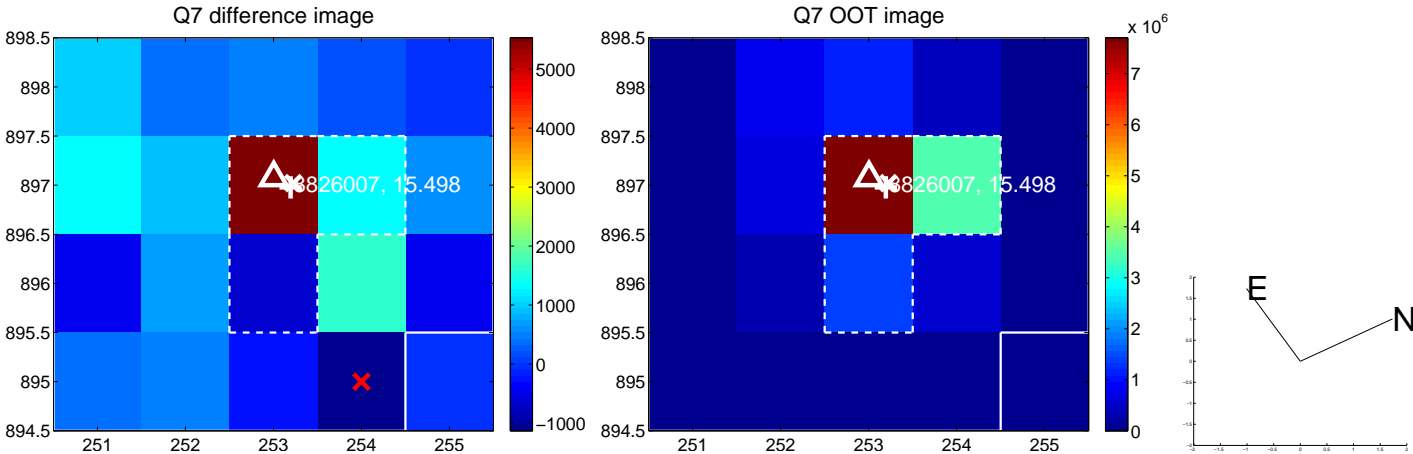
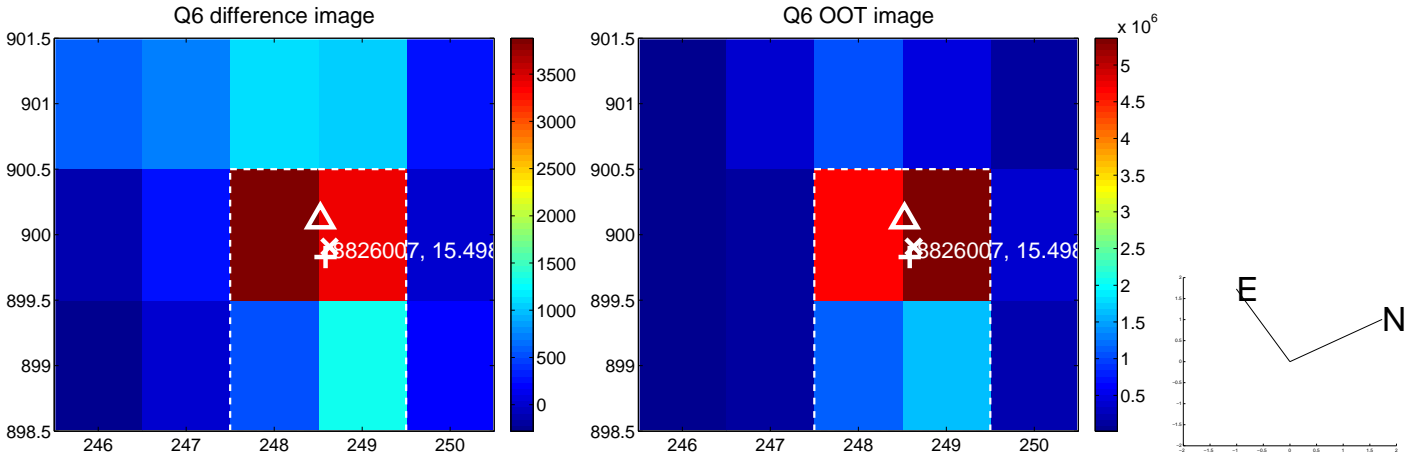
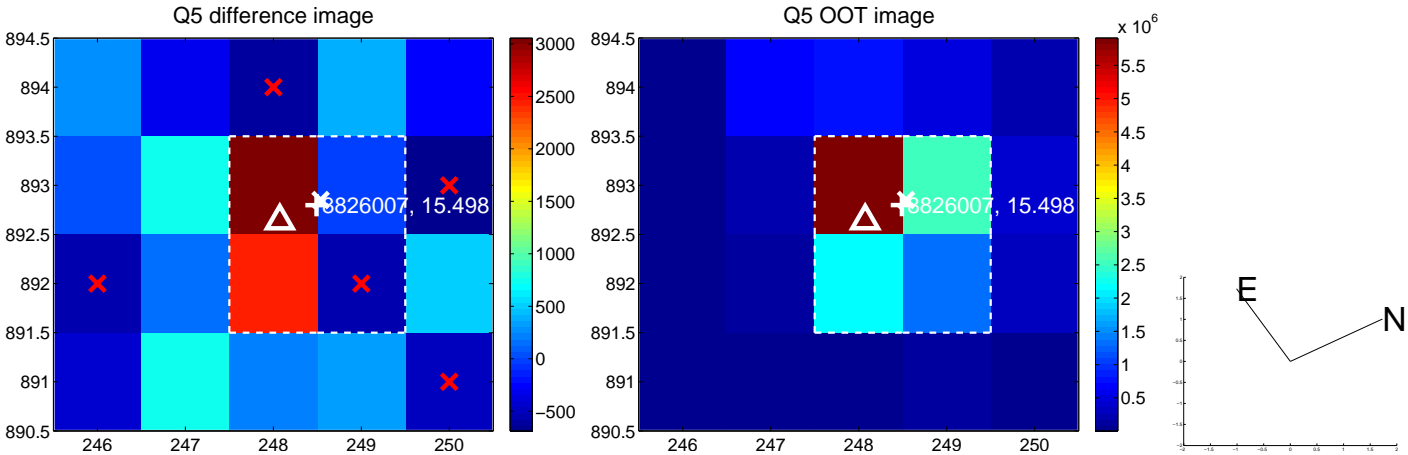
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



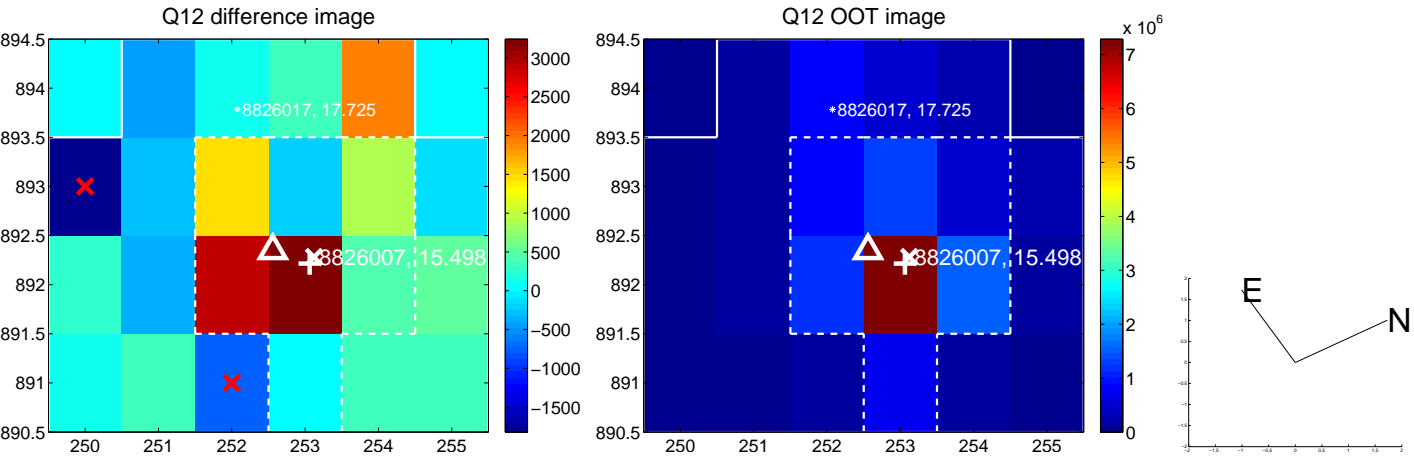
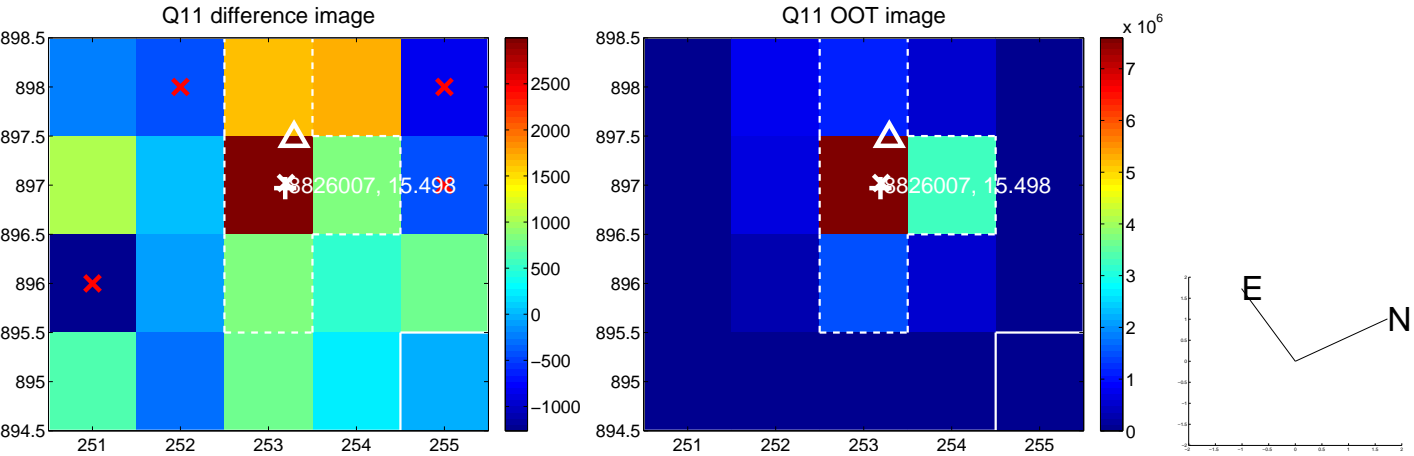
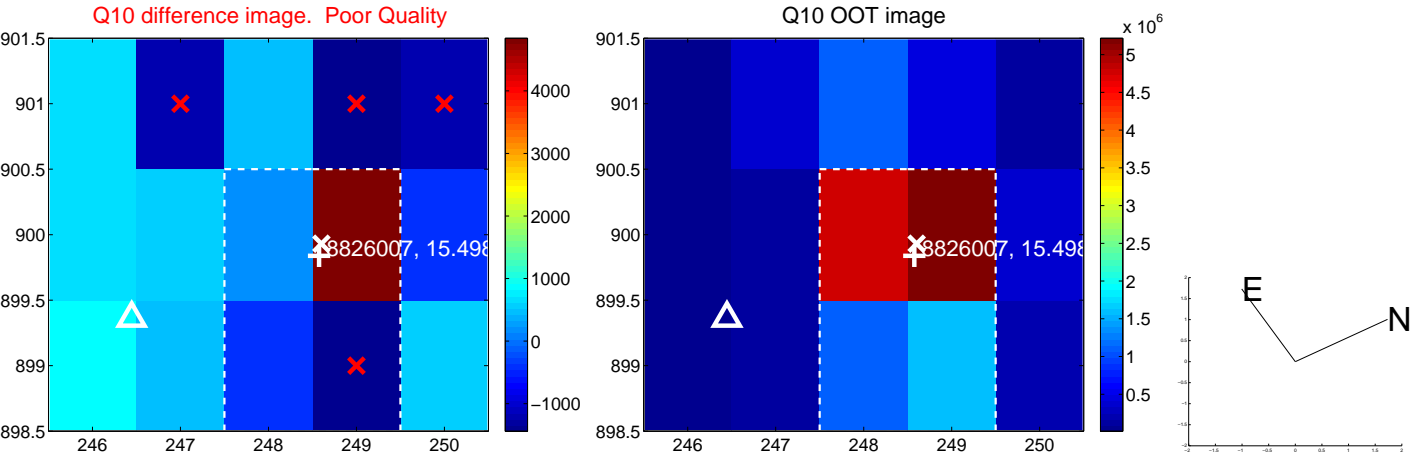
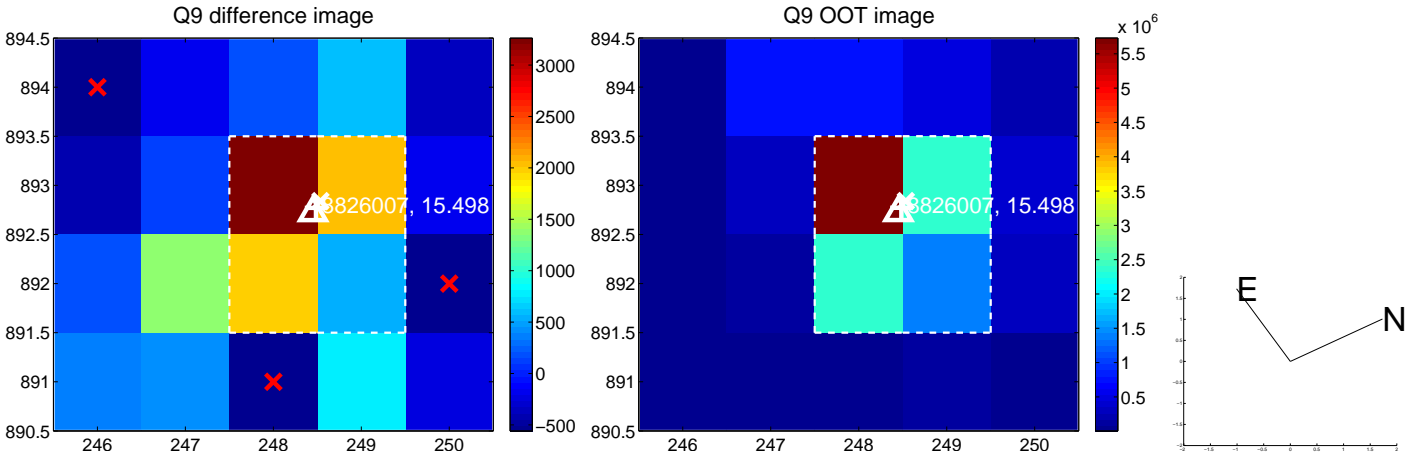
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



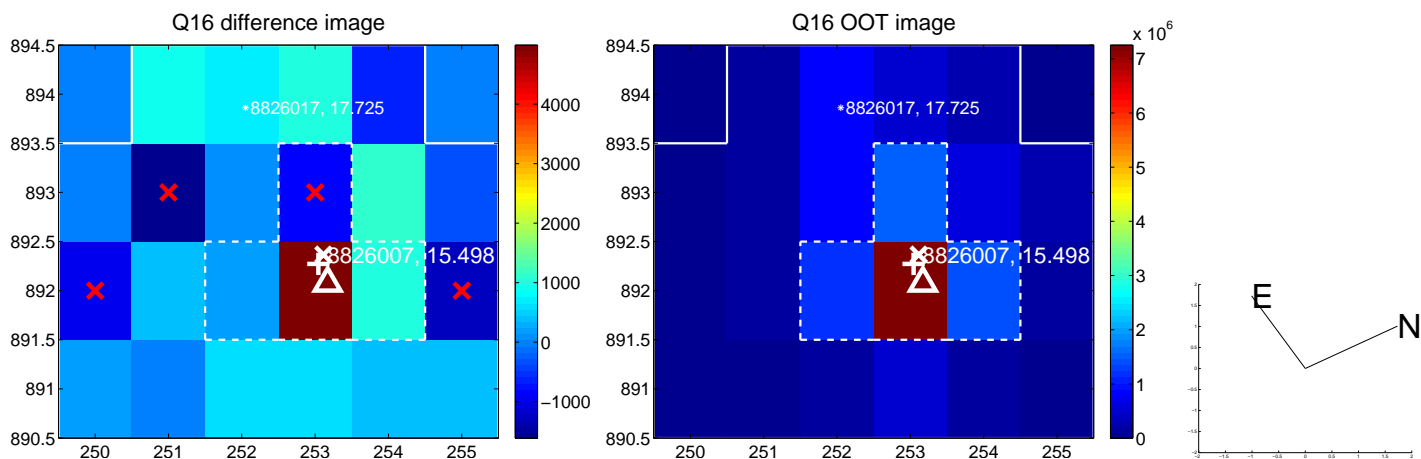
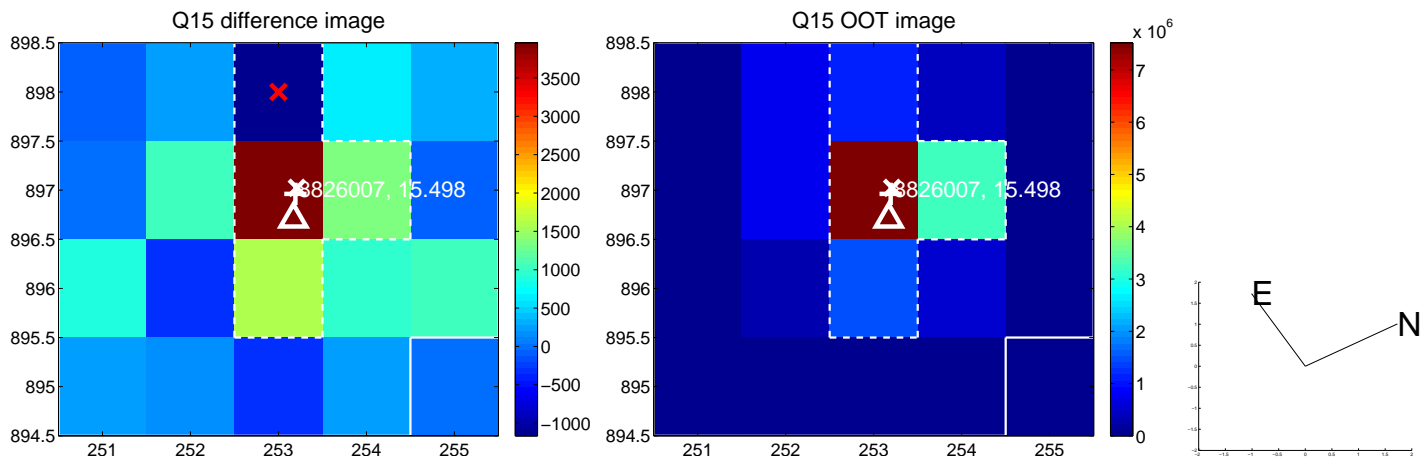
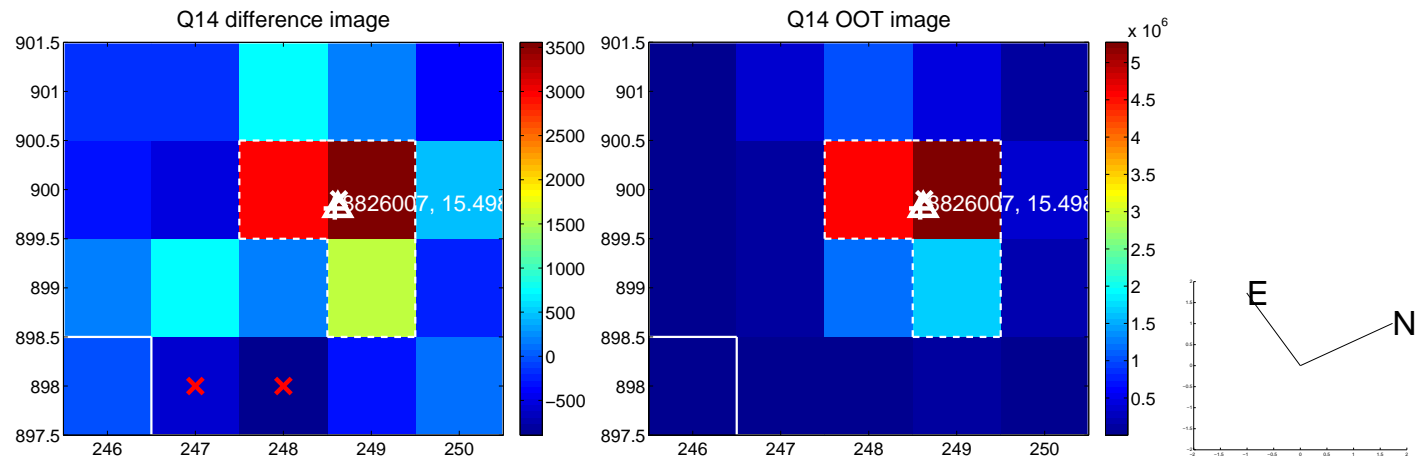
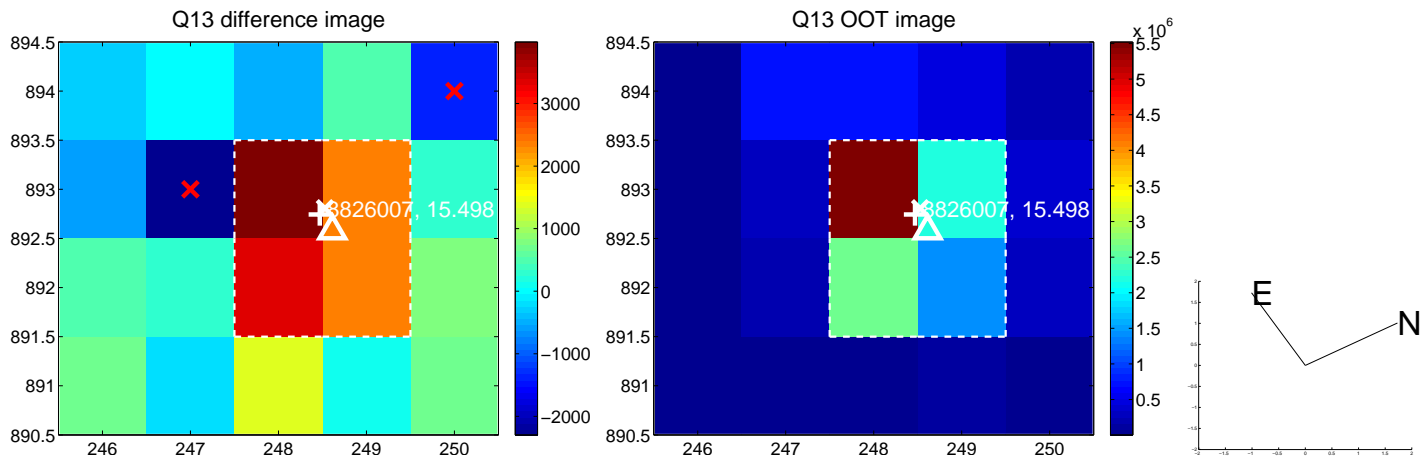
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



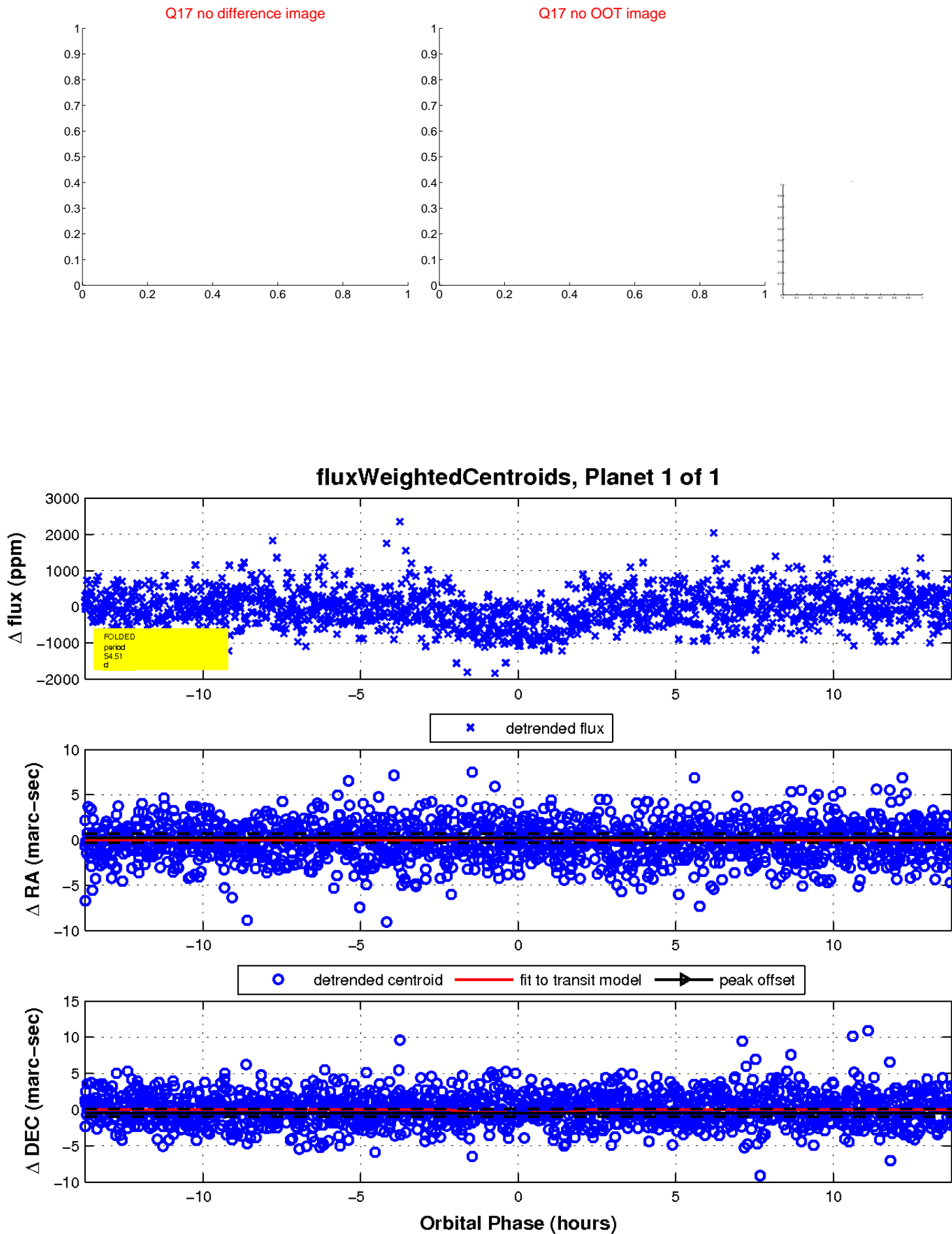
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

