

# KIC 008882847

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008882847-01	OBS	3490.01	42.201330	172.437463	180.9	8.398	13.2	13.5	1.45	6200	3.83	47.94

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008882847-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

**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.

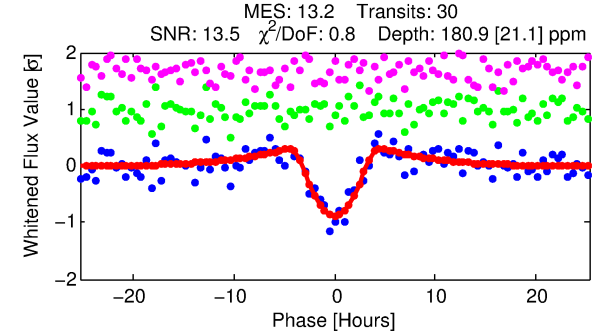
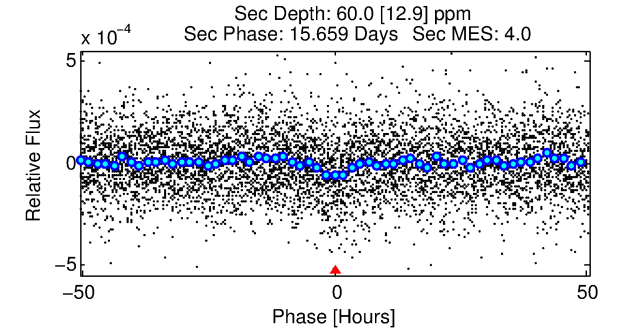
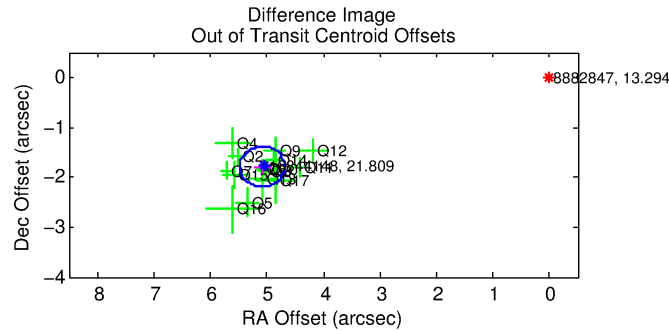
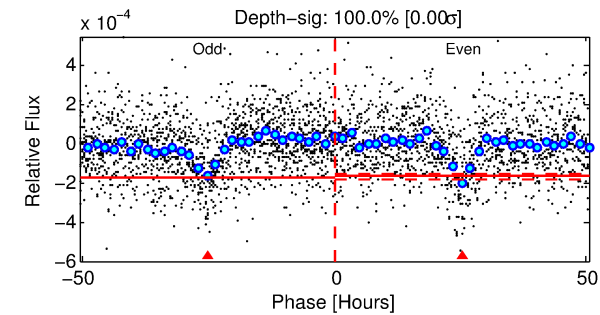
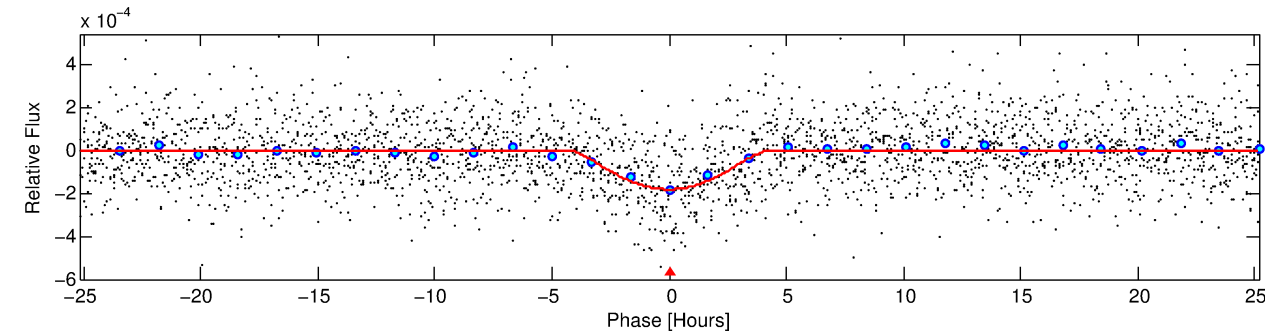
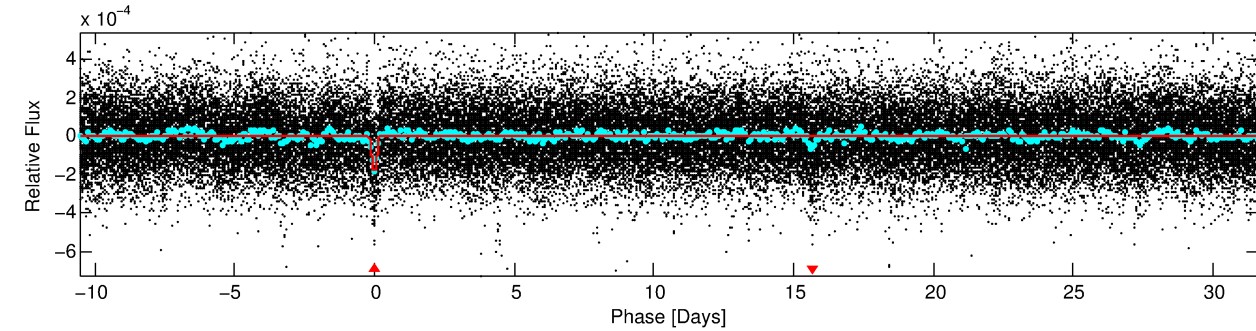
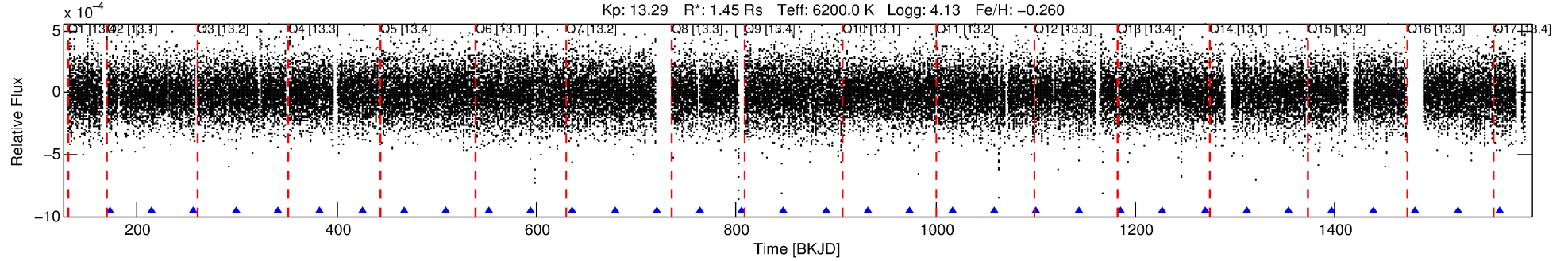
## Ephemeris Match Information For 008882847-01

No Significant Match Found

# DV One-Page Summary

KIC: 8882847 Candidate: 1 of 1 Period: 42.201 d  
KOI: K03490.01 Corr: 0.981

Kp: 13.29 R\*: 1.45 Rs Teff: 6200.0 K Logg: 4.13 Fe/H: -0.260



## DV Fit Results:

Period = 42.20133 [0.00054] d  
Epoch = 172.4375 [0.0107] BKJD  
Rp/R\* = 0.0242 [0.0427]  
a/R\* = 8.67 [4.14]  
b = 1.00 [0.07]  
Seff = 47.94 [23.77]  
Teff = 671 [83] K  
Rp = 3.83 [6.84] Re  
a = 0.2408 [0.0694] AU  
Ag = 130.13 [462.96] [0.28σ]  
Teffp = 3504 [3092] K [0.92σ]

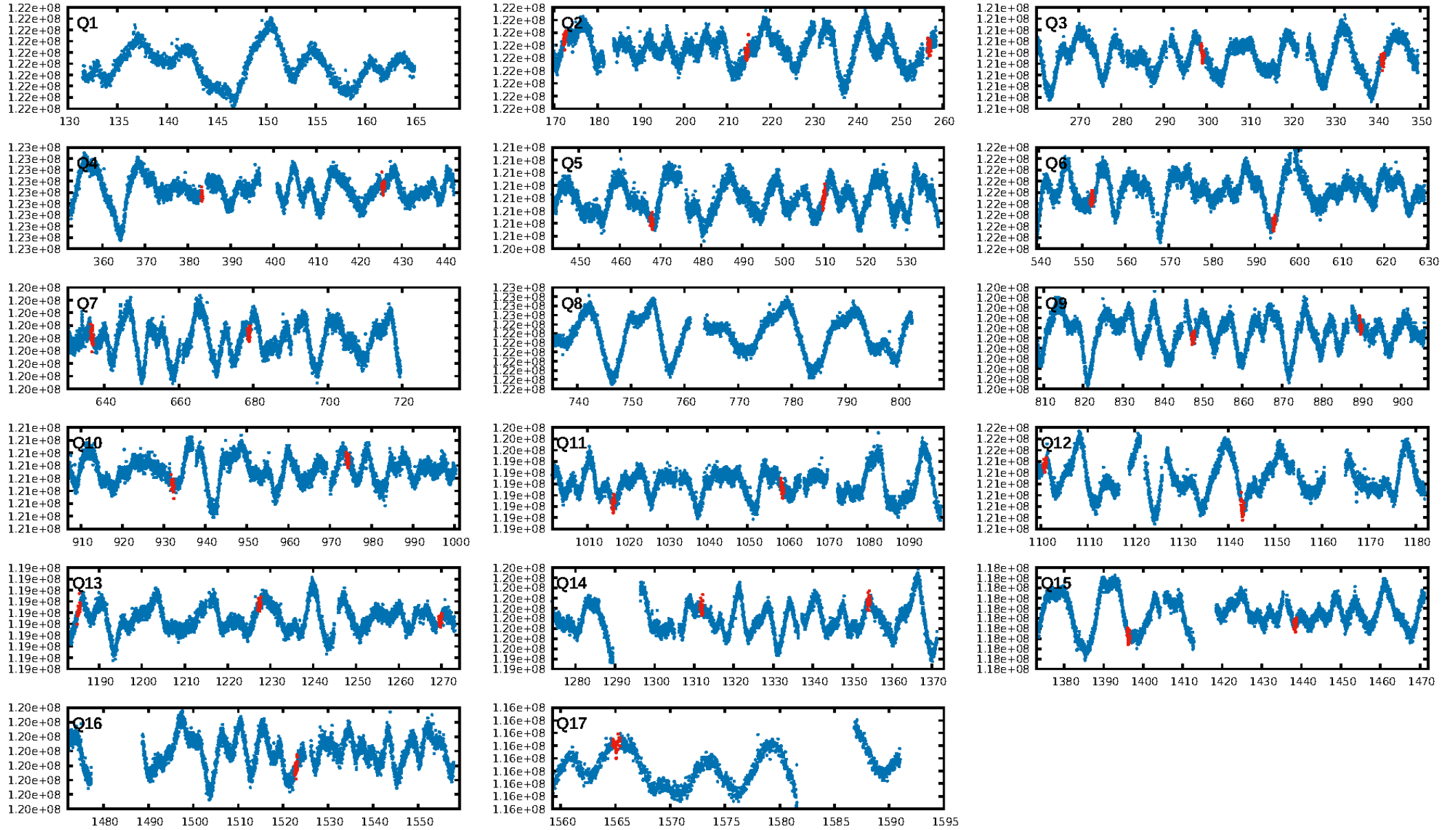
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 38.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.03e-37  
RollingBand-fgt: 1.00 [29/29]  
GhostDiagnostic-chr: 0.3124  
Centroid-sig: 0.0%  
Centroid-so: 6.921 arcsec [9.38σ]  
OotOffset-rm: 5.393 arcsec [40.34σ]  
KicOffset-rm: 5.322 arcsec [38.19σ]  
OotOffset-st: 4/4/3/4 [15]  
KicOffset-st: 4/4/3/4 [15]  
DiffImageQuality-fgm: 0.87 [13/15]  
DiffImageOverlap-fno: 1.00 [15/15]

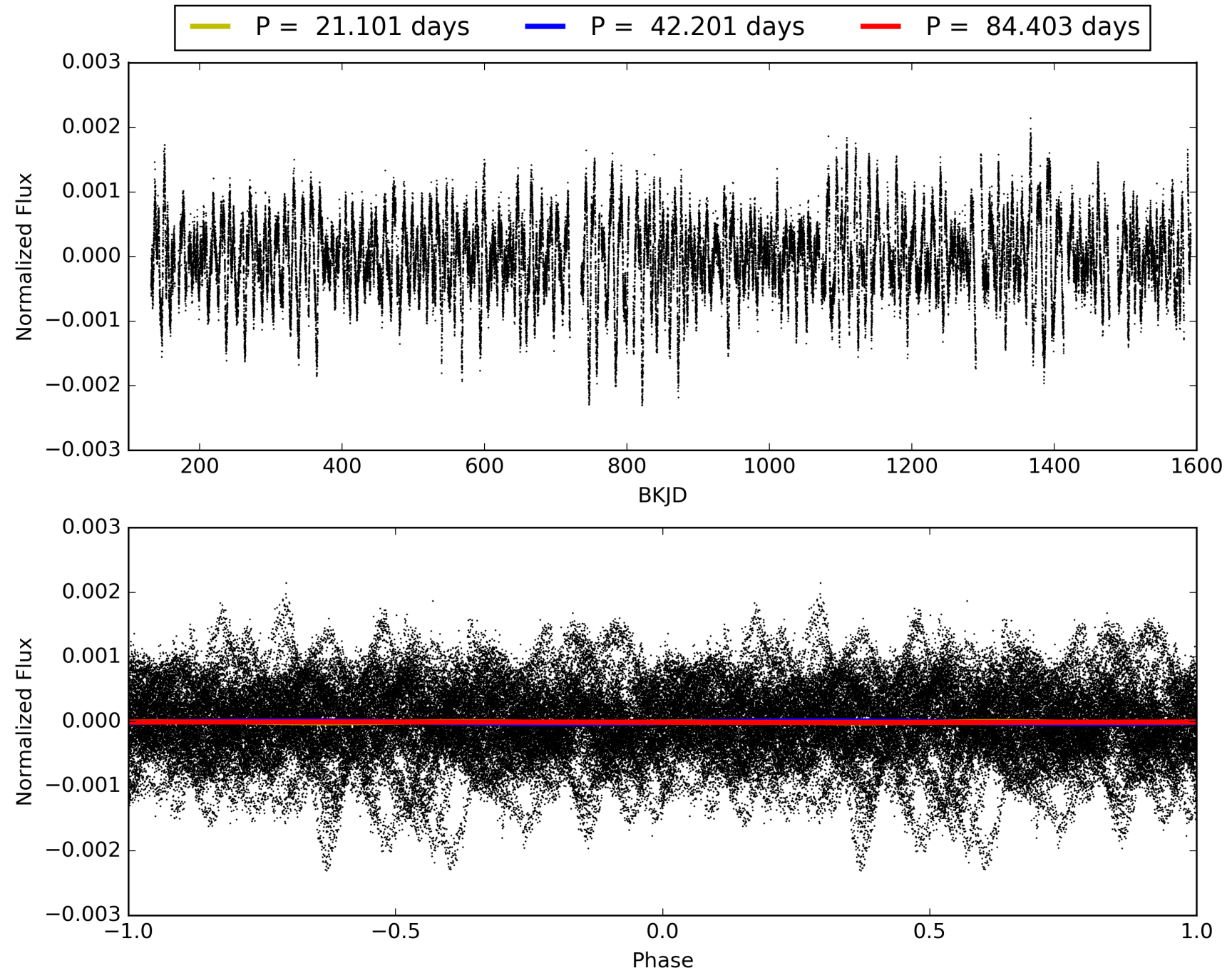
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:46:23 Z

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

# TCE 008882847-01, PDC Light Curves

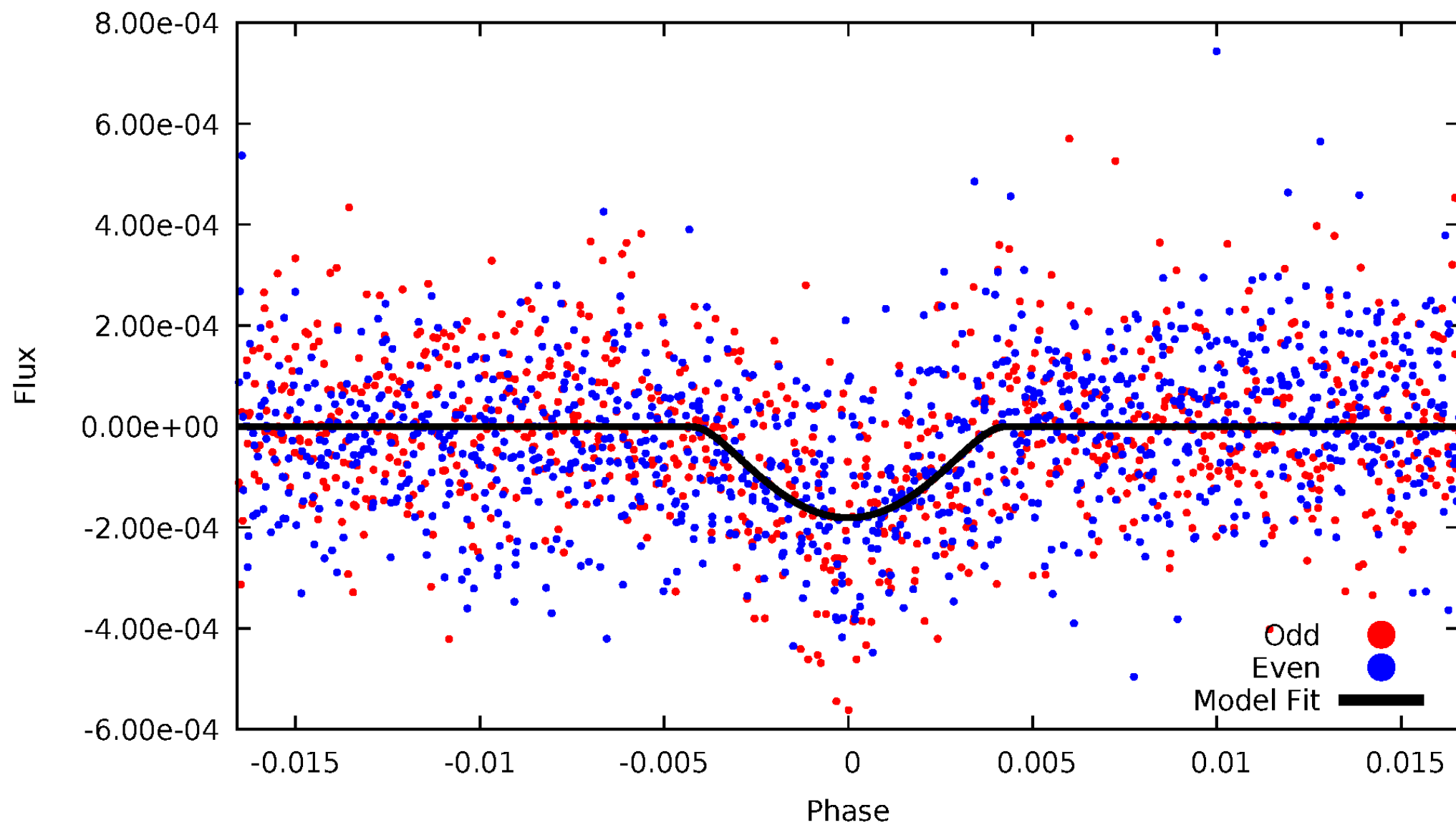


TCE 008882847-01



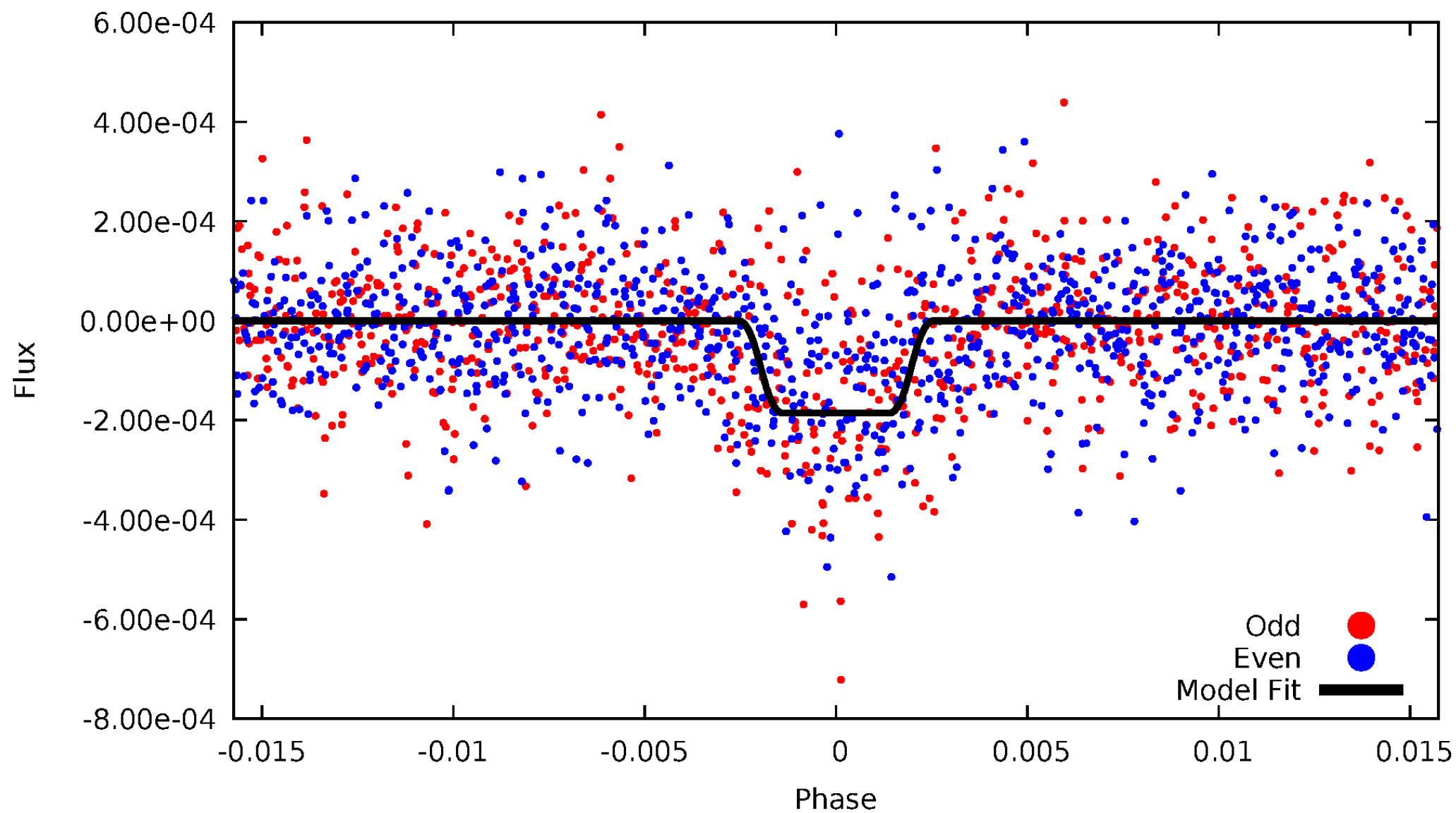
# DV Odd/Even

TCE 008882847-01



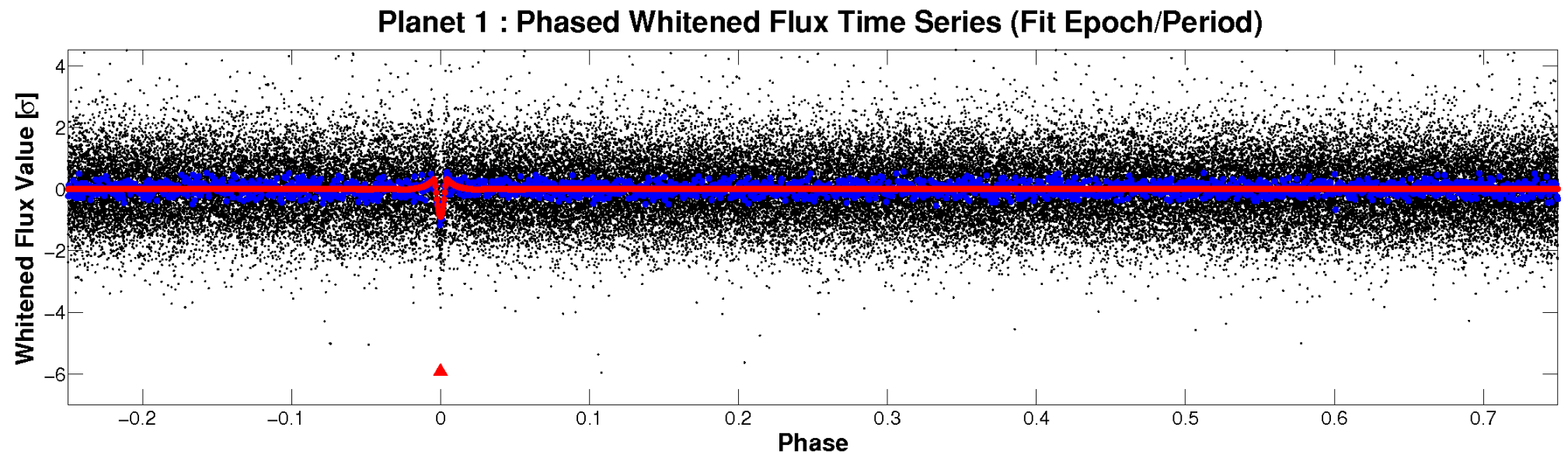
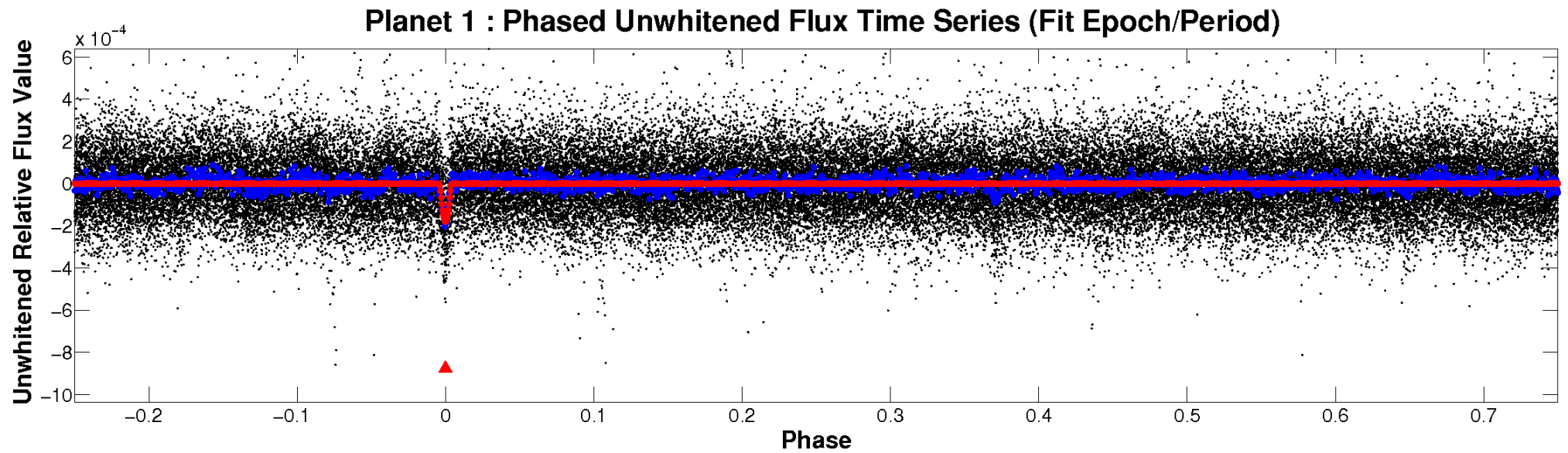
# ALT Odd/Even

TCE 008882847-01



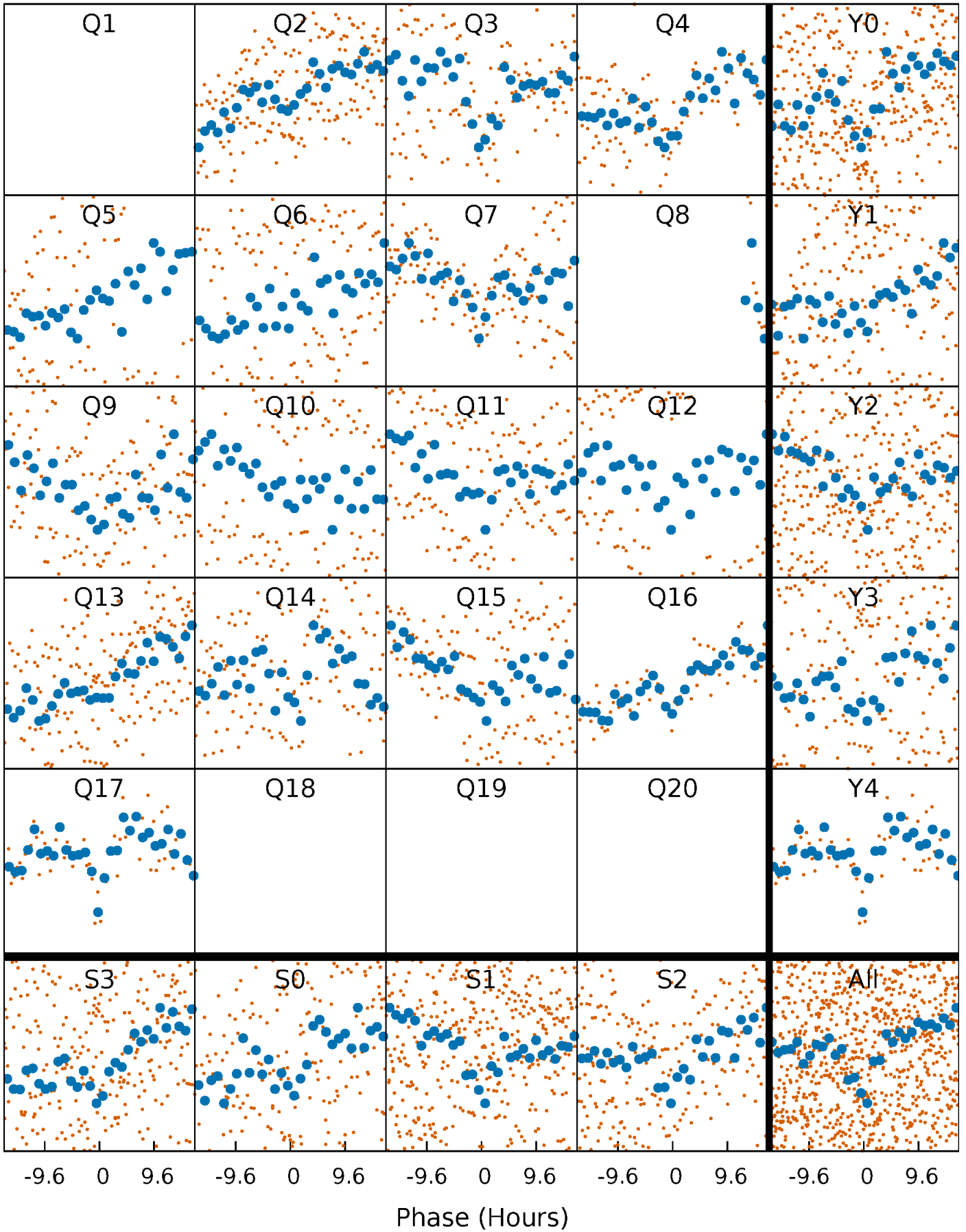


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

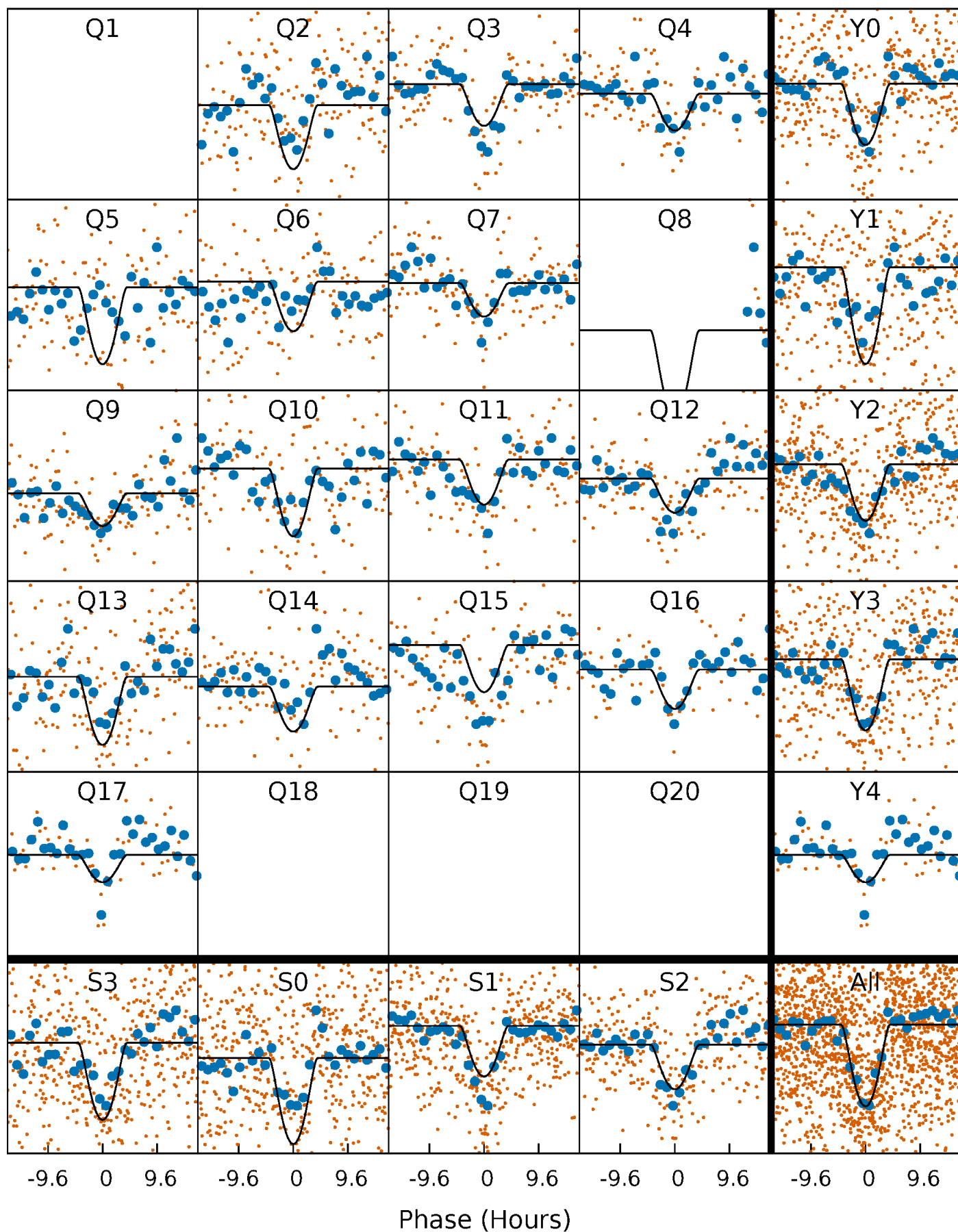
TCE 008882847-01   P= 42.201330 Days    $T_0=172.437464$  (BKJD)





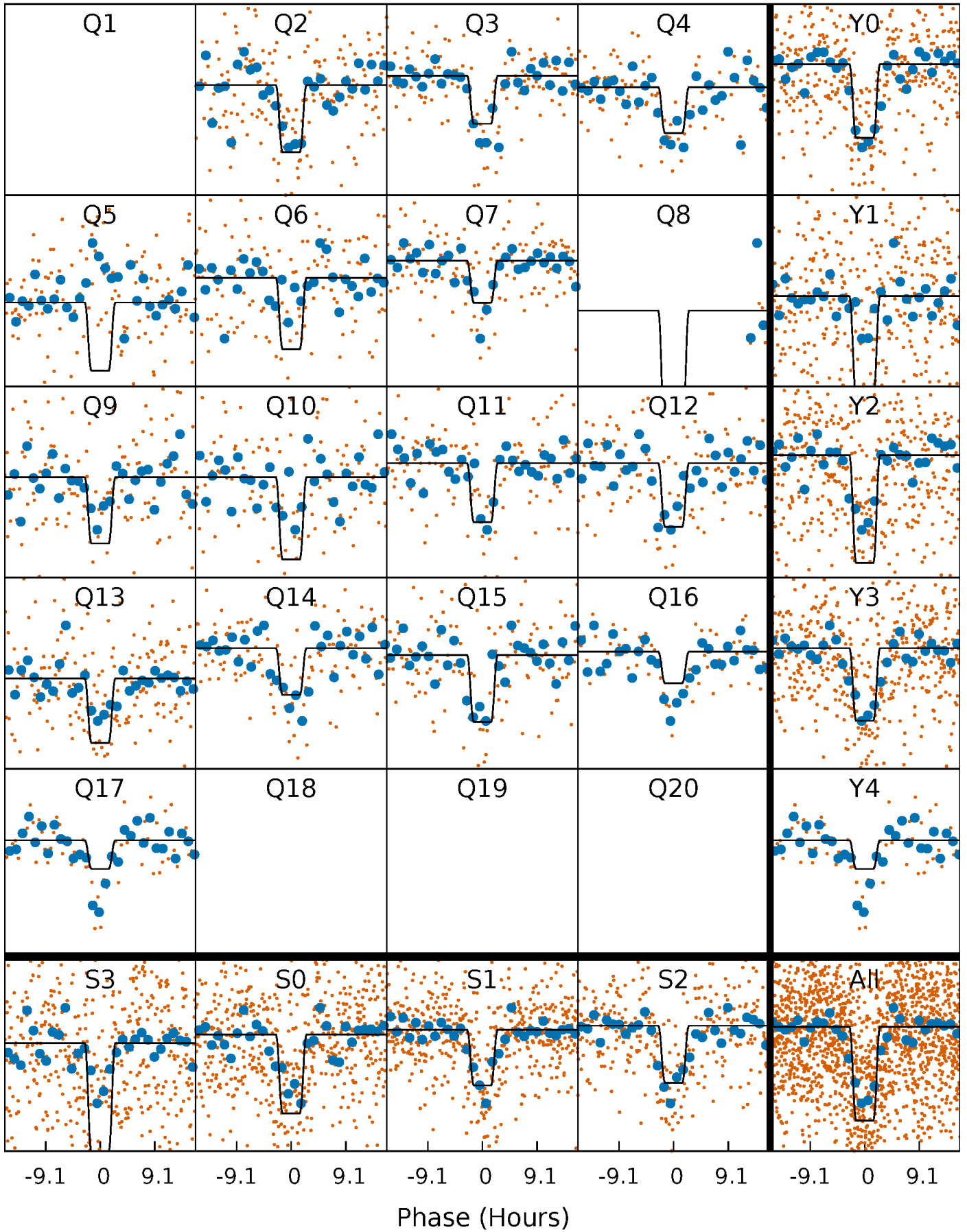
# DV Quarter-Phased Transit Curves

TCE 008882847-01 P= 42.201330 Days  $T_0=172.437464$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

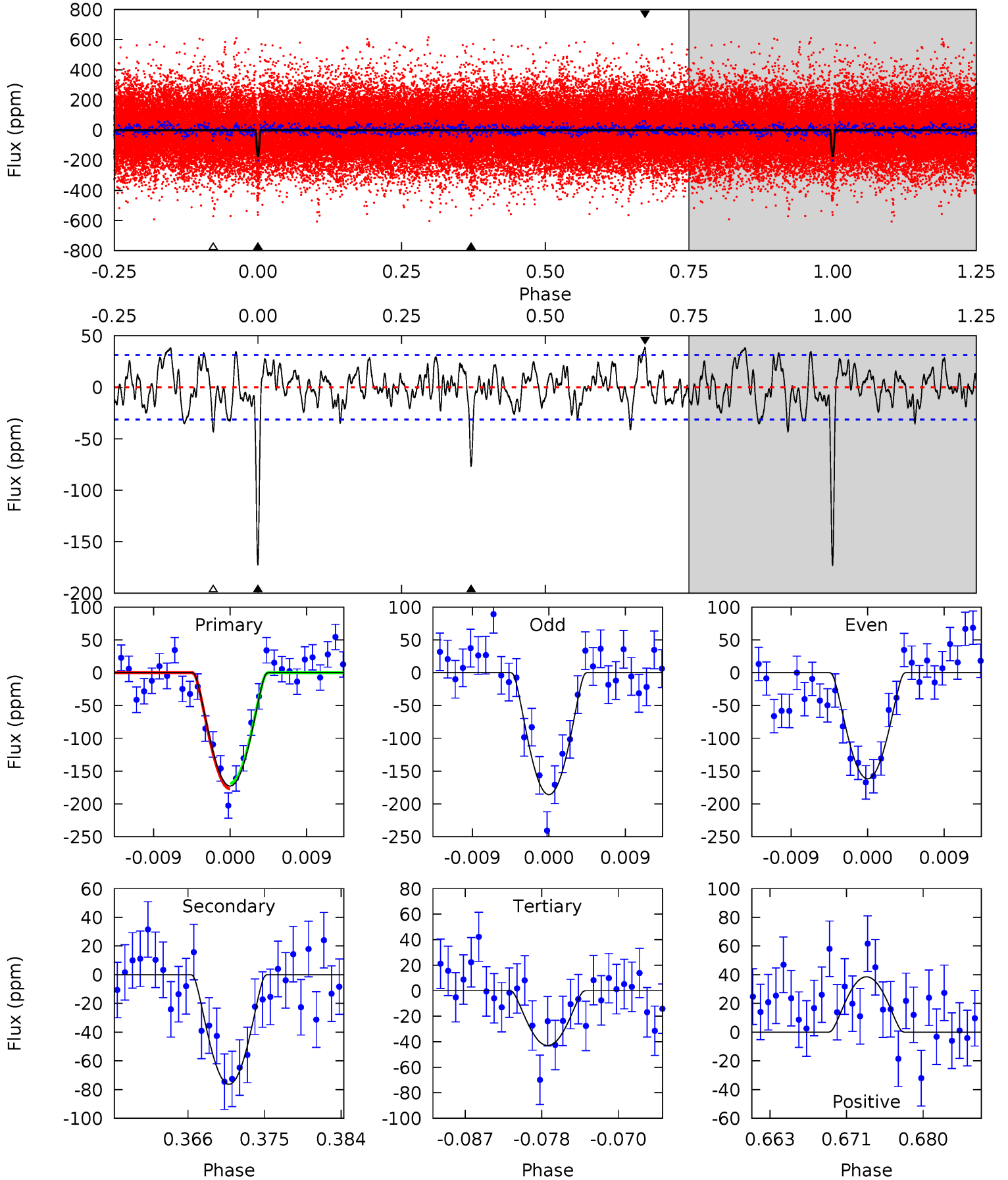
TCE 008882847-01 P= 42.201757 Days  $T_0=172.427662$  (BKJD)



# DV Model-Shift Uniqueness Test

008882847-01, P = 42.201330 Days, E = 130.236134 Days

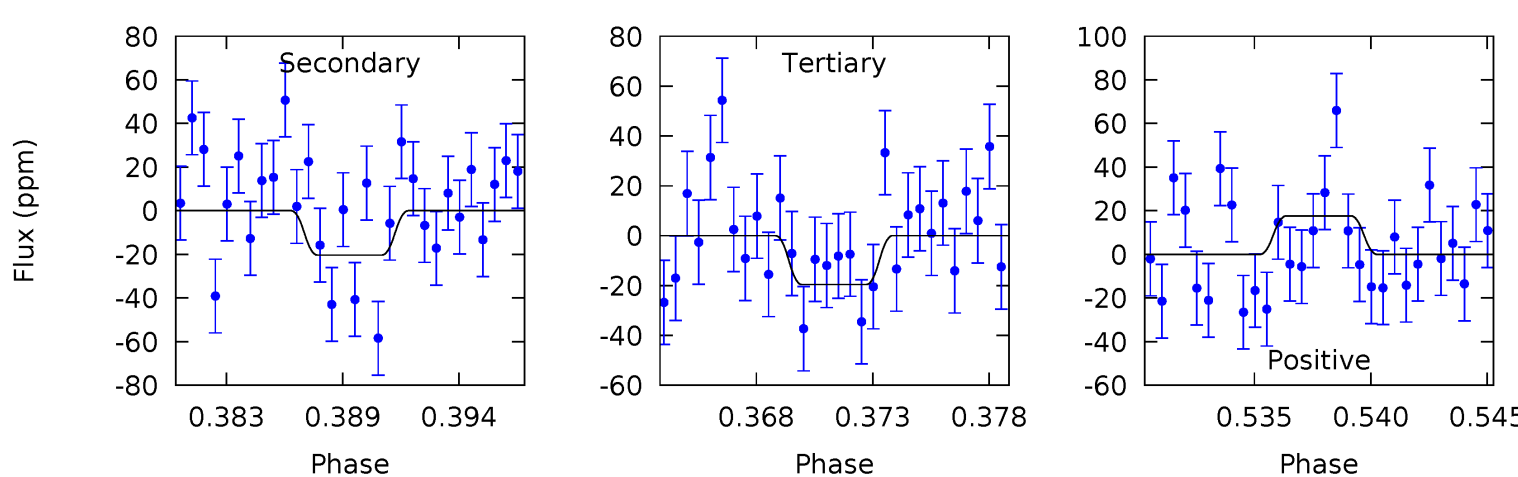
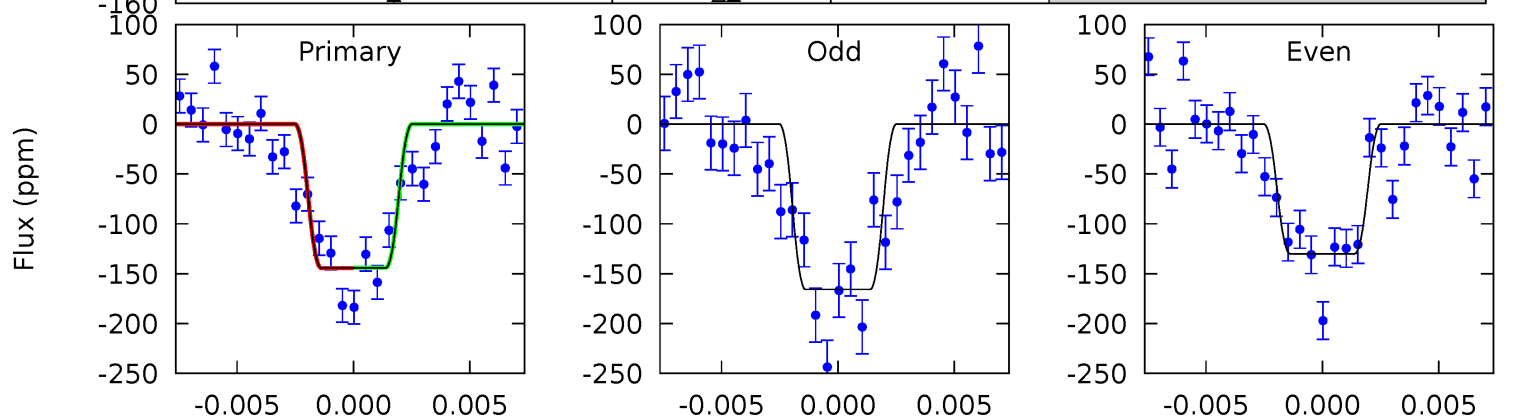
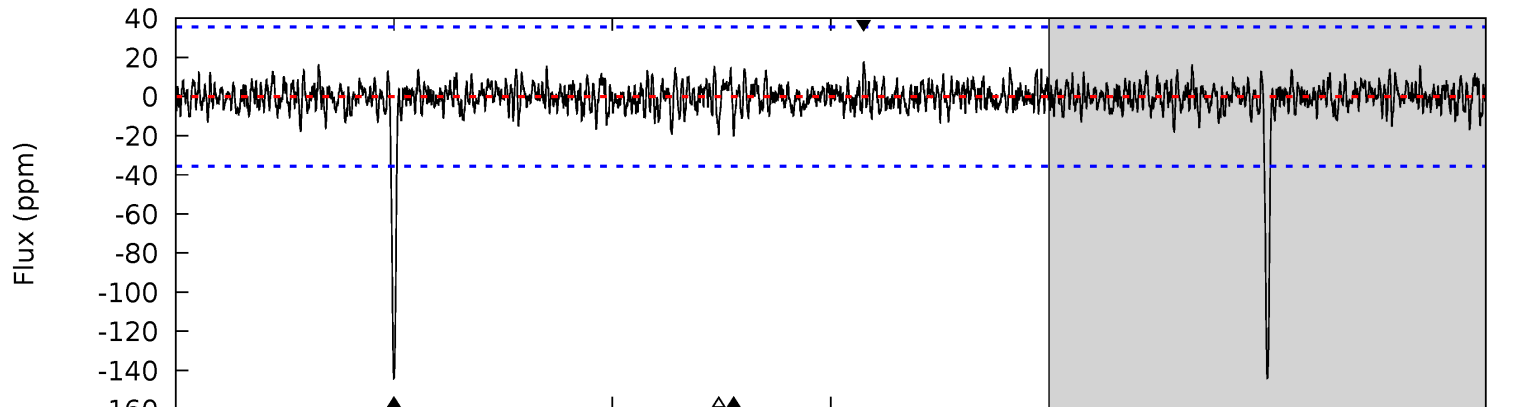
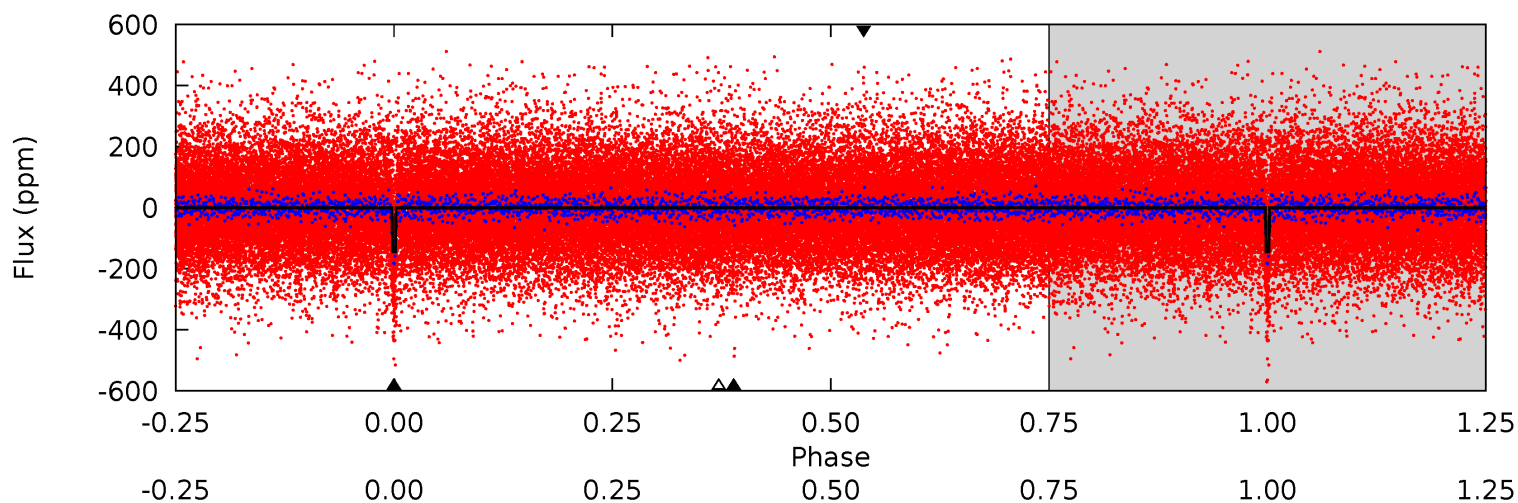
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.9	12.3	6.93	6.22	5.05	2.62	2.39	20.9	21.6	5.37	6.09	1.94	0.90	0.18	0.67



# Alt Model-Shift Uniqueness Test

008882847-01,  $P = 42.201757$  Days,  $E = 130.225905$  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
20.9	2.94	2.84	2.55	5.16	2.80	0.80	18.0	18.3	0.10	0.39	2.58	0.98	0.11	0.02



### Stellar Parameters For KIC 008882847

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6200^{+197}_{-241}$	$4.135^{+0.280}_{-0.172}$	$-0.260^{+0.300}_{-0.300}$	$1.449^{+0.417}_{-0.417}$	$1.043^{+0.181}_{-0.131}$	$0.483^{+0.750}_{-0.221}$
	+3%/-4%	+7%/-4%	+115%/-115%	+29%/-29%	+17%/-13%	+155%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 008882847-01 / KOI 3490.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-76 \pm 6$	$5.96^{+5.97}_{-3.96}$	$918^{+81}_{-77}$	$3391^{+1693}_{-573}$	$67^{+559}_{-50}$
Alt.	$-20 \pm 7$	$5.24^{+5.27}_{-3.61}$	$923^{+76}_{-84}$	$2930^{+1302}_{-513}$	$24^{+223}_{-18}$

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

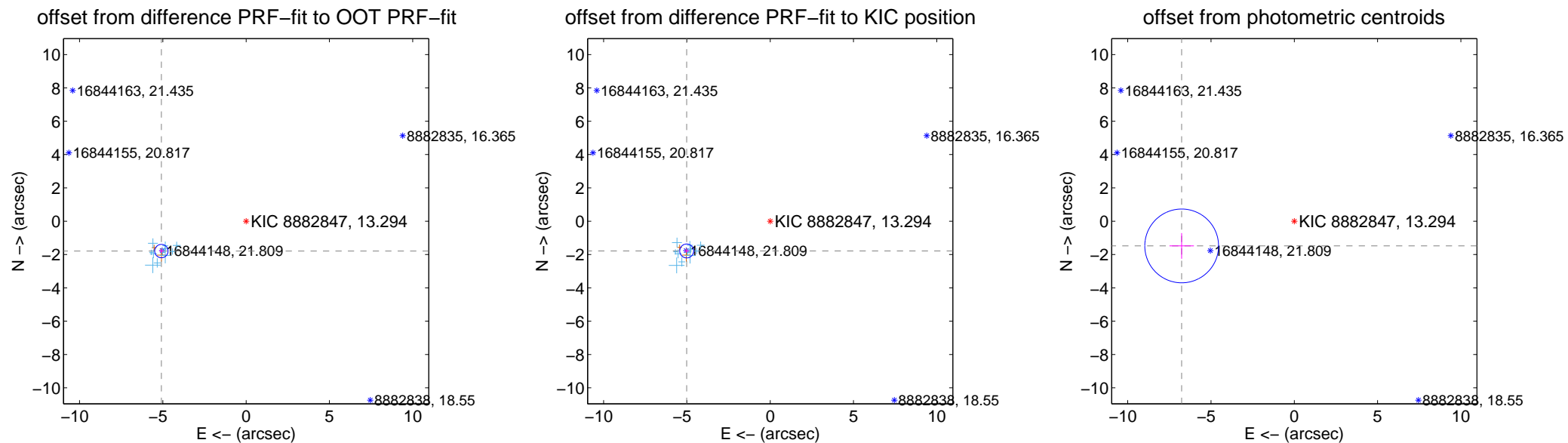
## DV Centroid Data

Supplemental centroid analysis for 008882847-01. Kepler magnitude: 13.29. Transit SNR 13.52

There are 13 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

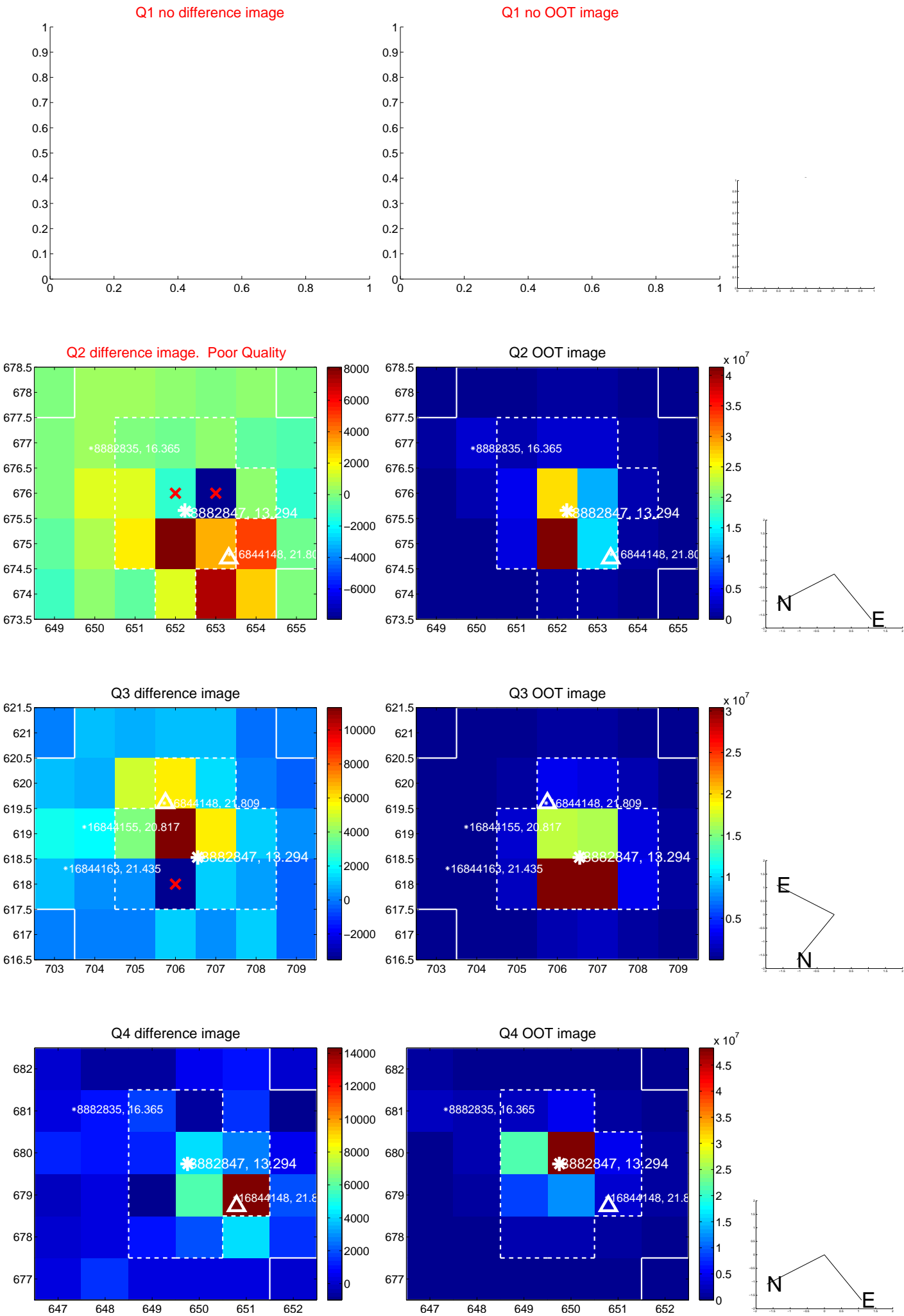
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.393 \pm 0.134$	40.34	$5.086 \pm 0.128$	$-1.792 \pm 0.112$
PRF-fit source offset from KIC position	$5.322 \pm 0.139$	38.19	$5.013 \pm 0.135$	$-1.787 \pm 0.110$
photometric centroid source offset	$6.92 \pm 0.74$	9.38	$6.76 \pm 0.74$	$-1.48 \pm 0.77$



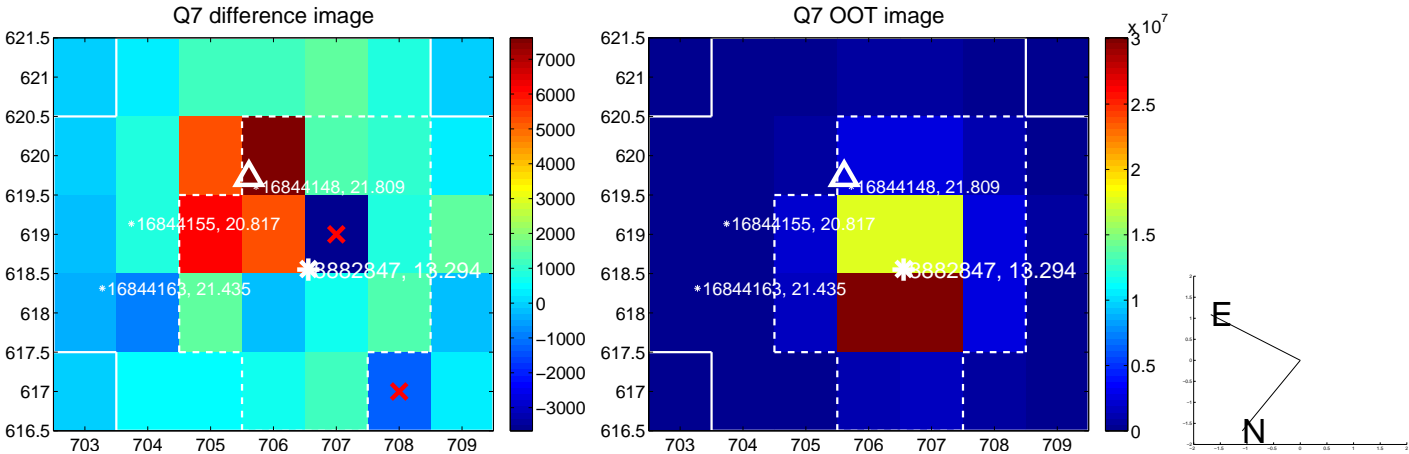
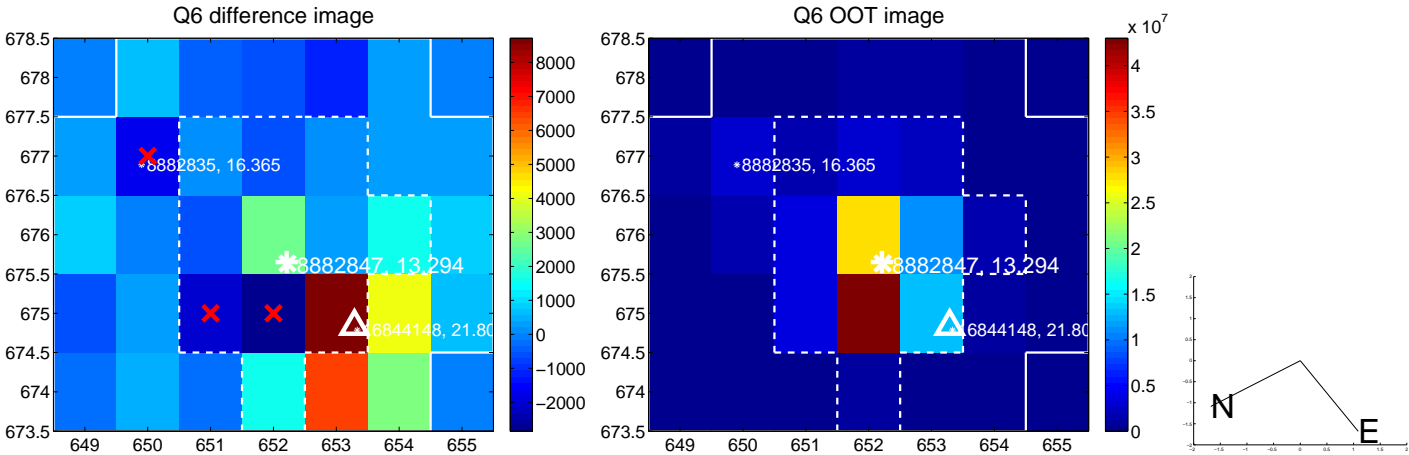
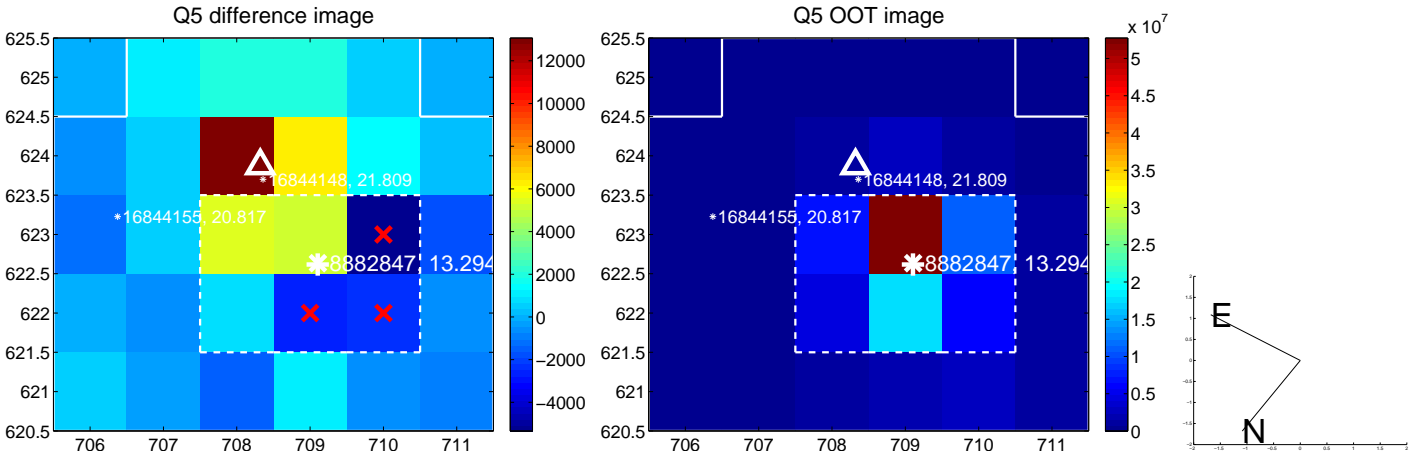
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



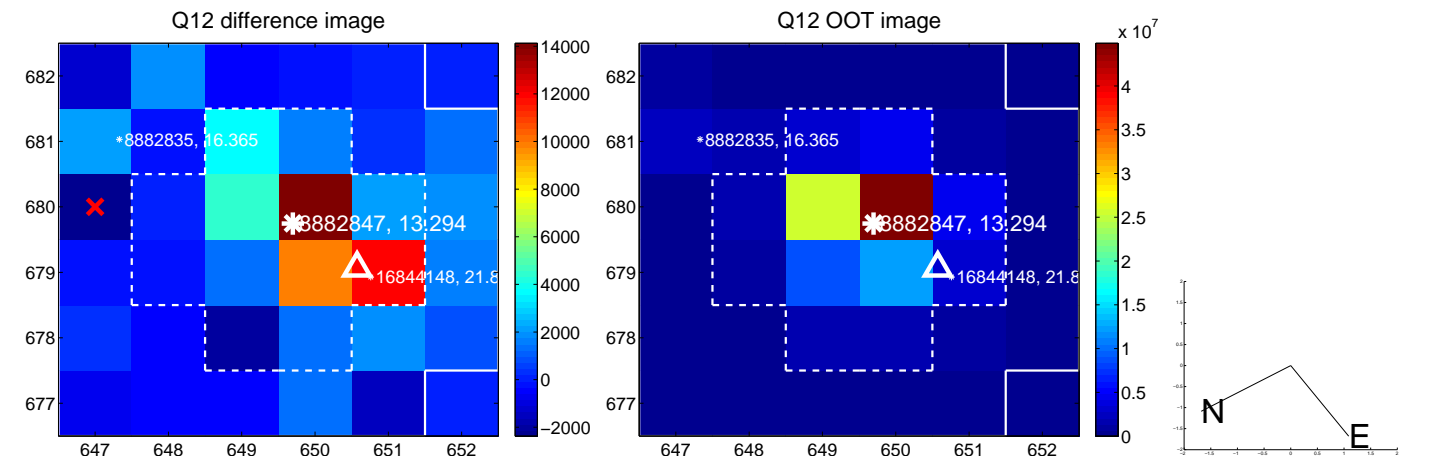
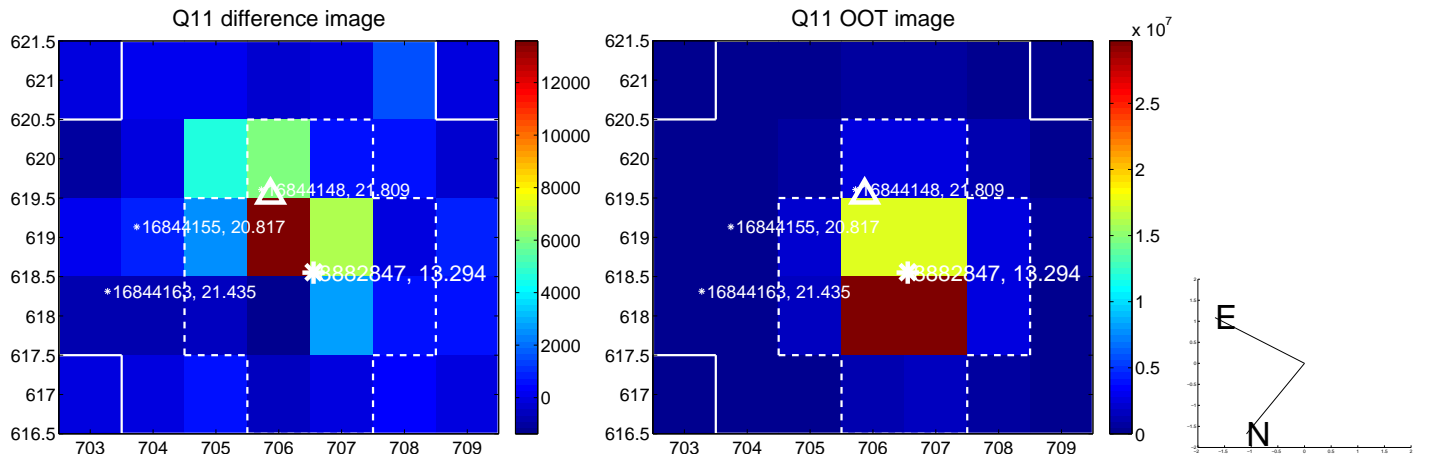
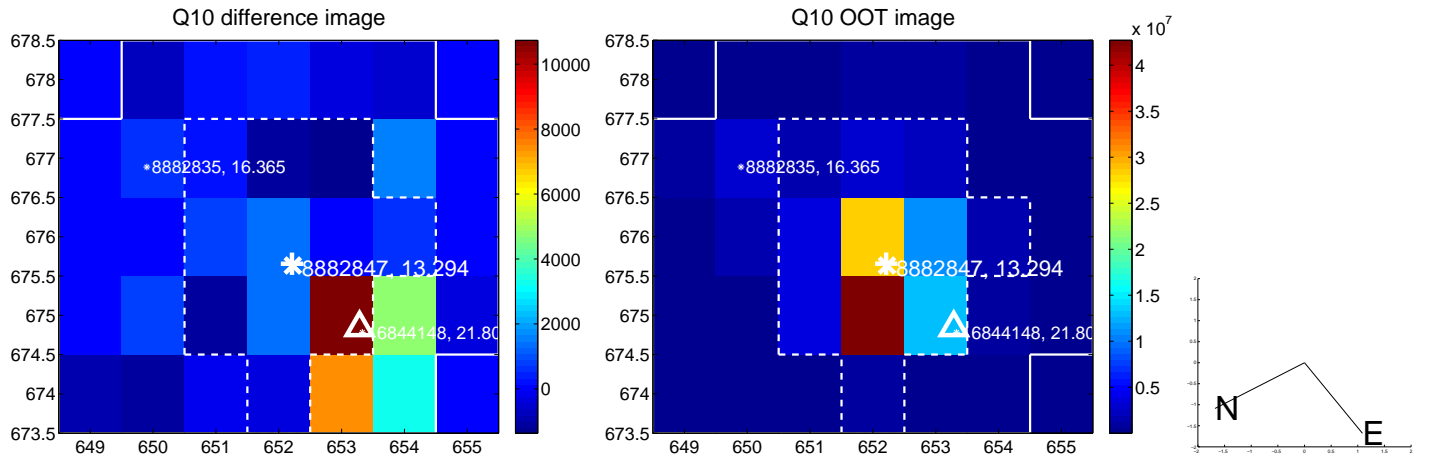
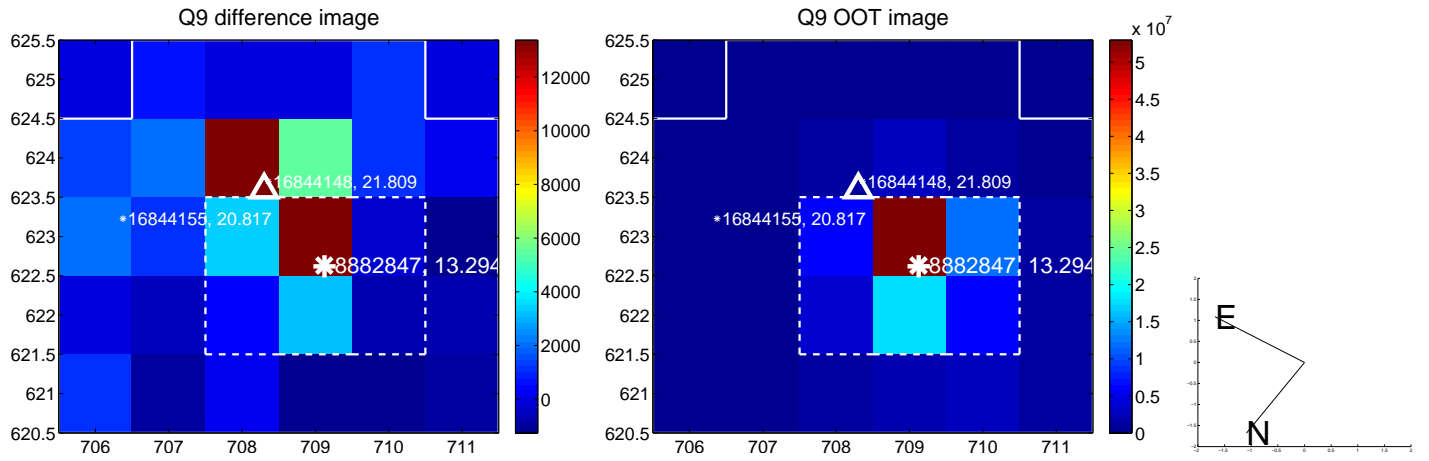
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



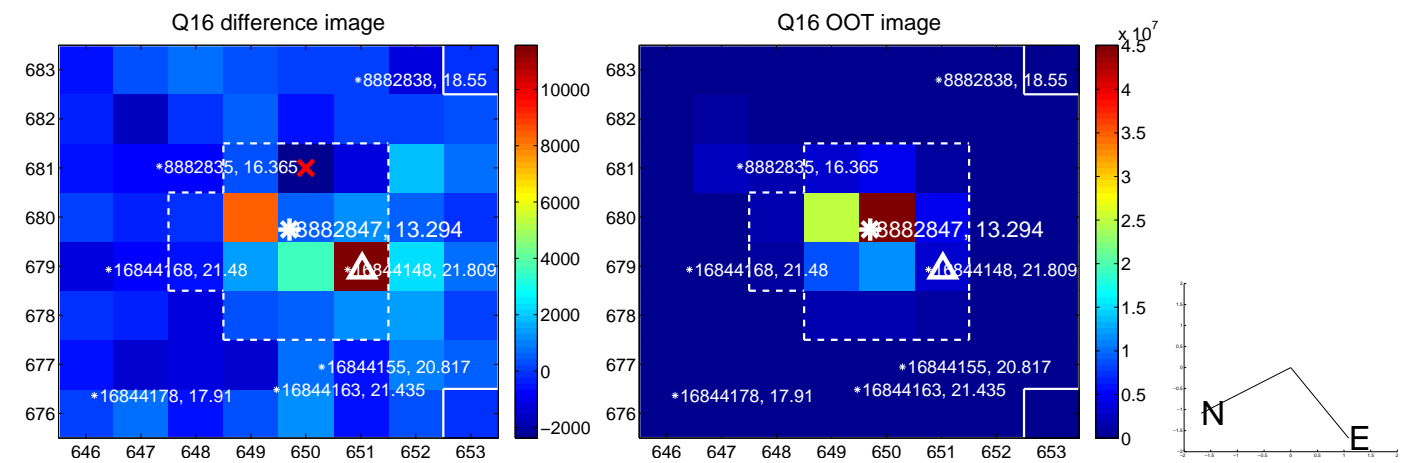
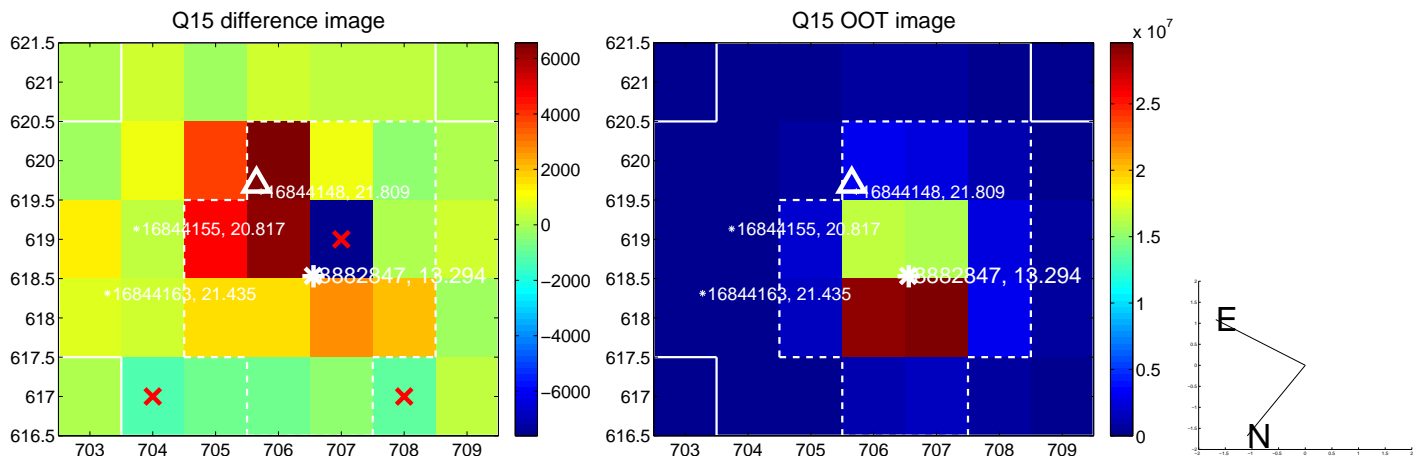
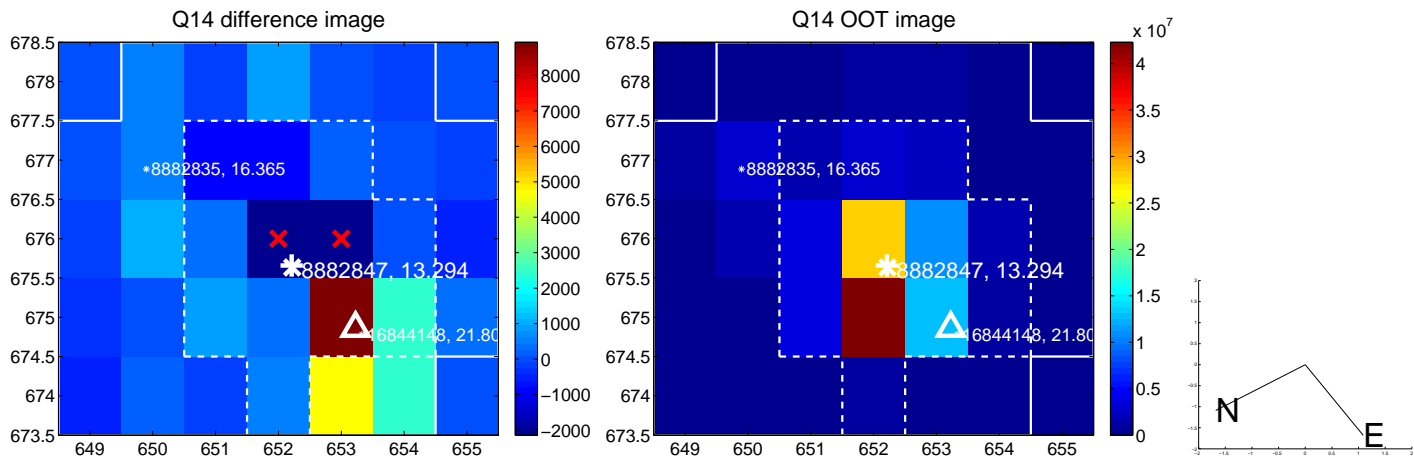
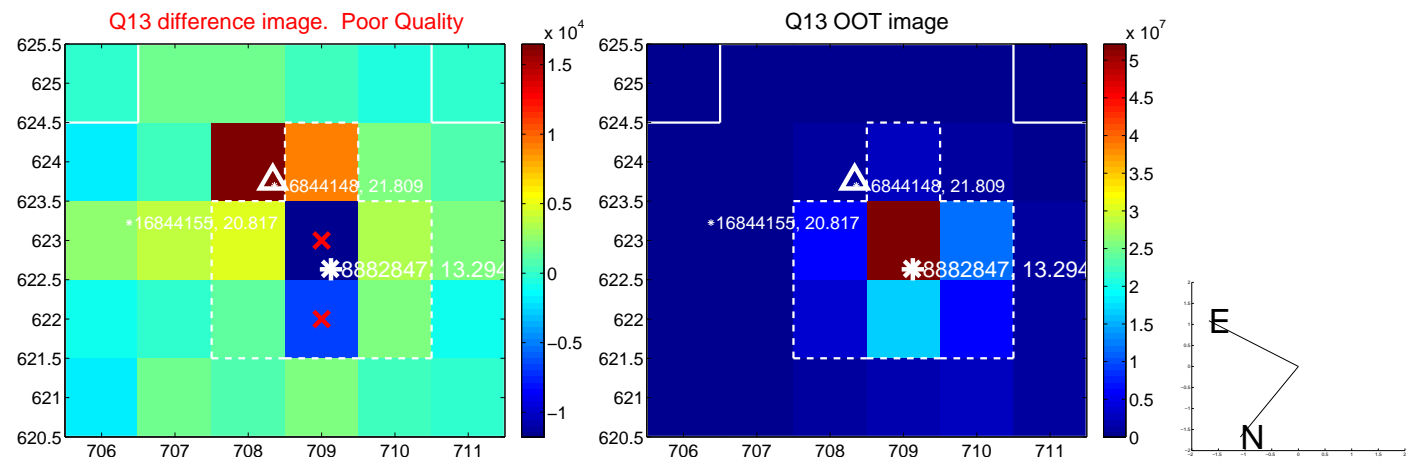
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.





UKIRT Image

Declination

