

# KIC 008845205

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008845205-01	OBS	0463.01	18.477622	148.313923	2558.5	2.087	78.0	75.9	0.28	3395	1.64	1.21

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008845205-01	OBS	PC	0.00	0	0	0	0	CENT_KIC_POS

**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 008845205-01

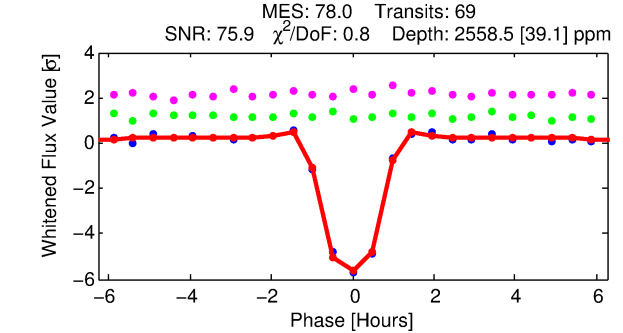
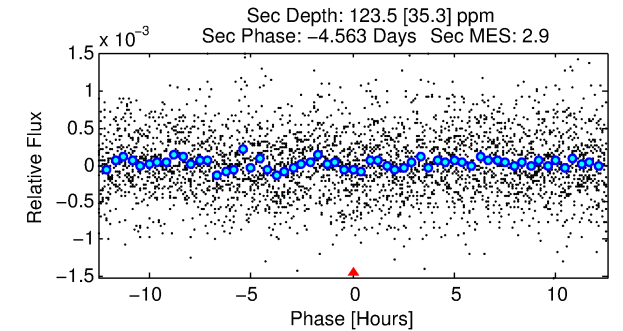
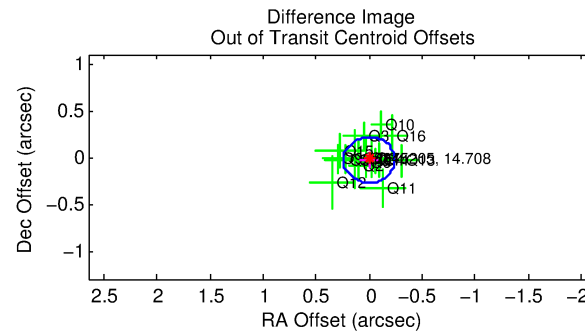
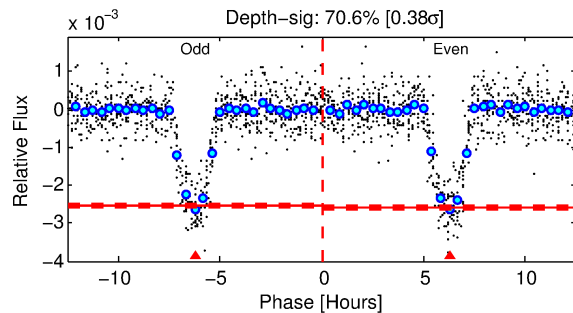
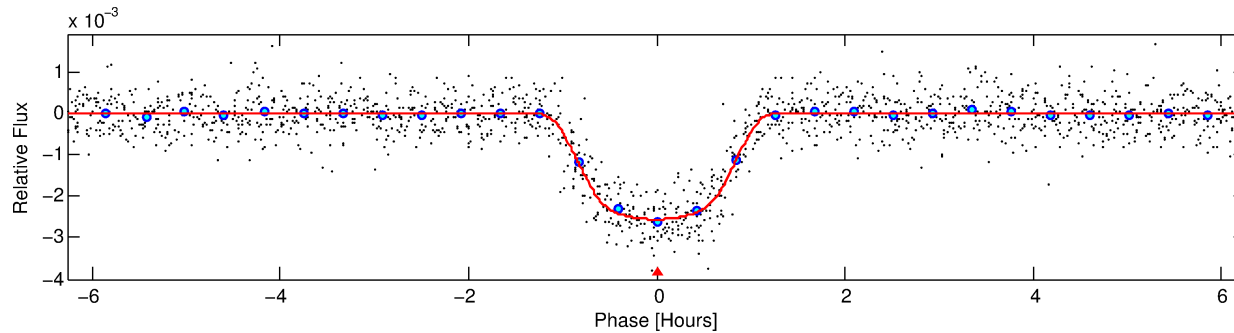
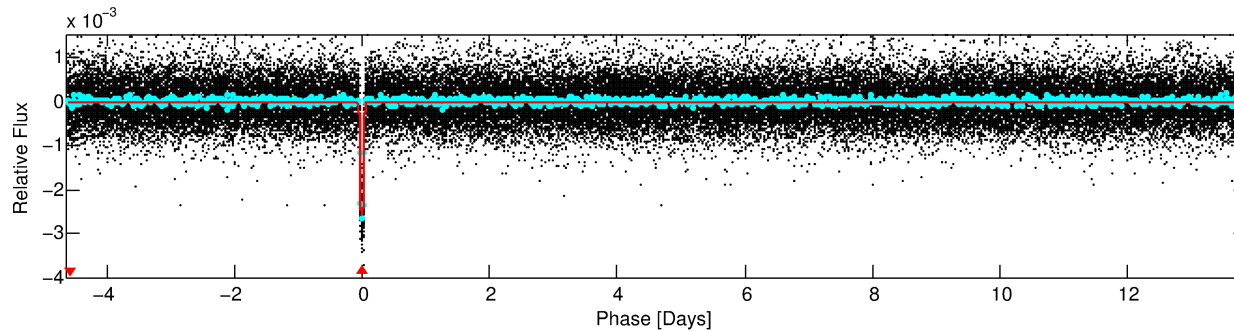
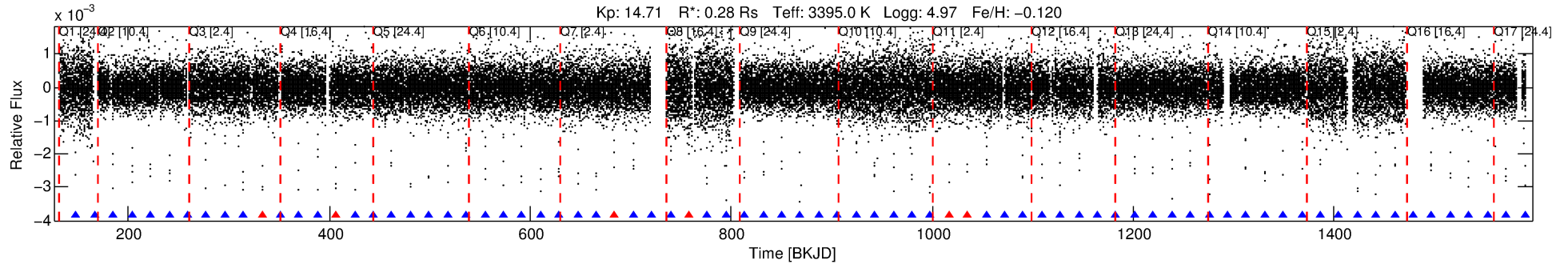
No Significant Match Found

# DV One-Page Summary

KIC: 8845205 Candidate: 1 of 1 Period: 18.478 d

KOI: K00463.01 Corr: 0.949

Kp: 14.71 R\*: 0.28 Rs Teff: 3395.0 K Logg: 4.97 Fe/H: -0.120



## DV Fit Results:

Period = 18.47762 [0.00001] d  
Epoch = 148.3139 [0.0007] BKJD  
Rp/R\* = 0.0530 [0.0019]  
a/R\* = 42.23 [5.97]  
b = 0.85 [0.05]  
Seff = 1.21 [0.24]  
Teq = 268 [13] K  
Rp = 1.64 [0.35] Re  
a = 0.0887 [0.0133] AU  
Ag = 199.77 [68.75] [2.89σ]  
Teff = 1555 [120] K [10.71σ]

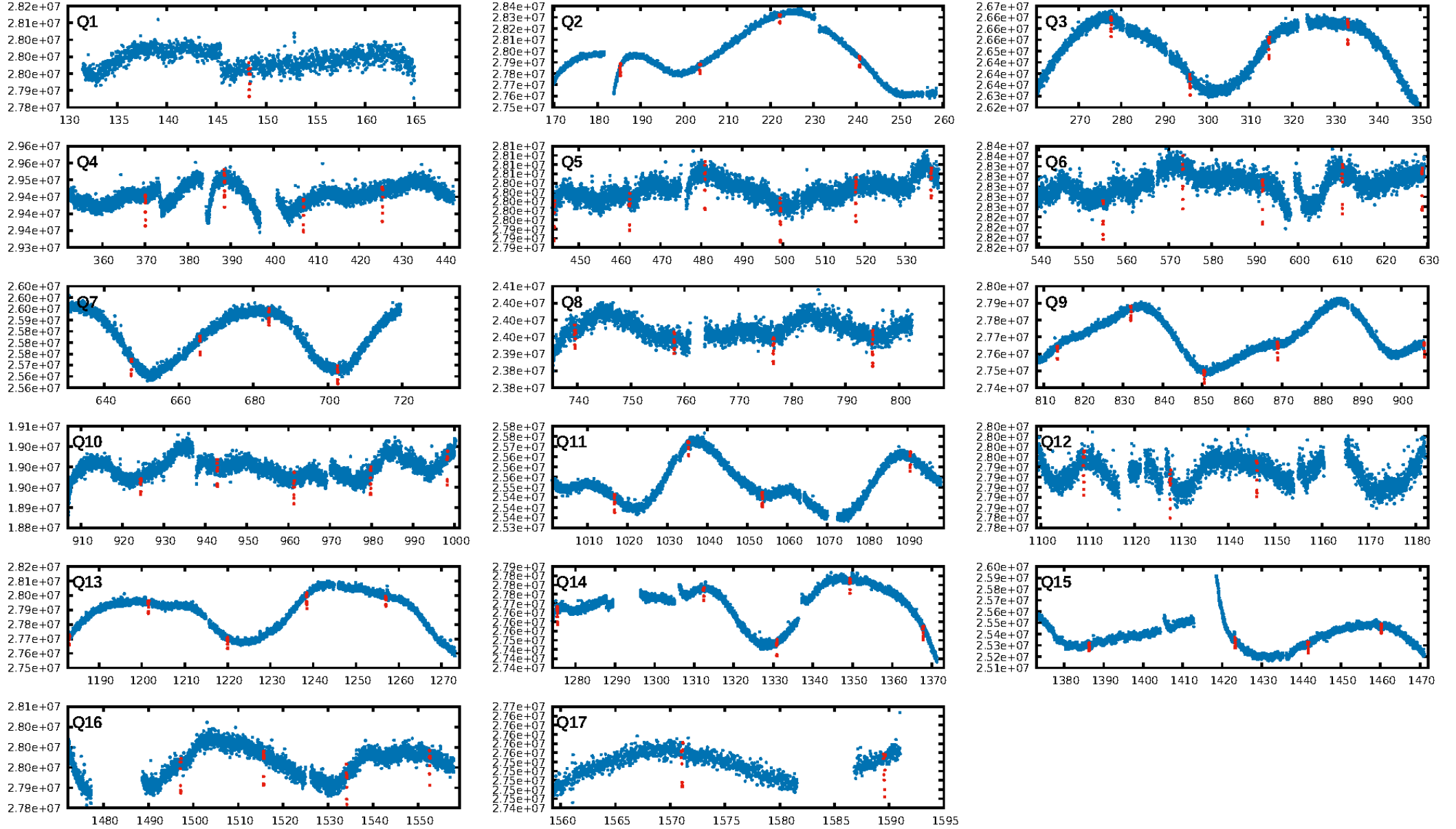
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 87.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.91 [60/66]  
GhostDiagnostic-chr: 3.069  
Centroid-sig: 0.0%  
Centroid-so: 1.789 arcsec [11.41σ]  
OotOffset-rm: 0.028 arcsec [0.35σ]  
KicOffset-rm: 1.126 arcsec [13.75σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

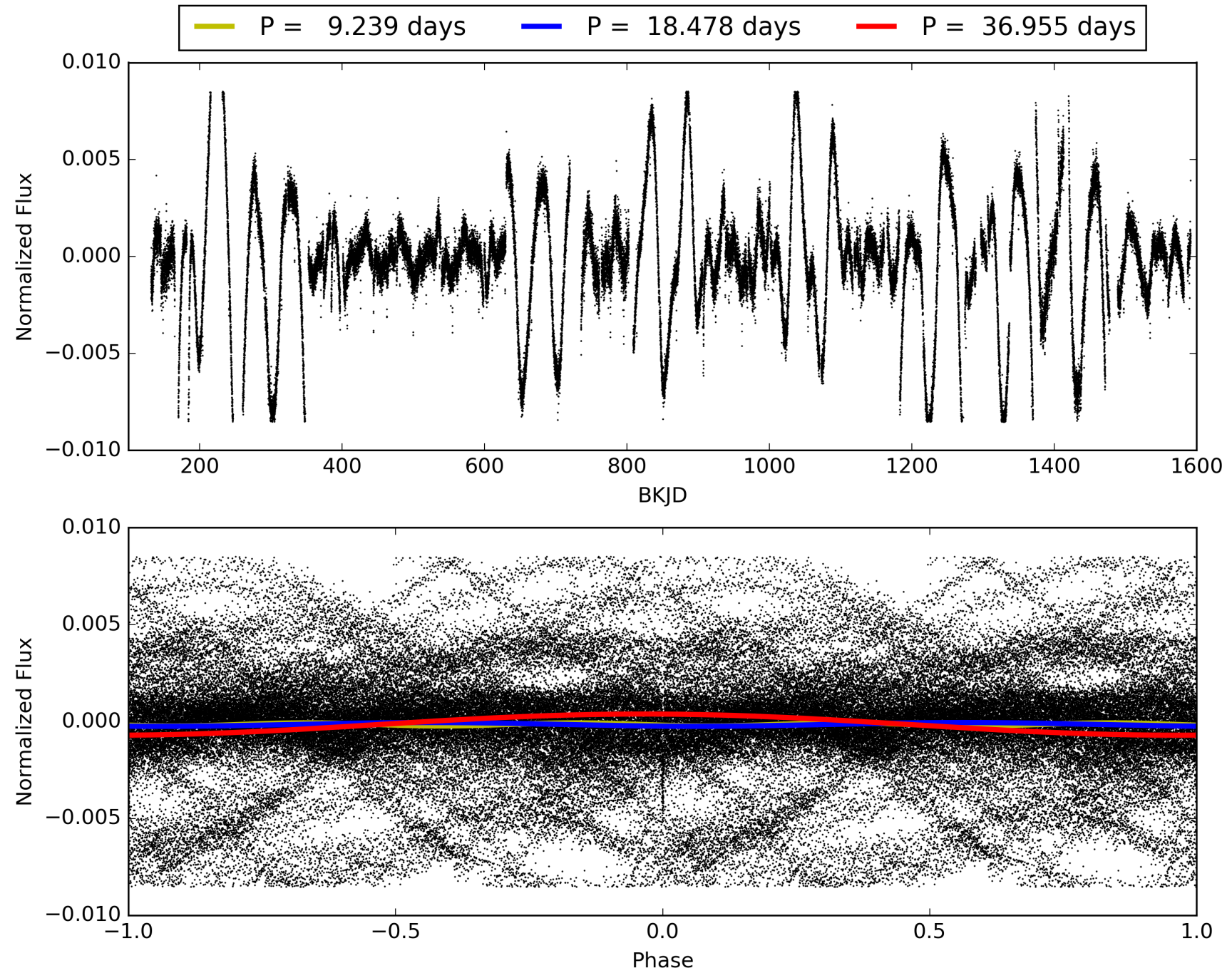
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:16:57 Z

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

# TCE 008845205-01, PDC Light Curves

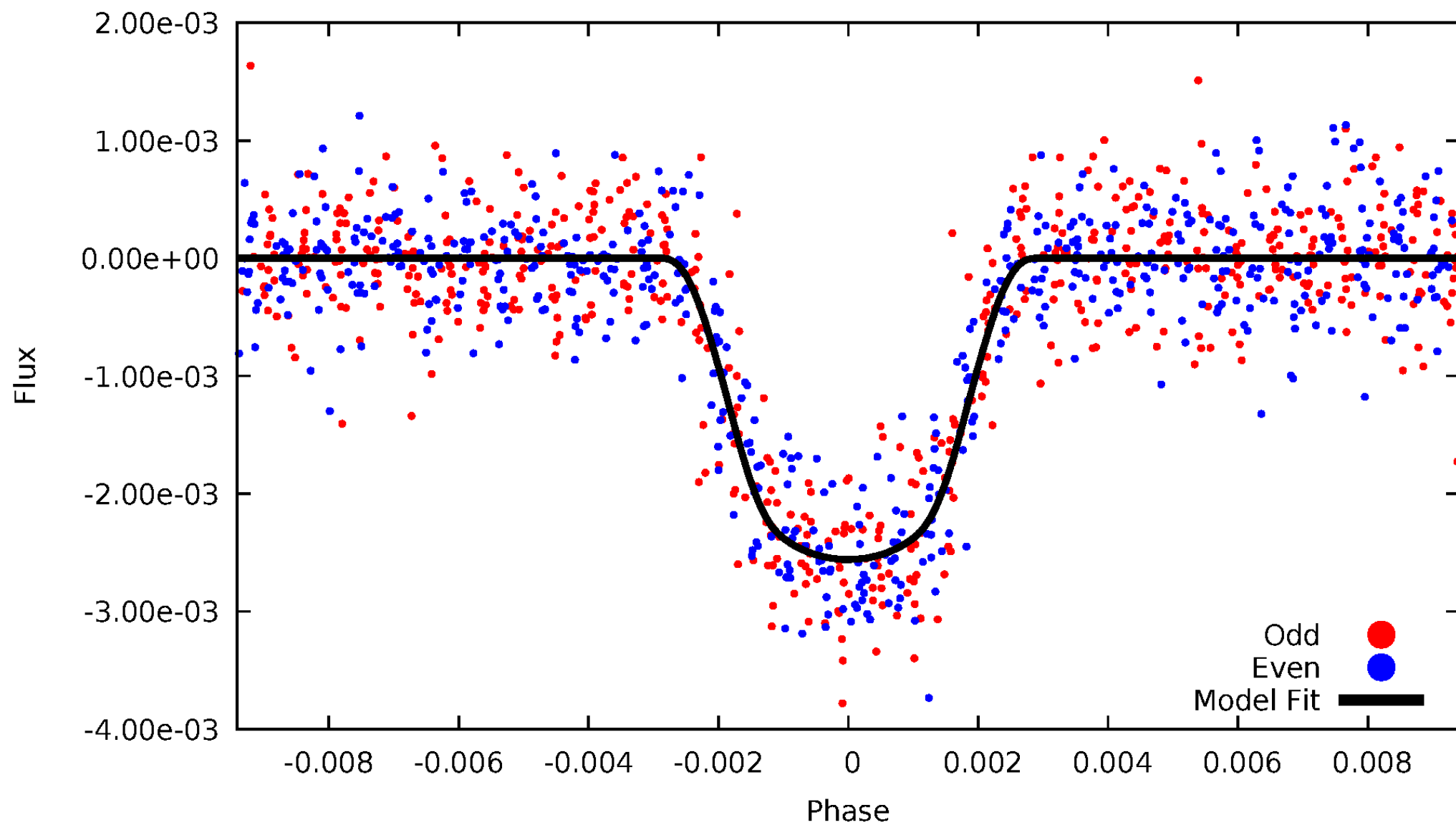


TCE 008845205-01



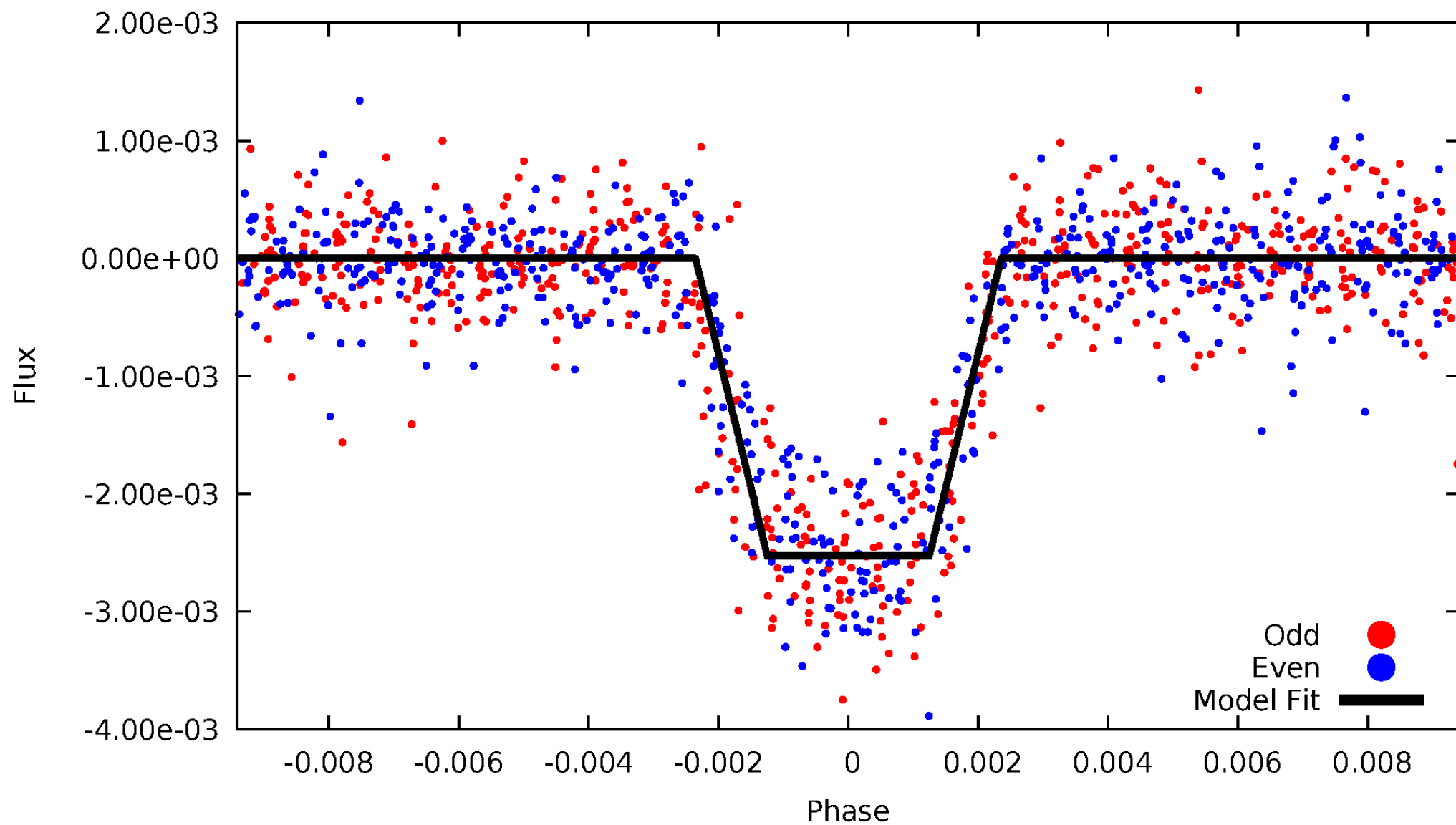
# DV Odd/Even

TCE 008845205-01



# ALT Odd/Even

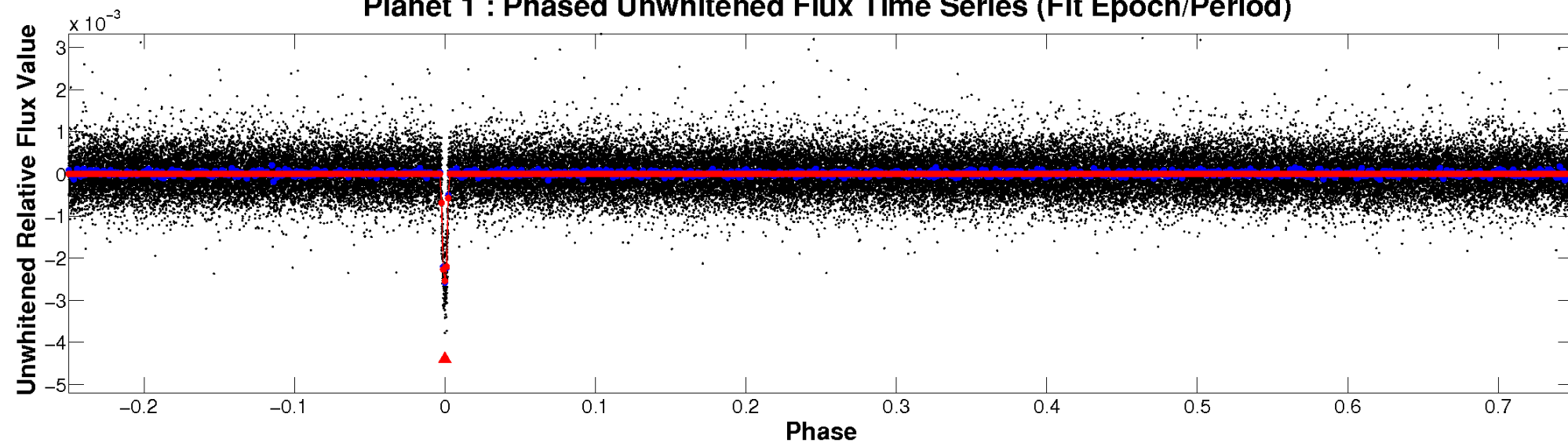
TCE 008845205-01



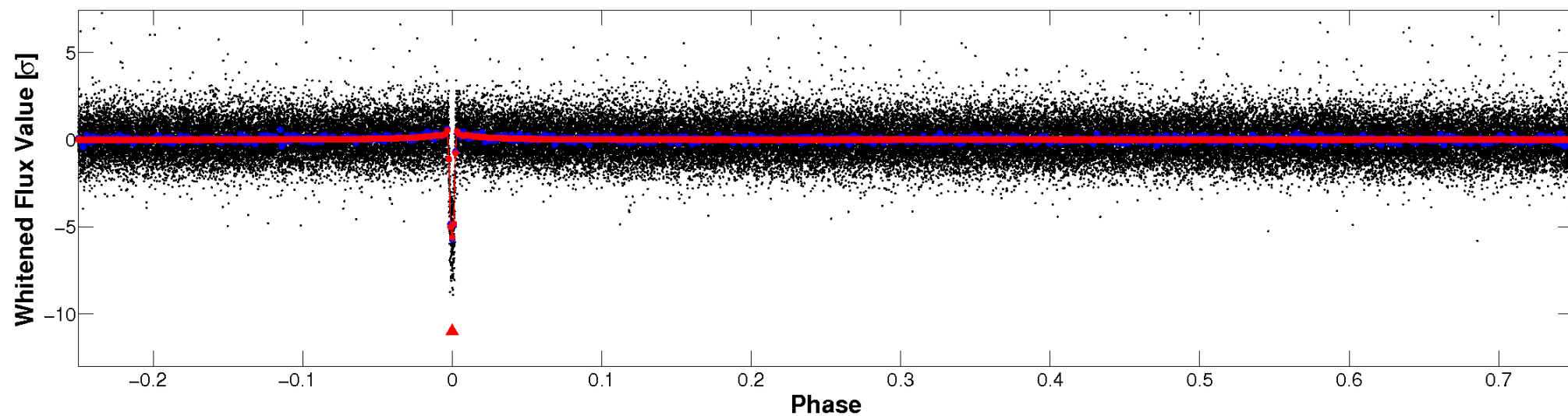


# Non-Whitened Vs. Whitened Light Curve

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

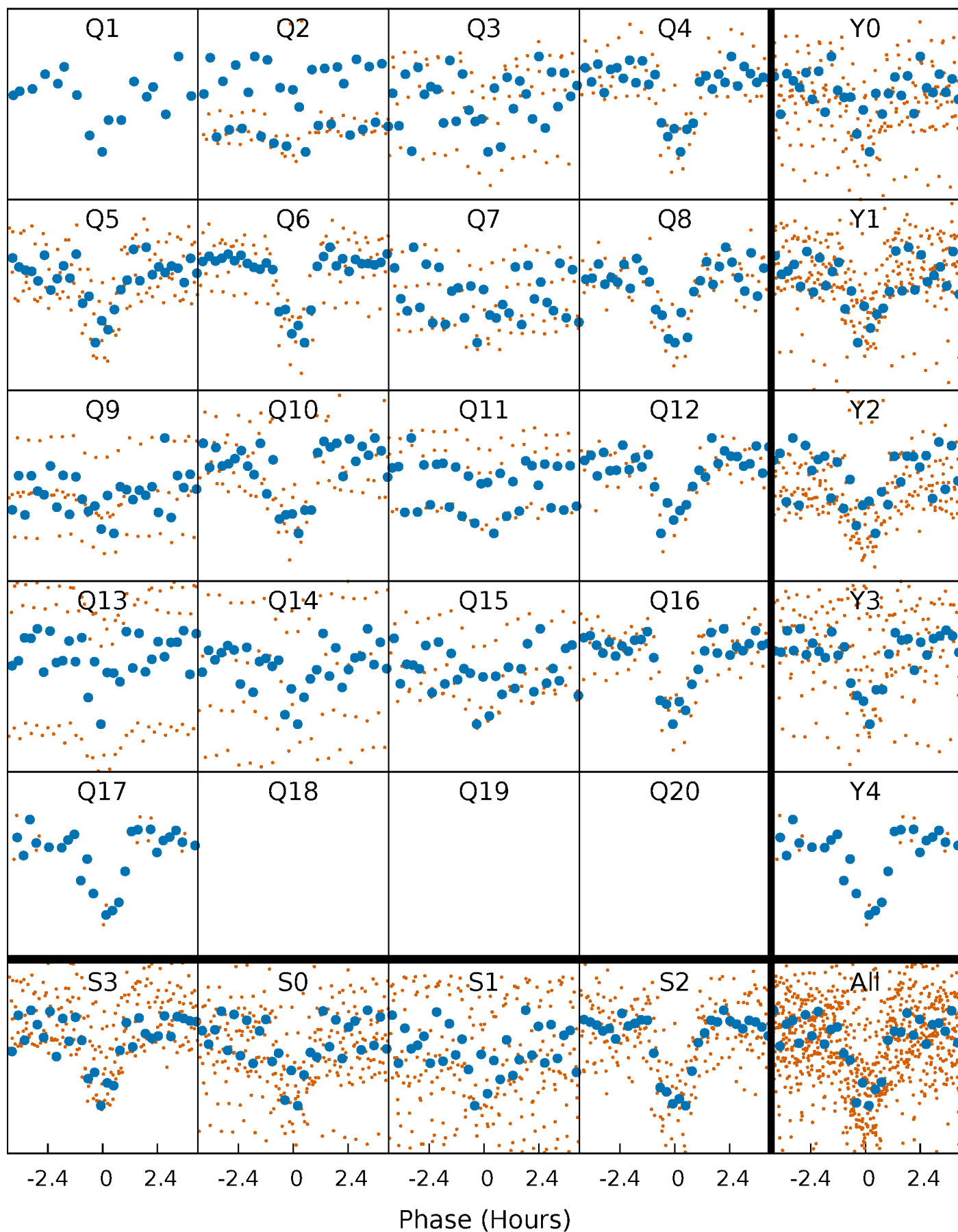


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

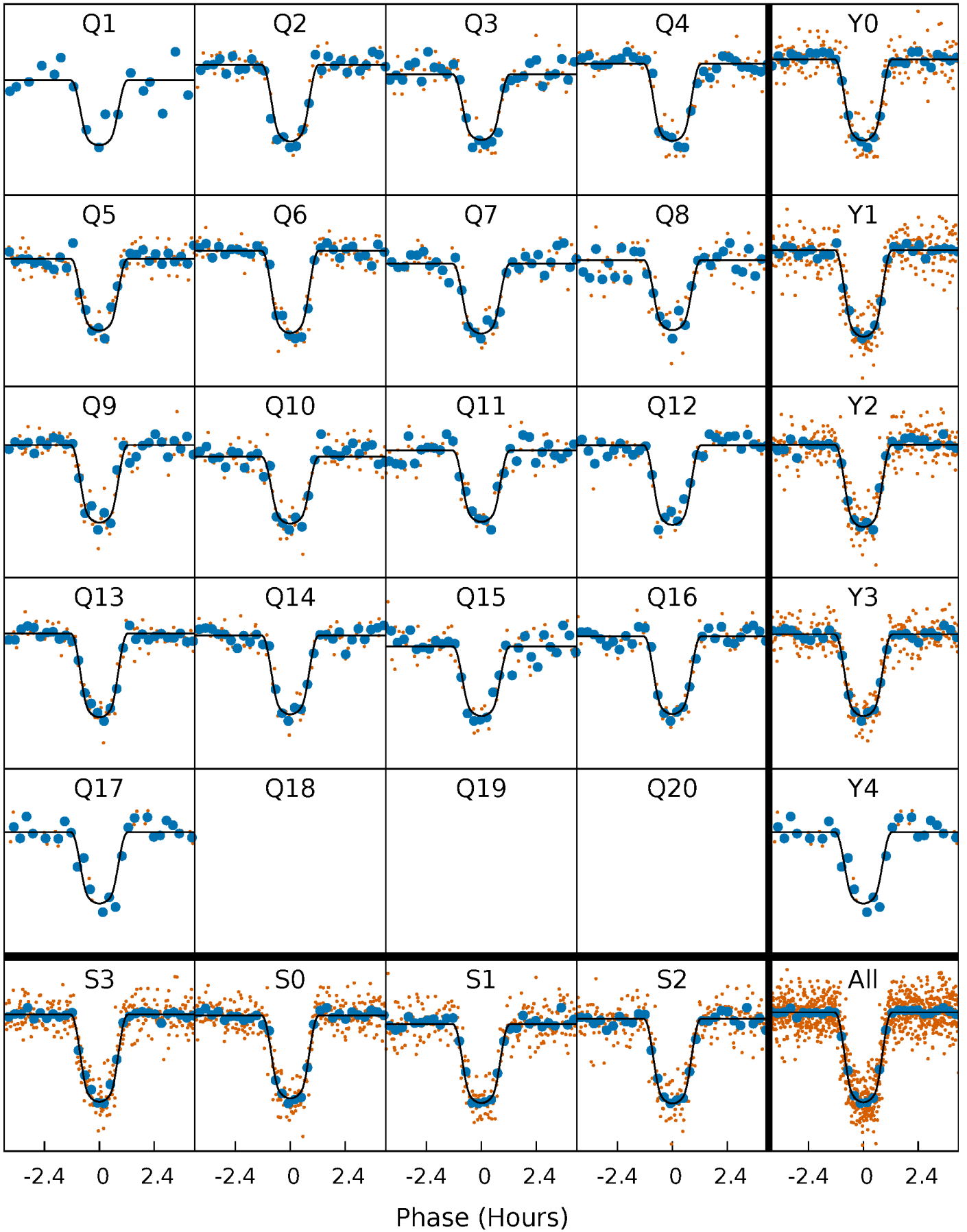
TCE 008845205-01 P= 18.477622 Days  $T_0=148.313923$  (BKJD)





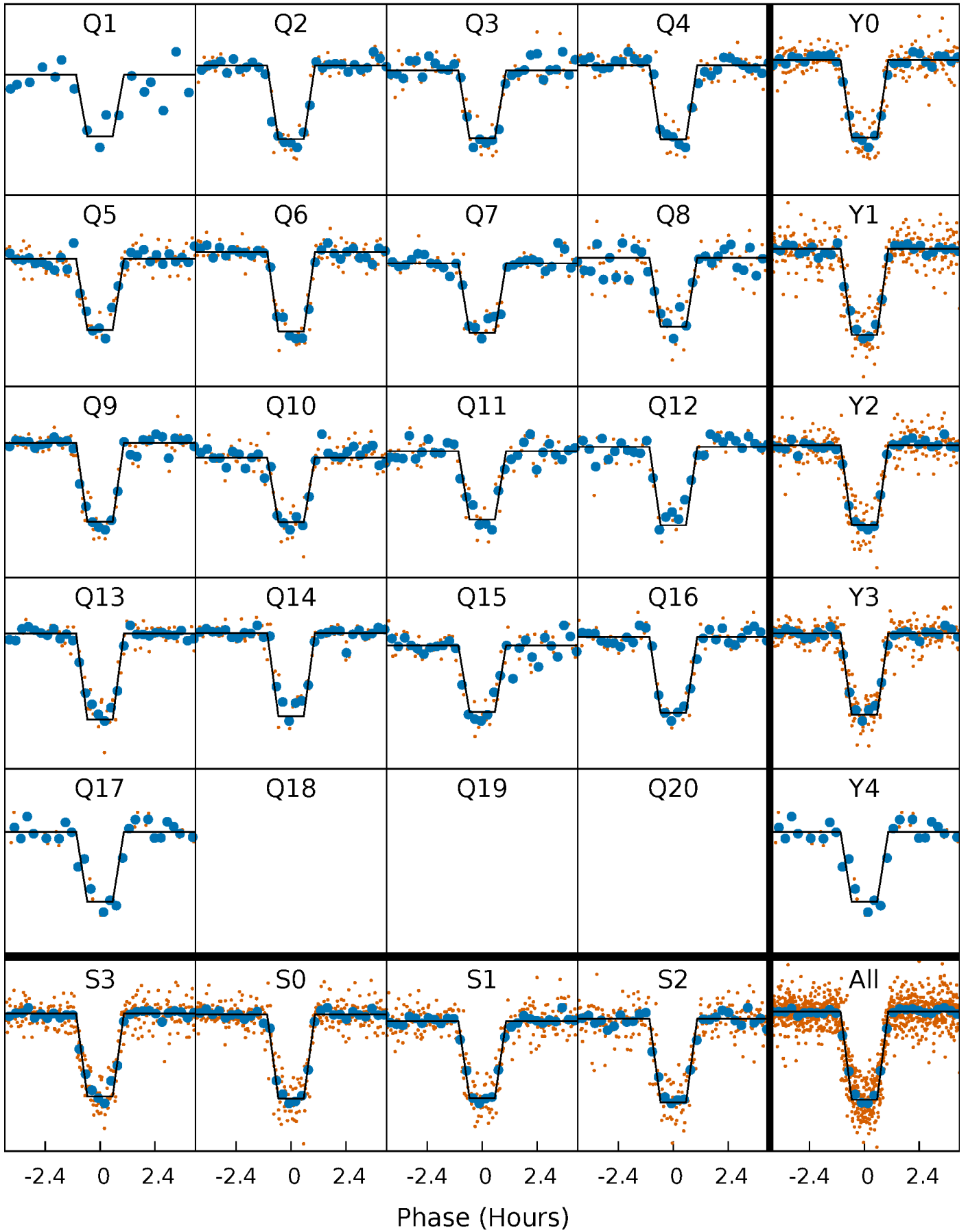
# DV Quarter-Phased Transit Curves

TCE 008845205-01 P= 18.477622 Days  $T_0=148.313923$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

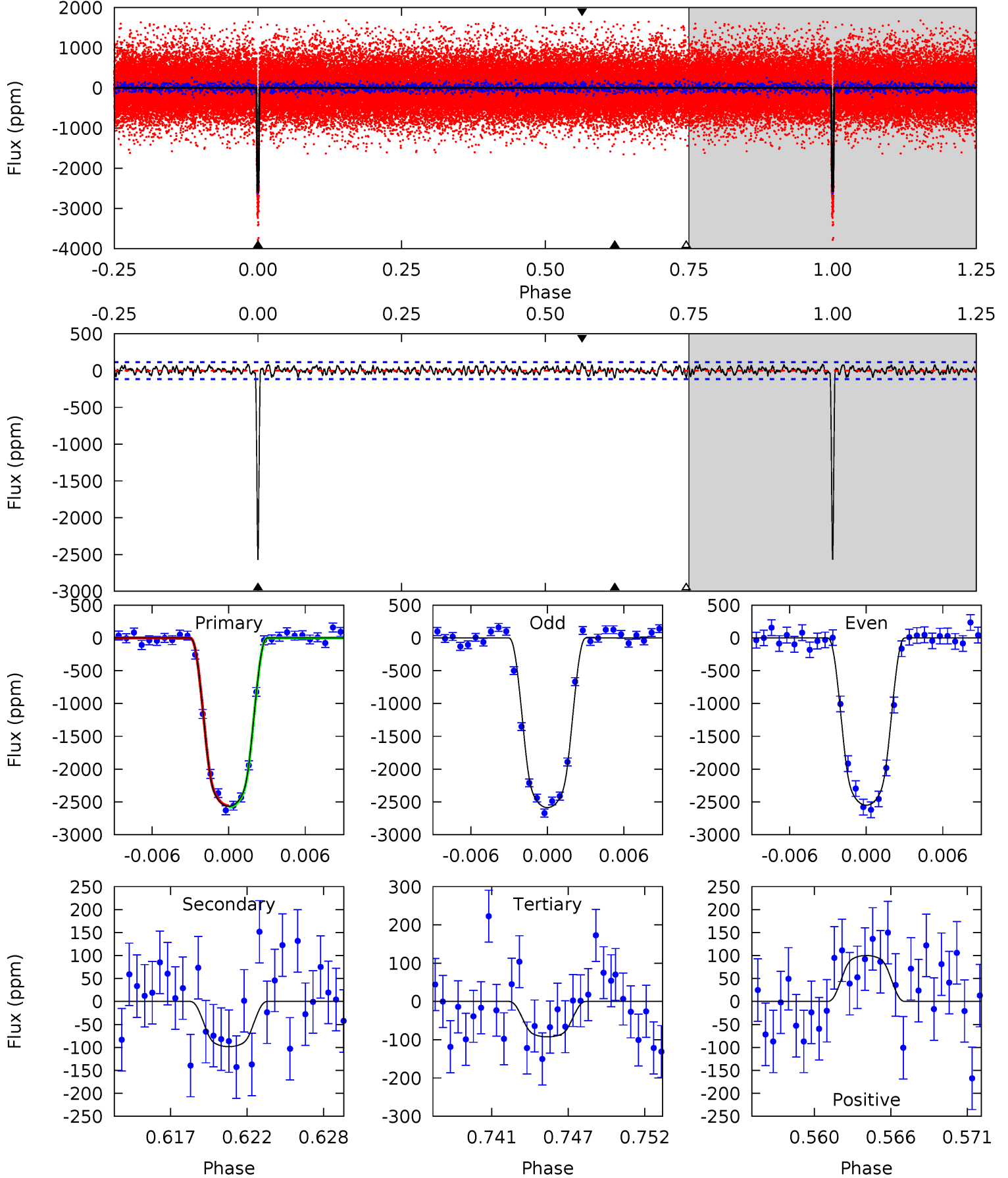
TCE 008845205-01   P= 18.477623 Days    $T_0=148.313813$  (BKJD)



# DV Model-Shift Uniqueness Test

008845205-01,  $P = 18.477622$  Days,  $E = 129.836301$  Days

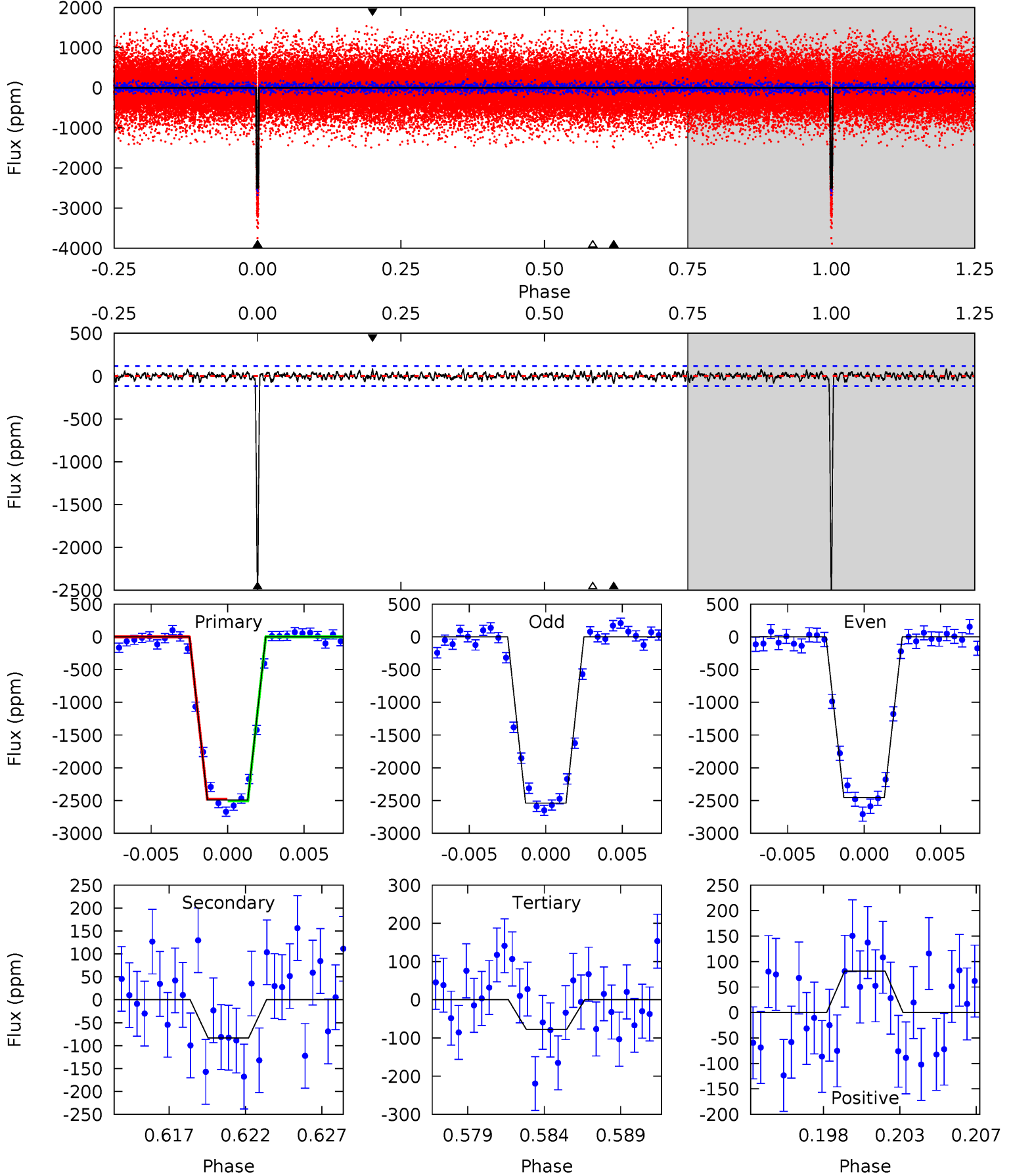
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
114.4	4.38	4.12	4.45	5.13	2.77	1.49	110.2	109.9	0.26	-0.07	0.82	1.00	0.04	0.48



# Alt Model-Shift Uniqueness Test

008845205-01, P = 18.477623 Days, E = 129.836190 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
110.4	3.70	3.43	3.60	5.17	2.83	1.15	106.9	106.8	0.27	0.10	1.84	1.00	0.03	0.61



### Stellar Parameters For KIC 008845205

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3395^{+74}_{-67}$	$4.970^{+0.072}_{-0.065}$	$-0.120^{+0.150}_{-0.150}$	$0.283^{+0.059}_{-0.053}$	$0.271^{+0.072}_{-0.059}$	$16.950^{+7.766}_{-4.489}$
	+2%/-2%	+1%/-1%	+125%/-125%	+21%/-19%	+27%/-22%	+46%/-26%
Source	SPE70	SPE60	SPE70	DSEP		

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

### Secondary Eclipse Parameters for KIC 008845205-01 / KOI 0463.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-98 \pm 22$	$1.64^{+0.20}_{-0.17}$	$375^{+15}_{-15}$	$2199^{+56}_{-68}$	$160^{+40}_{-38}$
Alt.	$-83 \pm 23$	$1.55^{+0.21}_{-0.17}$	$373^{+15}_{-14}$	$2180^{+76}_{-79}$	$152^{+53}_{-46}$

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

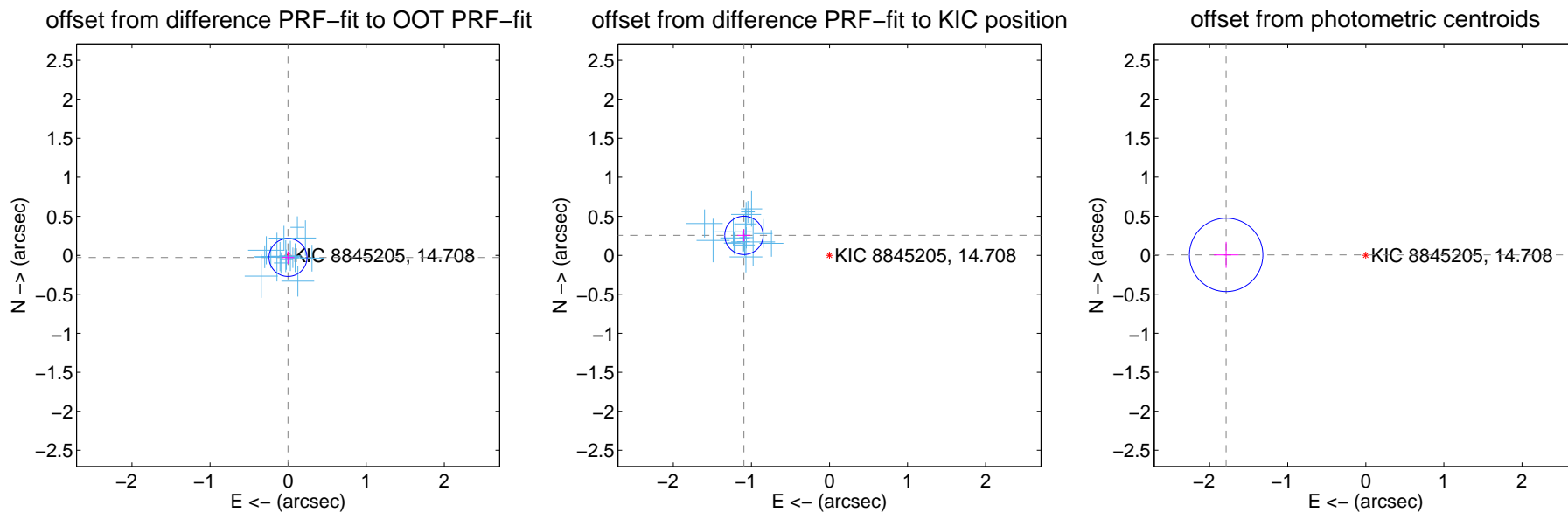
## DV Centroid Data

Supplemental centroid analysis for 008845205-01. Kepler magnitude: 14.71. Transit SNR 75.91

There are 17 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.20 arcsec

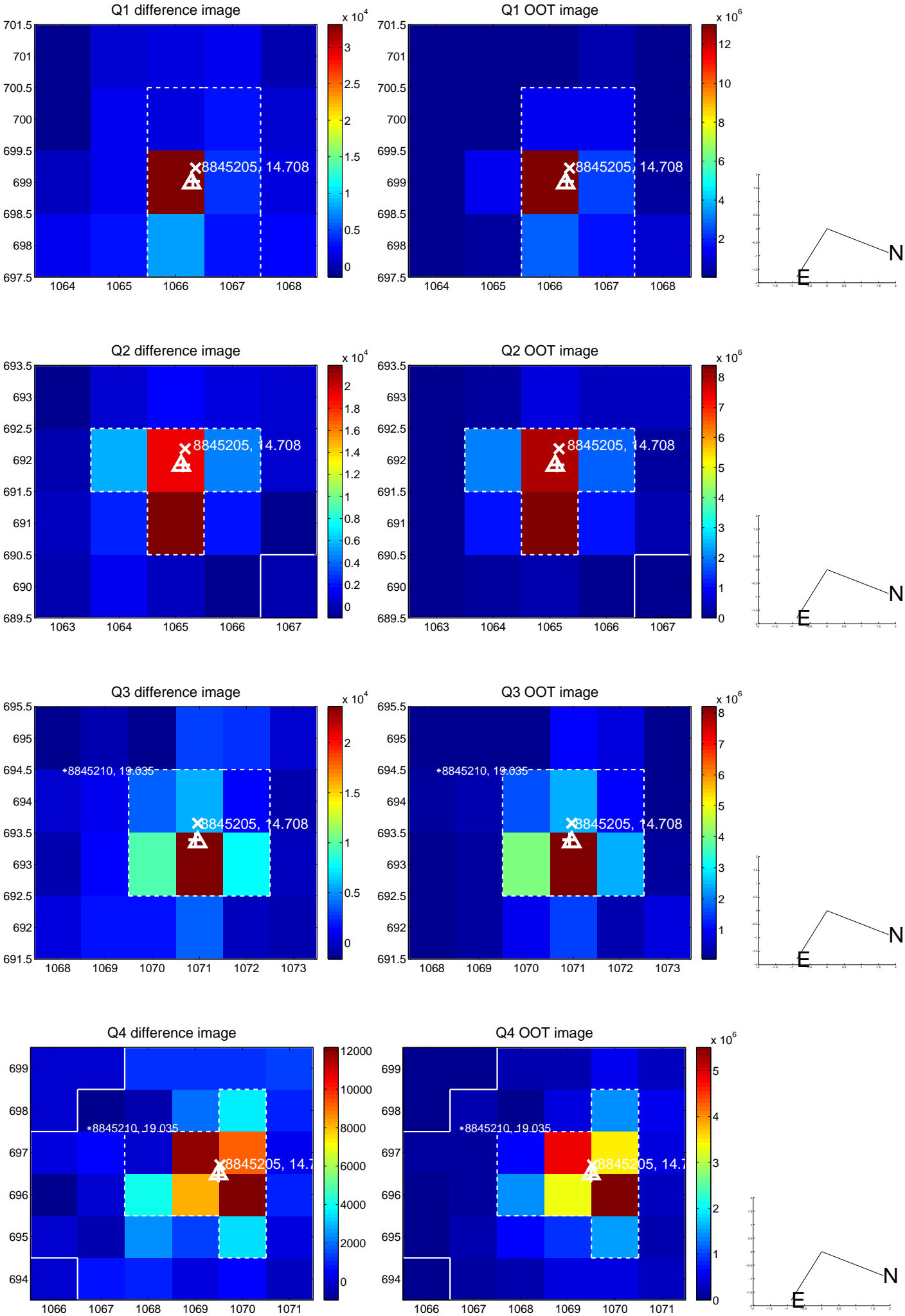
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.028 \pm 0.081$	0.35	$0.001 \pm 0.078$	$-0.028 \pm 0.081$
PRF-fit source offset from KIC position	$1.126 \pm 0.082$	13.75	$1.096 \pm 0.082$	$0.256 \pm 0.078$
photometric centroid source offset	$1.79 \pm 0.16$	11.41	$1.79 \pm 0.16$	$0.00 \pm 0.17$



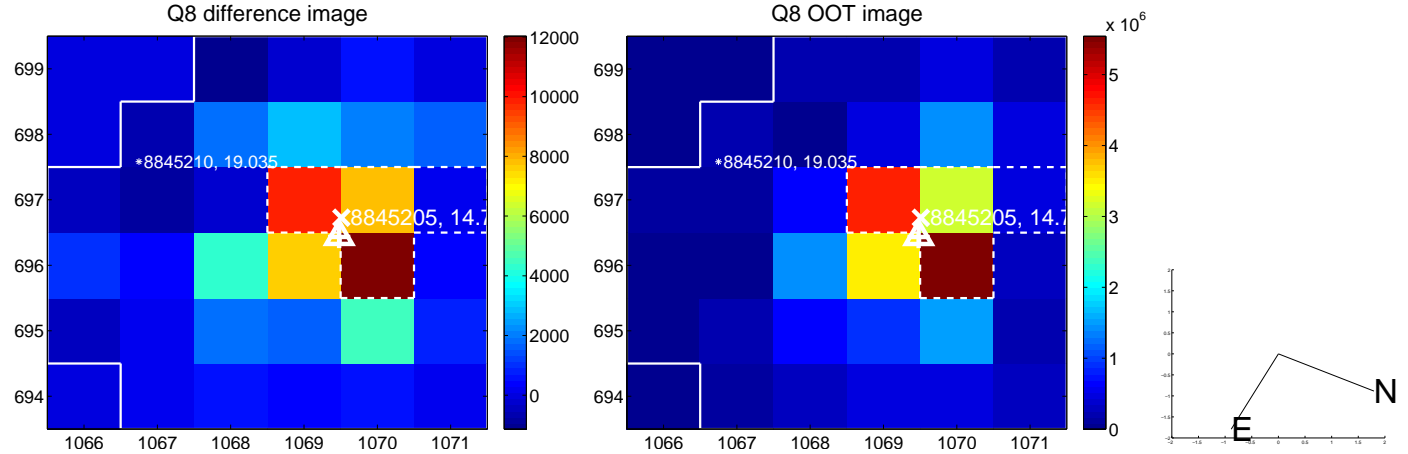
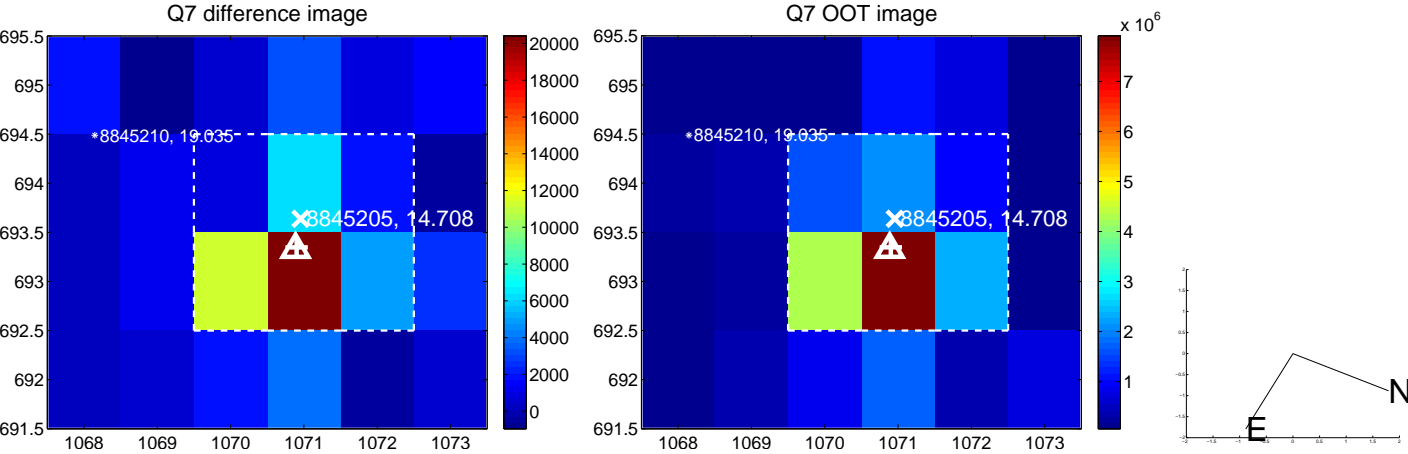
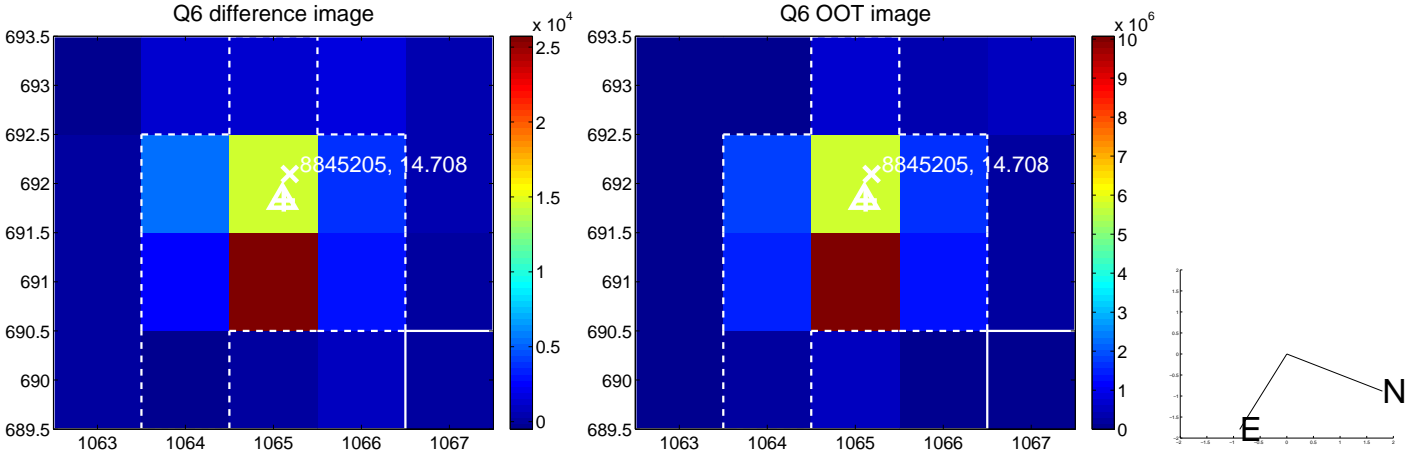
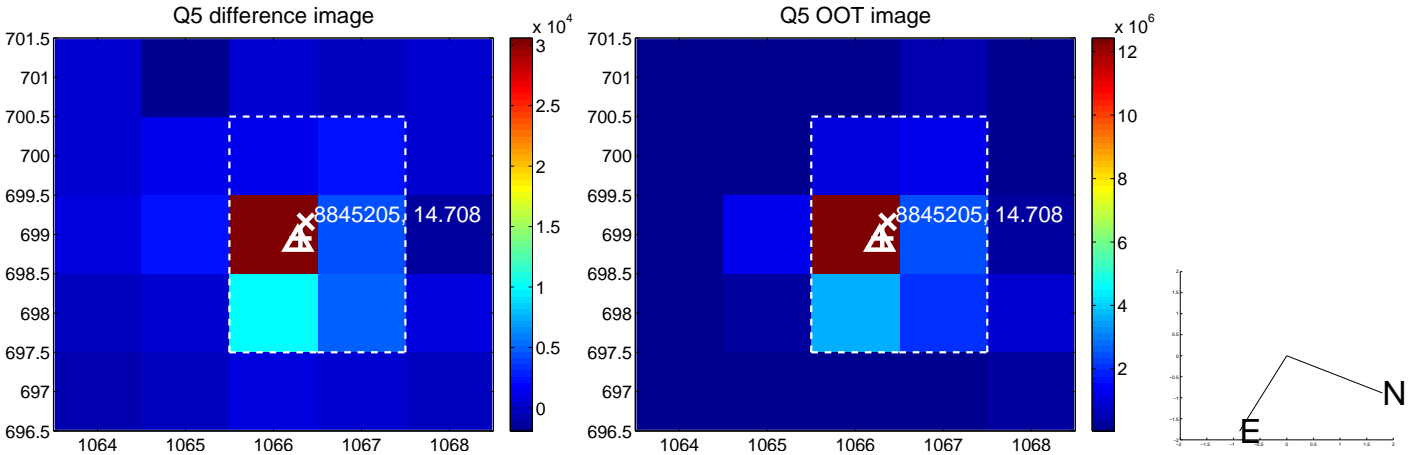
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



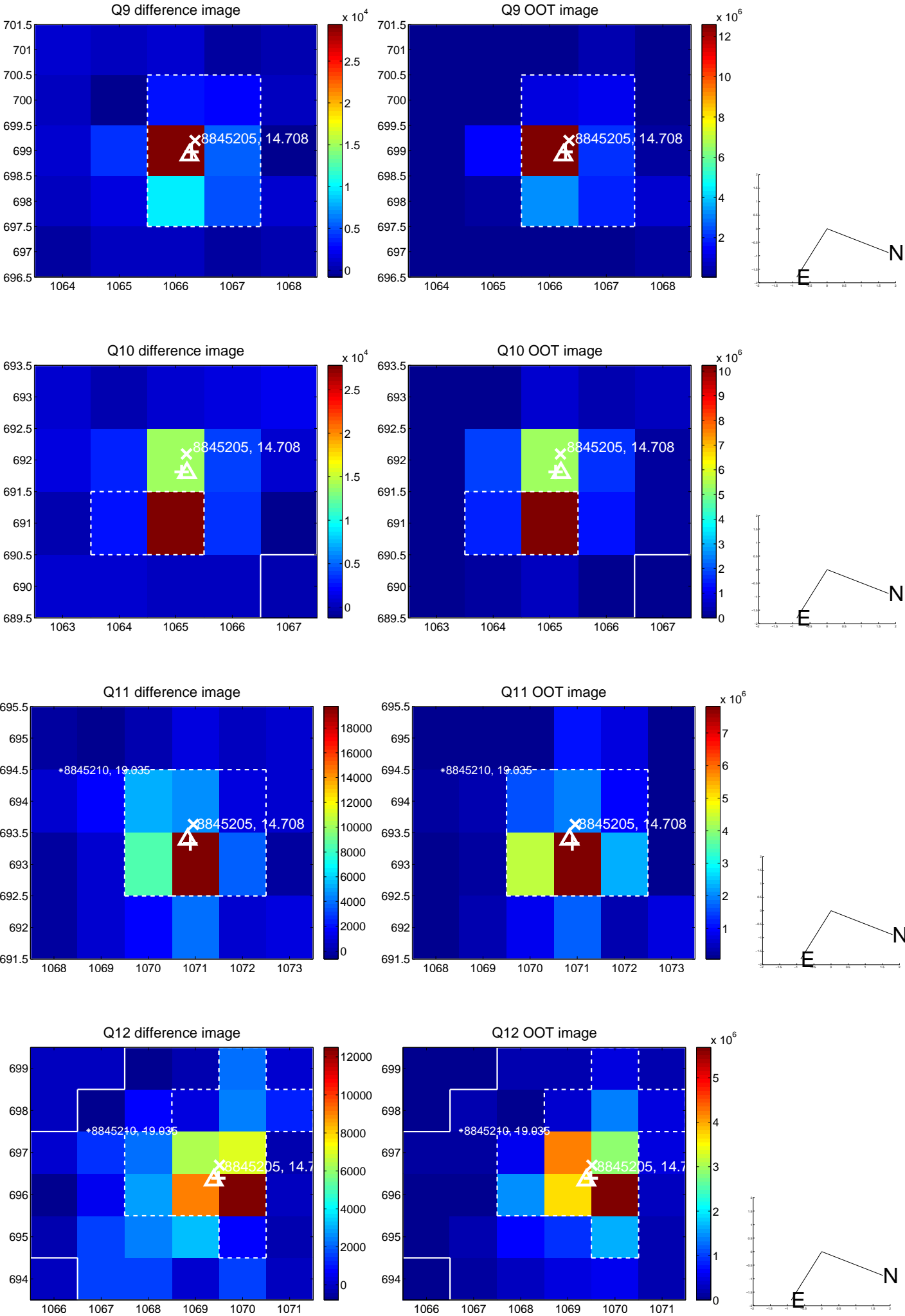
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



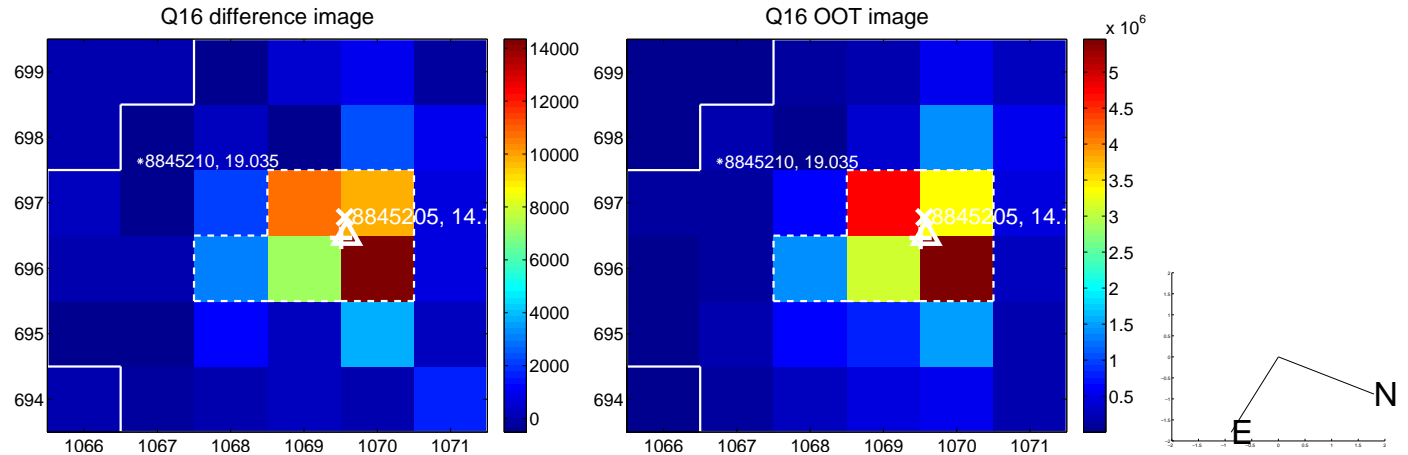
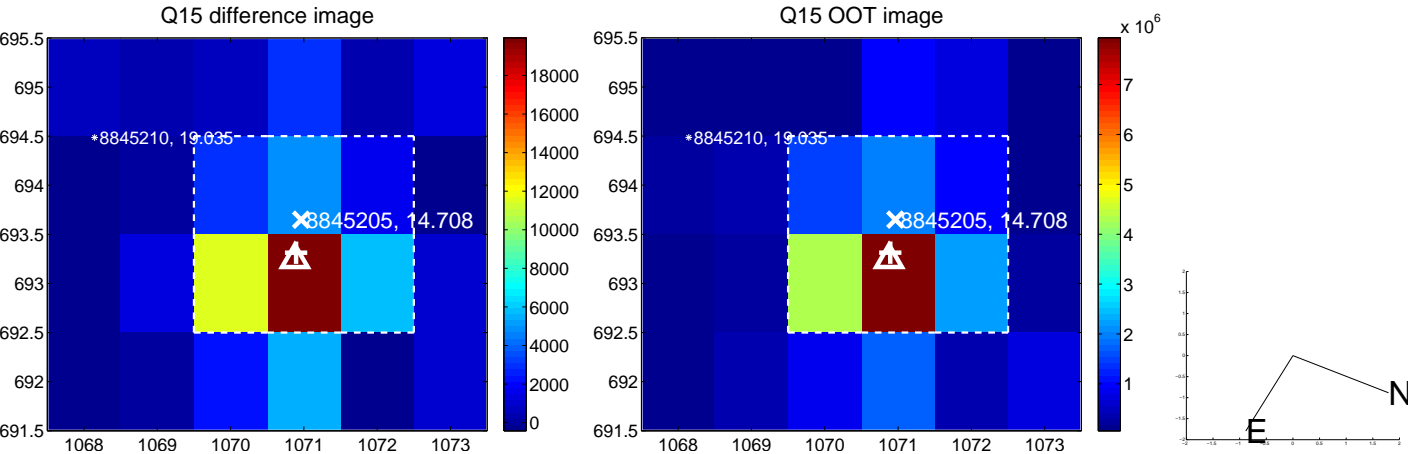
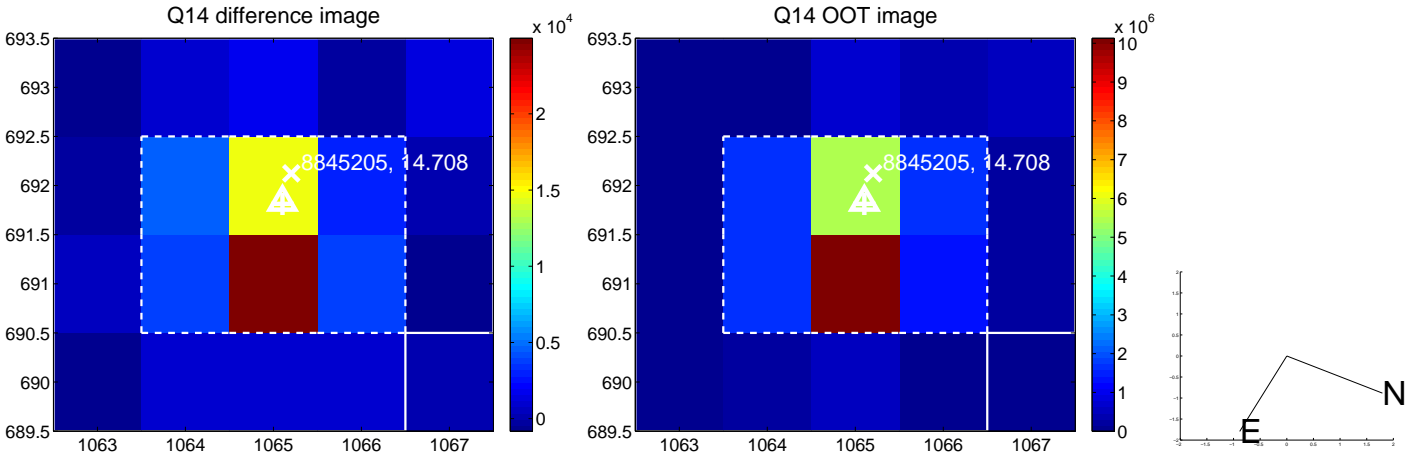
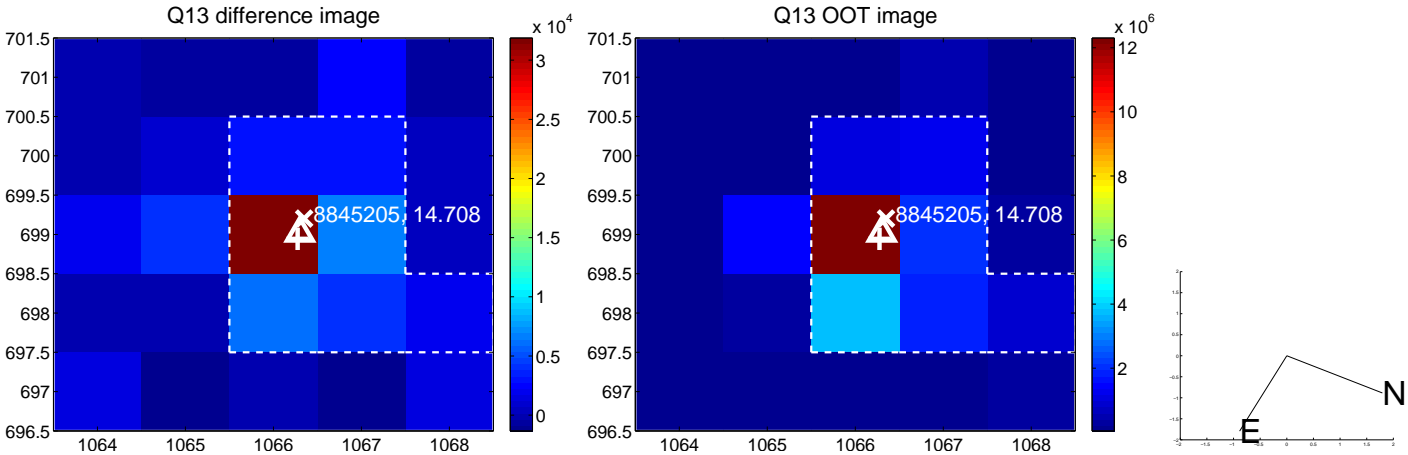
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



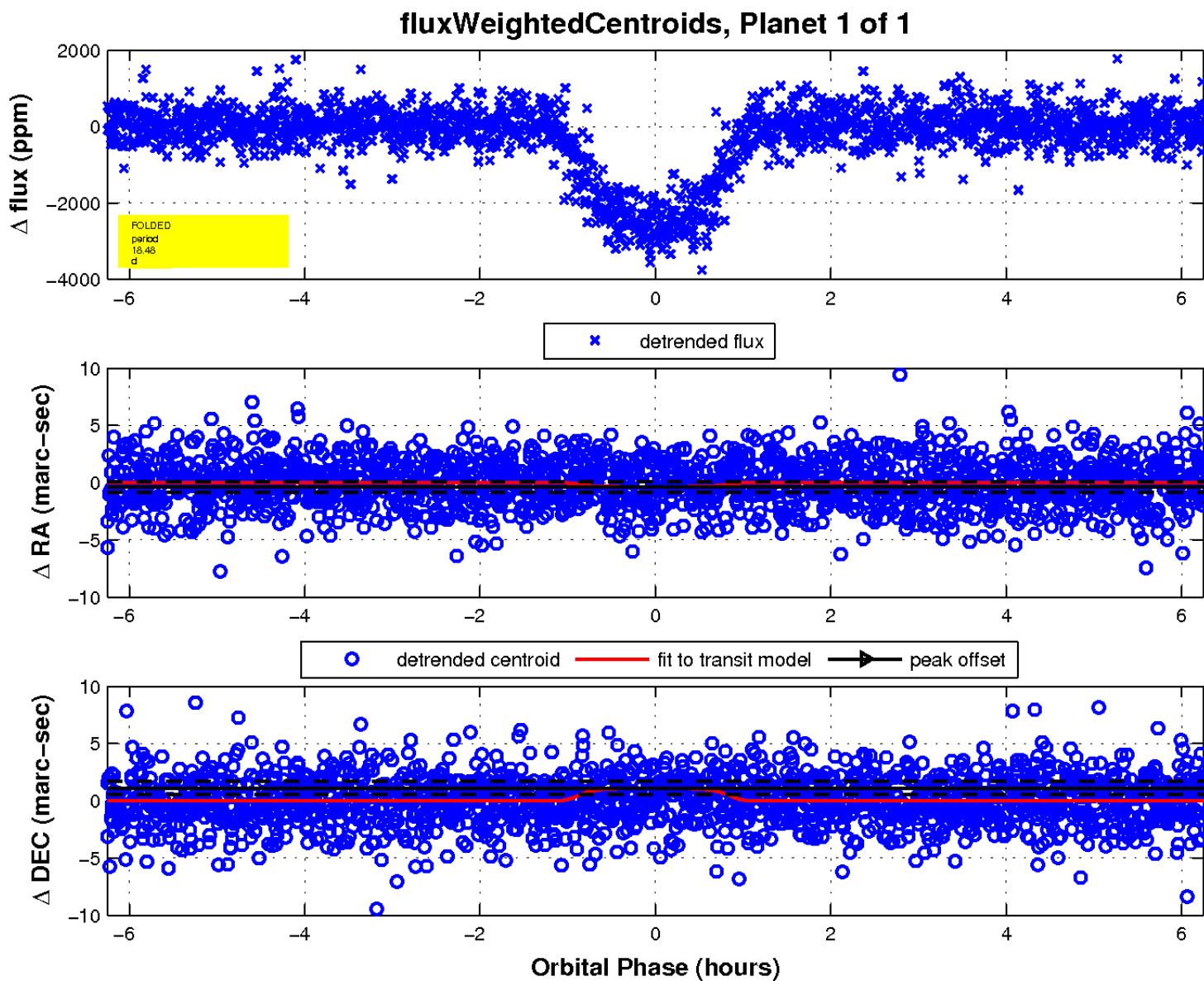
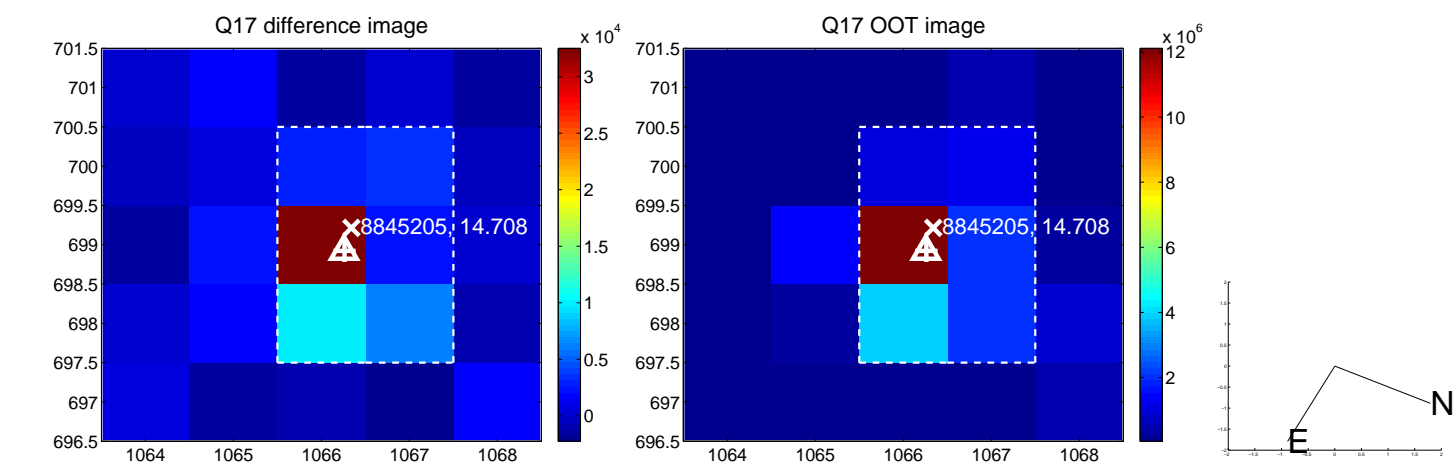
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

