

# KIC 008508485

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008508485-01	OBS	No	12.596371	134.897122	446.6	27.227	26.6	36.3	1.19	6756	4.82	218.32

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008508485-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

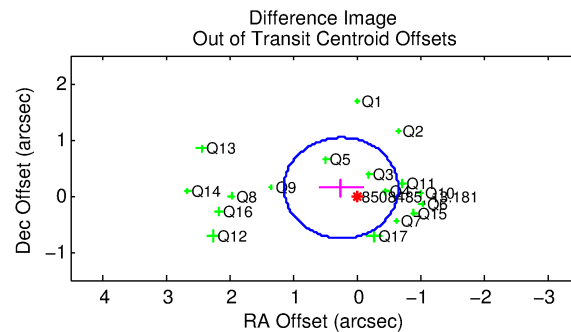
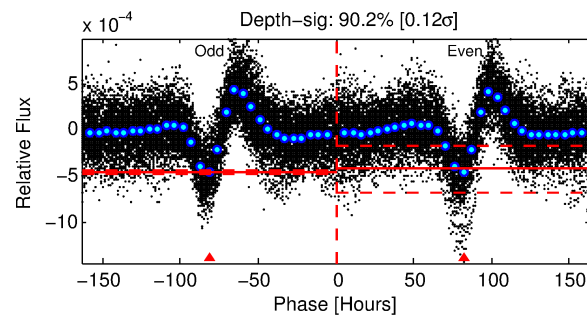
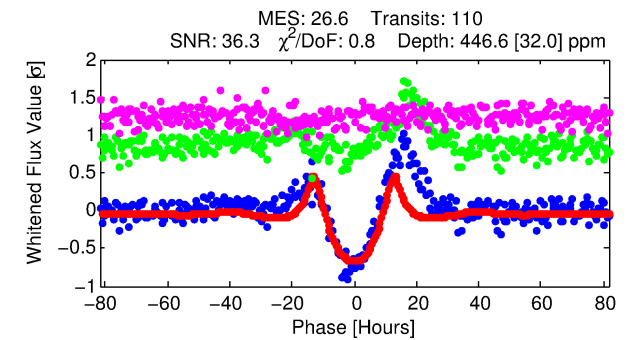
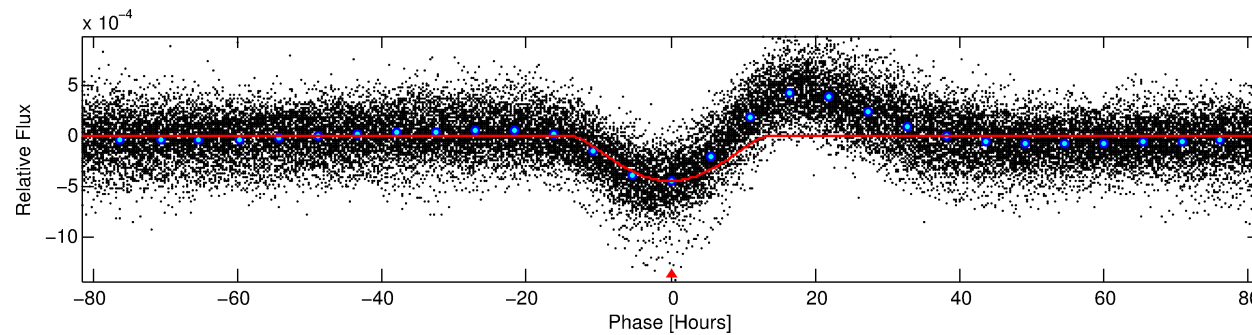
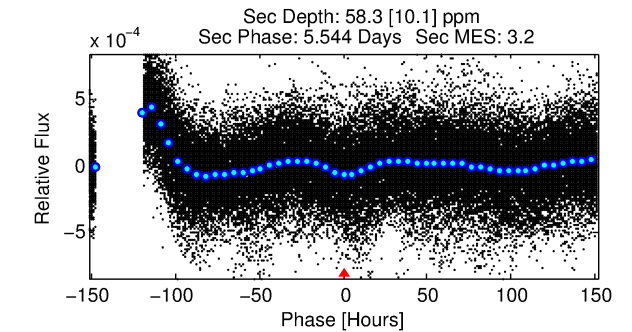
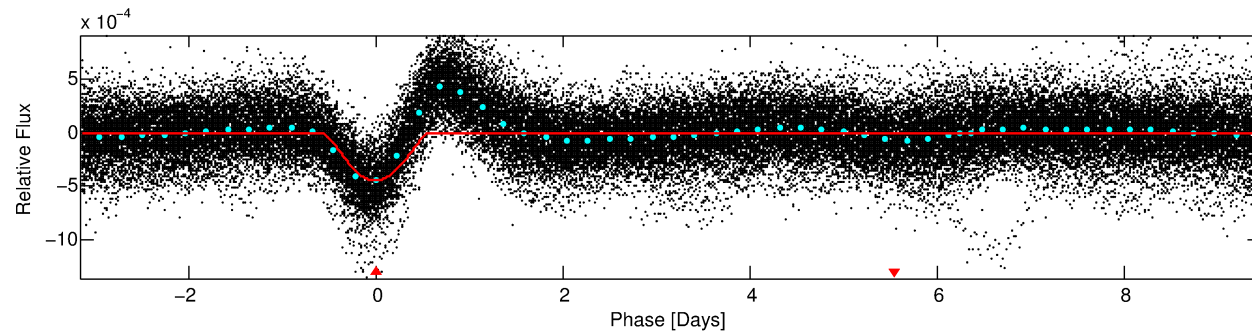
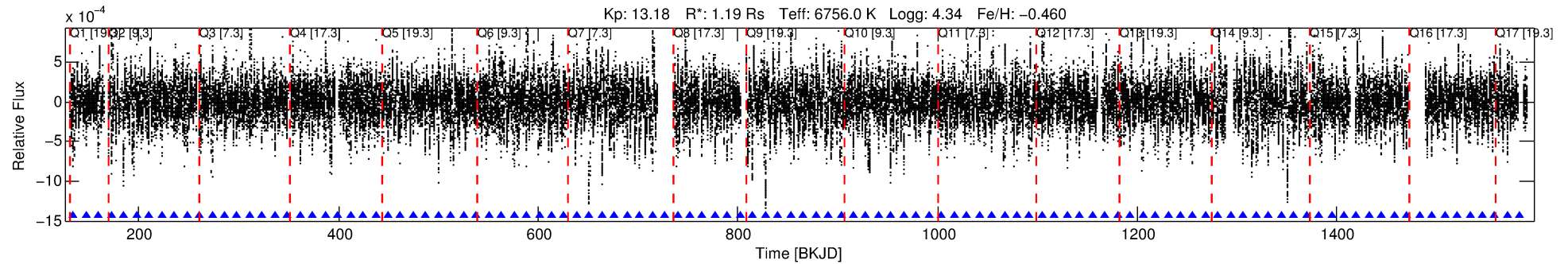
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008508485-01

No Significant Match Found

# DV One-Page Summary

KIC: 8508485 Candidate: 1 of 1 Period: 12.596 d



## DV Fit Results:

Period = 12.59637 [0.00015] d  
Epoch = 134.8971 [0.0096] BKJD  
Rp/R\* = 0.0370 [0.0093]  
a/R\* = 1.40 [0.03]  
b = 1.00 [0.02]  
Seff = 218.32 [63.00]  
Teq = 980 [71] K  
Rp = 4.82 [1.57] Re  
a = 0.1103 [0.0192] AU  
Ag = 16.78 [9.90] [1.59σ]  
Teffp = 3067 [422] K [4.87σ]

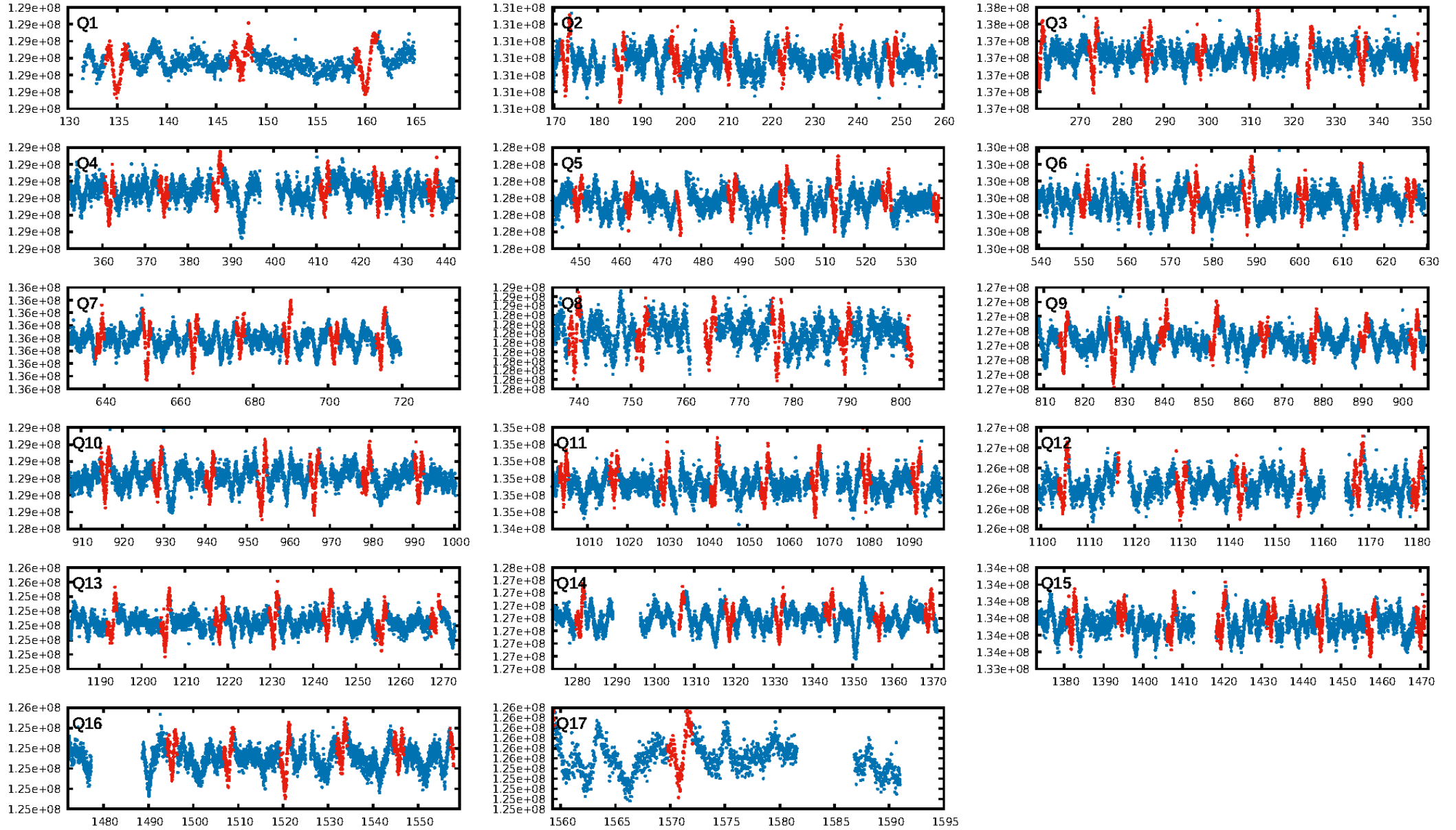
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 31.3%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 6.81e-156  
RollingBand-fgt: 1.00 [106/106]  
GhostDiagnostic-chr: 2.368  
Centroid-sig: 70.1%  
Centroid-so: 0.216 arcsec [2.63σ]  
OotOffset-rm: 0.278 arcsec [0.93σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-rm: 0.226 arcsec [0.80σ]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 1.00 [17/17]

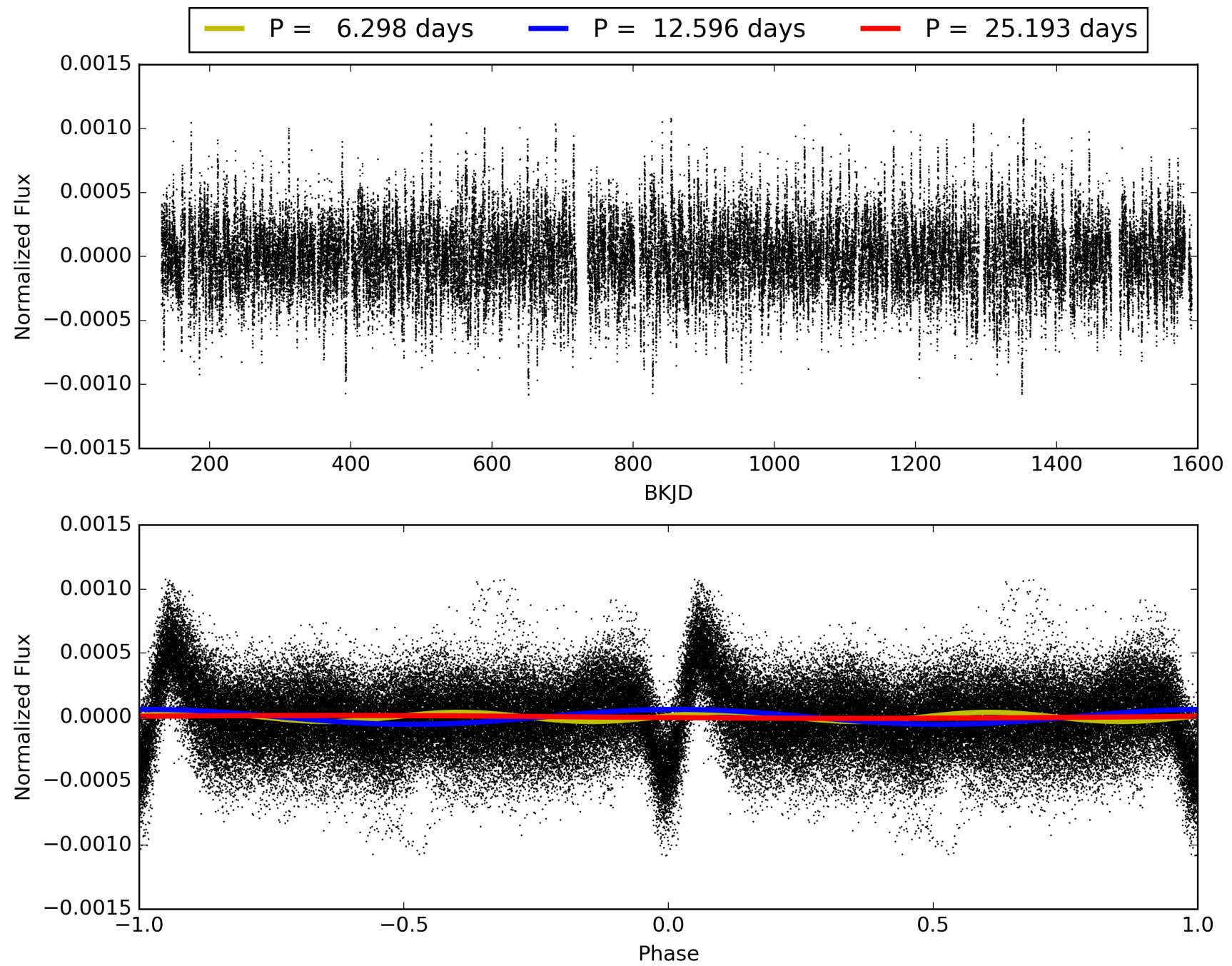
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:11:26 Z

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

# TCE 008508485-01, PDC Light Curves

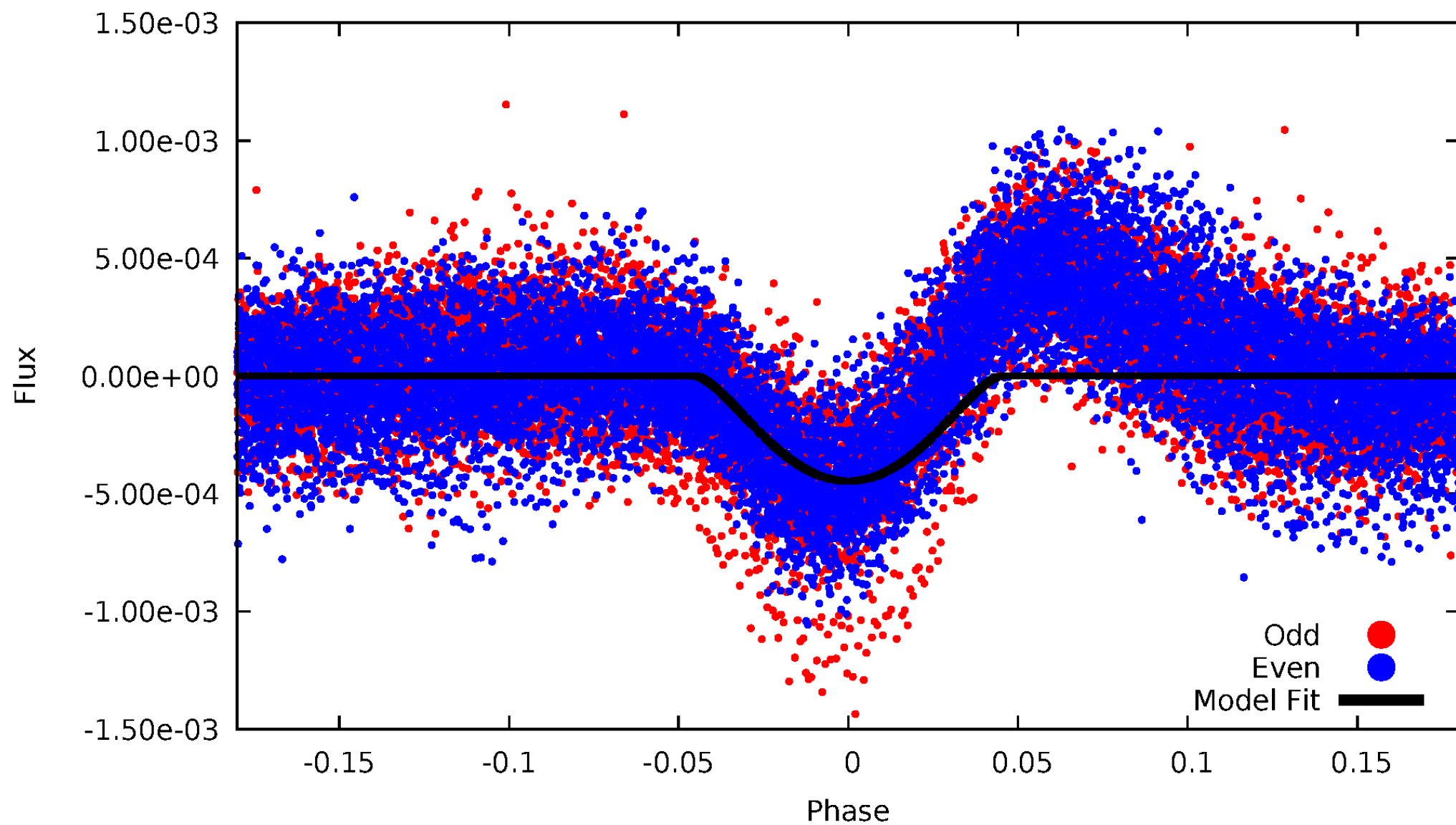


# TCE 008508485-01



# DV Odd/Even

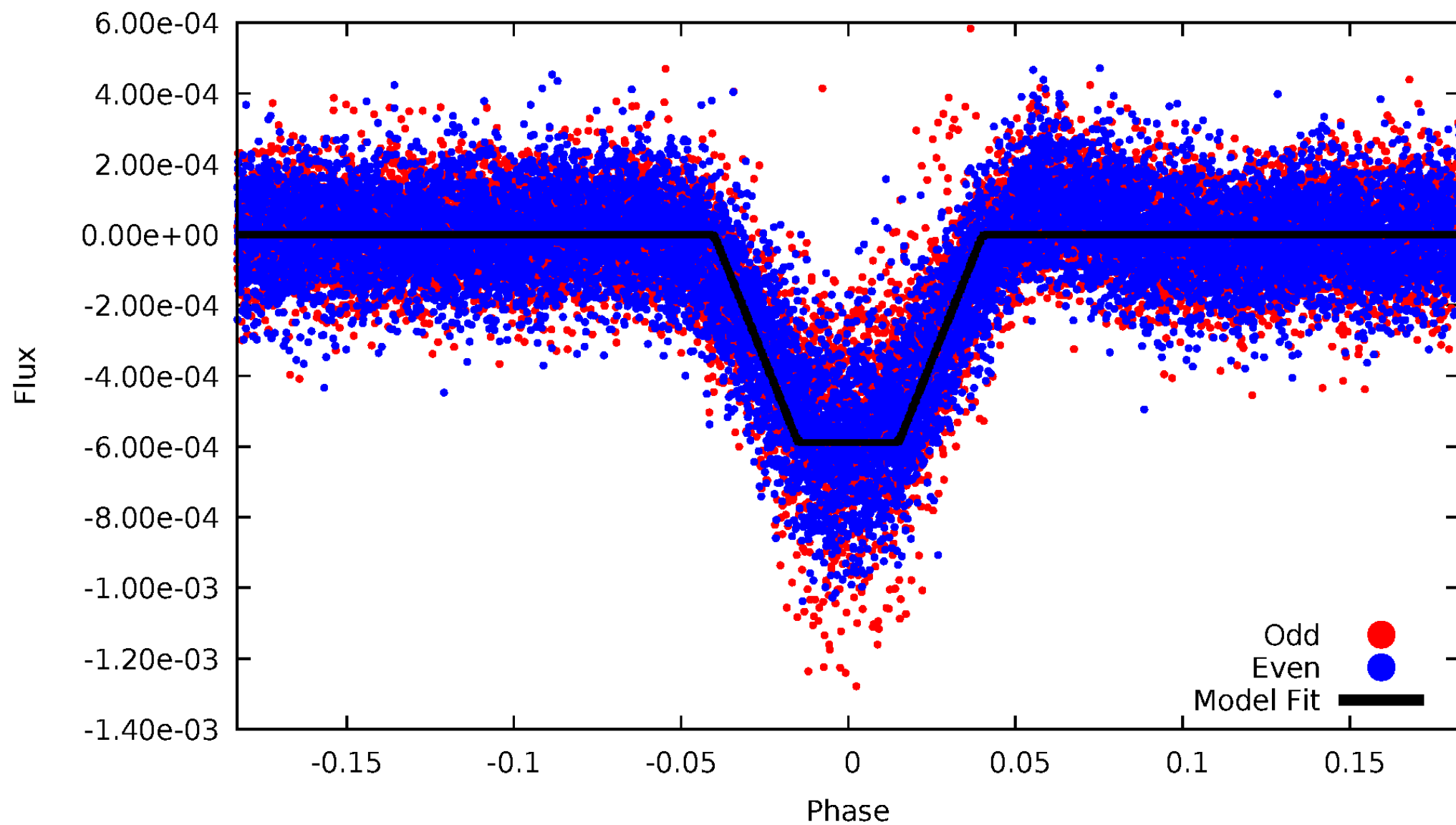
TCE 008508485-01





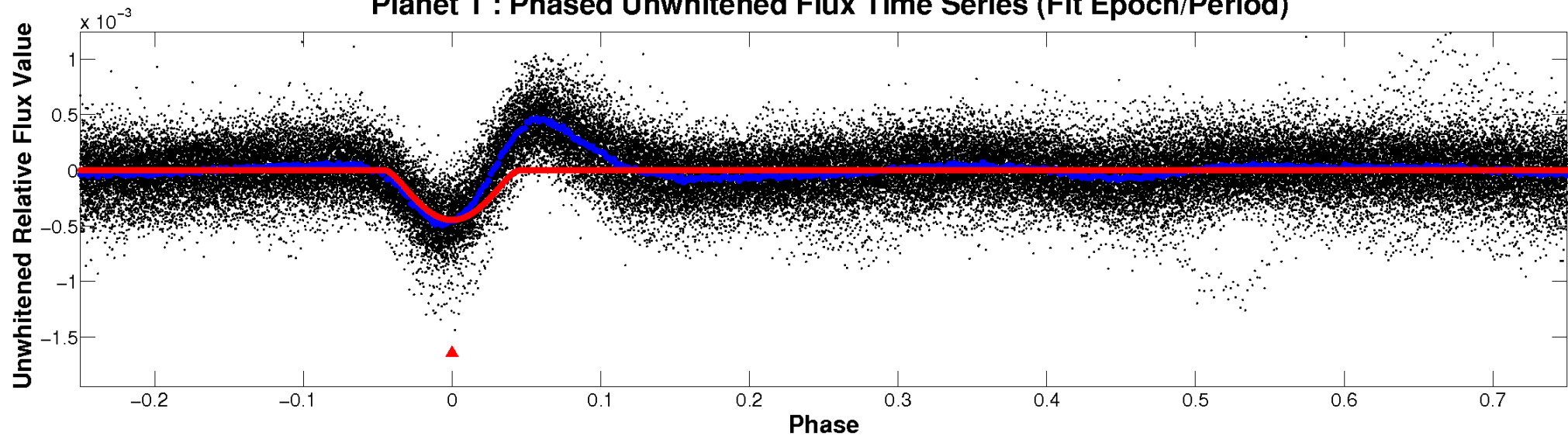
# ALT Odd/Even

TCE 008508485-01

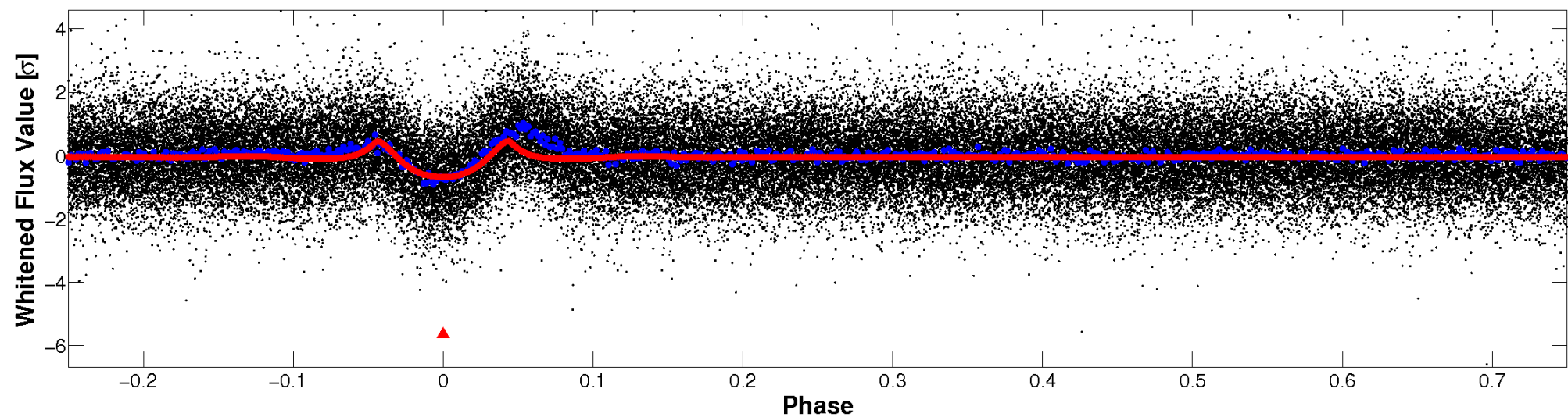


# Non-Whitened Vs. Whitened Light Curve

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

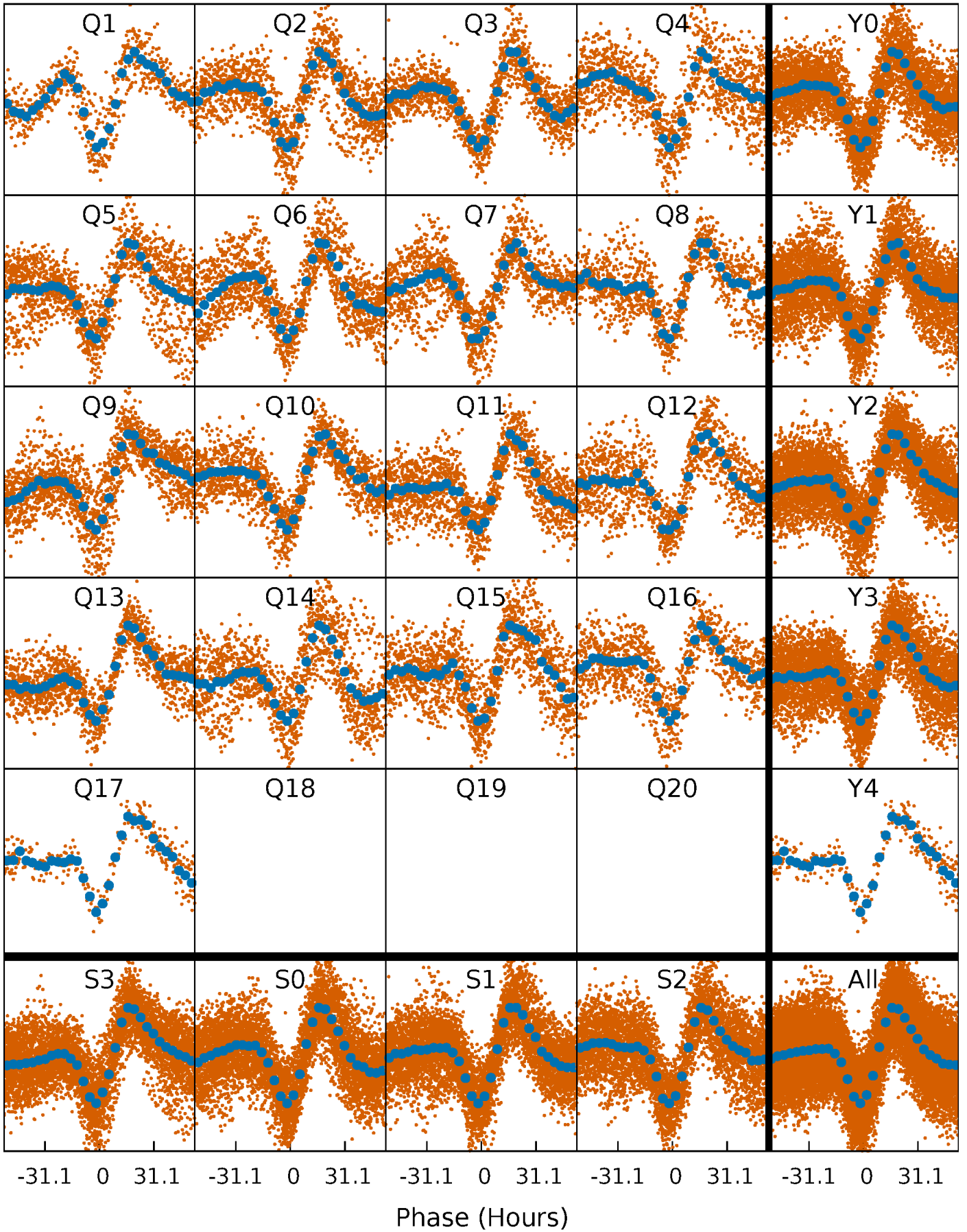


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

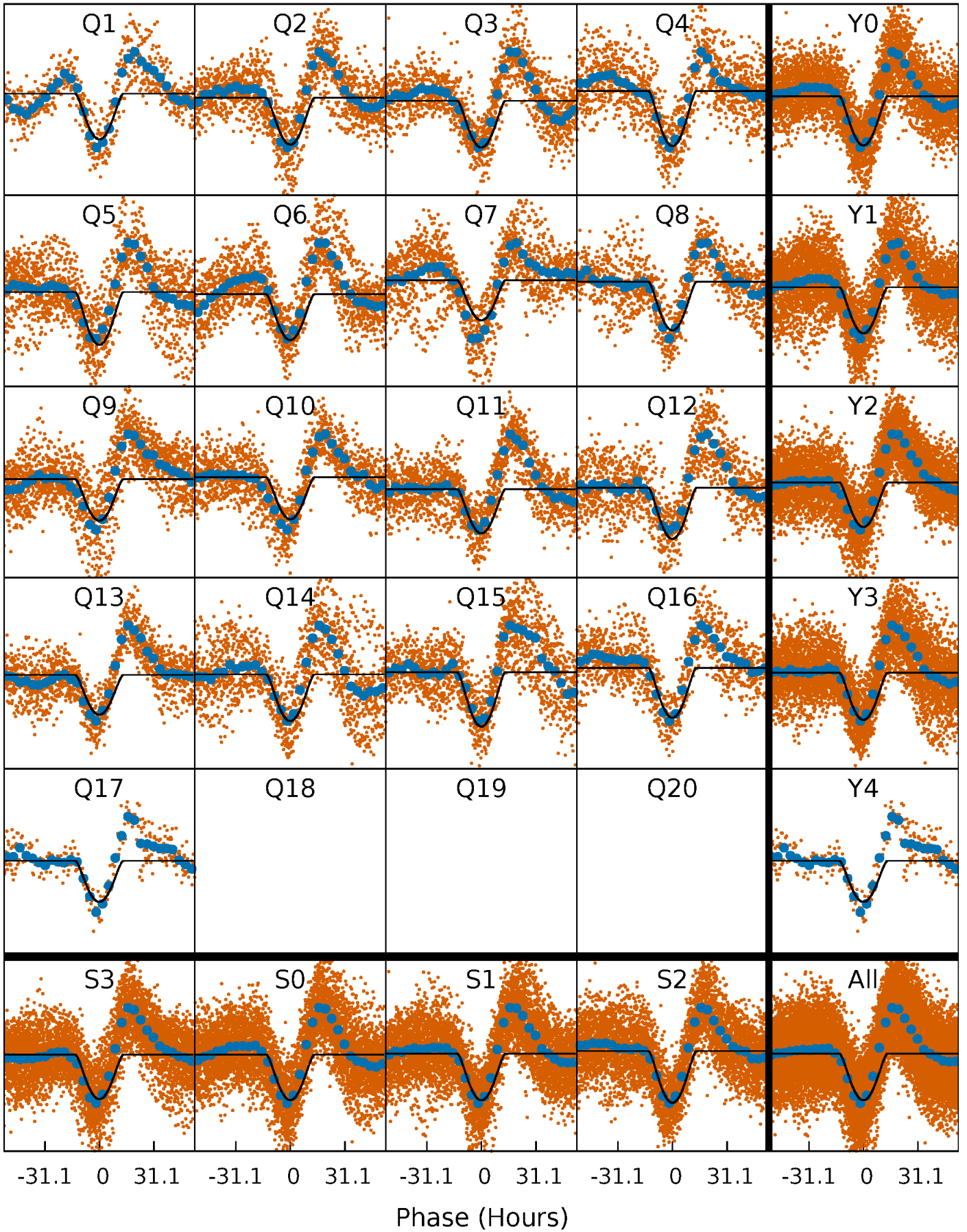
TCE 008508485-01 P= 12.596371 Days  $T_0=134.897122$  (BKJD)





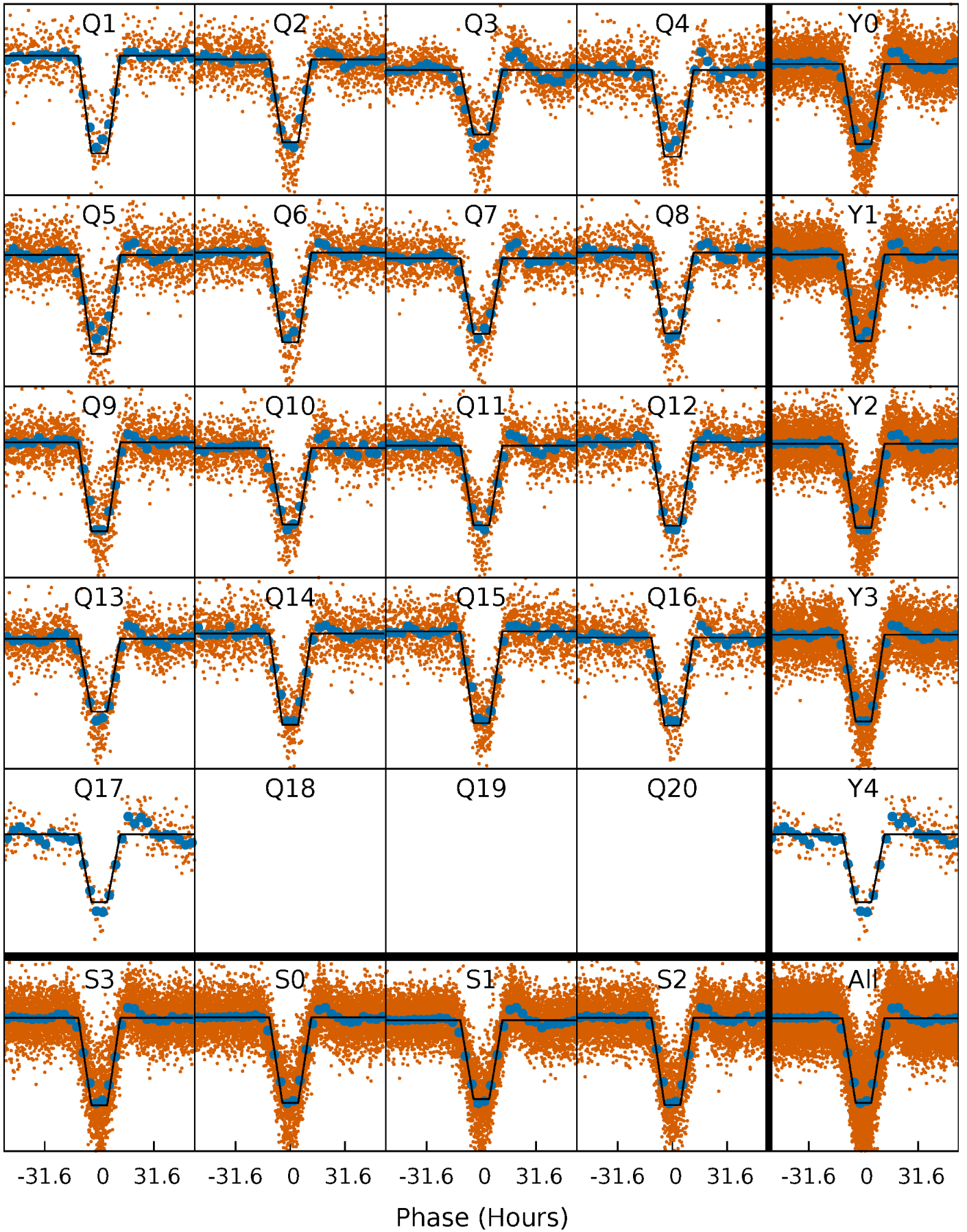
# DV Quarter-Phased Transit Curves

TCE 008508485-01 P= 12.596371 Days  $T_0=134.897122$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

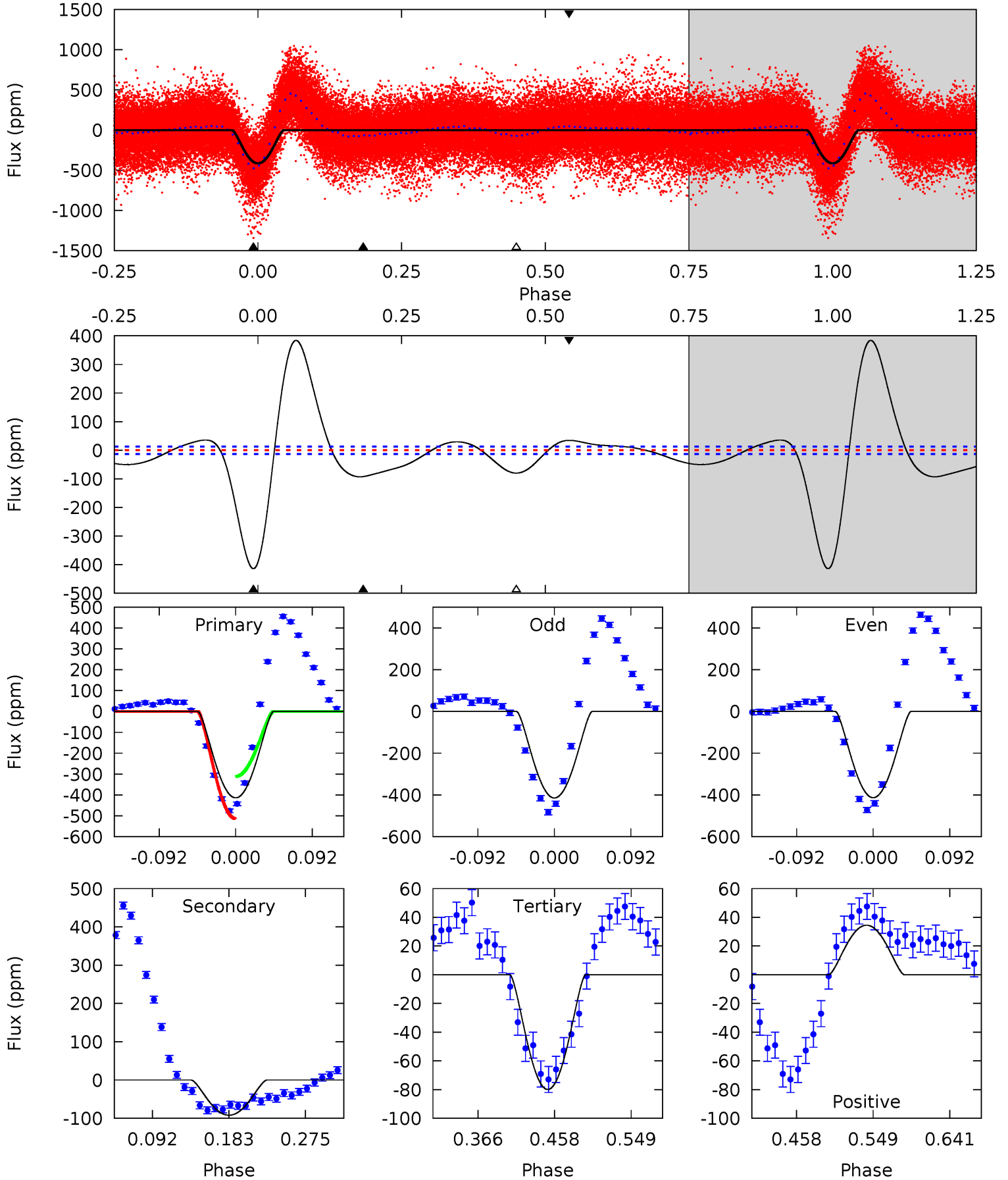
TCE 008508485-01 P= 12.596307 Days  $T_0=134.877839$  (BKJD)



# DV Model-Shift Uniqueness Test

008508485-01, P = 12.596371 Days, E = 122.300751 Days

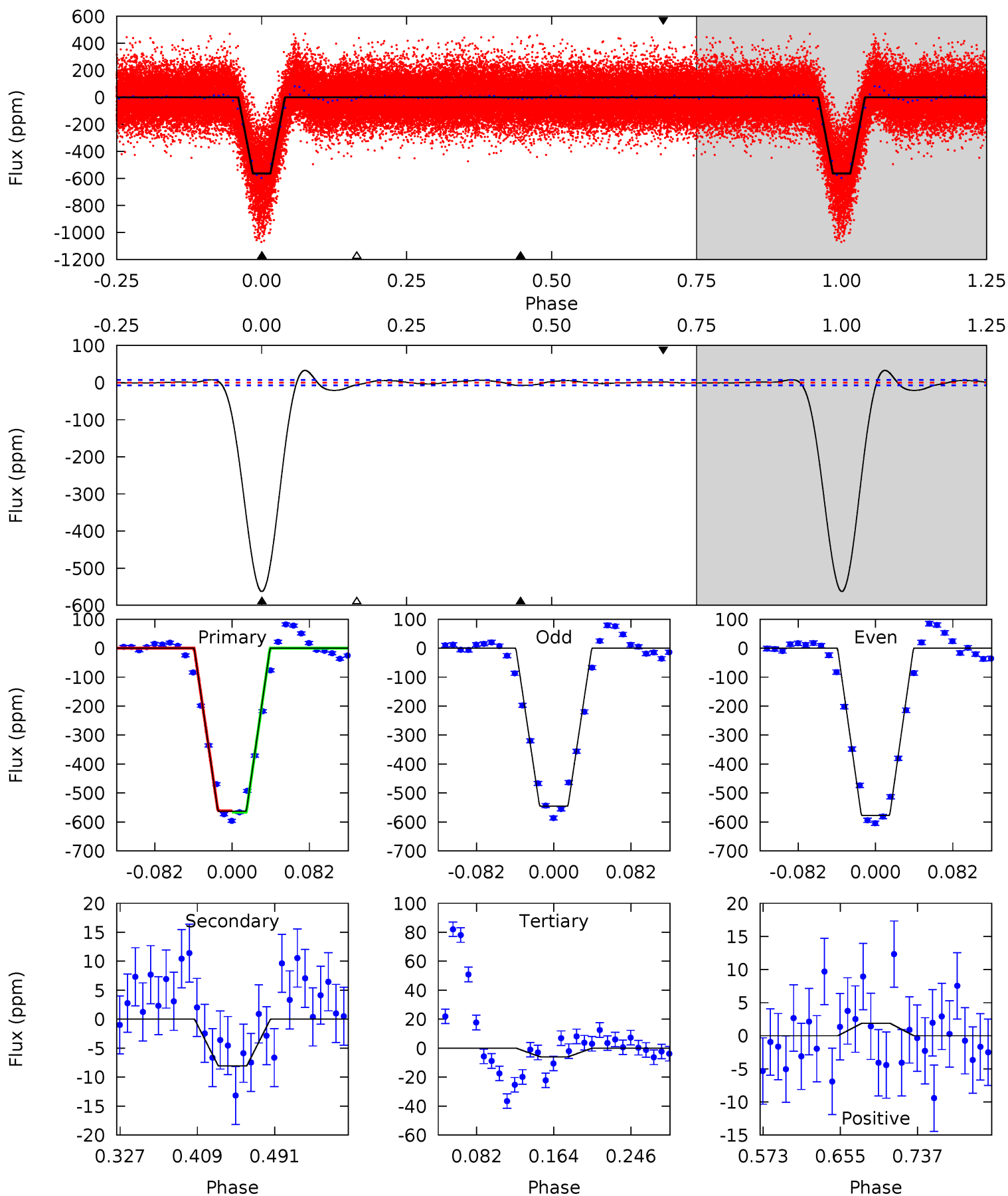
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
145.6	32.4	28.1	12.1	4.58	1.69	16.1	117.5	133.5	4.26	20.2	0.26	1.07	0.48	35.8



# Alt Model-Shift Uniqueness Test

008508485-01, P = 12.596307 Days, E = 122.281532 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
358.0	5.13	3.78	1.20	4.61	1.74	3.85	354.2	356.8	1.35	3.94	10.0	1.01	0.06	1.56



### Stellar Parameters For KIC 008508485

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6756^{+188}_{-235}$	$4.337^{+0.092}_{-0.138}$	$-0.460^{+0.250}_{-0.300}$	$1.193^{+0.247}_{-0.164}$	$1.130^{+0.142}_{-0.142}$	$0.936^{+0.373}_{-0.372}$
	+3%/-3%	+2%/-3%	+54%/-65%	+21%/-14%	+13%/-13%	+40%/-40%
Source	PHO1	FLK73	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 008508485-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-92 \pm 3$	$4.87^{+1.40}_{-1.37}$	$1377^{+84}_{-71}$	$3790^{+477}_{-290}$	$26^{+24}_{-10}$
Alt.	$-8 \pm 2$	$3.16^{+1.30}_{-1.20}$	$1376^{+80}_{-73}$	$2971^{+436}_{-299}$	$5.480^{+7.758}_{-2.920}$

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



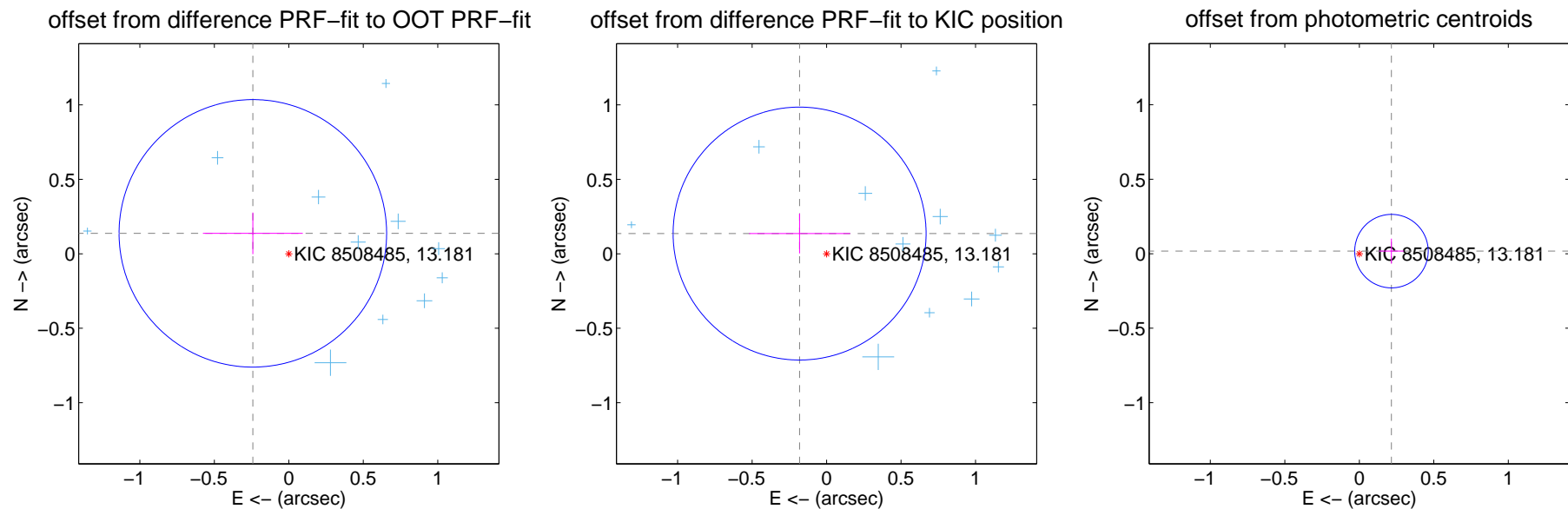
## DV Centroid Data

Supplemental centroid analysis for 008508485-01. Kepler magnitude: 13.18. Transit SNR 36.31

There are 16 quarters with good PRF difference image offsets

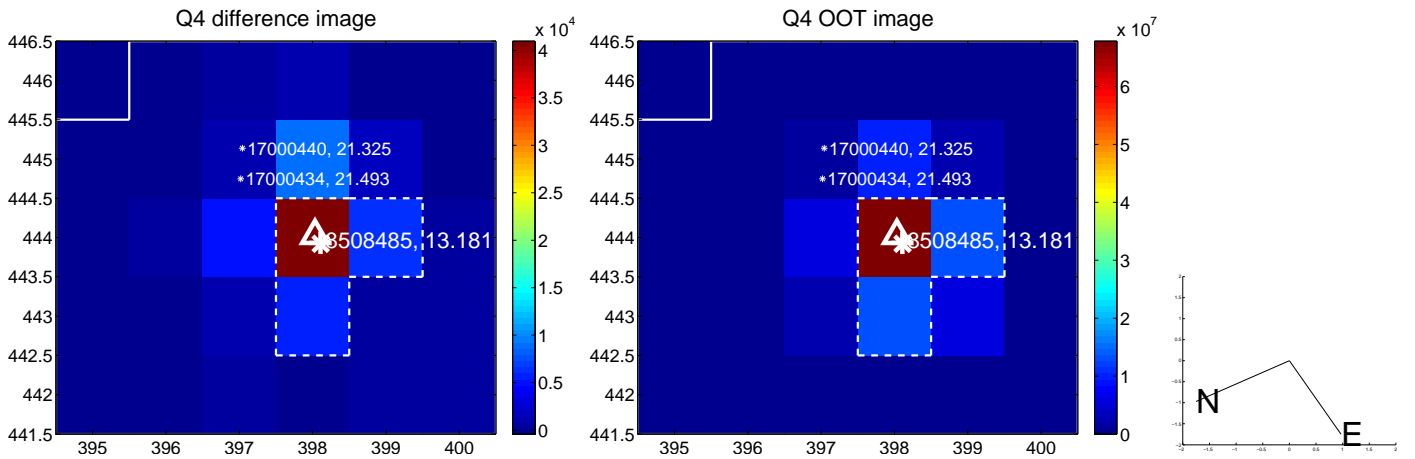
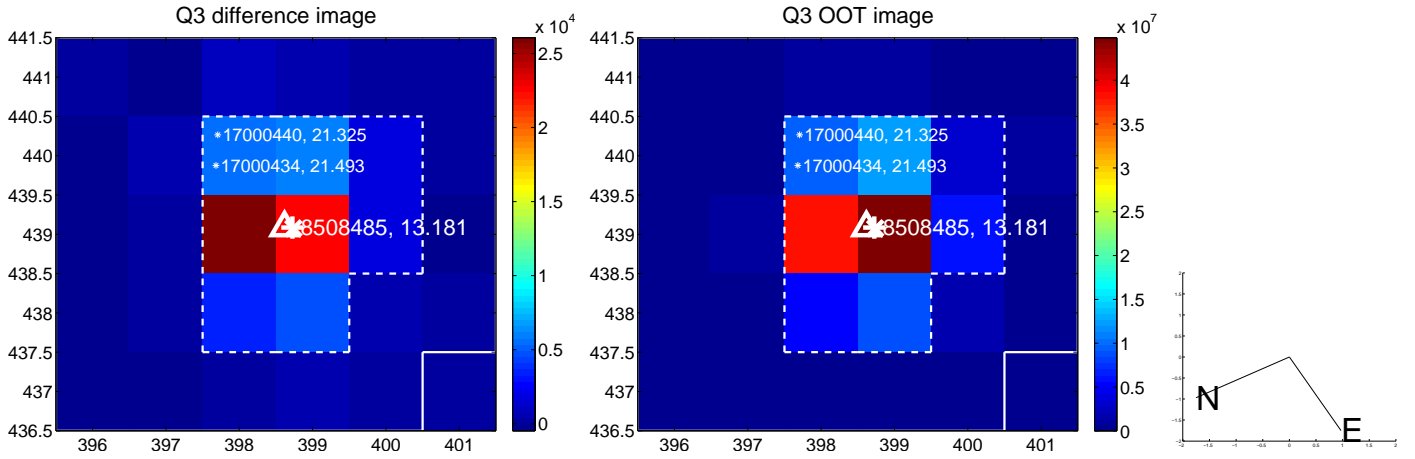
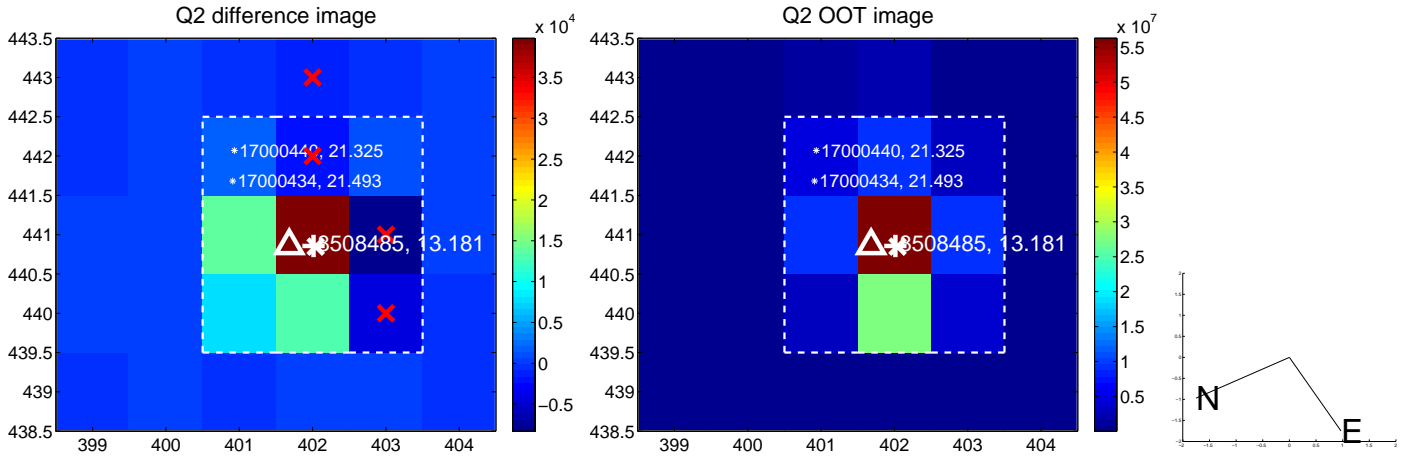
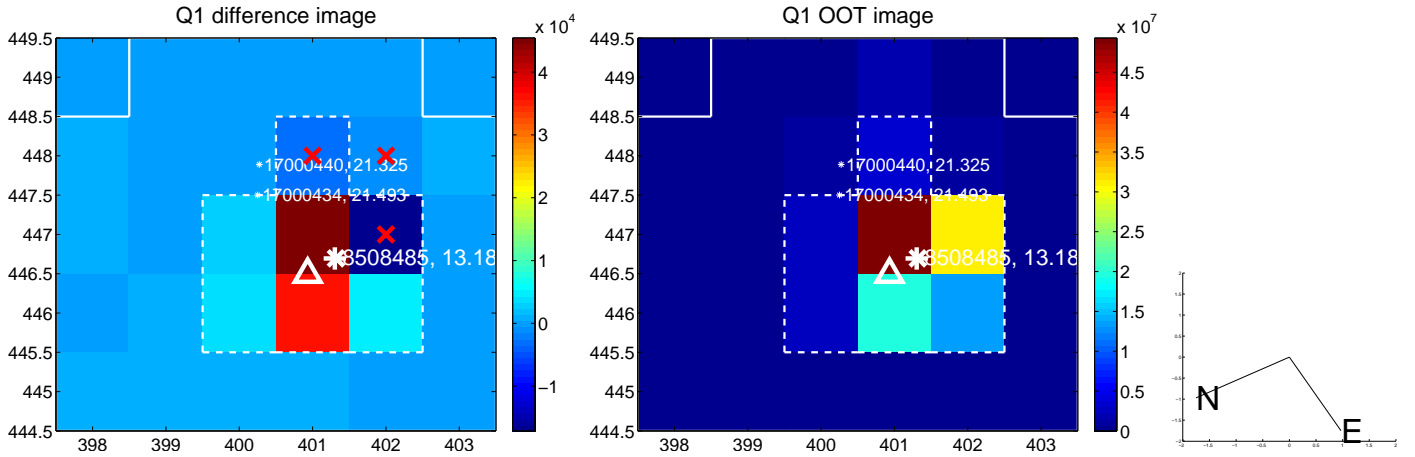
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.278 \pm 0.299$	0.93	$0.242 \pm 0.335$	$0.137 \pm 0.139$
PRF-fit source offset from KIC position	$0.226 \pm 0.283$	0.80	$0.181 \pm 0.339$	$0.136 \pm 0.134$
photometric centroid source offset	$0.22 \pm 0.08$	2.63	$-0.22 \pm 0.08$	$0.02 \pm 0.08$

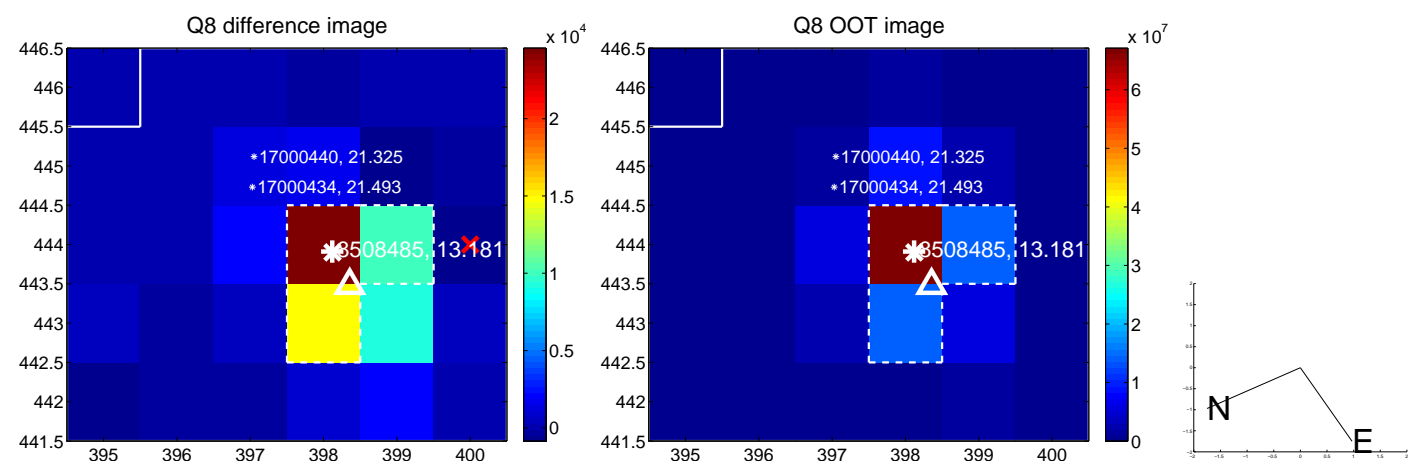
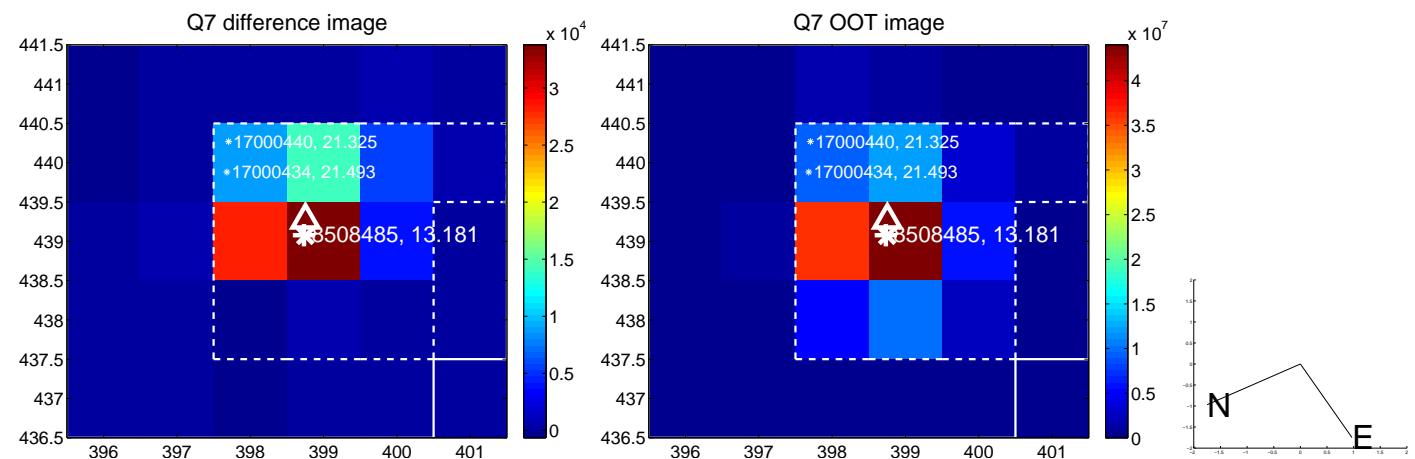
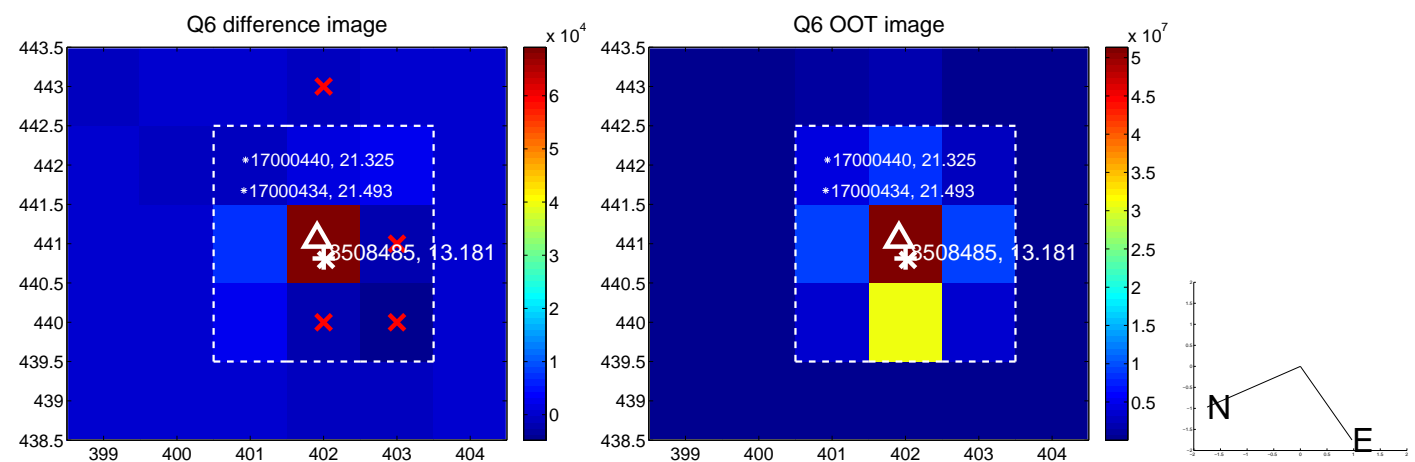
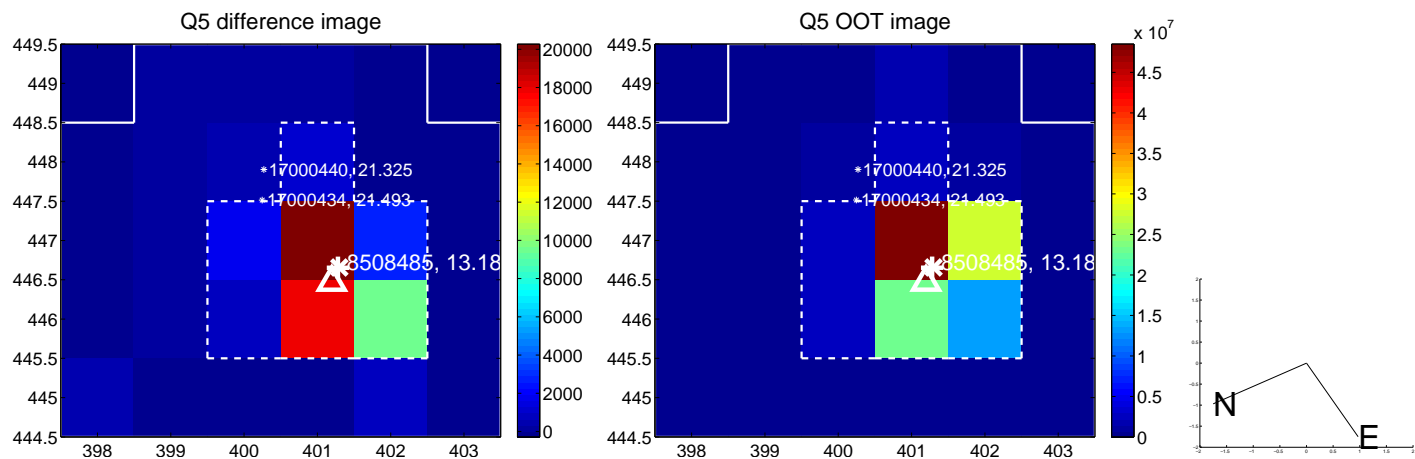


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

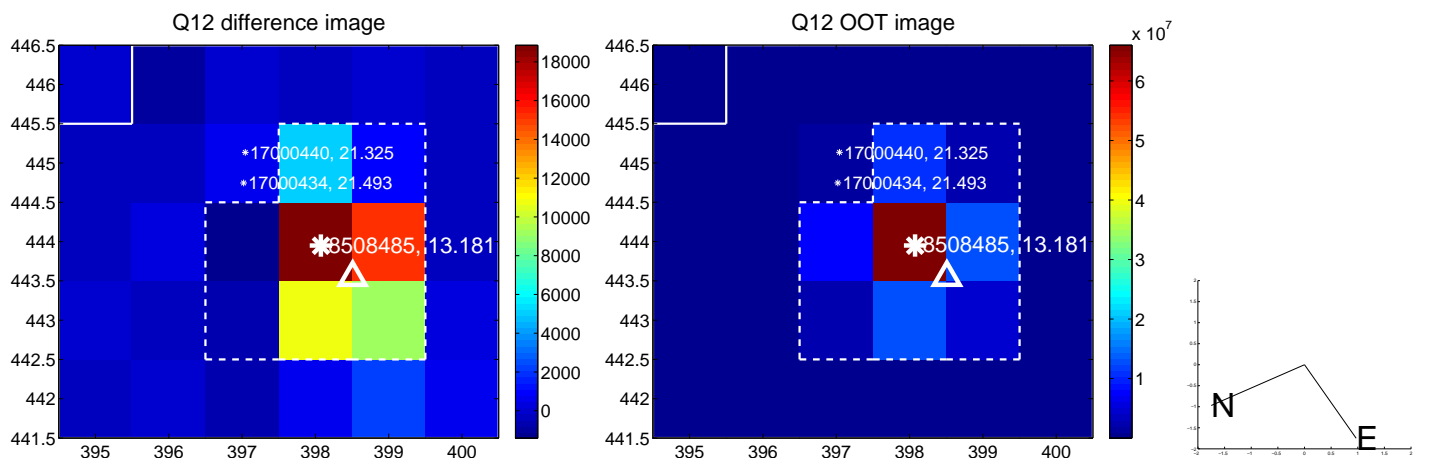
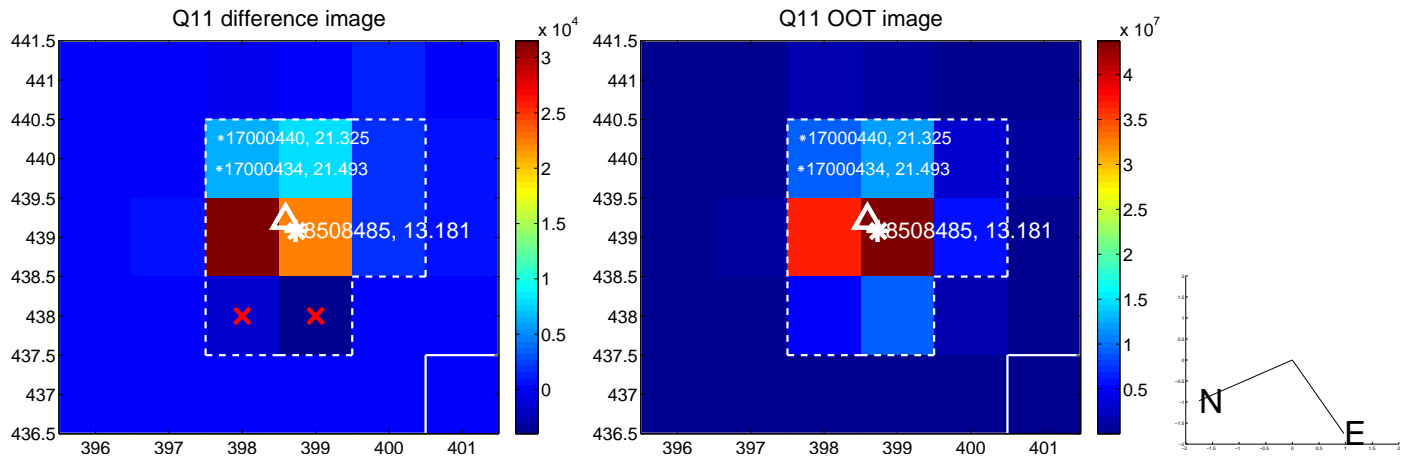
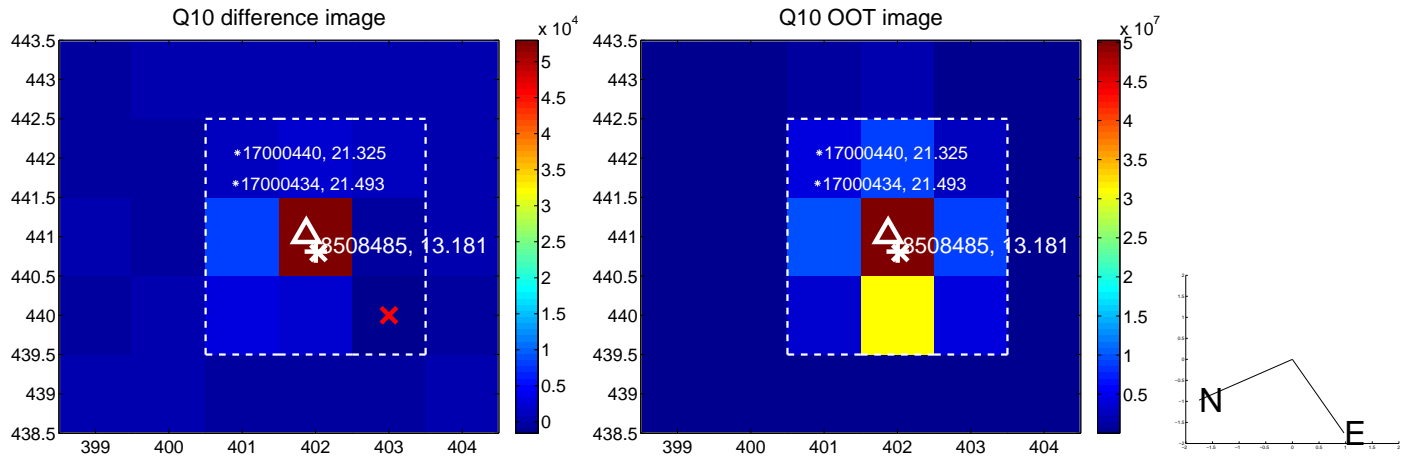
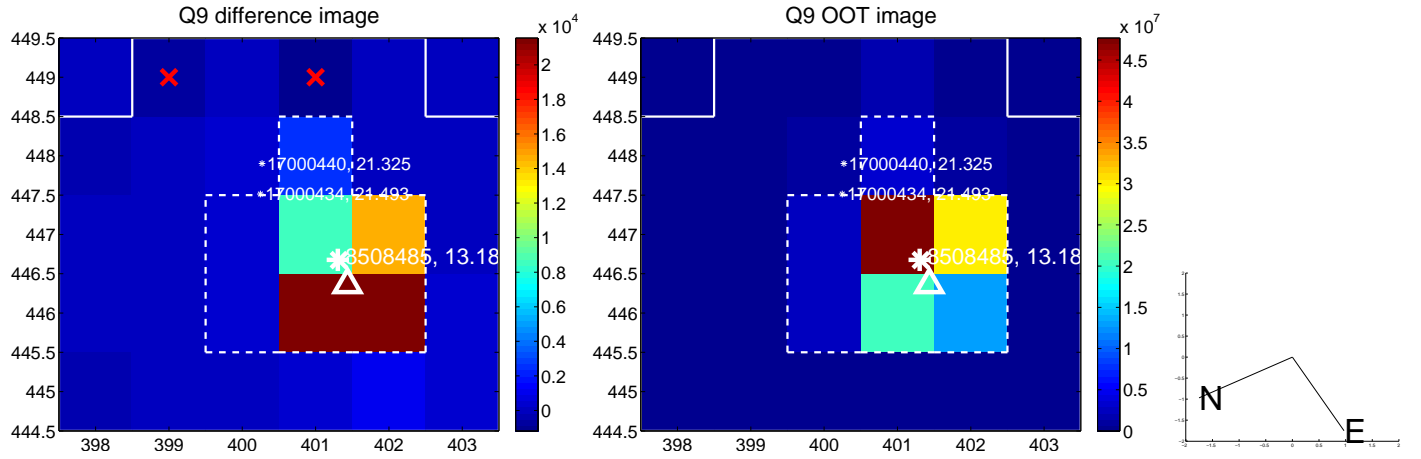
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



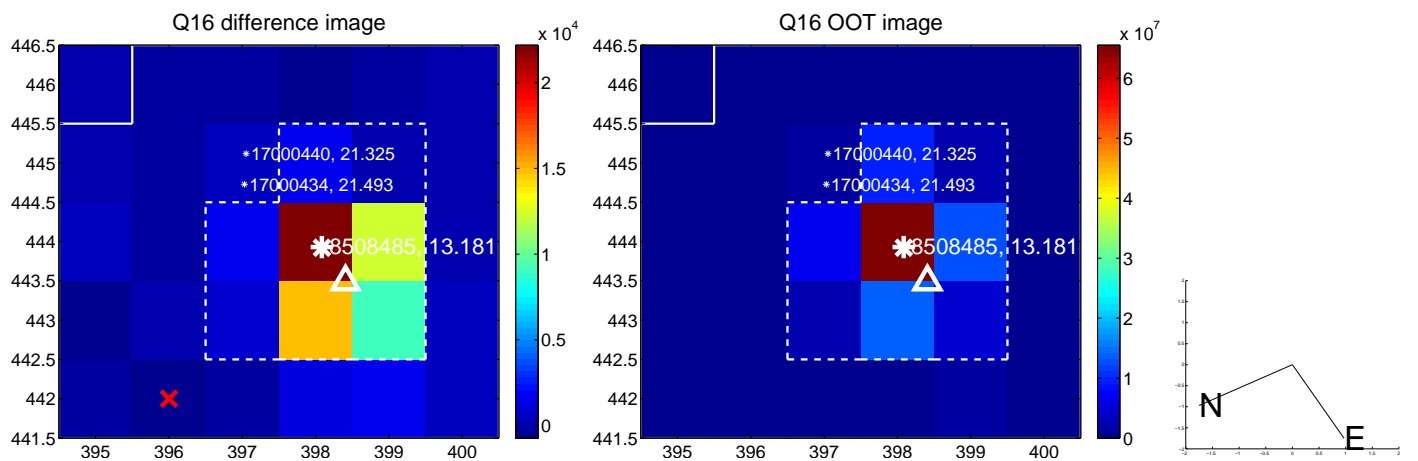
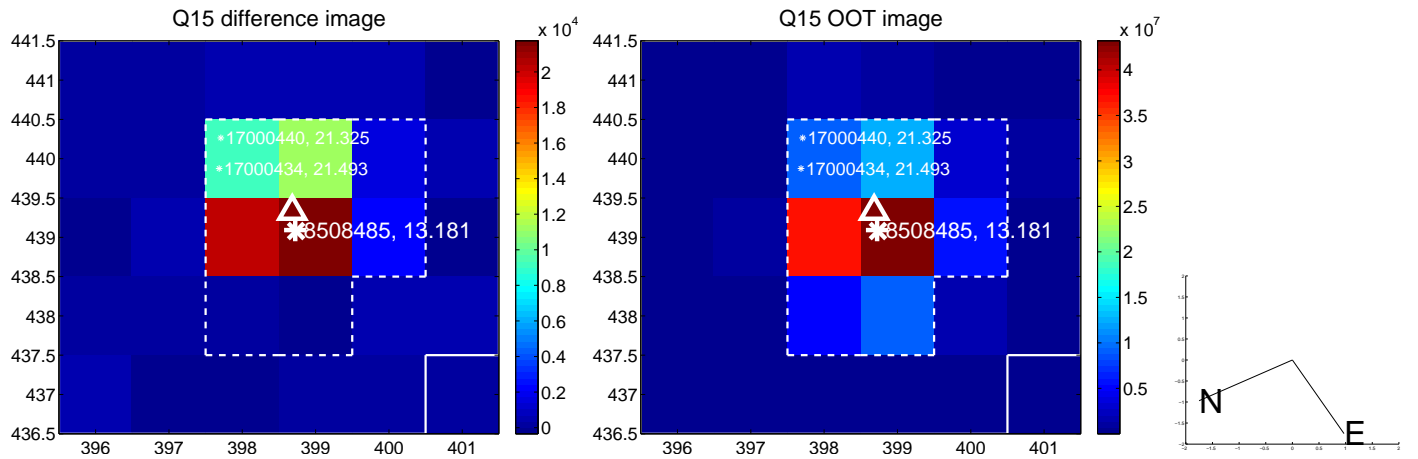
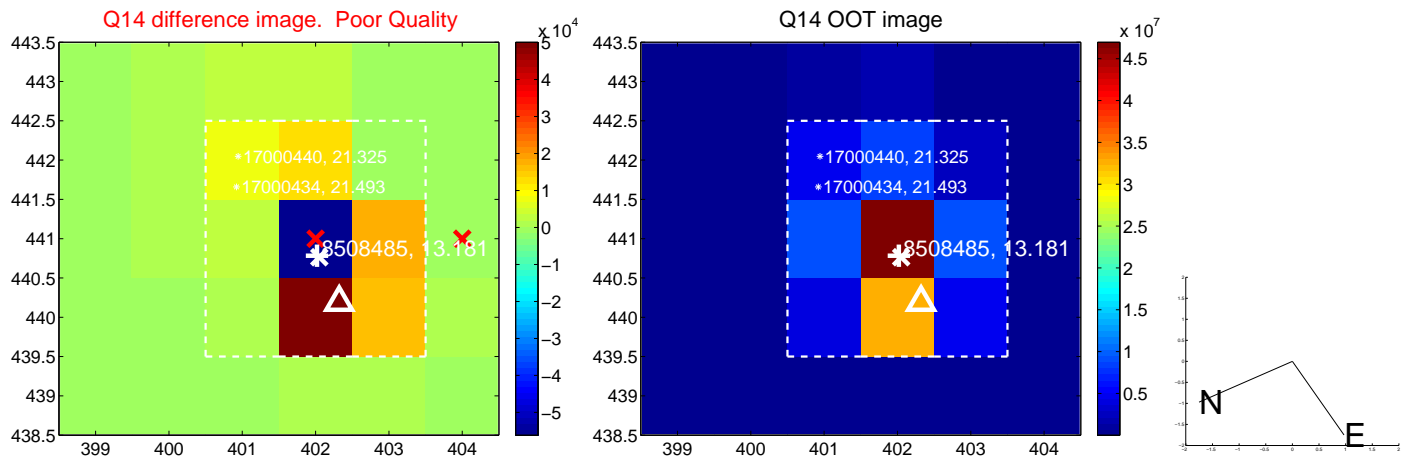
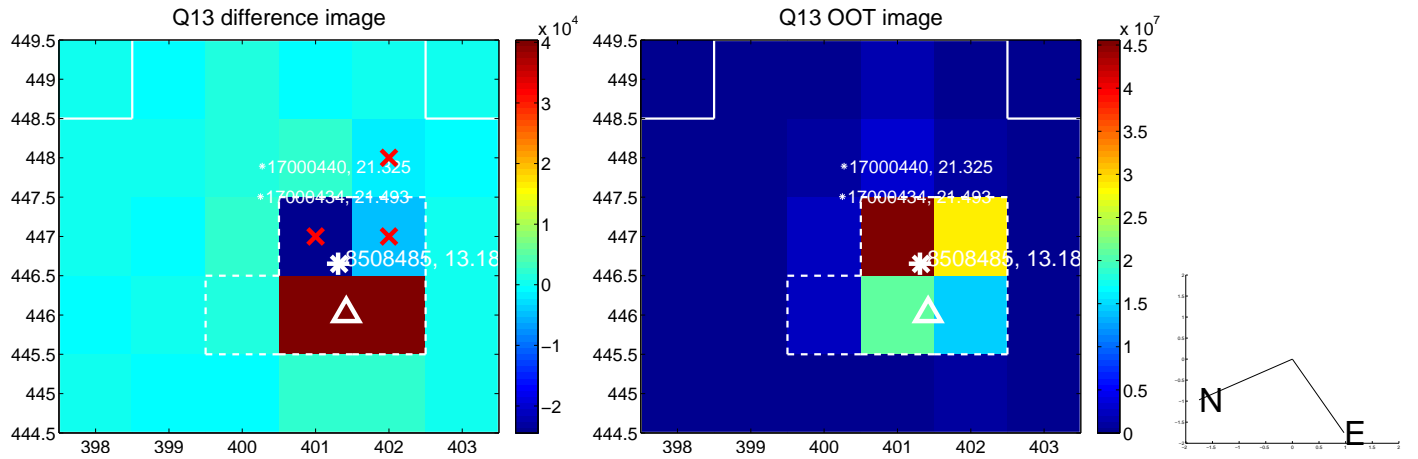
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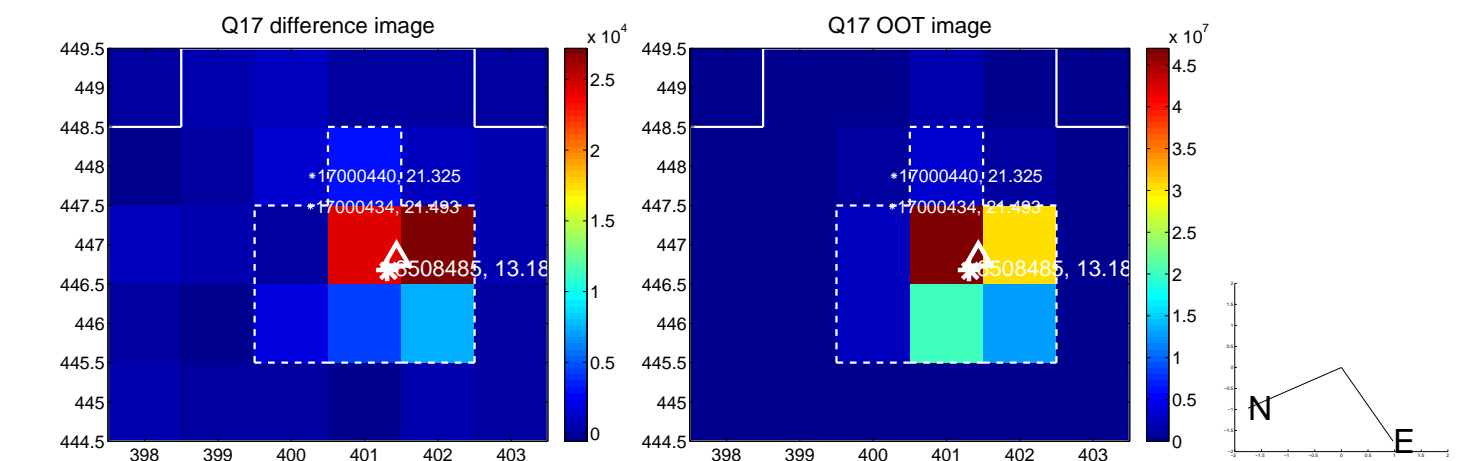


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

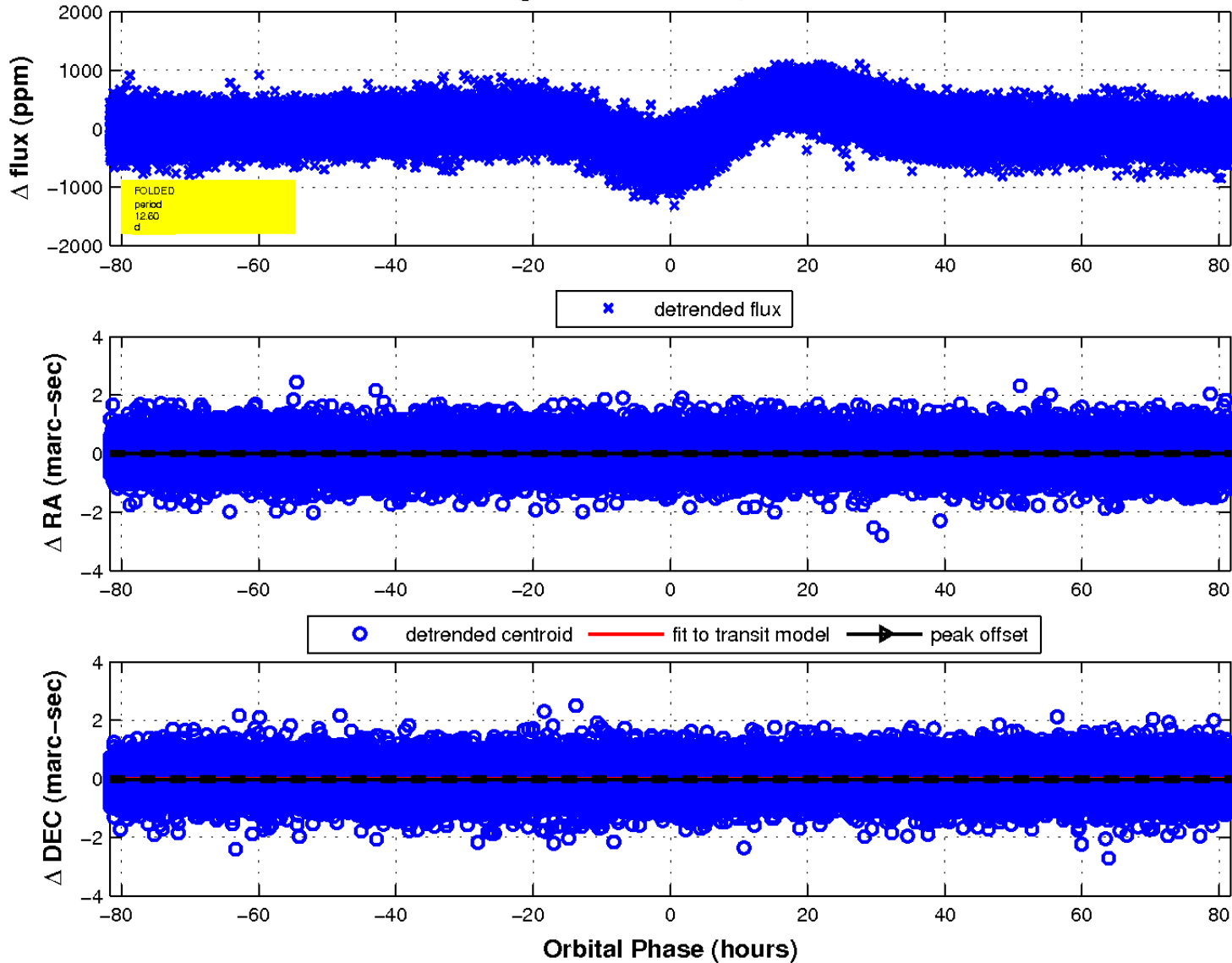




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

