

# KIC 004141464

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004141464-01	OBS	No	3.230338	134.703496	52.7	10.081	8.7	9.5	3.03	6284	3.35	5519.49

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004141464-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

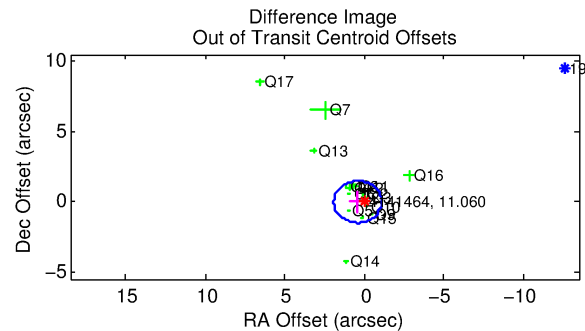
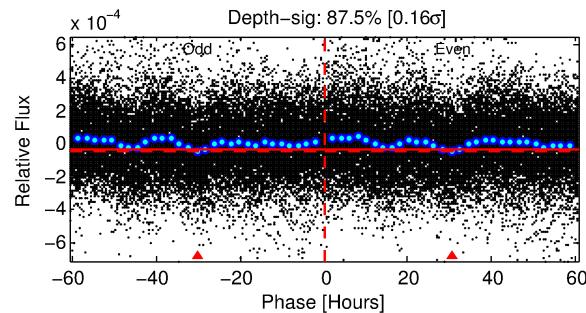
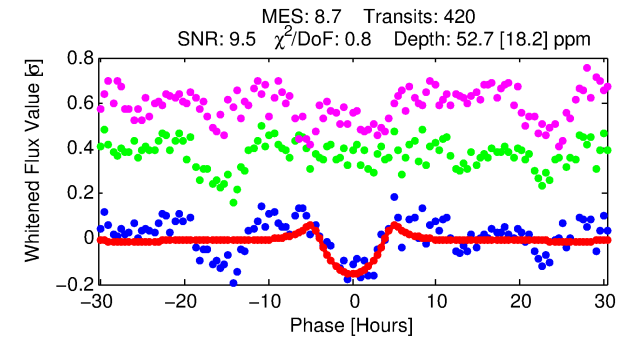
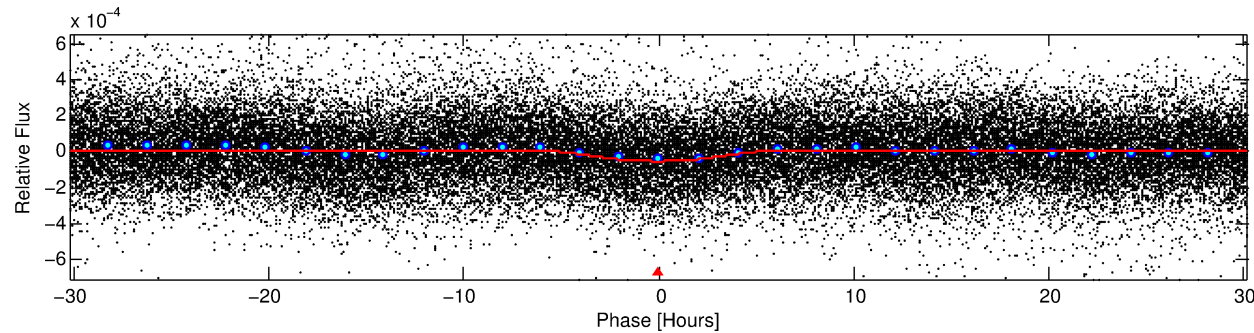
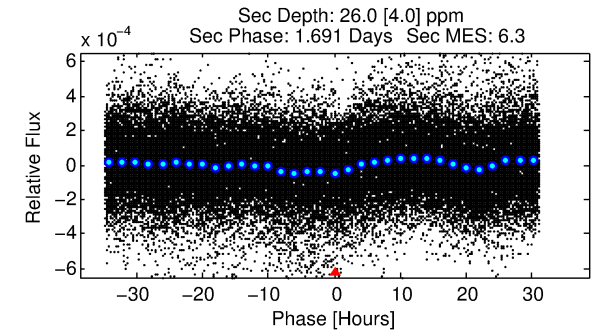
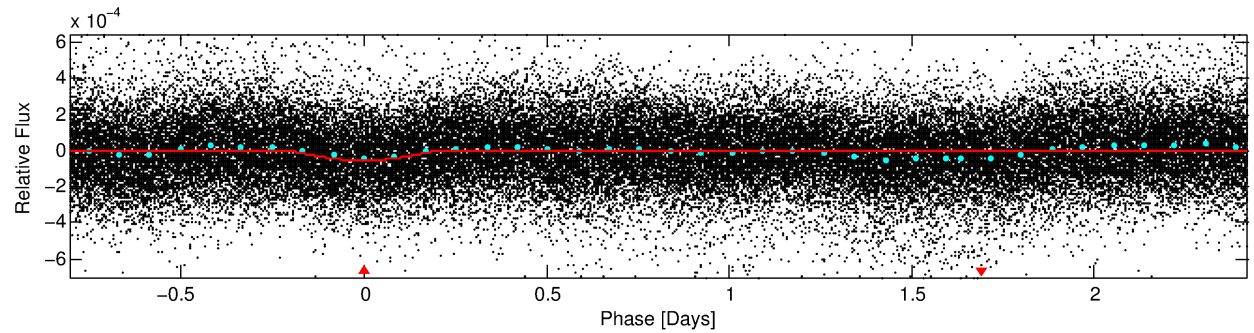
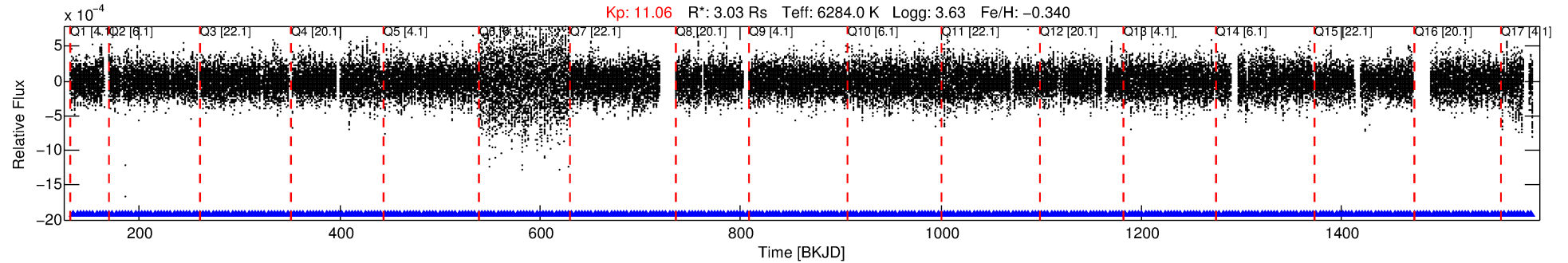
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004141464-01

No Significant Match Found

# DV One-Page Summary

KIC: 4141464 Candidate: 1 of 1 Period: 3.230 d



## DV Fit Results:

Period = 3.23034 [0.00006] d  
Epoch = 134.7035 [0.0153] BKJD  
Rp/R\* = 0.0101 [0.0033]  
a/R\* = 1.09 [0.03]  
b = 0.99 [0.01]  
Seff = 5519.49 [3241.46]  
Teq = 2198 [323] K  
Rp = 3.35 [1.70] Re  
a = 0.0482 [0.0176] AU  
Ag = 2.97 [2.63] [0.75σ]  
Teffp = 4461 [756] K [2.75σ]

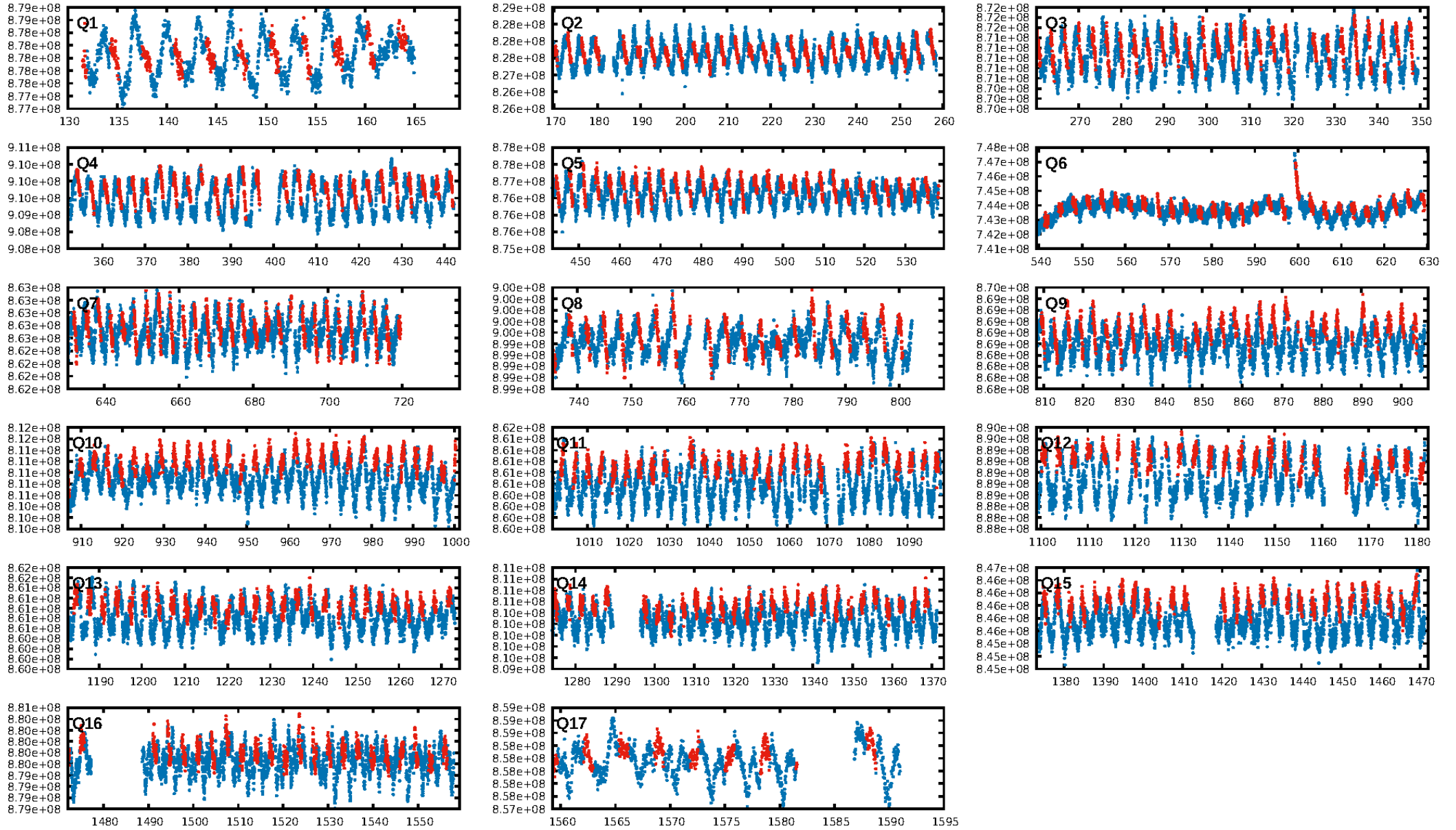
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
**Bootstrap-pfa: 2.43e-12**  
RollingBand-fgt: 1.00 [401/401]  
GhostDiagnostic-chr: -1.661  
**Centroid-sig: 0.3%**  
Centroid-so: 0.292 arcsec [0.97σ]  
OotOffset-rm: 0.430 arcsec [0.86σ]  
KicOffset-rm: 0.273 arcsec [0.56σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.00 [0/16]  
DiffImageOverlap-fno: 1.00 [17/17]

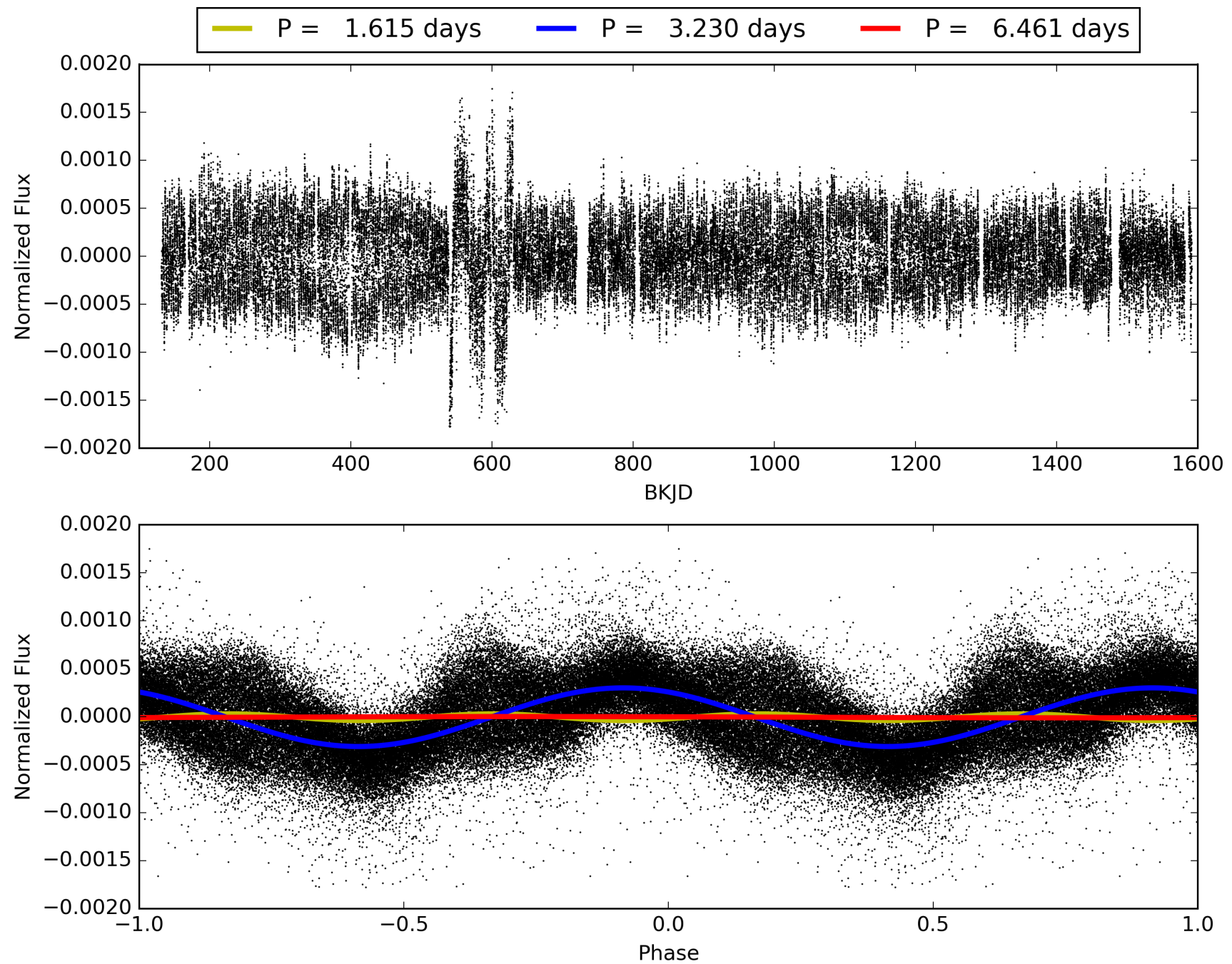
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:47:29 Z

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

# TCE 004141464-01, PDC Light Curves

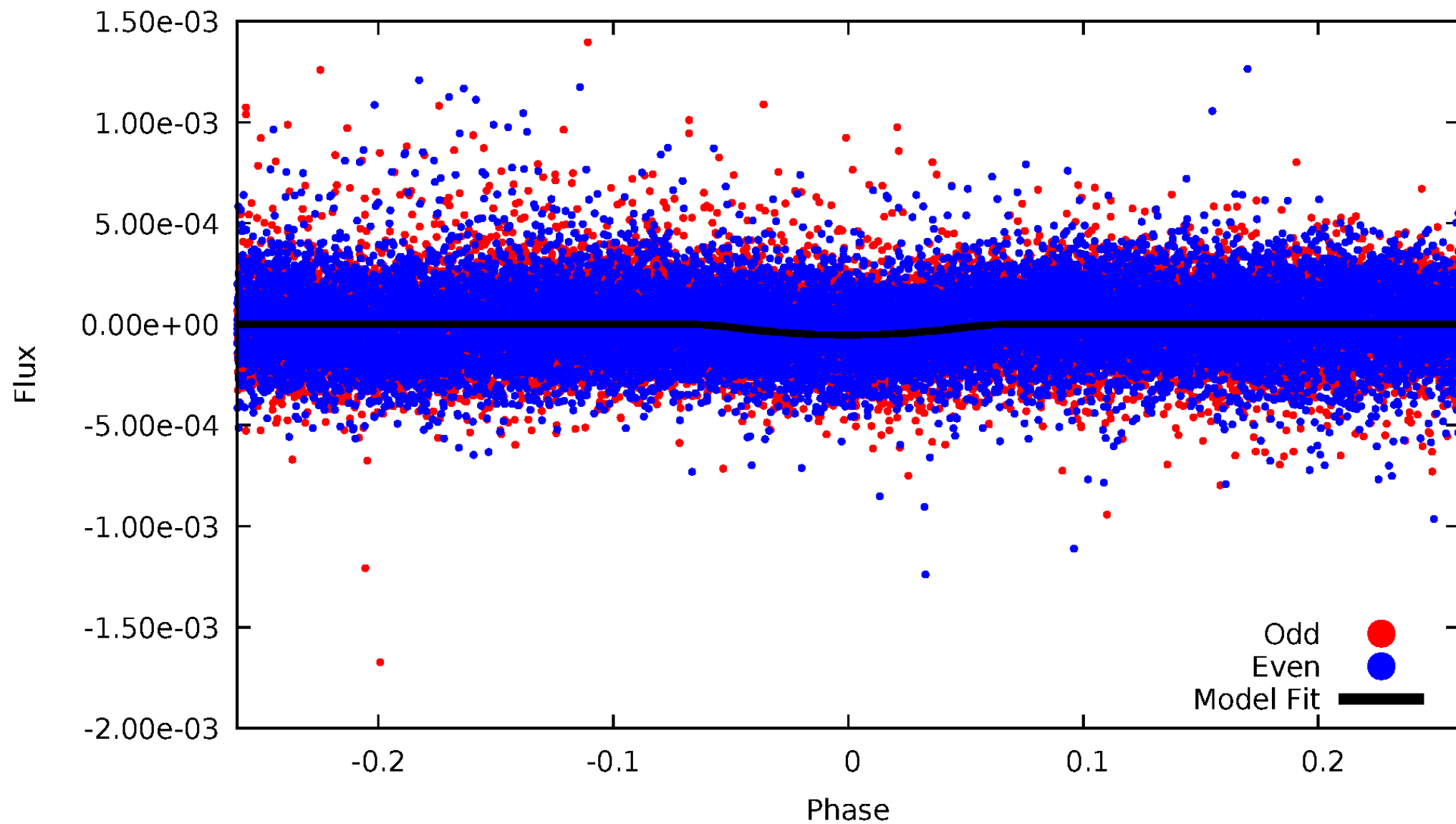


# TCE 004141464-01



# DV Odd/Even

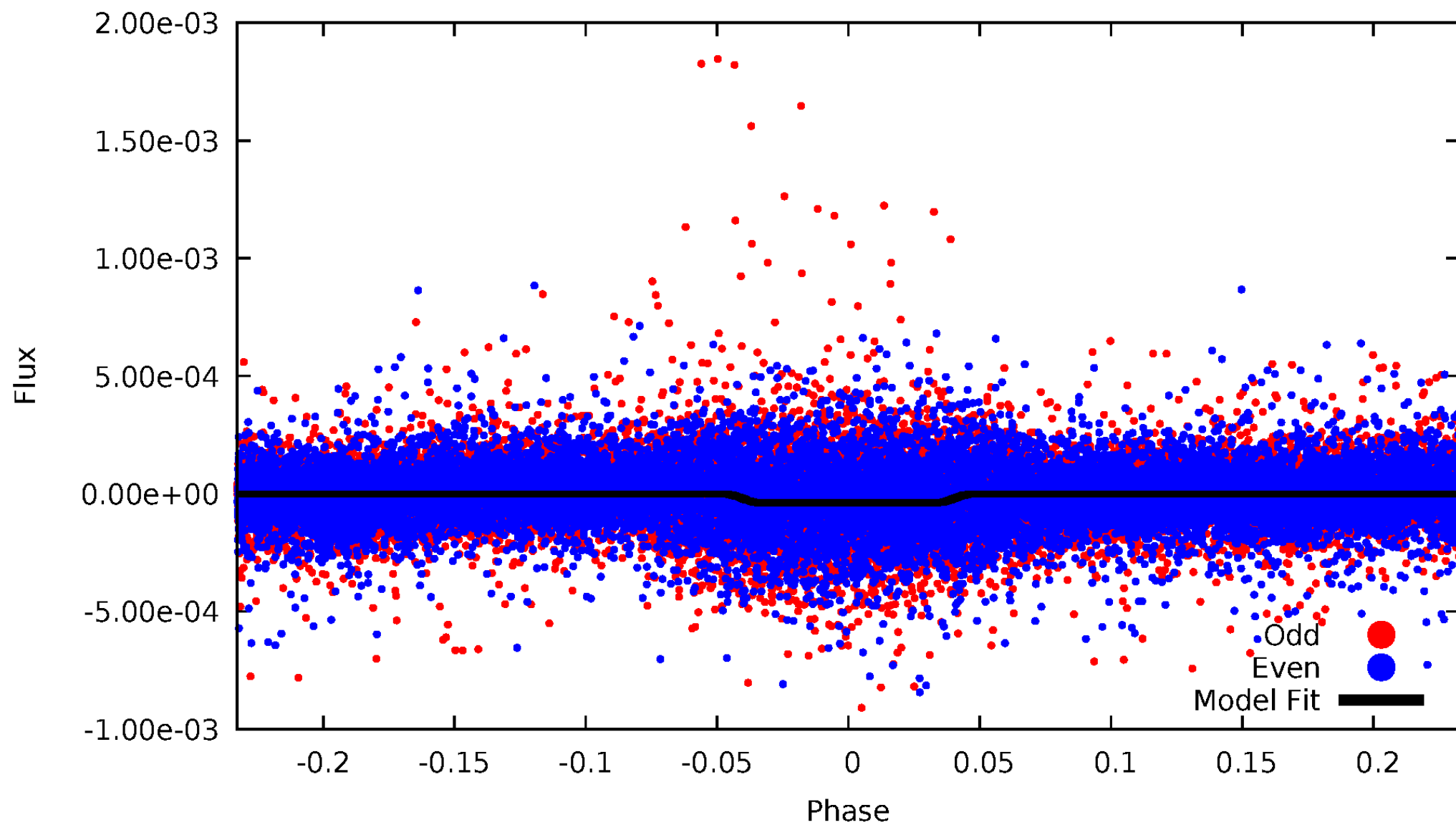
TCE 004141464-01





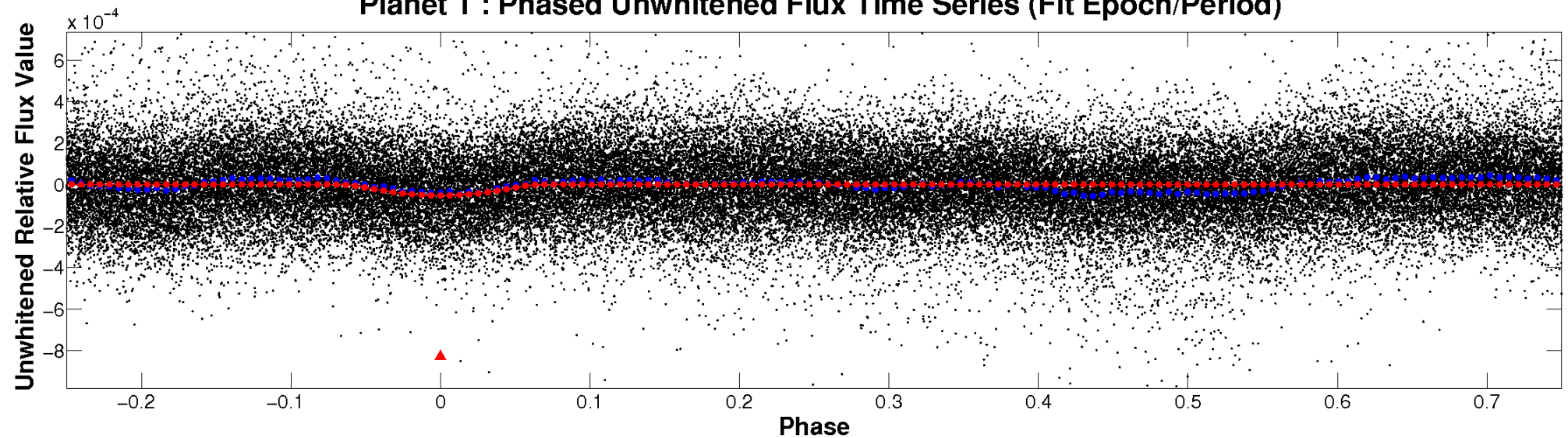
# ALT Odd/Even

TCE 004141464-01

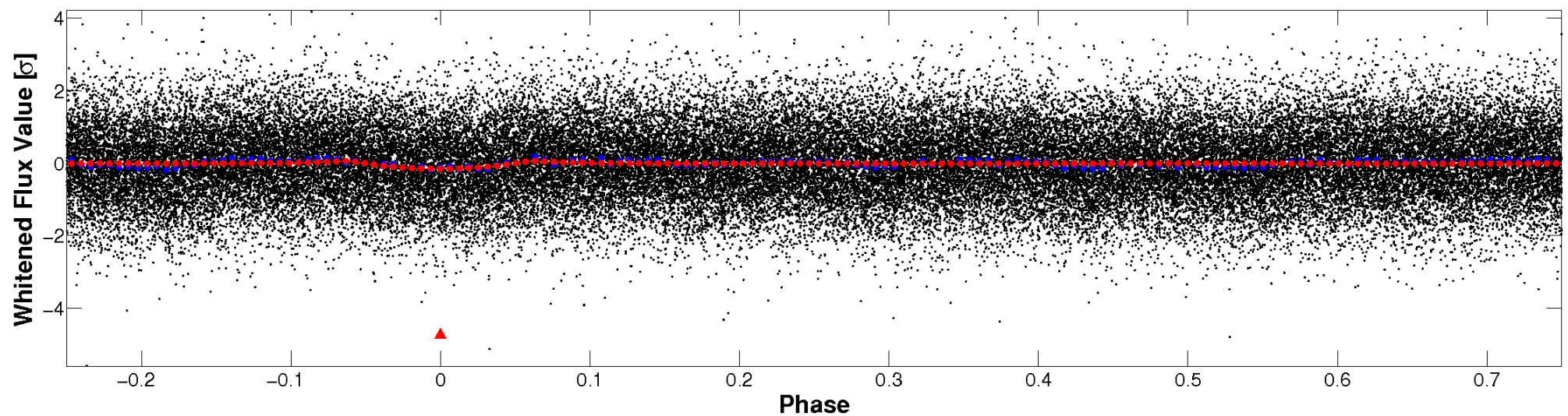


# Non-Whitened Vs. Whitened Light Curve

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

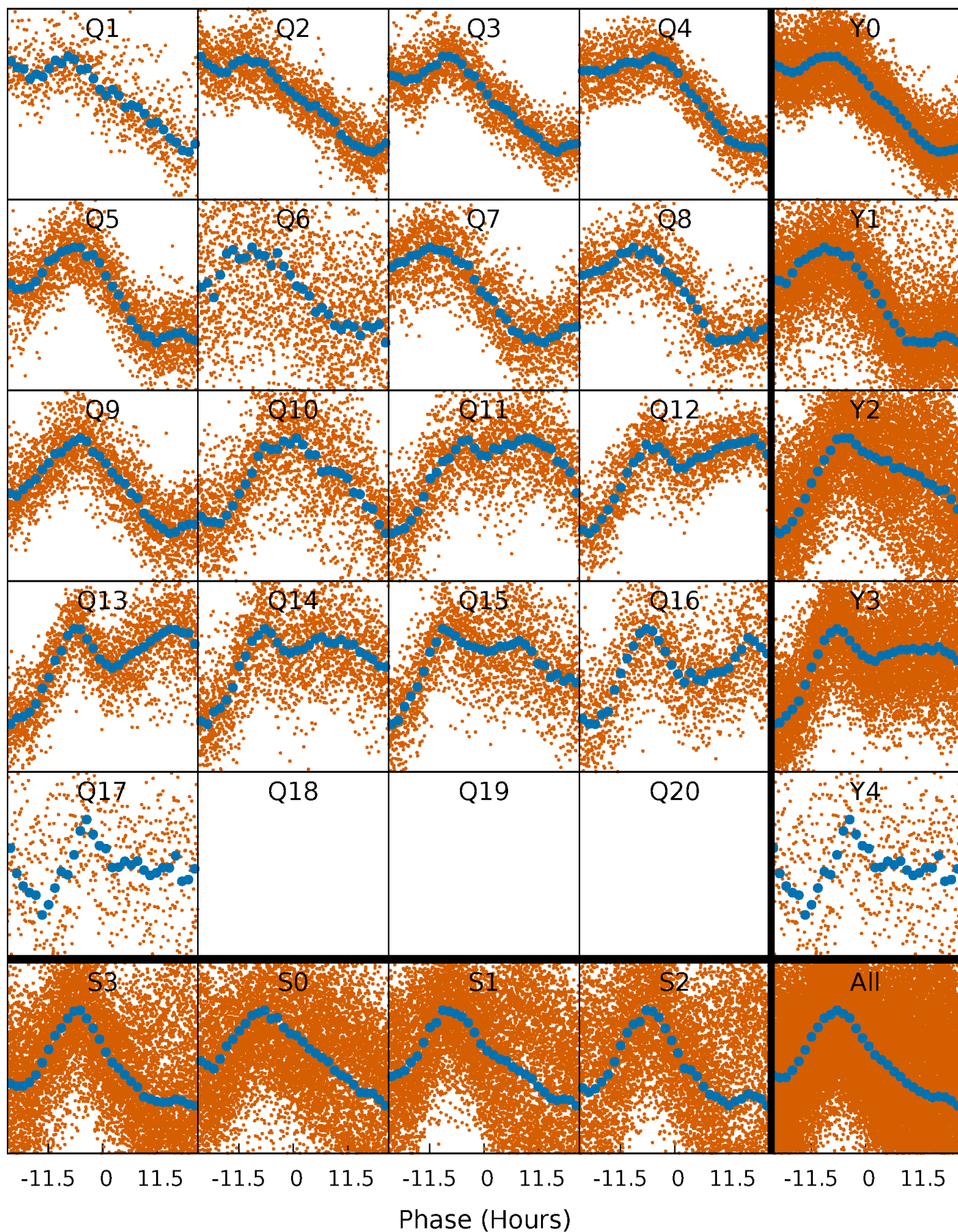


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

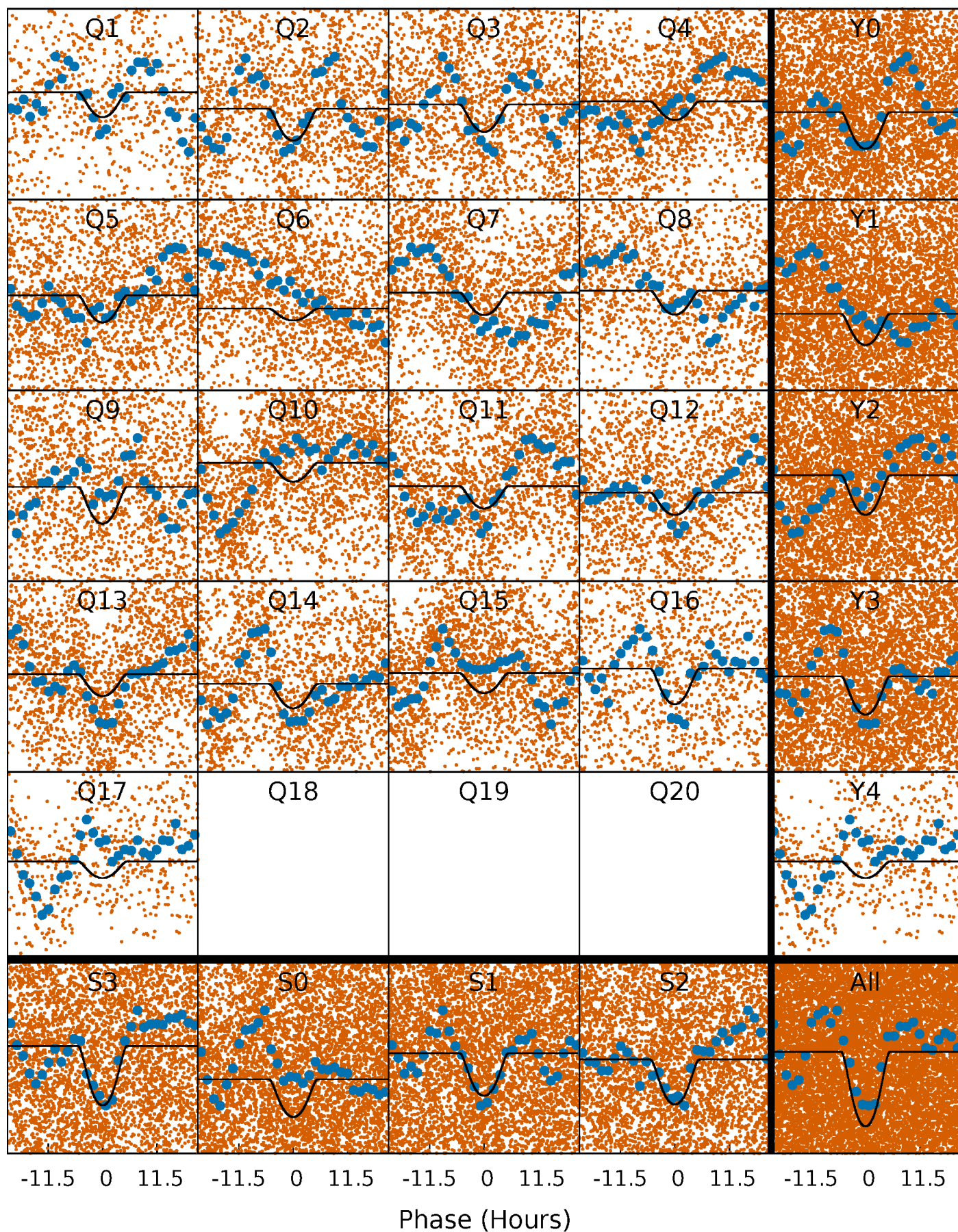
TCE 004141464-01 P= 3.230338 Days  $T_0=134.703496$  (BKJD)





# DV Quarter-Phased Transit Curves

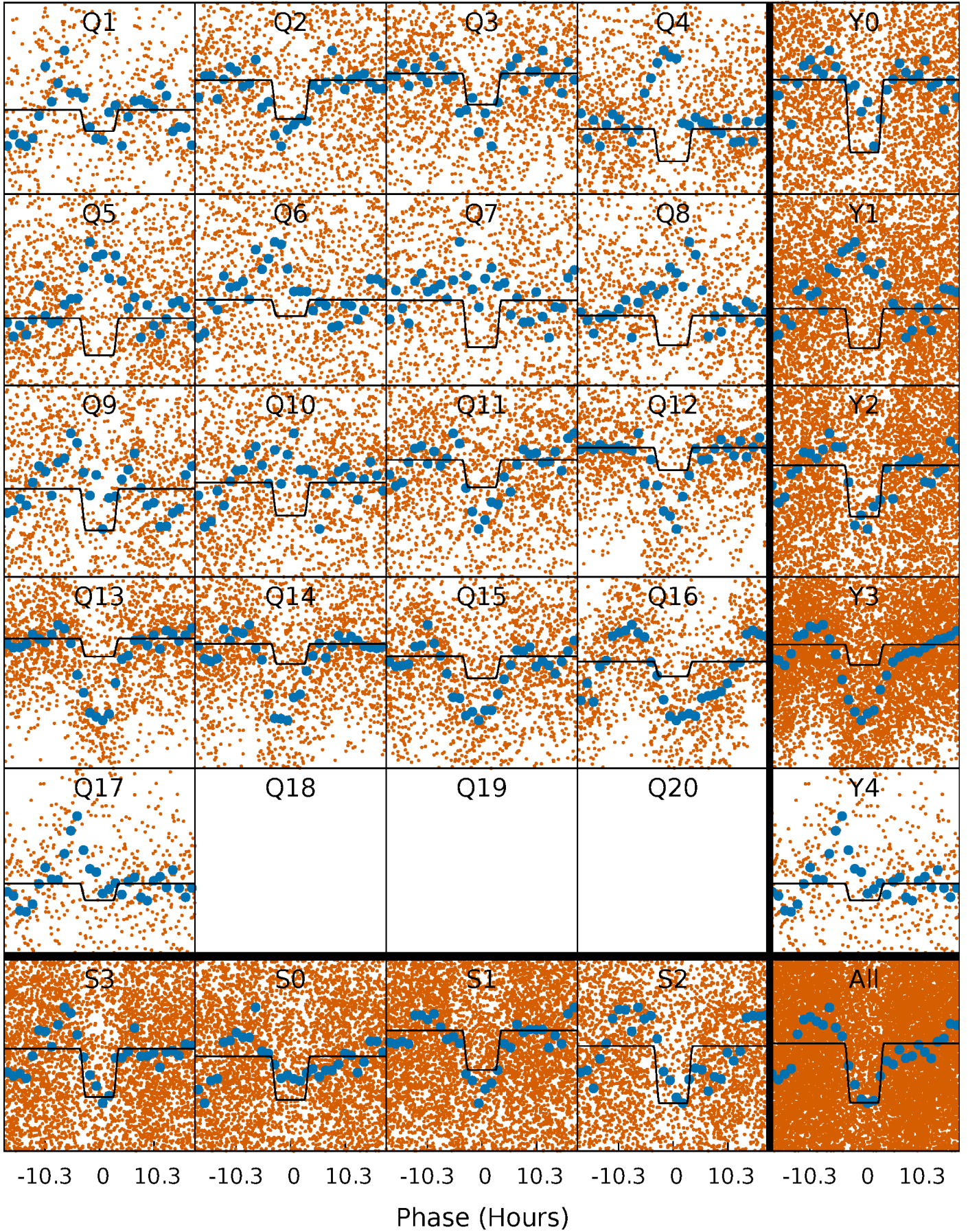
TCE 004141464-01 P= 3.230338 Days  $T_0=134.703496$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

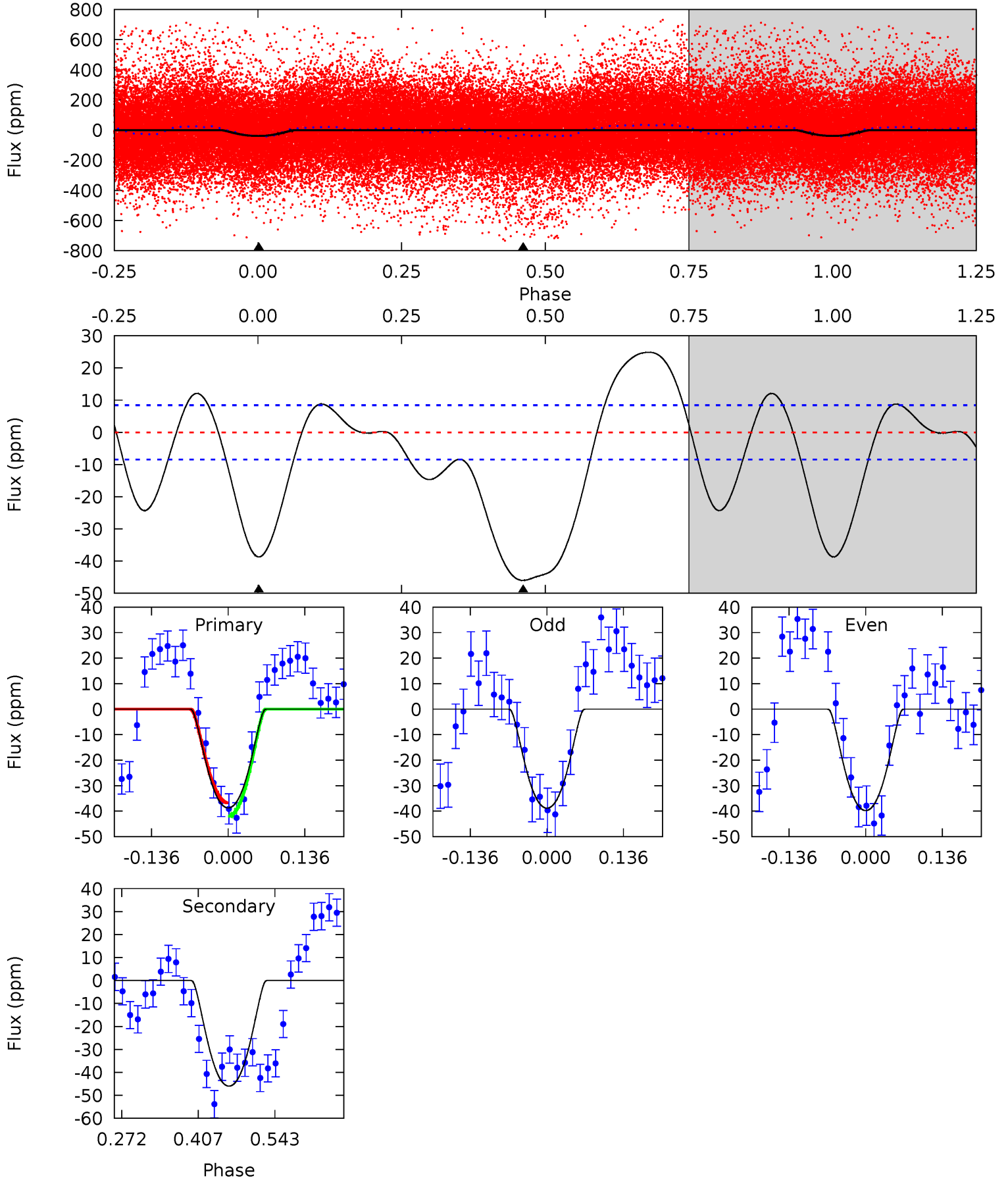
TCE 004141464-01 P= 3.230444 Days  $T_0=134.705341$  (BKJD)



# DV Model-Shift Uniqueness Test

004141464-01, P = 3.230338 Days, E = 131.473158 Days

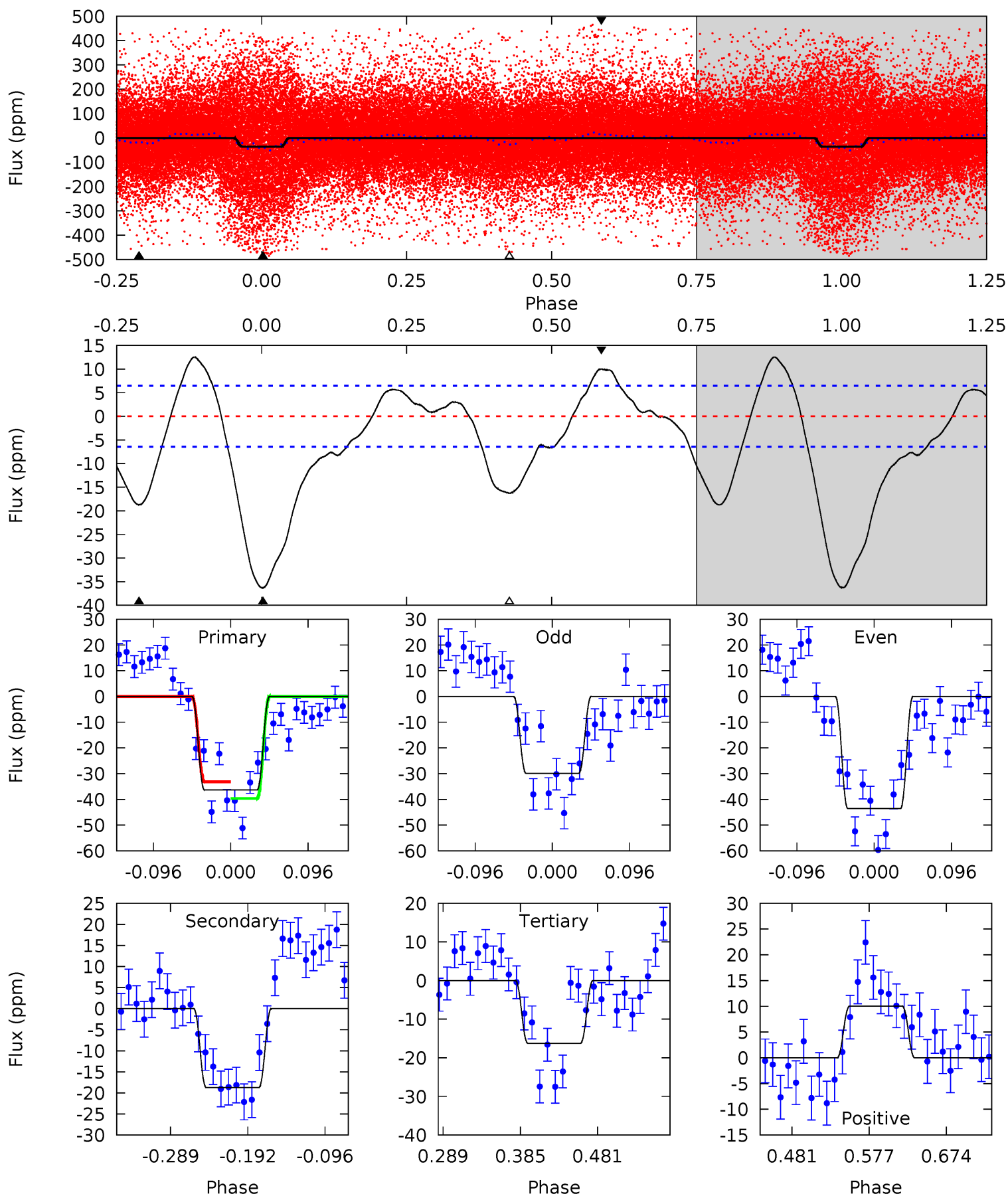
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	24.6	0	0	4.50	1.49	7.88	20.7	20.7	24.6	24.6	0.26	0.70	0.35	1.40



# Alt Model-Shift Uniqueness Test

004141464-01, P = 3.230444 Days, E = 131.474897 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
25.8	13.3	11.5	7.12	4.57	1.66	4.94	14.2	18.7	1.77	6.18	4.89	1.08	0.26	0





### Stellar Parameters For KIC 004141464

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6284^{+160}_{-160}$	$3.631^{+0.337}_{-0.112}$	$-0.340^{+0.350}_{-0.300}$	$3.031^{+0.504}_{-1.176}$	$1.432^{+0.223}_{-0.335}$	$0.072^{+0.194}_{-0.024}$
	+3%/-3%	+9%/-3%	+103%/-88%	+17%/-39%	+16%/-23%	+267%/-33%
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 004141464-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-46 \pm 2$	$3.15^{+1.23}_{-1.16}$	$3019^{+189}_{-285}$	$5140^{+1062}_{-613}$	$5.912^{+8.255}_{-2.758}$
Alt.	$-19 \pm 1$	$2.00^{+1.15}_{-1.08}$	$3025^{+170}_{-280}$	$5186^{+2118}_{-893}$	$6.013^{+19.944}_{-3.566}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

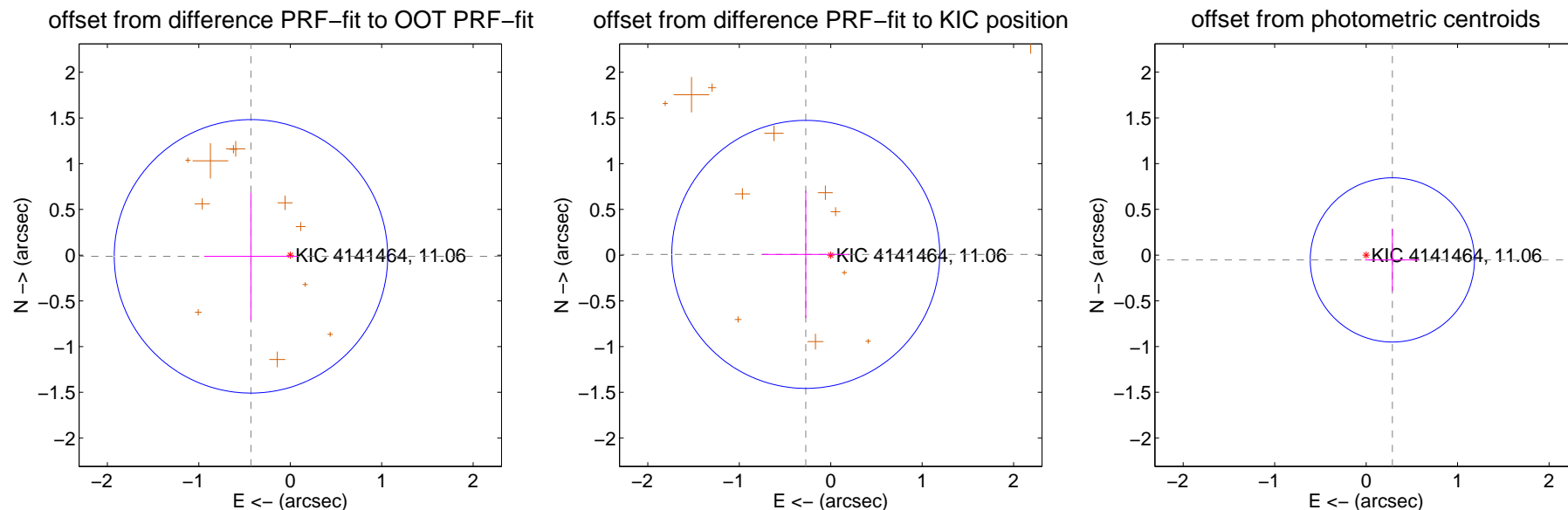
## DV Centroid Data

Supplemental centroid analysis for 004141464-01. **Kepler magnitude: 11.06.** Transit SNR 9.49

**There are 0 quarters with good PRF difference image offsets**

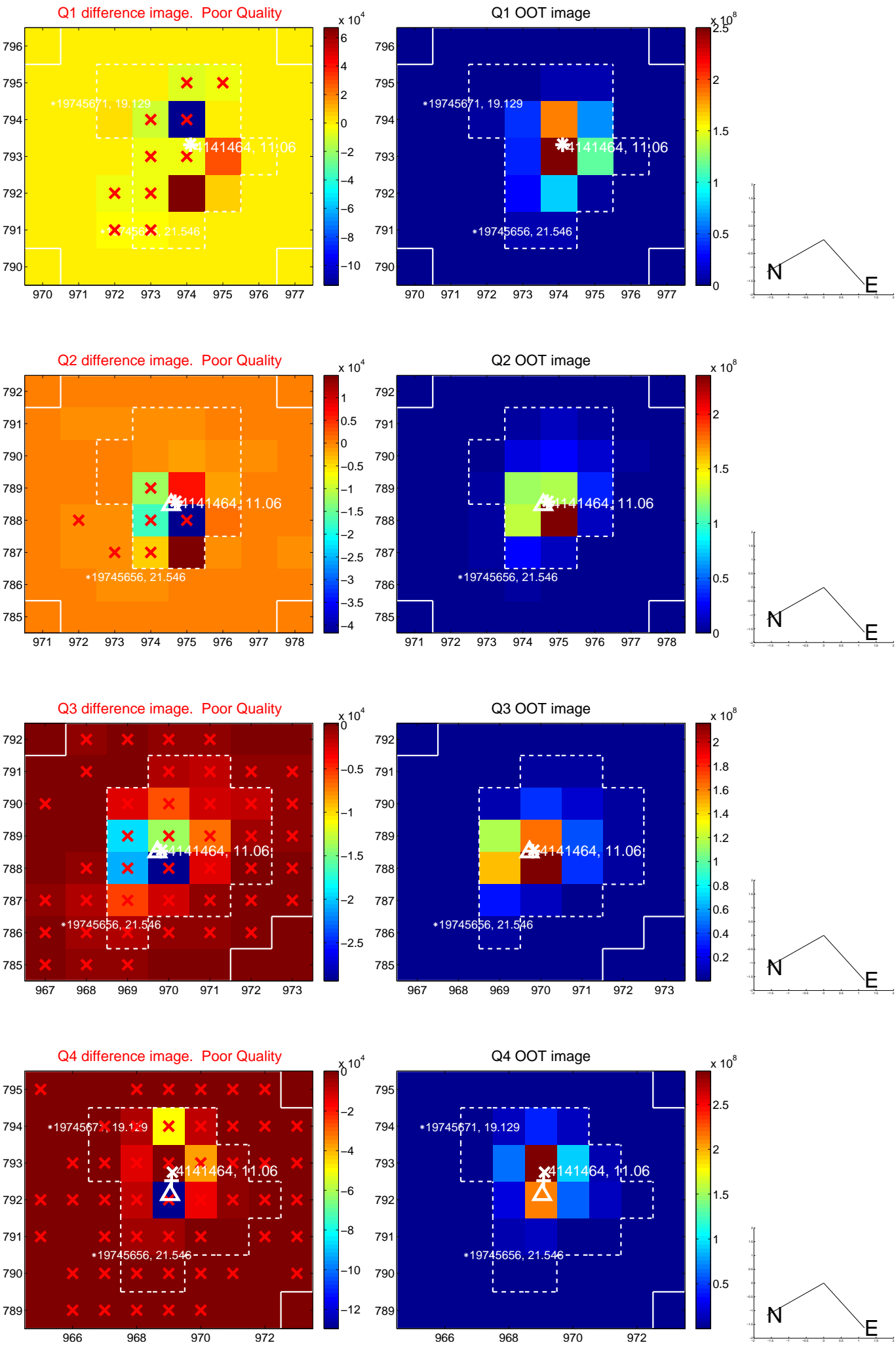
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.430 \pm 0.498$	0.86	$0.430 \pm 0.512$	$-0.013 \pm 0.696$
PRF-fit source offset from KIC position	$0.273 \pm 0.488$	0.56	$0.273 \pm 0.475$	$0.008 \pm 0.696$
photometric centroid source offset	$0.29 \pm 0.30$	0.97	$-0.29 \pm 0.30$	$-0.05 \pm 0.34$

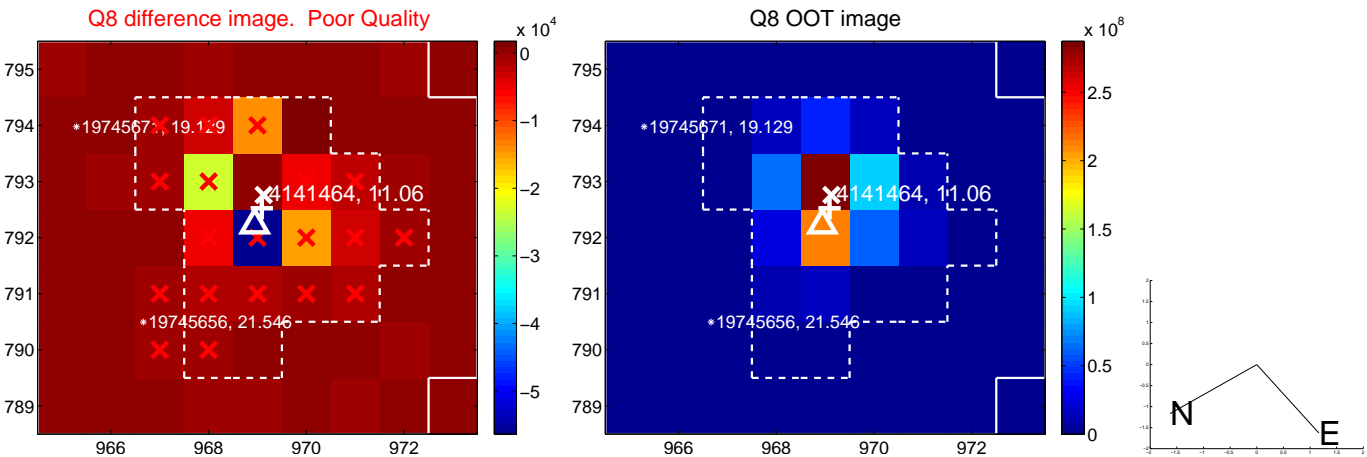
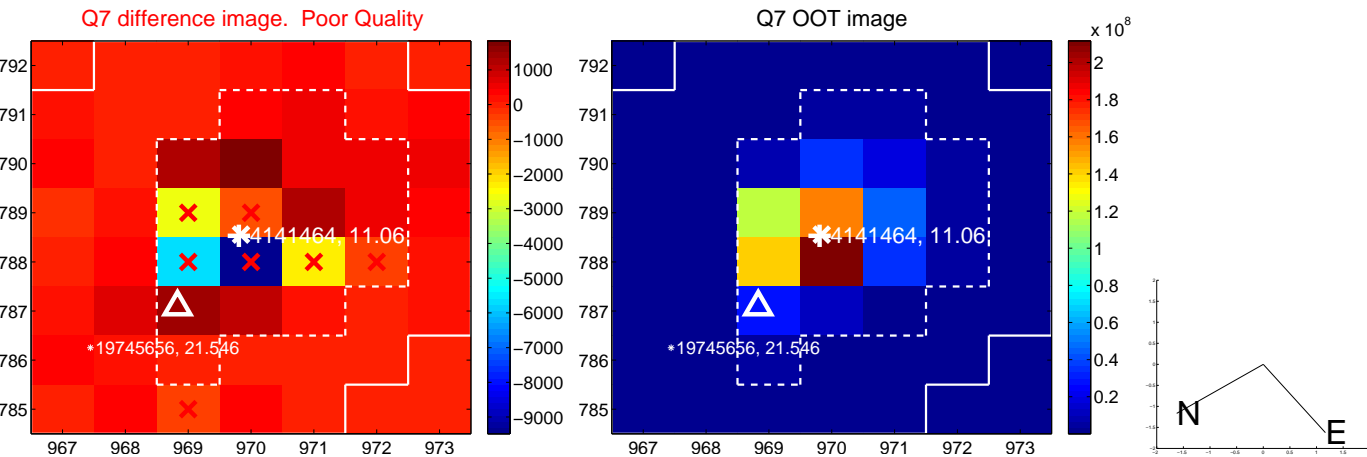
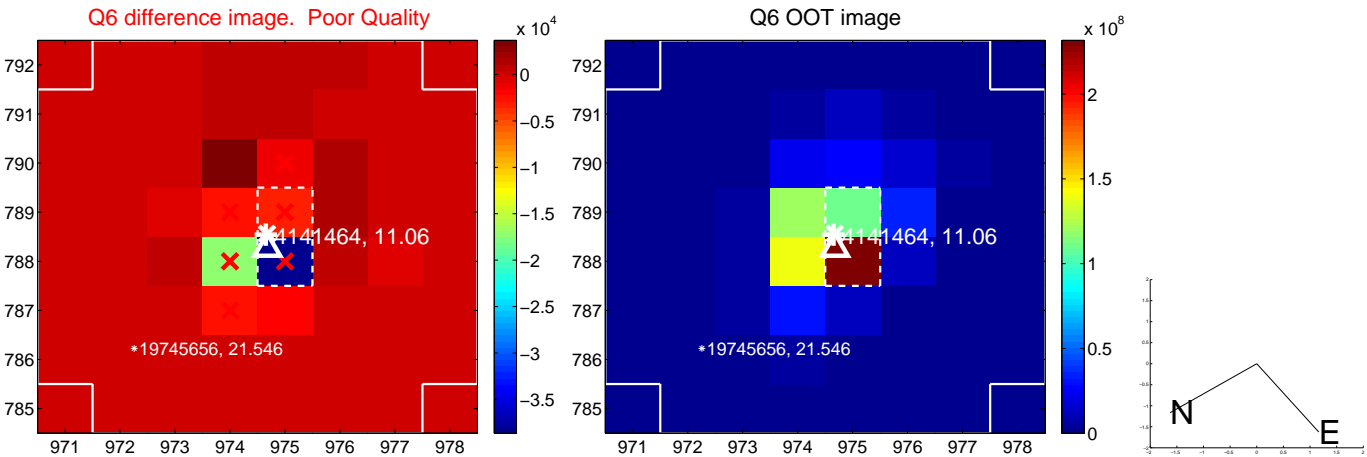
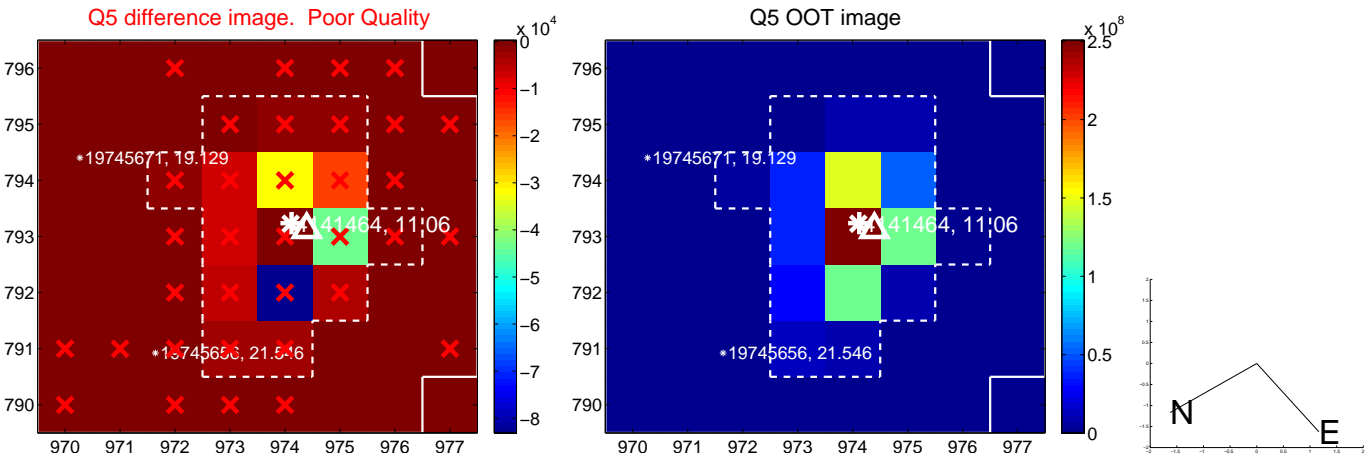


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

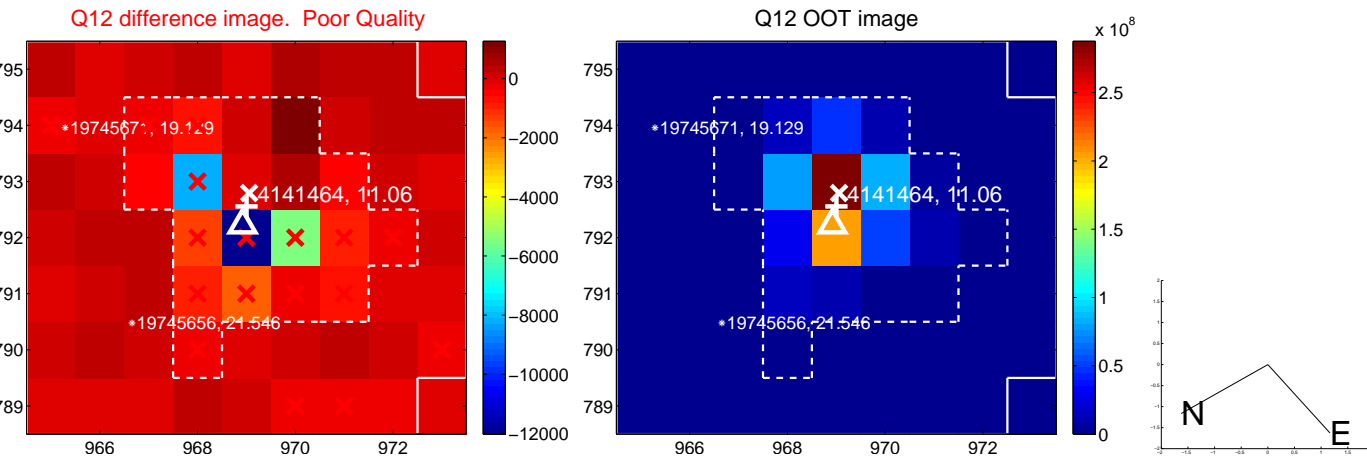
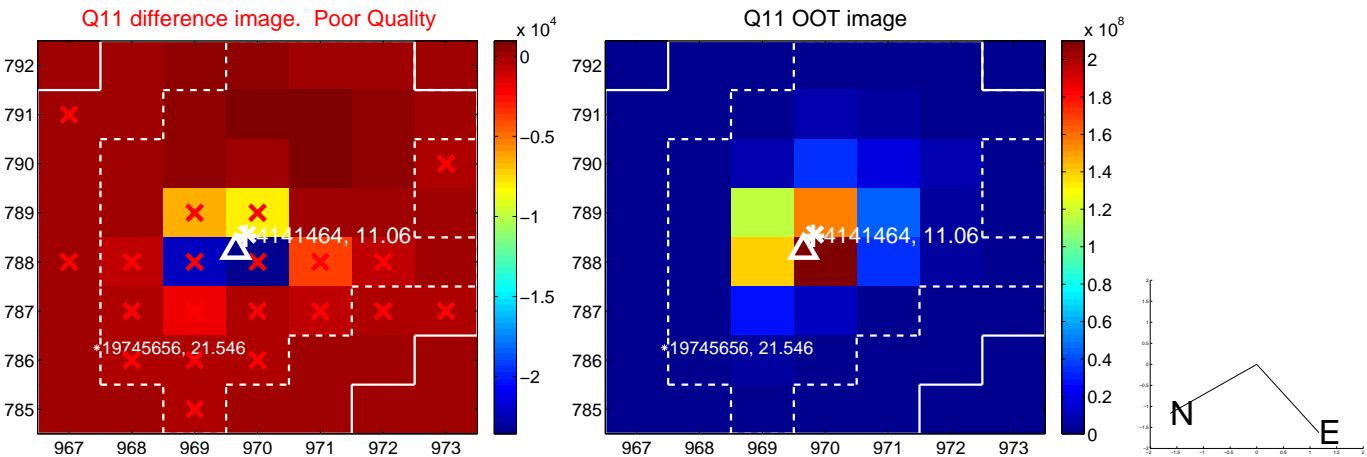
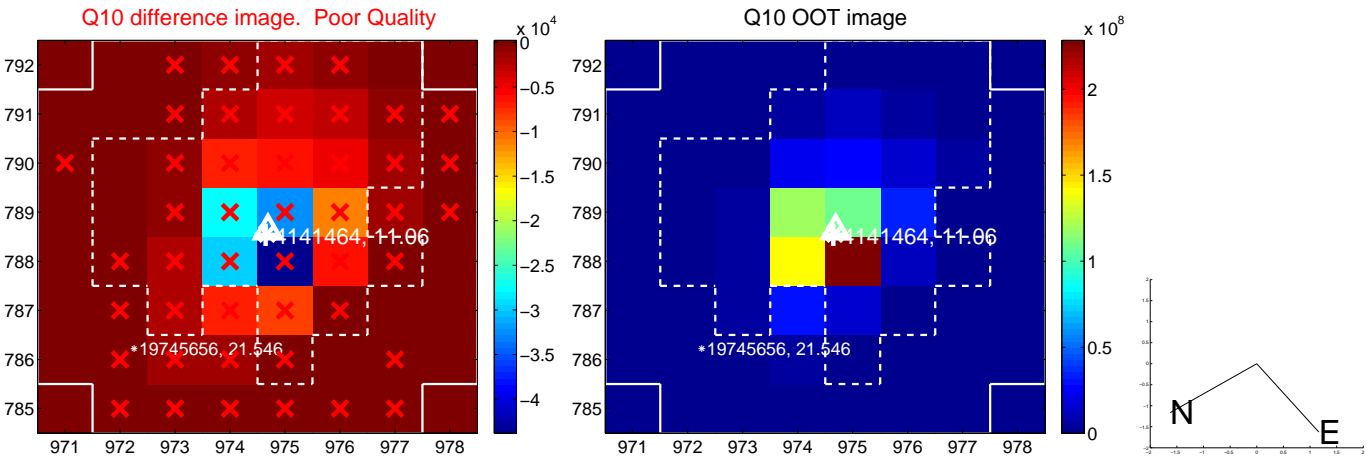
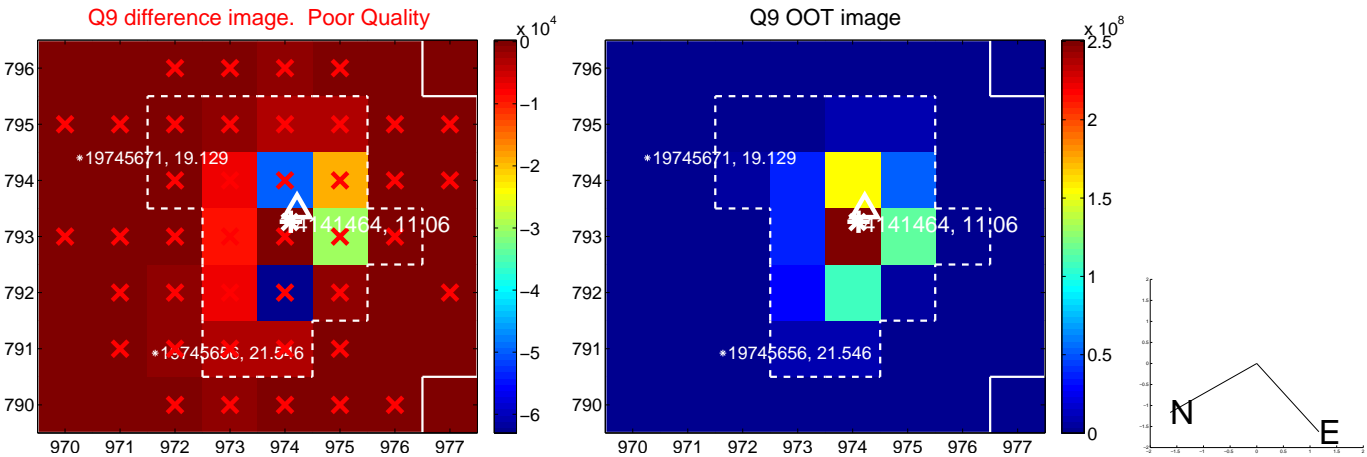


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

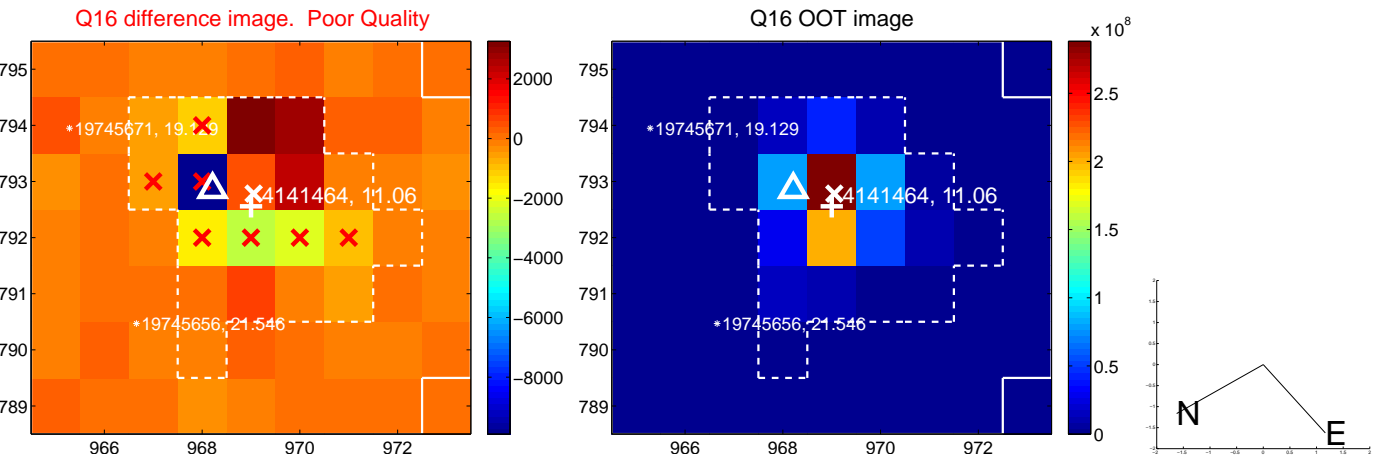
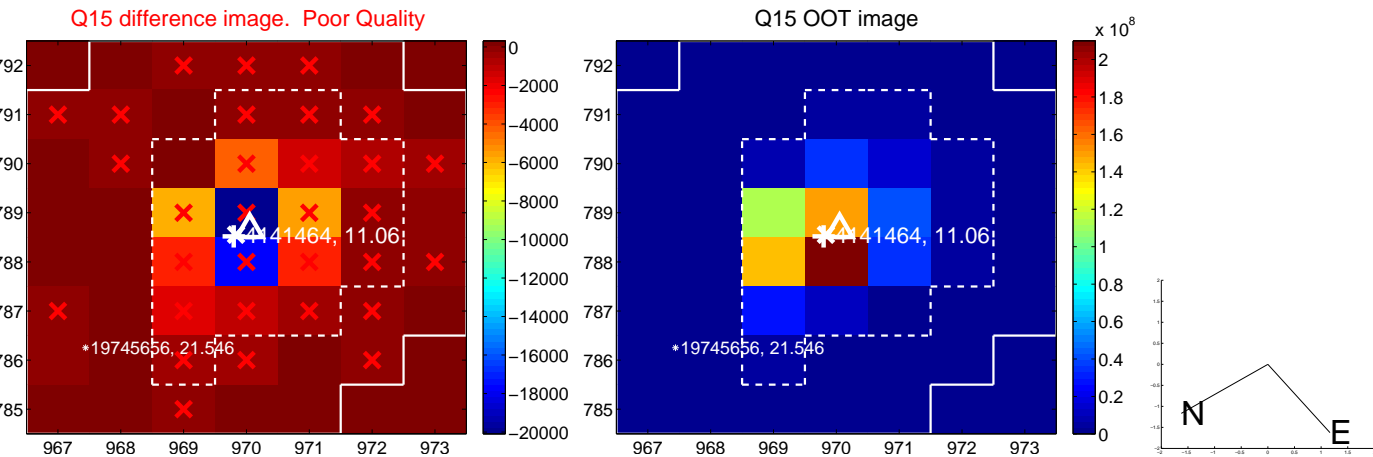
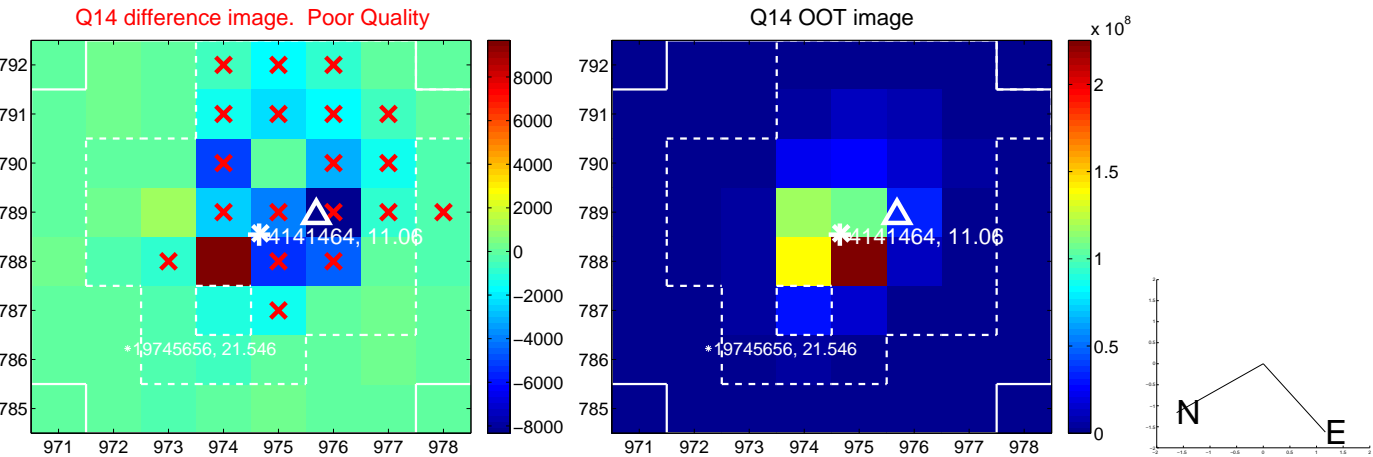
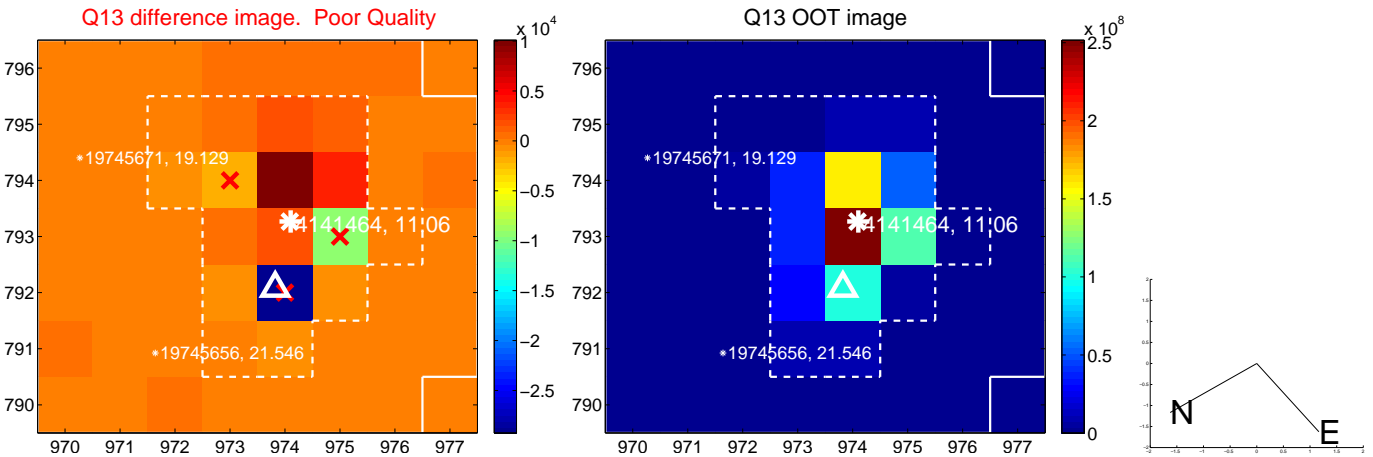




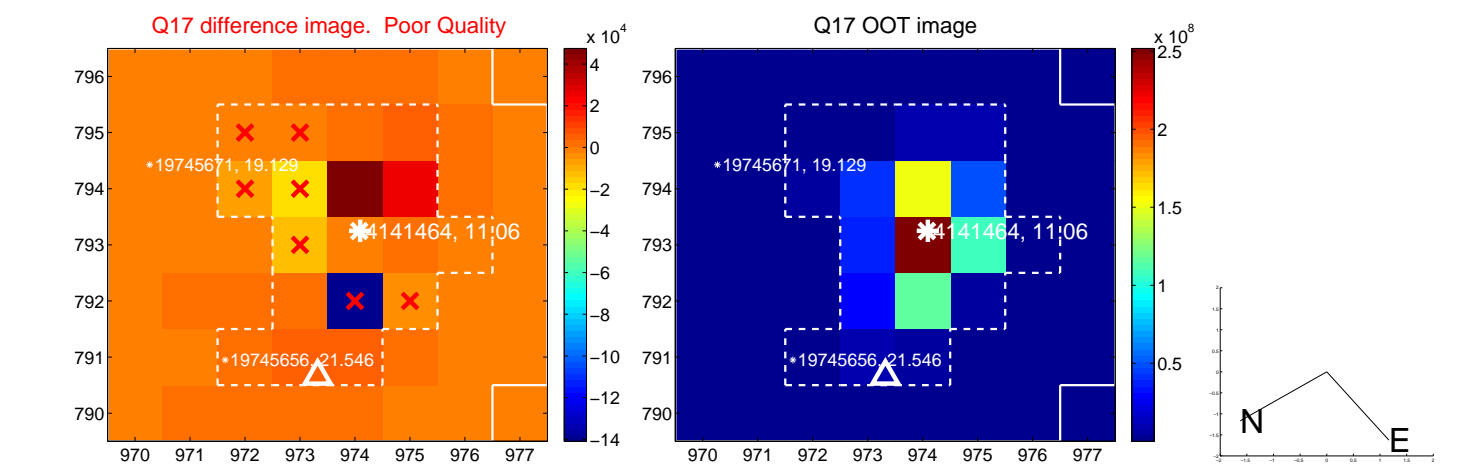
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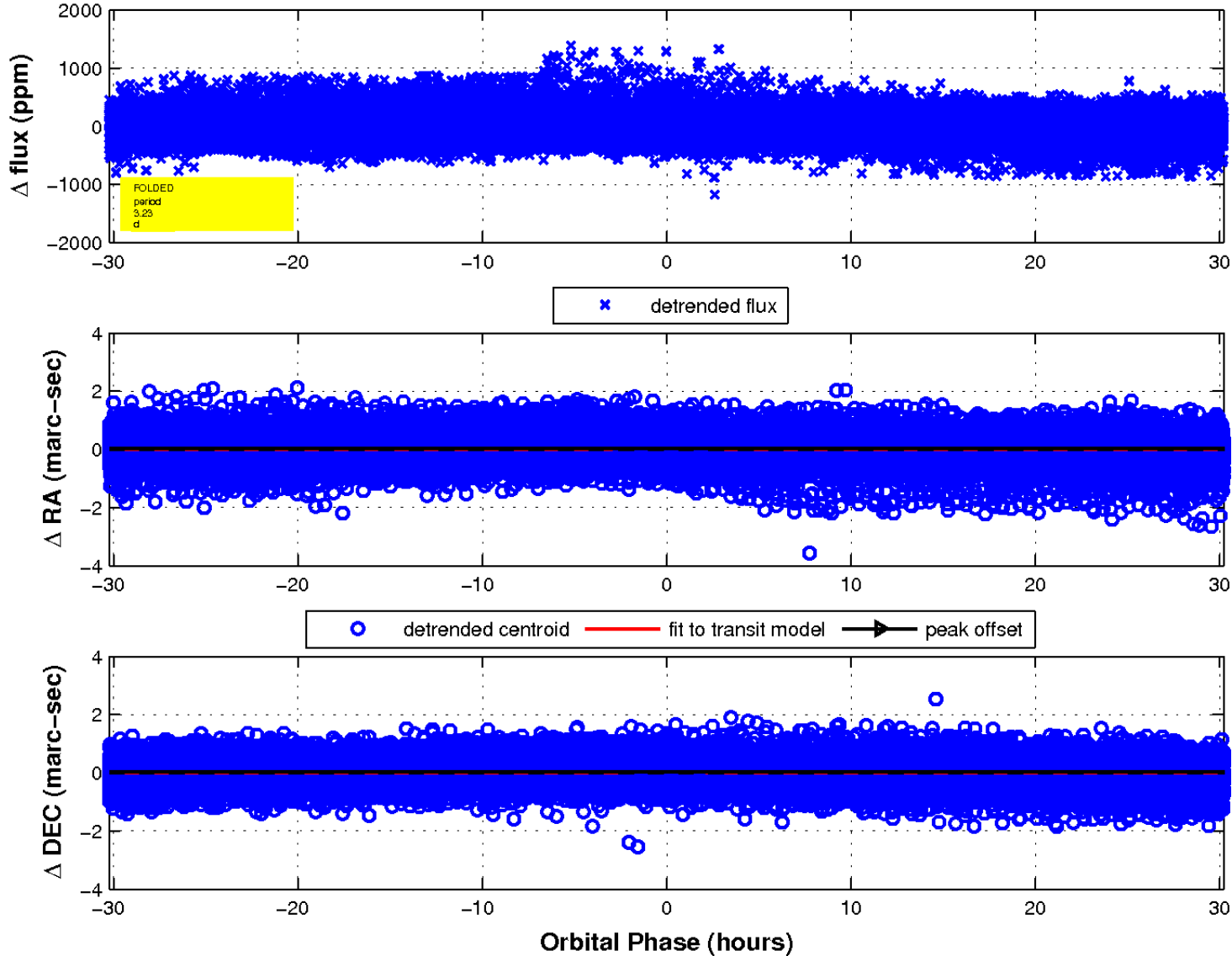
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

