

# KIC 002992648

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
002992648-01	OBS	No	1.077311	131.861394	19.0	10.208	9.0	9.0	1.33	6610	0.59	6220.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002992648-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS

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

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

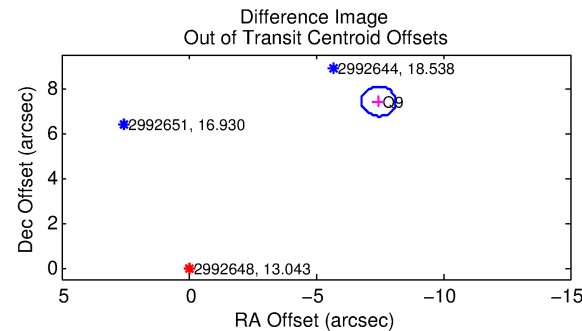
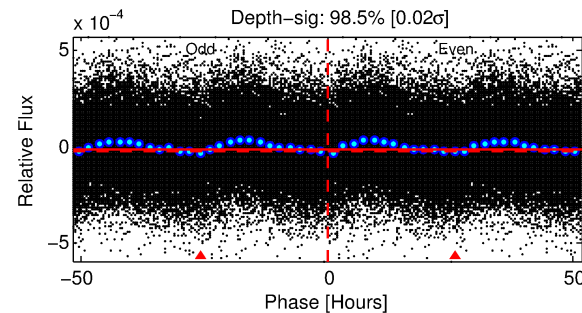
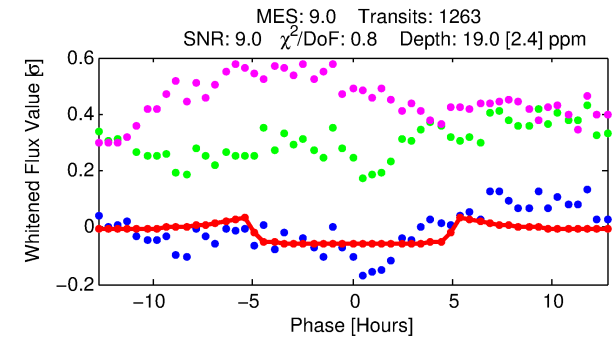
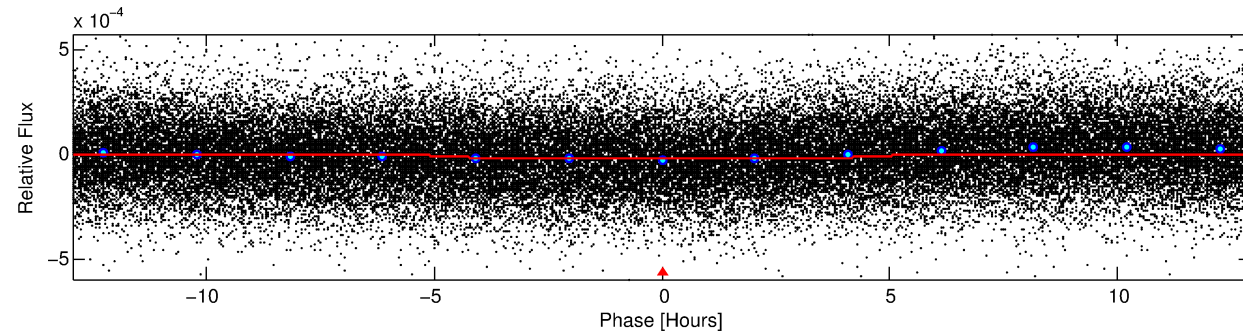
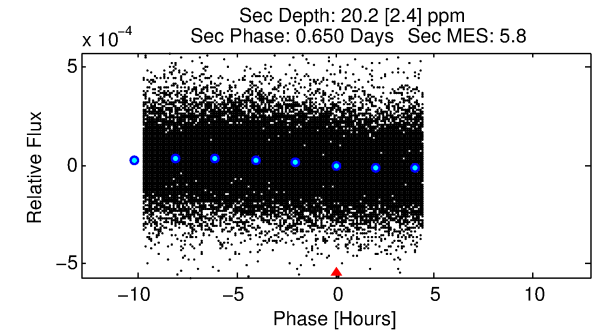
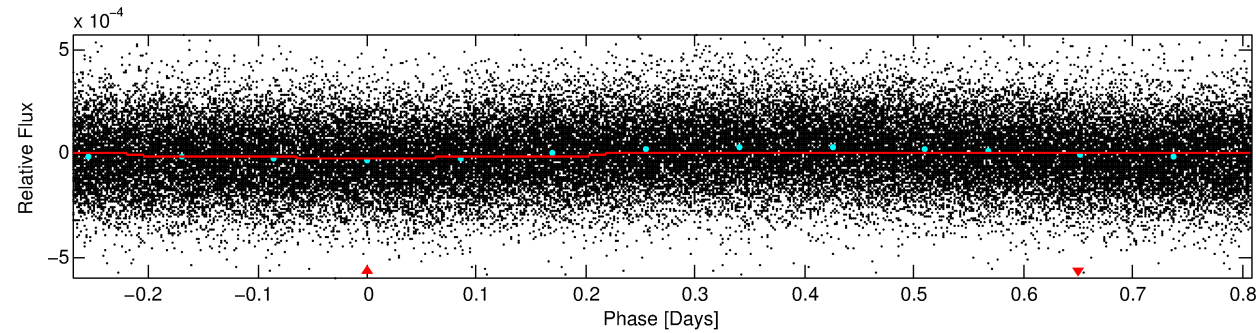
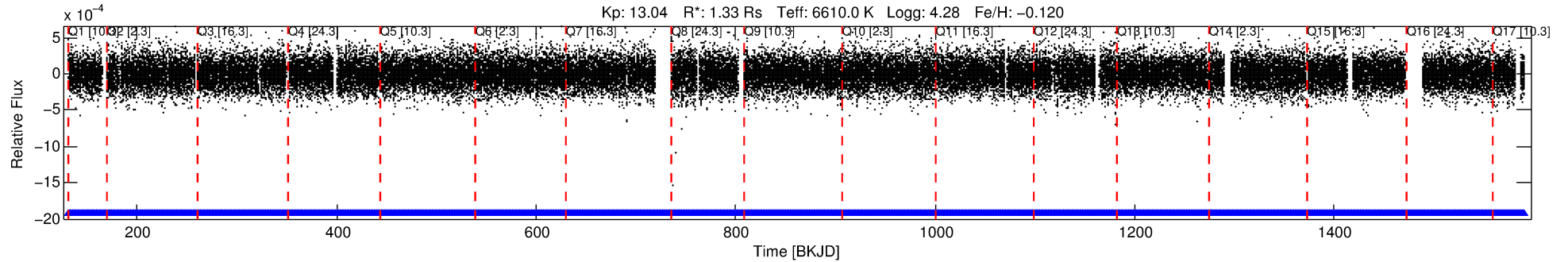
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 002992648-01

No Significant Match Found

# DV One-Page Summary

KIC: 2992648 Candidate: 1 of 1 Period: 1.077 d



## DV Fit Results:

Period = 1.07731 [0.00002] d  
Epoch = 131.8614 [0.0054] BKJD  
Rp/R\* = 0.0041 [0.0028]  
a/R\* = 1.06 [0.40]  
b = 0.33 [10.20]  
Seff = 6220.33 [2417.21]  
Teq = 2265 [220] K  
Rp = 0.59 [0.44] Re  
a = 0.0221 [0.0057] AU  
Ag = 15.52 [21.91] [0.66σ]  
Teffp = 6949 [2381] K [1.96σ]

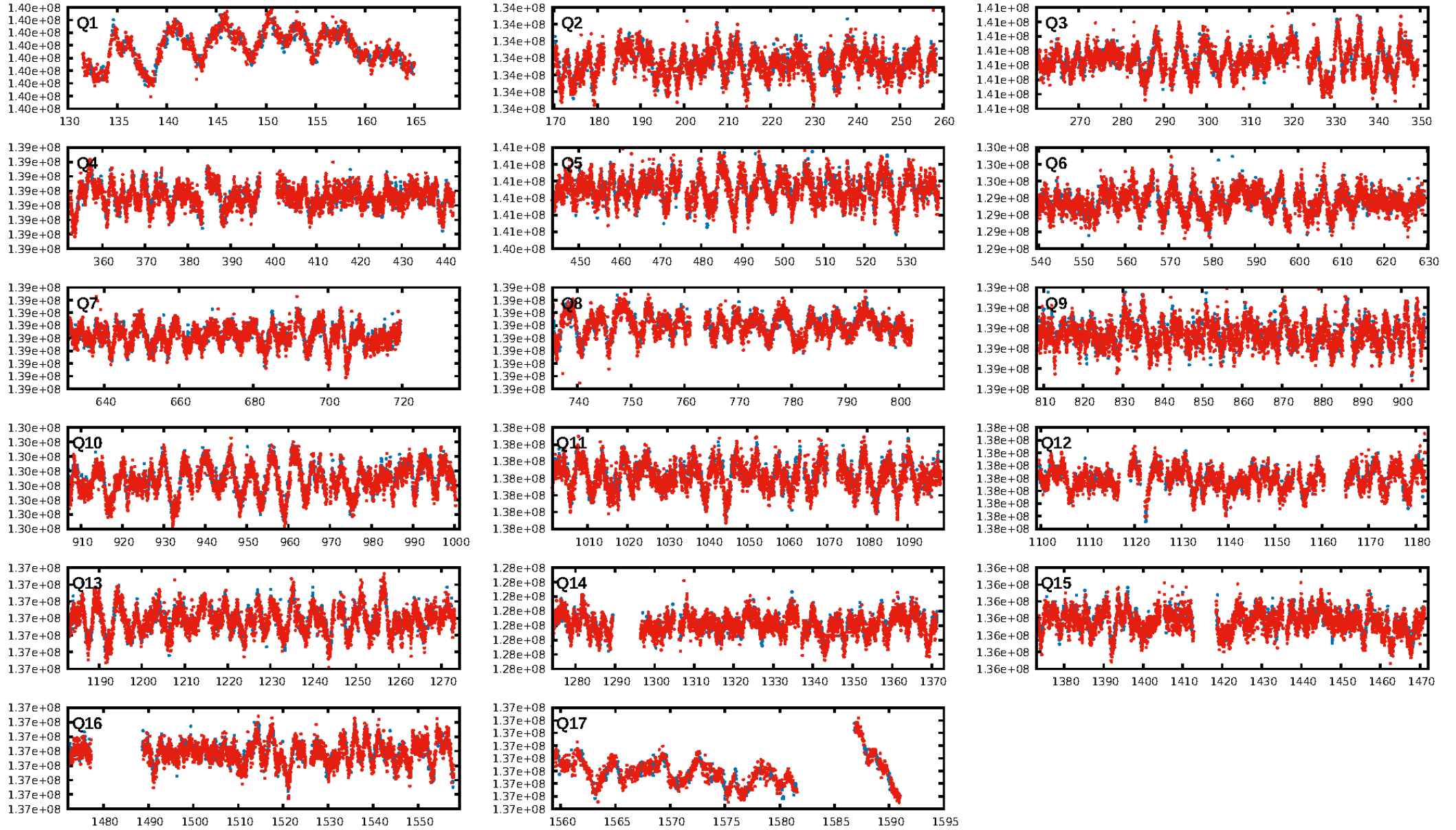
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1207/1207]  
GhostDiagnostic-chr: 1.226  
Centroid-sig: 34.1%  
Centroid-so: 0.749 arcsec [1.06σ]  
OotOffset-rm: 10.524 arcsec [47.27σ]  
KicOffset-rm: 10.546 arcsec [47.38σ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [17/17]

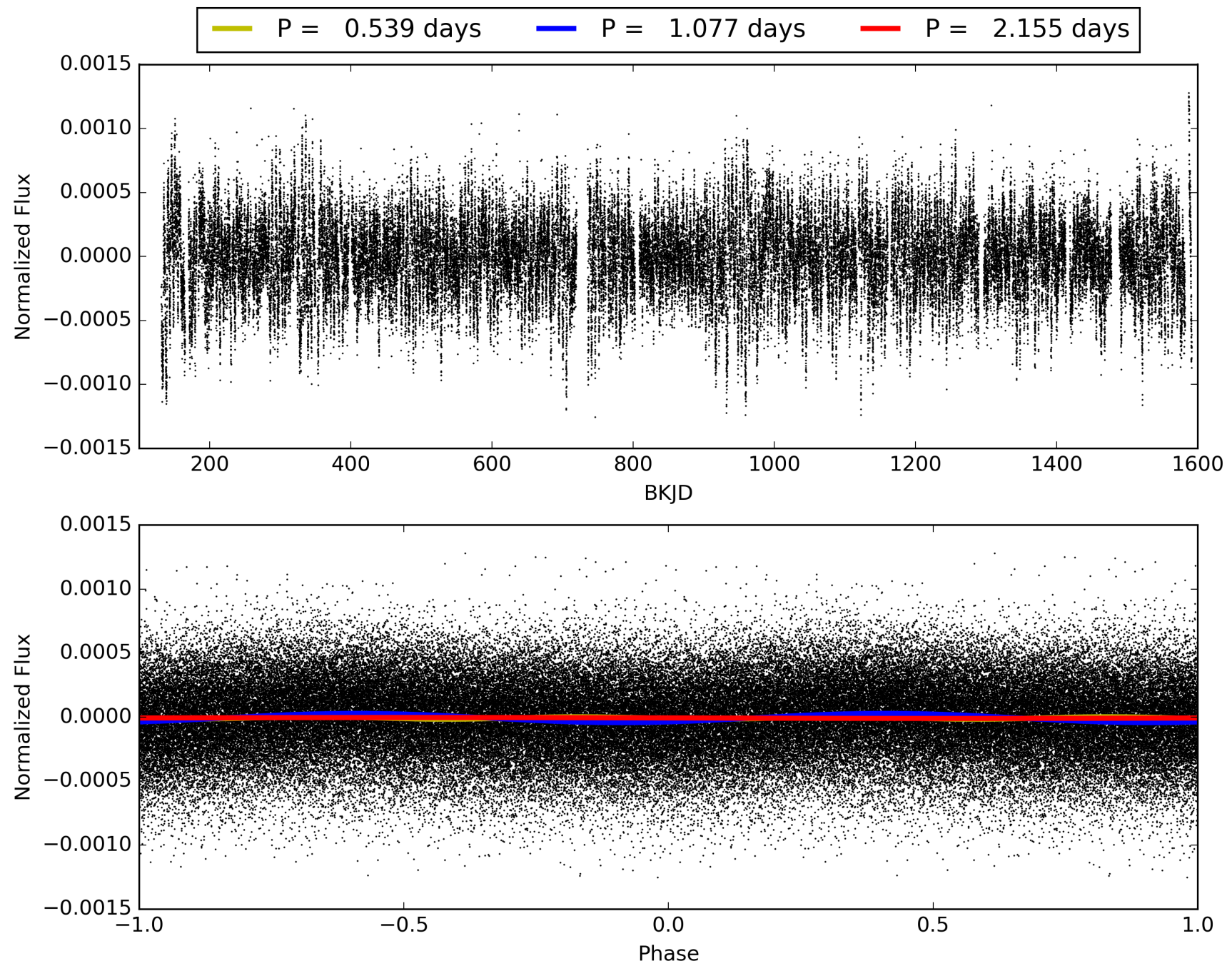
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:37:47 Z

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

# TCE 002992648-01, PDC Light Curves

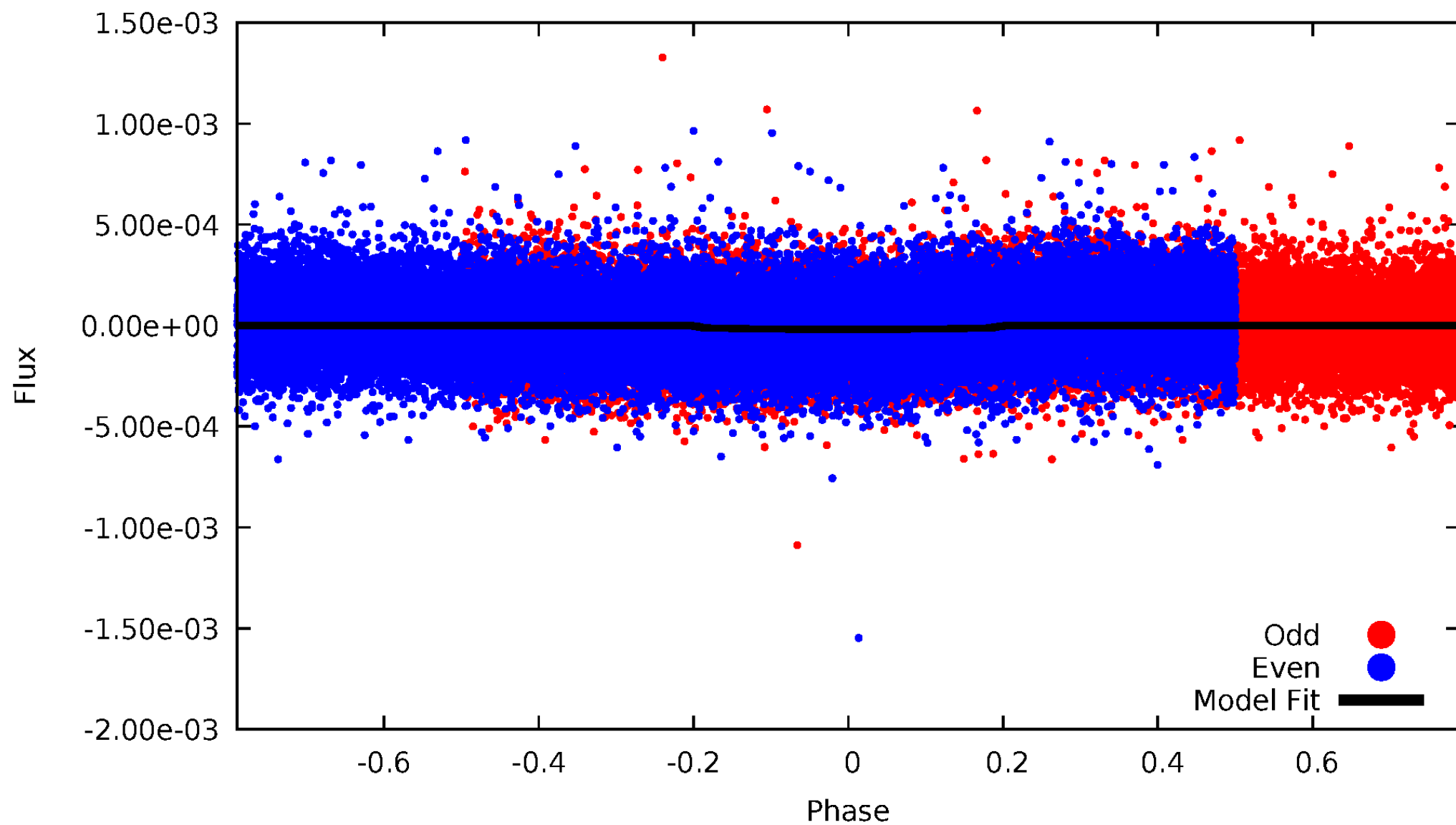


TCE 002992648-01



# DV Odd/Even

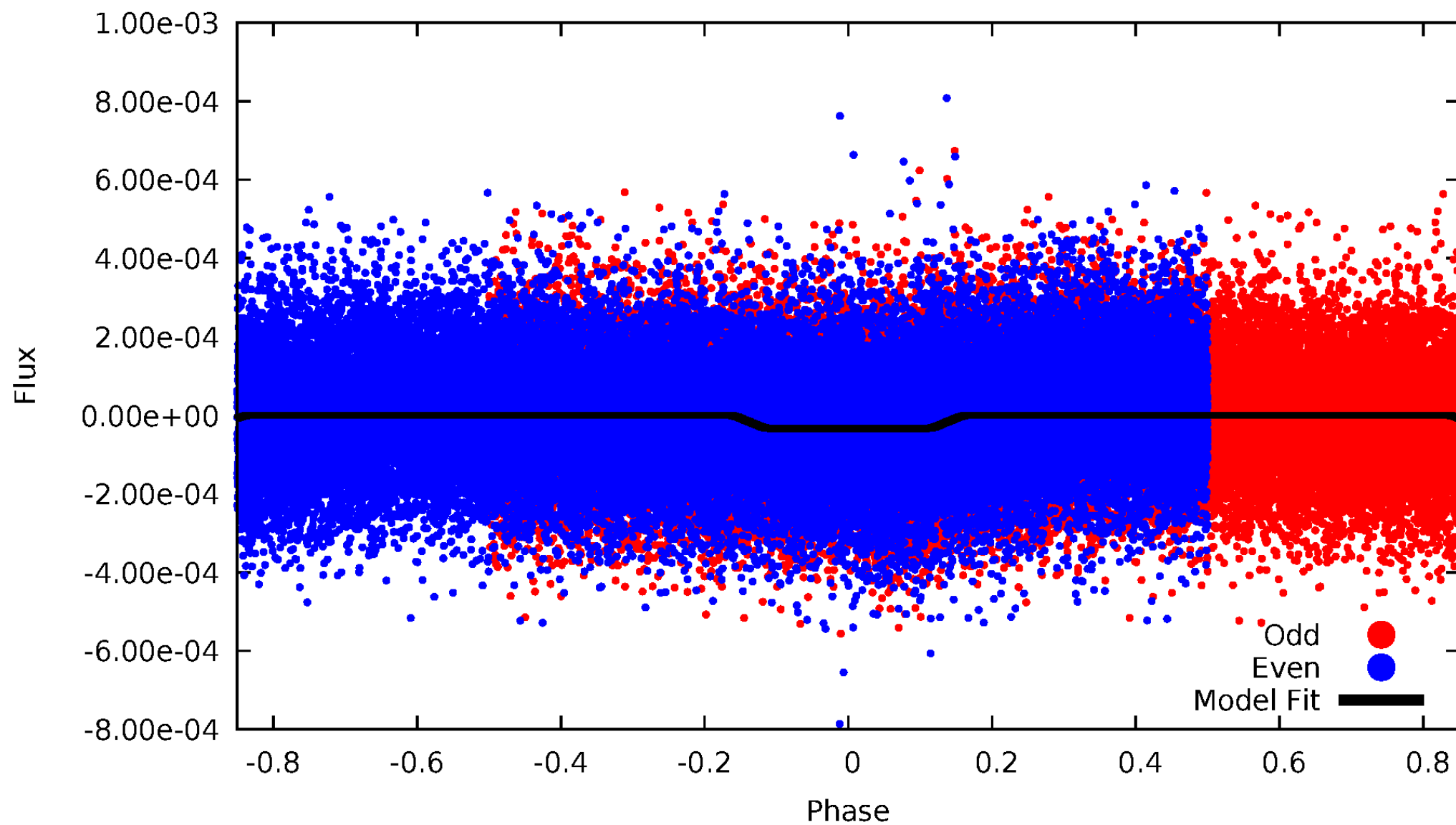
TCE 002992648-01





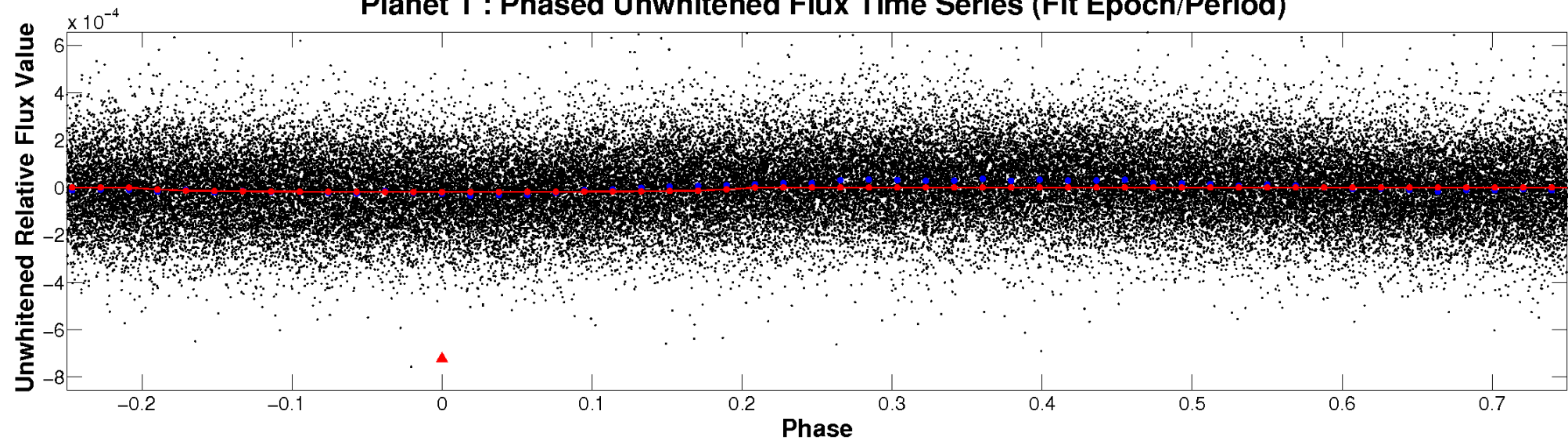
# ALT Odd/Even

TCE 002992648-01

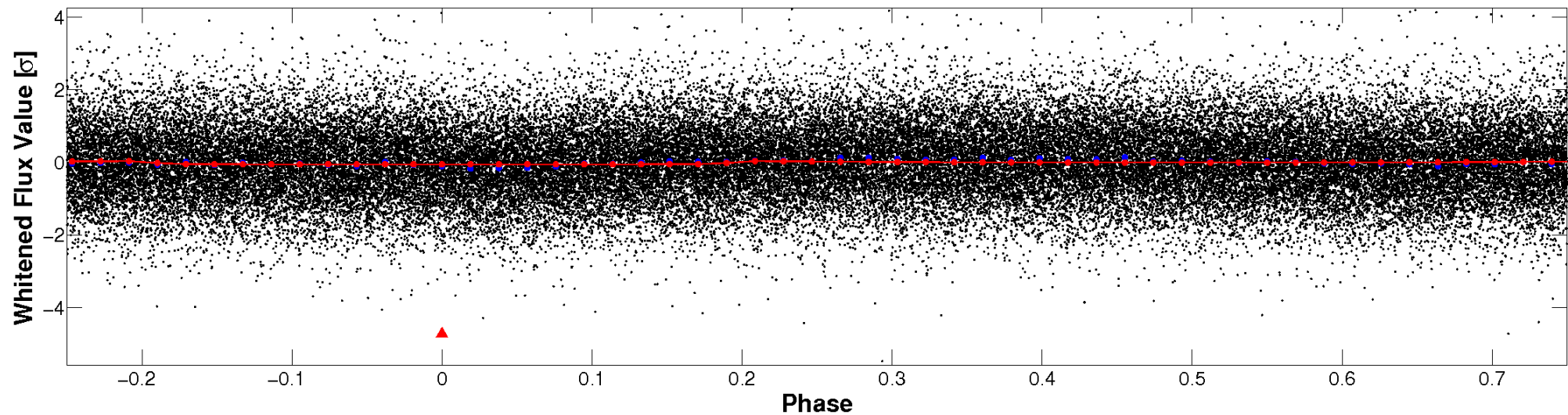


# Non-Whitened Vs. Whitened Light Curve

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

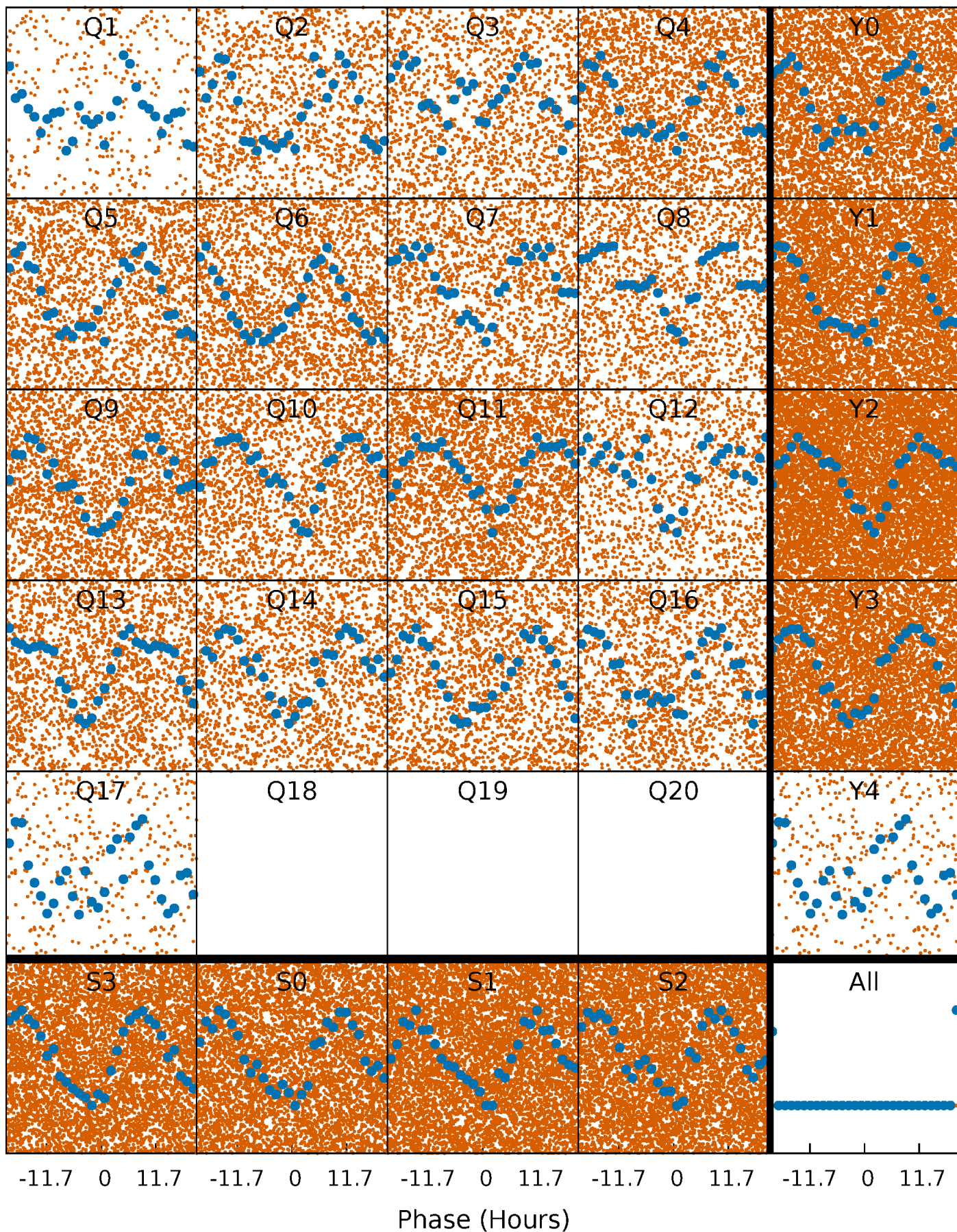


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

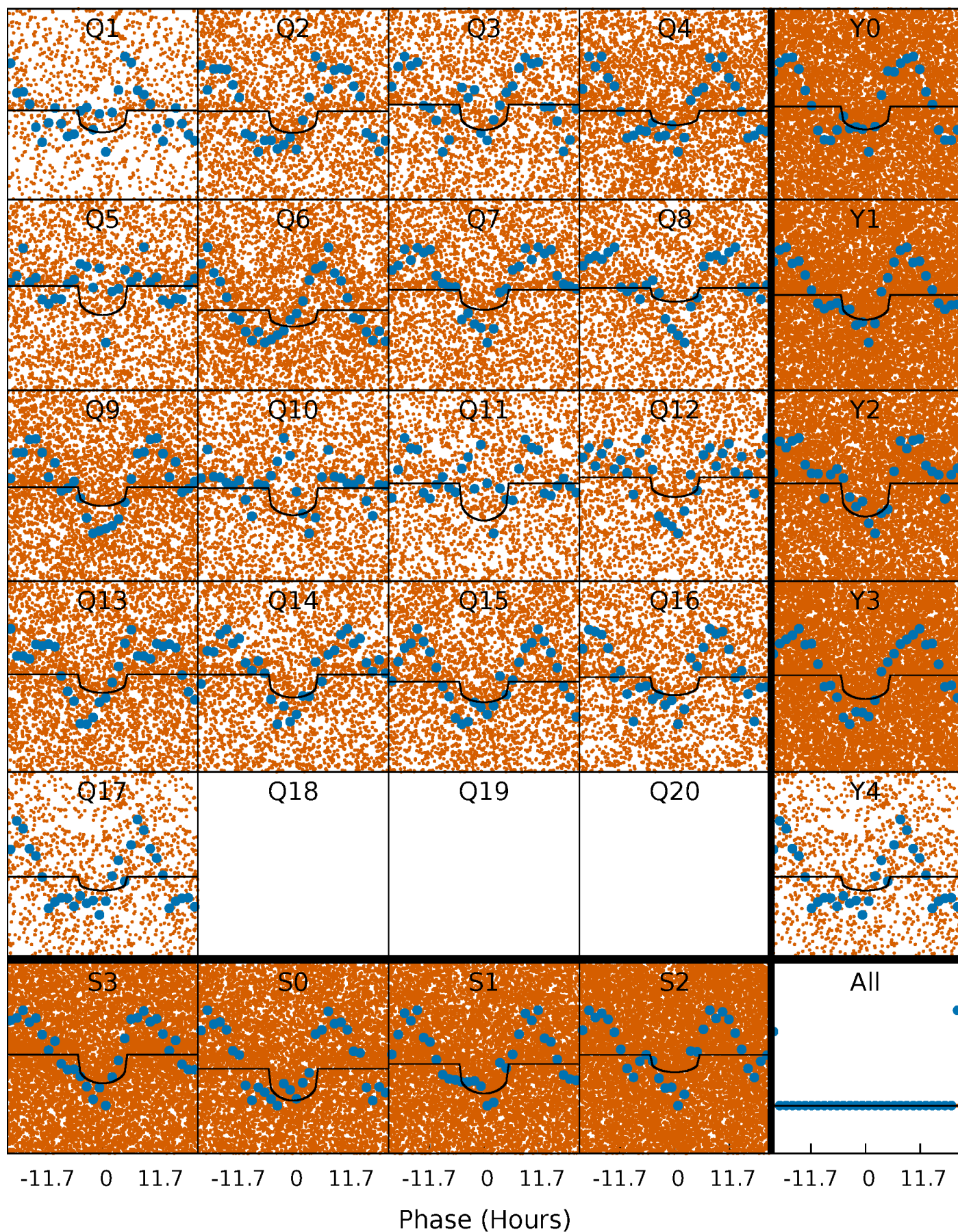
TCE 002992648-01 P= 1.077311 Days  $T_0=131.861394$  (BKJD)





# DV Quarter-Phased Transit Curves

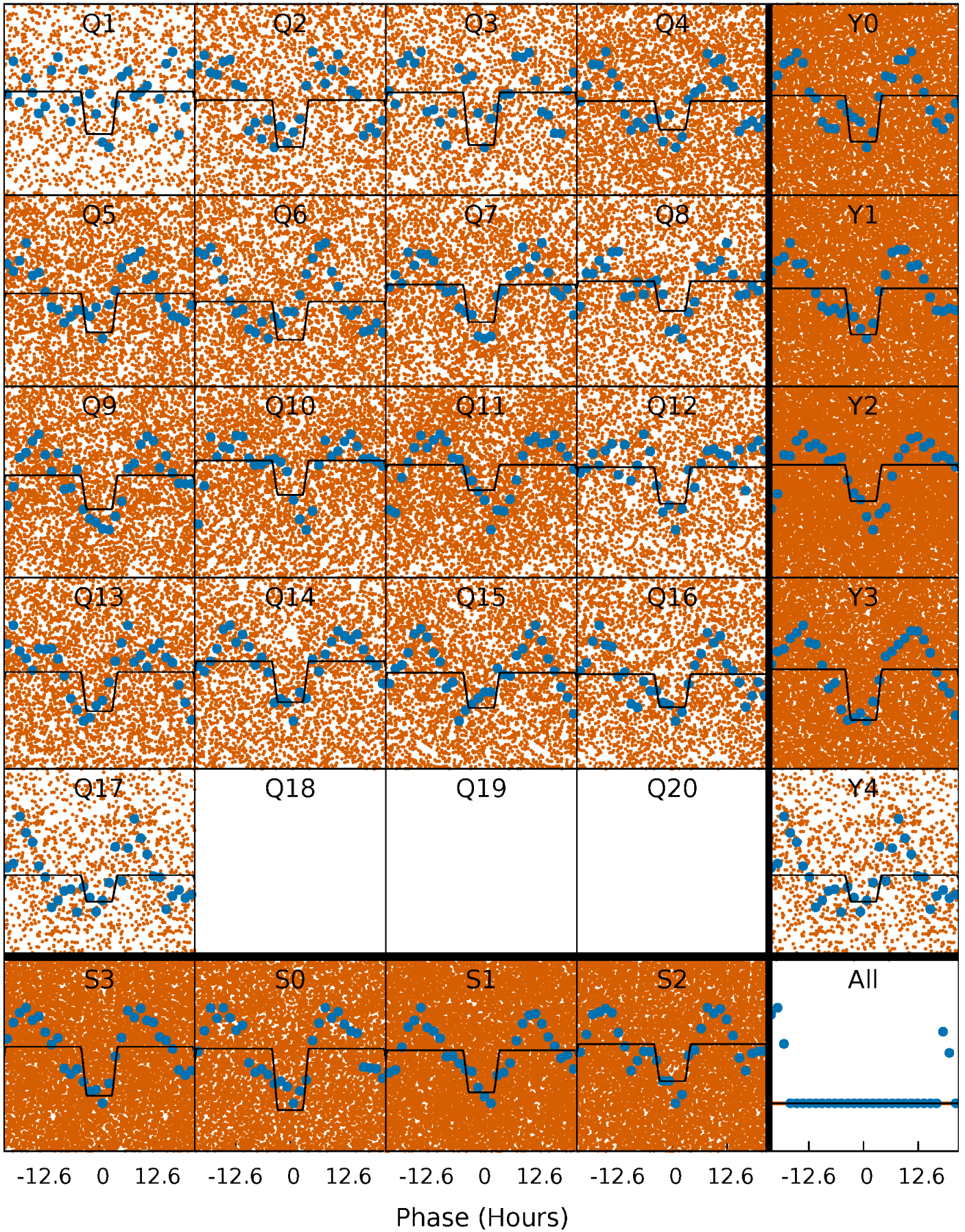
TCE 002992648-01 P= 1.077311 Days  $T_0=131.861394$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

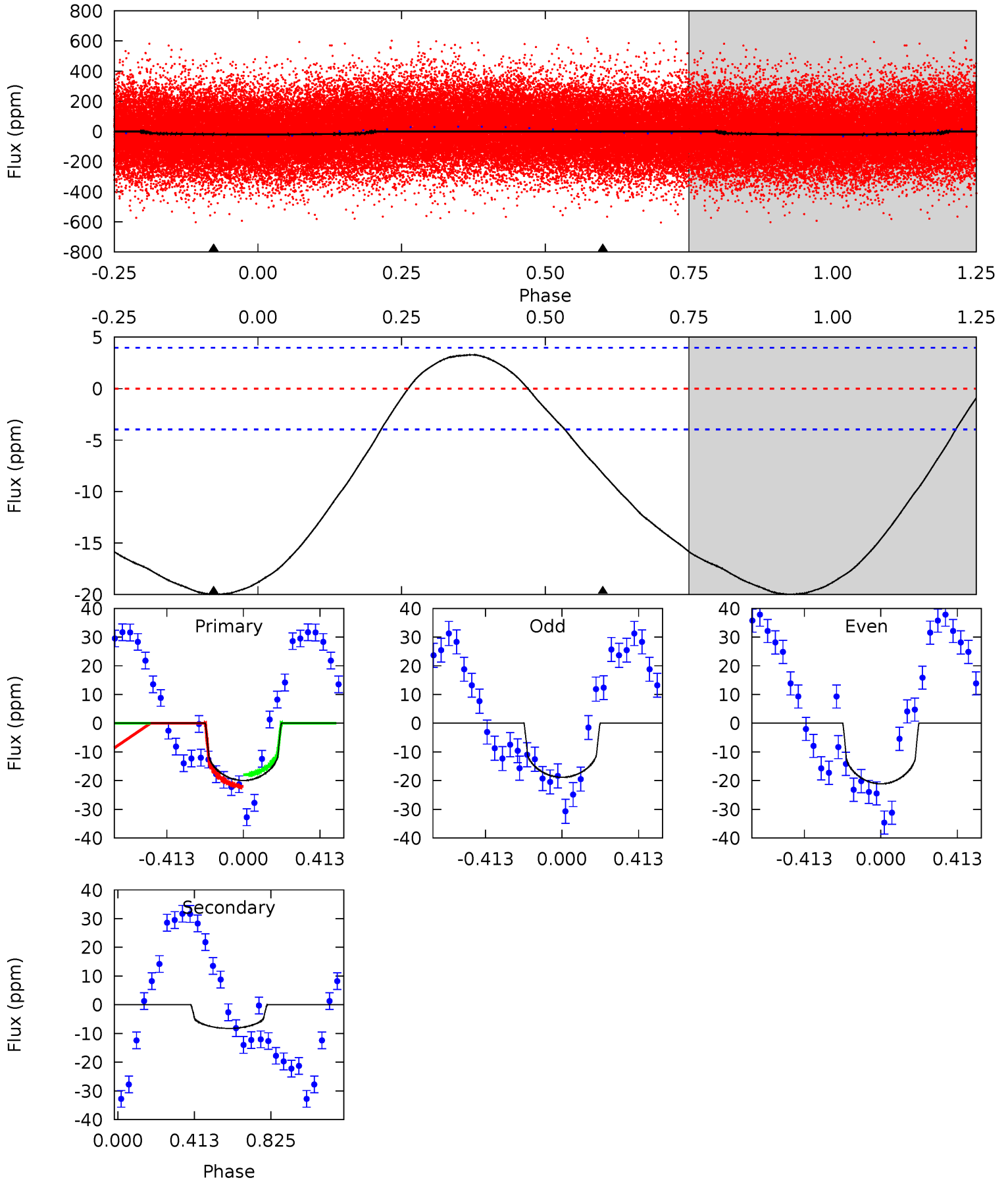
TCE 002992648-01 P= 1.077305 Days  $T_0=131.849302$  (BKJD)



# DV Model-Shift Uniqueness Test

002992648-01, P = 1.077311 Days, E = 130.784083 Days

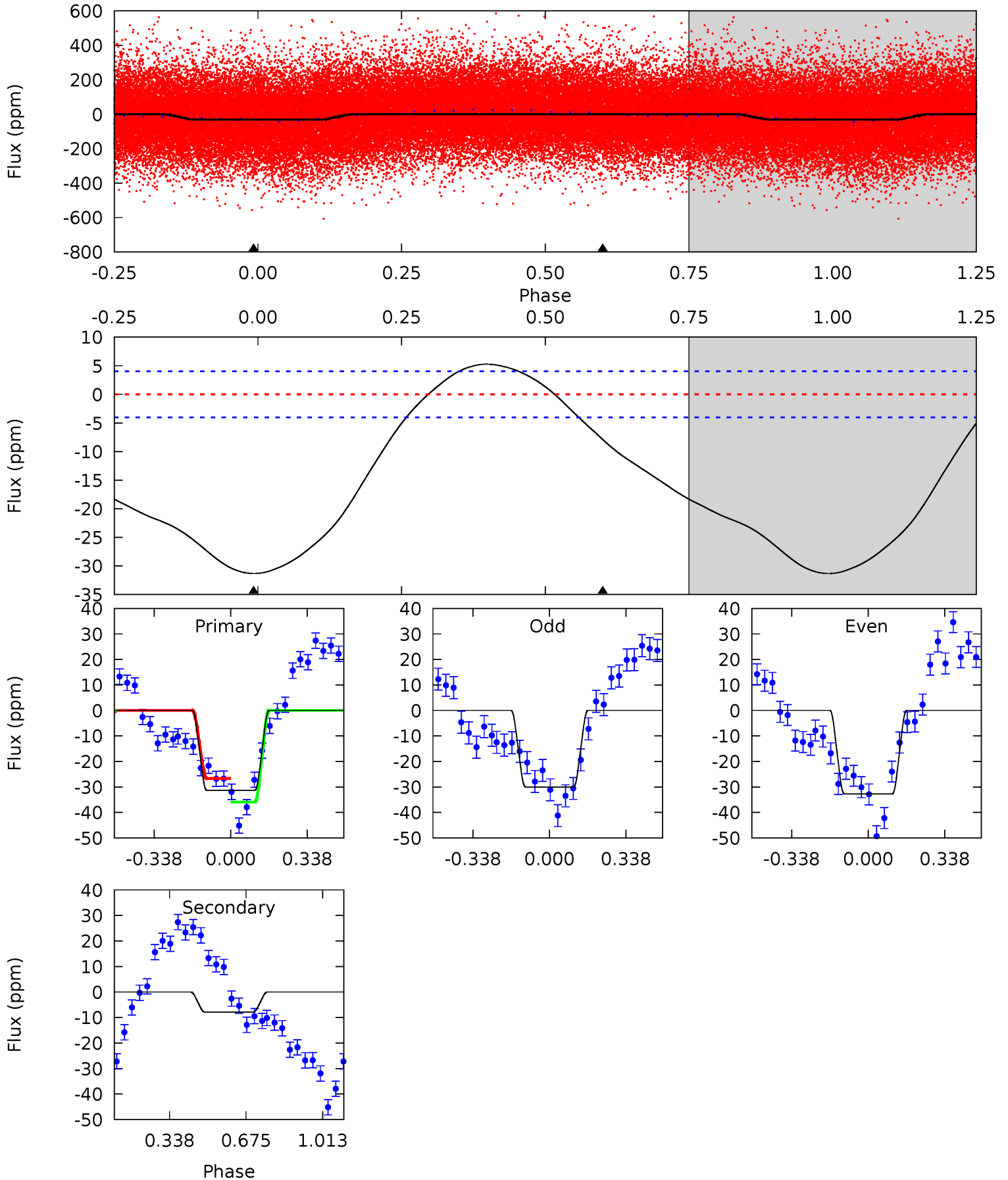
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.4	8.85	0	0	4.26	0.82	2.23	21.4	21.4	8.85	8.85	1.22	0.98	0.14	2.23



# Alt Model-Shift Uniqueness Test

002992648-01, P = 1.077305 Days, E = 130.771997 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
33.4	8.42	0	0	4.30	0.96	2.92	33.4	33.4	8.42	8.42	1.43	1.02	0.14	4.97





### Stellar Parameters For KIC 002992648

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6610^{+149}_{-216}$	$4.281^{+0.105}_{-0.195}$	$-0.120^{+0.250}_{-0.300}$	$1.330^{+0.420}_{-0.226}$	$1.236^{+0.186}_{-0.186}$	$0.740^{+0.355}_{-0.381}$
	+2%/-3%	+2%/-5%	+208%/-250%	+32%/-17%	+15%/-15%	+48%/-52%
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 002992648-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-8 \pm 1$	$0.66^{+0.41}_{-0.39}$	$3195^{+229}_{-167}$	$5244^{+3079}_{-1010}$	$4.854^{+21.949}_{-2.935}$
Alt.	$-8 \pm 1$	$0.88^{+0.45}_{-0.41}$	$3199^{+237}_{-179}$	$4526^{+1586}_{-704}$	$2.697^{+6.393}_{-1.582}$

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

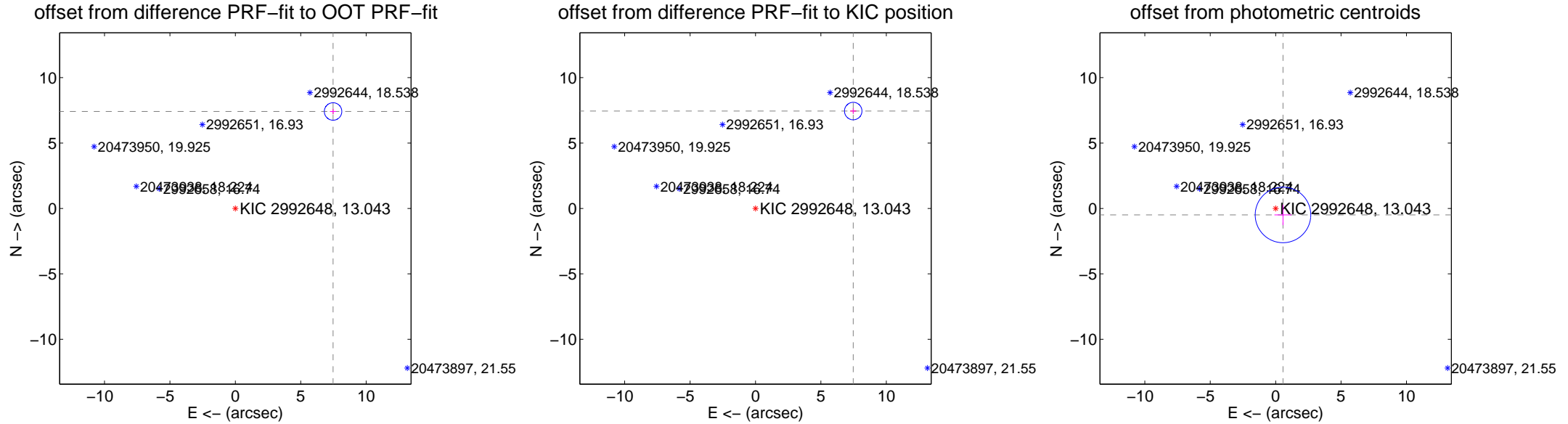
## DV Centroid Data

Supplemental centroid analysis for 002992648-01. Kepler magnitude: 13.04. Transit SNR 9.02

There are 0 quarters with good PRF difference image offsets

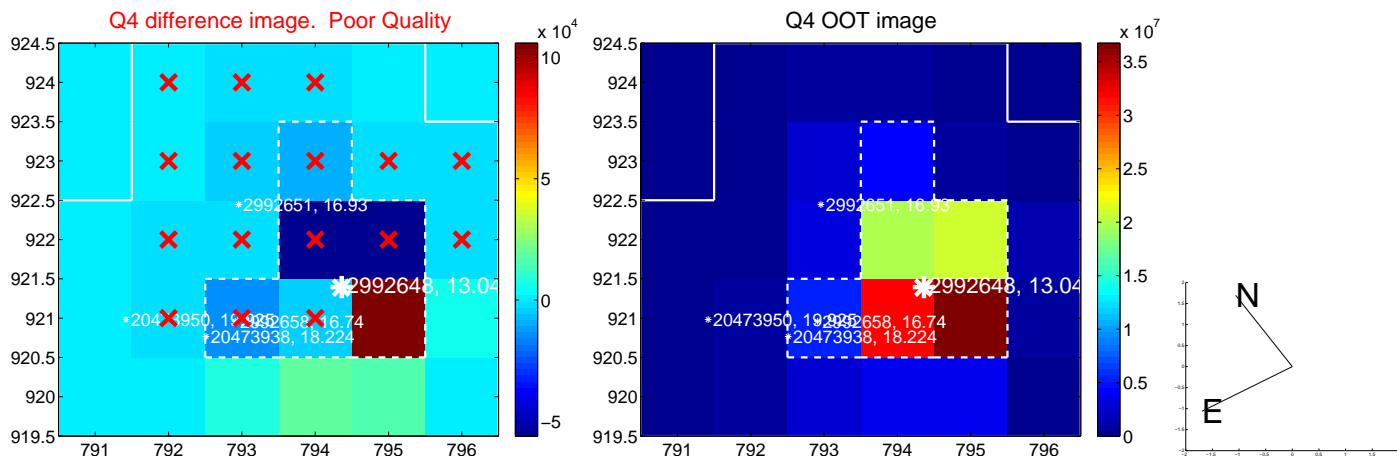
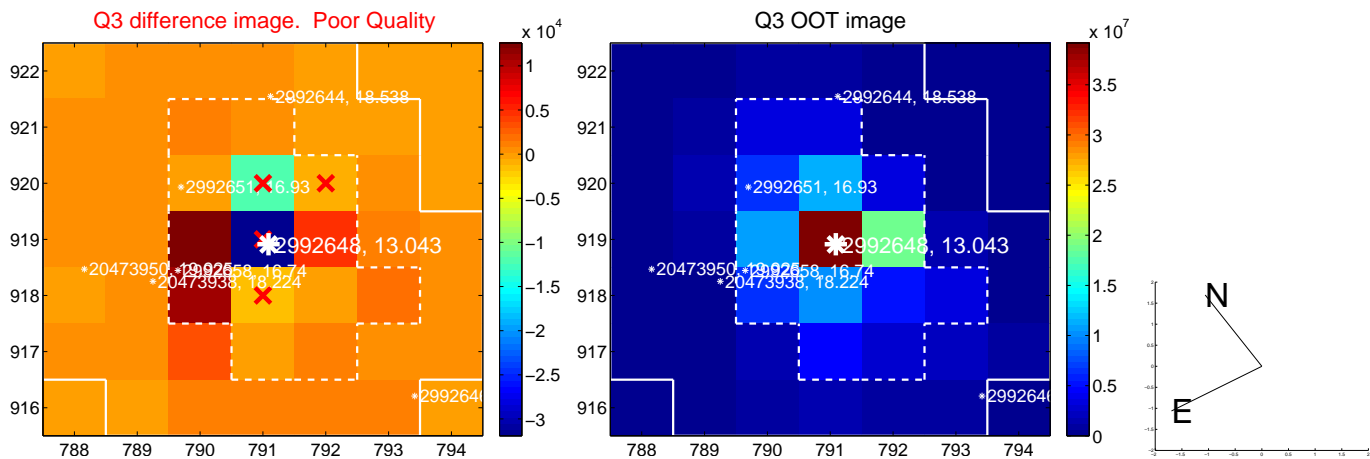
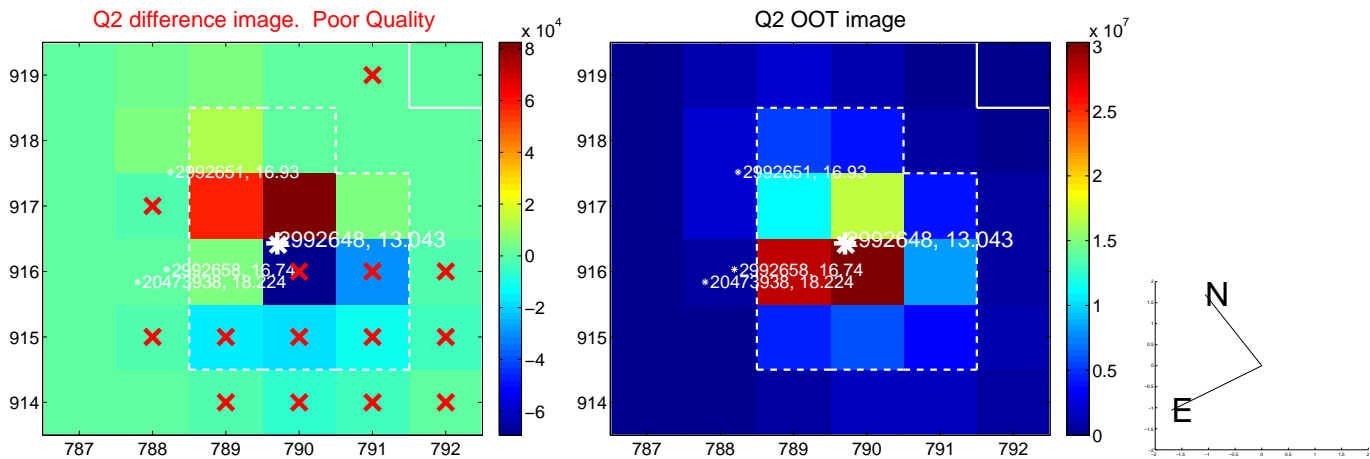
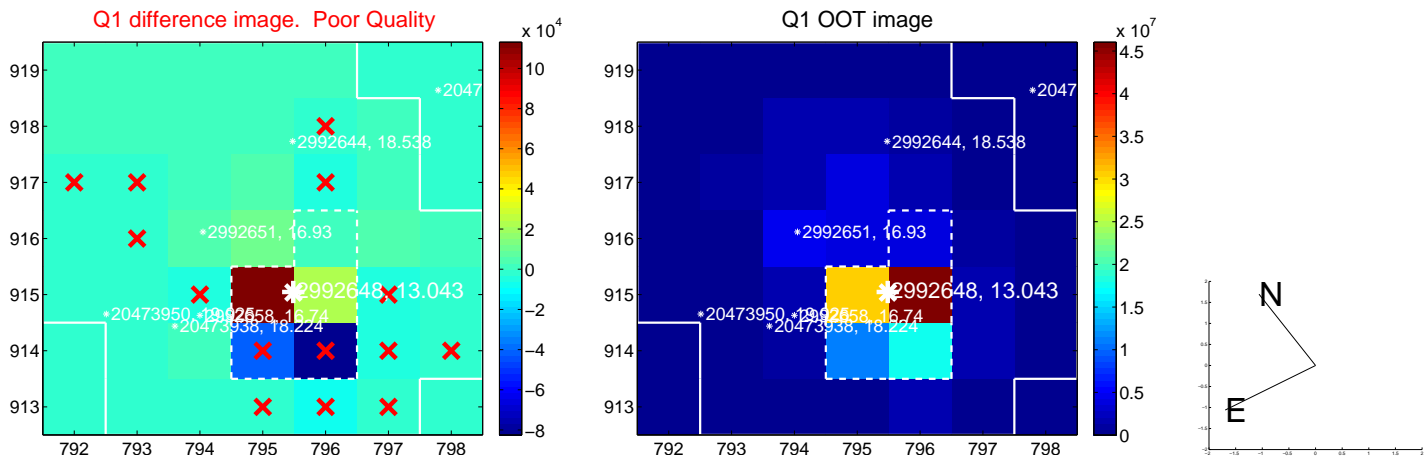
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	10.524 $\pm$ 0.223	47.27	-7.471 $\pm$ 0.234	7.411 $\pm$ 0.211
PRF-fit source offset from KIC position	10.546 $\pm$ 0.223	47.38	-7.470 $\pm$ 0.234	7.445 $\pm$ 0.211
photometric centroid source offset	0.75 $\pm$ 0.71	1.06	-0.56 $\pm$ 0.66	-0.50 $\pm$ 0.77

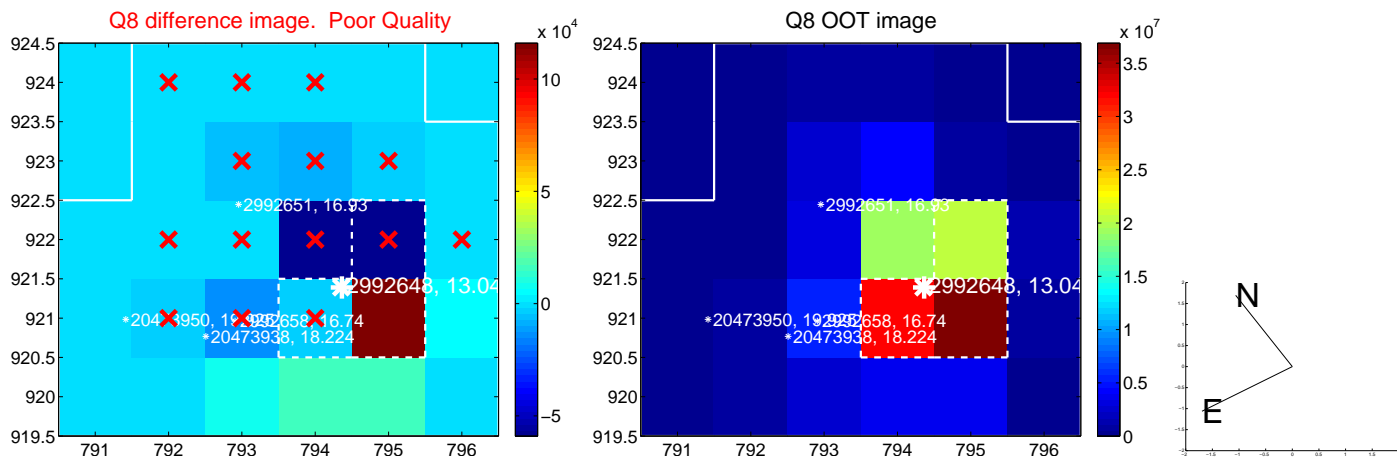
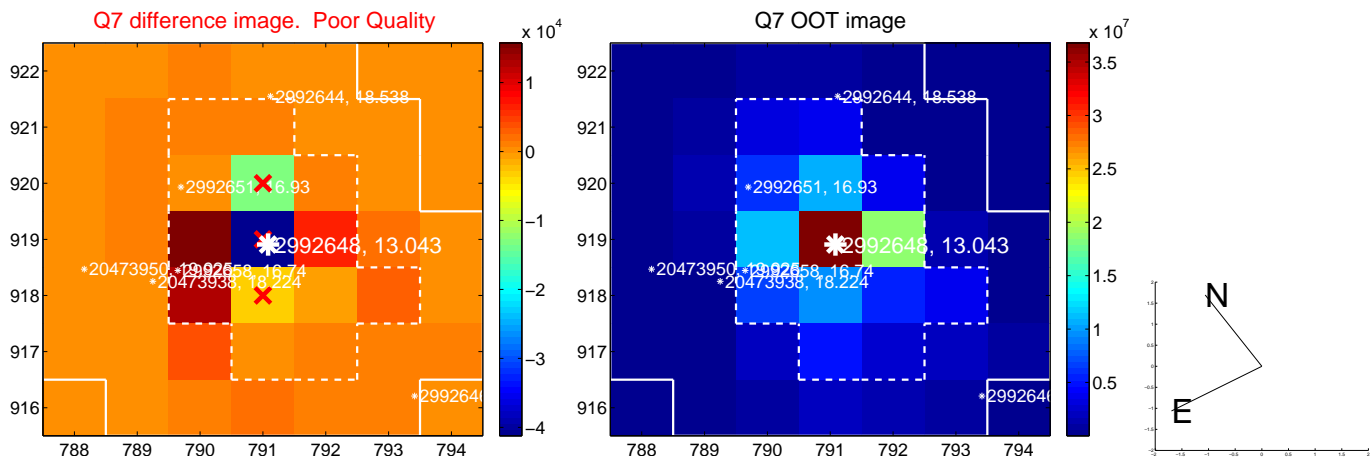
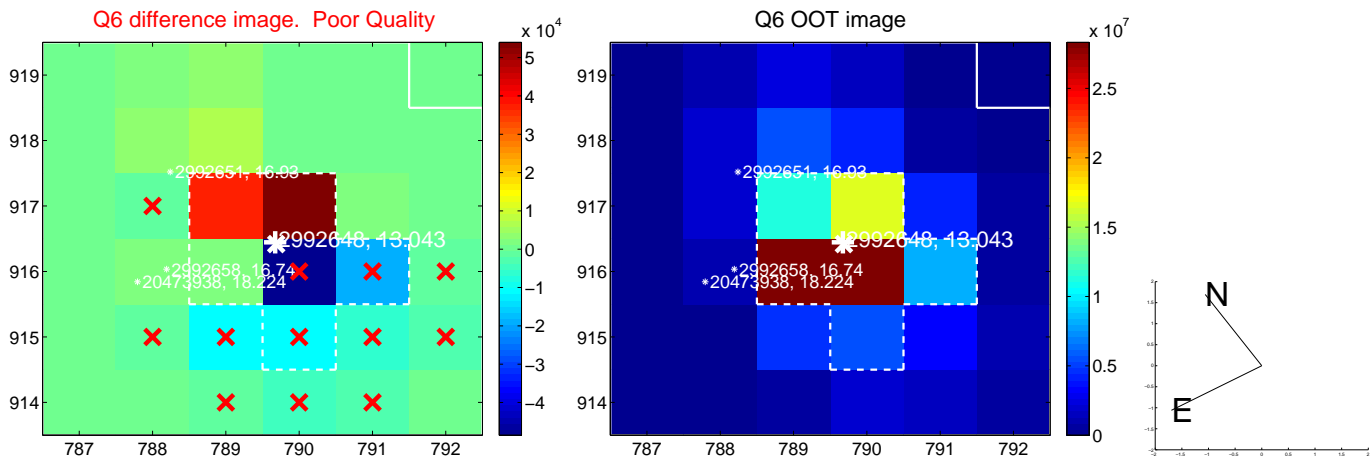
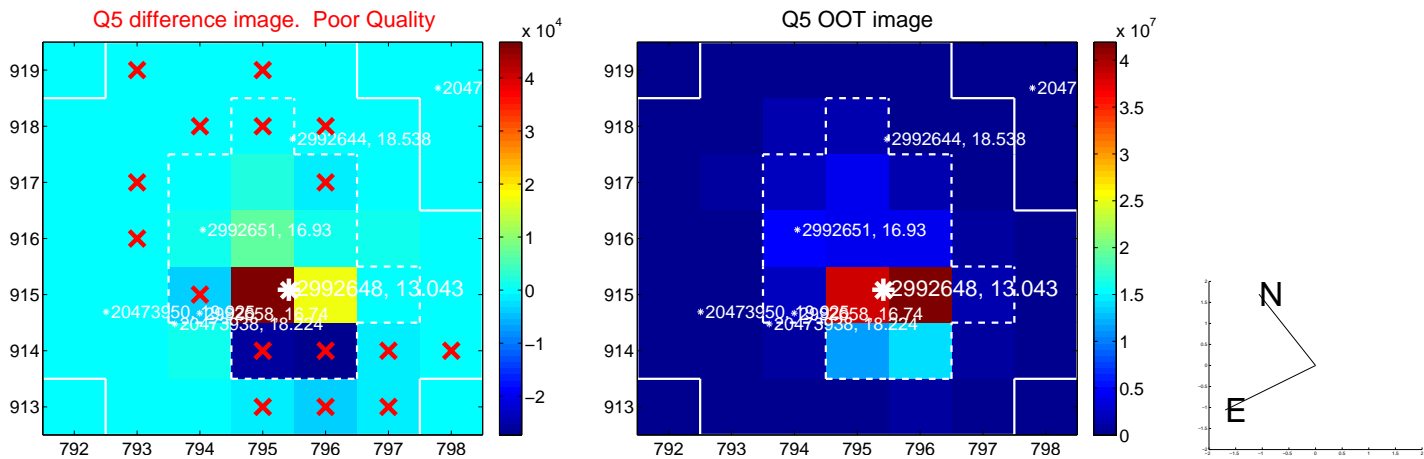


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

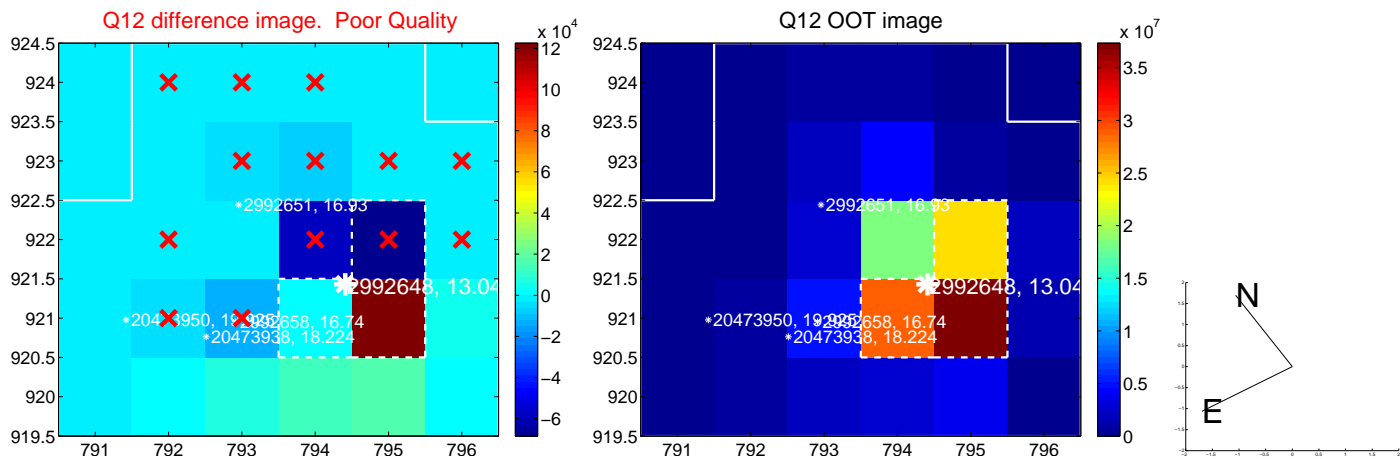
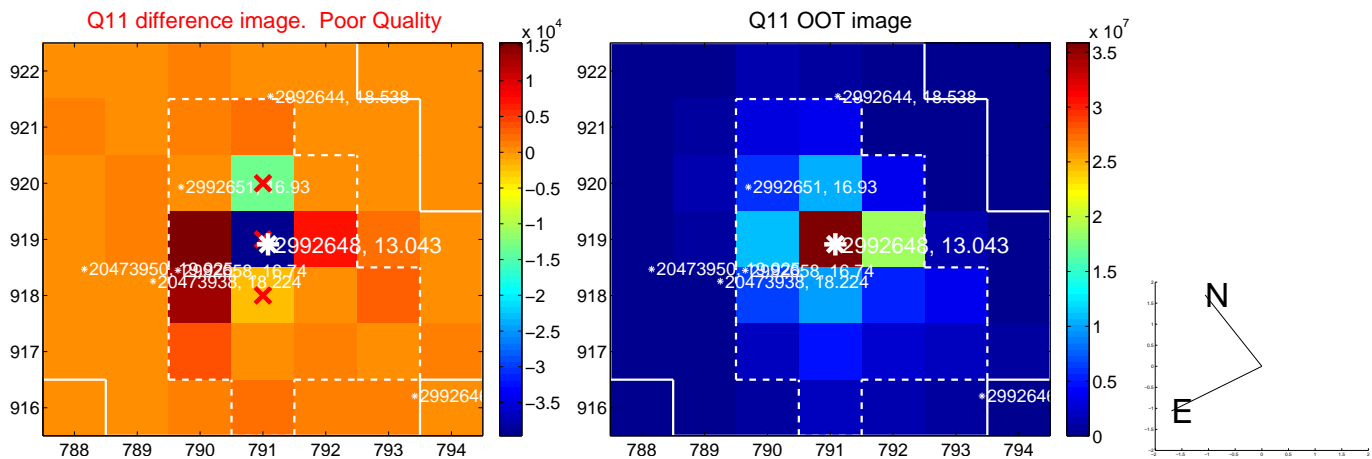
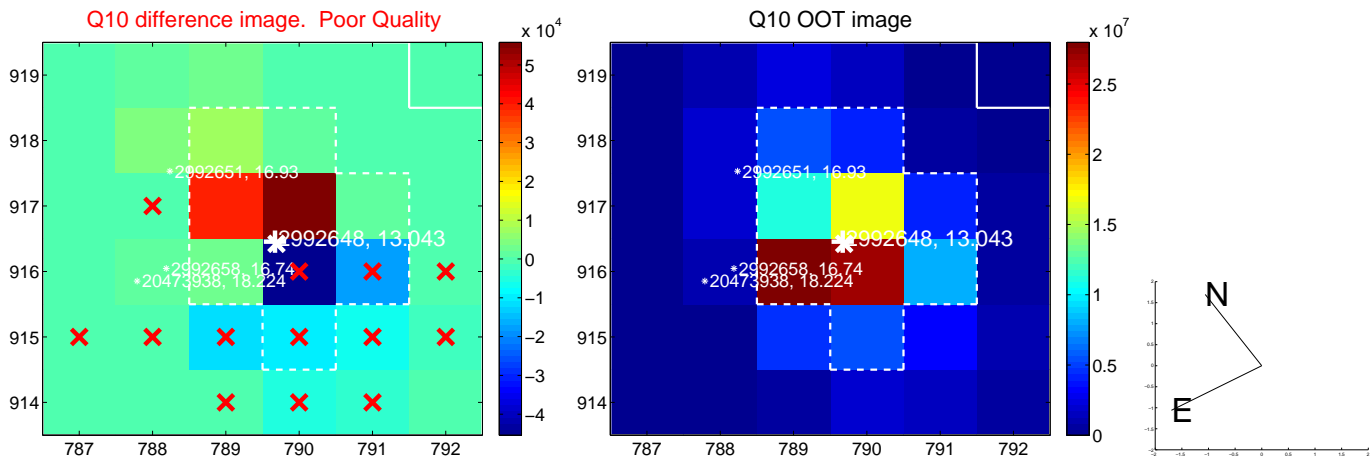
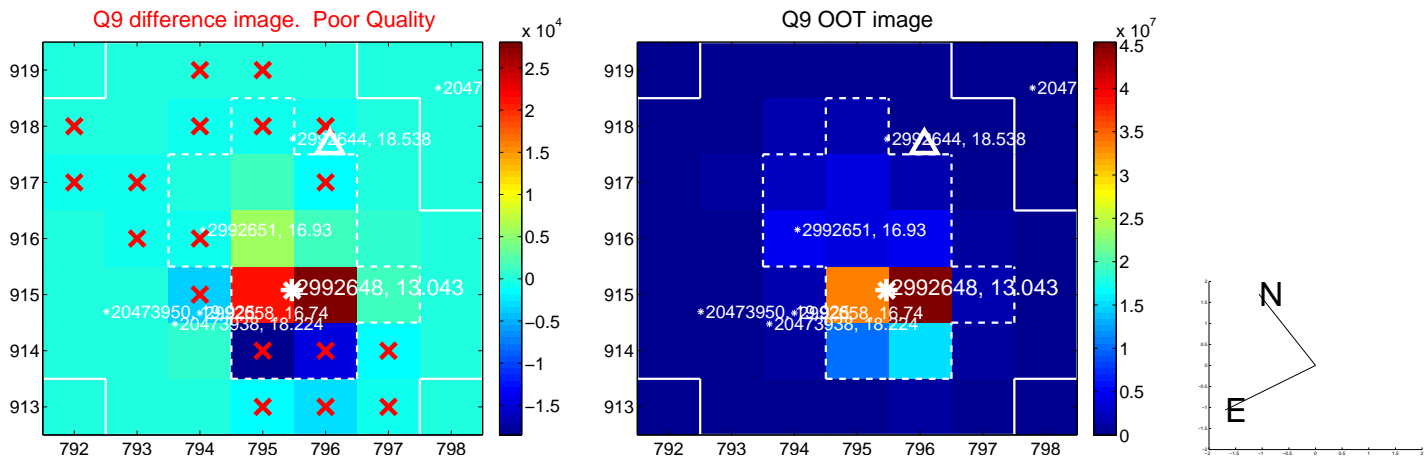


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

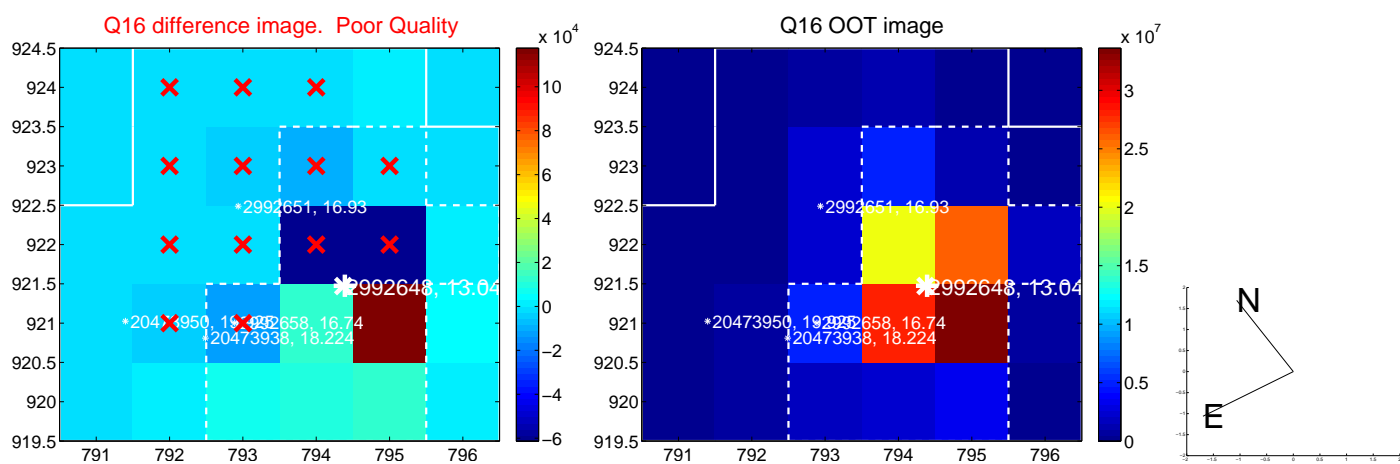
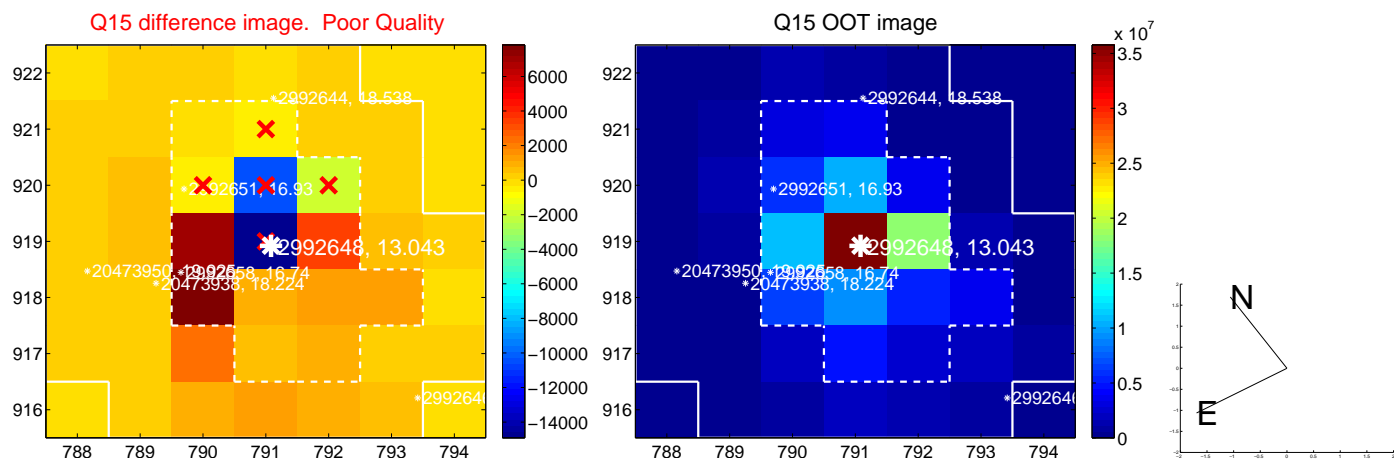
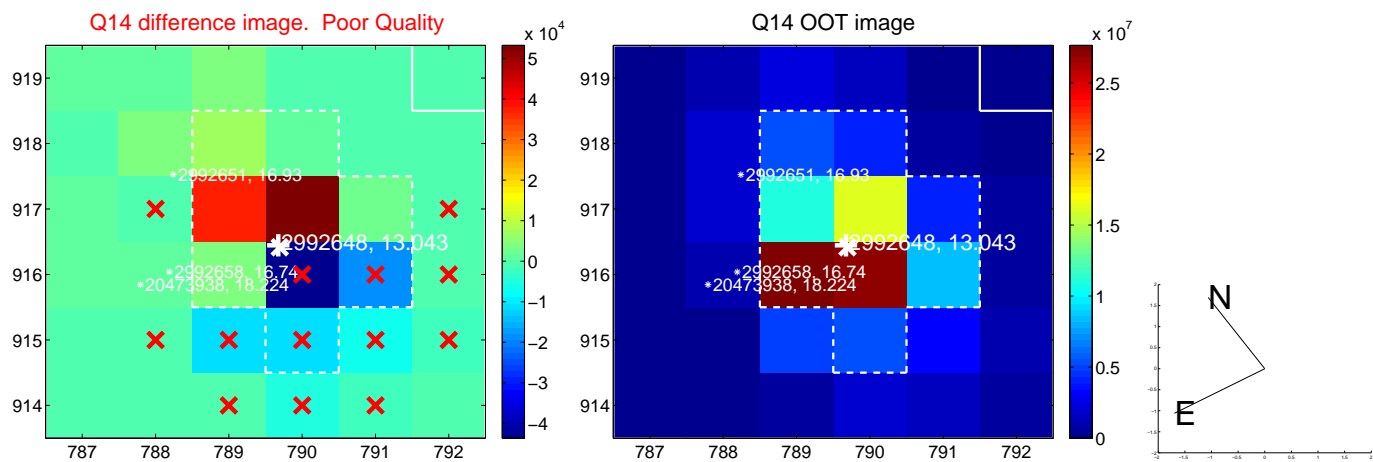
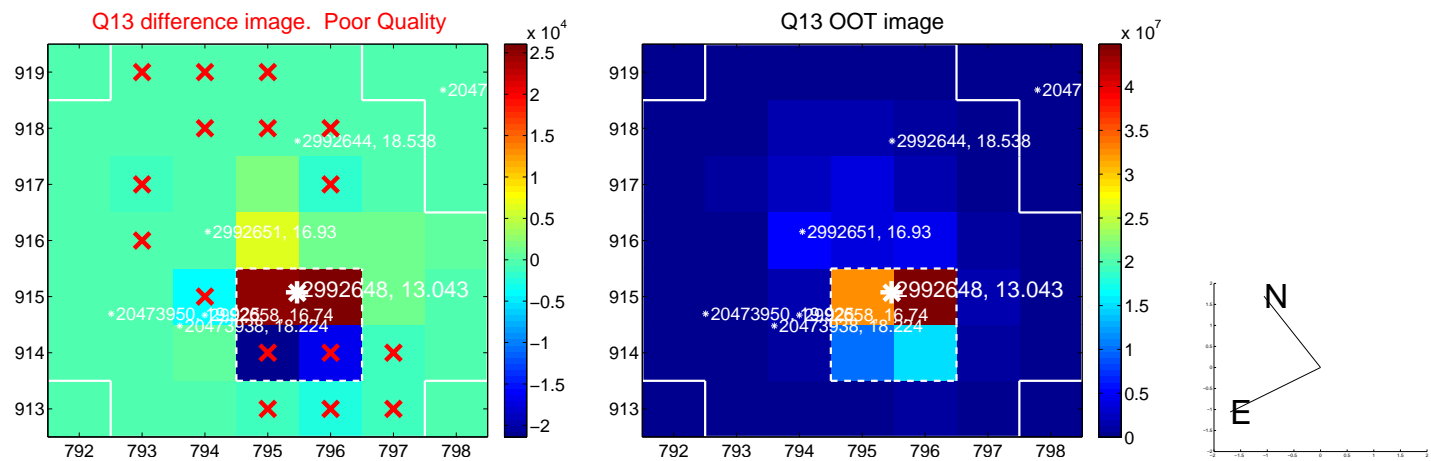




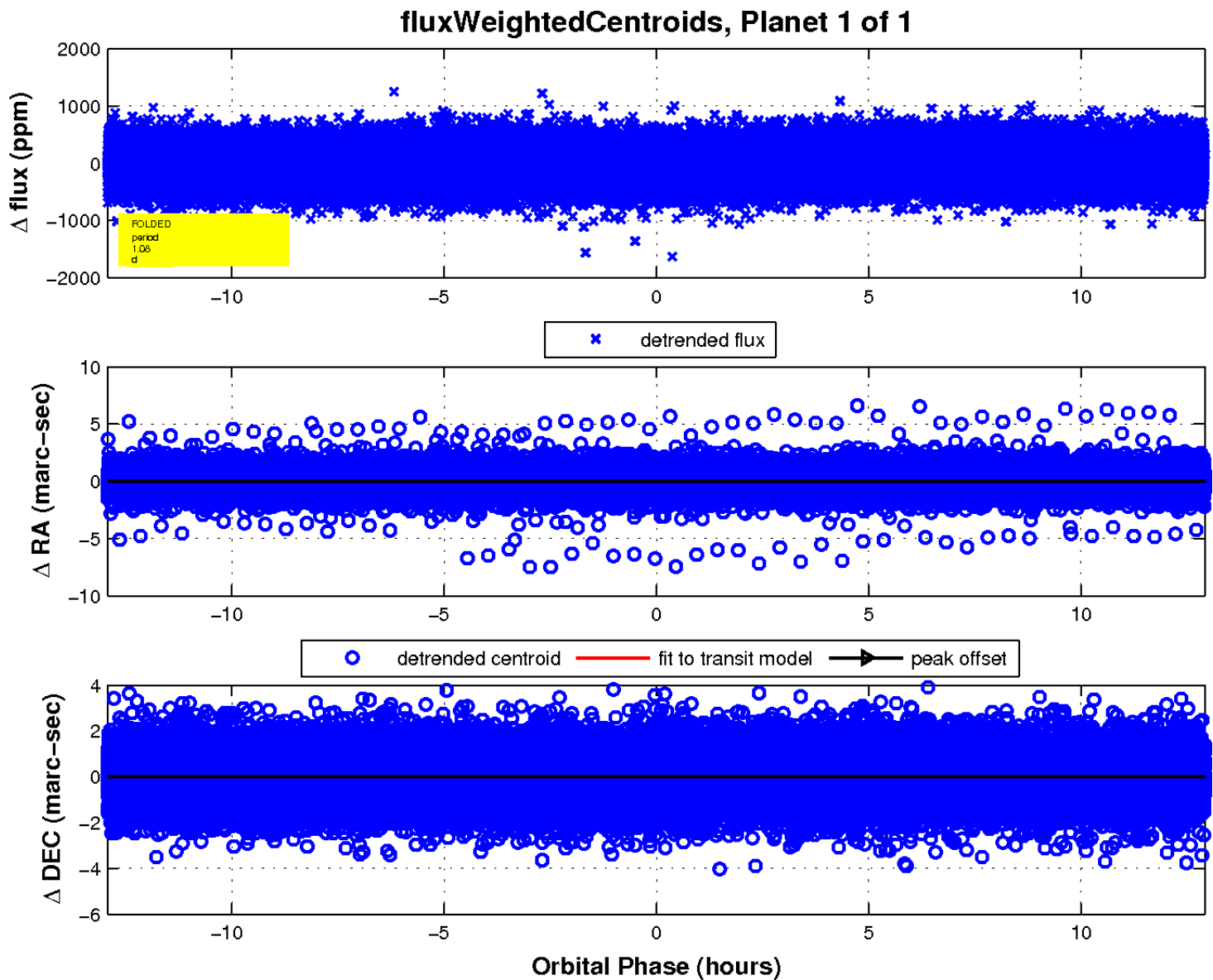
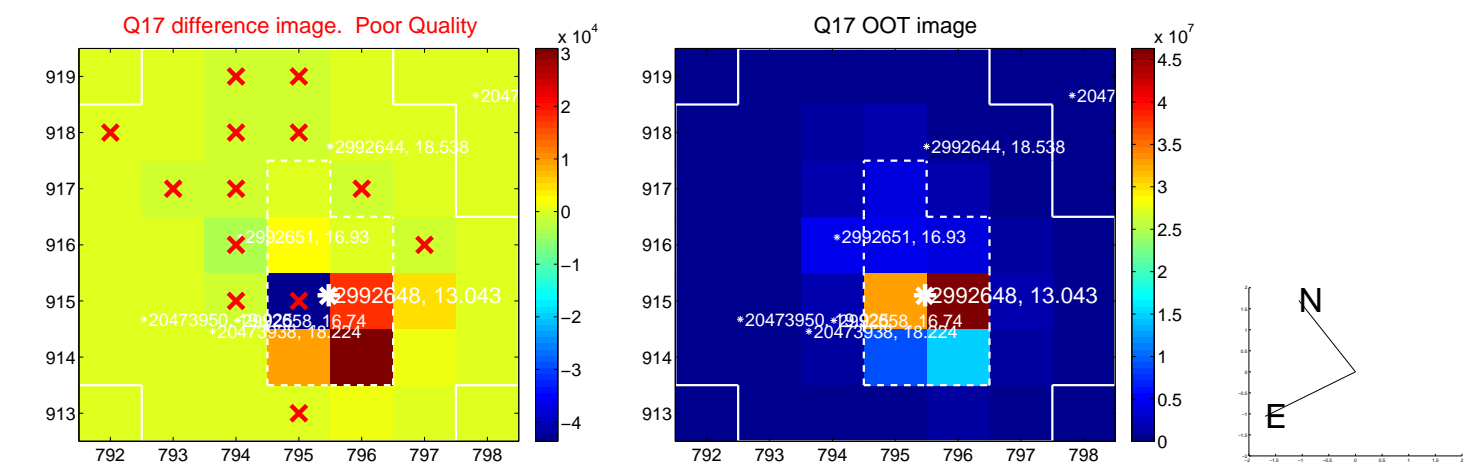
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

