

# KIC 006698448

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006698448-01	OBS	No	2.790417	133.449494	14.3	2.495	7.6	3.0	1.47	6788	0.67	2310.60

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006698448-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

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

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

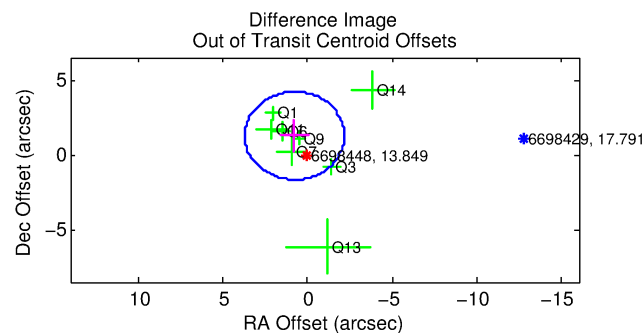
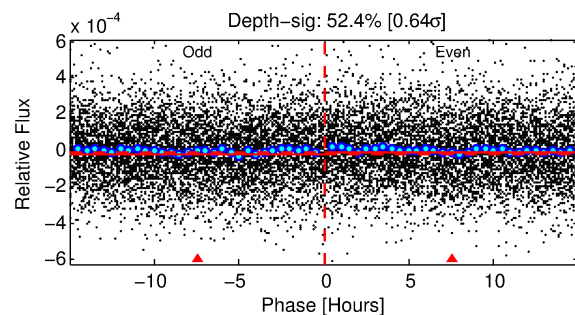
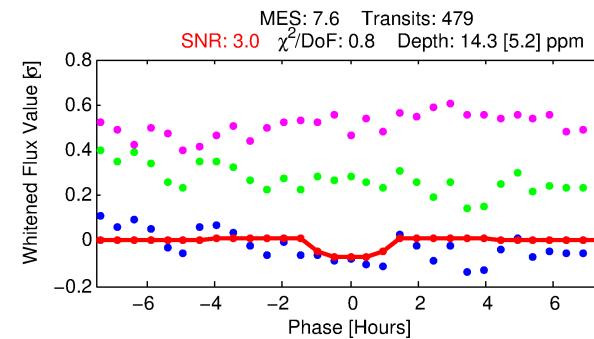
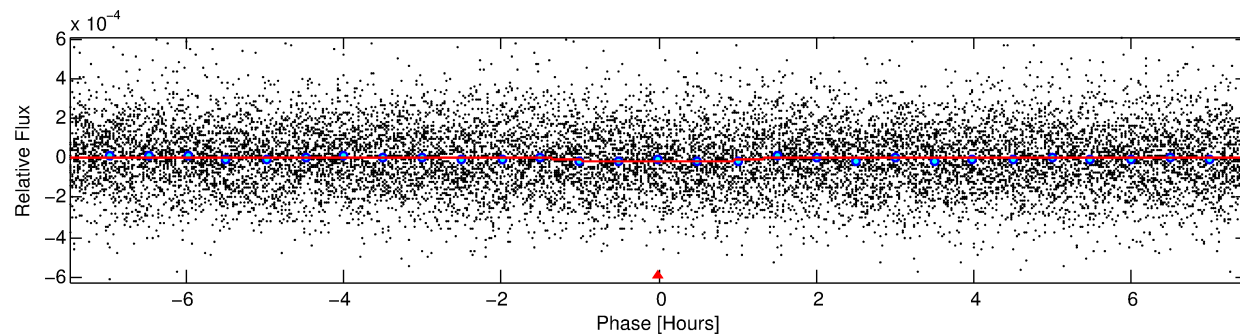
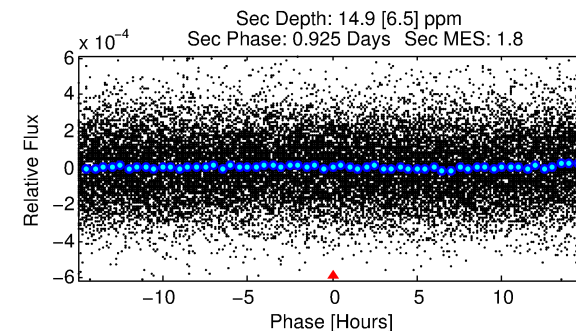
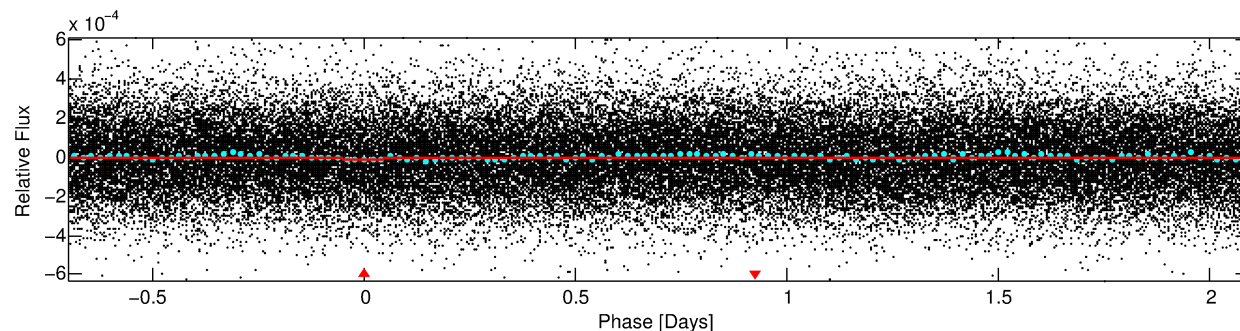
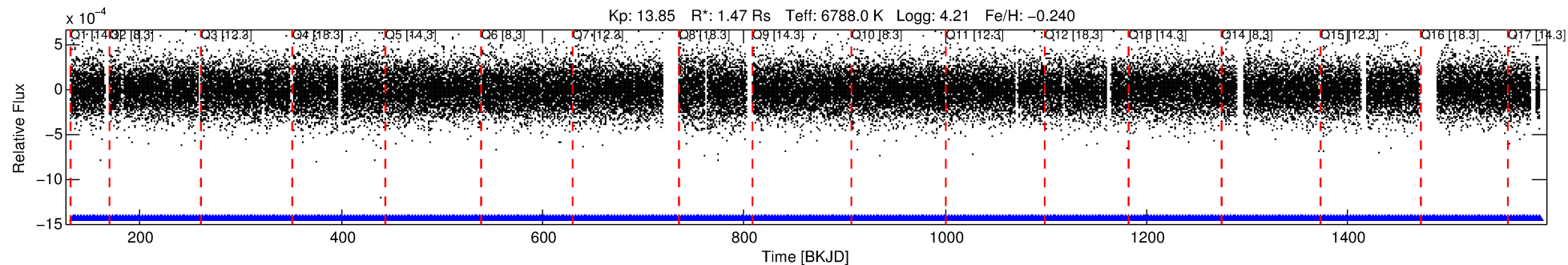
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006698448-01

No Significant Match Found

# DV One-Page Summary

KIC: 6698448 Candidate: 1 of 1 Period: 2.790 d



## DV Fit Results:

Period = 2.79042 [0.00006] d  
Epoch = 133.4495 [0.0113] BKJD  
Rp/R\* = 0.0042 [0.0031]  
a/R\* = 3.32 [13.56]  
b = 0.93 [0.64]  
Seff = 2310.60 [870.68]  
Teq = 1768 [167] K  
Rp = 0.67 [0.53] Re  
a = 0.0421 [0.0104] AU  
Ag = 32.75 [51.81] [0.61σ]  
Teffp = 6539 [2537] K [1.88σ]

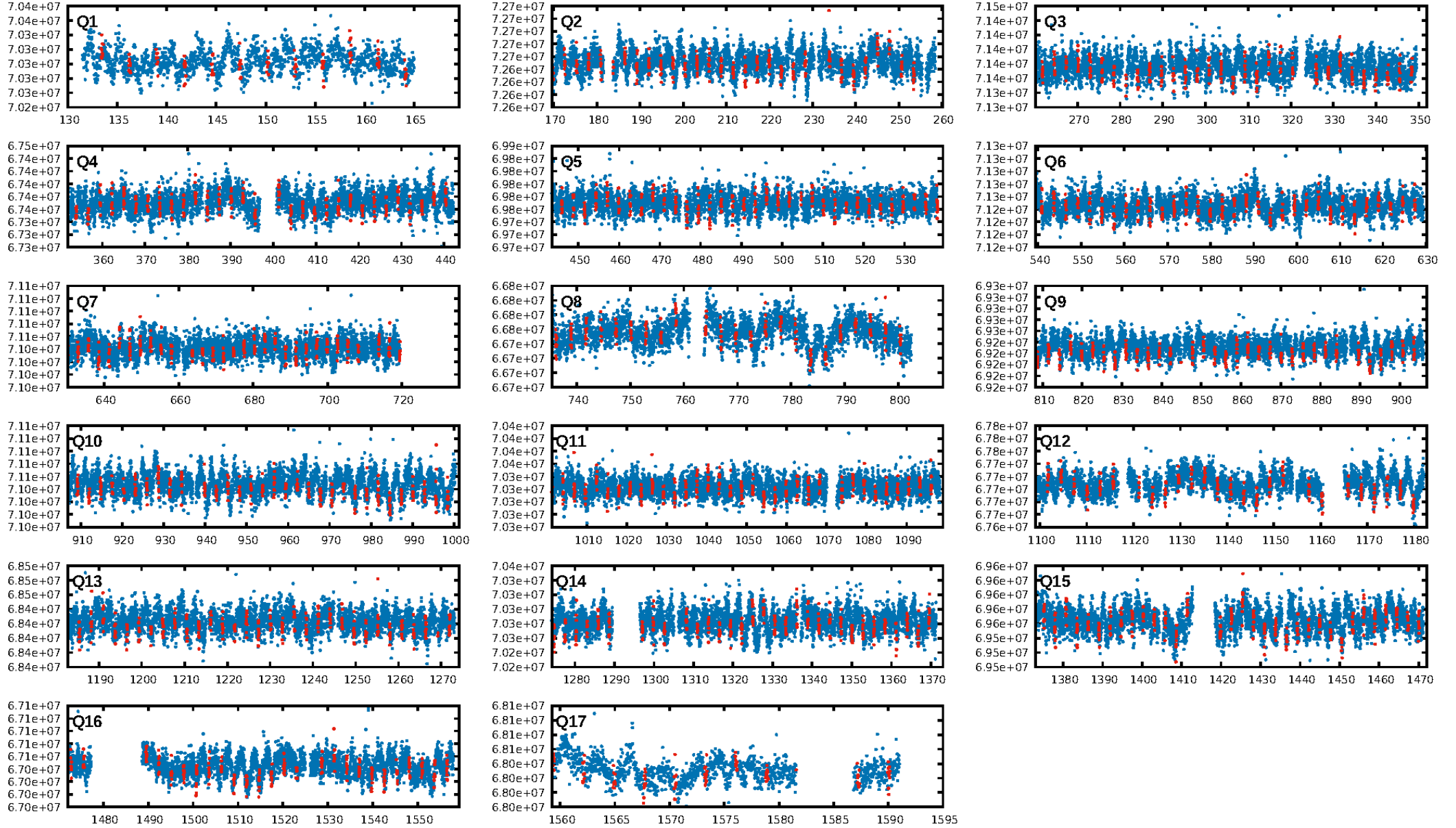
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.62e-13  
RollingBand-fgt: 1.00 [457/457]  
GhostDiagnostic-chr: 0.8097  
Centroid-sig: 74.9%  
Centroid-so: 1.648 arcsec [0.52σ]  
OotOffset-rm: 1.489 arcsec [1.52σ]  
OotOffset-st: 2/3/0/3 [8]  
KicOffset-rm: 1.554 arcsec [1.38σ]  
KicOffset-st: 2/3/0/3 [8]  
DiffImageQuality-fgm: 0.50 [4/8]  
DiffImageOverlap-fno: 1.00 [17/17]

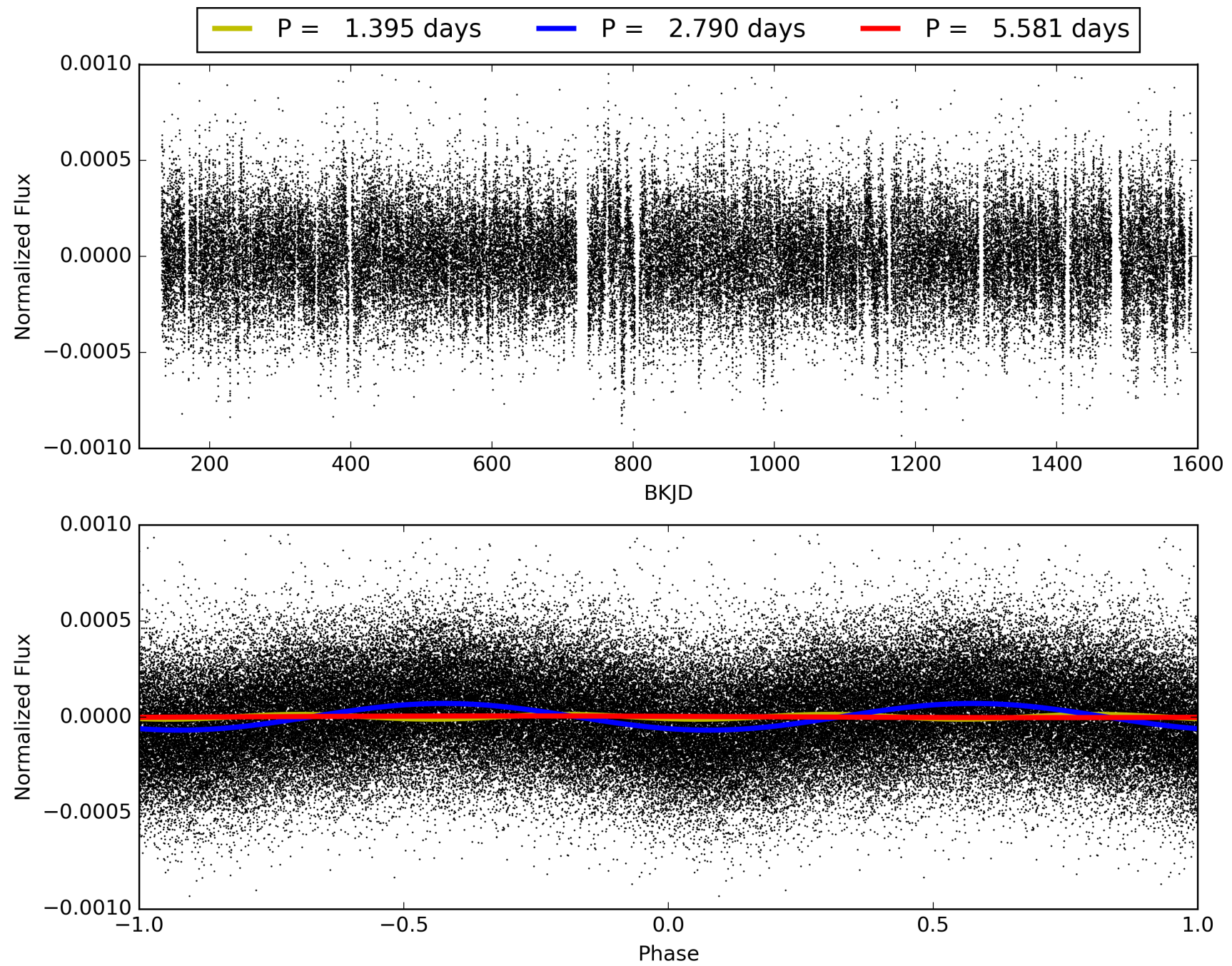
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:44:39 Z

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

# TCE 006698448-01, PDC Light Curves



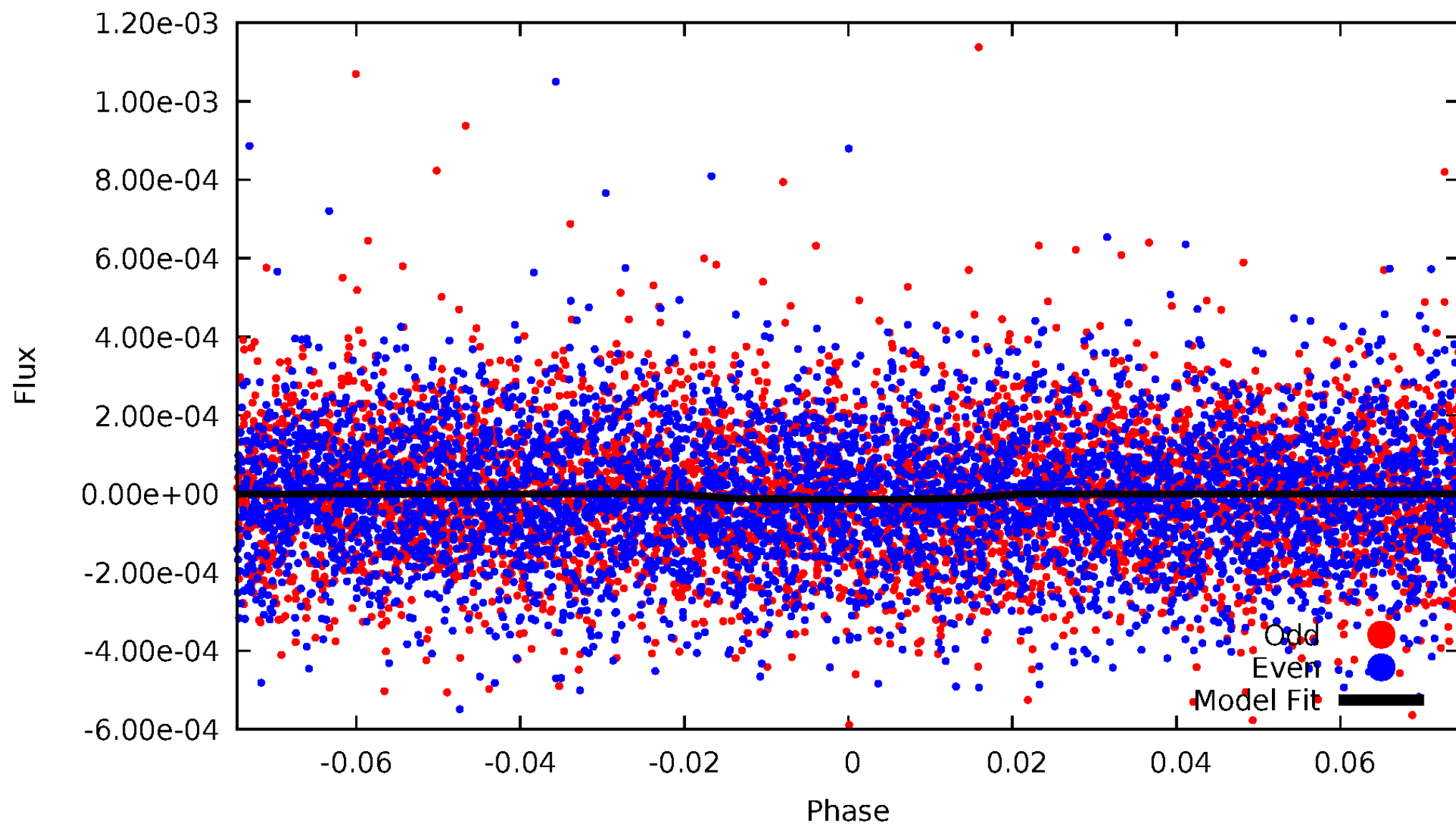
TCE 006698448-01





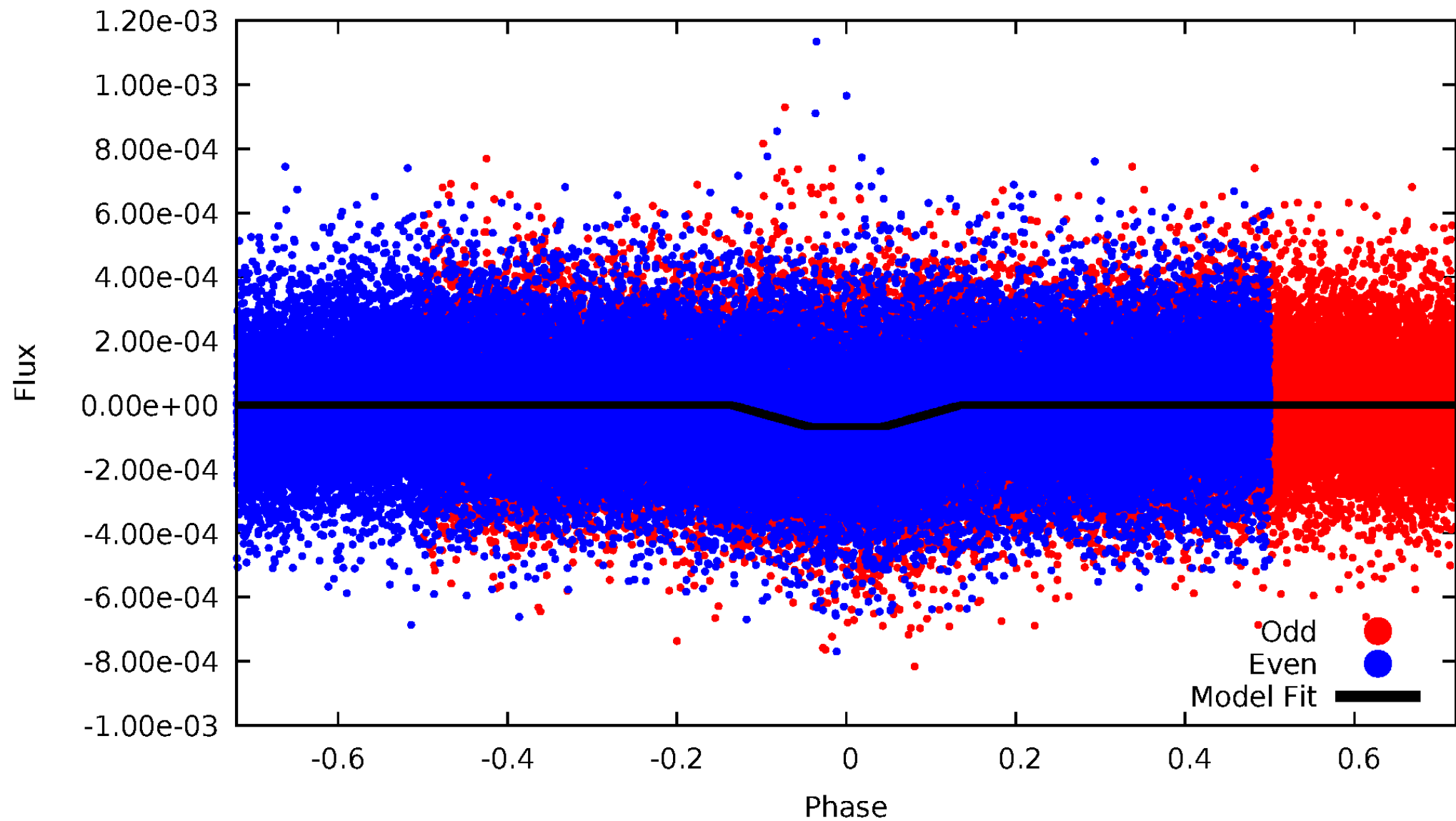
# DV Odd/Even

TCE 006698448-01



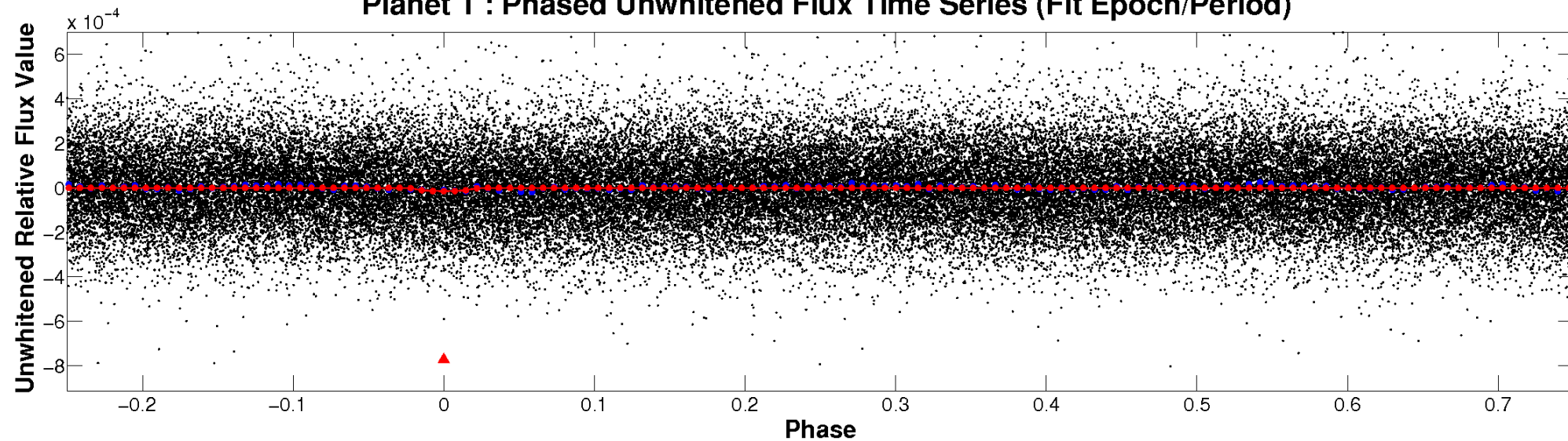
# ALT Odd/Even

TCE 006698448-01

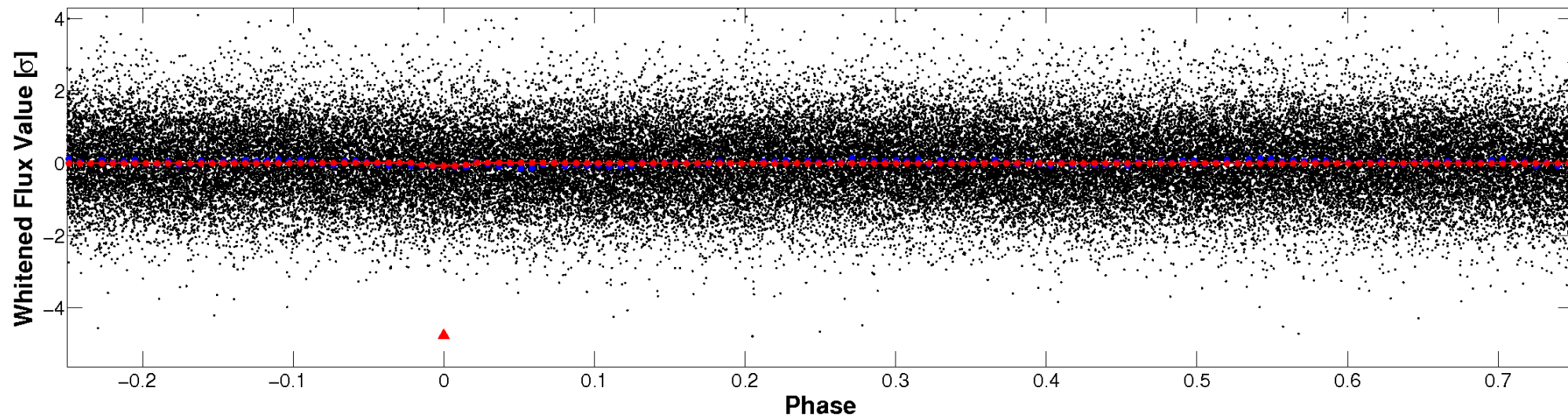


# Non-Whitened Vs. Whitened Light Curve

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

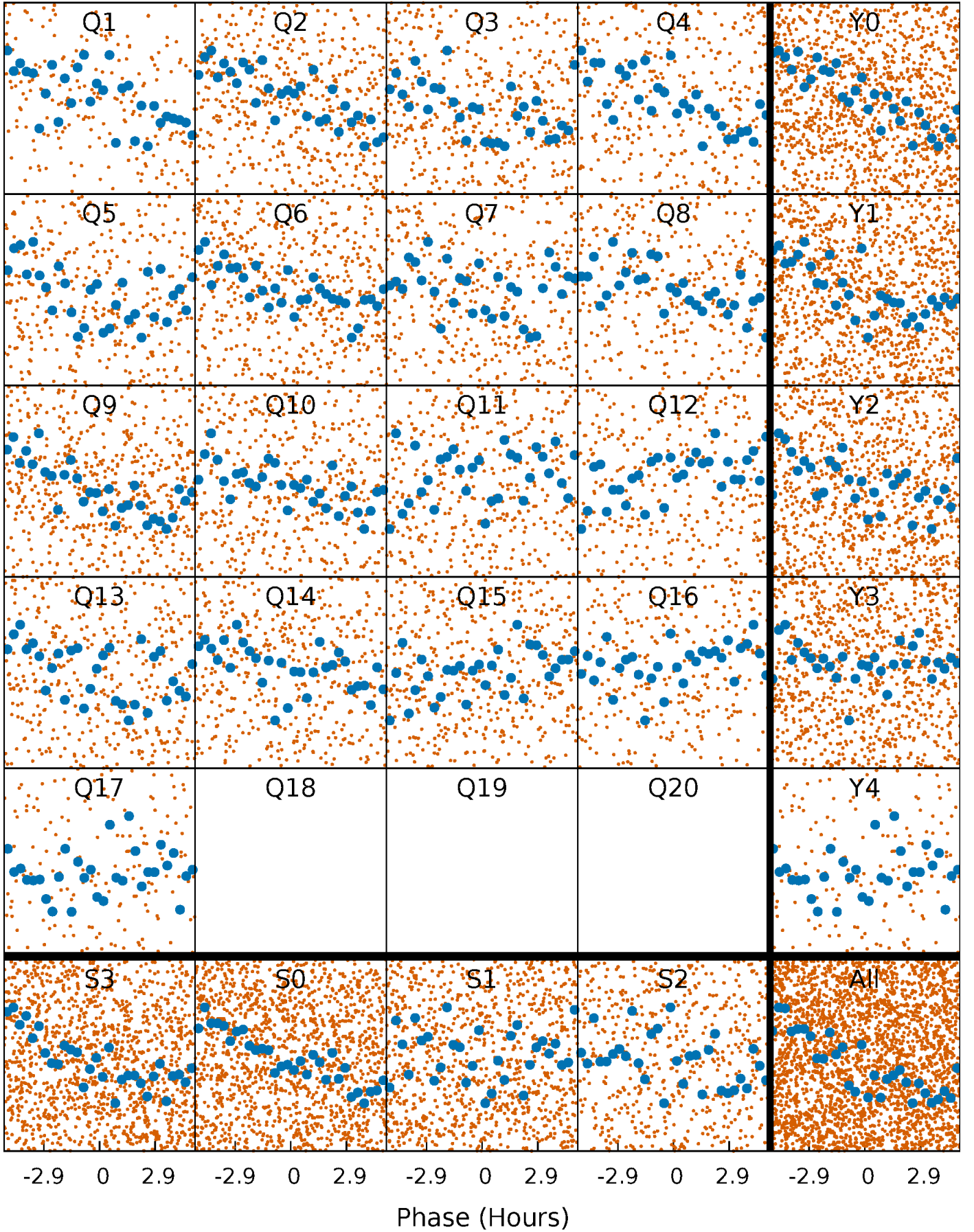


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

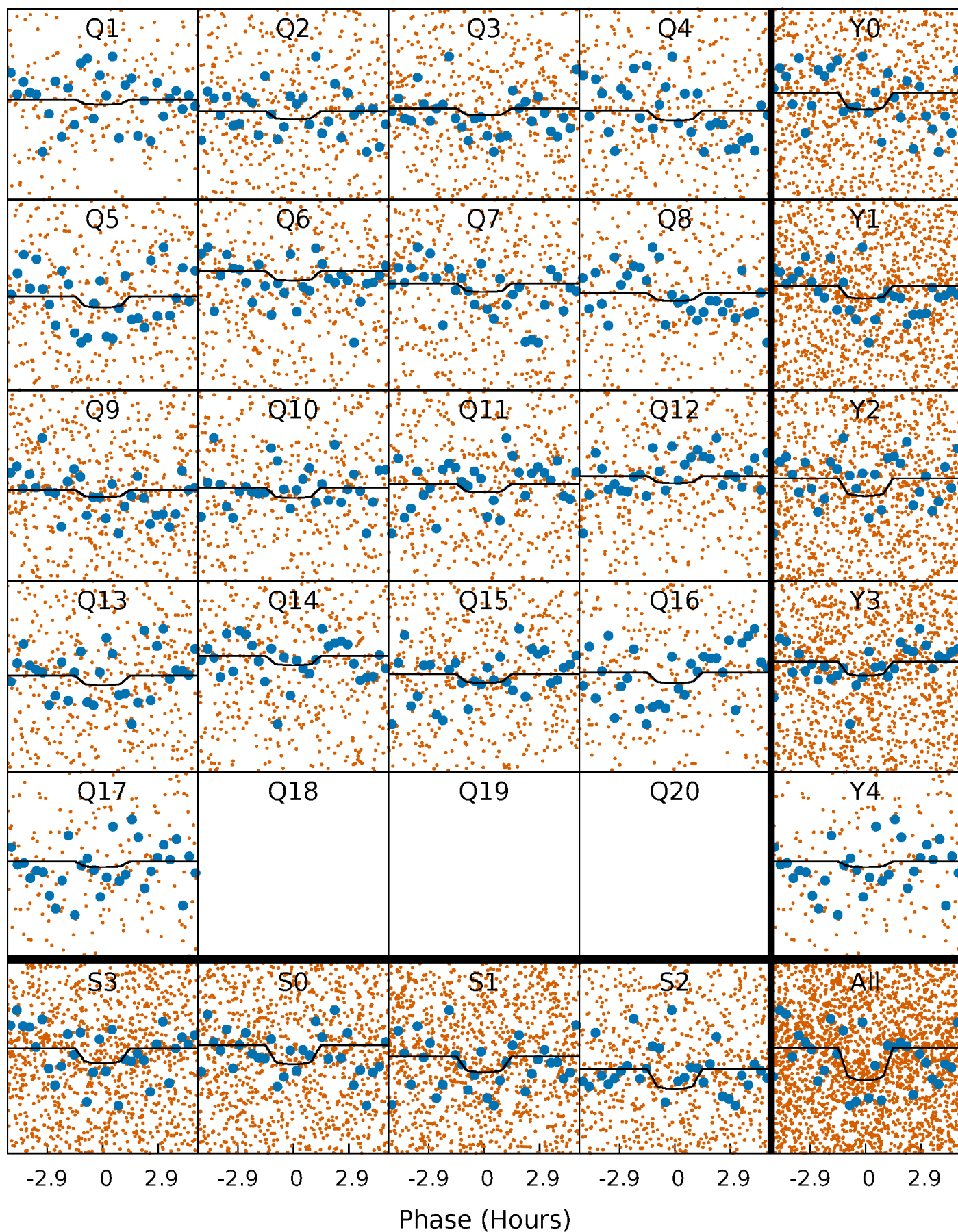
TCE 006698448-01 P= 2.790417 Days  $T_0=133.449494$  (BKJD)





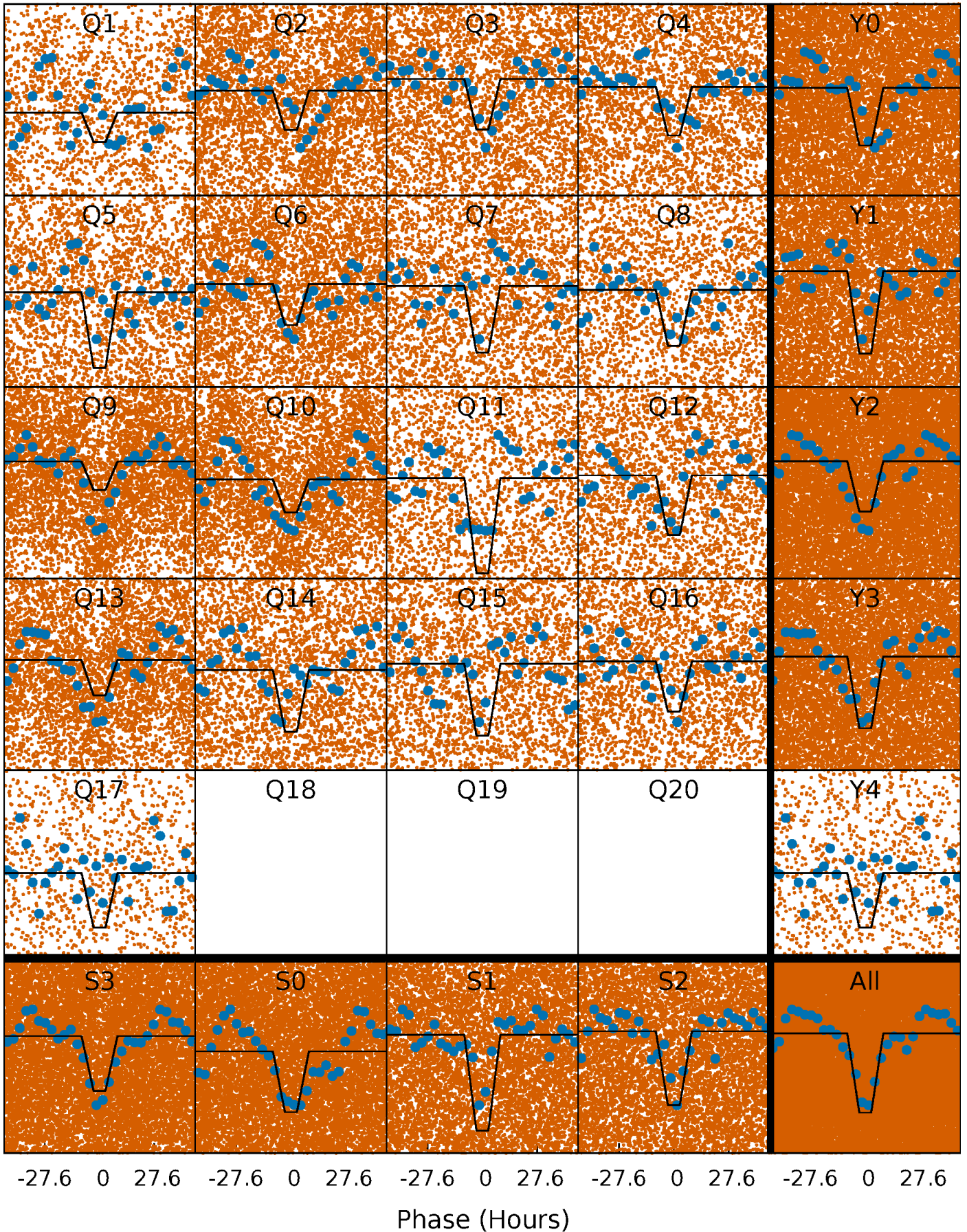
# DV Quarter-Phased Transit Curves

TCE 006698448-01 P= 2.790417 Days  $T_0=133.449494$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

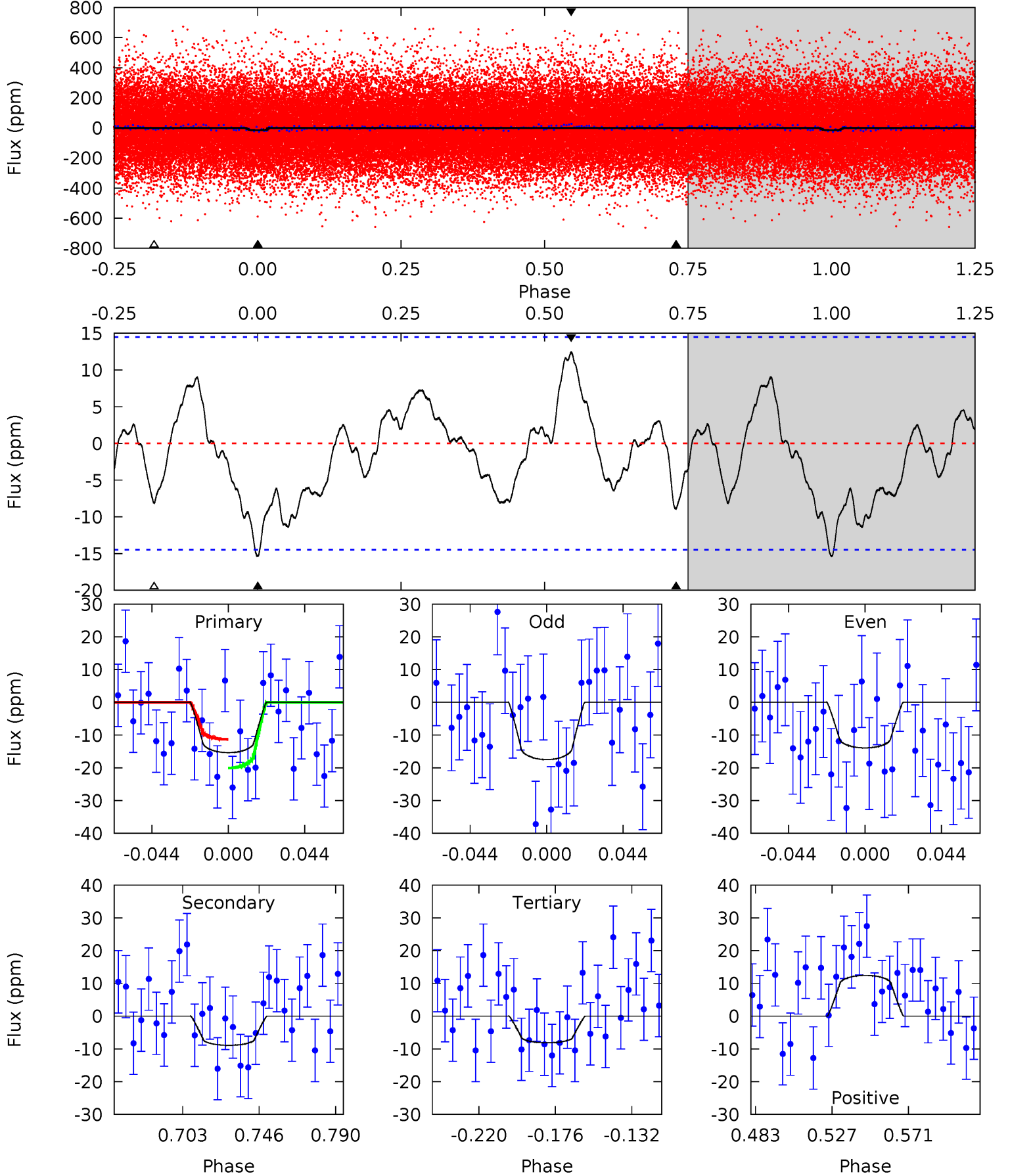
TCE 006698448-01 P= 2.791324 Days  $T_0=133.415062$  (BKJD)



# DV Model-Shift Uniqueness Test

006698448-01, P = 2.790417 Days, E = 130.659077 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
5.02	2.91	2.66	4.06	4.73	2.01	1.66	2.36	0.96	0.25	-1.15	0.59	0.76	0.45	1.44

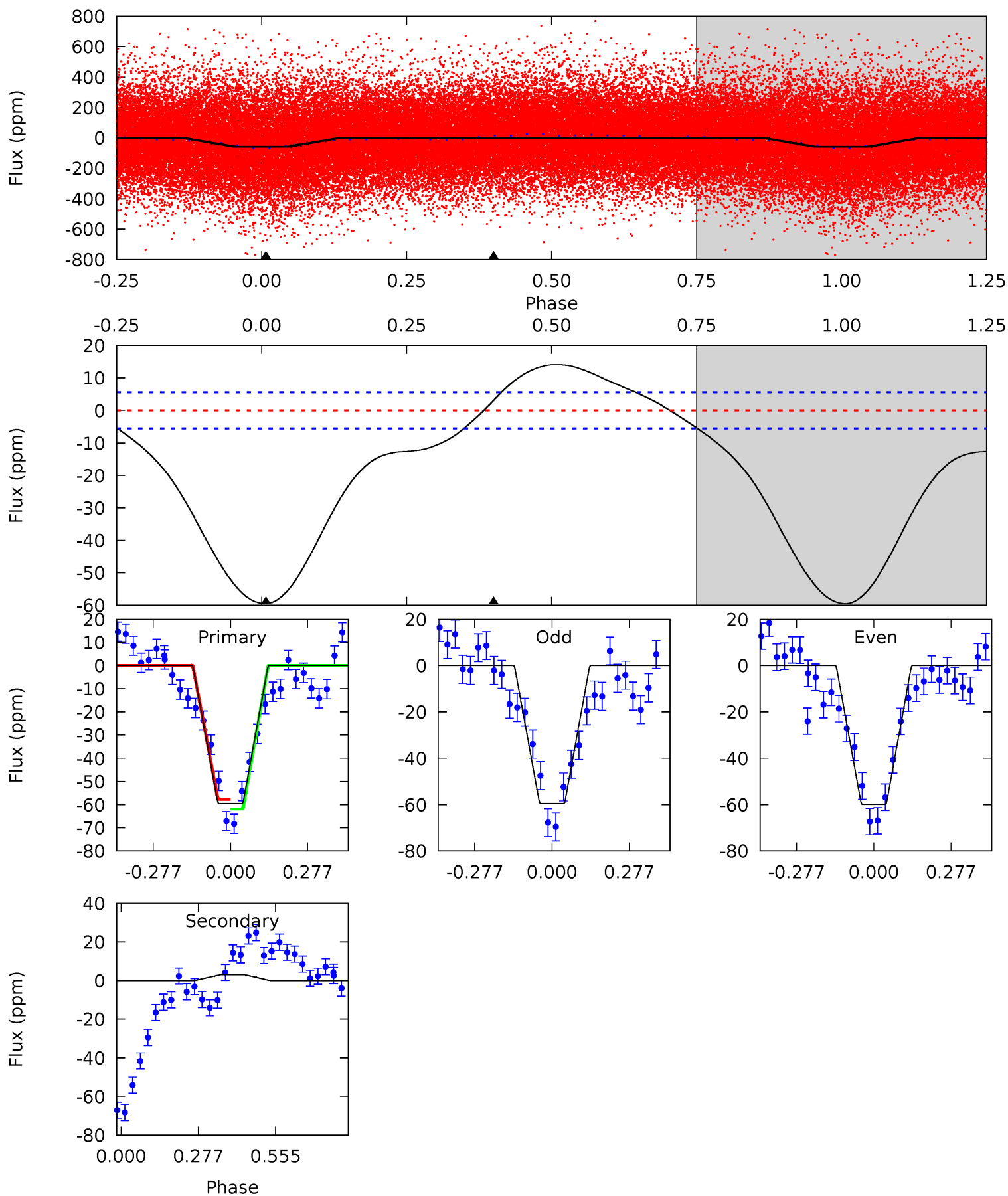




# Alt Model-Shift Uniqueness Test

006698448-01, P = 2.791324 Days, E = 130.623738 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
46.5	-2.41	0	0	4.35	1.09	2.50	46.5	46.5	-2.41	-2.41	0.14	1.01	0.19	1.62





### Stellar Parameters For KIC 006698448

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6788^{+189}_{-260}$	$4.211^{+0.132}_{-0.181}$	$-0.240^{+0.250}_{-0.300}$	$1.466^{+0.447}_{-0.298}$	$1.284^{+0.182}_{-0.223}$	$0.573^{+0.378}_{-0.291}$
	+3%/-4%	+3%/-4%	+104%/-125%	+30%/-20%	+14%/-17%	+66%/-51%
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 006698448-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-9 \pm 3$	$0.70^{+0.50}_{-0.39}$	$2484^{+183}_{-161}$	$5482^{+3224}_{-1132}$	$17^{+74}_{-12}$
Alt.	$3 \pm 1$	$1.35^{+0.55}_{-0.51}$	$2480^{+188}_{-157}$	$-3642^{+347}_{-626}$	$-1.536^{+0.866}_{-2.870}$

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

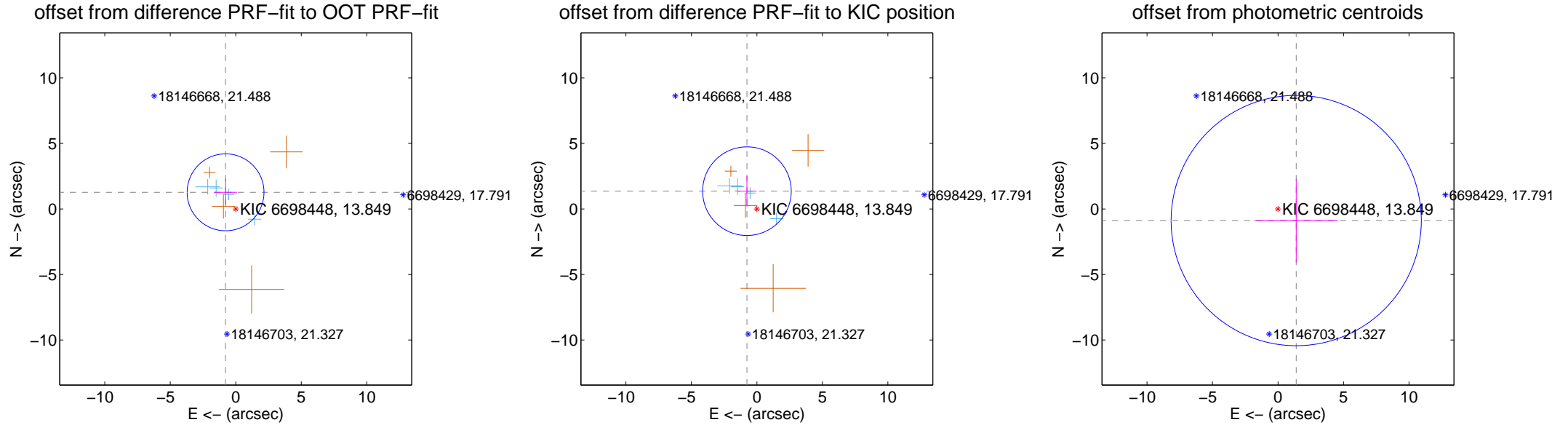
## DV Centroid Data

Supplemental centroid analysis for 006698448-01. Kepler magnitude: 13.85. Transit SNR 3.03

There are 4 quarters with good PRF difference image offsets

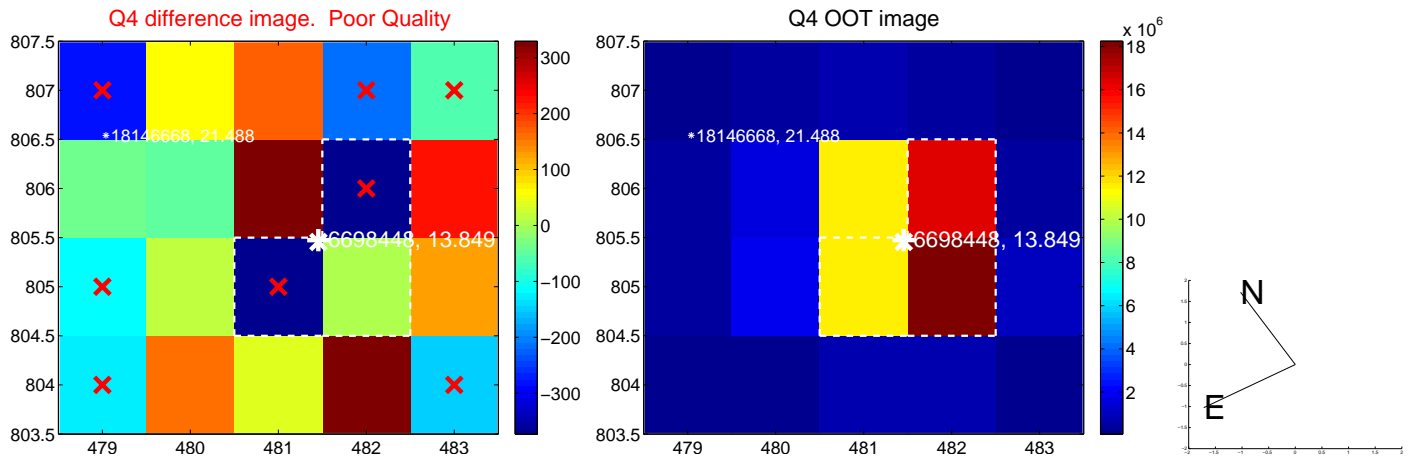
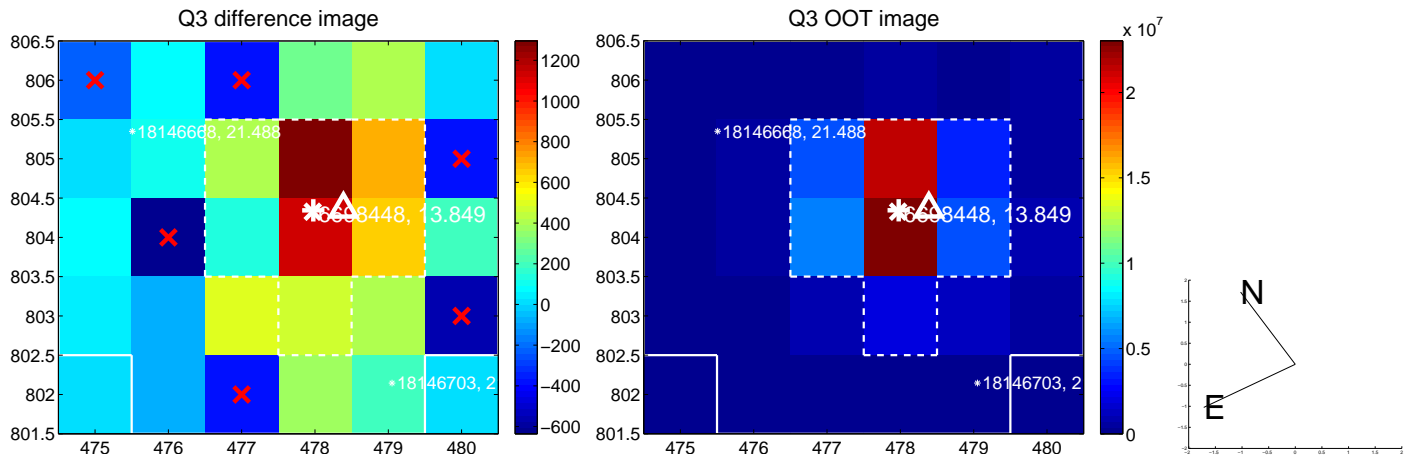
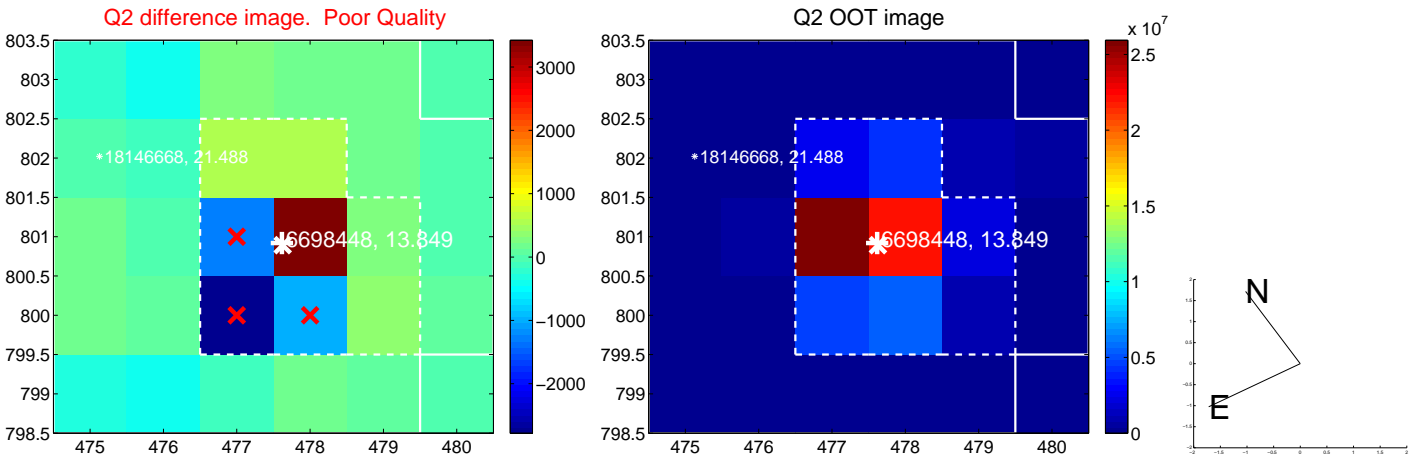
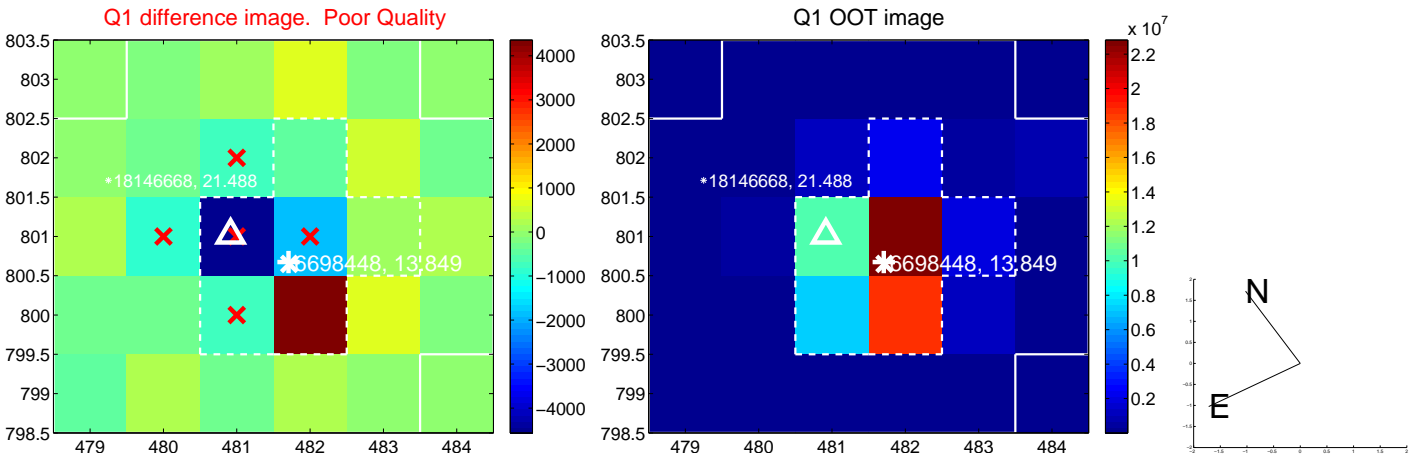
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.489 \pm 0.978$	1.52	$0.780 \pm 0.867$	$1.268 \pm 1.029$
PRF-fit source offset from KIC position	$1.554 \pm 1.127$	1.38	$0.760 \pm 0.737$	$1.356 \pm 1.174$
photometric centroid source offset	$1.65 \pm 3.18$	0.52	$-1.39 \pm 3.19$	$-0.89 \pm 3.18$

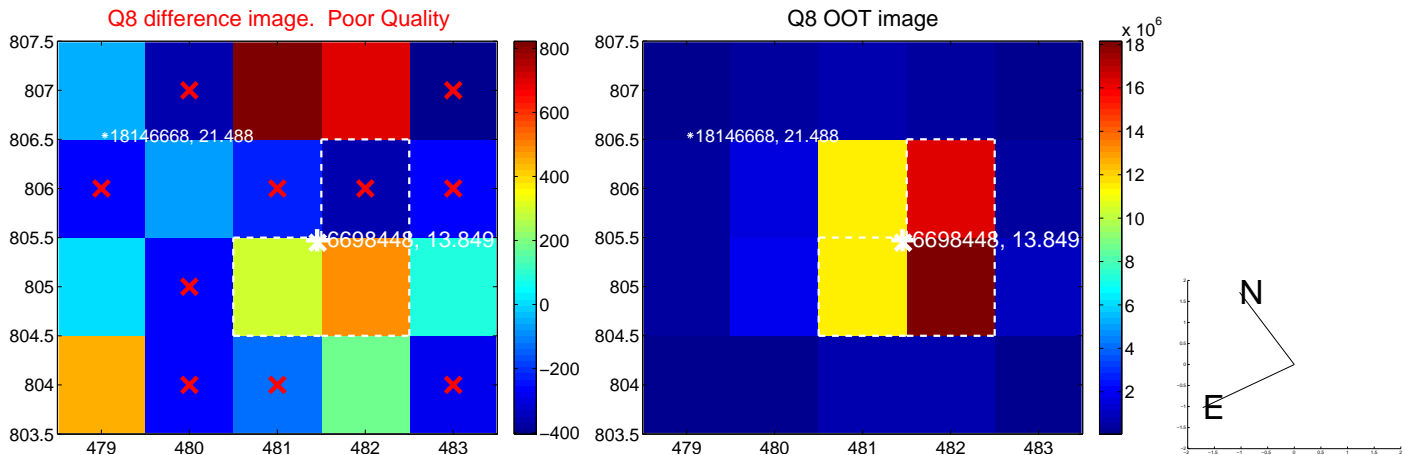
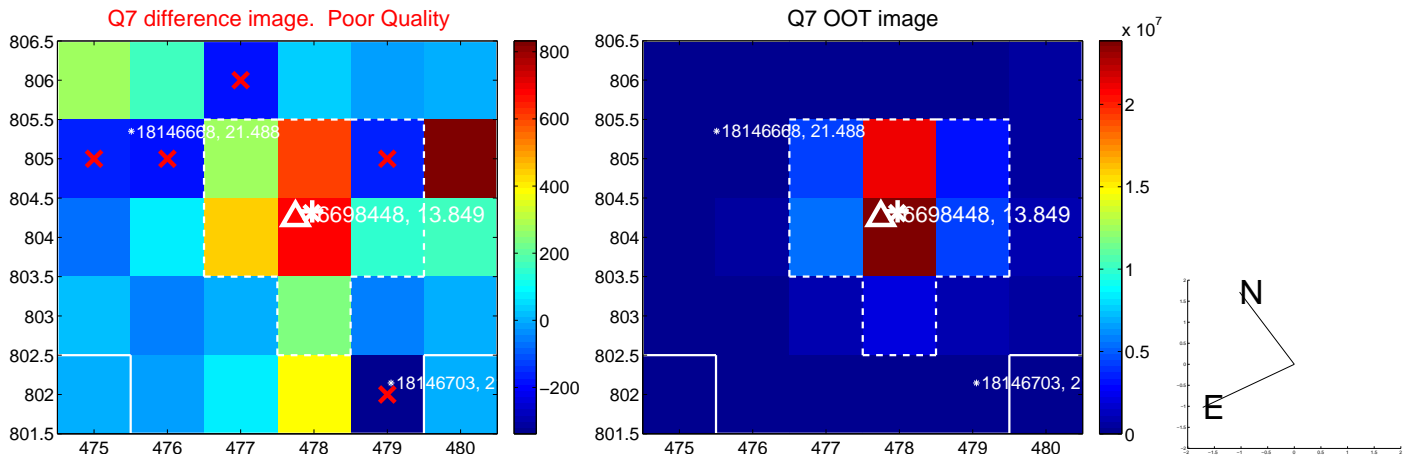
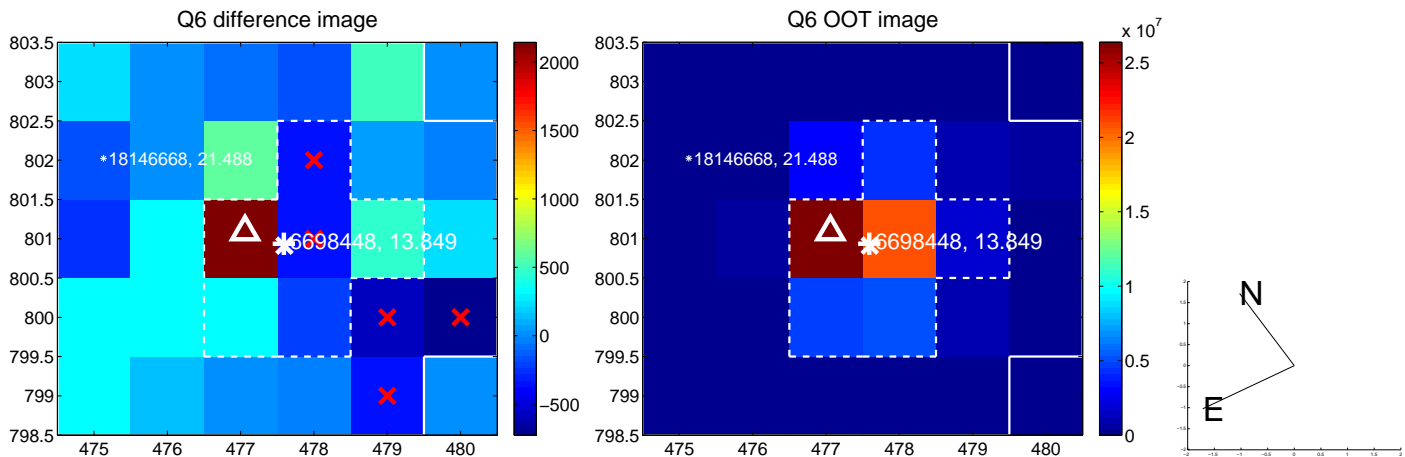
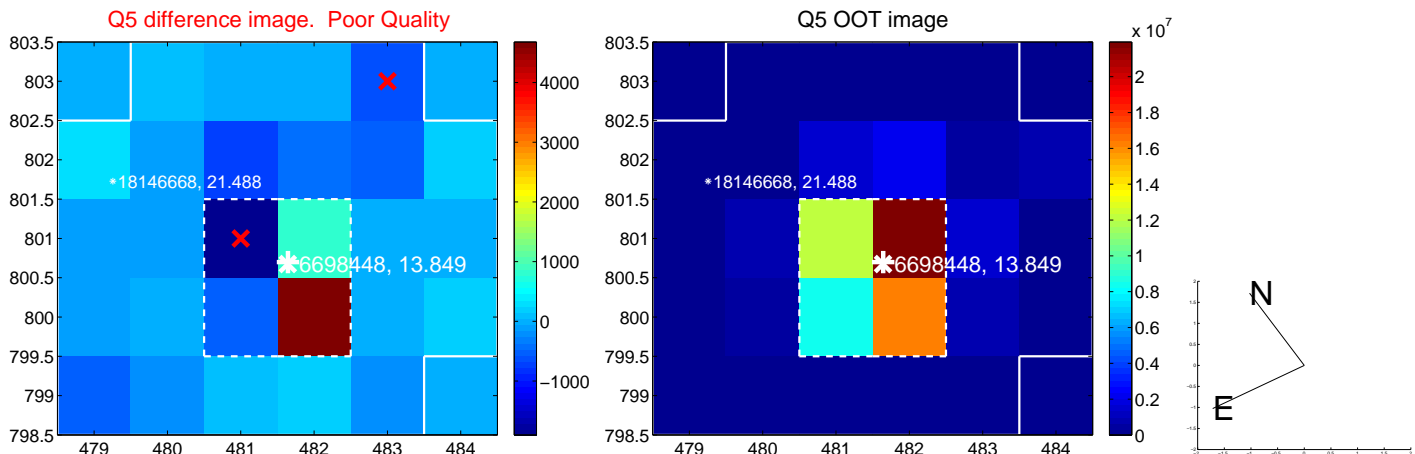


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

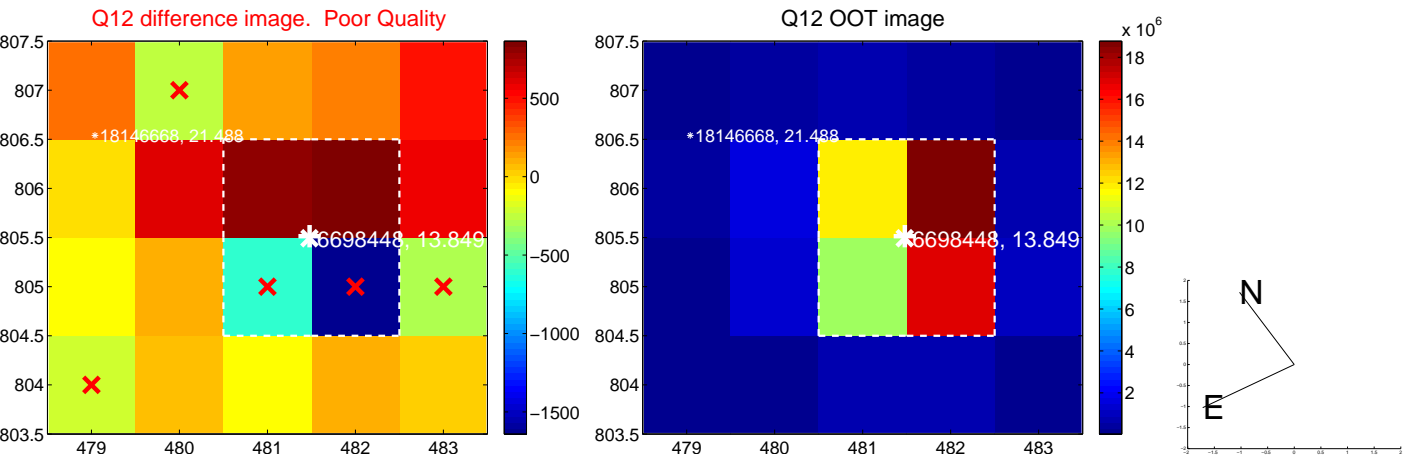
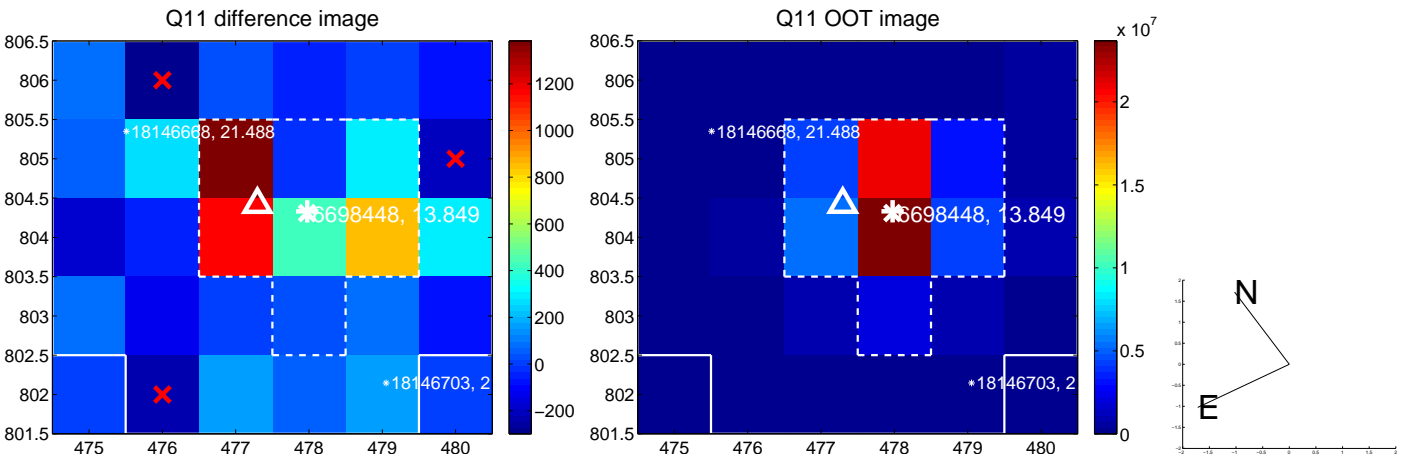
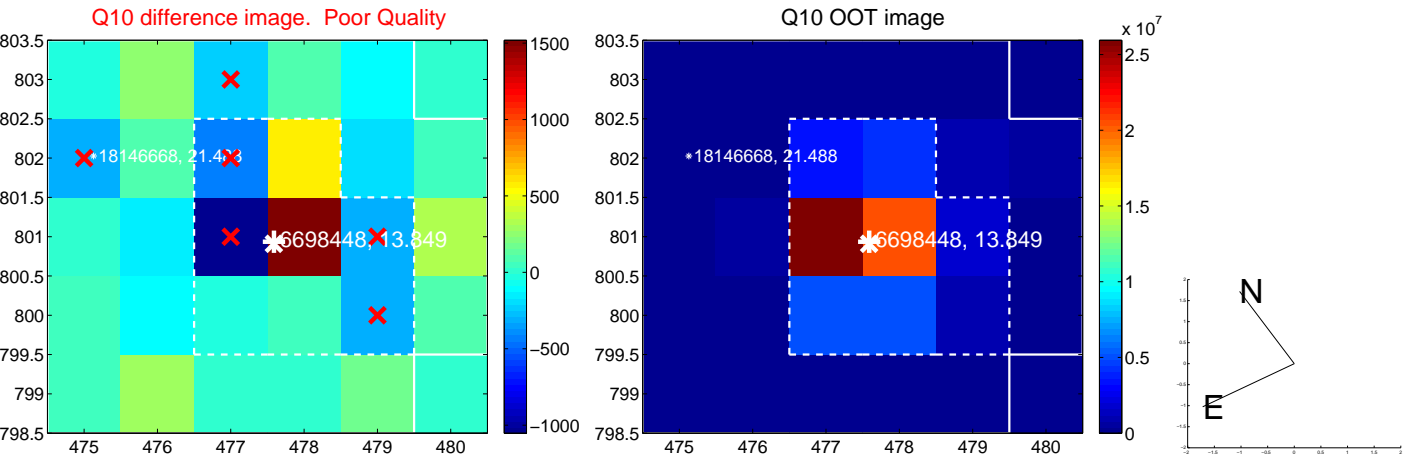
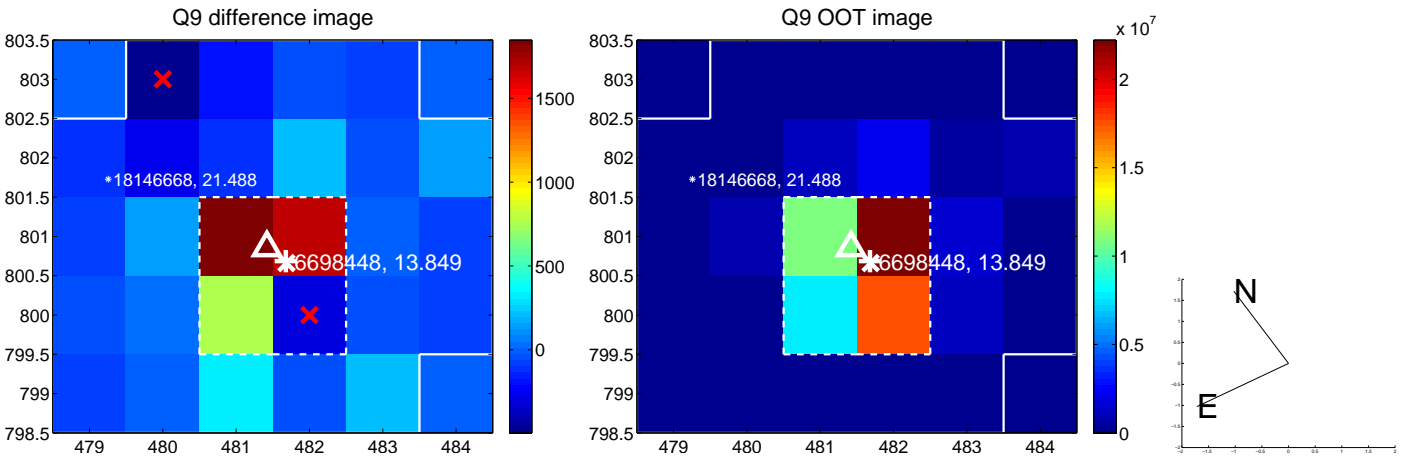


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

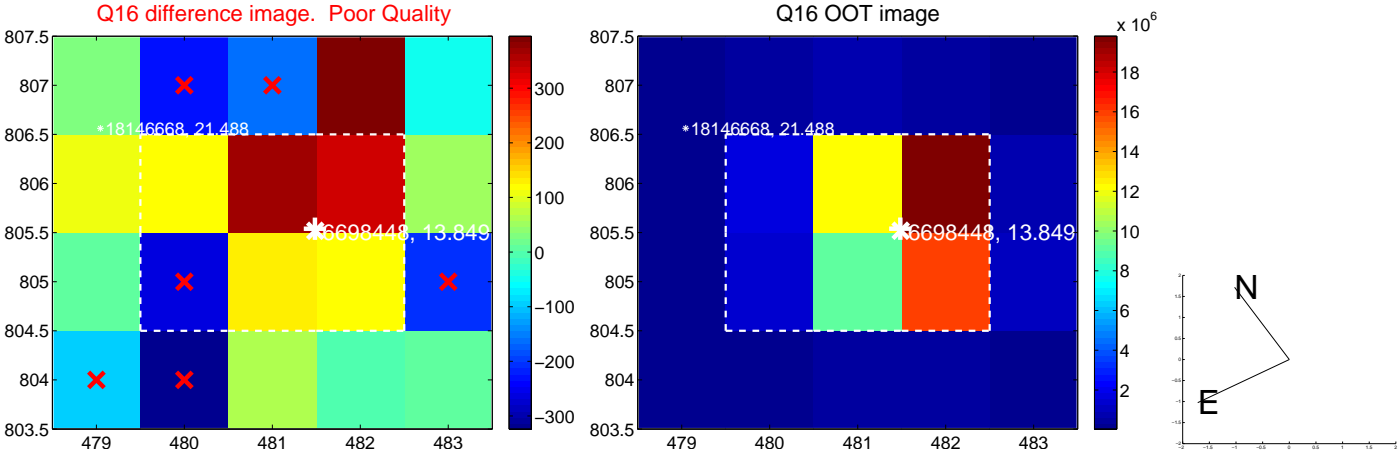
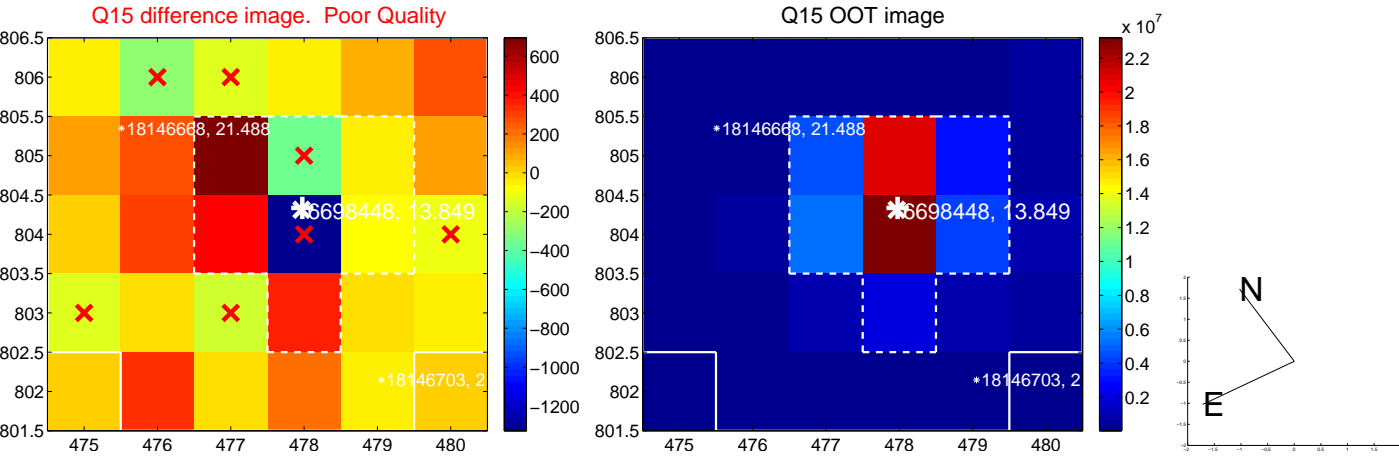
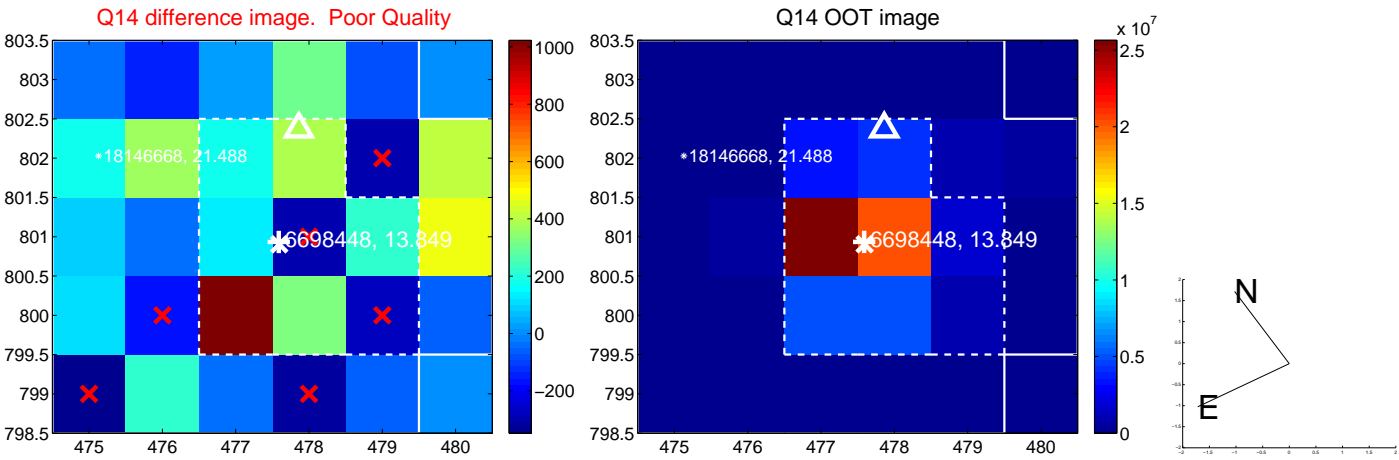
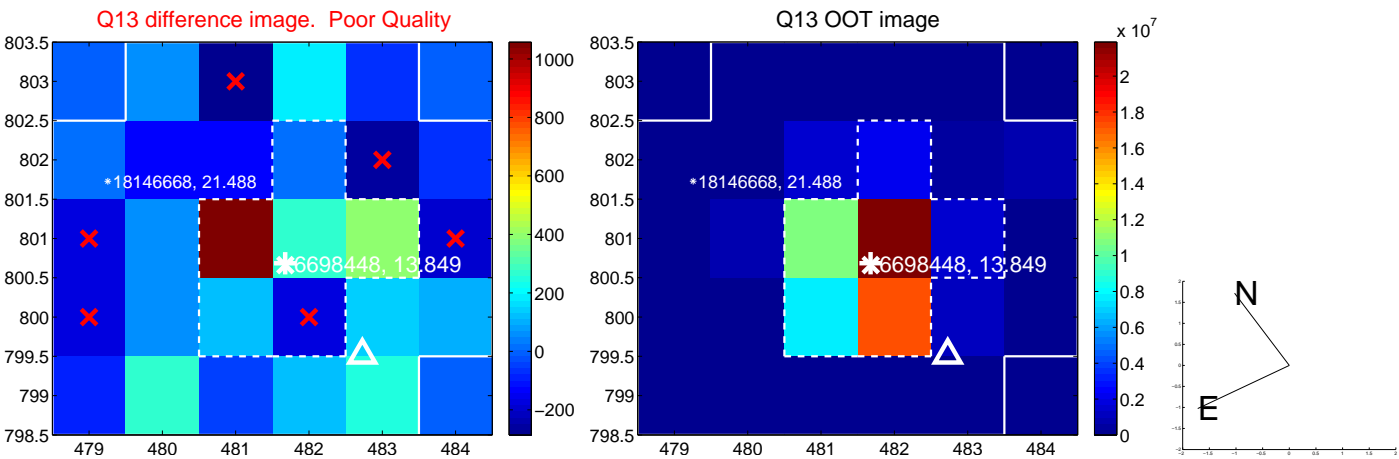




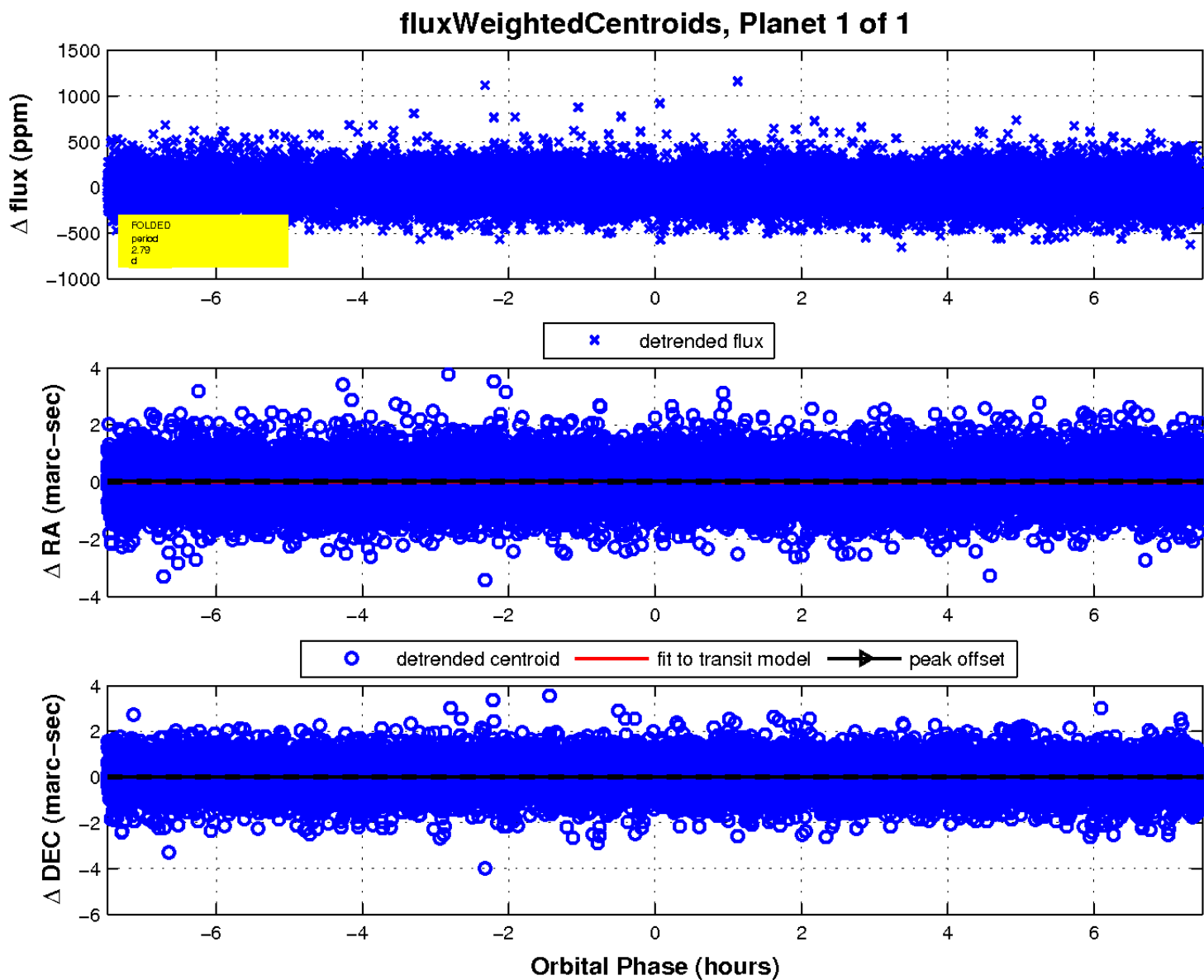
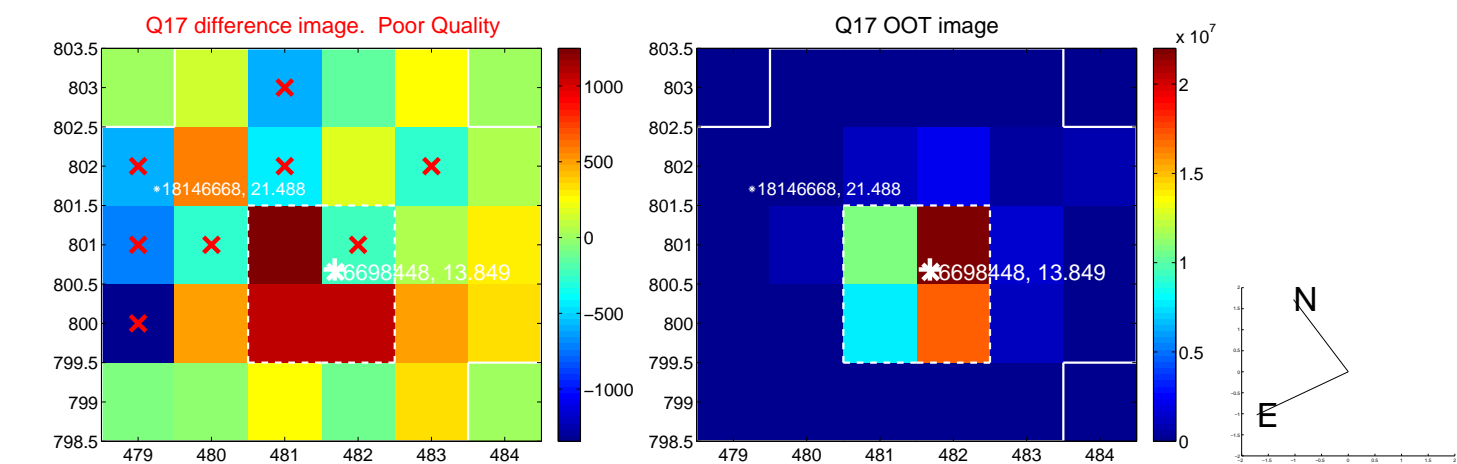
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



This is a deep-sky astronomical image showing a field of stars. A blue grid is overlaid on the image, with green text labels indicating celestial coordinates. The labels for Right Ascension (RA) are positioned along the bottom edge, ranging from 19:35:10.0 on the left to 19:35:06.0 on the right. The labels for Declination (Dec) are positioned along the right edge, ranging from 50:04:20.0 at the bottom to 50:04:10.0 at the top. The stars appear as bright, out-of-focus white and yellowish-orange disks against a dark, grainy background.

Declination