

# KIC 006869296

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006869296-01	OBS	No	5.636205	136.717608	26.5	24.702	7.3	7.2	0.87	5874	0.51	215.61

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006869296-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

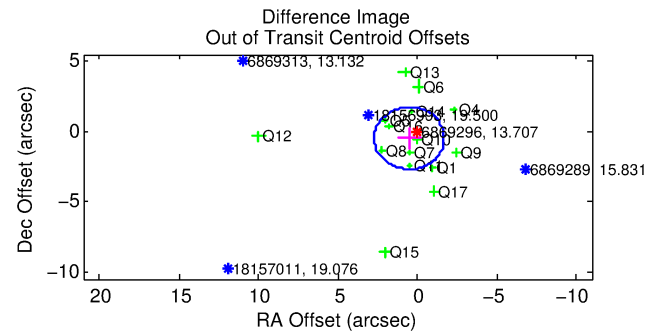
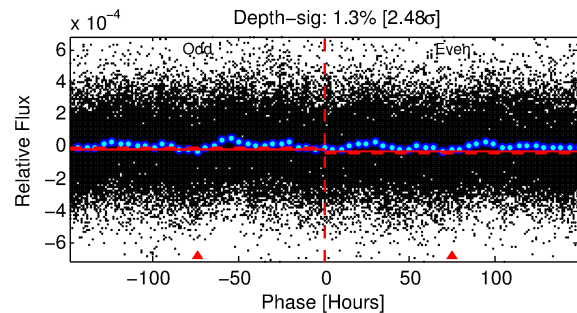
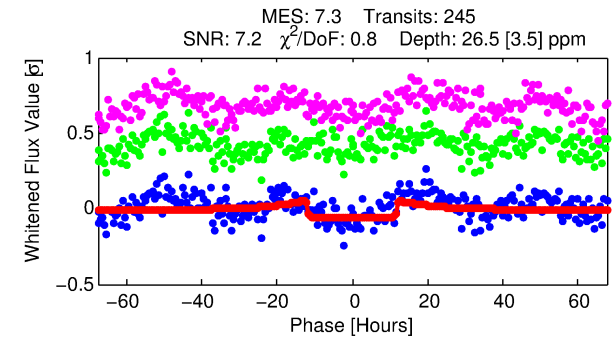
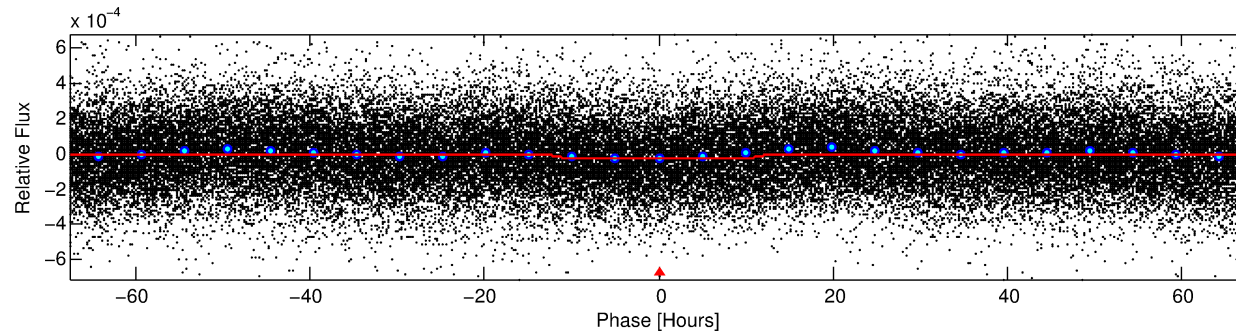
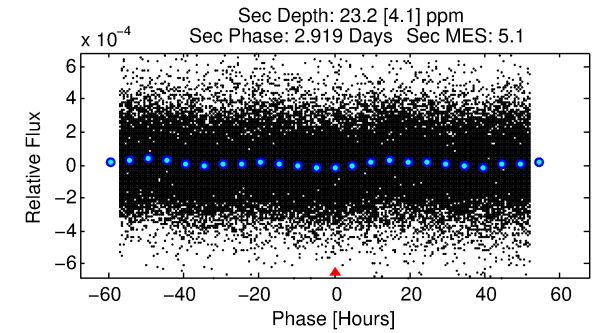
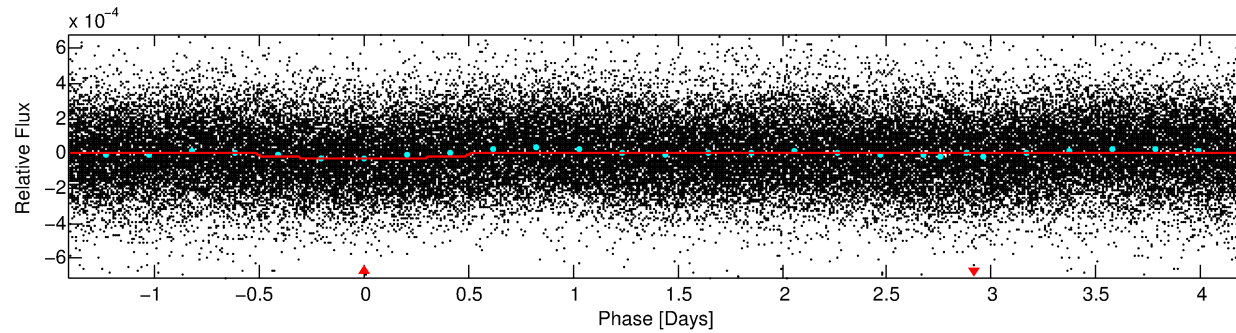
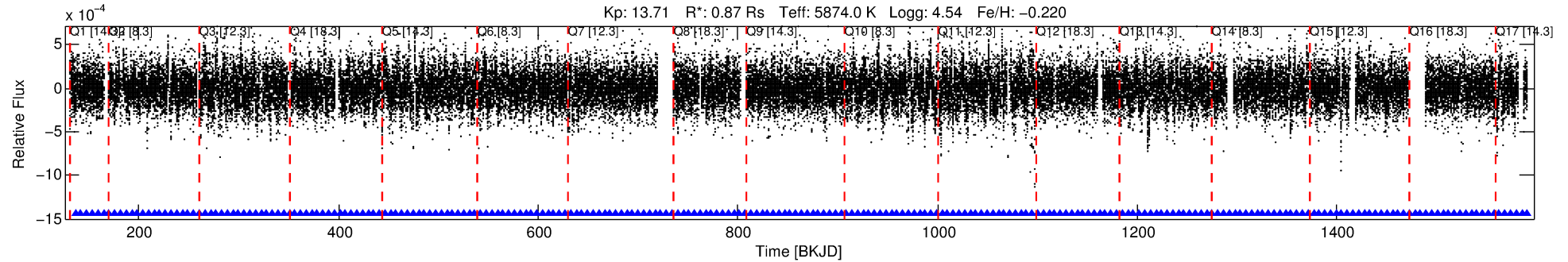
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006869296-01

No Significant Match Found

# DV One-Page Summary

KIC: 6869296 Candidate: 1 of 1 Period: 5.636 d



## DV Fit Results:

Period = 5.63620 [0.00014] d  
Epoch = 136.7176 [0.0186] BKJD  
Rp/R\* = 0.0054 [0.0009]  
a/R\* = 1.29 [0.41]  
b = 0.86 [0.25]  
Seff = 215.61 [85.74]  
Teq = 977 [97] K  
Rp = 0.51 [0.18] Re  
a = 0.0611 [0.0158] AU  
Ag = 183.16 [99.84] [1.82σ]  
Teffp = 5558 [559] K [8.07σ]

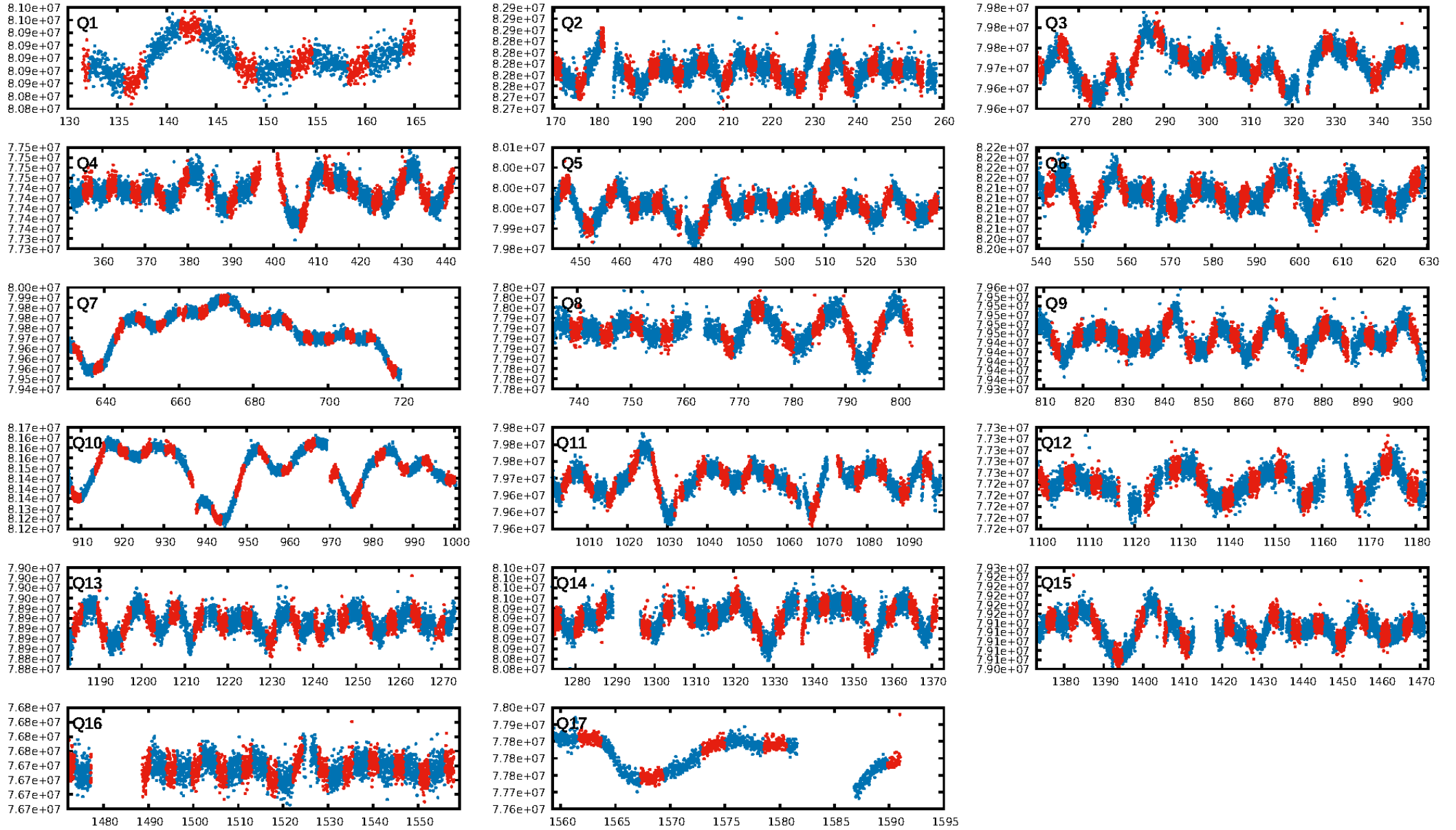
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.28e-16  
RollingBand-fgt: 1.00 [233/233]  
**GhostDiagnostic-chr: 0.1439**  
Centroid-sig: 2.0%  
Centroid-so: 1.139 arcsec [1.40σ]  
OotOffset-rm: 0.695 arcsec [0.94σ]  
KicOffset-rm: 0.525 arcsec [0.67σ]  
OotOffset-st: 3/3/4/5 [15]  
KicOffset-st: 3/3/4/5 [15]  
DiffImageQuality-fgm: 0.33 [5/15]  
DiffImageOverlap-fno: 1.00 [17/17]

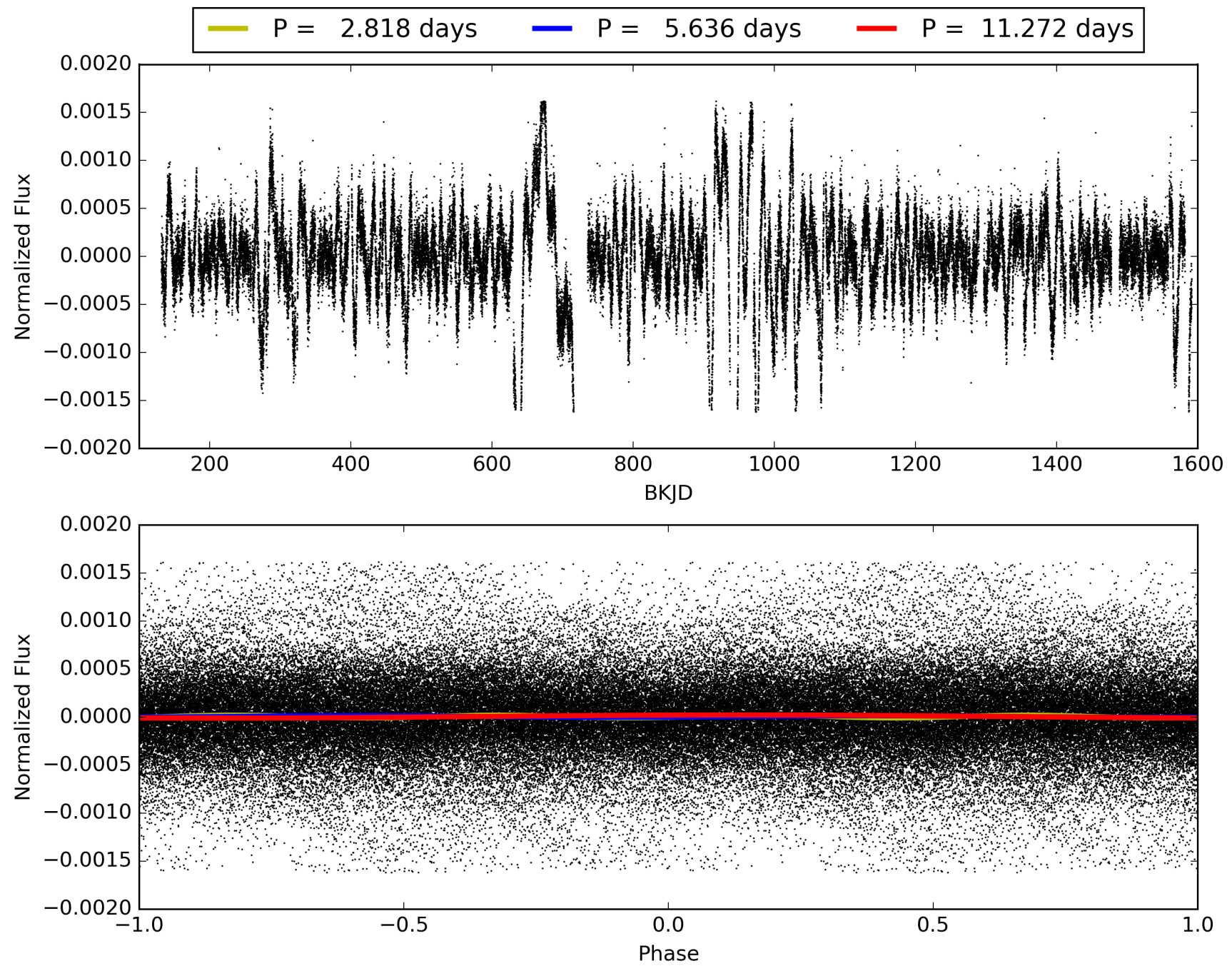
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:25:19 Z

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

# TCE 006869296-01, PDC Light Curves

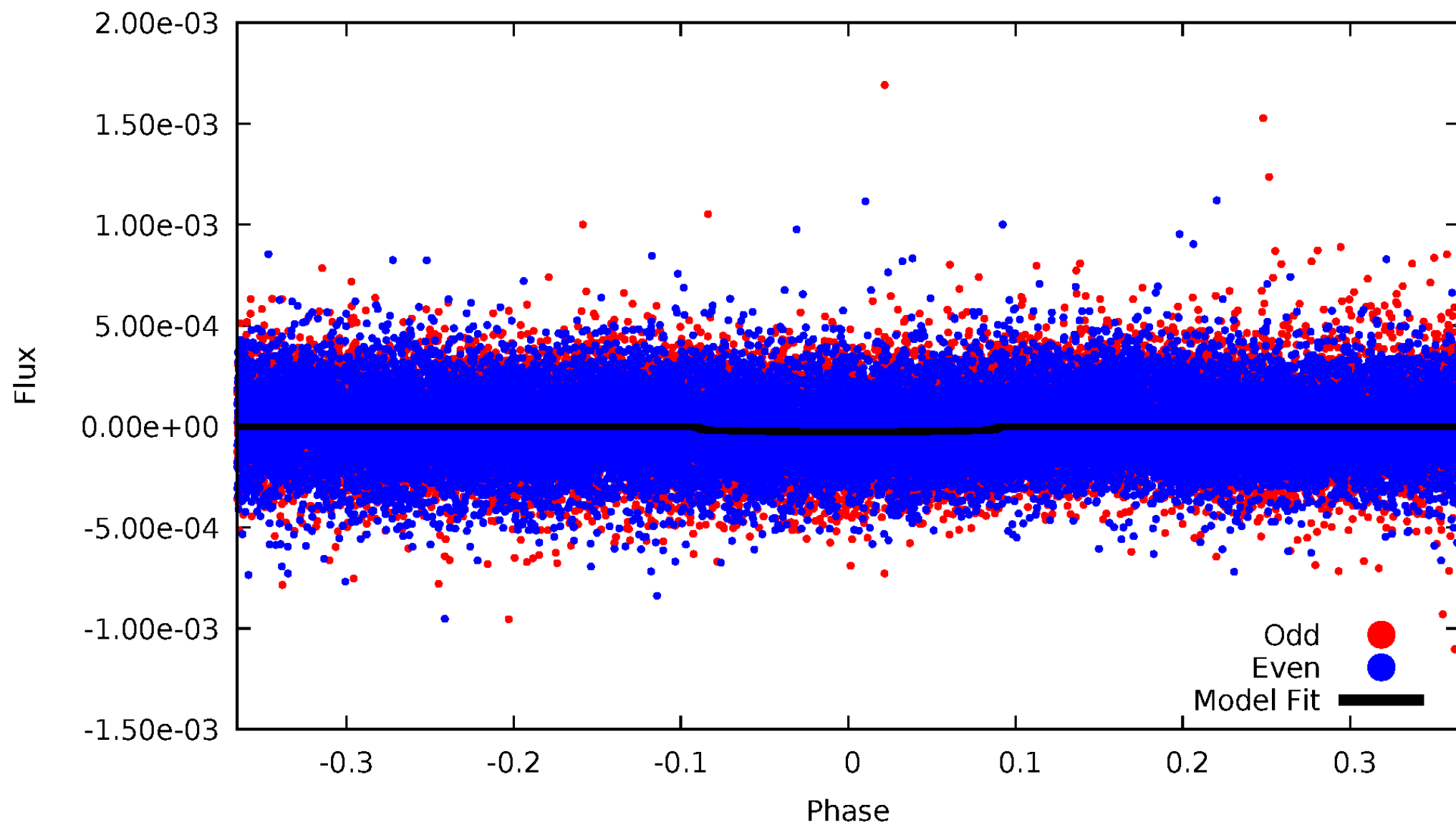


TCE 006869296-01



# DV Odd/Even

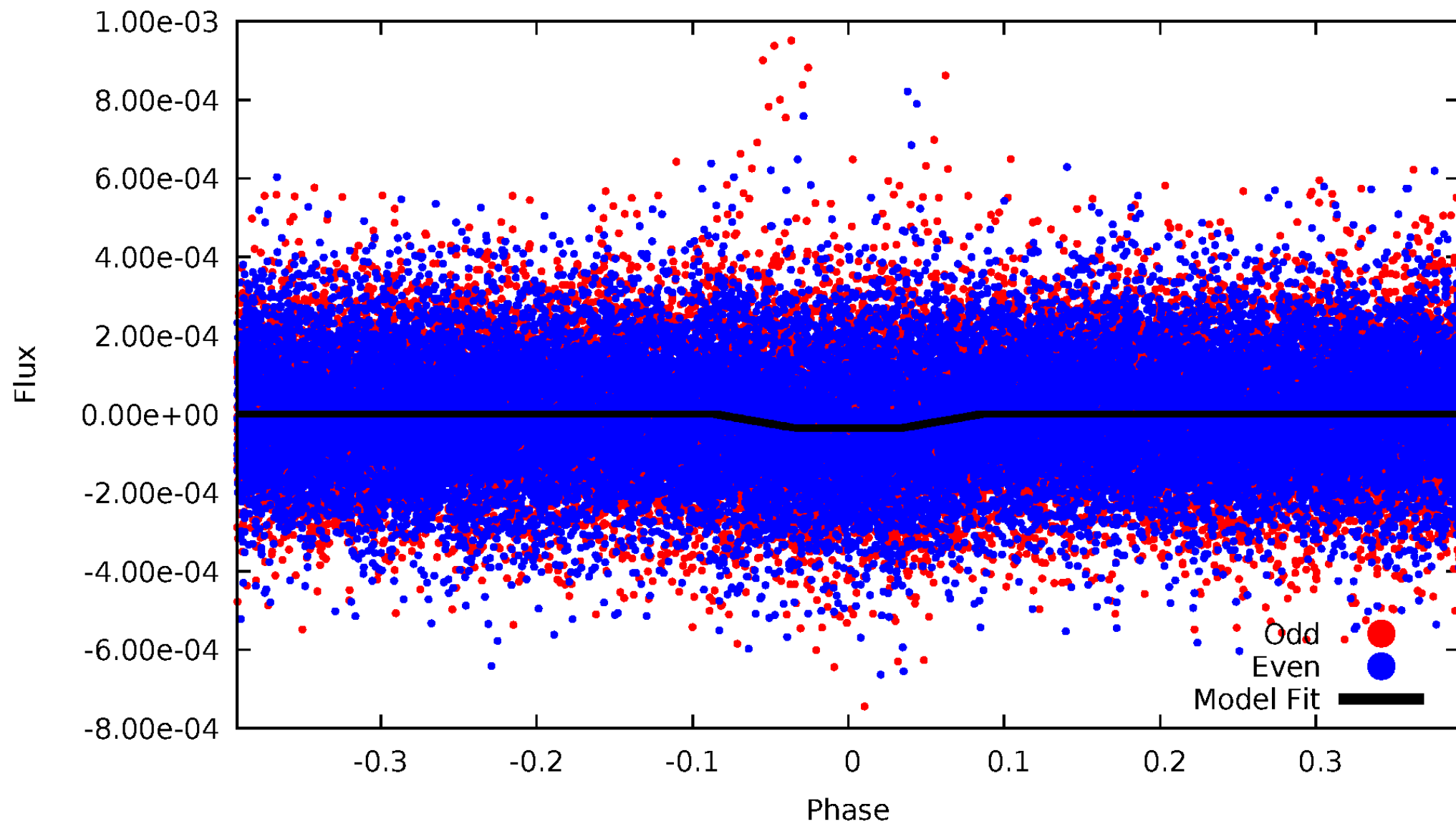
TCE 006869296-01





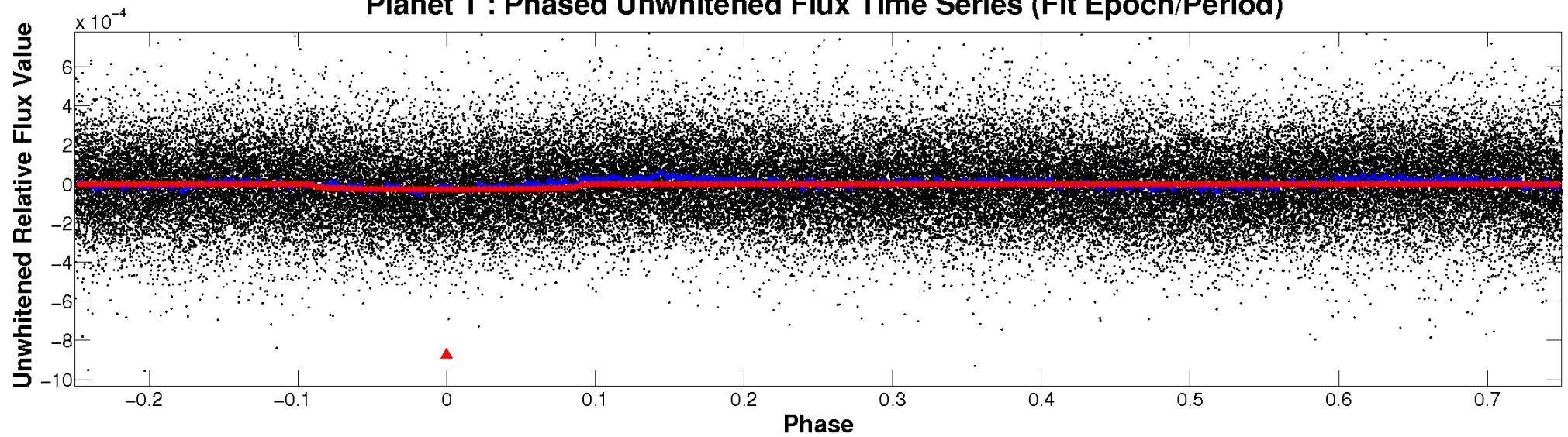
# ALT Odd/Even

TCE 006869296-01

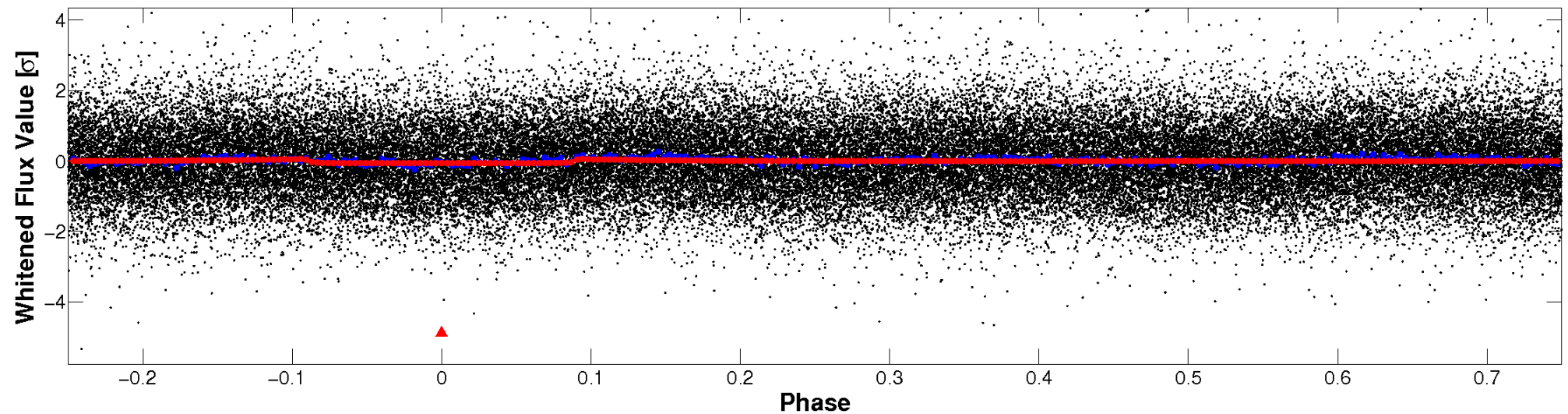


# Non-Whitened Vs. Whitened Light Curve

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

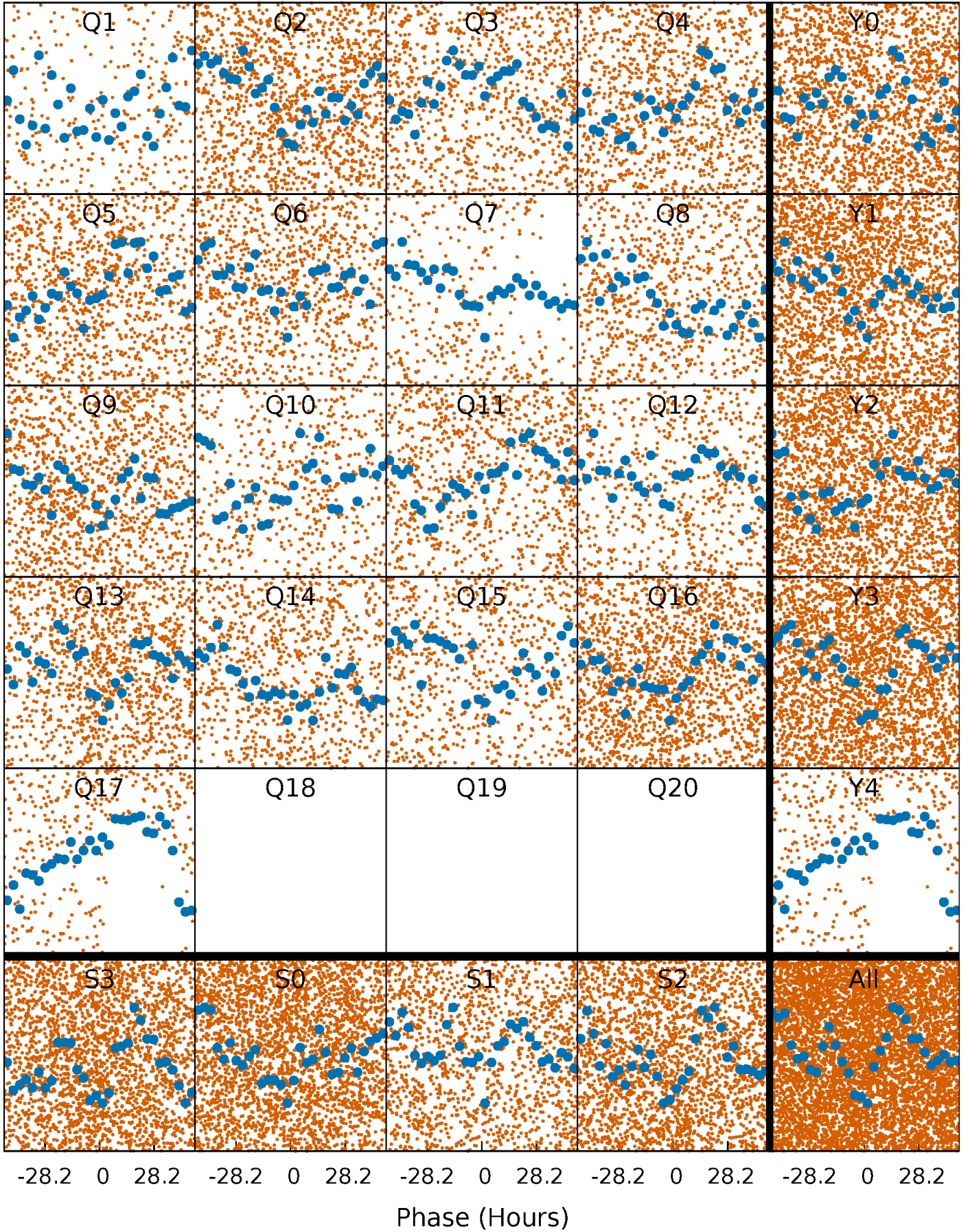


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

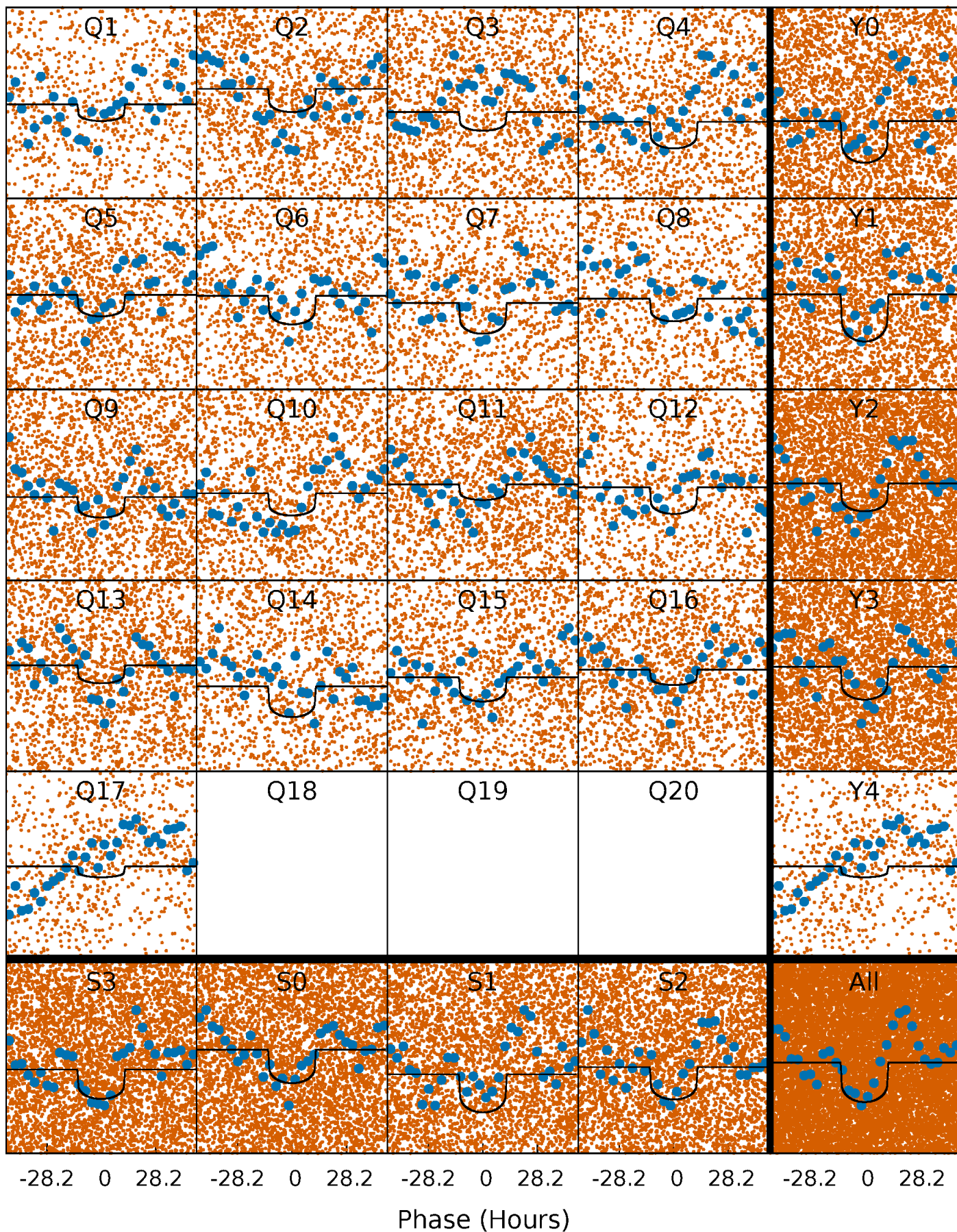
TCE 006869296-01 P= 5.636205 Days  $T_0=136.717608$  (BKJD)





# DV Quarter-Phased Transit Curves

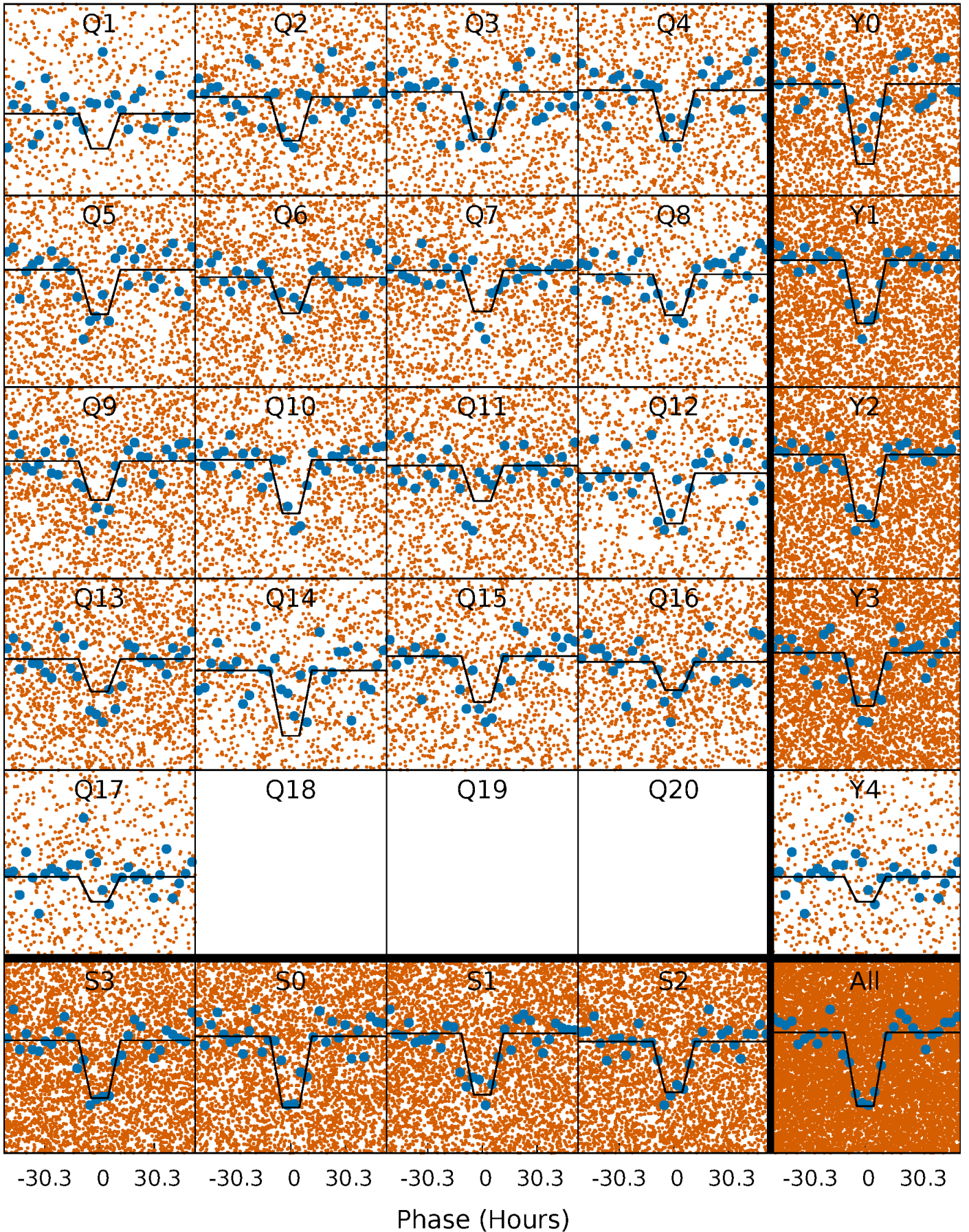
TCE 006869296-01 P= 5.636205 Days  $T_0=136.717608$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

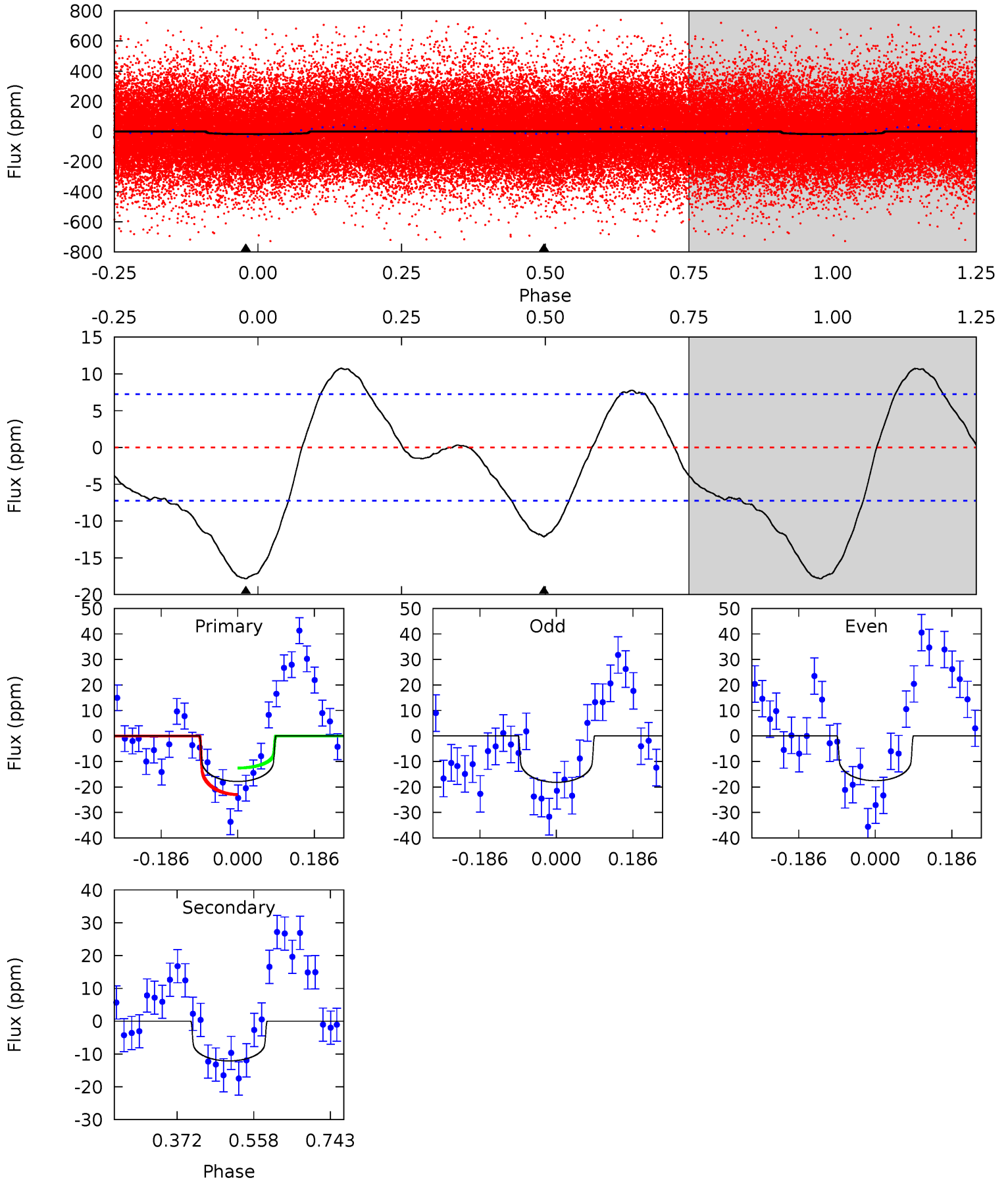
TCE 006869296-01 P= 5.636712 Days  $T_0=136.677339$  (BKJD)



# DV Model-Shift Uniqueness Test

006869296-01, P = 5.636205 Days, E = 131.081403 Days

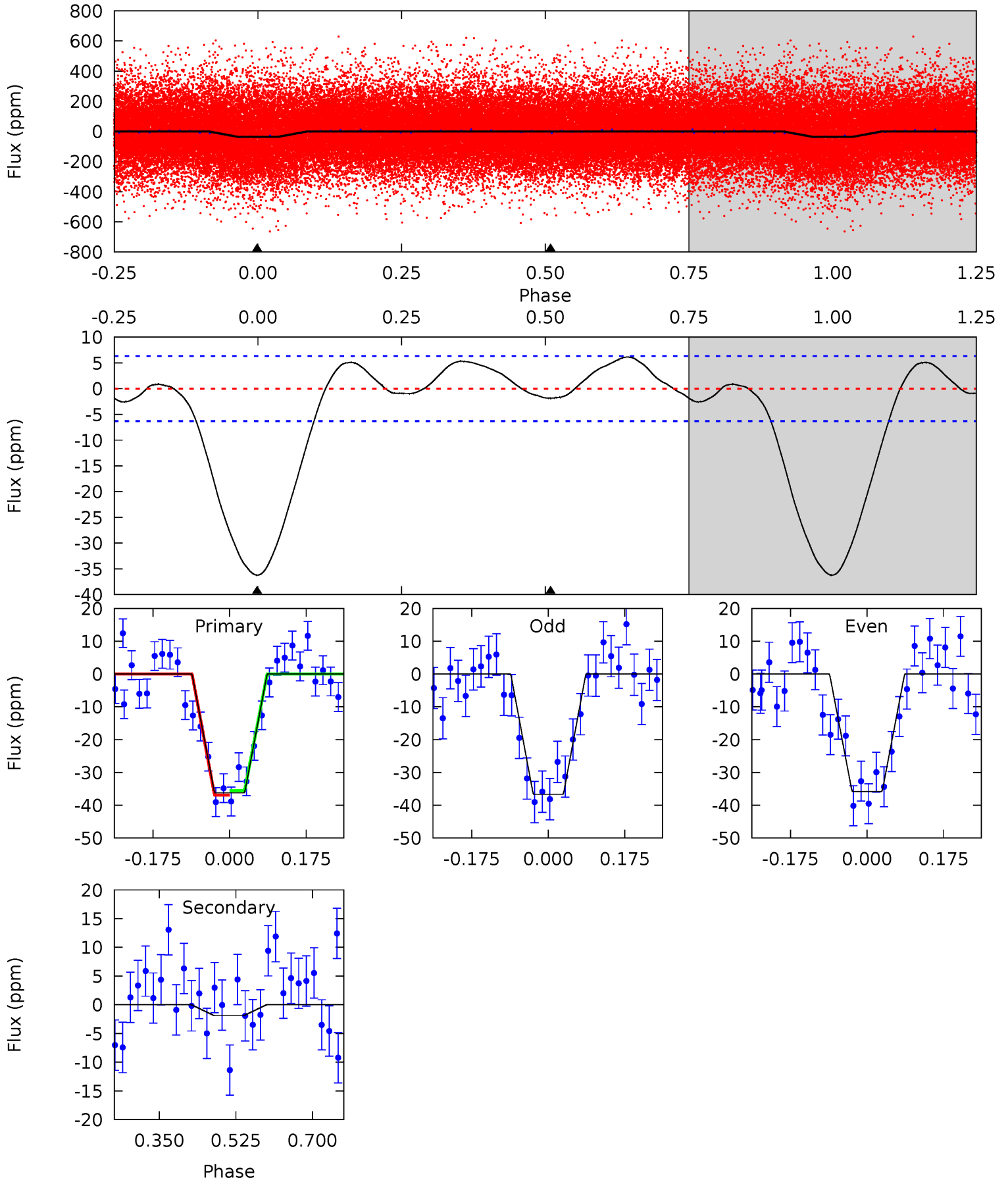
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	7.41	0	0	4.43	1.32	2.73	10.9	10.9	7.41	7.41	0.19	0.99	0.38	3.19



# Alt Model-Shift Uniqueness Test

006869296-01, P = 5.636712 Days, E = 131.040627 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
25.5	1.32	0	0	4.45	1.36	1.32	25.5	25.5	1.32	1.32	0.31	1.21	0.14	0.48





### Stellar Parameters For KIC 006869296

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5874^{+139}_{-157}$	$4.541^{+0.038}_{-0.212}$	$-0.220^{+0.300}_{-0.300}$	$0.868^{+0.263}_{-0.088}$	$0.955^{+0.107}_{-0.119}$	$2.057^{+0.415}_{-1.070}$
	+2%/-3%	+1%/-5%	+136%/-136%	+30%/-10%	+11%/-12%	+20%/-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 006869296-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	-12±2	$0.53^{+0.12}_{-0.12}$	$1405^{+96}_{-60}$	$4868^{+462}_{-387}$	$84^{+51}_{-28}$
Alt.	-2±1	$0.59^{+0.13}_{-0.11}$	$1402^{+105}_{-61}$	$3315^{+398}_{-643}$	$9.852^{+10.482}_{-7.480}$

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

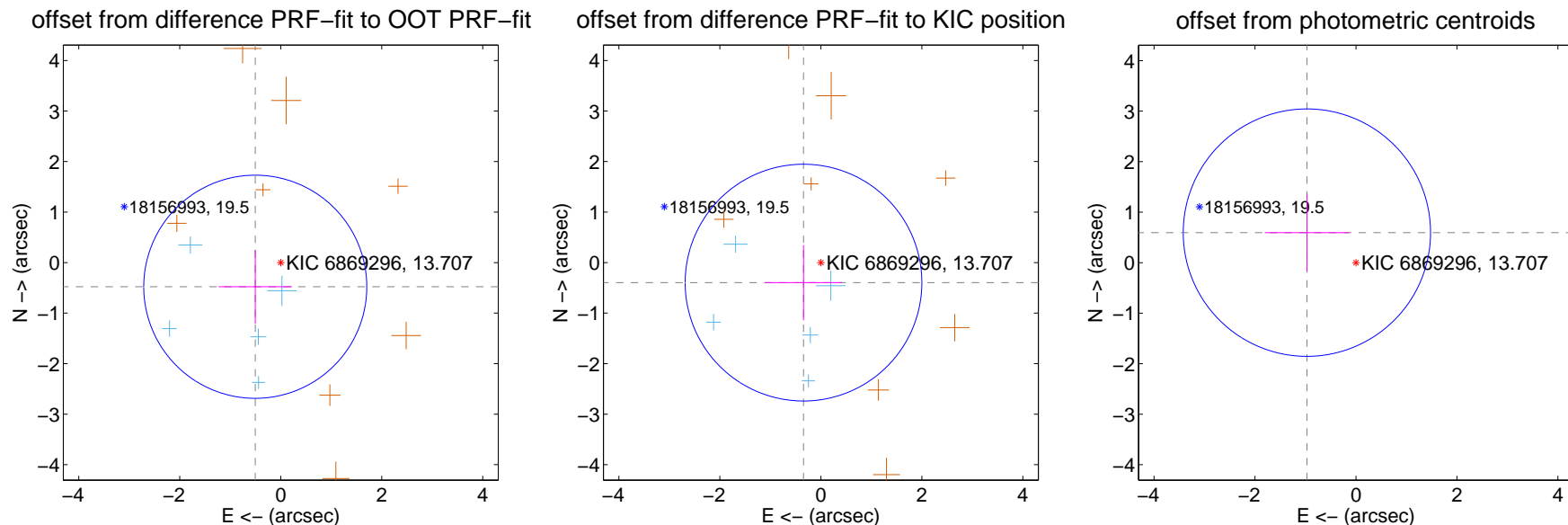
## DV Centroid Data

Supplemental centroid analysis for 006869296-01. Kepler magnitude: 13.71. Transit SNR 7.17

There are 5 quarters with good PRF difference image offsets

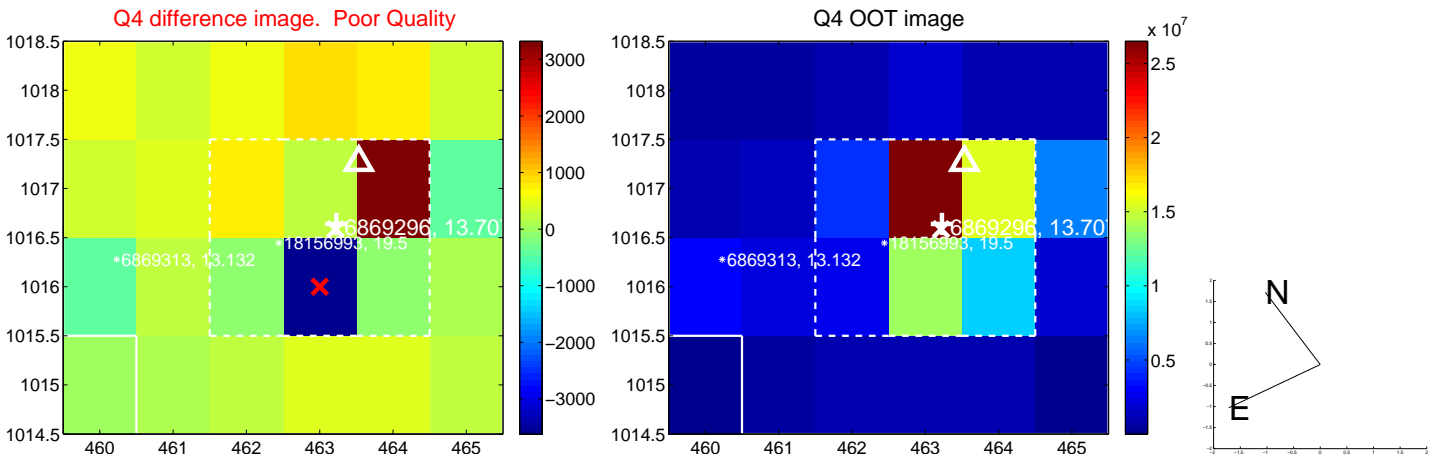
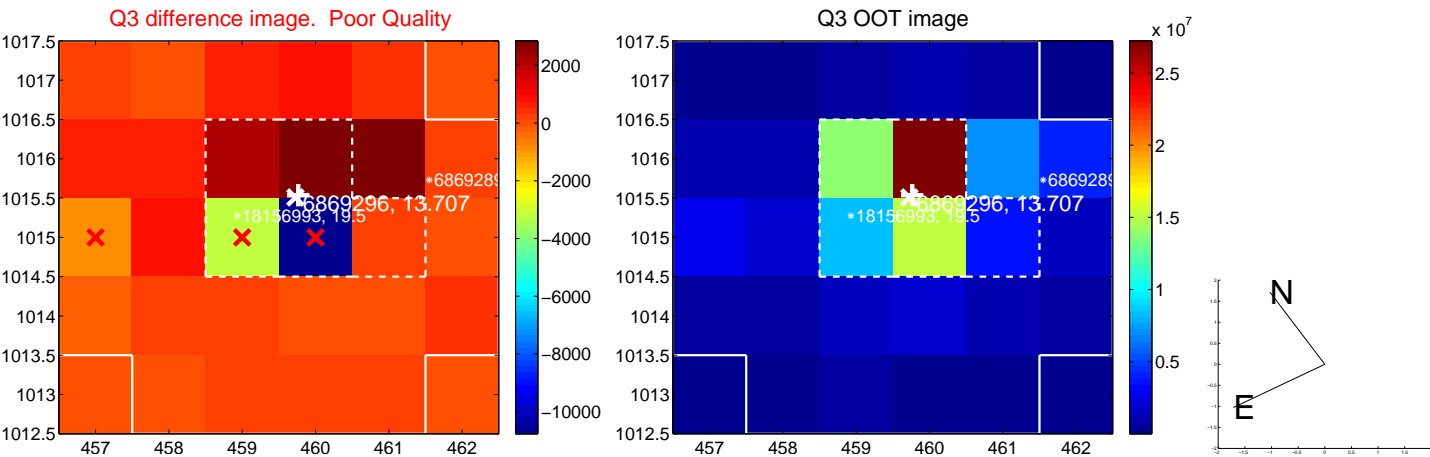
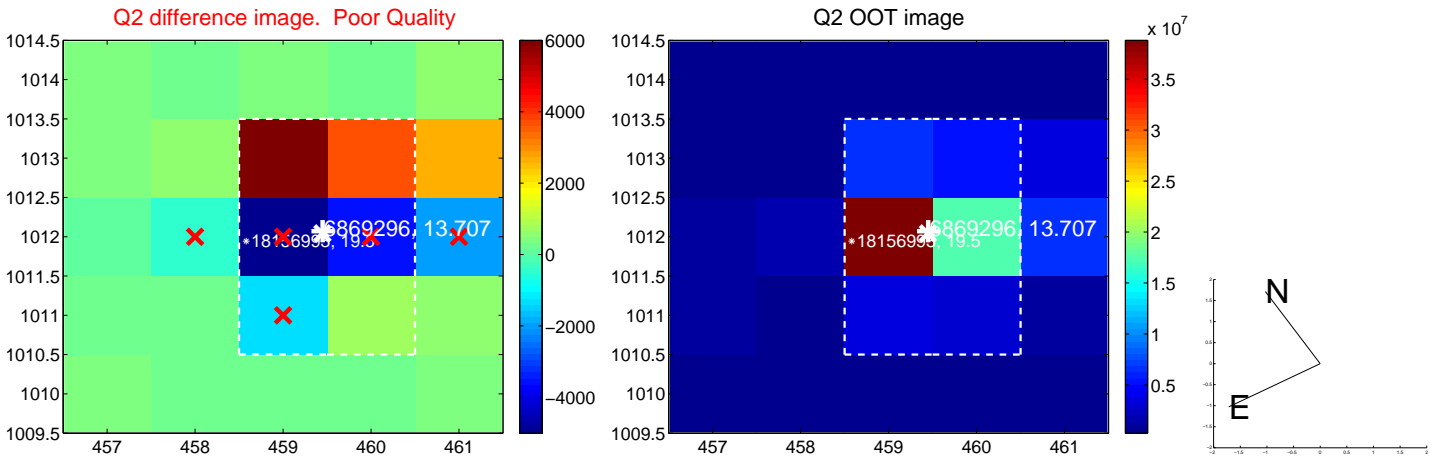
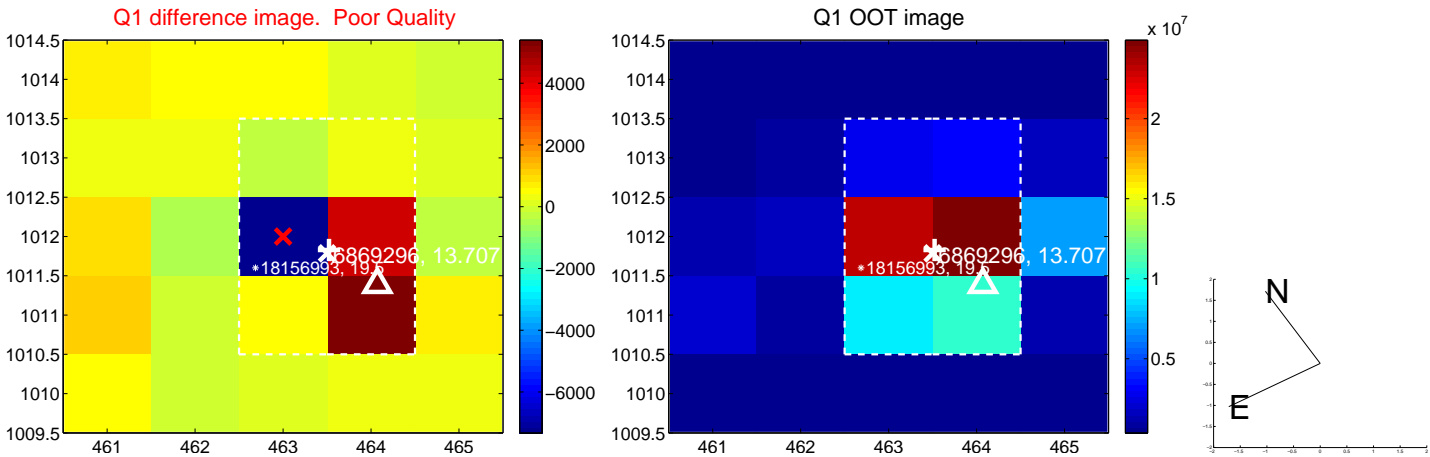
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.695 \pm 0.736$	0.94	$0.505 \pm 0.725$	$-0.478 \pm 0.734$
PRF-fit source offset from KIC position	$0.525 \pm 0.781$	0.67	$0.344 \pm 0.764$	$-0.396 \pm 0.744$
photometric centroid source offset	$1.14 \pm 0.82$	1.40	$0.97 \pm 0.83$	$0.59 \pm 0.77$

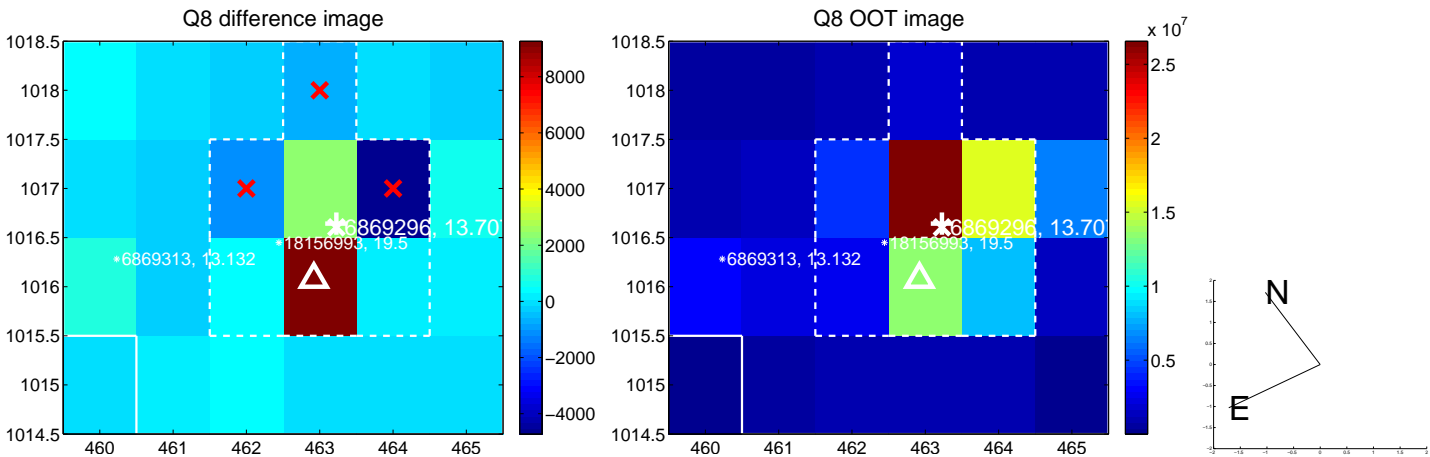
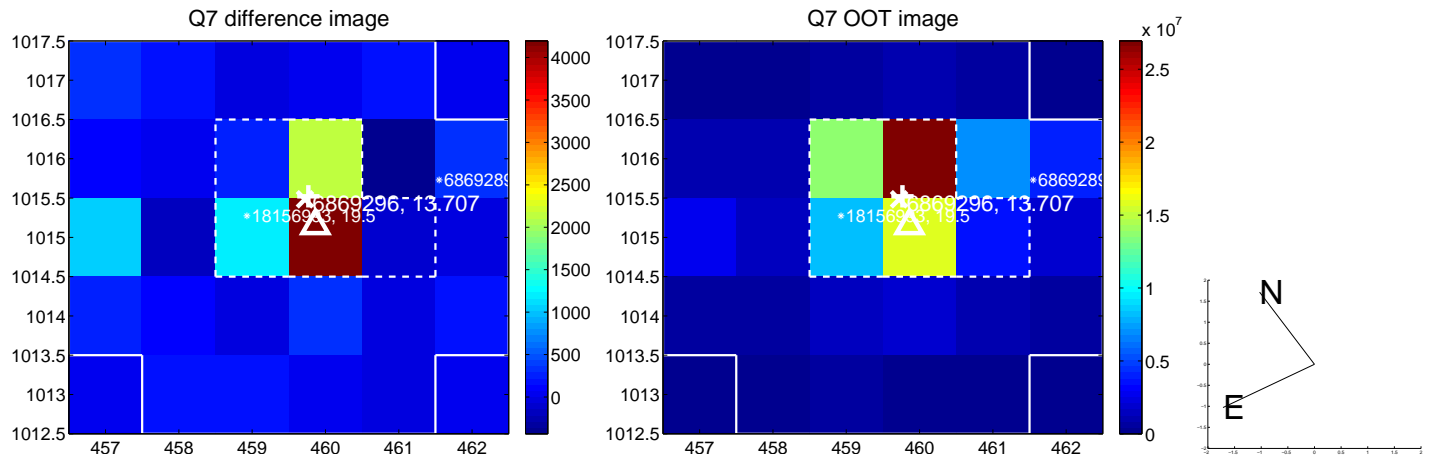
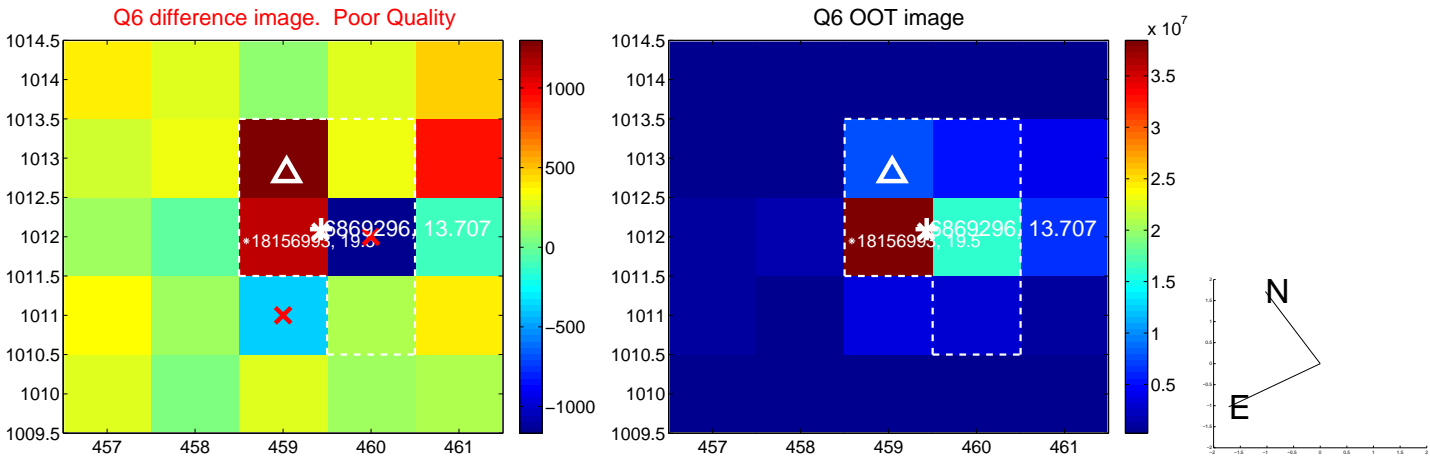
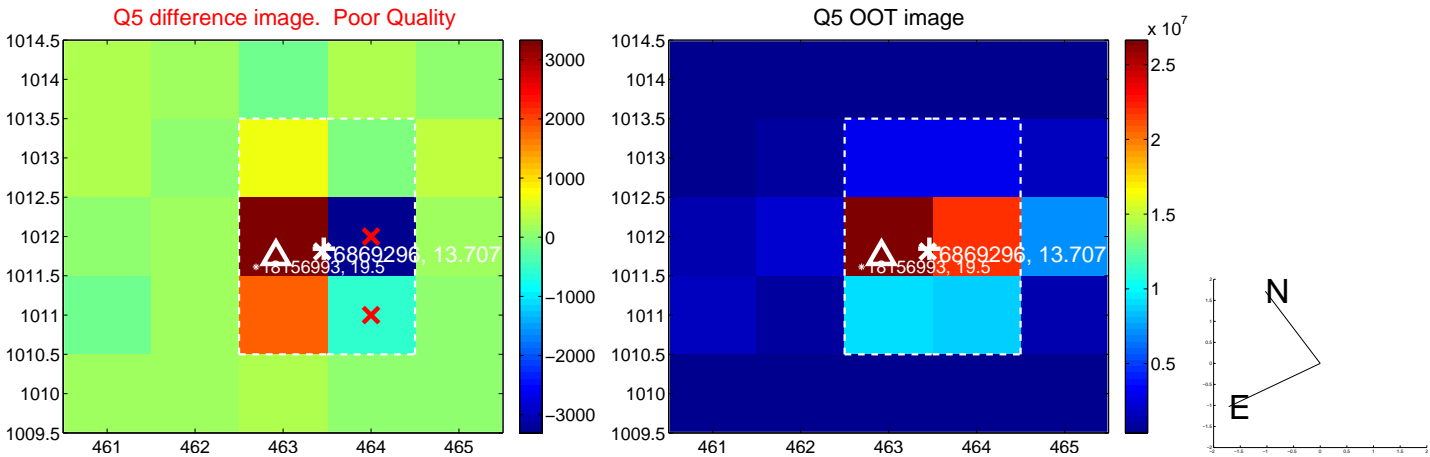


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

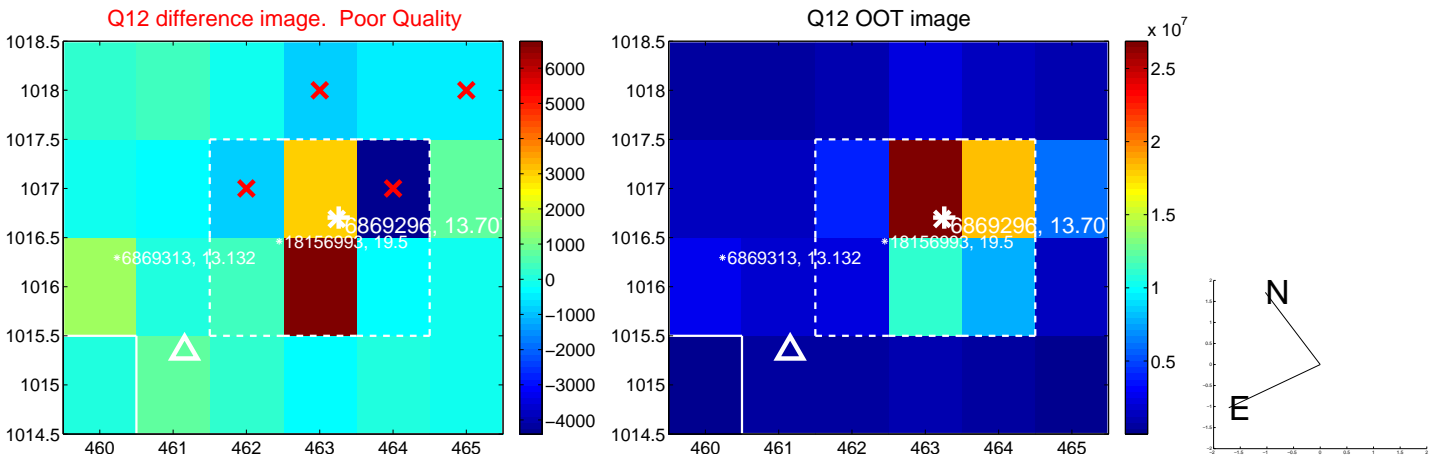
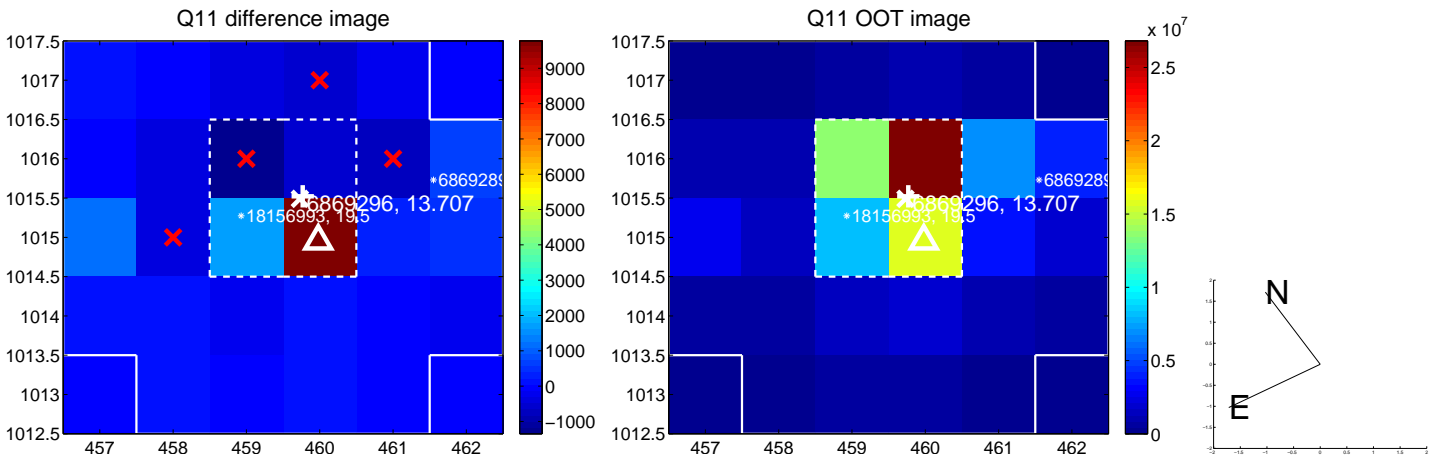
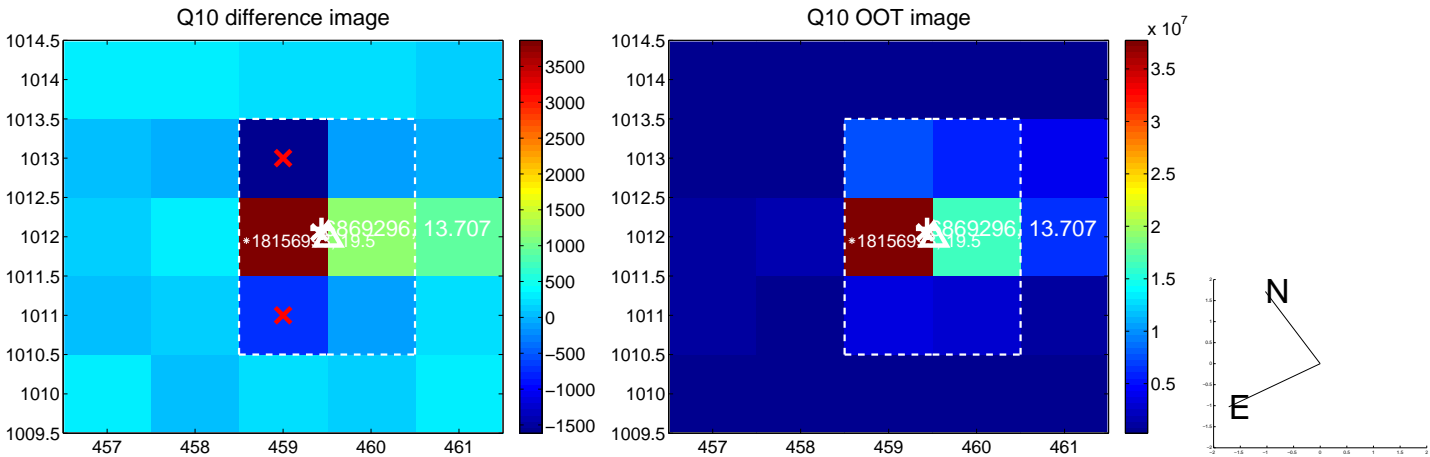
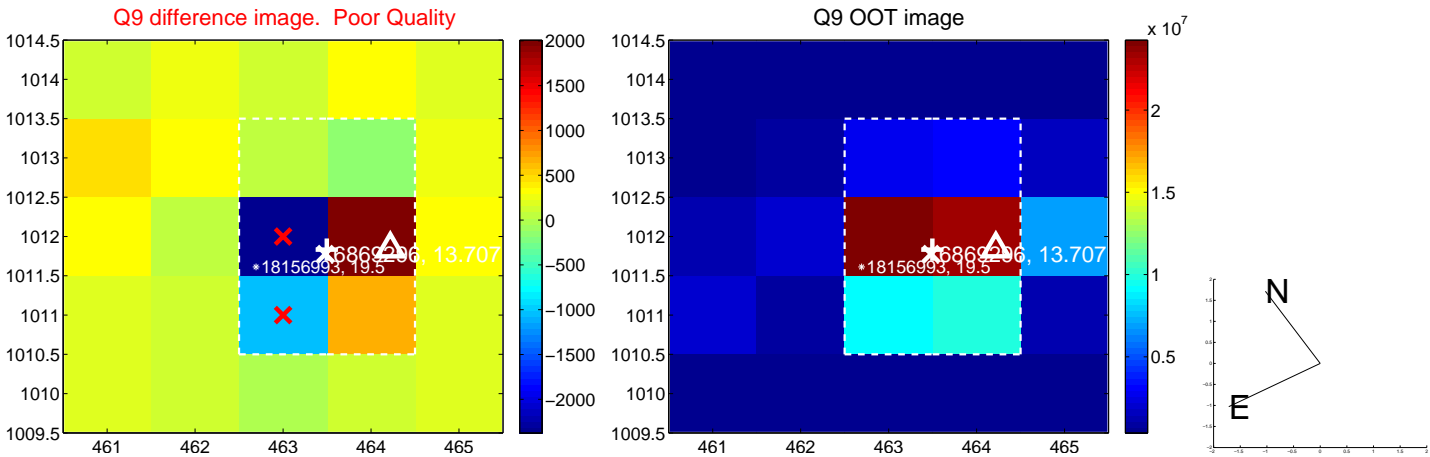


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

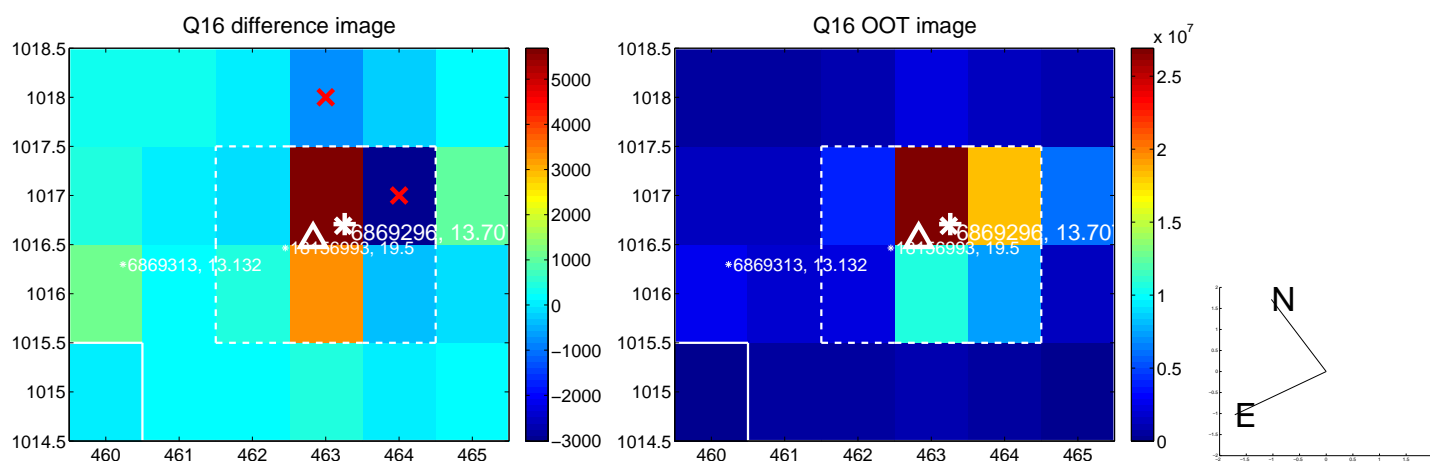
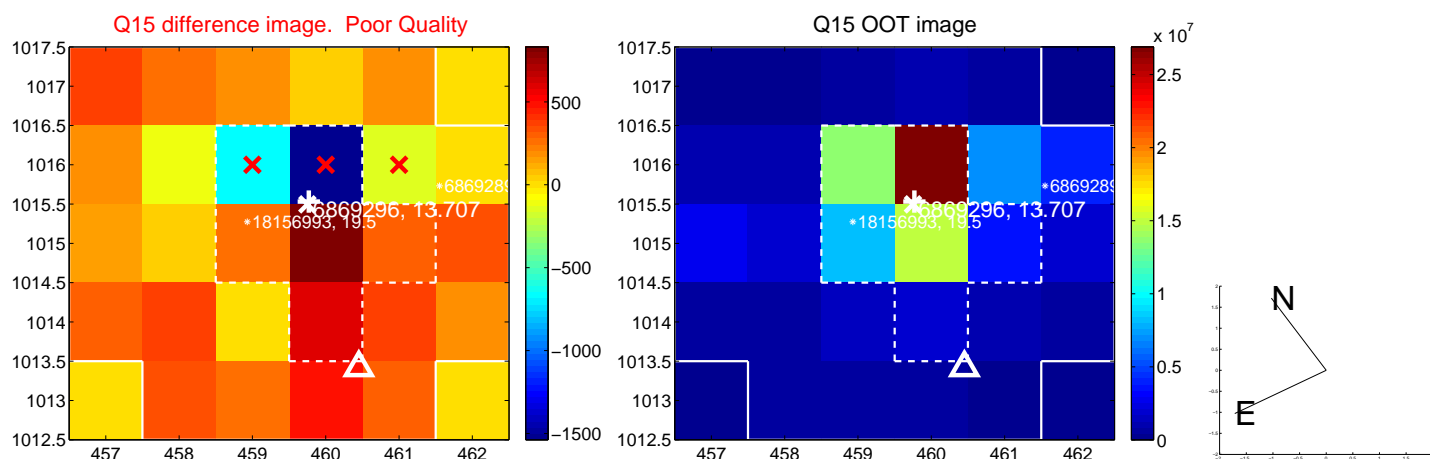
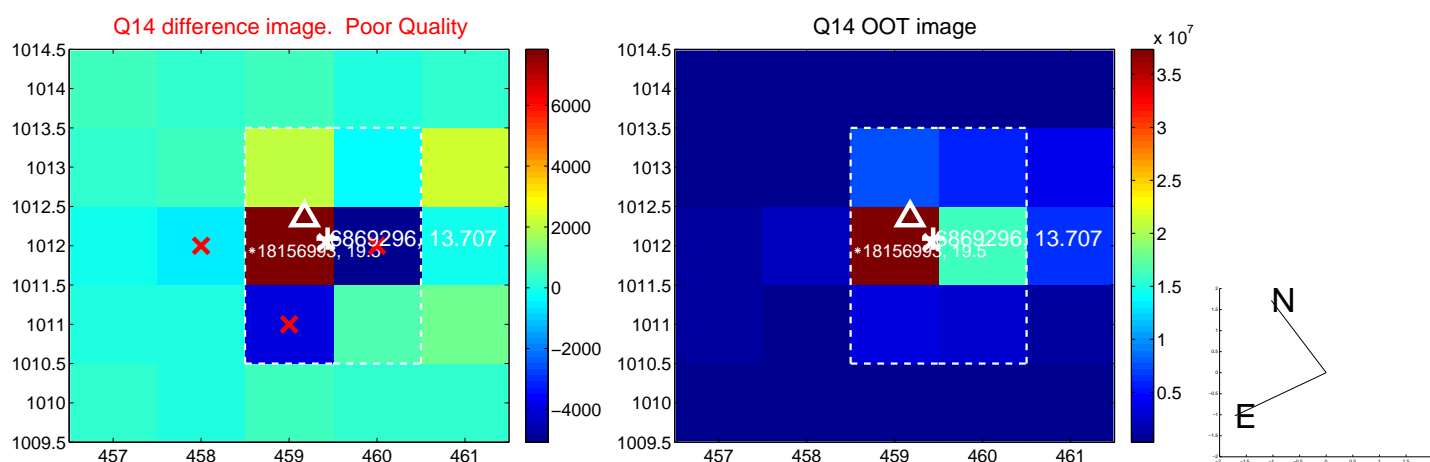
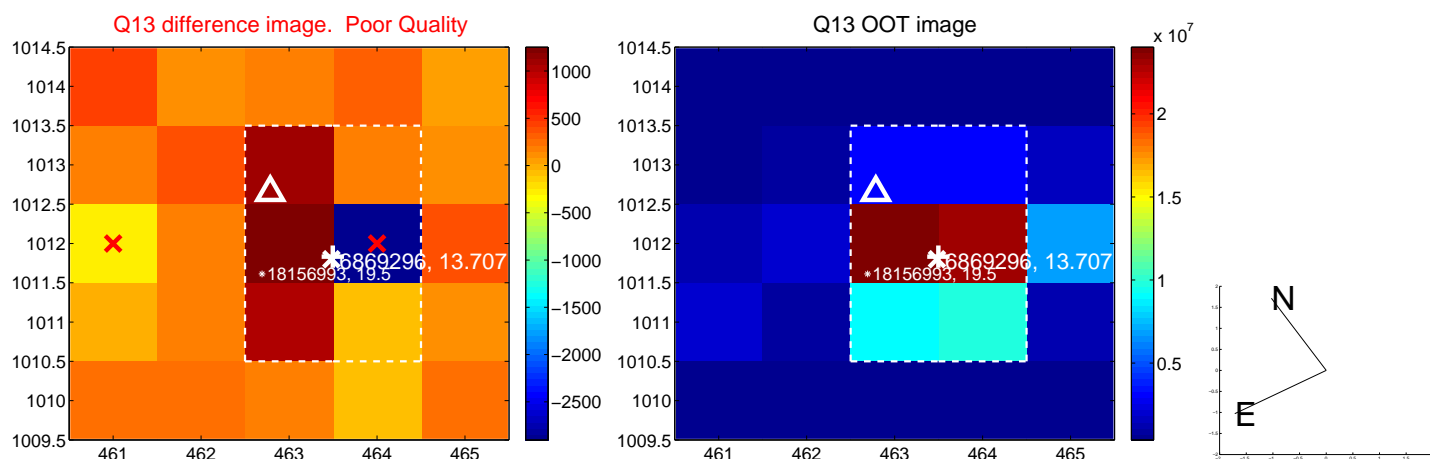




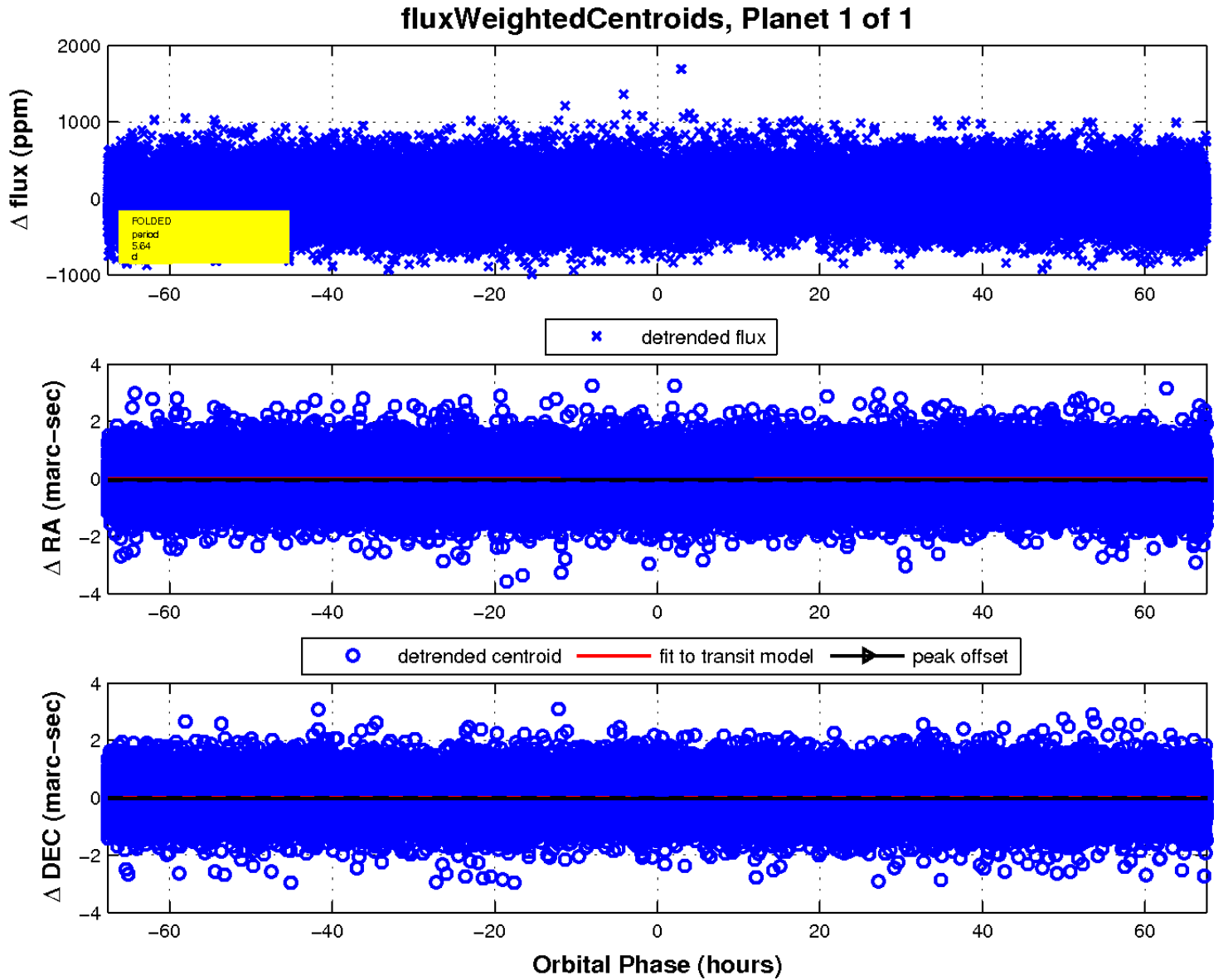
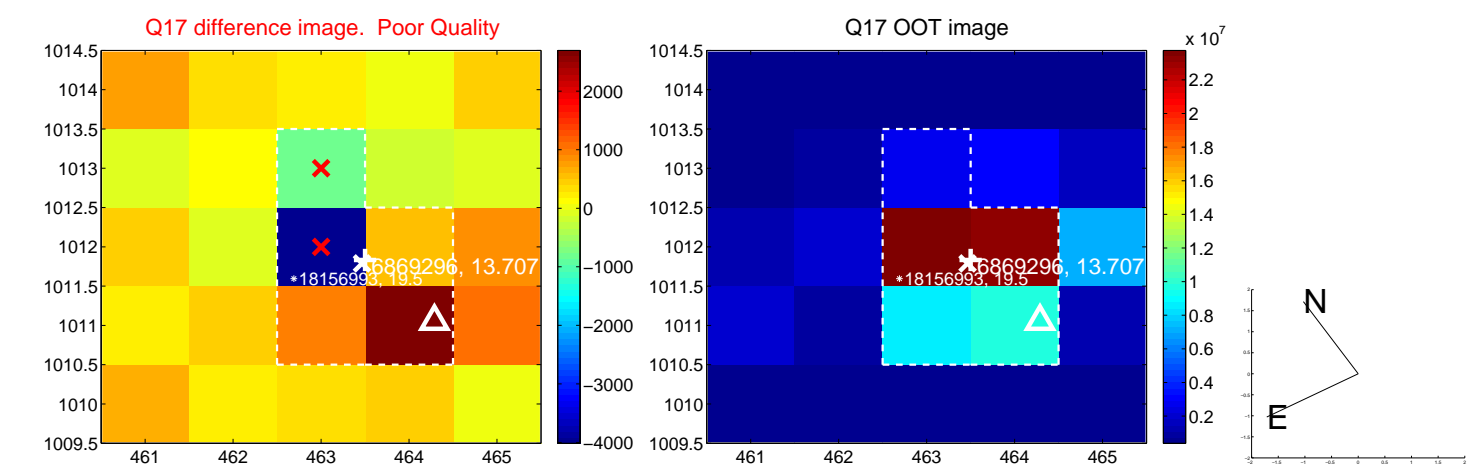
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

