

# KIC 004261960

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004261960-01	OBS	6397.01	1.461246	131.790382	315.8	2.305	27.1	23.1	0.67	5226	1.44	583.06

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004261960-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

**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 004261960-01

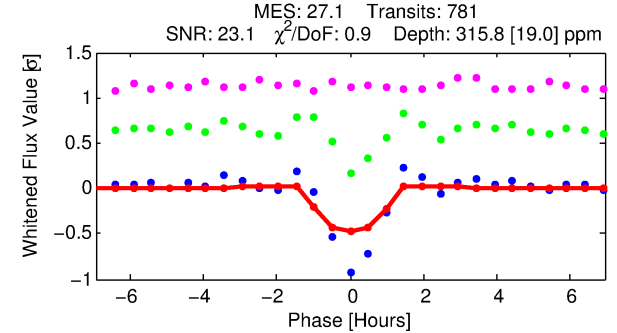
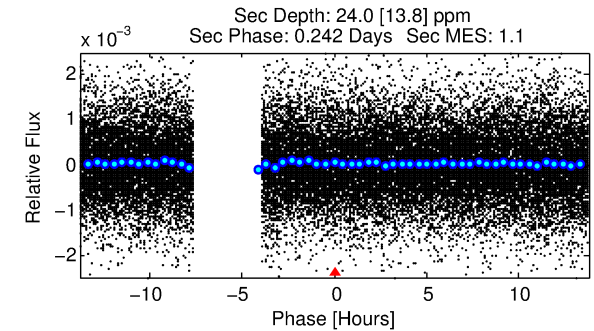
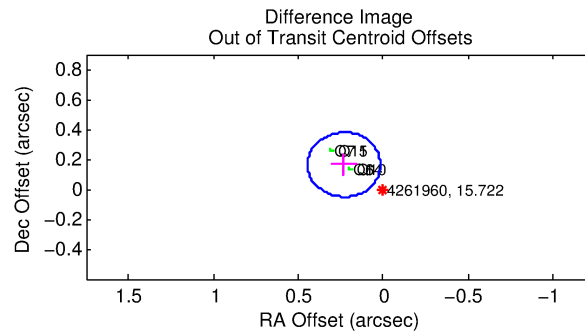
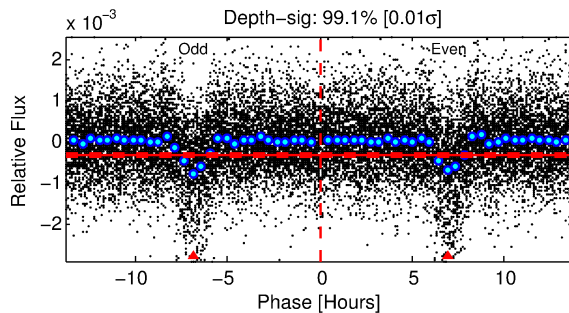
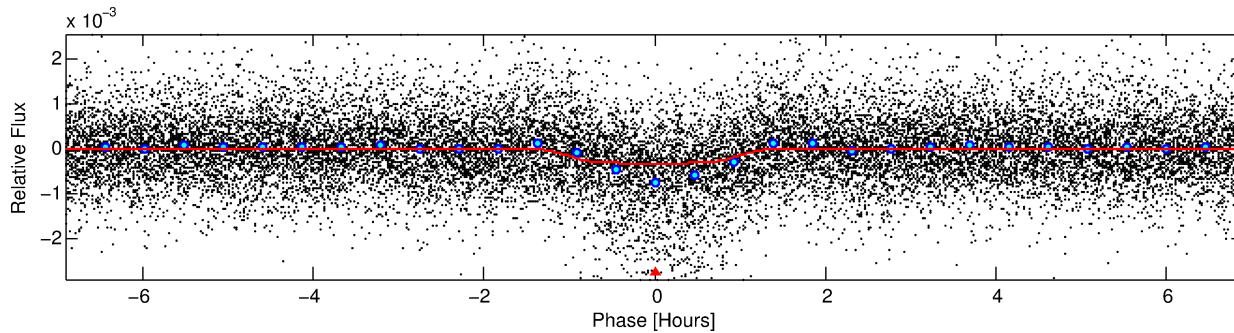
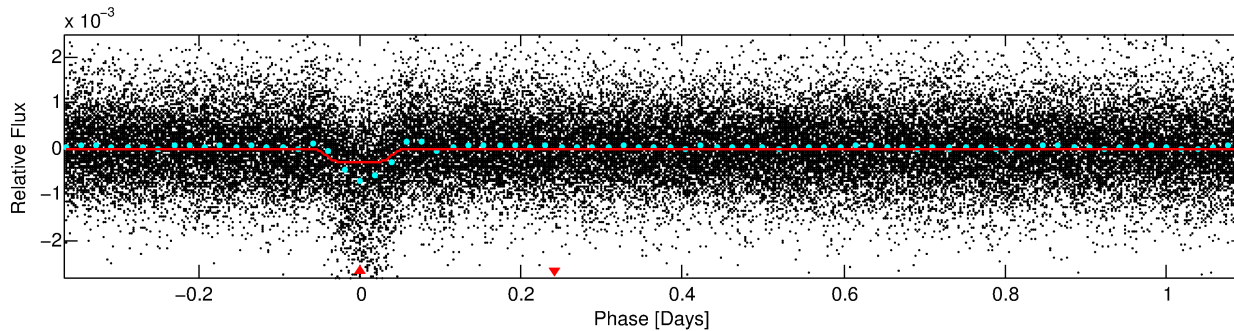
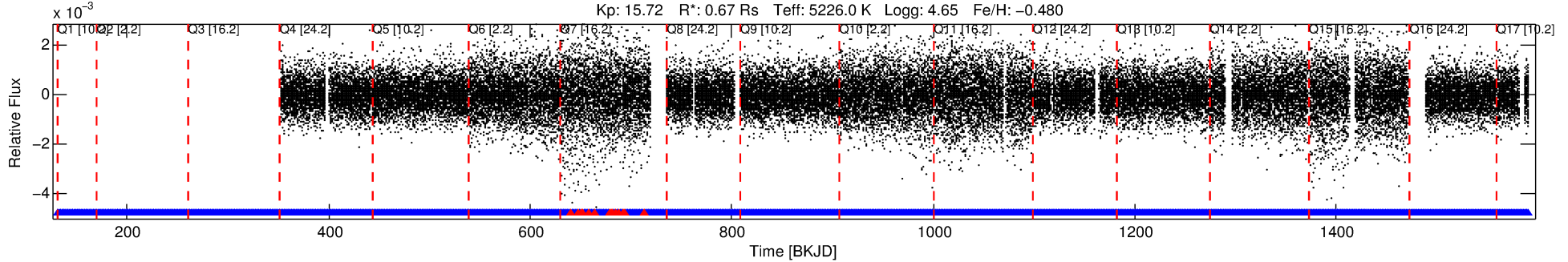
No Significant Match Found

# DV One-Page Summary

KIC: 4261960 Candidate: 1 of 1 Period: 1.461 d

KOI: K06397 Corr: No Ephemeris Match

Kp: 15.72 R\*: 0.67 Rs Teff: 5226.0 K Logg: 4.65 Fe/H: -0.480



## DV Fit Results:

Period = 1.46125 [0.00001] d  
Epoch = 131.7904 [0.0015] BKJD  
Rp/R\* = 0.0196 [0.0056]  
a/R\* = 2.50 [2.57]  
b = 0.90 [0.26]  
Seff = 583.06 [129.70]  
Teq = 1253 [70] K  
Rp = 1.44 [0.47] Re  
a = 0.0228 [0.0029] AU  
Ag = 3.31 [2.74] [0.84σ]  
Teffp = 2613 [536] K [2.52σ]

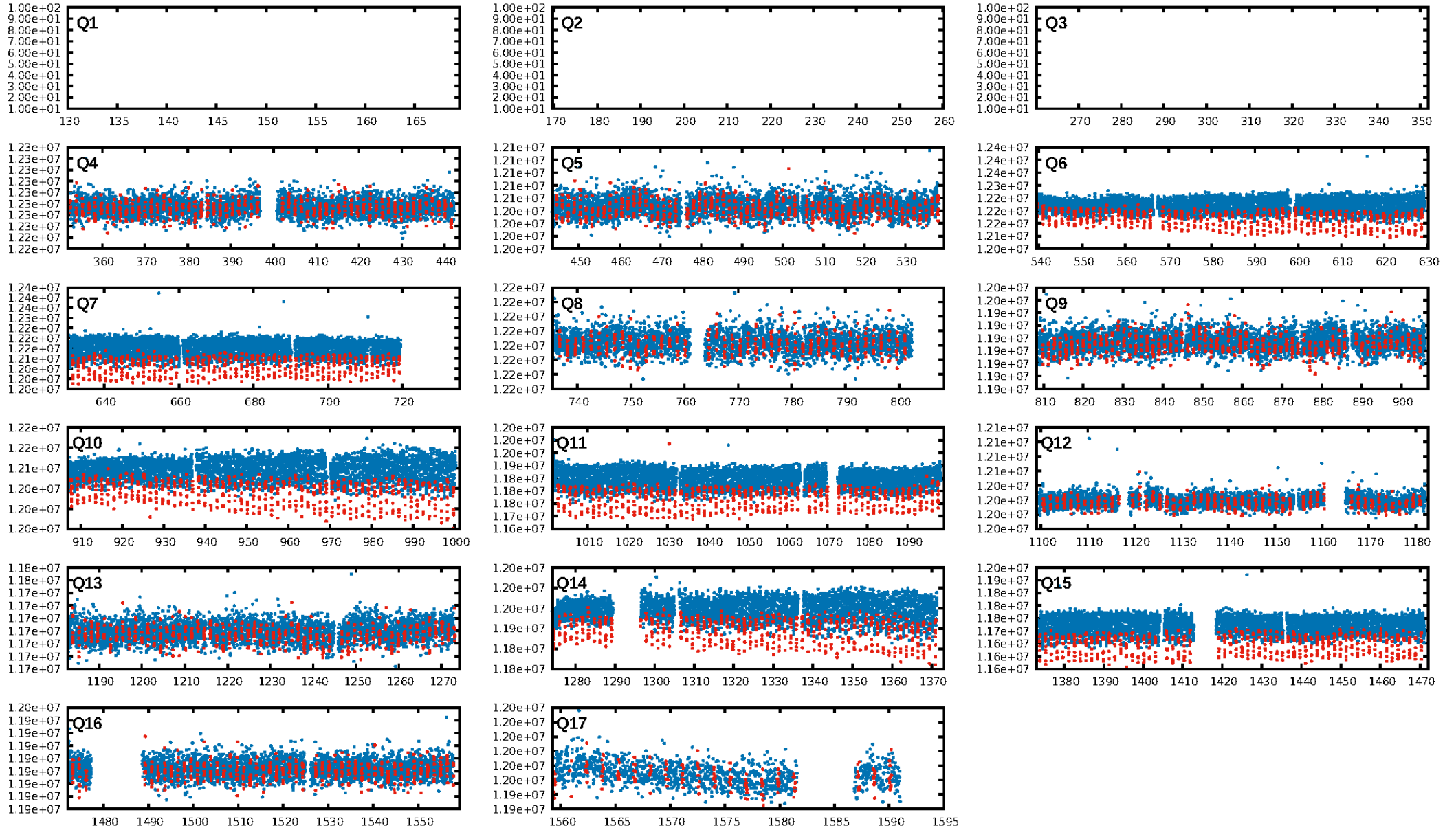
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.56e-155  
RollingBand-fgt: 0.98 [749/763]  
**GhostDiagnostic-chr: -0.4015**  
Centroid-sig: 0.0%  
Centroid-so: 15.710 arcsec [26.15σ]  
OotOffset-rm: 0.282 arcsec [3.94σ]  
KicOffset-rm: 10.804 arcsec [156.58σ]  
OotOffset-st: 3/3/0/0 [6]  
KicOffset-st: 3/3/0/0 [6]  
DiffImageQuality-fgm: 1.00 [6/6]  
DiffImageOverlap-fno: 1.00 [14/14]

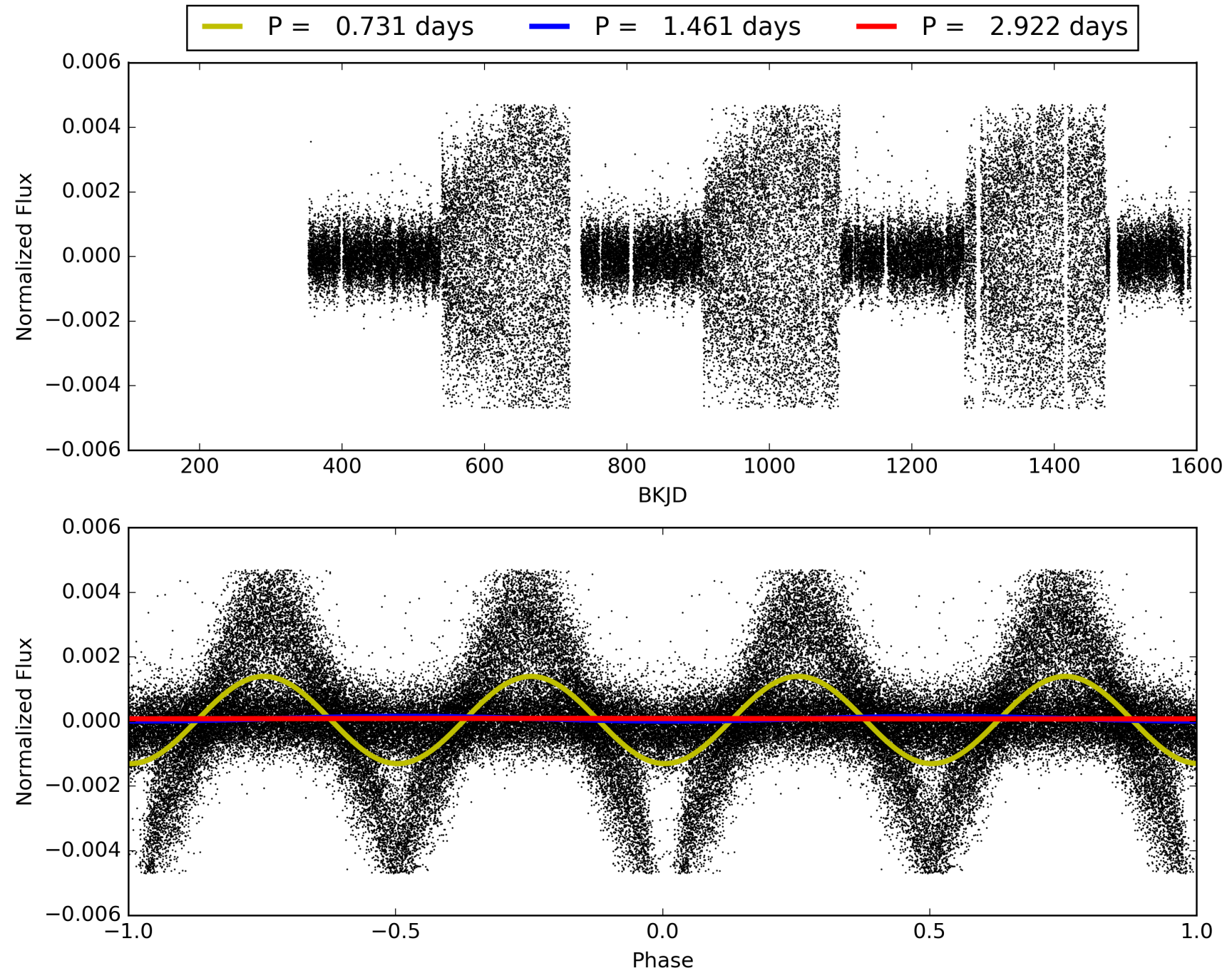
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:06:29 Z

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

# TCE 004261960-01, PDC Light Curves

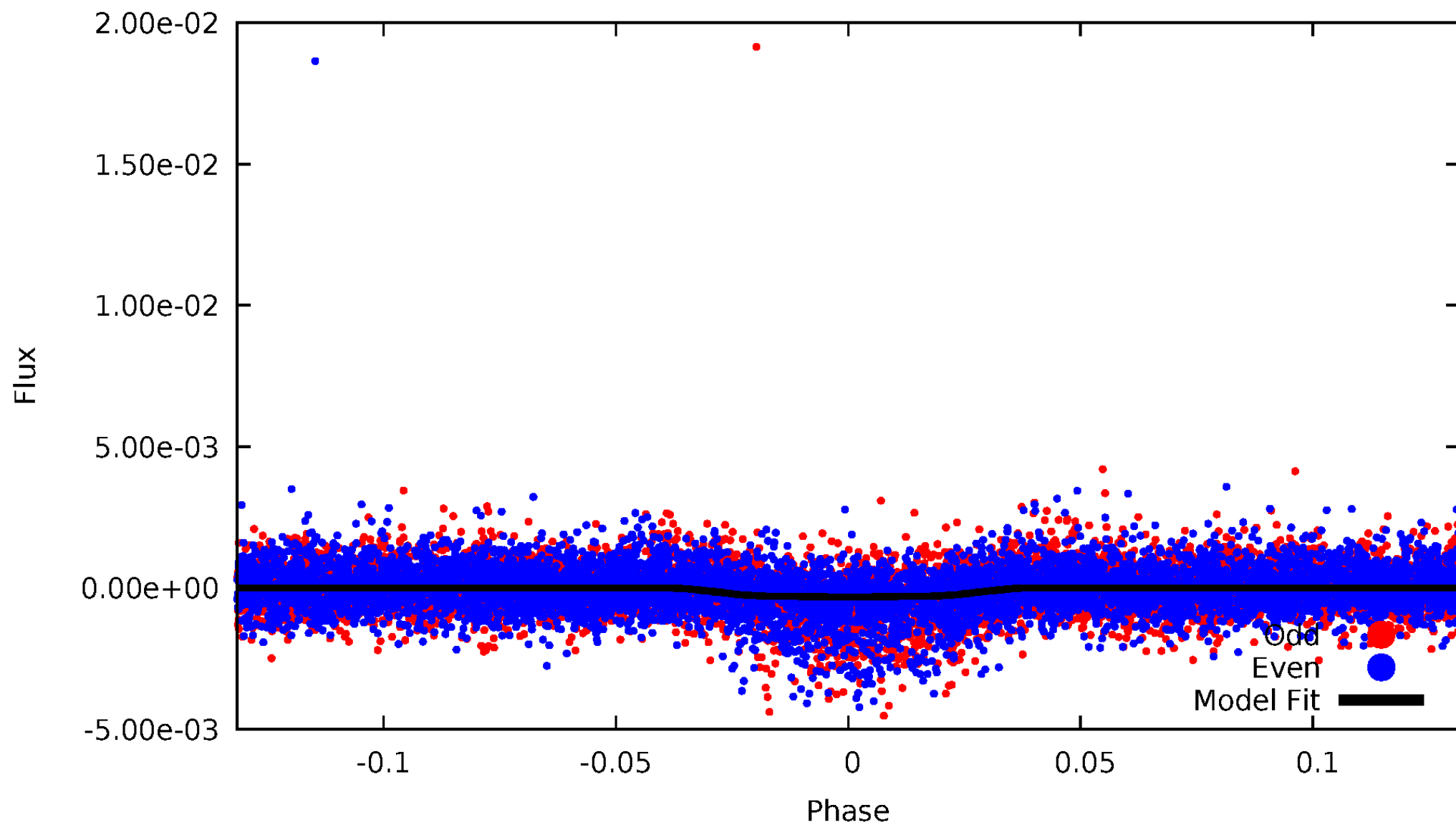


TCE 004261960-01



# DV Odd/Even

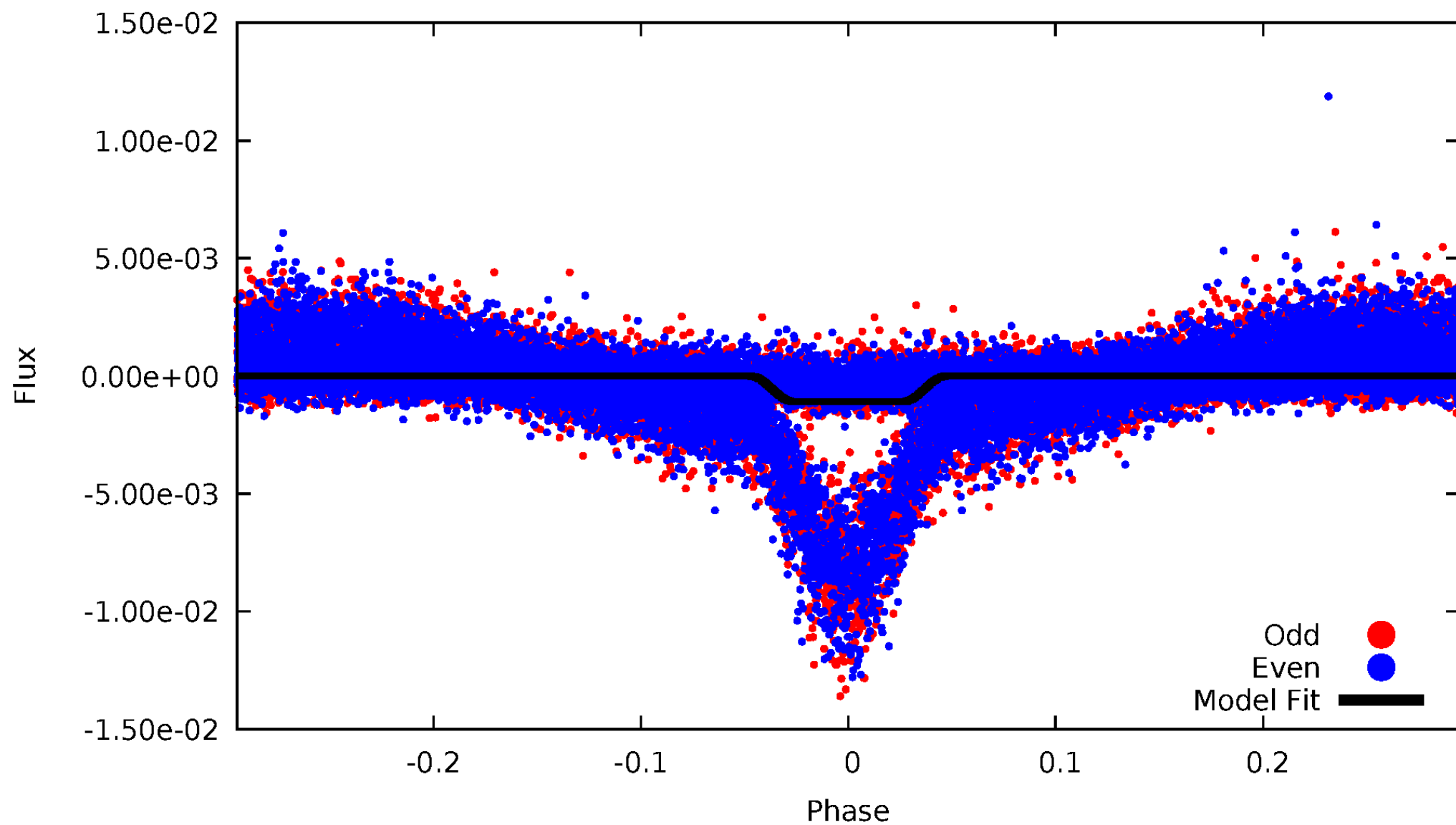
TCE 004261960-01





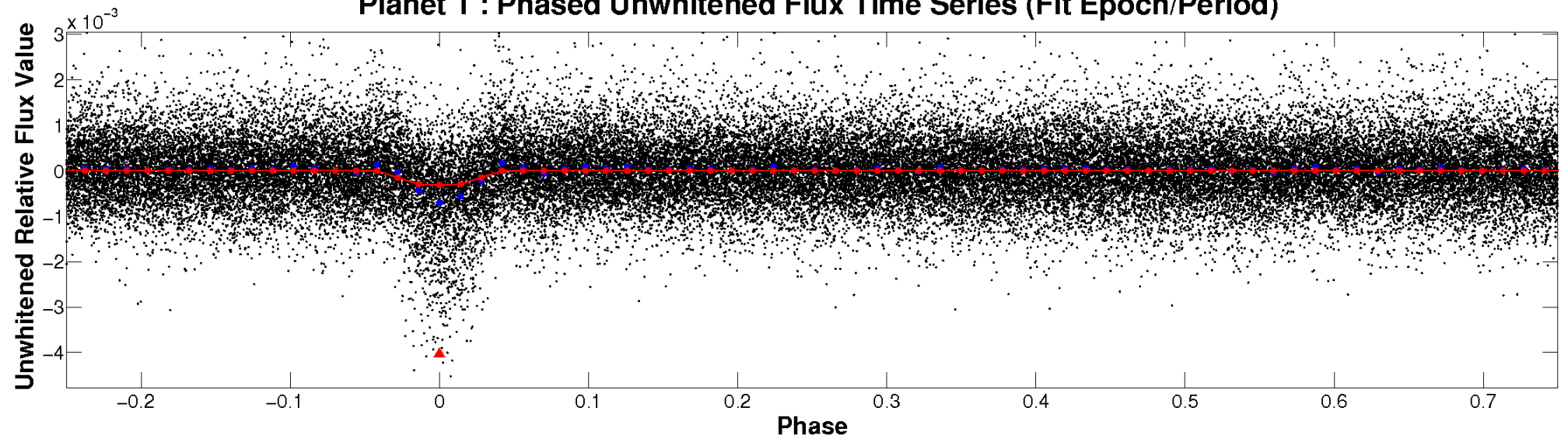
# ALT Odd/Even

TCE 004261960-01

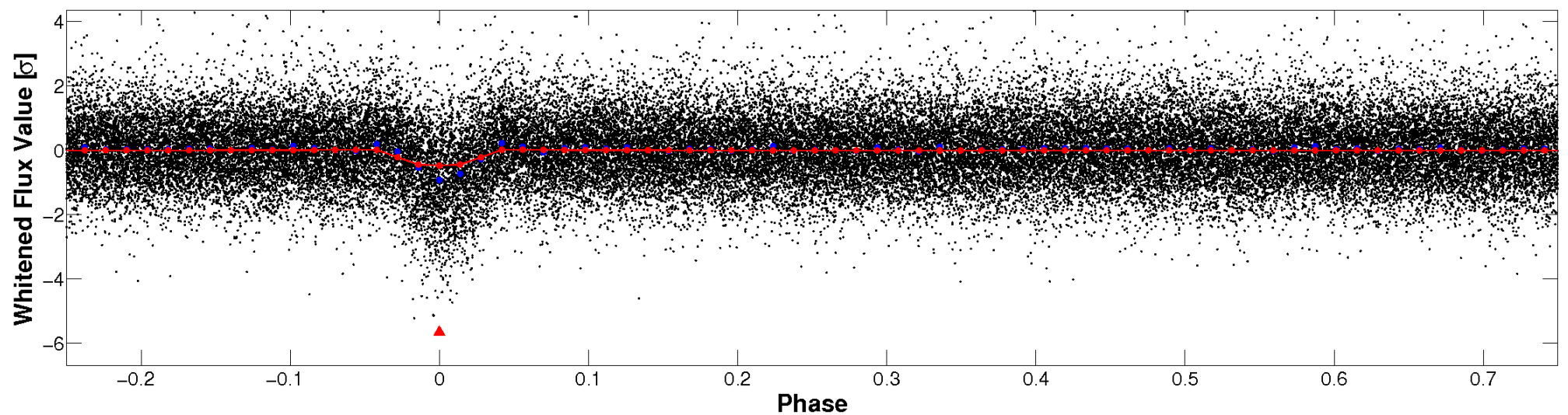


# Non-Whitened Vs. Whitened Light Curve

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

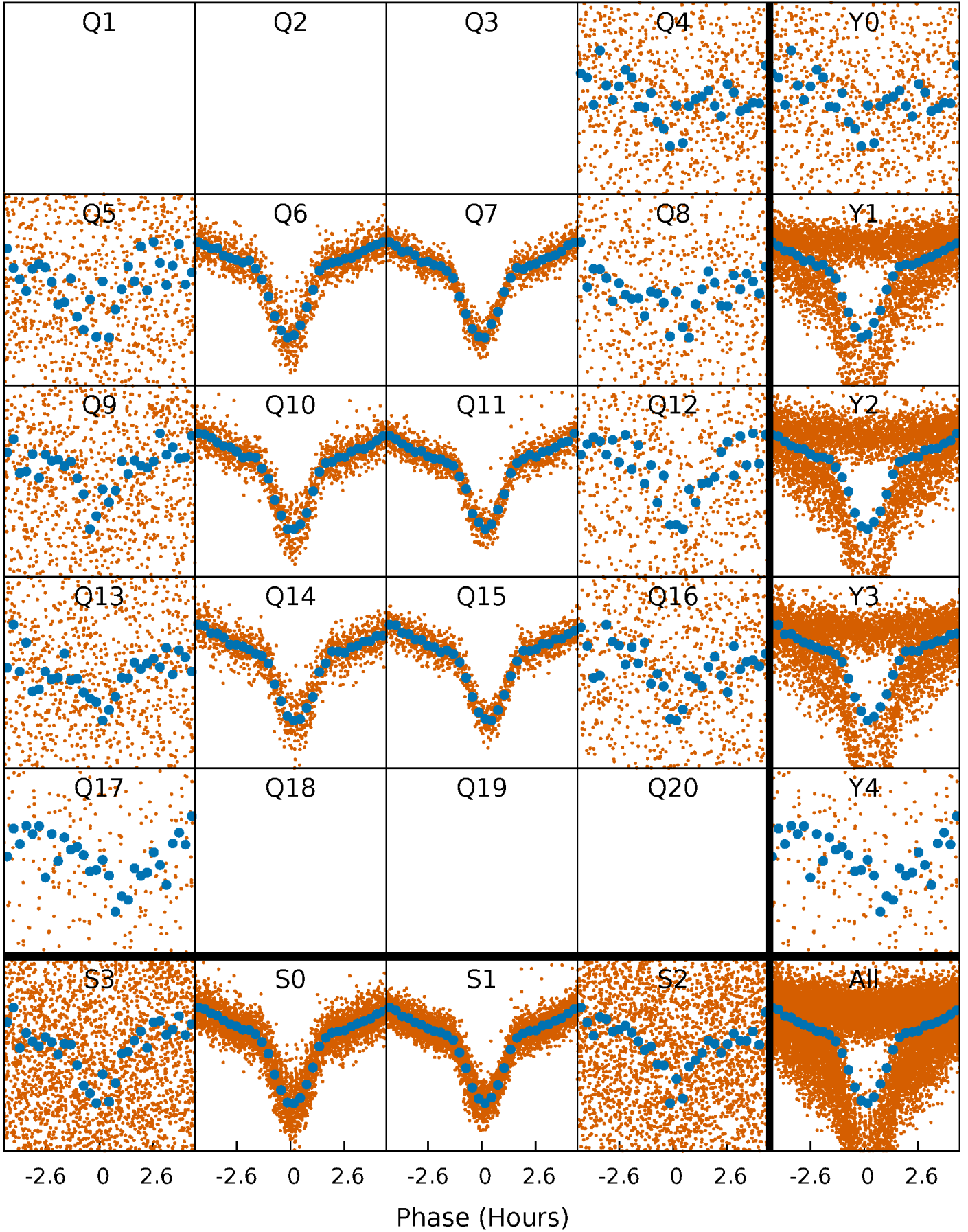


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

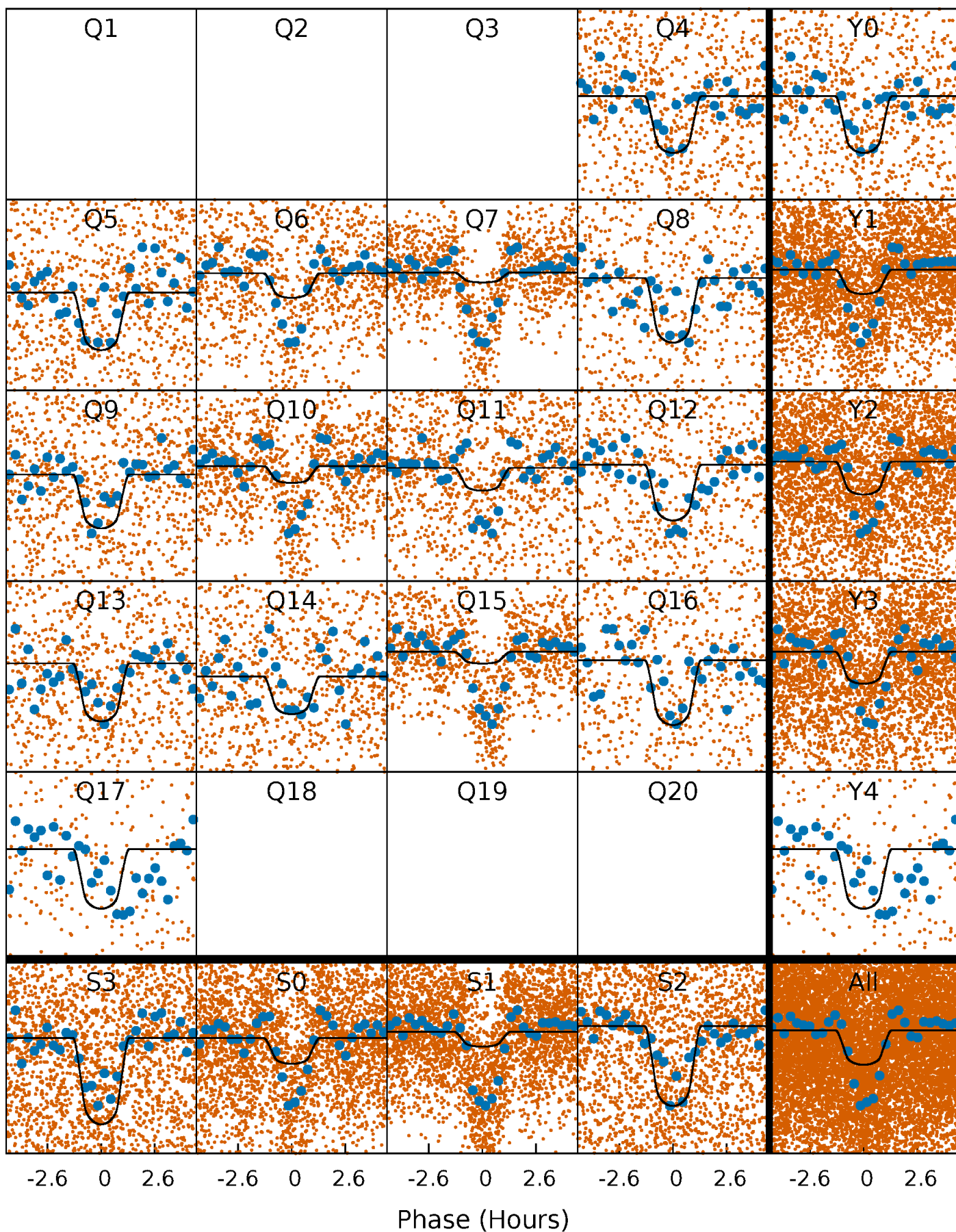
TCE 004261960-01   P= 1.461246 Days    $T_0=131.790382$  (BKJD)





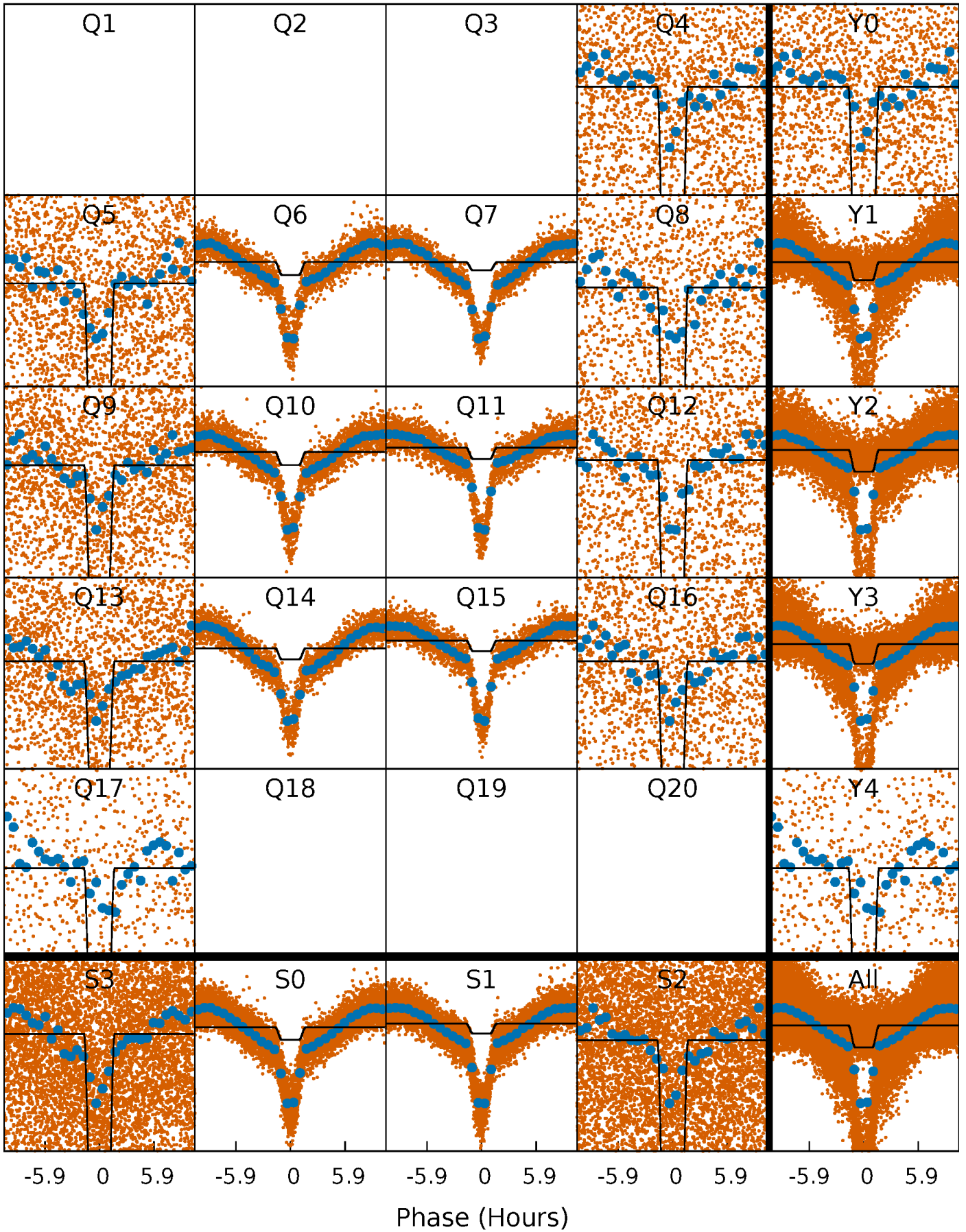
# DV Quarter-Phased Transit Curves

TCE 004261960-01   P= 1.461246 Days    $T_0=131.790382$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

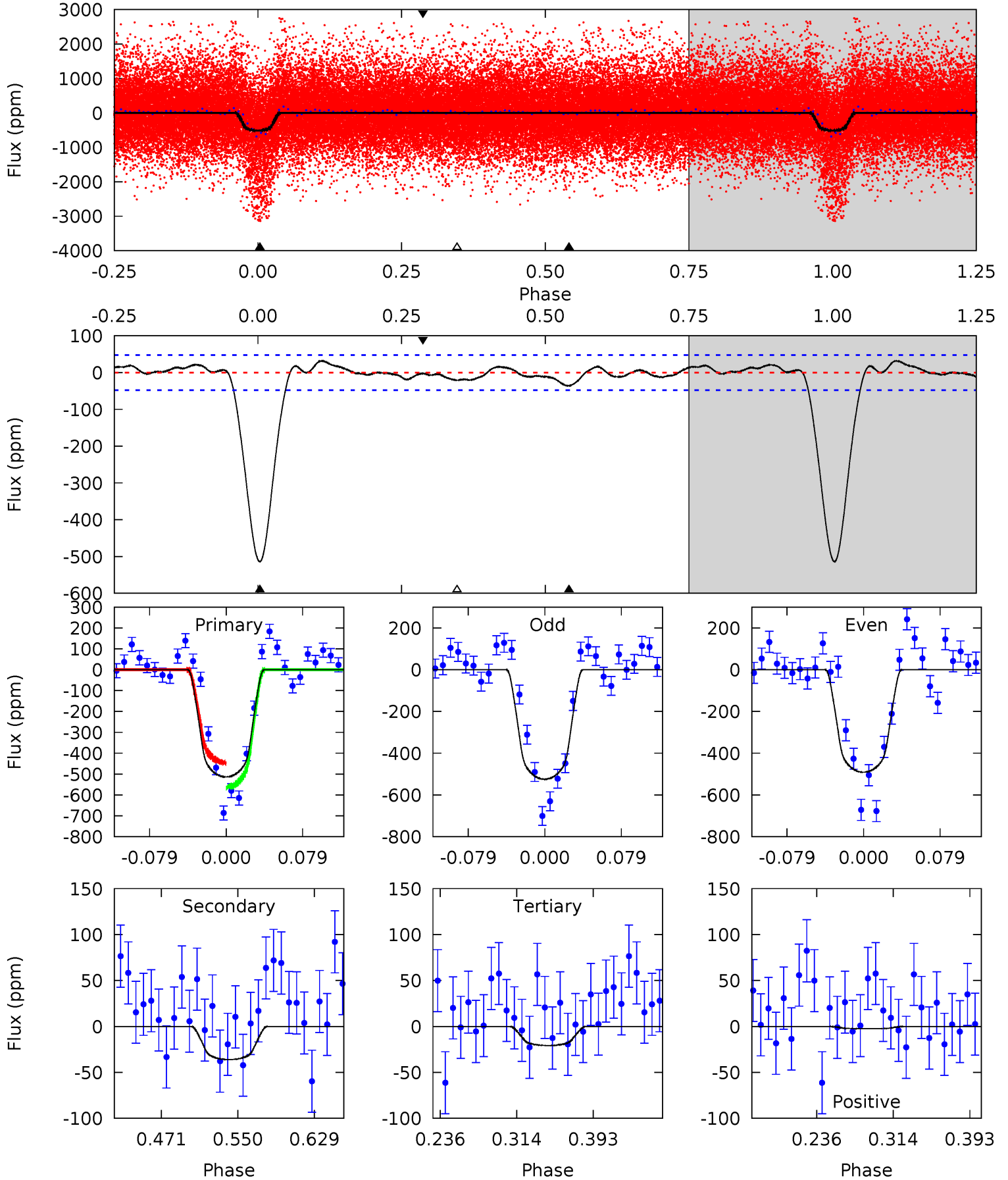
TCE 004261960-01 P= 1.461268 Days  $T_0=131.781965$  (BKJD)



# DV Model-Shift Uniqueness Test

004261960-01, P = 1.461246 Days, E = 131.790382 Days

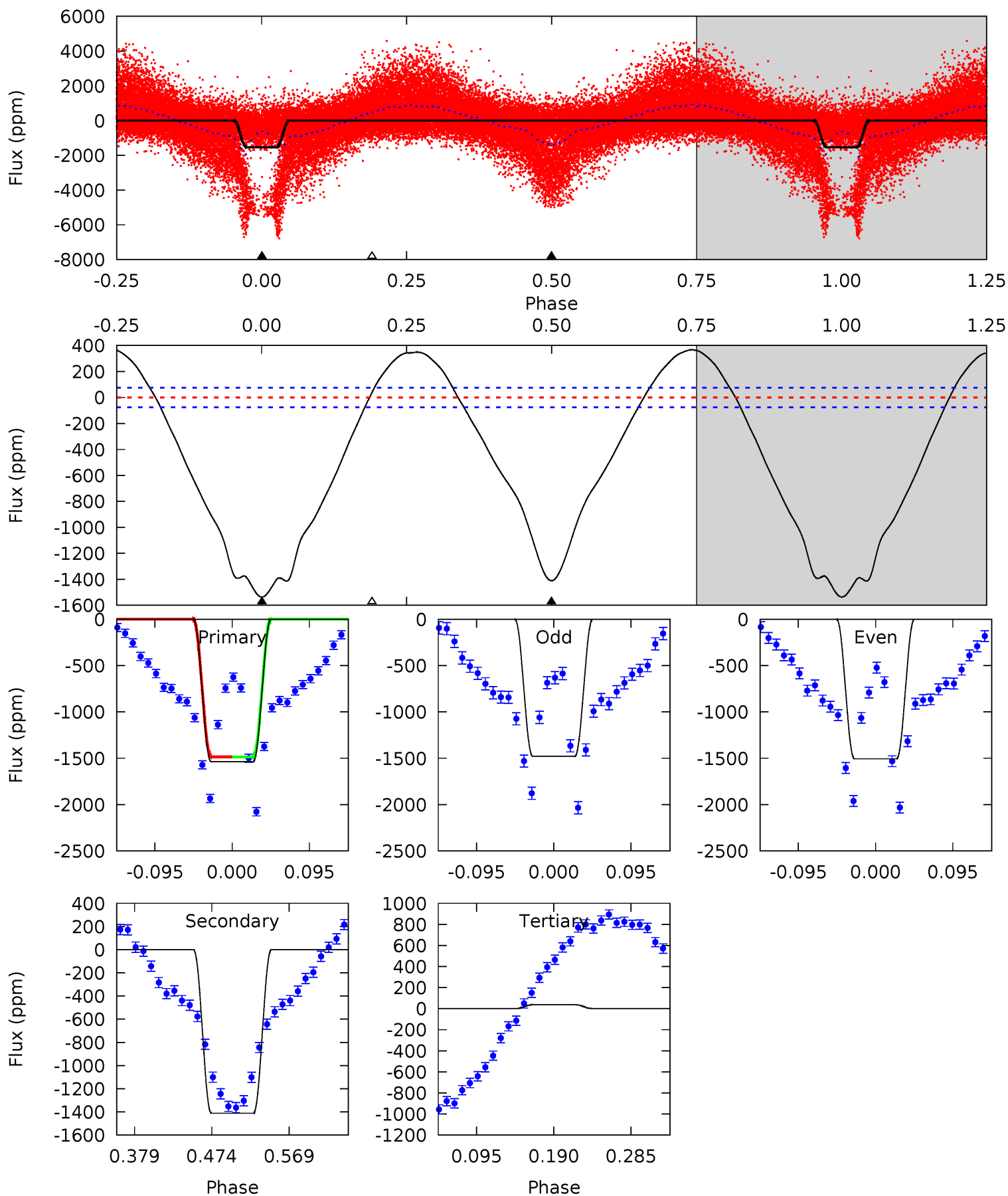
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.8	3.50	2.02	-0.24	4.62	1.76	1.18	47.8	50.0	1.48	3.74	1.61	1.47	0.06	5.74



# Alt Model-Shift Uniqueness Test

004261960-01, P = 1.461268 Days, E = 131.781965 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
93.4	85.8	-2.25	0	4.58	1.67	21.3	95.7	93.4	88.0	85.8	0.81	4.05	0.19	0.04



### Stellar Parameters For KIC 004261960

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5226^{+182}_{-182}$	$4.651^{+0.030}_{-0.090}$	$-0.480^{+0.300}_{-0.300}$	$0.674^{+0.106}_{-0.045}$	$0.743^{+0.079}_{-0.071}$	$3.422^{+0.533}_{-0.981}$
	+3%/-3%	+1%/-2%	+62%/-62%	+16%/-7%	+11%/-10%	+16%/-29%
Source	KIC0	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 004261960-01 / KOI 6397.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-36 \pm 10$	$1.45^{+0.46}_{-0.39}$	$1770^{+79}_{-75}$	$3355^{+416}_{-310}$	$4.788^{+4.786}_{-2.145}$
Alt.	$-1411 \pm 16$	$2.46^{+0.46}_{-0.43}$	$1770^{+74}_{-70}$	$5542^{+569}_{-425}$	$66^{+32}_{-18}$

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



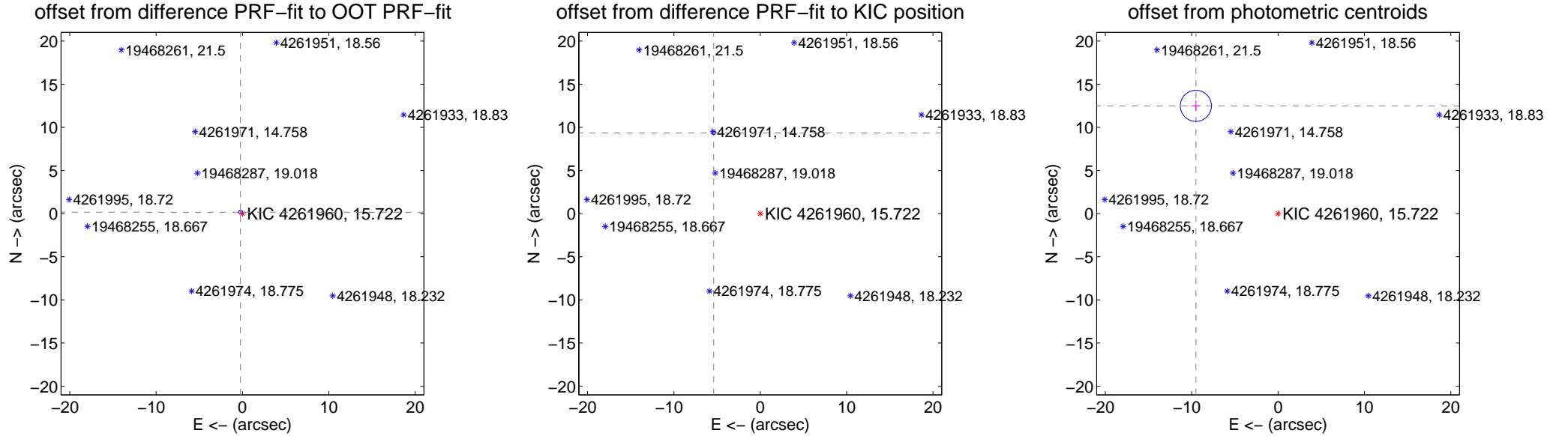
## DV Centroid Data

Supplemental centroid analysis for 004261960-01. Kepler magnitude: 15.72. Transit SNR 23.05

There are 6 quarters with good PRF difference image offsets

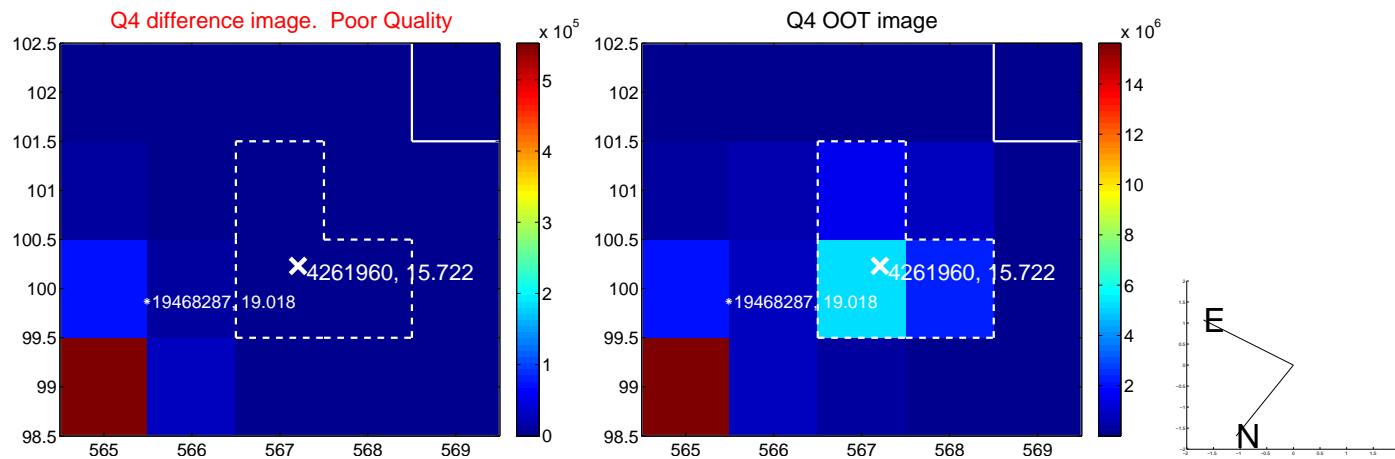
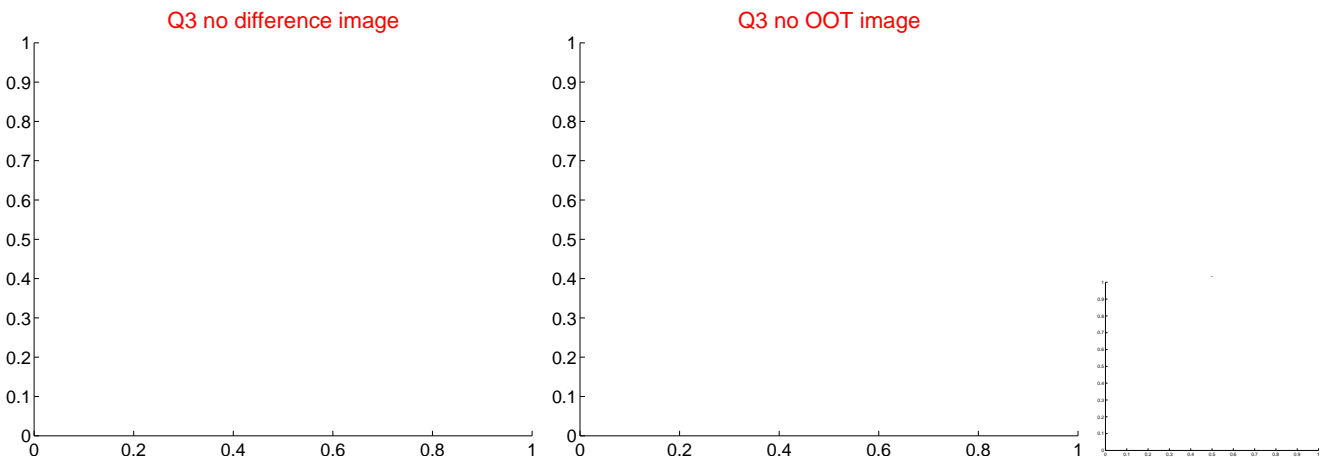
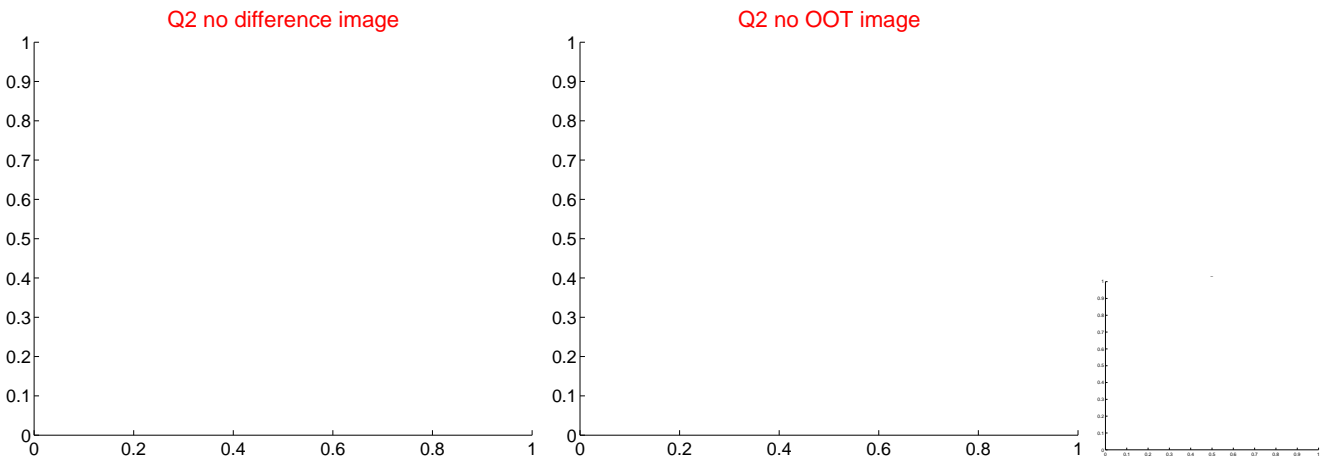
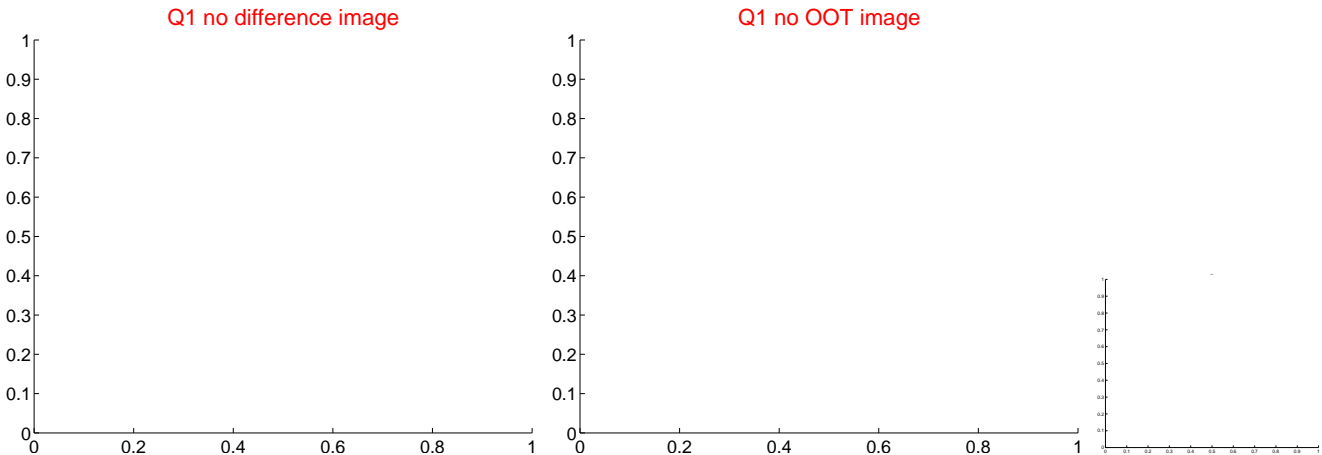
The OOT PRF centroid is offset from the target star catalog position by about 10.44 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.282 \pm 0.072$	3.94	$0.230 \pm 0.072$	$0.163 \pm 0.072$
PRF-fit source offset from KIC position	$10.804 \pm 0.069$	156.58	$5.400 \pm 0.071$	$9.358 \pm 0.068$
photometric centroid source offset	$15.71 \pm 0.60$	26.15	$9.52 \pm 0.54$	$12.50 \pm 0.63$

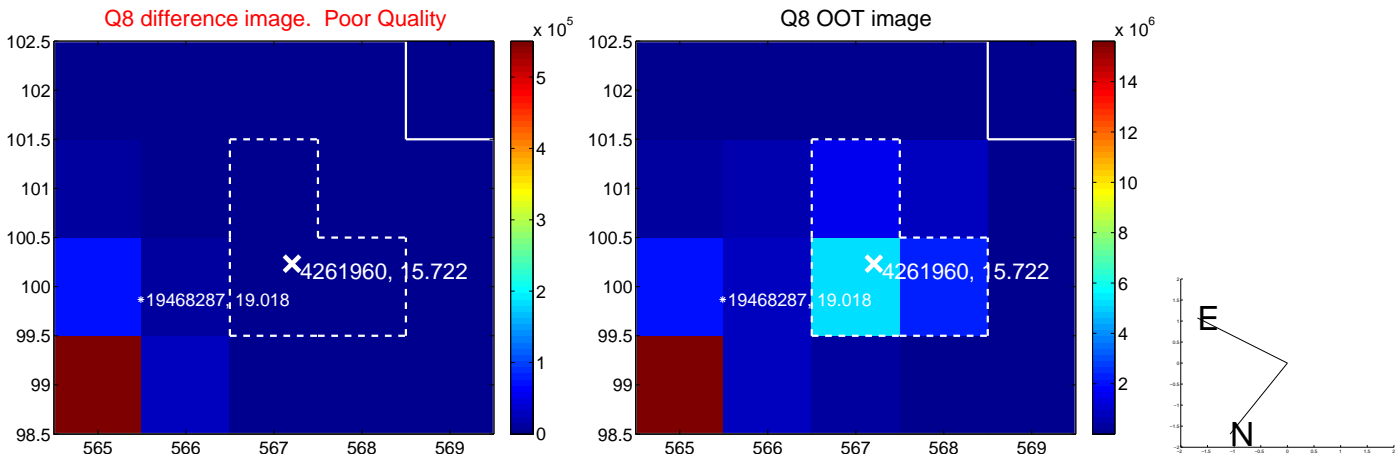
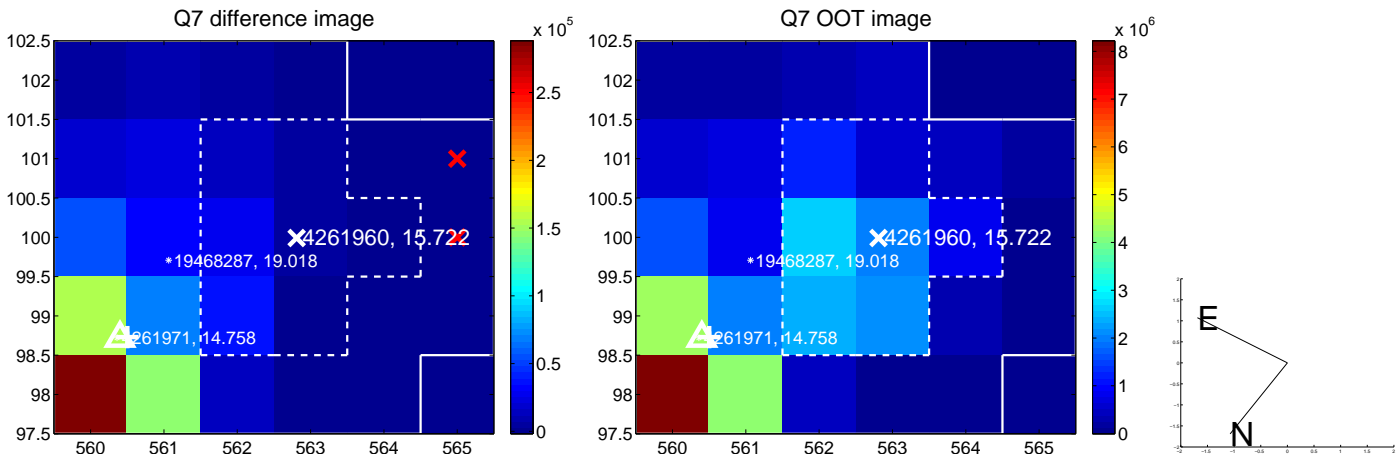
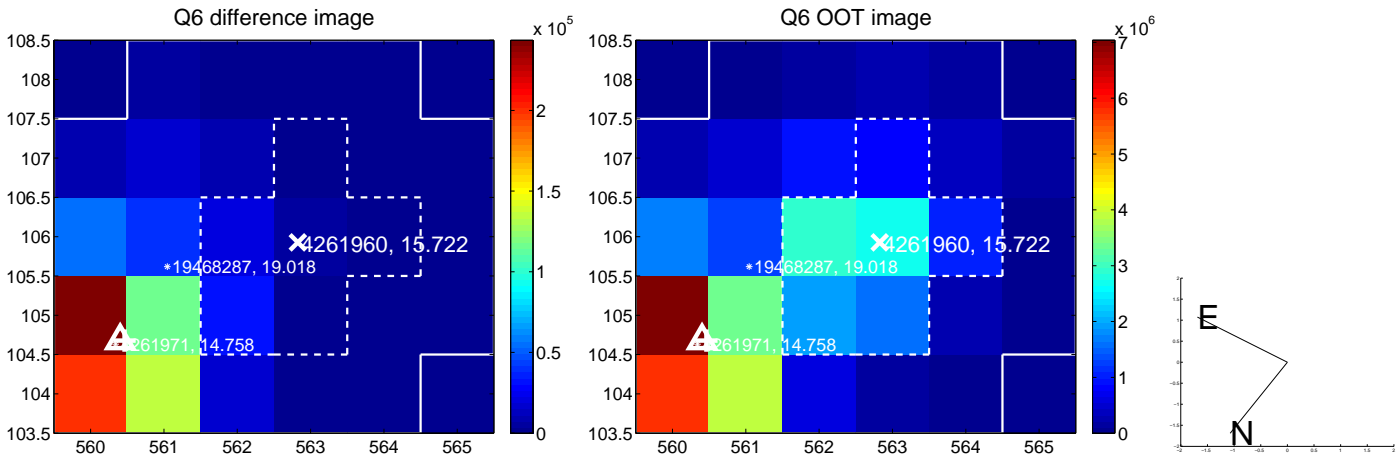
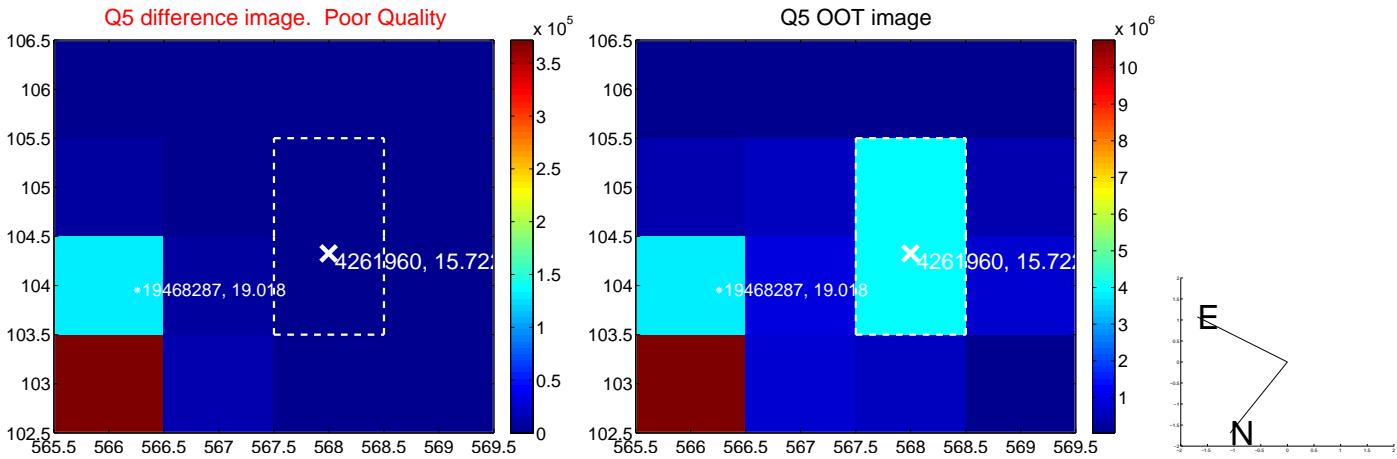


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

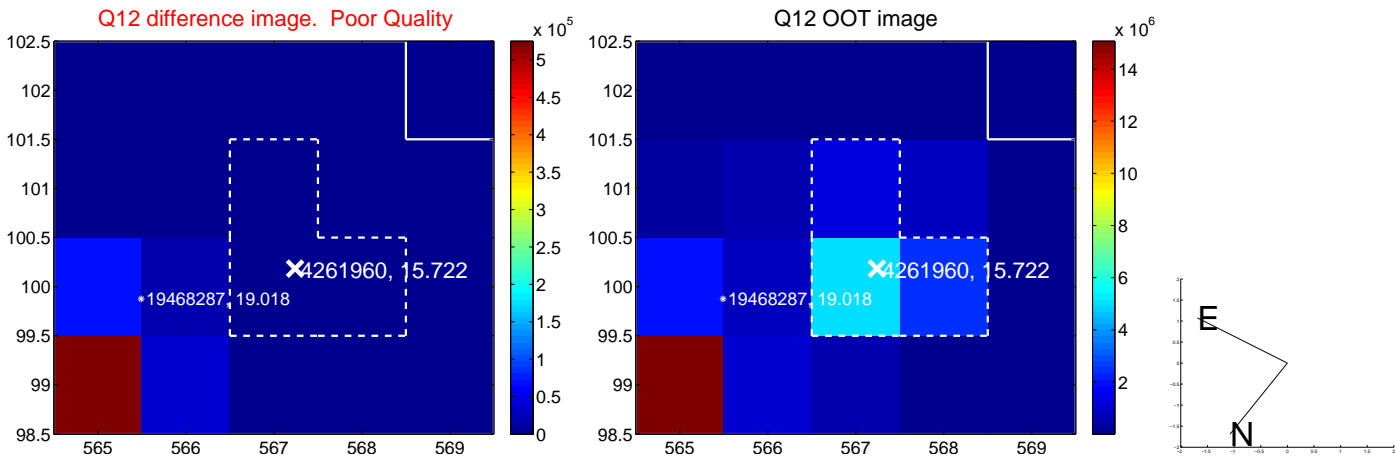
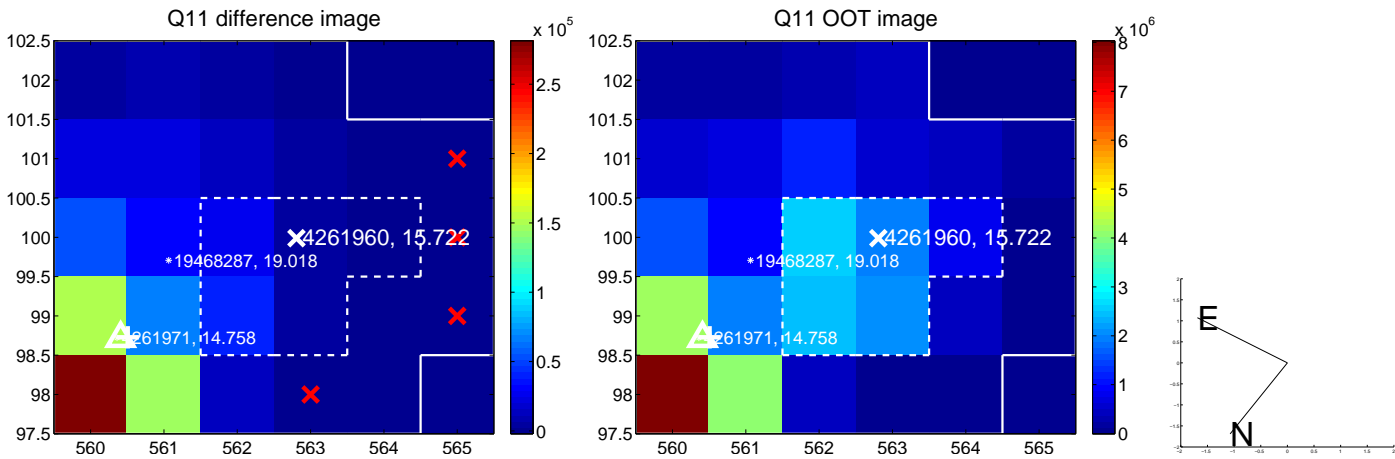
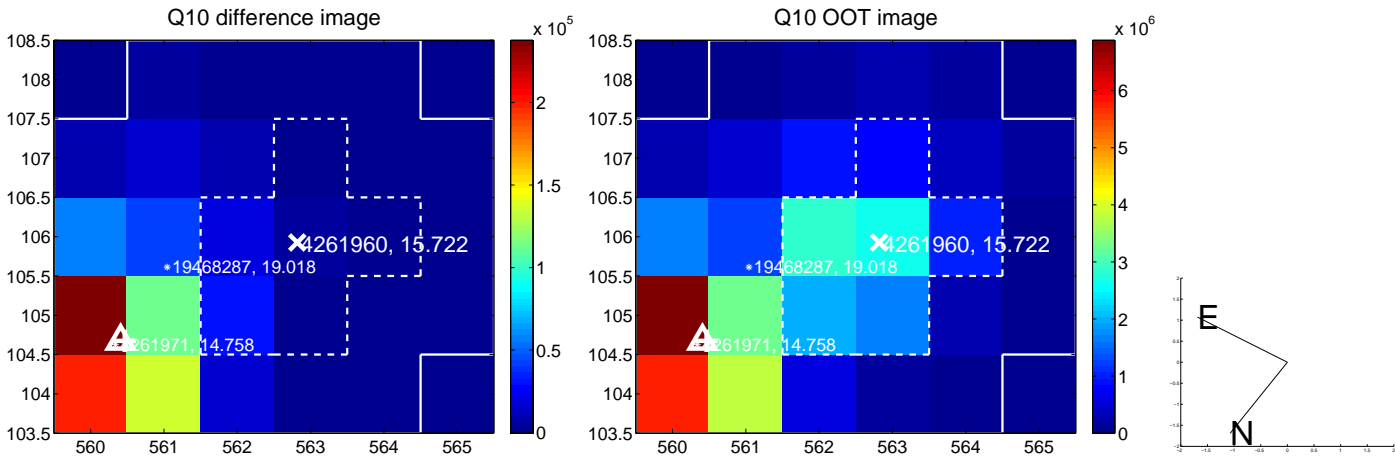
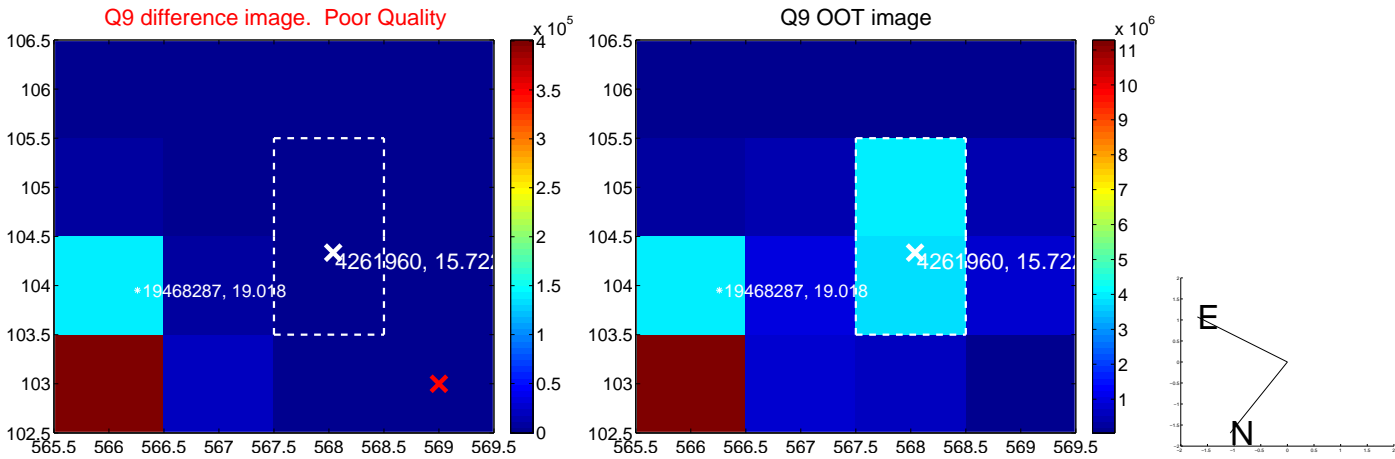
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



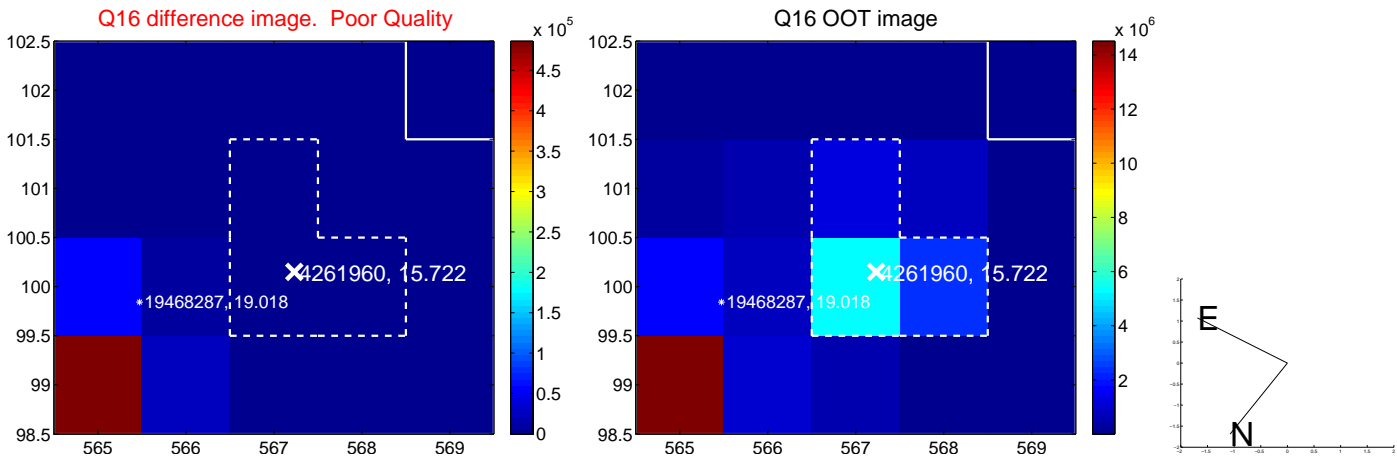
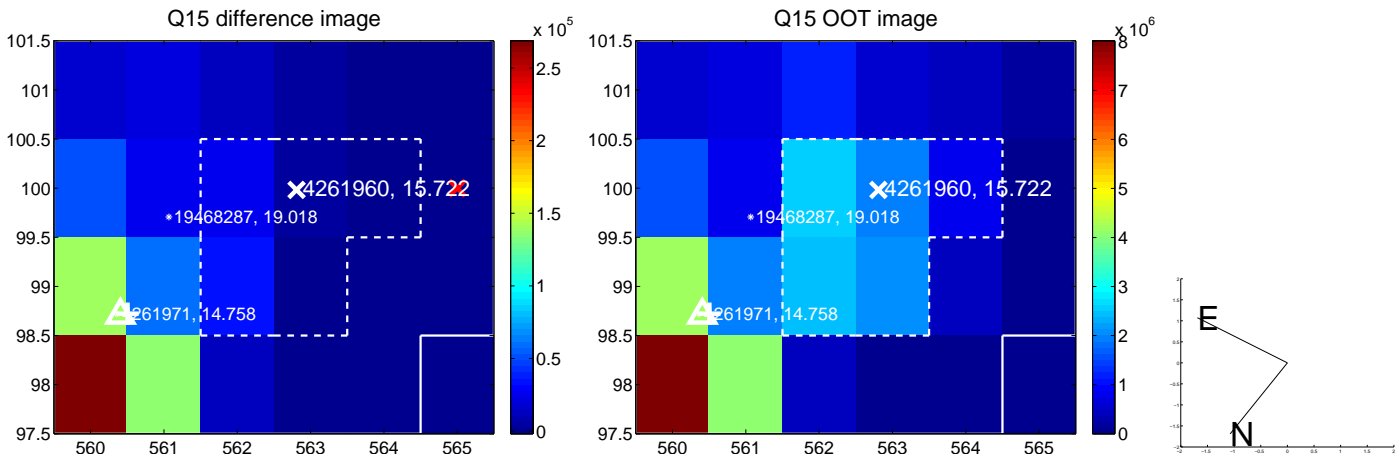
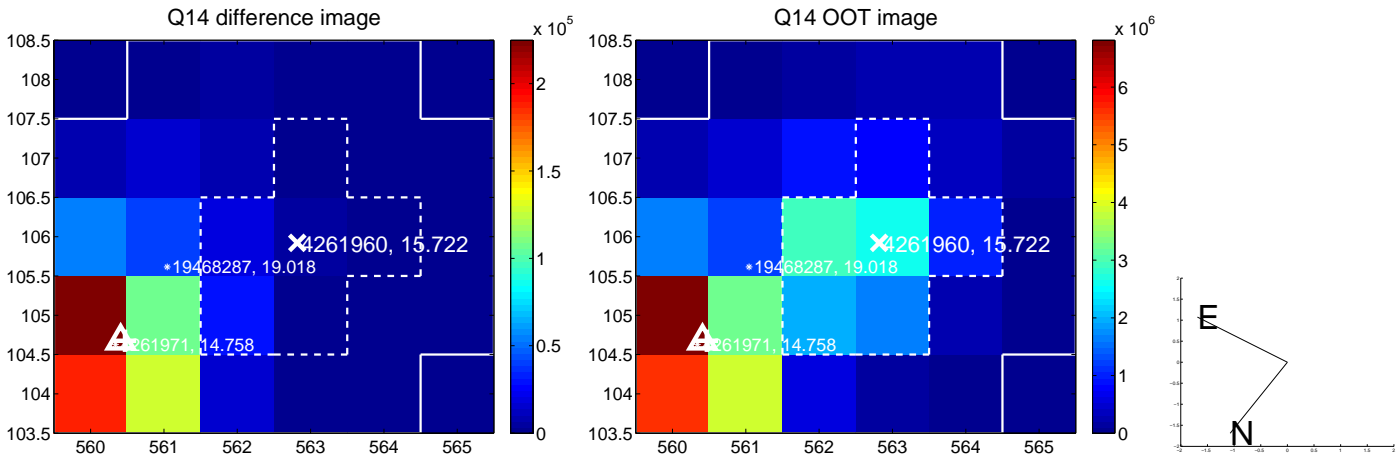
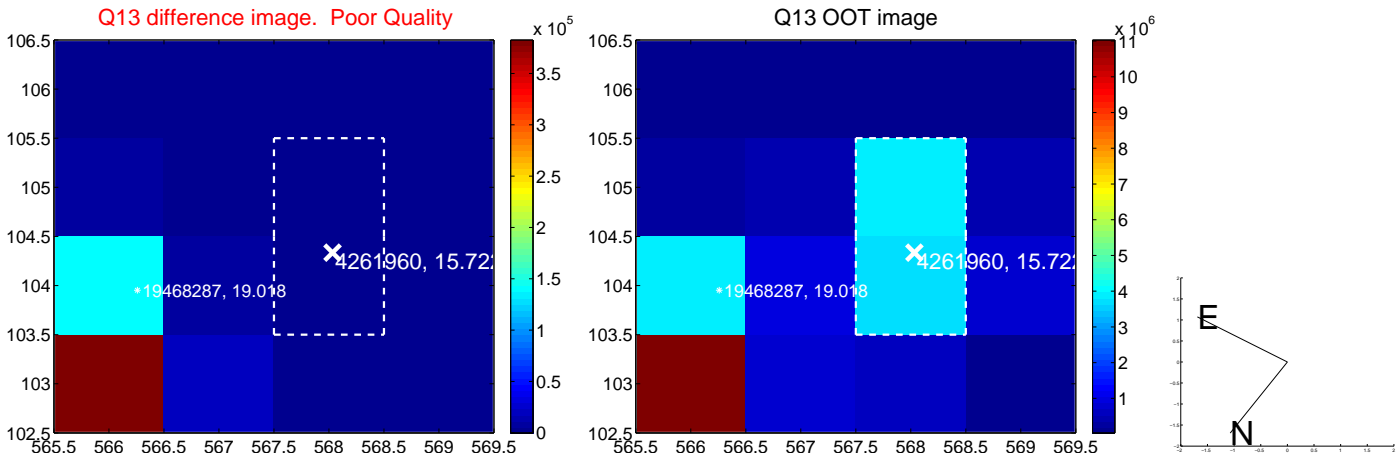
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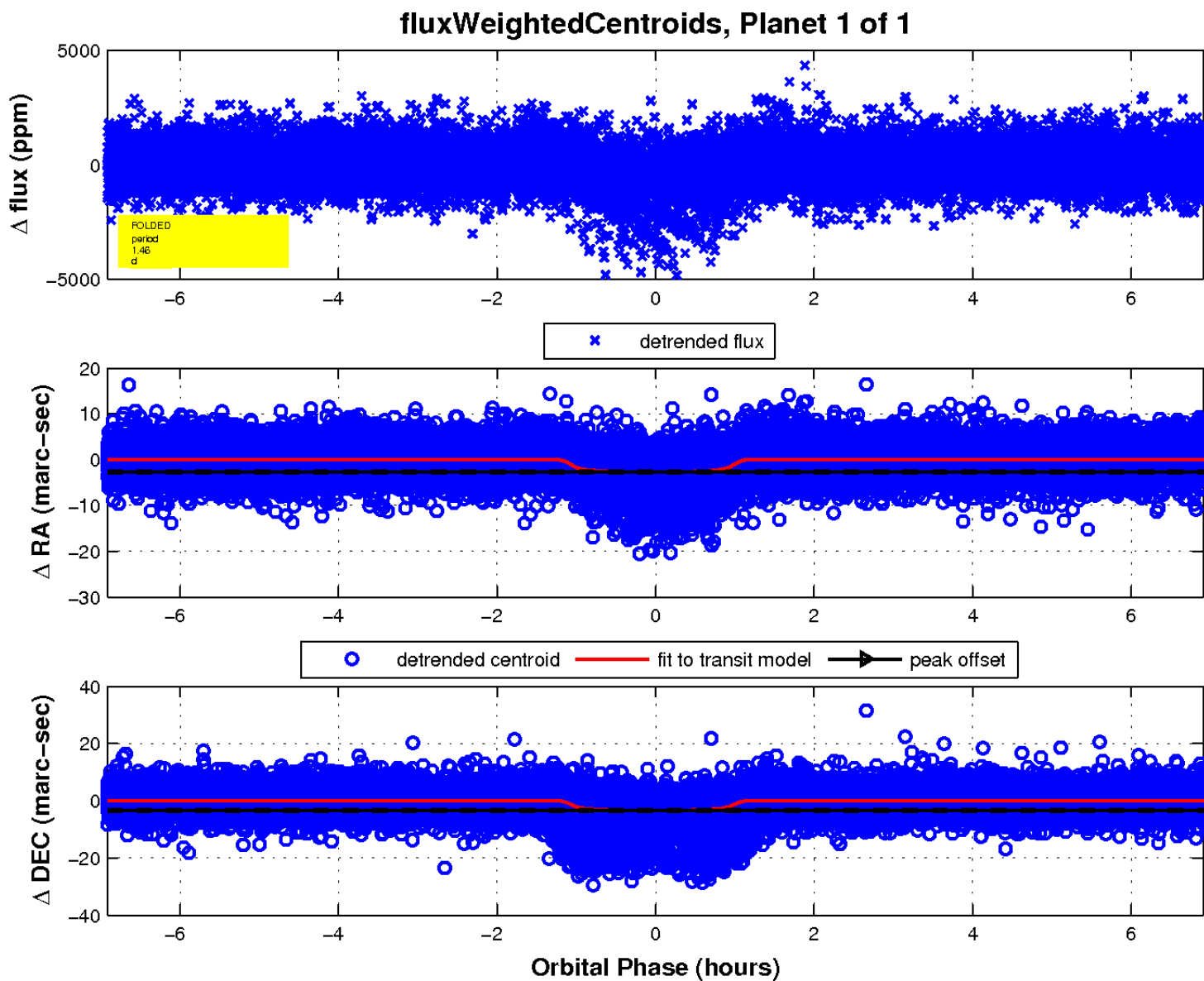
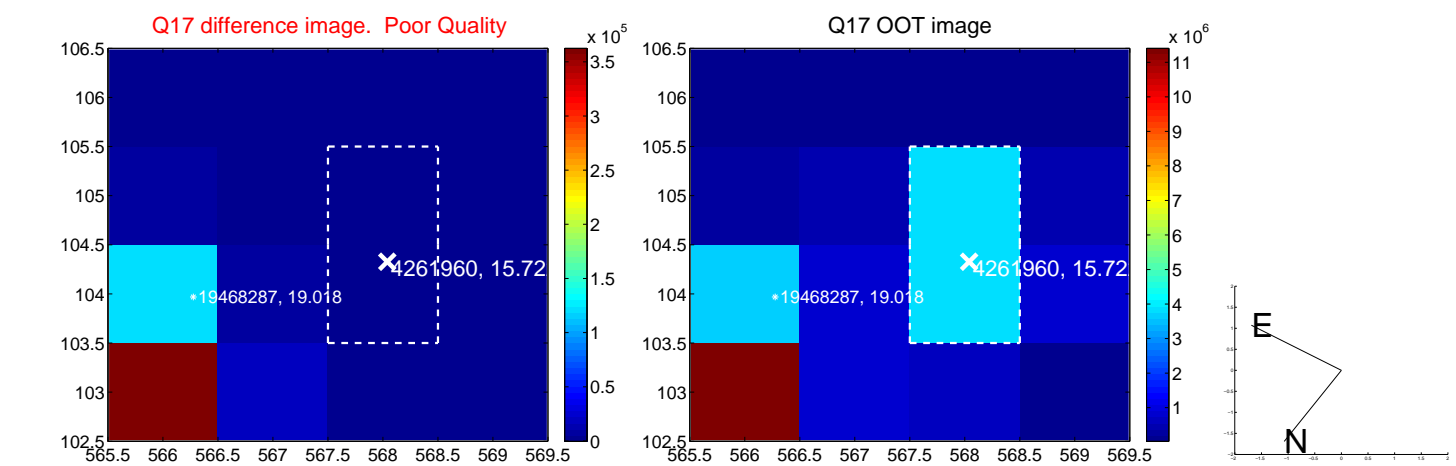


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

