

# KIC 007663691

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007663691-01	OBS	0891.01	10.006532	136.942420	932.0	5.410	59.3	65.0	1.00	6063	3.52	139.60

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007663691-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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.

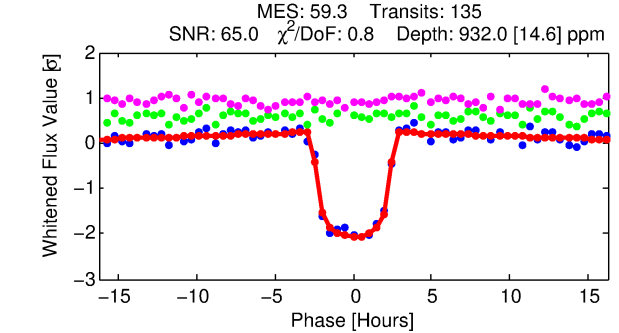
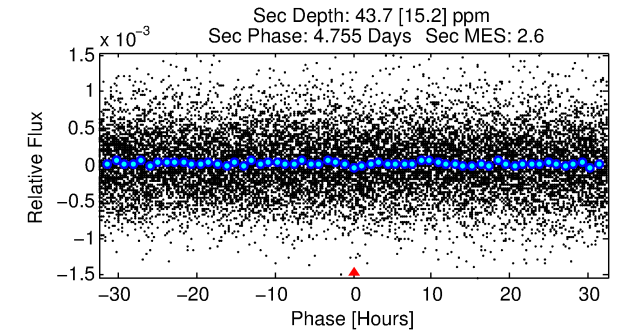
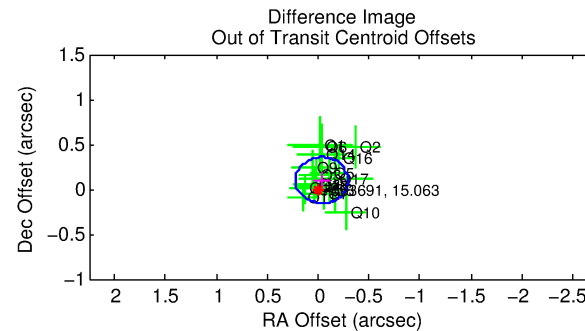
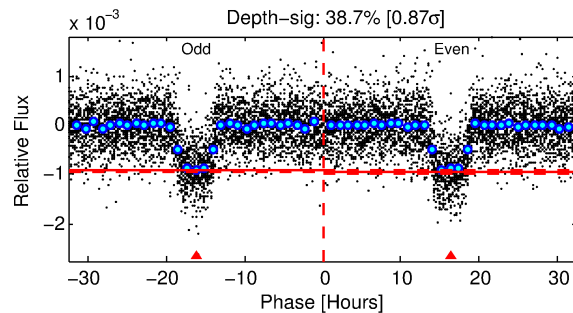
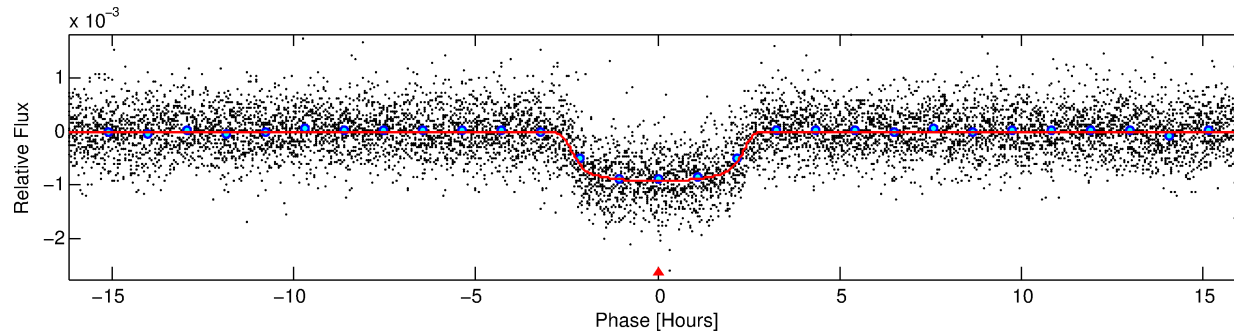
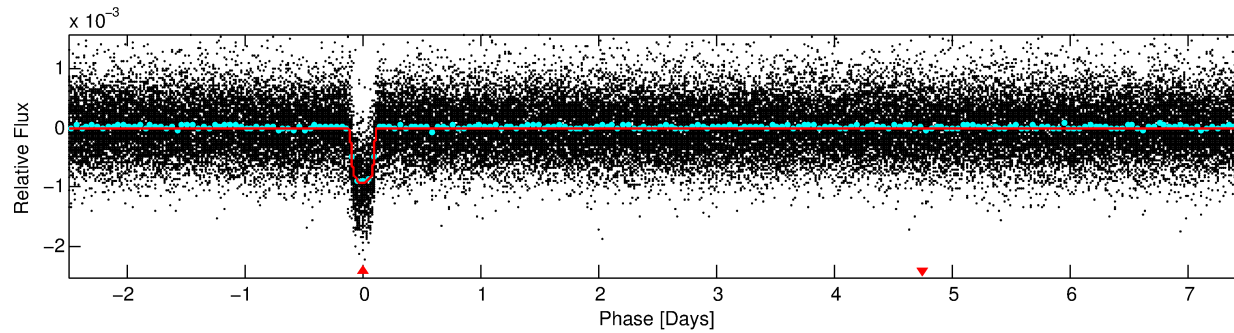
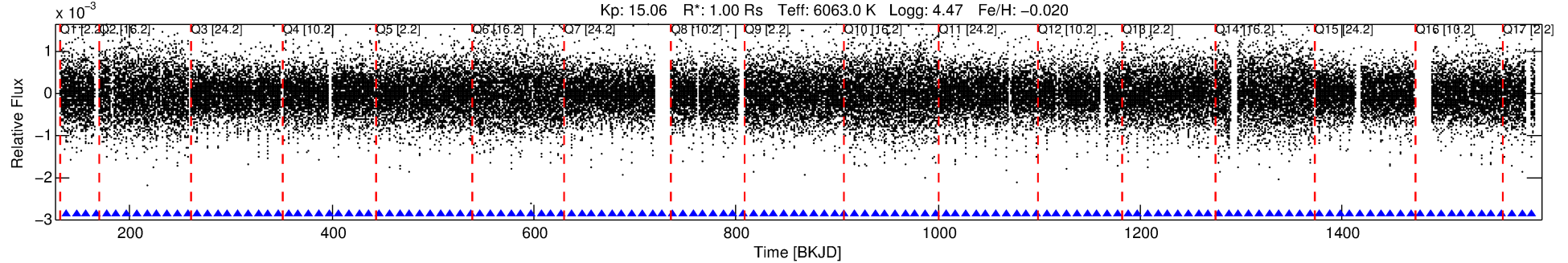
## Ephemeris Match Information For 007663691-01

No Significant Match Found

# DV One-Page Summary

KIC: 7663691 Candidate: 1 of 1 Period: 10.007 d  
KOI: K00891.01 Corr: 0.982

Kp: 15.06 R\*: 1.00 Rs Teff: 6063.0 K Logg: 4.47 Fe/H: -0.020



## DV Fit Results:

Period = 10.00653 [0.00002] d  
Epoch = 136.9424 [0.0016] BKJD  
Rp/R\* = 0.0322 [0.0008]  
a/R\* = 7.90 [0.92]  
b = 0.87 [0.03]  
Seff = 139.60 [57.10]  
Teq = 876 [90] K  
Rp = 3.52 [1.12] Re  
a = 0.0932 [0.0247] AU  
Ag = 16.85 [8.76] [1.81σ]  
Teffp = 2746 [260] K [6.79σ]

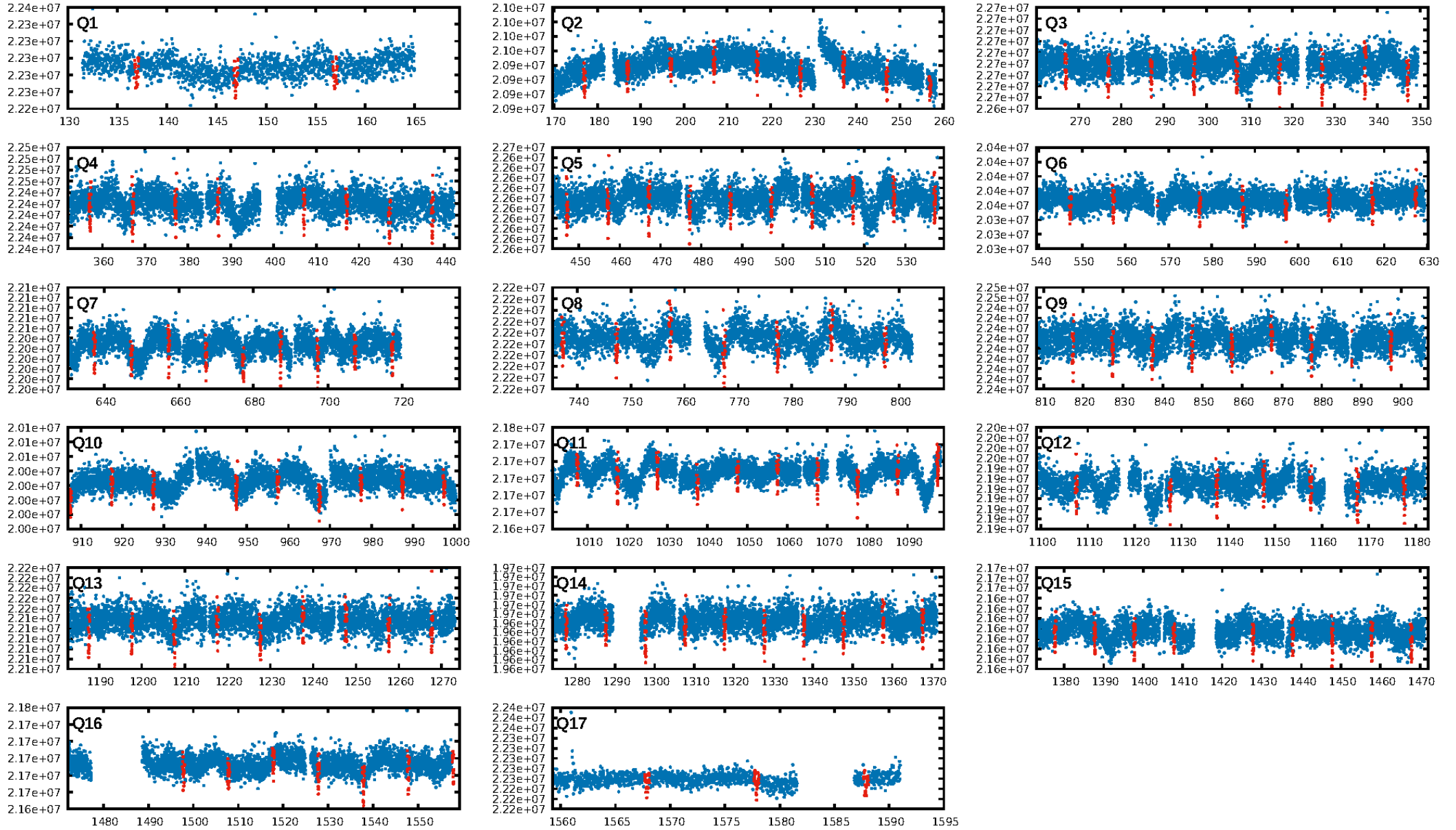
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [129/129]  
GhostDiagnostic-chr: 7.42  
Centroid-sig: 17.5%  
Centroid-so: 0.133 arcsec [0.60σ]  
OotOffset-rm: 0.105 arcsec [1.22σ]  
KicOffset-rm: 0.100 arcsec [1.21σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

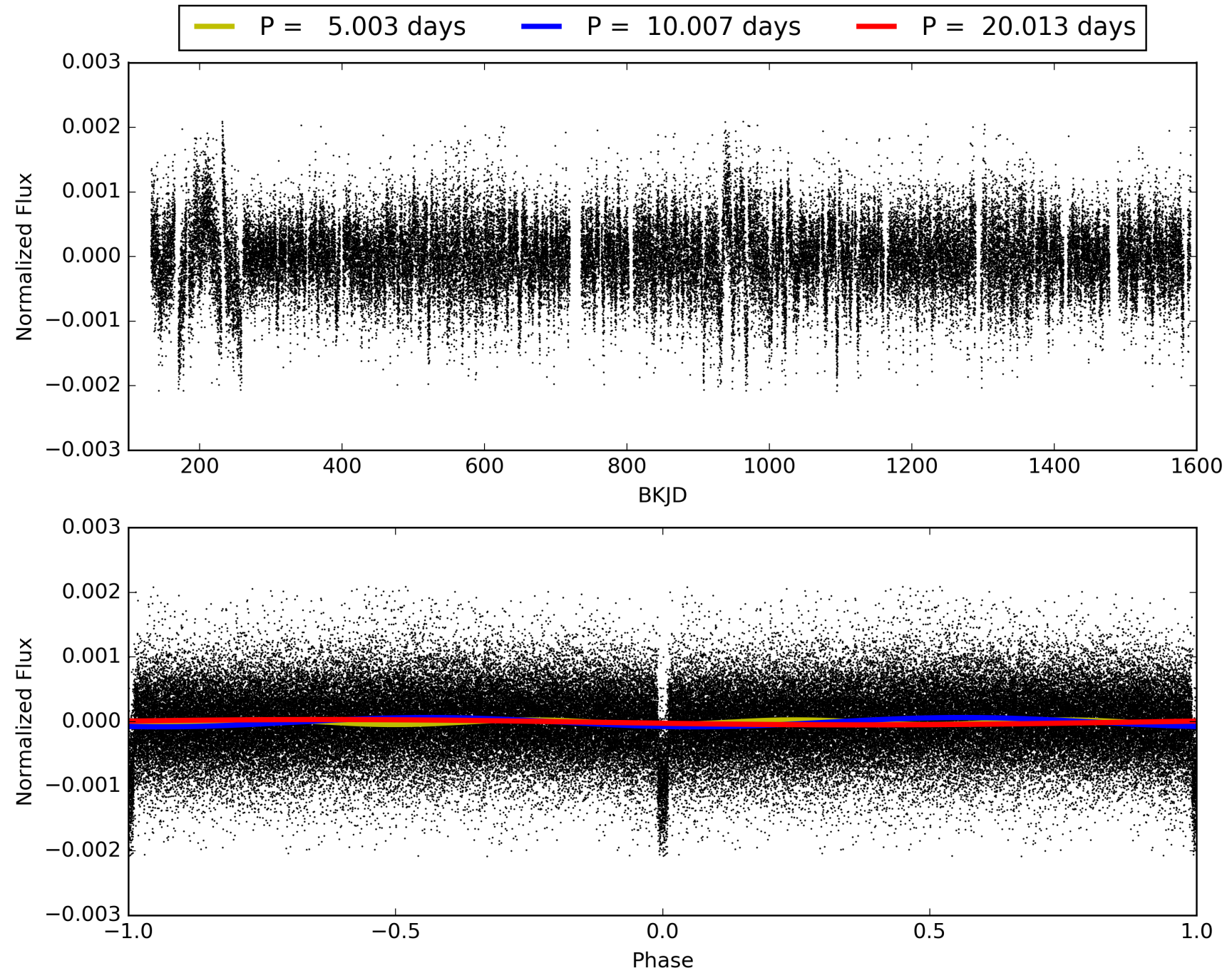
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:29:53 Z

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

# TCE 007663691-01, PDC Light Curves

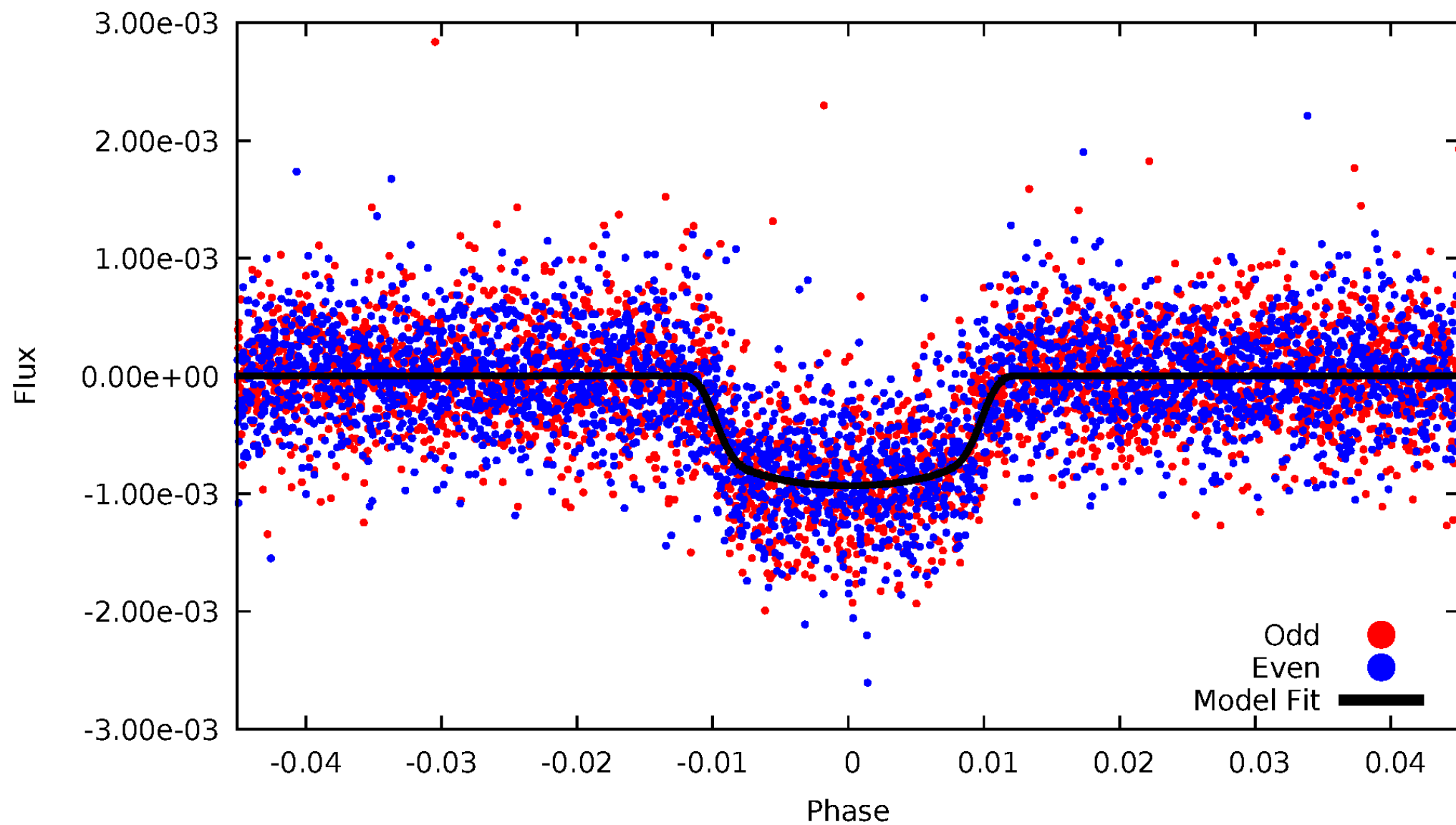


TCE 007663691-01



# DV Odd/Even

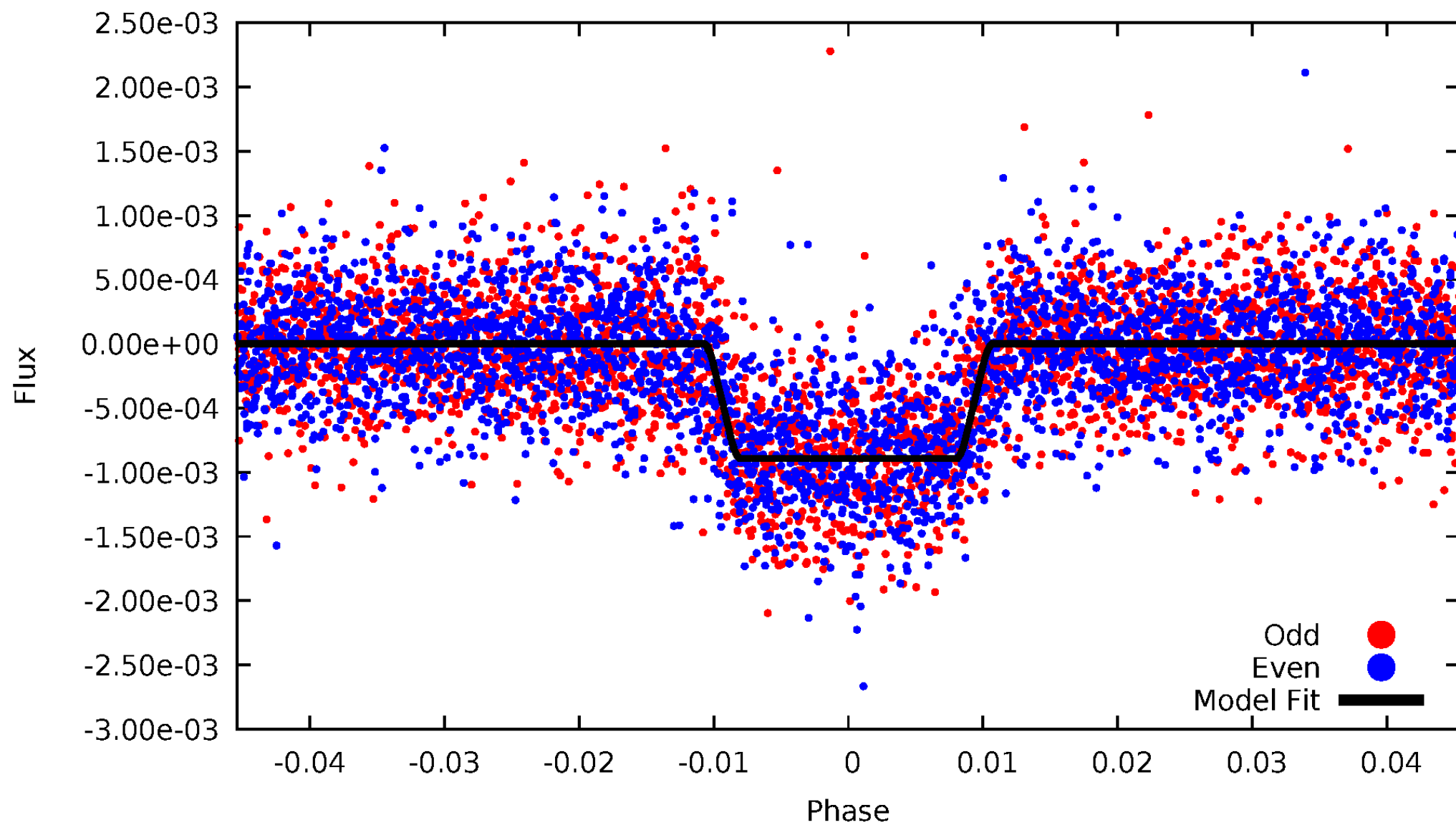
TCE 007663691-01



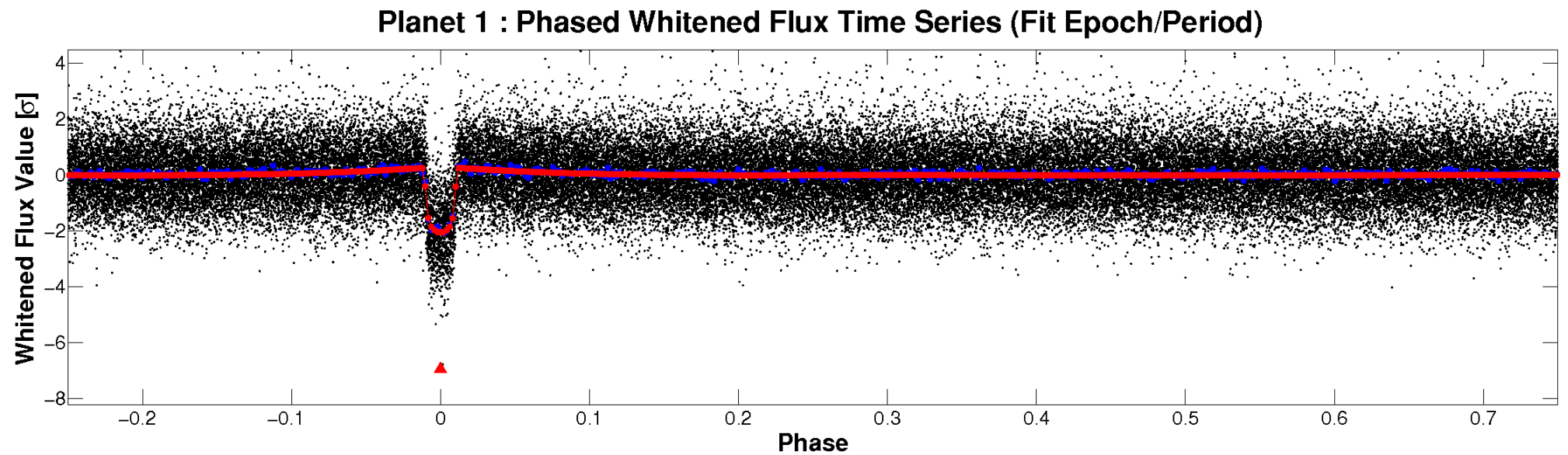
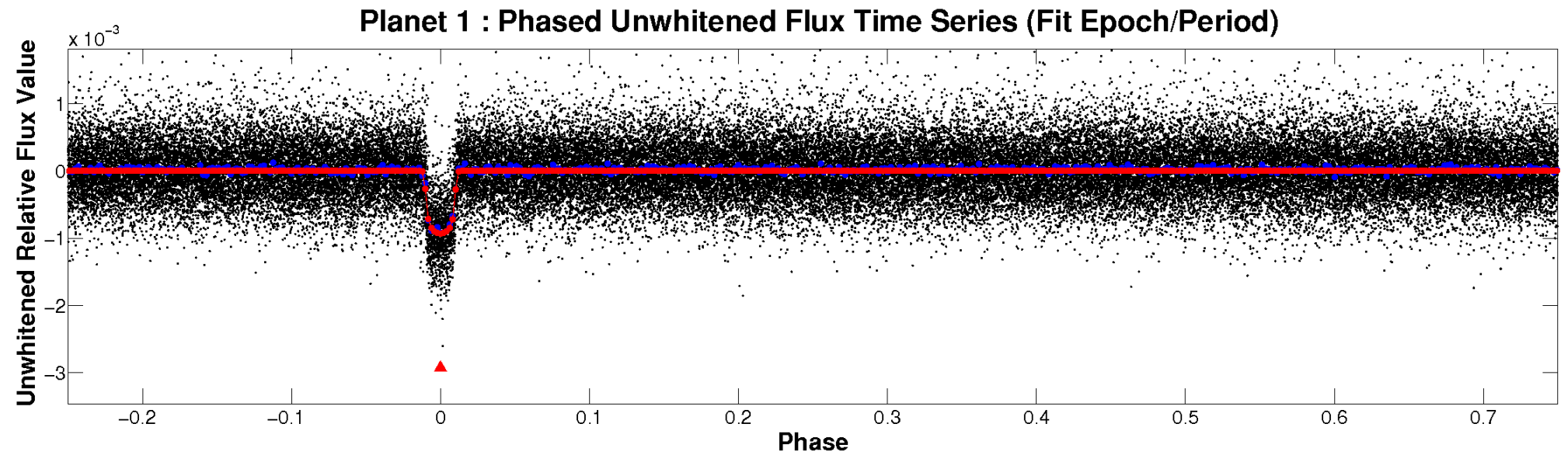


# ALT Odd/Even

TCE 007663691-01

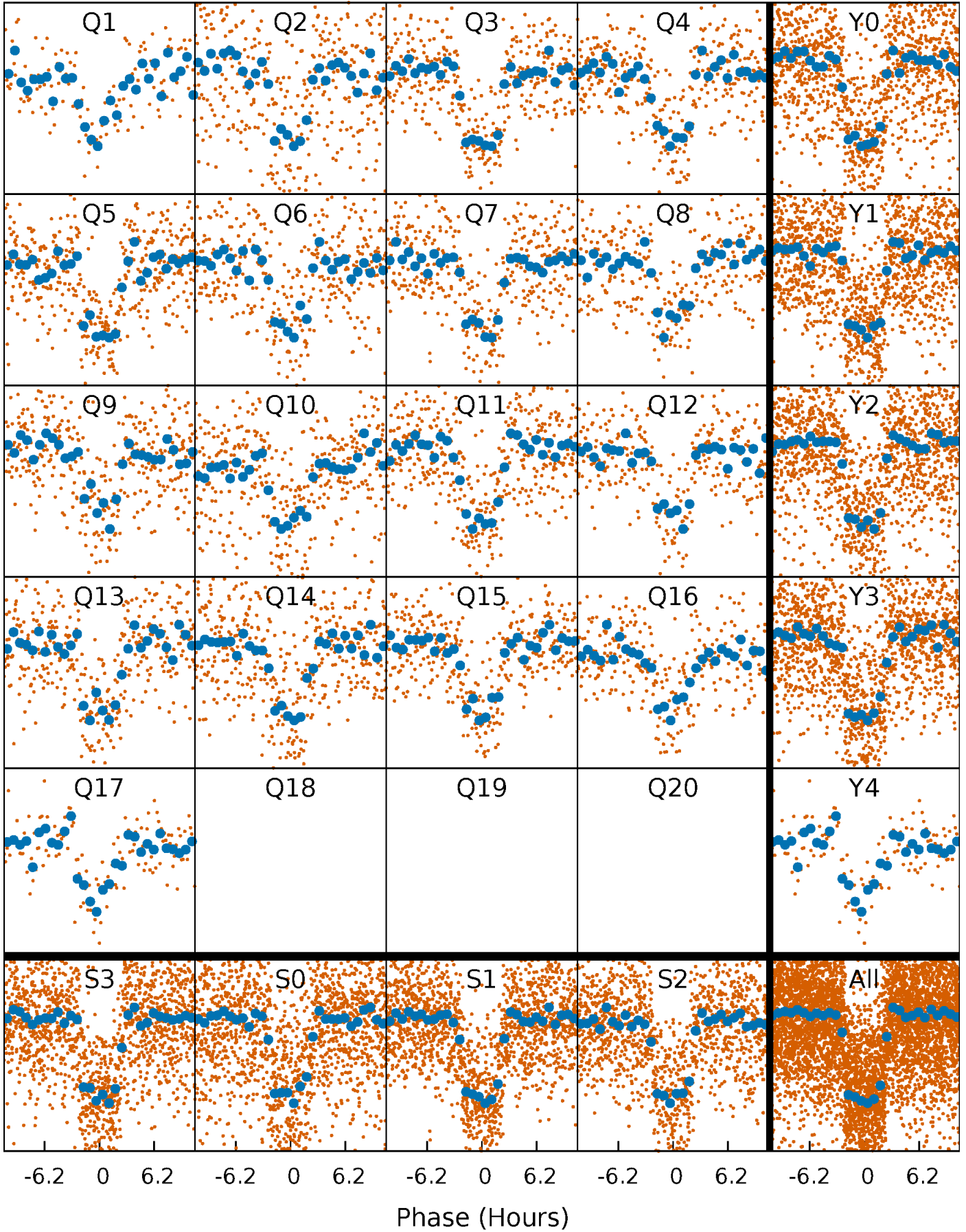


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

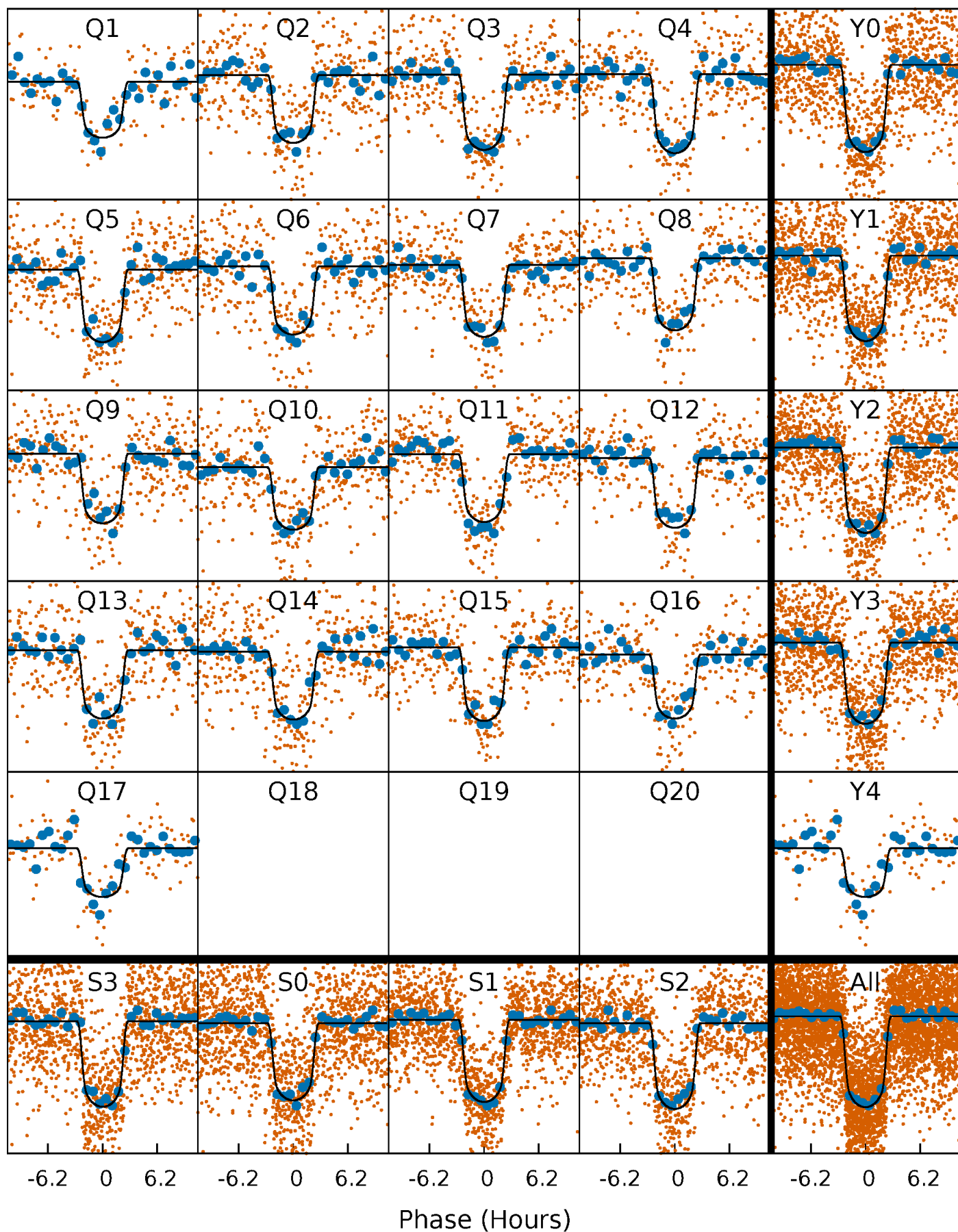
TCE 007663691-01 P= 10.006532 Days  $T_0=136.942420$  (BKJD)





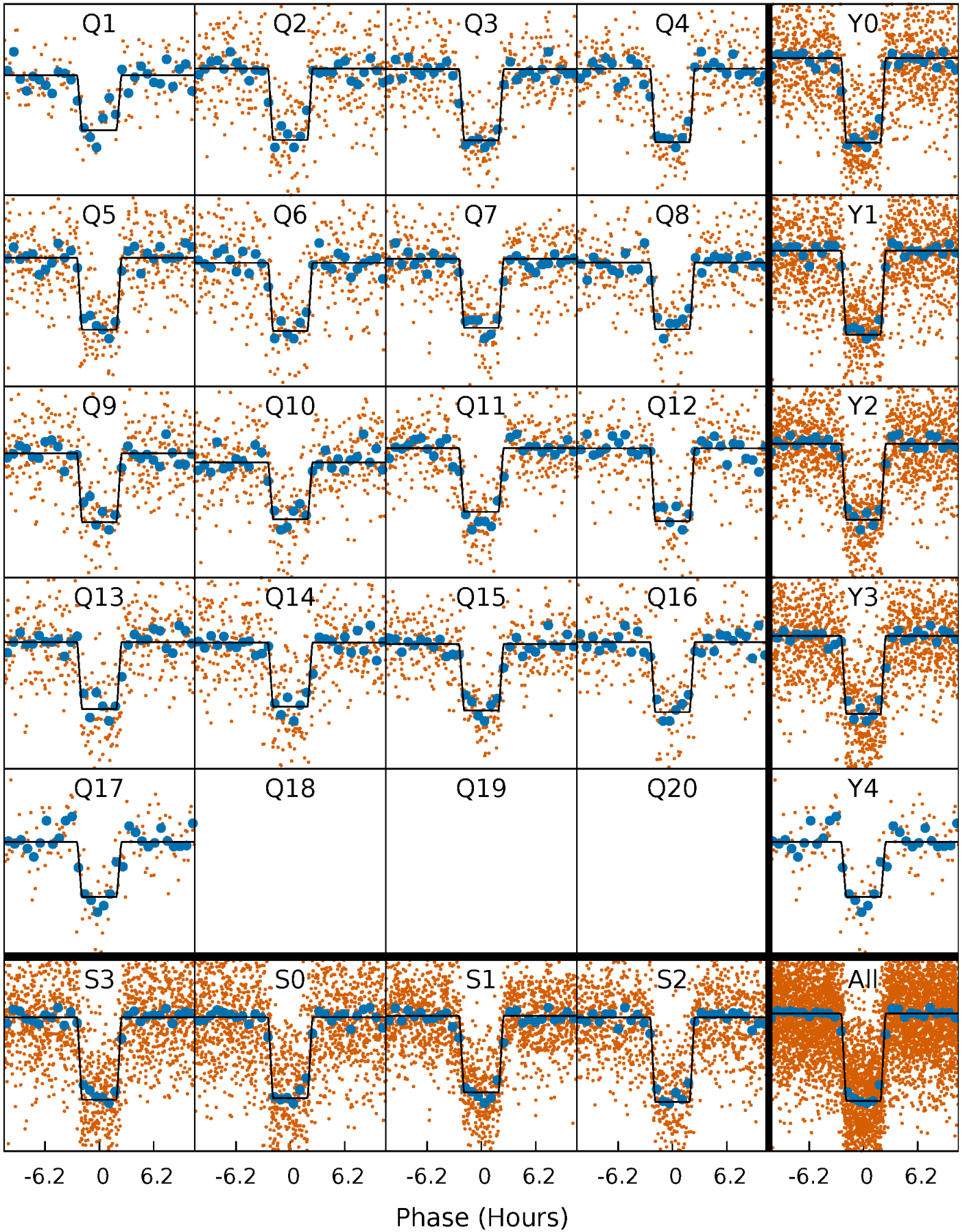
# DV Quarter-Phased Transit Curves

TCE 007663691-01 P= 10.006532 Days  $T_0=136.942420$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

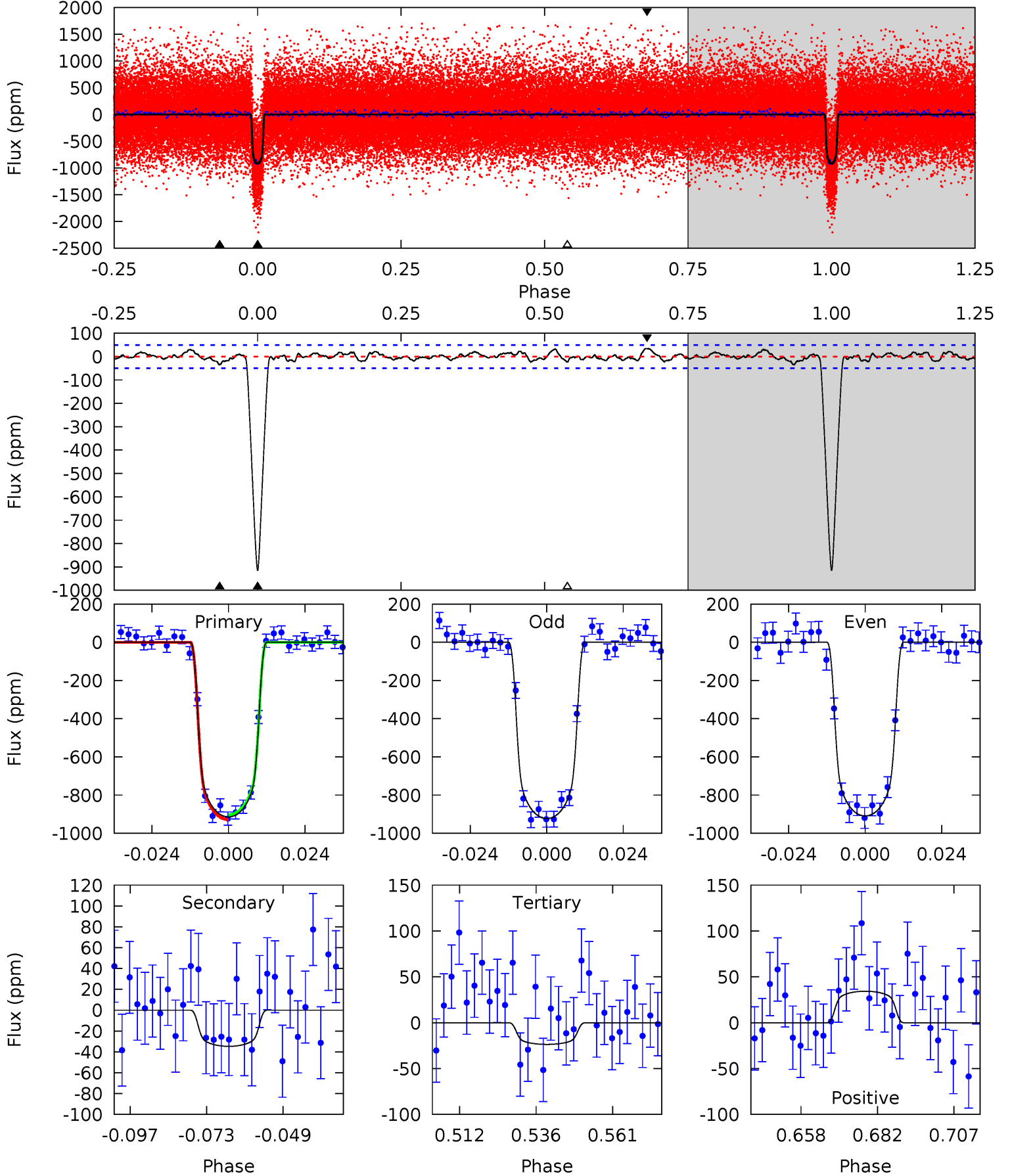
TCE 007663691-01 P= 10.006419 Days  $T_0=136.950514$  (BKJD)



# DV Model-Shift Uniqueness Test

007663691-01,  $P = 10.006532$  Days,  $E = 126.935888$  Days

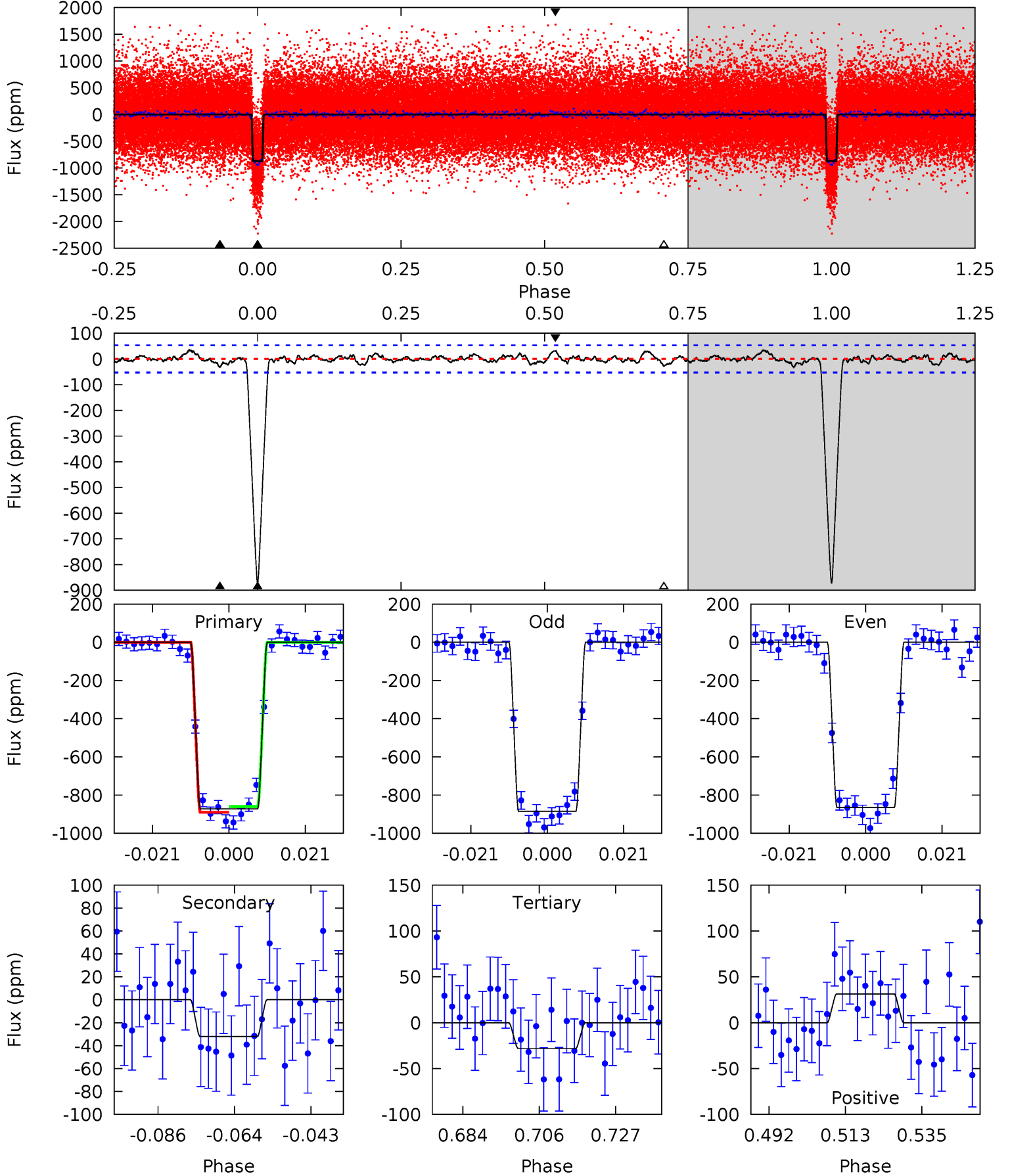
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
89.1	3.38	2.31	3.34	4.85	2.25	1.14	86.8	85.8	1.07	0.04	0.67	0.99	0.04	1.21



# Alt Model-Shift Uniqueness Test

007663691-01,  $P = 10.006419$  Days,  $E = 126.944095$  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
80.5	2.95	2.60	2.90	4.88	2.30	1.01	77.9	77.6	0.35	0.05	0.91	1.02	0.04	1.43



### Stellar Parameters For KIC 007663691

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6063^{+181}_{-217}$	$4.470^{+0.052}_{-0.208}$	$-0.020^{+0.250}_{-0.300}$	$1.001^{+0.318}_{-0.106}$	$1.079^{+0.130}_{-0.145}$	$1.517^{+0.422}_{-0.831}$
	+3%/-4%	+1%/-5%	+1250%/-1500%	+32%/-11%	+12%/-13%	+28%/-55%
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 007663691-01 / KOI 0891.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-35 \pm 10$	$3.64^{+0.60}_{-0.33}$	$1255^{+93}_{-66}$	$3173^{+150}_{-169}$	$12^{+5}_{-4}$
Alt.	$-32 \pm 11$	$3.36^{+0.56}_{-0.29}$	$1250^{+91}_{-64}$	$3202^{+163}_{-194}$	$13^{+5}_{-5}$

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



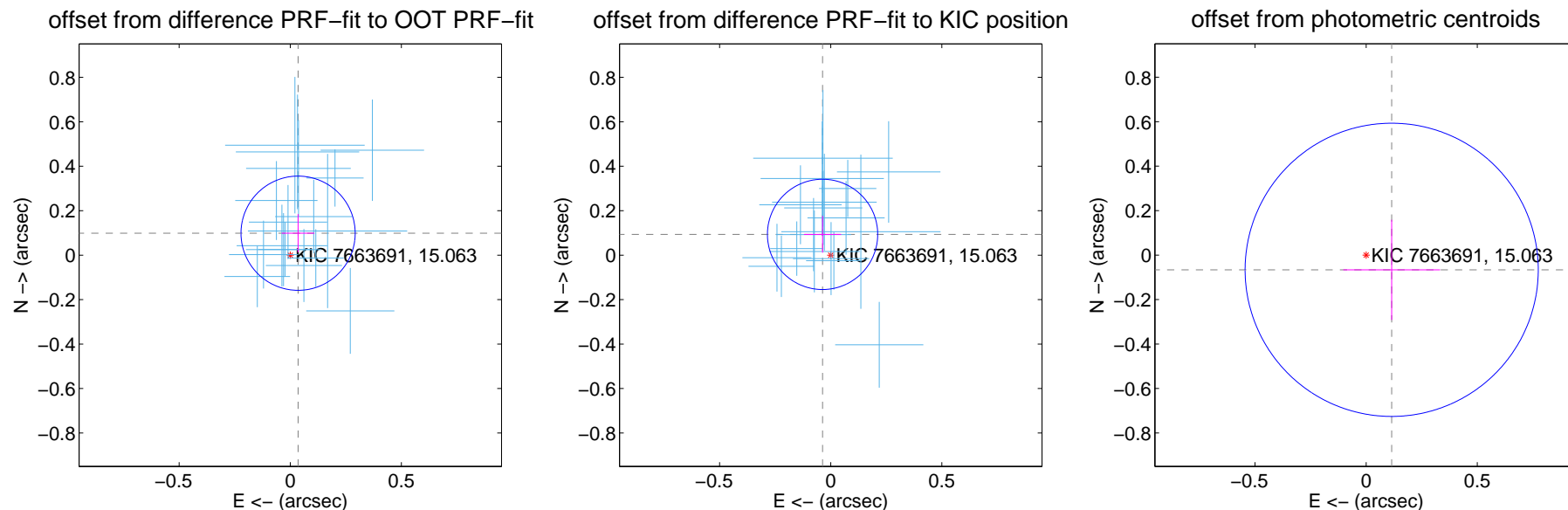
## DV Centroid Data

Supplemental centroid analysis for 007663691-01. Kepler magnitude: 15.06. Transit SNR 64.96

There are 17 quarters with good PRF difference image offsets

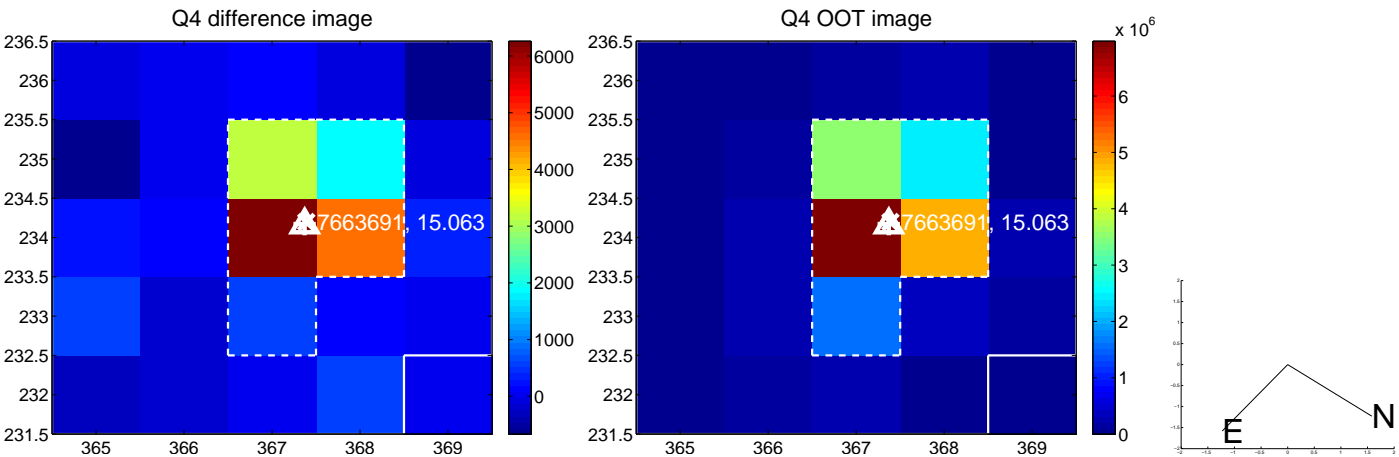
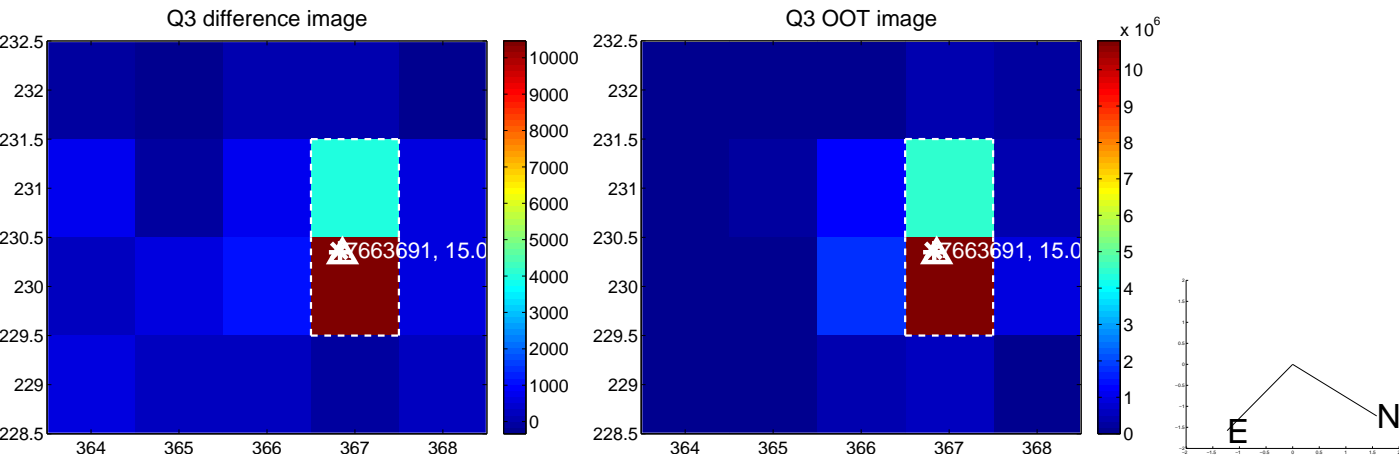
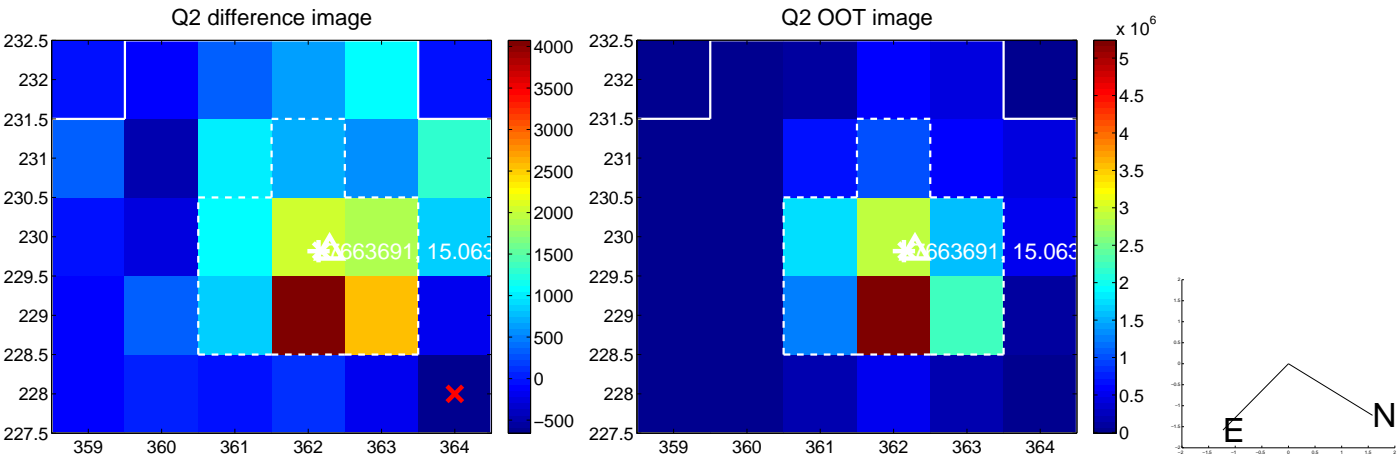
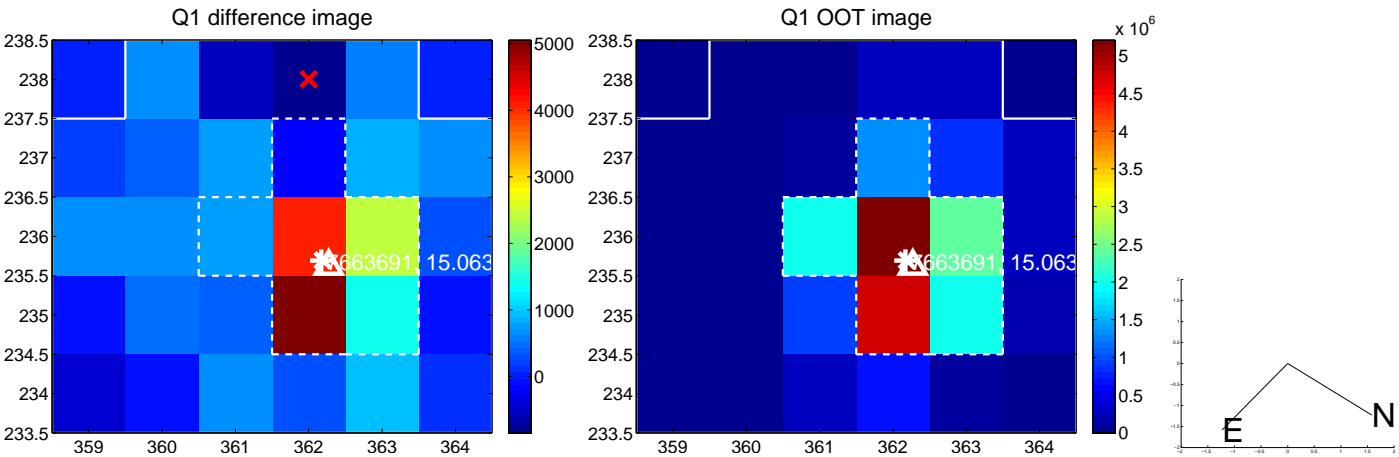
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.105 \pm 0.086$	1.22	$-0.035 \pm 0.074$	$0.099 \pm 0.086$
PRF-fit source offset from KIC position	$0.100 \pm 0.083$	1.21	$0.037 \pm 0.084$	$0.093 \pm 0.083$
photometric centroid source offset	$0.13 \pm 0.22$	0.60	$-0.11 \pm 0.22$	$-0.07 \pm 0.23$

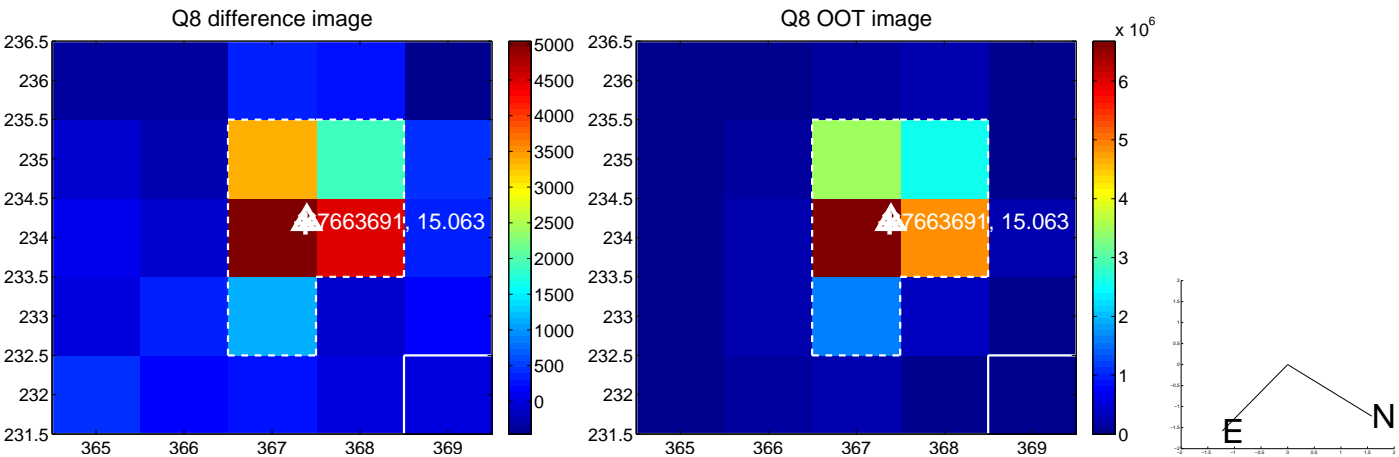
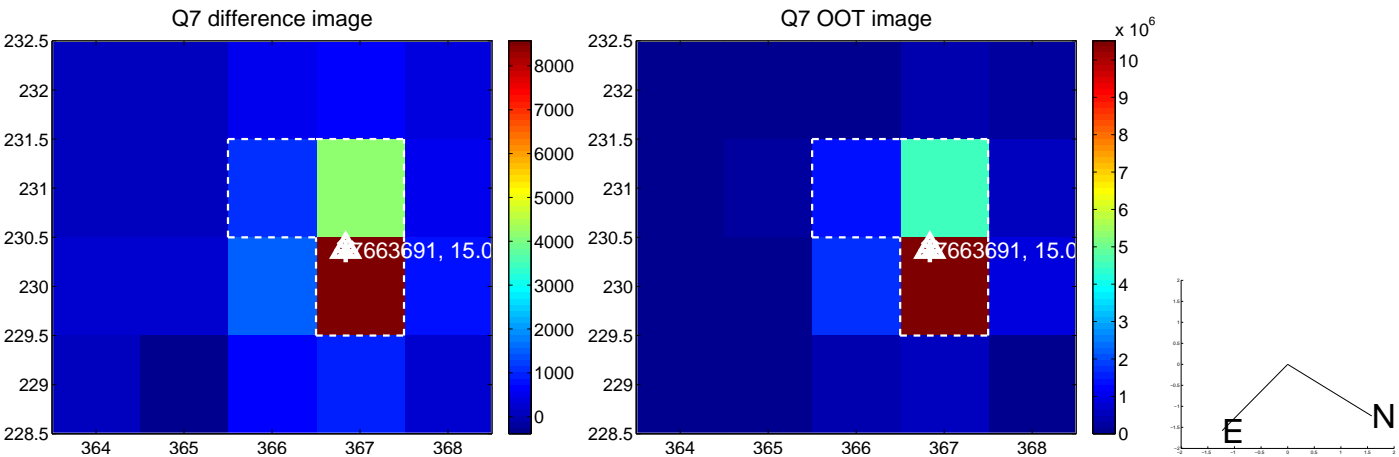
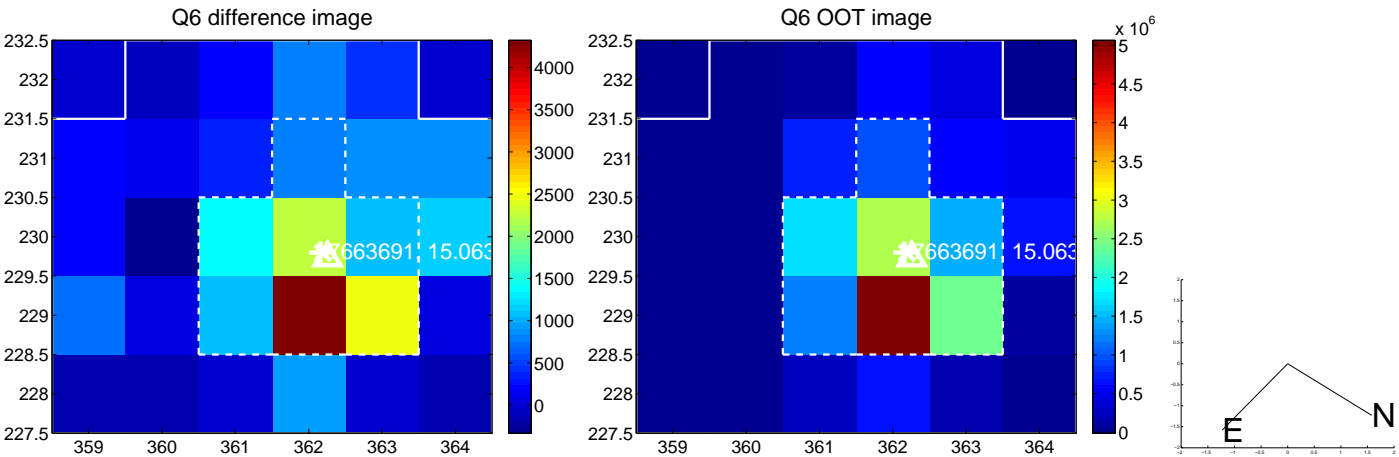
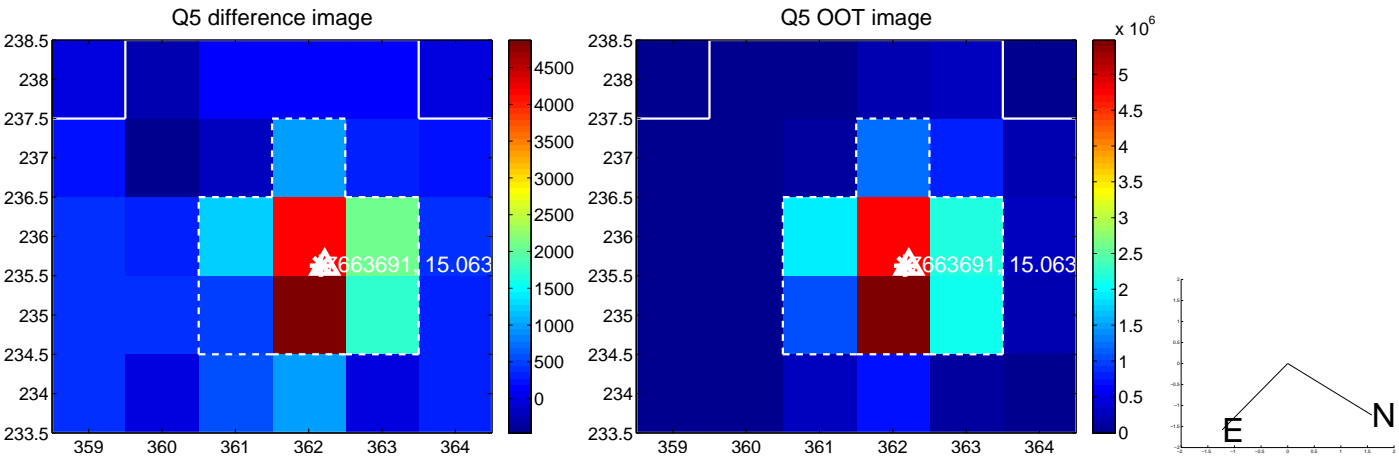


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

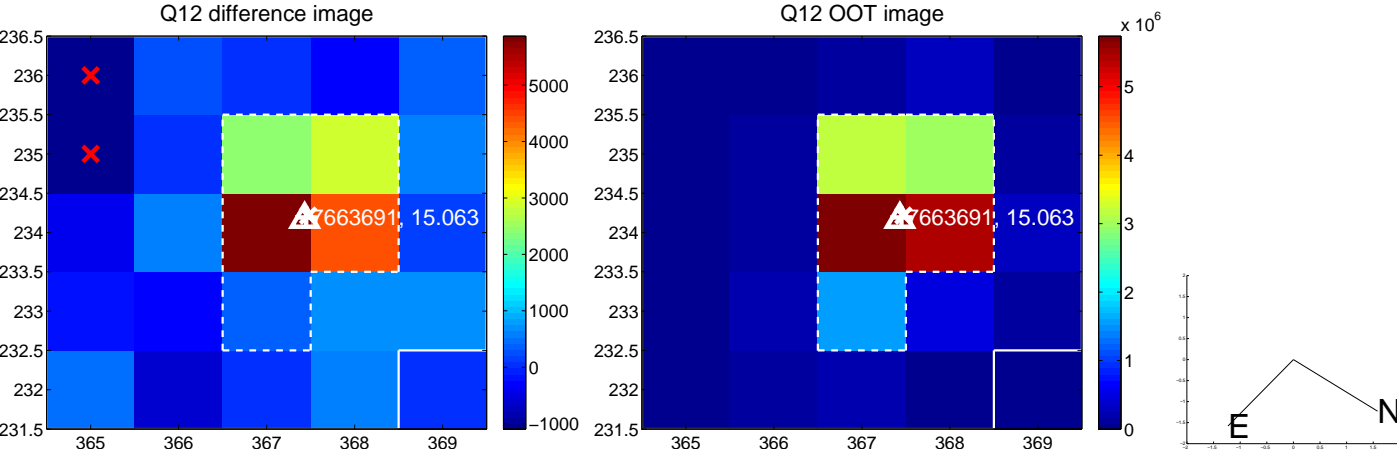
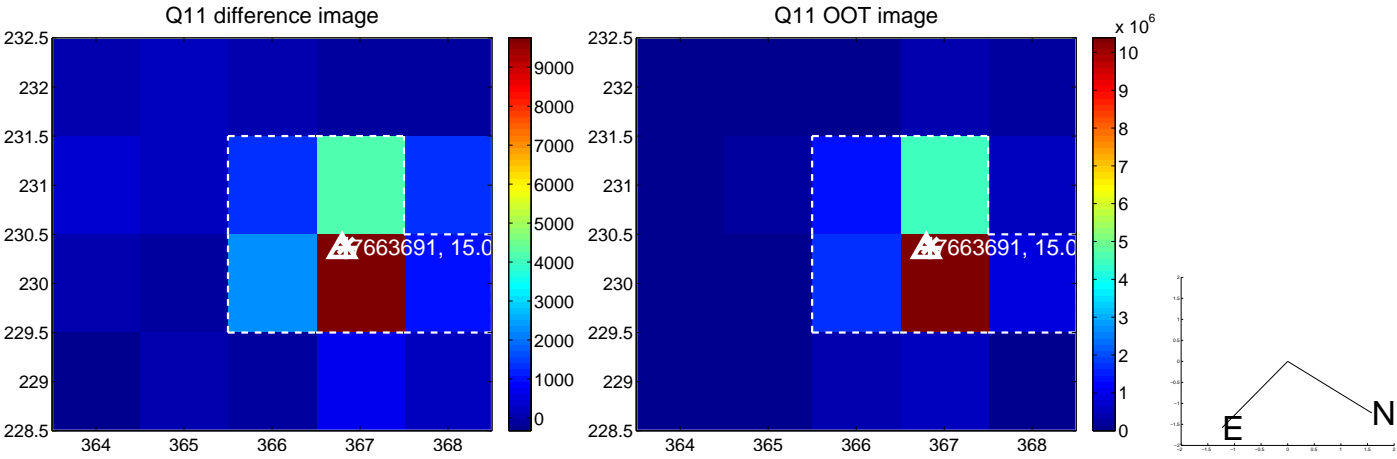
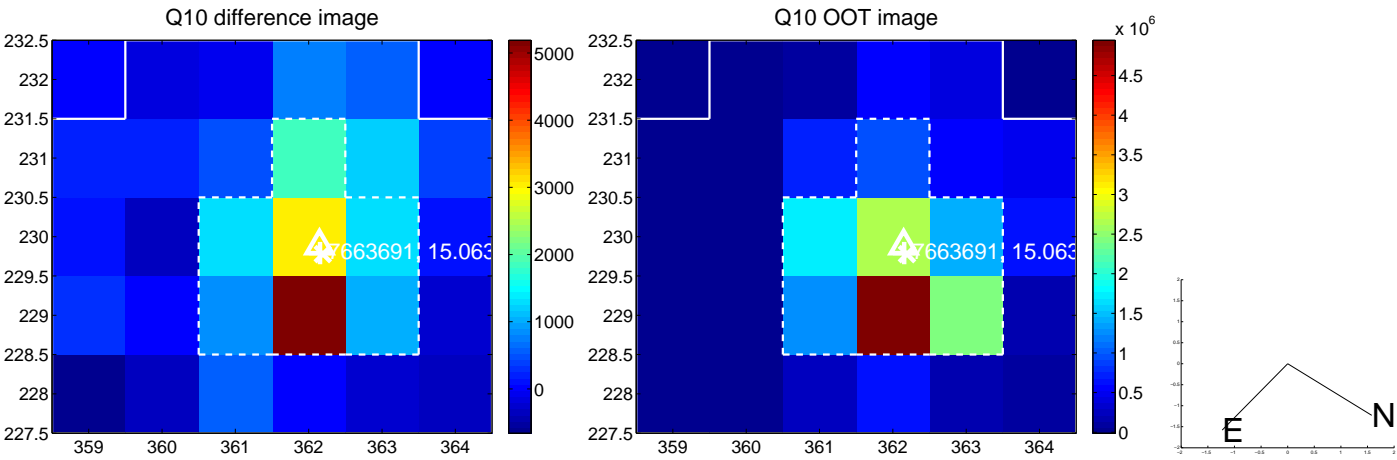
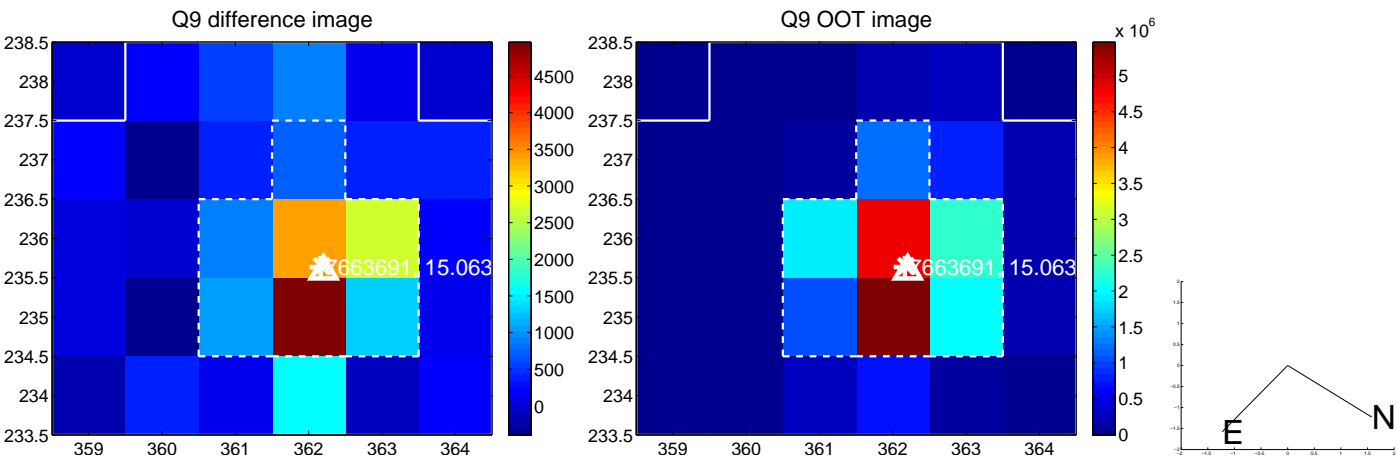
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



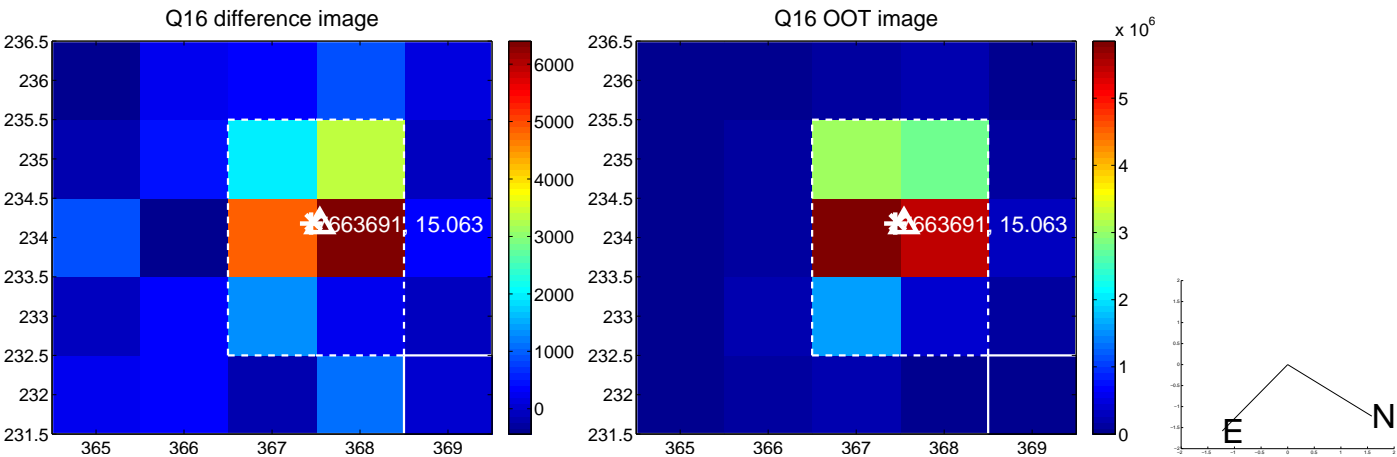
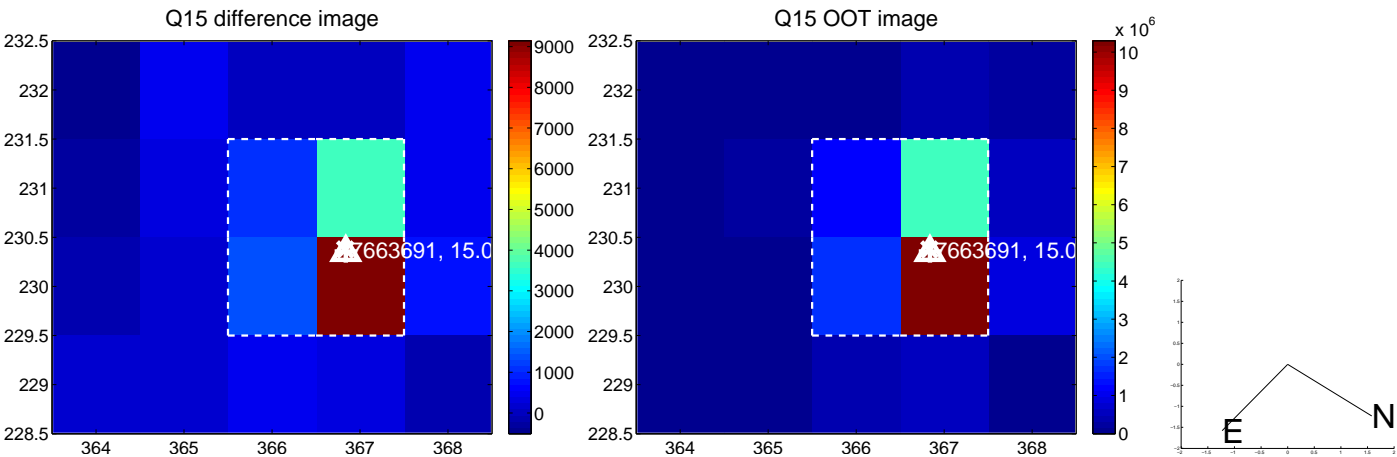
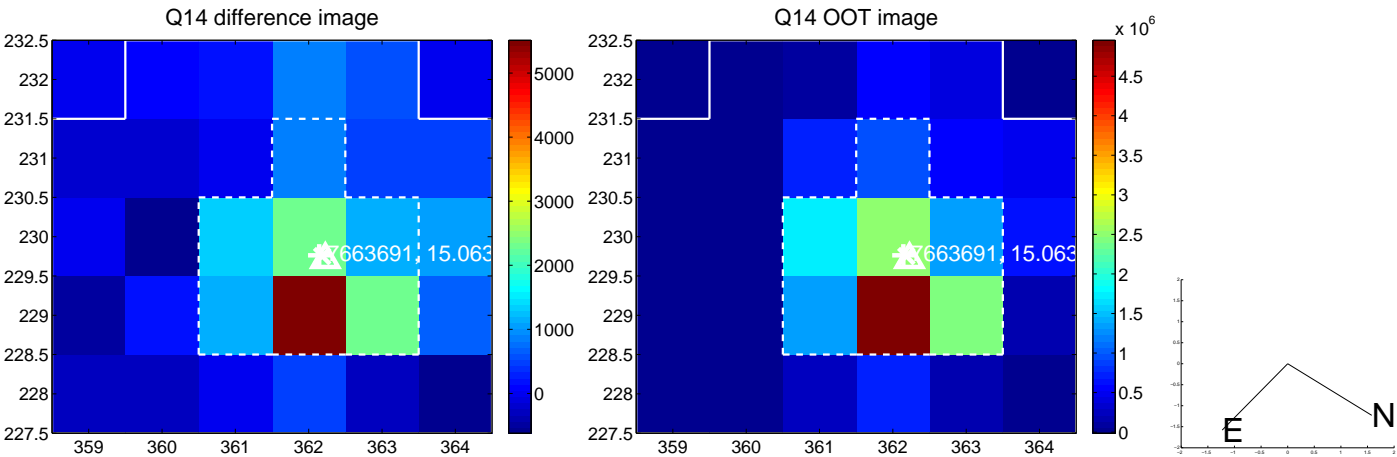
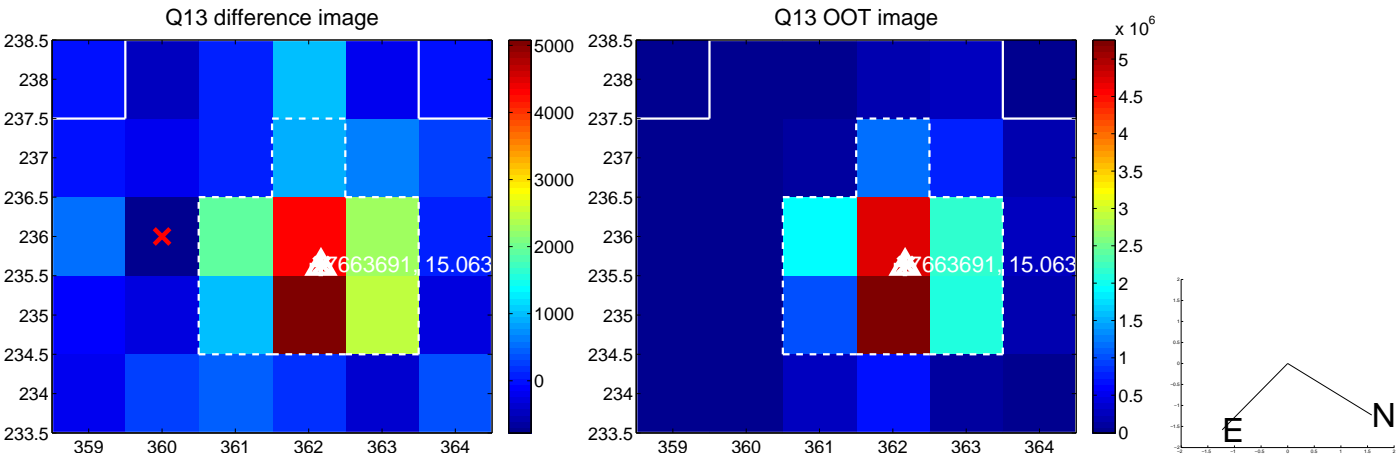
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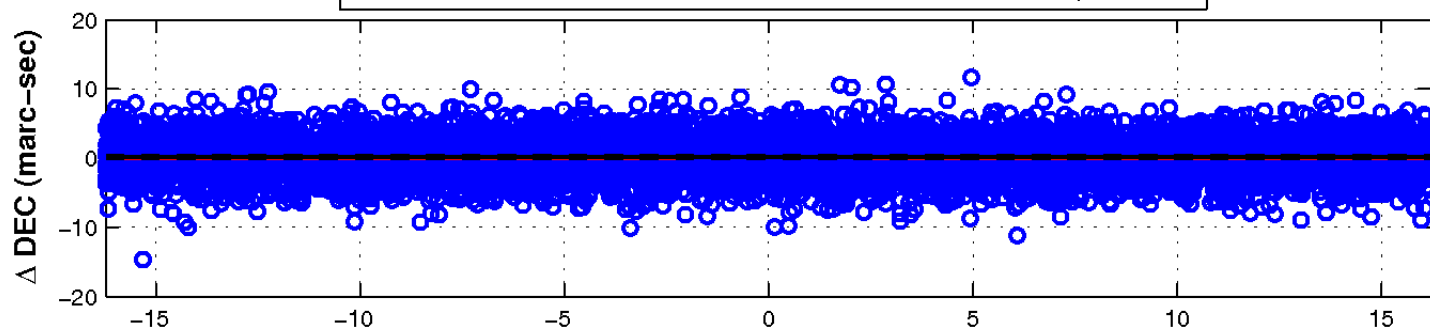
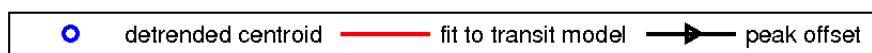
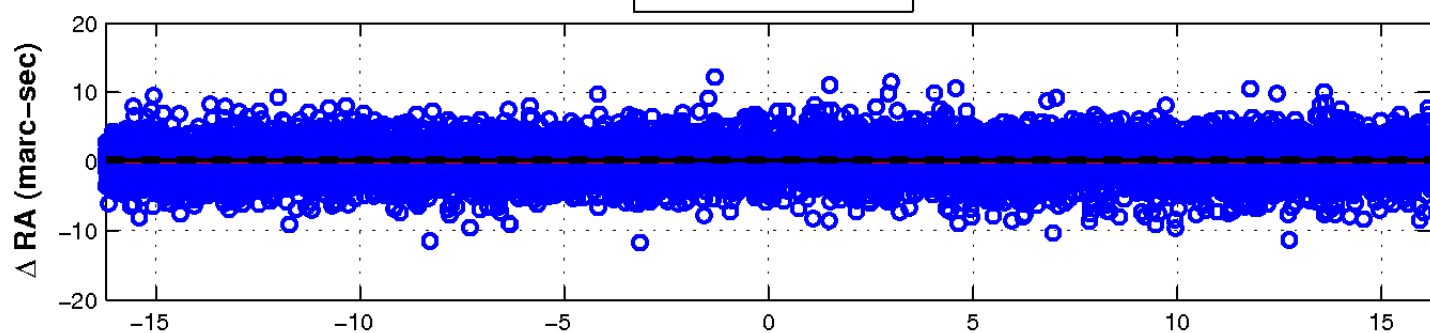
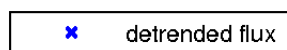
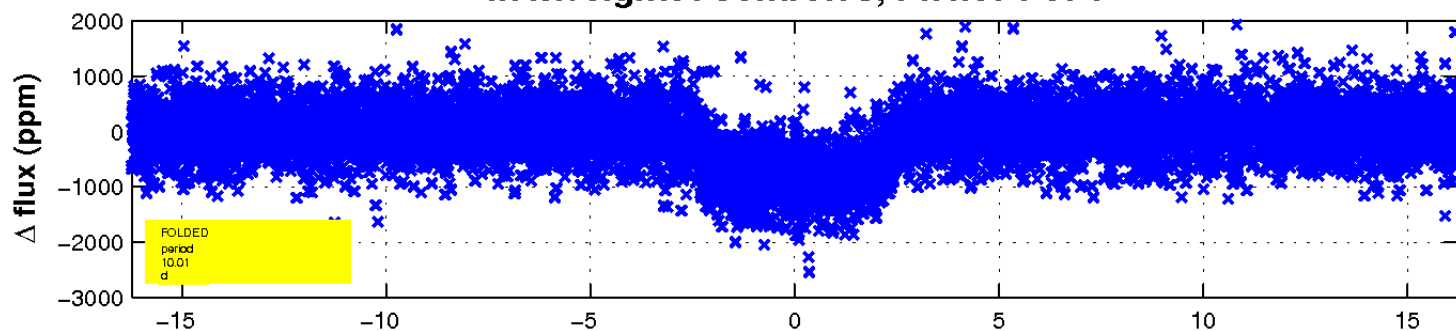
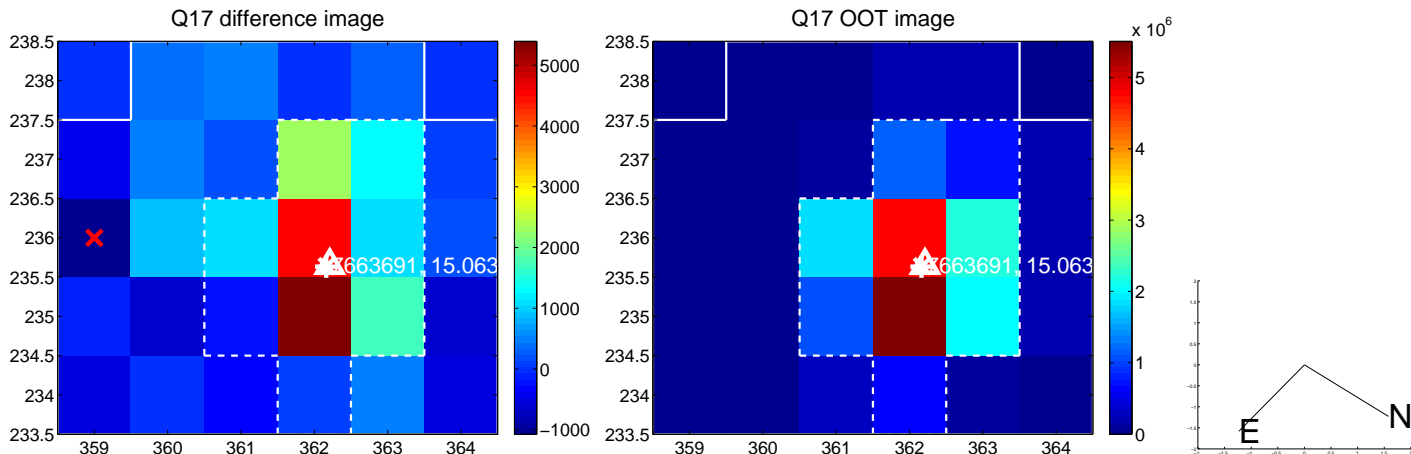


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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



Orbital Phase (hours)

UKIRT Image

Declination

