

# KIC 006311681

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006311681-01	OBS	1122.01	0.844763	131.696457	569.6	1.853	53.3	56.4	0.92	5705	2.67	2861.22

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006311681-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_ALT—CENT_UNRESOLVED_OFFSET—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.

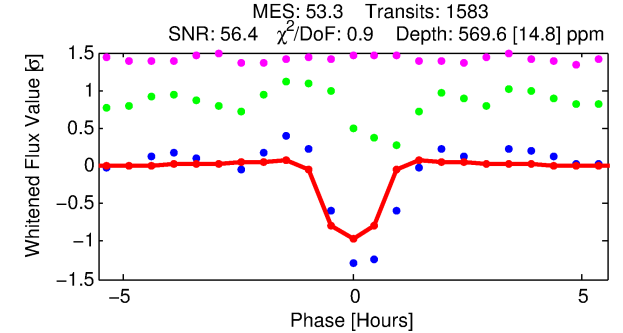
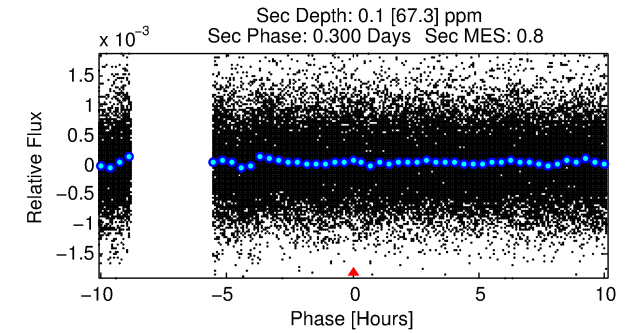
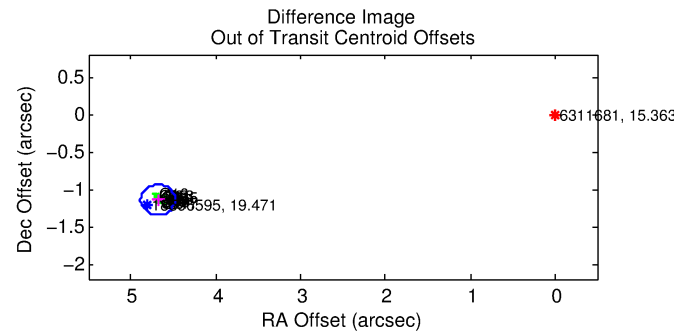
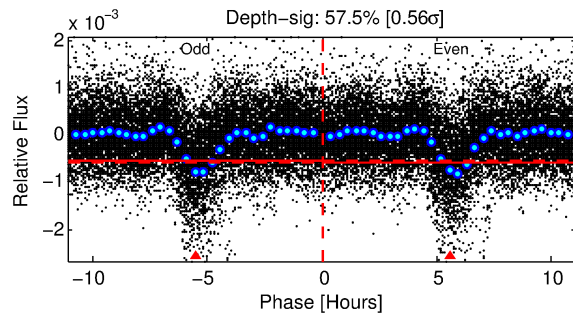
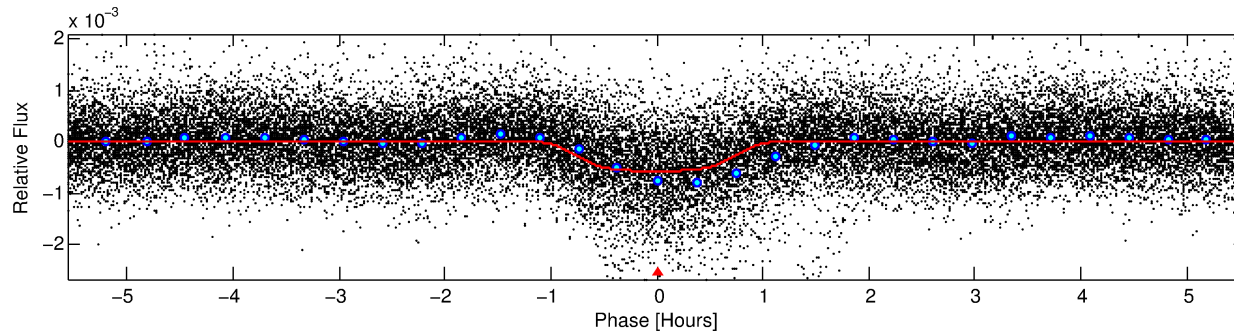
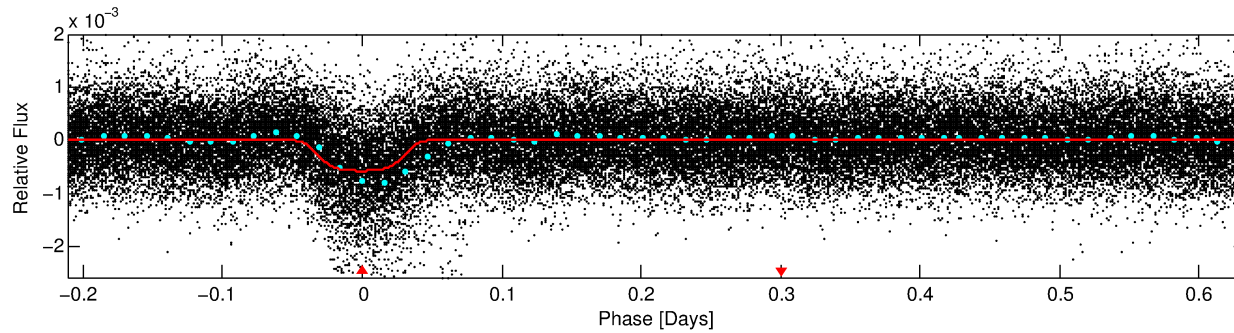
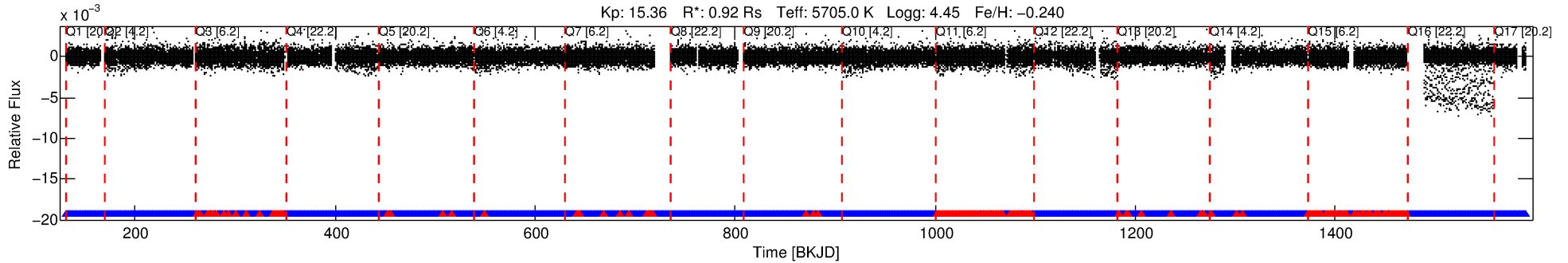
## Ephemeris Match Information For 006311681-01

No Significant Match Found

# DV One-Page Summary

KIC: 6311681 Candidate: 1 of 1 Period: 0.845 d  
KOI: K01122 Corr: No Ephemeris Match

Kp: 15.36 R\*: 0.92 Rs Teff: 5705.0 K Logg: 4.45 Fe/H: -0.240



## DV Fit Results:

Period = 0.84476 [0.00000] d  
Epoch = 131.6965 [0.0004] BKJD  
Rp/R\* = 0.0268 [0.0014]  
a/R\* = 1.83 [0.29]  
b = 0.92 [0.04]  
Seff = 2861.22 [1001.08]  
Teq = 1865 [163] K  
Rp = 2.67 [0.71] Re  
a = 0.0167 [0.0037] AU  
Ag = 0.00 [1.44] [-0.69σ]  
Teffp = 647 [92010] K [-0.01σ]

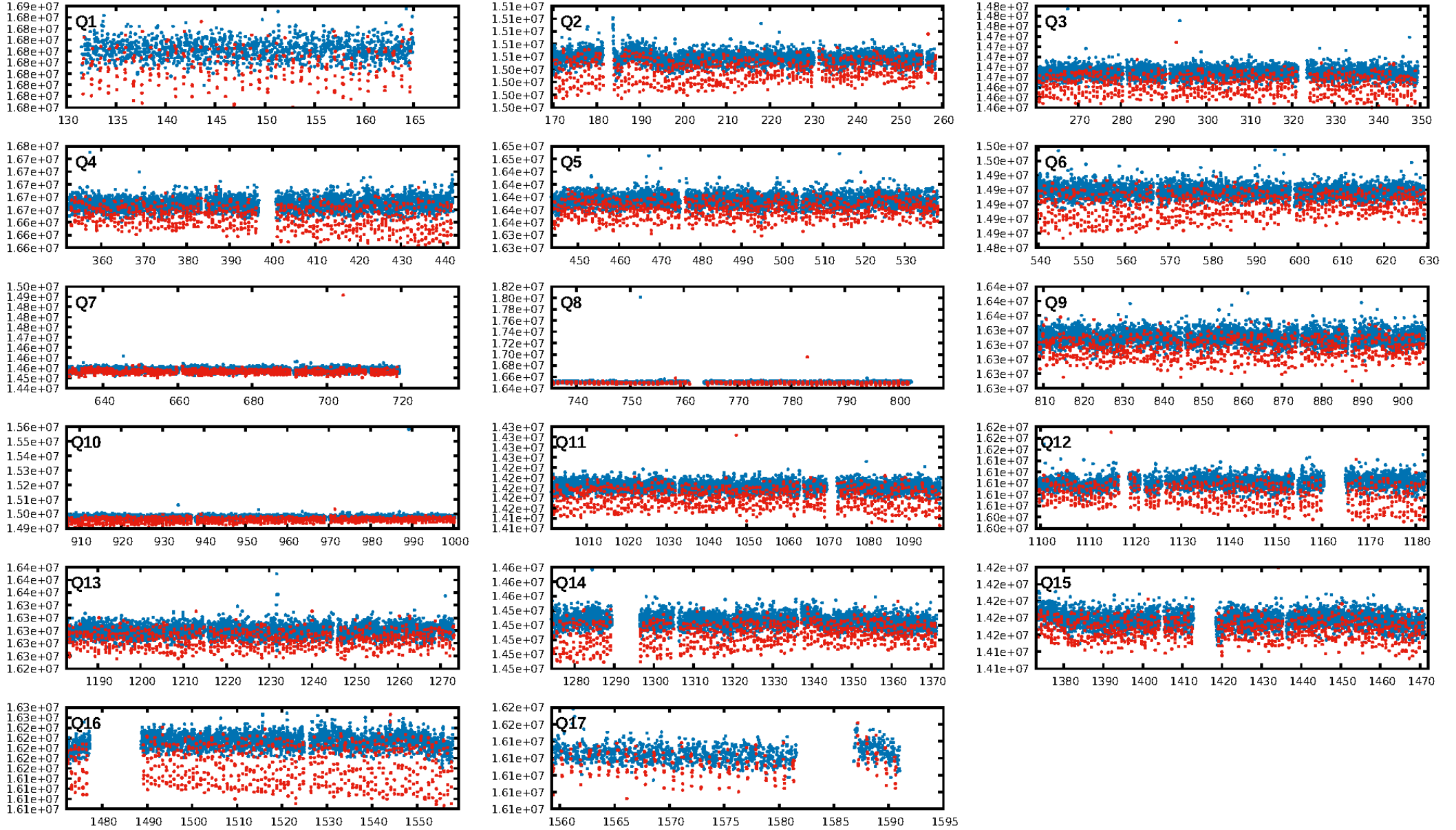
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.86 [1292/1511]  
GhostDiagnostic-chr: -0.03607  
Centroid-sig: 0.0%  
Centroid-so: 42.306 arcsec [175.53σ]  
OotOffset-rm: 4.819 arcsec [71.15σ]  
KicOffset-rm: 4.850 arcsec [70.03σ]  
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]

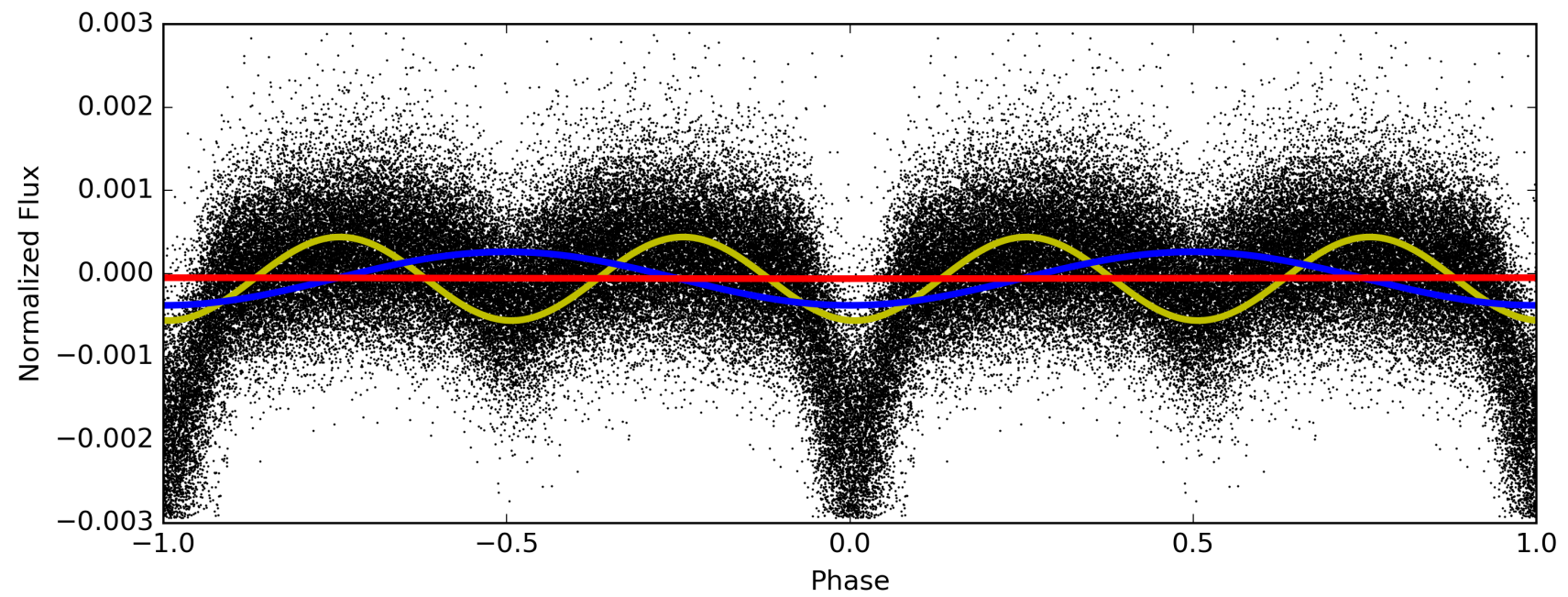
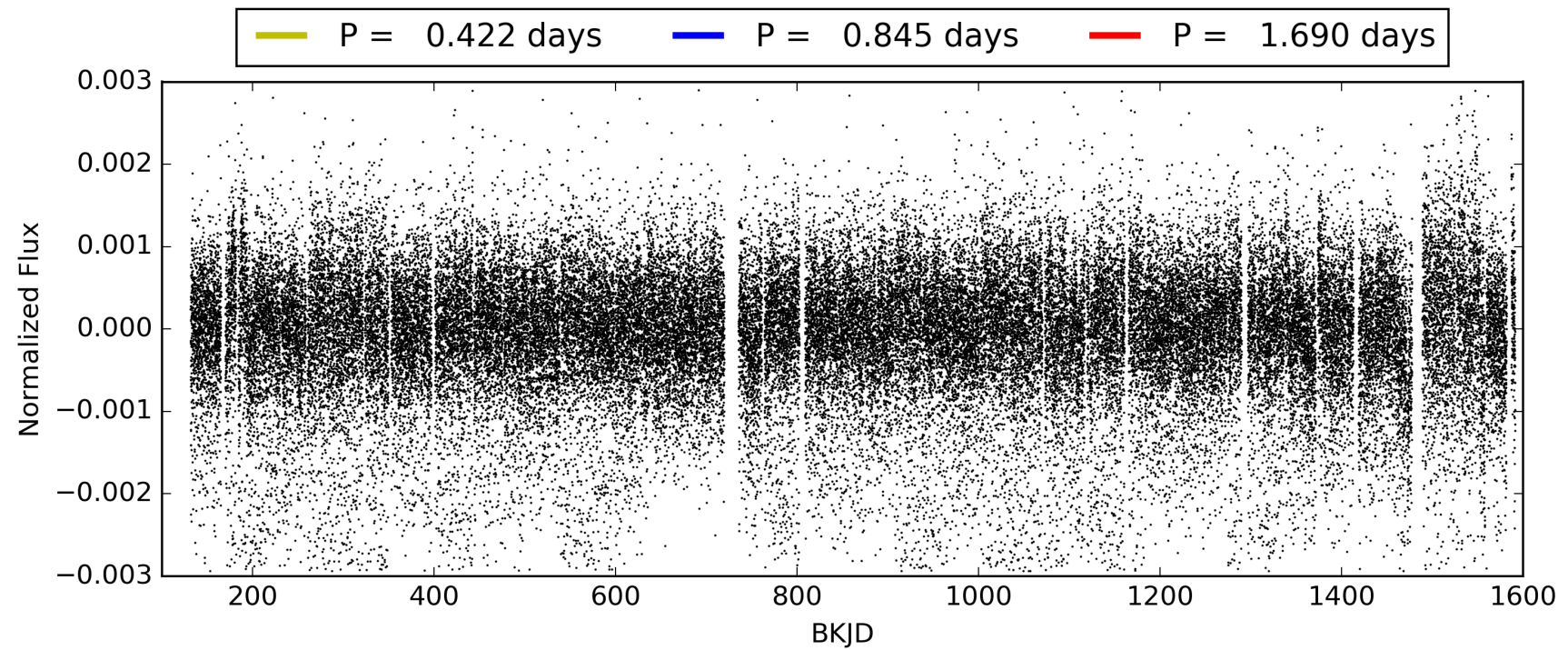
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:38:57 Z

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

# TCE 006311681-01, PDC Light Curves

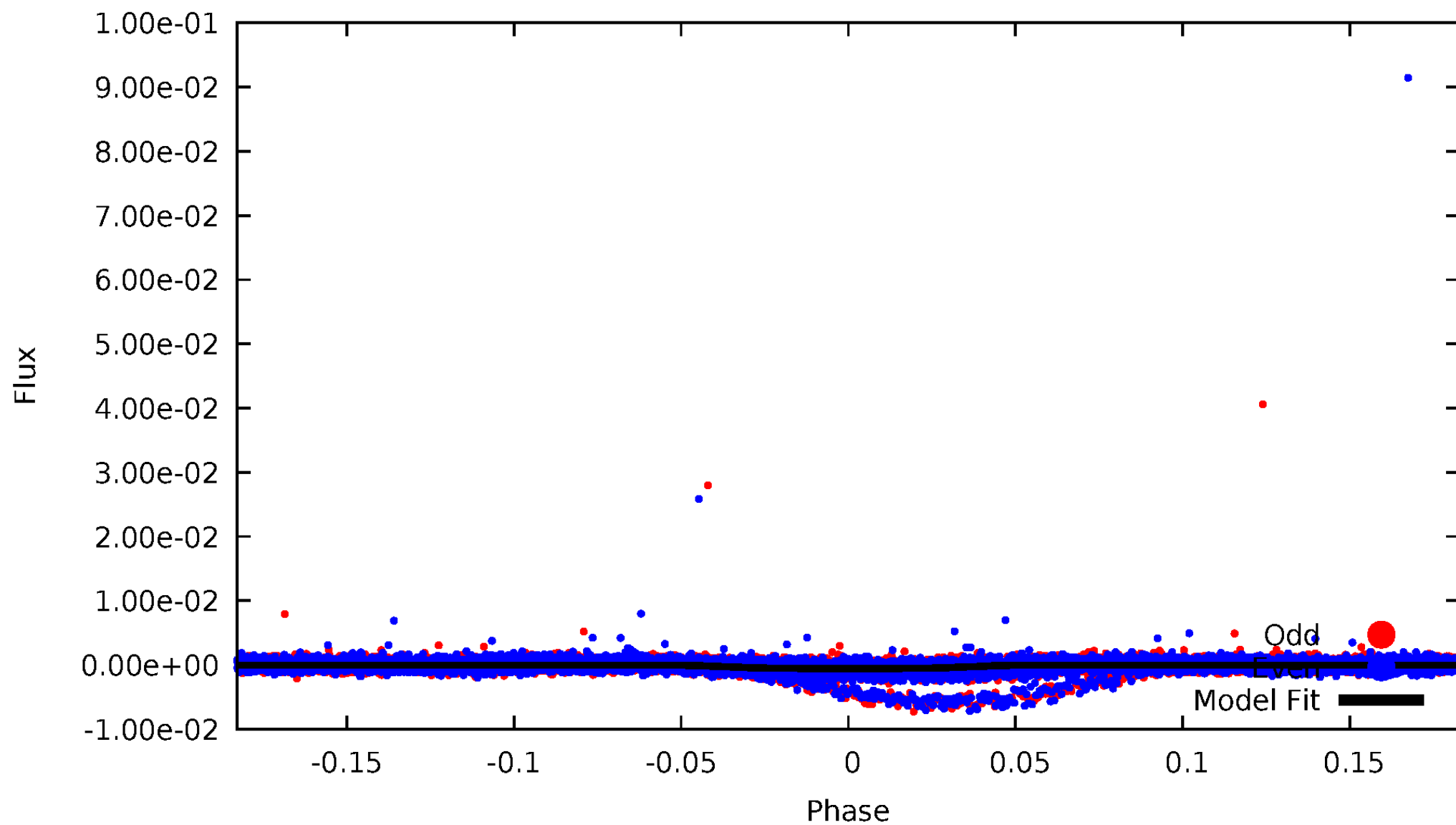


TCE 006311681-01



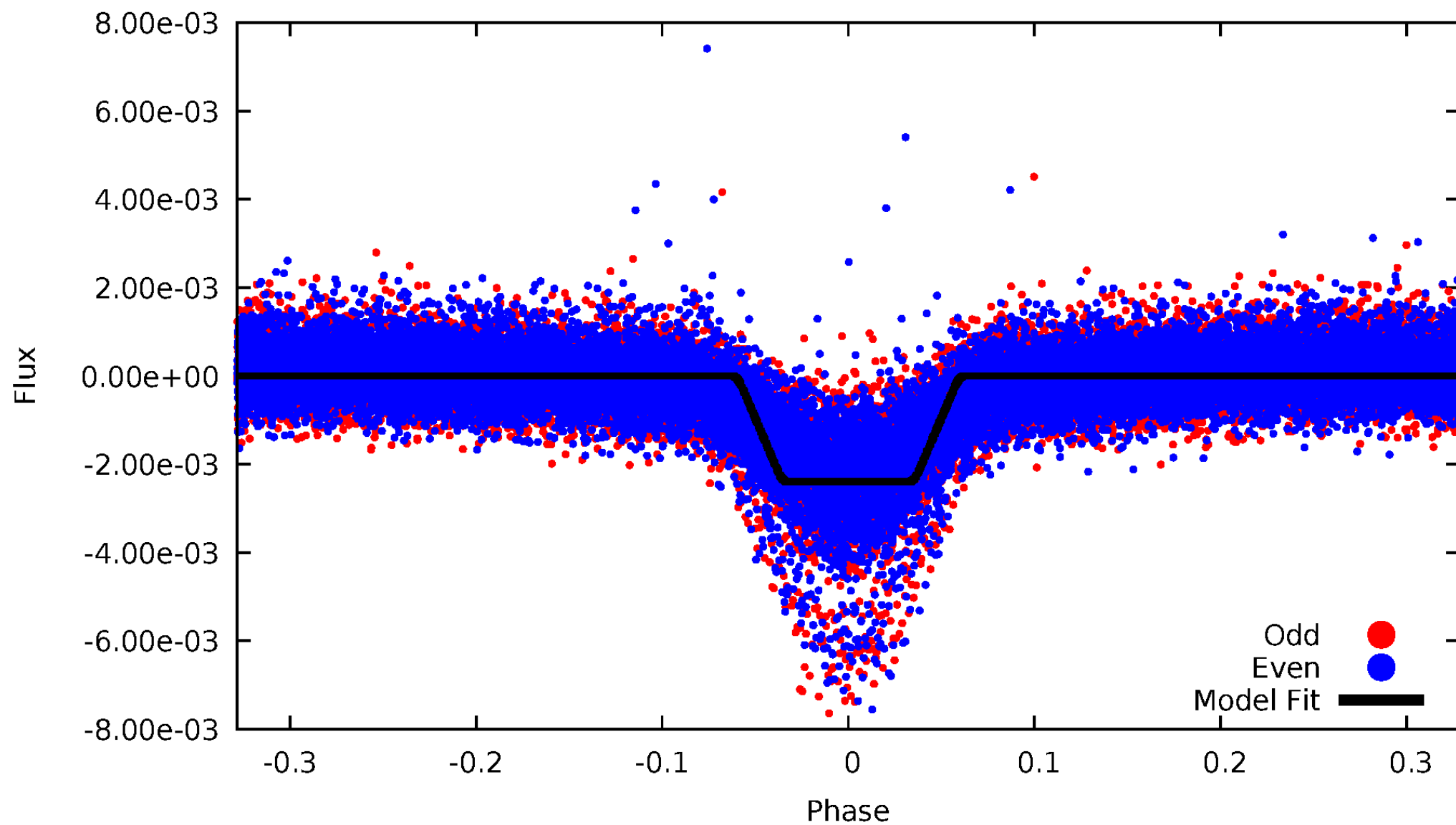
# DV Odd/Even

TCE 006311681-01



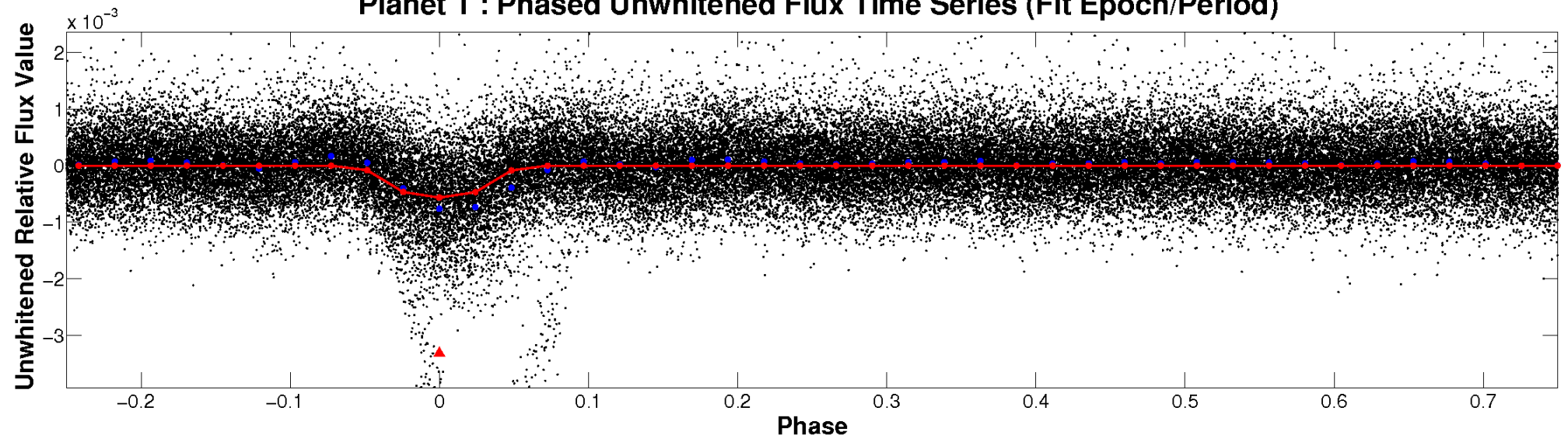
# ALT Odd/Even

TCE 006311681-01

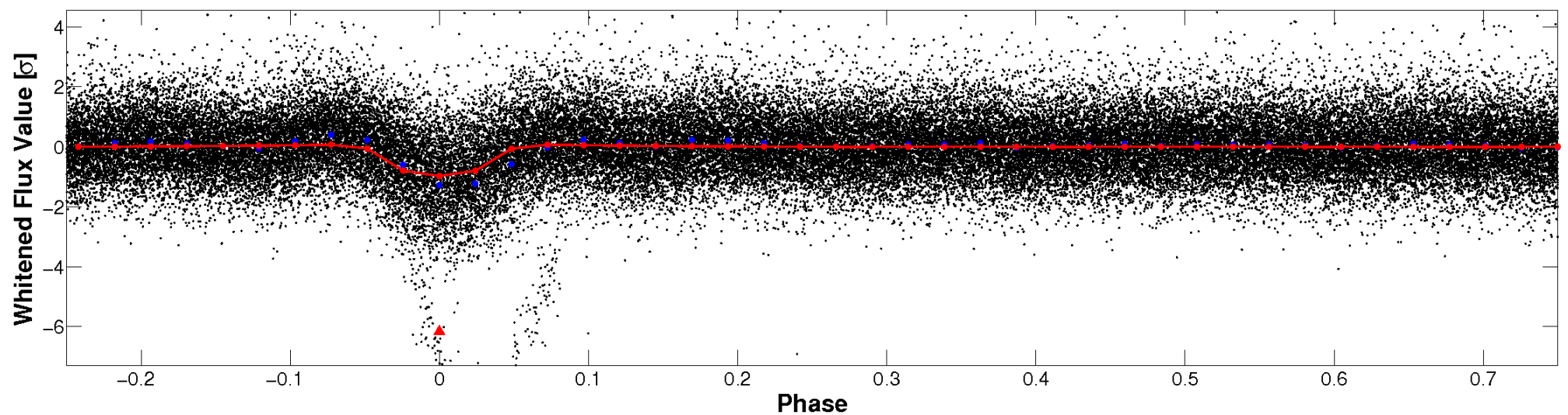


# Non-Whitened Vs. Whitened Light Curve

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

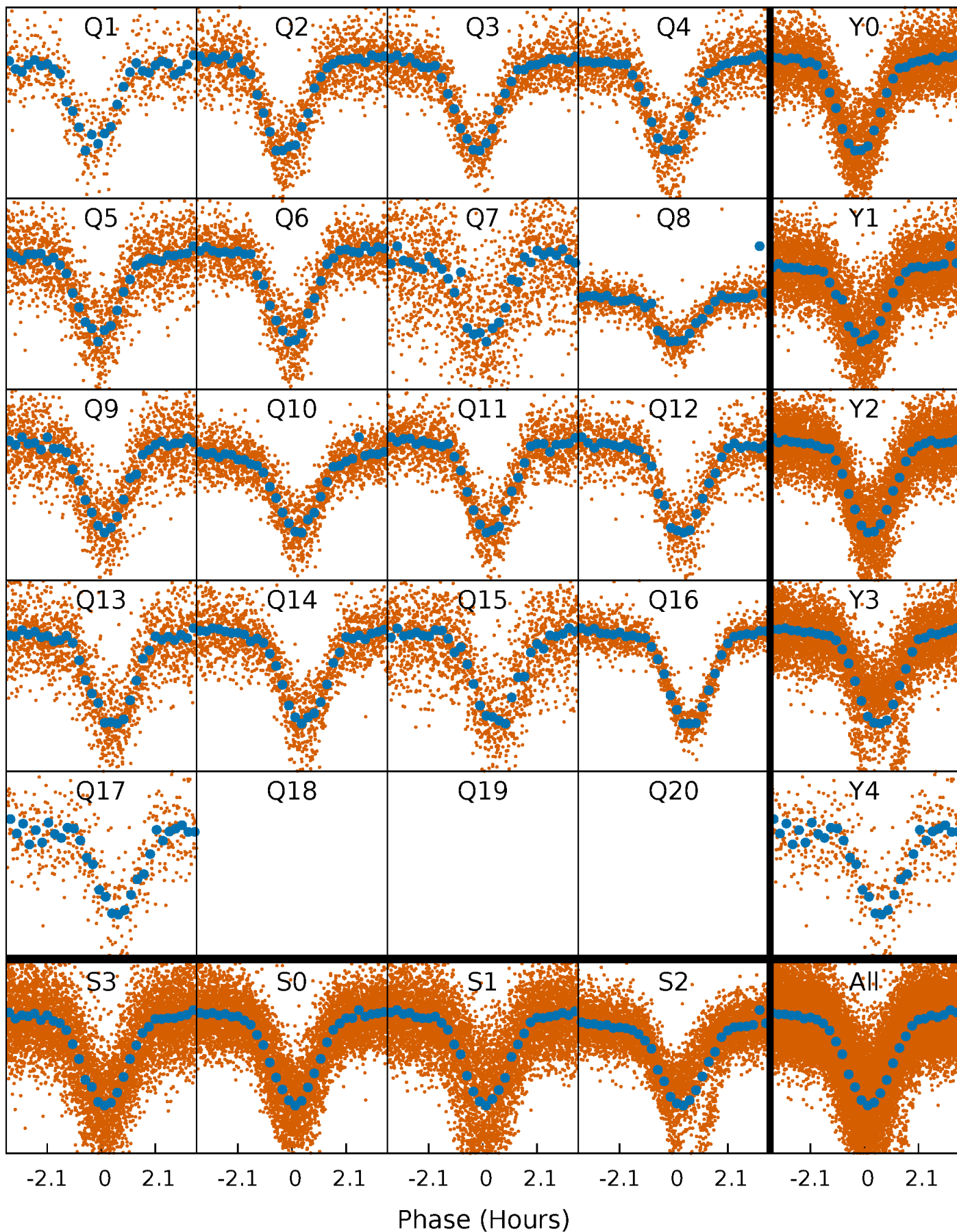


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



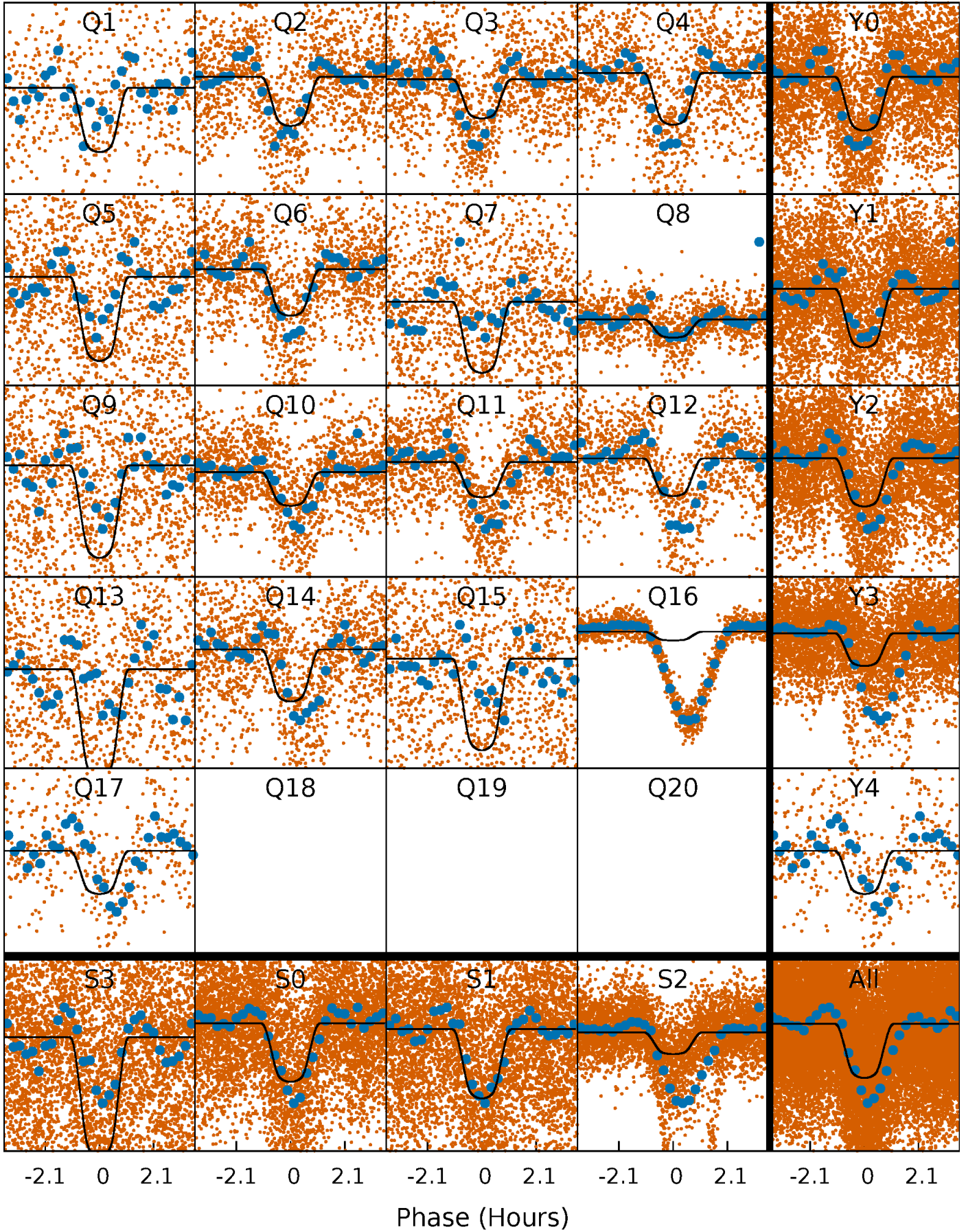
# PDC Quarter-Phased Transit Curves

TCE 006311681-01 P= 0.844763 Days  $T_0=131.696457$  (BKJD)



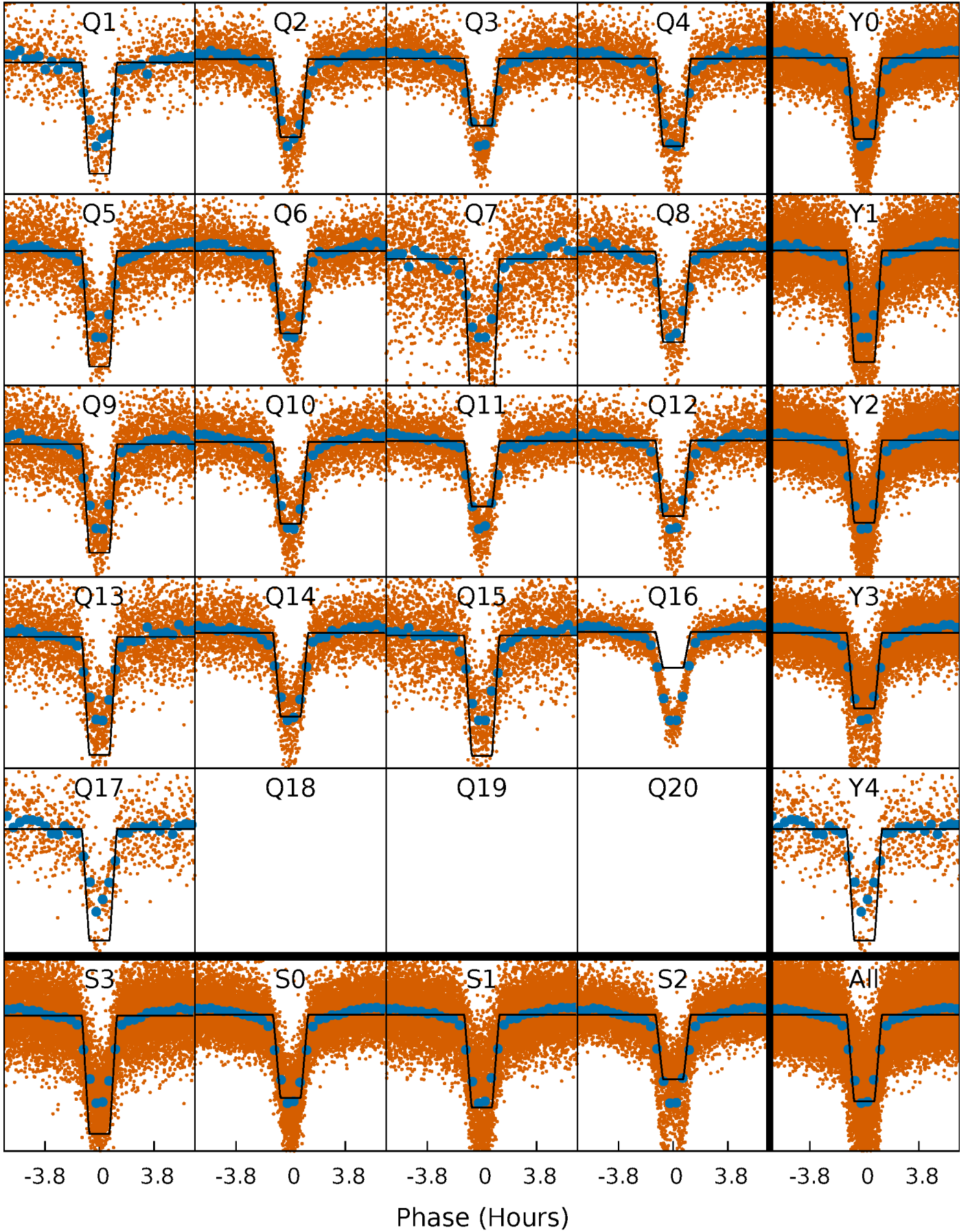
# DV Quarter-Phased Transit Curves

TCE 006311681-01   P= 0.844763 Days    $T_0=131.696457$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

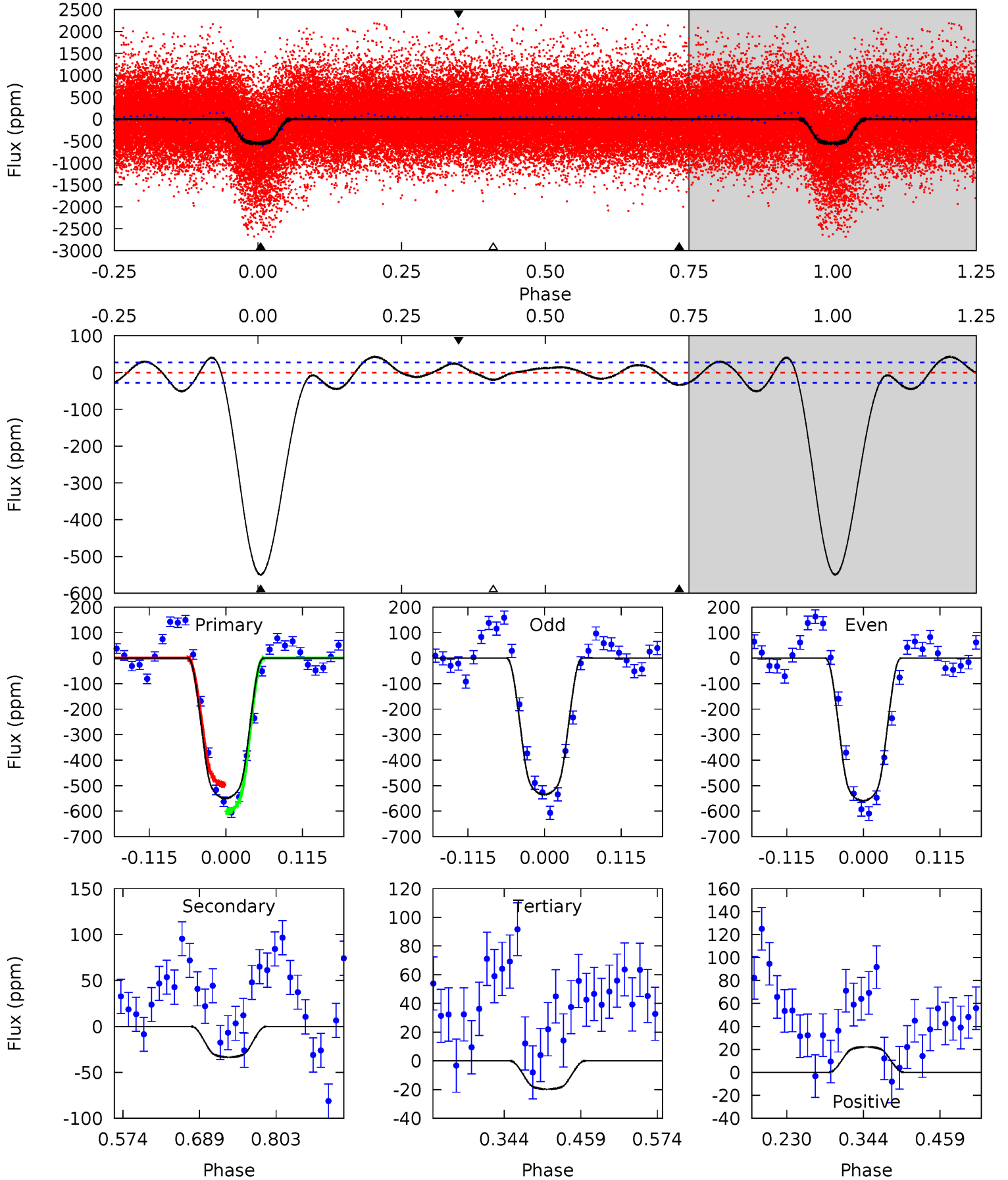
TCE 006311681-01   P= 0.844787 Days    $T_0=131.682171$  (BKJD)



# DV Model-Shift Uniqueness Test

006311681-01, P = 0.844763 Days, E = 130.851694 Days

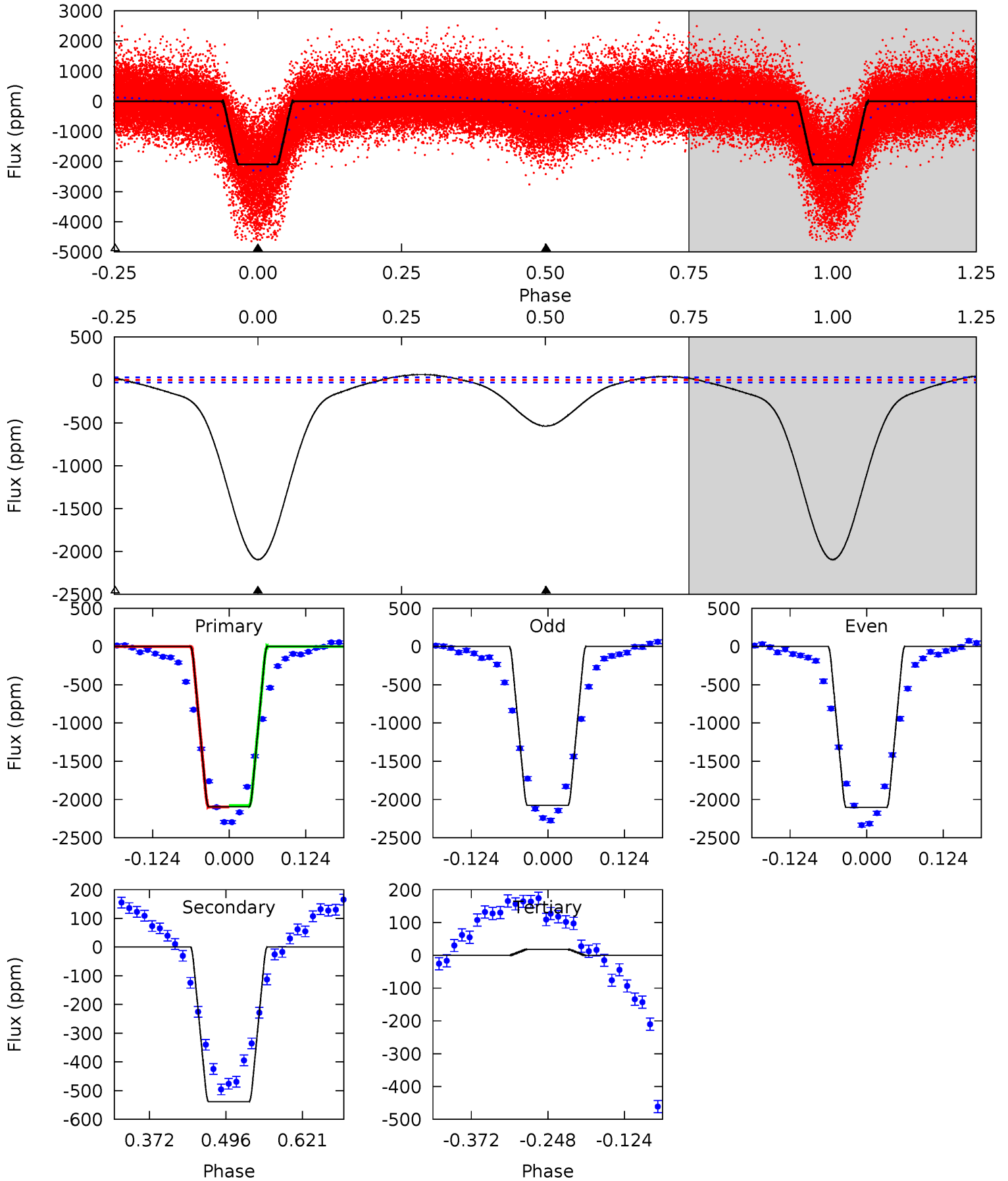
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
90.6	5.52	3.25	3.65	4.54	1.58	3.59	87.3	86.9	2.27	1.87	2.01	1.45	0.07	8.70



# Alt Model-Shift Uniqueness Test

006311681-01, P = 0.844787 Days, E = 130.837384 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
328.5	84.5	-2.79	0	4.52	1.54	11.4	331.3	328.5	87.3	84.5	2.16	1.11	0.03	1.43



### Stellar Parameters For KIC 006311681

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5705^{+172}_{-172}$	$4.452^{+0.098}_{-0.182}$	$-0.240^{+0.300}_{-0.300}$	$0.915^{+0.237}_{-0.128}$	$0.865^{+0.120}_{-0.080}$	$1.590^{+0.692}_{-0.785}$
	+3%/-3%	+2%/-4%	+125%/-125%	+26%/-14%	+14%/-9%	+44%/-49%
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 006311681-01 / KOI 1122.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-33 \pm 6$	$2.73^{+0.42}_{-0.29}$	$2638^{+187}_{-146}$	$2954^{+175}_{-200}$	$0.669^{+0.235}_{-0.176}$
Alt.	$-539 \pm 6$	$4.98^{+0.72}_{-0.46}$	$2628^{+187}_{-142}$	$4112^{+105}_{-104}$	$3.333^{+0.687}_{-0.735}$

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

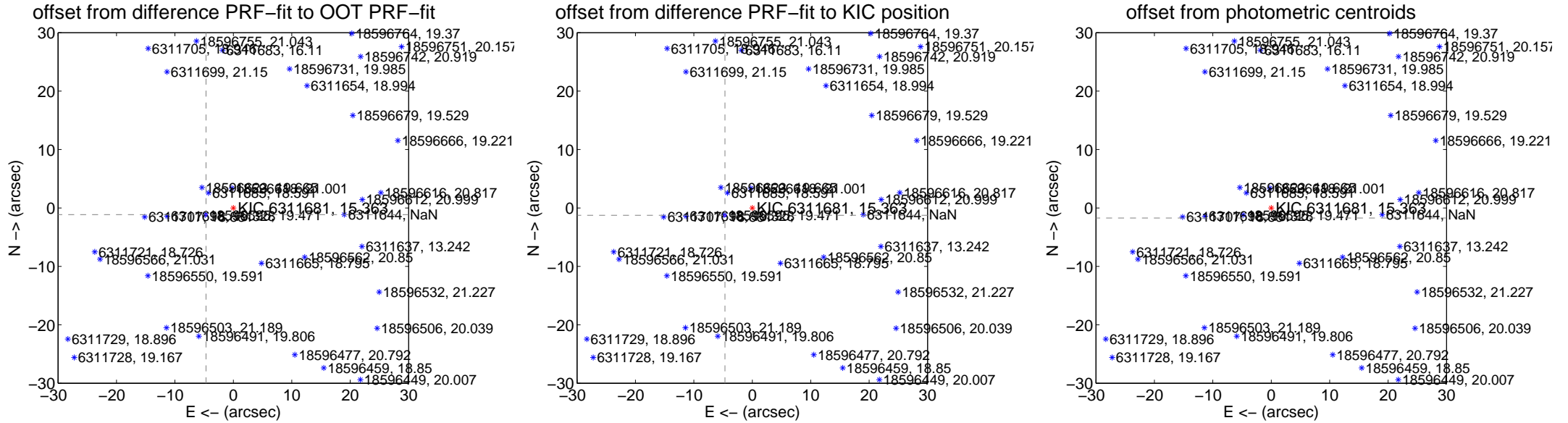
## DV Centroid Data

Supplemental centroid analysis for 006311681-01. Kepler magnitude: 15.36. Transit SNR 56.43

There are 17 quarters with good PRF difference image offsets

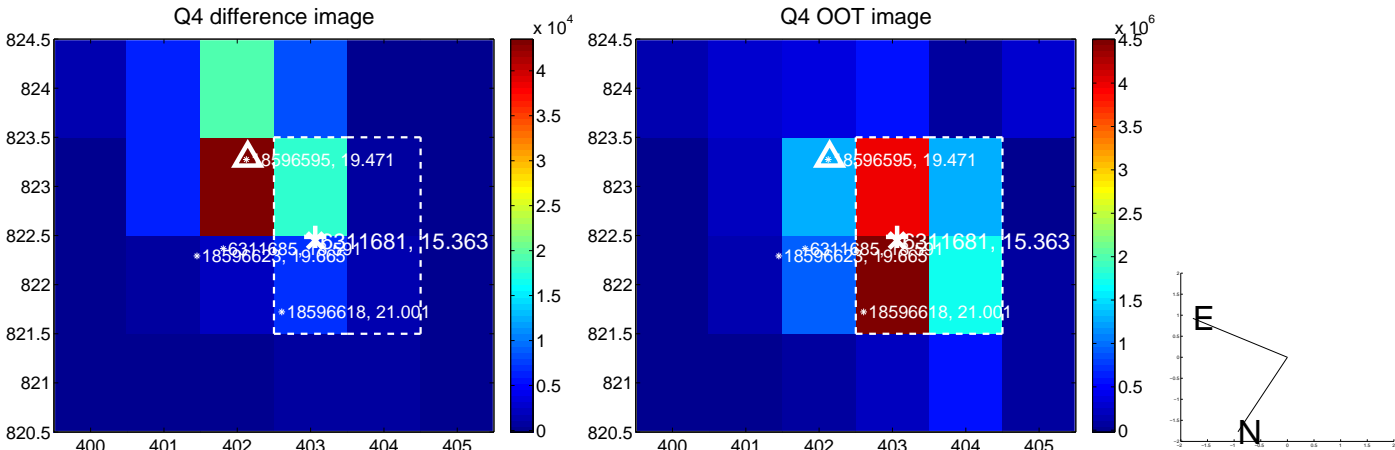
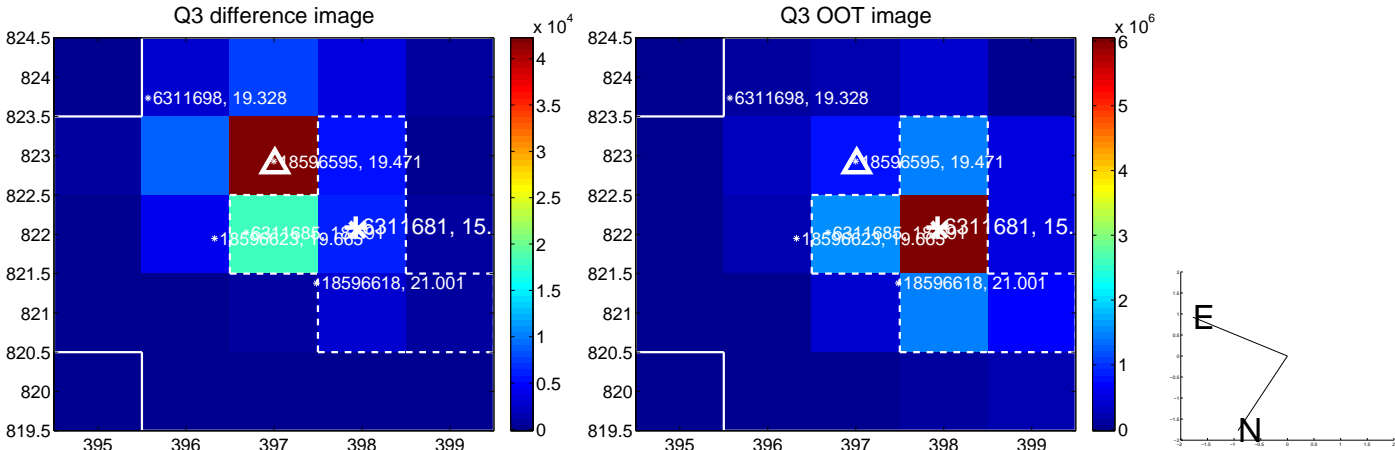
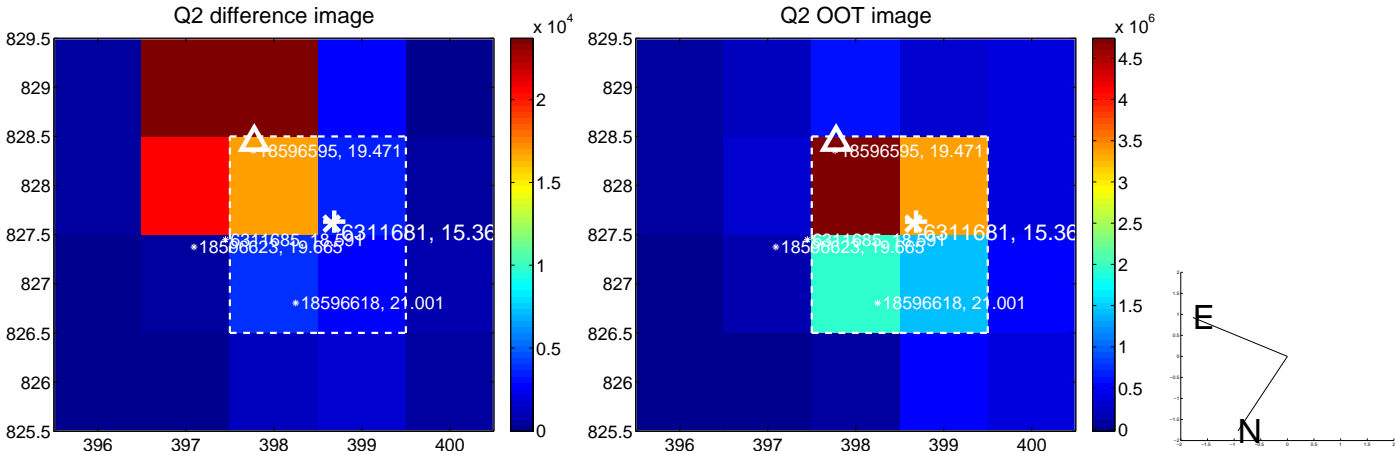
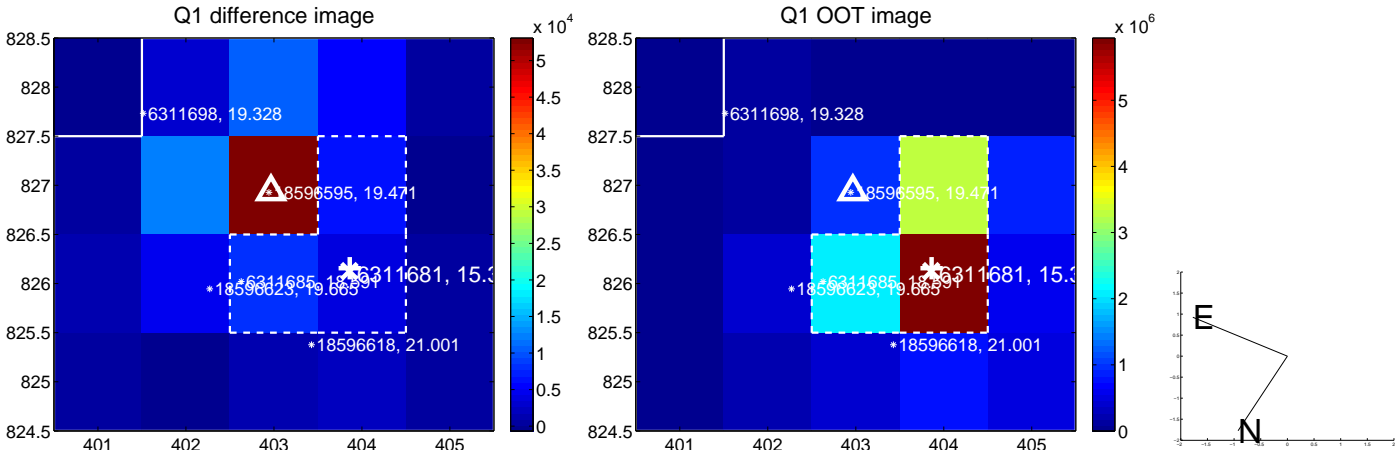
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	4.819 $\pm$ 0.068	71.15	4.682 $\pm$ 0.068	-1.143 $\pm$ 0.067
PRF-fit source offset from KIC position	4.850 $\pm$ 0.069	70.03	4.684 $\pm$ 0.069	-1.261 $\pm$ 0.068
photometric centroid source offset	42.31 $\pm$ 0.24	175.53	42.27 $\pm$ 0.24	-1.73 $\pm$ 0.20

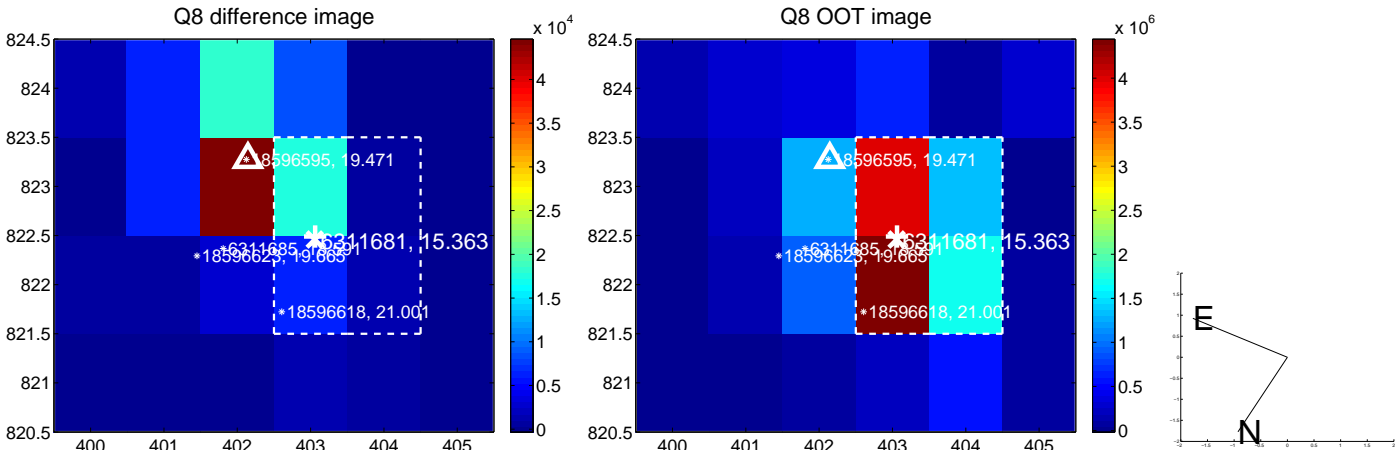
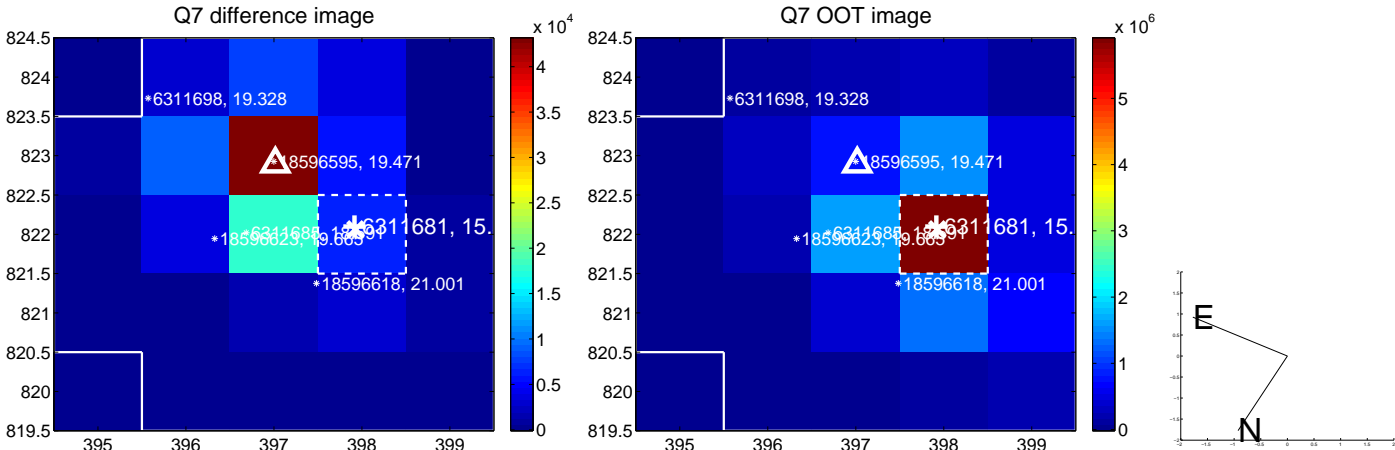
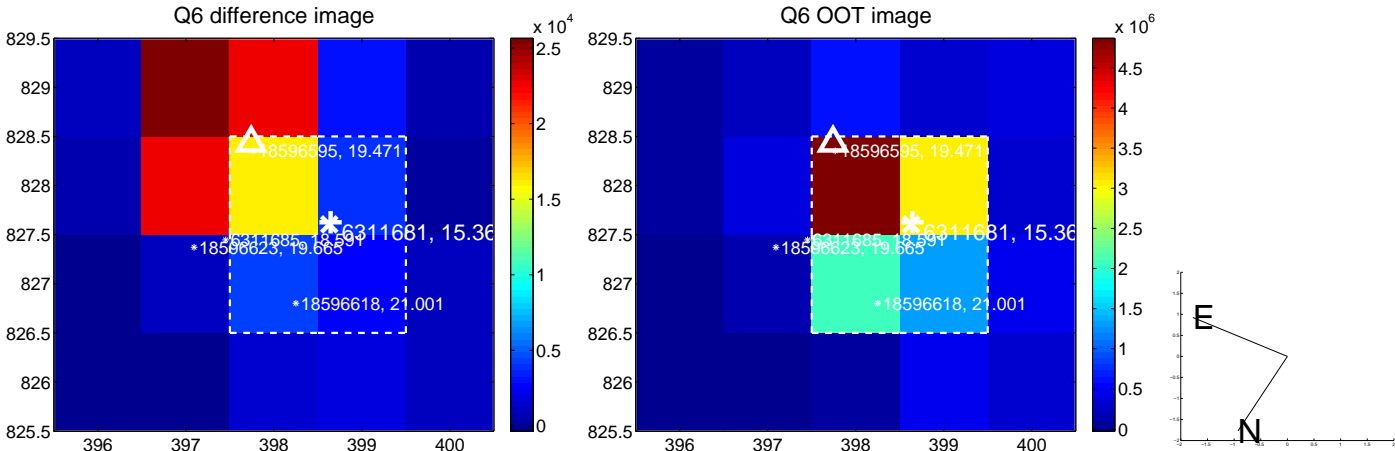
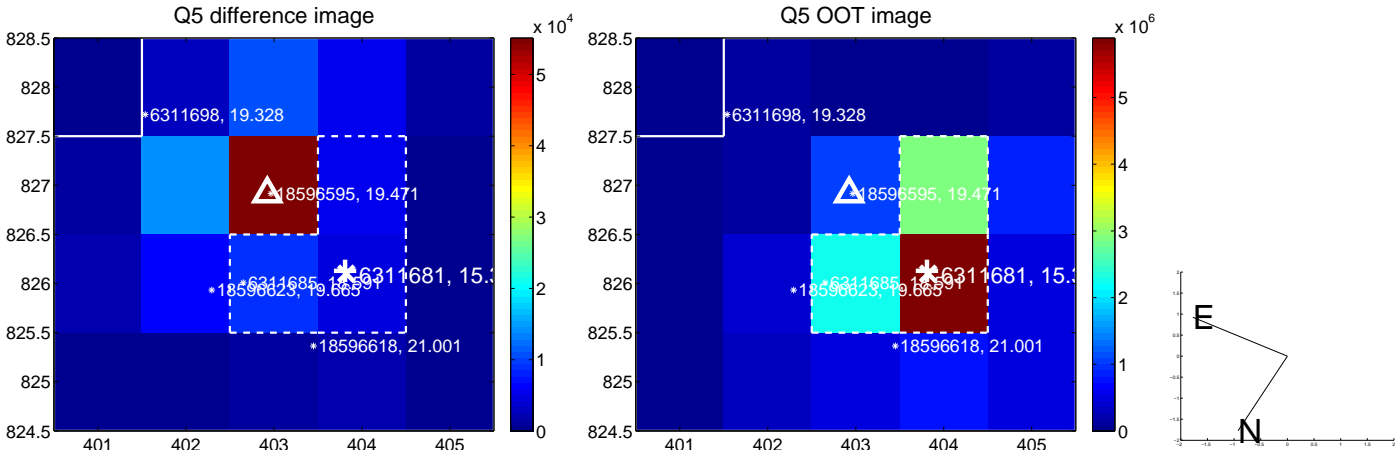


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

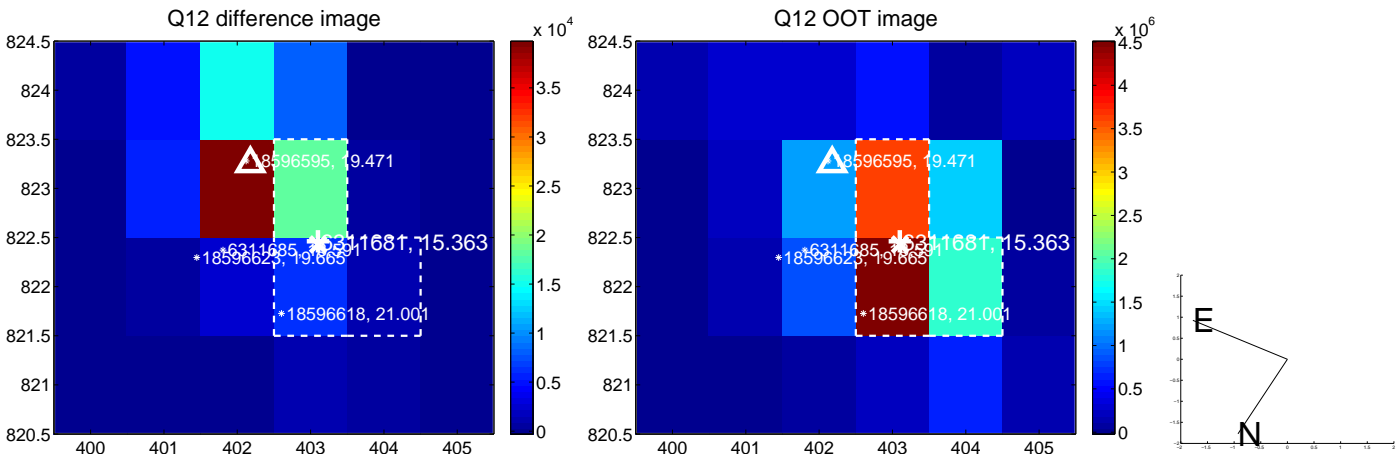
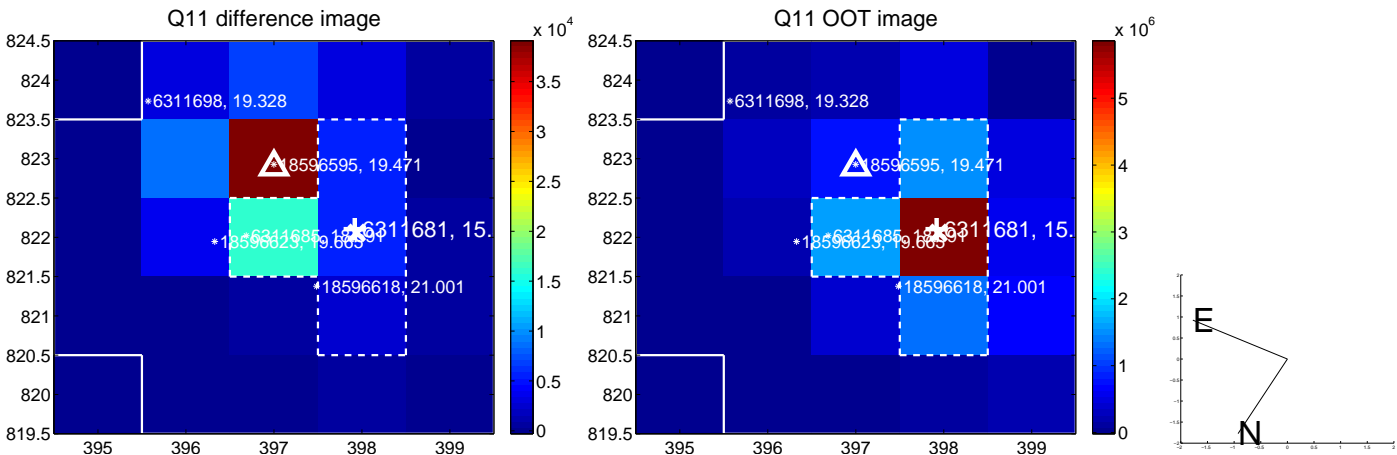
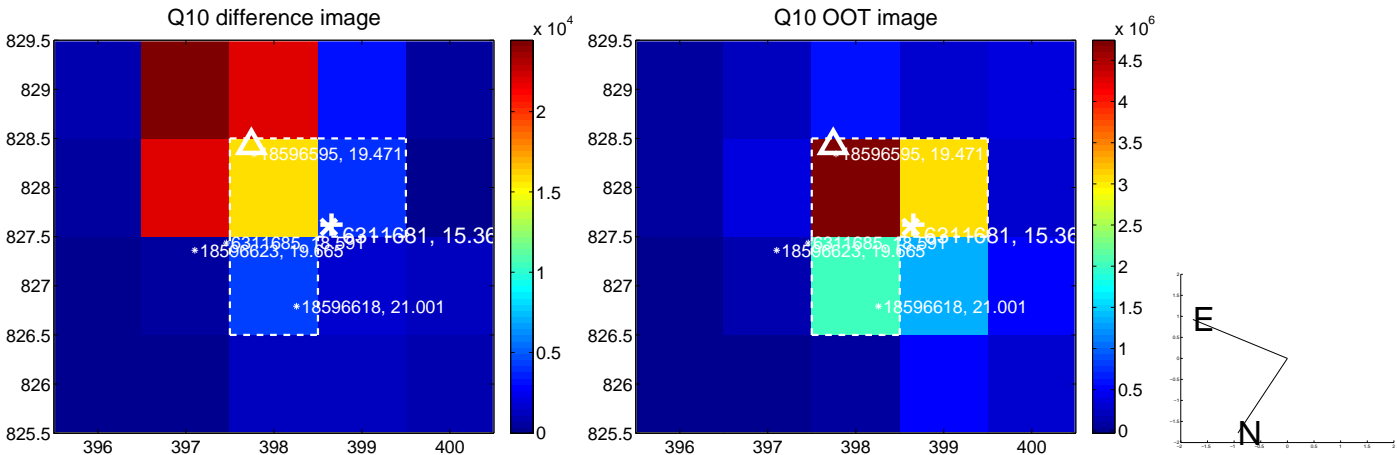
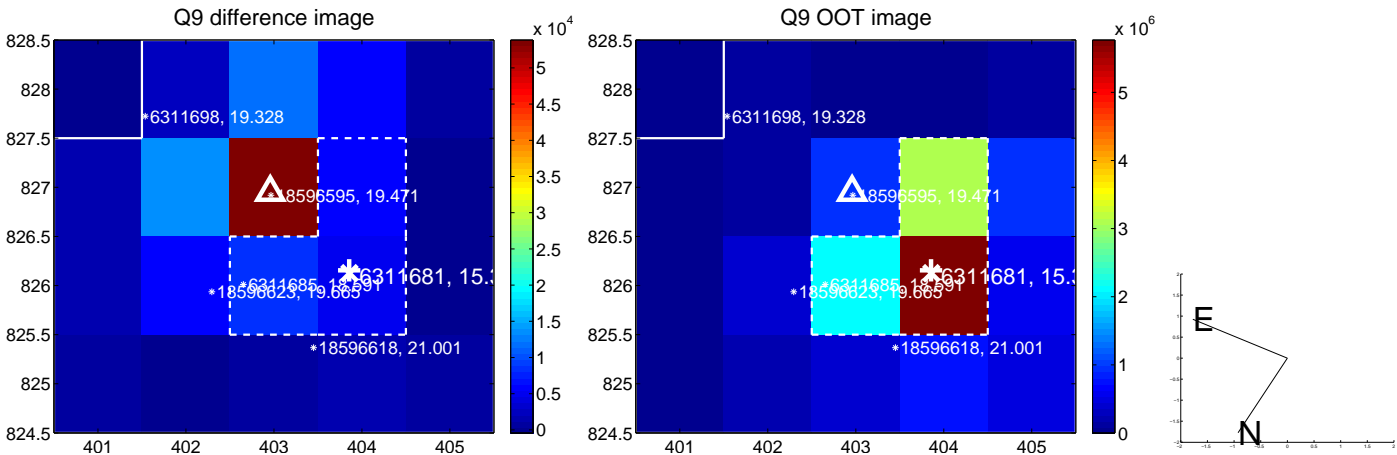
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



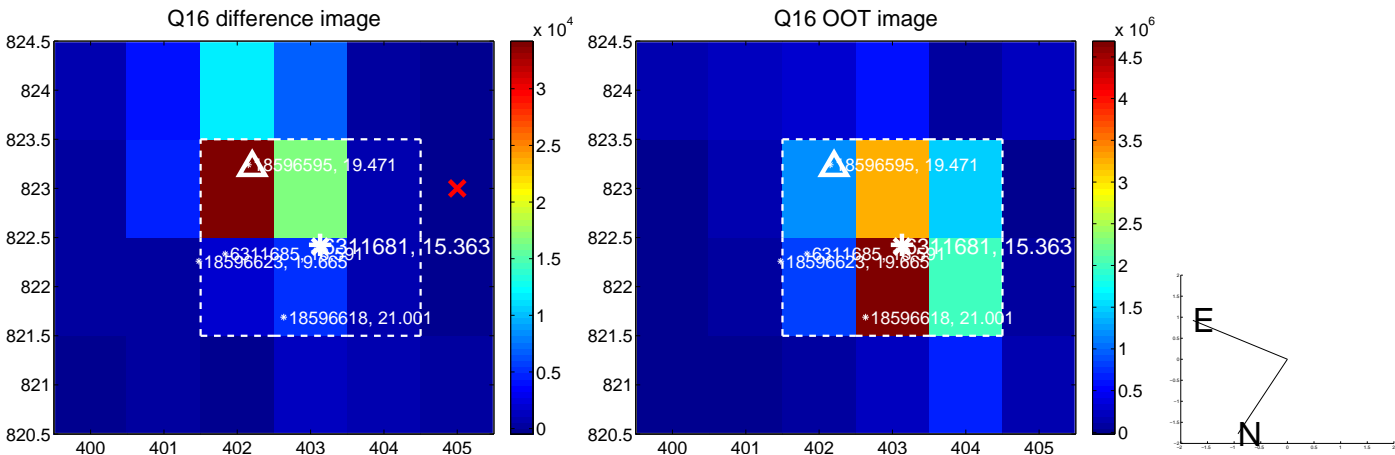
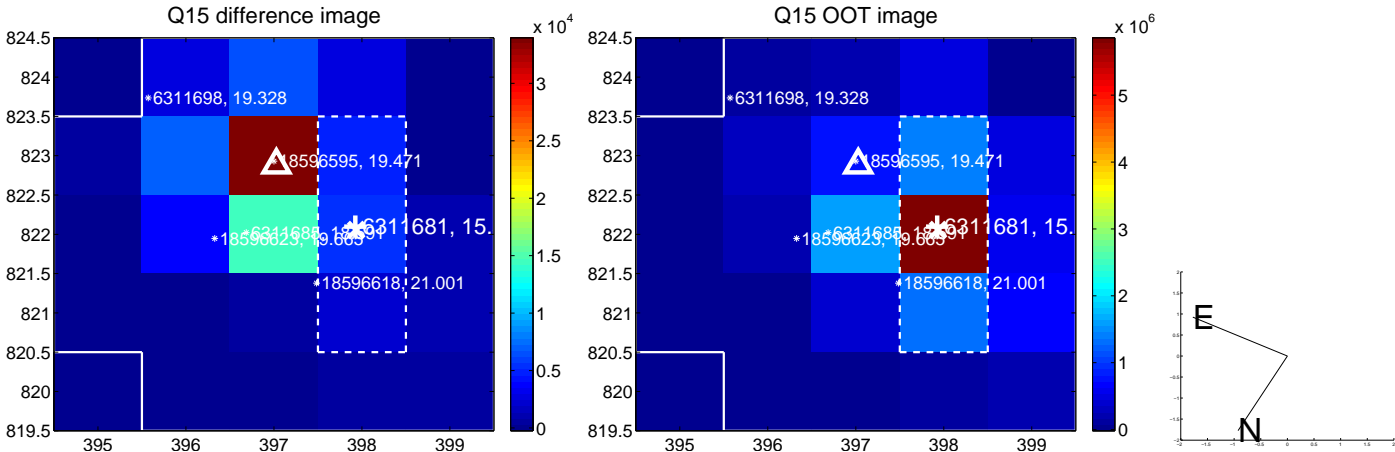
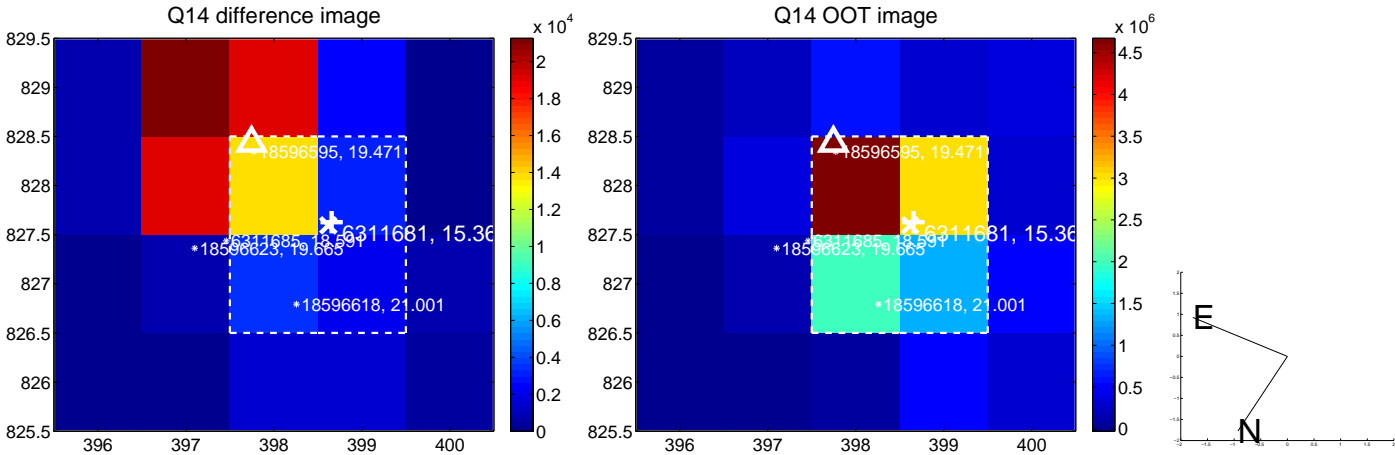
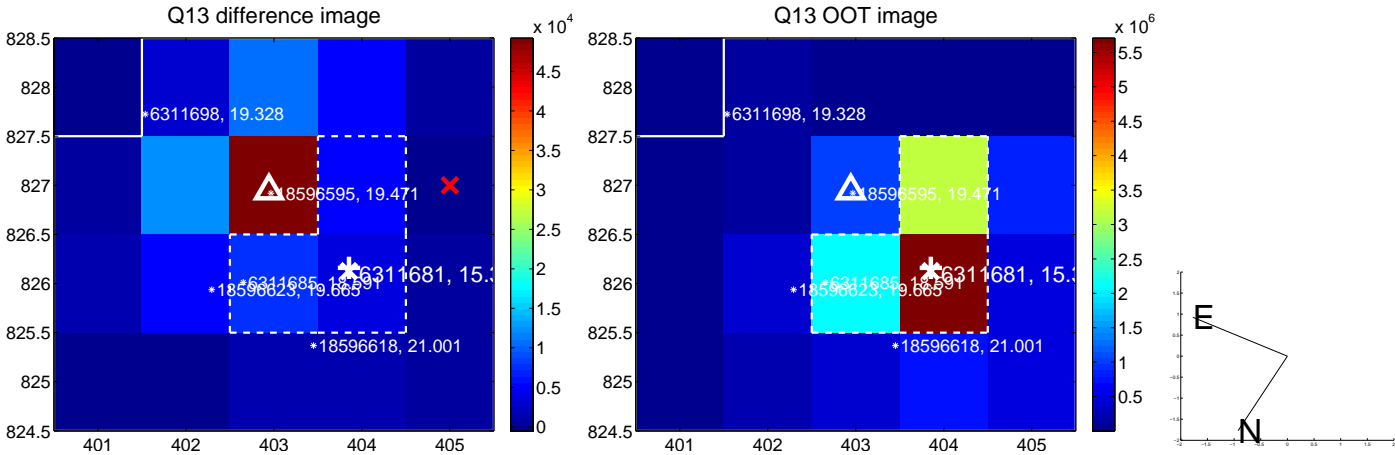
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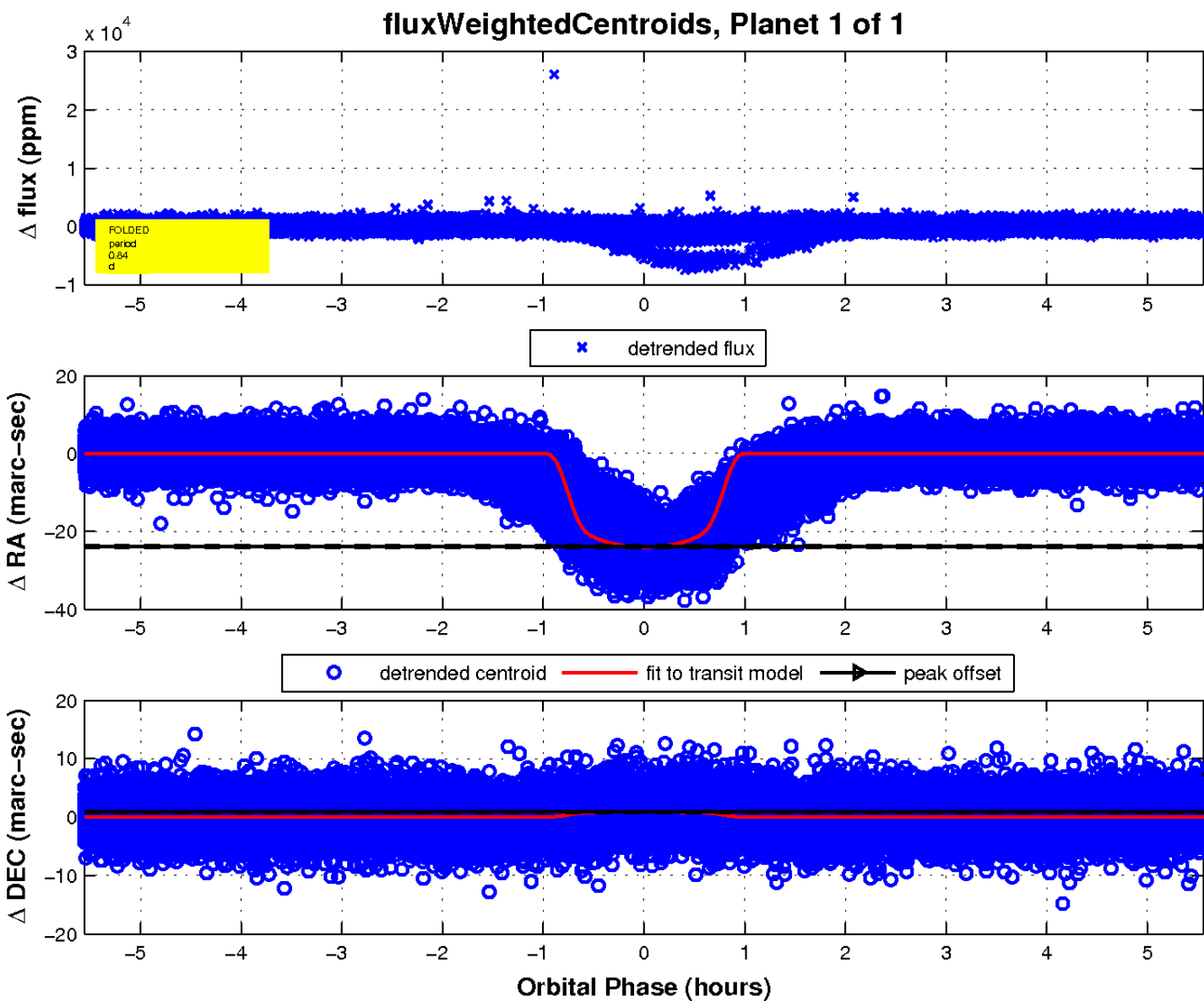
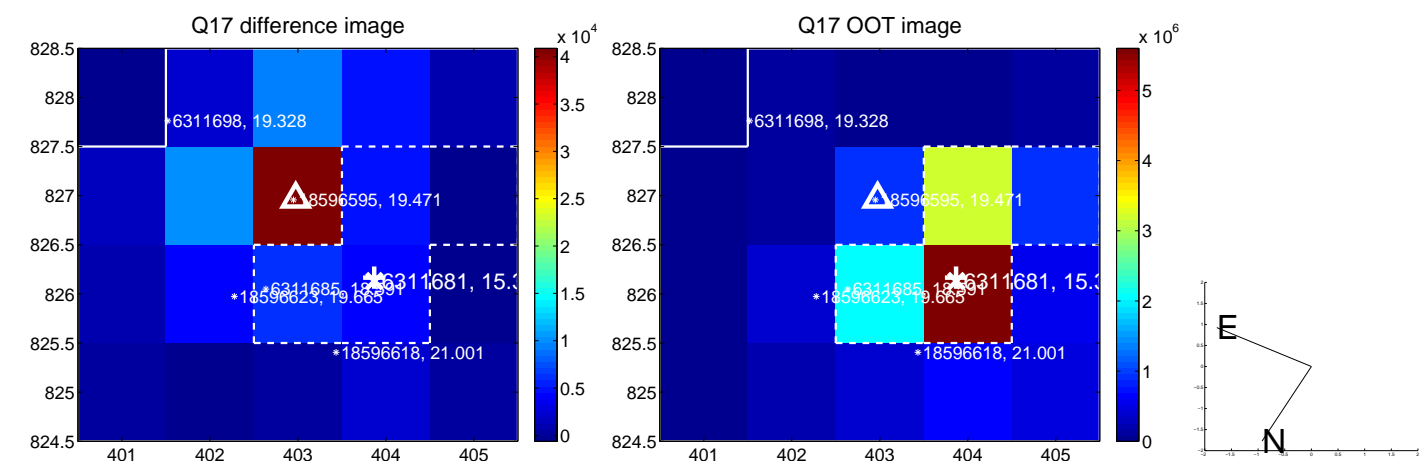
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

