

# KIC 010065244

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010065244-01	OBS	No	0.712924	131.954135	82.7	1.885	9.6	4.5	2.22	7483	2.34	39461.35
010065244-02	OBS	No	1.403992	132.496181	376.4	3.689	9.5	10.7	2.22	7483	5.72	15986.14
010065244-03	OBS	No	0.702023	132.135994	257.1	2.500	12.8	-1.0	2.22	7483	3.62	40280.46

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010065244-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
010065244-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010065244-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

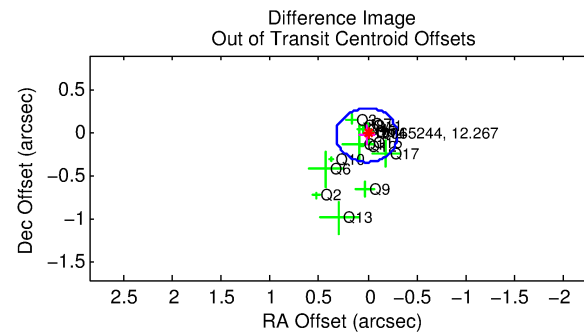
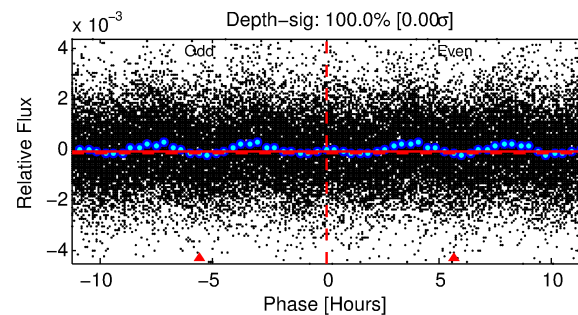
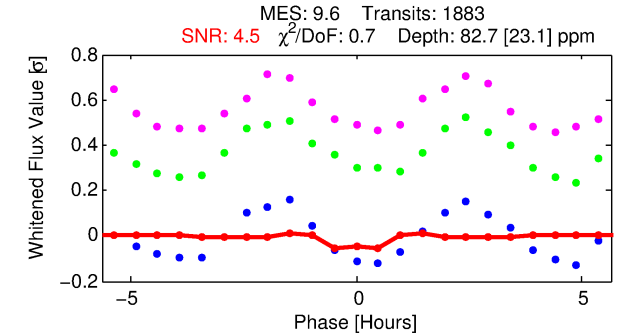
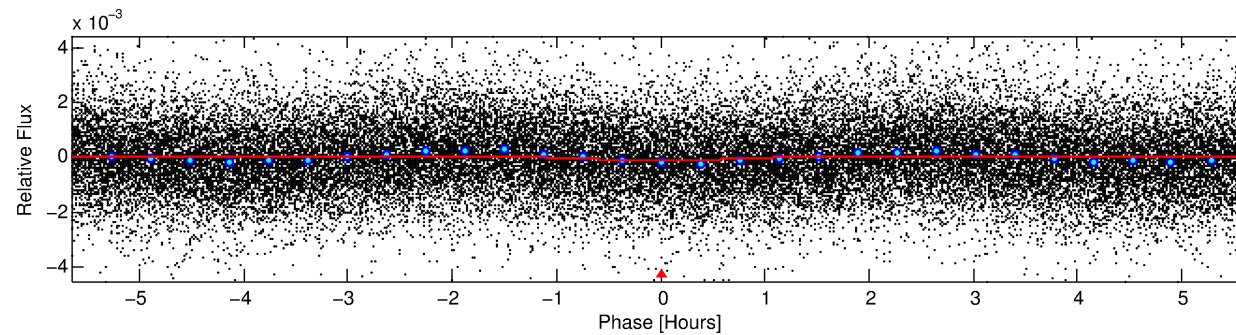
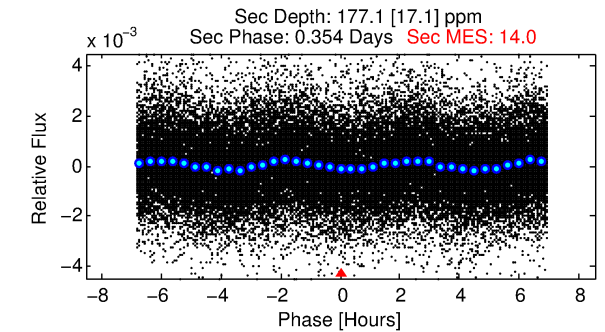
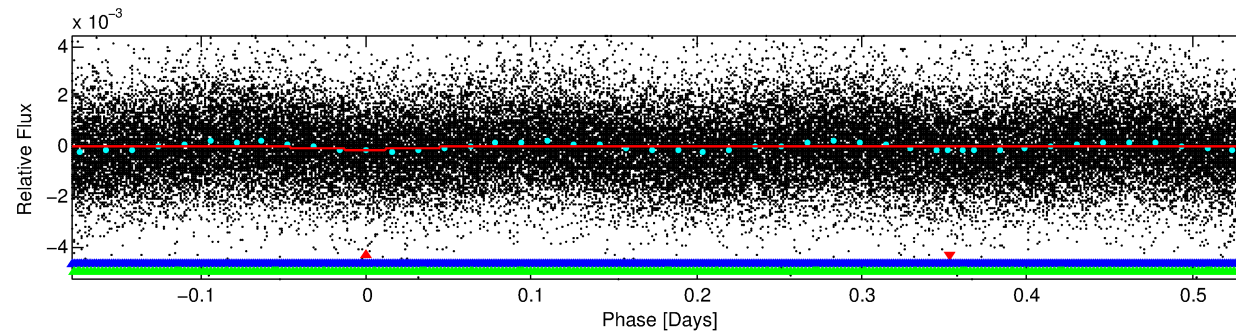
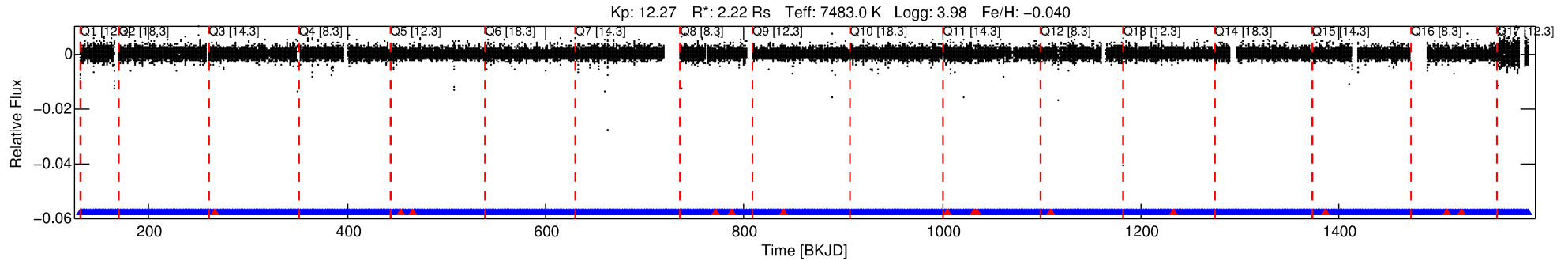
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010065244-01

No Significant Match Found

# DV One-Page Summary

KIC: 10065244 Candidate: 1 of 3 Period: 0.713 d



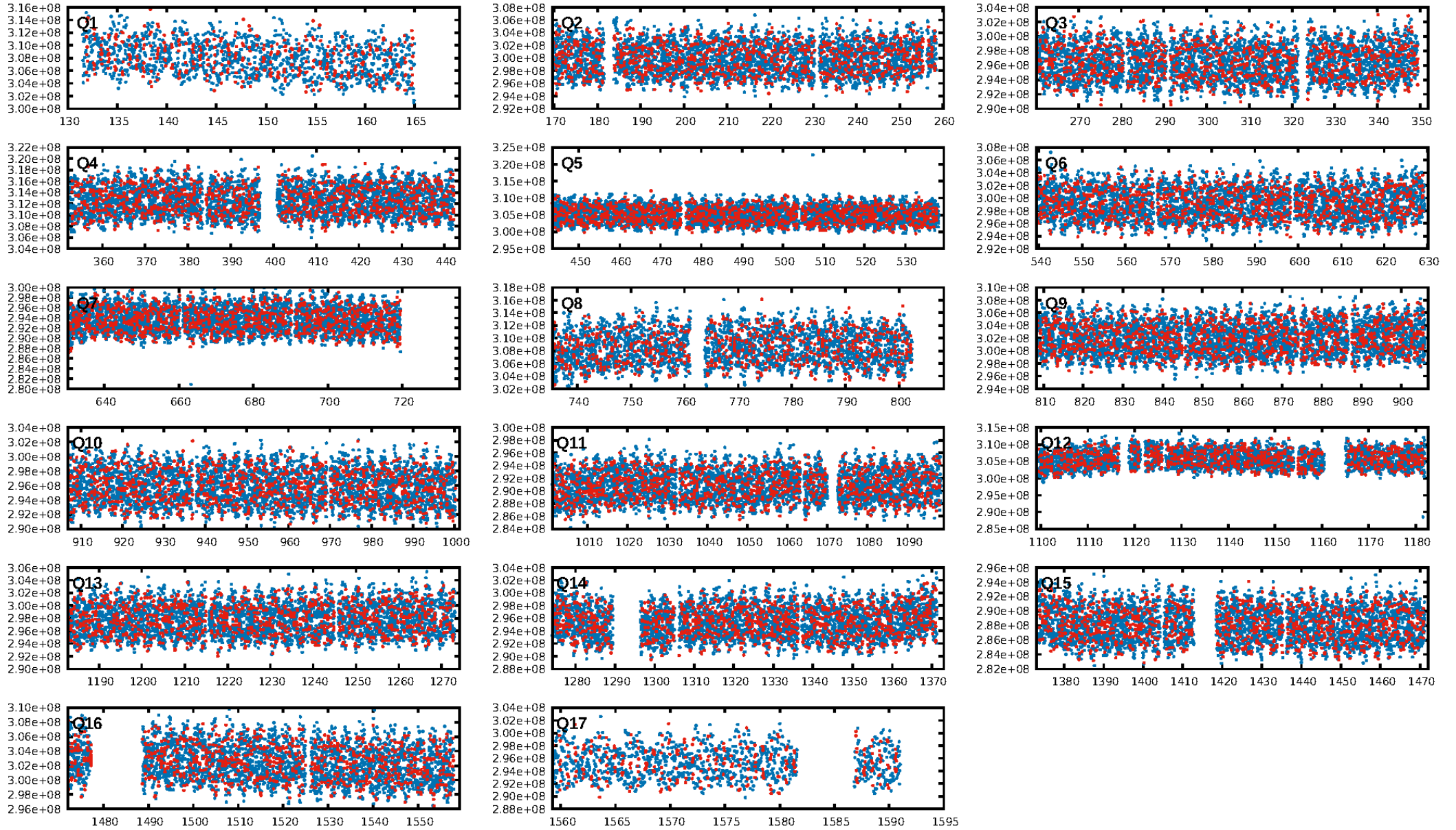
## DV Fit Results:

Period = 0.71292 [0.00002] d  
Epoch = 131.9541 [0.0031] BKJD  
Rp/R\* = 0.0097 [0.0051]  
a/R\* = 1.62 [3.31]  
b = 0.90 [0.70]  
Seff = 39461.35 [16906.44]  
Teff = 3594 [385] K  
Rp = 2.34 [1.41] Re  
a = 0.0187 [0.0049] AU  
Ag = 6.25 [7.04] [0.75σ]  
Teffp = 8785 [2346] K [2.18σ]

## DV Diagnostic Results:

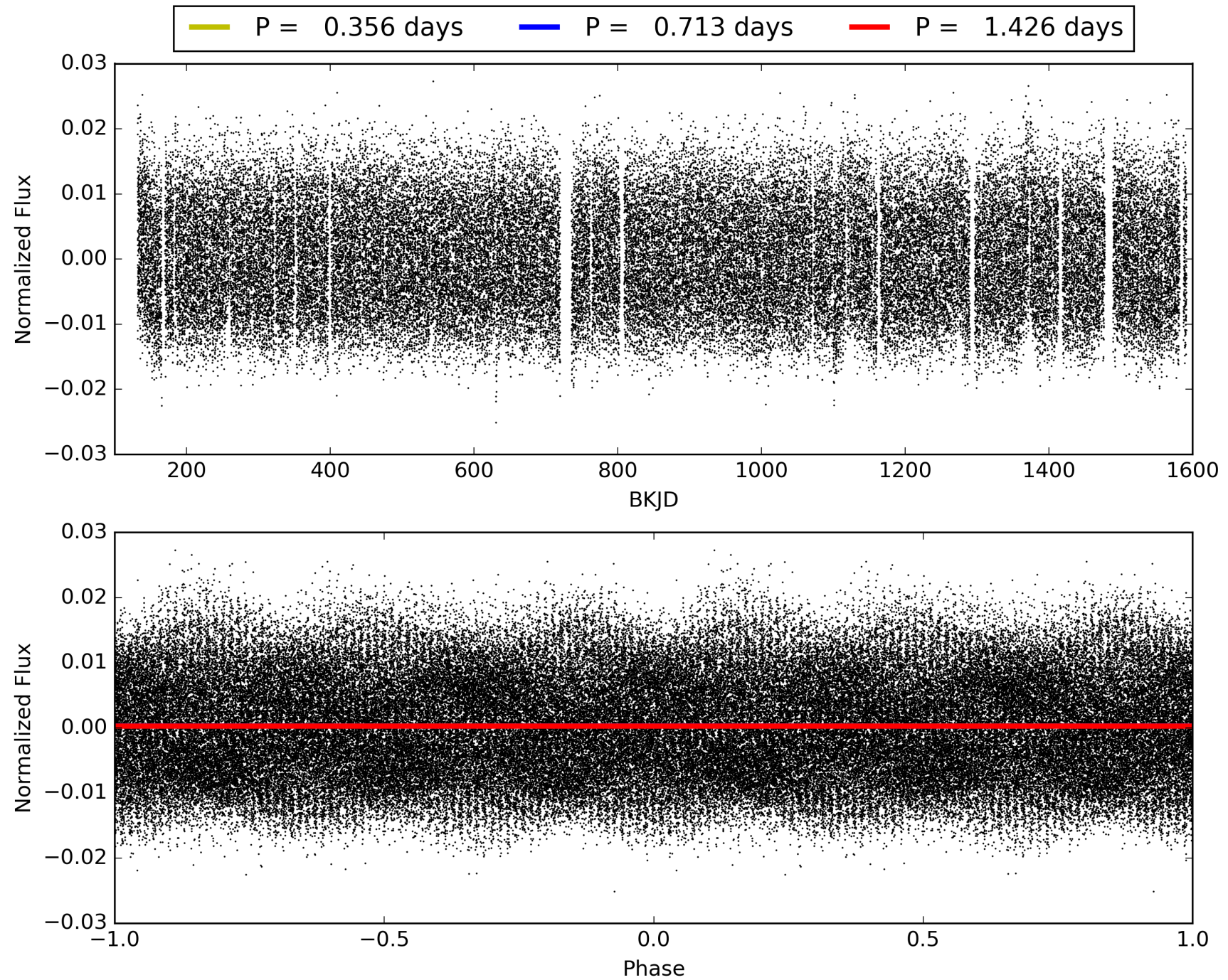
ShortPeriod-sig: 6.7% [0.08σ]  
LongPeriod-sig: 100.0% [4.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.99 [1784/1798]  
**GhostDiagnostic-chr: 0.6197**  
Centroid-sig: 5.4%  
Centroid-so: 0.394 arcsec [2.81σ]  
OotOffset-rm: 0.027 arcsec [0.26σ]  
KicOffset-rm: 0.213 arcsec [2.09σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.53 [9/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 010065244-01, PDC Light Curves





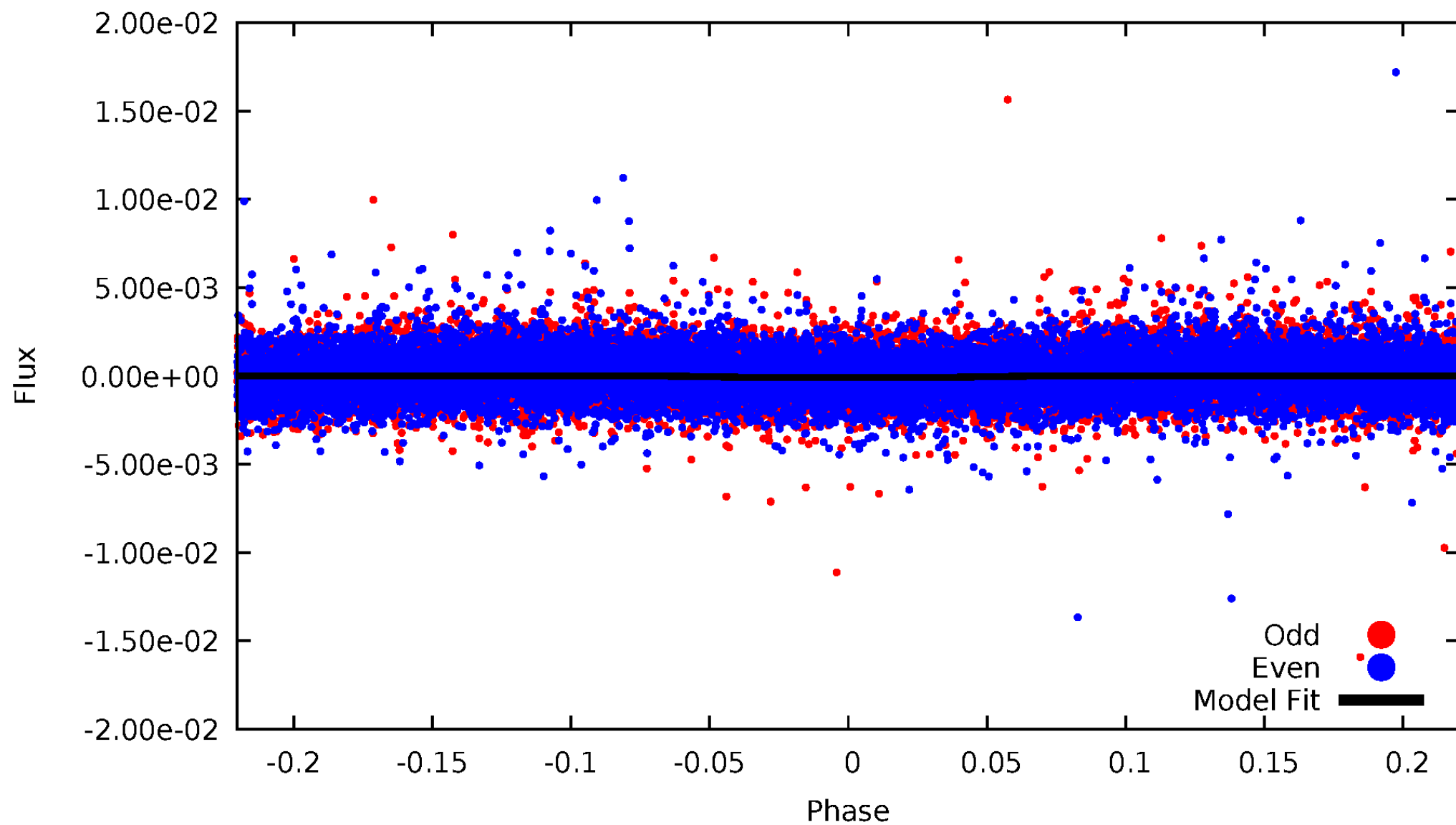
TCE 010065244-01





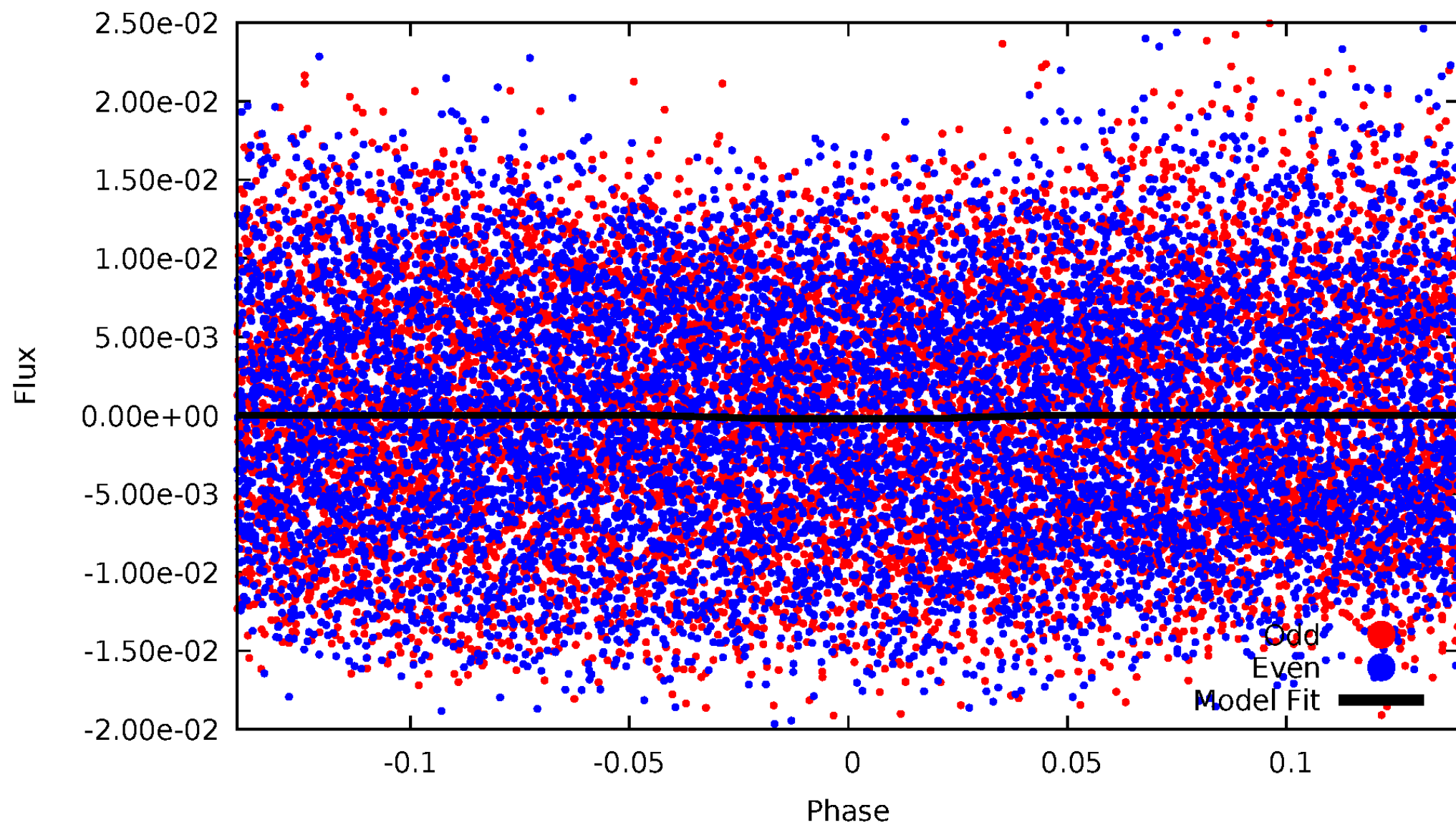
# DV Odd/Even

TCE 010065244-01

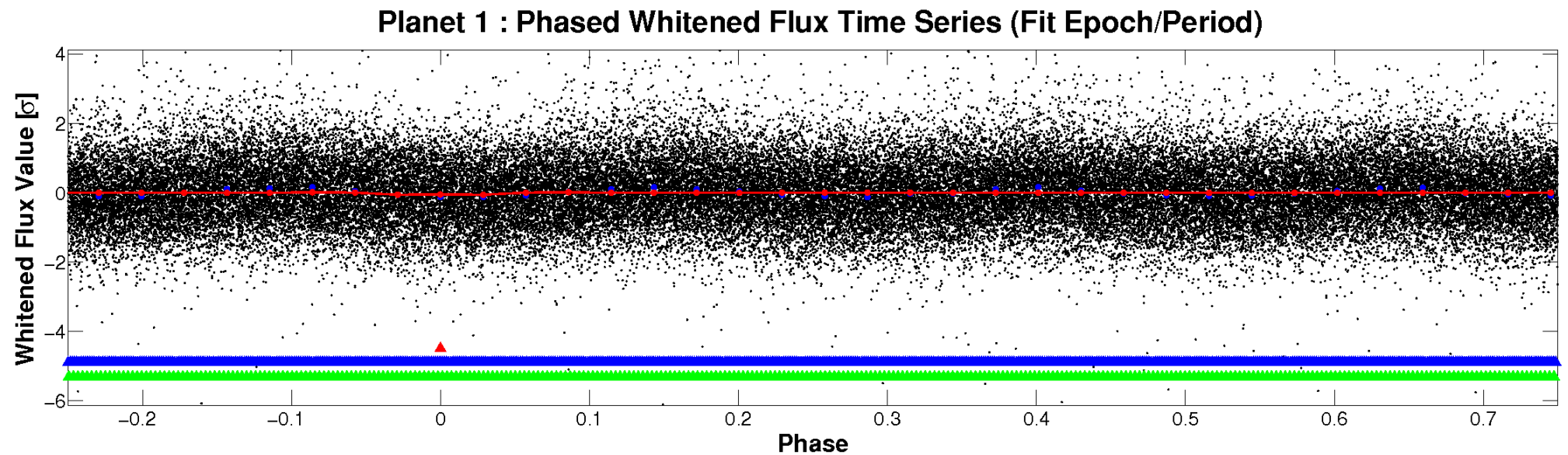
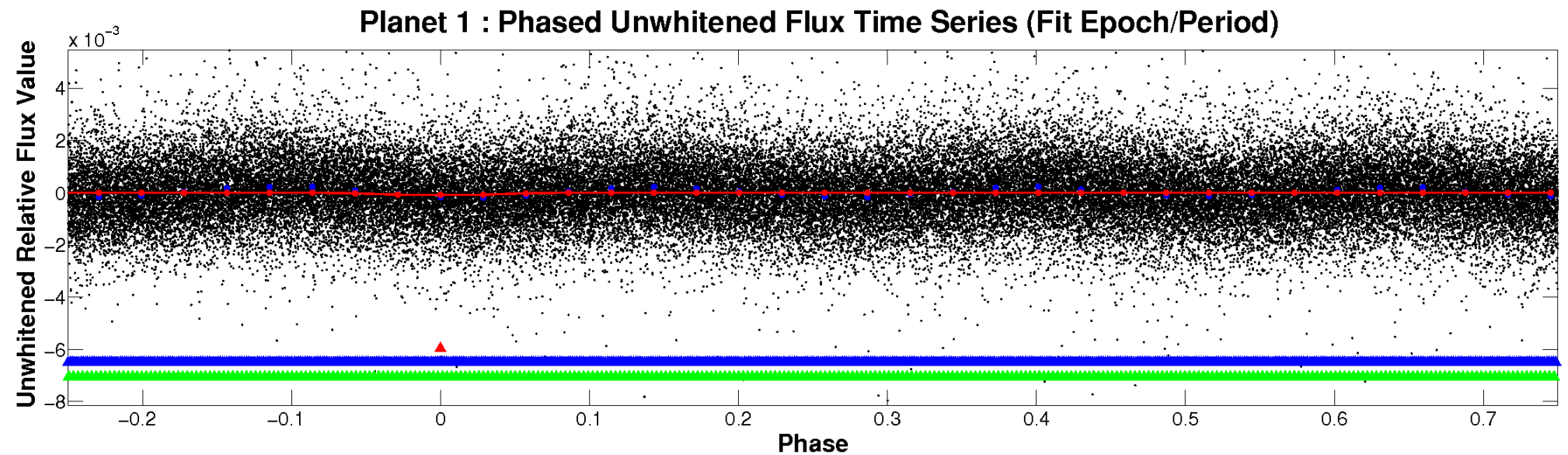


# ALT Odd/Even

TCE 010065244-01



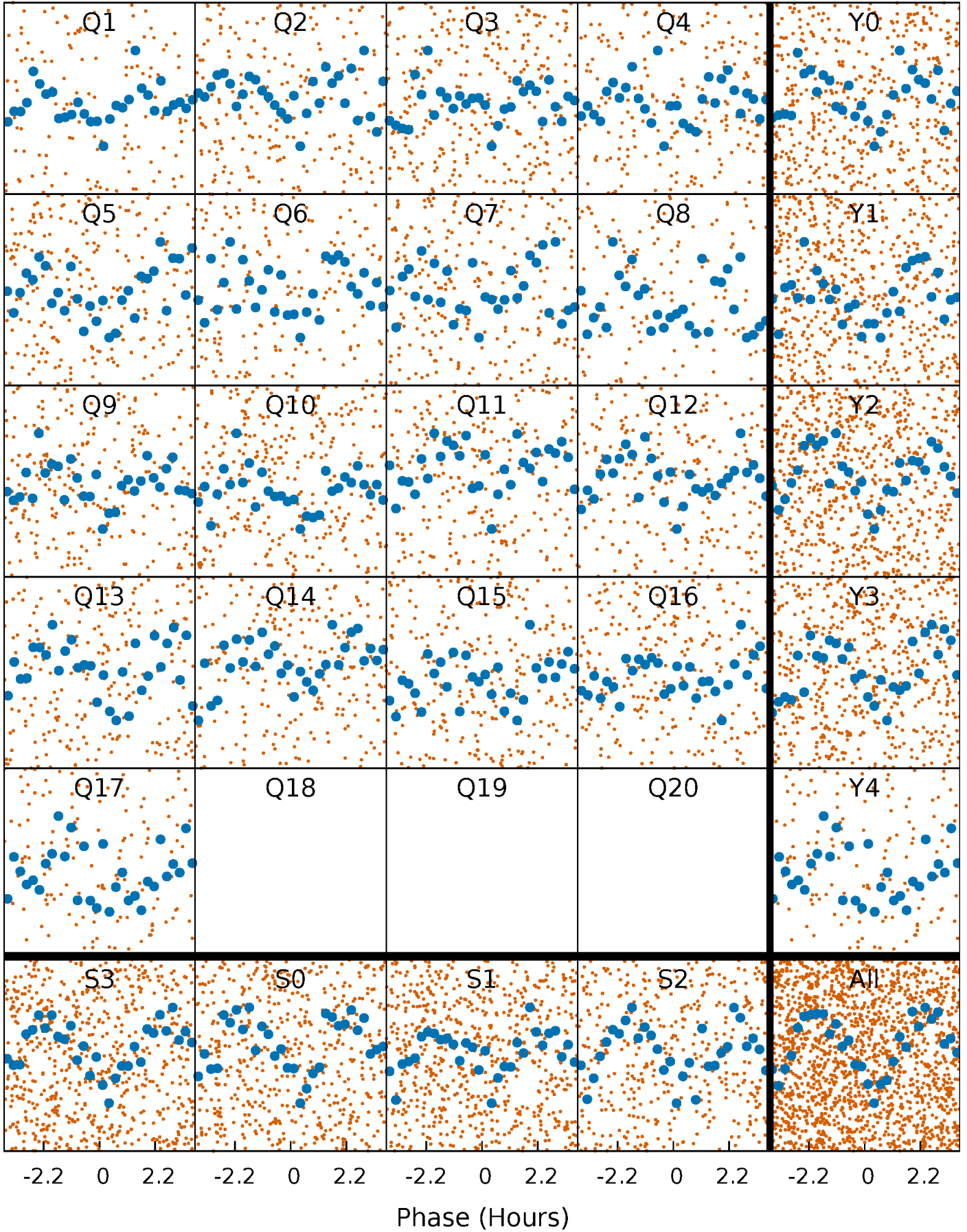
# Non-Whitened Vs. Whitened Light Curve





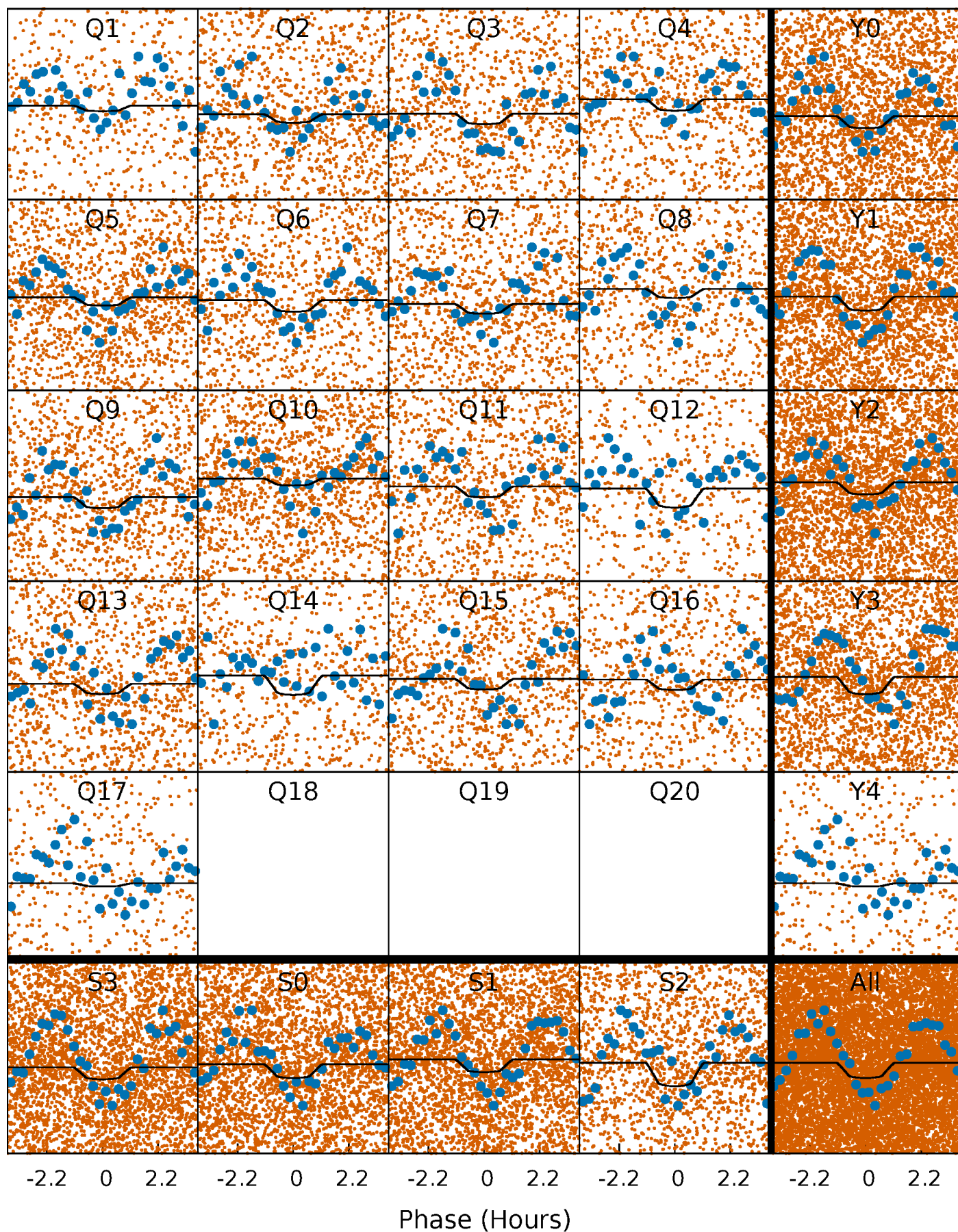
# PDC Quarter-Phased Transit Curves

TCE 010065244-01 P= 0.712924 Days  $T_0=131.954135$  (BKJD)



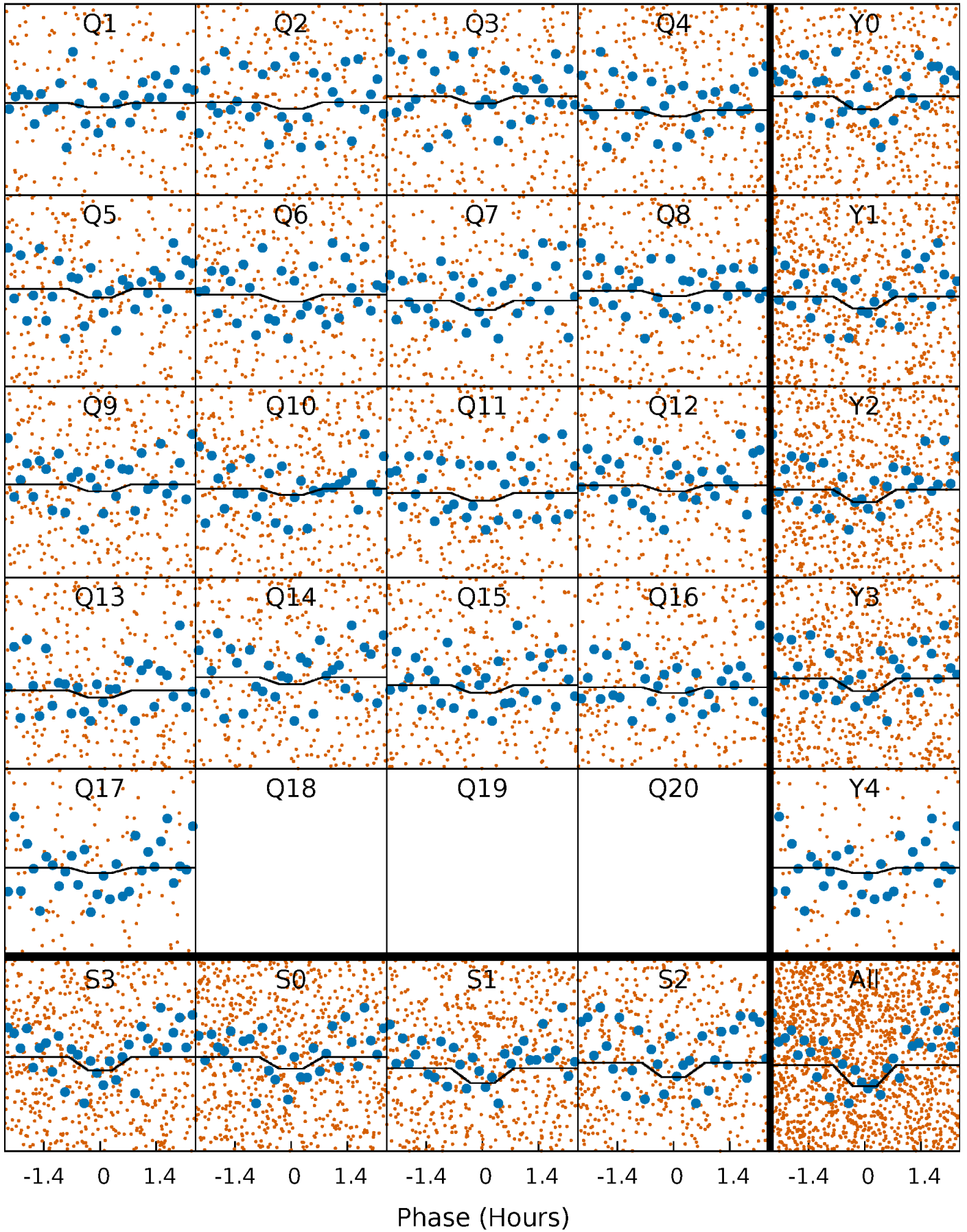
# DV Quarter-Phased Transit Curves

TCE 010065244-01 P= 0.712924 Days  $T_0=131.954135$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 010065244-01 P= 0.712947 Days  $T_0=131.952292$  (BKJD)

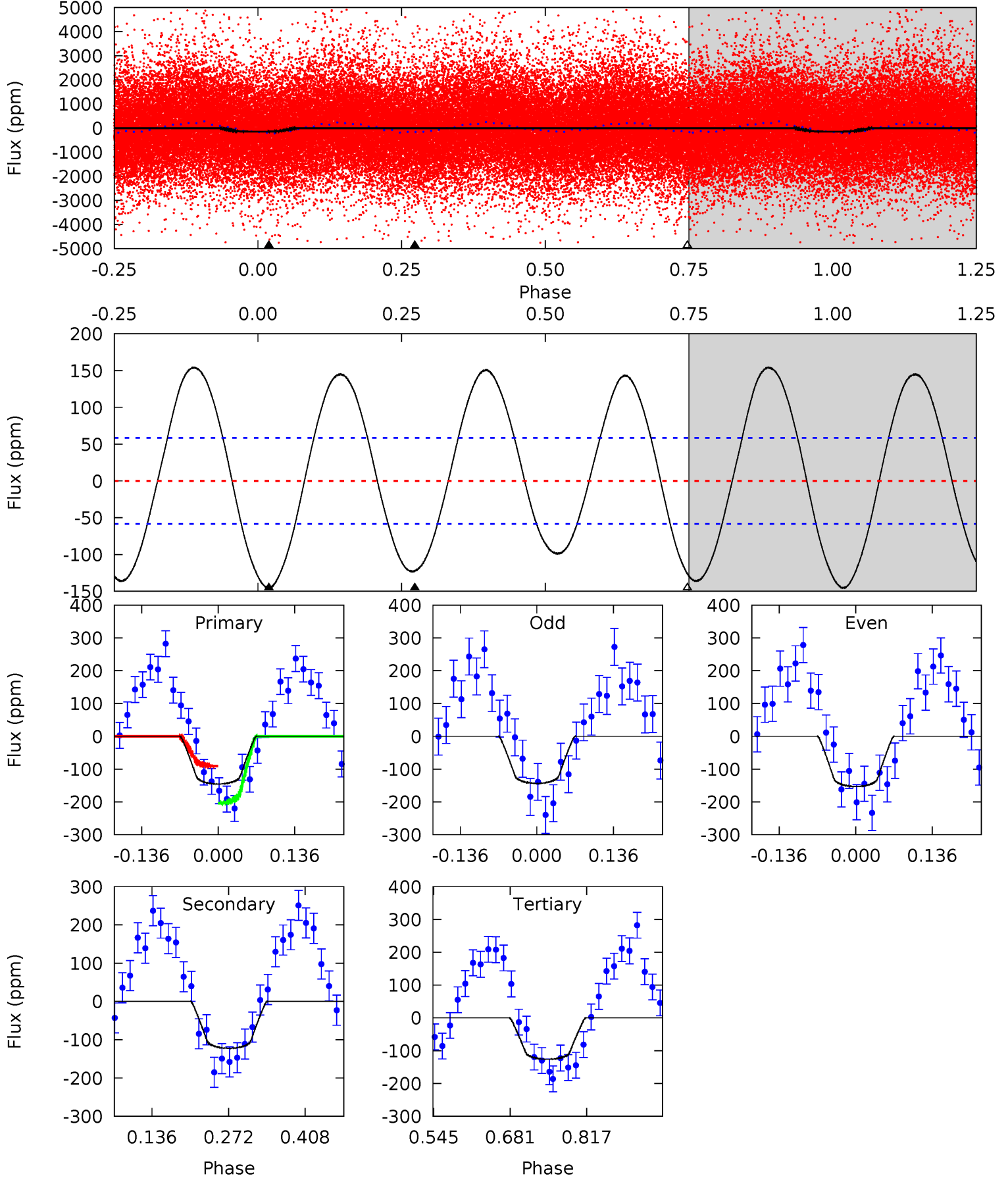




# DV Model-Shift Uniqueness Test

010065244-01, P = 0.712924 Days, E = 131.241211 Days

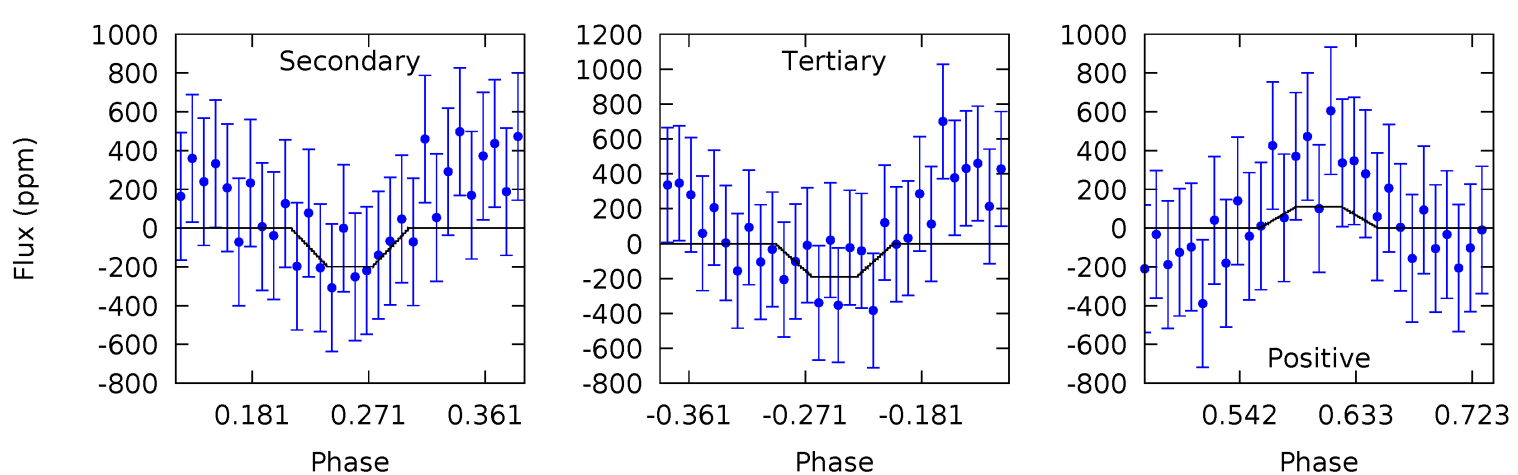
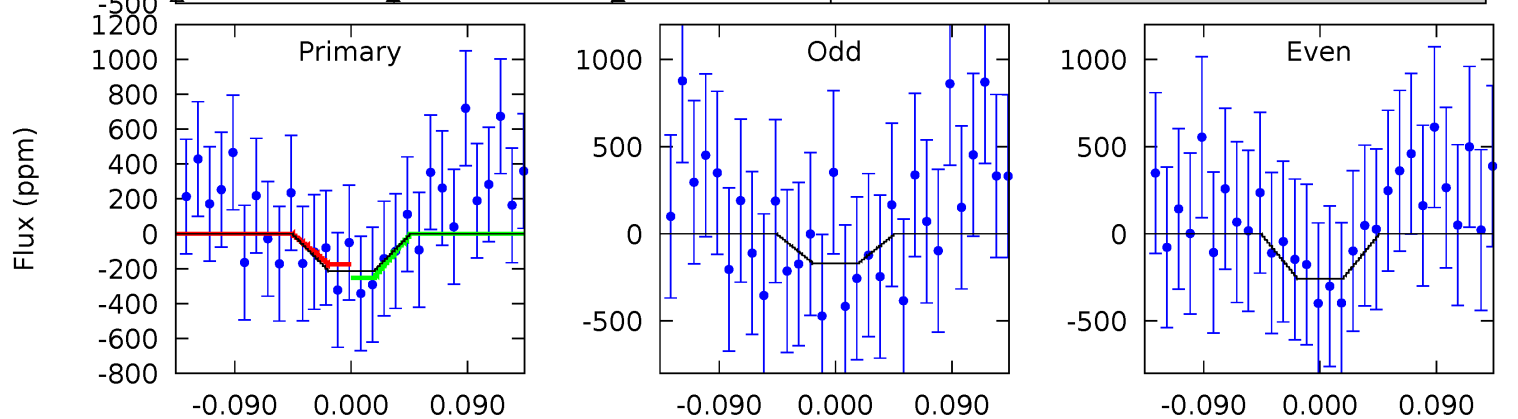
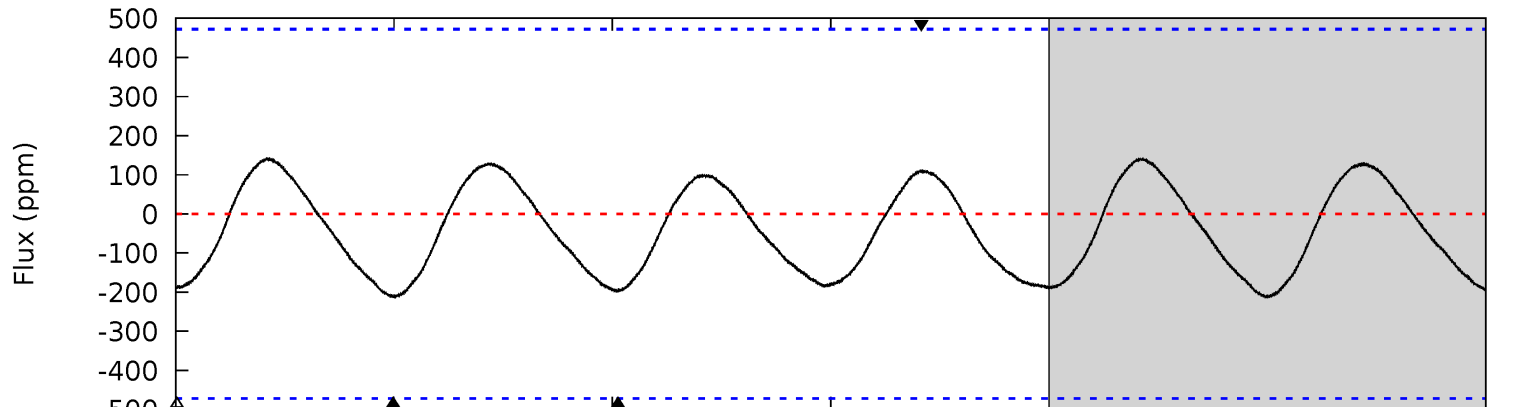
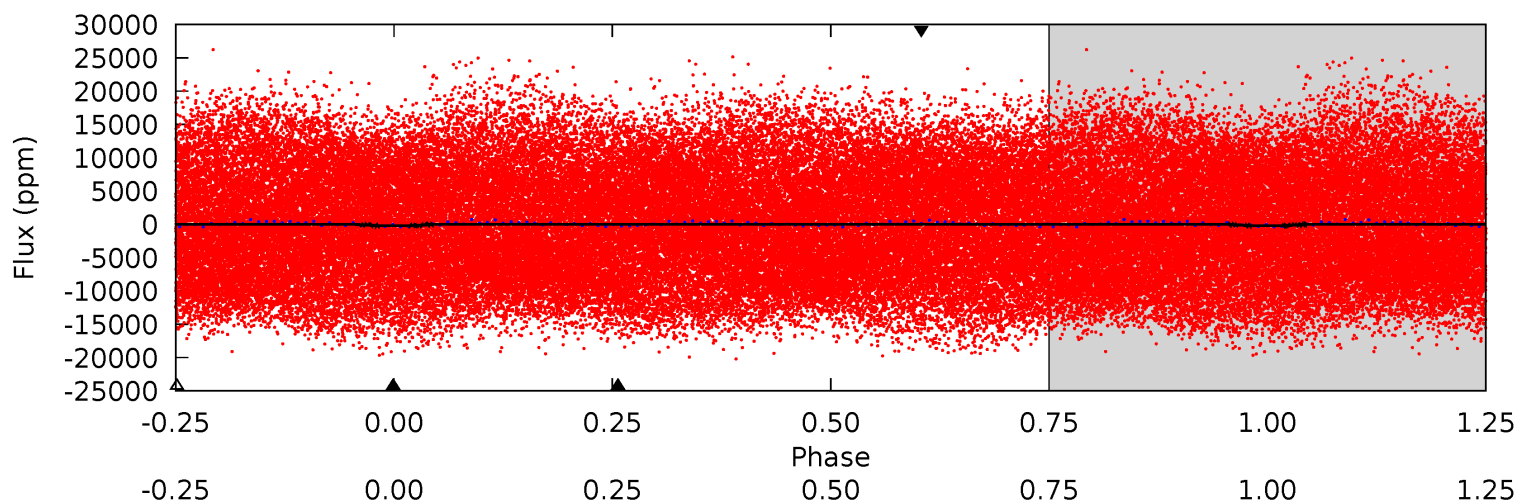
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	9.42	9.71	0	4.50	1.49	7.08	1.48	11.2	-0.29	9.42	0.37	0.98	0.51	4.44



# Alt Model-Shift Uniqueness Test

010065244-01, P = 0.712947 Days, E = 131.239345 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
2.08	1.93	1.84	1.08	4.59	1.69	1.07	0.24	1.00	0.09	0.85	0.43	-2.48	0.40	0.38



### Stellar Parameters For KIC 010065244

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7483^{+209}_{-314}$	$3.982^{+0.222}_{-0.148}$	$-0.040^{+0.200}_{-0.350}$	$2.221^{+0.540}_{-0.660}$	$1.724^{+0.200}_{-0.325}$	$0.222^{+0.321}_{-0.092}$
	+3%/-4%	+6%/-4%	+500%/-875%	+24%/-30%	+12%/-19%	+145%/-42%
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 010065244-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-122 \pm 13$	$2.29^{+1.32}_{-1.09}$	$4981^{+363}_{-382}$	$7913^{+4614}_{-1836}$	$4.491^{+12.155}_{-2.696}$
Alt.	$-199 \pm 103$	$3.51^{+1.40}_{-1.36}$	$4964^{+409}_{-375}$	$6981^{+2680}_{-1800}$	$2.856^{+5.191}_{-1.779}$

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



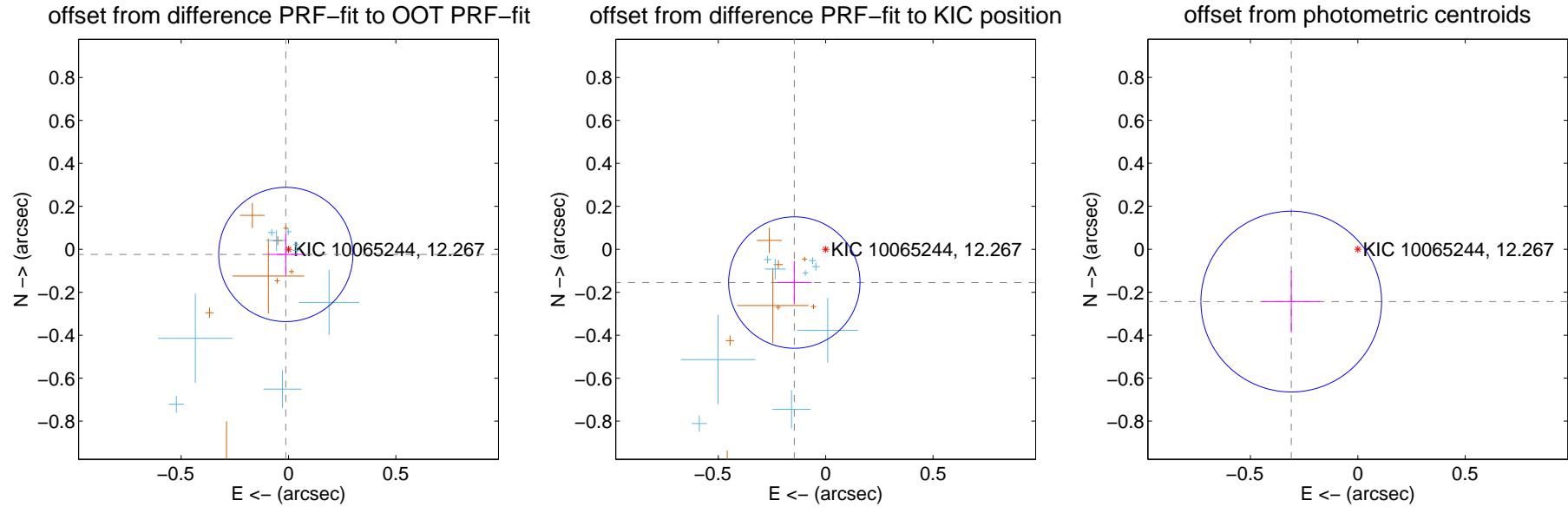
## DV Centroid Data

Supplemental centroid analysis for 010065244-01. Kepler magnitude: 12.27. Transit SNR 4.48

There are 9 quarters with good PRF difference image offsets

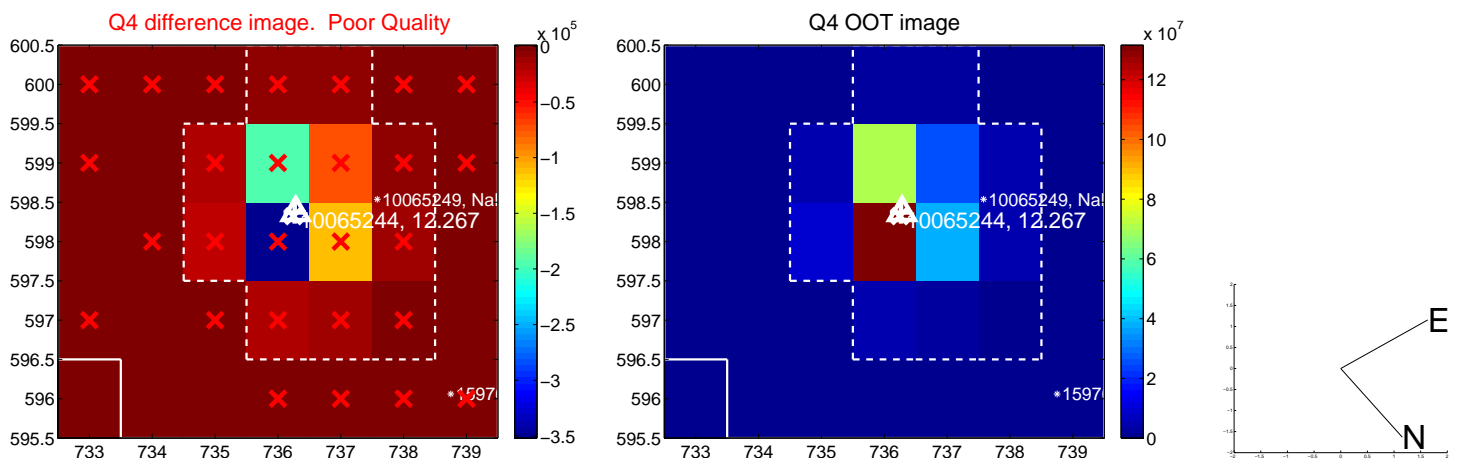
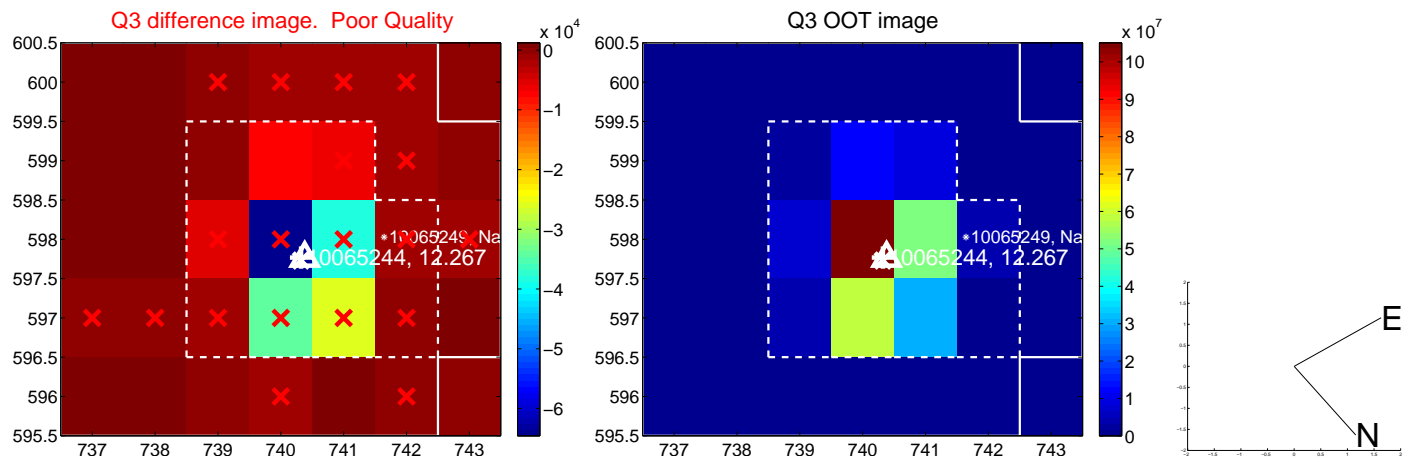
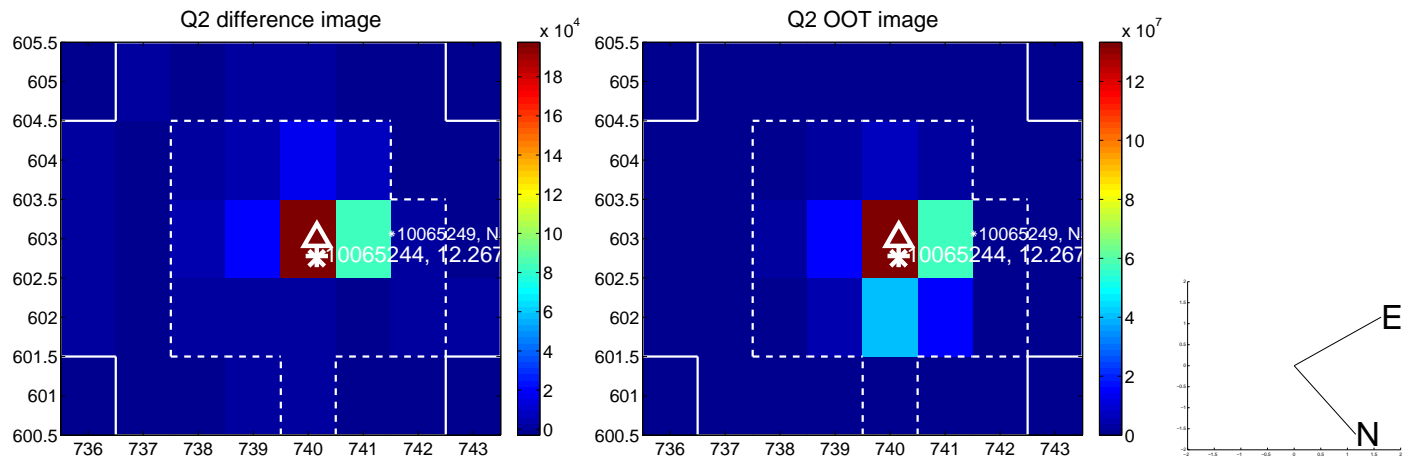
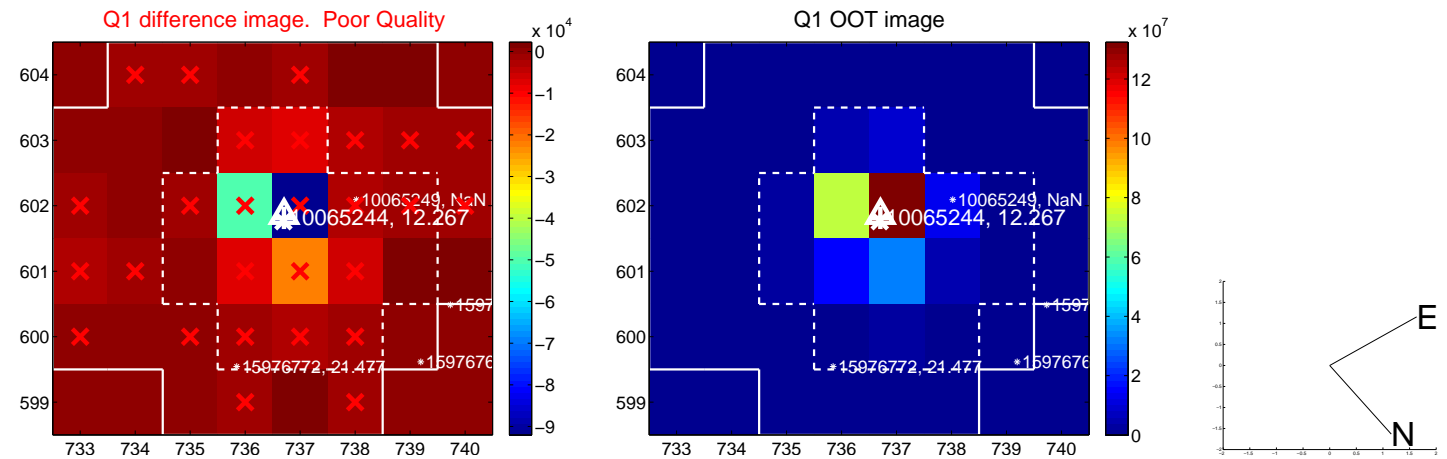
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.027 \pm 0.104$	0.26	$0.013 \pm 0.080$	$-0.024 \pm 0.101$
PRF-fit source offset from KIC position	$0.213 \pm 0.102$	2.09	$0.146 \pm 0.080$	$-0.155 \pm 0.101$
photometric centroid source offset	$0.39 \pm 0.14$	2.81	$0.31 \pm 0.14$	$-0.24 \pm 0.14$

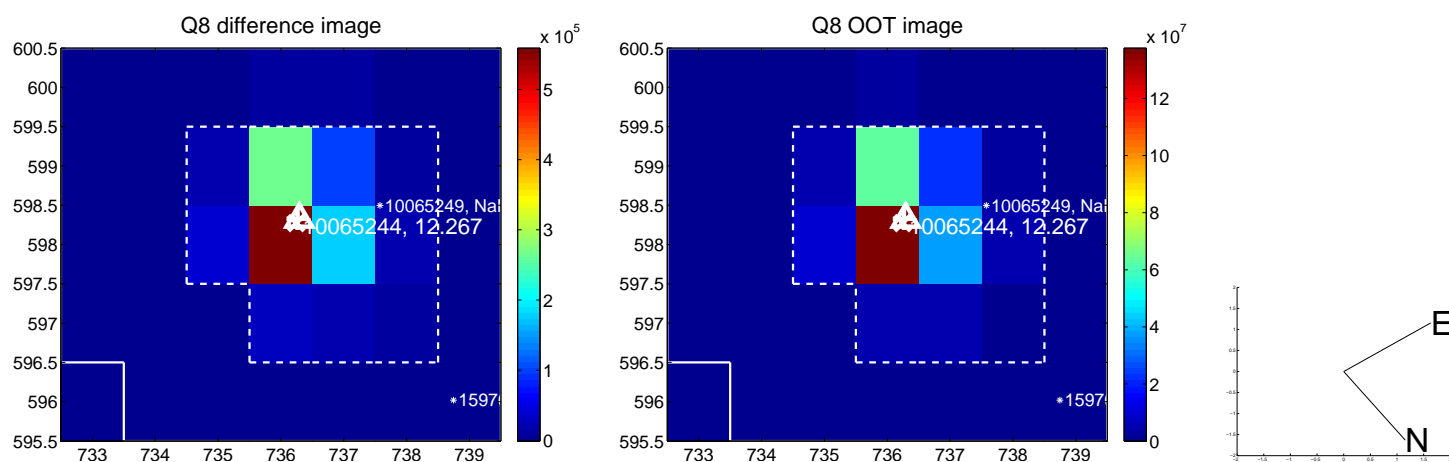
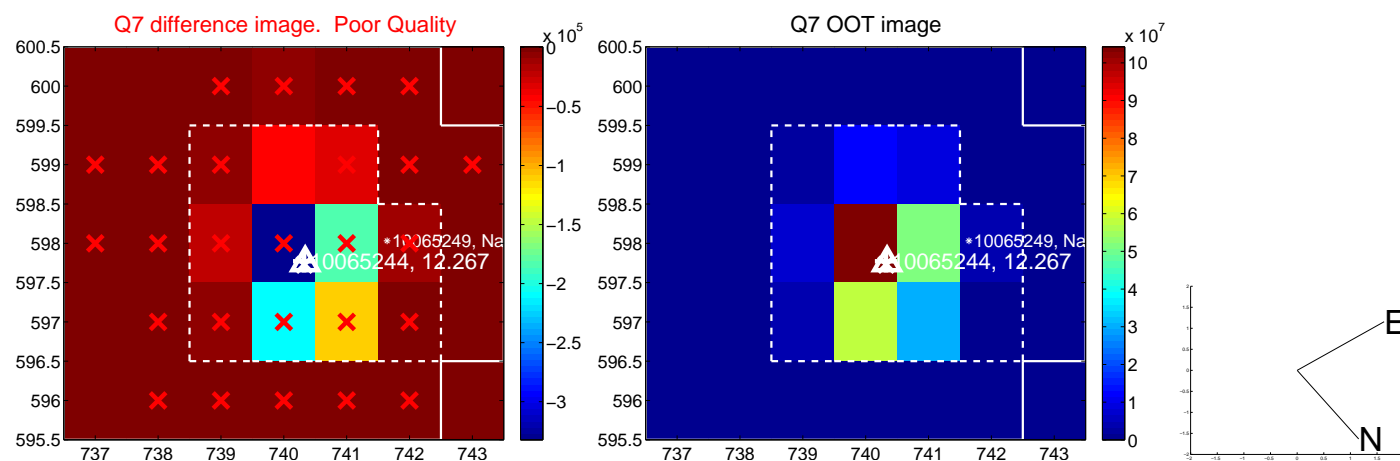
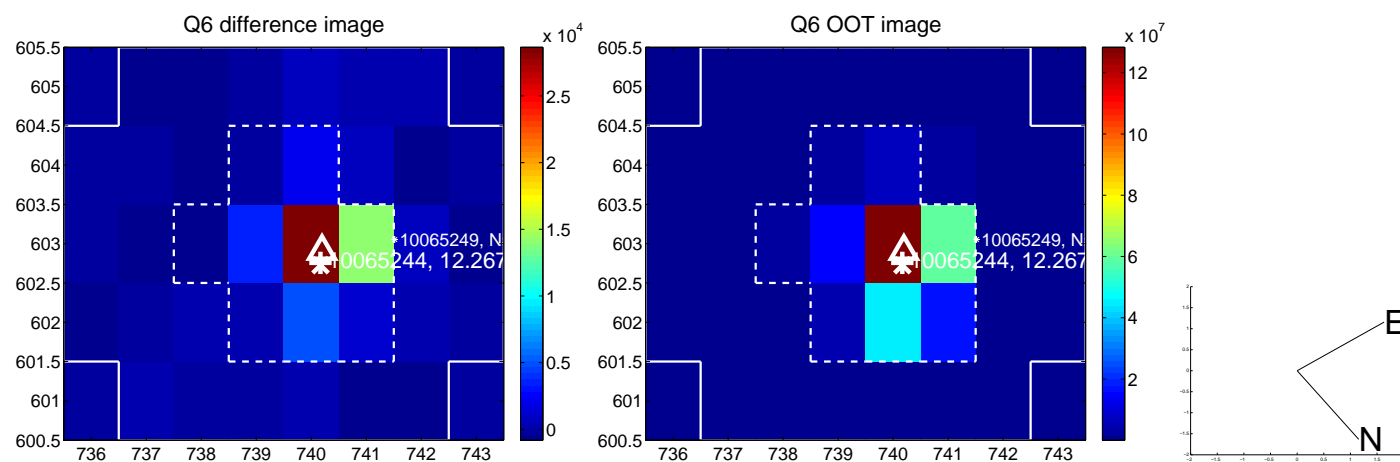
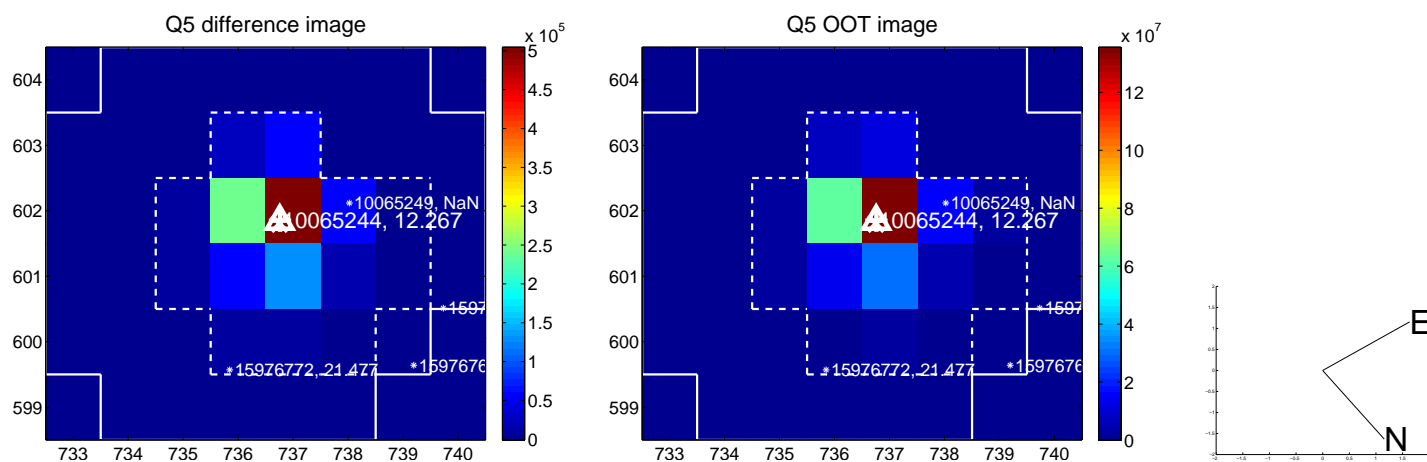


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

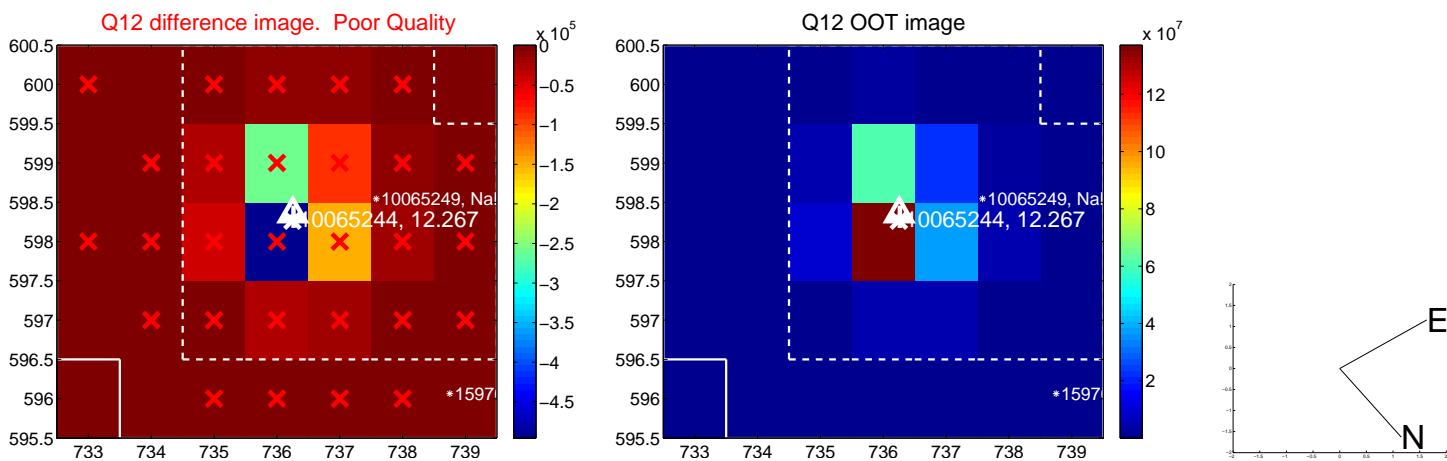
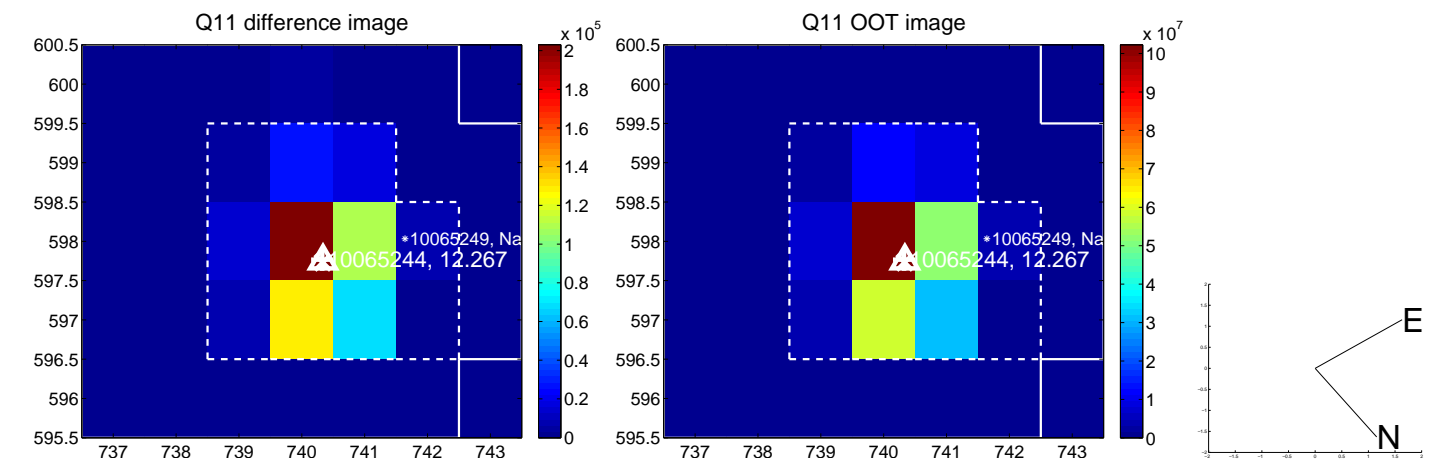
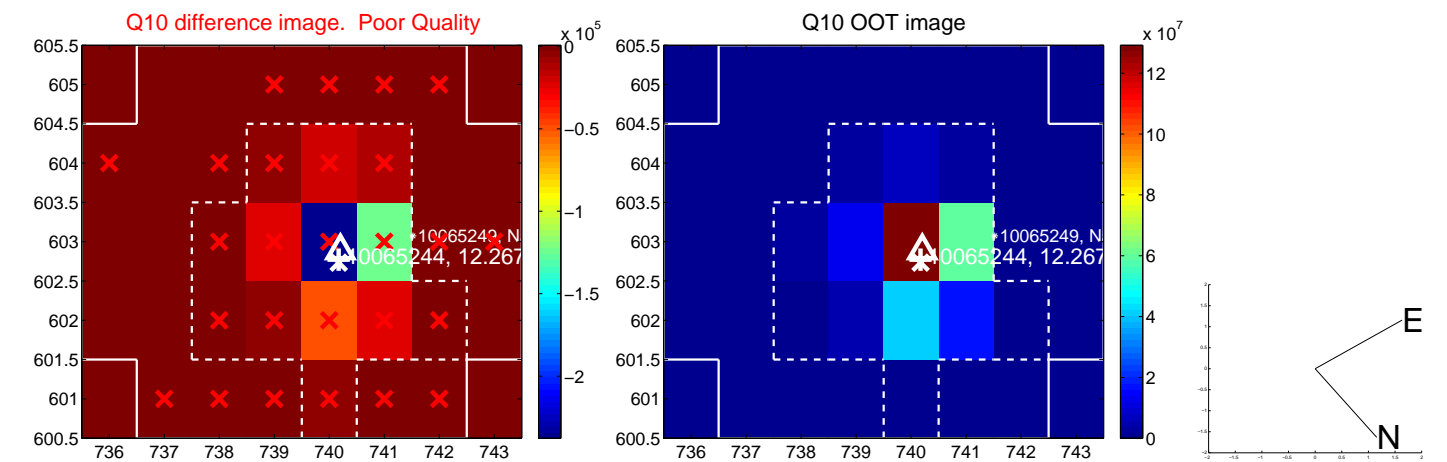
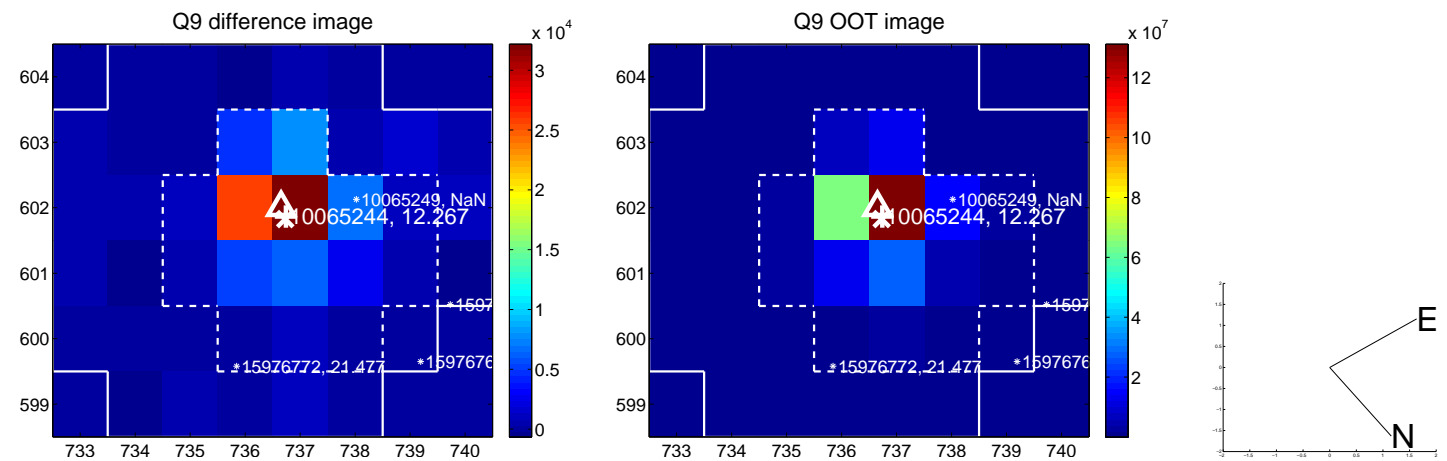


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value

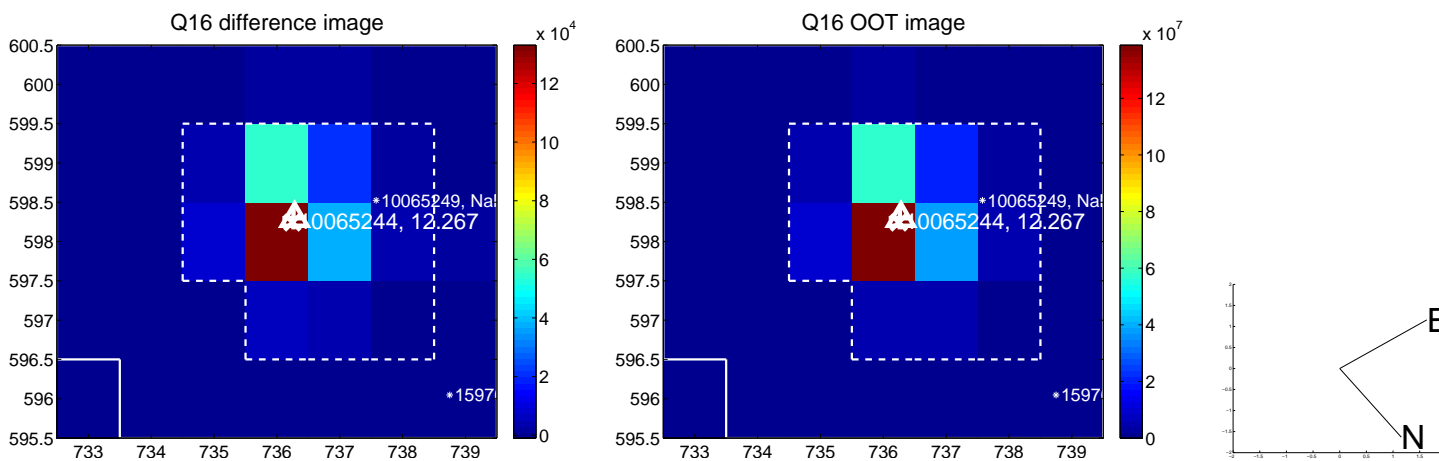
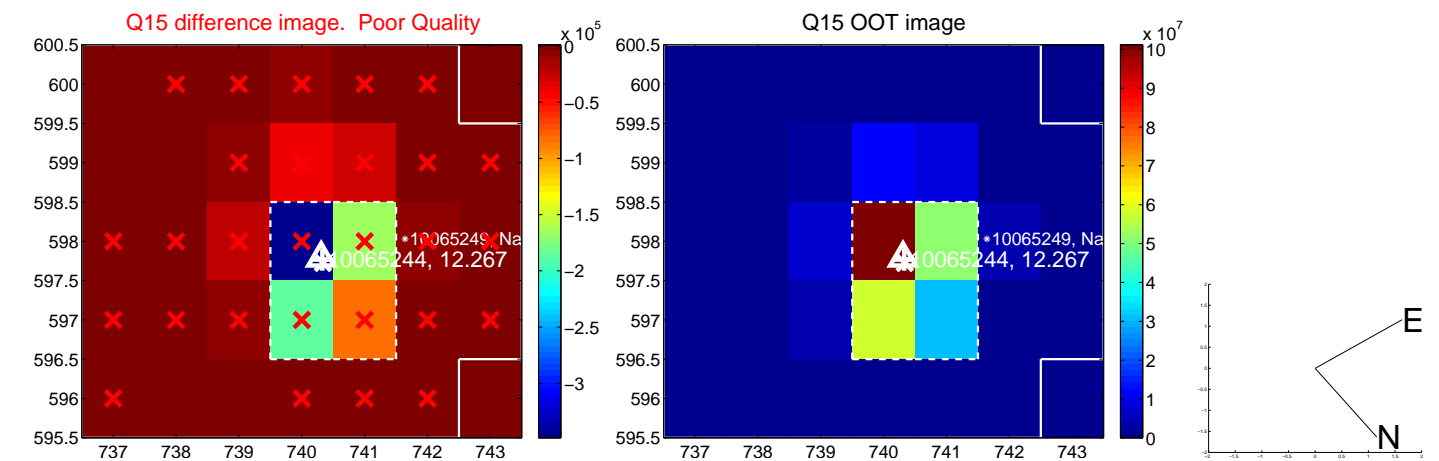
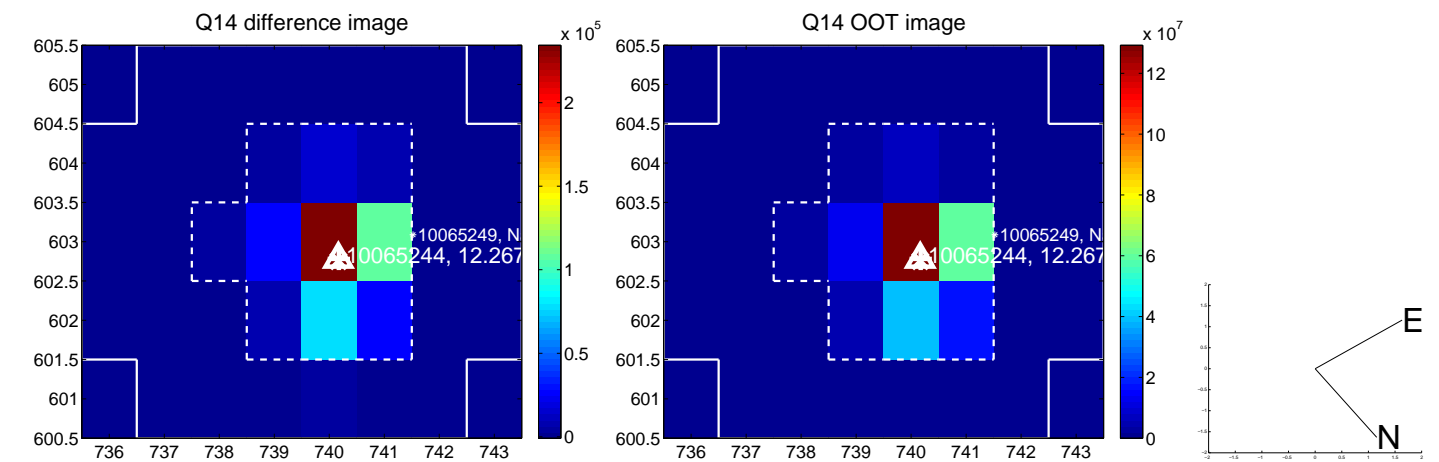
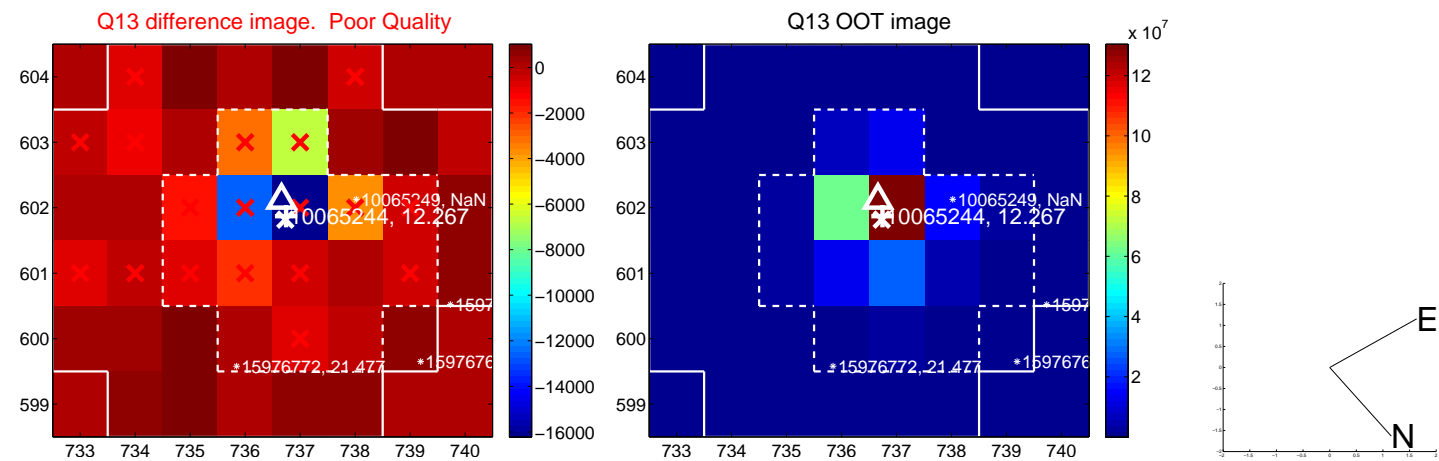




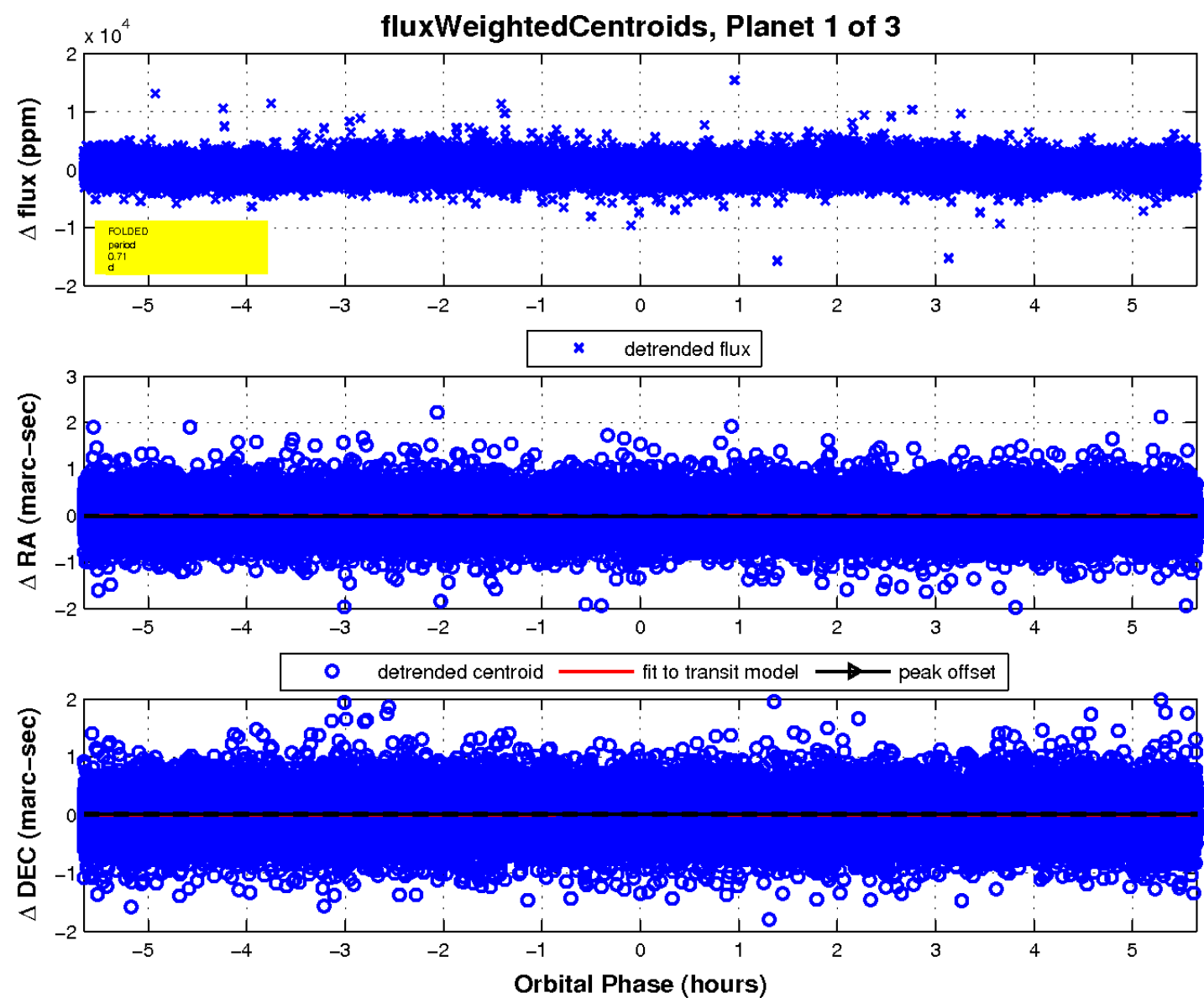
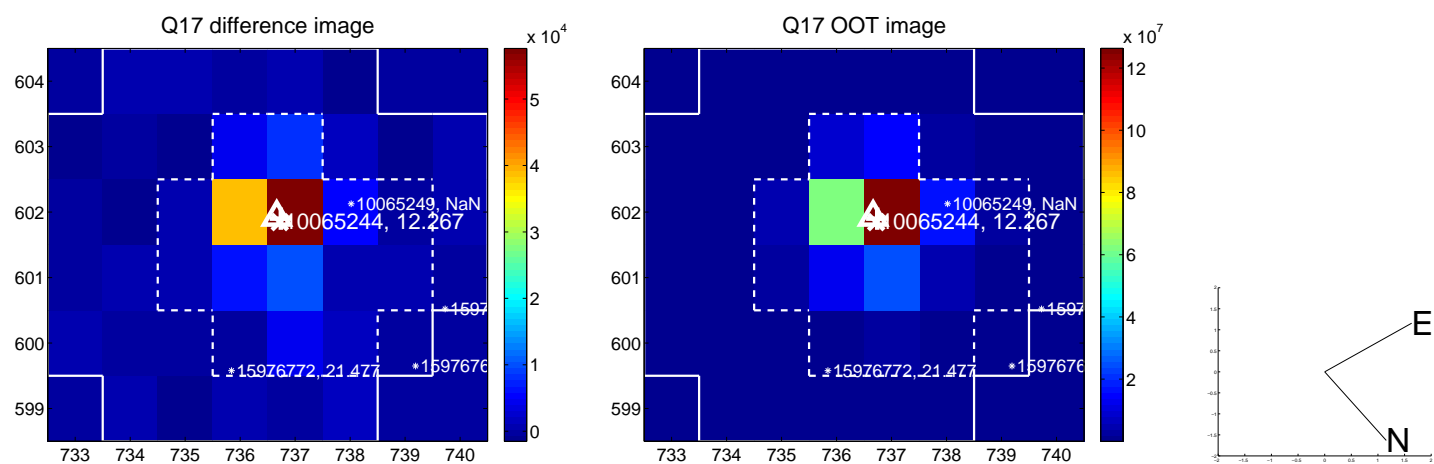
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



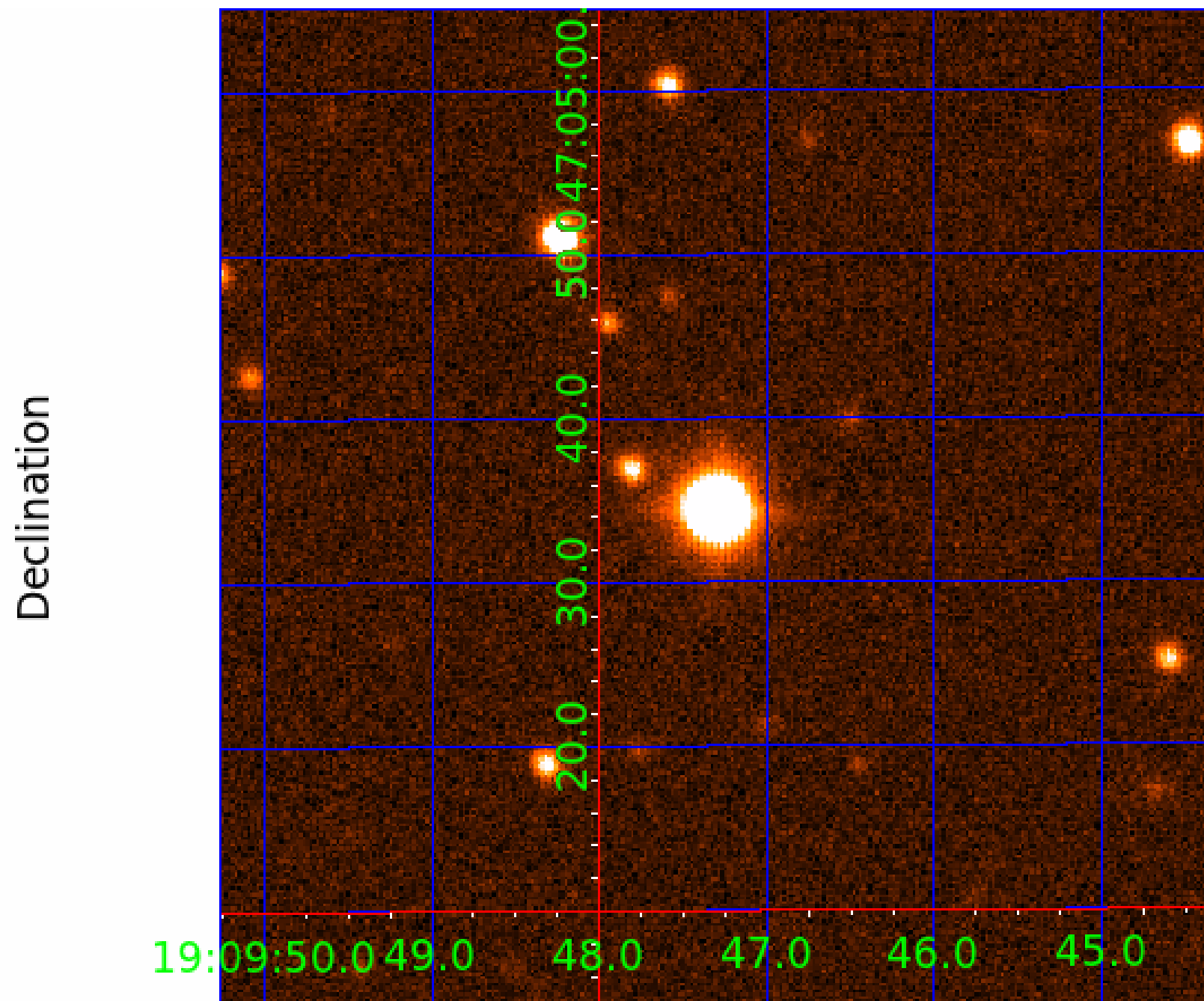
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image





# KIC 010065244

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
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010065244-03	OBS	No	0.702023	132.135994	257.1	2.500	12.8	-1.0	2.22	7483	3.62	40280.46

## Robovetter Results

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010065244-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010065244-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS

**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.

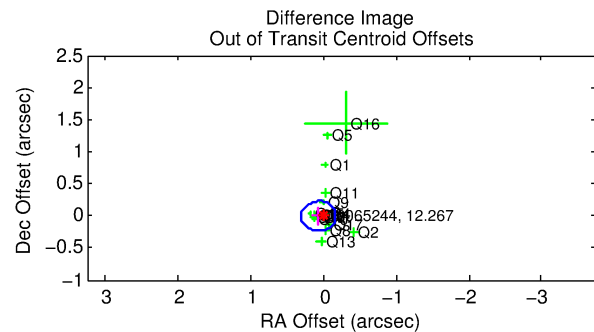
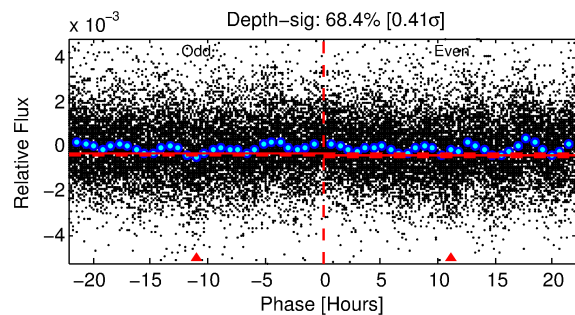
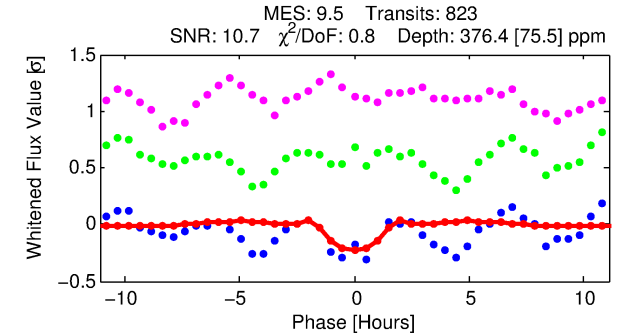
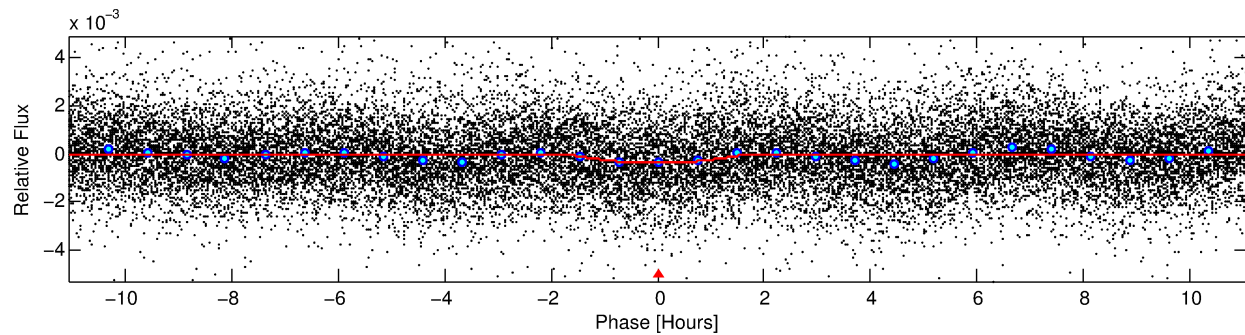
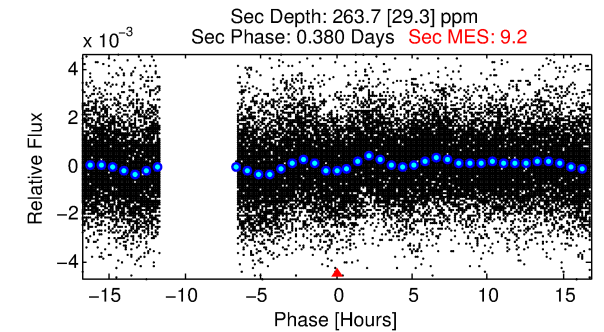
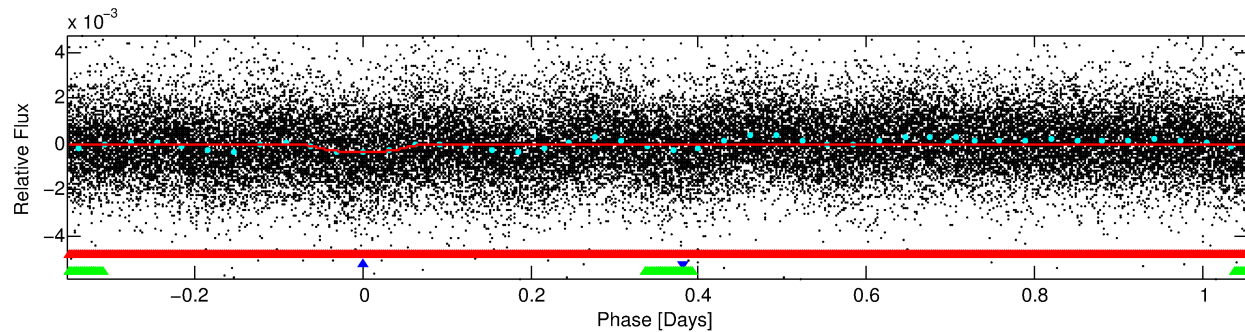
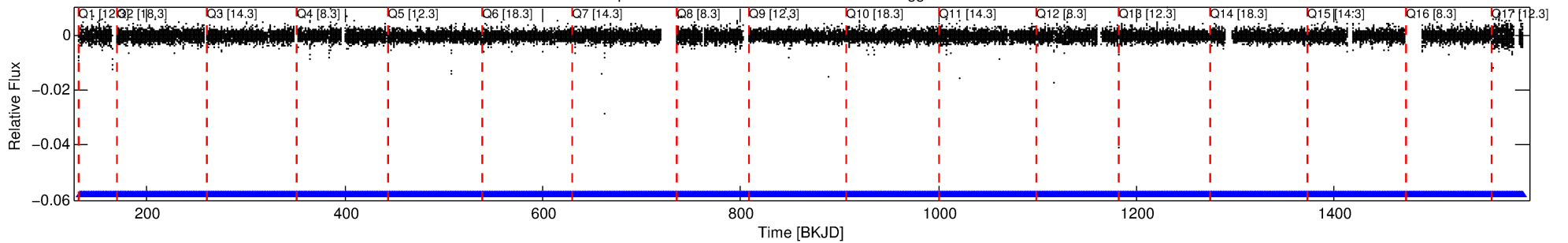
## Ephemeris Match Information For 010065244-02

No Significant Match Found

# DV One-Page Summary

KIC: 10065244 Candidate: 2 of 3 Period: 1.404 d

Kp: 12.27 R\*: 2.22 Rs Teff: 7483.0 K Logg: 3.98 Fe/H: -0.040



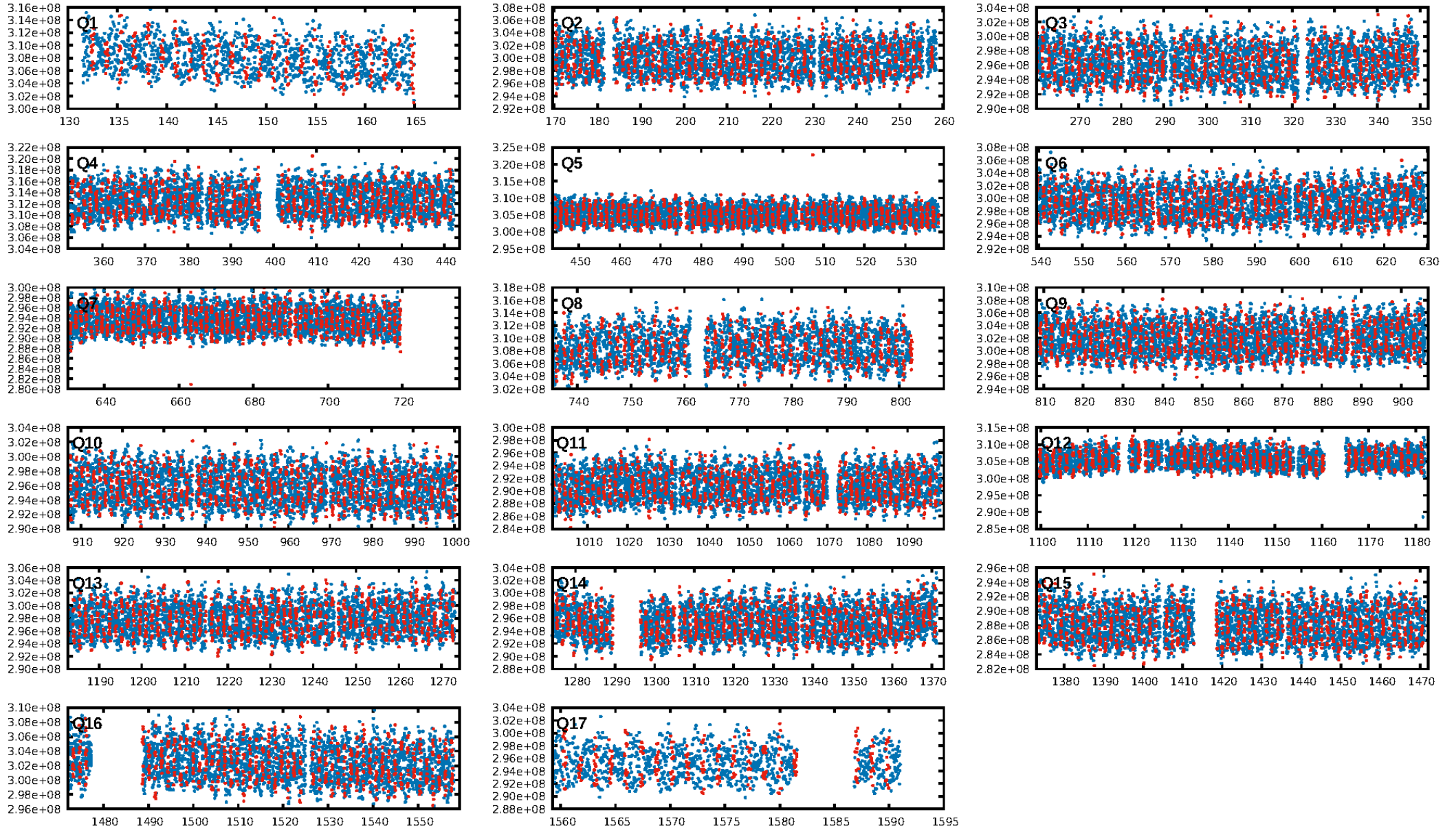
## DV Fit Results:

Period = 1.40399 [0.00001] d  
Epoch = 132.4962 [0.0037] BKJD  
Rp/R\* = 0.0236 [0.0044]  
a/R\* = 1.32 [0.08]  
b = 0.98 [0.01]  
Seff = 15986.14 [6848.95]  
Teff = 2867 [307] K  
Rp = 5.72 [2.00] Re  
a = 0.0294 [0.0077] AU  
Ag = 3.85 [2.12] [1.34σ]  
Teffp = 6209 [653] K [4.63σ]

## DV Diagnostic Results:

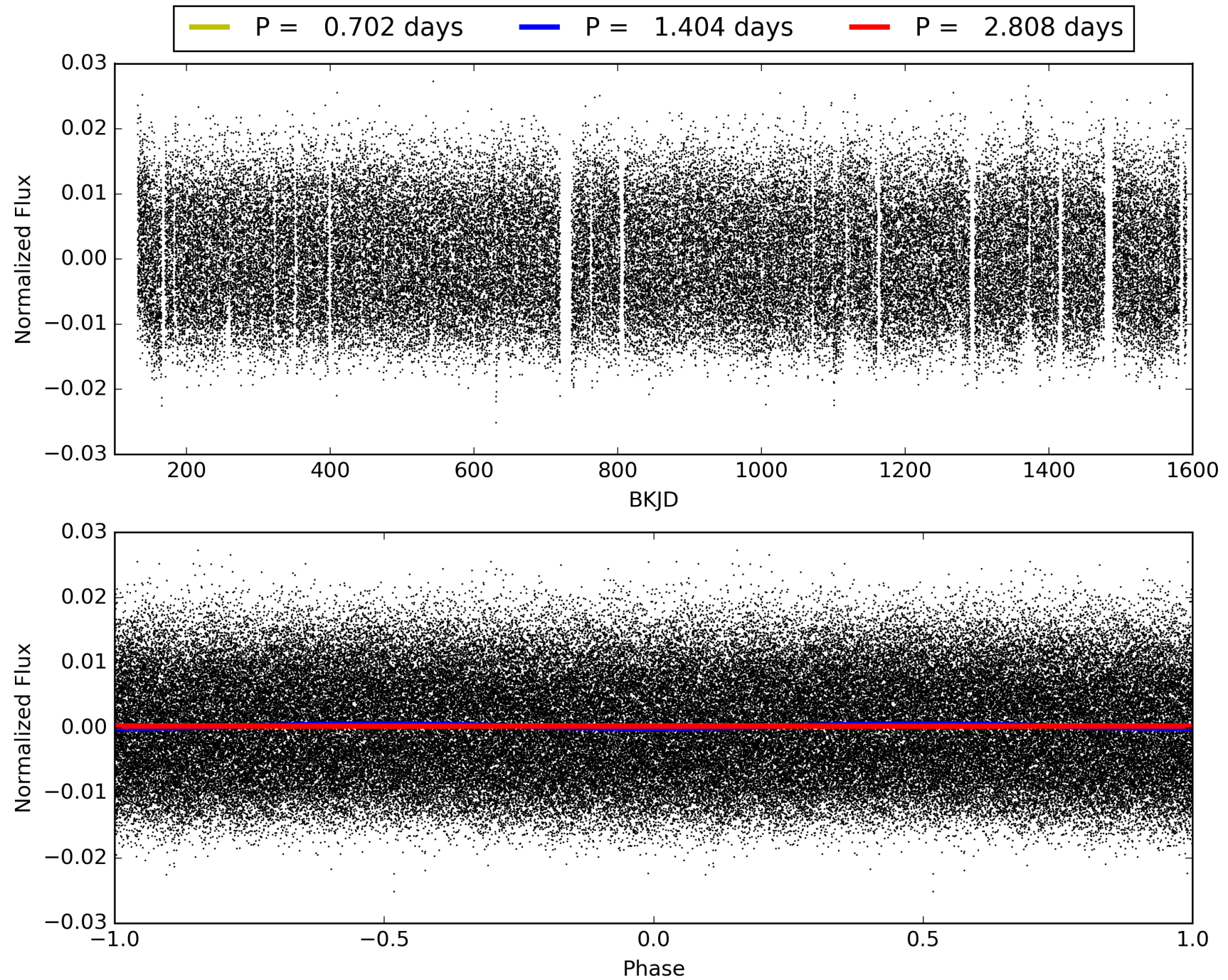
ShortPeriod-sig: 100.0% [4.00σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [783/783]  
GhostDiagnostic-chr: 1.397  
Centroid-sig: 93.1%  
Centroid-so: 0.184 arcsec [4.71σ]  
OotOffset-rm: 0.066 arcsec [0.85σ]  
KicOffset-rm: 0.197 arcsec [1.73σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 0.00 [0/17]

# TCE 010065244-02, PDC Light Curves





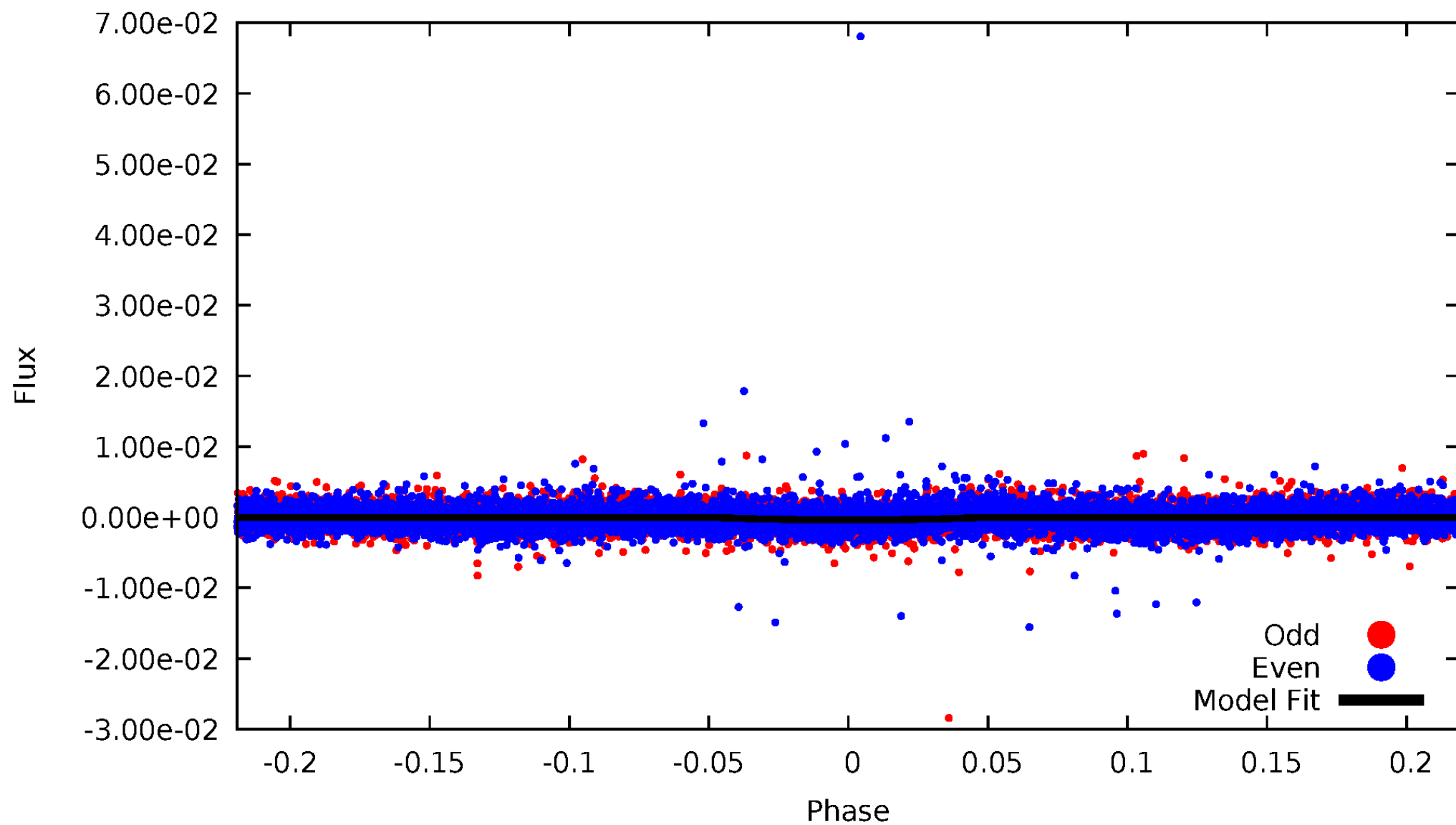
# TCE 010065244-02





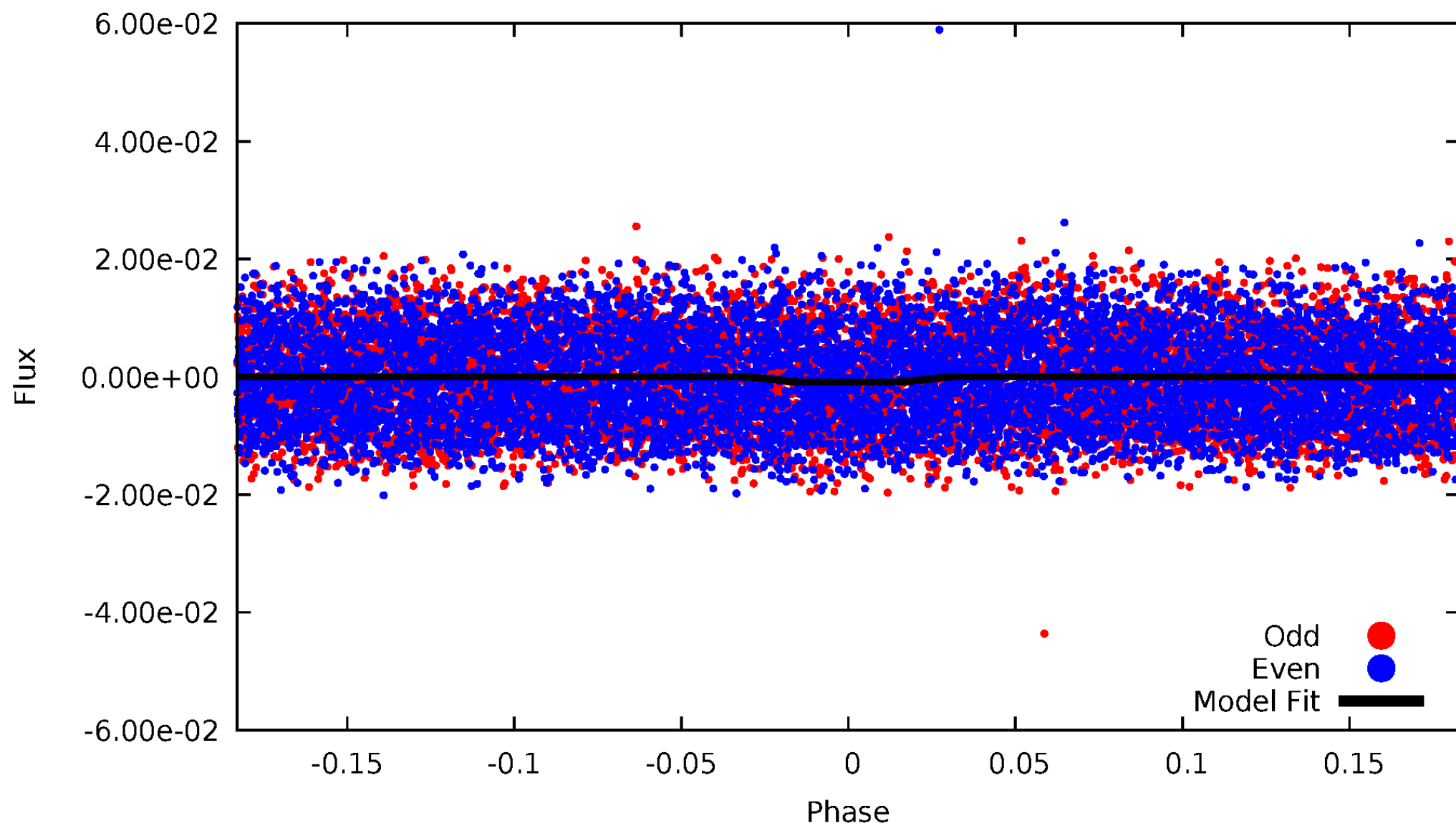
# DV Odd/Even

TCE 010065244-02



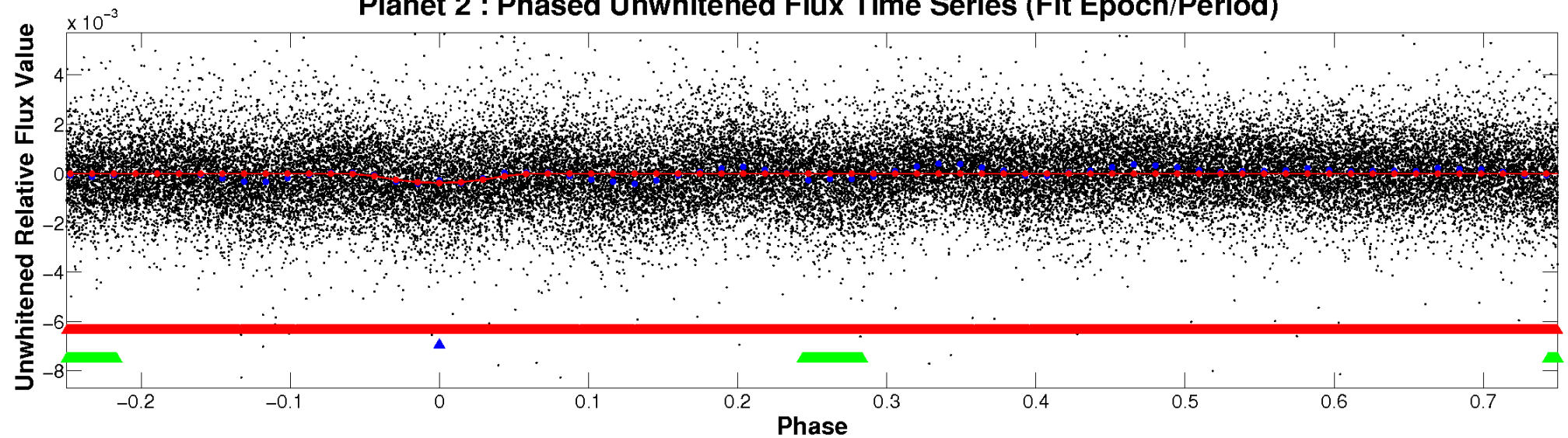
# ALT Odd/Even

TCE 010065244-02

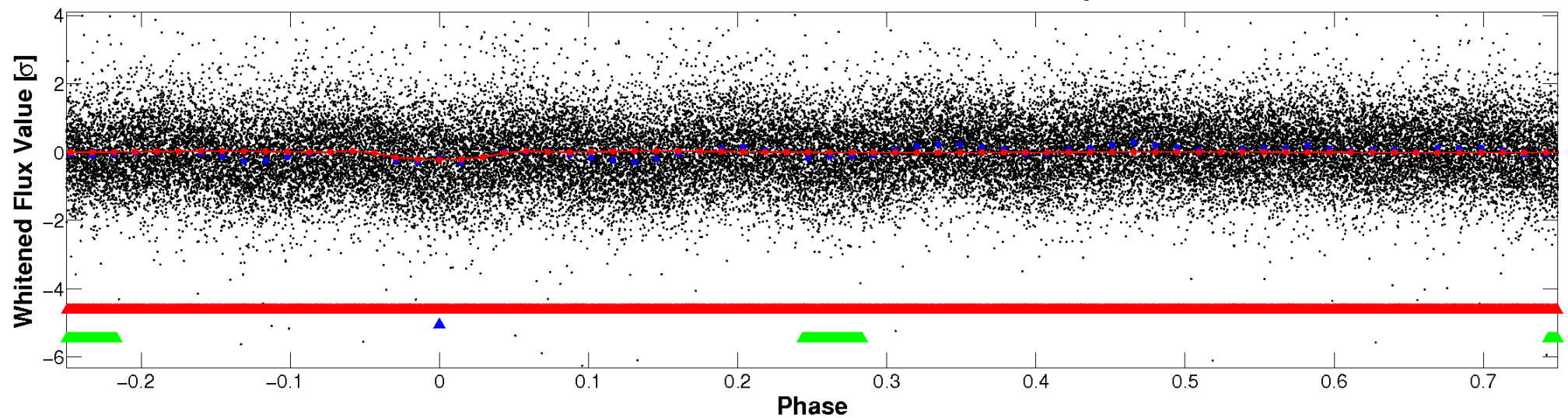


# Non-Whitened Vs. Whitened Light Curve

**Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

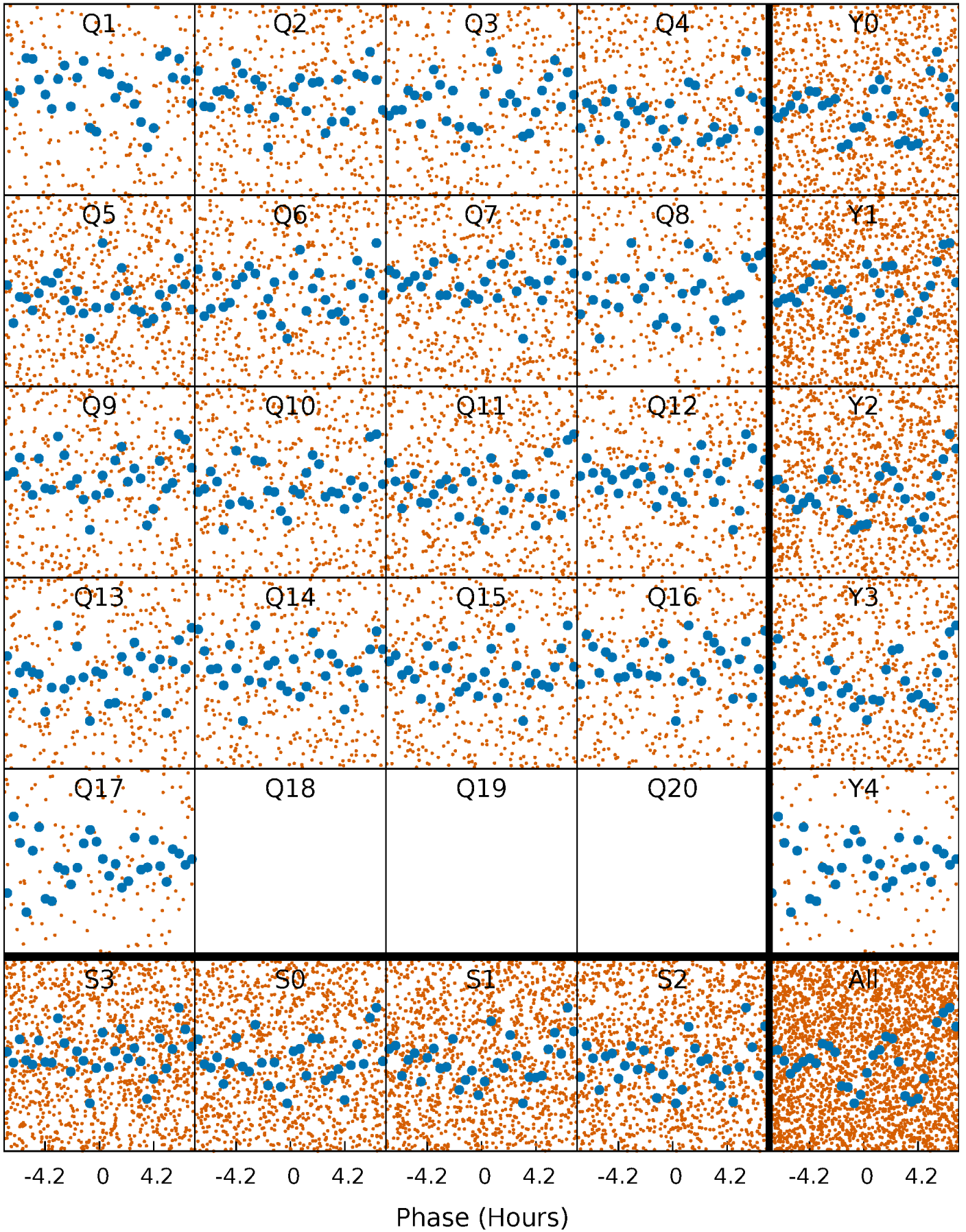


**Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

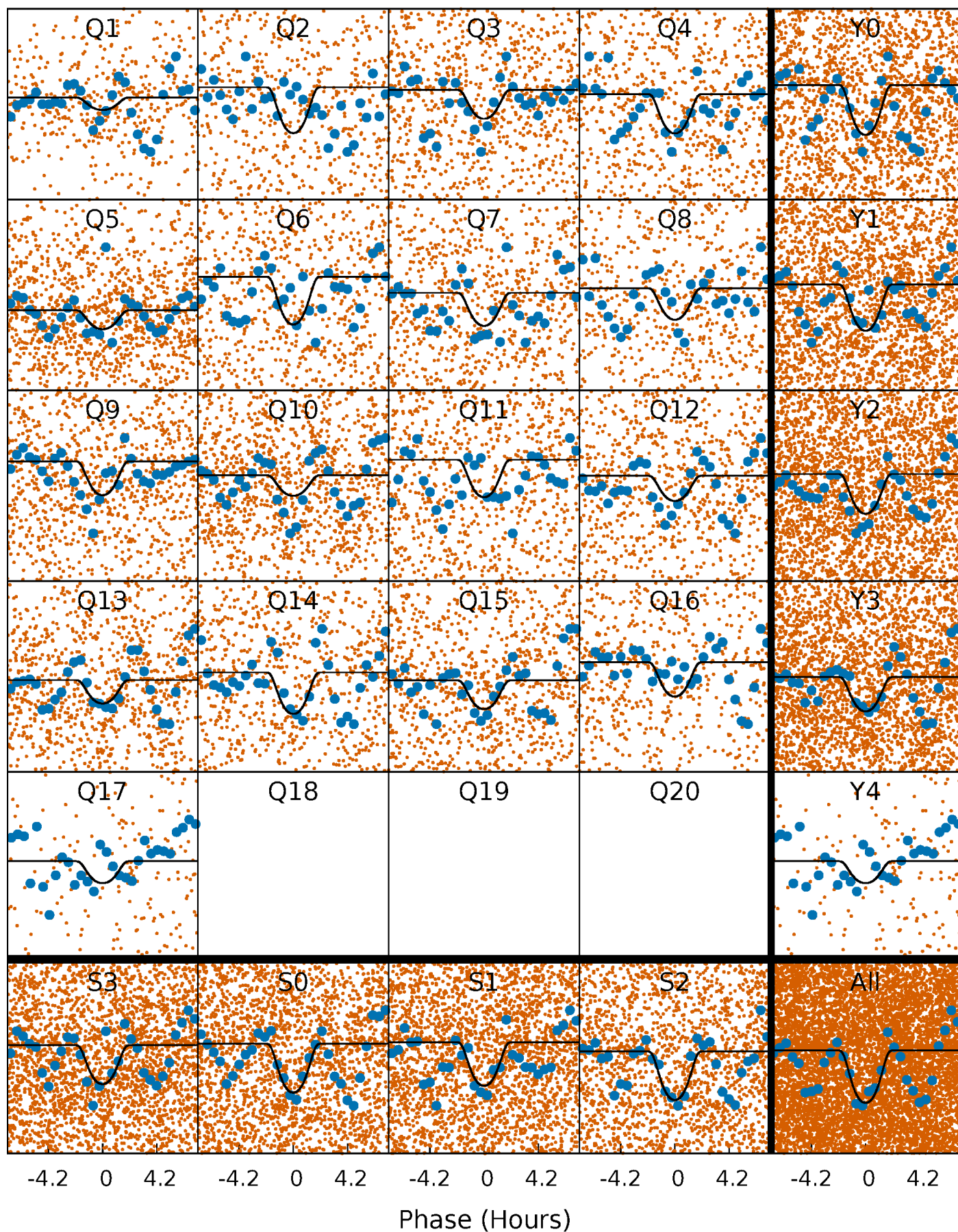
TCE 010065244-02   P= 1.403992 Days    $T_0=132.496181$  (BKJD)





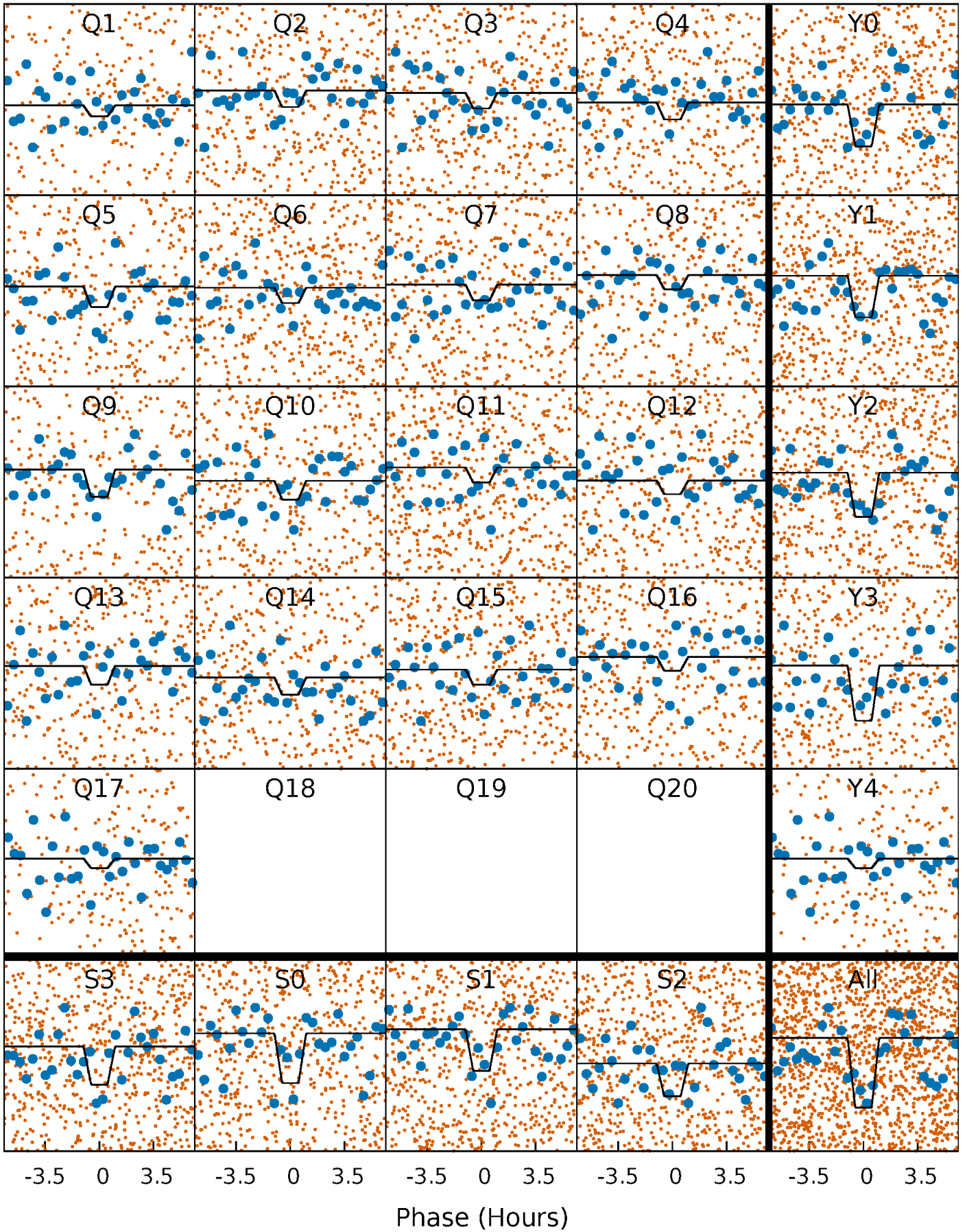
# DV Quarter-Phased Transit Curves

TCE 010065244-02 P= 1.403992 Days  $T_0=132.496181$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

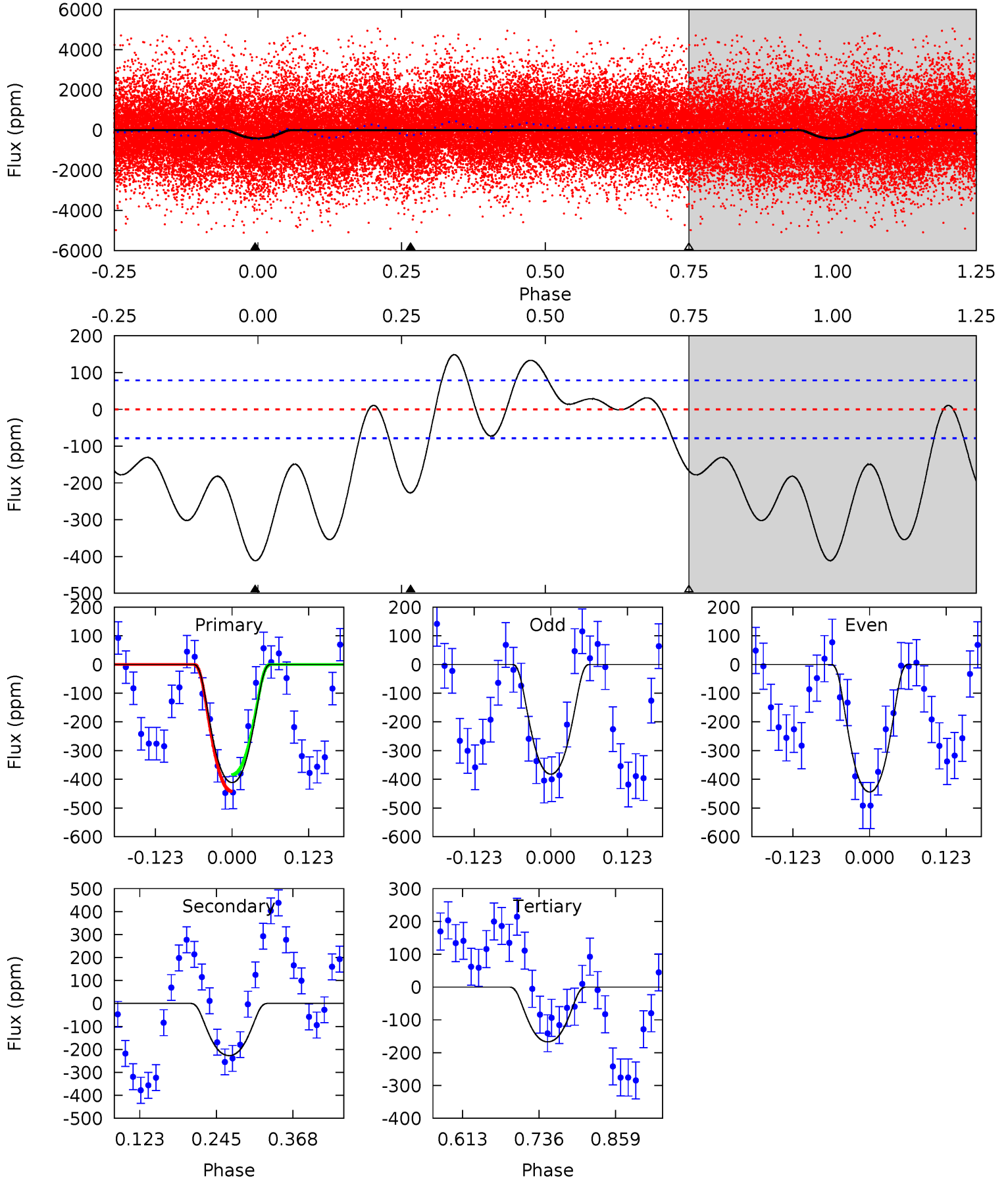
TCE 010065244-02     $P = 1.403995$  Days     $T_0 = 132.463238$  (BKJD)



# DV Model-Shift Uniqueness Test

010065244-02, P = 1.403992 Days, E = 131.092189 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
23.6	13.0	9.58	0	4.52	1.54	7.03	14.0	23.6	3.44	13.0	1.78	1.05	0.27	1.66

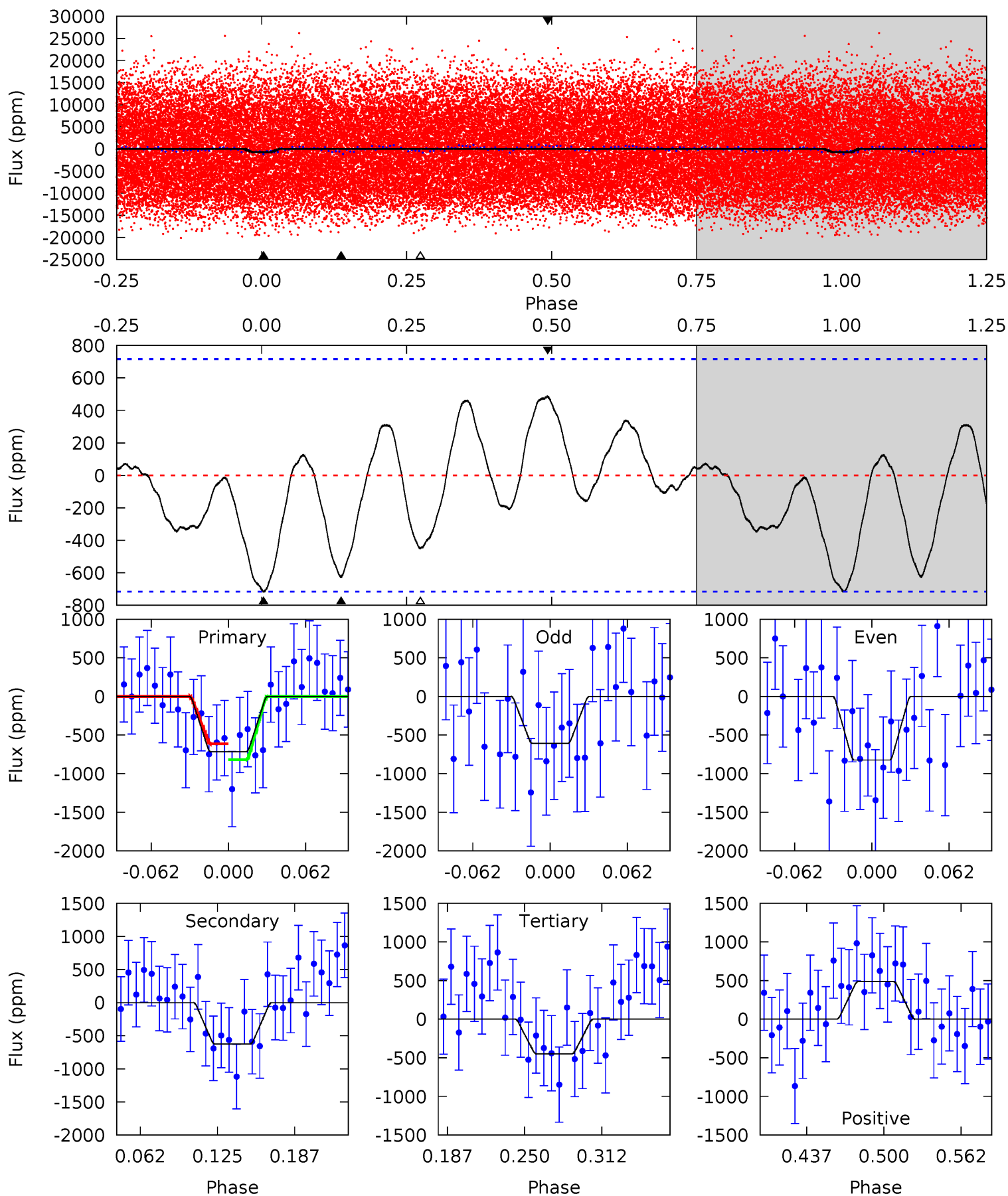




# Alt Model-Shift Uniqueness Test

010065244-02, P = 1.403995 Days, E = 131.059243 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
4.65	4.06	2.92	3.16	4.66	1.86	1.55	1.74	1.49	1.14	0.90	0.70	0.87	0.40	0.67





### Stellar Parameters For KIC 010065244

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7483^{+209}_{-314}$	$3.982^{+0.222}_{-0.148}$	$-0.040^{+0.200}_{-0.350}$	$2.221^{+0.540}_{-0.660}$	$1.724^{+0.200}_{-0.325}$	$0.222^{+0.321}_{-0.092}$
	+3%/-4%	+6%/-4%	+500%/-875%	+24%/-30%	+12%/-19%	+145%/-42%
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 010065244-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-227 \pm 17$	$5.57^{+1.39}_{-1.23}$	$3968^{+289}_{-291}$	$5743^{+674}_{-523}$	$3.414^{+2.336}_{-1.161}$
Alt.	$-624 \pm 154$	$6.99^{+1.43}_{-1.47}$	$3968^{+306}_{-314}$	$6643^{+834}_{-698}$	$5.803^{+3.625}_{-2.196}$

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

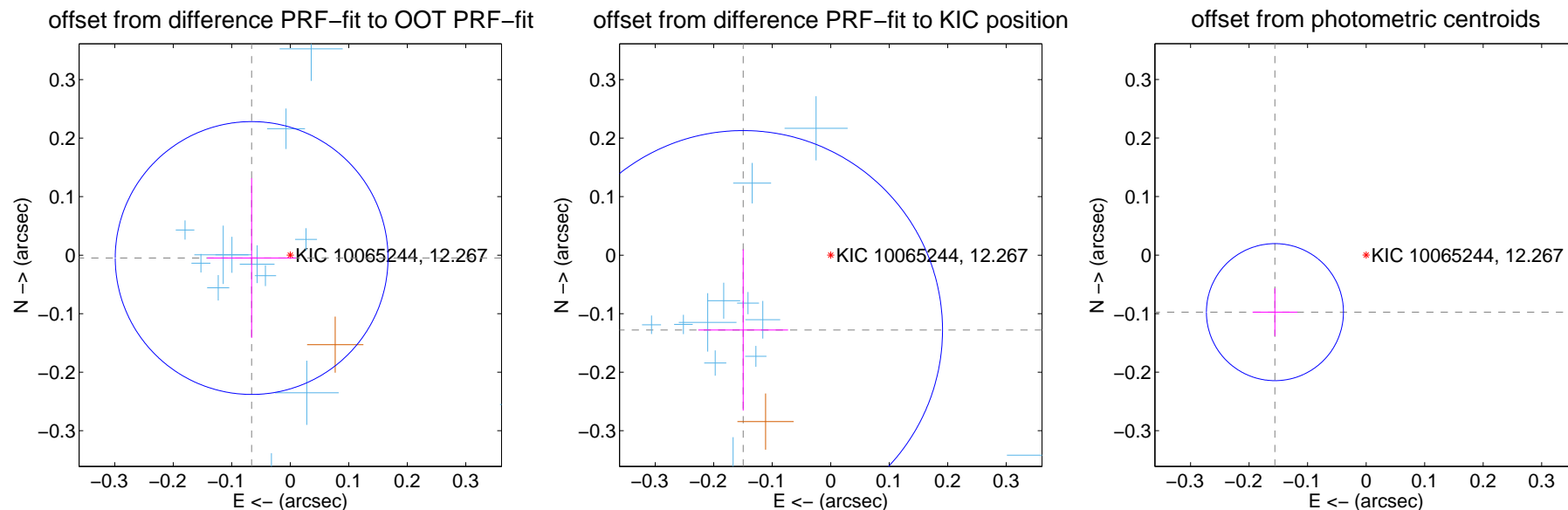
## DV Centroid Data

Supplemental centroid analysis for 010065244-02. Kepler magnitude: 12.27. Transit SNR 10.73

There are 16 quarters with good PRF difference image offsets

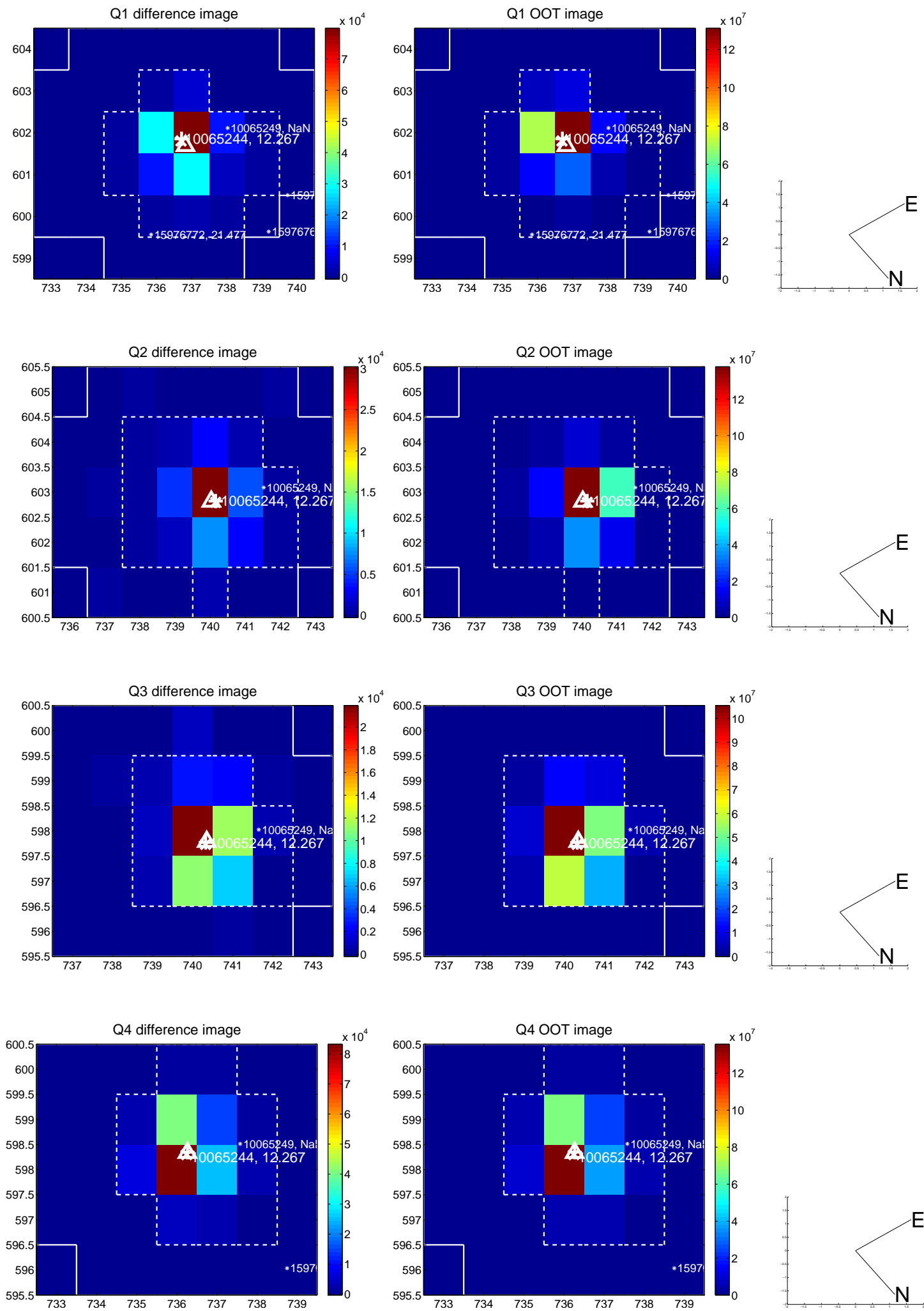
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.066 \pm 0.078$	0.85	$0.066 \pm 0.076$	$-0.005 \pm 0.136$
PRF-fit source offset from KIC position	$0.197 \pm 0.114$	1.73	$0.150 \pm 0.077$	$-0.128 \pm 0.138$
photometric centroid source offset	$0.18 \pm 0.04$	4.71	$0.16 \pm 0.04$	$-0.10 \pm 0.04$

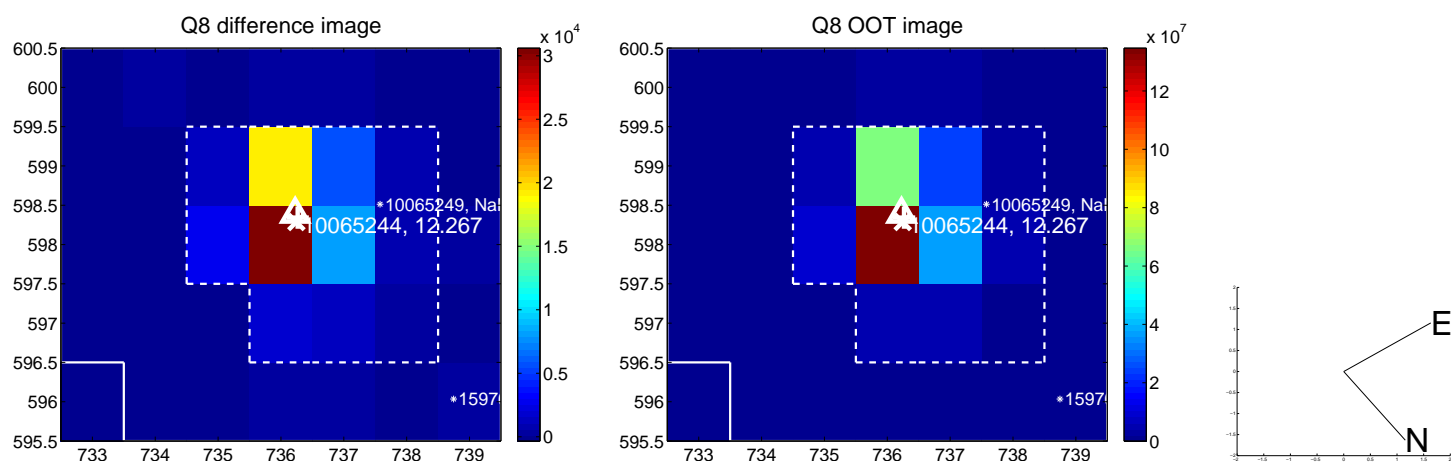
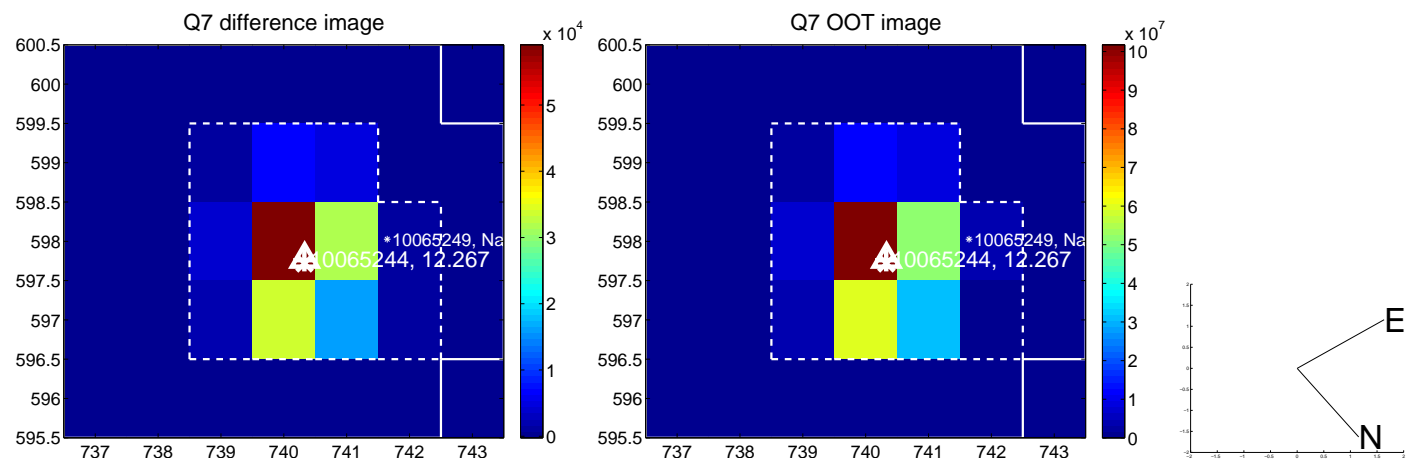
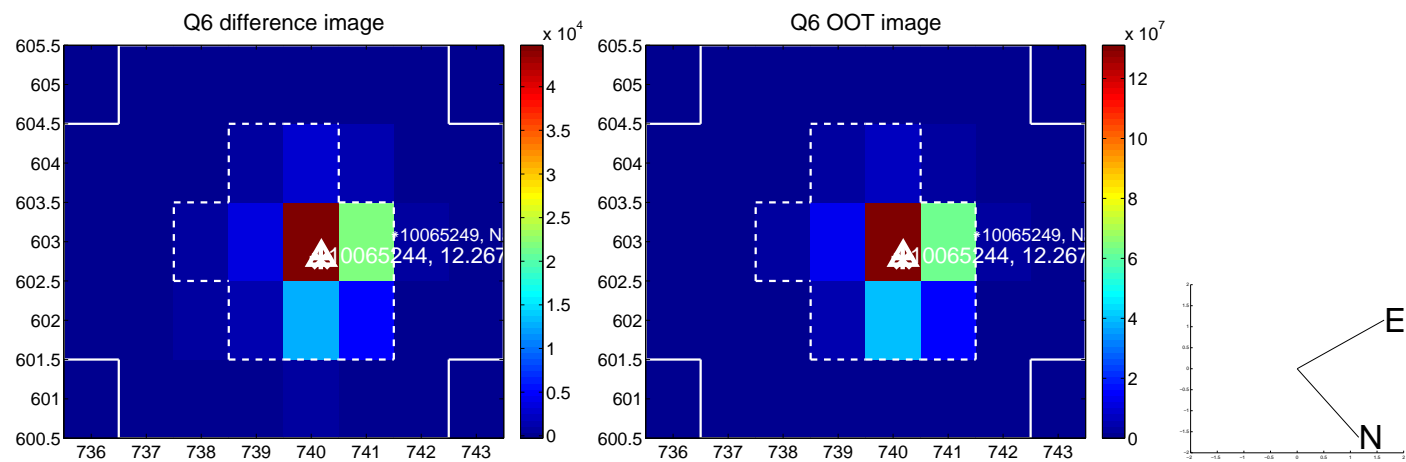
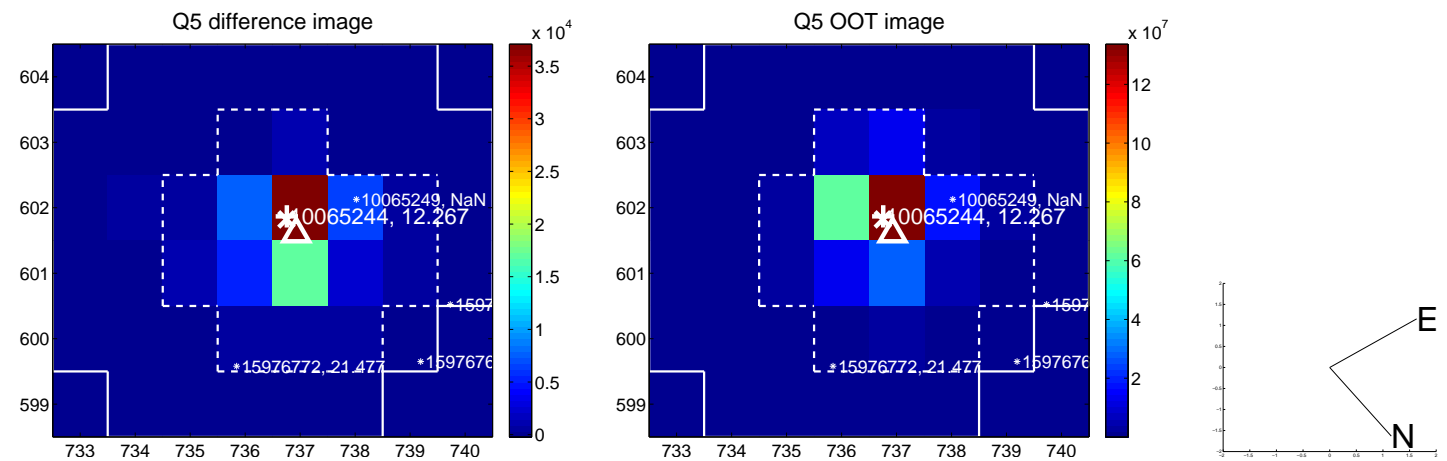


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

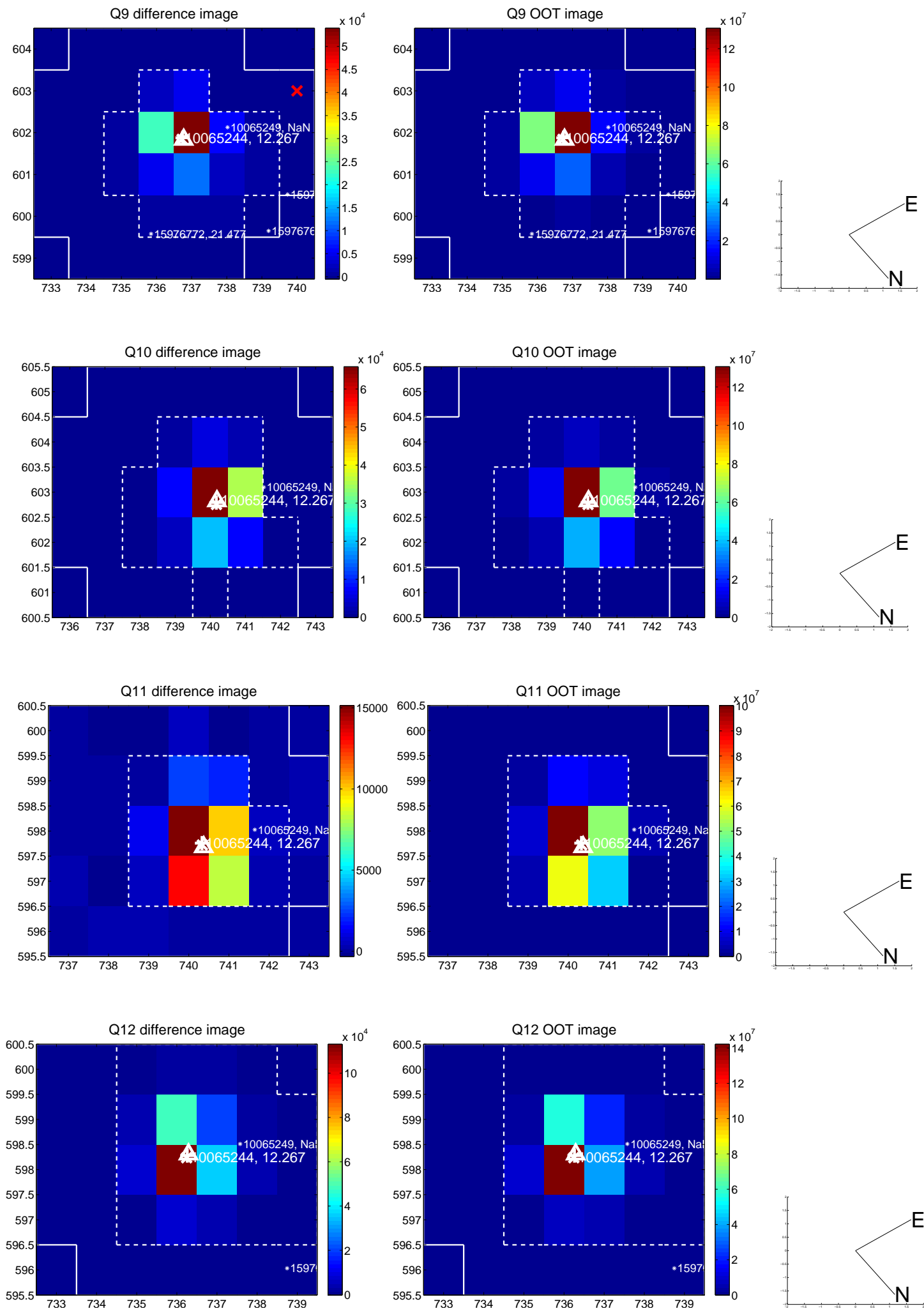
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

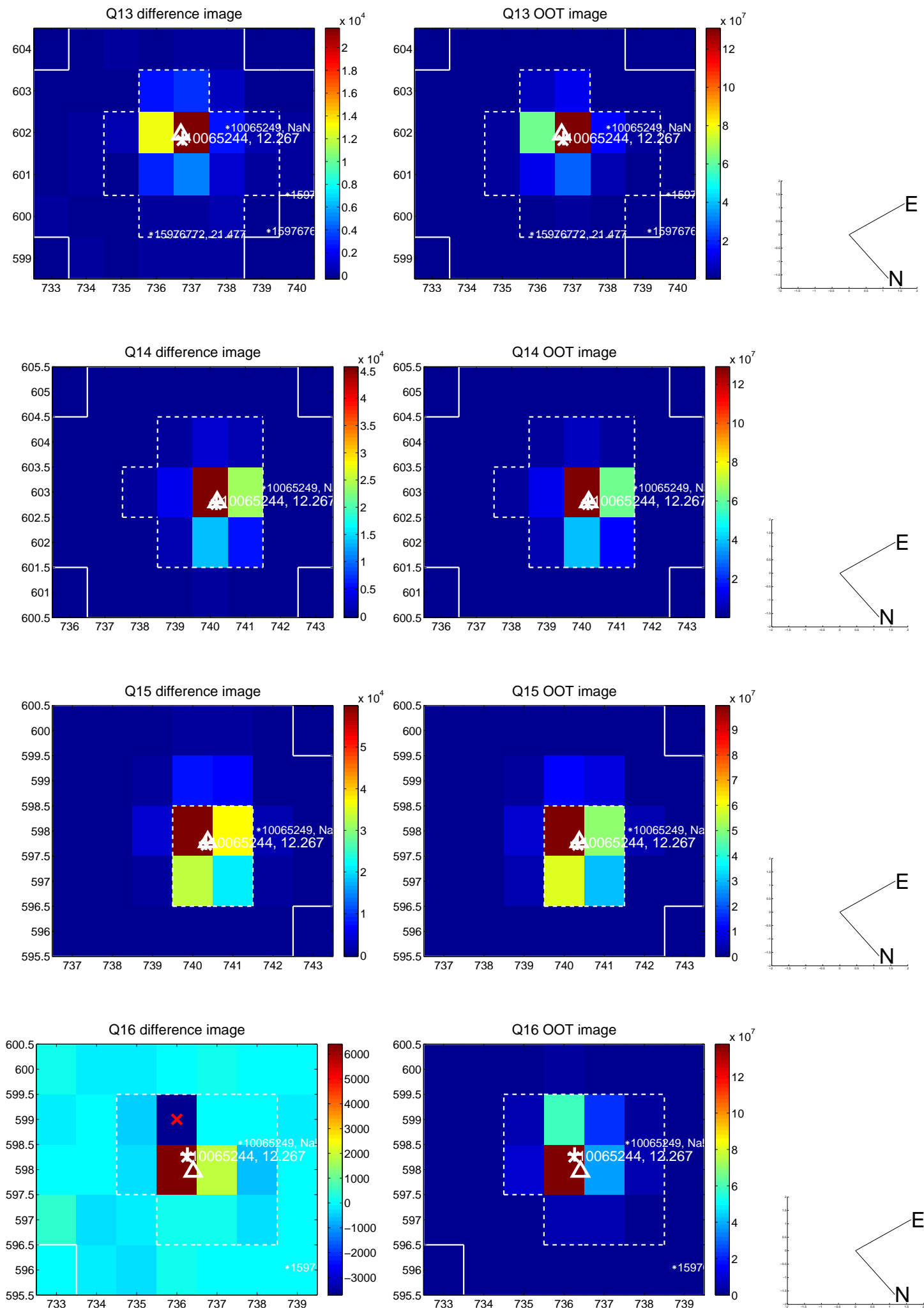


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

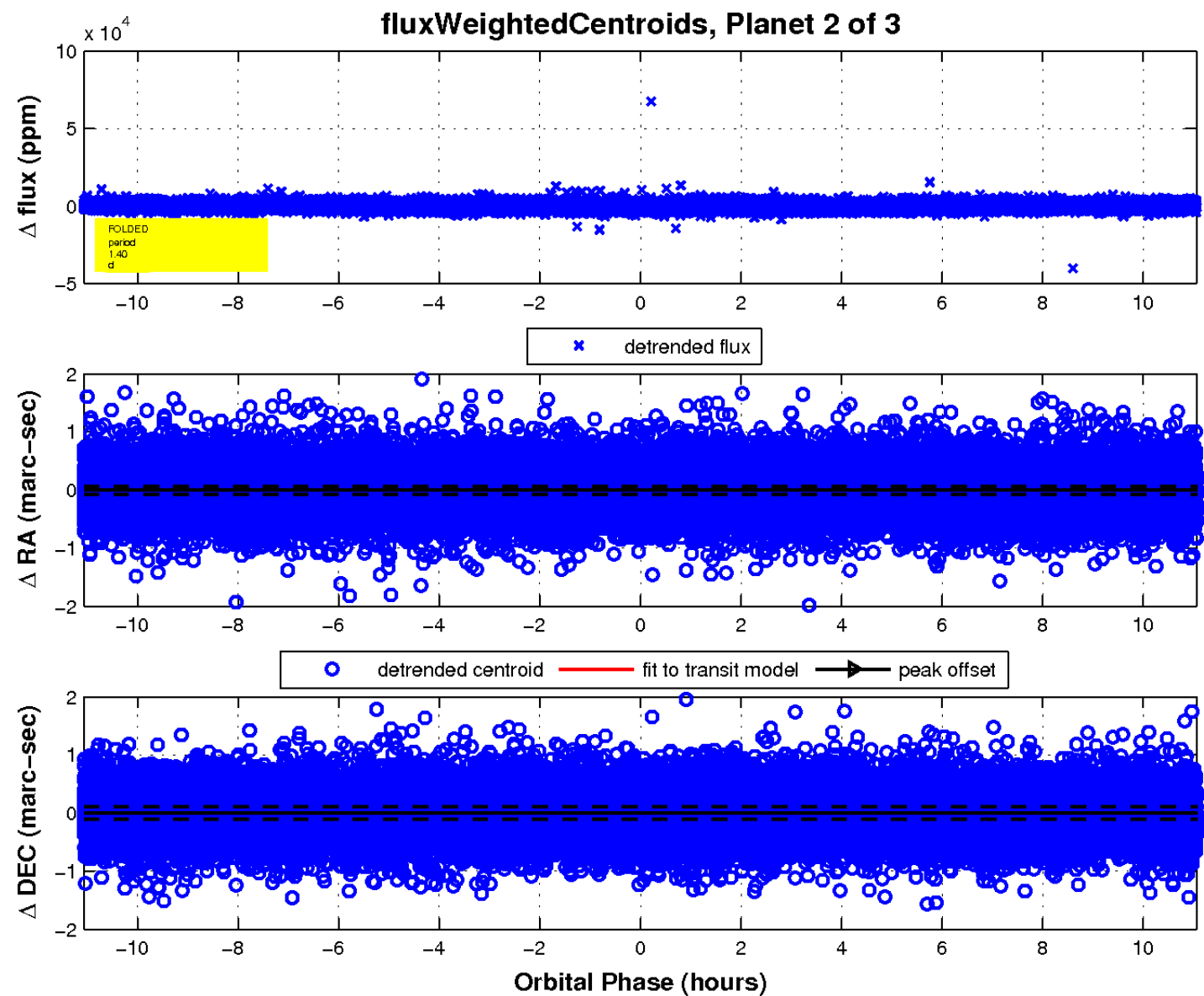
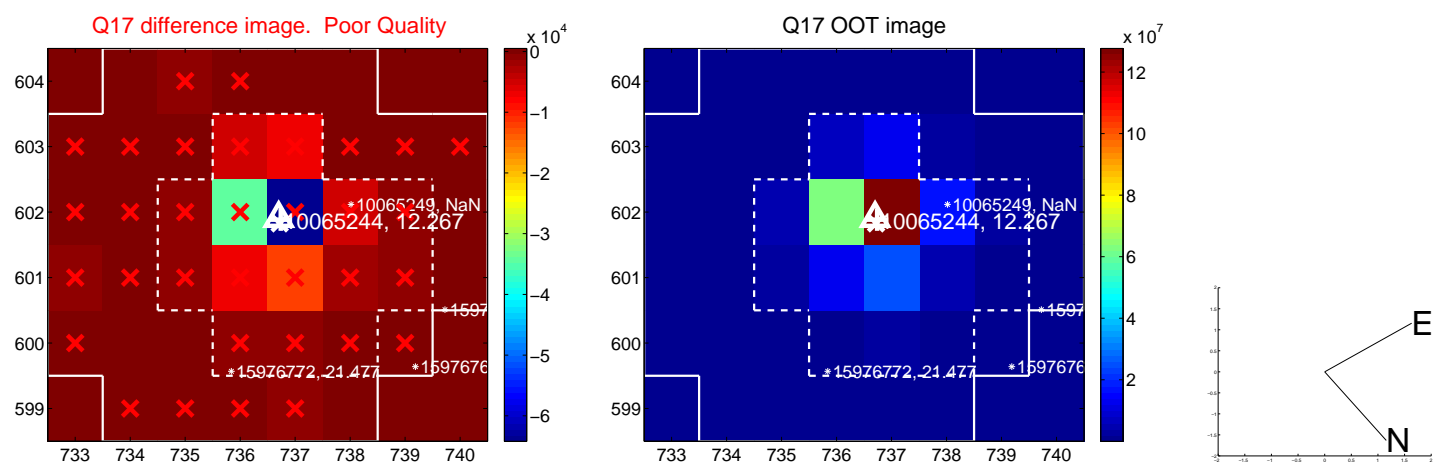




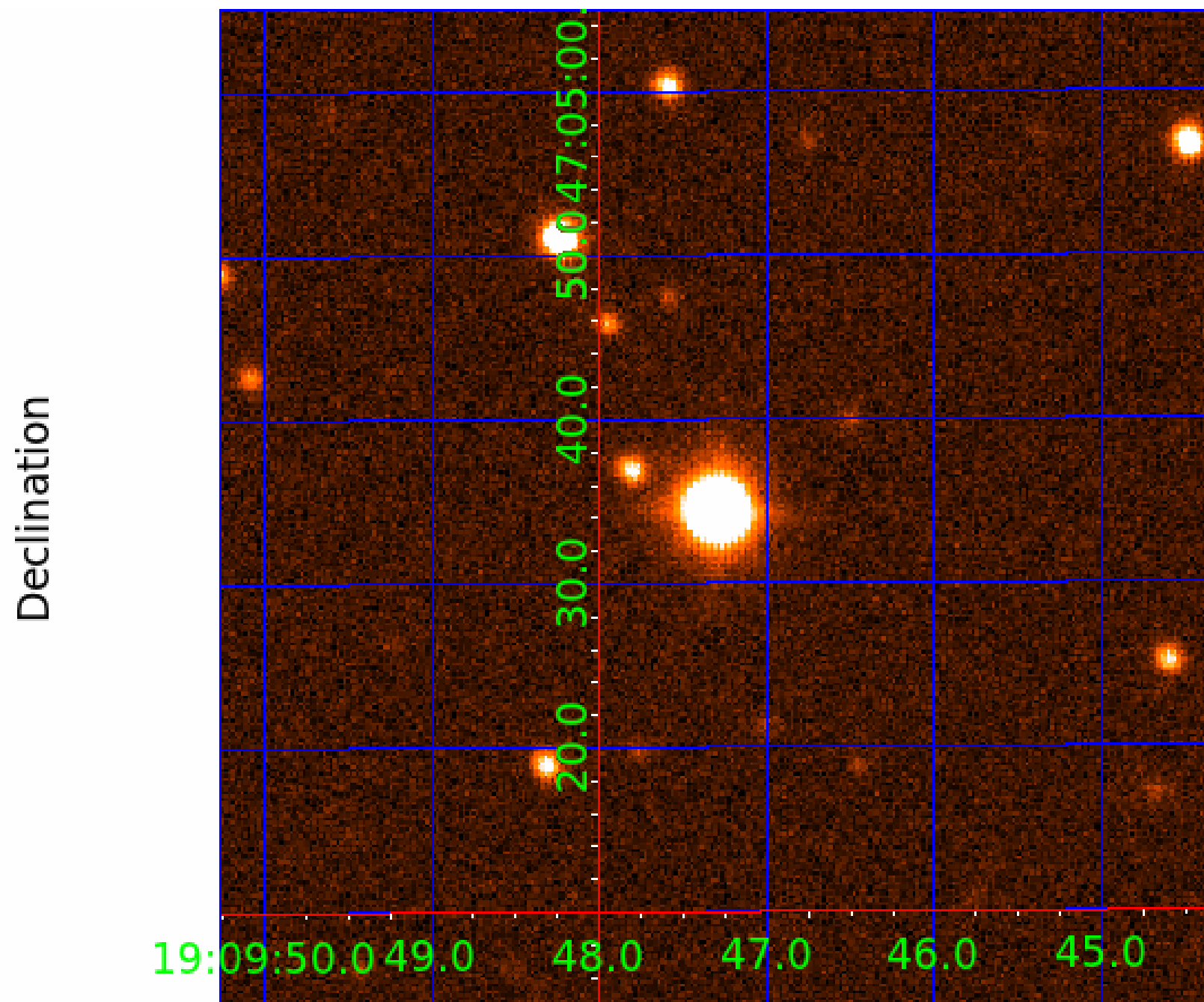
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 010065244

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010065244-01	OBS	No	0.712924	131.954135	82.7	1.885	9.6	4.5	2.22	7483	2.34	39461.35
010065244-02	OBS	No	1.403992	132.496181	376.4	3.689	9.5	10.7	2.22	7483	5.72	15986.14
010065244-03	OBS	No	0.702023	132.135994	257.1	2.500	12.8	-1.0	2.22	7483	3.62	40280.46

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010065244-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
010065244-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010065244-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

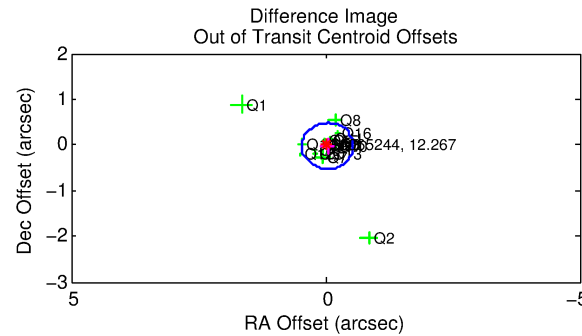
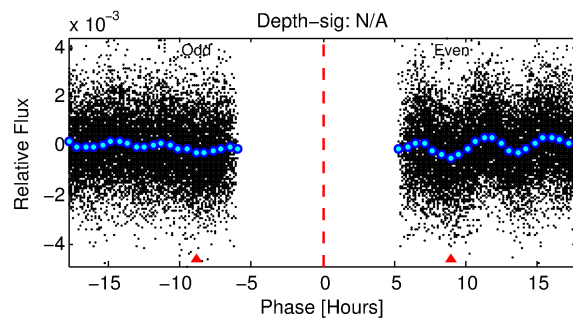
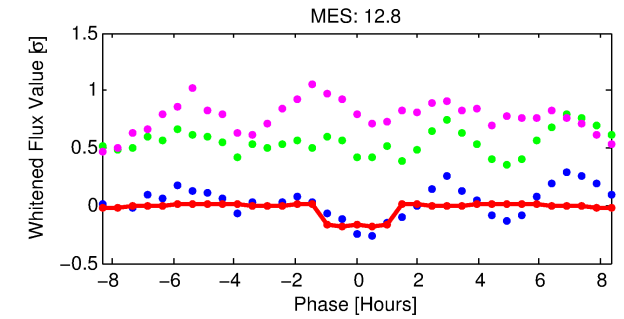
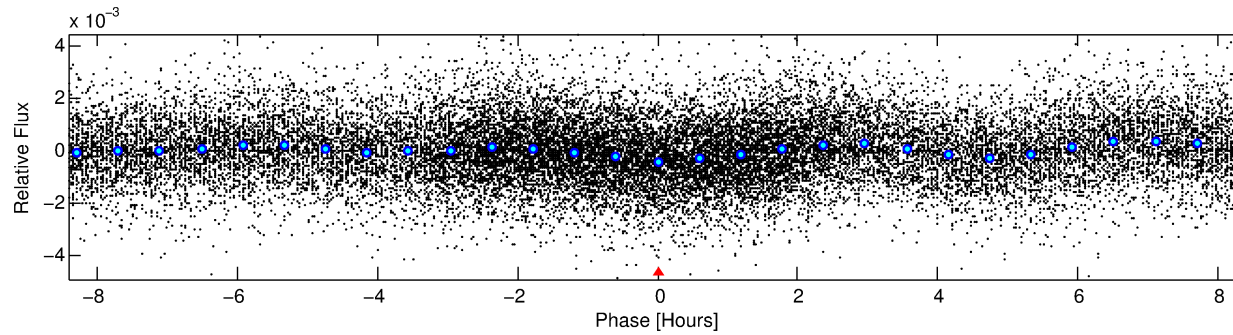
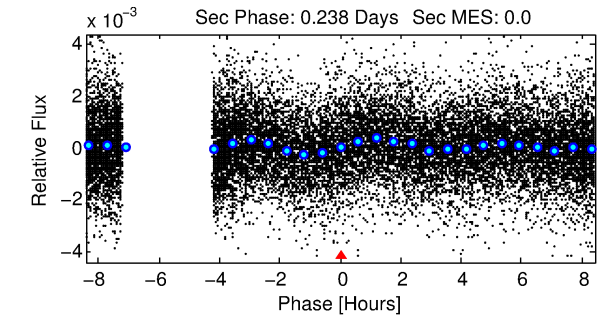
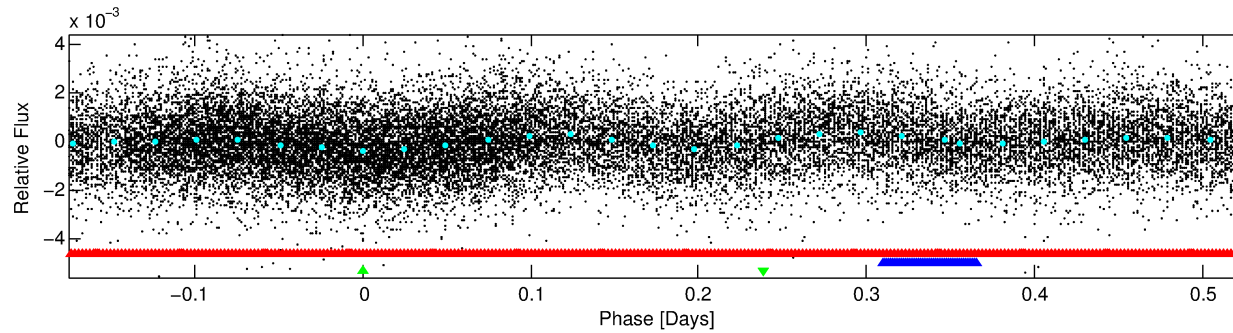
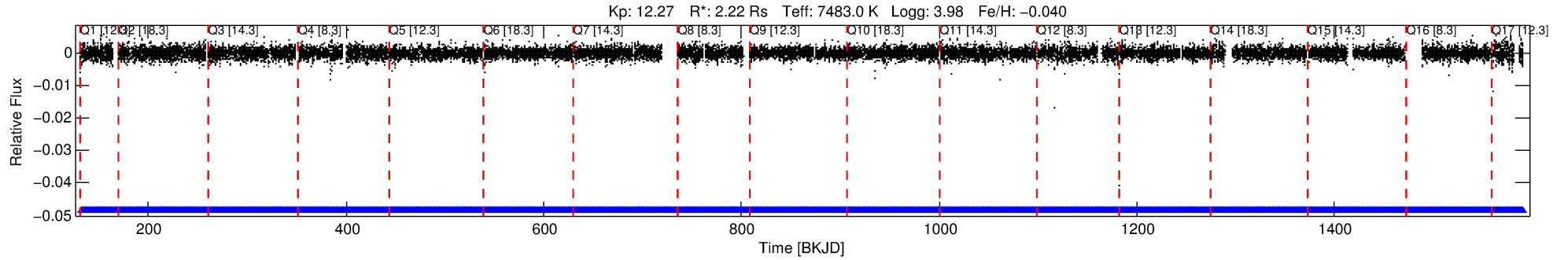
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010065244-03

No Significant Match Found

# DV One-Page Summary

KIC: 10065244 Candidate: 3 of 3 Period: 0.702 d



## TPS TCE Results:

Period = 0.70202 d  
Epoch = 132.1360 BKJD

DV fit results are unavailable

## DV Diagnostic Results:

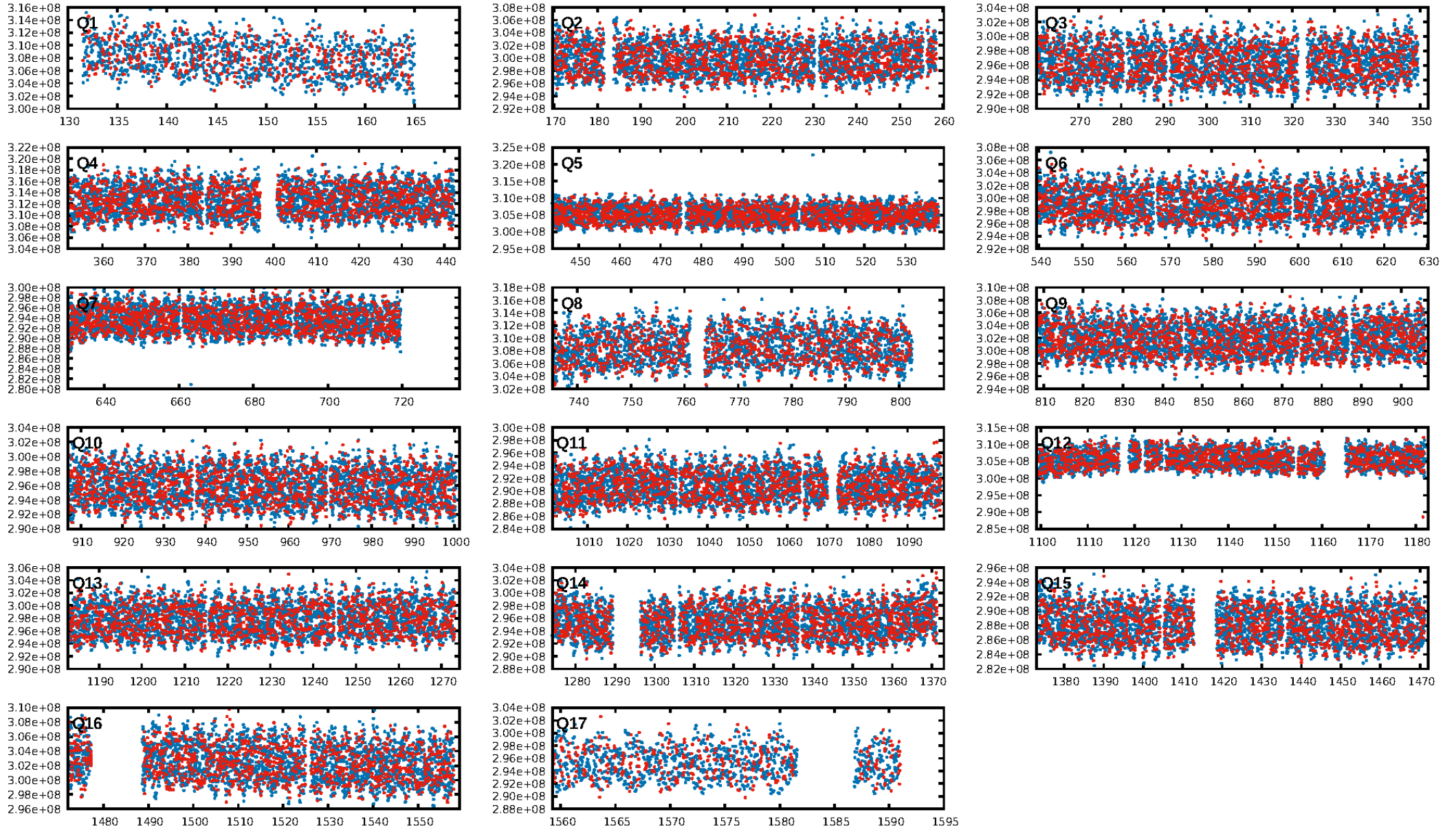
ShortPeriod-sig: N/A  
LongPeriod-sig: 6.7% [0.08σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1487/1487]  
GhostDiagnostic-chr: 4.236  
Centroid-sig: 6.2%  
Centroid-so: 0.187 arcsec [7.39σ]  
OotOffset-rm: 0.044 arcsec [0.26σ]  
KicOffset-rm: 0.192 arcsec [1.87σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.76 [13/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:42:22 Z

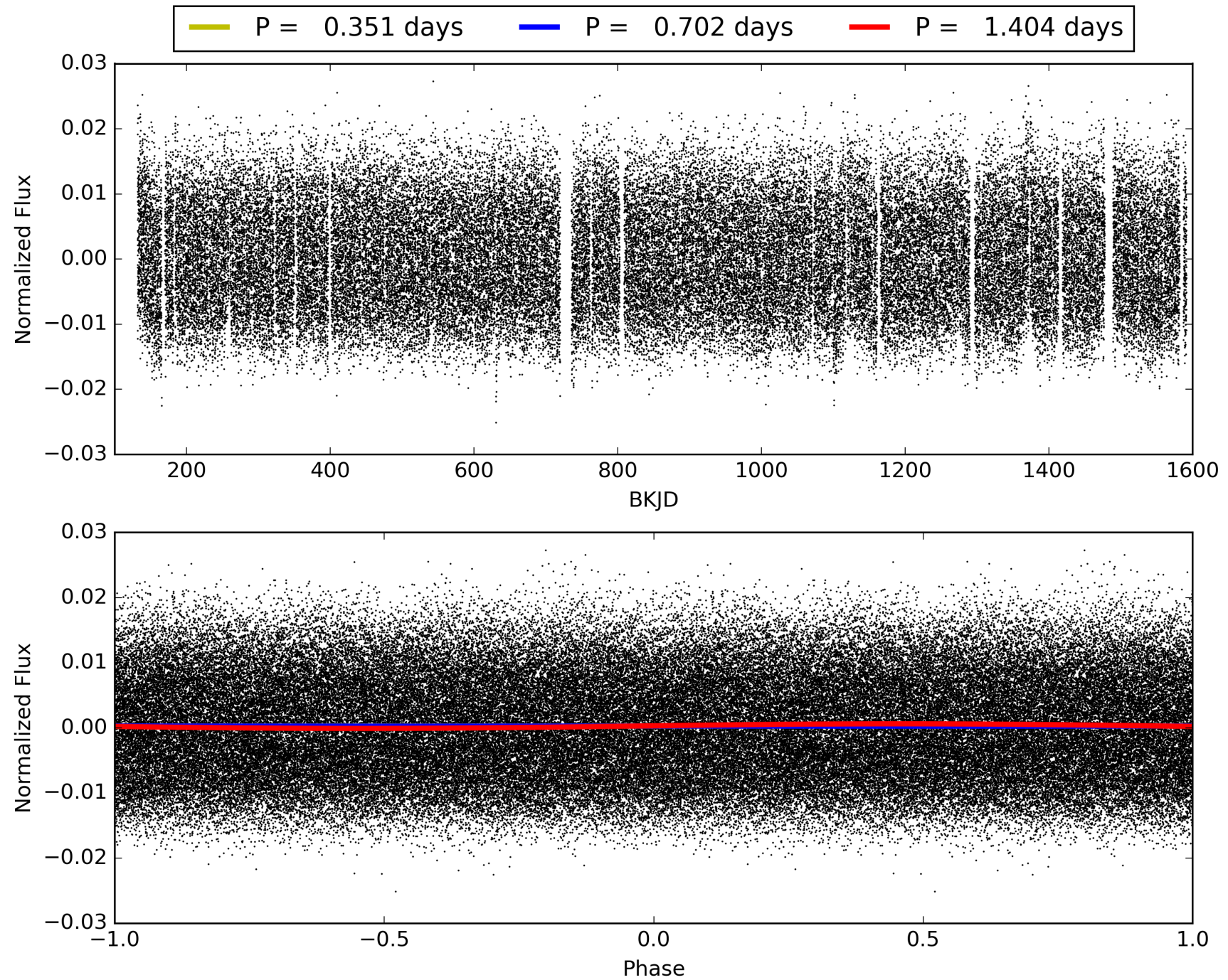
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 010065244-03, PDC Light Curves

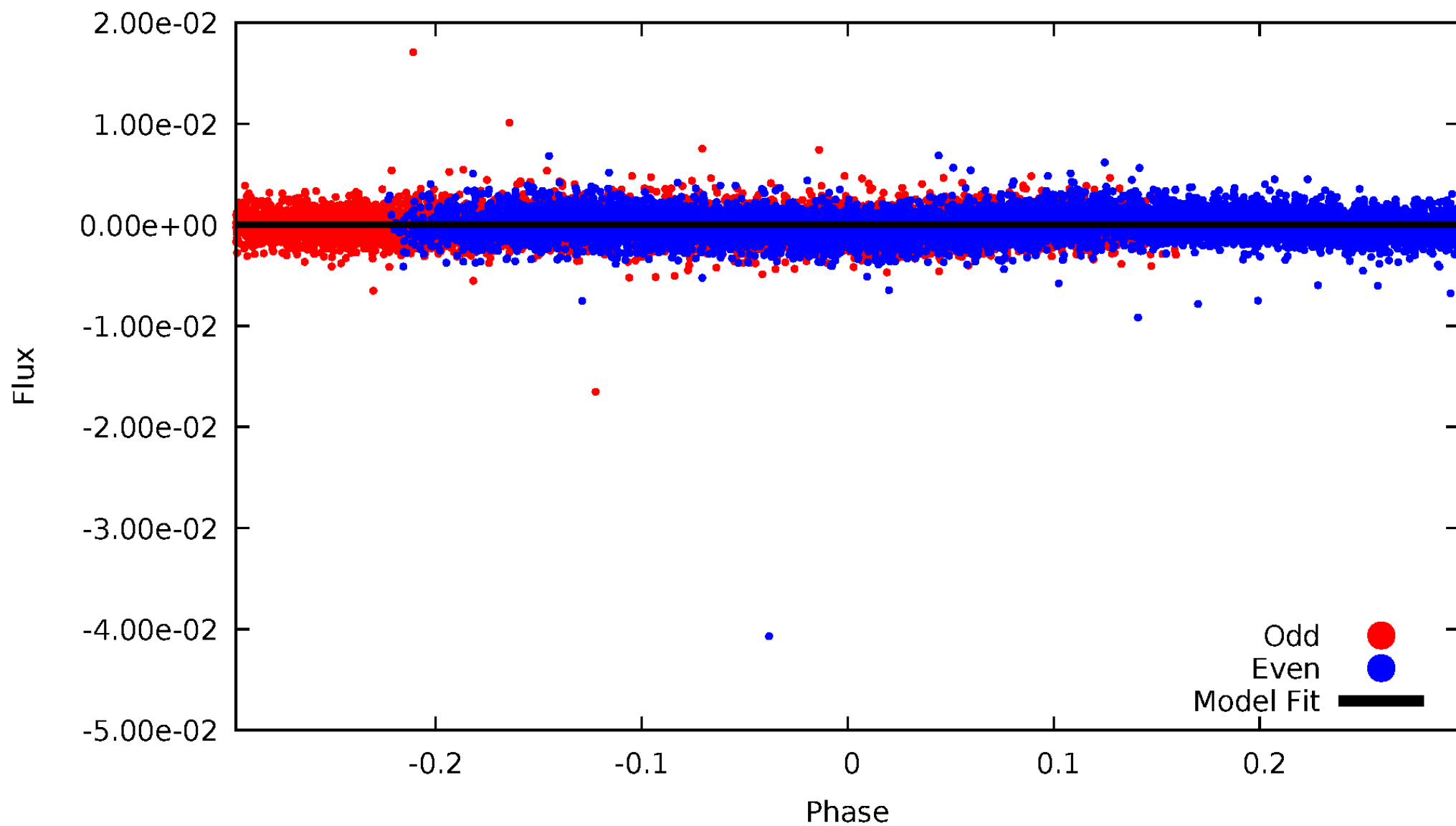


# TCE 010065244-03



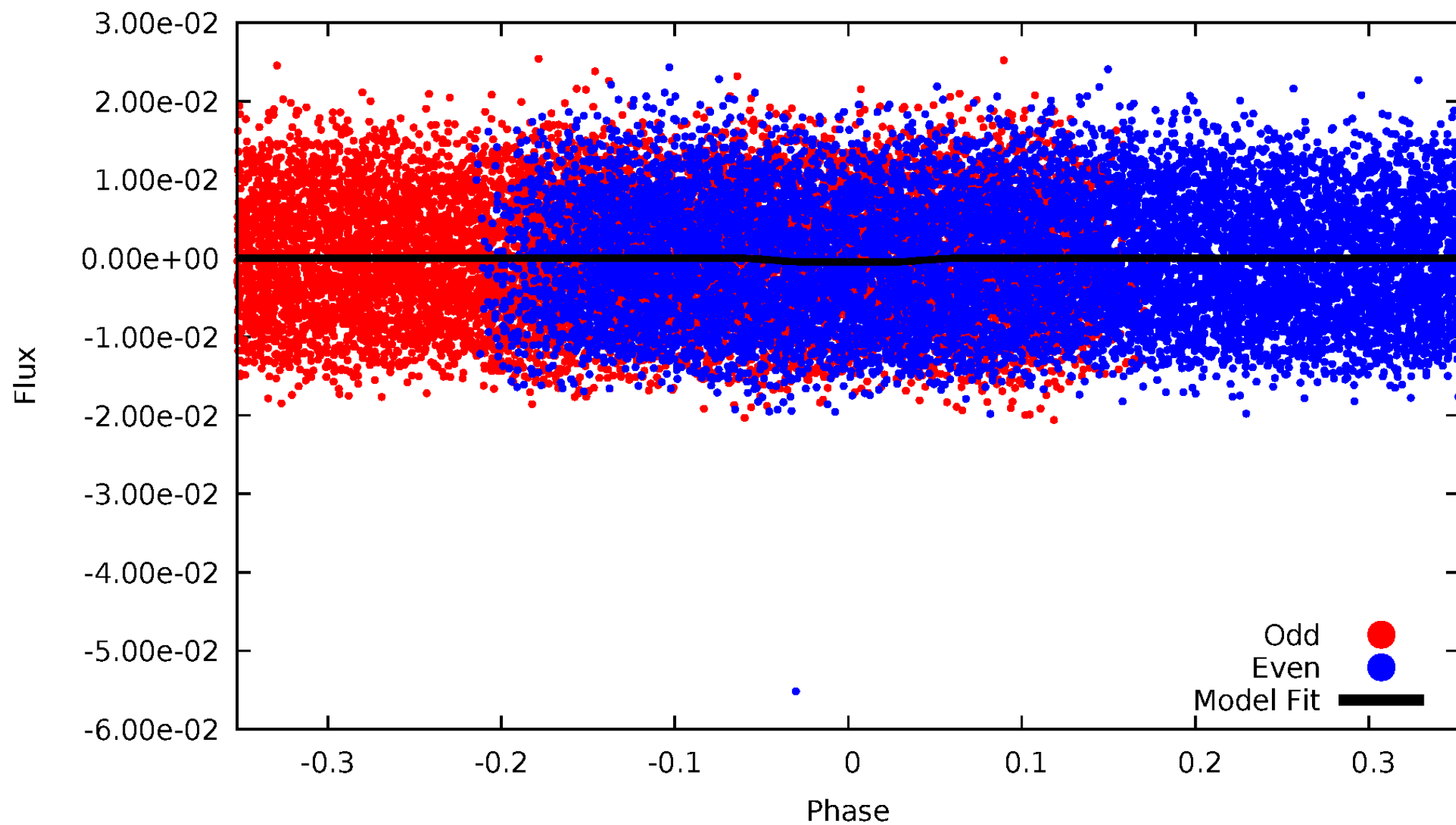
# DV Odd/Even

TCE 010065244-03



# ALT Odd/Even

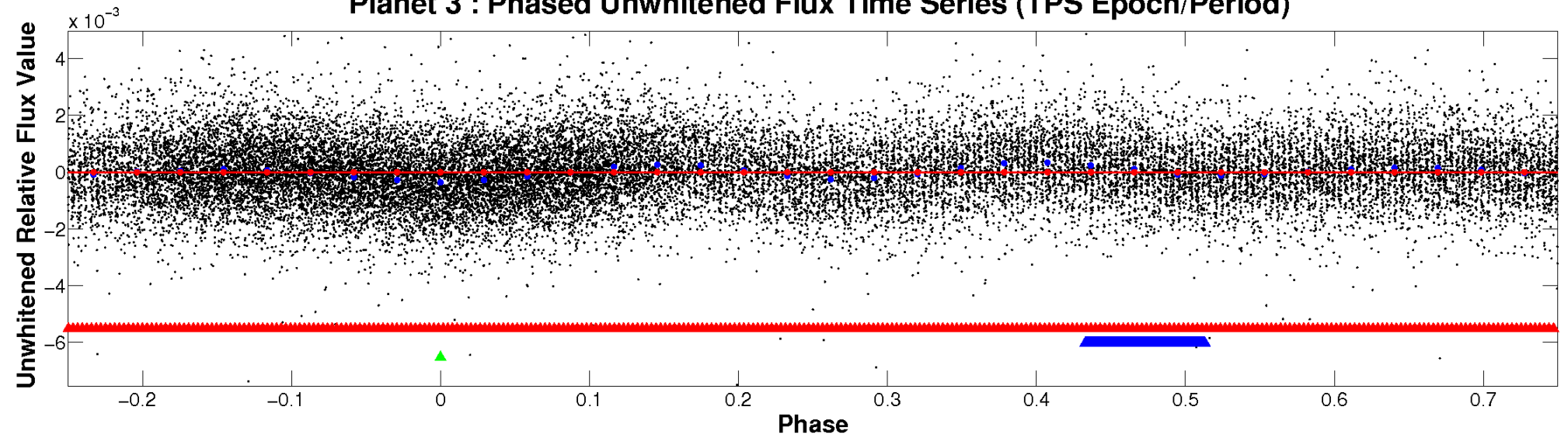
TCE 010065244-03



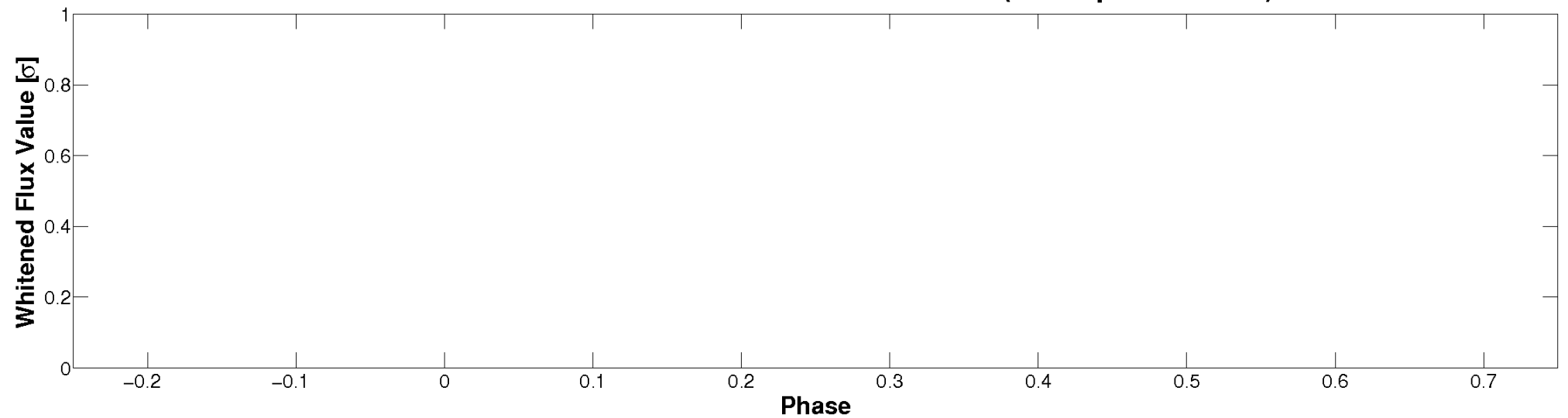


# Non-Whitened Vs. Whitened Light Curve

**Planet 3 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)**

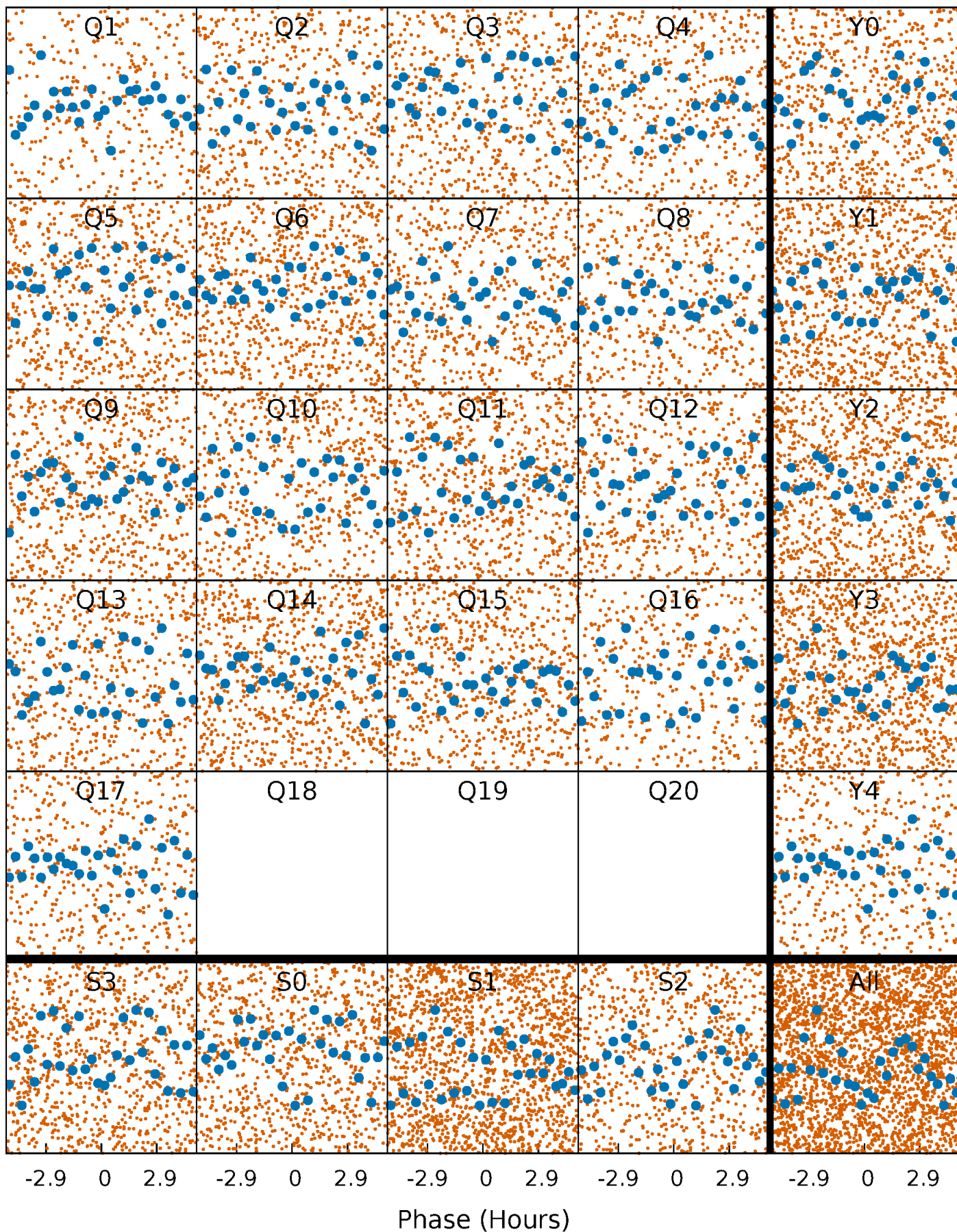


**Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



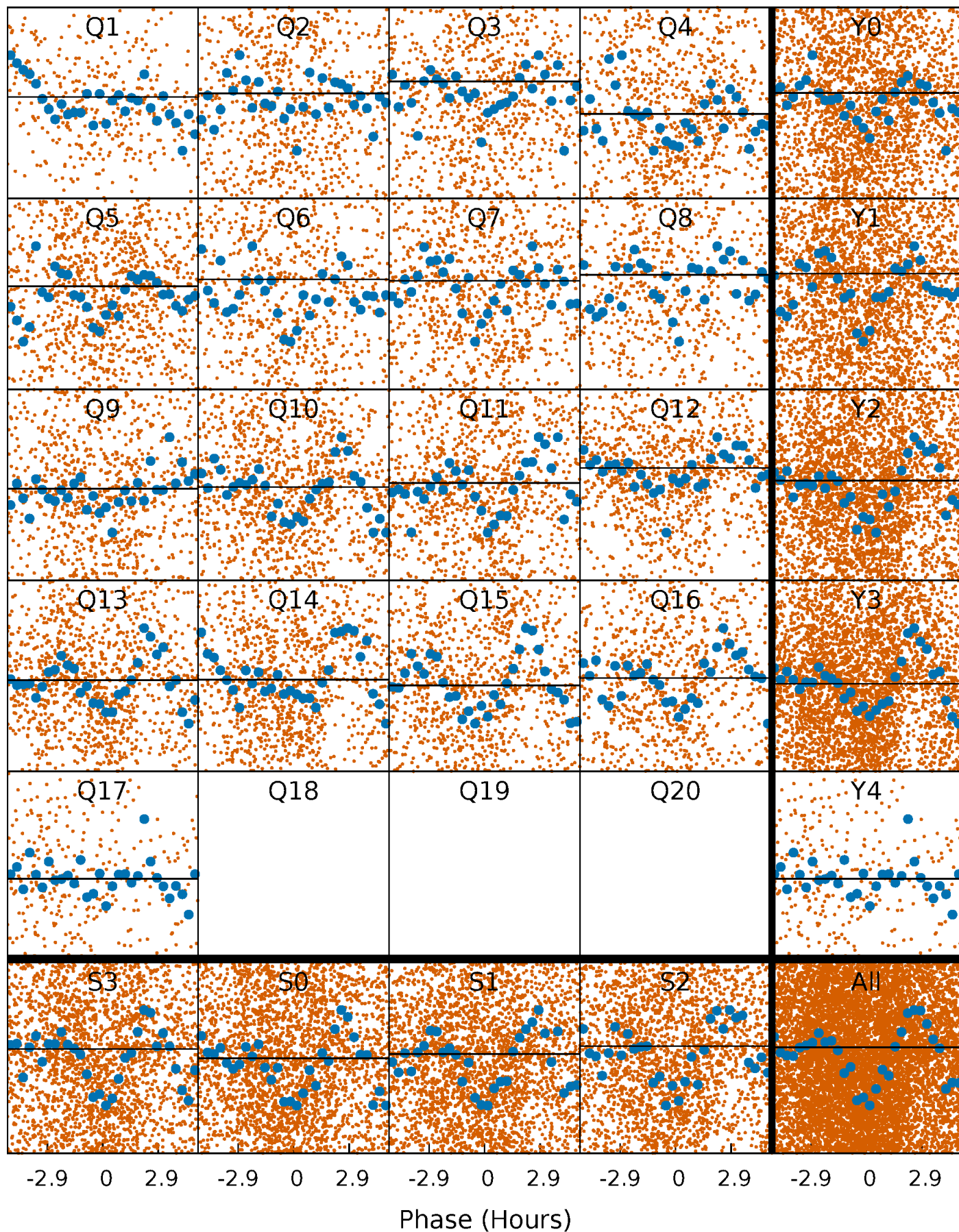
# PDC Quarter-Phased Transit Curves

TCE 010065244-03   P= 0.702023 Days    $T_0=132.135994$  (BKJD)



# DV Quarter-Phased Transit Curves

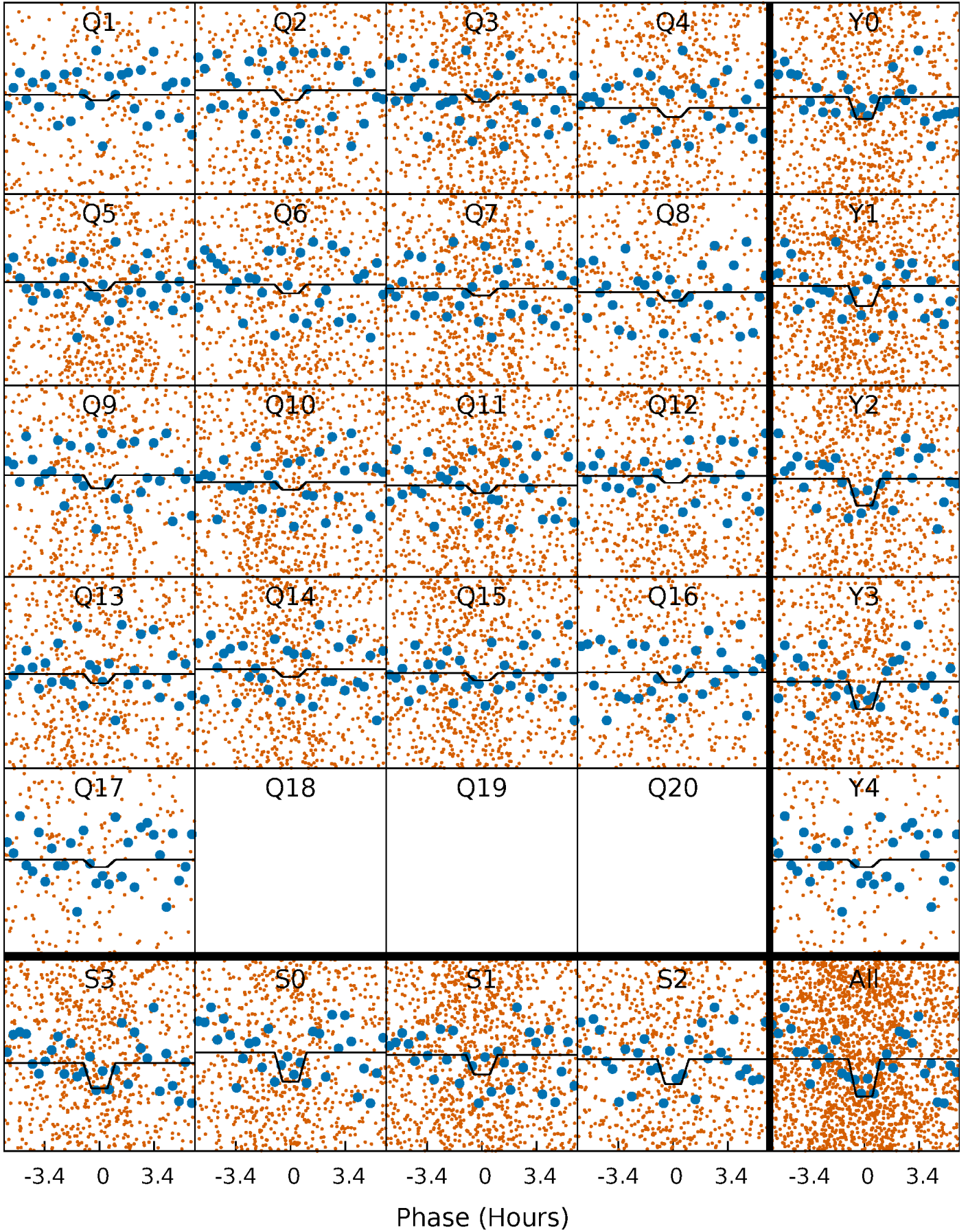
TCE 010065244-03 P= 0.702023 Days  $T_0=132.135994$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 010065244-03 P= 0.702023 Days  $T_0=132.130339$  (BKJD)

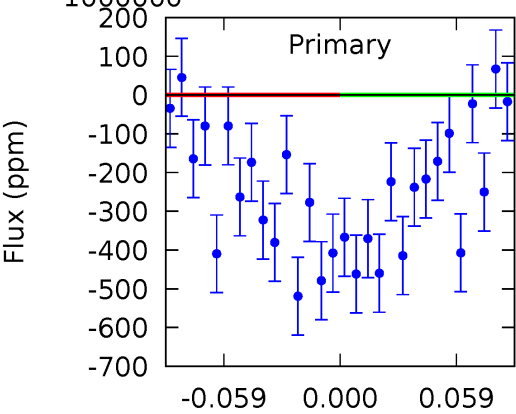
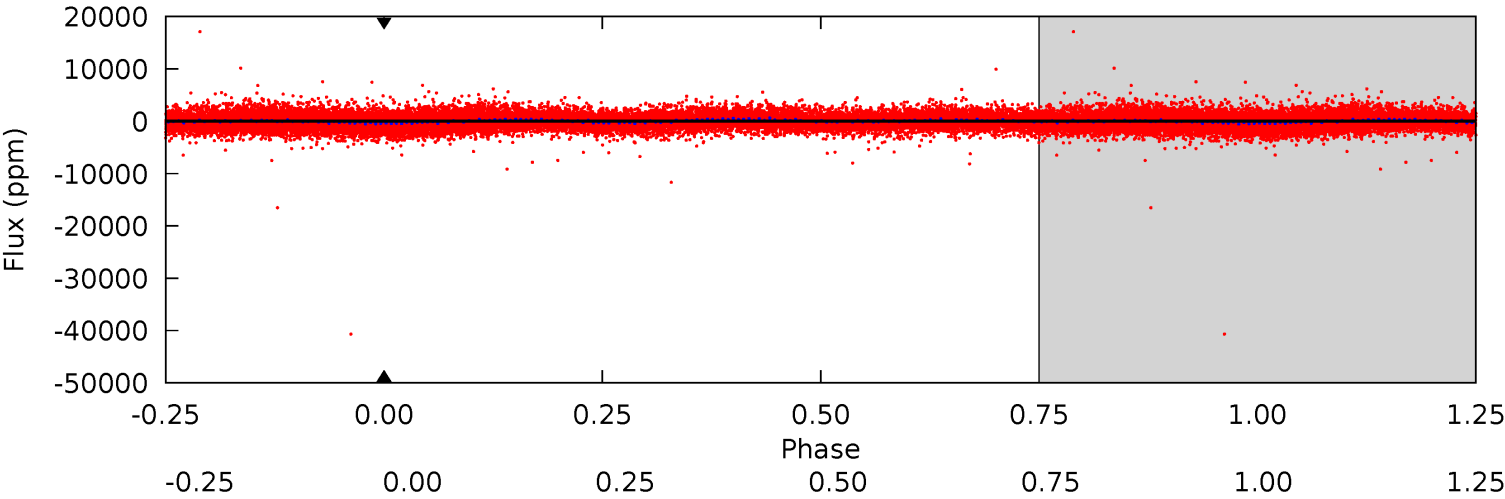




# DV Model-Shift Uniqueness Test

010065244-03, P = 0.702023 Days, E = 131.433971 Days

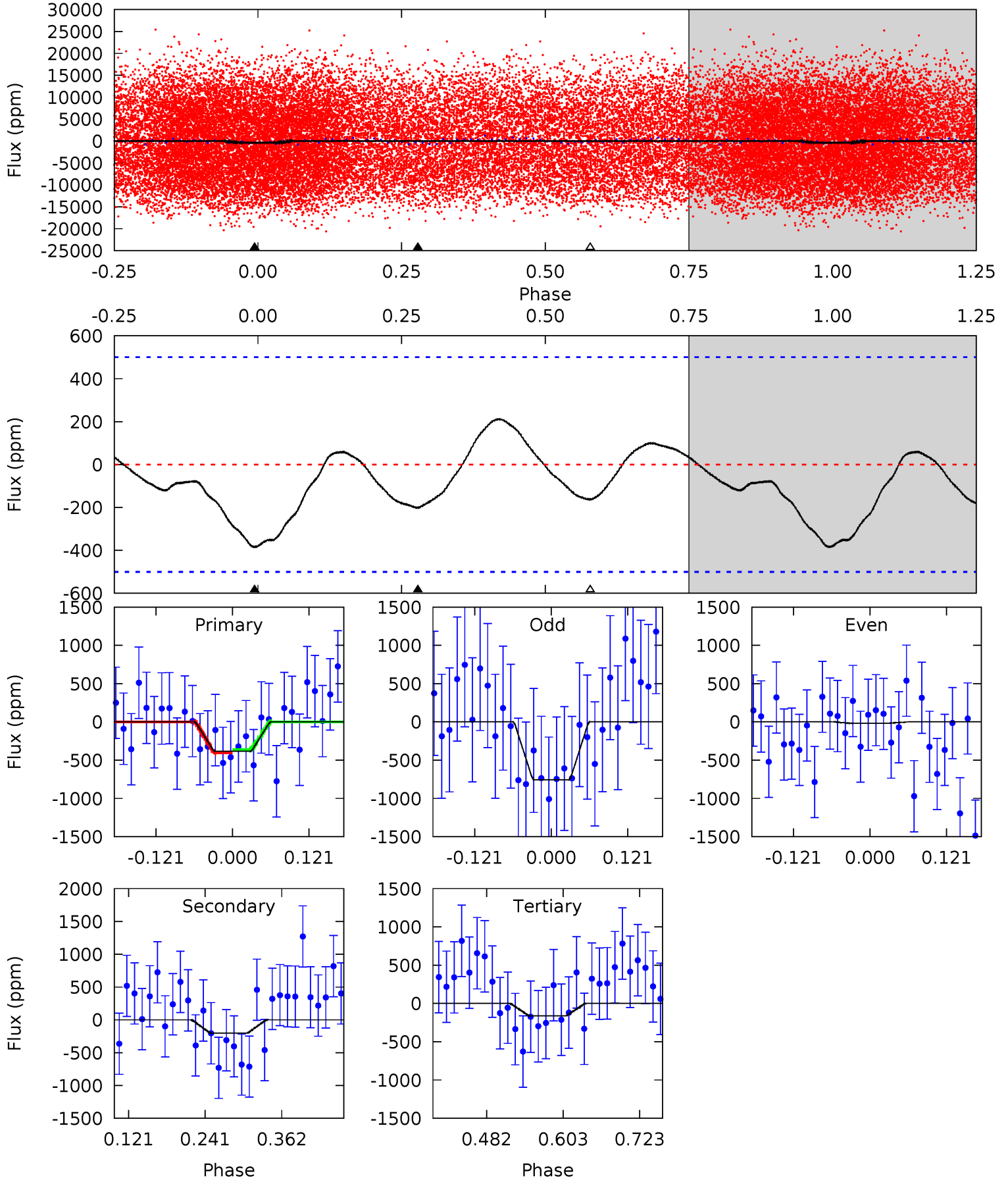
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

010065244-03, P = 0.702023 Days, E = 131.428316 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
3.47	1.83	1.47	0	4.53	1.55	0.91	2.00	3.47	0.35	1.83	3.31	0.69	0.36	0.19



### Stellar Parameters For KIC 010065244

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7483^{+209}_{-314}$	$3.982^{+0.222}_{-0.148}$	$-0.040^{+0.200}_{-0.350}$	$2.221^{+0.540}_{-0.660}$	$1.724^{+0.200}_{-0.325}$	$0.222^{+0.321}_{-0.092}$
	+3%/-4%	+6%/-4%	+500%/-875%	+24%/-30%	+12%/-19%	+145%/-42%
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 010065244-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$17.02^{+18.61}_{-12.39}$	$5014^{+312}_{-441}$	$-6861^{+56167}_{-26976}$	$-2.121^{+147.364}_{-80.943}$
Alt.	$-202 \pm 111$	$17.97^{+19.27}_{-11.65}$	$5003^{+338}_{-421}$	$-3890^{+8802}_{-440}$	$0.099^{+0.816}_{-0.081}$

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

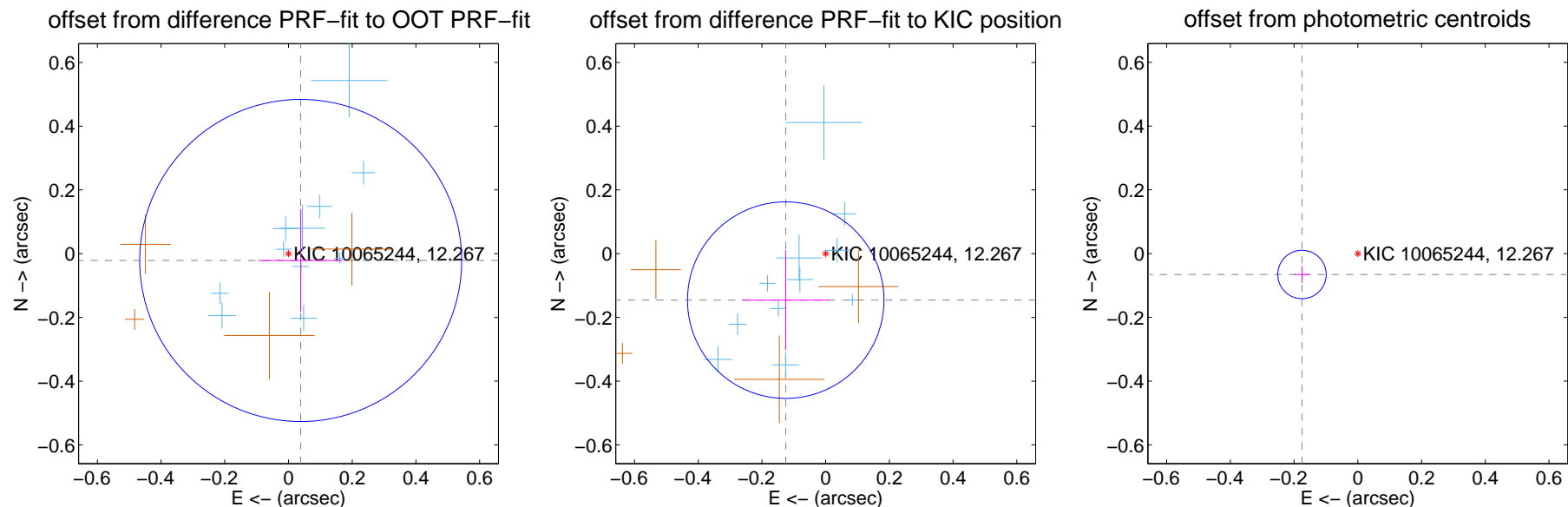
## DV Centroid Data

Supplemental centroid analysis for 010065244-03. Kepler magnitude: 12.27. Transit SNR -1.00

There are 13 quarters with good PRF difference image offsets

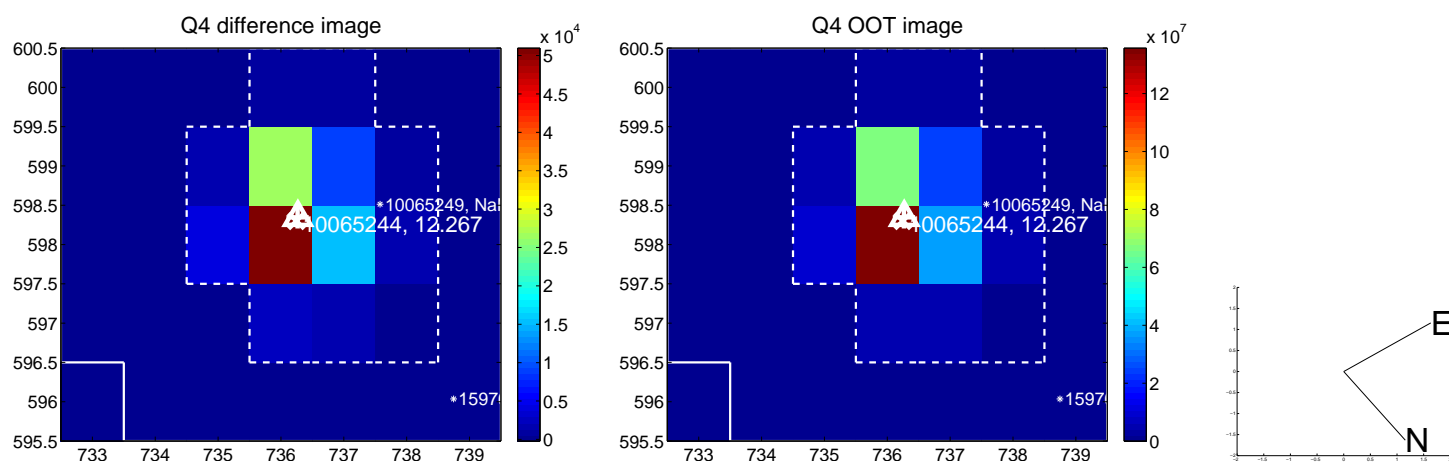
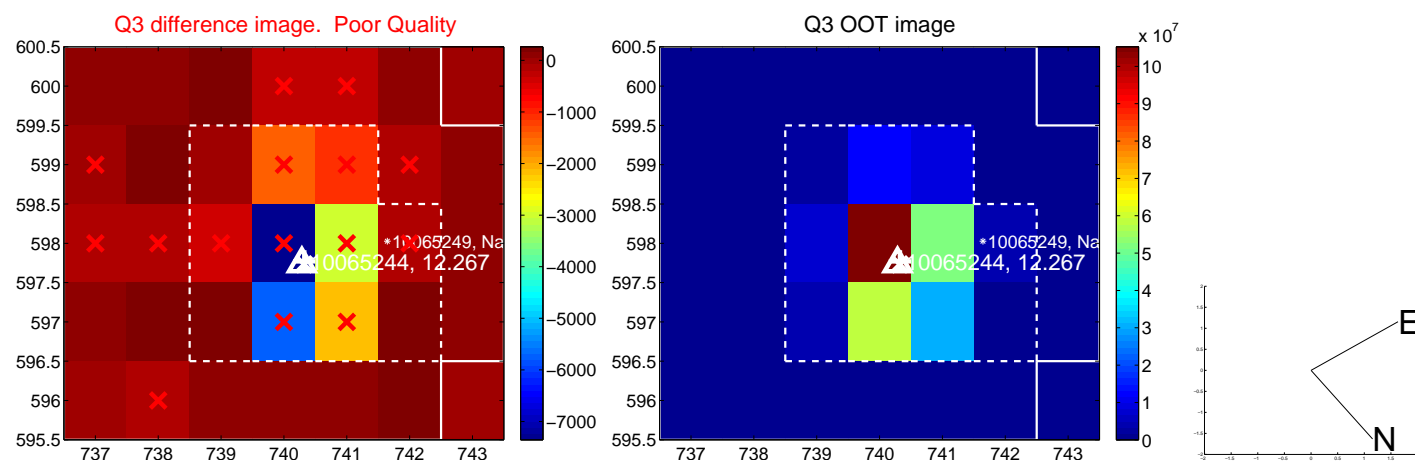
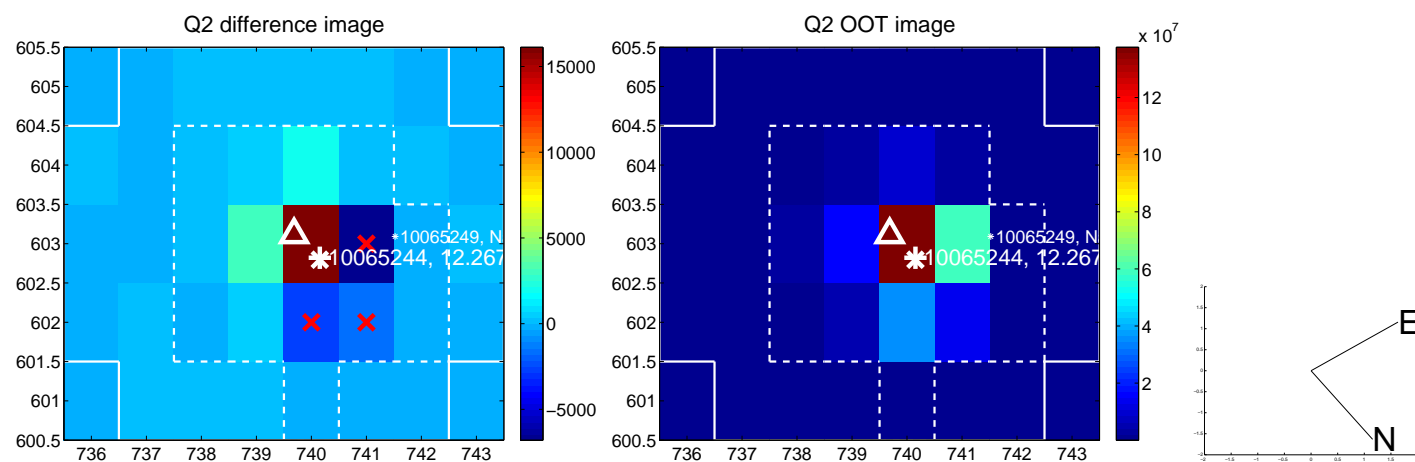
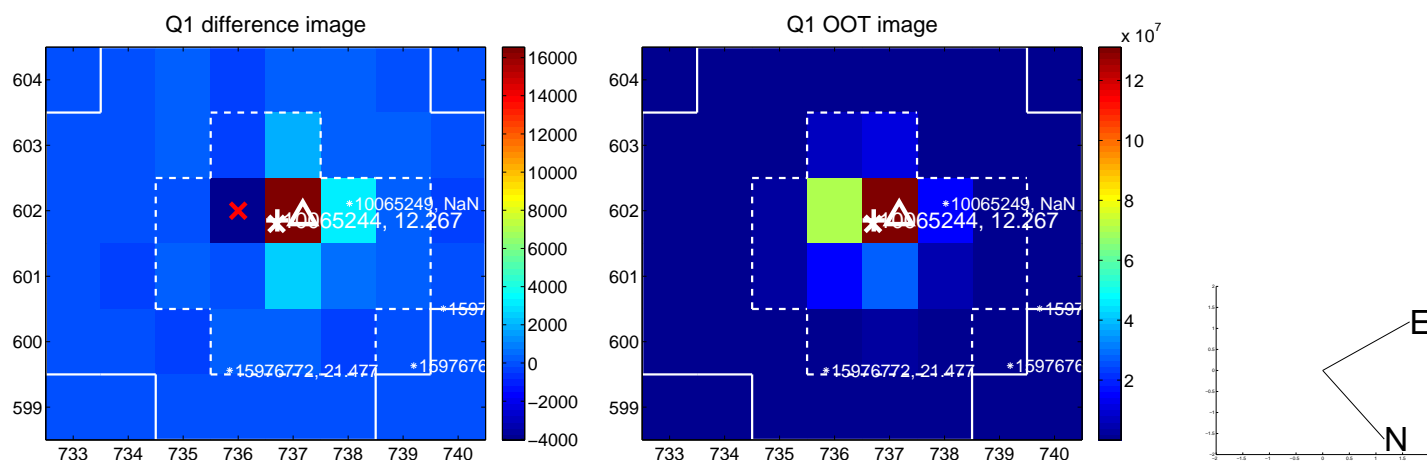
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.044 \pm 0.168$	0.26	$-0.038 \pm 0.133$	$-0.021 \pm 0.161$
PRF-fit source offset from KIC position	$0.192 \pm 0.103$	1.87	$0.125 \pm 0.137$	$-0.146 \pm 0.157$
photometric centroid source offset	$0.19 \pm 0.03$	7.39	$0.18 \pm 0.03$	$-0.07 \pm 0.03$



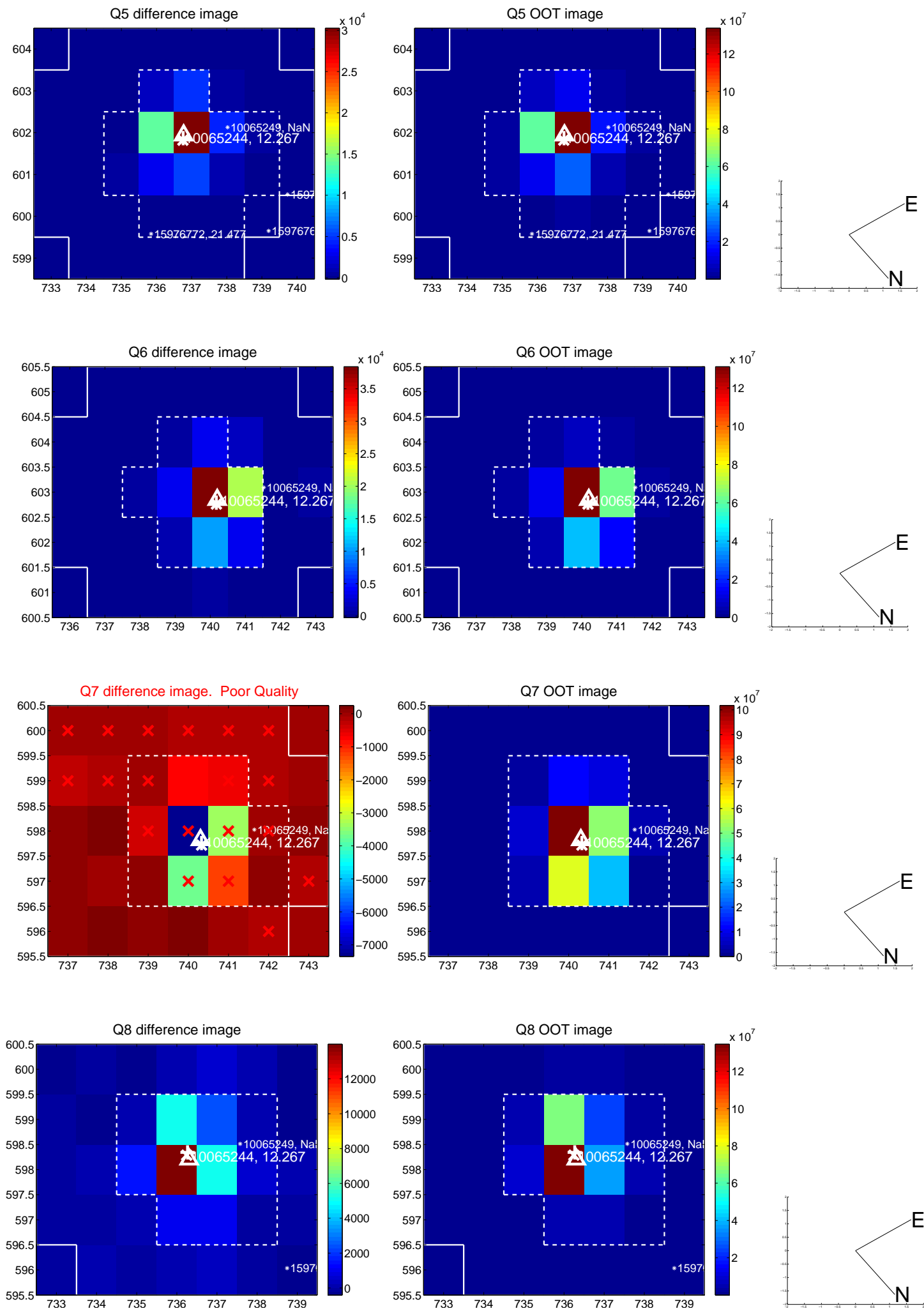
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

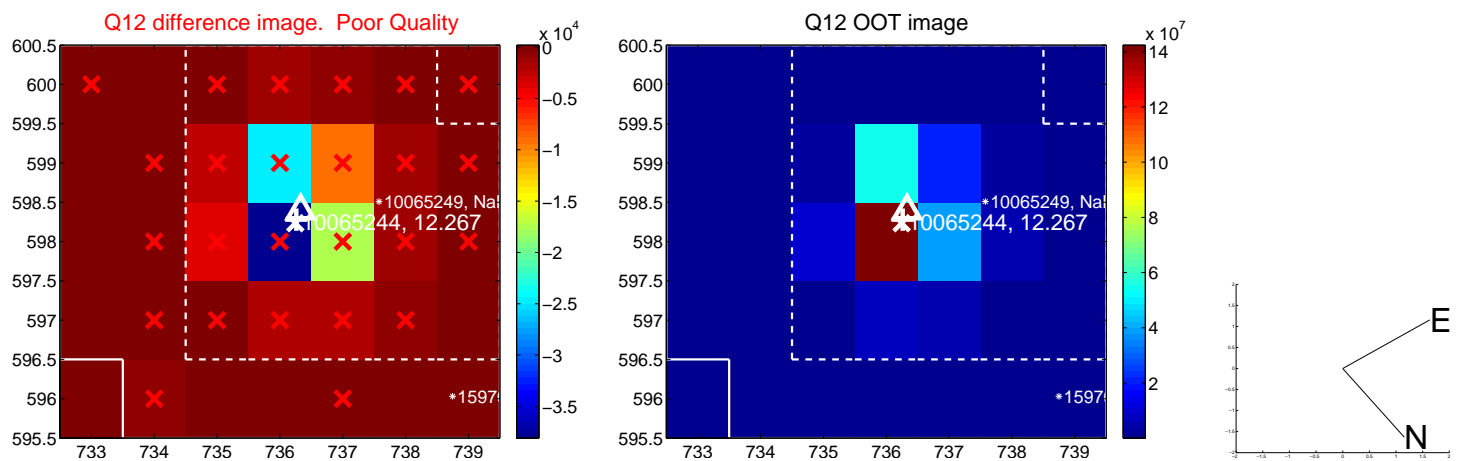
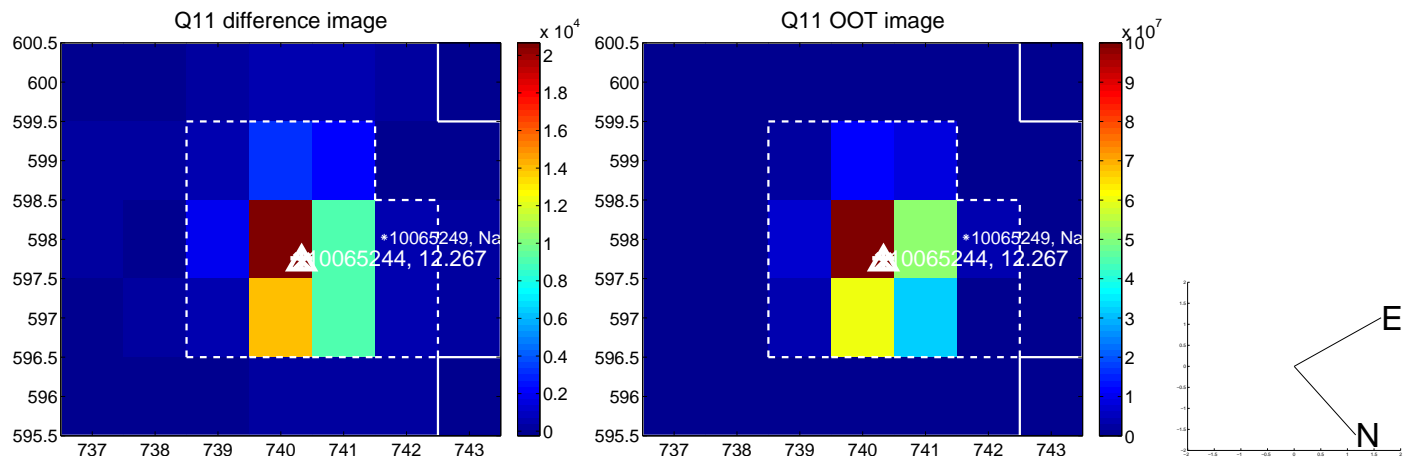
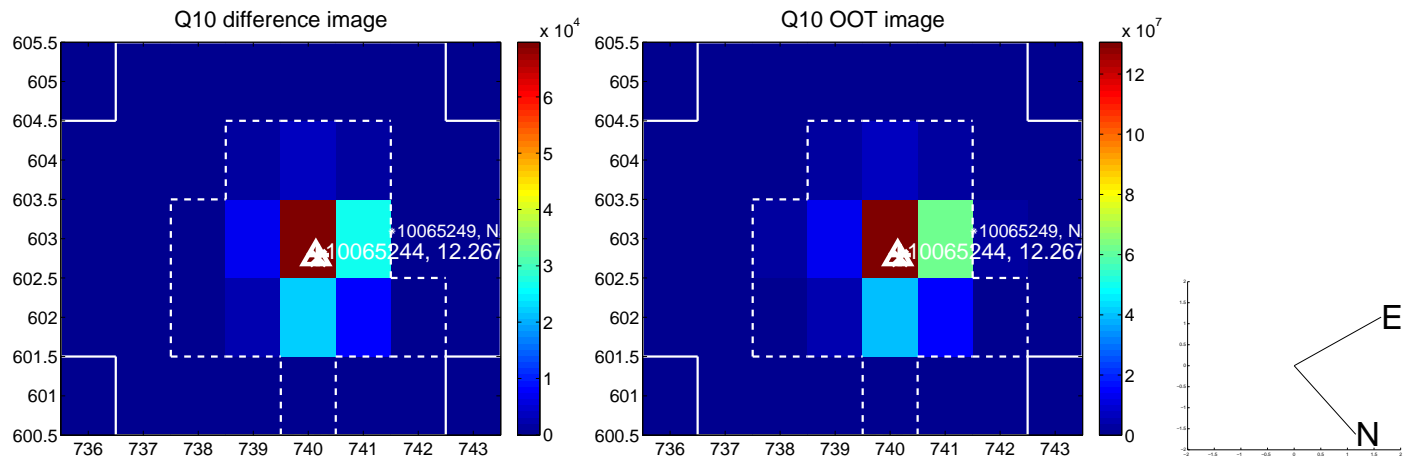
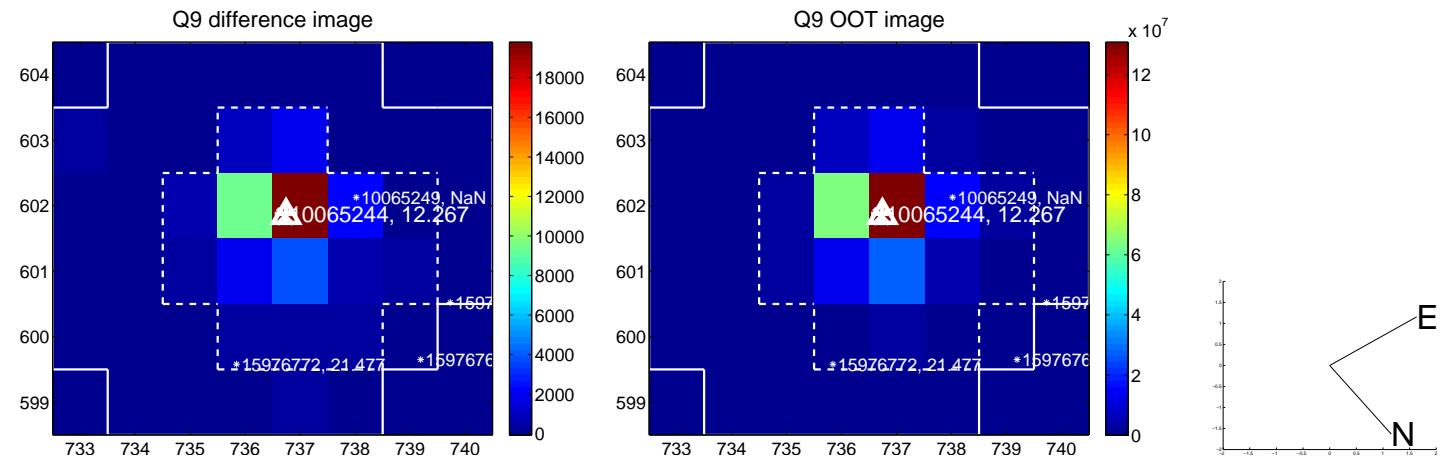




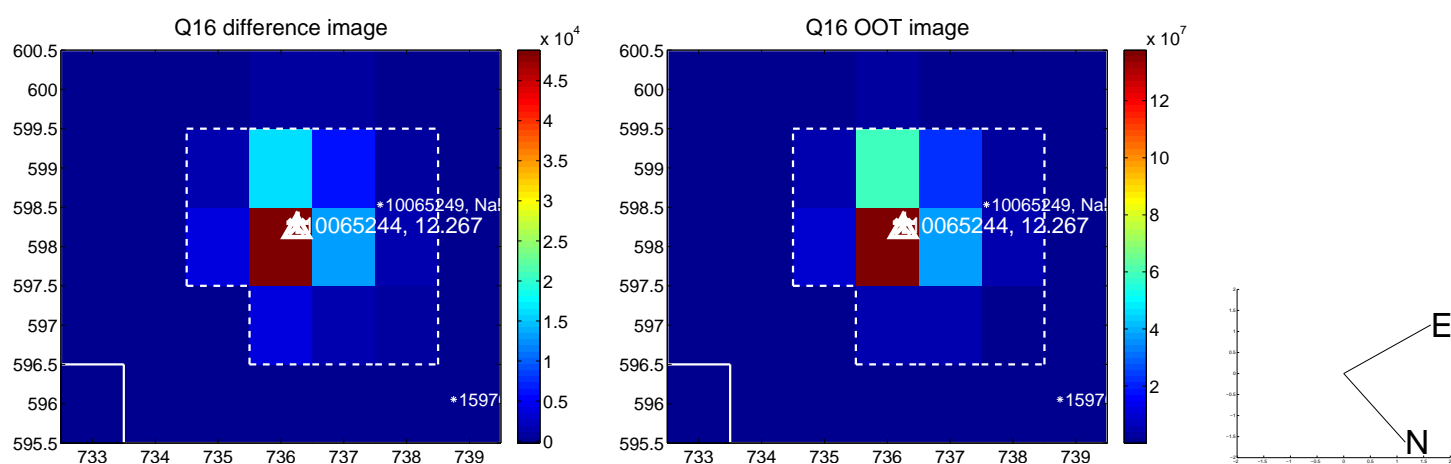
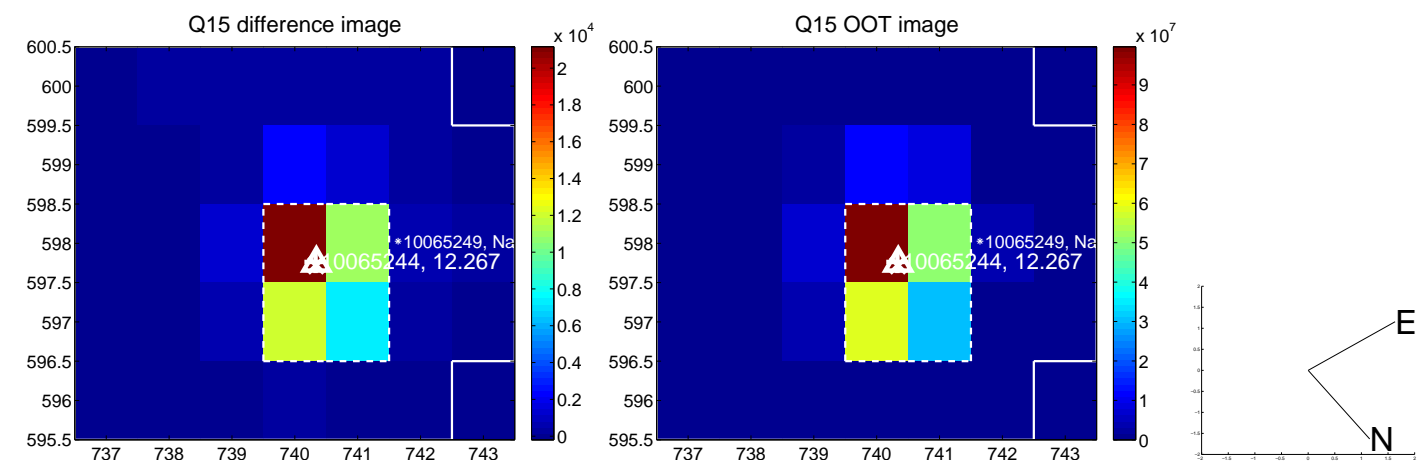
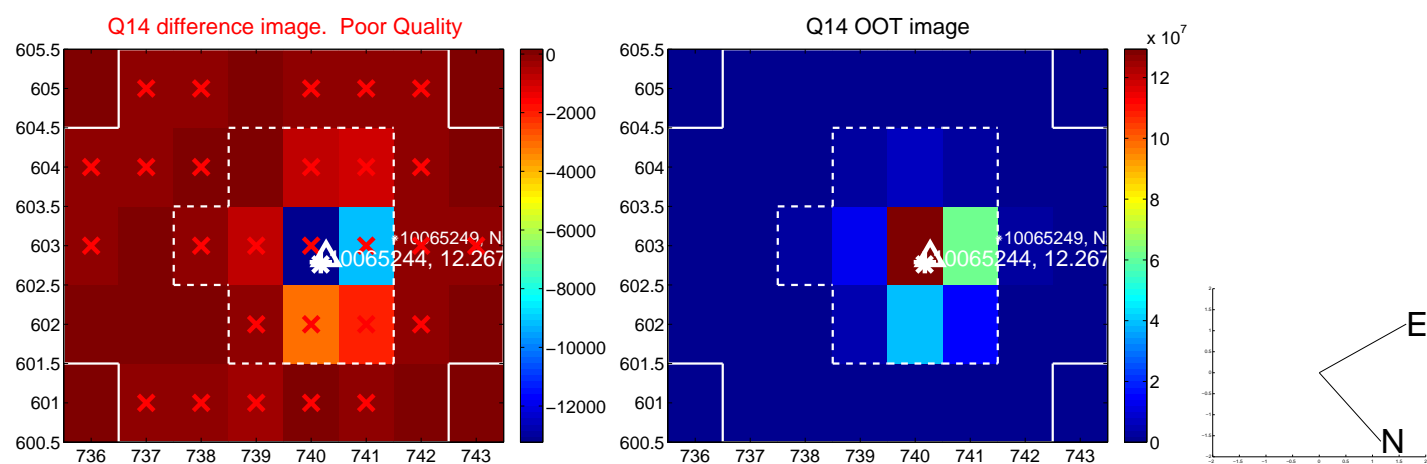
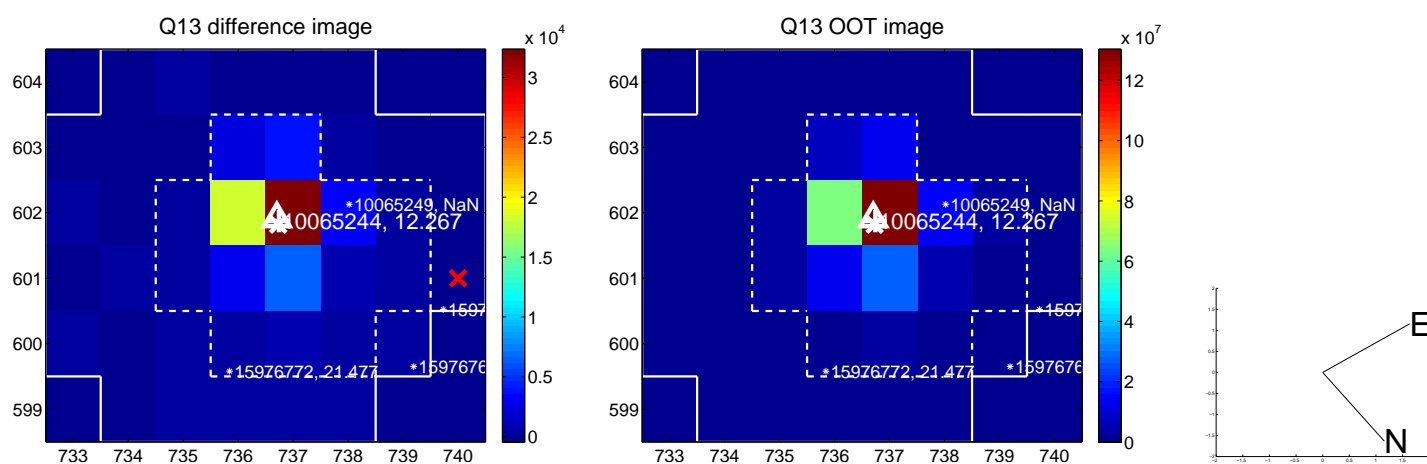
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



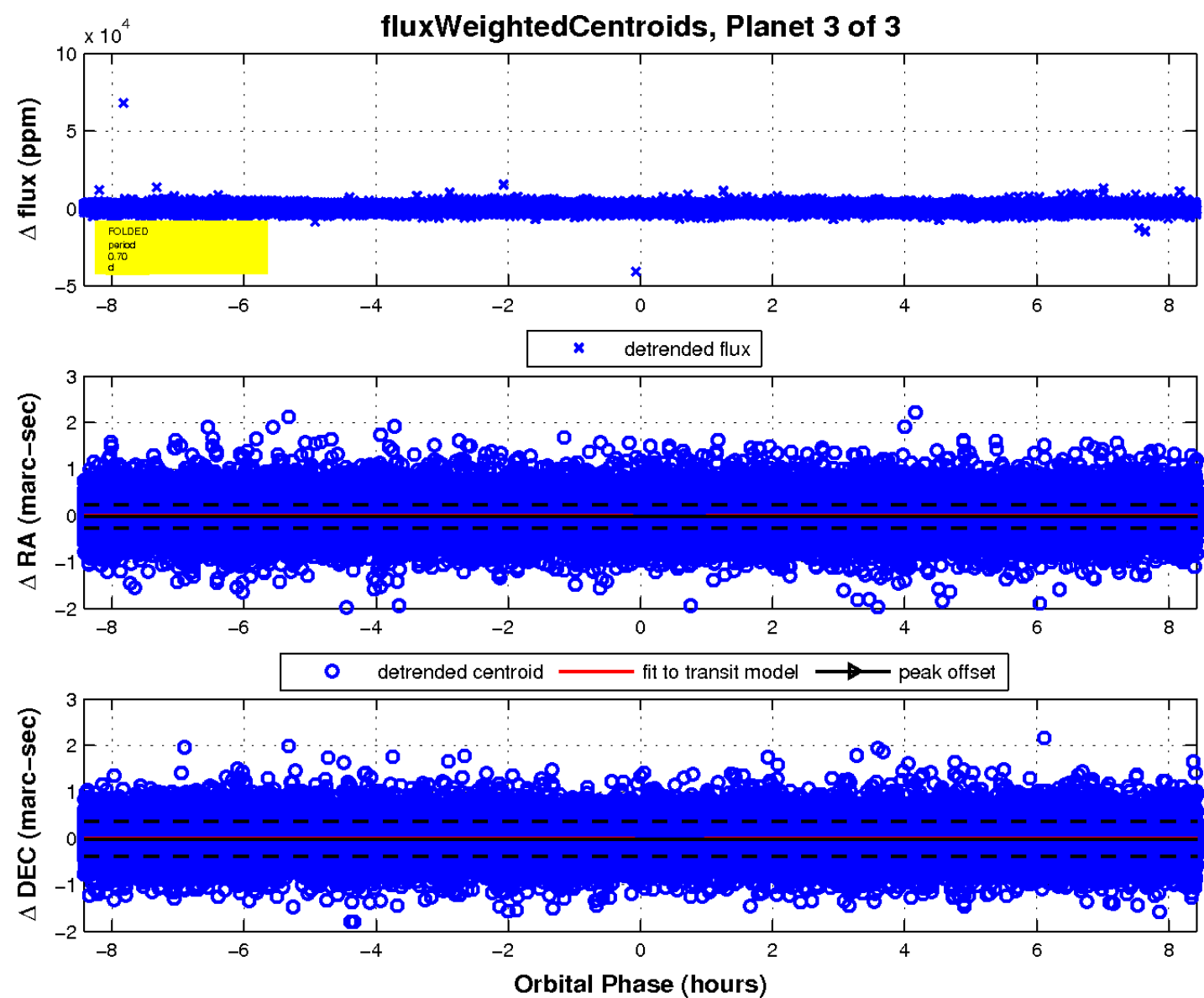
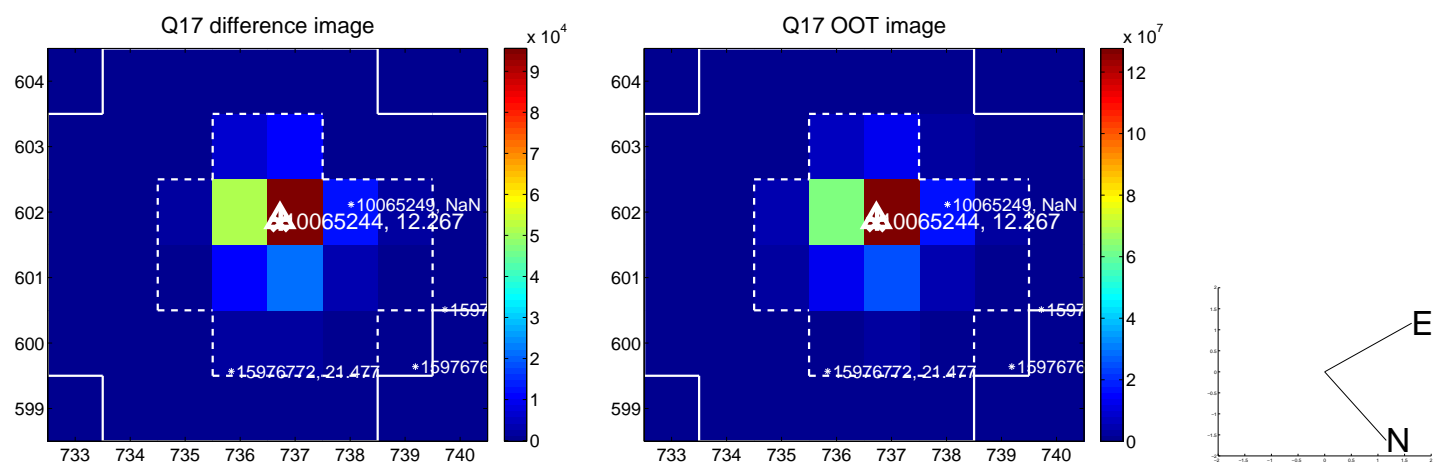
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



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