

# KIC 003246083

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003246083-01	OBS	No	1.339082	132.073775	42.7	7.258	8.7	8.4	1.39	6443	1.06	4641.73
003246083-02	OBS	No	255.234601	266.561521	755.9	11.624	9.7	8.2	1.39	6443	4.57	4.23
003246083-03	OBS	No	122.157161	207.272630	441.7	3.297	8.7	8.4	1.39	6443	3.28	11.30
003246083-04	OBS	No	51.596214	152.234320	497.9	6.776	8.4	9.2	1.39	6443	5.95	35.67
003246083-05	OBS	No	346.561677	453.388444	1063.7	16.507	7.8	8.3	1.39	6443	5.94	2.81
003246083-06	OBS	No	104.642470	198.168860	430.6	4.432	7.4	7.9	1.39	6443	3.29	13.89
003246083-07	OBS	No	117.038150	196.824850	509.7	4.654	7.7	7.8	1.39	6443	4.05	11.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003246083-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
003246083-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
003246083-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003246083-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
003246083-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
003246083-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
003246083-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

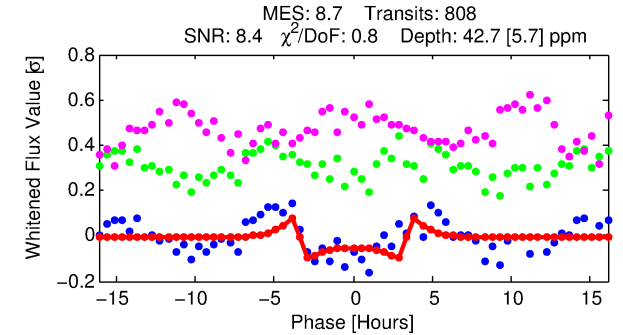
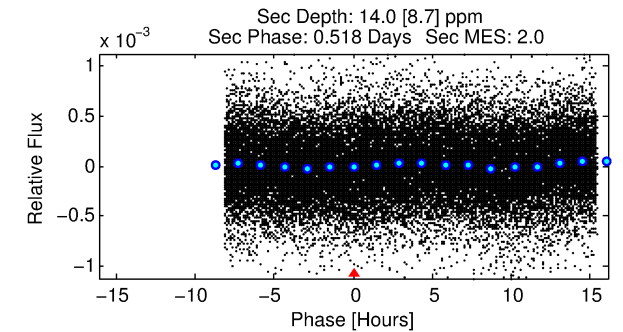
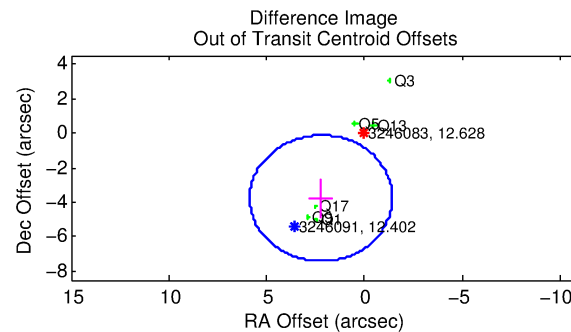
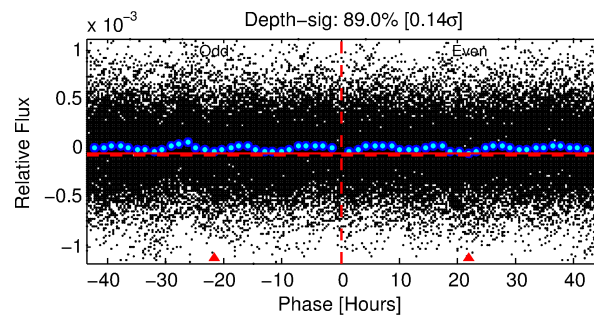
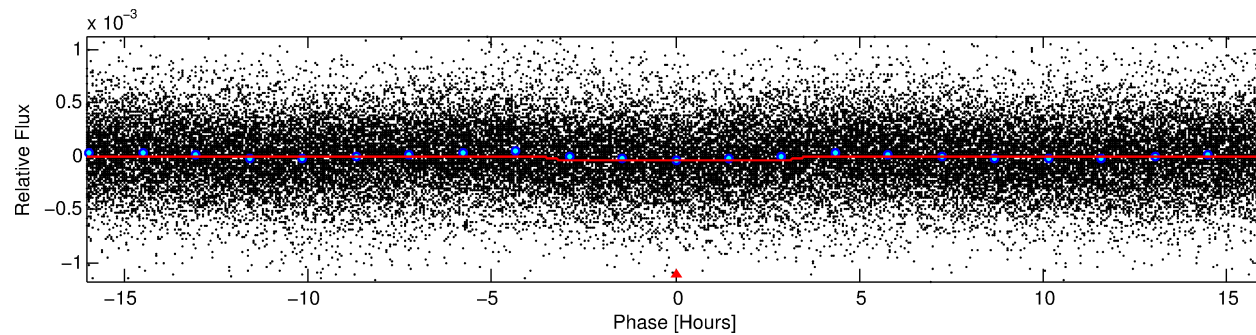
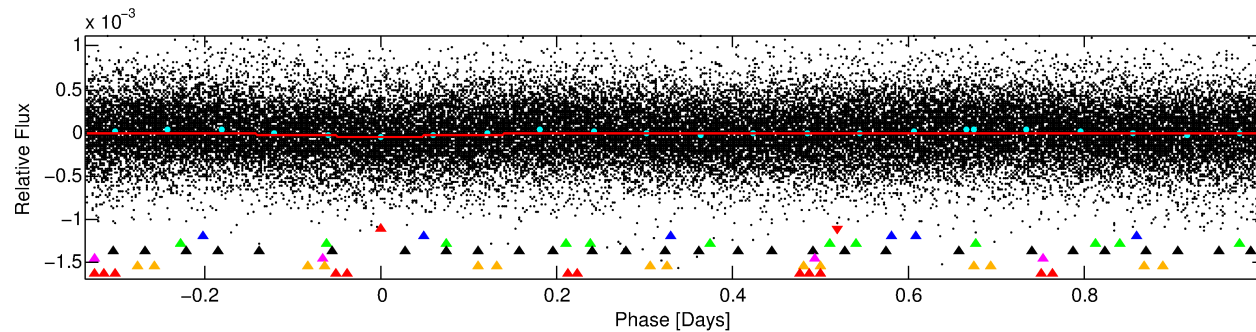
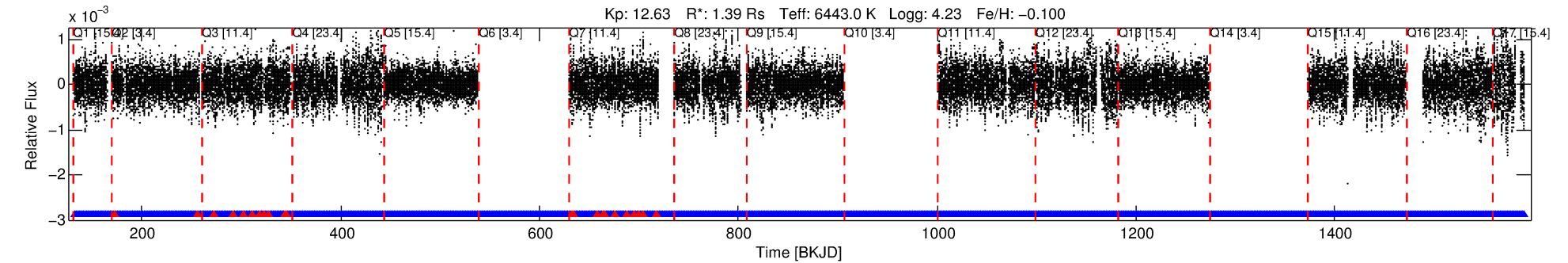
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 003246083-01

No Significant Match Found

# DV One-Page Summary

KIC: 3246083 Candidate: 1 of 7 Period: 1.339 d



## DV Fit Results:

Period = 1.33908 [0.00001] d  
Epoch = 132.0738 [0.0031] BKJD  
Rp/R\* = 0.0070 [0.0012]  
a/R\* = 1.13 [0.21]  
b = 0.90 [0.17]  
Seff = 4641.73 [1746.02]  
Teq = 2105 [198] K  
Rp = 1.06 [0.38] Re  
a = 0.0253 [0.0065] AU  
Ag = 4.35 [3.44] [0.97 $\sigma$ ]  
Teffp = 4699 [840] K [3.01 $\sigma$ ]

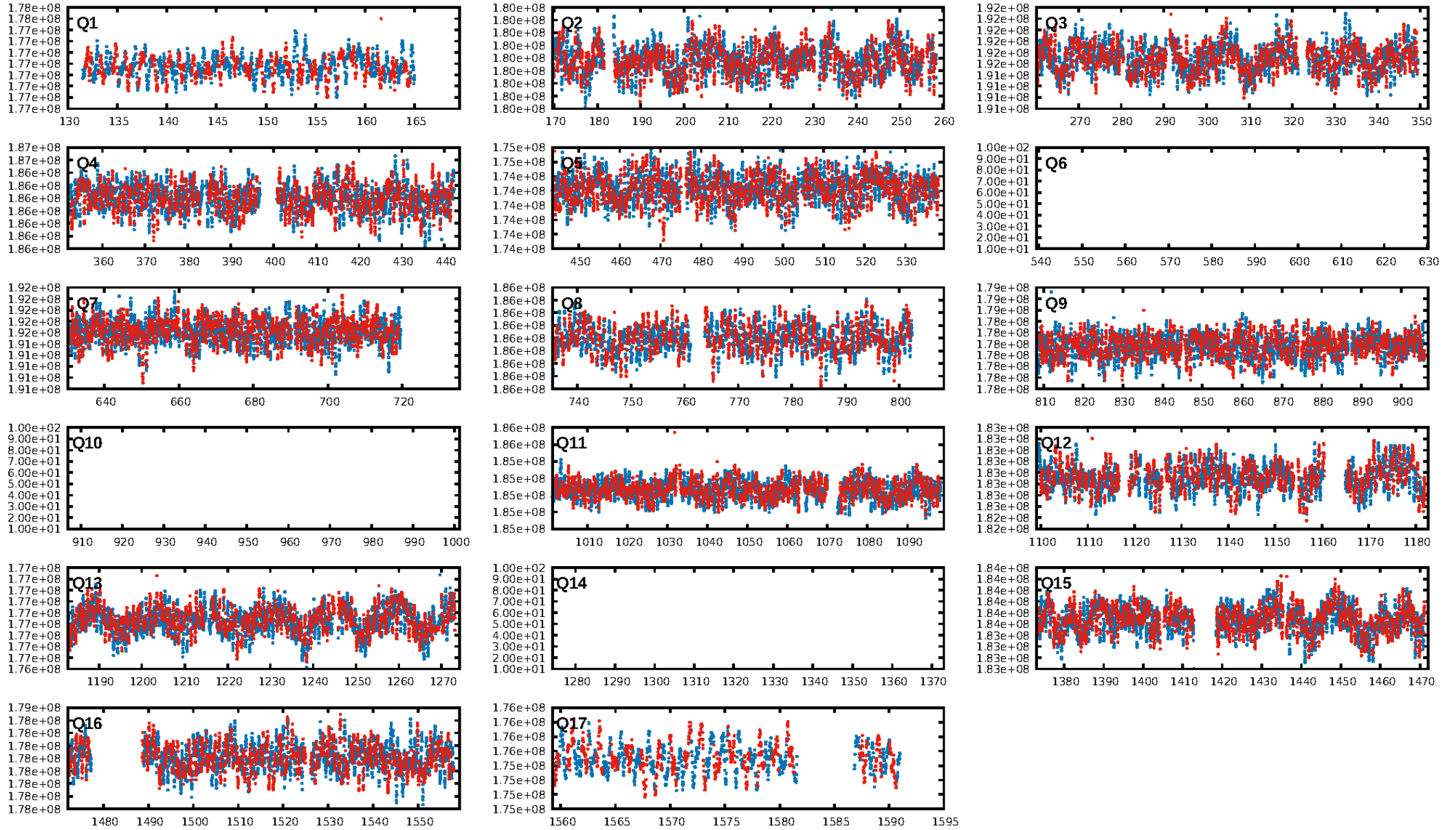
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [121.47 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
**Bootstrap-pfa: 2.18e-11**  
RollingBand-fgt: 0.97 [741/763]  
GhostDiagnostic-chr: 3.514  
Centroid-sig: 2.1%  
Centroid-so: 1.137 arcsec [1.45 $\sigma$ ]  
**OotOffset-rm: 4.379 arcsec [3.60 $\sigma$ ]**  
**KicOffset-rm: 5.480 arcsec [4.80 $\sigma$ ]**  
OotOffset-st: 0/1/0/5 [6]  
KicOffset-st: 0/1/0/5 [6]  
DiffImageQuality-fgm: 0.67 [4/6]  
DiffImageOverlap-fno: 1.00 [14/14]

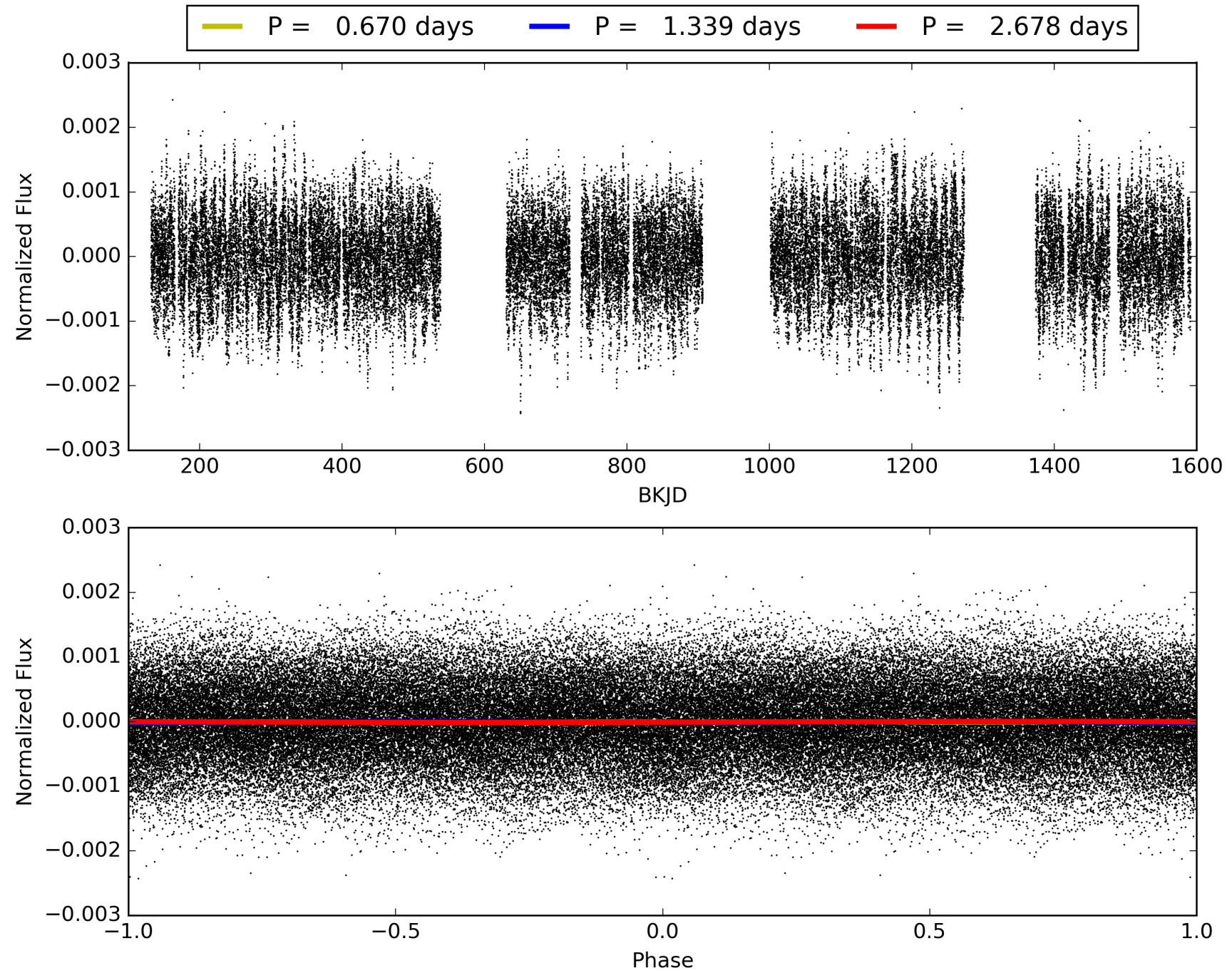
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:00:32 Z

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

# TCE 003246083-01, PDC Light Curves



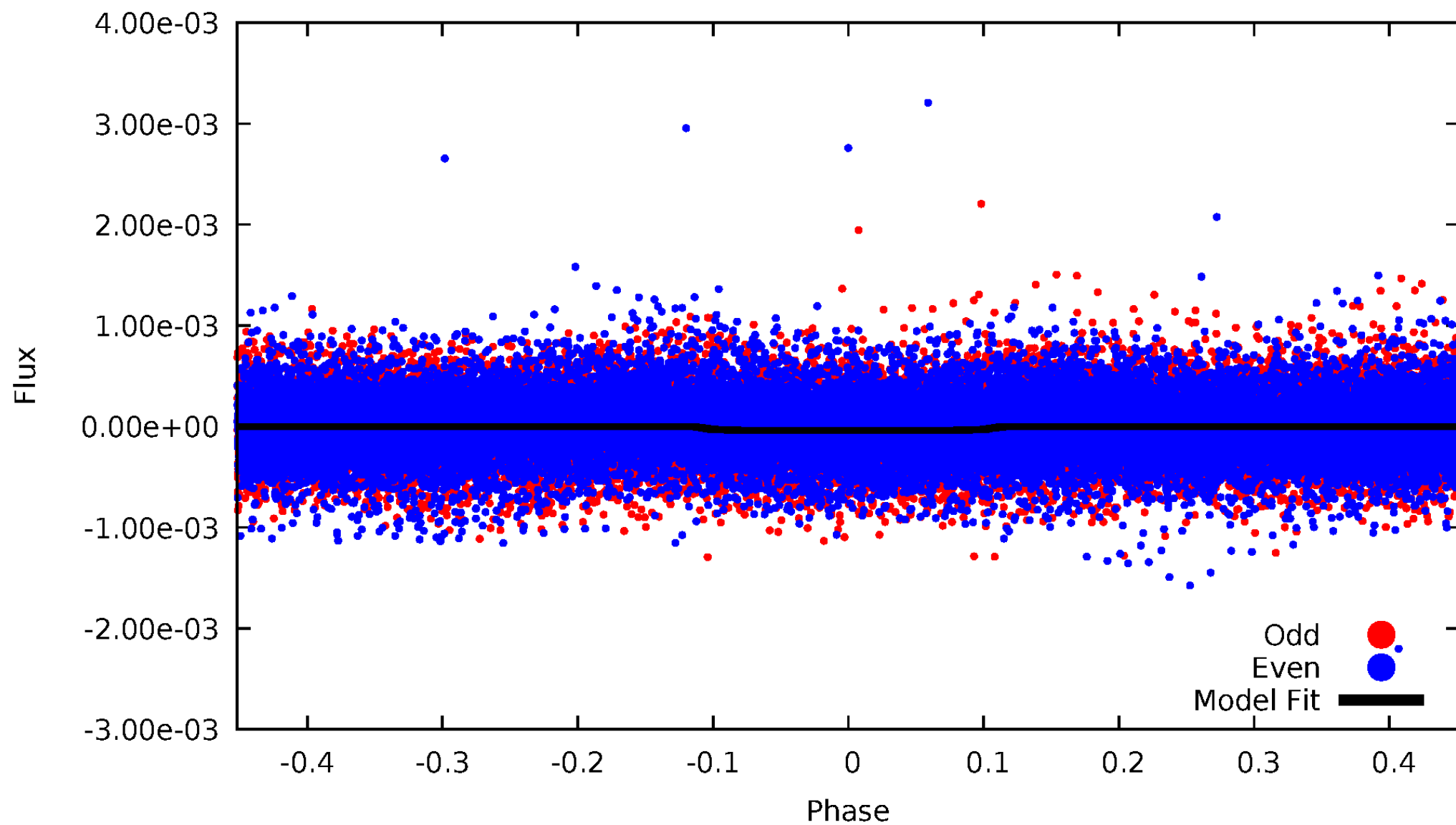
TCE 003246083-01





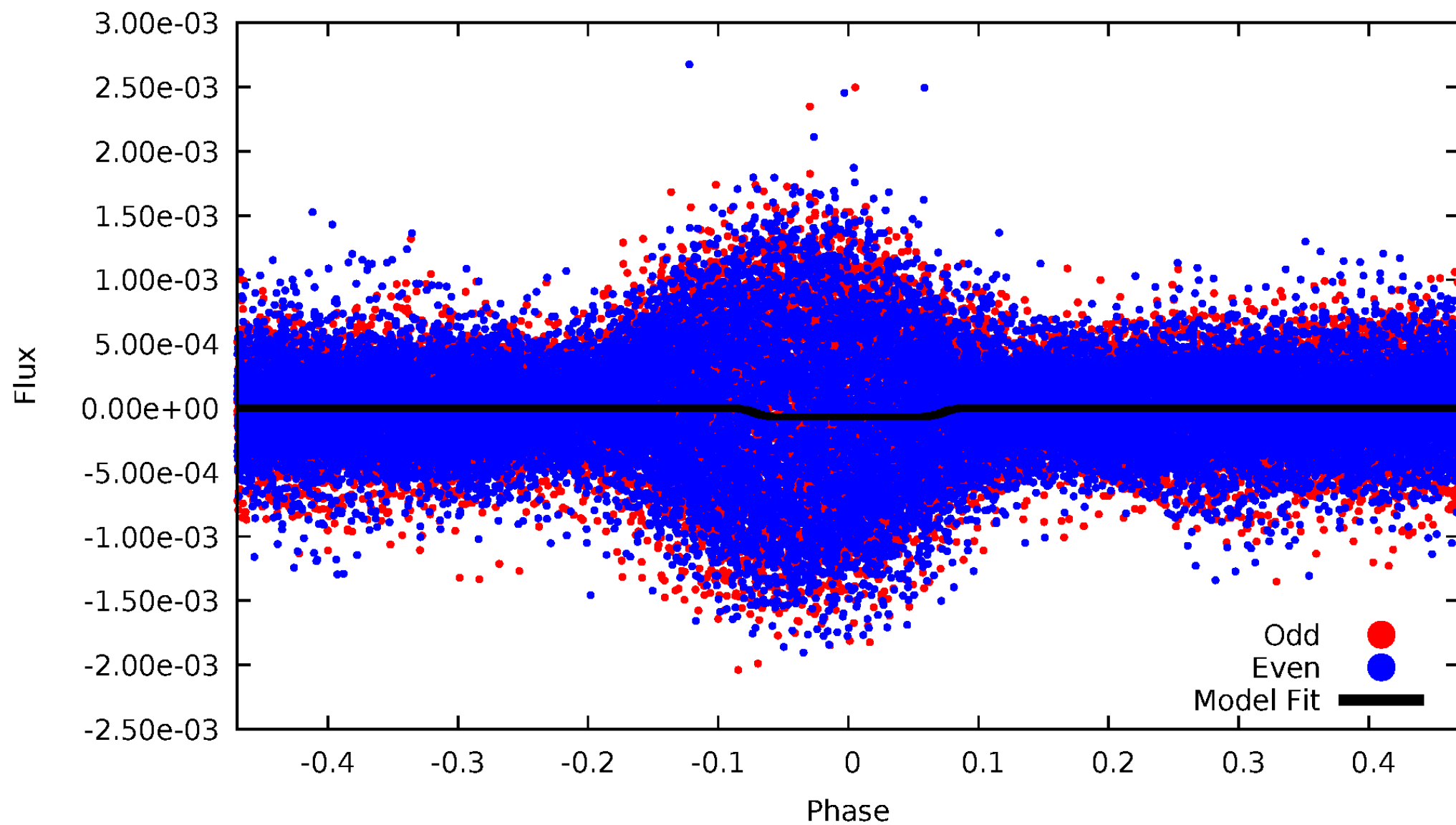
# DV Odd/Even

TCE 003246083-01

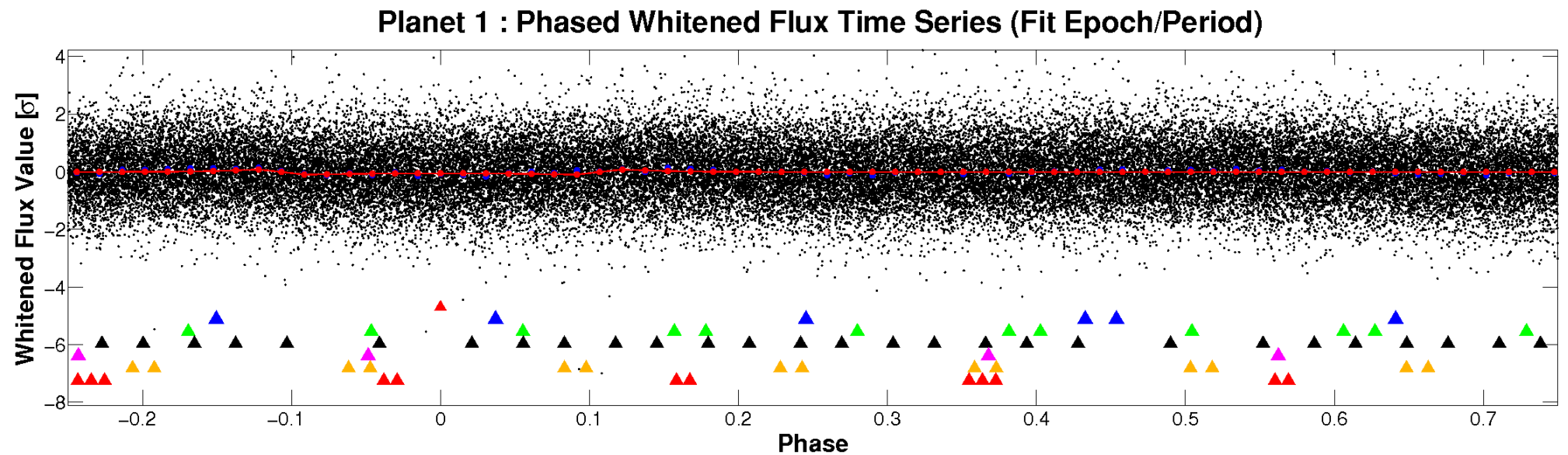
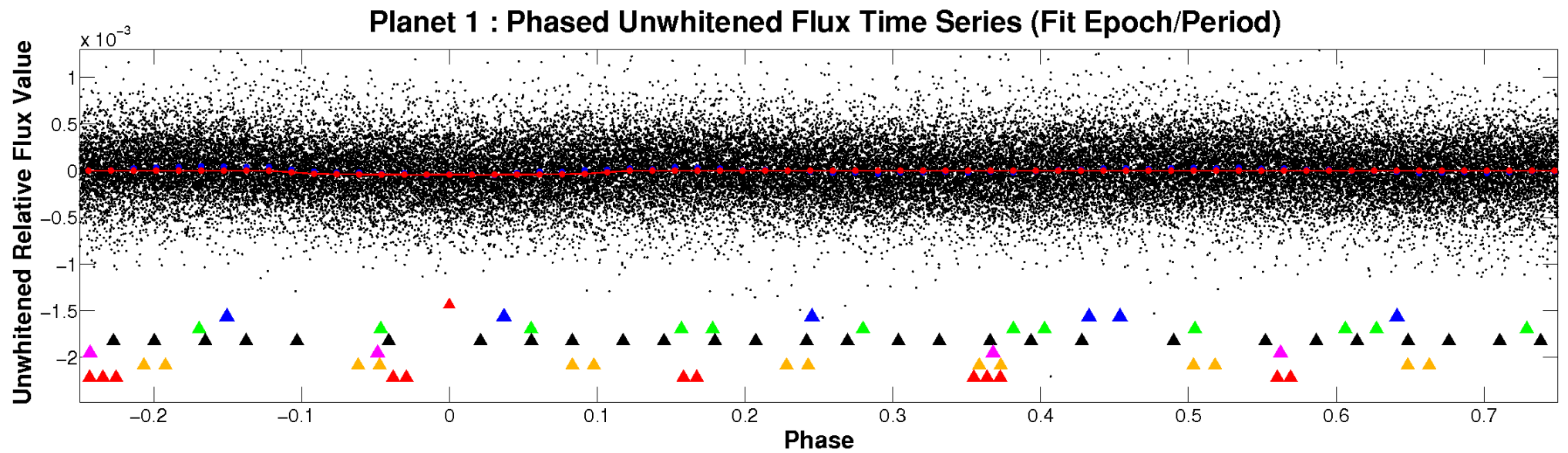


# ALT Odd/Even

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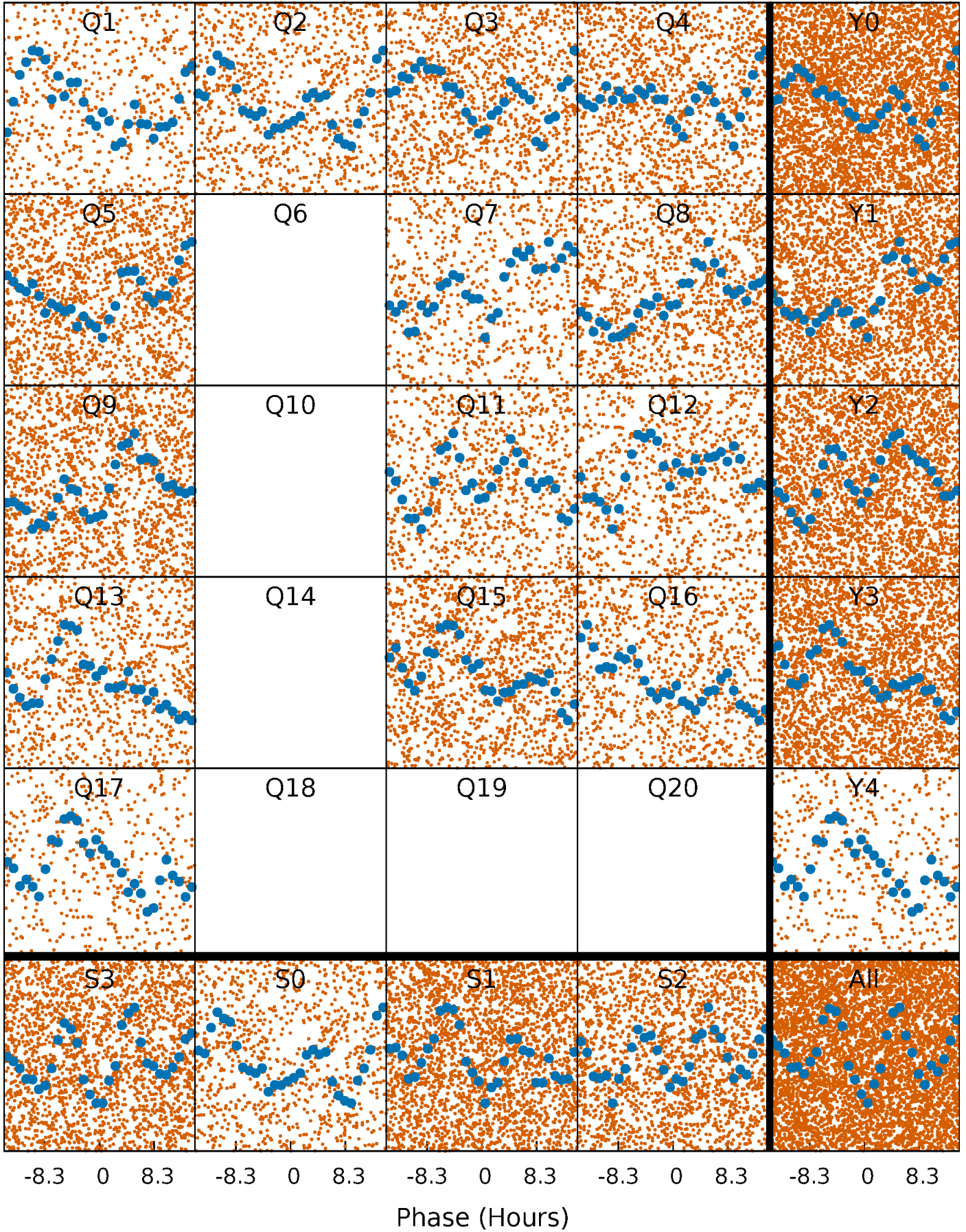


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

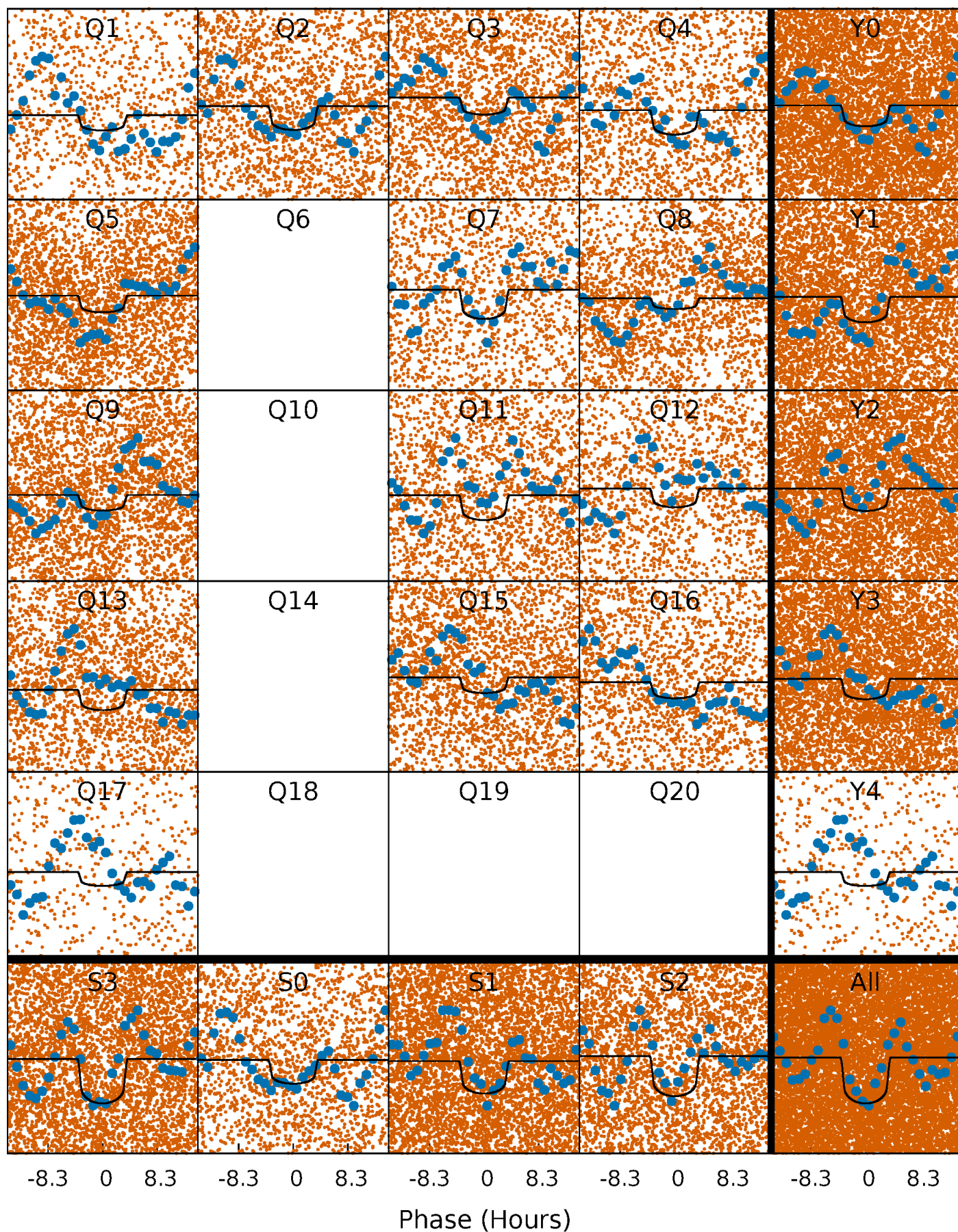
TCE 003246083-01 P= 1.339082 Days  $T_0=132.073775$  (BKJD)





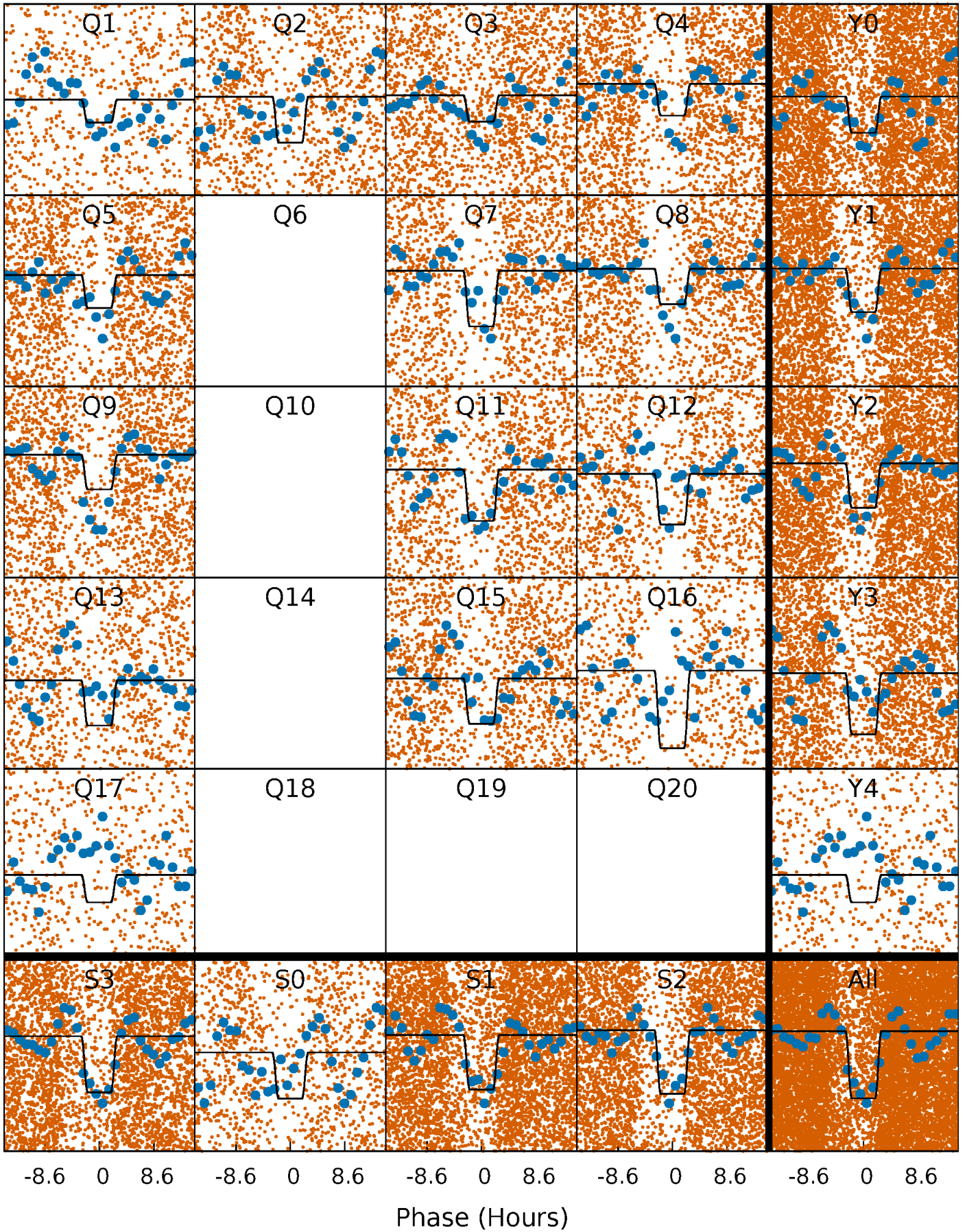
# DV Quarter-Phased Transit Curves

TCE 003246083-01 P= 1.339082 Days  $T_0=132.073775$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 003246083-01 P= 1.339086 Days  $T_0=132.074181$  (BKJD)

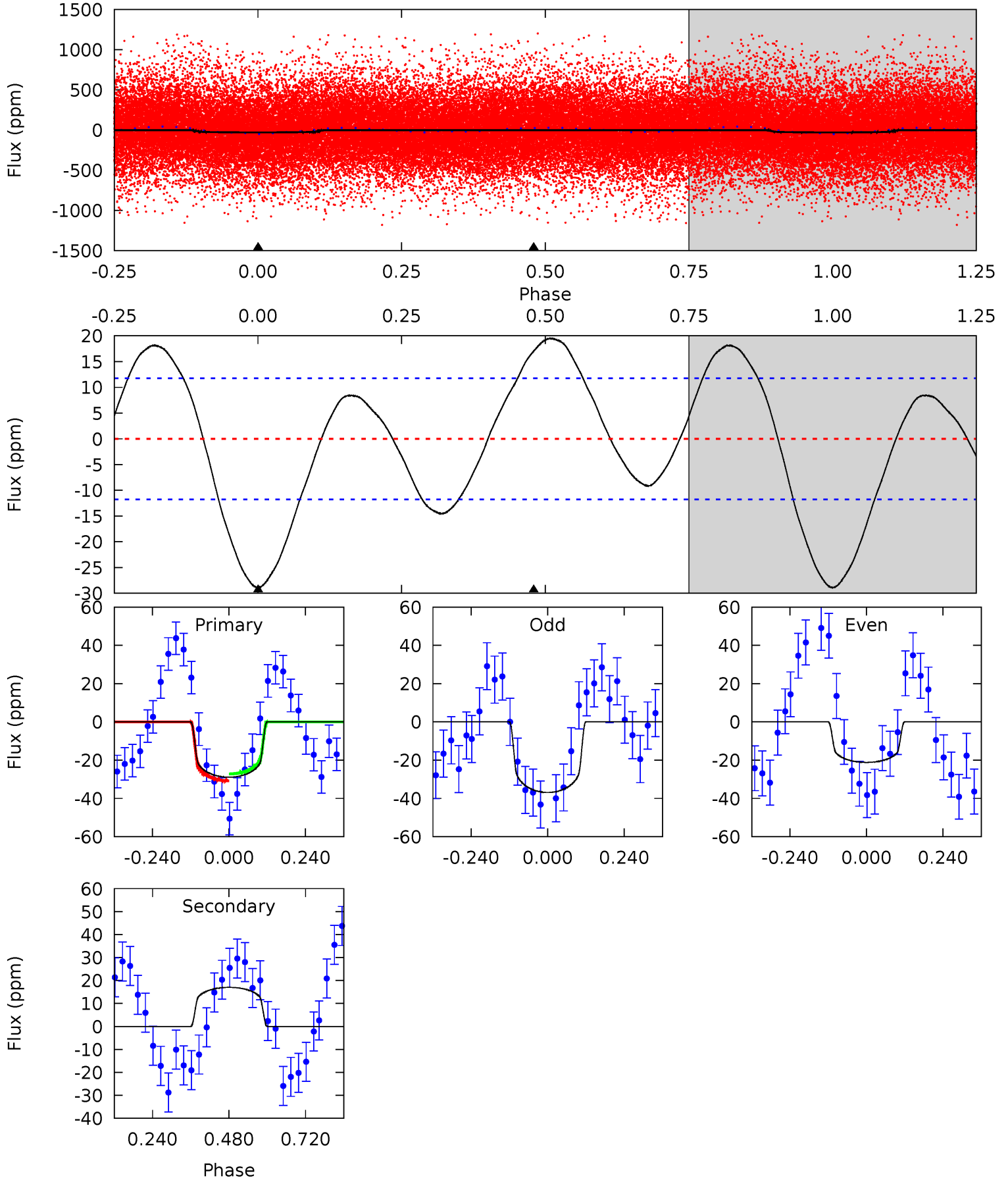




# DV Model-Shift Uniqueness Test

003246083-01, P = 1.339082 Days, E = 130.734693 Days

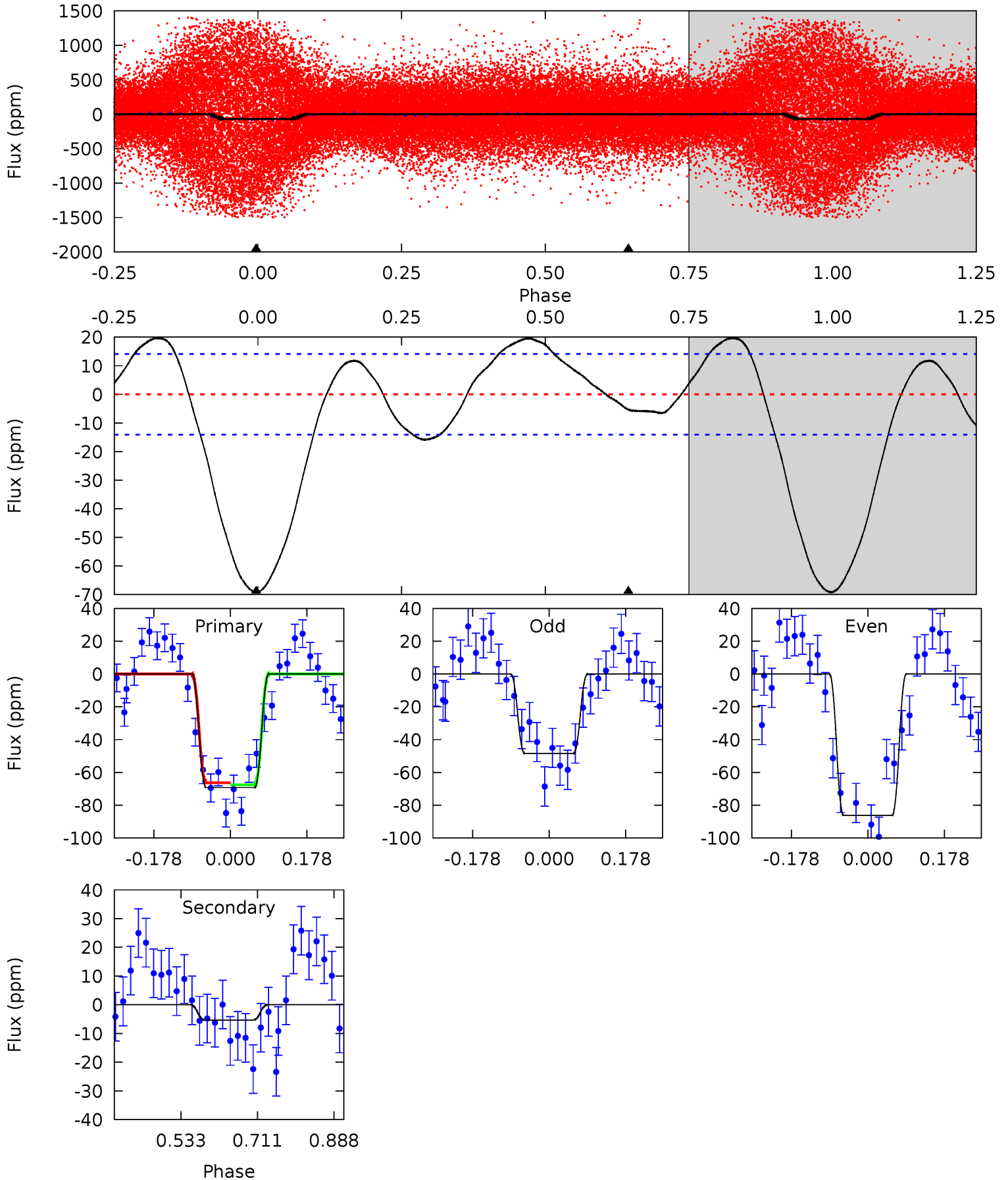
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	-6.34	0	0	4.38	1.18	1.89	10.8	10.8	-6.34	-6.34	2.92	0.70	0.40	0.68



# Alt Model-Shift Uniqueness Test

003246083-01, P = 1.339086 Days, E = 130.735095 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
21.8	1.68	0	0	4.44	1.35	3.70	21.8	21.8	1.68	1.68	6.05	0.81	0.22	0.21





### Stellar Parameters For KIC 003246083

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6443^{+155}_{-194}$	$4.234^{+0.153}_{-0.187}$	$-0.100^{+0.250}_{-0.300}$	$1.386^{+0.439}_{-0.293}$	$1.202^{+0.192}_{-0.174}$	$0.636^{+0.495}_{-0.324}$
	+2%/-3%	+4%/-4%	+250%/-300%	+32%/-21%	+16%/-14%	+78%/-51%
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 003246083-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$17 \pm 3$	$1.08^{+0.26}_{-0.22}$	$2947^{+232}_{-183}$	$-5064^{+391}_{-449}$	$-5.104^{+1.933}_{-2.935}$
Alt.	$-5 \pm 3$	$1.24^{+0.27}_{-0.24}$	$2957^{+206}_{-209}$	$3614^{+510}_{-804}$	$1.201^{+1.077}_{-0.762}$

$T_{max}$  = 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

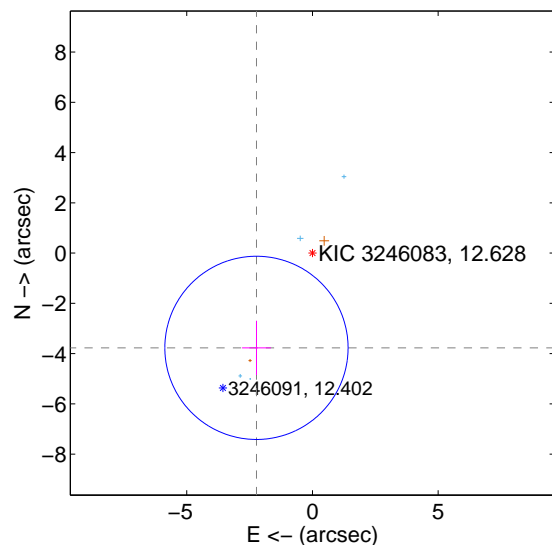
Supplemental centroid analysis for 003246083-01. Kepler magnitude: 12.63. Transit SNR 8.41

There are 4 quarters with good PRF difference image offsets

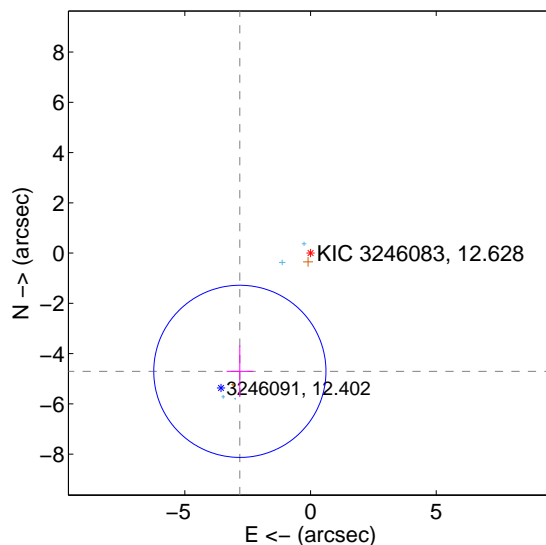
The direct PRF centroid is offset from the target star catalog position by about 1.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.379 \pm 1.215$	<b>3.60</b>	$2.227 \pm 0.575$	$-3.770 \pm 1.081$
PRF-fit source offset from KIC position	$5.480 \pm 1.142$	<b>4.80</b>	$2.812 \pm 0.528$	$-4.704 \pm 1.027$
photometric centroid source offset	$1.14 \pm 0.78$	1.45	$-0.40 \pm 0.69$	$-1.07 \pm 0.80$

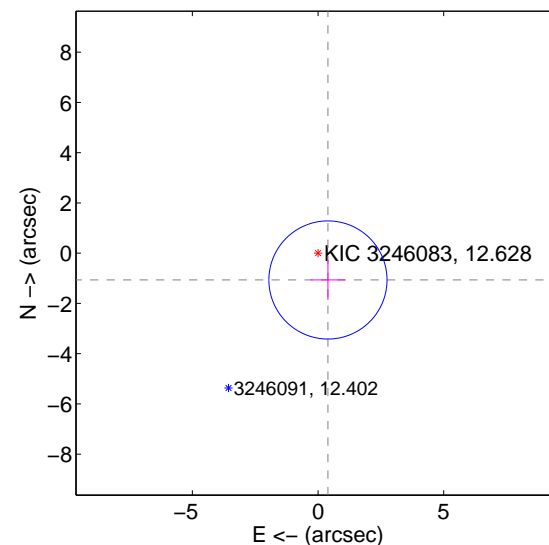
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

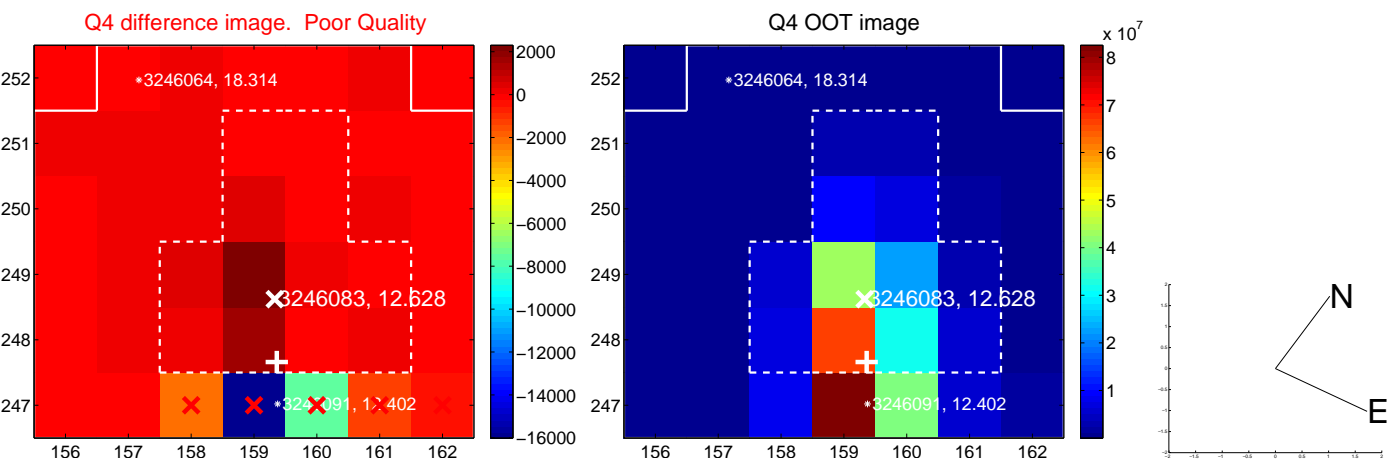
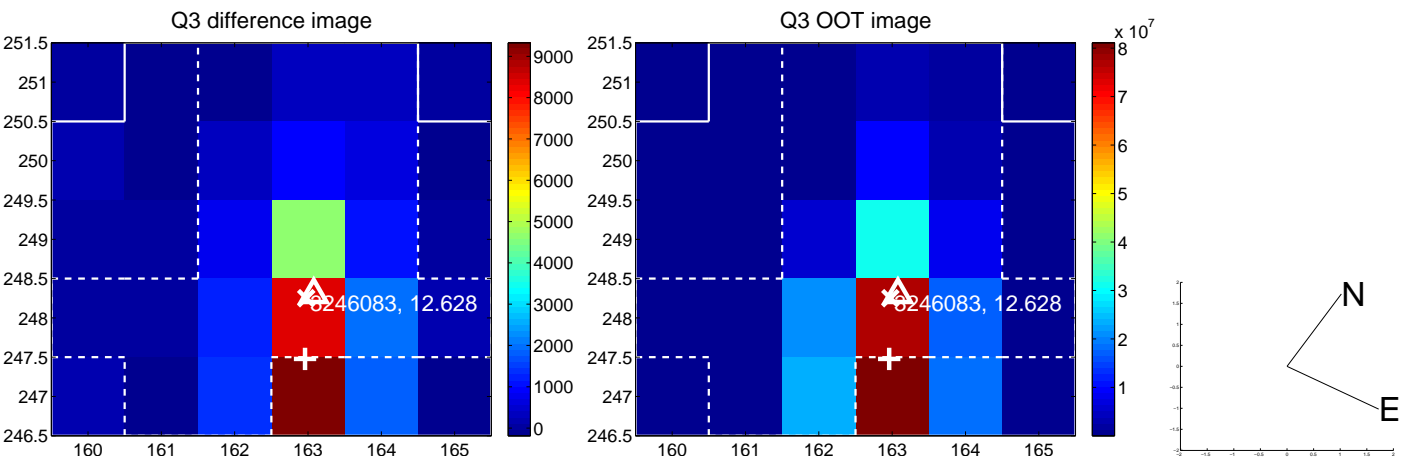
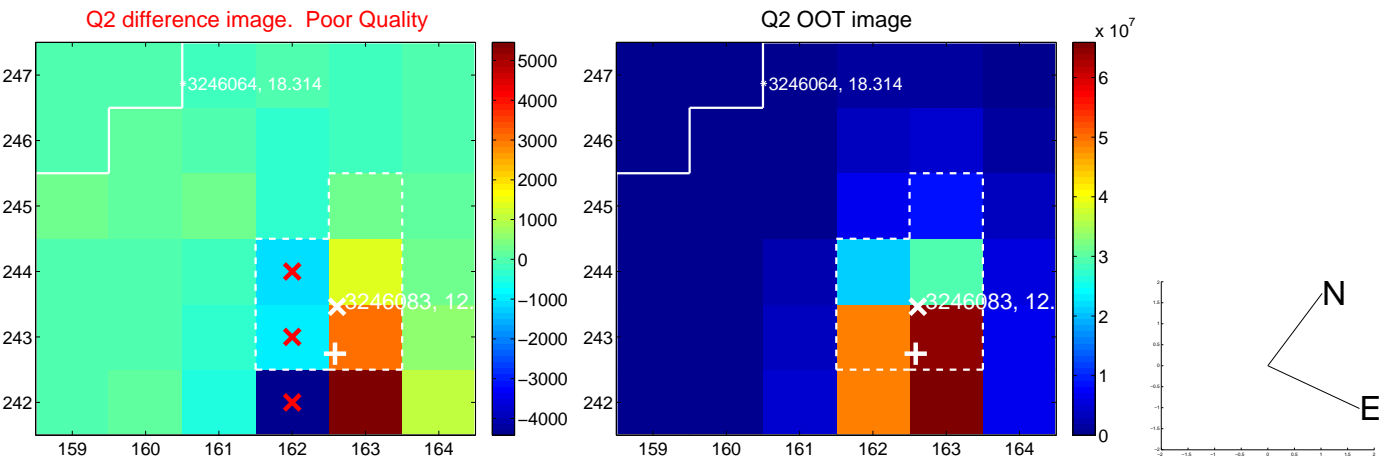
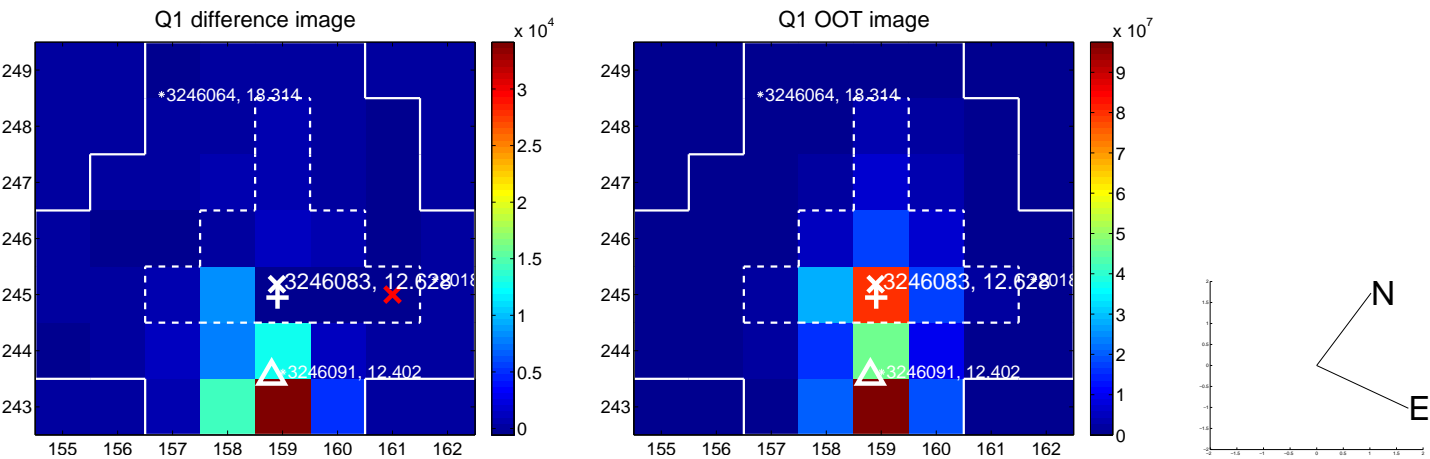


offset from photometric centroids

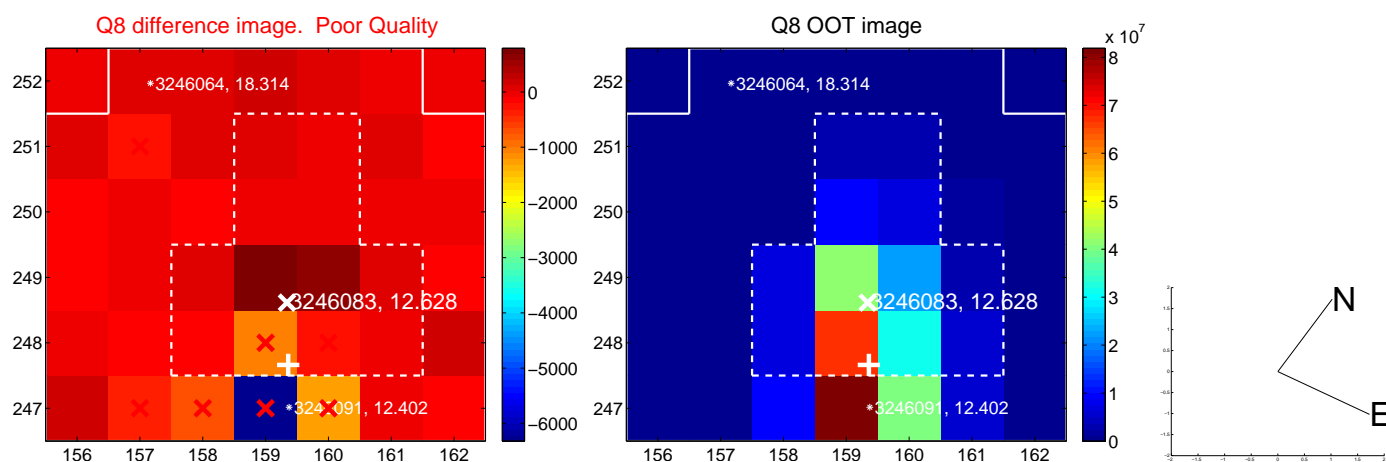
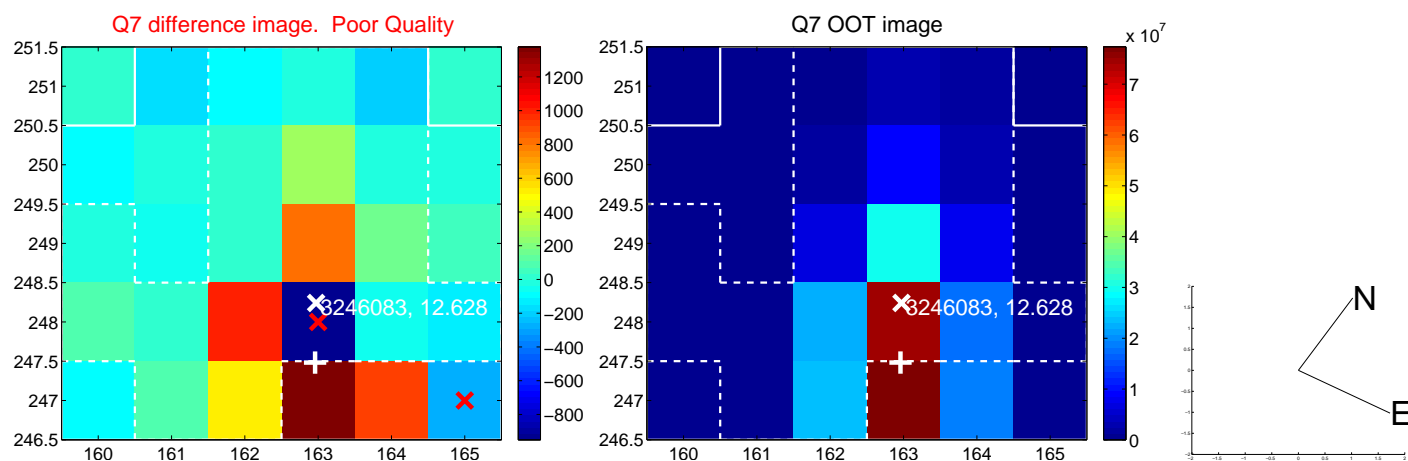
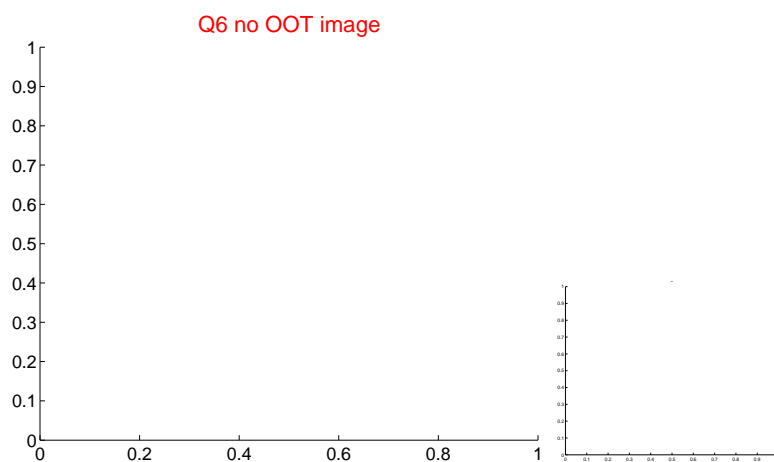
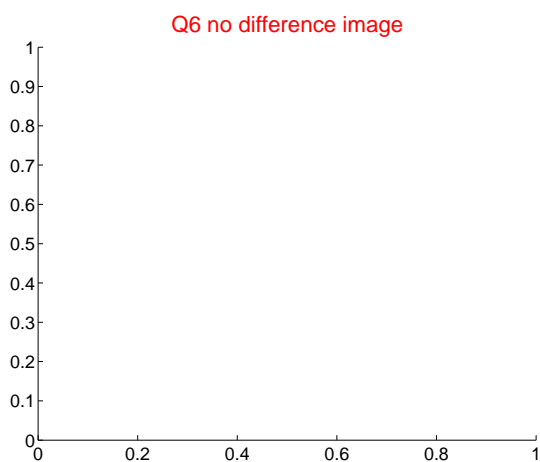
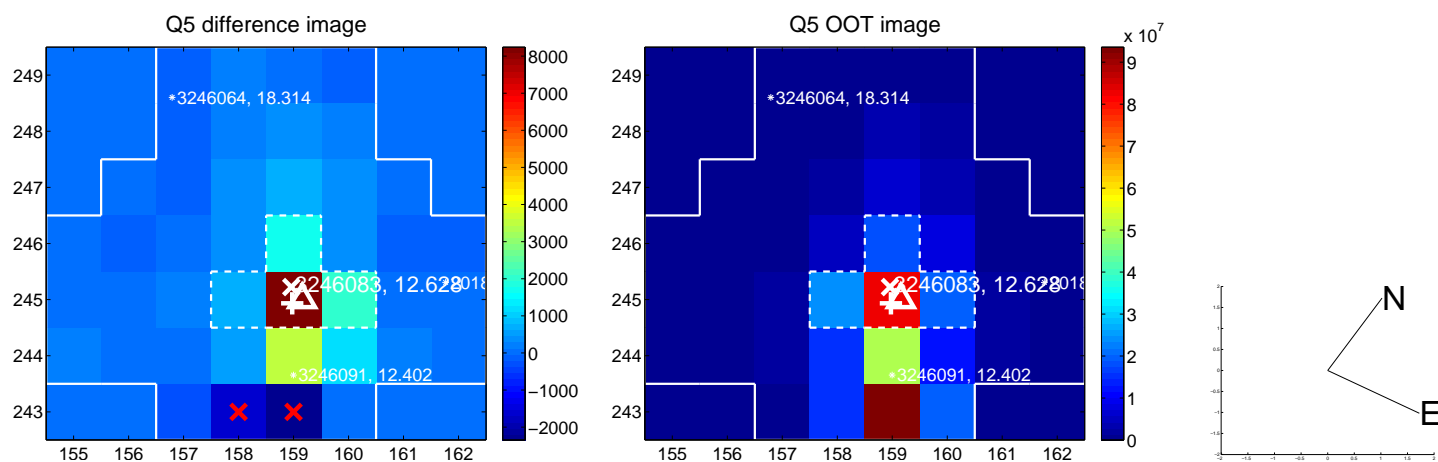


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

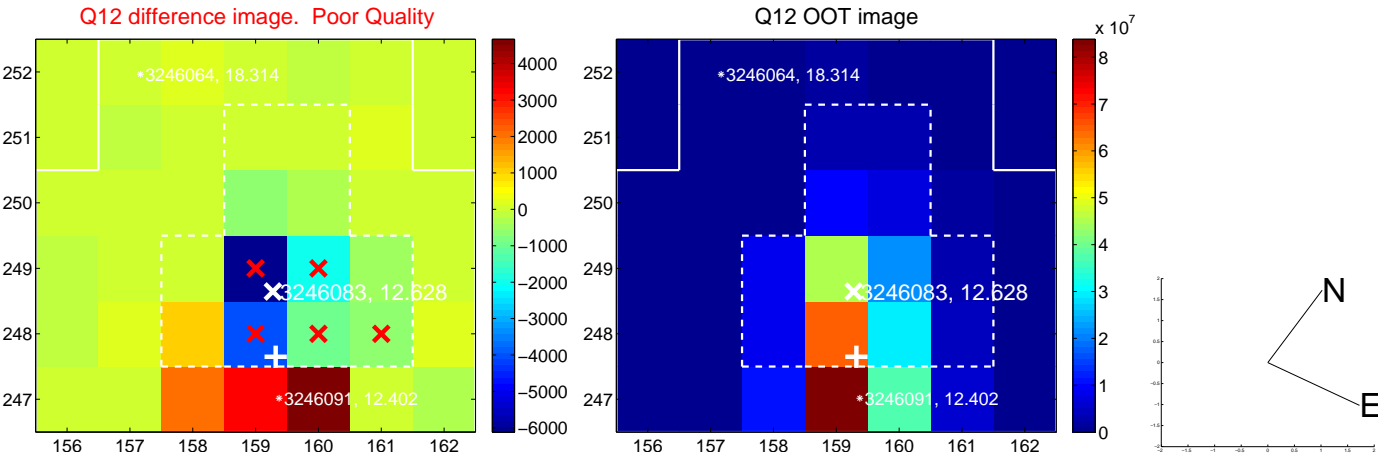
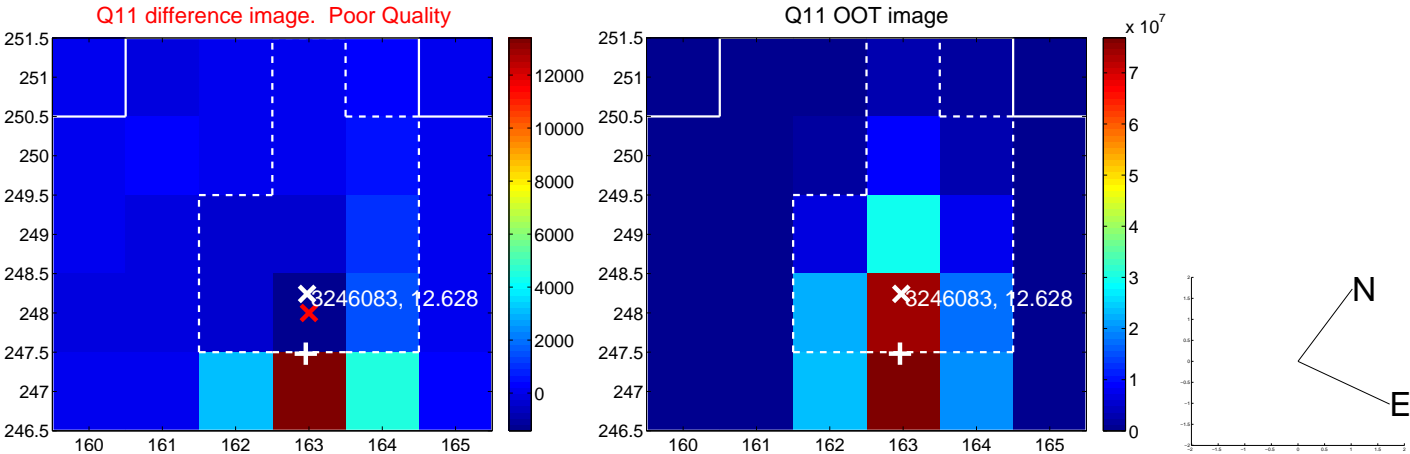
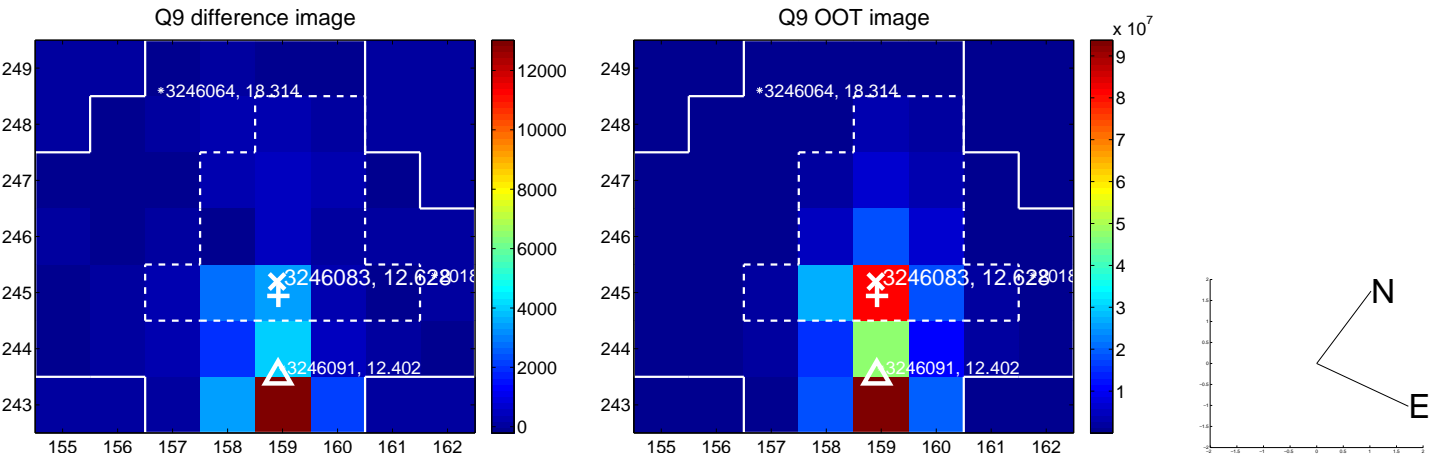


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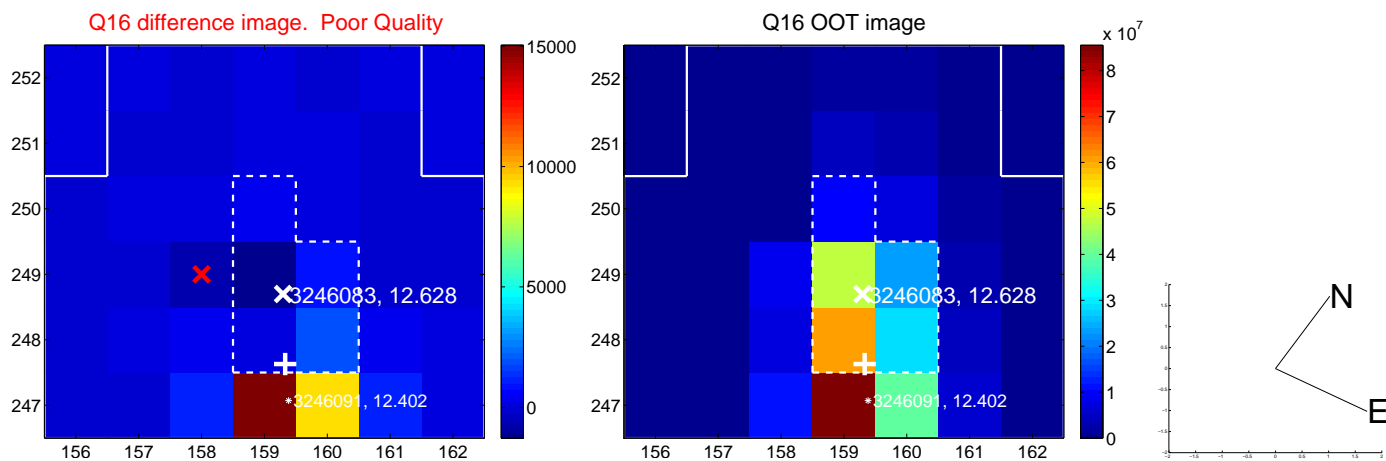
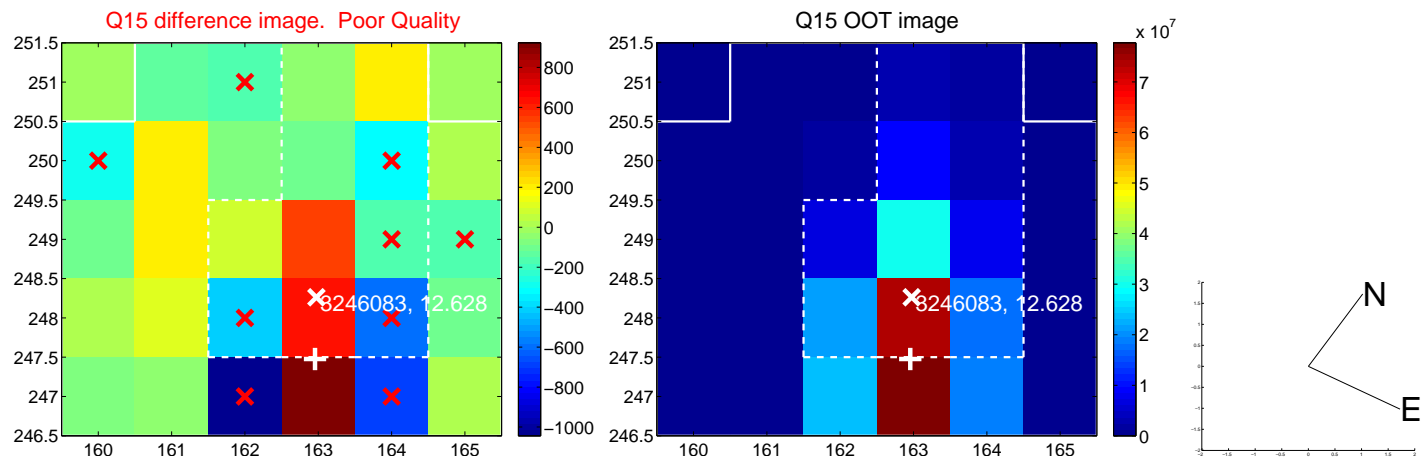
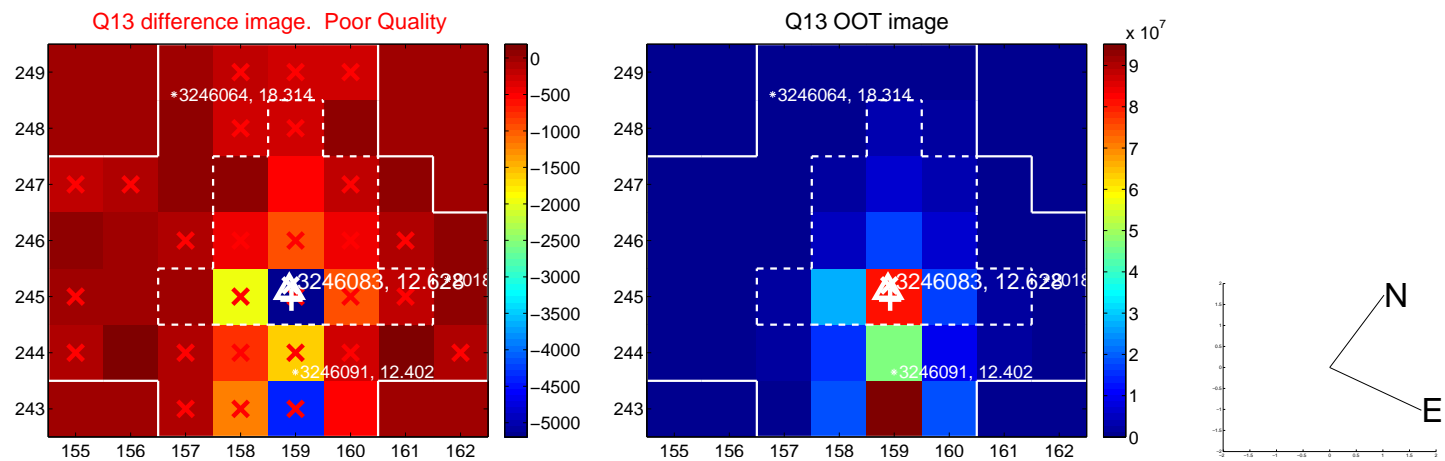




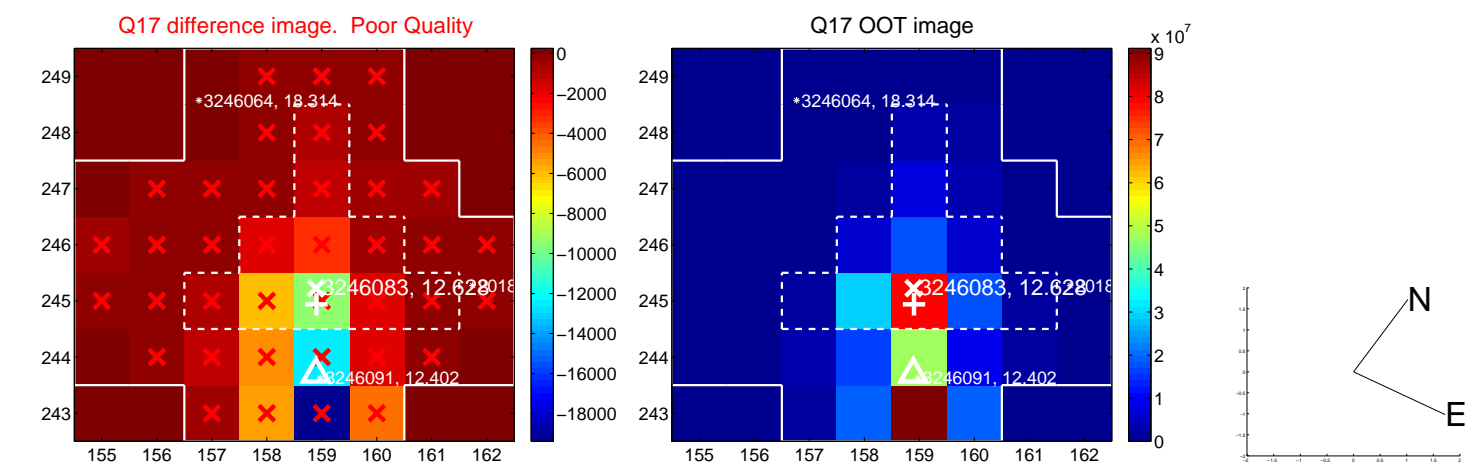
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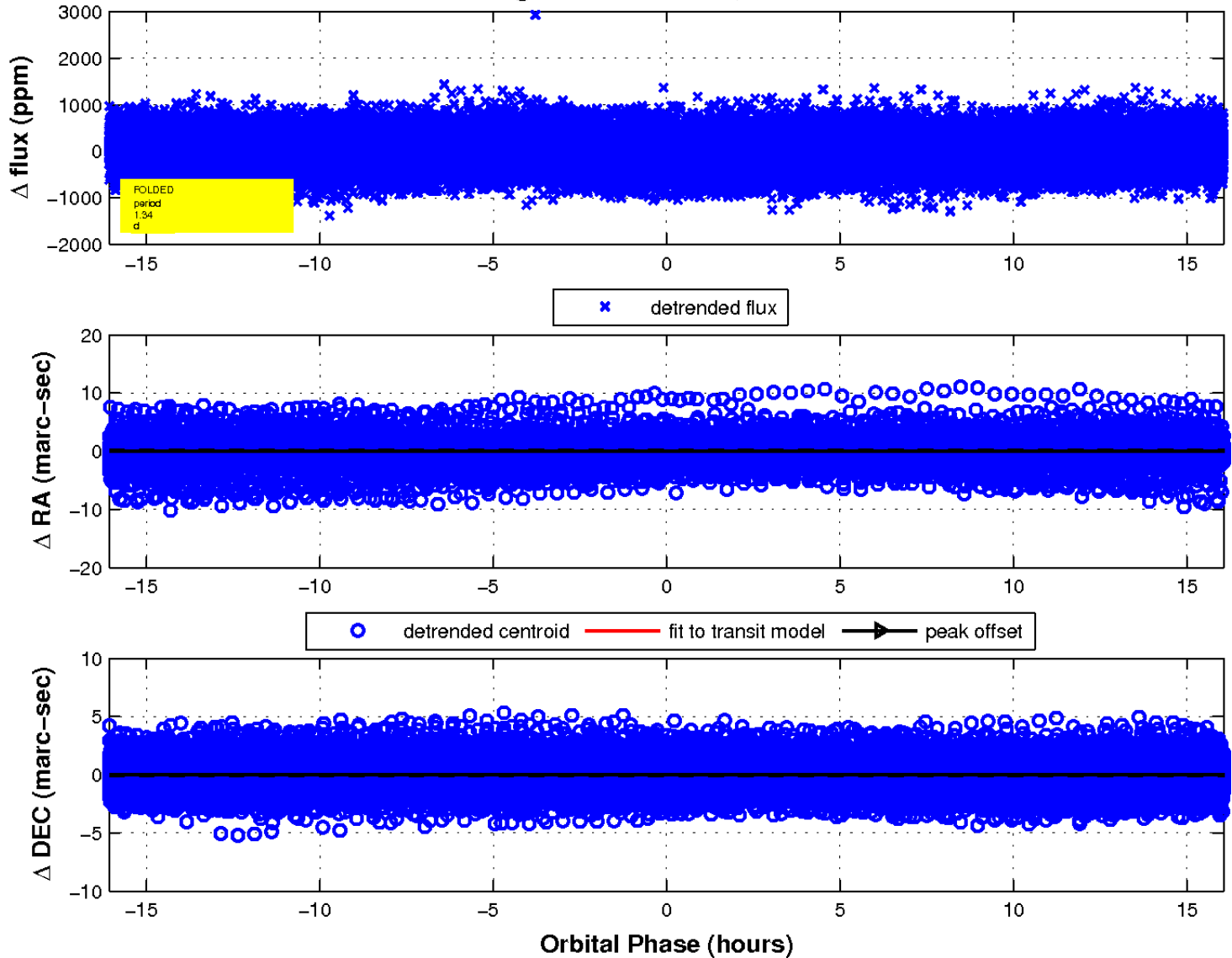
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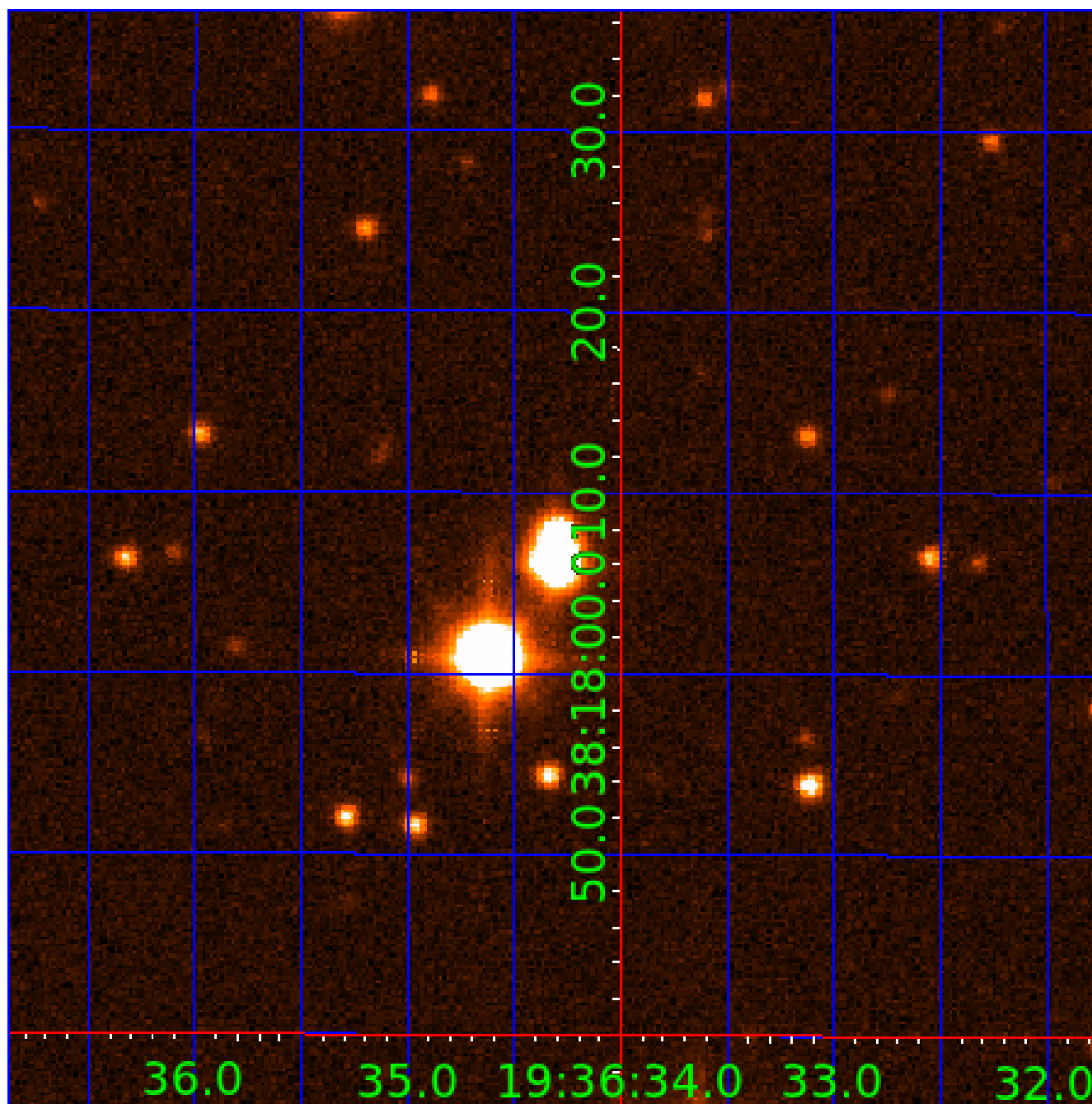


fluxWeightedCentroids, Planet 1 of 7



UKIRT Image

Declination





# KIC 003246083

## Q1-17 DR25 TCE Parameters

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## Robovetter Results

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003246083-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
003246083-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
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003246083-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

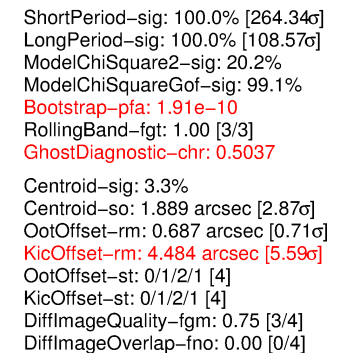
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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 003246083-02

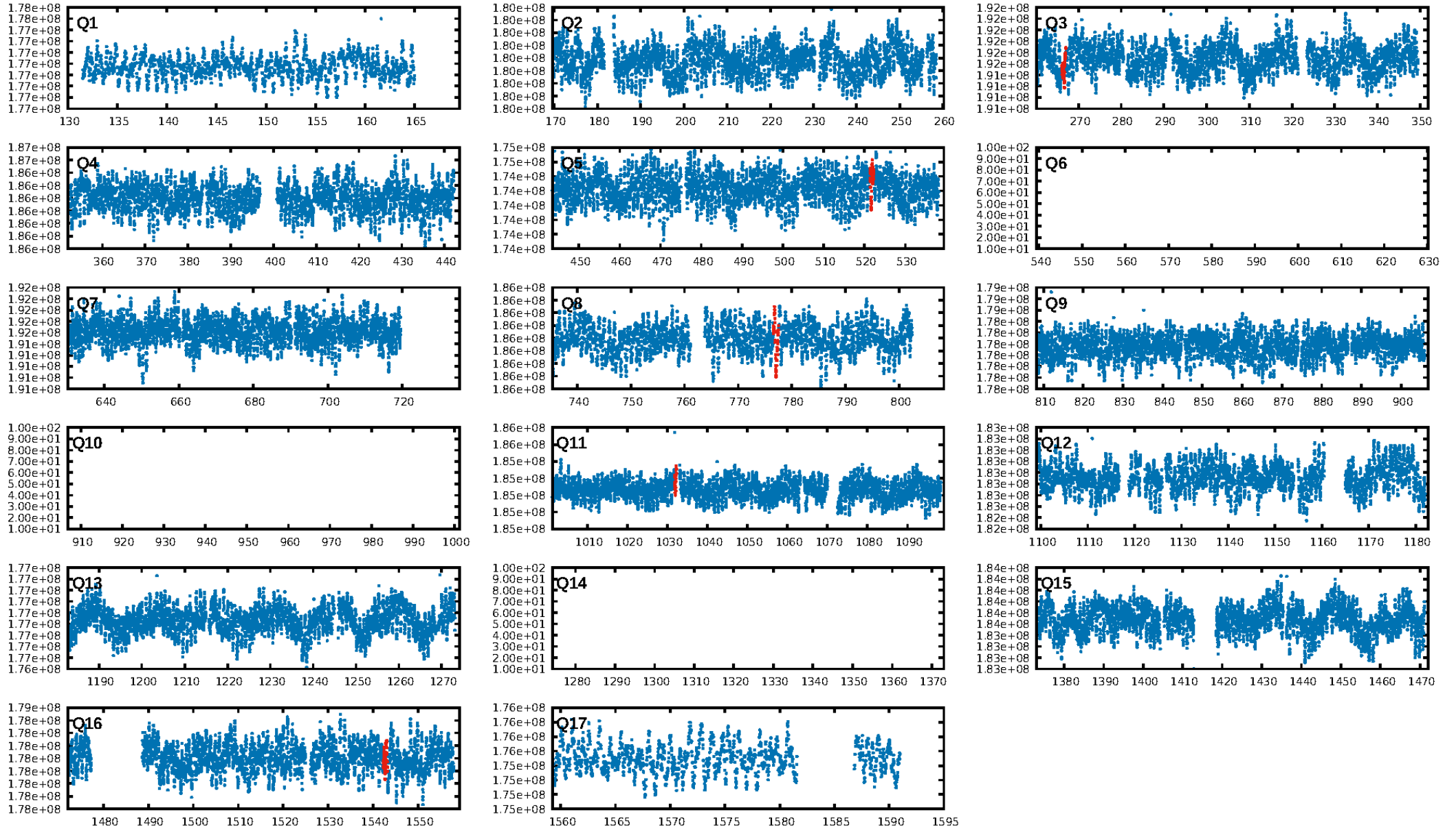
No Significant Match Found

KIC: 3246083    Candidate: 2 of 7    Period: 255.235 d

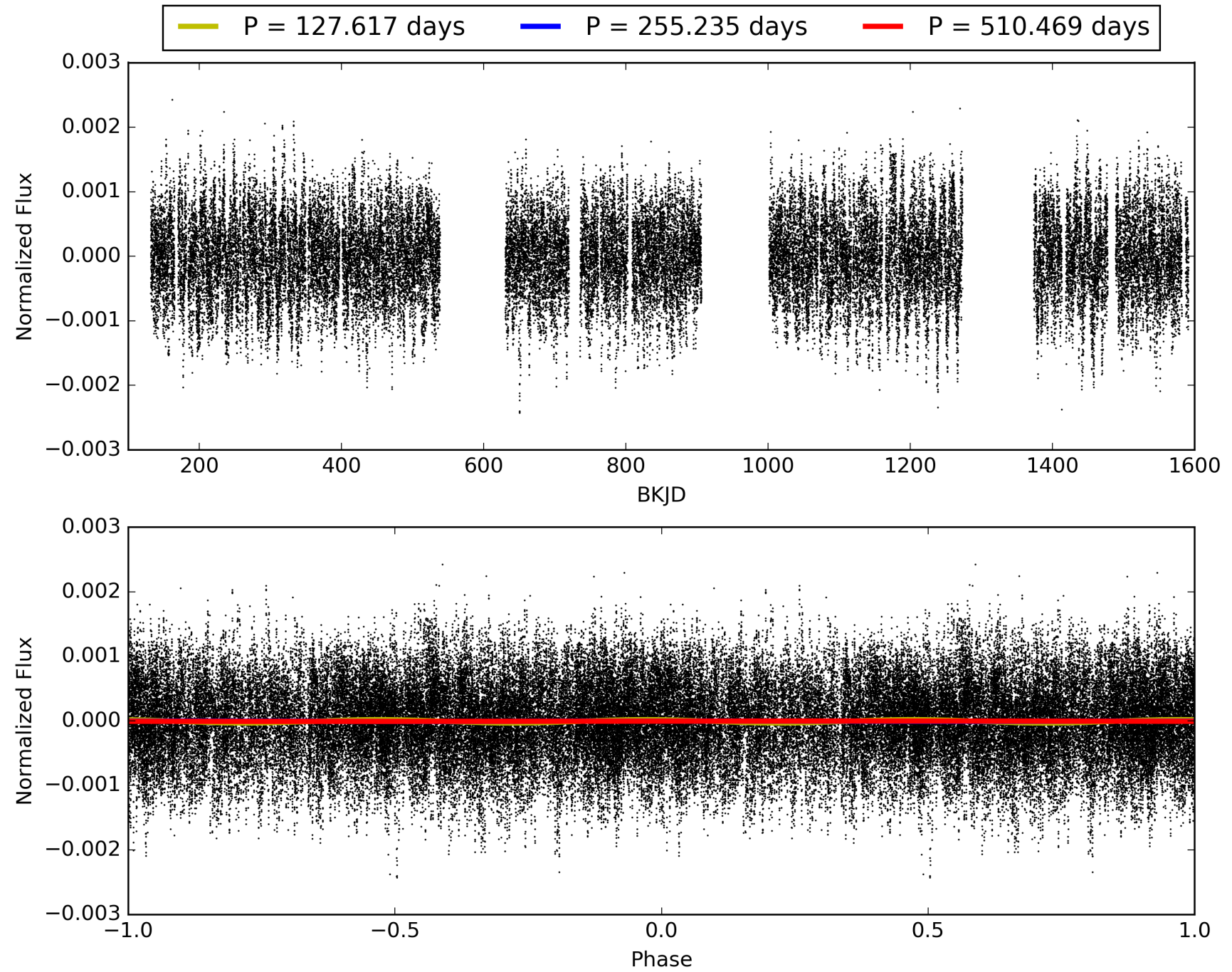


**This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center**

# TCE 003246083-02, PDC Light Curves

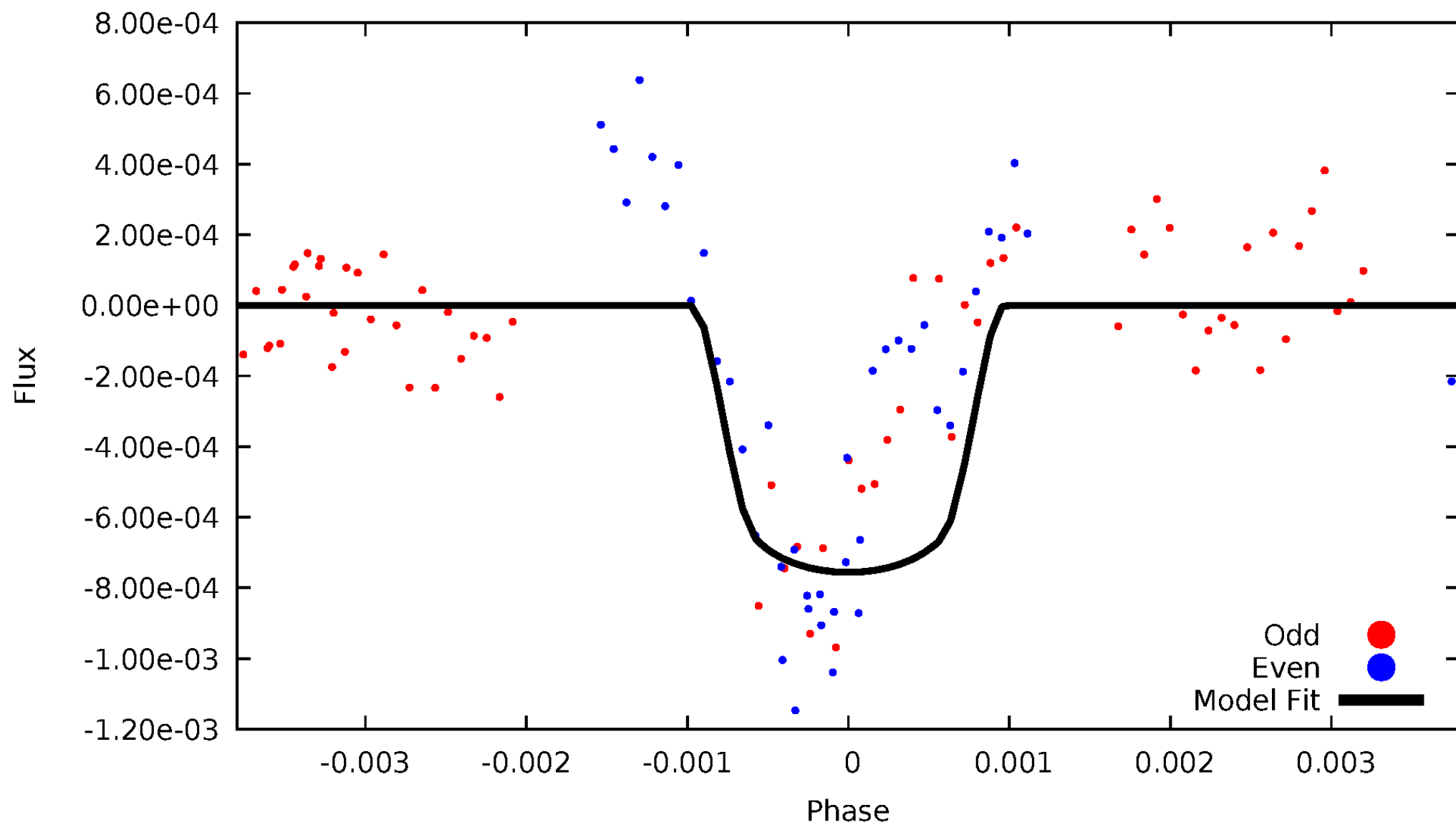


# TCE 003246083-02



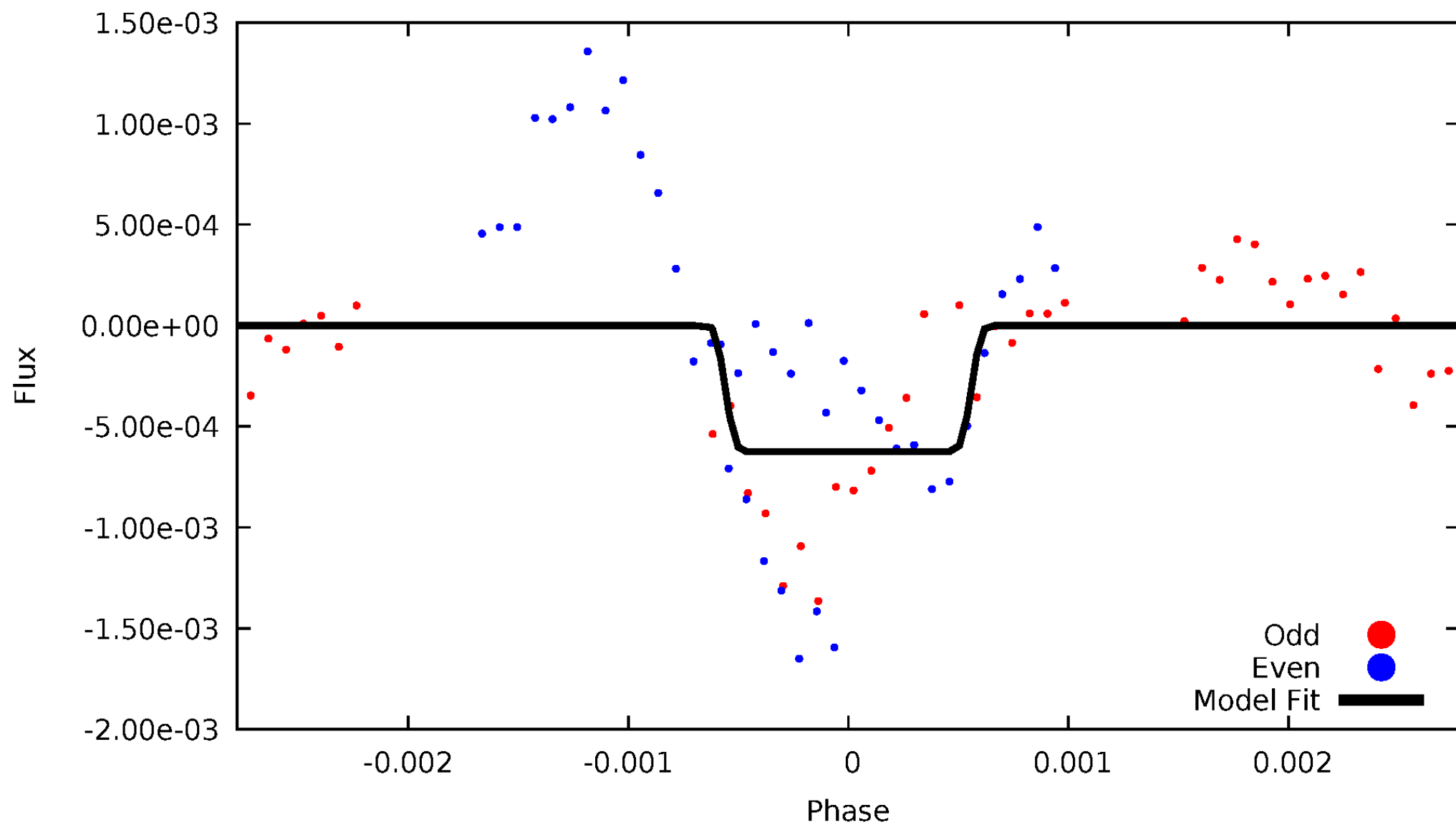
# DV Odd/Even

TCE 003246083-02



# ALT Odd/Even

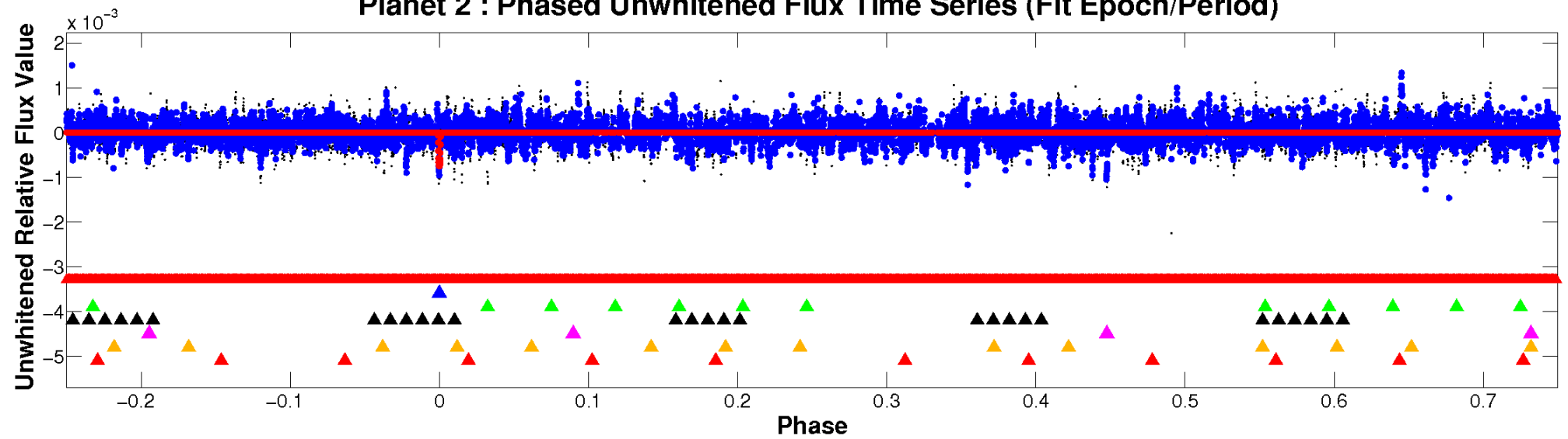
TCE 003246083-02



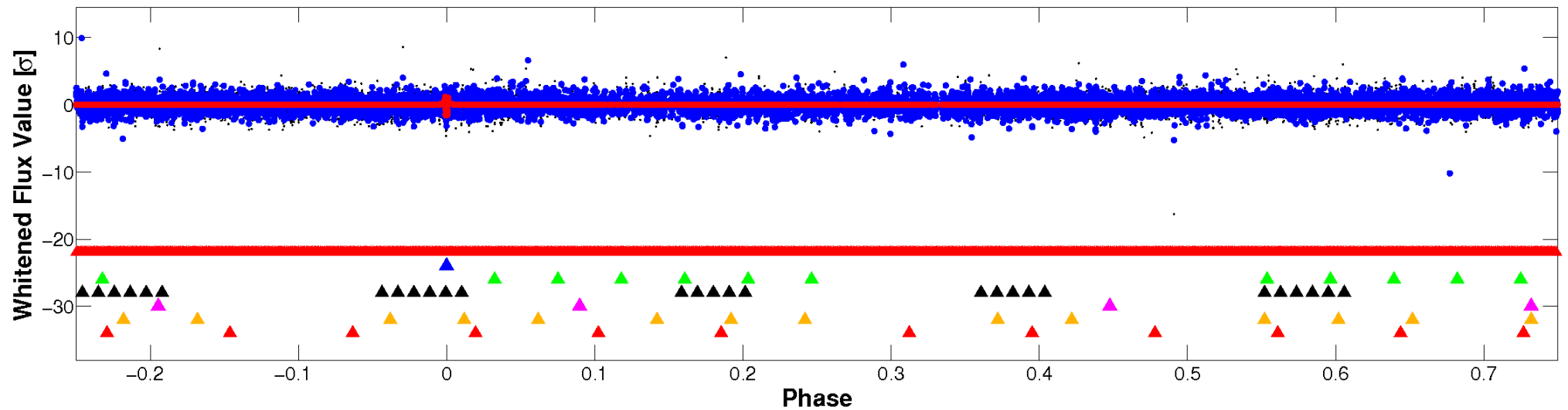


# Non-Whitened Vs. Whitened Light Curve

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

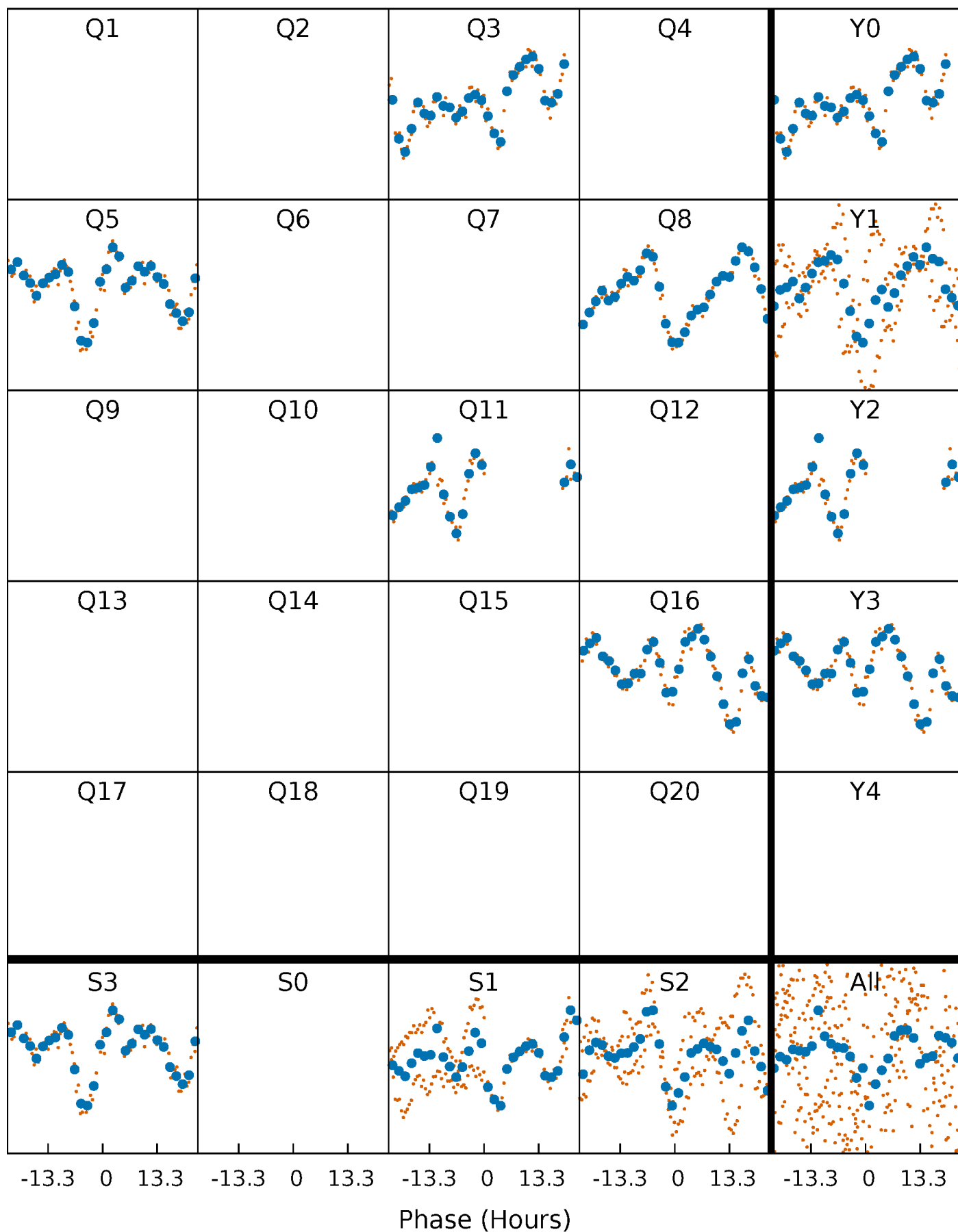


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



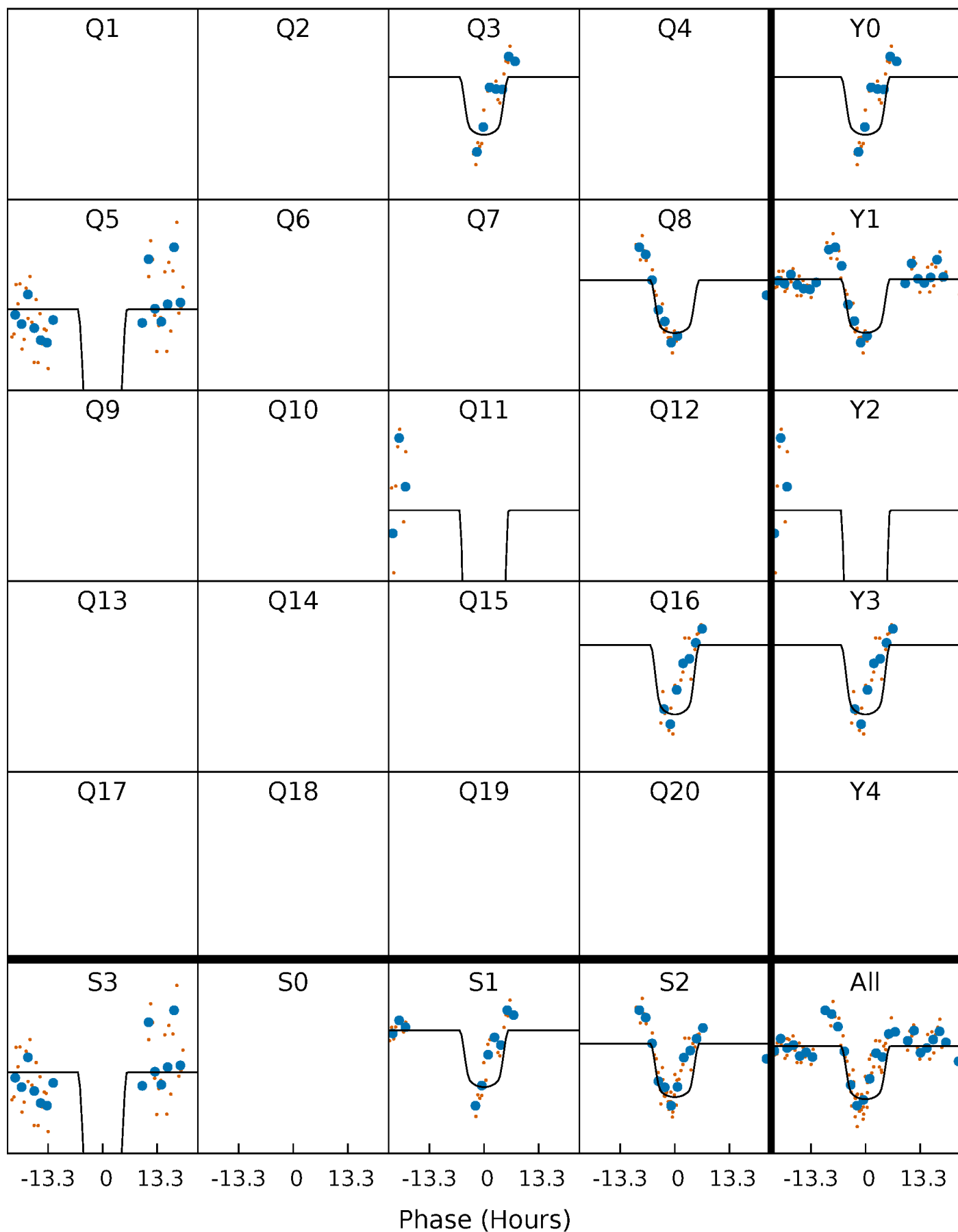
# PDC Quarter-Phased Transit Curves

TCE 003246083-02 P=255.234601 Days  $T_0=266.561521$  (BKJD)



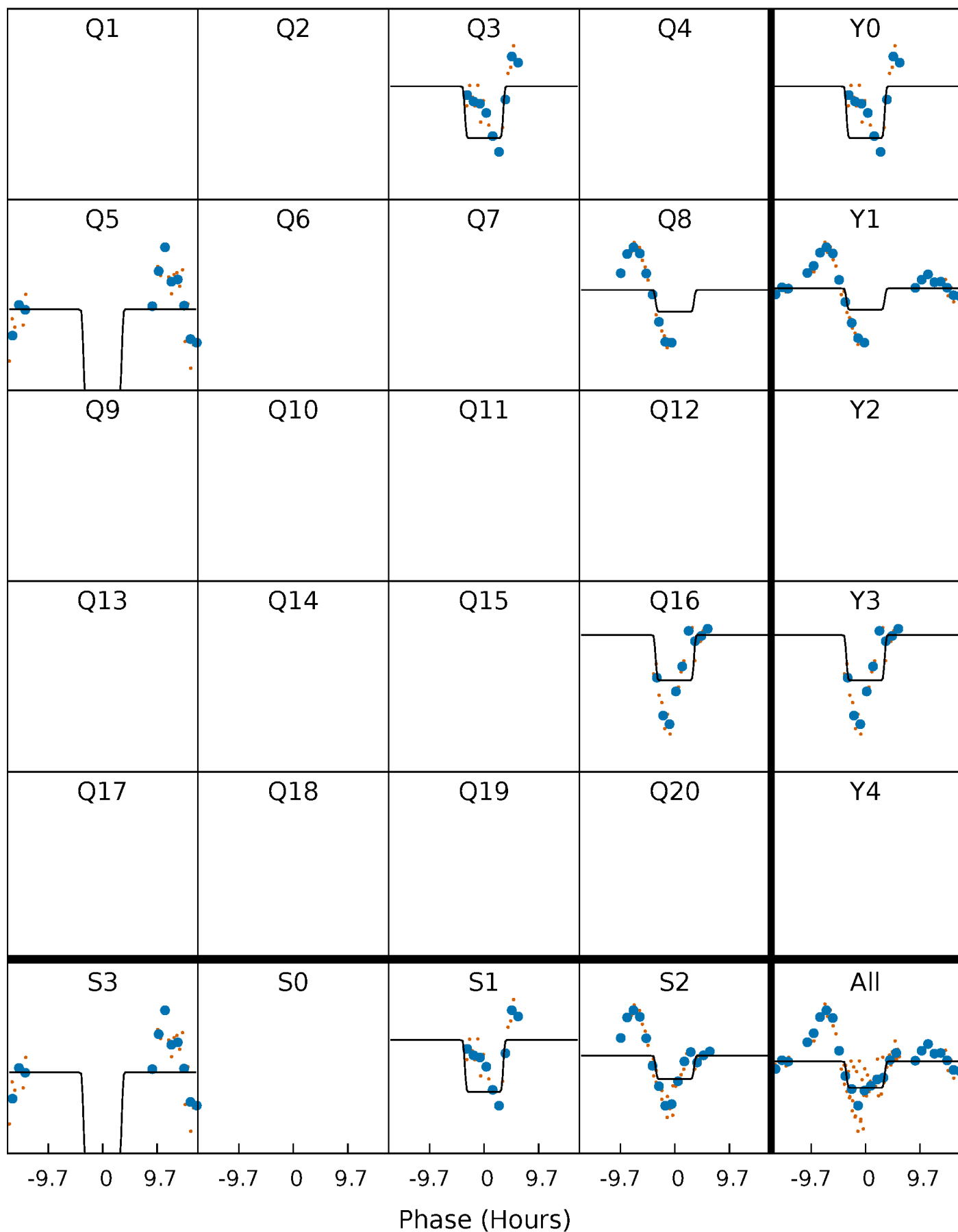
# DV Quarter-Phased Transit Curves

TCE 003246083-02 P=255.234601 Days  $T_0=266.561521$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

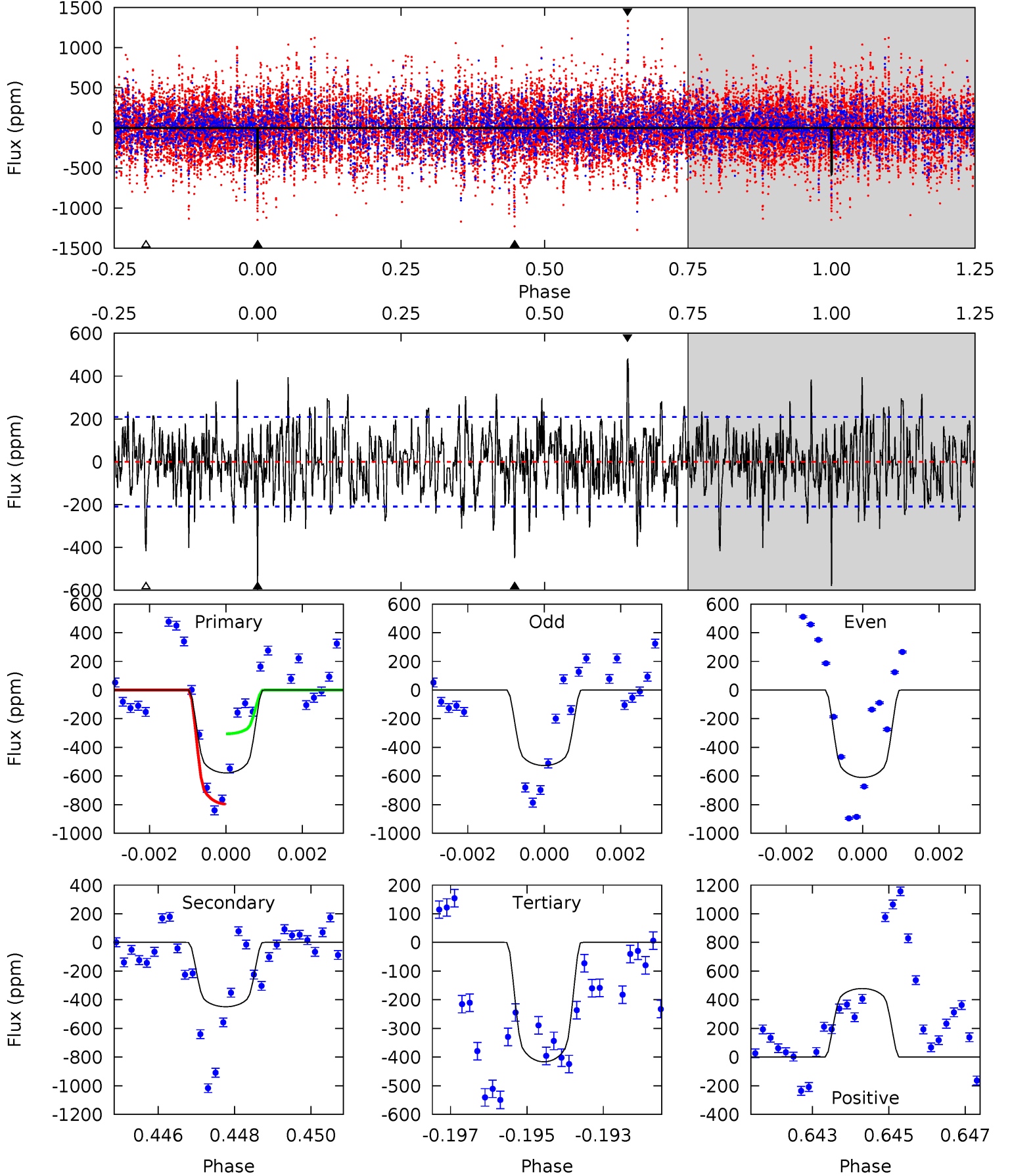
TCE 003246083-02     $P=255.228787$  Days     $T_0=266.605604$  (BKJD)



# DV Model-Shift Uniqueness Test

003246083-02, P = 255.234601 Days, E = 11.326920 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
14.7	11.4	10.6	12.2	5.33	3.09	3.01	4.13	2.55	0.82	-0.76	1.03	1.13	0.45	6.21

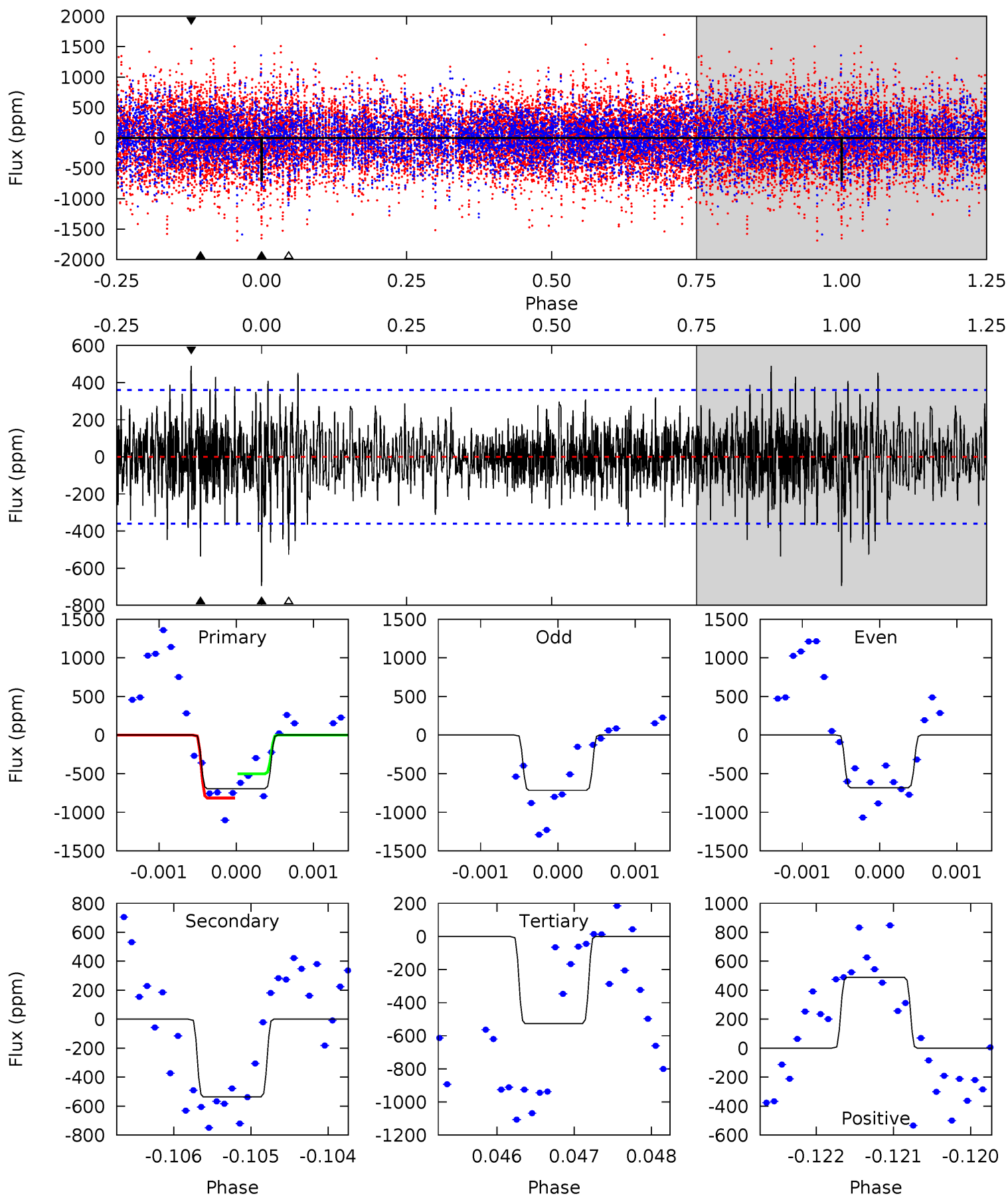




# Alt Model-Shift Uniqueness Test

003246083-02, P = 255.228787 Days, E = 11.376817 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
10.4	8.07	7.91	7.36	5.41	3.23	1.93	2.54	3.09	0.16	0.71	0.24	1.12	0.41	2.34



### Stellar Parameters For KIC 003246083

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6443^{+155}_{-194}$	$4.234^{+0.153}_{-0.187}$	$-0.100^{+0.250}_{-0.300}$	$1.386^{+0.439}_{-0.293}$	$1.202^{+0.192}_{-0.174}$	$0.636^{+0.495}_{-0.324}$
	+2%/-3%	+4%/-4%	+250%/-300%	+32%/-21%	+16%/-14%	+78%/-51%
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 003246083-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-449 \pm 39$	$4.61^{+0.76}_{-0.66}$	$513^{+38}_{-33}$	$5429^{+281}_{-275}$	$8151^{+2915}_{-2082}$
Alt.	$-537 \pm 67$	$3.81^{+0.77}_{-0.60}$	$514^{+41}_{-34}$	$6197^{+444}_{-394}$	$14167^{+5946}_{-4422}$

$T_{\text{max}}$  = 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

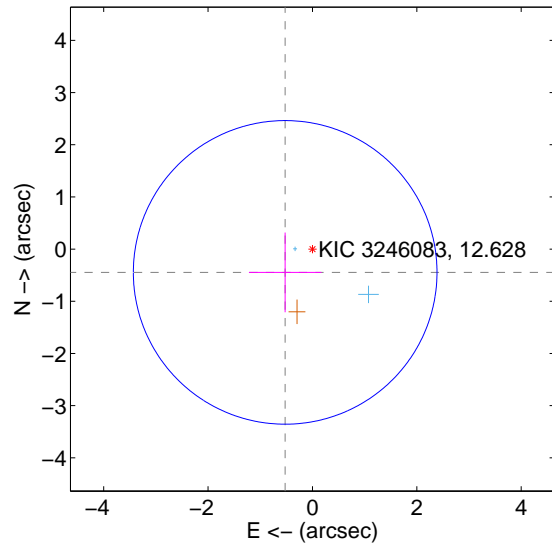
Supplemental centroid analysis for 003246083-02. Kepler magnitude: 12.63. Transit SNR 8.24

There are 3 quarters with good PRF difference image offsets

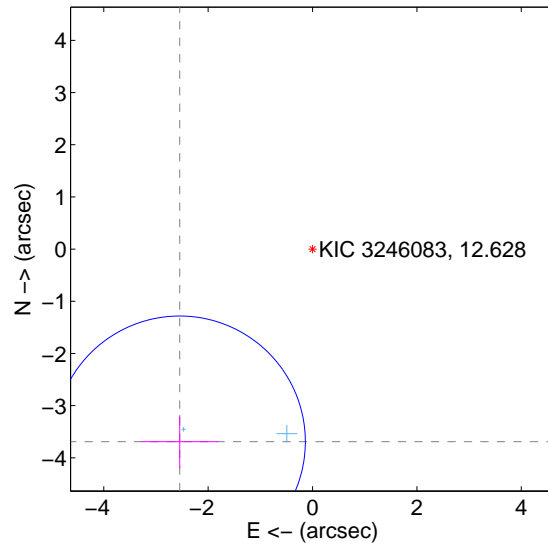
The OOT PRF centroid is offset from the target star catalog position by about 4.71 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.687 \pm 0.970$	0.71	$0.523 \pm 0.695$	$-0.446 \pm 0.765$
PRF-fit source offset from KIC position	$4.484 \pm 0.803$	5.59	$2.546 \pm 0.733$	$-3.691 \pm 0.507$
photometric centroid source offset	$1.89 \pm 0.66$	2.87	$1.77 \pm 0.65$	$-0.66 \pm 0.74$

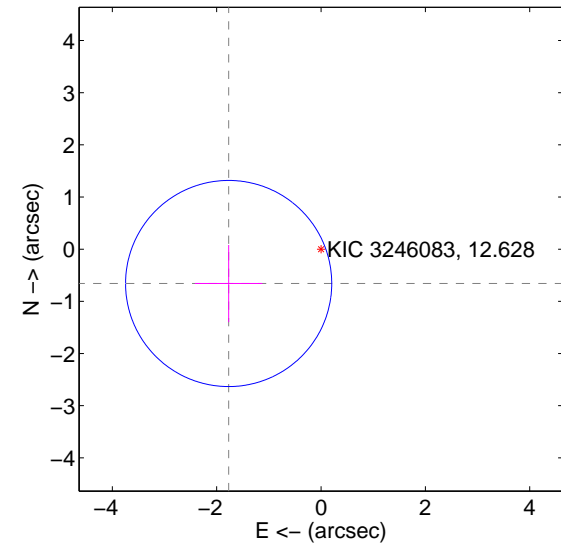
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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.

Q1 no difference image



Q1 no OOT image



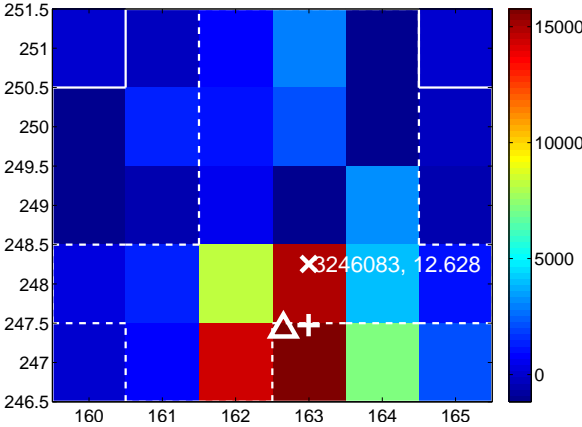
Q2 no difference image



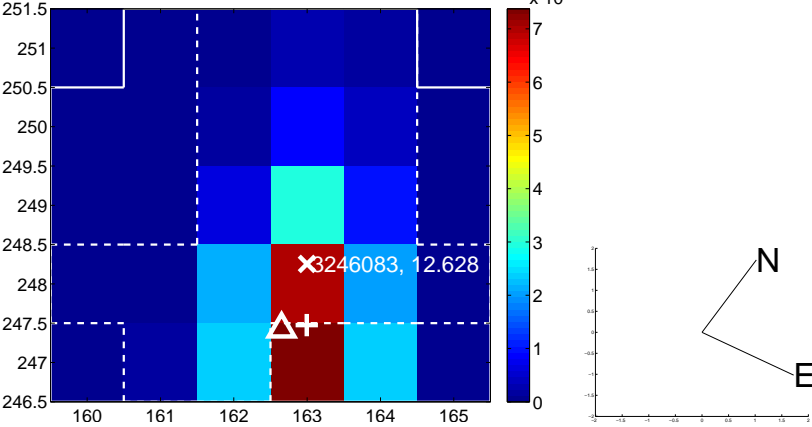
Q2 no OOT image



Q3 difference image



Q3 OOT image



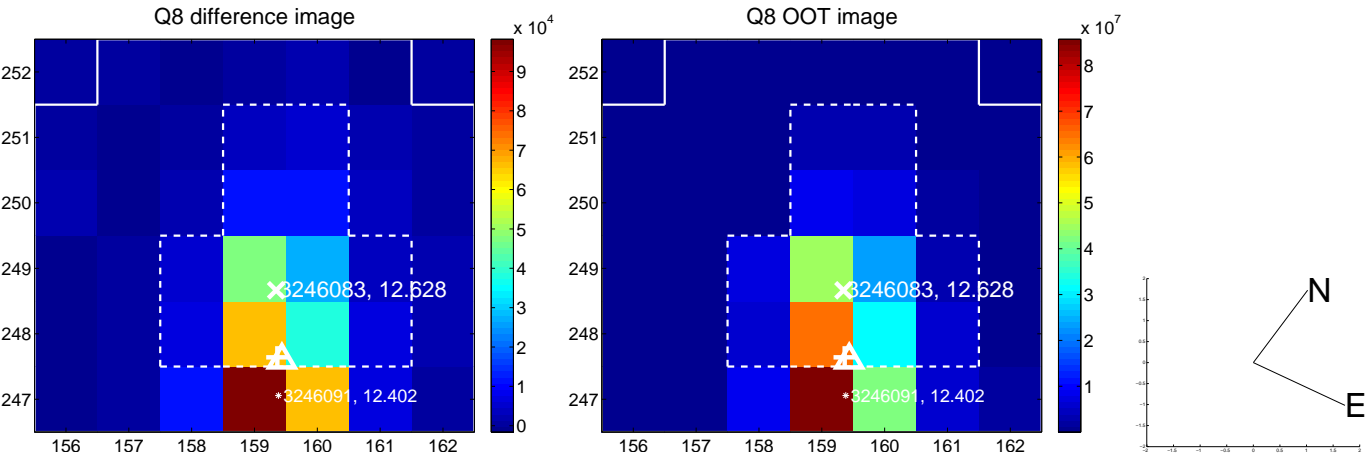
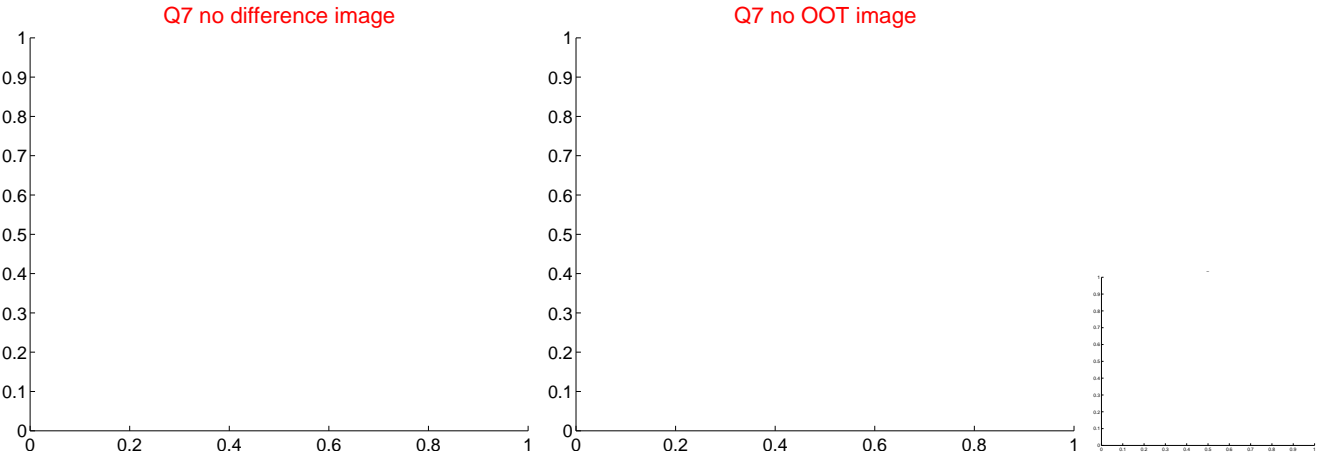
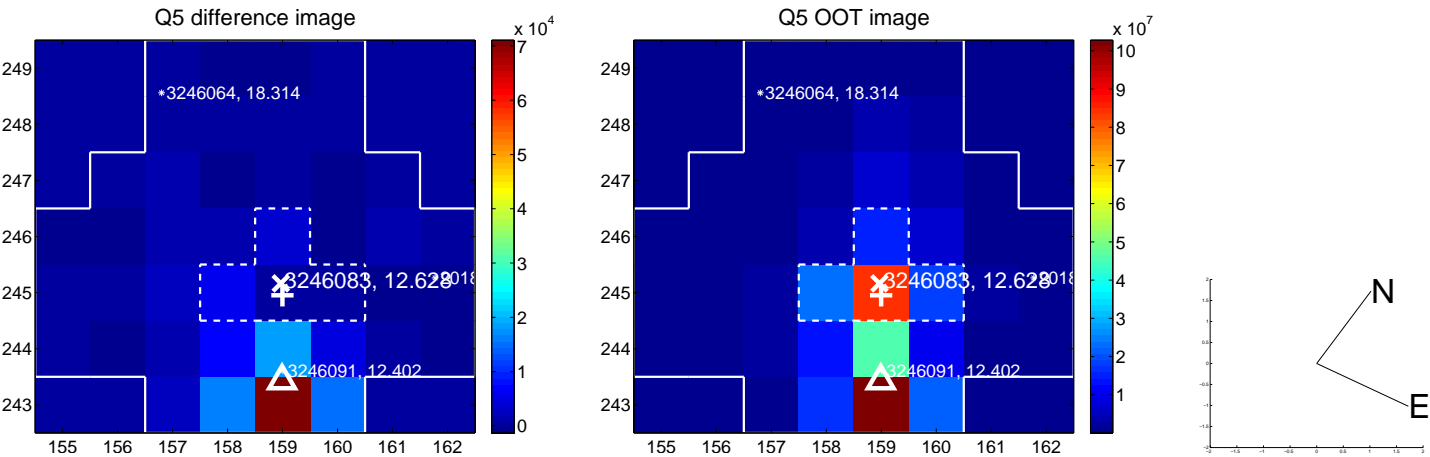
Q4 no difference image



Q4 no OOT image



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

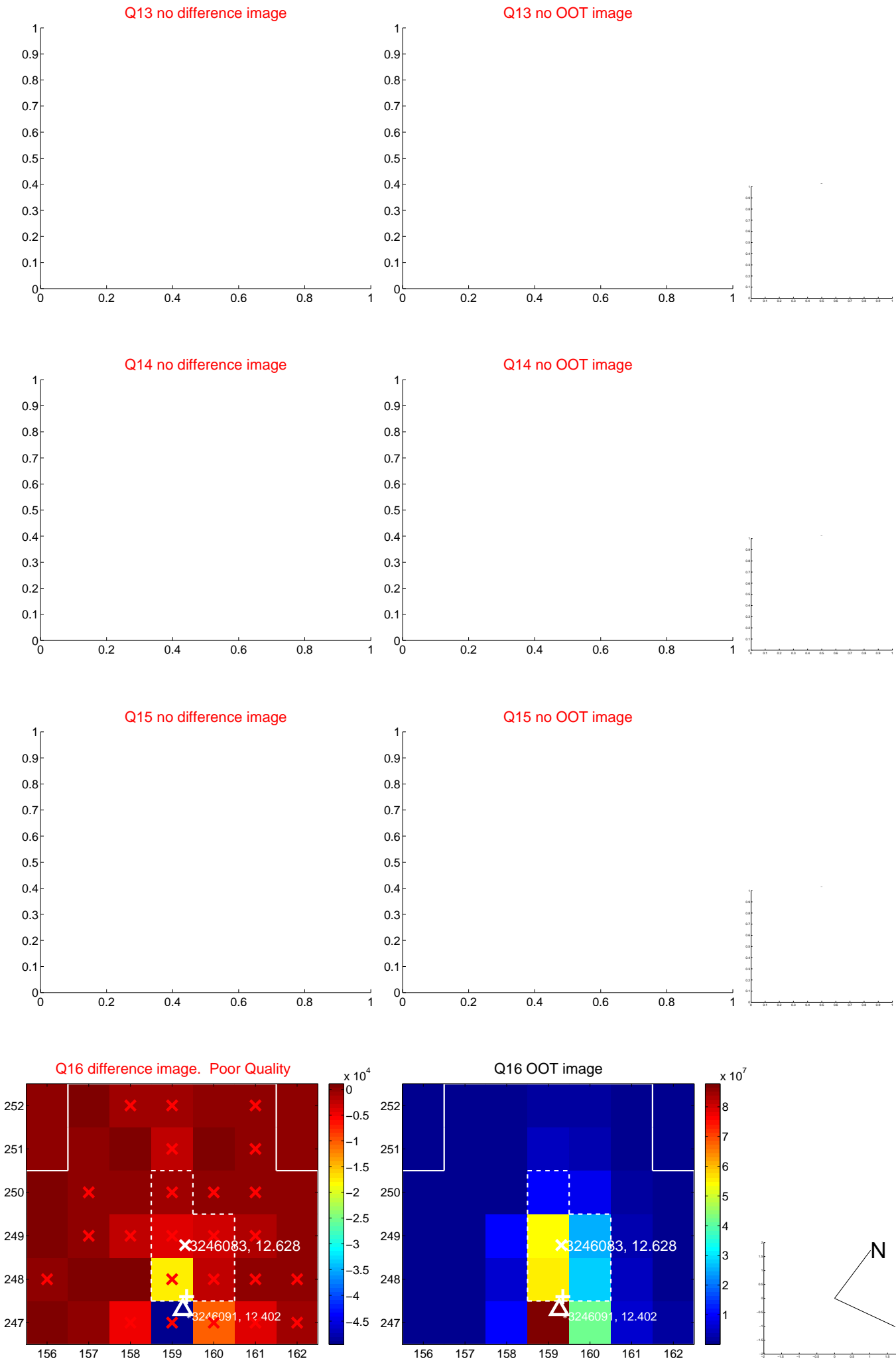




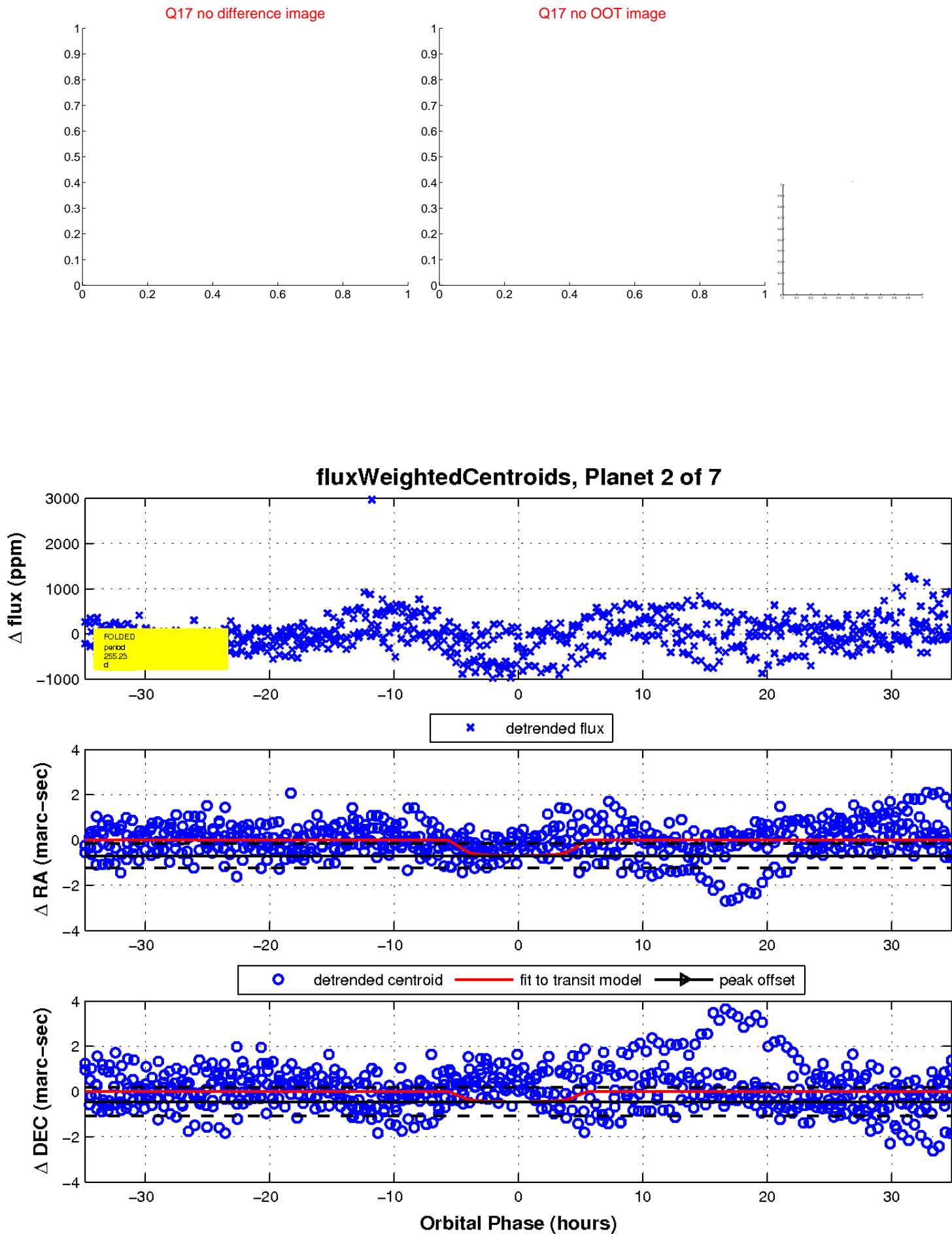
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

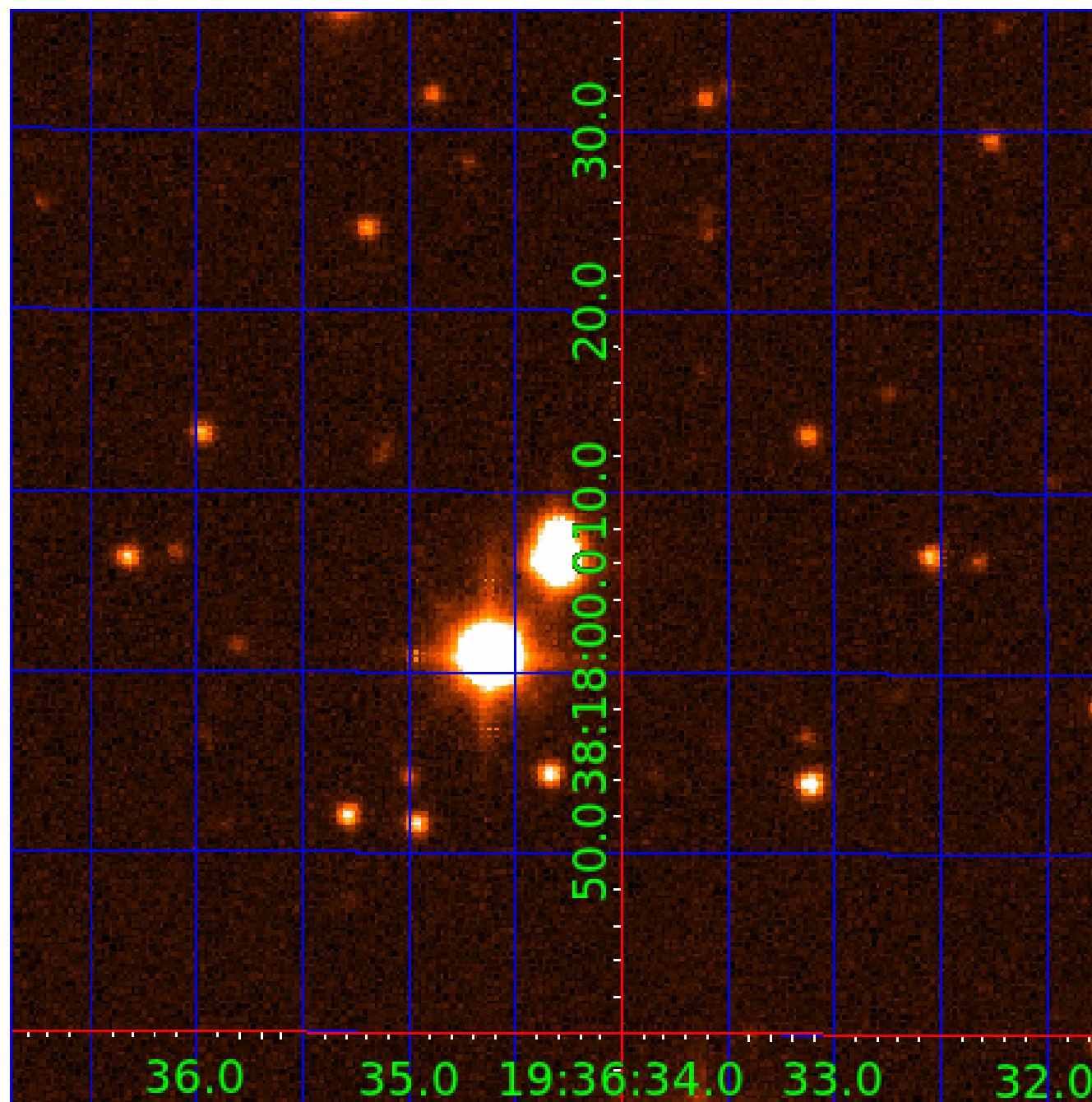


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 003246083

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003246083-01	OBS	No	1.339082	132.073775	42.7	7.258	8.7	8.4	1.39	6443	1.06	4641.73
003246083-02	OBS	No	255.234601	266.561521	755.9	11.624	9.7	8.2	1.39	6443	4.57	4.23
003246083-03	OBS	No	122.157161	207.272630	441.7	3.297	8.7	8.4	1.39	6443	3.28	11.30
003246083-04	OBS	No	51.596214	152.234320	497.9	6.776	8.4	9.2	1.39	6443	5.95	35.67
003246083-05	OBS	No	346.561677	453.388444	1063.7	16.507	7.8	8.3	1.39	6443	5.94	2.81
003246083-06	OBS	No	104.642470	198.168860	430.6	4.432	7.4	7.9	1.39	6443	3.29	13.89
003246083-07	OBS	No	117.038150	196.824850	509.7	4.654	7.7	7.8	1.39	6443	4.05	11.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003246083-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
003246083-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
003246083-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003246083-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
003246083-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
003246083-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
003246083-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

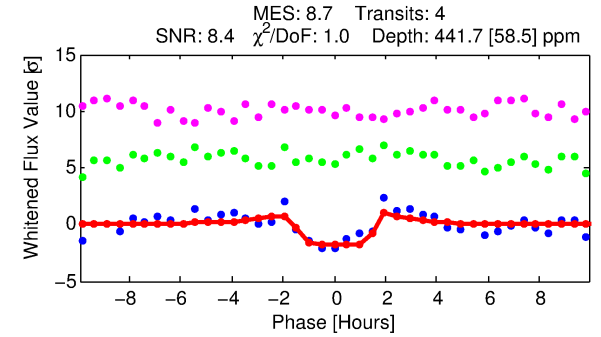
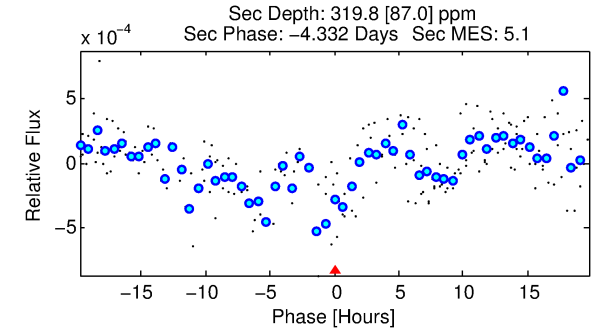
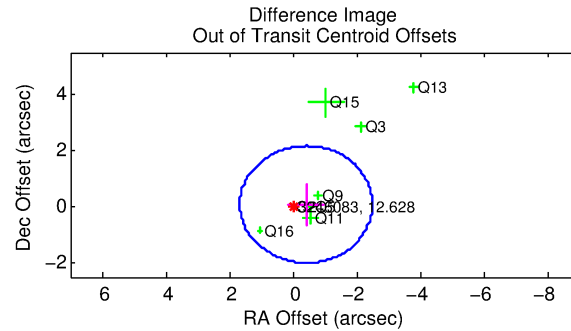
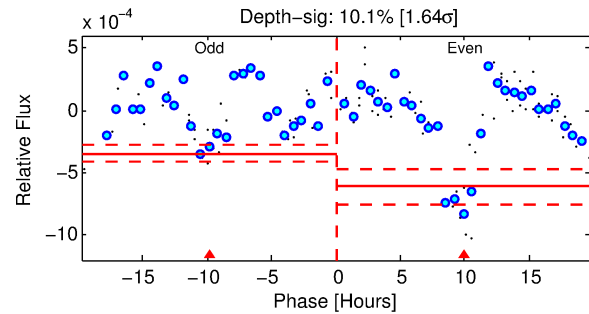
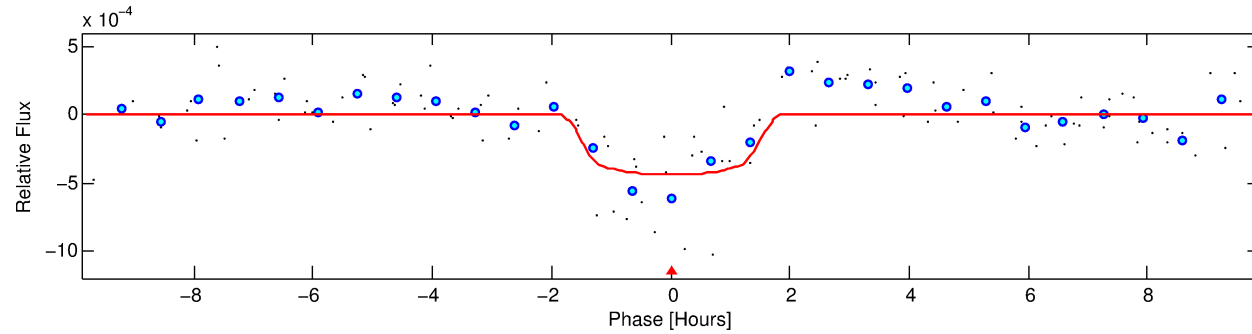
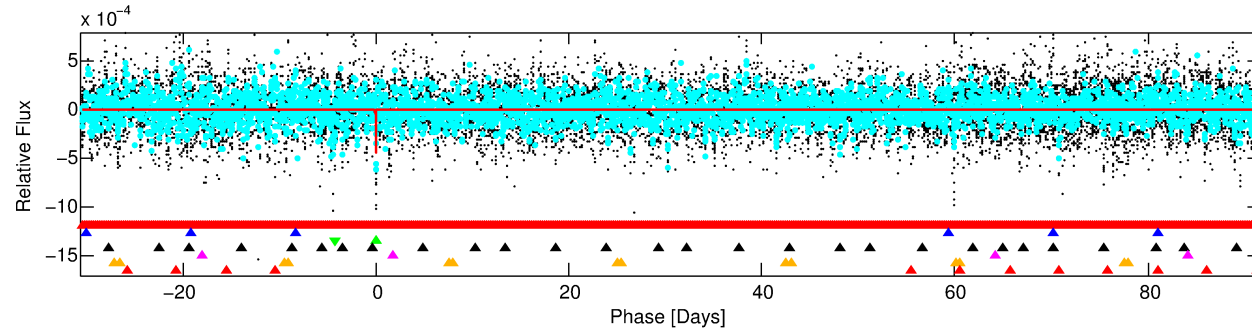
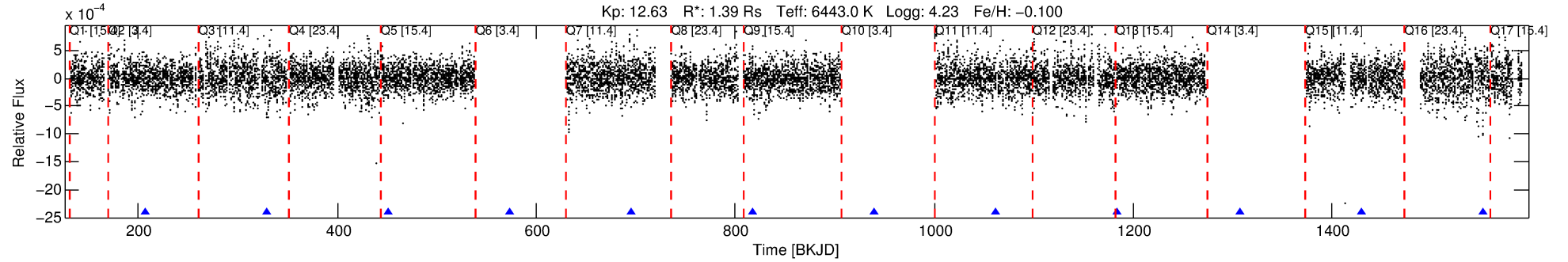
## Ephemeris Match Information For 003246083-03

No Significant Match Found



# DV One-Page Summary

KIC: 3246083 Candidate: 3 of 7 Period: 122.157 d



## DV Fit Results:

Period = 122.15716 [0.00092] d  
Epoch = 207.2726 [0.0069] BKJD  
Rp/R\* = 0.0217 [0.0196]  
a/R\* = 163.85 [809.88]  
b = 0.84 [1.73]  
Seff = 11.30 [4.25]  
Teq = 468 [44] K  
Rp = 3.28 [3.14] Re  
a = 0.5123 [0.1308] AU  
Ag = 4283.96 [7973.50] [0.54 $\sigma$ ]  
Teffp = 5848 [2677] K [2.01 $\sigma$ ]

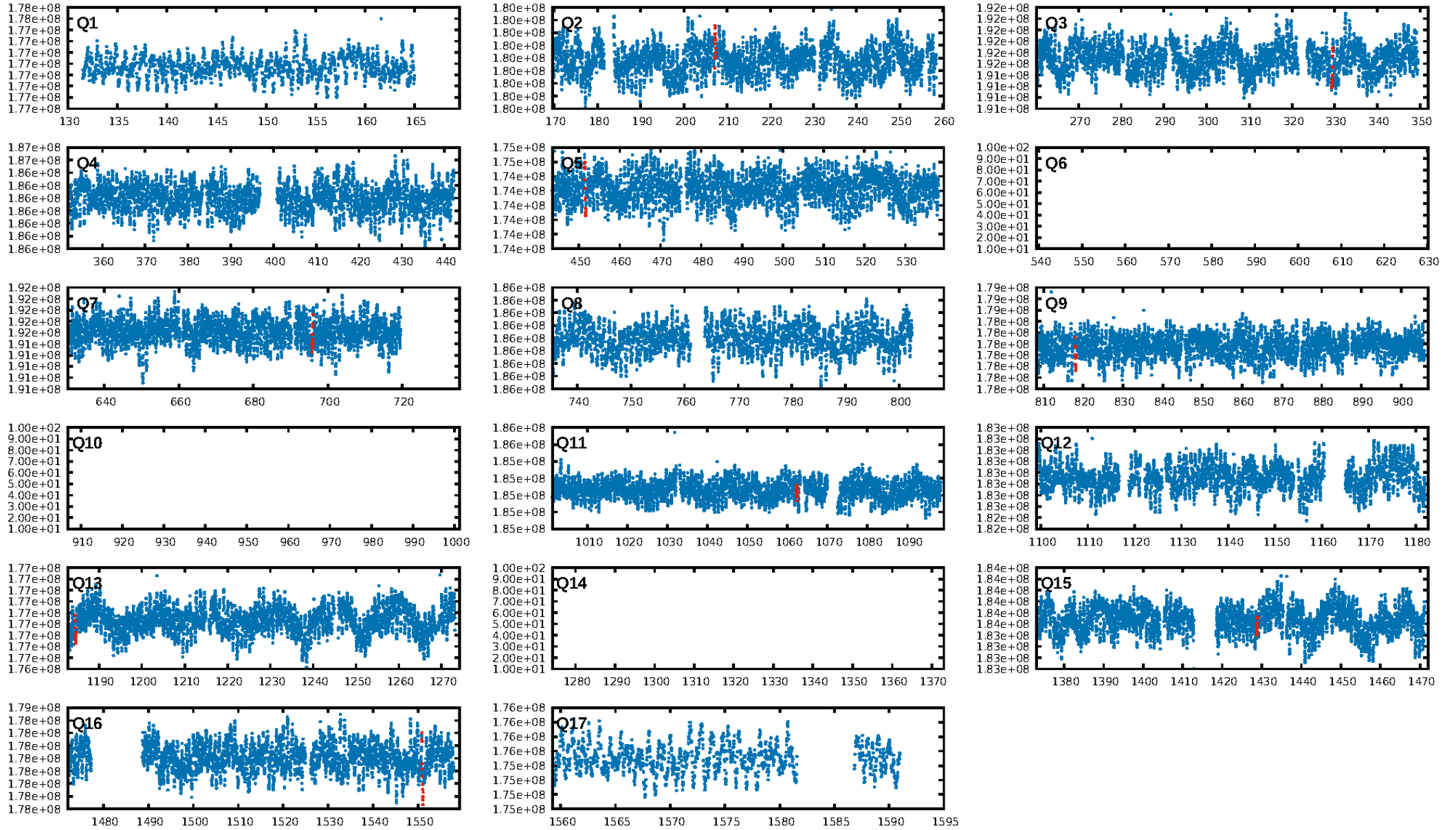
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [21.54 $\sigma$ ]  
LongPeriod-sig: 100.0% [264.34 $\sigma$ ]  
ModelChiSquare2-sig: 4.3%  
ModelChiSquareGof-sig: 97.2%  
**Bootstrap-pfa: 3.45e-10**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 1.521  
Centroid-sig: 0.8%  
Centroid-so: 1.942 arcsec [2.75 $\sigma$ ]  
OotOffset-rm: 0.425 arcsec [0.61 $\sigma$ ]  
**KicOffset-rm: 2.304 arcsec [3.17 $\sigma$ ]**  
OotOffset-st: 1/3/1/3 [8]  
KicOffset-st: 1/3/1/3 [8]  
DiffImageQuality-fgm: 0.75 [6/8]  
DiffImageOverlap-fno: 0.44 [4/9]

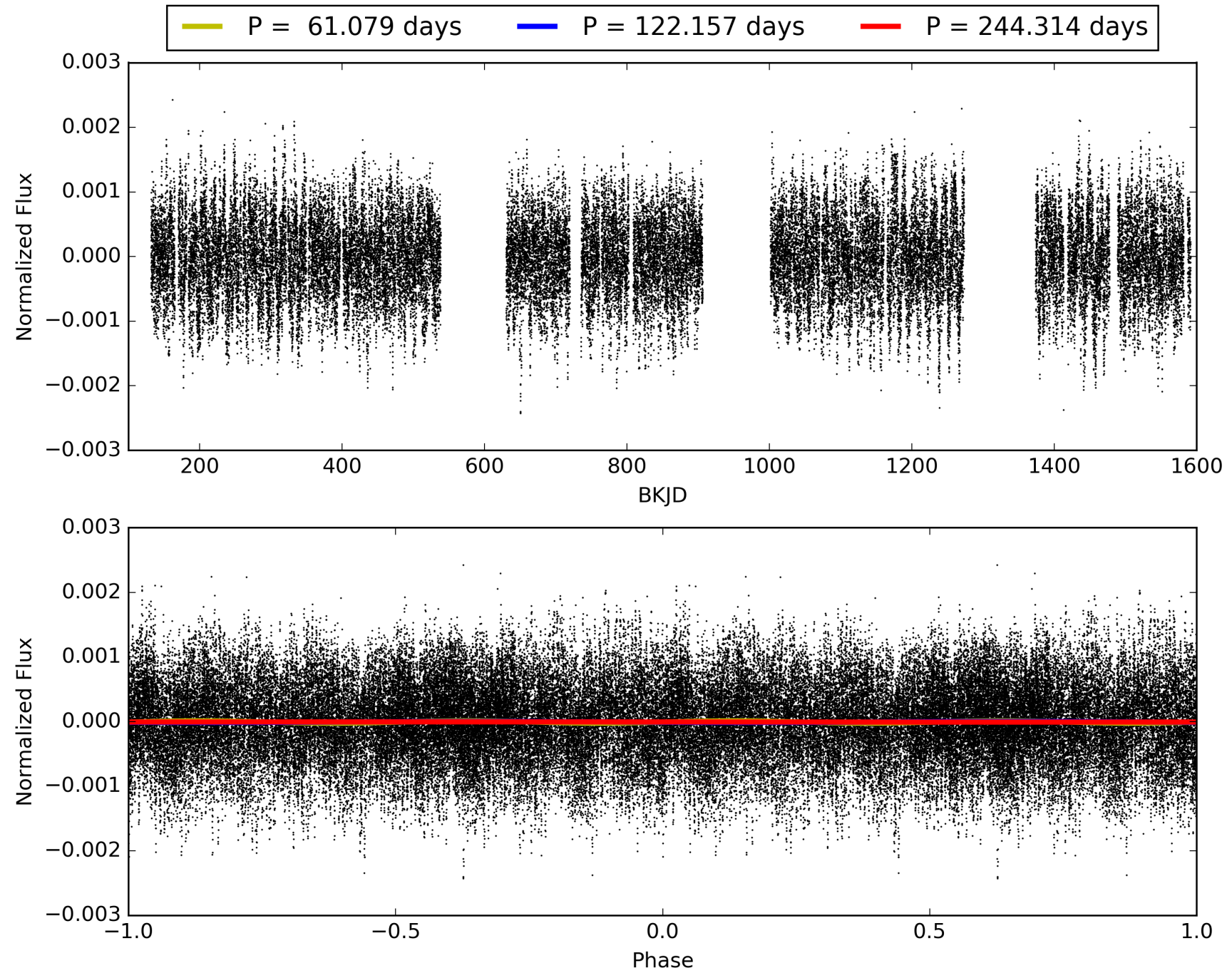
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:00:46 Z

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

# TCE 003246083-03, PDC Light Curves

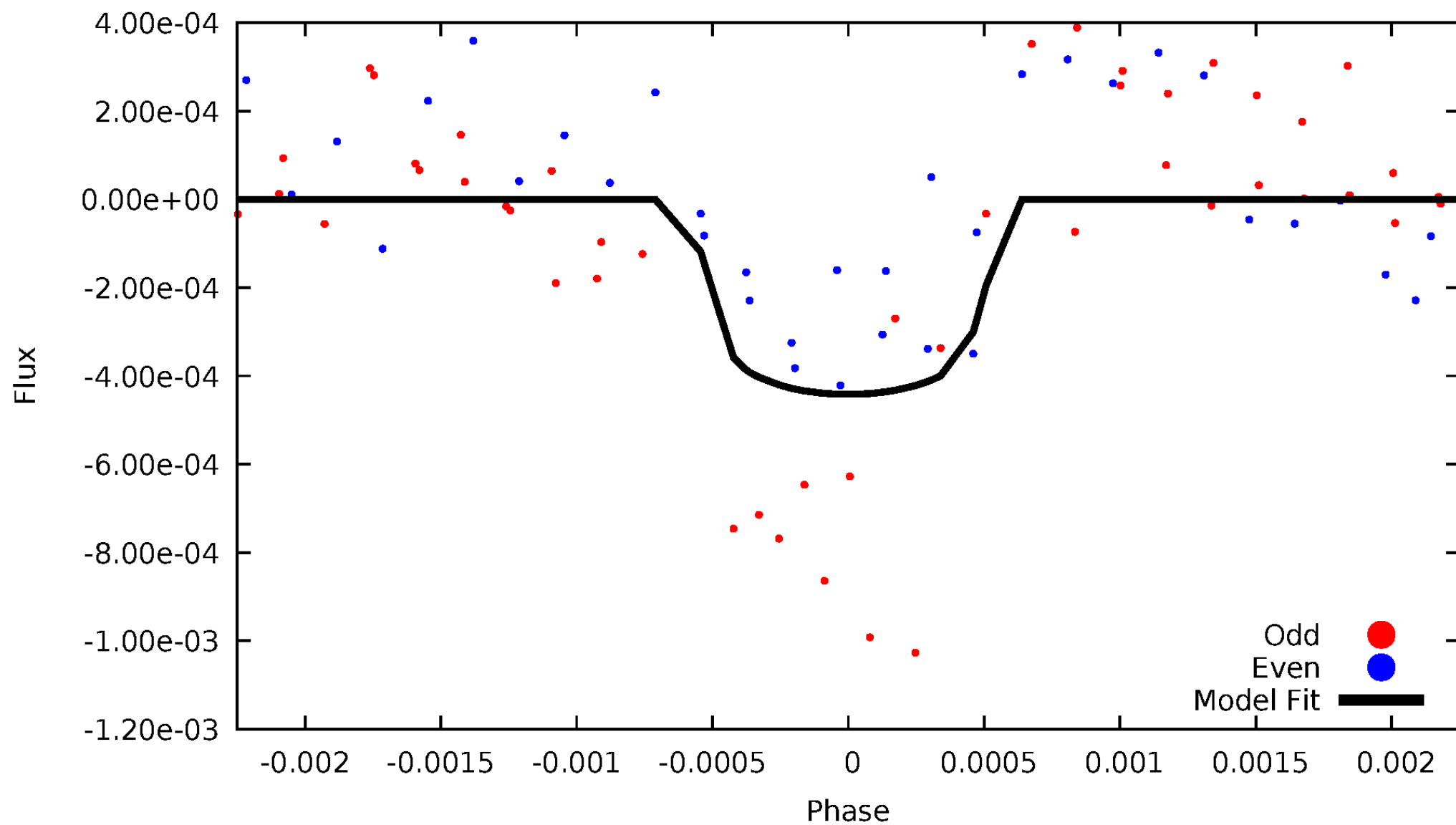


# TCE 003246083-03



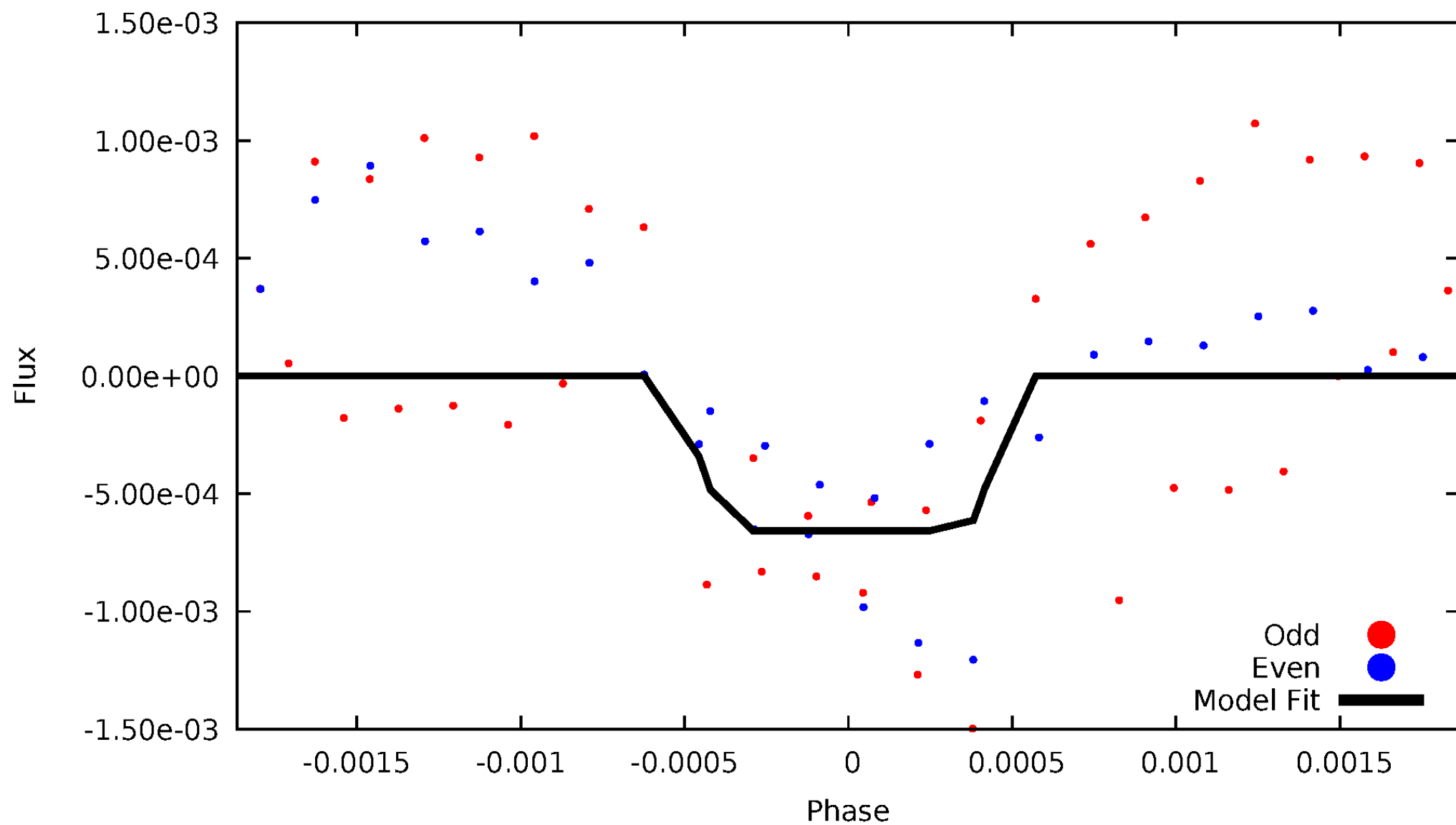
# DV Odd/Even

TCE 003246083-03



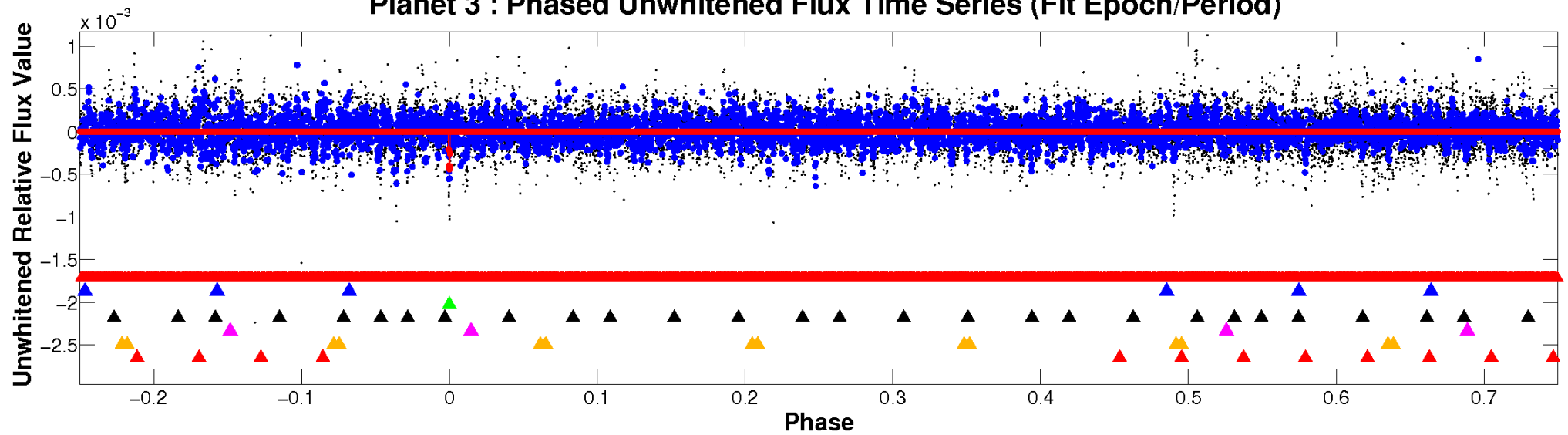
# ALT Odd/Even

TCE 003246083-03

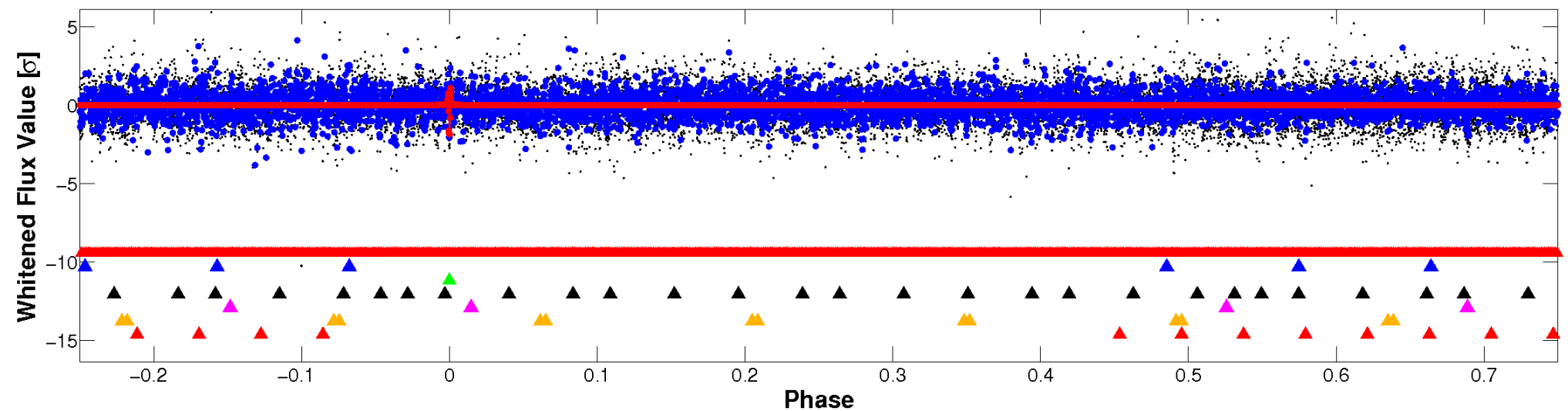


# Non-Whitened Vs. Whitened Light Curve

## Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



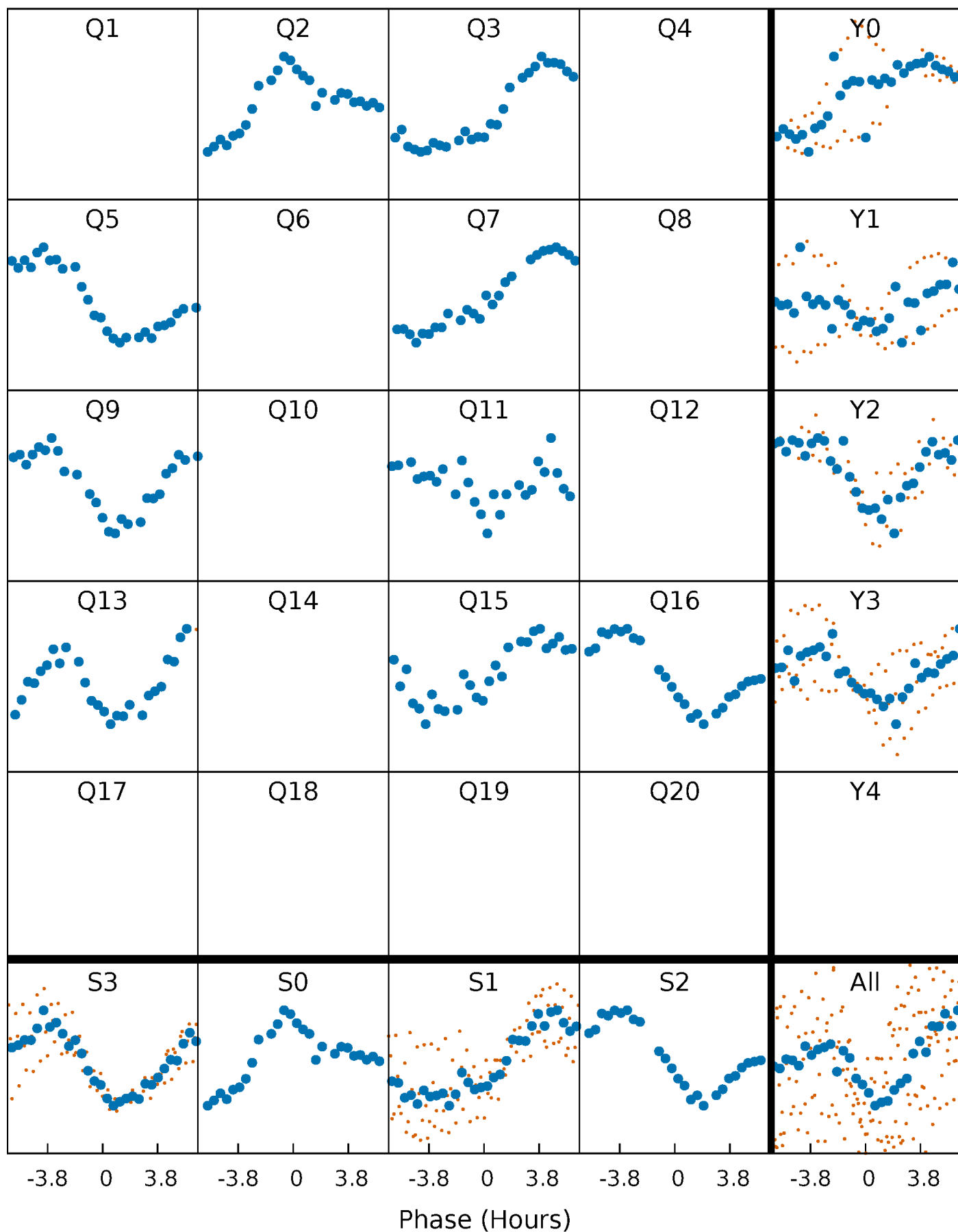
## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)





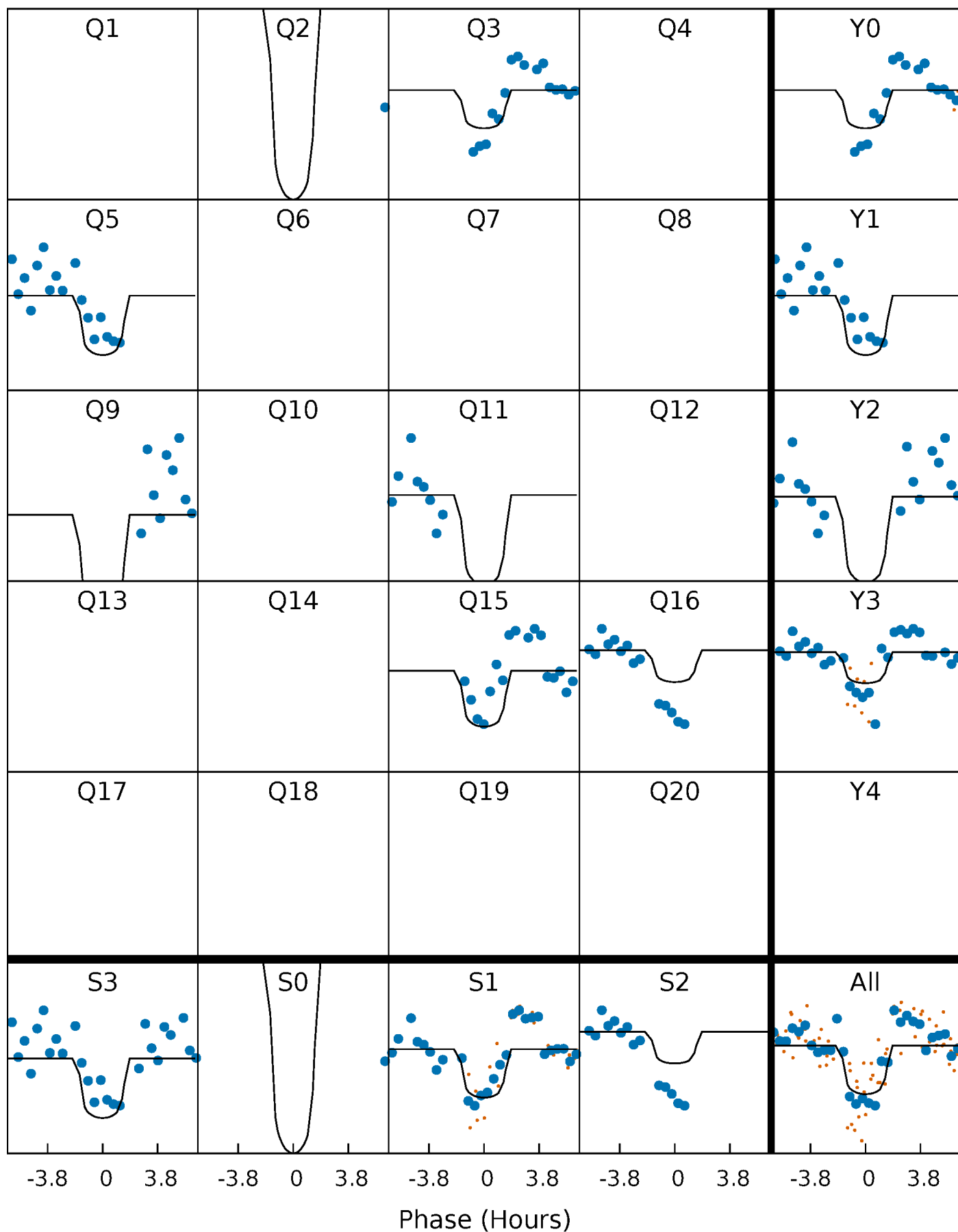
# PDC Quarter-Phased Transit Curves

TCE 003246083-03     $P=122.157162$  Days     $T_0=207.272630$  (BKJD)



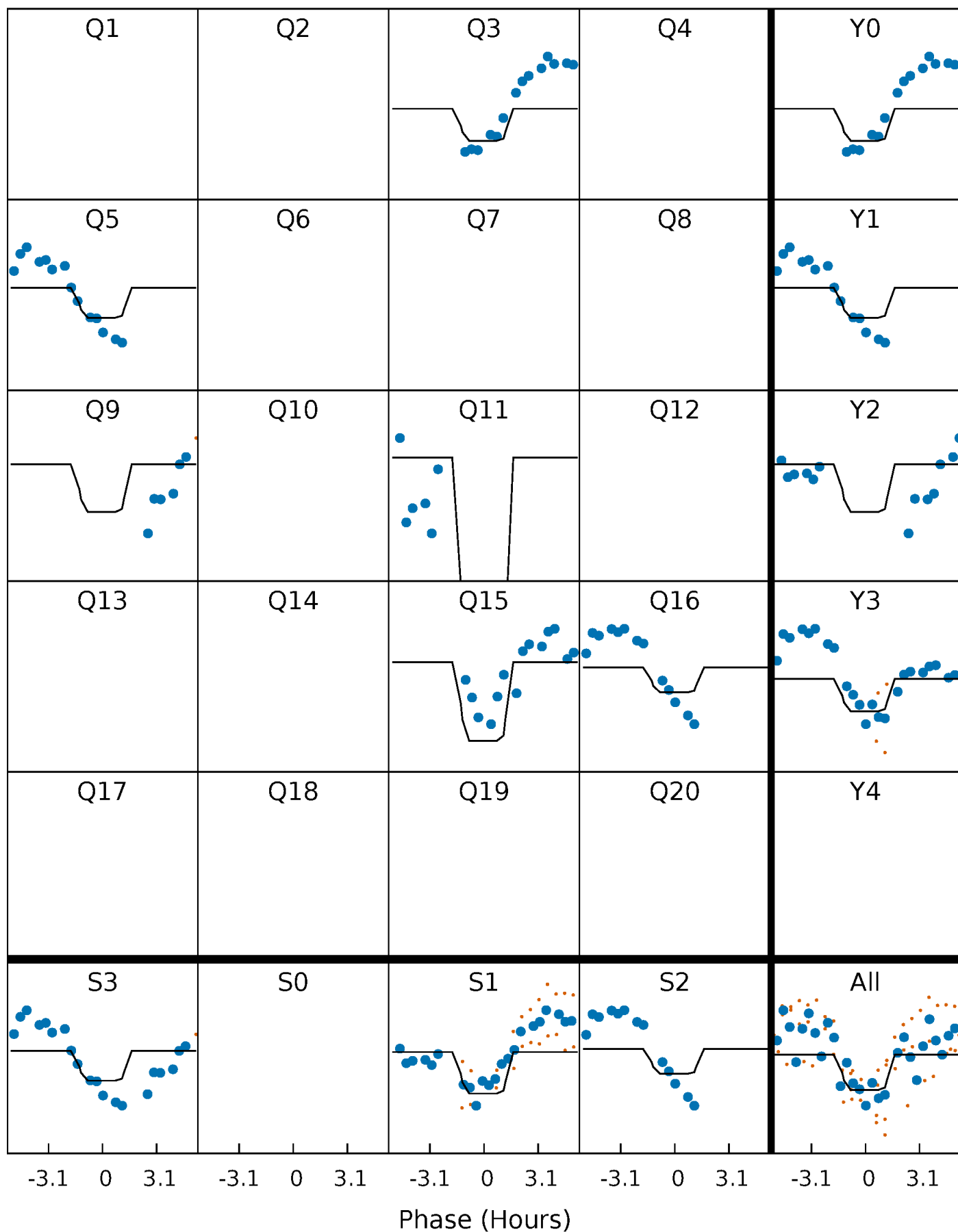
# DV Quarter-Phased Transit Curves

TCE 003246083-03 P=122.157162 Days  $T_0=207.272630$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

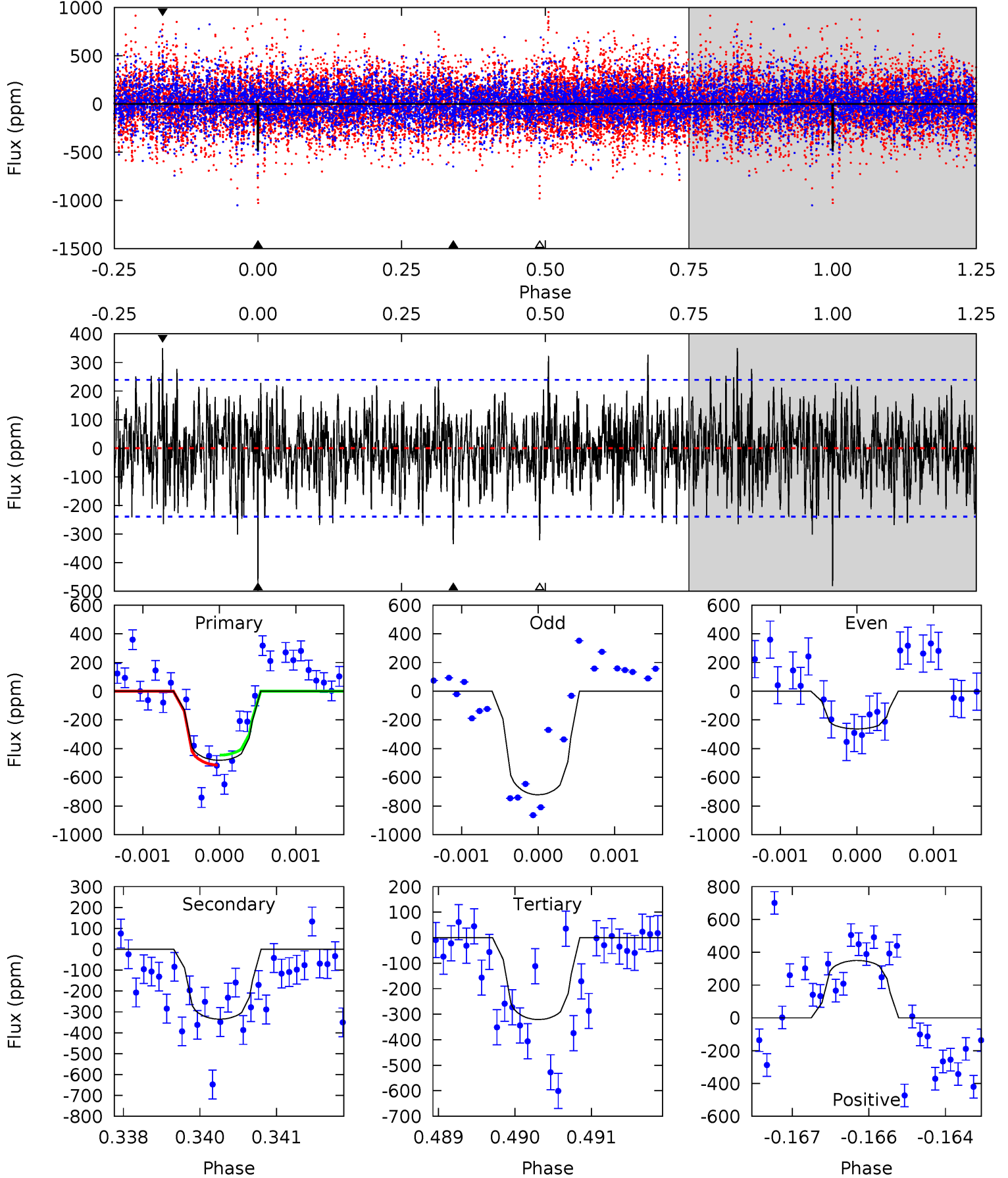
TCE 003246083-03 P=122.154278 Days  $T_0=207.288089$  (BKJD)



# DV Model-Shift Uniqueness Test

003246083-03, P = 122.157162 Days, E = 85.115468 Days

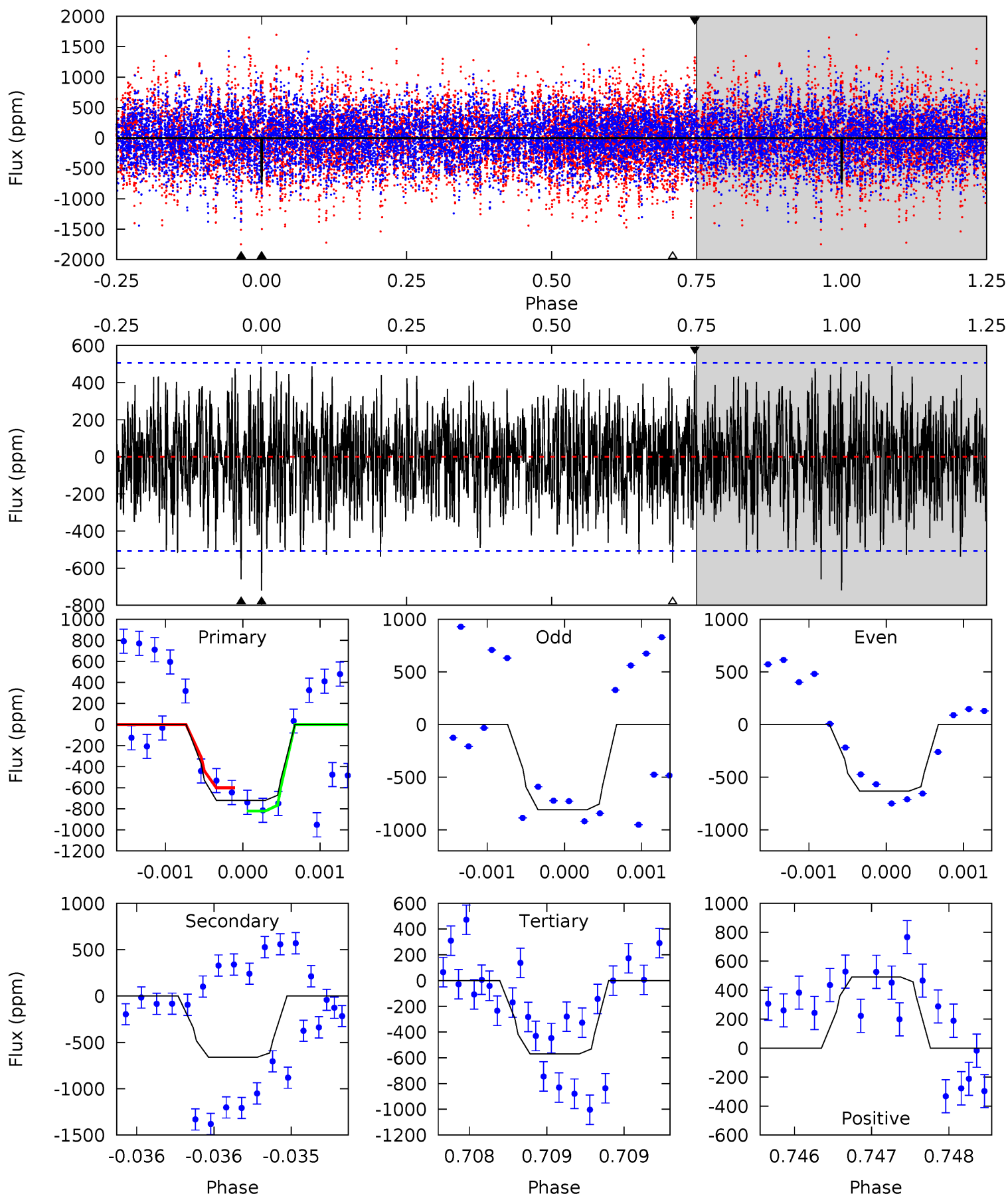
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	7.60	7.28	7.94	5.42	3.24	2.11	3.64	2.99	0.31	-0.34	5.15	1.22	0.42	0.79



# Alt Model-Shift Uniqueness Test

003246083-03, P = 122.154278 Days, E = 85.133811 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
7.79	7.13	6.17	5.31	5.48	3.34	1.99	1.62	2.48	0.96	1.82	0.96	0.90	0.41	1.19



### Stellar Parameters For KIC 003246083

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6443^{+155}_{-194}$	$4.234^{+0.153}_{-0.187}$	$-0.100^{+0.250}_{-0.300}$	$1.386^{+0.439}_{-0.293}$	$1.202^{+0.192}_{-0.174}$	$0.636^{+0.495}_{-0.324}$
	+2%/-3%	+4%/-4%	+250%/-300%	+32%/-21%	+16%/-14%	+78%/-51%
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 003246083-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-335 \pm 44$	$3.84^{+2.92}_{-2.33}$	$653^{+54}_{-40}$	$5491^{+3526}_{-1124}$	$3179^{+17559}_{-2150}$
Alt.	$-659 \pm 92$	$4.07^{+3.12}_{-2.36}$	$653^{+52}_{-38}$	$6320^{+4338}_{-1431}$	$5775^{+26698}_{-3916}$

$T_{max}$  = 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

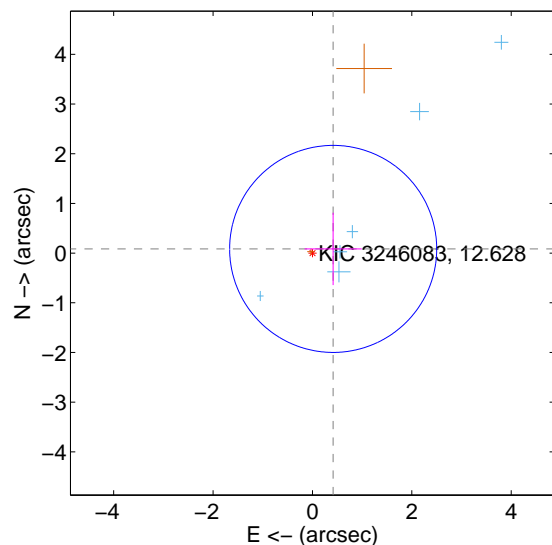
Supplemental centroid analysis for 003246083-03. Kepler magnitude: 12.63. Transit SNR 8.38

There are 6 quarters with good PRF difference image offsets

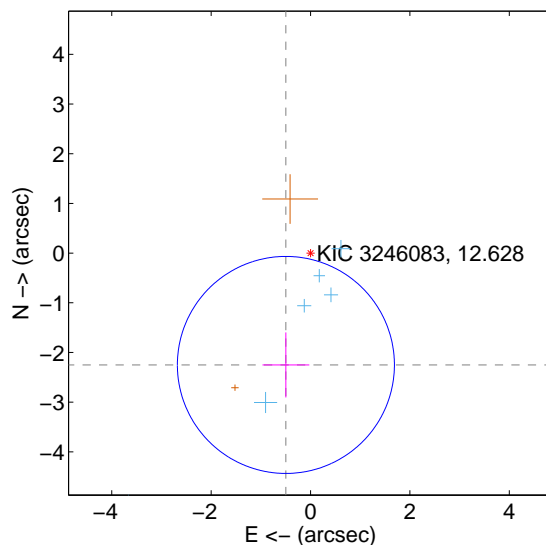
The OOT PRF centroid is offset from the target star catalog position by about 4.87 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.425 \pm 0.694$	0.61	$-0.417 \pm 0.574$	$0.084 \pm 0.729$
PRF-fit source offset from KIC position	$2.304 \pm 0.728$	3.17	$0.496 \pm 0.471$	$-2.250 \pm 0.655$
photometric centroid source offset	$1.94 \pm 0.71$	2.75	$1.91 \pm 0.70$	$-0.35 \pm 0.73$

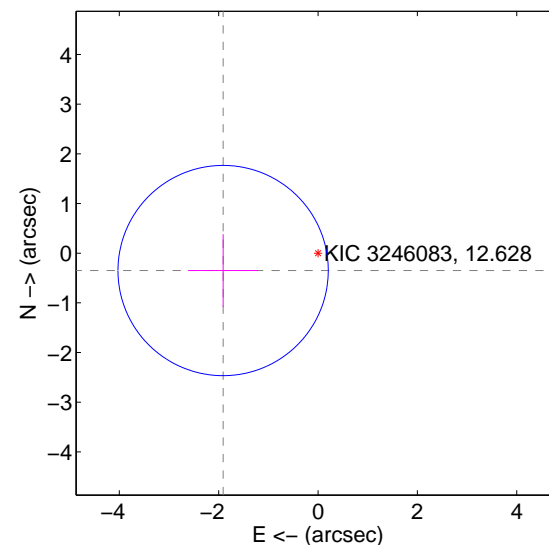
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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.

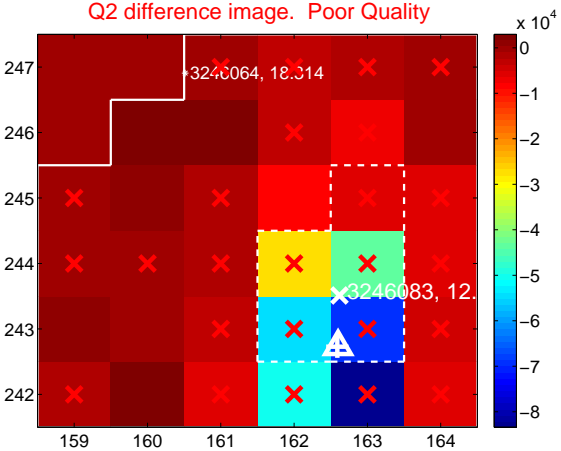
Q1 no difference image



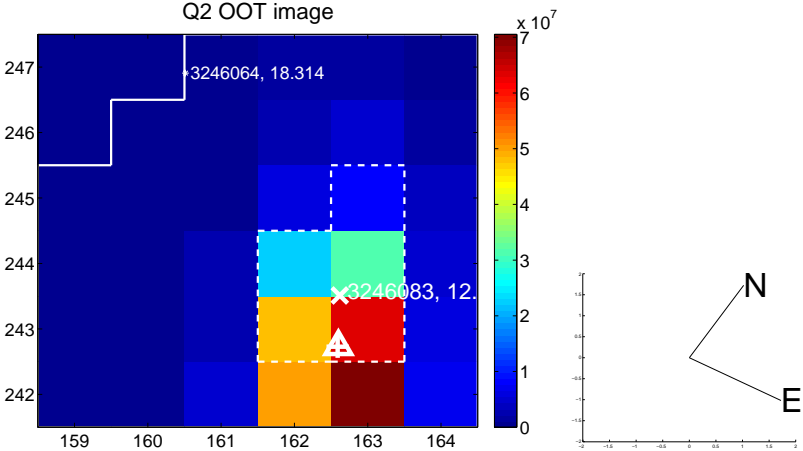
Q1 no OOT image



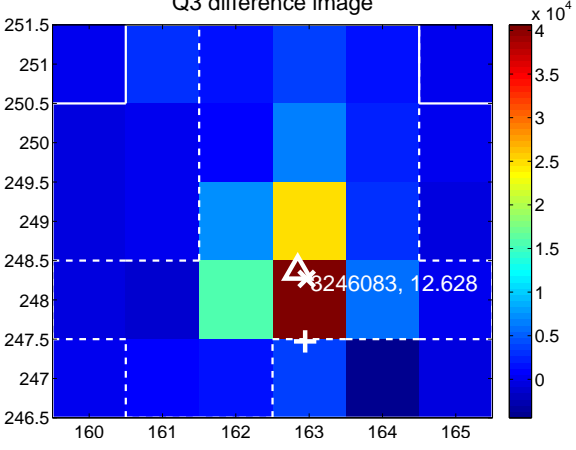
Q2 difference image. Poor Quality



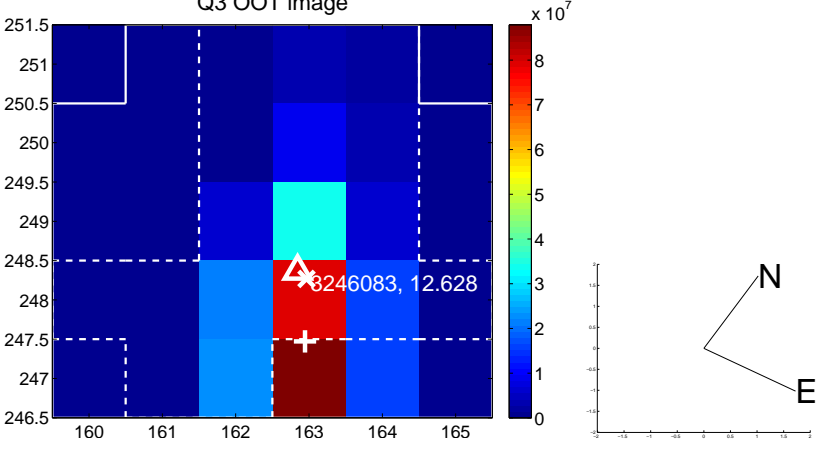
Q2 OOT image



Q3 difference image



Q3 OOT image



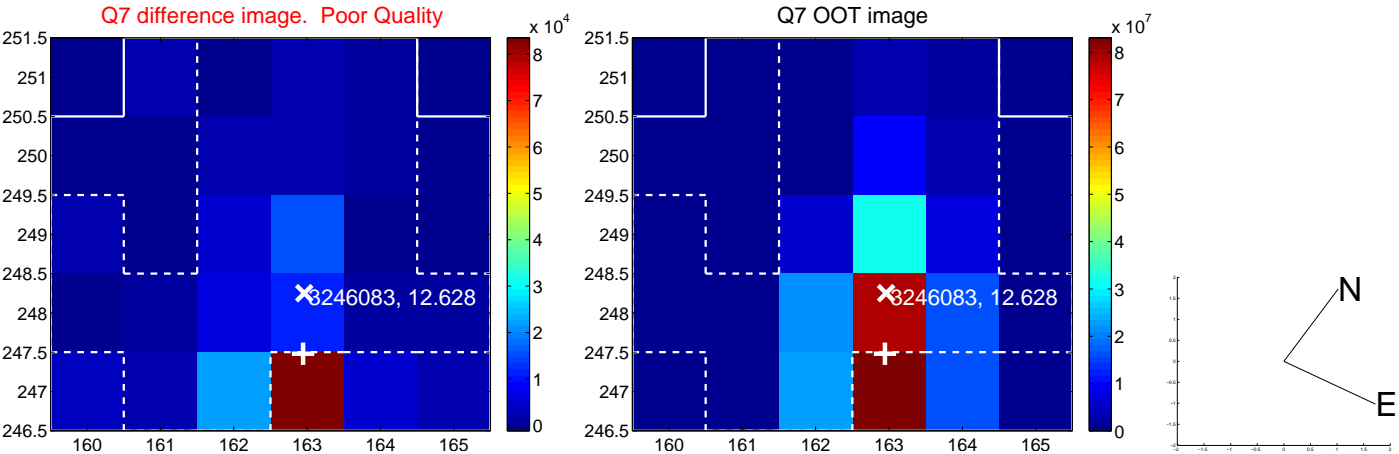
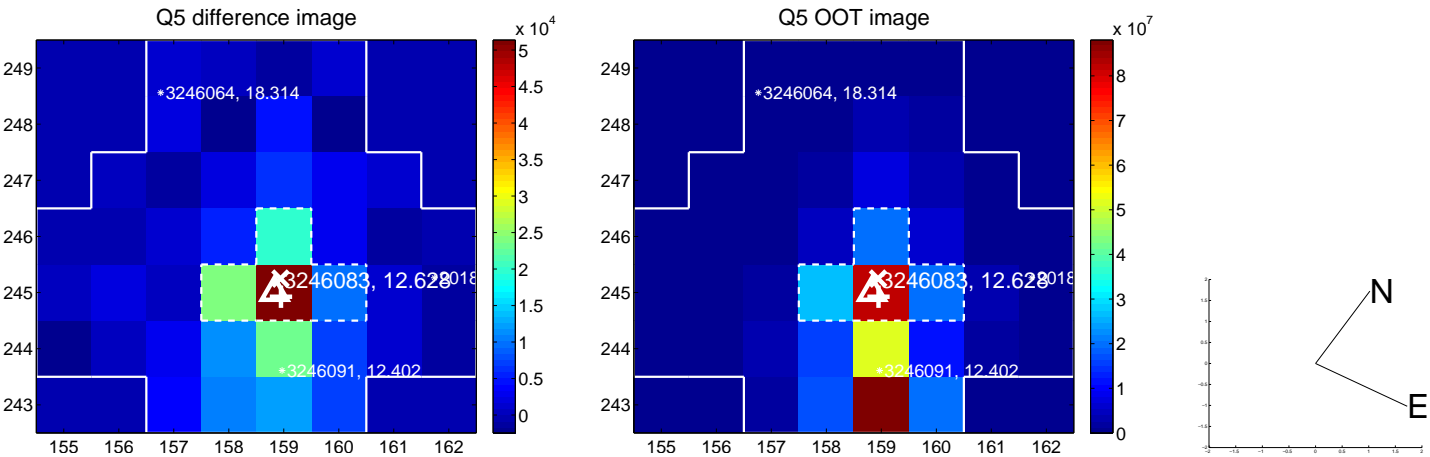
Q4 no difference image



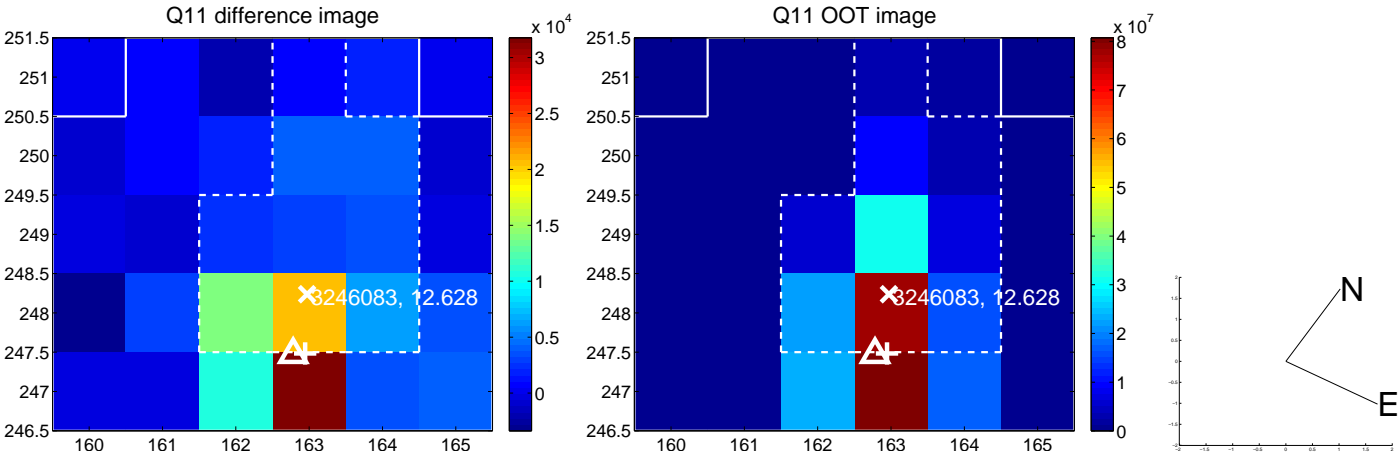
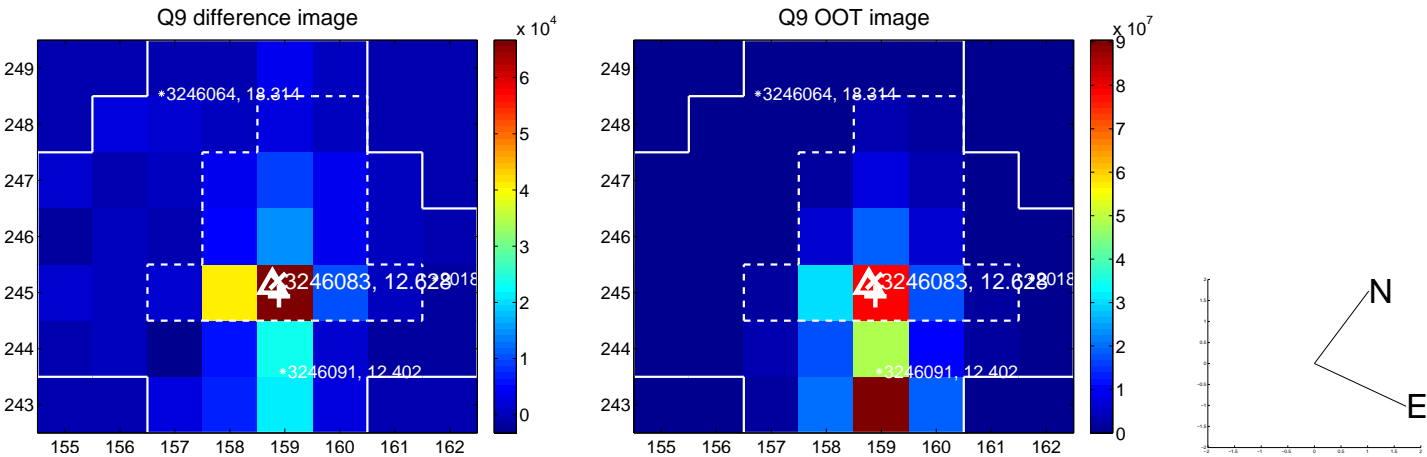
Q4 no OOT image



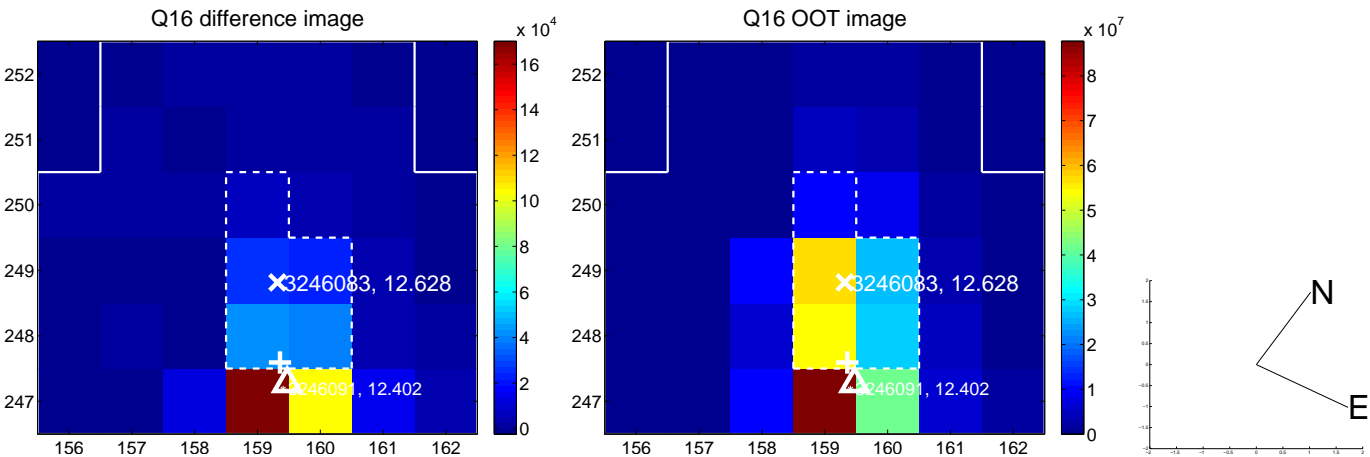
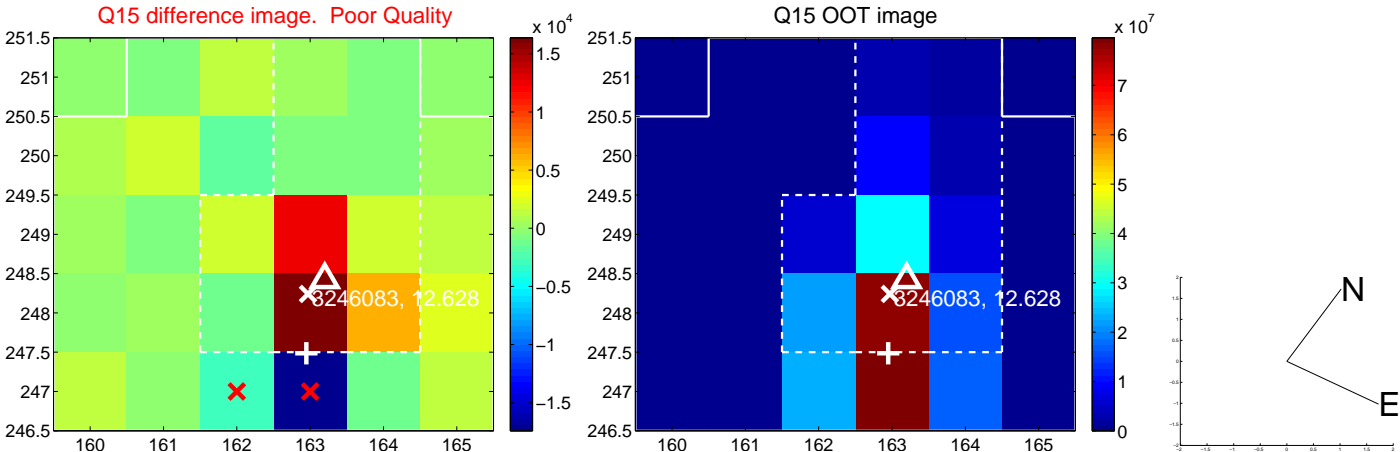
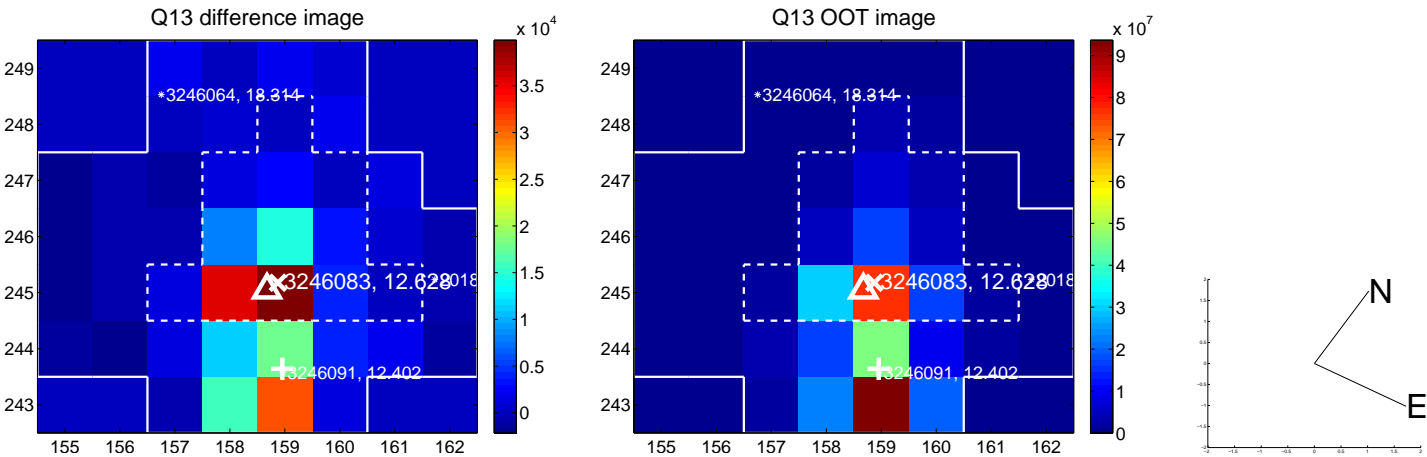
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



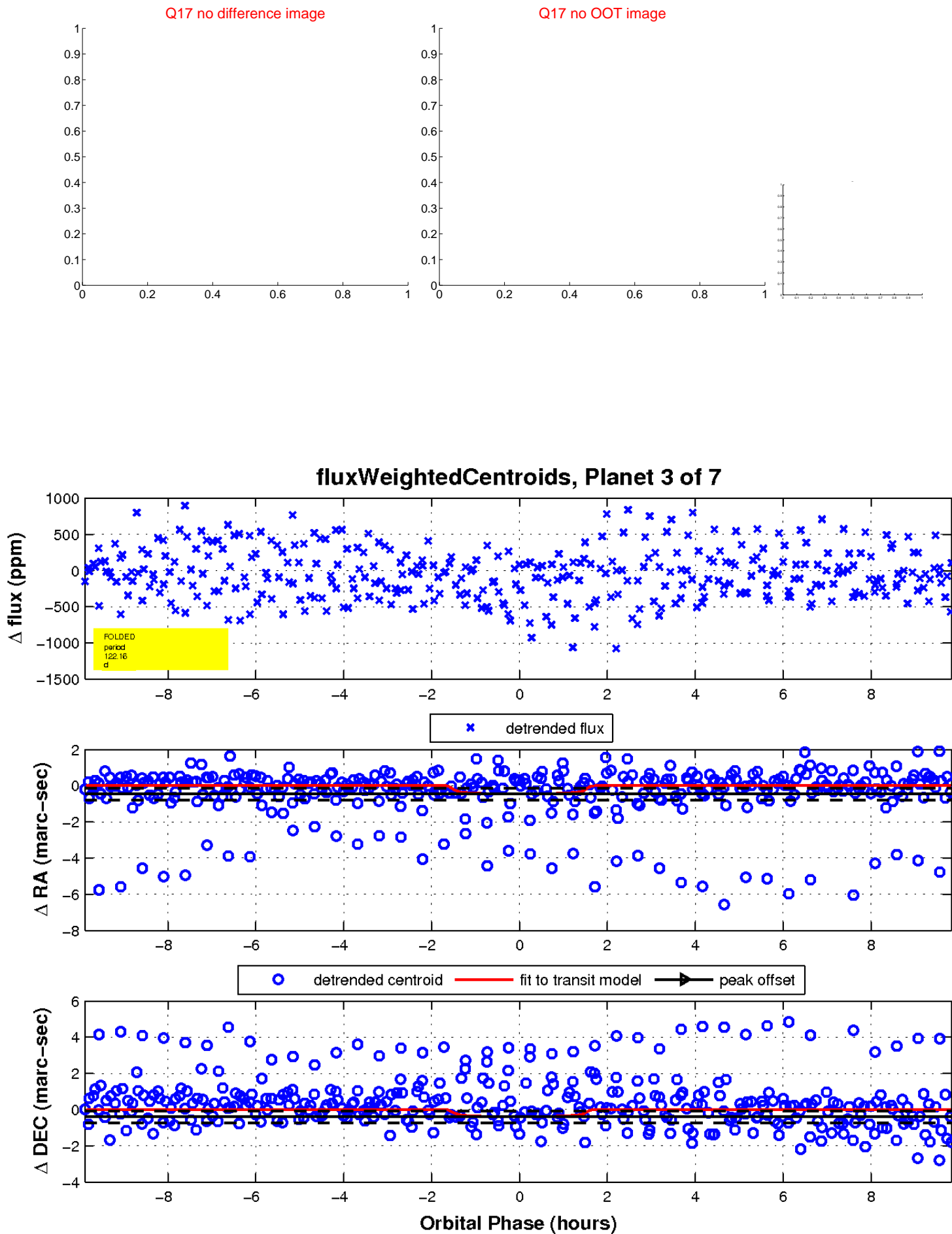
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

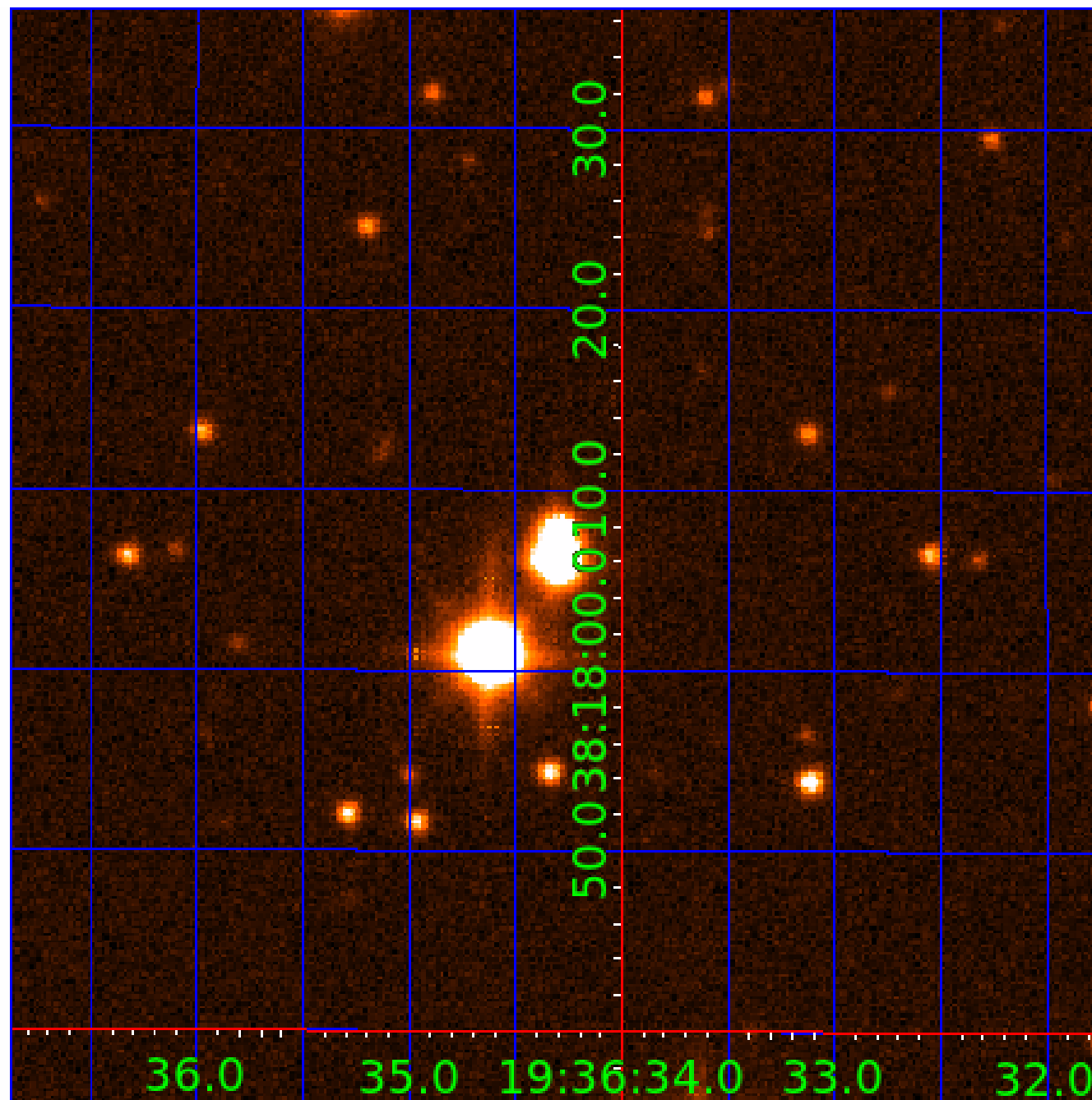


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 003246083

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003246083-01	OBS	No	1.339082	132.073775	42.7	7.258	8.7	8.4	1.39	6443	1.06	4641.73
003246083-02	OBS	No	255.234601	266.561521	755.9	11.624	9.7	8.2	1.39	6443	4.57	4.23
003246083-03	OBS	No	122.157161	207.272630	441.7	3.297	8.7	8.4	1.39	6443	3.28	11.30
003246083-04	OBS	No	51.596214	152.234320	497.9	6.776	8.4	9.2	1.39	6443	5.95	35.67
003246083-05	OBS	No	346.561677	453.388444	1063.7	16.507	7.8	8.3	1.39	6443	5.94	2.81
003246083-06	OBS	No	104.642470	198.168860	430.6	4.432	7.4	7.9	1.39	6443	3.29	13.89
003246083-07	OBS	No	117.038150	196.824850	509.7	4.654	7.7	7.8	1.39	6443	4.05	11.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003246083-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
003246083-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
003246083-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003246083-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
003246083-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
003246083-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
003246083-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

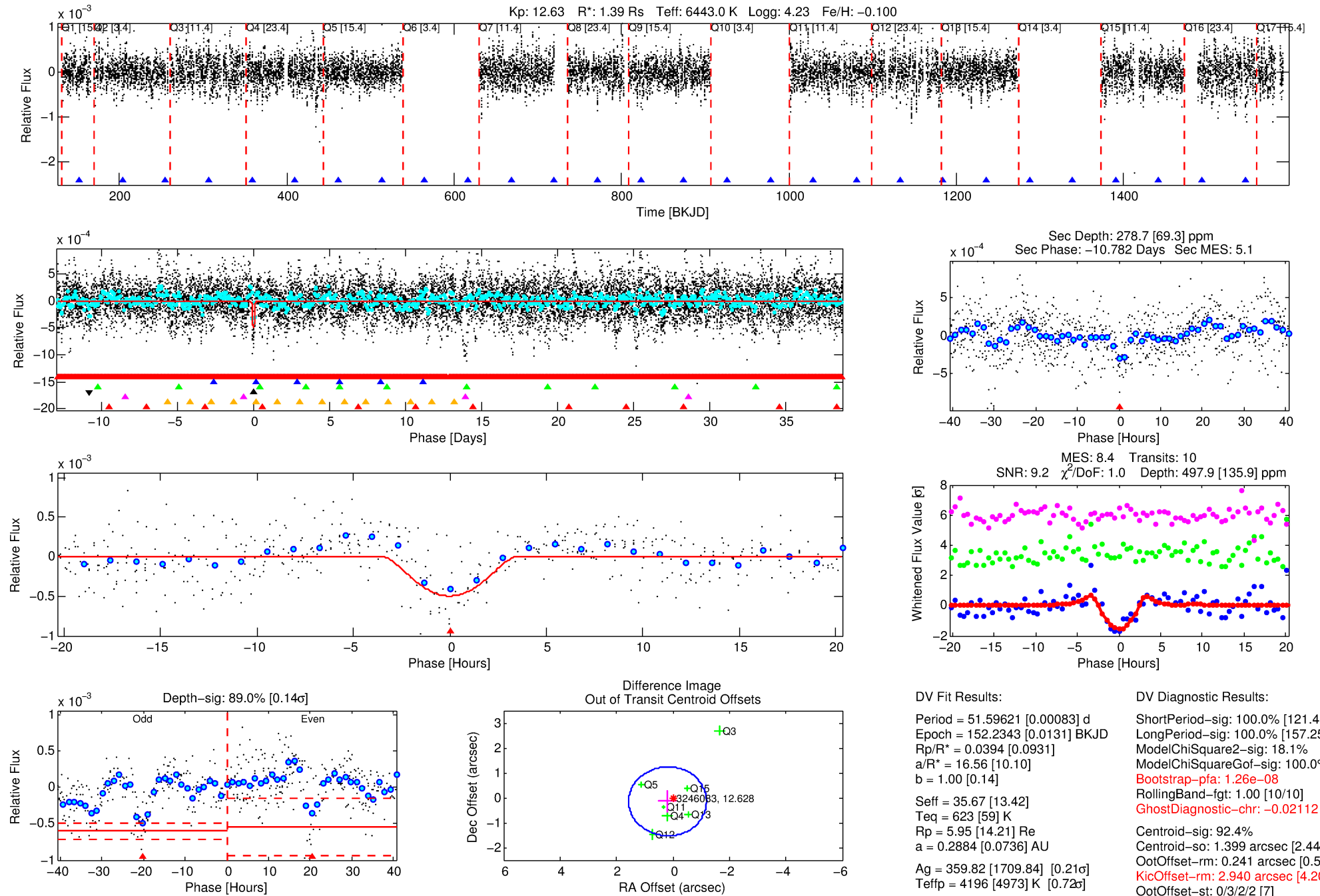
Ephemeris Match Information For 003246083-04

No Significant Match Found



# DV One-Page Summary

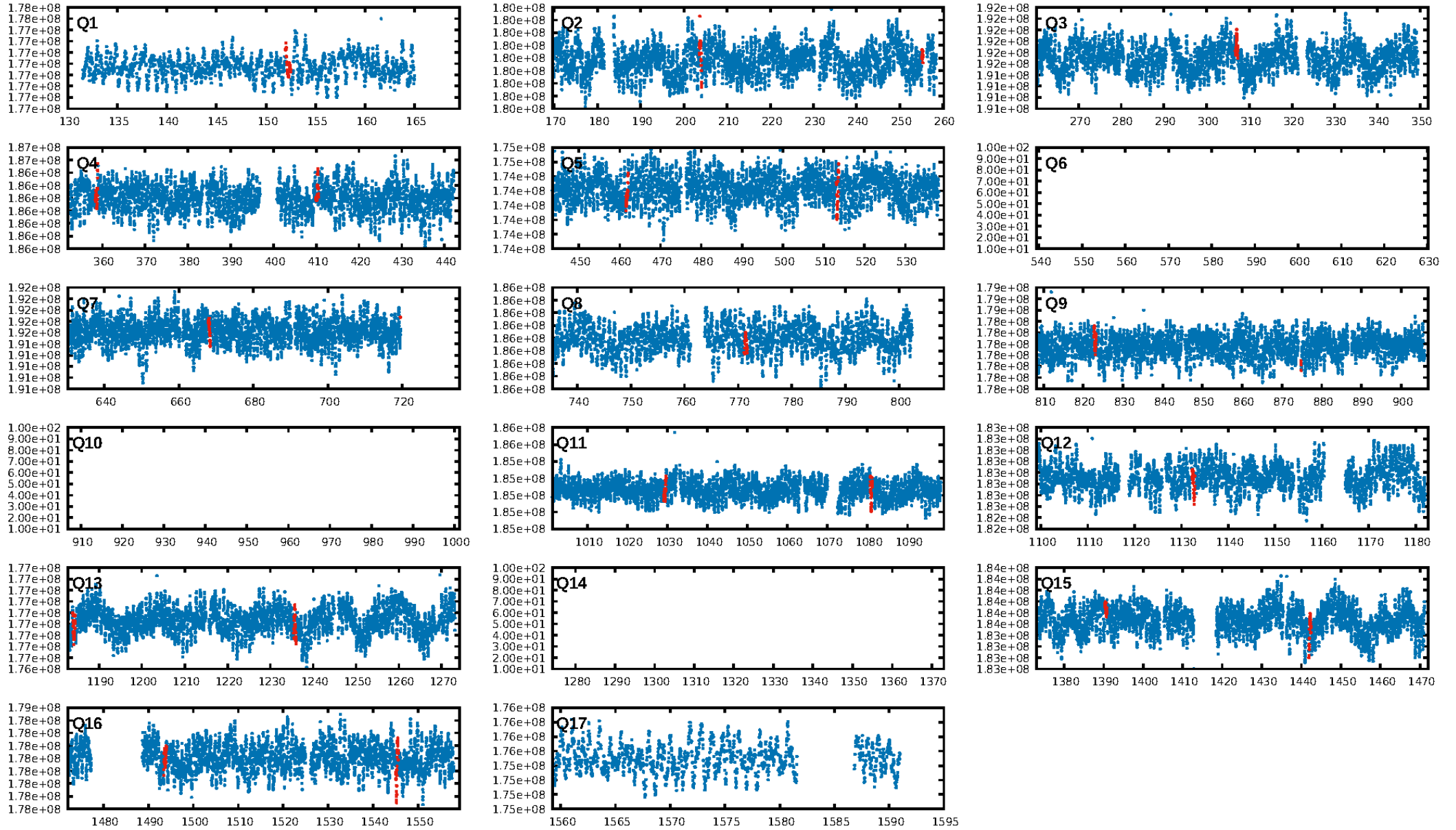
KIC: 3246083 Candidate: 4 of 7 Period: 51.596 d



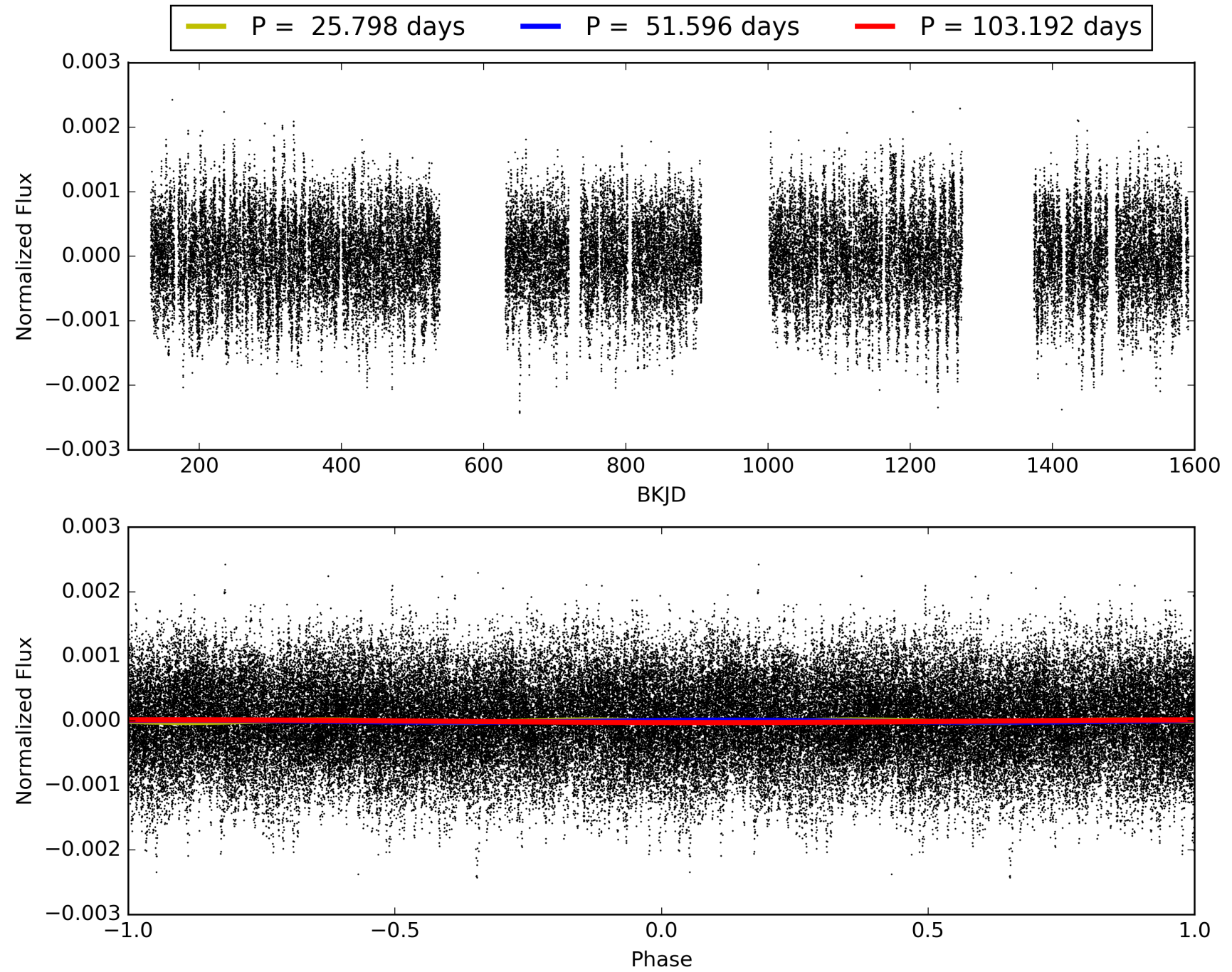
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:00:50 Z

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

# TCE 003246083-04, PDC Light Curves

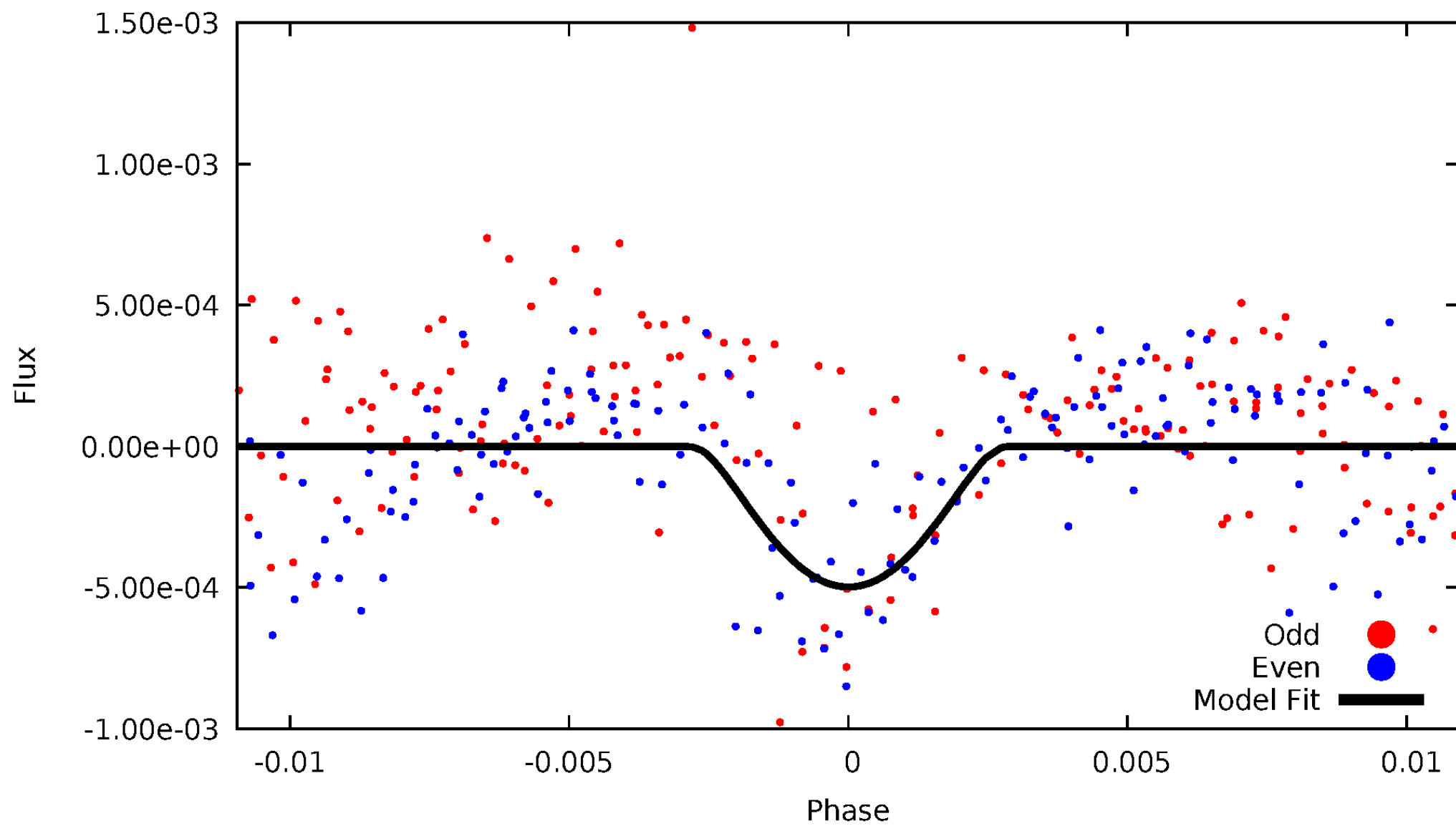


# TCE 003246083-04



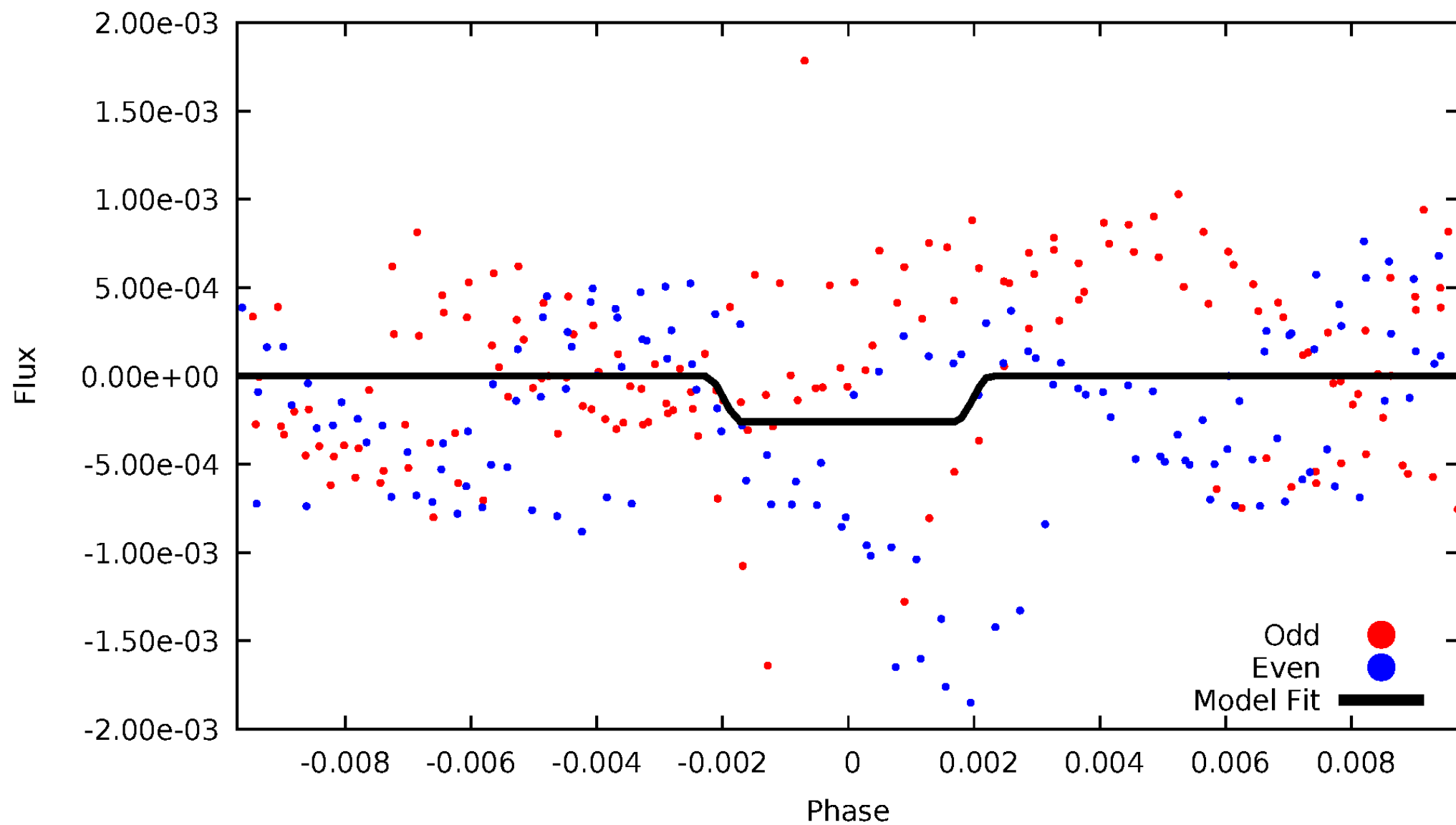
# DV Odd/Even

TCE 003246083-04



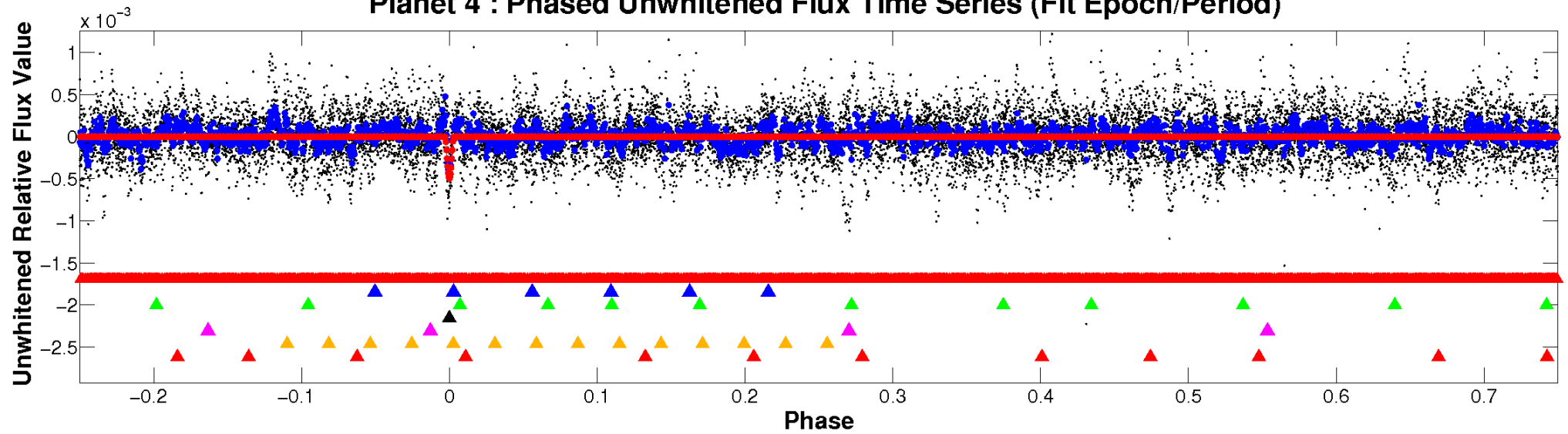
# ALT Odd/Even

TCE 003246083-04

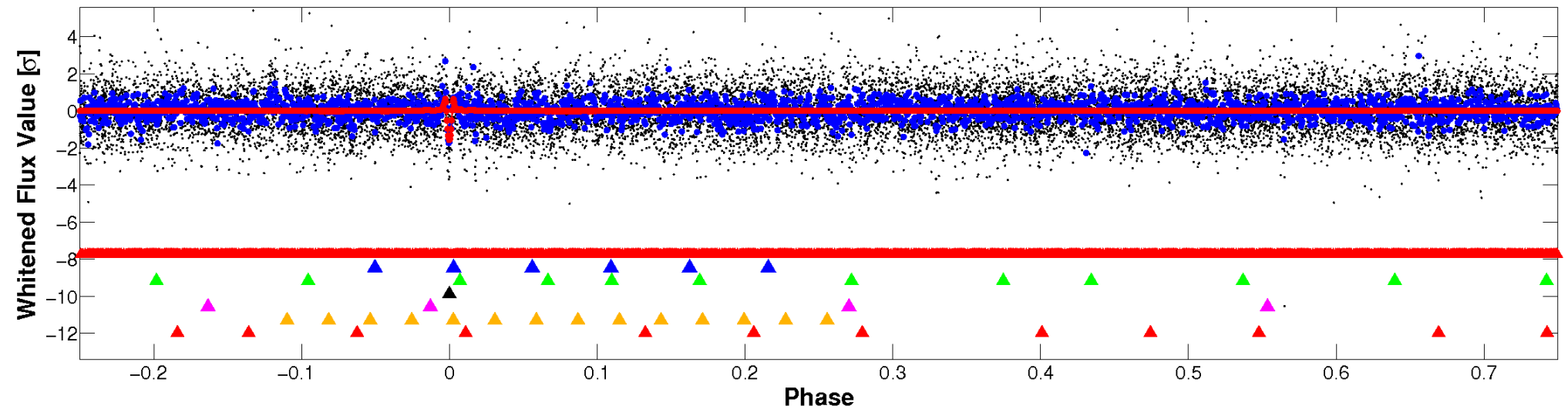


# Non-Whitened Vs. Whitened Light Curve

## Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



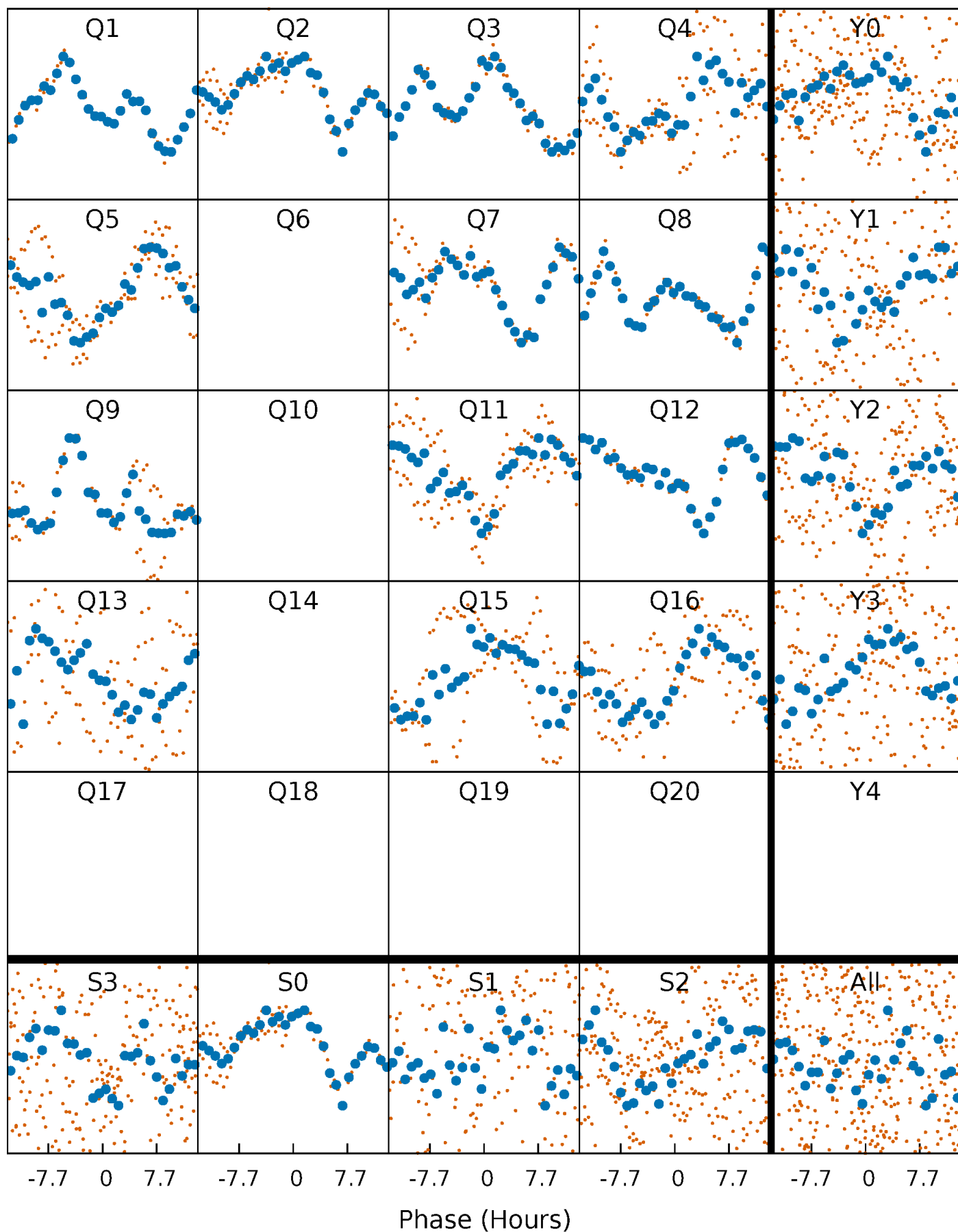
## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

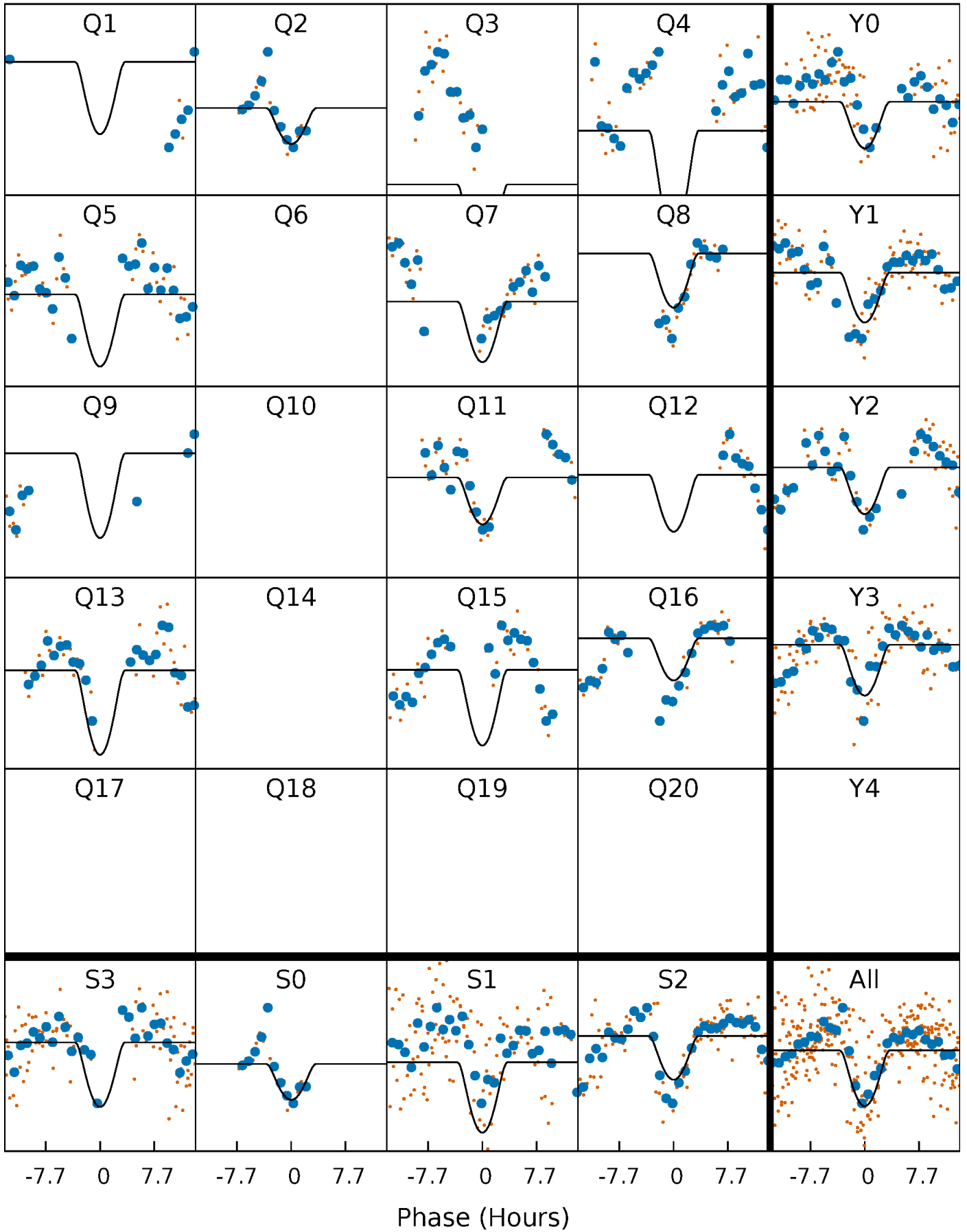
TCE 003246083-04   P= 51.596214 Days    $T_0=152.234320$  (BKJD)





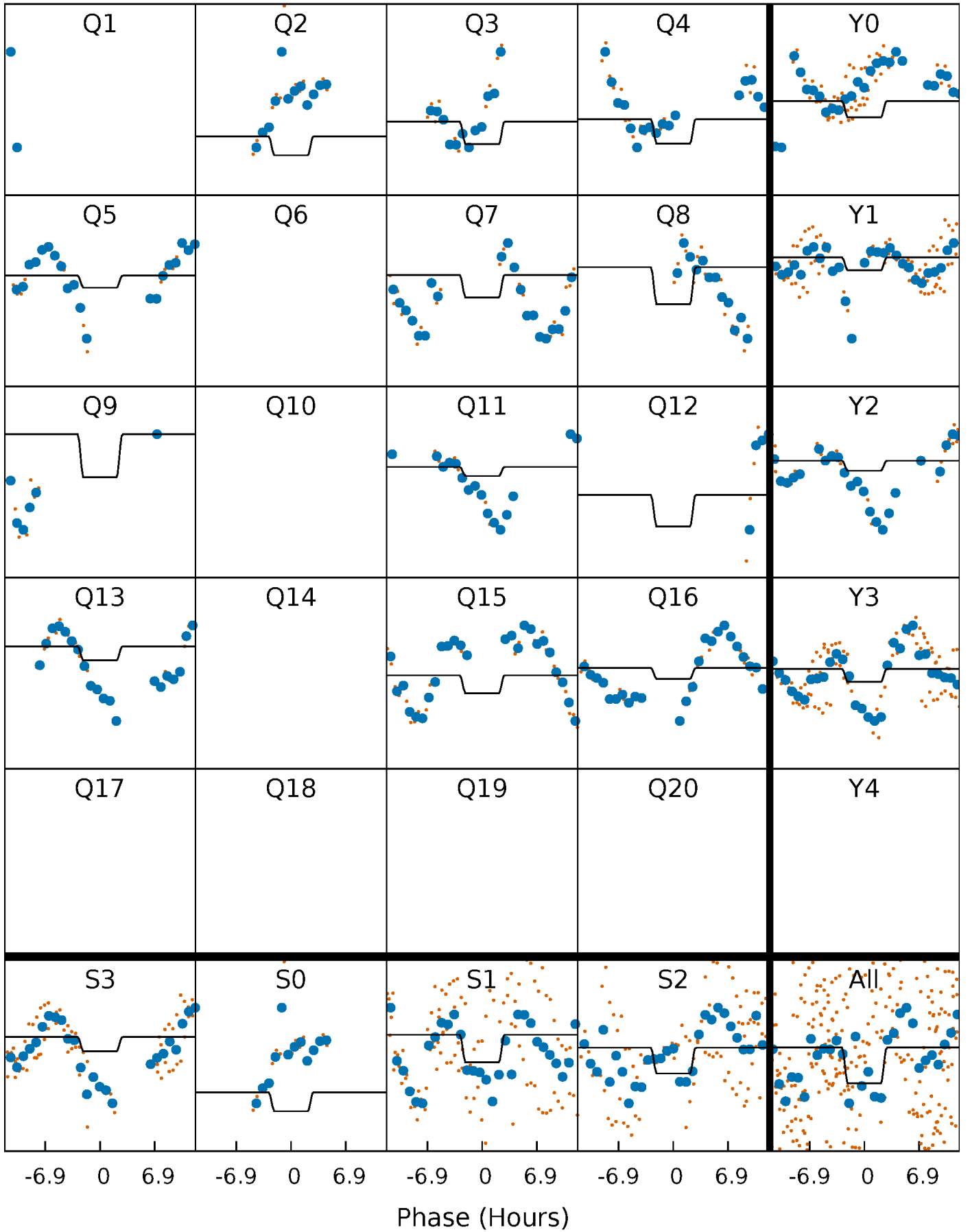
# DV Quarter-Phased Transit Curves

TCE 003246083-04   P= 51.596214 Days    $T_0=152.234320$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

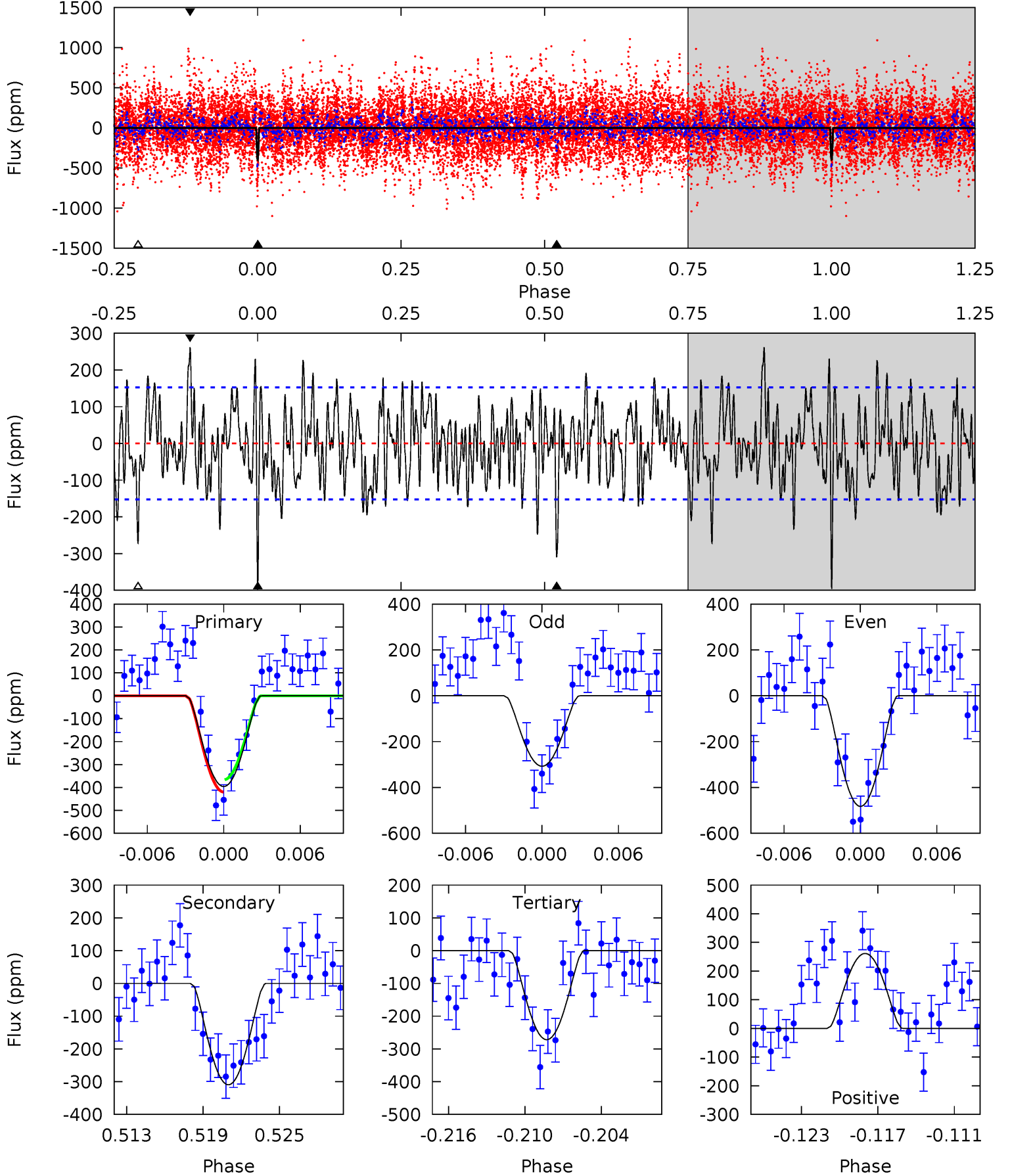
TCE 003246083-04   P= 51.596187 Days    $T_0=152.125915$  (BKJD)



# DV Model-Shift Uniqueness Test

003246083-04, P = 51.596214 Days, E = 100.638106 Days

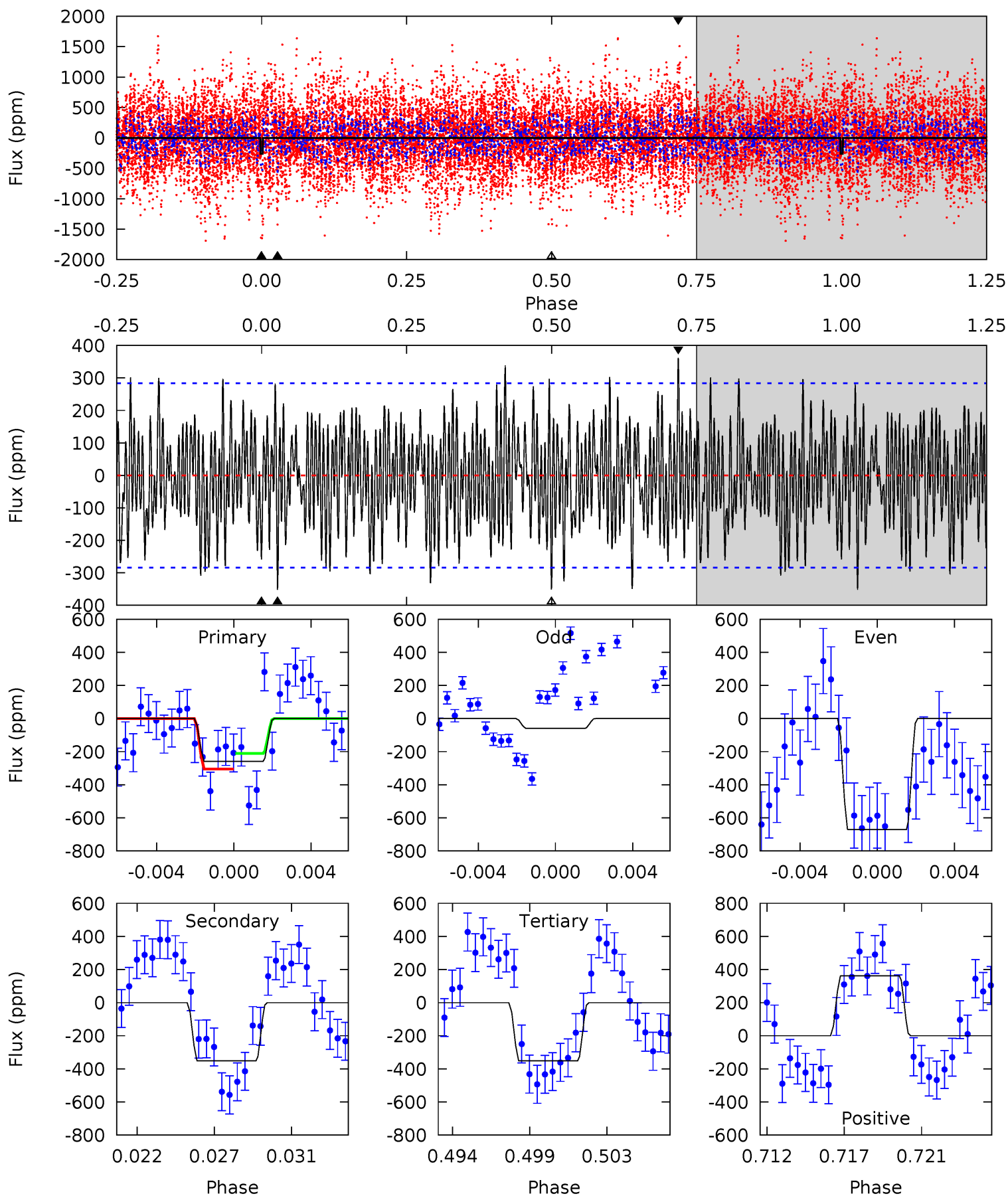
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	10.4	9.14	8.79	5.13	2.76	2.80	4.17	4.52	1.27	1.62	2.94	0.53	0.40	0.90



# Alt Model-Shift Uniqueness Test

003246083-04, P = 51.596187 Days, E = 100.529728 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
4.73	6.42	6.41	6.59	5.18	2.84	2.33	-1.68	-1.87	0.01	-0.18	5.62	-35.9	0.51	0.86



### Stellar Parameters For KIC 003246083

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6443^{+155}_{-194}$	$4.234^{+0.153}_{-0.187}$	$-0.100^{+0.250}_{-0.300}$	$1.386^{+0.439}_{-0.293}$	$1.202^{+0.192}_{-0.174}$	$0.636^{+0.495}_{-0.324}$
	+2%/-3%	+4%/-4%	+250%/-300%	+32%/-21%	+16%/-14%	+78%/-51%
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 003246083-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-310 \pm 30$	$11.83^{+13.20}_{-8.19}$	$873^{+67}_{-56}$	$3564^{+1831}_{-713}$	$106^{+869}_{-83}$
Alt.	$-352 \pm 55$	$10.79^{+11.74}_{-7.58}$	$874^{+66}_{-58}$	$3711^{+2122}_{-725}$	$133^{+1296}_{-102}$

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

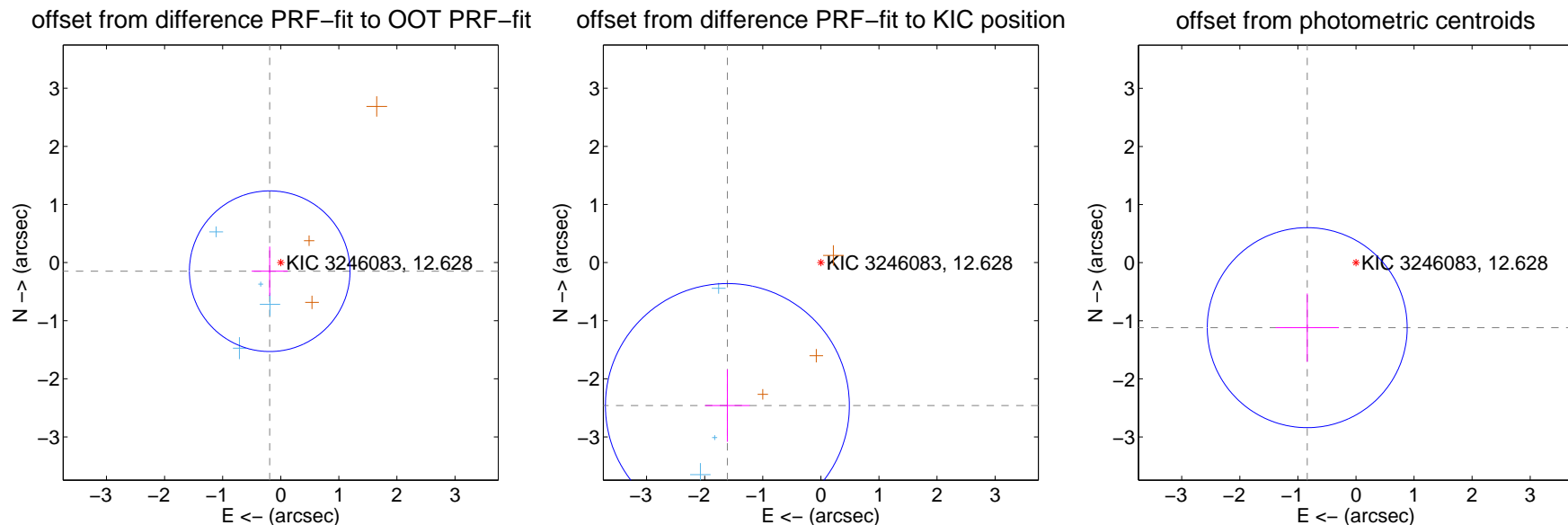
## DV Centroid Data

Supplemental centroid analysis for 003246083-04. Kepler magnitude: 12.63. Transit SNR 9.17

There are 4 quarters with good PRF difference image offsets

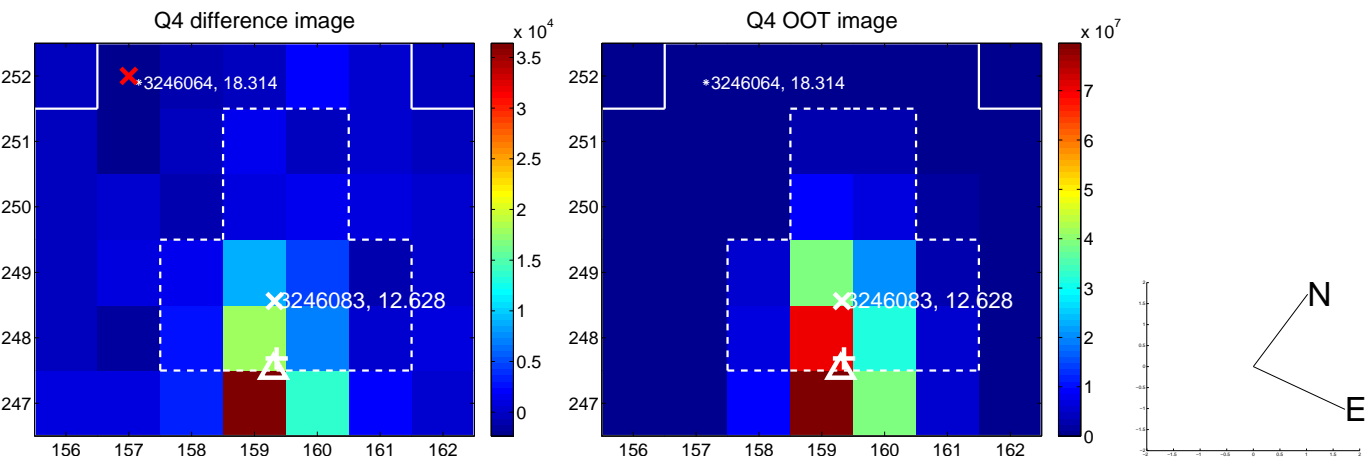
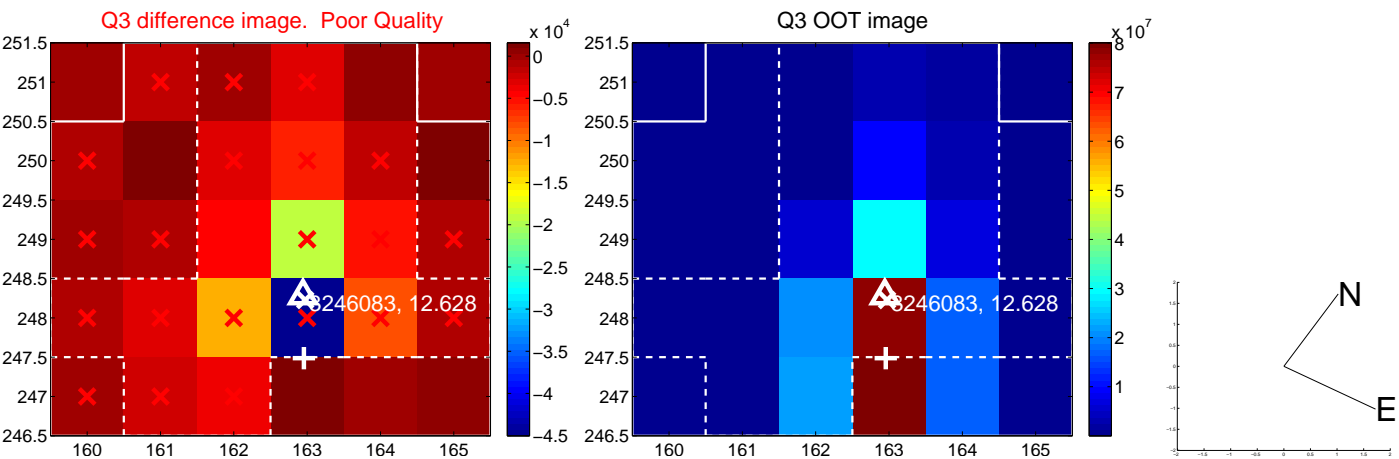
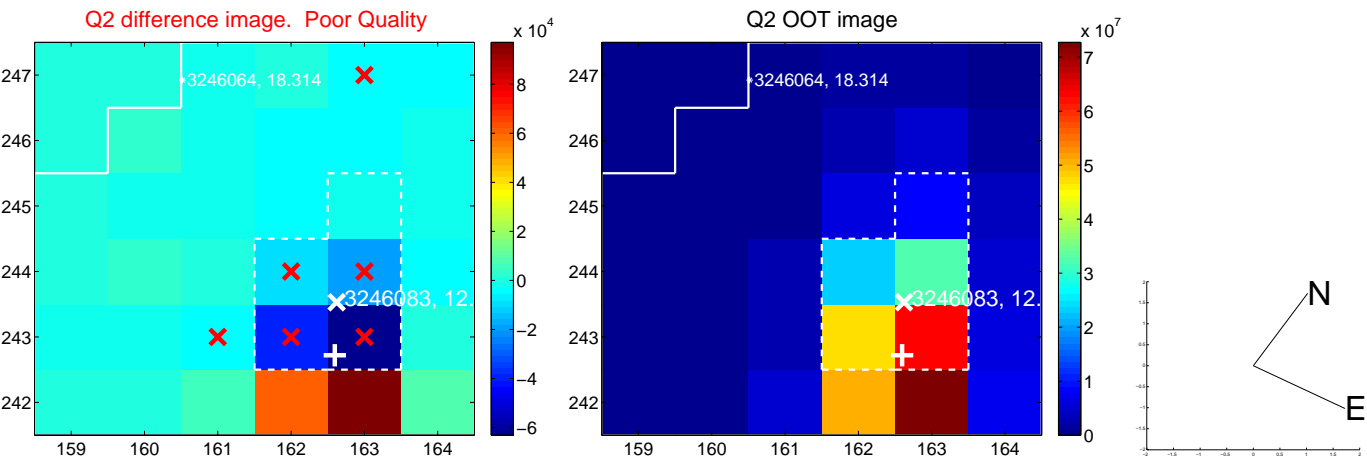
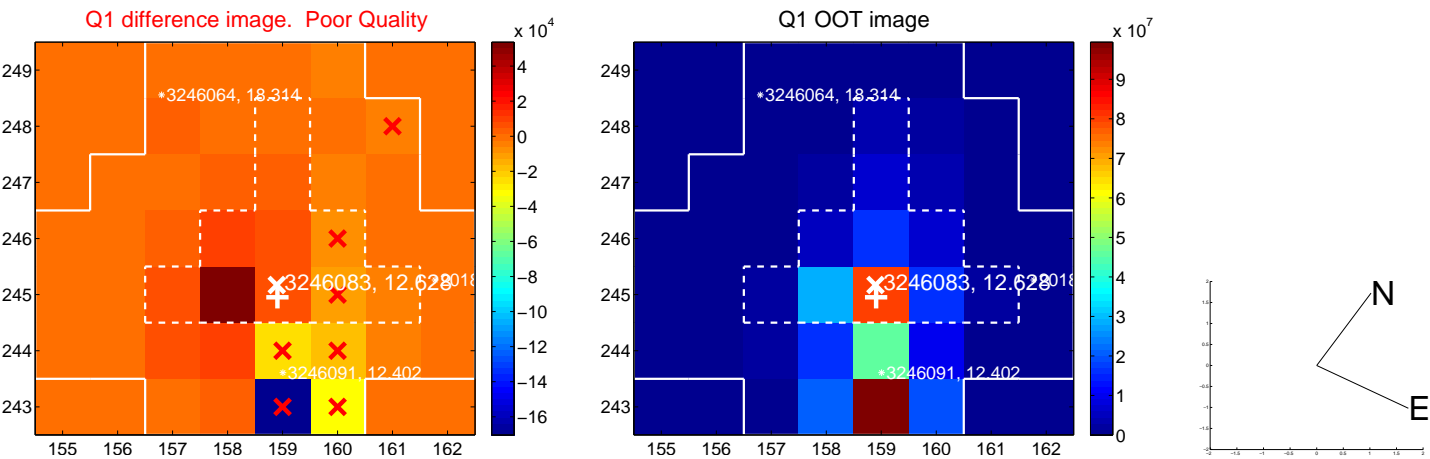
The OOT PRF centroid is offset from the target star catalog position by about 3.03 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.241 \pm 0.461$	0.52	$0.190 \pm 0.311$	$-0.148 \pm 0.423$
PRF-fit source offset from KIC position	<b><math>2.940 \pm 0.700</math></b>	<b>4.20</b>	$1.609 \pm 0.383$	$-2.461 \pm 0.622$
photometric centroid source offset	$1.40 \pm 0.57$	2.44	$0.84 \pm 0.55$	$-1.12 \pm 0.59$



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.

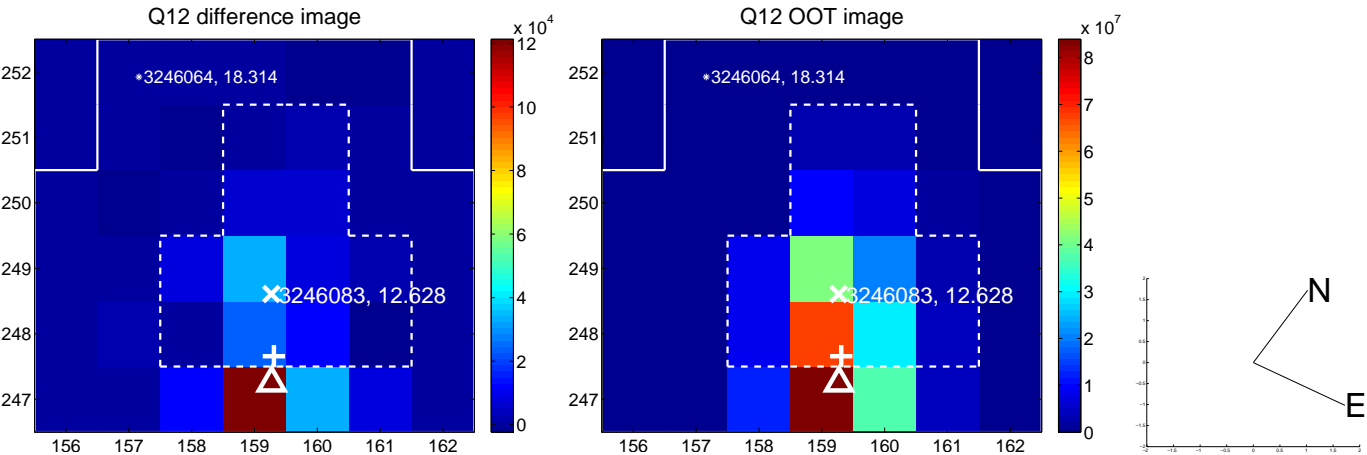
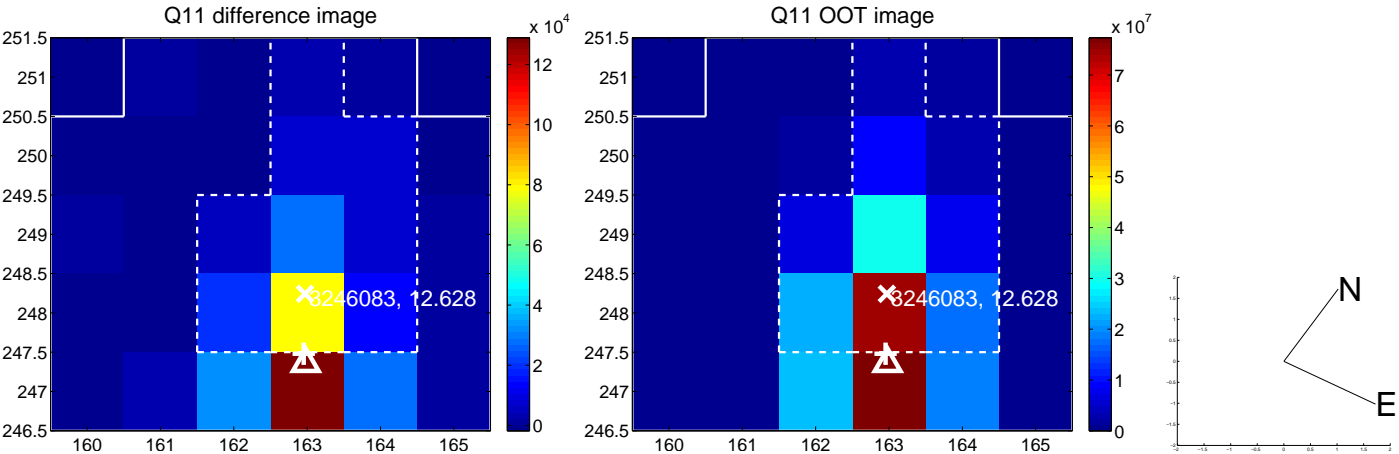
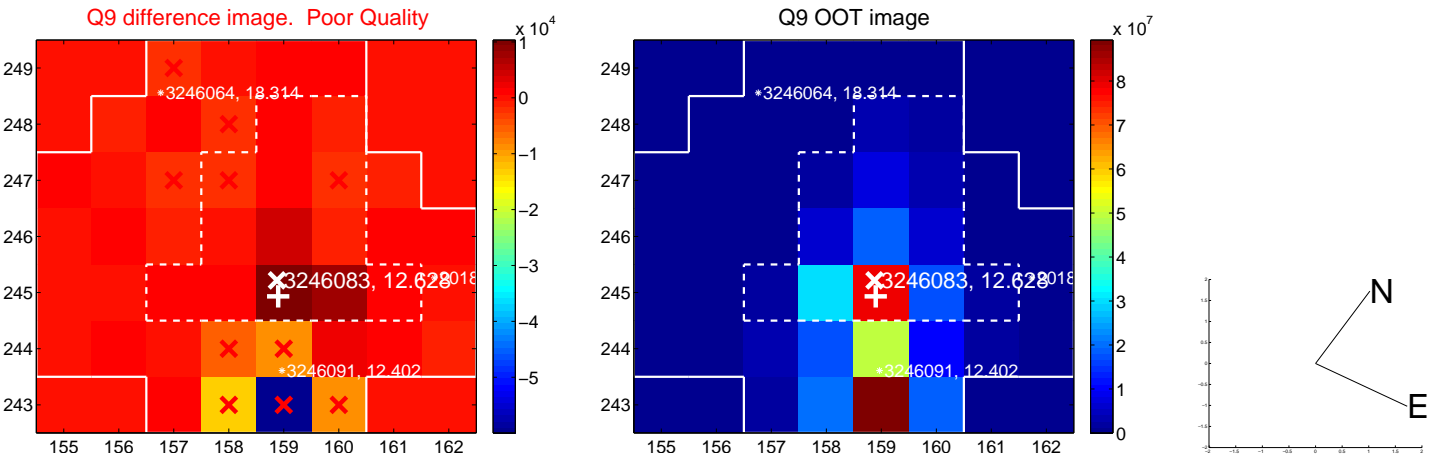
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



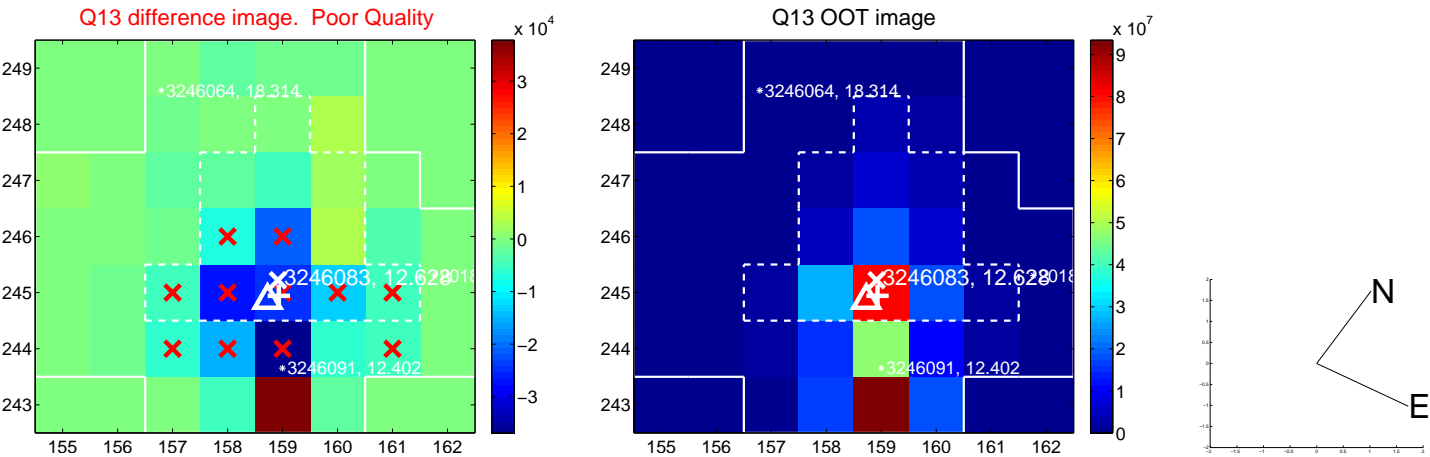




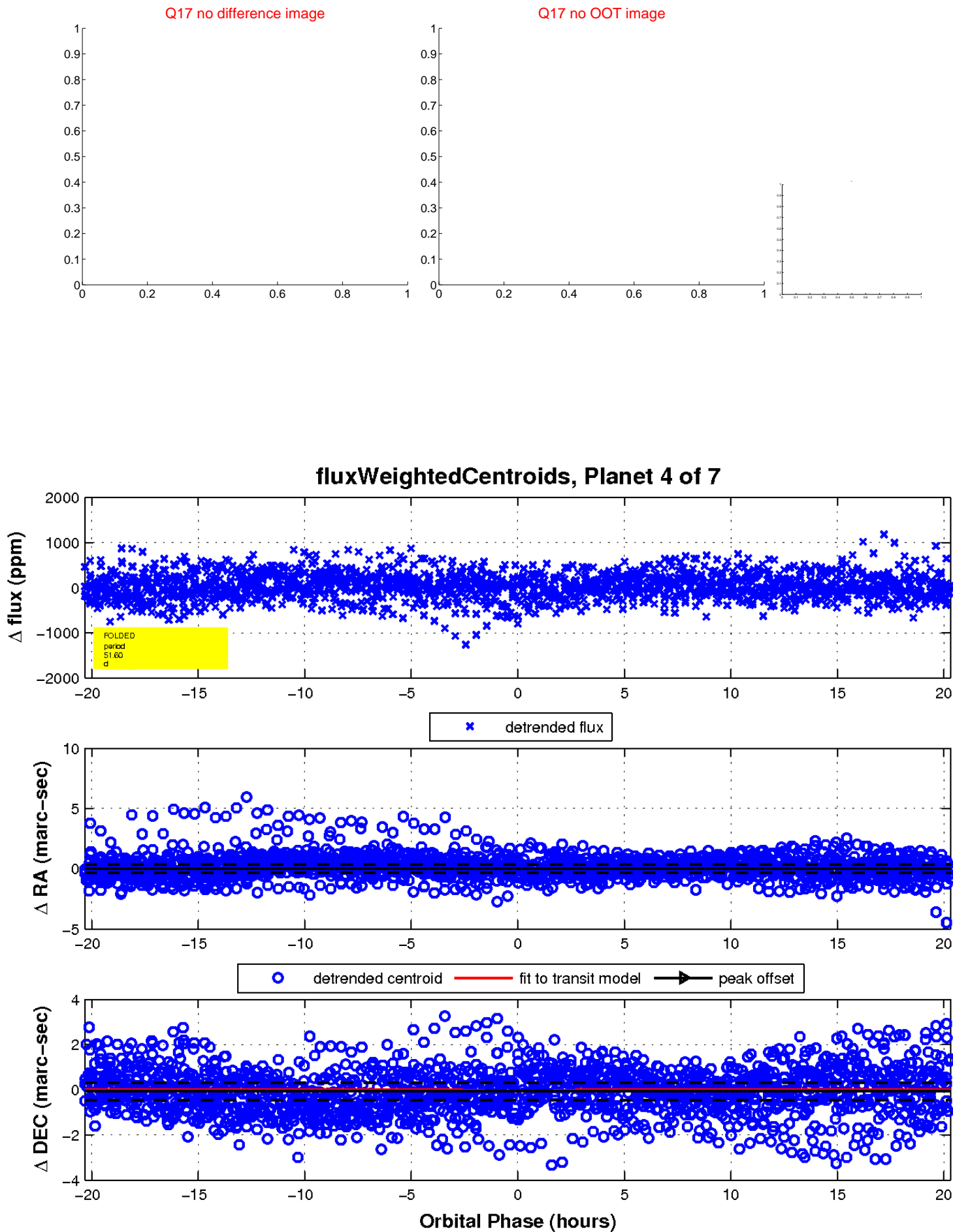
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

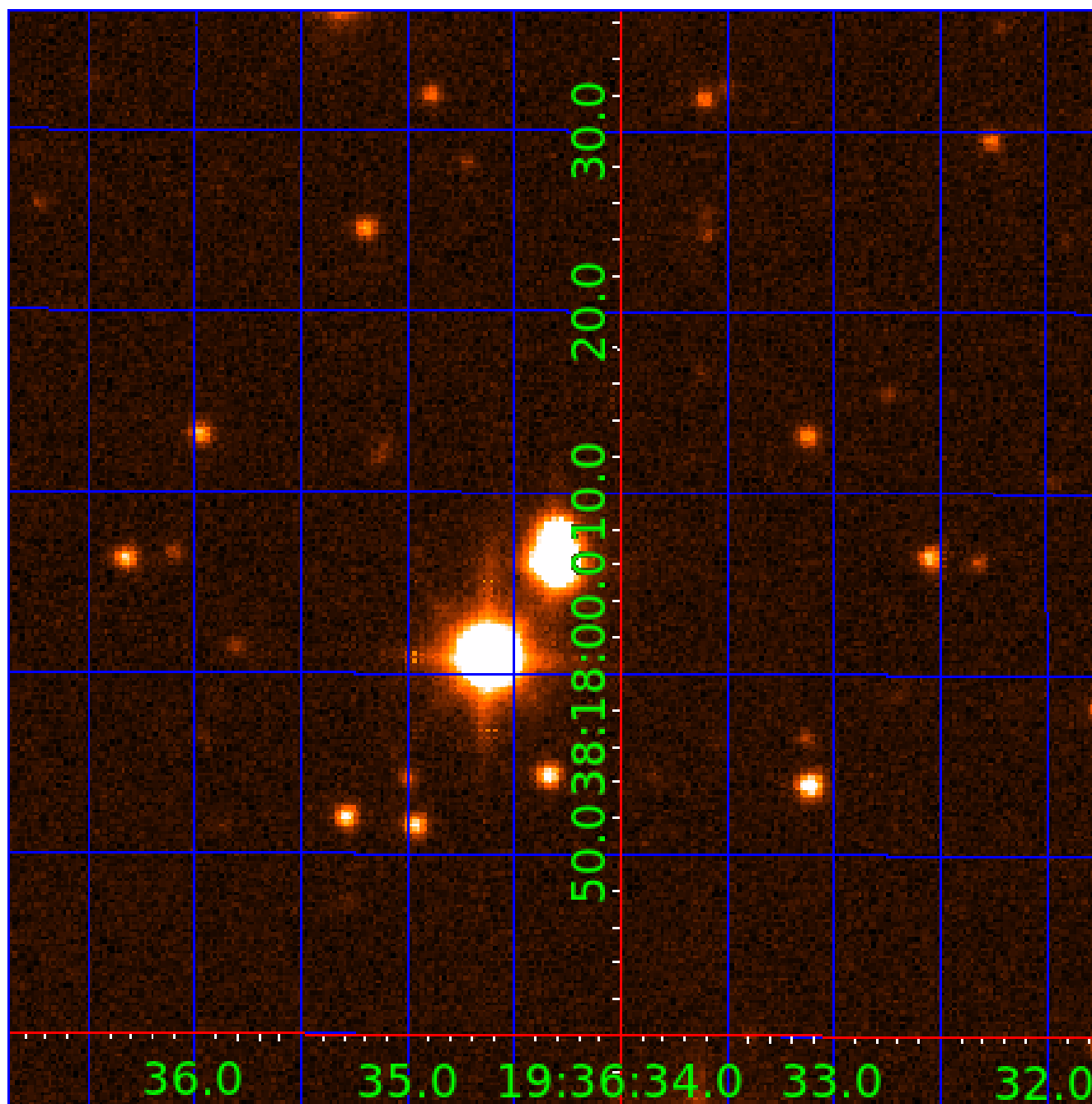


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 003246083

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003246083-01	OBS	No	1.339082	132.073775	42.7	7.258	8.7	8.4	1.39	6443	1.06	4641.73
003246083-02	OBS	No	255.234601	266.561521	755.9	11.624	9.7	8.2	1.39	6443	4.57	4.23
003246083-03	OBS	No	122.157161	207.272630	441.7	3.297	8.7	8.4	1.39	6443	3.28	11.30
003246083-04	OBS	No	51.596214	152.234320	497.9	6.776	8.4	9.2	1.39	6443	5.95	35.67
003246083-05	OBS	No	346.561677	453.388444	1063.7	16.507	7.8	8.3	1.39	6443	5.94	2.81
003246083-06	OBS	No	104.642470	198.168860	430.6	4.432	7.4	7.9	1.39	6443	3.29	13.89
003246083-07	OBS	No	117.038150	196.824850	509.7	4.654	7.7	7.8	1.39	6443	4.05	11.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003246083-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
003246083-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
003246083-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003246083-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
003246083-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
003246083-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
003246083-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

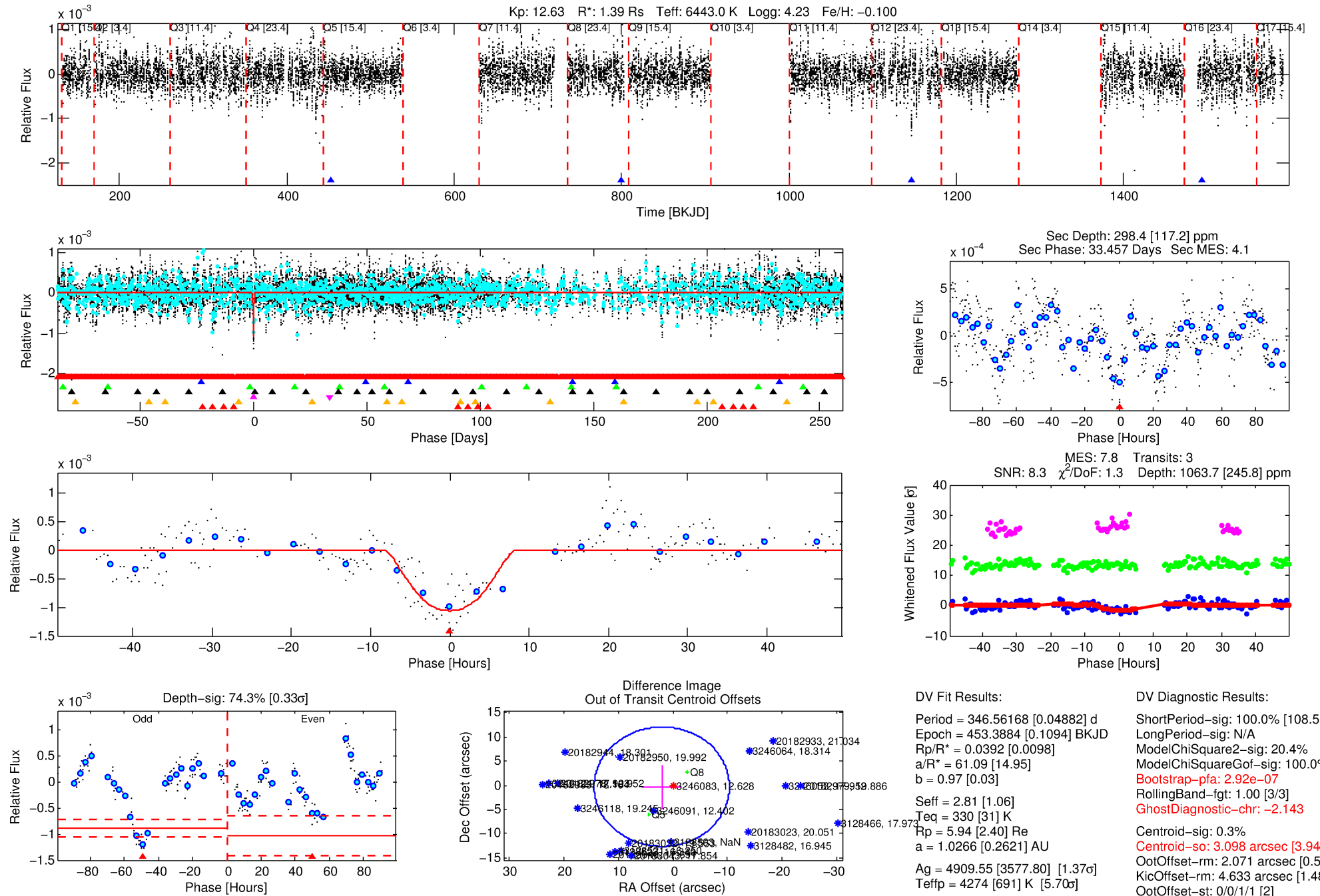
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 003246083-05

No Significant Match Found

# DV One-Page Summary

KIC: 3246083 Candidate: 5 of 7 Period: 346.562 d

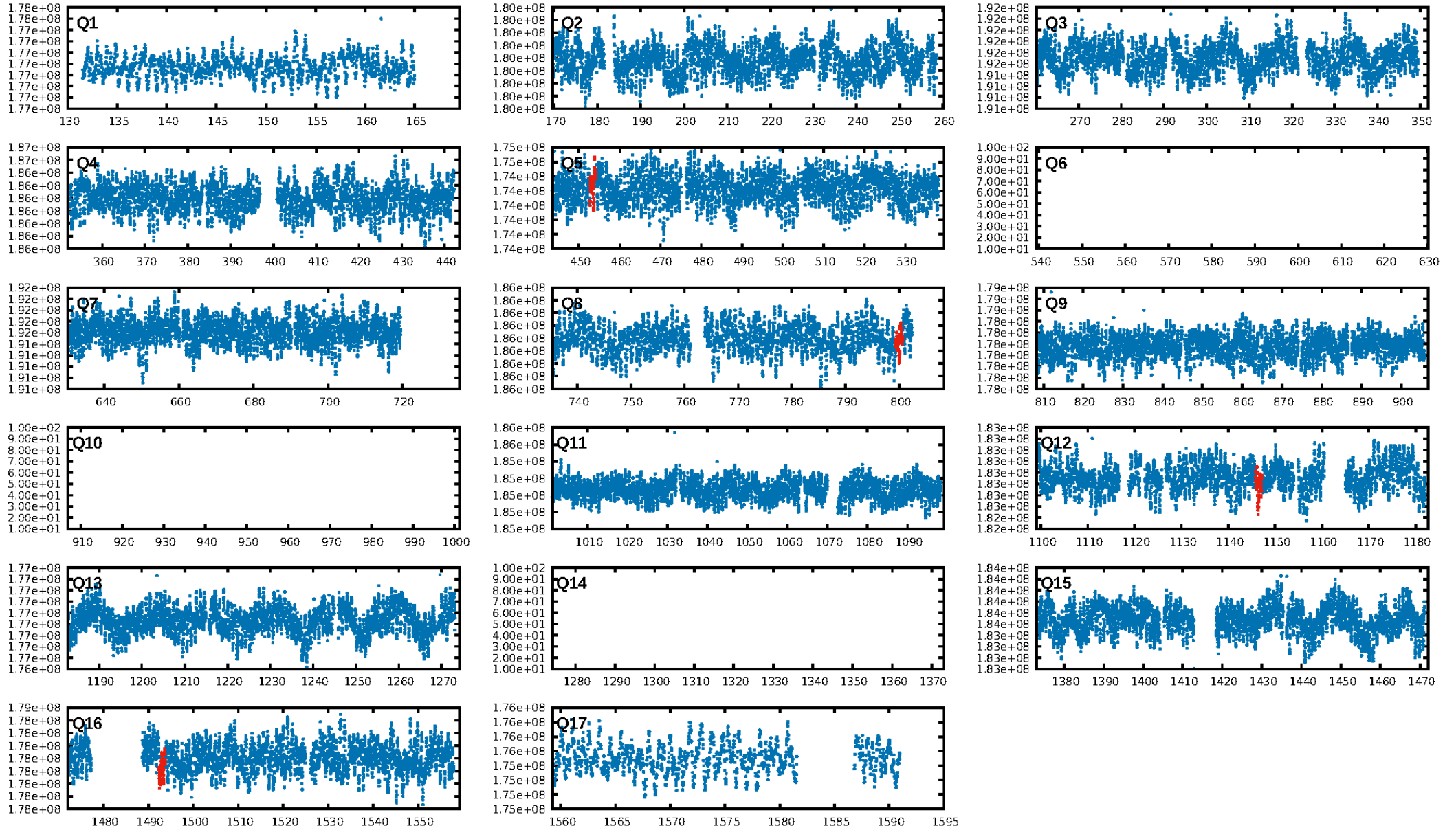


Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:00:55 Z

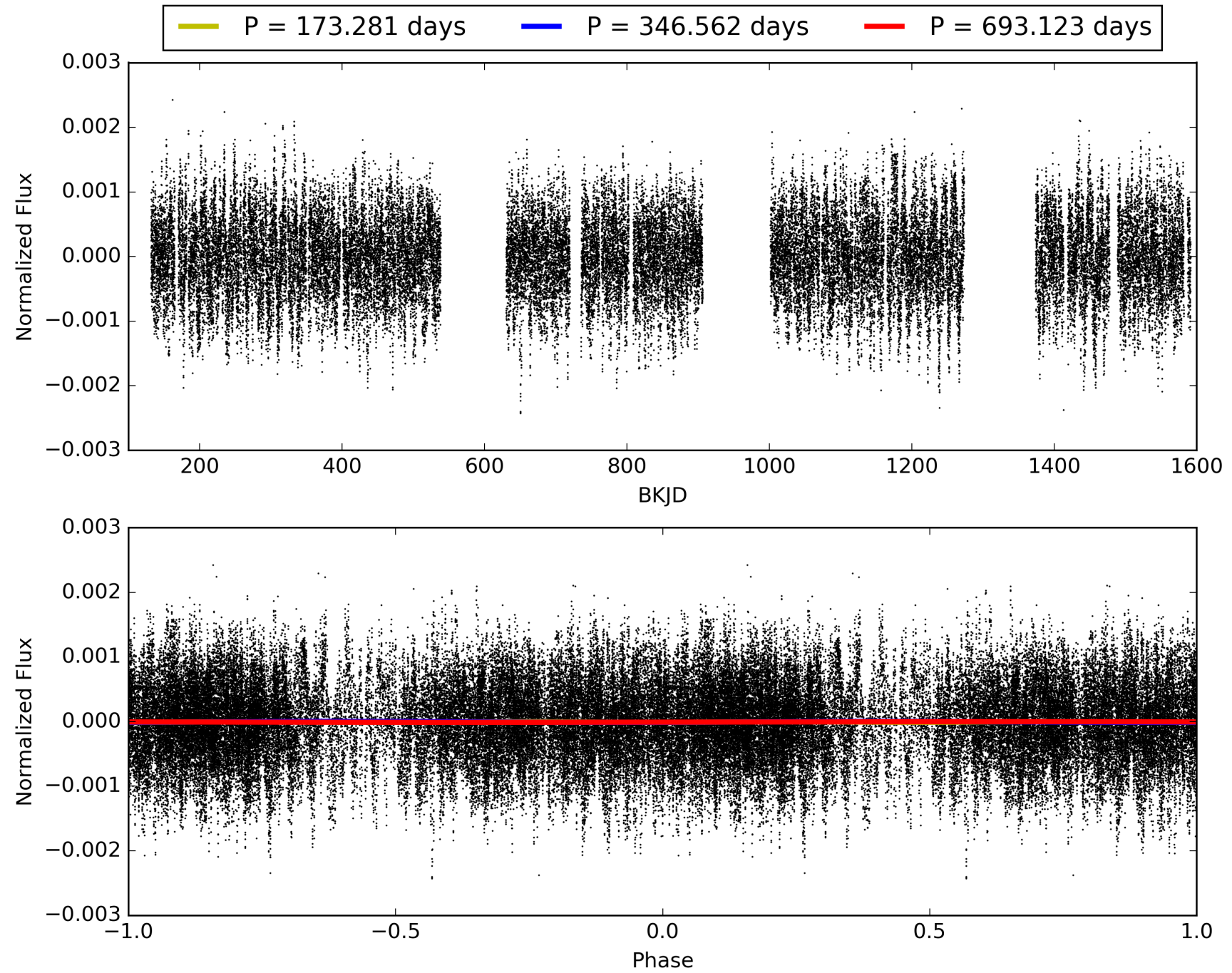
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 003246083-05, PDC Light Curves

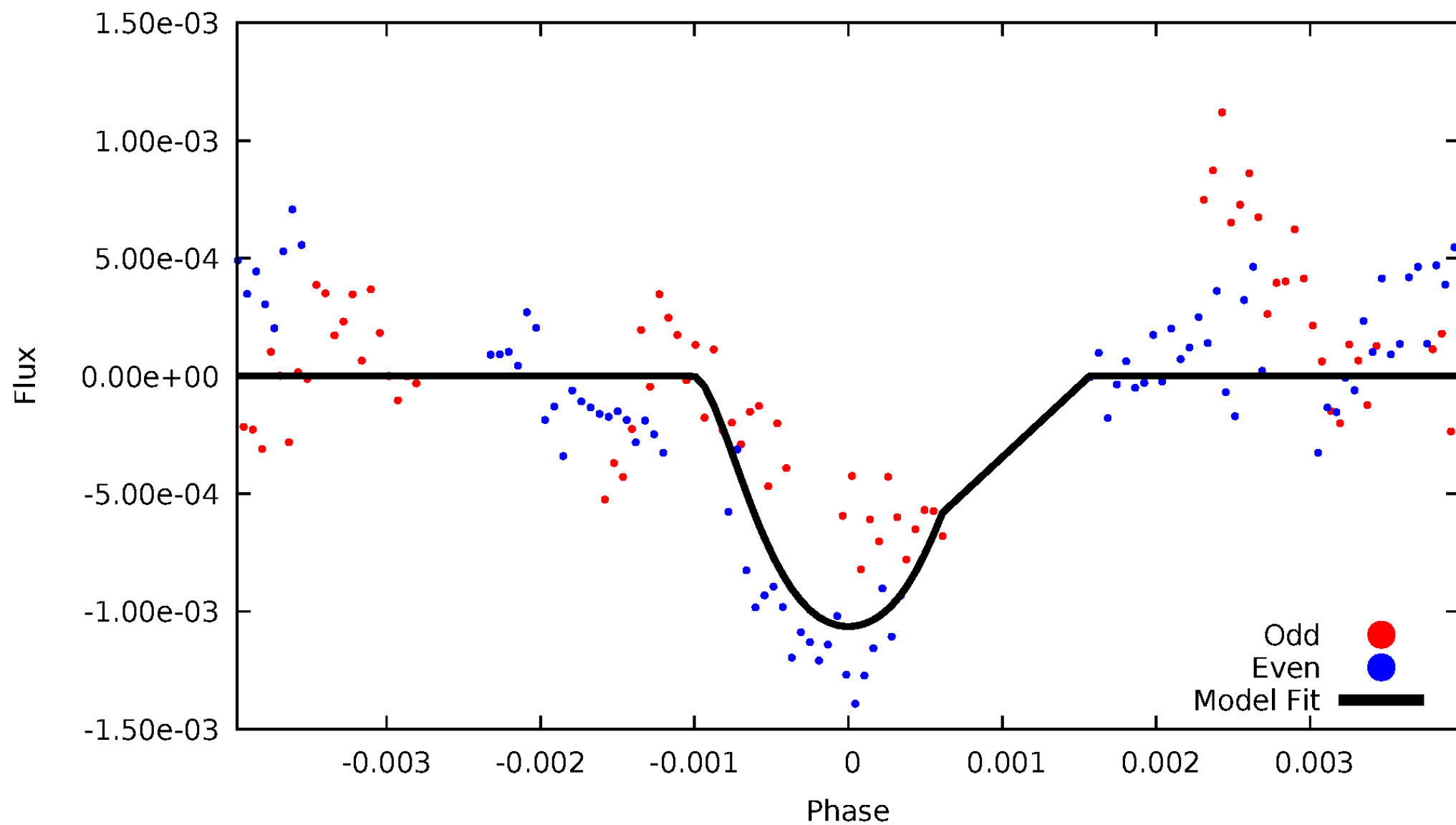


TCE 003246083-05



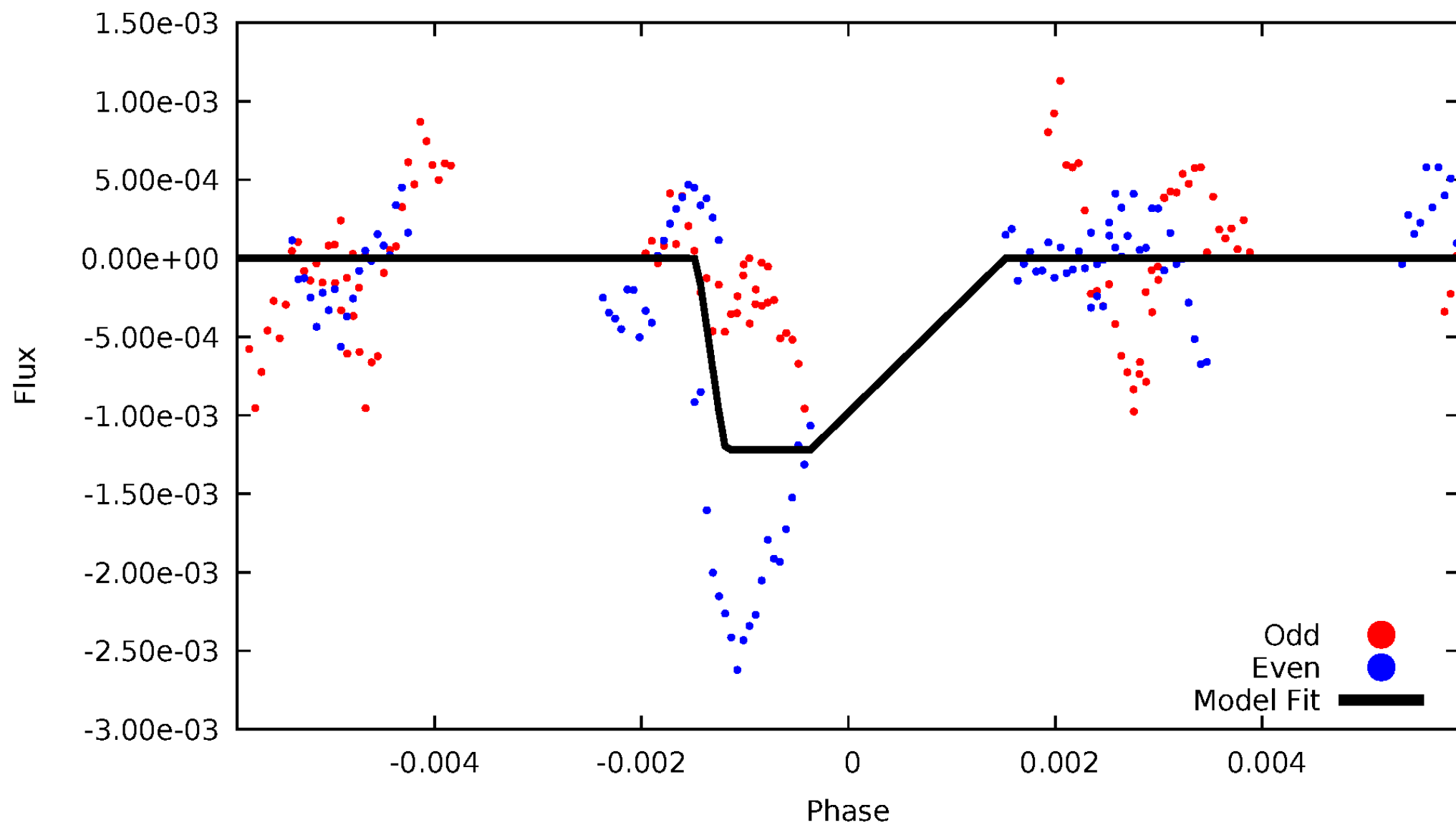
# DV Odd/Even

TCE 003246083-05



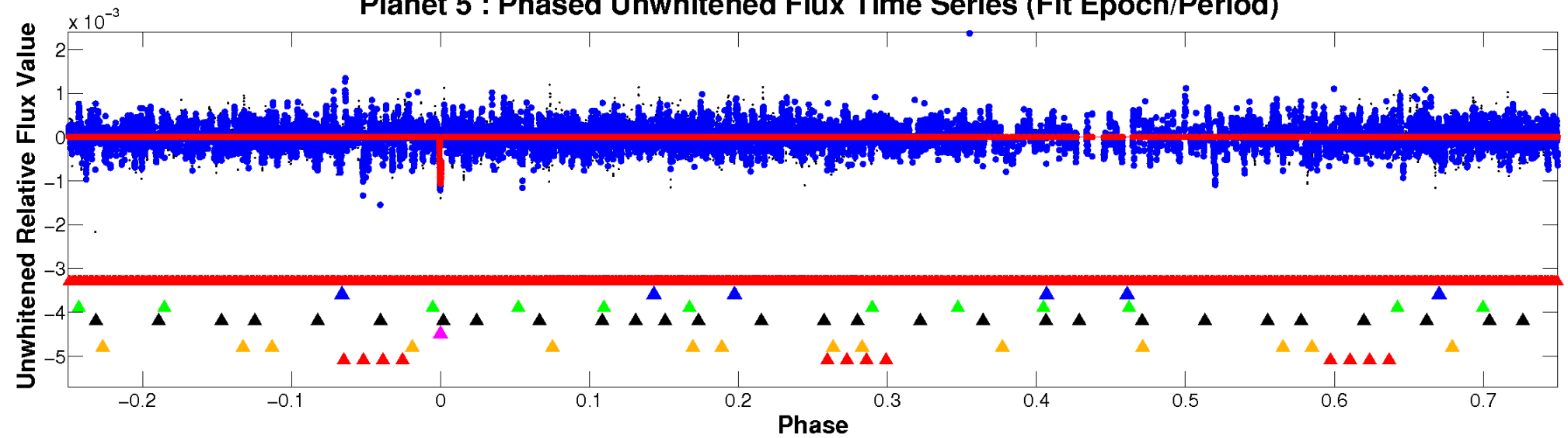
# ALT Odd/Even

TCE 003246083-05

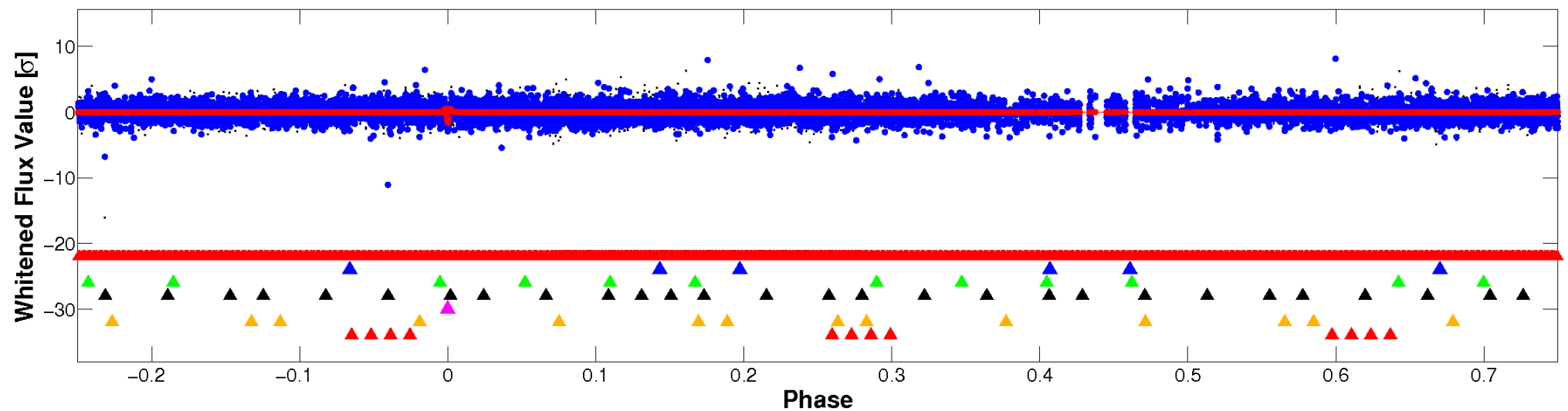


# Non-Whitened Vs. Whitened Light Curve

## Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



## Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



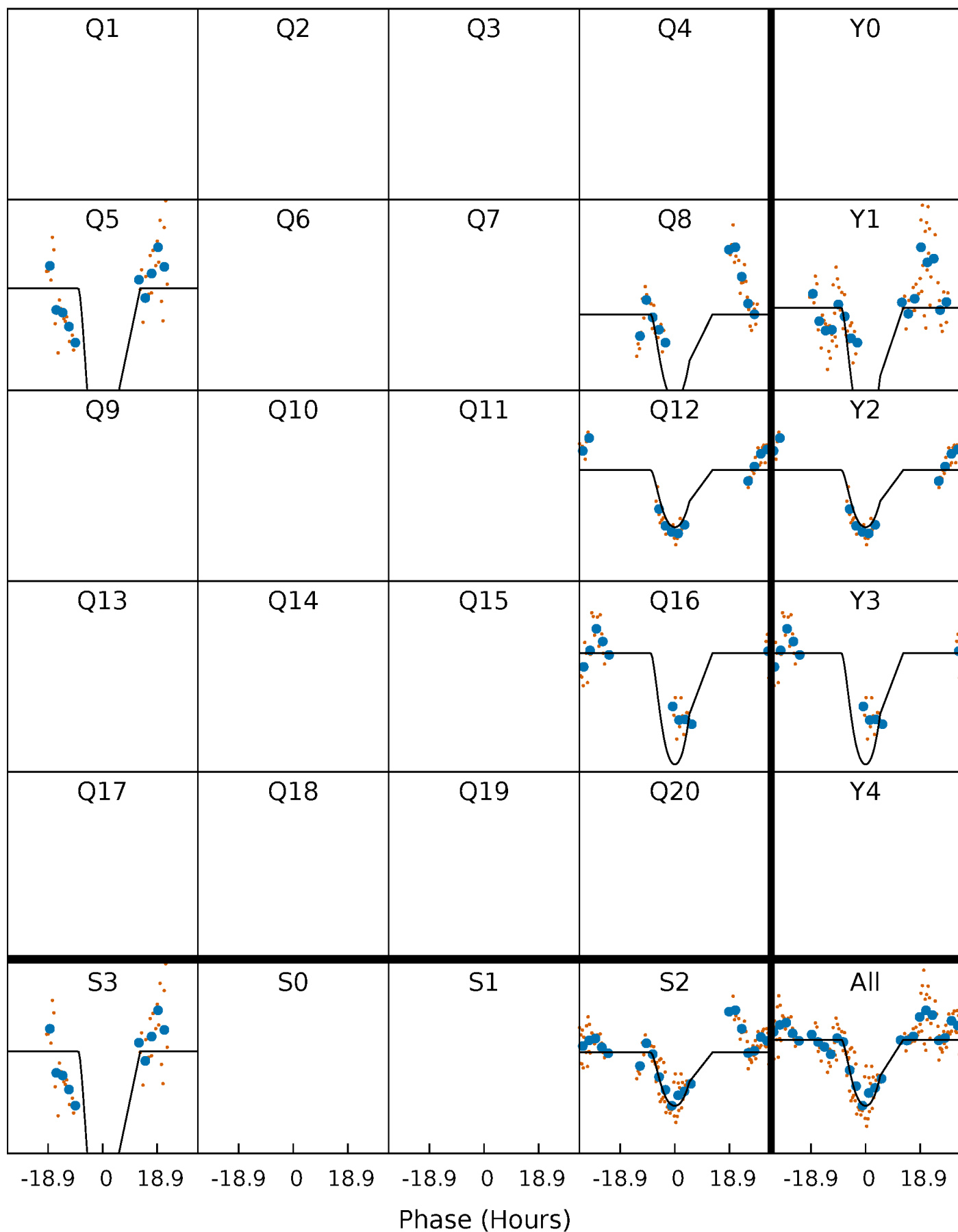
# PDC Quarter-Phased Transit Curves

TCE 003246083-05     $P=346.561677$  Days     $T_0=453.388444$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 003246083-05     $P=346.561677$  Days     $T_0=453.388444$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

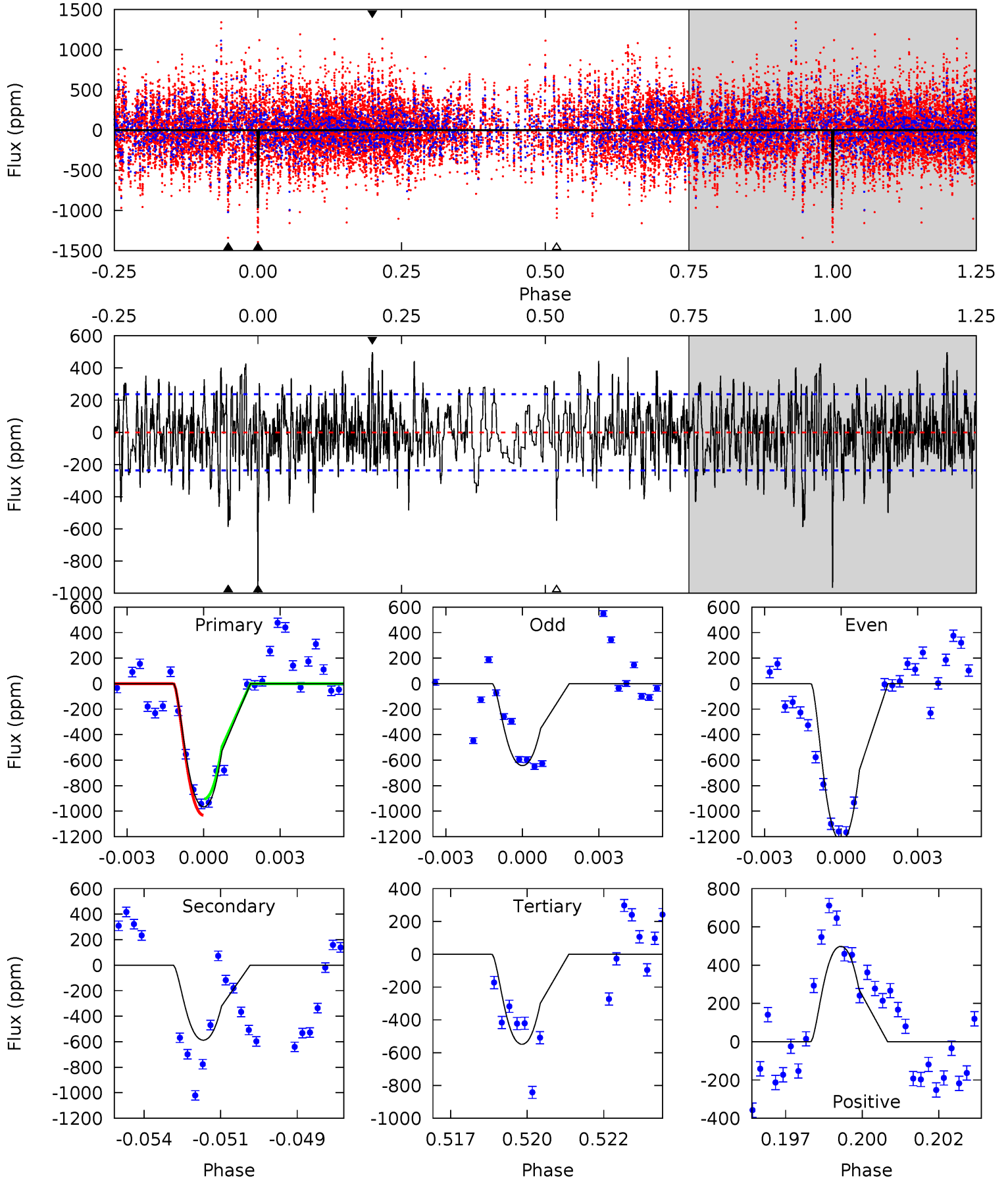
TCE 003246083-05     $P=346.675779$  Days     $T_0=453.405092$  (BKJD)



# DV Model-Shift Uniqueness Test

003246083-05, P = 346.561677 Days, E = 106.826767 Days

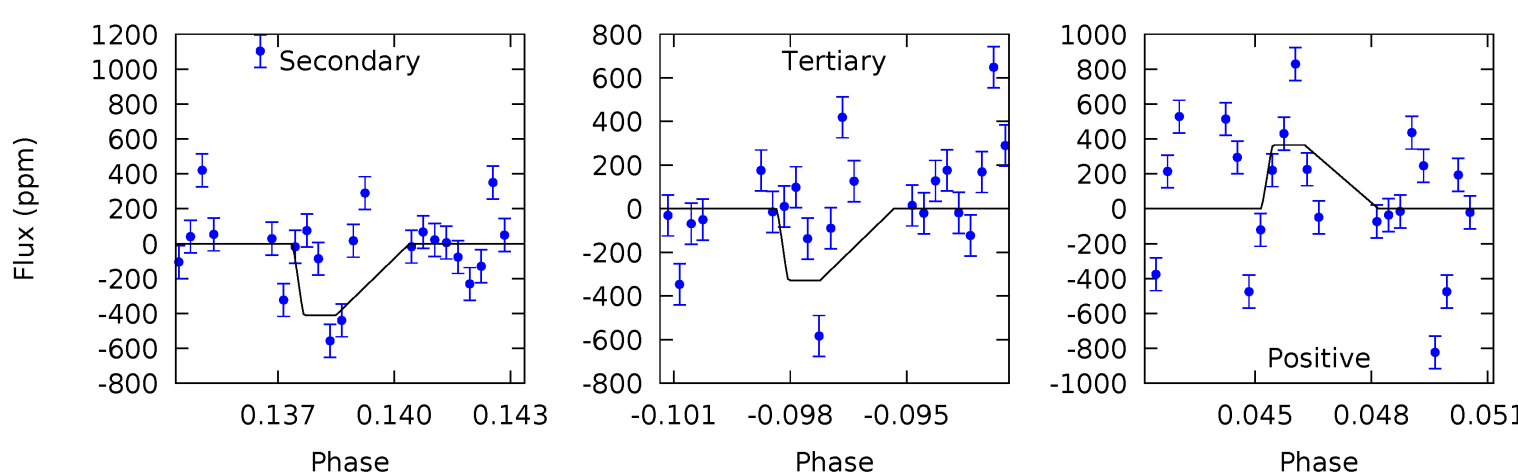
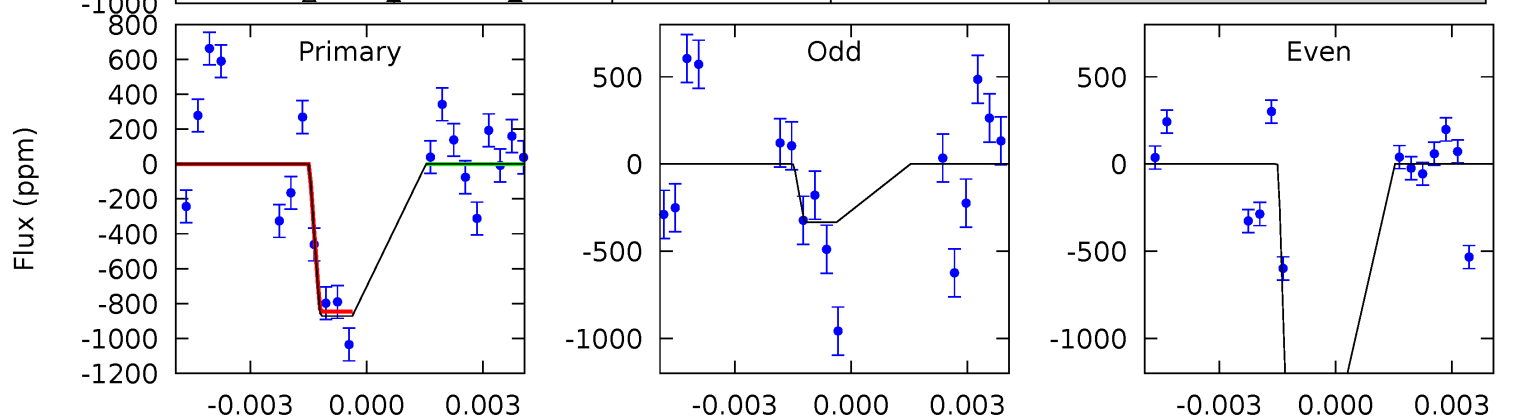
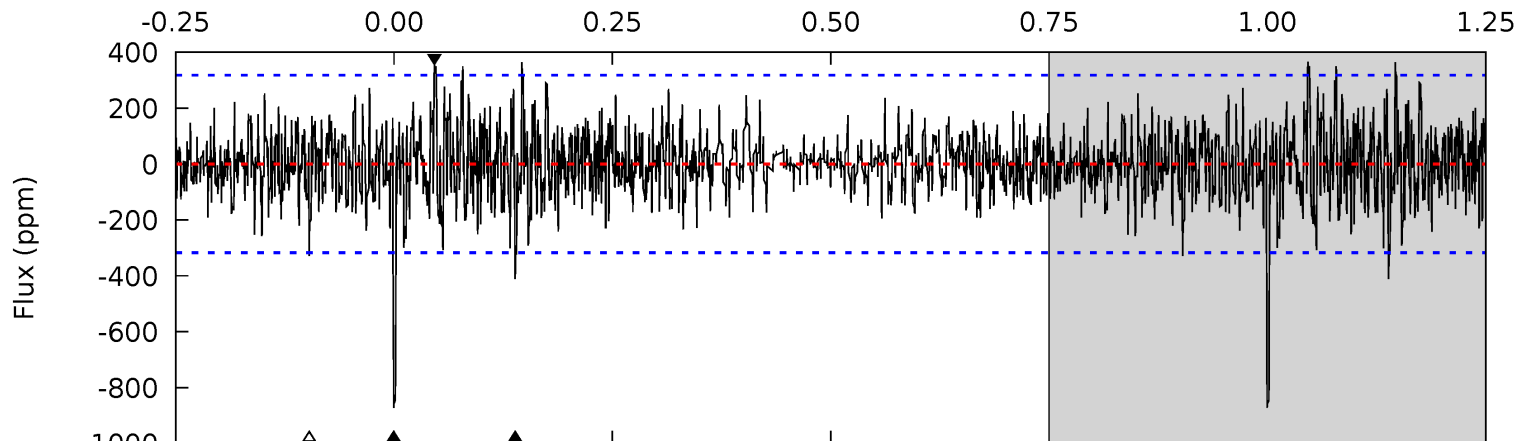
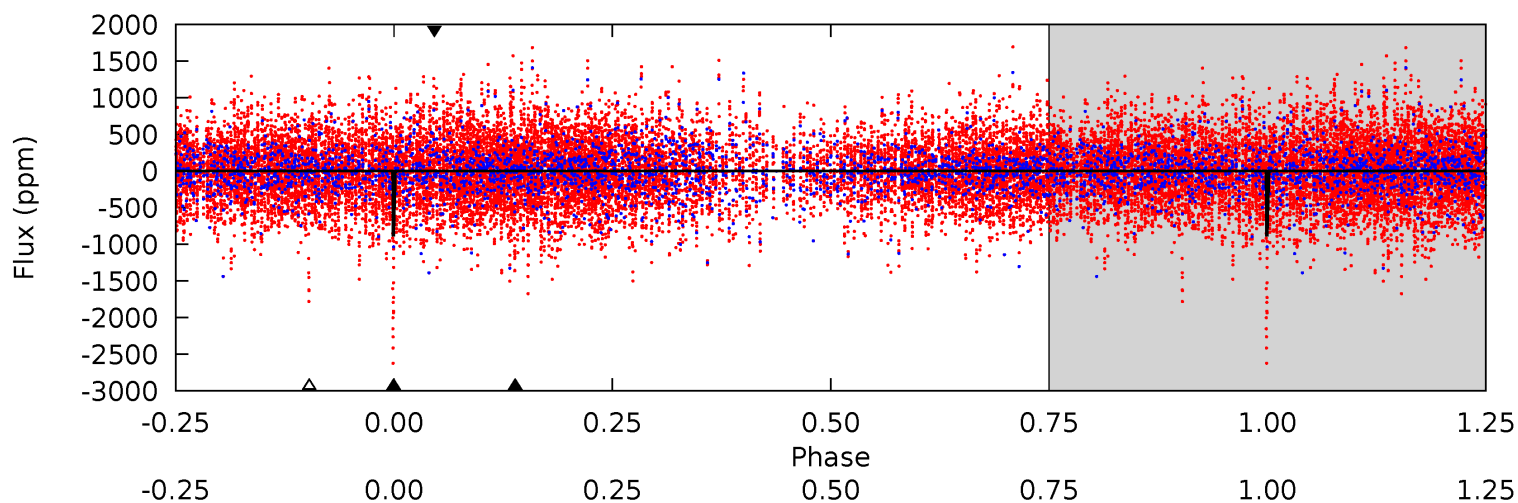
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	13.1	12.3	11.1	5.28	3.02	3.46	9.30	10.4	0.87	2.00	6.62	1.13	0.34	1.40



# Alt Model-Shift Uniqueness Test

003246083-05, P = 346.675779 Days, E = 106.729313 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
14.4	6.80	5.43	6.04	5.25	2.97	1.58	8.99	8.38	1.37	0.76	13.2	0	0.30	0



### Stellar Parameters For KIC 003246083

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6443^{+155}_{-194}$	$4.234^{+0.153}_{-0.187}$	$-0.100^{+0.250}_{-0.300}$	$1.386^{+0.439}_{-0.293}$	$1.202^{+0.192}_{-0.174}$	$0.636^{+0.495}_{-0.324}$
	+2%/-3%	+4%/-4%	+250%/-300%	+32%/-21%	+16%/-14%	+78%/-51%
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 003246083-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-588 \pm 45$	$5.90^{+1.80}_{-1.61}$	$460^{+36}_{-28}$	$5134^{+721}_{-458}$	$9651^{+9082}_{-3832}$
Alt.	$-411 \pm 60$	$5.45^{+1.89}_{-1.56}$	$465^{+36}_{-32}$	$4969^{+737}_{-532}$	$8079^{+7455}_{-3730}$

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

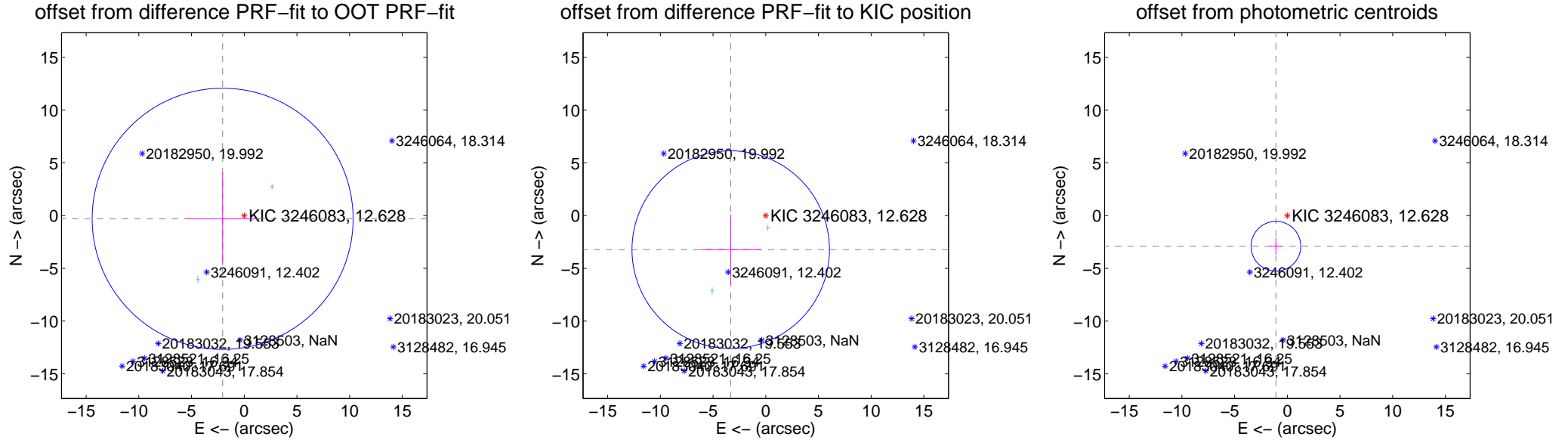
## DV Centroid Data

Supplemental centroid analysis for 003246083-05. Kepler magnitude: 12.63. Transit SNR 8.25

There are 2 quarters with good PRF difference image offsets

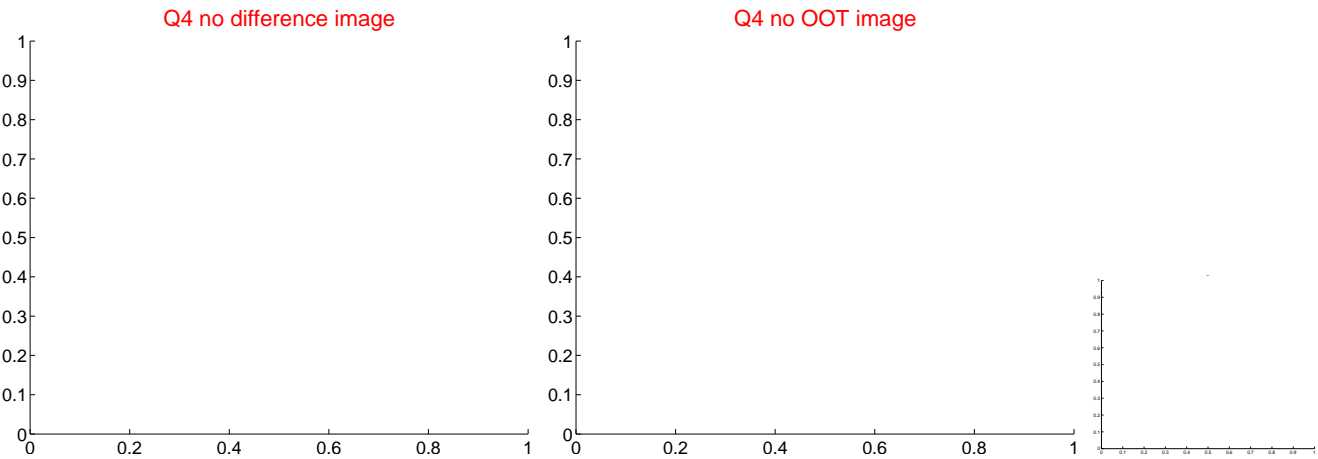
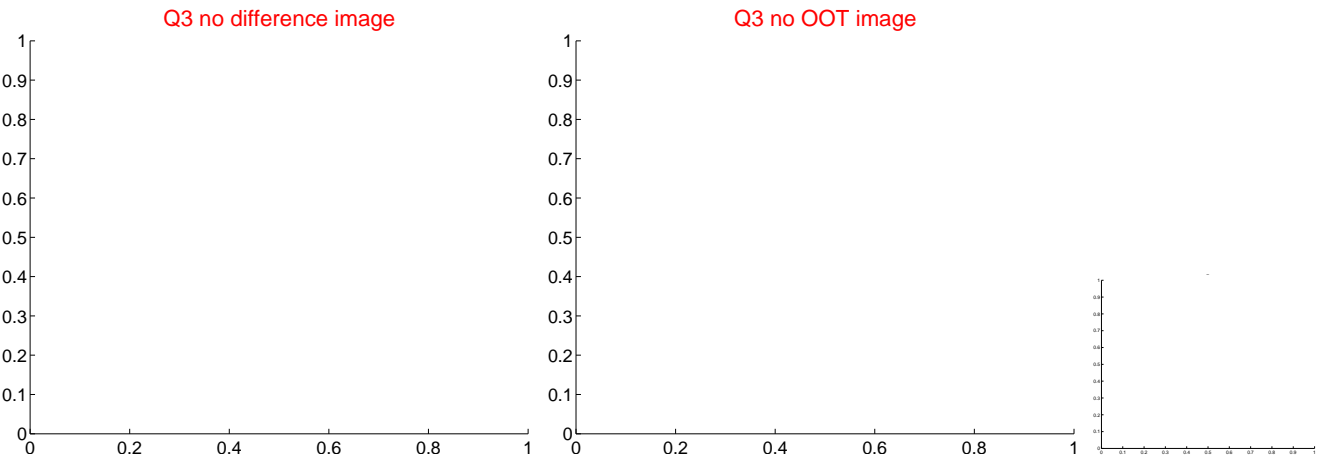
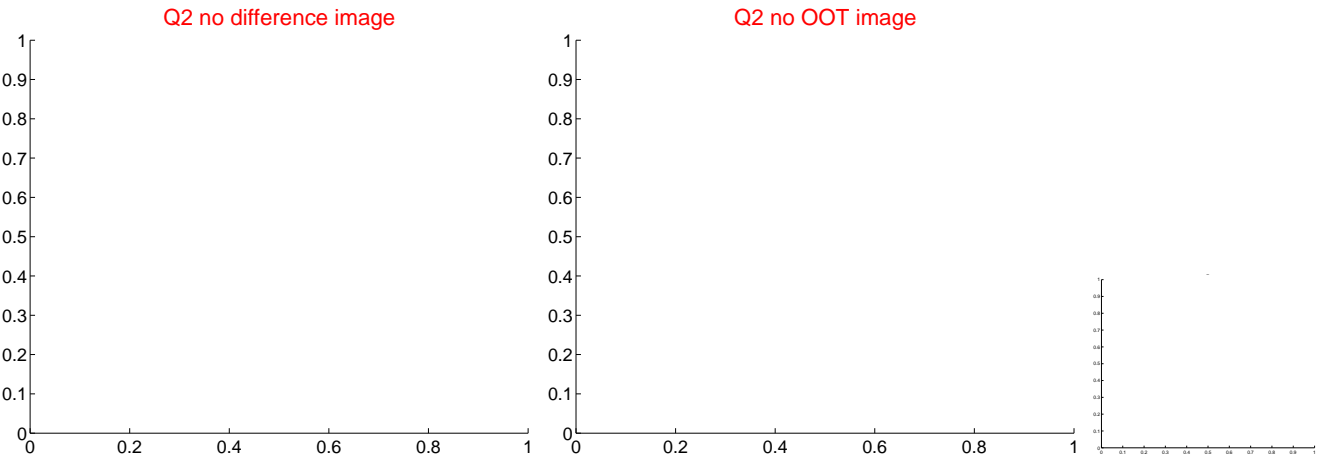
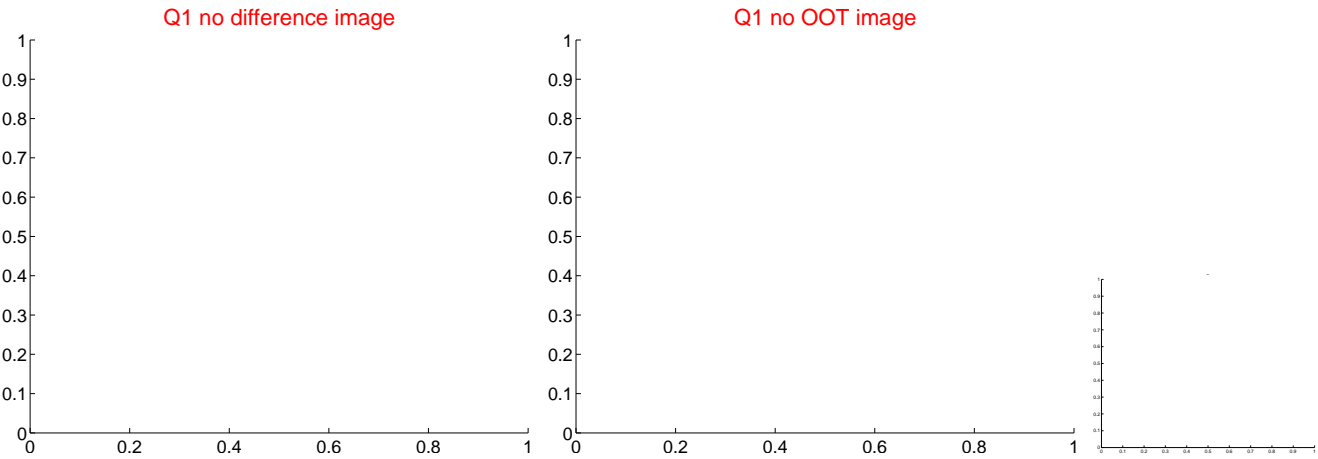
The OOT PRF centroid is offset from the target star catalog position by about 4.59 arcsec so the offset from difference PRF-fit to OOT-PRF-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.071 \pm 4.127$	0.50	$2.048 \pm 3.519$	$-0.306 \pm 4.383$
PRF-fit source offset from KIC position	$4.633 \pm 3.122$	1.48	$3.324 \pm 2.914$	$-3.227 \pm 3.330$
photometric centroid source offset	$3.10 \pm 0.79$	3.94	$1.08 \pm 0.65$	$-2.90 \pm 0.80$

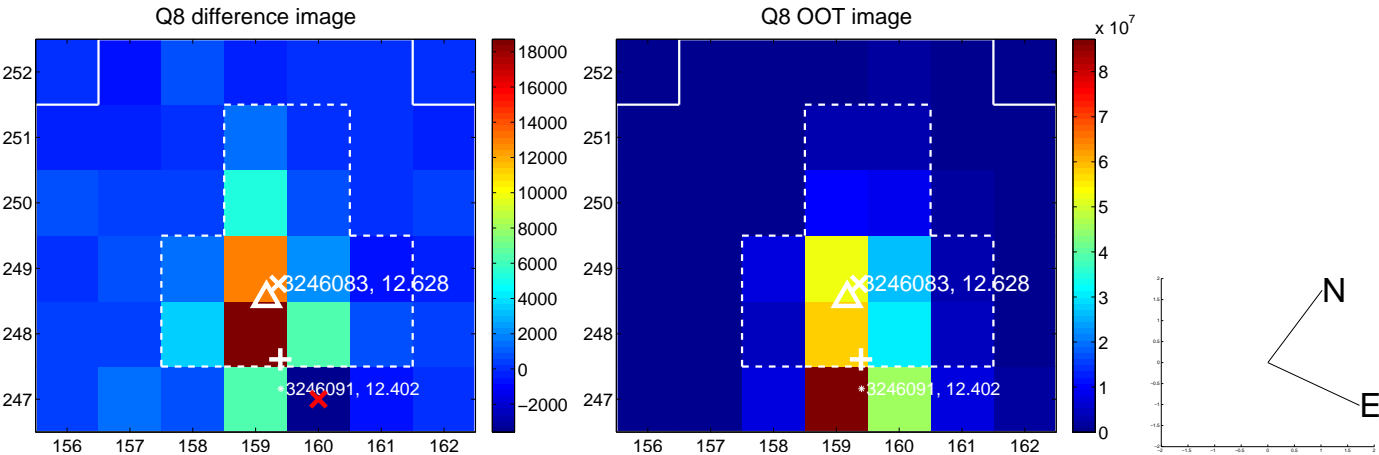
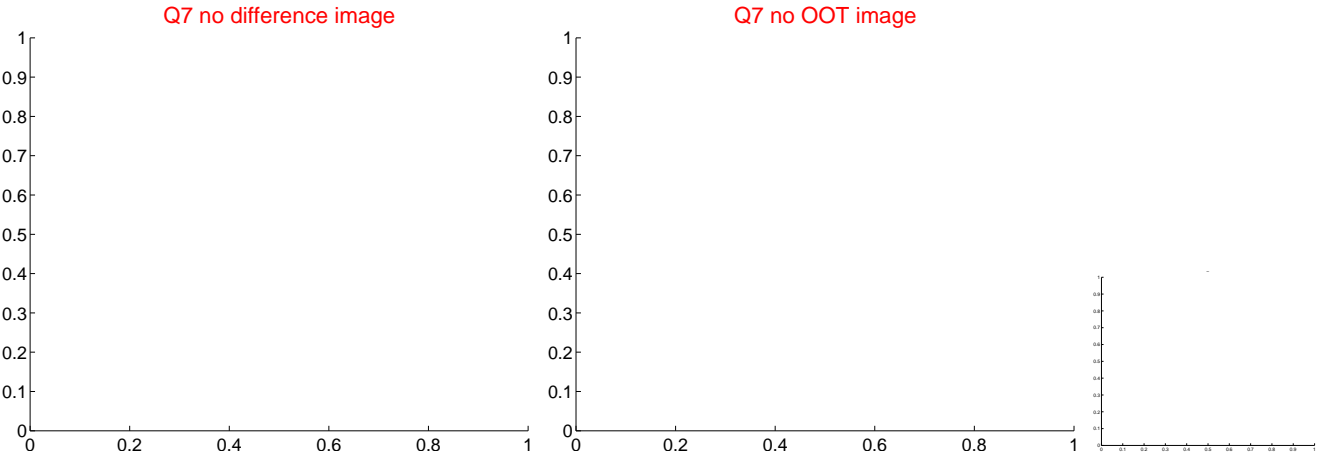
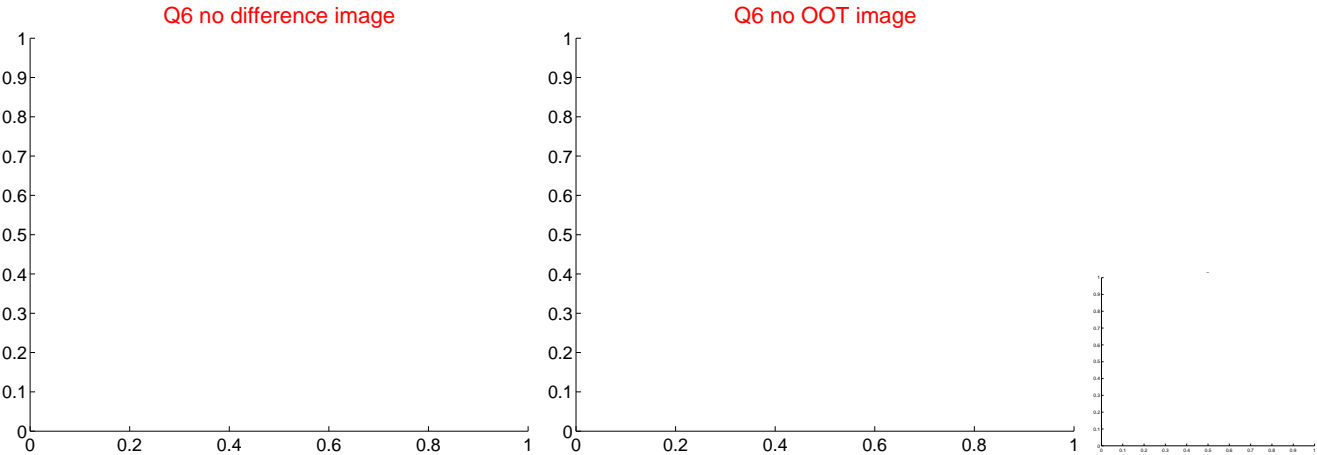
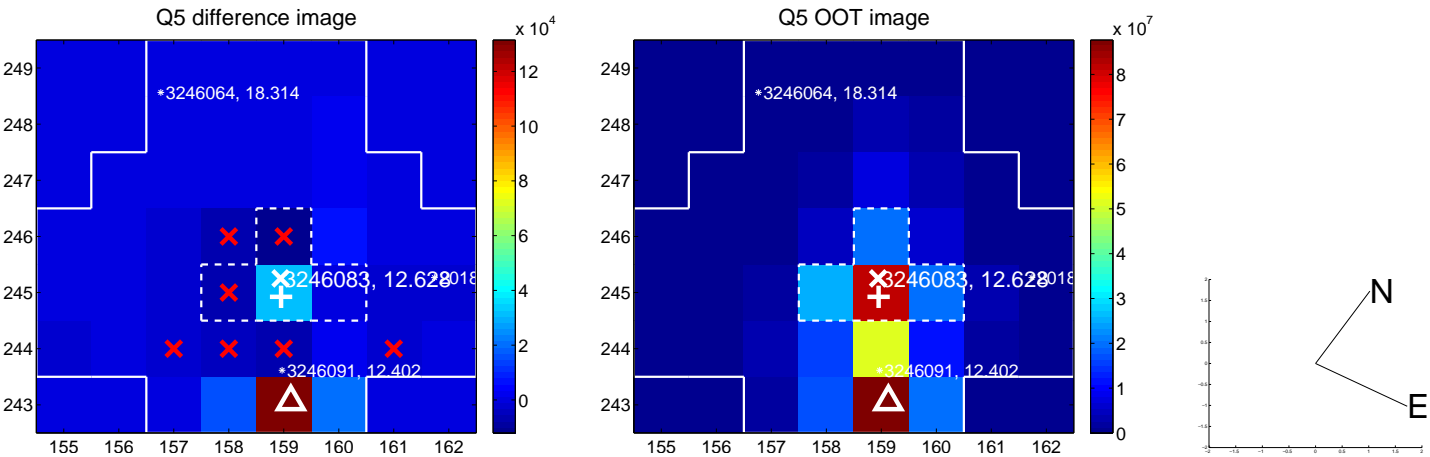


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

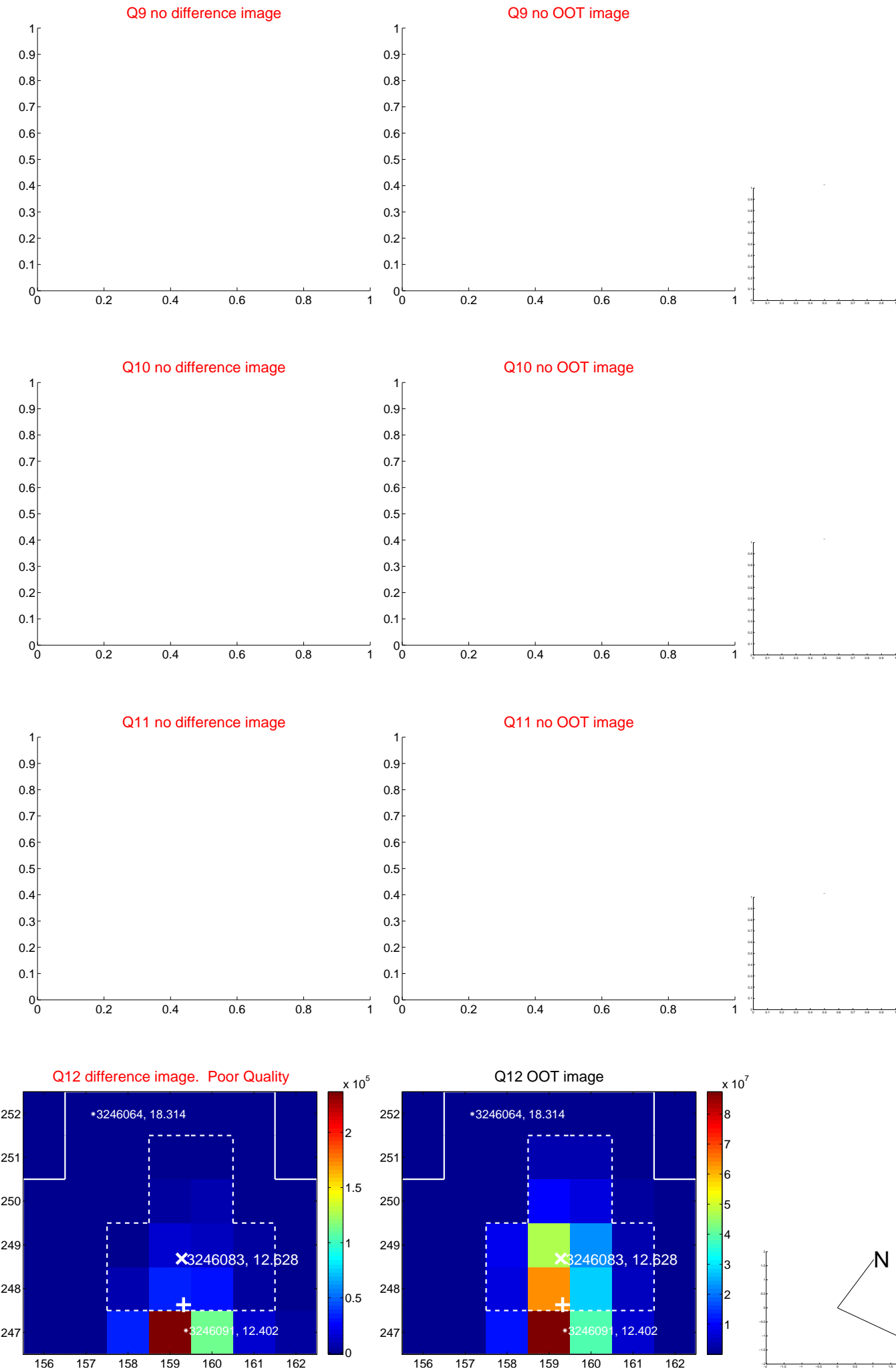


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

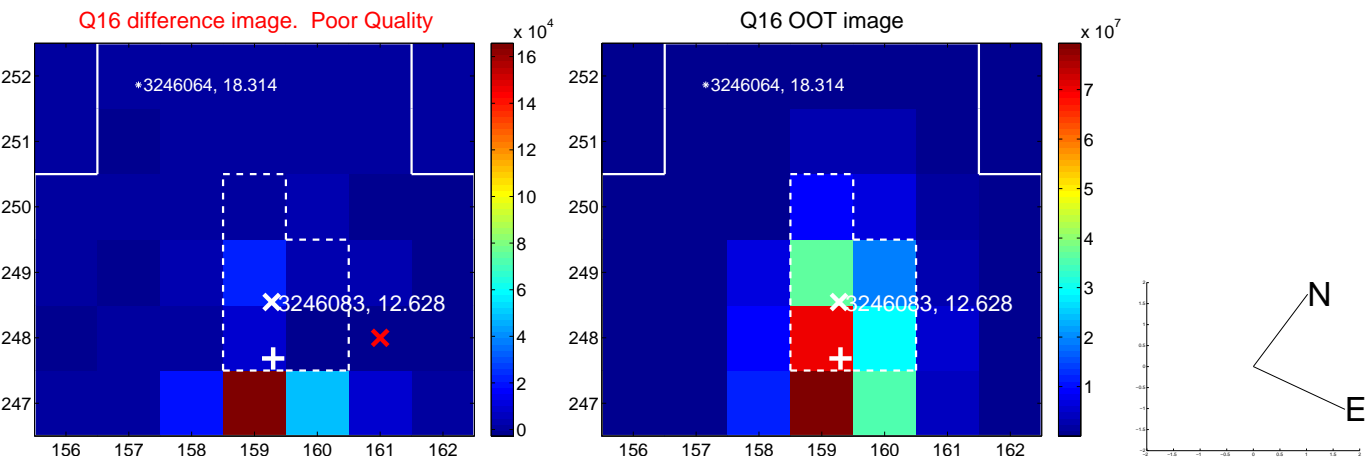
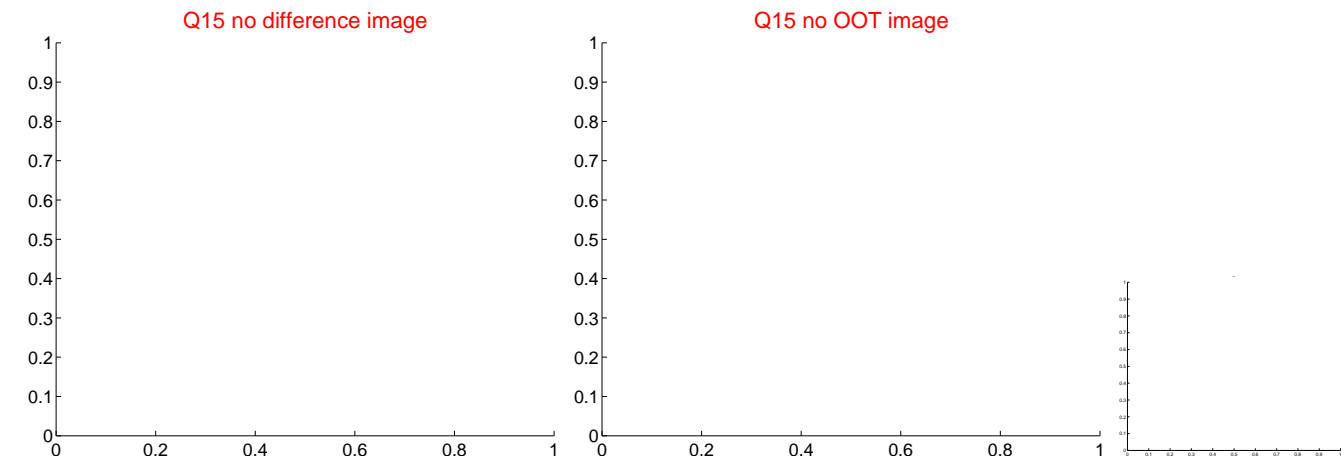




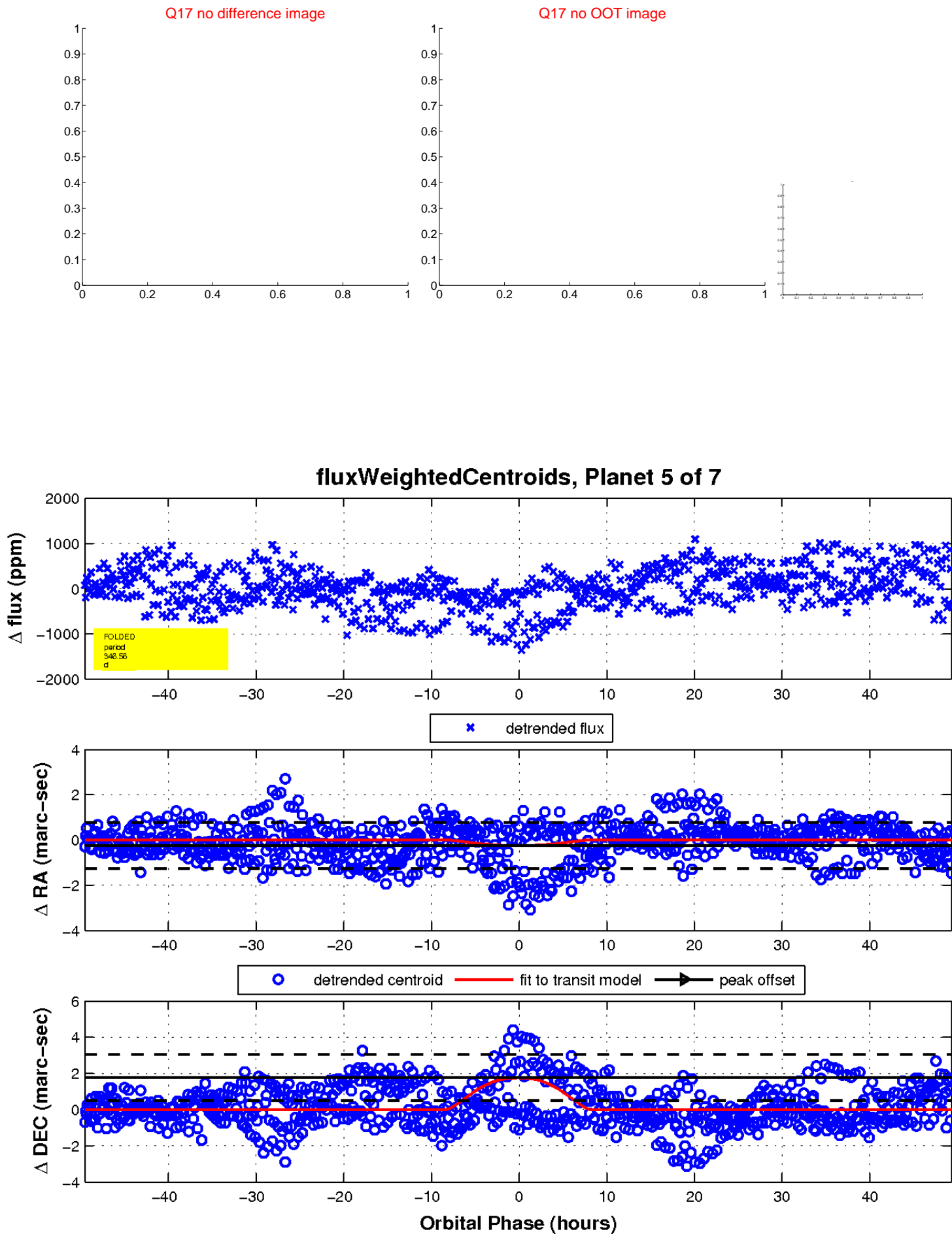
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

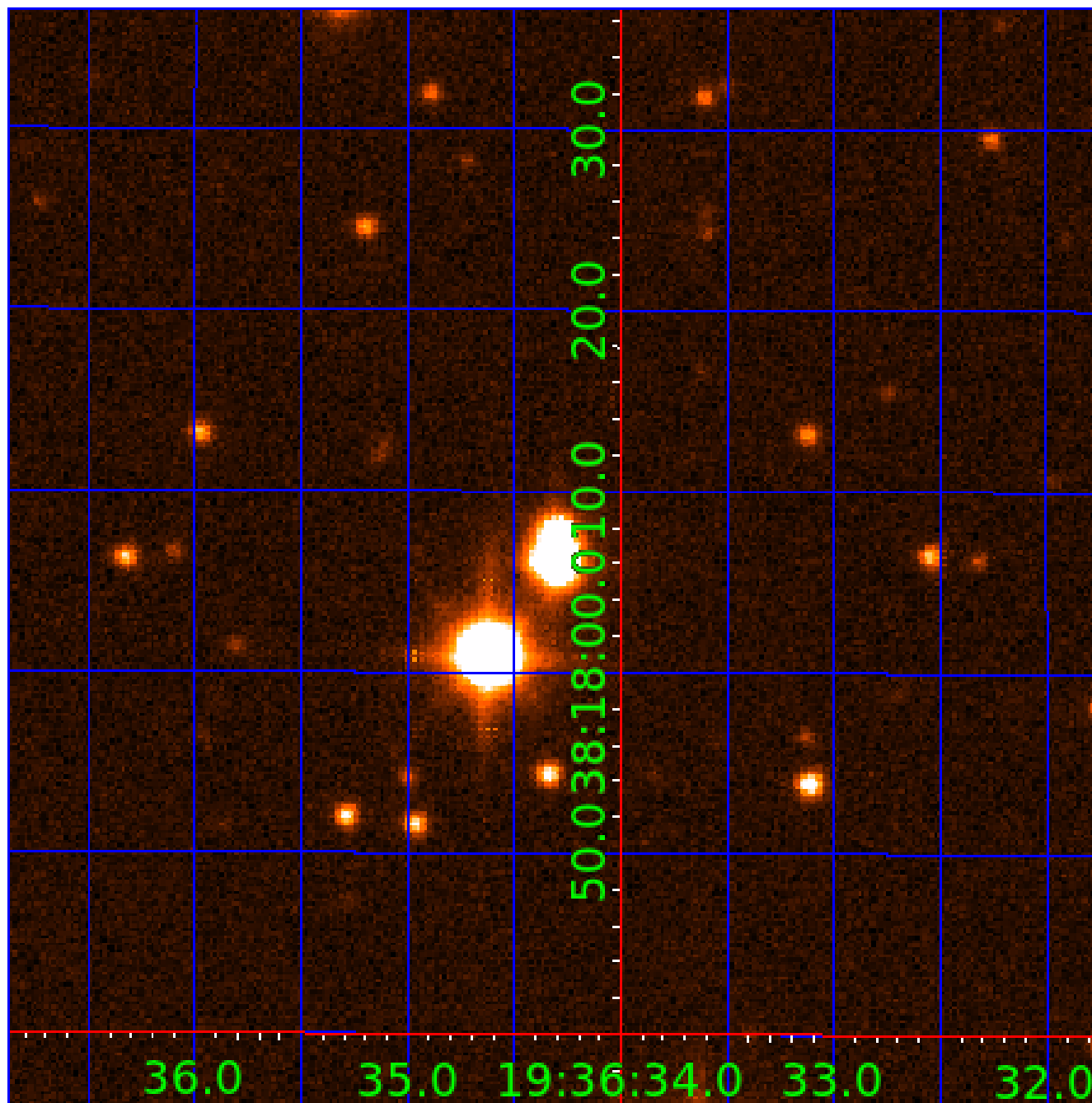


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 003246083

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003246083-01	OBS	No	1.339082	132.073775	42.7	7.258	8.7	8.4	1.39	6443	1.06	4641.73
003246083-02	OBS	No	255.234601	266.561521	755.9	11.624	9.7	8.2	1.39	6443	4.57	4.23
003246083-03	OBS	No	122.157161	207.272630	441.7	3.297	8.7	8.4	1.39	6443	3.28	11.30
003246083-04	OBS	No	51.596214	152.234320	497.9	6.776	8.4	9.2	1.39	6443	5.95	35.67
003246083-05	OBS	No	346.561677	453.388444	1063.7	16.507	7.8	8.3	1.39	6443	5.94	2.81
003246083-06	OBS	No	104.642470	198.168860	430.6	4.432	7.4	7.9	1.39	6443	3.29	13.89
003246083-07	OBS	No	117.038150	196.824850	509.7	4.654	7.7	7.8	1.39	6443	4.05	11.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003246083-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
003246083-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
003246083-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003246083-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
003246083-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
003246083-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
003246083-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

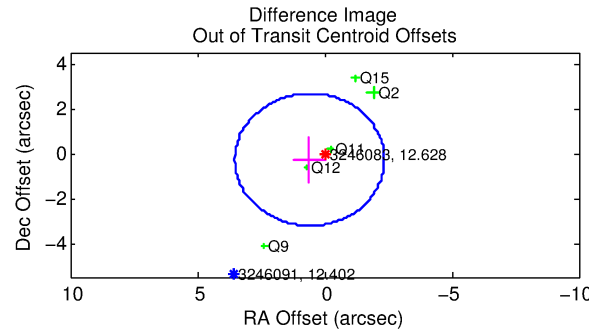
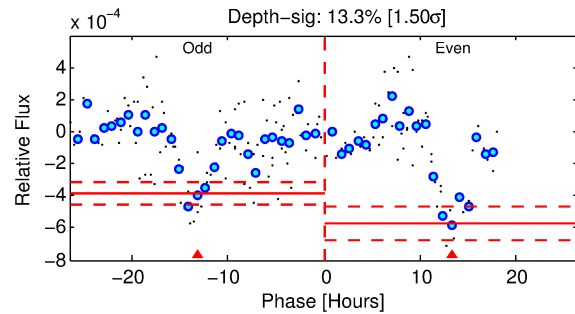
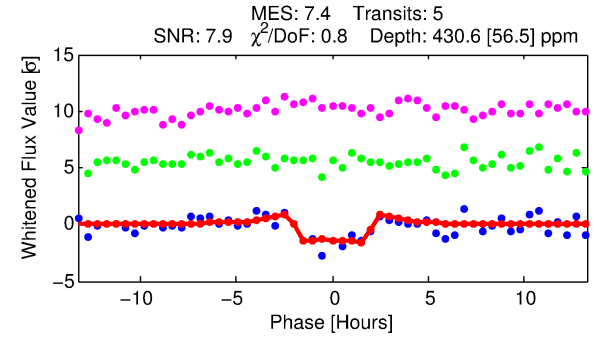
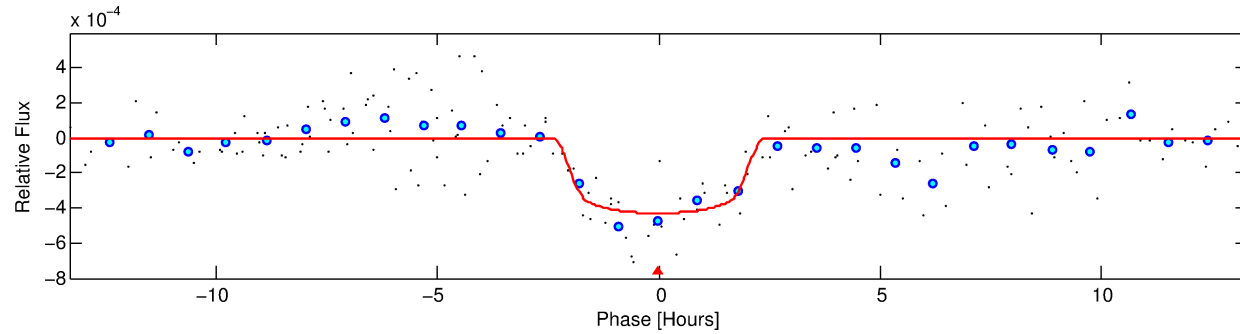
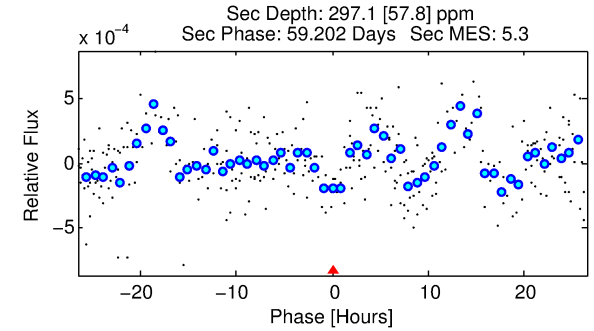
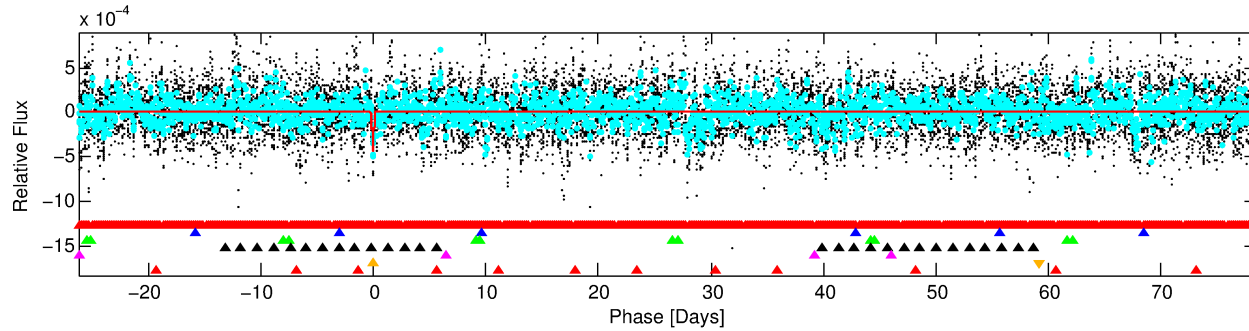
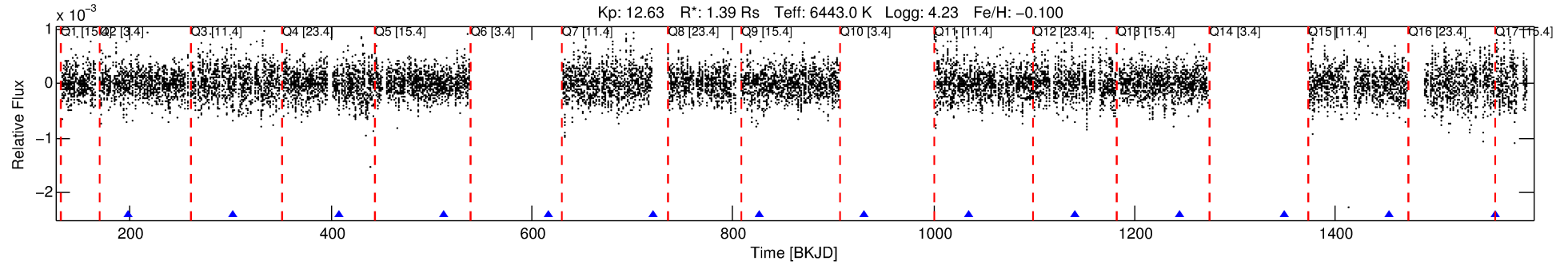
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 003246083-06

No Significant Match Found

# DV One-Page Summary

KIC: 3246083 Candidate: 6 of 7 Period: 104.642 d



## DV Fit Results:

Period = 104.64247 [0.00100] d  
Epoch = 198.1689 [0.0058] BKJD  
Rp/R\* = 0.0217 [0.0052]  
a/R\* = 97.73 [117.63]  
b = 0.87 [0.35]  
Seff = 13.89 [5.23]  
Teq = 492 [46] K  
Rp = 3.29 [1.30] Re  
a = 0.4620 [0.1180] AU  
Ag = 3232.29 [2027.29] [1.59σ]  
Teffp = 5739 [760] K [6.89σ]

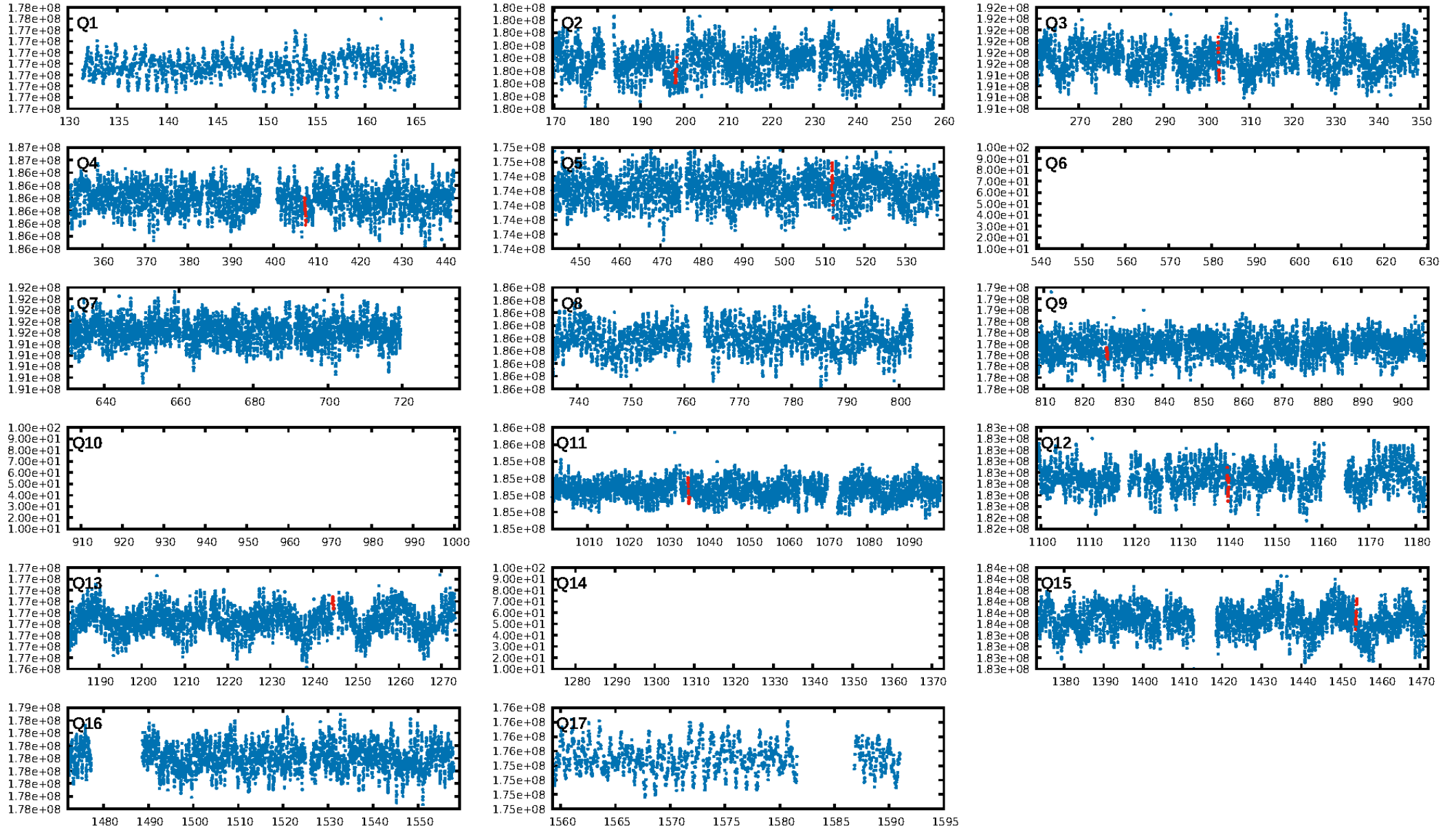
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [157.25σ]  
LongPeriod-sig: 100.0% [46.29σ]  
ModelChiSquare2-sig: 28.2%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 6.04e-08**  
RollingBand-fgt: 1.00 [5/5]  
**GhostDiagnostic-chr: 2.718**  
Centroid-sig: 40.8%  
Centroid-so: 1.379 arcsec [1.87σ]  
OotOffset-rm: 0.654 arcsec [0.67σ]  
**KicOffset-rm: 3.909 arcsec [3.27σ]**  
OotOffset-st: 1/2/1/1 [5]  
KicOffset-st: 1/2/1/1 [5]  
DiffImageQuality-fgm: 0.80 [4/5]  
DiffImageOverlap-fno: 0.25 [2/8]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:00:59 Z

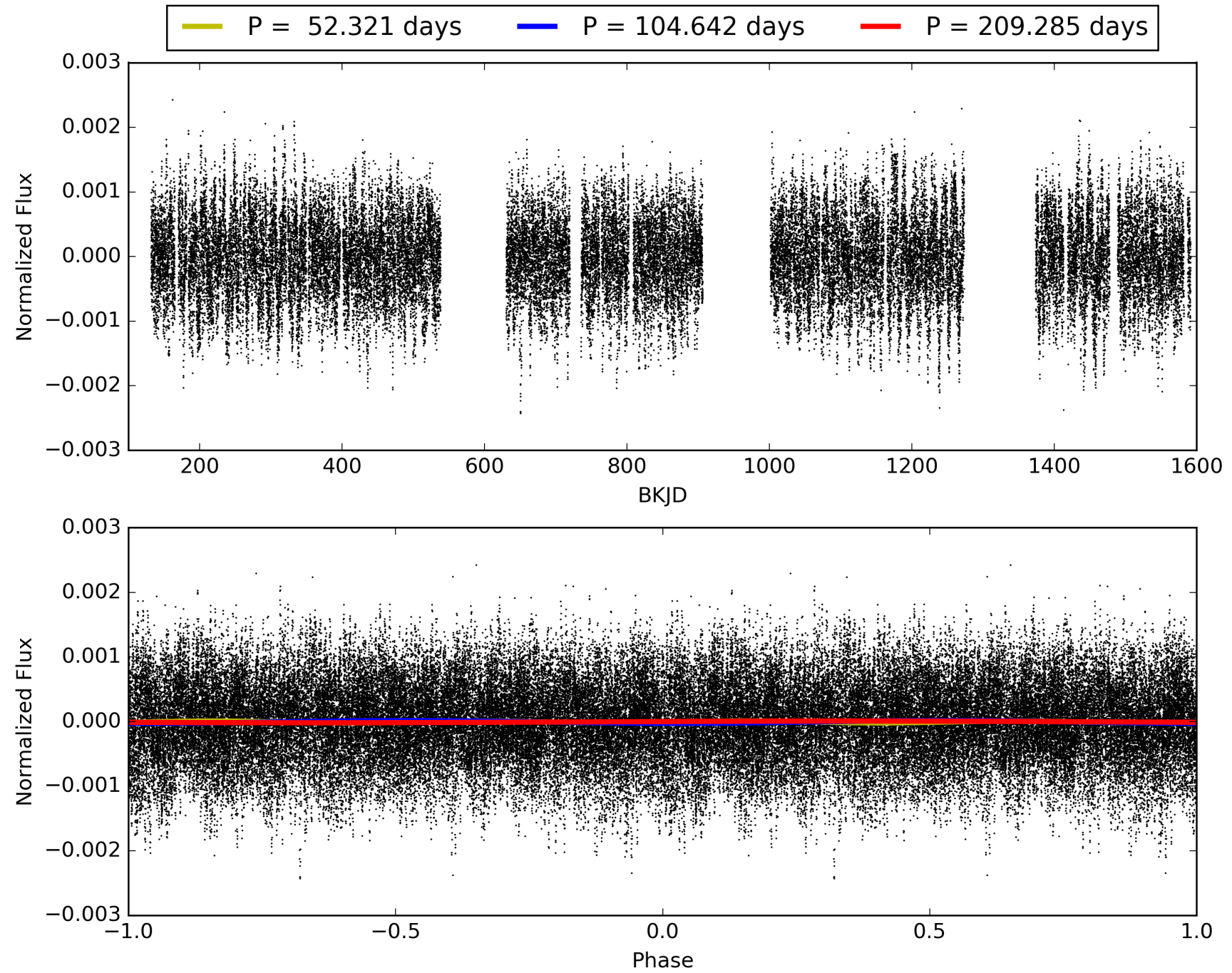
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 003246083-06, PDC Light Curves





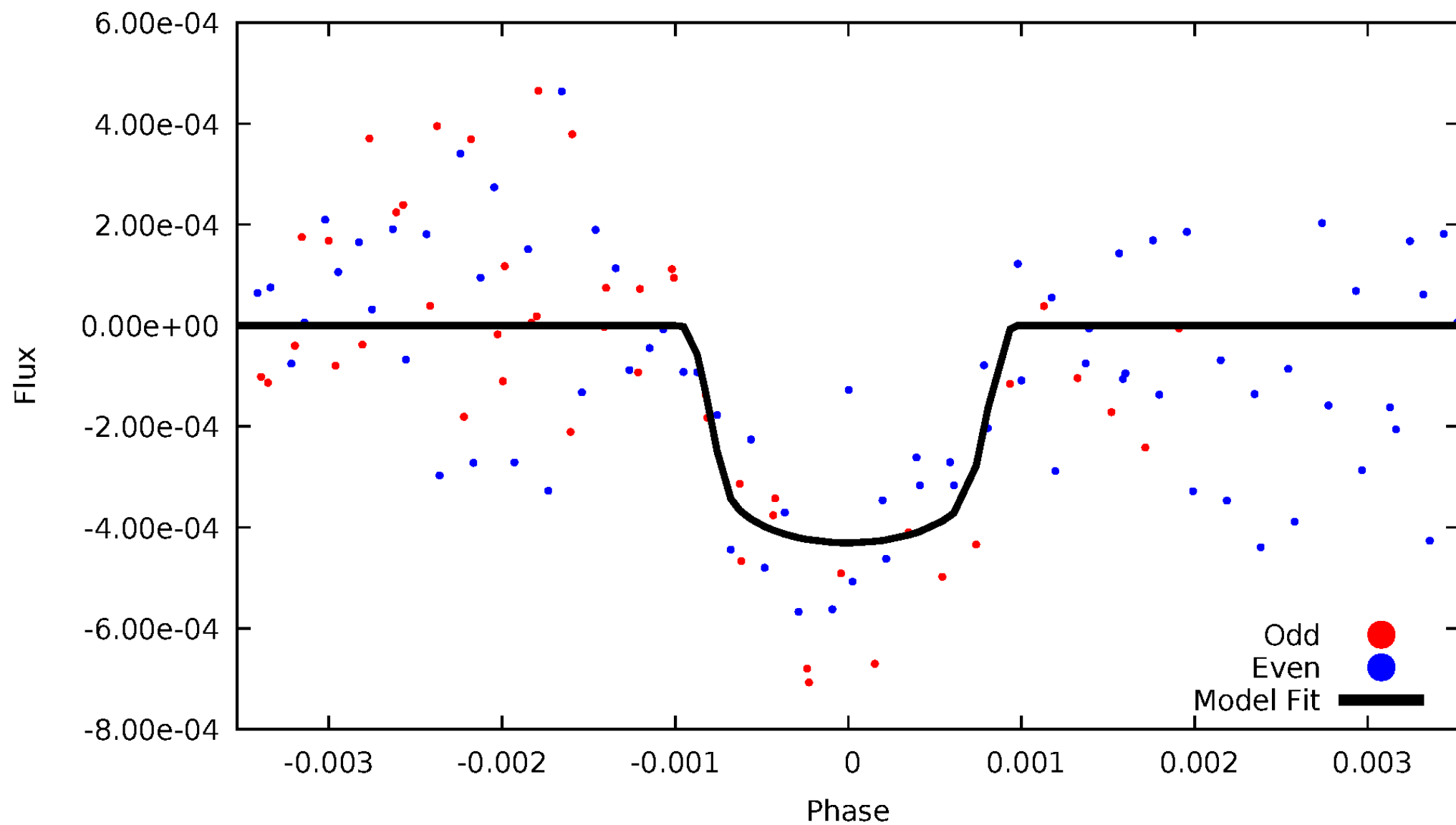
TCE 003246083-06





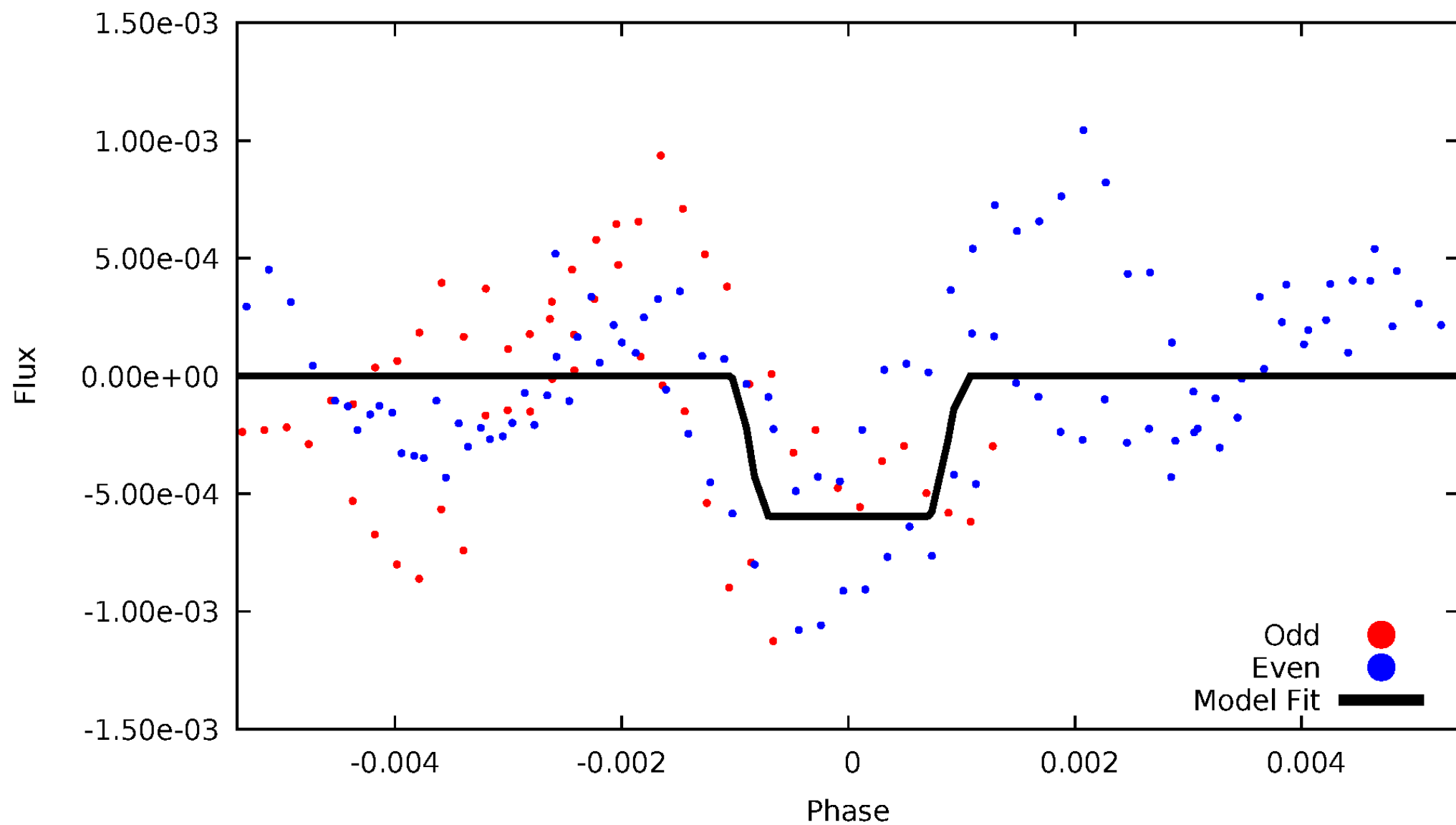
# DV Odd/Even

TCE 003246083-06



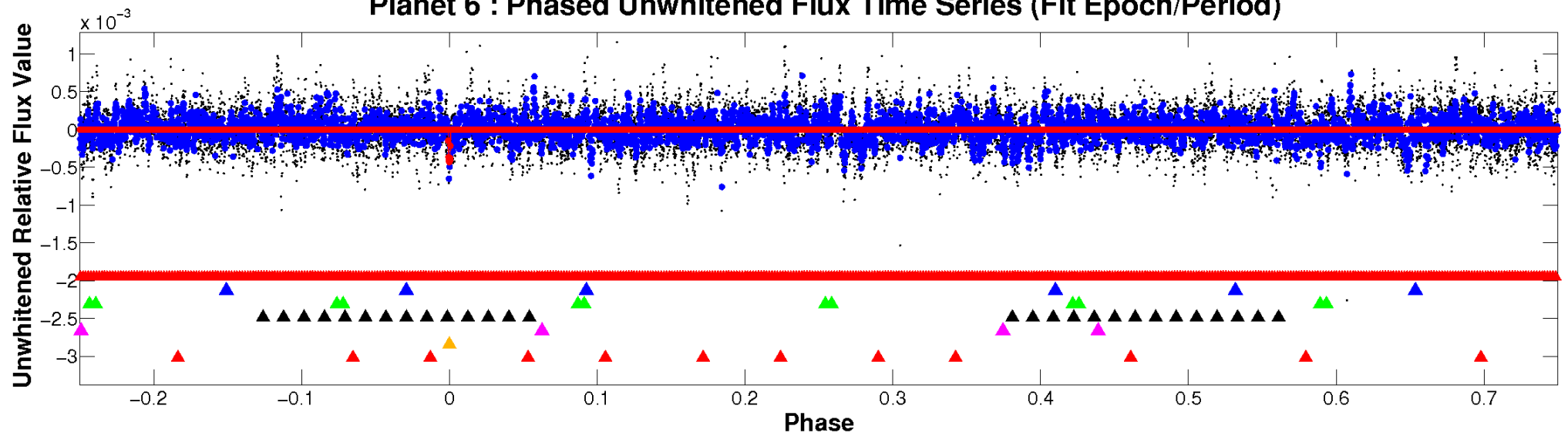
# ALT Odd/Even

TCE 003246083-06

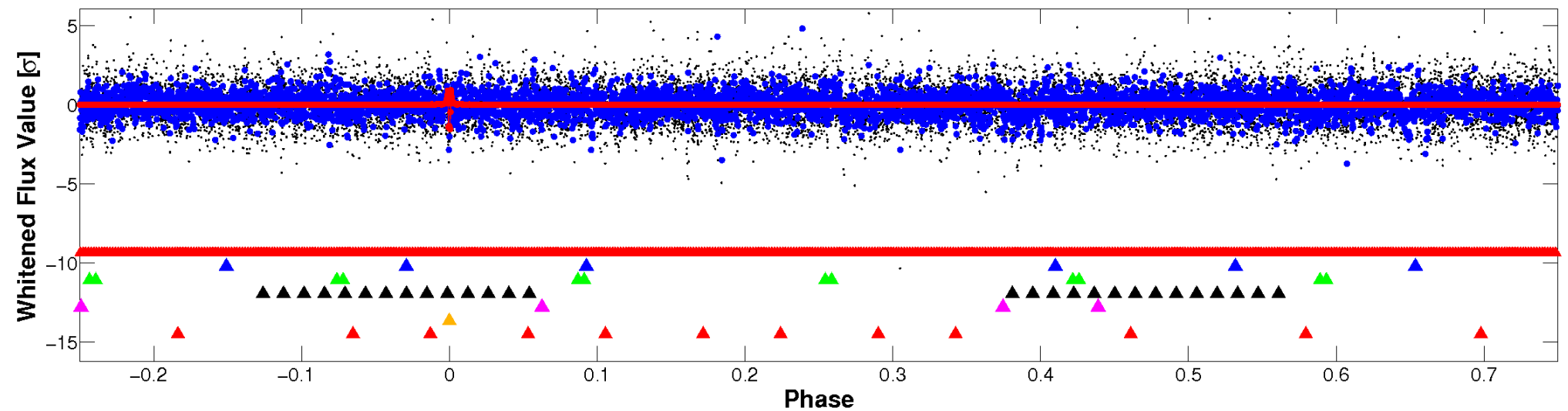


# Non-Whitened Vs. Whitened Light Curve

## Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

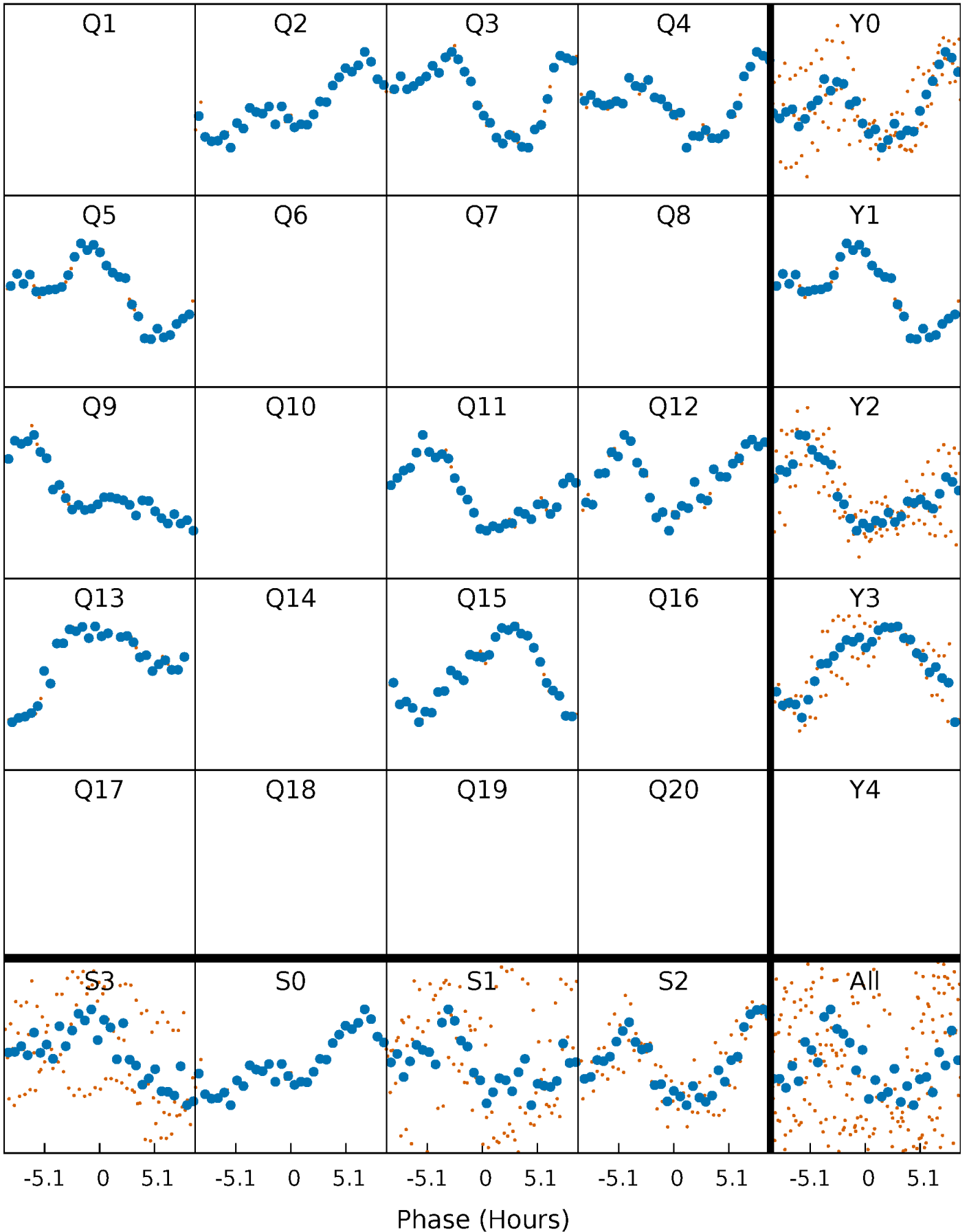


## Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



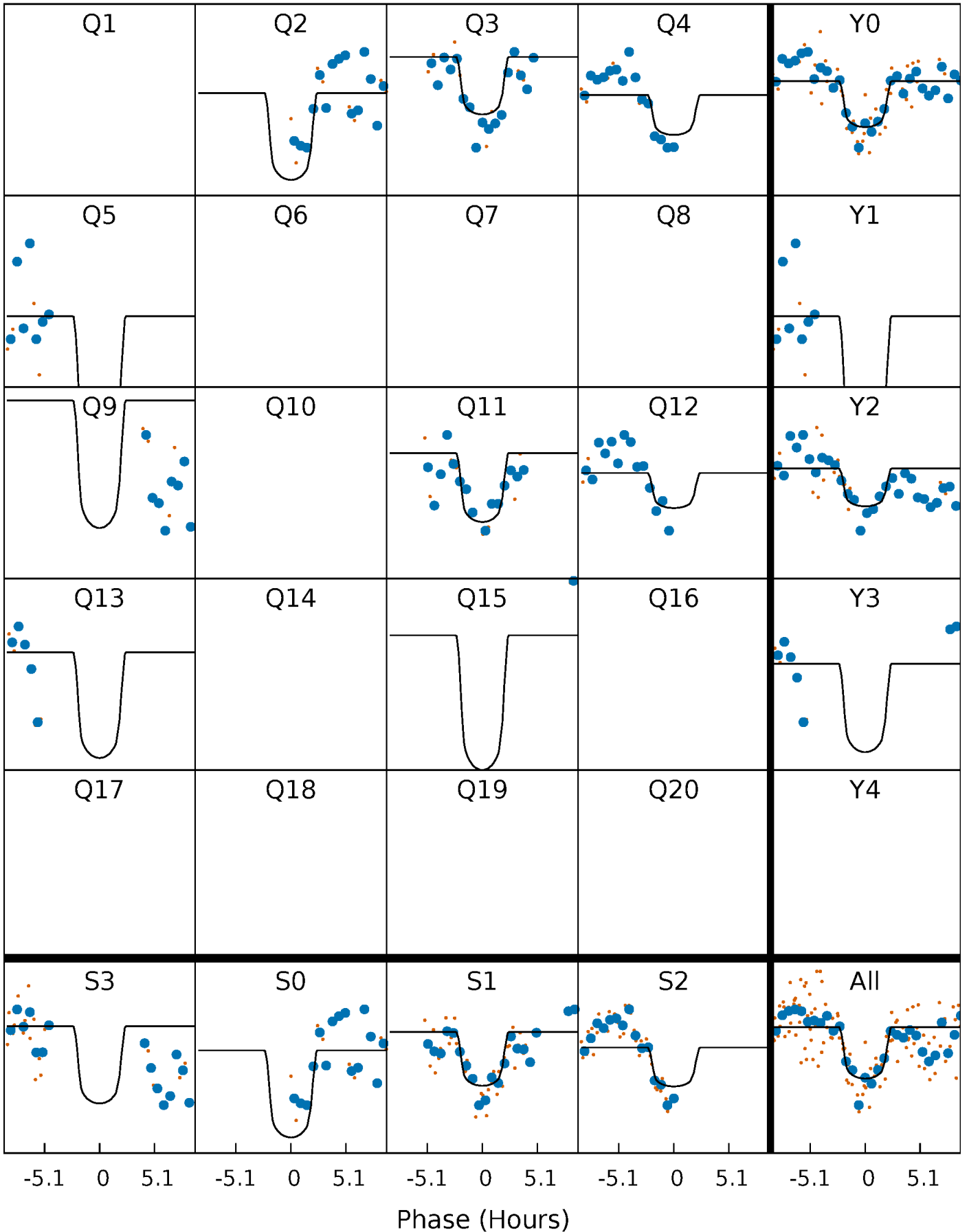
# PDC Quarter-Phased Transit Curves

TCE 003246083-06   P=104.642470 Days    $T_0=198.168860$  (BKJD)



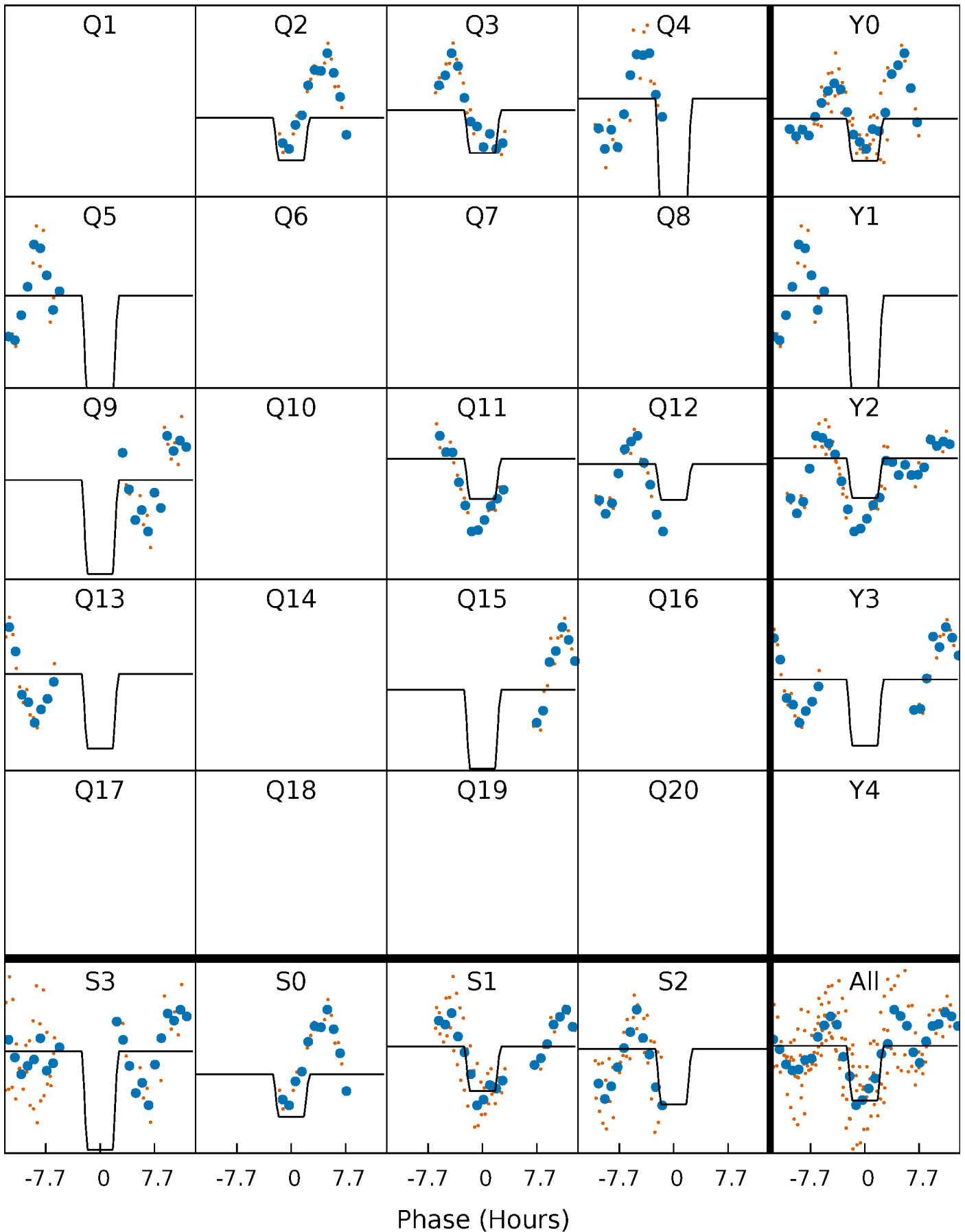
# DV Quarter-Phased Transit Curves

TCE 003246083-06     $P=104.642470$  Days     $T_0=198.168860$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

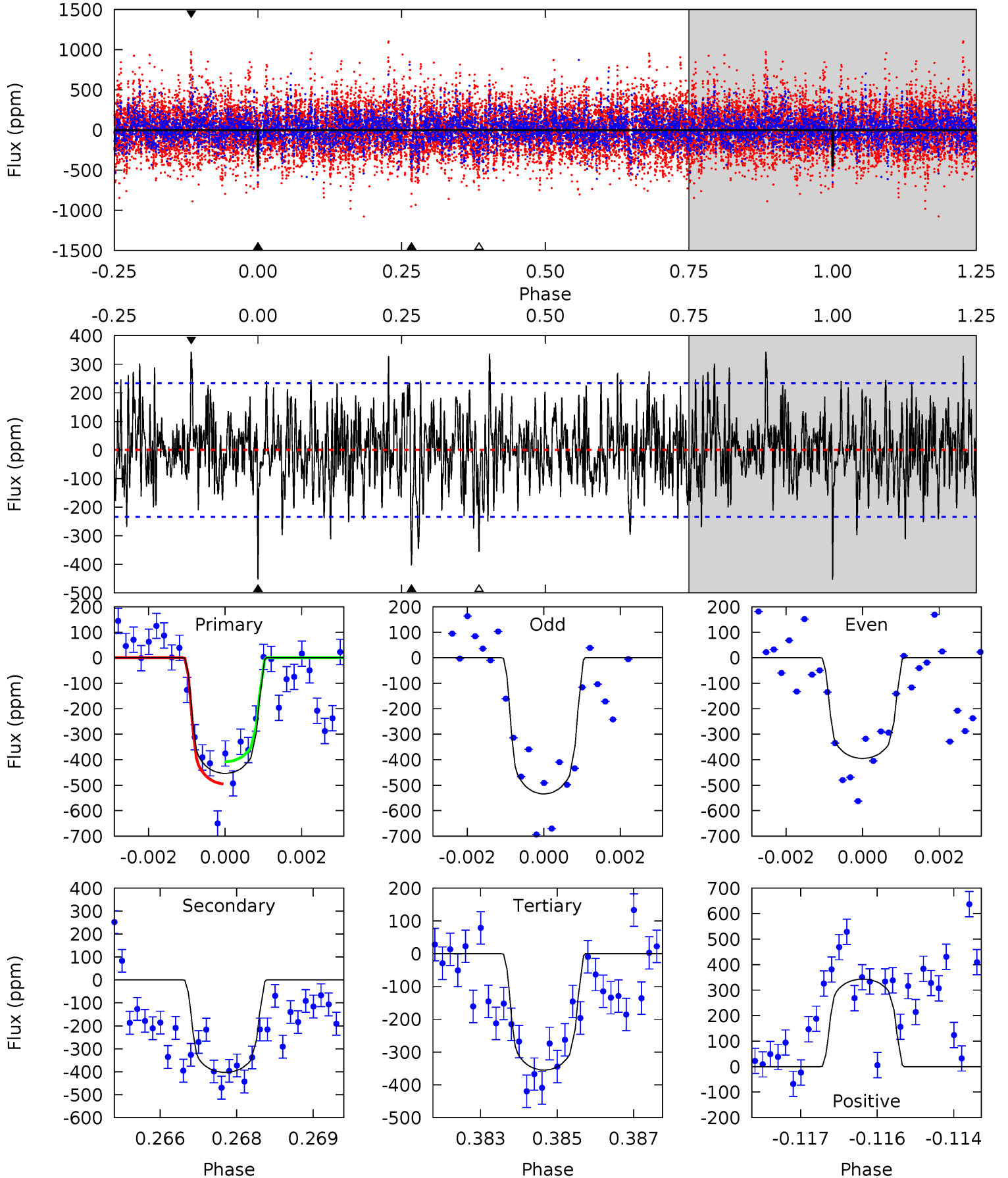
TCE 003246083-06 P=104.639824 Days  $T_0=198.238132$  (BKJD)



# DV Model-Shift Uniqueness Test

003246083-06, P = 104.642470 Days, E = 93.526390 Days

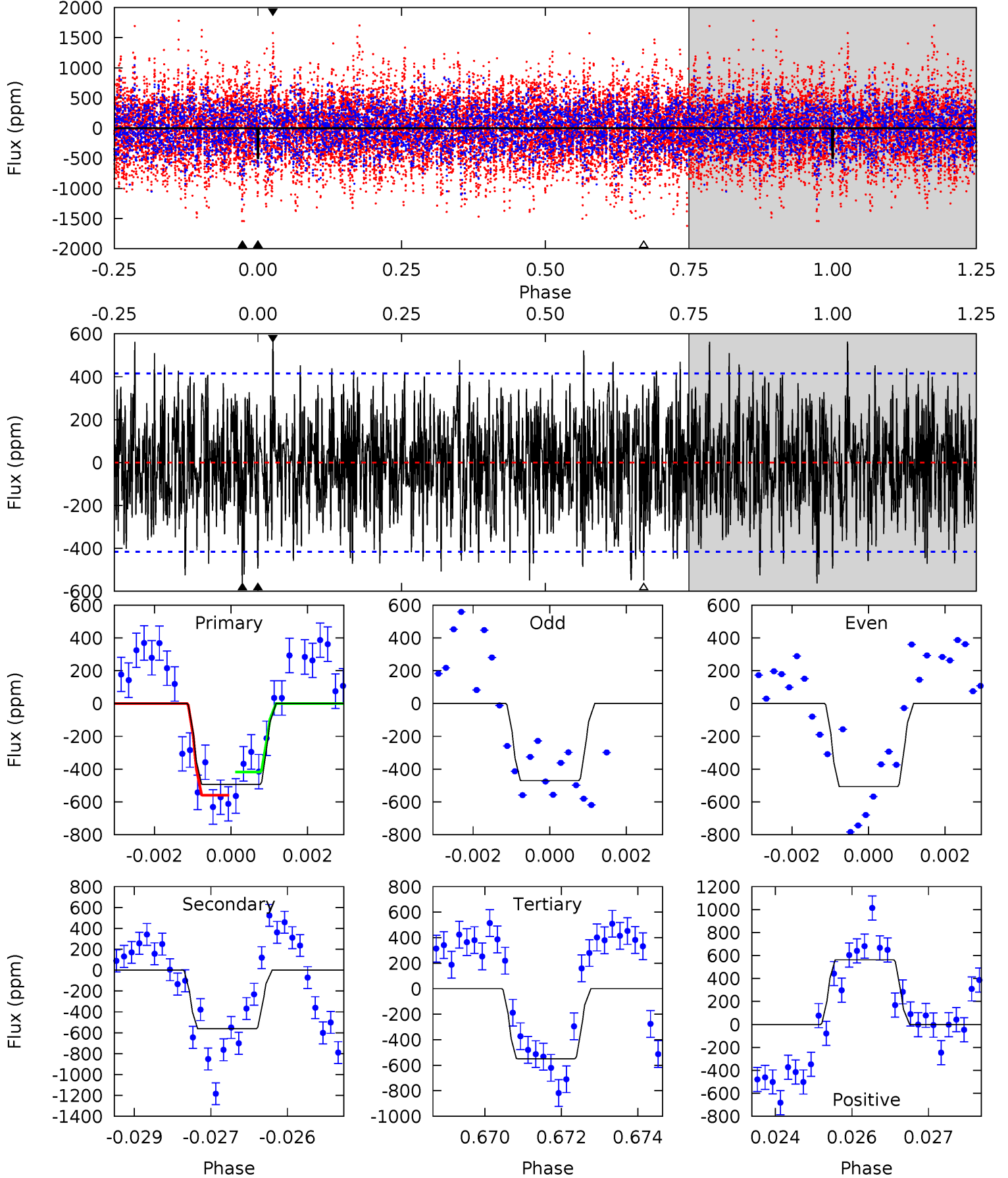
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	9.22	8.12	7.86	5.35	3.12	2.36	2.26	2.52	1.09	1.36	1.57	0.86	0.43	1.00



# Alt Model-Shift Uniqueness Test

003246083-06, P = 104.639824 Days, E = 93.598308 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
6.34	7.23	7.05	7.24	5.34	3.12	2.54	-0.71	-0.90	0.18	-0.01	0.23	1.53	0.50	0.91





### Stellar Parameters For KIC 003246083

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6443^{+155}_{-194}$	$4.234^{+0.153}_{-0.187}$	$-0.100^{+0.250}_{-0.300}$	$1.386^{+0.439}_{-0.293}$	$1.202^{+0.192}_{-0.174}$	$0.636^{+0.495}_{-0.324}$
	+2%/-3%	+4%/-4%	+250%/-300%	+32%/-21%	+16%/-14%	+78%/-51%
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 003246083-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-403 \pm 44$	$3.26^{+1.00}_{-0.78}$	$693^{+52}_{-42}$	$6236^{+966}_{-665}$	$4447^{+3515}_{-1809}$
Alt.	$-562 \pm 78$	$3.78^{+1.03}_{-0.97}$	$689^{+56}_{-45}$	$6327^{+922}_{-663}$	$4525^{+3721}_{-1716}$

$T_{max}$  = 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

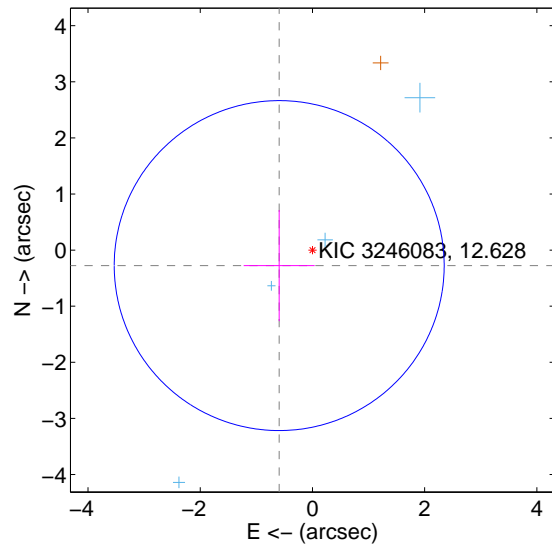
Supplemental centroid analysis for 003246083-06. Kepler magnitude: 12.63. Transit SNR 7.88

There are 4 quarters with good PRF difference image offsets

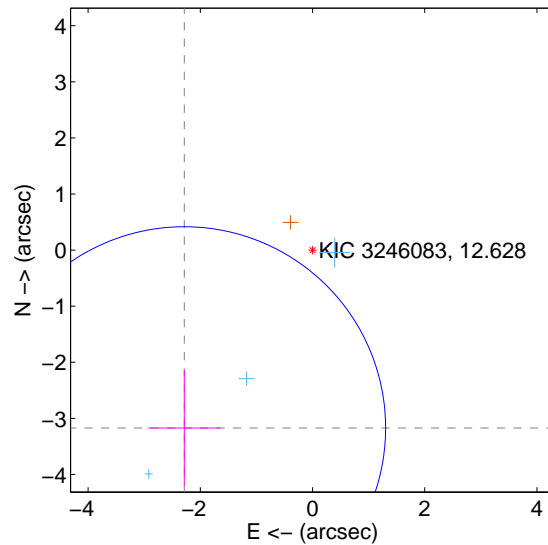
The OOT PRF centroid is offset from the target star catalog position by about 3.27 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.654 \pm 0.980$	0.67	$0.593 \pm 0.633$	$-0.276 \pm 0.990$
PRF-fit source offset from KIC position	<b><math>3.909 \pm 1.196</math></b>	<b>3.27</b>	$2.285 \pm 0.645$	$-3.171 \pm 1.029$
photometric centroid source offset	$1.38 \pm 0.74$	1.87	$1.16 \pm 0.73$	$-0.74 \pm 0.75$

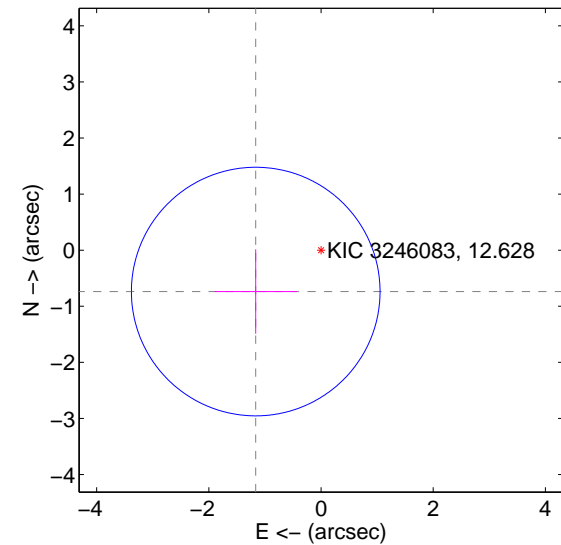
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

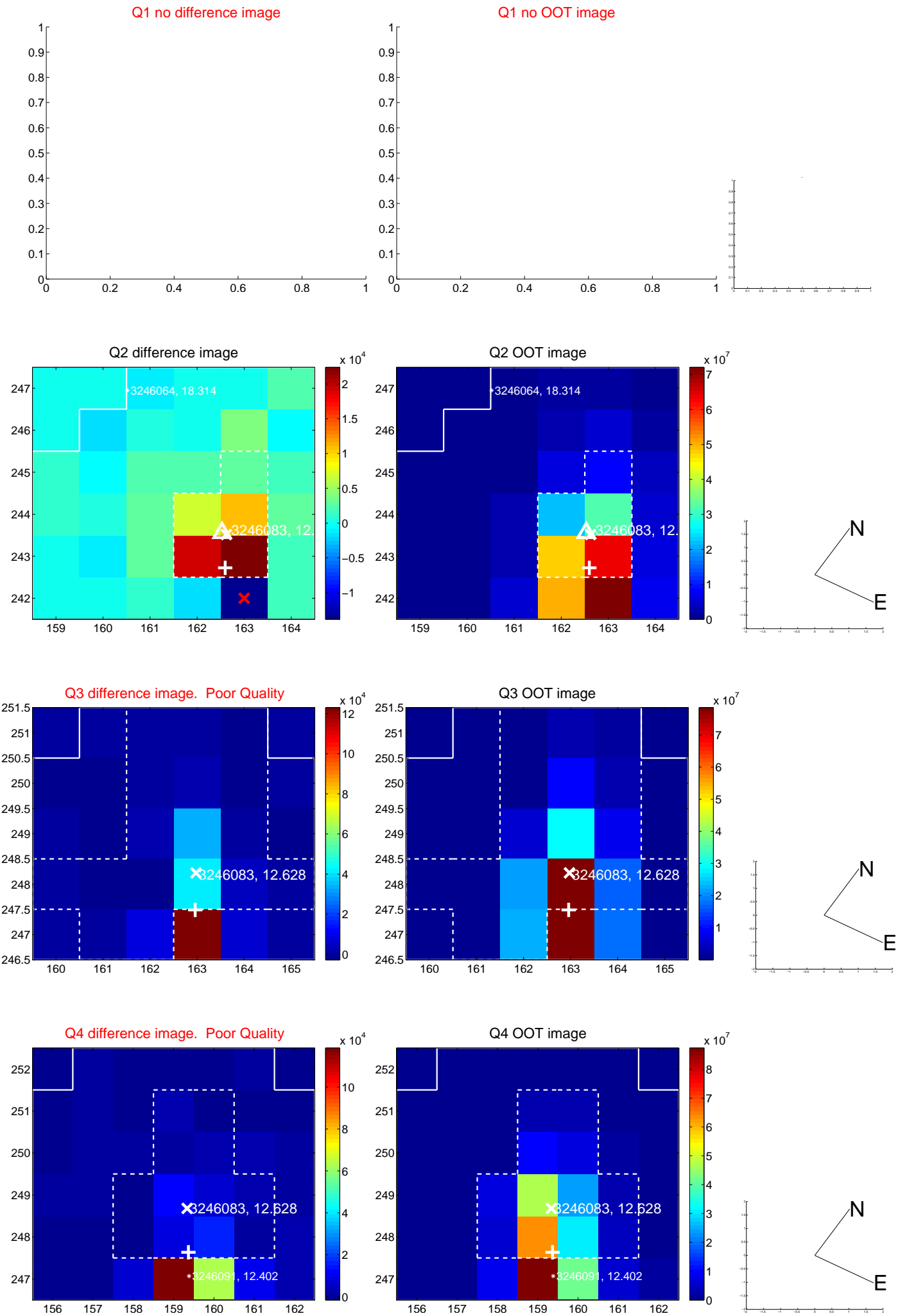


offset from photometric centroids

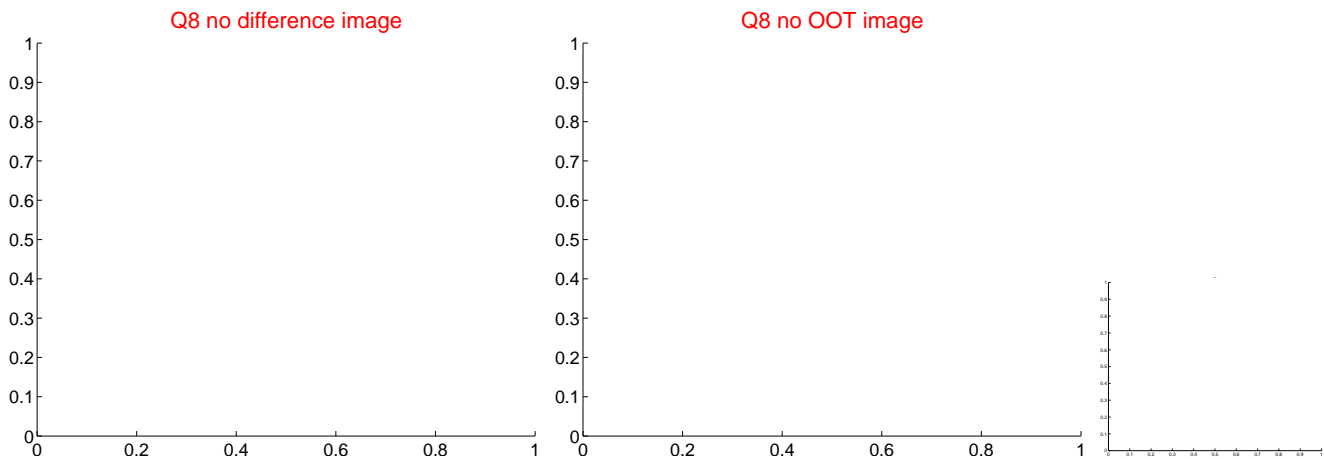
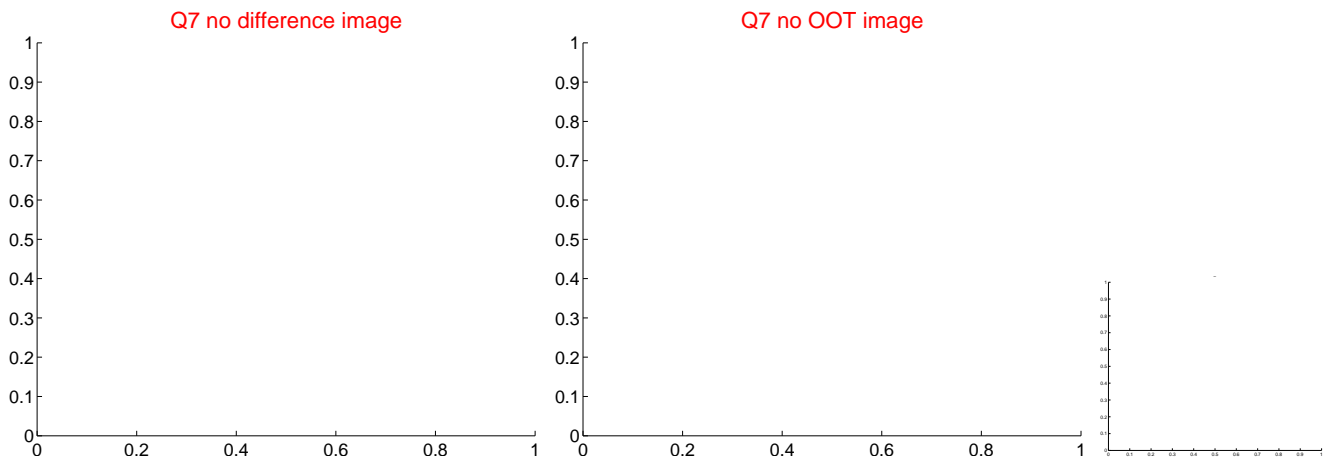
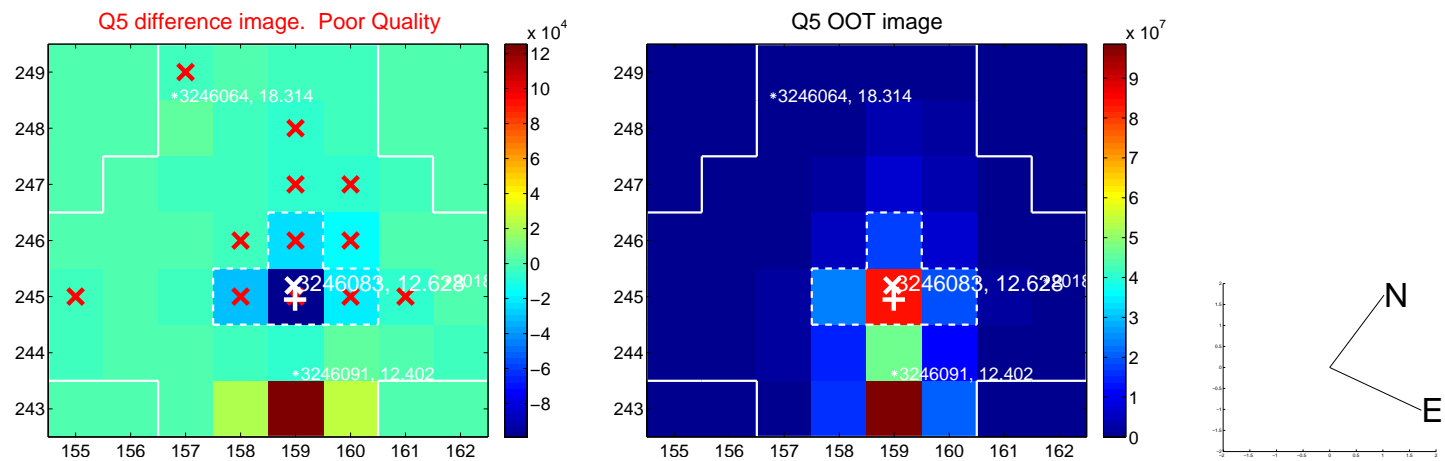


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

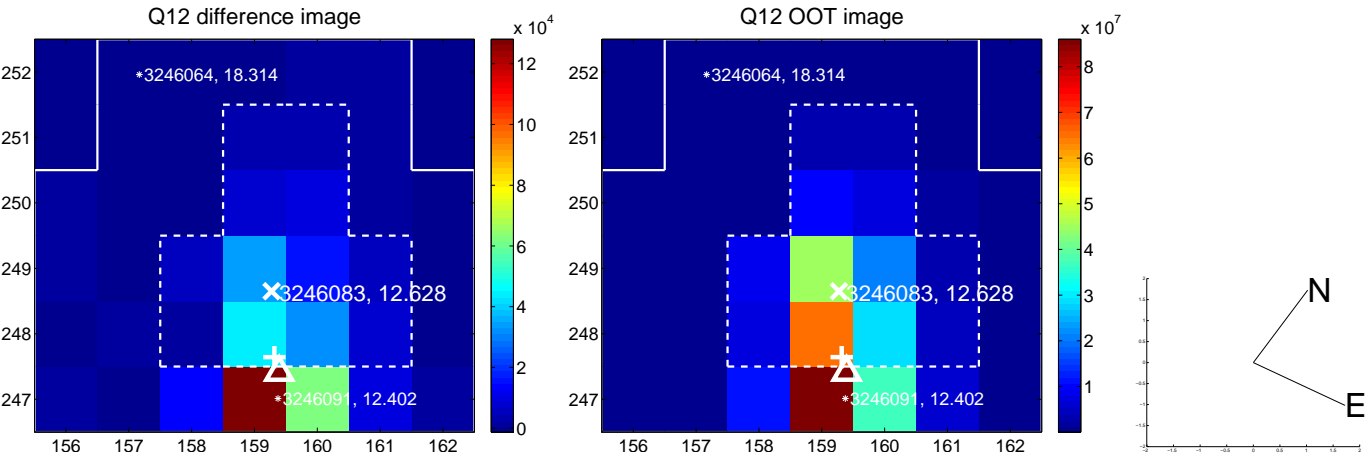
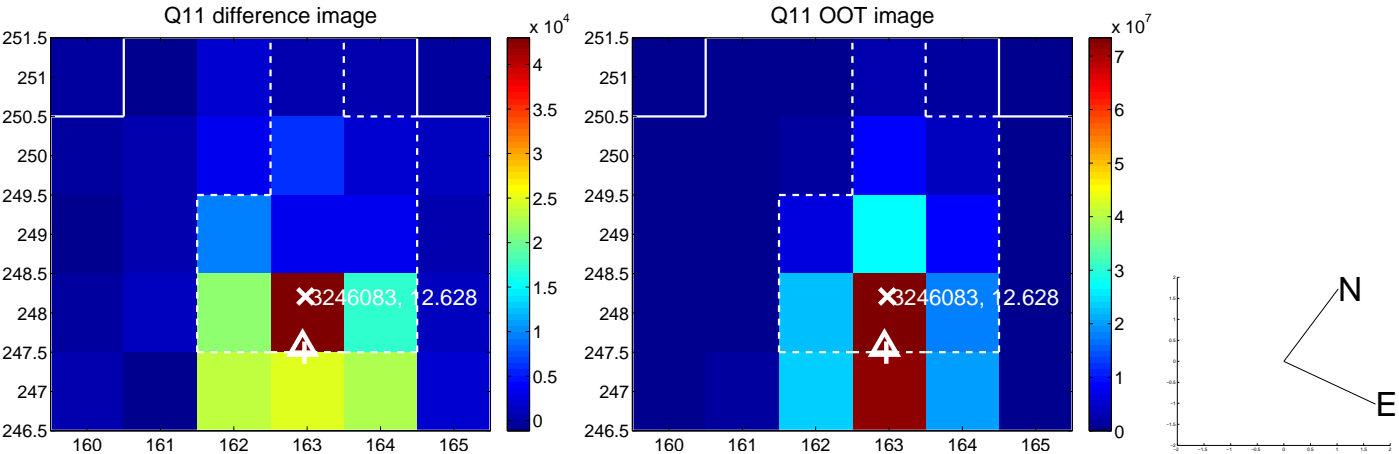
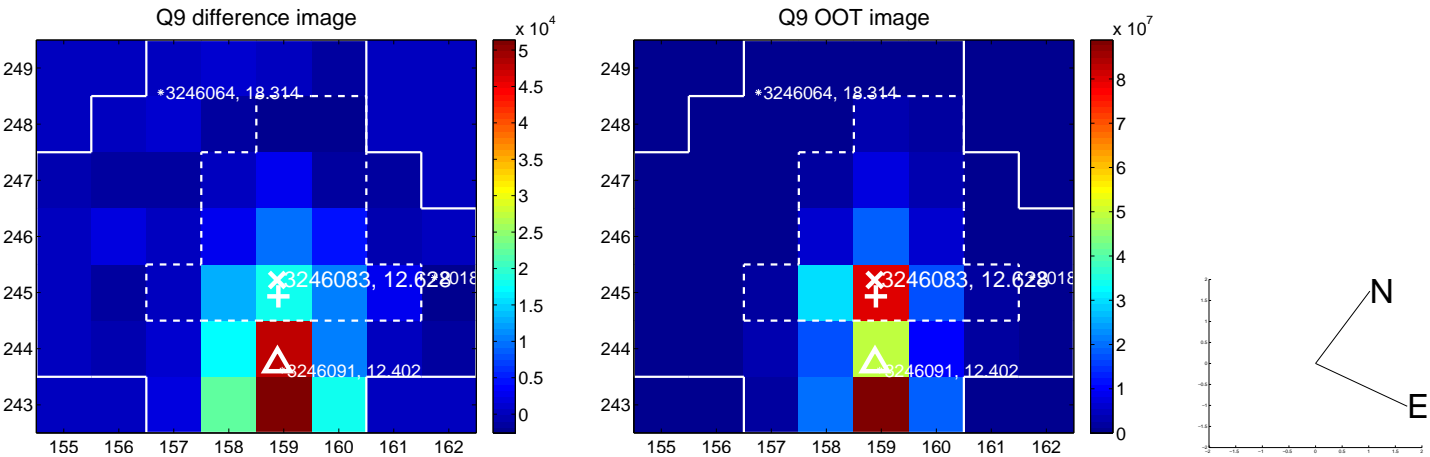
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



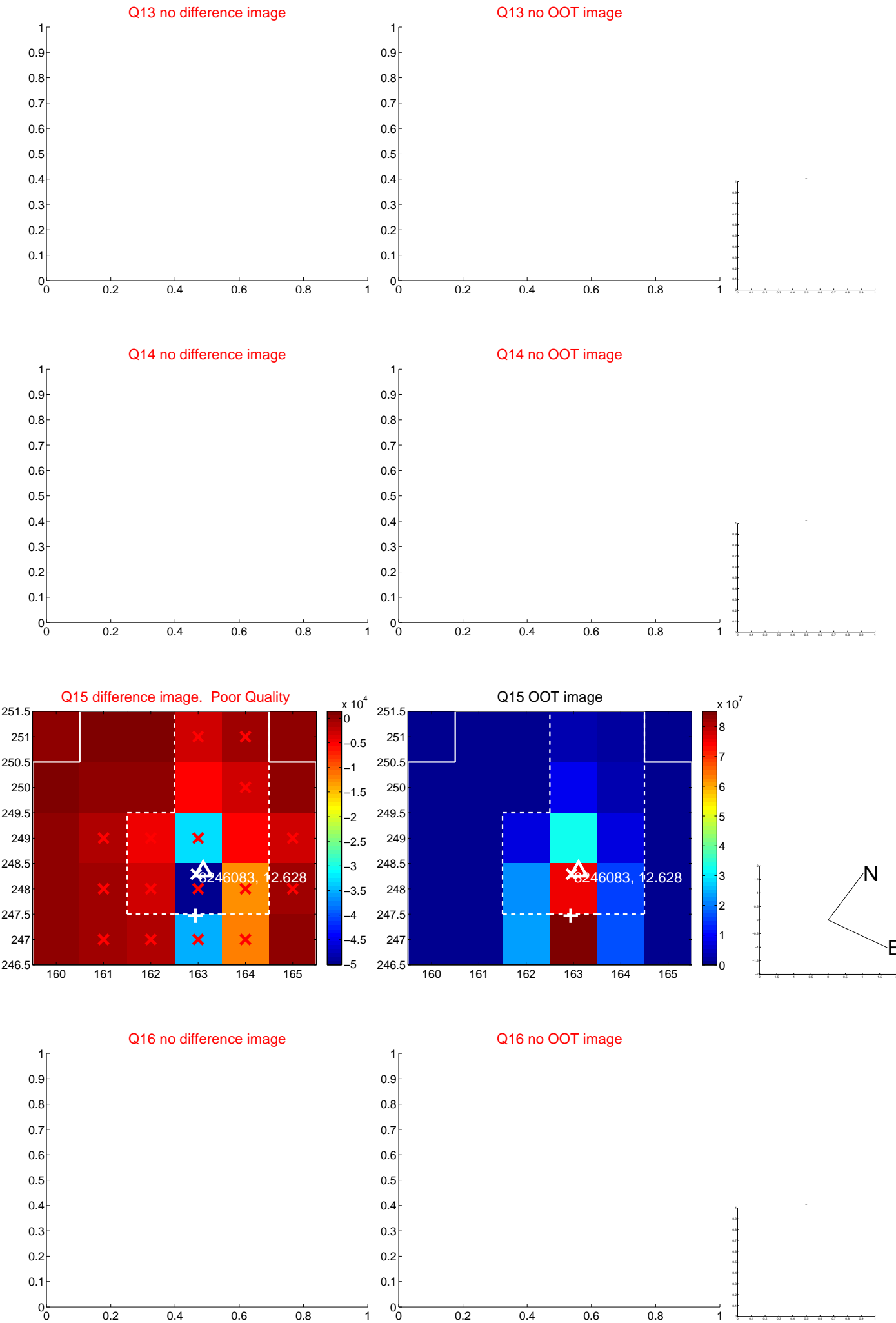
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



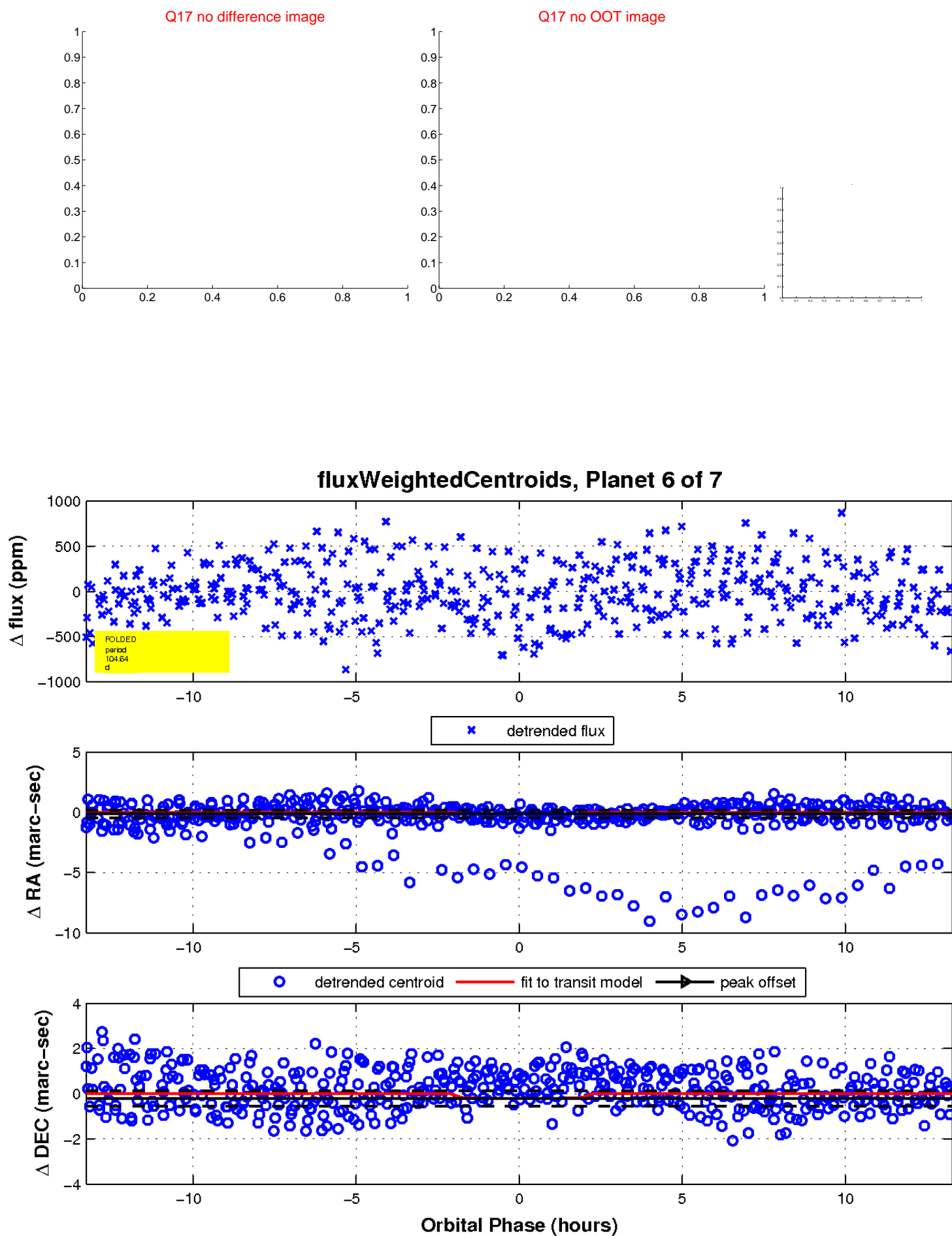
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

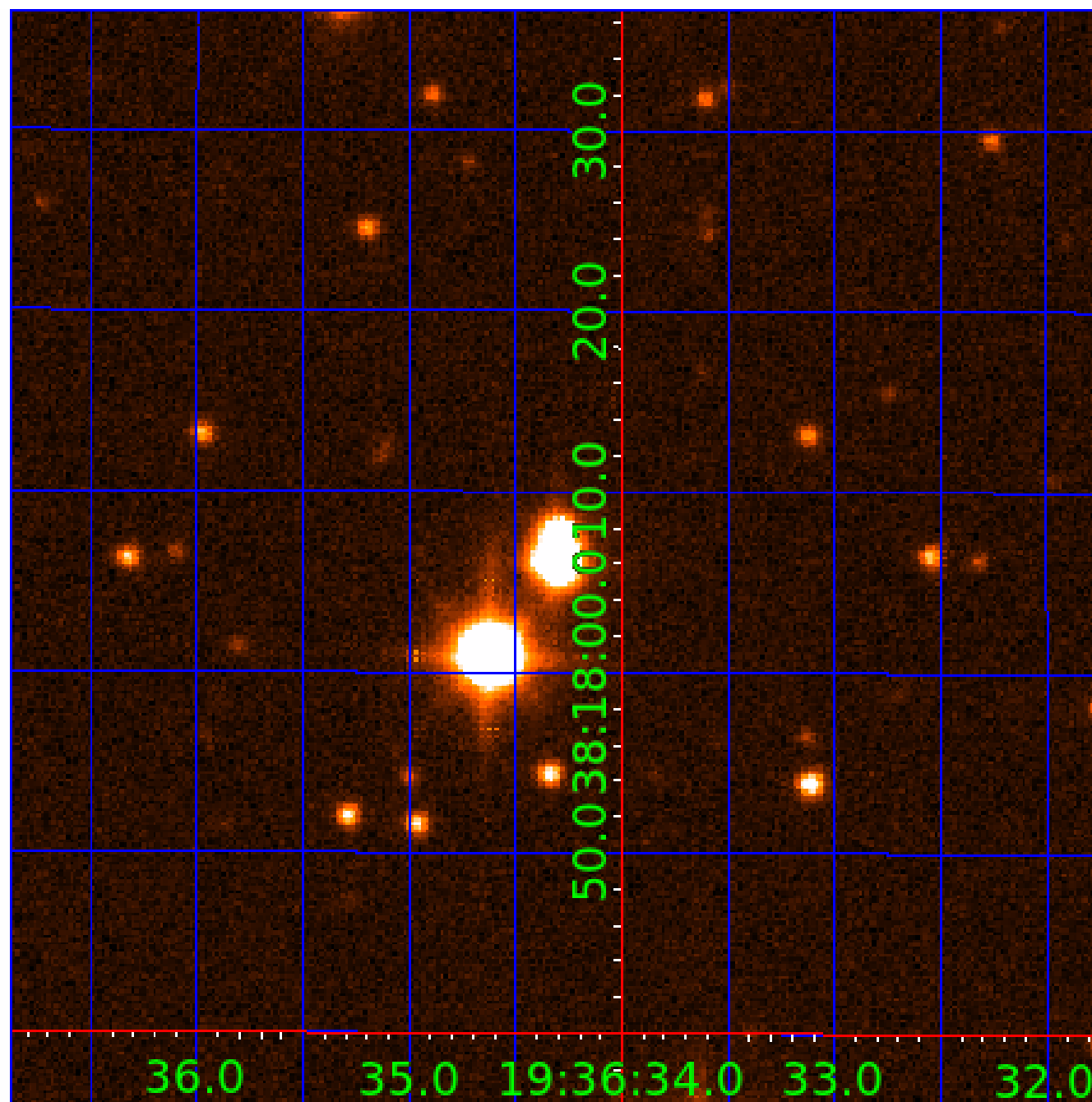


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 003246083

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003246083-01	OBS	No	1.339082	132.073775	42.7	7.258	8.7	8.4	1.39	6443	1.06	4641.73
003246083-02	OBS	No	255.234601	266.561521	755.9	11.624	9.7	8.2	1.39	6443	4.57	4.23
003246083-03	OBS	No	122.157161	207.272630	441.7	3.297	8.7	8.4	1.39	6443	3.28	11.30
003246083-04	OBS	No	51.596214	152.234320	497.9	6.776	8.4	9.2	1.39	6443	5.95	35.67
003246083-05	OBS	No	346.561677	453.388444	1063.7	16.507	7.8	8.3	1.39	6443	5.94	2.81
003246083-06	OBS	No	104.642470	198.168860	430.6	4.432	7.4	7.9	1.39	6443	3.29	13.89
003246083-07	OBS	No	117.038150	196.824850	509.7	4.654	7.7	7.8	1.39	6443	4.05	11.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003246083-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
003246083-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
003246083-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003246083-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
003246083-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
003246083-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
003246083-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

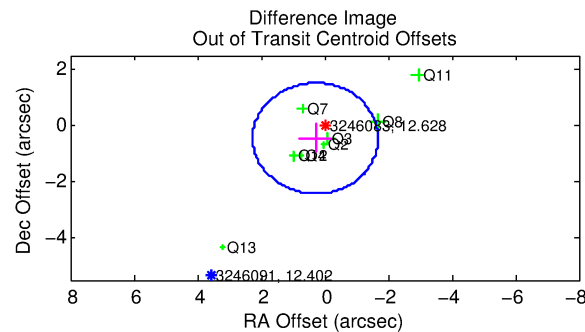
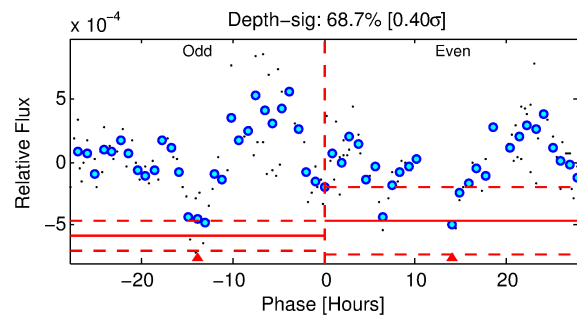
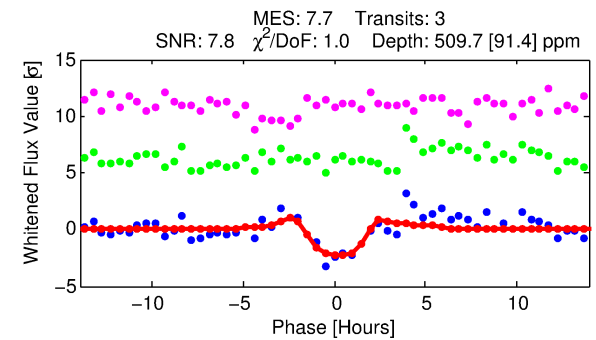
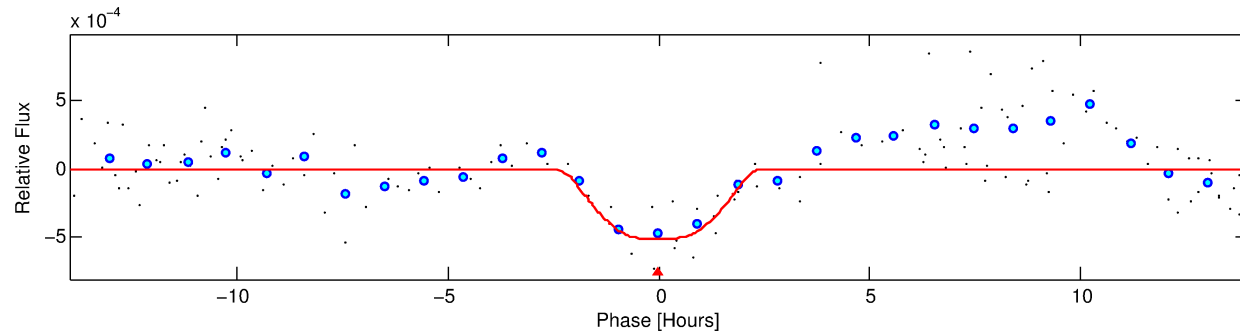
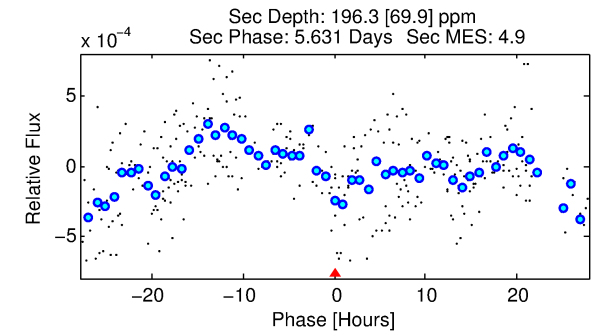
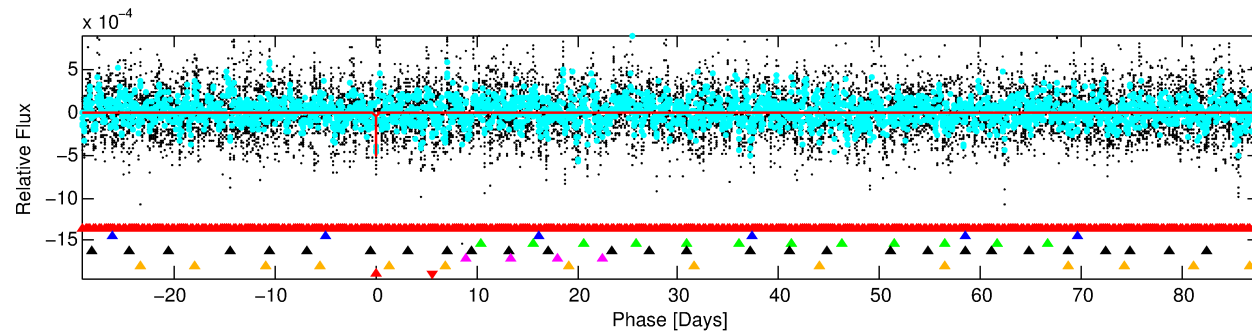
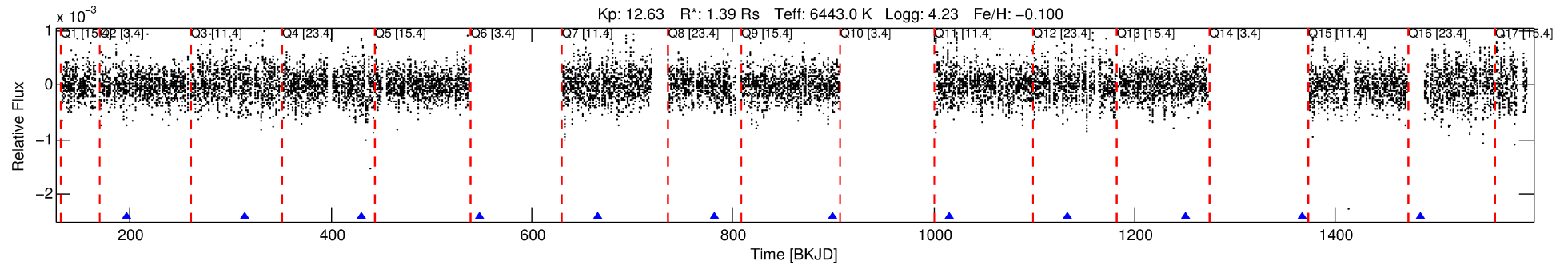
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 003246083-07

No Significant Match Found

# DV One-Page Summary

KIC: 3246083 Candidate: 7 of 7 Period: 117.038 d



## DV Fit Results:

Period = 117.03815 [0.00230] d  
Epoch = 196.8249 [0.0161] BKJD  
Rp/R\* = 0.0268 [0.0032]  
a/R\* = 64.96 [17.63]  
b = 0.97 [0.02]  
Seff = 11.97 [4.50]  
Teff = 474 [45] K  
Rp = 4.05 [1.37] Re  
a = 0.4978 [0.1271] AU  
Ag = 1633.64 [912.99] [1.79σ]  
Teffp = 4662 [521] K [8.01σ]

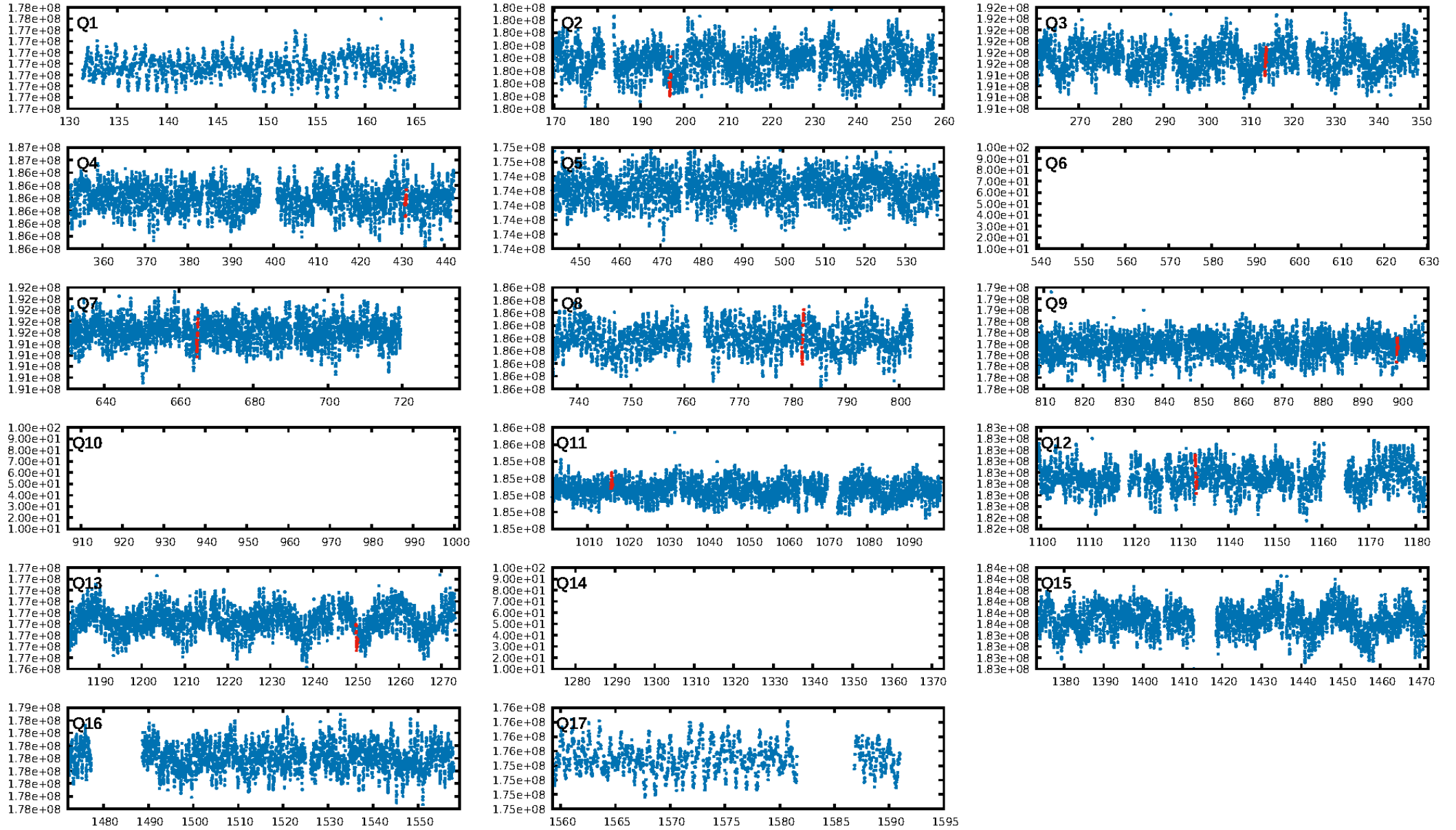
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [46.29σ]  
LongPeriod-sig: 100.0% [21.54σ]  
ModelChiSquare2-sig: 22.6%  
ModelChiSquareGof-sig: 99.8%  
**Bootstrap-pfa: 1.09e-08**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -21  
Centroid-sig: 10.2%  
Centroid-so: 2.188 arcsec [2.89σ]  
OotOffset-rm: 0.542 arcsec [0.82σ]  
**KicOffset-rm: 4.918 arcsec [6.95σ]**  
OotOffset-st: 1/3/3/1 [8]  
KicOffset-st: 1/3/3/1 [8]  
DiffImageQuality-fgm: 0.75 [6/8]  
DiffImageOverlap-fno: 0.00 [0/9]

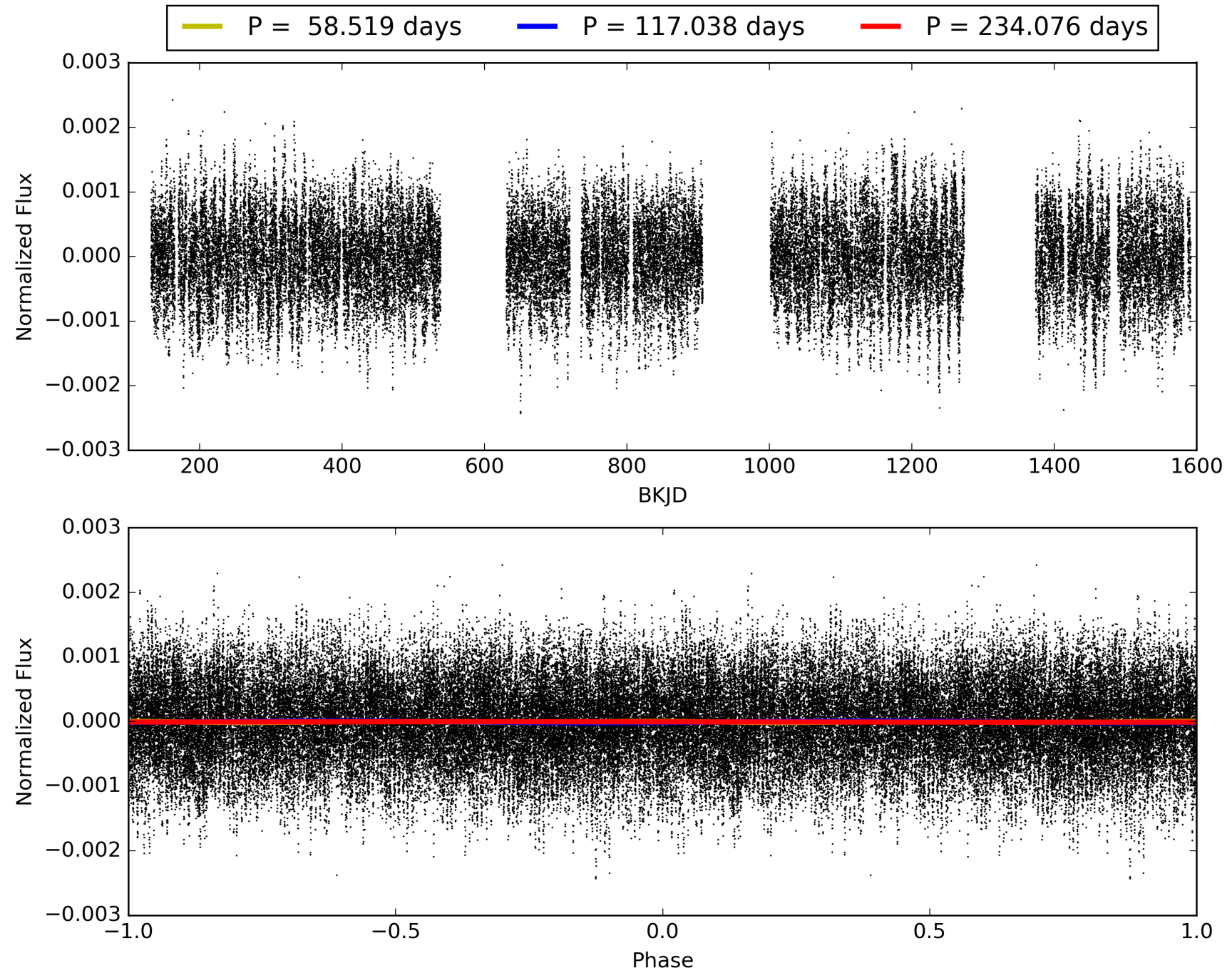
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:01:03 Z

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

# TCE 003246083-07, PDC Light Curves

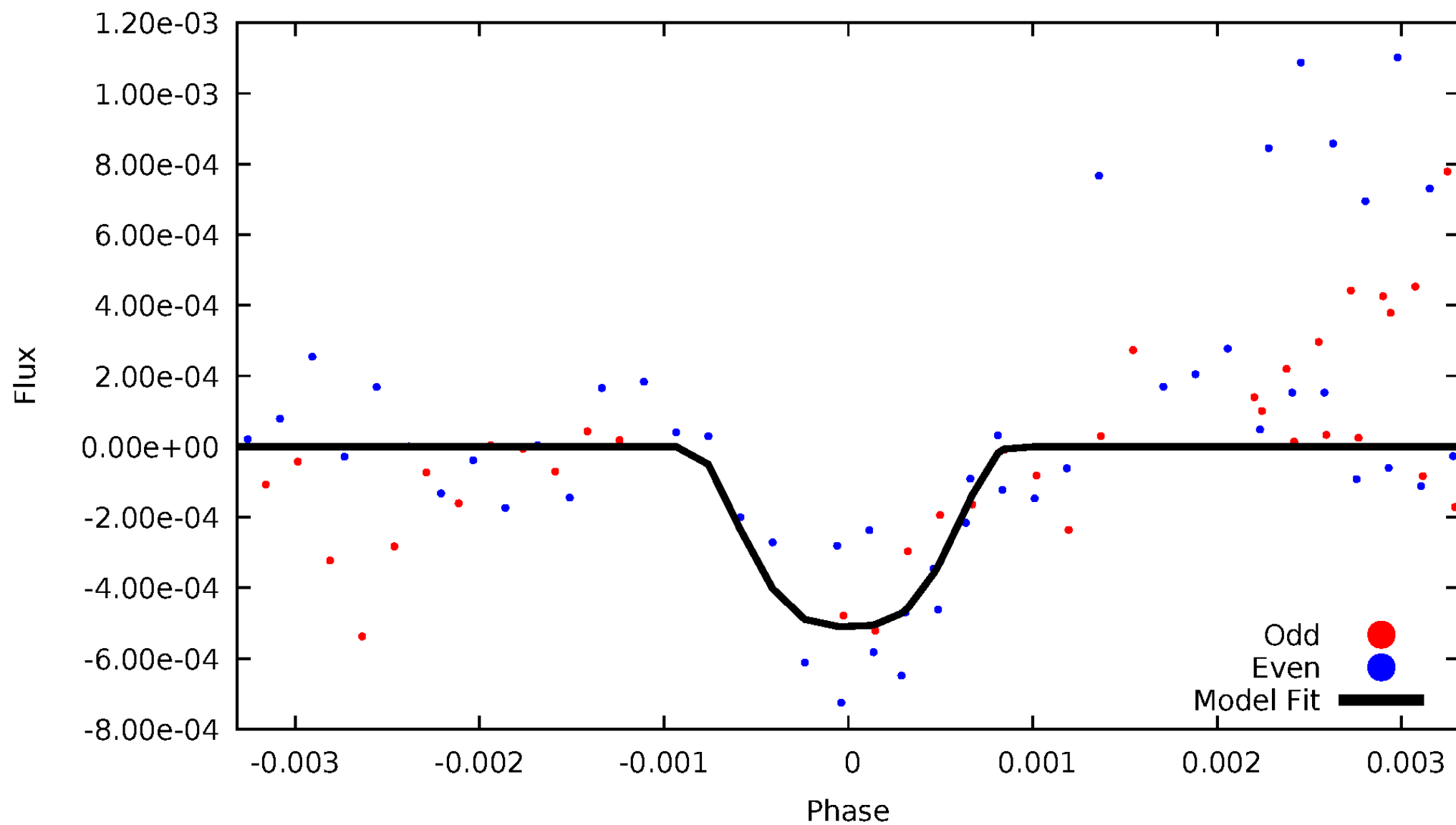


# TCE 003246083-07



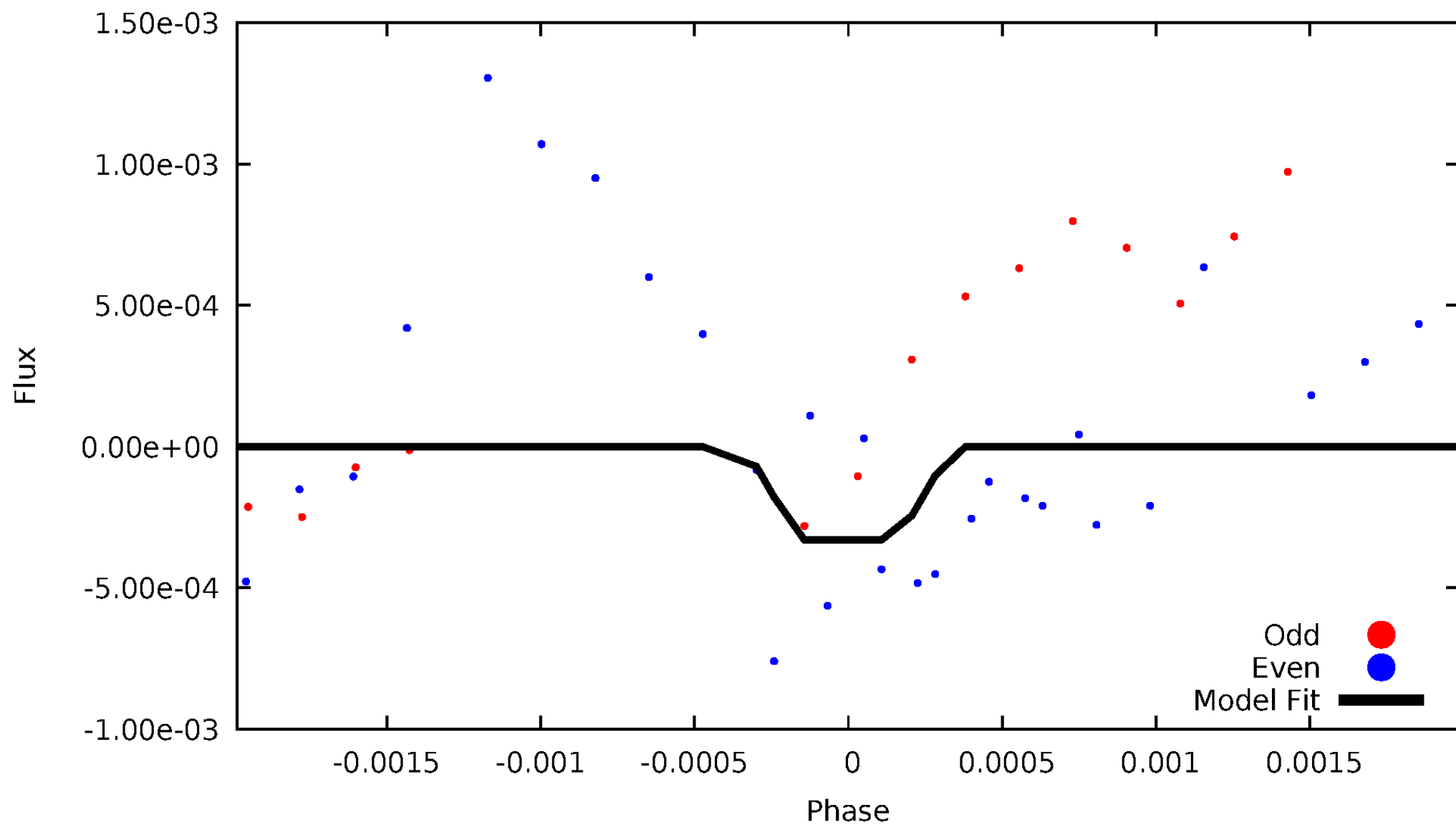
# DV Odd/Even

TCE 003246083-07



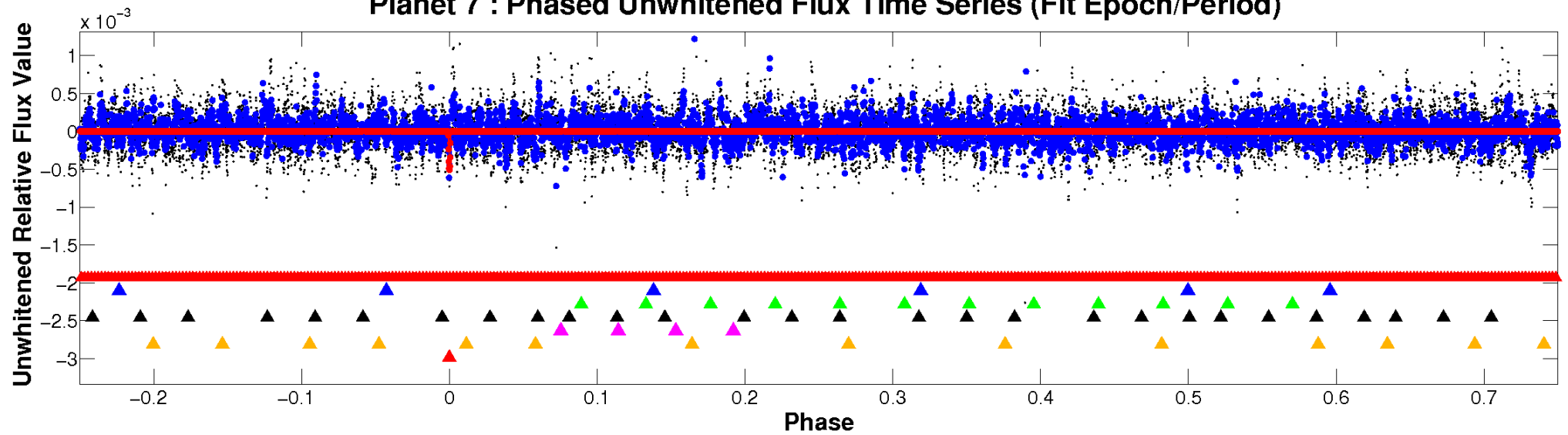
# ALT Odd/Even

TCE 003246083-07

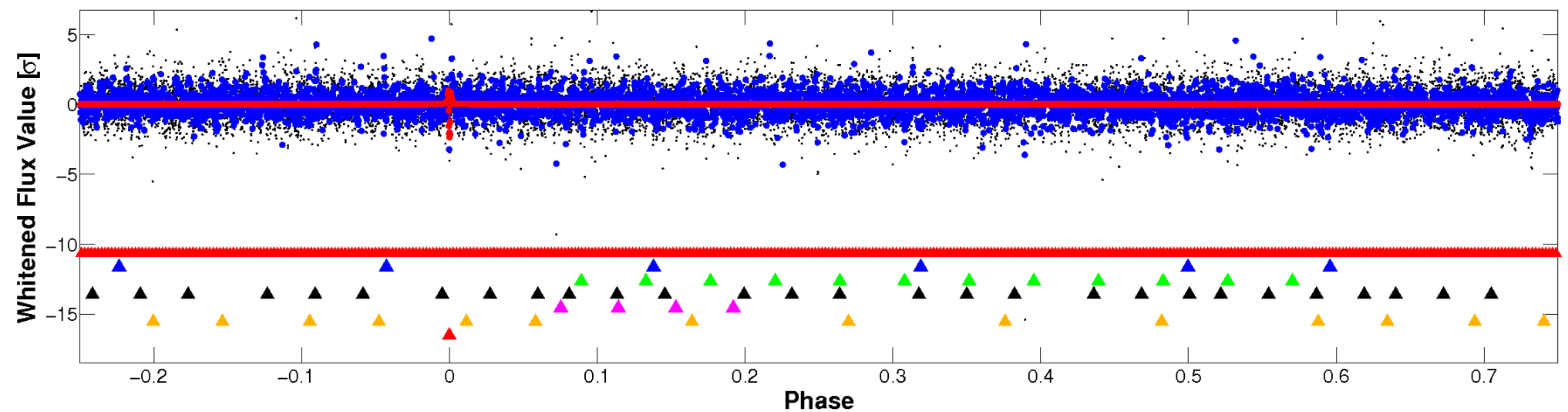


# Non-Whitened Vs. Whitened Light Curve

## Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



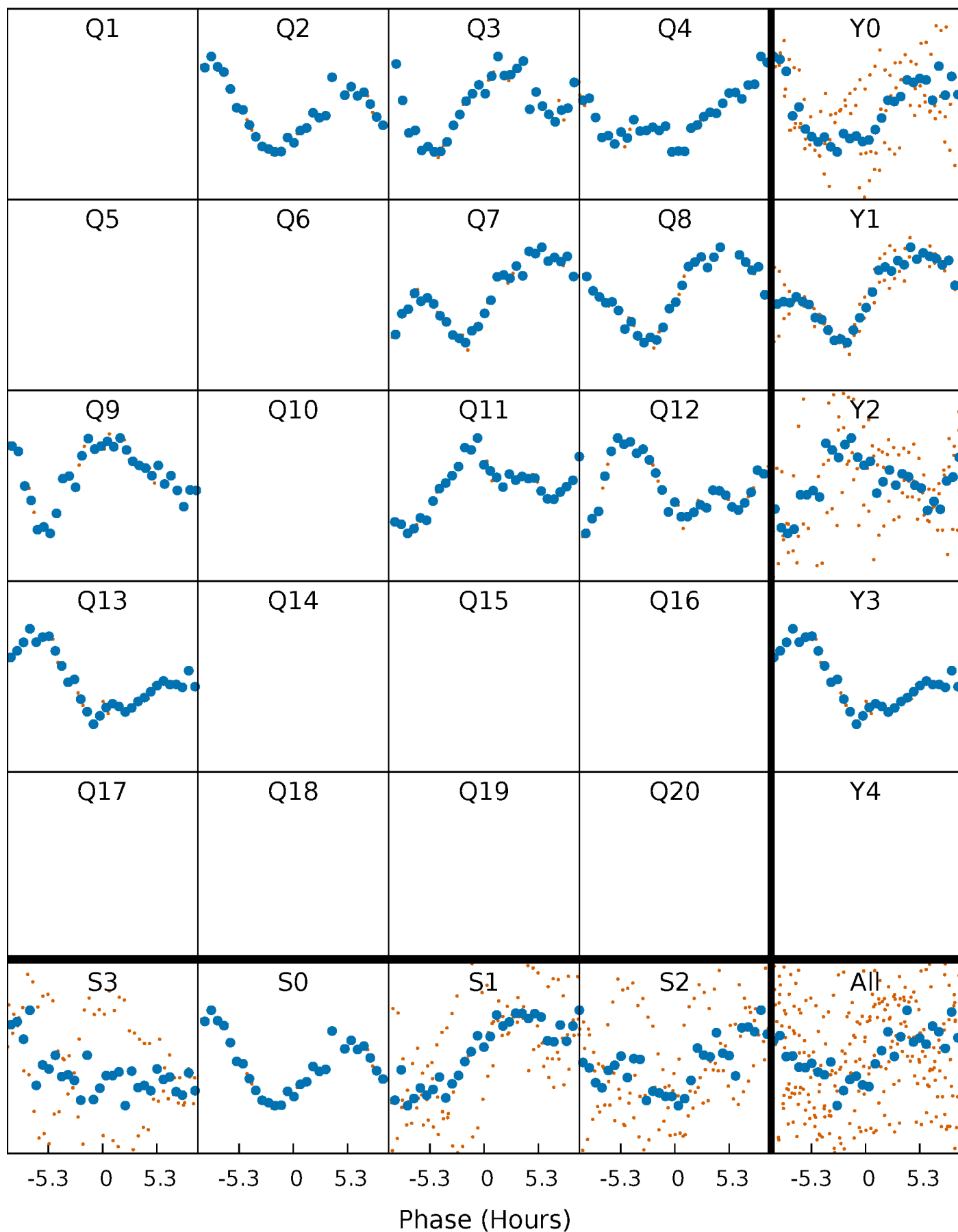
## Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

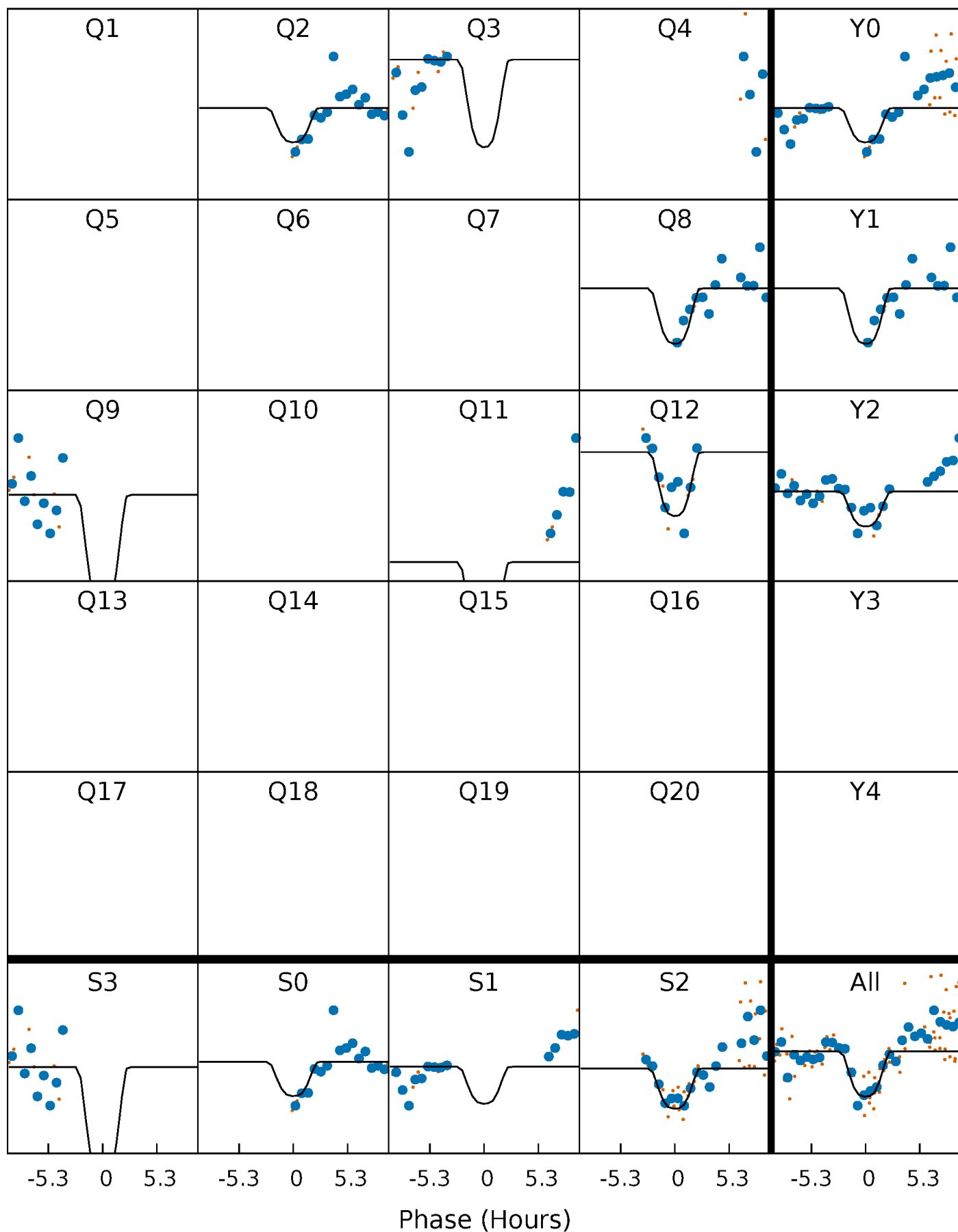
TCE 003246083-07     $P=117.038150$  Days     $T_0=196.824850$  (BKJD)





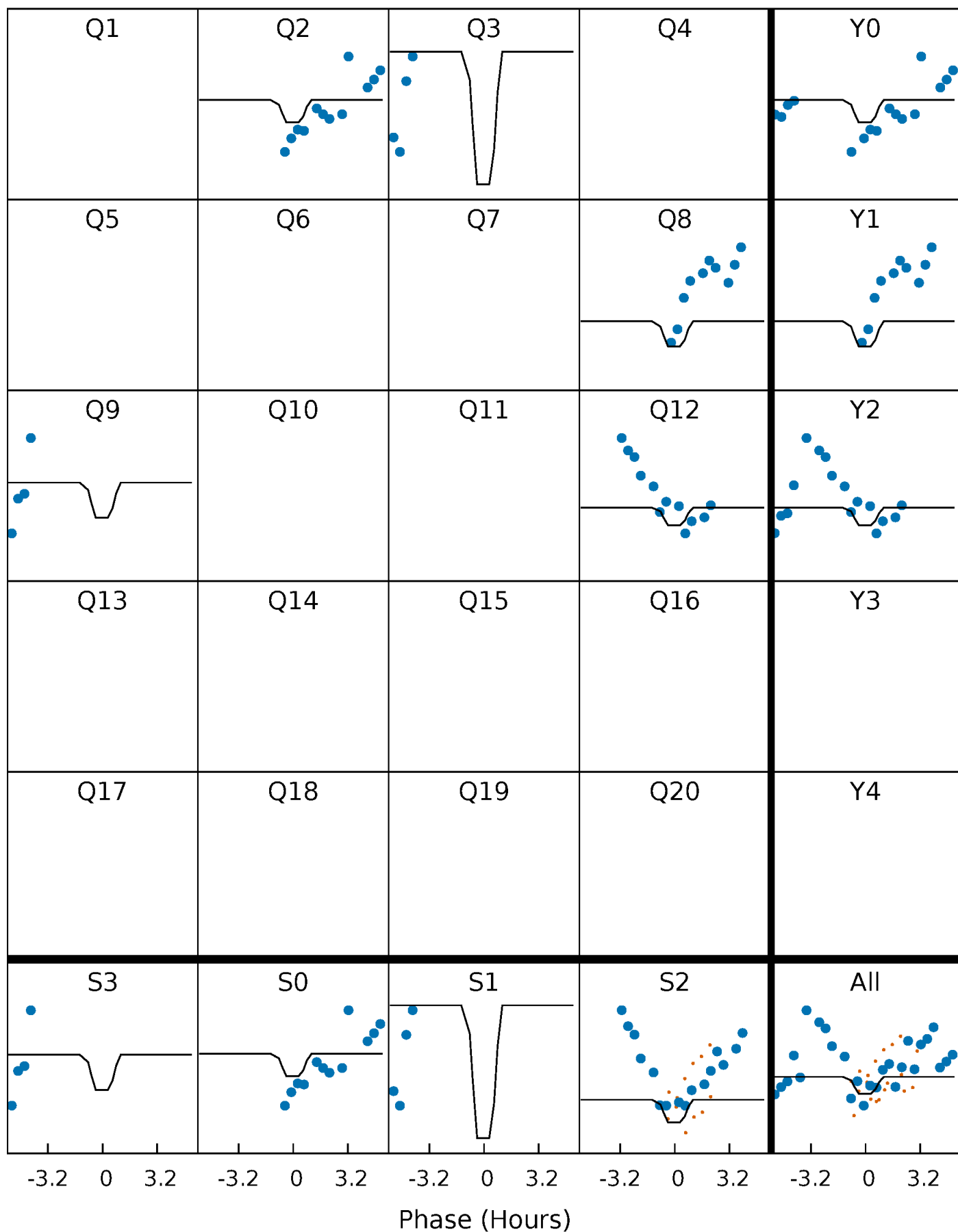
# DV Quarter-Phased Transit Curves

TCE 003246083-07     $P=117.038150$  Days     $T_0=196.824850$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

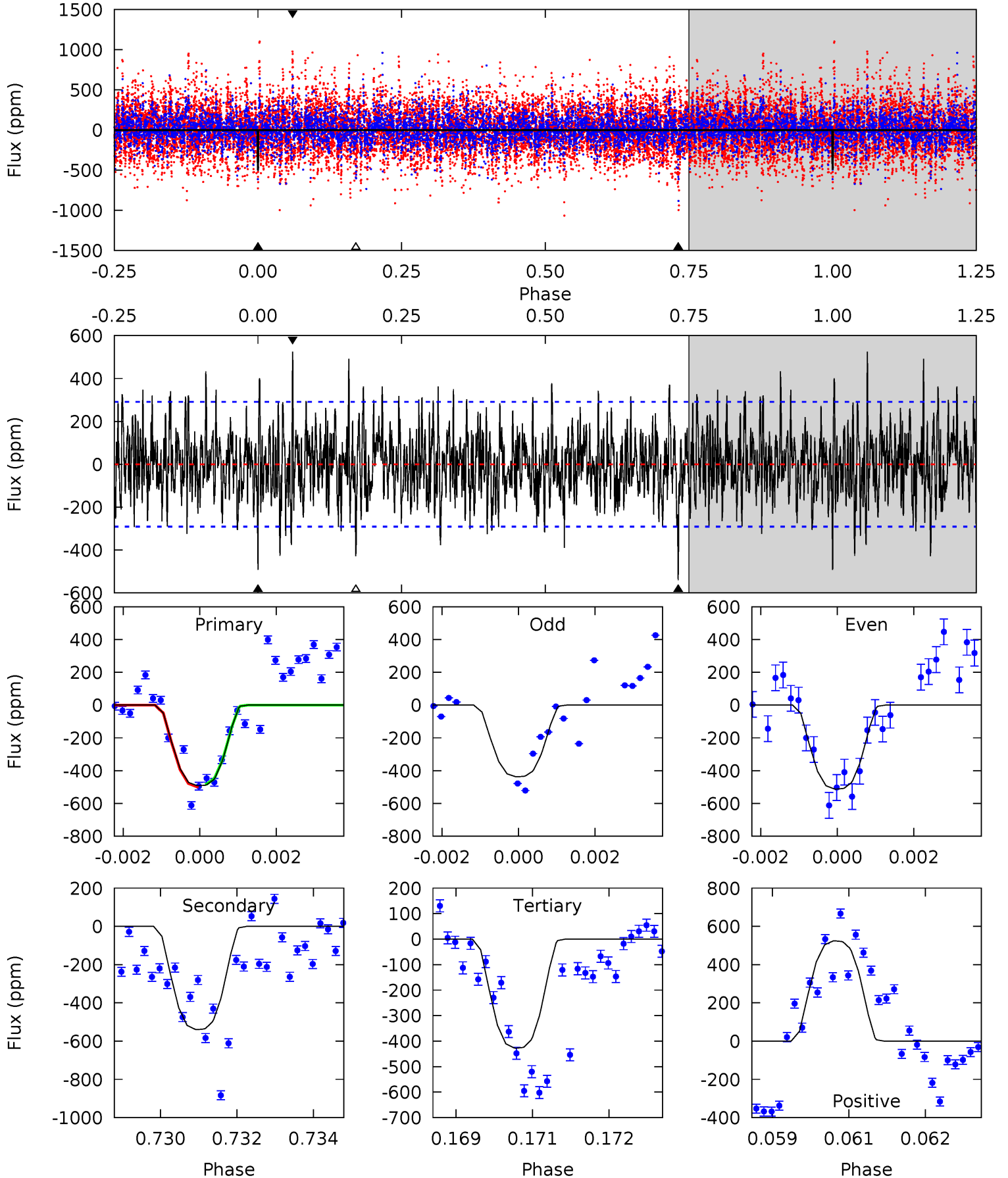
TCE 003246083-07 P=117.036089 Days  $T_0=196.848728$  (BKJD)



# DV Model-Shift Uniqueness Test

003246083-07, P = 117.038150 Days, E = 79.786700 Days

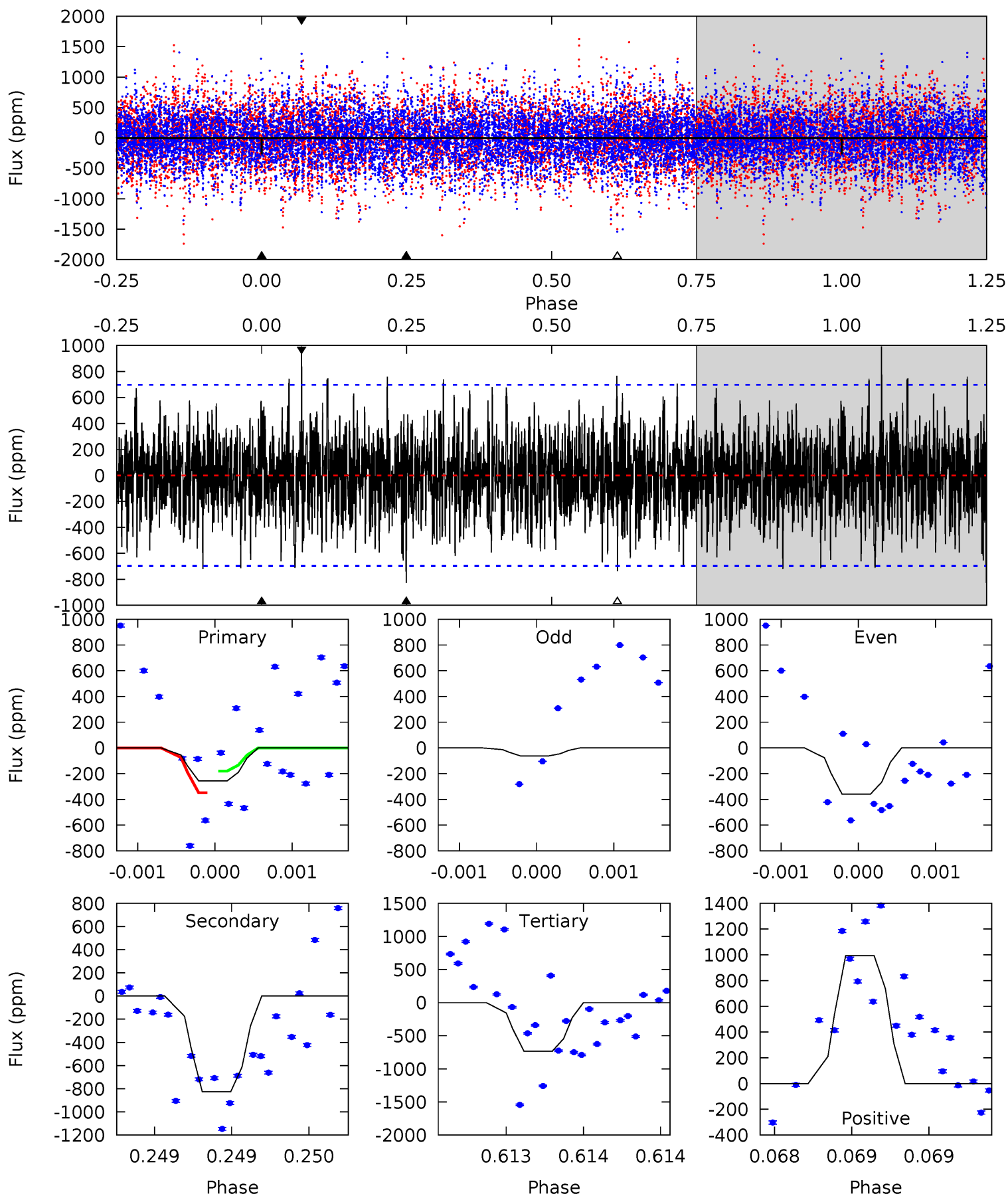
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.08	9.96	7.89	9.68	5.37	3.16	2.34	1.19	-0.60	2.07	0.28	0.64	1.13	0.49	0.12



# Alt Model-Shift Uniqueness Test

003246083-07, P = 117.036089 Days, E = 79.812639 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
2.03	6.54	5.80	7.86	5.52	3.40	1.85	-3.77	-5.84	0.74	-1.32	1.09	3.45	0.55	0.66



### Stellar Parameters For KIC 003246083

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6443^{+155}_{-194}$	$4.234^{+0.153}_{-0.187}$	$-0.100^{+0.250}_{-0.300}$	$1.386^{+0.439}_{-0.293}$	$1.202^{+0.192}_{-0.174}$	$0.636^{+0.495}_{-0.324}$
	+2%/-3%	+4%/-4%	+250%/-300%	+32%/-21%	+16%/-14%	+78%/-51%
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 003246083-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-540 \pm 54$	$4.07^{+0.84}_{-0.72}$	$662^{+52}_{-42}$	$5999^{+463}_{-428}$	$4443^{+1961}_{-1466}$
Alt.	$-827 \pm 126$	$2.75^{+0.70}_{-0.56}$	$664^{+48}_{-44}$	$8345^{+1366}_{-902}$	$14670^{+8753}_{-5230}$

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

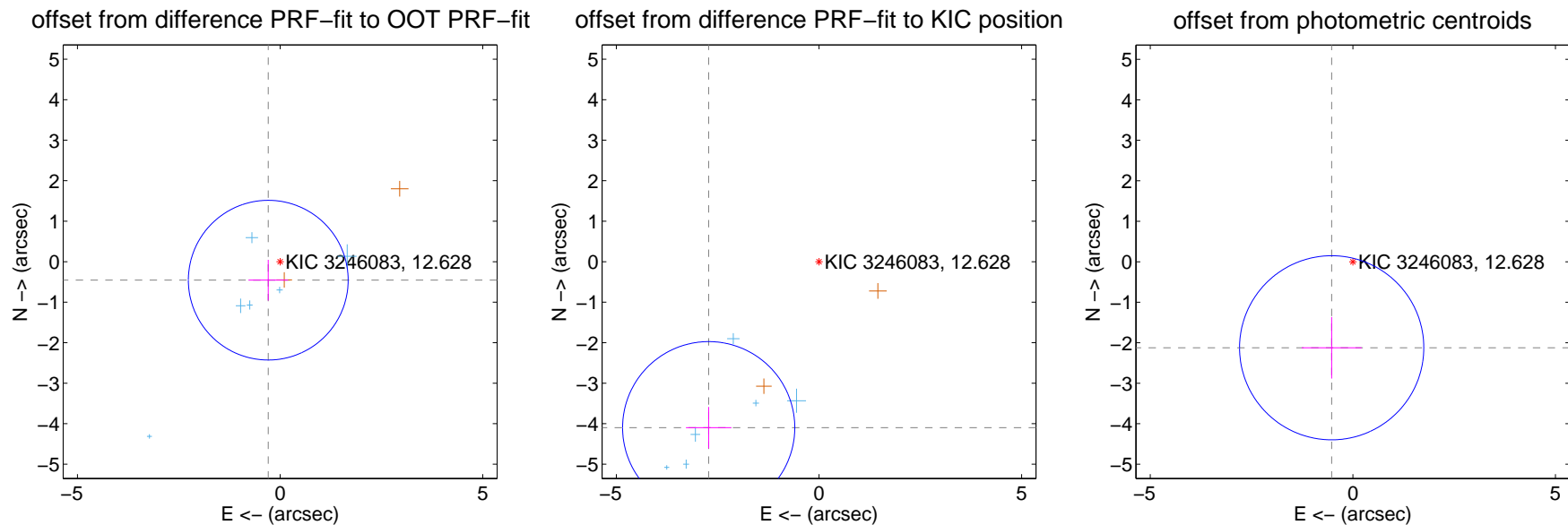
## DV Centroid Data

Supplemental centroid analysis for 003246083-07. Kepler magnitude: 12.63. Transit SNR 7.76

There are 6 quarters with good PRF difference image offsets

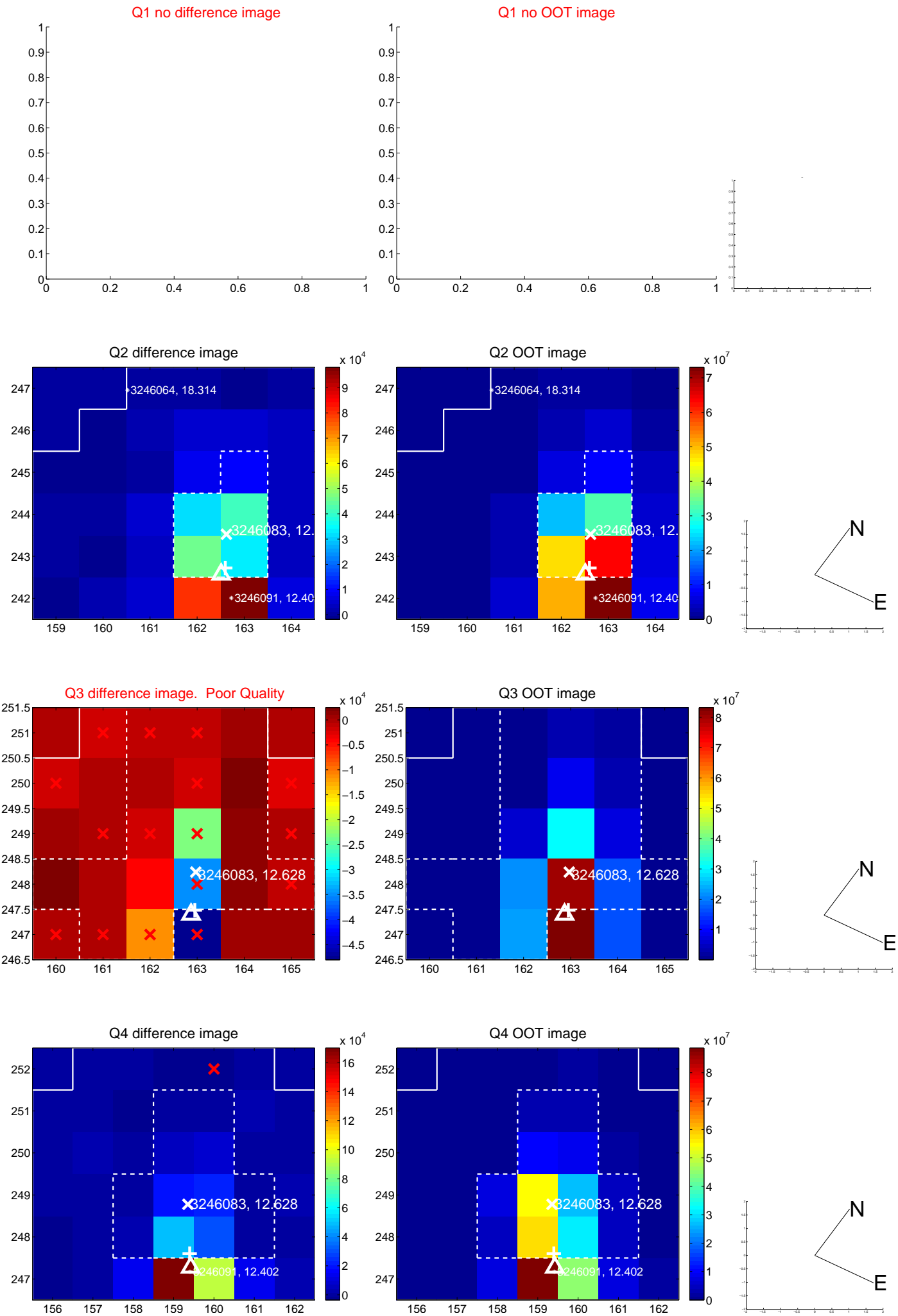
The direct PRF centroid is offset from the target star catalog position by about 0.93 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.542 \pm 0.657$	0.82	$0.292 \pm 0.490$	$-0.456 \pm 0.503$
PRF-fit source offset from KIC position	$4.918 \pm 0.708$	6.95	$2.721 \pm 0.562$	$-4.097 \pm 0.512$
photometric centroid source offset	$2.19 \pm 0.76$	2.89	$0.52 \pm 0.74$	$-2.12 \pm 0.76$



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.

Q5 no difference image



Q5 no OOT image



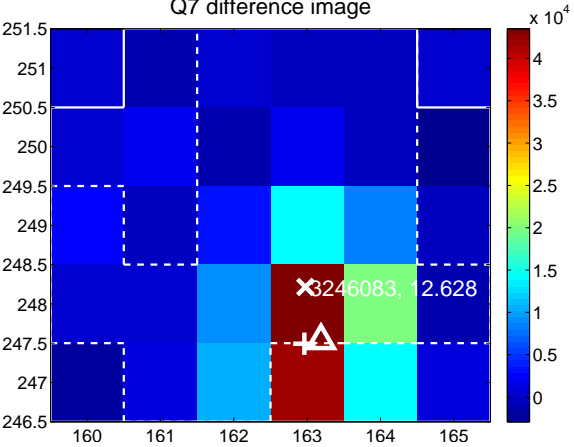
Q6 no difference image



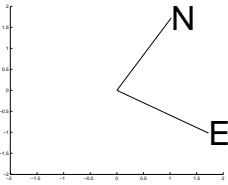
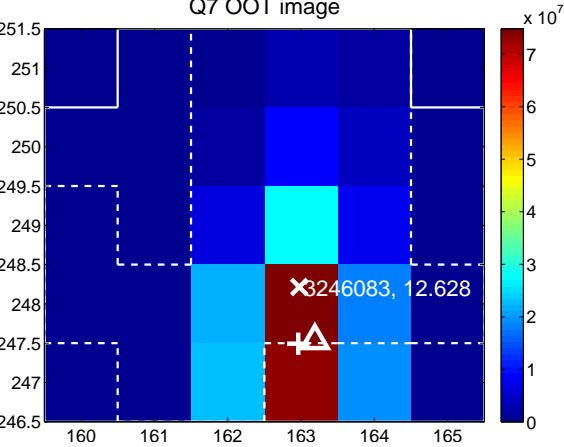
Q6 no OOT image



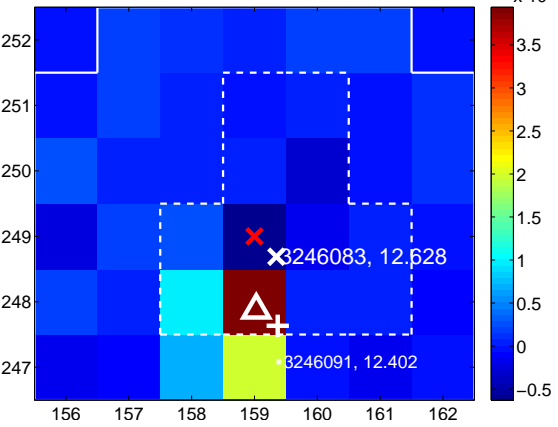
Q7 difference image



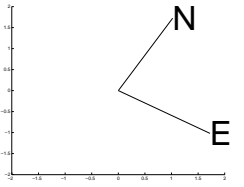
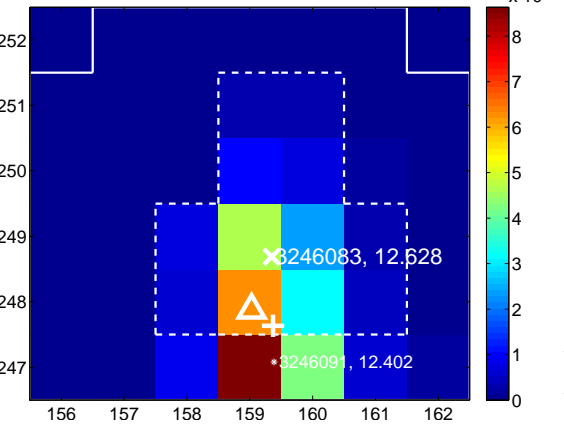
Q7 OOT image



Q8 difference image

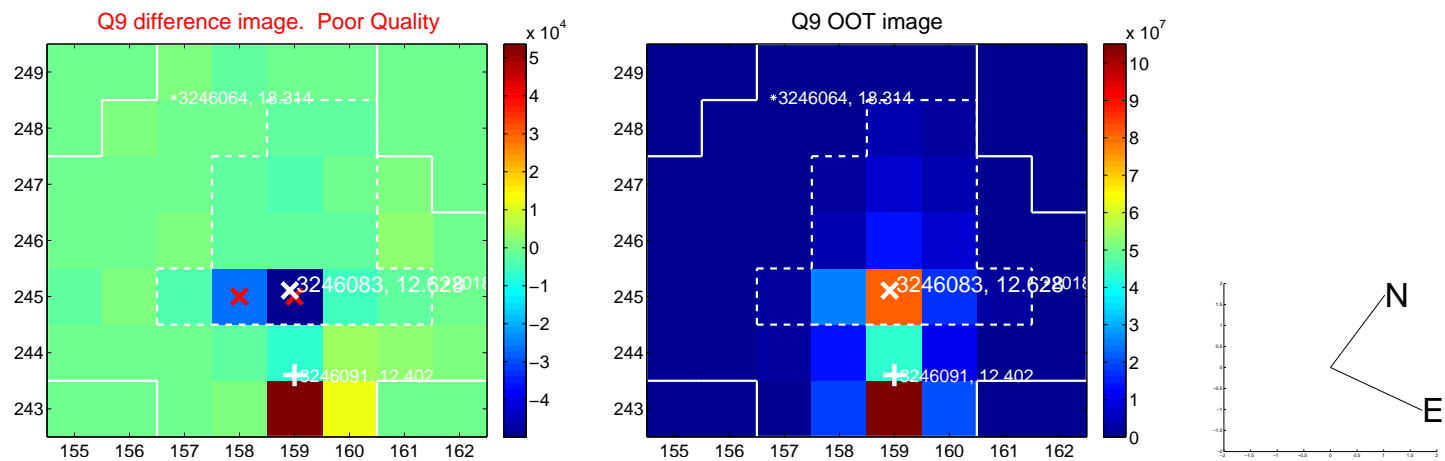


Q8 OOT image

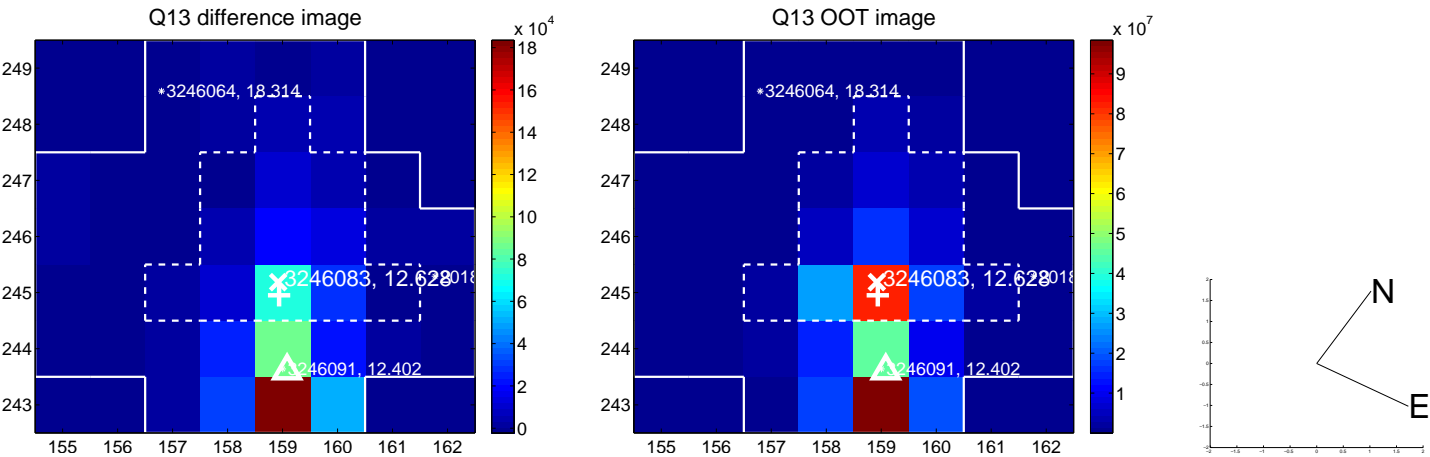




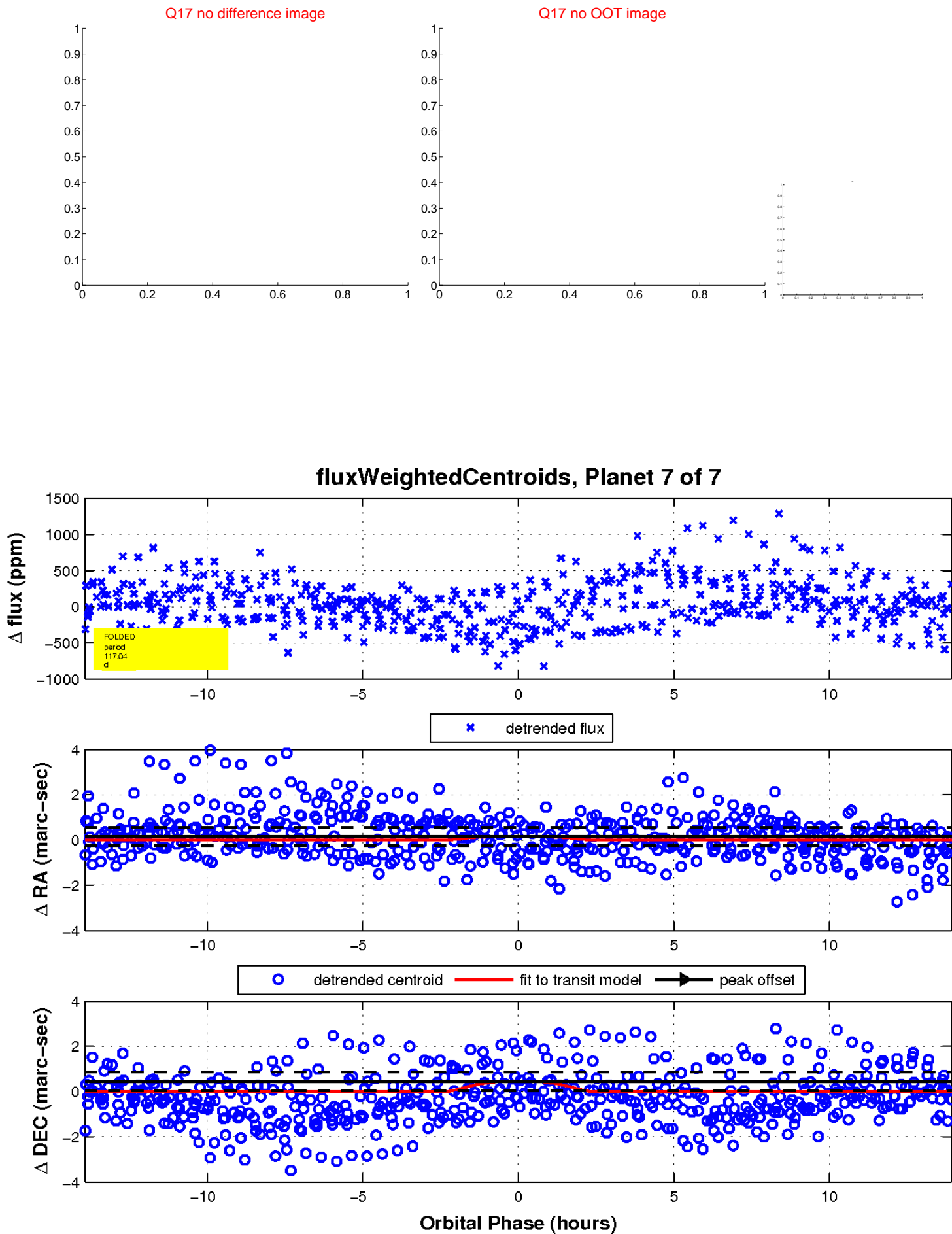
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

