

# KIC 010711066

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010711066-01	OBS	No	131.325990	259.770519	27837.3	7.756	29.2	20.2	1.74	6628	49.97	15.53
010711066-03	OBS	No	108.050599	163.767210	11626.7	6.498	21.1	13.1	1.74	6628	33.03	20.14
010711066-04	OBS	No	96.130076	160.672005	13075.3	6.958	19.4	13.3	1.74	6628	25.52	23.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010711066-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010711066-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010711066-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_NOFITS

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

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

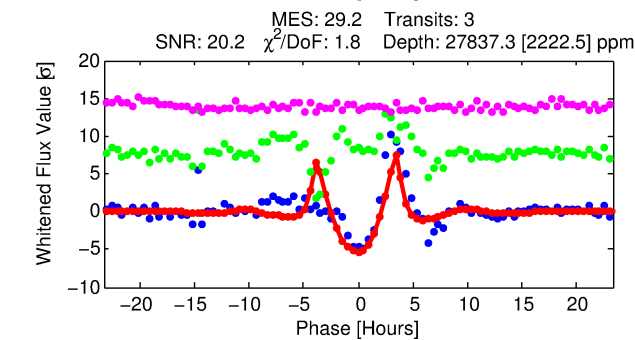
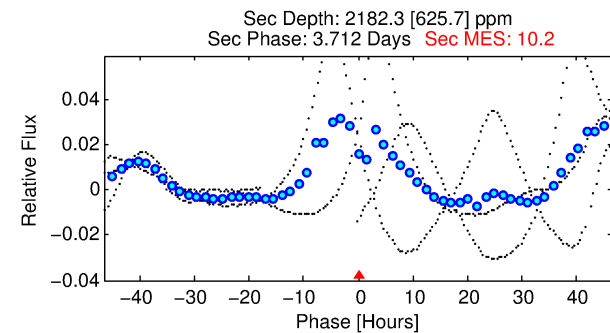
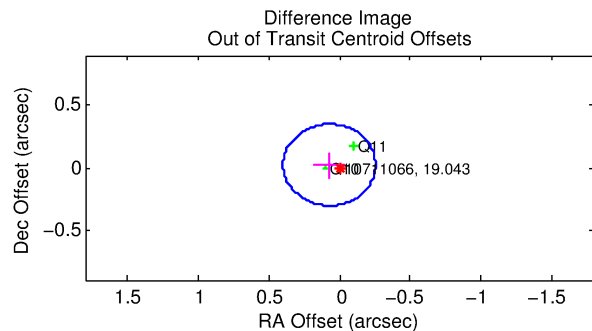
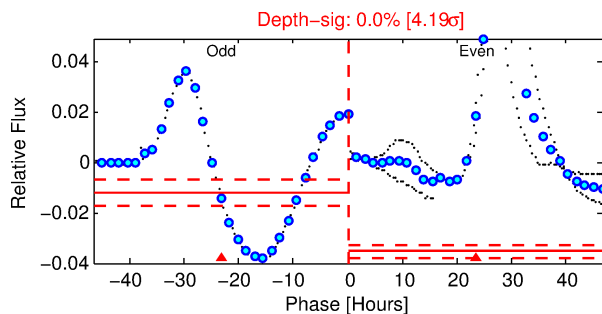
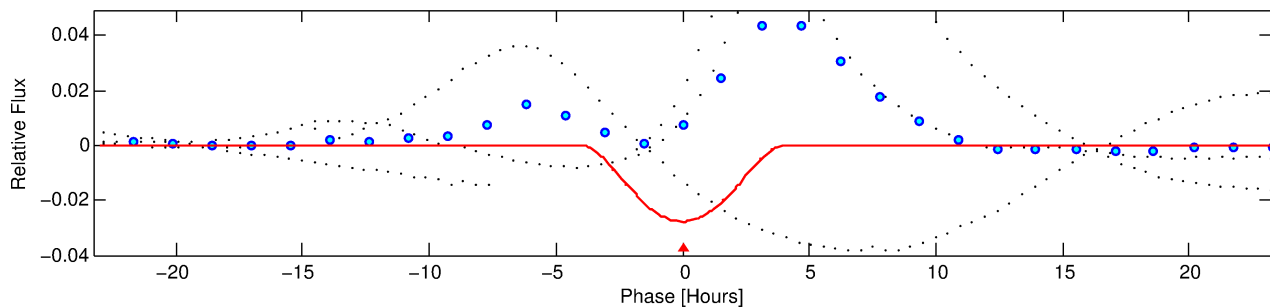
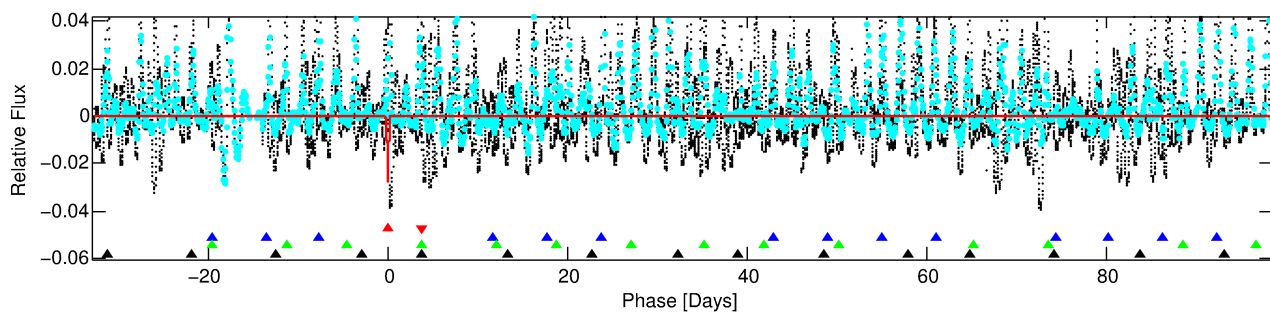
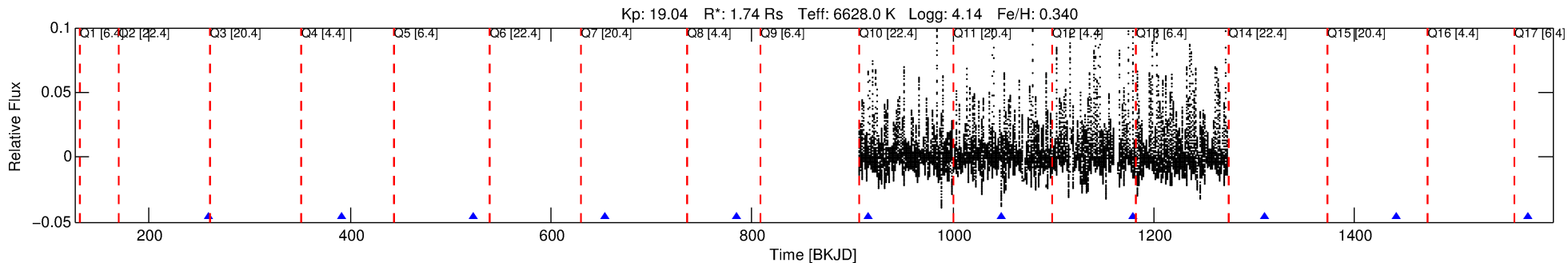
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010711066-01

No Significant Match Found

# DV One-Page Summary

KIC: 10711066 Candidate: 1 of 4 Period: 131.326 d



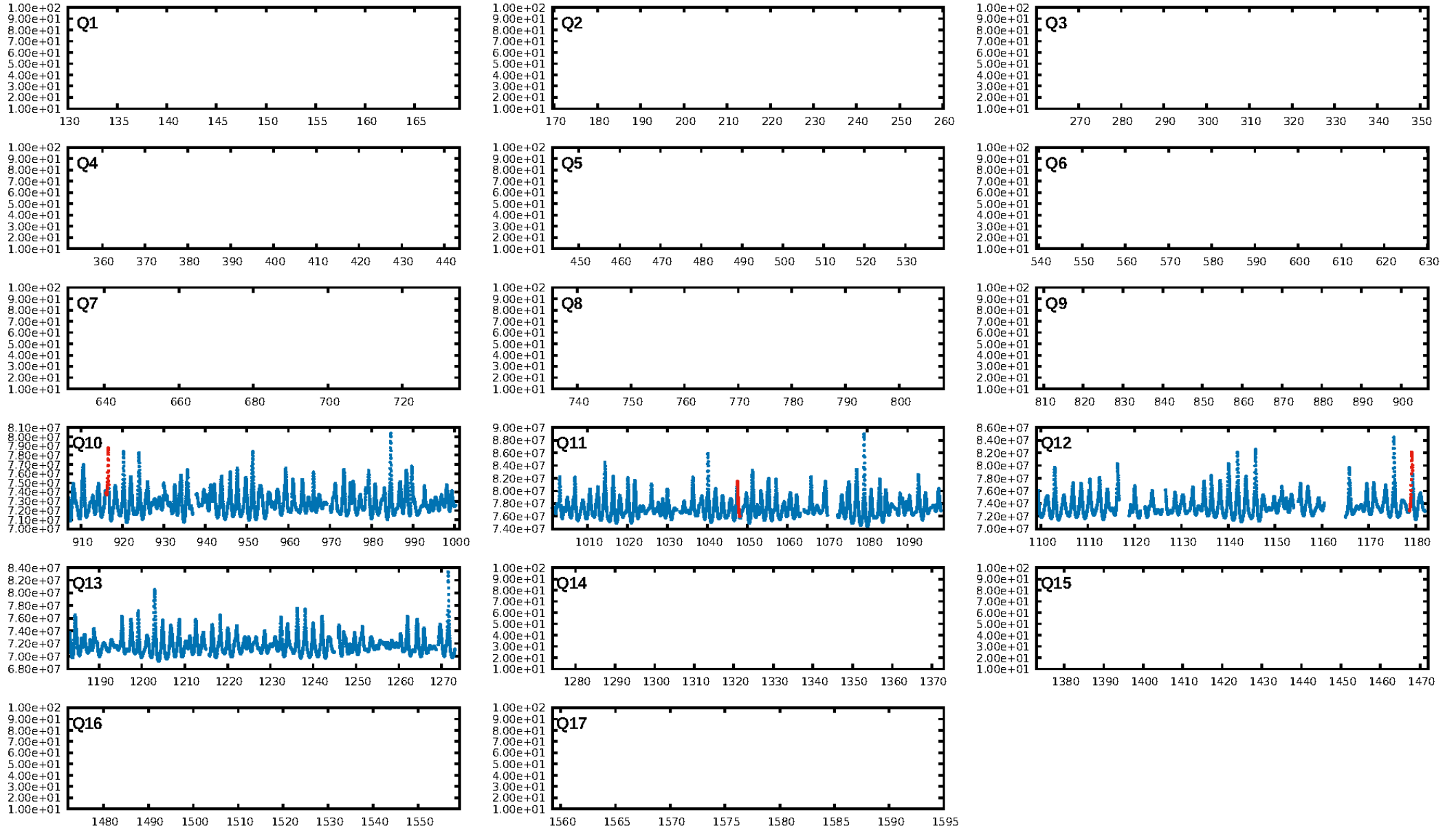
## DV Fit Results:

Period = 131.32599 [0.00249] d  
Epoch = 259.7705 [0.0146] BKJD  
Rp/R\* = 0.2636 [0.1534]  
a/R\* = 99.95 [4.33]  
b = 1.00 [0.20]  
Seff = 15.53 [6.28]  
Teq = 506 [51] K  
Rp = 49.97 [33.46] Re  
a = 0.5796 [0.1540] AU  
Ag = 161.54 [202.52] [0.79σ]  
Teffp = 2790 [844] K [2.70σ]

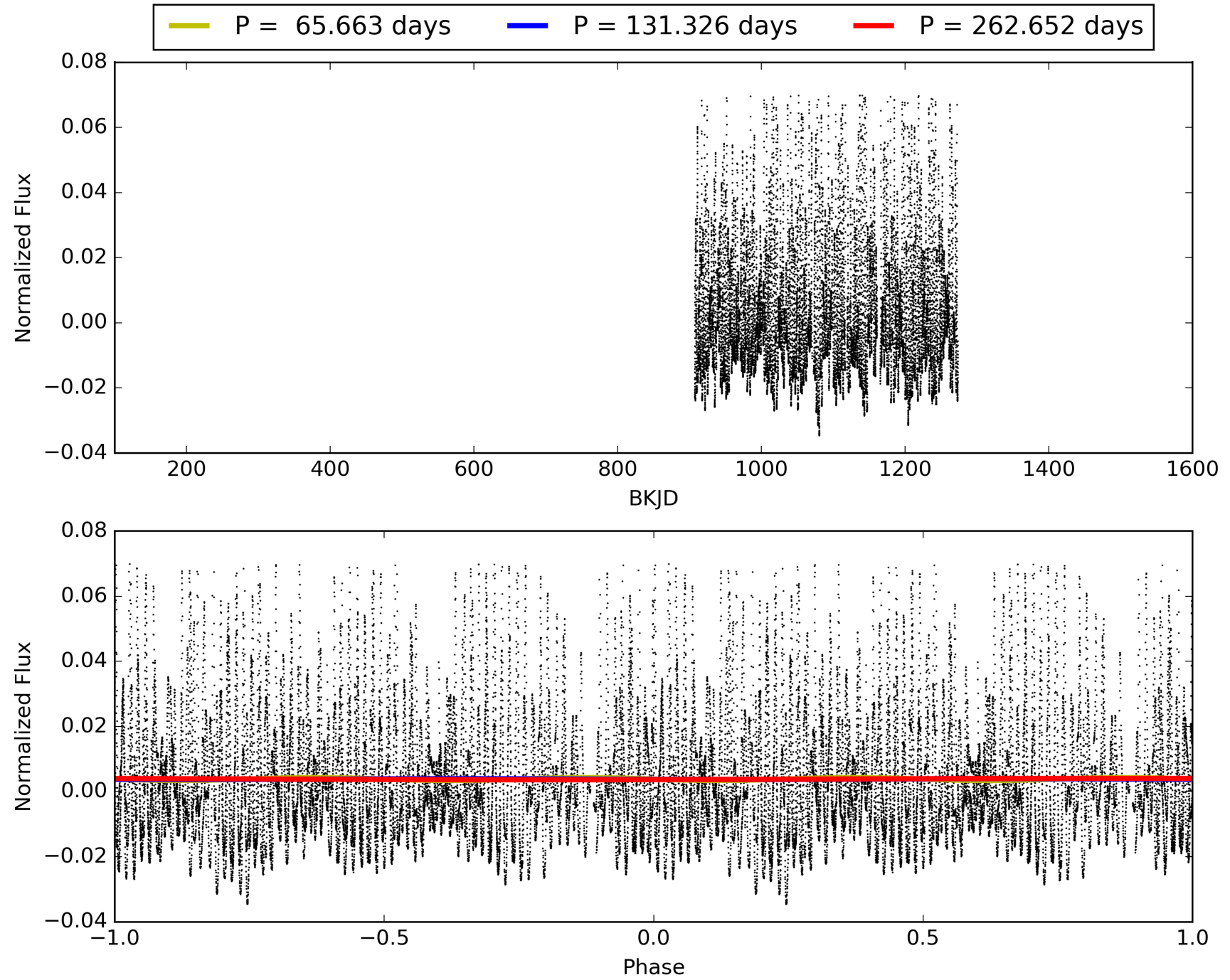
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [55.21σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 11.4%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.384  
Centroid-sig: N/A  
Centroid-so: 0.272 arcsec [9.62σ]  
OotOffset-rm: 0.076 arcsec [0.70σ]  
KicOffset-rm: 0.161 arcsec [1.22σ]  
OotOffset-st: 1/1/0/0 [2]  
KicOffset-st: 1/1/0/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [2/2]

# TCE 010711066-01, PDC Light Curves

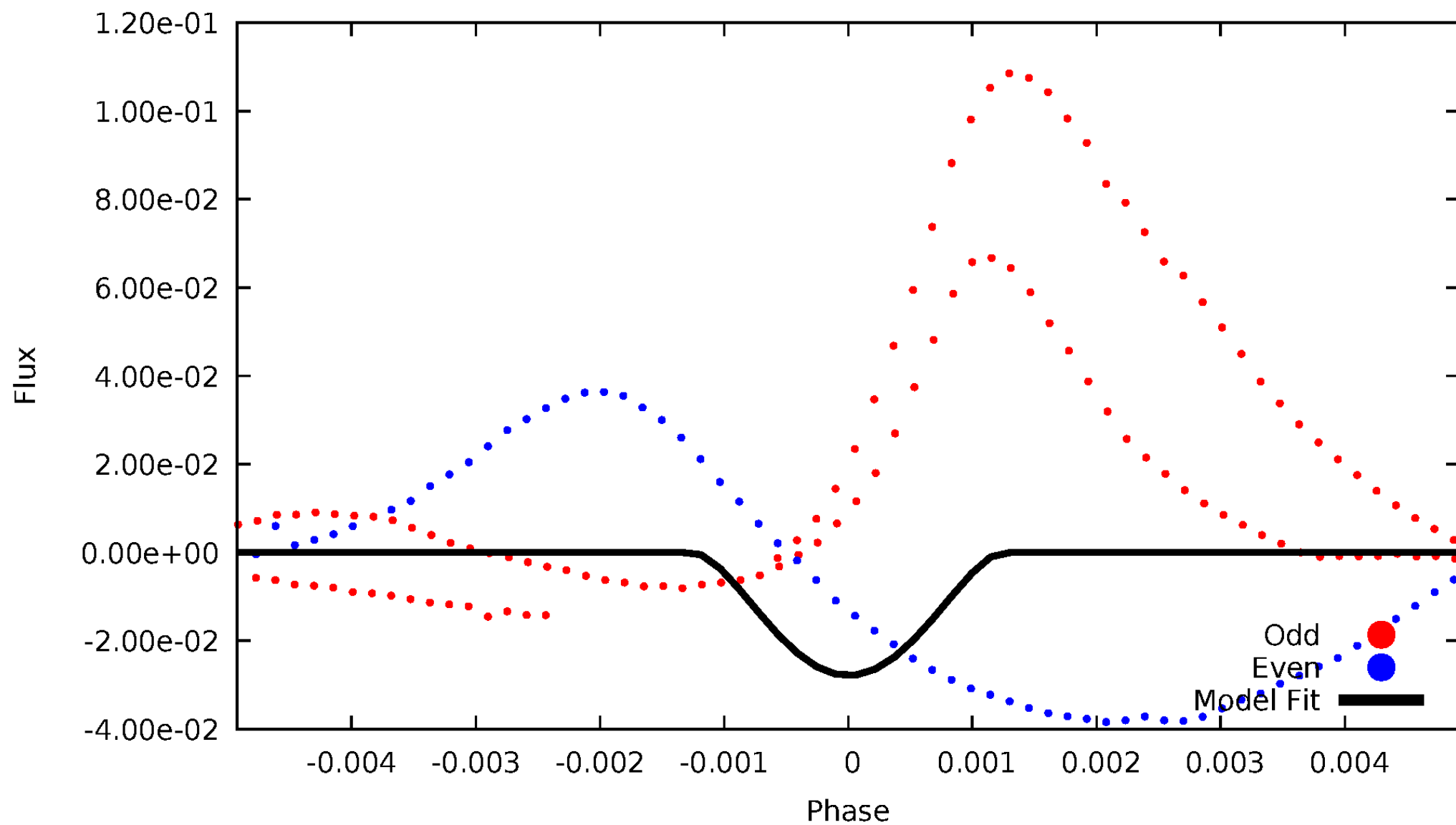


# TCE 010711066-01



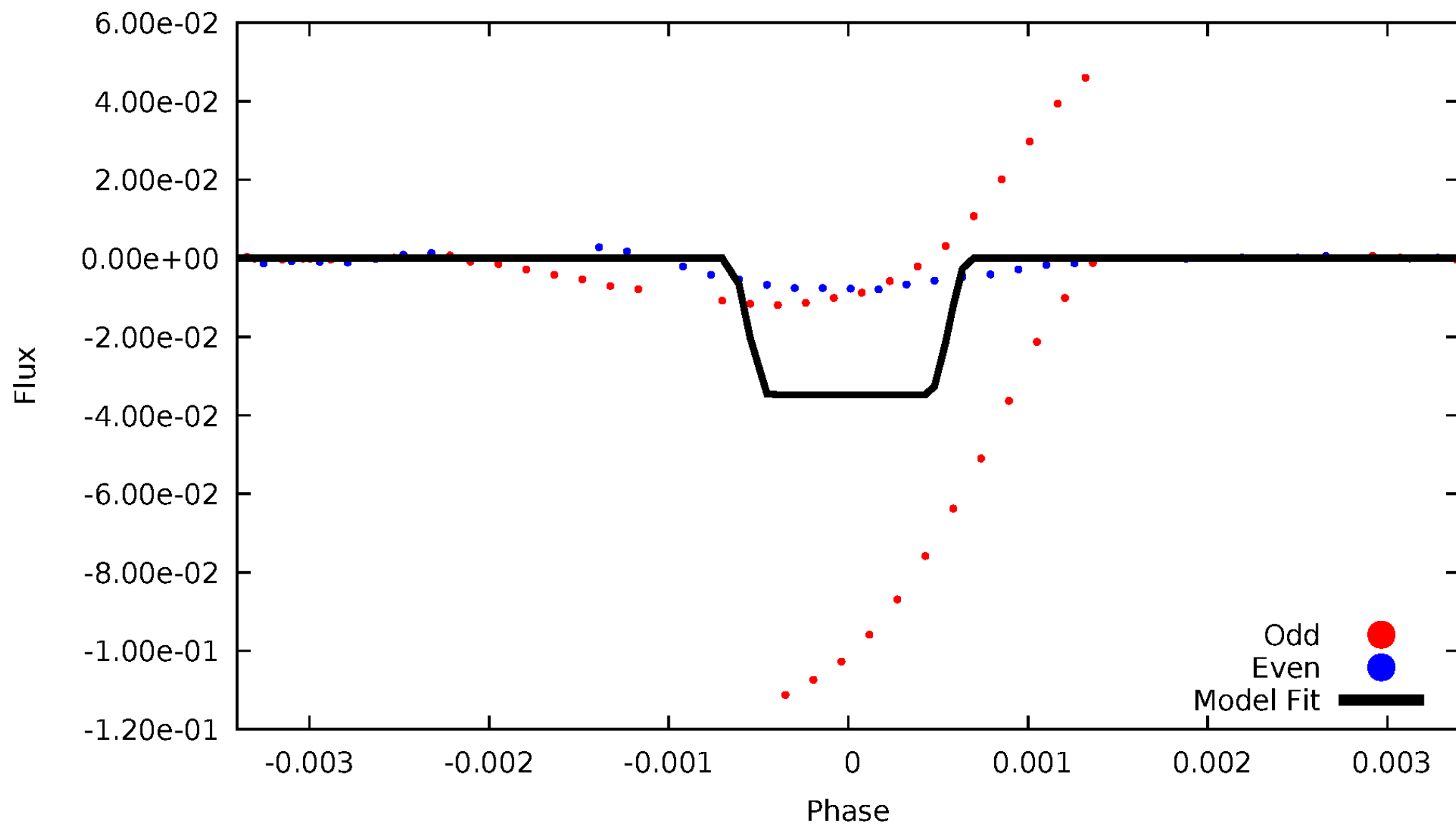
# DV Odd/Even

TCE 010711066-01



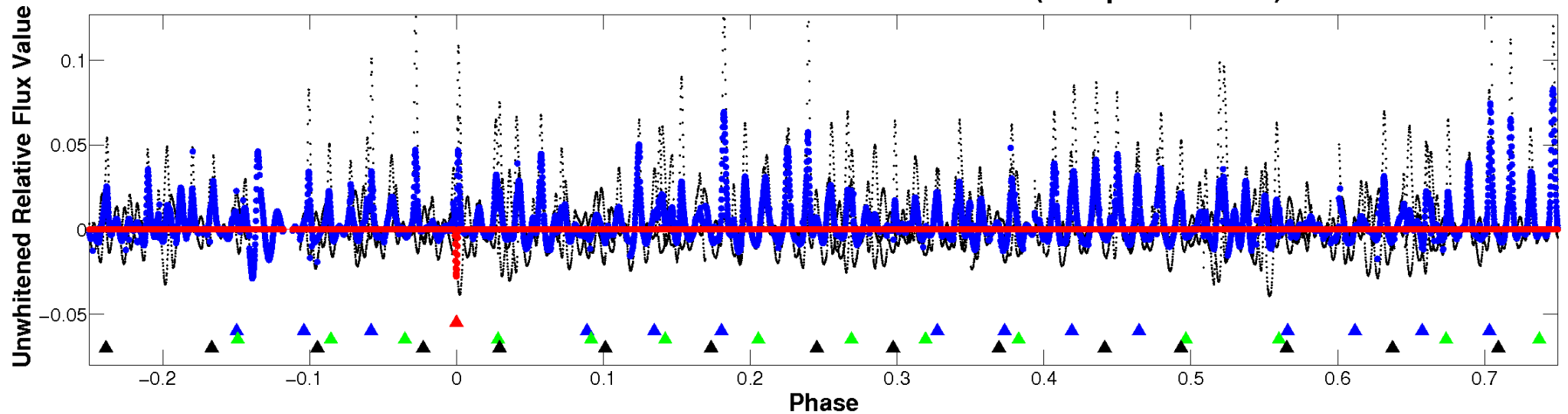
# ALT Odd/Even

TCE 010711066-01

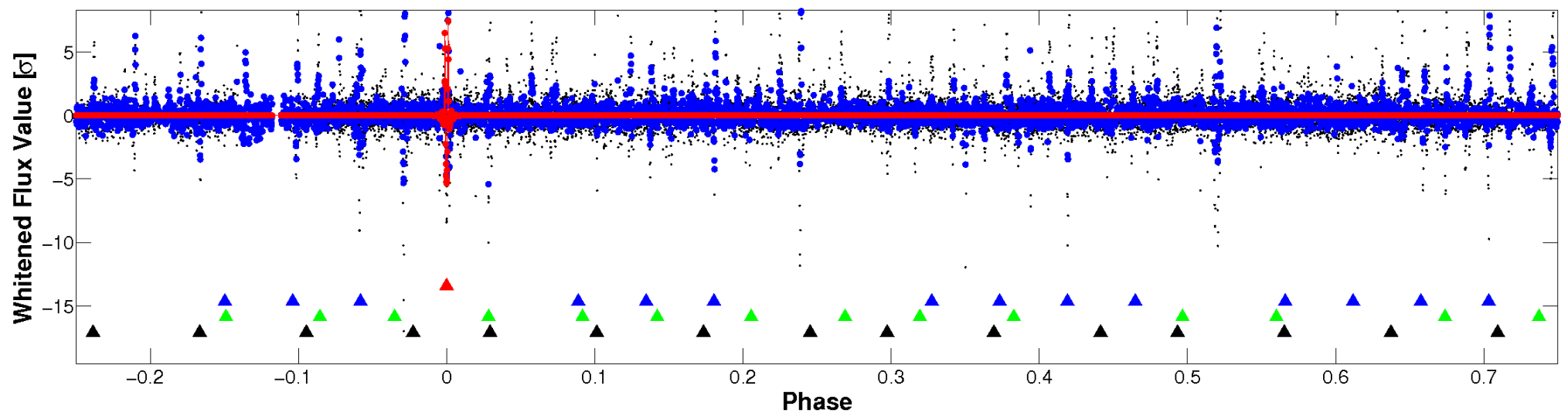


# Non-Whitened Vs. Whitened Light Curve

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

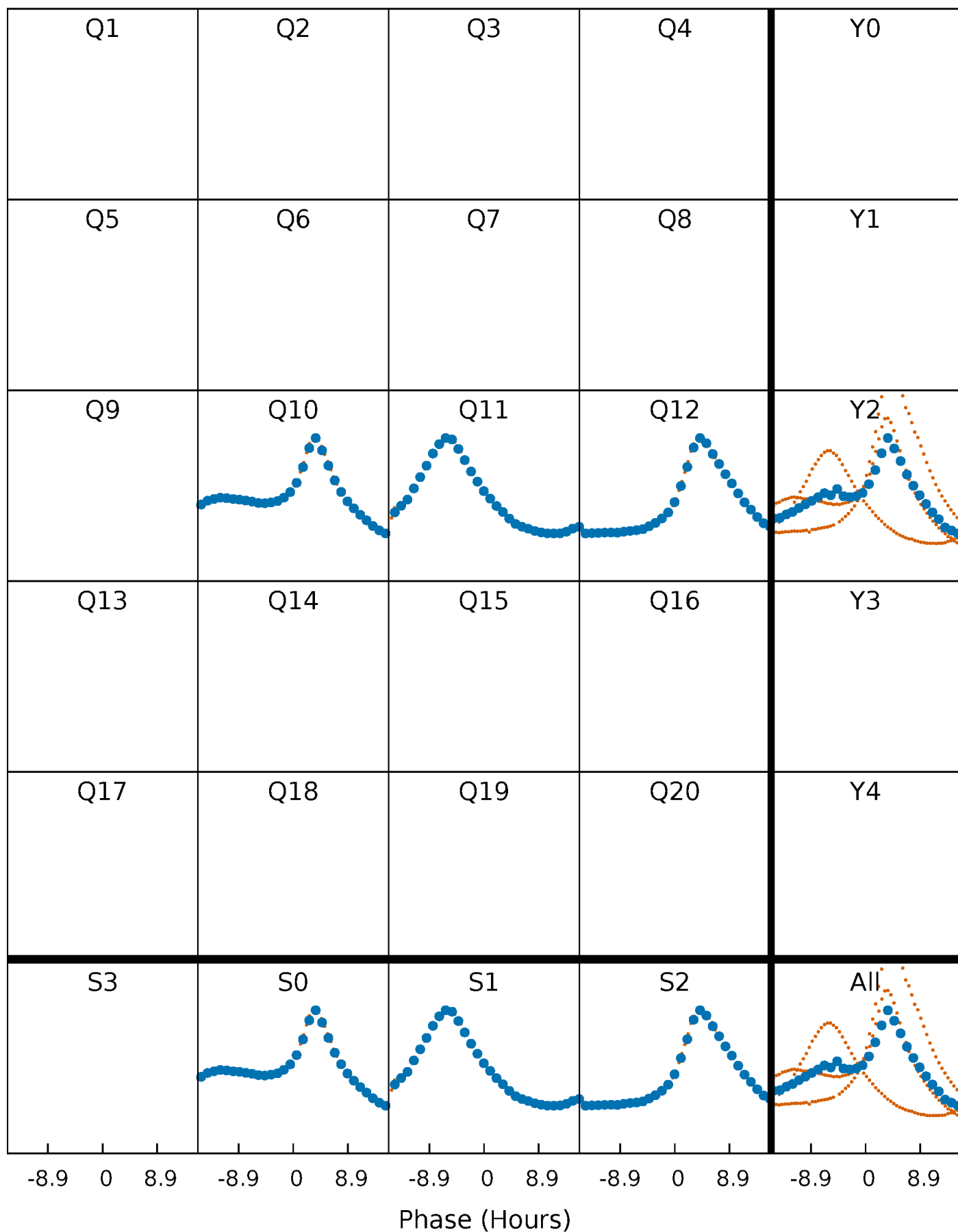


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

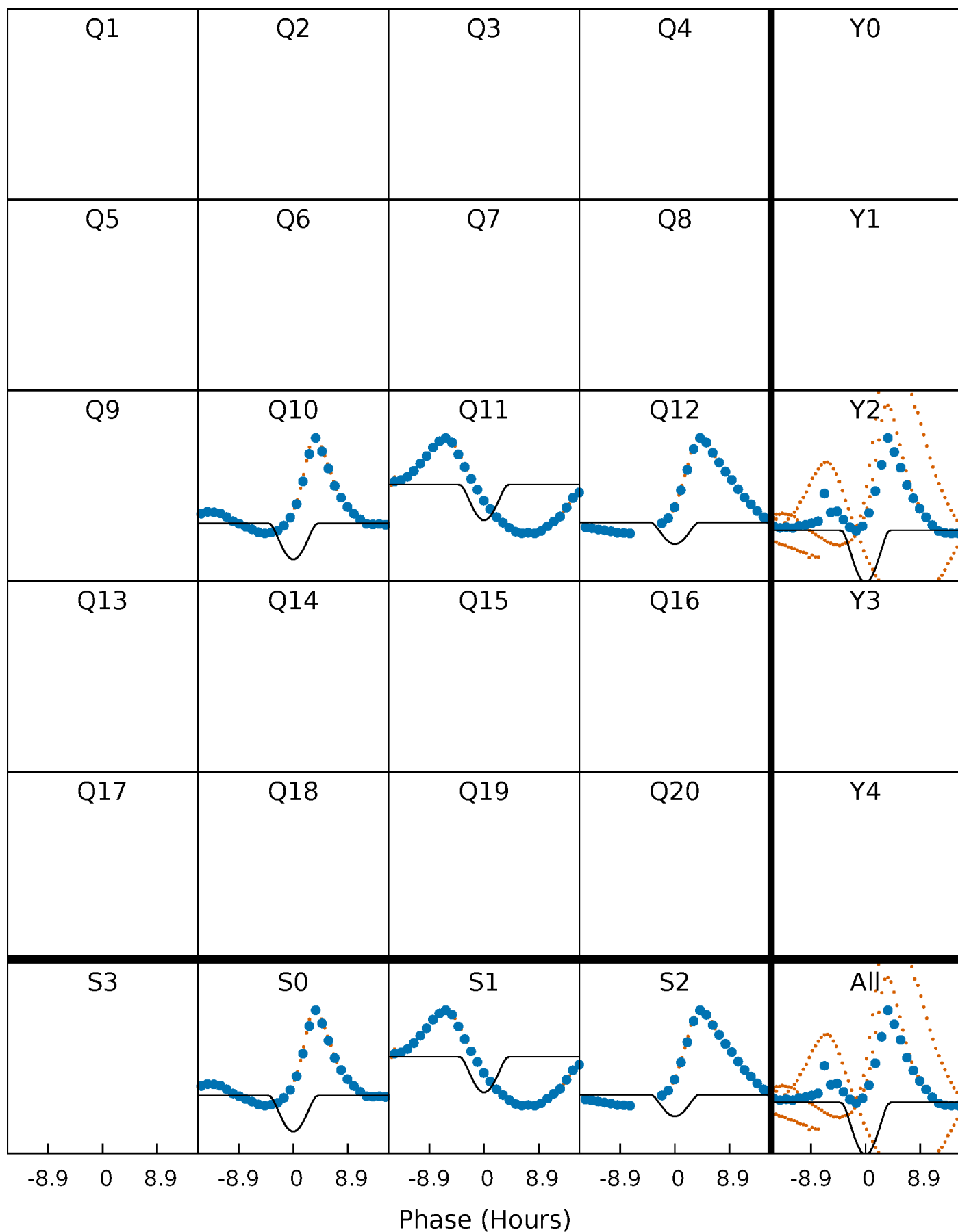
TCE 010711066-01 P=131.325990 Days  $T_0=259.770519$  (BKJD)





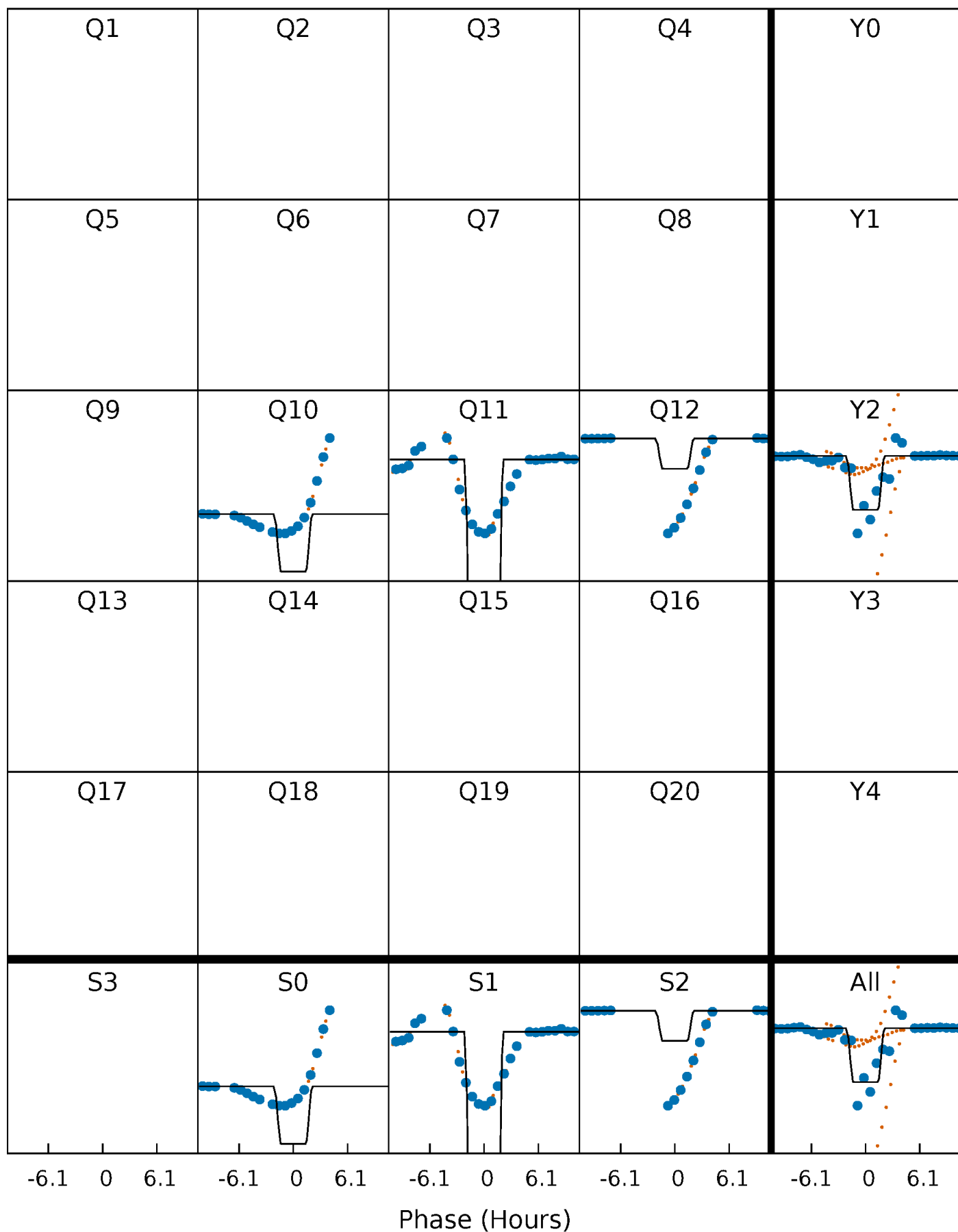
# DV Quarter-Phased Transit Curves

TCE 010711066-01 P=131.325990 Days  $T_0=259.770519$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

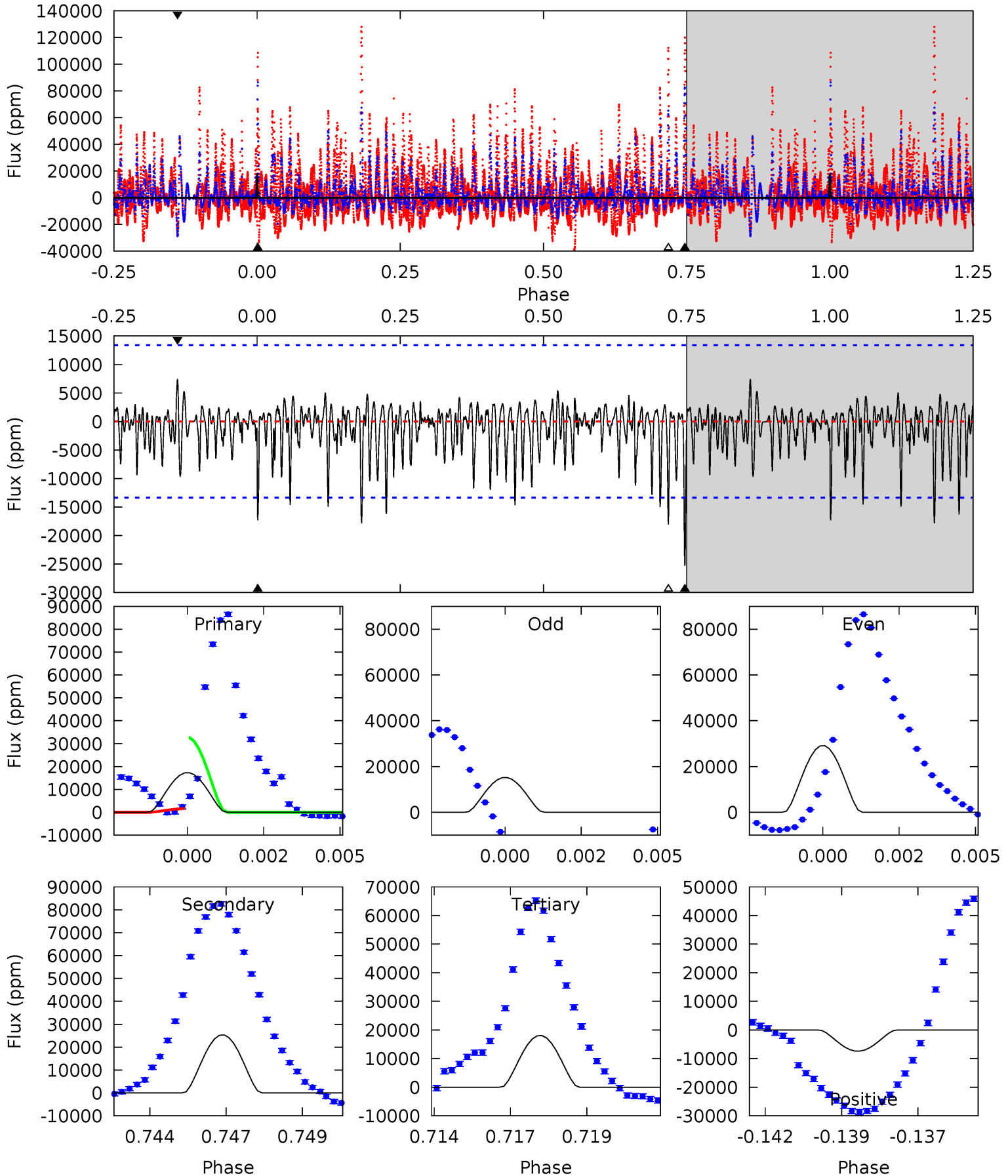
TCE 010711066-01 P=131.332716 Days  $T_0=259.694647$  (BKJD)



# DV Model-Shift Uniqueness Test

010711066-01, P = 131.325990 Days, E = 259.770519 Days

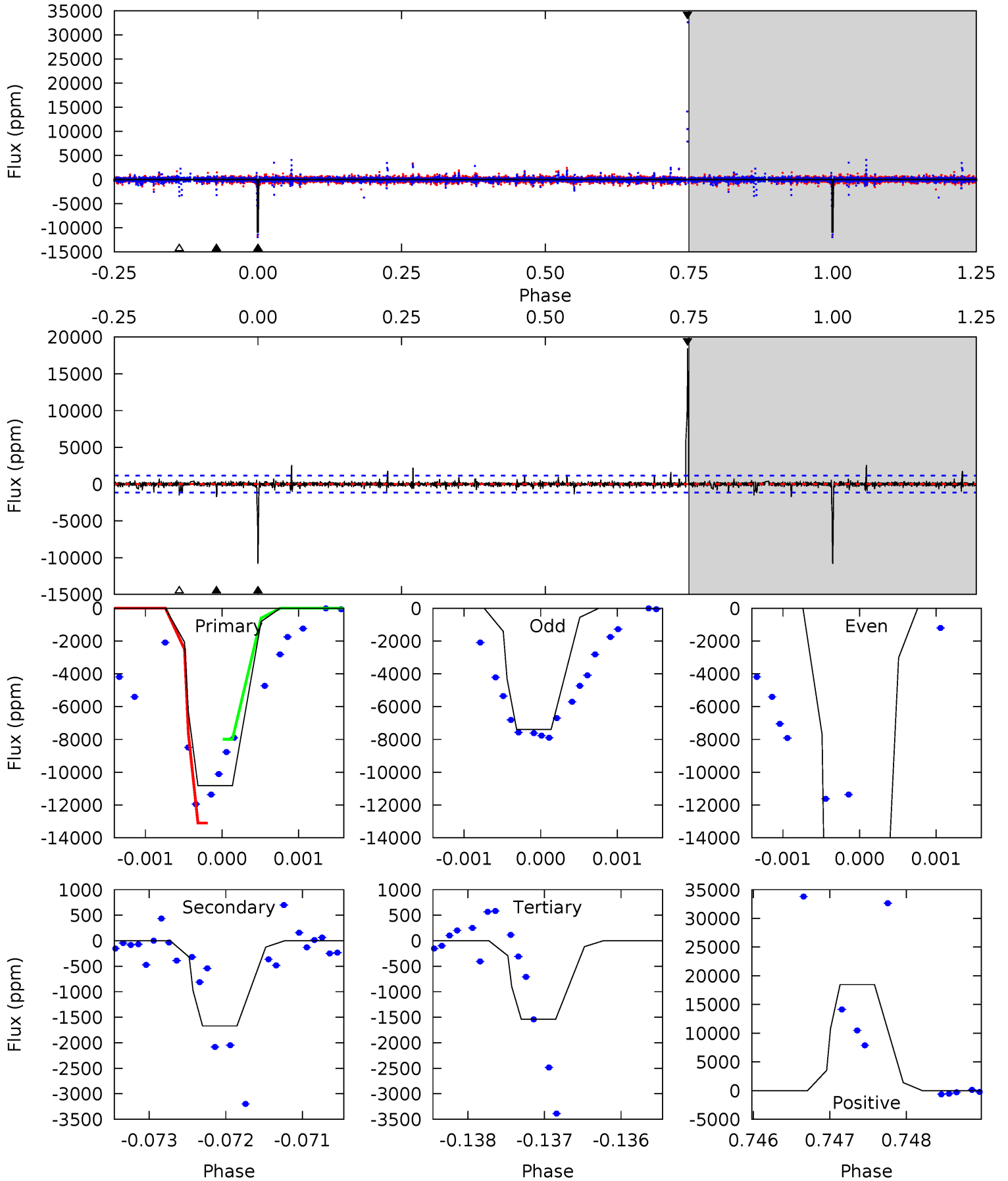
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.85	10.0	7.14	2.92	5.29	3.02	1.36	-0.30	3.93	2.88	7.10	2.51	0.73	0.23	6.29



# Alt Model-Shift Uniqueness Test

010711066-01, P = 131.332716 Days, E = 259.694647 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
50.7	7.83	7.21	86.6	5.41	3.23	1.62	43.5	-35.8	0.62	-78.7	54.6	4.64	0.63	0



### Stellar Parameters For KIC 010711066

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6628^{+185}_{-277}$	$4.136^{+0.157}_{-0.192}$	$0.340^{+0.100}_{-0.350}$	$1.737^{+0.576}_{-0.384}$	$1.504^{+0.195}_{-0.238}$	$0.404^{+0.322}_{-0.206}$
	+3%/-4%	+4%/-5%	+29%/-103%	+33%/-22%	+13%/-16%	+80%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 010711066-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-25341 \pm 2528$	$50.36^{+31.28}_{-26.37}$	$706^{+58}_{-48}$	$5141^{+2398}_{-851}$	$1883^{+6252}_{-1165}$
Alt.	$-1671 \pm 213$	$39.73^{+29.26}_{-24.44}$	$703^{+62}_{-52}$	$3410^{+1340}_{-486}$	$195^{+1059}_{-131}$

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

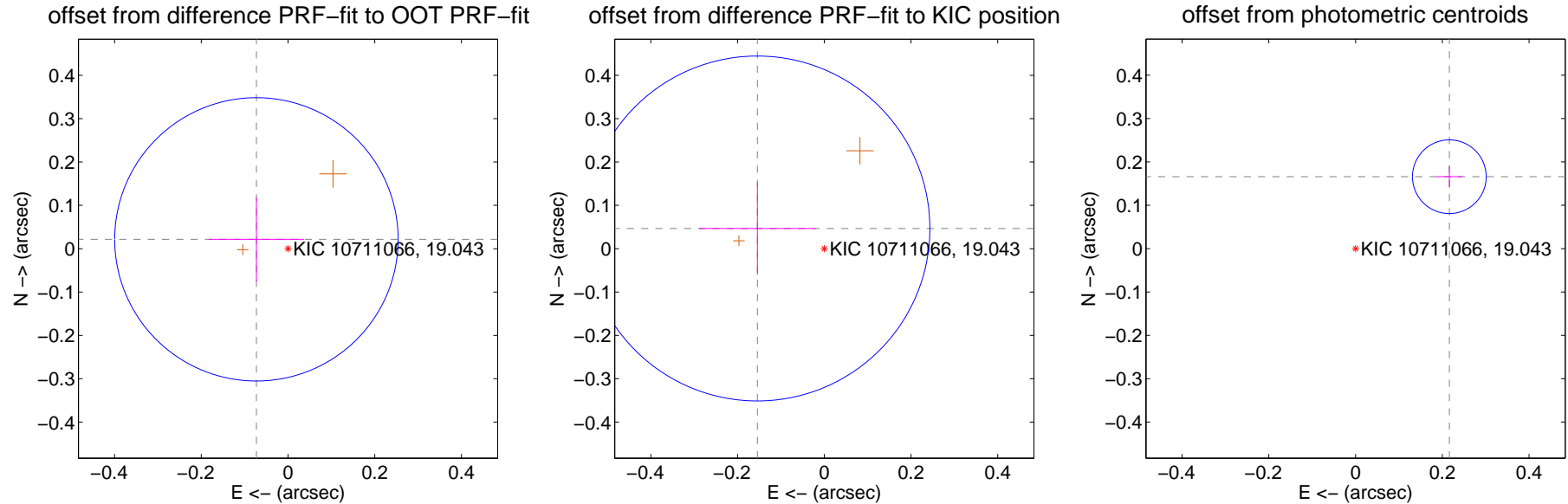
## DV Centroid Data

Supplemental centroid analysis for 010711066-01. Kepler magnitude: 19.04. Transit SNR 20.20

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.076 \pm 0.109$	0.70	$0.073 \pm 0.110$	$0.022 \pm 0.097$
PRF-fit source offset from KIC position	$0.161 \pm 0.133$	1.22	$0.154 \pm 0.135$	$0.047 \pm 0.107$
photometric centroid source offset	$0.27 \pm 0.03$	9.62	$-0.22 \pm 0.03$	$0.17 \pm 0.02$



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.



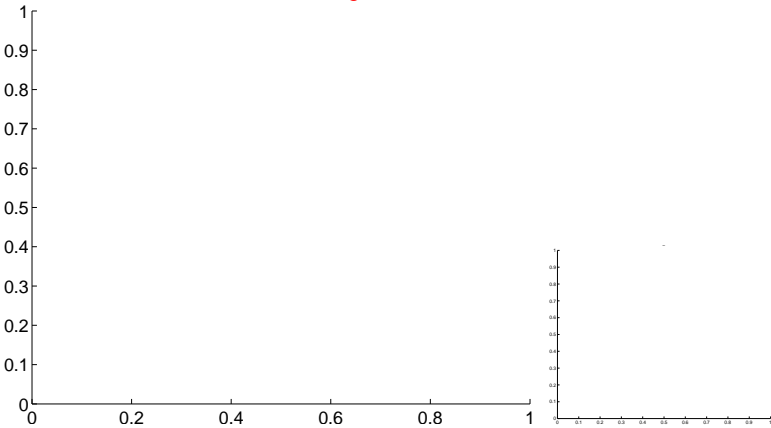


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

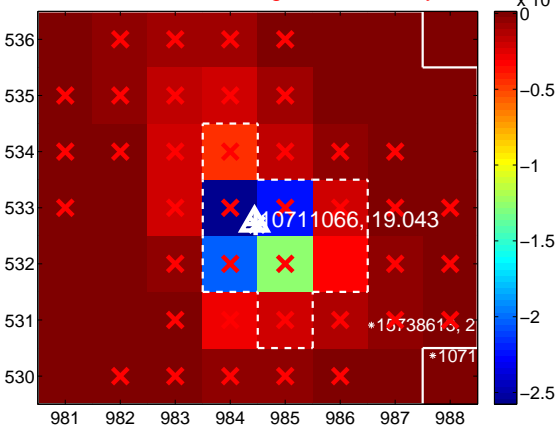
Q9 no difference image



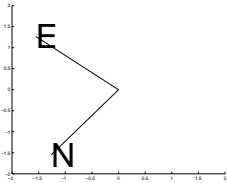
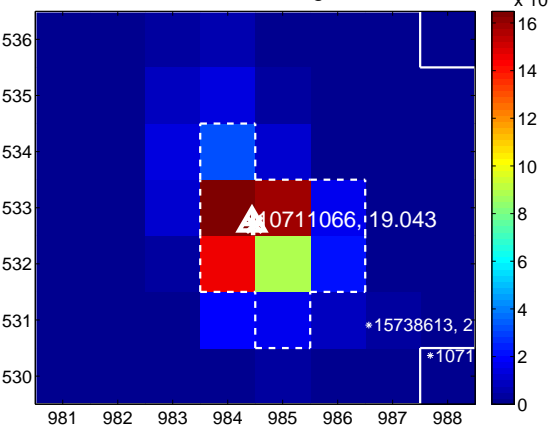
Q9 no OOT image



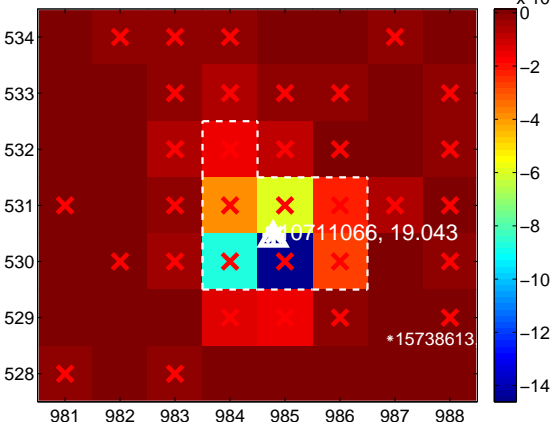
Q10 difference image. Poor Quality



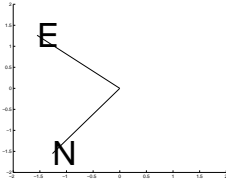
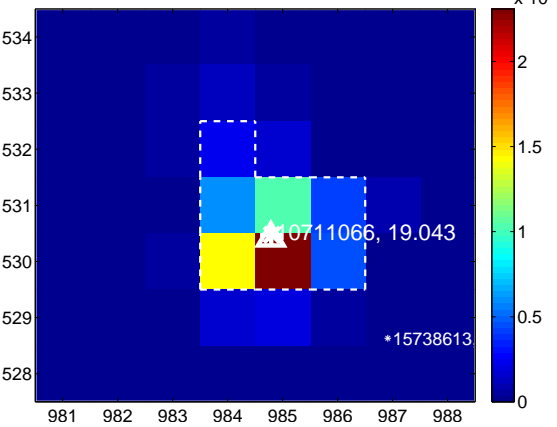
Q10 OOT image



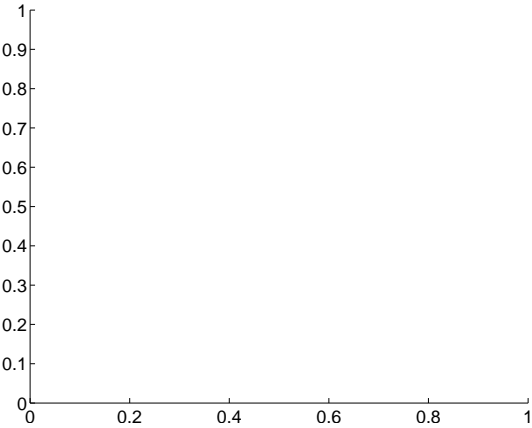
Q11 difference image. Poor Quality



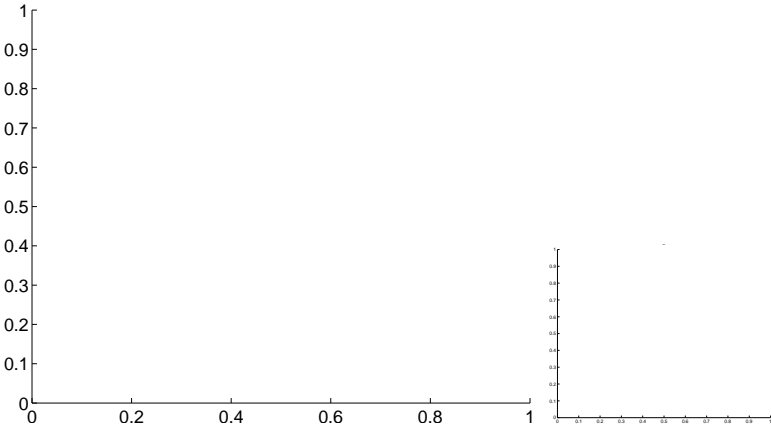
Q11 OOT image



Q12 no difference image



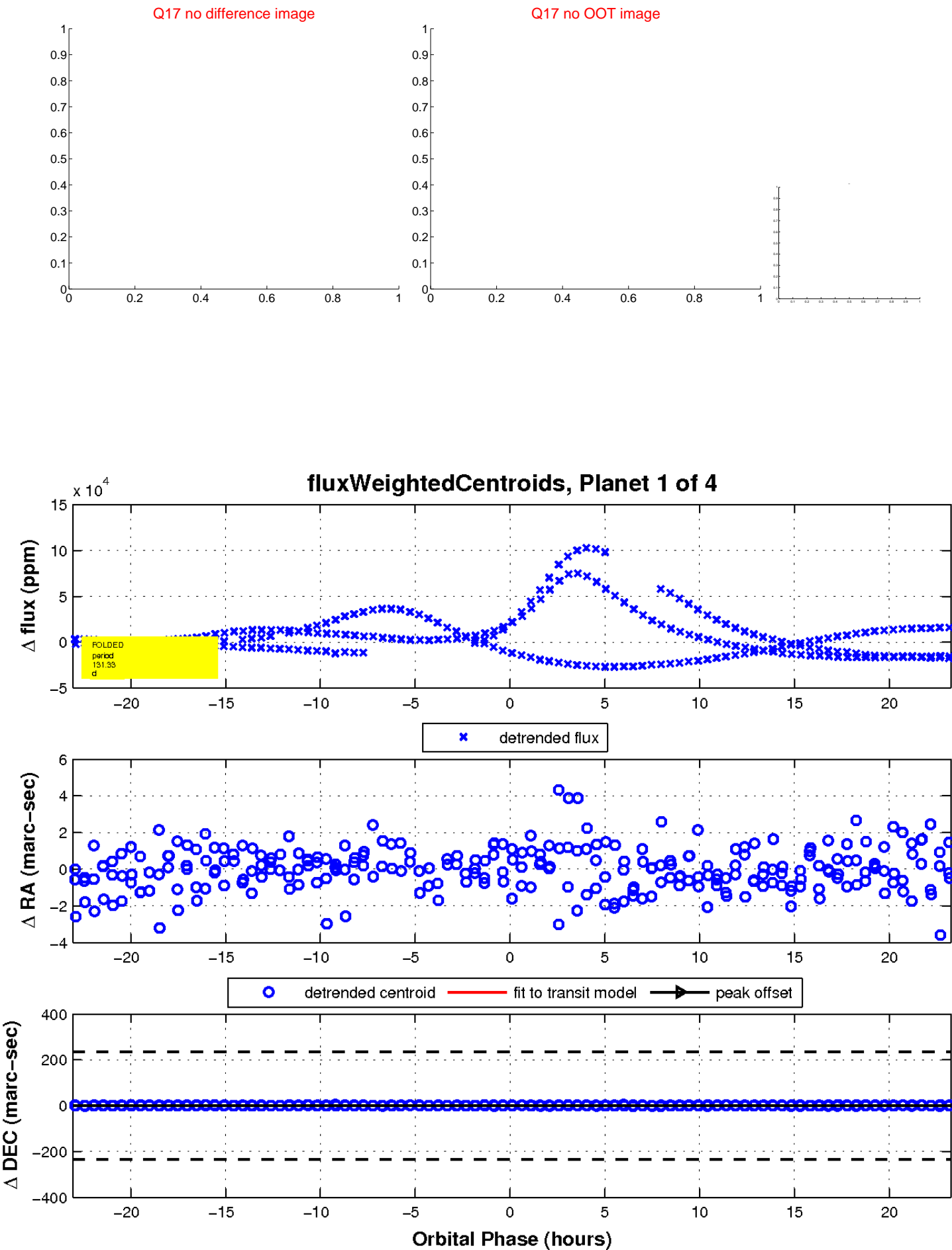
Q12 no OOT image



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

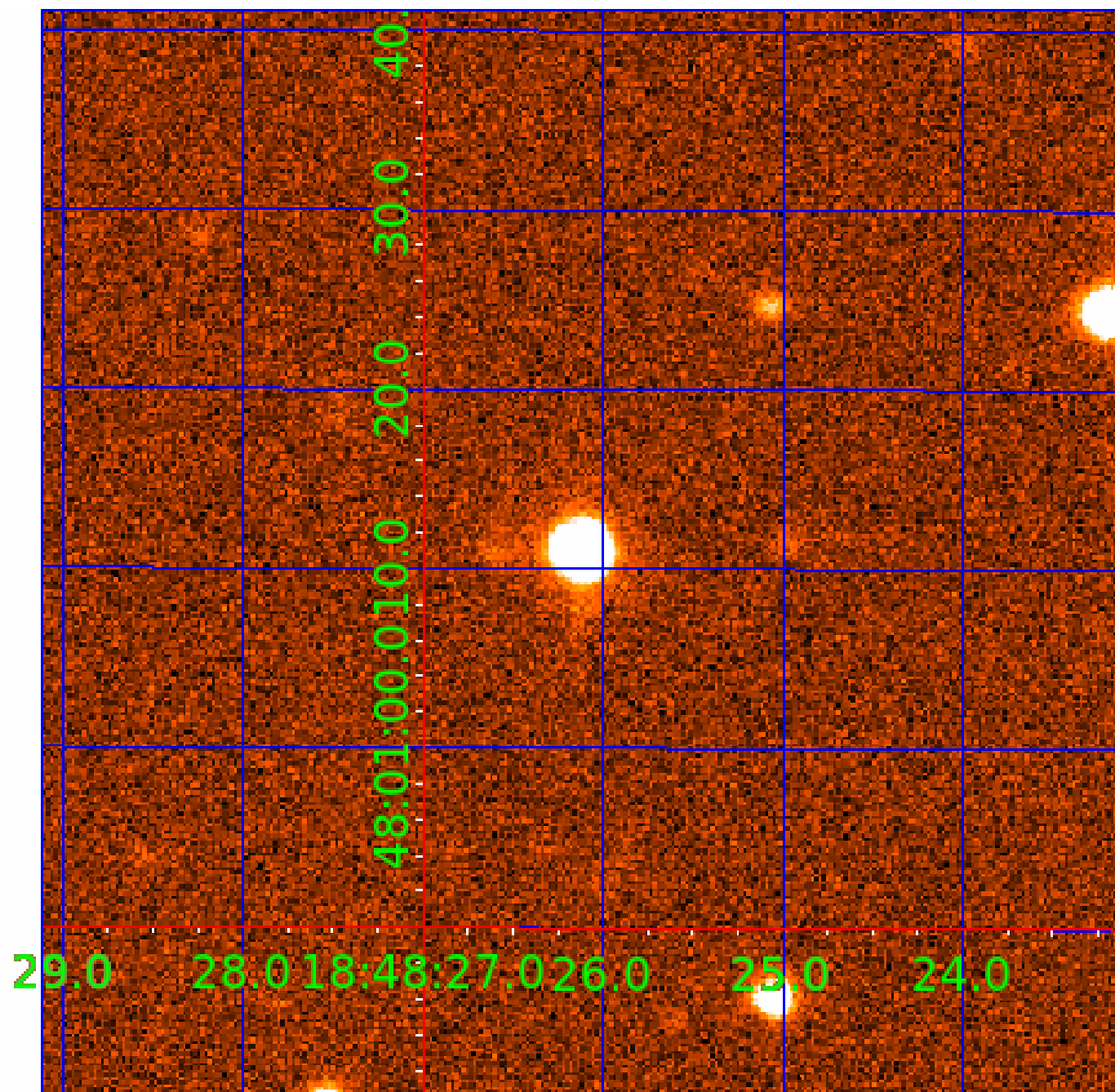


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 010711066

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010711066-01	OBS	No	131.325990	259.770519	27837.3	7.756	29.2	20.2	1.74	6628	49.97	15.53
010711066-03	OBS	No	108.050599	163.767210	11626.7	6.498	21.1	13.1	1.74	6628	33.03	20.14
010711066-04	OBS	No	96.130076	160.672005	13075.3	6.958	19.4	13.3	1.74	6628	25.52	23.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010711066-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010711066-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010711066-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_NOFITS

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

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

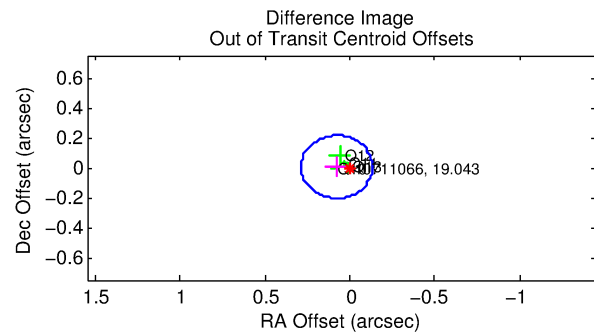
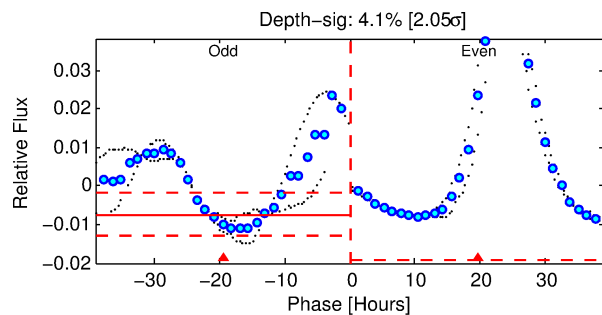
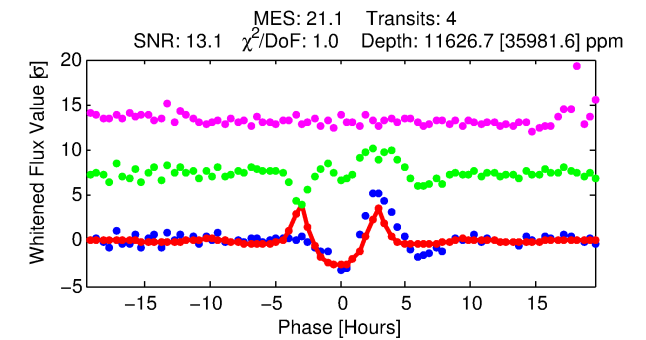
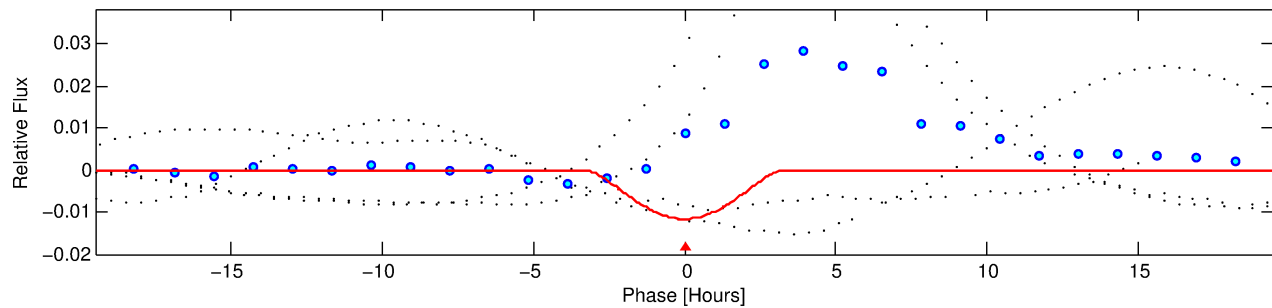
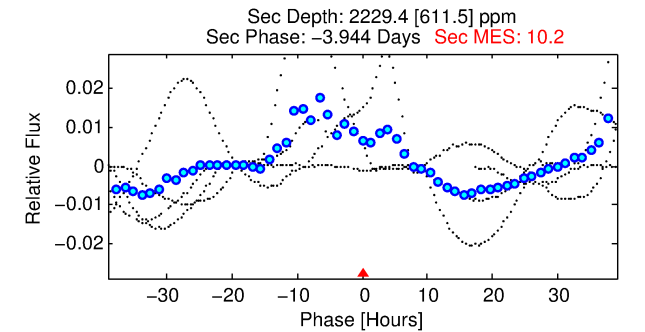
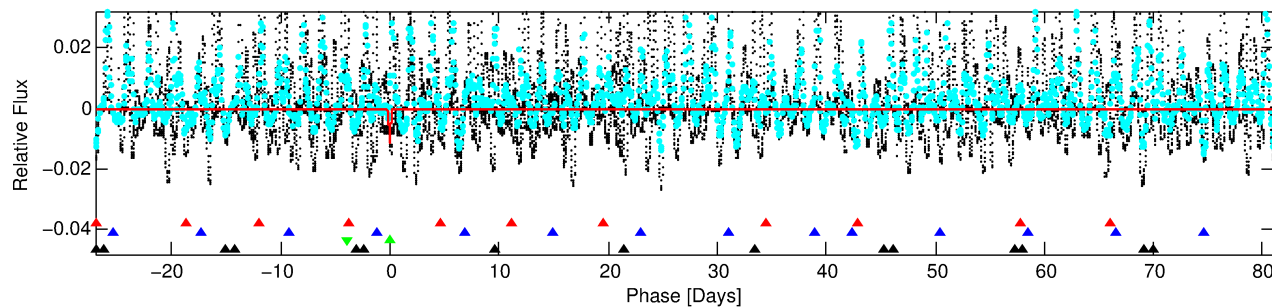
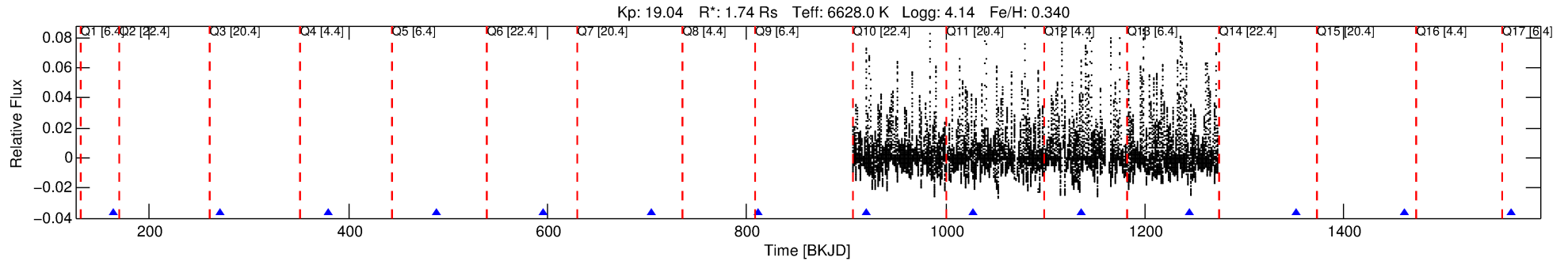
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010711066-03

No Significant Match Found

# DV One-Page Summary

KIC: 10711066 Candidate: 3 of 4 Period: 108.051 d



## DV Fit Results:

Period = 108.05060 [0.00167] d  
Epoch = 163.7672 [0.0138] BKJD  
Rp/R\* = 0.1743 [0.0995]  
a/R\* = 78.20 [6.16]  
b = 1.00 [0.50]  
Seff = 20.14 [8.15]  
Teq = 540 [55] K  
**Rp = 33.03 [21.80] Re**  
a = 0.5089 [0.1352] AU  
Ag = 291.11 [358.16] [0.81σ]  
Teffp = 3450 [1023] K [2.84σ]

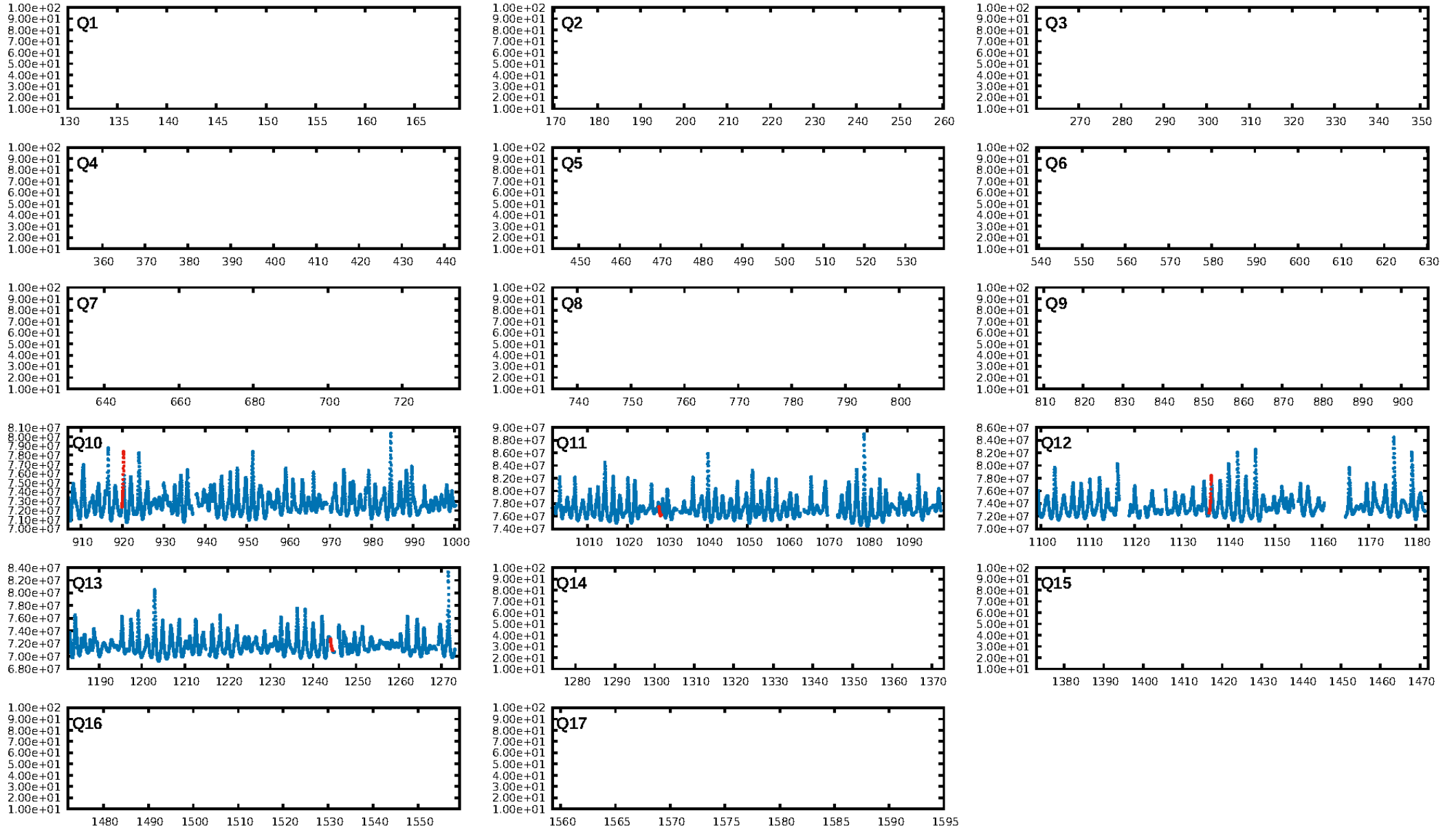
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [19.17σ]  
LongPeriod-sig: 100.0% [55.21σ]  
**ModelChiSquare2-sig: 0.0%**  
ModelChiSquareGof-sig: 69.9%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 1.04  
Centroid-sig: N/A  
**Centroid-so: 0.209 arcsec [3.70σ]**  
OotOffset-rm: 0.079 arcsec [1.13σ]  
KicOffset-rm: 0.145 arcsec [1.74σ]  
OotOffset-st: 1/1/1/1 [4]  
KicOffset-st: 1/1/1/1 [4]  
DiffImageQuality-fgm: 0.50 [2/4]  
DiffImageOverlap-fno: 1.00 [4/4]

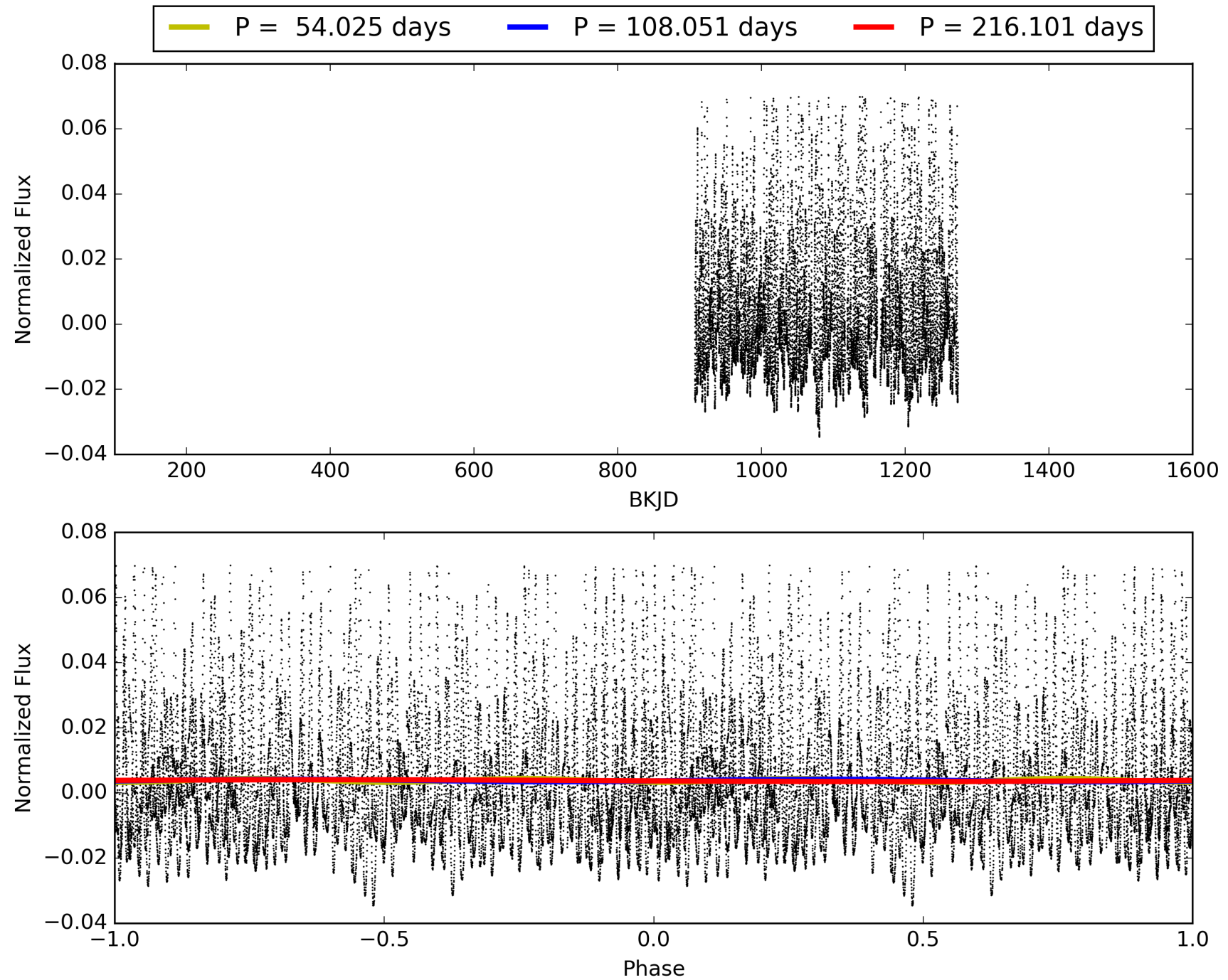
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:25:11 Z

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

# TCE 010711066-03, PDC Light Curves



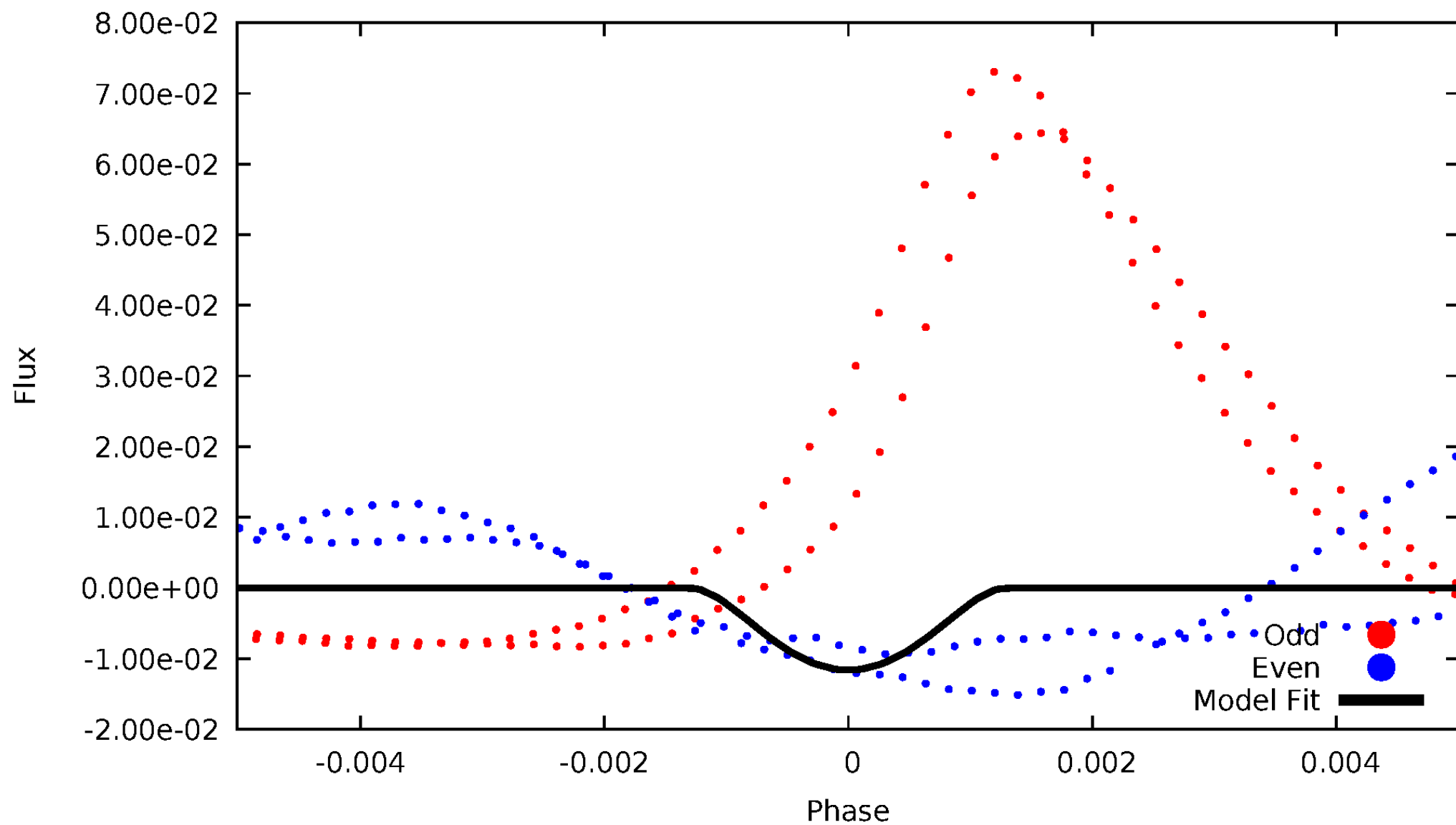
# TCE 010711066-03





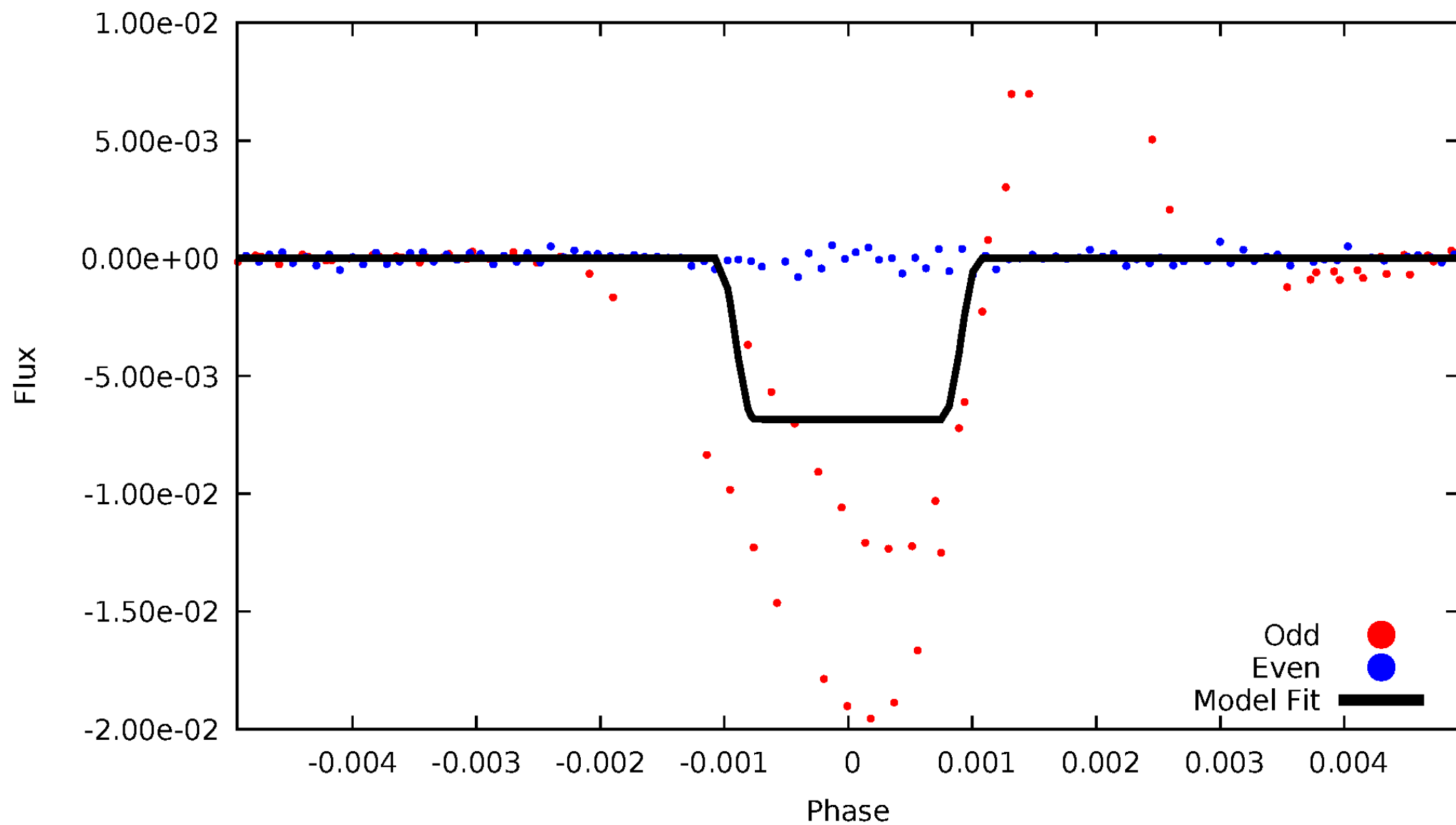
# DV Odd/Even

TCE 010711066-03



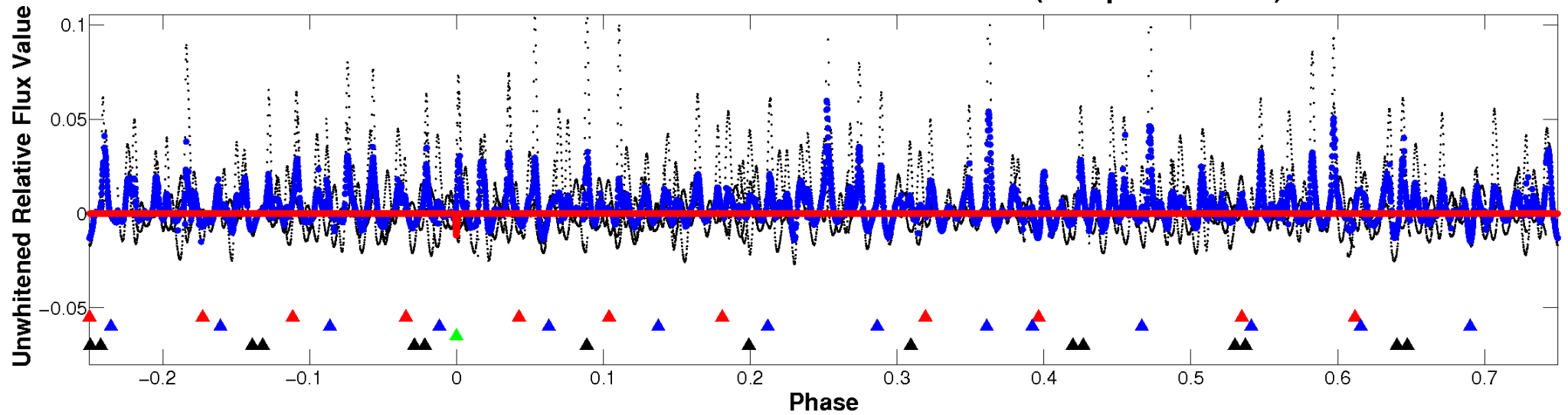
# ALT Odd/Even

TCE 010711066-03

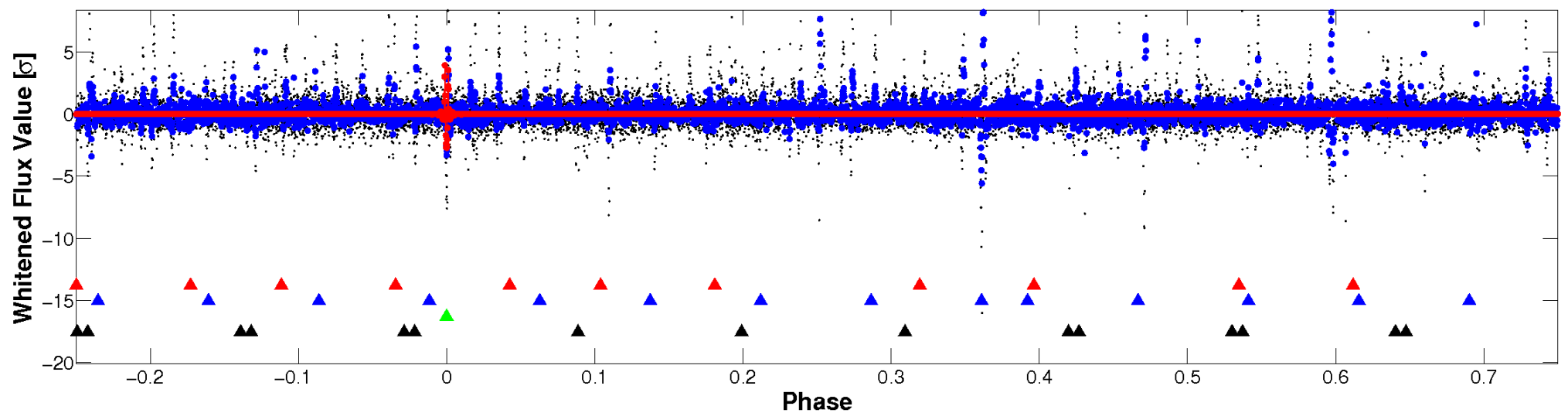


# Non-Whitened Vs. Whitened Light Curve

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

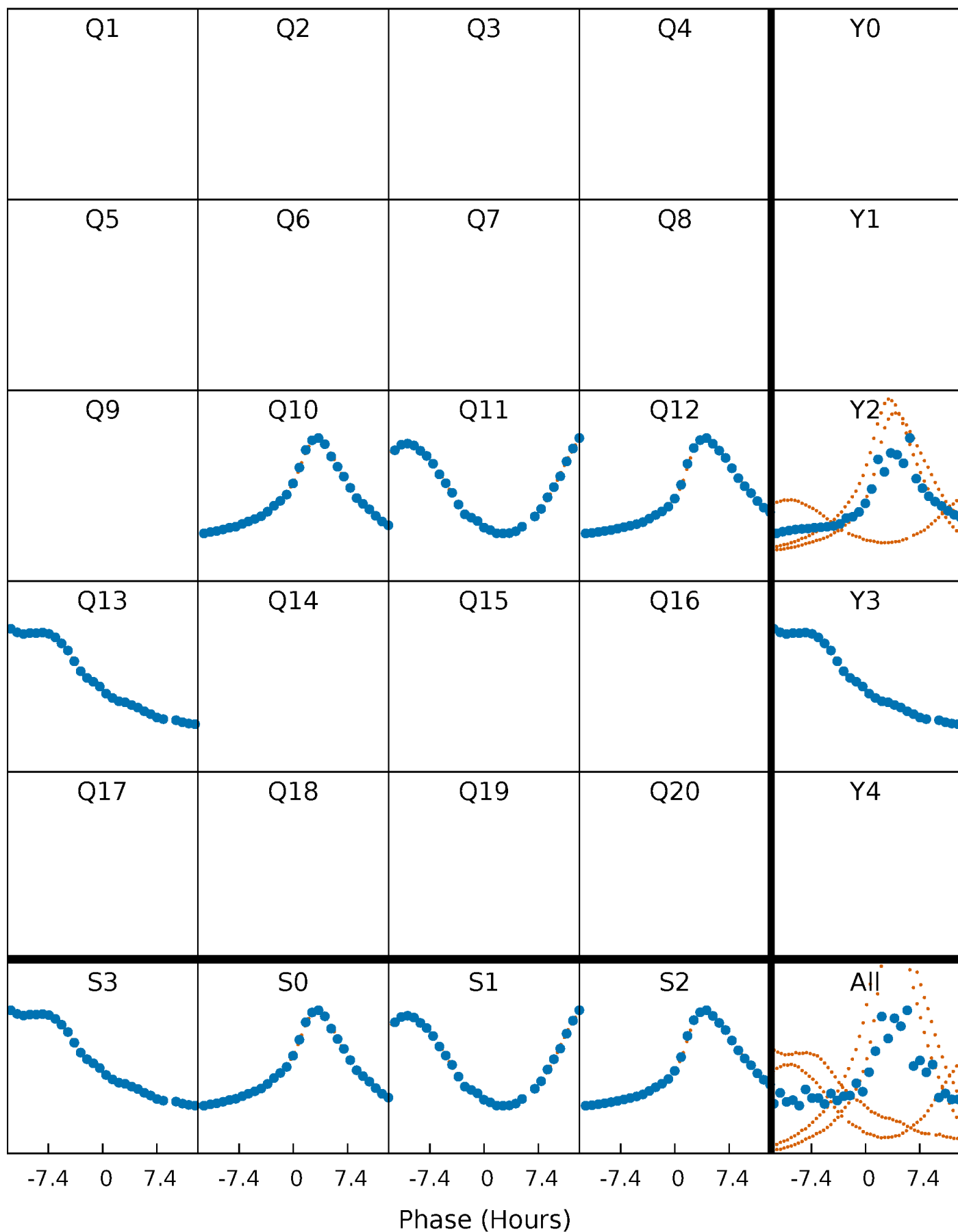


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



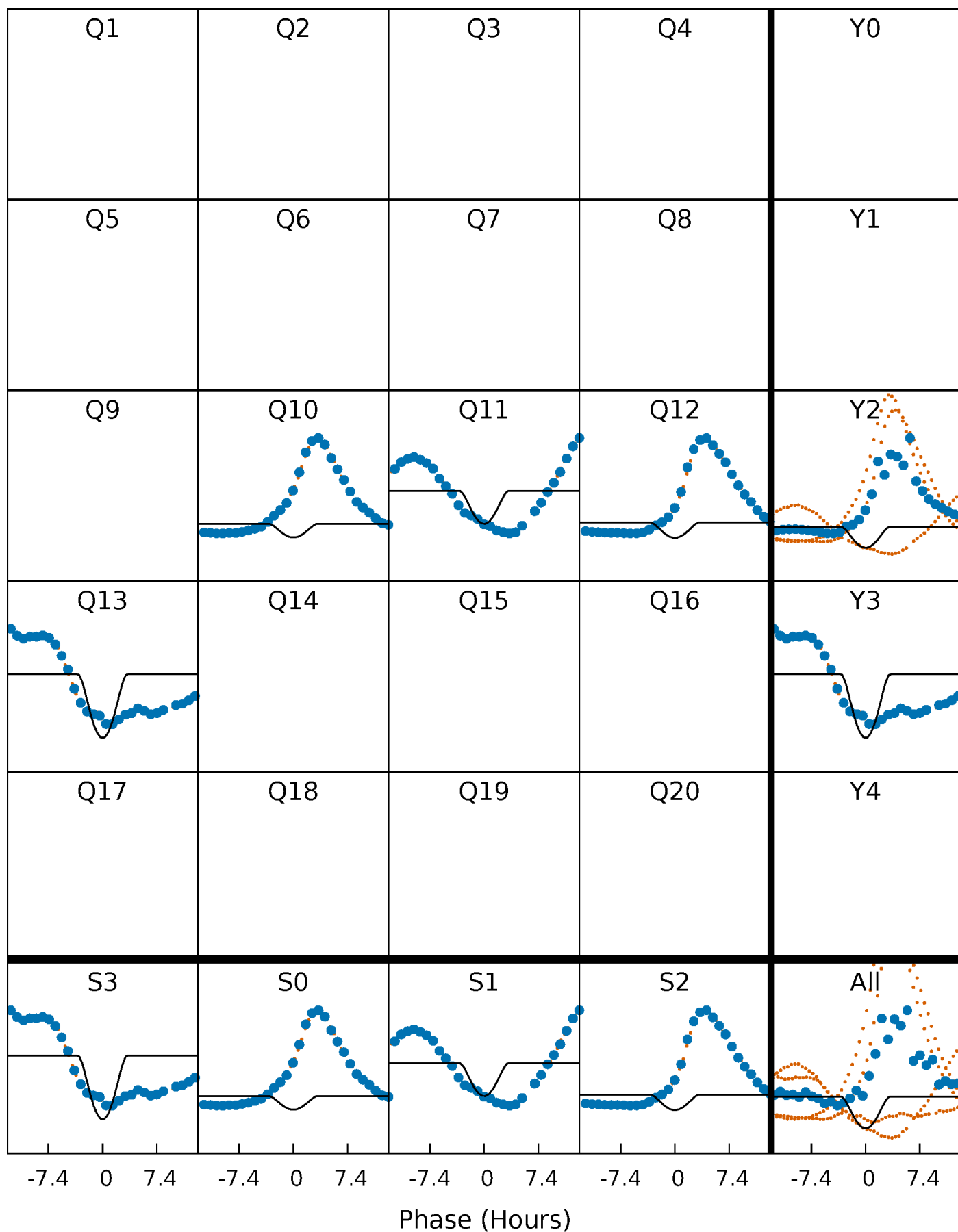
# PDC Quarter-Phased Transit Curves

TCE 010711066-03 P=108.050599 Days  $T_0=163.767210$  (BKJD)



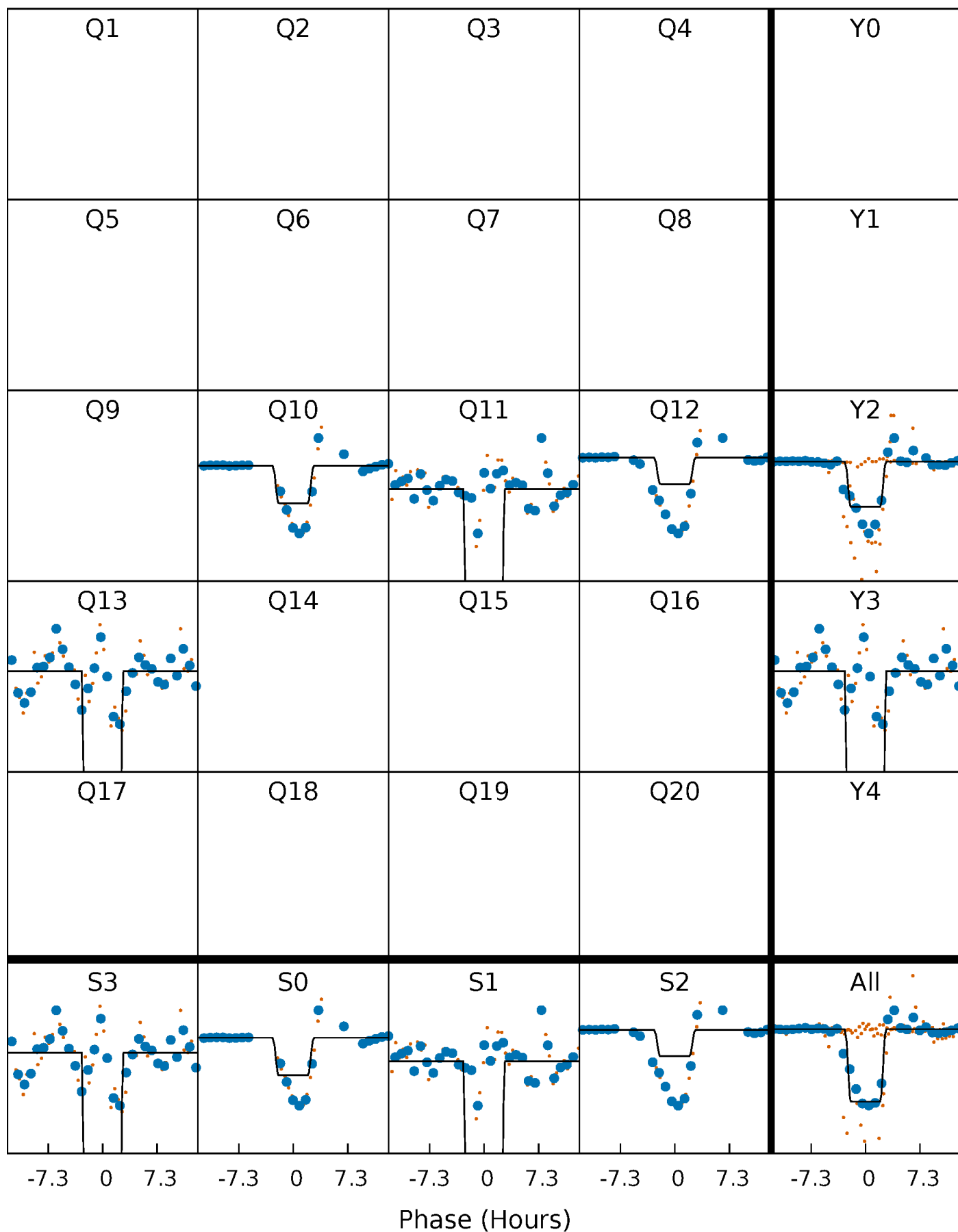
# DV Quarter-Phased Transit Curves

TCE 010711066-03 P=108.050599 Days  $T_0=163.767210$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

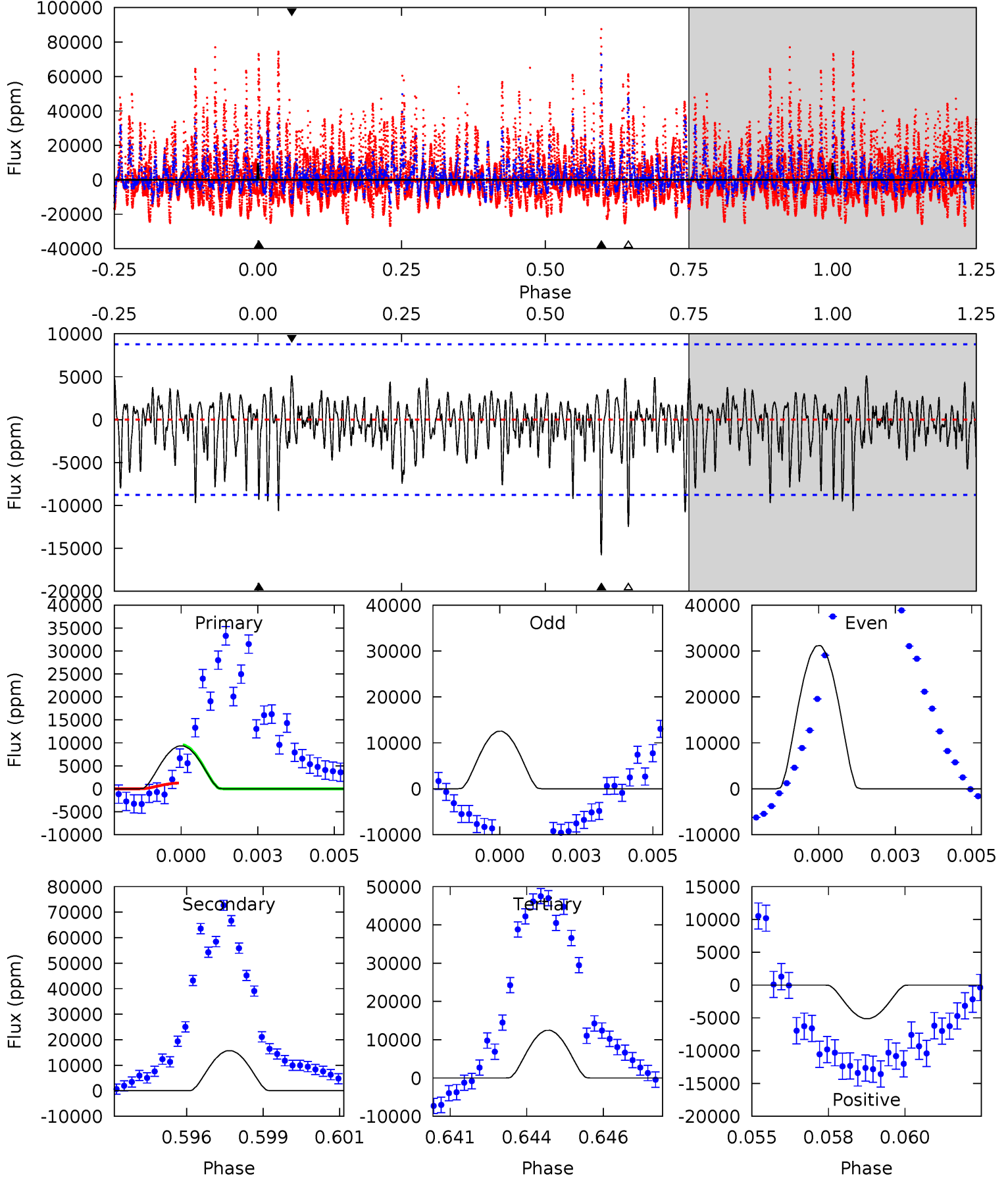
TCE 010711066-03 P=108.068917 Days  $T_0=163.569577$  (BKJD)



# DV Model-Shift Uniqueness Test

010711066-03, P = 108.050599 Days, E = 163.767210 Days

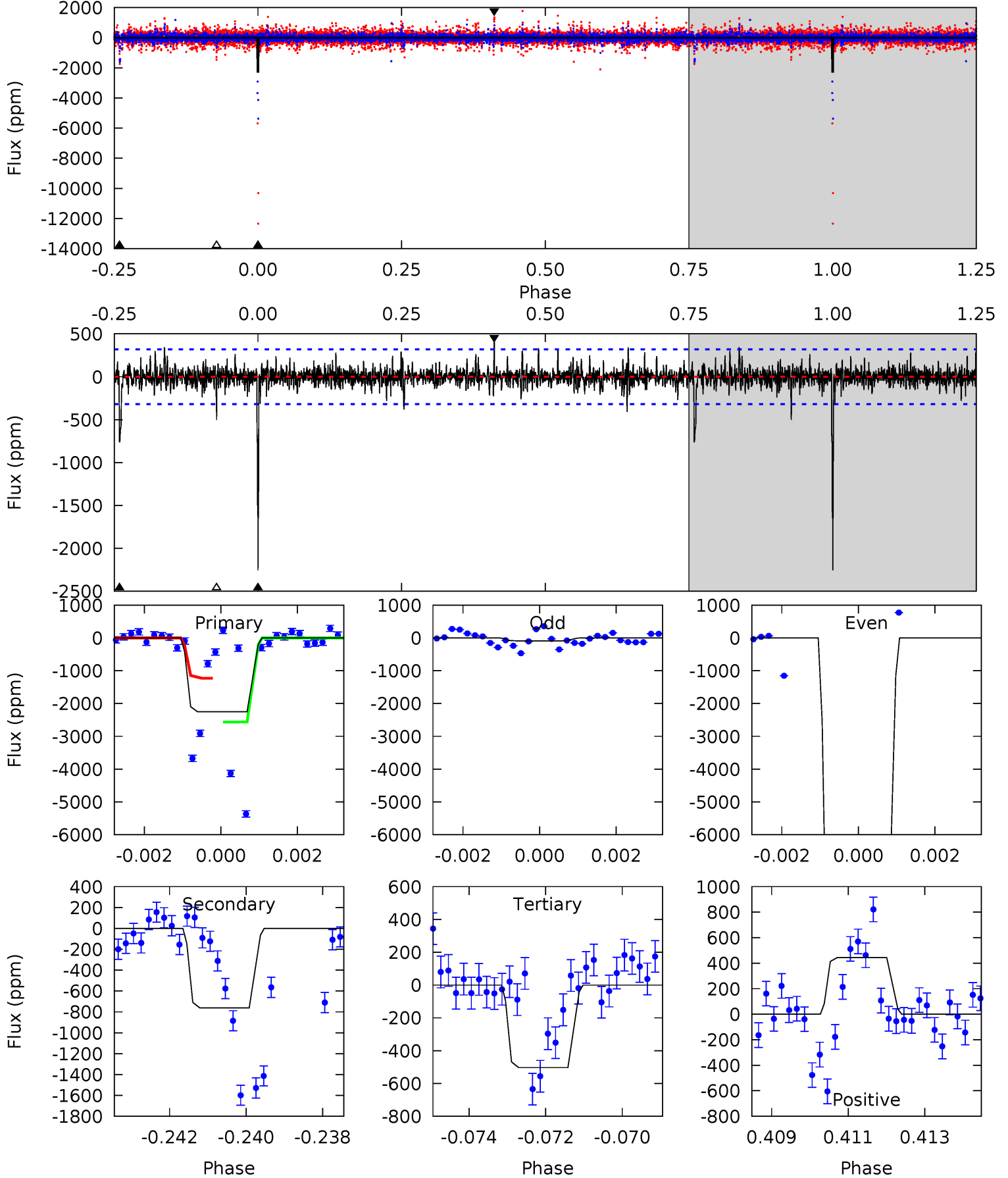
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.62	9.46	7.51	3.09	5.29	3.02	1.48	-1.89	2.53	1.95	6.37	4.38	1.87	0.25	2.51



# Alt Model-Shift Uniqueness Test

010711066-03, P = 108.068917 Days, E = 163.569577 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
37.5	12.7	8.36	7.39	5.32	3.08	1.25	29.1	30.1	4.31	5.28	34.8	1.37	0.16	0





### Stellar Parameters For KIC 010711066

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6628^{+185}_{-277}$	$4.136^{+0.157}_{-0.192}$	$0.340^{+0.100}_{-0.350}$	$1.737^{+0.576}_{-0.384}$	$1.504^{+0.195}_{-0.238}$	$0.404^{+0.322}_{-0.206}$
	+3%/-4%	+4%/-5%	+29%/-103%	+33%/-22%	+13%/-16%	+80%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 010711066-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	-15709±1660	$33.47^{+19.38}_{-17.08}$	$754^{+64}_{-53}$	$5591^{+2523}_{-943}$	$1986^{+6600}_{-1180}$
Alt.	-763±60	$20.50^{+17.40}_{-13.50}$	$755^{+64}_{-54}$	$3731^{+2143}_{-619}$	$258^{+1982}_{-183}$

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

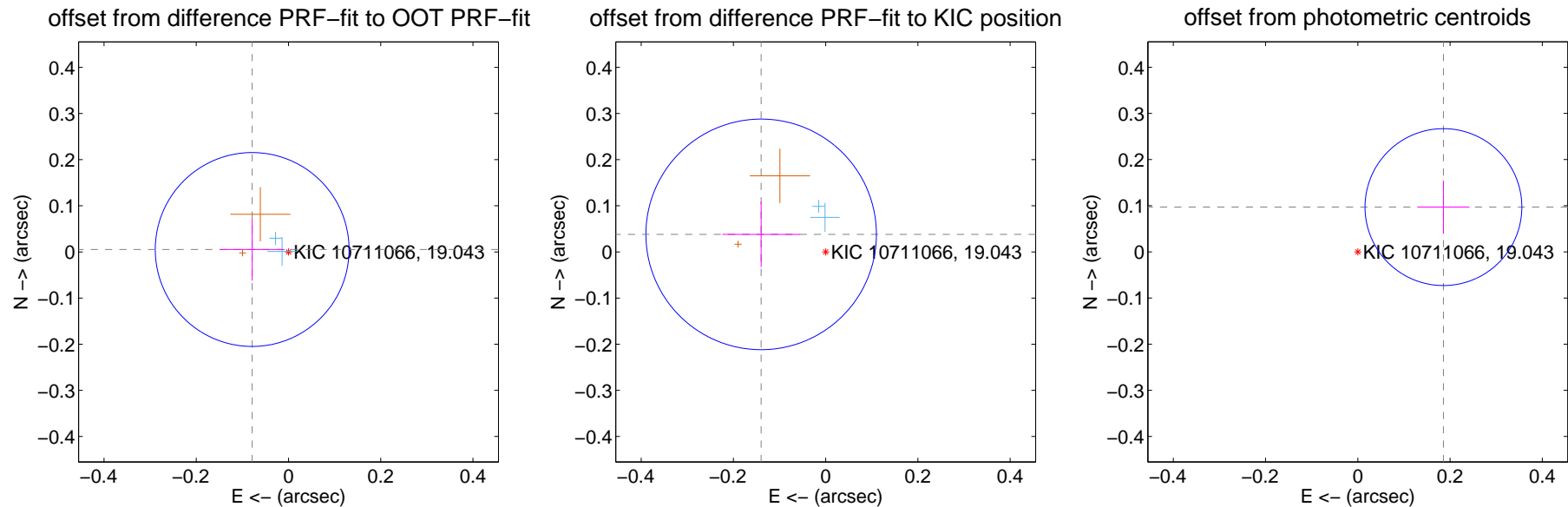
## DV Centroid Data

Supplemental centroid analysis for 010711066-03. Kepler magnitude: 19.04. Transit SNR 13.10

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.079 \pm 0.070$	1.13	$0.079 \pm 0.070$	$0.005 \pm 0.067$
PRF-fit source offset from KIC position	$0.145 \pm 0.083$	1.74	$0.140 \pm 0.084$	$0.038 \pm 0.071$
photometric centroid source offset	$0.21 \pm 0.06$	3.70	$-0.19 \pm 0.06$	$0.10 \pm 0.06$

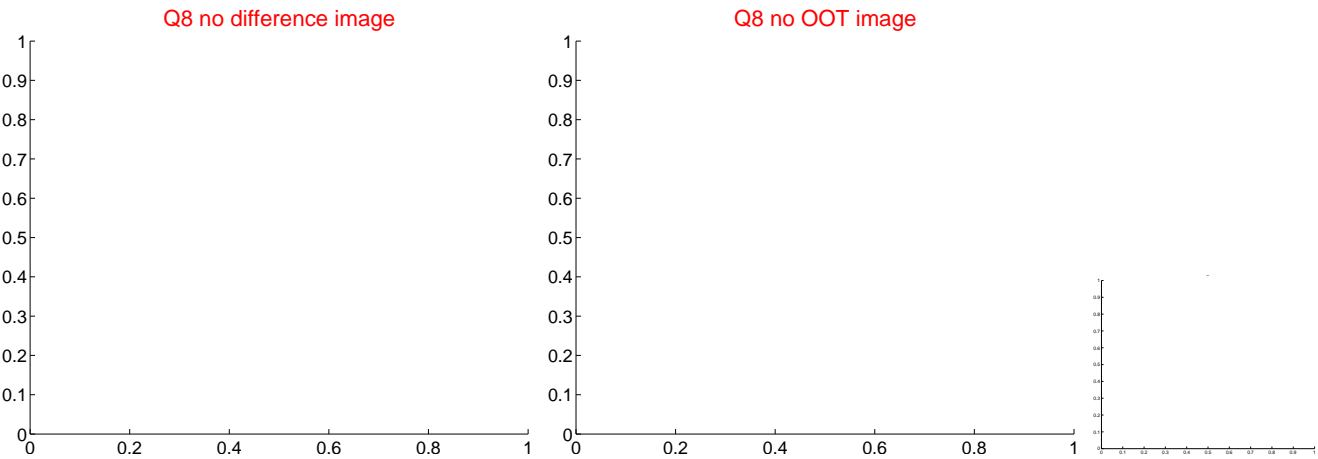
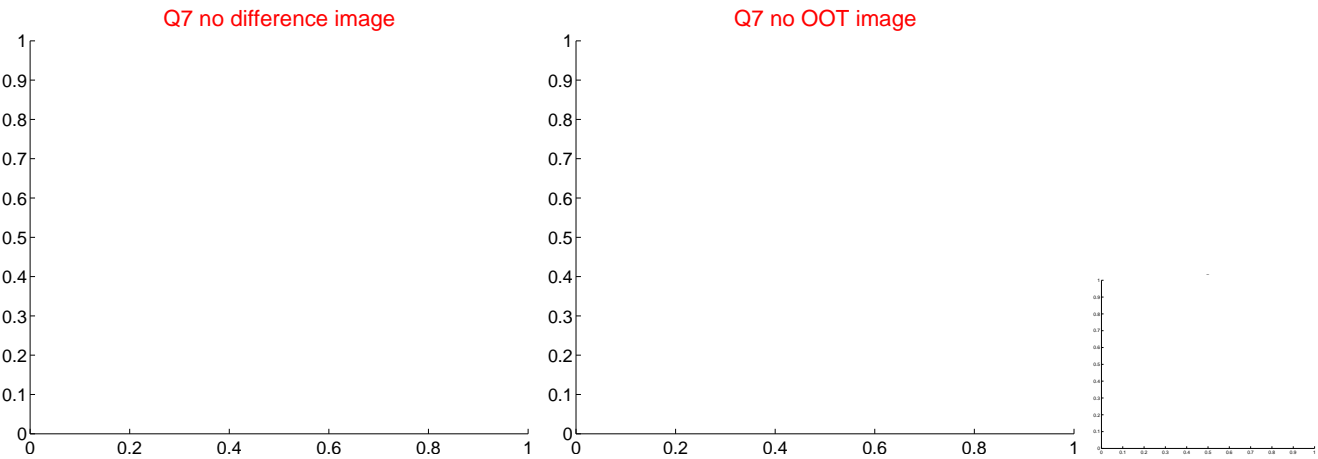
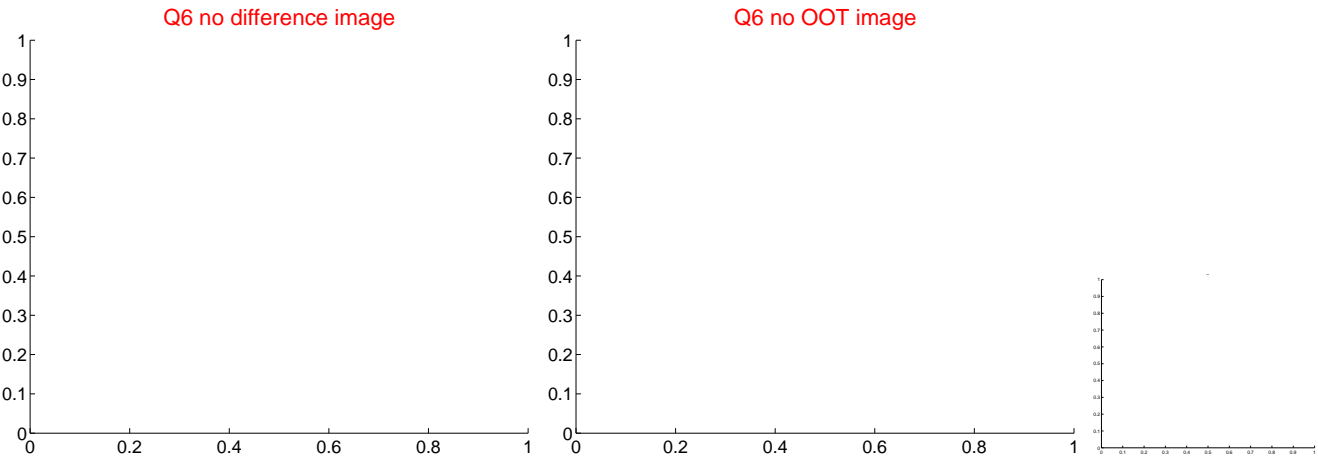
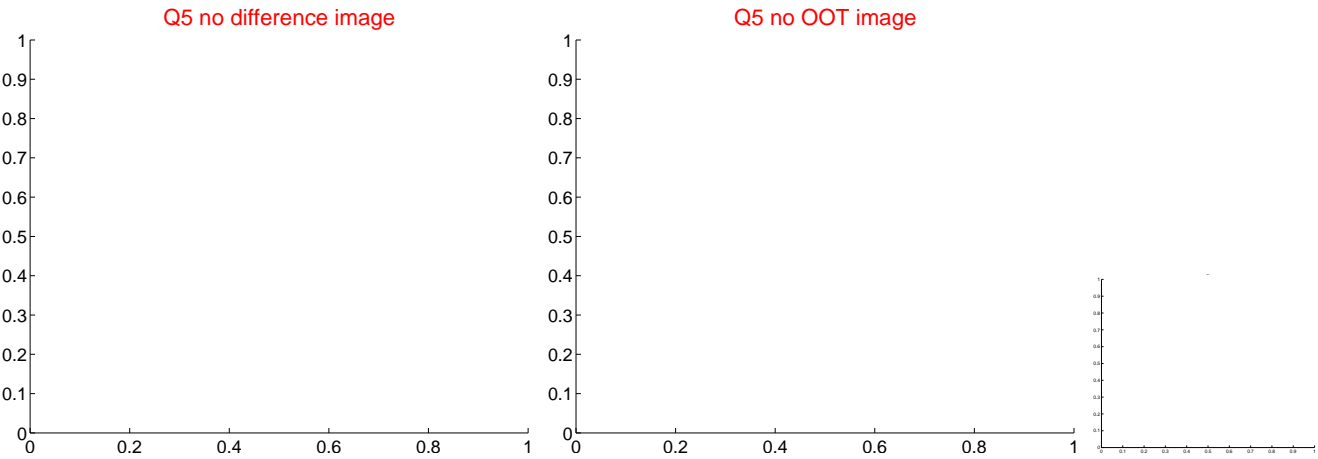


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

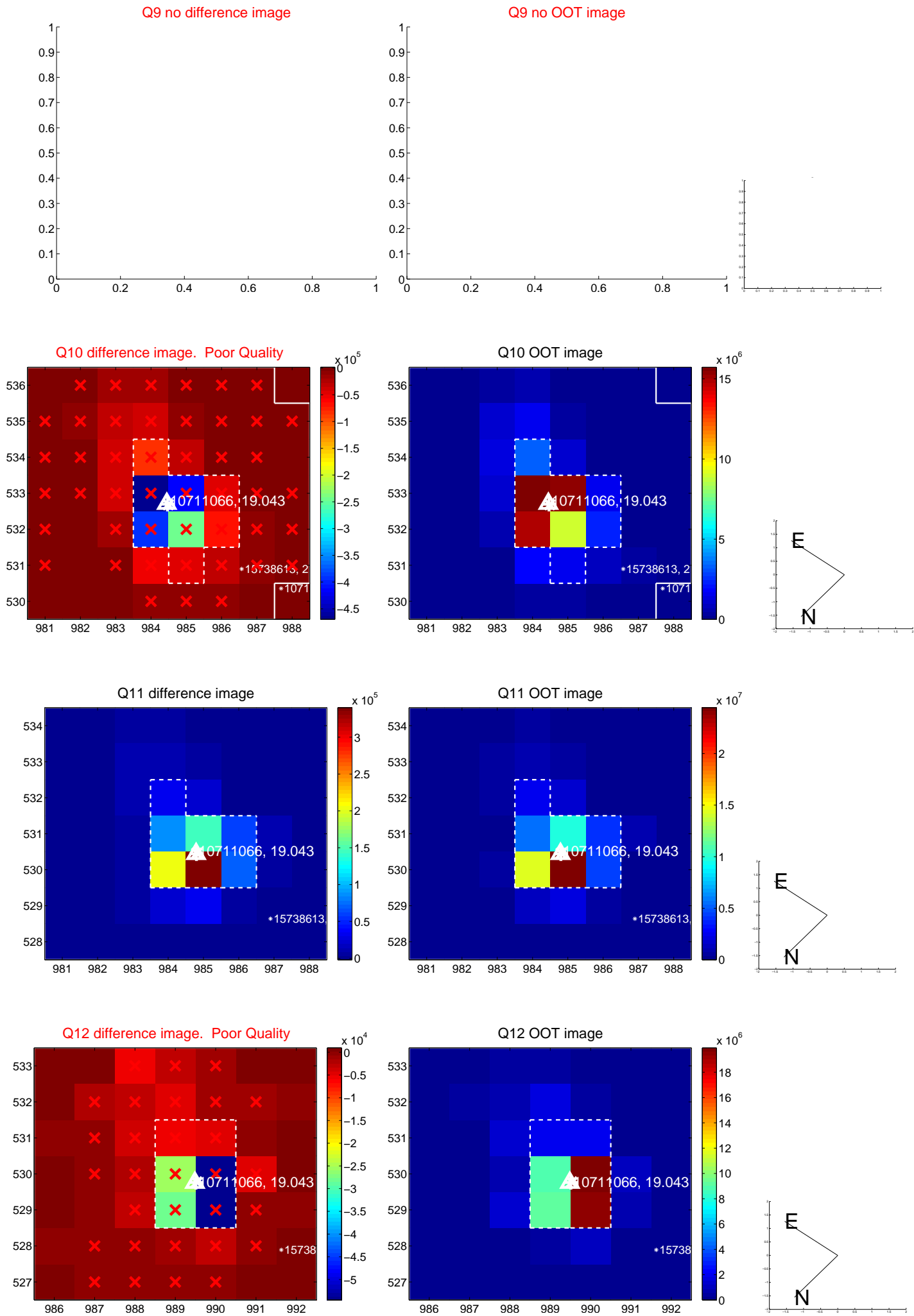
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



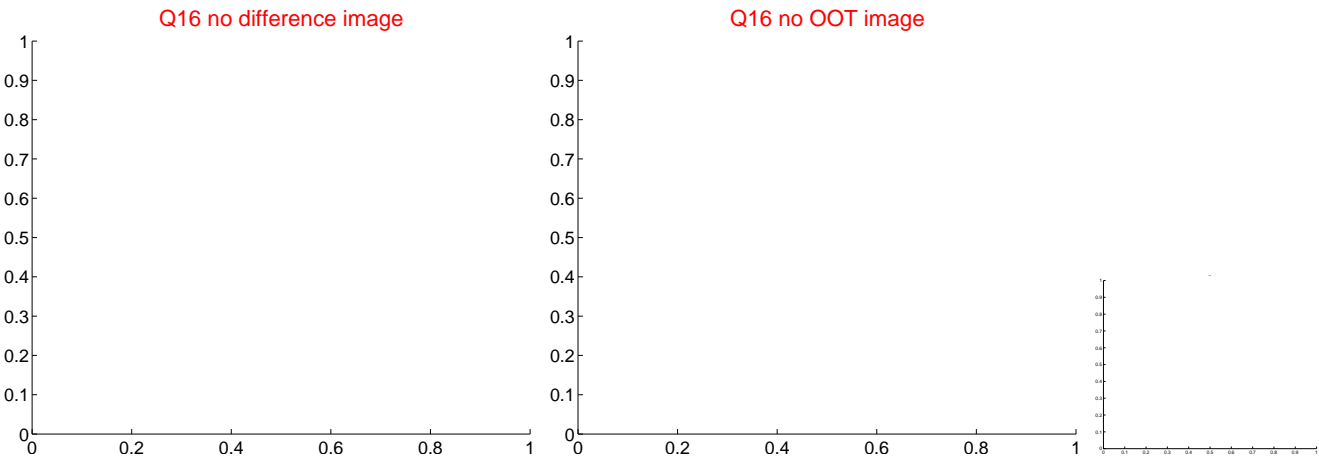
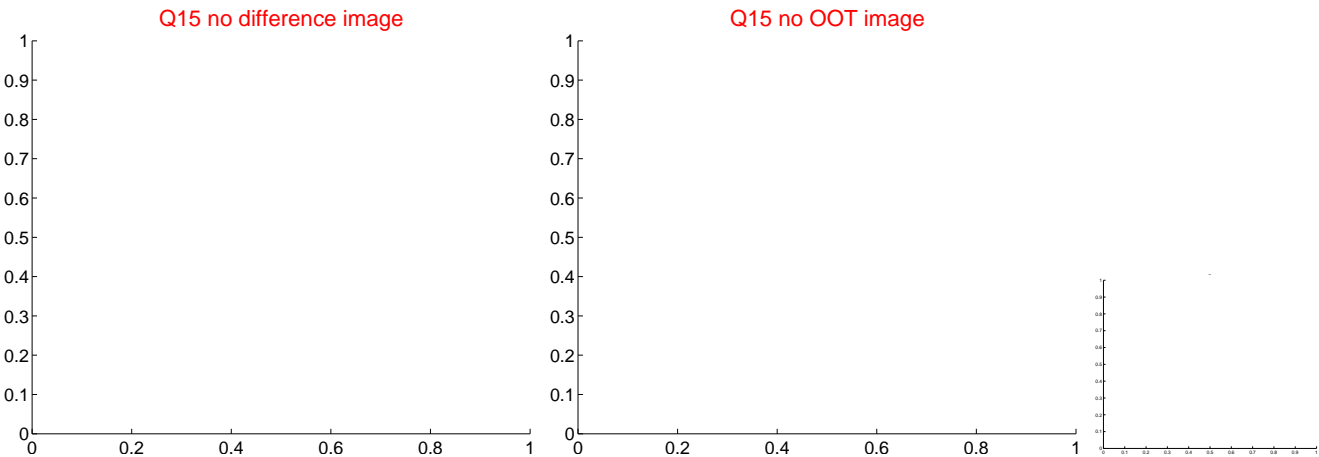
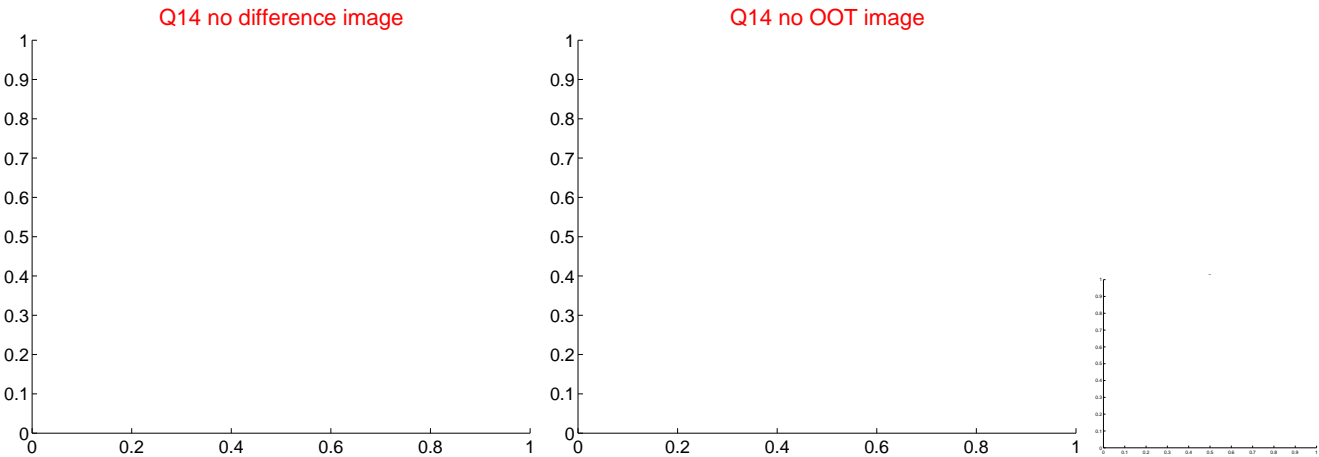
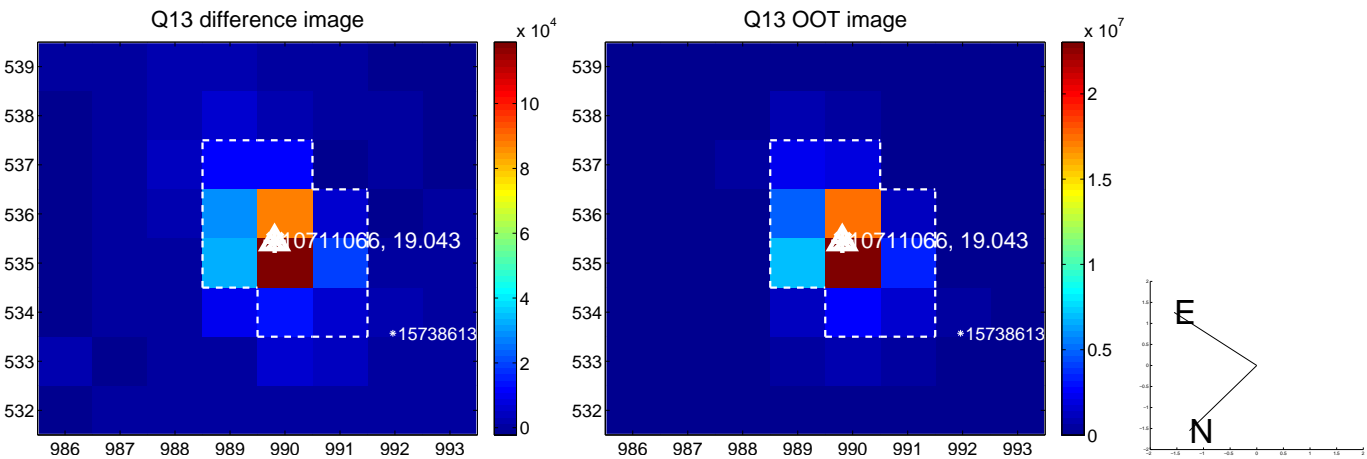
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



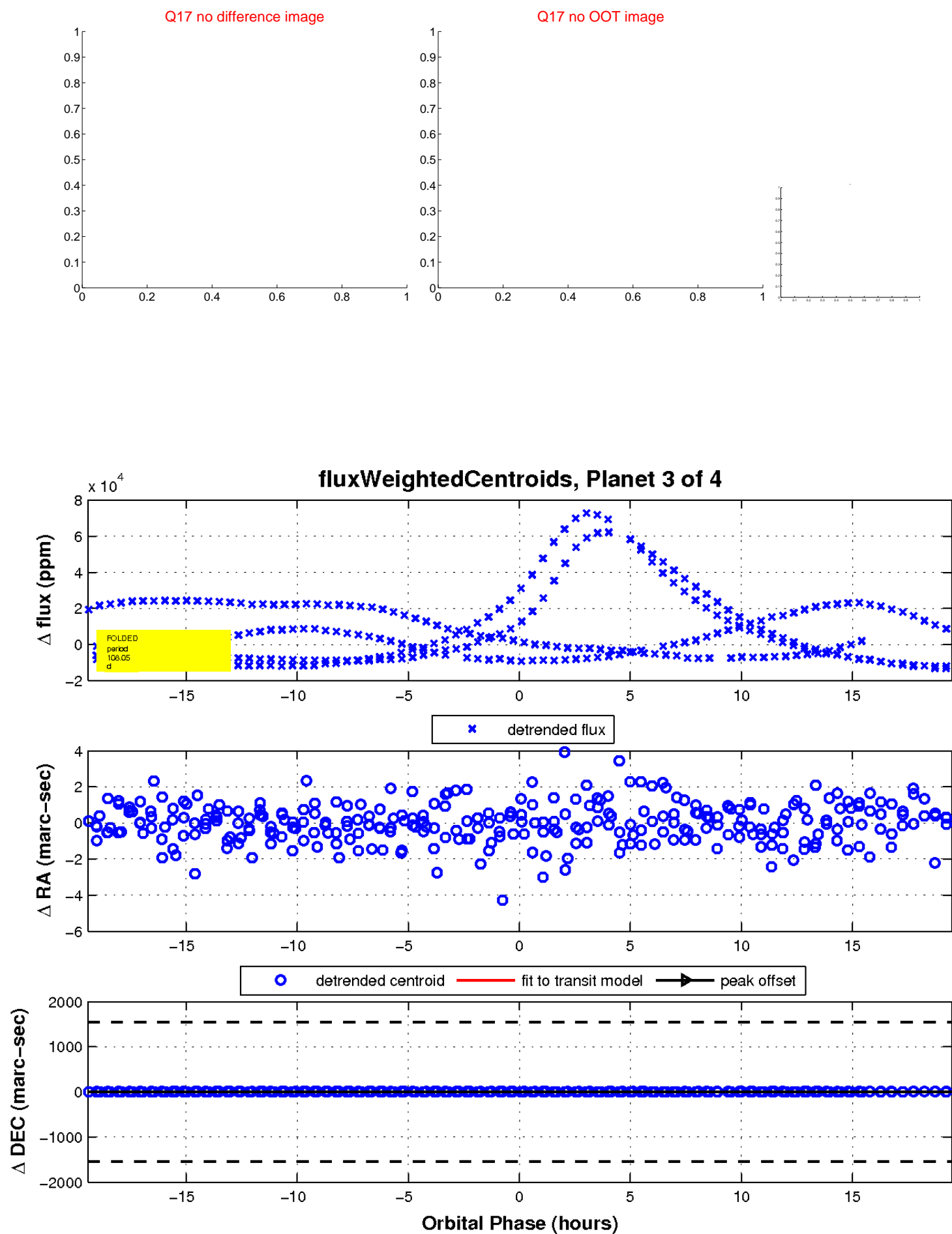
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

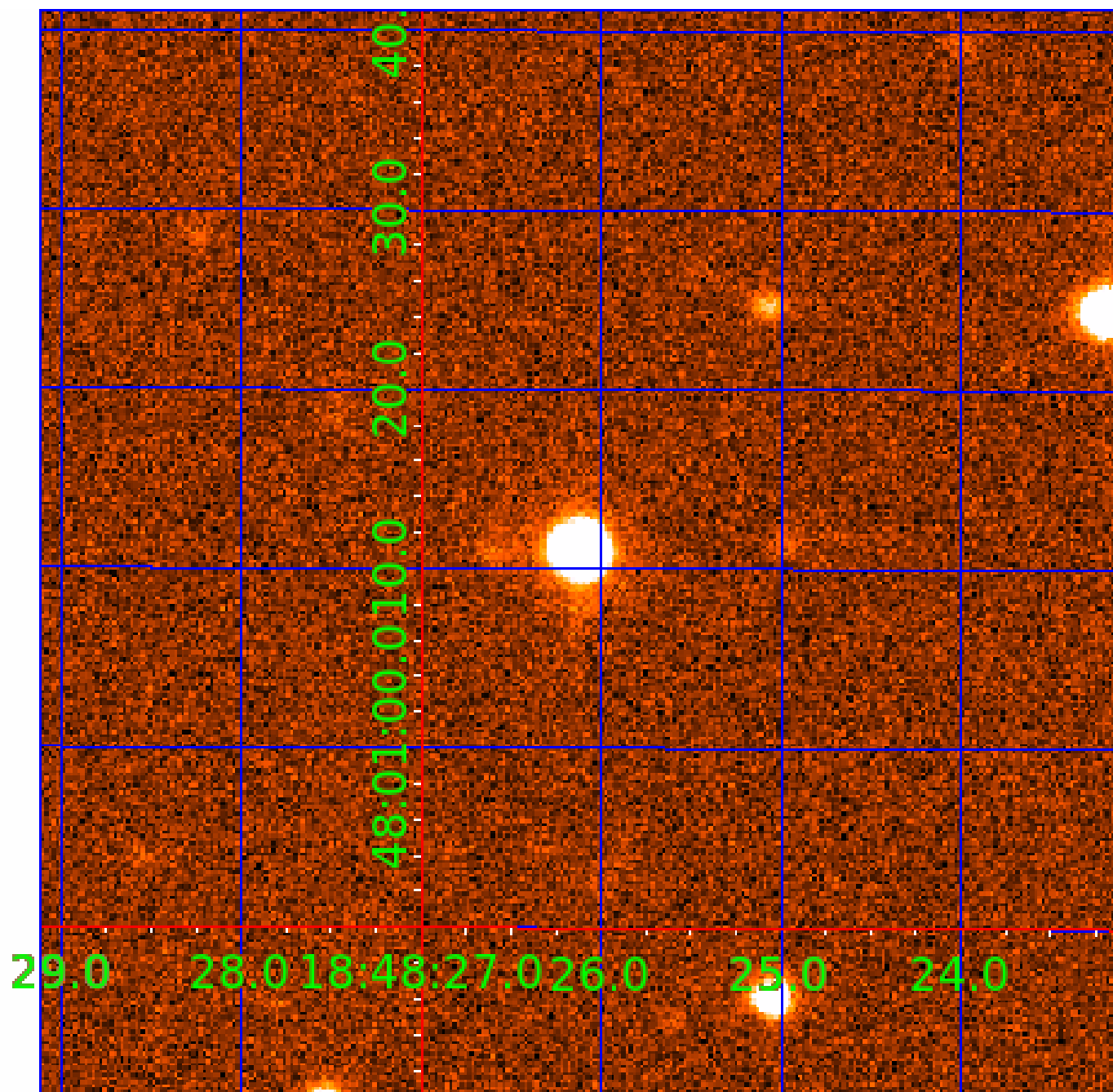


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 010711066

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010711066-01	OBS	No	131.325990	259.770519	27837.3	7.756	29.2	20.2	1.74	6628	49.97	15.53
010711066-03	OBS	No	108.050599	163.767210	11626.7	6.498	21.1	13.1	1.74	6628	33.03	20.14
010711066-04	OBS	No	96.130076	160.672005	13075.3	6.958	19.4	13.3	1.74	6628	25.52	23.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010711066-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010711066-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010711066-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_NOFITS

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

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

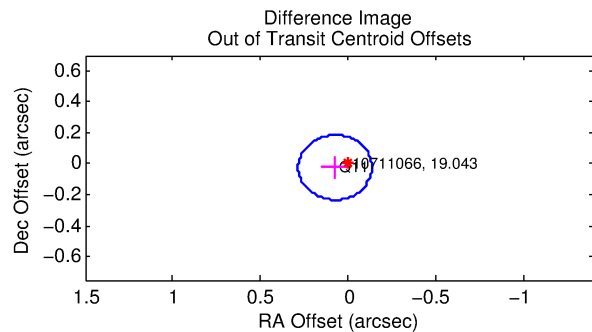
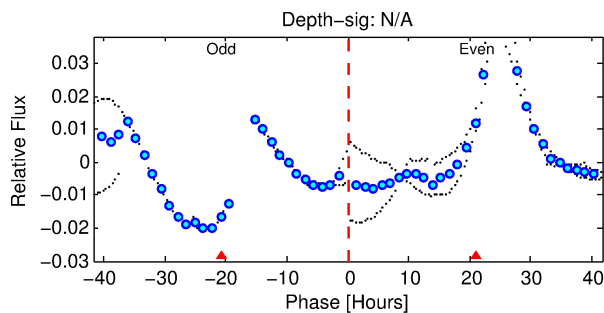
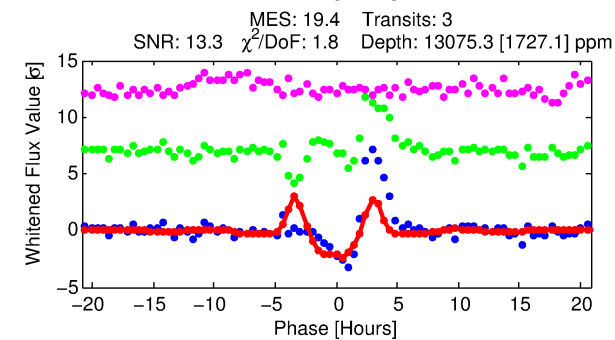
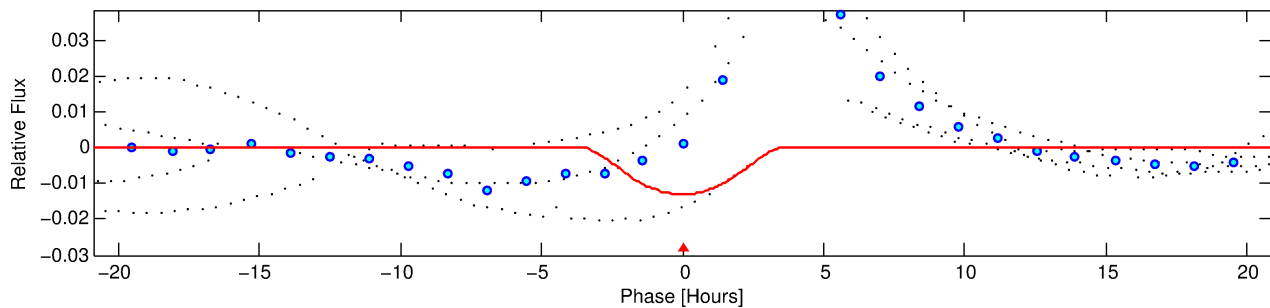
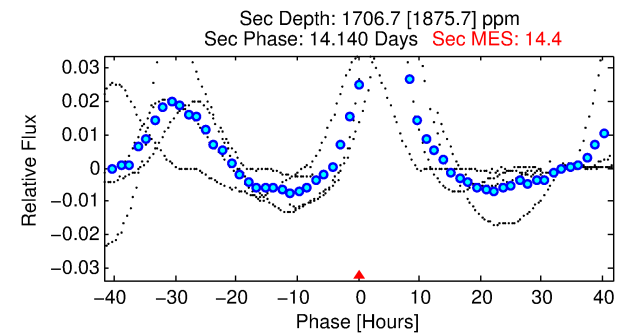
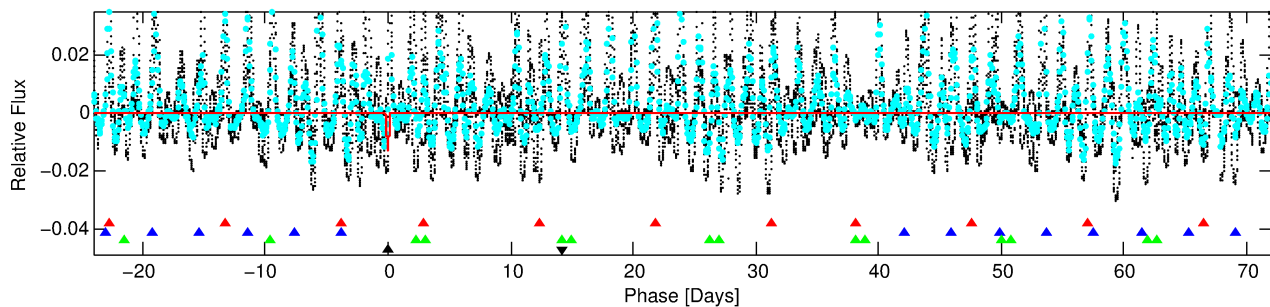
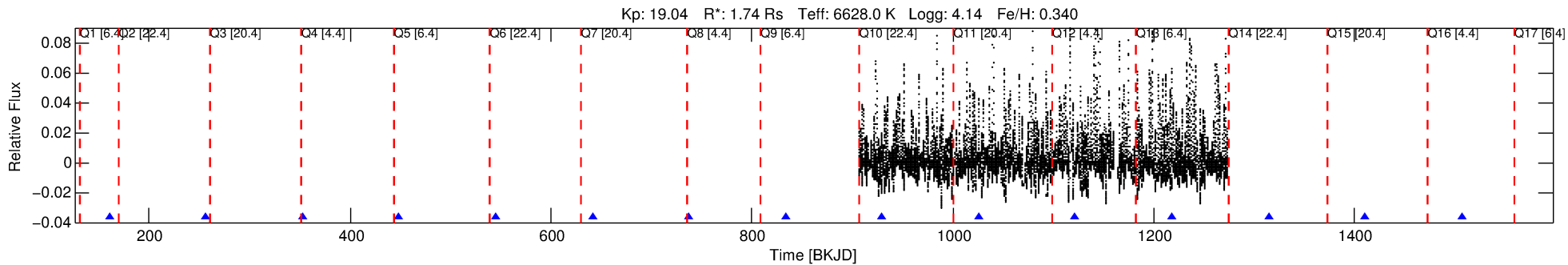
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010711066-04

No Significant Match Found

# DV One-Page Summary

KIC: 10711066 Candidate: 4 of 4 Period: 96.130 d



## DV Fit Results:

Period = 96.13008 [0.00338] d  
Epoch = 160.6720 [0.0320] BKJD  
Rp/R\* = 0.1346 [0.0380]  
a/R\* = 70.63 [5.57]  
b = 0.92 [0.08]  
Seff = 23.54 [9.52]  
Teq = 562 [57] K  
Rp = 25.52 [11.11] Re  
a = 0.4708 [0.1251] AU  
Ag = 319.50 [411.87] [0.77σ]  
Teffp = 3671 [1144] K [2.71σ]

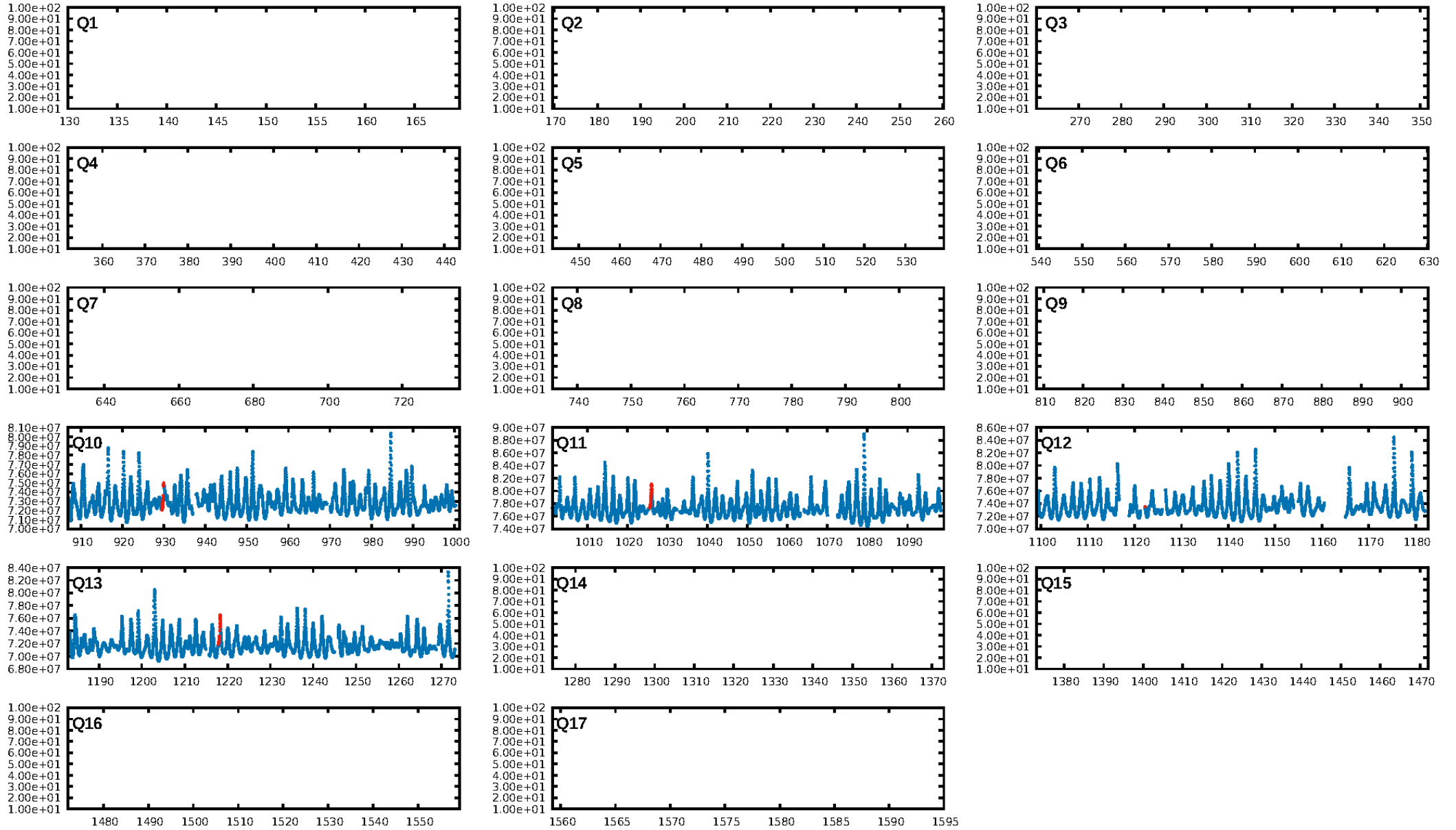
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [8.94σ]  
ModelChiSquare2-sig: 0.1%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.336  
Centroid-sig: N/A  
Centroid-so: 0.255 arcsec [3.88σ]  
OotOffset-rm: 0.080 arcsec [1.14σ]  
KicOffset-rm: 0.077 arcsec [1.10σ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [1/1]

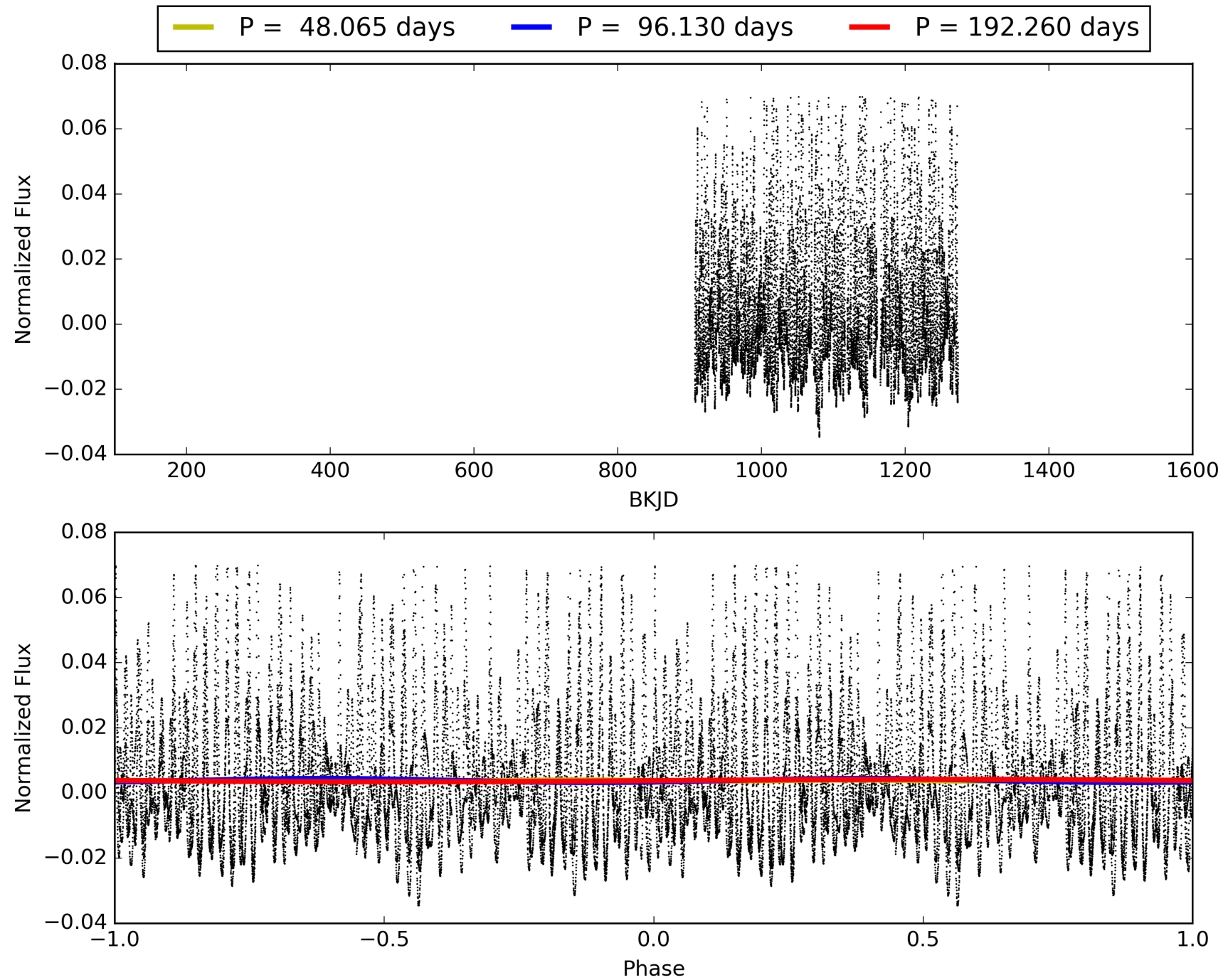
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:25:14 Z

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

# TCE 010711066-04, PDC Light Curves

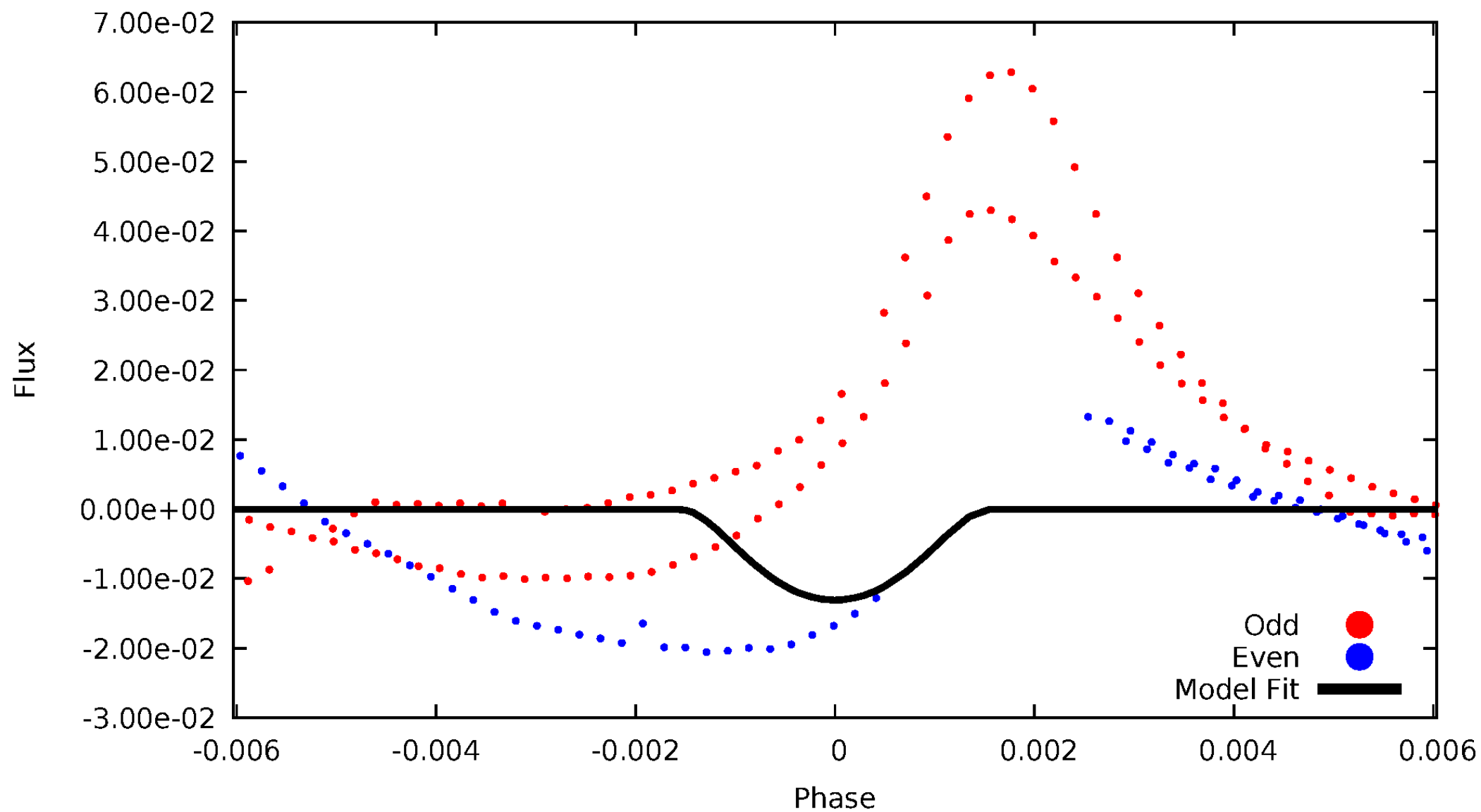


# TCE 010711066-04



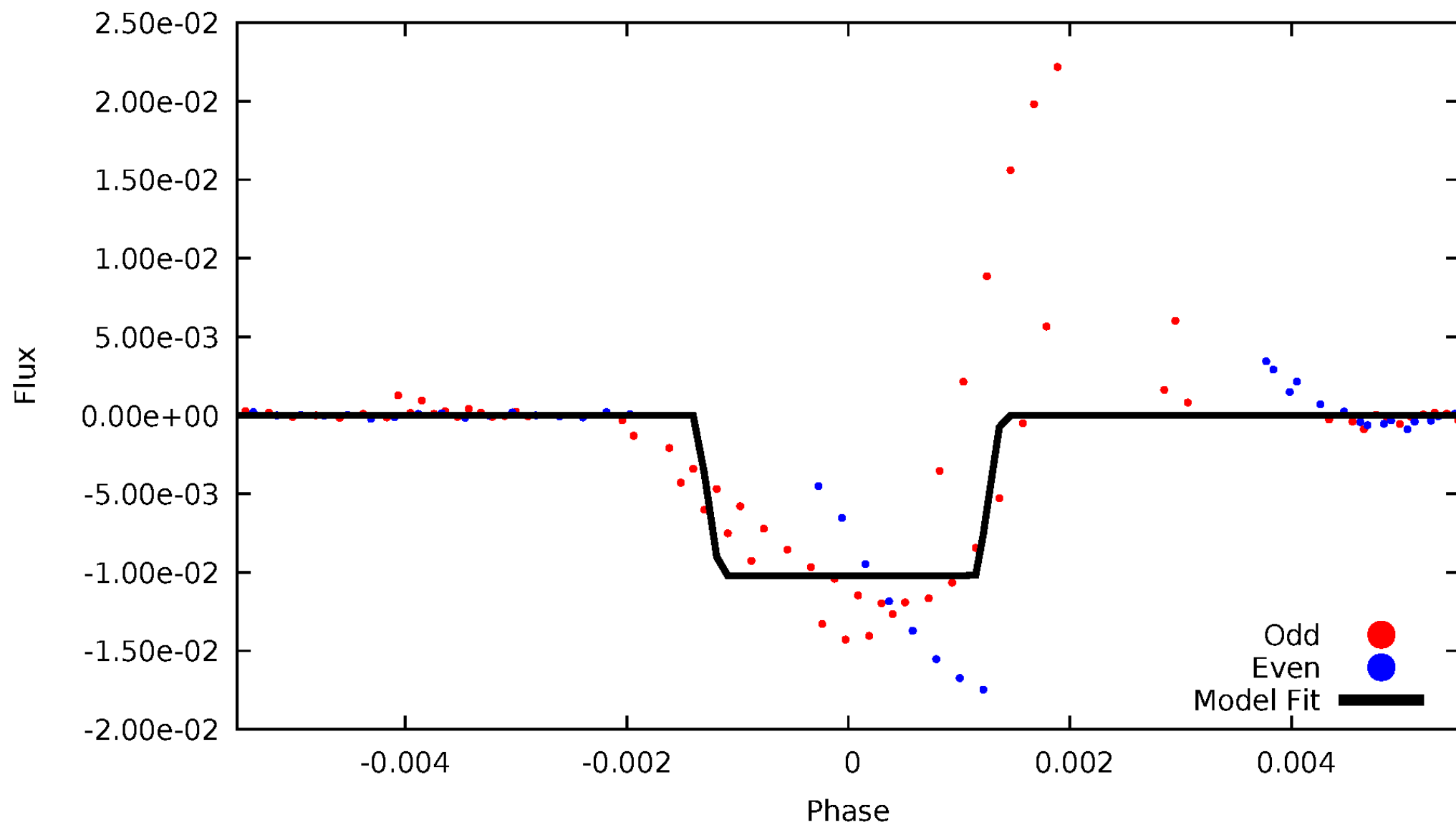
# DV Odd/Even

TCE 010711066-04



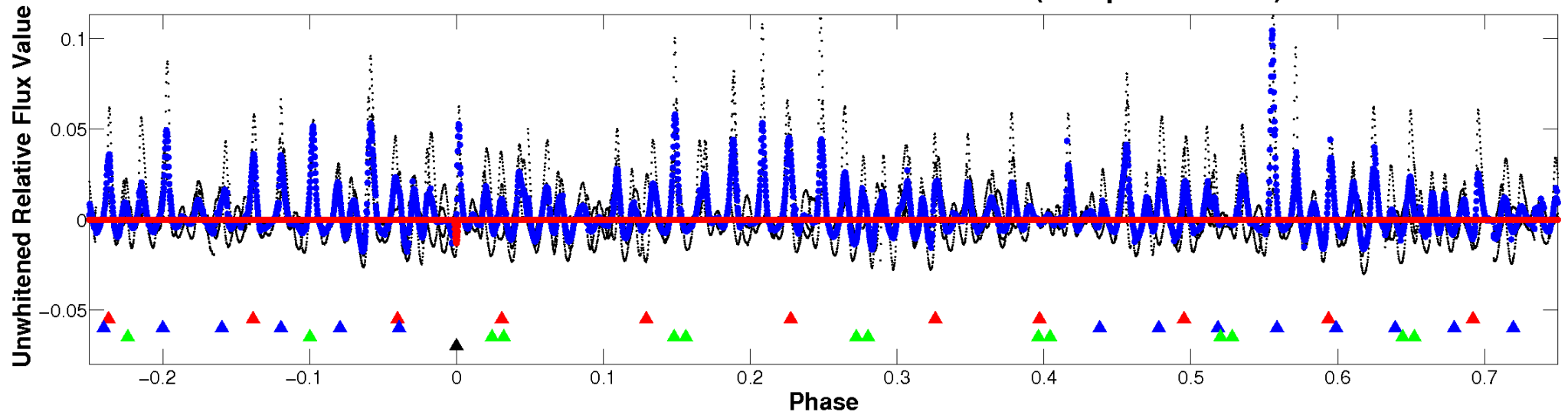
# ALT Odd/Even

TCE 010711066-04

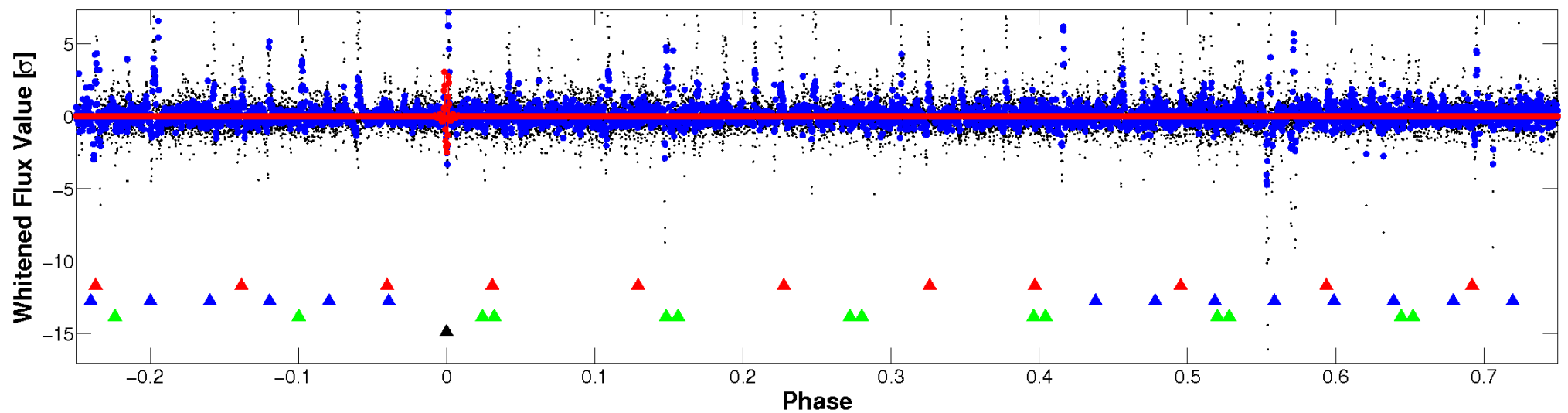


# Non-Whitened Vs. Whitened Light Curve

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

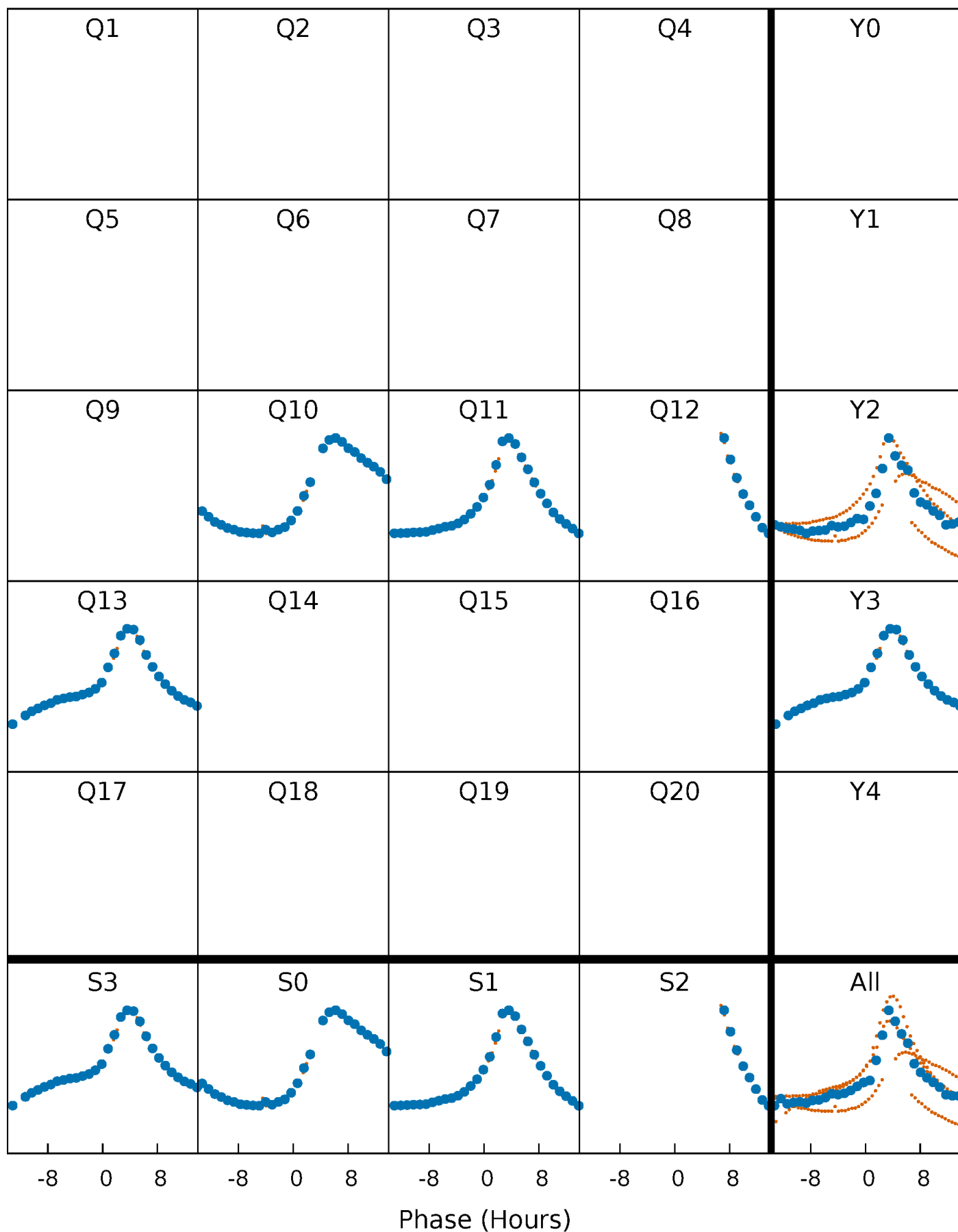


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

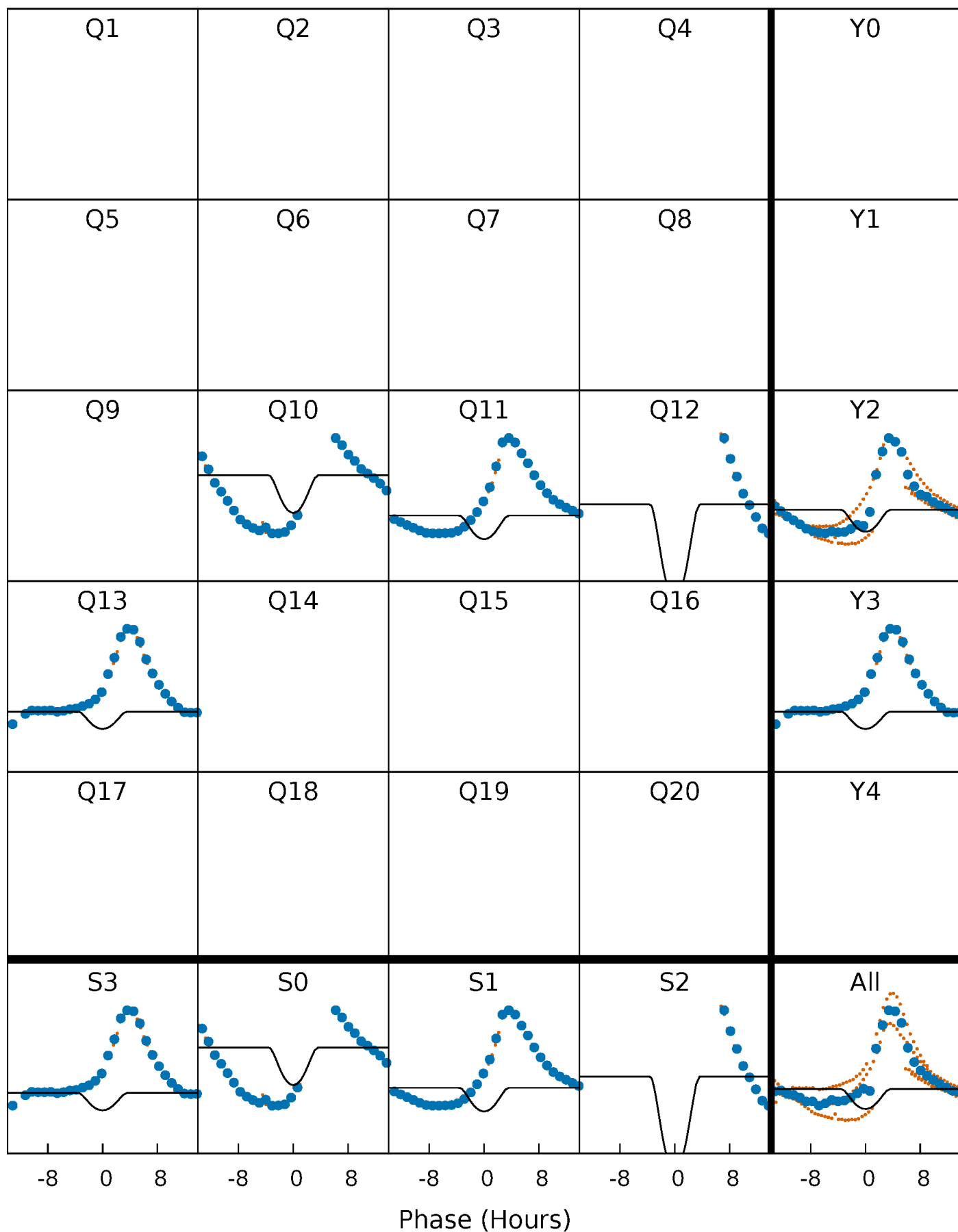
TCE 010711066-04 P= 96.130076 Days  $T_0=160.672005$  (BKJD)





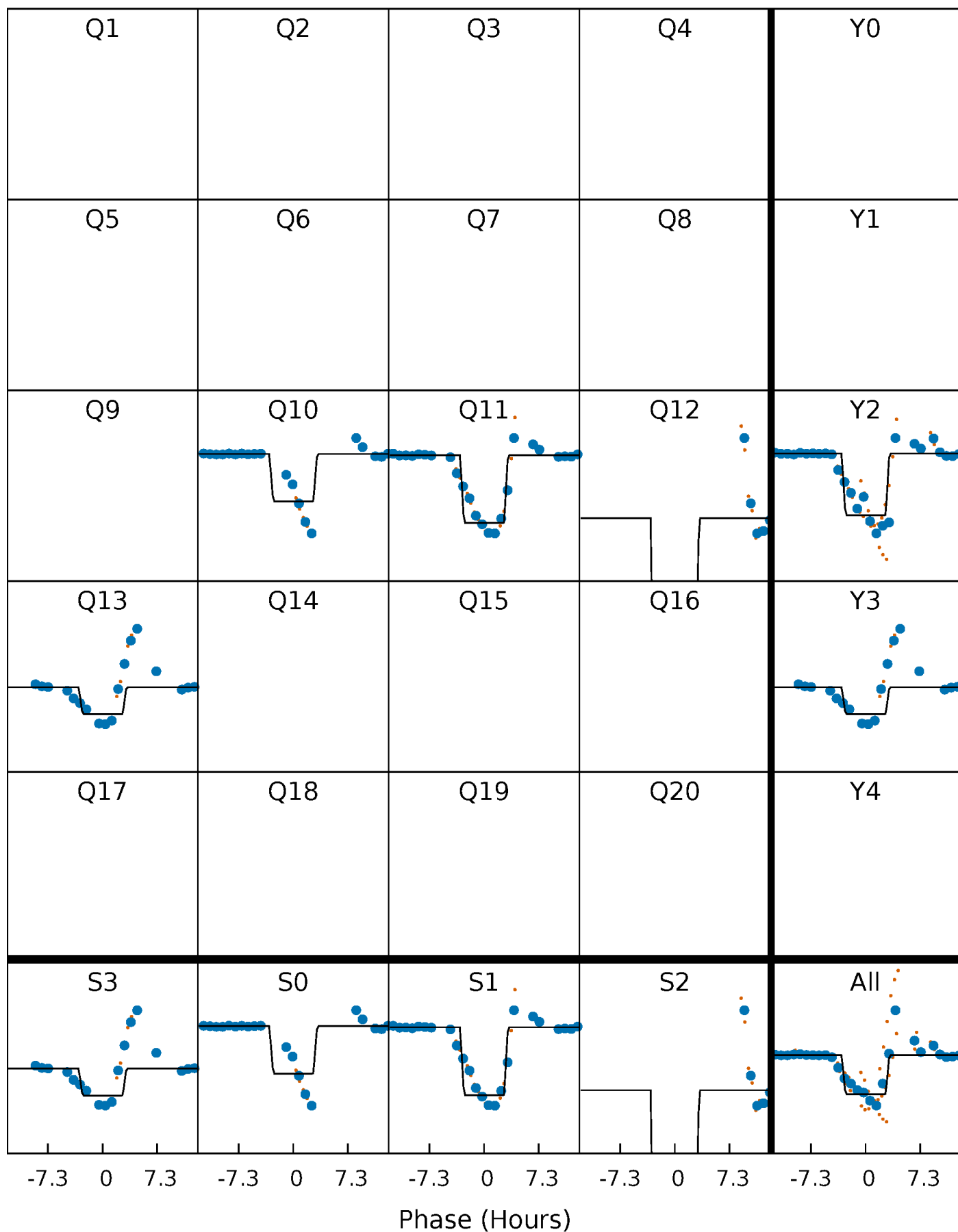
# DV Quarter-Phased Transit Curves

TCE 010711066-04   P= 96.130076 Days    $T_0=160.672005$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

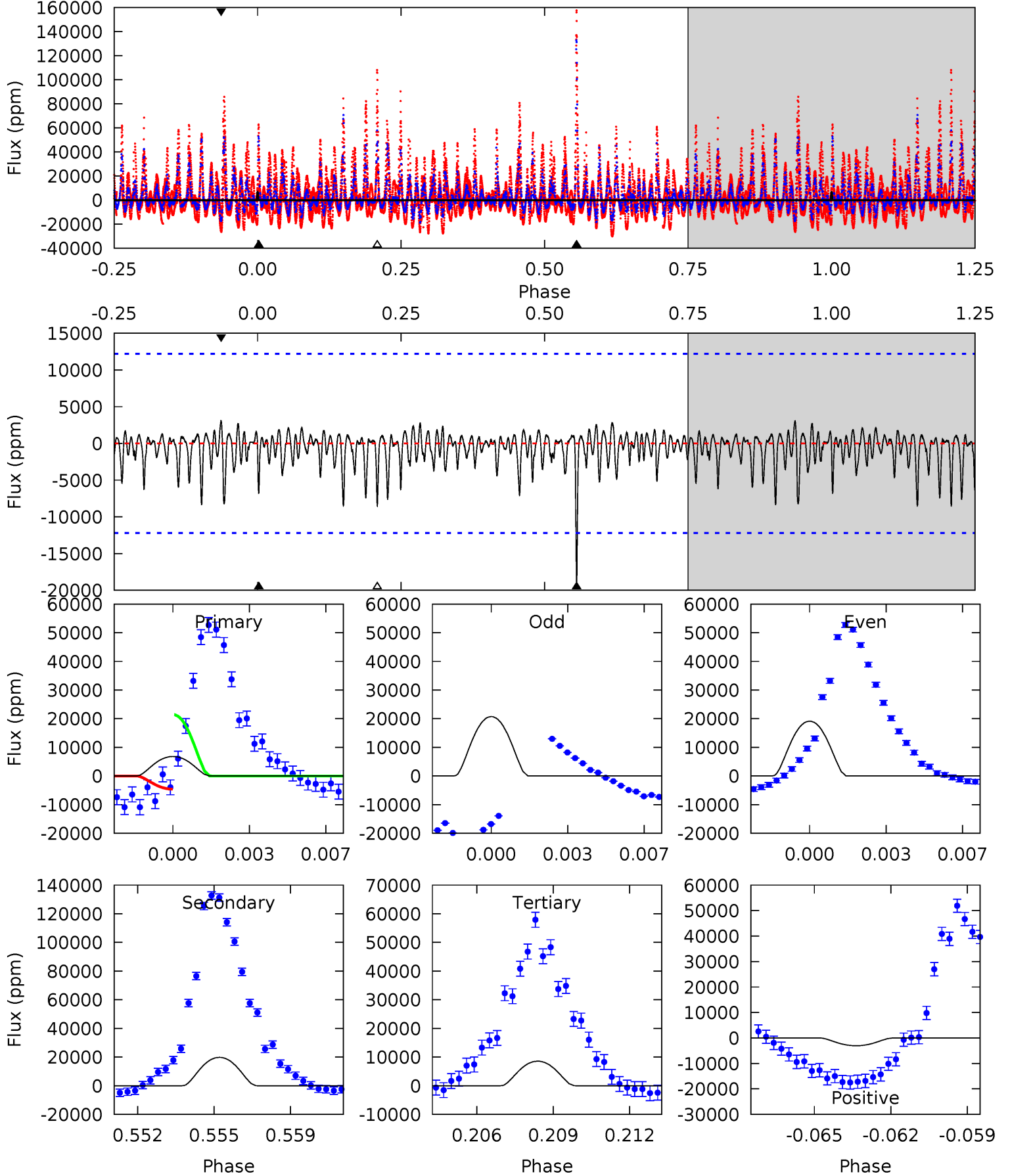
TCE 010711066-04 P= 96.145204 Days  $T_0=160.473449$  (BKJD)



# DV Model-Shift Uniqueness Test

010711066-04, P = 96.130076 Days, E = 160.672005 Days

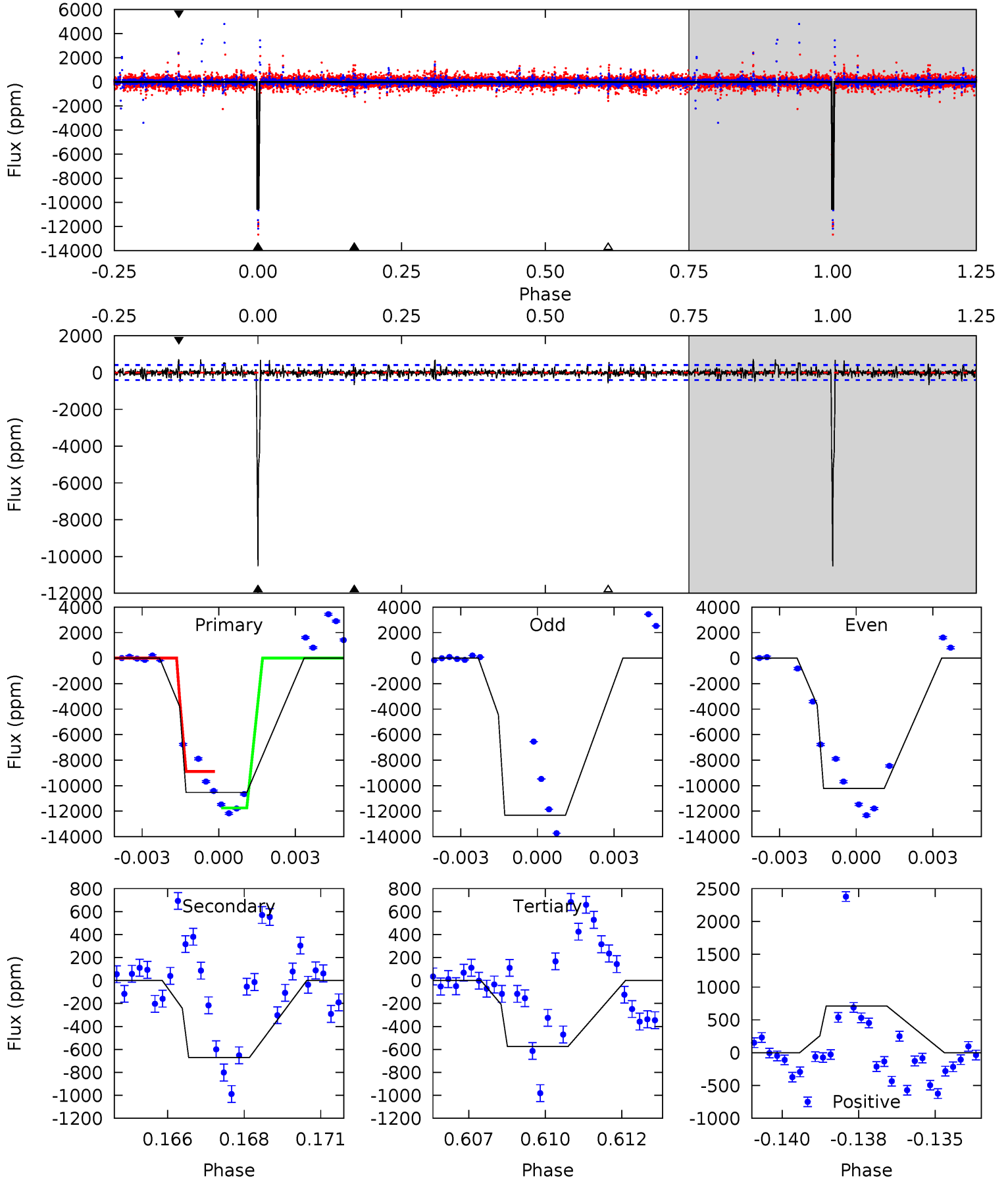
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.92	8.51	3.67	1.31	5.24	2.94	0.78	-0.75	1.62	4.83	7.20	0.26	0.45	0.13	3.44



# Alt Model-Shift Uniqueness Test

010711066-04, P = 96.145204 Days, E = 160.473449 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
136.2	8.69	7.42	9.19	5.28	3.02	1.47	128.8	127.0	1.26	-0.51	8.75	1.04	0.06	0



### Stellar Parameters For KIC 010711066

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6628^{+185}_{-277}$	$4.136^{+0.157}_{-0.192}$	$0.340^{+0.100}_{-0.350}$	$1.737^{+0.576}_{-0.384}$	$1.504^{+0.195}_{-0.238}$	$0.404^{+0.322}_{-0.206}$
	+3%/-4%	+4%/-5%	+29%/-103%	+33%/-22%	+13%/-16%	+80%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 010711066-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-19815 \pm 2330$	$25.53^{+8.82}_{-8.22}$	$785^{+66}_{-54}$	$6756^{+1682}_{-831}$	$3664^{+4531}_{-1632}$
Alt.	$-672 \pm 77$	$19.64^{+8.20}_{-7.68}$	$785^{+61}_{-51}$	$3717^{+680}_{-371}$	$210^{+345}_{-103}$

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

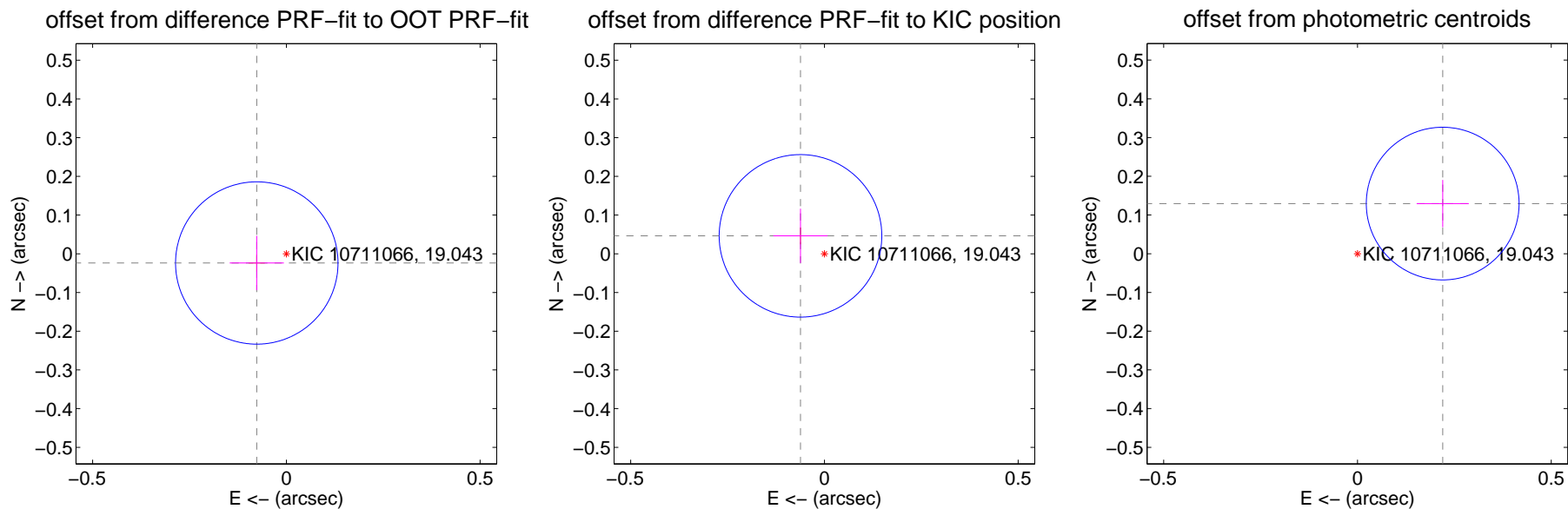
## DV Centroid Data

Supplemental centroid analysis for 010711066-04. Kepler magnitude: 19.04. Transit SNR 13.32

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.080 \pm 0.070$	1.14	$0.076 \pm 0.070$	$-0.024 \pm 0.070$
PRF-fit source offset from KIC position	$0.077 \pm 0.070$	1.10	$0.062 \pm 0.070$	$0.046 \pm 0.070$
photometric centroid source offset	$0.26 \pm 0.07$	3.88	$-0.22 \pm 0.07$	$0.13 \pm 0.06$

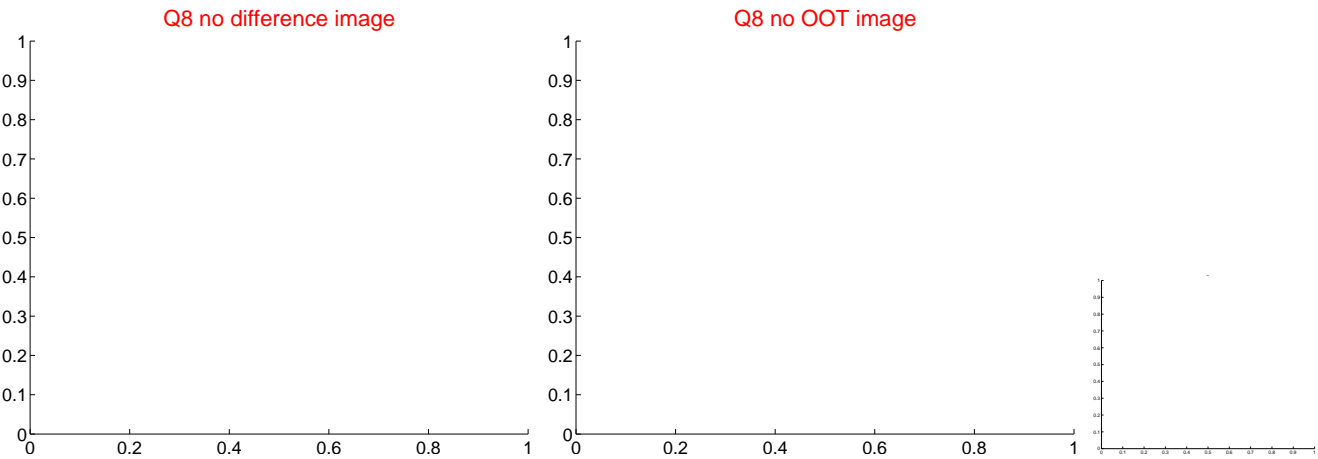
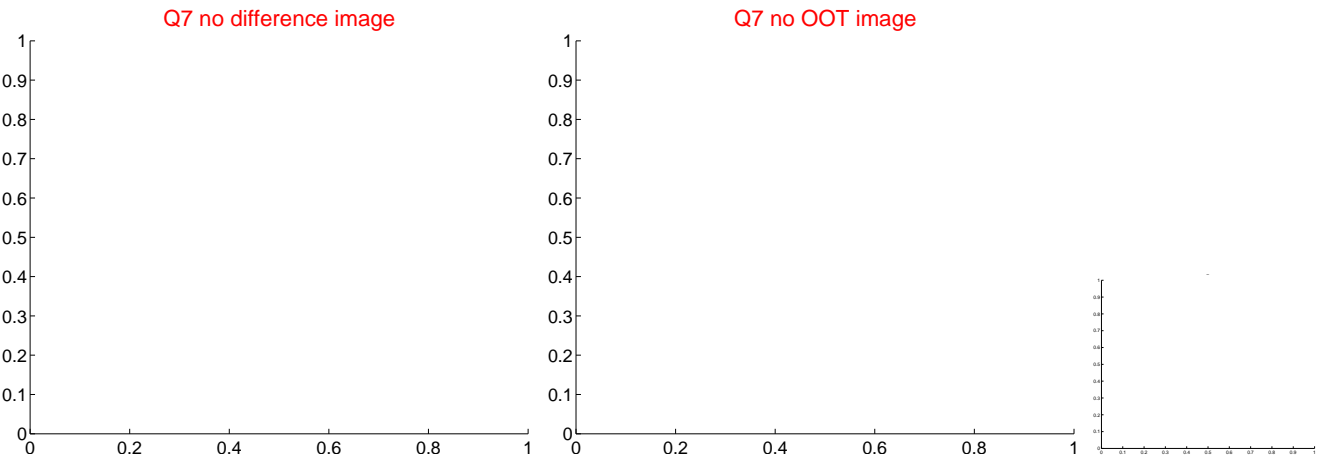
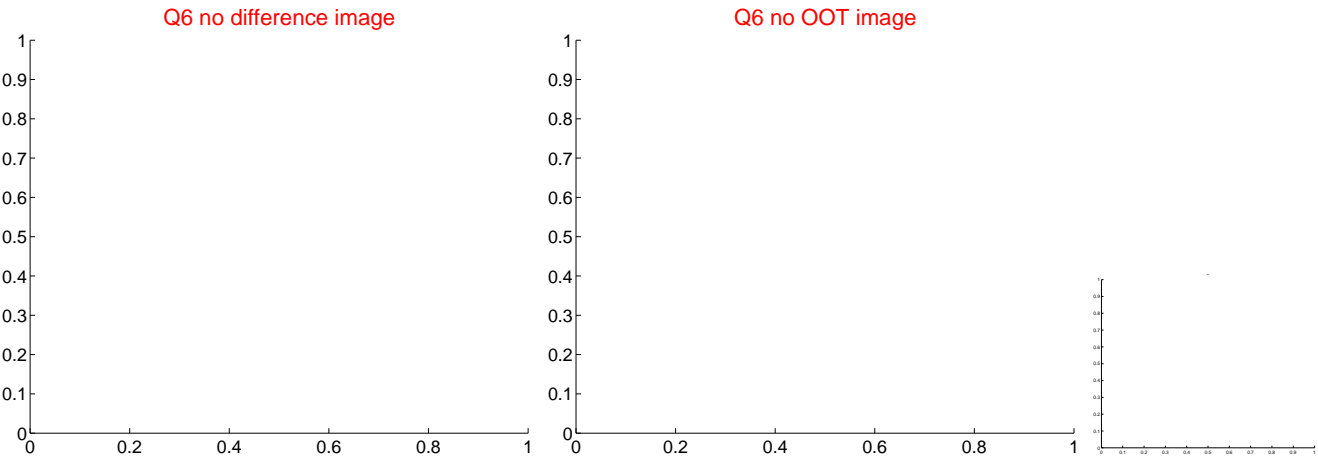
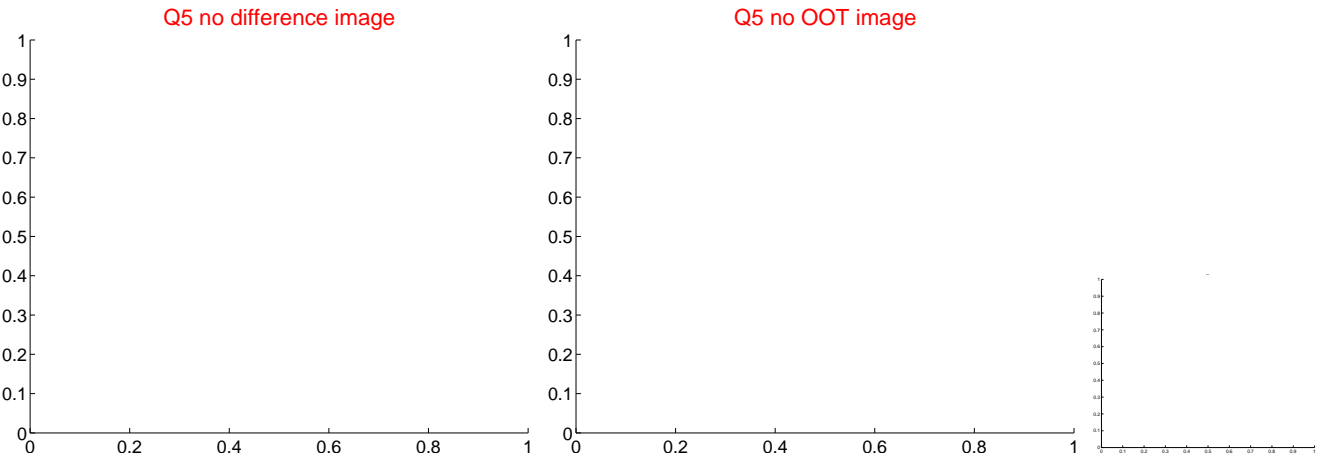


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

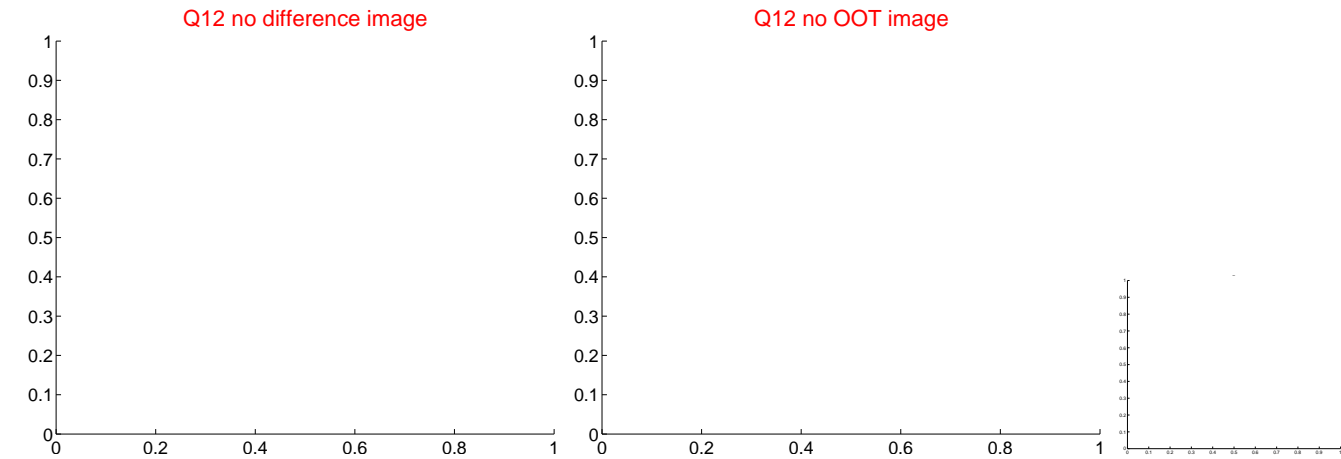
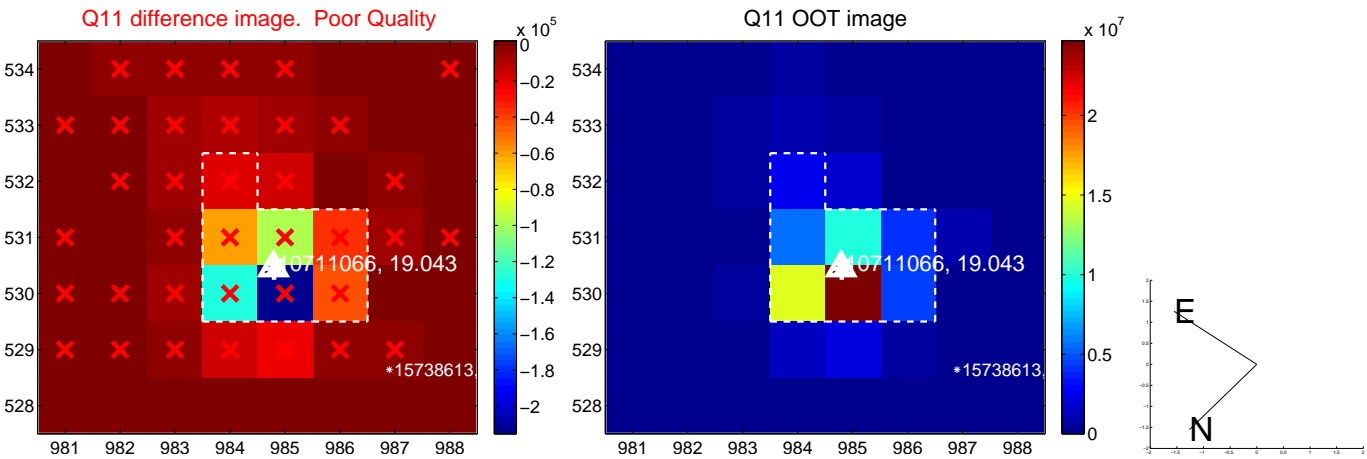
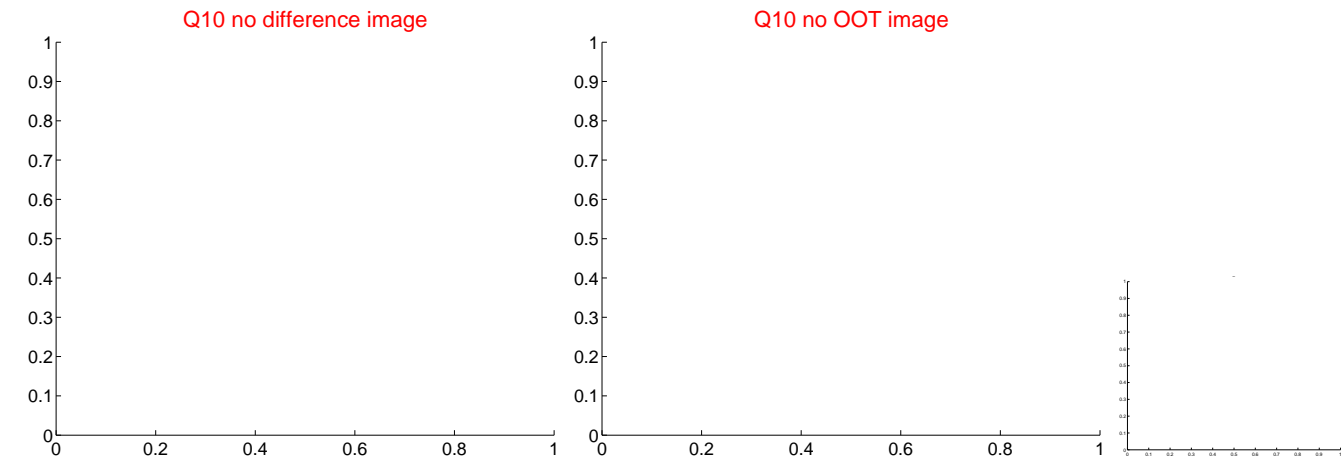
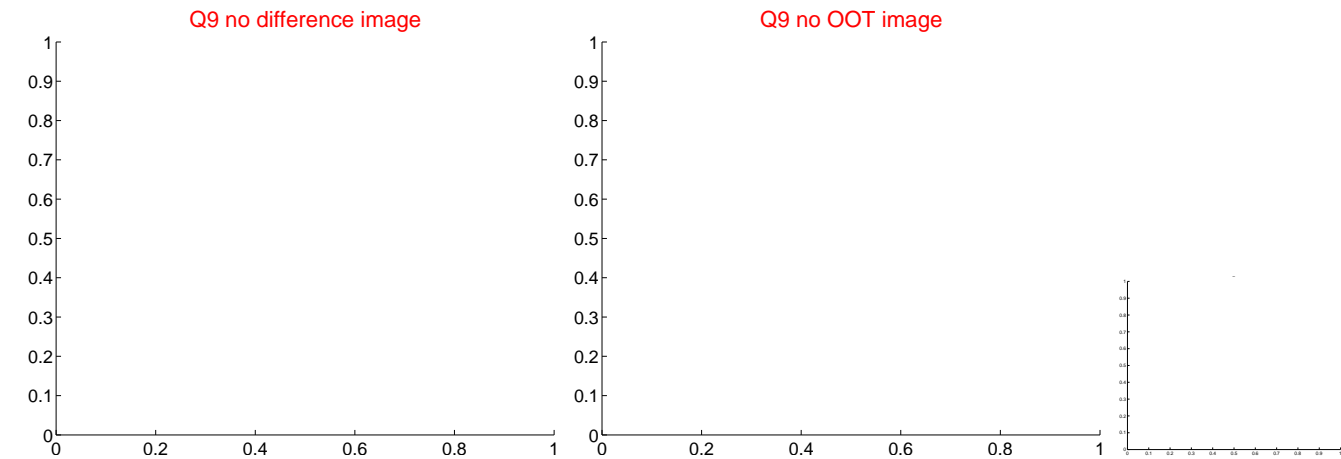


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





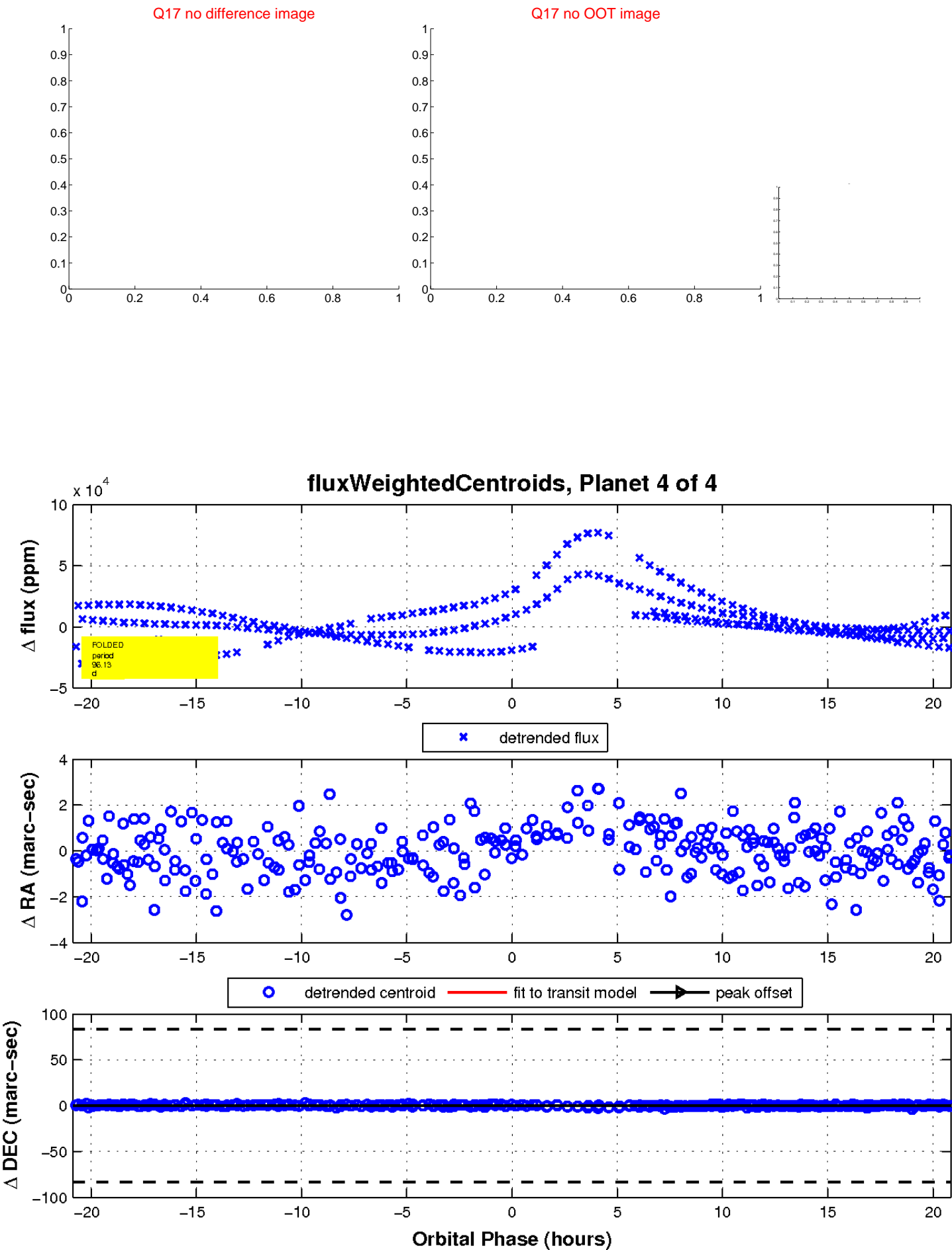
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

