

# KIC 010342097

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010342097-01	OBS	7314.01	0.933766	131.547897	47.7	6.903	10.1	4.0	5.34	5016	3.64	0.00
010342097-03	OBS	No	32.669706	140.384578	1496.4	7.066	11.8	10.7	5.34	5016	40.94	386.11
010342097-04	OBS	No	2.569225	132.191970	261.3	2.365	10.7	5.9	5.34	5016	10.53	11459.51
010342097-06	OBS	No	6.465403	133.878655	1010.5	1.480	11.6	11.3	5.34	5016	16.66	3347.92
010342097-07	OBS	No	2.426780	131.693563	364.3	1.716	7.8	6.1	5.34	5016	12.38	12365.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010342097-01	OBS	FP	0.00	0	0	1	1	PLANET_IN_STAR—HALO_GHOST—EPHEM_MATCH
010342097-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010342097-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010342097-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010342097-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS

**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.

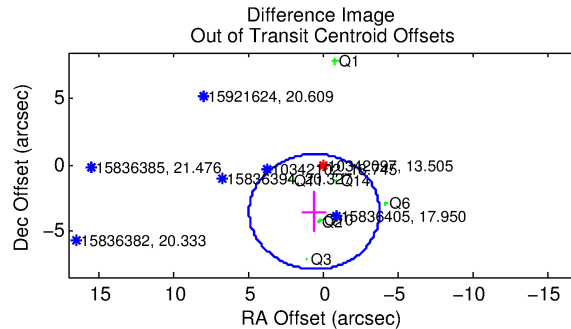
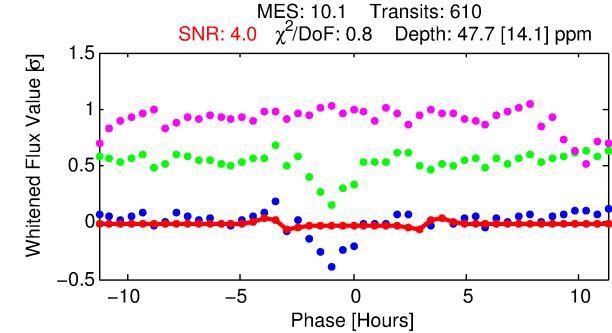
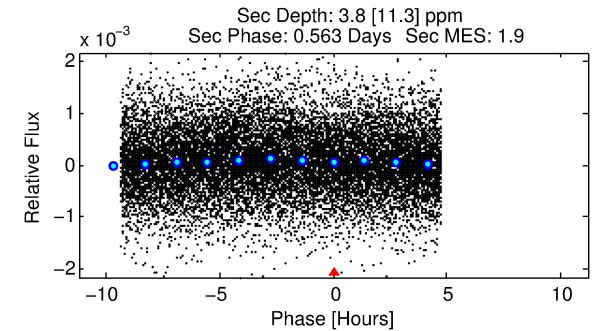
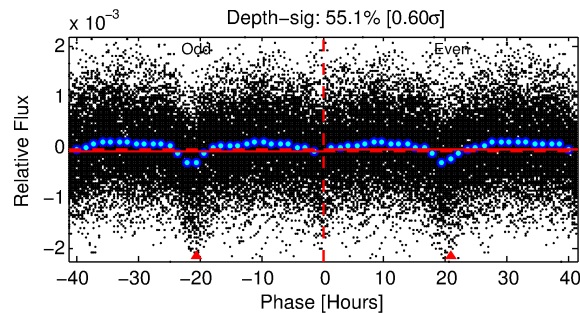
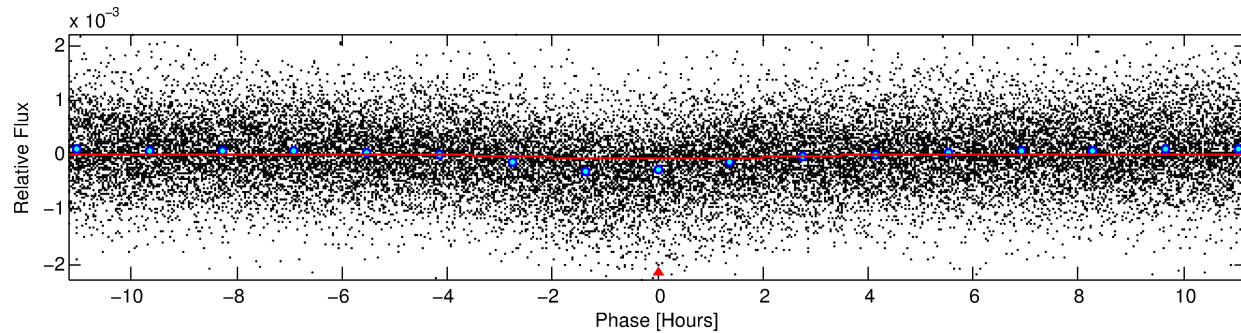
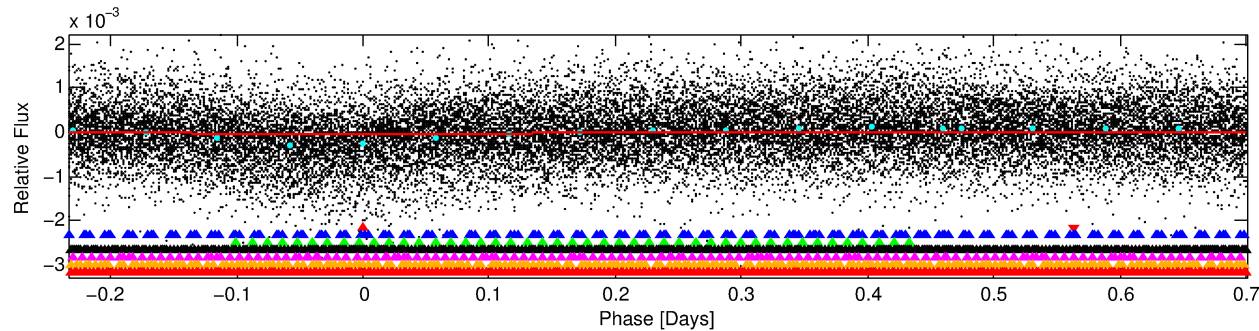
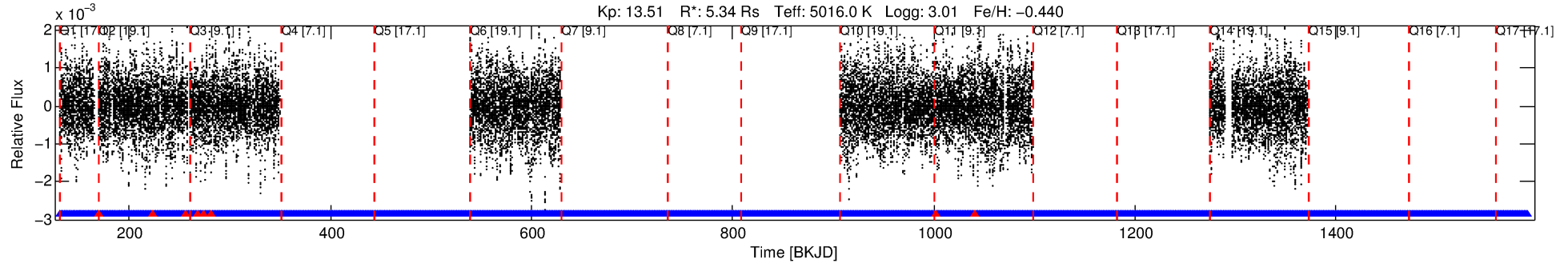
## Ephemeris Match Information For 010342097-01

TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist (″)	$\Delta$ Row	$\Delta$ Col	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	$\sigma_P$	$\sigma_T$
010342097-01	10342097	V2083-Cyg-pri	10342012	1:2	102.9	3	-25	6.90	13.50	4131.70	Direct-PRF	0	3.51	2.08

**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 10342097 Candidate: 1 of 7 Period: 0.934 d  
KOI: K07314.01 Corr: 0.825



## DV Fit Results:

Period = 0.93377 [0.00003] d  
Epoch = 131.5479 [0.0044] BKJD  
Rp/R\* = 0.0062 [0.0052]  
a/R\* = 1.21 [1.21]  
b = 0.29 [10.41]  
Seff = N/A  
Teq = N/A  
Rp = 3.64 [3.44] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

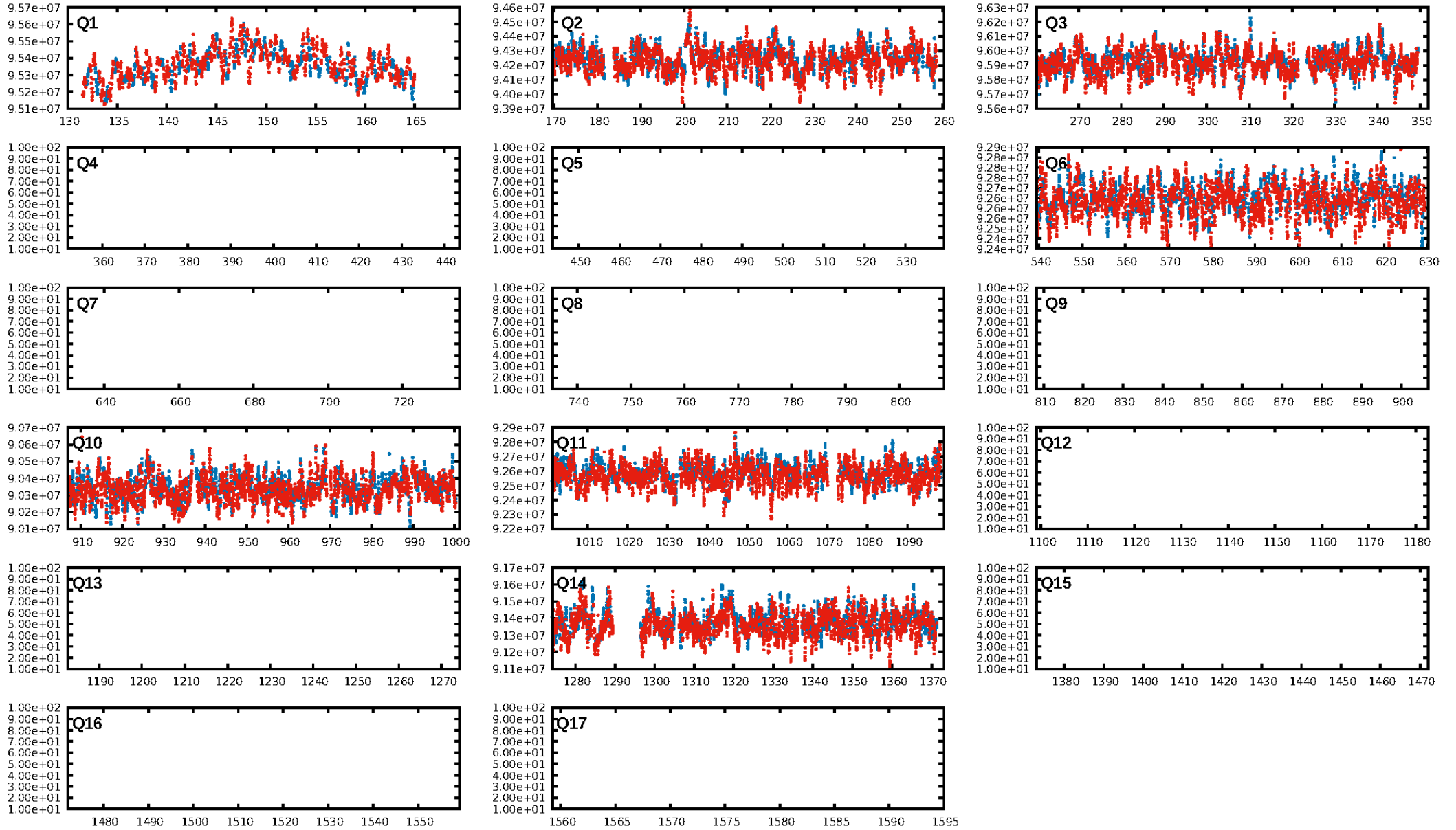
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [5.04 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.89e-07  
RollingBand-fgt: 0.99 [566/574]  
GhostDiagnostic-chr: -0.07618  
Centroid-sig: 0.0%  
Centroid-so: 2.665 arcsec [4.95 $\sigma$ ]  
OotOffset-rm: 3.607 arcsec [2.48 $\sigma$ ]  
KicOffset-rm: 3.784 arcsec [2.05 $\sigma$ ]  
OotOffset-st: 4/2/0/1 [7]  
KicOffset-st: 4/2/0/1 [7]  
DiffImageQuality-fgm: 0.29 [2/7]  
DiffImageOverlap-fno: 1.00 [7/7]

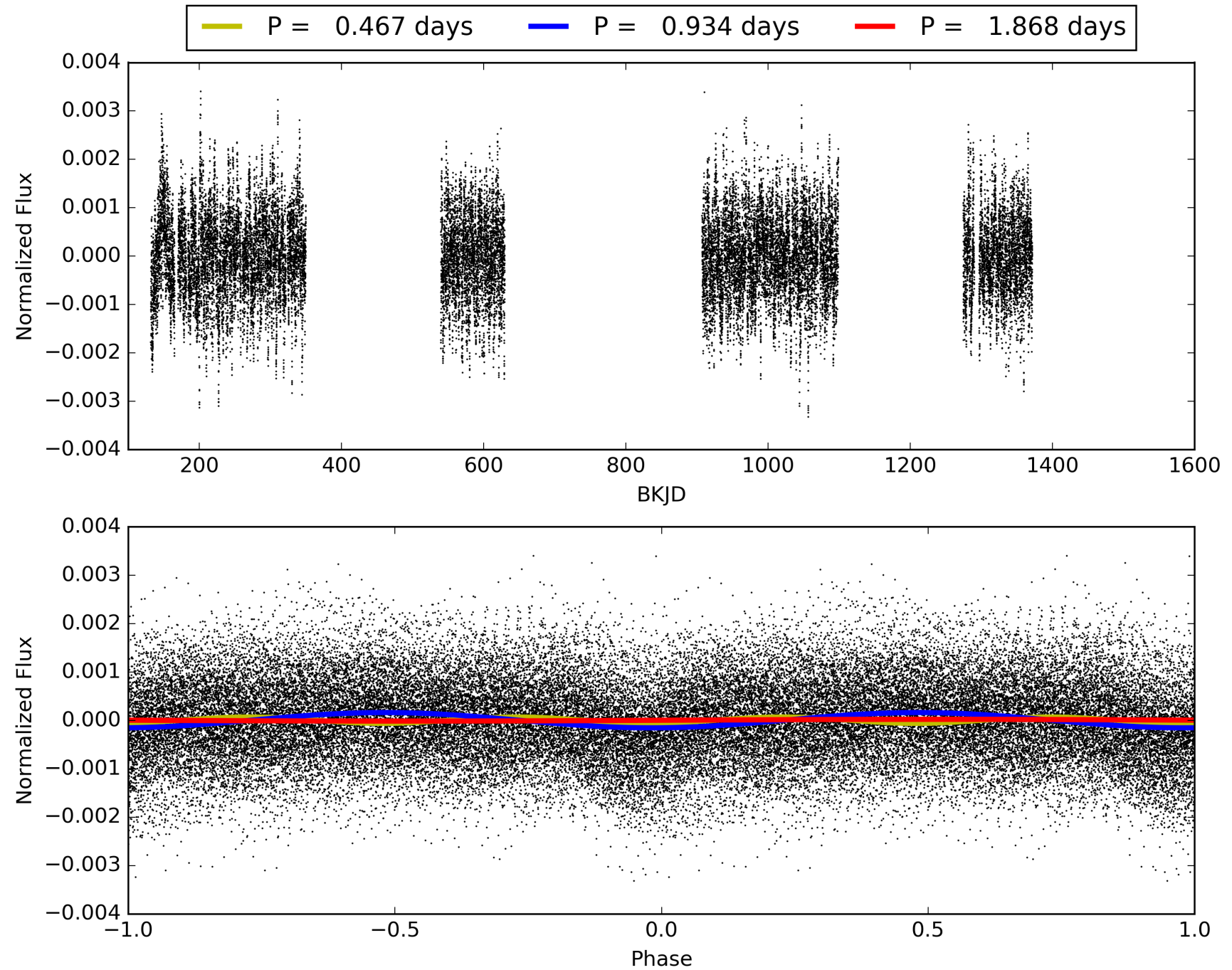
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:56:38 Z

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

# TCE 010342097-01, PDC Light Curves



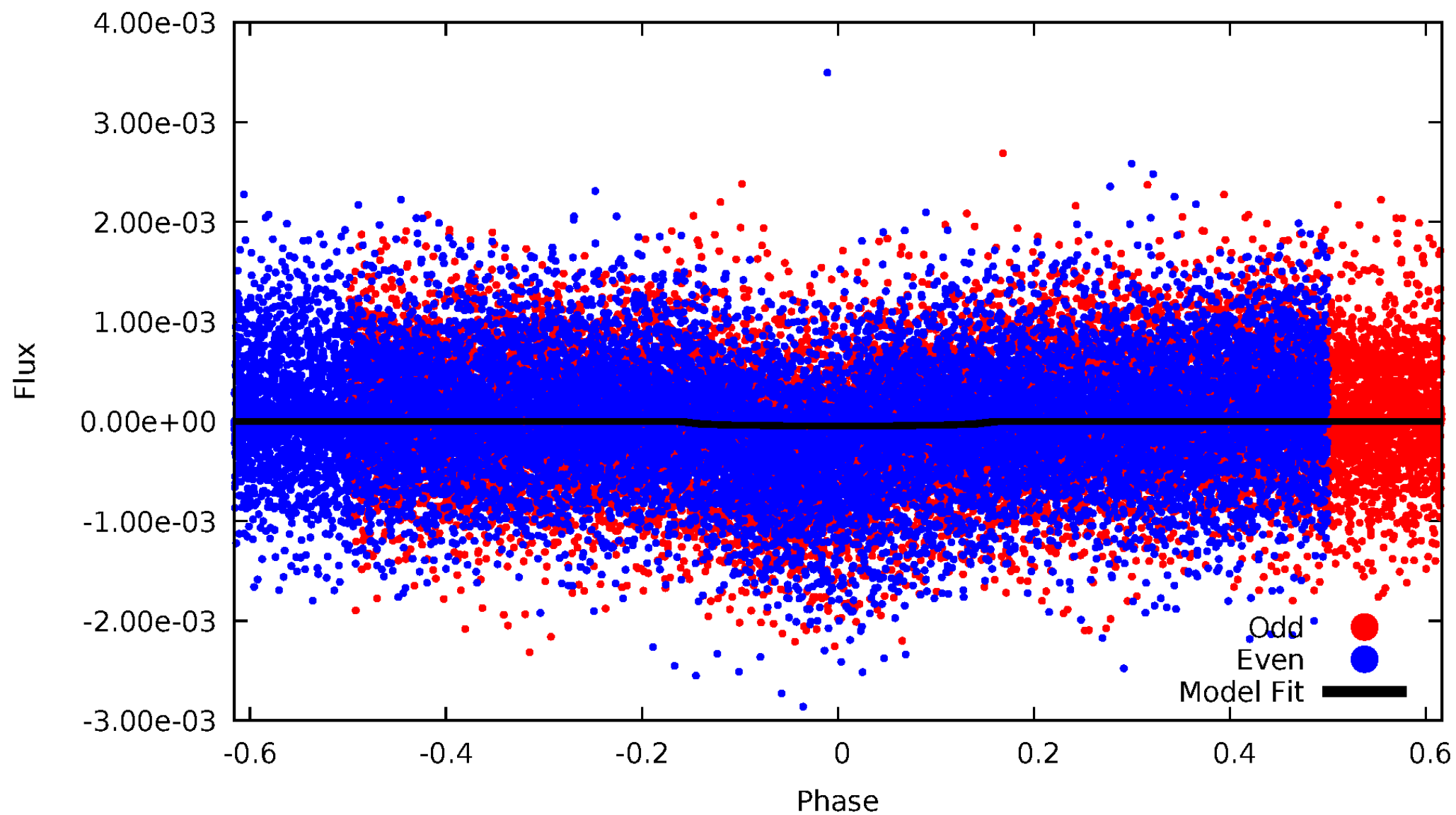
# TCE 010342097-01





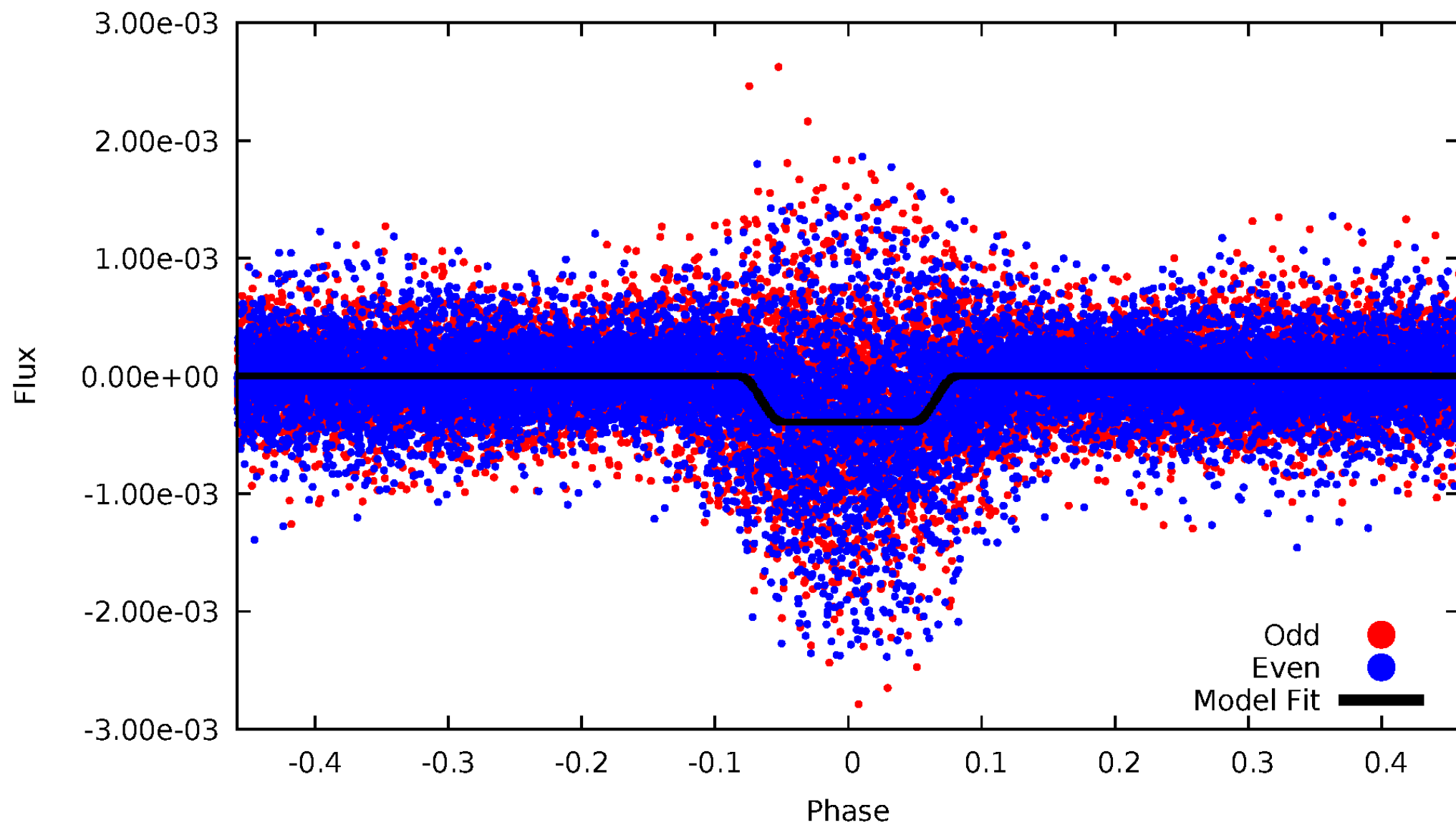
# DV Odd/Even

TCE 010342097-01

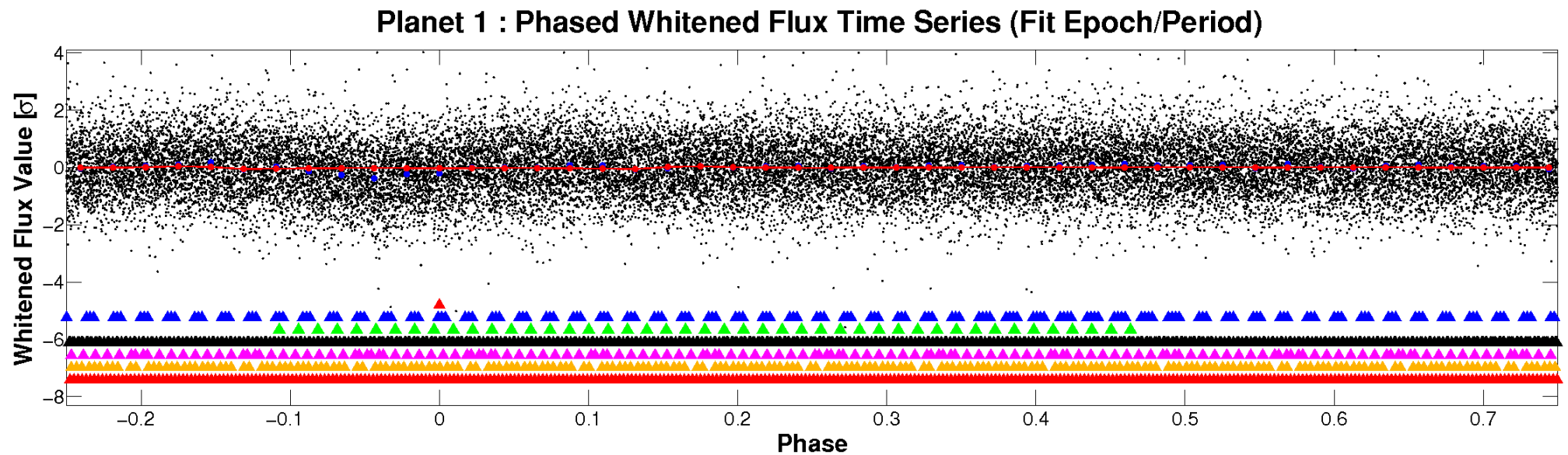
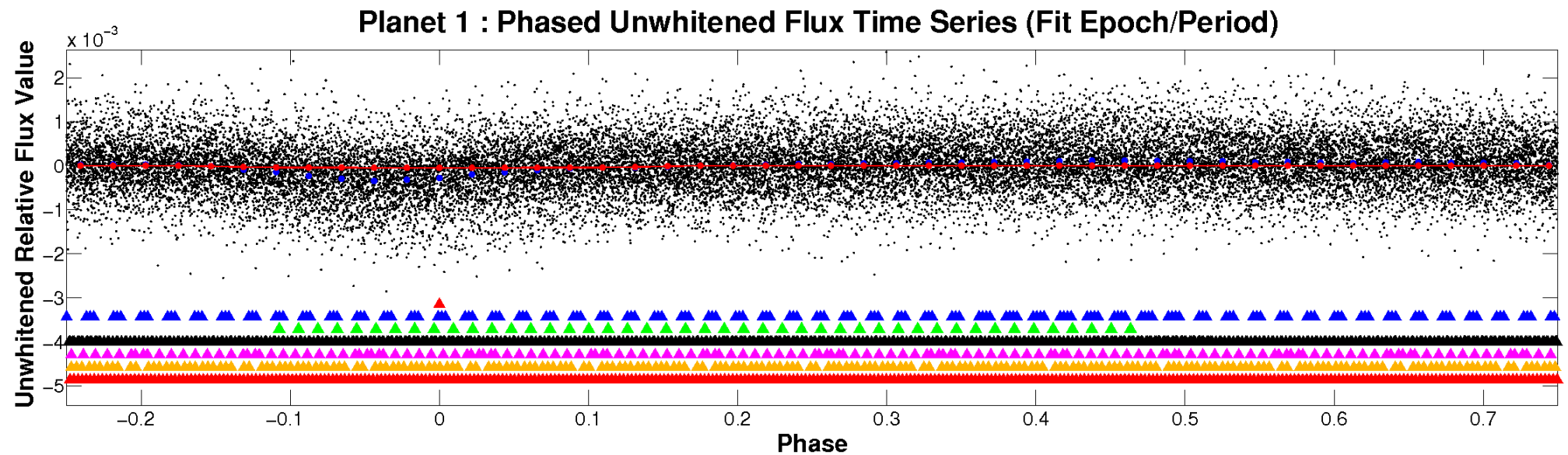


# ALT Odd/Even

TCE 010342097-01

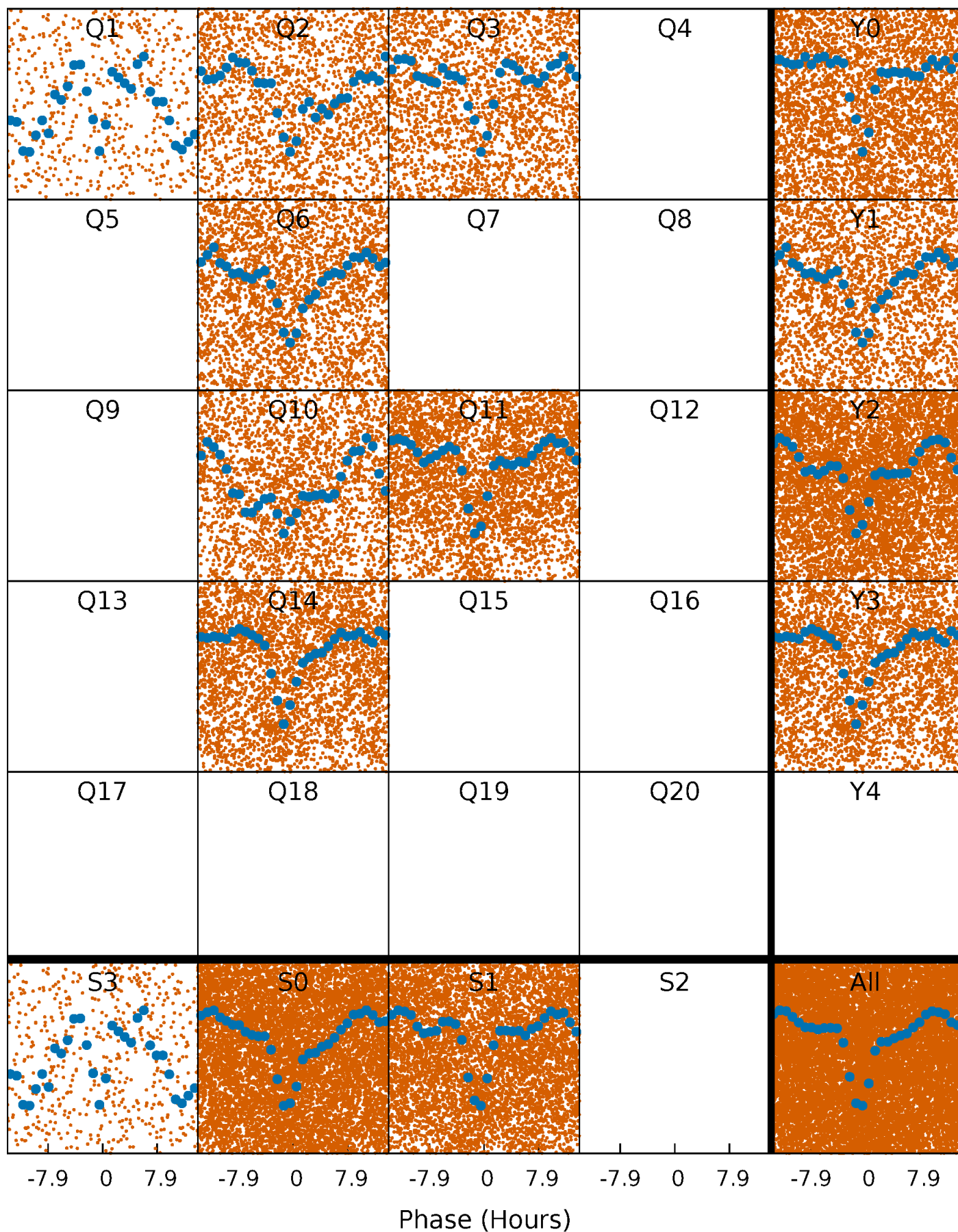


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

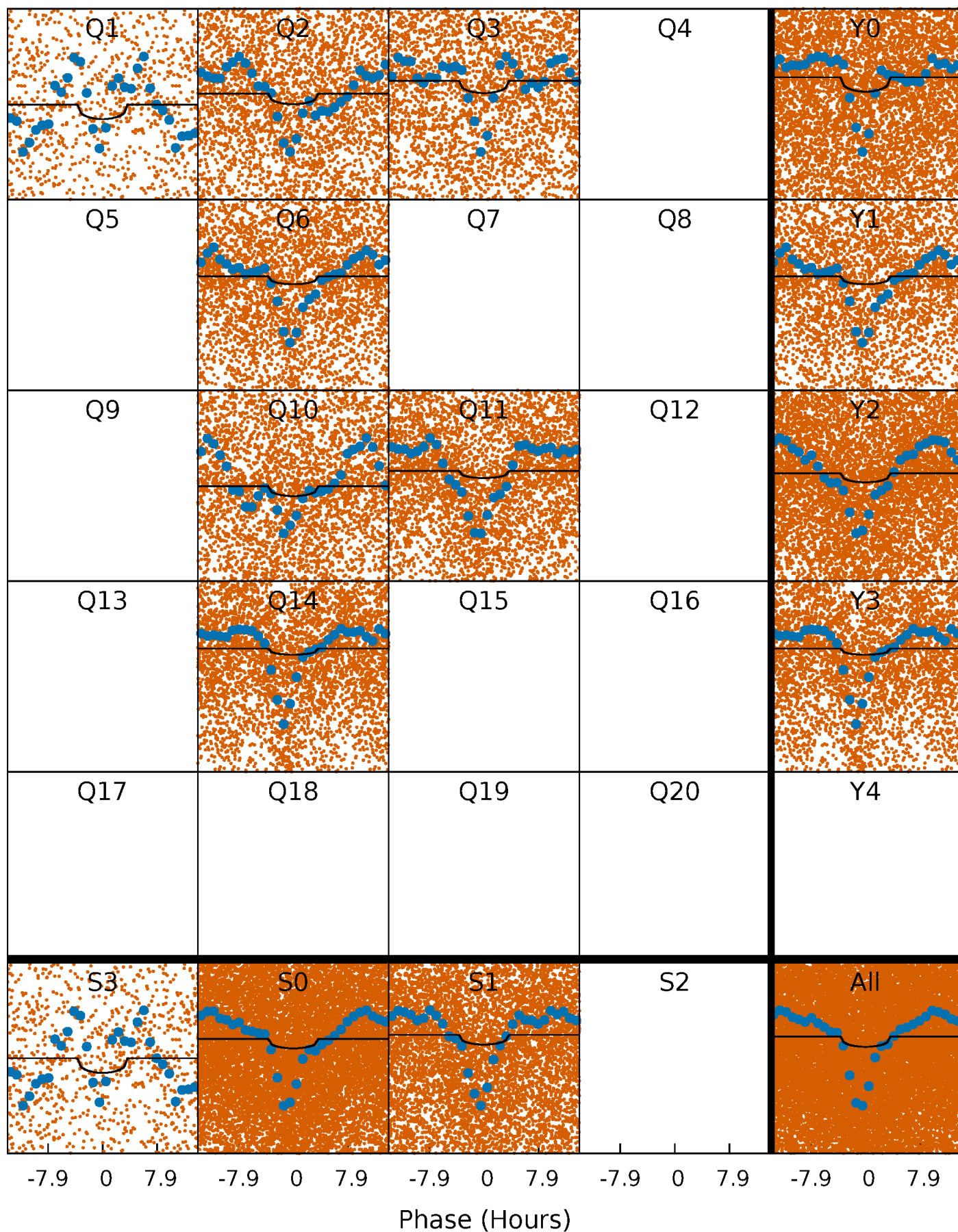
TCE 010342097-01   P= 0.933766 Days    $T_0=131.547897$  (BKJD)





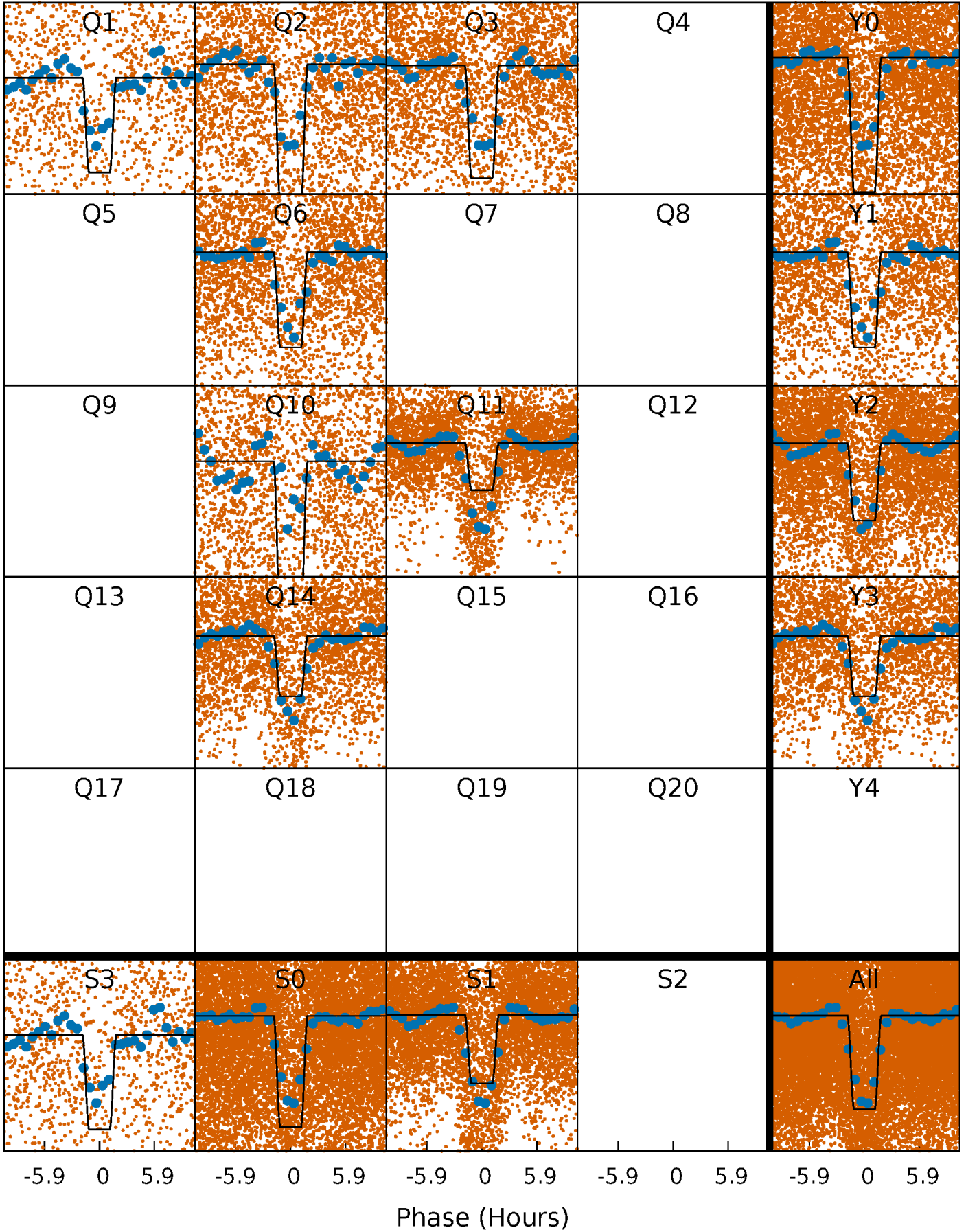
# DV Quarter-Phased Transit Curves

TCE 010342097-01   P= 0.933766 Days    $T_0=131.547897$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

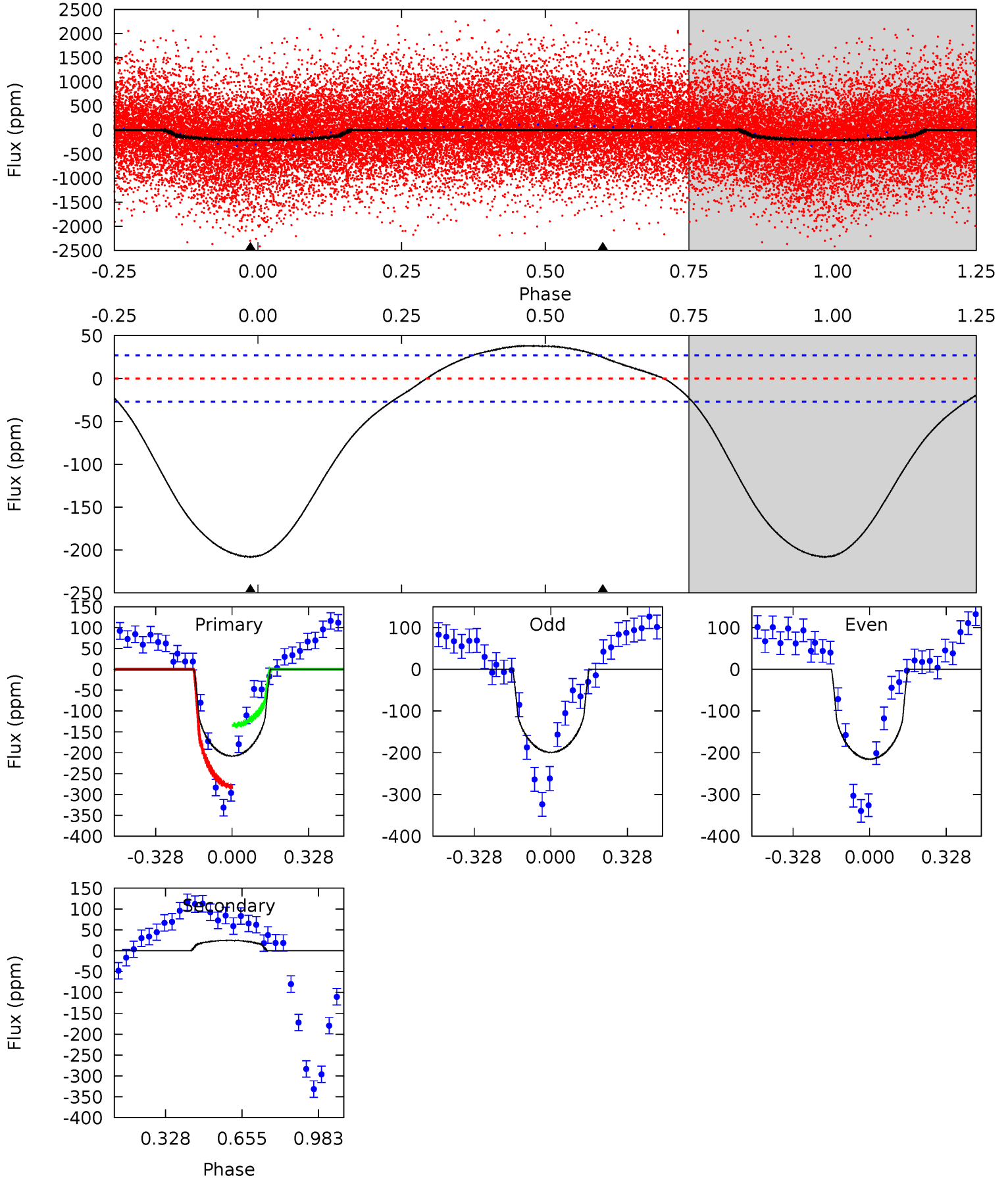
TCE 010342097-01   P= 0.933740 Days    $T_0=131.528012$  (BKJD)



# DV Model-Shift Uniqueness Test

010342097-01, P = 0.933766 Days, E = 130.614131 Days

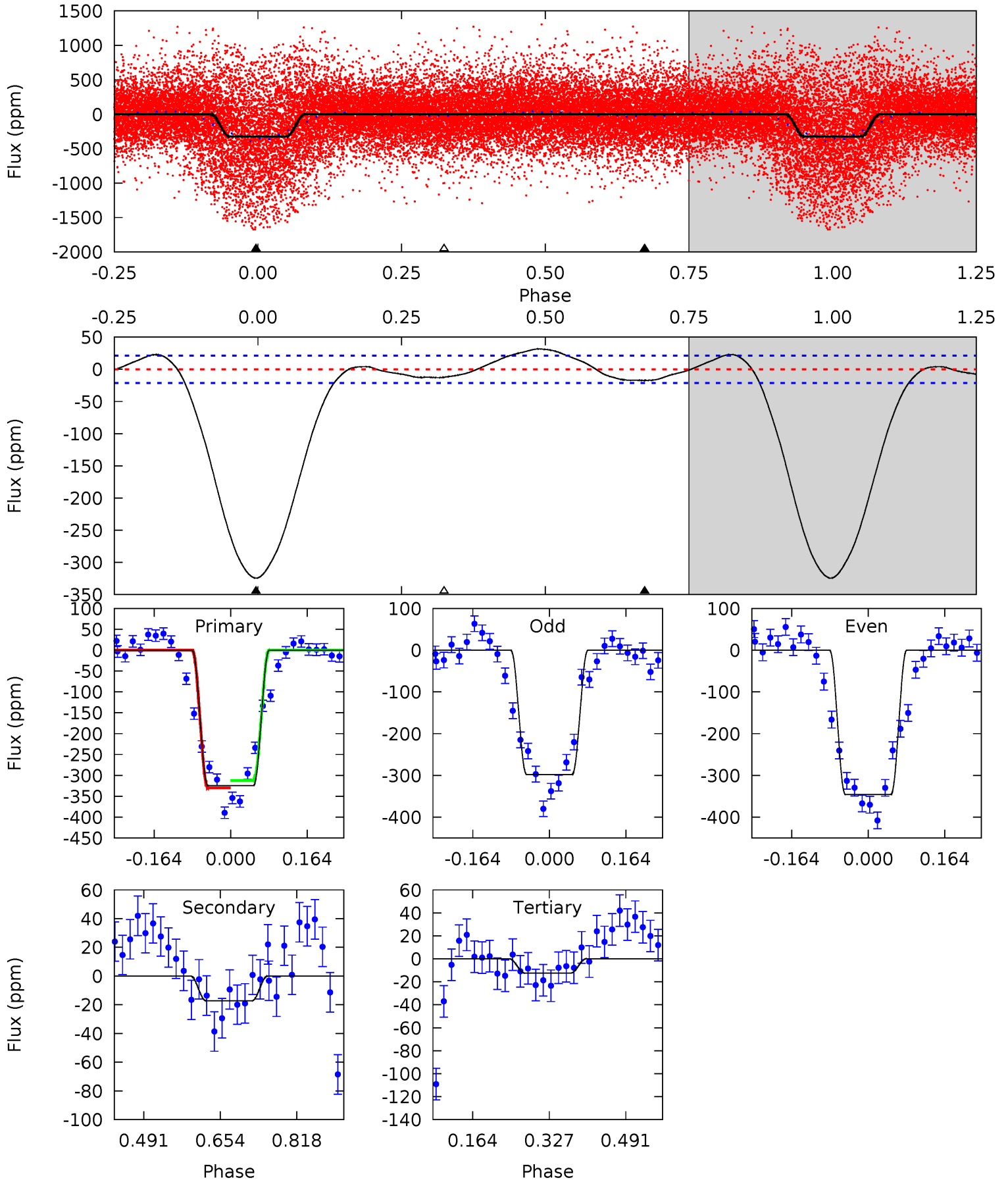
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.0	-3.91	0	0	4.31	0.98	1.97	33.0	33.0	-3.91	-3.91	1.28	1.18	0.15	11.3



# Alt Model-Shift Uniqueness Test

010342097-01, P = 0.933740 Days, E = 130.594272 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
68.1	3.63	2.59	0	4.46	1.39	3.13	65.6	68.1	1.04	3.63	5.05	1.04	0.09	1.91





### Stellar Parameters For KIC 010342097

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5016^{+125}_{-113}$	$3.013^{+0.396}_{-0.264}$	$-0.440^{+0.250}_{-0.250}$	$5.344^{+2.449}_{-2.004}$	$1.072^{+0.294}_{-0.158}$	$0.010^{+0.028}_{-0.006}$
	+2%/-2%	+13%/-9%	+57%/-57%	+46%/-38%	+27%/-15%	+279%/-64%
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 010342097-01 / KOI 7314.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$25 \pm 6$	$3.89^{+3.20}_{-2.22}$	$5126^{+632}_{-597}$	$-5134^{+572}_{-1610}$	$-0.342^{+0.247}_{-1.522}$
Alt.	$-17 \pm 5$	$11.19^{+4.65}_{-3.68}$	$5144^{+599}_{-549}$	$-4260^{+407}_{-423}$	$0.027^{+0.036}_{-0.014}$

$T_{max}$  = 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

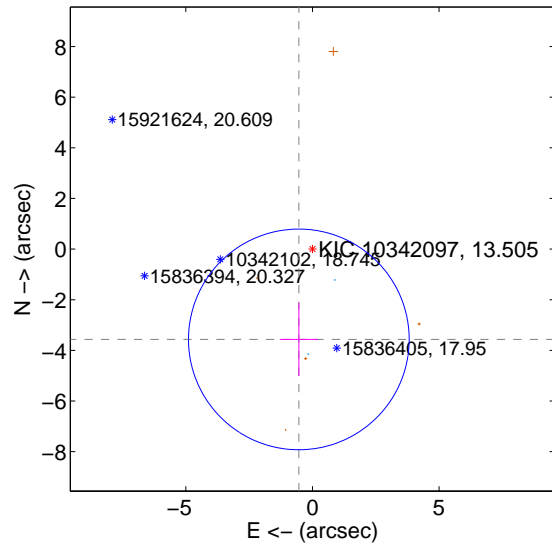
Supplemental centroid analysis for 010342097-01. Kepler magnitude: 13.51. Transit SNR 3.96

There are 2 quarters with good PRF difference image offsets

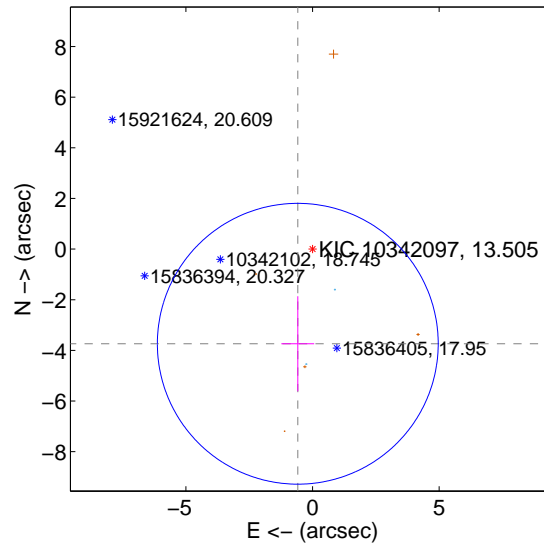
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.607 \pm 1.453$	2.48	$0.537 \pm 0.756$	$-3.567 \pm 1.446$
PRF-fit source offset from KIC position	$3.784 \pm 1.849$	2.05	$0.582 \pm 0.650$	$-3.739 \pm 1.876$
photometric centroid source offset	$2.67 \pm 0.54$	4.95	$-0.62 \pm 0.59$	$-2.59 \pm 0.53$

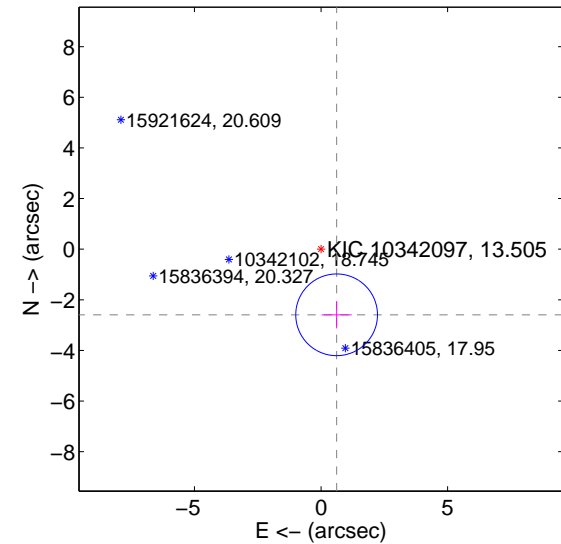
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

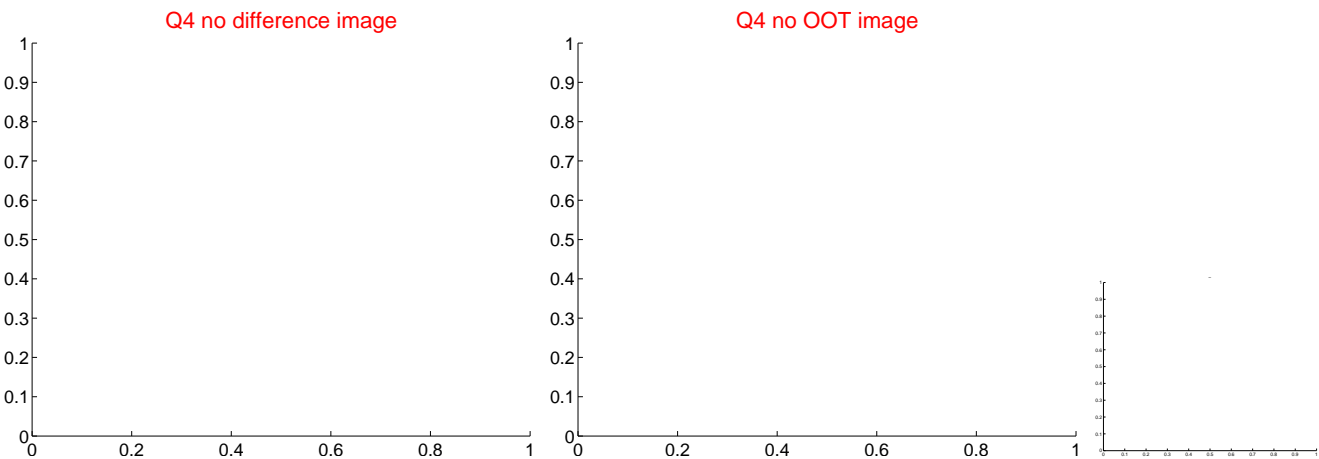
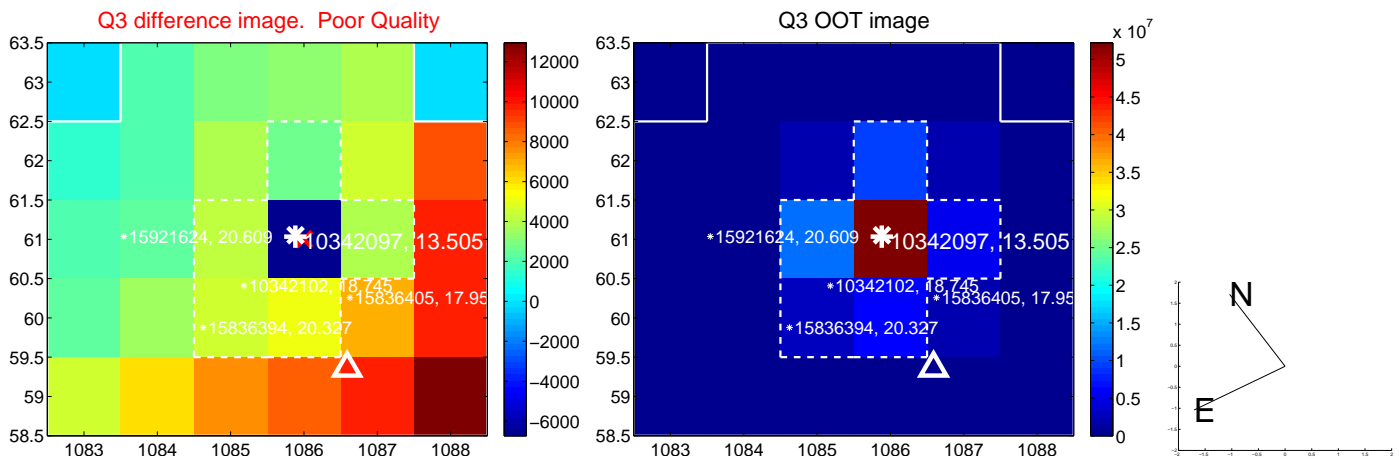
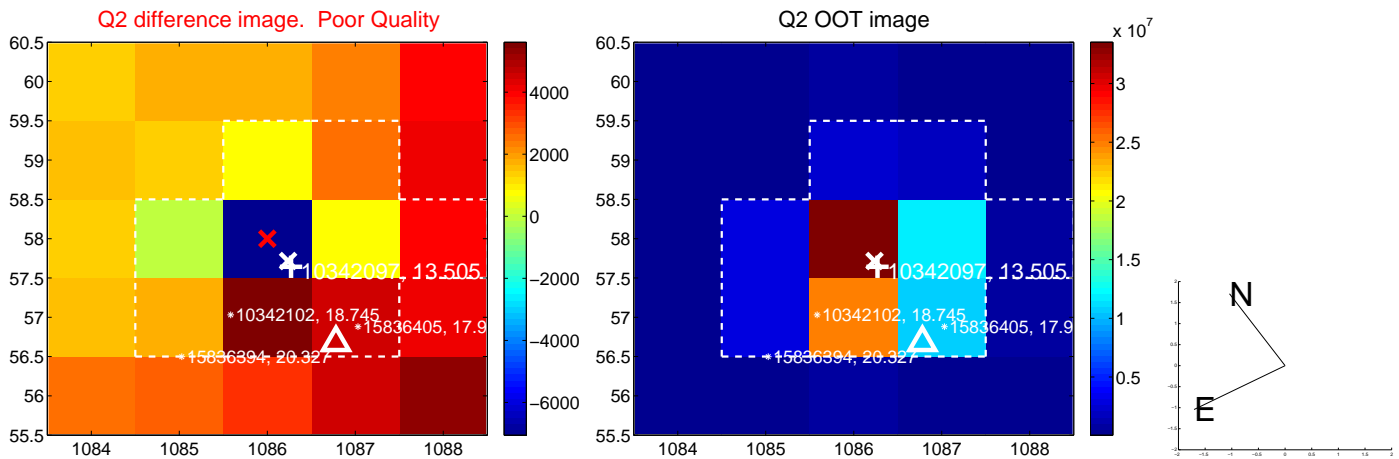
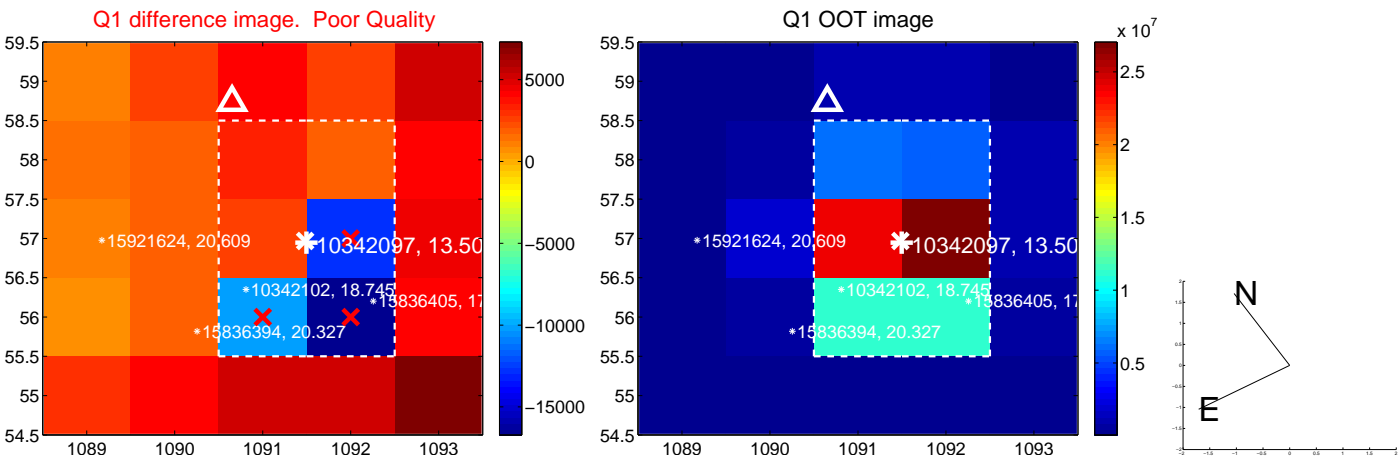


offset from photometric centroids

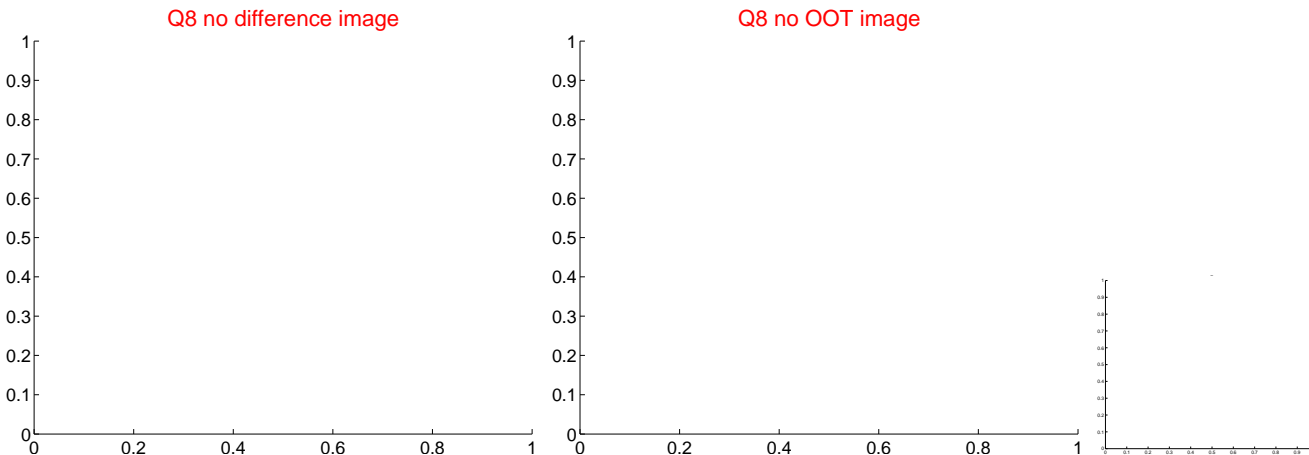
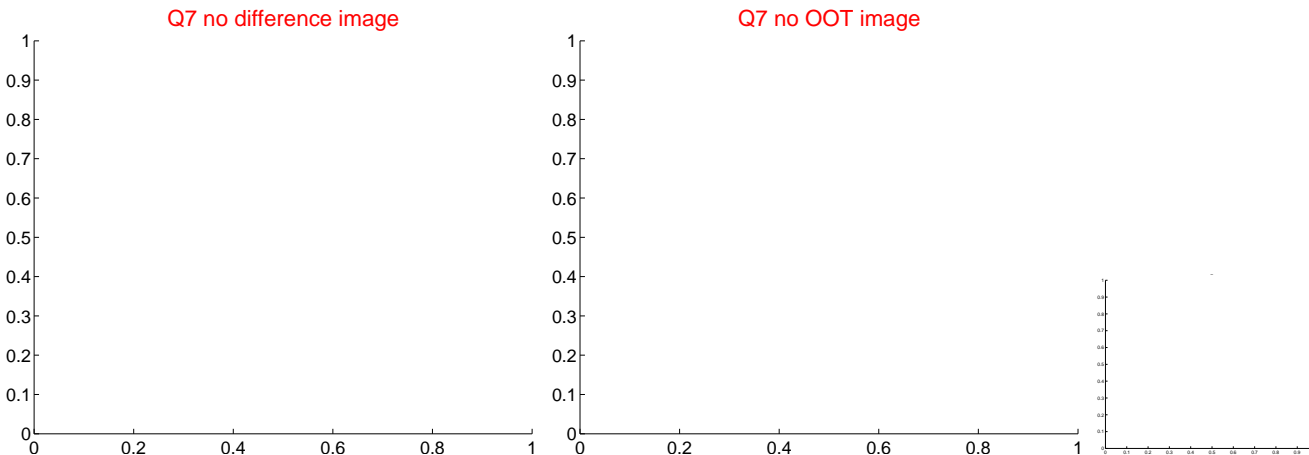
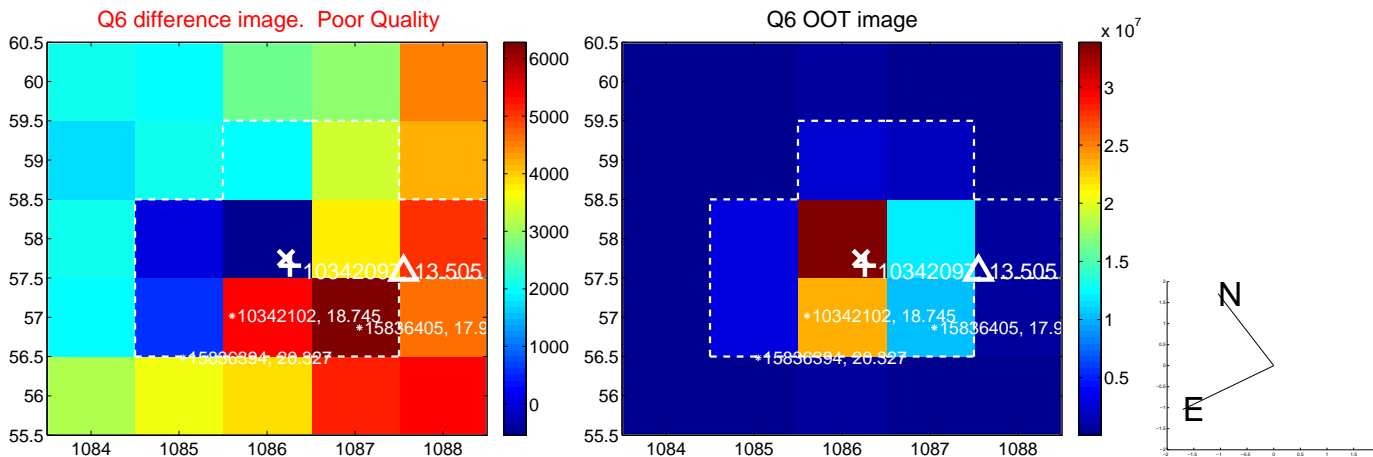
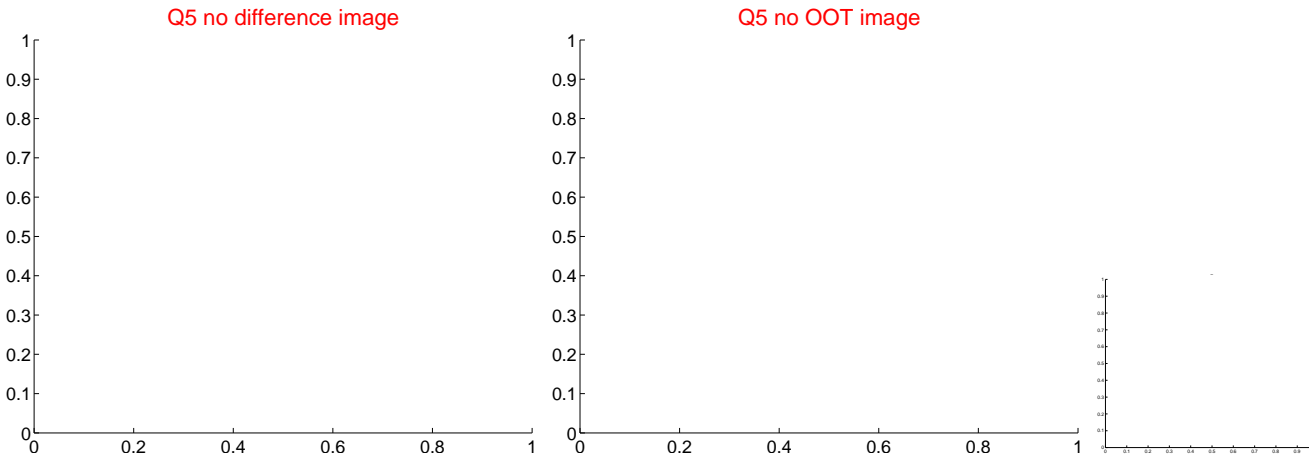


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

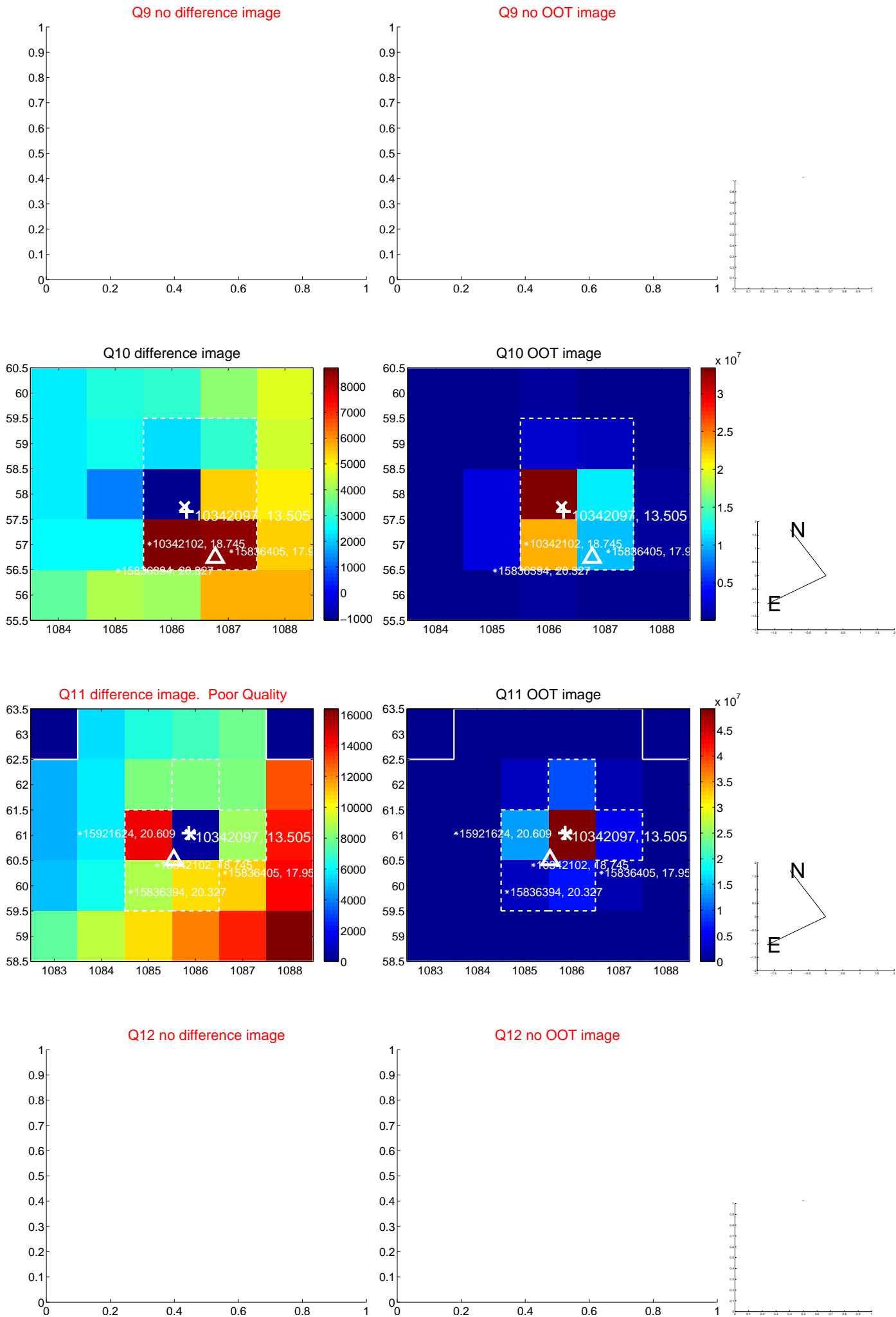


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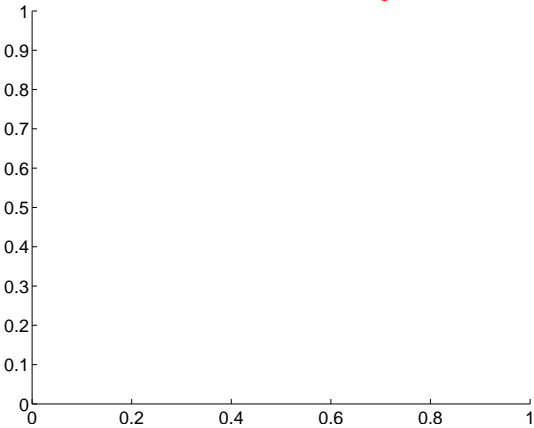


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

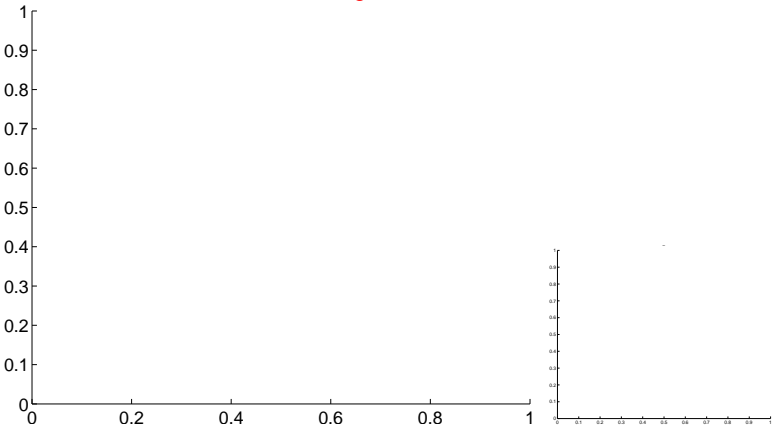


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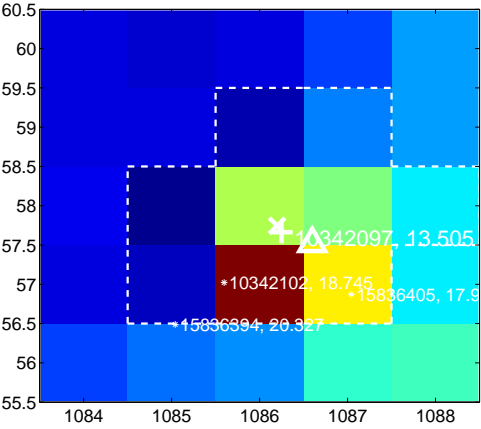
Q13 no difference image



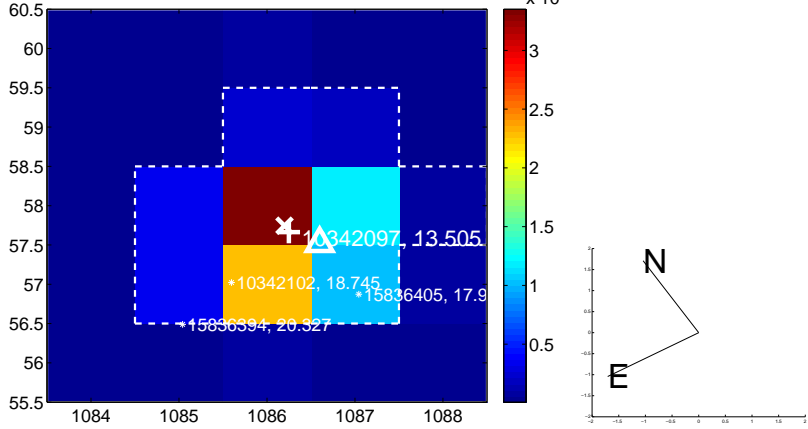
Q13 no OOT image



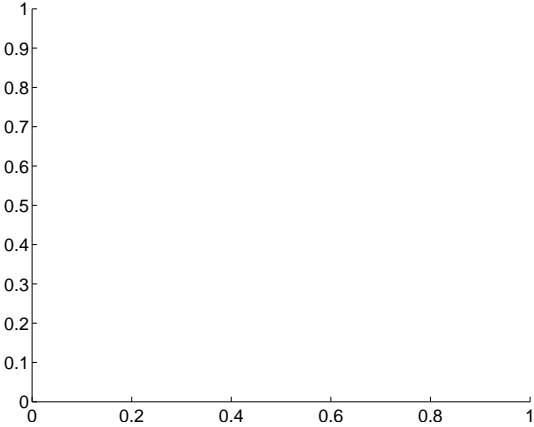
Q14 difference image



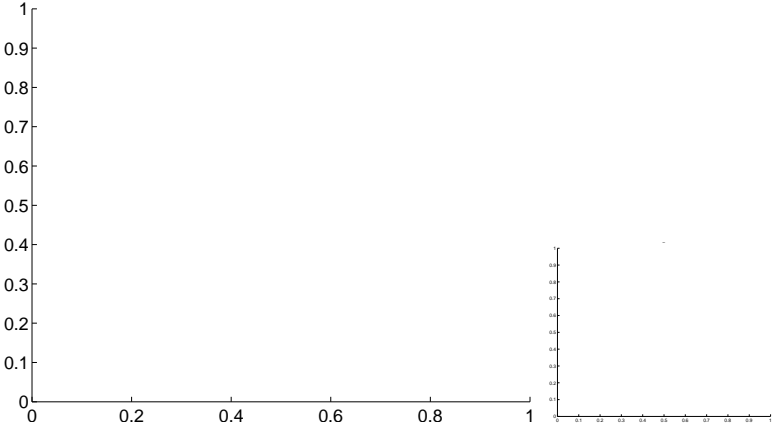
Q14 OOT image



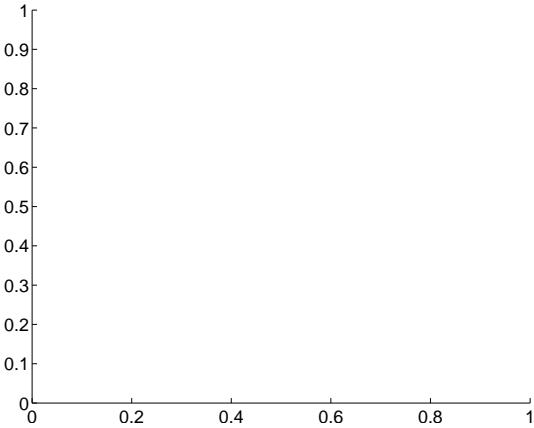
Q15 no difference image



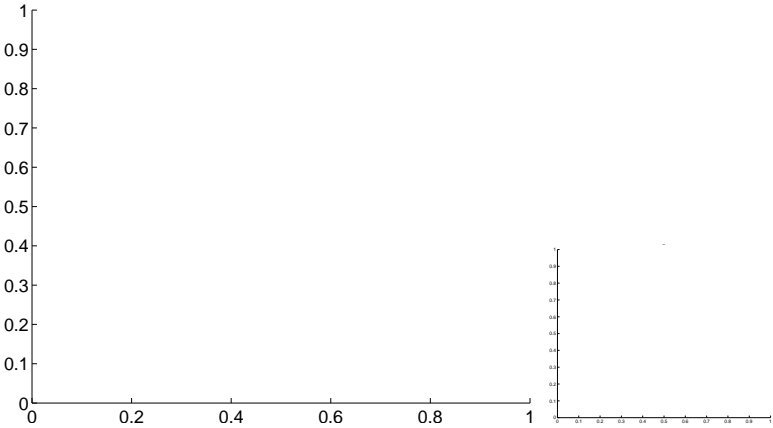
Q15 no OOT image



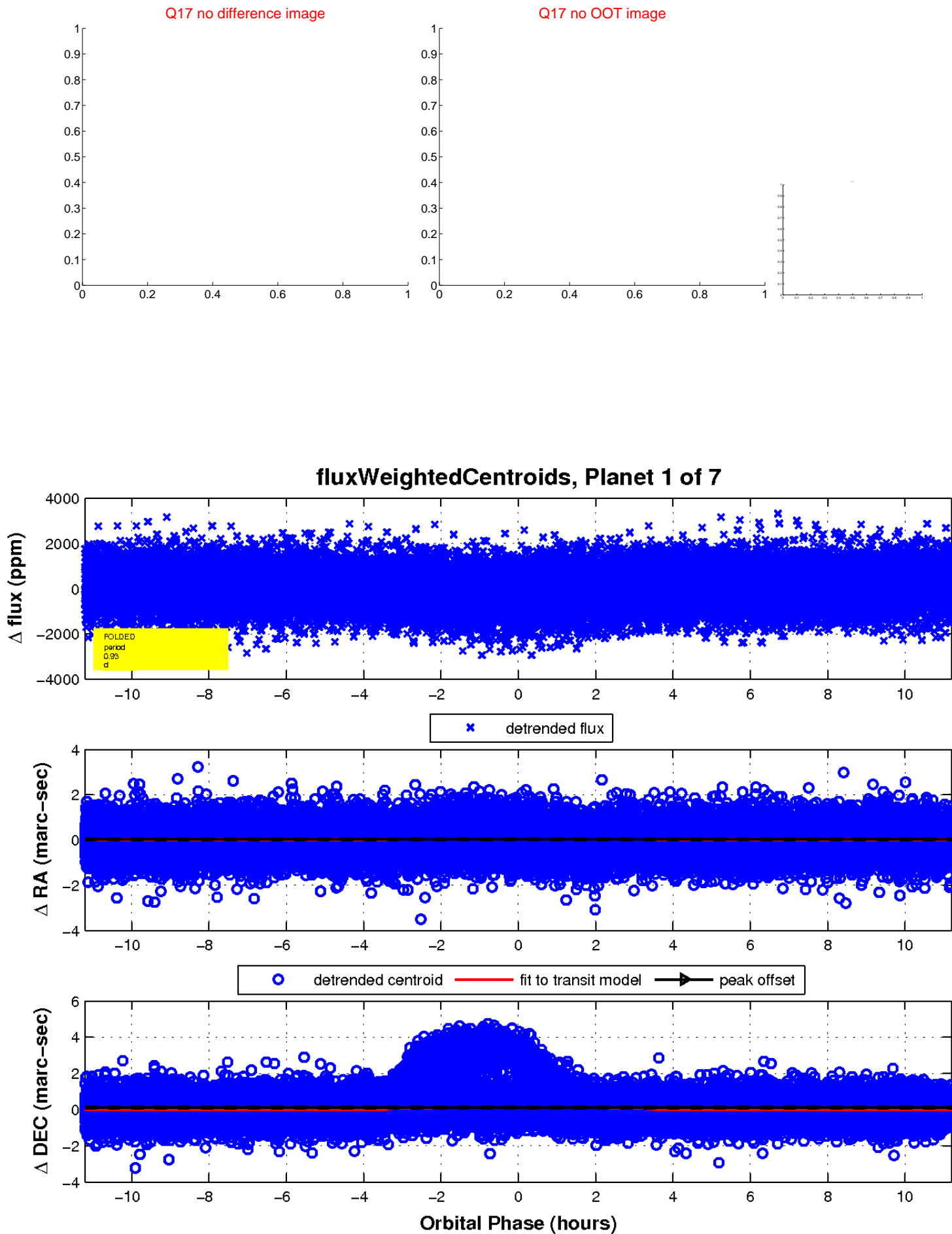
Q16 no difference image



Q16 no OOT image

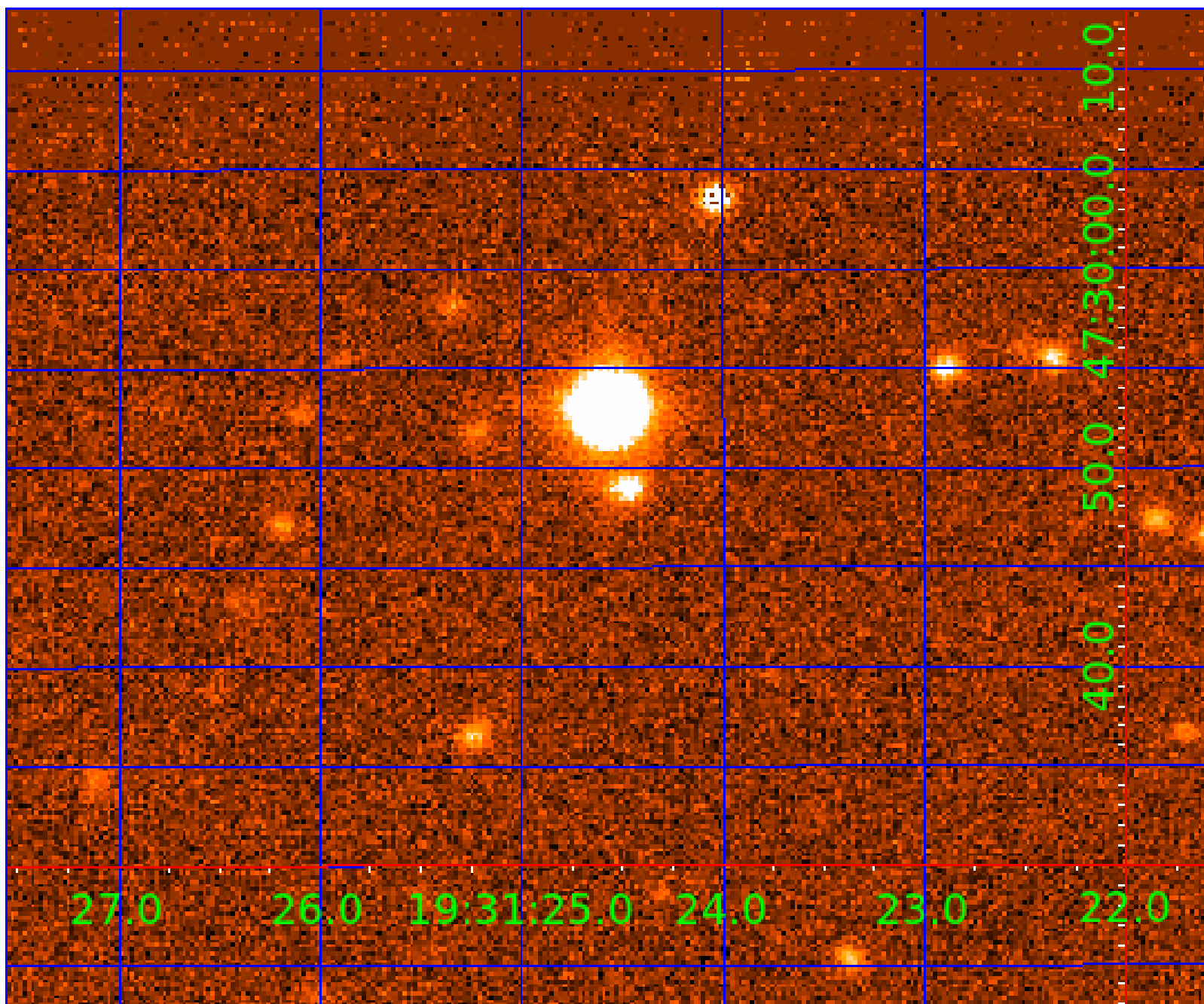


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# UKIRT Image

Declination





# KIC 010342097

## Q1-17 DR25 TCE Parameters

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010342097-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
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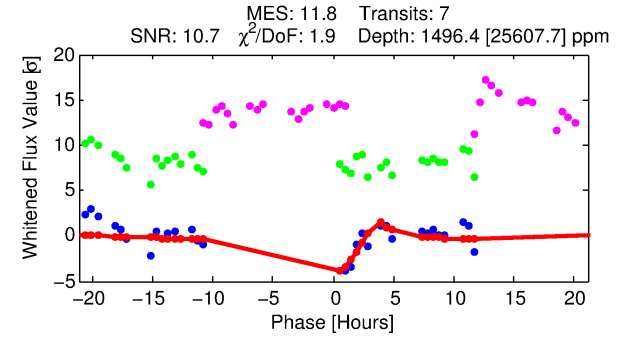
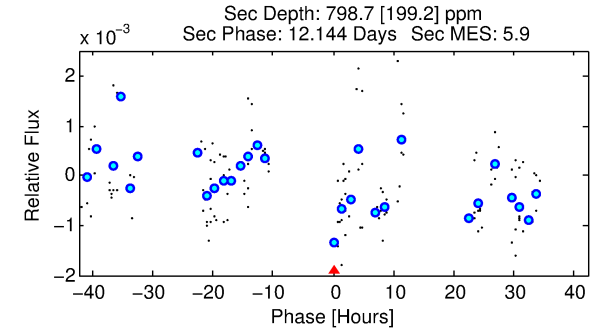
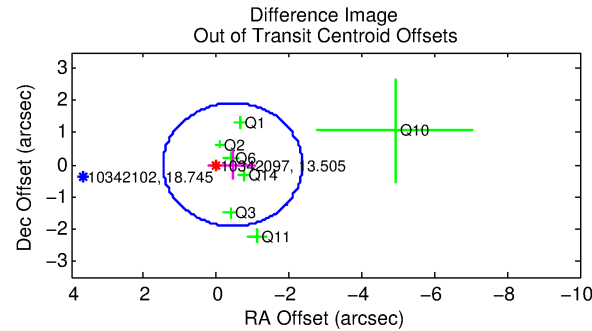
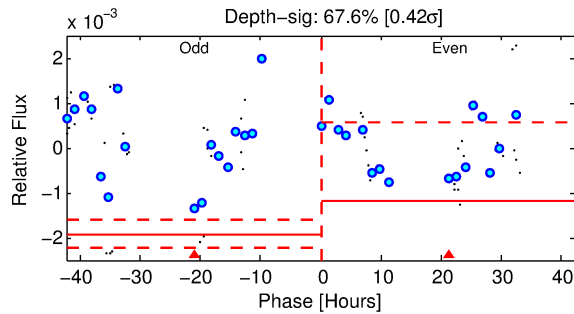
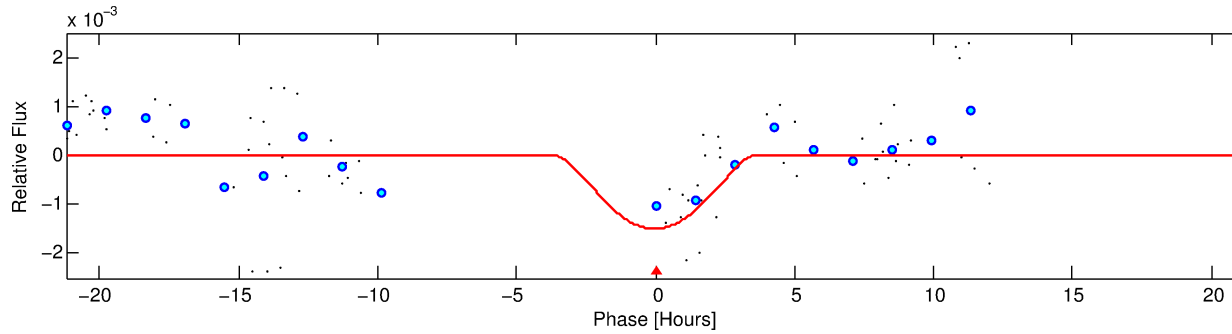
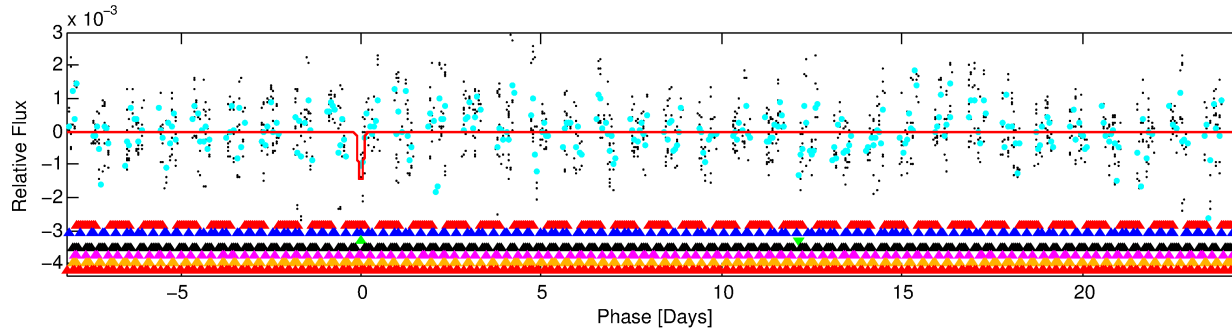
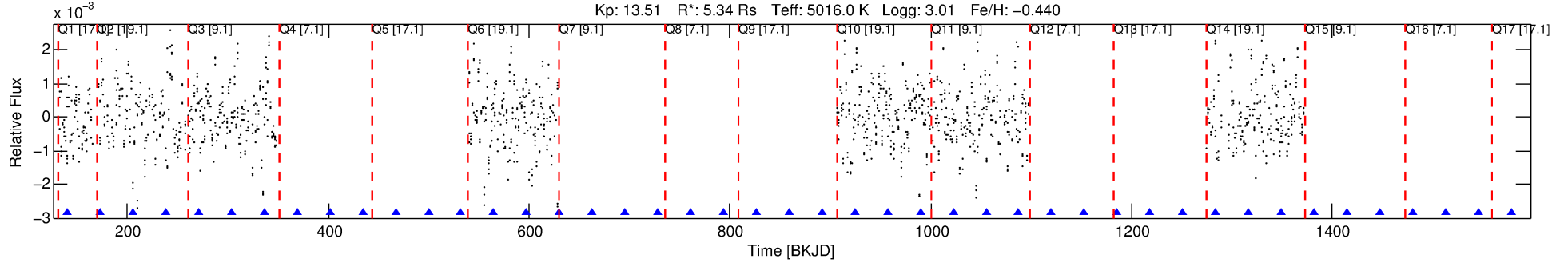
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010342097-03

No Significant Match Found

# DV One-Page Summary

KIC: 10342097 Candidate: 3 of 7 Period: 32.670 d  
KOI: K07314 Corr: No Ephemeris Match



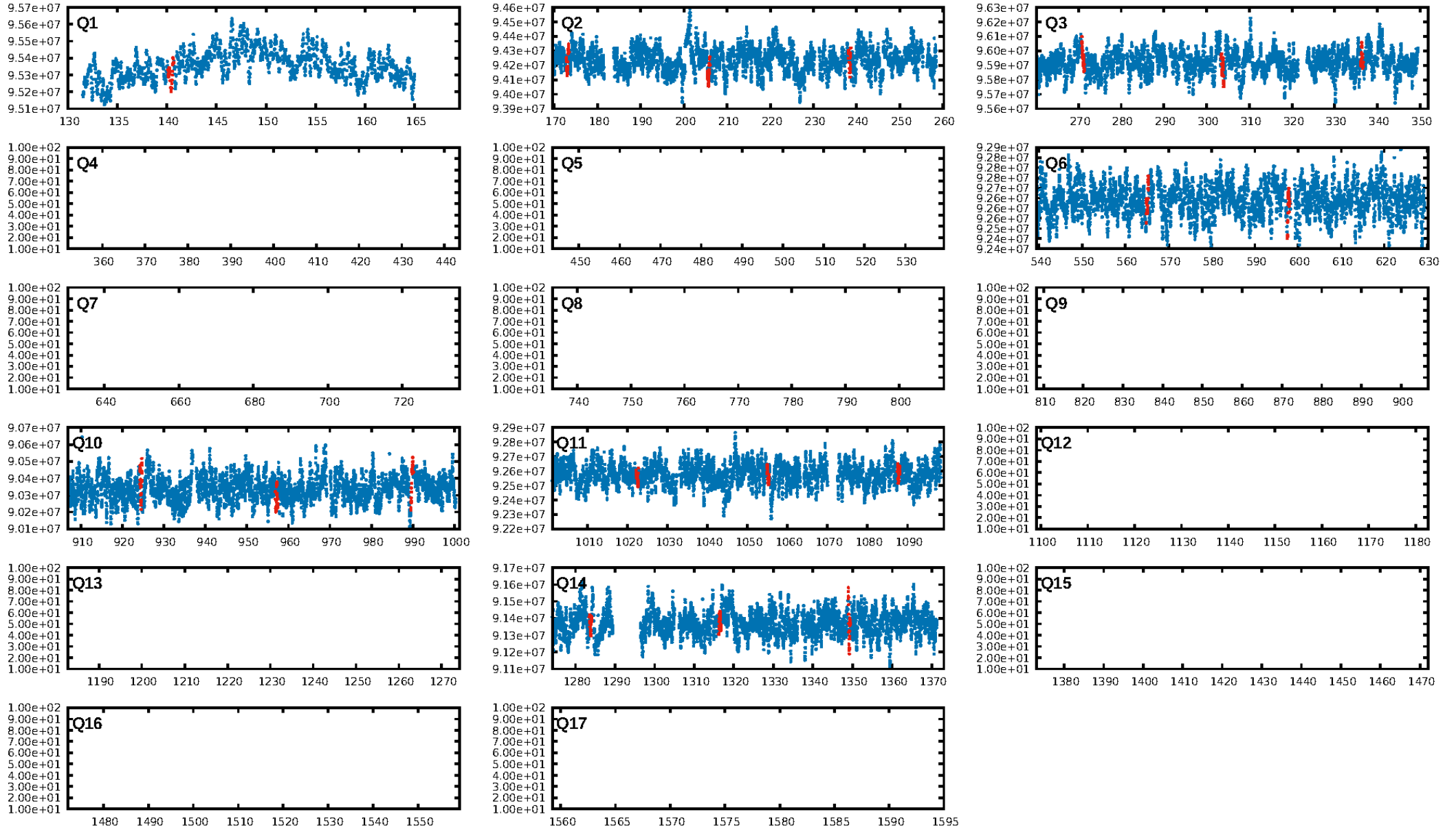
## DV Fit Results:

Period = 32.66971 [0.00373] d  
Epoch = 140.3846 [0.0605] BKJD  
Rp/R\* = 0.0702 [0.5019]  
a/R\* = 13.50 [18.91]  
b = 1.00 [1.50]  
Seff = 386.11 [265.49]  
Teq = 1130 [194] K  
Rp = 40.94 [293.28] Re  
a = 0.2048 [0.0883] AU  
Ag = 11.00 [157.49] [0.06 $\sigma$ ]  
Teffp = 3183 [11379] K [0.18 $\sigma$ ]

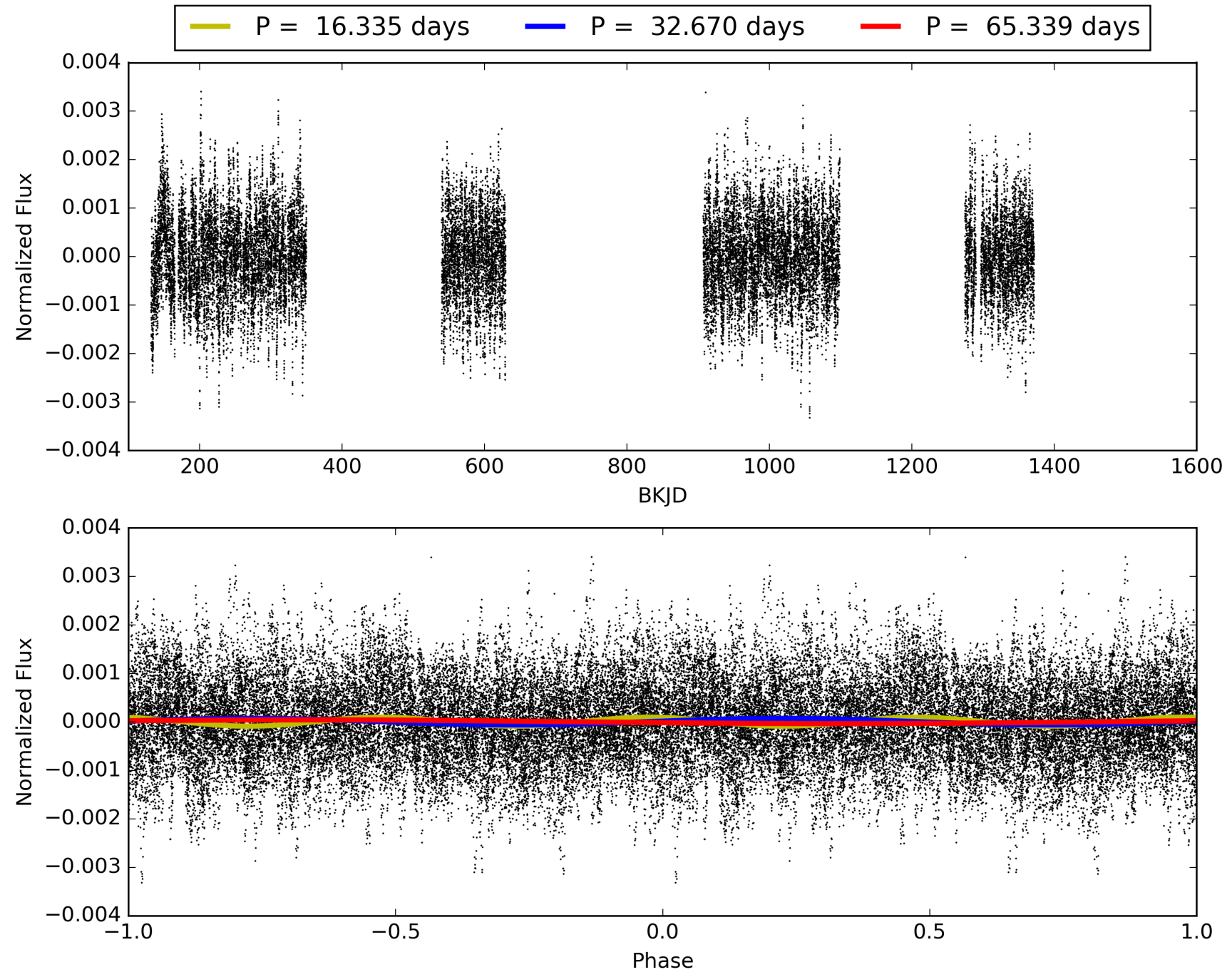
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [52.50 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 6.32e-29  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: -0.01599  
Centroid-sig: 9.6%  
Centroid-so: 0.113 arcsec [0.83 $\sigma$ ]  
OotOffset-rm: 0.445 arcsec [0.70 $\sigma$ ]  
KicOffset-rm: 0.499 arcsec [1.05 $\sigma$ ]  
OotOffset-st: 4/2/0/1 [7]  
KicOffset-st: 4/2/0/1 [7]  
DiffImageQuality-fgm: 0.57 [4/7]  
DiffImageOverlap-fno: 0.00 [0/7]

# TCE 010342097-03, PDC Light Curves

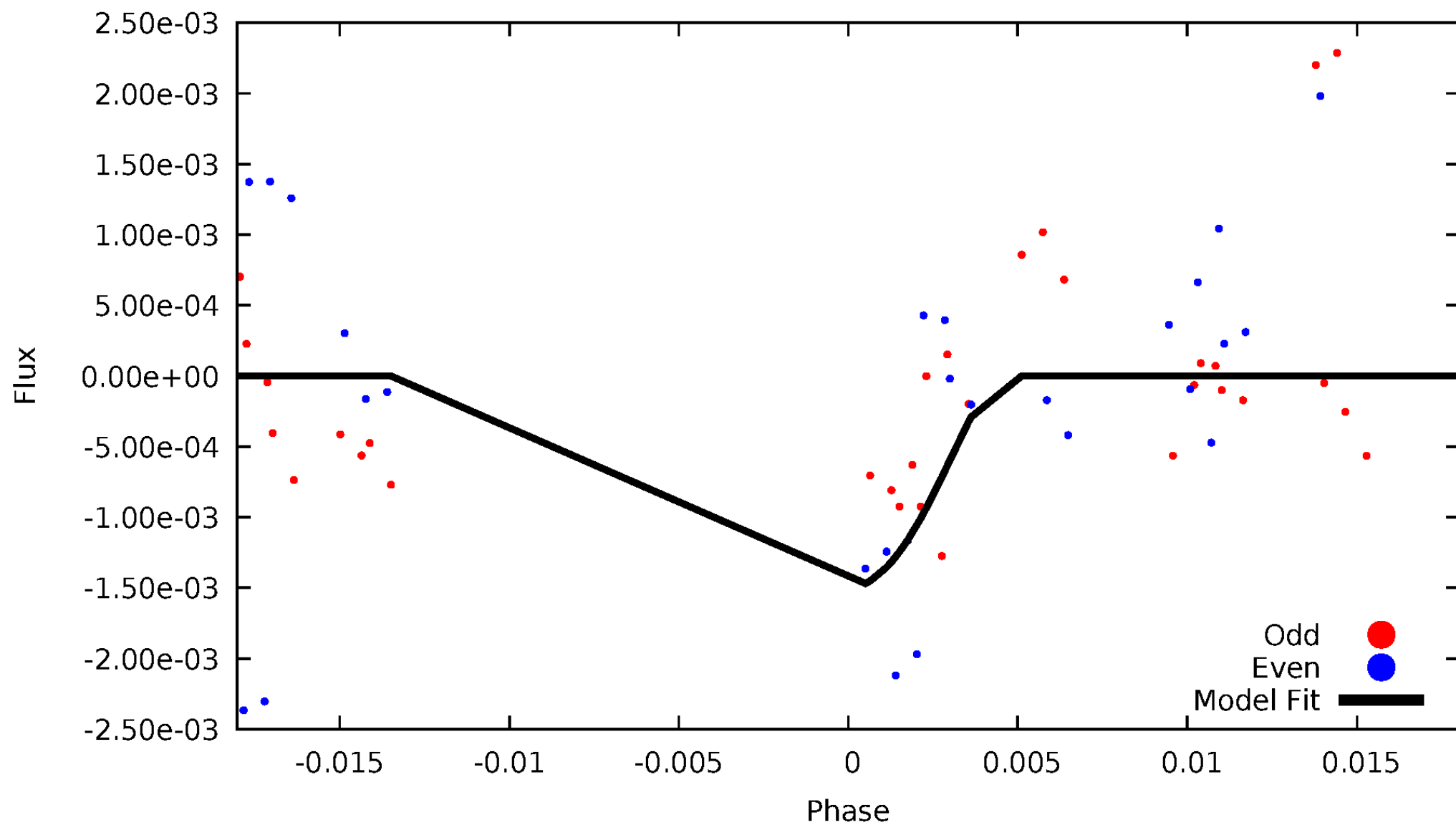


# TCE 010342097-03



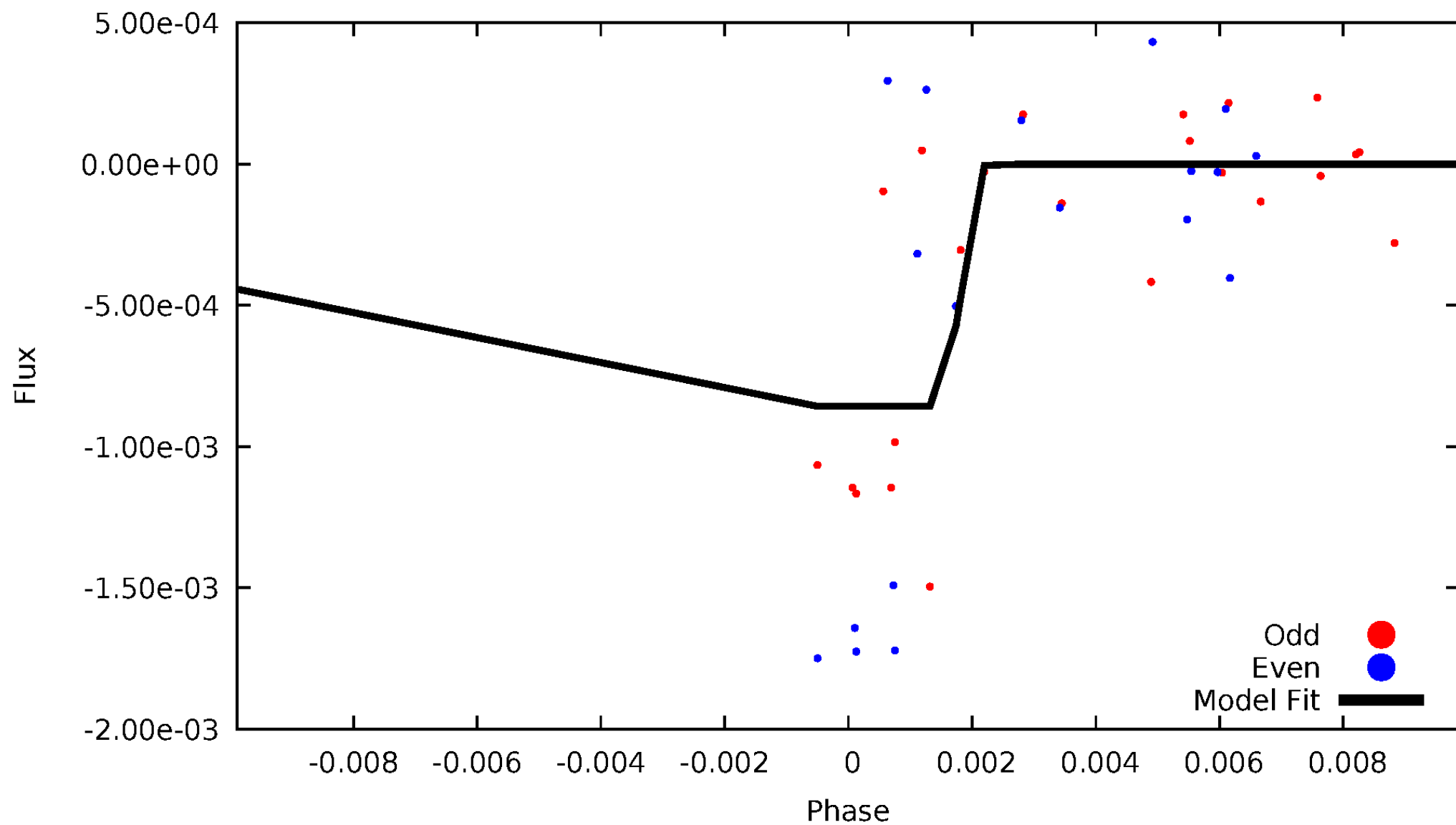
# DV Odd/Even

TCE 010342097-03



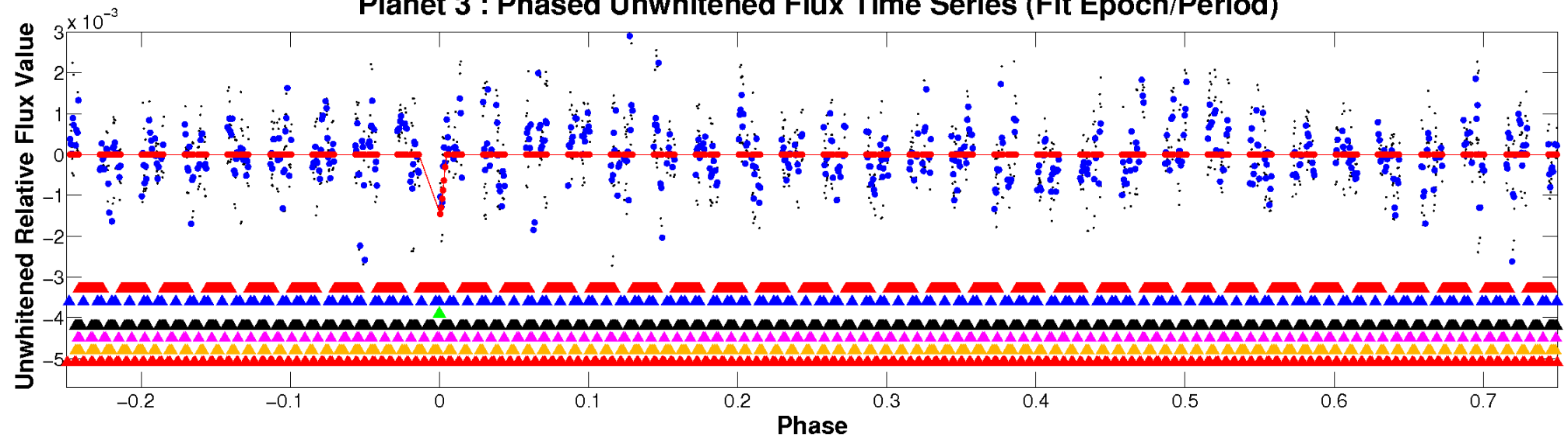
# ALT Odd/Even

TCE 010342097-03

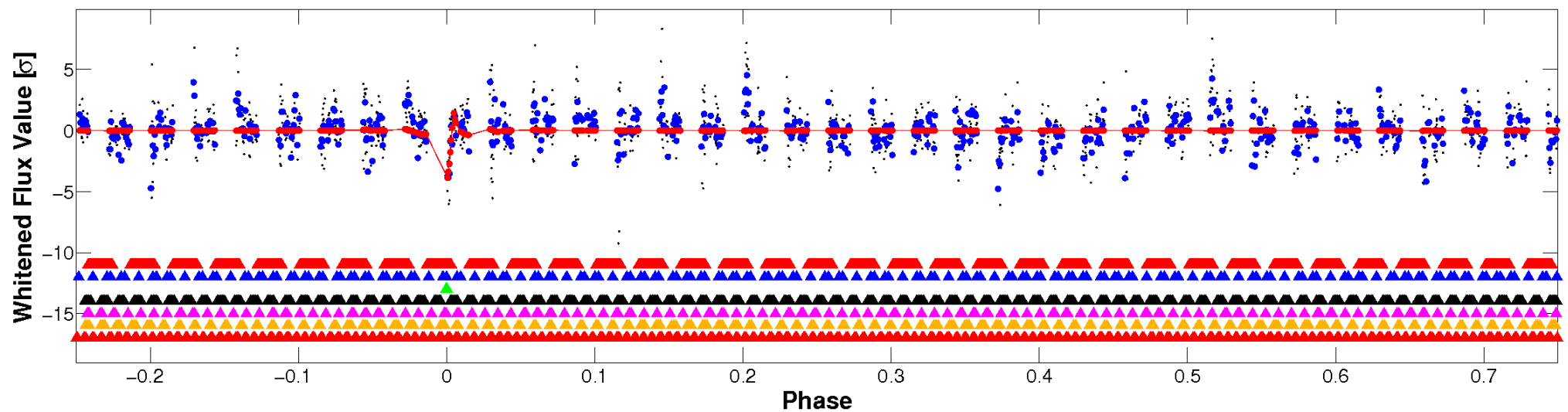


# Non-Whitened Vs. Whitened Light Curve

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



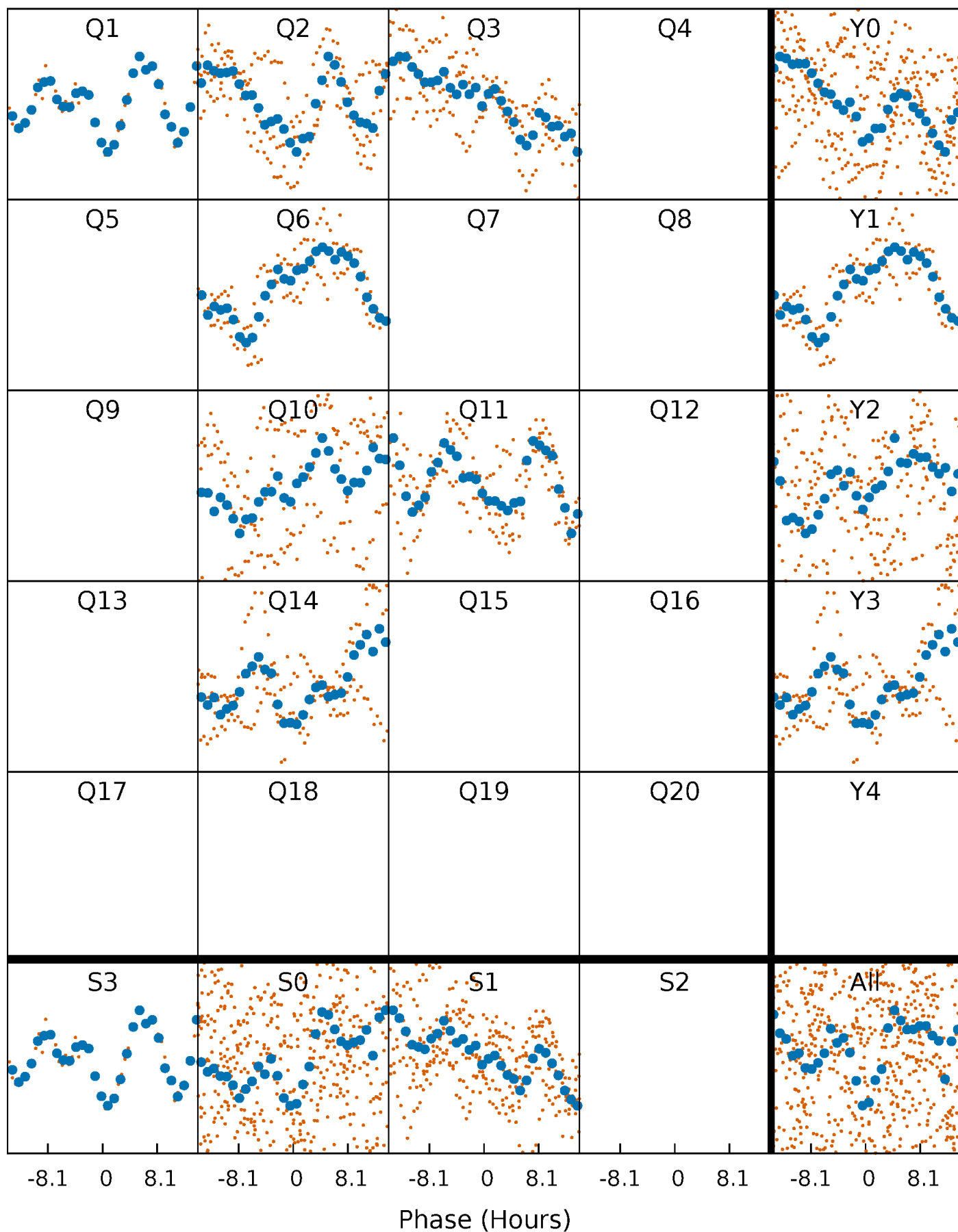
Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)





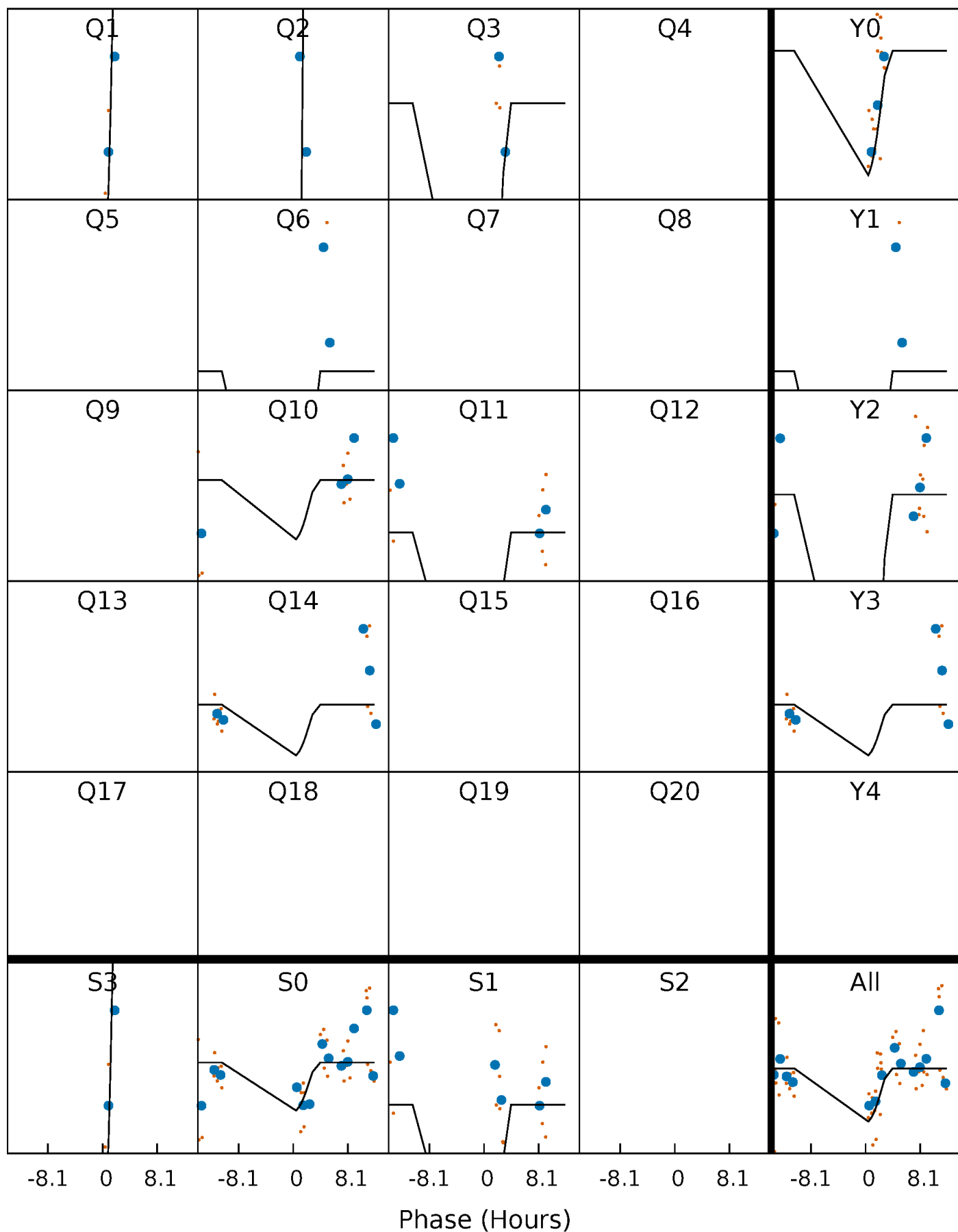
# PDC Quarter-Phased Transit Curves

TCE 010342097-03     $P = 32.669706$  Days     $T_0 = 140.384578$  (BKJD)



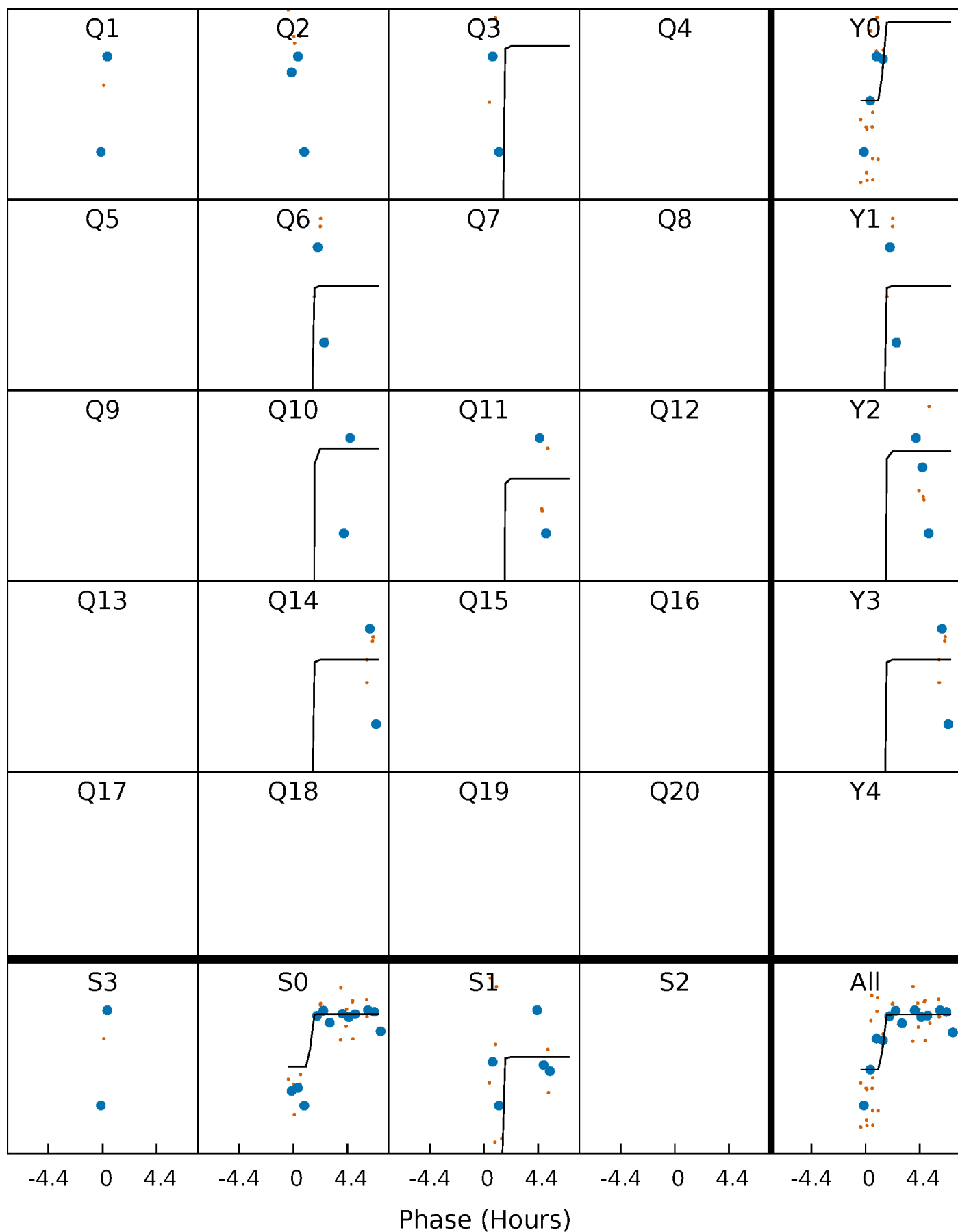
# DV Quarter-Phased Transit Curves

TCE 010342097-03 P= 32.669706 Days  $T_0=140.384578$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

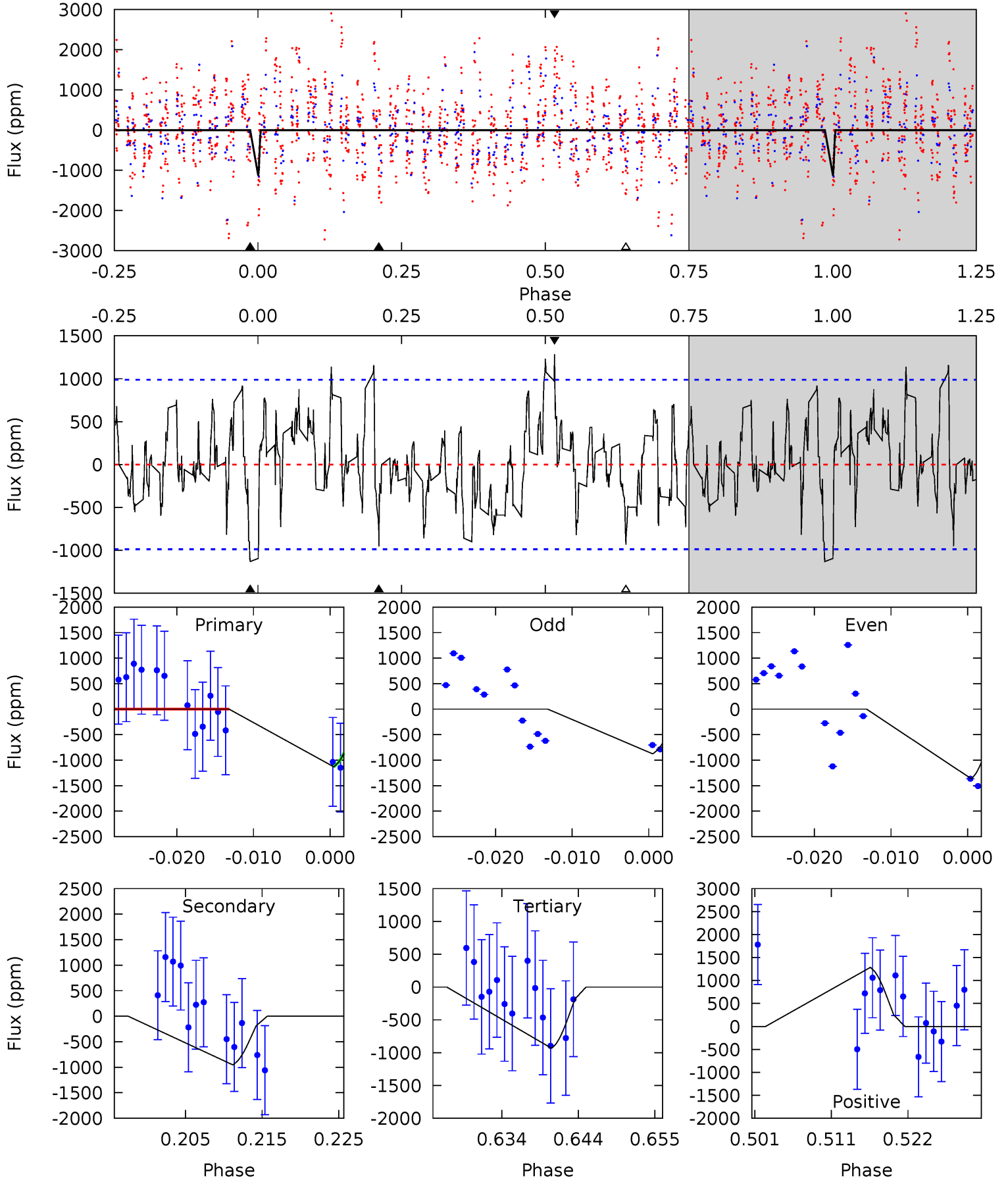
TCE 010342097-03 P= 32.674518 Days  $T_0=140.417159$  (BKJD)



# DV Model-Shift Uniqueness Test

010342097-03, P = 32.669706 Days, E = 107.714872 Days

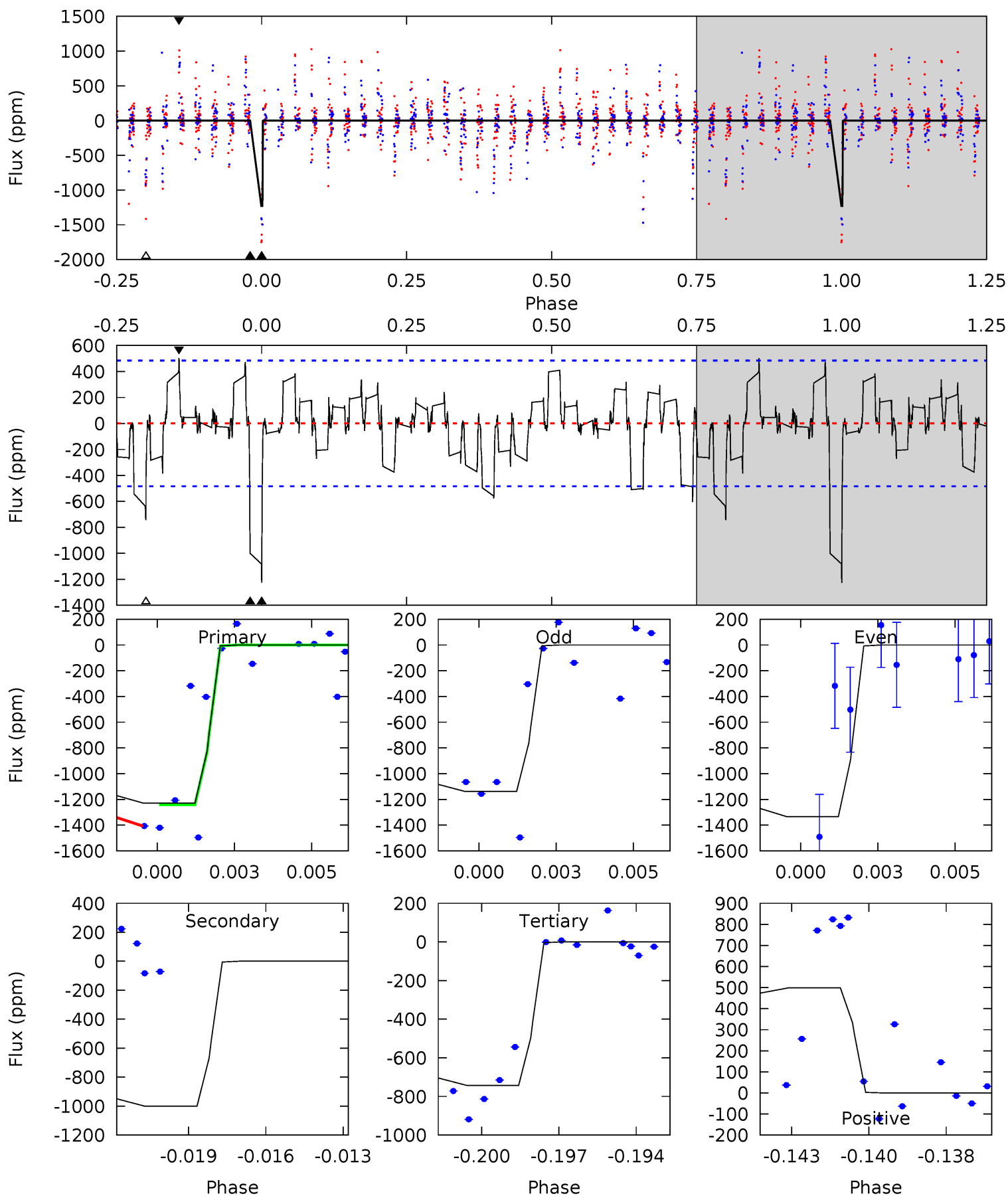
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.75	4.85	4.75	6.54	5.02	2.57	2.08	1.00	-0.79	0.10	-1.69	1.23	1.00	0.53	0



# Alt Model-Shift Uniqueness Test

010342097-03, P = 32.674518 Days, E = 107.742641 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
13.4	10.9	8.09	5.44	5.27	3.00	1.69	5.30	7.95	2.81	5.47	0.98	0.79	0.29	0.00



### Stellar Parameters For KIC 010342097

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5016^{+125}_{-113}$	$3.013^{+0.396}_{-0.264}$	$-0.440^{+0.250}_{-0.250}$	$5.344^{+2.449}_{-2.004}$	$1.072^{+0.294}_{-0.158}$	$0.010^{+0.028}_{-0.006}$
	+2%/-2%	+13%/-9%	+57%/-57%	+46%/-38%	+27%/-15%	+279%/-64%
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 010342097-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-953 \pm 197$	$212.80^{+244.35}_{-149.22}$	$1572^{+186}_{-171}$	$2035^{+1119}_{-4175}$	$0.491^{+5.279}_{-0.389}$
Alt.	$-1000 \pm 92$	$194.92^{+237.73}_{-139.33}$	$1576^{+186}_{-172}$	$2210^{+1079}_{-4313}$	$0.630^{+7.252}_{-0.498}$

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

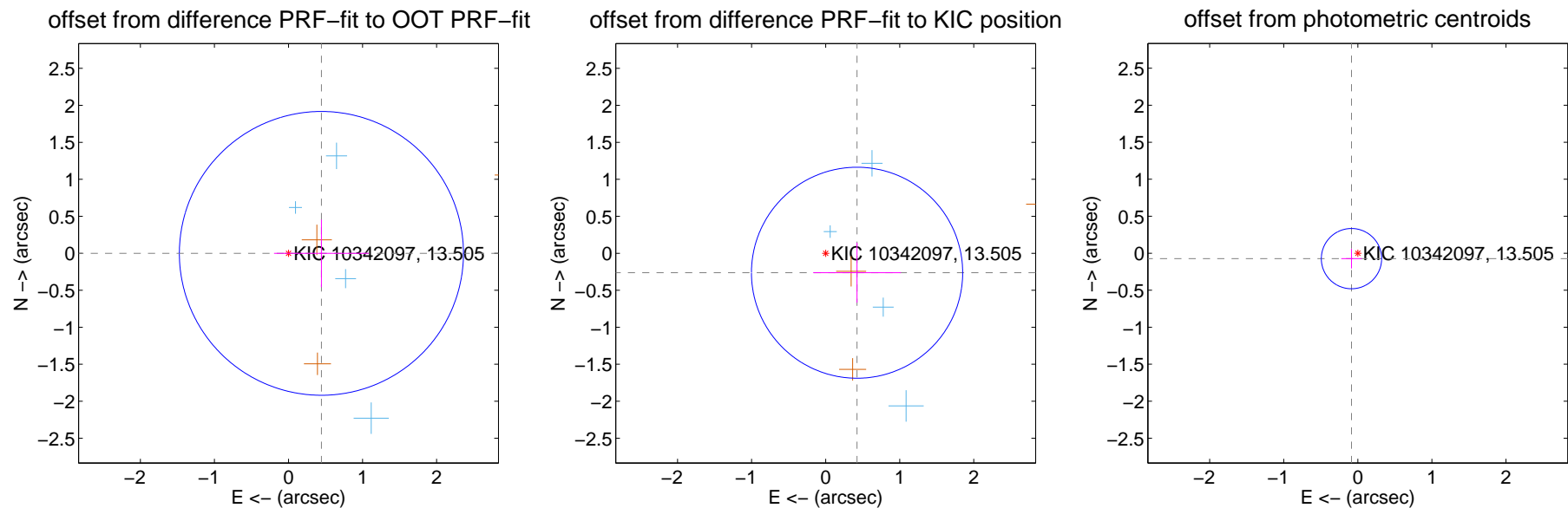
## DV Centroid Data

Supplemental centroid analysis for 010342097-03. Kepler magnitude: 13.51. Transit SNR 10.69

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

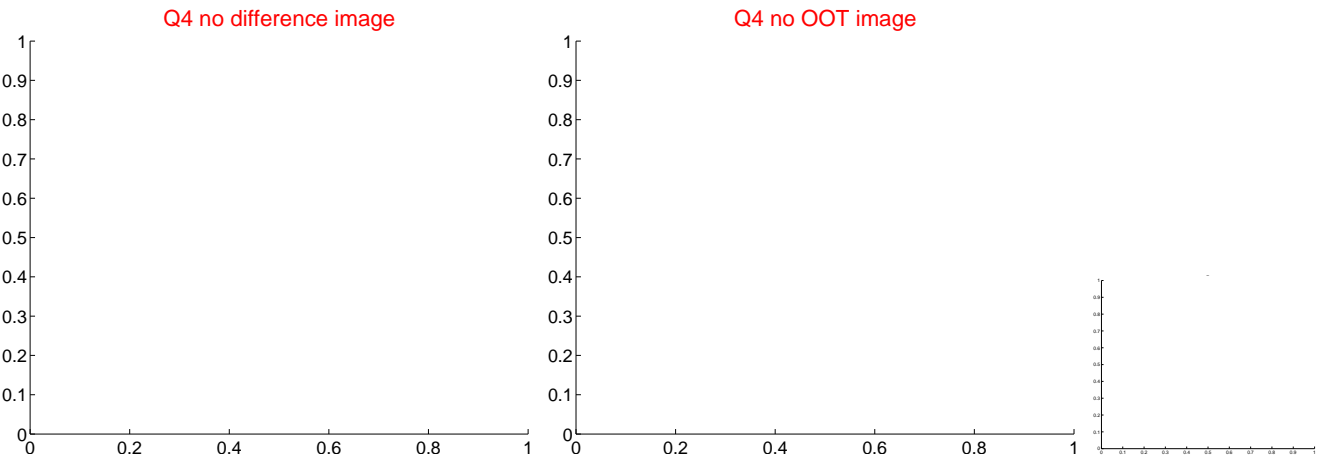
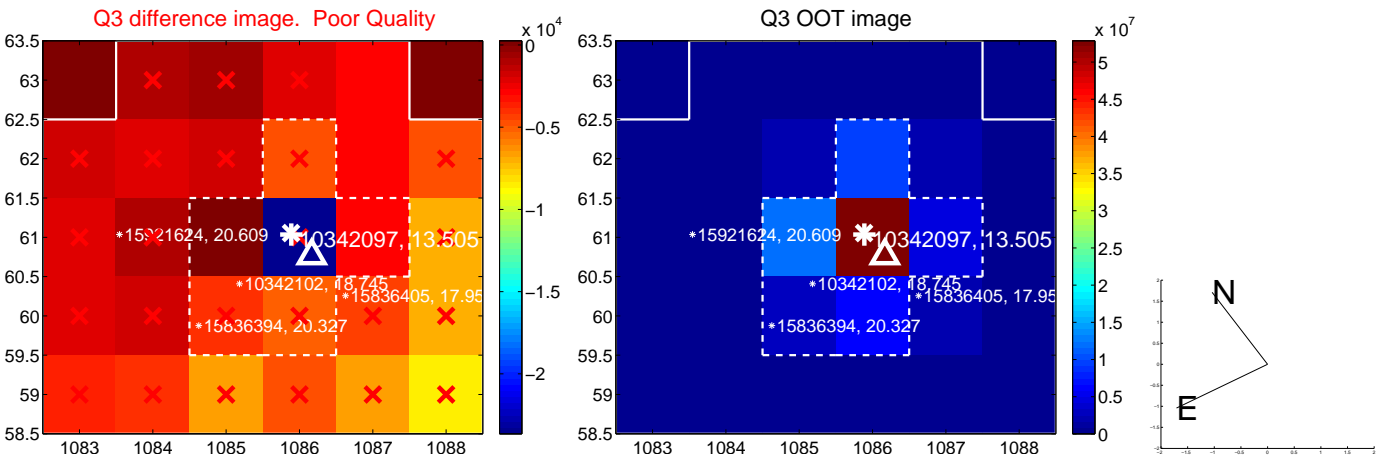
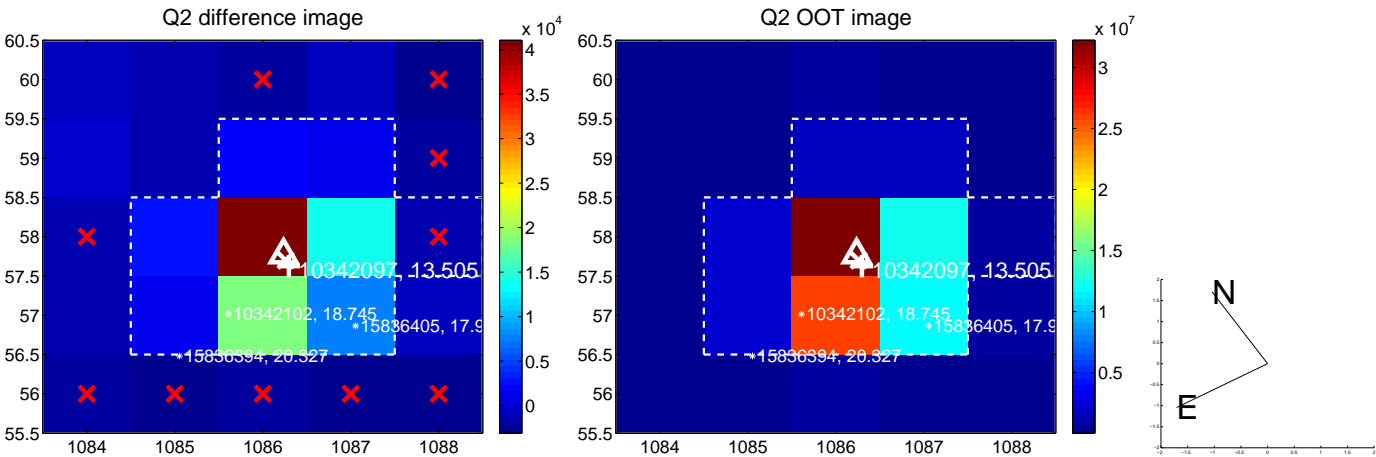
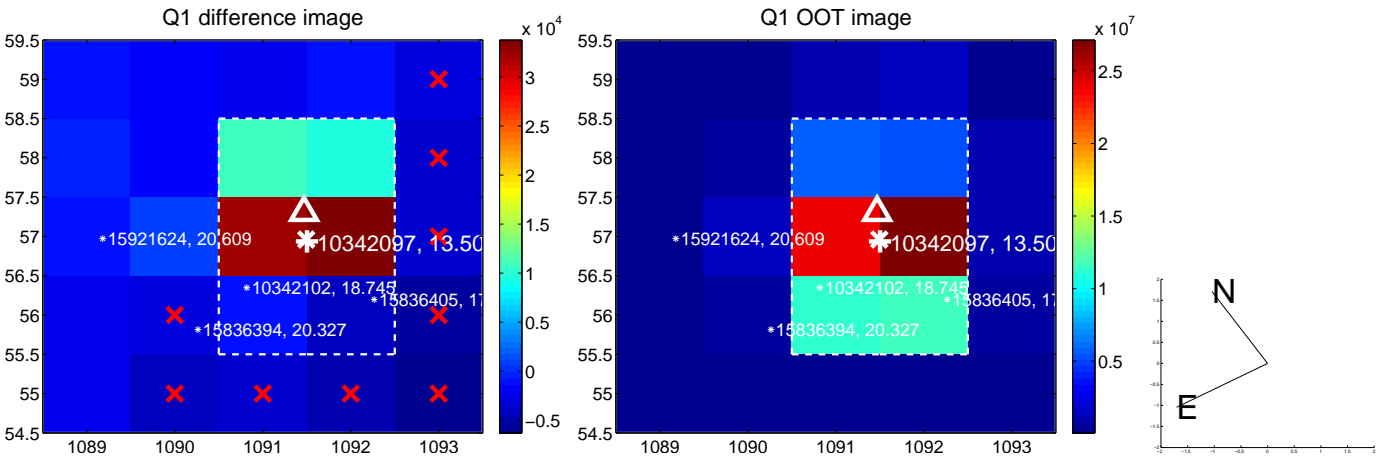
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.445 \pm 0.639$	0.70	$-0.445 \pm 0.640$	$-0.001 \pm 0.457$
PRF-fit source offset from KIC position	$0.499 \pm 0.475$	1.05	$-0.424 \pm 0.593$	$-0.263 \pm 0.405$
photometric centroid source offset	$0.11 \pm 0.14$	0.83	$0.09 \pm 0.14$	$-0.07 \pm 0.13$



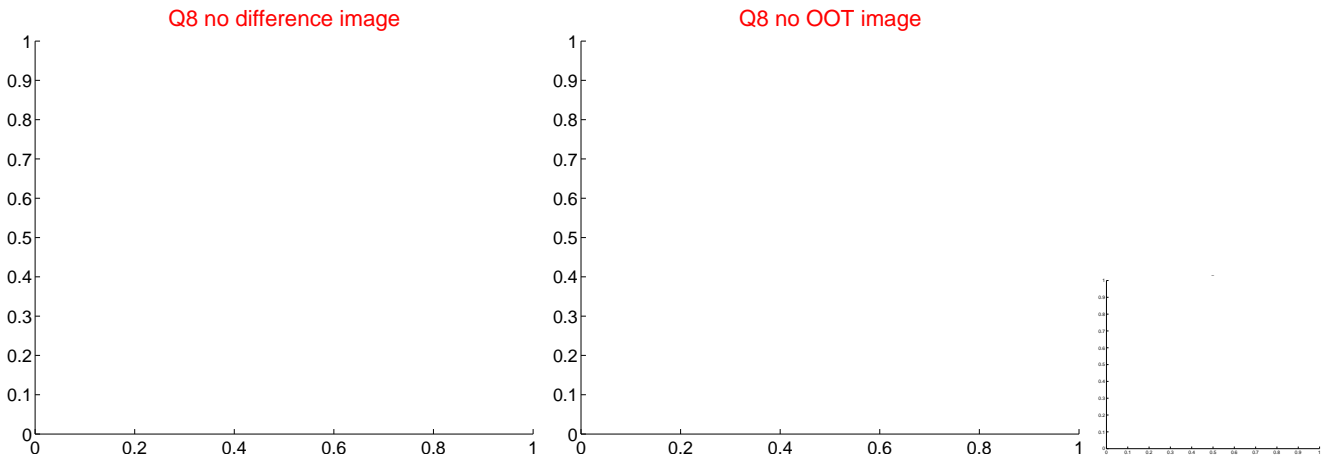
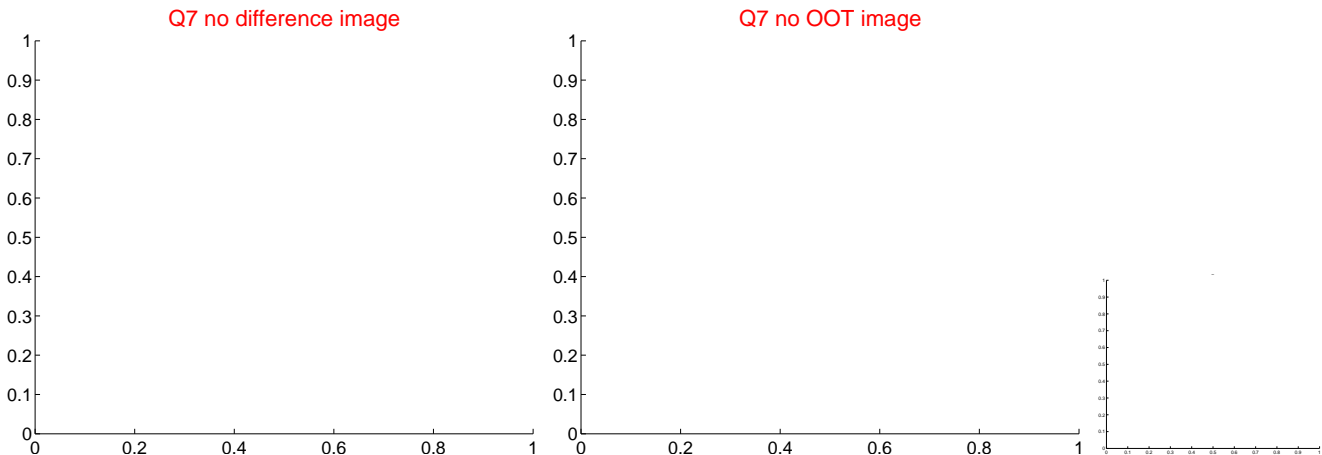
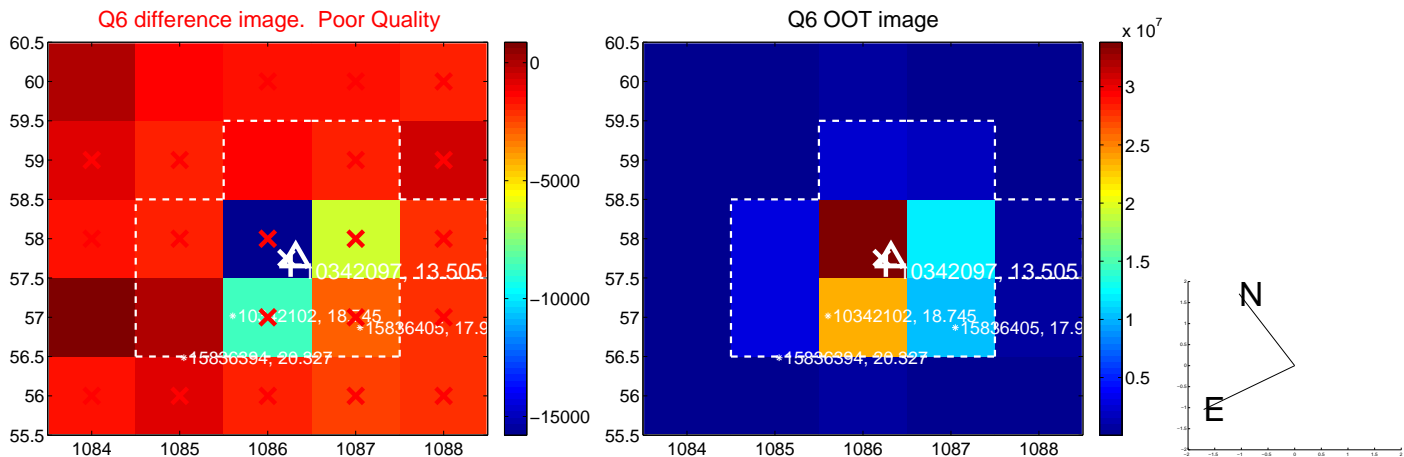
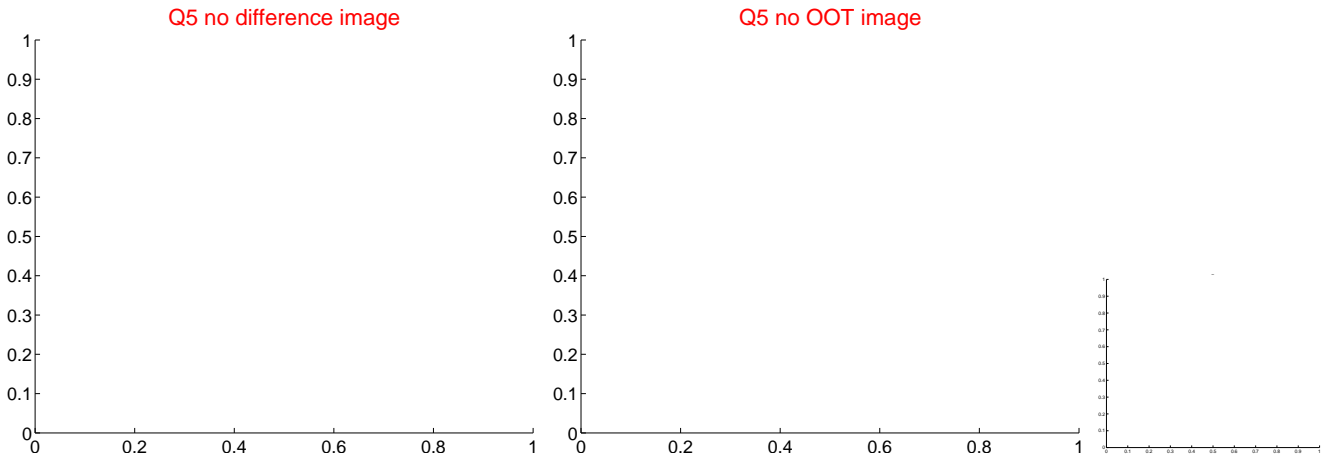
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

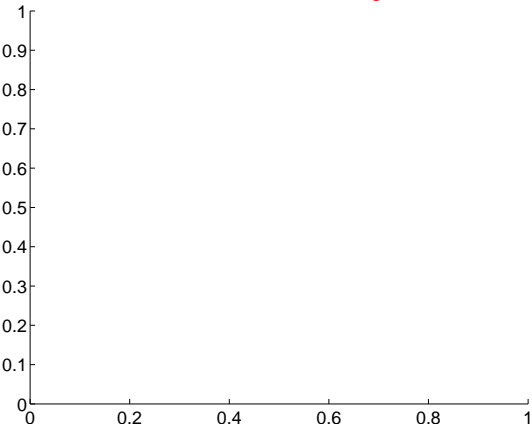


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value

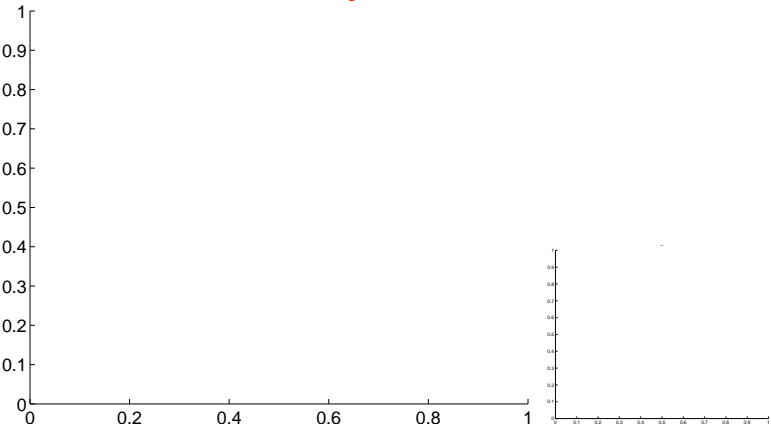


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

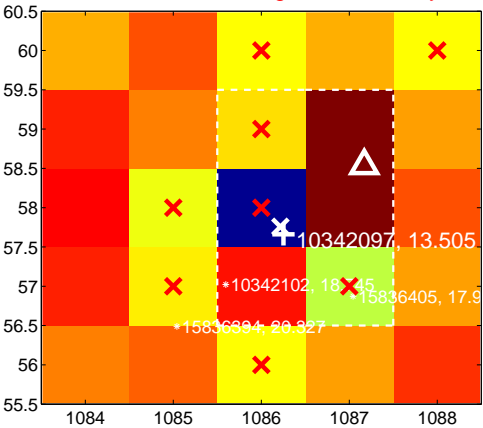
Q9 no difference image



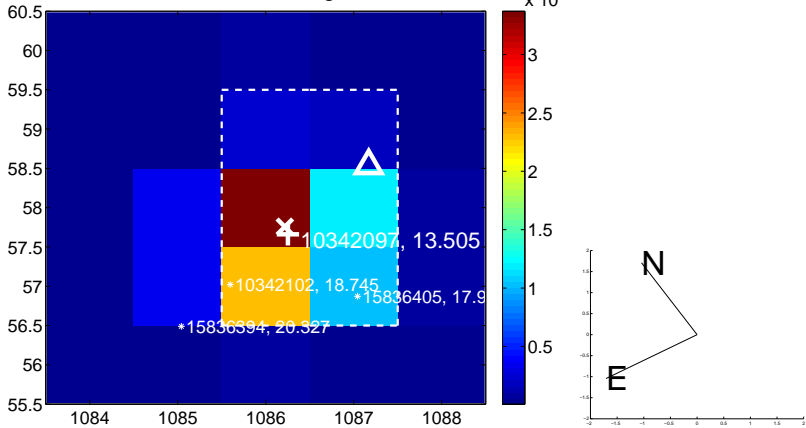
Q9 no OOT image



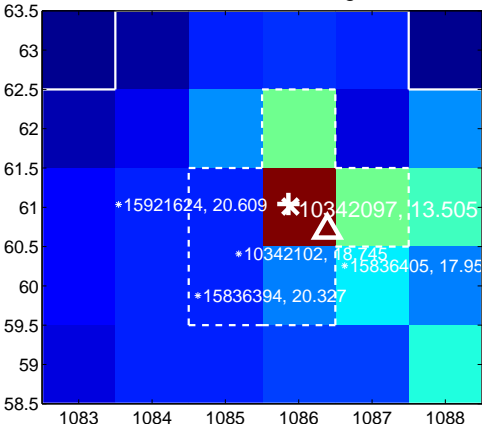
Q10 difference image. Poor Quality



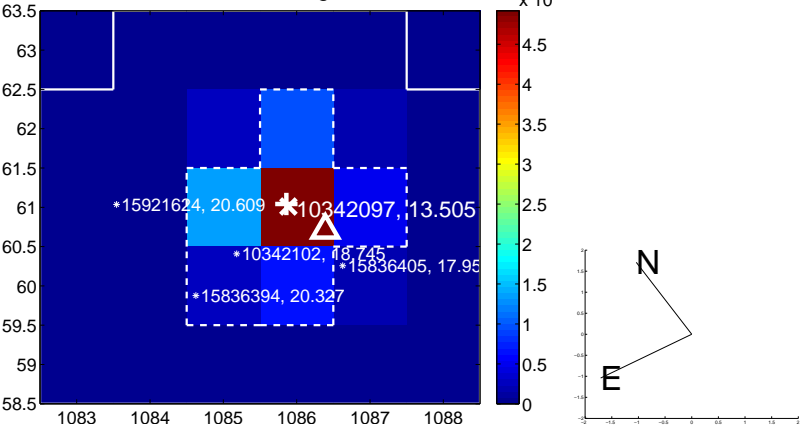
Q10 OOT image



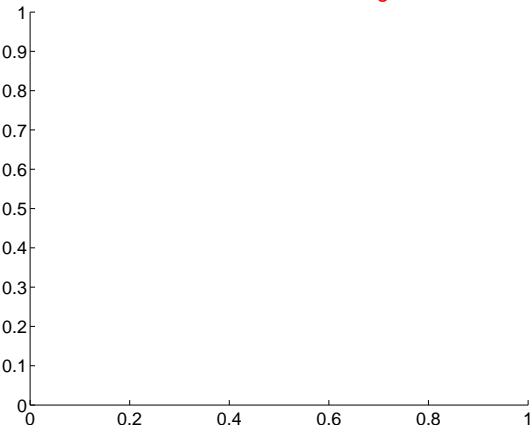
Q11 difference image



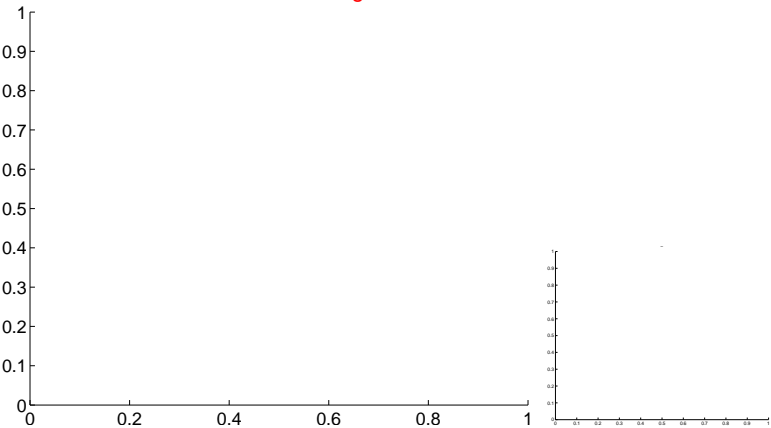
Q11 OOT image



Q12 no difference image

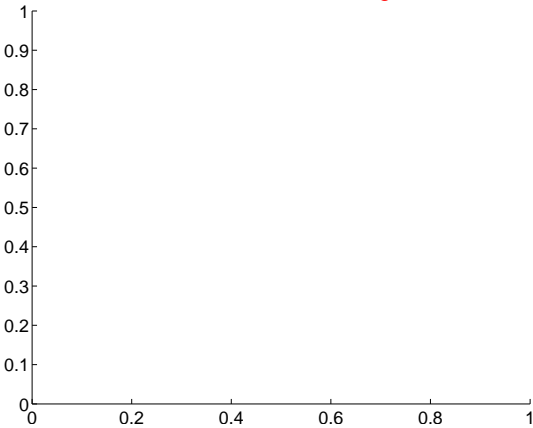


Q12 no OOT image

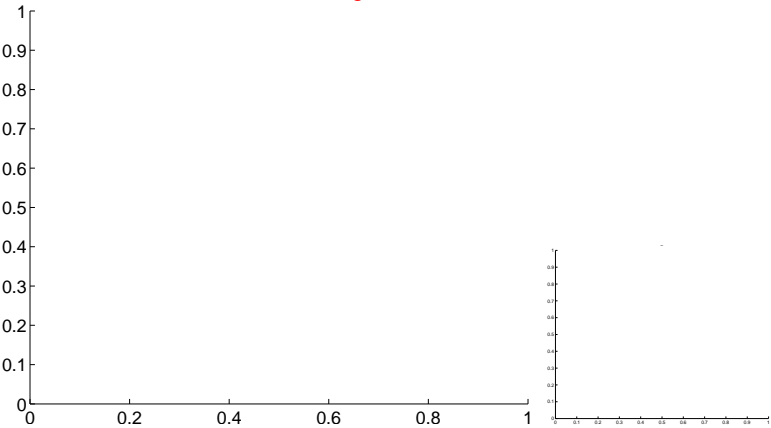


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

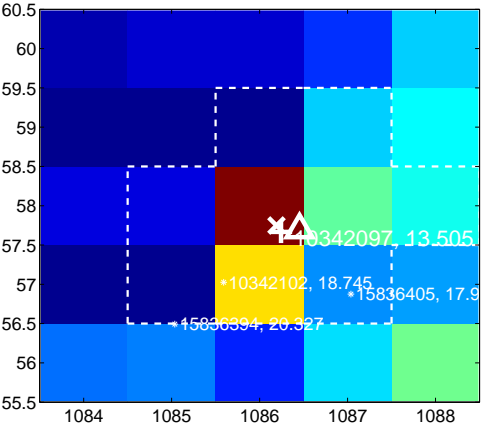
Q13 no difference image



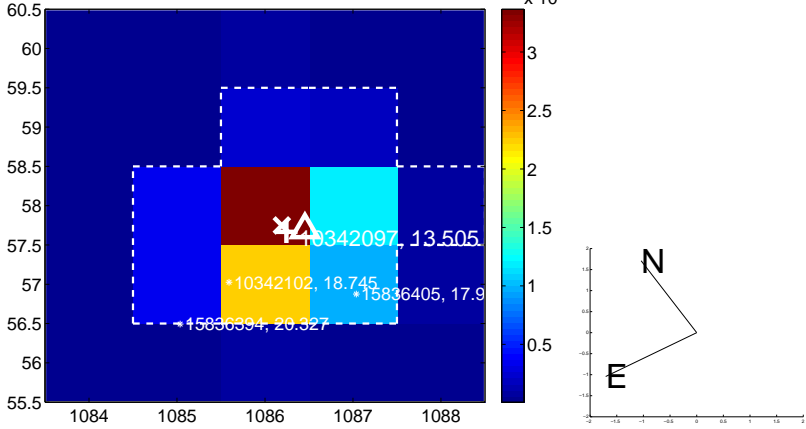
Q13 no OOT image



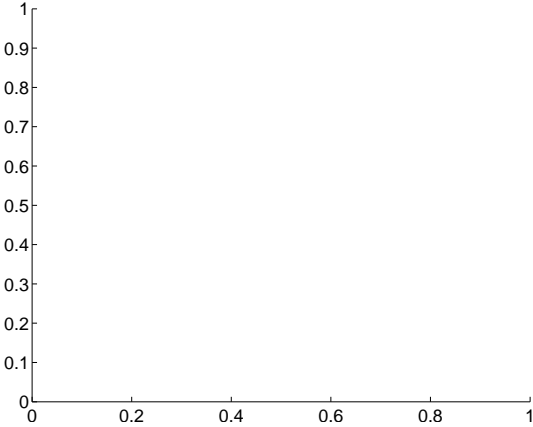
Q14 difference image



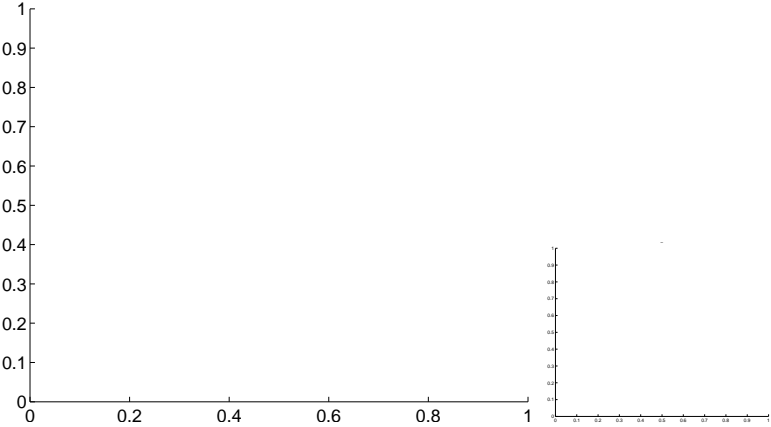
Q14 OOT image



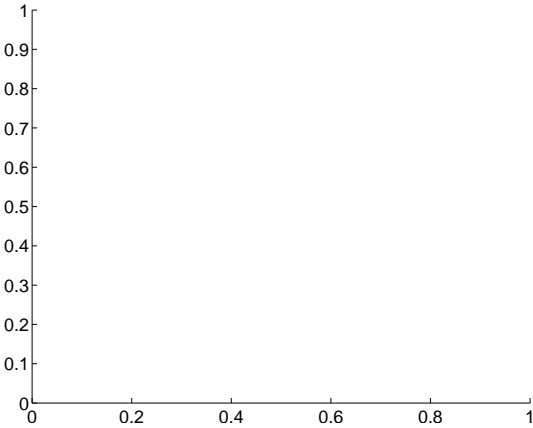
Q15 no difference image



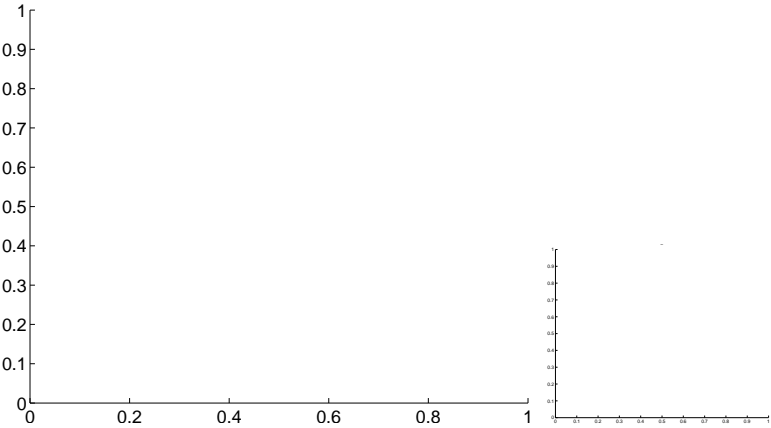
Q15 no OOT image



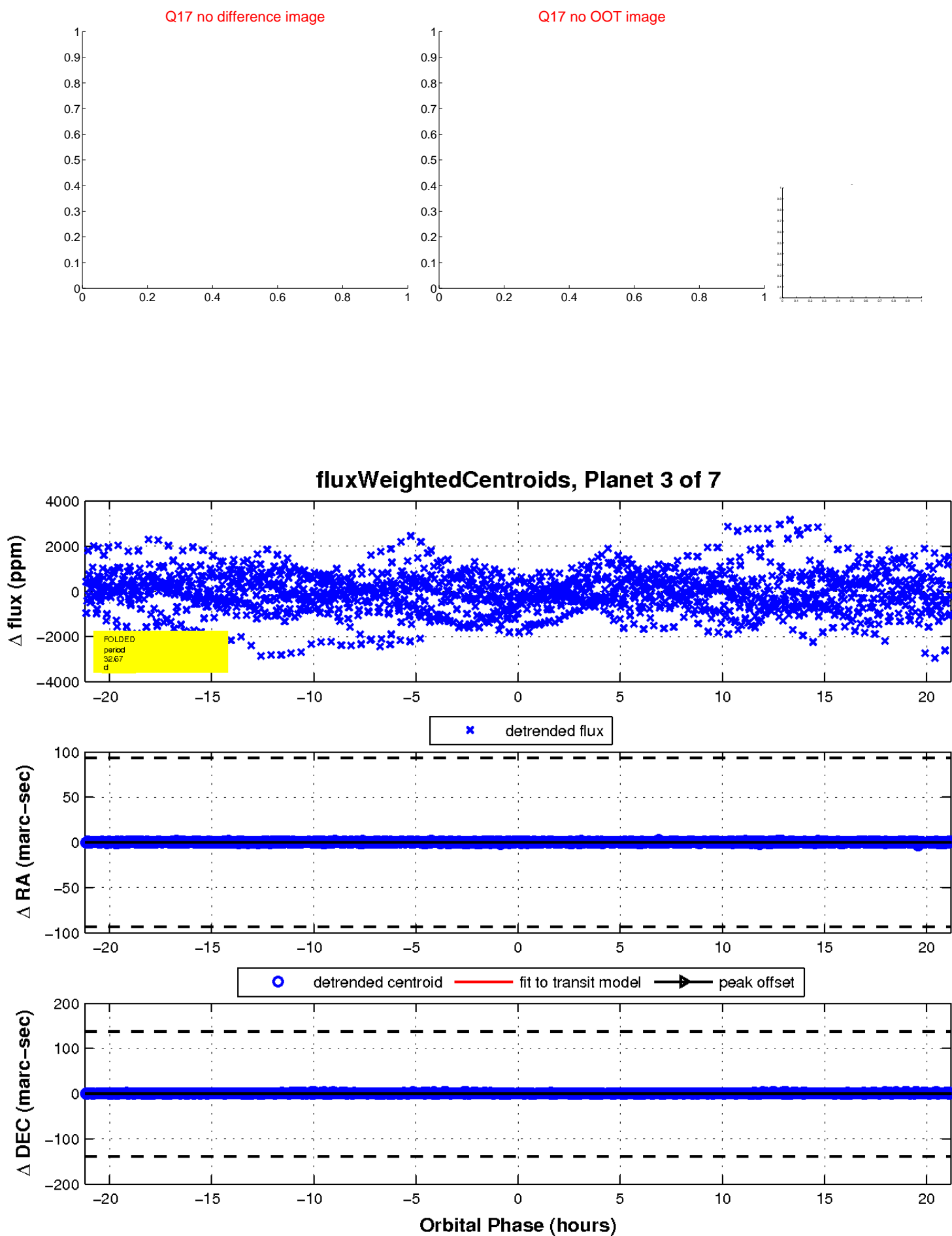
Q16 no difference image



Q16 no OOT image

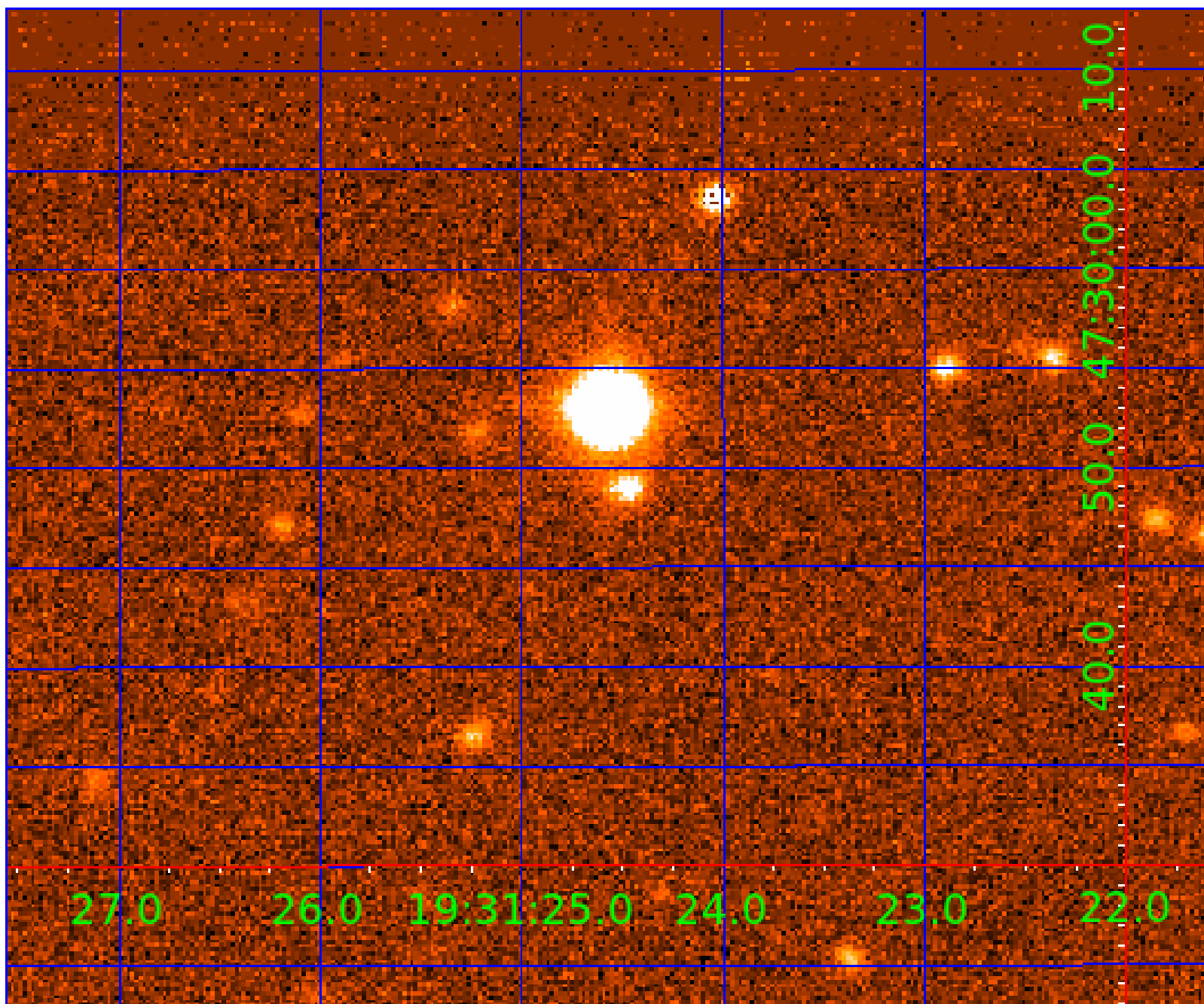


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination





# KIC 010342097

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010342097-01	OBS	7314.01	0.933766	131.547897	47.7	6.903	10.1	4.0	5.34	5016	3.64	0.00
010342097-03	OBS	No	32.669706	140.384578	1496.4	7.066	11.8	10.7	5.34	5016	40.94	386.11
010342097-04	OBS	No	2.569225	132.191970	261.3	2.365	10.7	5.9	5.34	5016	10.53	11459.51
010342097-06	OBS	No	6.465403	133.878655	1010.5	1.480	11.6	11.3	5.34	5016	16.66	3347.92
010342097-07	OBS	No	2.426780	131.693563	364.3	1.716	7.8	6.1	5.34	5016	12.38	12365.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010342097-01	OBS	FP	0.00	0	0	1	1	PLANET_IN_STAR—HALO_GHOST—EPHEM_MATCH
010342097-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010342097-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010342097-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010342097-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS

**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.

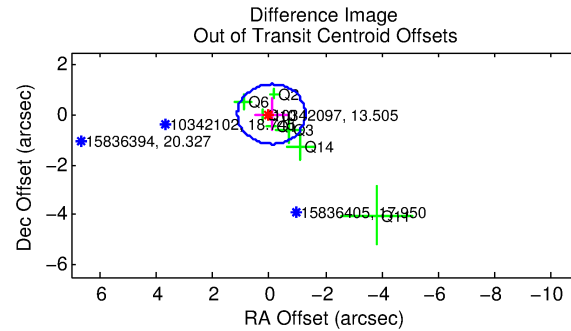
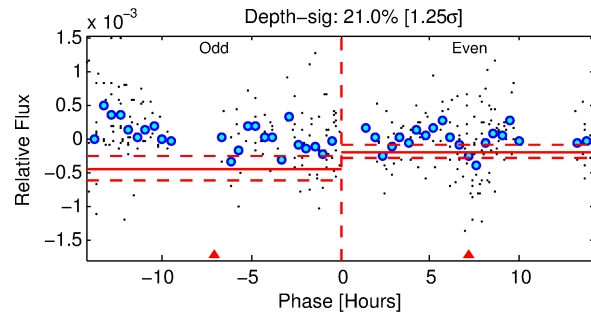
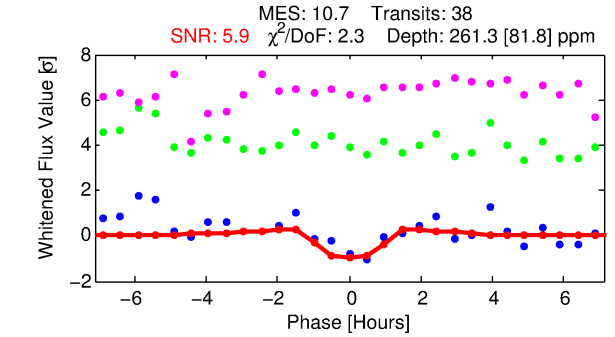
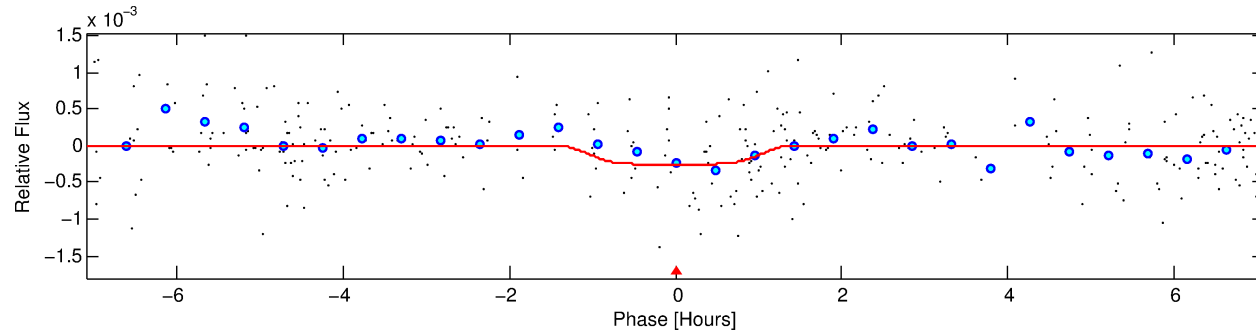
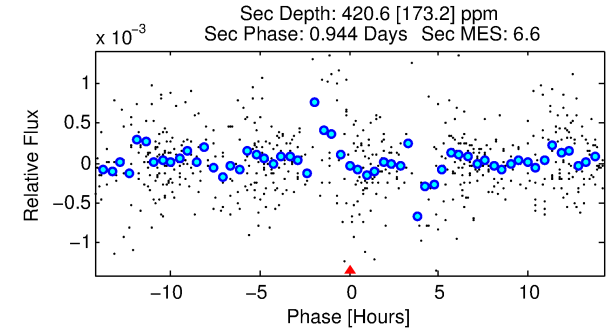
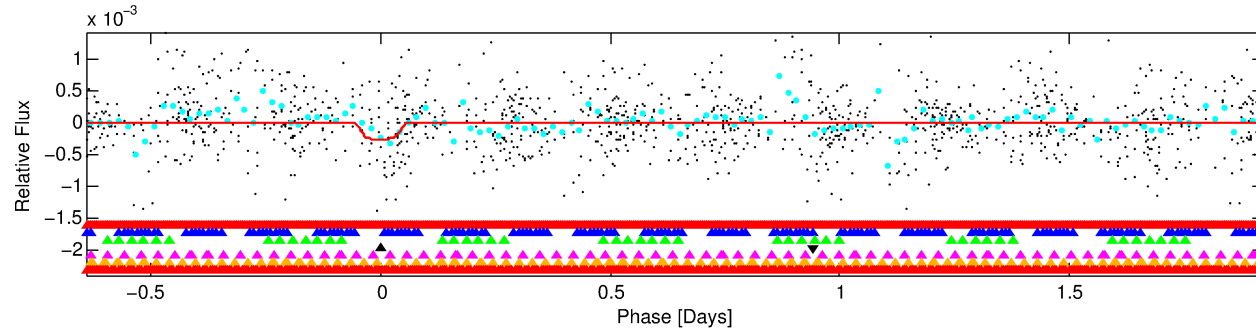
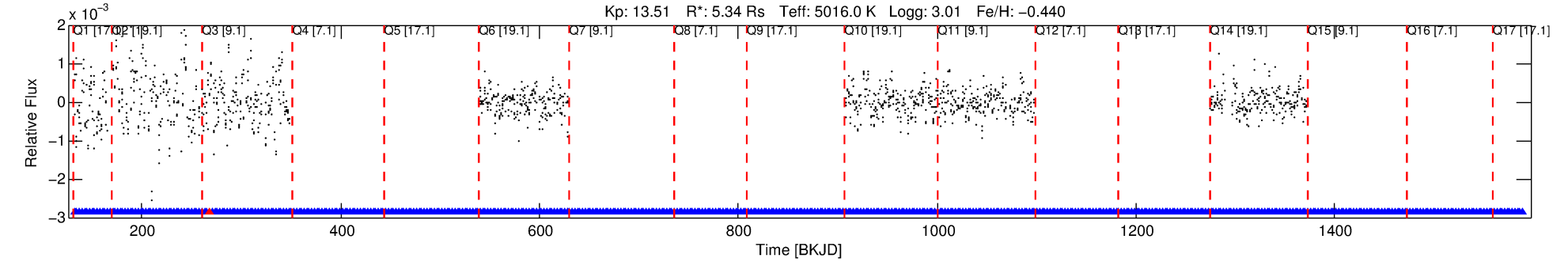
Ephemeris Match Information For 010342097-04

No Significant Match Found

# DV One-Page Summary

KIC: 10342097 Candidate: 4 of 7 Period: 2.569 d  
KOI: K07314 Corr: No Ephemeris Match

Kp: 13.51 R\*: 5.34 Rs Teff: 5016.0 K Logg: 3.01 Fe/H: -0.440



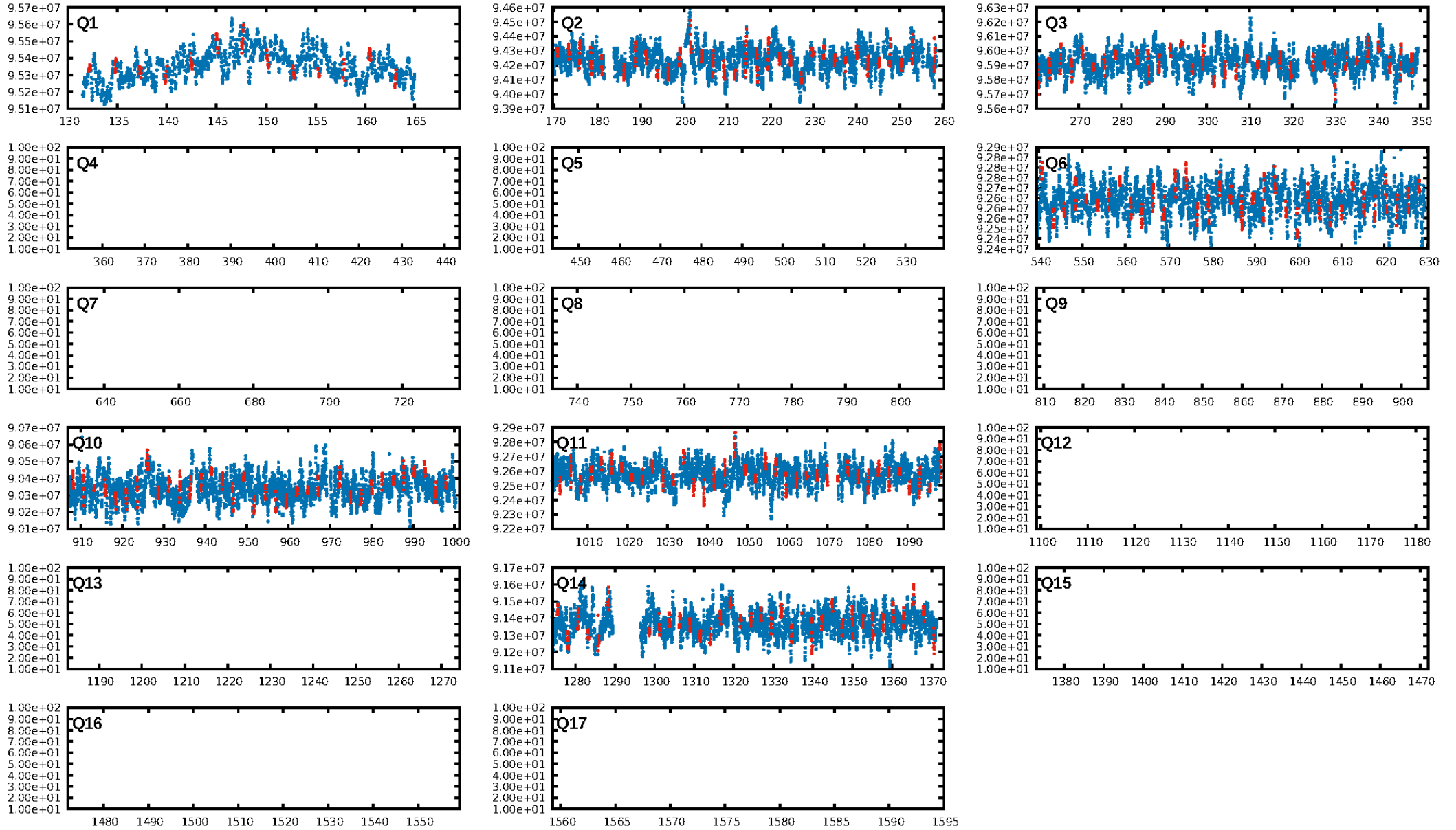
## DV Fit Results:

Period = 2.56922 [0.00005] d  
Epoch = 132.1920 [0.0092] BKJD  
Rp/R\* = 0.0181 [0.0269]  
a/R\* = 3.96 [23.10]  
b = 0.91 [1.25]  
Seff = 11459.51 [7879.58]  
Teq = 2638 [454] K  
Rp = 10.53 [16.41] Re  
a = 0.0376 [0.0162] AU  
Ag = 2.95 [9.10] [0.21σ]  
Teffp = 5346 [4023] K [0.67σ]

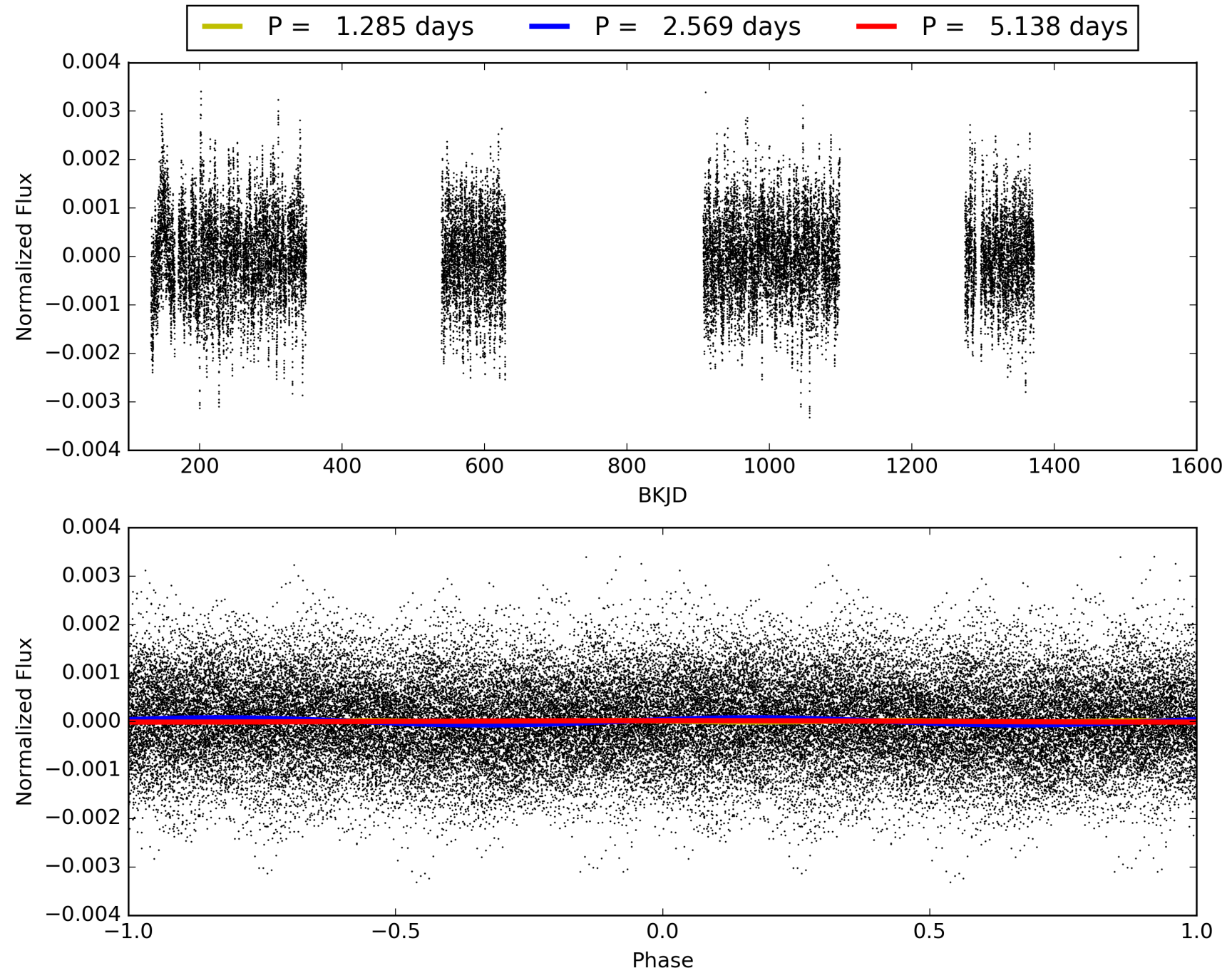
## DV Diagnostic Results:

ShortPeriod-sig: 75.8% [1.17σ]  
LongPeriod-sig: 100.0% [33.51σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 7.66e-17  
RollingBand-fgt: 0.97 [35/36]  
GhostDiagnostic-chr: -0.2922  
Centroid-sig: 13.3%  
Centroid-so: 0.478 arcsec [1.70σ]  
OotOffset-rm: 0.090 arcsec [0.22σ]  
KicOffset-rm: 0.239 arcsec [0.36σ]  
OotOffset-st: 4/2/0/1 [7]  
KicOffset-st: 4/2/0/1 [7]  
DiffImageQuality-fgm: 0.43 [3/7]  
DiffImageOverlap-fno: 0.71 [5/7]

# TCE 010342097-04, PDC Light Curves

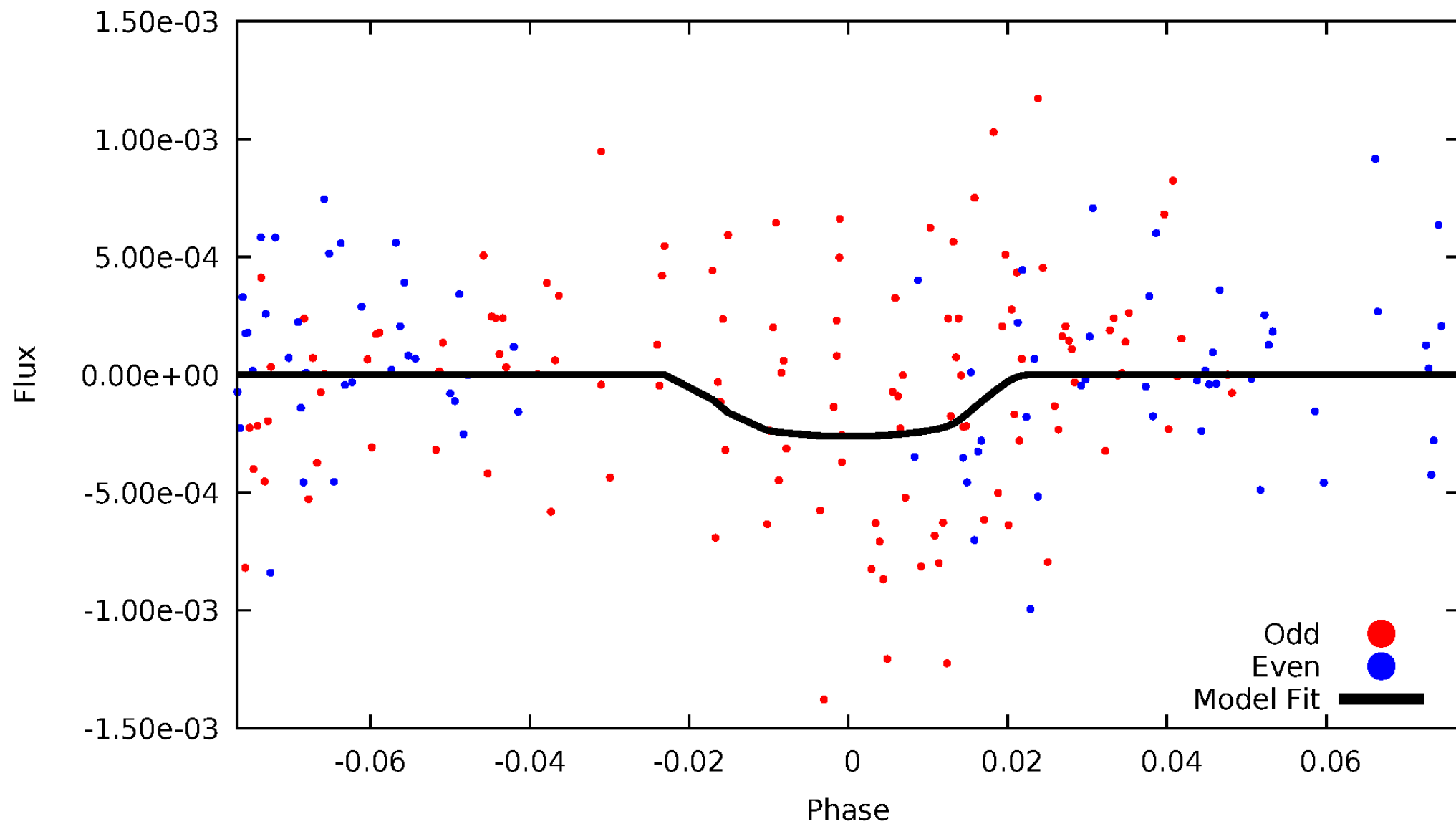


TCE 010342097-04



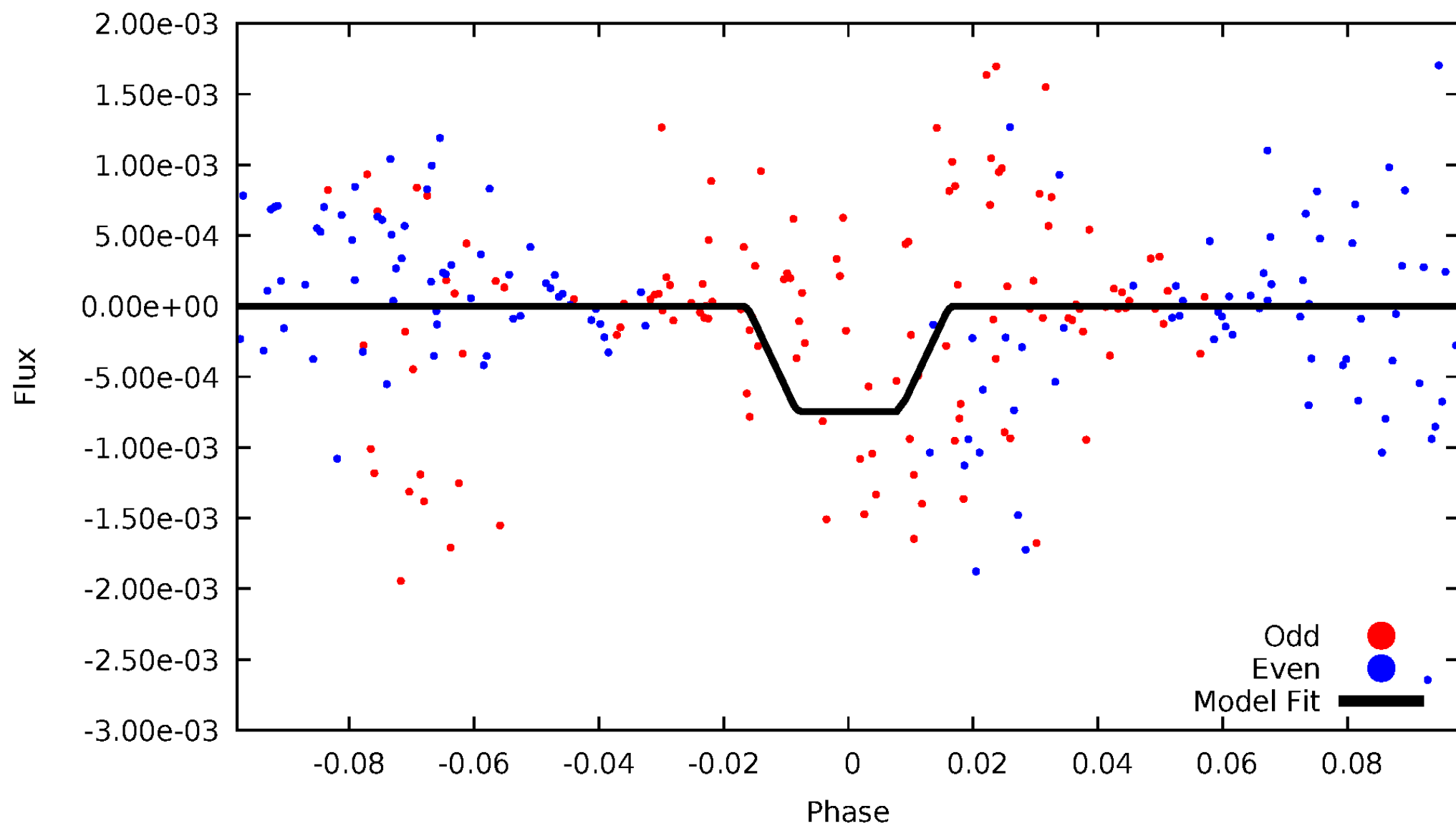
# DV Odd/Even

TCE 010342097-04



# ALT Odd/Even

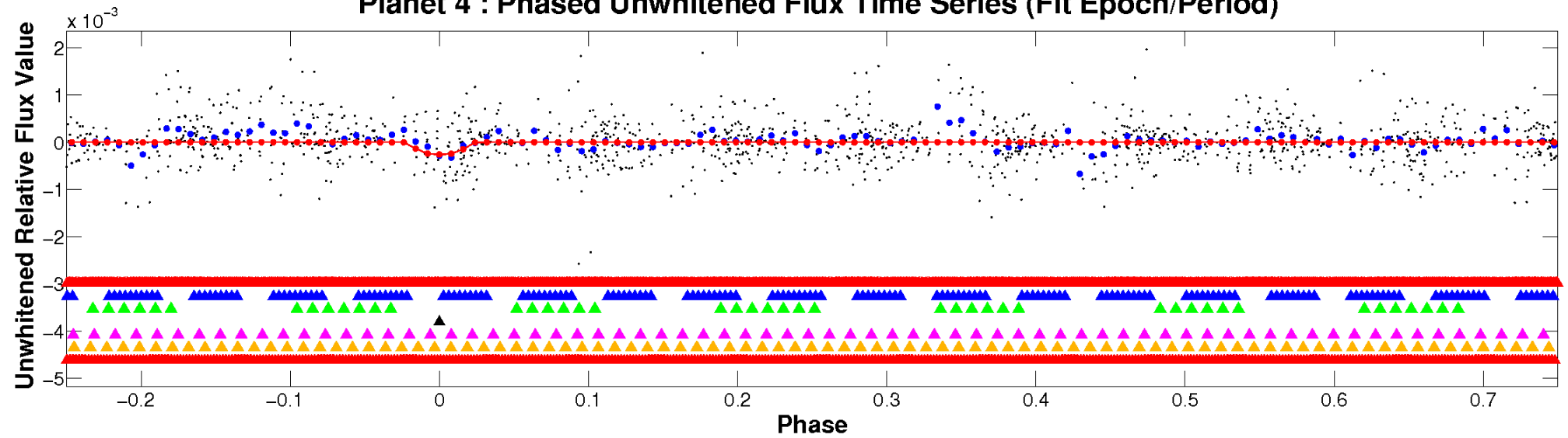
TCE 010342097-04



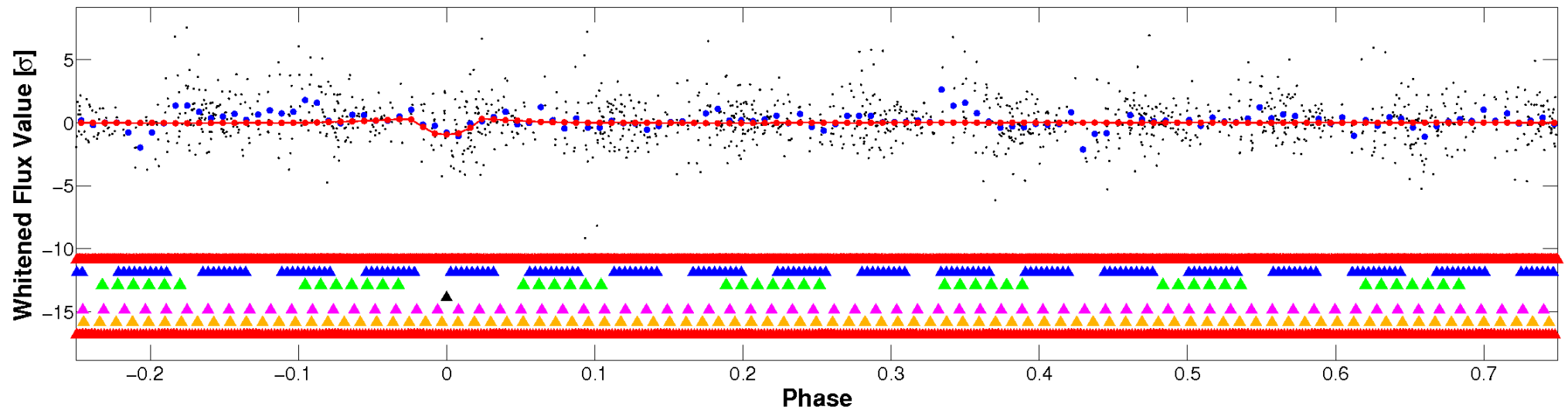


# Non-Whitened Vs. Whitened Light Curve

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

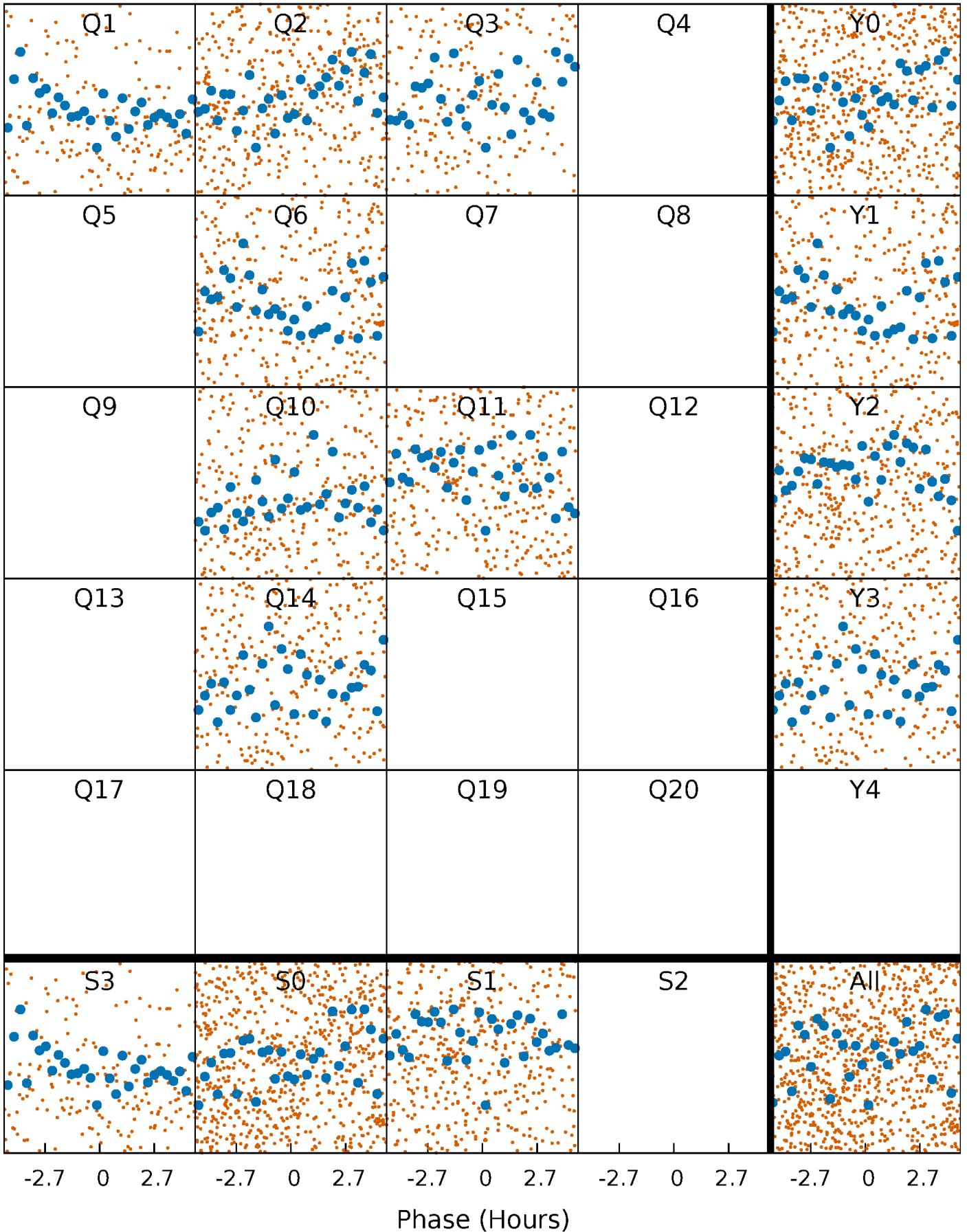


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



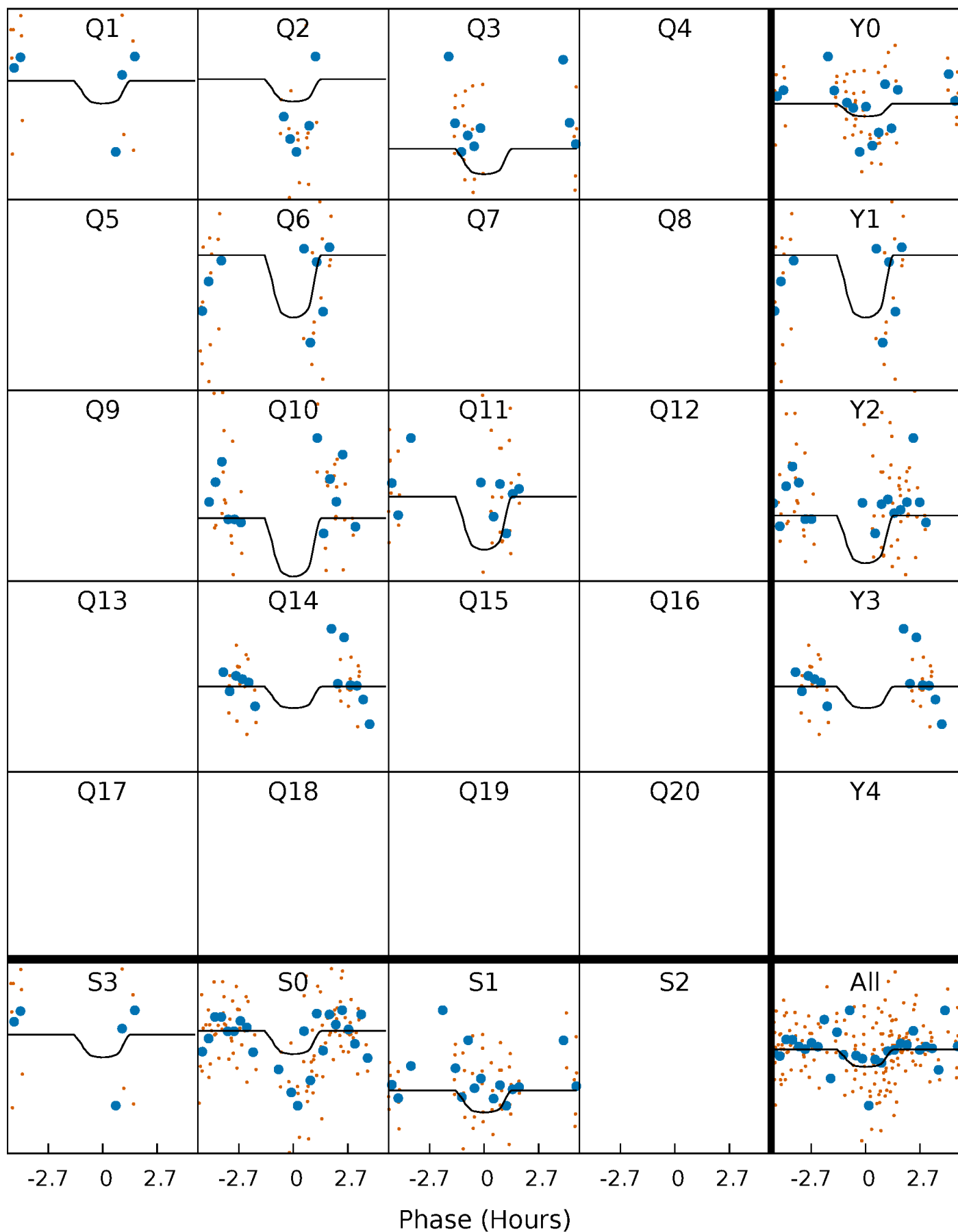
# PDC Quarter-Phased Transit Curves

TCE 010342097-04     $P = 2.569225$  Days     $T_0 = 132.191970$  (BKJD)



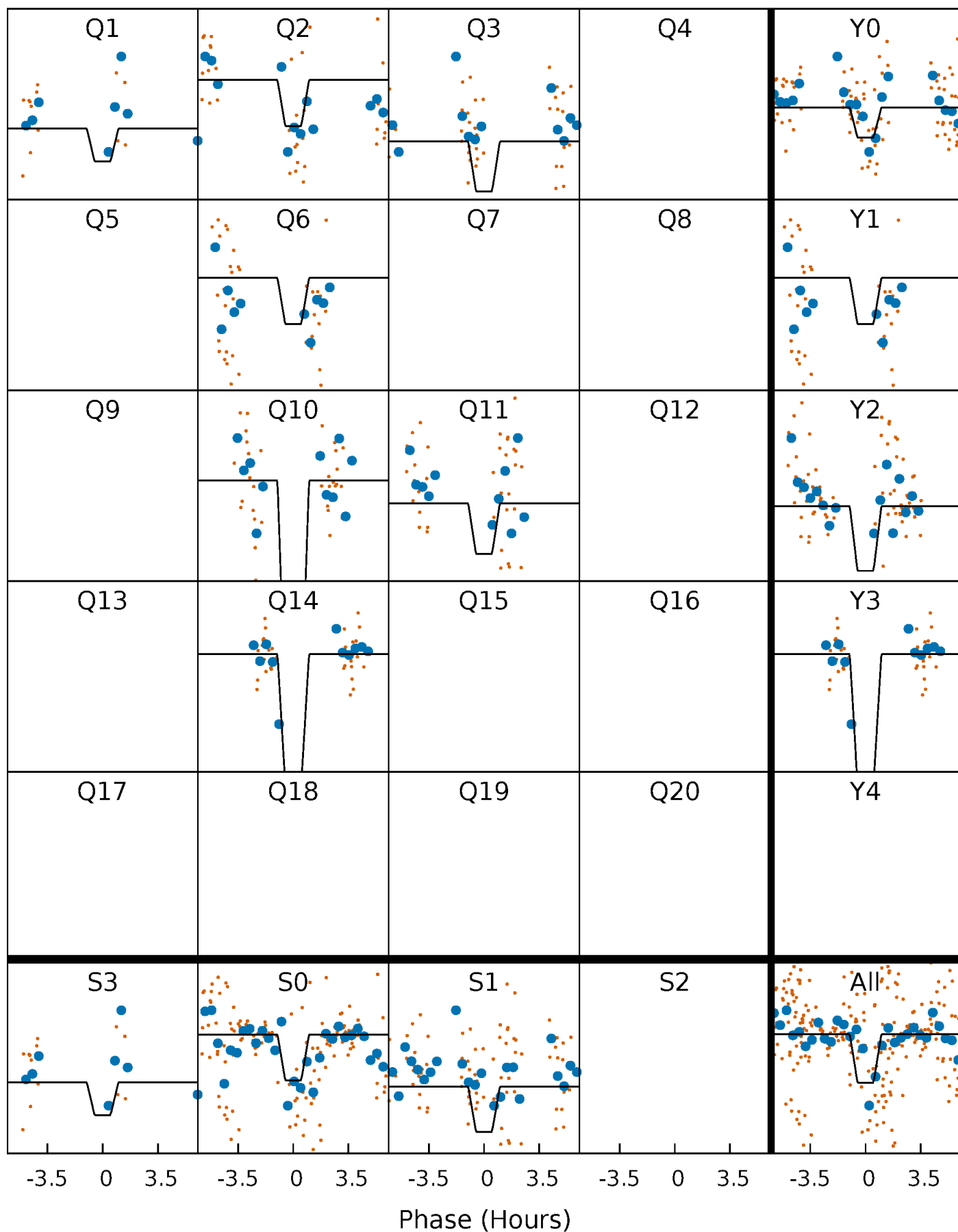
# DV Quarter-Phased Transit Curves

TCE 010342097-04     $P = 2.569225$  Days     $T_0 = 132.191970$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

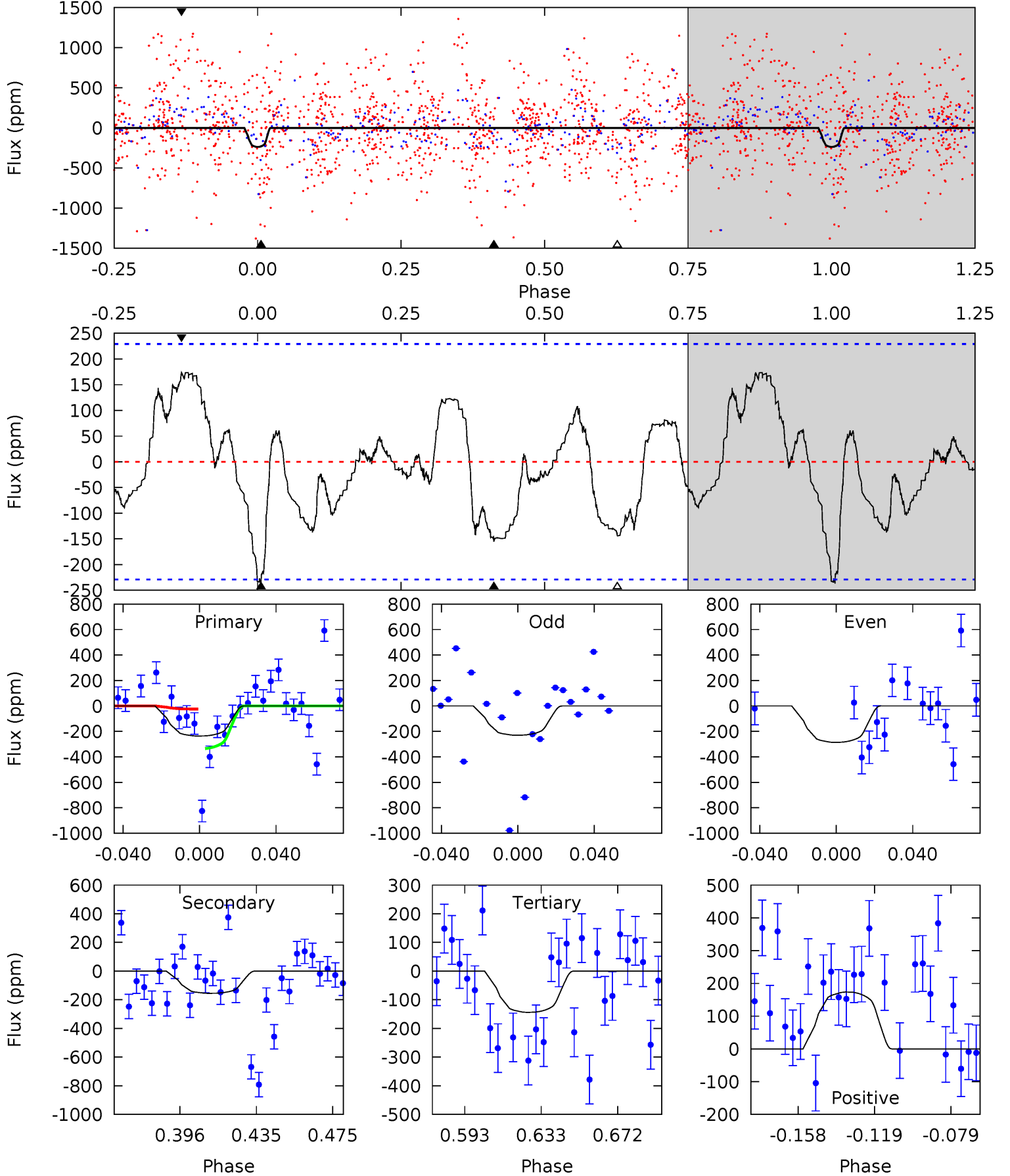
TCE 010342097-04     $P = 2.569136$  Days     $T_0 = 132.196369$  (BKJD)



# DV Model-Shift Uniqueness Test

010342097-04, P = 2.569225 Days, E = 129.622745 Days

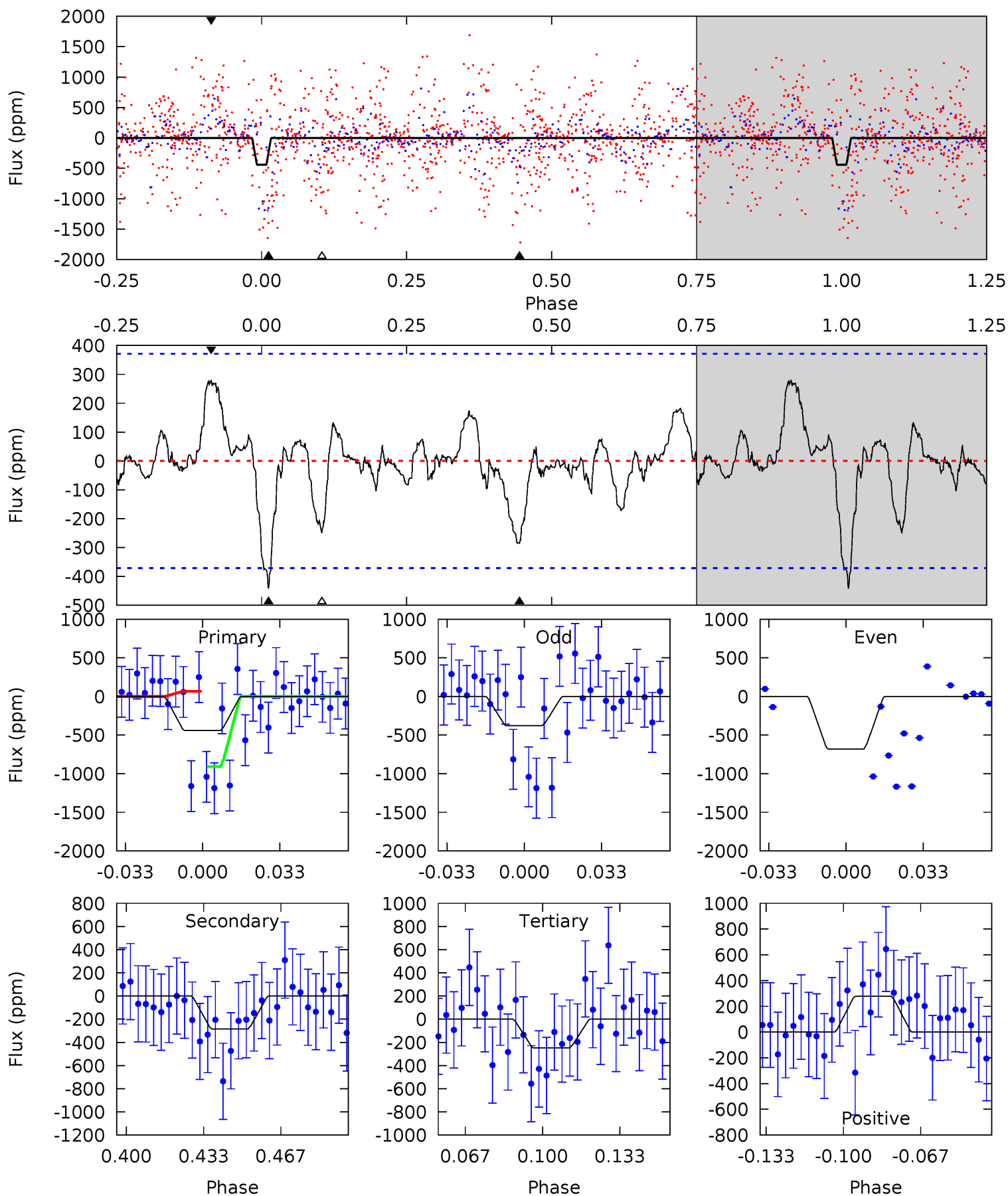
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.91	3.22	2.99	3.61	4.76	2.06	1.55	1.92	1.31	0.23	-0.38	0.45	1.32	0.42	2.93



# Alt Model-Shift Uniqueness Test

010342097-04, P = 2.569136 Days, E = 129.627233 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
5.69	3.68	3.20	3.59	4.79	2.13	1.04	2.49	2.10	0.48	0.09	0.87	1.64	0.39	5.49



### Stellar Parameters For KIC 010342097

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5016^{+125}_{-113}$	$3.013^{+0.396}_{-0.264}$	$-0.440^{+0.250}_{-0.250}$	$5.344^{+2.449}_{-2.004}$	$1.072^{+0.294}_{-0.158}$	$0.010^{+0.028}_{-0.006}$
	+2%/-2%	+13%/-9%	+57%/-57%	+46%/-38%	+27%/-15%	+279%/-64%
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 010342097-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-155 \pm 48$	$15.24^{+13.83}_{-9.90}$	$3651^{+405}_{-407}$	$3234^{+2183}_{-6428}$	$0.526^{+3.512}_{-0.392}$
Alt.	$-285 \pm 78$	$18.92^{+16.40}_{-11.65}$	$3657^{+435}_{-403}$	$3403^{+2096}_{-6494}$	$0.609^{+3.494}_{-0.439}$

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



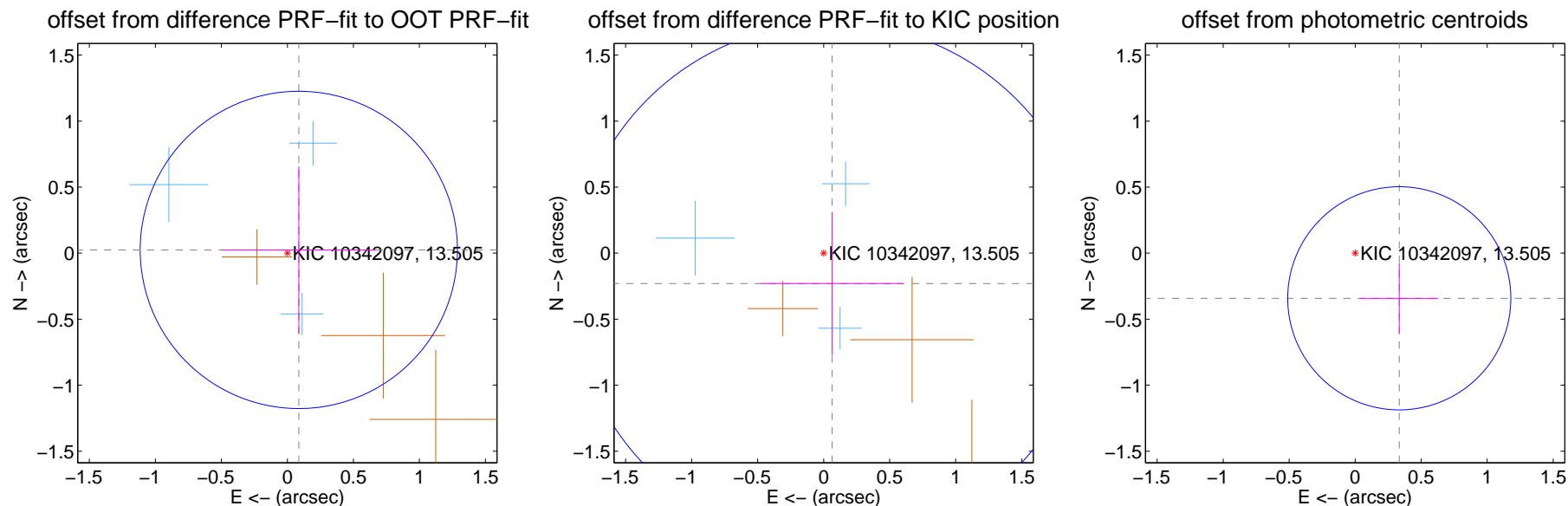
## DV Centroid Data

Supplemental centroid analysis for 010342097-04. Kepler magnitude: 13.51. Transit SNR 5.85

There are 3 quarters with good PRF difference image offsets

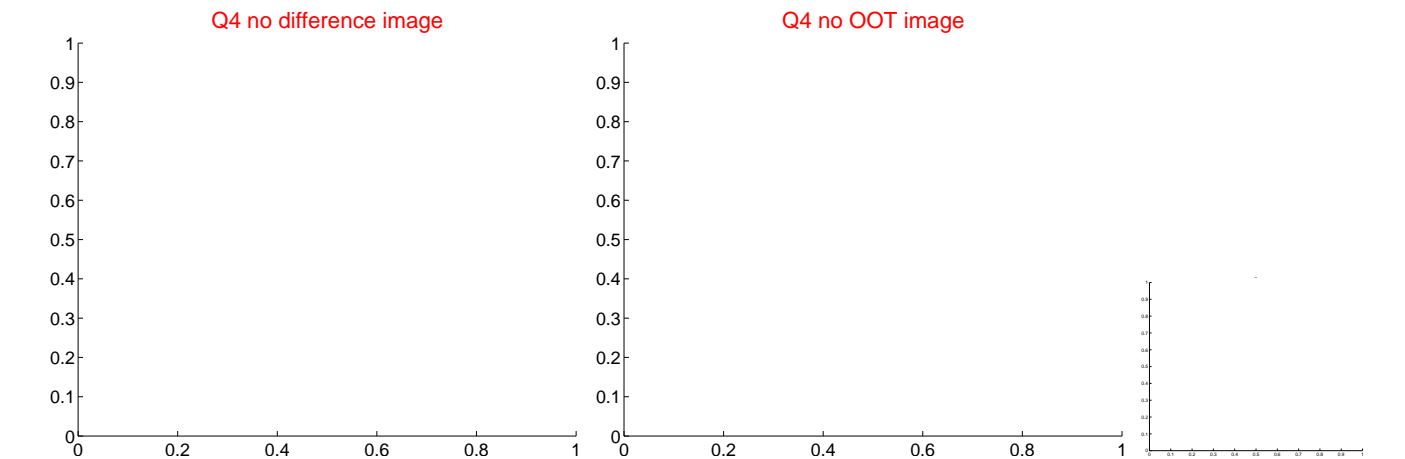
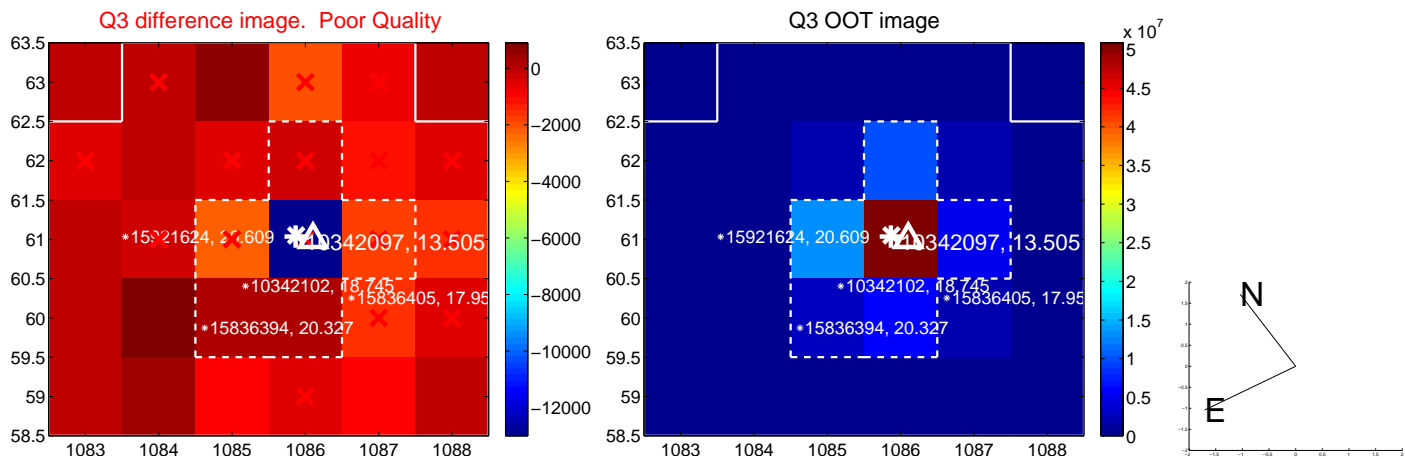
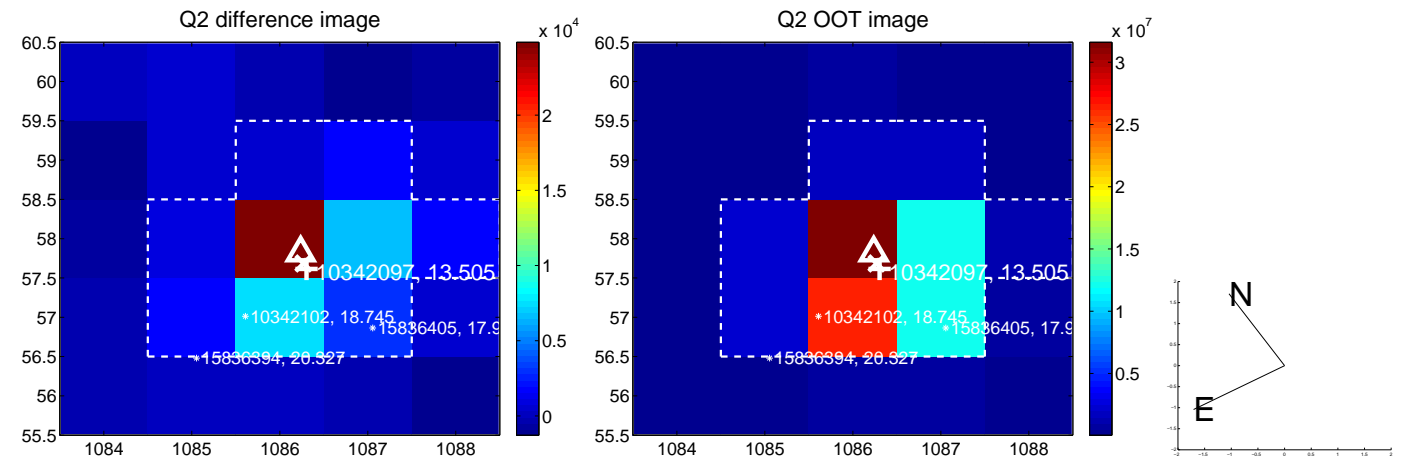
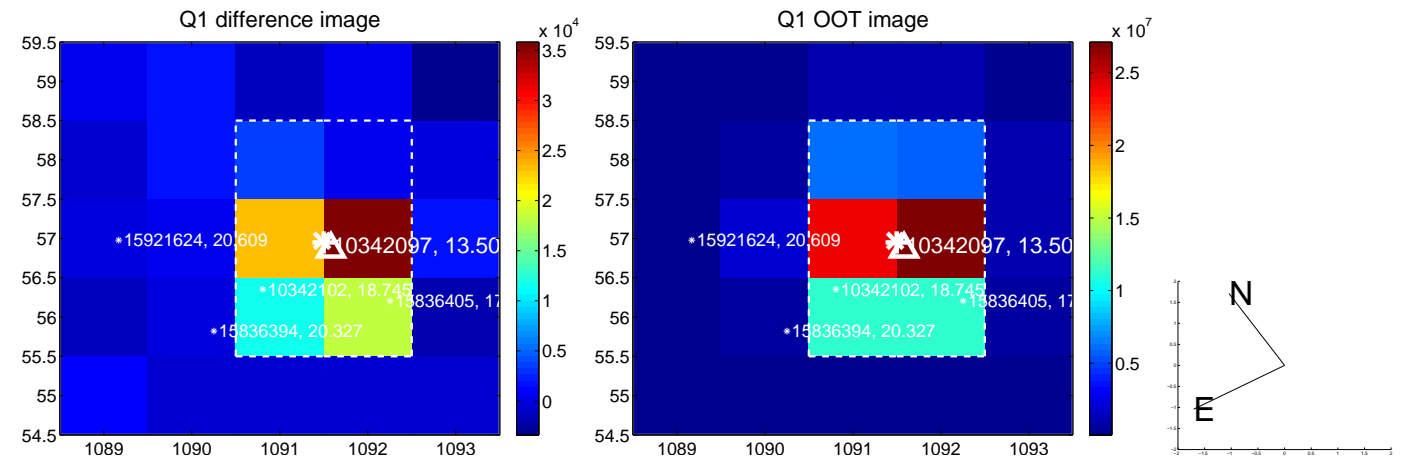
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.090 \pm 0.400$	0.22	$-0.087 \pm 0.584$	$0.025 \pm 0.633$
PRF-fit source offset from KIC position	$0.239 \pm 0.658$	0.36	$-0.063 \pm 0.536$	$-0.231 \pm 0.541$
photometric centroid source offset	$0.48 \pm 0.28$	1.70	$-0.33 \pm 0.30$	$-0.34 \pm 0.27$



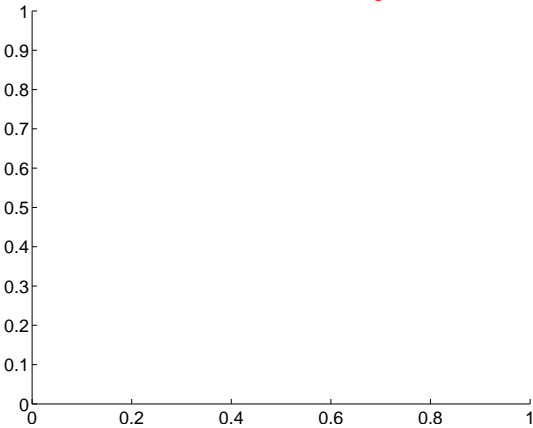
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

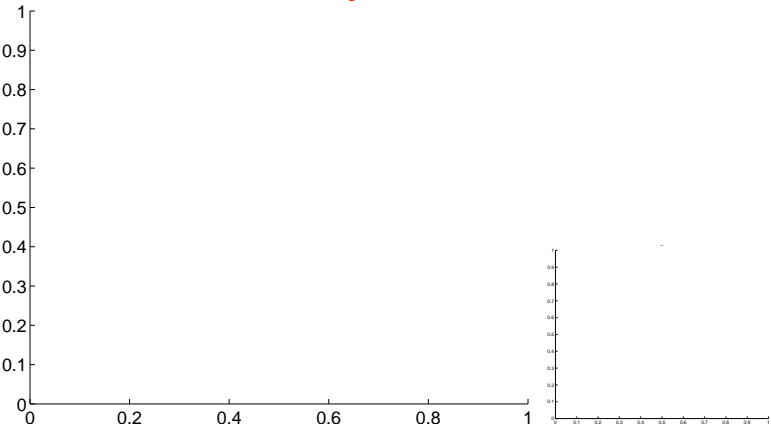


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

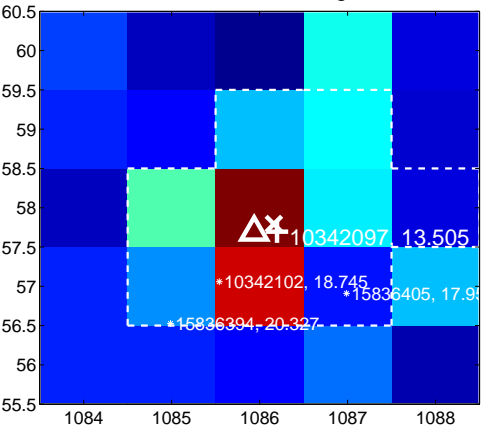
Q5 no difference image



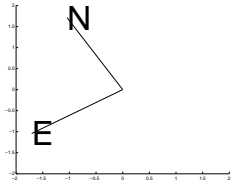
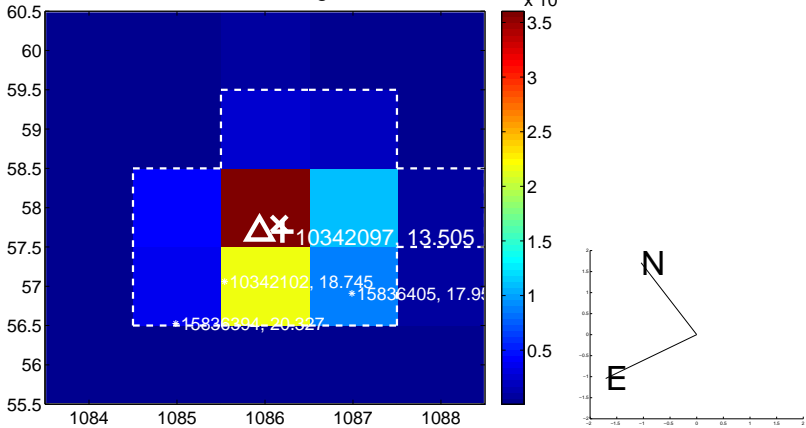
Q5 no OOT image



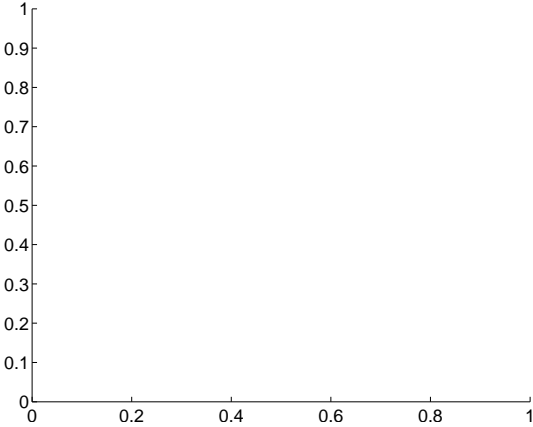
Q6 difference image



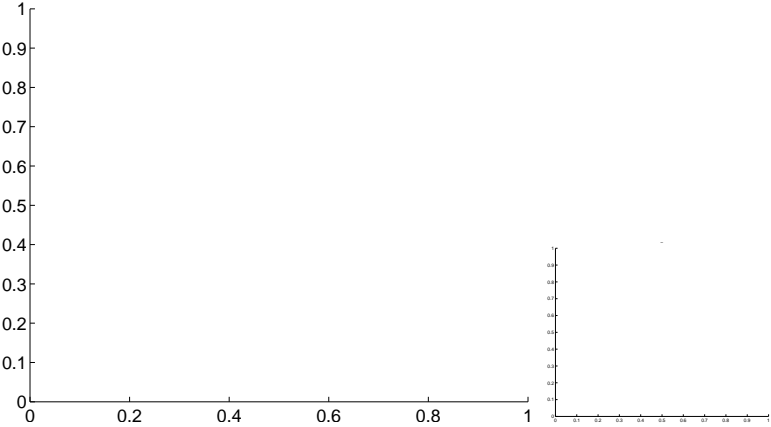
Q6 OOT image



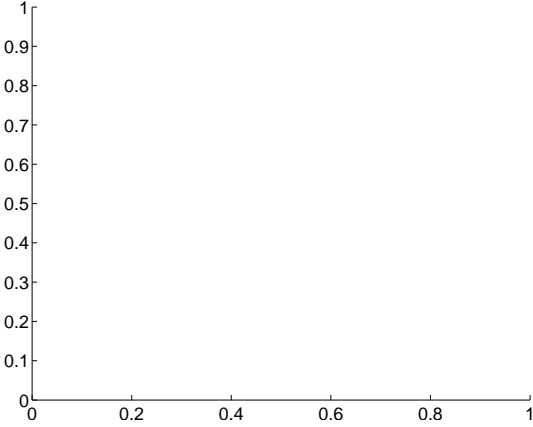
Q7 no difference image



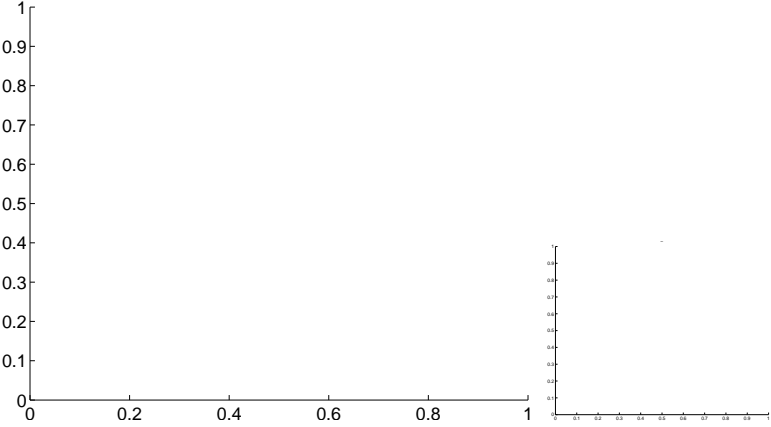
Q7 no OOT image



Q8 no difference image

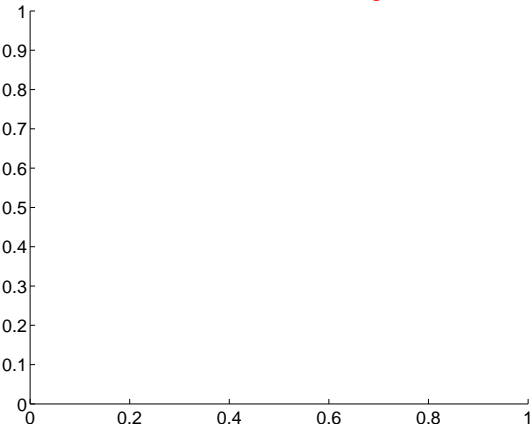


Q8 no OOT image

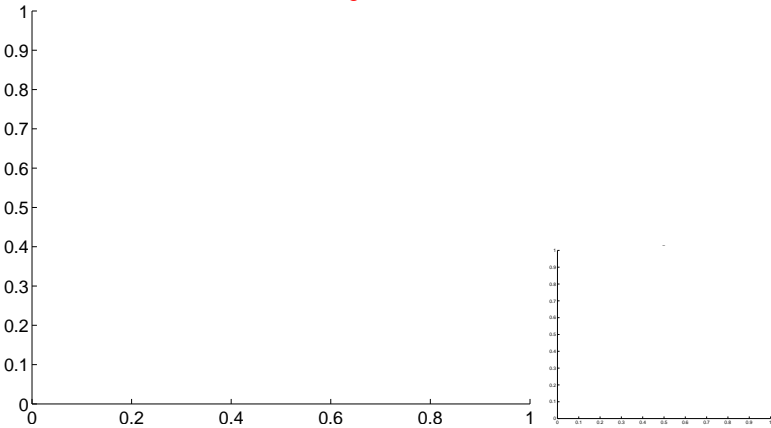


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

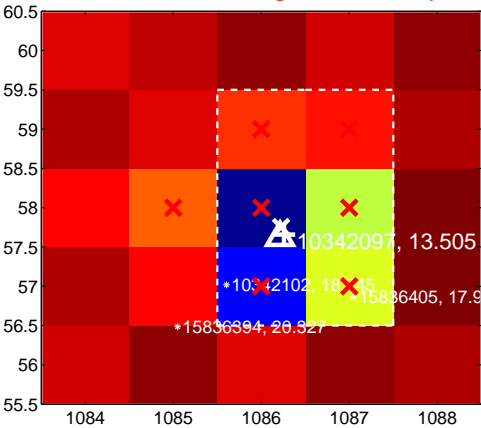
Q9 no difference image



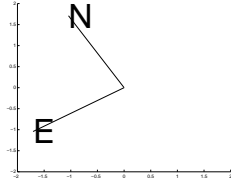
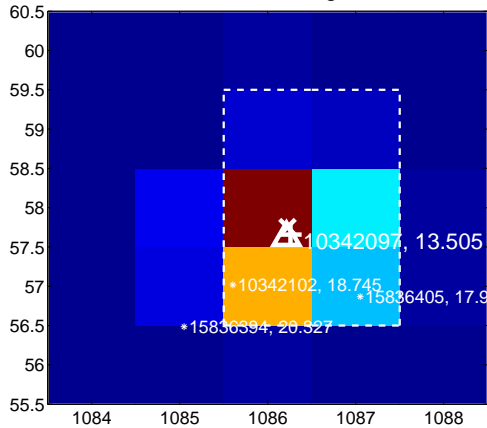
Q9 no OOT image



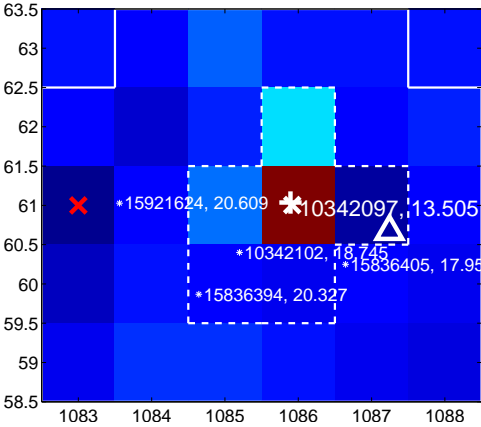
Q10 difference image. Poor Quality



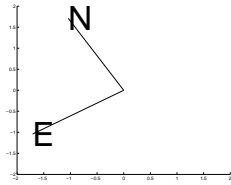
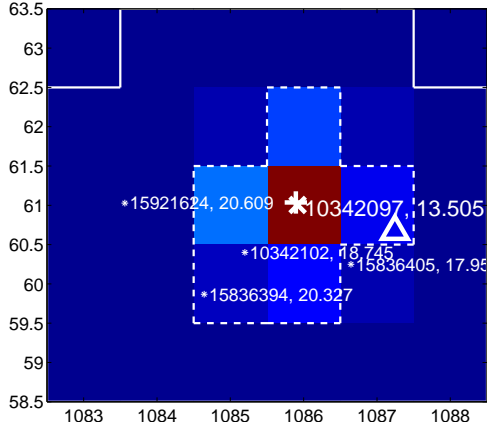
Q10 OOT image



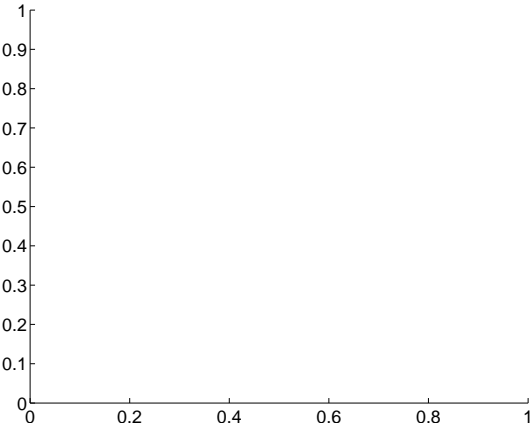
Q11 difference image. Poor Quality



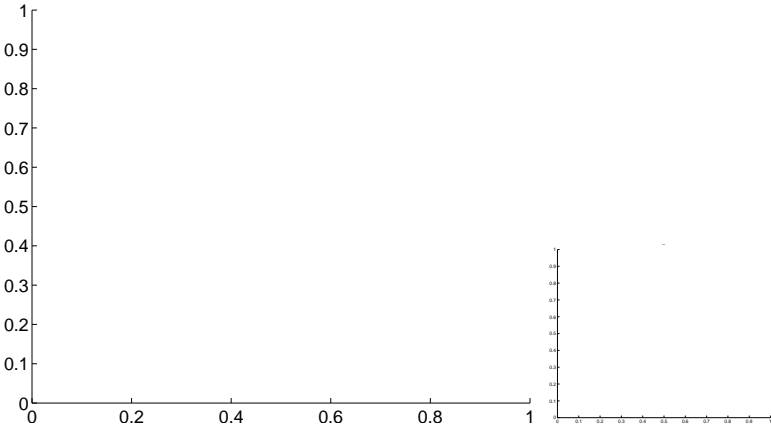
Q11 OOT image



Q12 no difference image

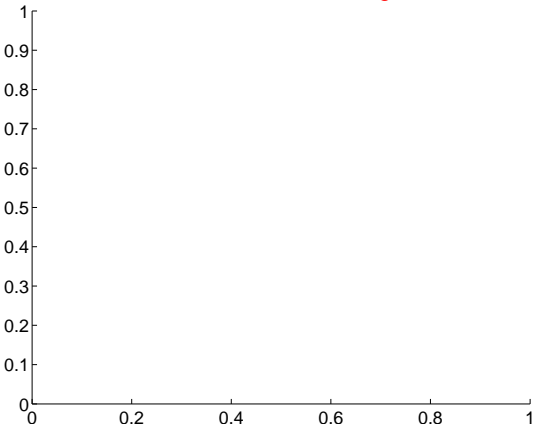


Q12 no OOT image

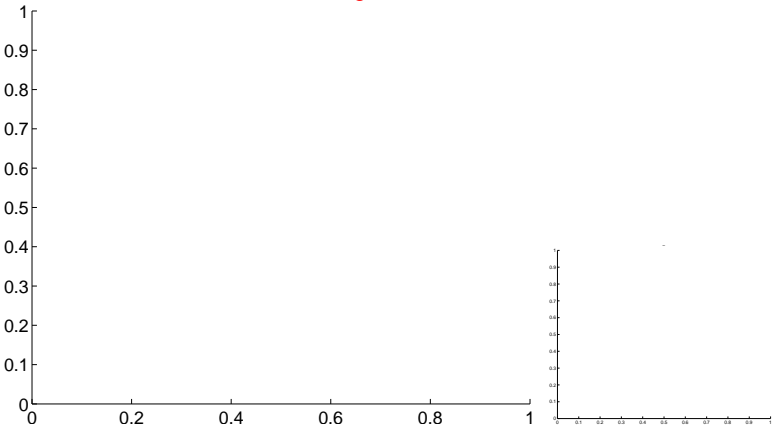


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

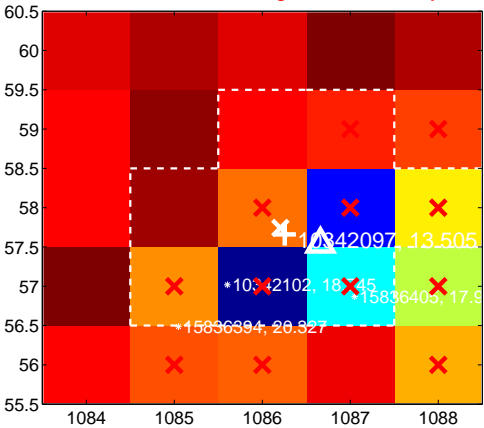
Q13 no difference image



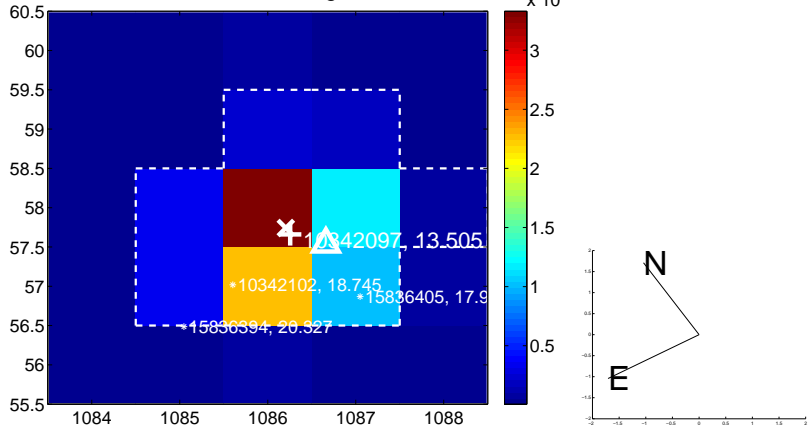
Q13 no OOT image



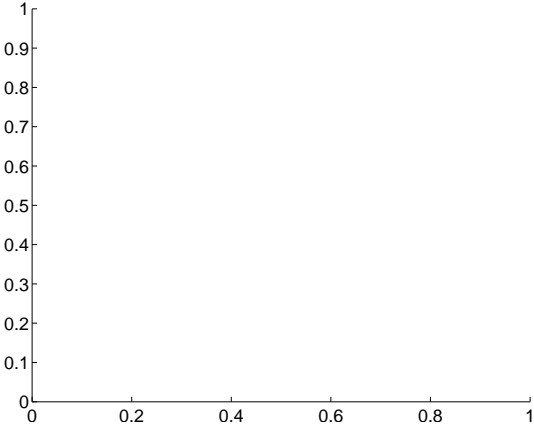
Q14 difference image. Poor Quality



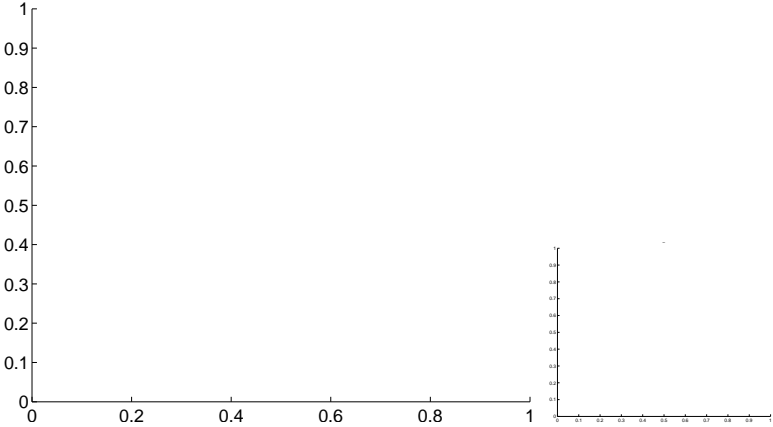
Q14 OOT image



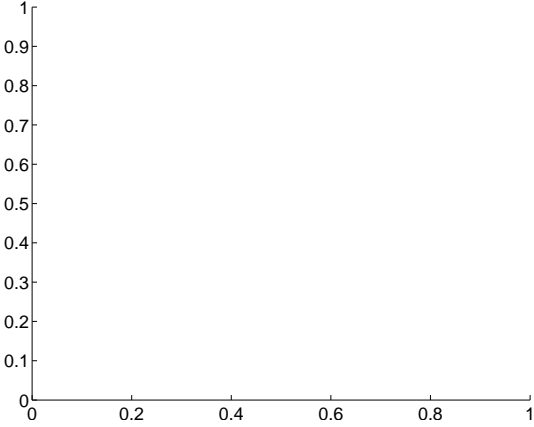
Q15 no difference image



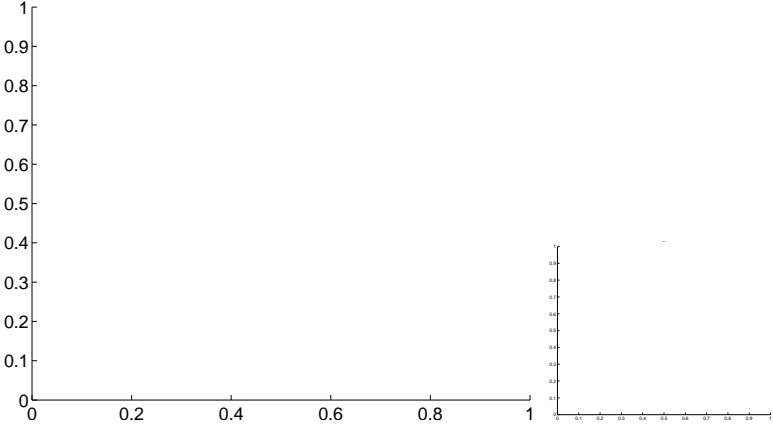
Q15 no OOT image



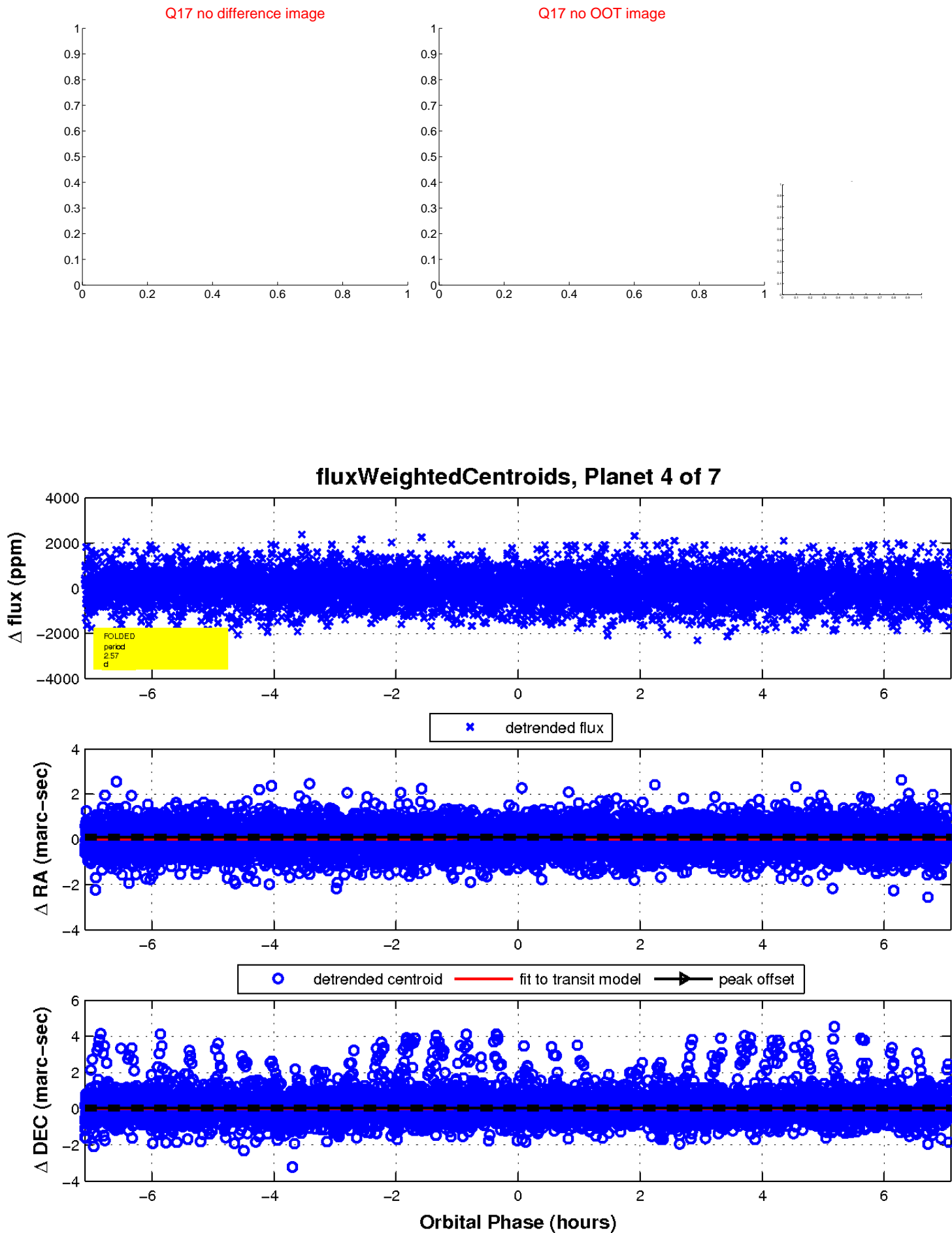
Q16 no difference image



Q16 no OOT image

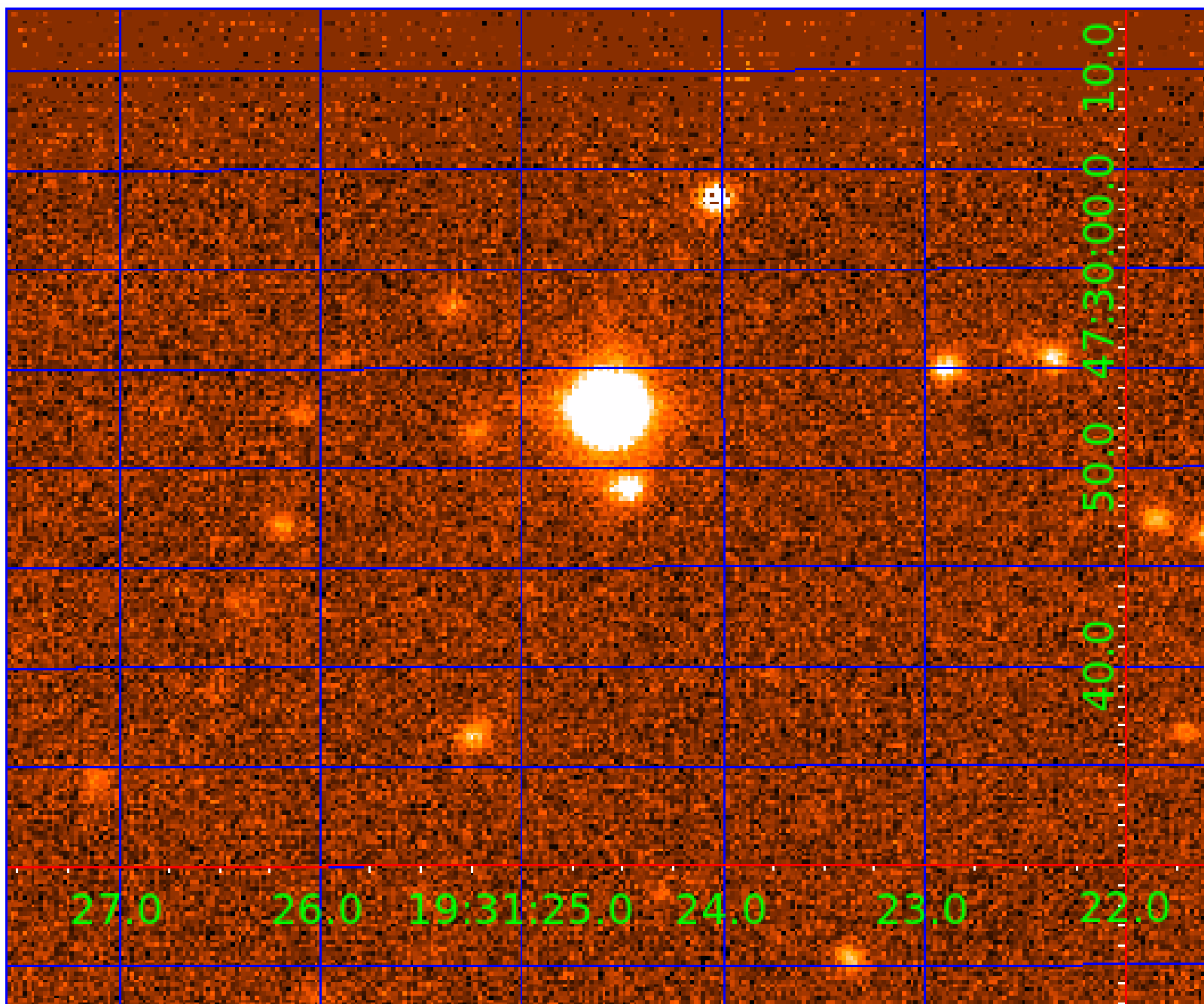


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 010342097

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010342097-01	OBS	7314.01	0.933766	131.547897	47.7	6.903	10.1	4.0	5.34	5016	3.64	0.00
010342097-03	OBS	No	32.669706	140.384578	1496.4	7.066	11.8	10.7	5.34	5016	40.94	386.11
010342097-04	OBS	No	2.569225	132.191970	261.3	2.365	10.7	5.9	5.34	5016	10.53	11459.51
010342097-06	OBS	No	6.465403	133.878655	1010.5	1.480	11.6	11.3	5.34	5016	16.66	3347.92
010342097-07	OBS	No	2.426780	131.693563	364.3	1.716	7.8	6.1	5.34	5016	12.38	12365.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010342097-01	OBS	FP	0.00	0	0	1	1	PLANET_IN_STAR—HALO_GHOST—EPHEM_MATCH
010342097-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010342097-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010342097-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010342097-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS

**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 010342097-06

No Significant Match Found

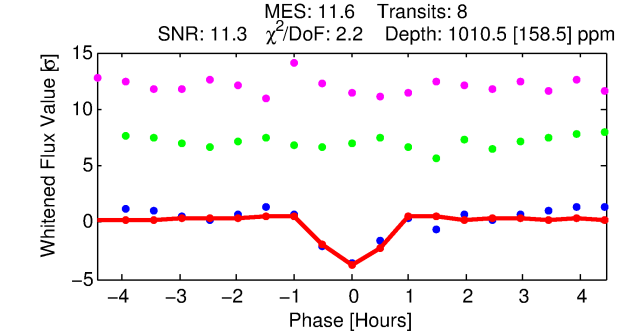
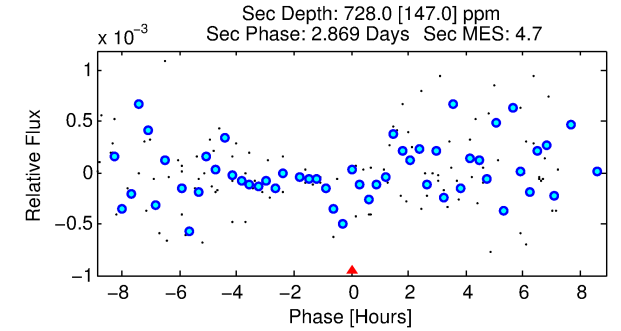
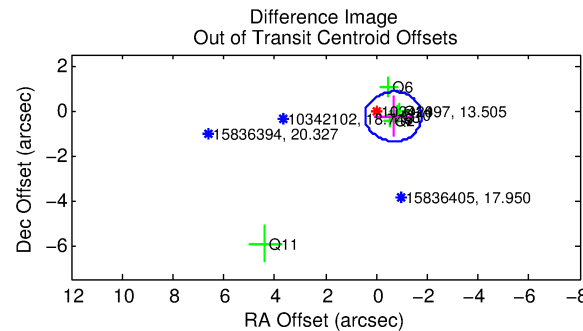
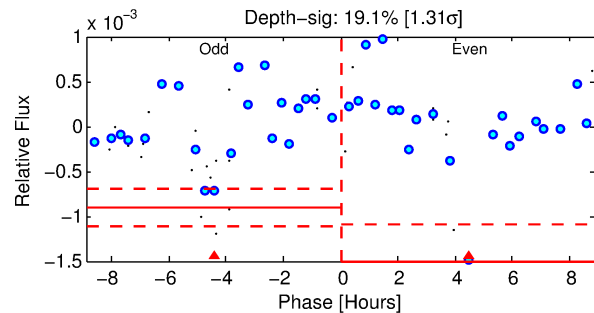
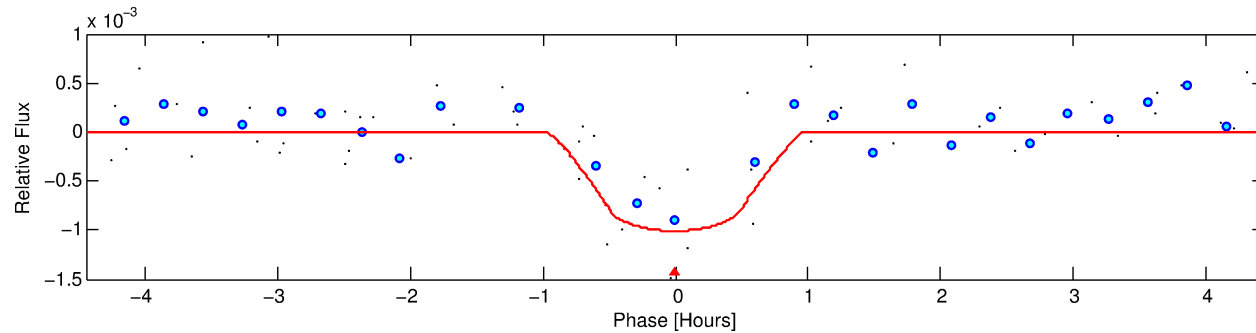
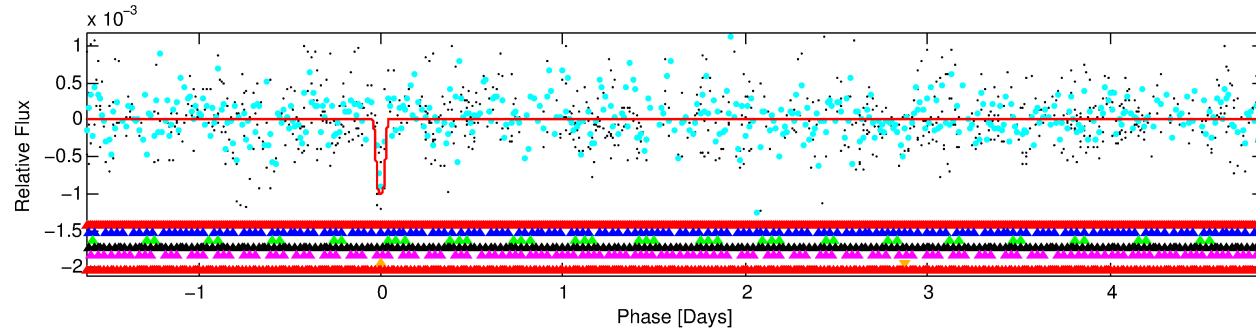
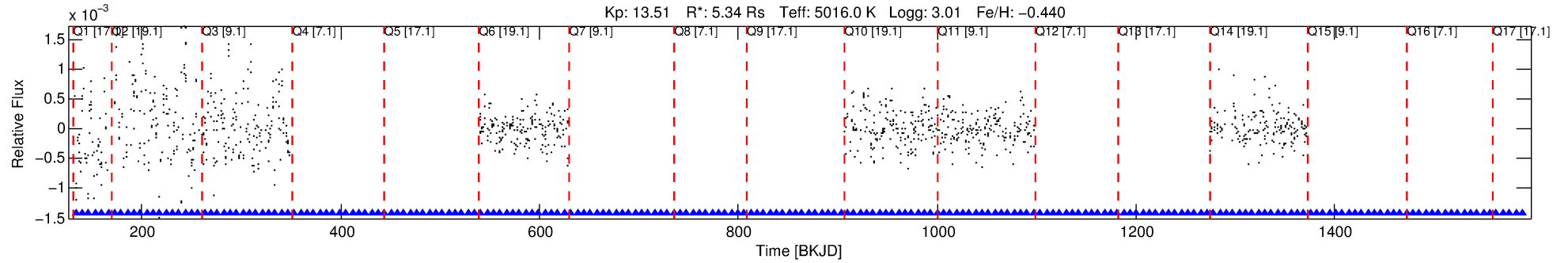


# DV One-Page Summary

KIC: 10342097 Candidate: 6 of 7 Period: 6.465 d

KOI: K07314 Corr: No Ephemeris Match

Kp: 13.51 R\*: 5.34 Rs Teff: 5016.0 K Logg: 3.01 Fe/H: -0.440



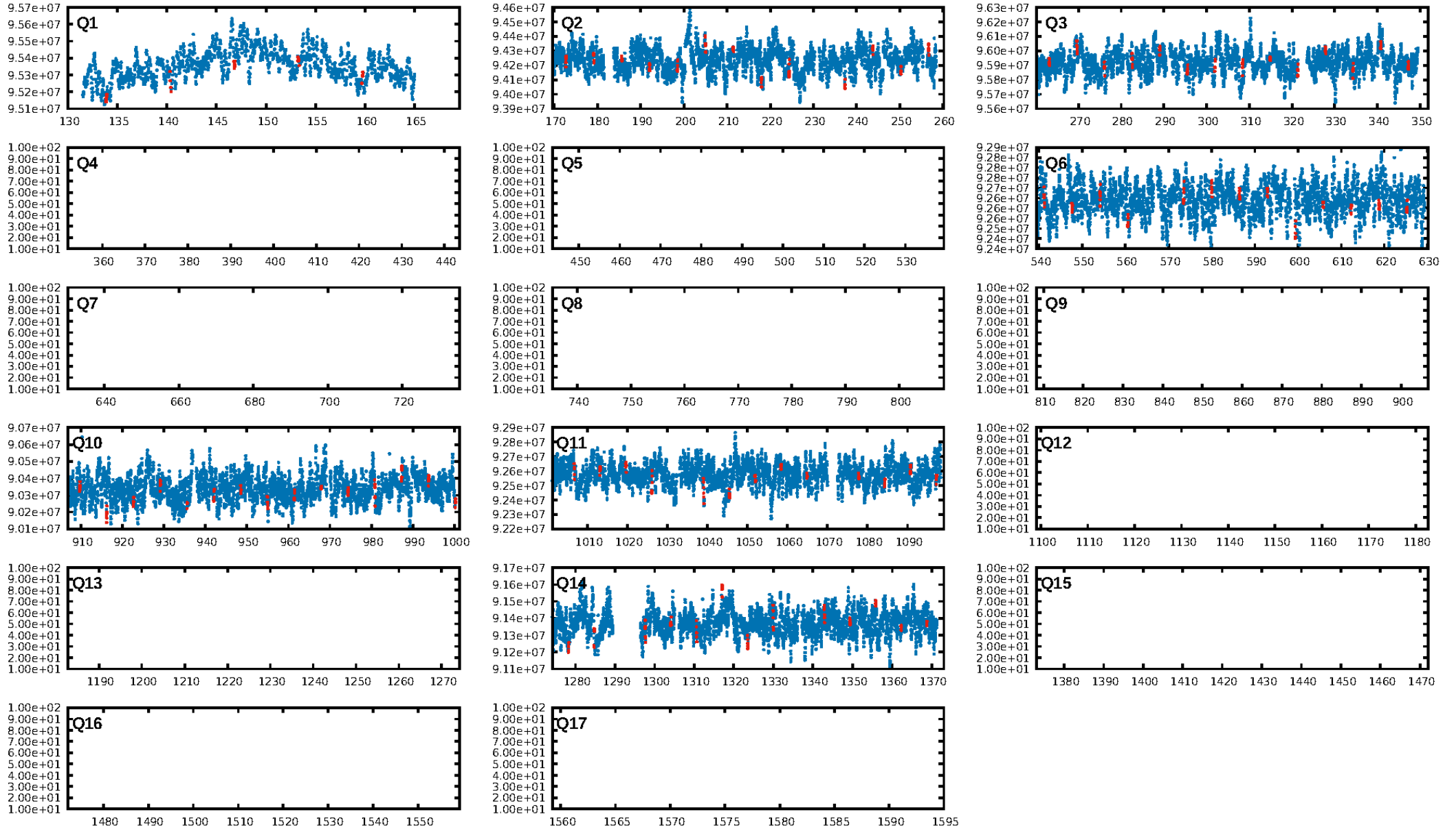
## DV Fit Results:

Period = 6.46540 [0.00005] d  
Epoch = 133.8787 [0.0045] BKJD  
Rp/R\* = 0.0286 [0.1126]  
a/R\* = 34.18 [495.58]  
b = 0.10 [146.62]  
Seff = 3347.92 [2302.03]  
Teq = 1940 [333] K  
Rp = 16.66 [66.08] Re  
a = 0.0696 [0.0300] AU  
Ag = 6.98 [55.23] [0.11σ]  
Teffp = 4875 [9606] K [0.31σ]

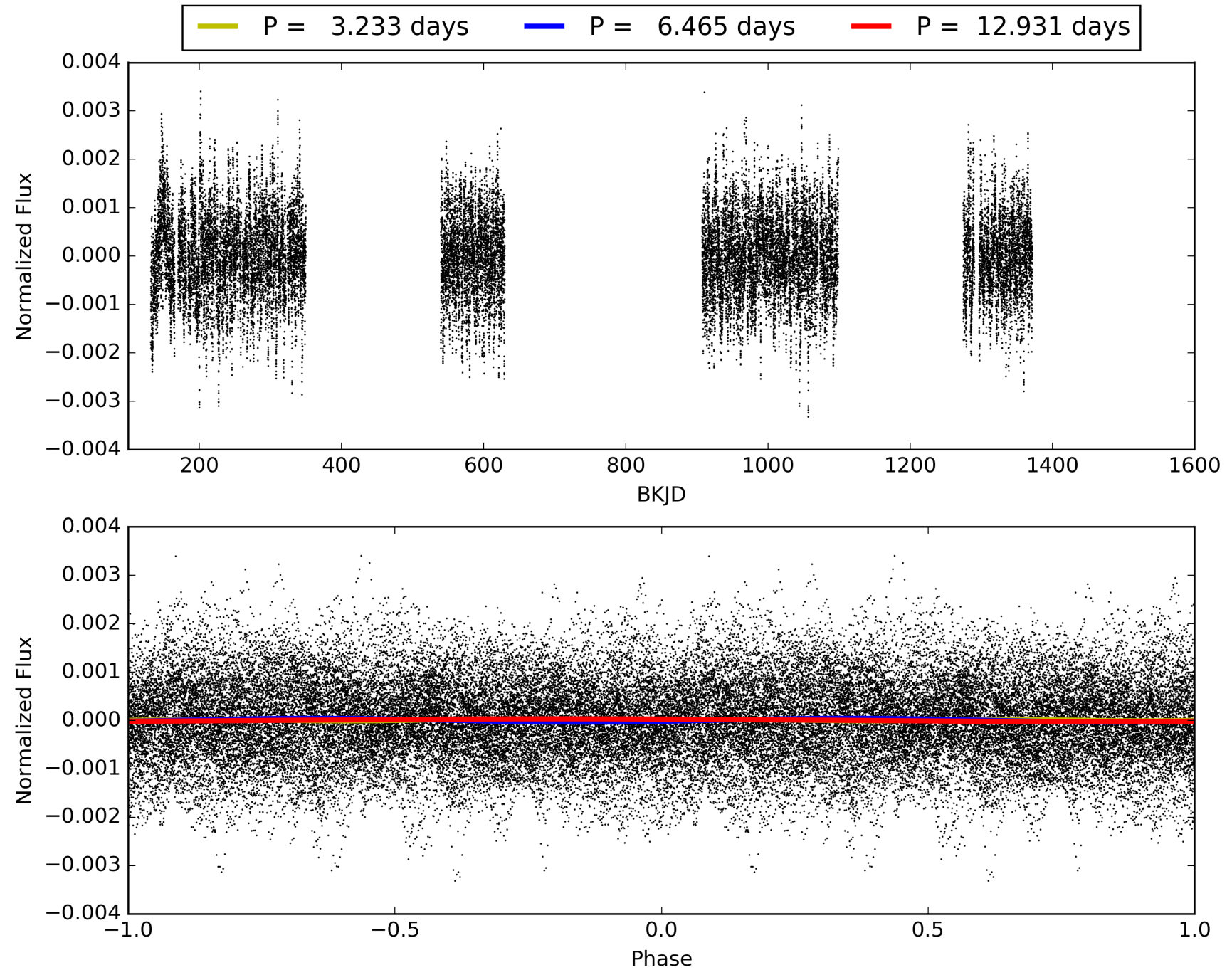
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [33.51σ]  
LongPeriod-sig: 100.0% [25.73σ]  
**ModelChiSquare2-sig: 0.0%**  
ModelChiSquareGof-sig: 73.7%  
Bootstrap-pfa: 2.77e-21  
RollingBand-fgt: 1.00 [7/7]  
**GhostDiagnostic-chr: 0.3736**  
Centroid-sig: 8.6%  
Centroid-so: 0.156 arcsec [1.09σ]  
OotOffset-rm: 0.716 arcsec [1.94σ]  
OotOffset-st: 4/2/0/0 [6]  
KicOffset-rm: **0.819 arcsec [3.20σ]**  
KicOffset-st: 4/2/0/0 [6]  
DiffImageQuality-fgm: 0.50 [3/6]  
DiffImageOverlap-fno: 0.57 [4/7]

# TCE 010342097-06, PDC Light Curves

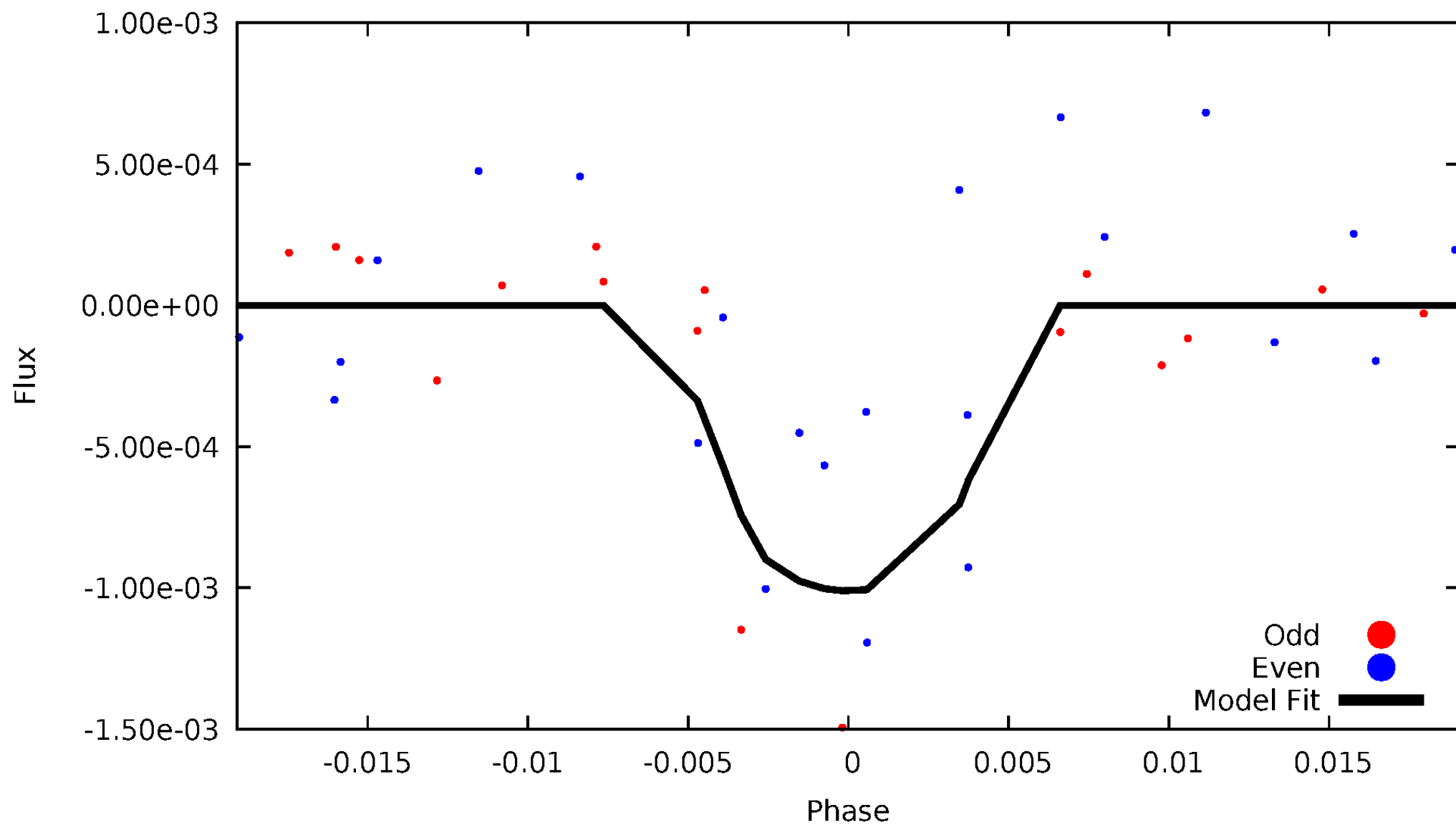


# TCE 010342097-06



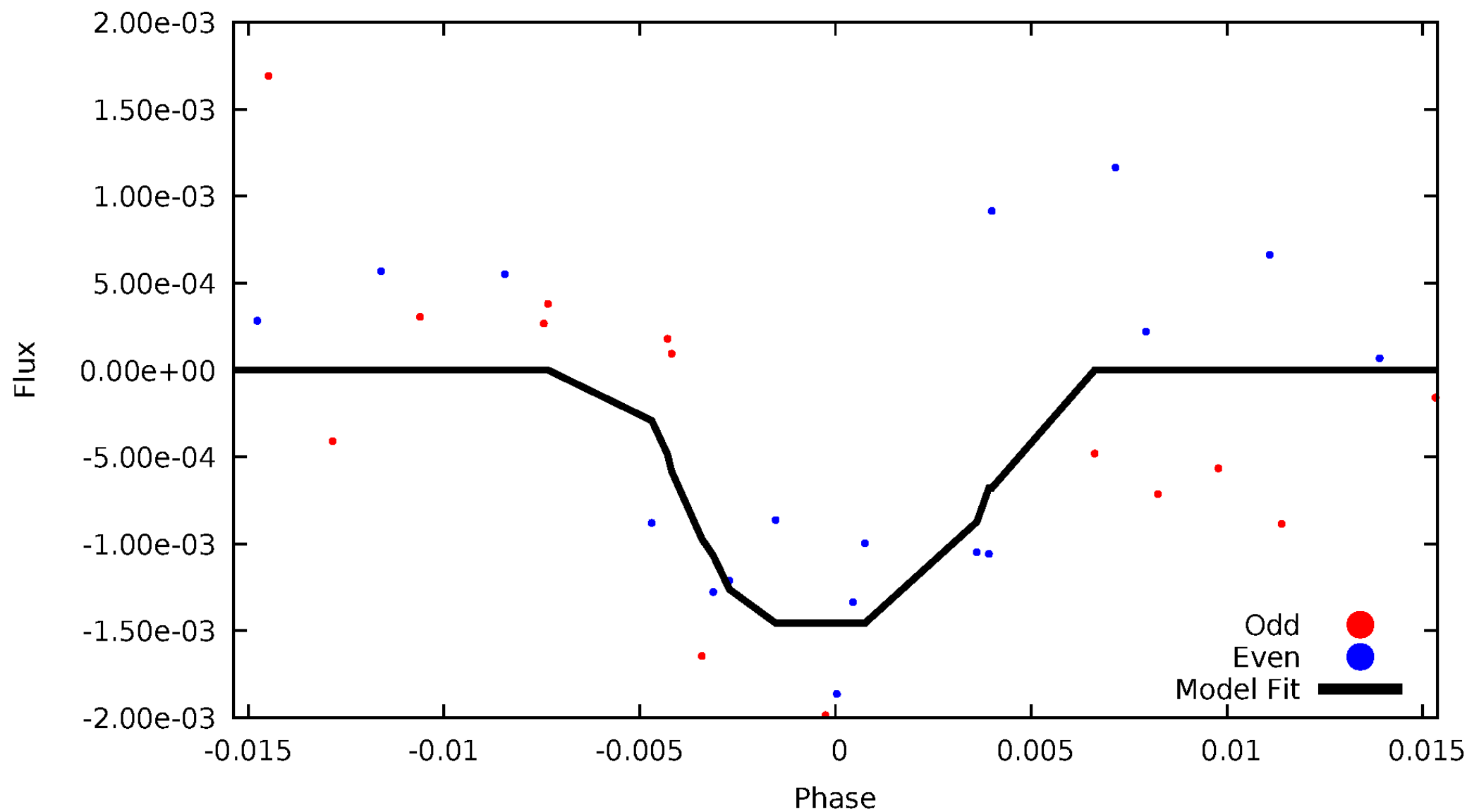
# DV Odd/Even

TCE 010342097-06



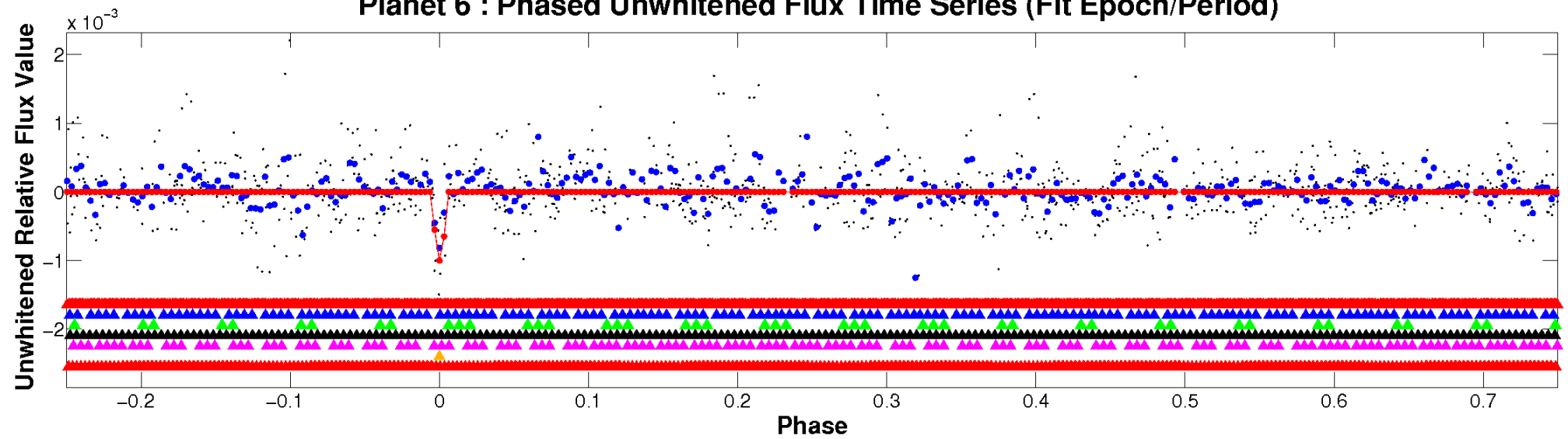
# ALT Odd/Even

TCE 010342097-06

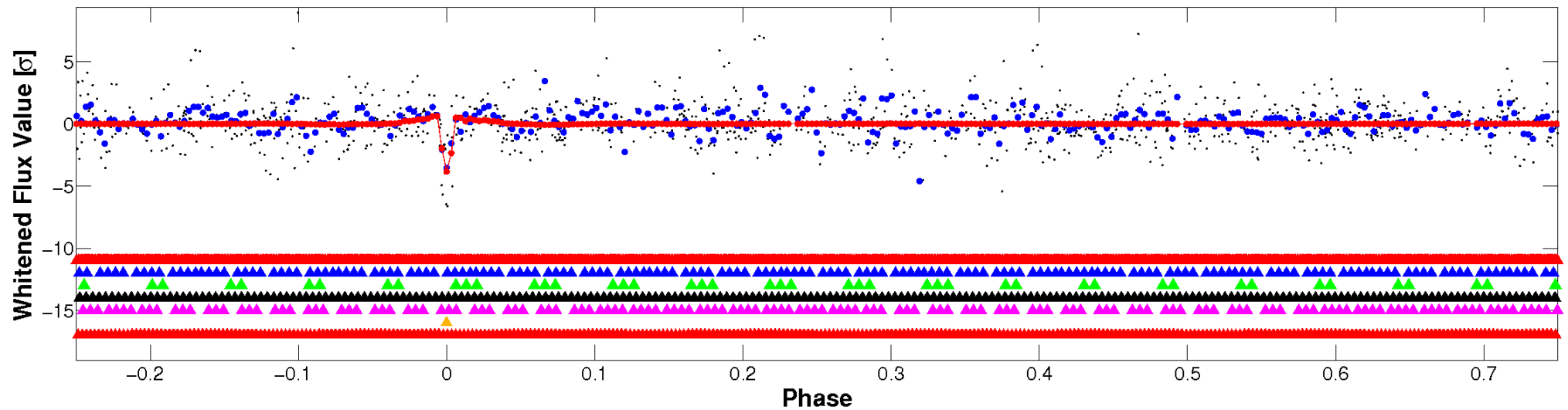


# Non-Whitened Vs. Whitened Light Curve

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

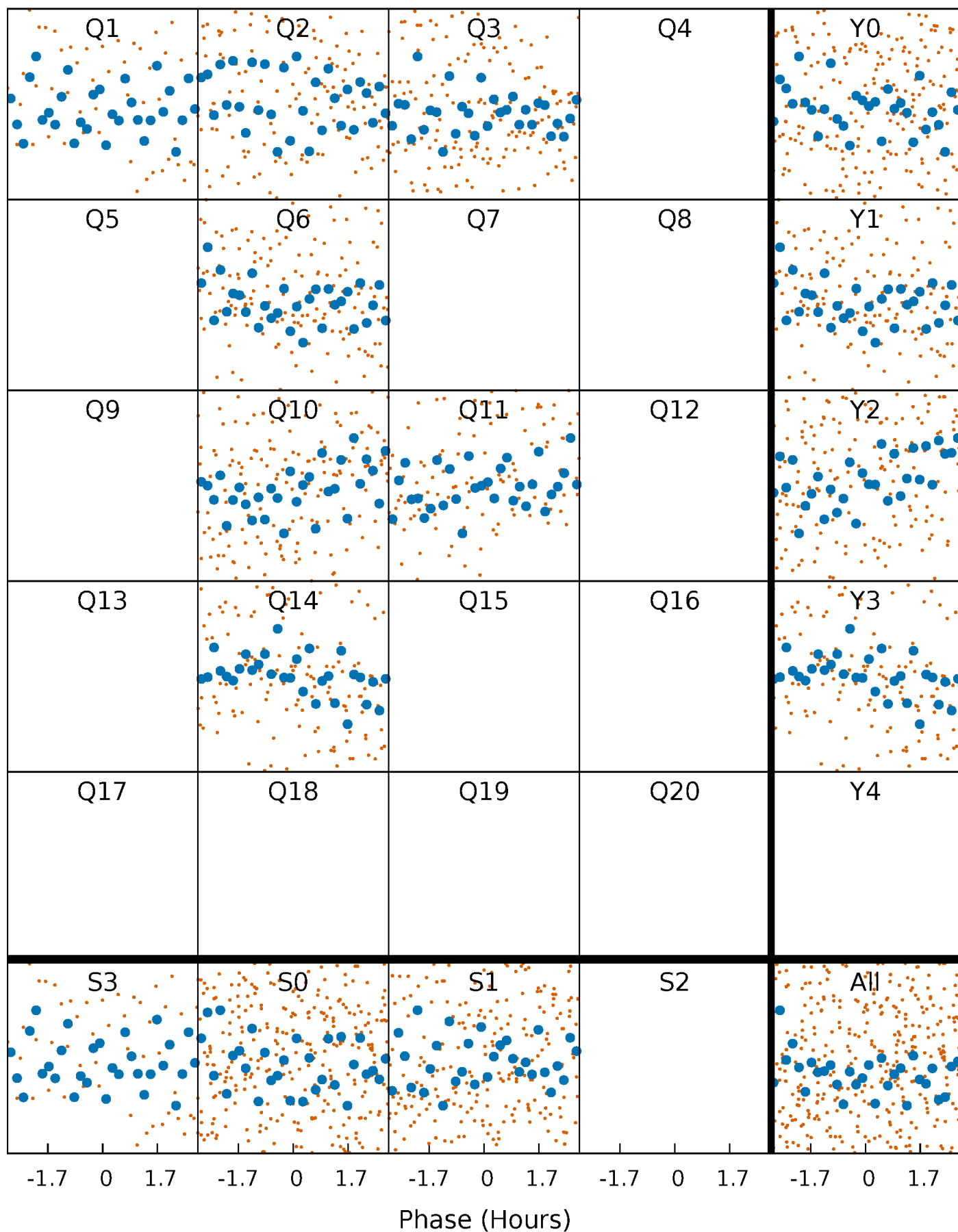


## Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



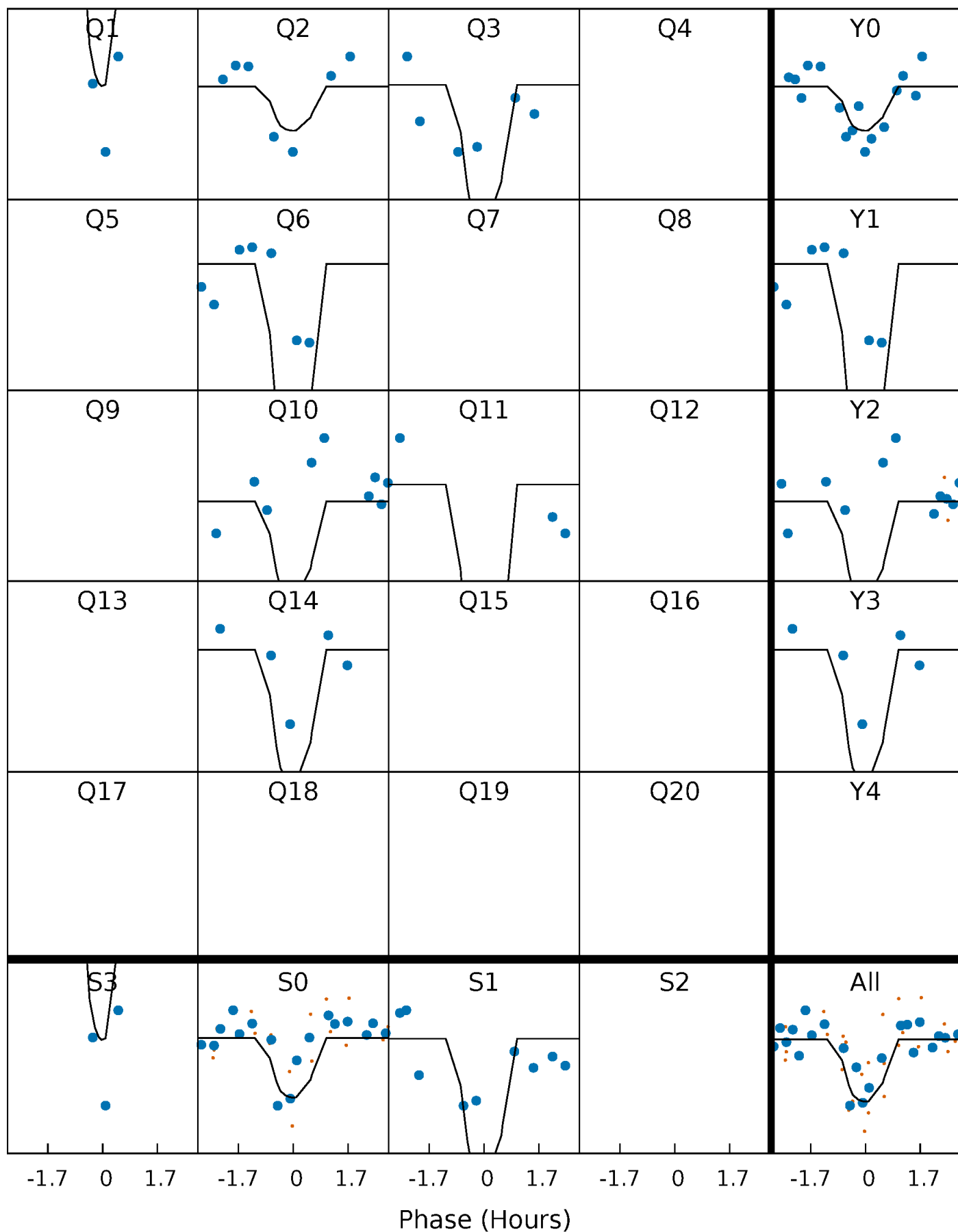
# PDC Quarter-Phased Transit Curves

TCE 010342097-06 P= 6.465403 Days  $T_0=133.878655$  (BKJD)



# DV Quarter-Phased Transit Curves

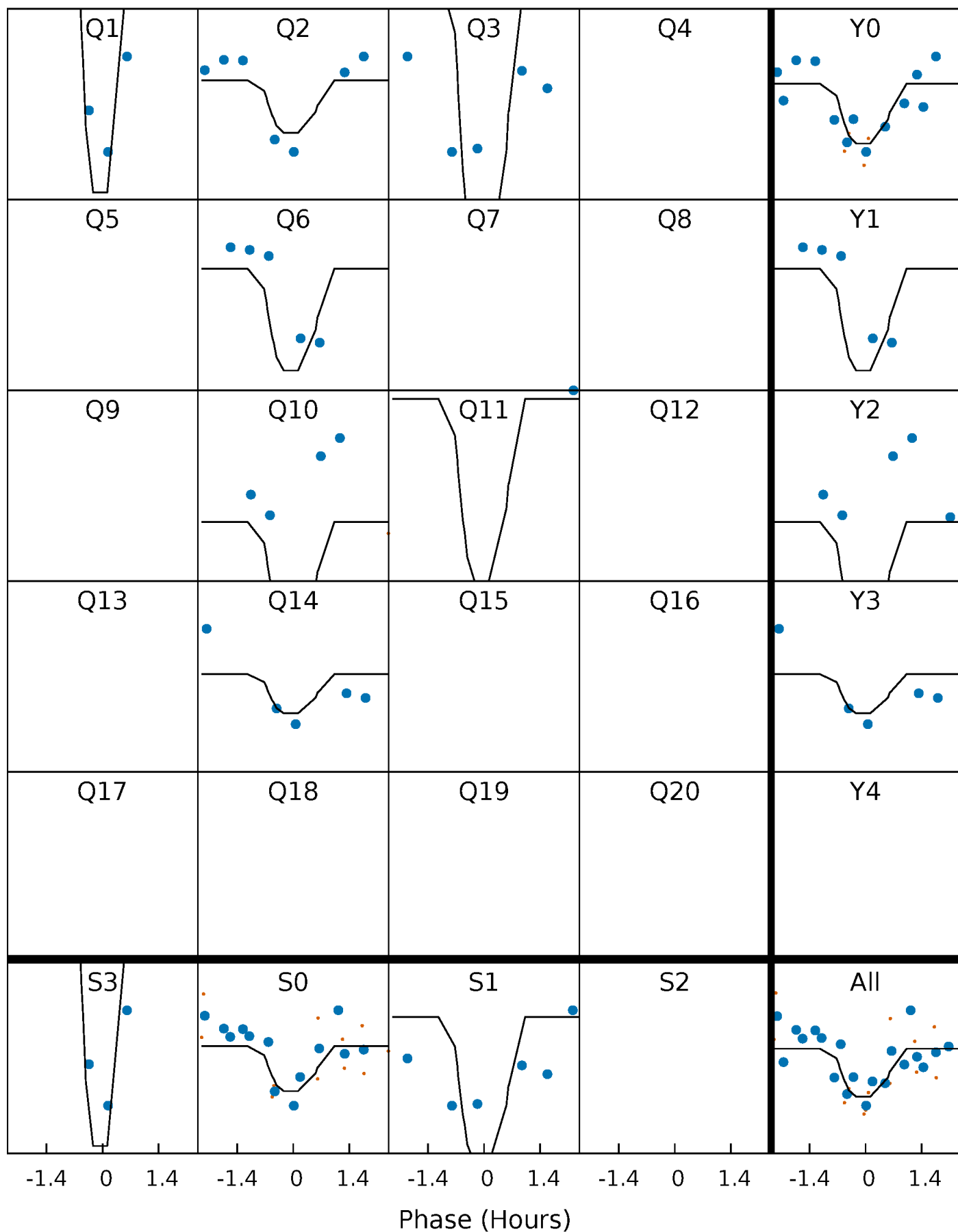
TCE 010342097-06 P= 6.465403 Days  $T_0=133.878655$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

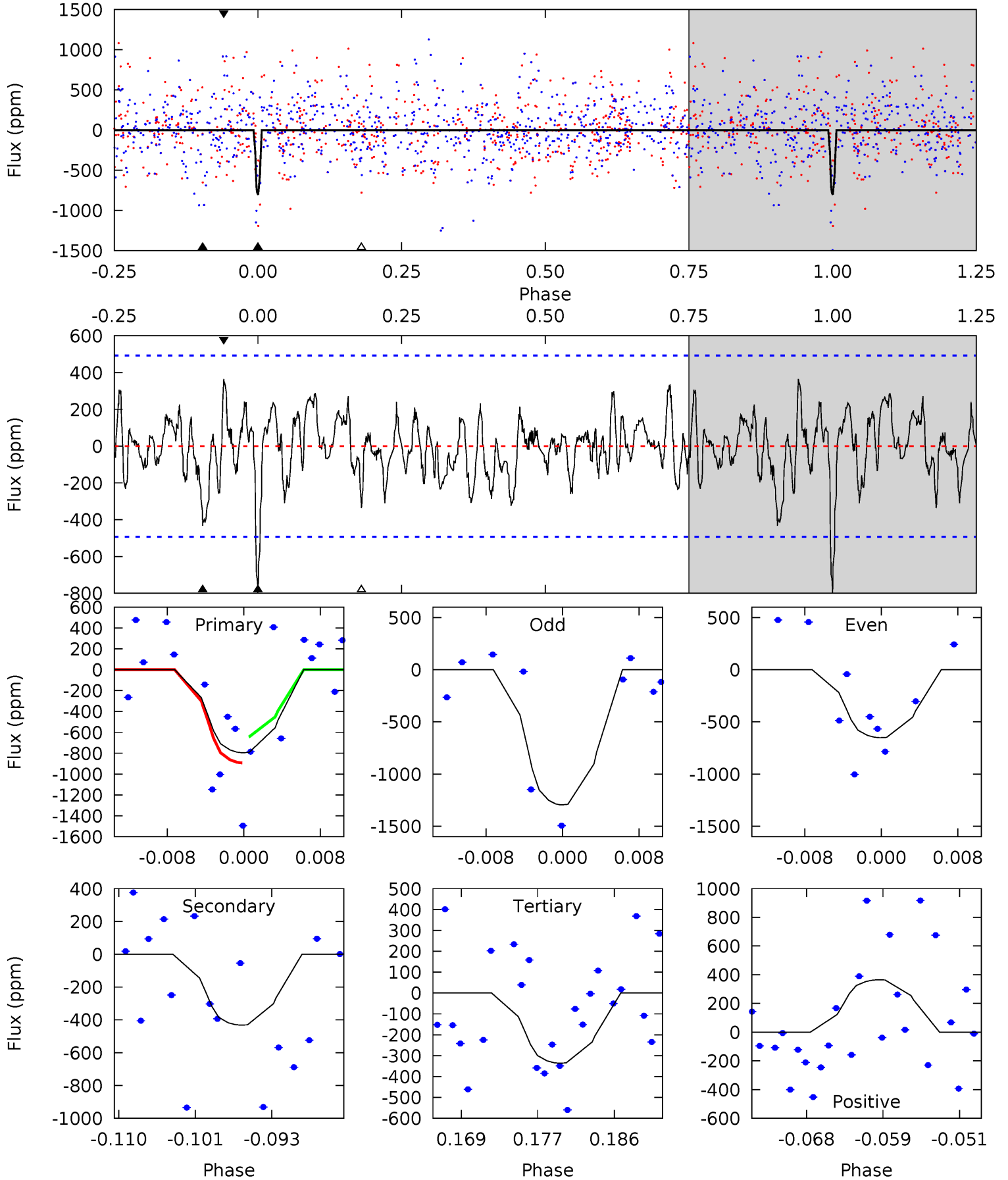
TCE 010342097-06     $P = 6.465371$  Days     $T_0 = 133.879504$  (BKJD)



# DV Model-Shift Uniqueness Test

010342097-06, P = 6.465403 Days, E = 127.413252 Days

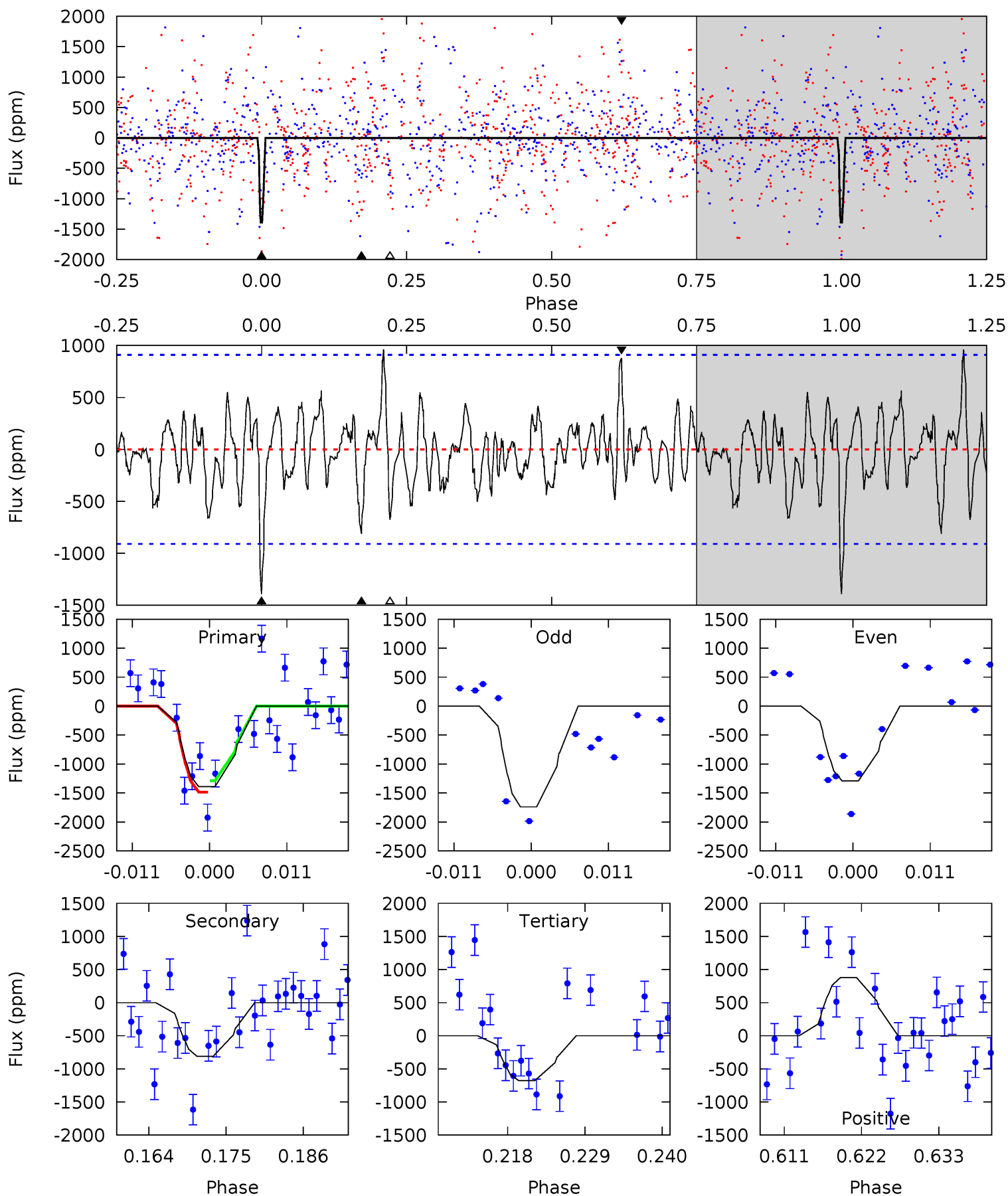
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.17	4.44	3.45	3.75	5.06	2.63	1.38	4.72	4.42	0.99	0.69	2.56	1.47	0.31	1.21



# Alt Model-Shift Uniqueness Test

010342097-06, P = 6.465371 Days, E = 127.414133 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
7.66	4.47	3.73	4.84	5.01	2.55	1.49	3.93	2.82	0.74	-0.37	1.06	1.07	0.41	0.56



### Stellar Parameters For KIC 010342097

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5016^{+125}_{-113}$	$3.013^{+0.396}_{-0.264}$	$-0.440^{+0.250}_{-0.250}$	$5.344^{+2.449}_{-2.004}$	$1.072^{+0.294}_{-0.158}$	$0.010^{+0.028}_{-0.006}$
	+2%/-2%	+13%/-9%	+57%/-57%	+46%/-38%	+27%/-15%	+279%/-64%
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 010342097-06 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-432 \pm 97$	$48.51^{+53.40}_{-33.20}$	$2683^{+322}_{-320}$	$2677^{+1718}_{-5421}$	$0.498^{+4.521}_{-0.389}$
Alt.	$-811 \pm 181$	$52.26^{+59.44}_{-35.72}$	$2698^{+290}_{-313}$	$3063^{+2018}_{-5648}$	$0.792^{+6.859}_{-0.617}$

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

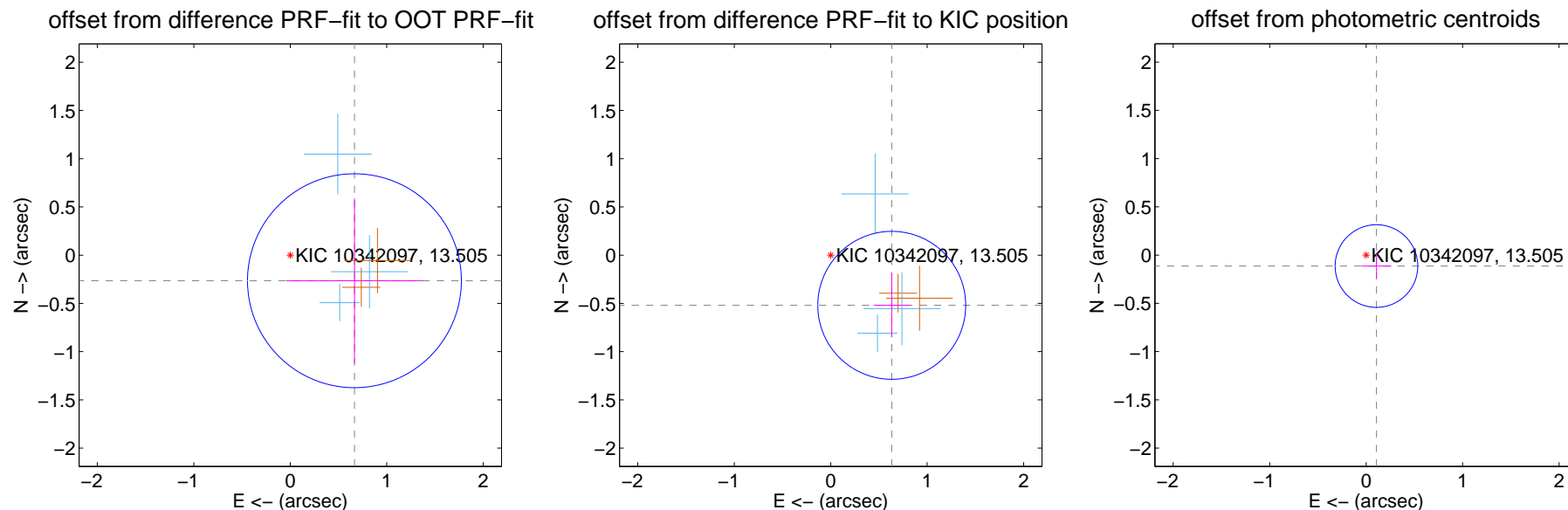
## DV Centroid Data

Supplemental centroid analysis for 010342097-06. Kepler magnitude: 13.51. Transit SNR 11.34

There are 3 quarters with good PRF difference image offsets

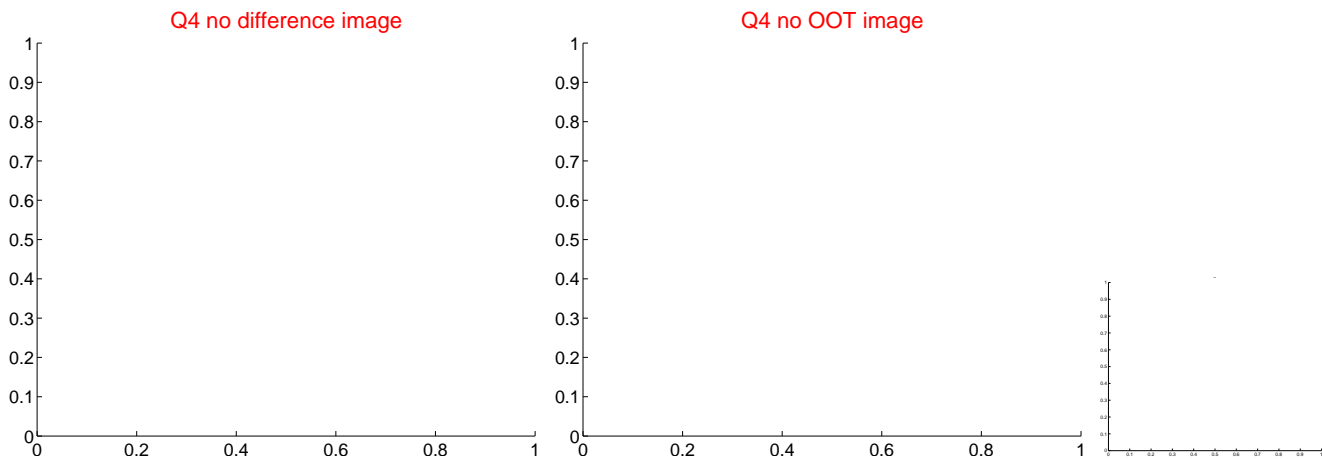
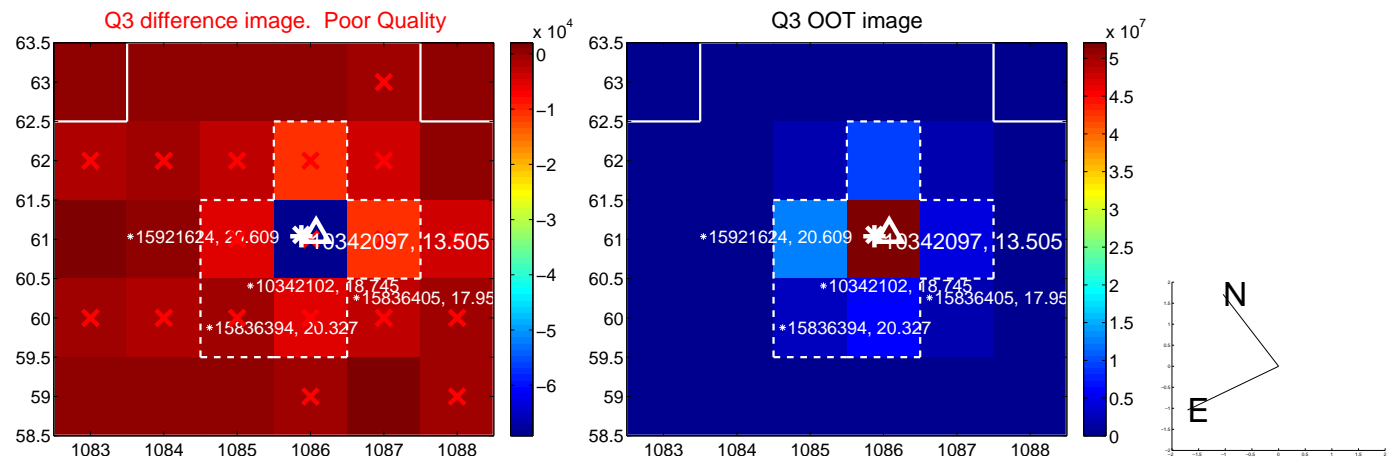
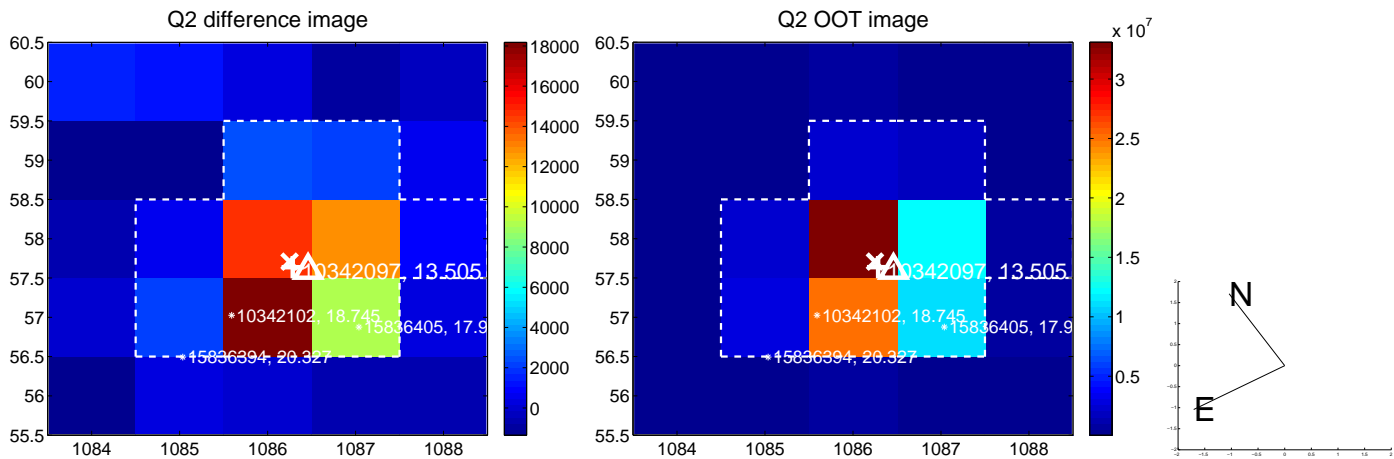
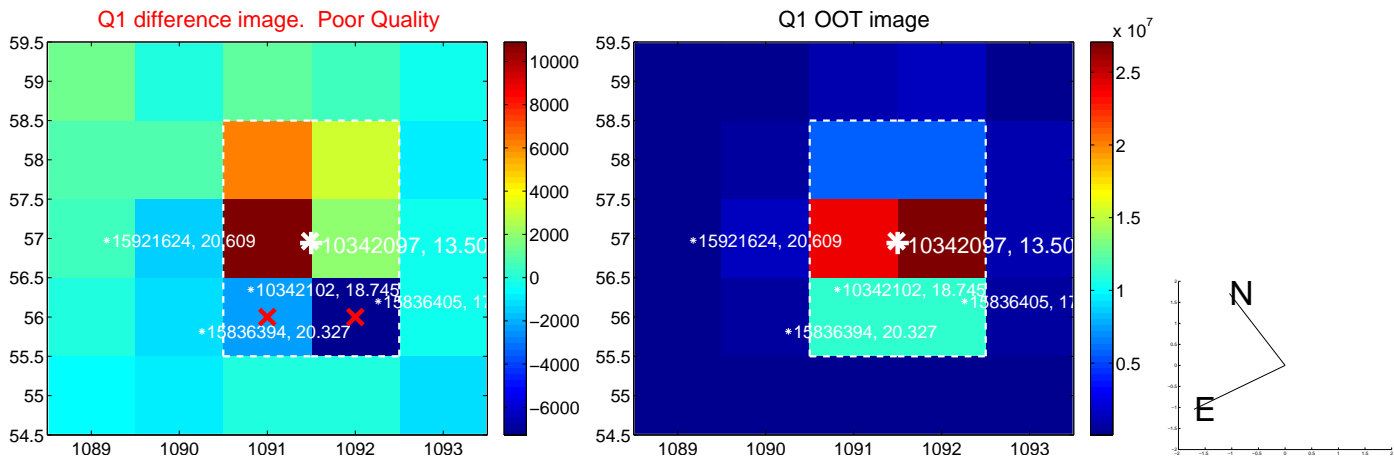
The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.716 \pm 0.370$	1.94	$-0.665 \pm 0.707$	$-0.265 \pm 0.854$
PRF-fit source offset from KIC position	<b><math>0.819 \pm 0.256</math></b>	<b>3.20</b>	$-0.633 \pm 0.188$	$-0.520 \pm 0.331$
photometric centroid source offset	$0.16 \pm 0.14$	1.09	$-0.11 \pm 0.15$	$-0.11 \pm 0.13$

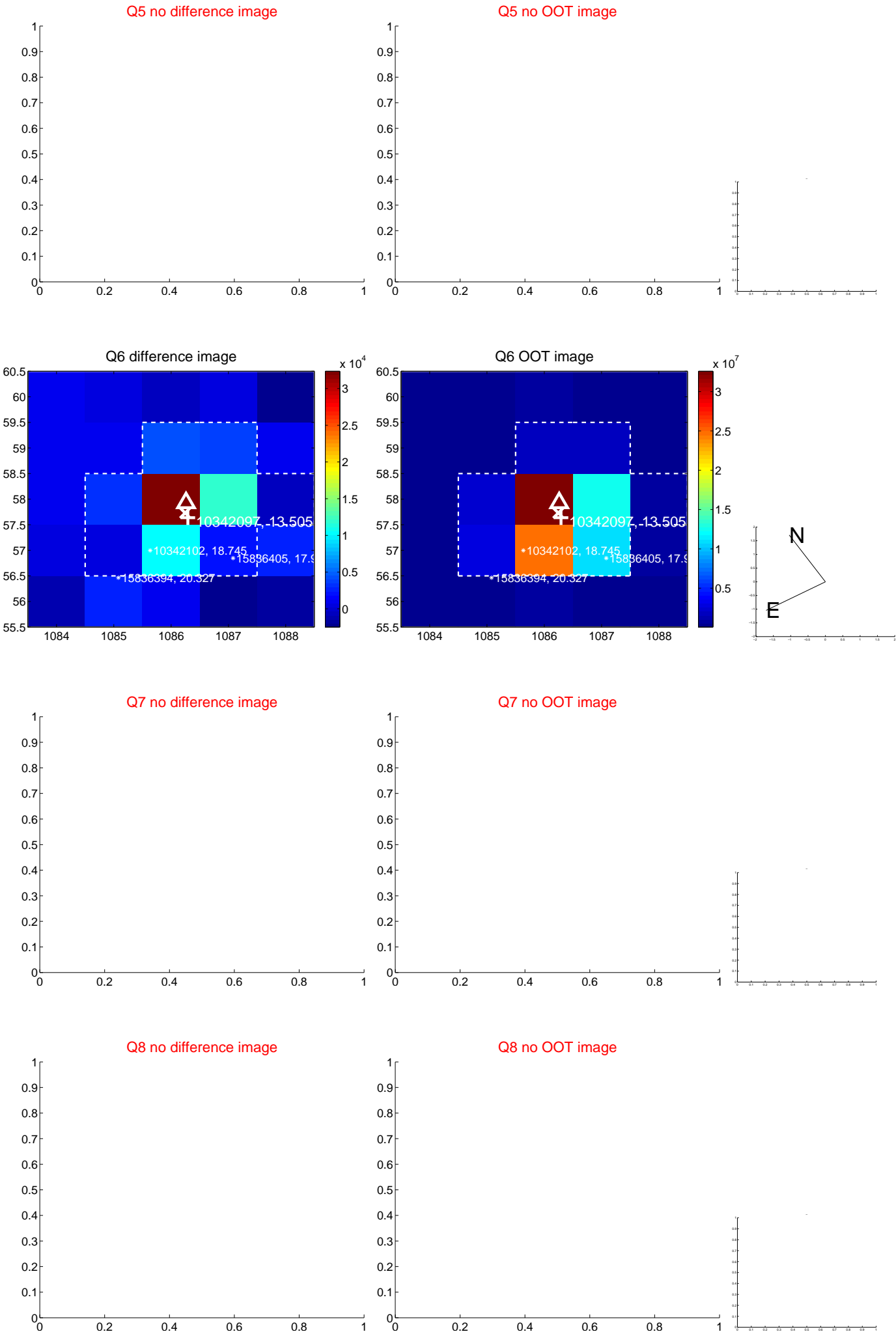


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

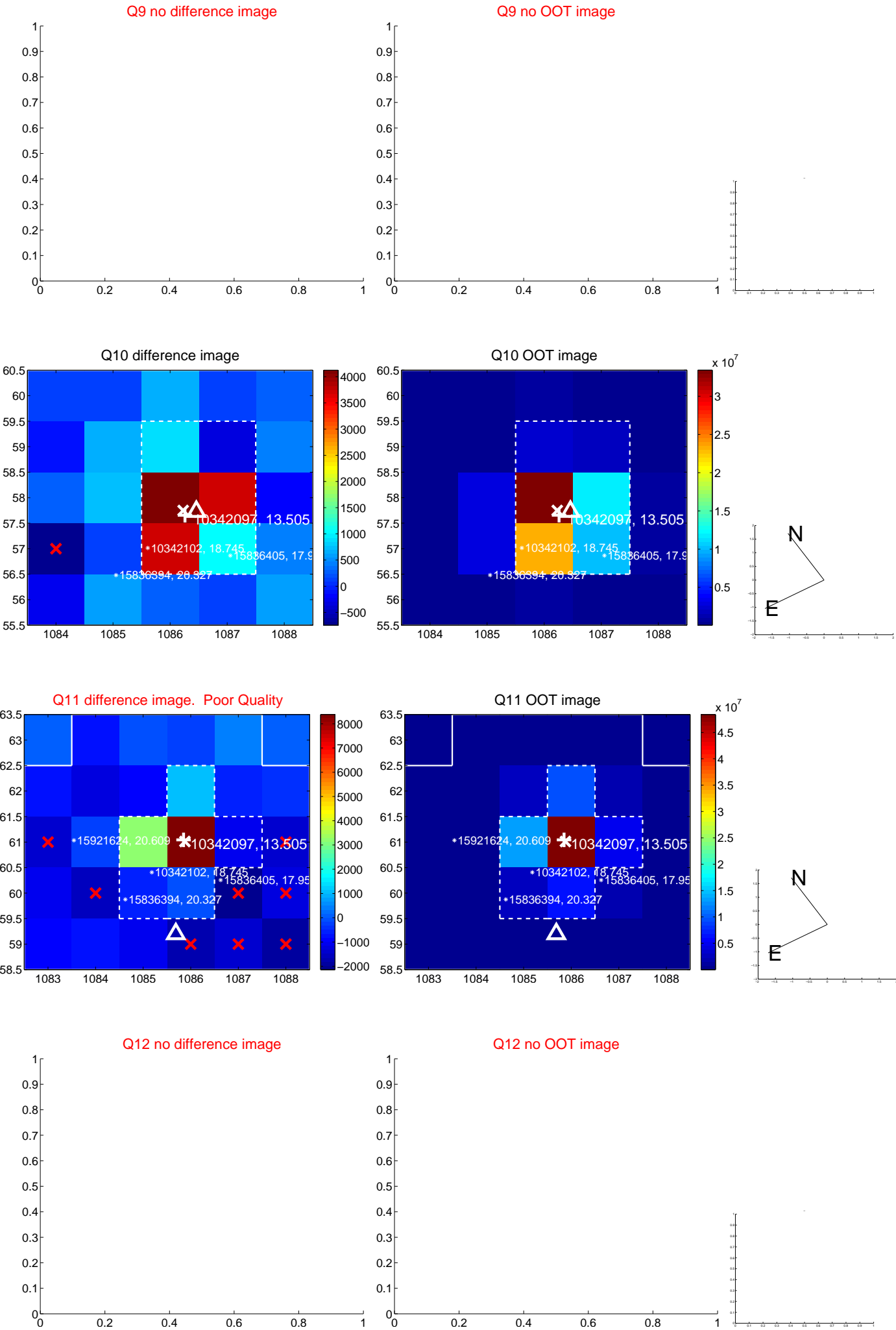
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

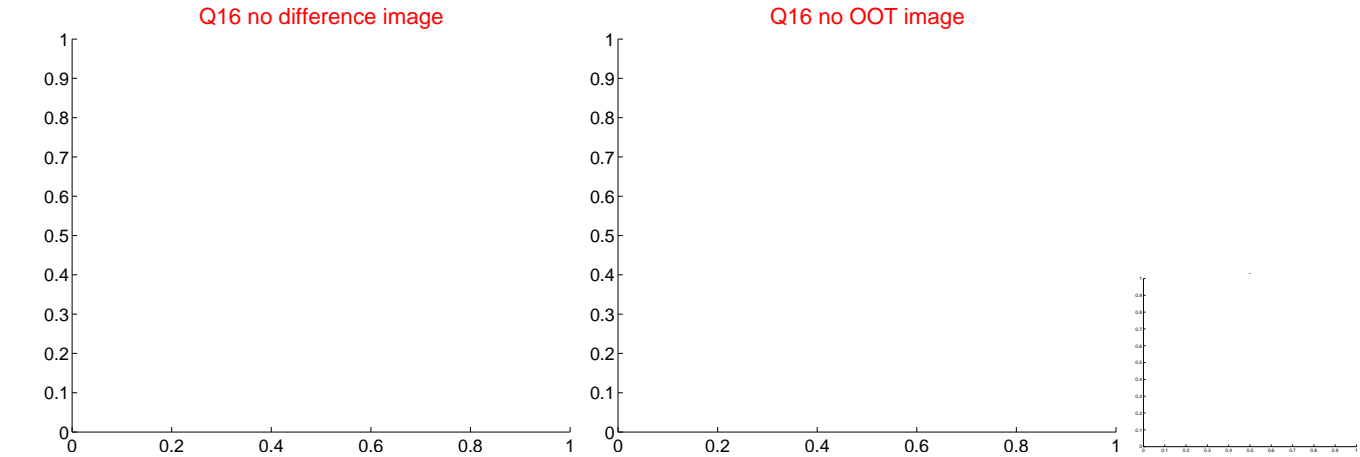
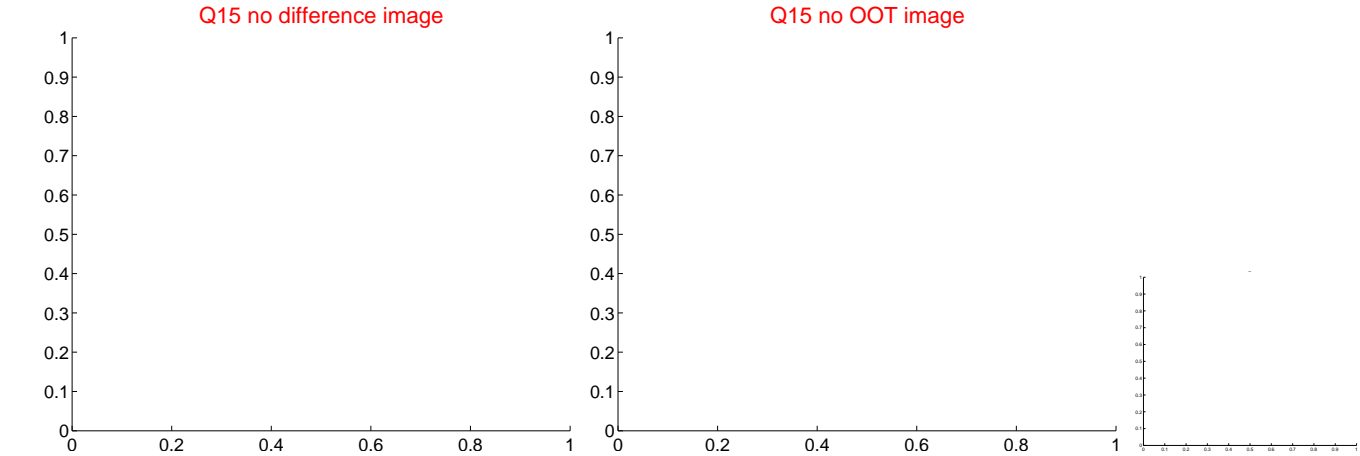
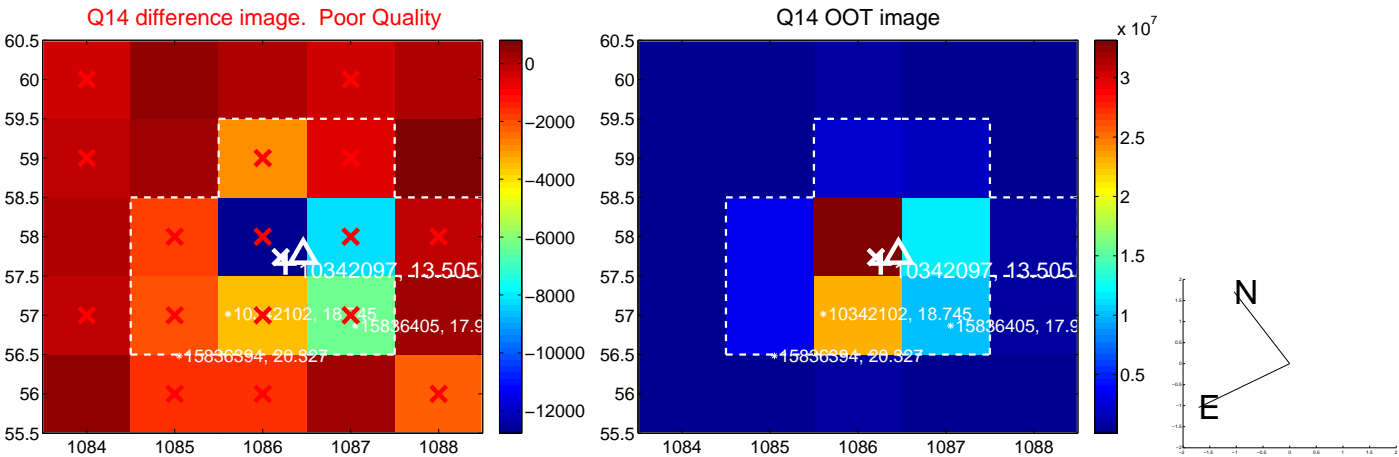
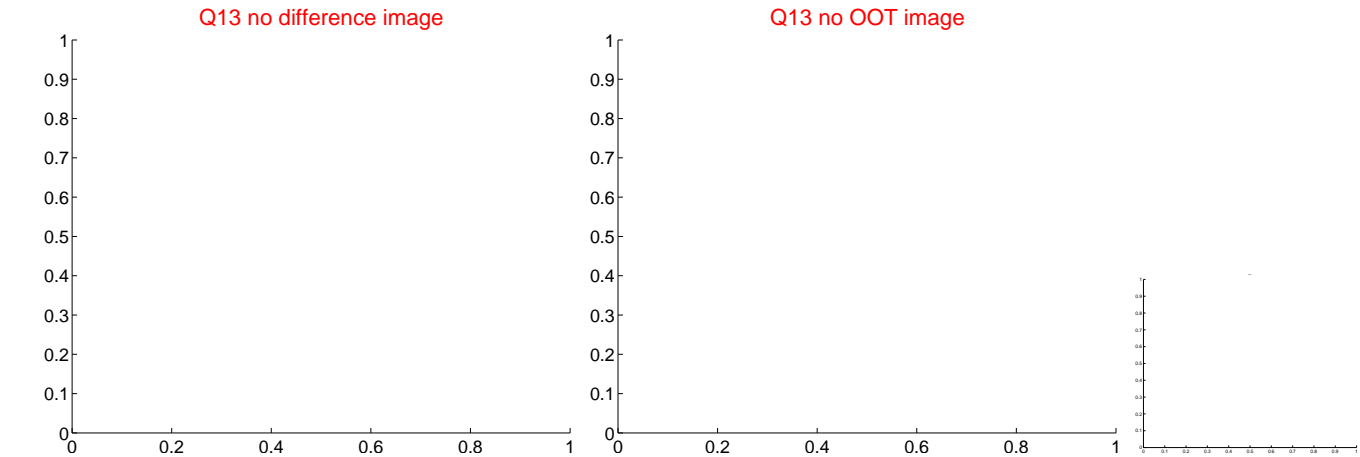


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

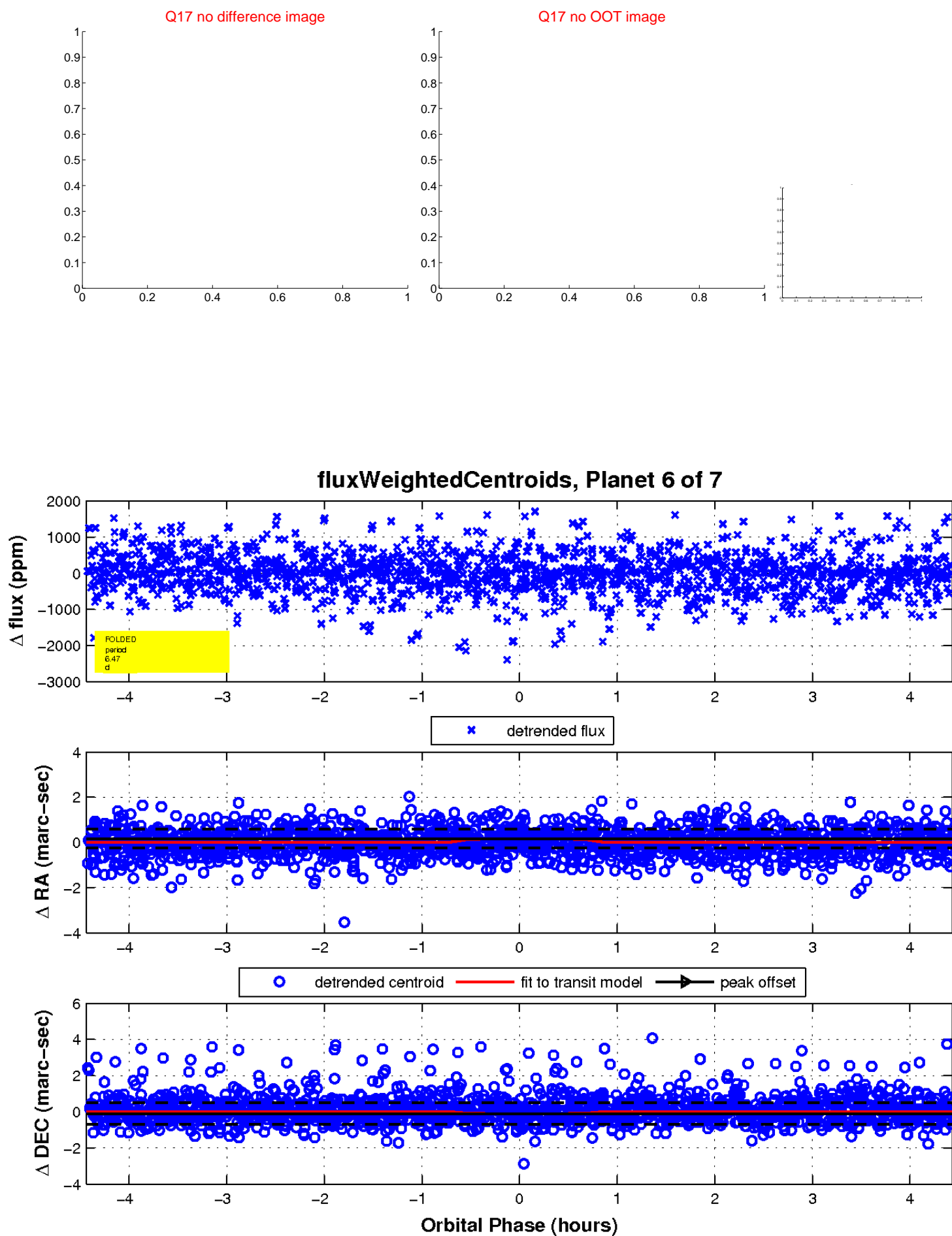




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

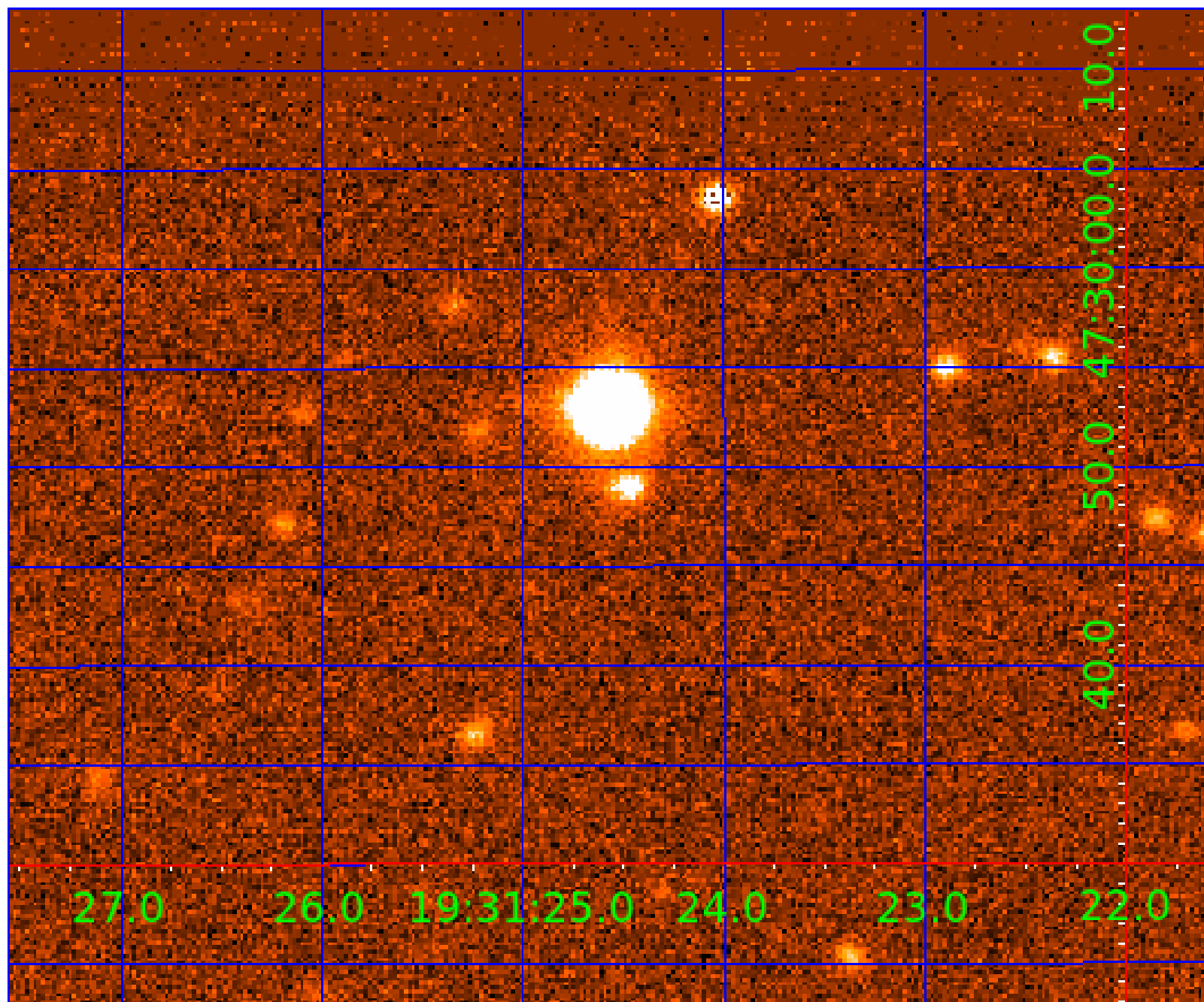


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 010342097

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010342097-01	OBS	7314.01	0.933766	131.547897	47.7	6.903	10.1	4.0	5.34	5016	3.64	0.00
010342097-03	OBS	No	32.669706	140.384578	1496.4	7.066	11.8	10.7	5.34	5016	40.94	386.11
010342097-04	OBS	No	2.569225	132.191970	261.3	2.365	10.7	5.9	5.34	5016	10.53	11459.51
010342097-06	OBS	No	6.465403	133.878655	1010.5	1.480	11.6	11.3	5.34	5016	16.66	3347.92
010342097-07	OBS	No	2.426780	131.693563	364.3	1.716	7.8	6.1	5.34	5016	12.38	12365.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010342097-01	OBS	FP	0.00	0	0	1	1	PLANET_IN_STAR—HALO_GHOST—EPHEM_MATCH
010342097-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010342097-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010342097-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010342097-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS

**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.

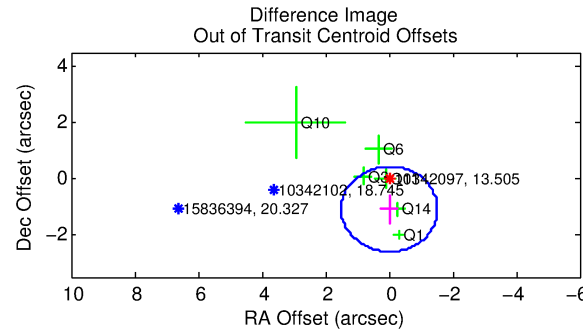
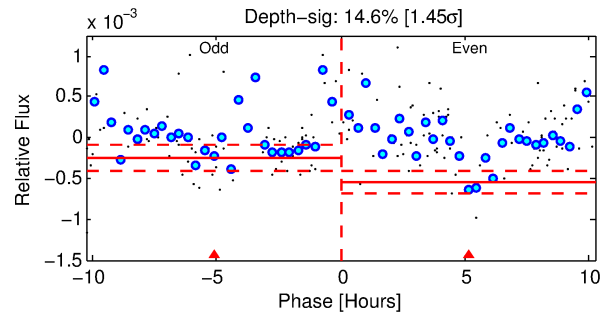
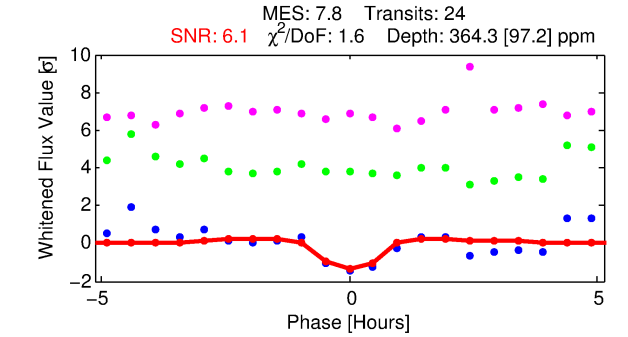
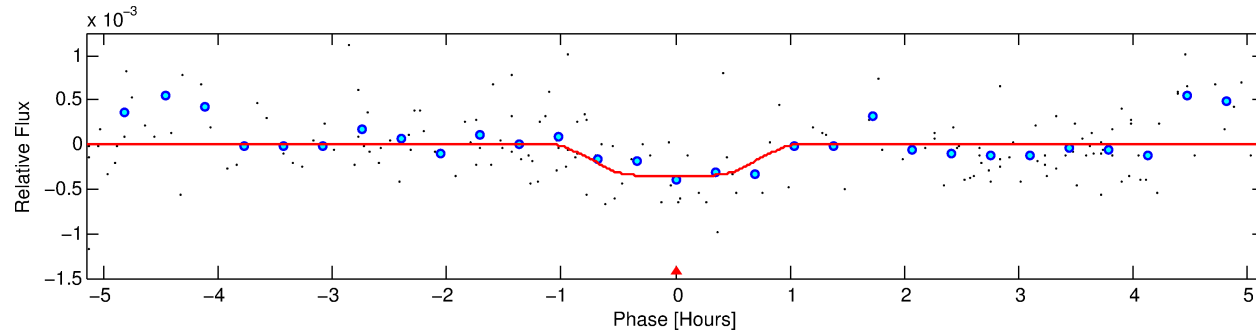
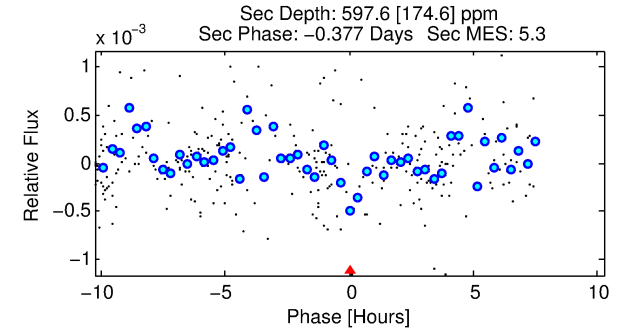
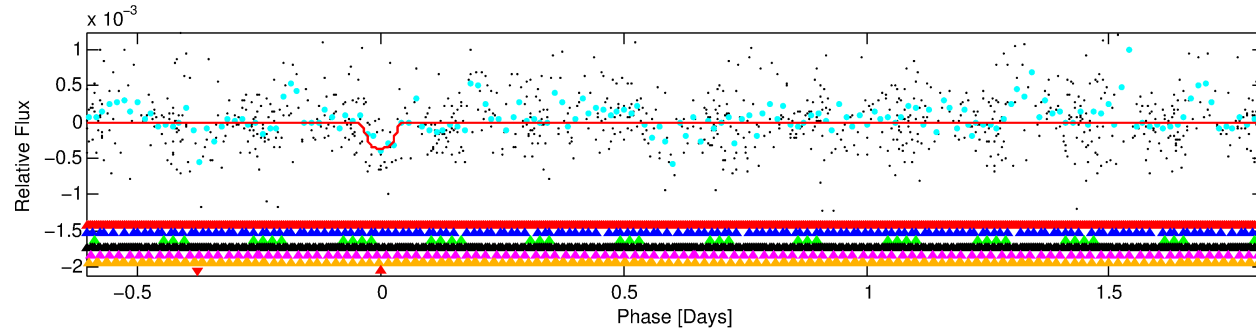
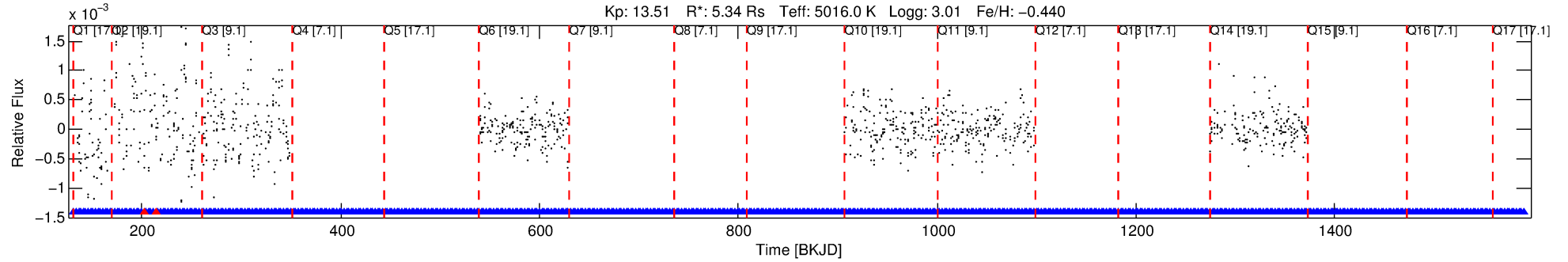
Ephemeris Match Information For 010342097-07

No Significant Match Found

# DV One-Page Summary

KIC: 10342097 Candidate: 7 of 7 Period: 2.427 d  
KOI: K07314 Corr: No Ephemeris Match

Kp: 13.51 R\*: 5.34 Rs Teff: 5016.0 K Logg: 3.01 Fe/H: -0.440



## DV Fit Results:

Period = 2.42678 [0.00003] d  
Epoch = 131.6936 [0.0059] BKJD  
Rp/R\* = 0.0212 [0.0325]  
a/R\* = 5.27 [31.74]  
b = 0.90 [1.34]  
Seff = 12365.02 [8502.21]  
Teq = 2689 [462] K  
Rp = 12.38 [19.78] Re  
a = 0.0362 [0.0156] AU  
Ag = 2.81 [8.86] [0.20σ]  
Teffp = 5383 [4142] K [0.65σ]

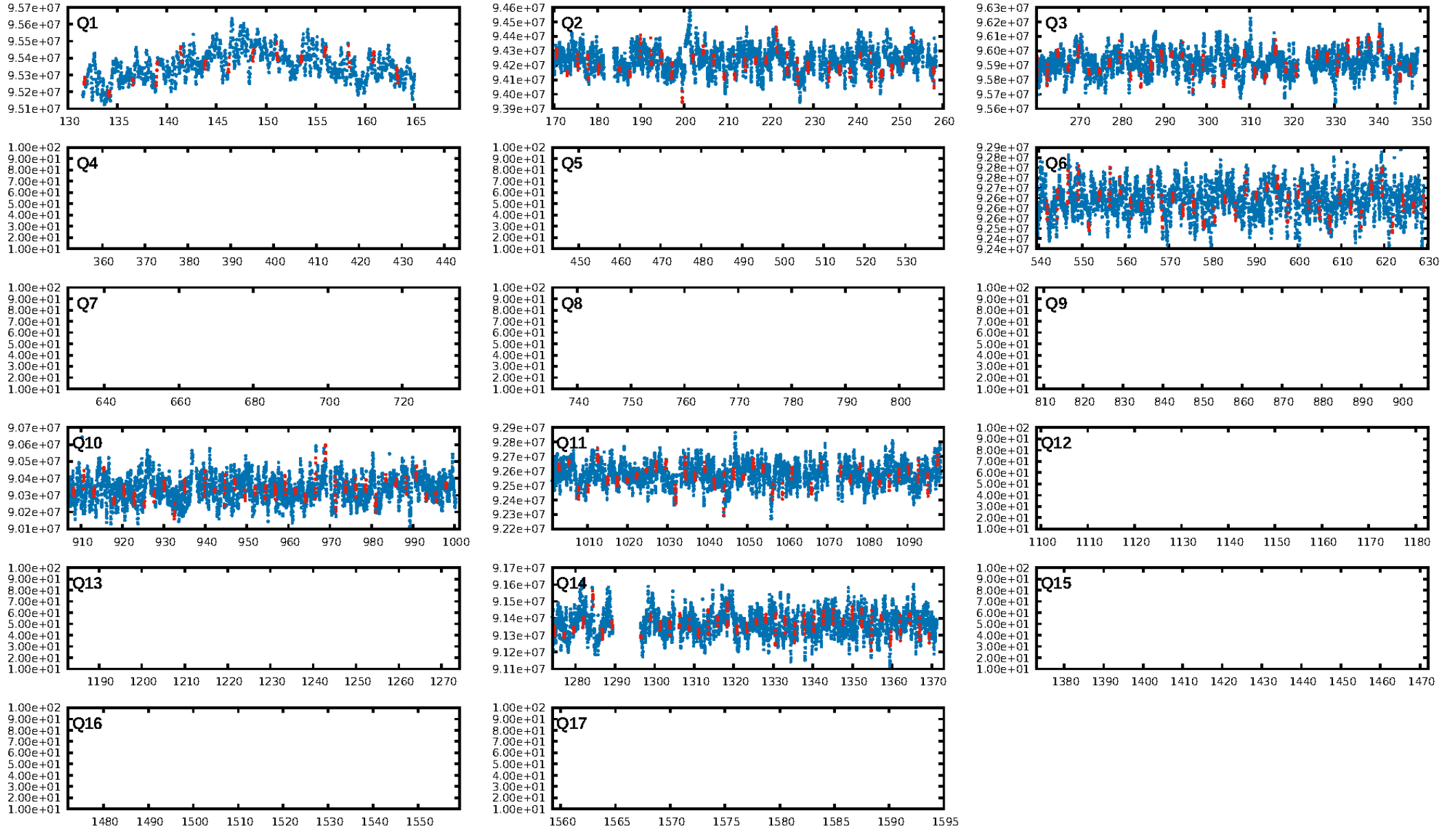
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.04σ]  
LongPeriod-sig: 75.8% [1.17σ]  
ModelChiSquare2-sig: 1.8%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.12e-10**  
RollingBand-fgt: 0.91 [21/23]  
GhostDiagnostic-chr: 8.195  
Centroid-sig: 9.6%  
Centroid-so: 0.066 arcsec [0.28σ]  
OotOffset-rm: 1.084 arcsec [2.14σ]  
KicOffset-rm: 1.278 arcsec [2.56σ]  
OotOffset-st: 3/2/0/1 [6]  
KicOffset-st: 3/2/0/1 [6]  
DiffImageQuality-fgm: 0.33 [2/6]  
DiffImageOverlap-fno: 1.00 [7/7]

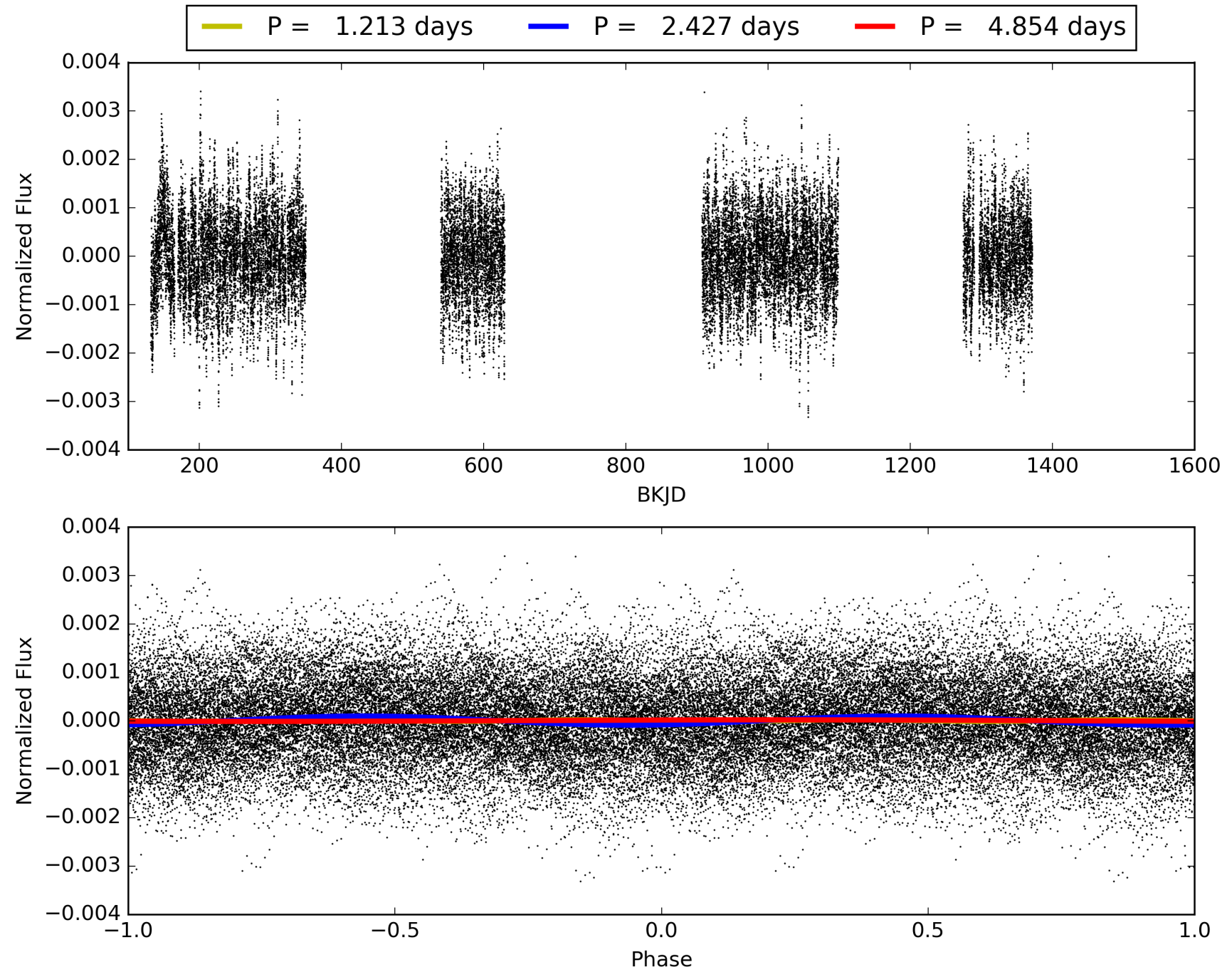
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:57:01 Z

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

# TCE 010342097-07, PDC Light Curves

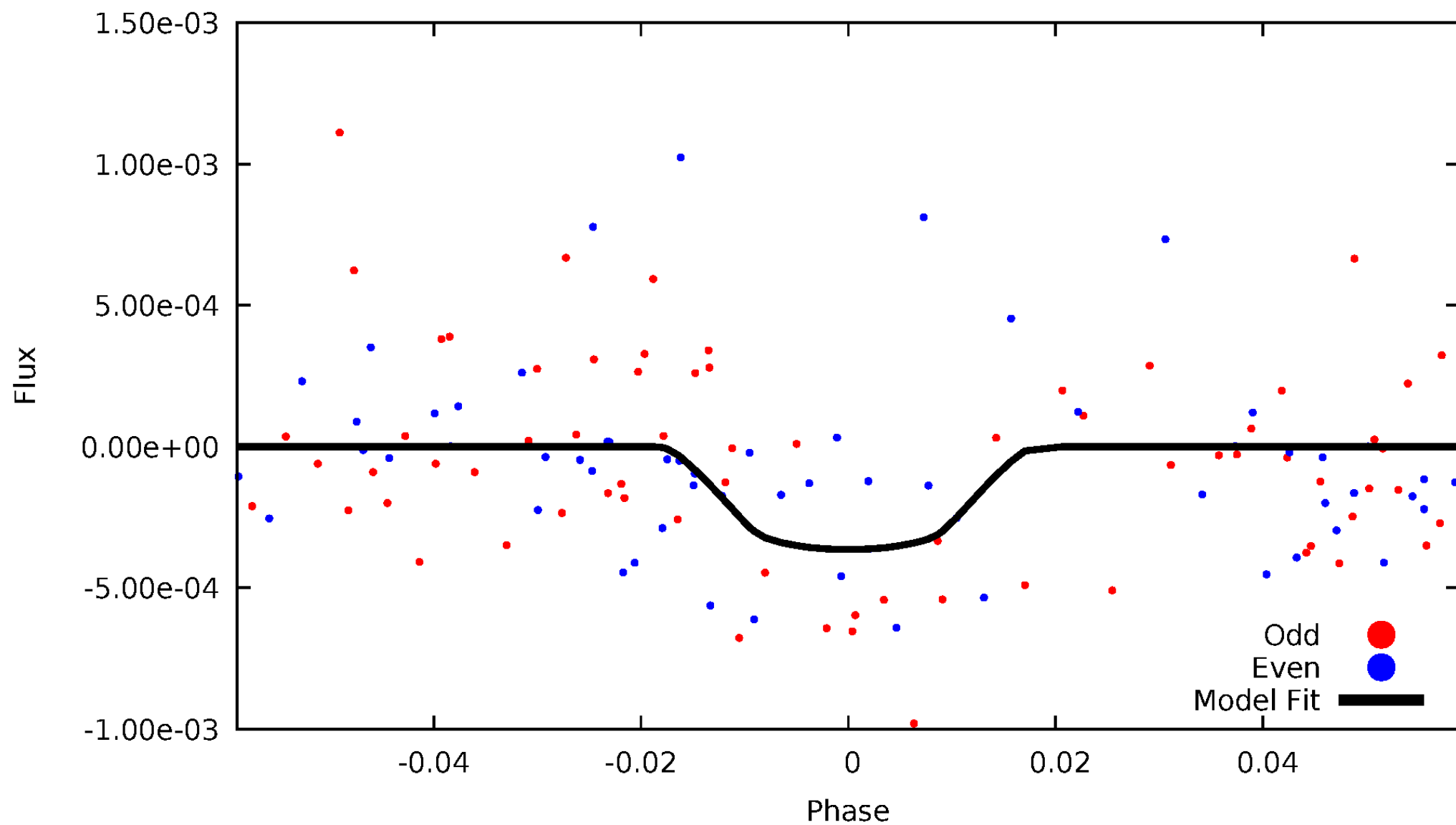


# TCE 010342097-07



# DV Odd/Even

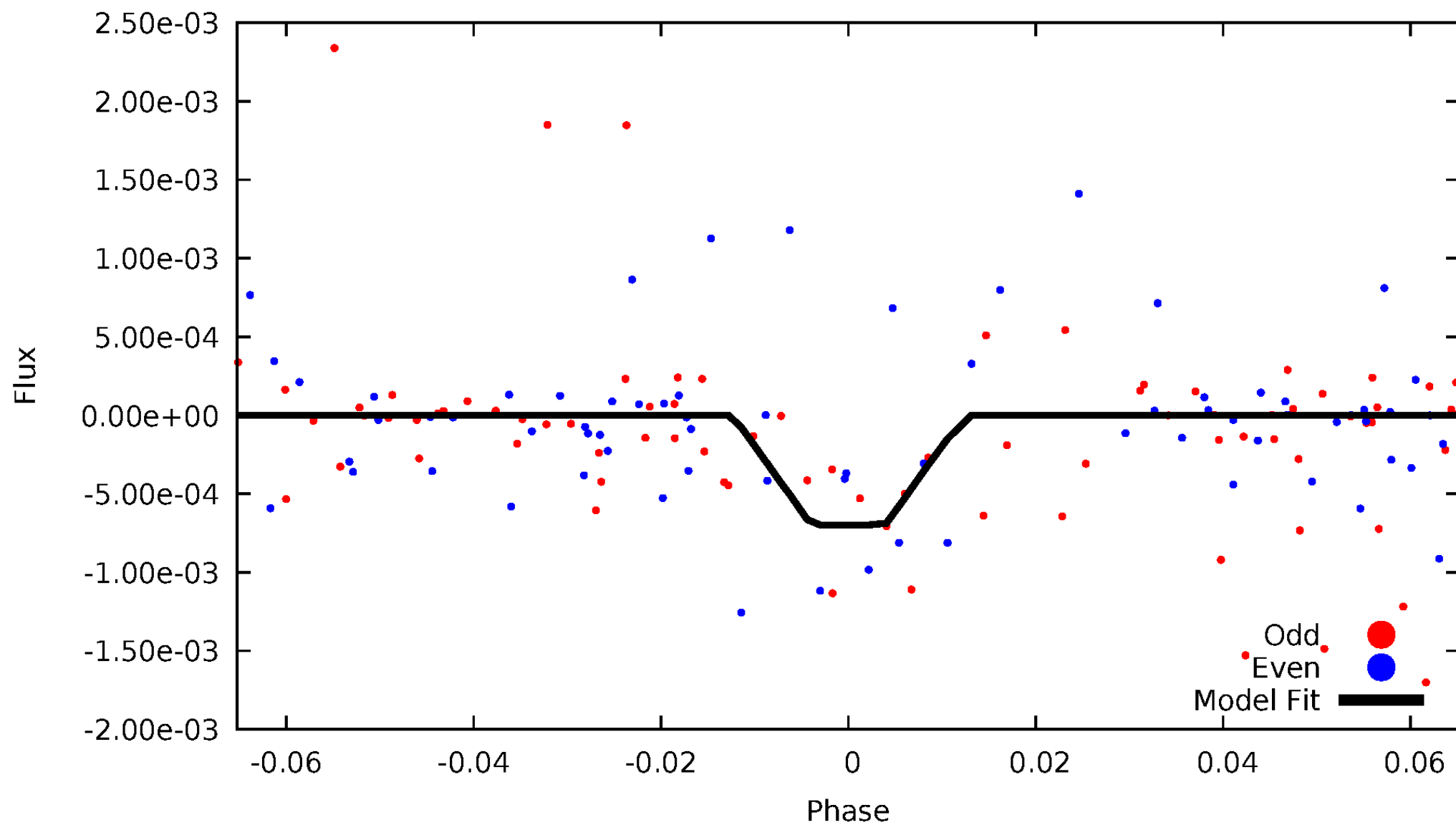
TCE 010342097-07





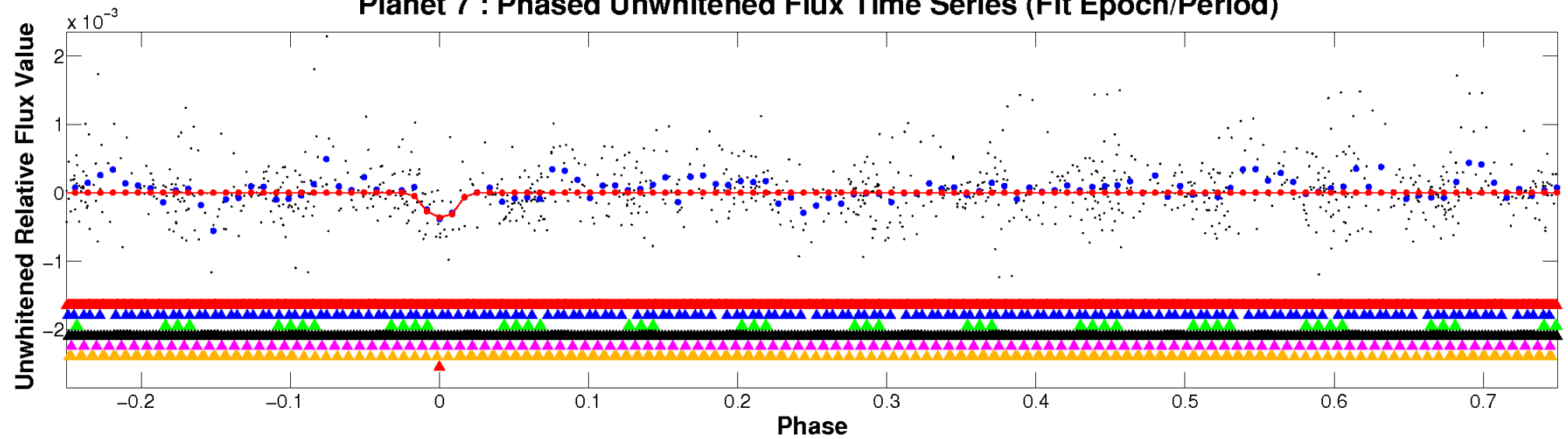
# ALT Odd/Even

TCE 010342097-07

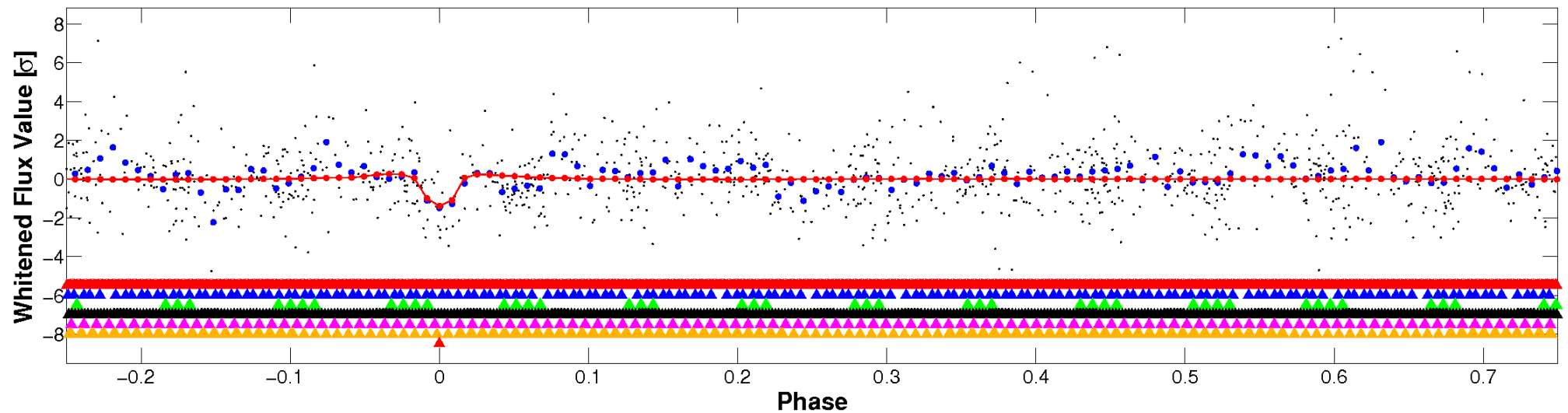


# Non-Whitened Vs. Whitened Light Curve

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

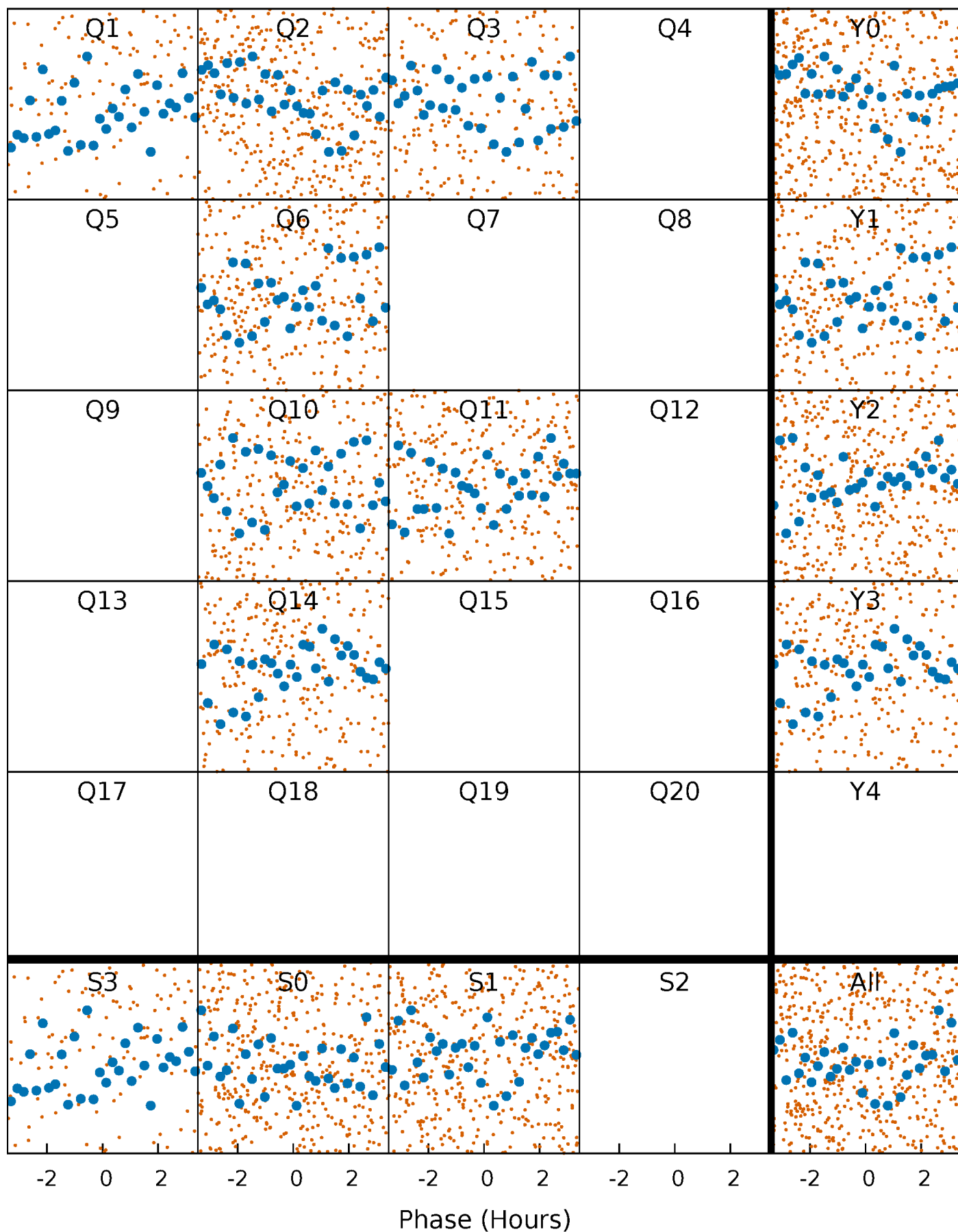


## Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



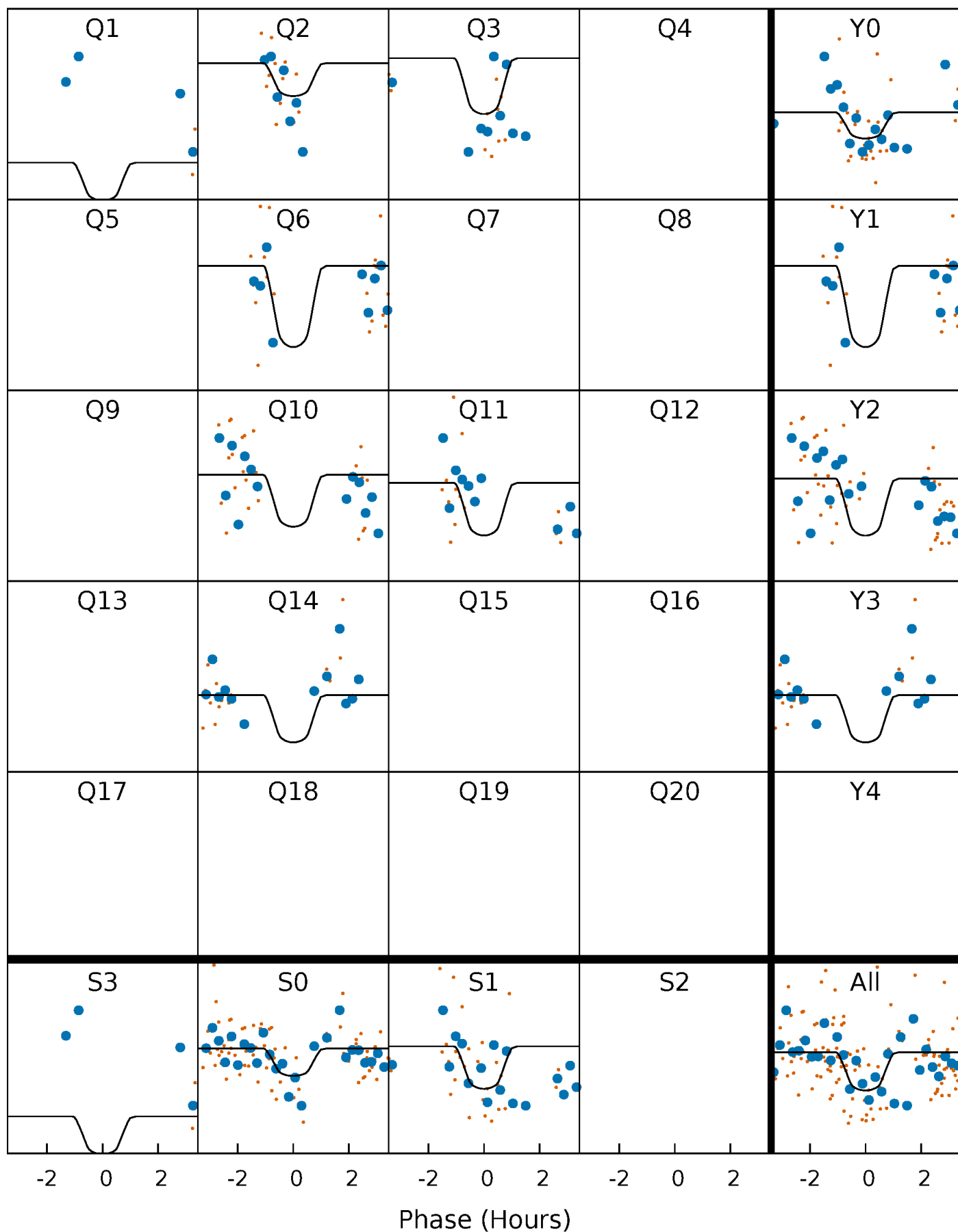
# PDC Quarter-Phased Transit Curves

TCE 010342097-07     $P = 2.426780$  Days     $T_0 = 131.693563$  (BKJD)



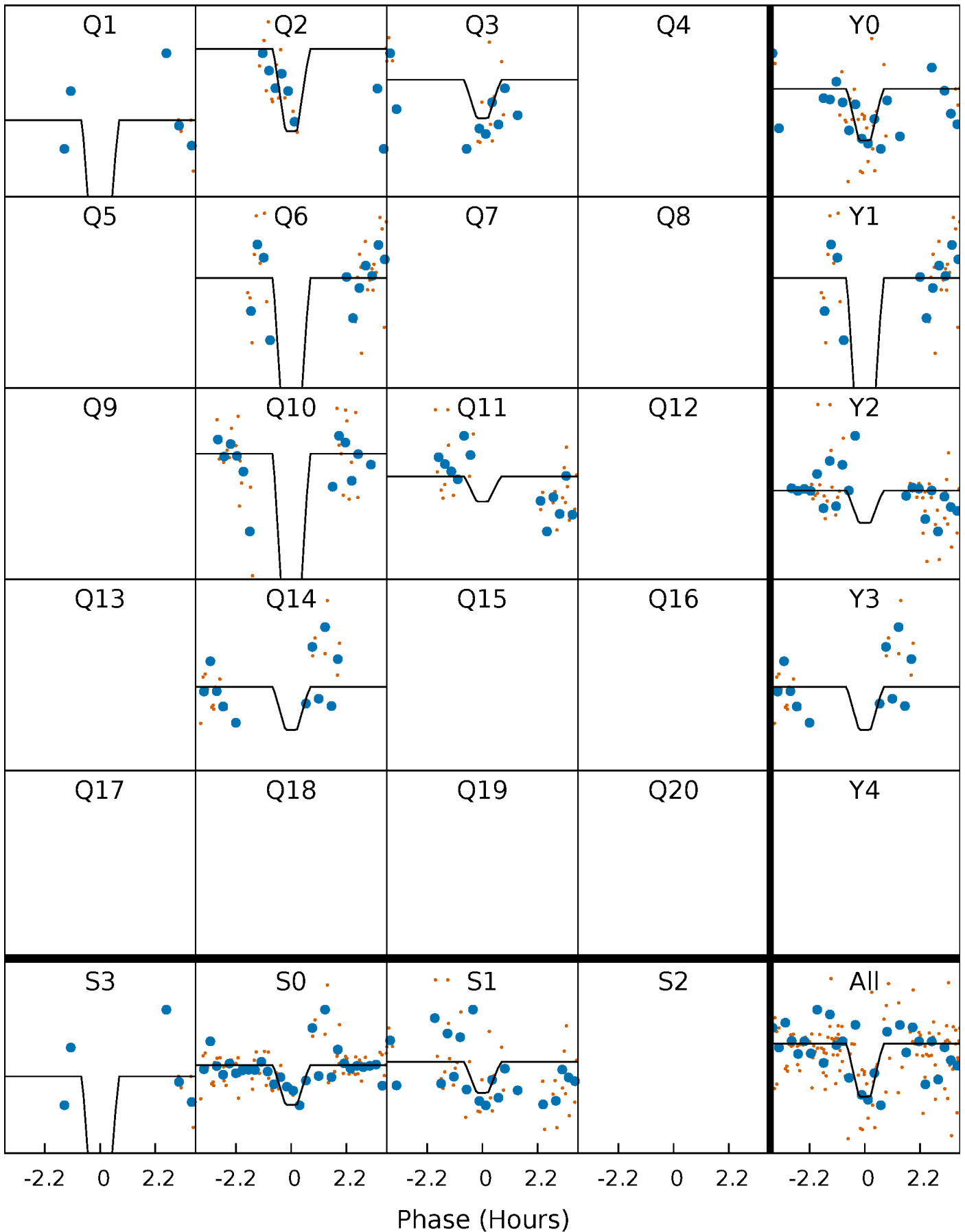
# DV Quarter-Phased Transit Curves

TCE 010342097-07     $P = 2.426780$  Days     $T_0 = 131.693563$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

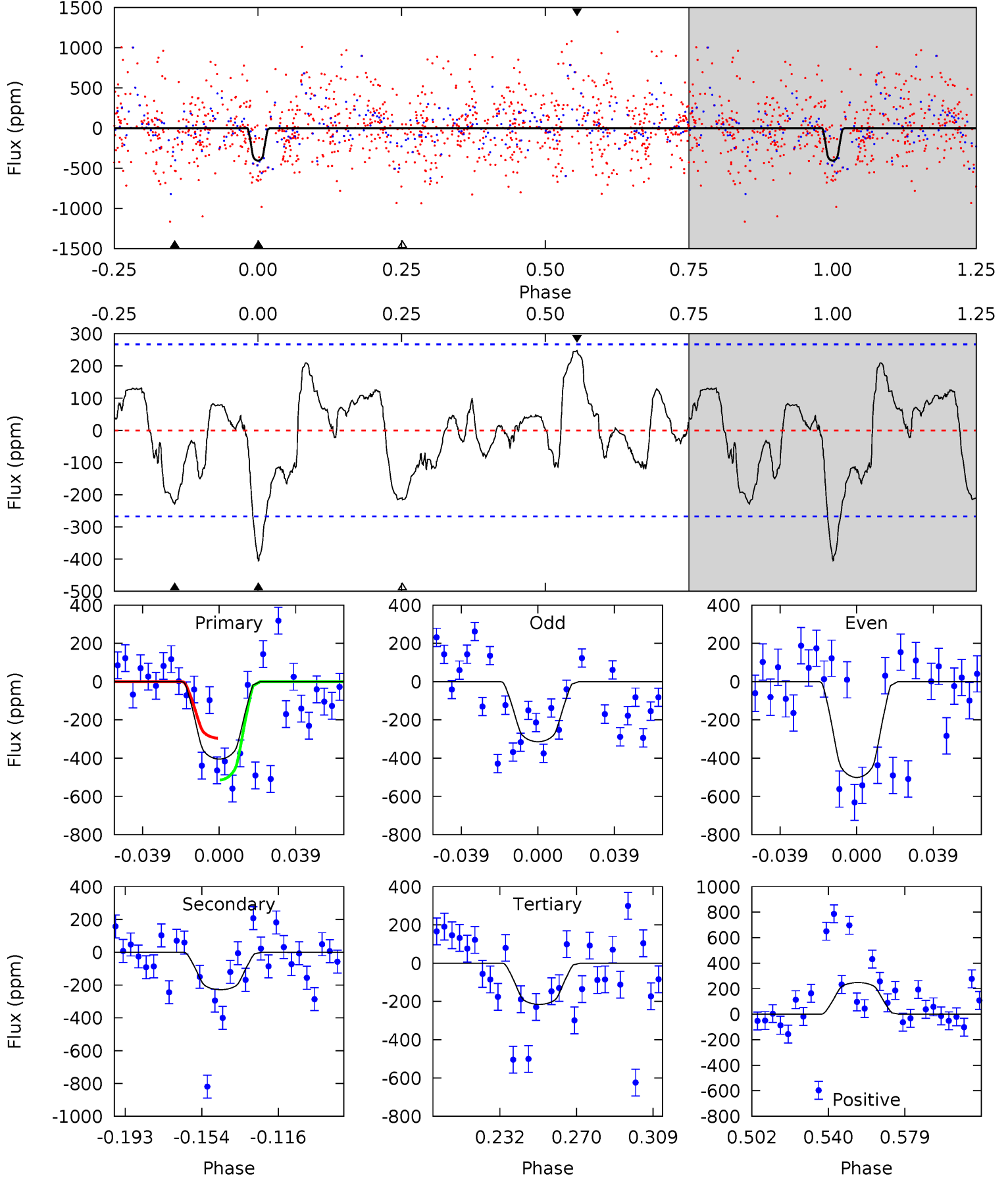
TCE 010342097-07     $P = 2.426800$  Days     $T_0 = 131.698094$  (BKJD)



# DV Model-Shift Uniqueness Test

010342097-07, P = 2.426780 Days, E = 131.693563 Days

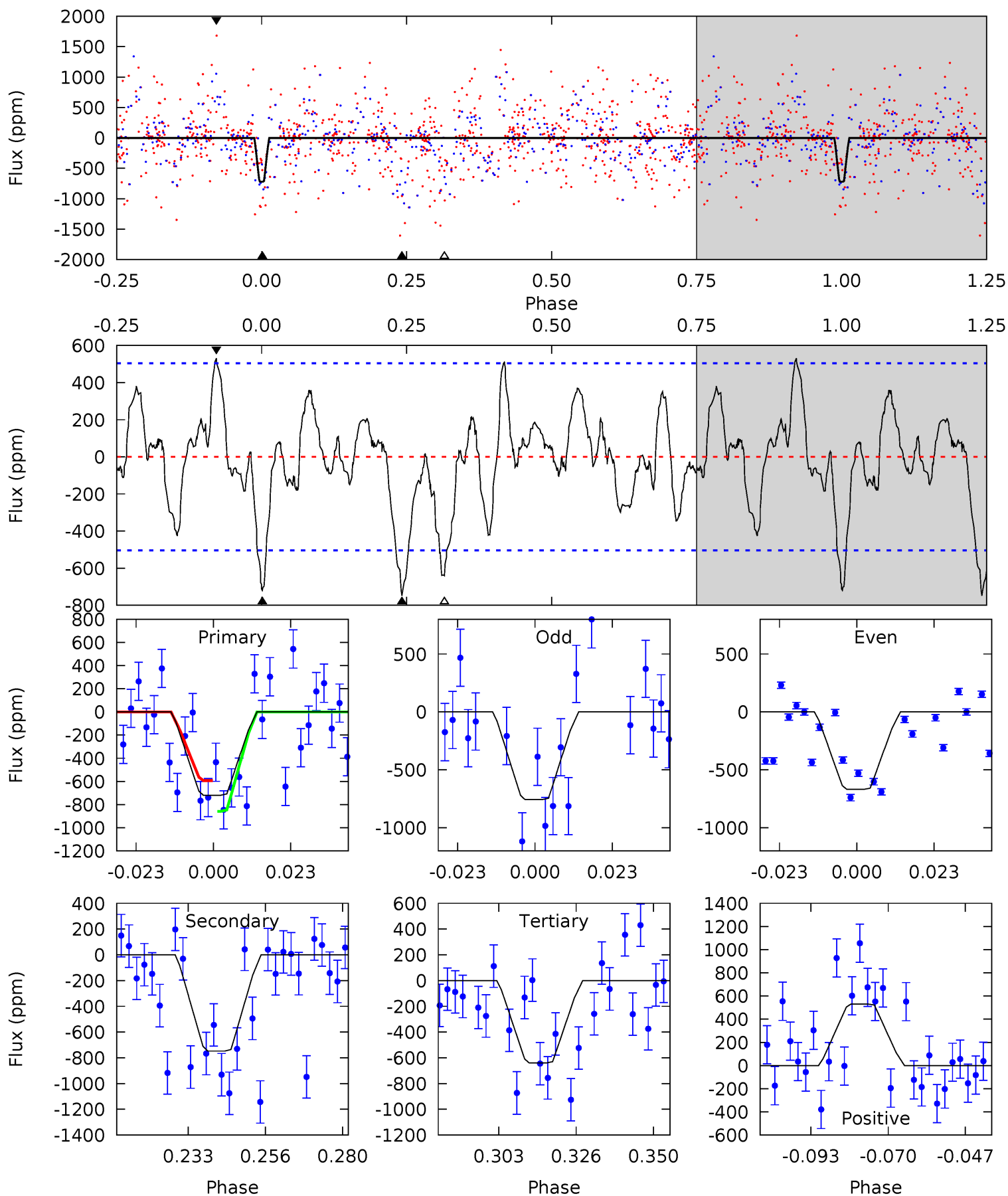
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.20	4.06	3.83	4.41	4.76	2.07	1.62	3.37	2.79	0.23	-0.35	1.64	0.78	0.38	1.94



# Alt Model-Shift Uniqueness Test

010342097-07, P = 2.426800 Days, E = 131.698094 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
6.94	7.21	6.17	5.12	4.86	2.27	1.72	0.77	1.82	1.04	2.09	0.39	1.38	0.42	1.31



### Stellar Parameters For KIC 010342097

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5016^{+125}_{-113}$	$3.013^{+0.396}_{-0.264}$	$-0.440^{+0.250}_{-0.250}$	$5.344^{+2.449}_{-2.004}$	$1.072^{+0.294}_{-0.158}$	$0.010^{+0.028}_{-0.006}$
	+2%/-2%	+13%/-9%	+57%/-57%	+46%/-38%	+27%/-15%	+279%/-64%
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 010342097-07 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-228 \pm 56$	$19.24^{+18.44}_{-13.33}$	$3719^{+428}_{-412}$	$3039^{+2745}_{-6323}$	$0.442^{+3.998}_{-0.330}$
Alt.	$-748 \pm 104$	$19.30^{+19.57}_{-12.64}$	$3743^{+435}_{-409}$	$4392^{+2969}_{-1624}$	$1.511^{+10.968}_{-1.142}$

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



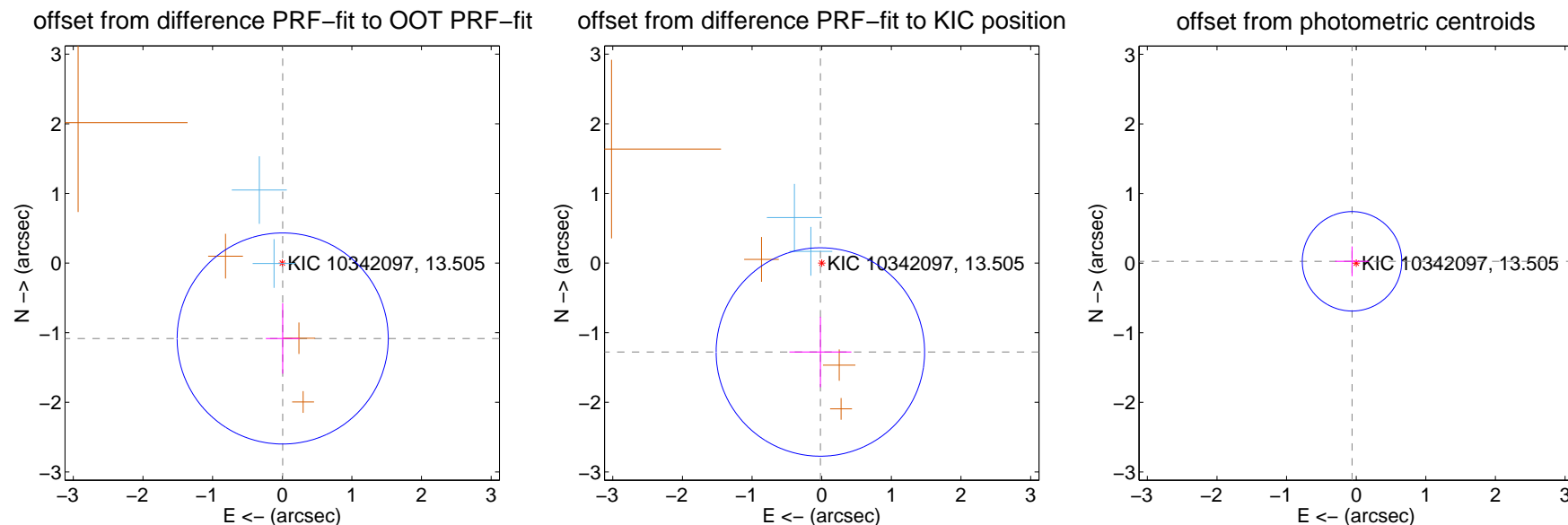
## DV Centroid Data

Supplemental centroid analysis for 010342097-07. Kepler magnitude: 13.51. Transit SNR 6.08

There are 2 quarters with good PRF difference image offsets

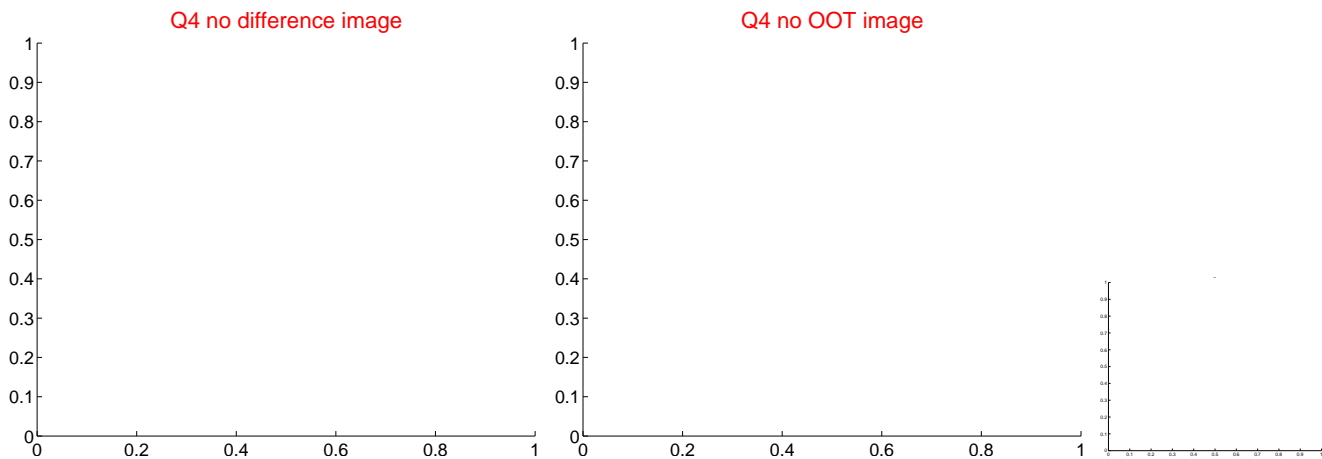
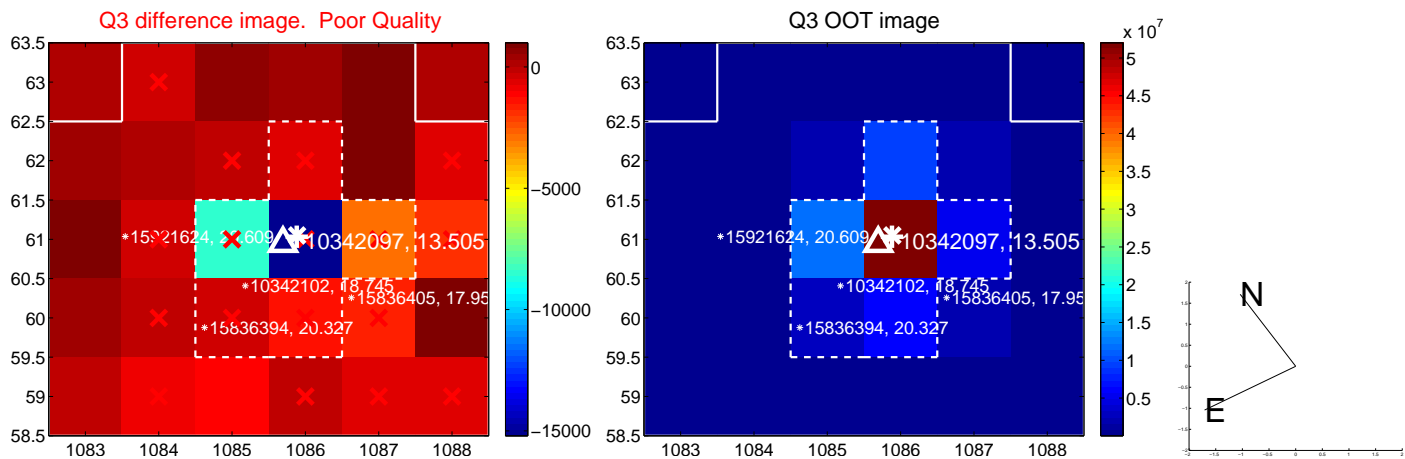
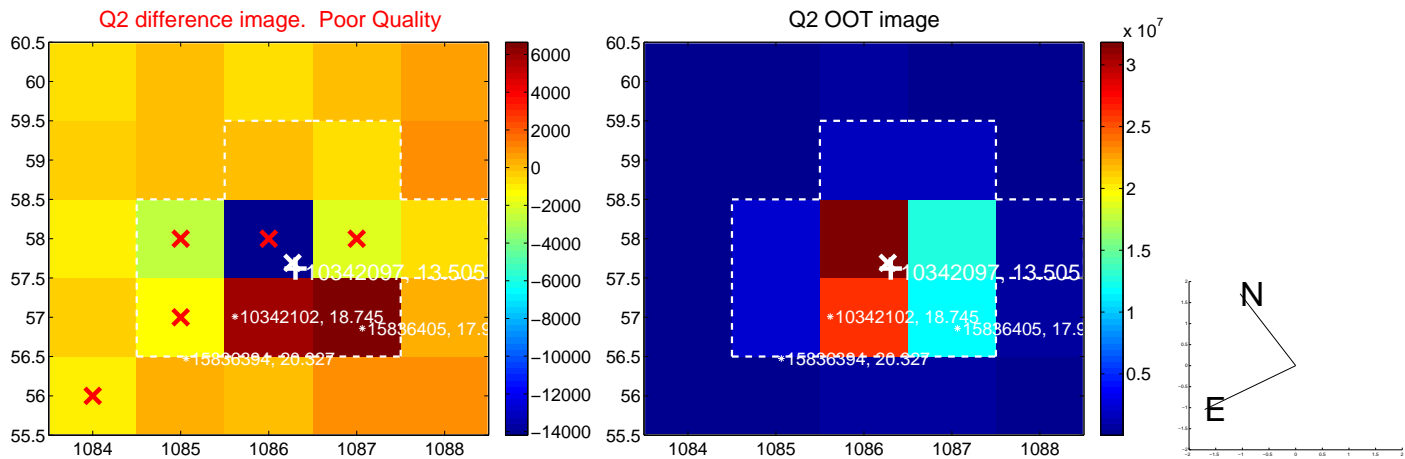
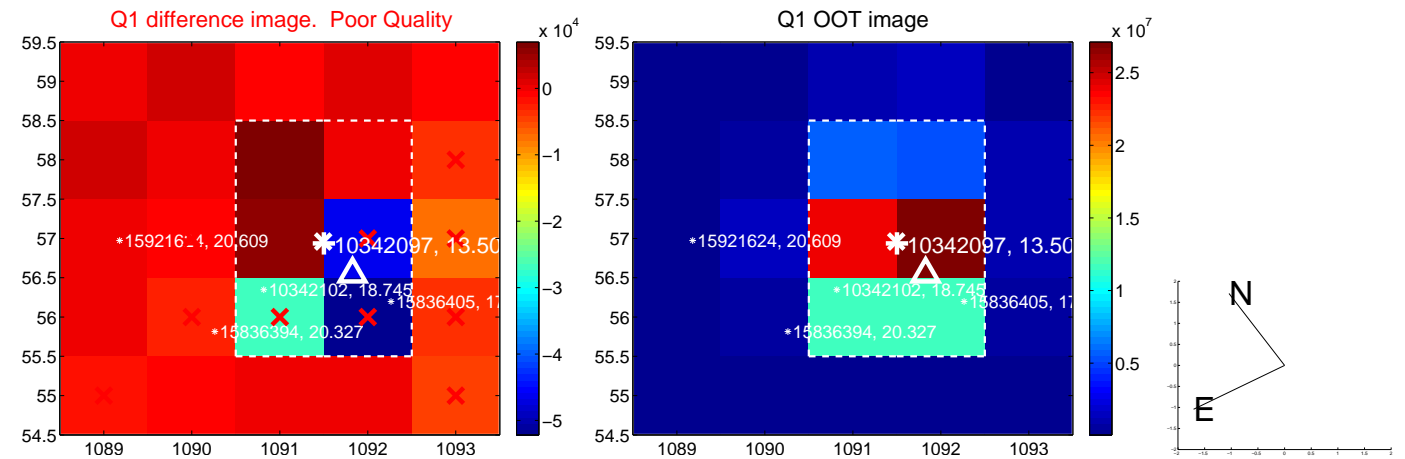
The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.084 \pm 0.505$	2.14	$-0.007 \pm 0.242$	$-1.084 \pm 0.505$
PRF-fit source offset from KIC position	$1.278 \pm 0.499$	2.56	$0.019 \pm 0.445$	$-1.278 \pm 0.504$
photometric centroid source offset	$0.07 \pm 0.24$	0.28	$0.06 \pm 0.24$	$0.03 \pm 0.21$



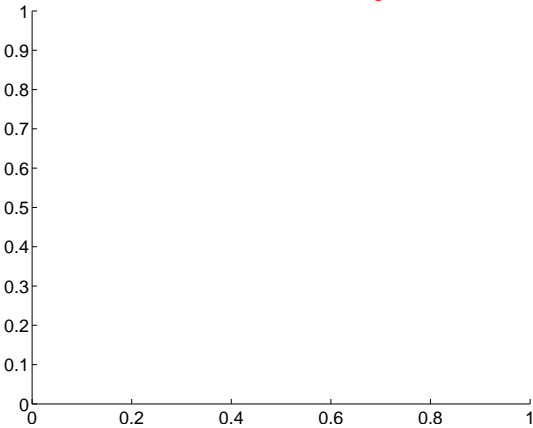
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

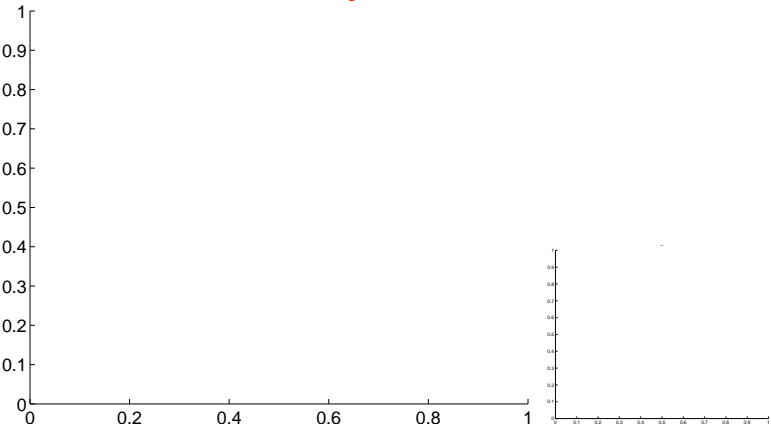


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

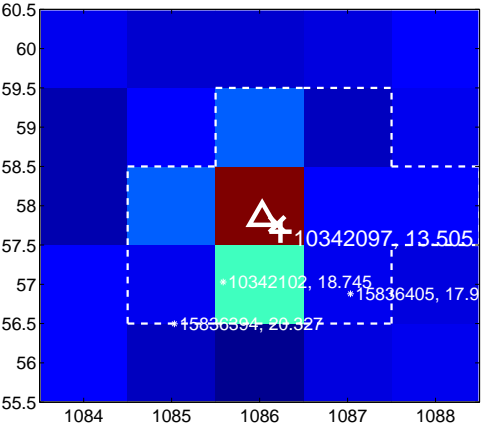
Q5 no difference image



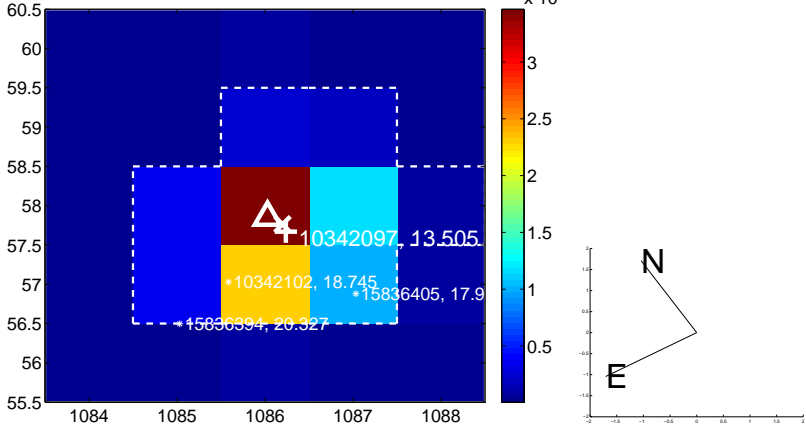
Q5 no OOT image



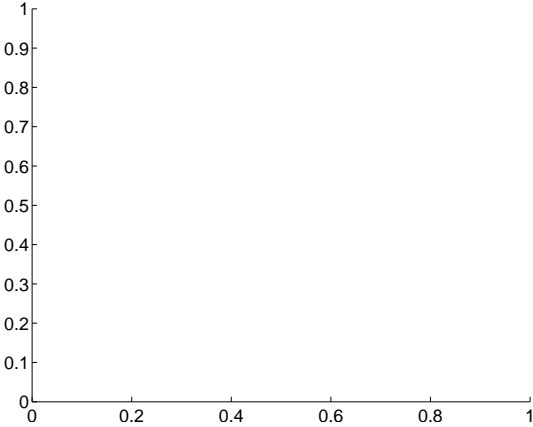
Q6 difference image



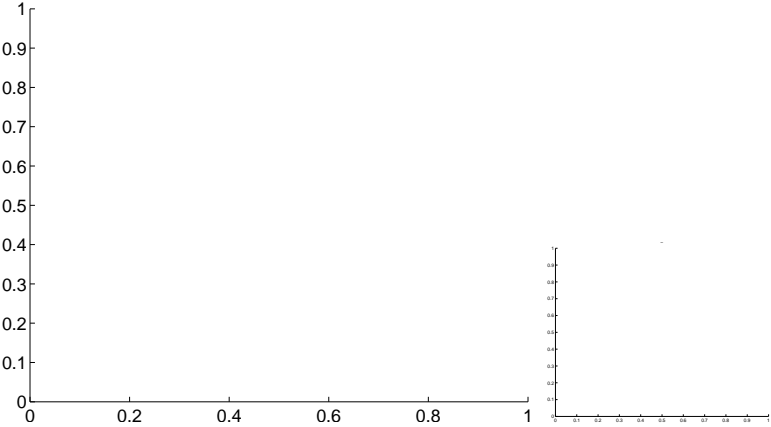
Q6 OOT image



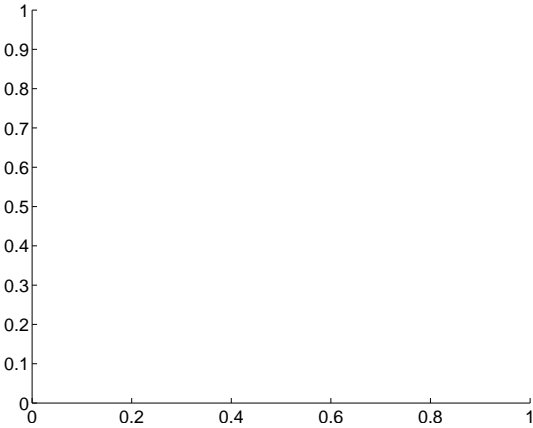
Q7 no difference image



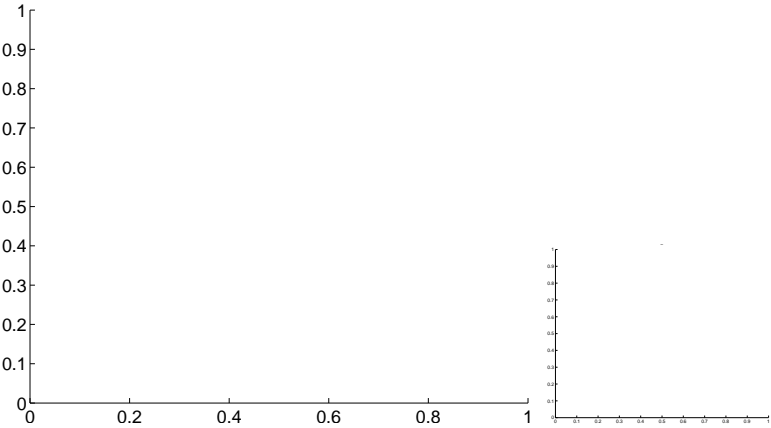
Q7 no OOT image



Q8 no difference image

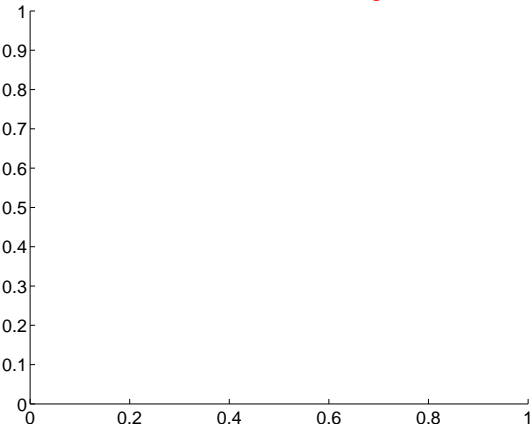


Q8 no OOT image

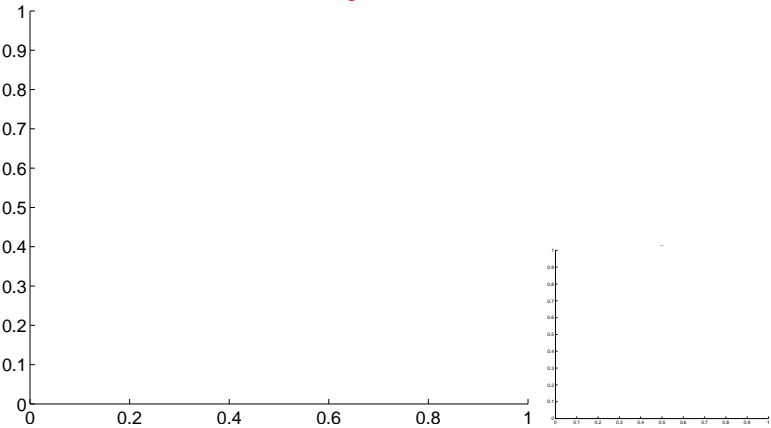


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

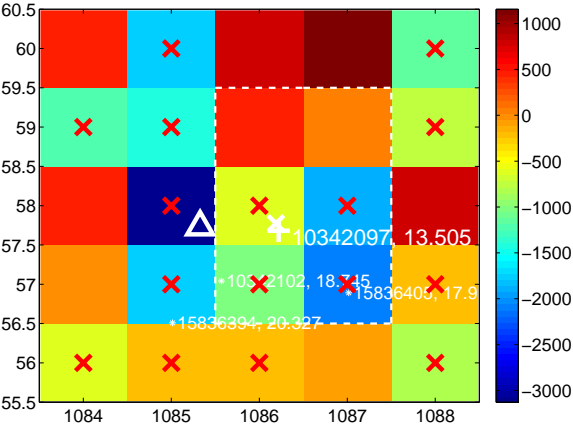
Q9 no difference image



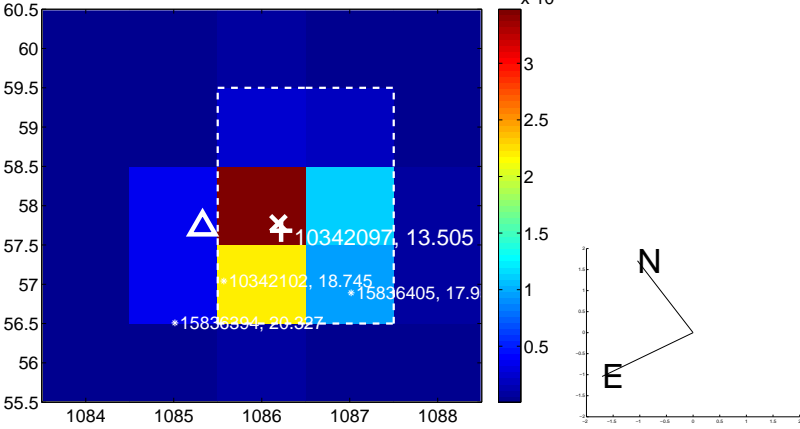
Q9 no OOT image



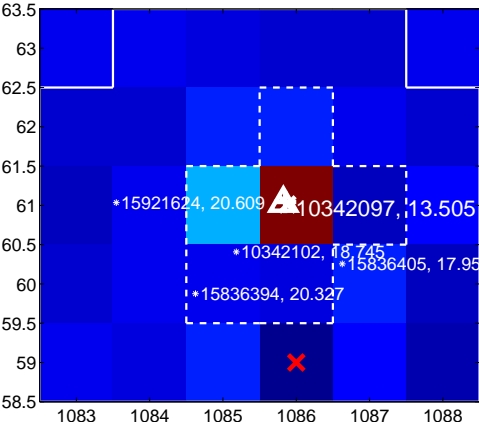
Q10 difference image. Poor Quality



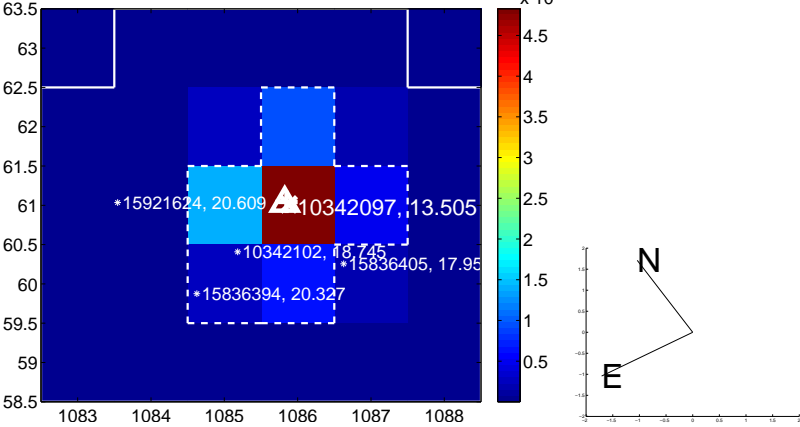
Q10 OOT image



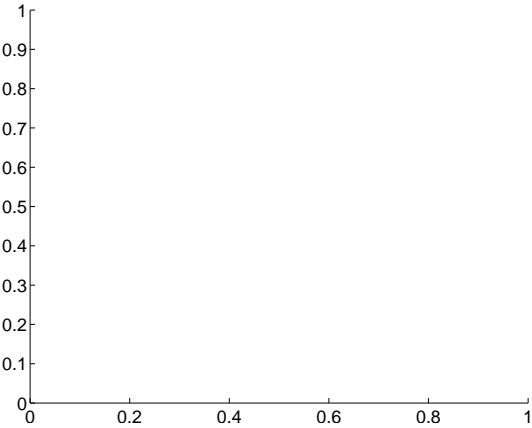
Q11 difference image



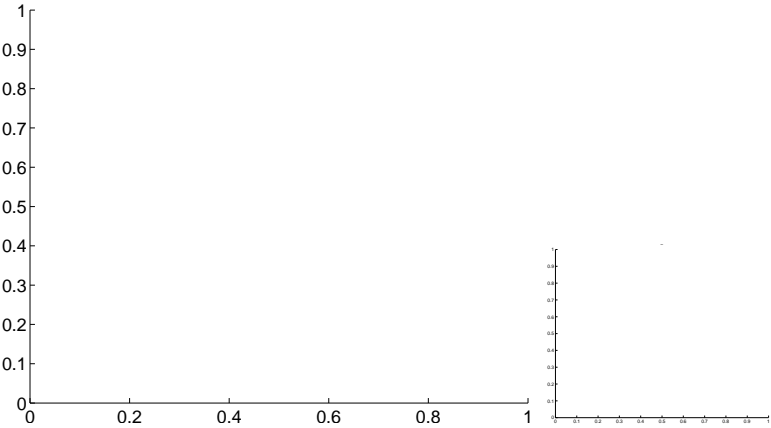
Q11 OOT image



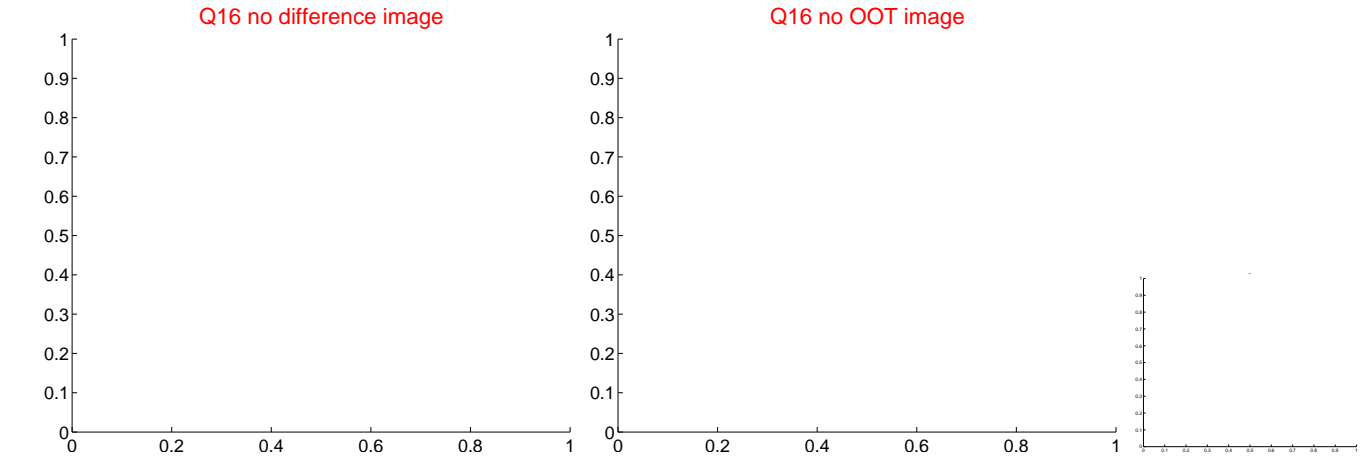
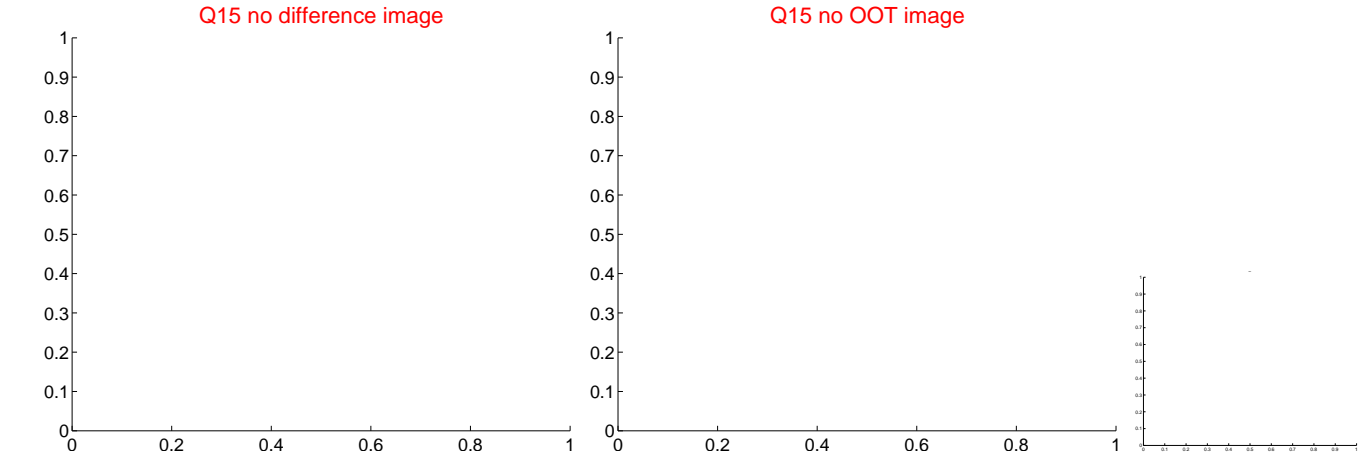
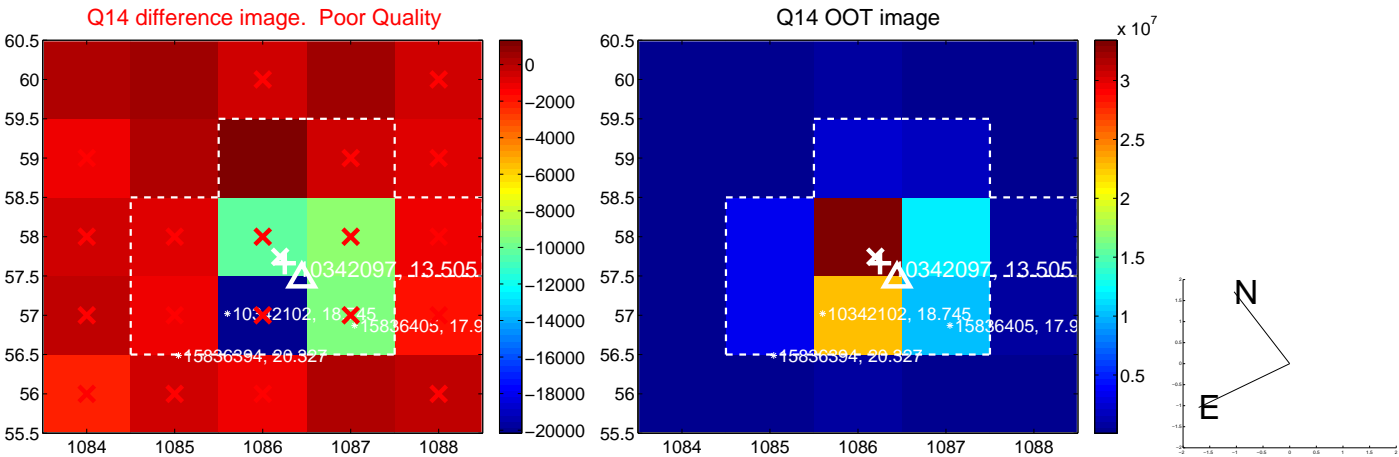
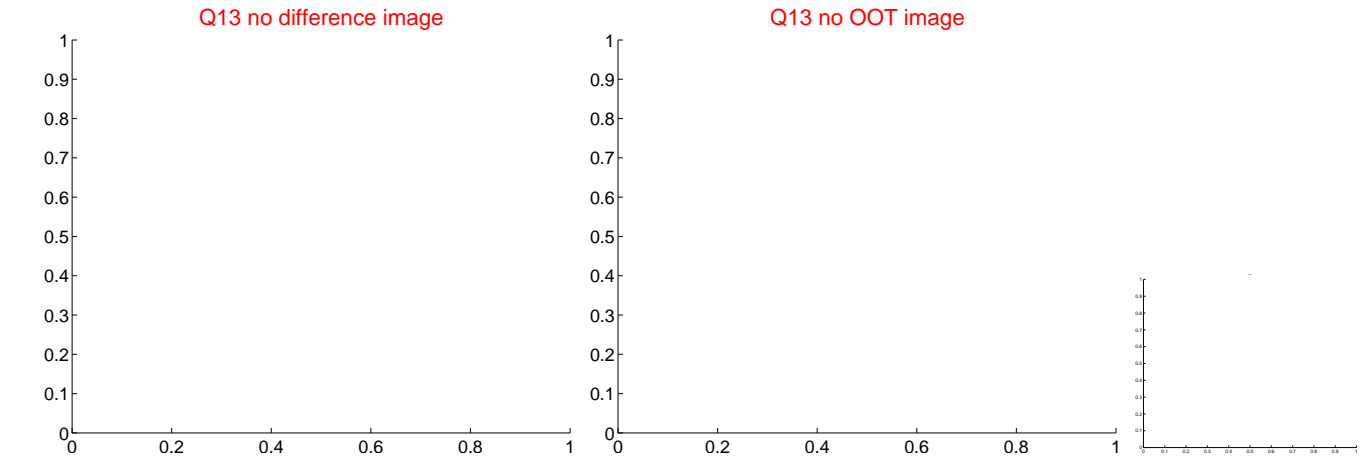
Q12 no difference image



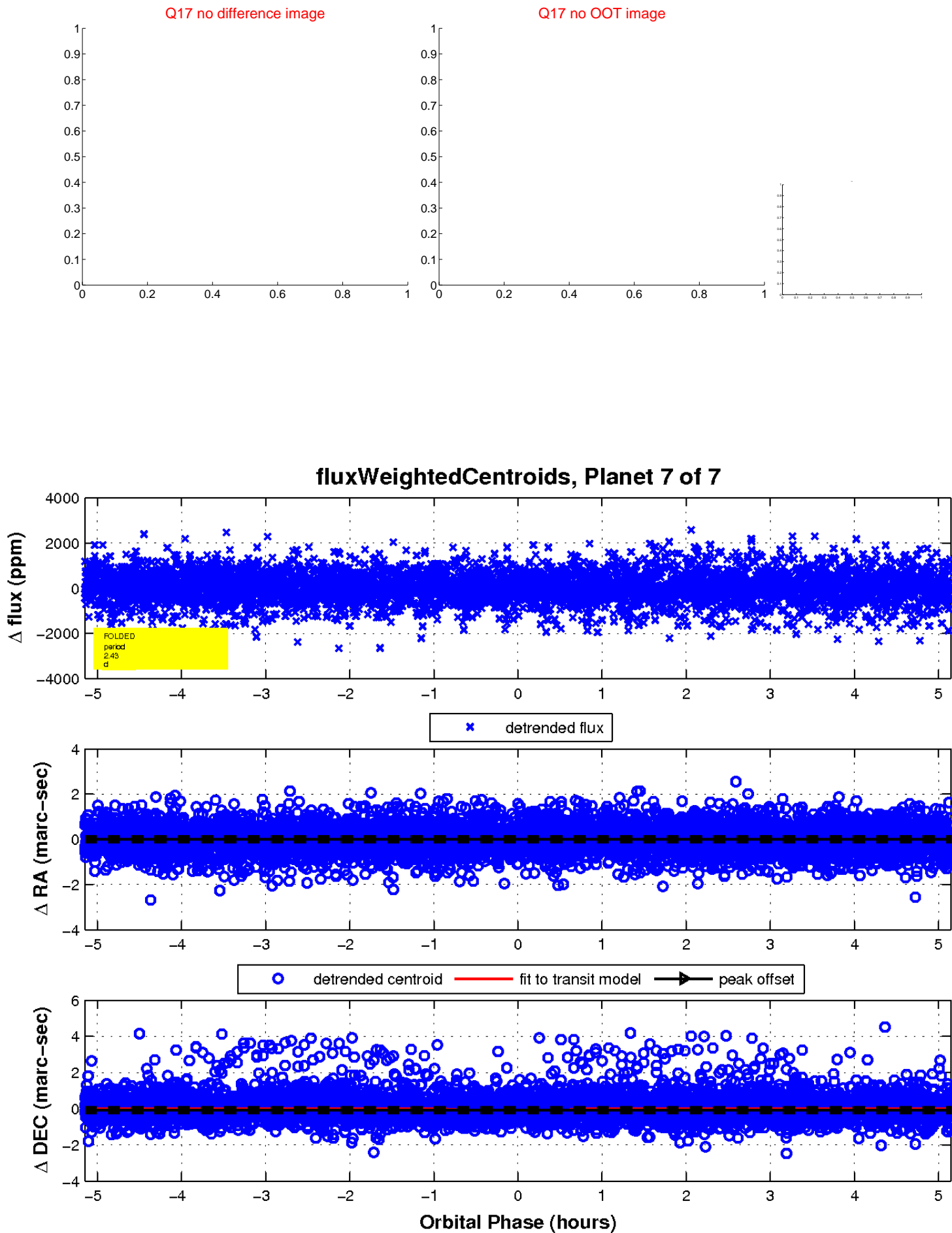
Q12 no OOT image



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

