

# KIC 010155080

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010155080-01	OBS	7289.01	1.930449	131.771348	63505.3	3.888	7656.5	6053.5	1.17	6154	49.11	1642.89
010155080-02	OBS	No	220.730185	283.922955	913.6	12.812	10.5	8.1	1.17	6154	6.85	2.96
010155080-03	OBS	No	183.401880	280.061180	488.6	3.888	8.3	7.5	1.17	6154	2.83	3.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010155080-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED
010155080-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010155080-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—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.

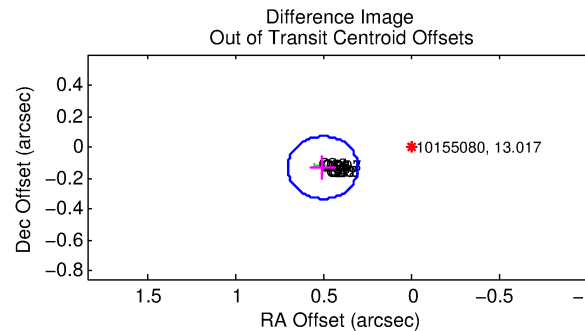
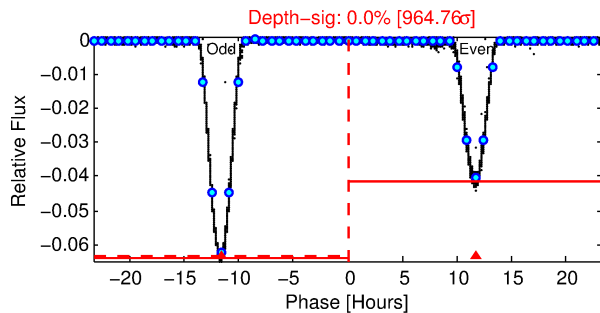
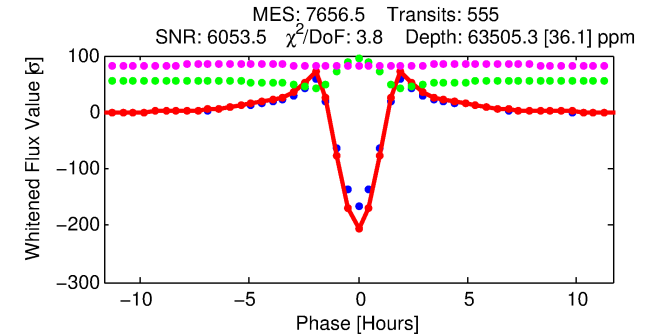
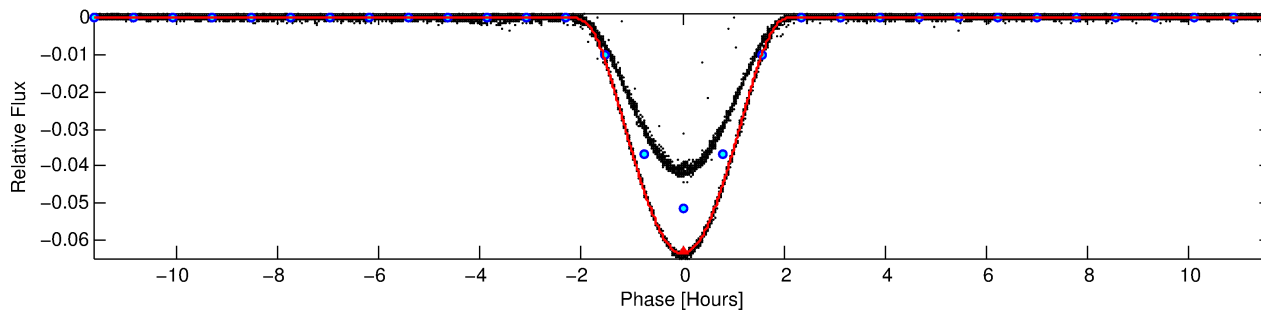
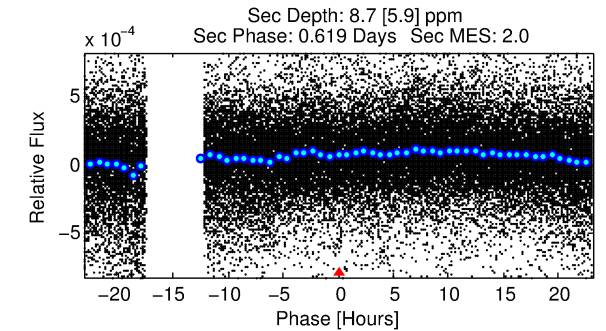
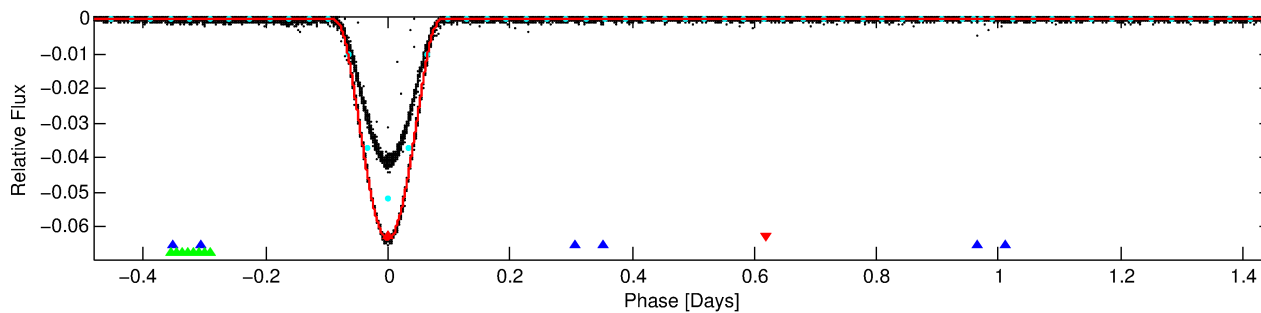
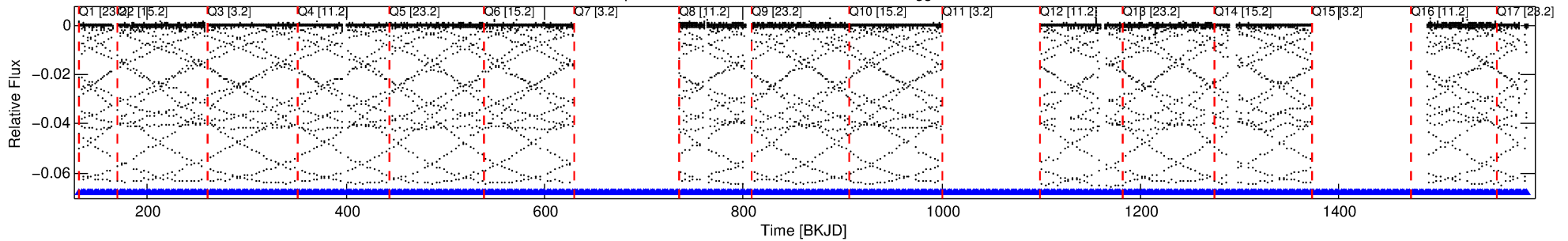
## Ephemeris Match Information For 010155080-01

No Significant Match Found

# DV One-Page Summary

KIC: 10155080 Candidate: 1 of 3 Period: 1.930 d  
KOI: K07289.01 Corr: 0.997

Kp: 13.02 R\*: 1.17 Rs Teff: 6154.0 K Logg: 4.40 Fe/H: 0.360



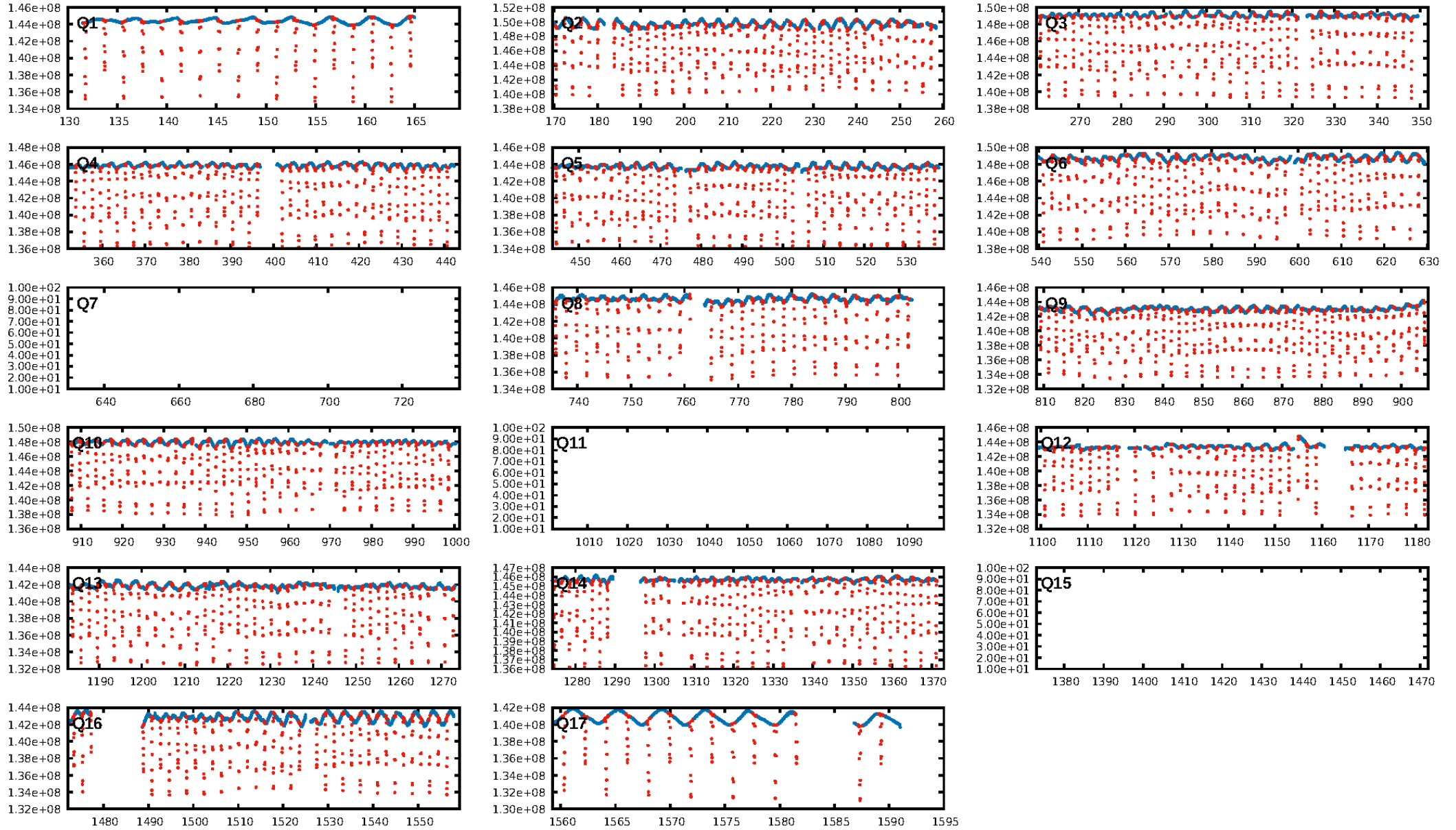
## DV Fit Results:

Period = 1.93045 [0.00000] d  
Epoch = 131.7713 [0.0000] BKJD  
Rp/R\* = 0.3853 [0.0085]  
a/R\* = 3.87 [0.00]  
b = 0.98 [0.01]  
Seff = 1642.89 [706.01]  
Teq = 1623 [174] K  
Rp = 49.11 [16.69] Re  
a = 0.0327 [0.0091] AU  
Ag = 0.00 [0.00] [-599.75σ]  
Teffp = 538 [95] K [-5.47σ]

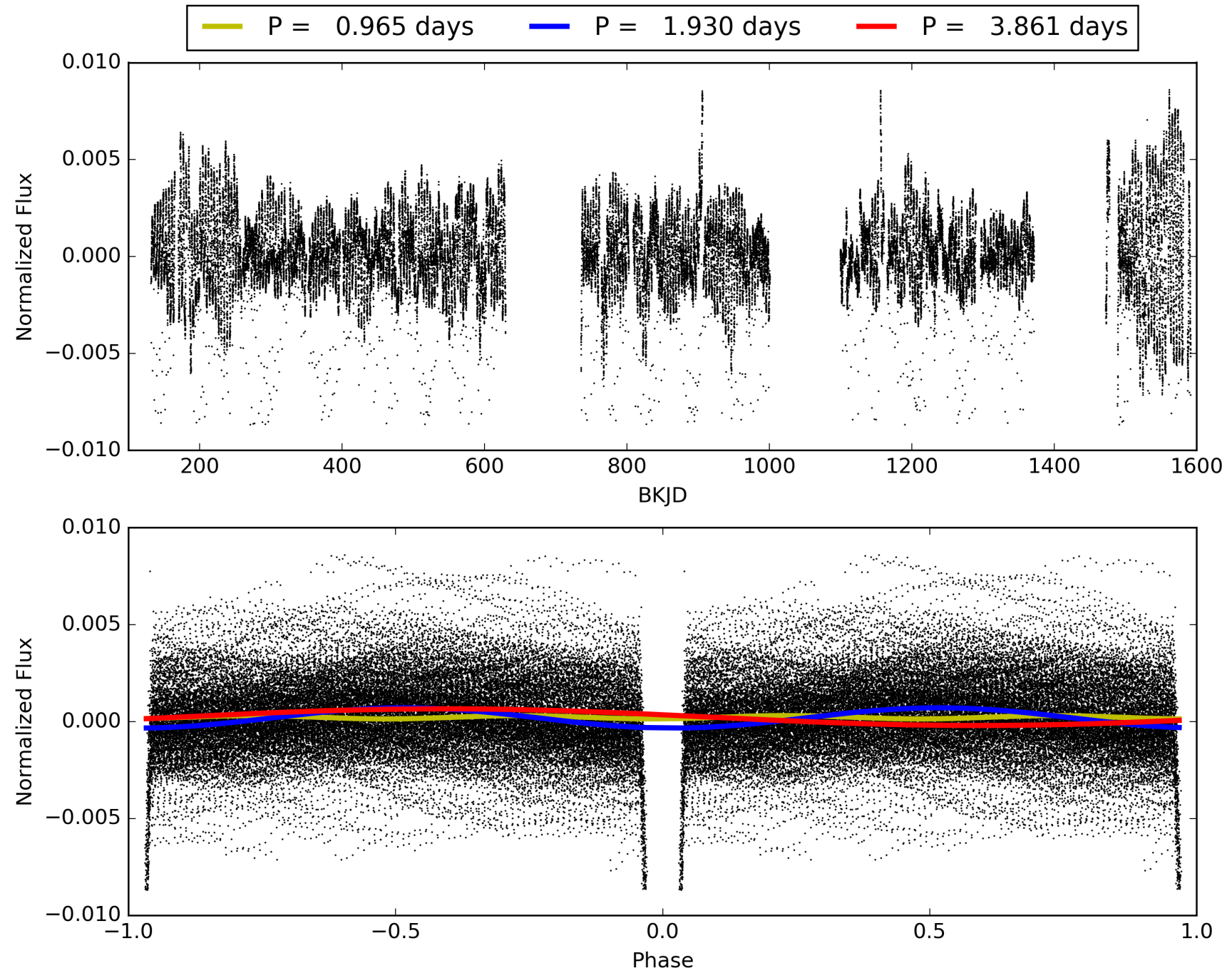
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [792.05σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [523/523]  
GhostDiagnostic-chr: 1.528  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.524 arcsec [7.79σ]  
KicOffset-rm: 0.579 arcsec [8.61σ]  
OotOffset-st: 4/1/4/5 [14]  
KicOffset-st: 4/1/4/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 010155080-01, PDC Light Curves

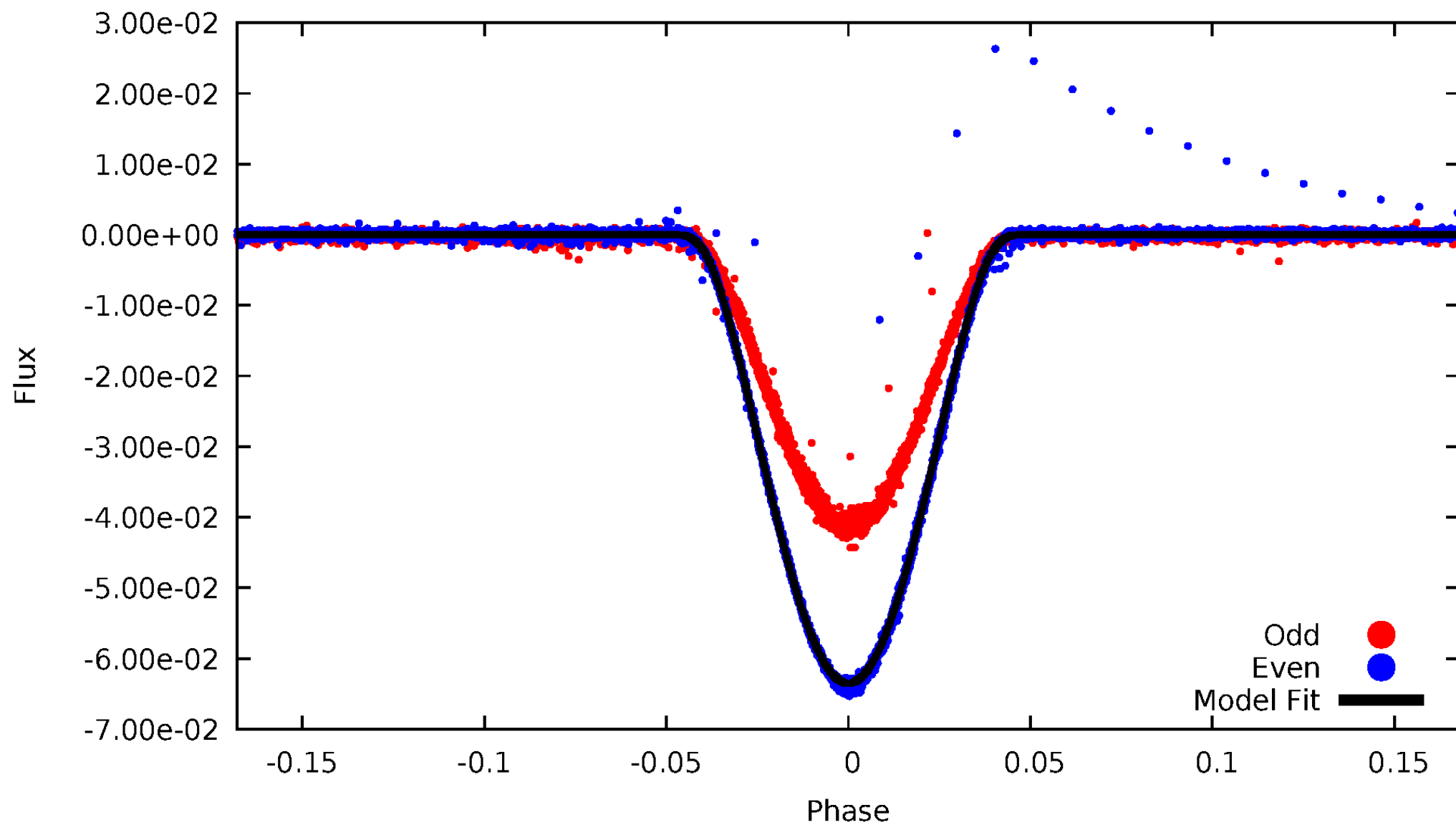


TCE 010155080-01



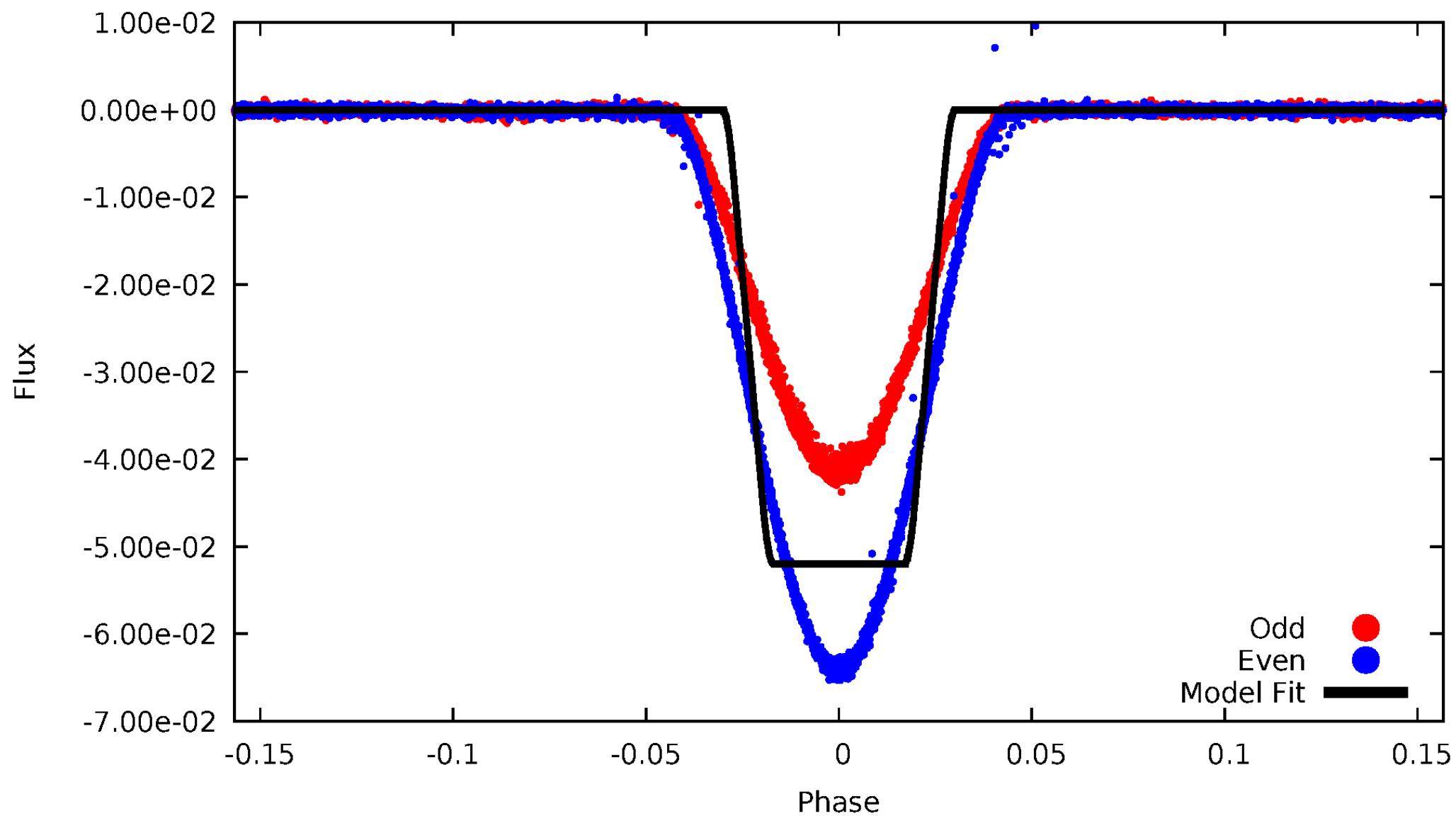
# DV Odd/Even

TCE 010155080-01



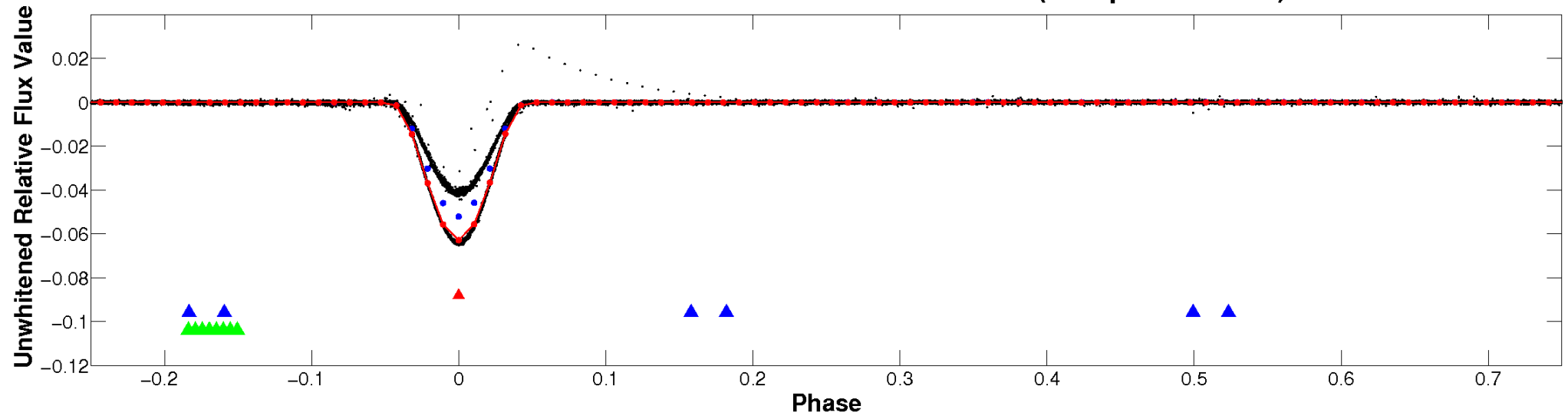
# ALT Odd/Even

TCE 010155080-01

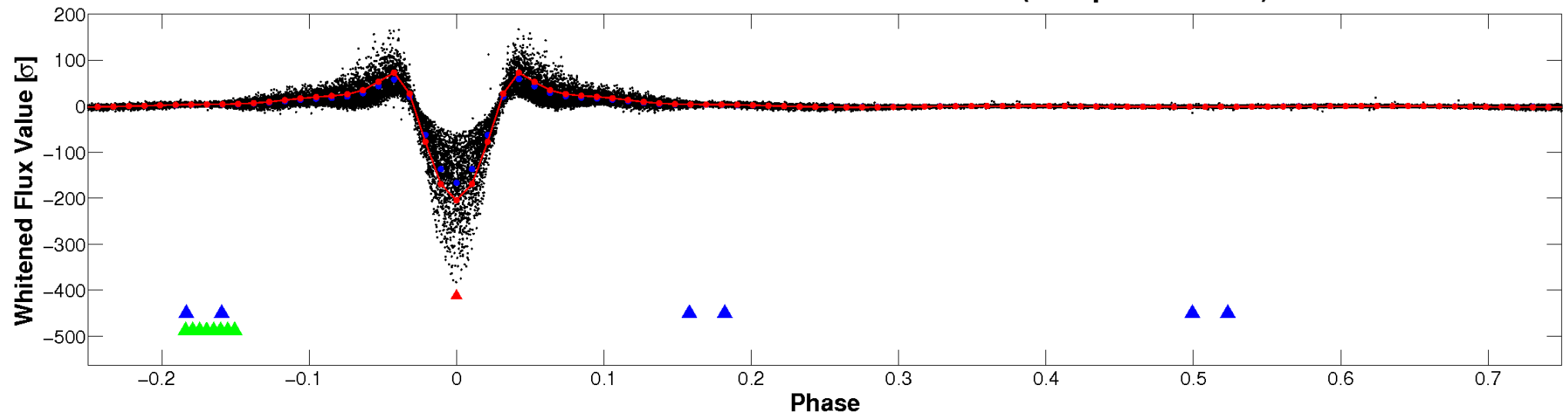


# Non-Whitened Vs. Whitened Light Curve

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

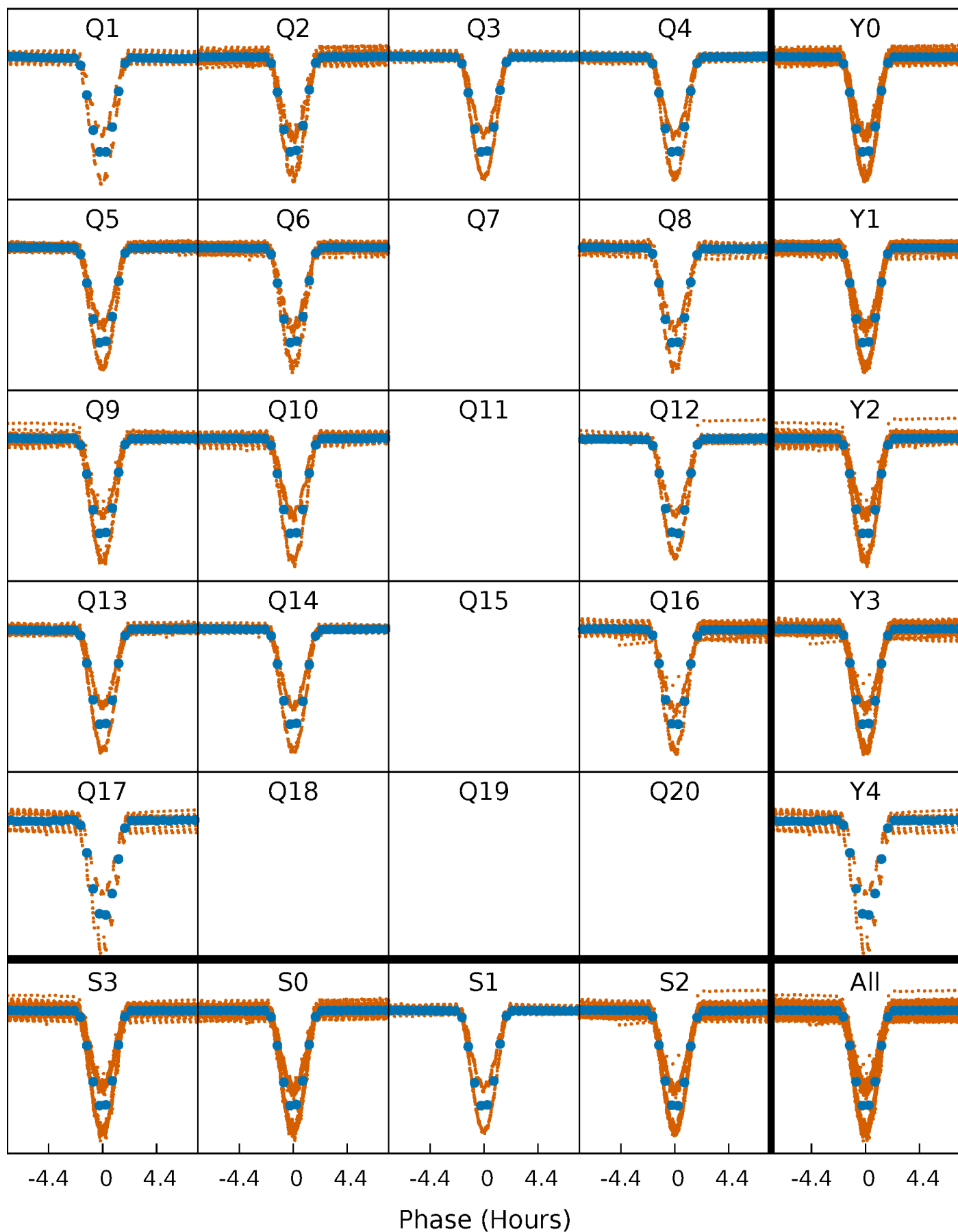


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

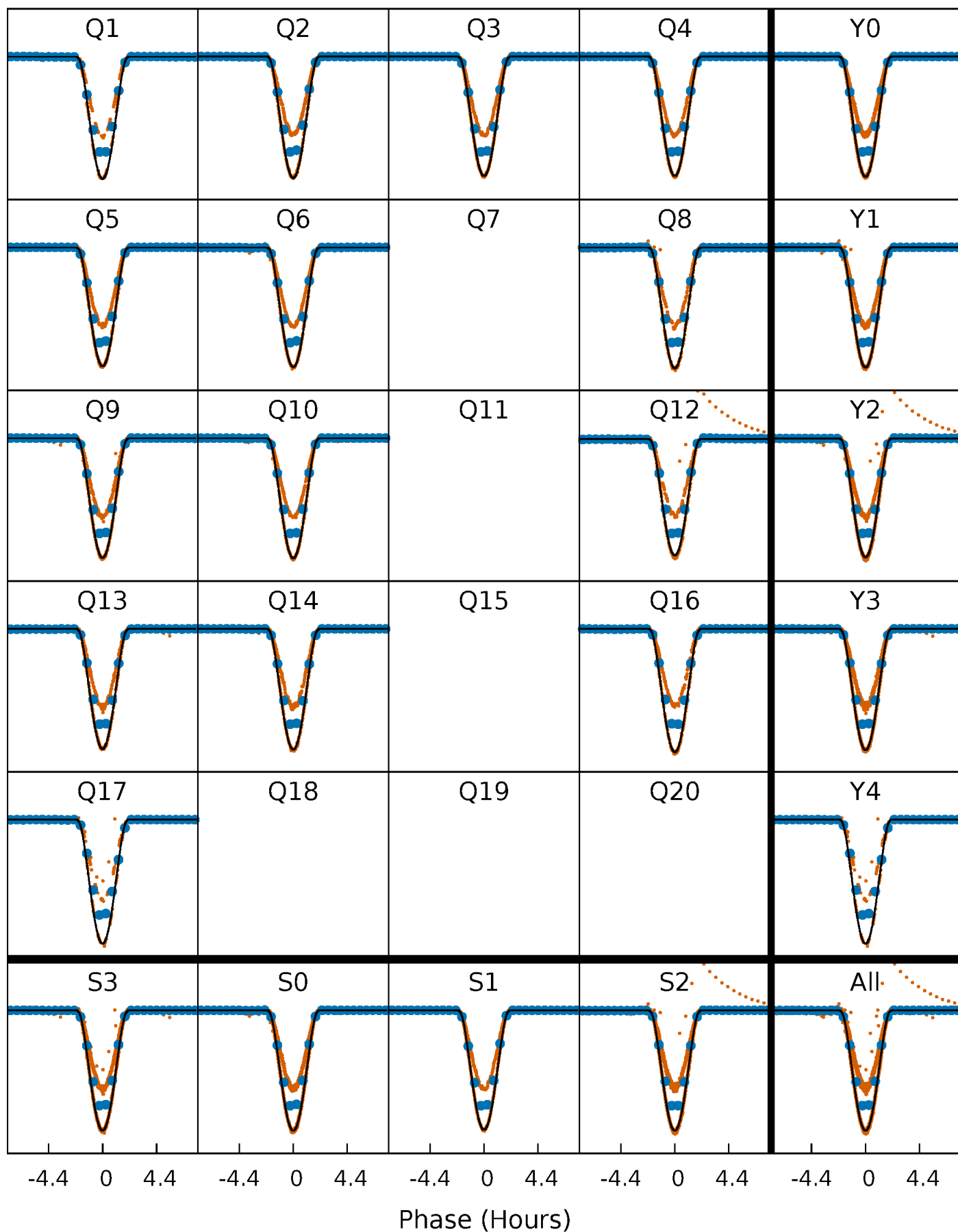
TCE 010155080-01 P= 1.930449 Days  $T_0=131.771348$  (BKJD)





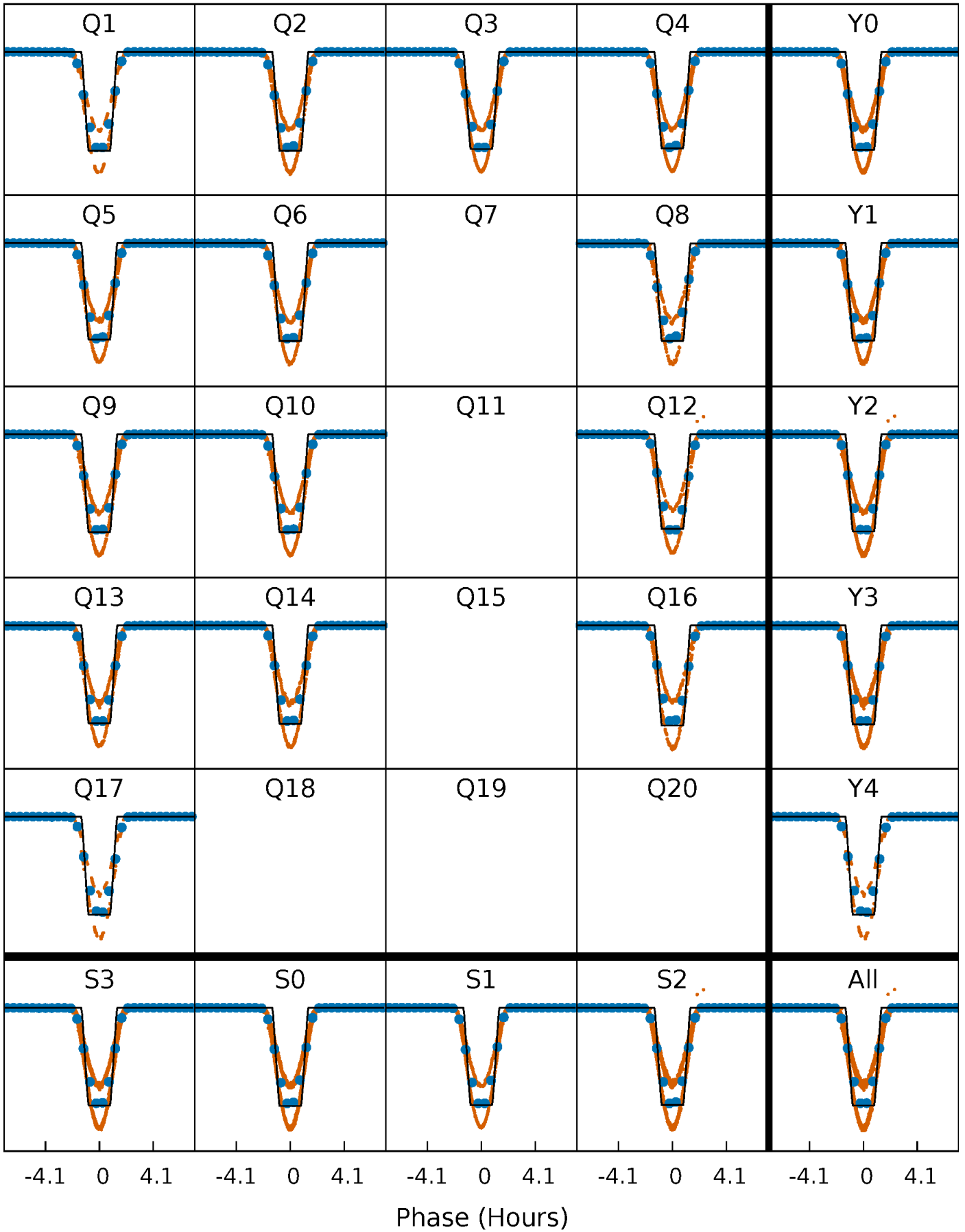
# DV Quarter-Phased Transit Curves

TCE 010155080-01 P= 1.930449 Days  $T_0=131.771348$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

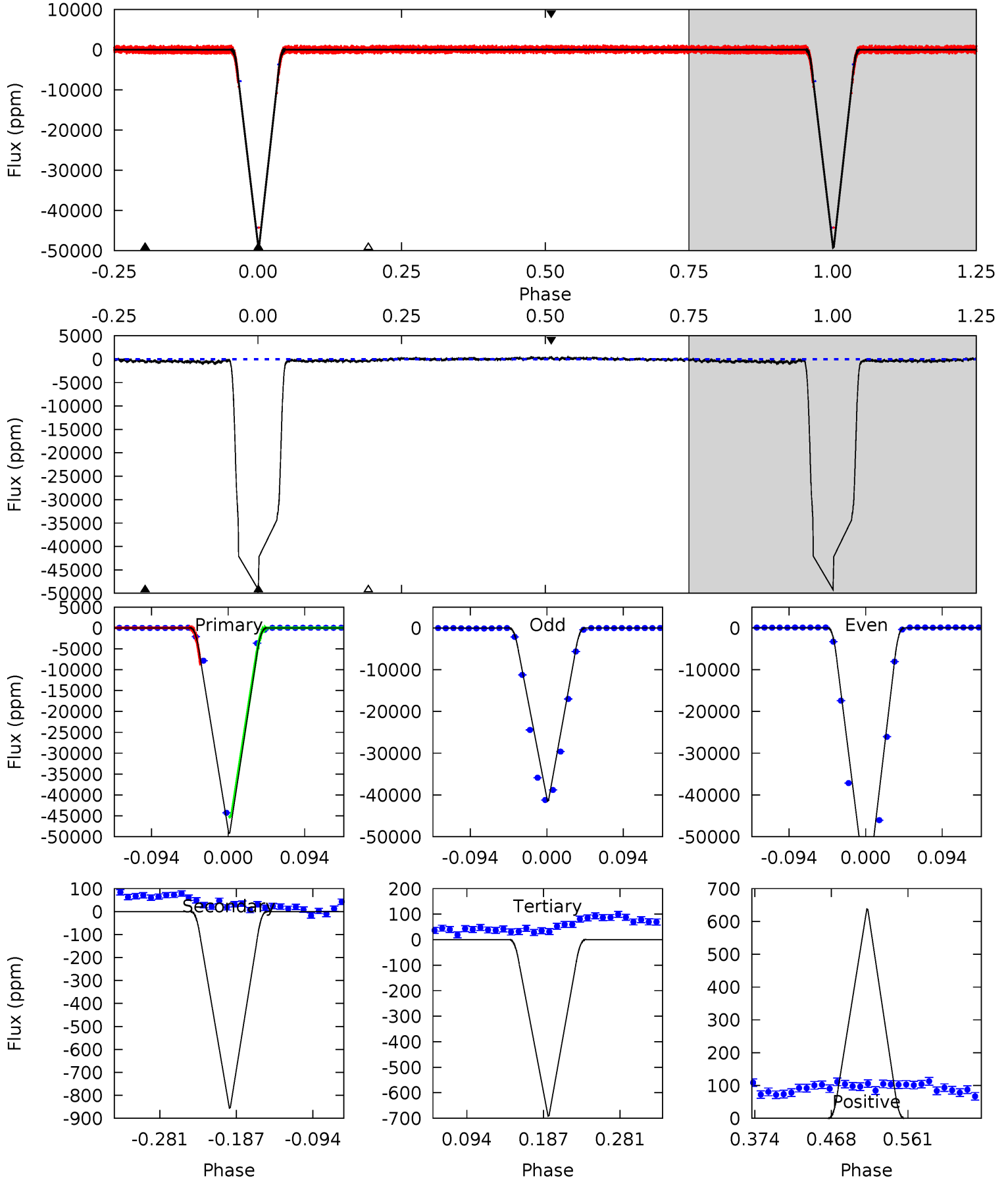
TCE 010155080-01 P= 1.930449 Days  $T_0=131.771708$  (BKJD)



# DV Model-Shift Uniqueness Test

010155080-01, P = 1.930449 Days, E = 129.840899 Days

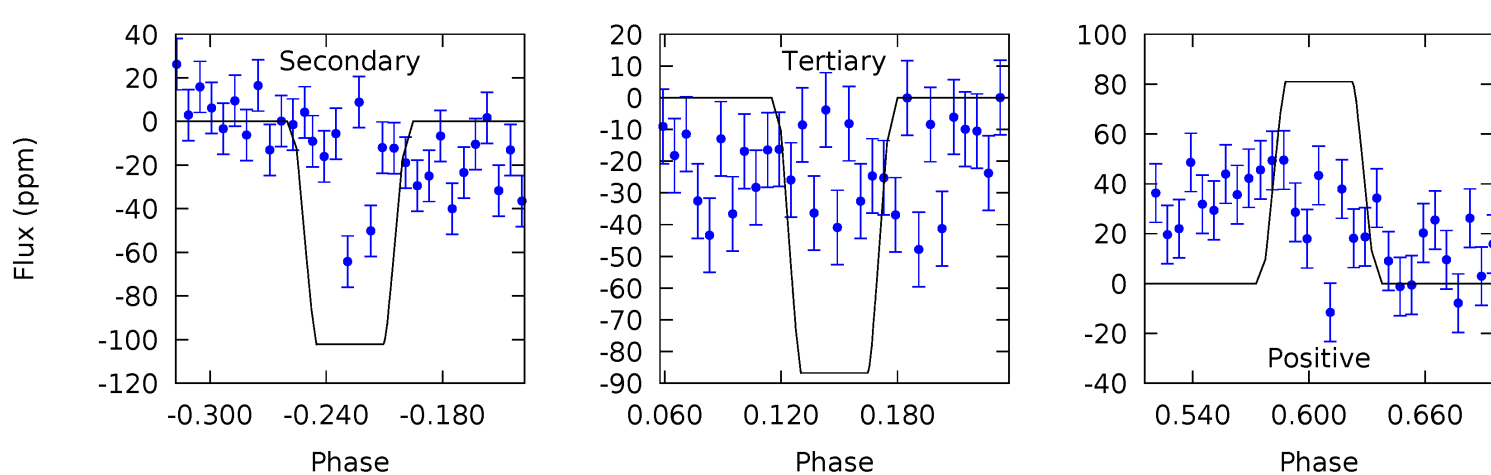
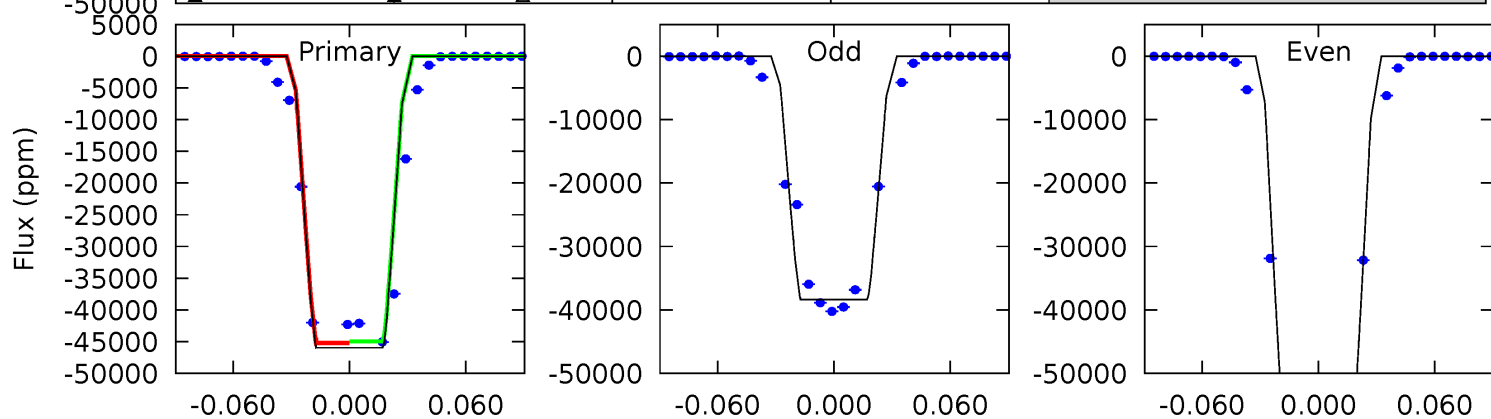
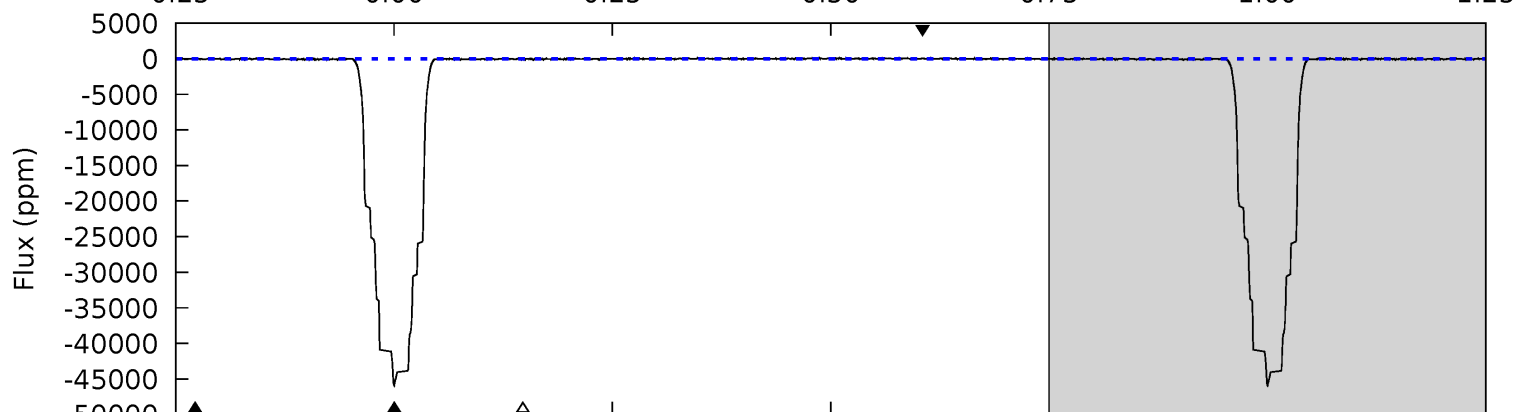
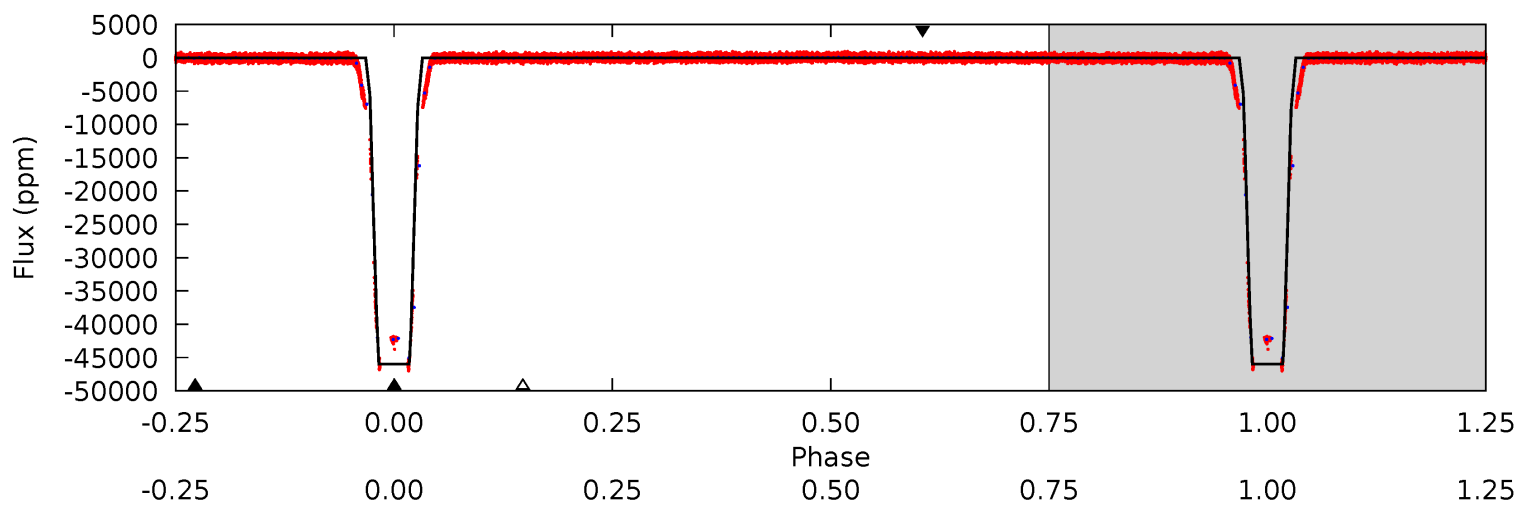
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5993	104.1	84.2	77.7	4.58	1.68	26.3	5909	5915	20.0	26.4	2776	1.21	0.01	0



# Alt Model-Shift Uniqueness Test

010155080-01, P = 1.930449 Days, E = 129.841259 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
2830	6.29	5.34	4.98	4.67	1.88	2.22	2824	2825	0.95	1.31	1522	1.05	0.00	0



### Stellar Parameters For KIC 010155080

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6154^{+193}_{-265}$	$4.399^{+0.070}_{-0.210}$	$0.360^{+0.100}_{-0.350}$	$1.168^{+0.396}_{-0.132}$	$1.247^{+0.147}_{-0.180}$	$1.103^{+0.329}_{-0.600}$
	+3%/-4%	+2%/-5%	+28%/-97%	+34%/-11%	+12%/-14%	+30%/-54%
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 010155080-01 / KOI 7289.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-856 \pm 8$	$49.86^{+9.24}_{-4.26}$	$2305^{+179}_{-137}$	$-2348^{+162}_{-201}$	$0.197^{+0.034}_{-0.051}$
Alt.	$-102 \pm 16$	$29.33^{+5.03}_{-2.59}$	$2300^{+172}_{-129}$	$-2589^{+83}_{-124}$	$0.065^{+0.021}_{-0.018}$

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

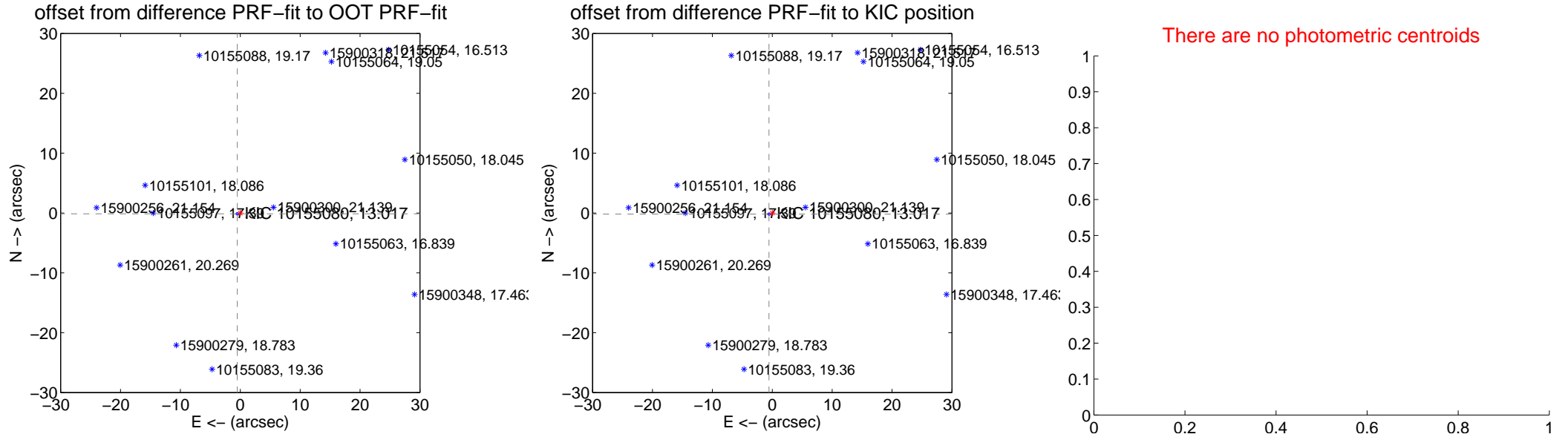
## DV Centroid Data

Supplemental centroid analysis for 010155080-01. Kepler magnitude: 13.02. Transit SNR 6053.53

There are 14 quarters with good PRF difference image offsets

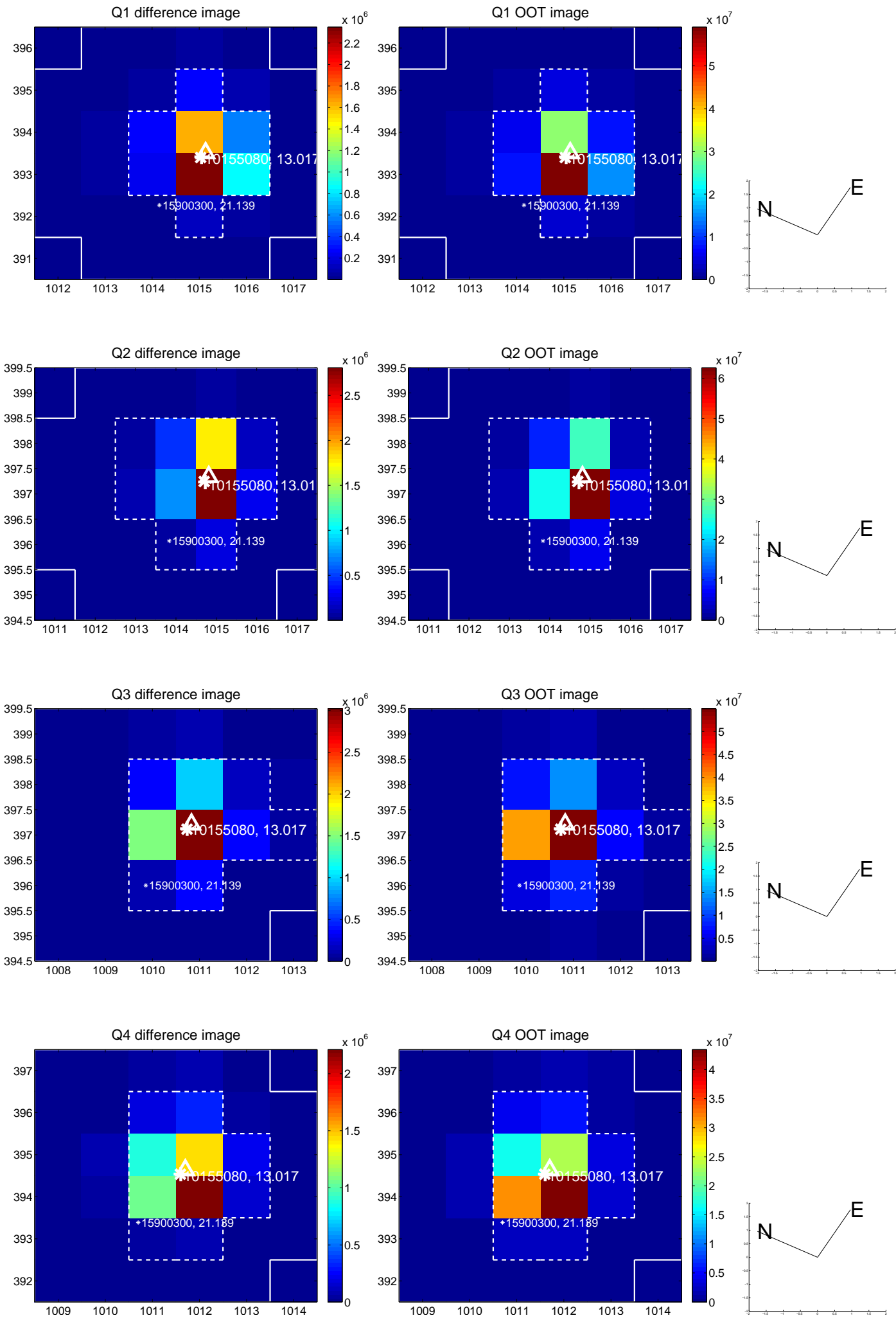
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.524 \pm 0.067$	7.79	$0.507 \pm 0.067$	$-0.131 \pm 0.067$
PRF-fit source offset from KIC position	$0.579 \pm 0.067$	8.61	$0.550 \pm 0.067$	$-0.179 \pm 0.068$
photometric centroid source offset	—	—	—	—

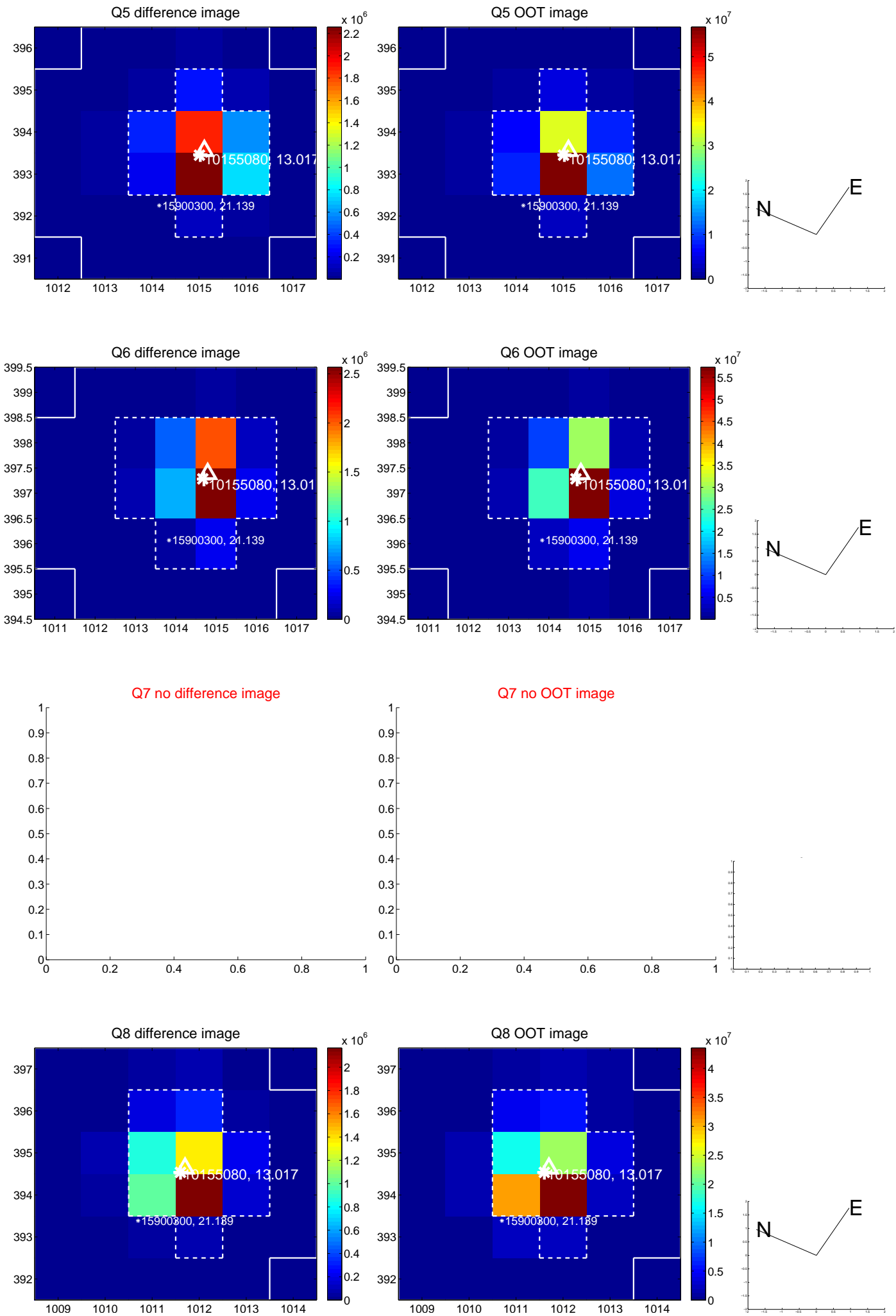


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

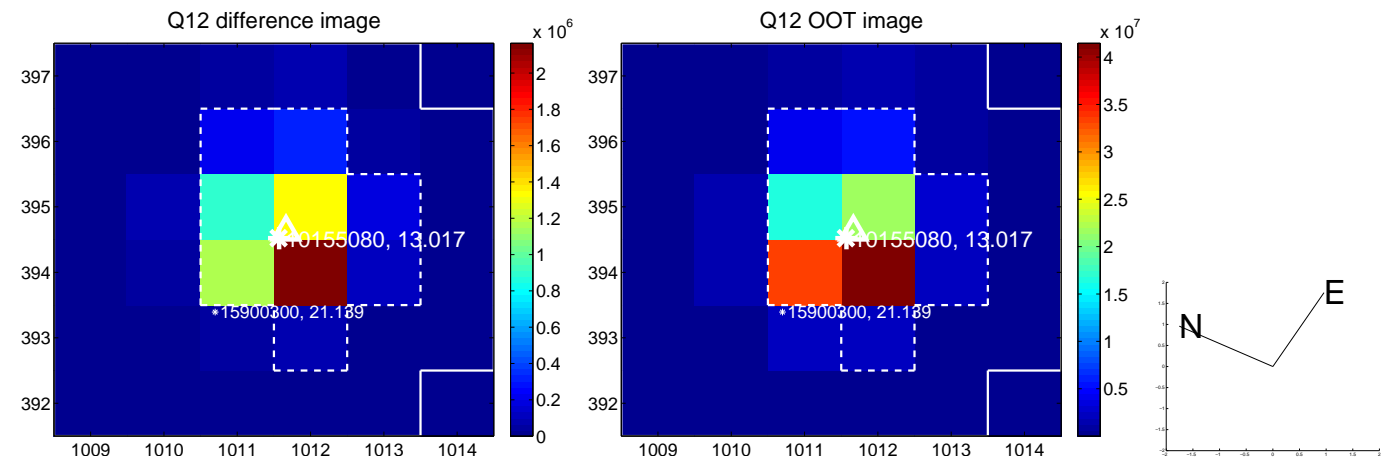
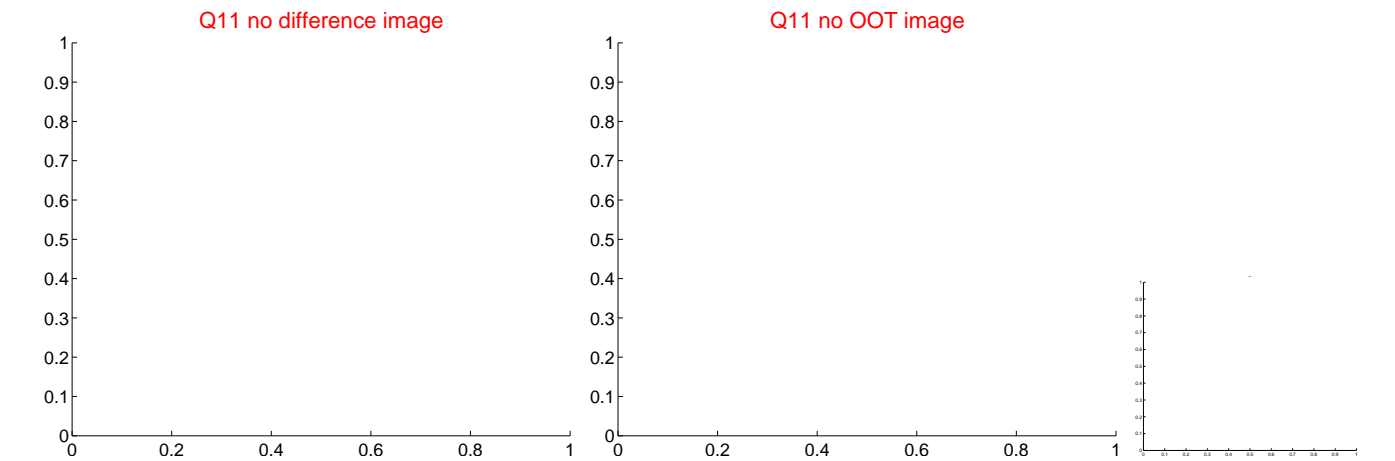
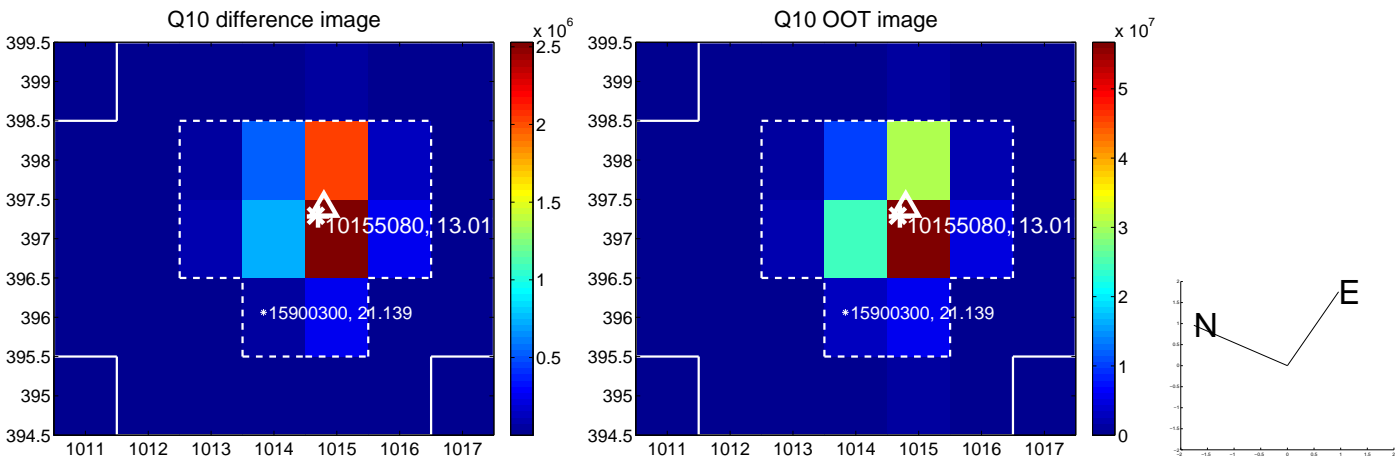
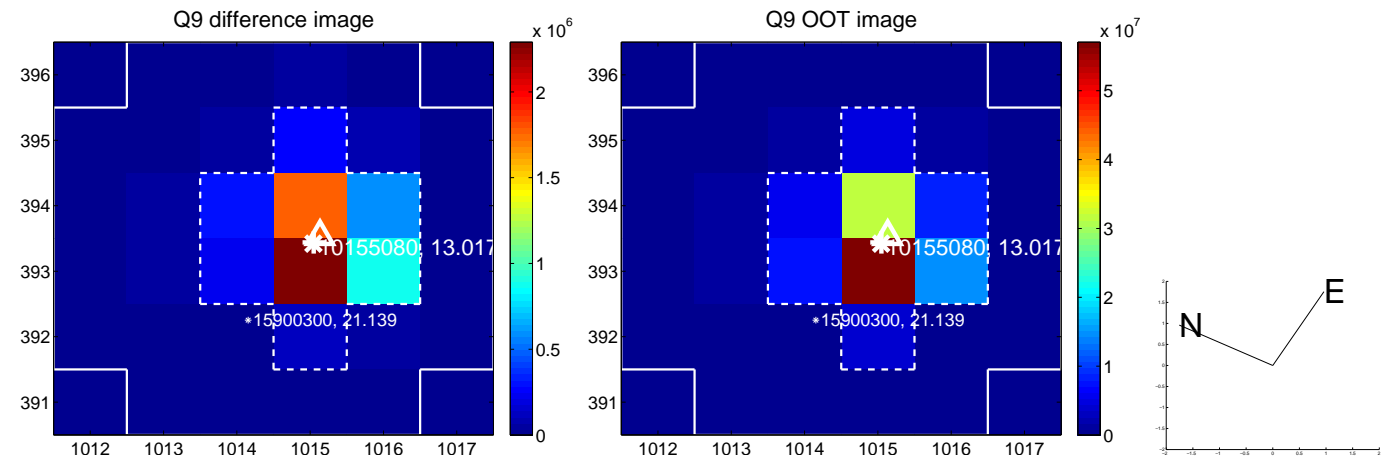


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

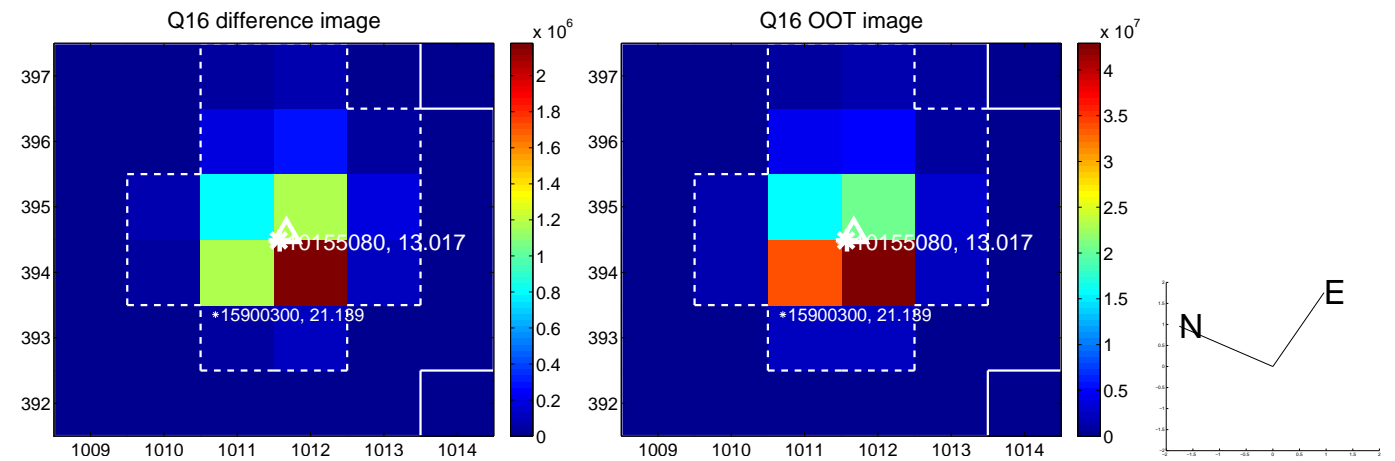
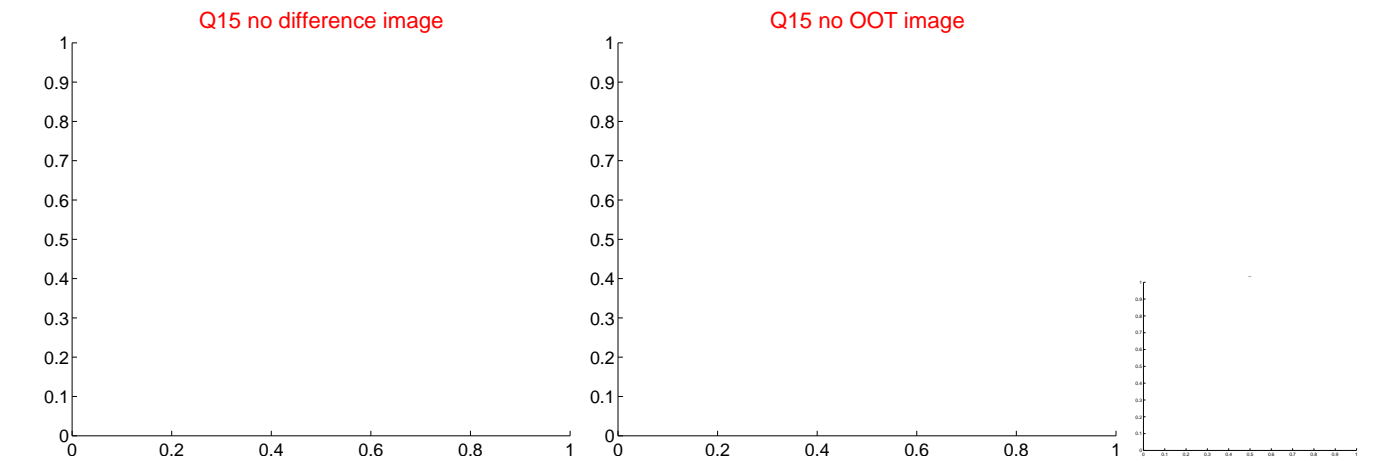
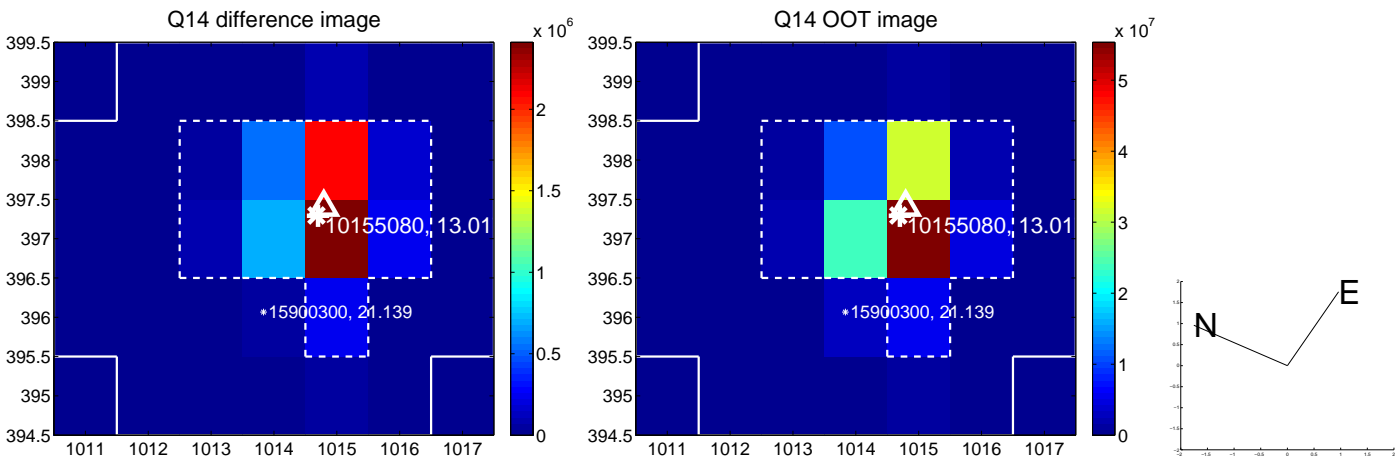
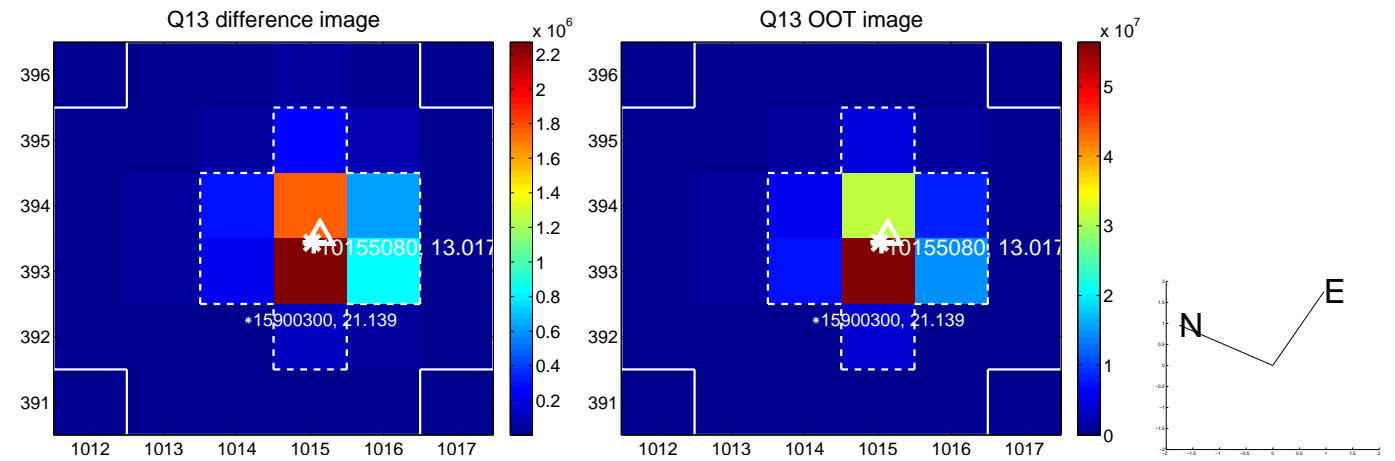




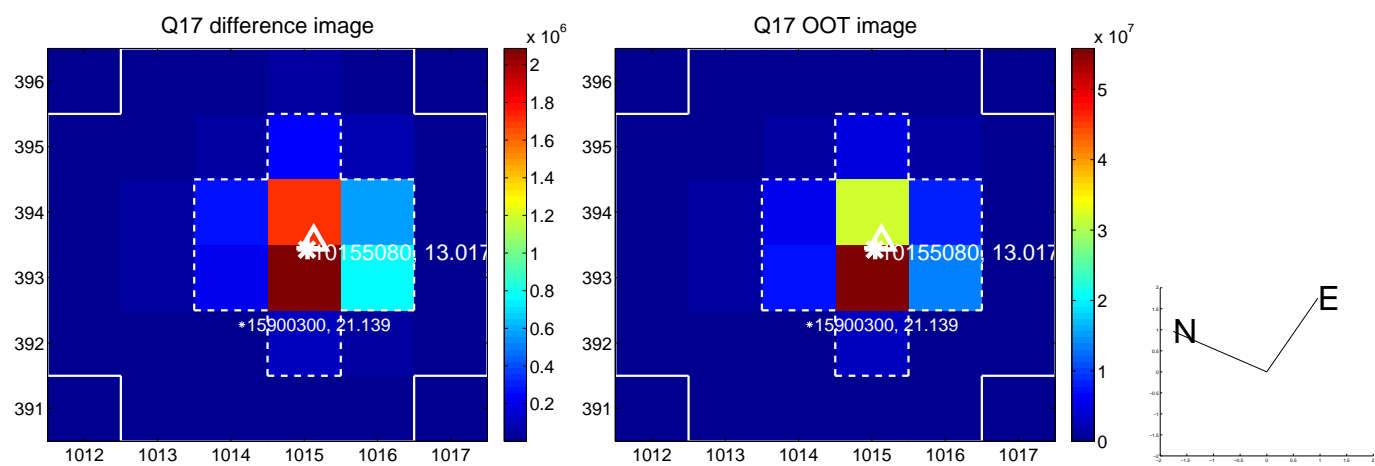
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



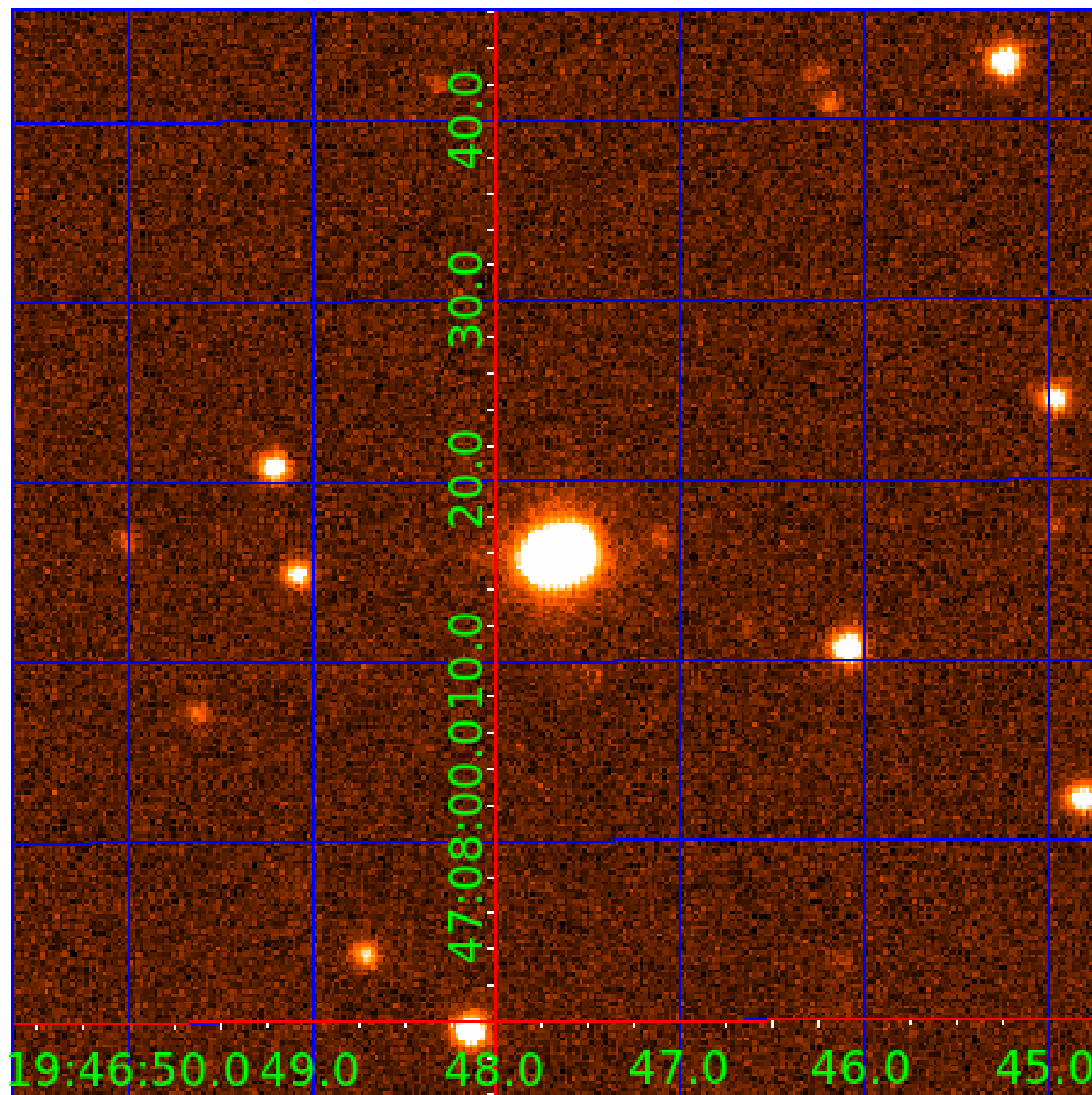
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



# KIC 010155080

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010155080-01	OBS	7289.01	1.930449	131.771348	63505.3	3.888	7656.5	6053.5	1.17	6154	49.11	1642.89
010155080-02	OBS	No	220.730185	283.922955	913.6	12.812	10.5	8.1	1.17	6154	6.85	2.96
010155080-03	OBS	No	183.401880	280.061180	488.6	3.888	8.3	7.5	1.17	6154	2.83	3.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010155080-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED
010155080-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010155080-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—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.

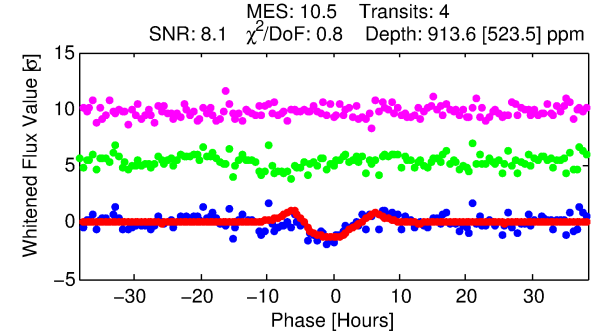
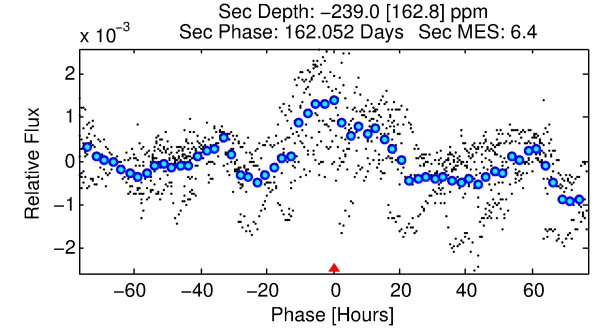
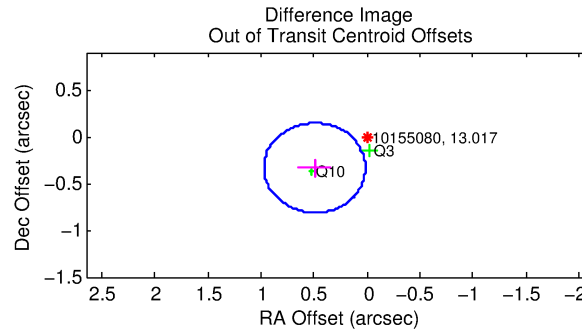
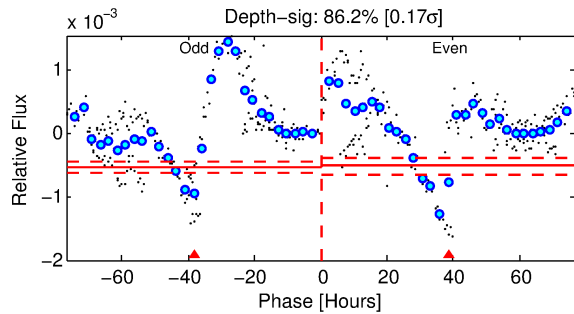
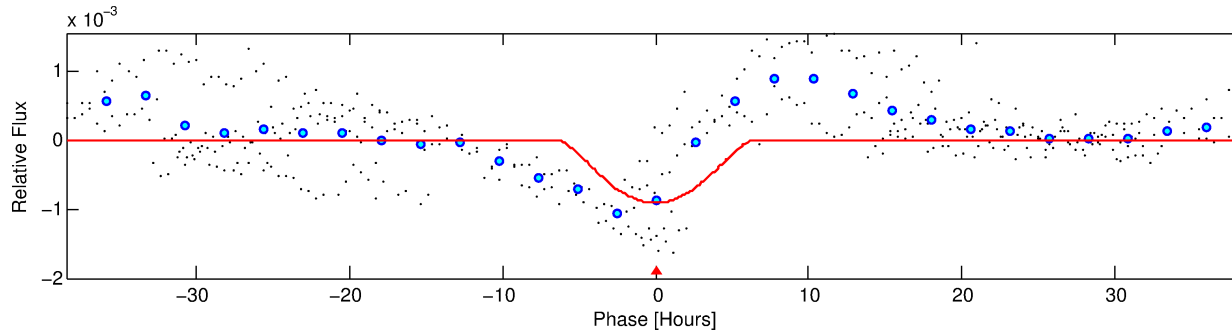
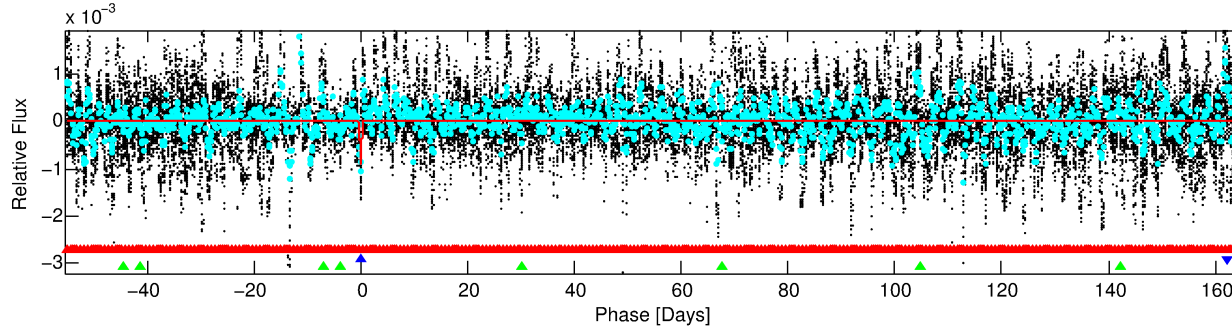
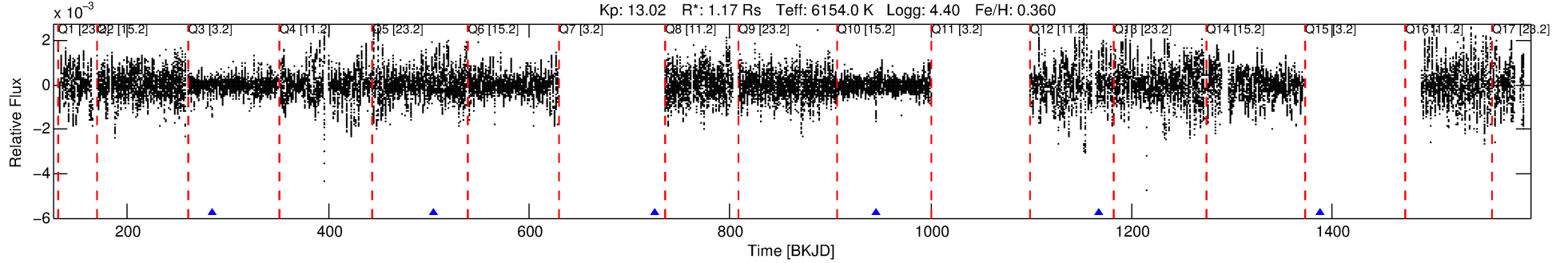
## Ephemeris Match Information For 010155080-02

No Significant Match Found

# DV One-Page Summary

KIC: 10155080 Candidate: 2 of 3 Period: 220.730 d  
KOI: K07289 Corr: No Ephemeris Match

Kp: 13.02 R\*: 1.17 Rs Teff: 6154.0 K Logg: 4.40 Fe/H: 0.360



## DV Fit Results:

Period = 220.73018 [0.00824] d  
Epoch = 283.9230 [0.0211] BKJD  
Rp/R\* = 0.0538 [0.0900]  
a/R\* = 43.76 [17.56]  
b = 1.00 [0.15]  
Seff = 2.96 [1.27]  
Teff = 334 [36] K  
Rp = 6.85 [11.70] Re  
a = 0.7695 [0.2136] AU  
Ag = N/A  
Teffp = N/A

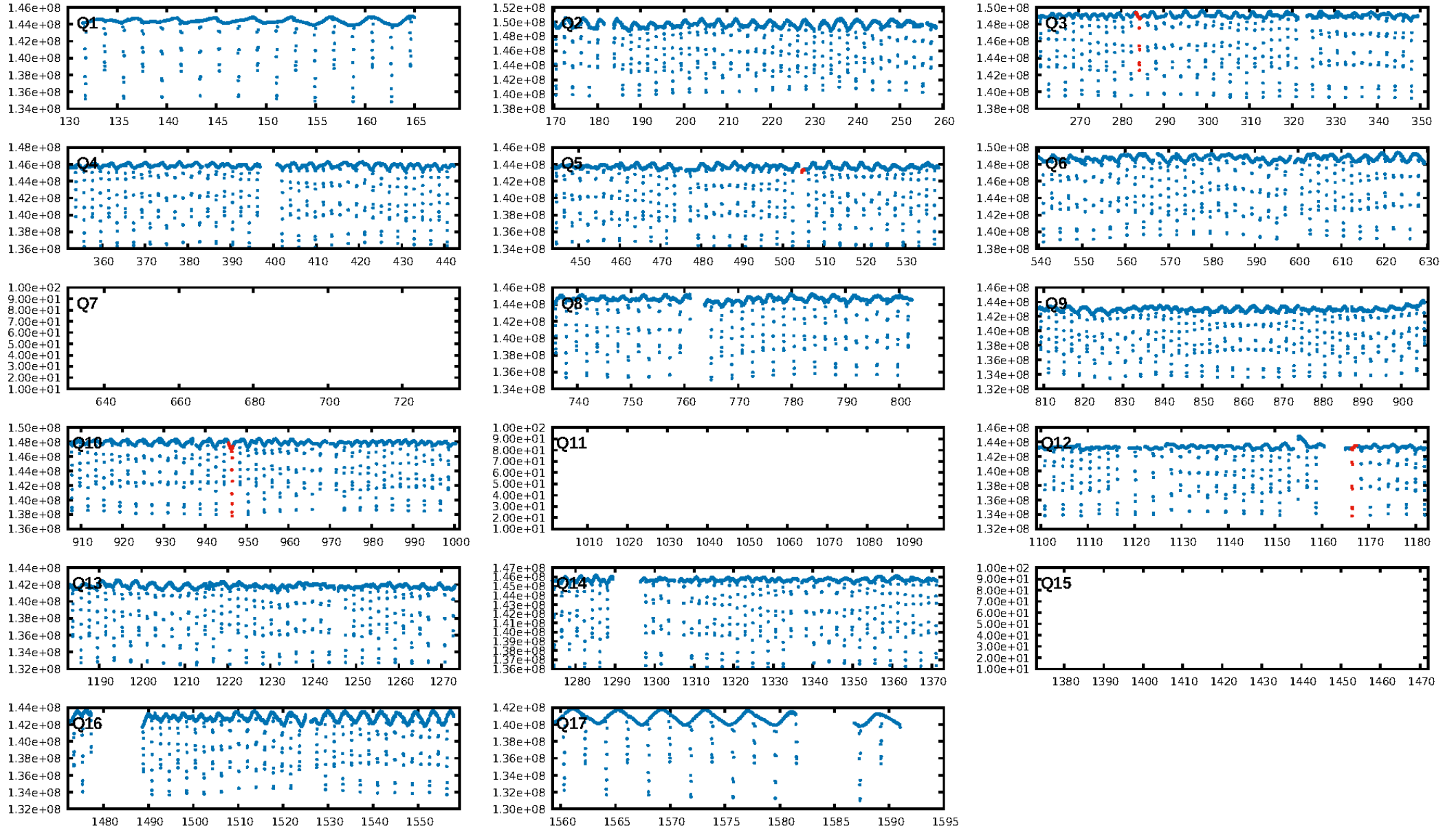
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [66.91σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 4.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.77e-13  
RollingBand-fgt: 1.00 [4/4]  
**GhostDiagnostic-chr: 0.2538**  
Centroid-sig: N/A  
Centroid-so: N/A  
**OotOffset-rm: 0.597 arcsec [3.74σ]**  
KicOffset-rm: 0.672 arcsec [2.11σ]  
OotOffset-st: 1/1/0/0 [2]  
KicOffset-st: 1/1/0/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 0.00 [0/2]

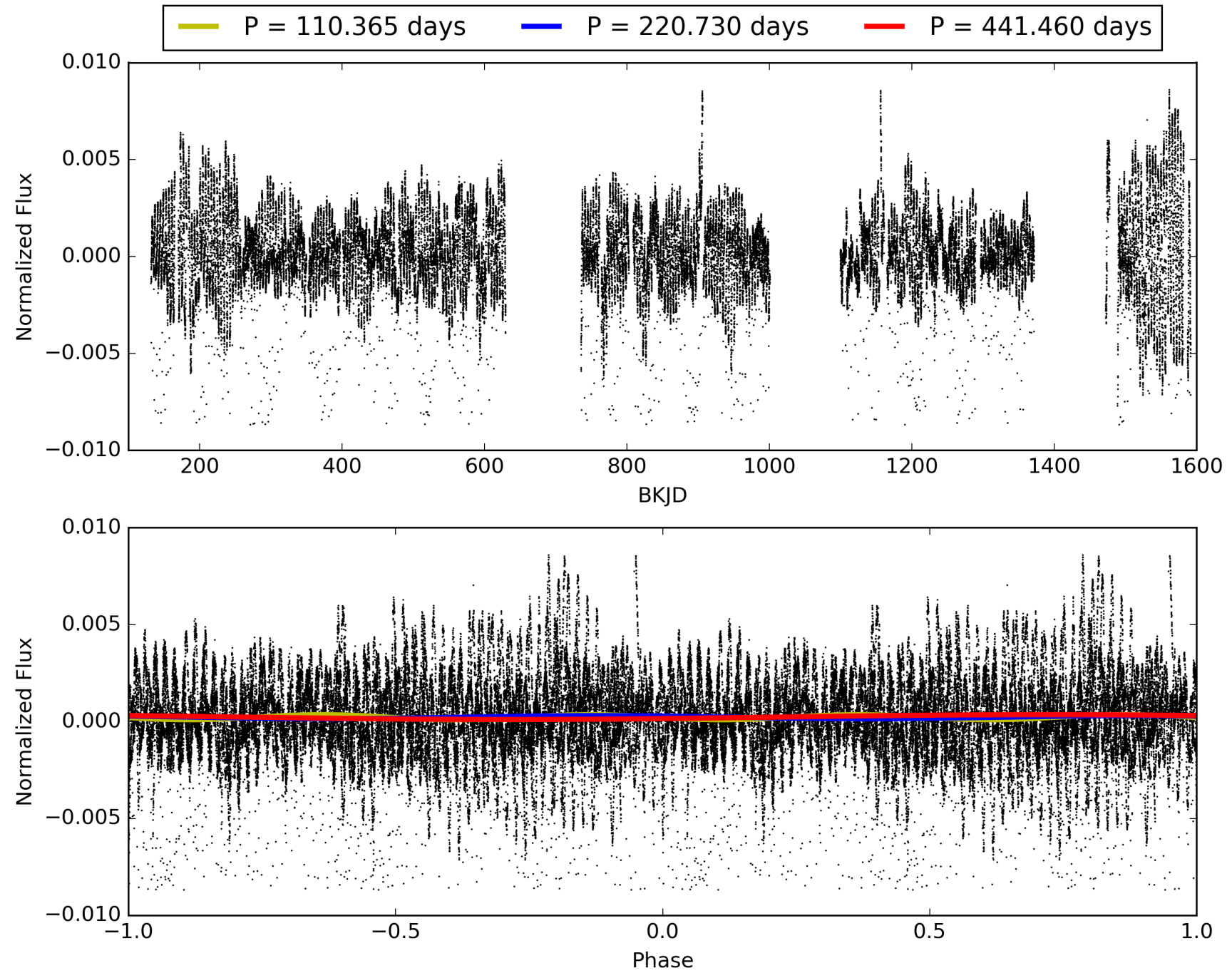
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:14:33 Z

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

# TCE 010155080-02, PDC Light Curves



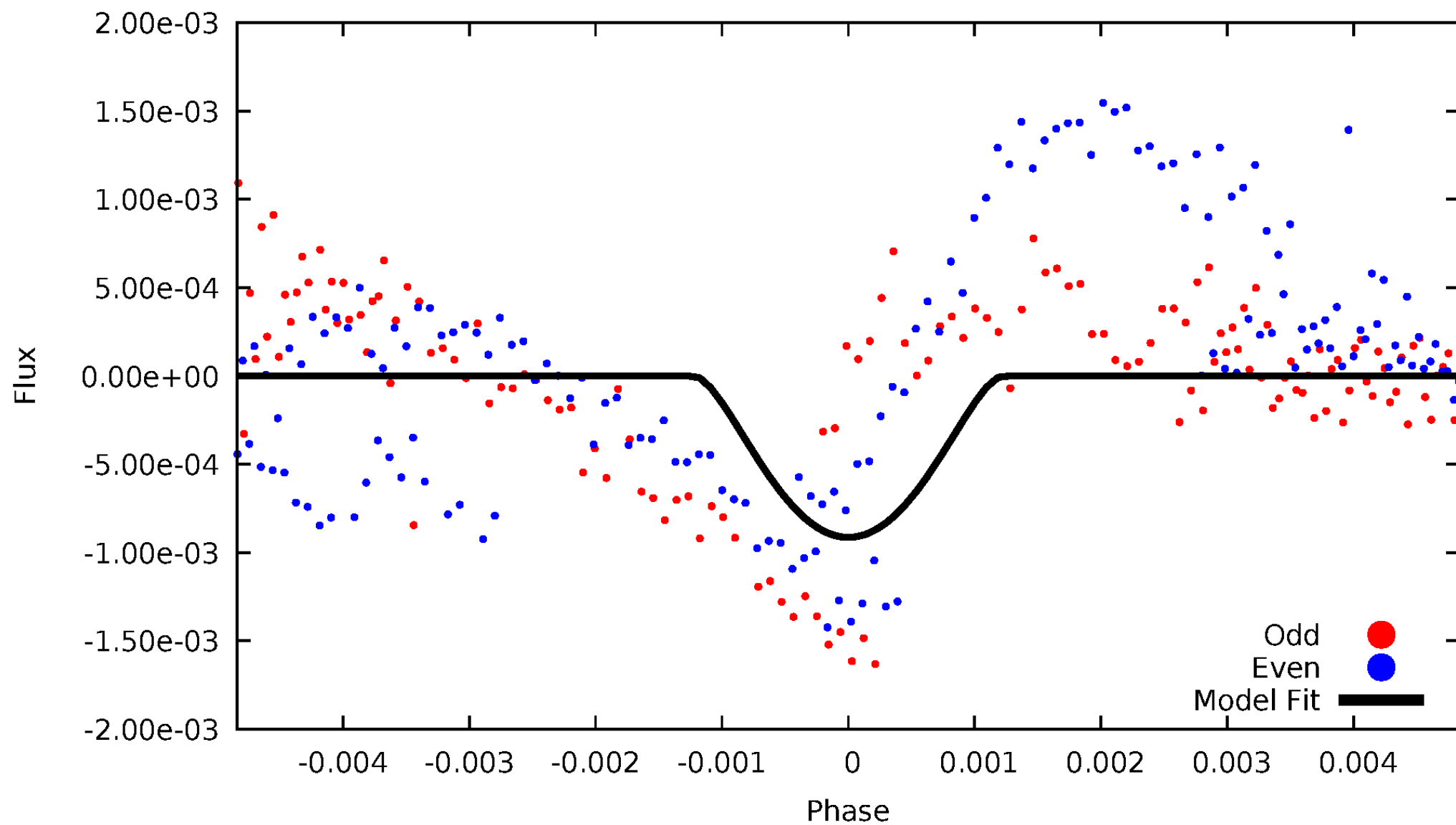
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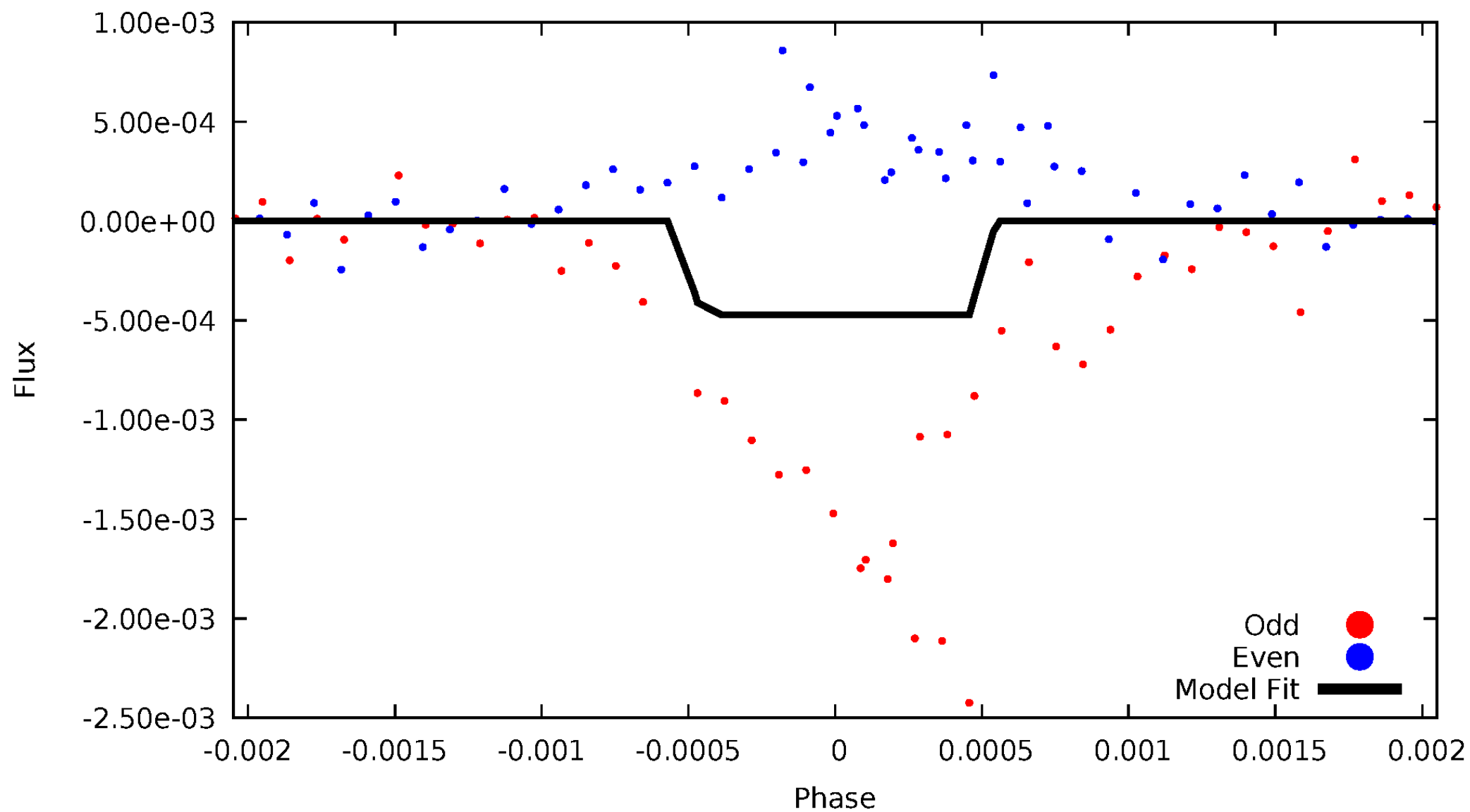
# DV Odd/Even

TCE 010155080-02



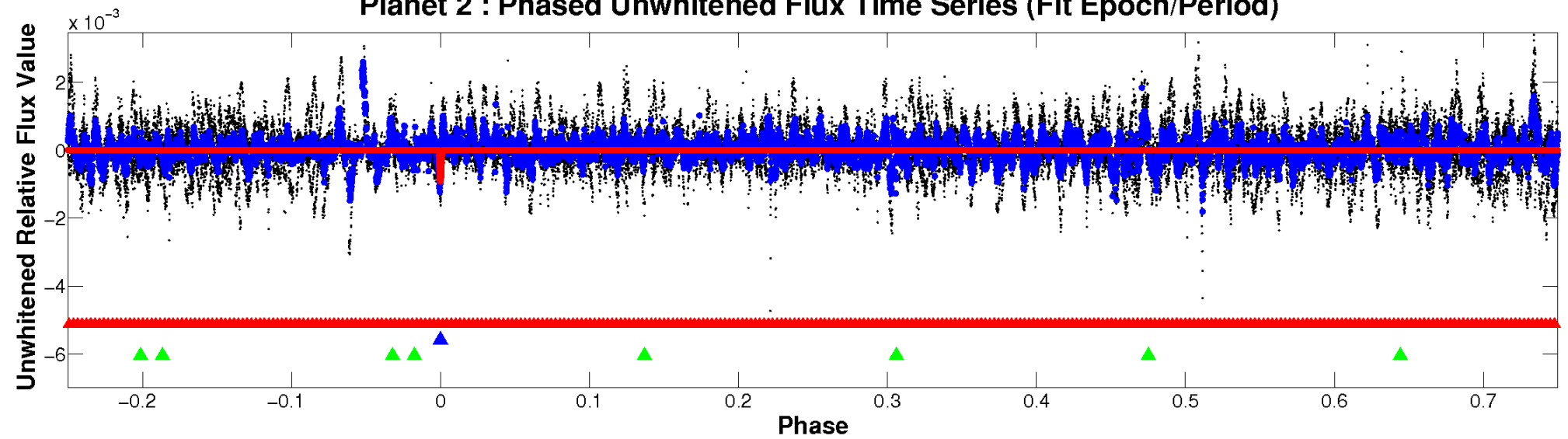
# ALT Odd/Even

TCE 010155080-02

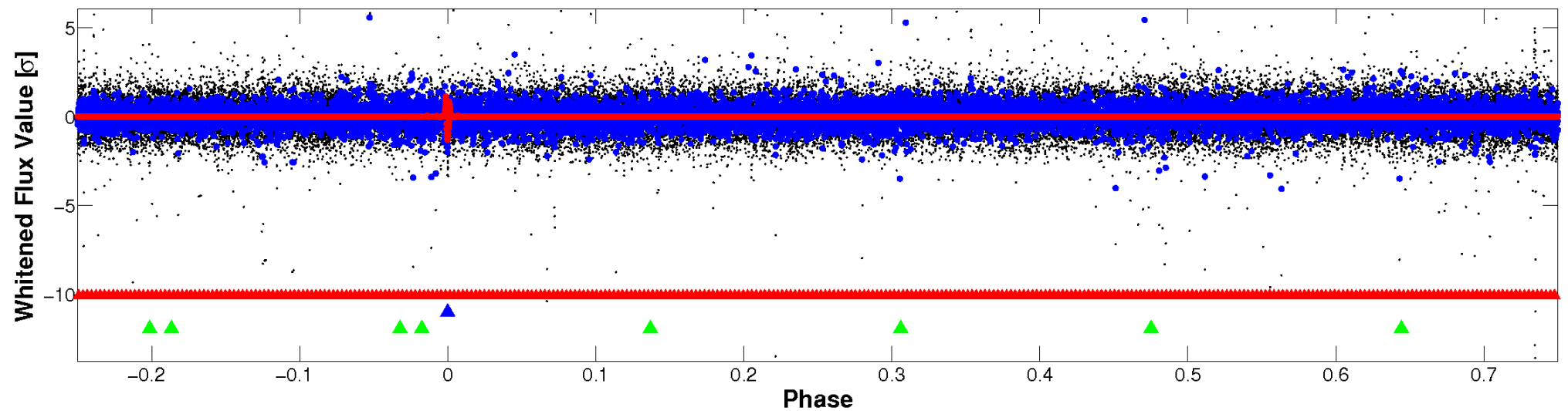


# Non-Whitened Vs. Whitened Light Curve

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

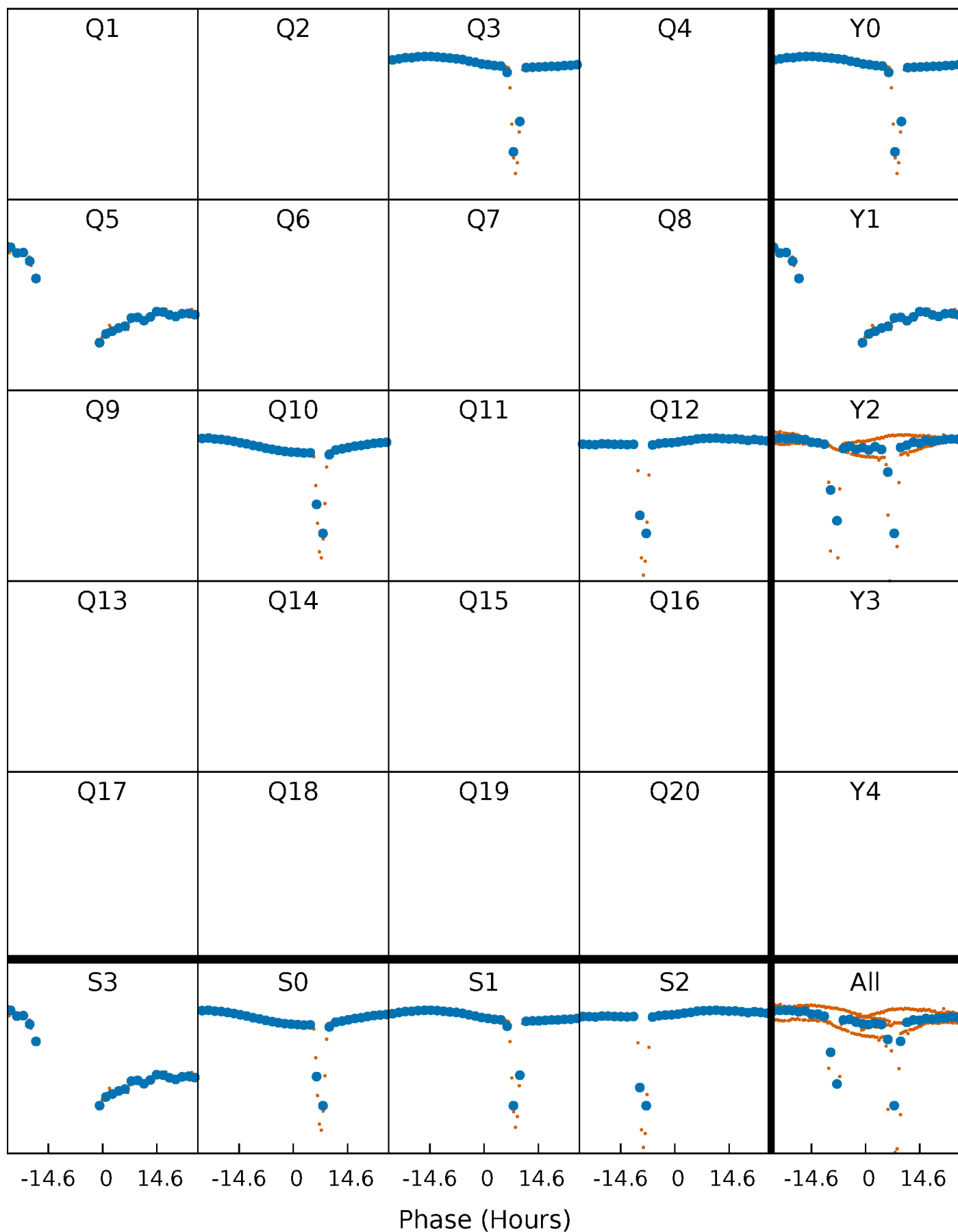


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



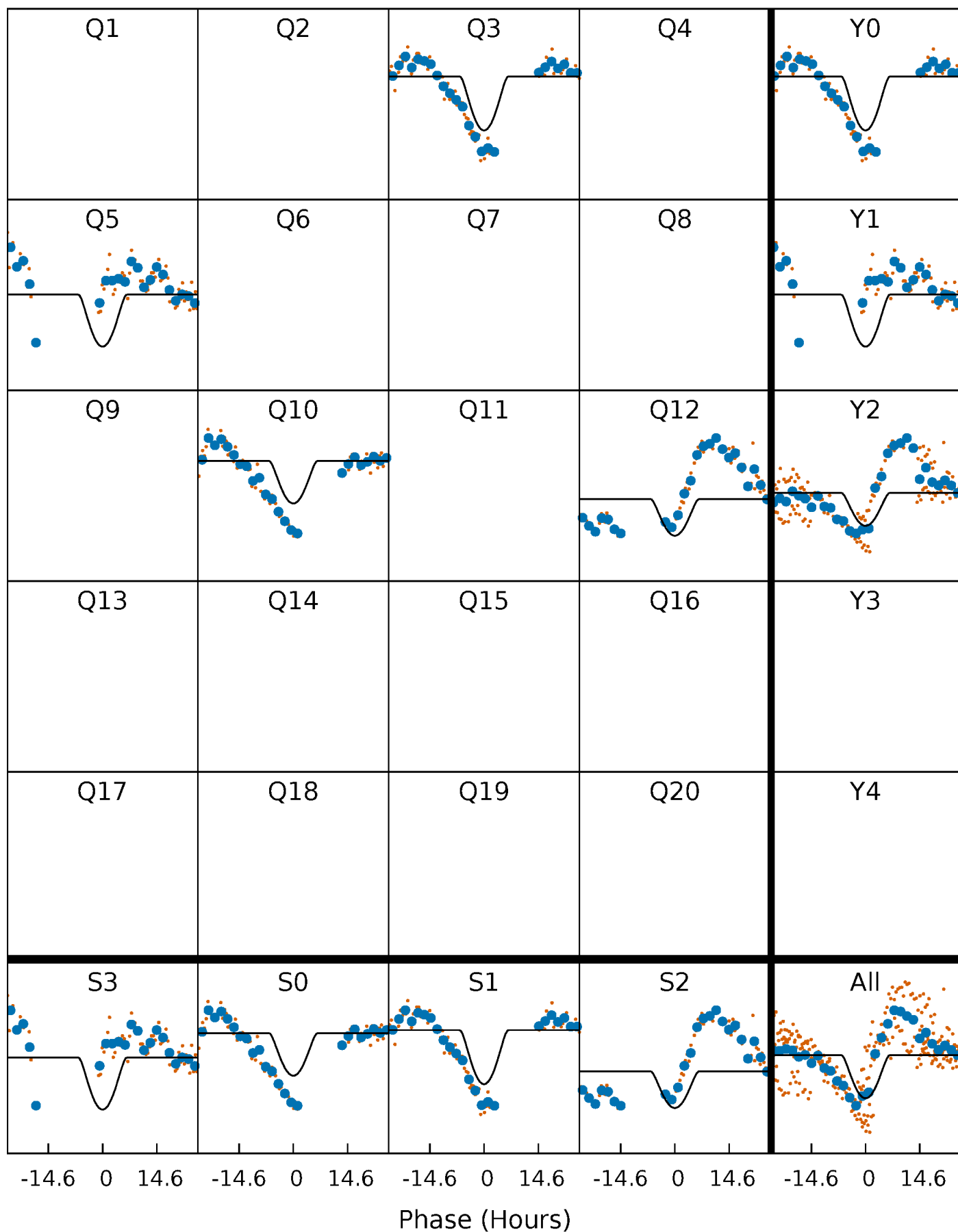
# PDC Quarter-Phased Transit Curves

TCE 010155080-02     $P=220.730185$  Days     $T_0=283.922955$  (BKJD)



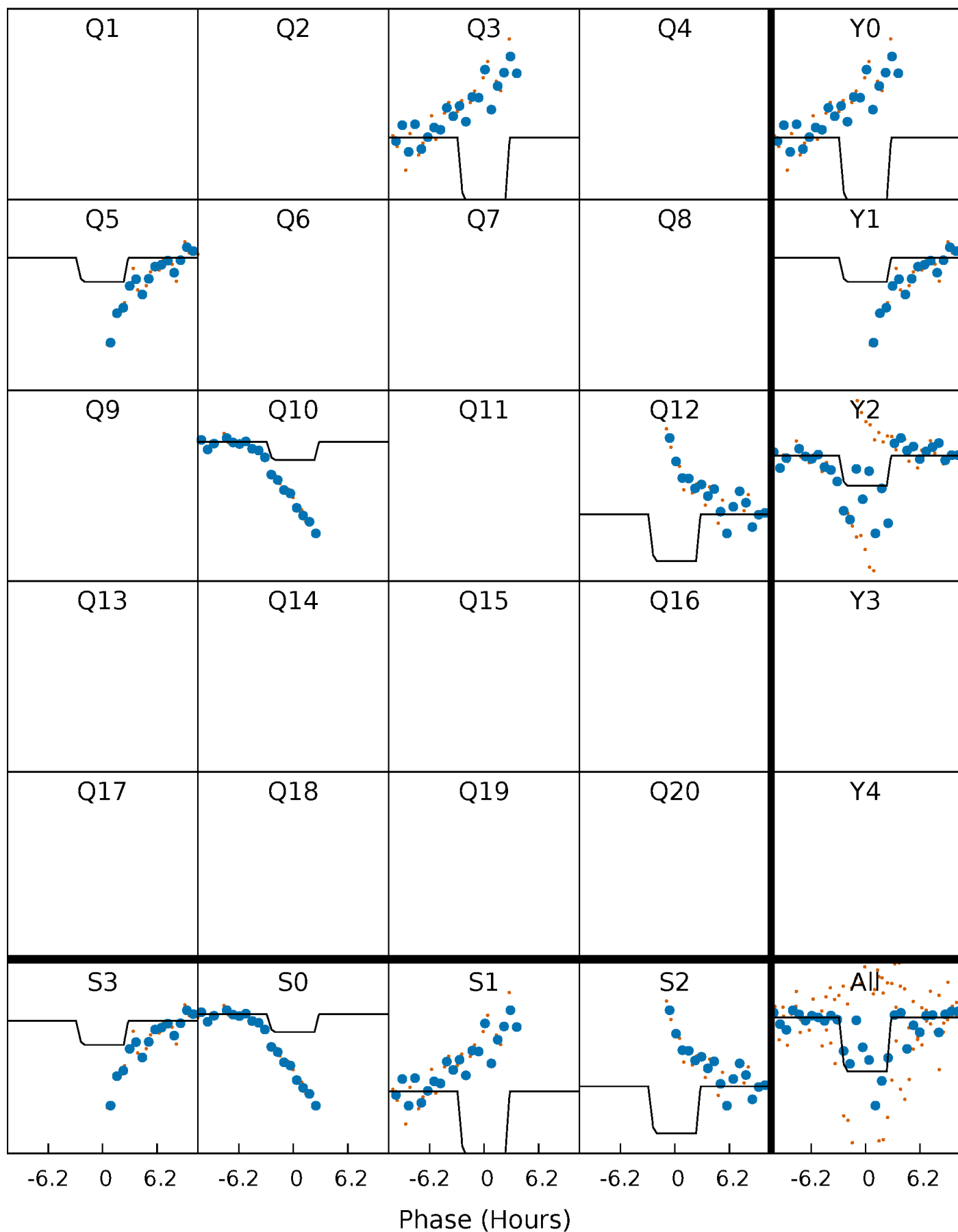
# DV Quarter-Phased Transit Curves

TCE 010155080-02     $P=220.730185$  Days     $T_0=283.922955$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

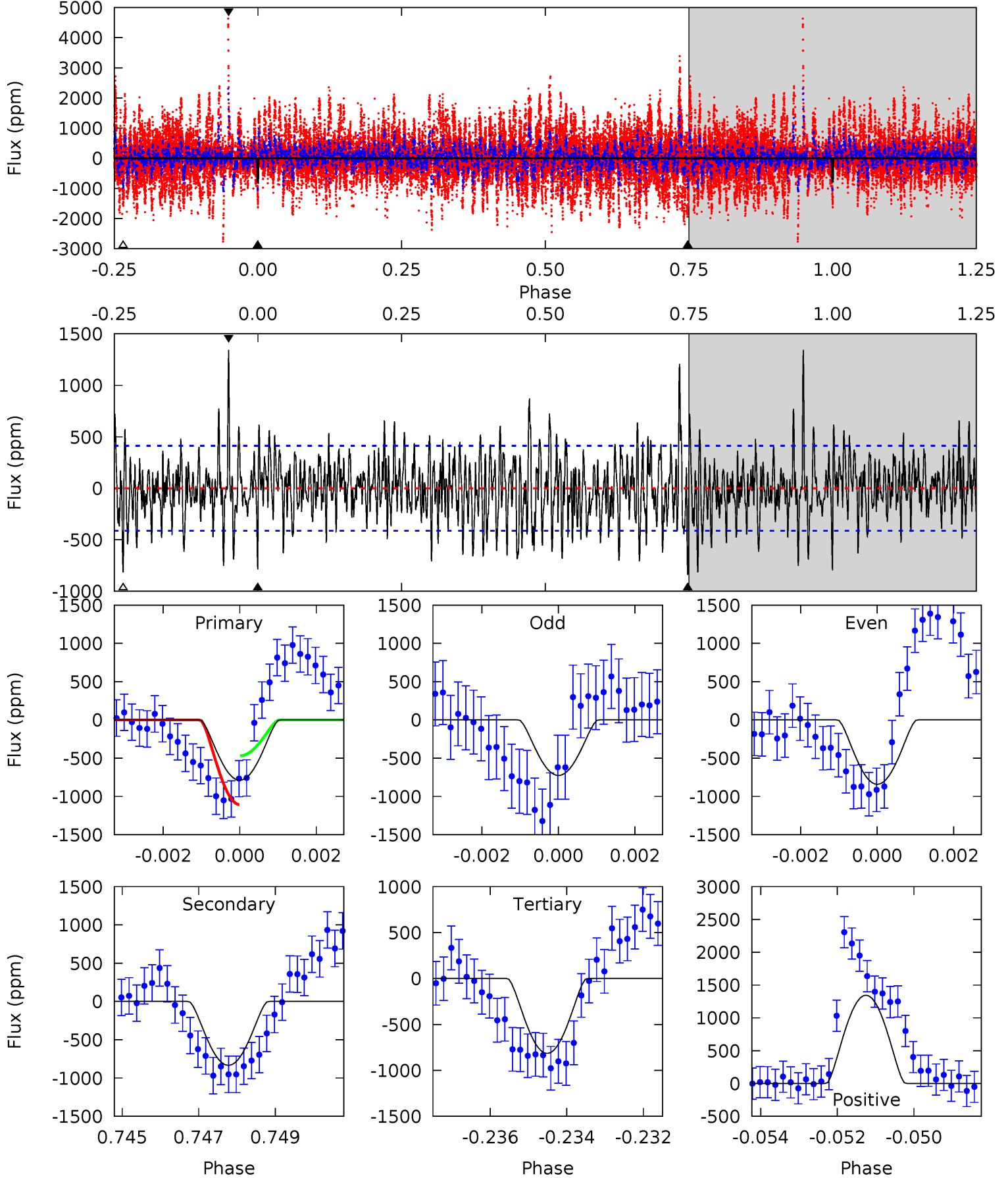
TCE 010155080-02 P=220.736938 Days  $T_0=283.849066$  (BKJD)



# DV Model-Shift Uniqueness Test

010155080-02,  $P = 220.730185$  Days,  $E = 63.192770$  Days

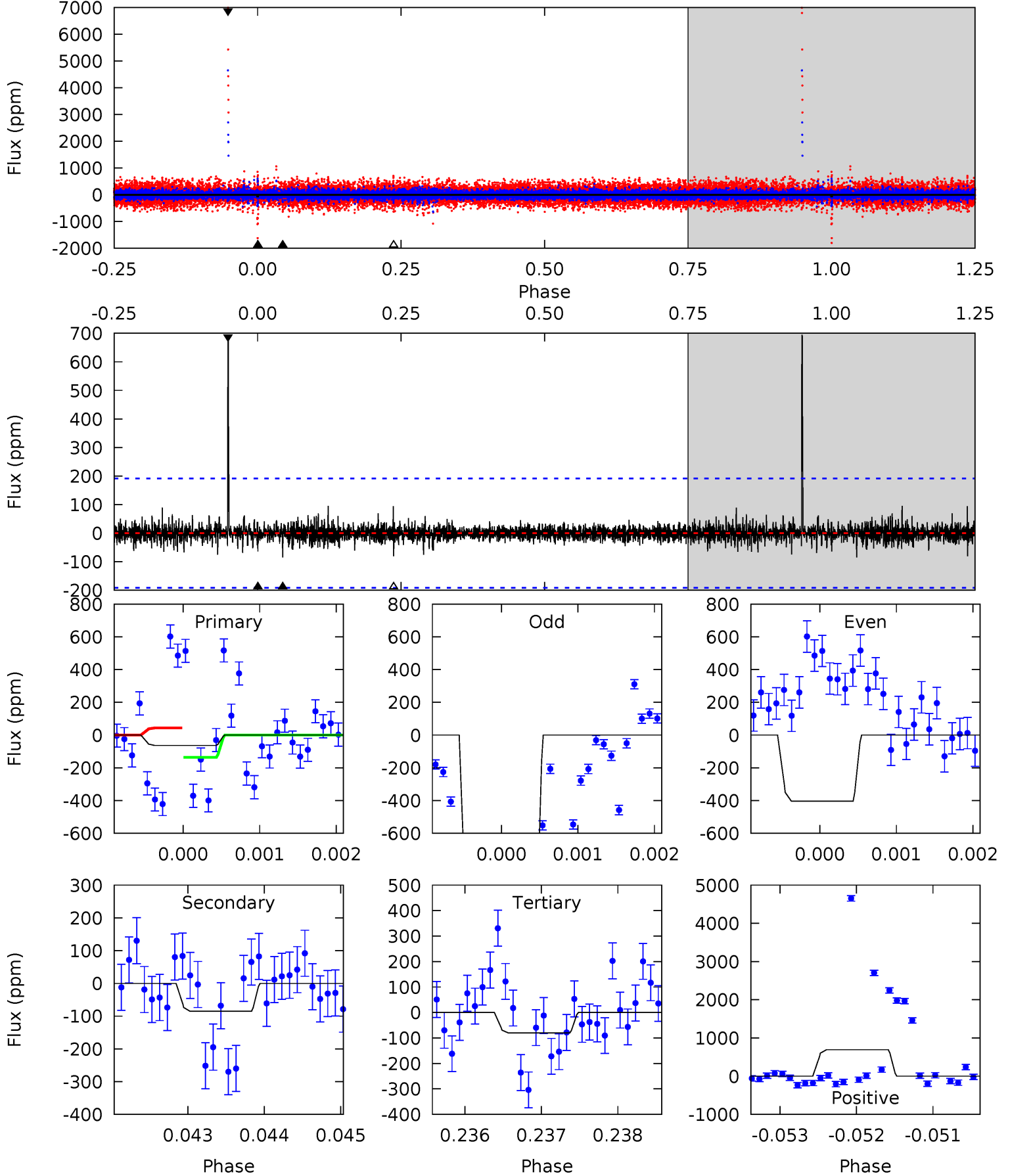
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	10.7	10.5	17.3	5.30	3.04	3.40	-0.34	-7.13	0.24	-6.55	0.73	0.93	0.62	4.11



# Alt Model-Shift Uniqueness Test

010155080-02, P = 220.736938 Days, E = 63.112128 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
1.81	2.41	2.27	19.8	5.45	3.28	0.64	-0.46	-17.9	0.14	-17.3	17.9	1.07	0.89	0





### Stellar Parameters For KIC 010155080

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6154^{+193}_{-265}$	$4.399^{+0.070}_{-0.210}$	$0.360^{+0.100}_{-0.350}$	$1.168^{+0.396}_{-0.132}$	$1.247^{+0.147}_{-0.180}$	$1.103^{+0.329}_{-0.600}$
	+3%/-4%	+2%/-5%	+28%/-97%	+34%/-11%	+12%/-14%	+30%/-54%
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 010155080-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-833 \pm 78$	$11.45^{+10.58}_{-7.99}$	$474^{+34}_{-27}$	$3909^{+2456}_{-741}$	$2086^{+19902}_{-1531}$
Alt.	$-85 \pm 35$	$8.94^{+9.60}_{-6.17}$	$473^{+37}_{-27}$	$2923^{+1326}_{-507}$	$312^{+3107}_{-241}$

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

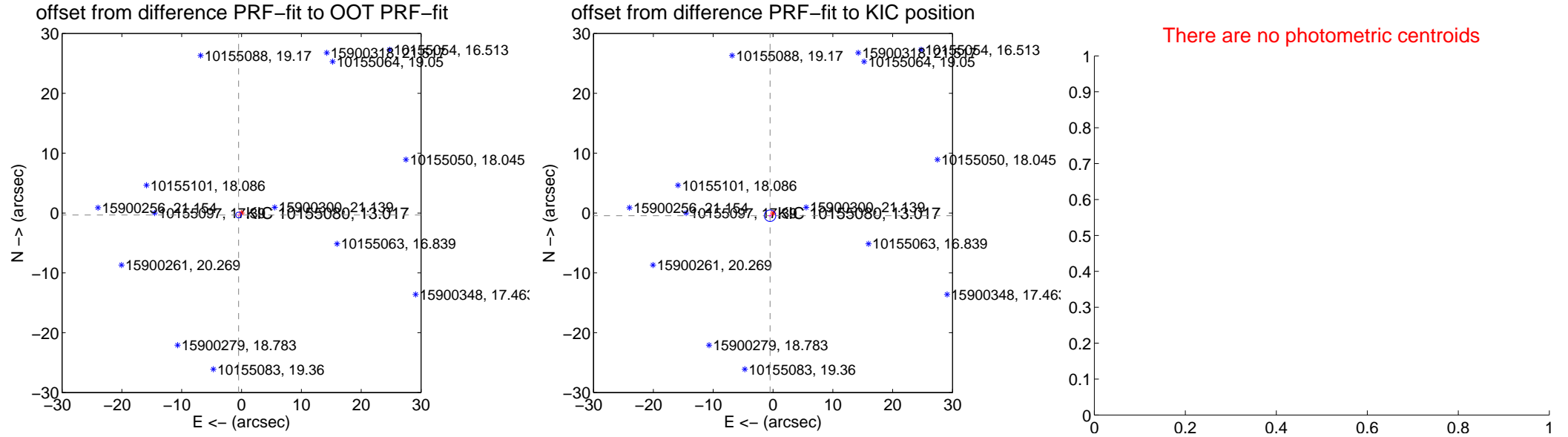
## DV Centroid Data

Supplemental centroid analysis for 010155080-02. Kepler magnitude: 13.02. Transit SNR 8.11

There are 1 quarters with good PRF difference image offsets

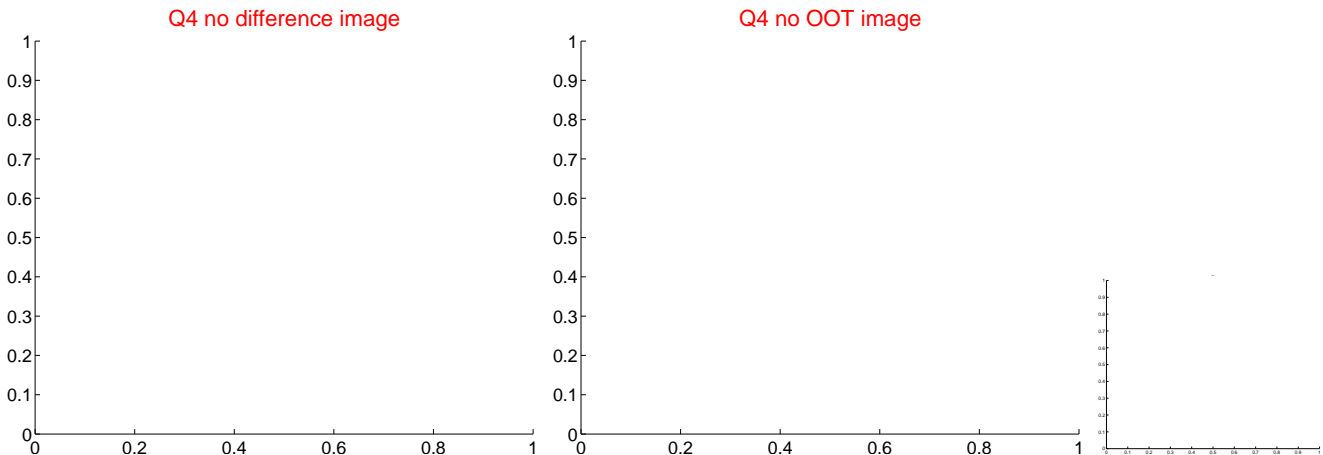
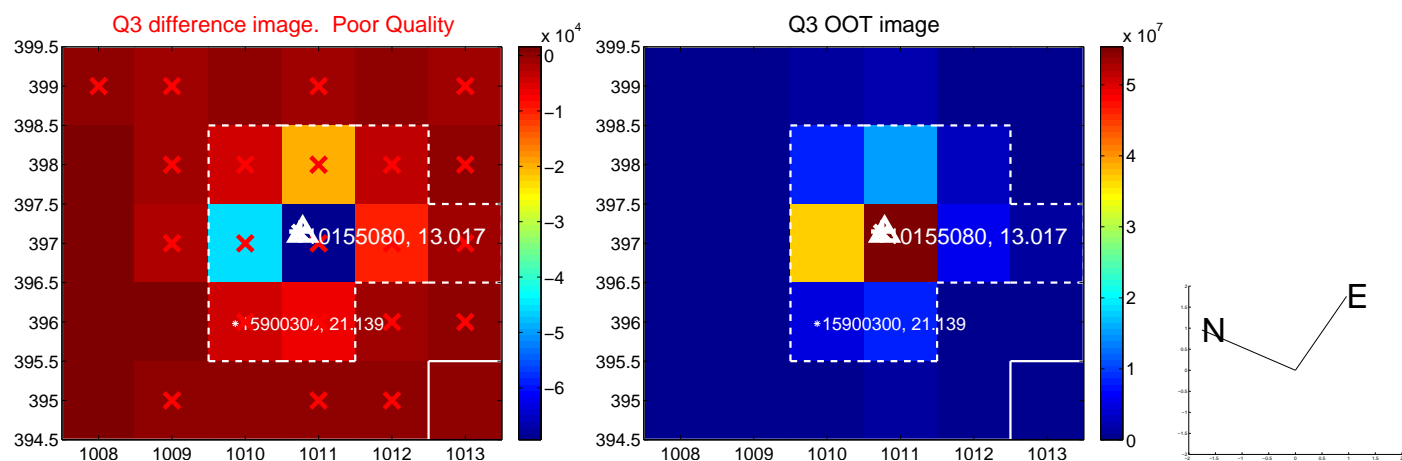
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.597 \pm 0.160$	3.74	$0.494 \pm 0.152$	$-0.335 \pm 0.088$
PRF-fit source offset from KIC position	$0.672 \pm 0.319$	2.11	$0.496 \pm 0.247$	$-0.453 \pm 0.213$
photometric centroid source offset	—	—	—	—



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.

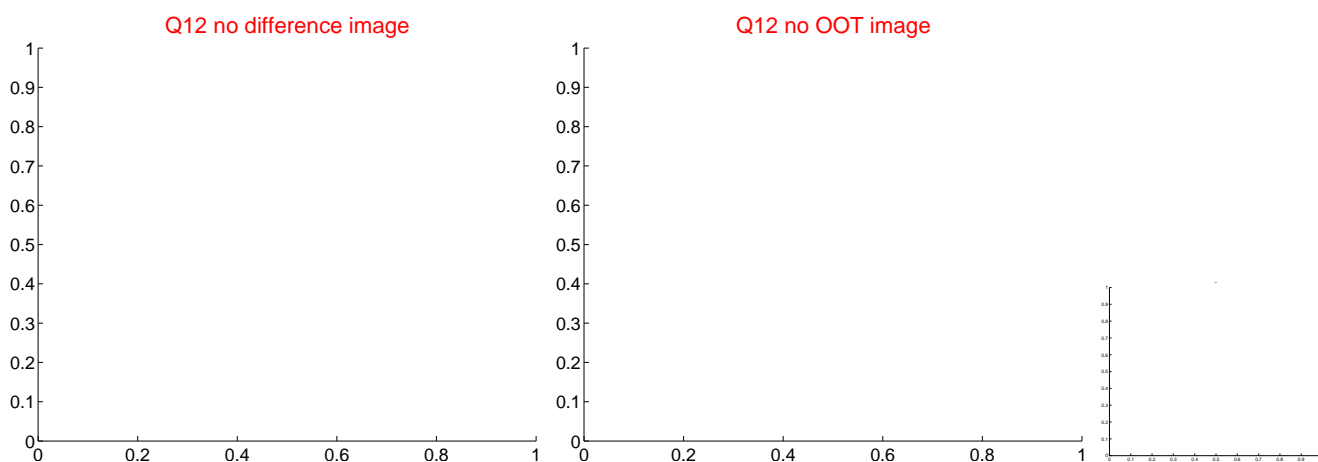
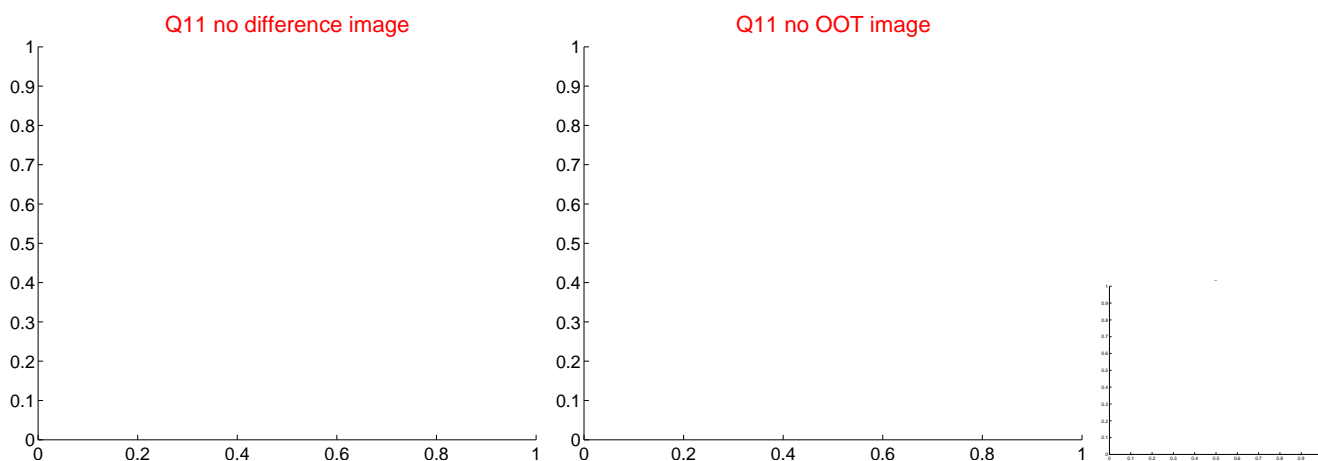
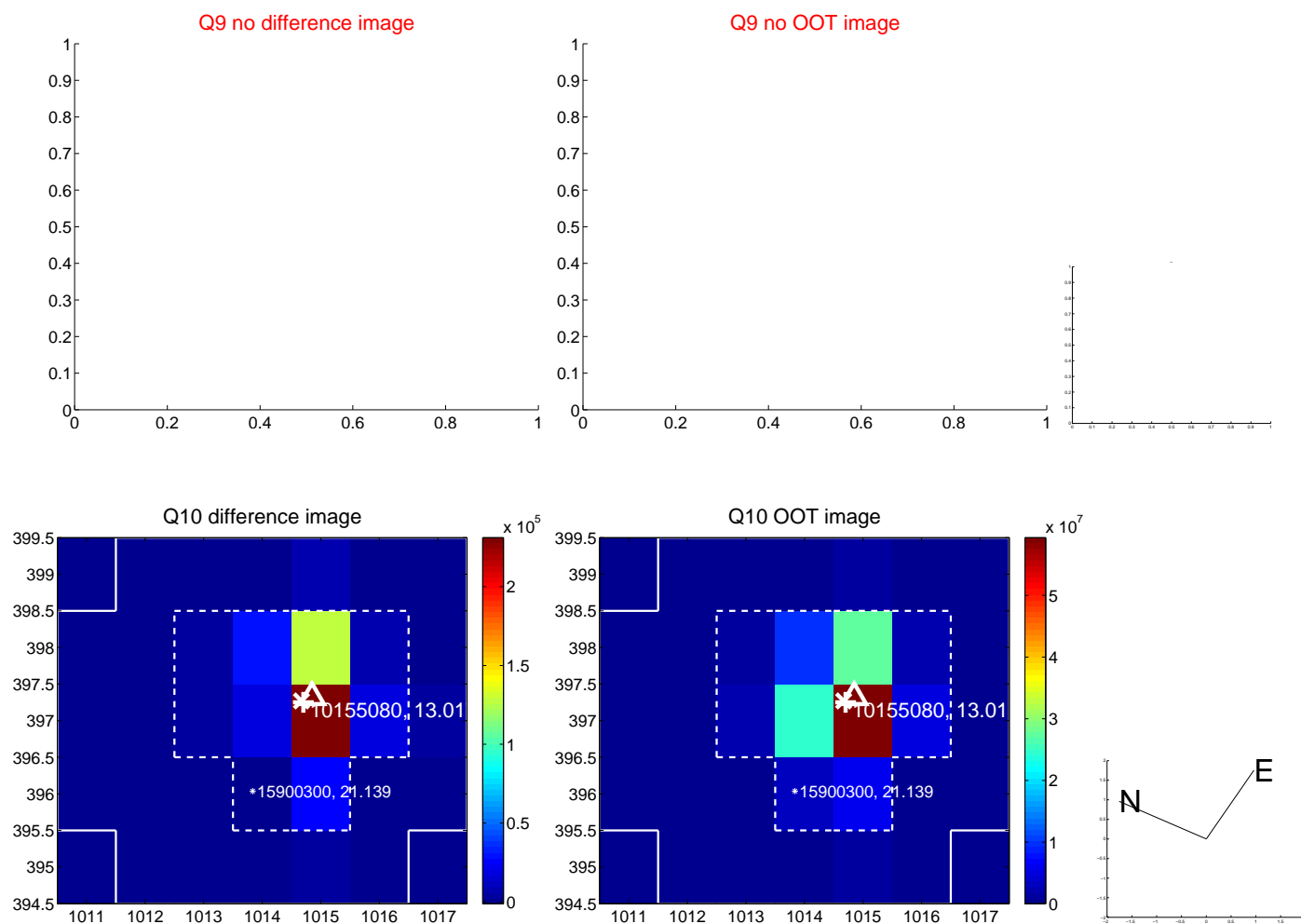
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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.



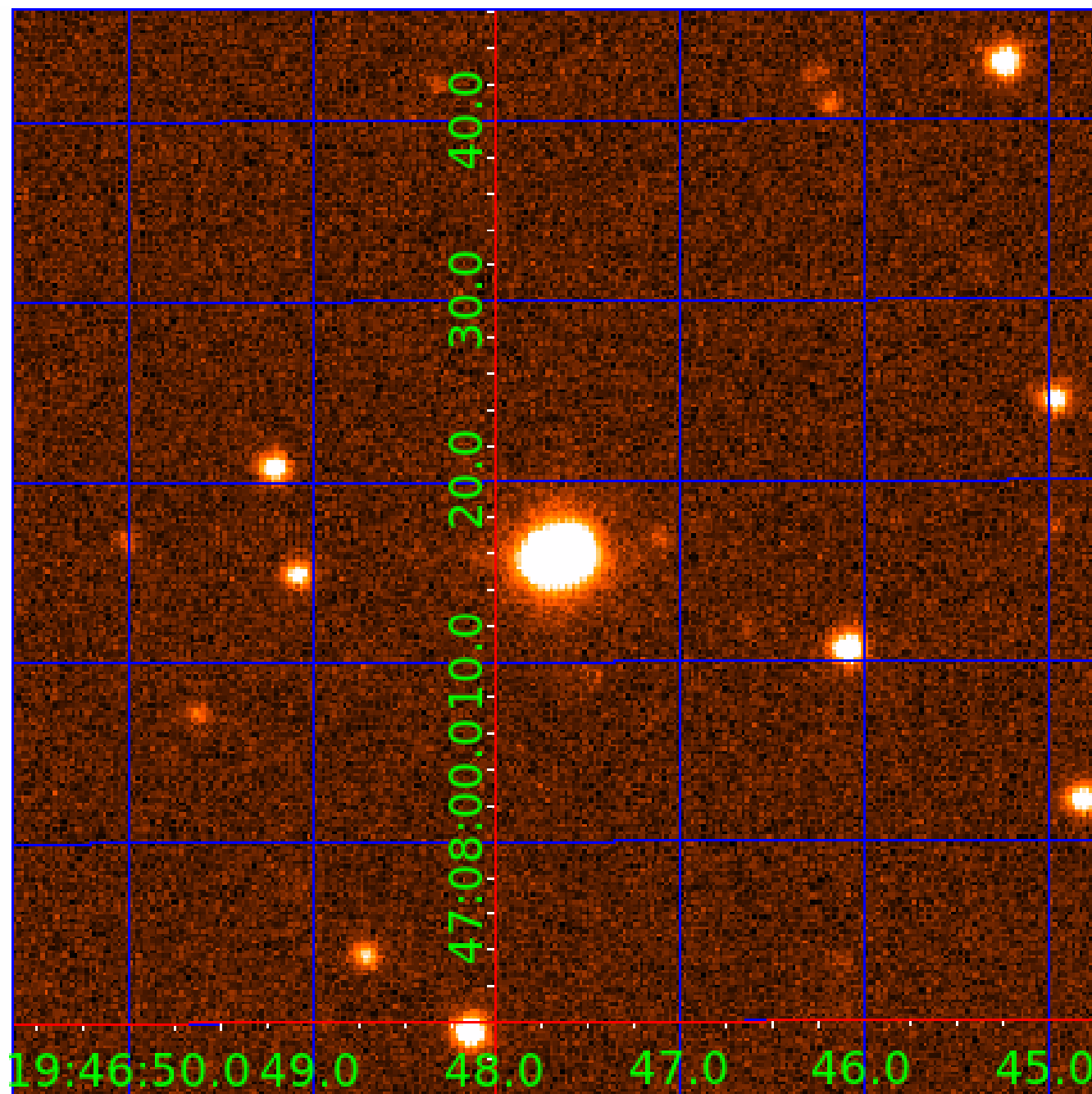
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination





# KIC 010155080

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010155080-01	OBS	7289.01	1.930449	131.771348	63505.3	3.888	7656.5	6053.5	1.17	6154	49.11	1642.89
010155080-02	OBS	No	220.730185	283.922955	913.6	12.812	10.5	8.1	1.17	6154	6.85	2.96
010155080-03	OBS	No	183.401880	280.061180	488.6	3.888	8.3	7.5	1.17	6154	2.83	3.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010155080-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED
010155080-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010155080-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—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.

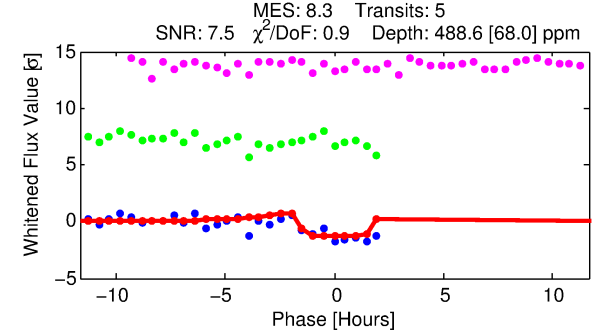
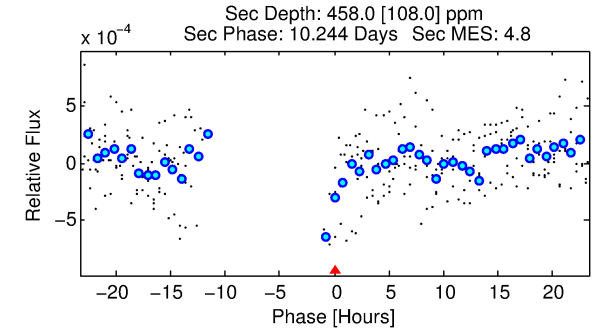
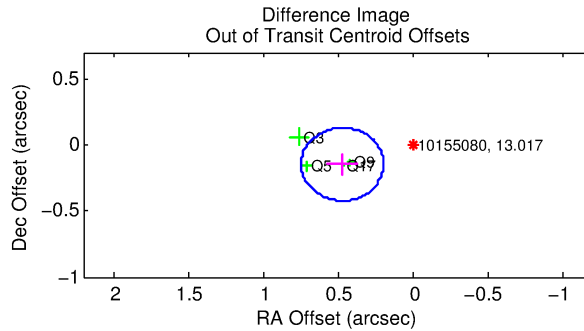
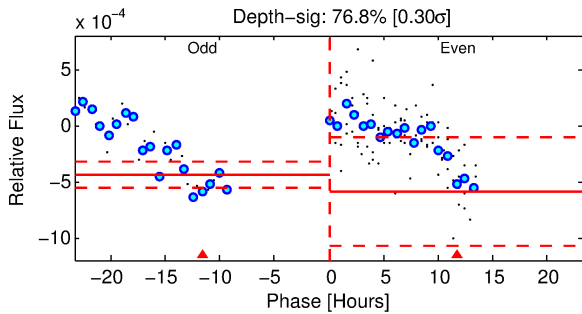
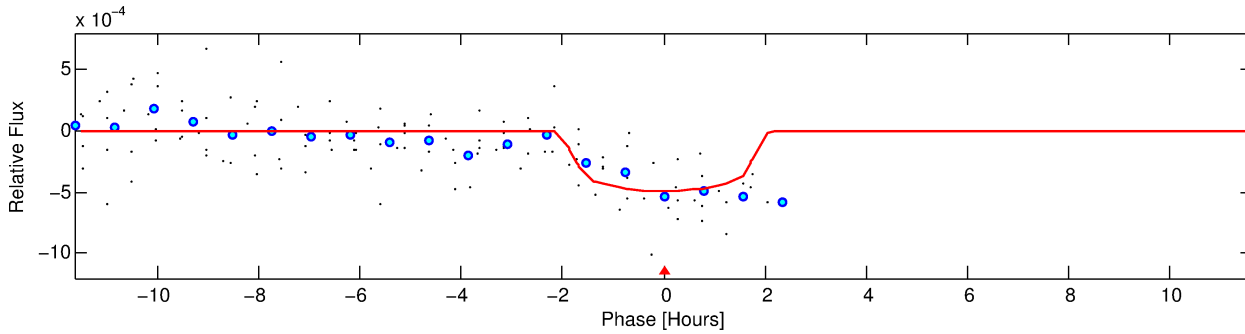
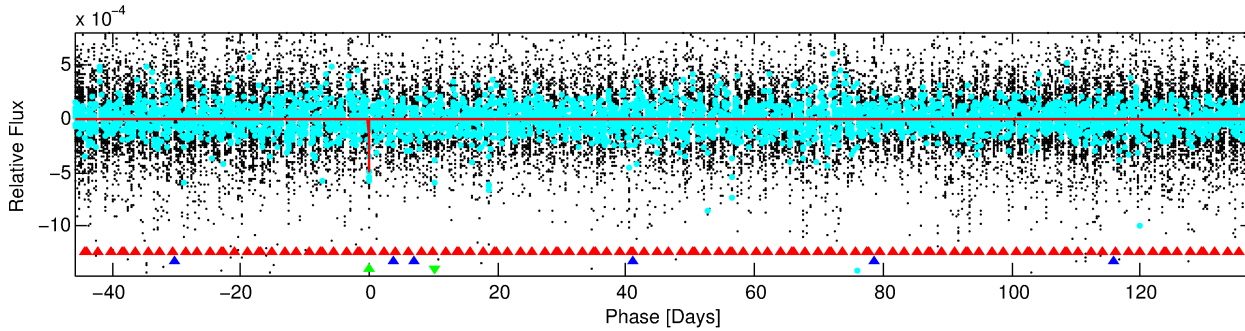
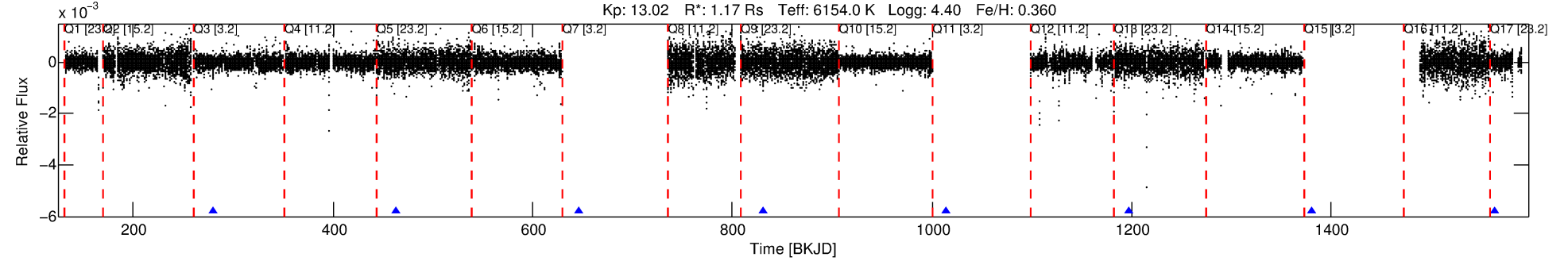
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010155080-03

No Significant Match Found

# DV One-Page Summary

KIC: 10155080 Candidate: 3 of 3 Period: 183.402 d  
KOI: K07289 Corr: No Ephemeris Match



## DV Fit Results:

Period = 183.40188 [0.00141] d  
Epoch = 280.0612 [0.0053] BKJD  
Rp/R\* = 0.0222 [0.0158]  
a/R\* = 240.41 [793.06]  
b = 0.77 [1.73]  
Seff = 3.79 [1.63]  
Teq = 356 [38] K  
Rp = 2.83 [2.23] Re  
a = 0.6801 [0.1888] AU  
Ag = 14543.04 [21772.05] [0.67 $\sigma$ ]  
Teffp = 6041 [2197] K [2.59 $\sigma$ ]

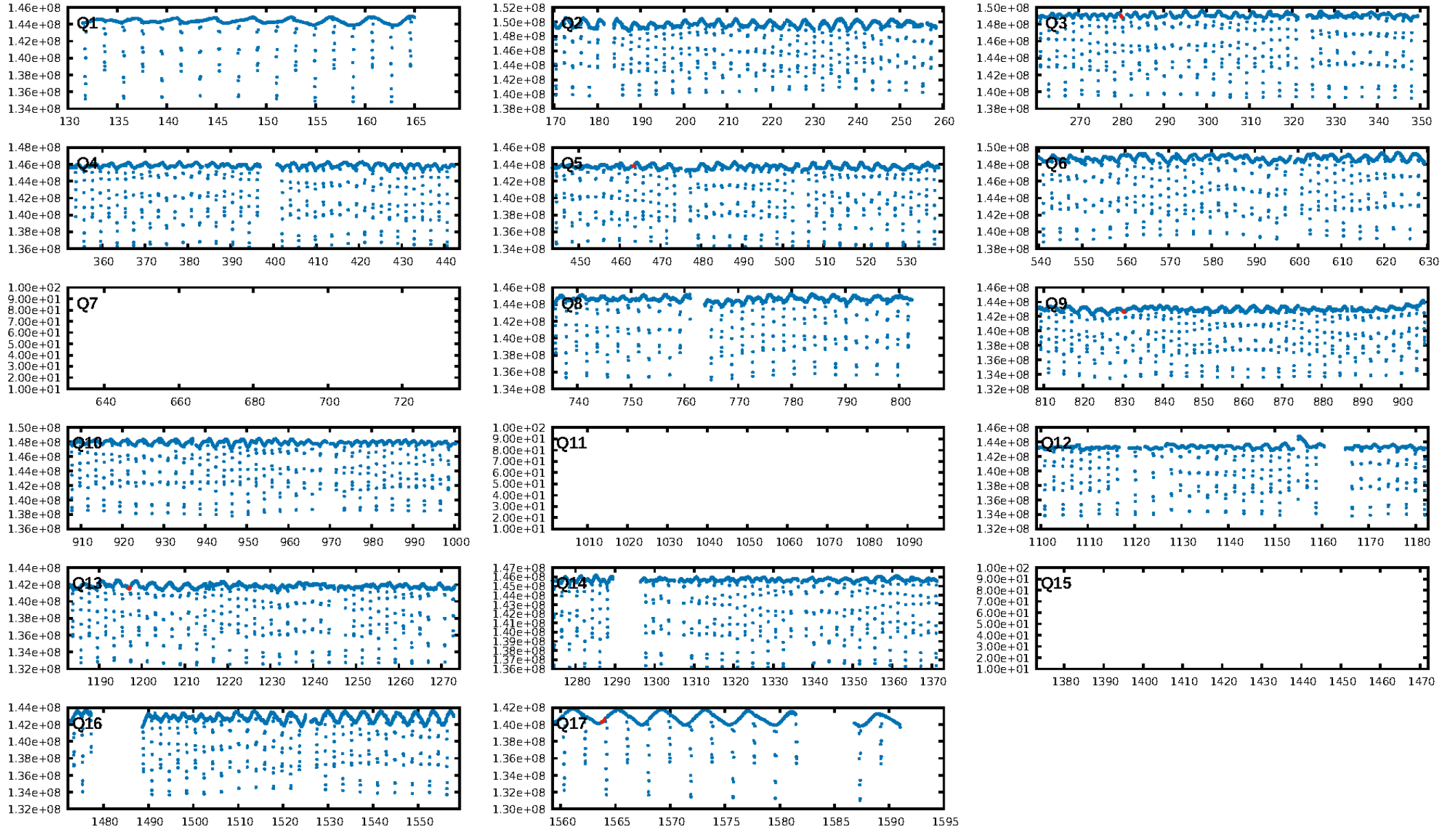
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [792.05 $\sigma$ ]  
LongPeriod-sig: 100.0% [66.91 $\sigma$ ]  
ModelChiSquare2-sig: 66.5%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 3.04e-08**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -1.712  
Centroid-sig: N/A  
Centroid-so: N/A  
**OotOffset-rm: 0.492 arcsec [5.35 $\sigma$ ]**  
**KicOffset-rm: 0.562 arcsec [6.45 $\sigma$ ]**  
OotOffset-st: 0/1/0/3 [4]  
KicOffset-st: 0/1/0/3 [4]  
DiffImageQuality-fgm: 0.00 [0/4]  
DiffImageOverlap-fno: 0.00 [0/4]

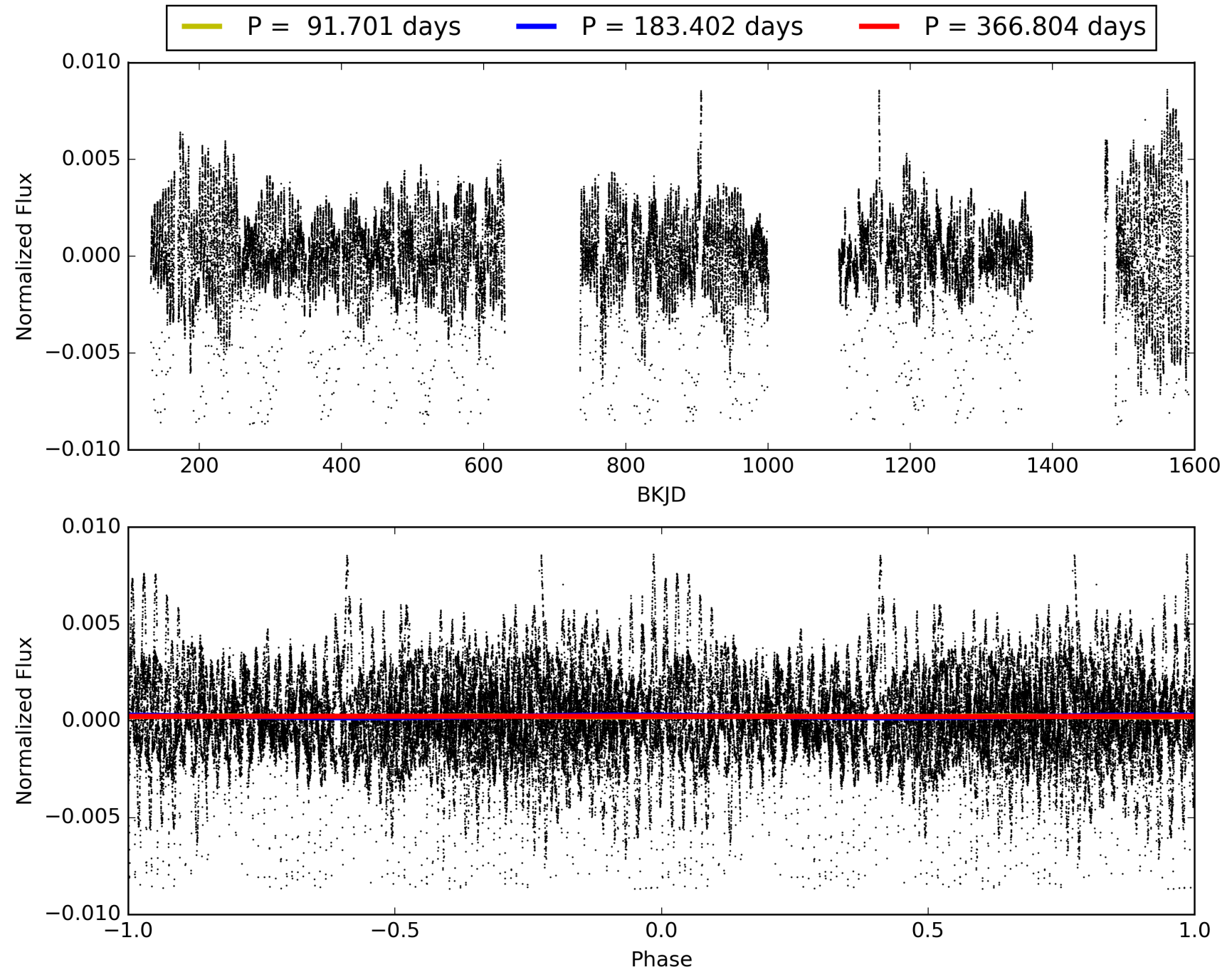
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:14:40 Z

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

# TCE 010155080-03, PDC Light Curves

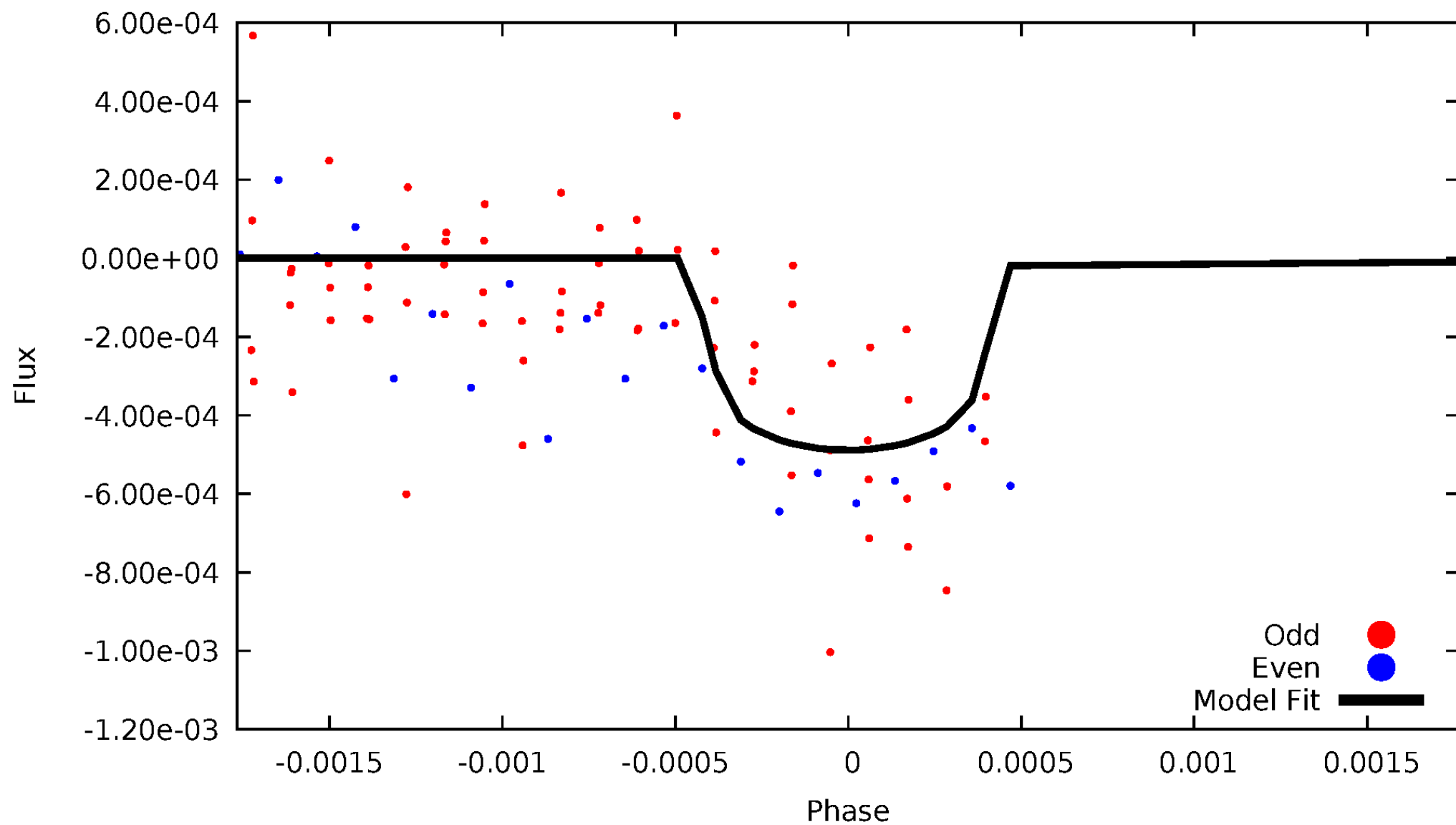


# TCE 010155080-03



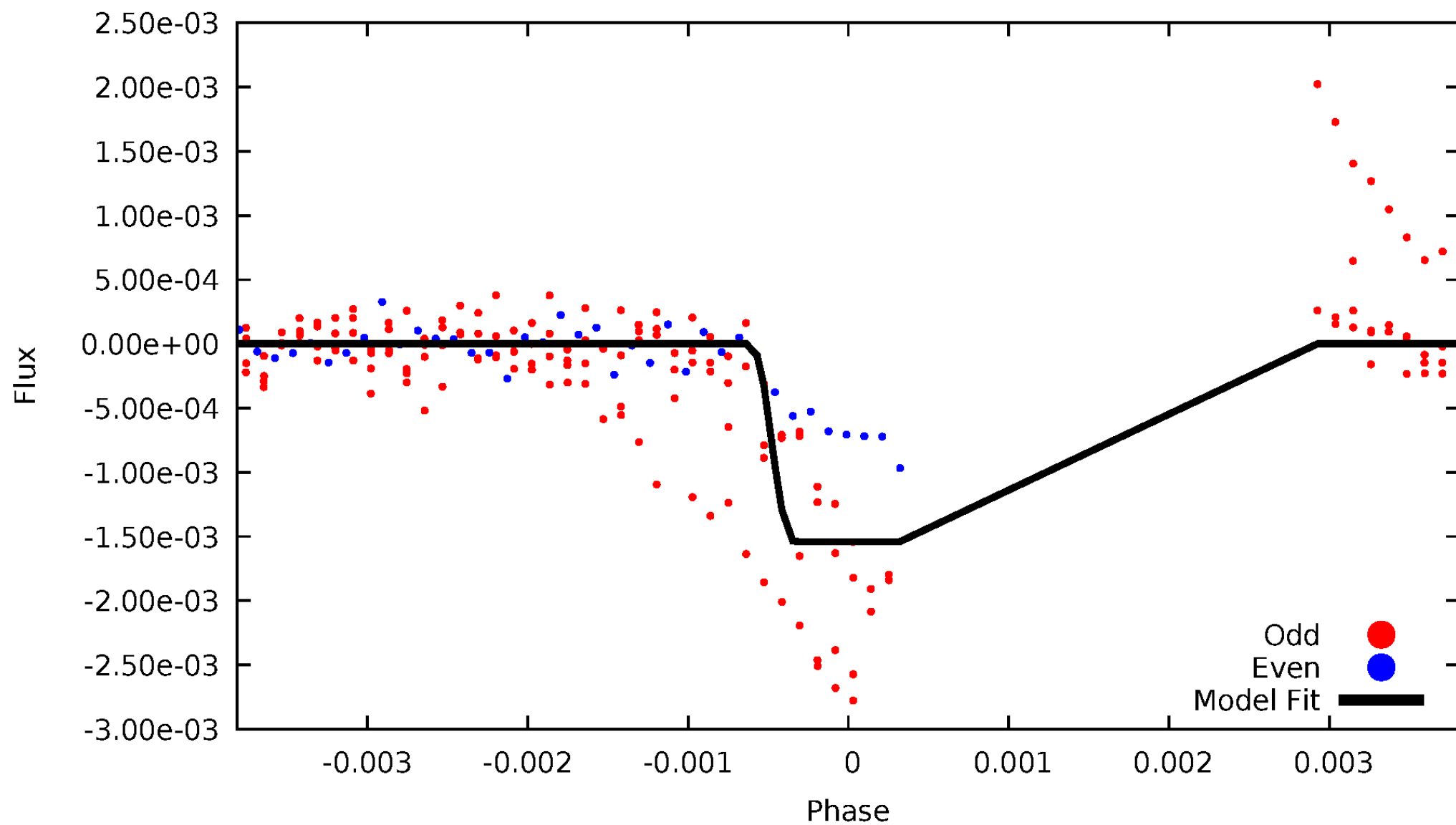
# DV Odd/Even

TCE 010155080-03



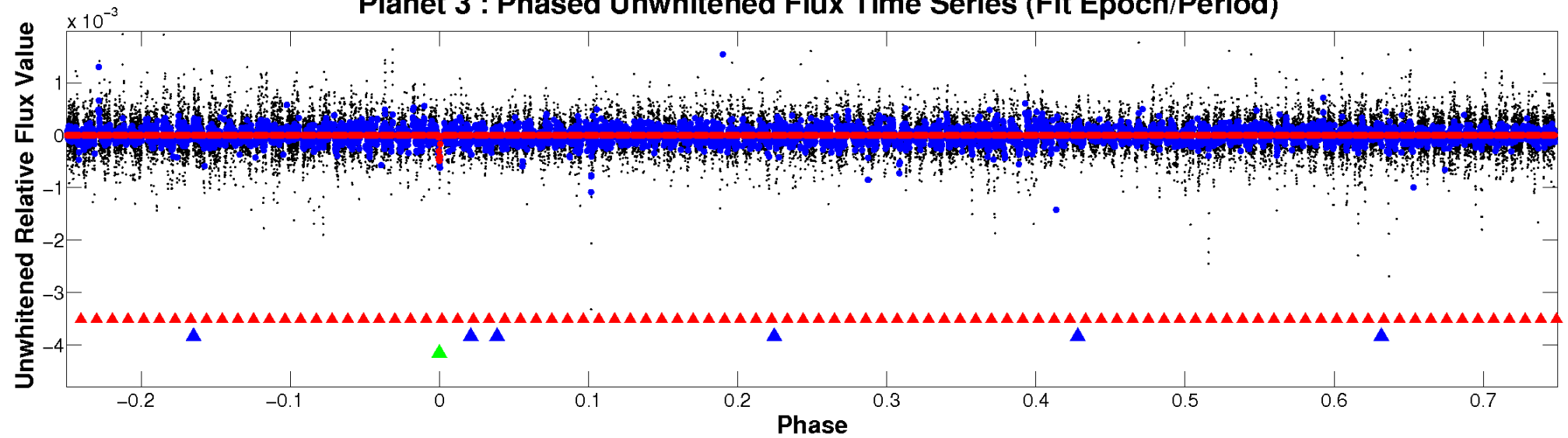
# ALT Odd/Even

TCE 010155080-03

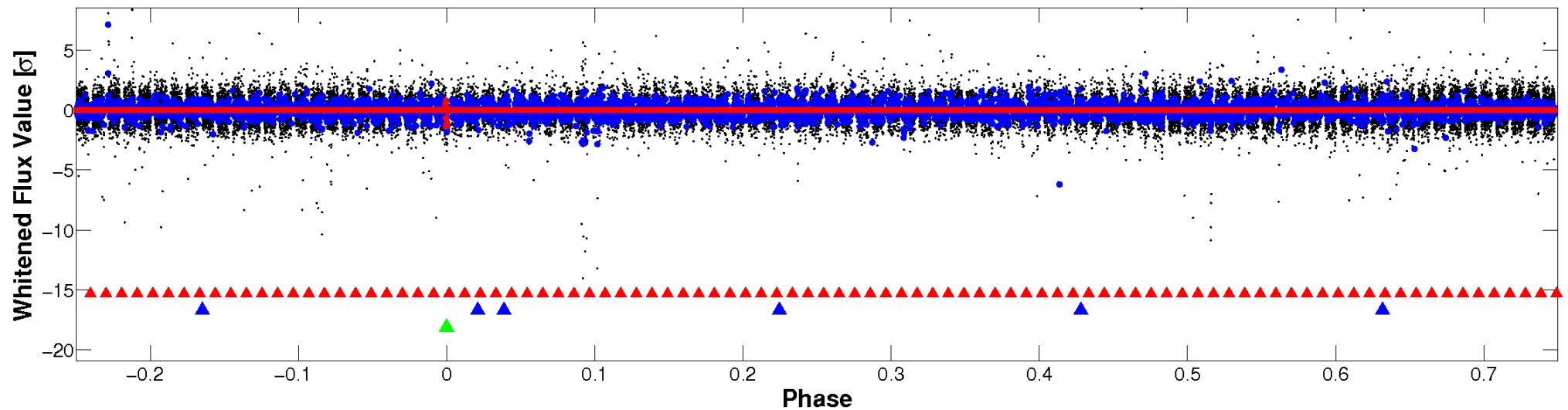


# Non-Whitened Vs. Whitened Light Curve

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

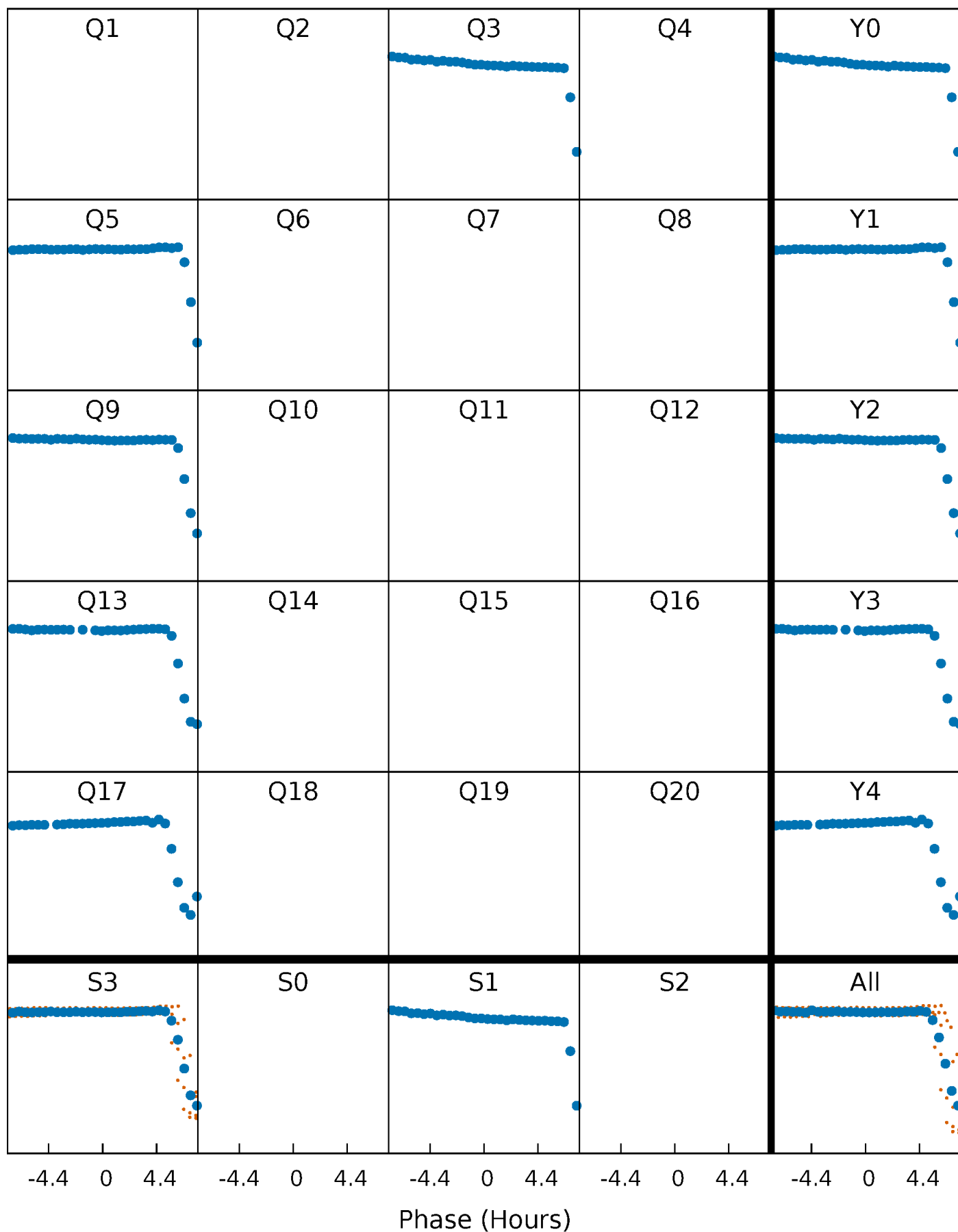


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

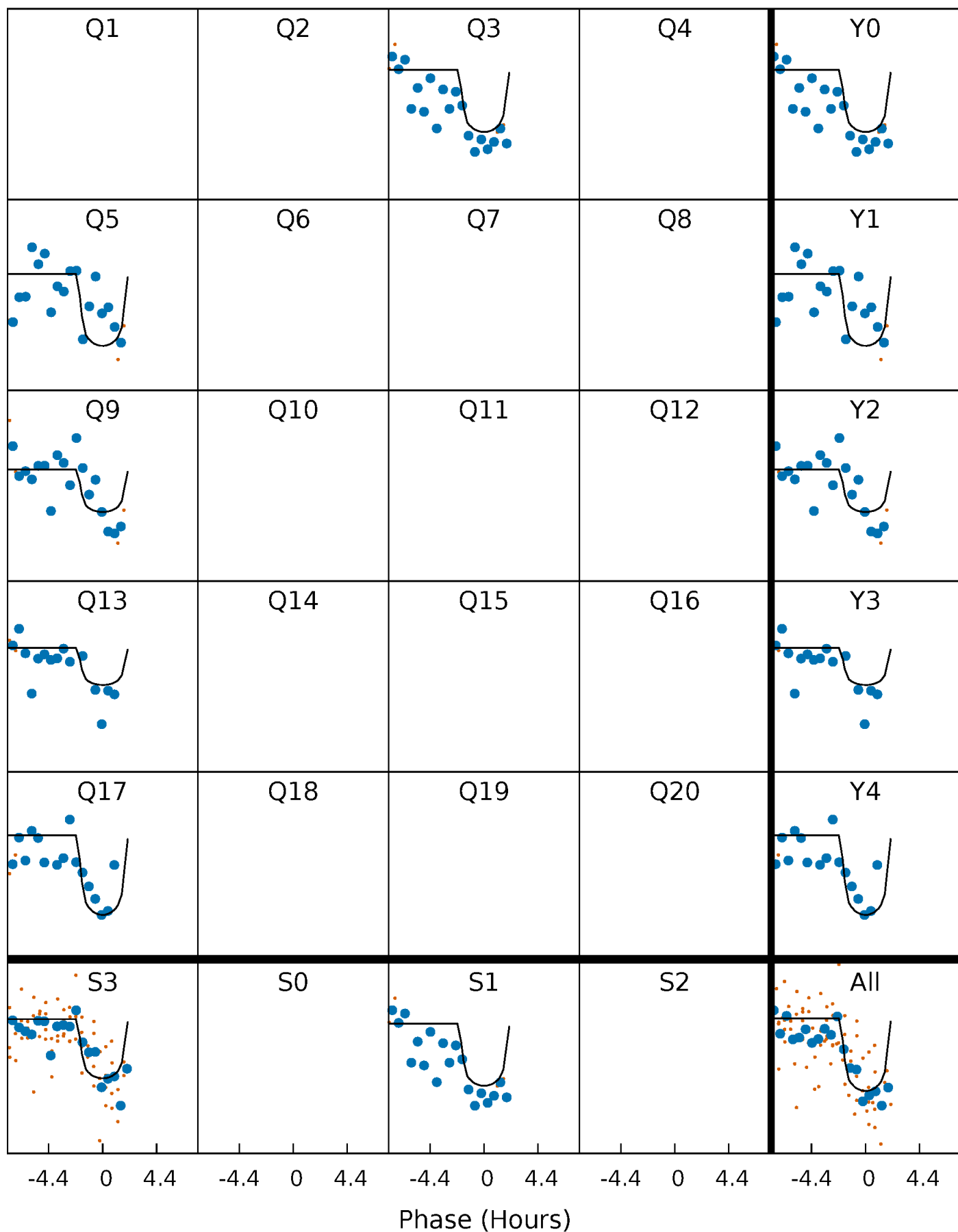
TCE 010155080-03     $P=183.401880$  Days     $T_0=280.061180$  (BKJD)





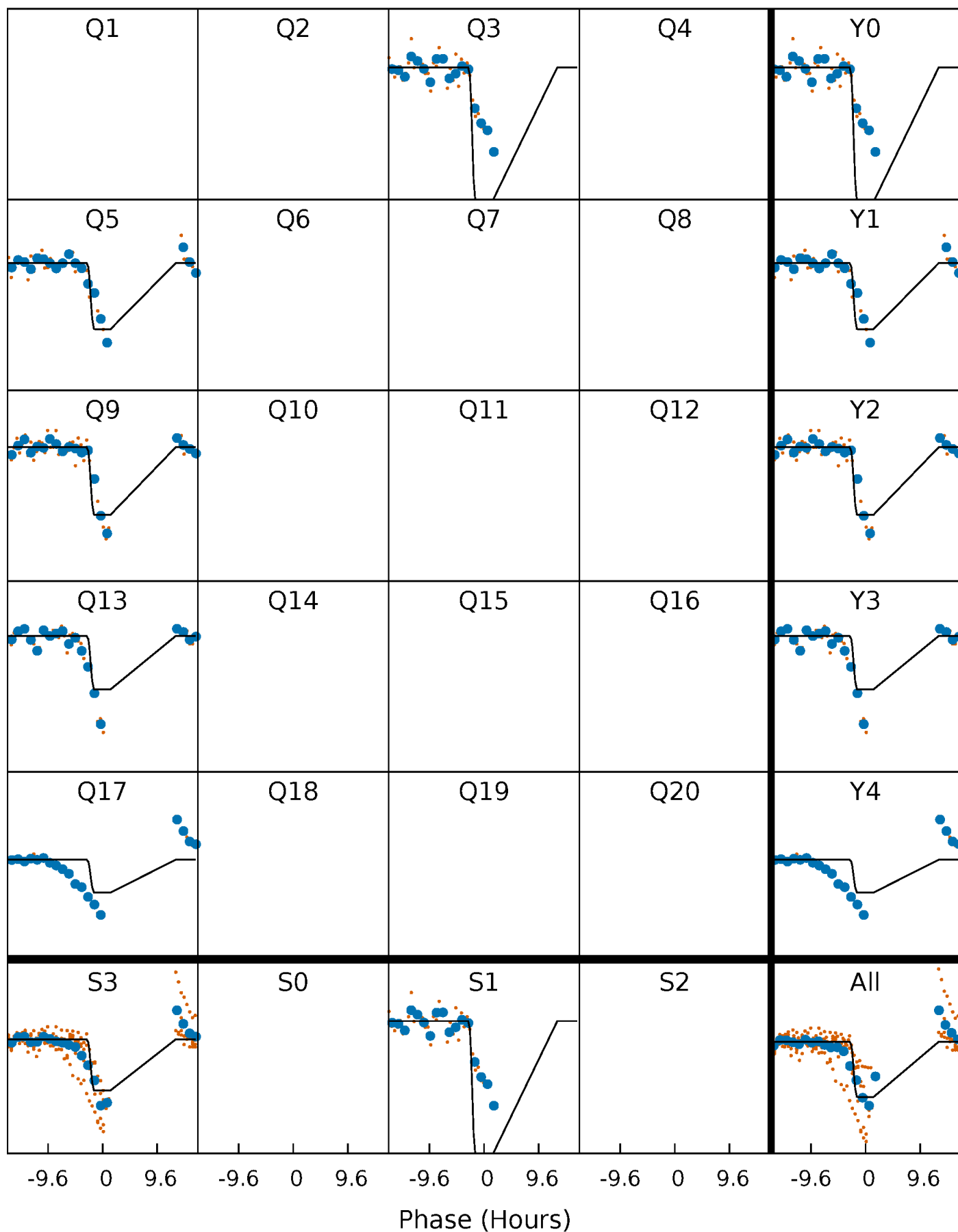
# DV Quarter-Phased Transit Curves

TCE 010155080-03 P=183.401880 Days  $T_0=280.061180$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

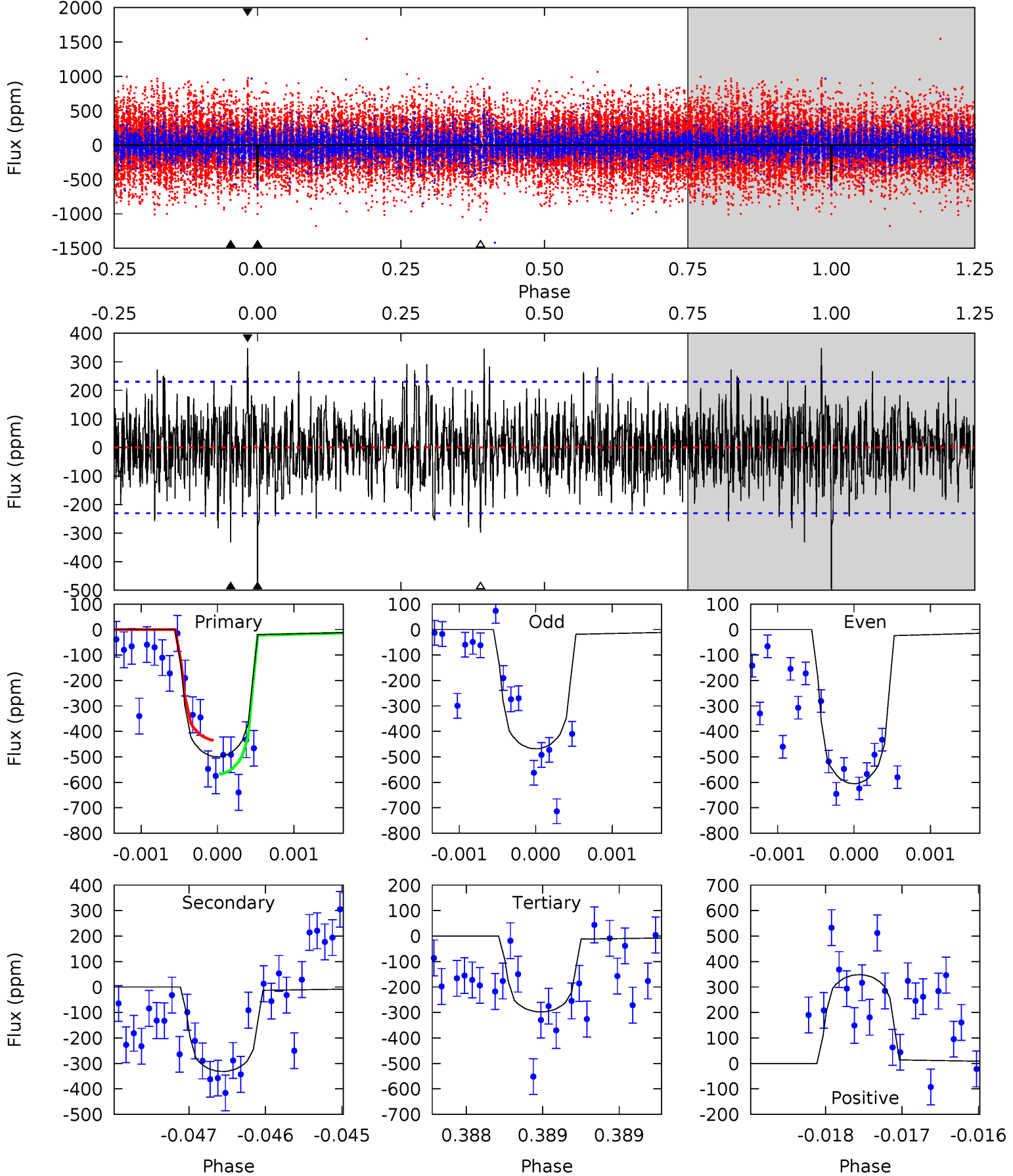
TCE 010155080-03 P=183.401641 Days  $T_0=280.088057$  (BKJD)



# DV Model-Shift Uniqueness Test

010155080-03, P = 183.401880 Days, E = 96.659300 Days

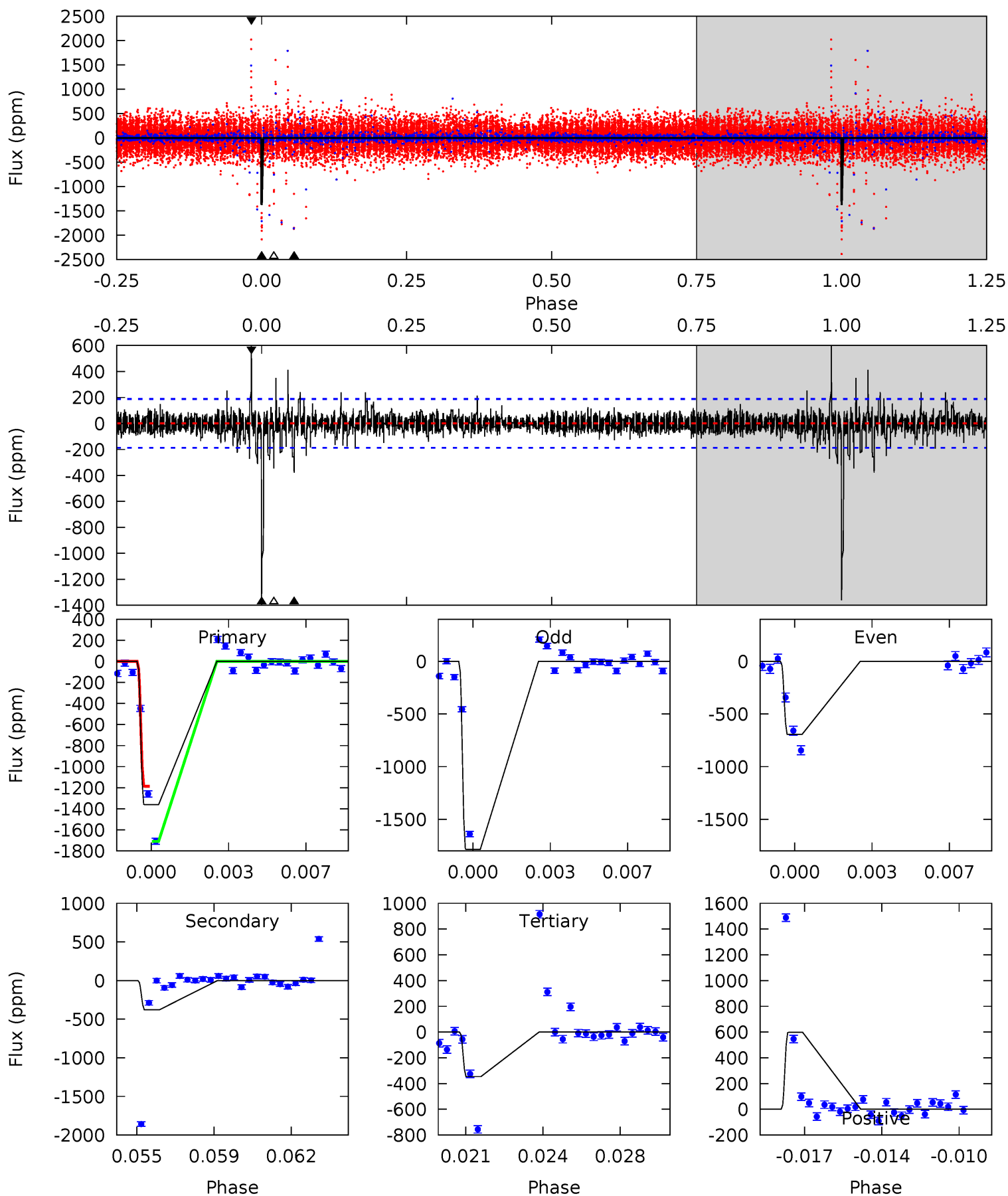
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	7.88	7.08	8.29	5.47	3.32	1.95	4.80	3.60	0.81	-0.40	1.51	0.93	0.41	1.59



# Alt Model-Shift Uniqueness Test

010155080-03, P = 183.401641 Days, E = 96.686416 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
37.9	10.5	9.63	16.6	5.23	2.92	1.23	28.3	21.2	0.92	-6.09	17.2	1.13	0.31	0



### Stellar Parameters For KIC 010155080

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6154^{+193}_{-265}$	$4.399^{+0.070}_{-0.210}$	$0.360^{+0.100}_{-0.350}$	$1.168^{+0.396}_{-0.132}$	$1.247^{+0.147}_{-0.180}$	$1.103^{+0.329}_{-0.600}$
	+3%/-4%	+2%/-5%	+28%/-97%	+34%/-11%	+12%/-14%	+30%/-54%
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 010155080-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-331 \pm 42$	$3.16^{+1.97}_{-1.77}$	$506^{+37}_{-29}$	$5387^{+3072}_{-1001}$	$8095^{+36243}_{-5081}$
Alt.	$-379 \pm 36$	$5.20^{+2.20}_{-1.92}$	$504^{+37}_{-27}$	$4480^{+997}_{-527}$	$3416^{+5278}_{-1678}$

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

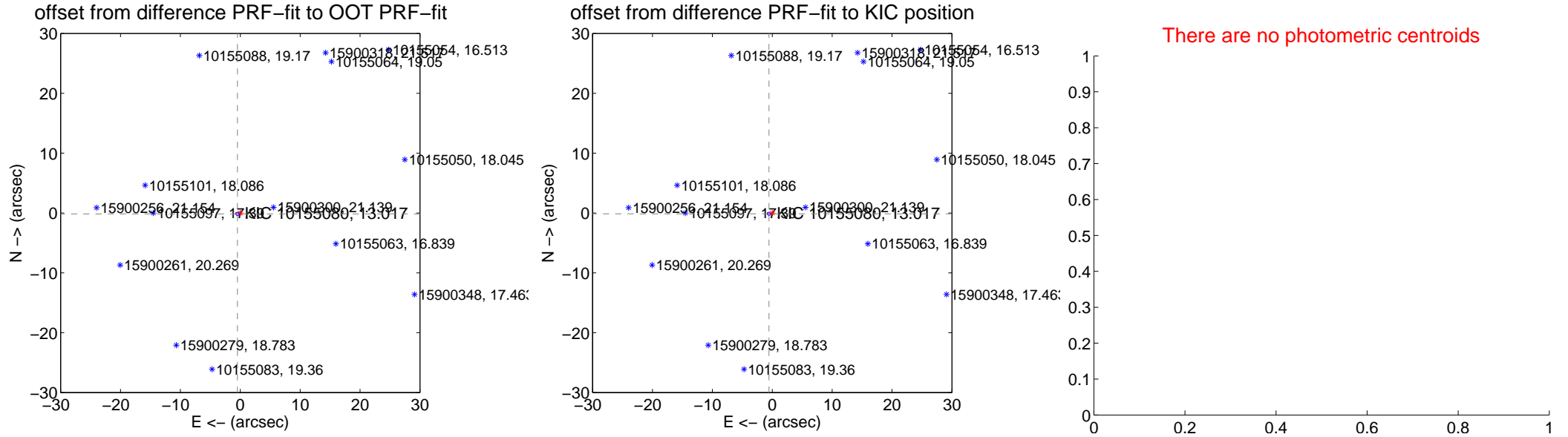
## DV Centroid Data

Supplemental centroid analysis for 010155080-03. Kepler magnitude: 13.02. Transit SNR 7.49

There are 0 quarters with good PRF difference image offsets

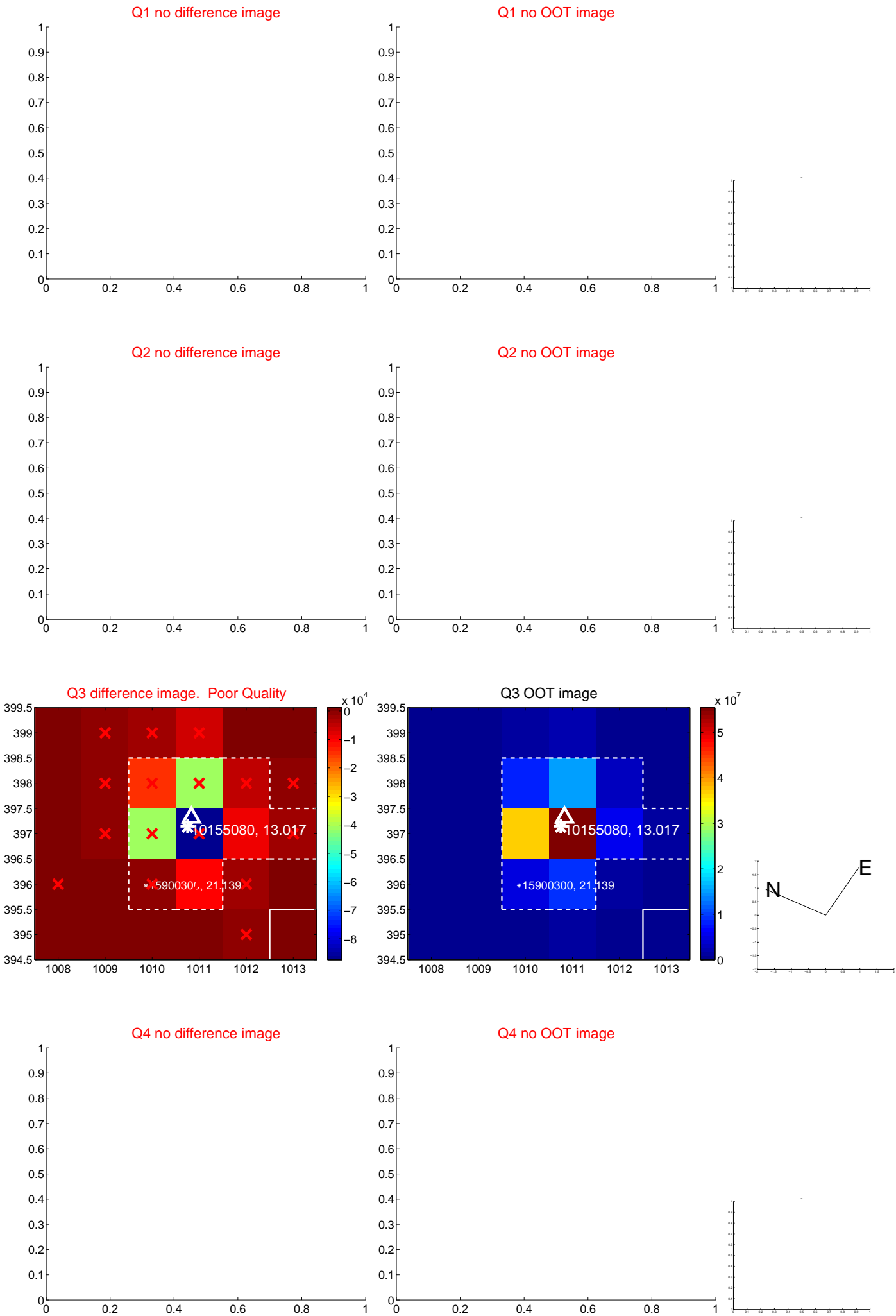
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.492 \pm 0.092$	5.35	$0.469 \pm 0.095$	$-0.148 \pm 0.077$
PRF-fit source offset from KIC position	$0.562 \pm 0.087$	6.45	$0.547 \pm 0.094$	$-0.130 \pm 0.090$
photometric centroid source offset	—	—	—	—

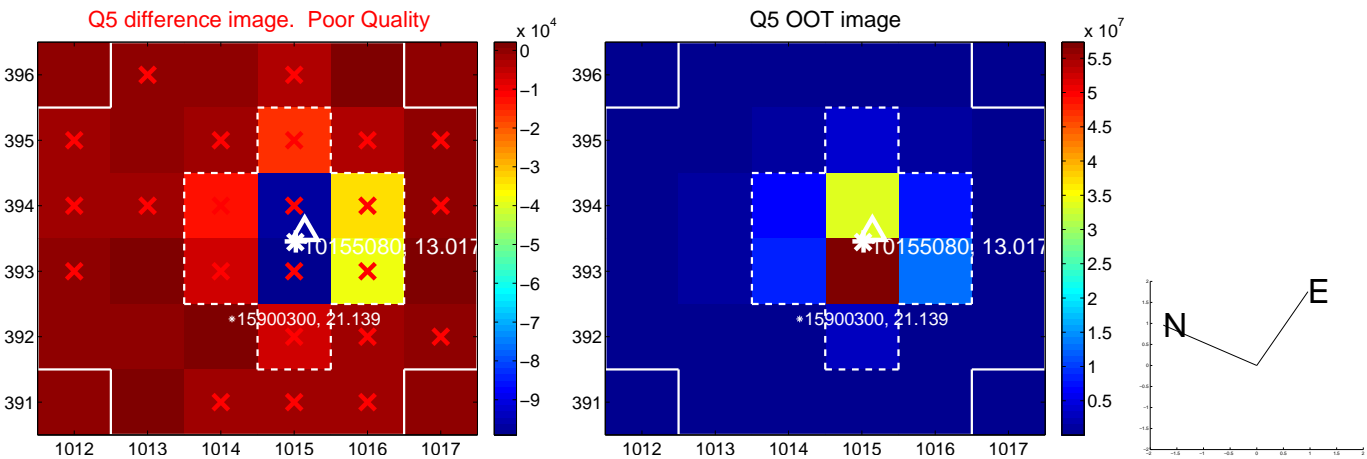


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

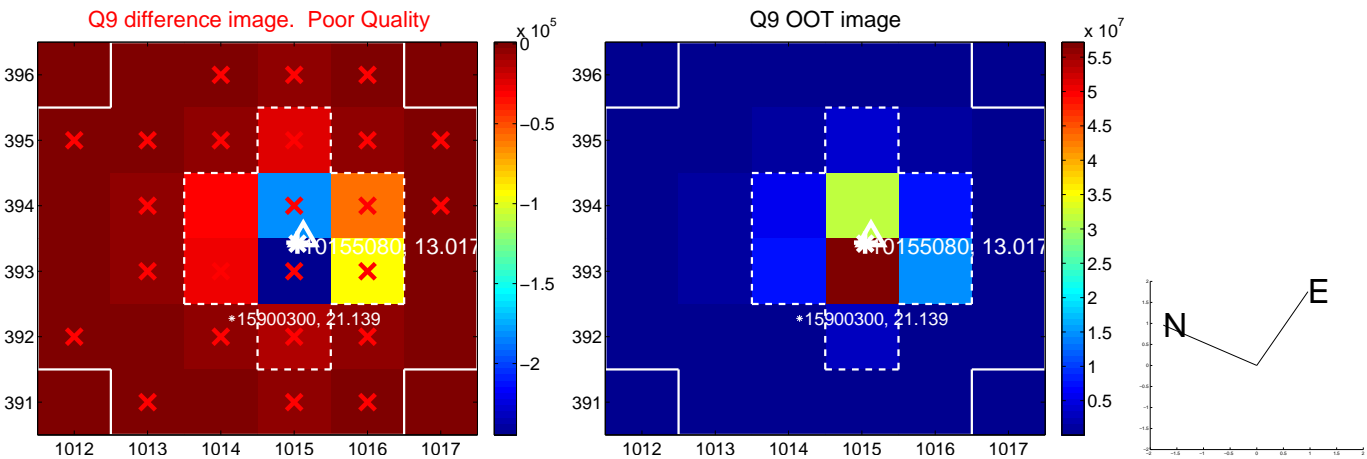


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





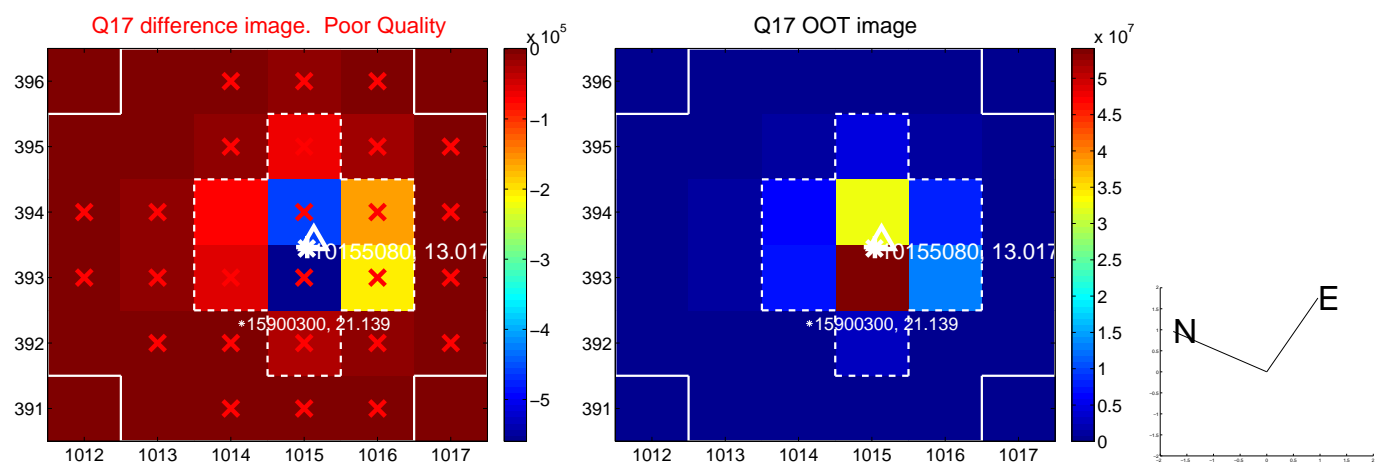
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



folded centroid time series figure for this object.



UKIRT Image

Declination

