

# KIC 002860788

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
002860788-01	OBS	6297.01	2.629870	132.067826	100695.2	6.579	6797.8	4686.5	0.97	5566	33.78	658.83
002860788-03	OBS	No	368.573824	465.419476	261.3	3.858	11.9	1.8	0.97	5566	1.85	0.91
002860788-04	OBS	No	368.557541	464.811289	1130.0	7.024	12.9	6.8	0.97	5566	4.23	0.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002860788-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT
002860788-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
002860788-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—SAME_NTL_PERIOD

**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.

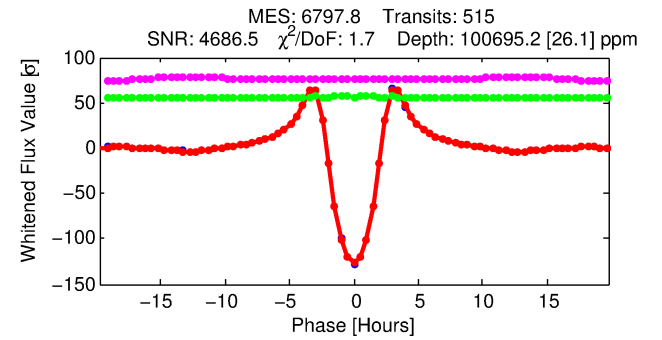
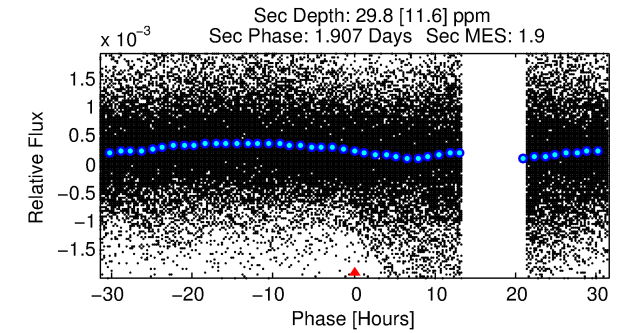
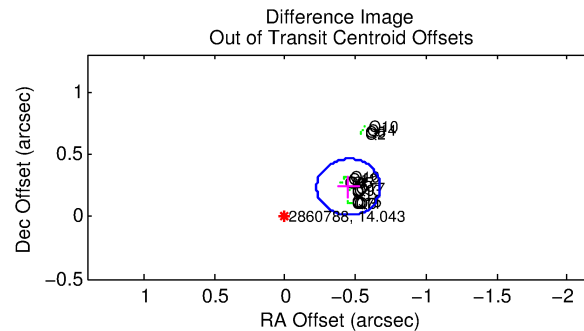
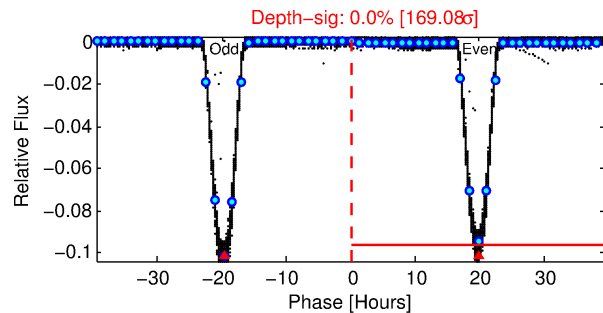
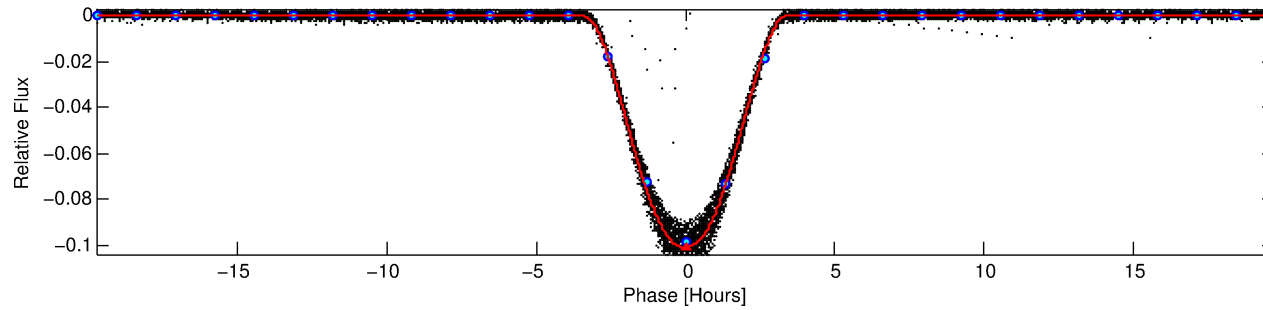
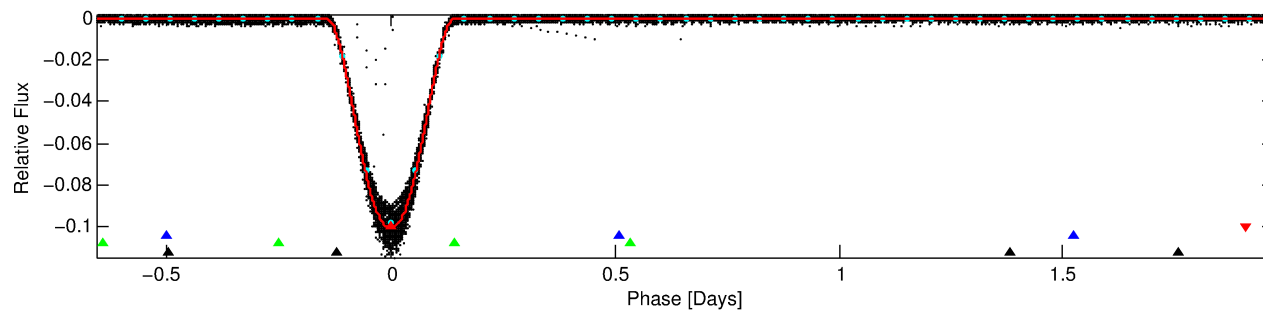
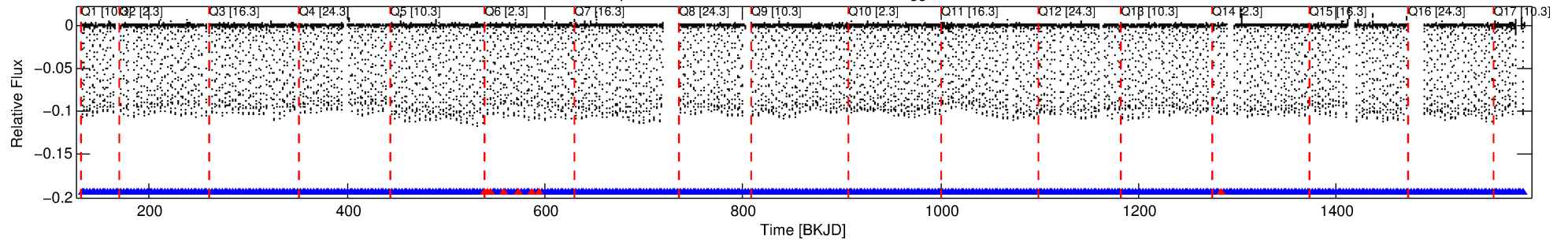
Ephemeris Match Information For 002860788-01

No Significant Match Found

# DV One-Page Summary

KIC: 2860788 Candidate: 1 of 4 Period: 2.630 d  
KOI: K06297.01 Corr: 0.996

Kp: 14.04 R\*: 0.97 Rs Teff: 5566.0 K Logg: 4.38 Fe/H: -0.200



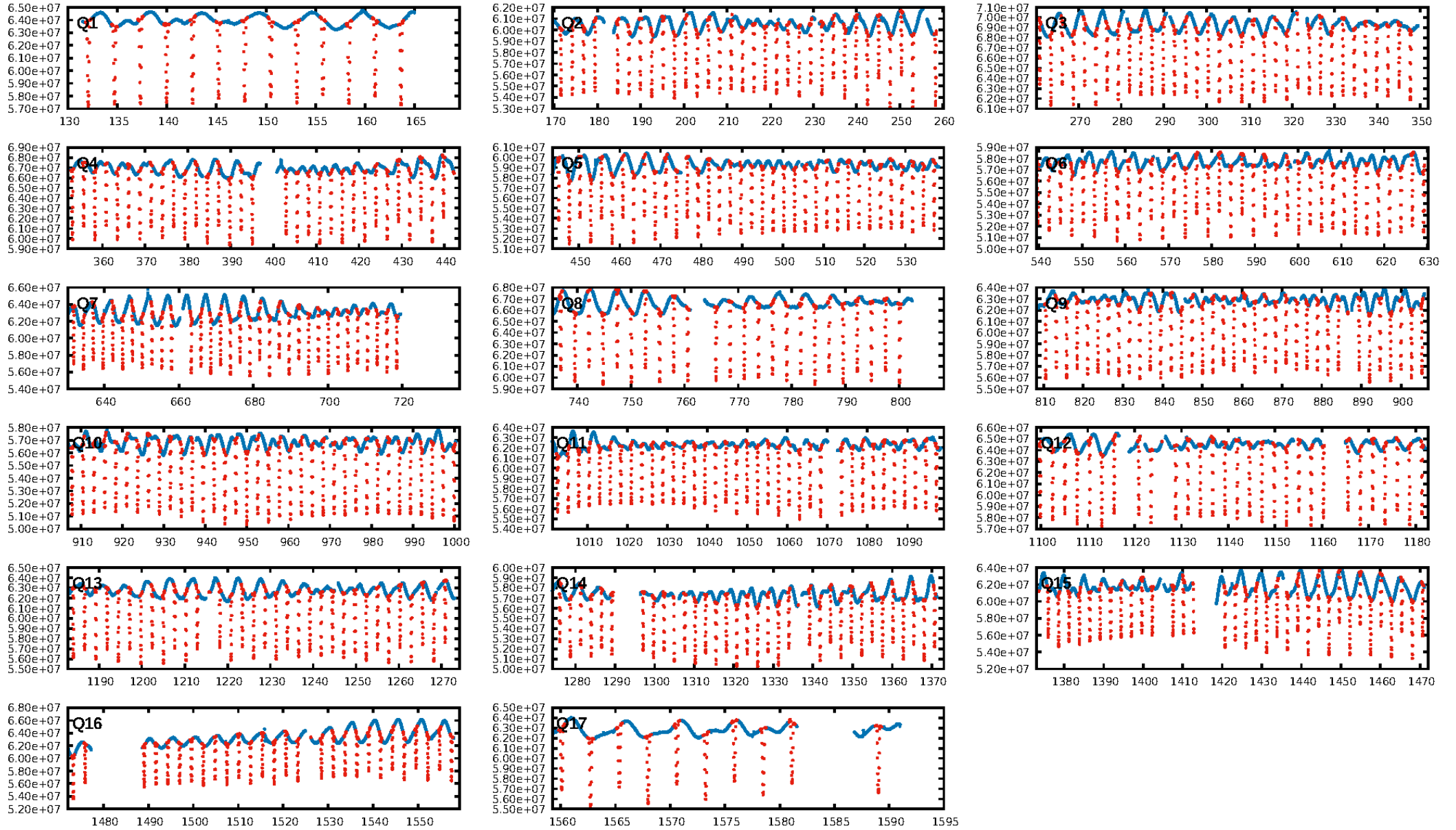
## DV Fit Results:

Period = 2.62987 [0.00000] d  
Epoch = 132.0678 [0.0000] BKJD  
Rp/R\* = 0.3201 [0.0001]  
a/R\* = 3.55 [0.00]  
b = 0.70 [0.00]  
Seff = 658.83 [239.02]  
Teq = 1292 [117] K  
Rp = 33.78 [9.12] Re  
a = 0.0349 [0.0081] AU  
Ag = 0.02 [0.01] [-107.64σ]  
Teffp = 727 [73] K [-4.09σ]

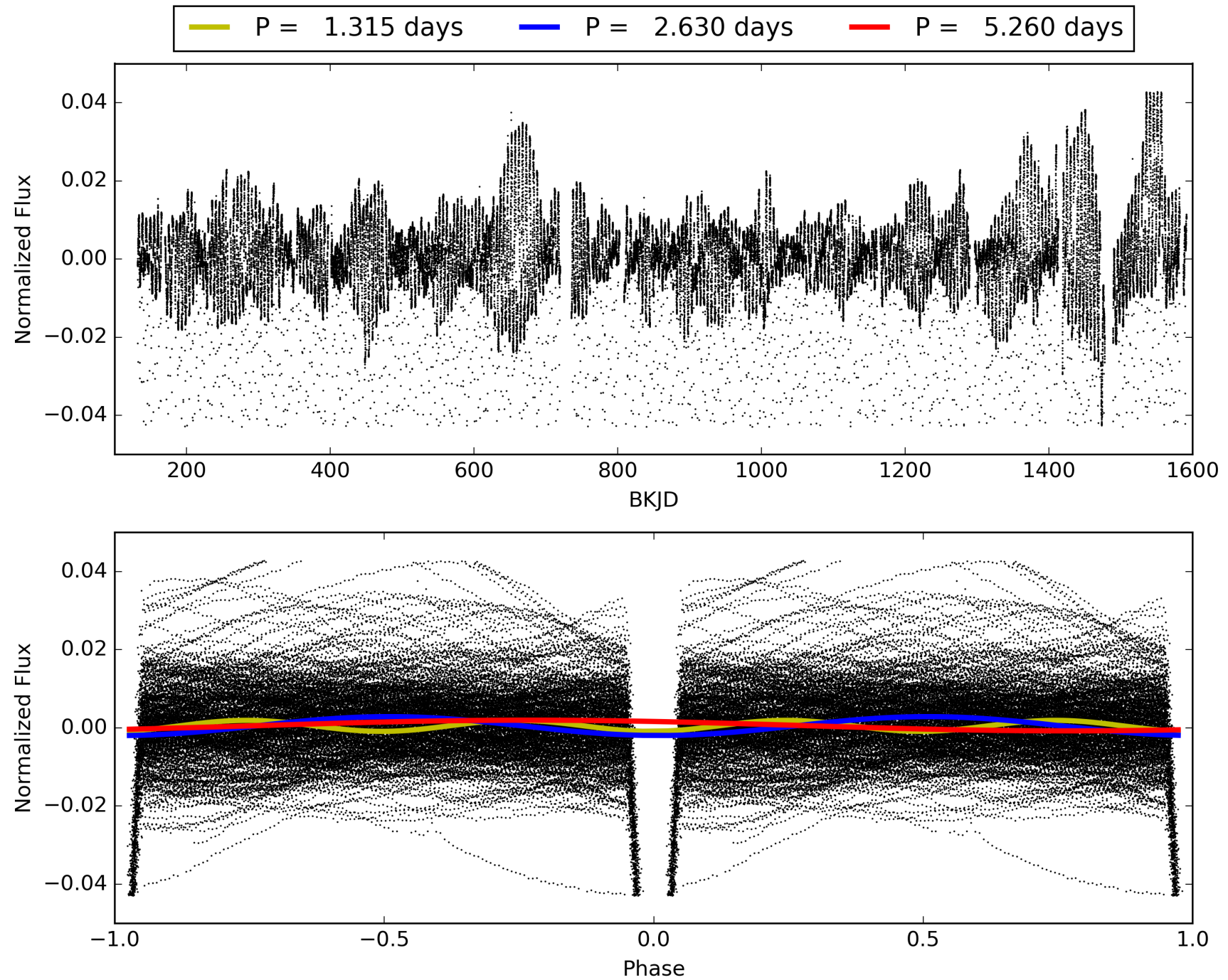
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [912.54σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.98 [484/492]  
GhostDiagnostic-chr: 1.736  
Centroid-sig: 0.0%  
Centroid-so: 0.672 arcsec [588.12σ]  
OotOffset-rm: 0.509 arcsec [6.78σ]  
KicOffset-rm: 0.299 arcsec [4.40σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 002860788-01, PDC Light Curves

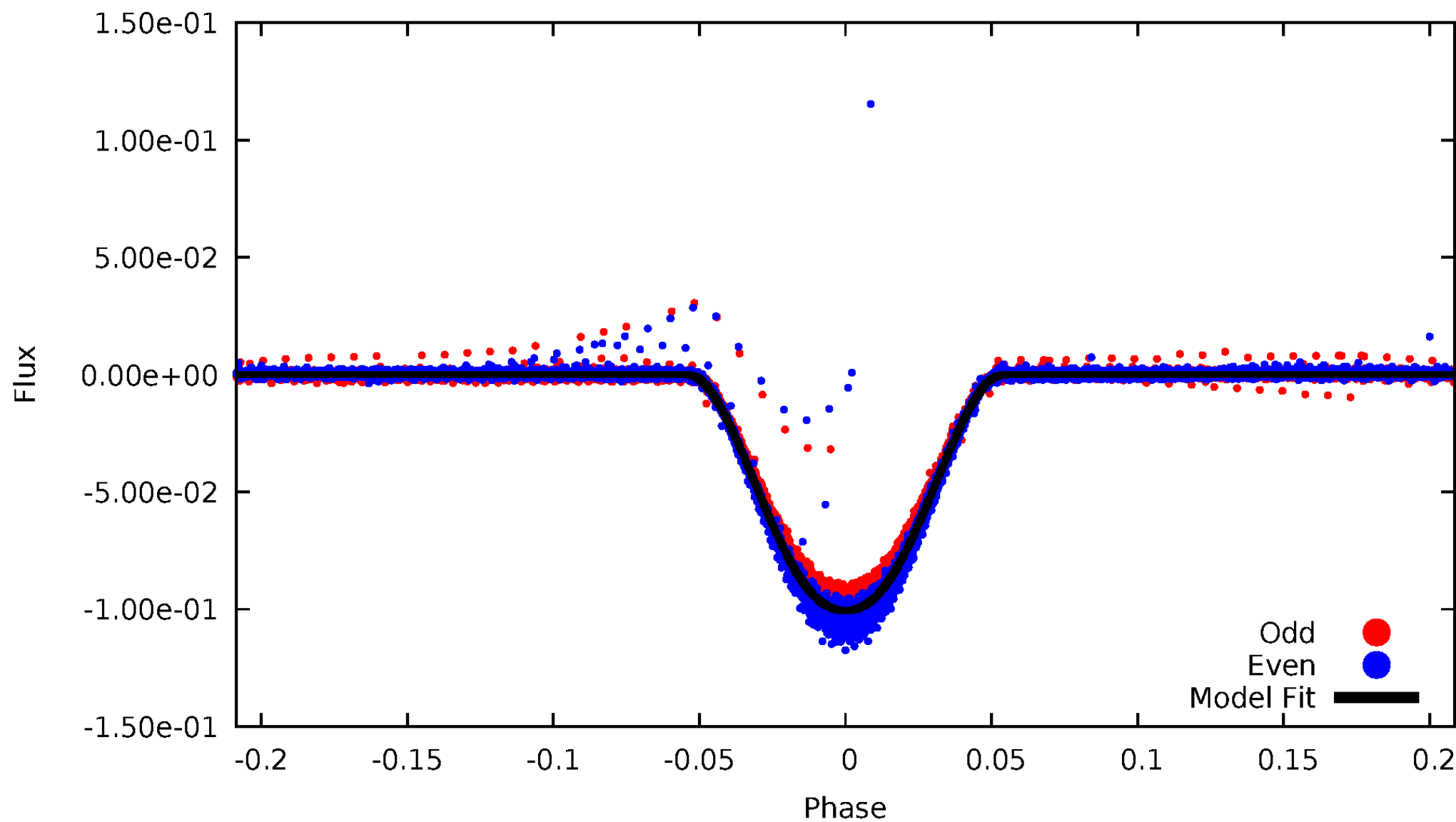


TCE 002860788-01



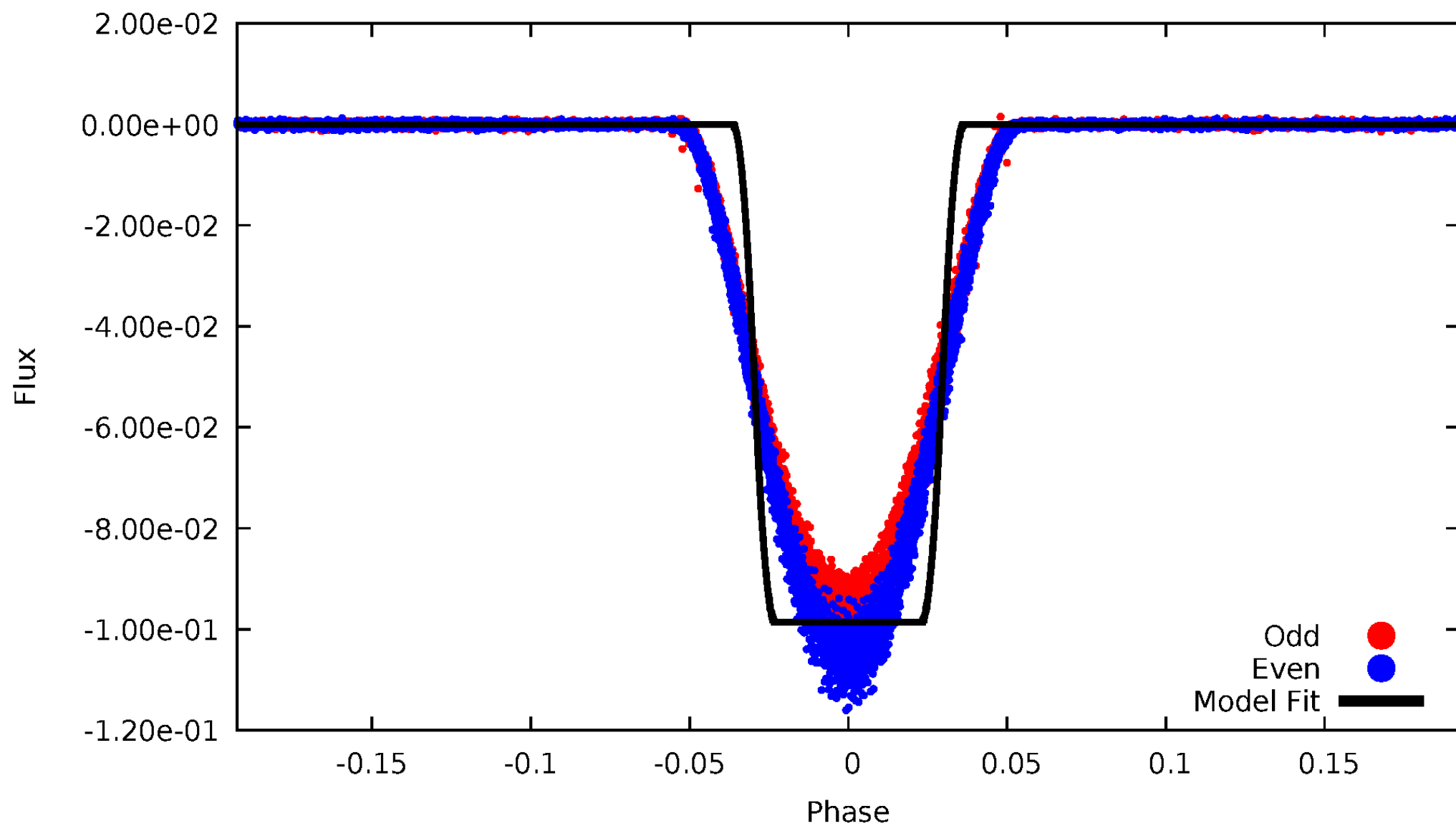
# DV Odd/Even

TCE 002860788-01



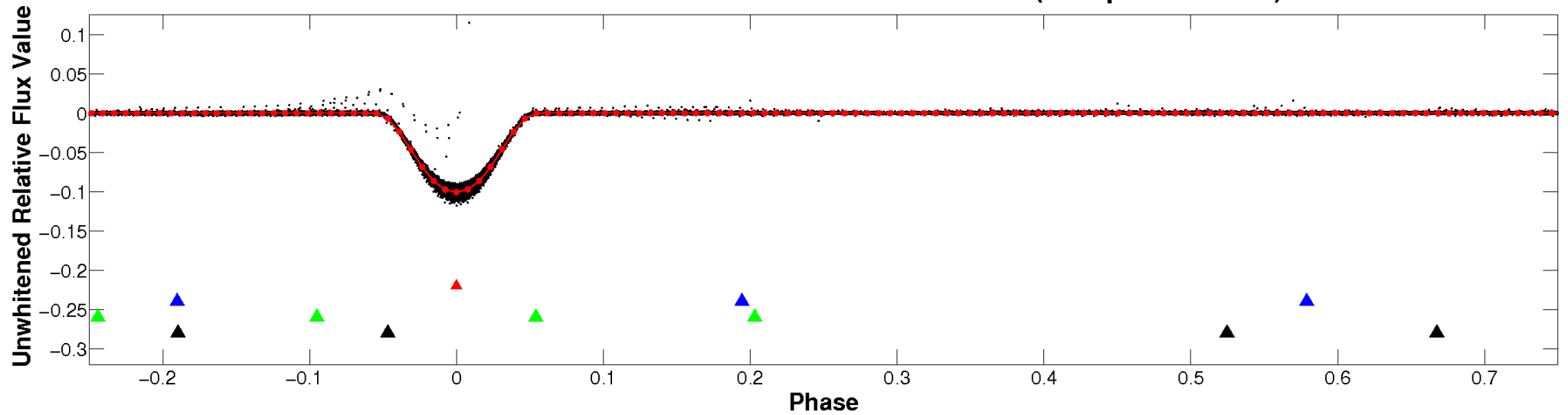
# ALT Odd/Even

TCE 002860788-01

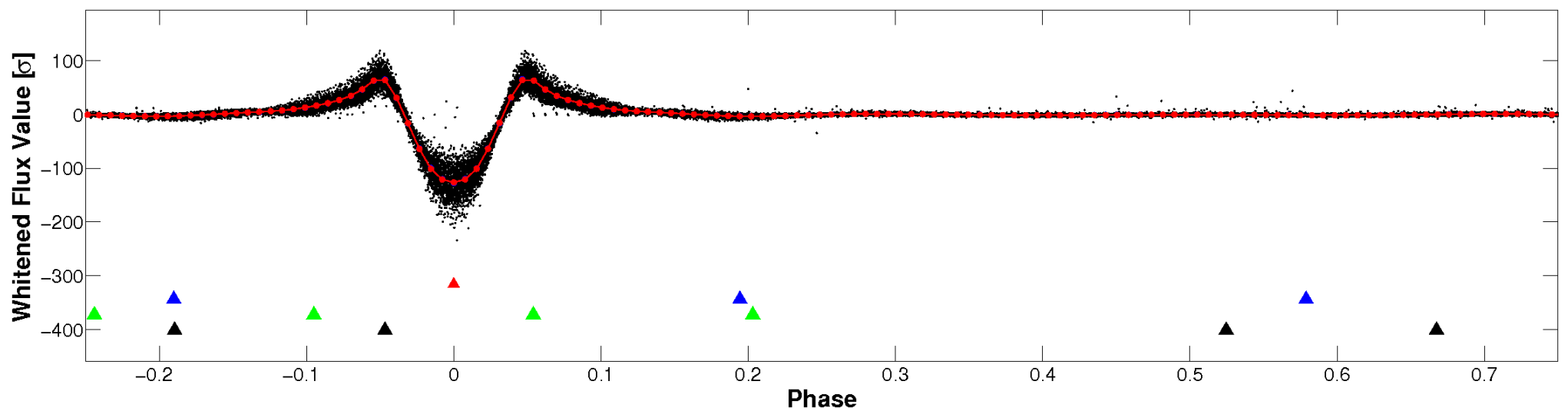


# Non-Whitened Vs. Whitened Light Curve

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



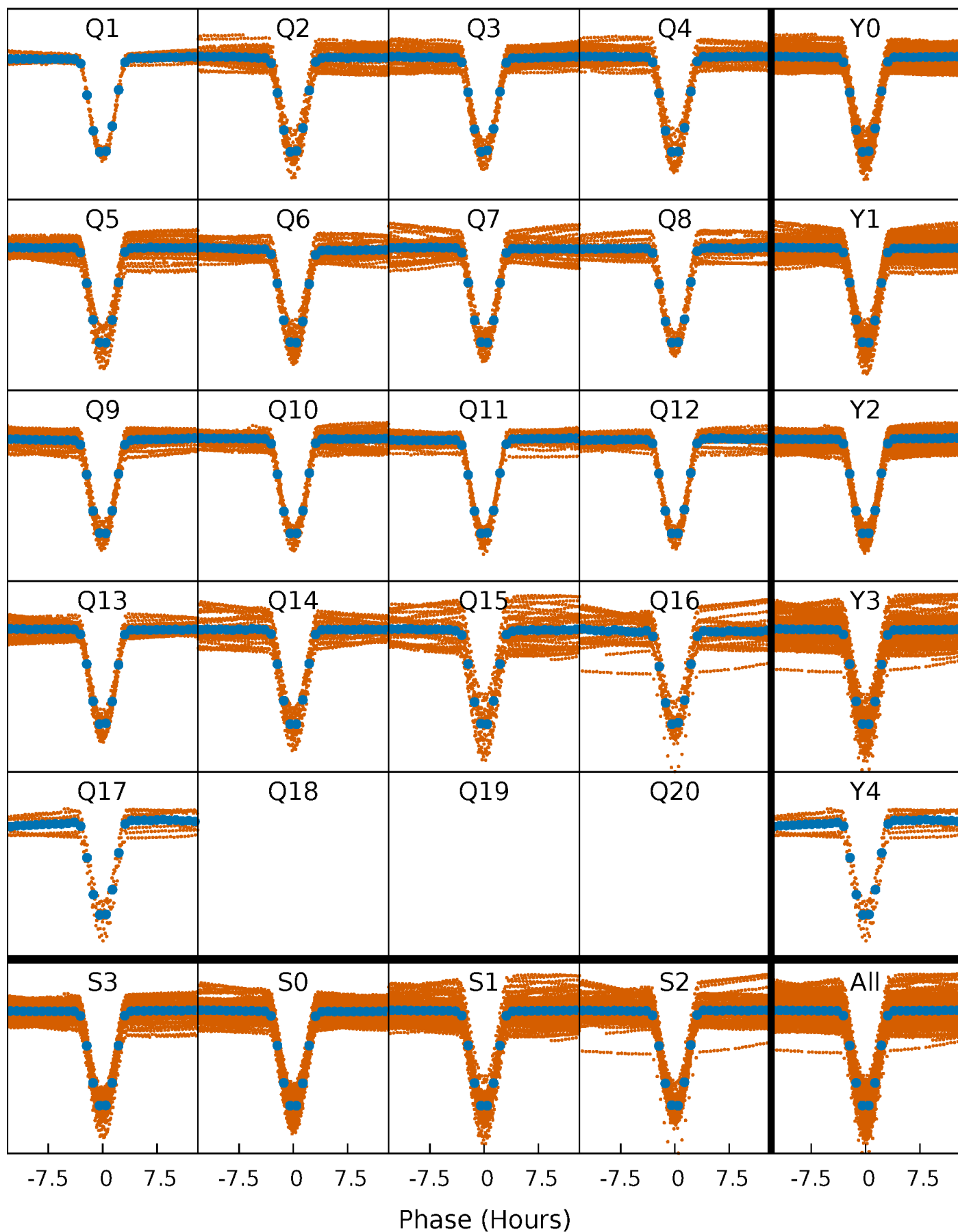
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

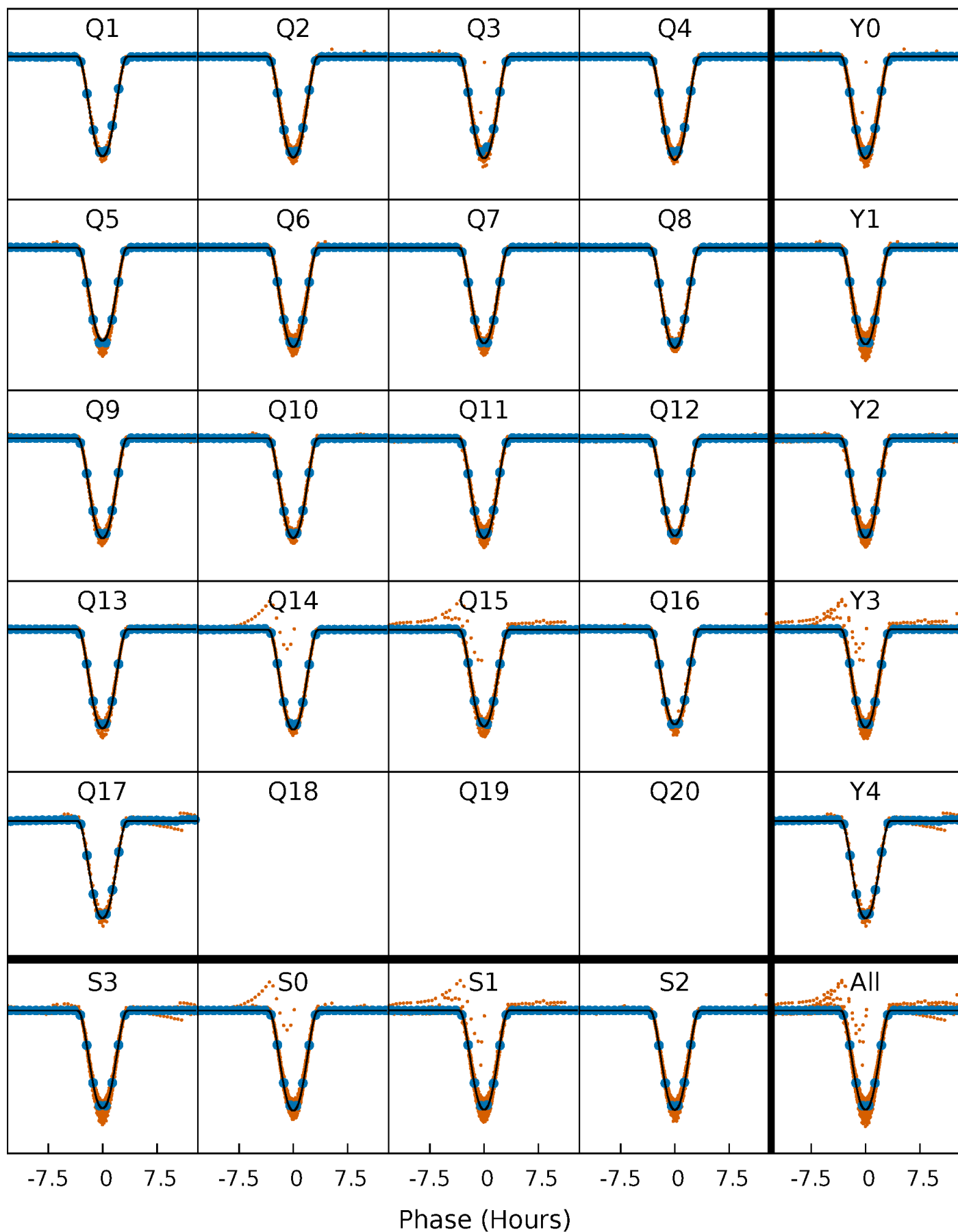
TCE 002860788-01   P= 2.629870 Days    $T_0=132.067826$  (BKJD)





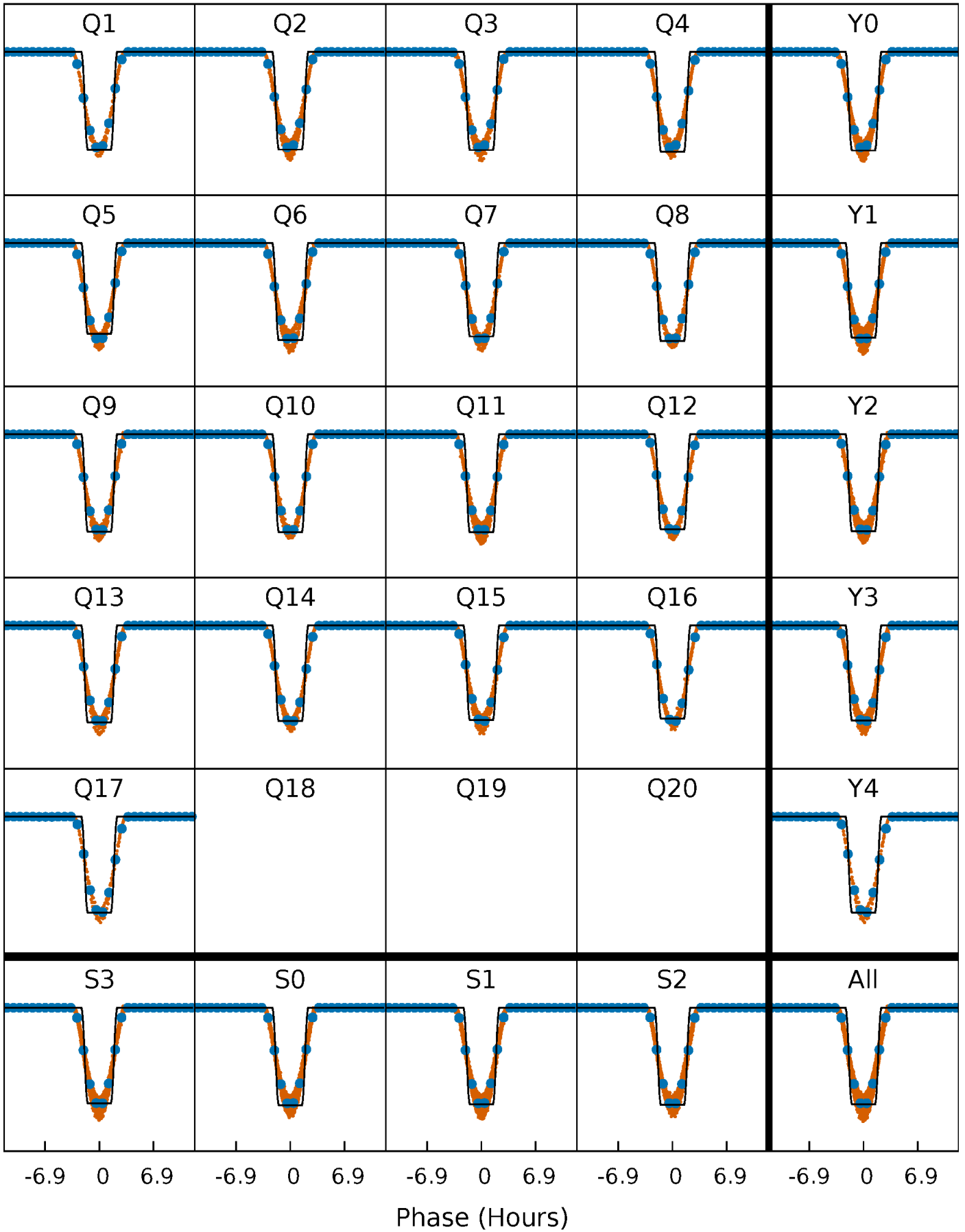
# DV Quarter-Phased Transit Curves

TCE 002860788-01 P= 2.629870 Days  $T_0=132.067826$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

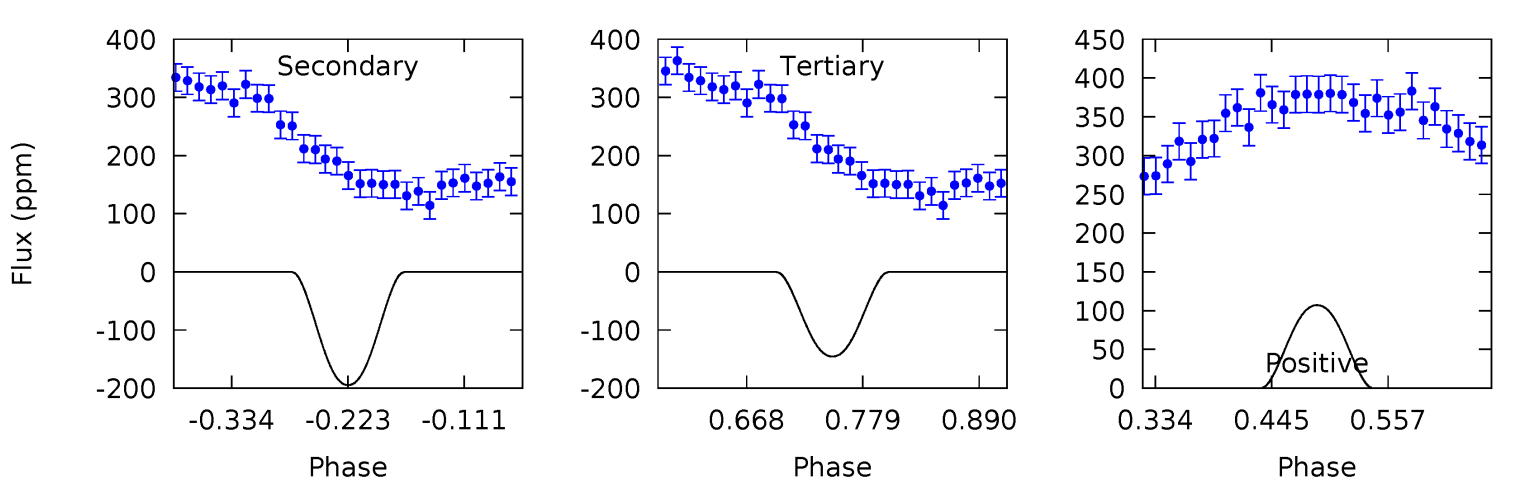
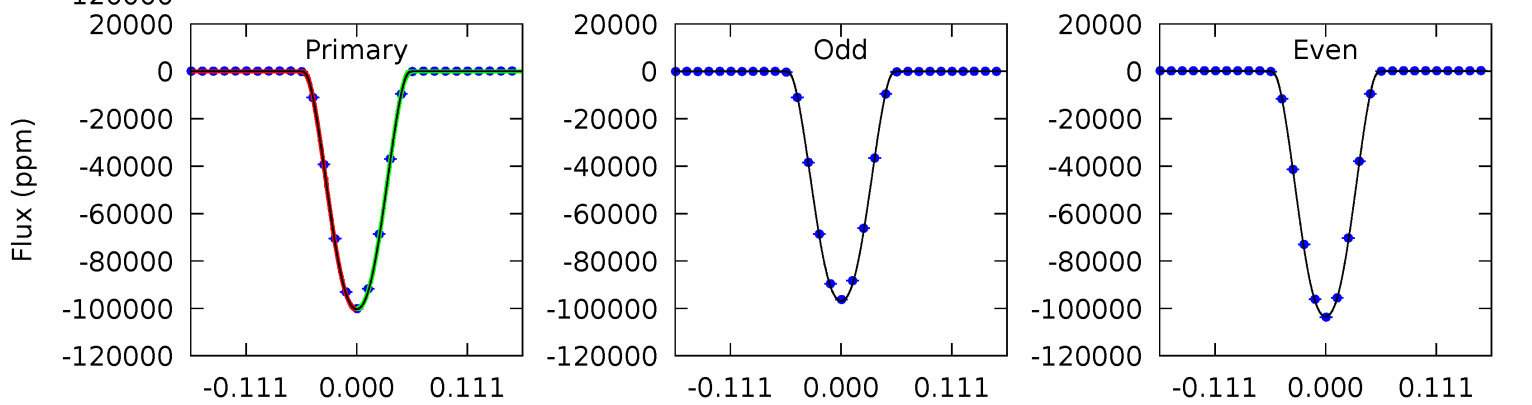
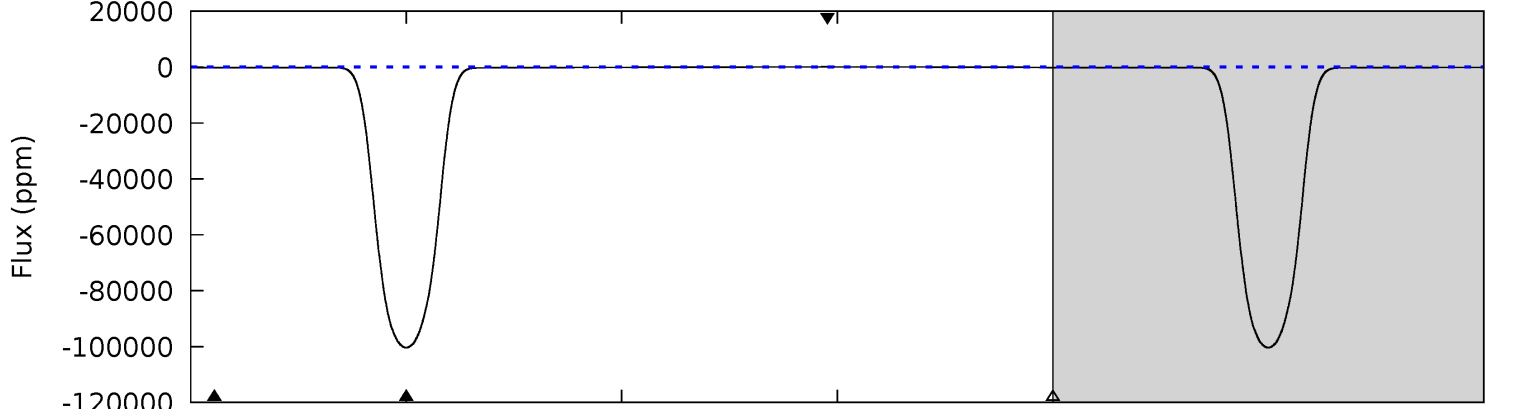
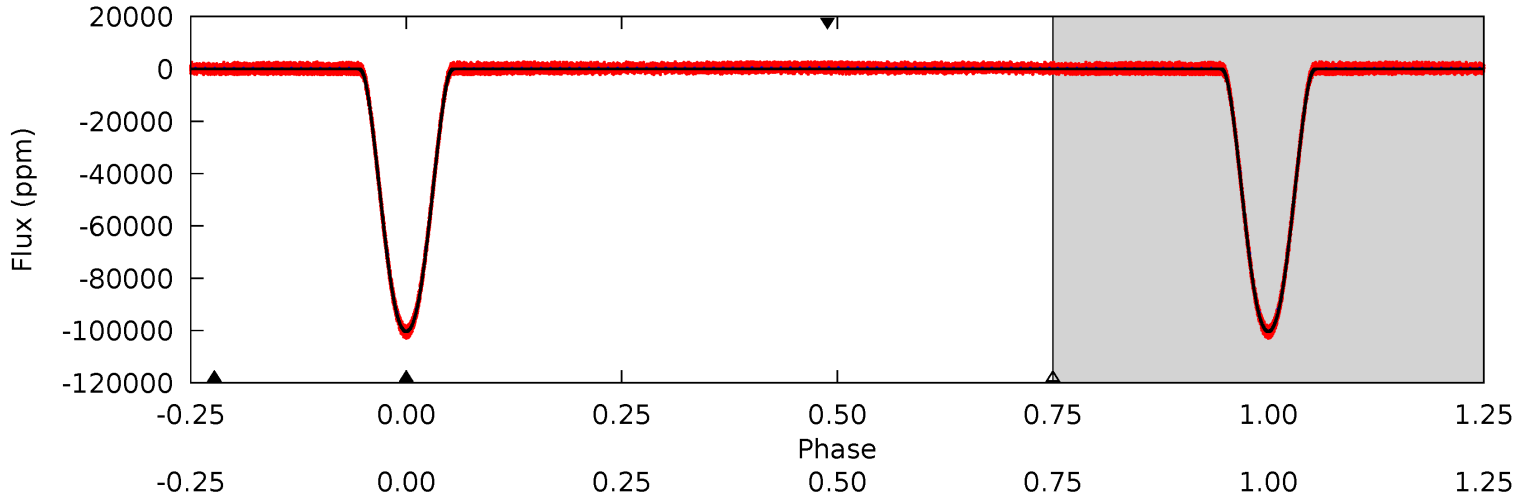
TCE 002860788-01   P= 2.629857 Days    $T_0=132.071401$  (BKJD)



# DV Model-Shift Uniqueness Test

002860788-01, P = 2.629870 Days, E = 129.437956 Days

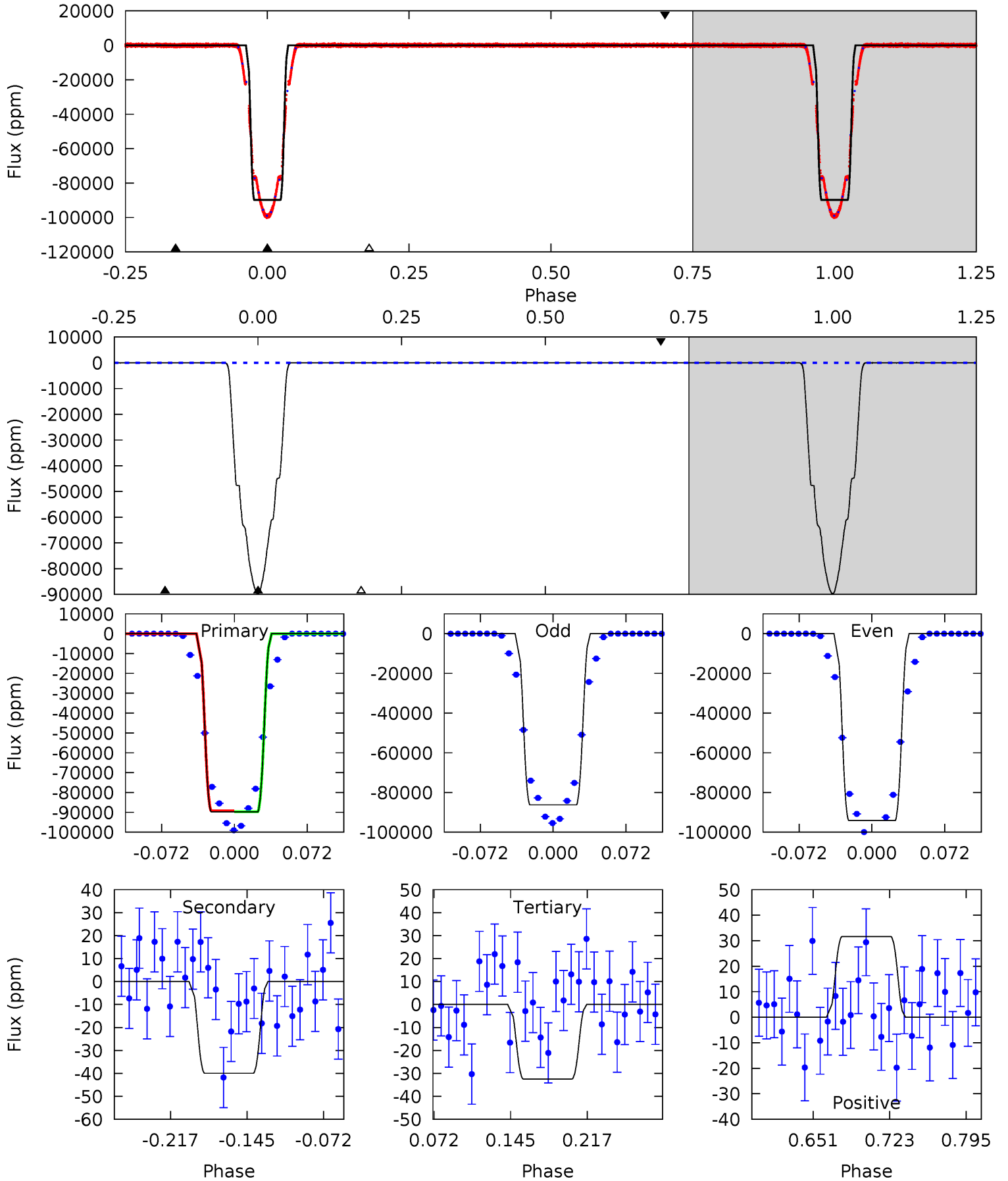
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9993	19.4	14.5	10.7	4.54	1.59	9.36	9978	9982	4.89	8.71	340.8	0.99	0.00	0



# Alt Model-Shift Uniqueness Test

002860788-01, P = 2.629857 Days, E = 129.441544 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
8909	3.96	3.22	3.14	4.63	1.80	1.09	8906	8906	0.75	0.82	422.5	1.00	0.00	0



### Stellar Parameters For KIC 002860788

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5566^{+149}_{-149}$	$4.382^{+0.175}_{-0.193}$	$-0.200^{+0.300}_{-0.300}$	$0.967^{+0.261}_{-0.174}$	$0.822^{+0.129}_{-0.065}$	$1.281^{+0.970}_{-0.641}$
	+3%/-3%	+4%/-4%	+150%/-150%	+27%/-18%	+16%/-8%	+76%/-50%
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 002860788-01 / KOI 6297.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-195 \pm 10$	$34.12^{+5.11}_{-3.70}$	$1816^{+124}_{-119}$	$-2254^{+105}_{-102}$	$0.113^{+0.029}_{-0.027}$
Alt.	$-40 \pm 10$	$33.50^{+5.05}_{-3.90}$	$1811^{+129}_{-114}$	$-2354^{+76}_{-83}$	$0.023^{+0.010}_{-0.007}$

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

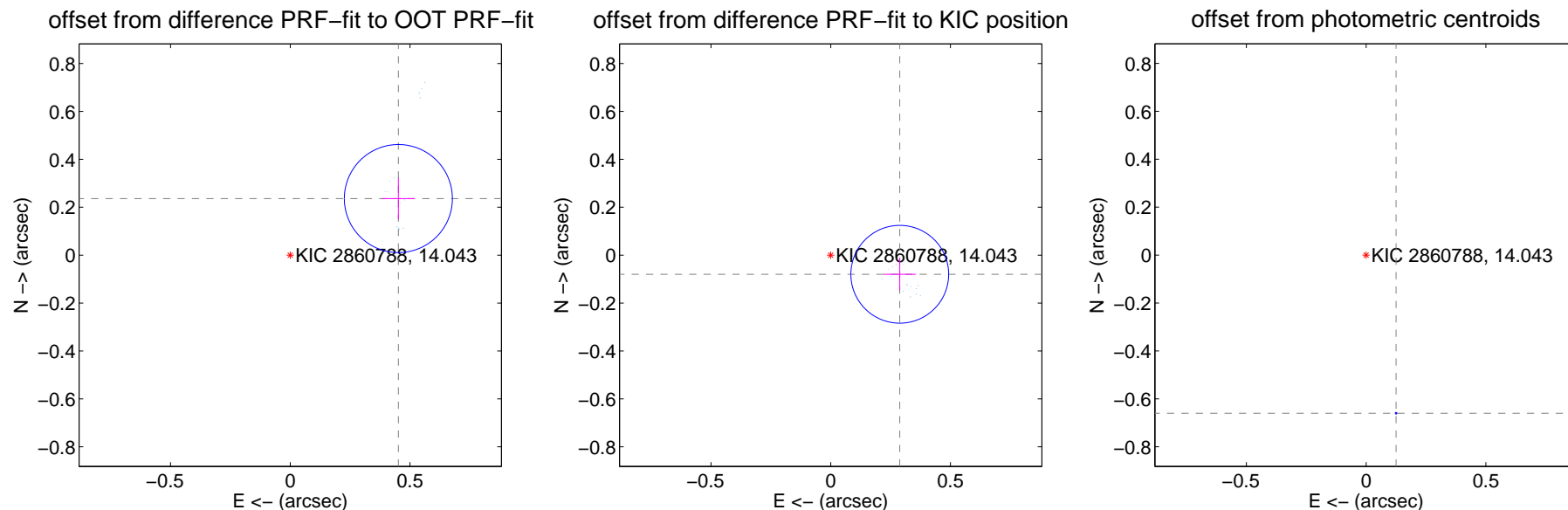
## DV Centroid Data

Supplemental centroid analysis for 002860788-01. Kepler magnitude: 14.04. Transit SNR 4686.55

There are 17 quarters with good PRF difference image offsets

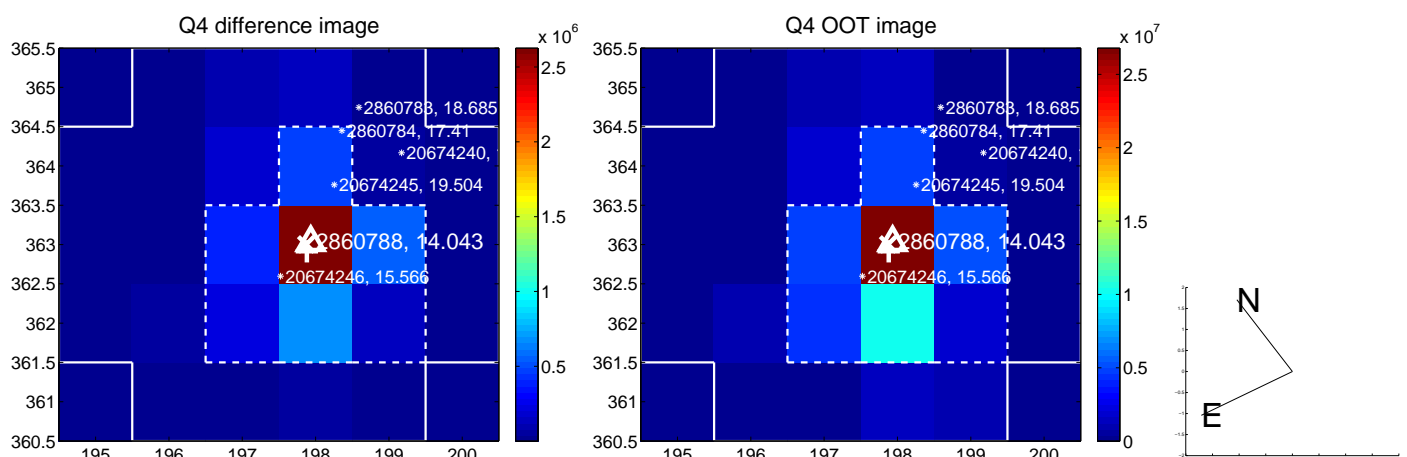
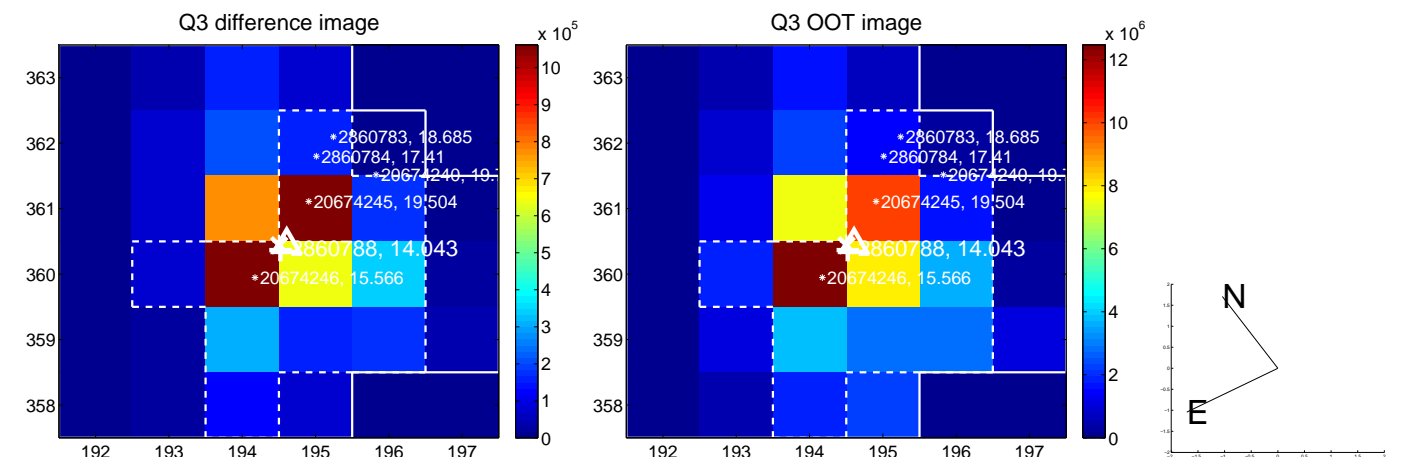
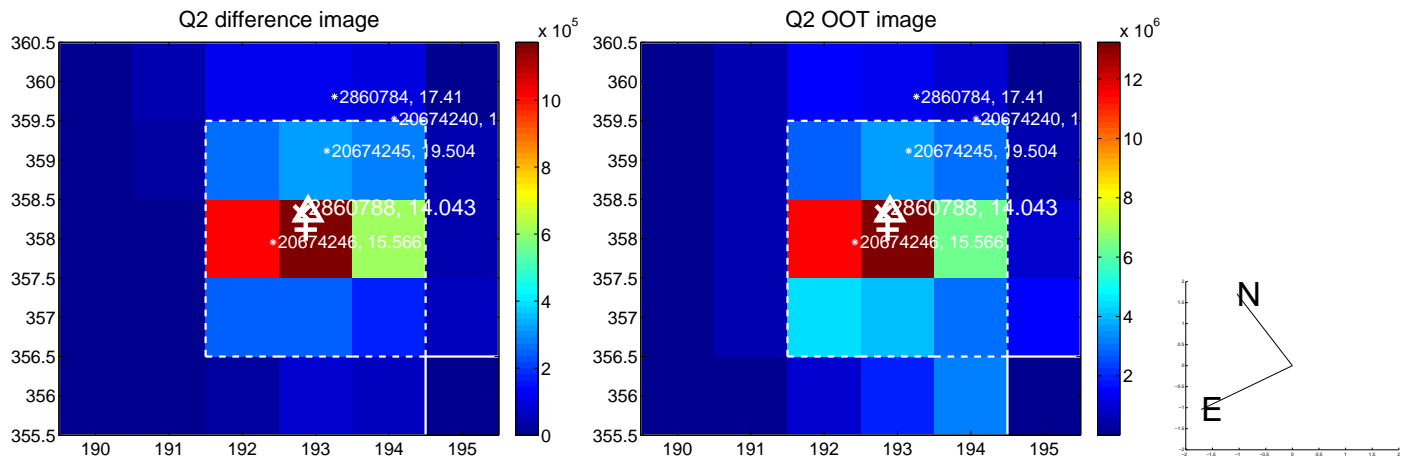
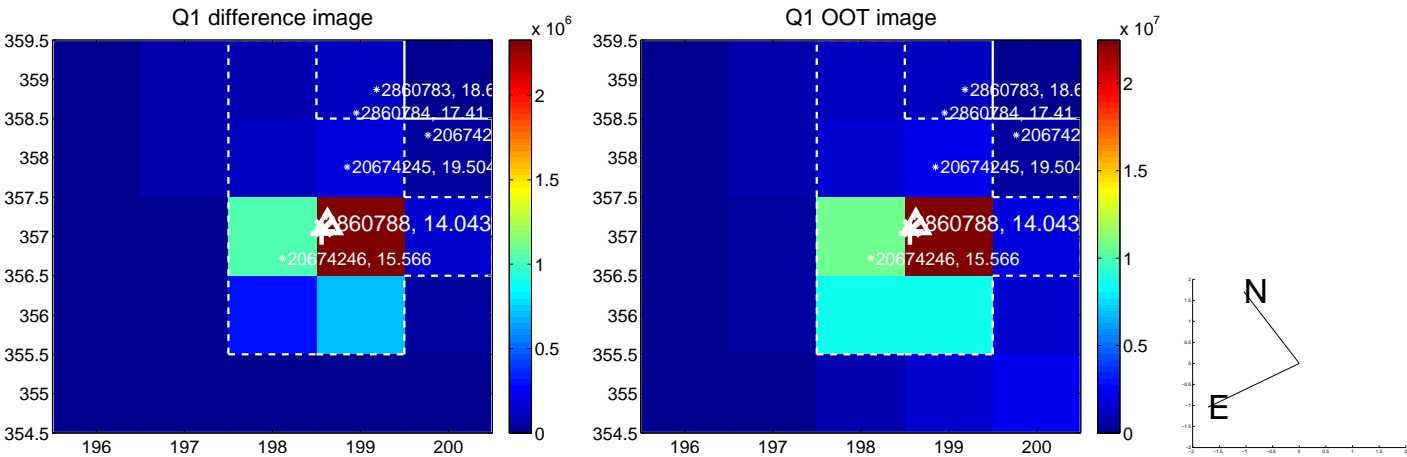
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.509 \pm 0.075$	6.78	$-0.451 \pm 0.068$	$0.236 \pm 0.086$
PRF-fit source offset from KIC position	$0.299 \pm 0.068$	4.40	$-0.288 \pm 0.068$	$-0.080 \pm 0.068$
photometric centroid source offset	$0.67 \pm 0.00$	588.12	$-0.13 \pm 0.00$	$-0.66 \pm 0.00$



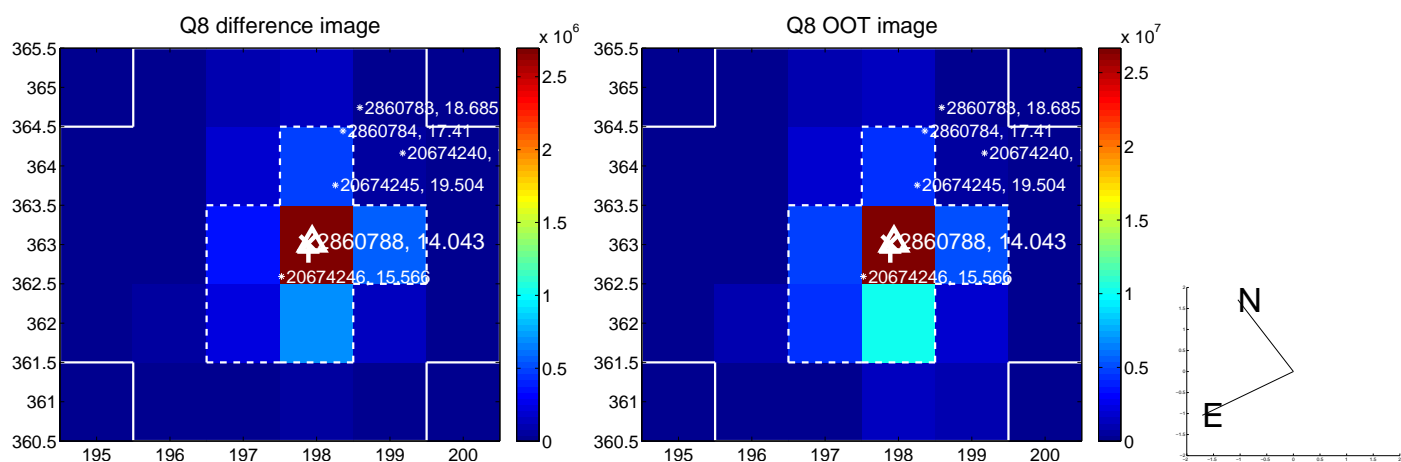
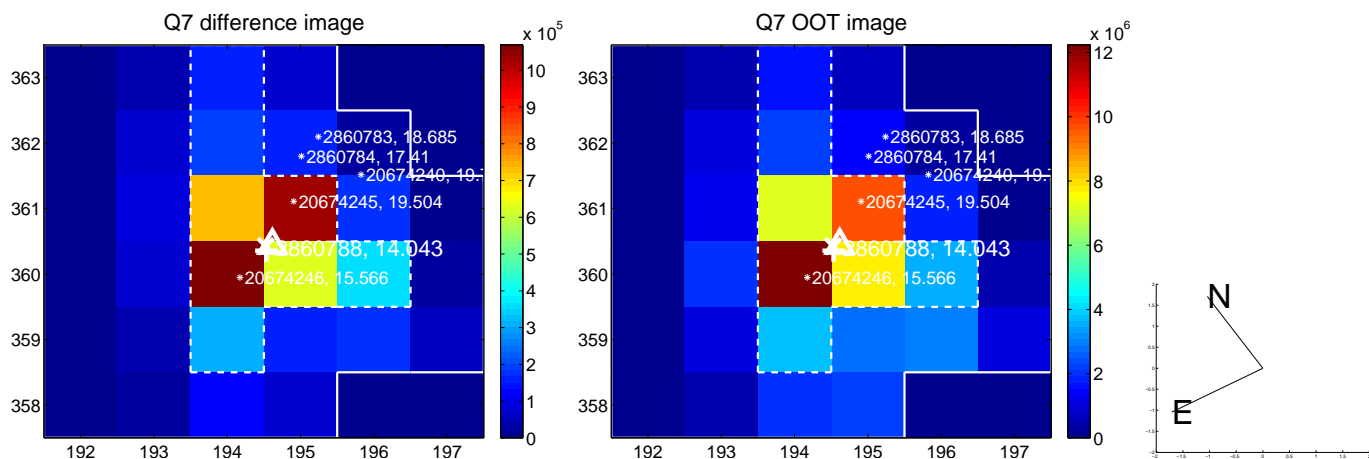
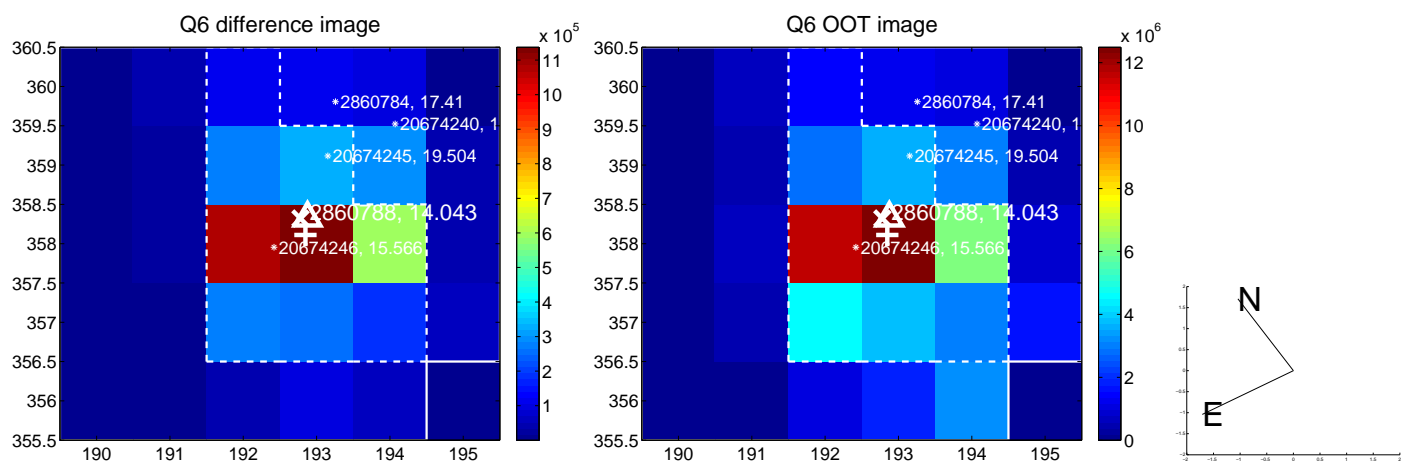
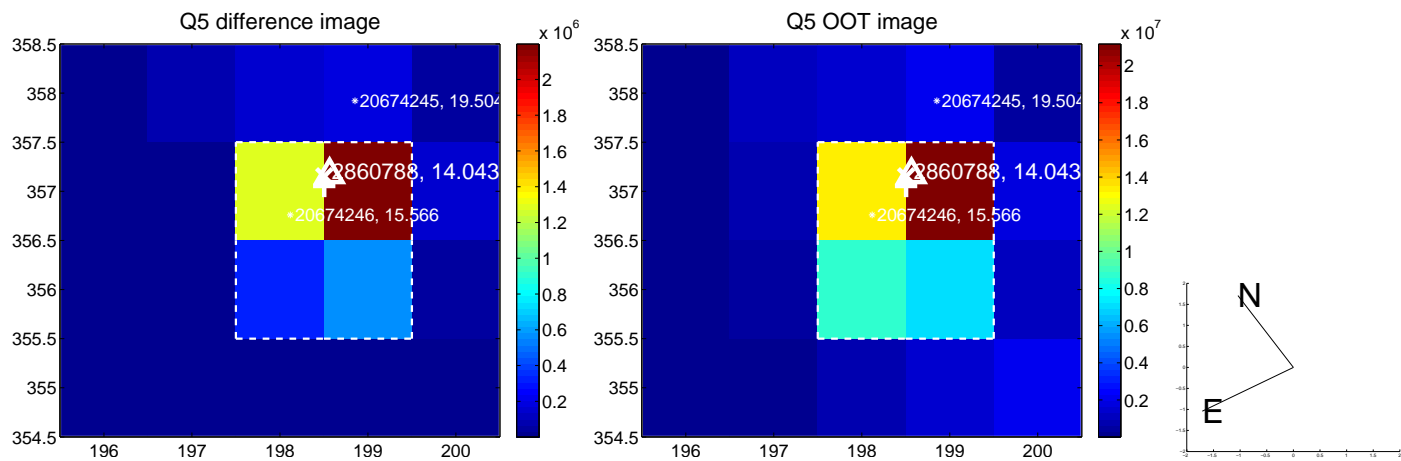
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

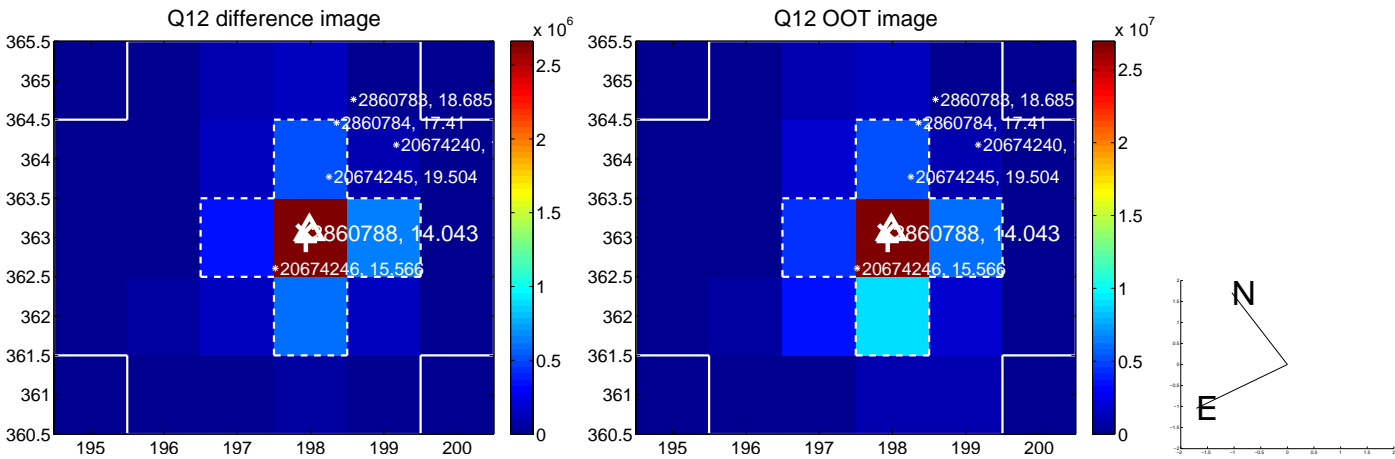
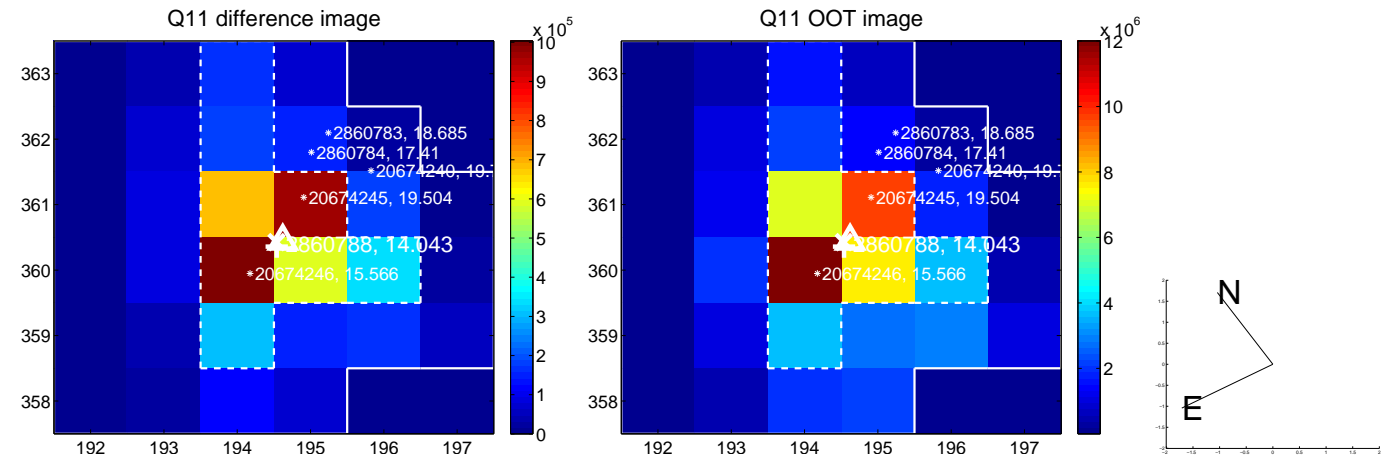
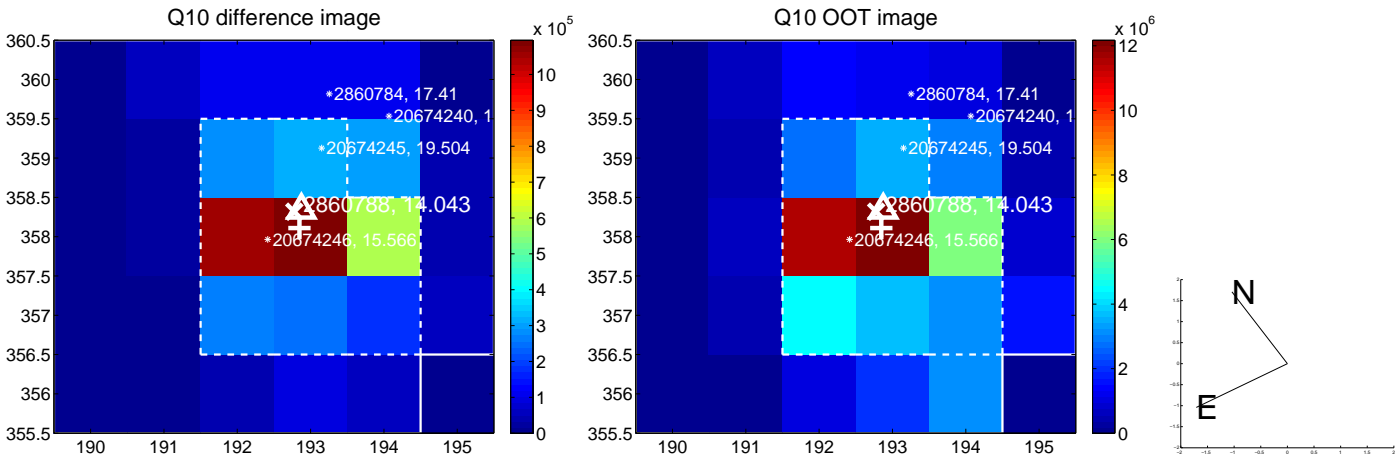
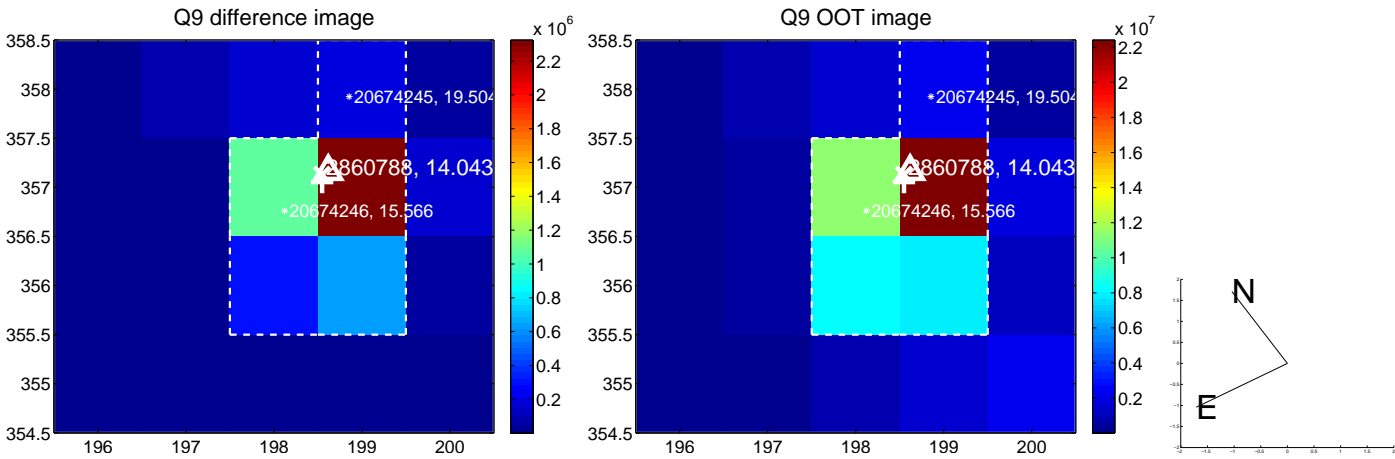




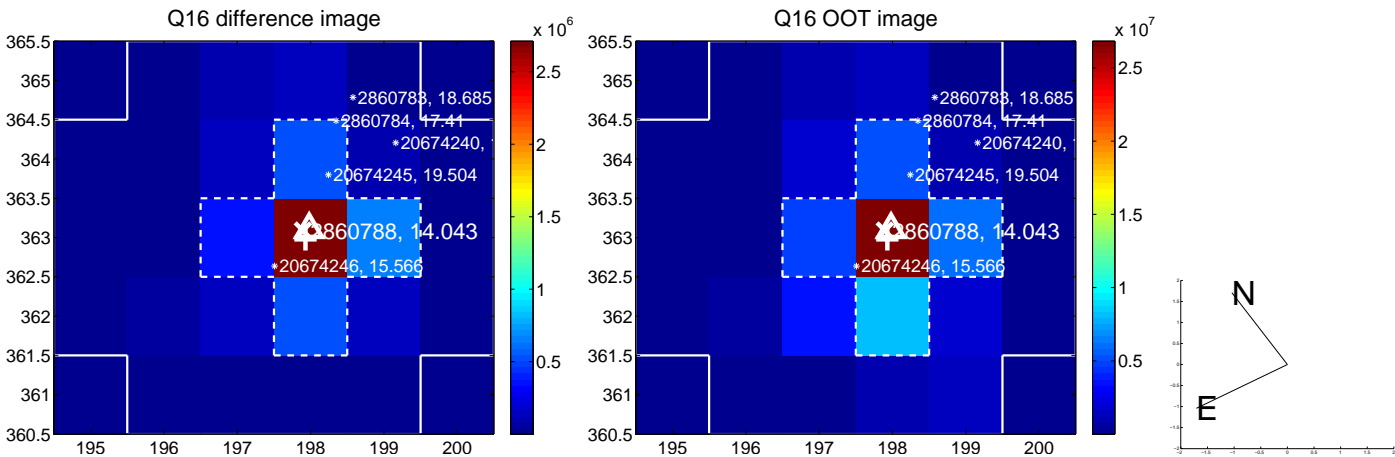
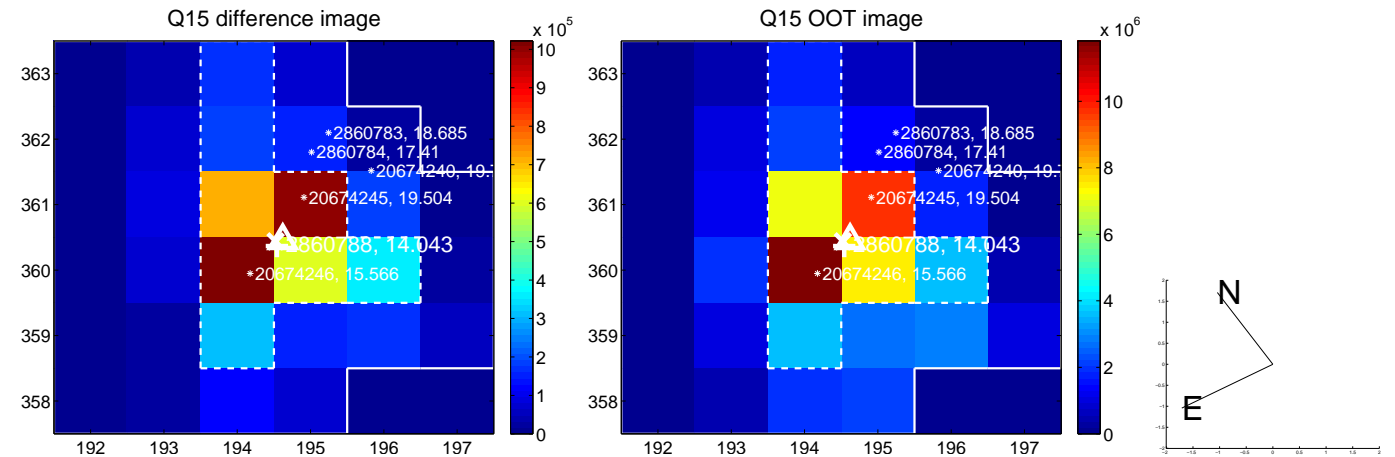
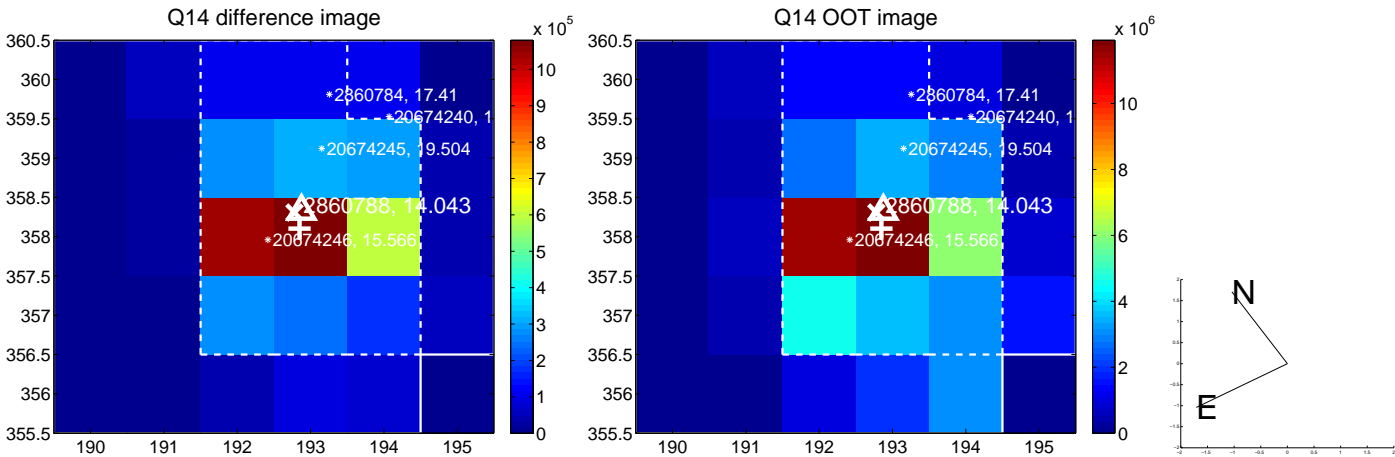
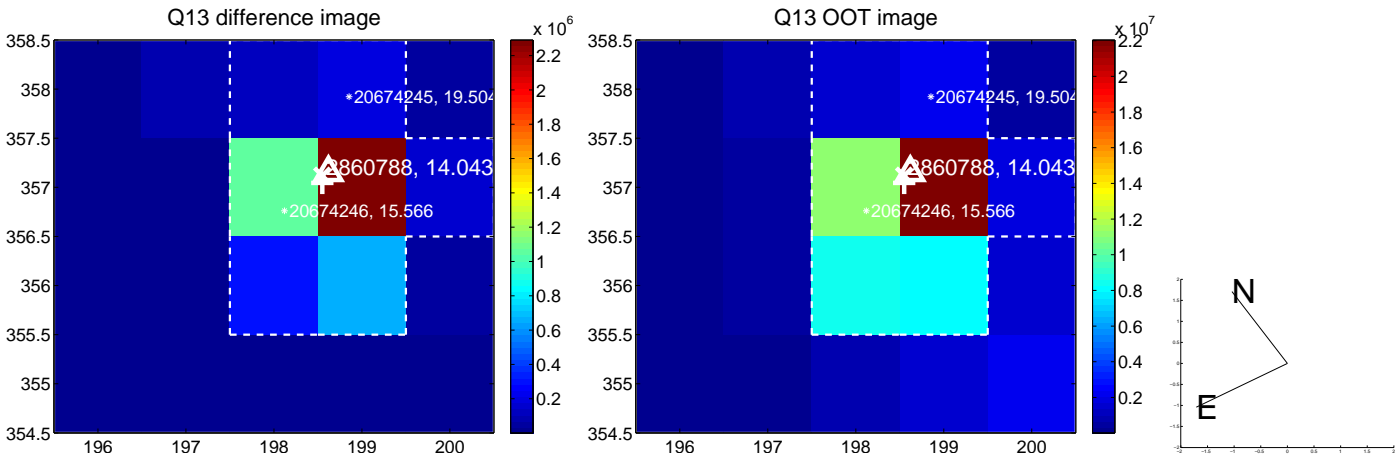
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



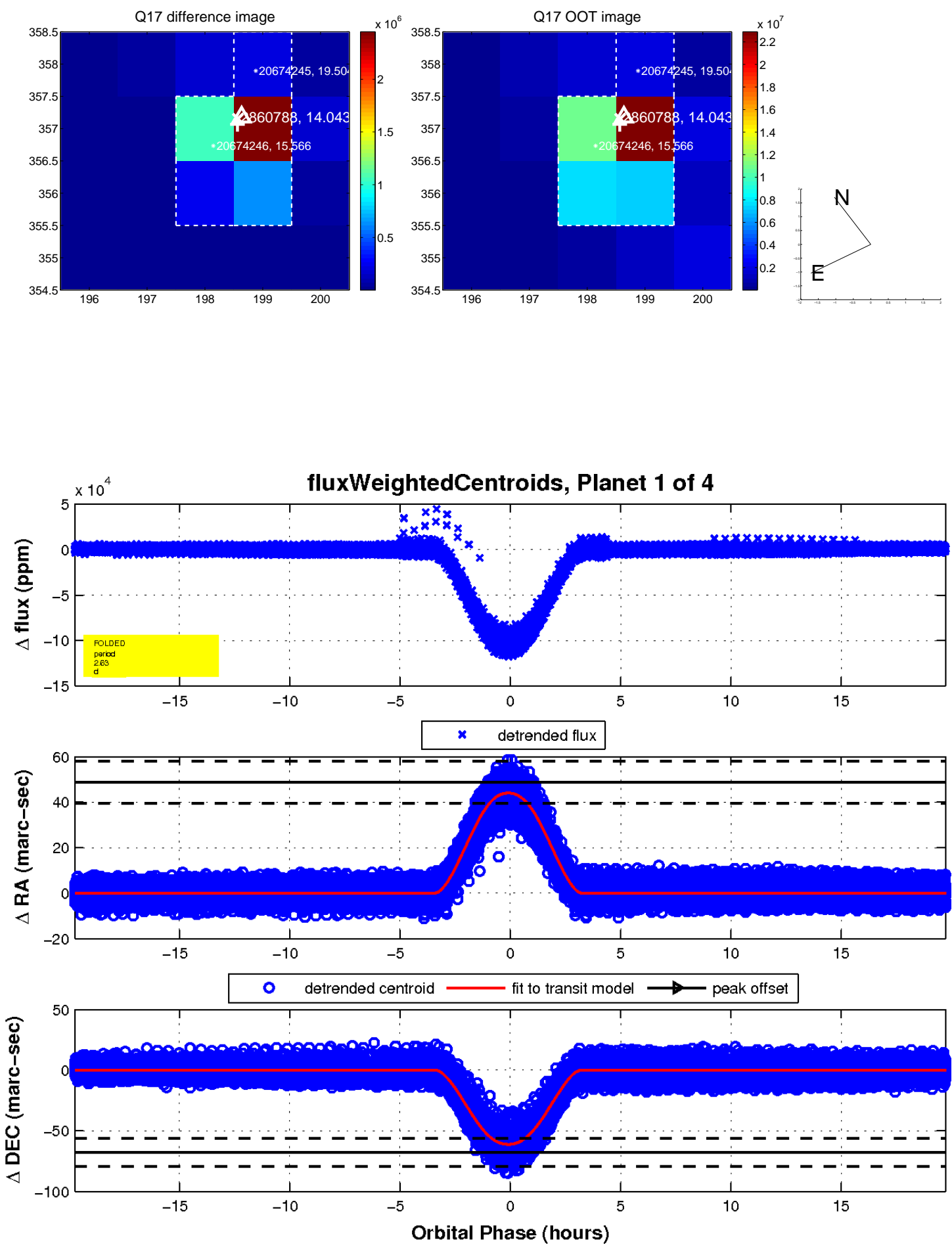
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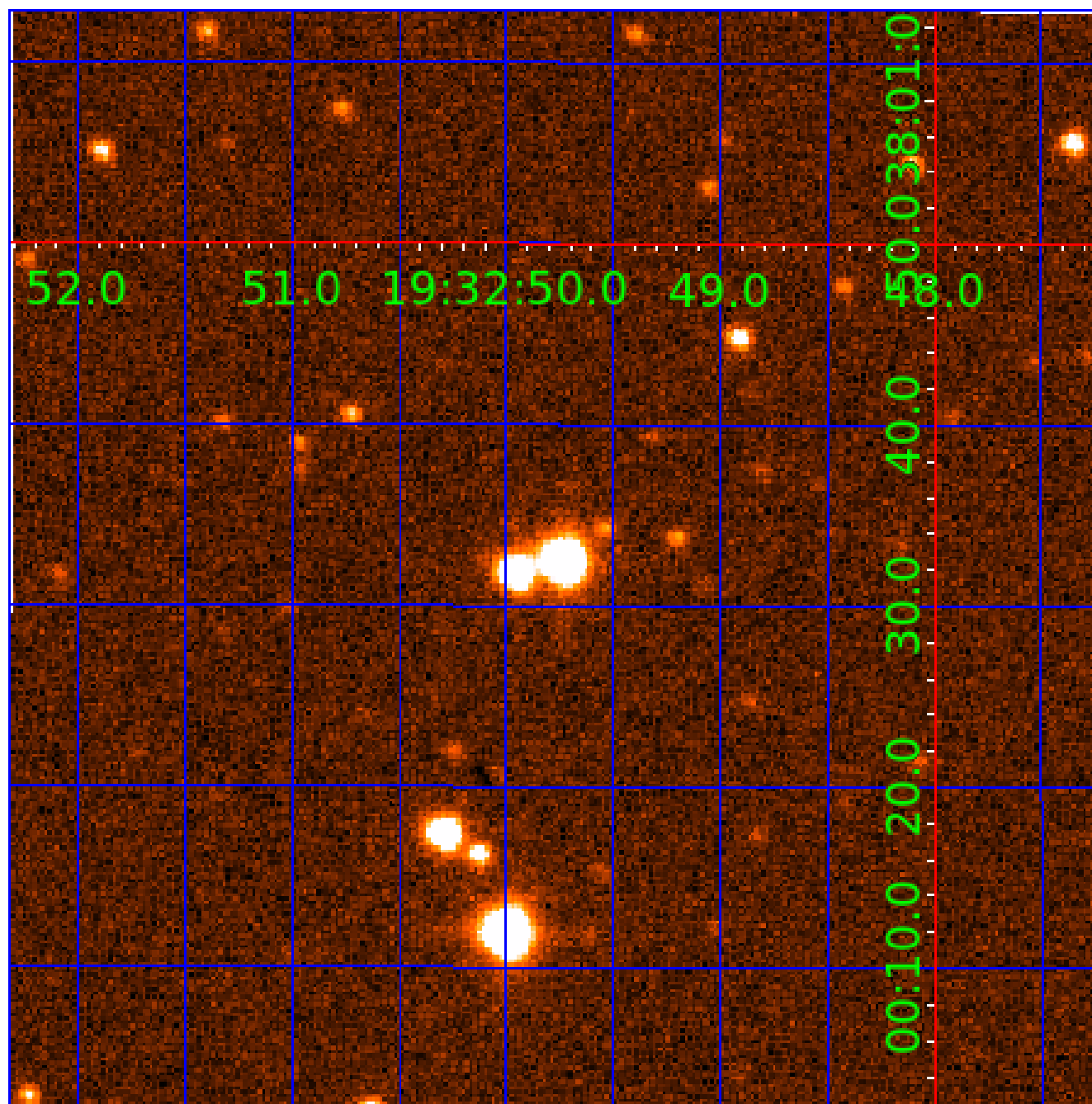


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 002860788

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
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002860788-04	OBS	No	368.557541	464.811289	1130.0	7.024	12.9	6.8	0.97	5566	4.23	0.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002860788-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT
002860788-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
002860788-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—SAME_NTL_PERIOD

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

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

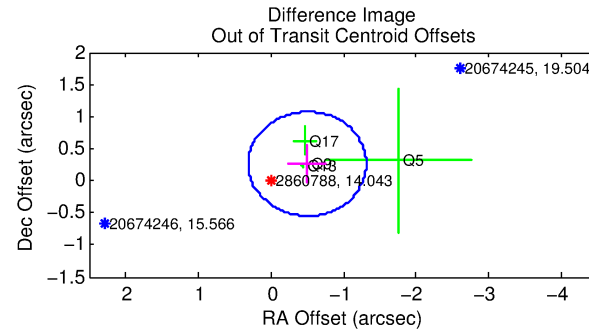
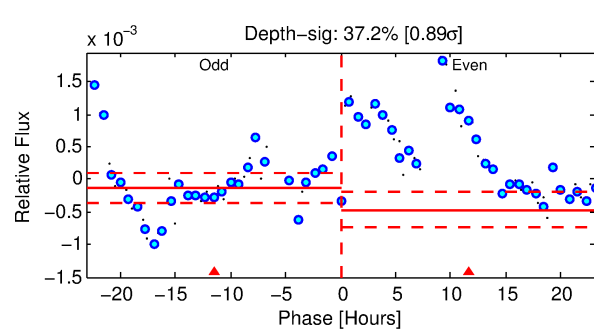
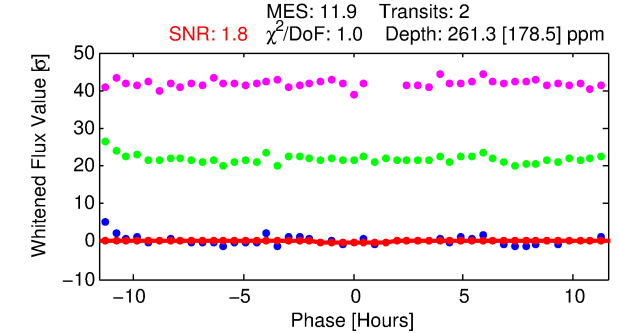
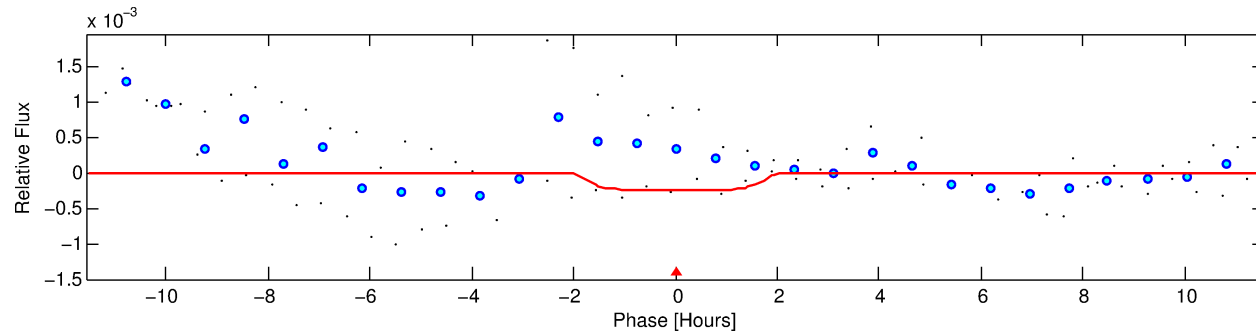
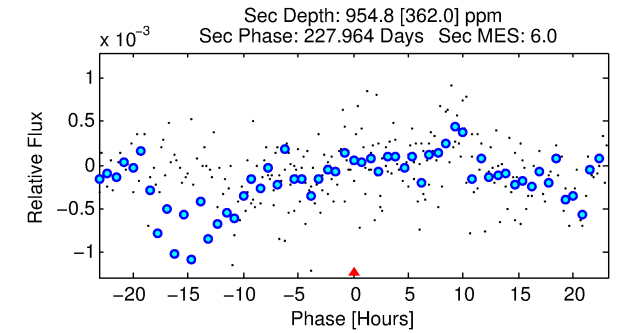
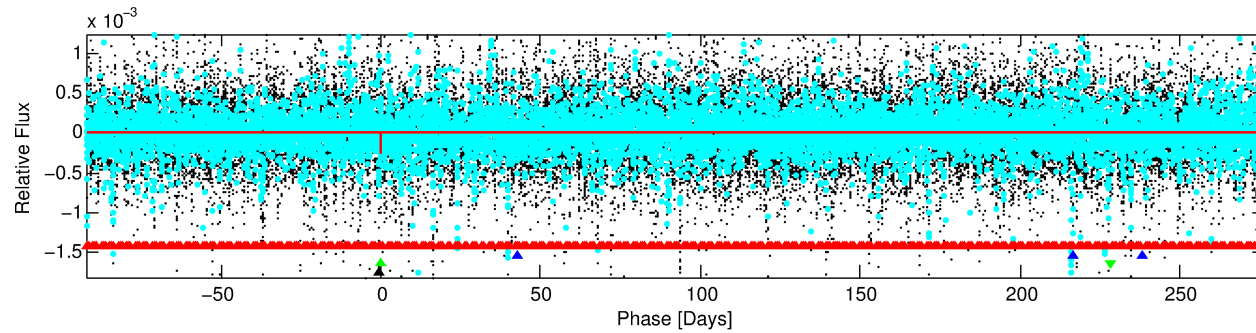
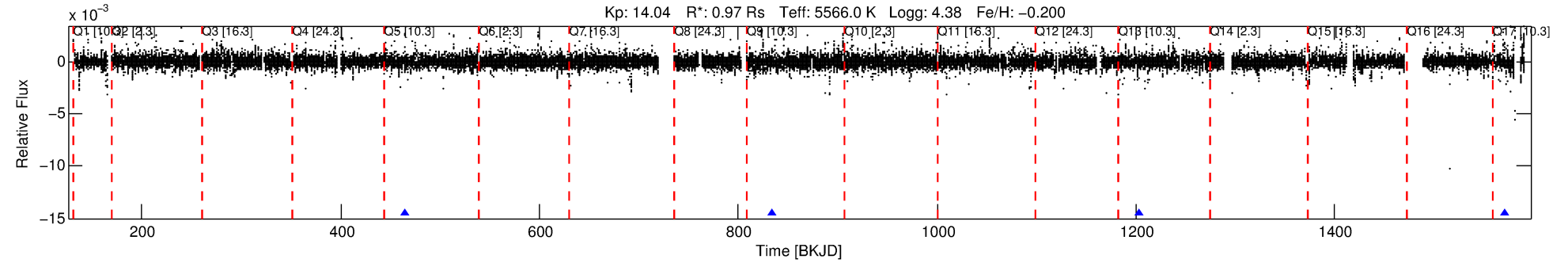
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 002860788-03

No Significant Match Found

# DV One-Page Summary

KIC: 2860788 Candidate: 3 of 4 Period: 368.574 d  
KOI: K06297 Corr: No Ephemeris Match



## DV Fit Results:

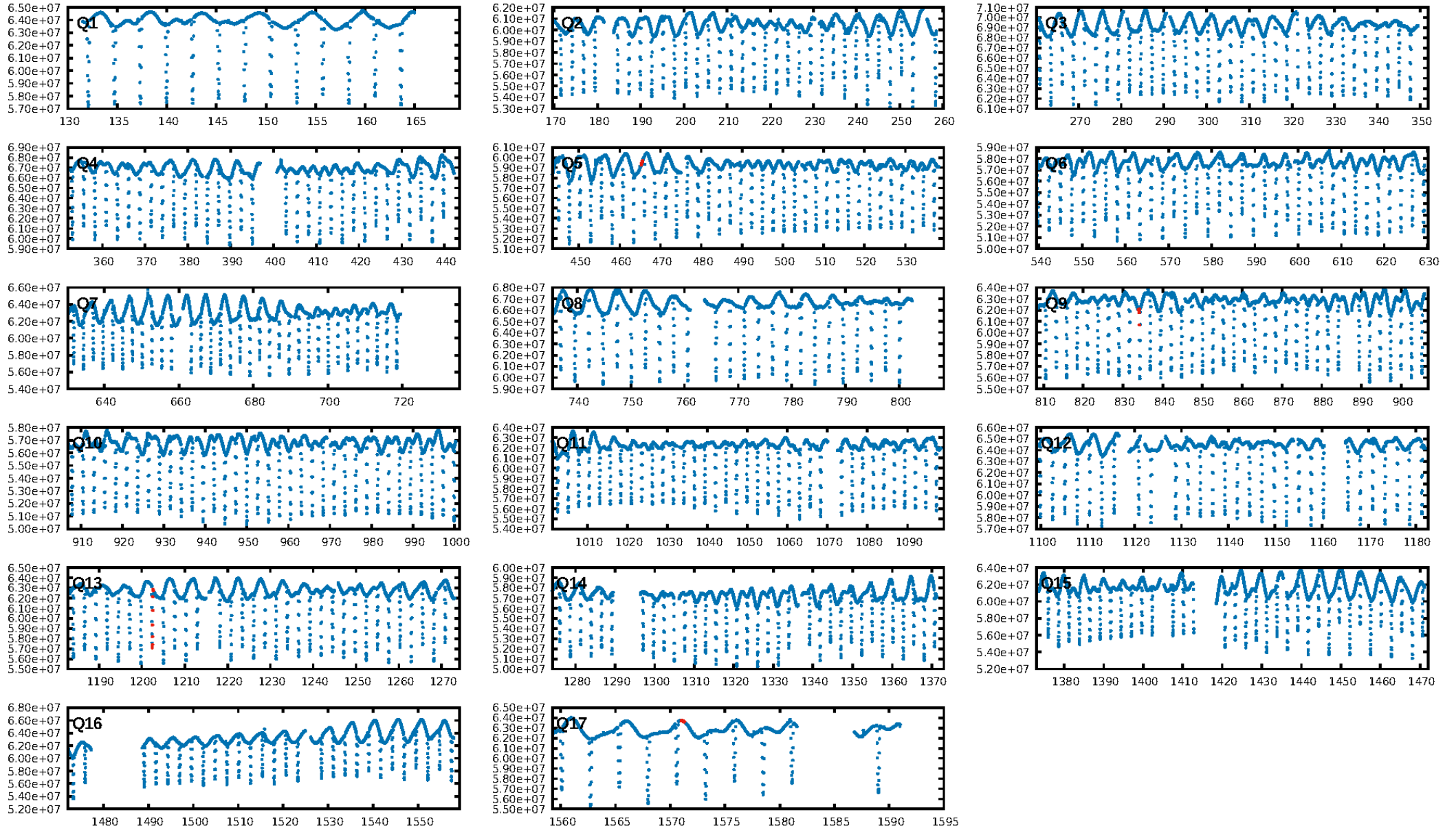
Period = 368.57382 [0.01176] d  
Epoch = 465.4195 [0.0244] BKJD  
Rp/R\* = 0.0176 [0.0253]  
a/R\* = 355.88 [2149.57]  
b = 0.89 [1.39]  
Seff = 0.91 [0.33]  
Teq = 249 [23] K  
Rp = 1.85 [2.72] Re  
a = 0.9426 [0.2197] AU  
Ag = 135982.66 [398257.91] [0.34σ]  
Teffp = 7384 [5372] K [1.33σ]

## DV Diagnostic Results:

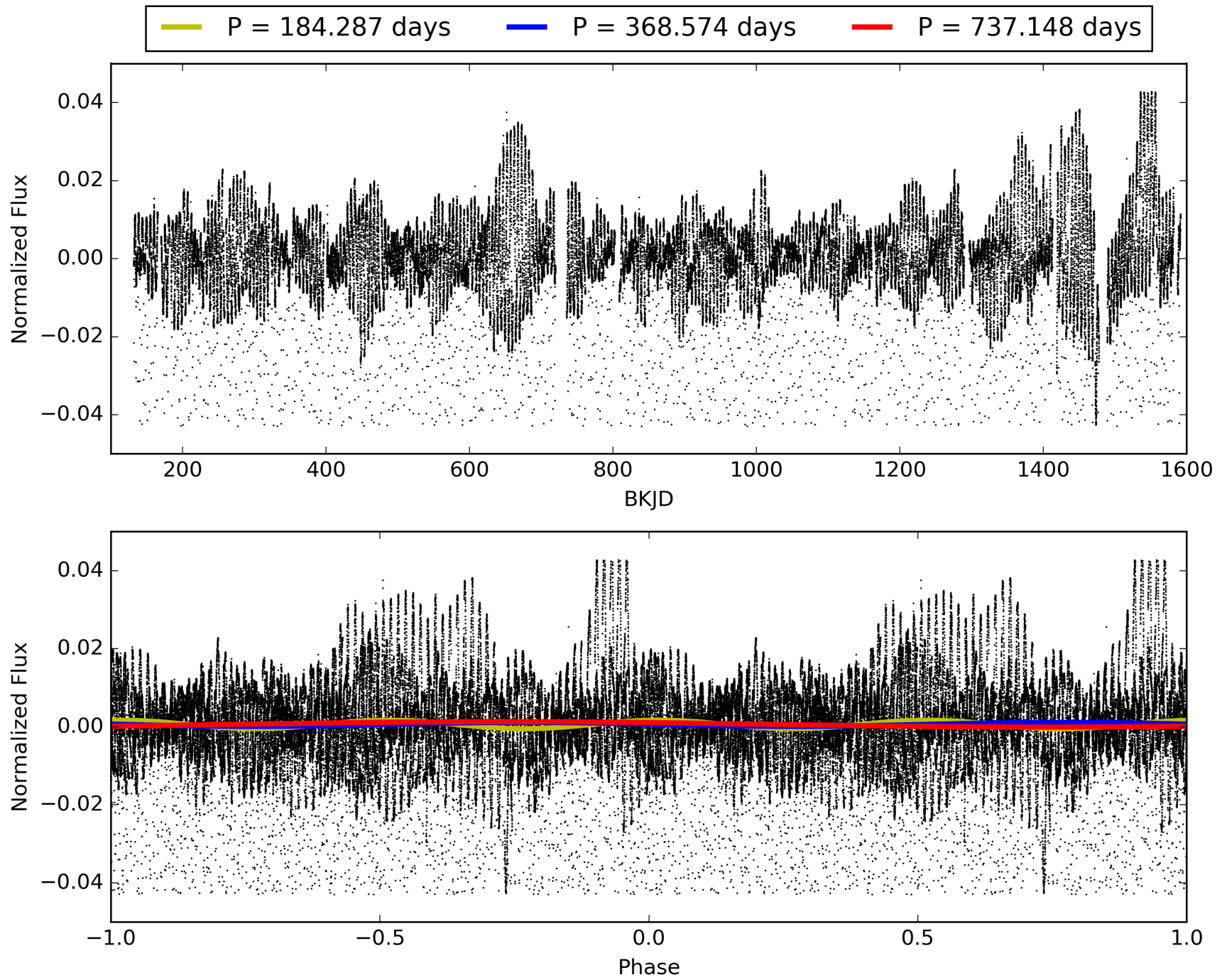
ShortPeriod-sig: 3.9% [0.05σ]  
LongPeriod-sig: 100.0% [797.20σ]  
ModelChiSquare2-sig: 80.9%  
ModelChiSquareGof-sig: 99.6%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1/1]  
GhostDiagnostic-chr: 3.921  
Centroid-sig: 15.3%  
Centroid-so: 4.586 arcsec [1.43σ]  
OotOffset-rm: 0.566 arcsec [2.09σ]  
KicOffset-rm: 0.321 arcsec [1.21σ]  
OotOffset-st: 0/0/0/4 [4]  
KicOffset-st: 0/0/0/4 [4]  
DiffImageQuality-fgm: 0.25 [1/4]  
DiffImageOverlap-fno: 0.50 [2/4]



# TCE 002860788-03, PDC Light Curves

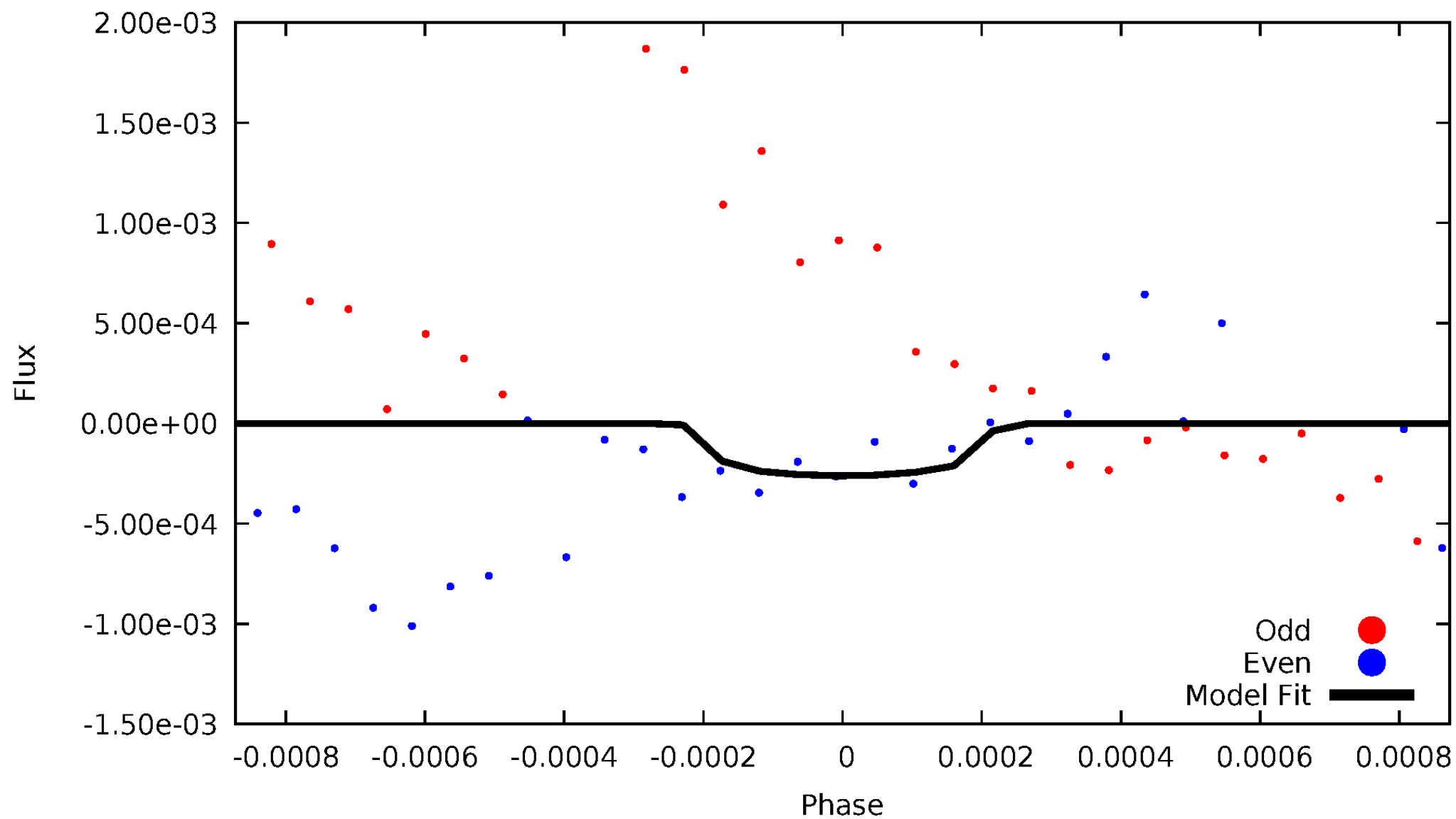


TCE 002860788-03



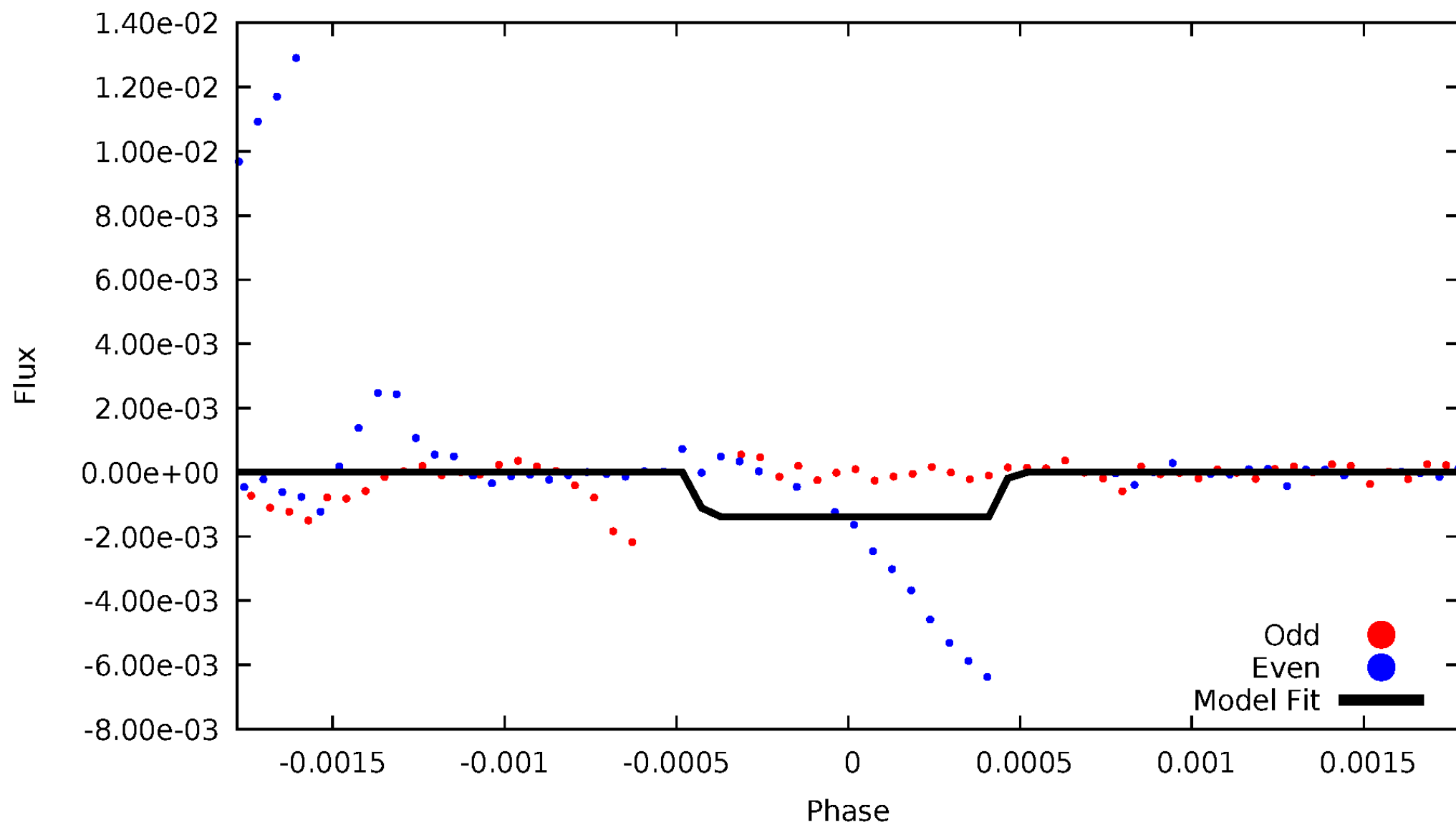
DV Odd/Even

TCE 002860788-03

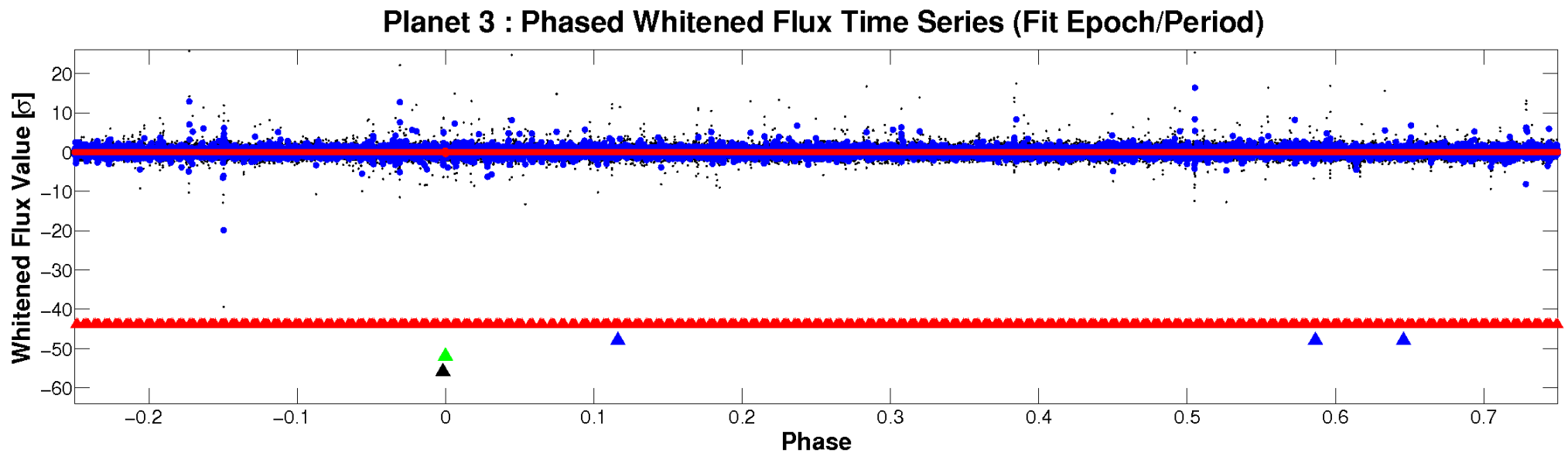
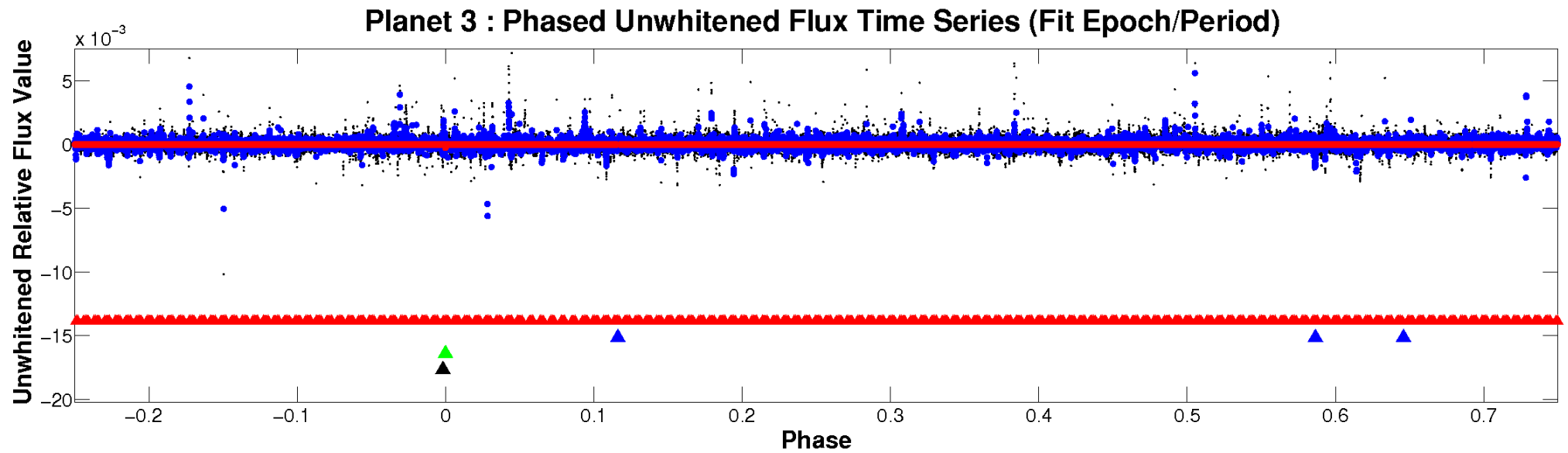


# ALT Odd/Even

TCE 002860788-03

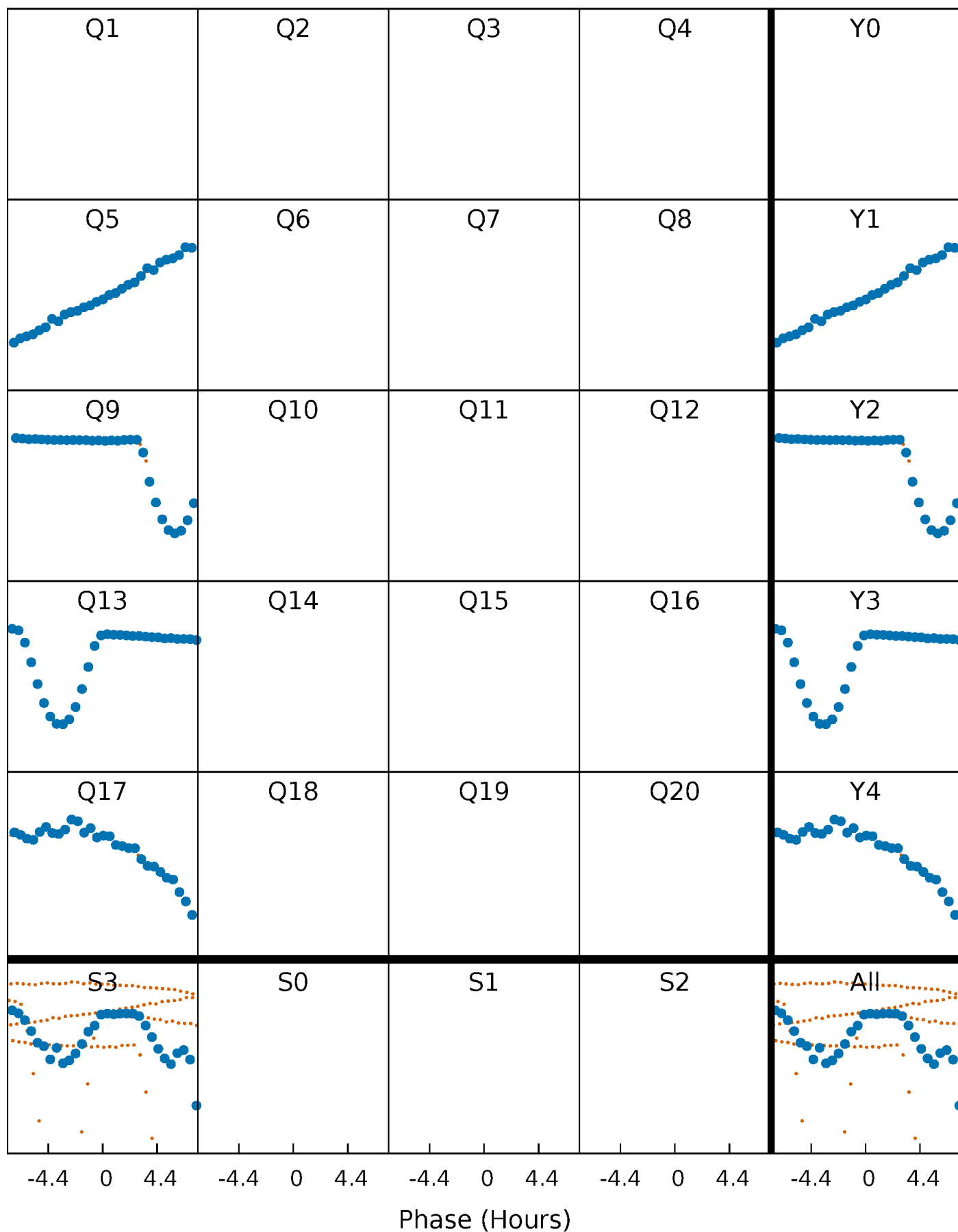


# Non-Whitened Vs. Whitened Light Curve



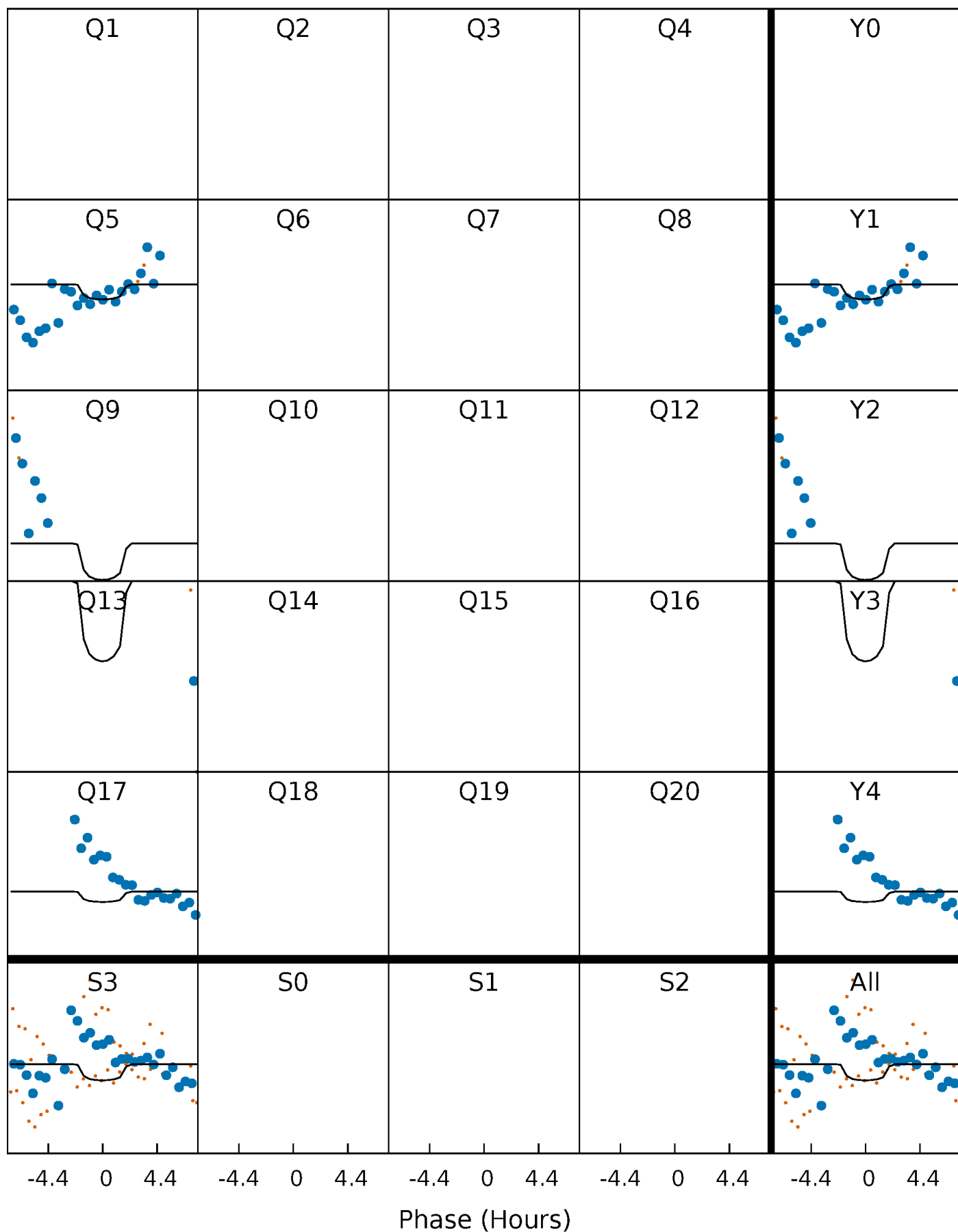
# PDC Quarter-Phased Transit Curves

TCE 002860788-03     $P=368.573824$  Days     $T_0=465.419476$  (BKJD)



# DV Quarter-Phased Transit Curves

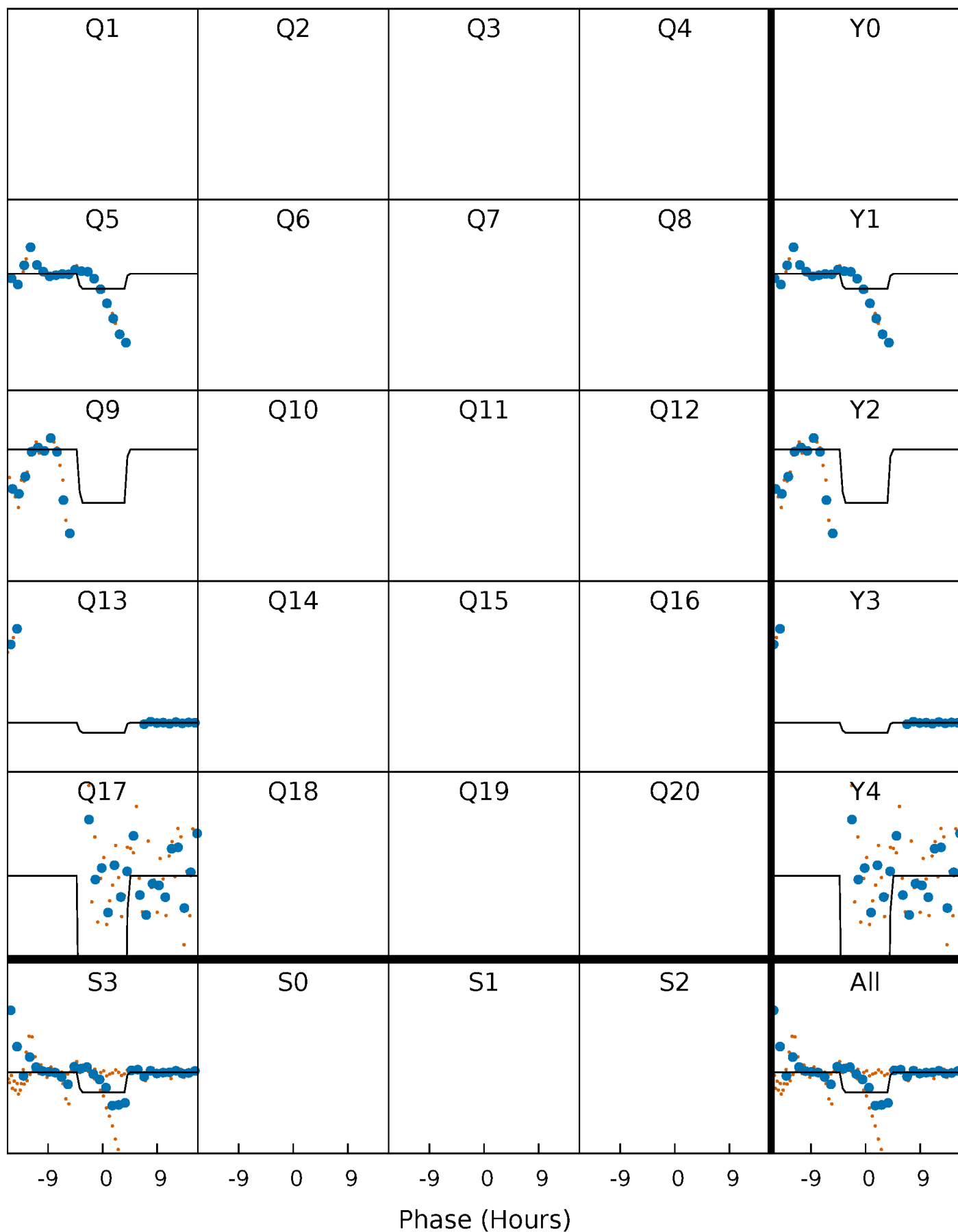
TCE 002860788-03     $P=368.573824$  Days     $T_0=465.419476$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

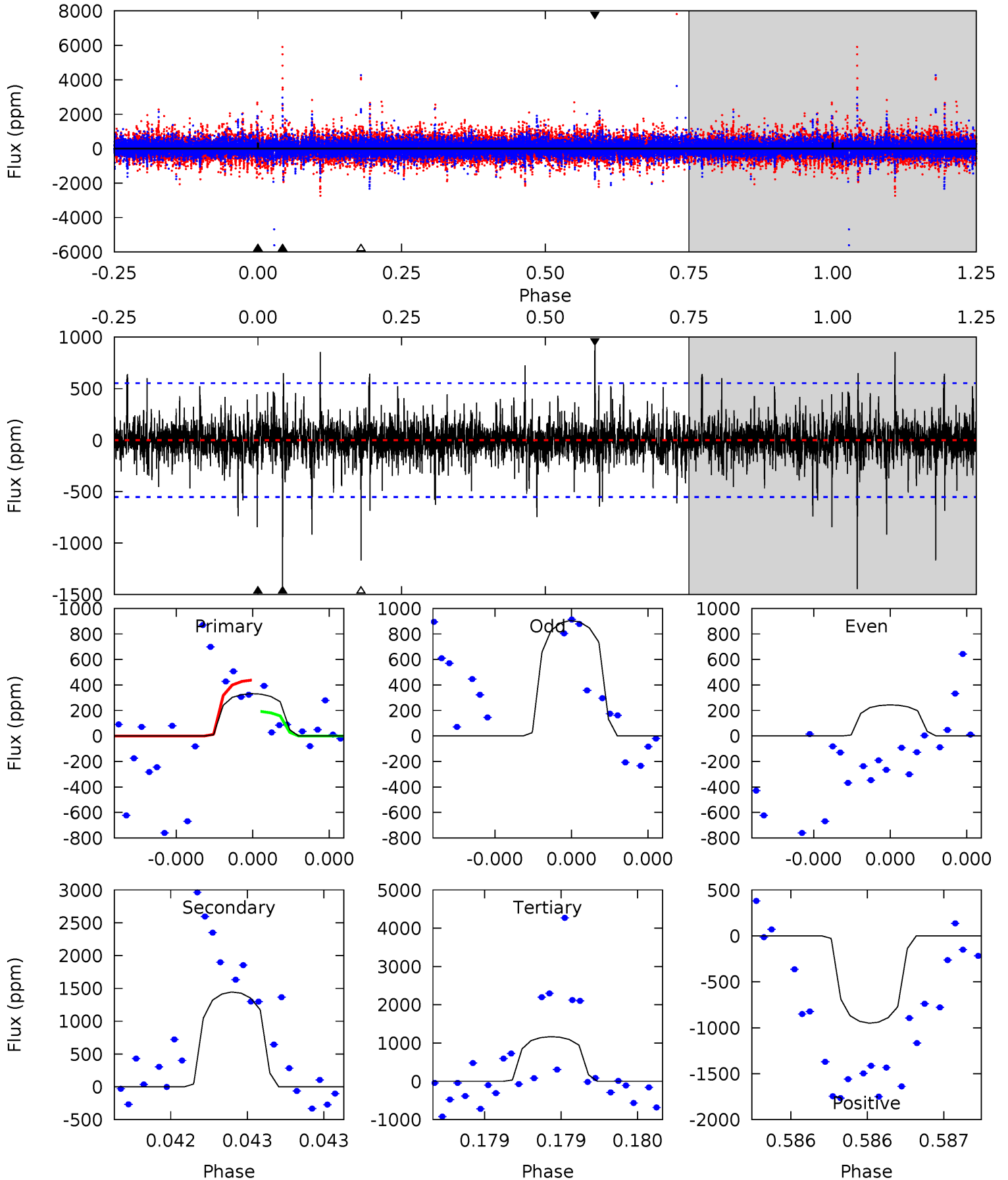
TCE 002860788-03     $P=368.573744$  Days     $T_0=465.430439$  (BKJD)



# DV Model-Shift Uniqueness Test

002860788-03, P = 368.573824 Days, E = 96.845652 Days

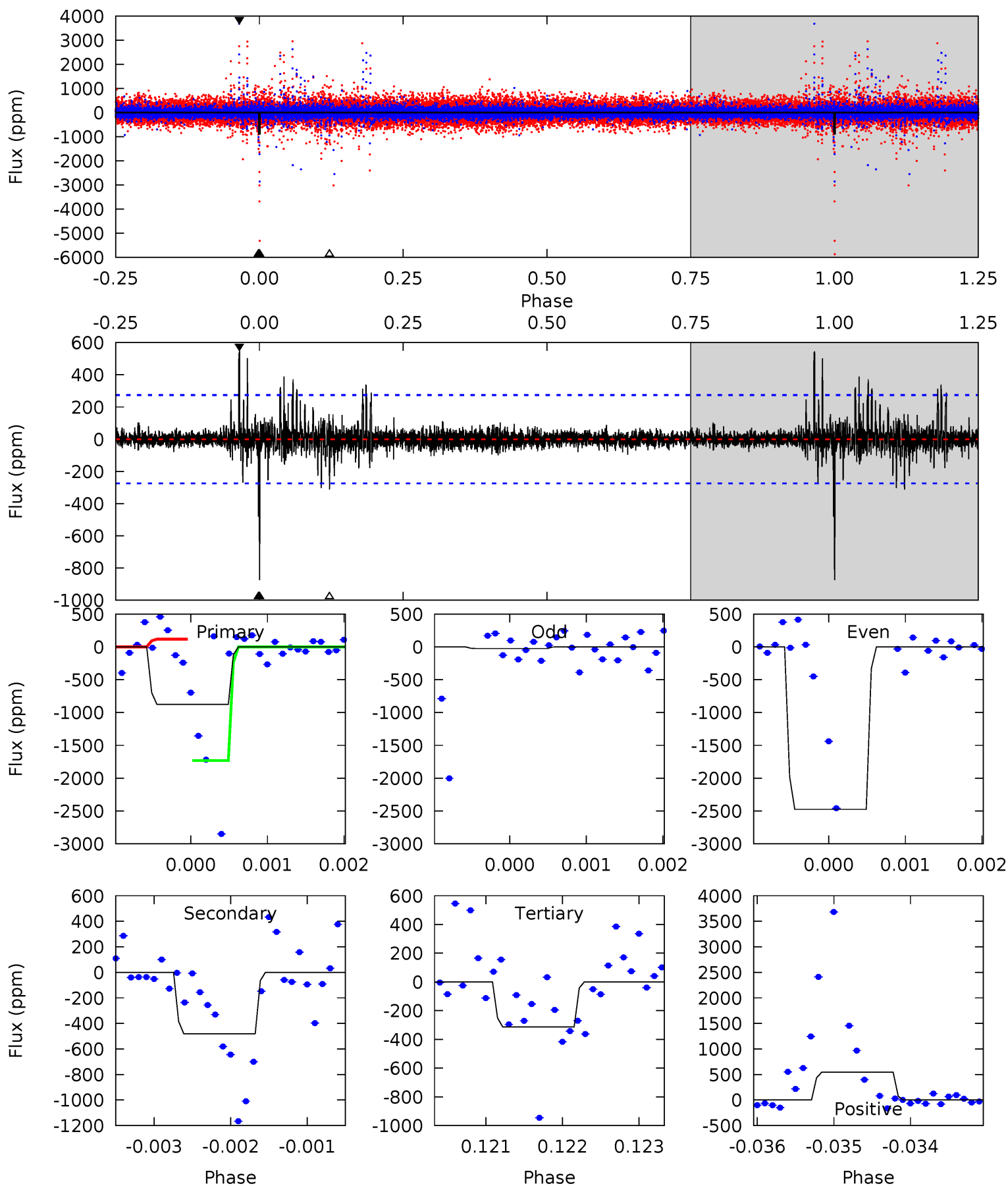
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.36	14.6	11.8	9.62	5.59	3.51	1.30	-8.45	-6.27	2.81	5.00	3.10	1.00	0.40	1.24



# Alt Model-Shift Uniqueness Test

002860788-03, P = 368.573744 Days, E = 96.856695 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
17.5	9.60	6.26	10.9	5.48	3.34	0.85	11.2	6.64	3.34	-1.26	22.8	1.00	0.38	15.6



### Stellar Parameters For KIC 002860788

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5566^{+149}_{-149}$	$4.382^{+0.175}_{-0.193}$	$-0.200^{+0.300}_{-0.300}$	$0.967^{+0.261}_{-0.174}$	$0.822^{+0.129}_{-0.065}$	$1.281^{+0.970}_{-0.641}$
	+3%/-3%	+4%/-4%	+150%/-150%	+27%/-18%	+16%/-8%	+76%/-50%
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 002860788-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1444 \pm 99$	$2.75^{+2.46}_{-1.80}$	$348^{+27}_{-20}$	$6703^{+7798}_{-1673}$	$96761^{+746481}_{-70029}$
Alt.	$-480 \pm 50$	$4.05^{+2.71}_{-2.11}$	$347^{+26}_{-23}$	$4334^{+1757}_{-657}$	$14449^{+50207}_{-9238}$

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

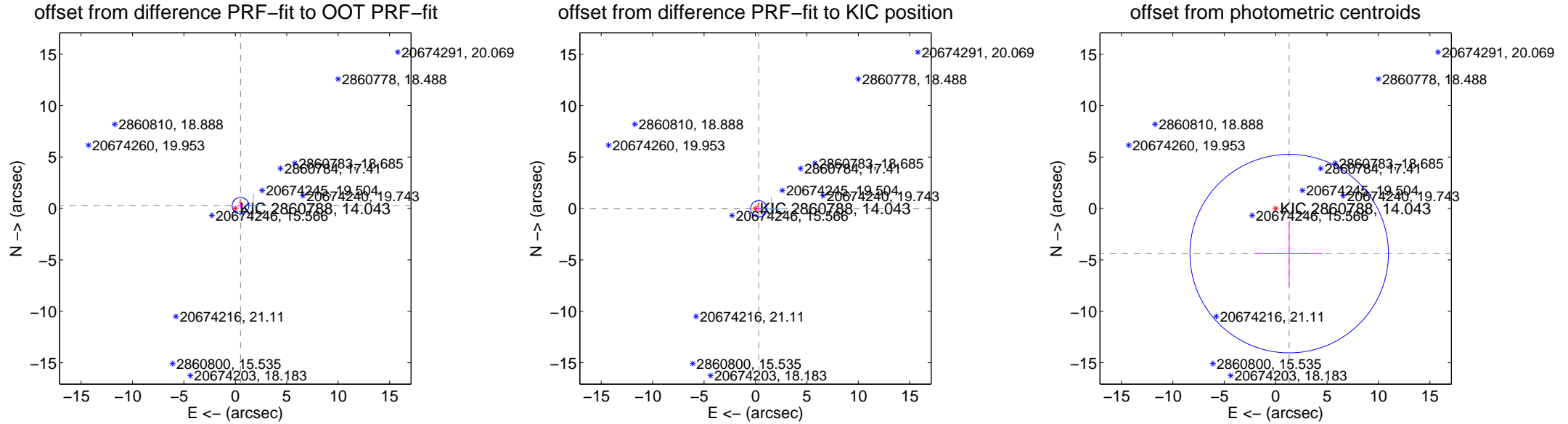
## DV Centroid Data

Supplemental centroid analysis for 002860788-03. Kepler magnitude: 14.04. Transit SNR 1.78

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.566 \pm 0.271$	2.09	$-0.502 \pm 0.264$	$0.262 \pm 0.293$
PRF-fit source offset from KIC position	$0.321 \pm 0.265$	1.21	$-0.319 \pm 0.264$	$-0.039 \pm 0.293$
photometric centroid source offset	$4.59 \pm 3.22$	1.43	$-1.32 \pm 3.30$	$-4.39 \pm 3.21$

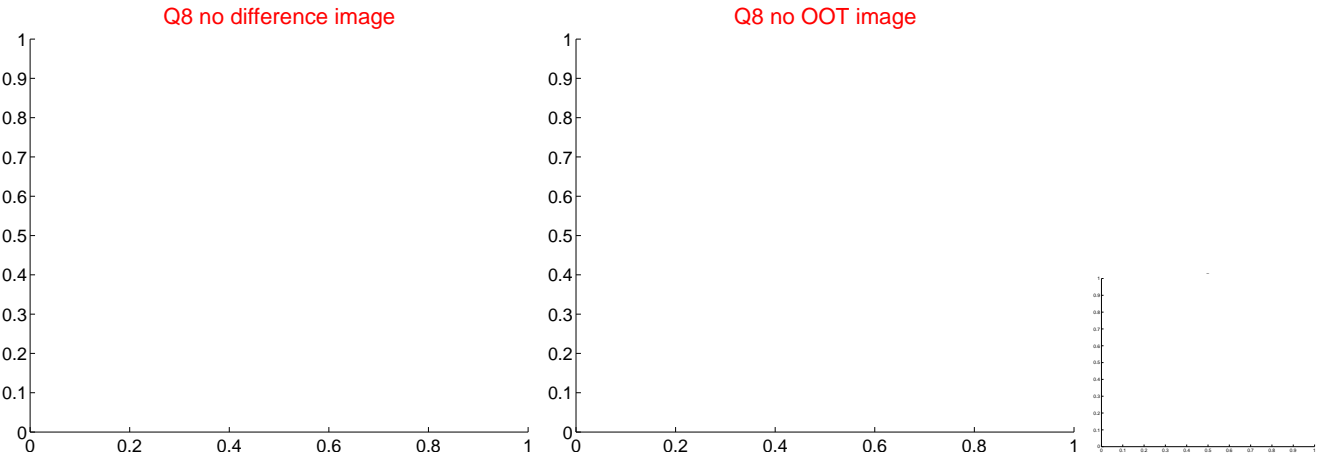
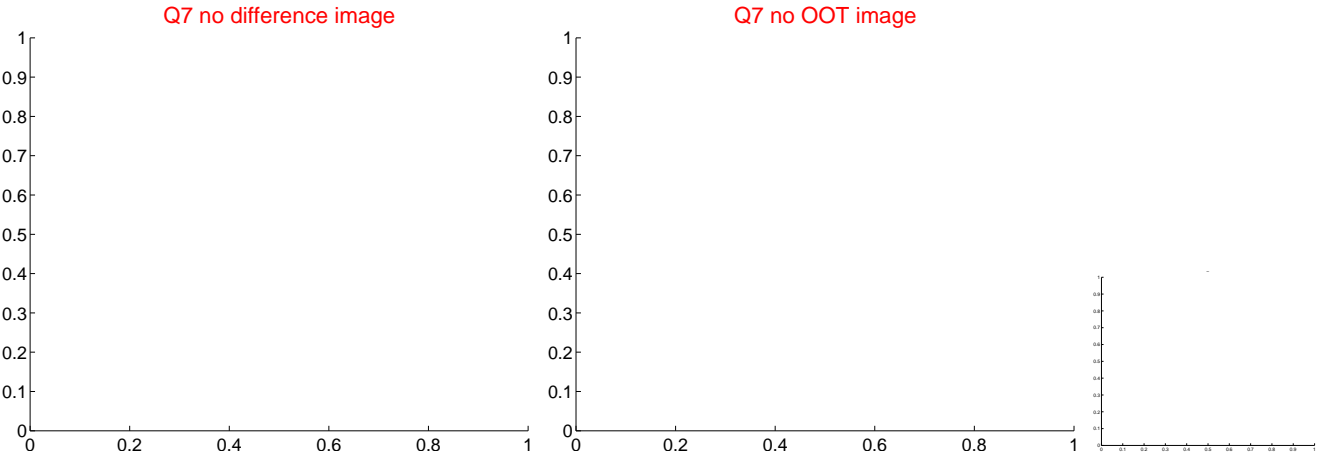
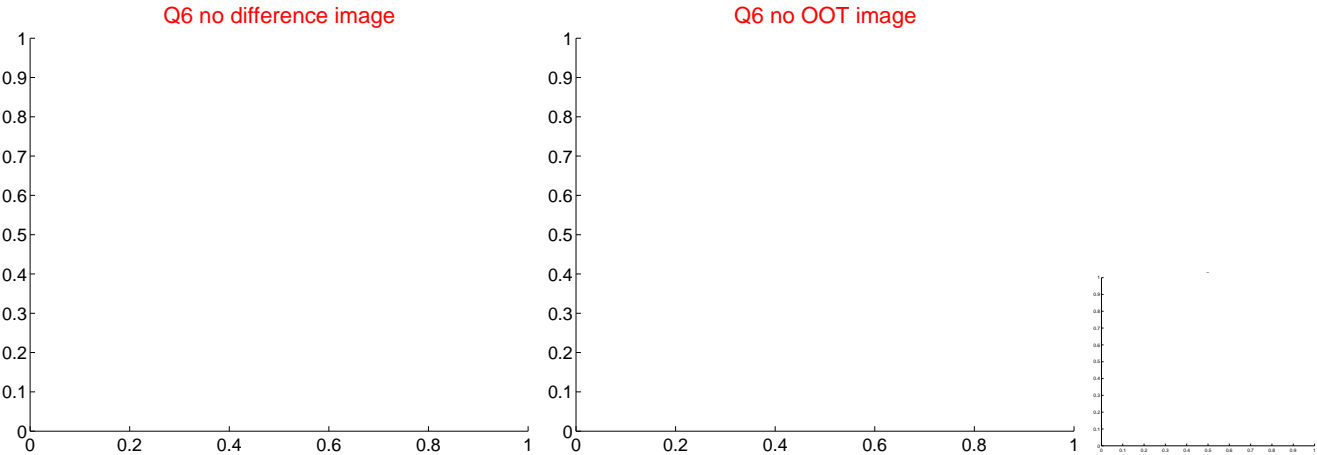
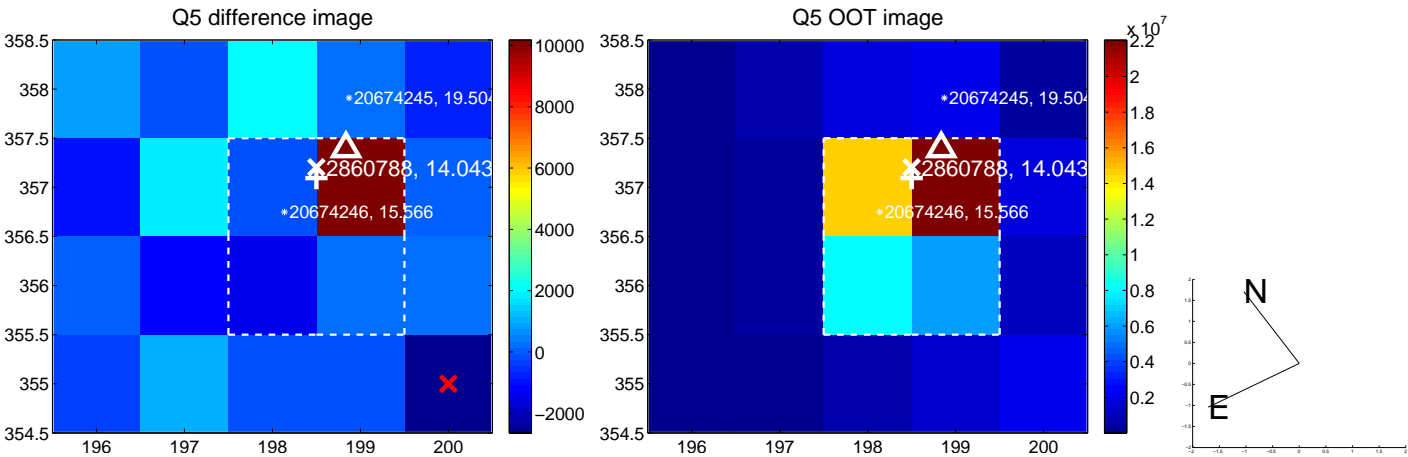


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

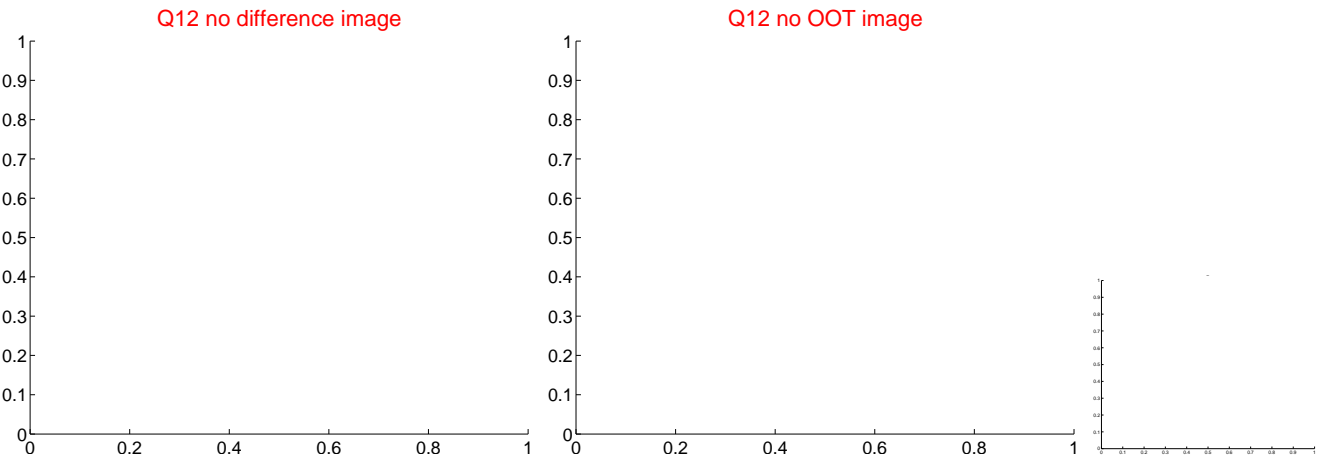
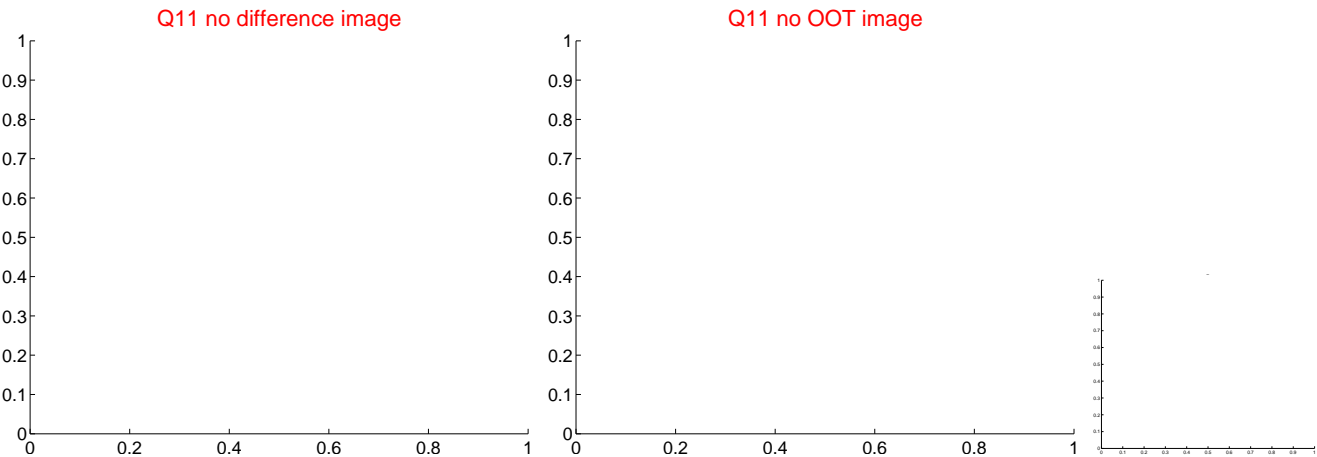
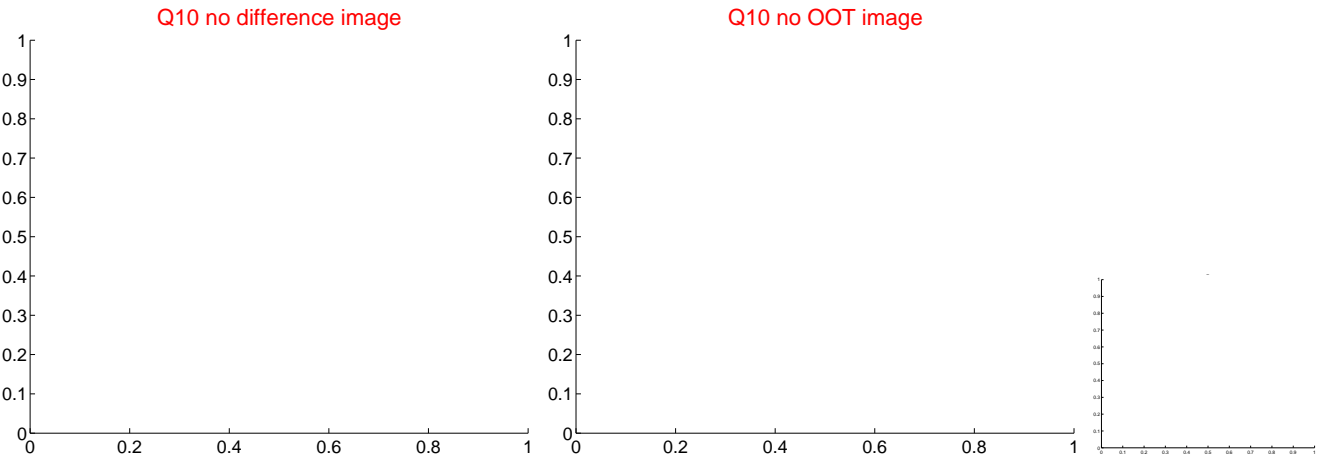
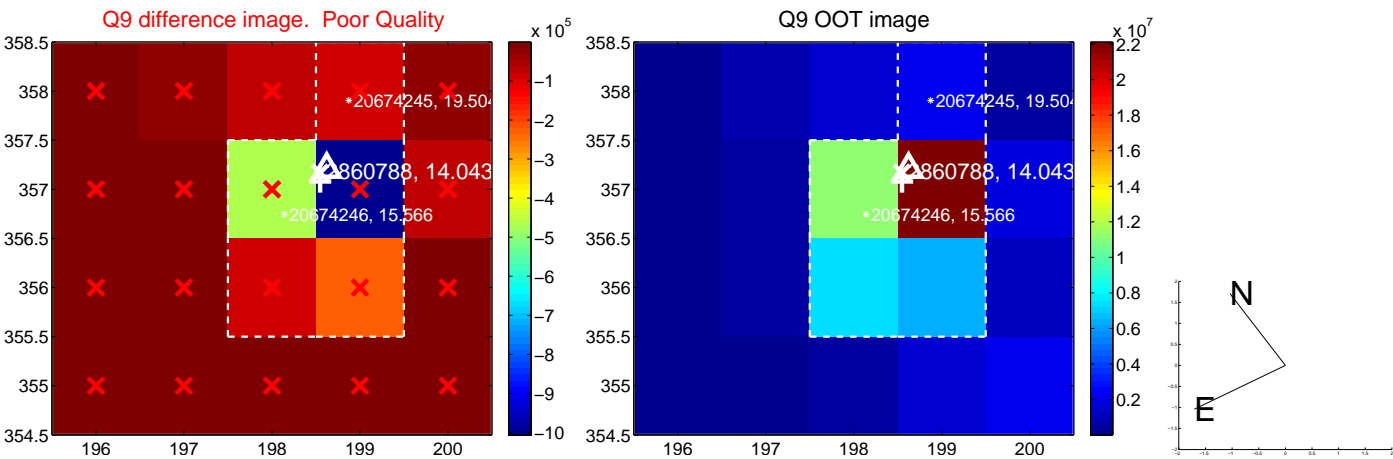
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

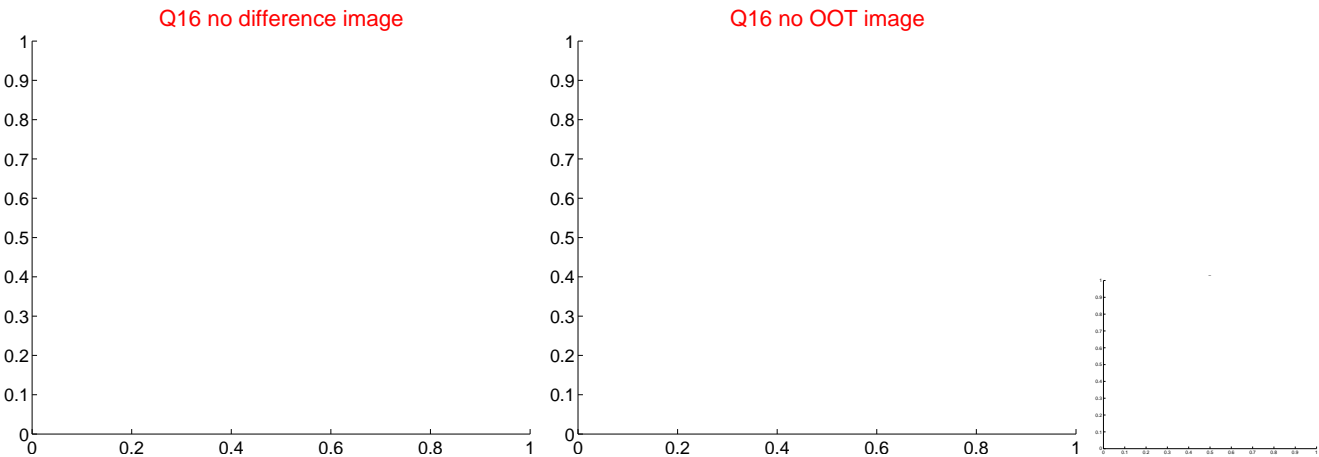
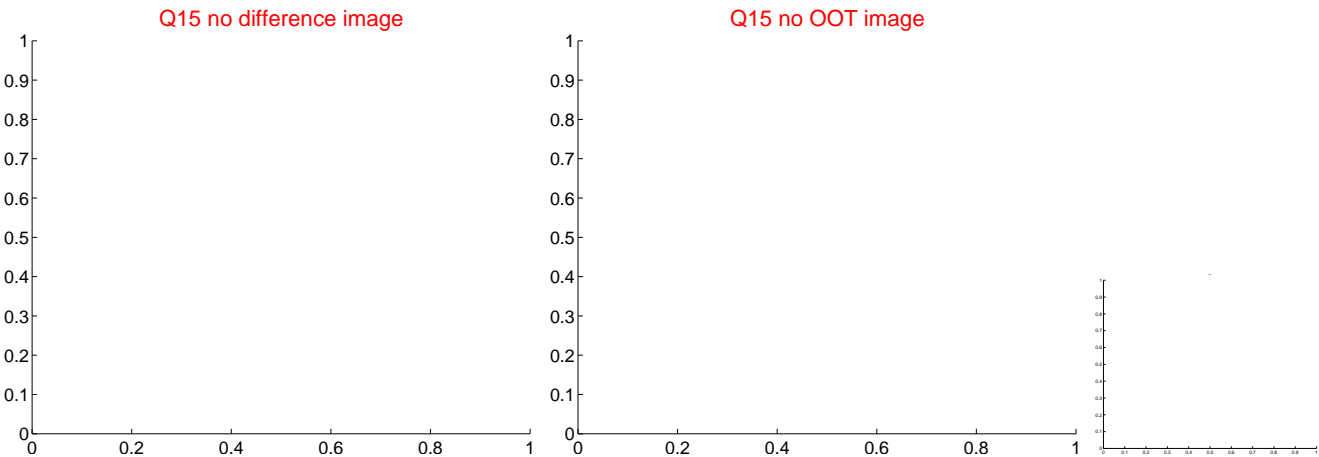
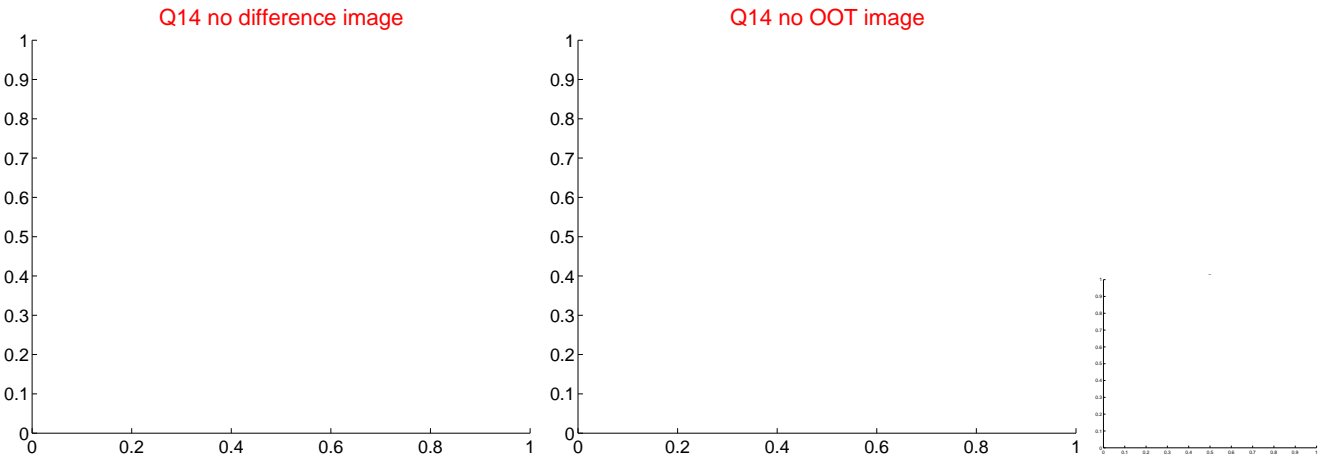
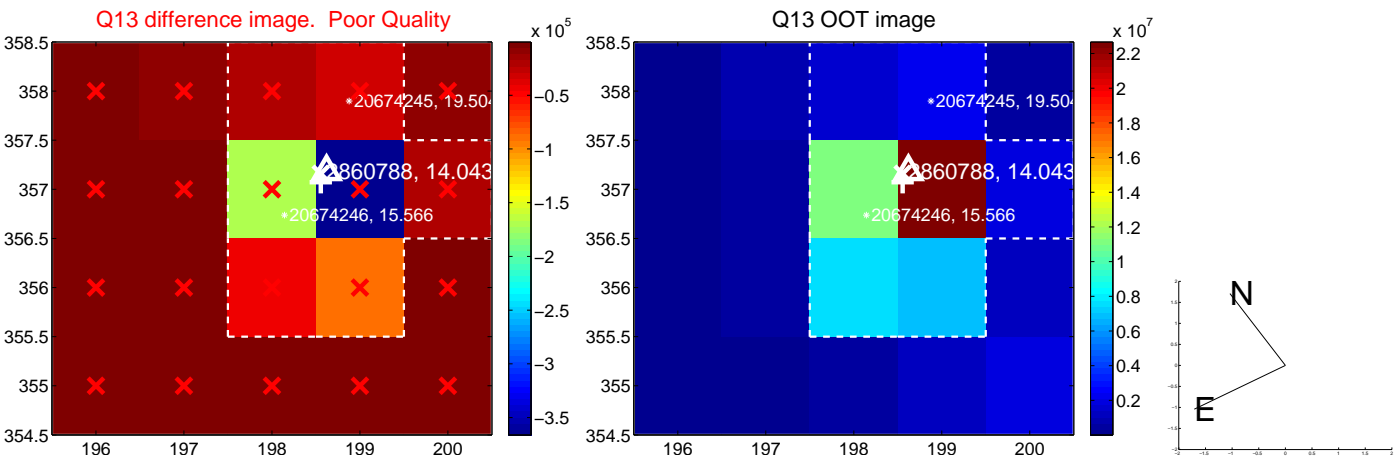


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





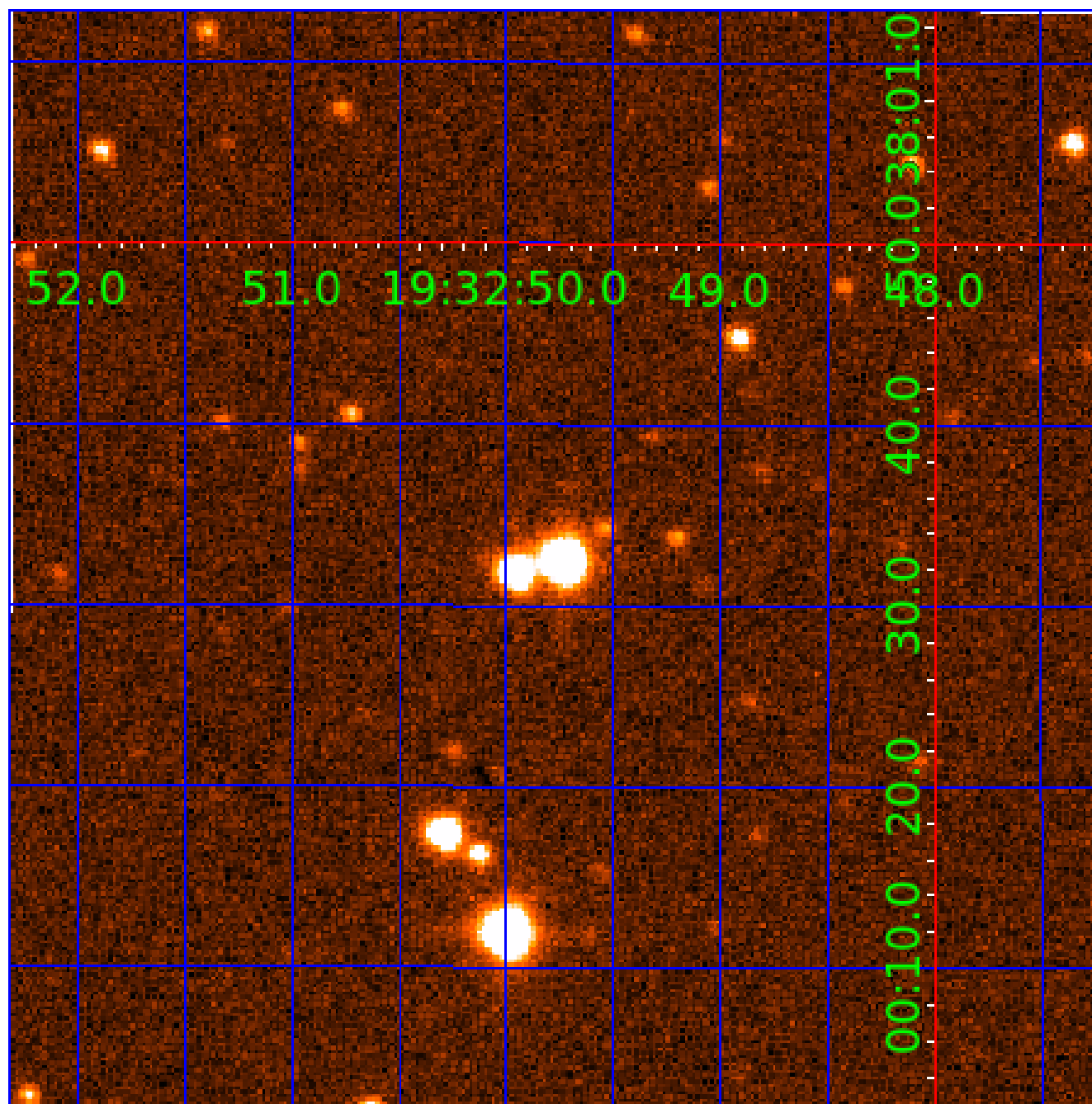
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 002860788

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
002860788-01	OBS	6297.01	2.629870	132.067826	100695.2	6.579	6797.8	4686.5	0.97	5566	33.78	658.83
002860788-03	OBS	No	368.573824	465.419476	261.3	3.858	11.9	1.8	0.97	5566	1.85	0.91
002860788-04	OBS	No	368.557541	464.811289	1130.0	7.024	12.9	6.8	0.97	5566	4.23	0.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002860788-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT
002860788-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
002860788-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—SAME_NTL_PERIOD

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

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

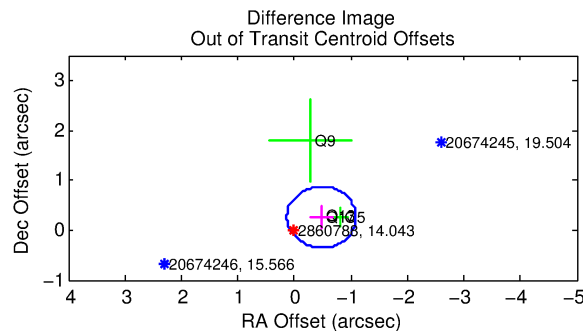
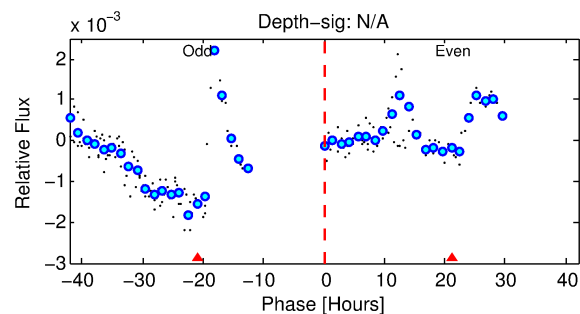
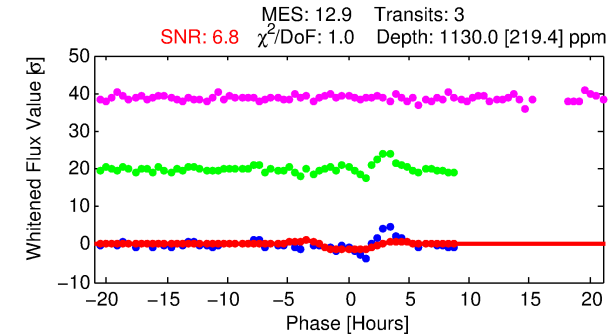
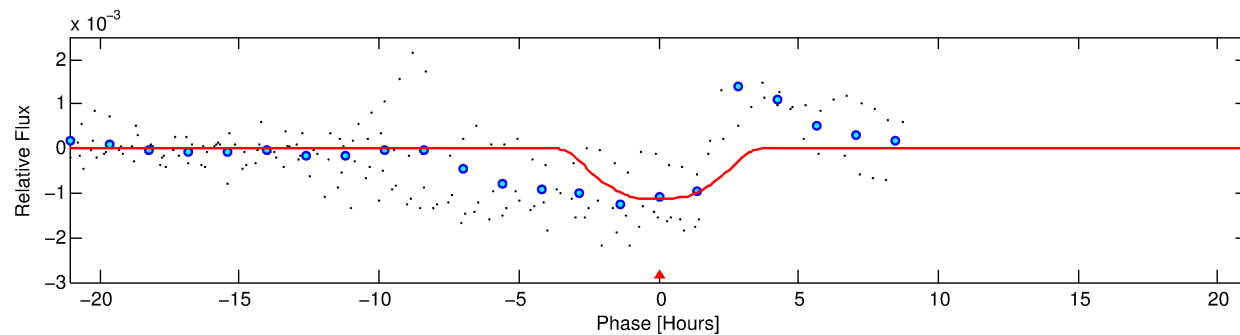
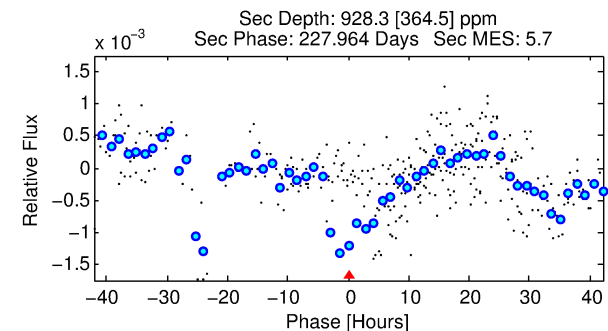
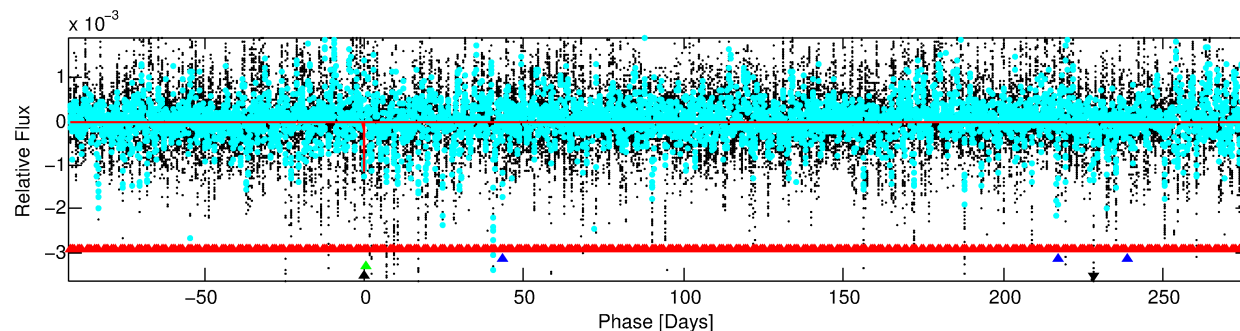
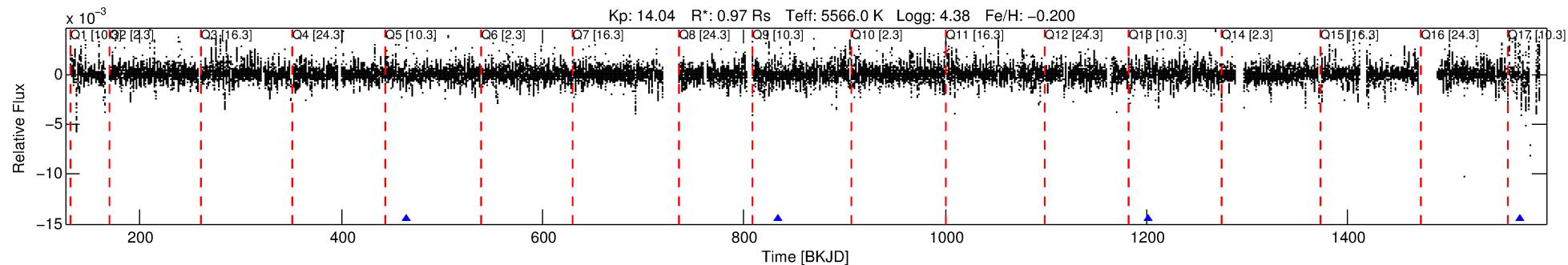
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 002860788-04

No Significant Match Found

# DV One-Page Summary

KIC: 2860788 Candidate: 4 of 4 Period: 368.558 d  
KOI: K06297 Corr: No Ephemeris Match



## DV Fit Results:

Period = 368.55754 [0.01142] d  
Epoch = 464.8113 [0.0132] BKJD  
Rp/R\* = 0.0401 [0.0047]  
a/R\* = 164.11 [26.24]  
b = 0.96 [0.02]  
Seff = 0.91 [0.33]  
Teq = 249 [23] K  
Rp = 4.23 [1.25] Re  
a = 0.9426 [0.2197] AU  
Ag = 25354.86 [14558.50] [1.74 $\sigma$ ]  
Teffp = 4852 [570] K [8.07 $\sigma$ ]

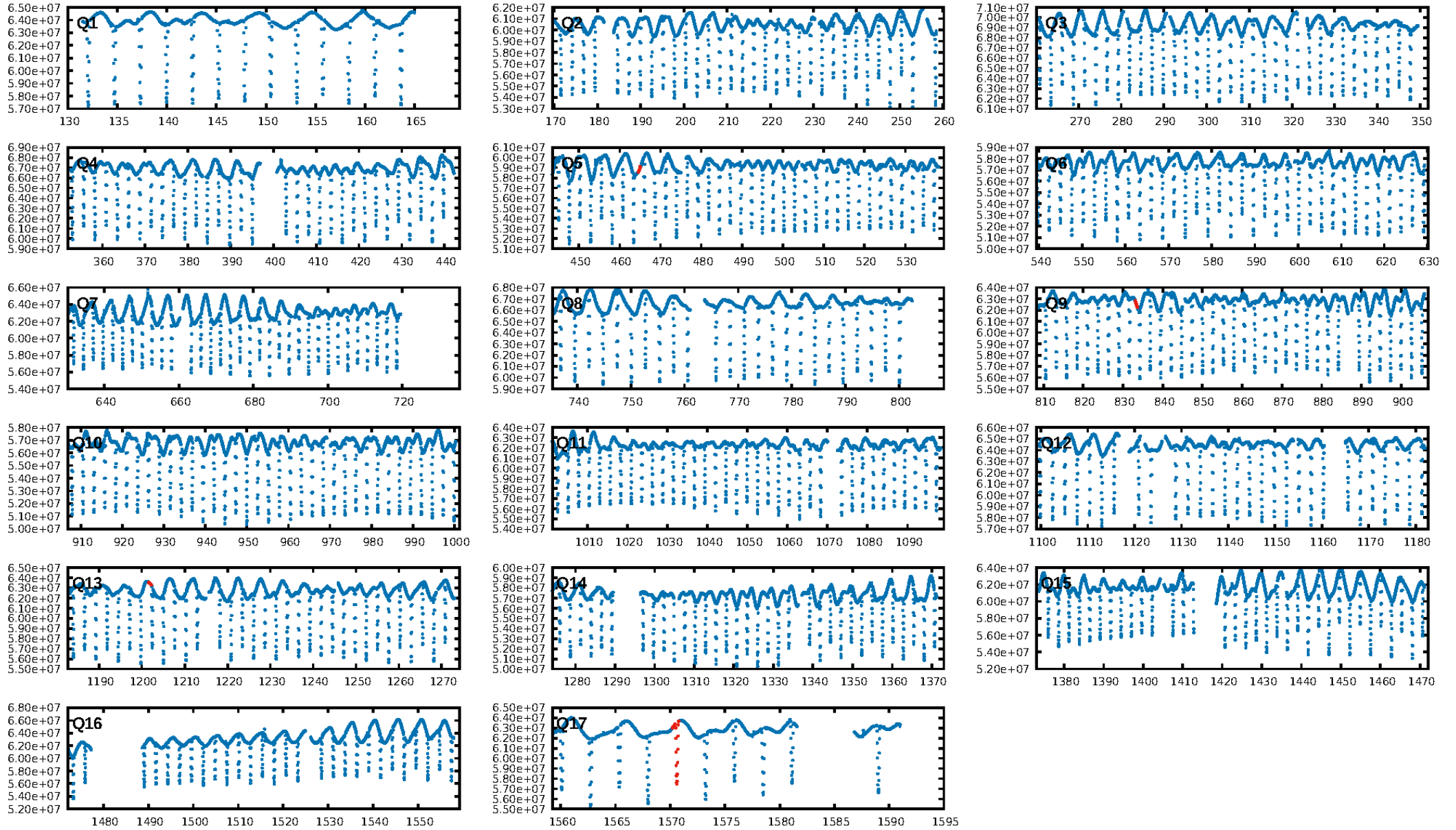
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [912.54 $\sigma$ ]  
LongPeriod-sig: 3.9% [0.05 $\sigma$ ]  
ModelChiSquare2-sig: 3.1%  
ModelChiSquareGof-sig: 89.9%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.147  
Centroid-sig: 29.0%  
Centroid-so: 0.647 arcsec [0.76 $\sigma$ ]  
OotOffset-rm: 0.544 arcsec [2.67 $\sigma$ ]  
OotOffset-st: 0/0/0/4 [4]  
KicOffset-rm: 0.297 arcsec [1.49 $\sigma$ ]  
KicOffset-st: 0/0/0/4 [4]  
DiffImageQuality-fgm: 0.75 [3/4]  
DiffImageOverlap-fno: 0.00 [0/4]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:01:24 Z

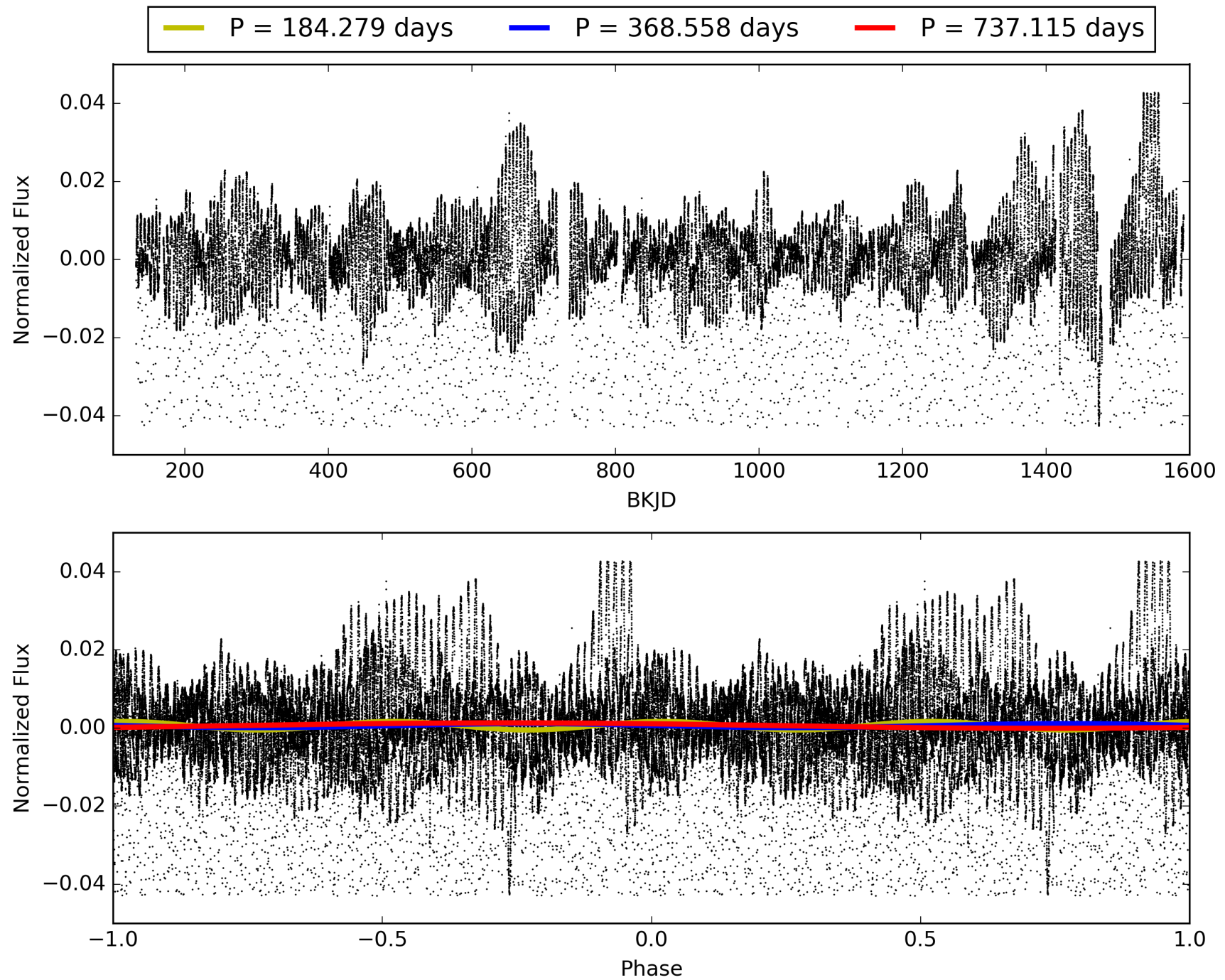
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 002860788-04, PDC Light Curves



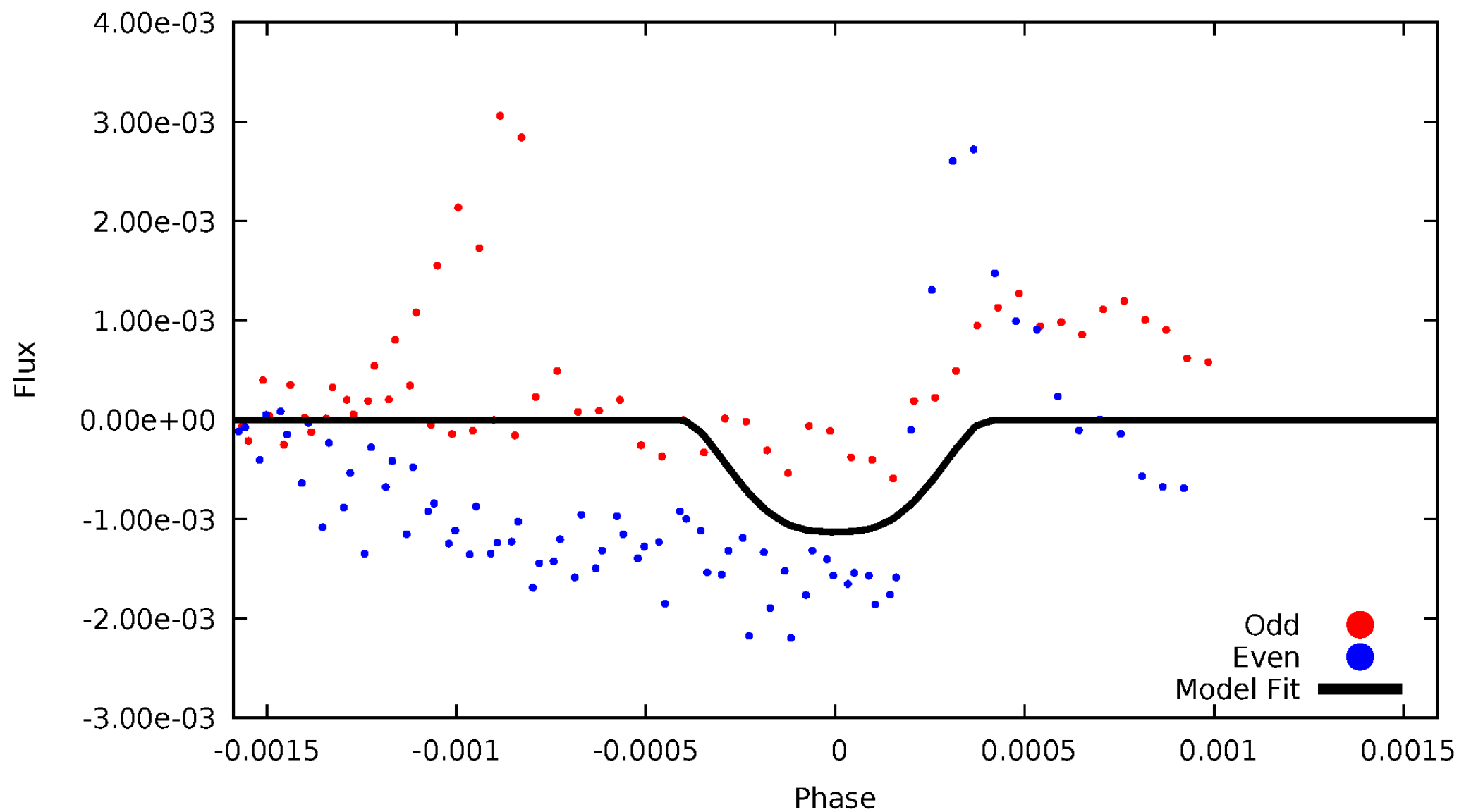


TCE 002860788-04



# DV Odd/Even

TCE 002860788-04





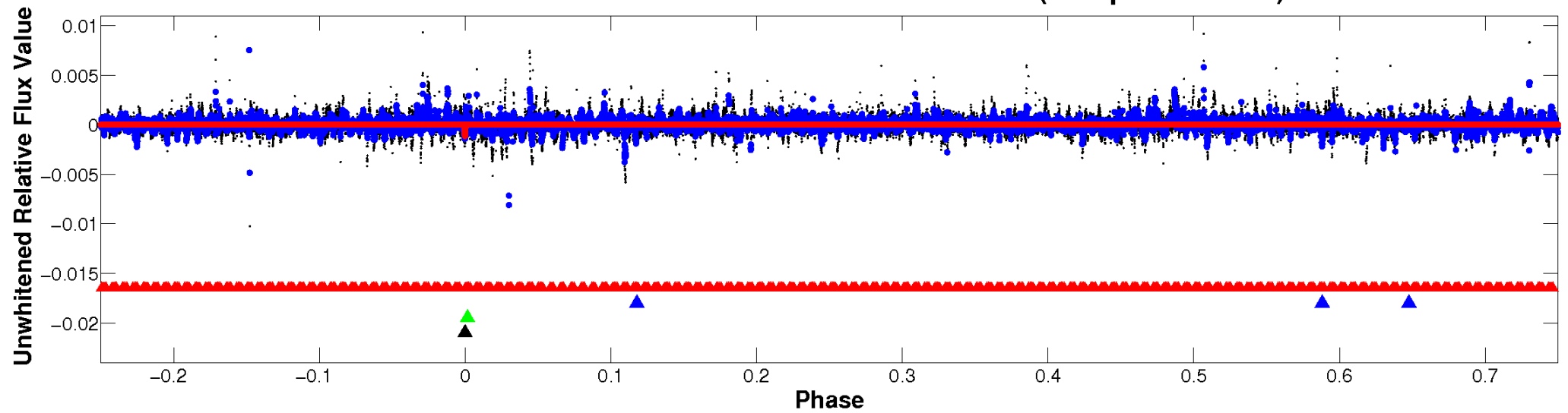


ALT Odd/Even

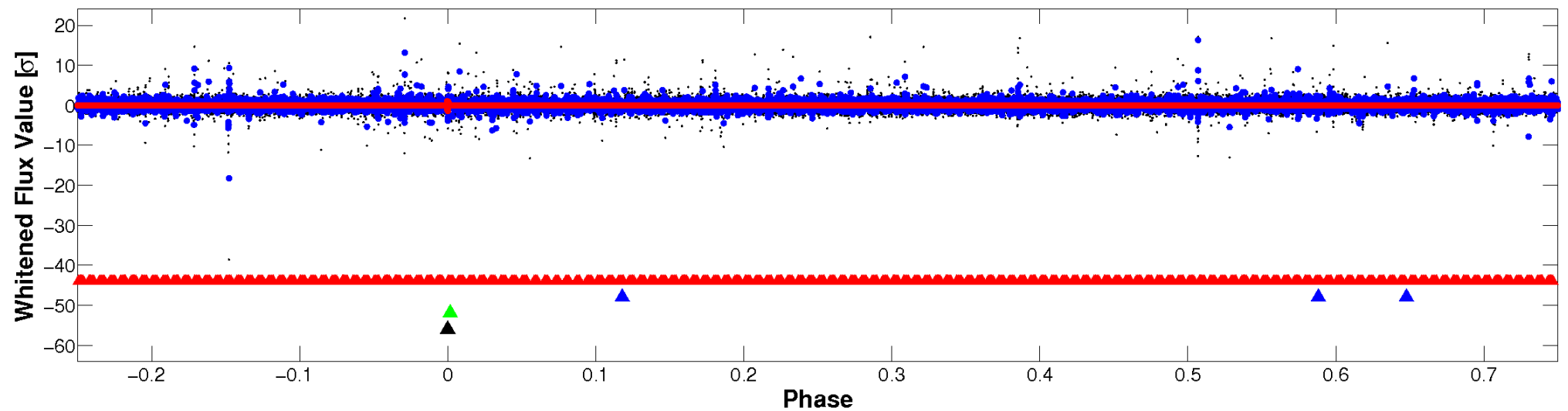
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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

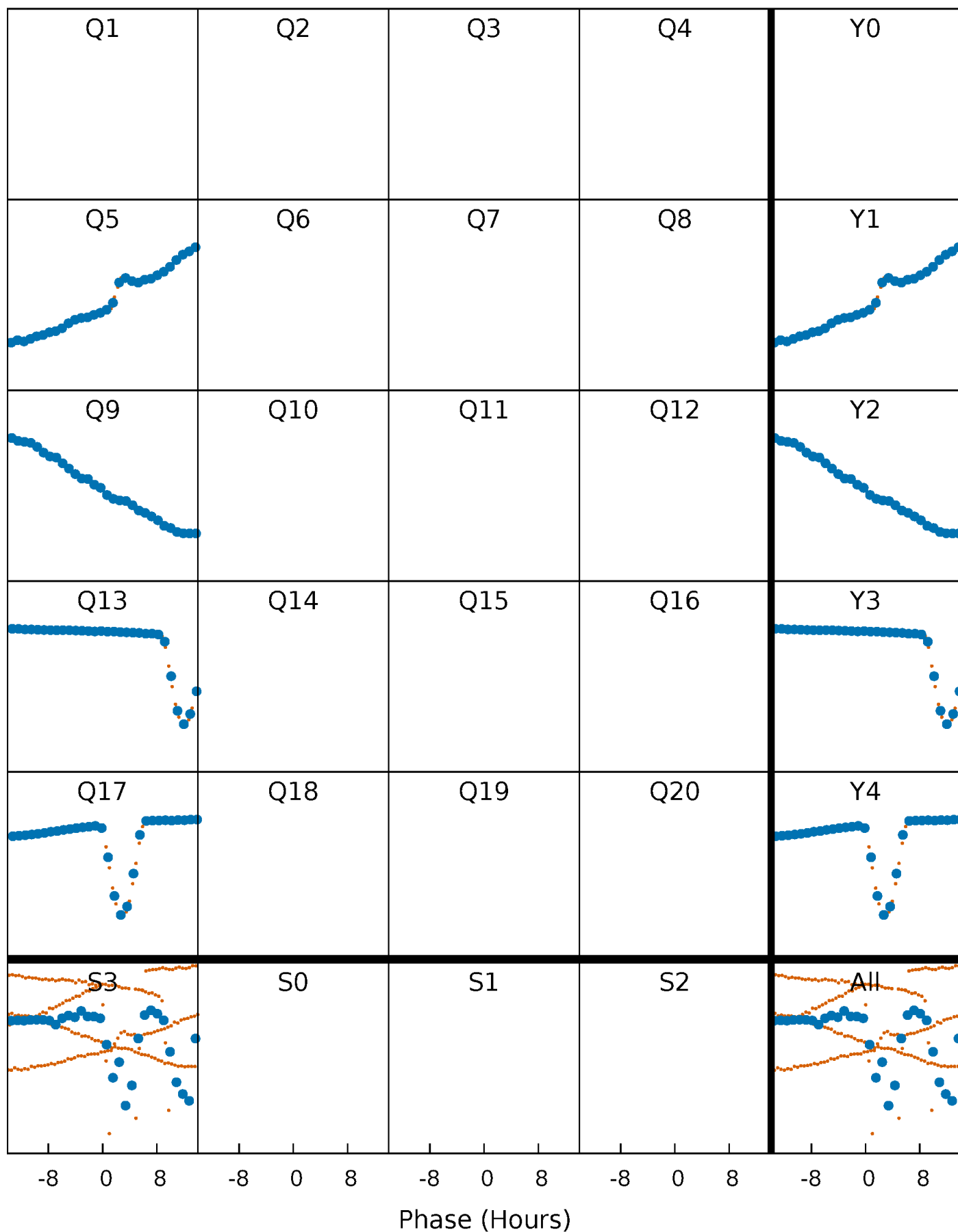


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



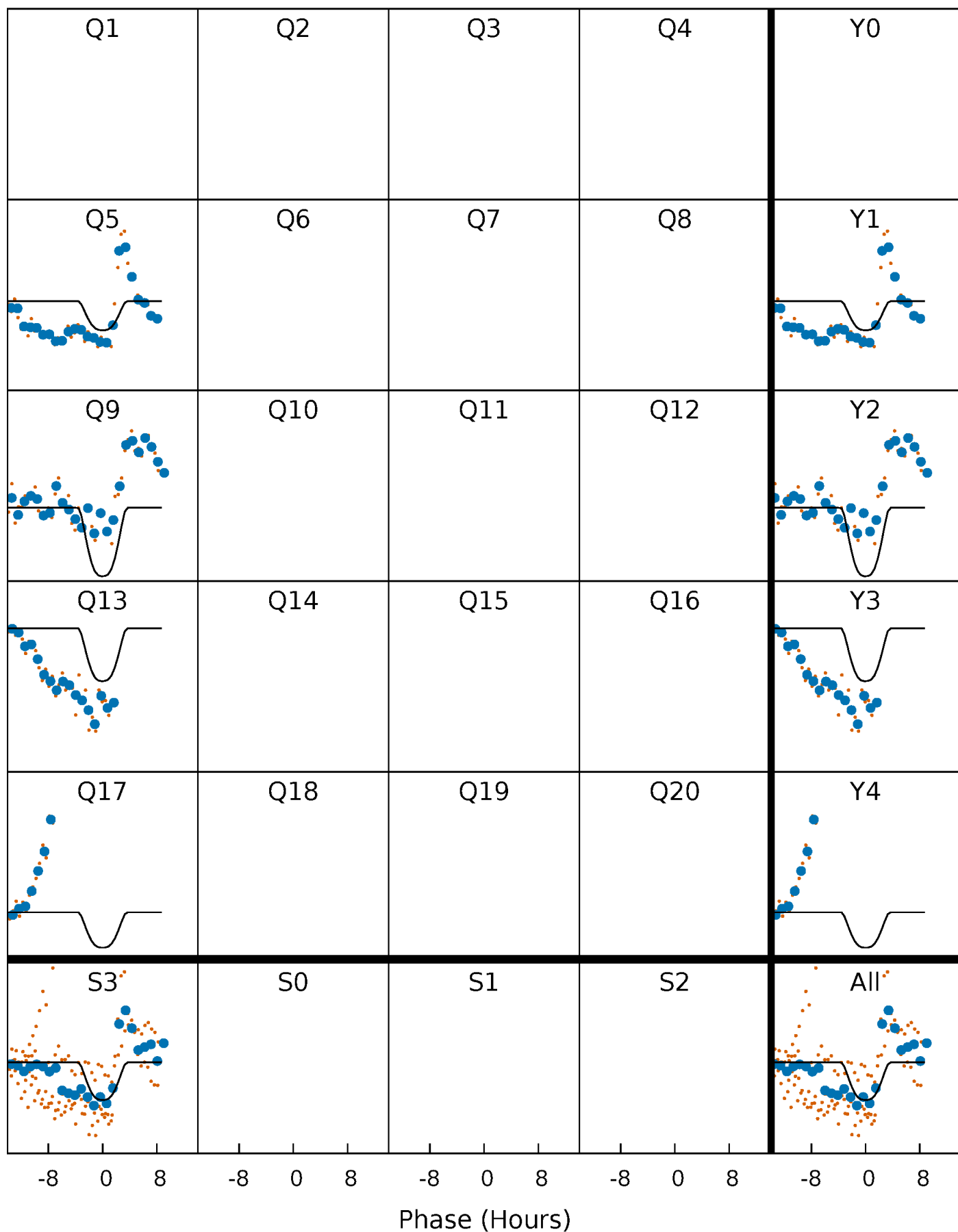
# PDC Quarter-Phased Transit Curves

TCE 002860788-04     $P=368.557541$  Days     $T_0=464.811289$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 002860788-04     $P=368.557541$  Days     $T_0=464.811289$  (BKJD)

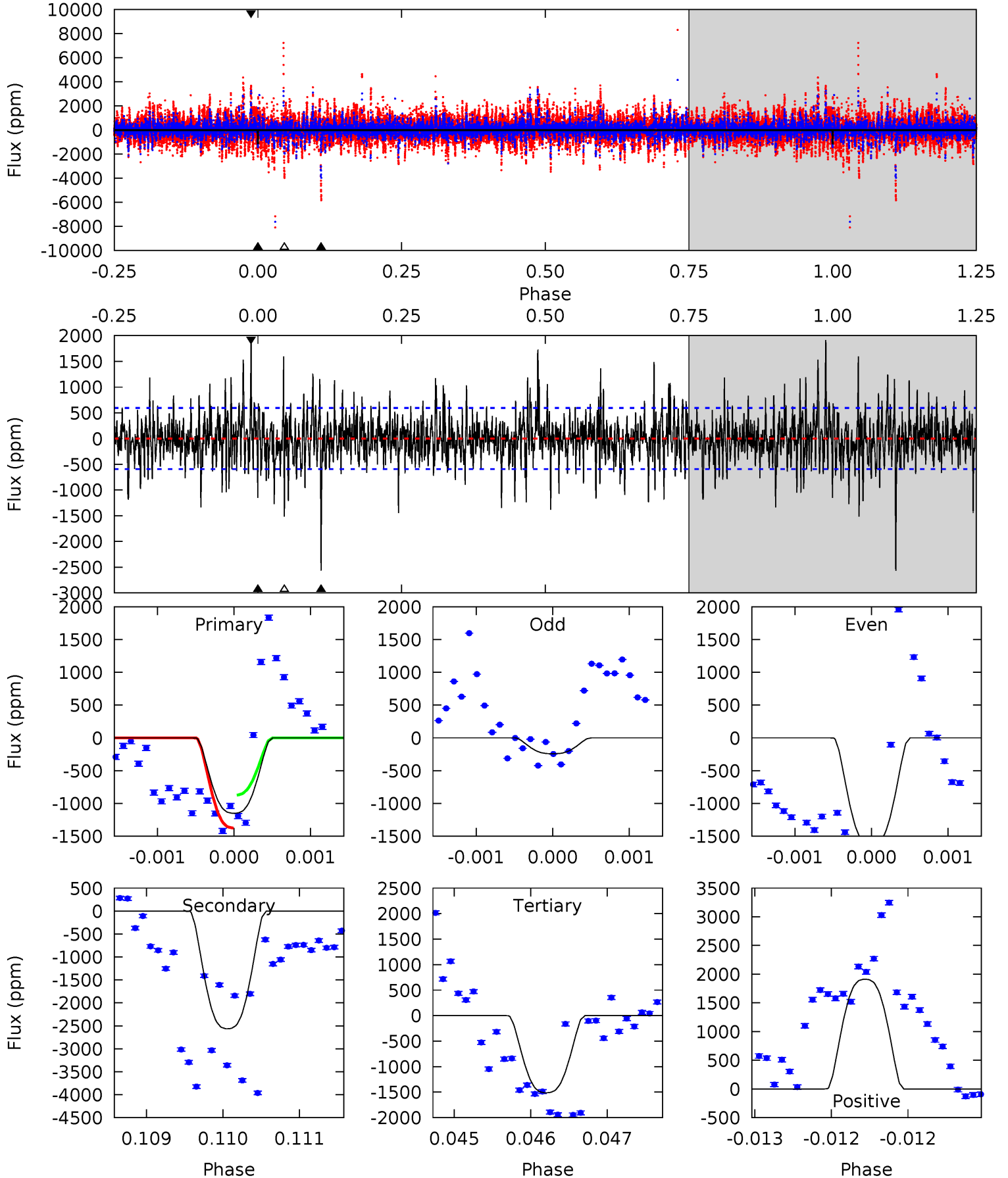


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

002860788-04, P = 368.557541 Days, E = 96.253748 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
10.6	23.7	14.0	17.7	5.48	3.34	3.19	-3.35	-7.04	9.72	6.03	5.76	0.89	0.43	2.30



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.



### Stellar Parameters For KIC 002860788

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5566^{+149}_{-149}$	$4.382^{+0.175}_{-0.193}$	$-0.200^{+0.300}_{-0.300}$	$0.967^{+0.261}_{-0.174}$	$0.822^{+0.129}_{-0.065}$	$1.281^{+0.970}_{-0.641}$
	+3%/-3%	+4%/-4%	+150%/-150%	+27%/-18%	+16%/-8%	+76%/-50%
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 002860788-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-2566 \pm 108$	$4.27^{+0.83}_{-0.69}$	$347^{+27}_{-20}$	$6239^{+456}_{-392}$	$70679^{+28940}_{-21681}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

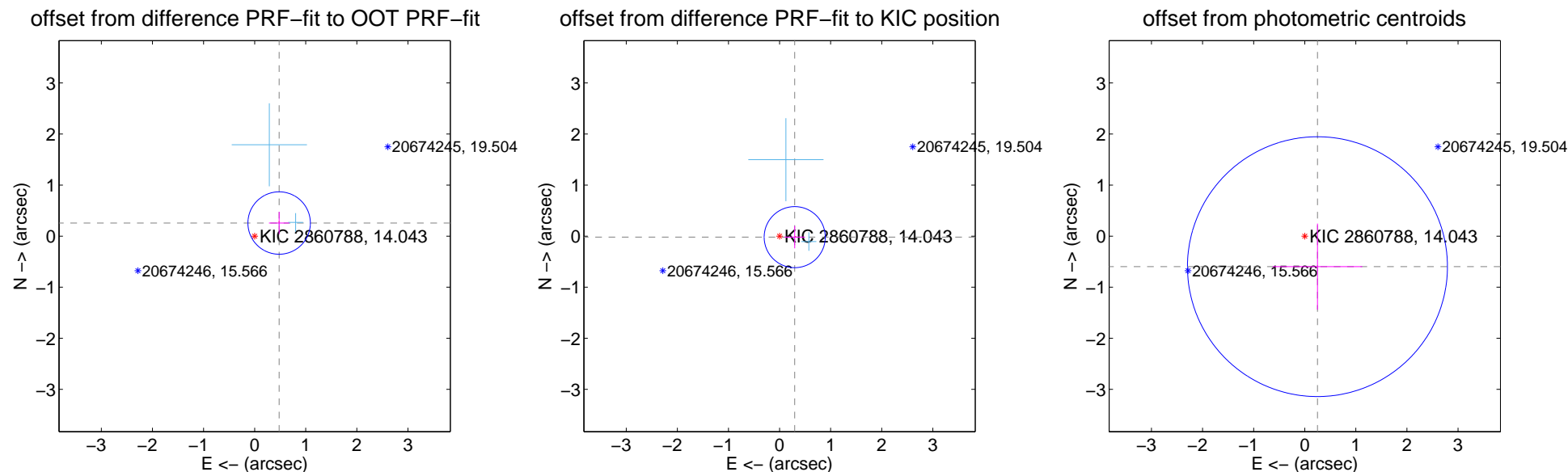
## DV Centroid Data

Supplemental centroid analysis for 002860788-04. Kepler magnitude: 14.04. Transit SNR 6.83

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.544 \pm 0.204$	2.67	$-0.479 \pm 0.199$	$0.257 \pm 0.219$
PRF-fit source offset from KIC position	$0.297 \pm 0.199$	1.49	$-0.297 \pm 0.199$	$-0.020 \pm 0.219$
photometric centroid source offset	$0.65 \pm 0.85$	0.76	$-0.25 \pm 0.88$	$-0.60 \pm 0.84$

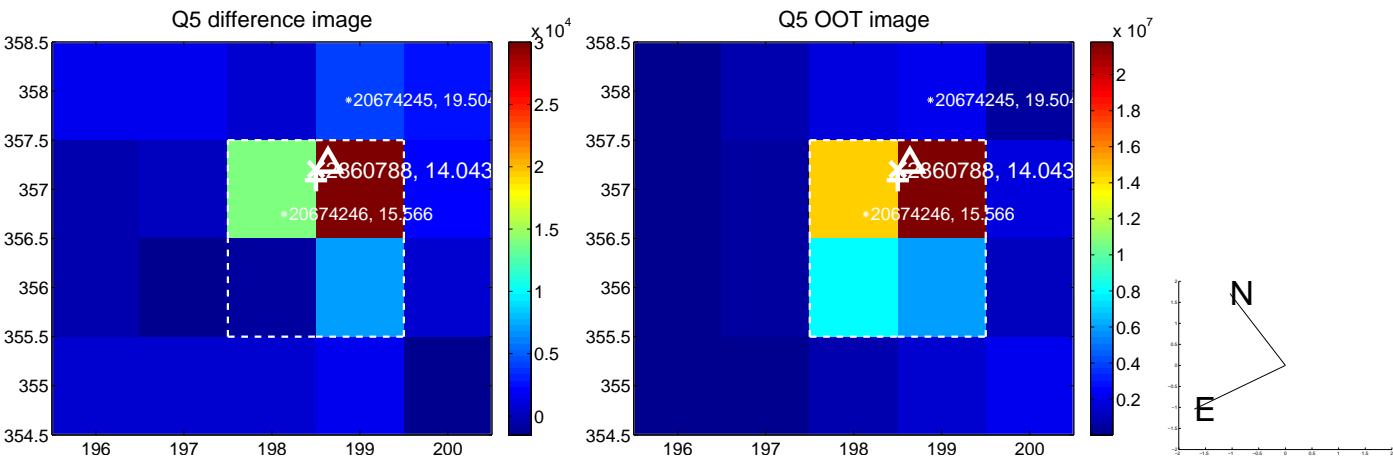


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

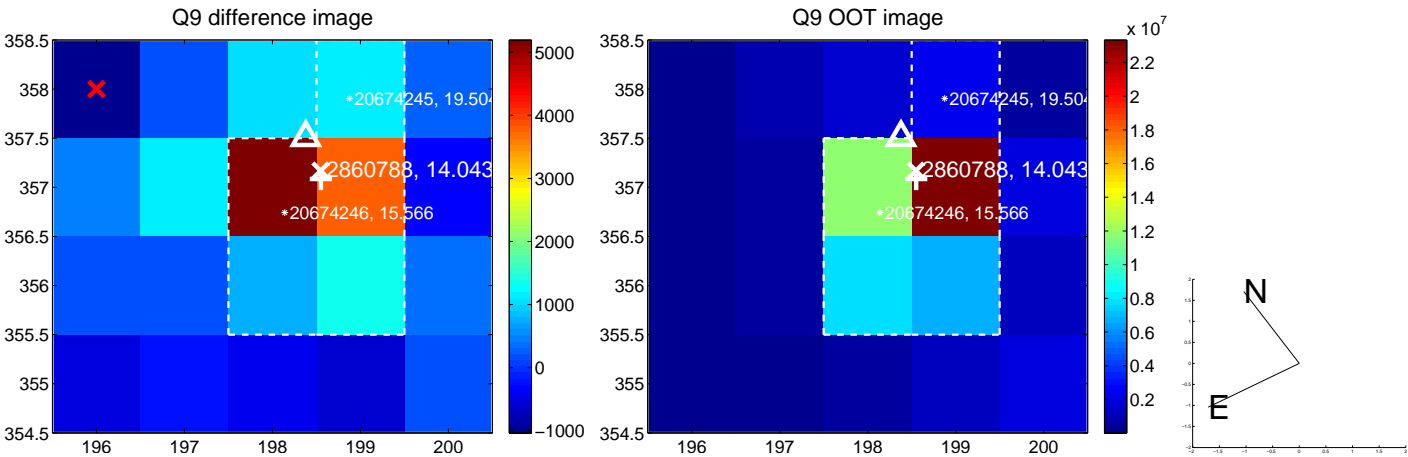
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



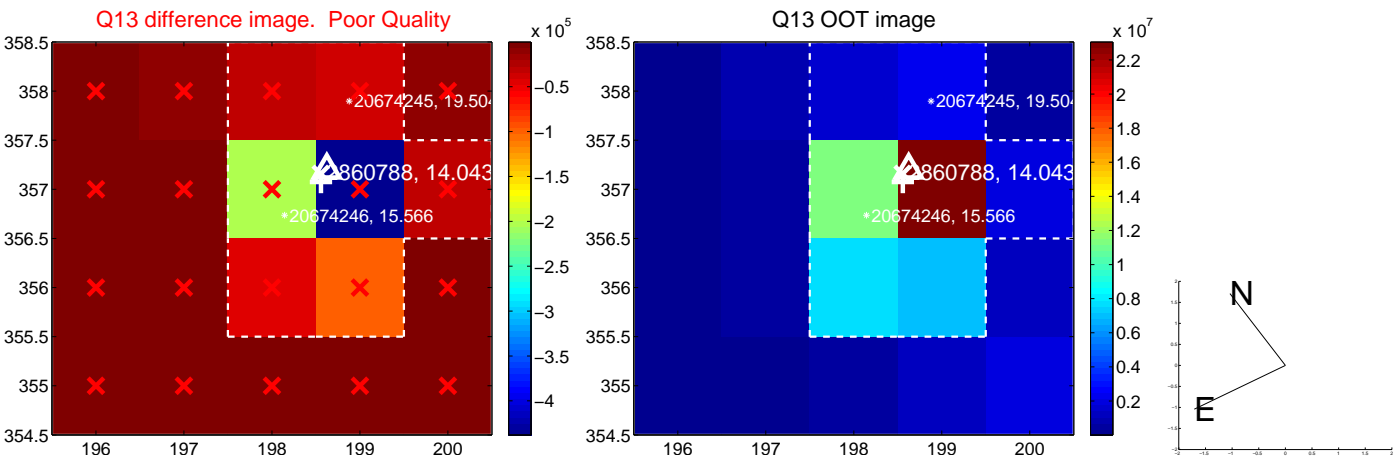
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



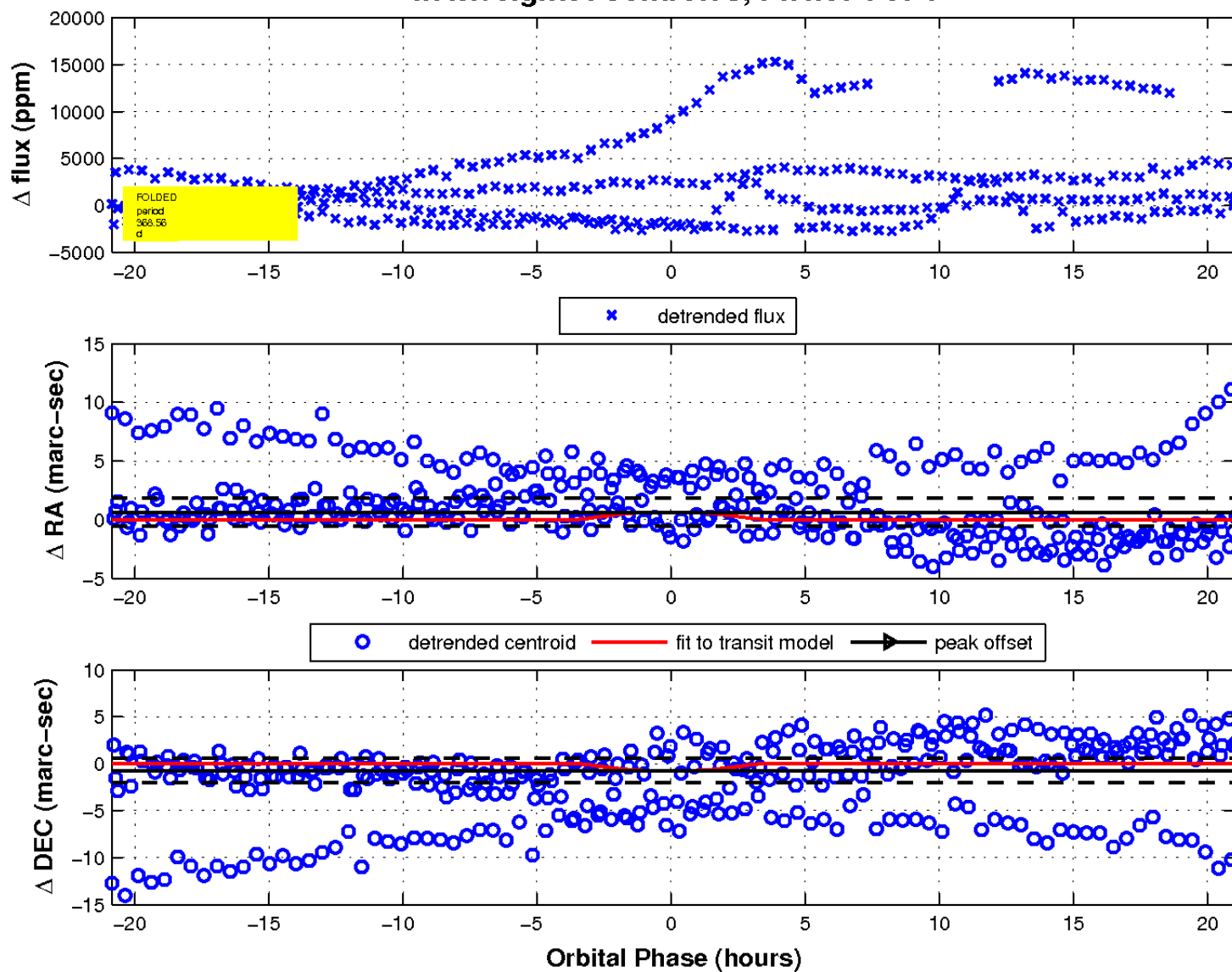
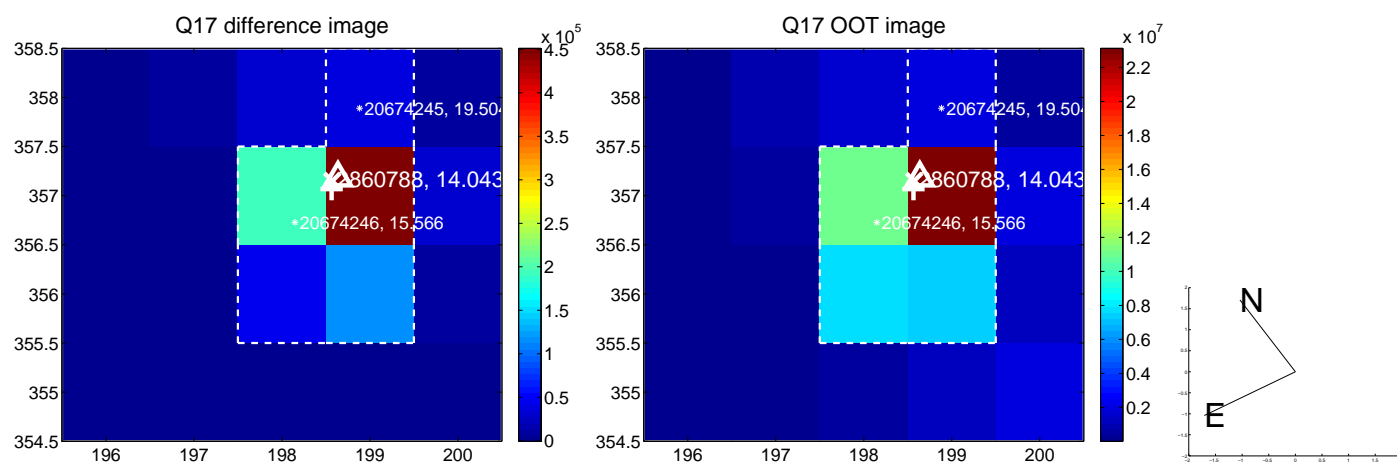
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

