

KIC 011858741

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})
011858741-01	OBS	3633.01	1.780968	131.526200	289896.2	3.101	1986.2	909.7	1.00	5780	54.20	1208.92
011858741-02	OBS	No	1.780933	132.441543	10126.8	2.986	89.7	52.1	1.00	5780	13.03	1208.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011858741-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS—HALO_GHOST
011858741-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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 for comment definitions.

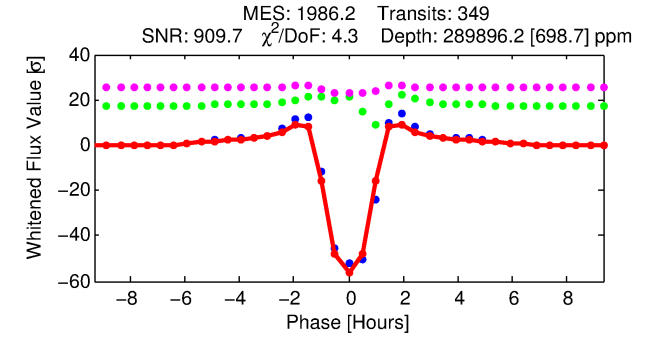
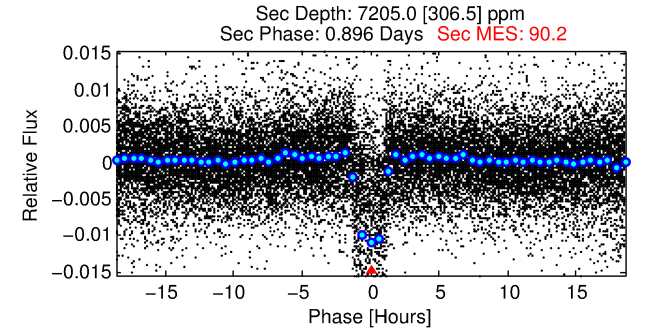
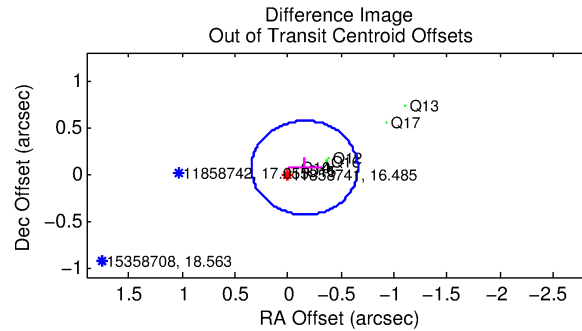
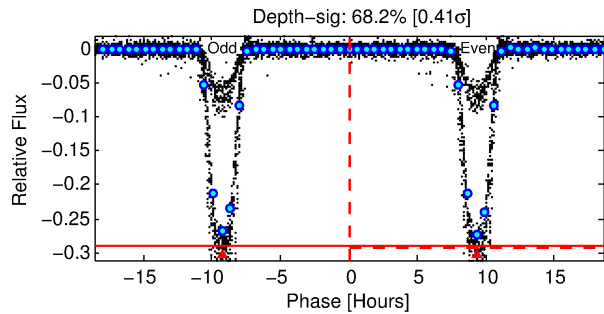
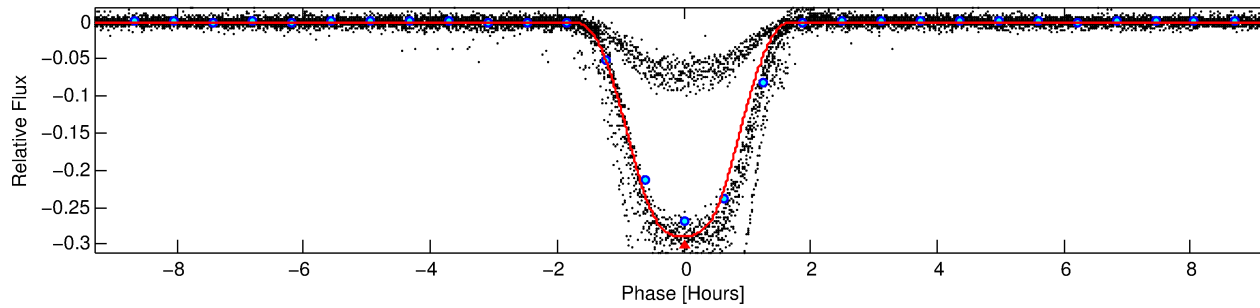
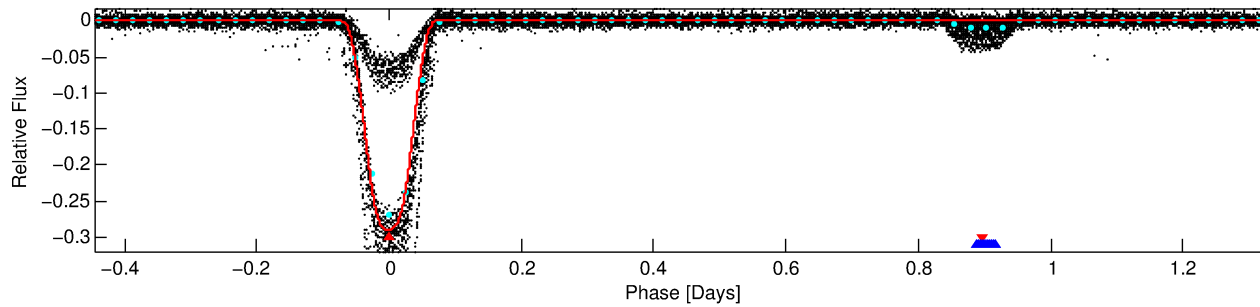
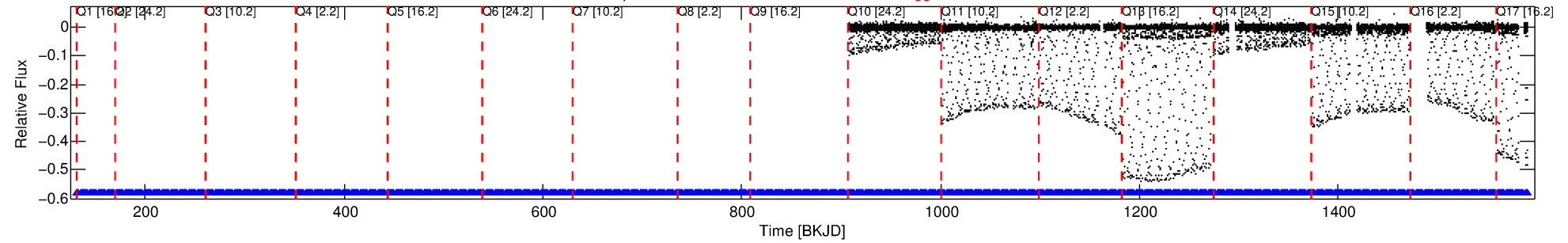
Ephemeris Match Information For 011858741-01

No Significant Match Found

DV One-Page Summary

KIC: 11858741 Candidate: 1 of 2 Period: 1.781 d
KOI: K03633.01 Corr: 0.972

Kp: 16.49 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



DV Fit Results:

Period = 1.78097 [0.00000] d
Epoch = 131.5262 [0.0000] BKJD
Rp/R* = 0.4967 [0.0008]
a/R* = 6.62 [0.02]
b = 0.00 [1.18]
Seff = 1208.92 [0.00]
Teq = 1504 [0] K
Rp = 54.20 [0.09] Re
a = 0.0288 [0.0000] AU
Ag = 1.12 [0.05] [2.43σ]
Teffp = 2389 [25] K [34.76σ]

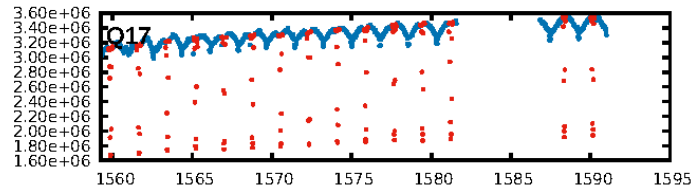
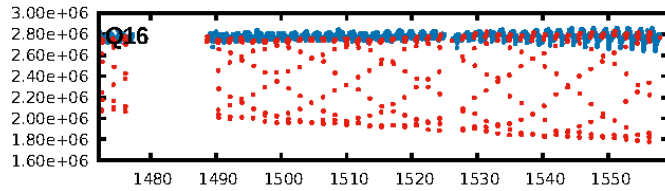
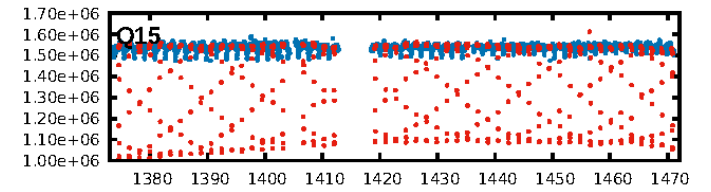
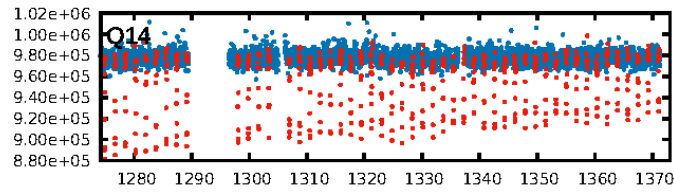
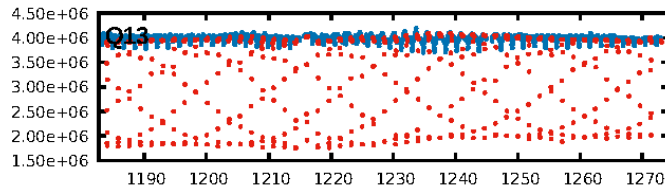
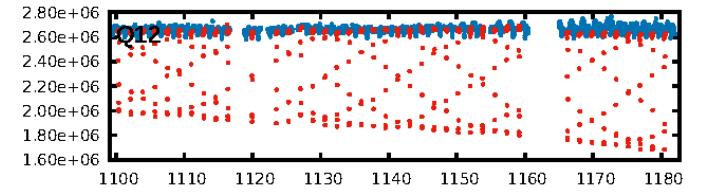
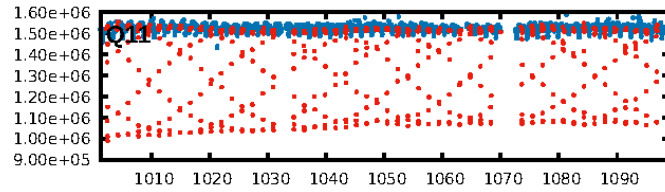
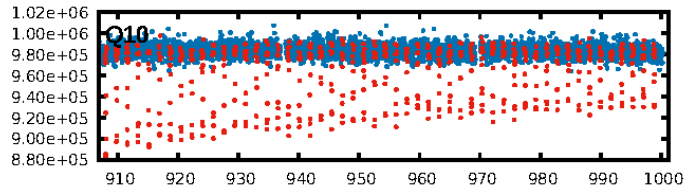
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [334/334]
GhostDiagnostic-chr: 0.2061
Centroid-sig: N/A
Centroid-so: 2.550 arcsec [1598.43σ]
OotOffset-rm: 0.172 arcsec [1.03σ]
KicOffset-rm: 4.084 arcsec [58.49σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

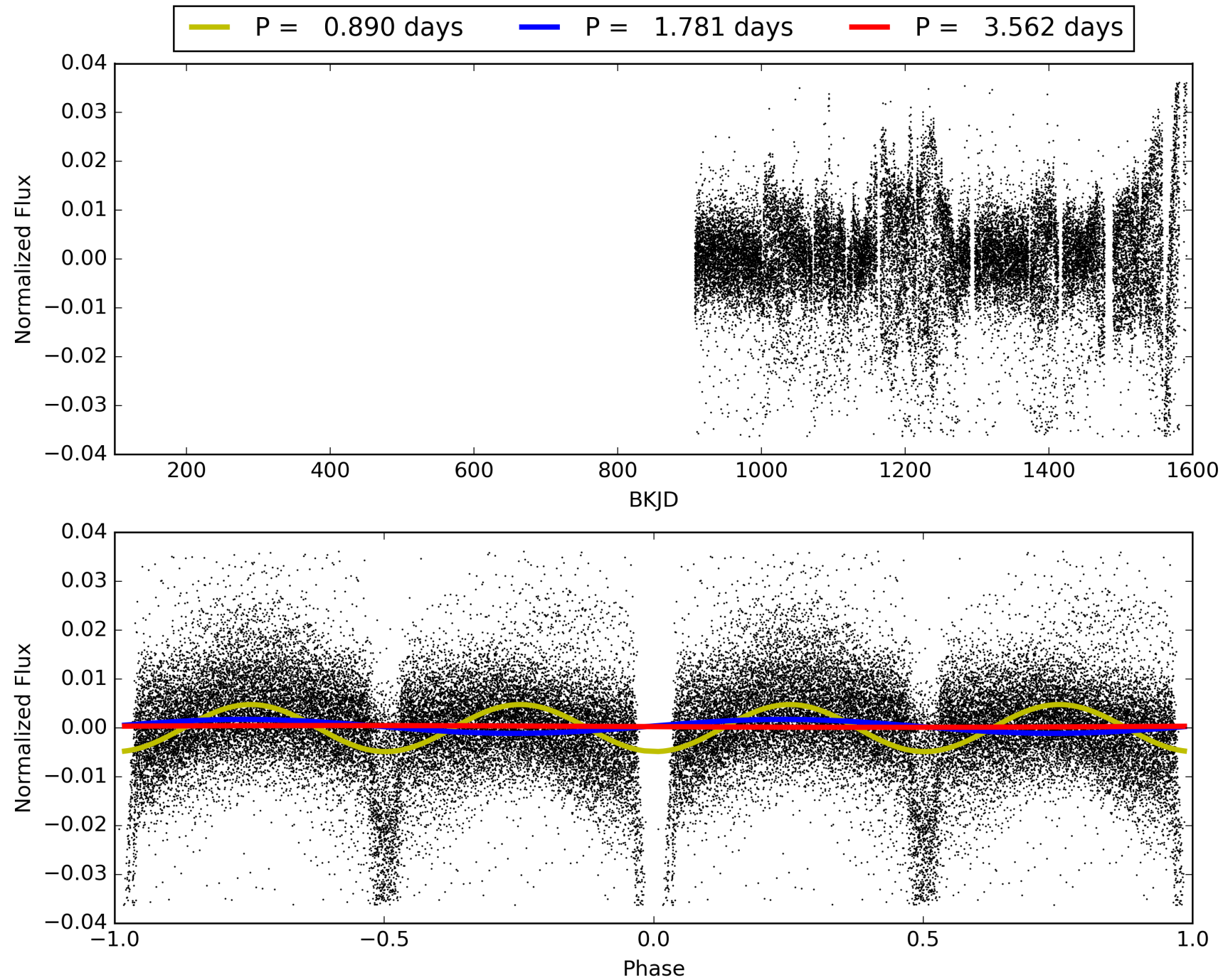
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:04:03 Z

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

TCE 011858741-01, PDC Light Curves

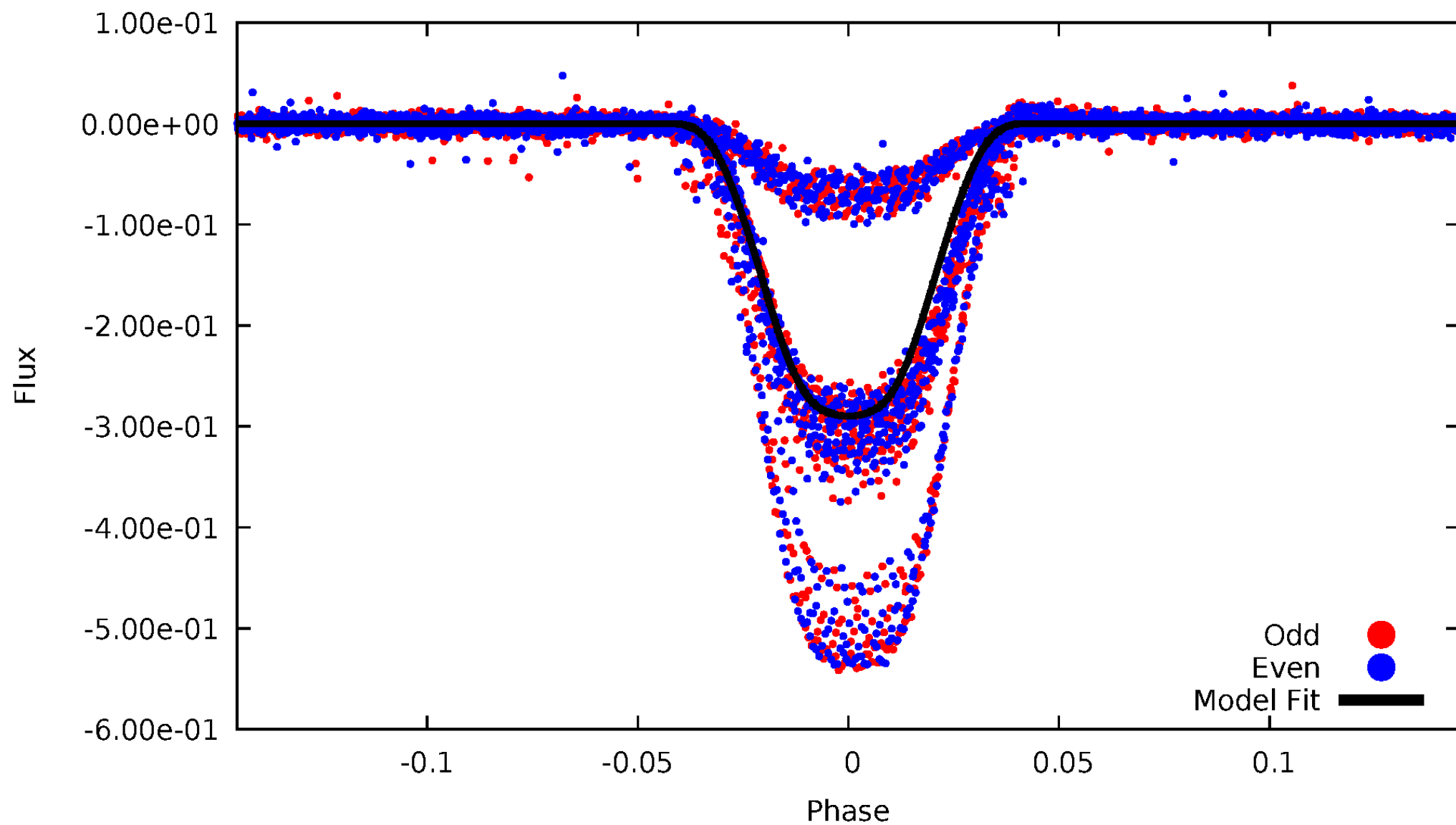


TCE 011858741-01



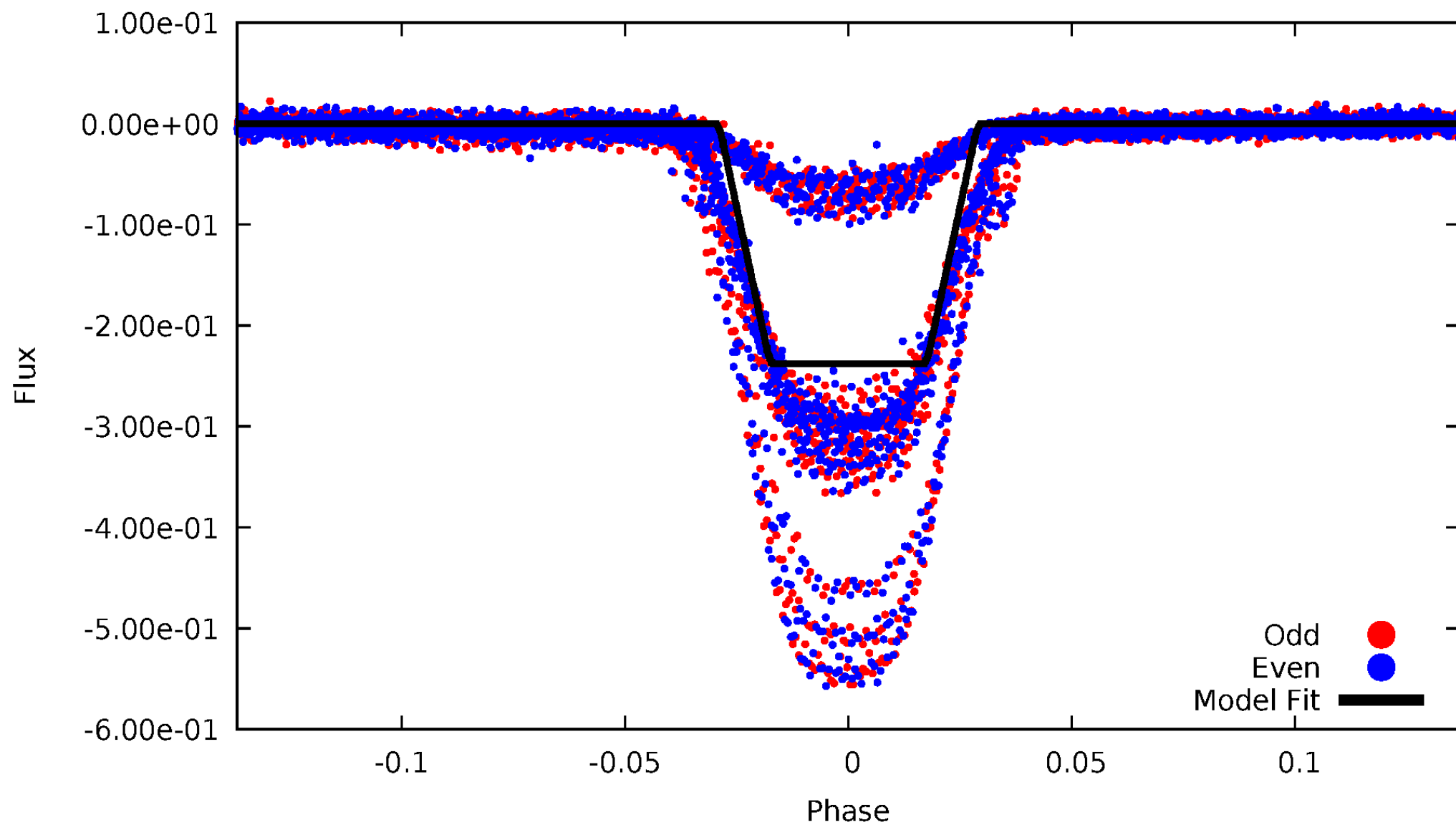
DV Odd/Even

TCE 011858741-01



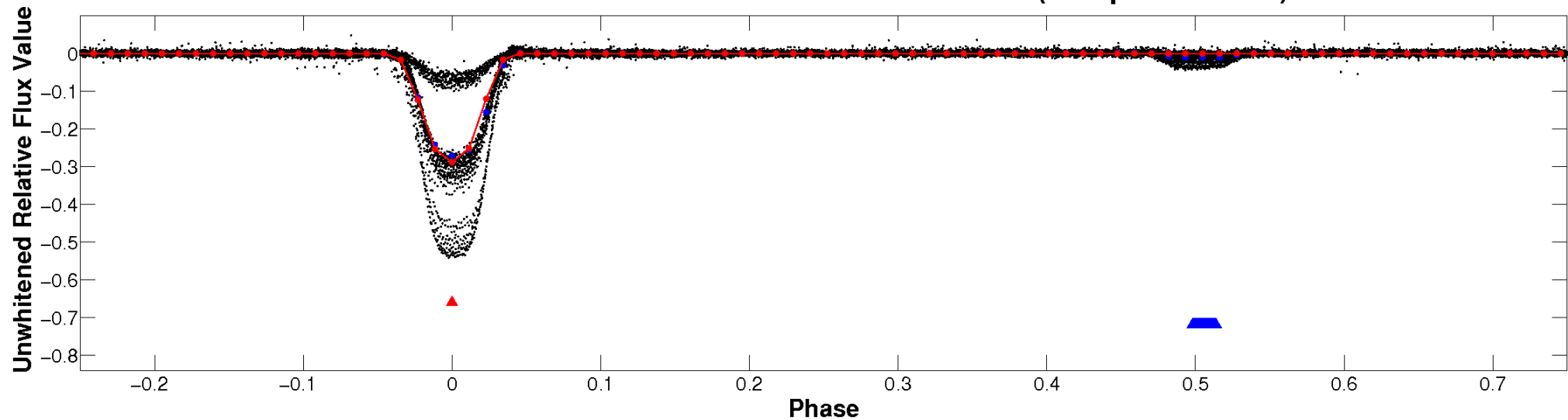
ALT Odd/Even

TCE 011858741-01

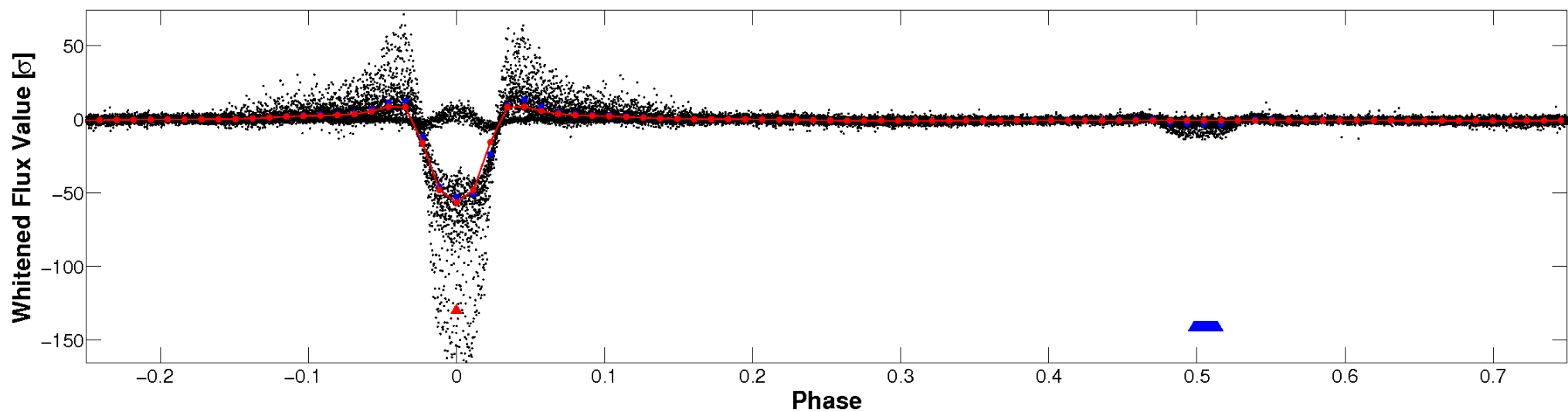


Non-Whitened Vs. Whitened Light Curve

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

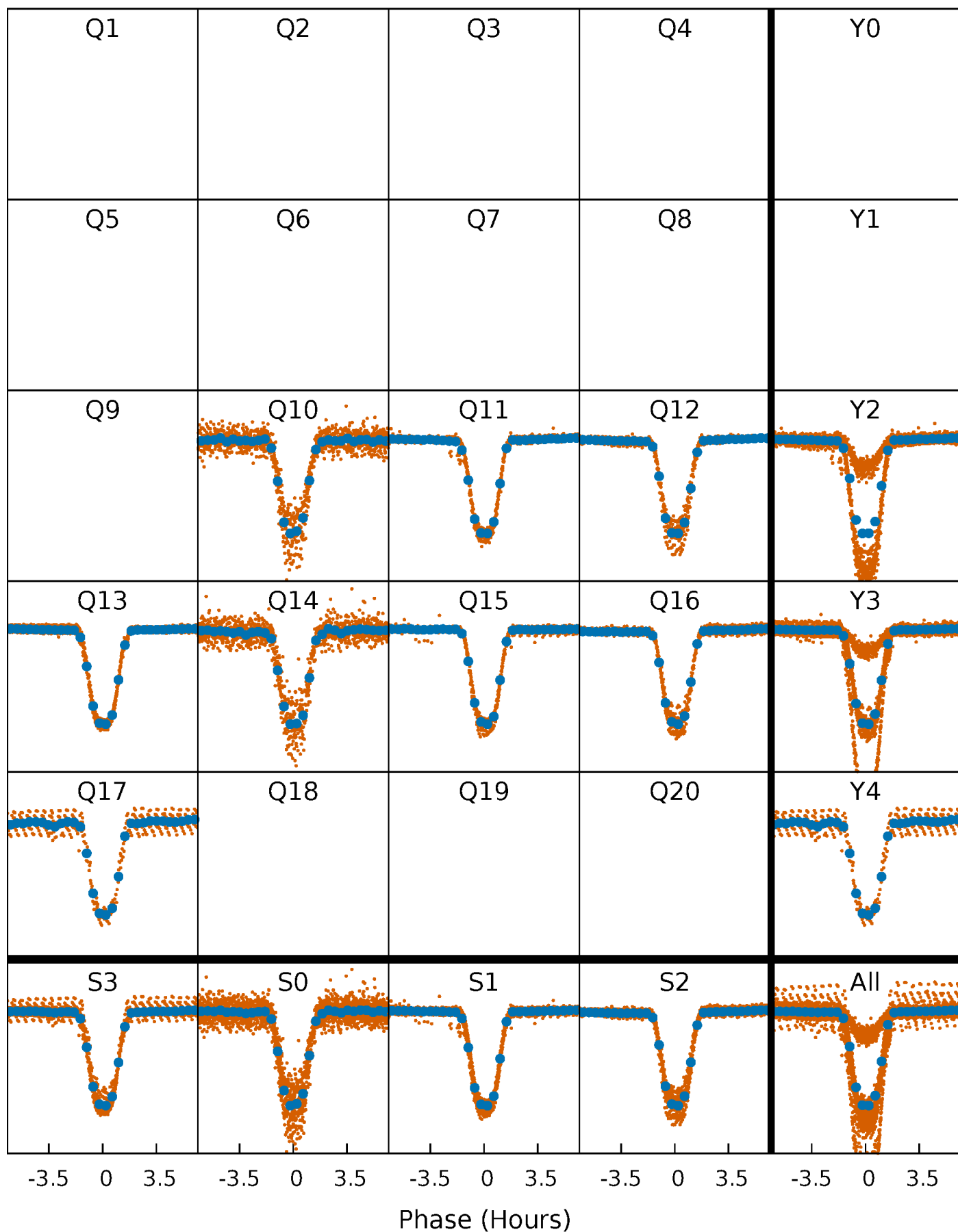


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



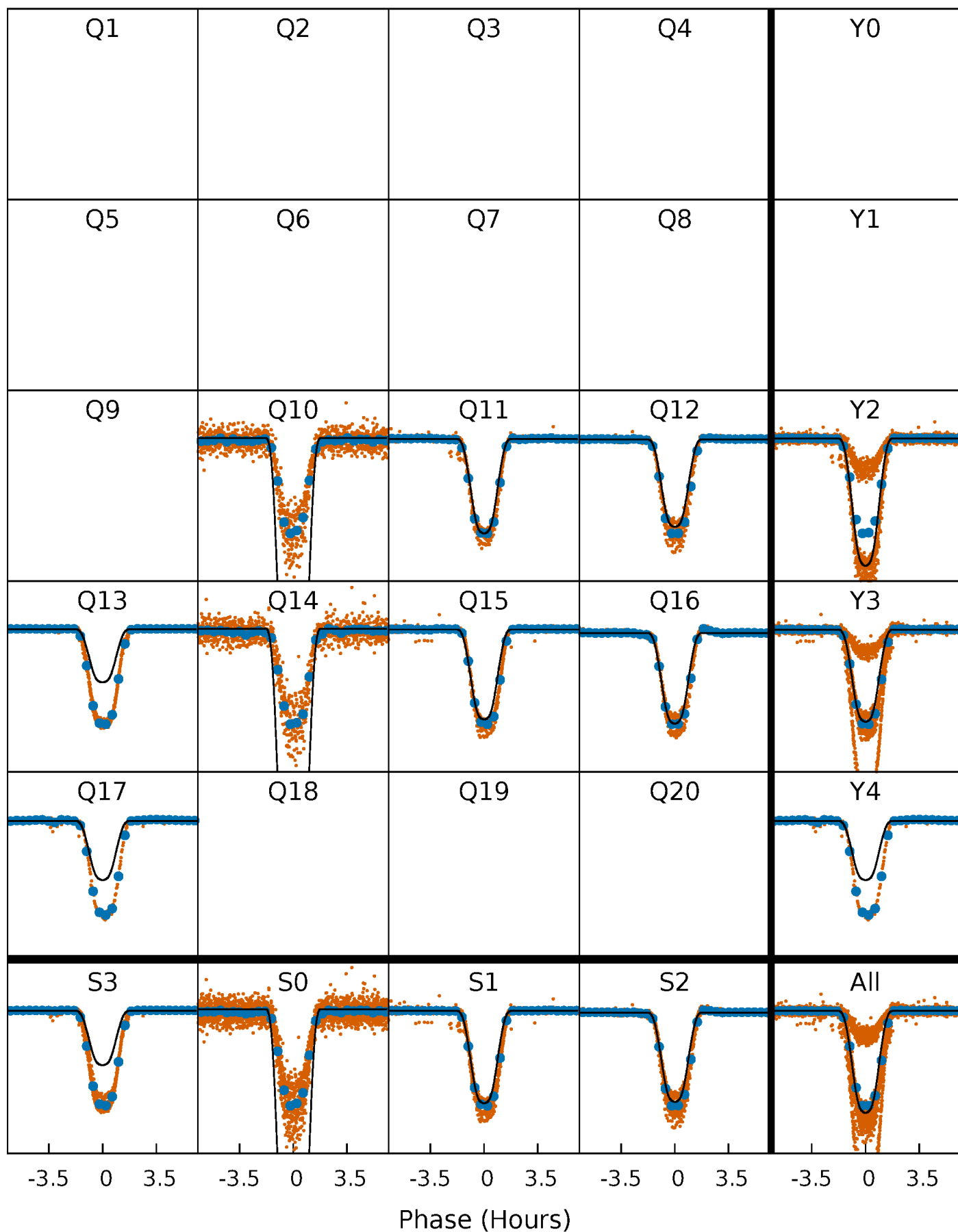
PDC Quarter-Phased Transit Curves

TCE 011858741-01 P= 1.780968 Days $T_0=131.526200$ (BKJD)



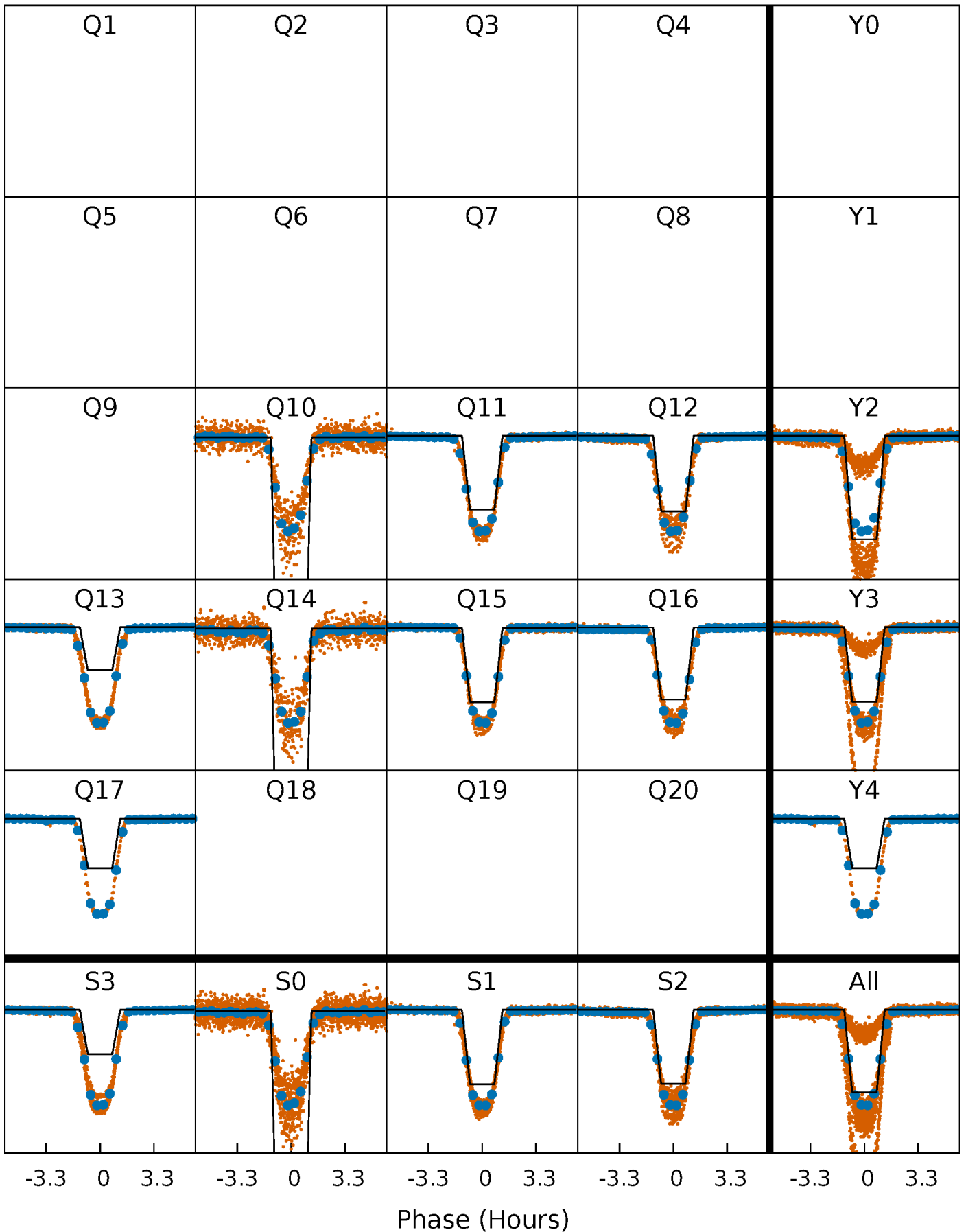
DV Quarter-Phased Transit Curves

TCE 011858741-01 P= 1.780968 Days $T_0=131.526200$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

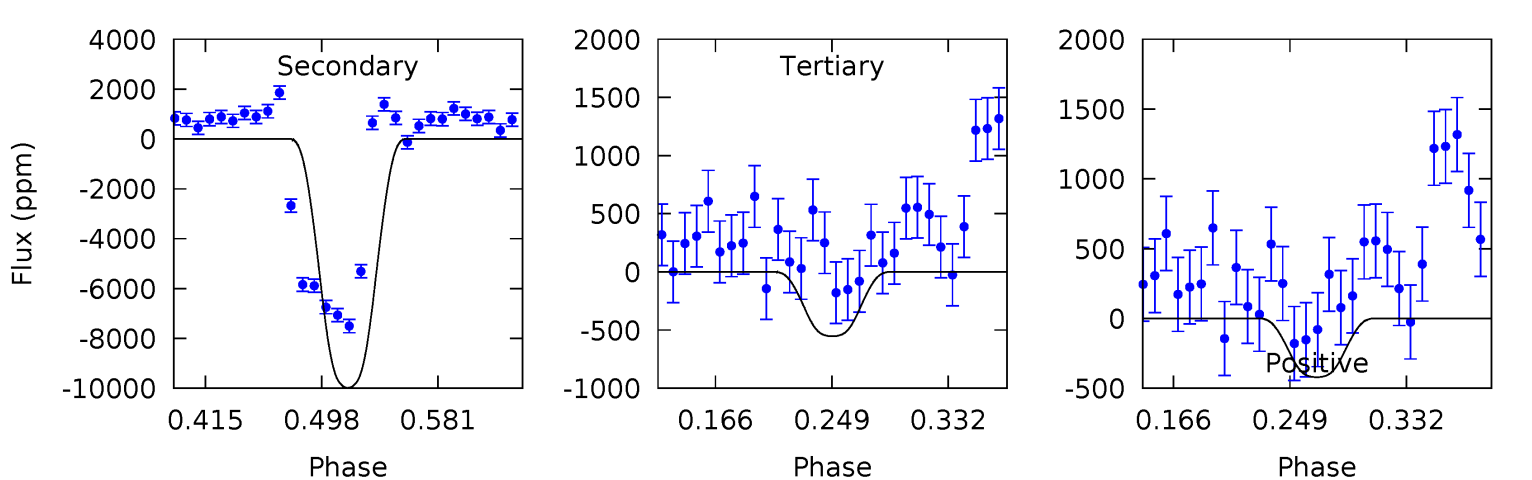
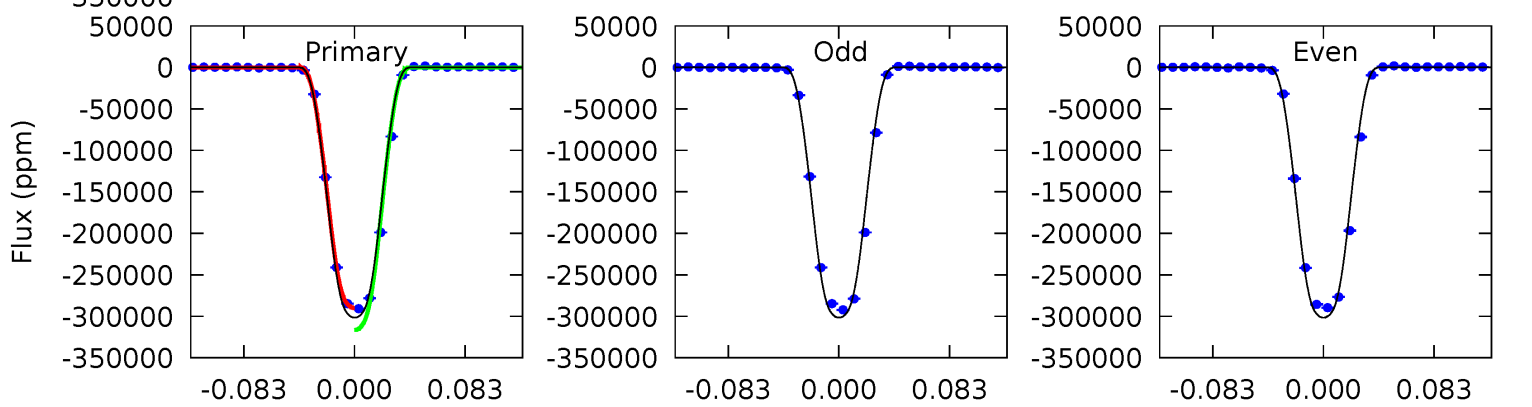
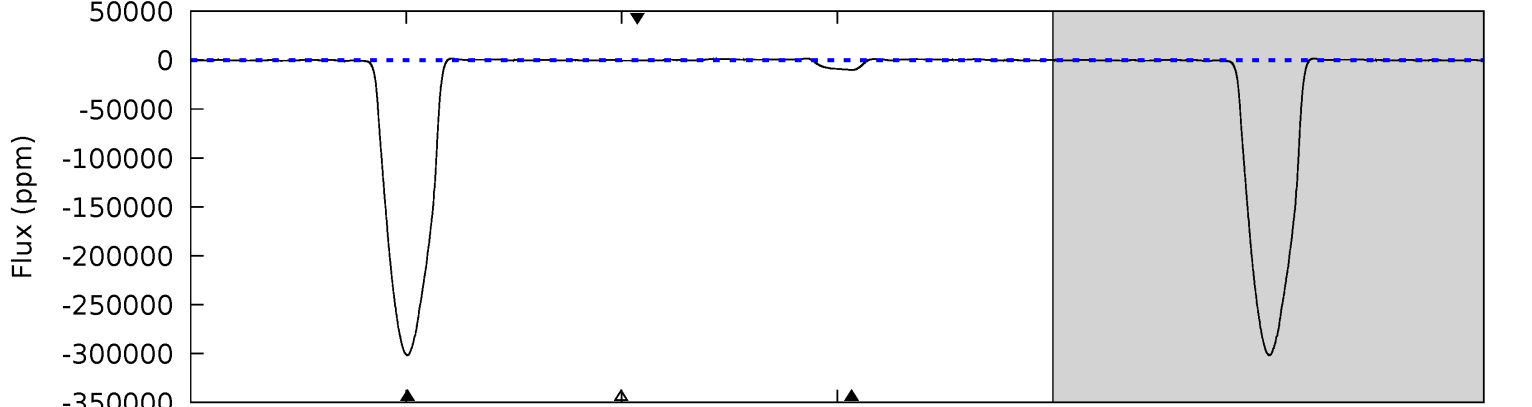
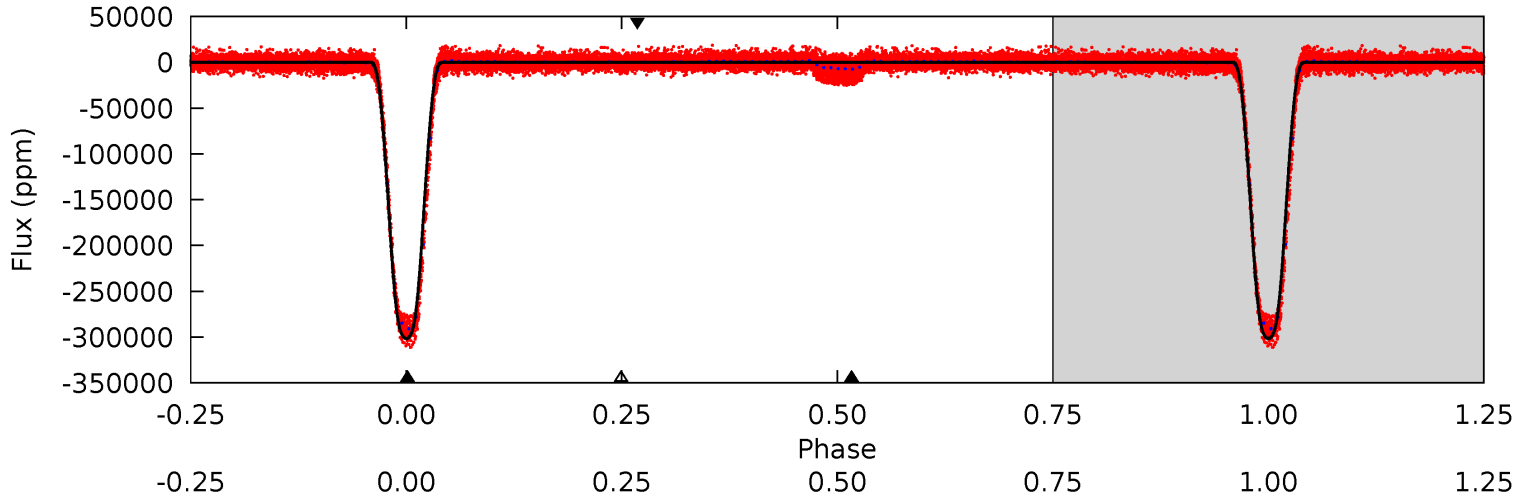
TCE 011858741-01 P= 1.780974 Days $T_0=131.525747$ (BKJD)



DV Model-Shift Uniqueness Test

011858741-01, P = 1.780968 Days, E = 131.526200 Days

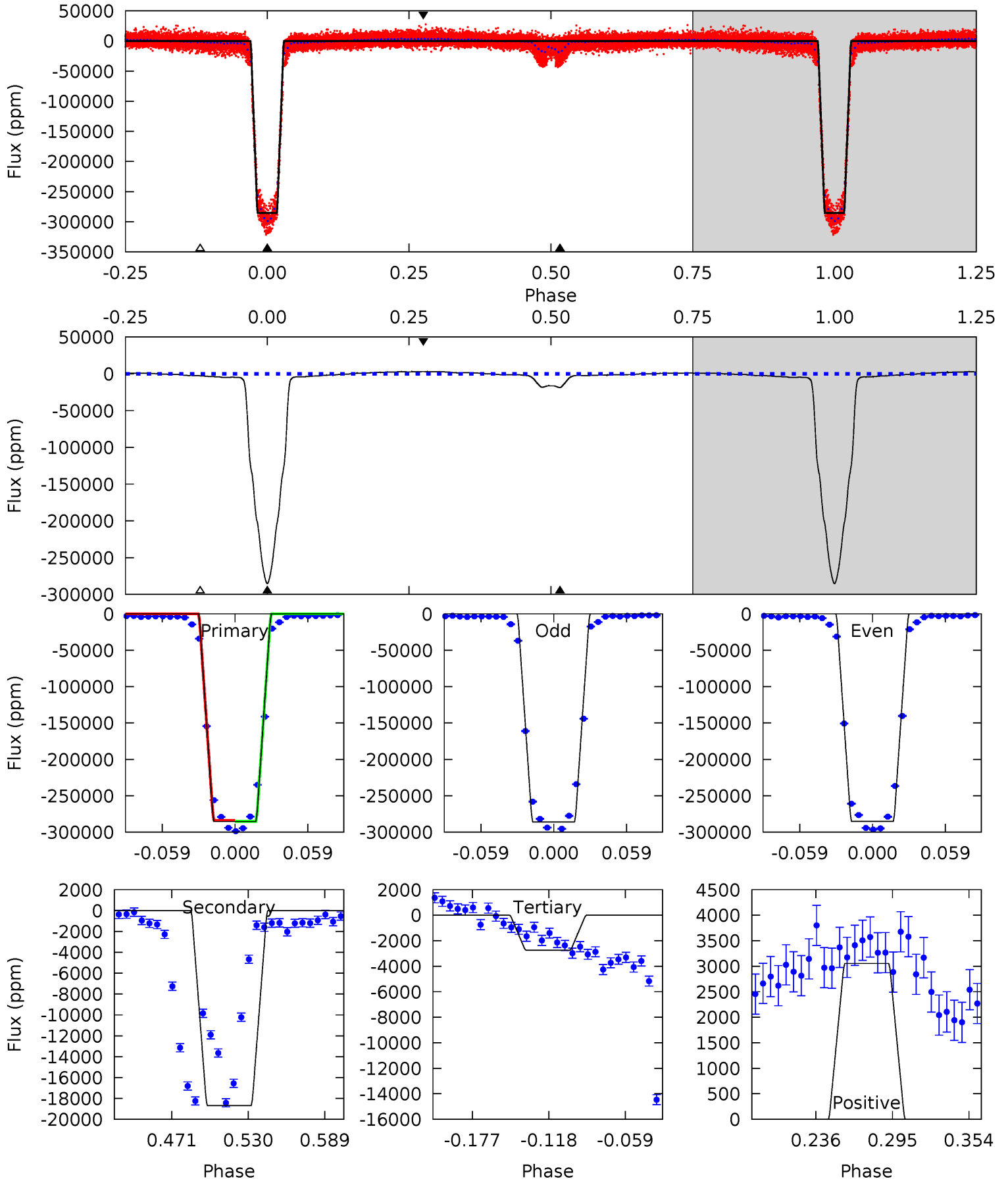
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2422	80.2	4.44	-3.38	4.60	1.73	3.35	2418	2426	75.7	83.5	0.30	0.93	0.01	104.8



Alt Model-Shift Uniqueness Test

011858741-01, P = 1.780974 Days, E = 131.525747 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1188	77.8	11.4	12.7	4.67	1.89	8.34	1177	1175	66.3	65.1	1.67	0.92	0.01	2.51



Stellar Parameters For KIC 011858741

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 011858741-01 / KOI 3633.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9984 ± 125	$54.18^{+4.22}_{-3.68}$	2106^{+98}_{-107}	3097^{+65}_{-67}	$1.555^{+0.233}_{-0.186}$
Alt.	-18679 ± 240	$53.52^{+3.81}_{-3.61}$	2101^{+101}_{-98}	3485^{+88}_{-86}	$3.038^{+0.407}_{-0.351}$

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

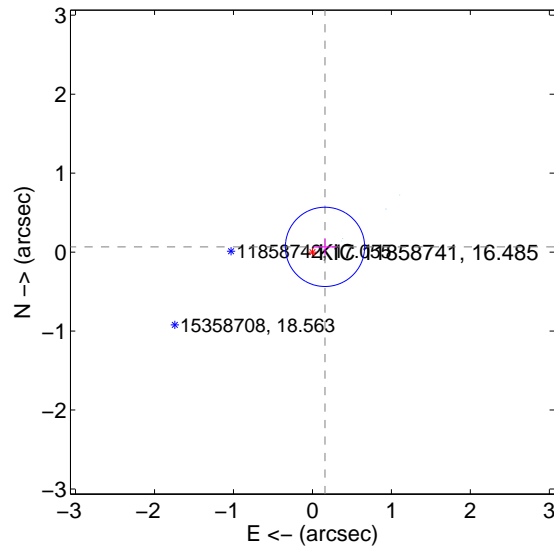
Supplemental centroid analysis for 011858741-01. Kepler magnitude: 16.48. Transit SNR 909.66

There are 8 quarters with good PRF difference image offsets

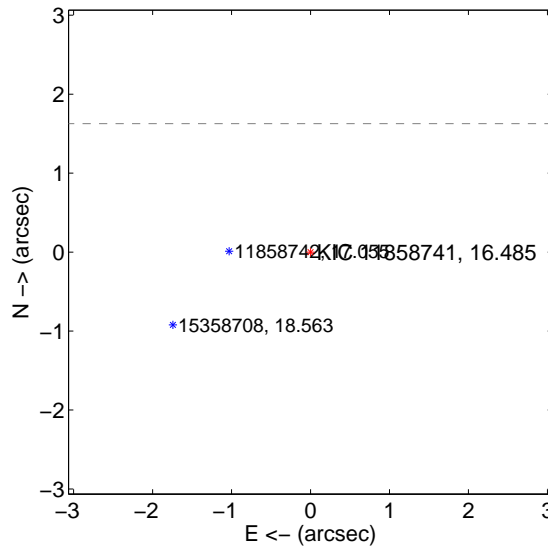
The OOT PRF centroid is offset from the target star catalog position by about 2.93 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.172 ± 0.167	1.03	-0.159 ± 0.147	0.066 ± 0.108
PRF-fit source offset from KIC position	4.084 ± 0.070	58.49	-3.746 ± 0.070	1.627 ± 0.067
photometric centroid source offset	2.55 ± 0.00	1598.43	-2.48 ± 0.00	0.58 ± 0.00

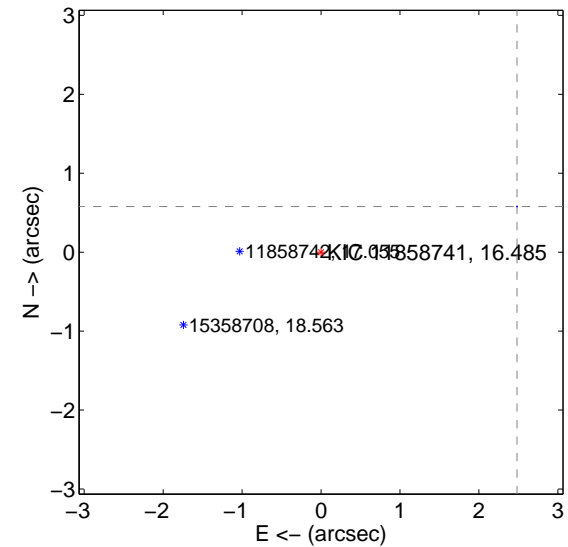
offset from difference PRF-fit to OOT PRF-fit



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- σ uncertainty. Blue circle: three- σ . 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.

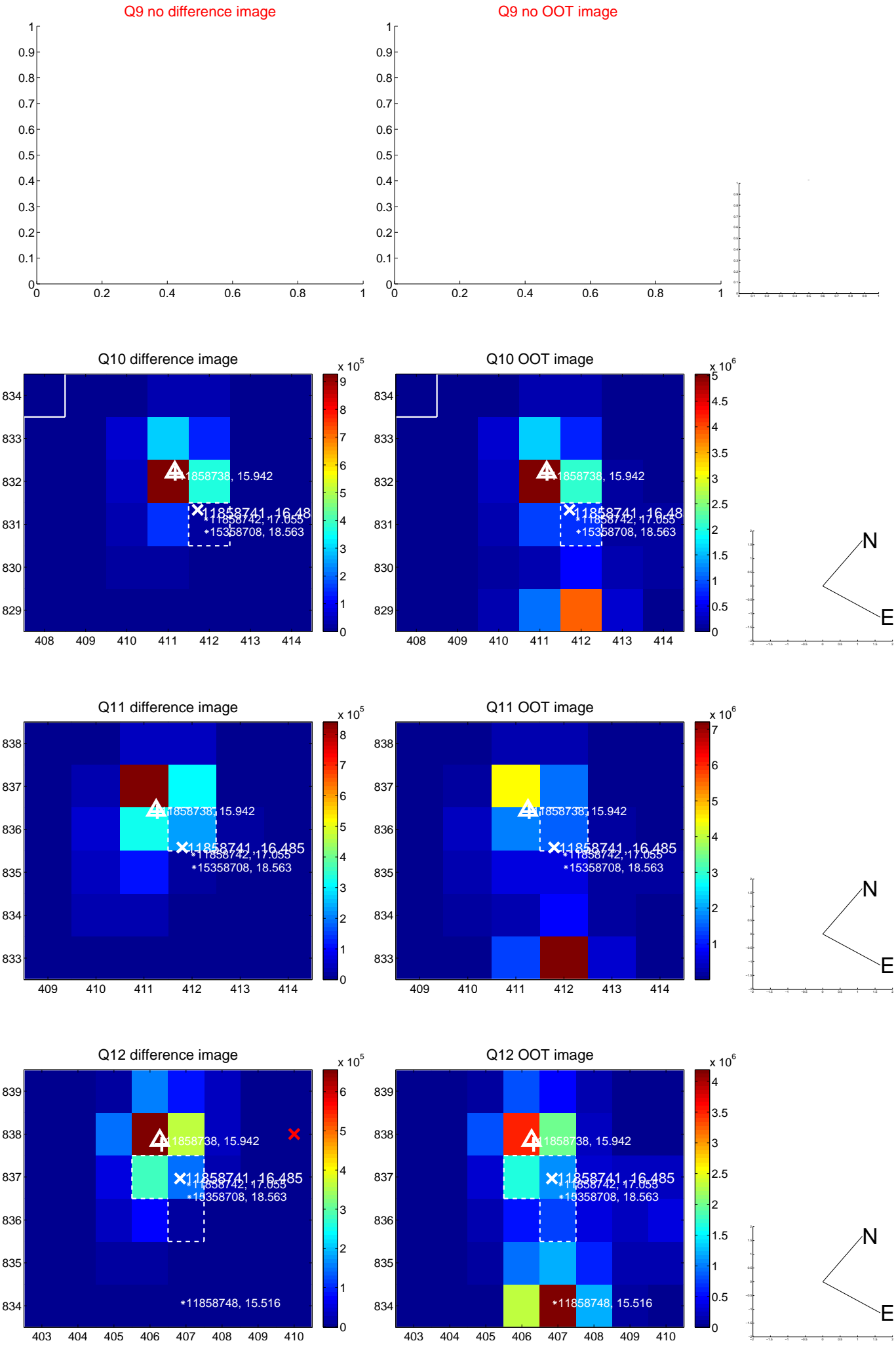
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



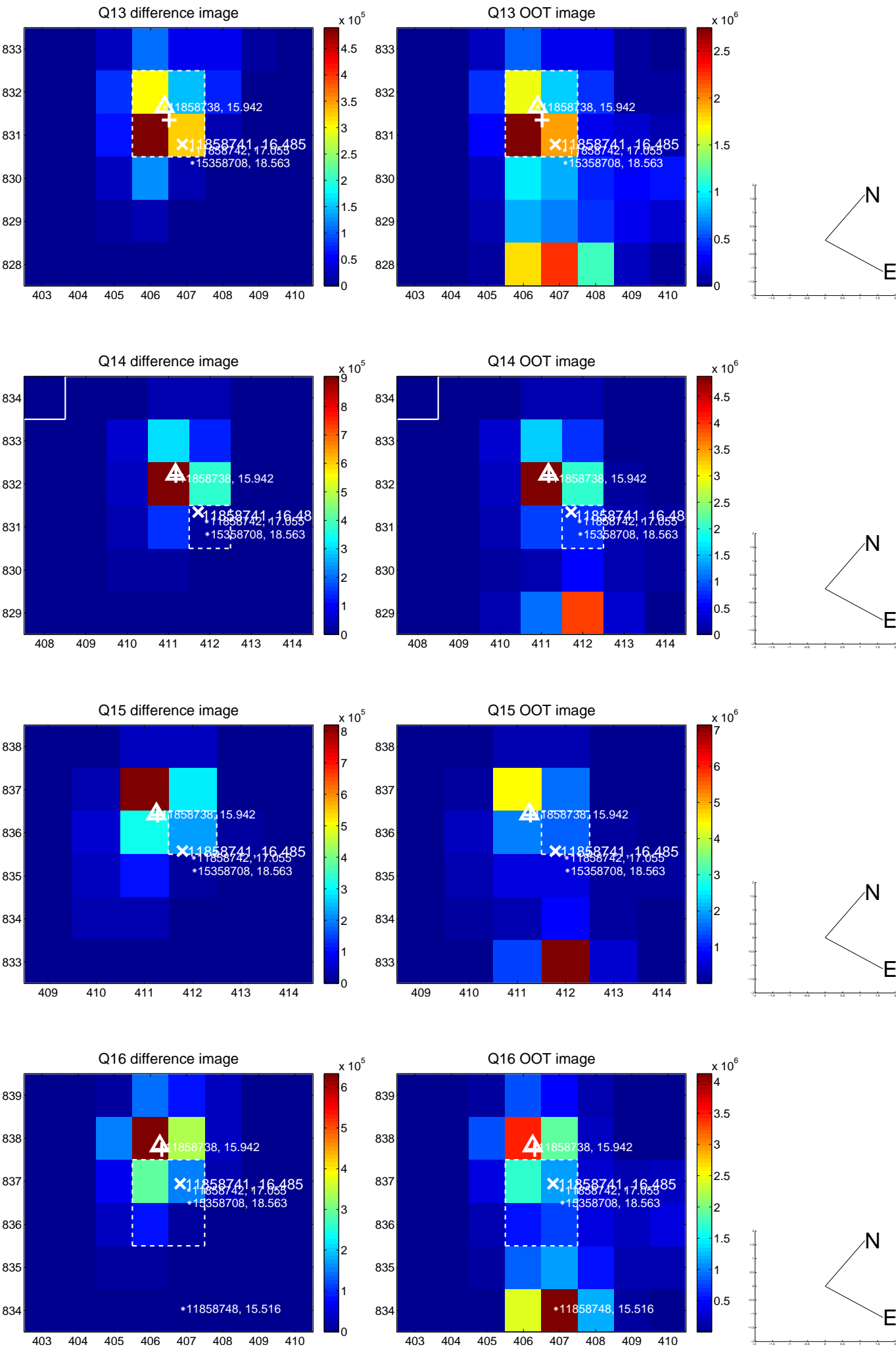
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



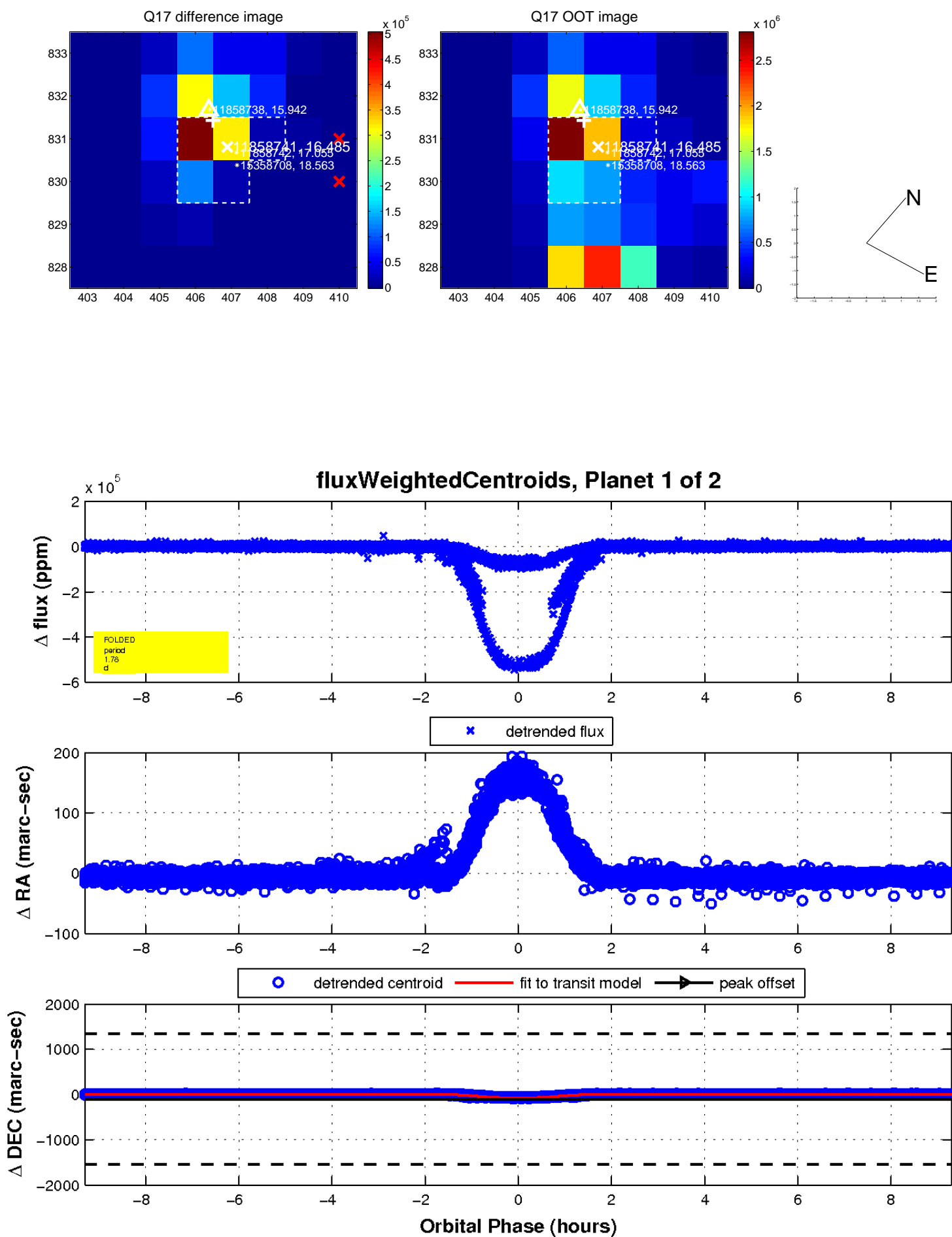
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

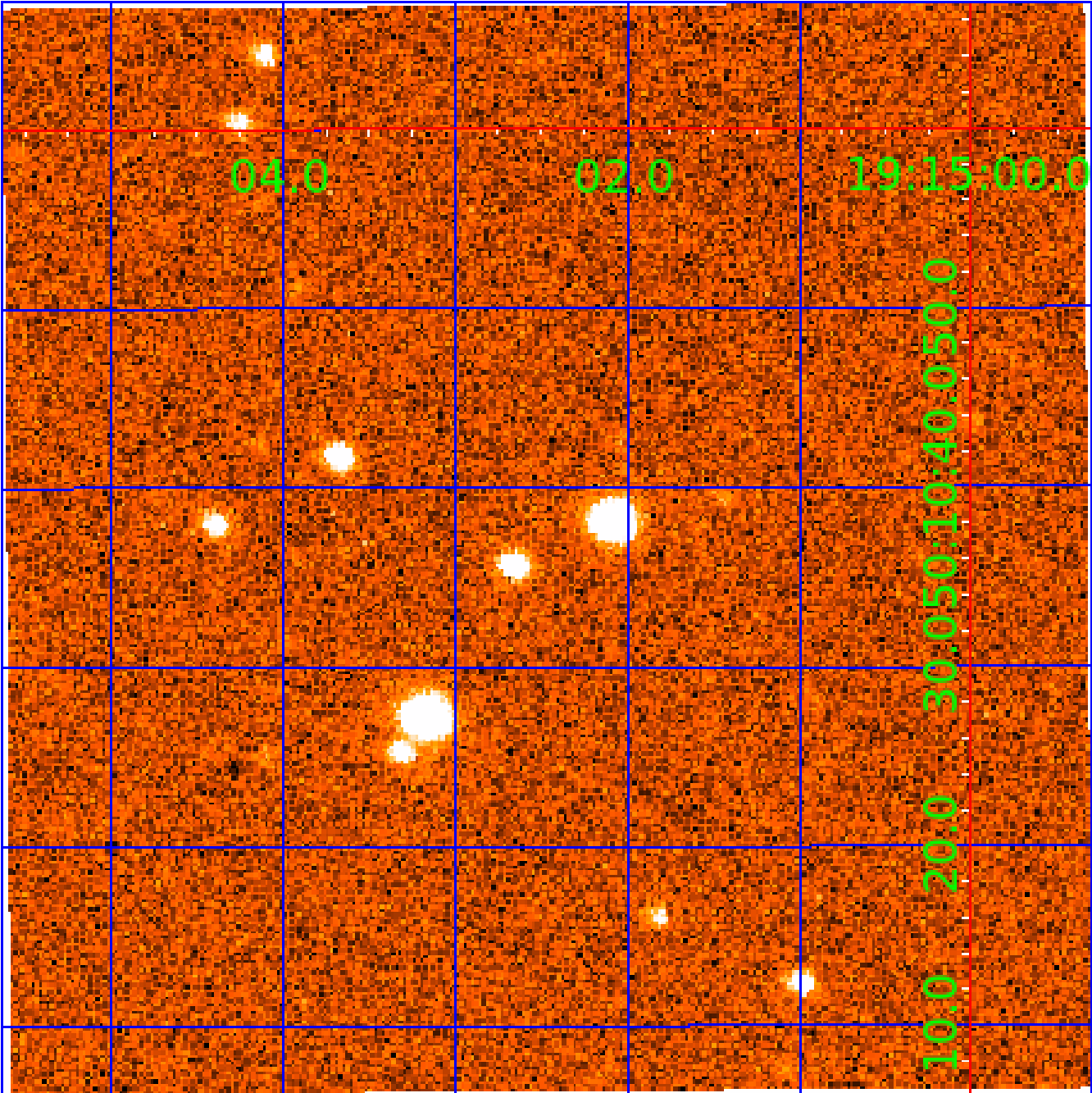


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011858741

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})
011858741-01	OBS	3633.01	1.780968	131.526200	289896.2	3.101	1986.2	909.7	1.00	5780	54.20	1208.92
011858741-02	OBS	No	1.780933	132.441543	10126.8	2.986	89.7	52.1	1.00	5780	13.03	1208.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011858741-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS—HALO_GHOST
011858741-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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 for comment definitions.

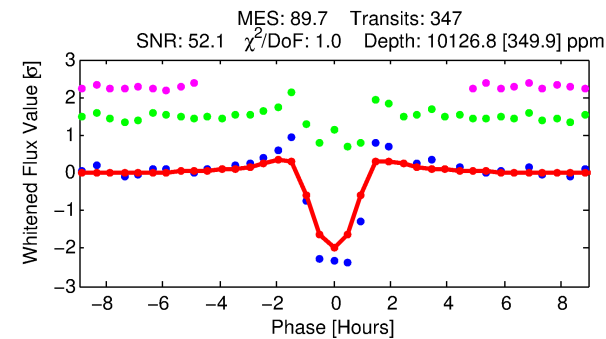
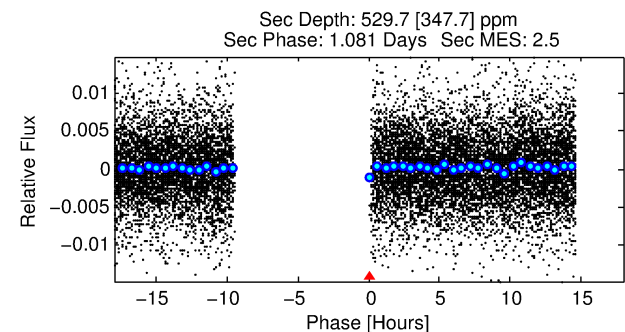
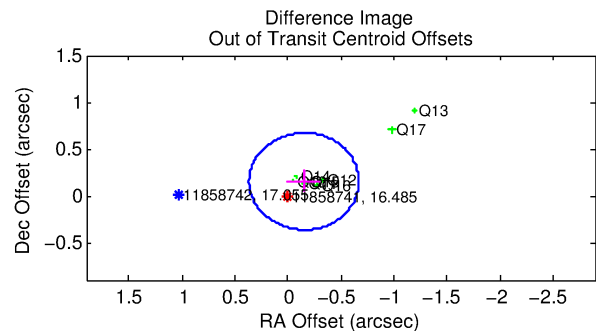
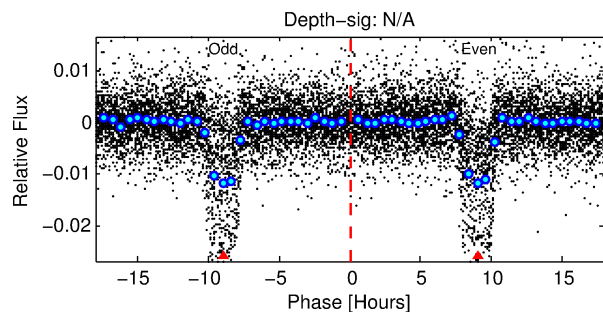
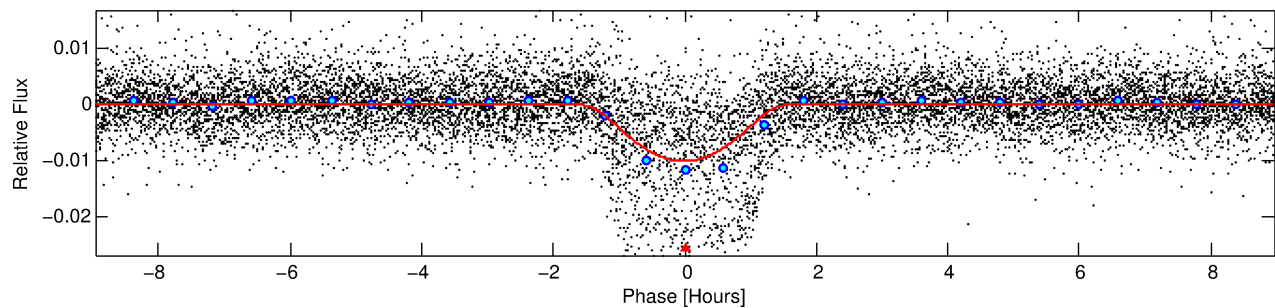
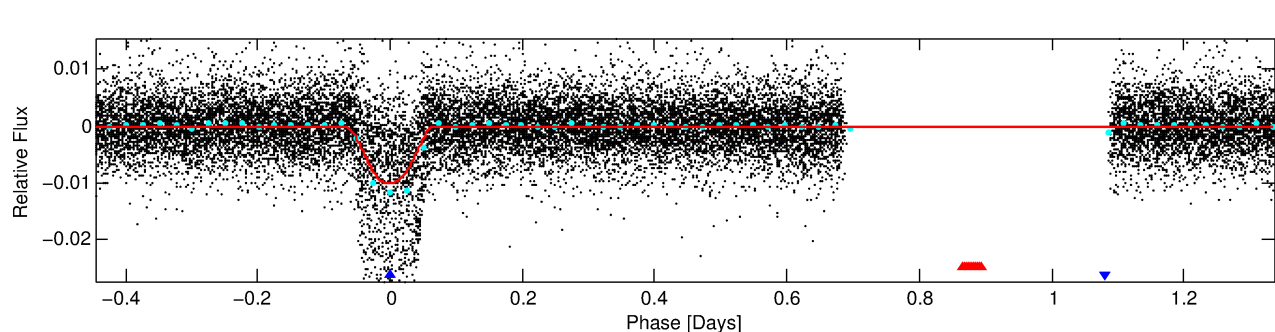
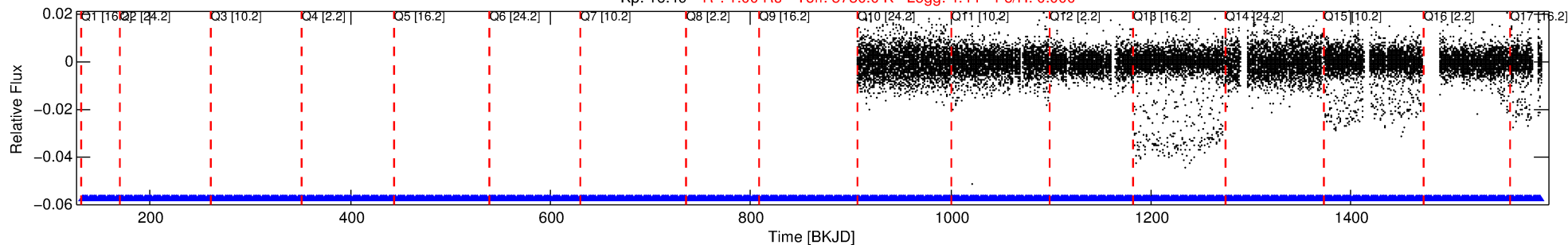
Ephemeris Match Information For 011858741-02

No Significant Match Found

DV One-Page Summary

KIC: 11858741 Candidate: 2 of 2 Period: 1.781 d
KOI: K03633 Corr: No Ephemeris Match

Kp: 16.49 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



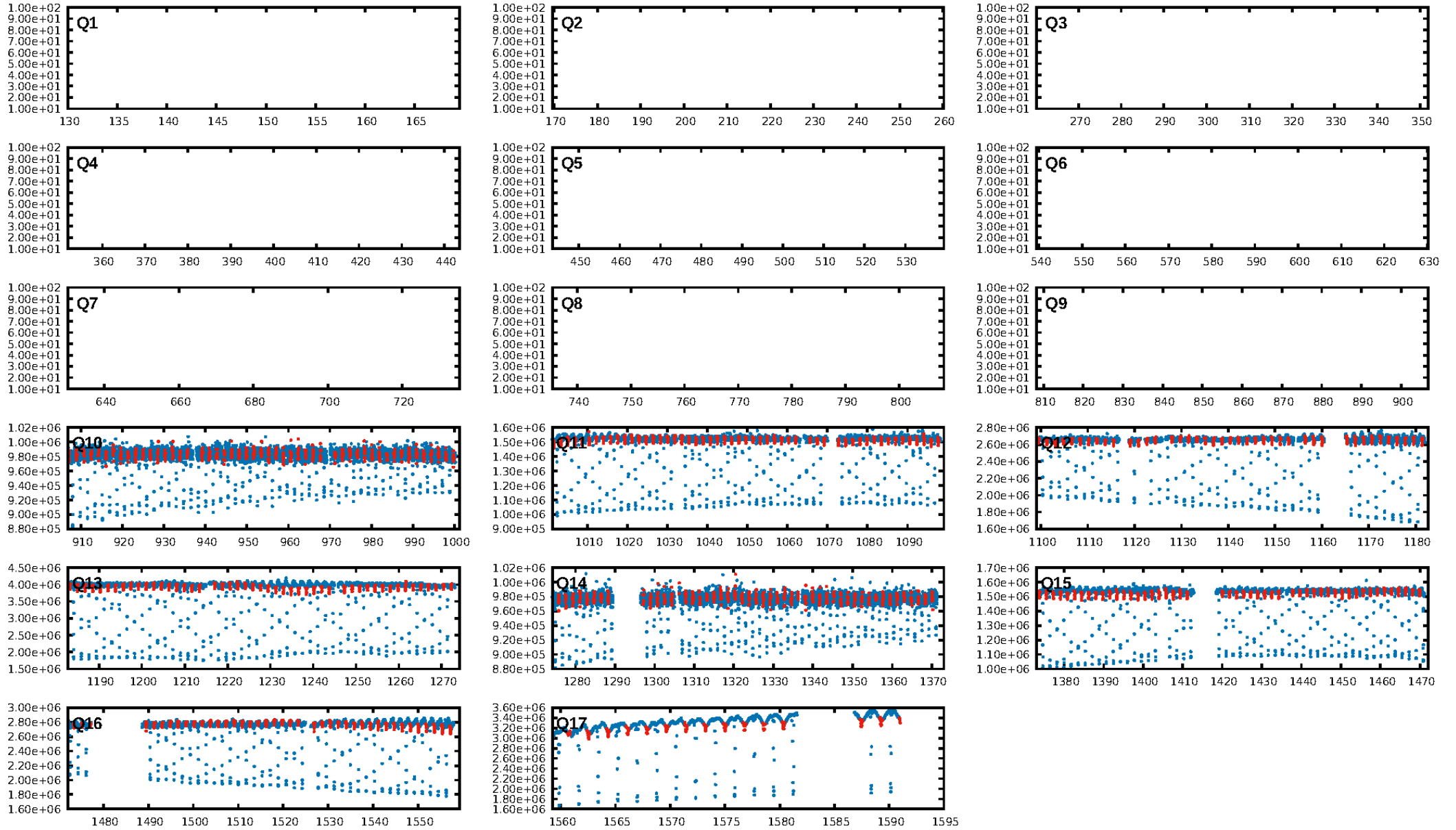
DV Fit Results:

Period = 1.78093 [0.00000] d
Epoch = 132.4415 [0.0006] BKJD
Rp/R* = 0.1194 [0.0168]
a/R* = 3.08 [0.17]
b = 0.92 [0.04]
Seff = 1208.95 [0.00]
Teq = 1504 [0] K
Rp = 13.02 [1.84] Re
a = 0.0288 [0.0000] AU
Ag = 1.42 [1.02] [0.41σ]
Teffp = 2538 [453] K [2.28σ]

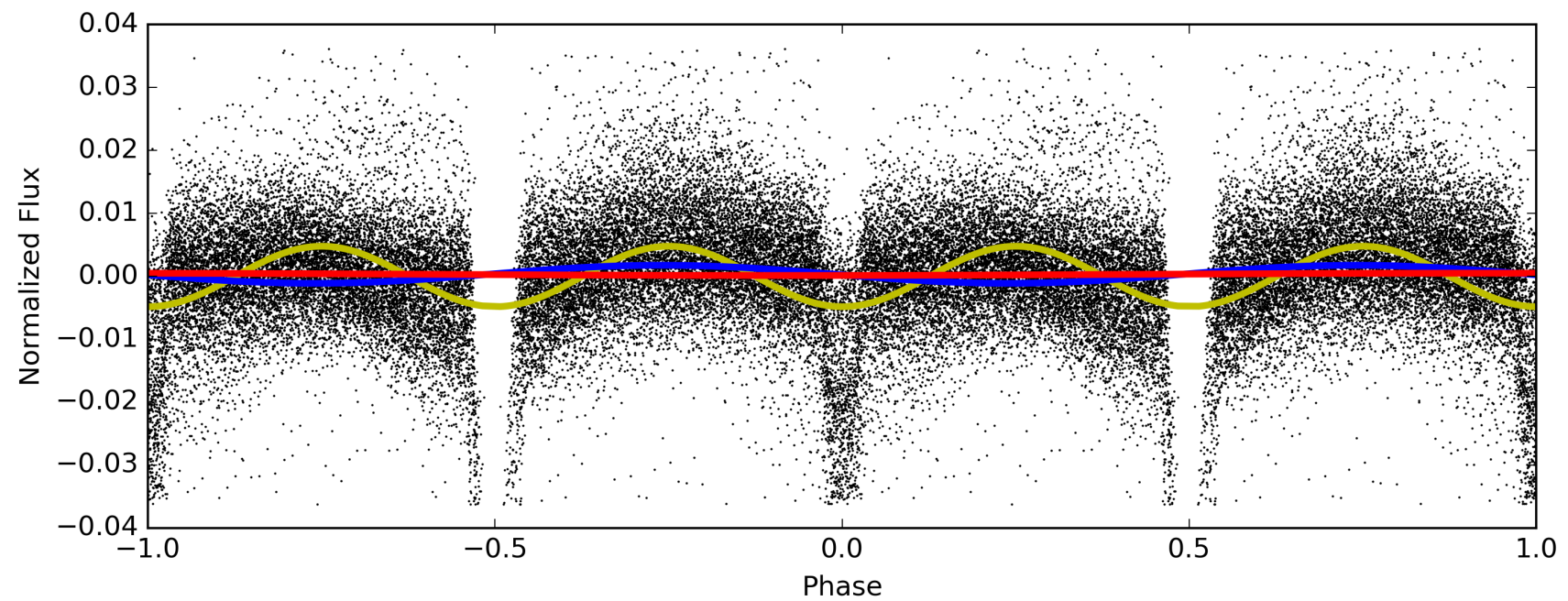
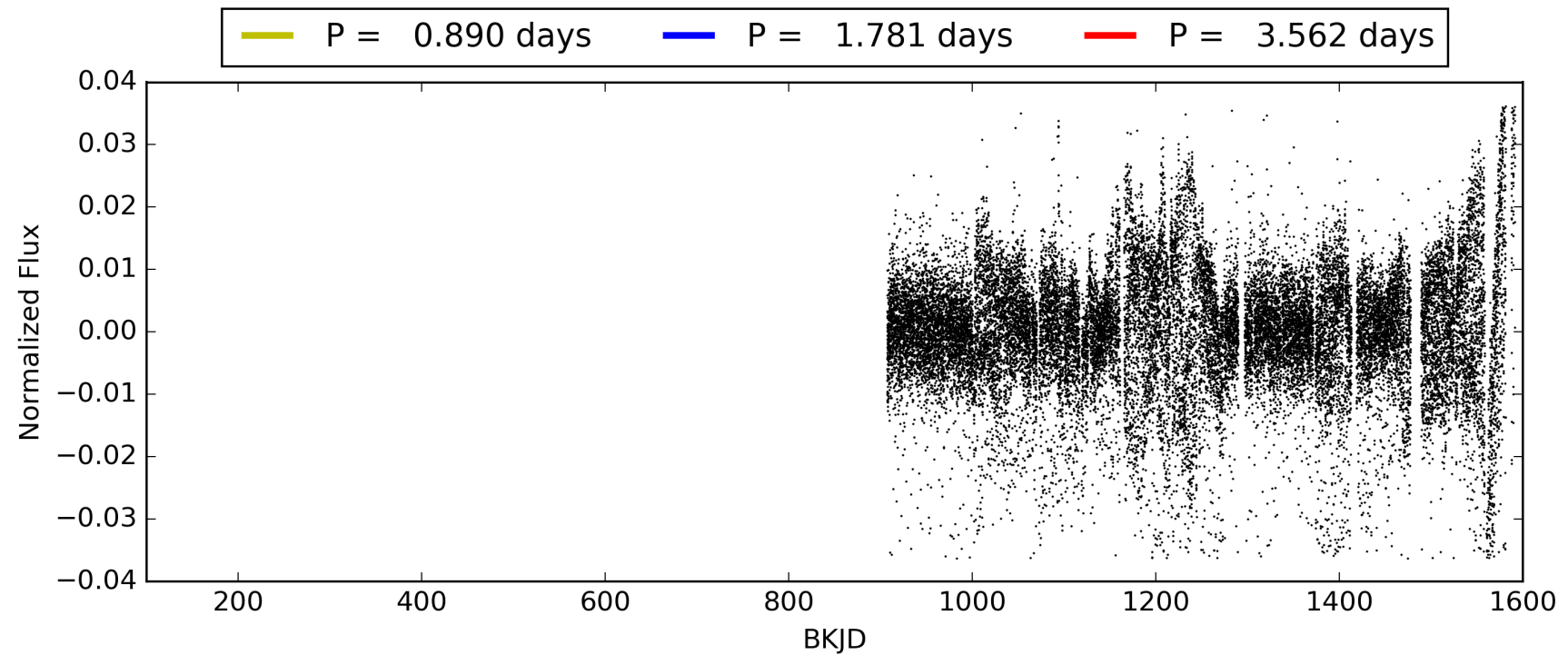
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [332/332]
GhostDiagnostic-chr: 0.4671
Centroid-sig: N/A
Centroid-so: 2.295 arcsec [55.51σ]
OotOffset-rm: 0.216 arcsec [1.25σ]
KicOffset-rm: 4.124 arcsec [60.44σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

TCE 011858741-02, PDC Light Curves

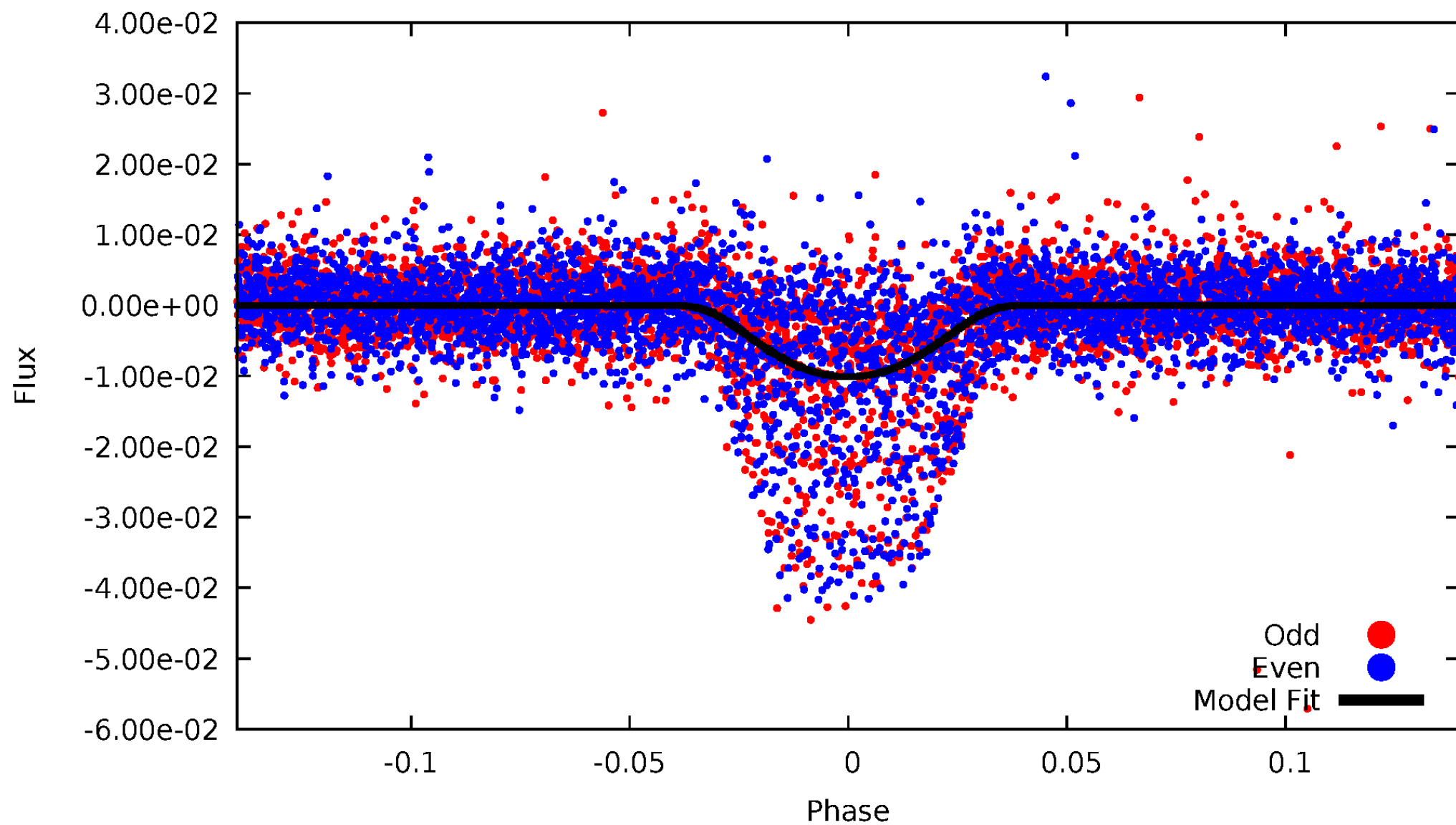


TCE 011858741-02



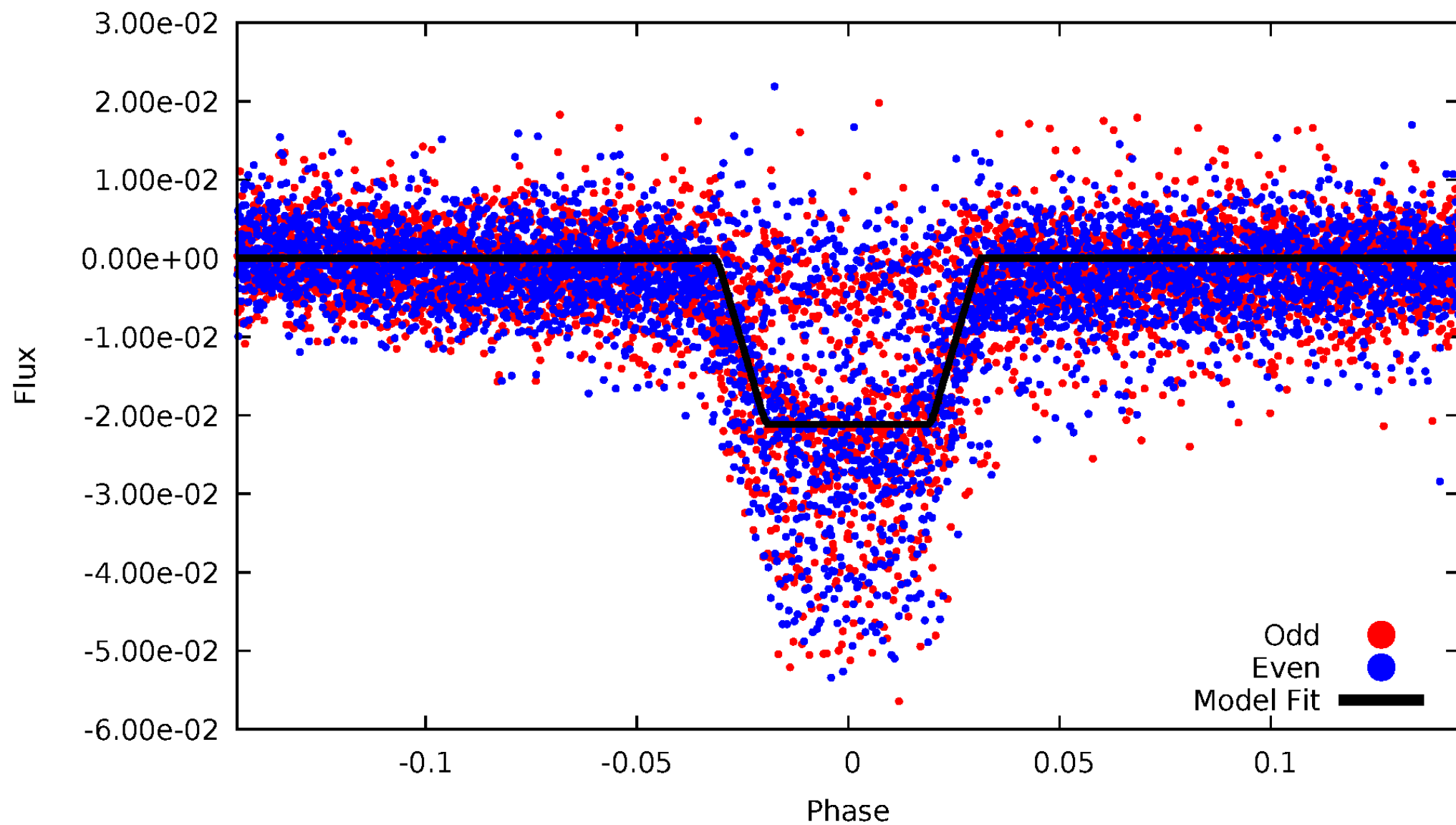
DV Odd/Even

TCE 011858741-02



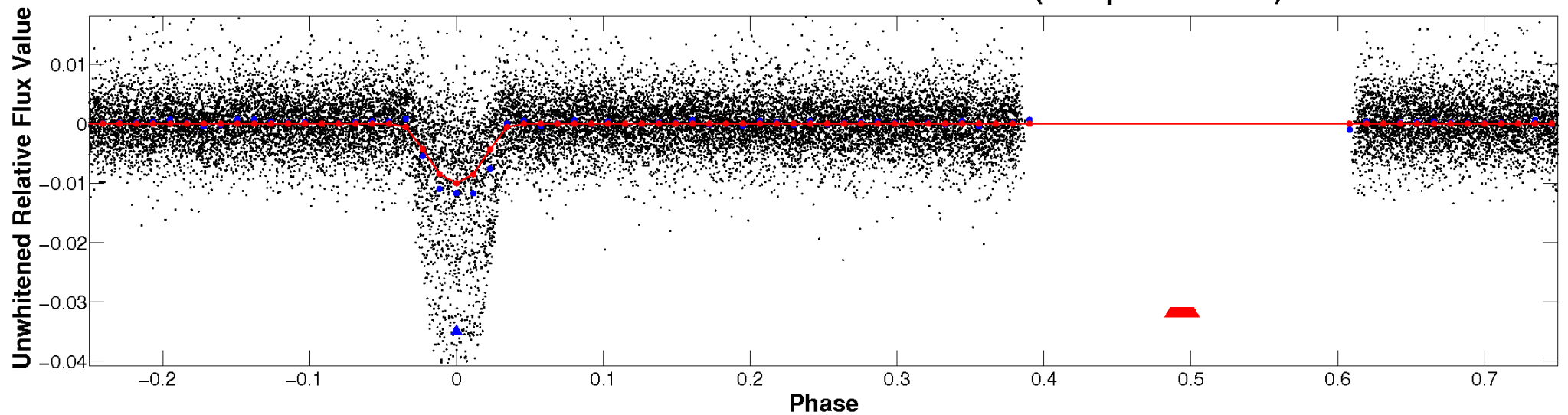
ALT Odd/Even

TCE 011858741-02

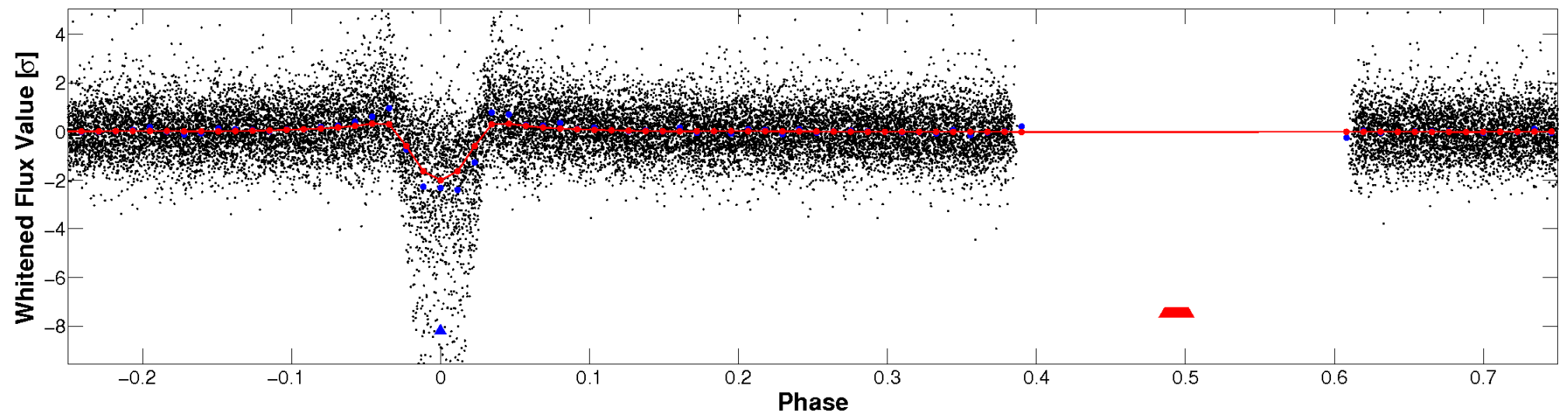


Non-Whitened Vs. Whitened Light Curve

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

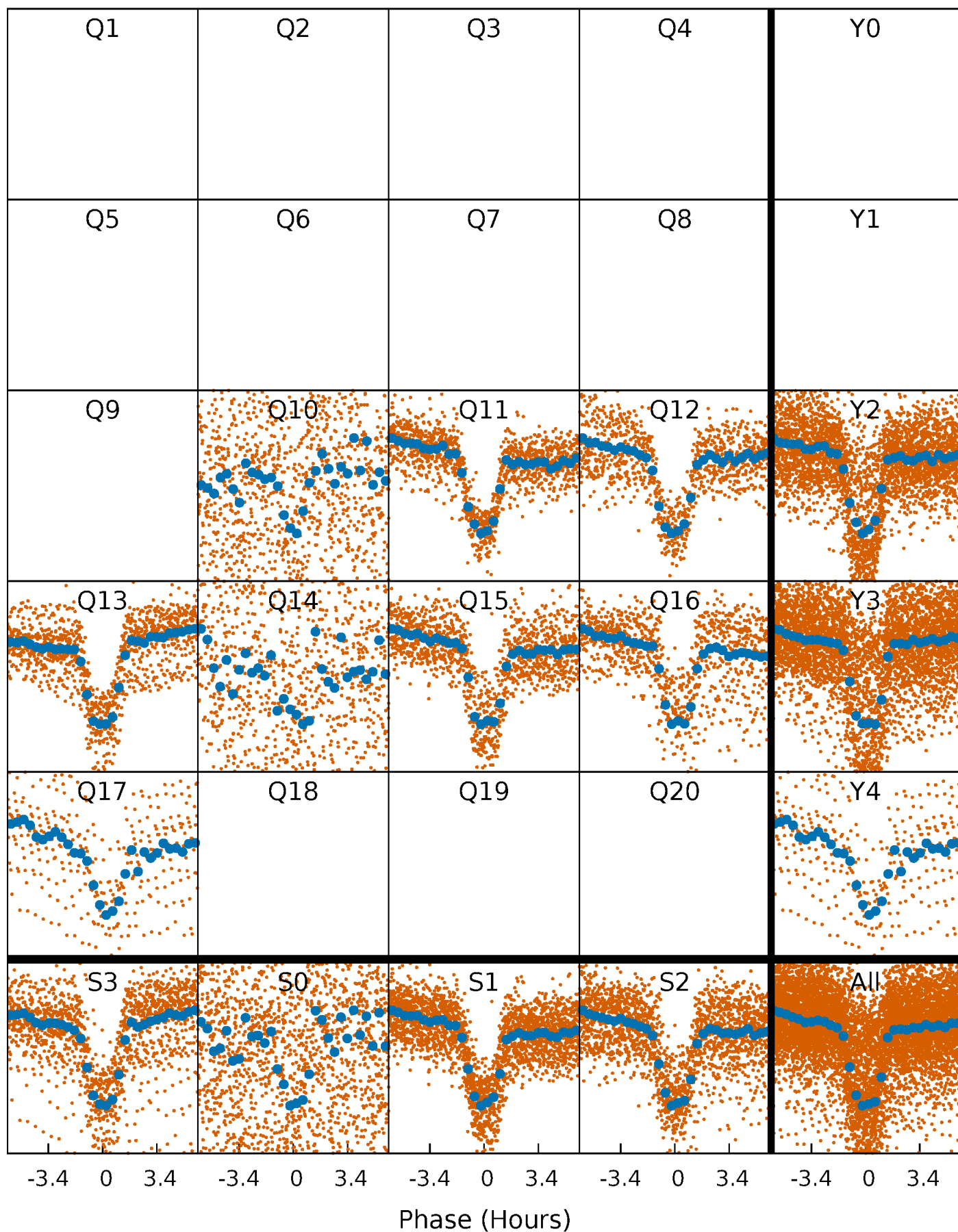


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



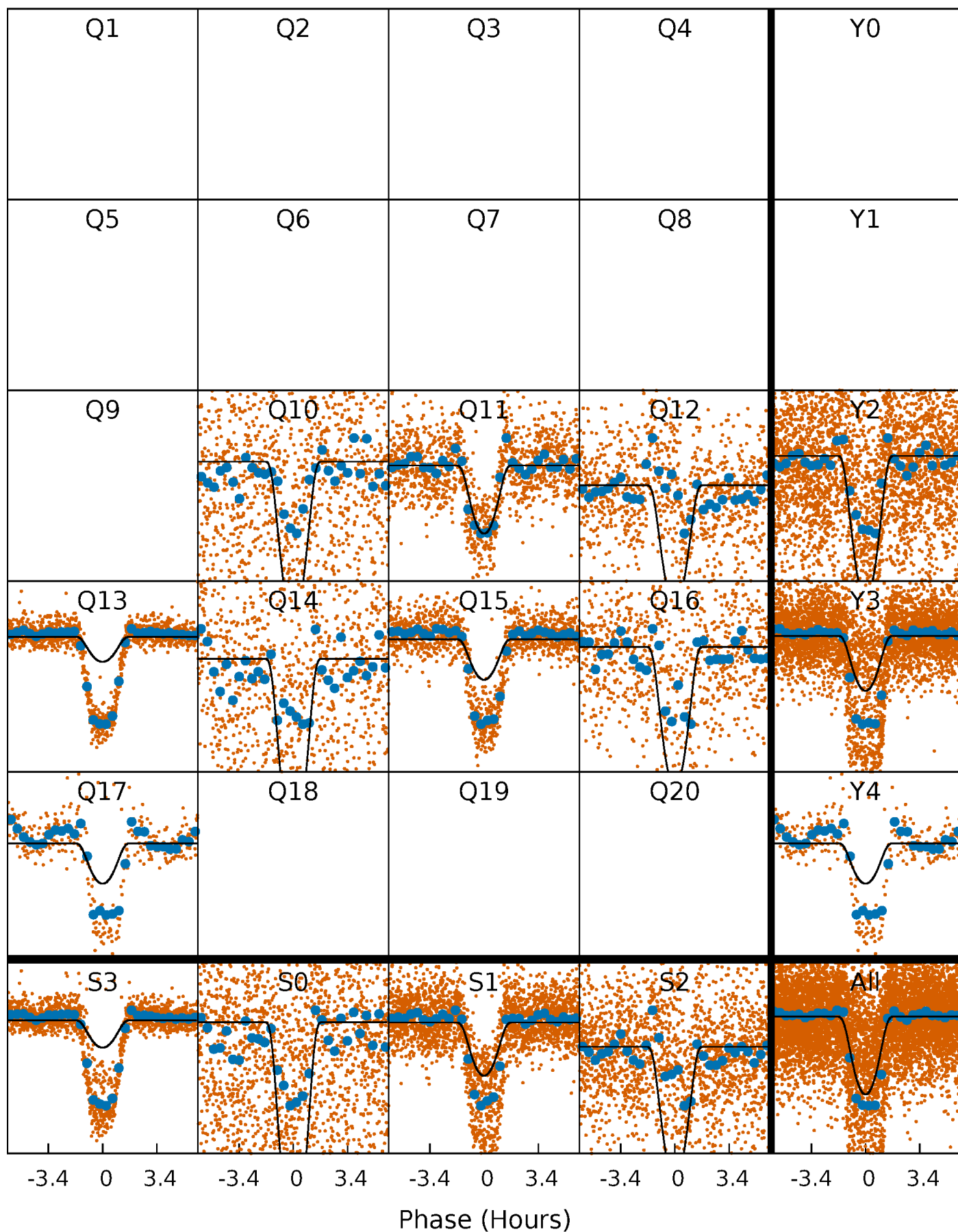
PDC Quarter-Phased Transit Curves

TCE 011858741-02 P= 1.780933 Days $T_0=132.441543$ (BKJD)



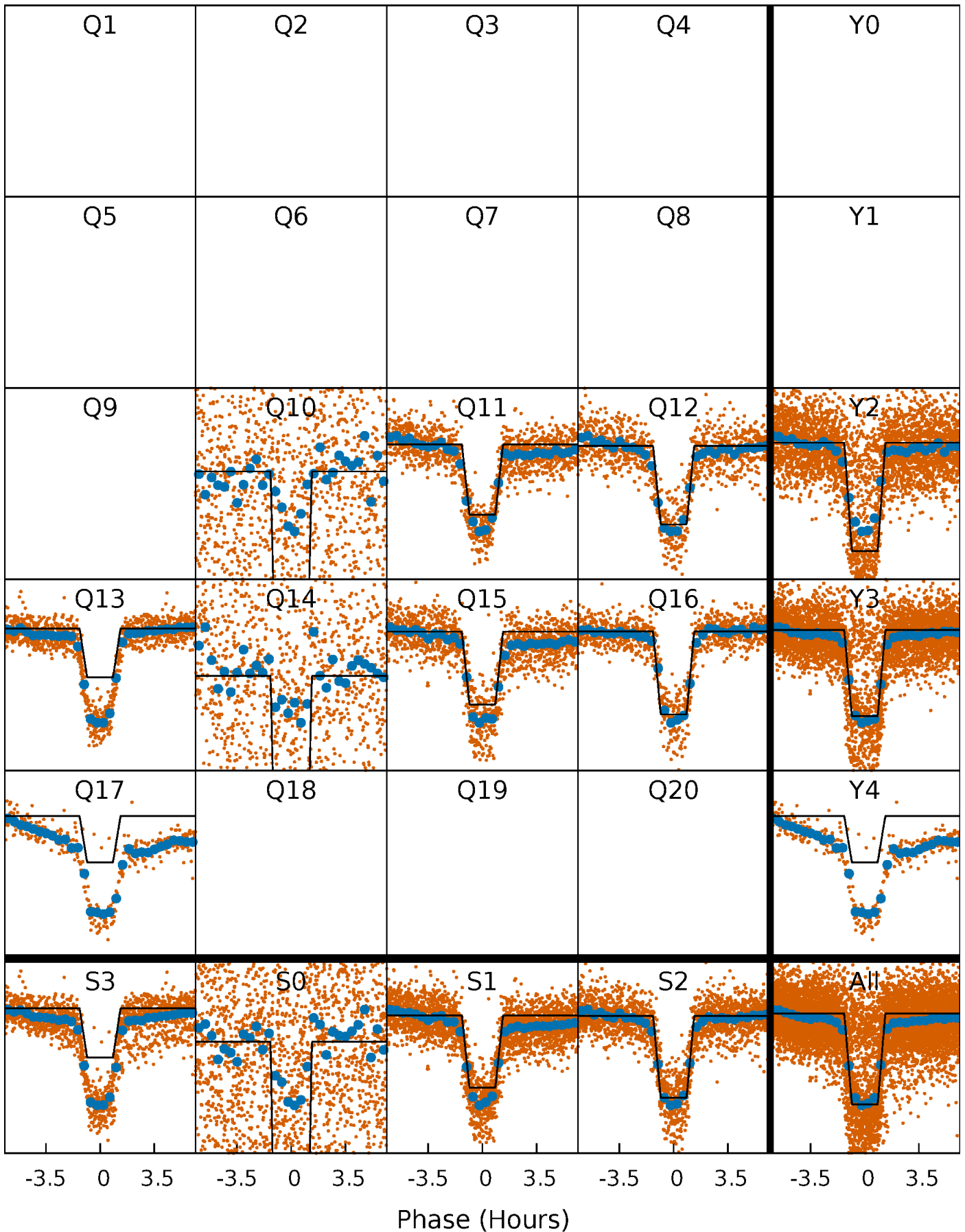
DV Quarter-Phased Transit Curves

TCE 011858741-02 P= 1.780933 Days $T_0=132.441543$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

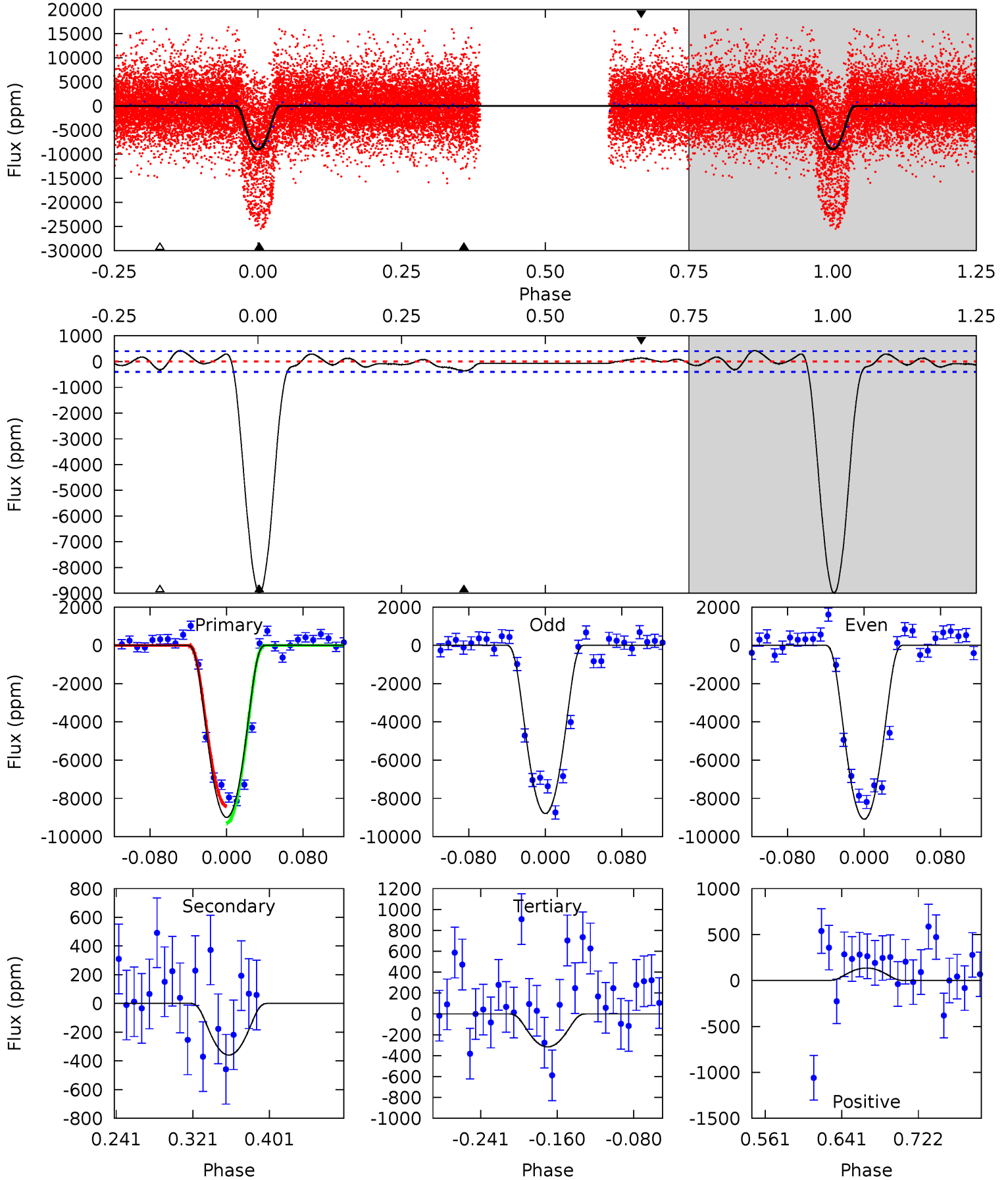
TCE 011858741-02 $P = 1.780953$ Days $T_0 = 132.430266$ (BKJD)



DV Model-Shift Uniqueness Test

011858741-02, P = 1.780933 Days, E = 132.441543 Days

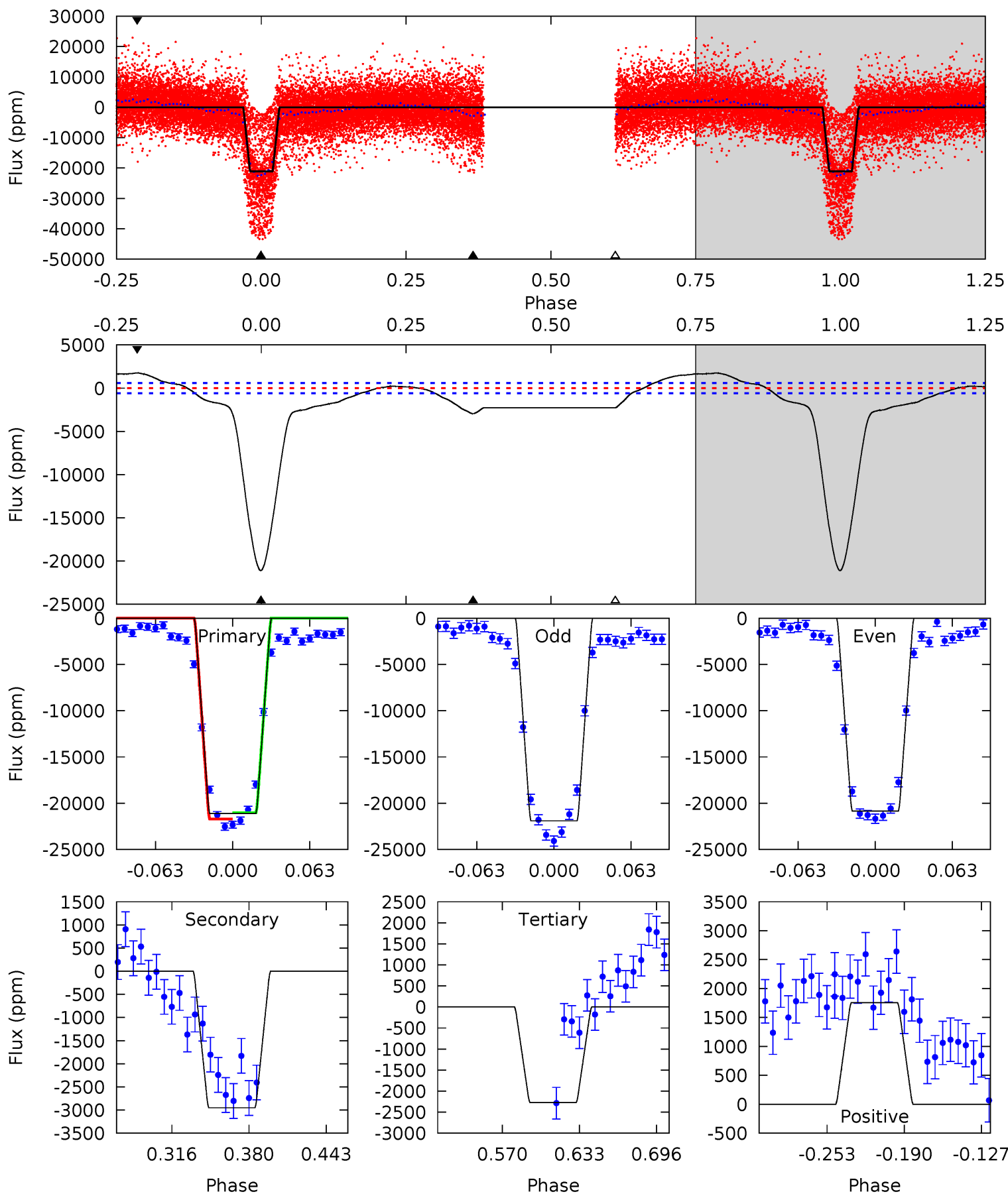
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
102.8	4.11	3.61	1.54	4.61	1.75	1.67	99.2	101.2	0.50	2.57	1.68	1.59	0.05	5.07



Alt Model-Shift Uniqueness Test

011858741-02, P = 1.780953 Days, E = 132.430266 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
166.9	23.3	18.0	13.9	4.66	1.86	9.74	148.9	153.0	5.37	9.44	4.14	0.94	0.08	2.69



Stellar Parameters For KIC 011858741

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 011858741-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-360 ± 87	$13.11^{+2.03}_{-2.16}$	2103^{+101}_{-93}	2836^{+211}_{-233}	$0.971^{+0.446}_{-0.309}$
Alt.	-2951 ± 126	$15.84^{+2.22}_{-2.07}$	2102^{+97}_{-99}	3846^{+206}_{-173}	$5.354^{+1.626}_{-1.237}$

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

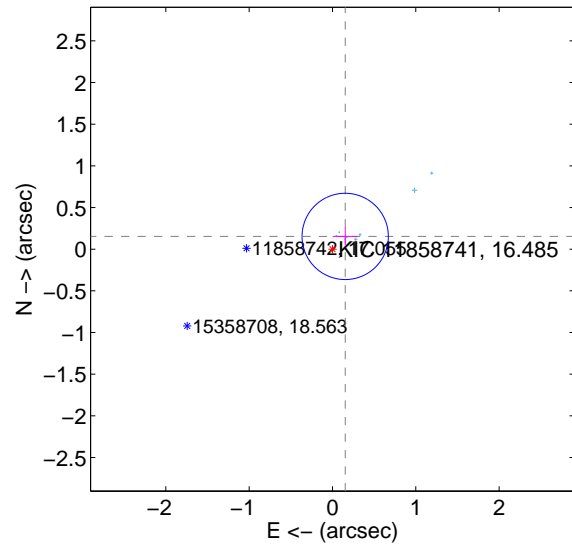
Supplemental centroid analysis for 011858741-02. Kepler magnitude: 16.48. Transit SNR 52.08

There are 8 quarters with good PRF difference image offsets

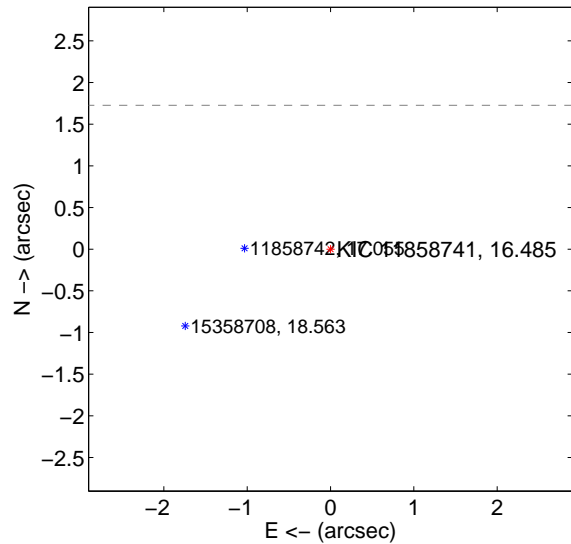
The OOT PRF centroid is offset from the target star catalog position by about 2.89 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.216 ± 0.173	1.25	-0.153 ± 0.151	0.153 ± 0.113
PRF-fit source offset from KIC position	4.124 ± 0.068	60.44	-3.745 ± 0.068	1.726 ± 0.071
photometric centroid source offset	2.29 ± 0.04	55.51	-2.23 ± 0.04	0.54 ± 0.03

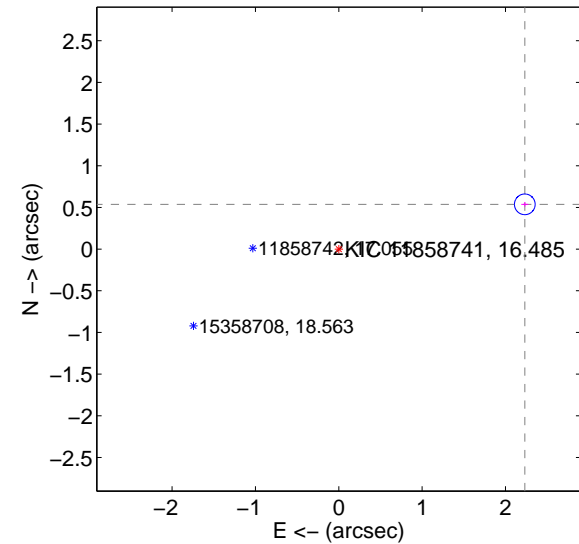
offset from difference PRF-fit to OOT PRF-fit



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- σ uncertainty. Blue circle: three- σ . 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.

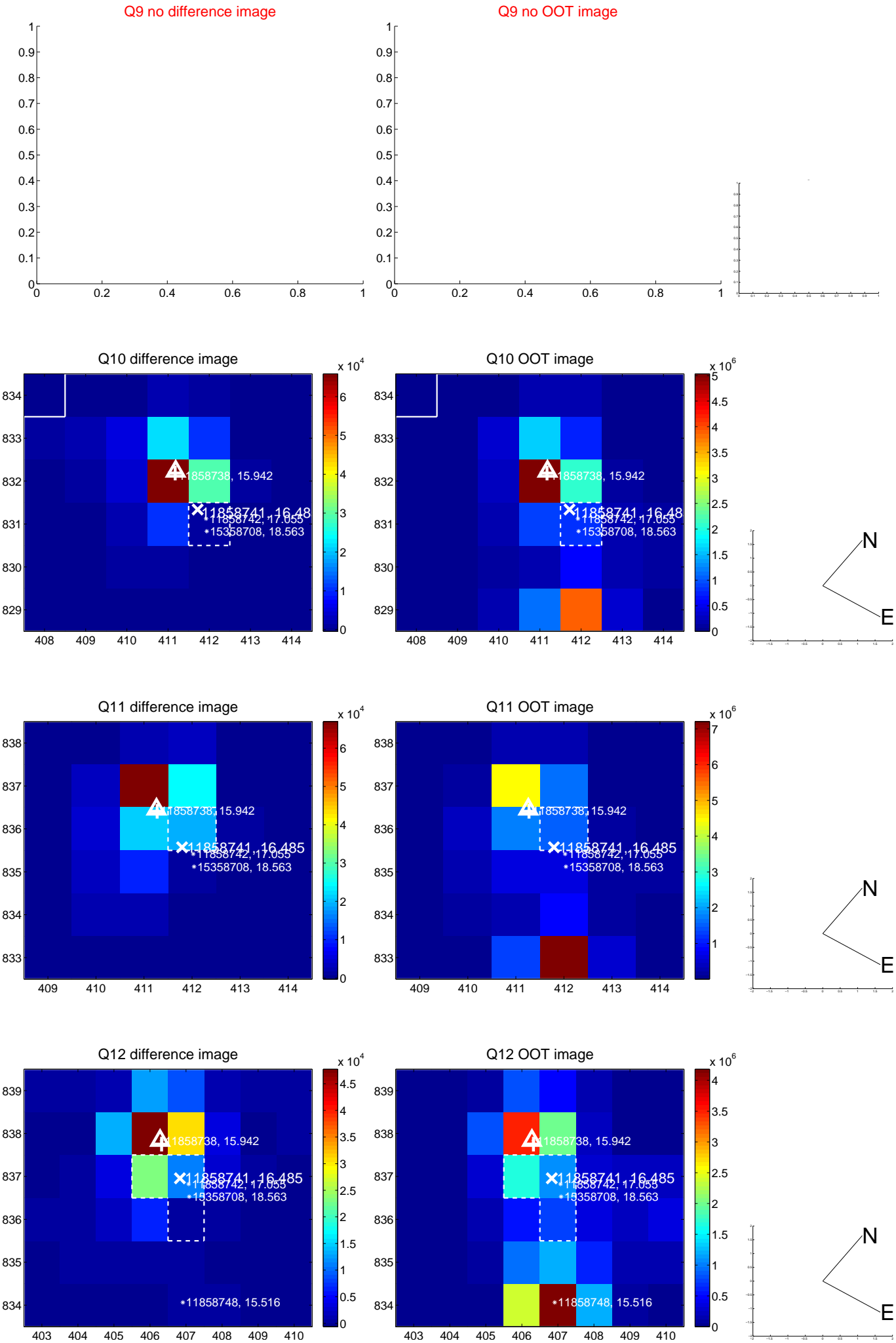
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



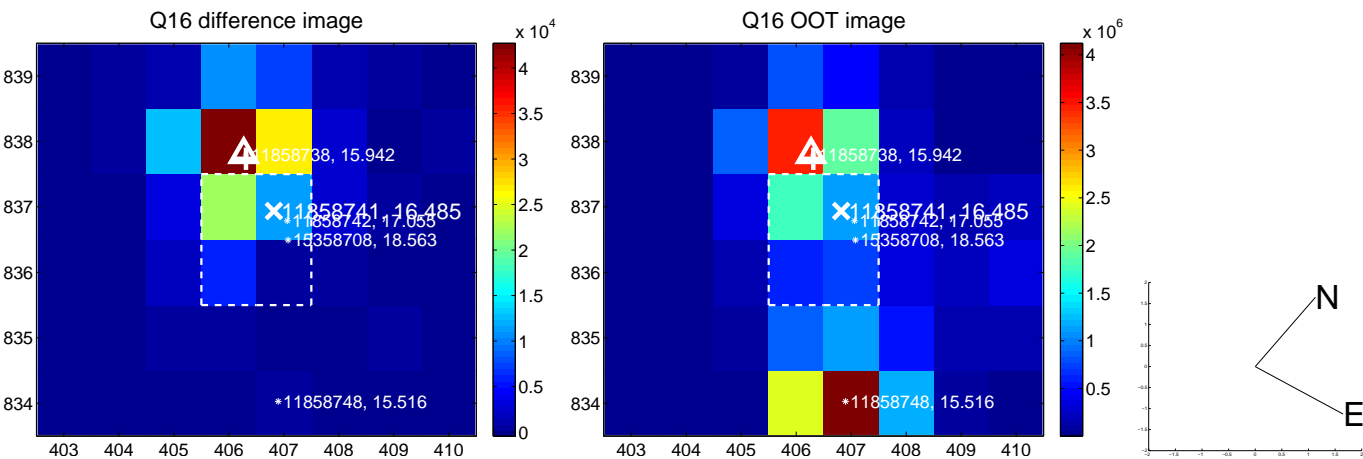
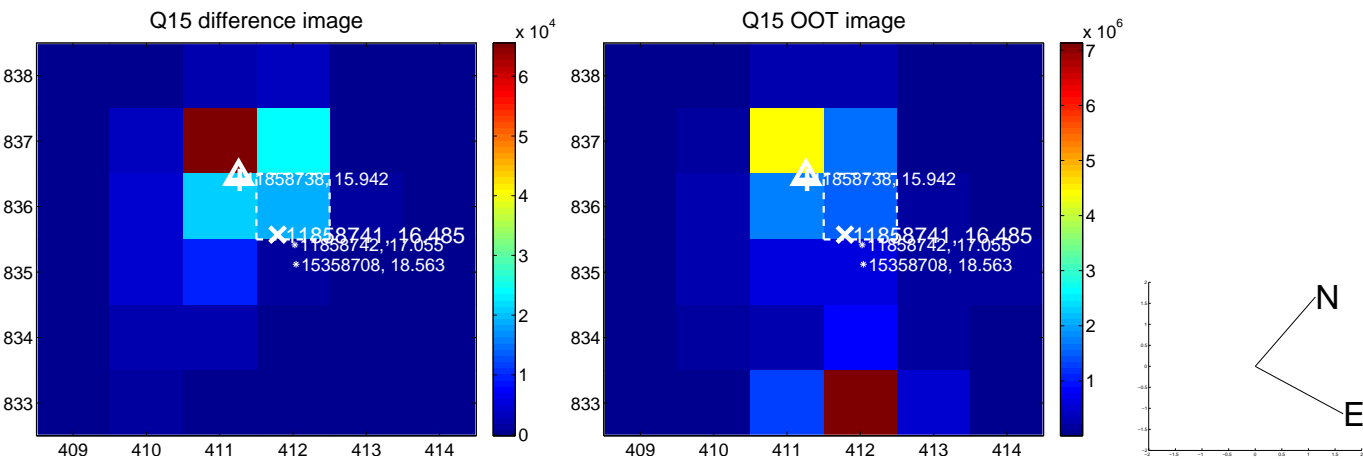
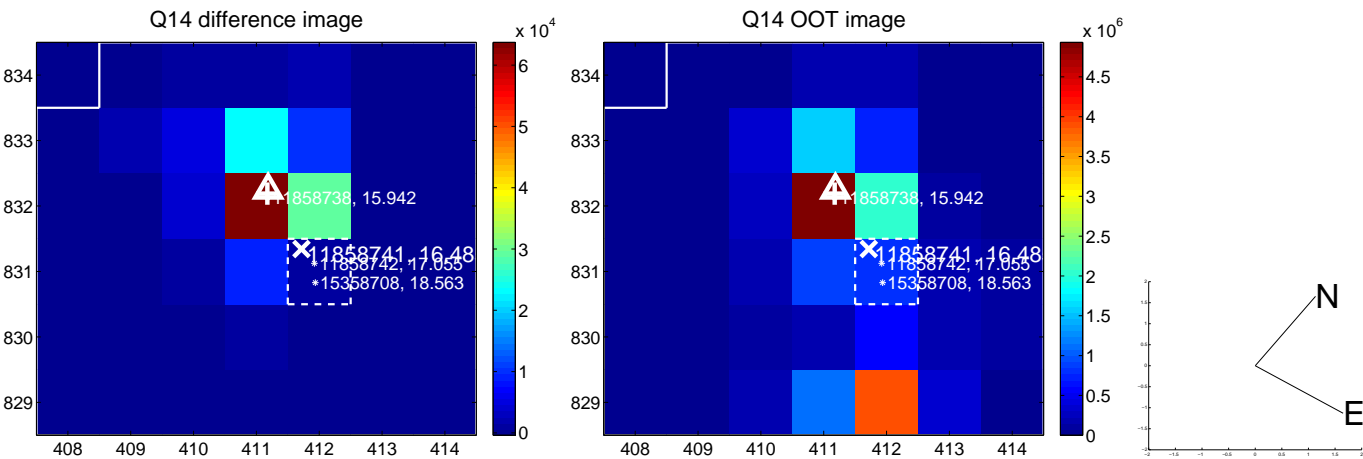
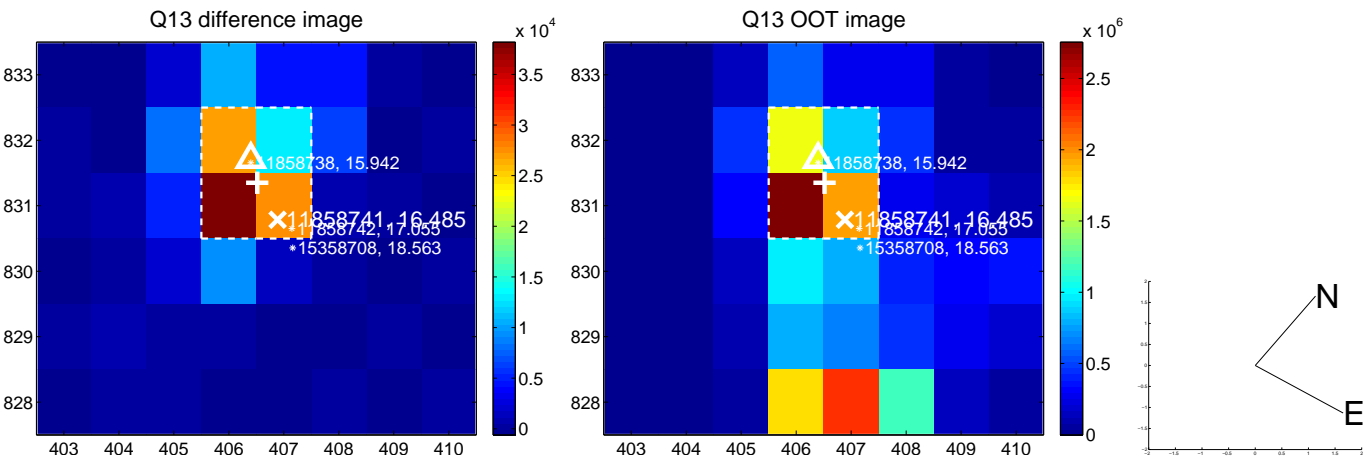
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



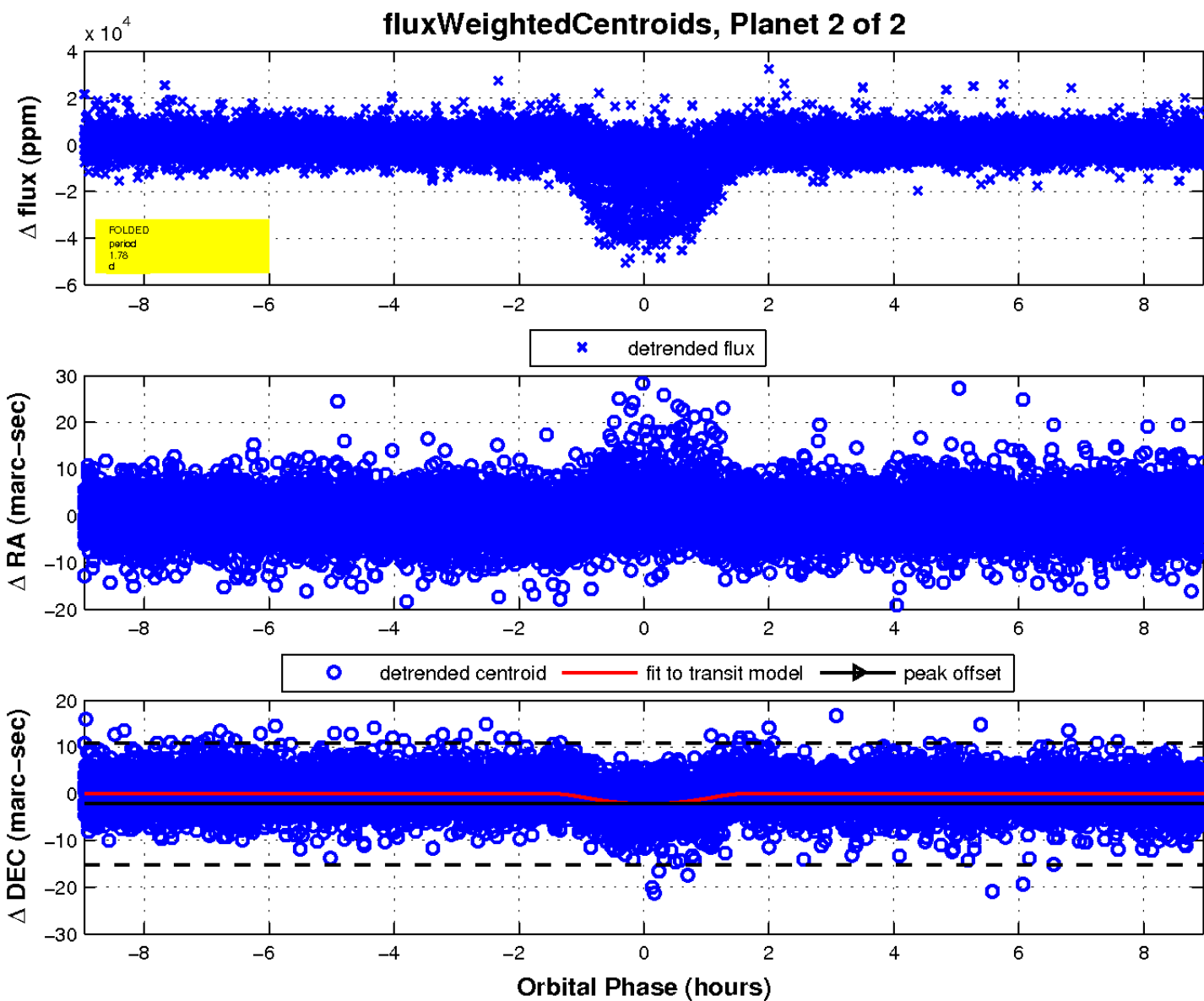
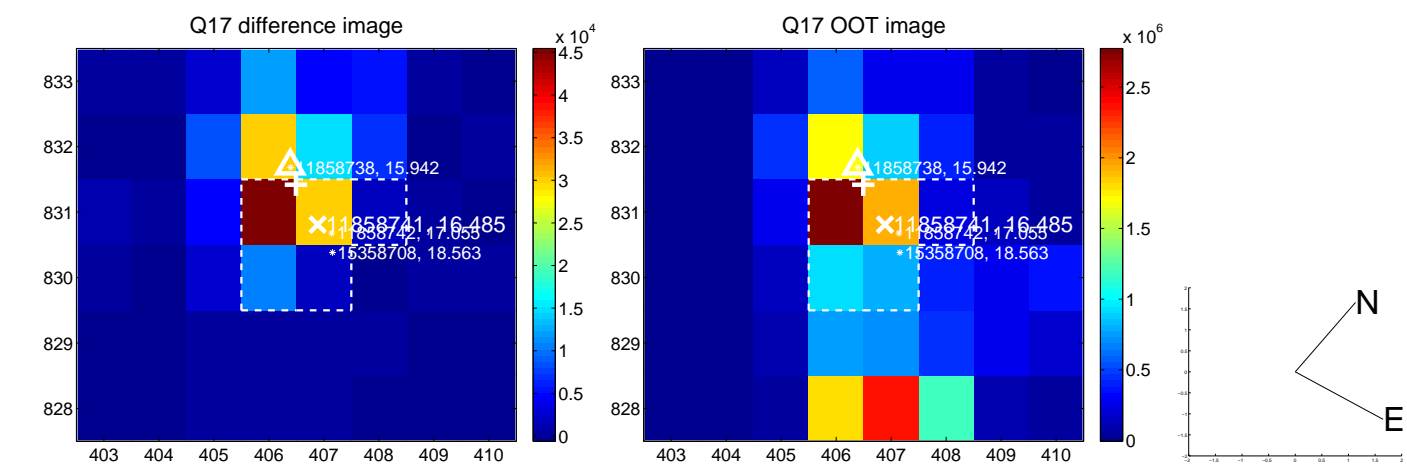
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

