

KIC 007177892

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})
007177892-01	OBS	6838.01	1.386233	132.749691	34624.5	2.972	2369.2	1550.3	1.59	6226	40.15	4938.65
007177892-02	OBS	No	1.386256	132.071369	117.3	3.030	11.6	14.1	1.59	6226	2.03	4938.54
007177892-03	OBS	No	1.388252	132.048937	111.9	3.240	7.6	8.0	1.59	6226	2.00	4929.07
007177892-04	OBS	No	316.058474	160.414960	2824.6	16.170	7.2	4.4	1.59	6226	10.10	3.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007177892-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEEP_V_SHAPED—HAS_SEC_TCE
007177892-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007177892-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007177892-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT

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.

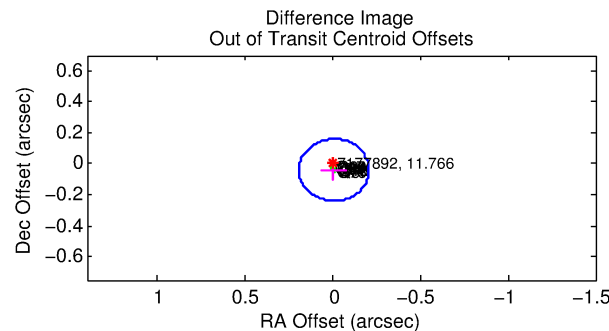
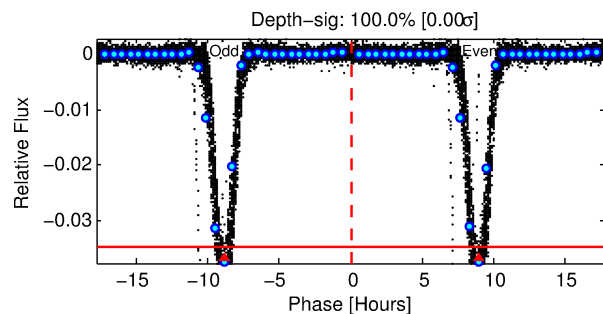
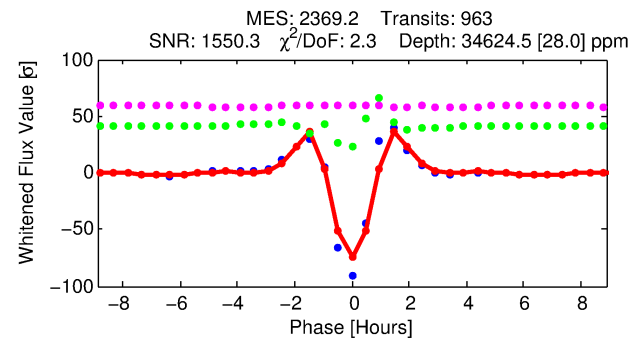
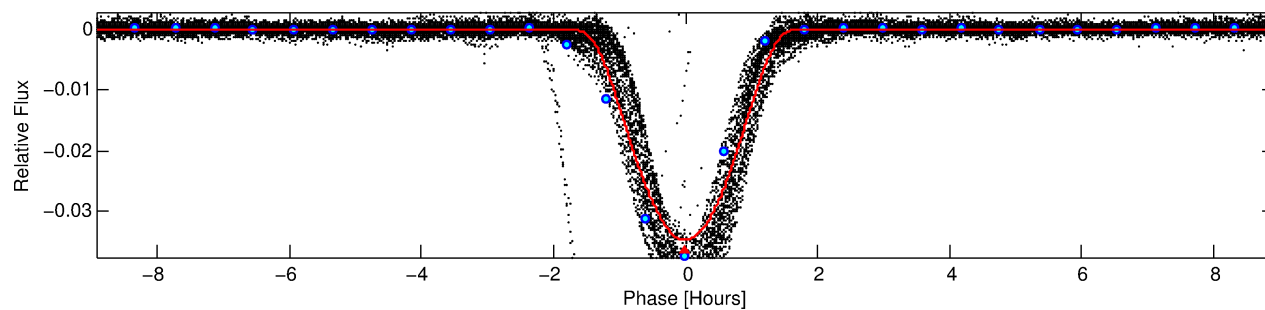
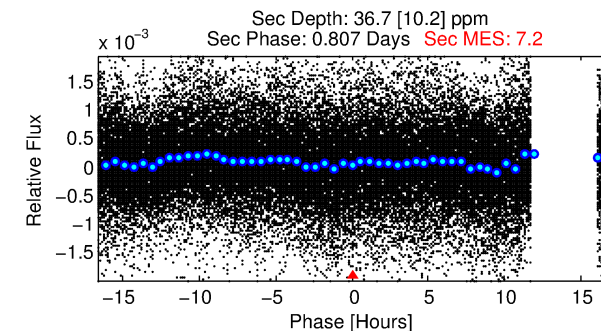
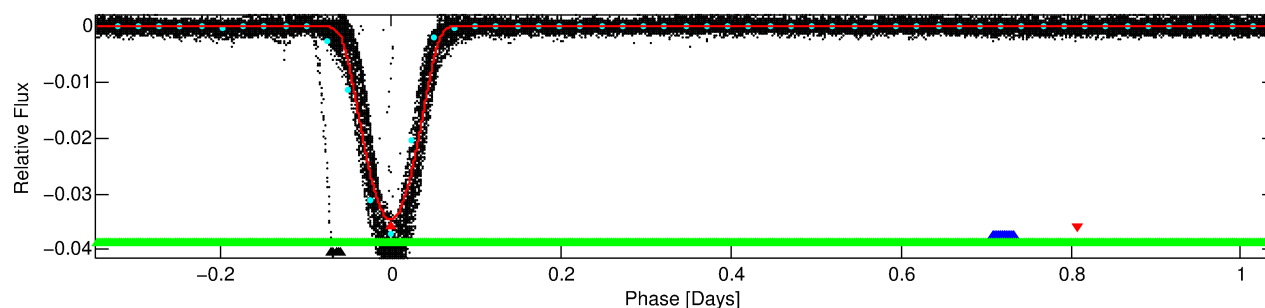
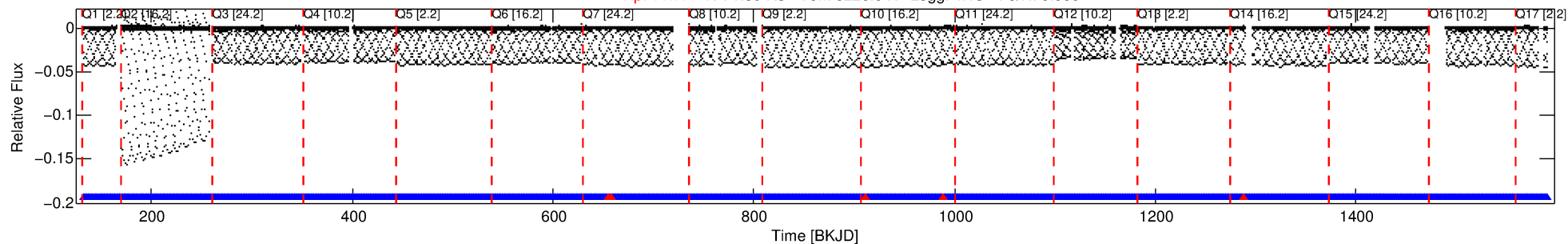
Ephemeris Match Information For 007177892-01

No Significant Match Found

DV One-Page Summary

KIC: 7177892 Candidate: 1 of 4 Period: 1.386 d
KOI: K06838.01 Corr: 0.964

Kp: 11.77 R*: 1.59 Rs Teff: 6226.0 K Logg: 4.13 Fe/H: 0.060



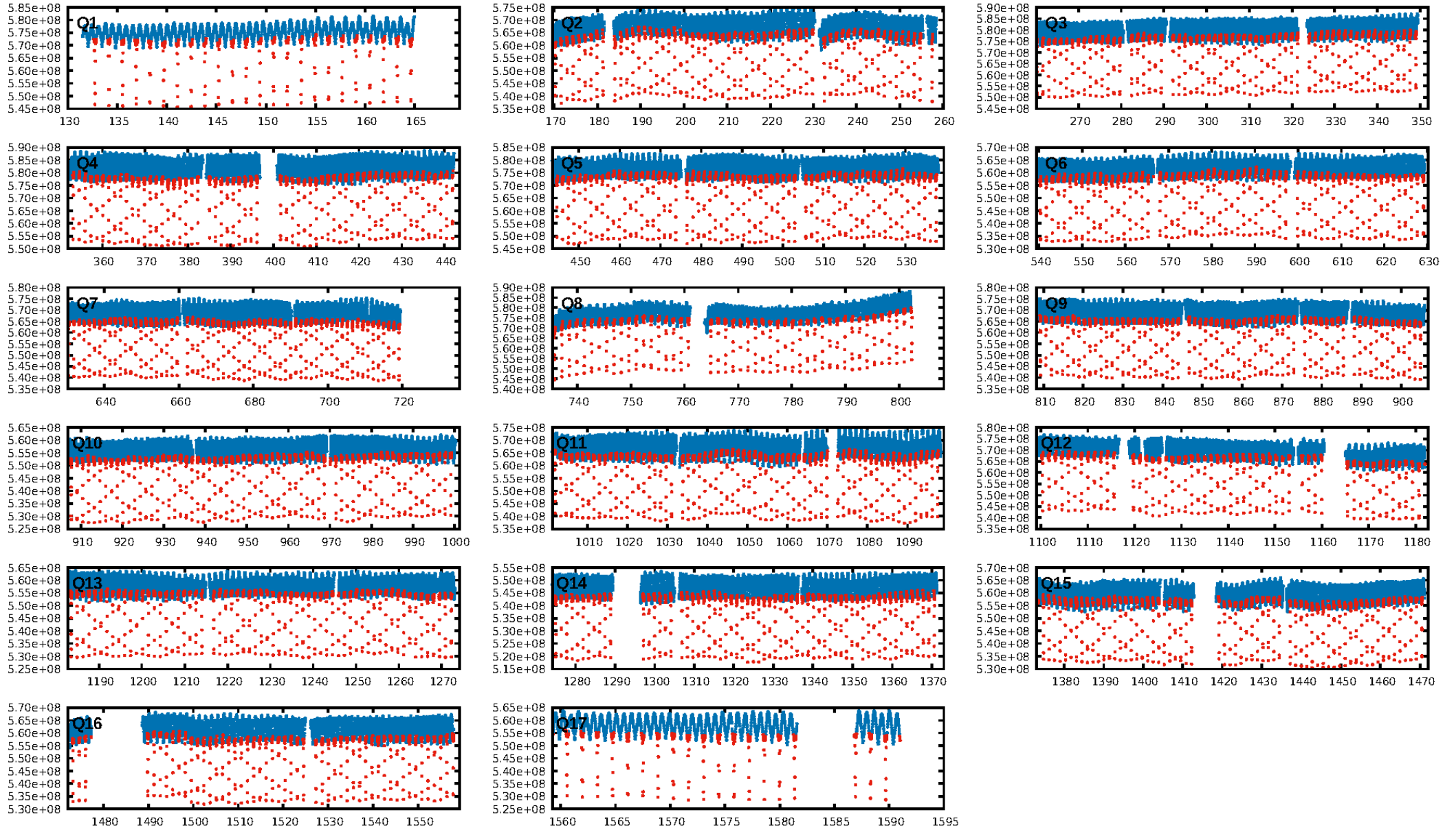
DV Fit Results:

Period = 1.38623 [0.00000] d
Epoch = 132.7497 [0.0000] BKJD
Rp/R* = 0.2308 [0.0014]
a/R* = 3.16 [0.00]
b = 0.90 [0.00]
Seff = 4938.65 [2190.91]
Teff = 2138 [237] K
Rp = 40.15 [11.67] Re
a = 0.0263 [0.0070] AU
Ag = 0.01 [0.00] [-228.72σ]
Teffp = 1008 [80] K [-4.51σ]

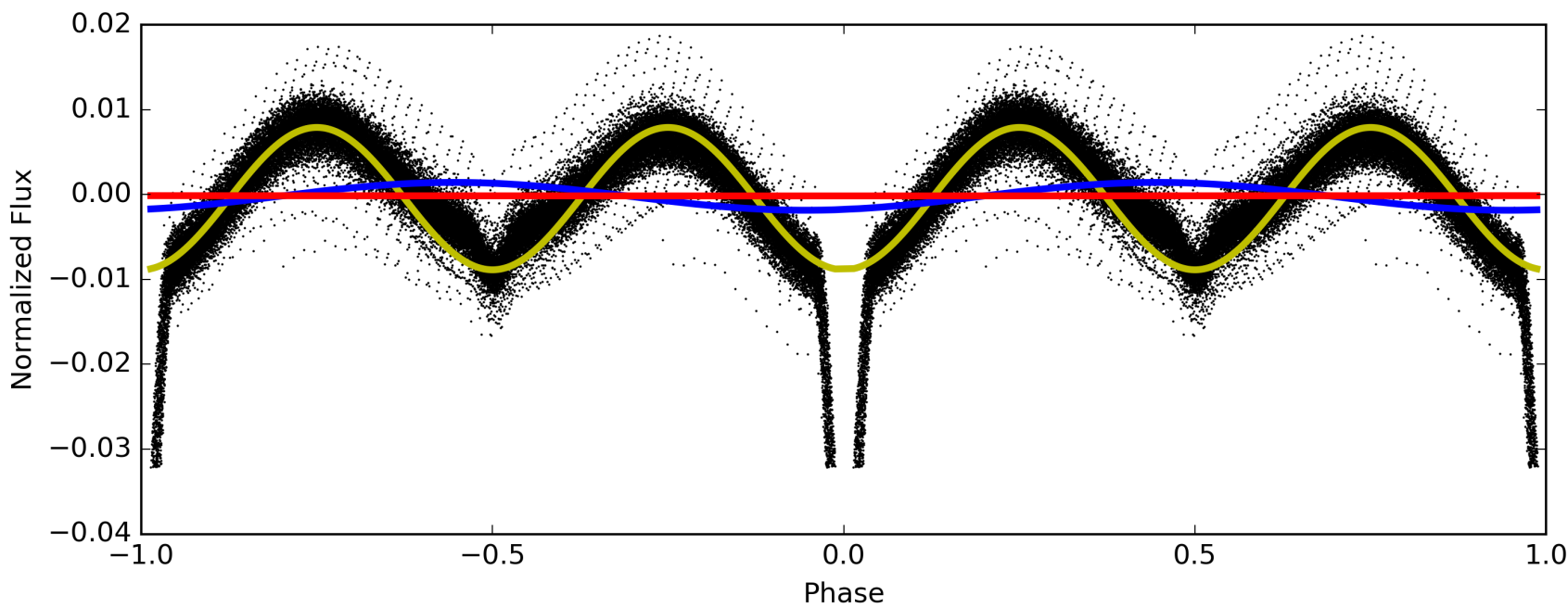
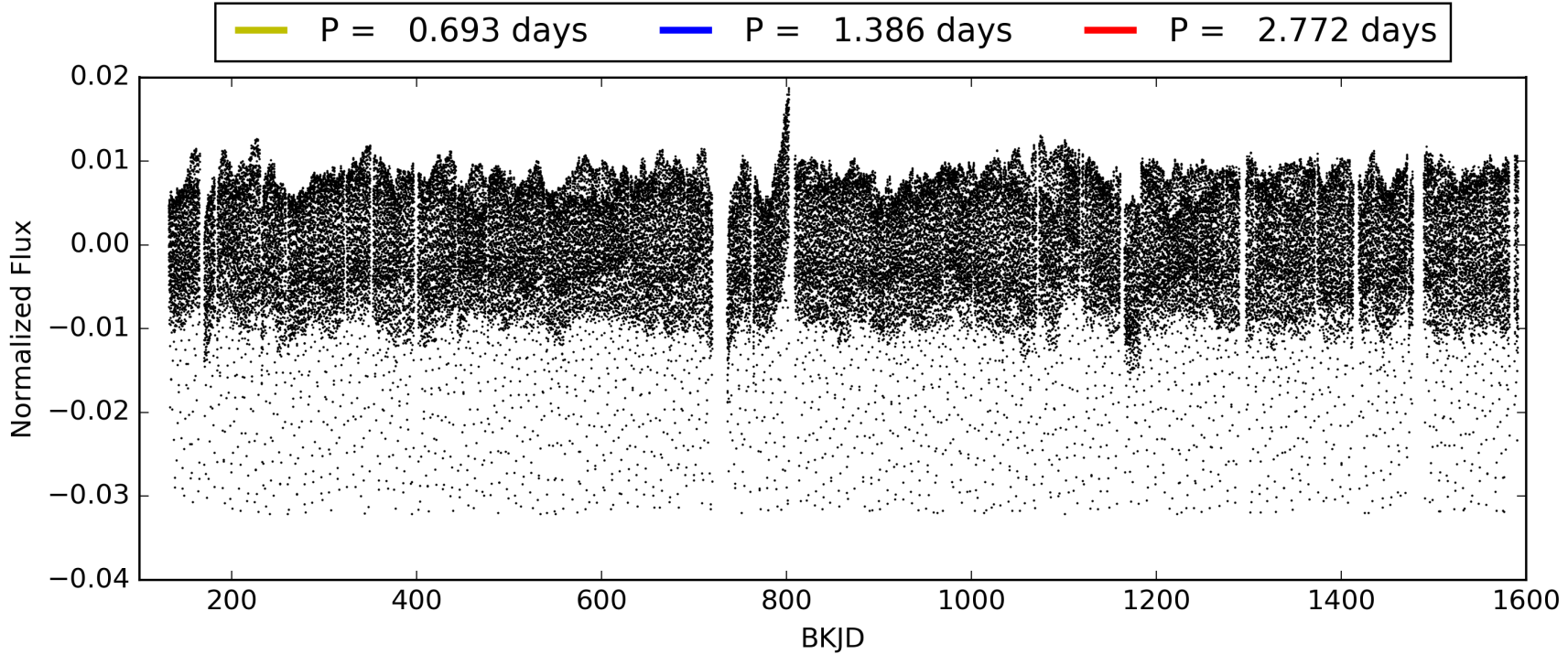
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [913/918]
GhostDiagnostic-chr: 1.379
Centroid-sig: 0.0%
Centroid-so: 0.060 arcsec [107.08σ]
OotOffset-rm: 0.041 arcsec [0.61σ]
KicOffset-rm: 0.083 arcsec [1.23σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.53 [9/17]

TCE 007177892-01, PDC Light Curves

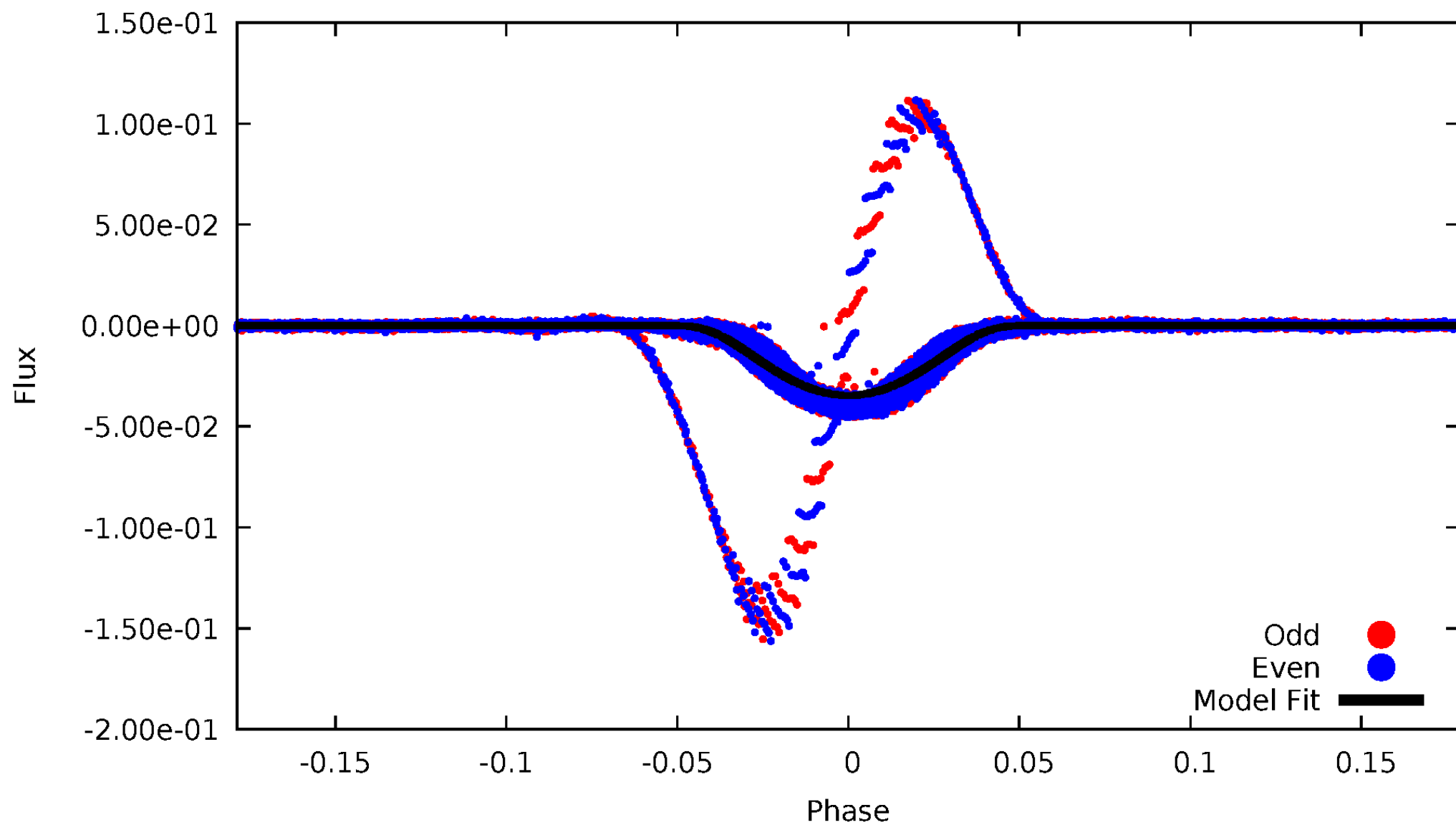


TCE 007177892-01



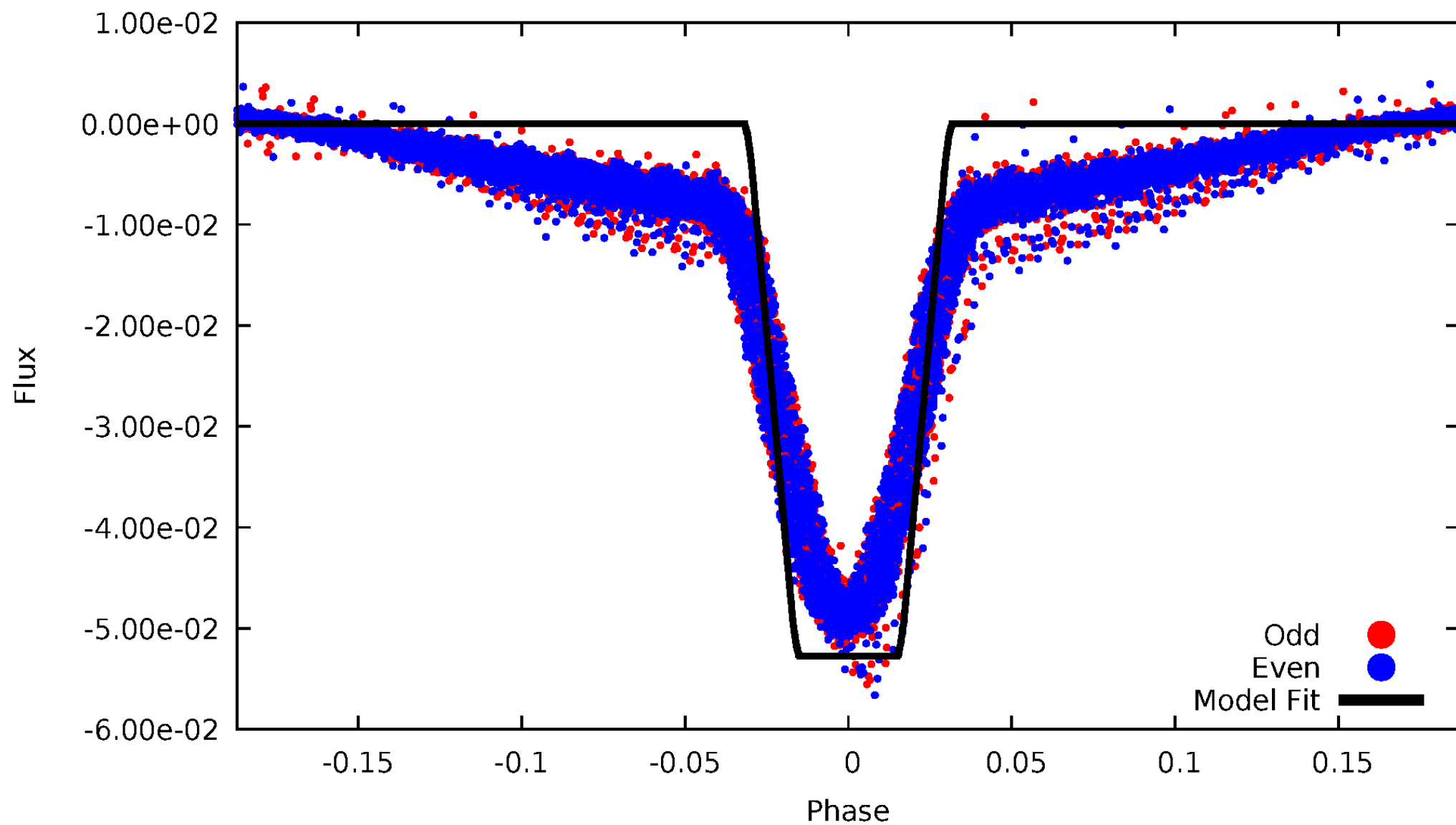
DV Odd/Even

TCE 007177892-01



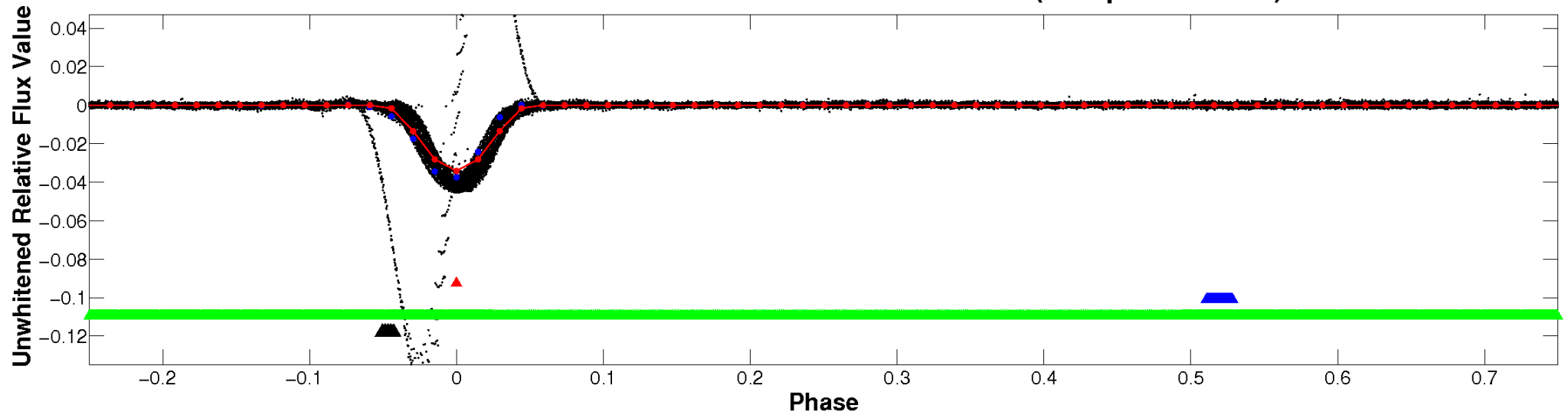
ALT Odd/Even

TCE 007177892-01

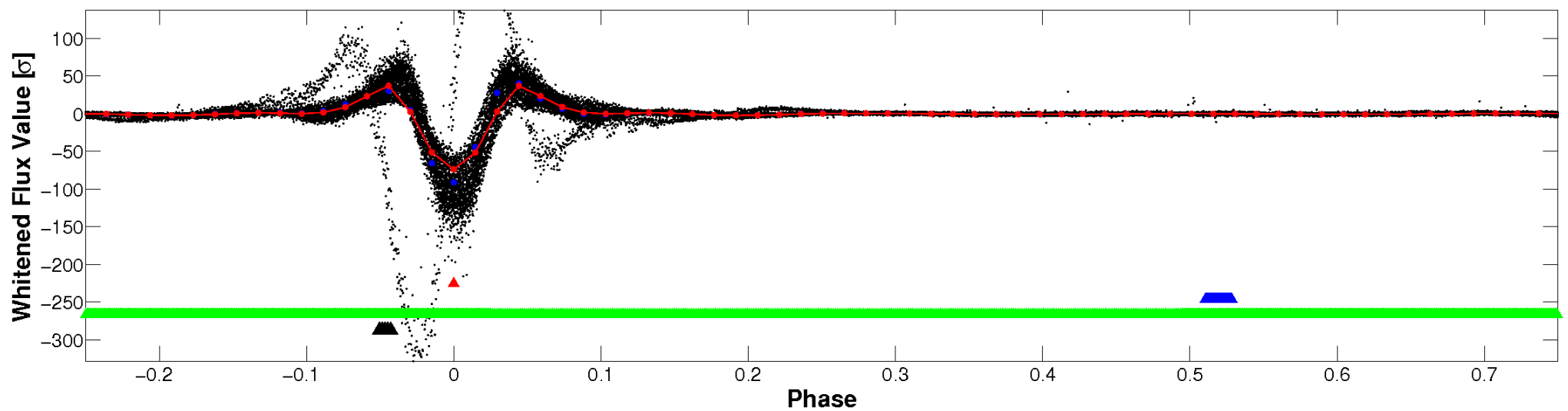


Non-Whitened Vs. Whitened Light Curve

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

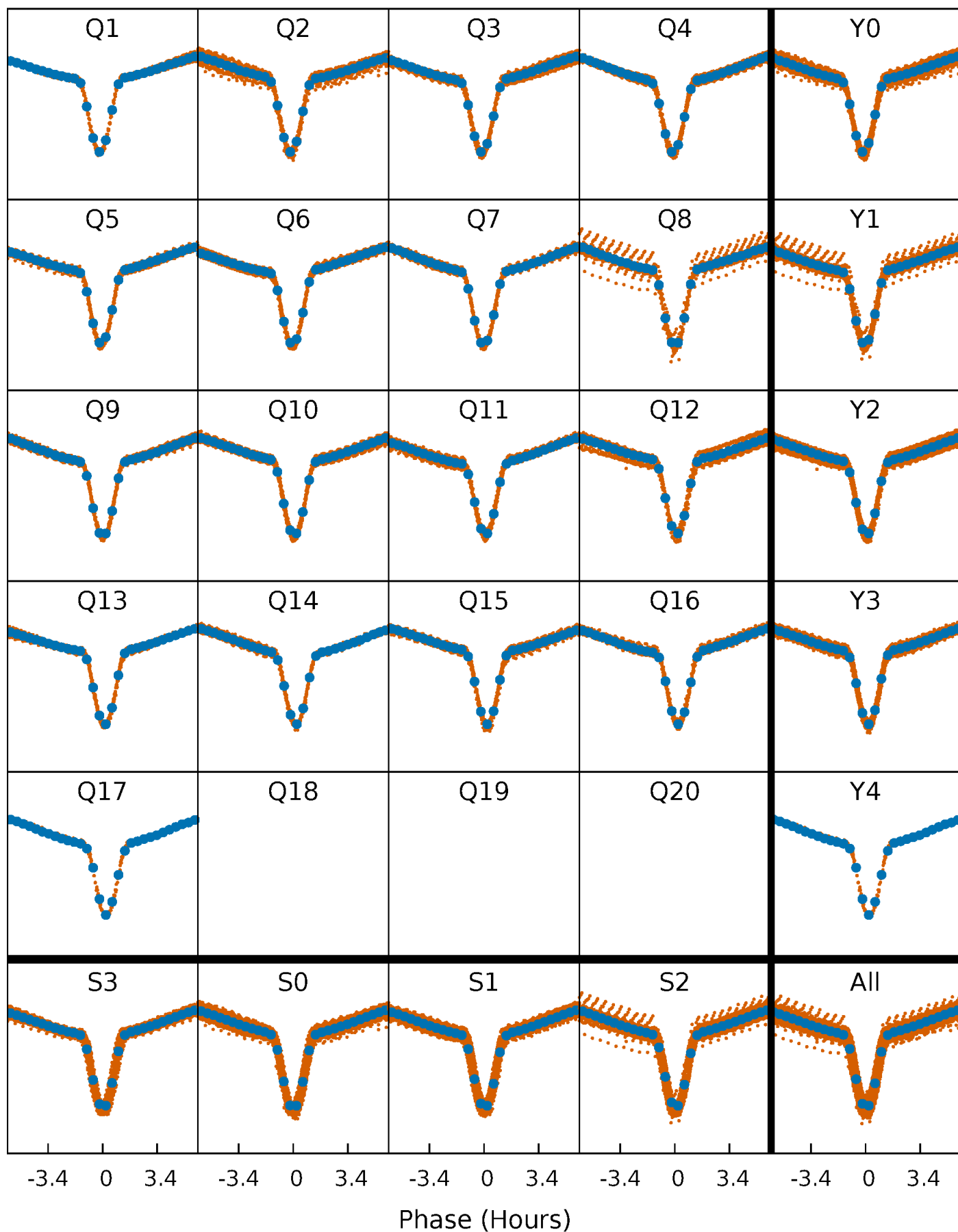


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



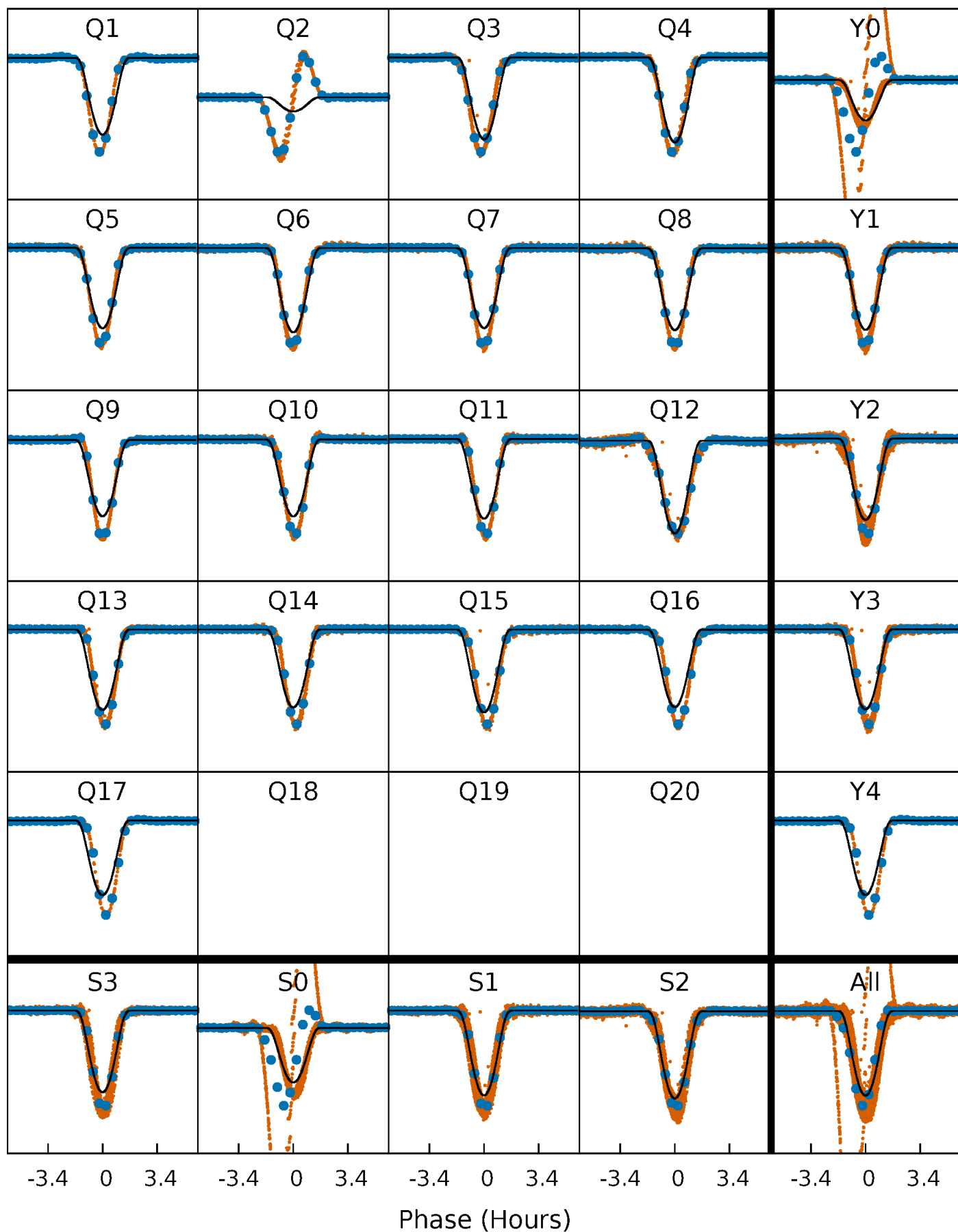
PDC Quarter-Phased Transit Curves

TCE 007177892-01 P= 1.386233 Days $T_0=132.749691$ (BKJD)



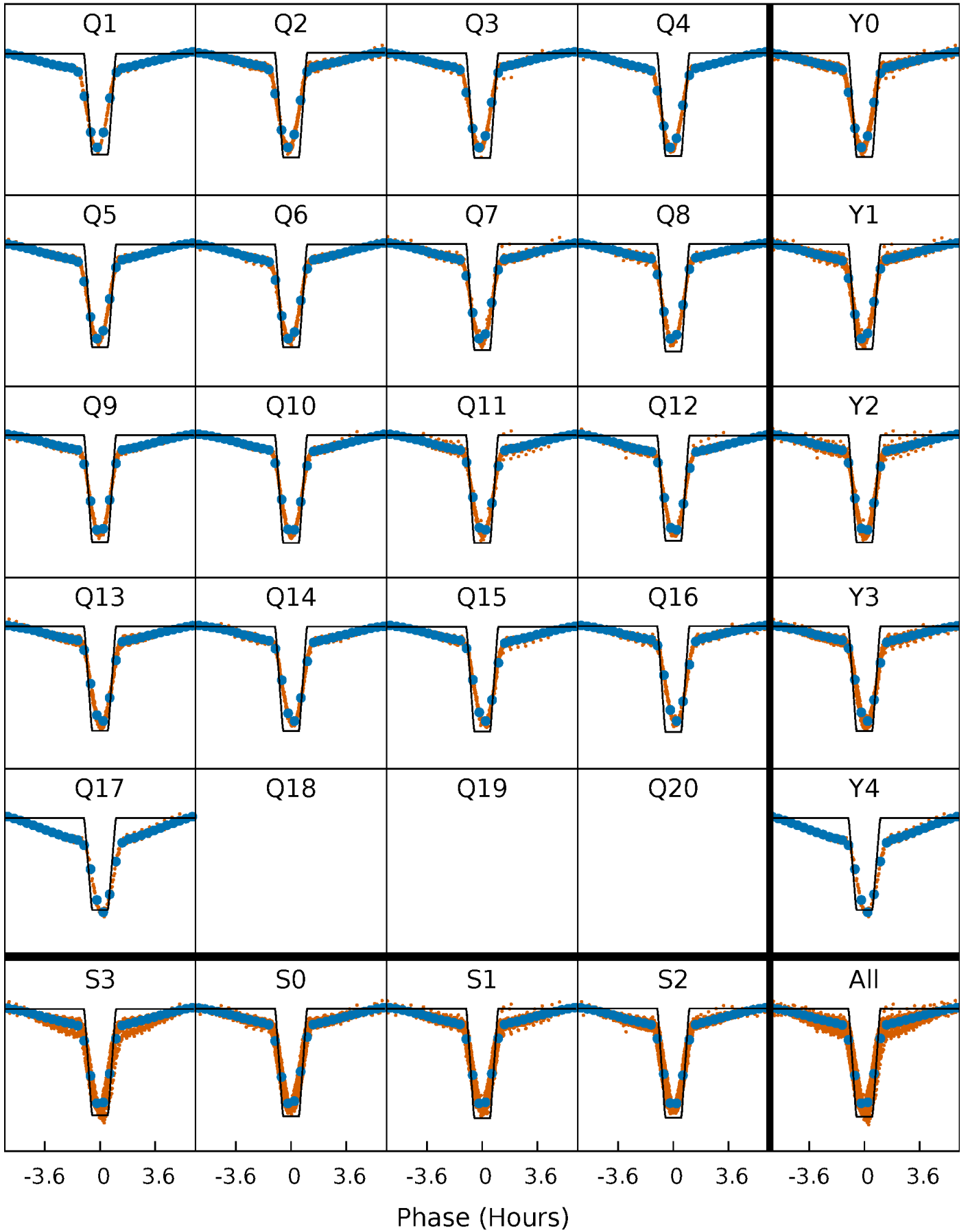
DV Quarter-Phased Transit Curves

TCE 007177892-01 P= 1.386233 Days $T_0=132.749691$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

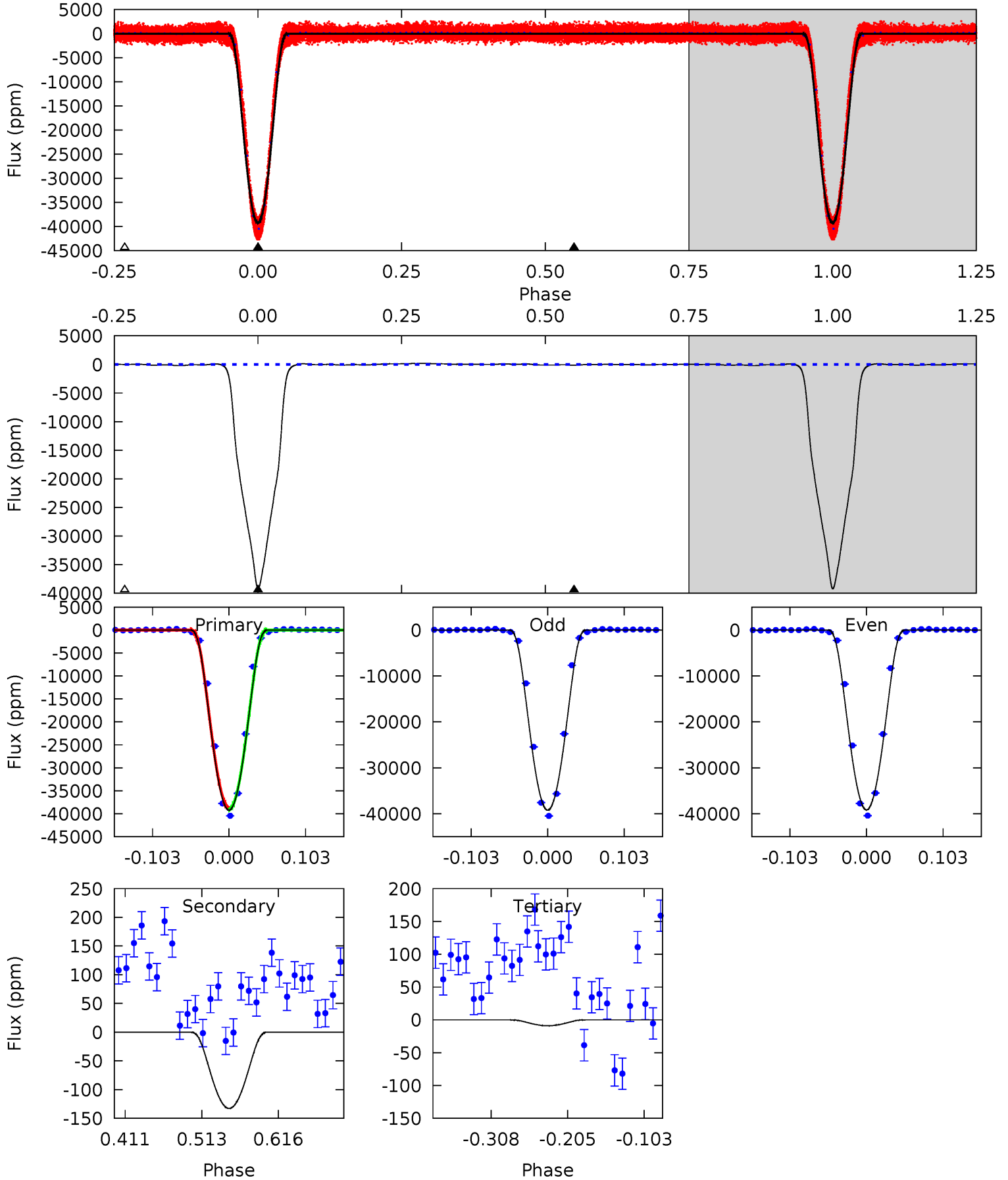
TCE 007177892-01 P= 1.386235 Days $T_0=132.750148$ (BKJD)



DV Model-Shift Uniqueness Test

007177892-01, P = 1.386233 Days, E = 131.363458 Days

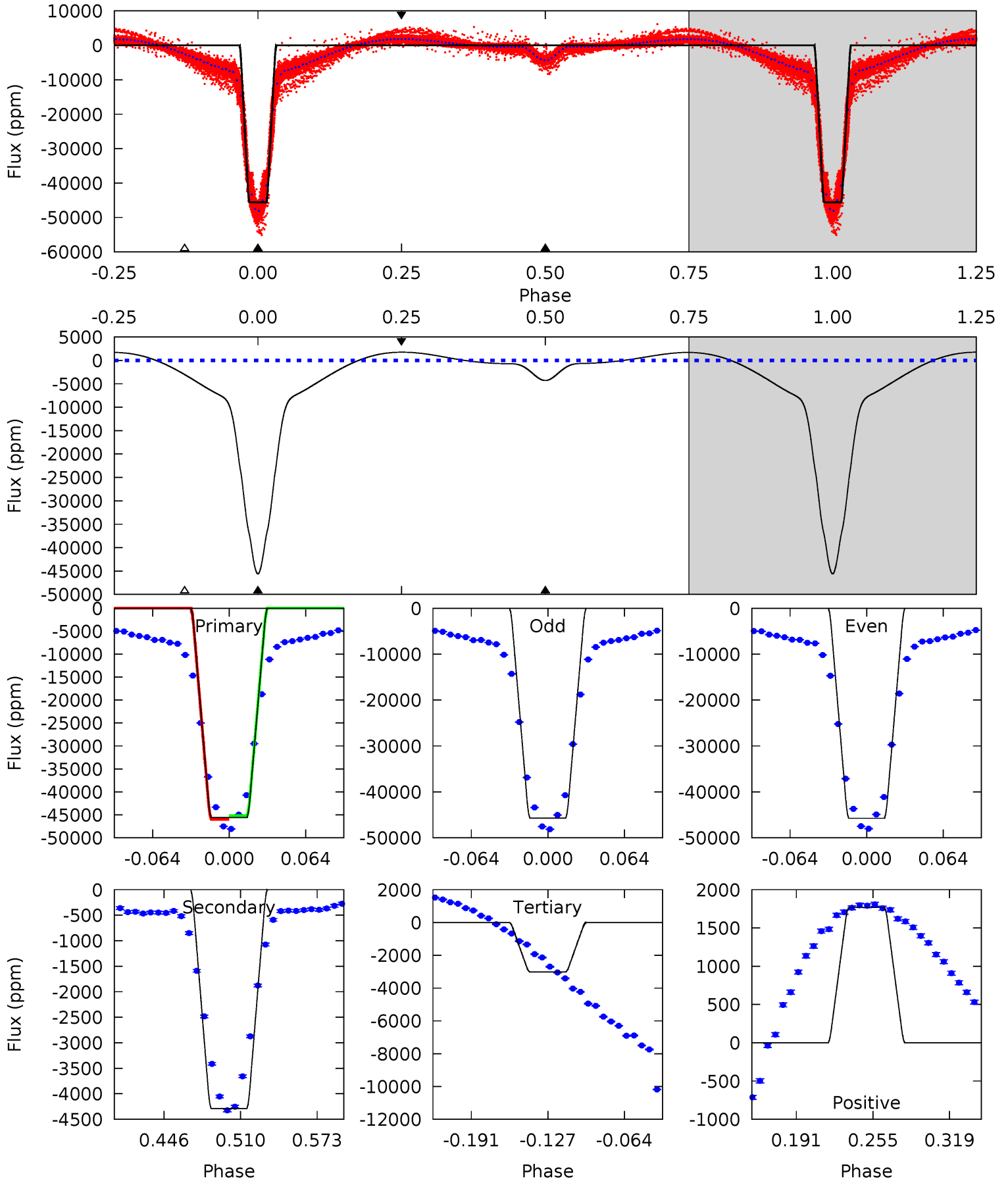
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3715	12.6	0.85	0	4.56	1.63	8.02	3714	3715	11.7	12.6	3.53	0.96	0.00	16.0



Alt Model-Shift Uniqueness Test

007177892-01, P = 1.386235 Days, E = 131.363913 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1185	111.4	78.4	45.9	4.66	1.85	62.9	1106	1139	33.0	65.5	0.22	1.00	0.04	10.2



Stellar Parameters For KIC 007177892

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6226^{+195}_{-239}	$4.135^{+0.240}_{-0.180}$	$0.060^{+0.250}_{-0.300}$	$1.594^{+0.463}_{-0.463}$	$1.264^{+0.175}_{-0.233}$	$0.440^{+0.650}_{-0.196}$
	+3%/-4%	+6%/-4%	+417%/-500%	+29%/-29%	+14%/-18%	+148%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007177892-01 / KOI 6838.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-133 ± 11	$40.38^{+6.89}_{-6.54}$	2987^{+250}_{-256}	-3035^{+159}_{-160}	$0.031^{+0.011}_{-0.008}$
Alt.	-4289 ± 38	$39.60^{+6.15}_{-6.48}$	2971^{+241}_{-247}	3526^{+103}_{-116}	$1.035^{+0.395}_{-0.249}$

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

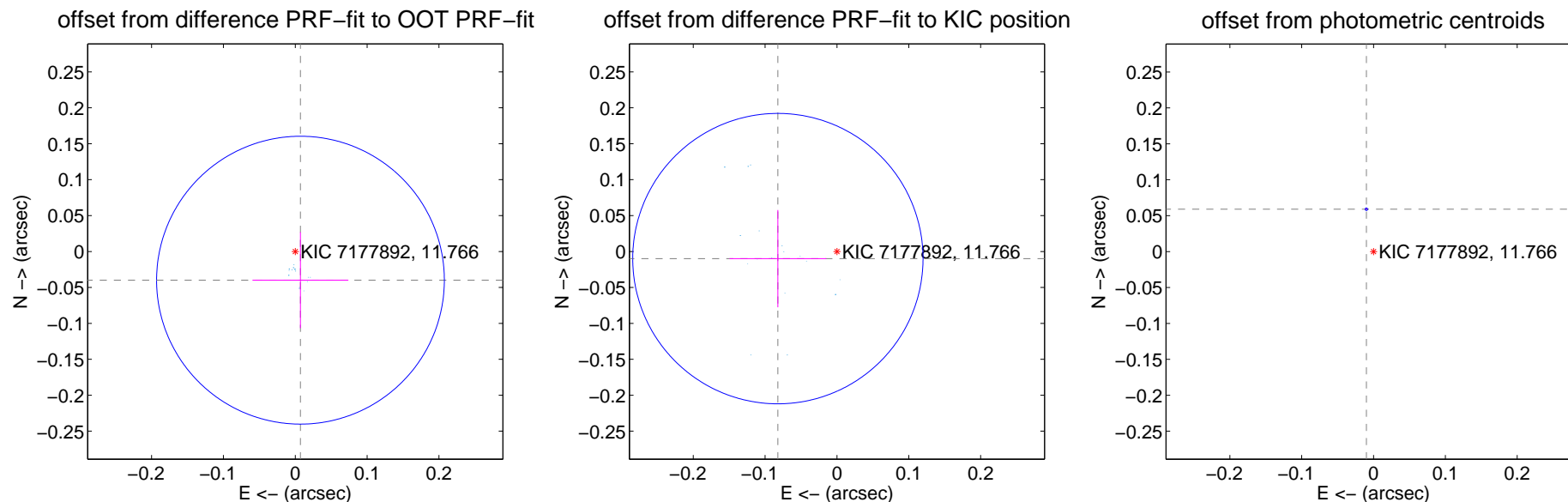
DV Centroid Data

Supplemental centroid analysis for 007177892-01. **Kepler magnitude: 11.77.** Transit SNR 1550.29

There are 17 quarters with good PRF difference image offsets

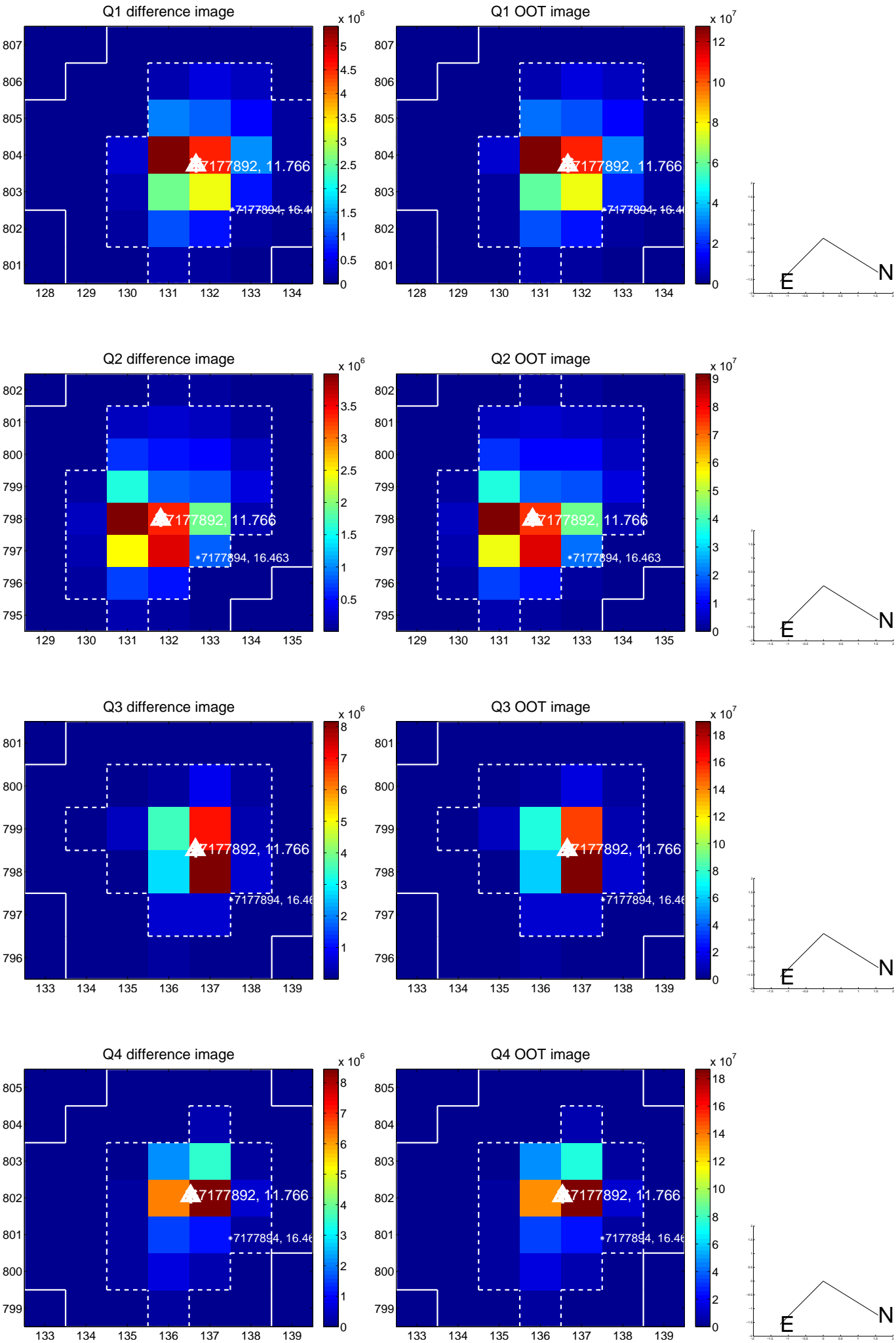
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.041 ± 0.067	0.61	-0.007 ± 0.067	-0.040 ± 0.067
PRF-fit source offset from KIC position	0.083 ± 0.067	1.23	0.082 ± 0.067	-0.010 ± 0.068
photometric centroid source offset	0.06 ± 0.00	107.08	0.01 ± 0.00	0.06 ± 0.00

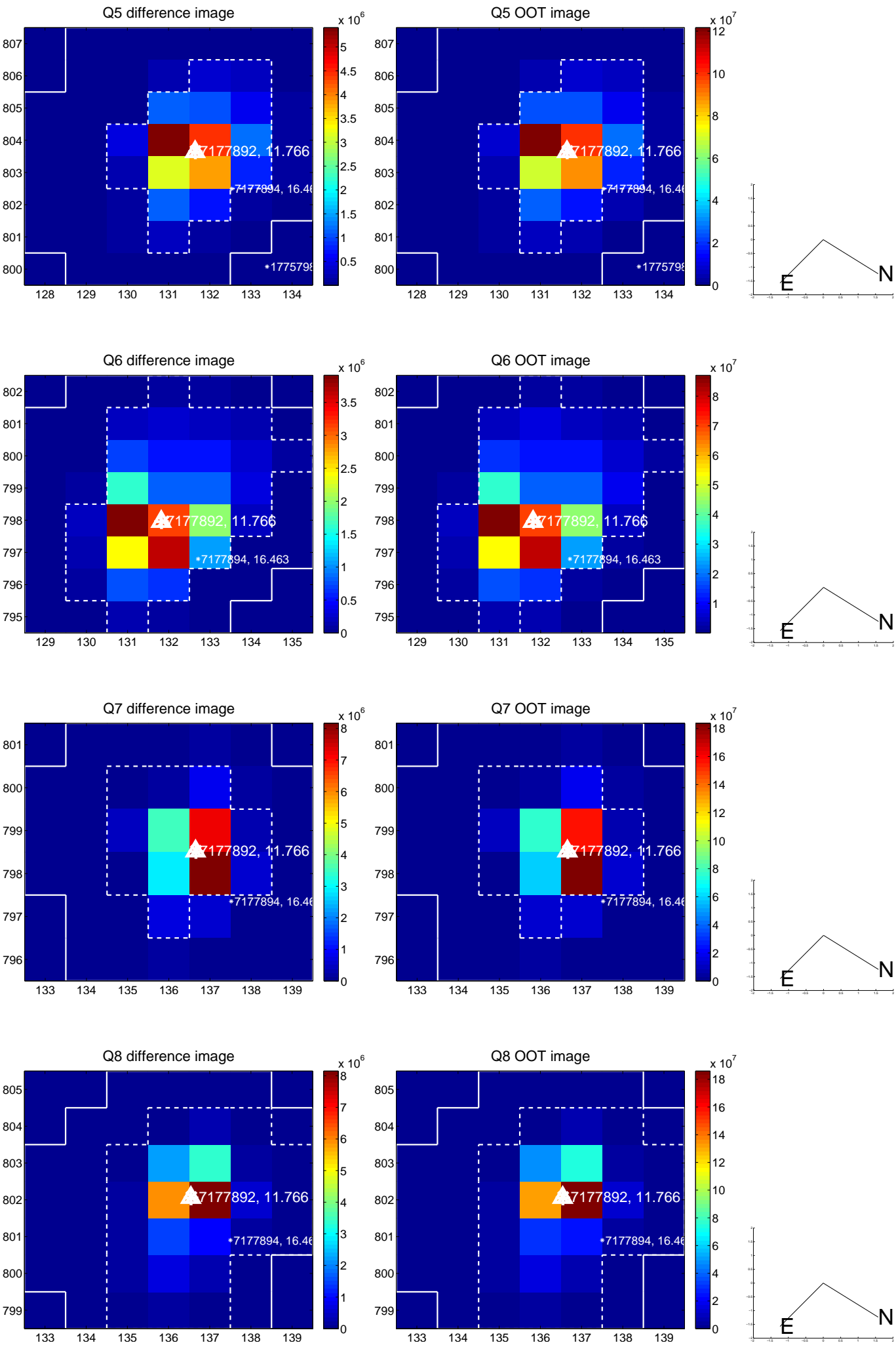


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

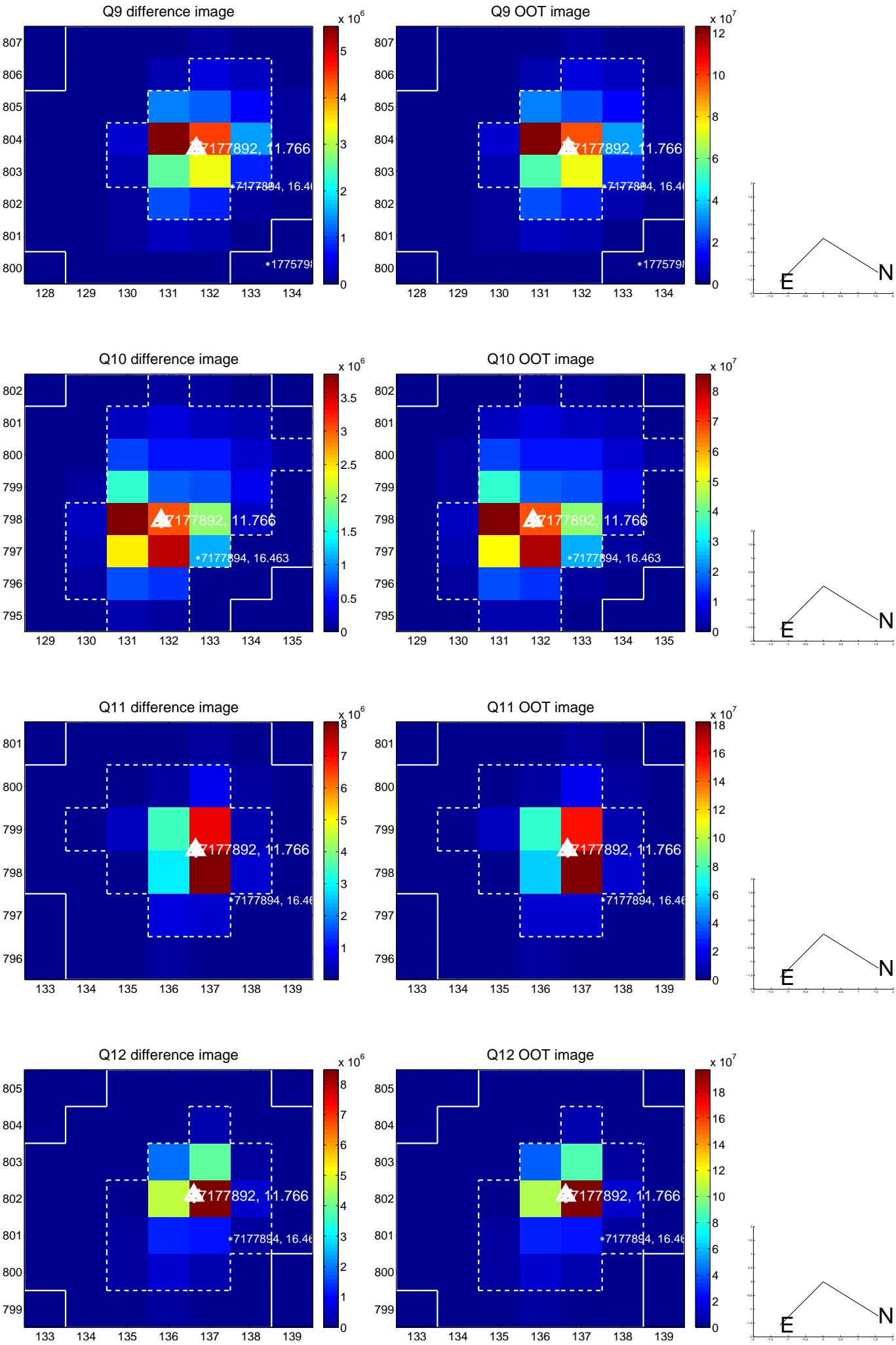
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



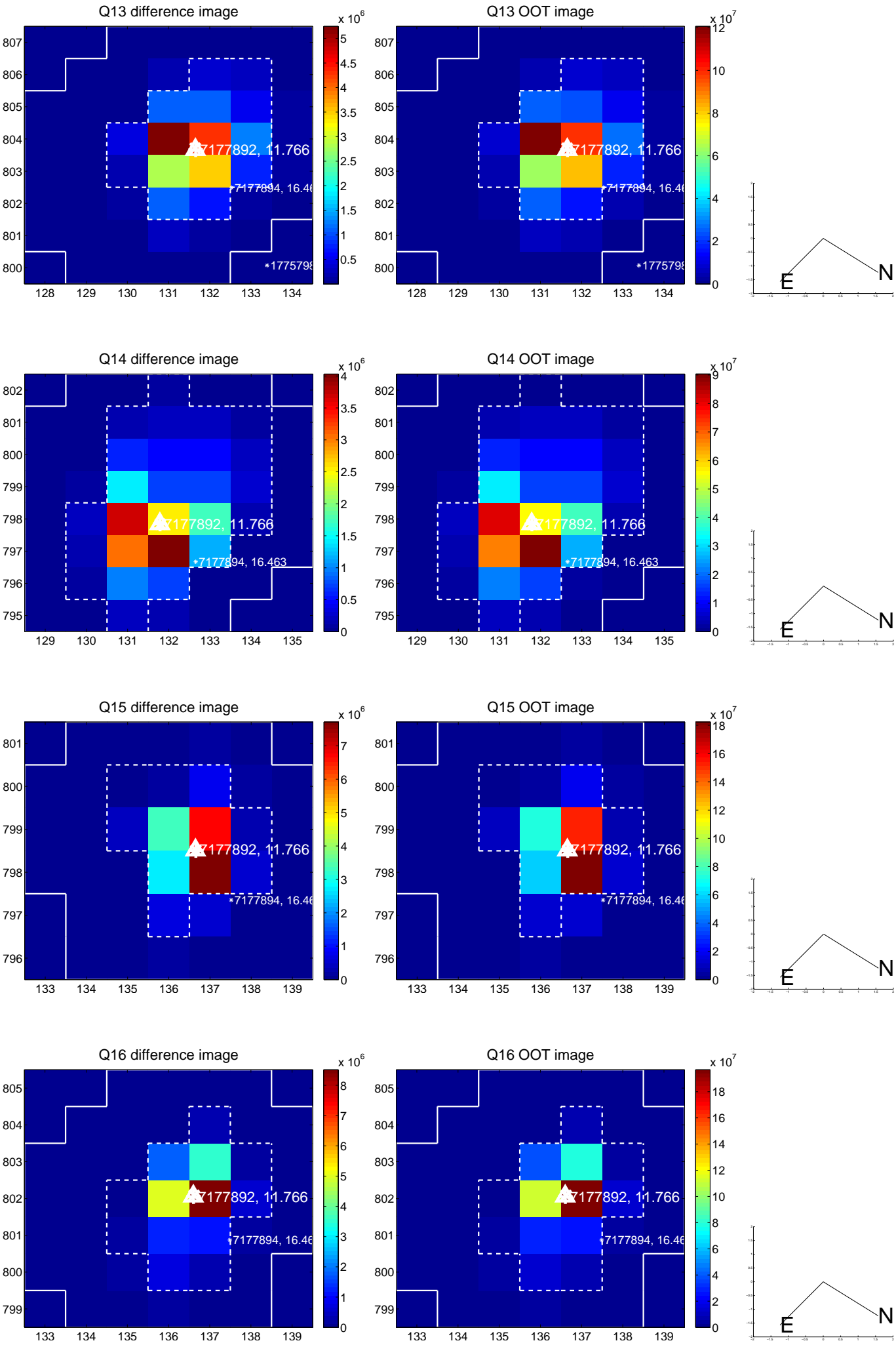
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



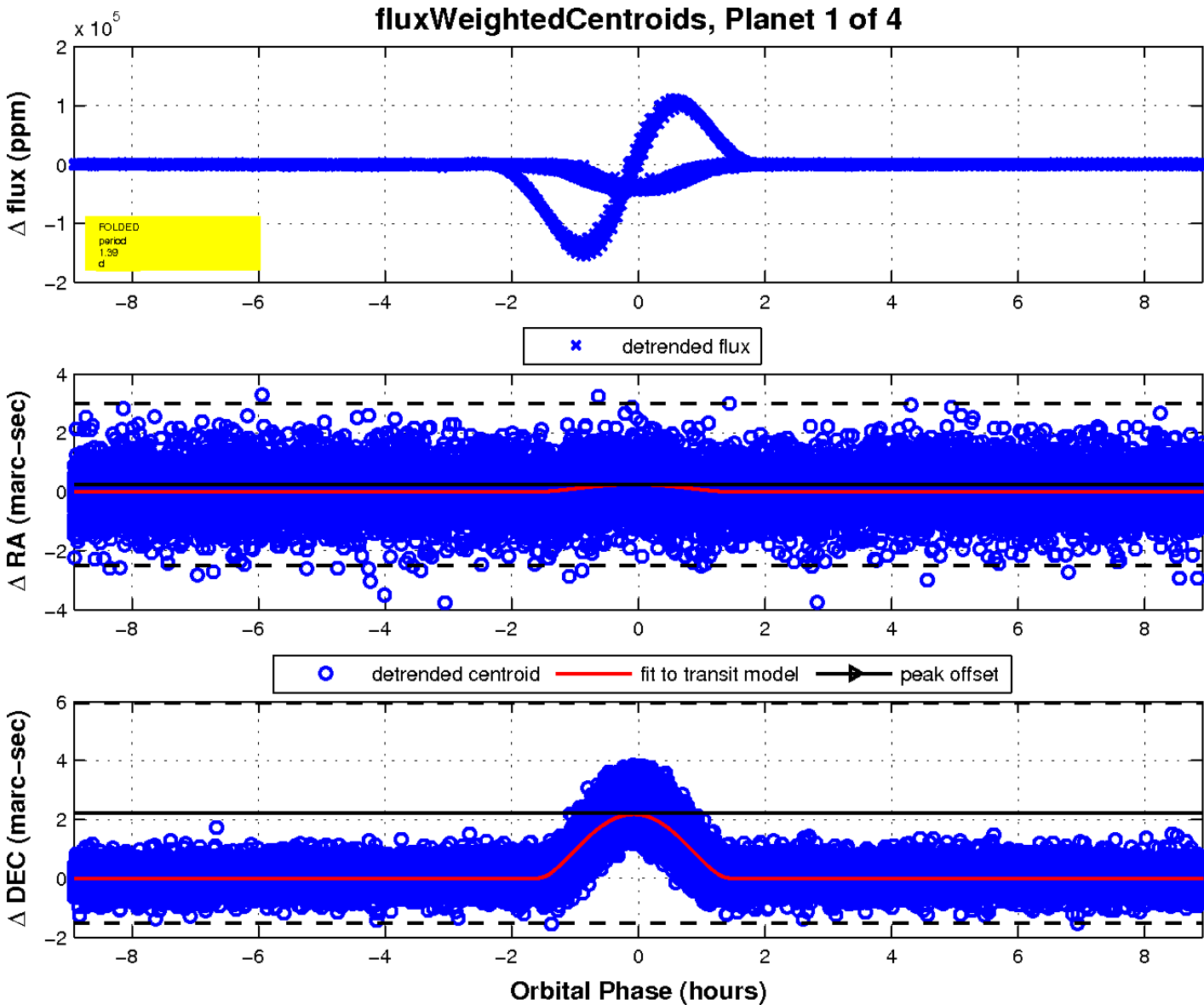
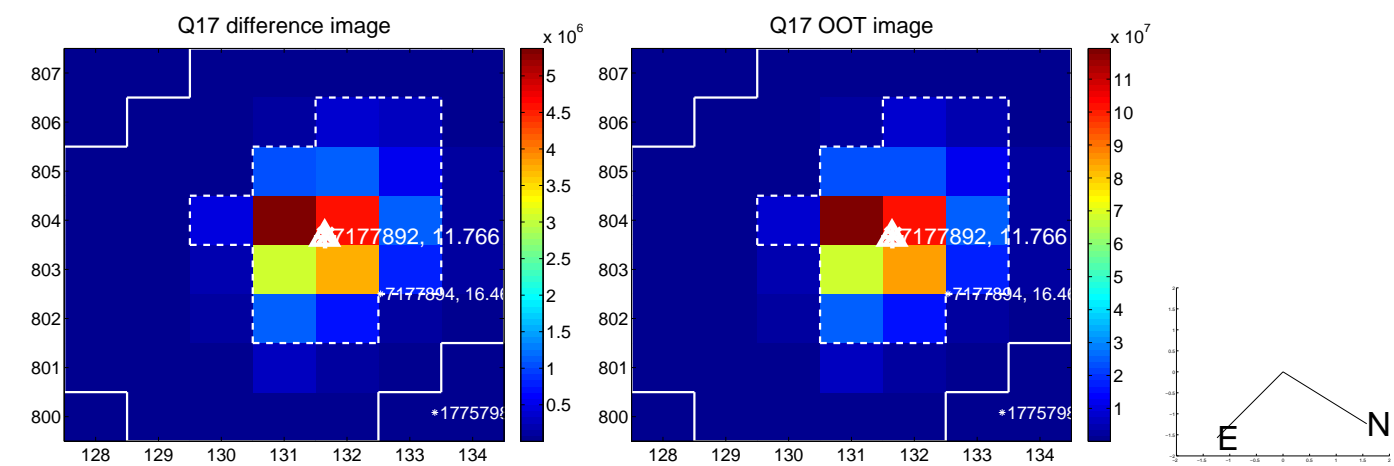
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

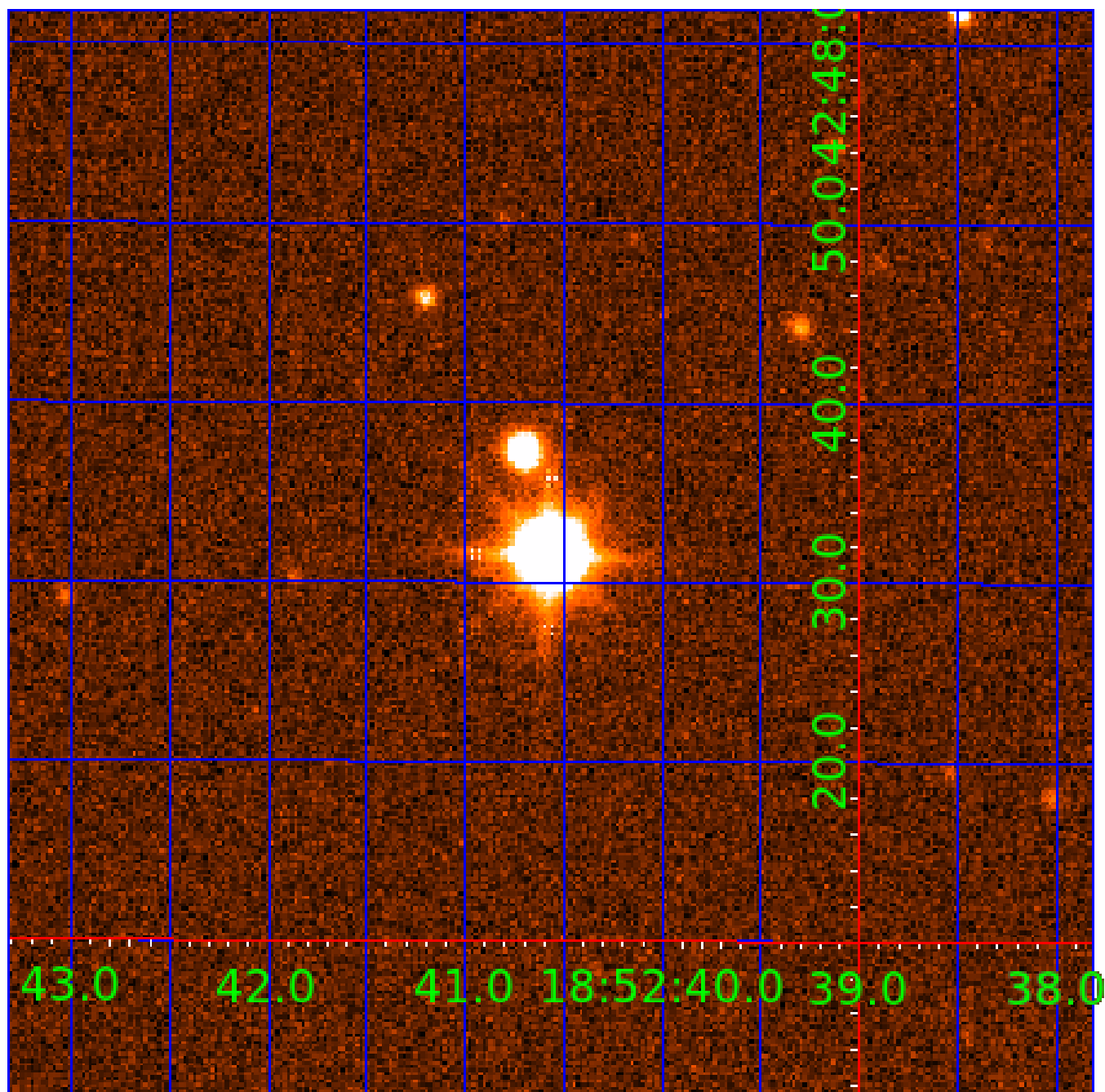


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007177892

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})
007177892-01	OBS	6838.01	1.386233	132.749691	34624.5	2.972	2369.2	1550.3	1.59	6226	40.15	4938.65
007177892-02	OBS	No	1.386256	132.071369	117.3	3.030	11.6	14.1	1.59	6226	2.03	4938.54
007177892-03	OBS	No	1.388252	132.048937	111.9	3.240	7.6	8.0	1.59	6226	2.00	4929.07
007177892-04	OBS	No	316.058474	160.414960	2824.6	16.170	7.2	4.4	1.59	6226	10.10	3.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007177892-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEEP_V_SHAPED—HAS_SEC_TCE
007177892-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007177892-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007177892-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT

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.

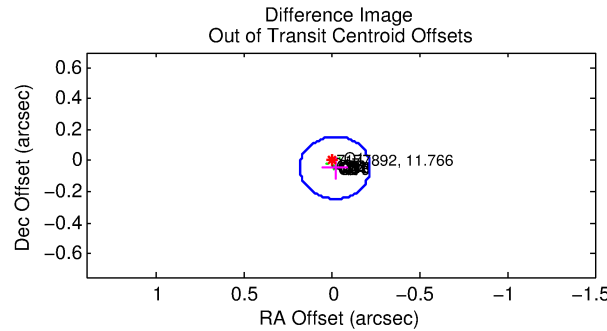
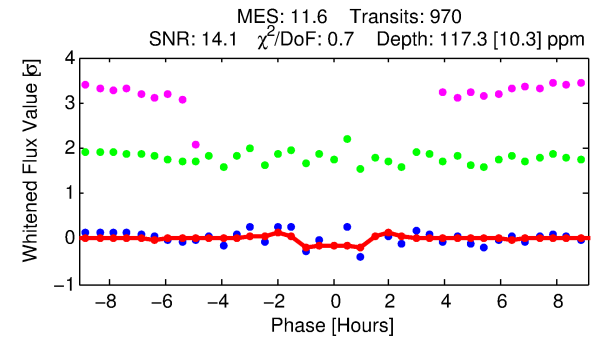
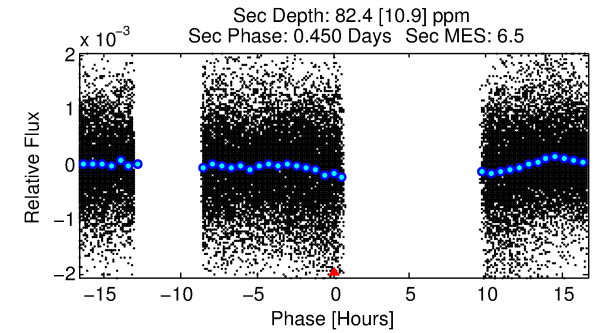
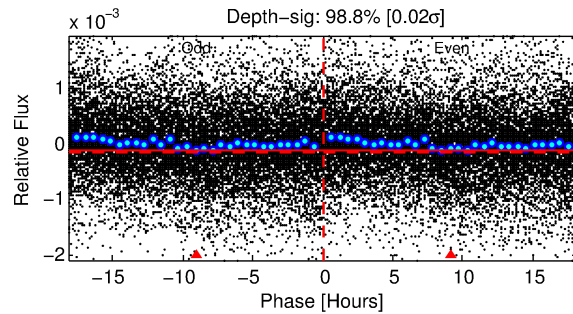
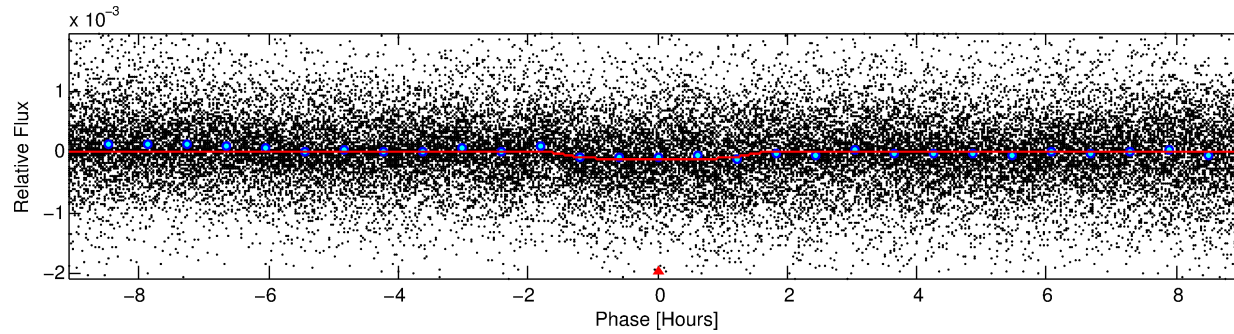
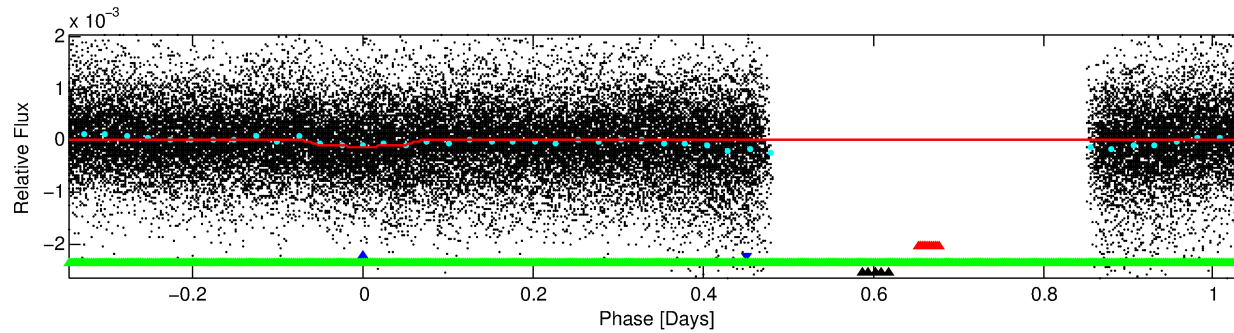
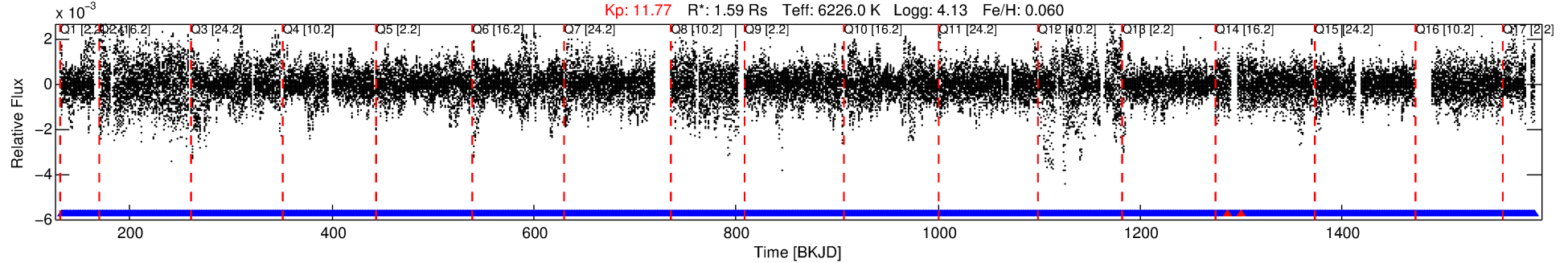
Ephemeris Match Information For 007177892-02

No Significant Match Found

DV One-Page Summary

KIC: 7177892 Candidate: 2 of 4 Period: 1.386 d
KOI: K06838 Corr: No Ephemeris Match

Kp: 11.77 R*: 1.59 Rs Teff: 6226.0 K Logg: 4.13 Fe/H: 0.060



DV Fit Results:

Period = 1.38626 [0.00001] d
Epoch = 132.0714 [0.0011] BKJD
Rp/R* = 0.0117 [0.0017]
a/R* = 1.87 [0.97]
b = 0.90 [0.15]
Seff = 4938.54 [2190.86]
Teq = 2138 [237] K
Rp = 2.03 [0.66] Re
a = 0.0263 [0.0070] AU
Ag = 7.61 [4.01] [1.65σ]
Teffp = 5490 [491] K [6.15σ]

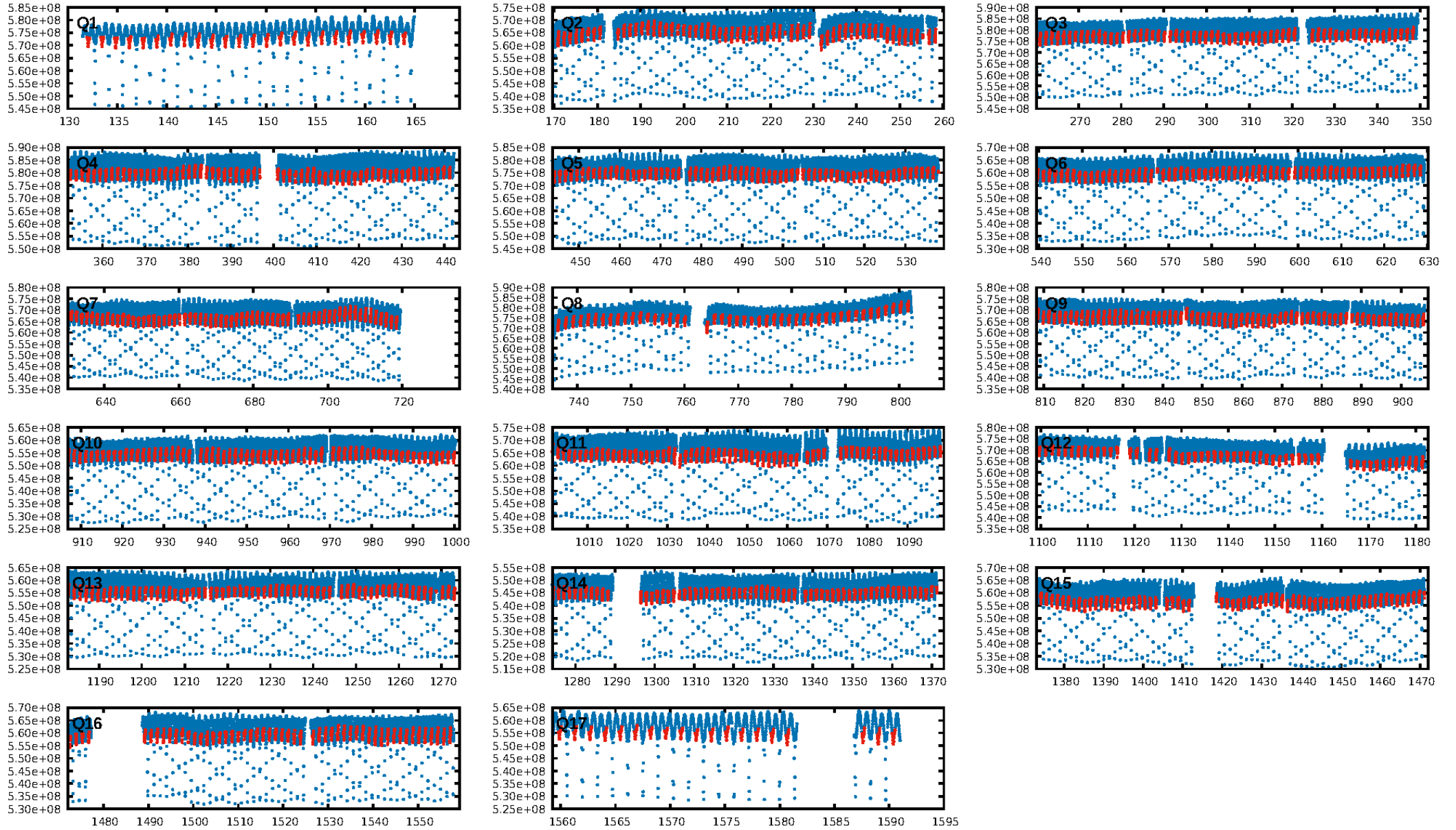
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.9% [0.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [925/927]
GhostDiagnostic-chr: -0.9742
Centroid-sig: 0.0%
Centroid-so: 0.706 arcsec [5.77σ]
OotOffset-rm: 0.049 arcsec [0.73σ]
KicOffset-rm: 0.073 arcsec [1.08σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.53 [9/17]

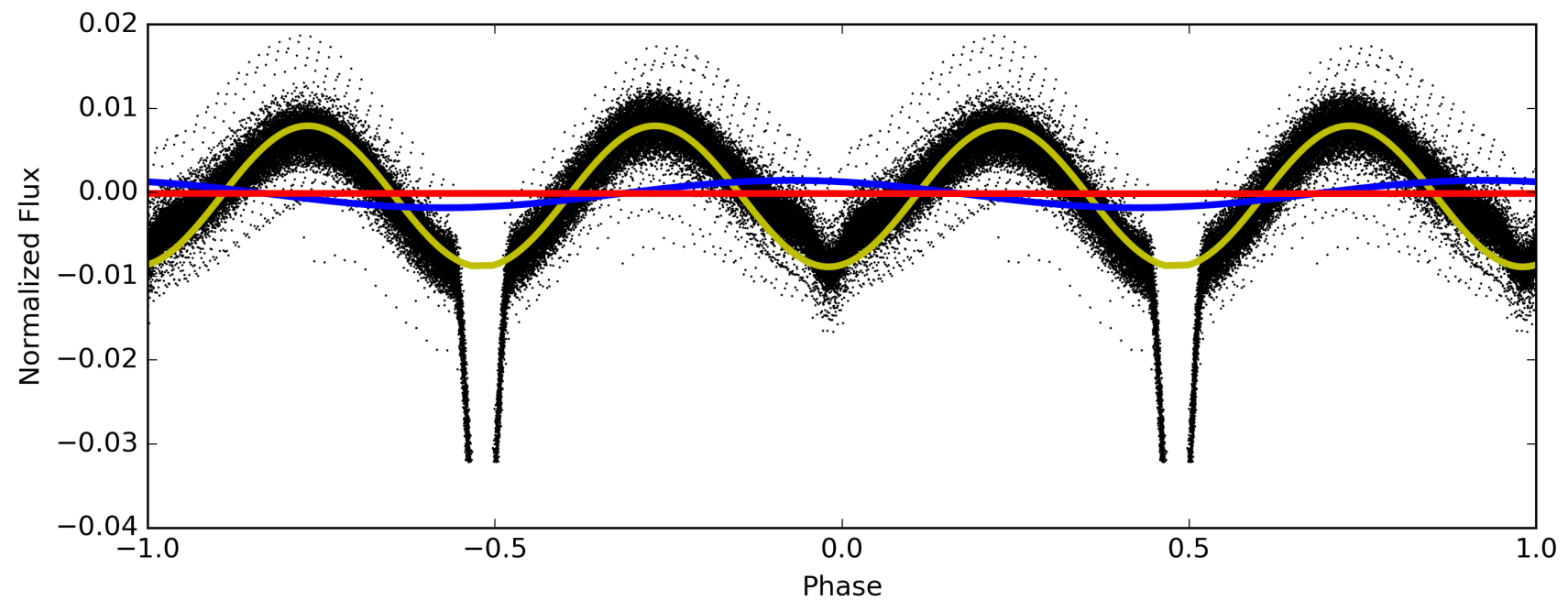
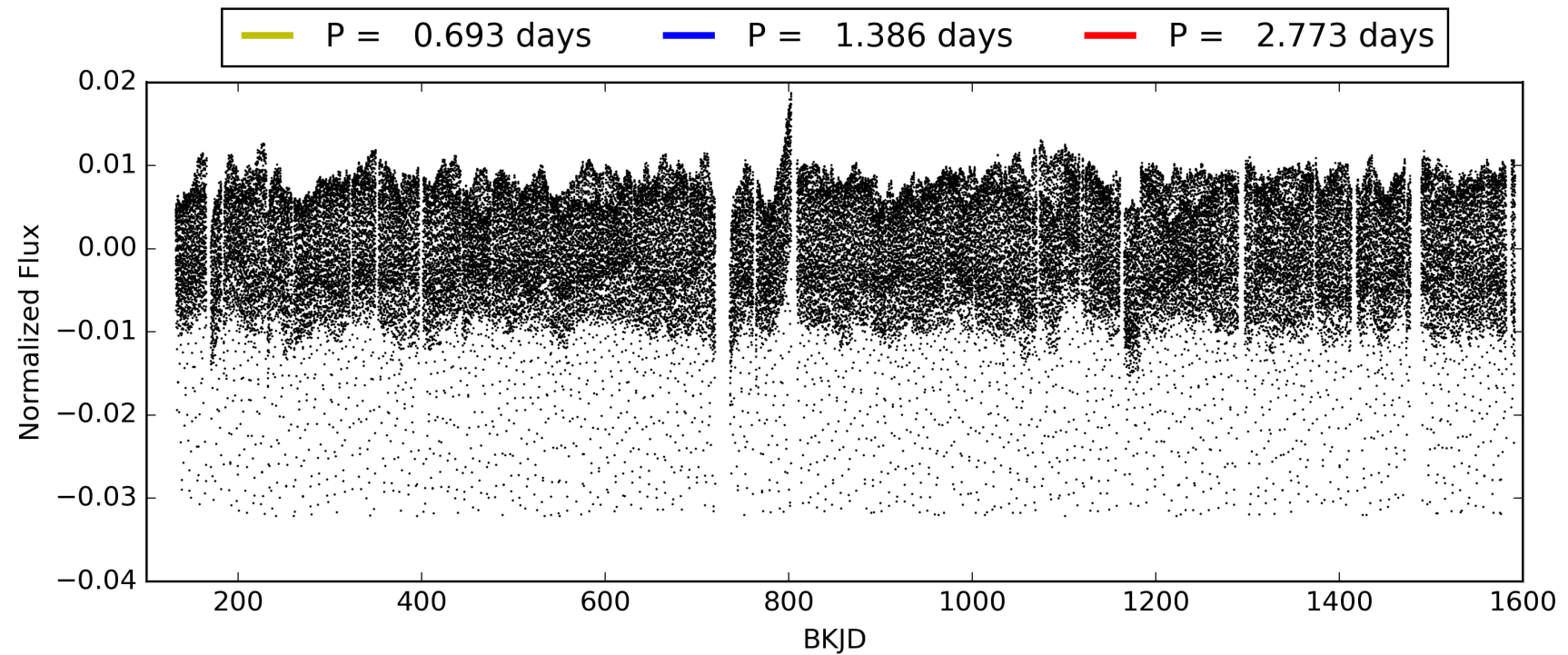
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 10:36:30 Z

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

TCE 007177892-02, PDC Light Curves

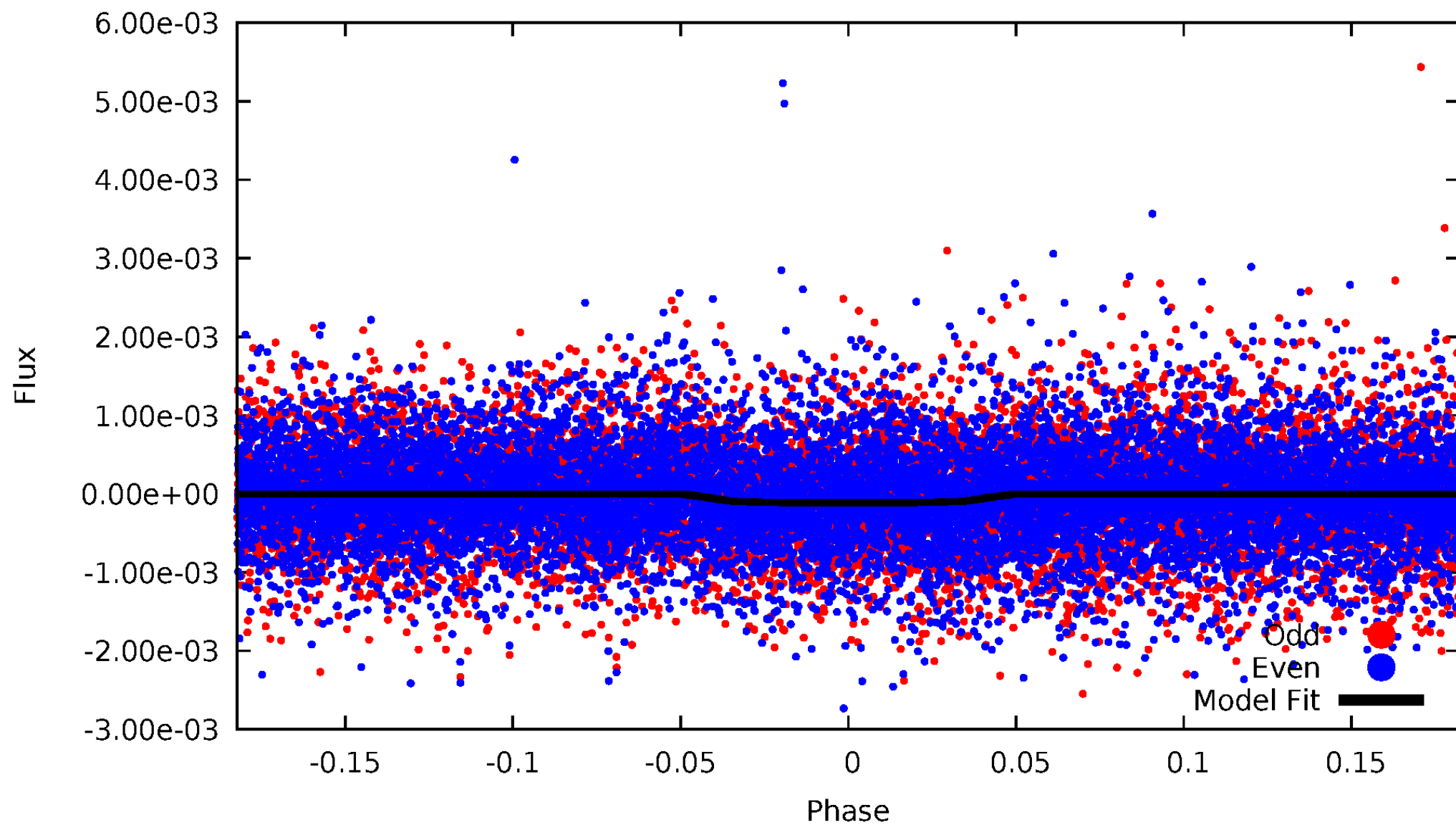


TCE 007177892-02



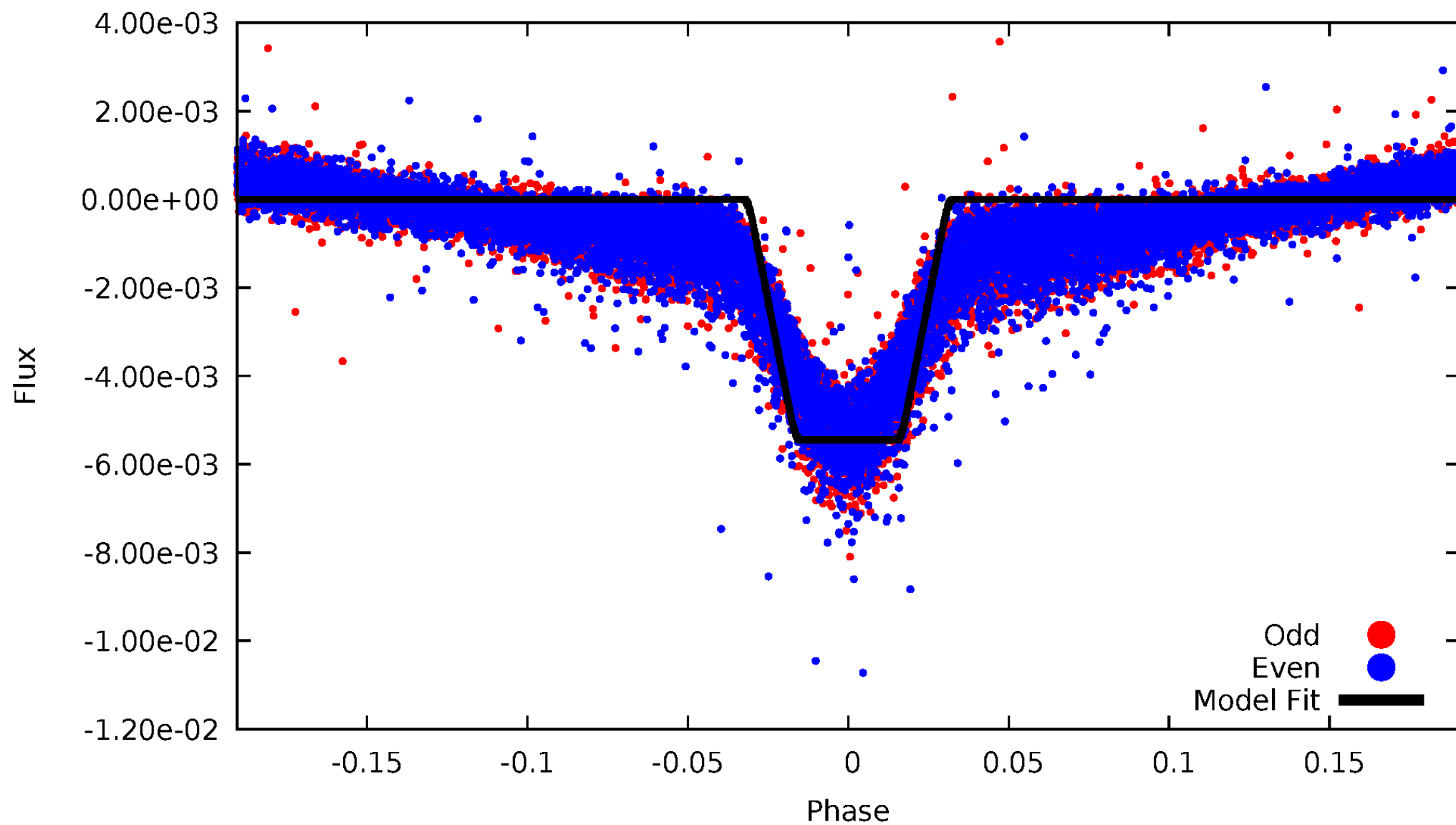
DV Odd/Even

TCE 007177892-02



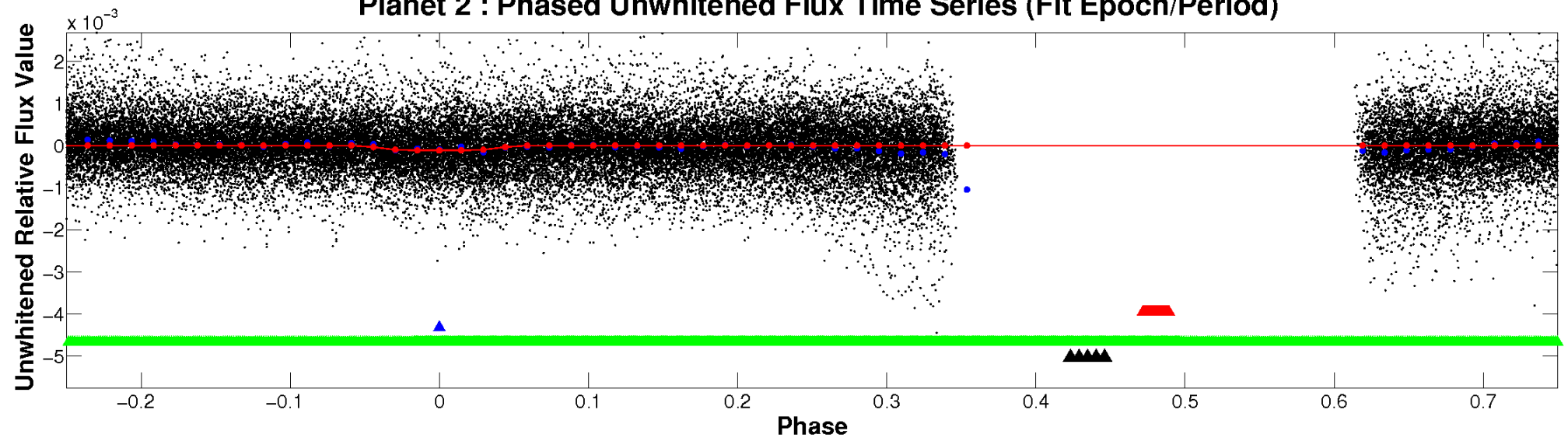
ALT Odd/Even

TCE 007177892-02

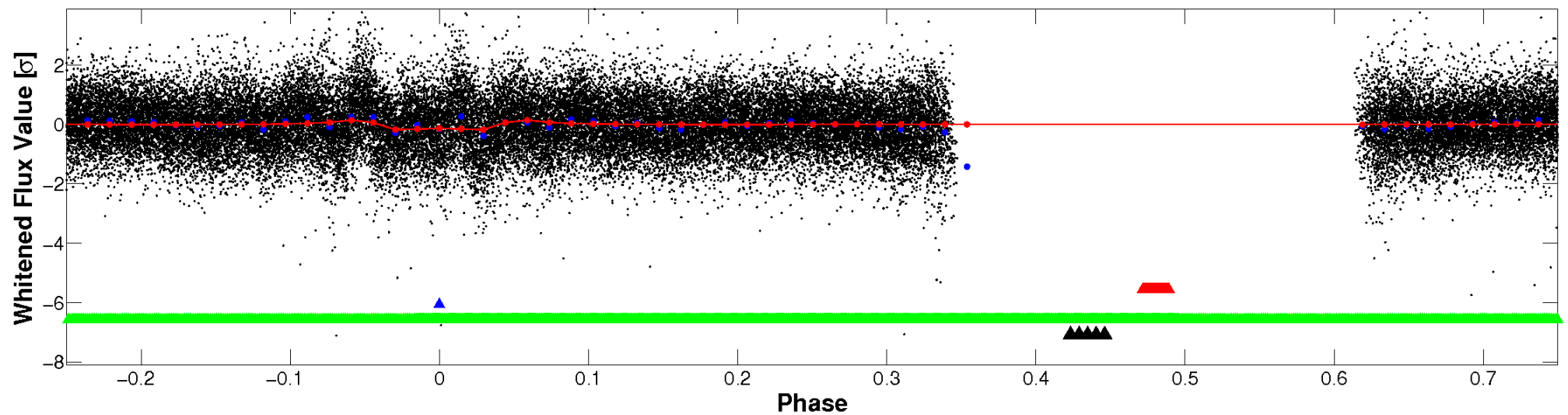


Non-Whitened Vs. Whitened Light Curve

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

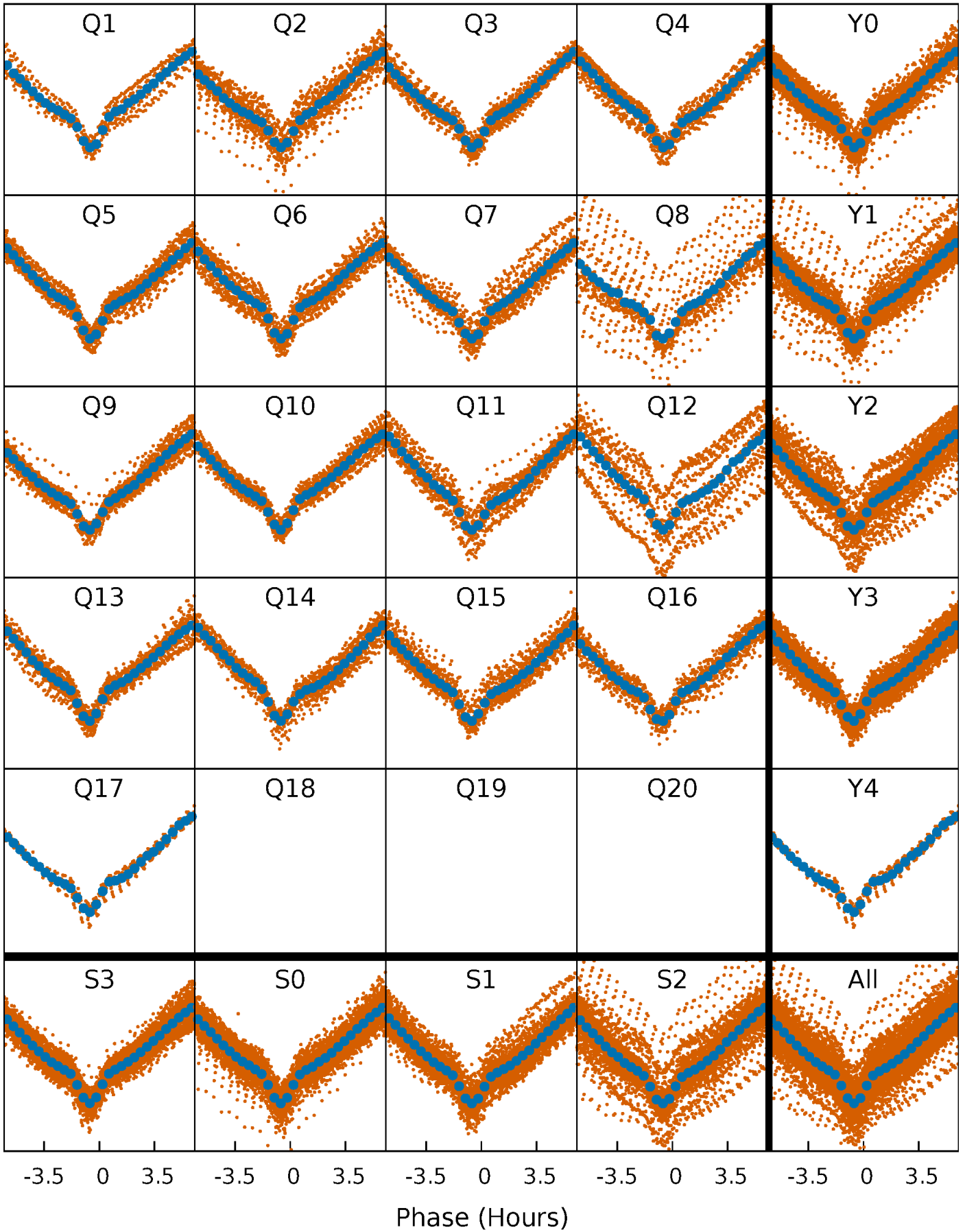


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



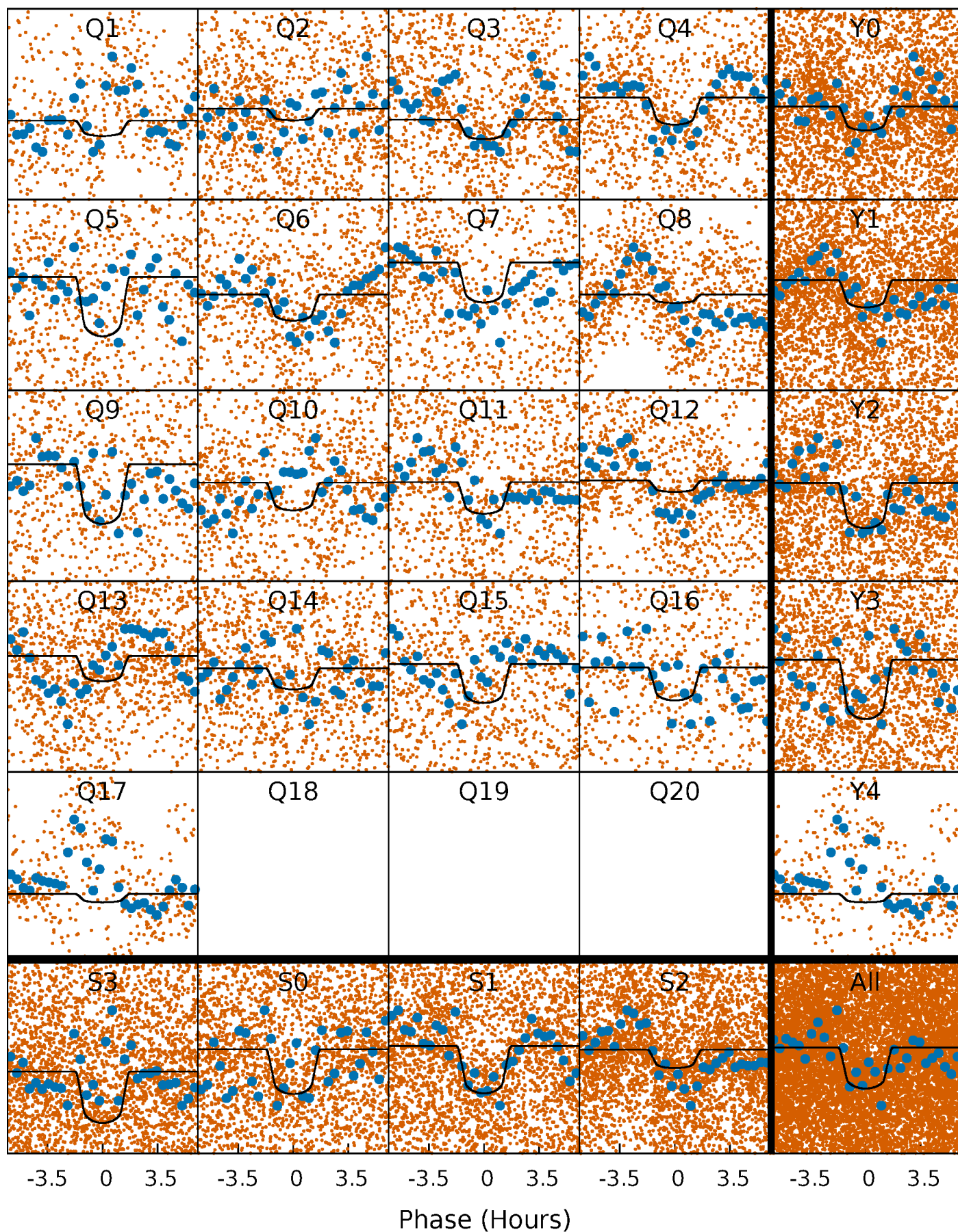
PDC Quarter-Phased Transit Curves

TCE 007177892-02 P= 1.386256 Days $T_0=132.071369$ (BKJD)



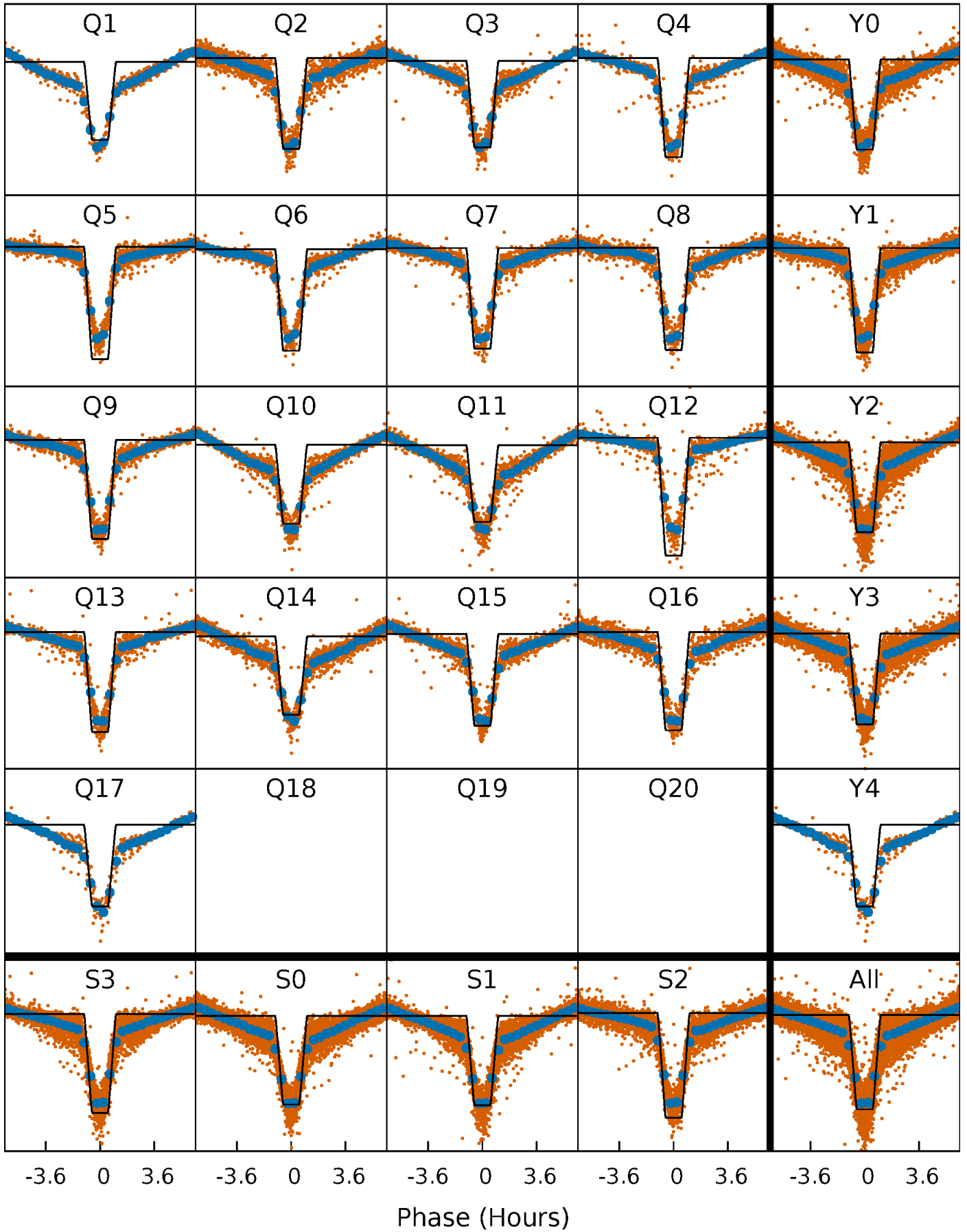
DV Quarter-Phased Transit Curves

TCE 007177892-02 P= 1.386256 Days $T_0=132.071369$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

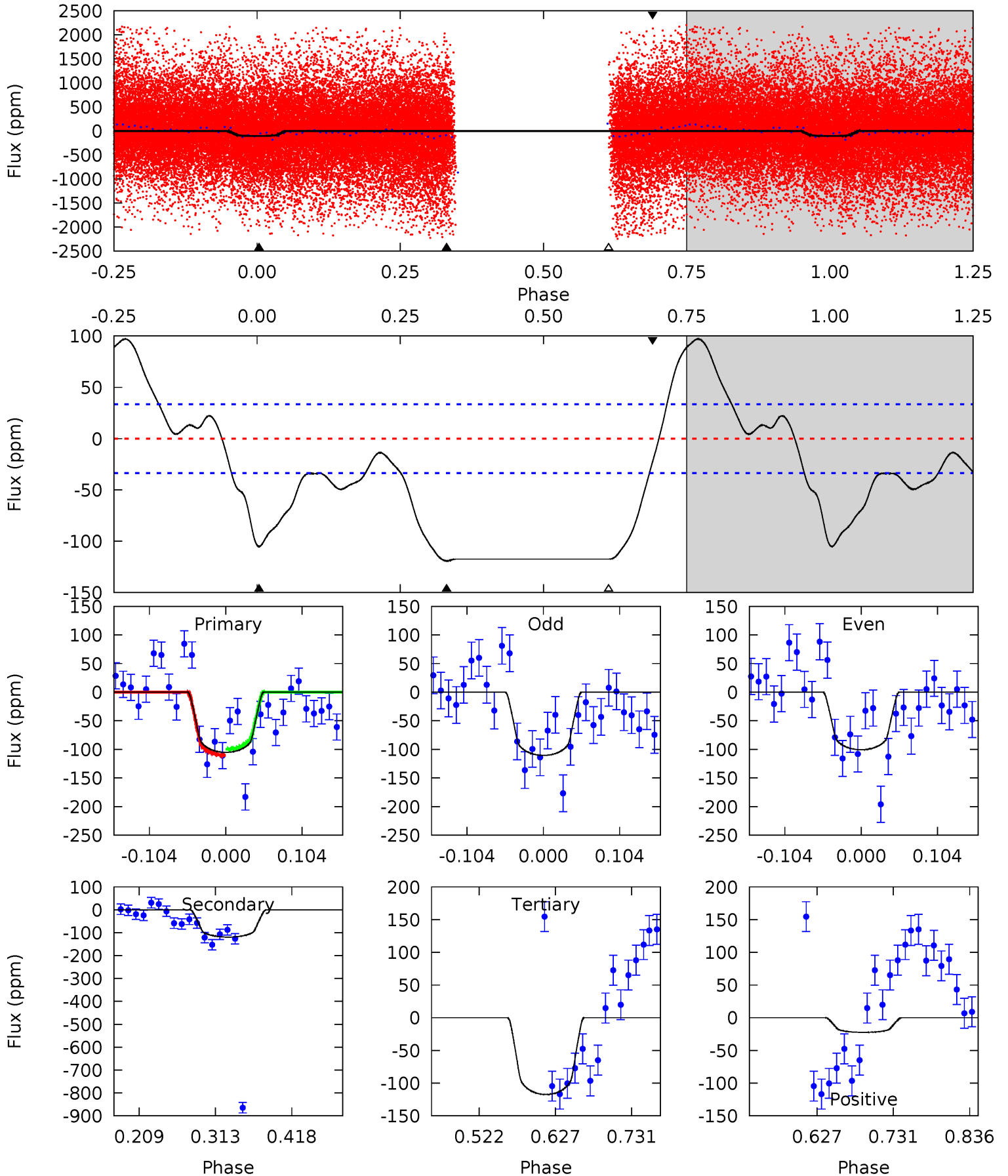
TCE 007177892-02 P= 1.386243 Days $T_0=132.053300$ (BKJD)



DV Model-Shift Uniqueness Test

007177892-02, P = 1.386256 Days, E = 130.685113 Days

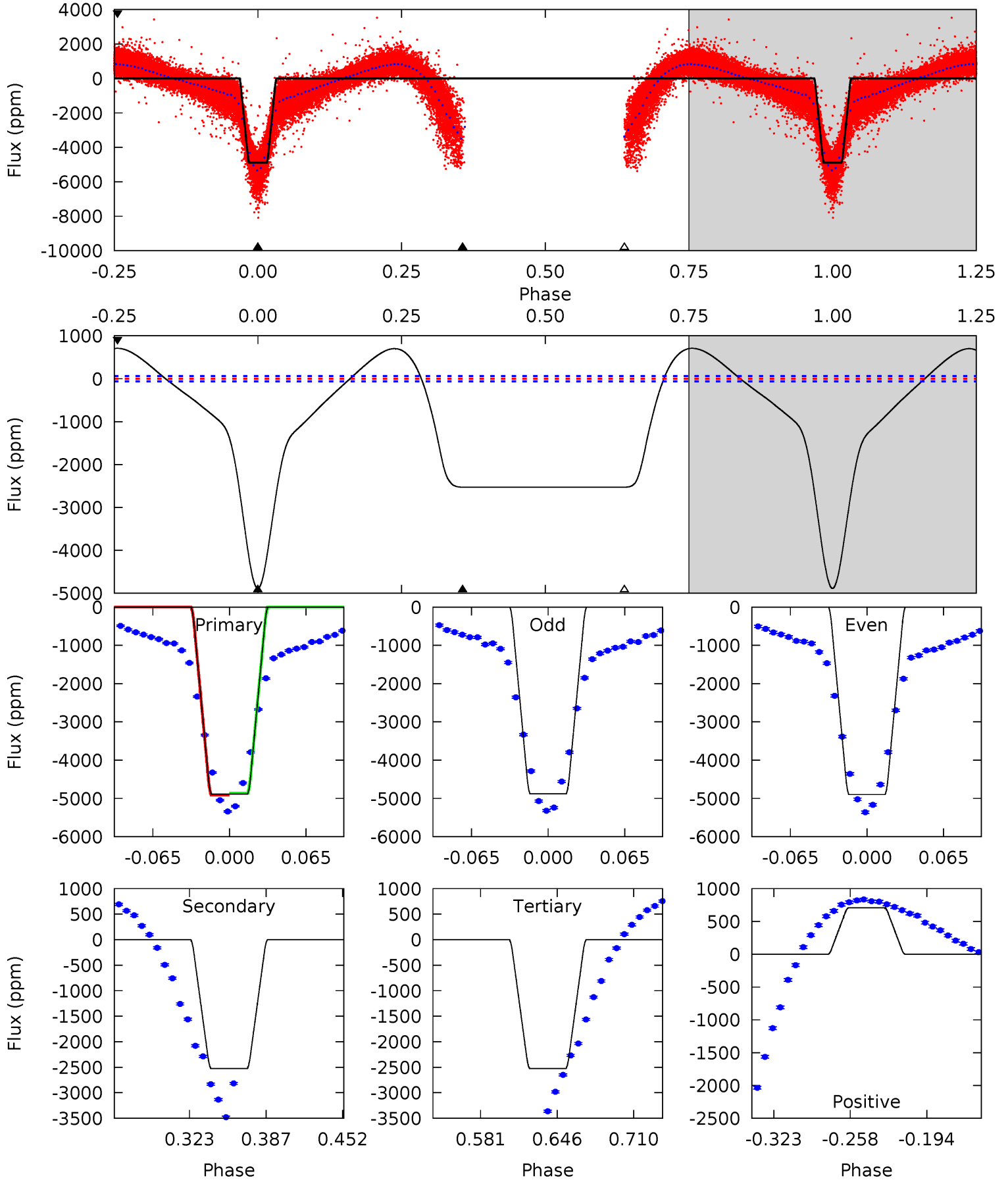
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	16.2	15.9	-3.04	4.56	1.62	7.86	-1.66	17.3	0.25	19.2	0.68	0.83	0.45	0.75



Alt Model-Shift Uniqueness Test

007177892-02, P = 1.386243 Days, E = 130.667057 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
372.0	192.3	192.3	53.9	4.66	1.85	56.5	179.7	318.1	0.01	138.4	0.73	1.02	0.13	2.69



Stellar Parameters For KIC 007177892

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6226^{+195}_{-239}	$4.135^{+0.240}_{-0.180}$	$0.060^{+0.250}_{-0.300}$	$1.594^{+0.463}_{-0.463}$	$1.264^{+0.175}_{-0.233}$	$0.440^{+0.650}_{-0.196}$
	+3%/-4%	+6%/-4%	+417%/-500%	+29%/-29%	+14%/-18%	+148%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007177892-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-119 ± 7	$2.06^{+0.41}_{-0.47}$	2978^{+244}_{-245}	5951^{+551}_{-429}	11^{+6}_{-3}
Alt.	-2526 ± 13	$12.91^{+2.00}_{-2.16}$	2986^{+244}_{-258}	5136^{+161}_{-182}	$5.780^{+2.267}_{-1.393}$

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

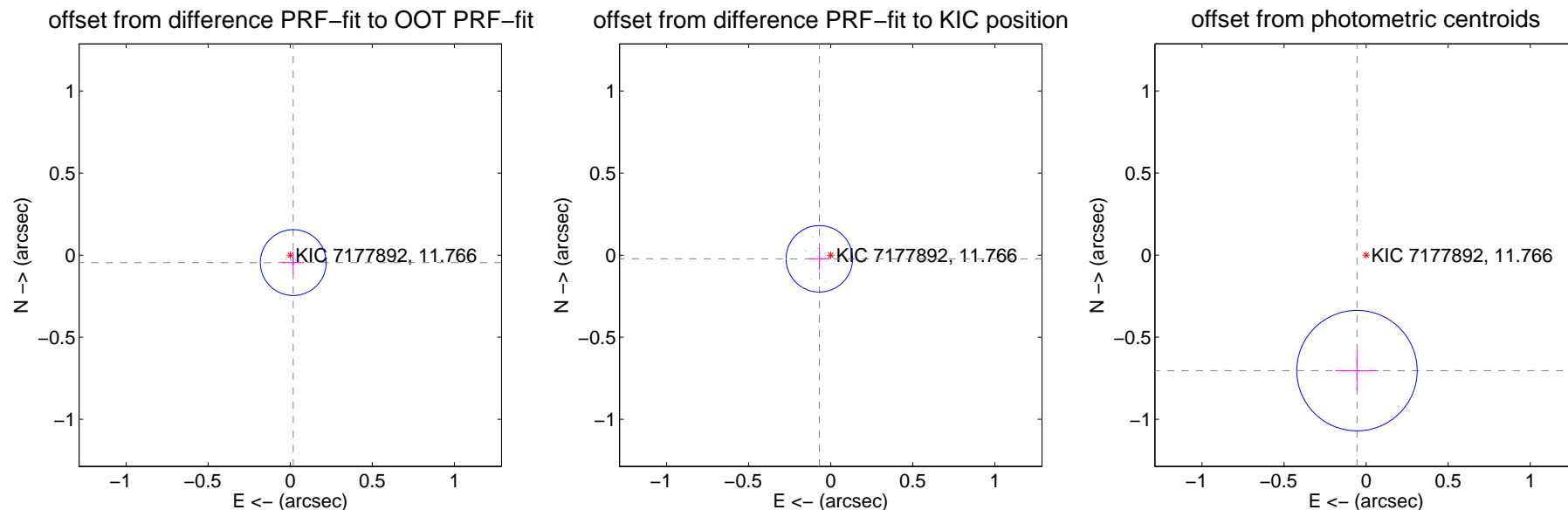
DV Centroid Data

Supplemental centroid analysis for 007177892-02. **Kepler magnitude: 11.77.** Transit SNR 14.10

There are 17 quarters with good PRF difference image offsets

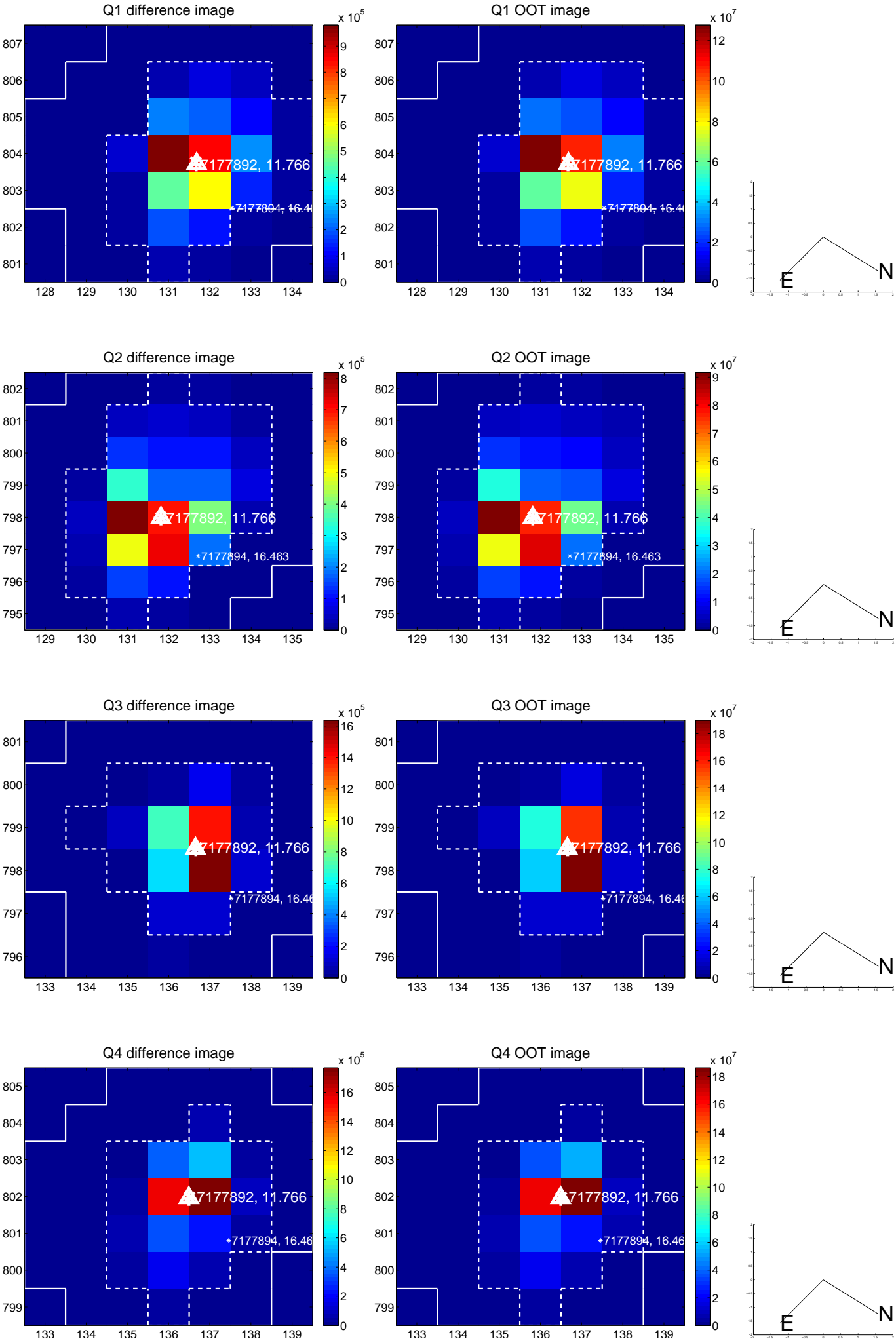
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.049 ± 0.067	0.73	-0.018 ± 0.067	-0.045 ± 0.067
PRF-fit source offset from KIC position	0.073 ± 0.067	1.08	0.069 ± 0.067	-0.022 ± 0.068
photometric centroid source offset	0.71 ± 0.12	5.77	0.06 ± 0.13	-0.70 ± 0.12

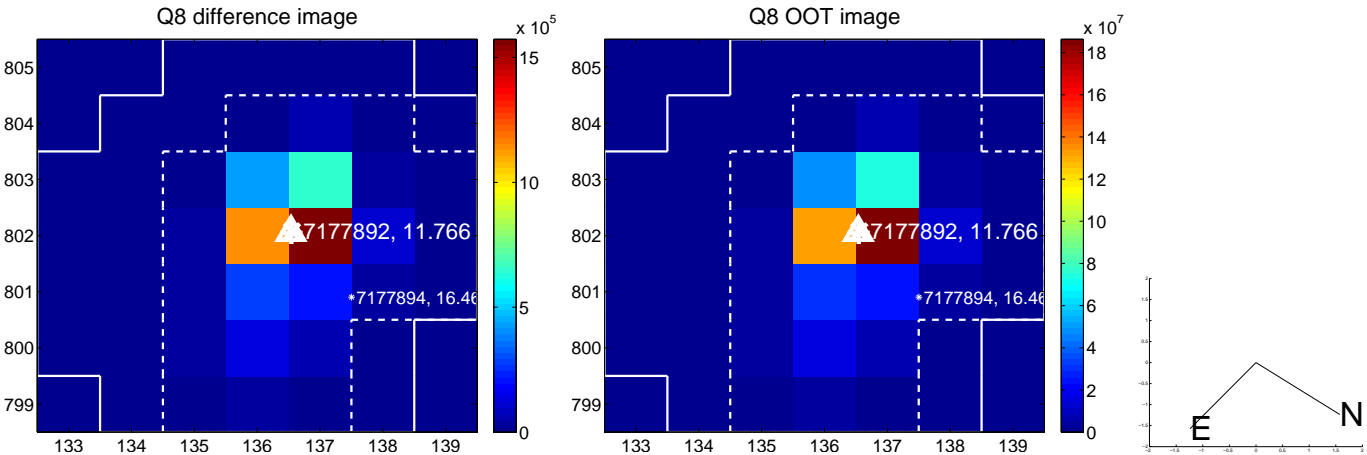
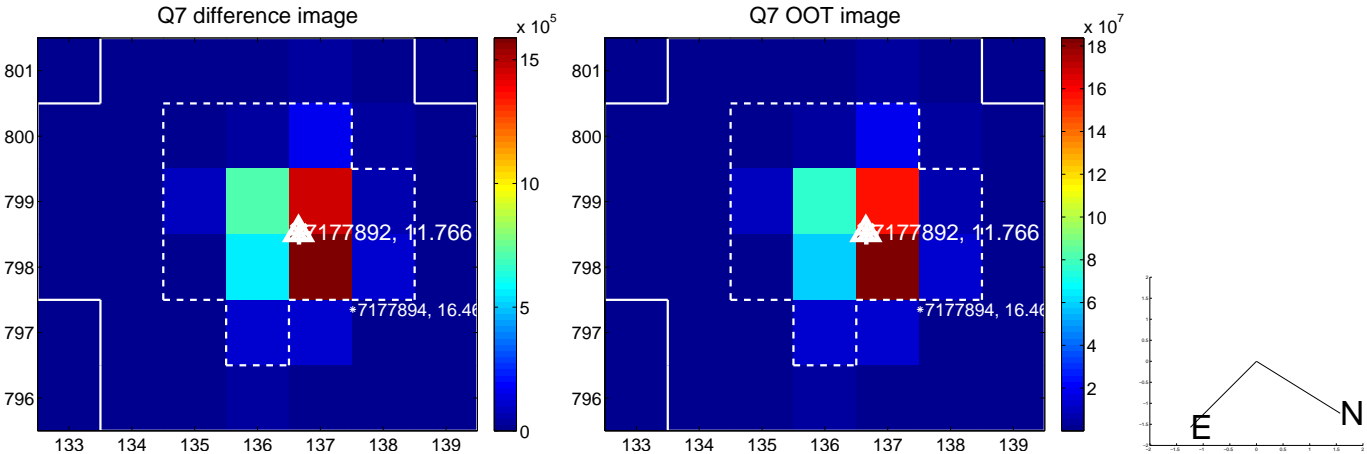
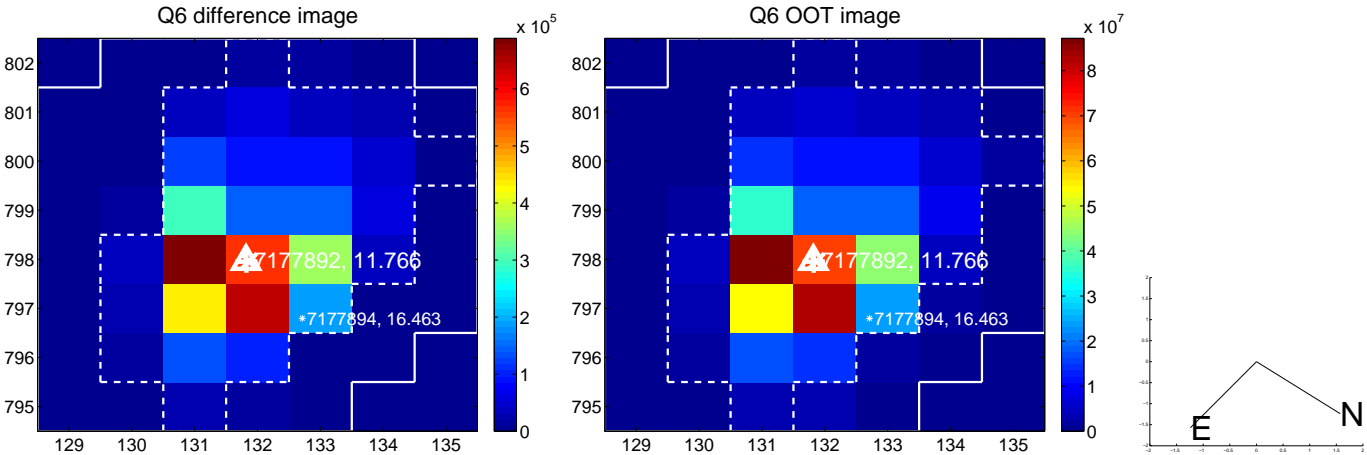
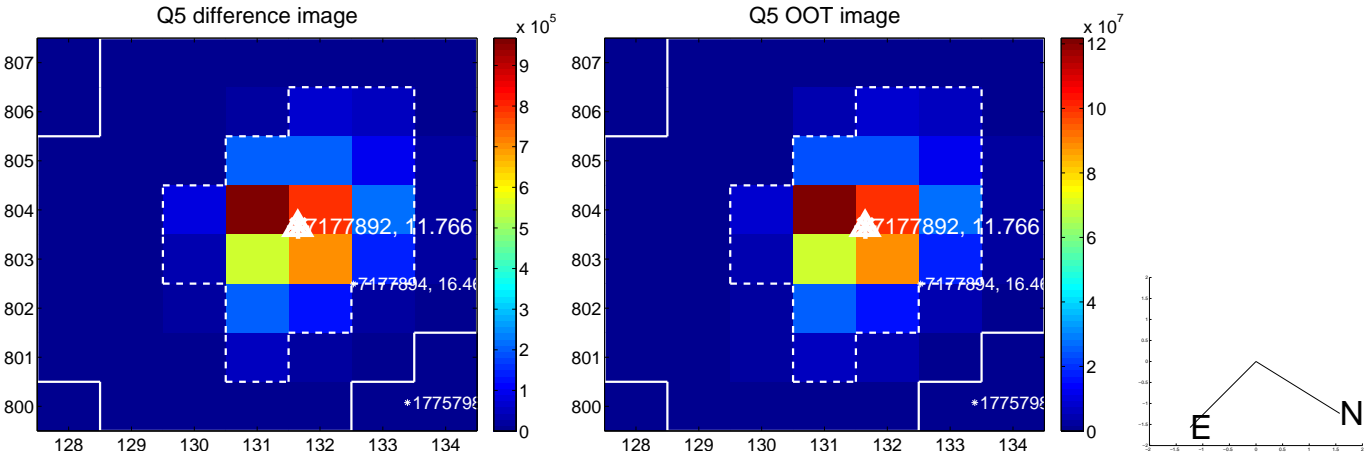


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

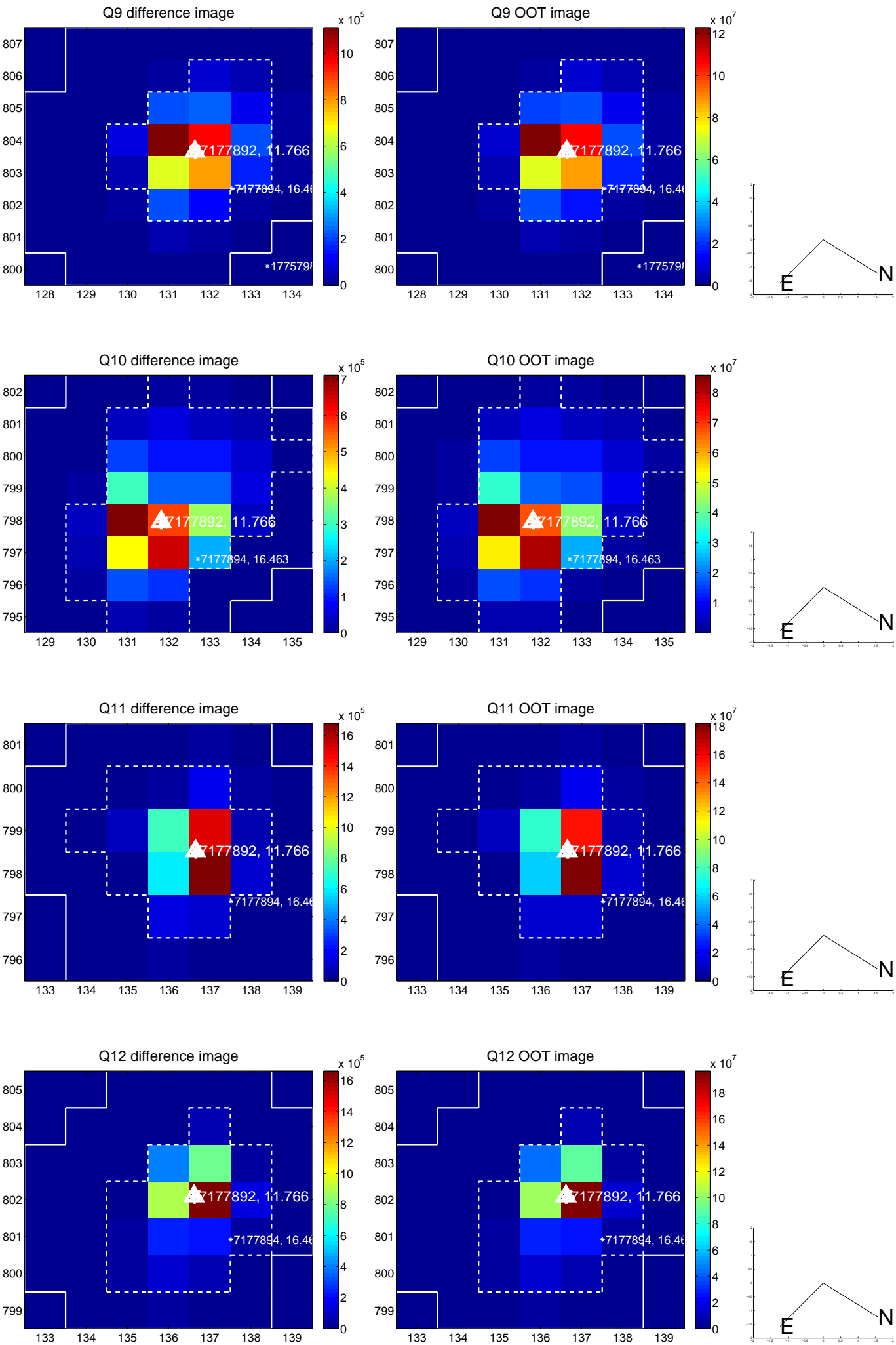
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



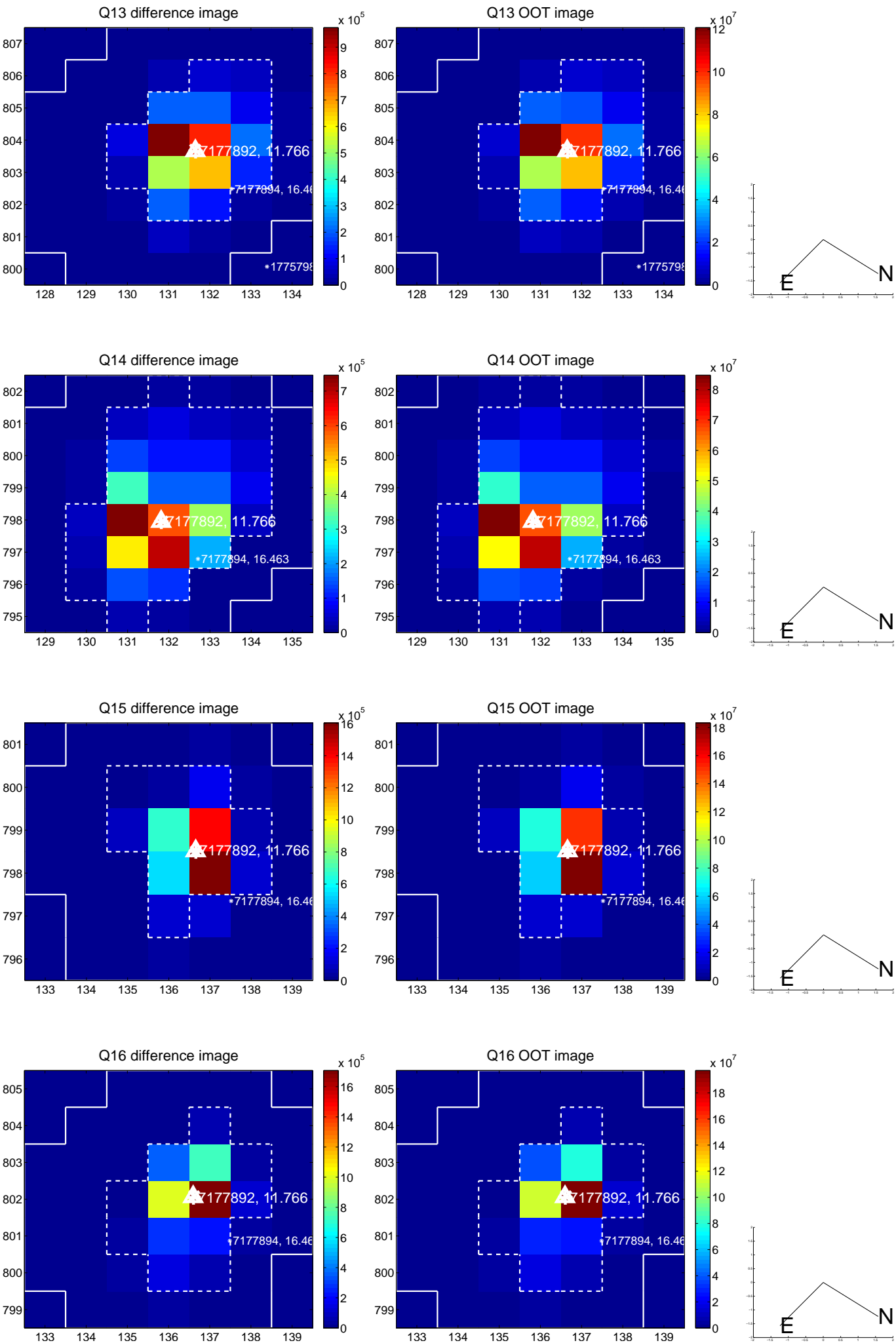
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



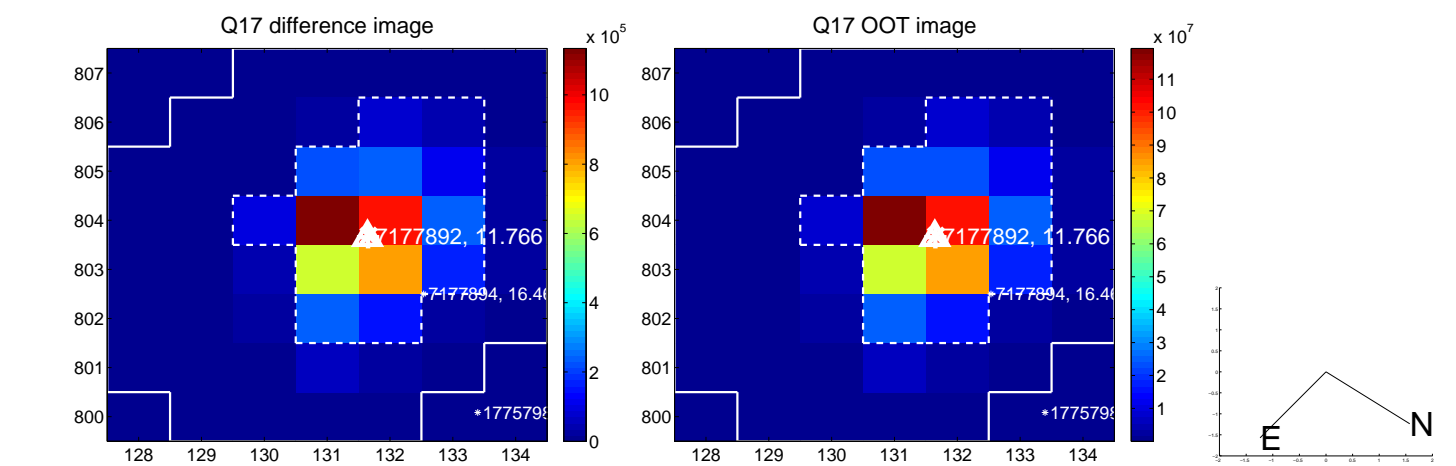
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



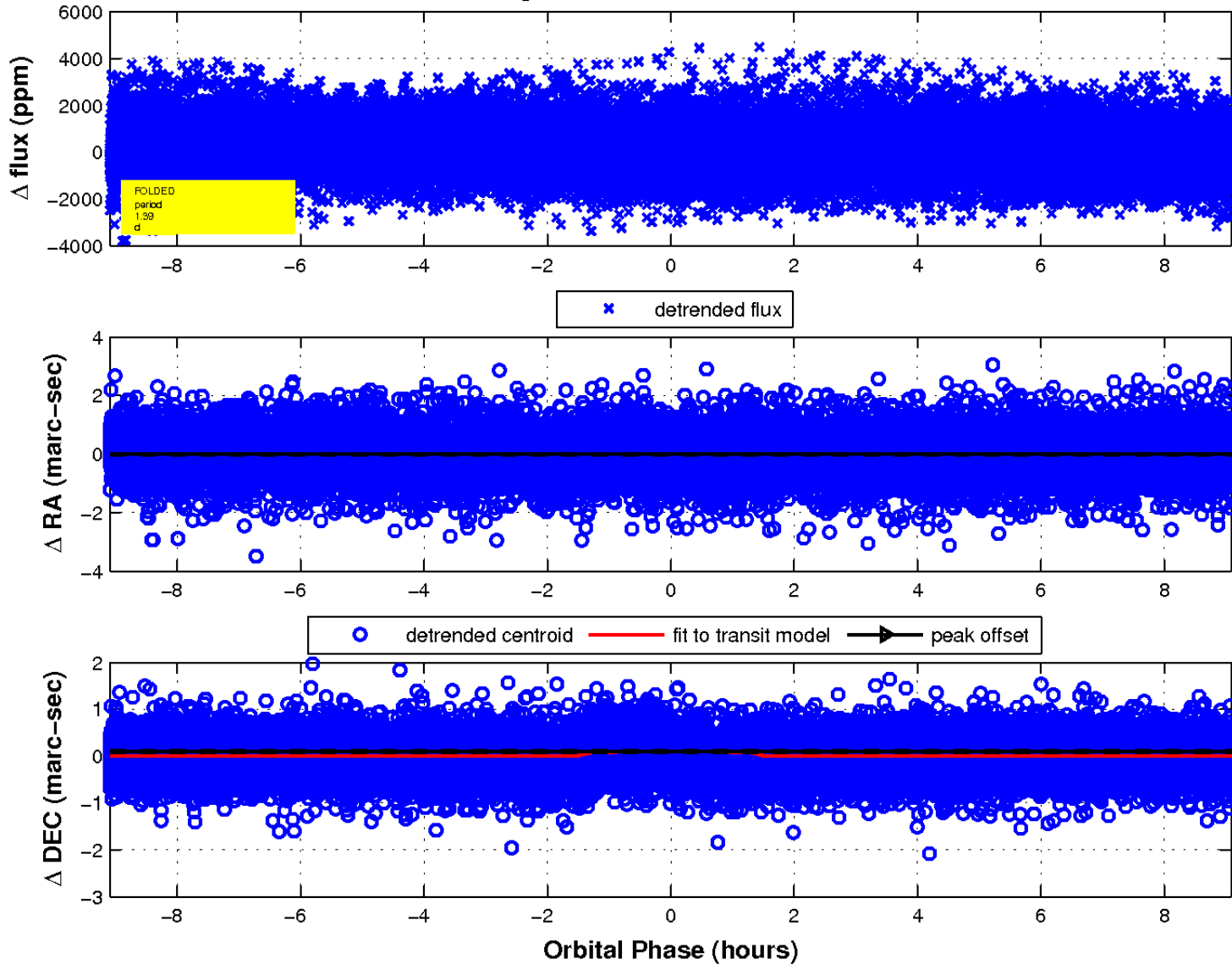
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

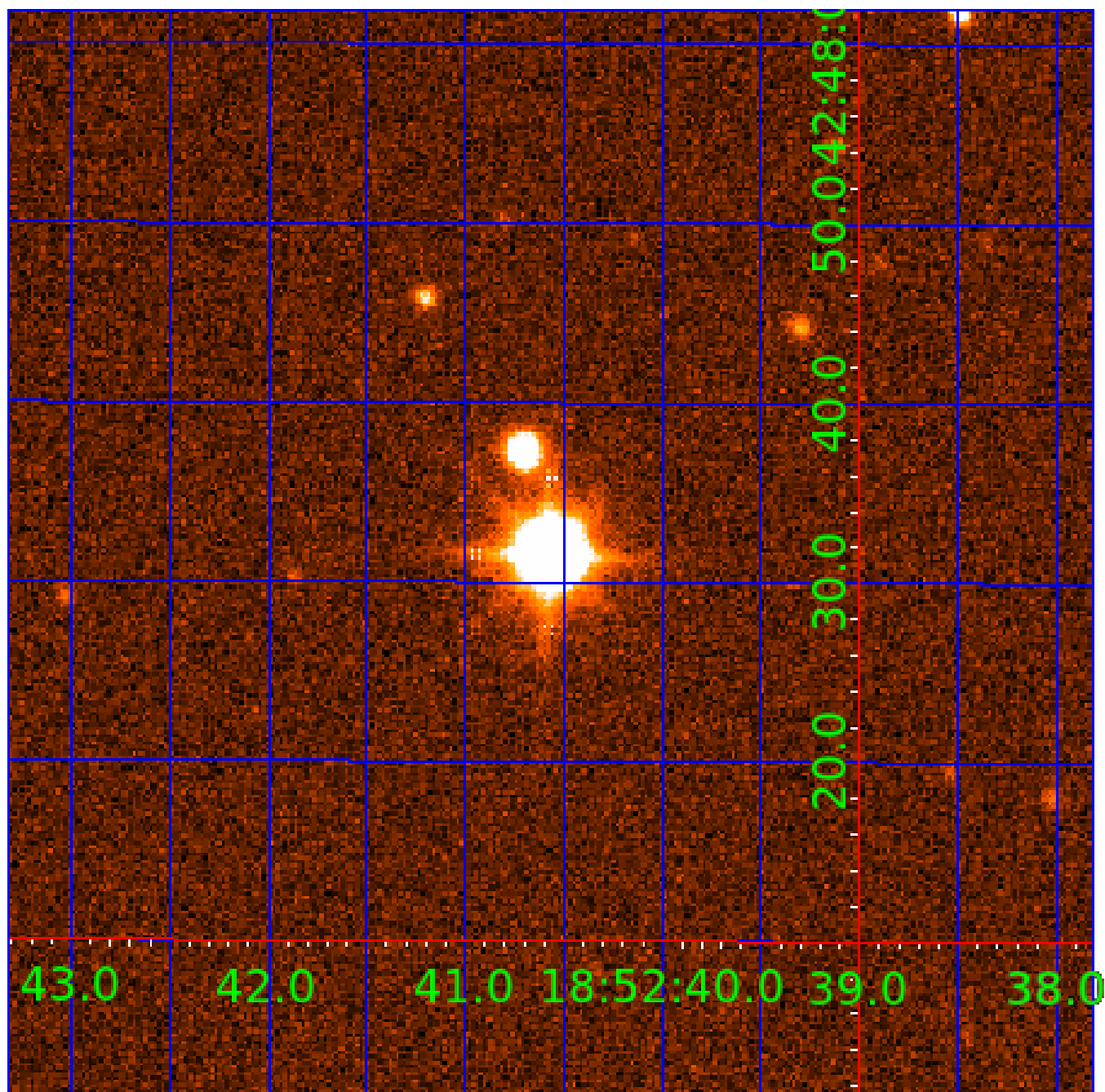


fluxWeightedCentroids, Planet 2 of 4



UKIRT Image

Declination



KIC 007177892

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})
007177892-01	OBS	6838.01	1.386233	132.749691	34624.5	2.972	2369.2	1550.3	1.59	6226	40.15	4938.65
007177892-02	OBS	No	1.386256	132.071369	117.3	3.030	11.6	14.1	1.59	6226	2.03	4938.54
007177892-03	OBS	No	1.388252	132.048937	111.9	3.240	7.6	8.0	1.59	6226	2.00	4929.07
007177892-04	OBS	No	316.058474	160.414960	2824.6	16.170	7.2	4.4	1.59	6226	10.10	3.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007177892-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEEP_V_SHAPED—HAS_SEC_TCE
007177892-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007177892-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007177892-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT

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.

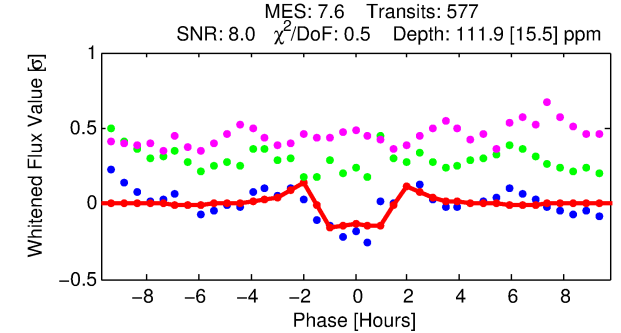
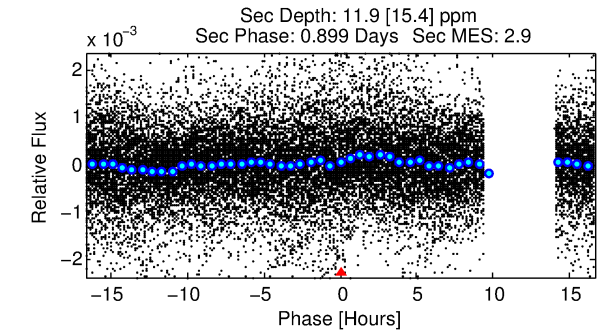
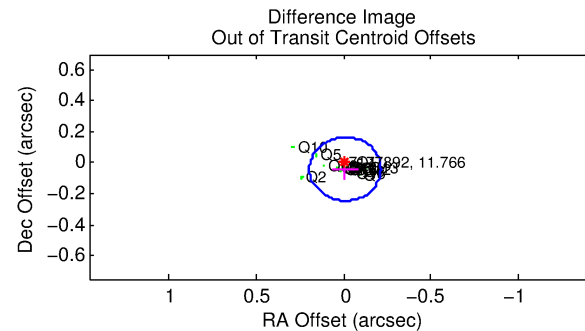
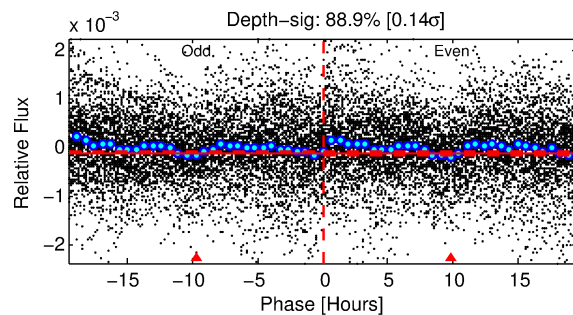
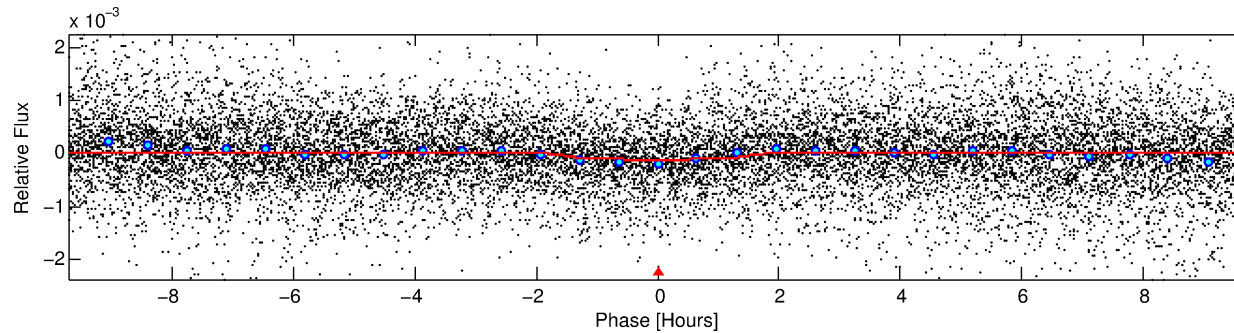
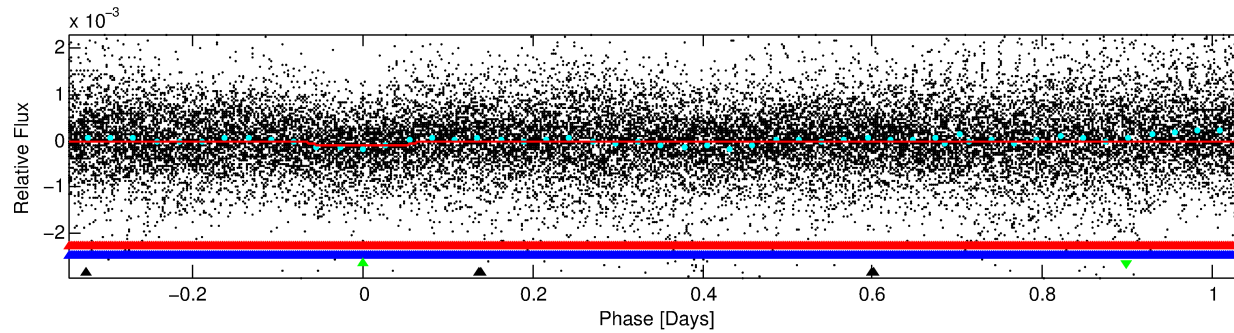
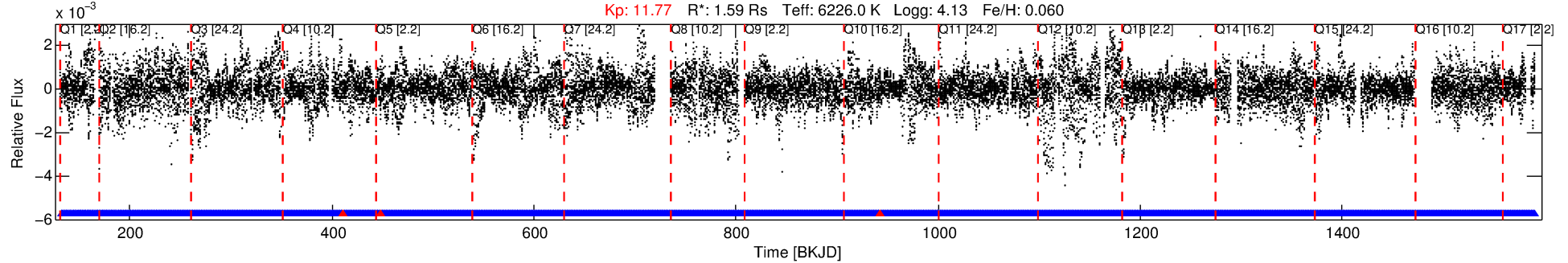
Ephemeris Match Information For 007177892-03

No Significant Match Found

DV One-Page Summary

KIC: 7177892 Candidate: 3 of 4 Period: 1.388 d
KOI: K06838 Corr: No Ephemeris Match

Kp: 11.77 R*: 1.59 Rs Teff: 6226.0 K Logg: 4.13 Fe/H: 0.060



DV Fit Results:

Period = 1.38825 [0.00001] d
Epoch = 132.0489 [0.0022] BKJD
Rp/R* = 0.0115 [0.0030]
a/R* = 1.74 [1.51]
b = 0.91 [0.25]
Seff = 4929.07 [2186.66]
Teff = 2137 [237] K
Rp = 2.00 [0.78] Re
a = 0.0263 [0.0070] AU
Ag = 1.14 [1.65] [0.09σ]
Teffp = 3414 [1193] K [1.05σ]

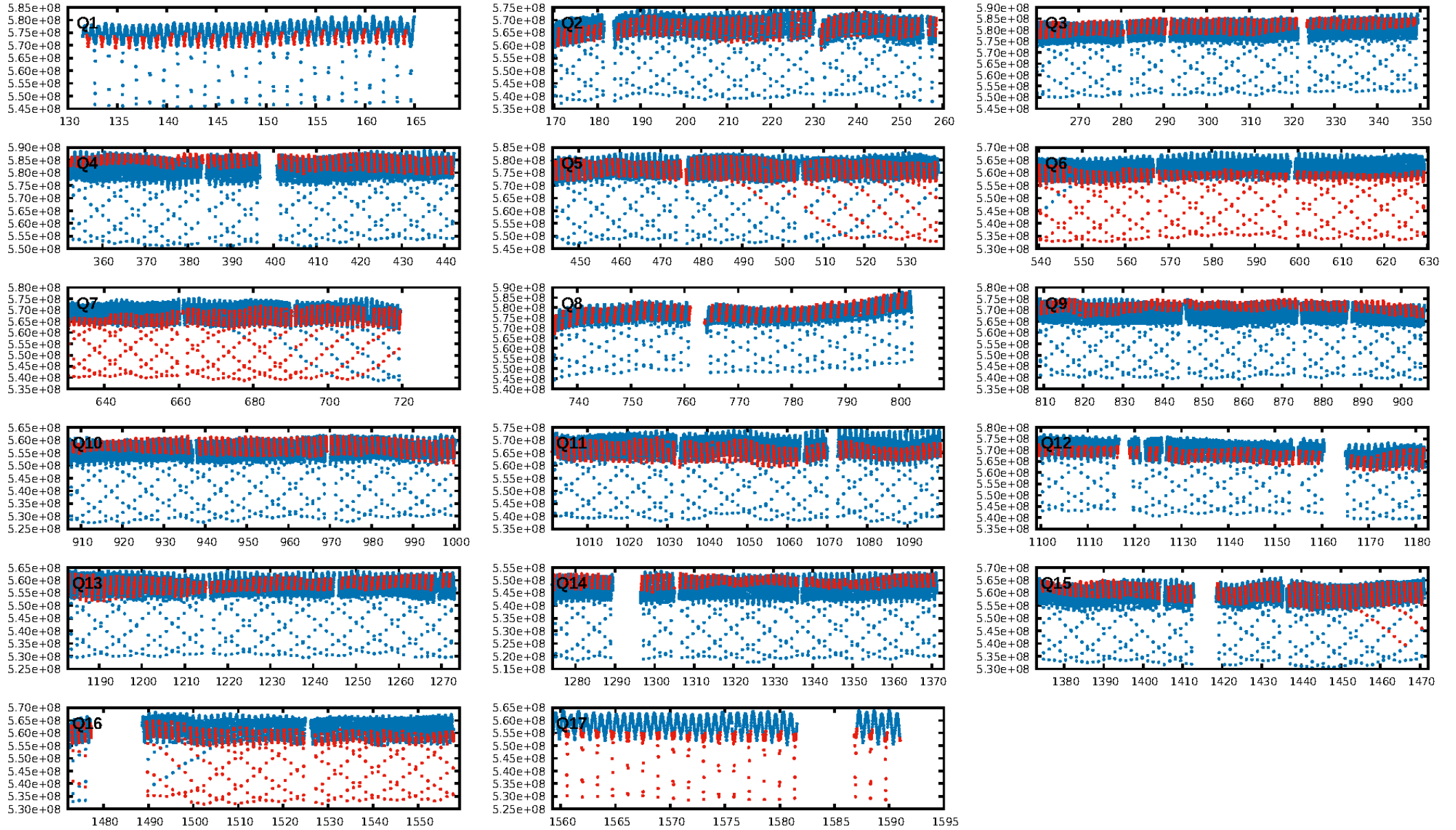
DV Diagnostic Results:

ShortPeriod-sig: 0.9% [0.01σ]
LongPeriod-sig: 100.0% [457.93σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [574/577]
GhostDiagnostic-chr: 1.142
Centroid-sig: 40.4%
Centroid-so: 0.208 arcsec [1.59σ]
OotOffset-rm: 0.042 arcsec [0.61σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.077 arcsec [1.06σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 0.00 [0/17]

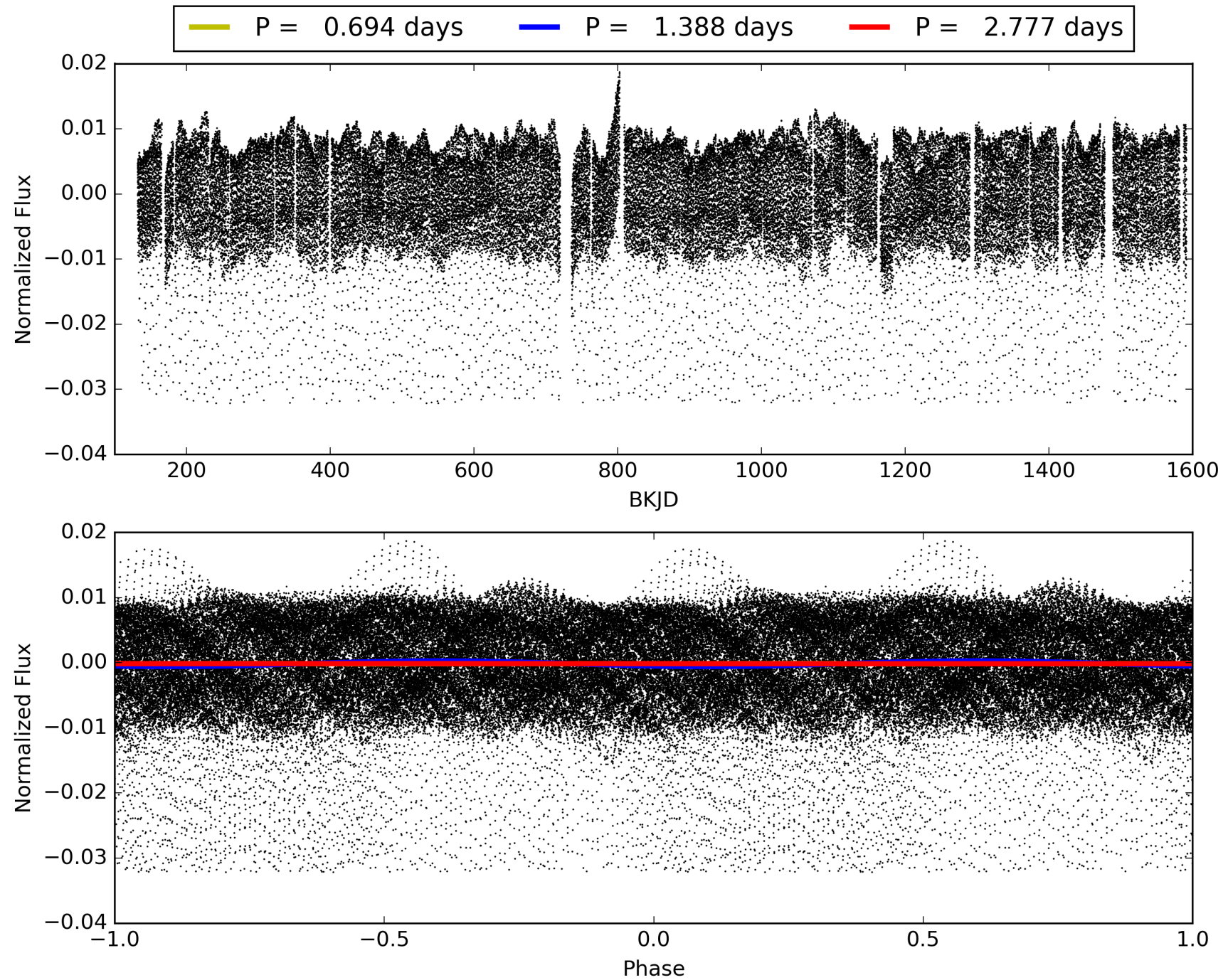
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 10:36:39 Z

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

TCE 007177892-03, PDC Light Curves

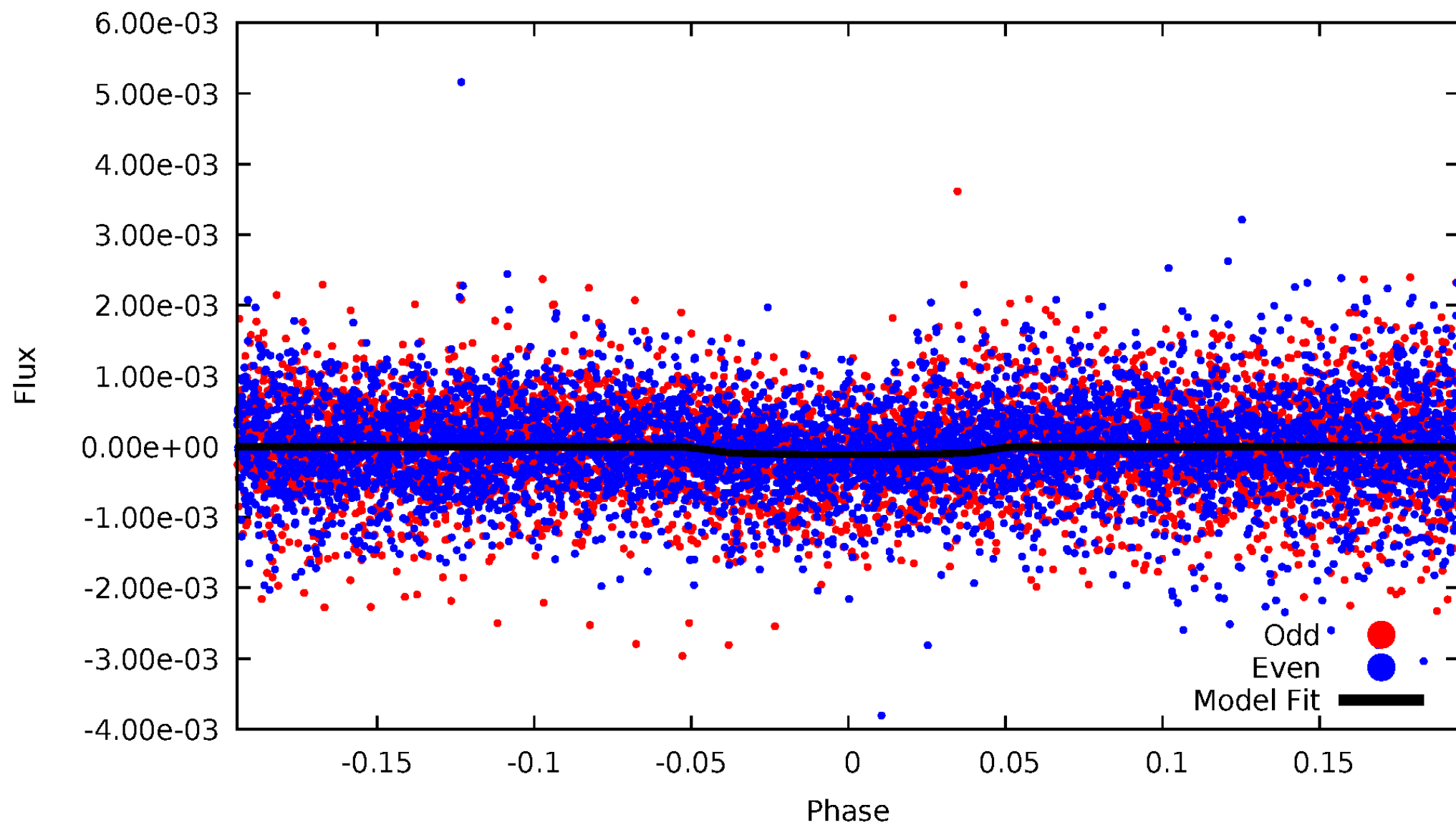


TCE 007177892-03



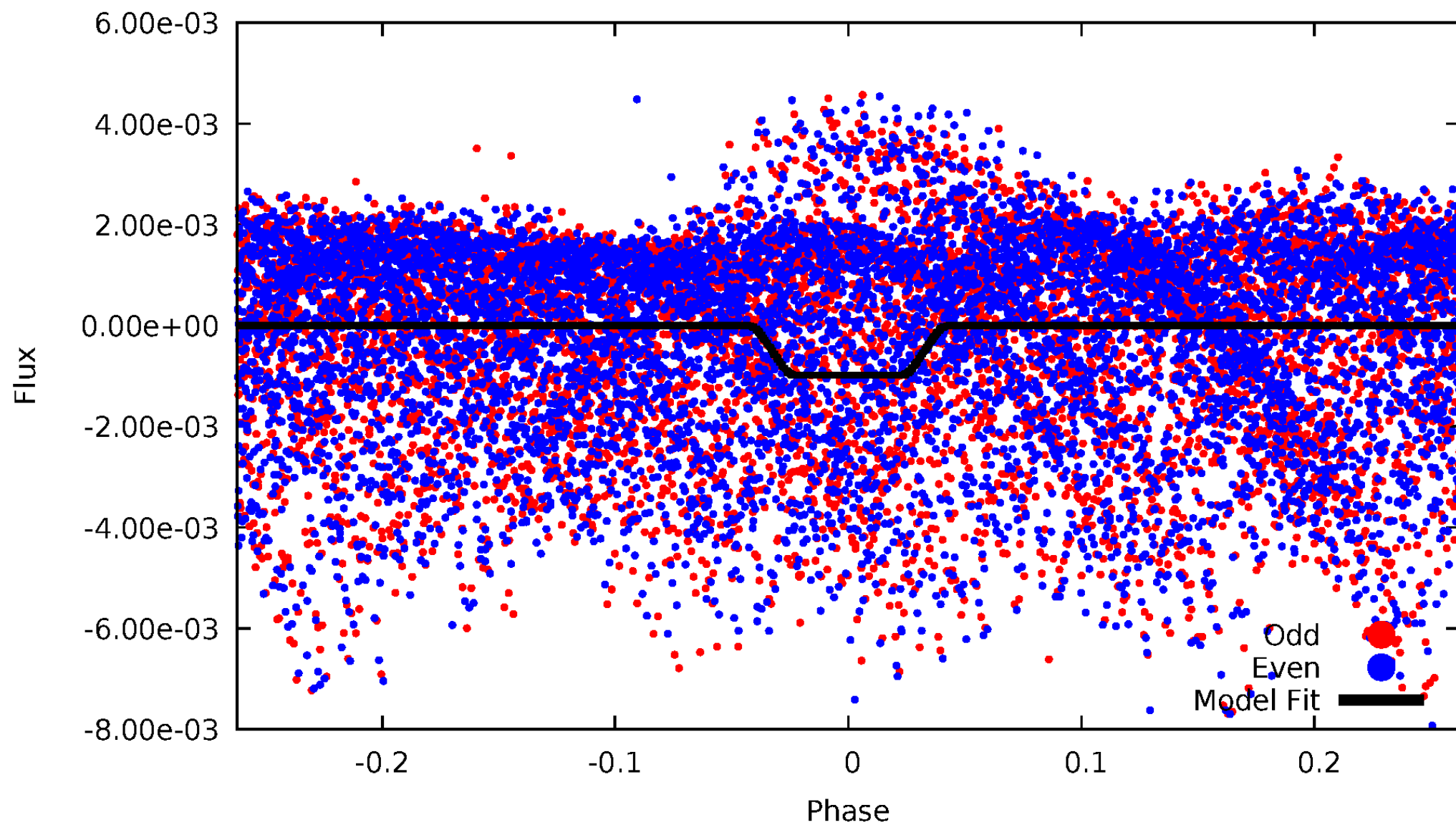
DV Odd/Even

TCE 007177892-03



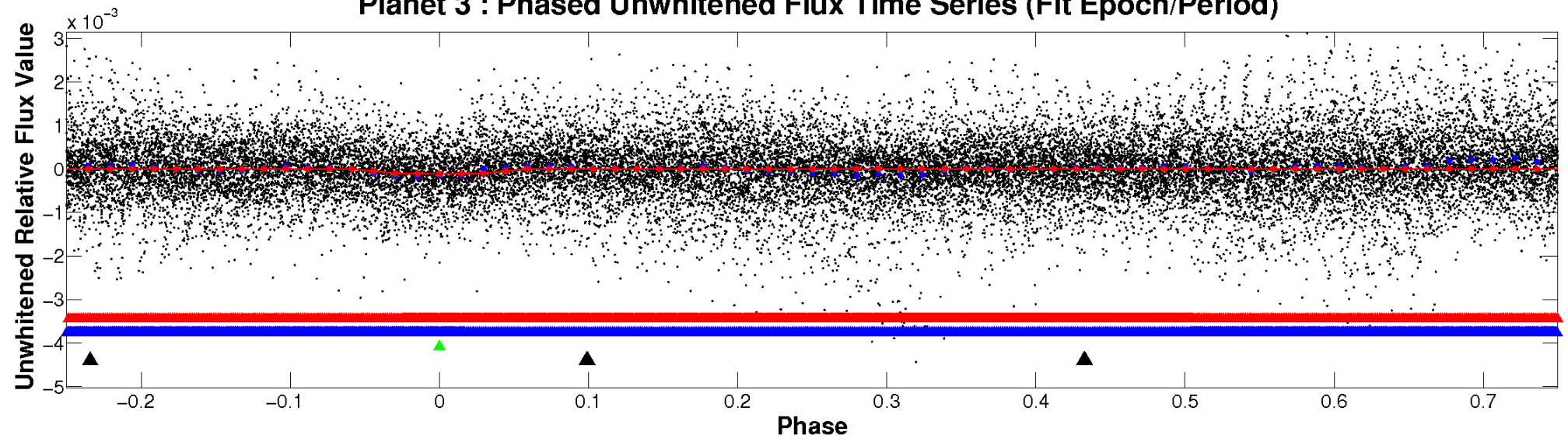
ALT Odd/Even

TCE 007177892-03

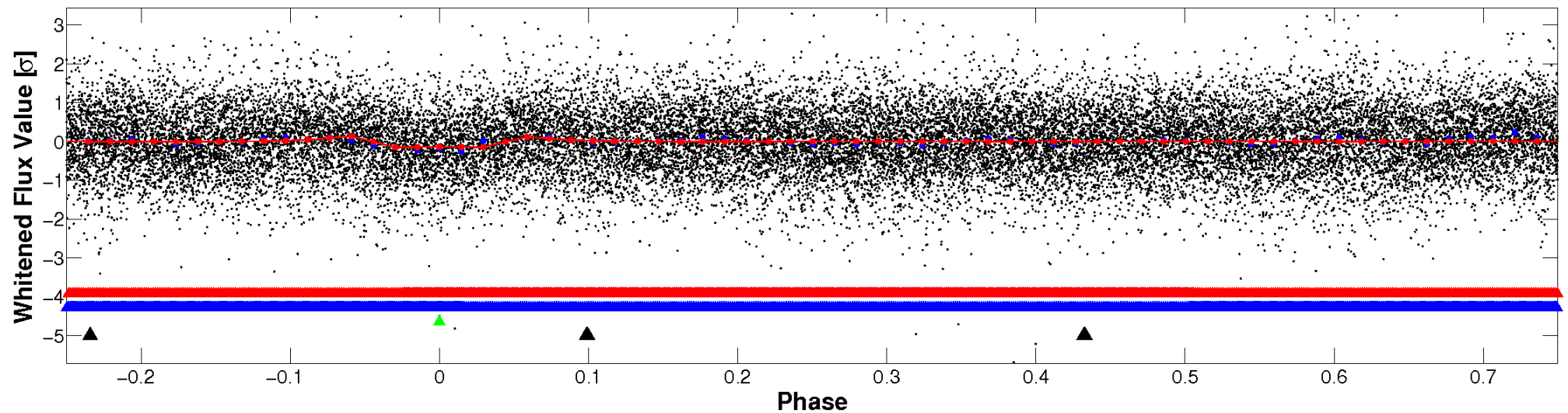


Non-Whitened Vs. Whitened Light Curve

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

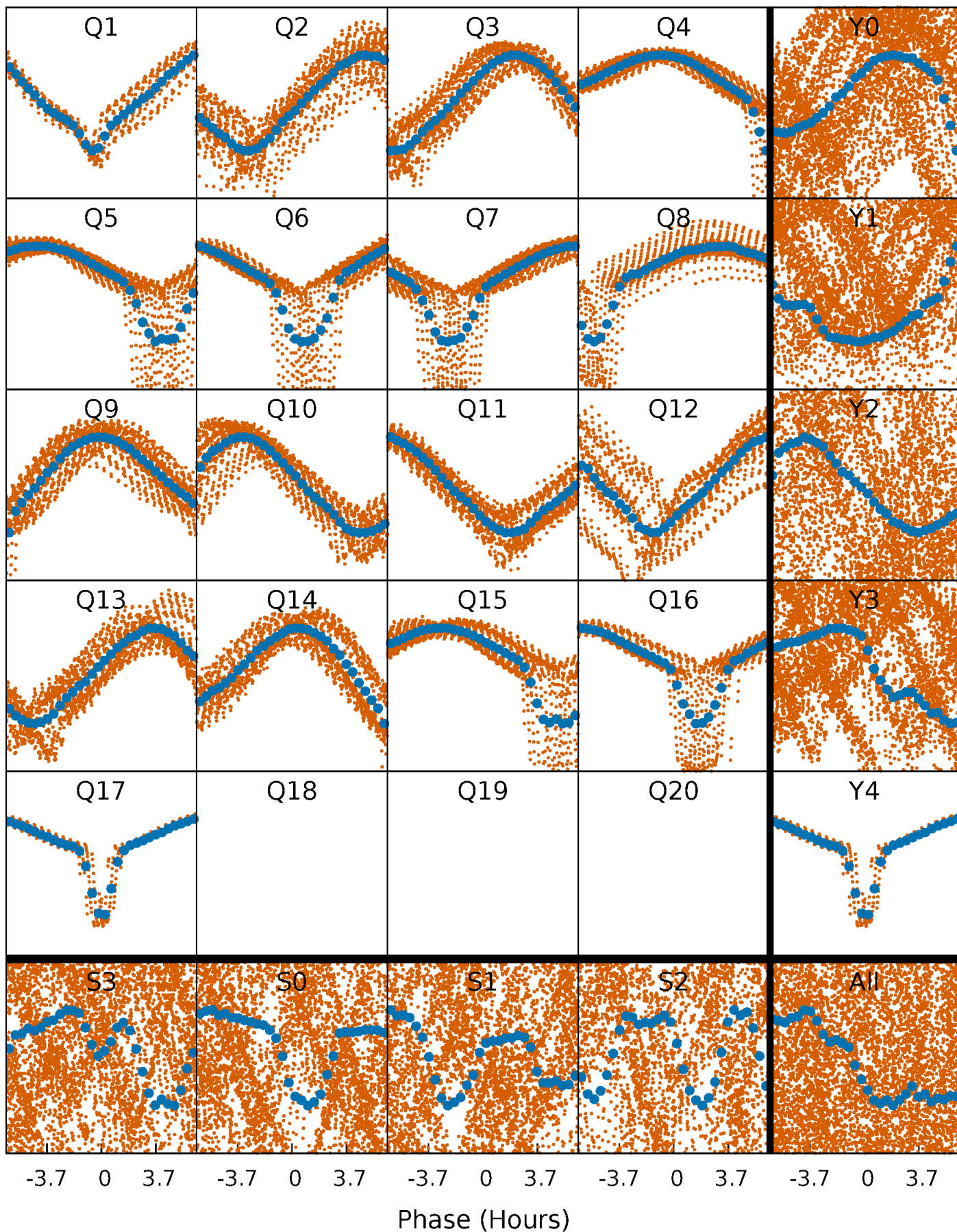


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



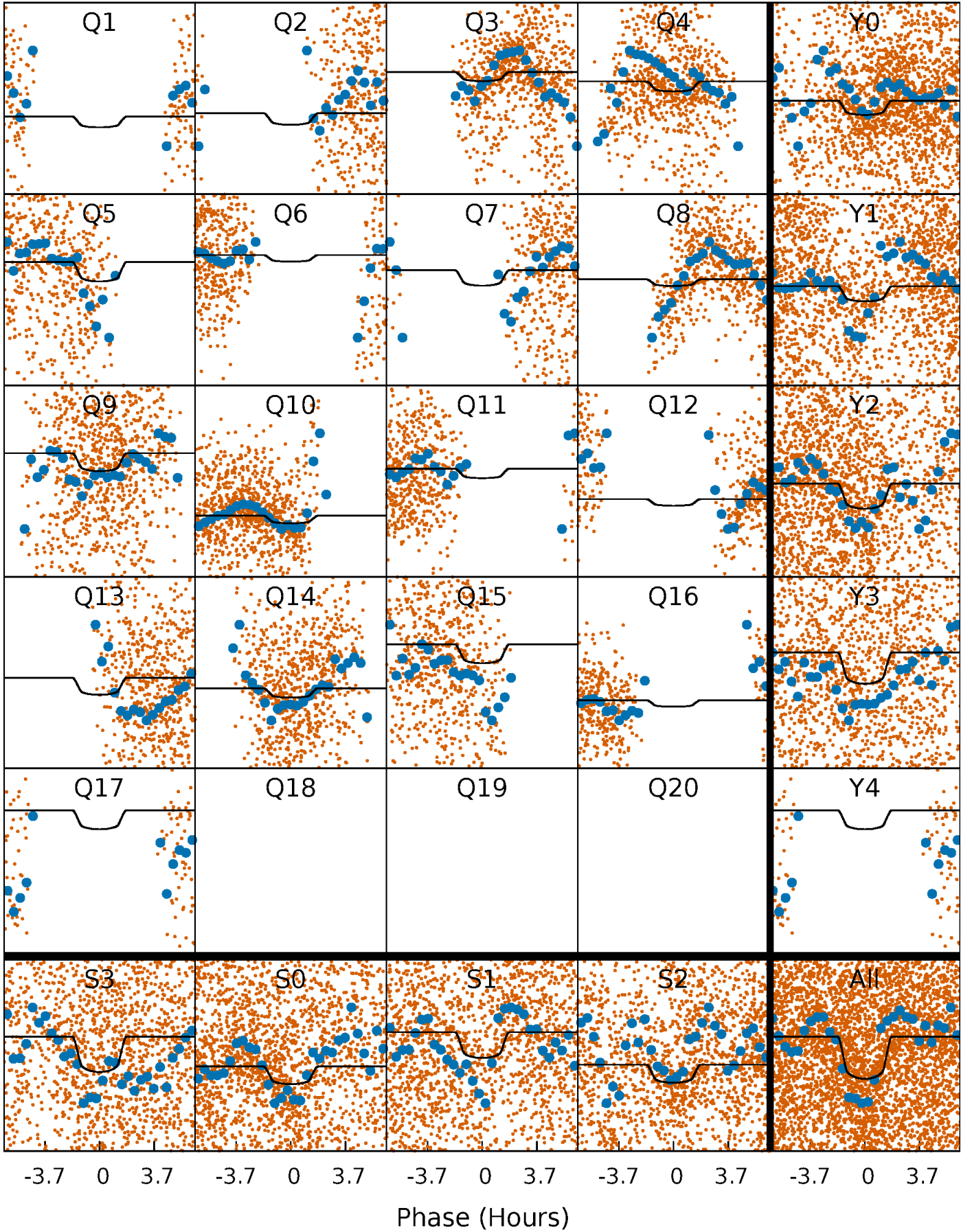
PDC Quarter-Phased Transit Curves

TCE 007177892-03 P= 1.388252 Days $T_0=132.048937$ (BKJD)



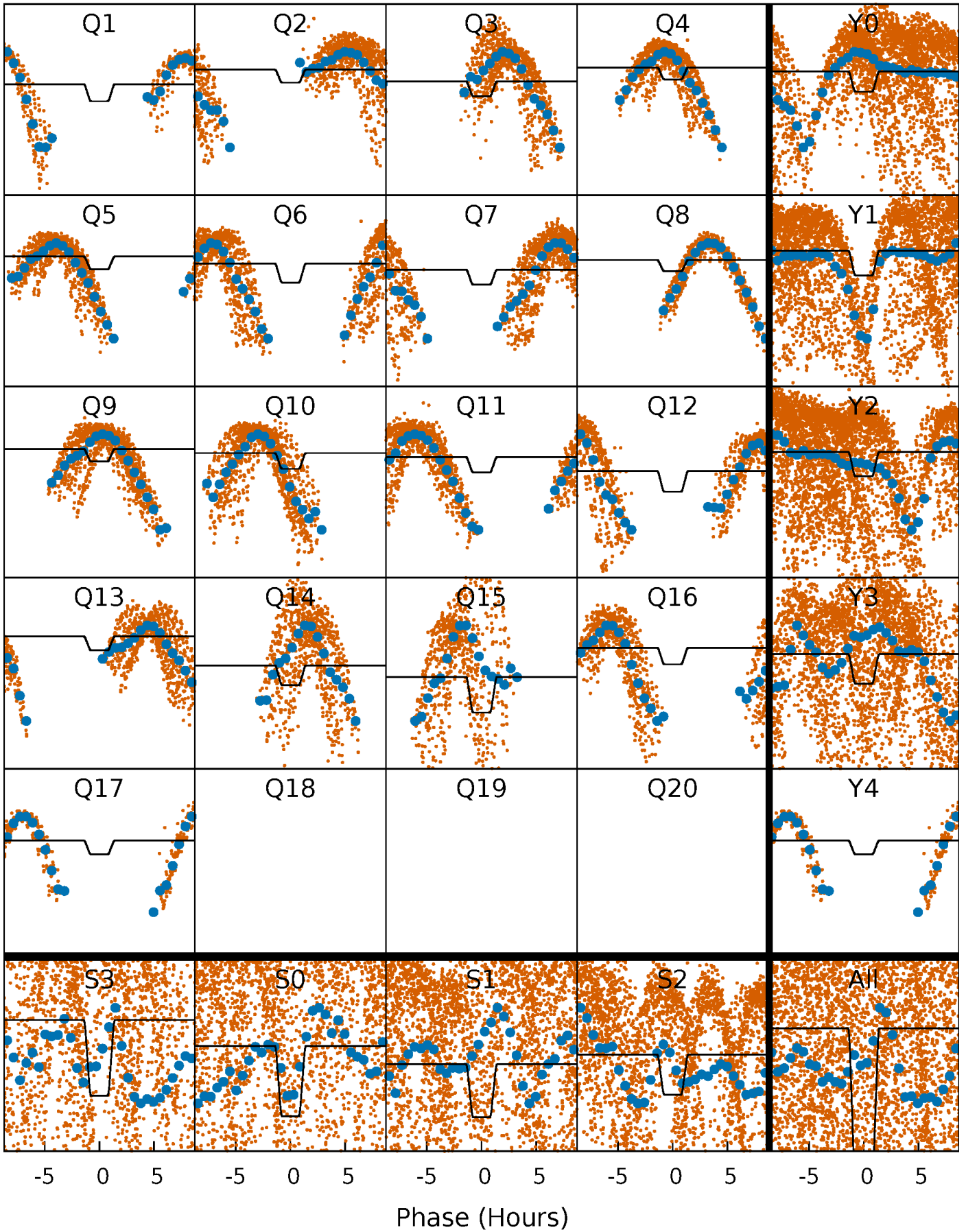
DV Quarter-Phased Transit Curves

TCE 007177892-03 $P = 1.388252$ Days $T_0 = 132.048937$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

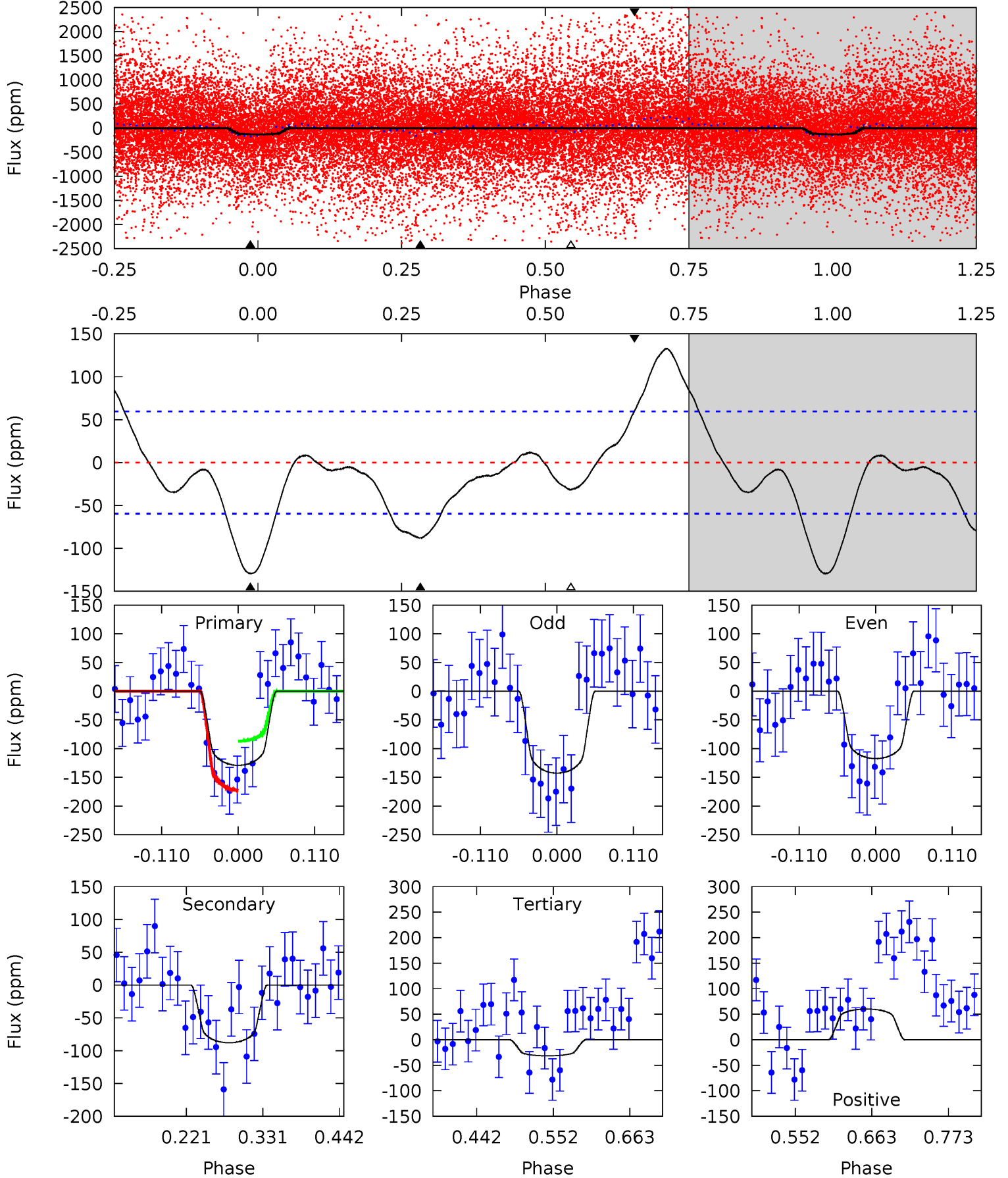
TCE 007177892-03 $P = 1.388200$ Days $T_0 = 132.051383$ (BKJD)



DV Model-Shift Uniqueness Test

007177892-03, P = 1.388252 Days, E = 130.660685 Days

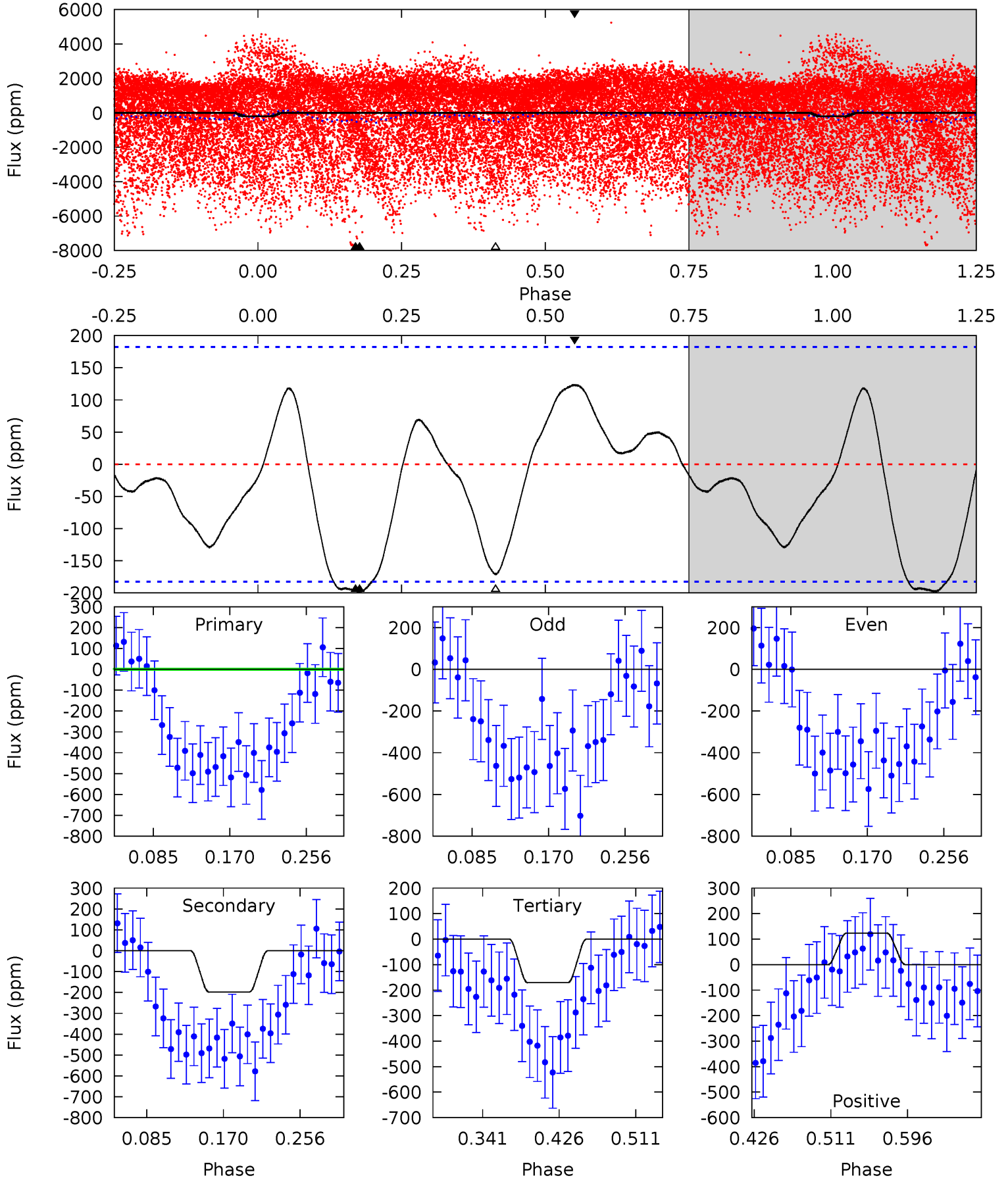
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.85	6.71	2.41	4.59	4.54	1.60	3.57	7.44	5.27	4.30	2.12	0.98	0.85	0.51	3.40



Alt Model-Shift Uniqueness Test

007177892-03, P = 1.388200 Days, E = 130.663183 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.94	4.99	4.31	3.11	4.60	1.72	1.91	0.63	1.83	0.68	1.88	0.85	1.11	0.38	0.82



Stellar Parameters For KIC 007177892

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6226^{+195}_{-239}	$4.135^{+0.240}_{-0.180}$	$0.060^{+0.250}_{-0.300}$	$1.594^{+0.463}_{-0.463}$	$1.264^{+0.175}_{-0.233}$	$0.440^{+0.650}_{-0.196}$
	+3%/-4%	+6%/-4%	+417%/-500%	+29%/-29%	+14%/-18%	+148%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007177892-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-88 ± 13	$1.94^{+0.65}_{-0.58}$	2966^{+245}_{-265}	5581^{+1095}_{-644}	$8.795^{+9.280}_{-3.856}$
Alt.	-198 ± 40	$5.45^{+0.92}_{-1.04}$	2967^{+245}_{-250}	4279^{+269}_{-318}	$2.563^{+1.418}_{-0.861}$

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

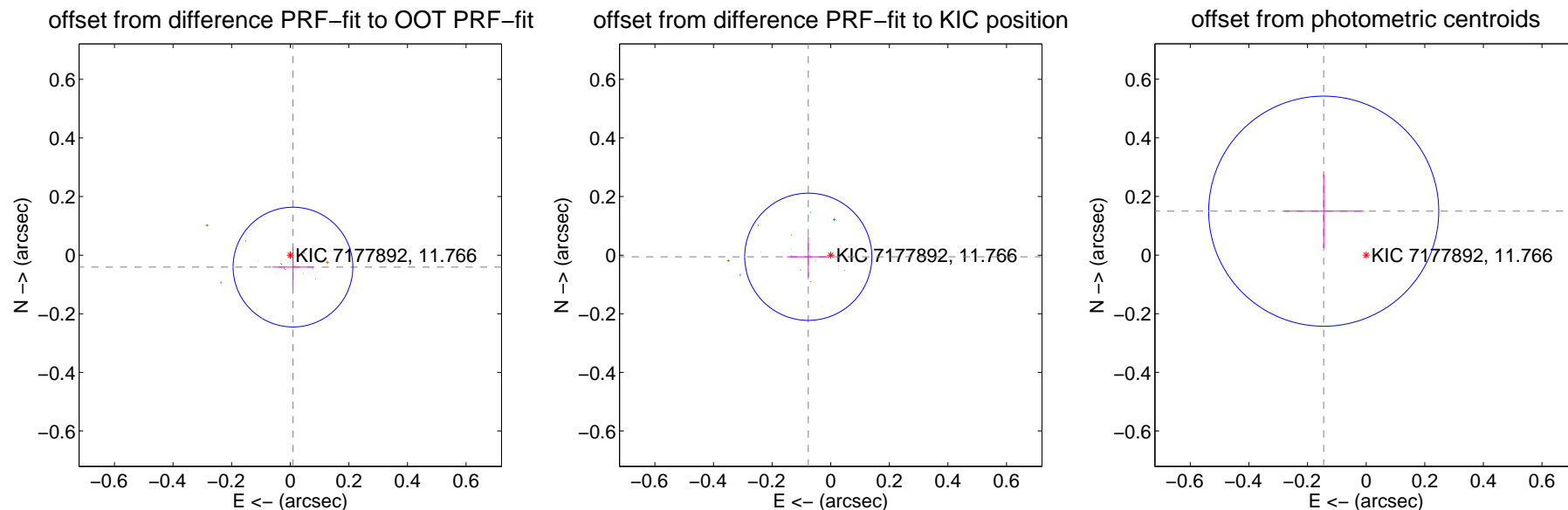
DV Centroid Data

Supplemental centroid analysis for 007177892-03. **Kepler magnitude: 11.77.** Transit SNR 8.01

There are 8 quarters with good PRF difference image offsets

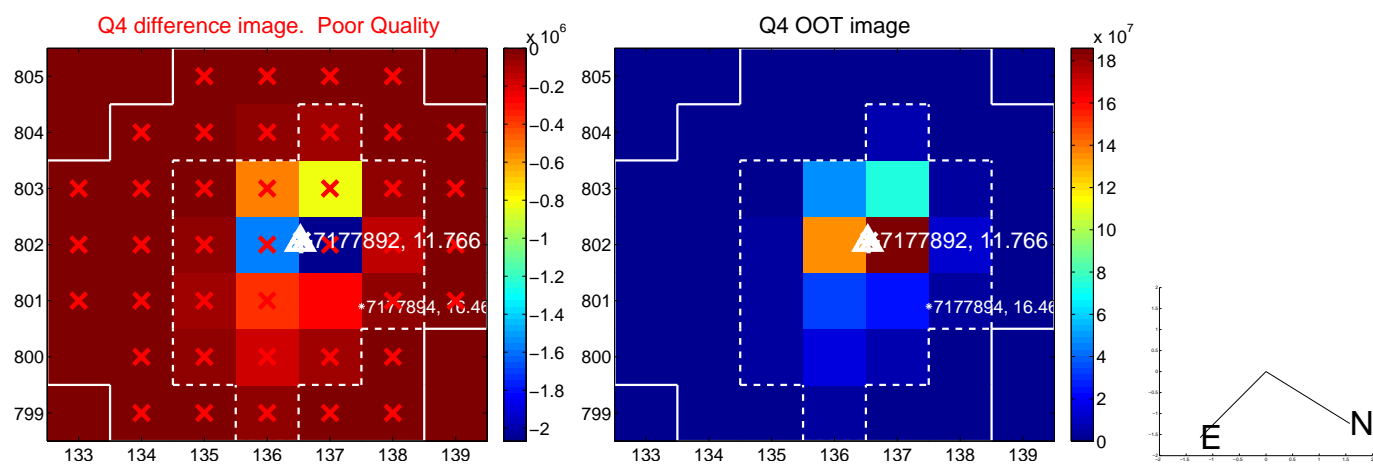
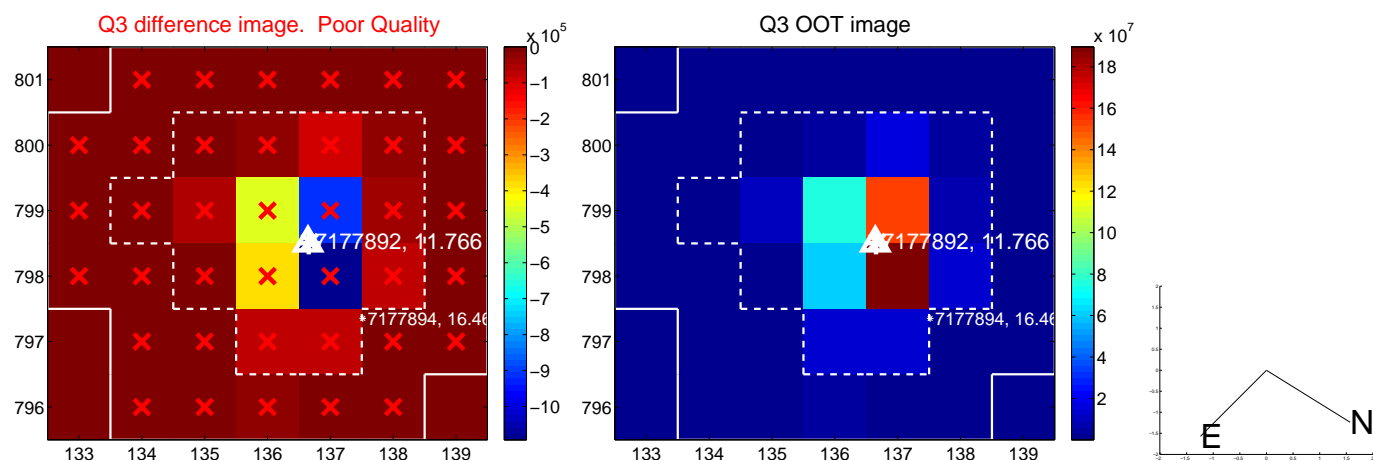
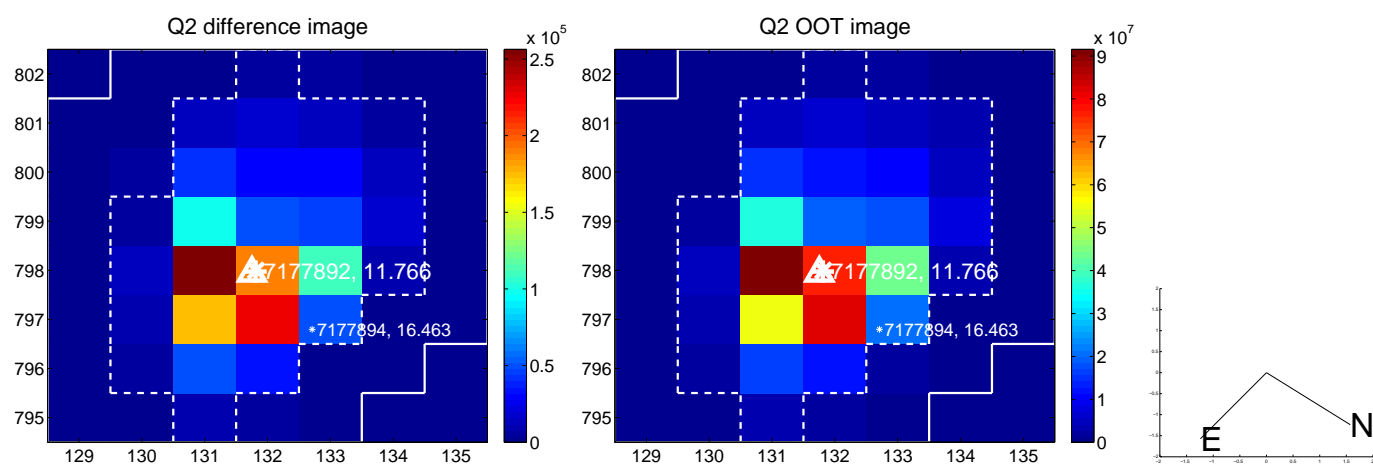
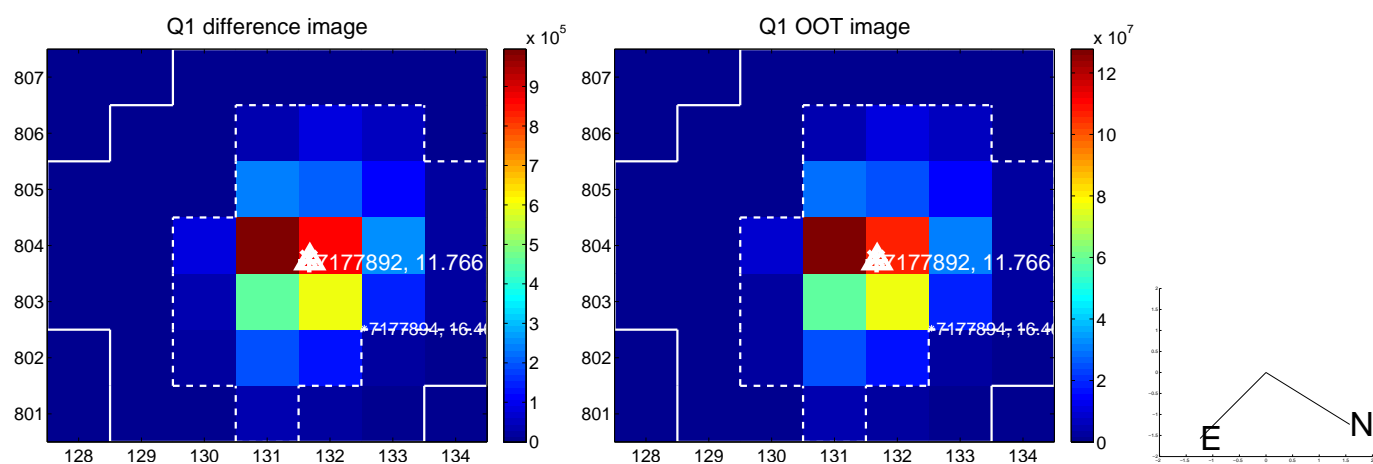
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.042 ± 0.068	0.61	-0.009 ± 0.071	-0.041 ± 0.068
PRF-fit source offset from KIC position	0.077 ± 0.072	1.06	0.077 ± 0.072	-0.006 ± 0.069
photometric centroid source offset	0.21 ± 0.13	1.59	0.14 ± 0.14	0.15 ± 0.13

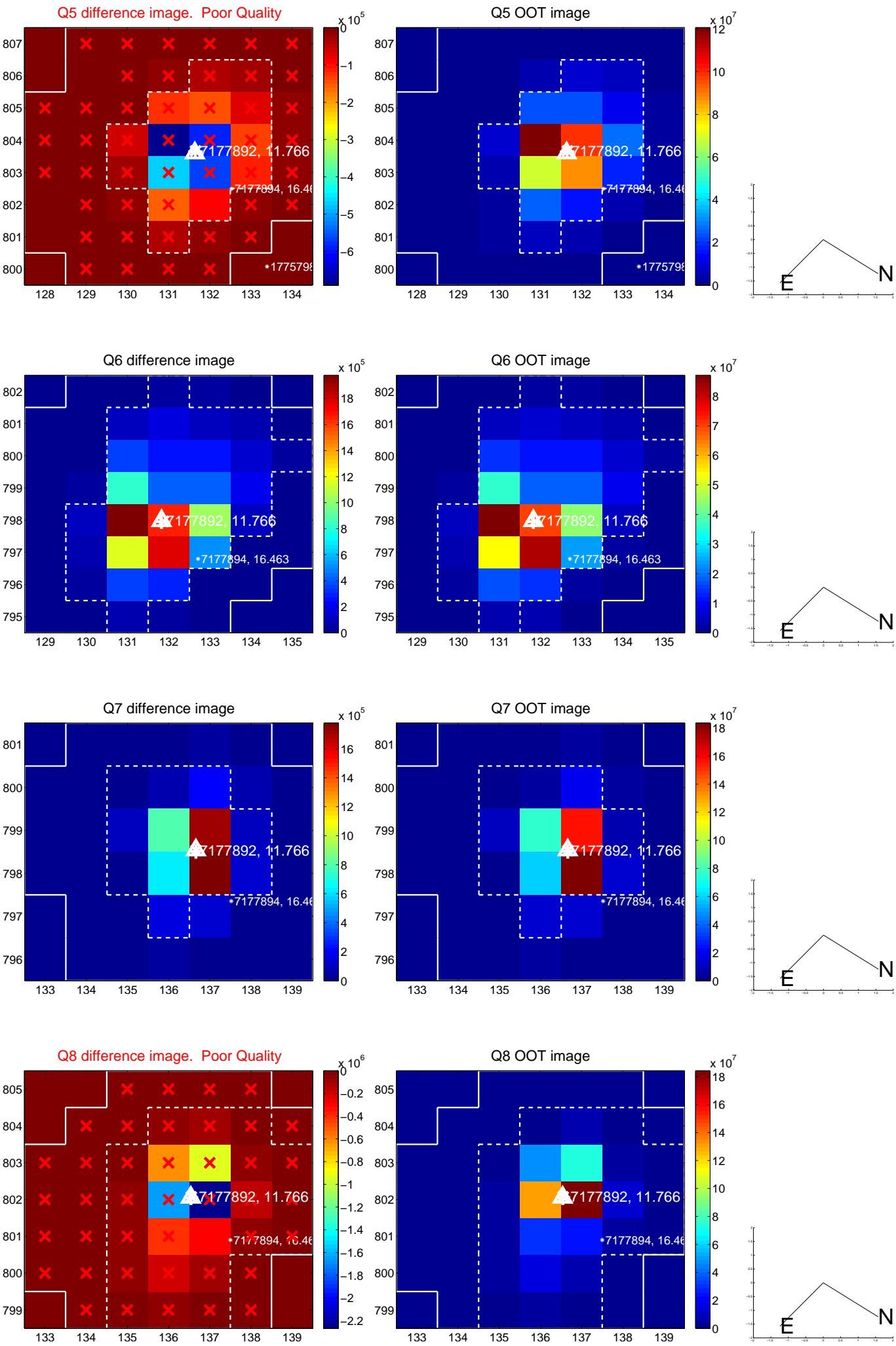


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

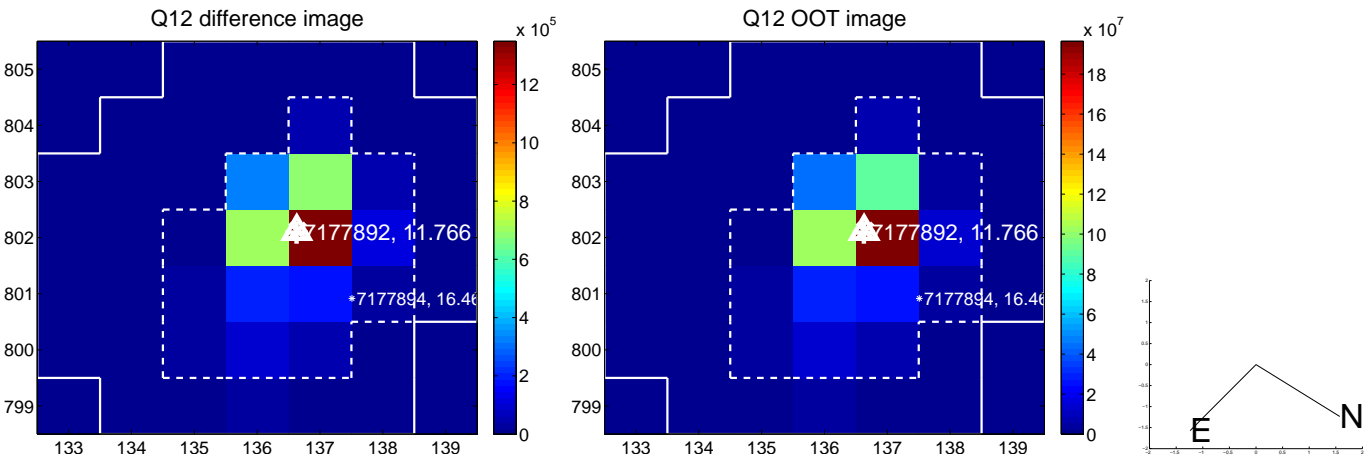
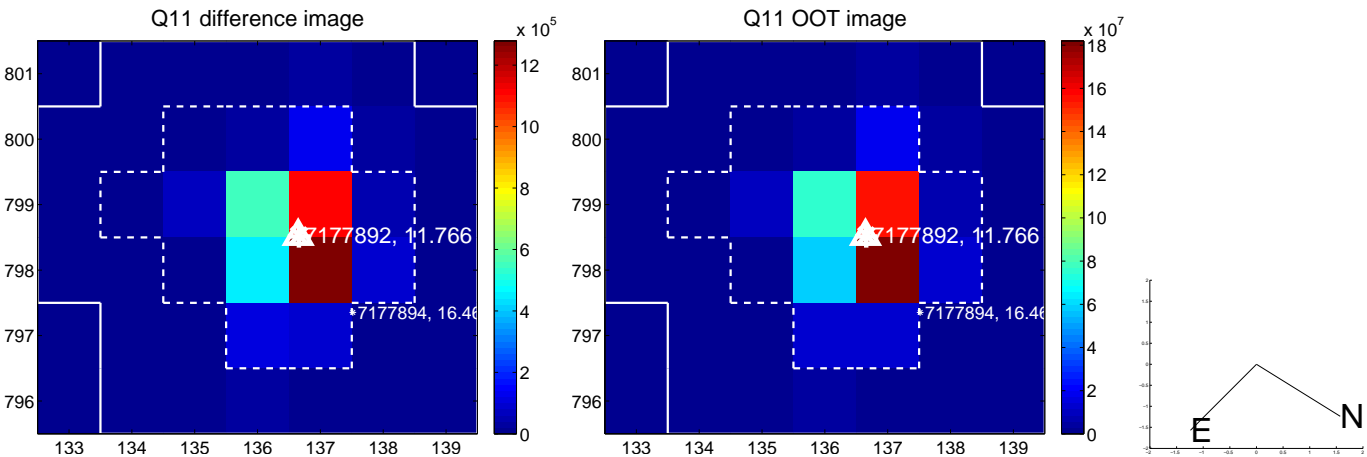
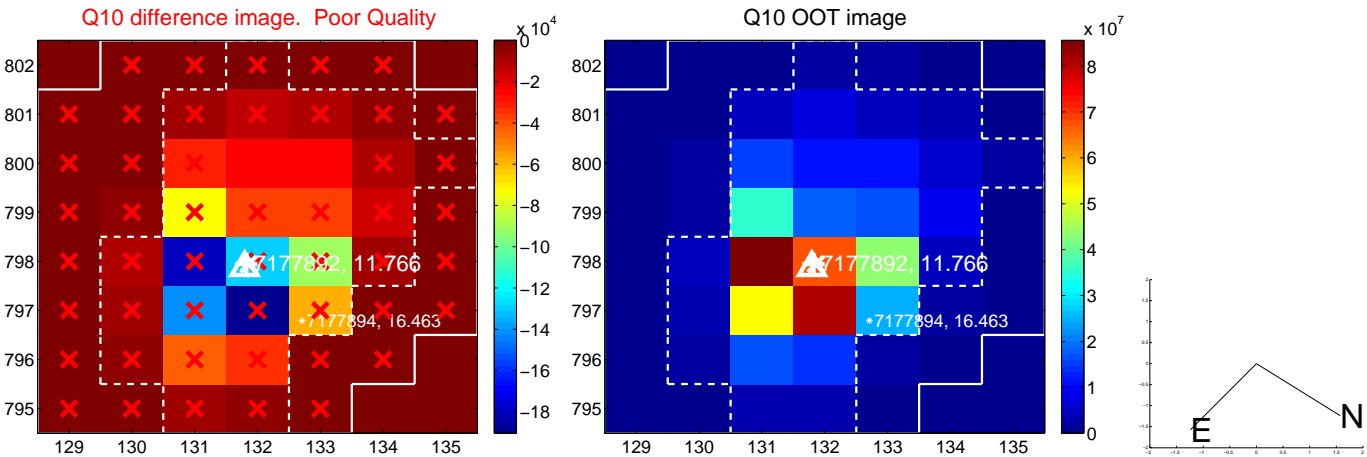
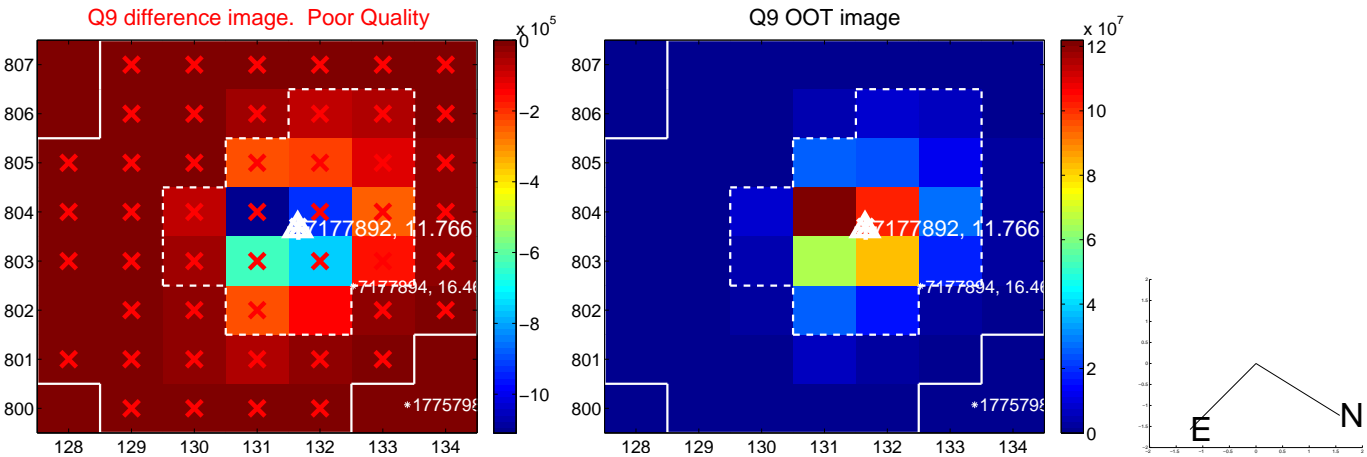
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



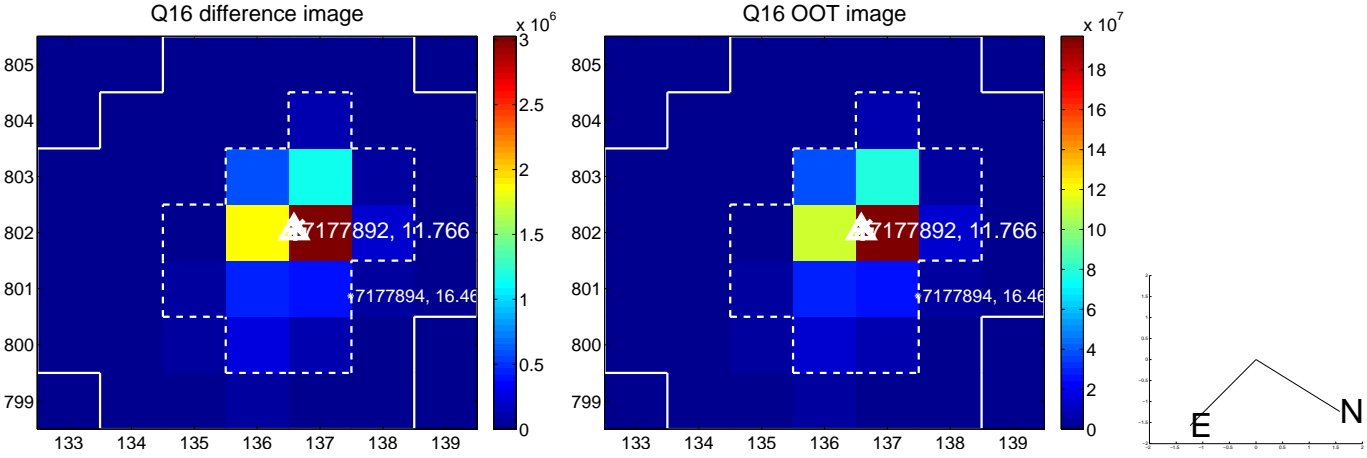
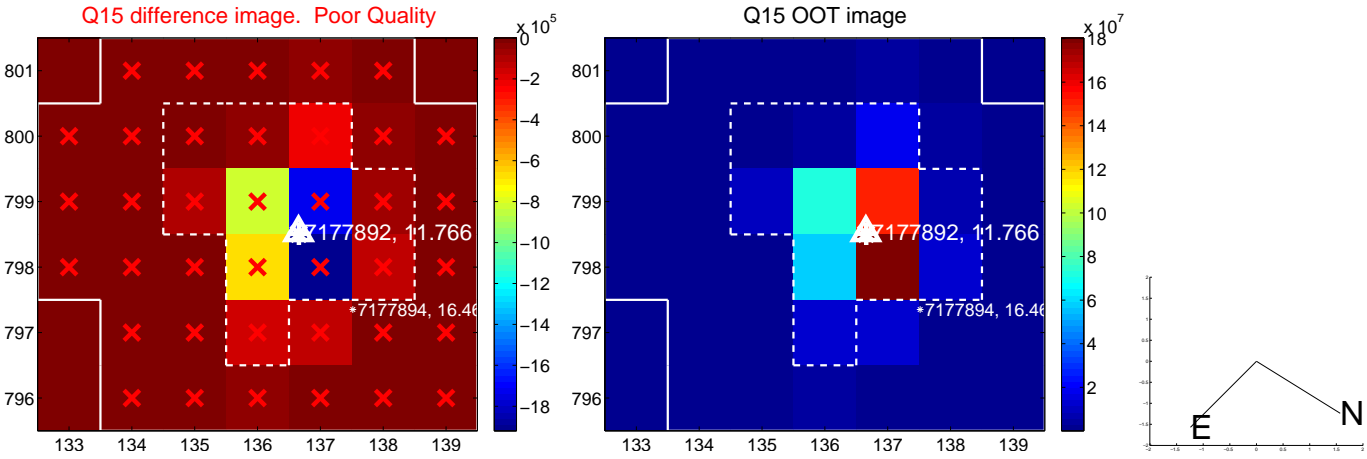
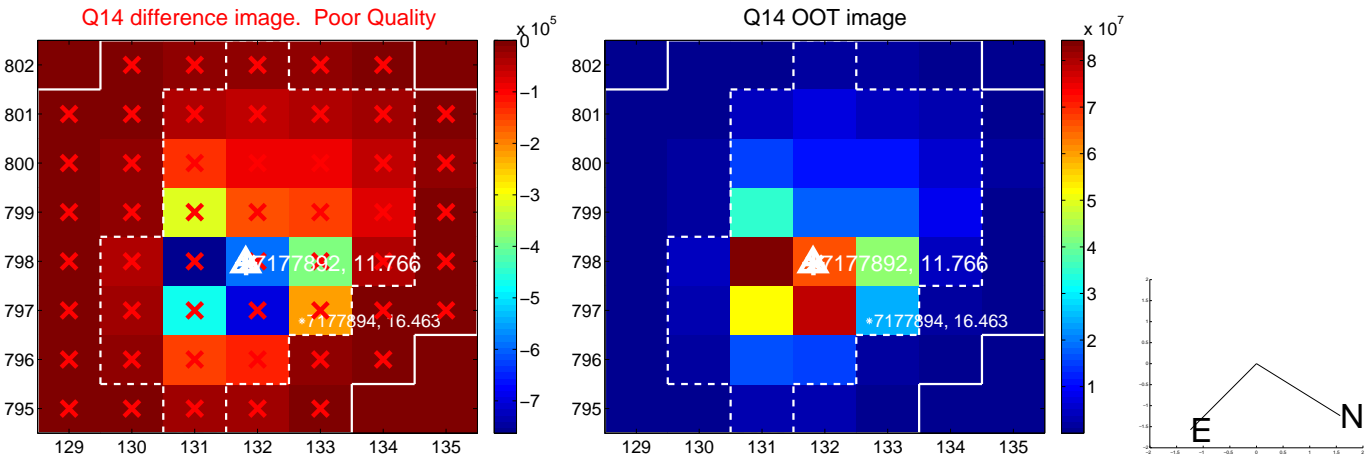
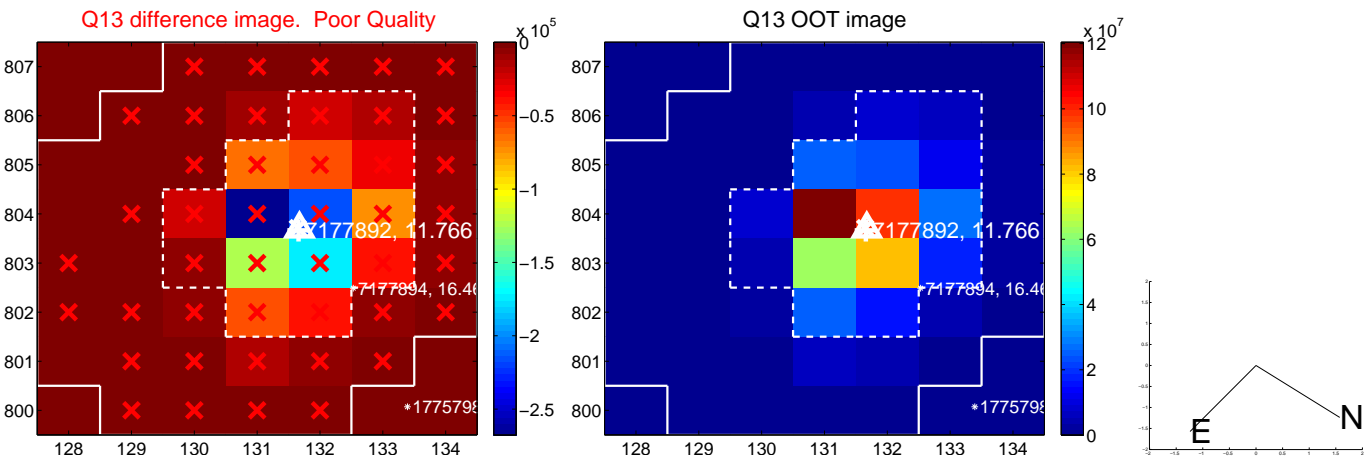
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



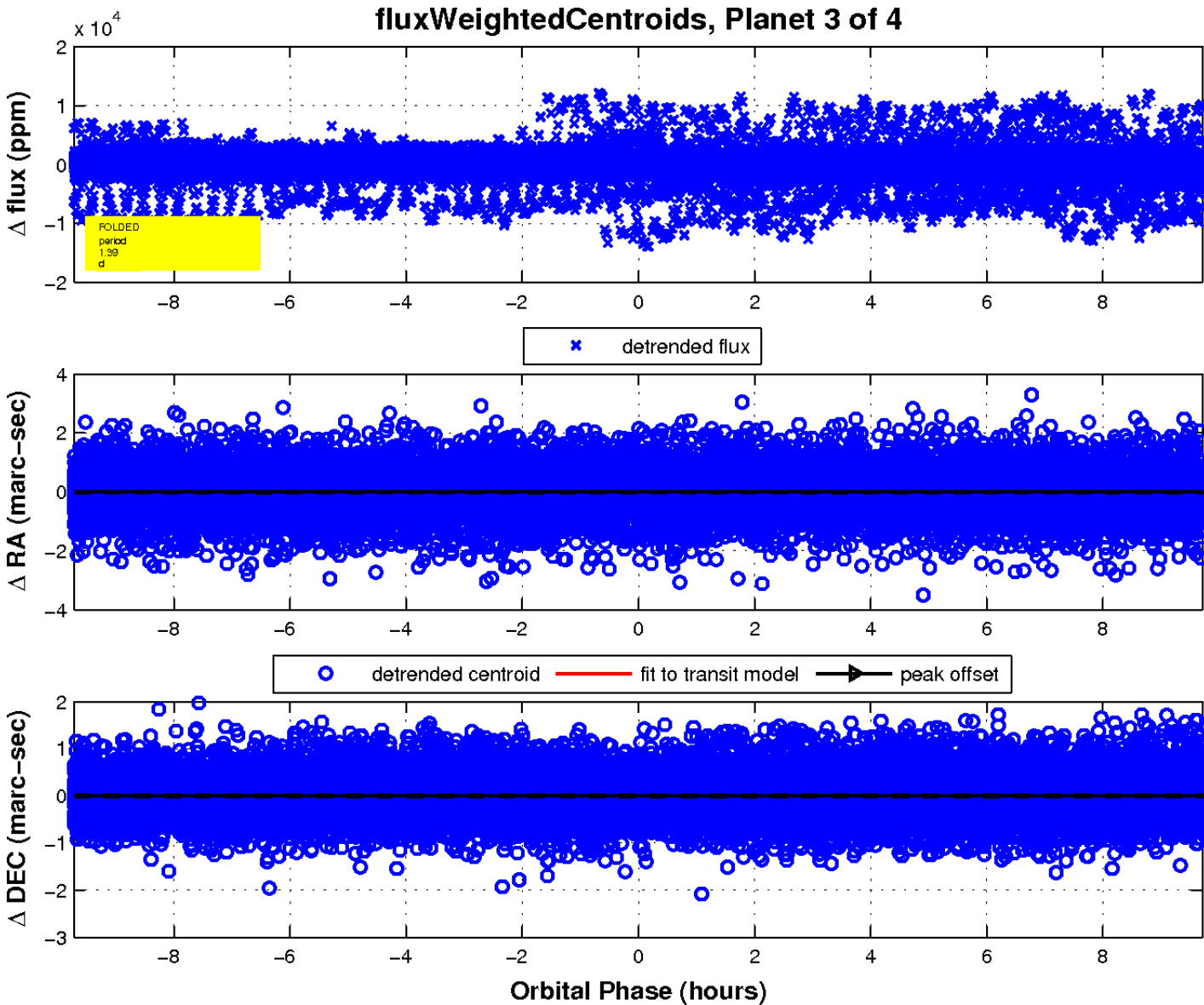
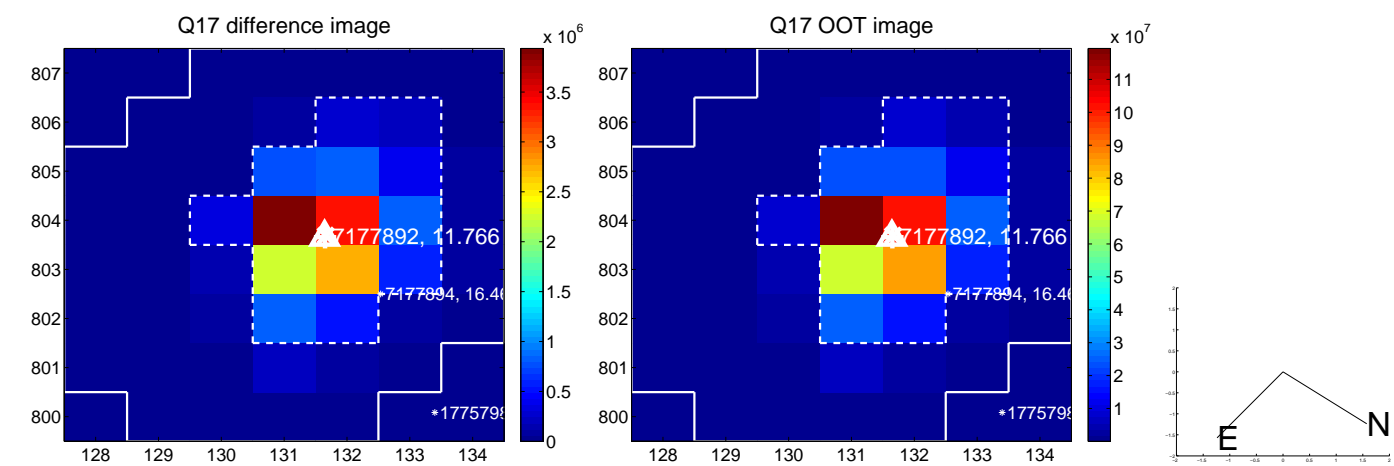
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

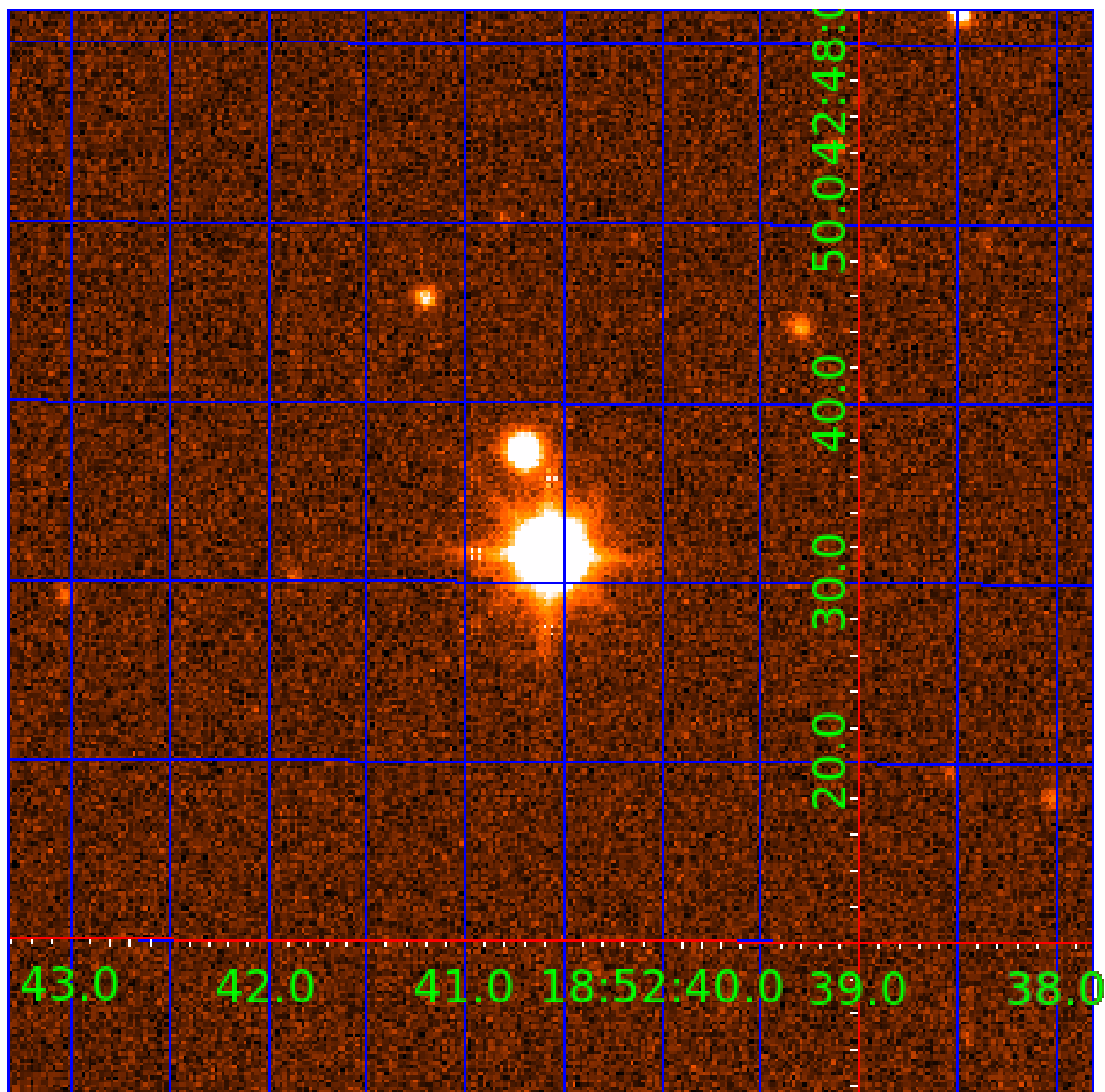


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007177892

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})
007177892-01	OBS	6838.01	1.386233	132.749691	34624.5	2.972	2369.2	1550.3	1.59	6226	40.15	4938.65
007177892-02	OBS	No	1.386256	132.071369	117.3	3.030	11.6	14.1	1.59	6226	2.03	4938.54
007177892-03	OBS	No	1.388252	132.048937	111.9	3.240	7.6	8.0	1.59	6226	2.00	4929.07
007177892-04	OBS	No	316.058474	160.414960	2824.6	16.170	7.2	4.4	1.59	6226	10.10	3.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007177892-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEEP_V_SHAPED—HAS_SEC_TCE
007177892-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007177892-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007177892-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT

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 007177892-04

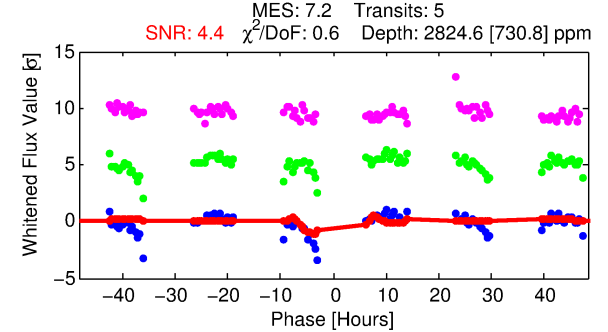
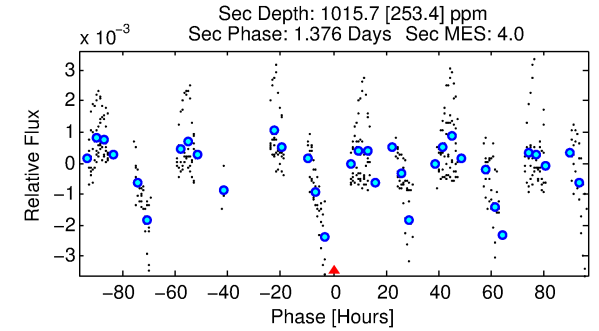
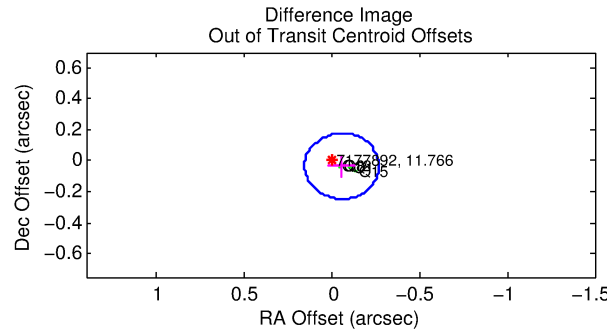
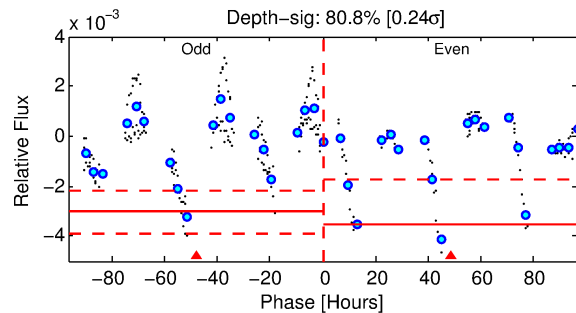
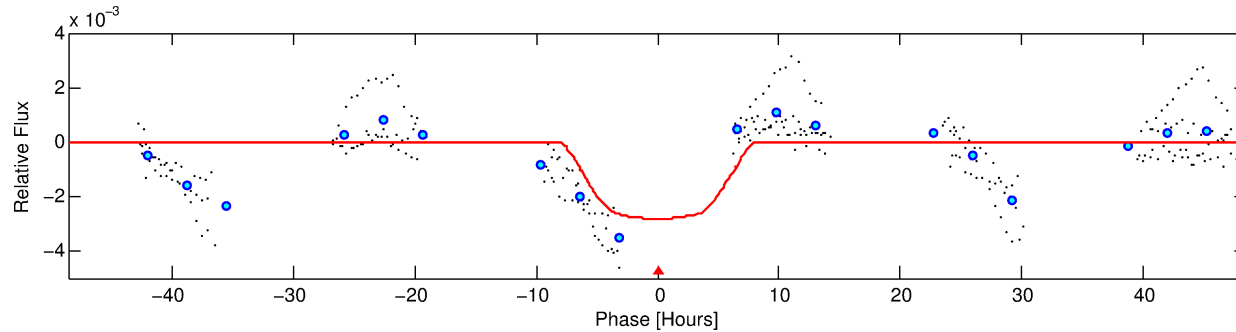
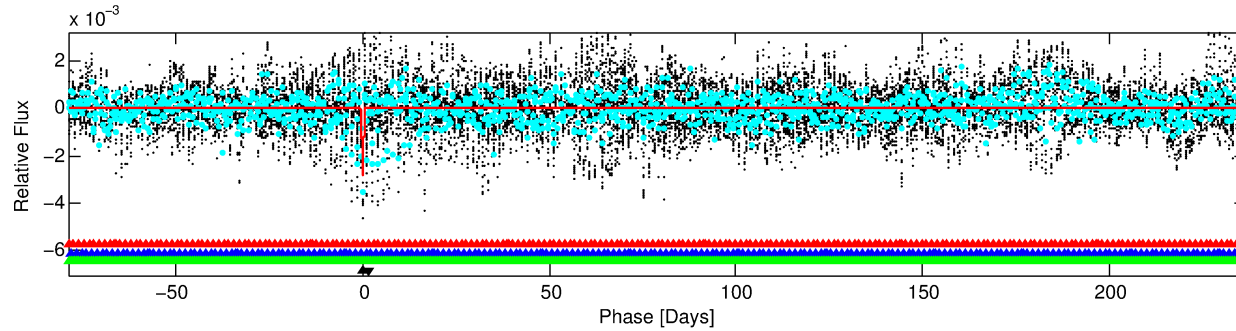
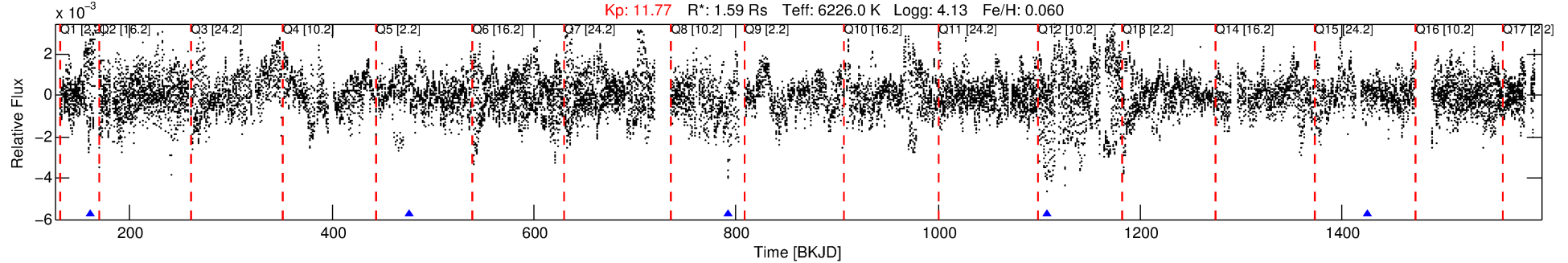
No Significant Match Found

DV One-Page Summary

KIC: 7177892 Candidate: 4 of 4 Period: 316.058 d

KOI: K06838 Corr: No Ephemeris Match

Kp: 11.77 R*: 1.59 Rs Teff: 6226.0 K Logg: 4.13 Fe/H: 0.060



DV Fit Results:

Period = 316.05847 [0.00773] d
Epoch = 160.4150 [0.0188] BKJD
Rp/R* = 0.0580 [0.0084]
a/R* = 80.46 [7.23]
b = 0.91 [0.03]
Seff = 3.55 [1.57]
Teq = 350 [39] K
Rp = 10.10 [3.27] Re
a = 0.9822 [0.2625] AU
Ag = 5288.97 [2985.80] [1.77σ]
Teffp = 4614 [474] K [8.96σ]

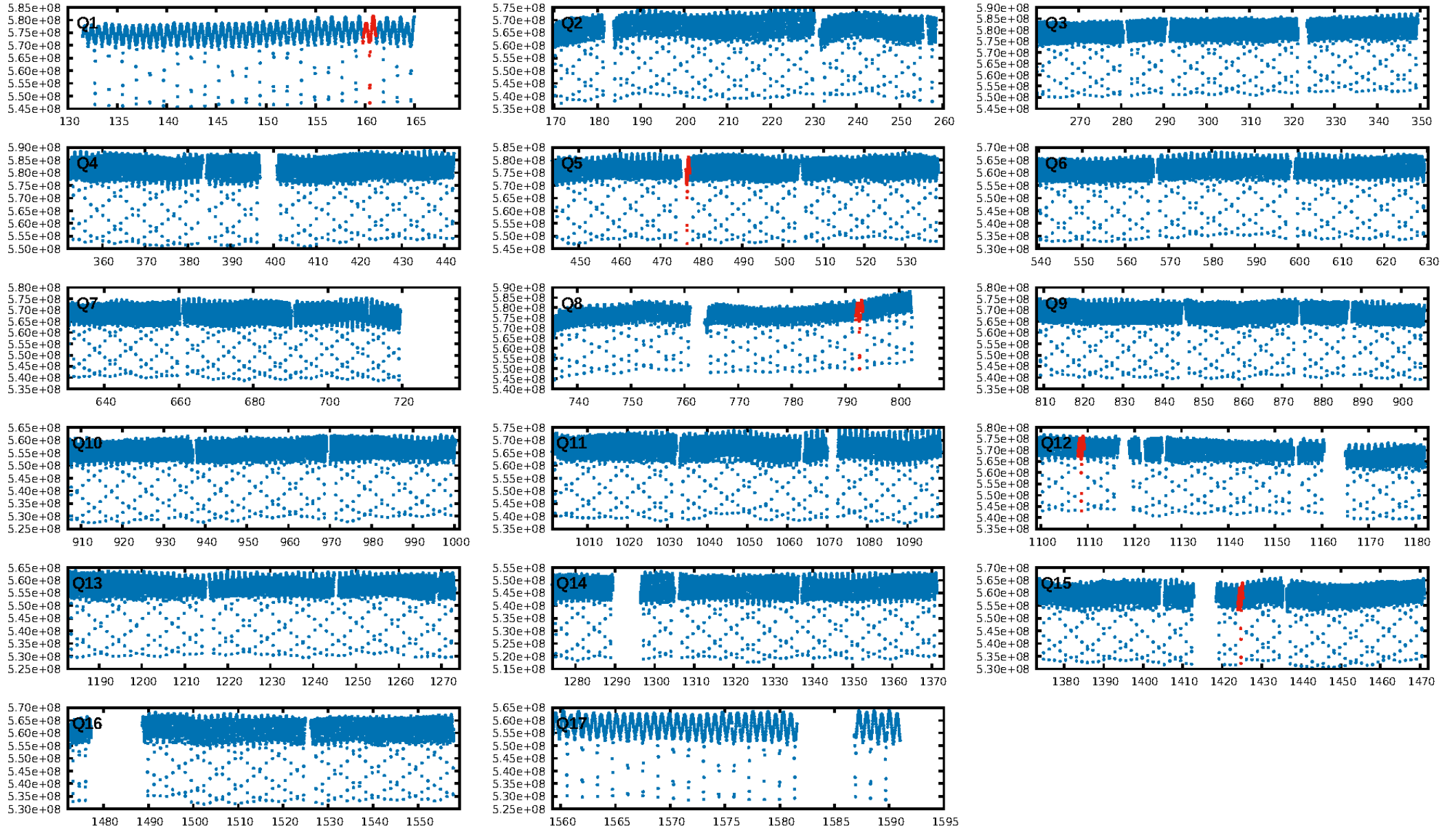
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [457.93σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 88.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.6564
Centroid-sig: 0.8%
Centroid-so: 0.188 arcsec [3.70σ]
OotOffset-rm: 0.066 arcsec [0.94σ]
KicOffset-rm: 0.049 arcsec [0.56σ]
OotOffset-st: 0/1/2/1 [4]
KicOffset-st: 0/1/2/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 0.00 [0/4]

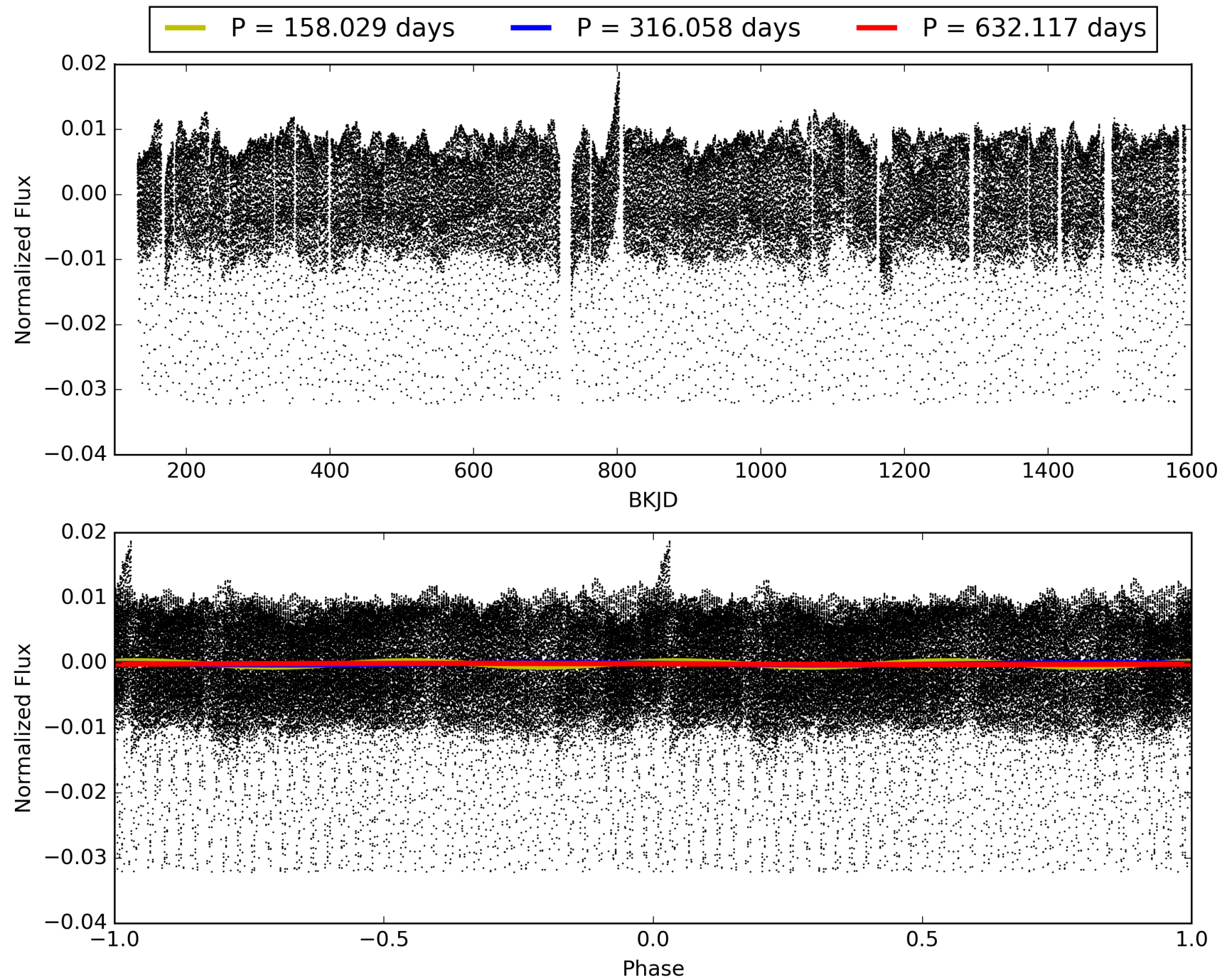
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 10:36:46 Z

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

TCE 007177892-04, PDC Light Curves

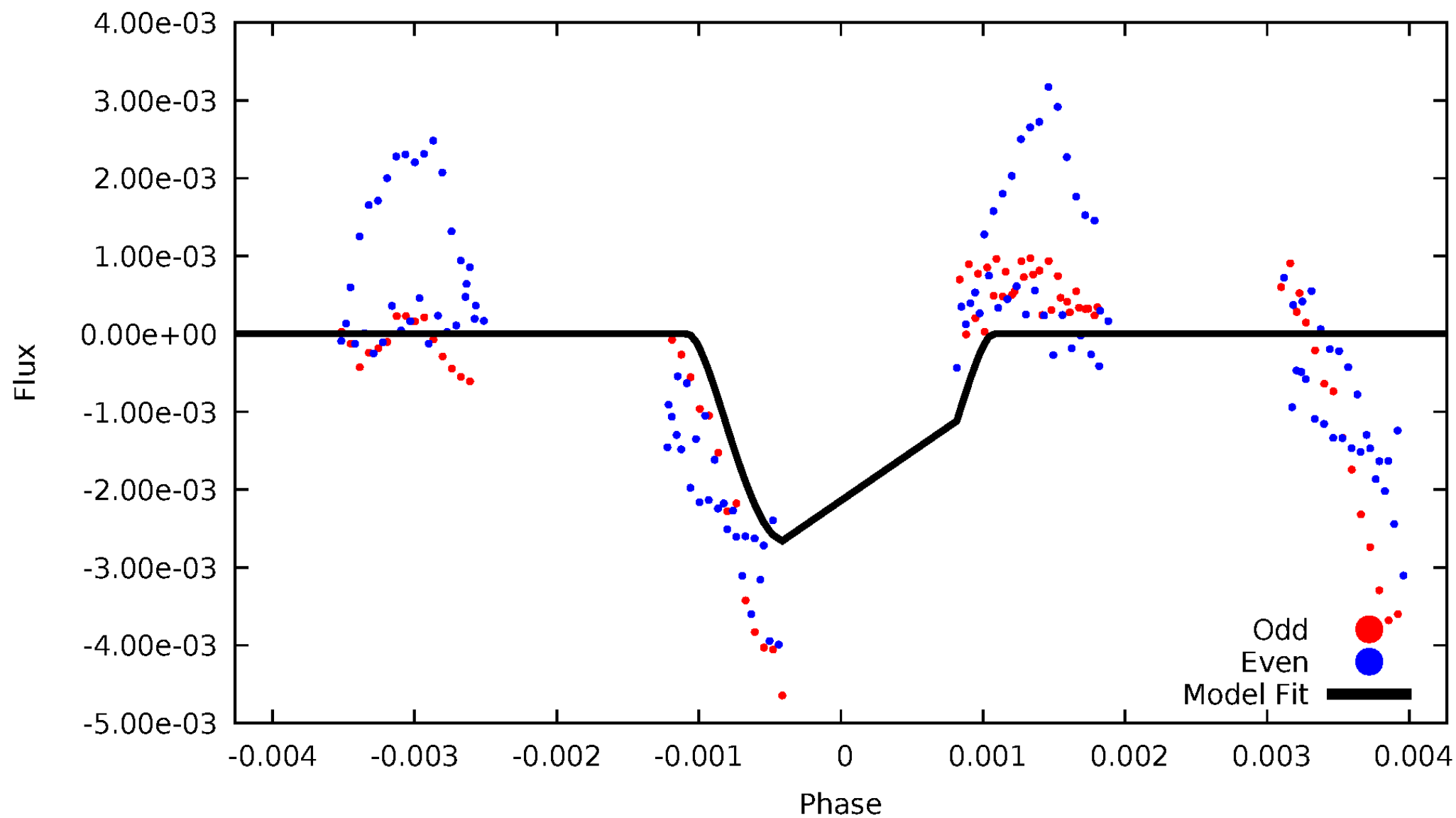


TCE 007177892-04



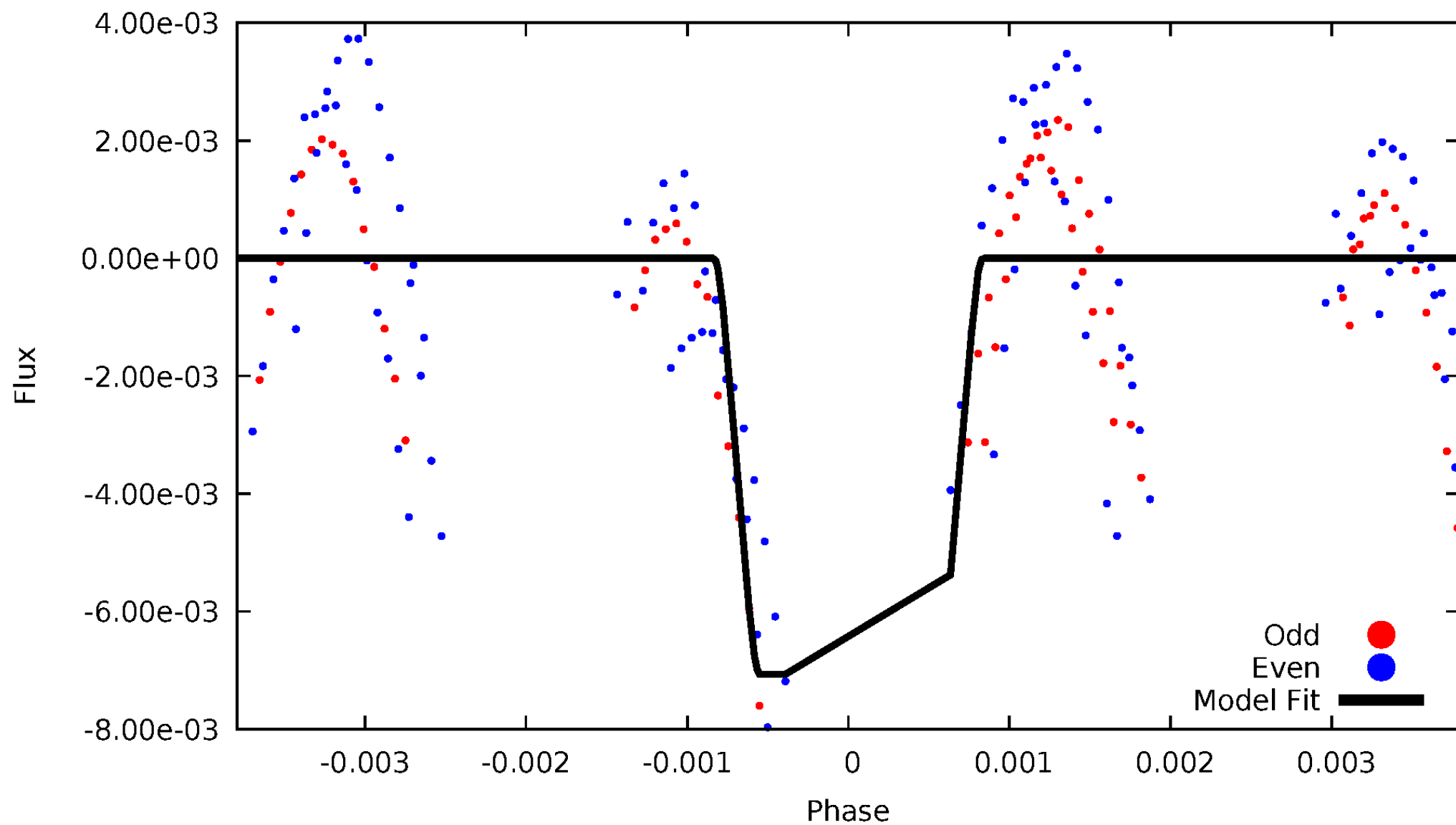
DV Odd/Even

TCE 007177892-04



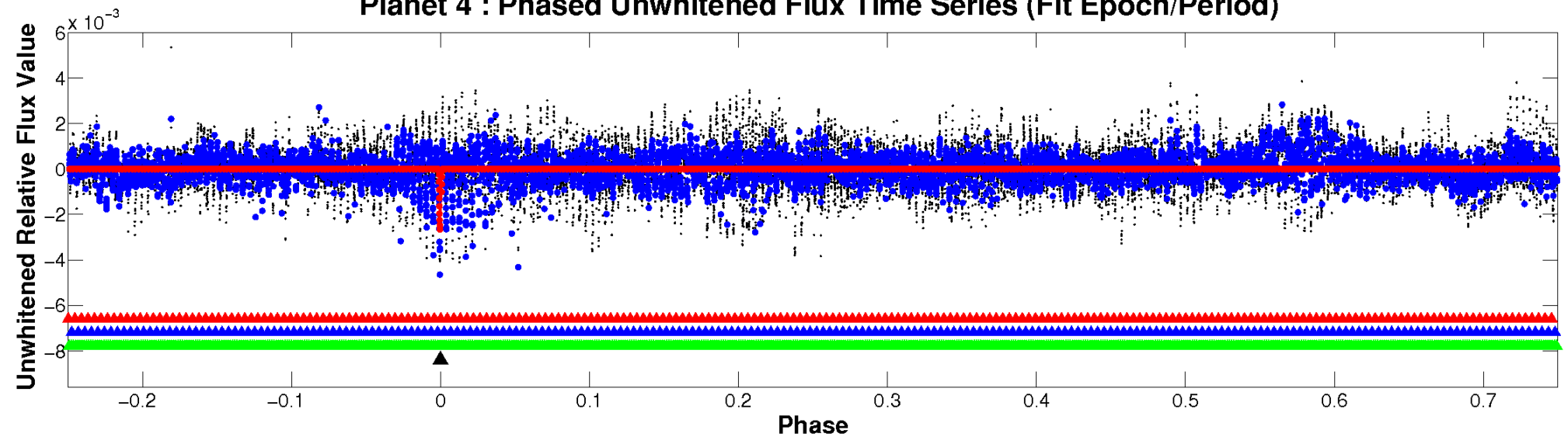
ALT Odd/Even

TCE 007177892-04

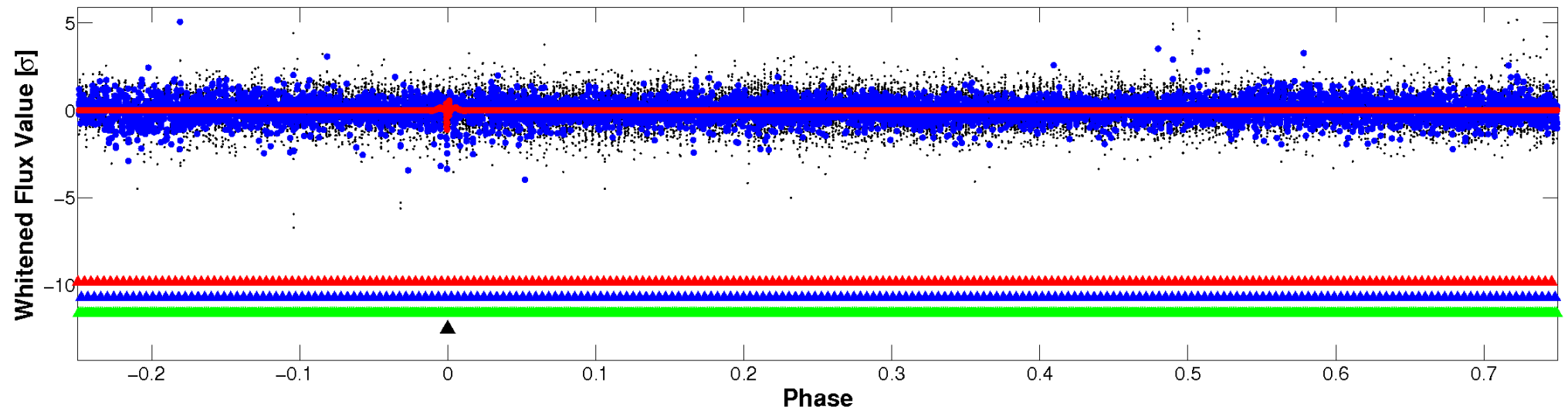


Non-Whitened Vs. Whitened Light Curve

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

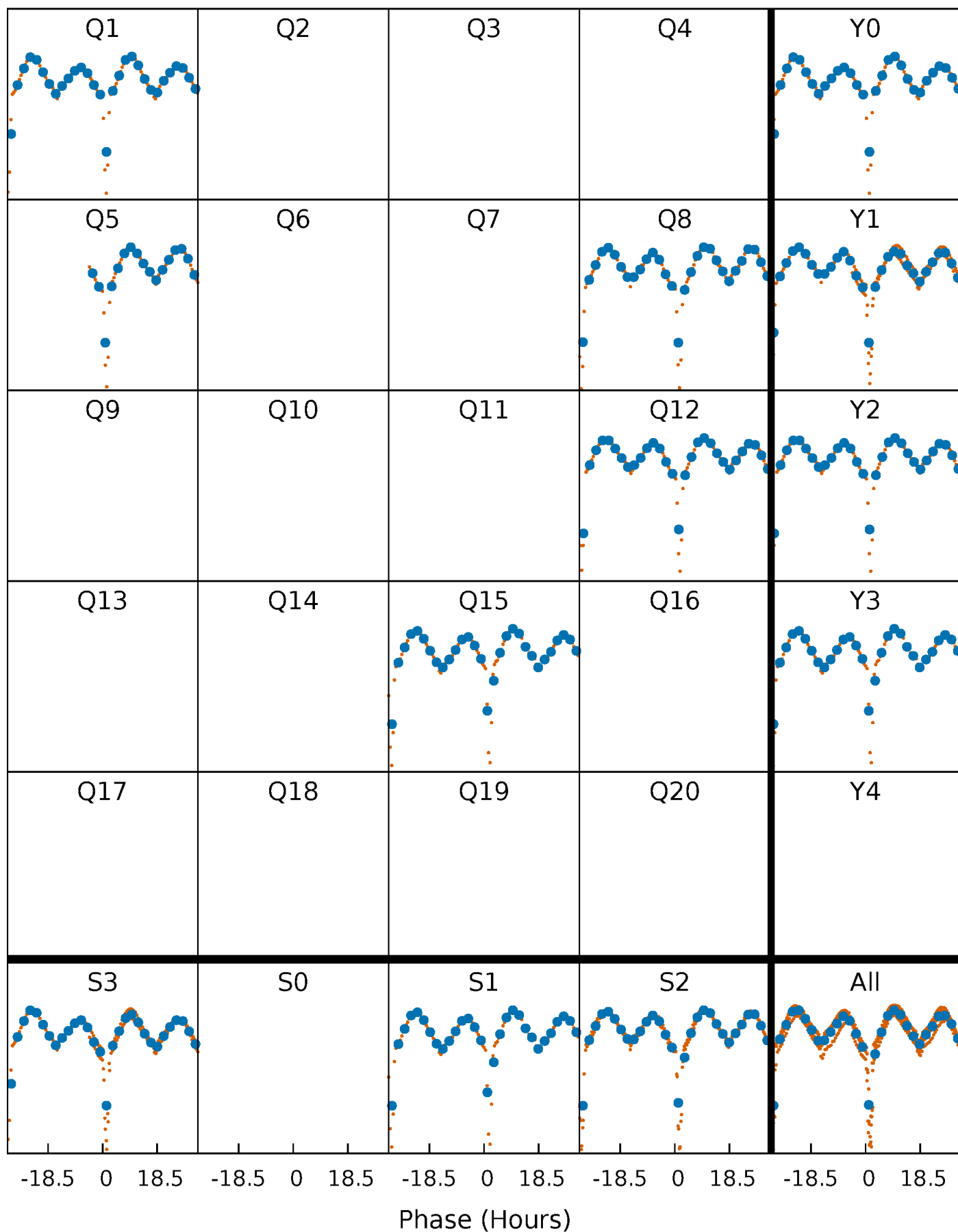


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



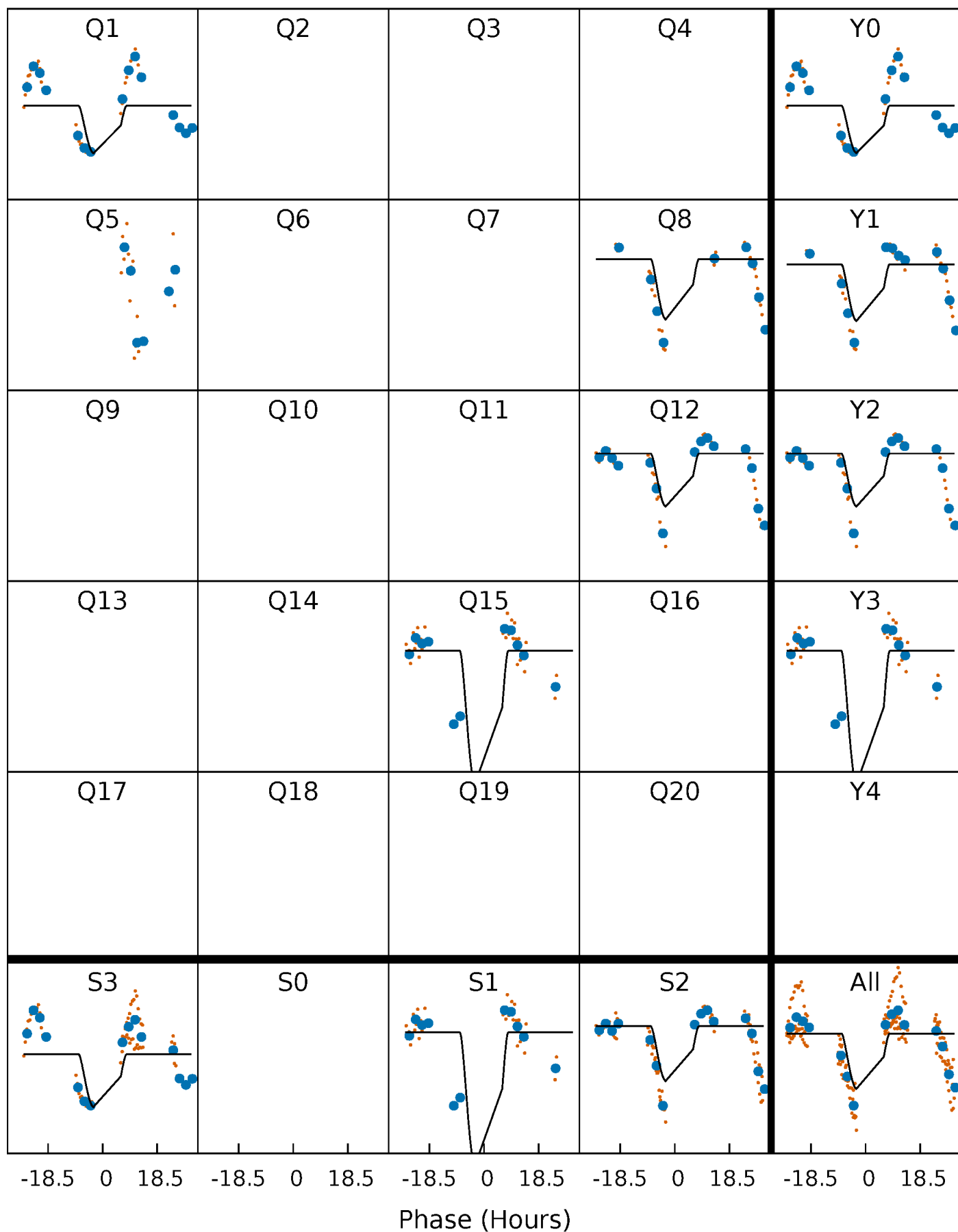
PDC Quarter-Phased Transit Curves

TCE 007177892-04 $P=316.058474$ Days $T_0=160.414960$ (BKJD)



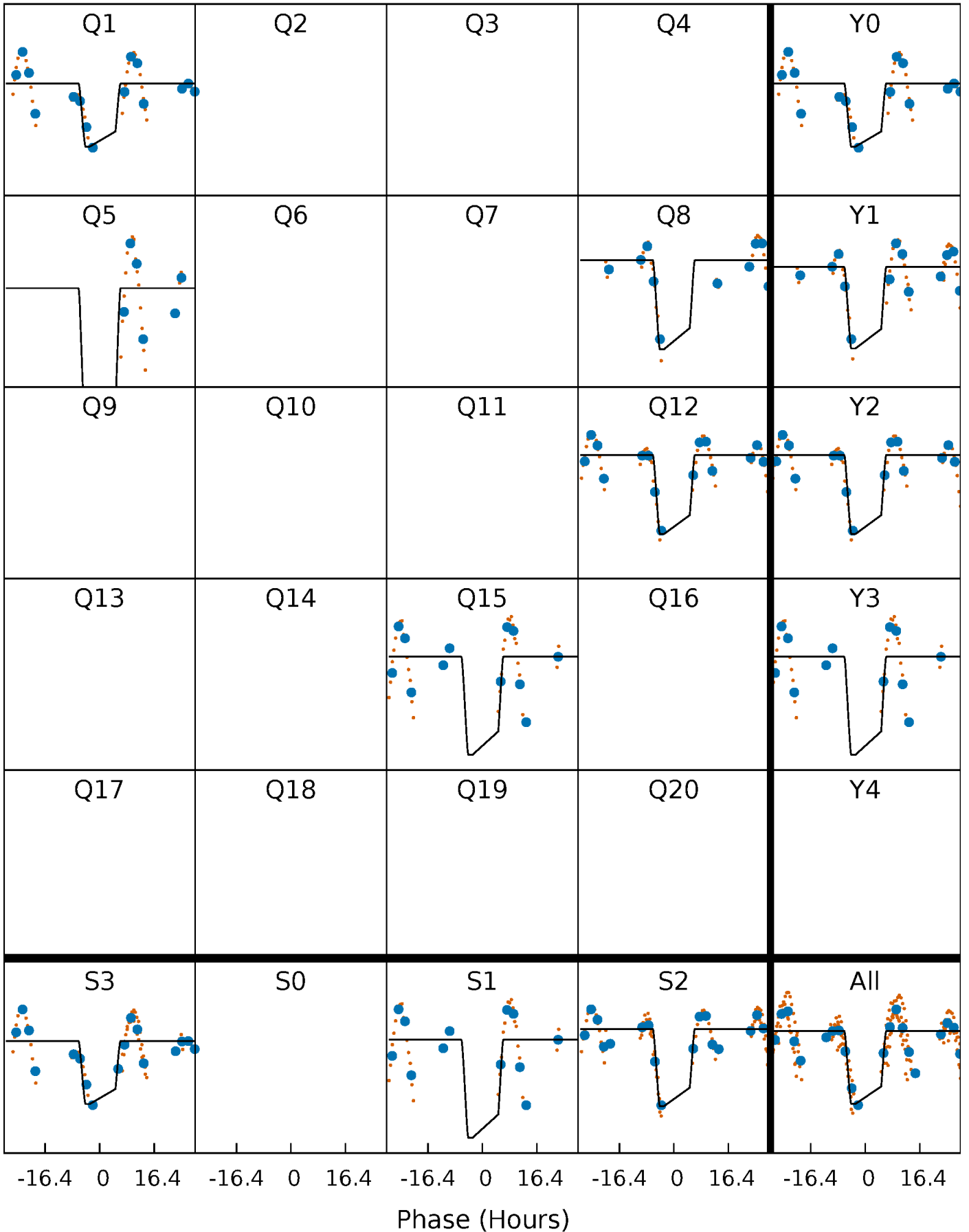
DV Quarter-Phased Transit Curves

TCE 007177892-04 P=316.058474 Days $T_0=160.414960$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

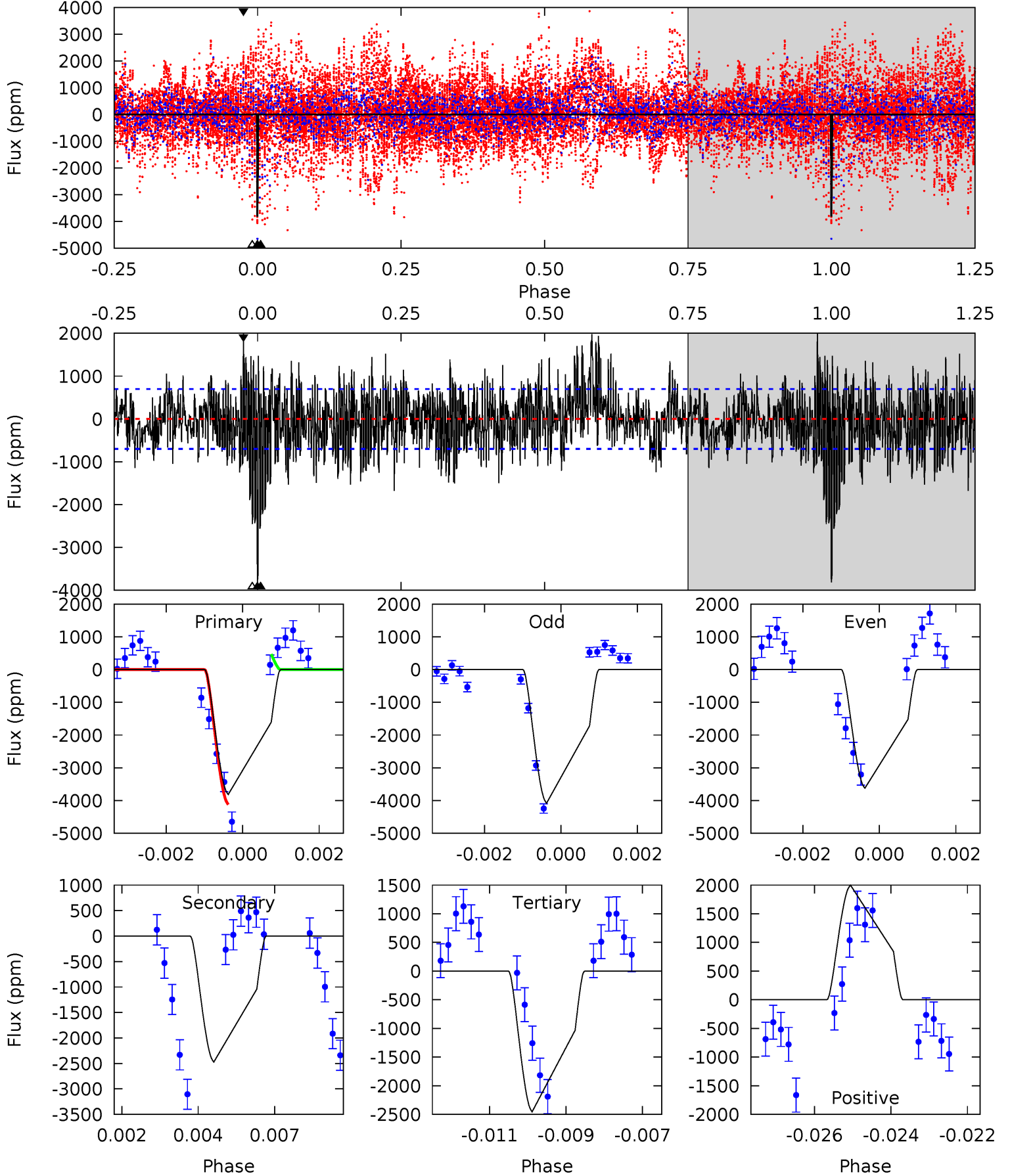
TCE 007177892-04 $P=316.082402$ Days $T_0=160.387122$ (BKJD)



DV Model-Shift Uniqueness Test

007177892-04, P = 316.058474 Days, E = 160.414960 Days

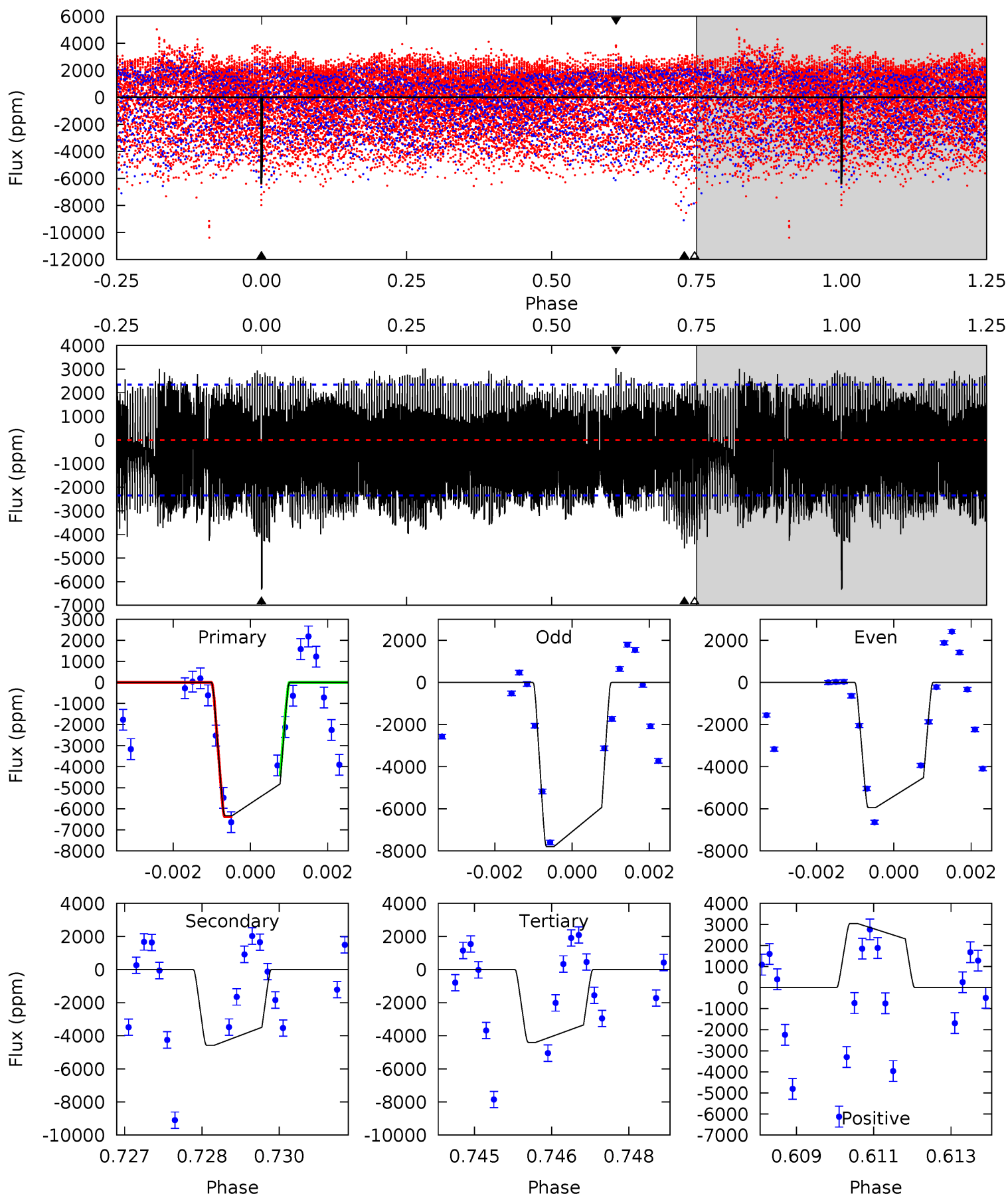
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.0	18.8	18.6	15.2	5.31	3.06	4.39	10.3	13.8	0.13	3.59	1.66	0.48	0.34	13.2



Alt Model-Shift Uniqueness Test

007177892-04, P = 316.082402 Days, E = 160.387122 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	10.5	10.1	6.95	5.36	3.15	3.86	4.40	7.51	0.41	3.52	2.02	1.03	0.32	1.89



Stellar Parameters For KIC 007177892

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6226^{+195}_{-239}	$4.135^{+0.240}_{-0.180}$	$0.060^{+0.250}_{-0.300}$	$1.594^{+0.463}_{-0.463}$	$1.264^{+0.175}_{-0.233}$	$0.440^{+0.650}_{-0.196}$
	+3%/-4%	+6%/-4%	+417%/-500%	+29%/-29%	+14%/-18%	+148%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007177892-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2472 ± 132	$9.86^{+2.43}_{-2.07}$	484^{+40}_{-39}	5762^{+510}_{-419}	13568^{+7199}_{-4658}
Alt.	-4583 ± 438	$14.55^{+2.69}_{-2.45}$	485^{+44}_{-38}	5581^{+342}_{-320}	11231^{+5413}_{-3092}

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

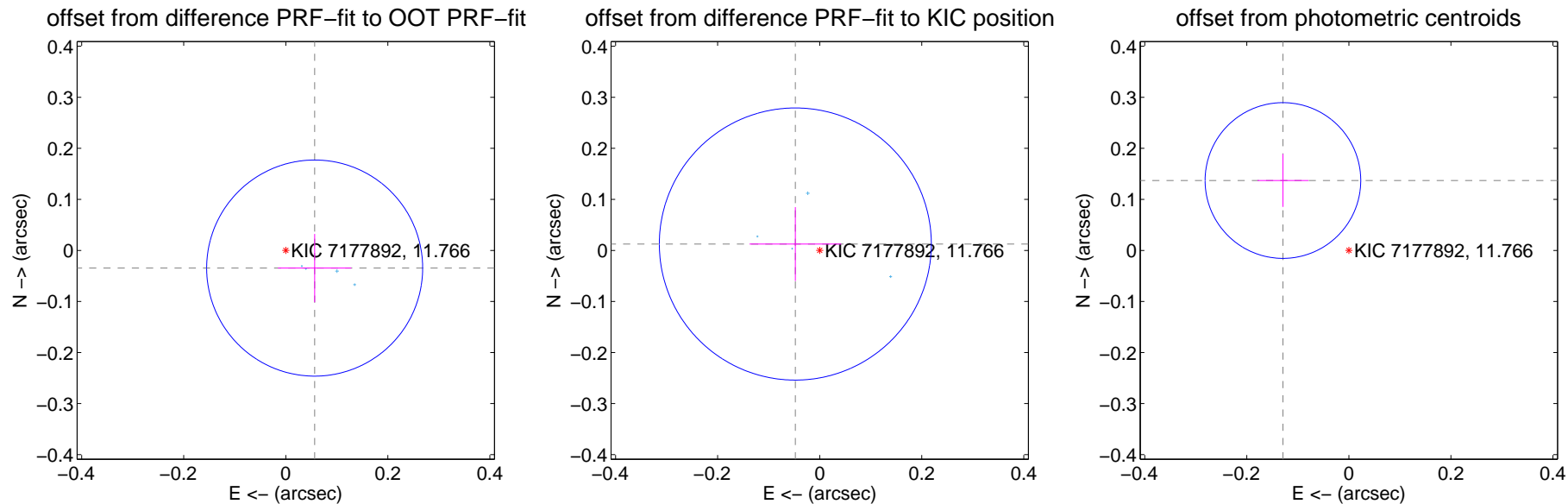
DV Centroid Data

Supplemental centroid analysis for 007177892-04. **Kepler magnitude: 11.77.** Transit SNR 4.37

There are 4 quarters with good PRF difference image offsets

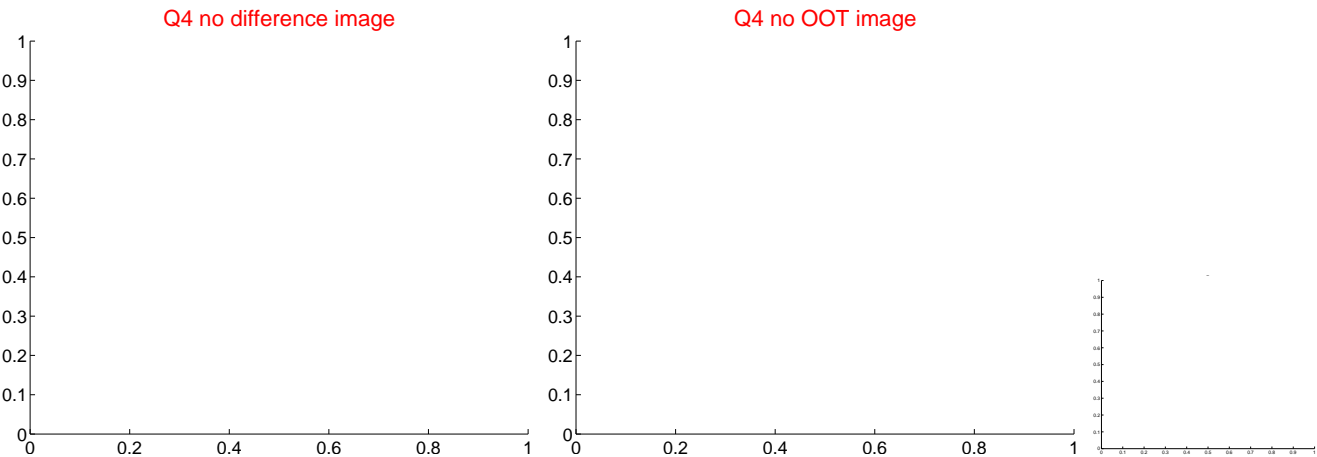
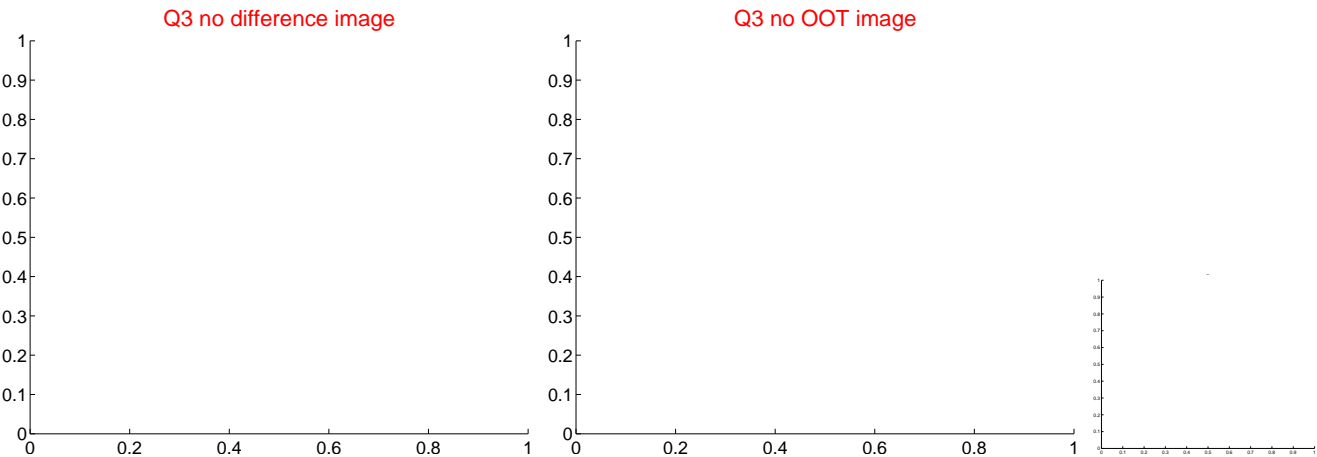
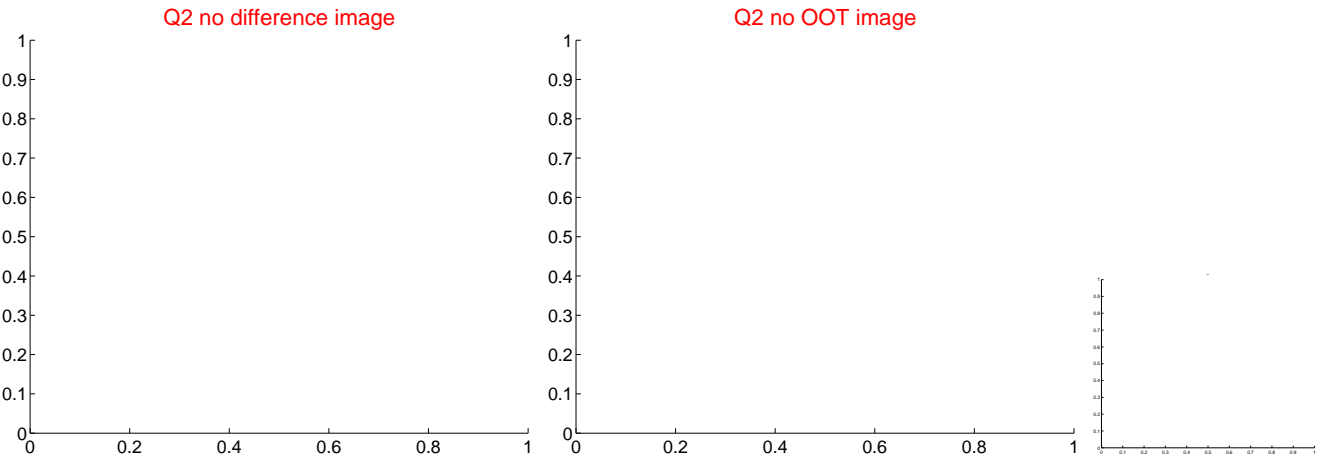
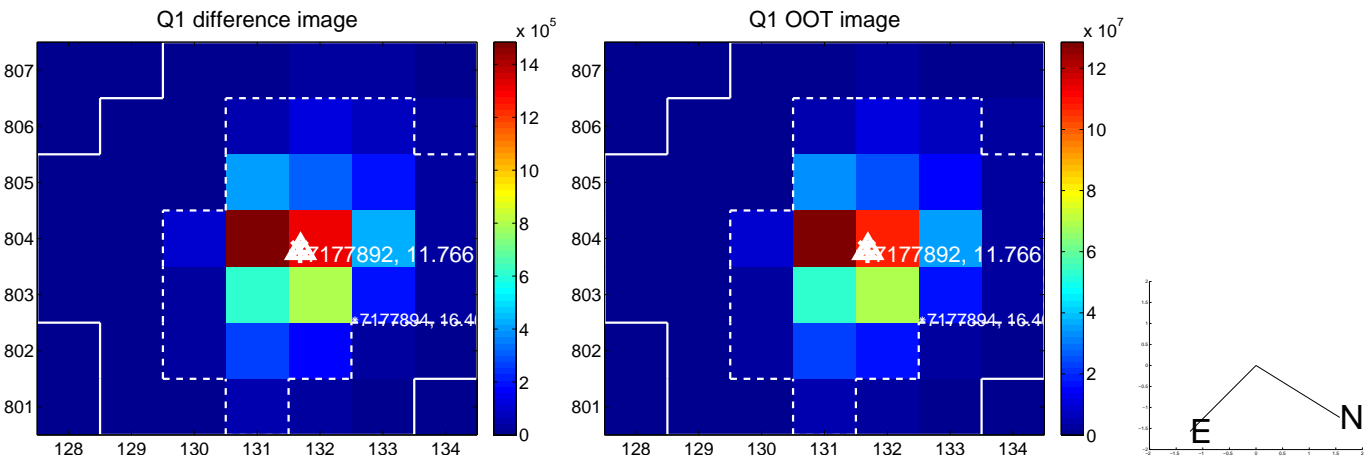
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.066 ± 0.071	0.94	-0.057 ± 0.072	-0.035 ± 0.067
PRF-fit source offset from KIC position	0.049 ± 0.089	0.56	0.048 ± 0.090	0.013 ± 0.072
photometric centroid source offset	0.19 ± 0.05	3.70	0.13 ± 0.05	0.14 ± 0.05

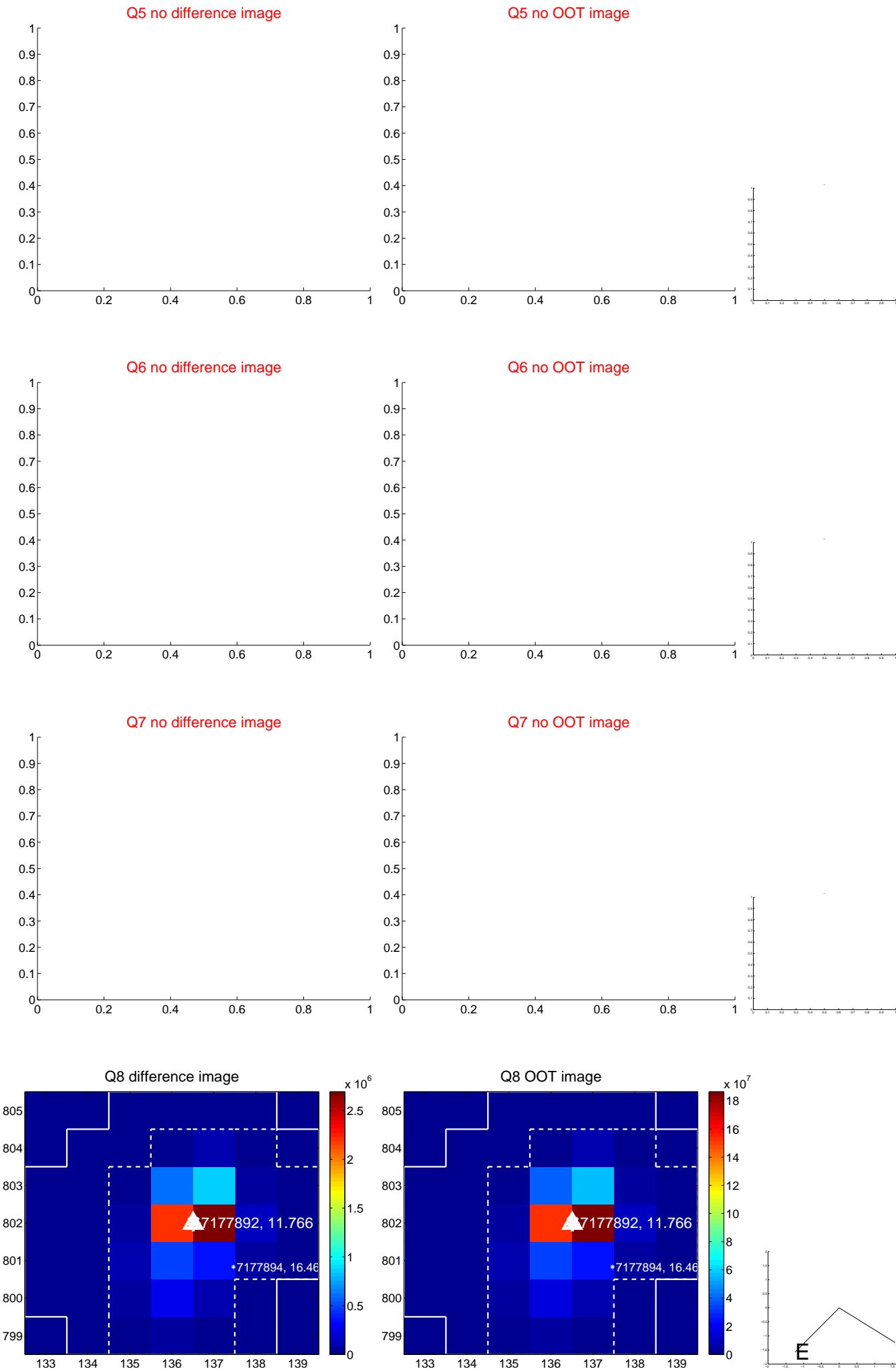


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

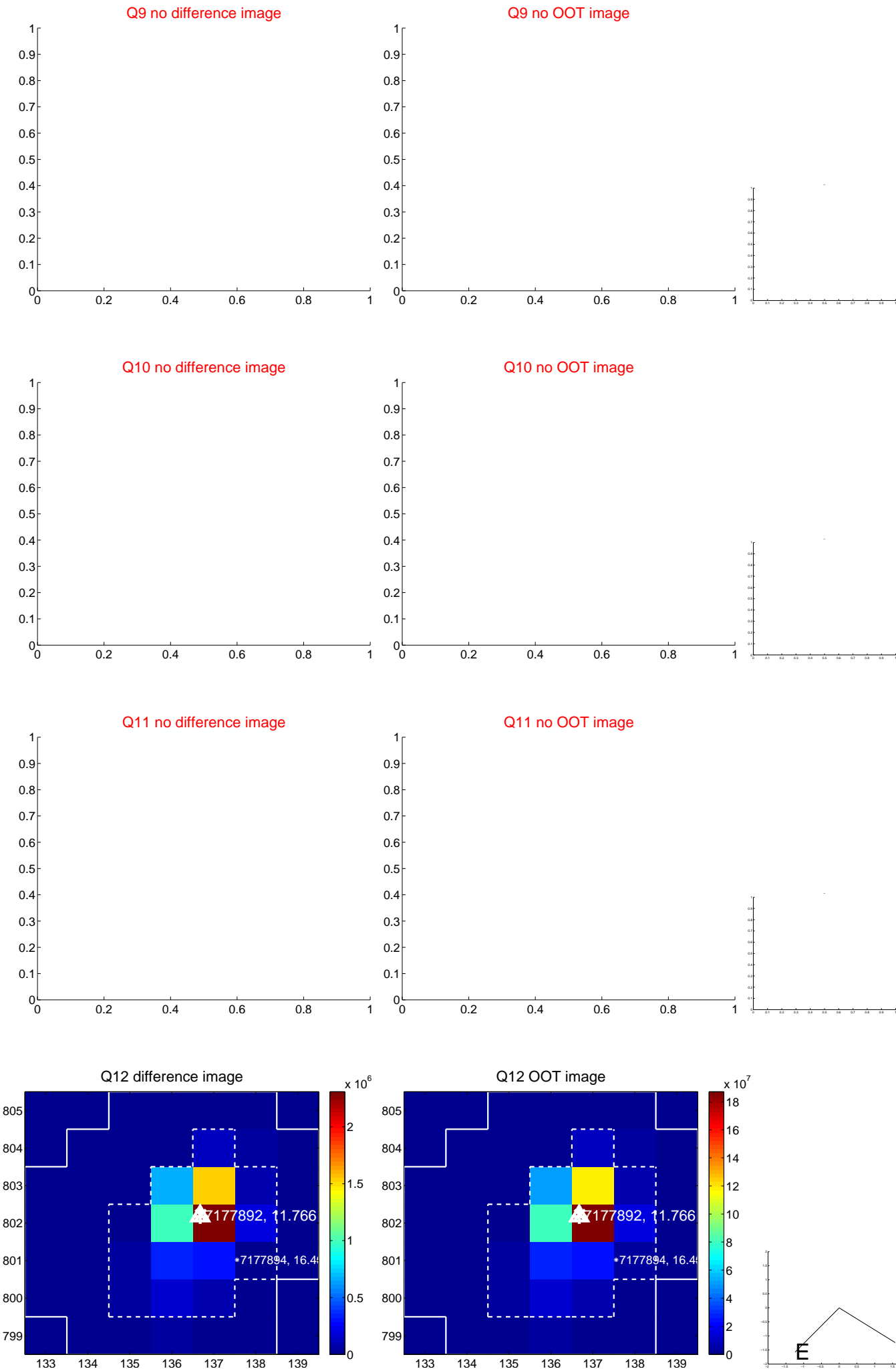
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



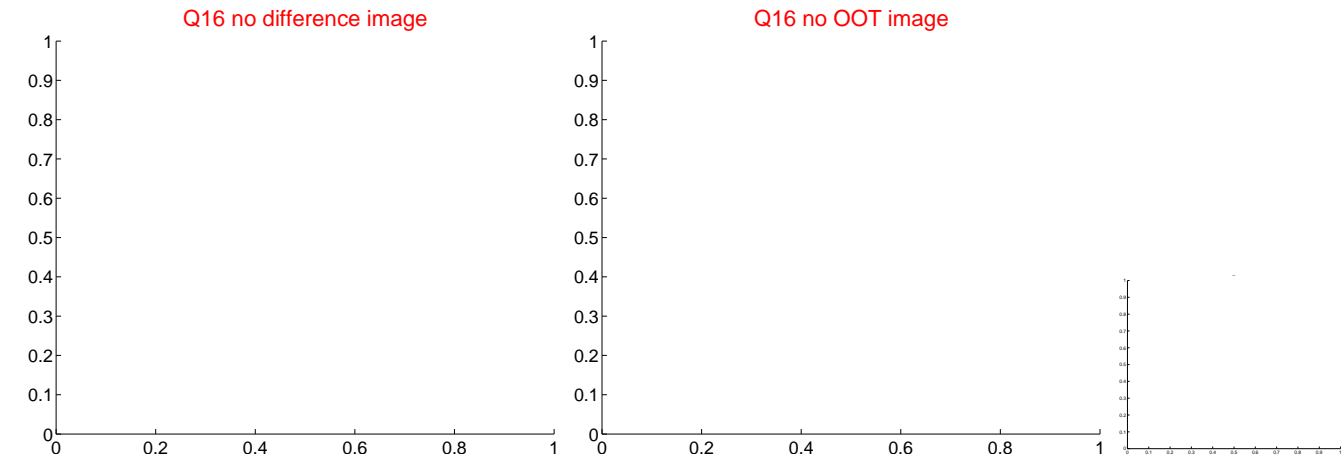
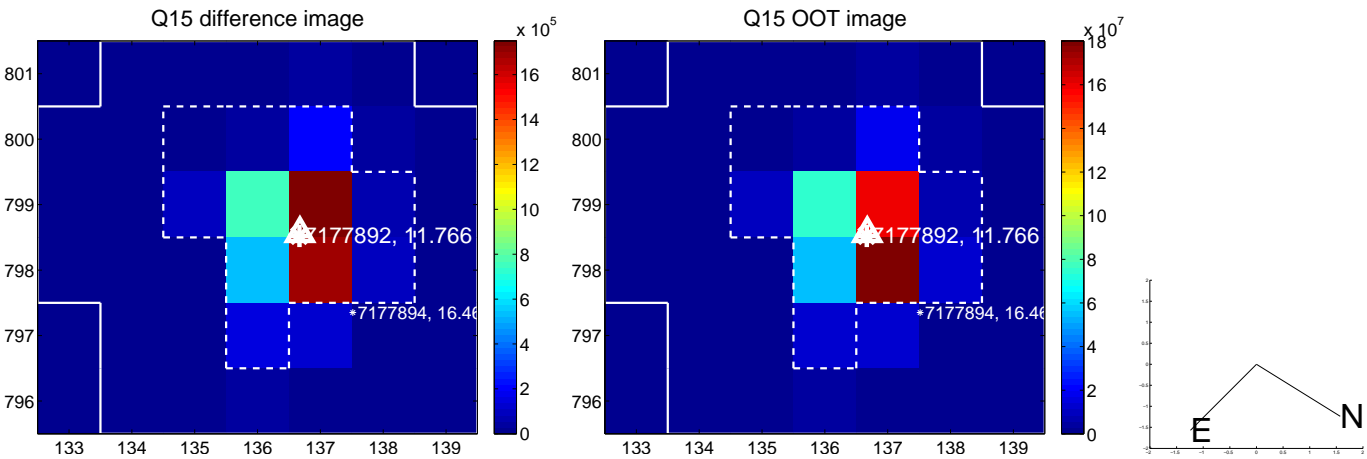
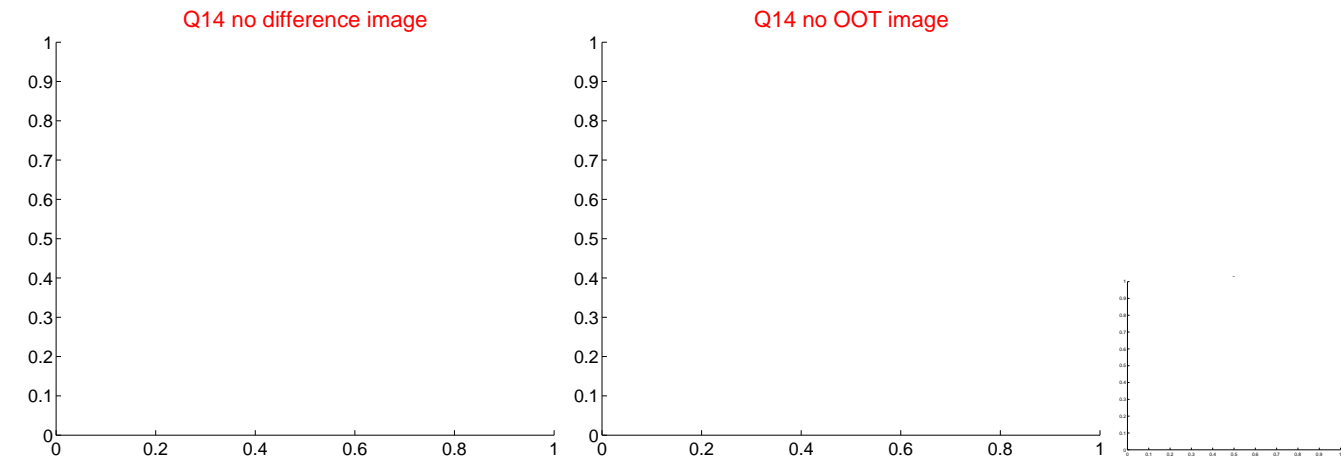
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



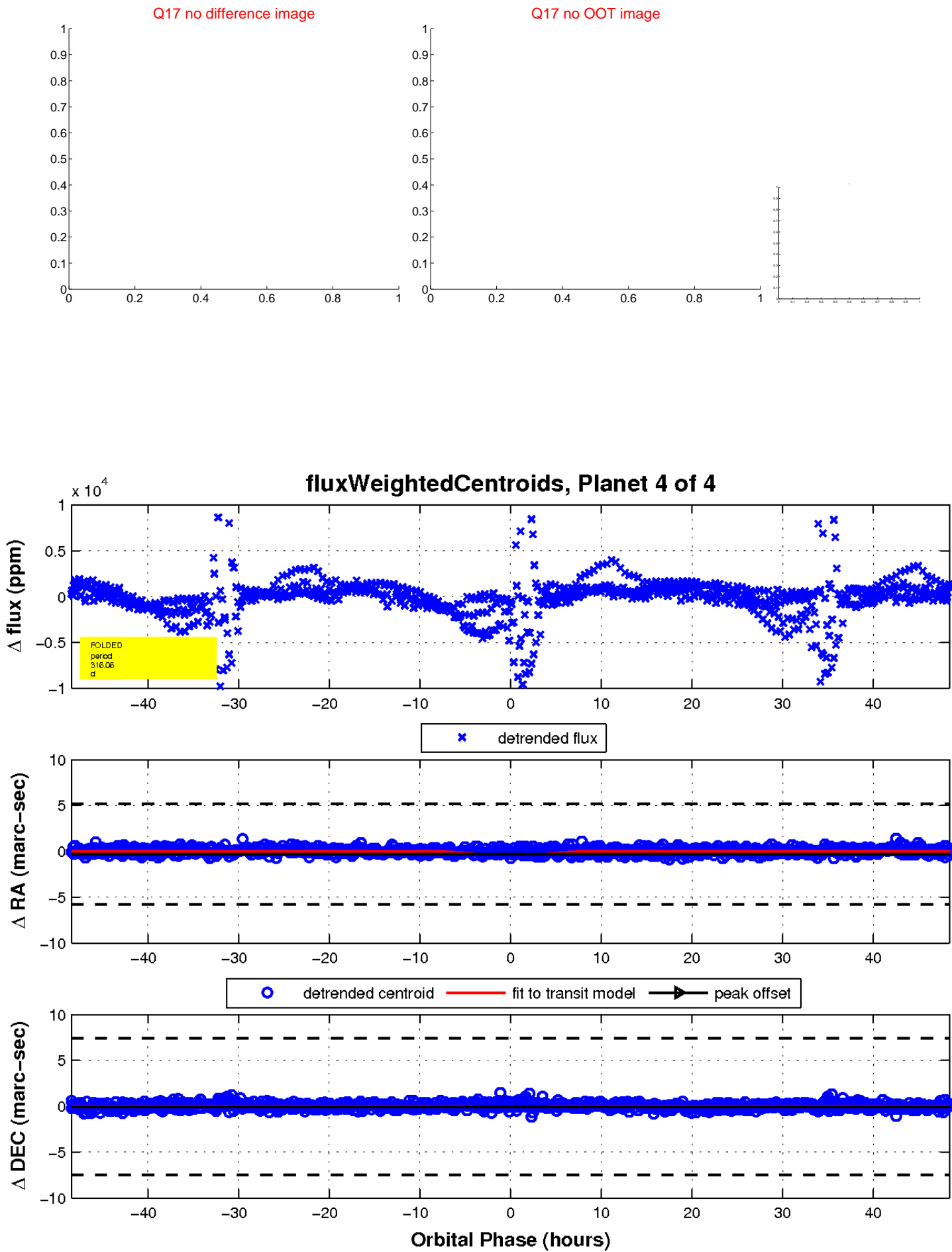
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

