

KIC 006421759

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})
006421759-01	OBS	No	1.174548	131.976455	13.2	1.853	8.4	5.4	5.11	7171	1.89	80517.94
006421759-02	OBS	No	3.461164	131.928381	34.7	13.275	8.5	7.9	5.11	7171	3.51	19058.59
006421759-03	OBS	No	3.461214	133.627859	38.3	12.303	10.1	11.3	5.11	7171	3.68	19058.22
006421759-05	OBS	No	29.644193	152.310432	241.2	4.575	11.1	10.3	5.11	7171	9.13	1087.60
006421759-06	OBS	No	15.347249	142.020655	85.4	3.500	9.6	-1.0	5.11	7171	4.78	2616.25
006421759-07	OBS	No	21.876376	134.462209	199.8	3.676	9.5	8.5	5.11	7171	8.39	1630.87
006421759-08	OBS	No	11.519251	134.137520	175.7	3.377	9.0	9.6	5.11	7171	7.87	3835.49
006421759-09	OBS	No	24.991356	144.794029	203.1	4.532	8.6	7.7	5.11	7171	14.15	1365.63
006421759-10	OBS	No	32.859842	160.763969	152.6	3.170	7.2	7.6	5.11	7171	7.33	948.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006421759-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006421759-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
006421759-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

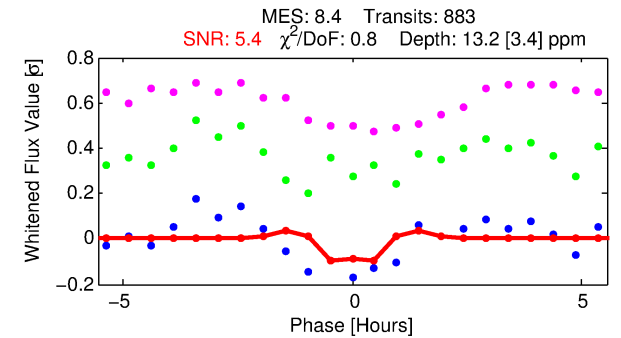
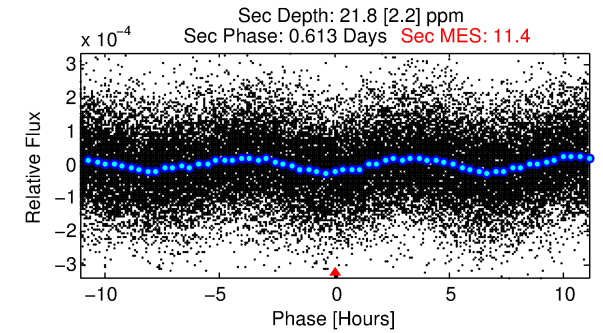
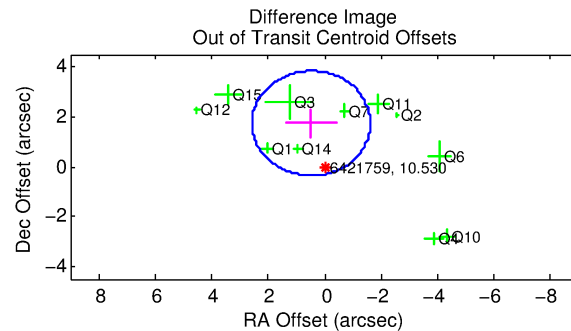
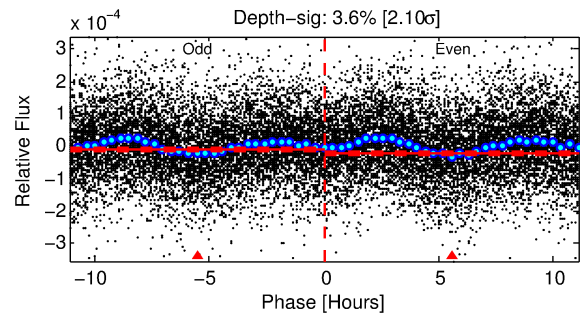
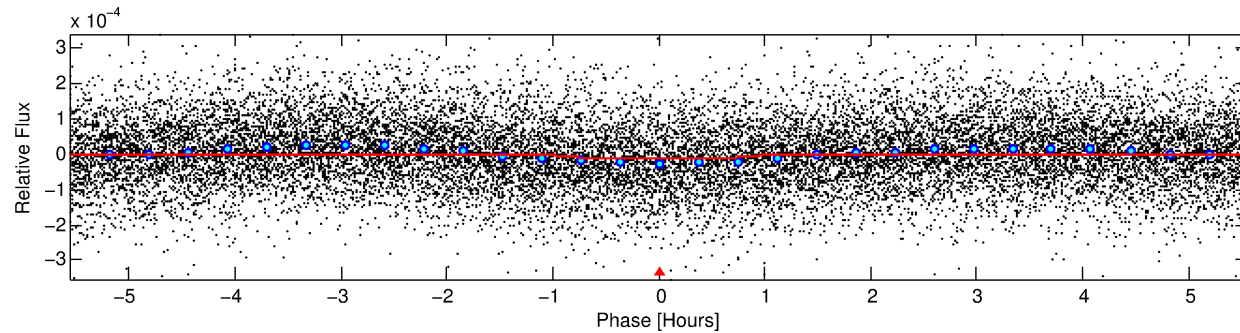
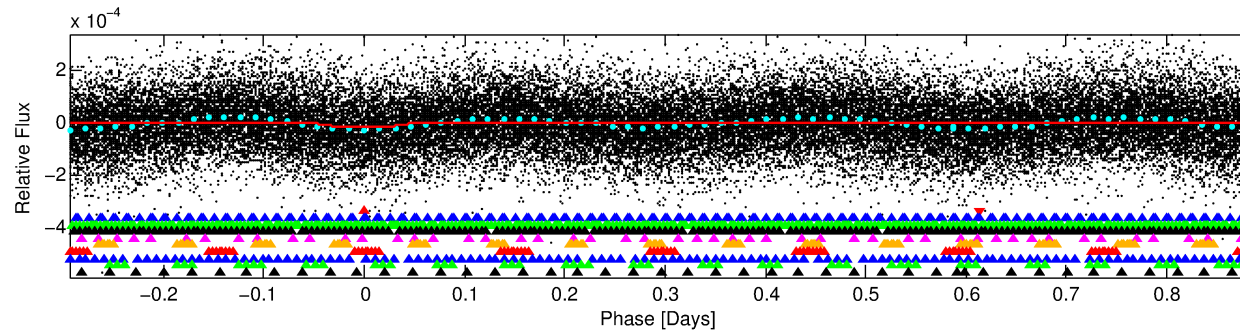
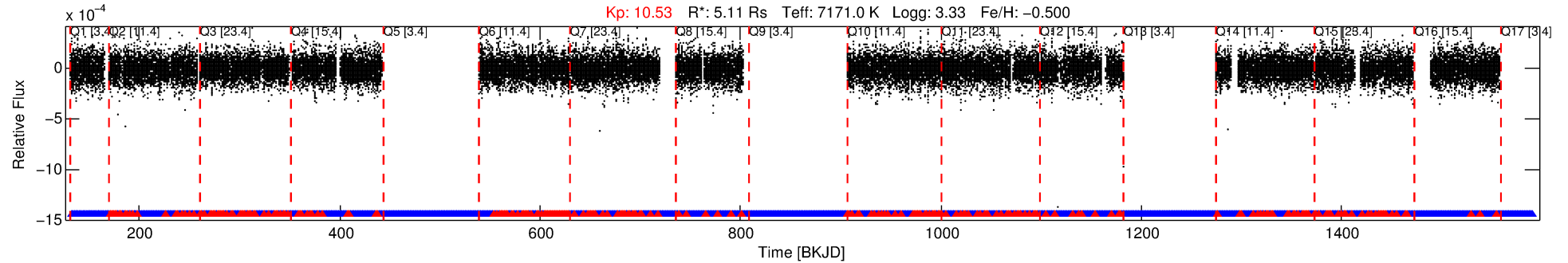
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006421759-01

No Significant Match Found

DV One-Page Summary

KIC: 6421759 Candidate: 1 of 10 Period: 1.175 d



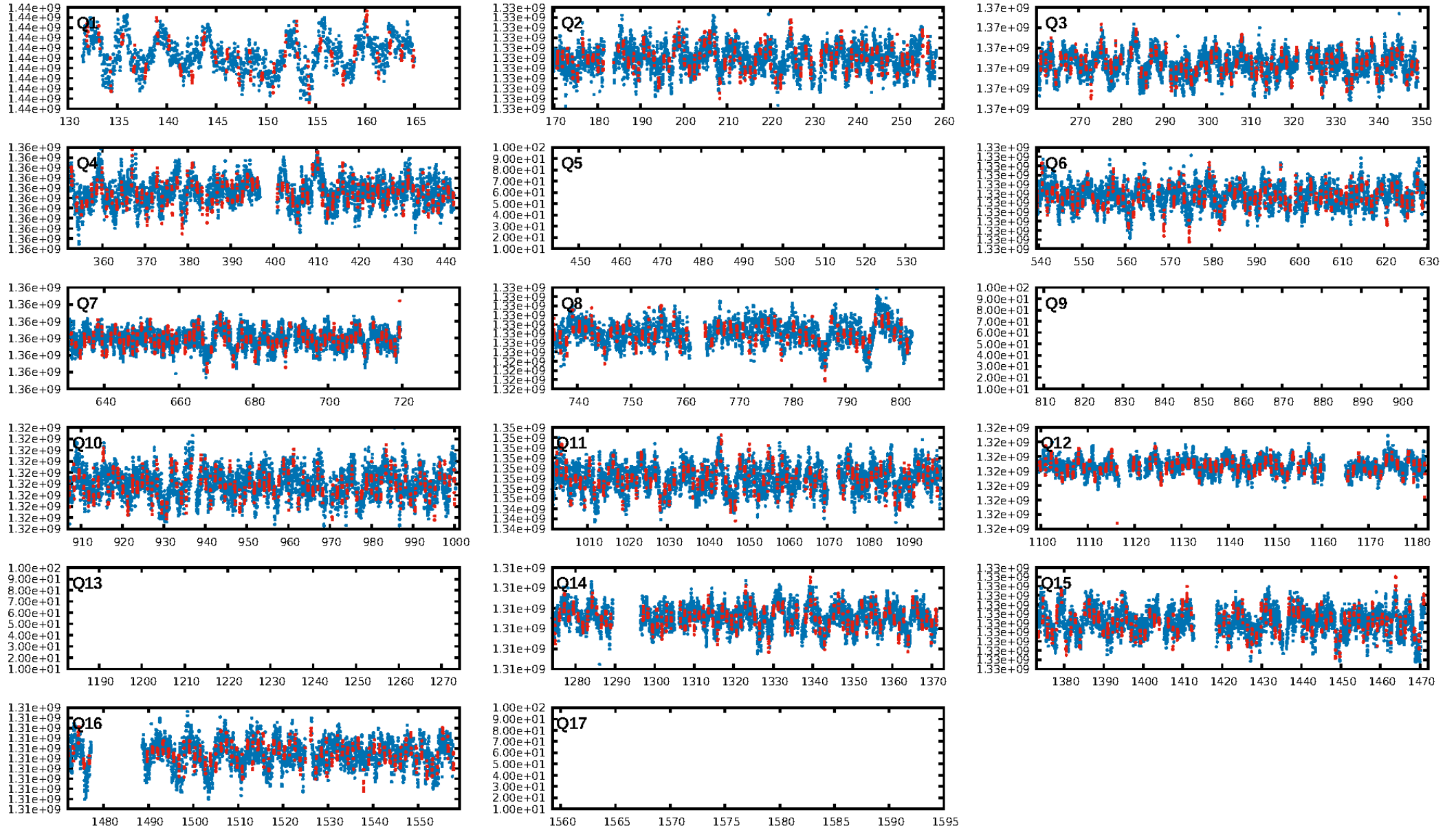
DV Fit Results:

Period = 1.17455 [0.00002] d
Epoch = 131.9765 [0.0027] BKJD
Rp/R* = 0.0034 [0.0029]
a/R* = 4.88 [22.42]
b = 0.08 [57.26]
Seff = 80517.94 [59436.52]
Teq = 4295 [793] K
Rp = 1.88 [1.84] Re
a = 0.0277 [0.0127] AU
Ag = 2.59 [4.79] [0.33 σ]
Teffp = 8427 [3590] K [1.12 σ]

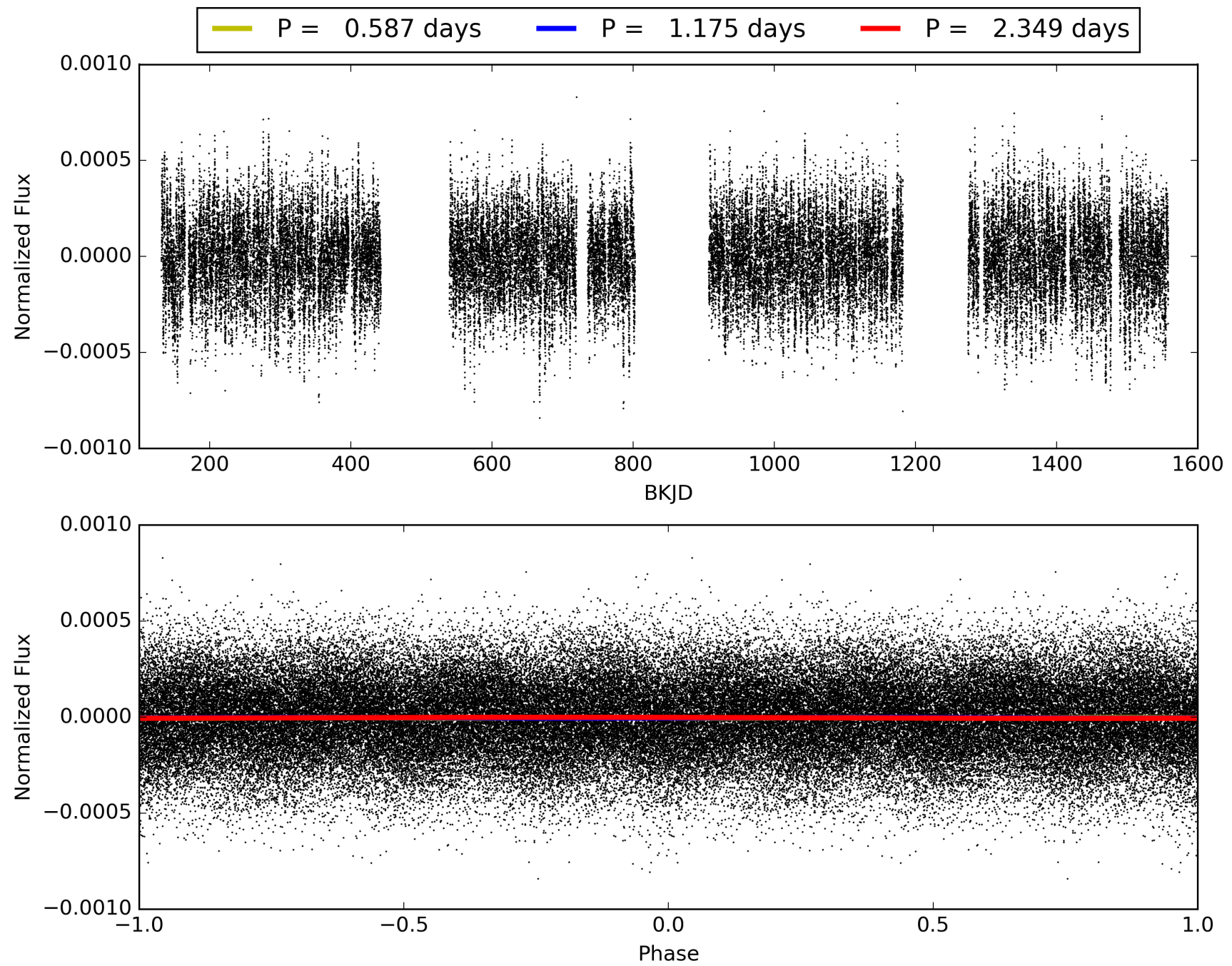
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [4.09 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.69 [589/854]
GhostDiagnostic-chr: 6.115
Centroid-sig: 35.5%
Centroid-so: 1.270 arcsec [1.06 σ]
OotOffset-rm: 1.801 arcsec [2.58 σ]
KicOffset-rm: 2.475 arcsec [3.20 σ]
OotOffset-st: 4/4/2/1 [11]
KicOffset-st: 4/4/2/1 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 006421759-01, PDC Light Curves

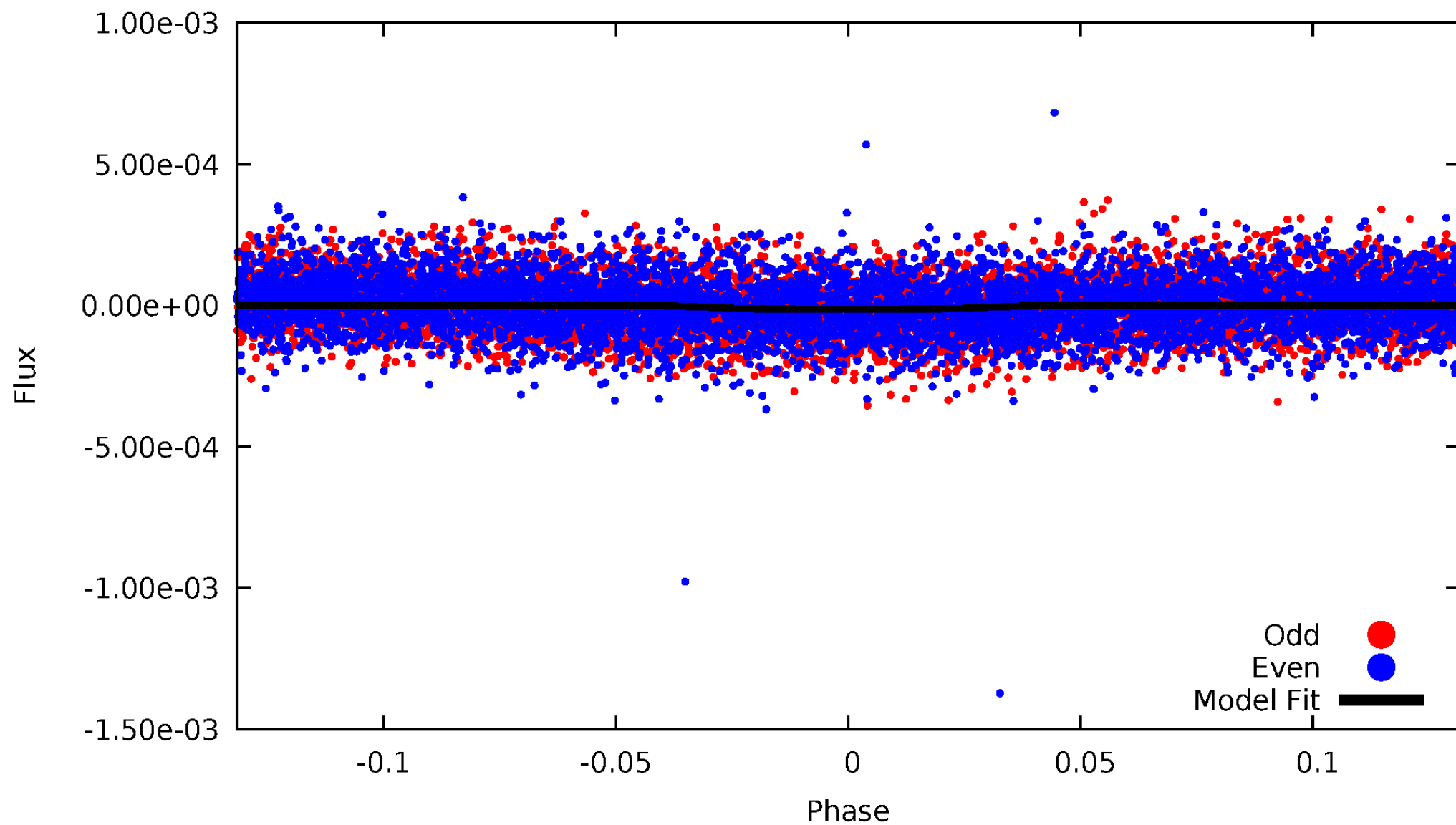


TCE 006421759-01



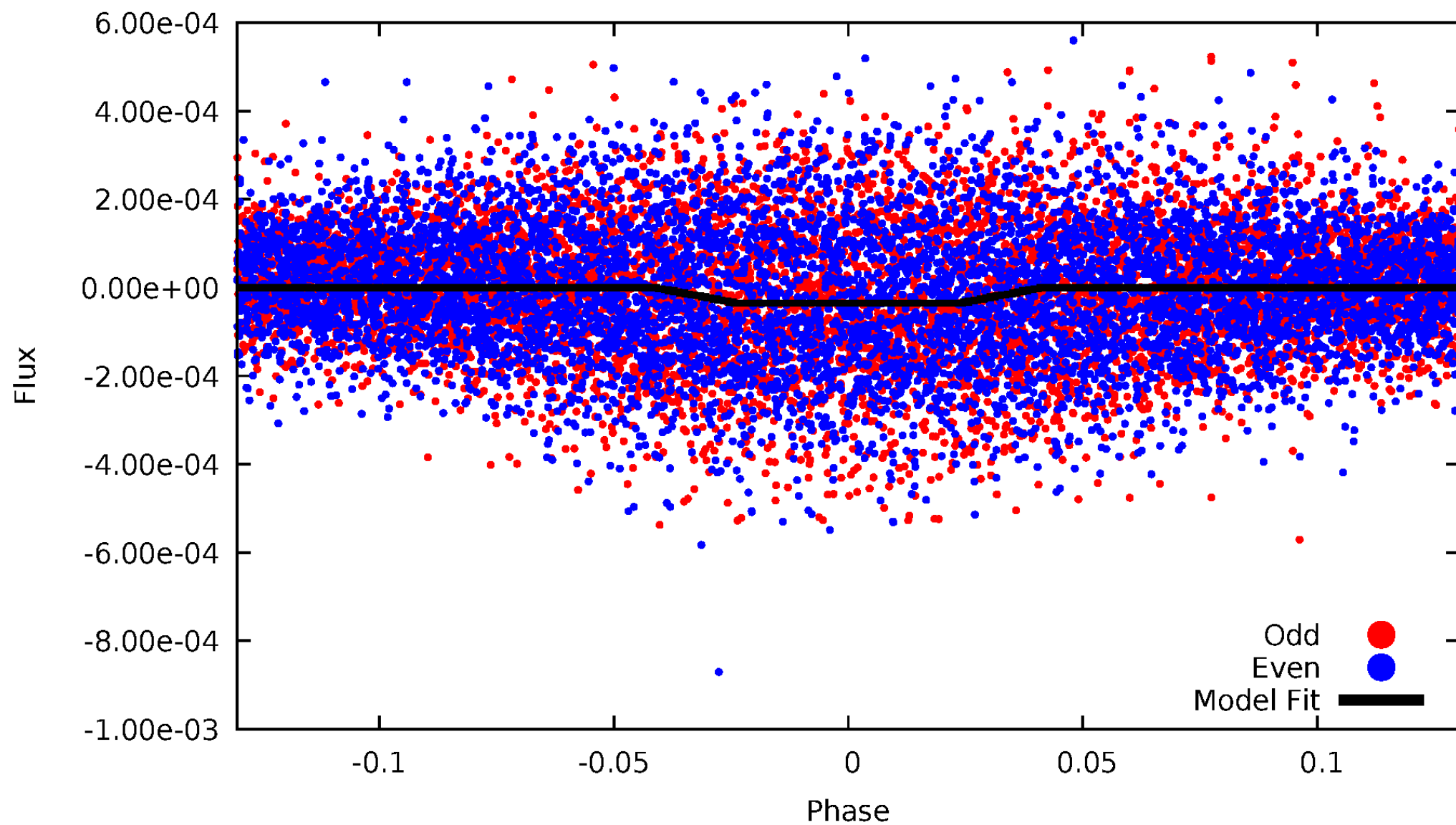
DV Odd/Even

TCE 006421759-01



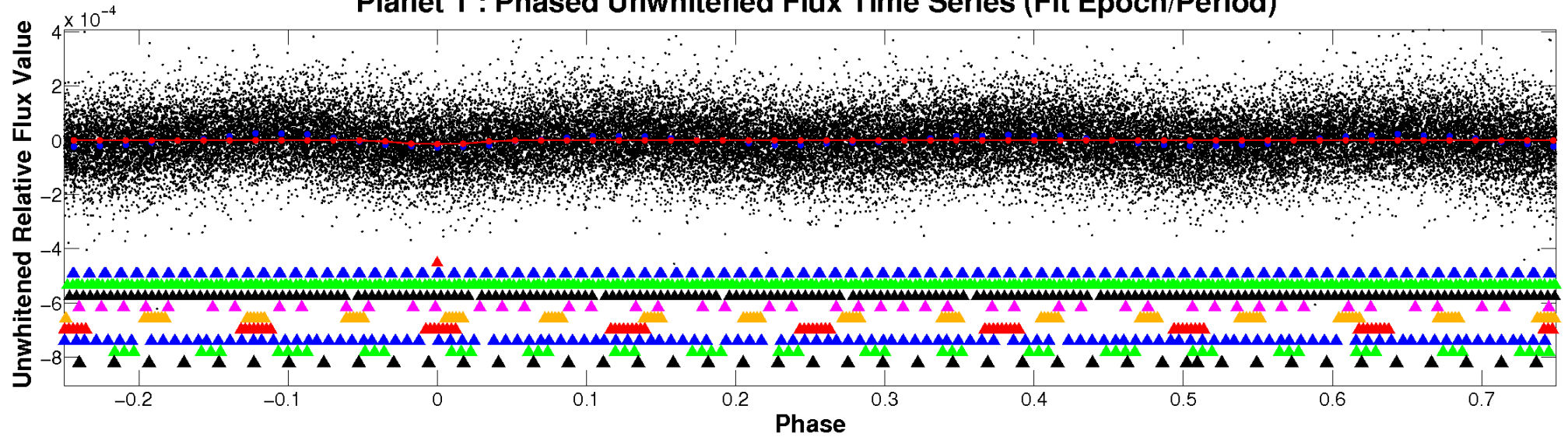
ALT Odd/Even

TCE 006421759-01

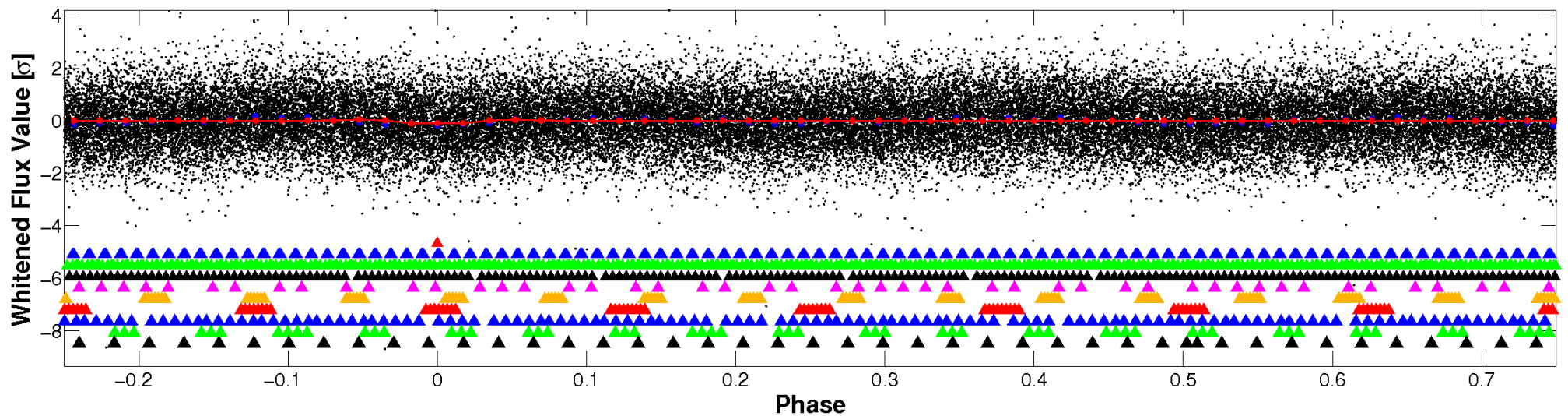


Non-Whitened Vs. Whitened Light Curve

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

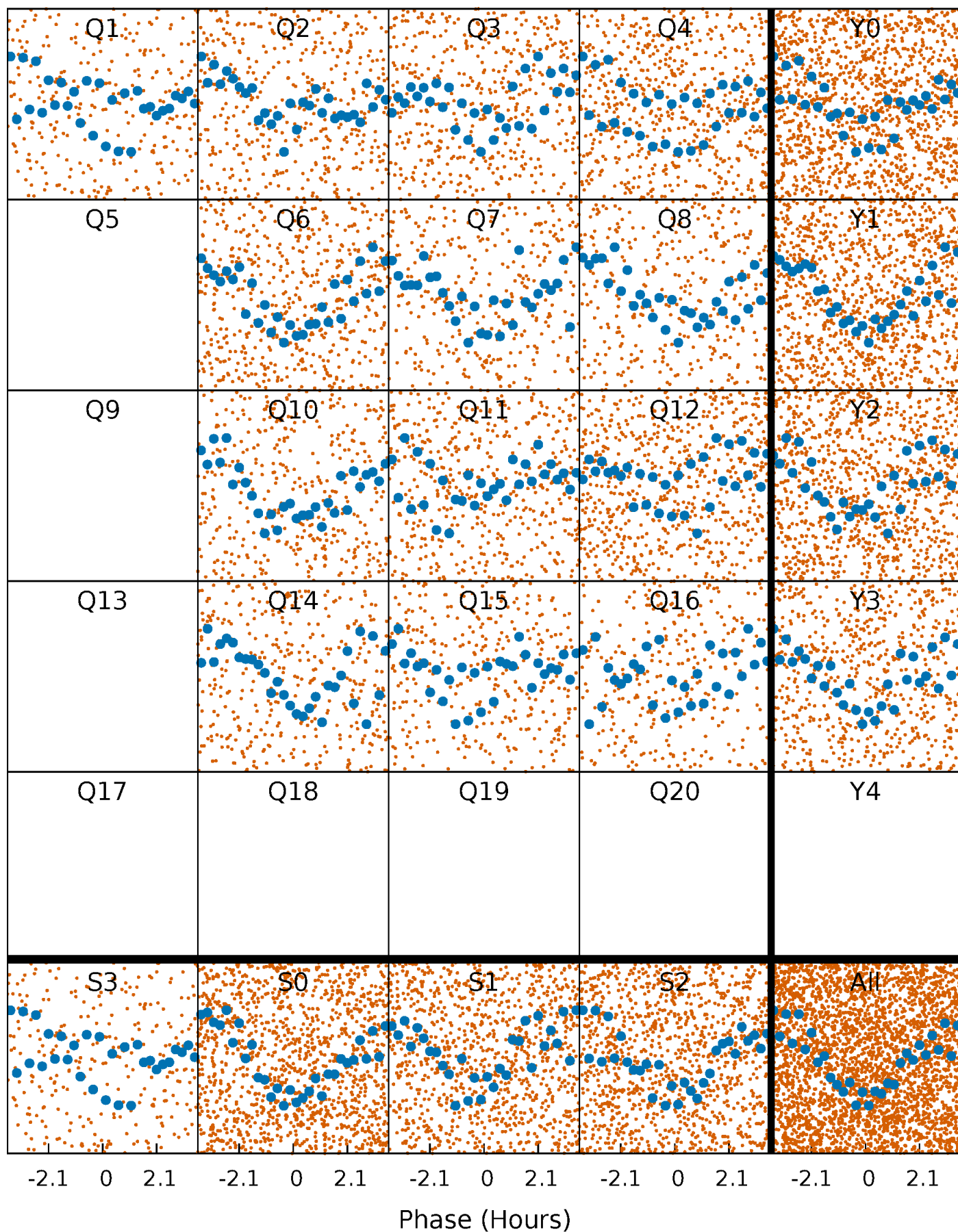


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



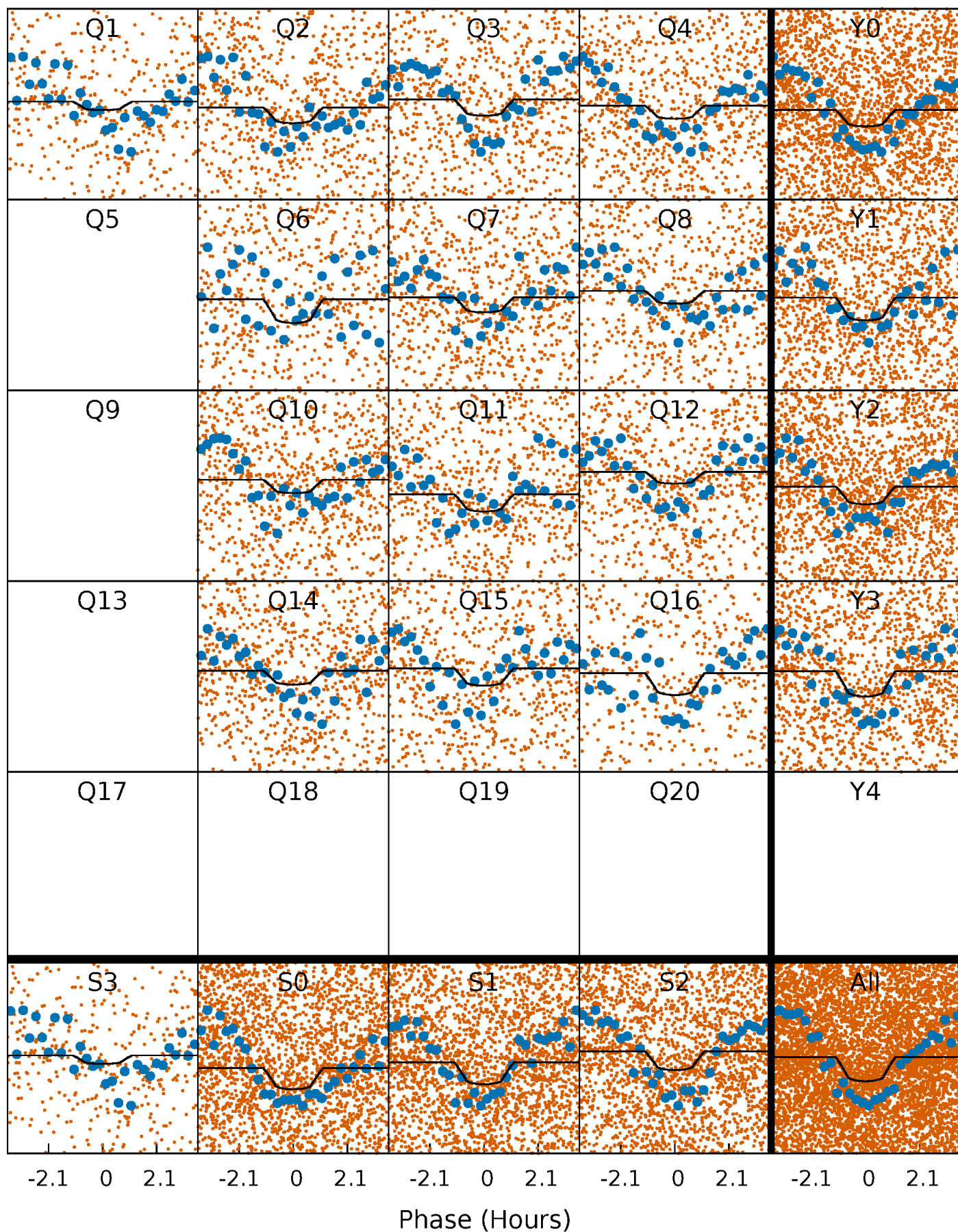
PDC Quarter-Phased Transit Curves

TCE 006421759-01 P= 1.174548 Days $T_0=131.976455$ (BKJD)



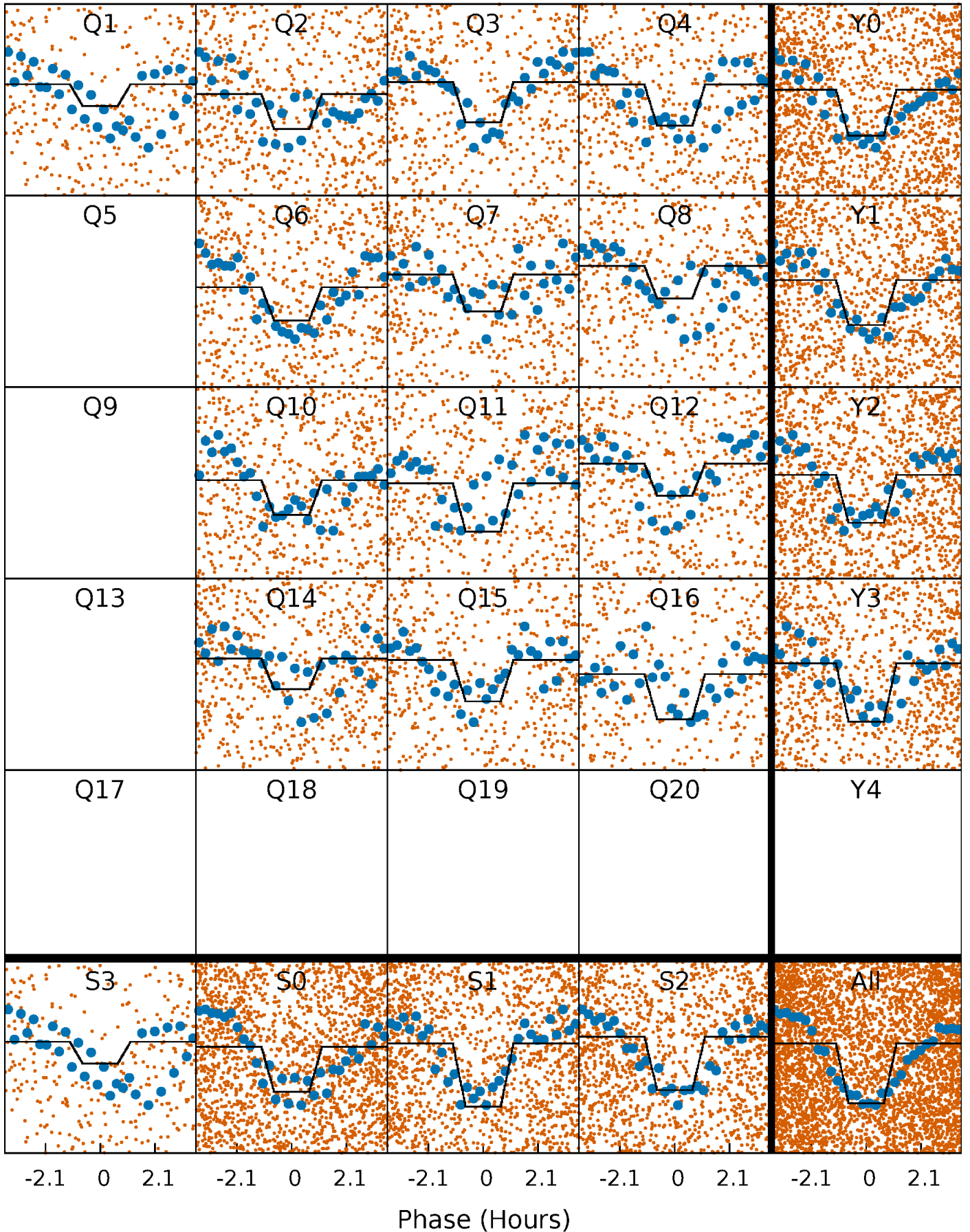
DV Quarter-Phased Transit Curves

TCE 006421759-01 P= 1.174548 Days $T_0=131.976455$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

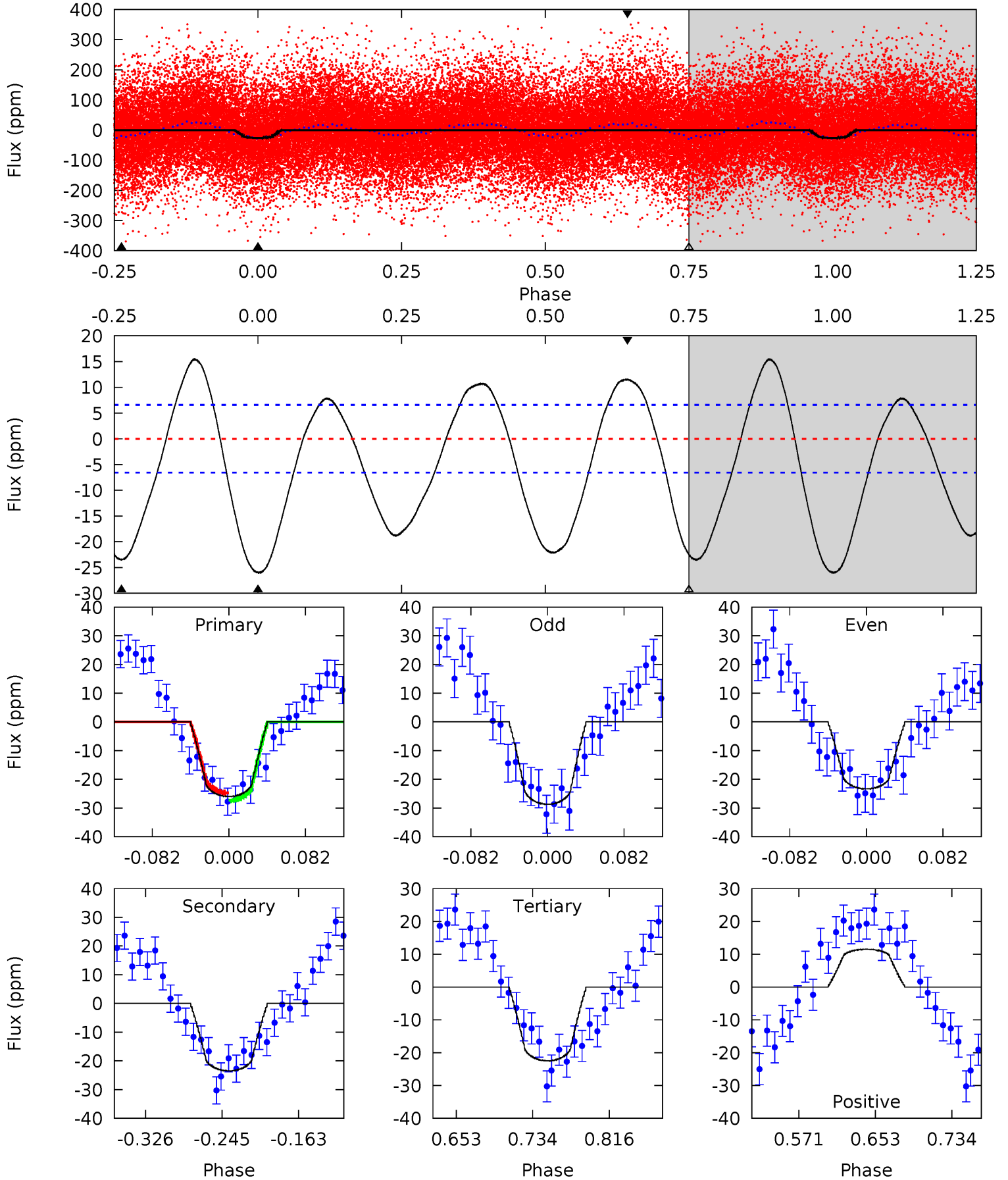
TCE 006421759-01 P= 1.174537 Days $T_0=131.977917$ (BKJD)



DV Model-Shift Uniqueness Test

006421759-01, P = 1.174548 Days, E = 130.801907 Days

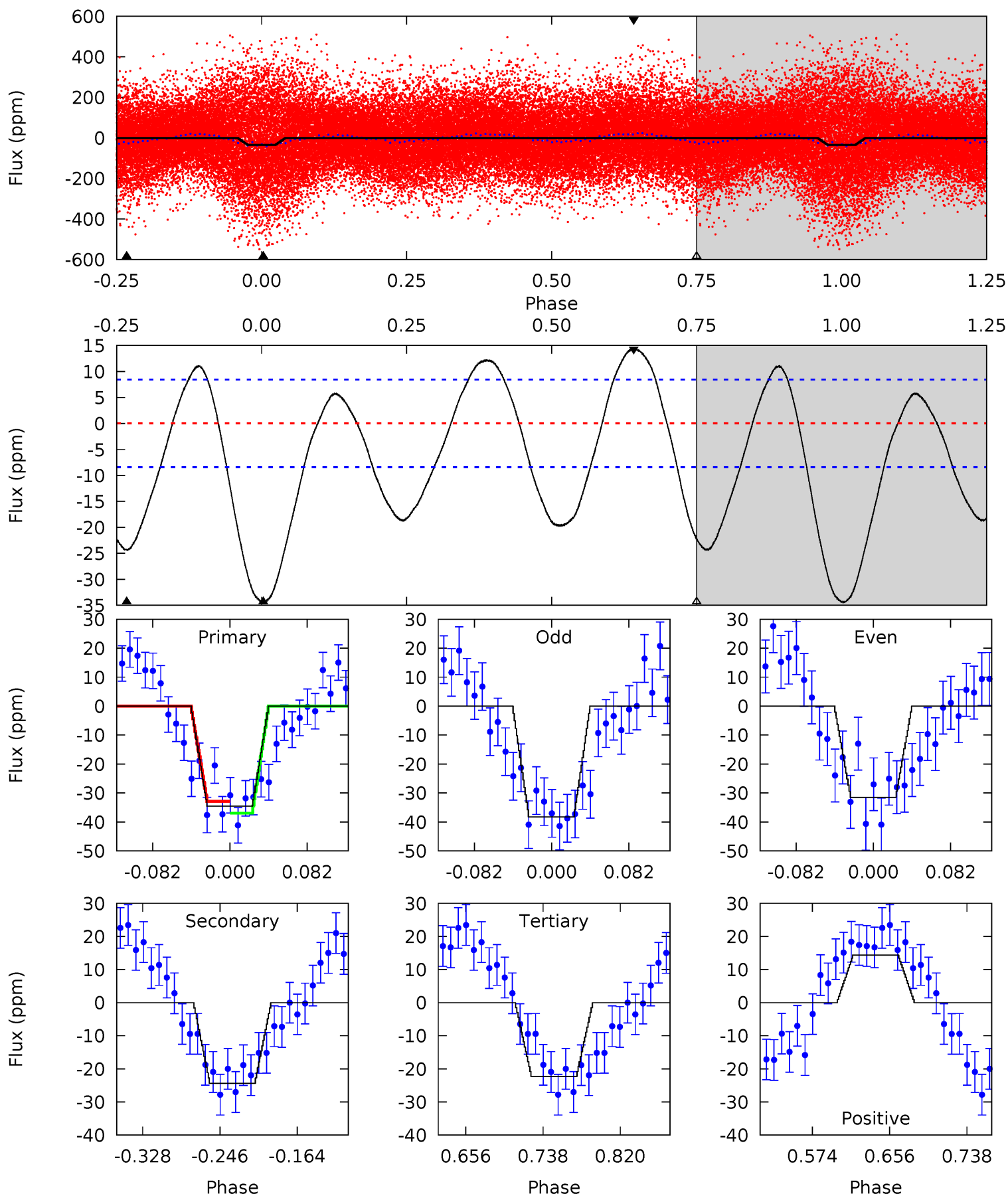
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	16.4	15.8	8.06	4.61	1.74	8.02	2.46	10.1	0.68	8.37	1.88	1.04	0.37	0.90



Alt Model-Shift Uniqueness Test

006421759-01, P = 1.174537 Days, E = 130.803380 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	13.3	12.2	7.85	4.61	1.74	5.95	6.69	11.0	1.16	5.49	1.85	0.90	0.29	1.12



Stellar Parameters For KIC 006421759

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7171^{+171}_{-235}	$3.335^{+0.424}_{-0.053}$	$-0.500^{+0.350}_{-0.300}$	$5.114^{+1.061}_{-2.475}$	$2.063^{+0.055}_{-0.519}$	$0.022^{+0.090}_{-0.006}$
	+2%/-3%	+13%/-2%	+70%/-60%	+21%/-48%	+3%/-25%	+415%/-27%
Source	PHO1	FLK73	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 006421759-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-23 ± 1	$1.77^{+1.47}_{-1.11}$	5658^{+420}_{-639}	7906^{+10364}_{-2421}	$3.037^{+17.642}_{-2.122}$
Alt.	-24 ± 2	$2.83^{+1.59}_{-1.21}$	5670^{+414}_{-595}	5992^{+2537}_{-1507}	$1.255^{+2.387}_{-0.744}$

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 $A_{\text{obs}} \gg 1.0$

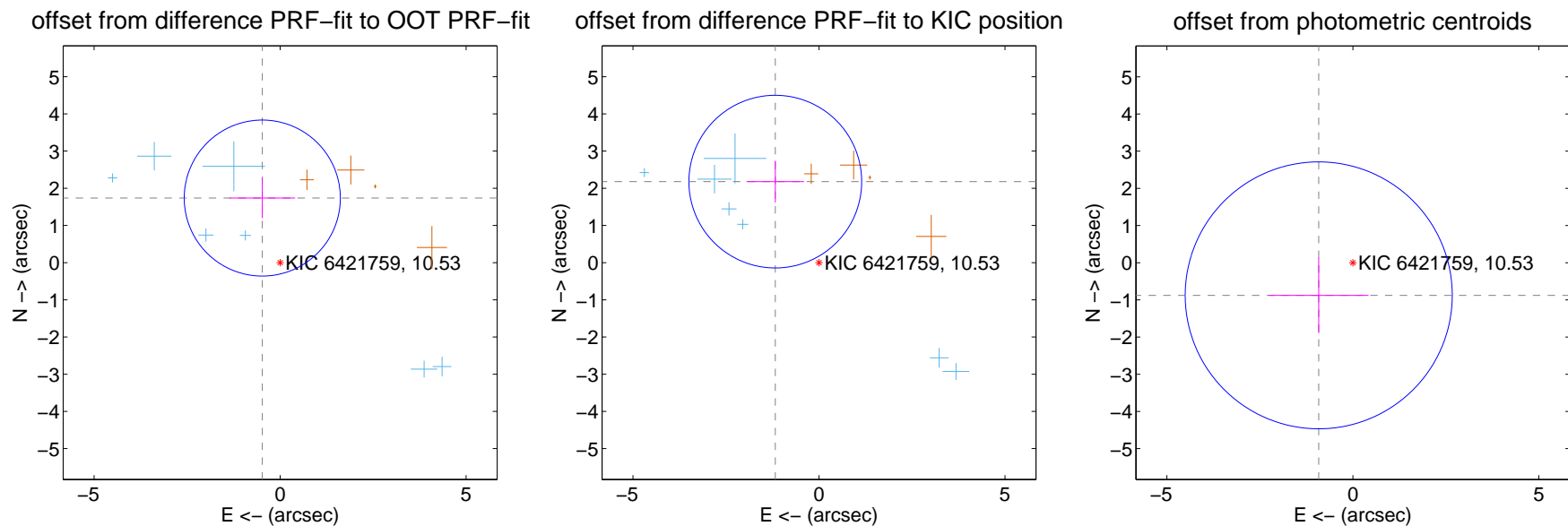
DV Centroid Data

Supplemental centroid analysis for 006421759-01. **Kepler magnitude: 10.53.** Transit SNR 5.43

There are 7 quarters with good PRF difference image offsets

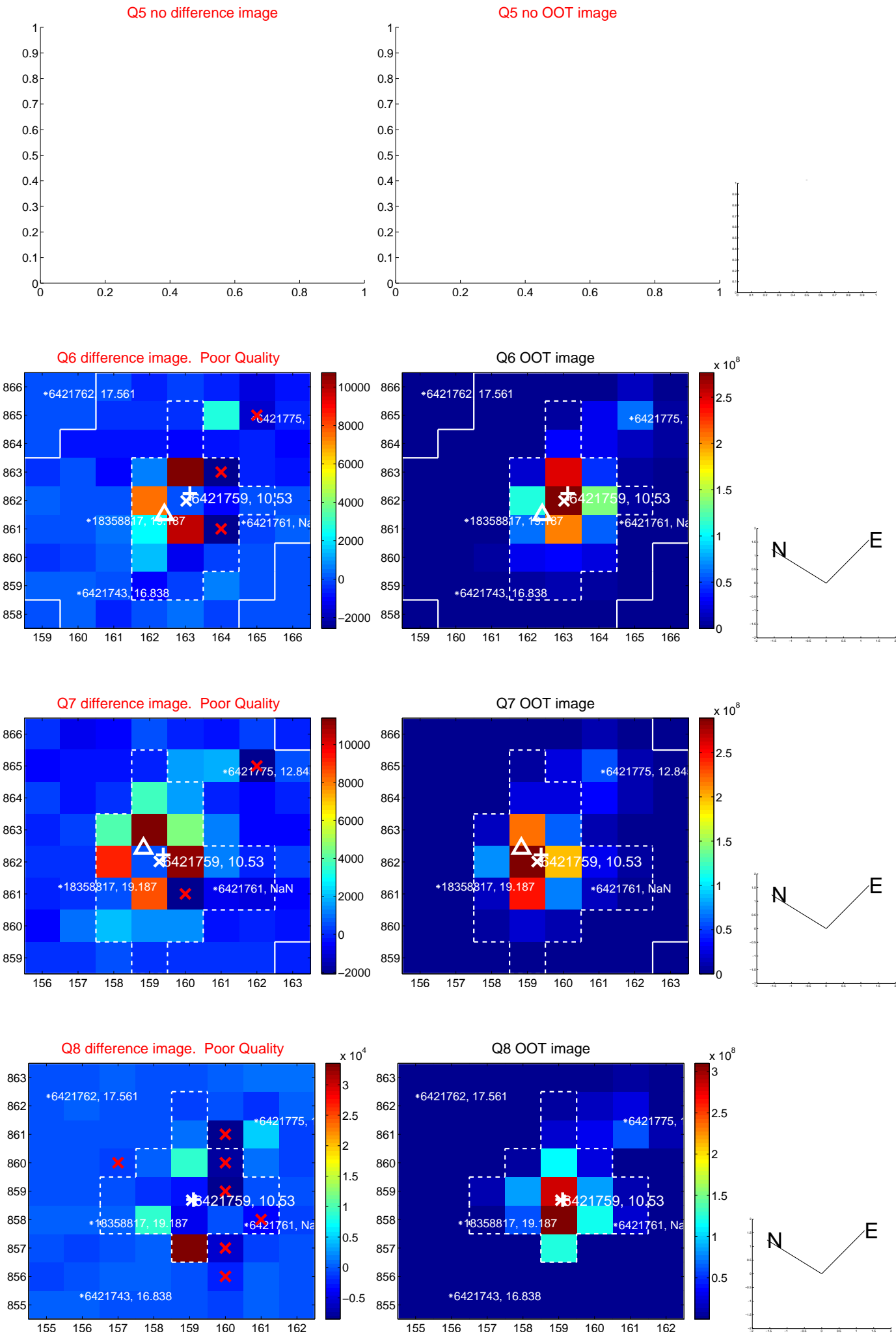
The direct PRF centroid is offset from the target star catalog position by about 0.84 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.801 ± 0.699	2.58	0.479 ± 0.882	1.737 ± 0.539
PRF-fit source offset from KIC position	2.475 ± 0.774	3.20	1.174 ± 0.773	2.178 ± 0.563
photometric centroid source offset	1.27 ± 1.20	1.06	0.92 ± 1.34	-0.88 ± 1.02

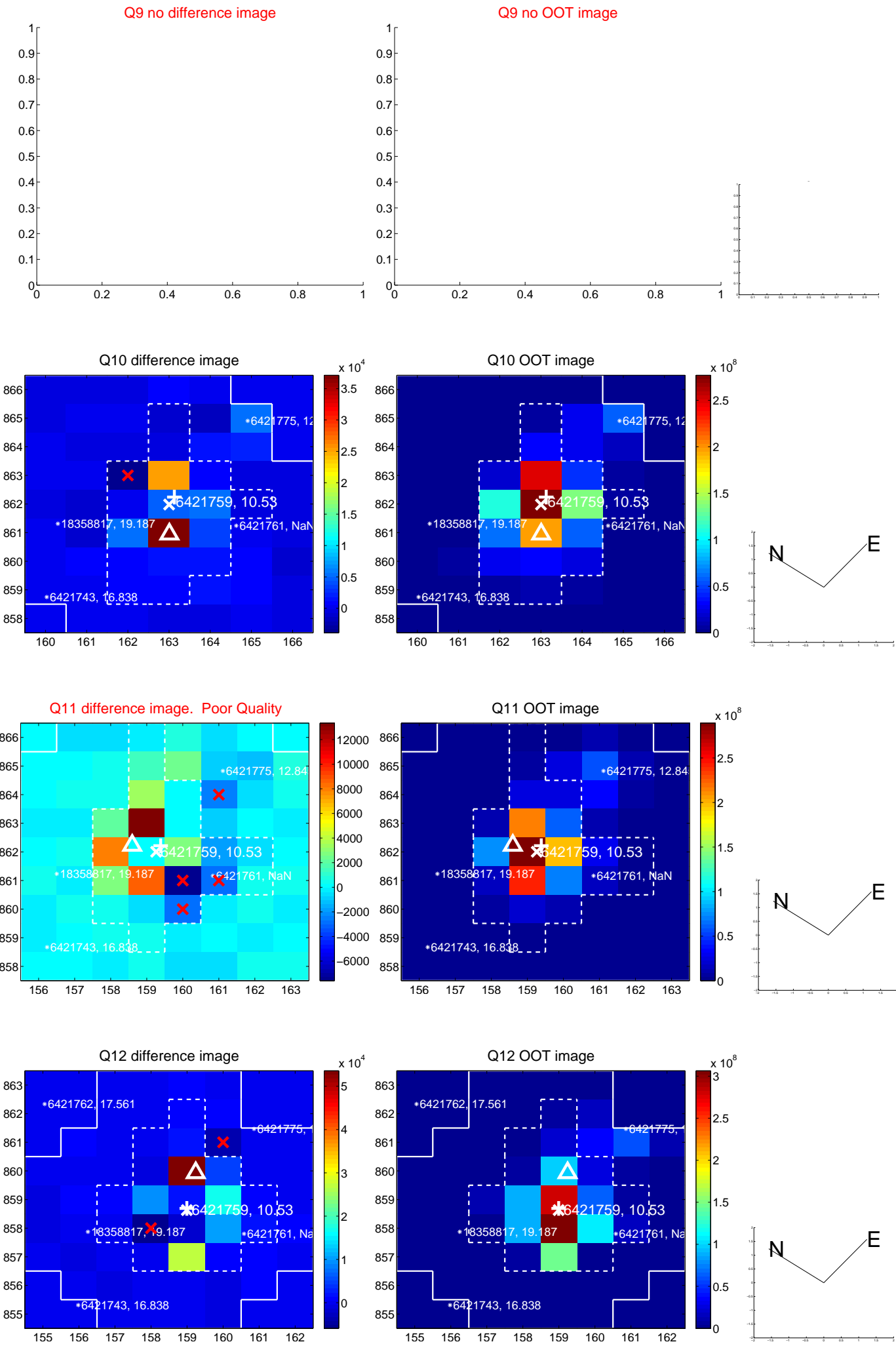


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

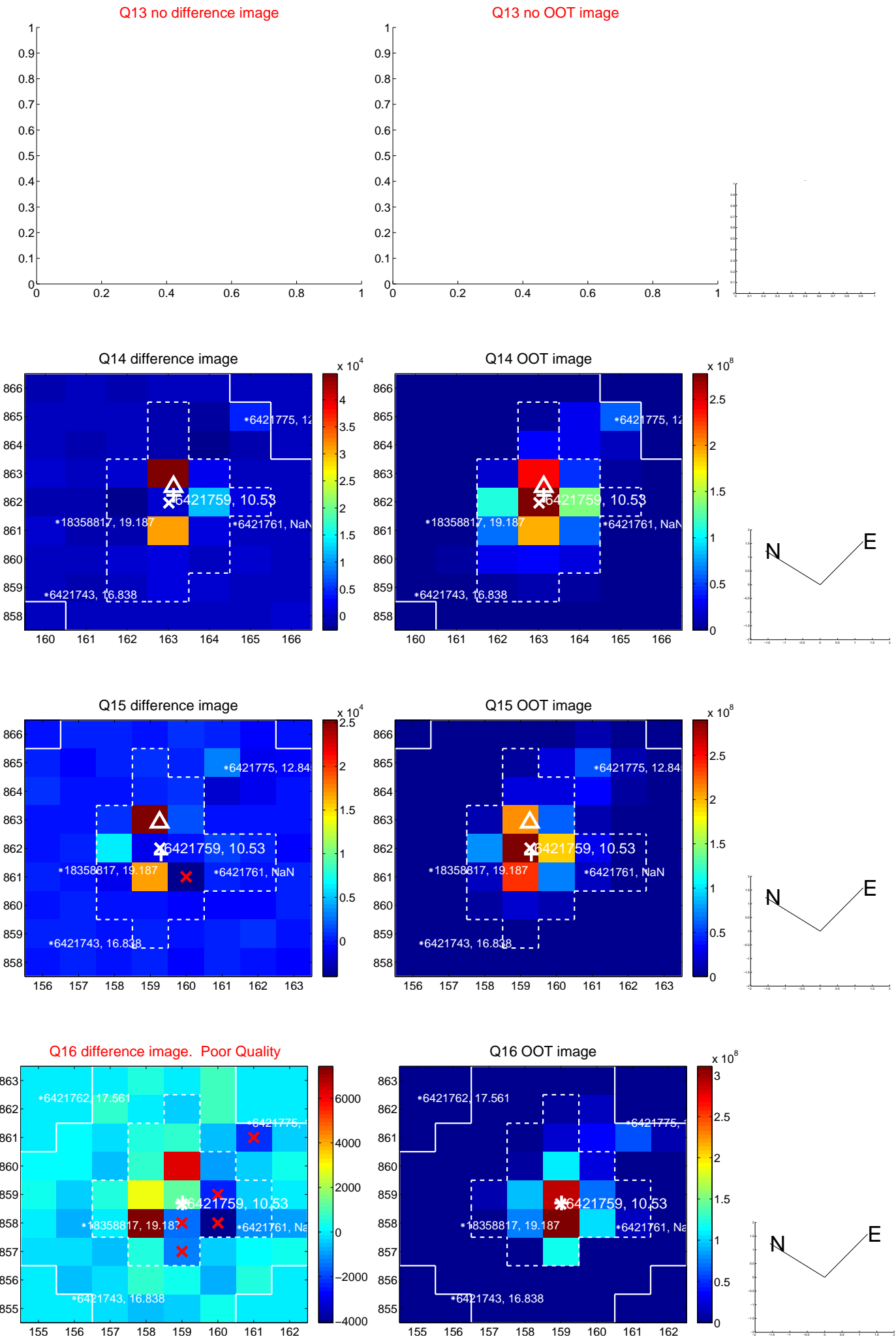
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



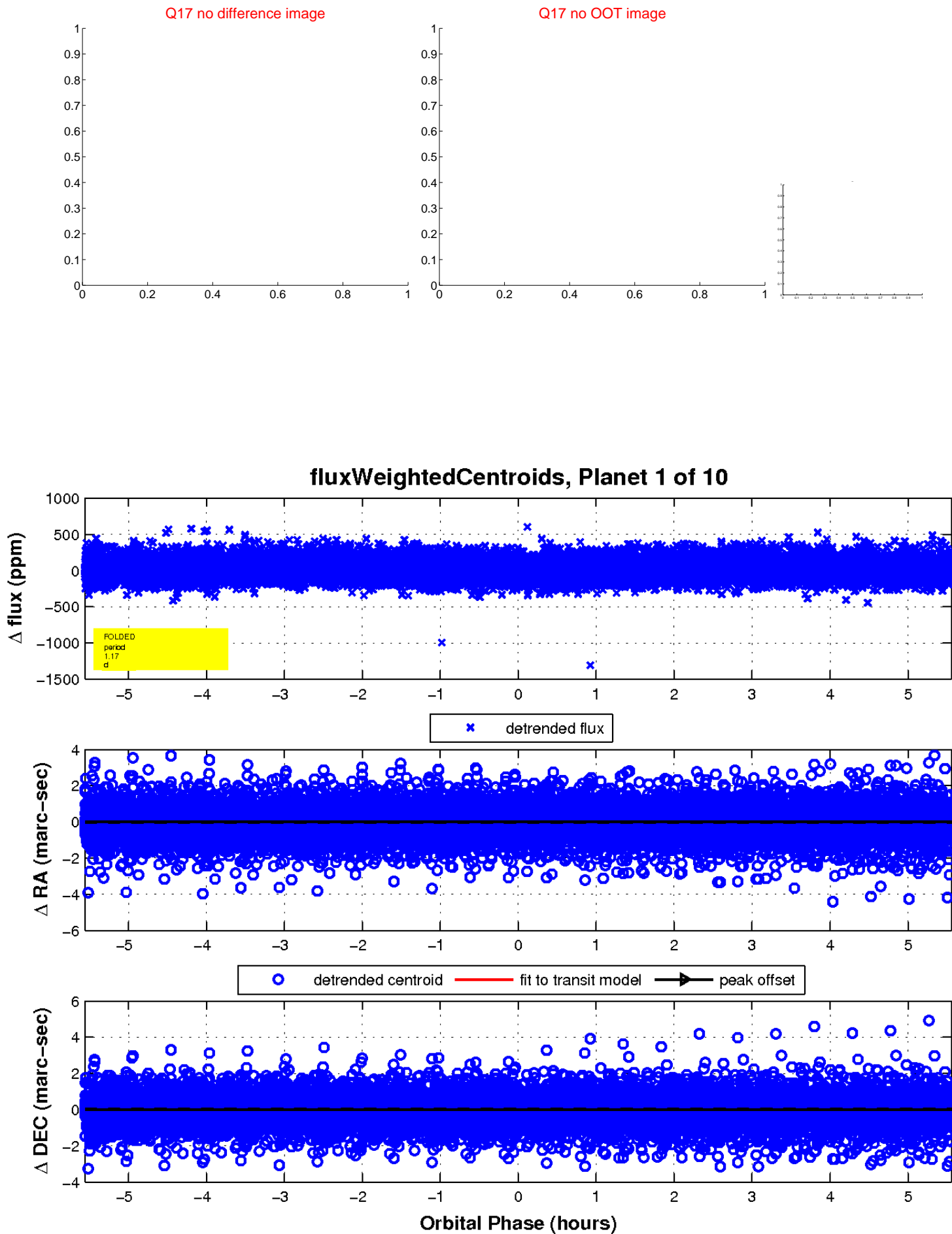
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



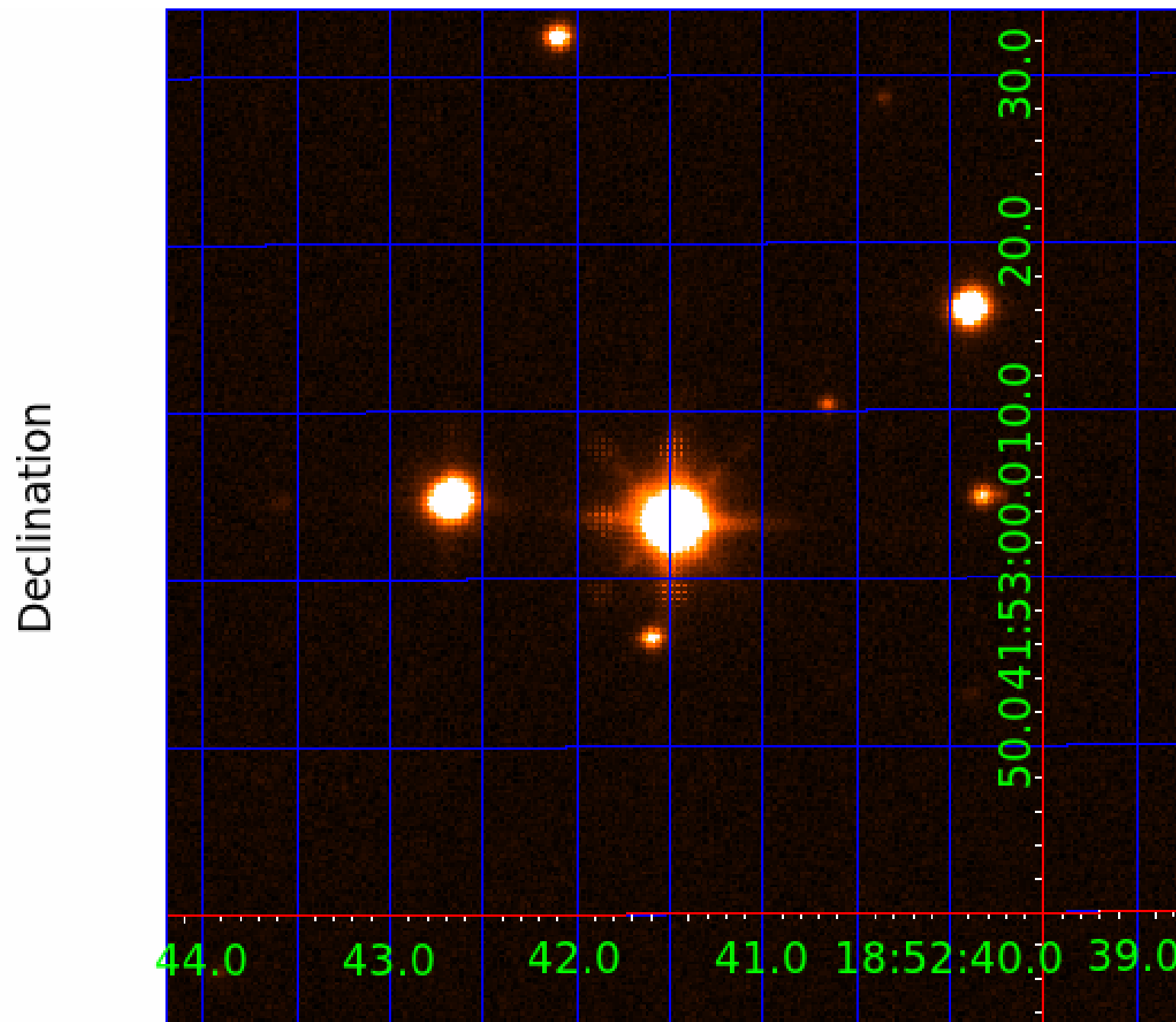
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



KIC 006421759

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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006421759-09	OBS	No	24.991356	144.794029	203.1	4.532	8.6	7.7	5.11	7171	14.15	1365.63
006421759-10	OBS	No	32.859842	160.763969	152.6	3.170	7.2	7.6	5.11	7171	7.33	948.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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006421759-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006421759-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
006421759-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

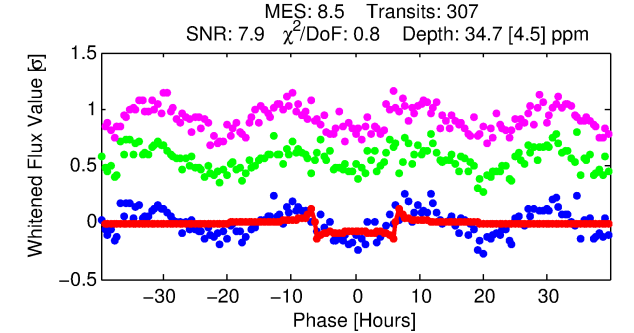
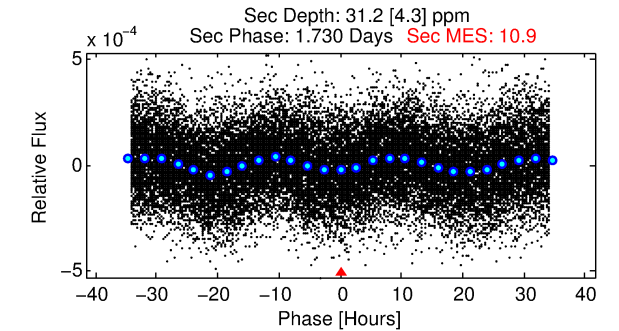
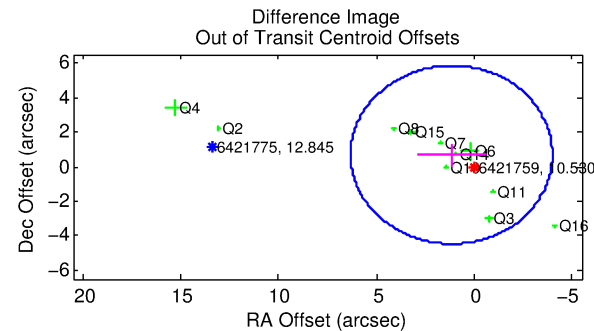
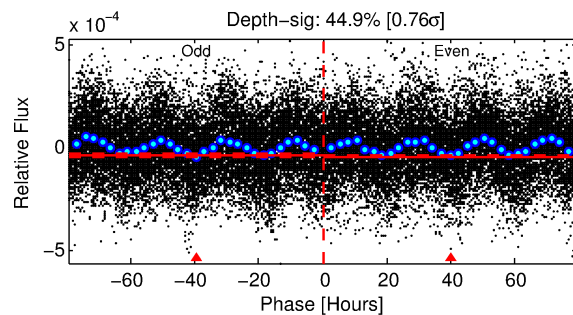
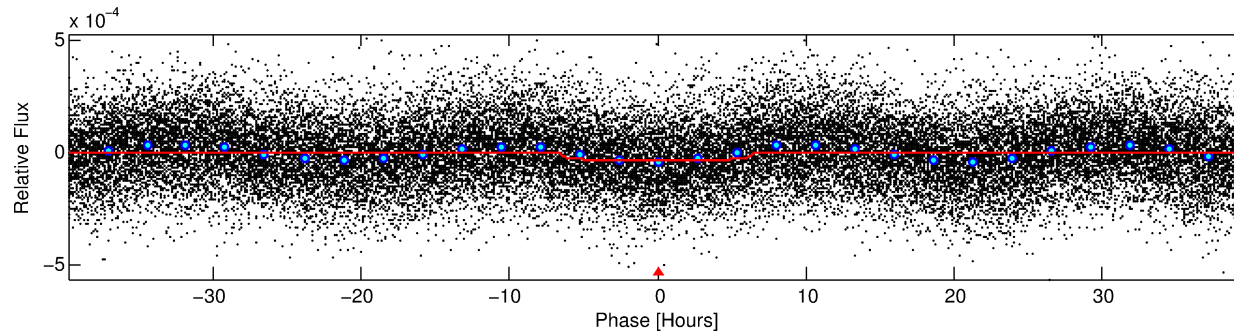
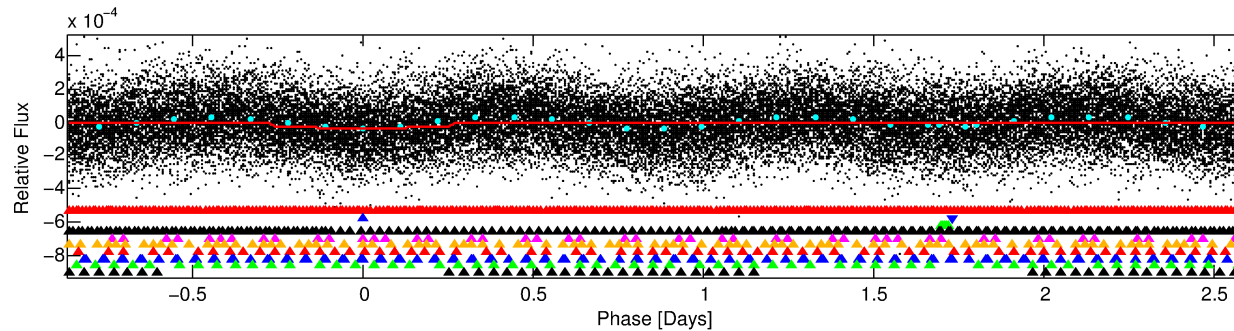
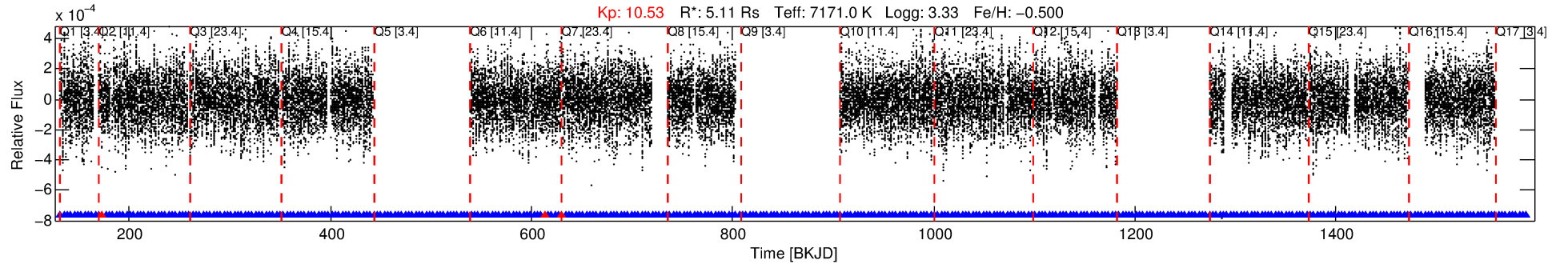
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006421759-02

No Significant Match Found

DV One-Page Summary

KIC: 6421759 Candidate: 2 of 10 Period: 3.461 d



DV Fit Results:

Period = 3.46116 [0.00003] d
Epoch = 131.9284 [0.0037] BKJD
Rp/R* = 0.0063 [0.0005]
a/R* = 1.28 [0.15]
b = 0.91 [0.06]
Seff = 19058.59 [14068.62]
Teq = 2996 [553] K
Rp = 3.51 [1.73] Re
a = 0.0570 [0.0261] AU
Ag = 4.52 [3.43] [1.03 σ]
Teffp = 6756 [429] K [5.37 σ]

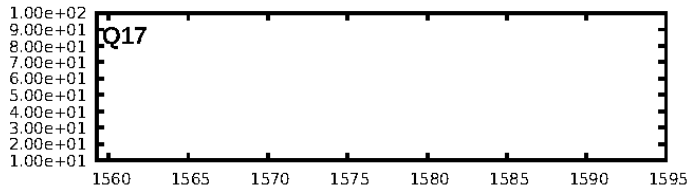
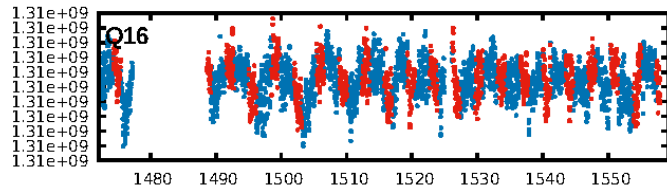
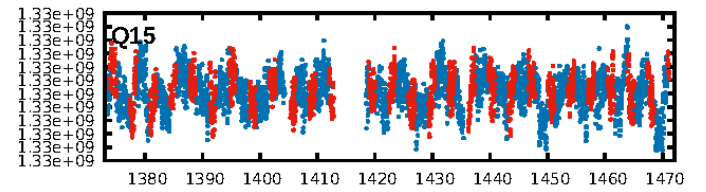
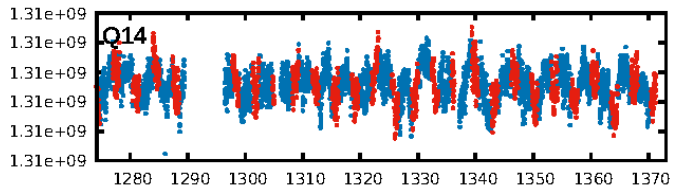
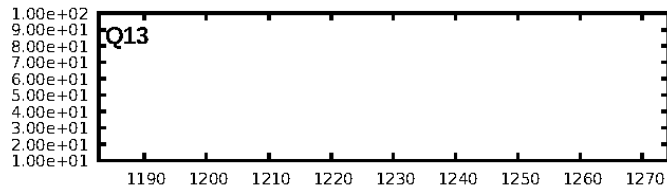
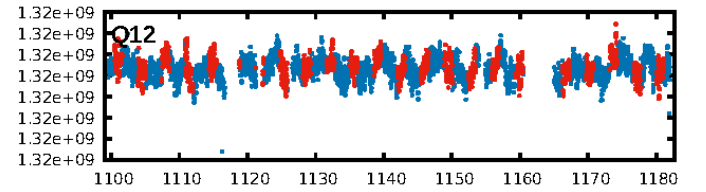
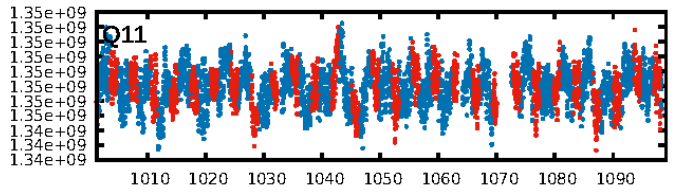
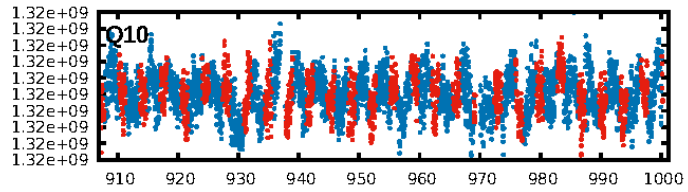
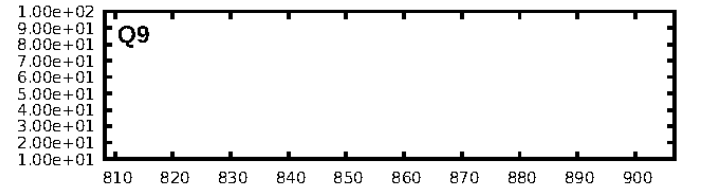
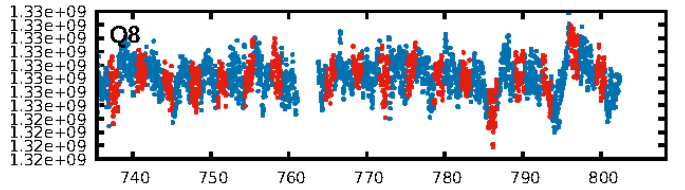
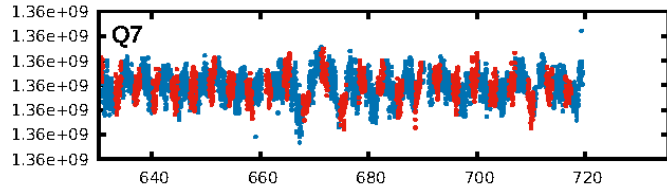
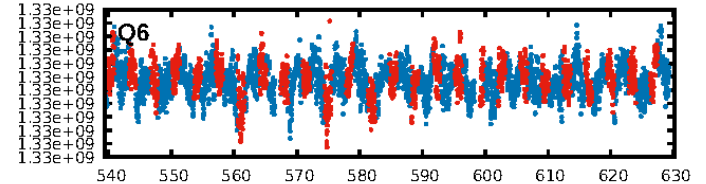
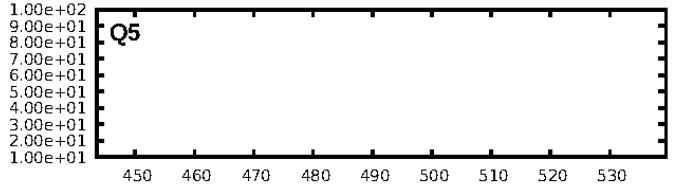
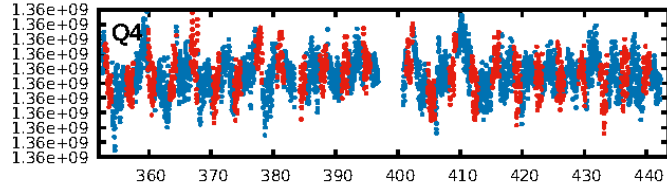
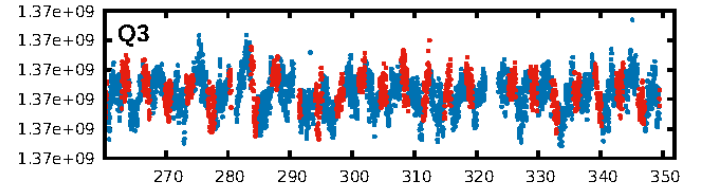
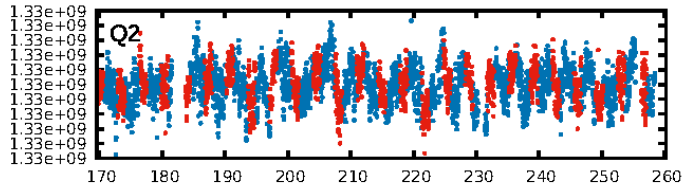
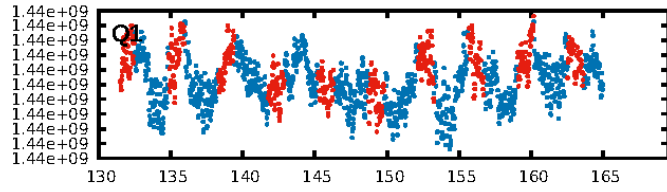
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.09 σ]
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [294/297]
GhostDiagnostic-chr: 11.67
Centroid-sig: 40.8%
Centroid-so: 1.136 arcsec [1.50 σ]
OotOffset-rm: 1.354 arcsec [0.79 σ]
OotOffset-st: 4/4/3/0 [11]
KicOffset-rm: 2.451 arcsec [1.46 σ]
KicOffset-st: 4/4/3/0 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.00 [0/13]

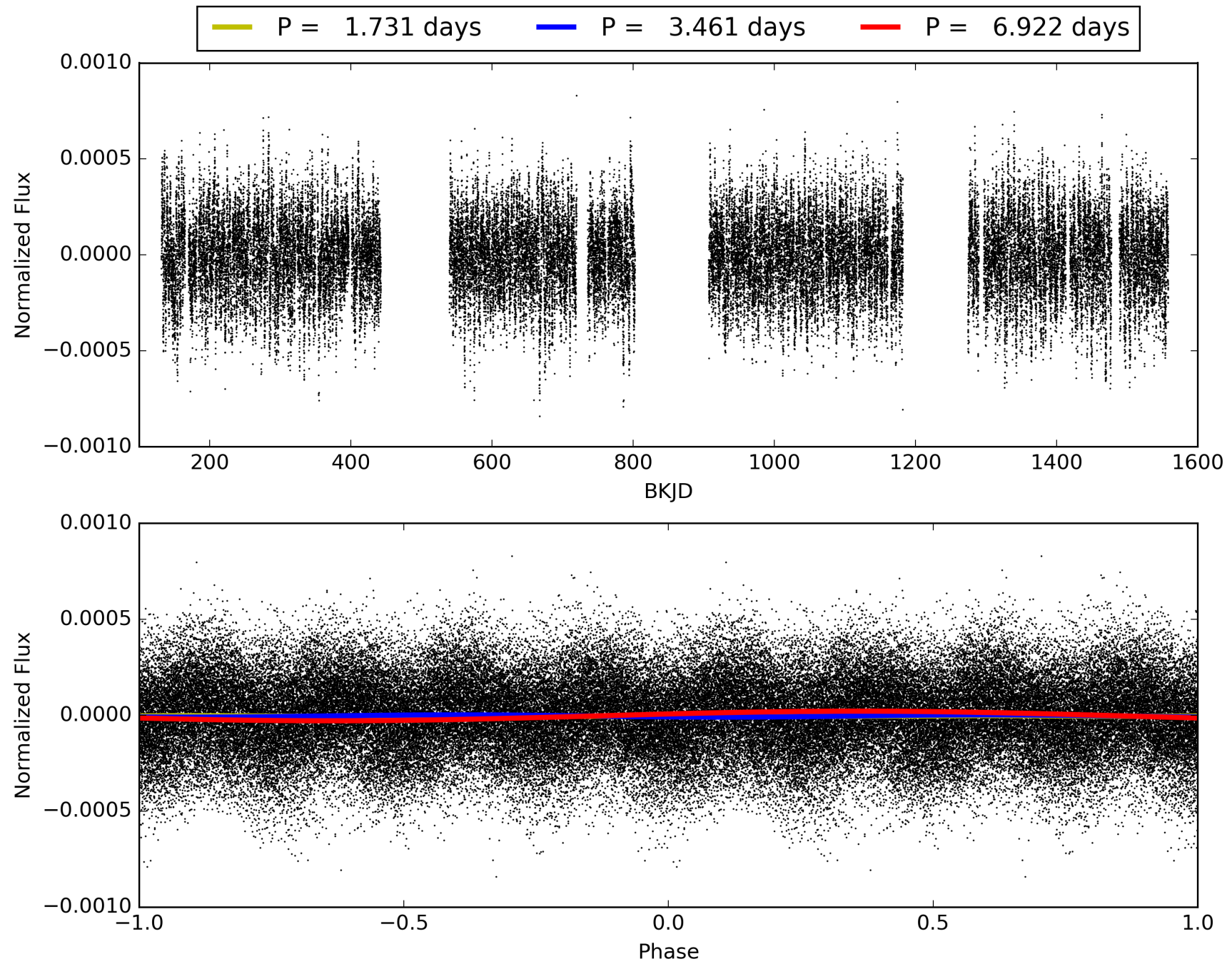
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:24:59 Z

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

TCE 006421759-02, PDC Light Curves

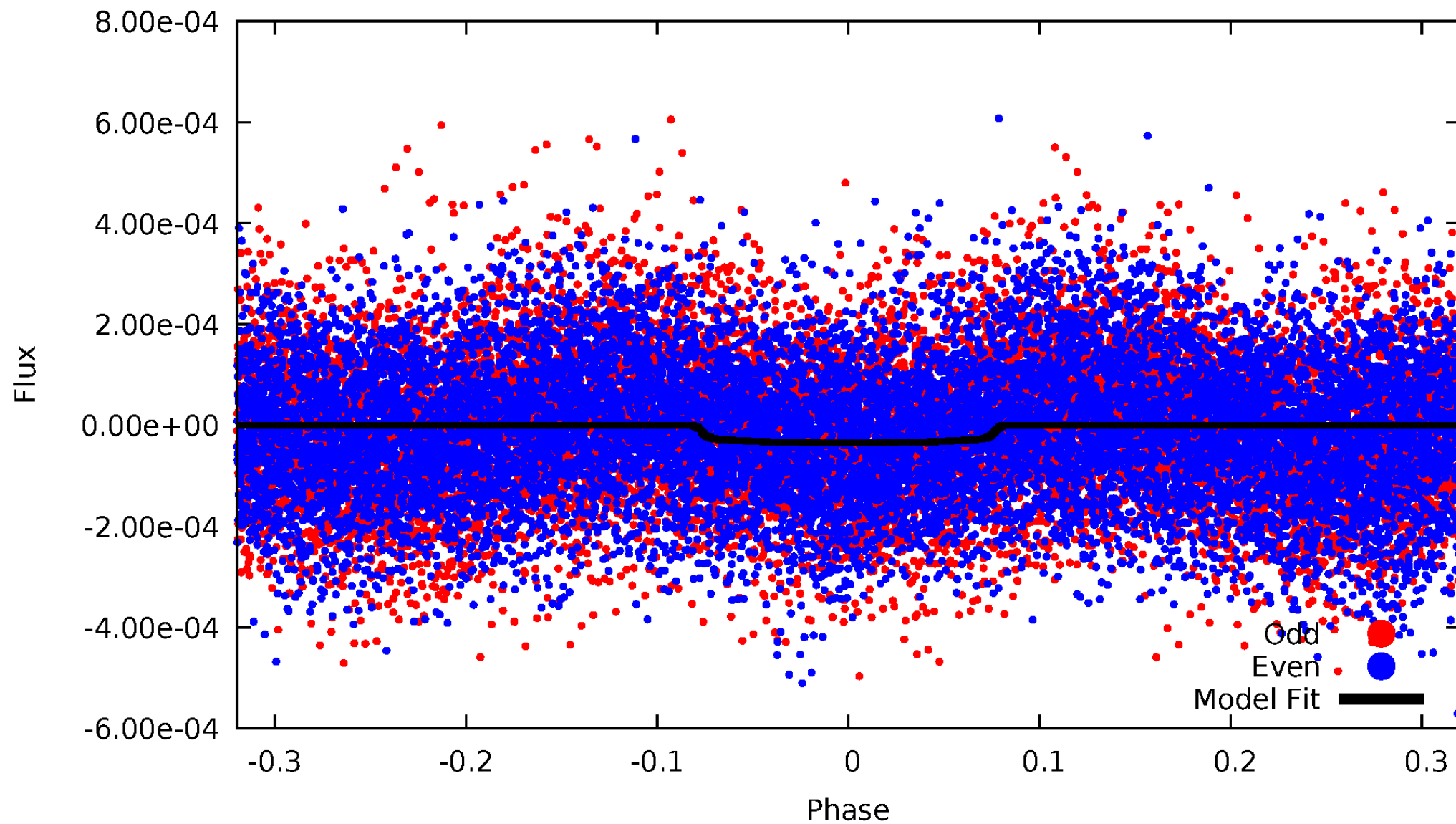


TCE 006421759-02



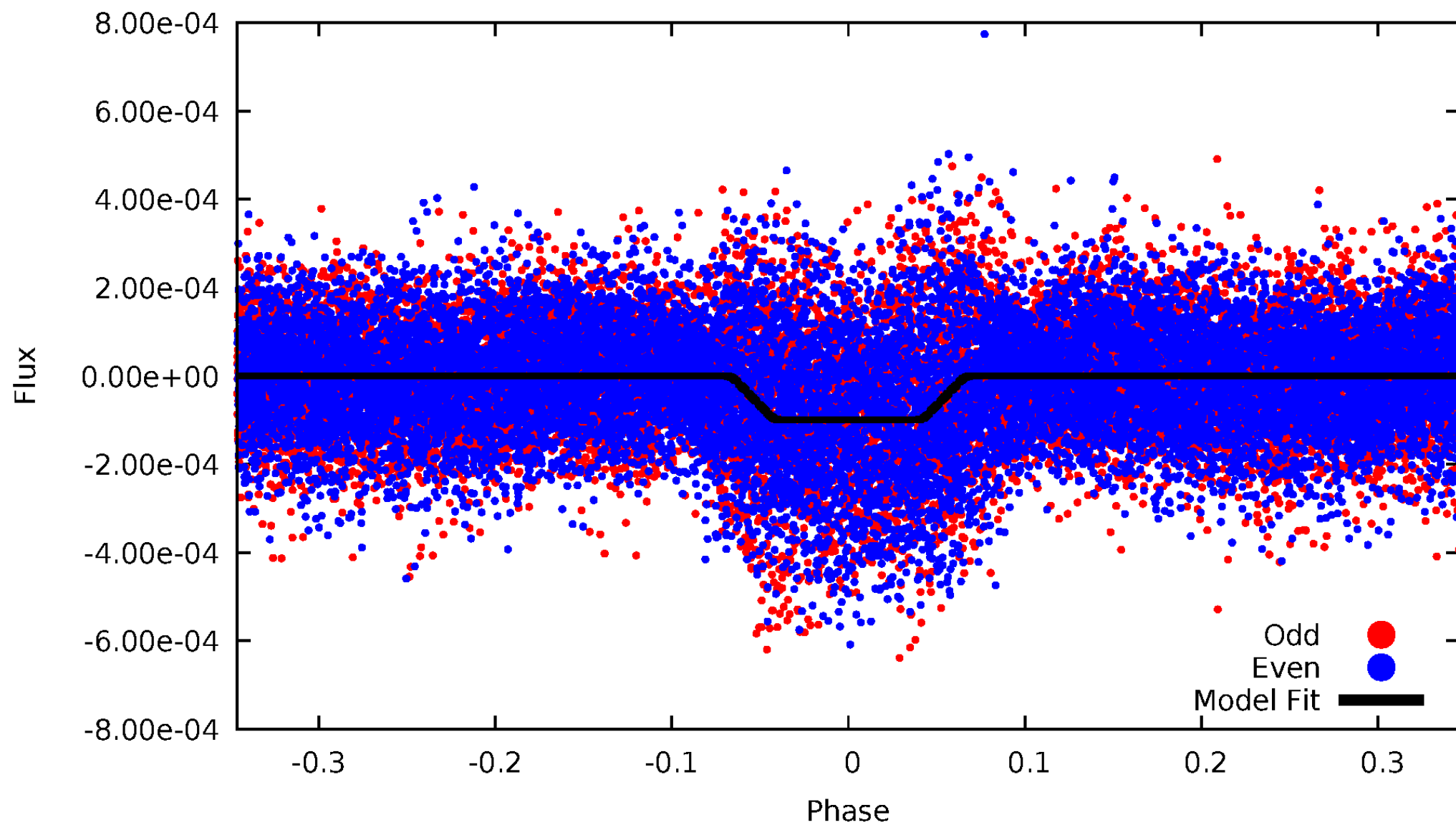
DV Odd/Even

TCE 006421759-02



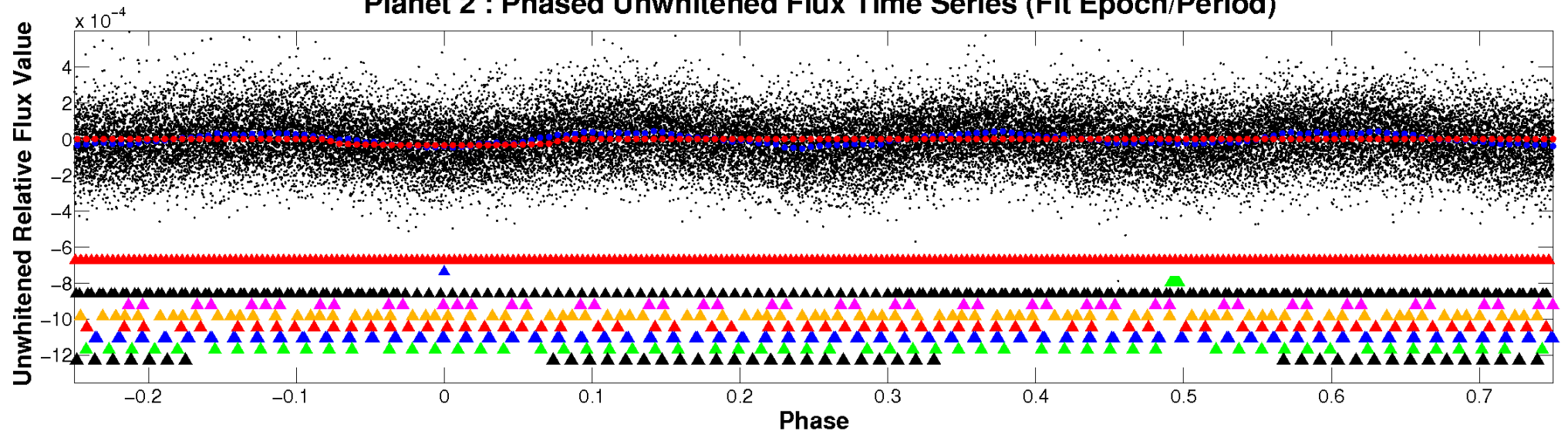
ALT Odd/Even

TCE 006421759-02

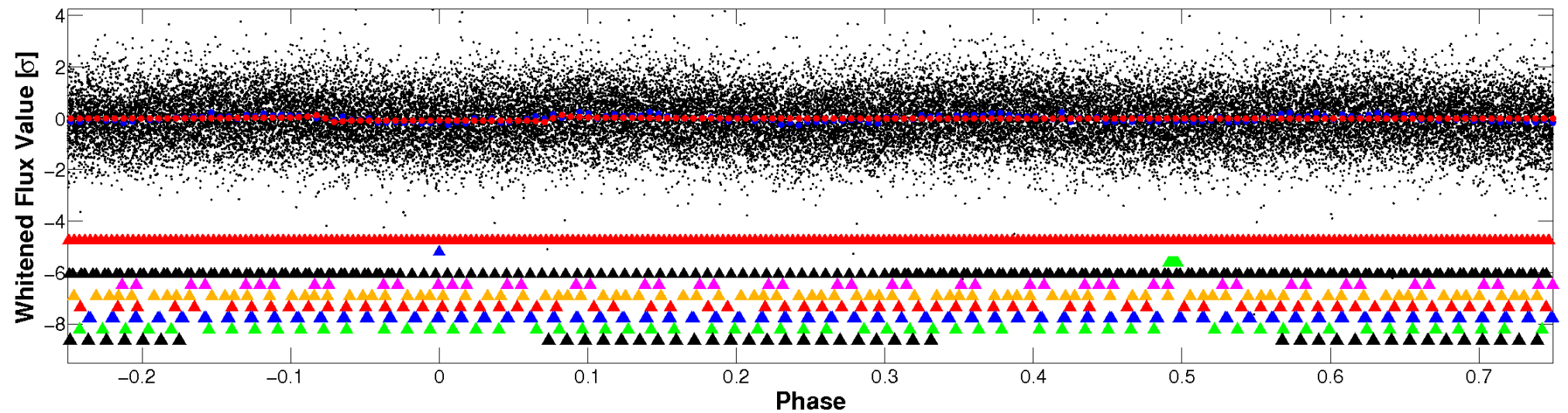


Non-Whitened Vs. Whitened Light Curve

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

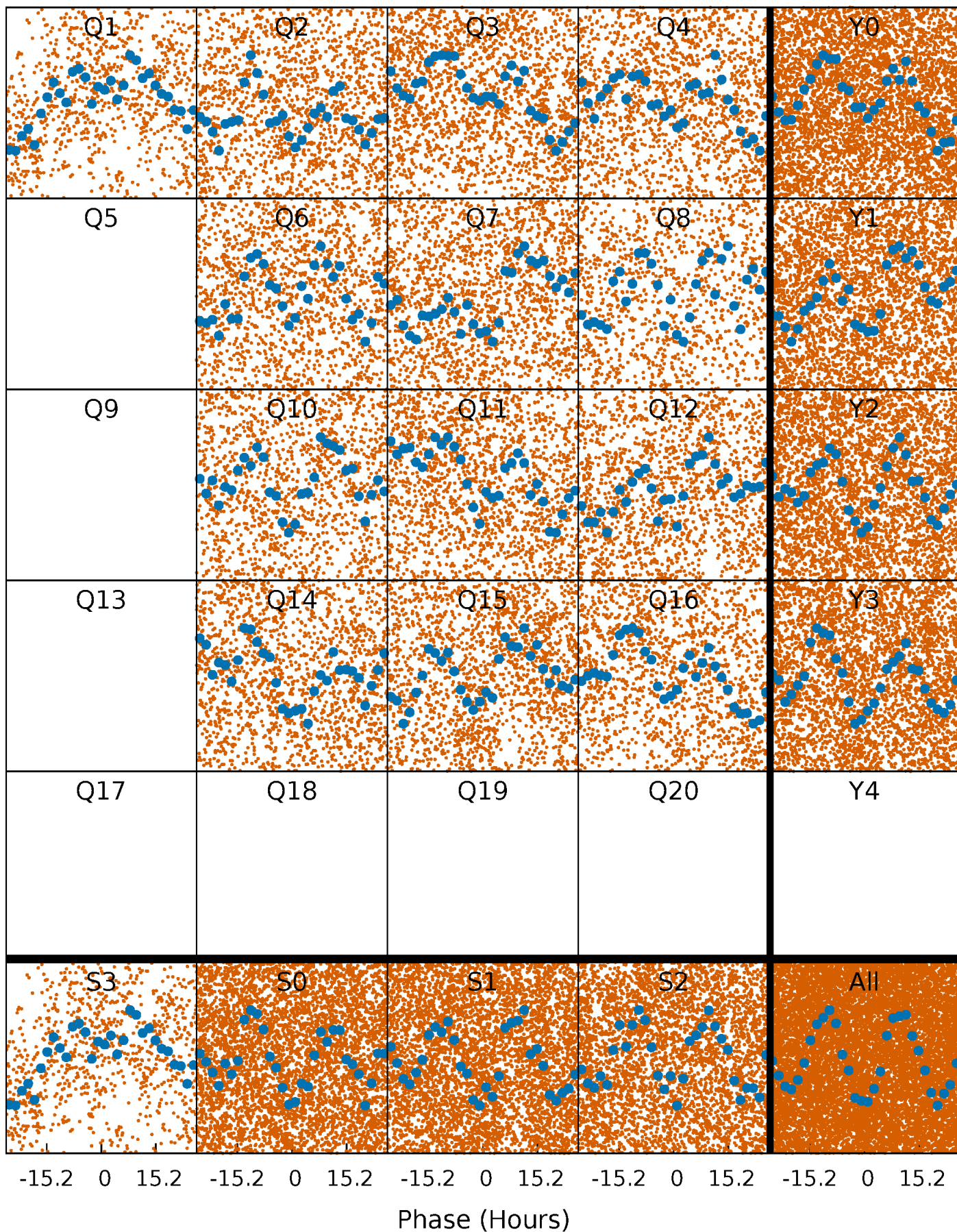


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



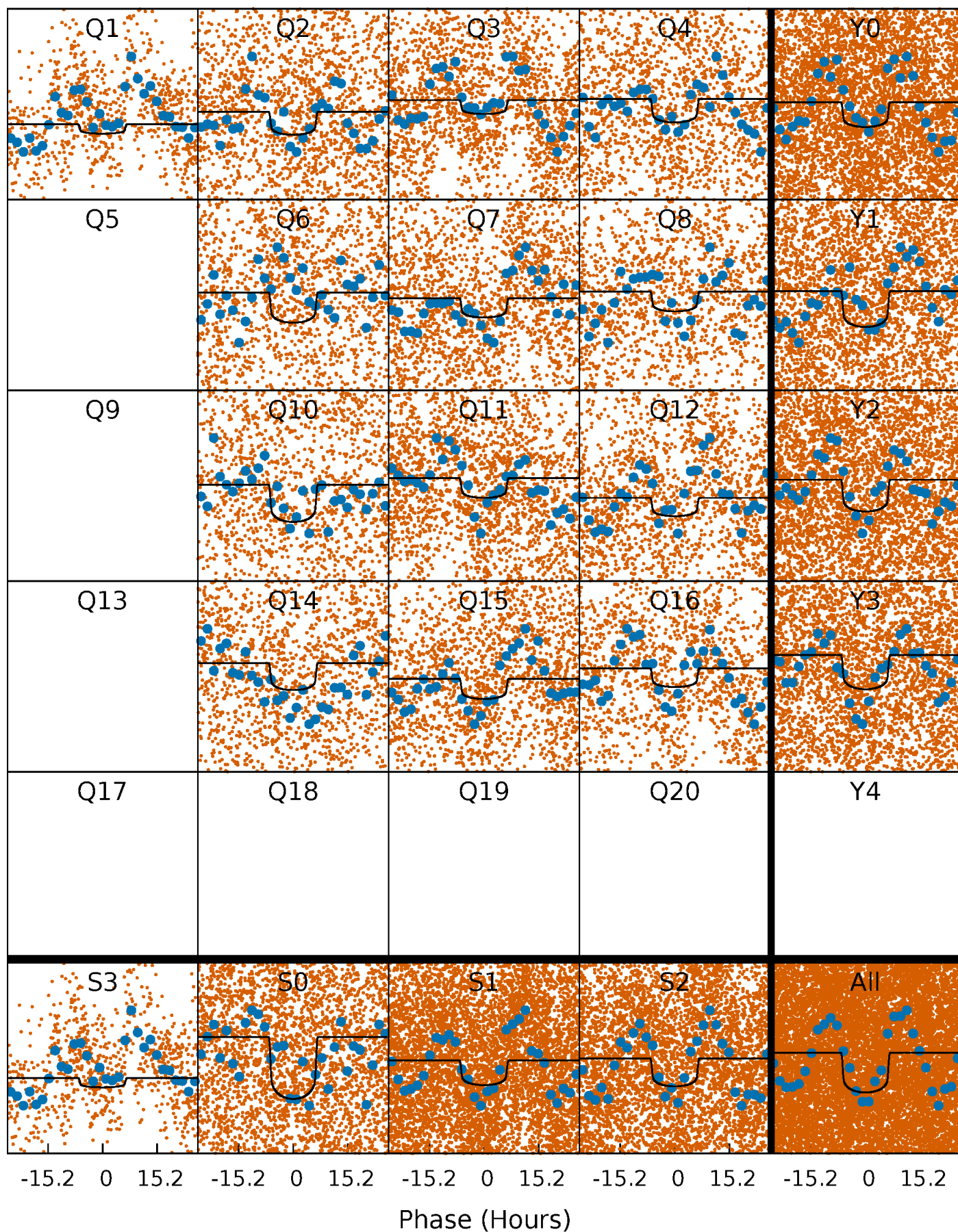
PDC Quarter-Phased Transit Curves

TCE 006421759-02 P= 3.461164 Days $T_0=131.928381$ (BKJD)



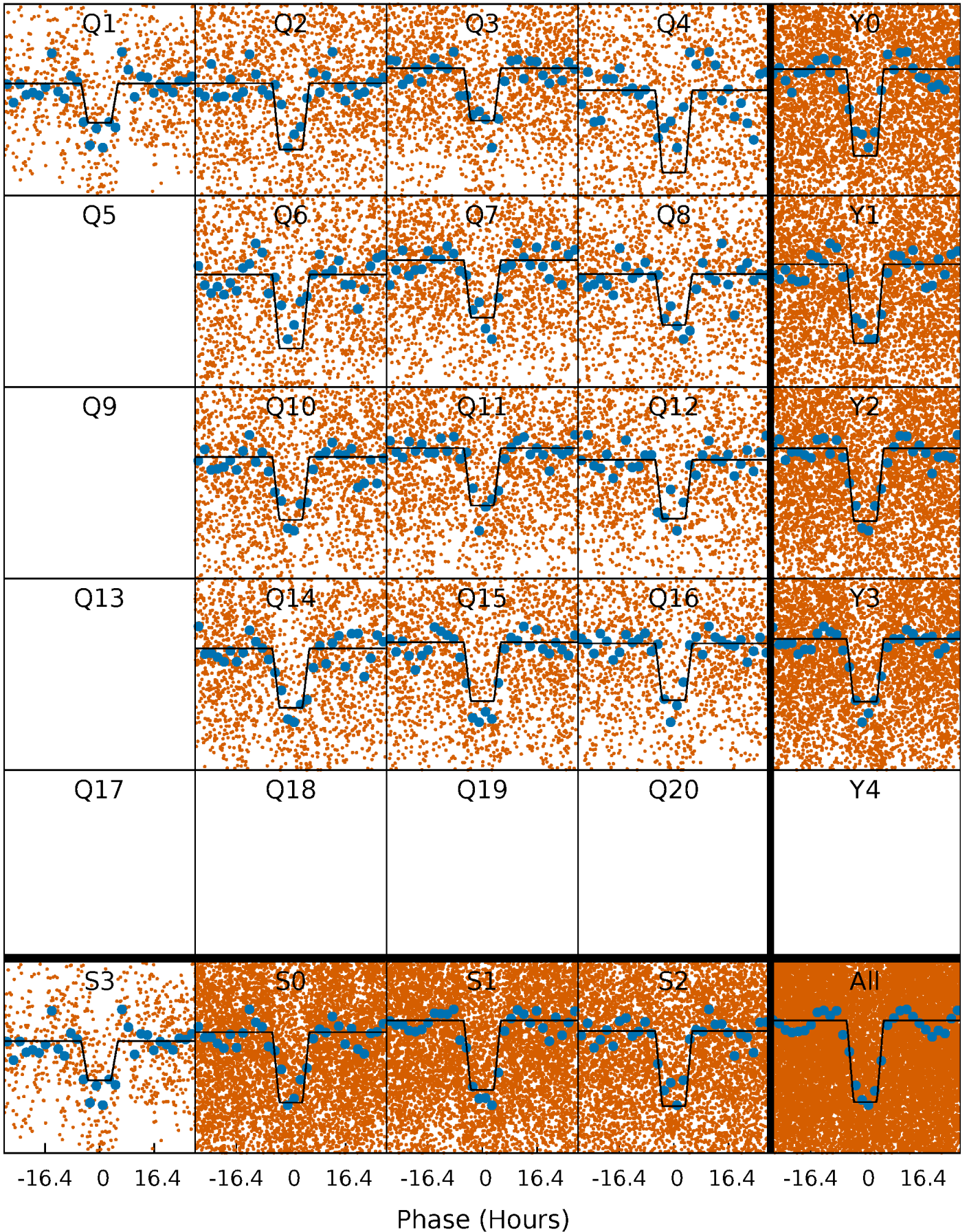
DV Quarter-Phased Transit Curves

TCE 006421759-02 P= 3.461164 Days $T_0=131.928381$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

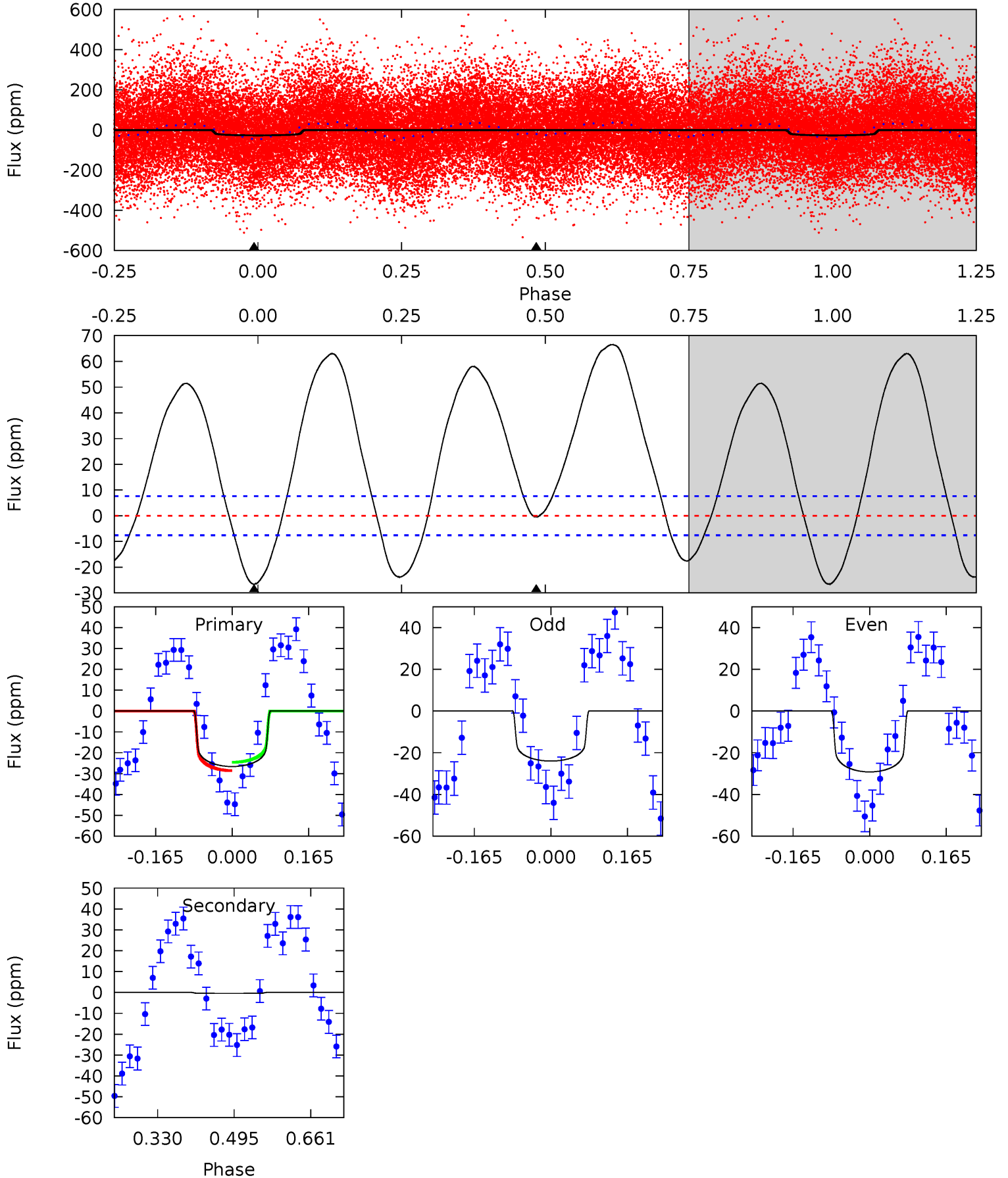
TCE 006421759-02 P= 3.460947 Days $T_0=131.961686$ (BKJD)



DV Model-Shift Uniqueness Test

006421759-02, P = 3.461164 Days, E = 128.467217 Days

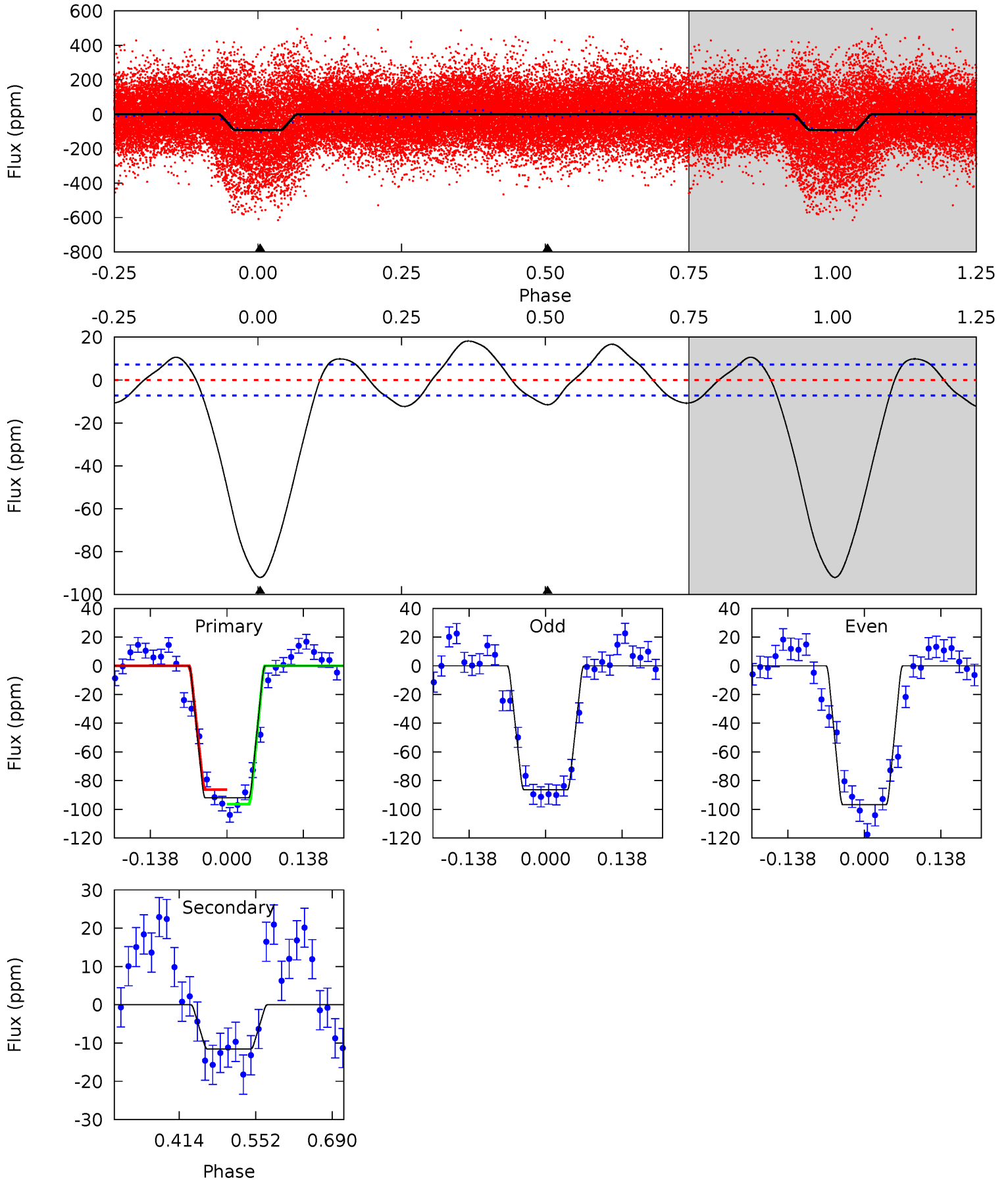
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	0.26	0	0	4.46	1.39	11.9	15.6	15.6	0.26	0.26	1.53	1.04	0.71	1.22



Alt Model-Shift Uniqueness Test

006421759-02, P = 3.460947 Days, E = 128.500739 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.1	7.16	0	0	4.50	1.48	5.24	57.1	57.1	7.16	7.16	3.21	1.03	0.17	3.16



Stellar Parameters For KIC 006421759

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7171^{+171}_{-235}	$3.335^{+0.424}_{-0.053}$	$-0.500^{+0.350}_{-0.300}$	$5.114^{+1.061}_{-2.475}$	$2.063^{+0.055}_{-0.519}$	$0.022^{+0.090}_{-0.006}$
	+2%/-3%	+13%/-2%	+70%/-60%	+21%/-48%	+3%/-25%	+415%/-27%
Source	PHO1	FLK73	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 006421759-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-0 ± 2	$3.02^{+0.60}_{-0.70}$	3923^{+296}_{-434}	-3445^{+6524}_{-535}	$0.080^{+0.349}_{-0.327}$
Alt.	-12 ± 2	$4.83^{+0.90}_{-1.04}$	3932^{+293}_{-437}	4011^{+243}_{-255}	$0.844^{+0.485}_{-0.236}$

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 $A_{\text{obs}} \gg 1.0$

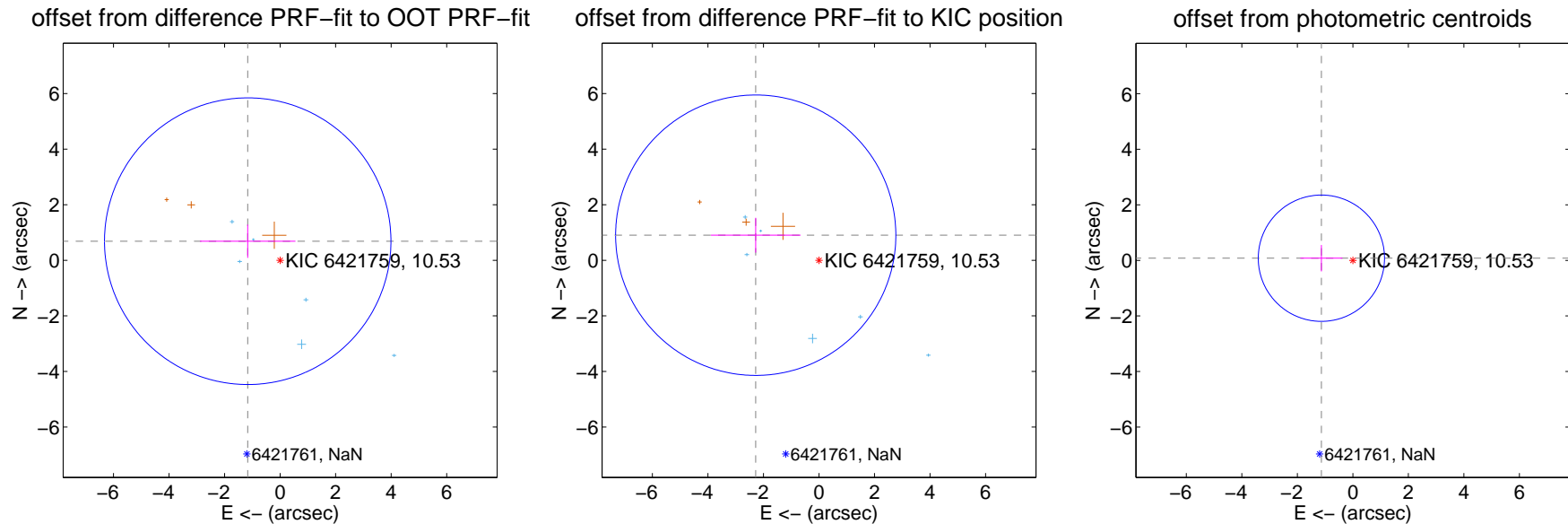
DV Centroid Data

Supplemental centroid analysis for 006421759-02. **Kepler magnitude: 10.53.** Transit SNR 7.90

There are 6 quarters with good PRF difference image offsets

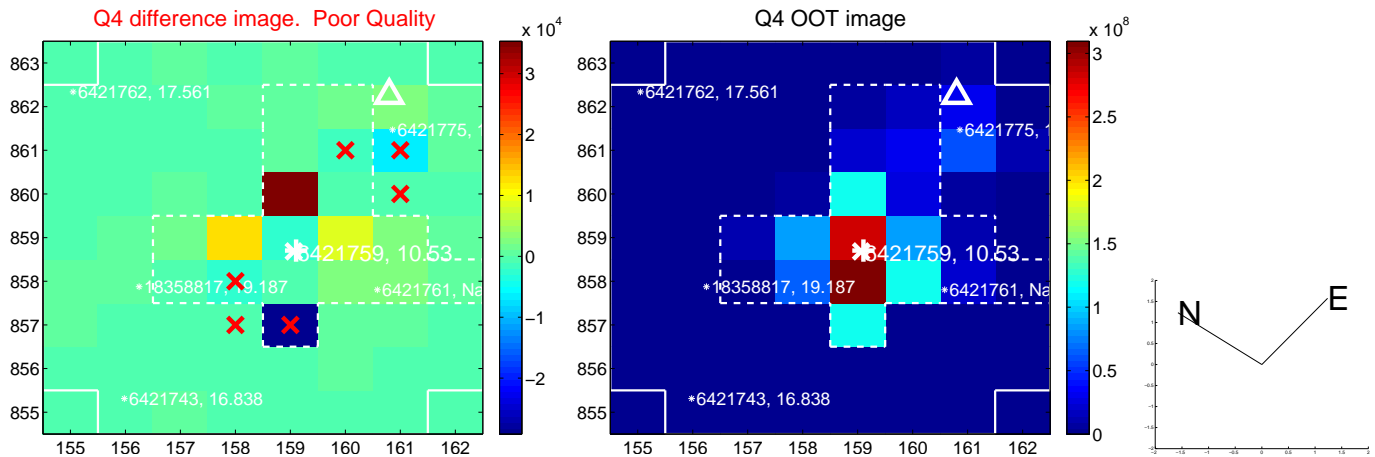
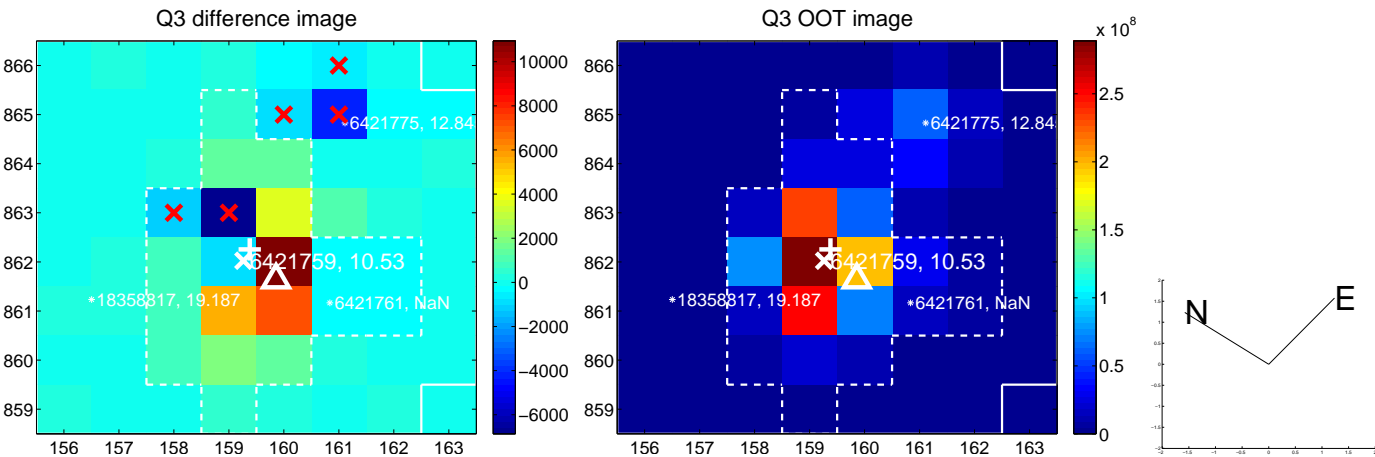
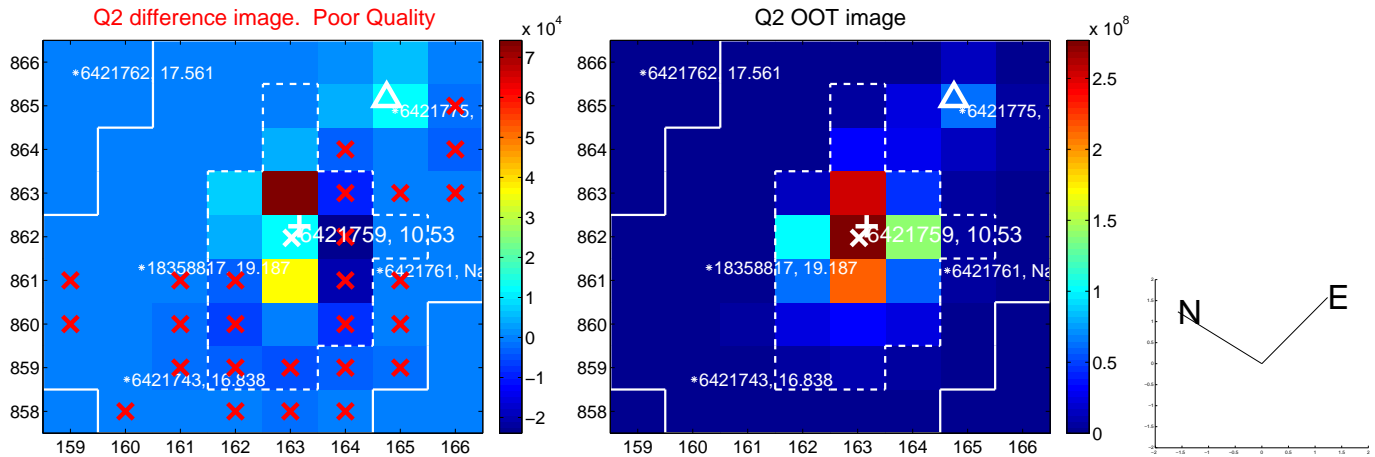
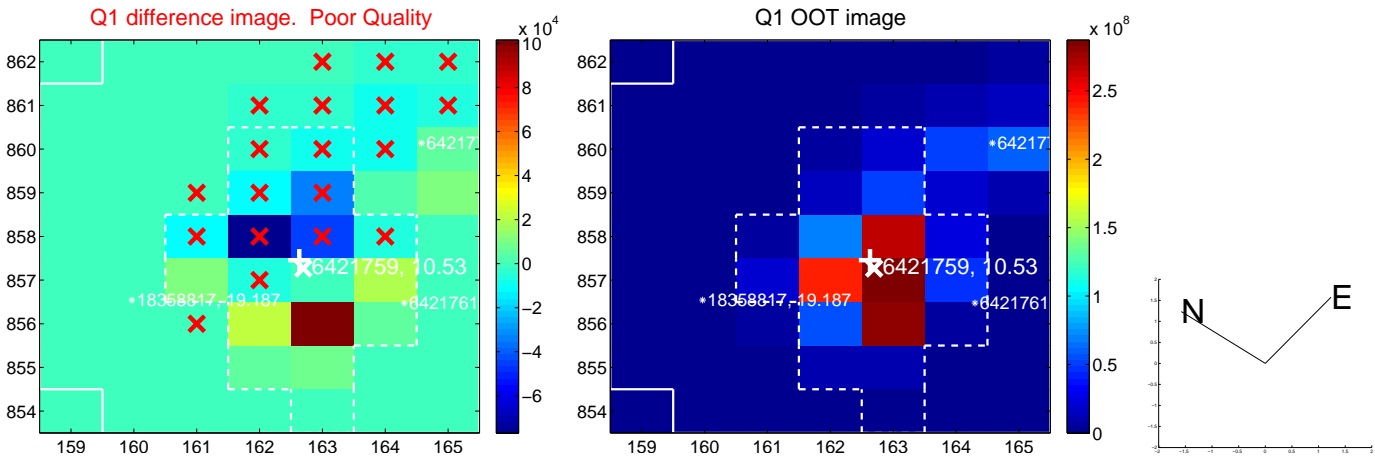
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.354 ± 1.719	0.79	1.166 ± 1.719	0.687 ± 0.599
PRF-fit source offset from KIC position	2.451 ± 1.682	1.46	2.278 ± 1.614	0.903 ± 0.627
photometric centroid source offset	1.14 ± 0.76	1.50	1.13 ± 0.76	0.08 ± 0.47

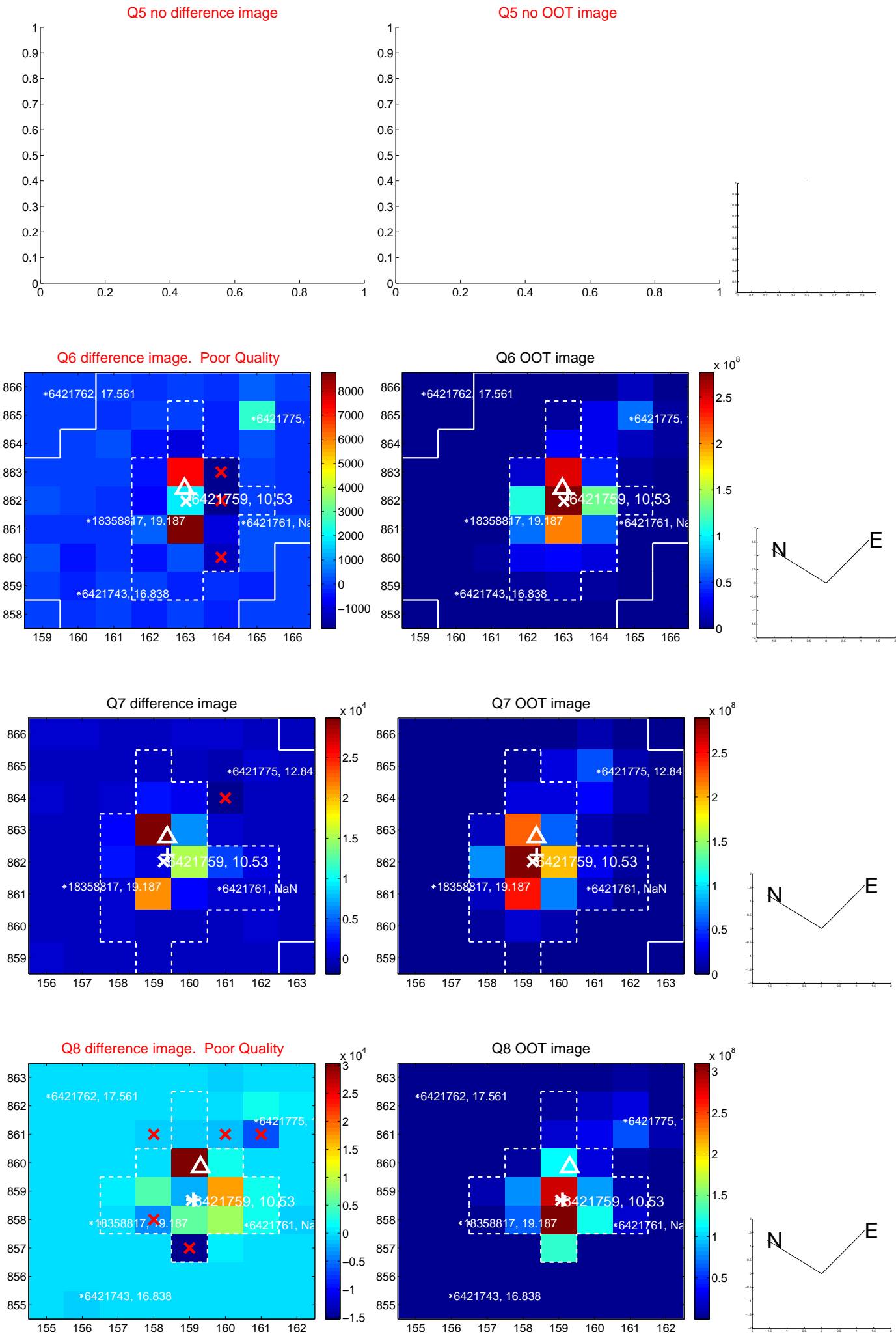


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

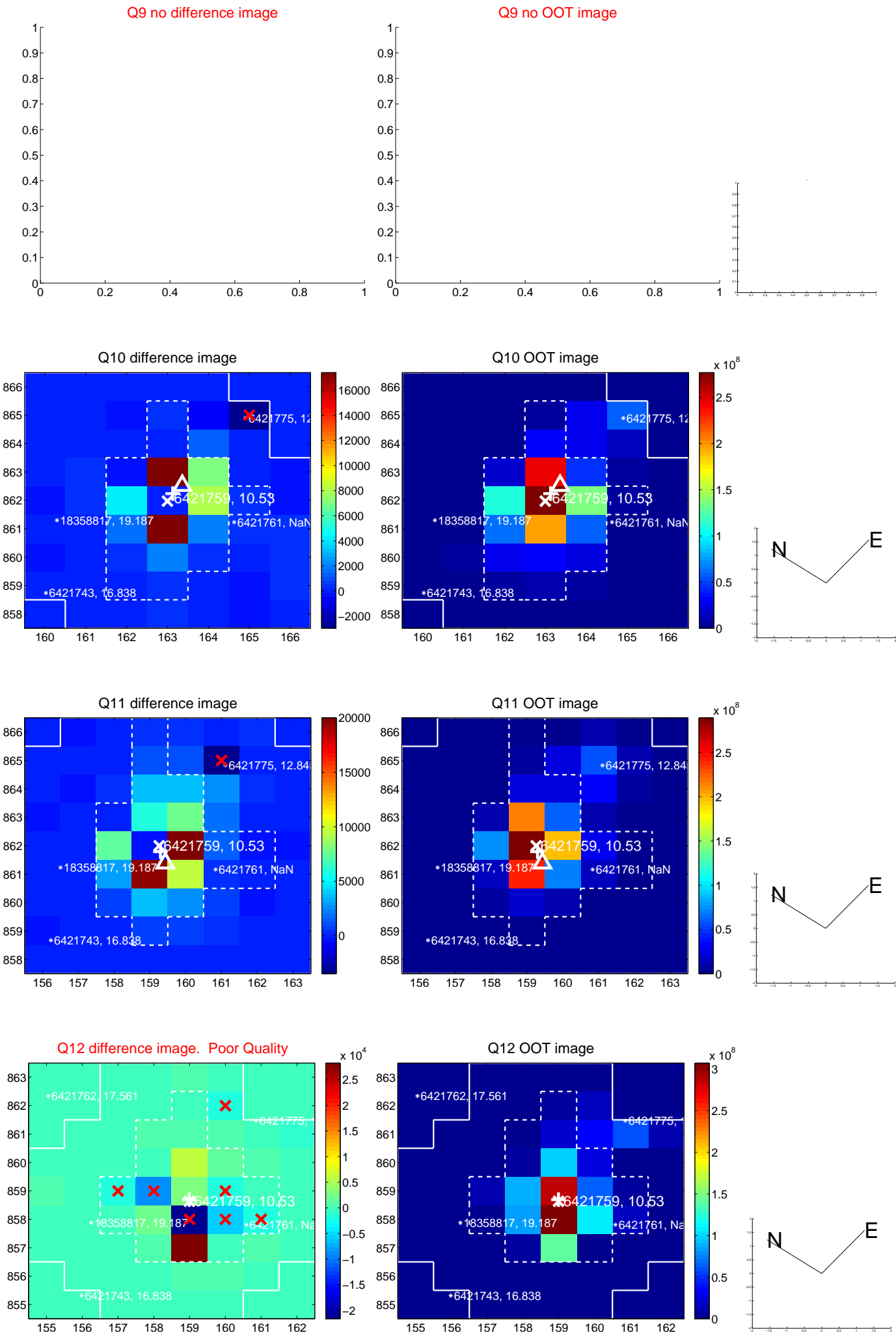
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



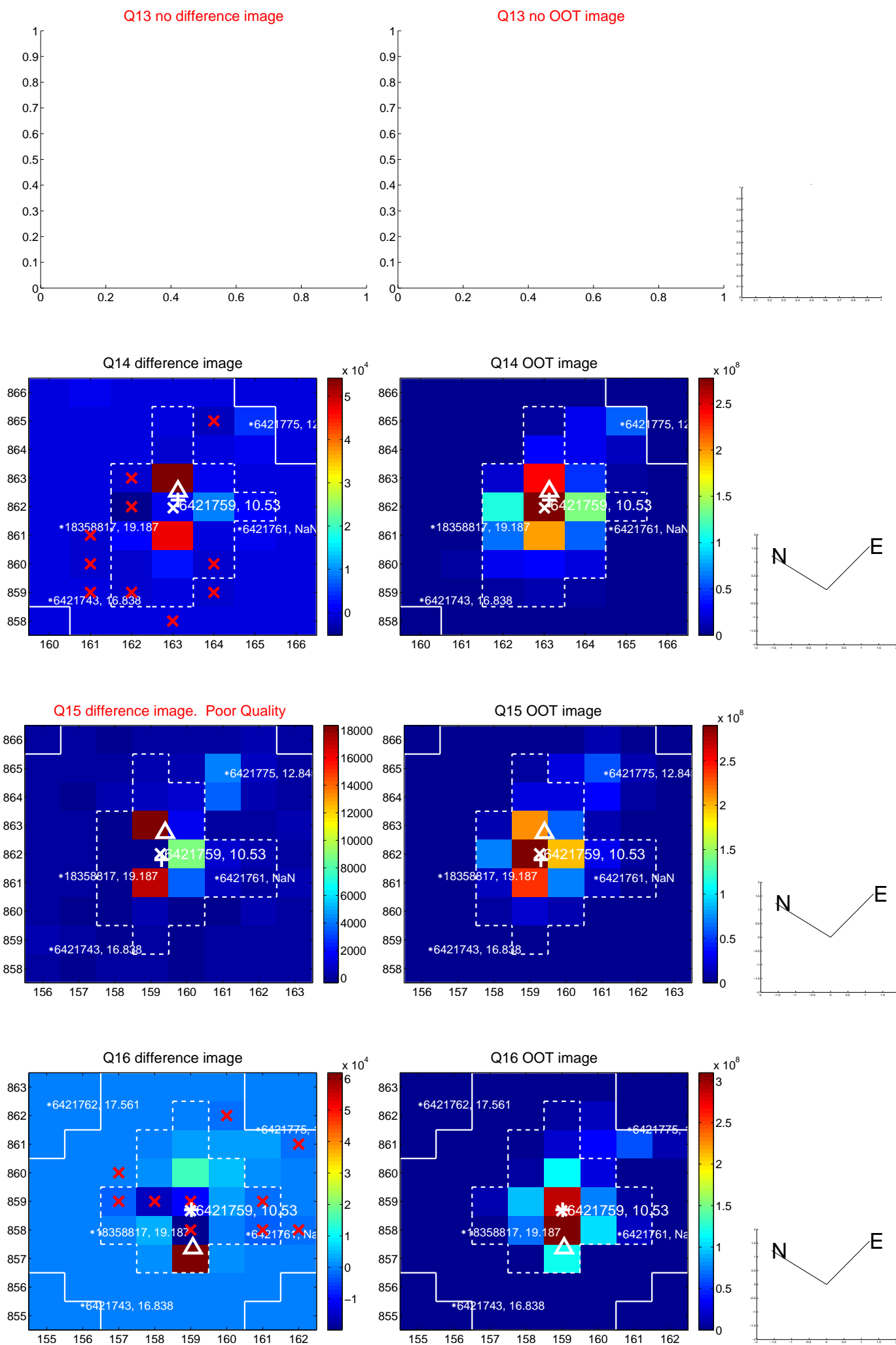
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



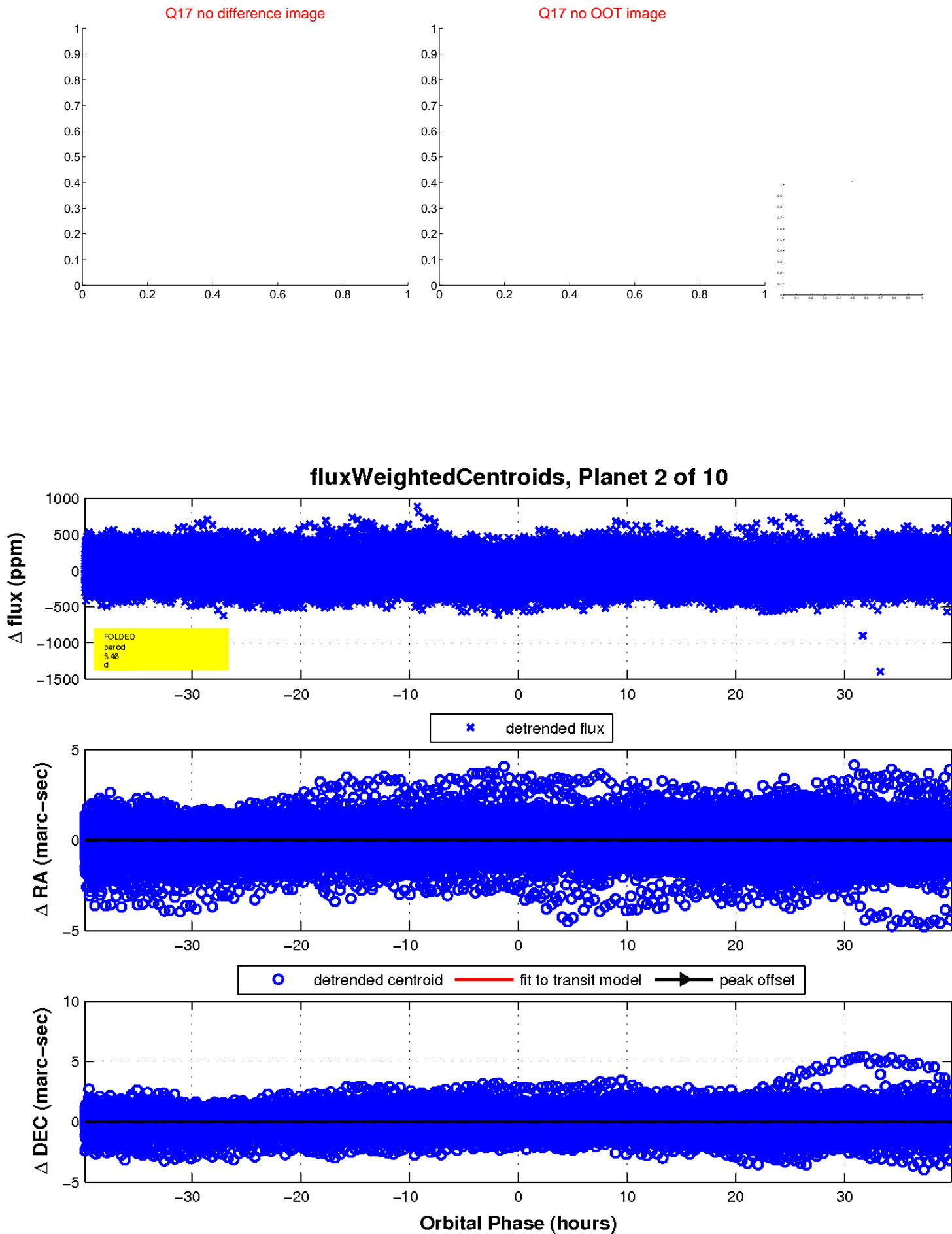
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



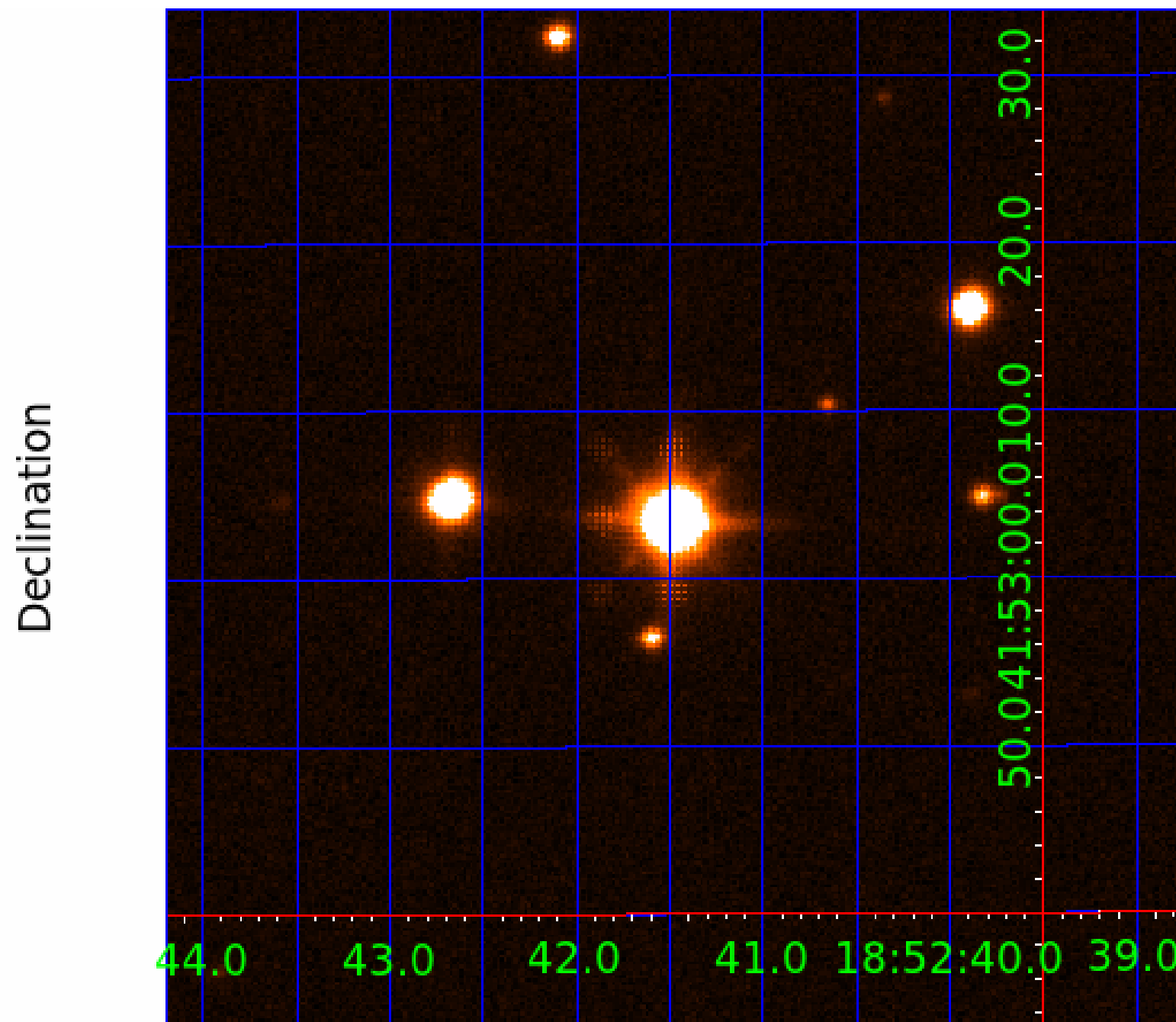
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006421759

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})
006421759-01	OBS	No	1.174548	131.976455	13.2	1.853	8.4	5.4	5.11	7171	1.89	80517.94
006421759-02	OBS	No	3.461164	131.928381	34.7	13.275	8.5	7.9	5.11	7171	3.51	19058.59
006421759-03	OBS	No	3.461214	133.627859	38.3	12.303	10.1	11.3	5.11	7171	3.68	19058.22
006421759-05	OBS	No	29.644193	152.310432	241.2	4.575	11.1	10.3	5.11	7171	9.13	1087.60
006421759-06	OBS	No	15.347249	142.020655	85.4	3.500	9.6	-1.0	5.11	7171	4.78	2616.25
006421759-07	OBS	No	21.876376	134.462209	199.8	3.676	9.5	8.5	5.11	7171	8.39	1630.87
006421759-08	OBS	No	11.519251	134.137520	175.7	3.377	9.0	9.6	5.11	7171	7.87	3835.49
006421759-09	OBS	No	24.991356	144.794029	203.1	4.532	8.6	7.7	5.11	7171	14.15	1365.63
006421759-10	OBS	No	32.859842	160.763969	152.6	3.170	7.2	7.6	5.11	7171	7.33	948.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006421759-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006421759-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
006421759-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

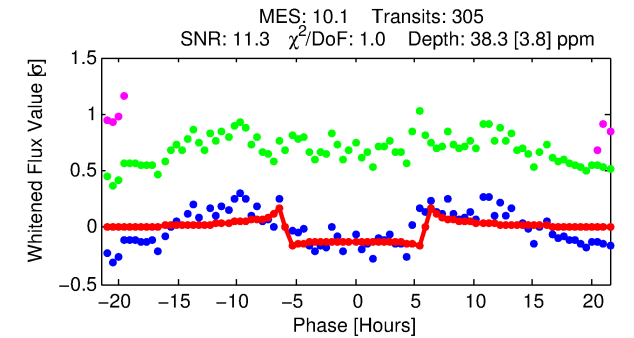
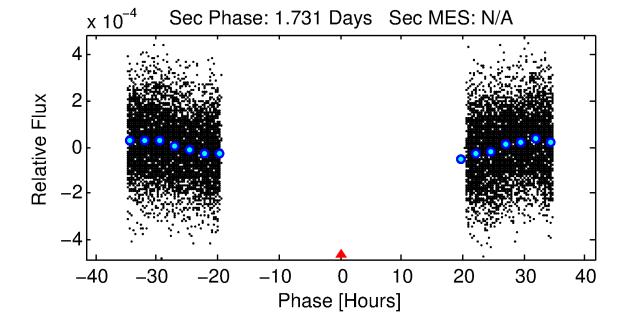
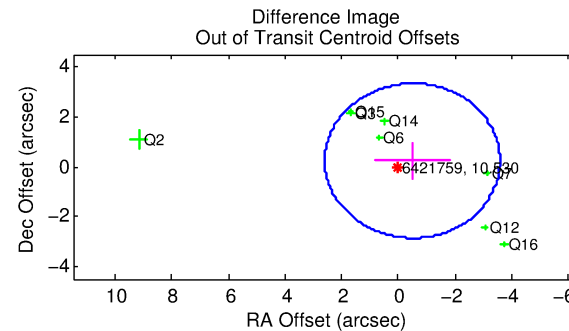
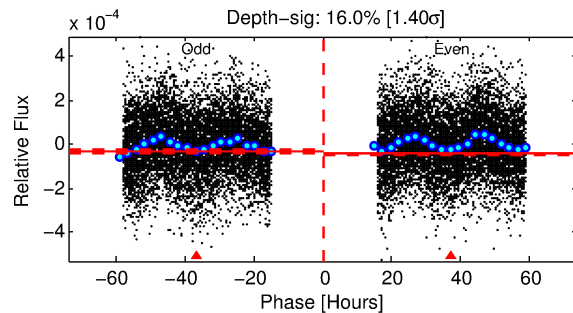
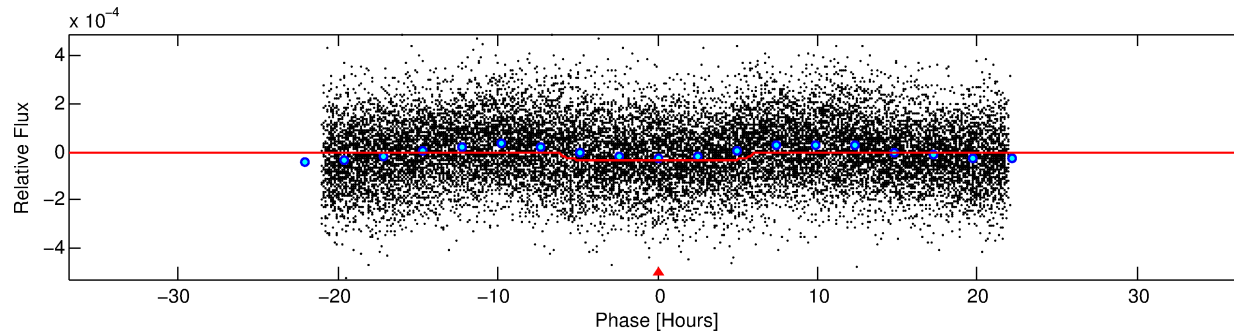
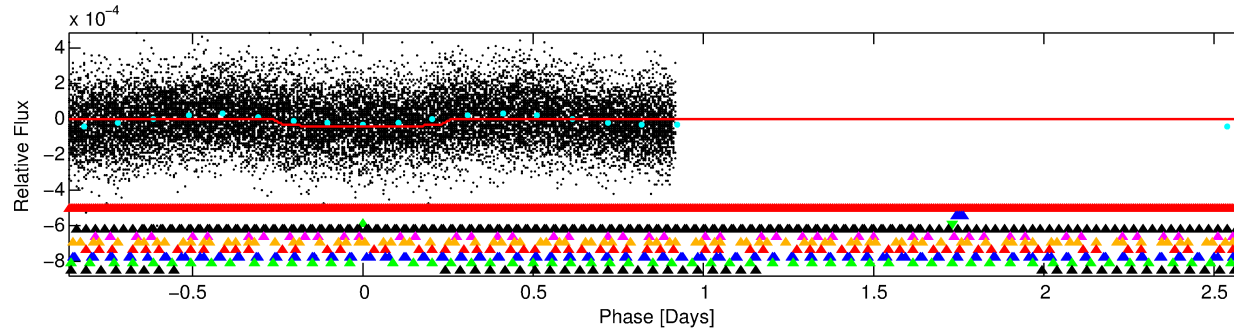
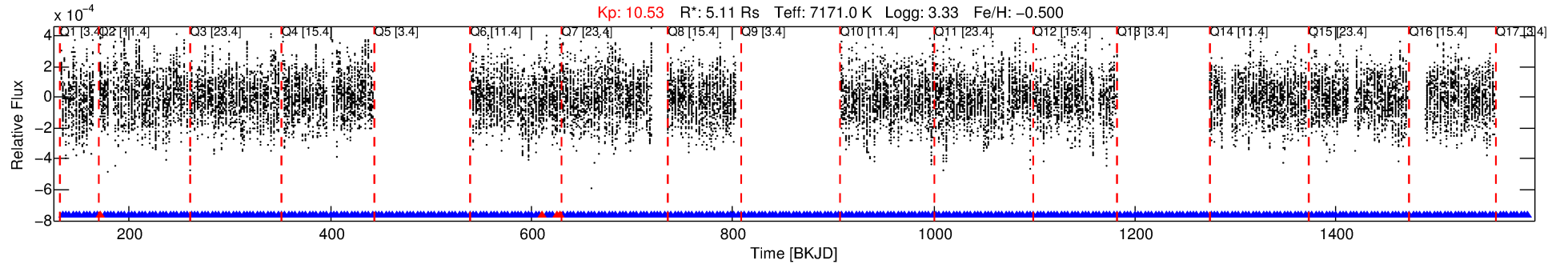
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006421759-03

No Significant Match Found

DV One-Page Summary

KIC: 6421759 Candidate: 3 of 10 Period: 3.461 d



DV Fit Results:

Period = 3.46121 [0.00002] d
Epoch = 133.6279 [0.0039] BKJD
Rp/R* = 0.0066 [0.0005]
a/R* = 1.34 [0.21]
b = 0.90 [0.07]
Seff = 19058.22 [14068.35]
Teq = 2996 [553] K
Rp = 3.68 [1.80] Re
a = 0.0570 [0.0261] AU

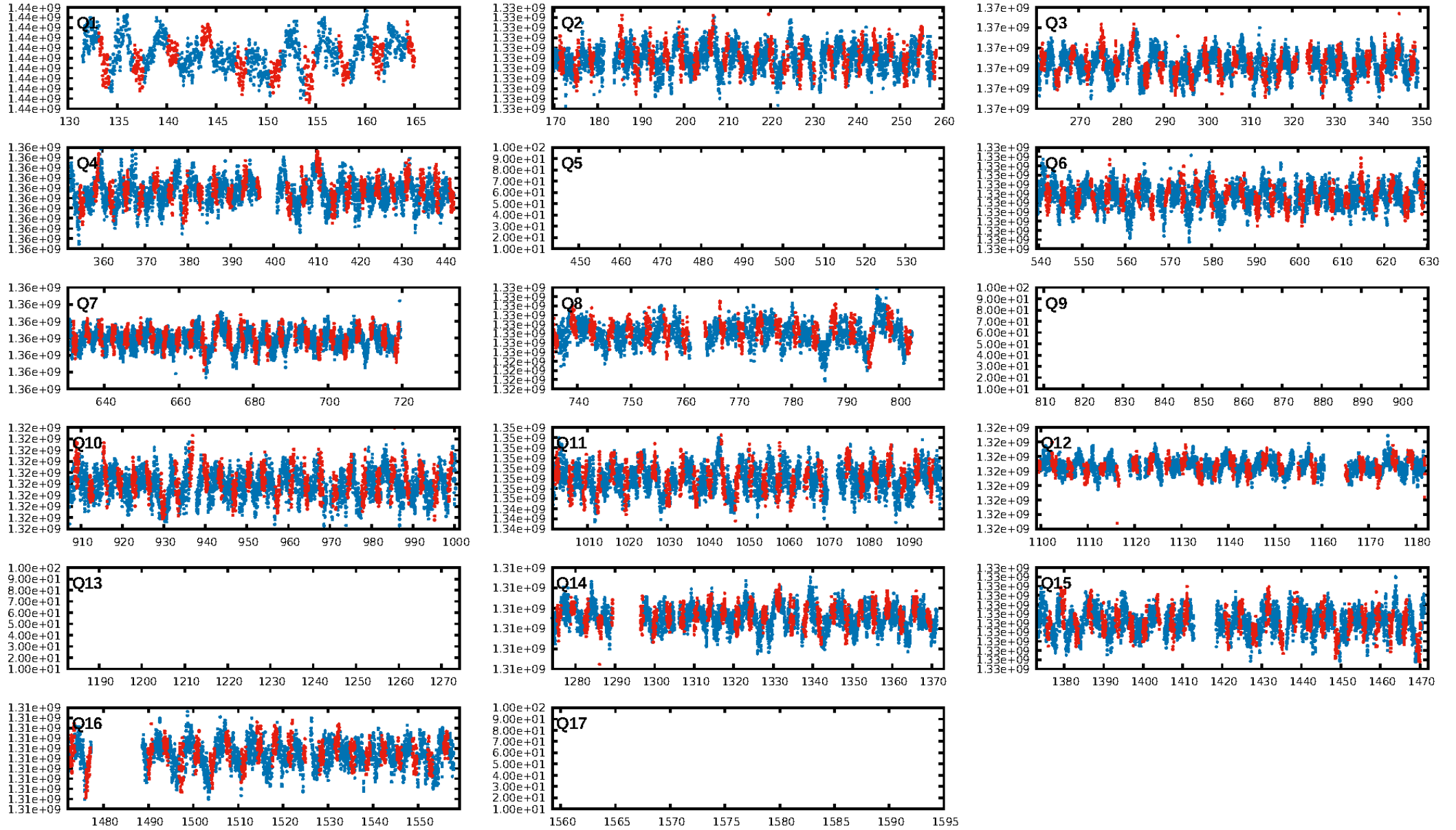
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [6.74 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [291/295]
GhostDiagnostic-chr: 2.484
Centroid-sig: 80.5%
Centroid-so: 0.391 arcsec [0.60 σ]
OotOffset-rm: 0.555 arcsec [0.54 σ]
KicOffset-rm: 0.520 arcsec [0.33 σ]
OotOffset-st: 3/3/2/0 [8]
KicOffset-st: 3/3/2/0 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 0.00 [0/13]

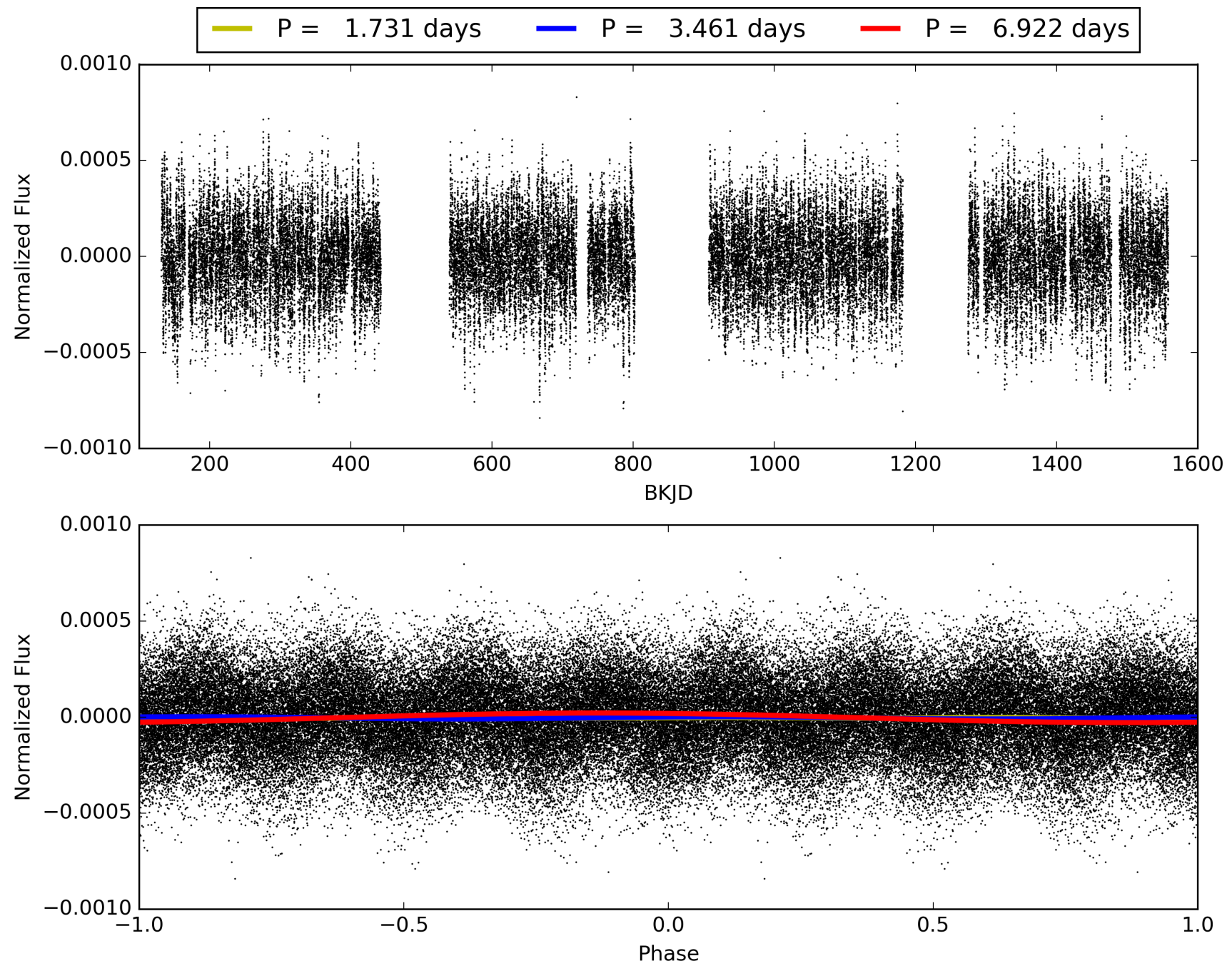
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:25:09 Z

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

TCE 006421759-03, PDC Light Curves

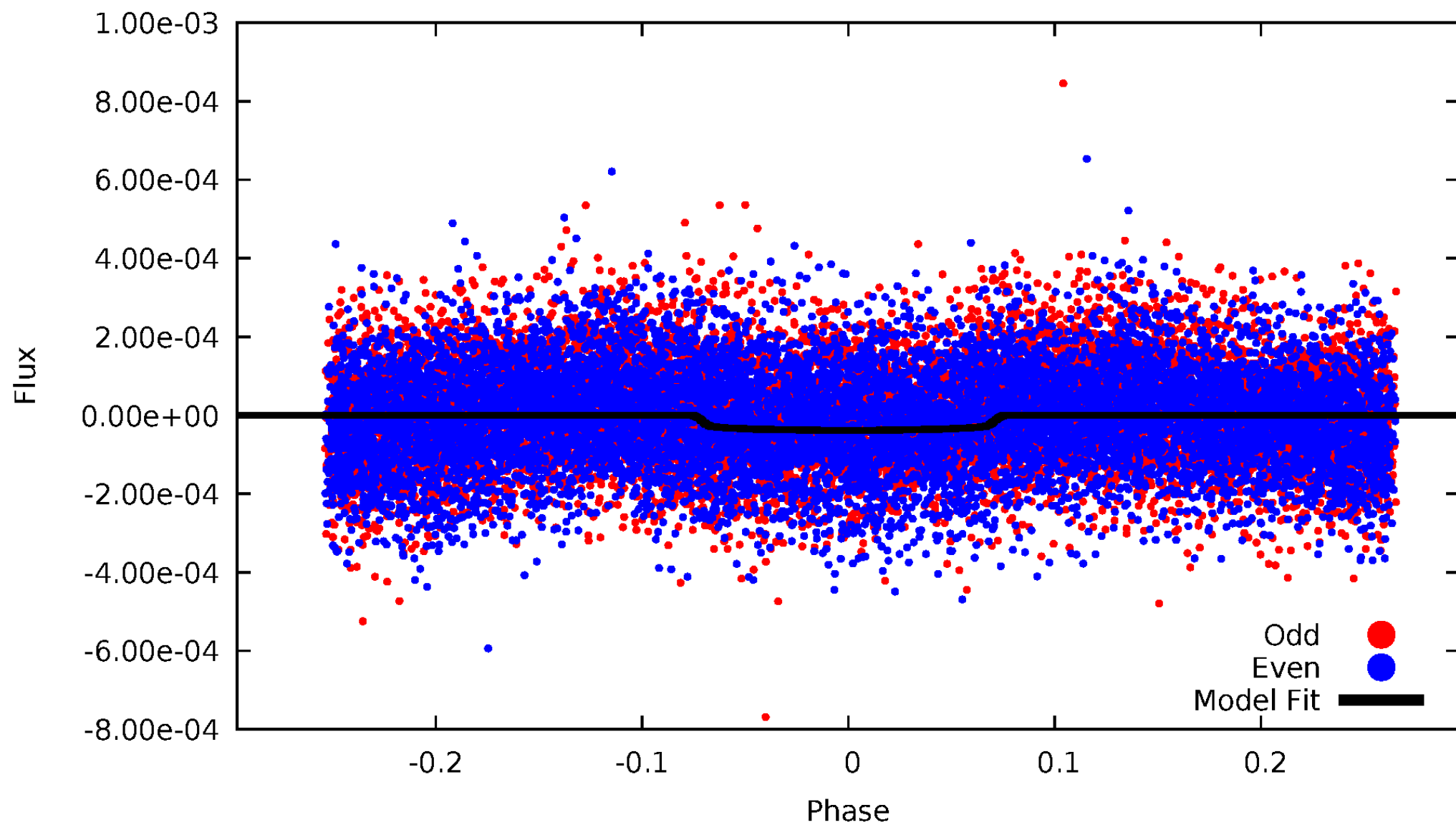


TCE 006421759-03



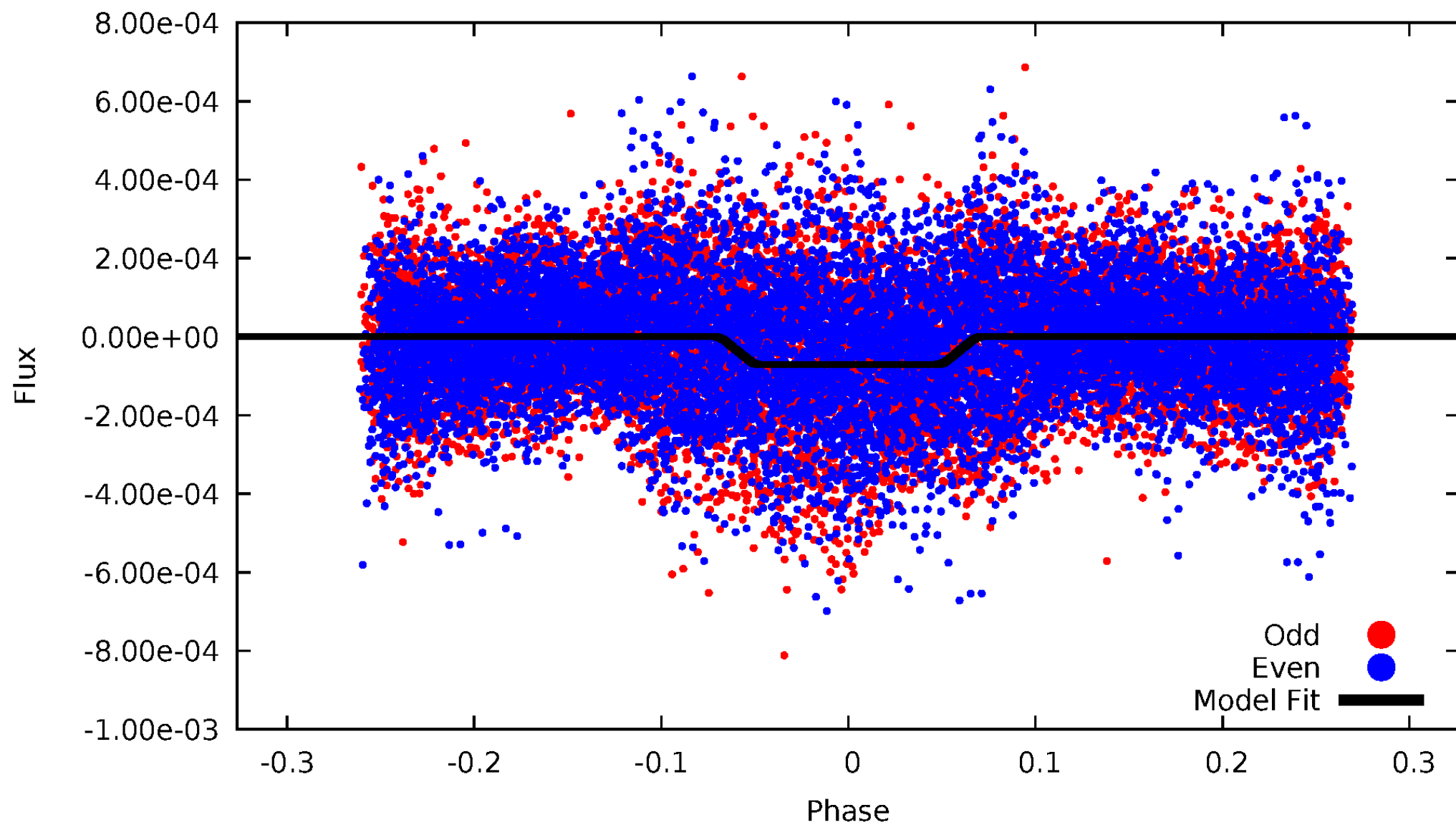
DV Odd/Even

TCE 006421759-03



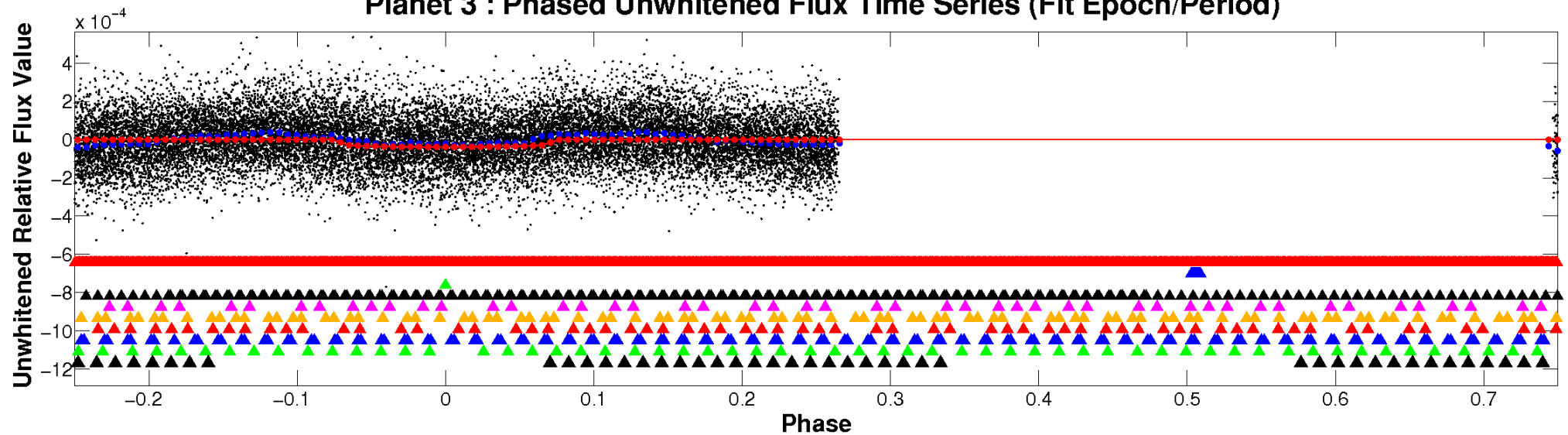
ALT Odd/Even

TCE 006421759-03

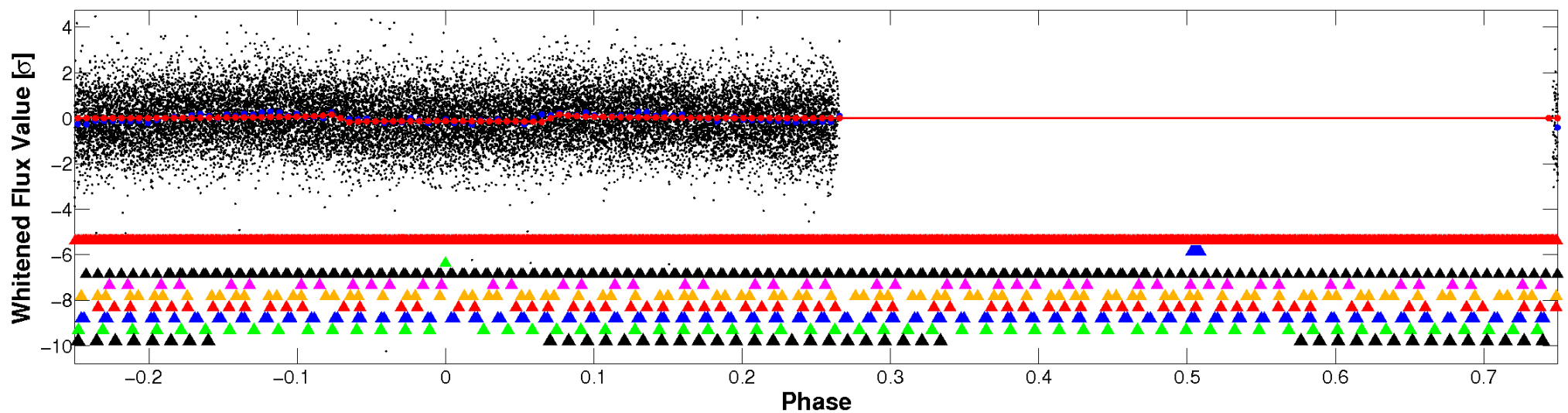


Non-Whitened Vs. Whitened Light Curve

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

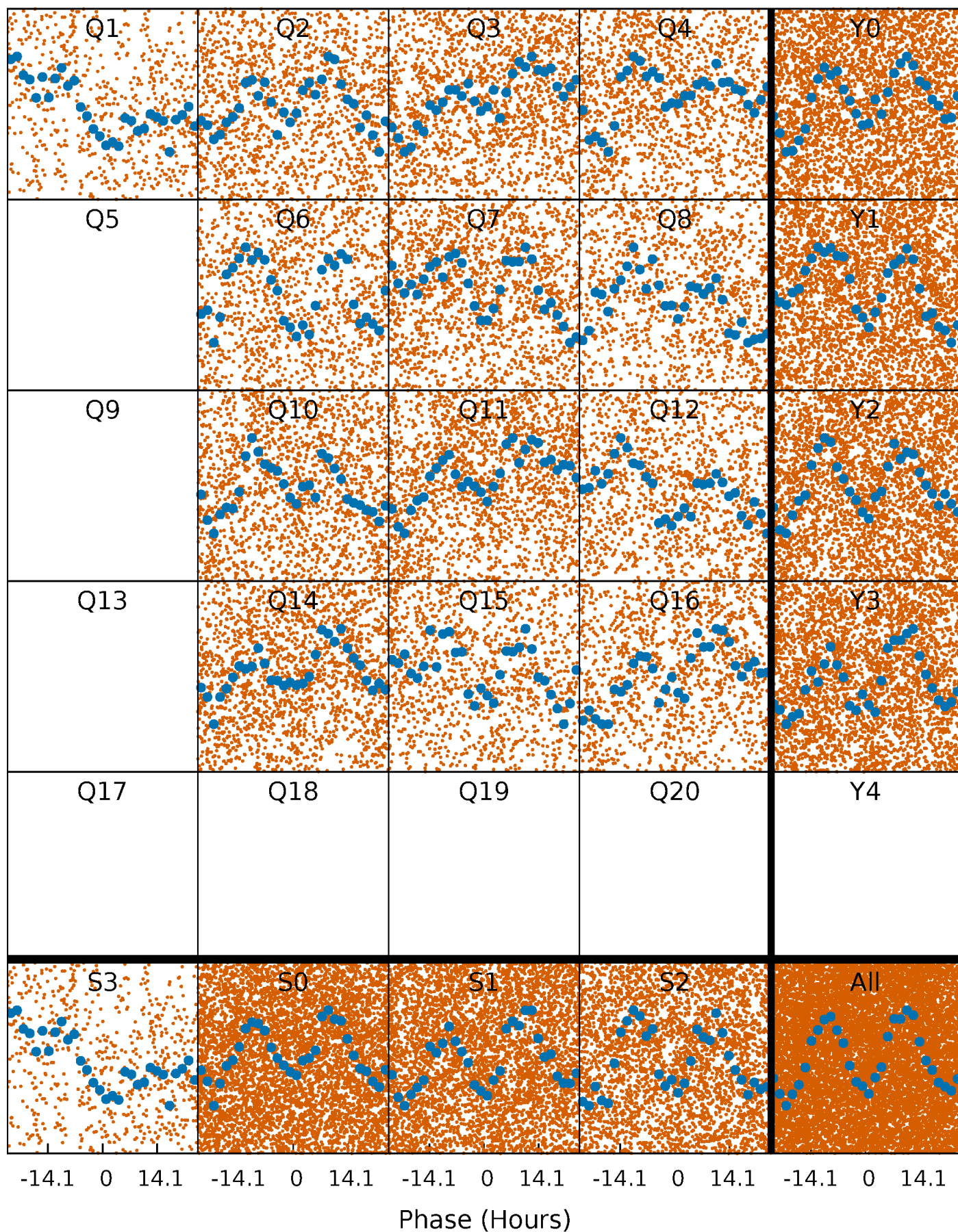


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



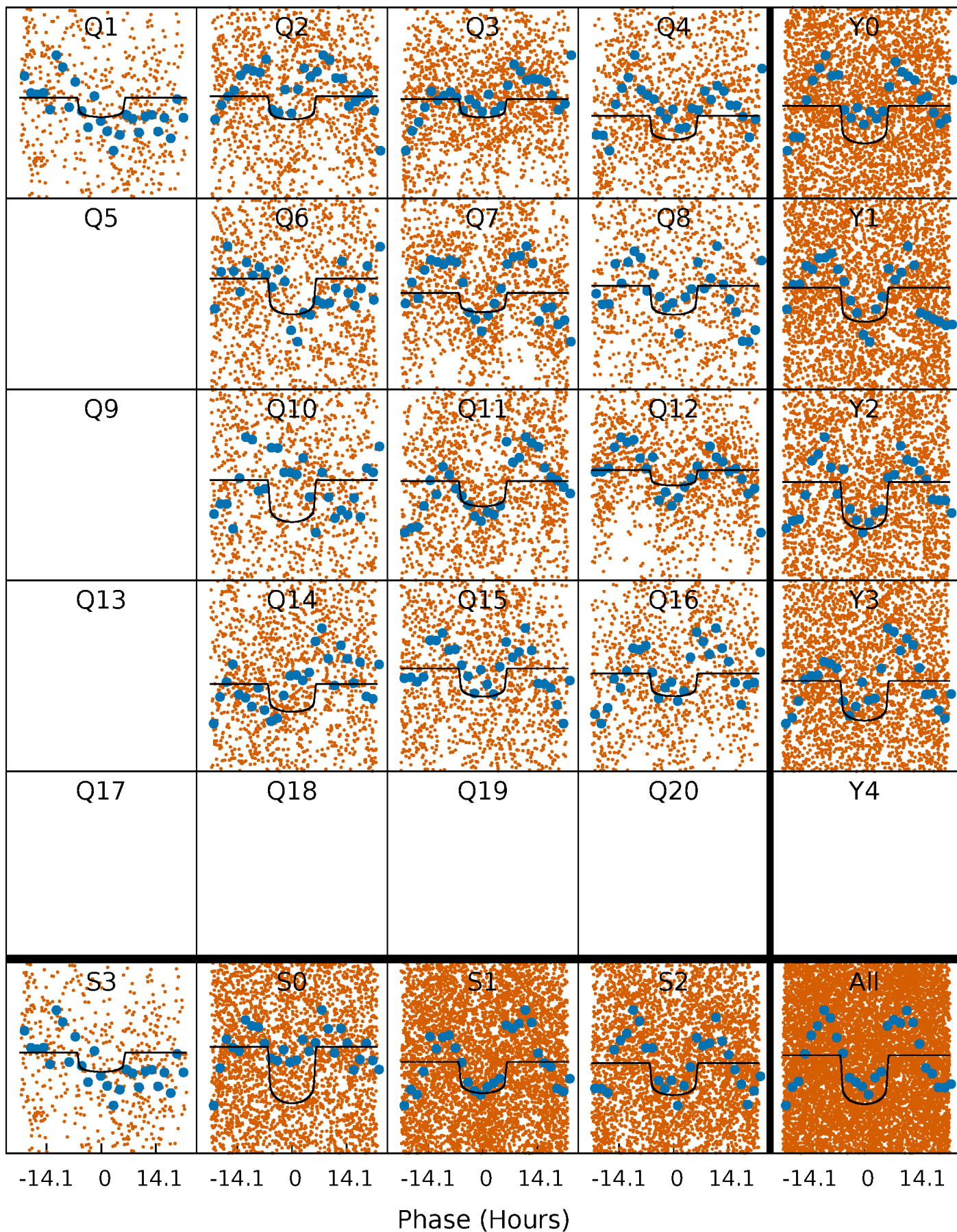
PDC Quarter-Phased Transit Curves

TCE 006421759-03 P= 3.461214 Days $T_0=133.627859$ (BKJD)



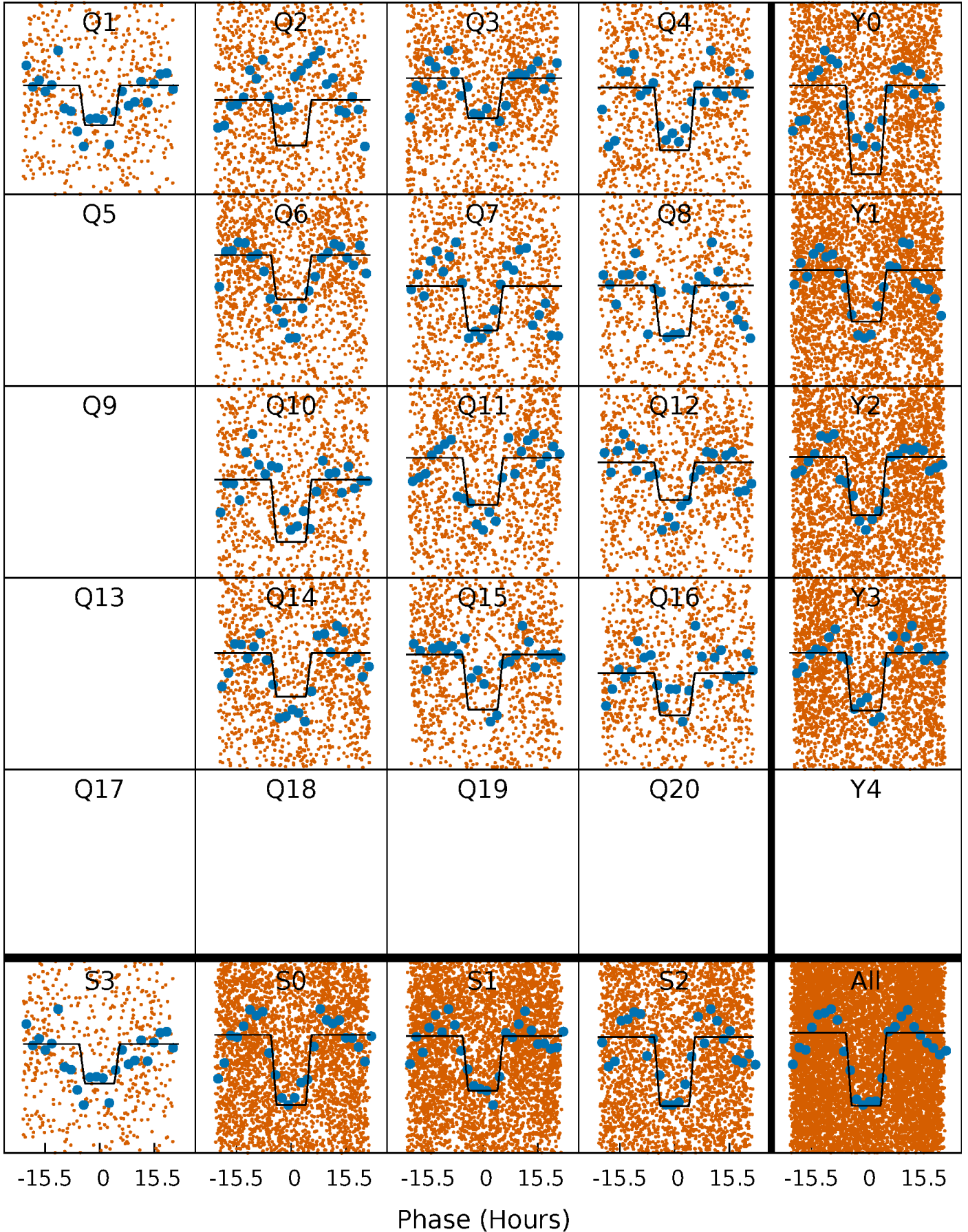
DV Quarter-Phased Transit Curves

TCE 006421759-03 P= 3.461214 Days $T_0=133.627859$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

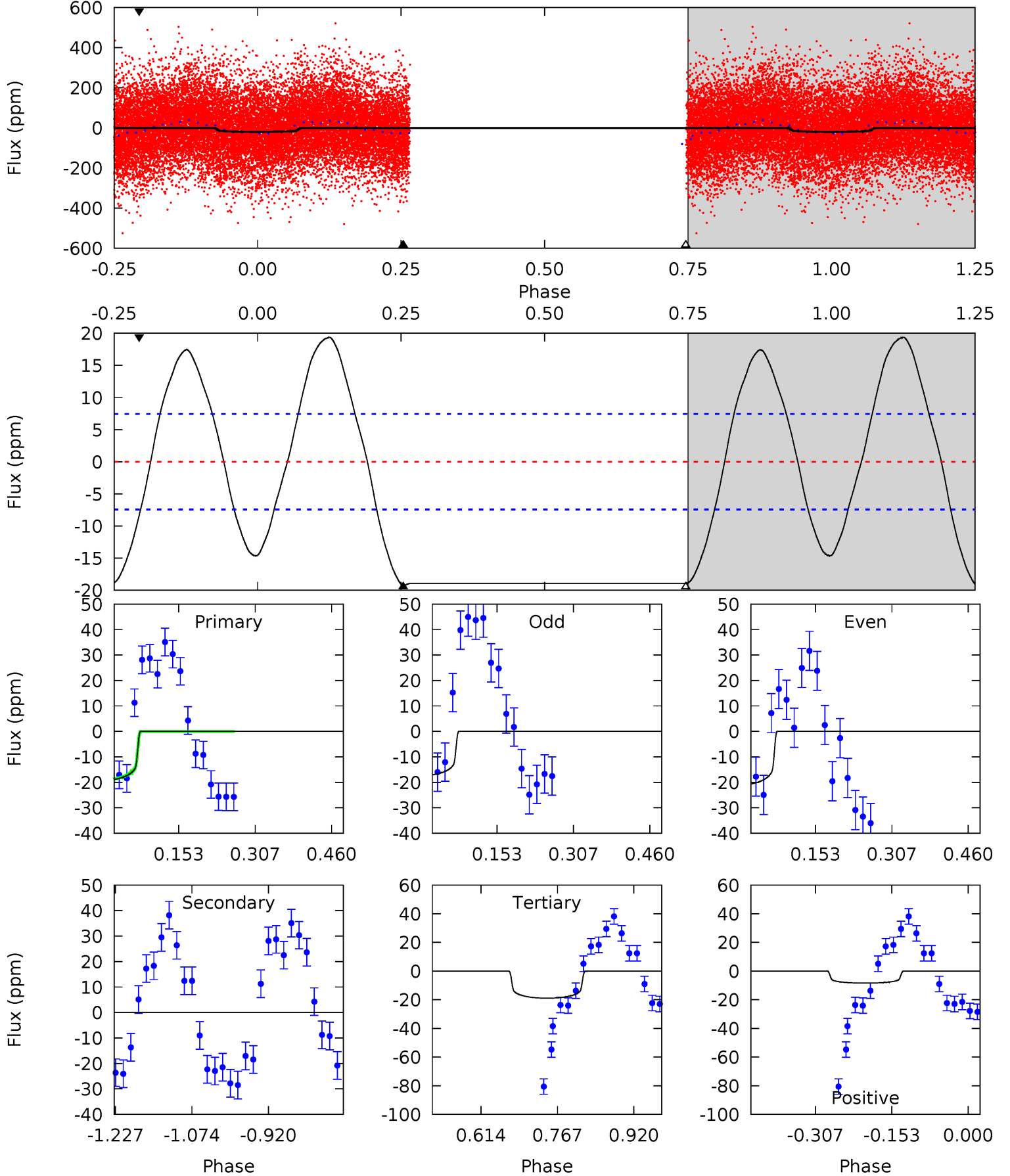
TCE 006421759-03 P= 3.461018 Days $T_0=133.673320$ (BKJD)



DV Model-Shift Uniqueness Test

006421759-03, P = 3.461214 Days, E = 130.166645 Days

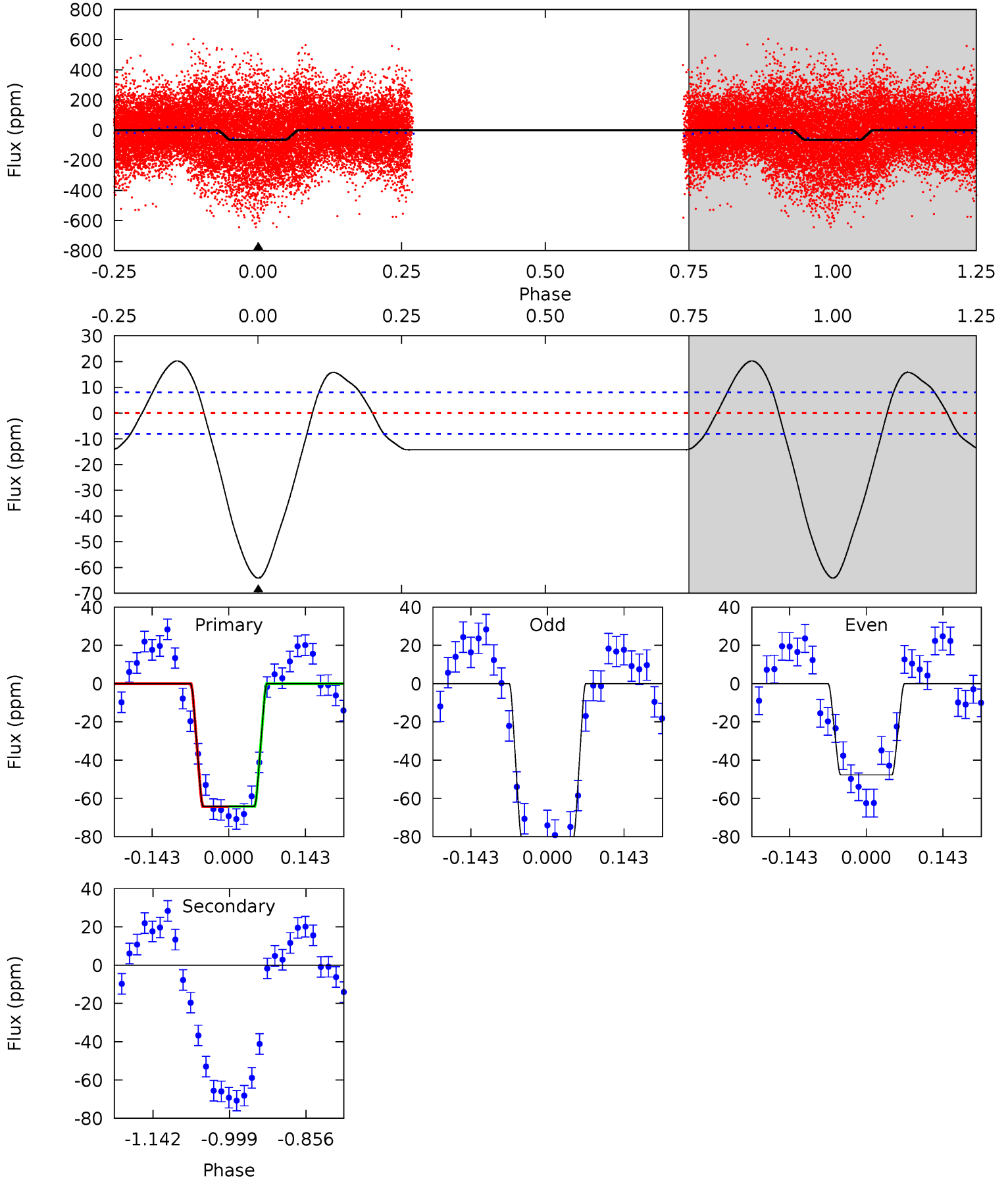
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	0	11.4	-5.04	4.47	1.43	6.85	0.17	16.6	-11.4	5.04	1.11	0.75	0.50	0.12



Alt Model-Shift Uniqueness Test

006421759-03, P = 3.461018 Days, E = 130.212302 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.6	0	0	0	4.49	1.47	6.10	35.6	35.6	0	0	9.28	1.06	0.24	0.02



Stellar Parameters For KIC 006421759

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7171^{+171}_{-235}	$3.335^{+0.424}_{-0.053}$	$-0.500^{+0.350}_{-0.300}$	$5.114^{+1.061}_{-2.475}$	$2.063^{+0.055}_{-0.519}$	$0.022^{+0.090}_{-0.006}$
	+2%/-3%	+13%/-2%	+70%/-60%	+21%/-48%	+3%/-25%	+415%/-27%
Source	PHO1	FLK73	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 006421759-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 2	$3.20^{+0.59}_{-0.72}$	3954^{+288}_{-420}	-3617^{+5650}_{-436}	$0.012^{+0.292}_{-0.297}$
Alt.	0 ± 2	$4.10^{+0.71}_{-0.92}$	3948^{+277}_{-447}	-3639^{+684}_{-325}	$0.006^{+0.202}_{-0.216}$

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 $A_{obs} \gg 1.0$

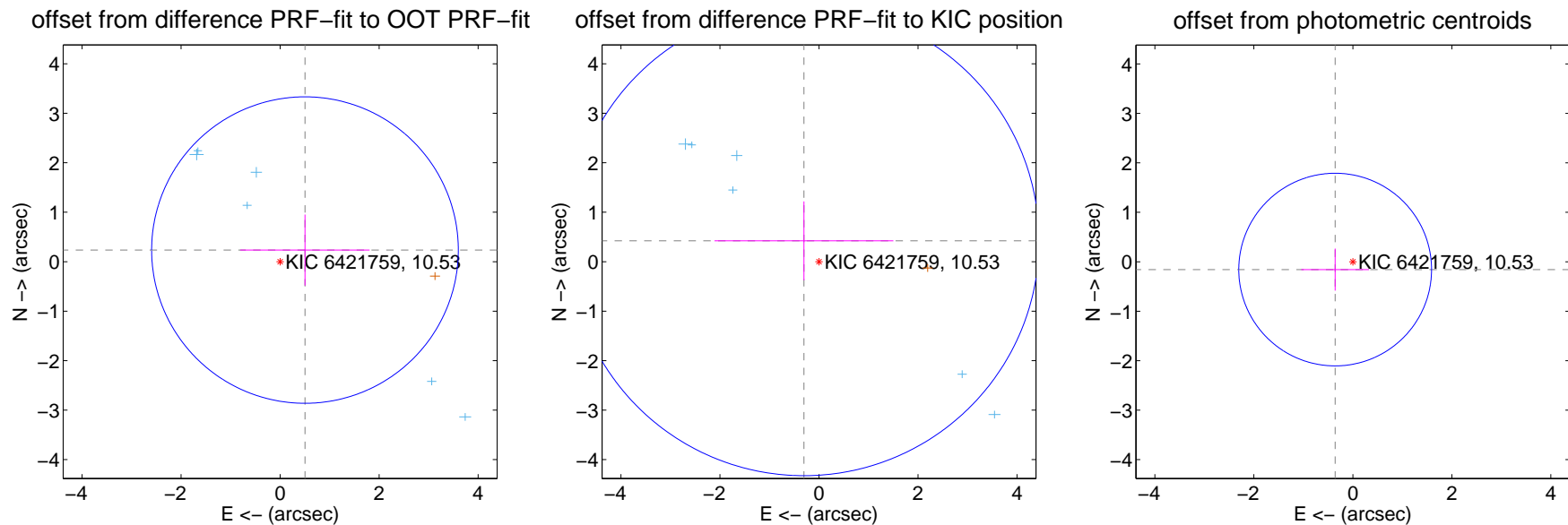
DV Centroid Data

Supplemental centroid analysis for 006421759-03. **Kepler magnitude: 10.53**. Transit SNR 11.31

There are 6 quarters with good PRF difference image offsets

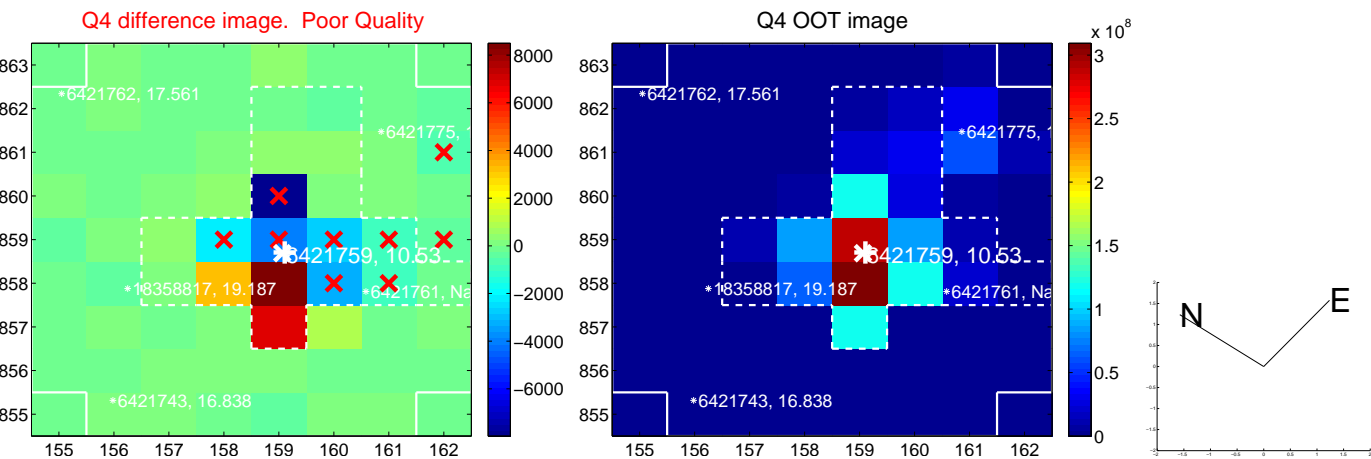
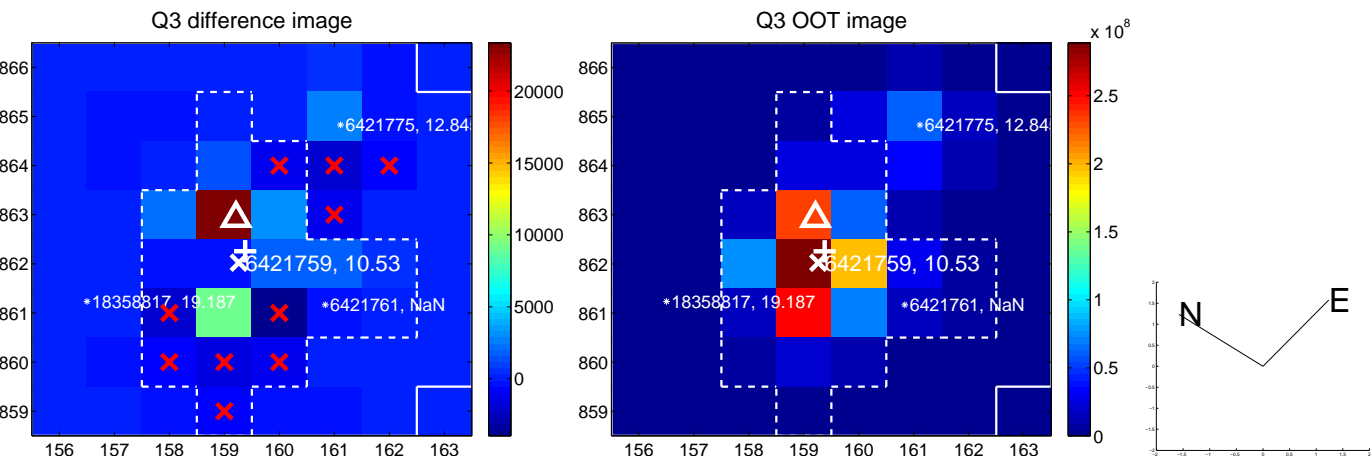
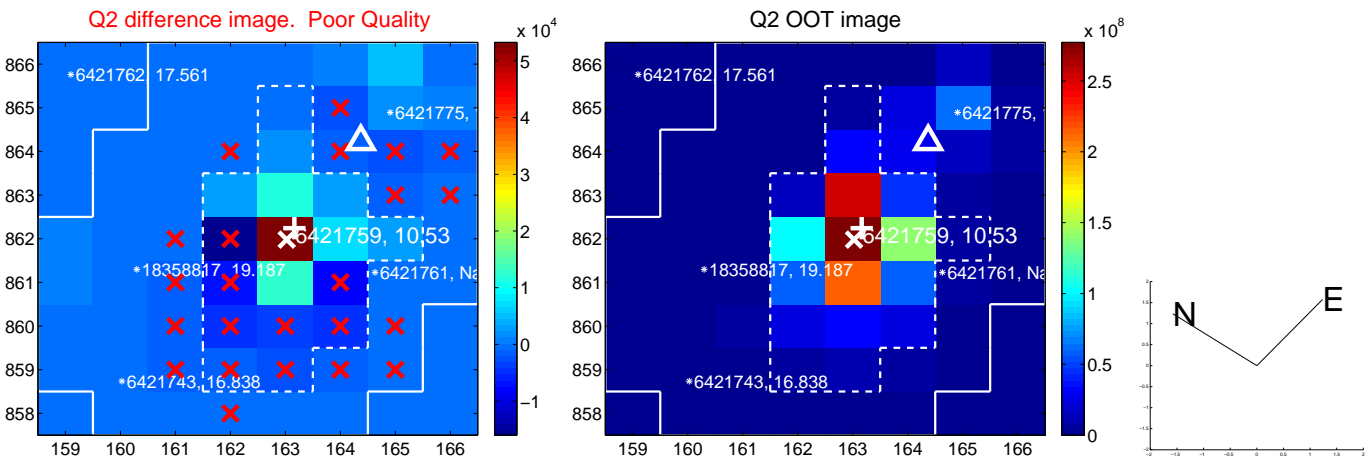
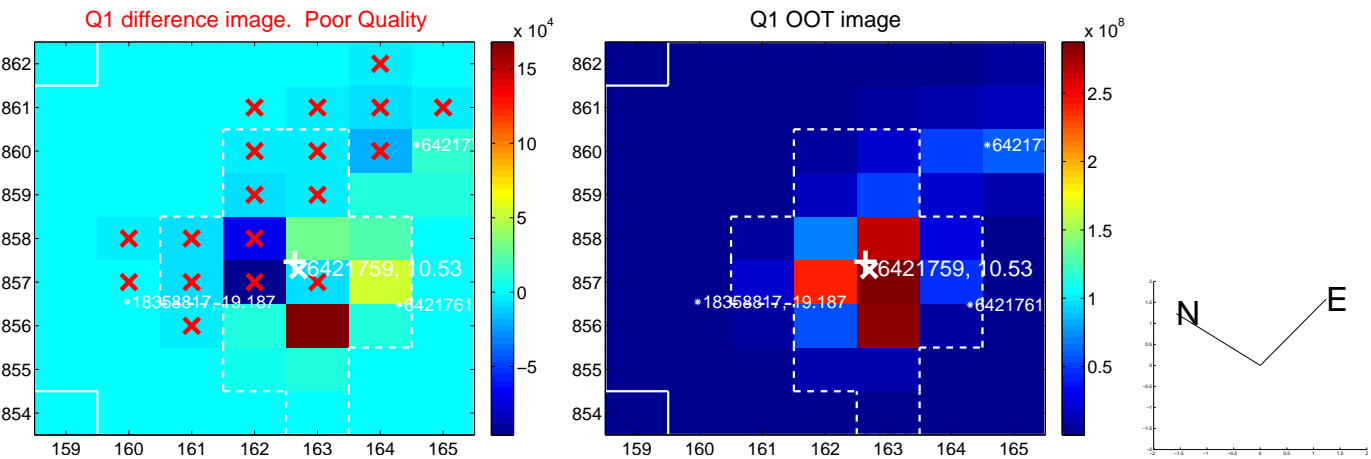
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.555 ± 1.033	0.54	-0.502 ± 1.305	0.235 ± 0.718
PRF-fit source offset from KIC position	0.520 ± 1.583	0.33	0.304 ± 1.808	0.422 ± 0.797
photometric centroid source offset	0.39 ± 0.65	0.60	0.36 ± 0.68	-0.16 ± 0.43

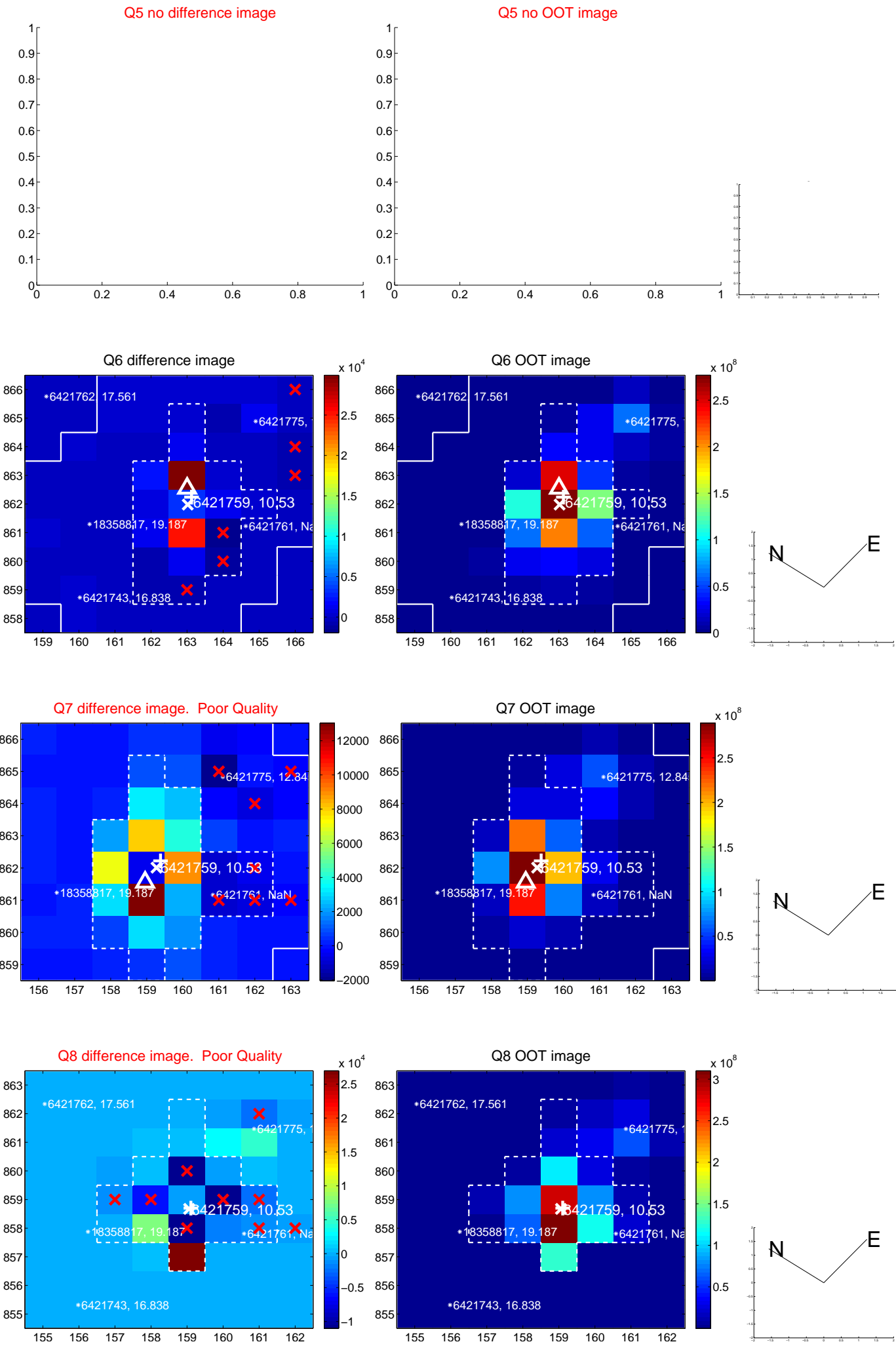


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

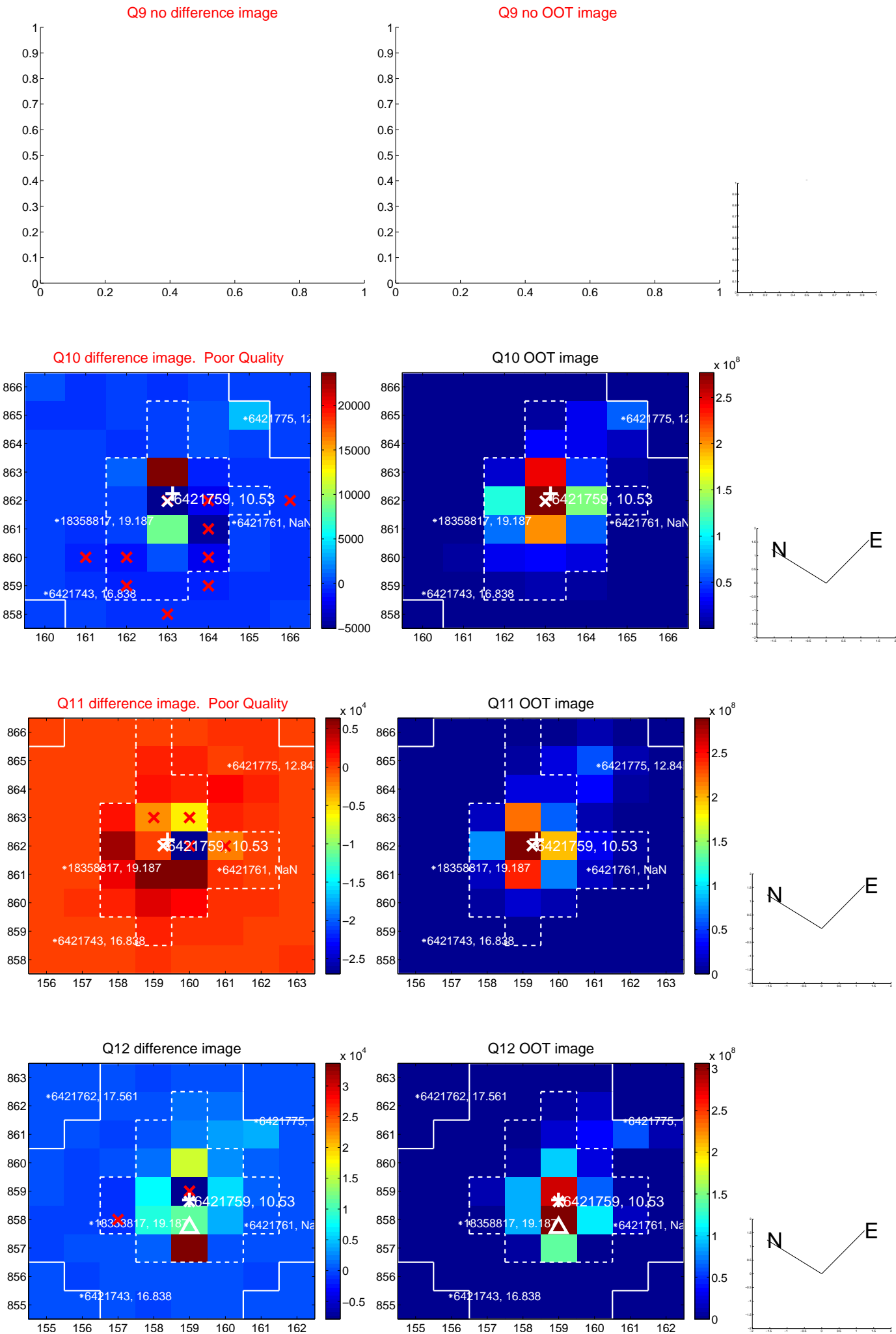
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



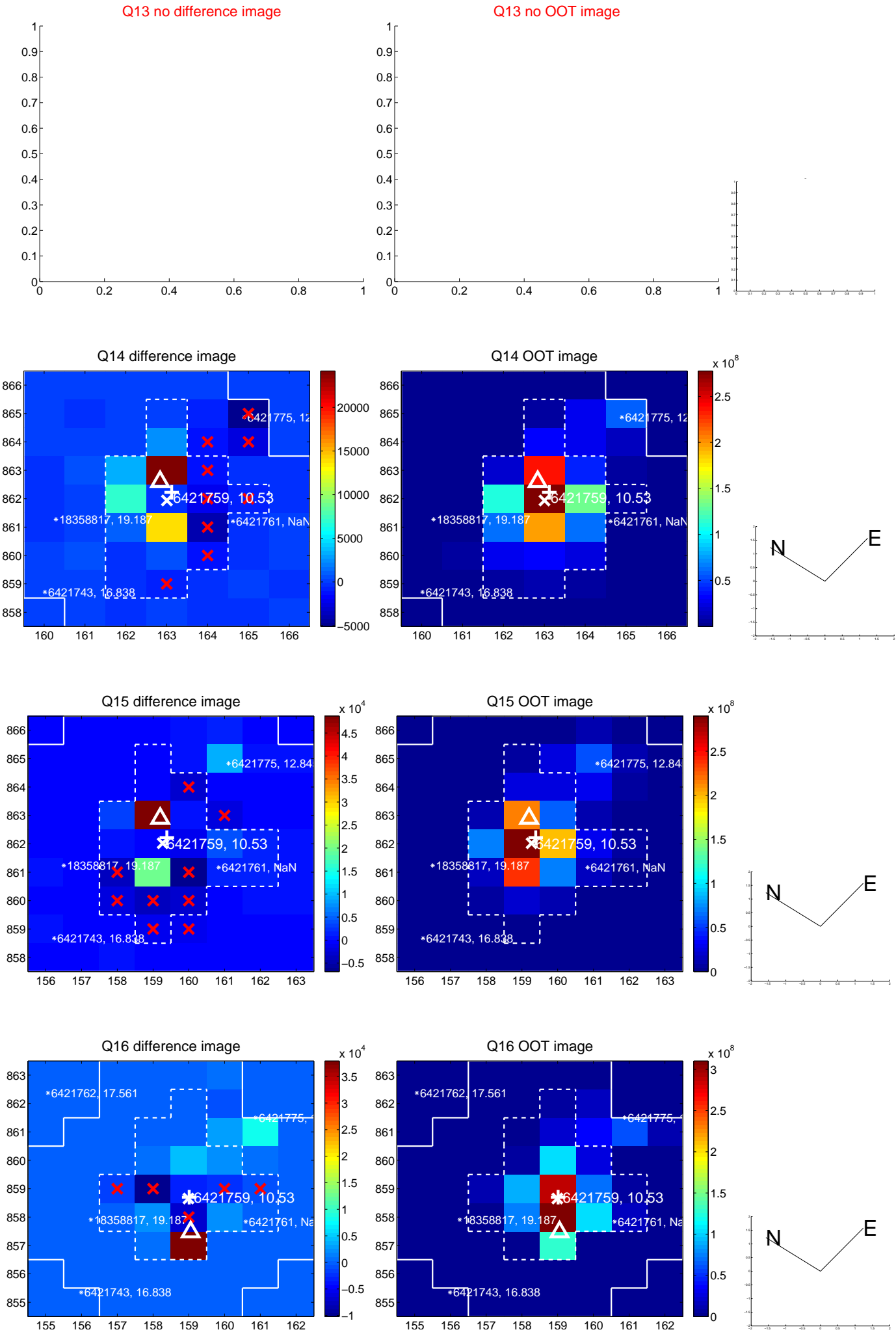
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



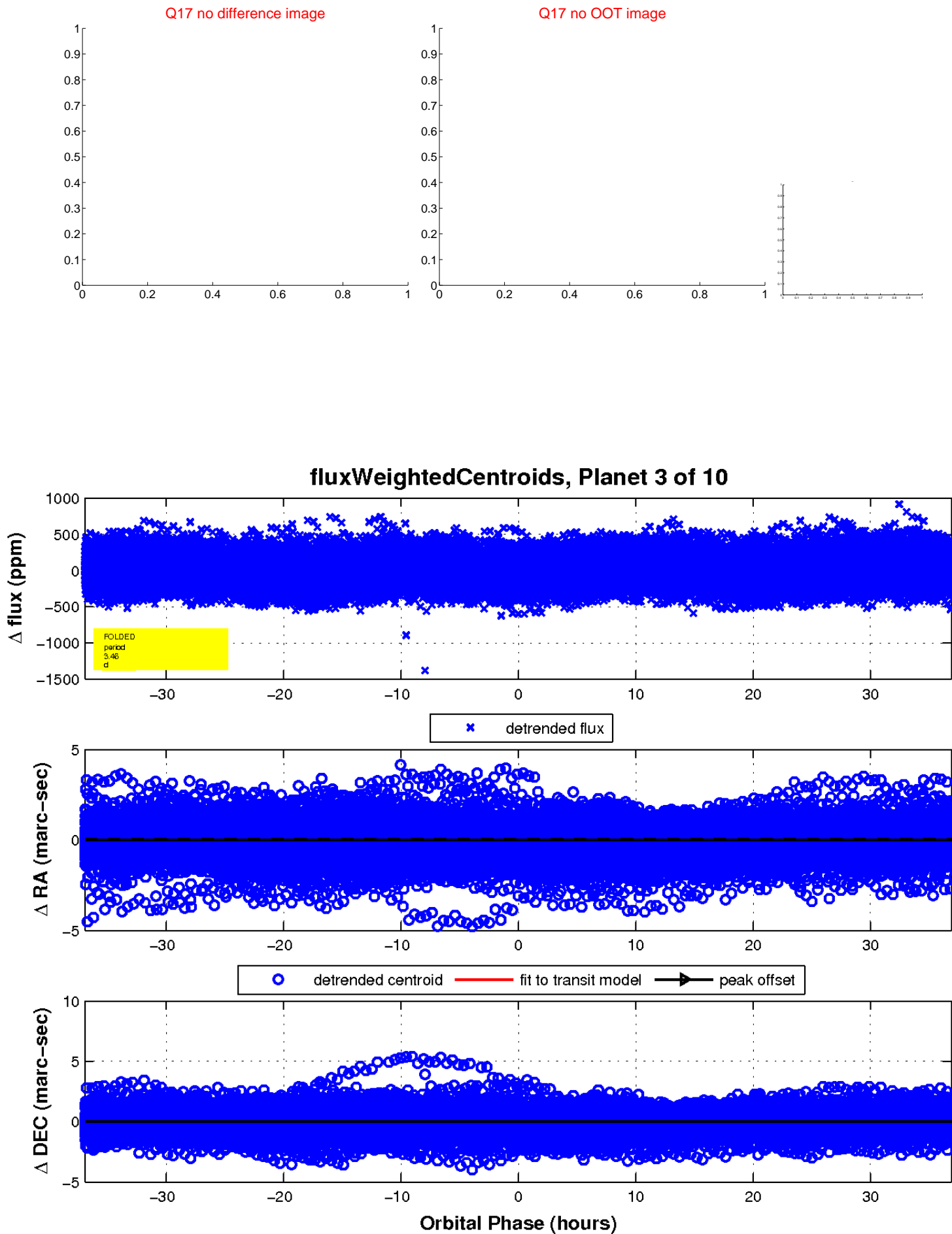
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



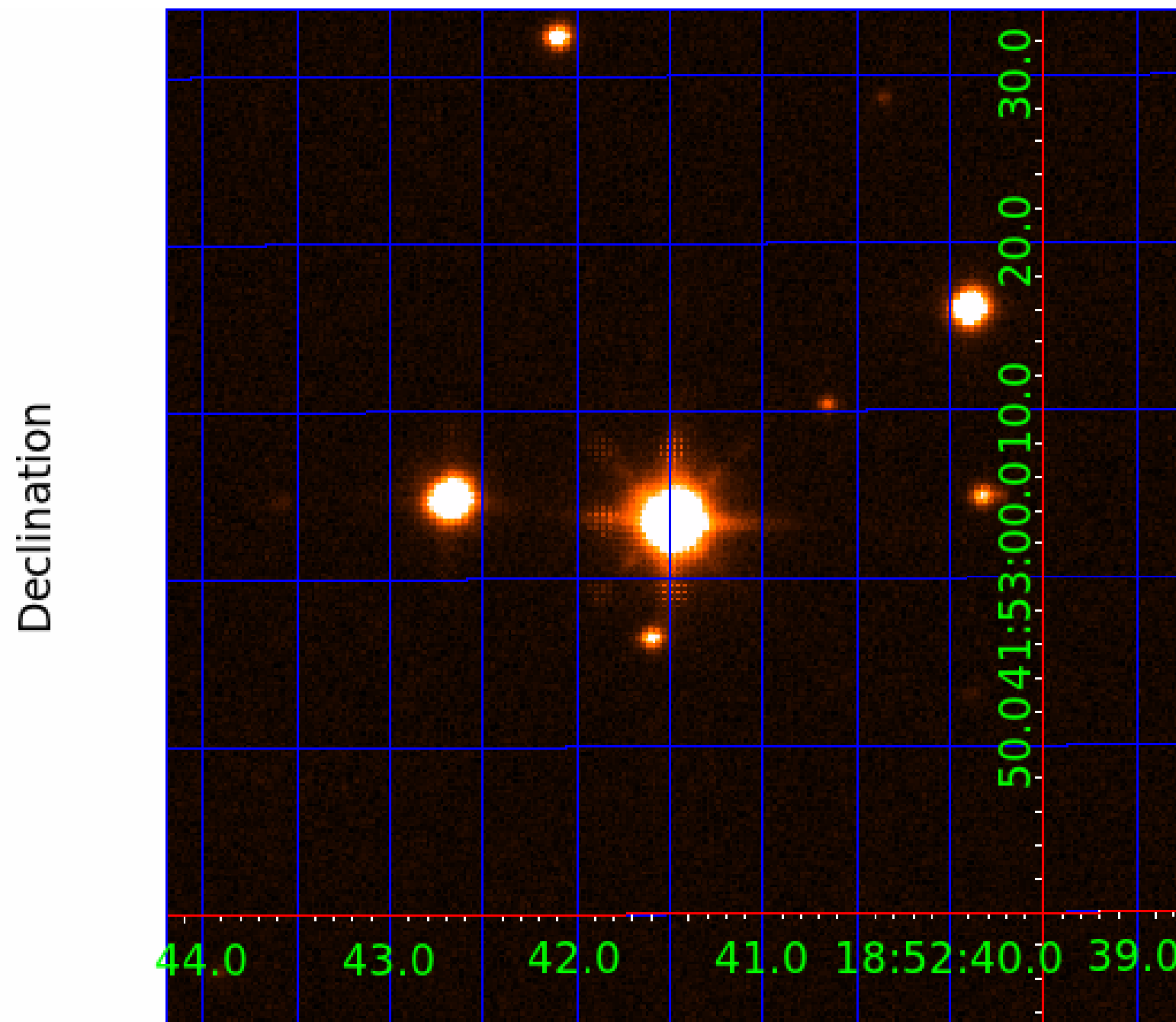
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006421759

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})
006421759-01	OBS	No	1.174548	131.976455	13.2	1.853	8.4	5.4	5.11	7171	1.89	80517.94
006421759-02	OBS	No	3.461164	131.928381	34.7	13.275	8.5	7.9	5.11	7171	3.51	19058.59
006421759-03	OBS	No	3.461214	133.627859	38.3	12.303	10.1	11.3	5.11	7171	3.68	19058.22
006421759-05	OBS	No	29.644193	152.310432	241.2	4.575	11.1	10.3	5.11	7171	9.13	1087.60
006421759-06	OBS	No	15.347249	142.020655	85.4	3.500	9.6	-1.0	5.11	7171	4.78	2616.25
006421759-07	OBS	No	21.876376	134.462209	199.8	3.676	9.5	8.5	5.11	7171	8.39	1630.87
006421759-08	OBS	No	11.519251	134.137520	175.7	3.377	9.0	9.6	5.11	7171	7.87	3835.49
006421759-09	OBS	No	24.991356	144.794029	203.1	4.532	8.6	7.7	5.11	7171	14.15	1365.63
006421759-10	OBS	No	32.859842	160.763969	152.6	3.170	7.2	7.6	5.11	7171	7.33	948.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006421759-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006421759-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
006421759-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

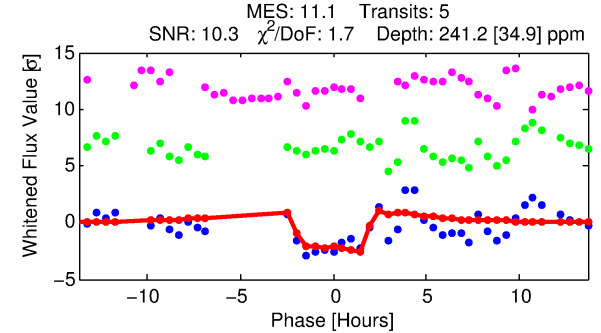
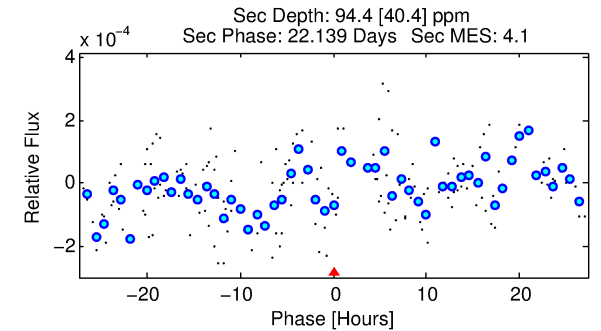
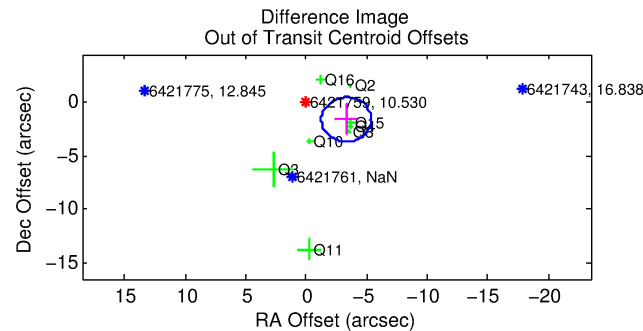
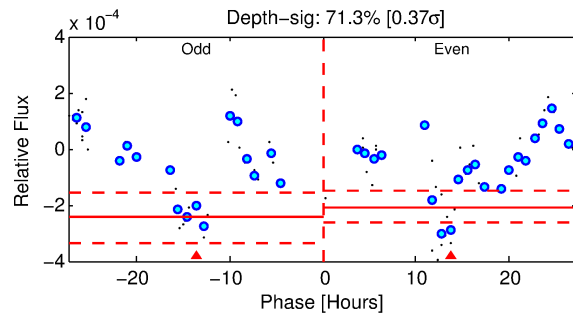
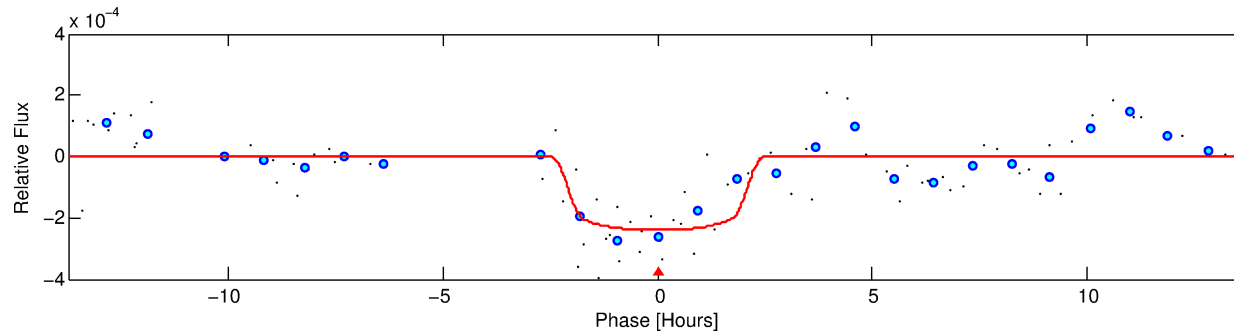
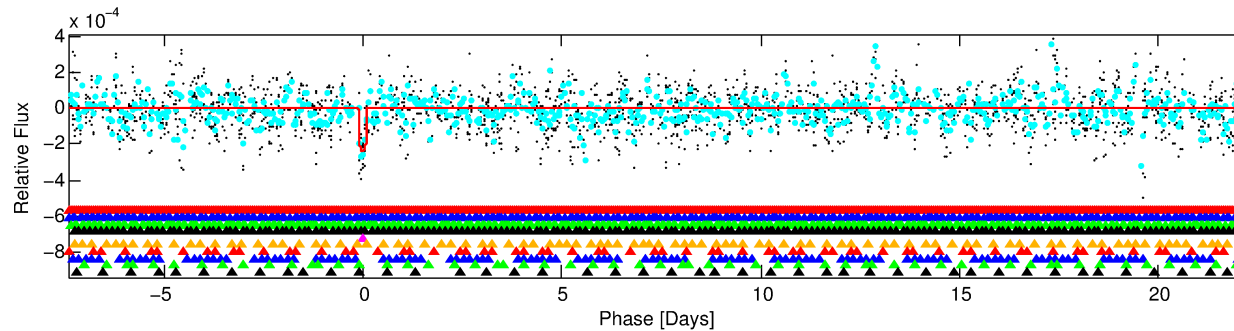
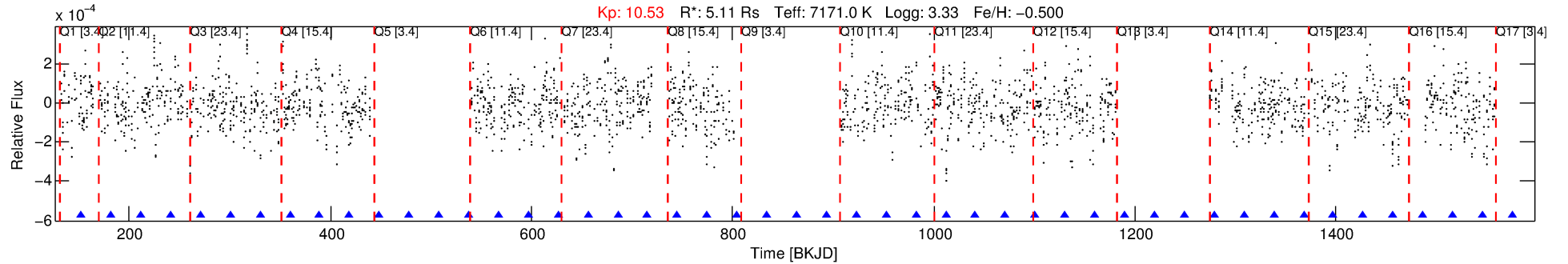
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006421759-05

No Significant Match Found

DV One-Page Summary

KIC: 6421759 Candidate: 5 of 10 Period: 29.644 d



DV Fit Results:

Period = 29.64419 [0.00088] d
Epoch = 152.3104 [0.0092] BKJD
Rp/R* = 0.0164 [0.0074]
a/R* = 24.59 [68.69]
b = 0.89 [0.68]
Seff = 1087.60 [802.84]
Teq = 1464 [270] K
Rp = 9.13 [6.04] Re
a = 0.2387 [0.1094] AU
Ag = 35.48 [43.82] [0.79 σ]
Teffp = 5526 [1392] K [2.86 σ]

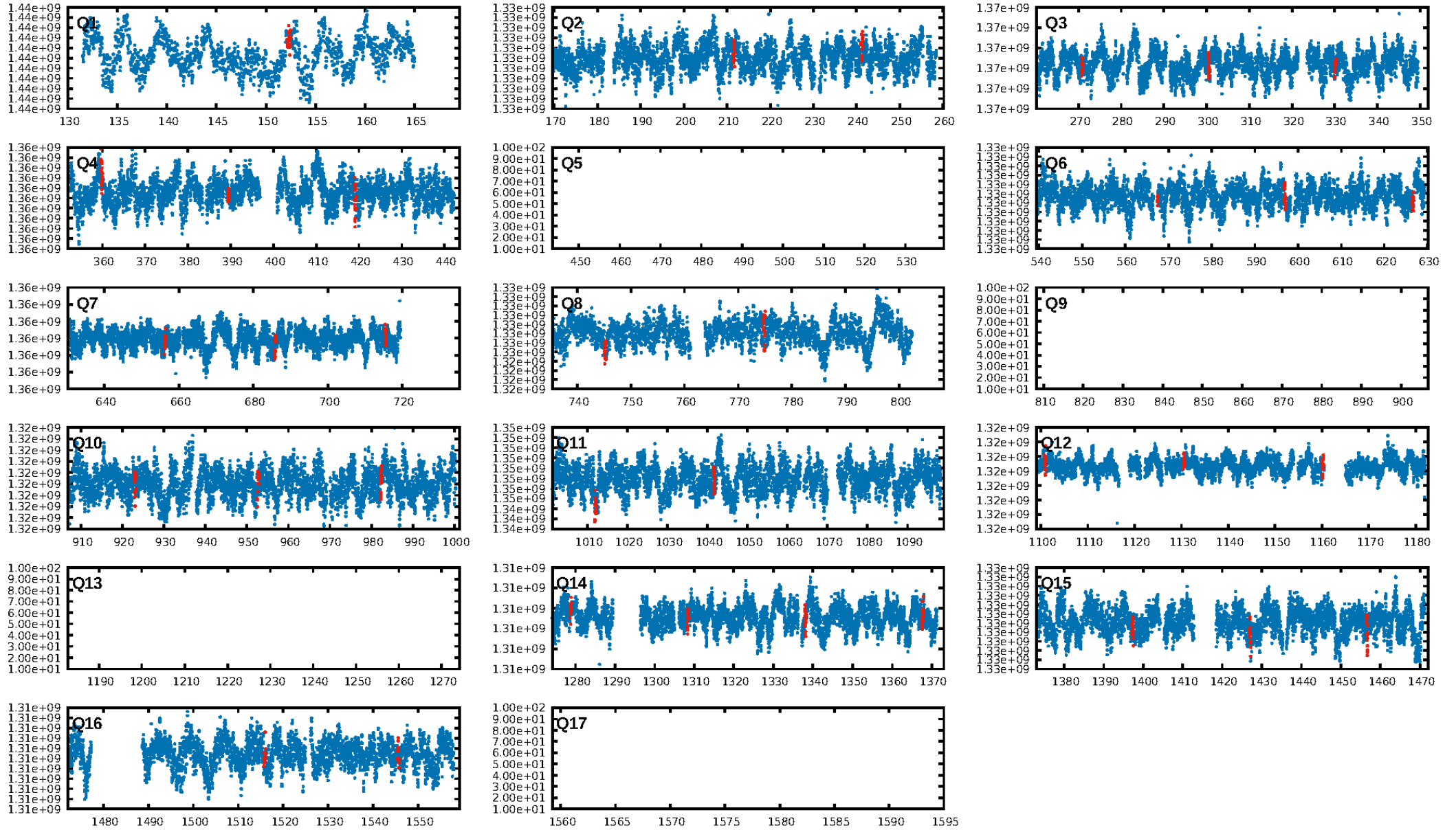
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.34 σ]
LongPeriod-sig: 100.0% [13.87 σ]
ModelChiSquare2-sig: 0.8%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.5524
Centroid-sig: 0.1%
Centroid-so: 0.706 arcsec [2.57 σ]
OotOffset-rm: 3.666 arcsec [5.31 σ]
KicOffset-rm: 2.947 arcsec [3.35 σ]
OotOffset-st: 2/3/3/0 [8]
KicOffset-st: 2/3/3/0 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.08 [1/13]

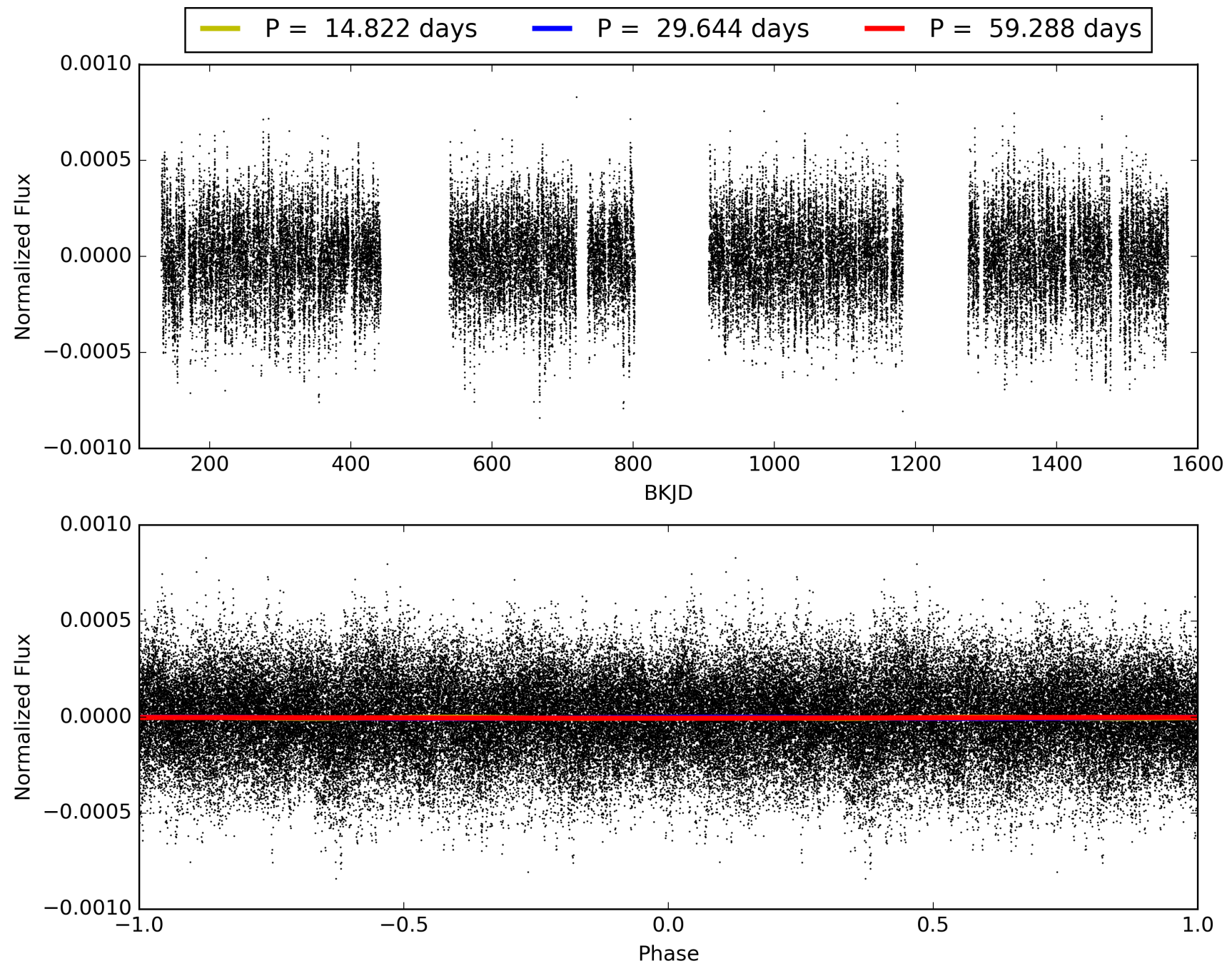
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:25:18 Z

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

TCE 006421759-05, PDC Light Curves

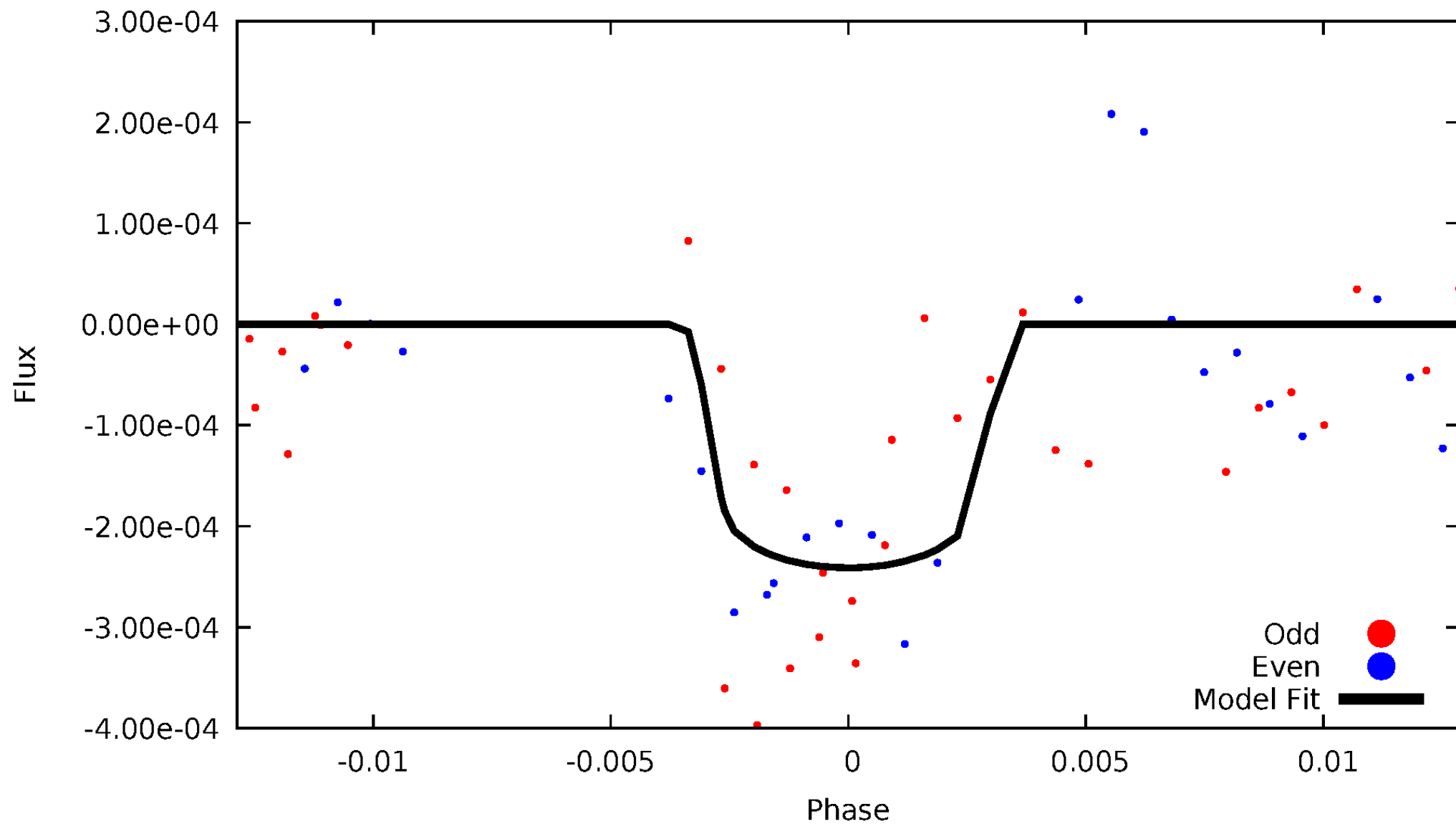


TCE 006421759-05



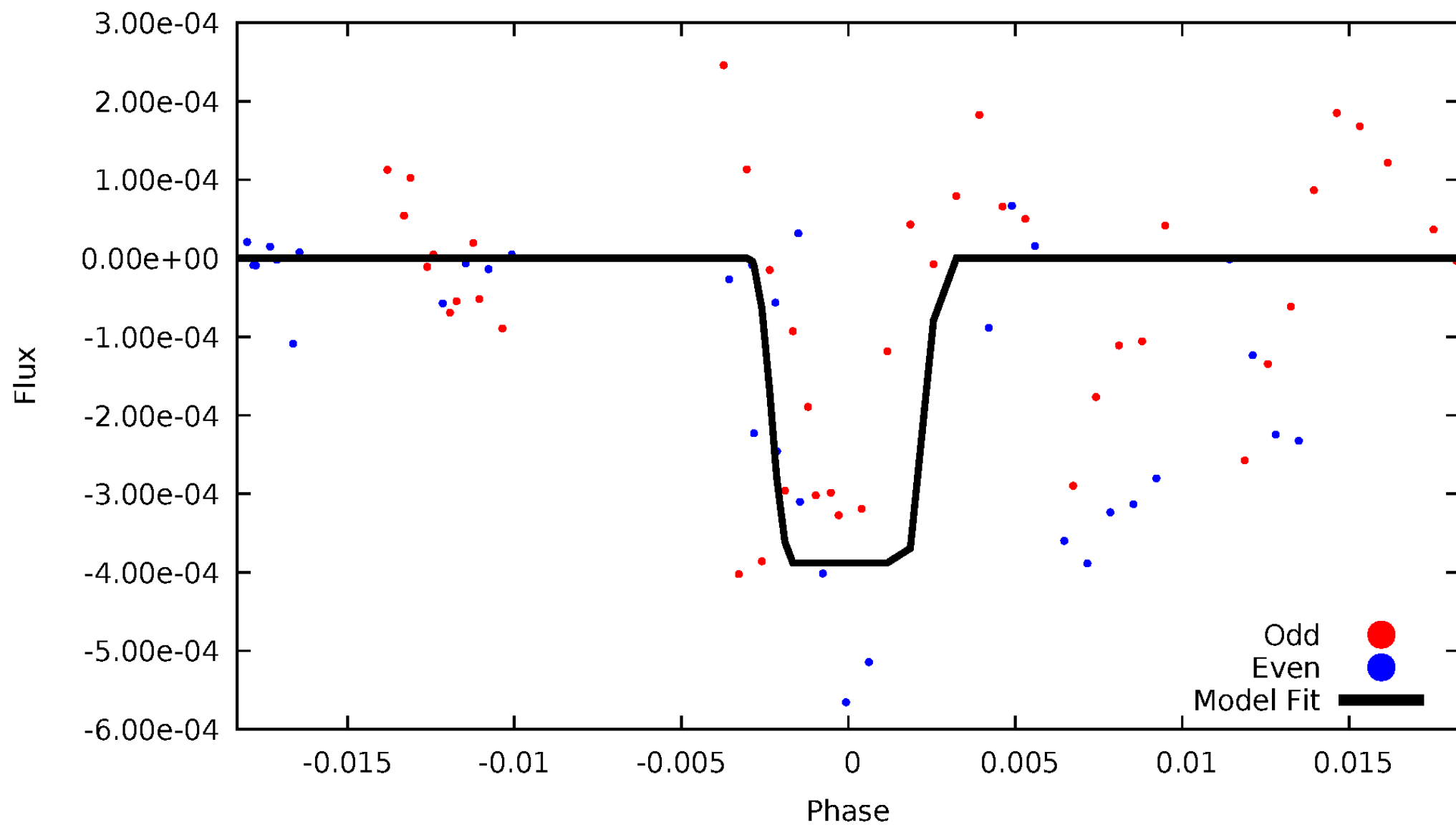
DV Odd/Even

TCE 006421759-05



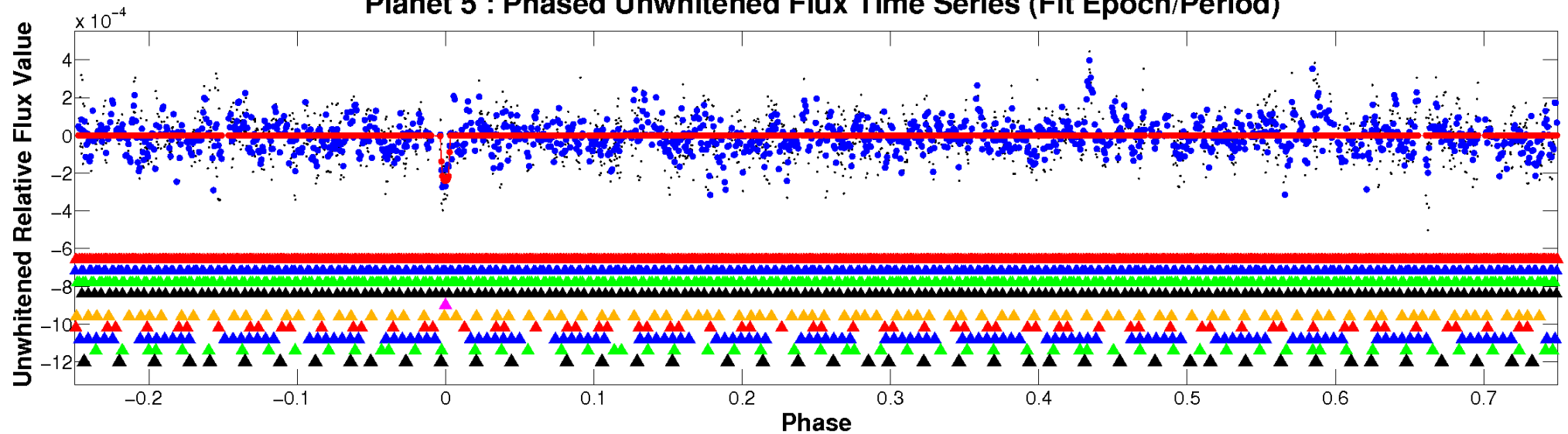
ALT Odd/Even

TCE 006421759-05

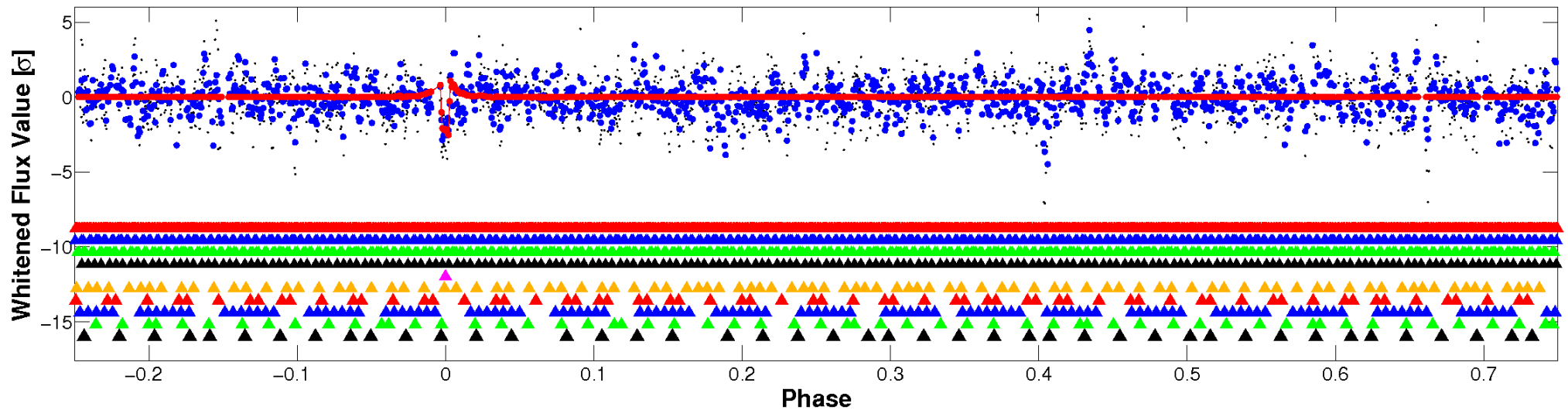


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

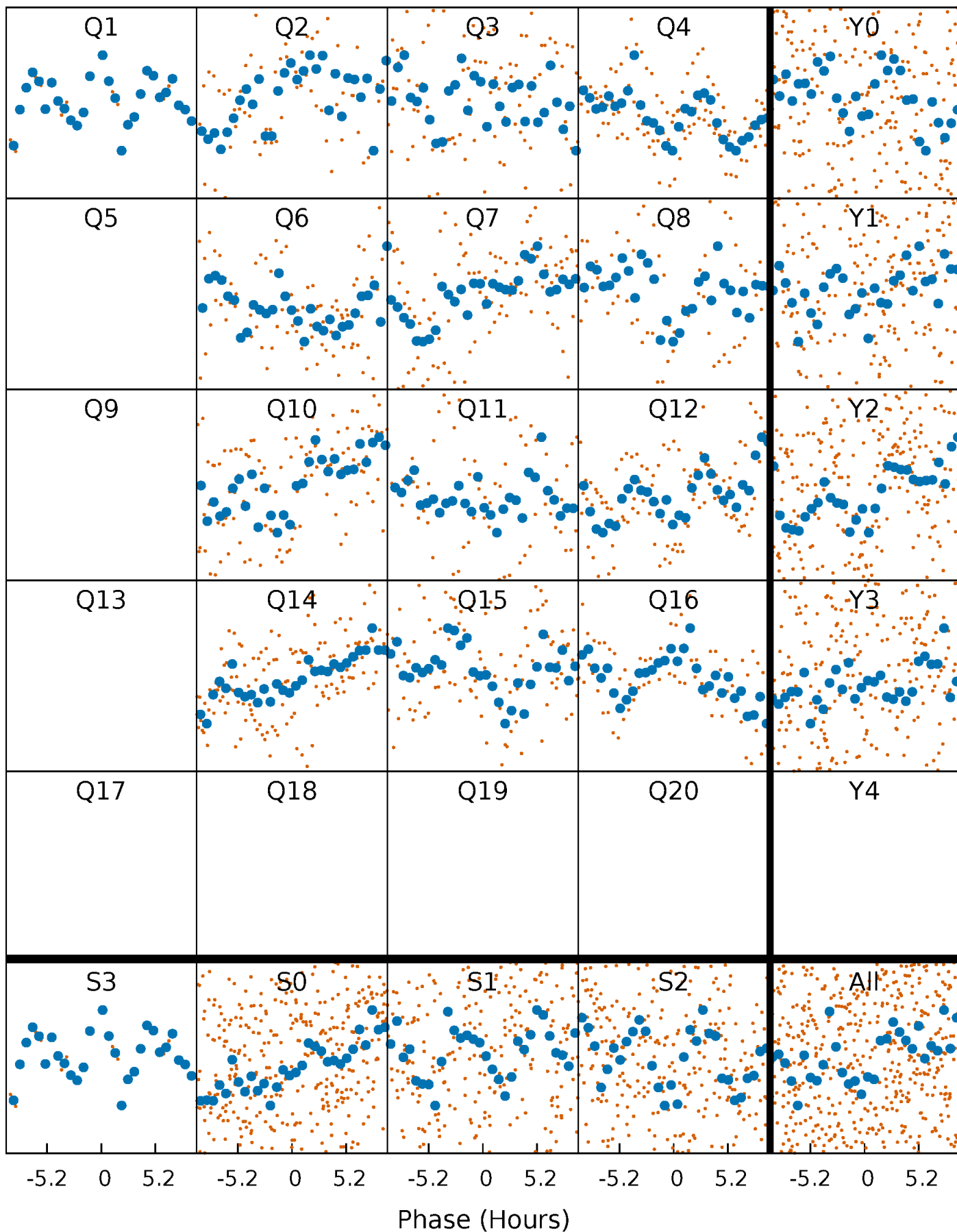


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



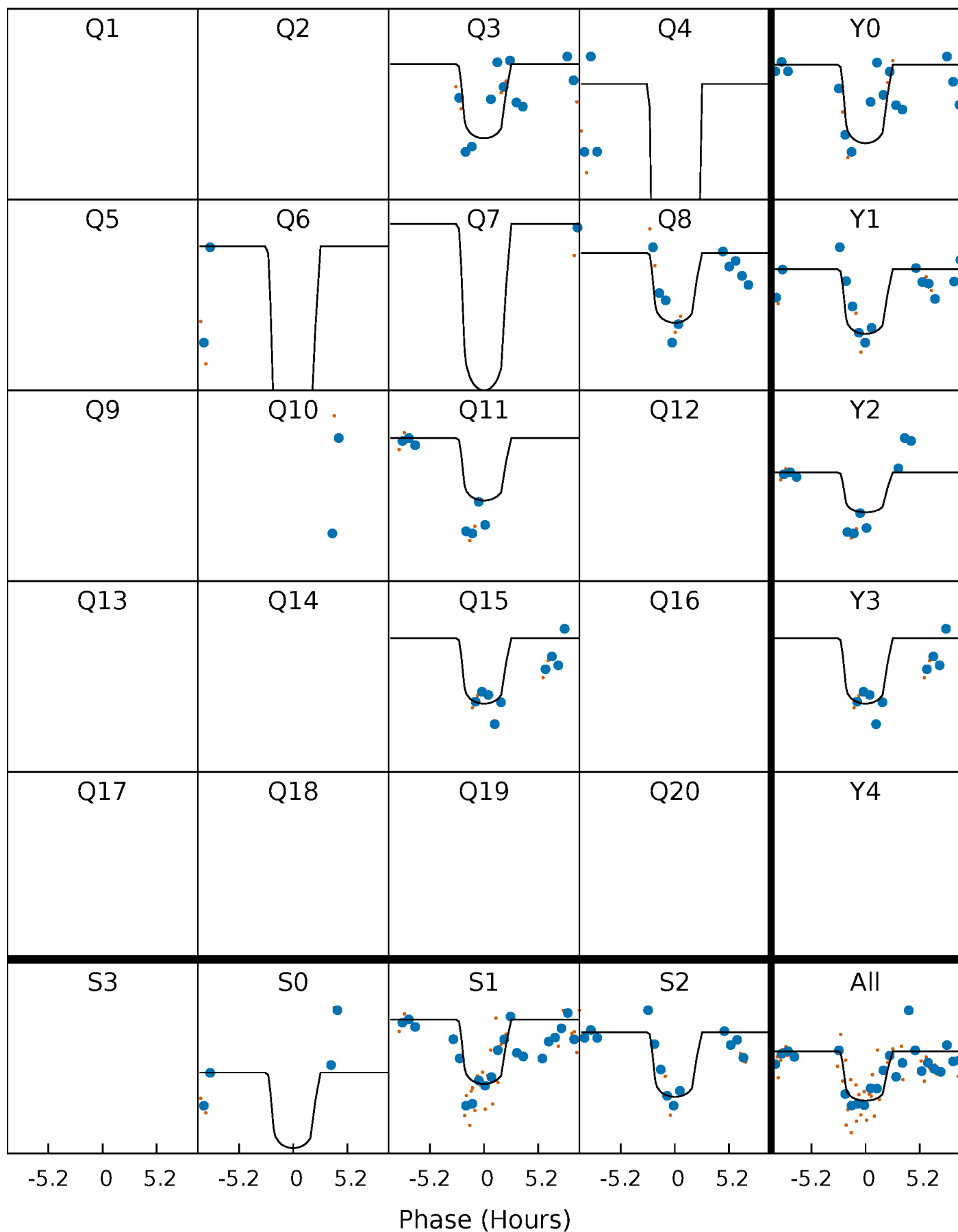
PDC Quarter-Phased Transit Curves

TCE 006421759-05 P= 29.644193 Days $T_0=152.310432$ (BKJD)



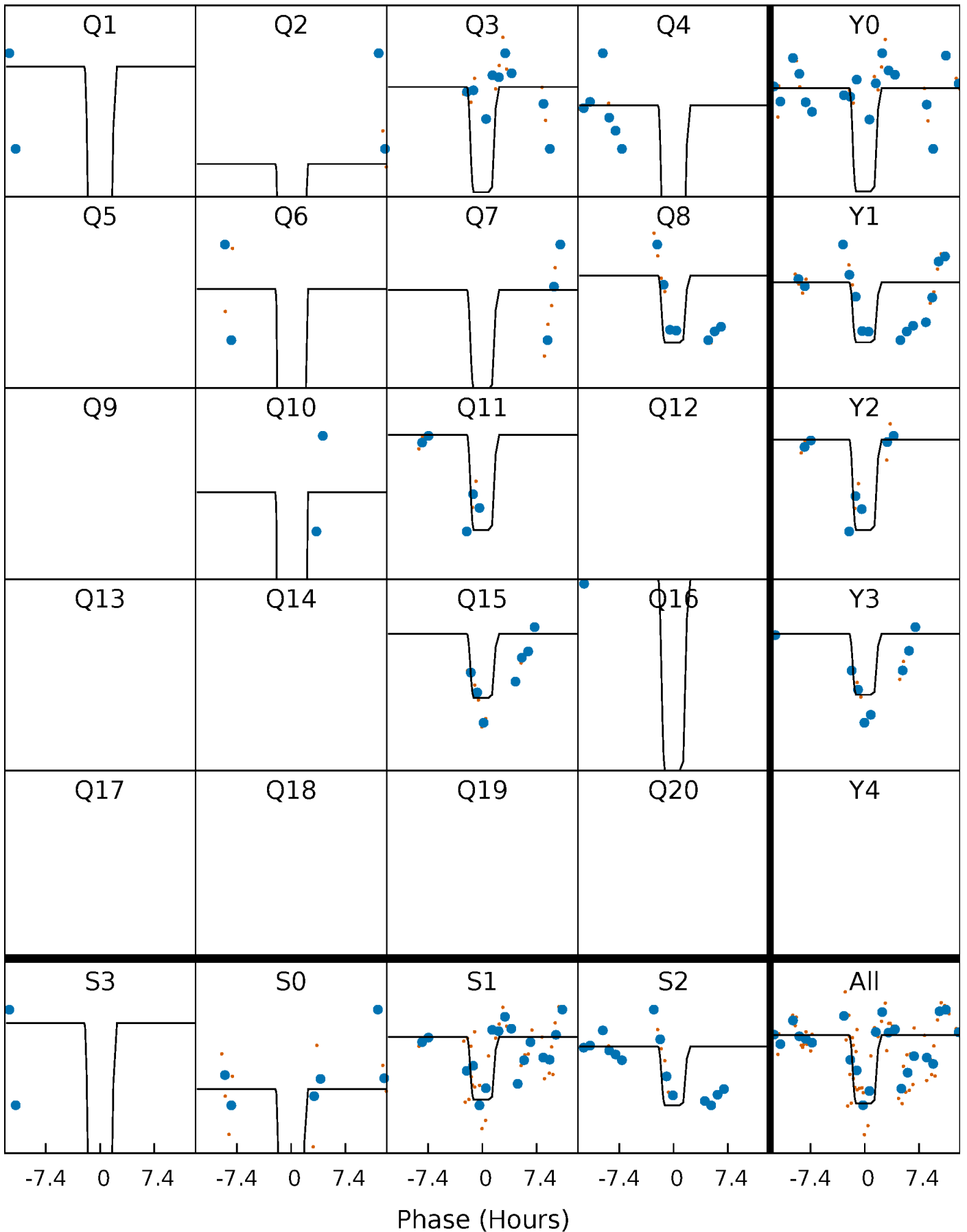
DV Quarter-Phased Transit Curves

TCE 006421759-05 $P = 29.644193$ Days $T_0 = 152.310432$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

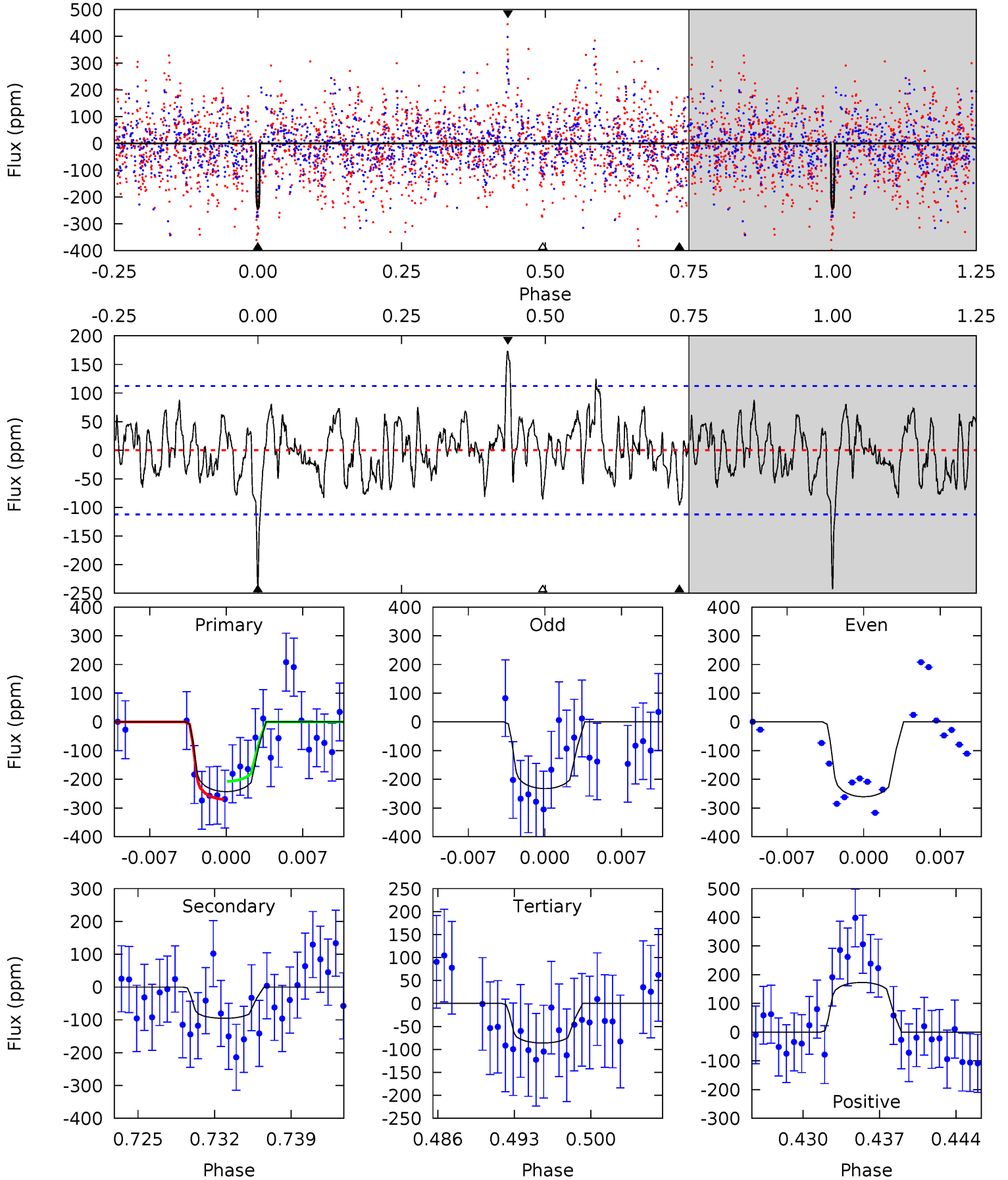
TCE 006421759-05 $P = 29.645339$ Days $T_0 = 152.297225$ (BKJD)



DV Model-Shift Uniqueness Test

006421759-05, P = 29.644193 Days, E = 122.666239 Days

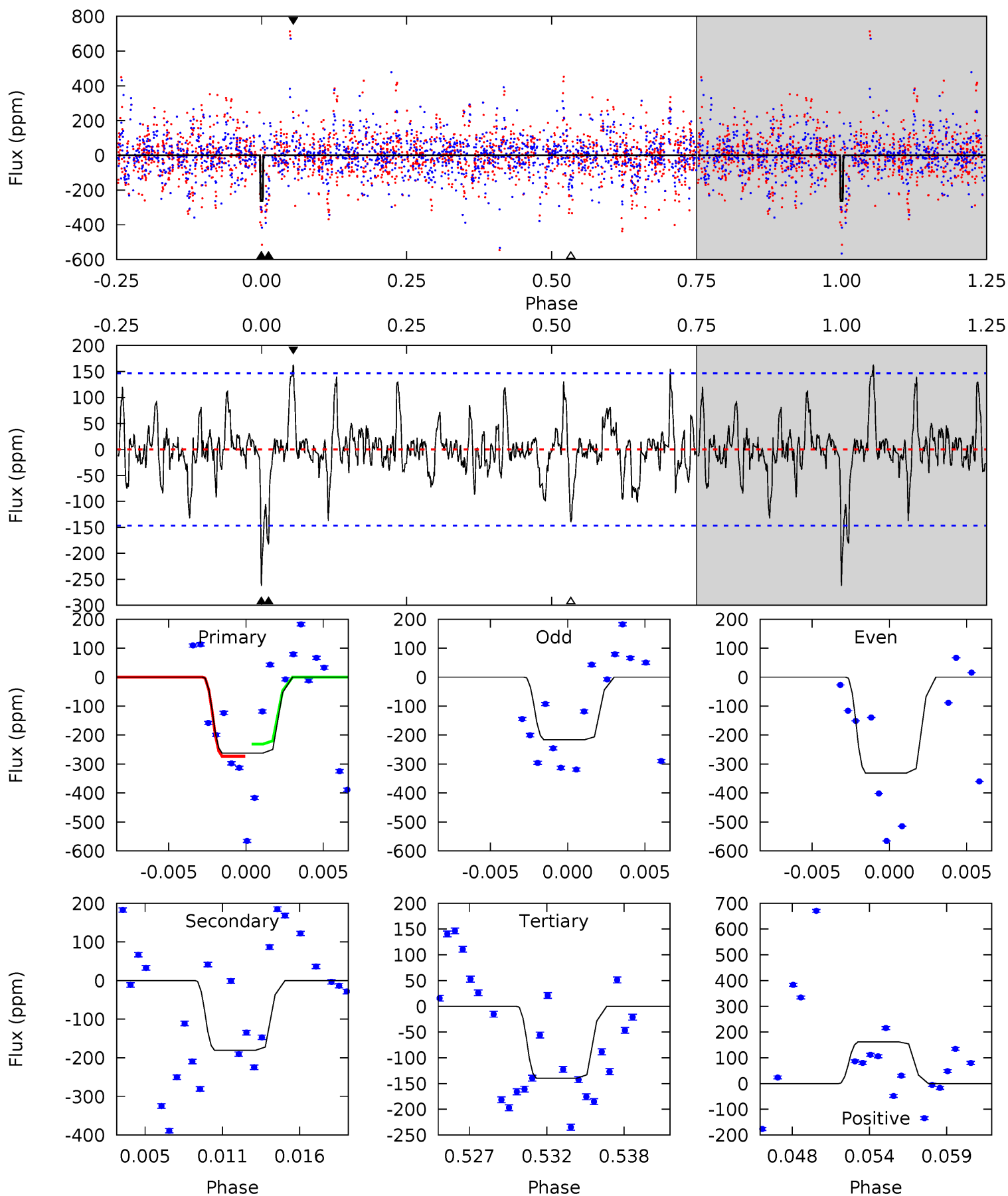
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	4.32	3.90	7.86	5.09	2.69	1.79	7.12	3.16	0.42	-3.54	0.62	0.99	0.42	1.41



Alt Model-Shift Uniqueness Test

006421759-05, P = 29.645339 Days, E = 122.651886 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.20	6.34	4.89	5.68	5.14	2.78	1.50	4.30	3.52	1.45	0.66	1.88	0.81	0.38	0.63



Stellar Parameters For KIC 006421759

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7171^{+171}_{-235}	$3.335^{+0.424}_{-0.053}$	$-0.500^{+0.350}_{-0.300}$	$5.114^{+1.061}_{-2.475}$	$2.063^{+0.055}_{-0.519}$	$0.022^{+0.090}_{-0.006}$
	+2%/-3%	+13%/-2%	+70%/-60%	+21%/-48%	+3%/-25%	+415%/-27%
Source	PHO1	FLK73	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 006421759-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-95 ± 22	$7.53^{+3.92}_{-3.44}$	1933^{+137}_{-221}	5537^{+2031}_{-906}	48^{+126}_{-28}
Alt.	-181 ± 29	$9.32^{+4.35}_{-3.49}$	1930^{+148}_{-251}	5799^{+1538}_{-859}	61^{+102}_{-33}

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 $A_{\text{obs}} \gg 1.0$

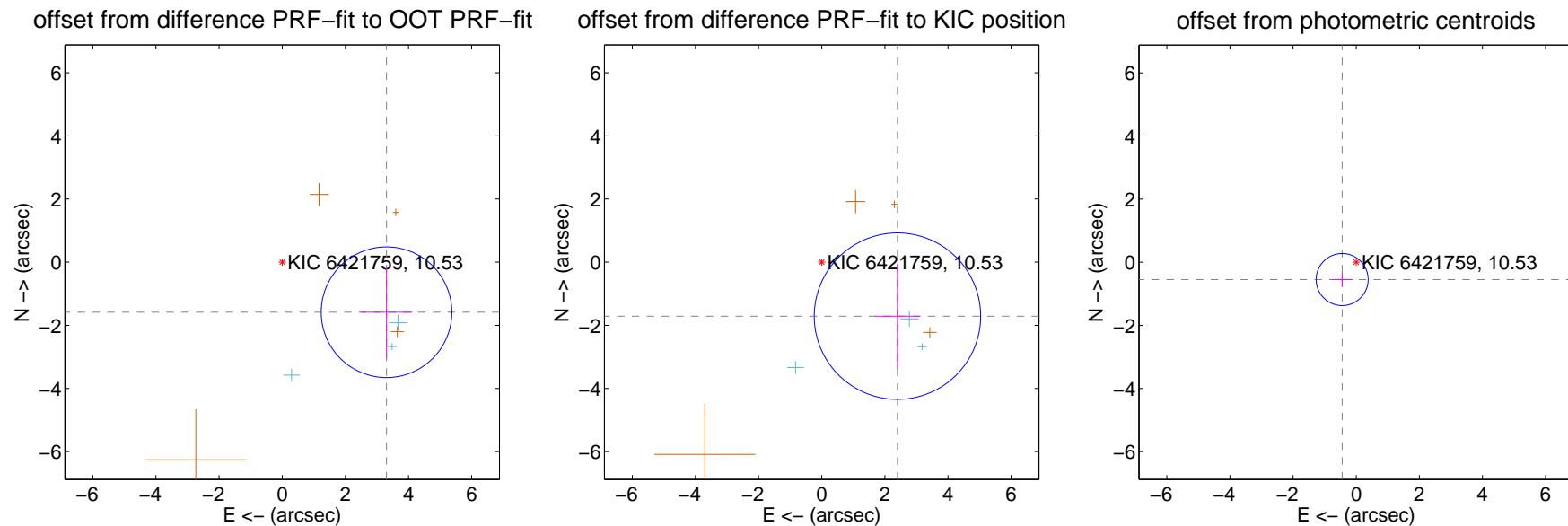
DV Centroid Data

Supplemental centroid analysis for 006421759-05. **Kepler magnitude: 10.53.** Transit SNR 10.32

There are 3 quarters with good PRF difference image offsets

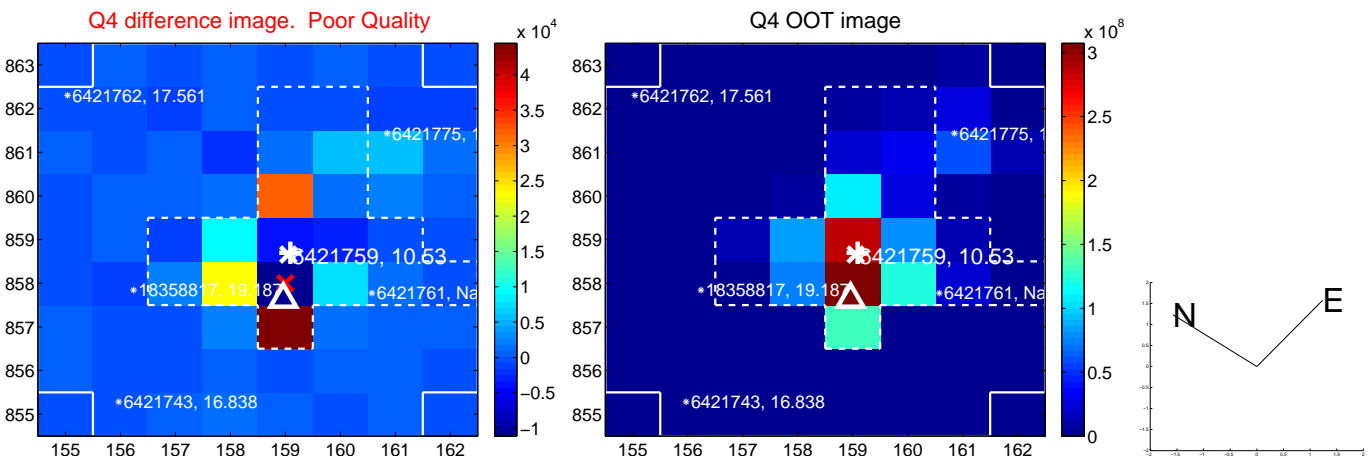
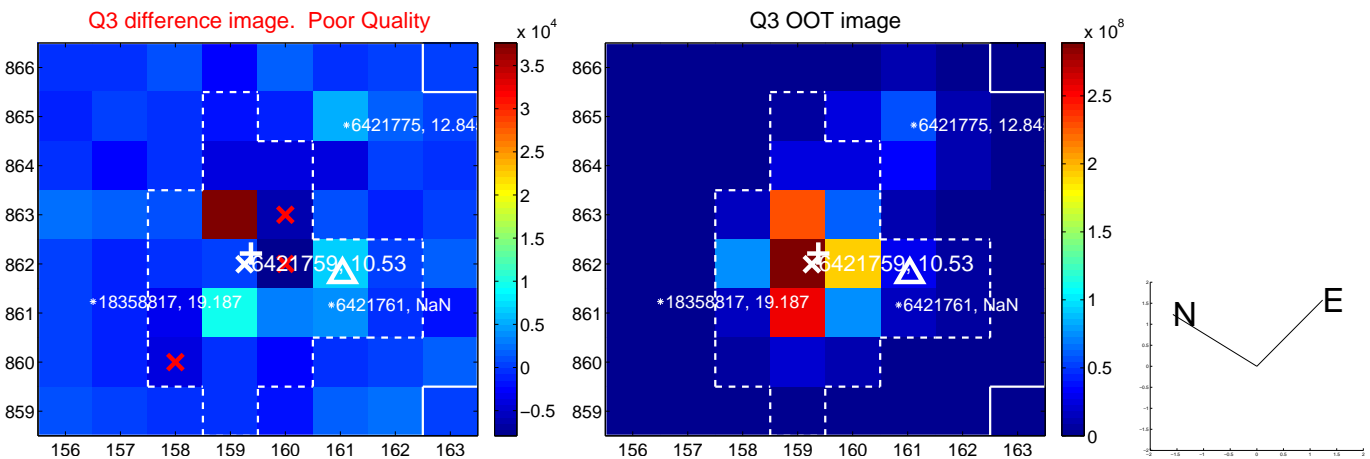
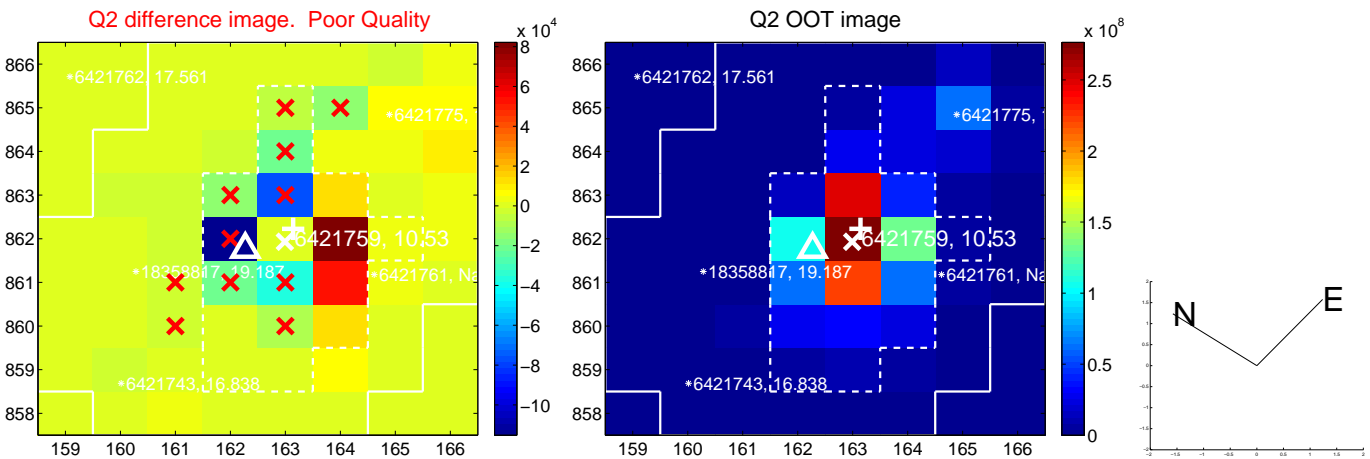
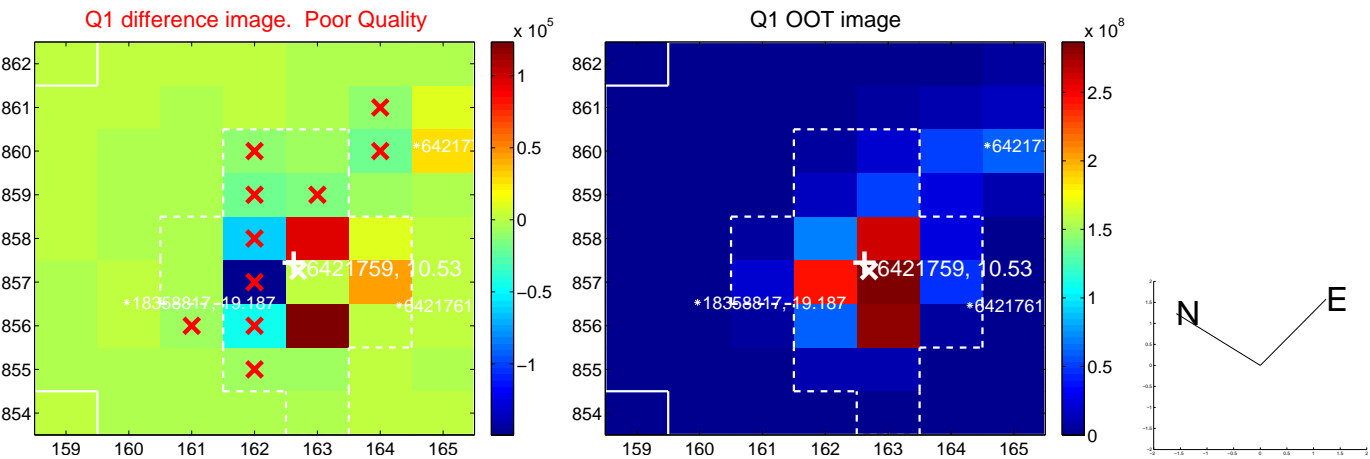
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.666 ± 0.690	5.31	-3.305 ± 0.815	-1.586 ± 1.431
PRF-fit source offset from KIC position	2.947 ± 0.879	3.35	-2.399 ± 0.710	-1.710 ± 1.661
photometric centroid source offset	0.71 ± 0.27	2.57	0.45 ± 0.33	-0.55 ± 0.23

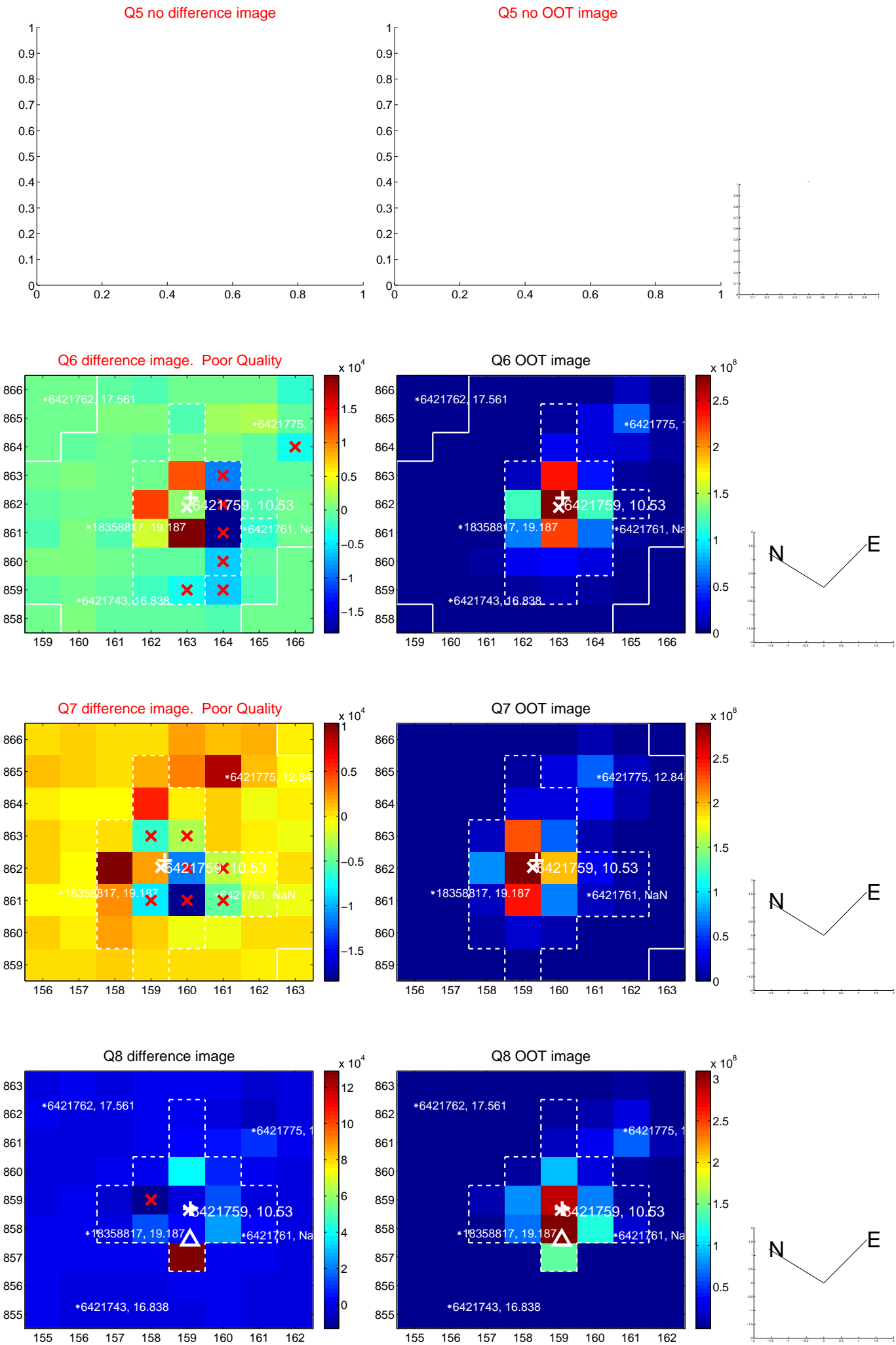


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

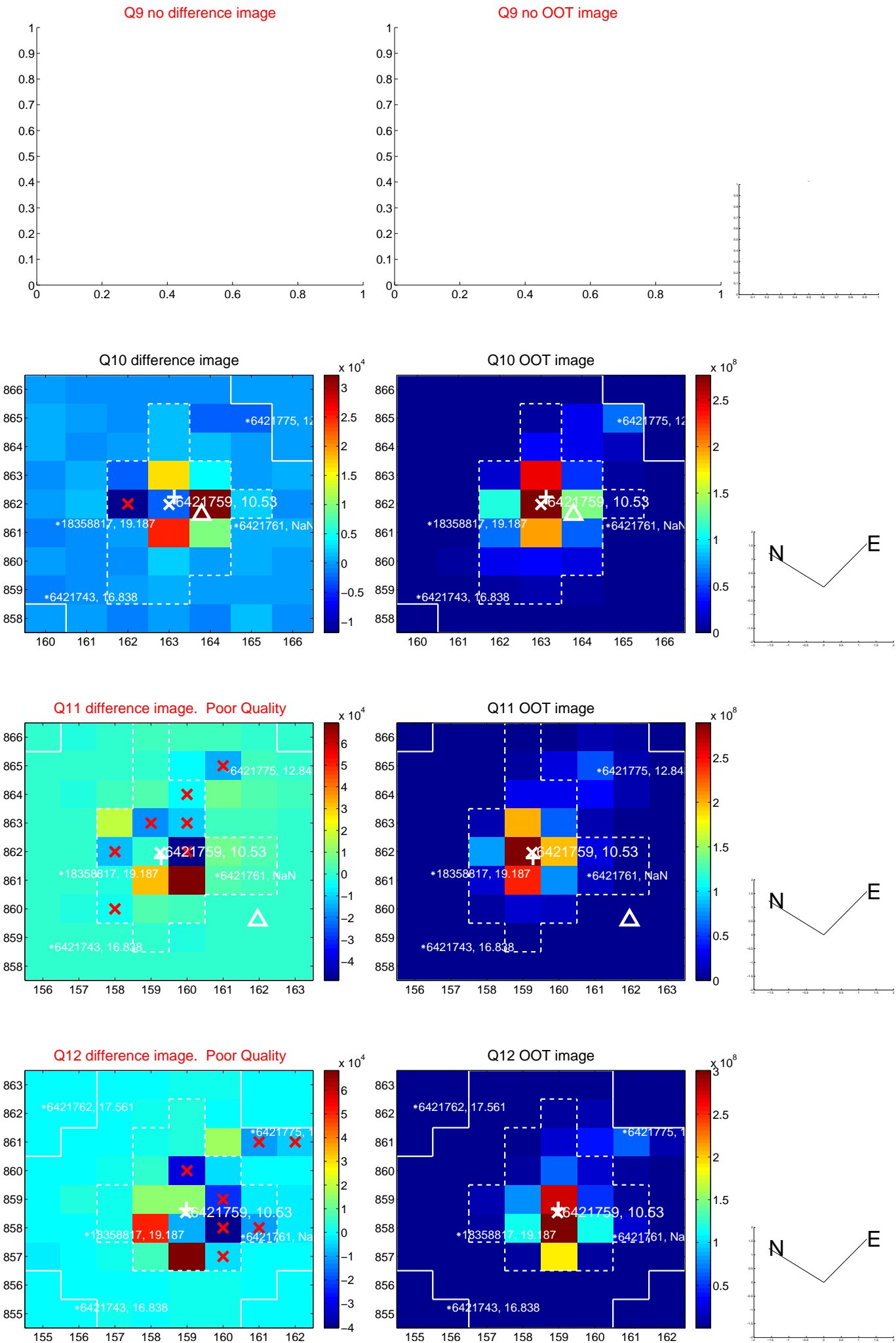
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



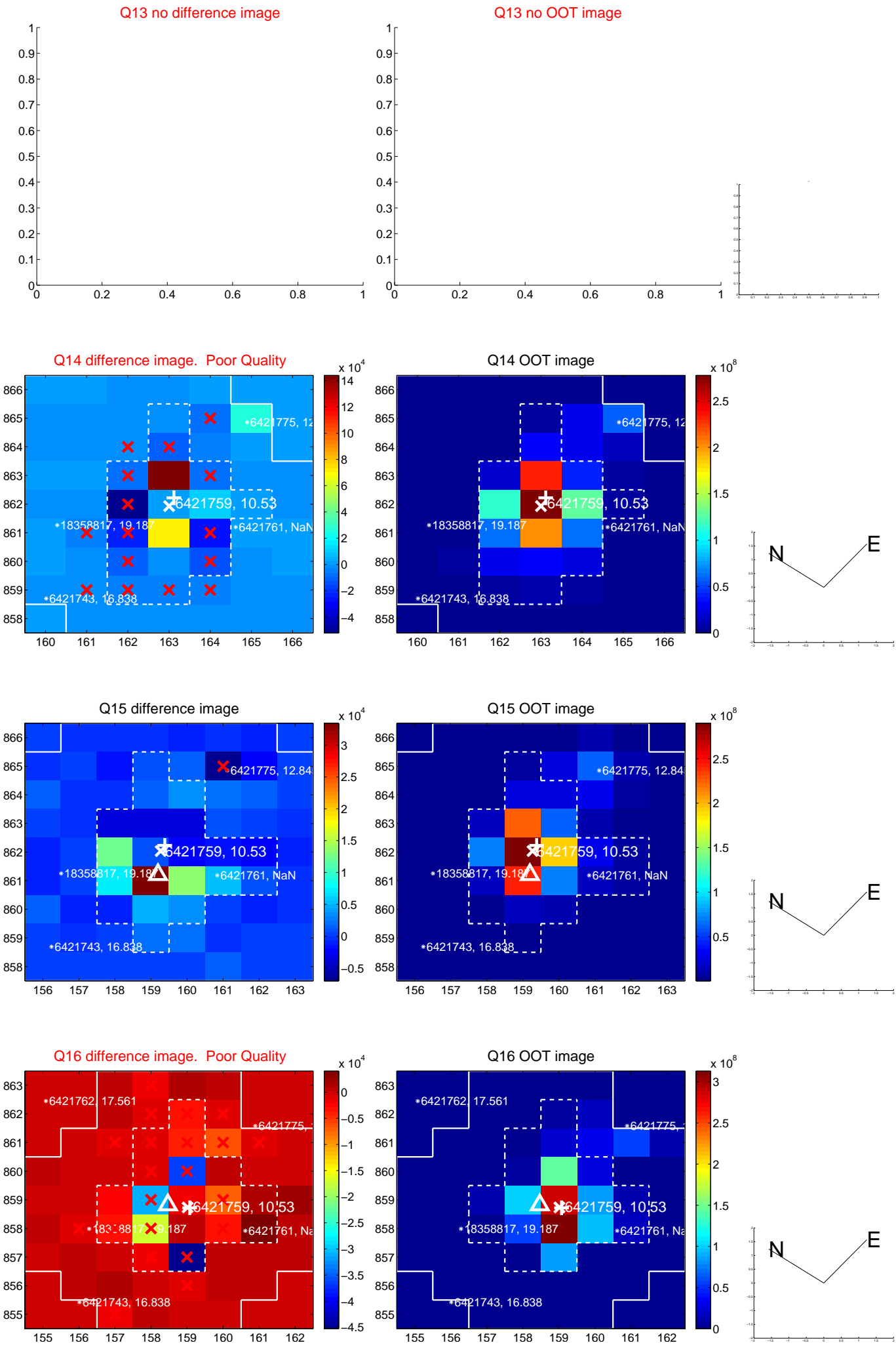
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



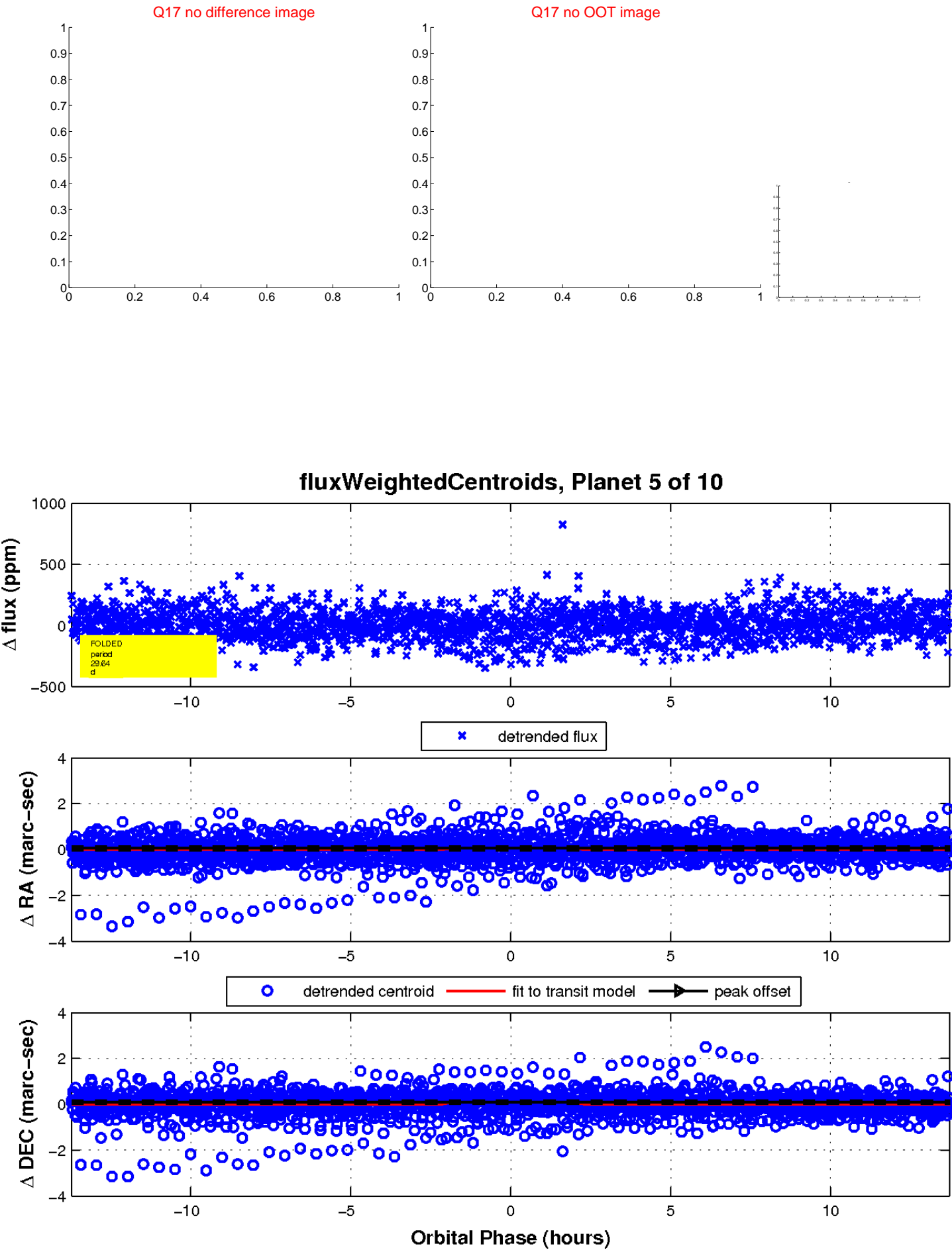
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



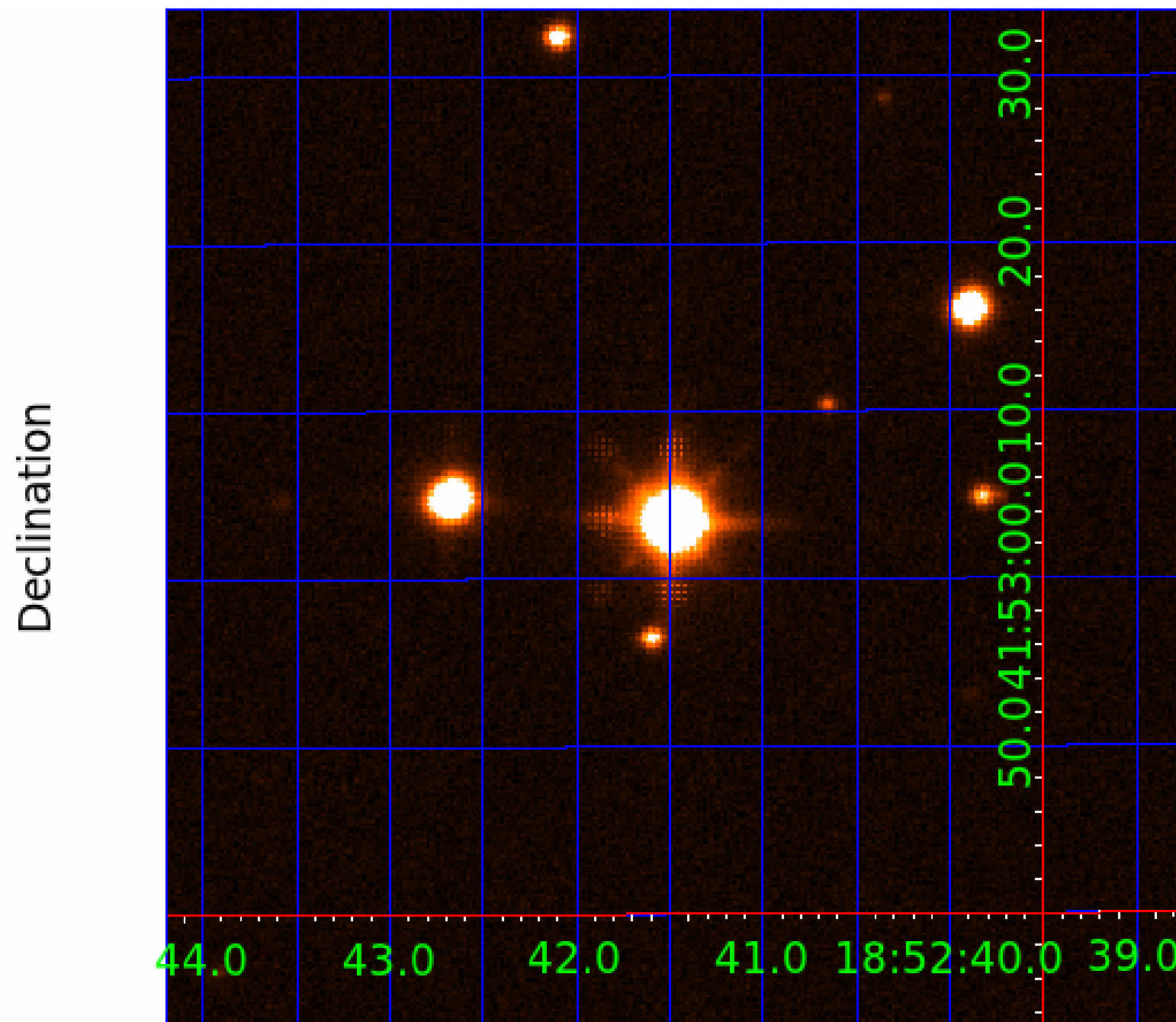
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006421759

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})
006421759-01	OBS	No	1.174548	131.976455	13.2	1.853	8.4	5.4	5.11	7171	1.89	80517.94
006421759-02	OBS	No	3.461164	131.928381	34.7	13.275	8.5	7.9	5.11	7171	3.51	19058.59
006421759-03	OBS	No	3.461214	133.627859	38.3	12.303	10.1	11.3	5.11	7171	3.68	19058.22
006421759-05	OBS	No	29.644193	152.310432	241.2	4.575	11.1	10.3	5.11	7171	9.13	1087.60
006421759-06	OBS	No	15.347249	142.020655	85.4	3.500	9.6	-1.0	5.11	7171	4.78	2616.25
006421759-07	OBS	No	21.876376	134.462209	199.8	3.676	9.5	8.5	5.11	7171	8.39	1630.87
006421759-08	OBS	No	11.519251	134.137520	175.7	3.377	9.0	9.6	5.11	7171	7.87	3835.49
006421759-09	OBS	No	24.991356	144.794029	203.1	4.532	8.6	7.7	5.11	7171	14.15	1365.63
006421759-10	OBS	No	32.859842	160.763969	152.6	3.170	7.2	7.6	5.11	7171	7.33	948.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006421759-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006421759-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
006421759-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

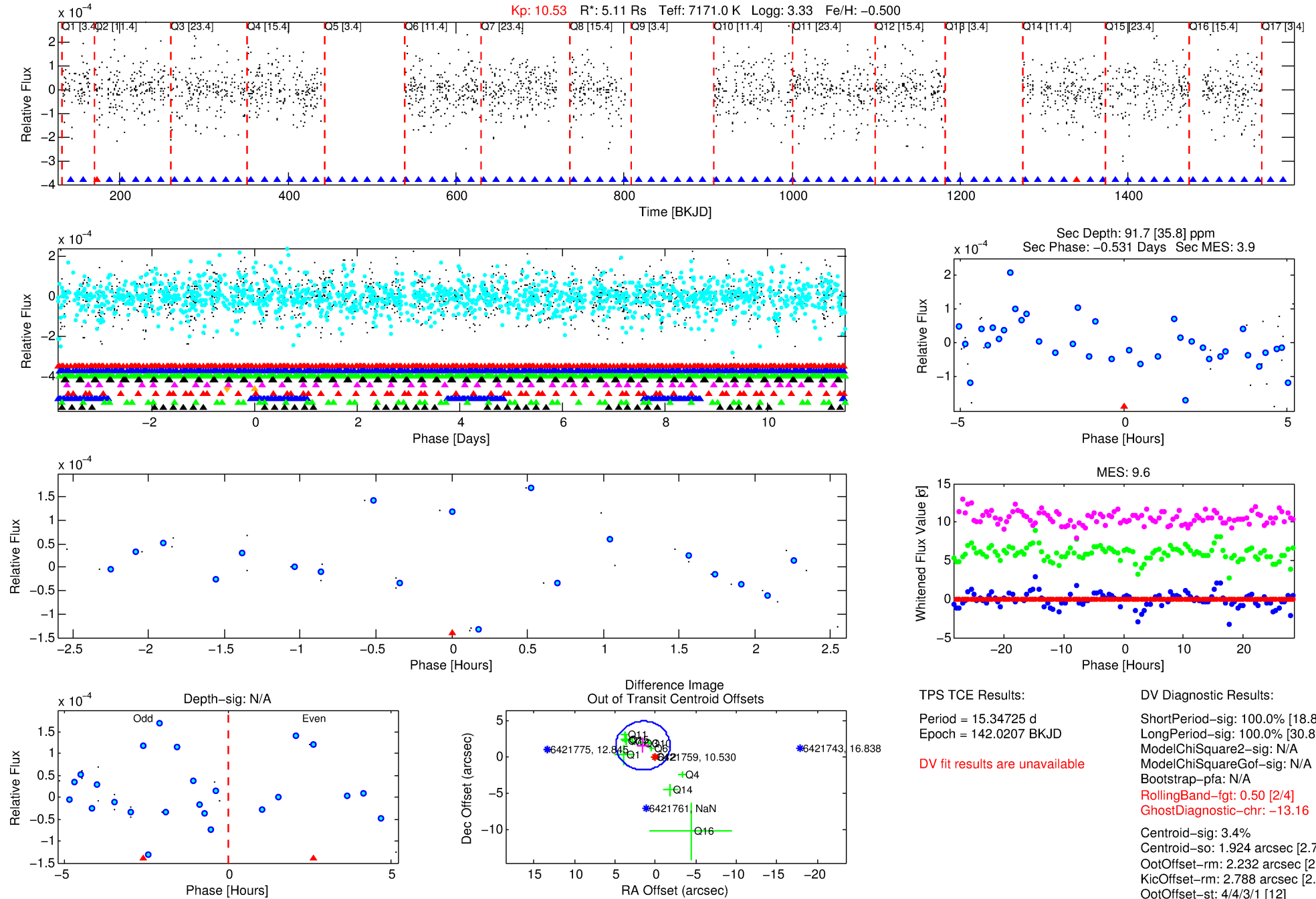
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006421759-06

No Significant Match Found

DV One-Page Summary

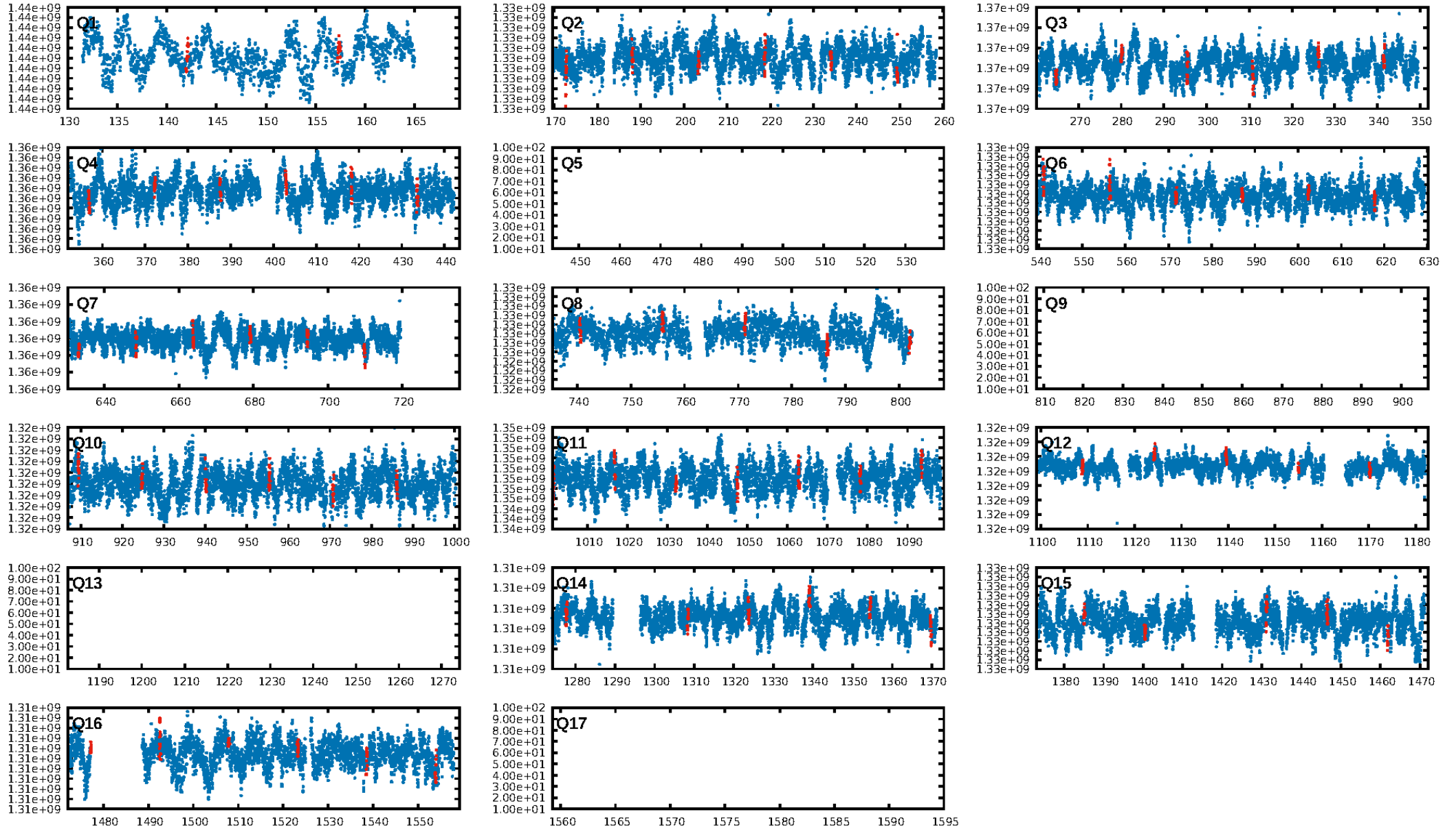
KIC: 6421759 Candidate: 6 of 10 Period: 15.347 d



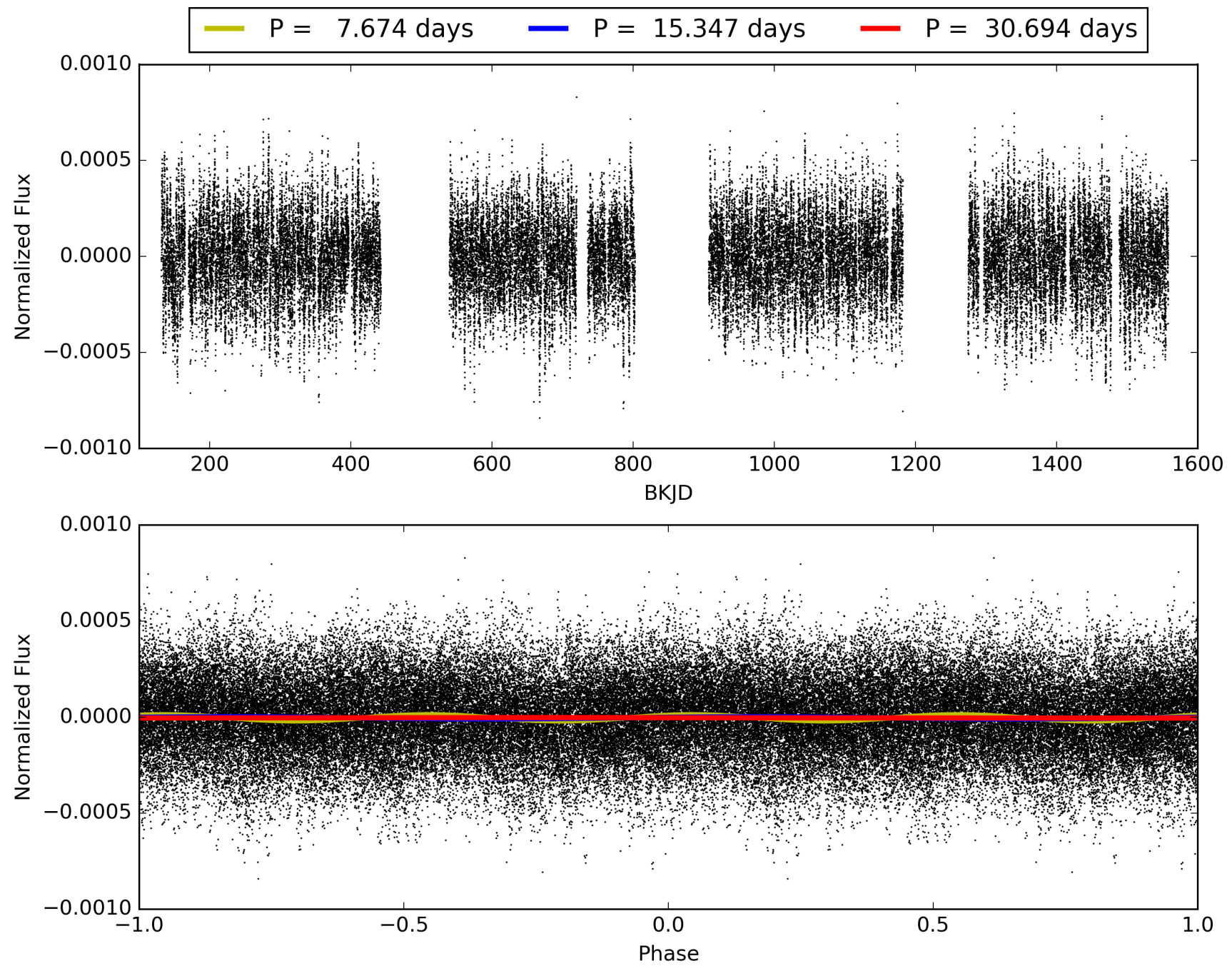
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:25:21 Z

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

TCE 006421759-06, PDC Light Curves

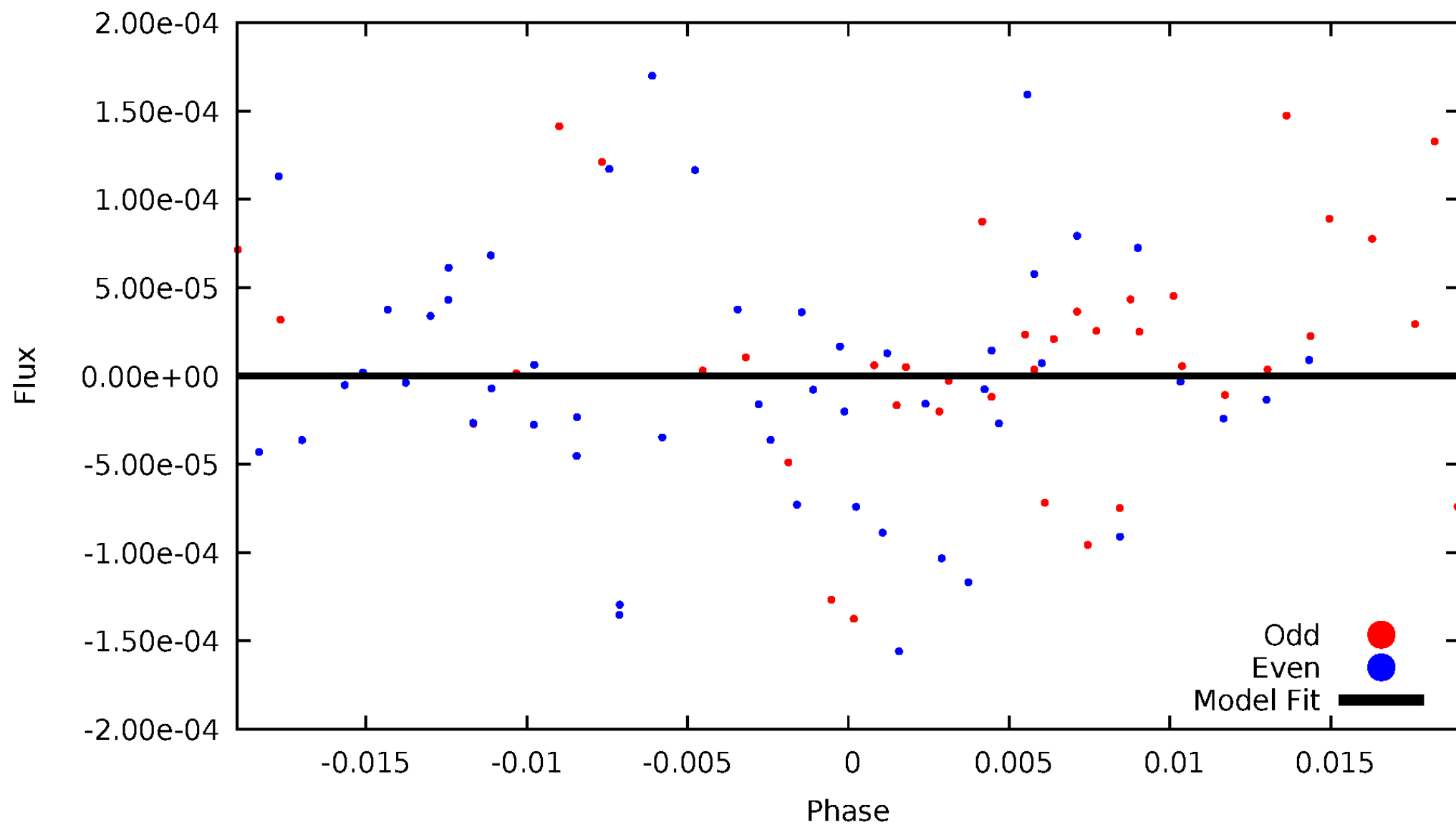


TCE 006421759-06



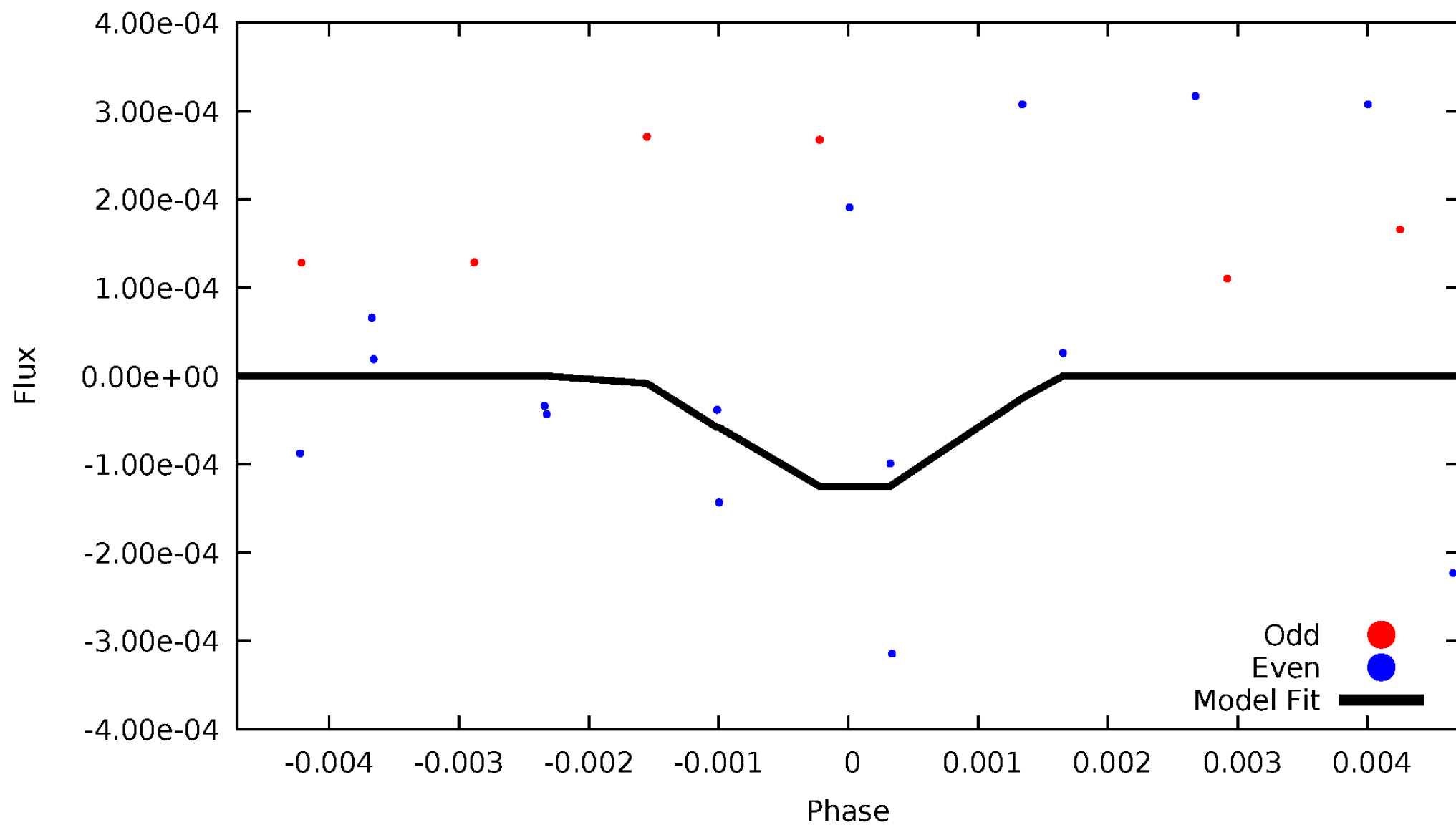
DV Odd/Even

TCE 006421759-06



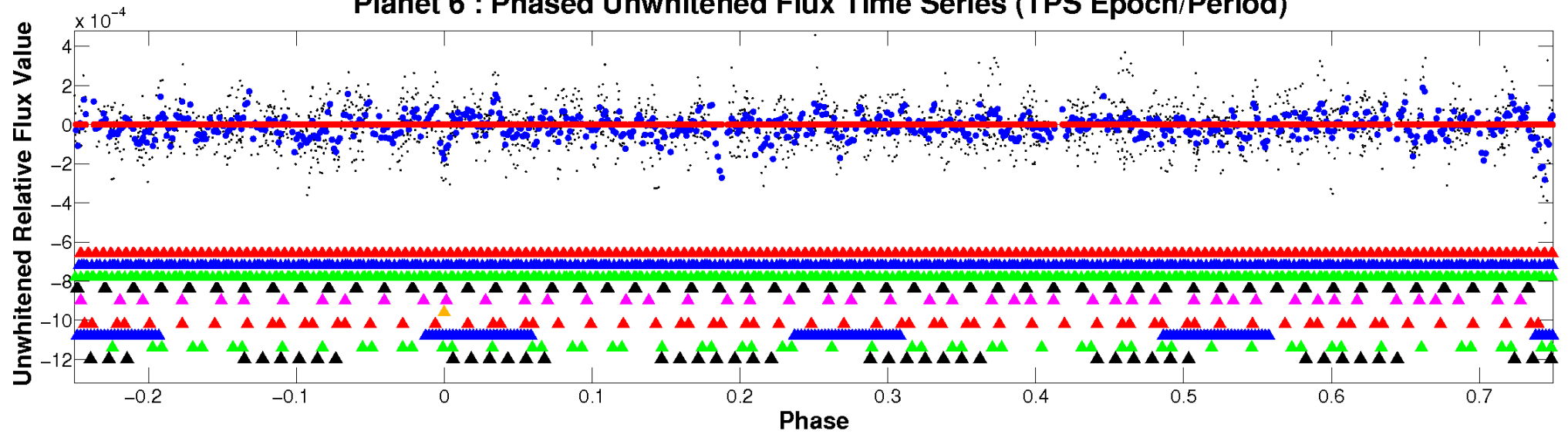
ALT Odd/Even

TCE 006421759-06

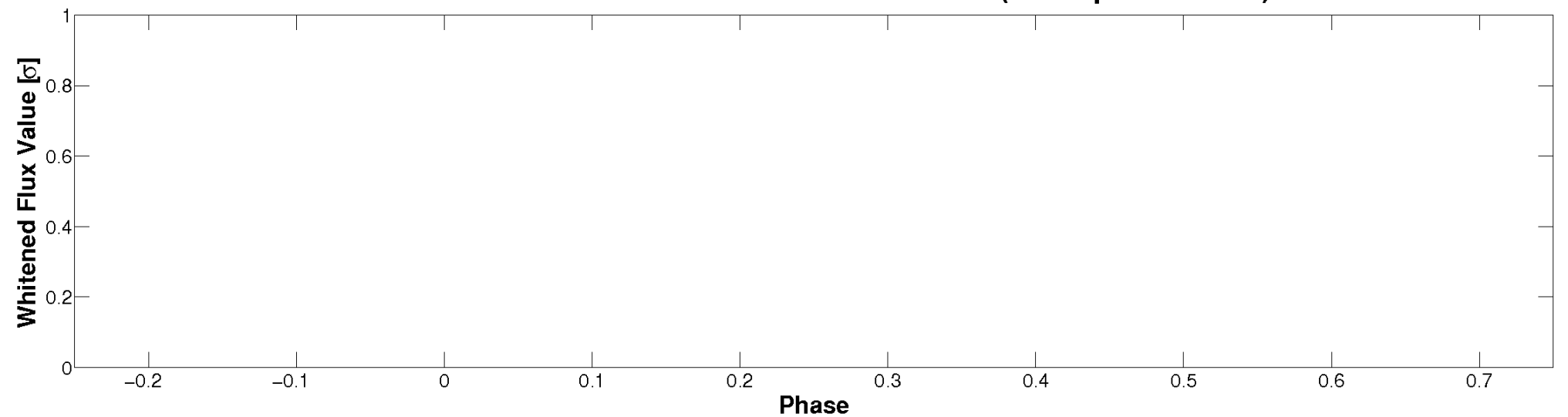


Non-Whitened Vs. Whitened Light Curve

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

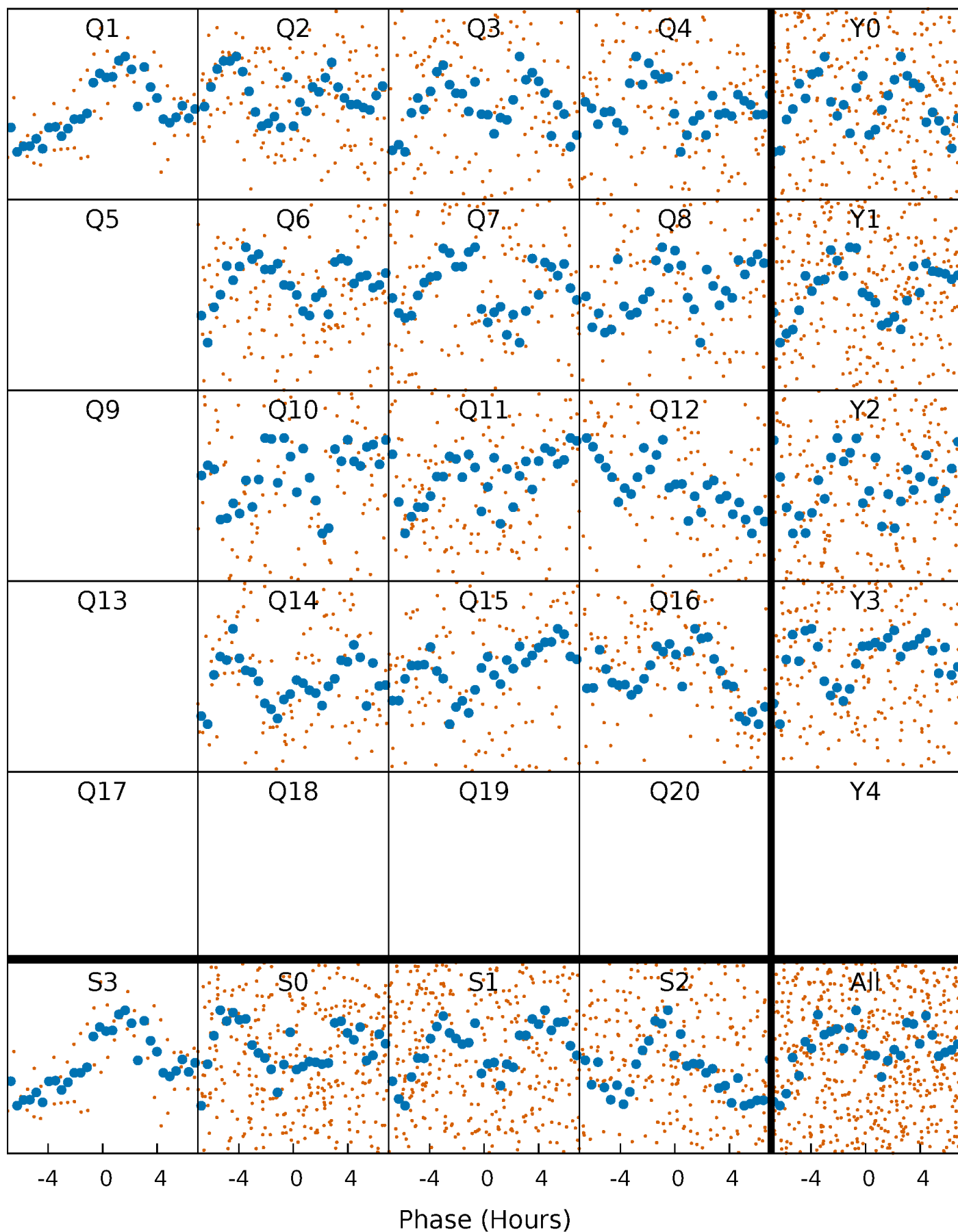


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



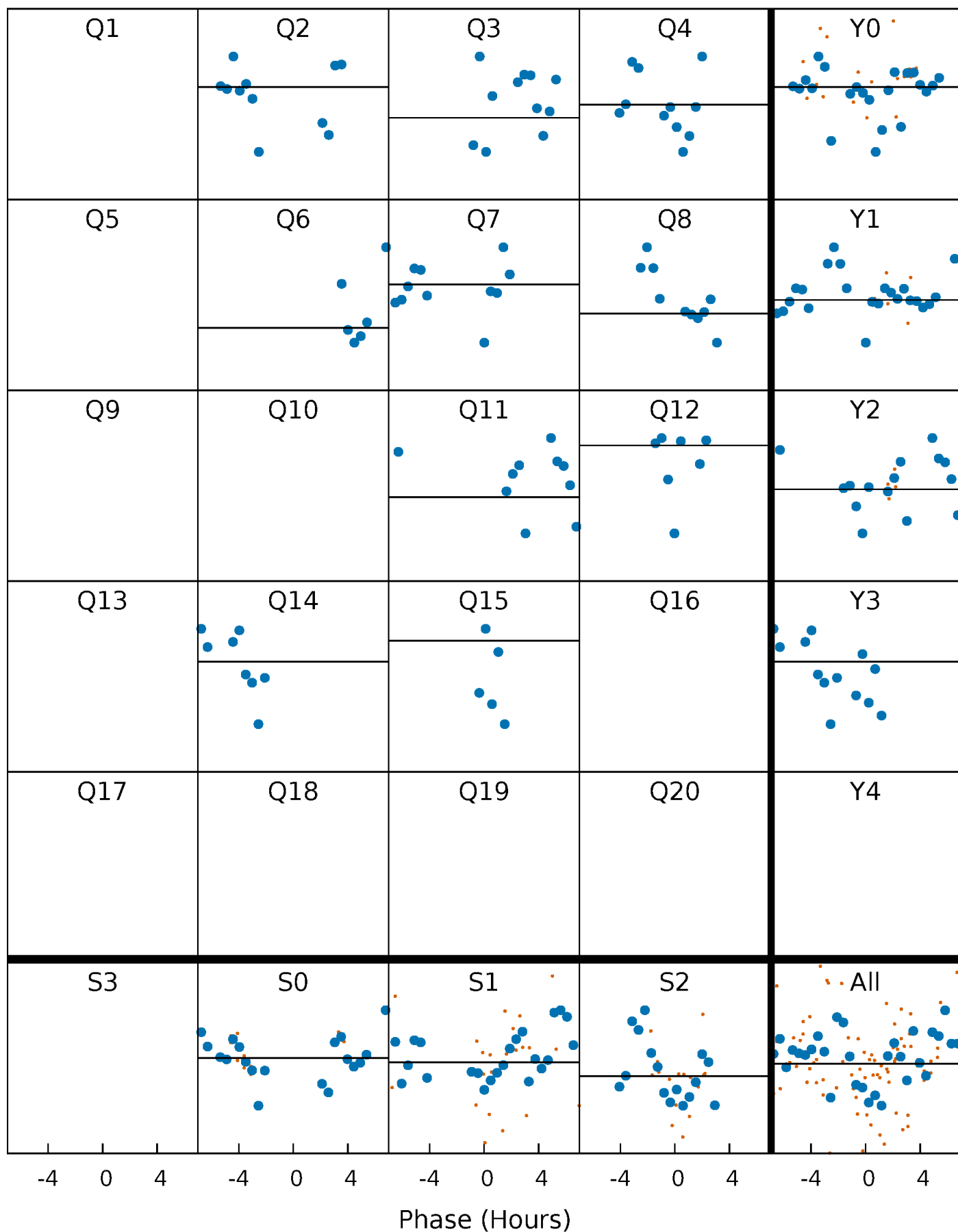
PDC Quarter-Phased Transit Curves

TCE 006421759-06 P= 15.347249 Days $T_0=142.020655$ (BKJD)



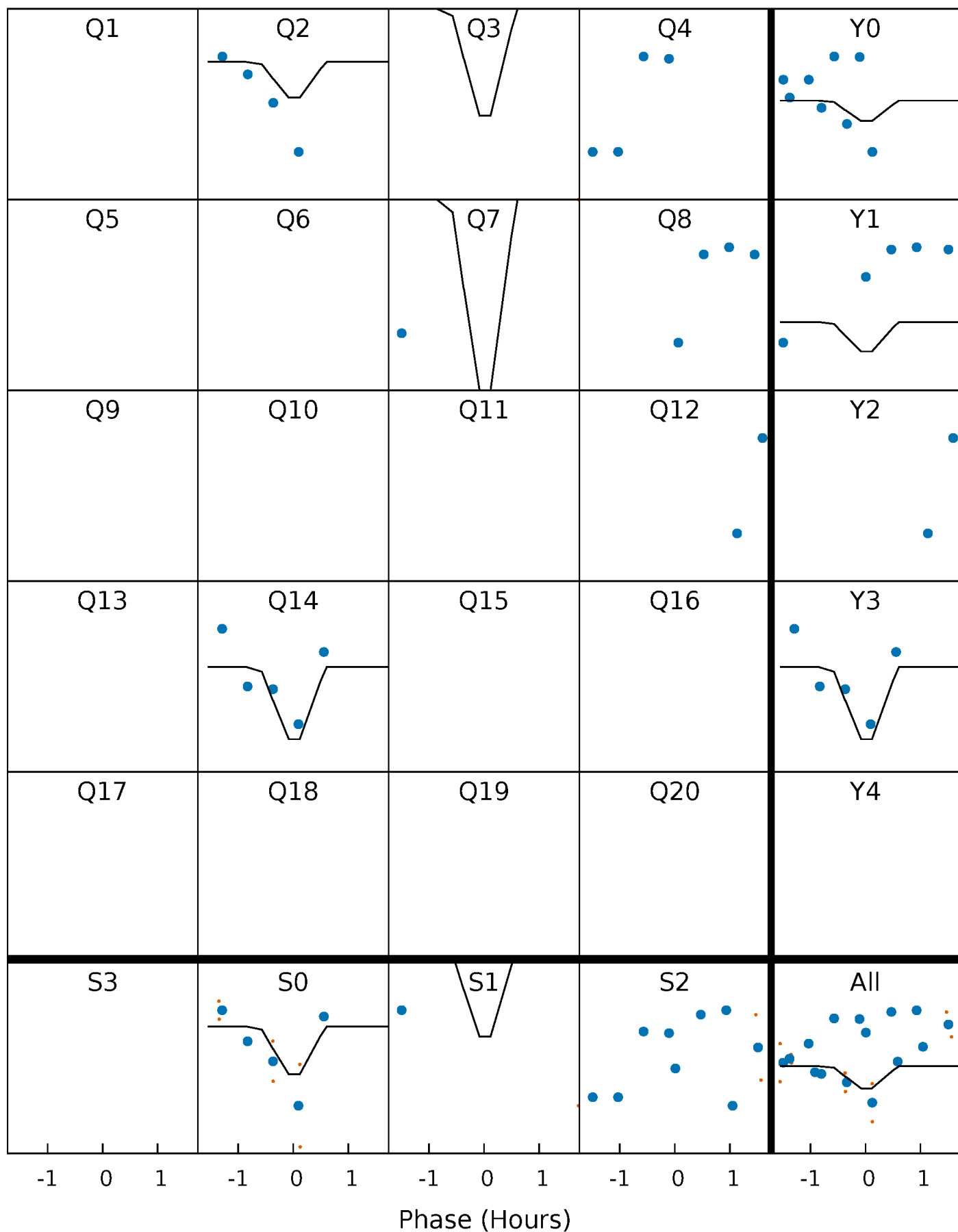
DV Quarter-Phased Transit Curves

TCE 006421759-06 P= 15.347249 Days $T_0=142.020655$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

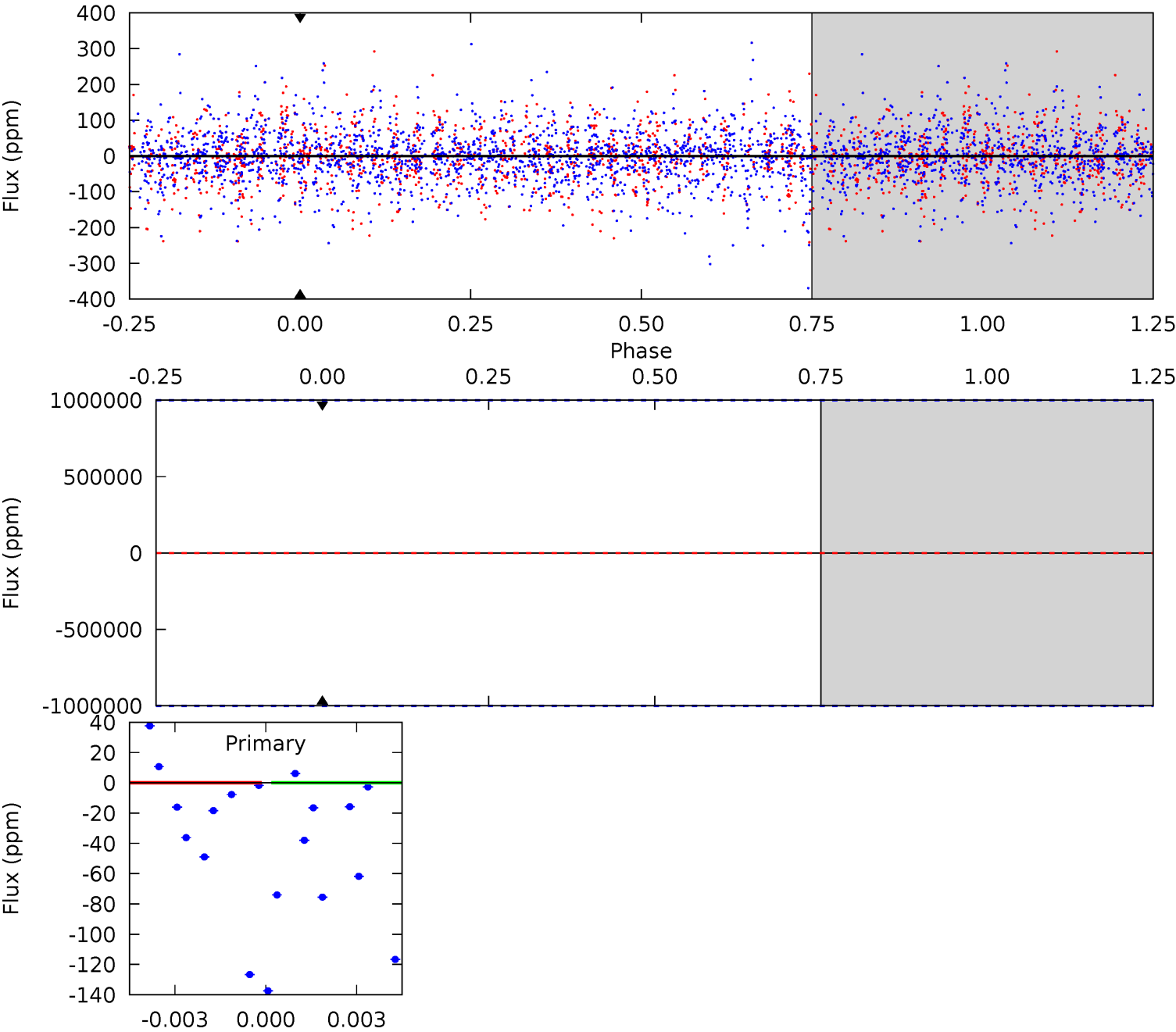
TCE 006421759-06 P= 15.347249 Days $T_0=141.906421$ (BKJD)



DV Model-Shift Uniqueness Test

006421759-06, P = 15.347249 Days, E = 126.673406 Days

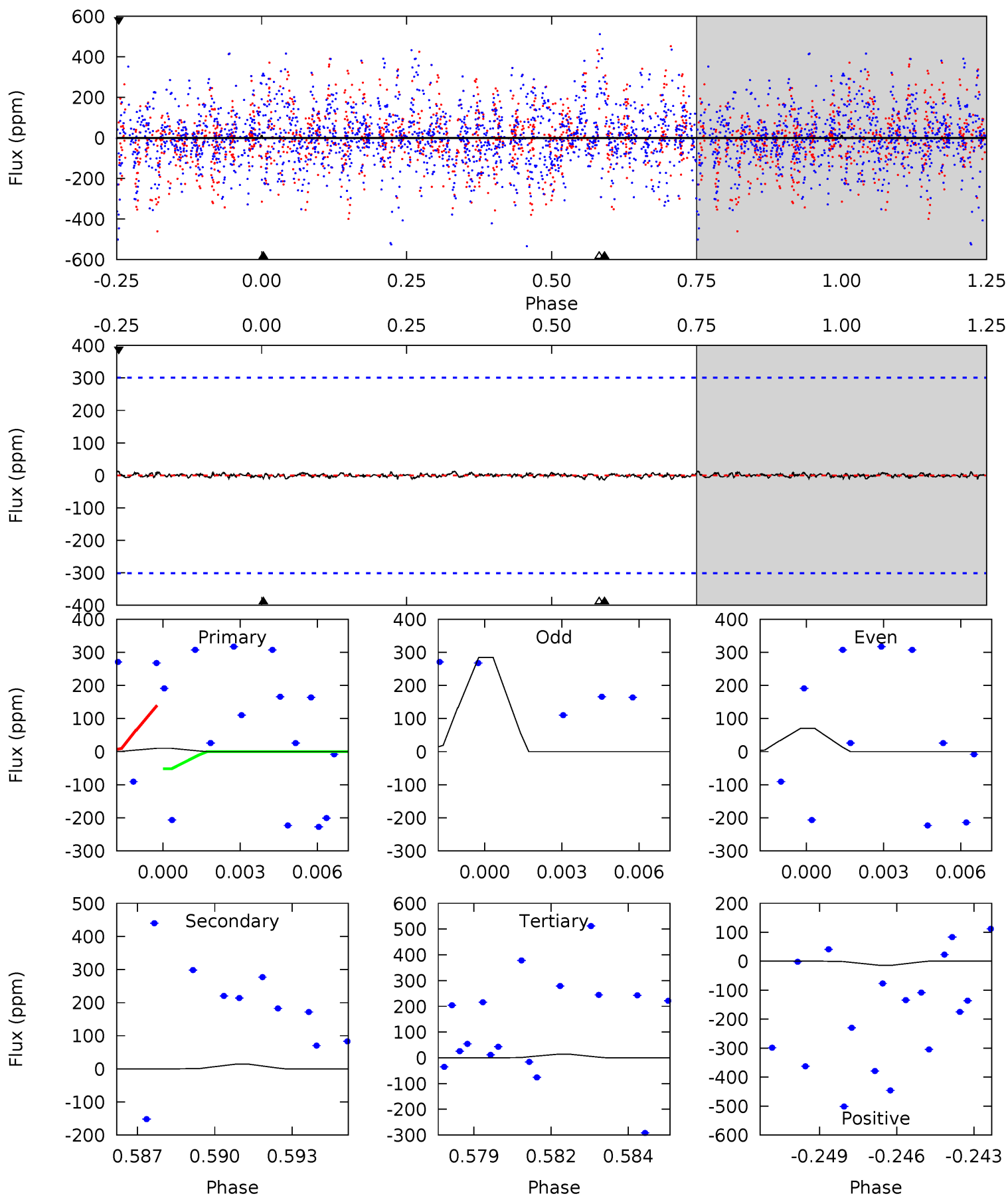
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006421759-06, P = 15.347249 Days, E = 126.559172 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.18	0.24	0.24	0.24	5.26	2.98	0.07	-0.06	-0.06	0.00	0.00	1.36	0.39	0.50	0.77



Stellar Parameters For KIC 006421759

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7171^{+171}_{-235}	$3.335^{+0.424}_{-0.053}$	$-0.500^{+0.350}_{-0.300}$	$5.114^{+1.061}_{-2.475}$	$2.063^{+0.055}_{-0.519}$	$0.022^{+0.090}_{-0.006}$
	+2%/-3%	+13%/-2%	+70%/-60%	+21%/-48%	+3%/-25%	+415%/-27%
Source	PHO1	FLK73	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 006421759-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$34.10^{+37.88}_{-24.66}$	2401^{+177}_{-247}	2725^{+36436}_{-35721}	$0.774^{+2157.703}_{-1722.927}$
Alt.	-14 ± 57	$31.82^{+38.78}_{-22.70}$	2377^{+202}_{-272}	-2561^{+5974}_{-538}	$0.097^{+1.782}_{-0.633}$

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 $A_{\text{obs}} \gg 1.0$

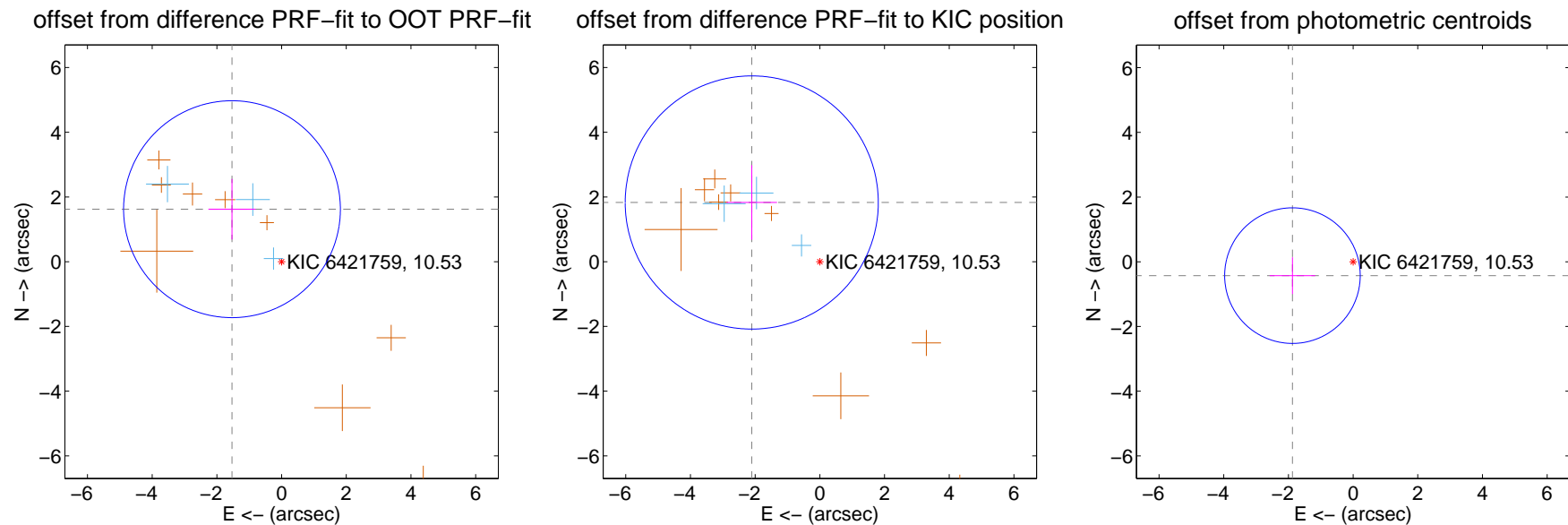
DV Centroid Data

Supplemental centroid analysis for 006421759-06. **Kepler magnitude: 10.53.** Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

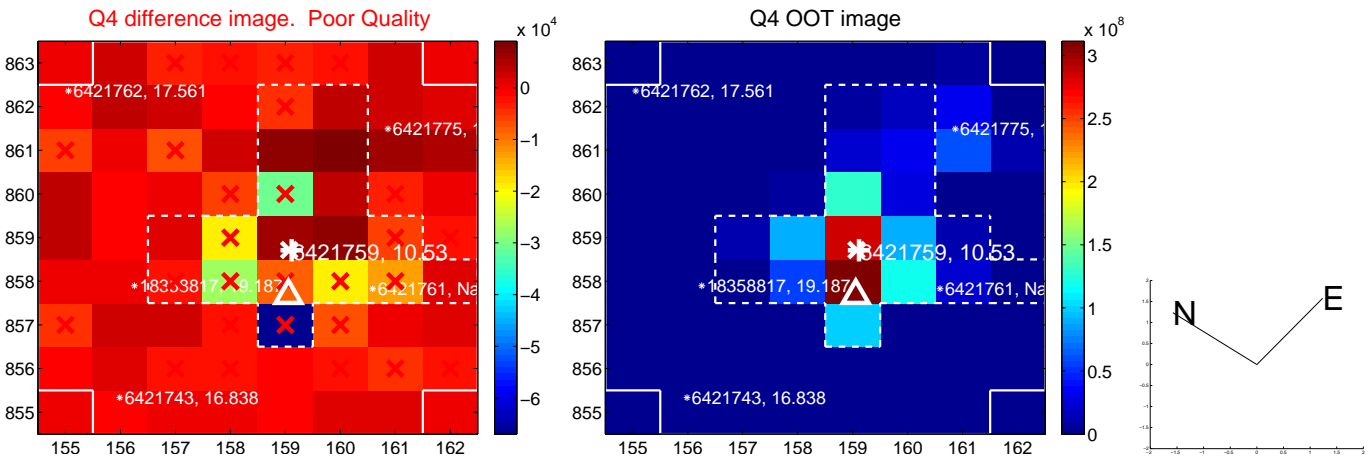
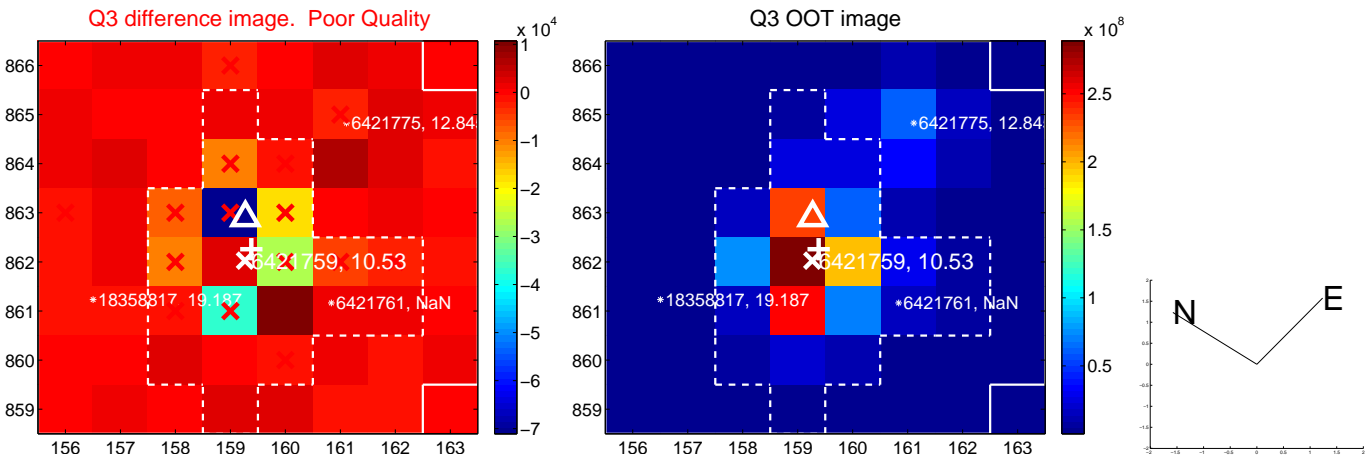
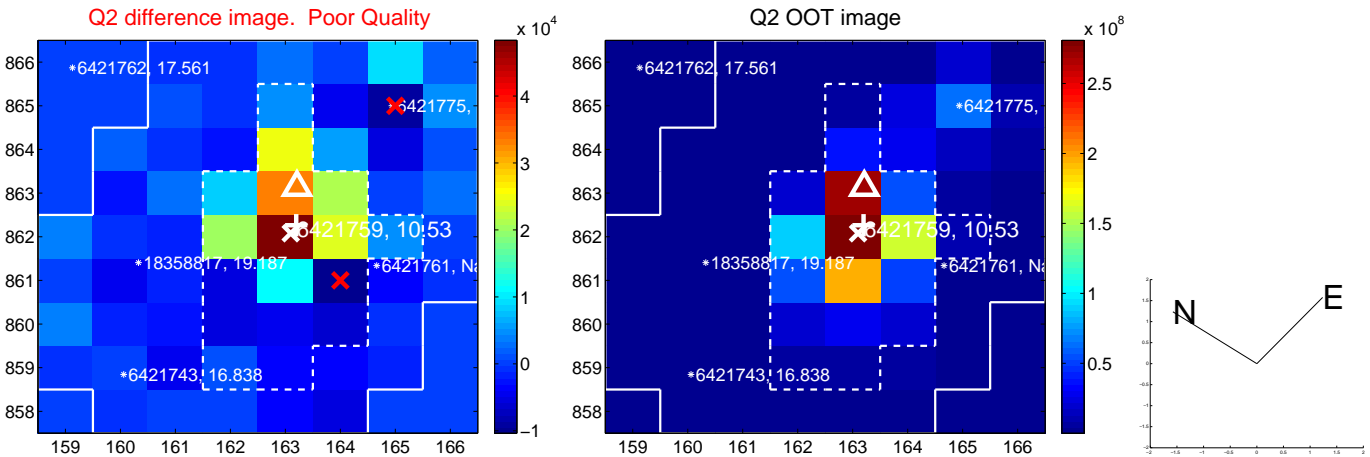
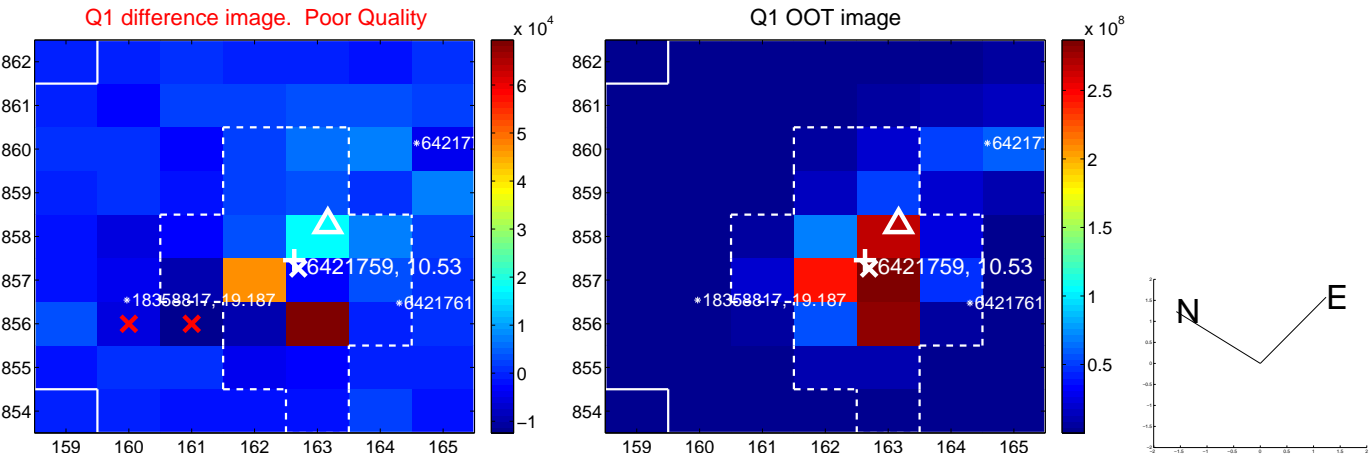
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.232 ± 1.117	2.00	1.533 ± 0.728	1.622 ± 0.934
PRF-fit source offset from KIC position	2.788 ± 1.304	2.14	2.104 ± 0.782	1.829 ± 1.151
photometric centroid source offset	1.92 ± 0.70	2.75	1.88 ± 0.70	-0.43 ± 0.57

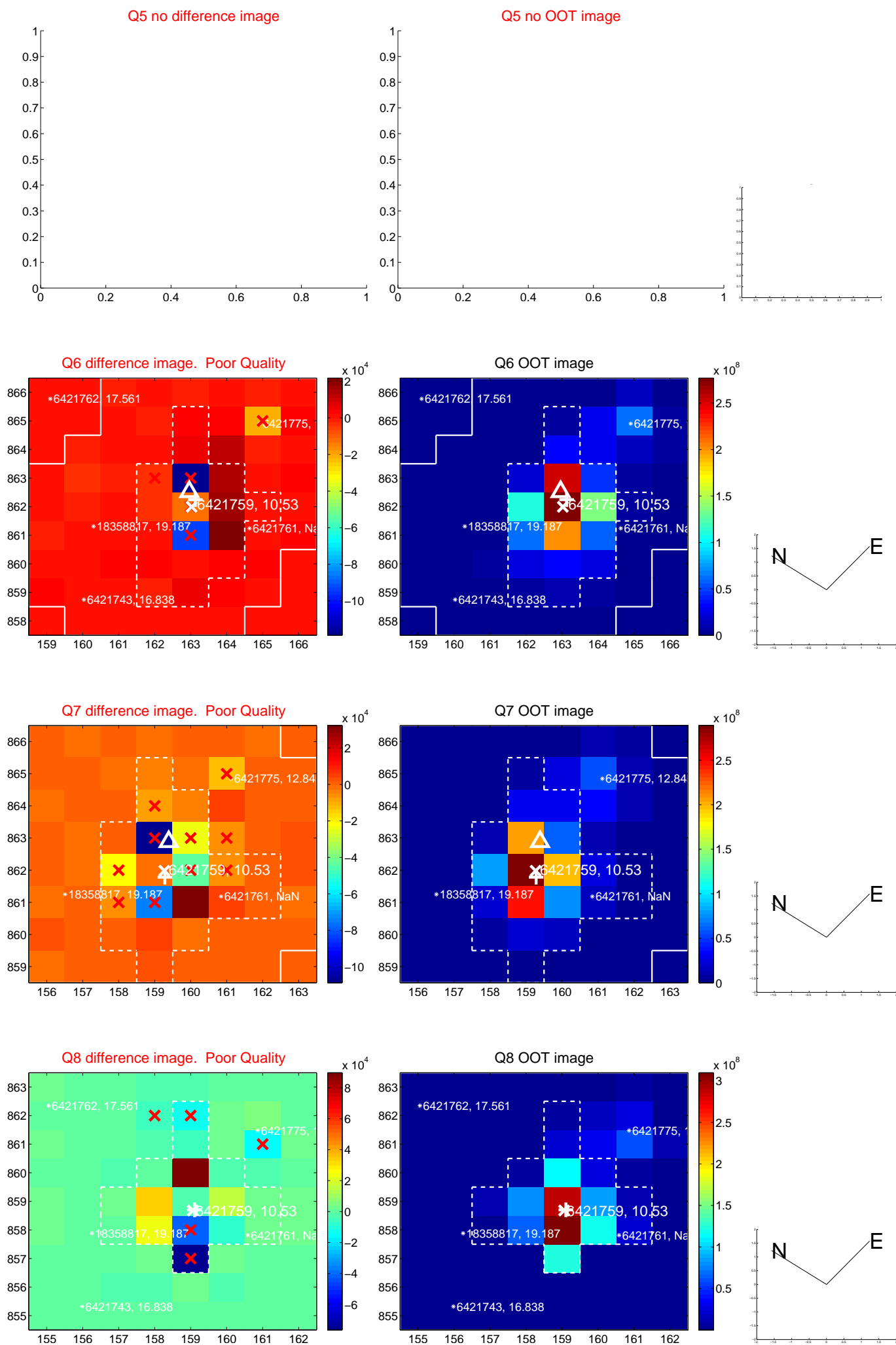


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

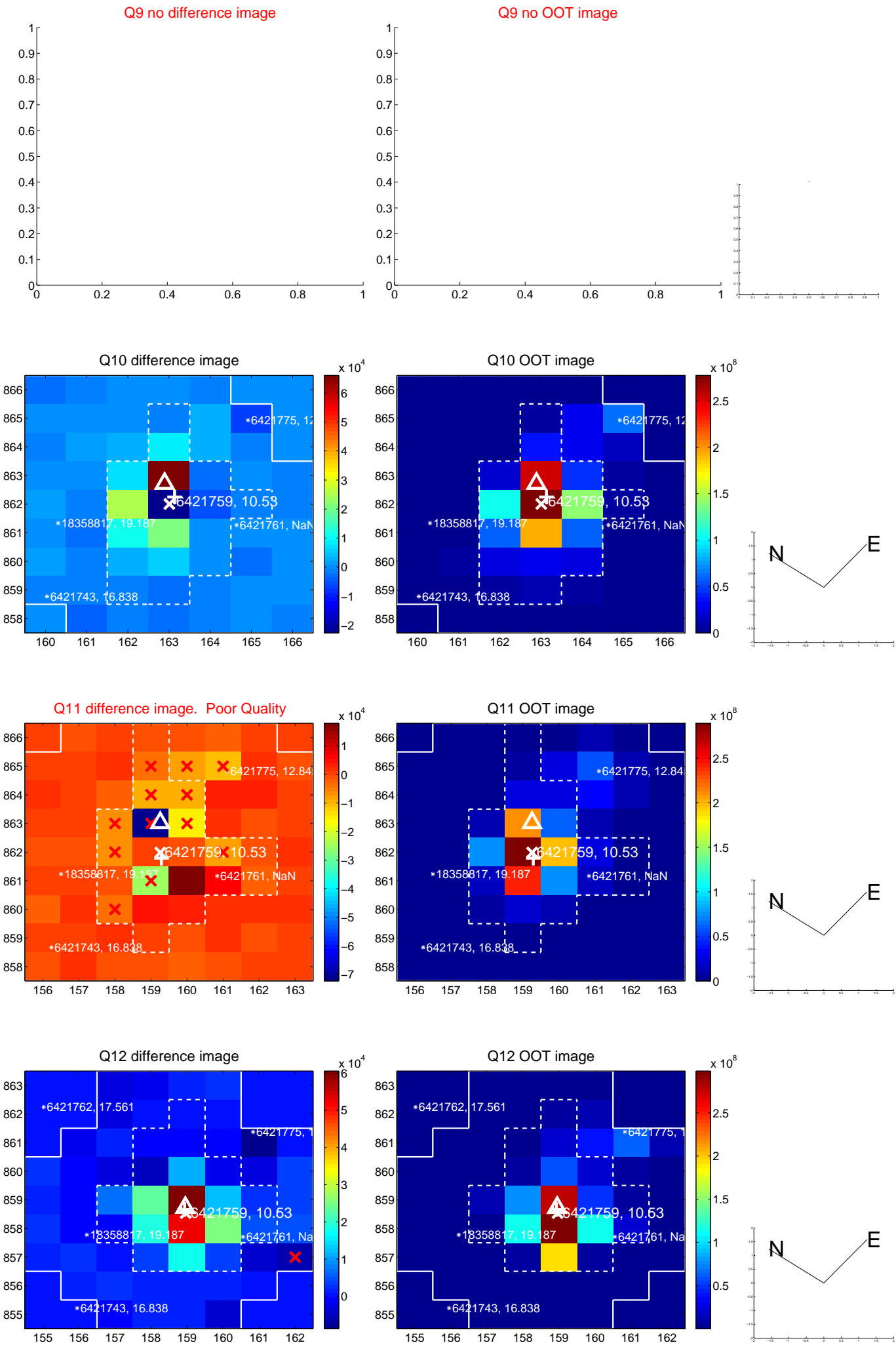
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



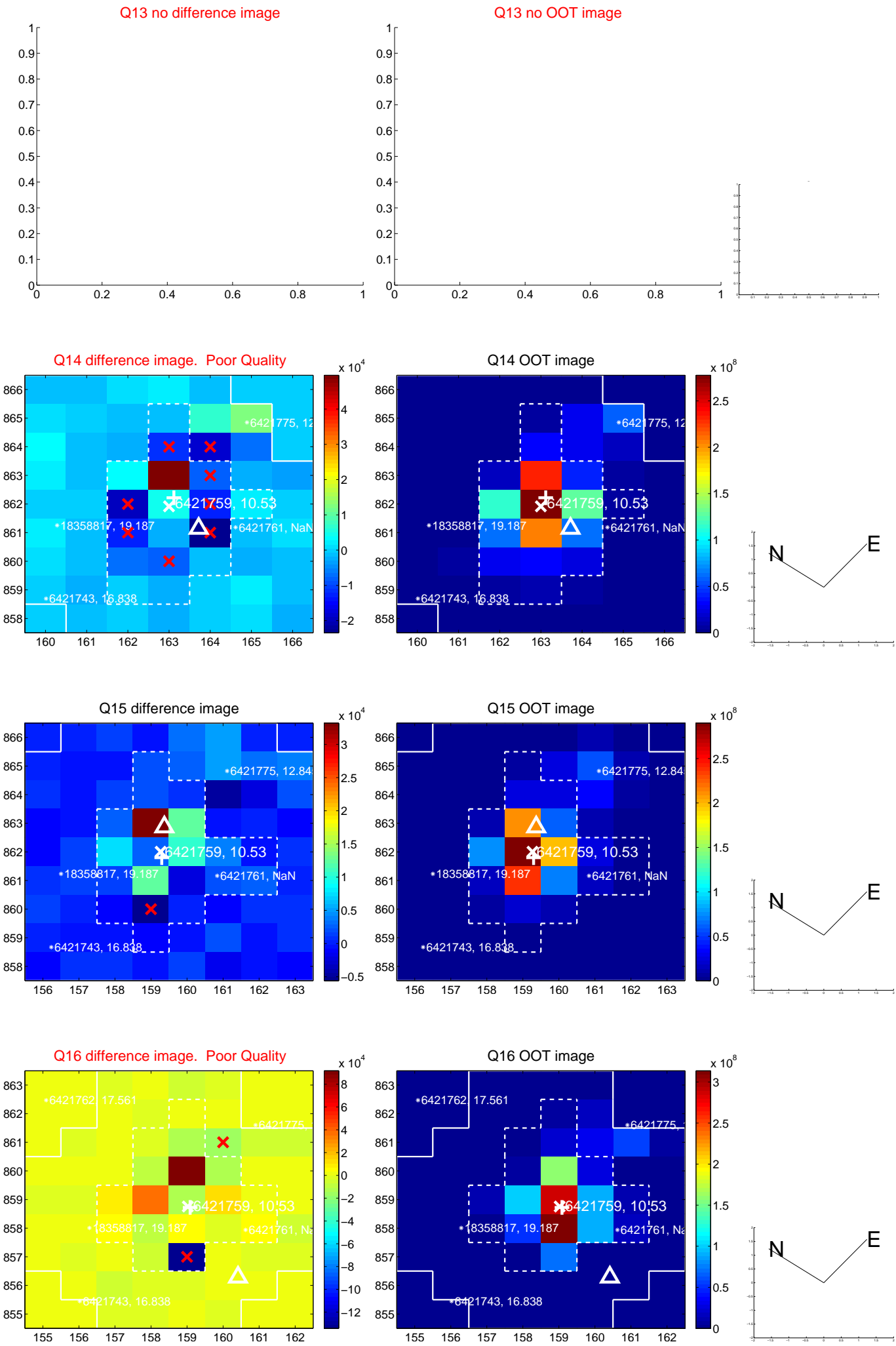
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



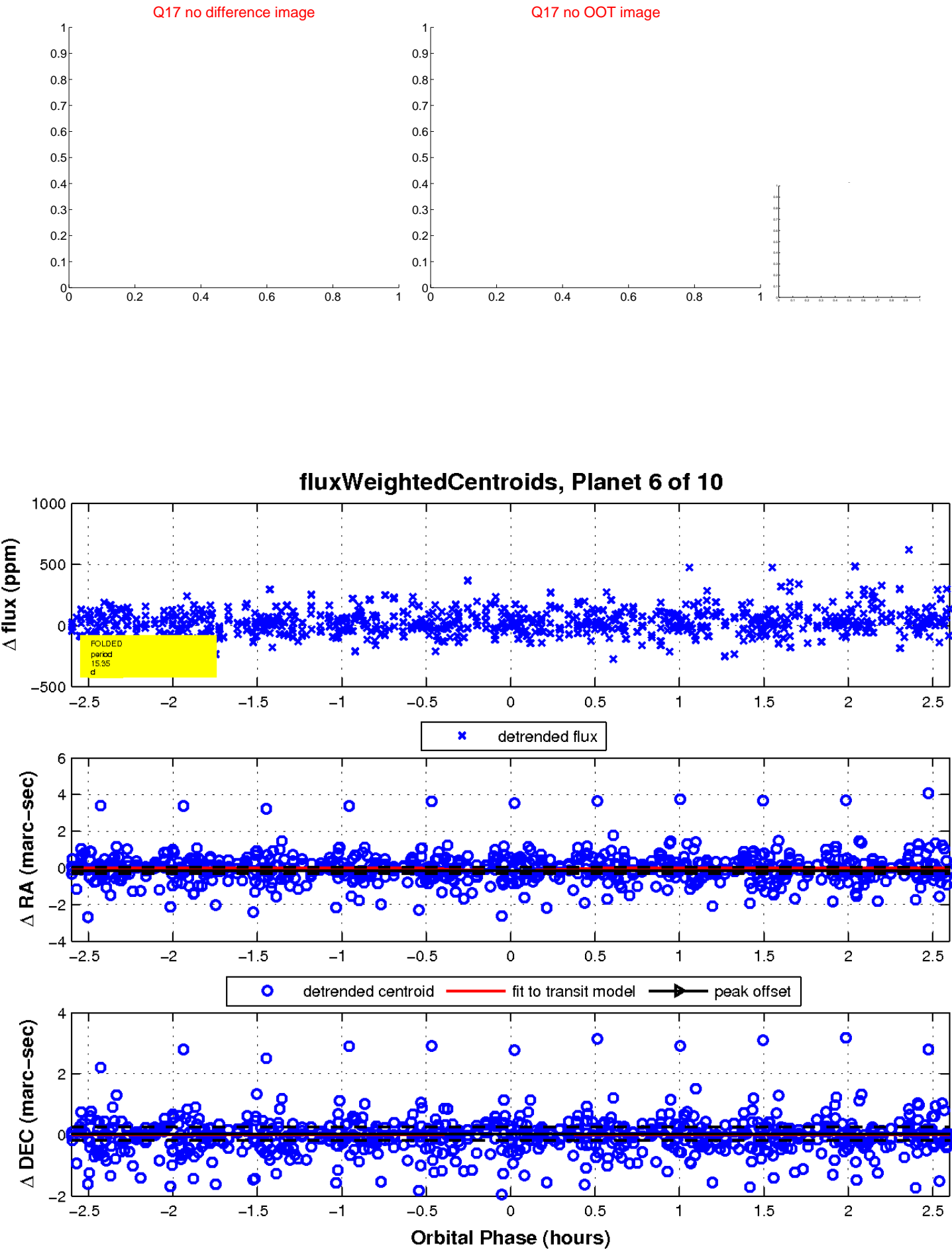
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



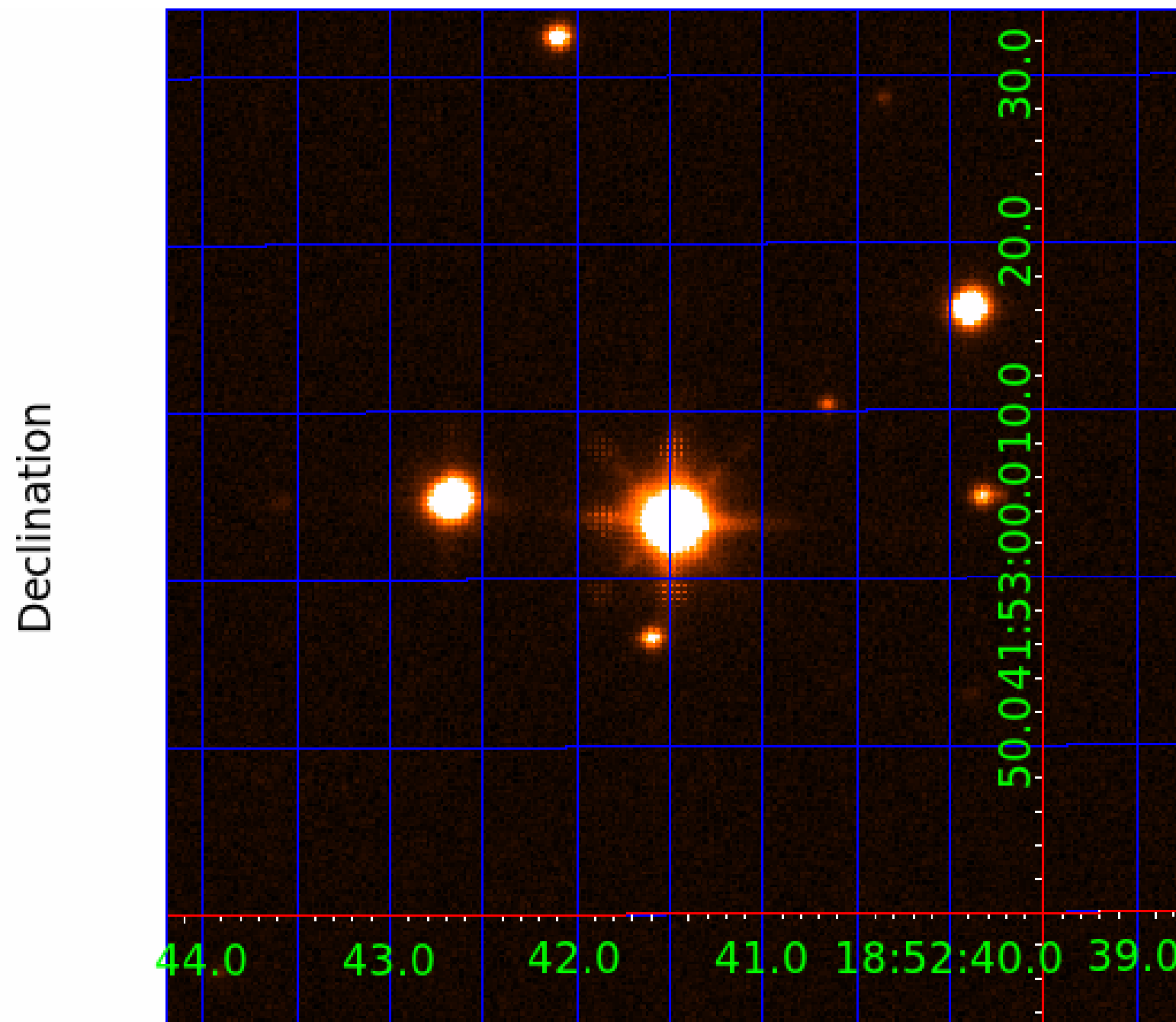
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006421759

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})
006421759-01	OBS	No	1.174548	131.976455	13.2	1.853	8.4	5.4	5.11	7171	1.89	80517.94
006421759-02	OBS	No	3.461164	131.928381	34.7	13.275	8.5	7.9	5.11	7171	3.51	19058.59
006421759-03	OBS	No	3.461214	133.627859	38.3	12.303	10.1	11.3	5.11	7171	3.68	19058.22
006421759-05	OBS	No	29.644193	152.310432	241.2	4.575	11.1	10.3	5.11	7171	9.13	1087.60
006421759-06	OBS	No	15.347249	142.020655	85.4	3.500	9.6	-1.0	5.11	7171	4.78	2616.25
006421759-07	OBS	No	21.876376	134.462209	199.8	3.676	9.5	8.5	5.11	7171	8.39	1630.87
006421759-08	OBS	No	11.519251	134.137520	175.7	3.377	9.0	9.6	5.11	7171	7.87	3835.49
006421759-09	OBS	No	24.991356	144.794029	203.1	4.532	8.6	7.7	5.11	7171	14.15	1365.63
006421759-10	OBS	No	32.859842	160.763969	152.6	3.170	7.2	7.6	5.11	7171	7.33	948.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006421759-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006421759-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
006421759-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

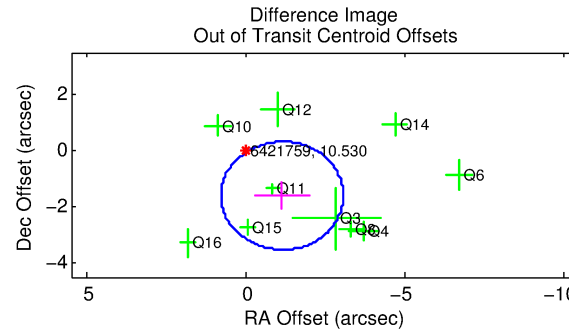
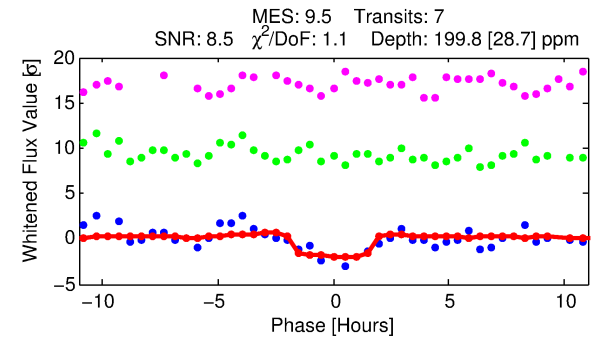
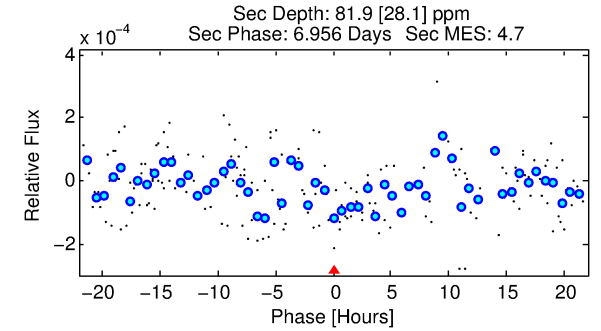
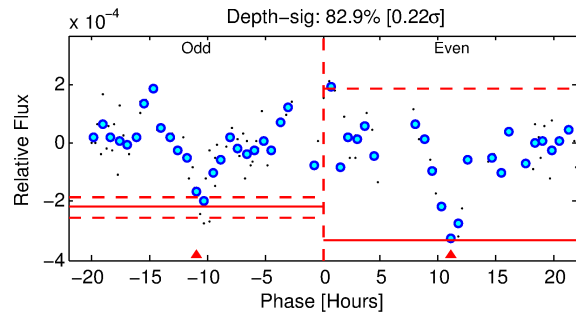
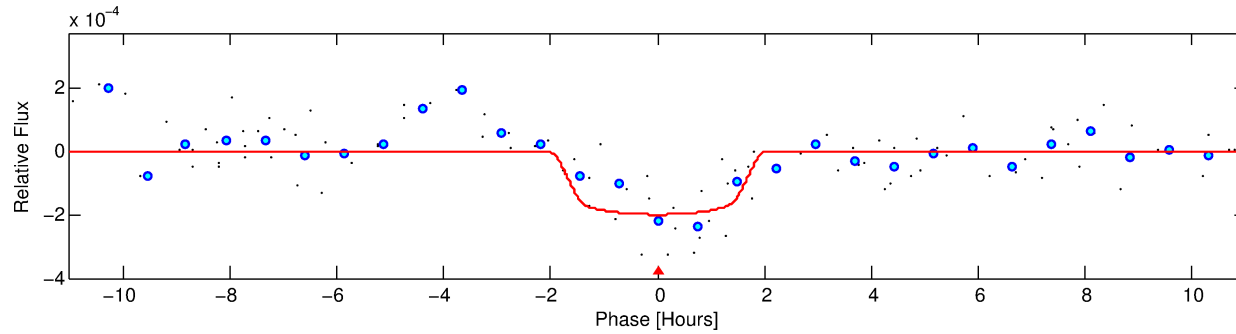
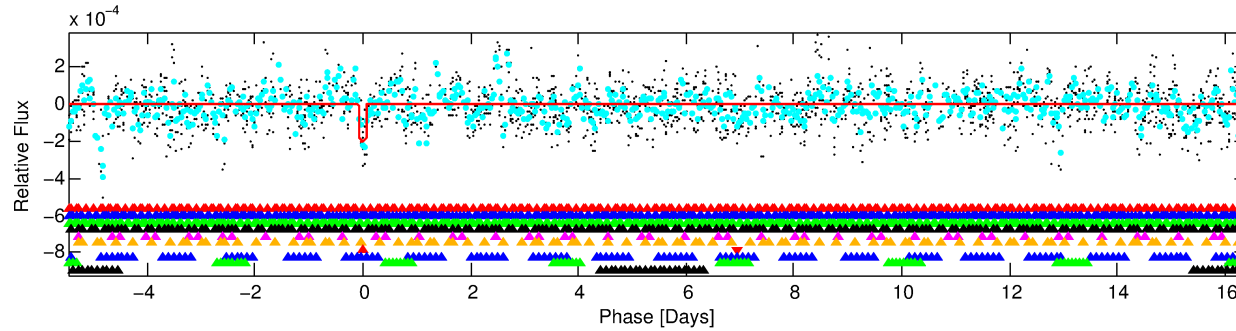
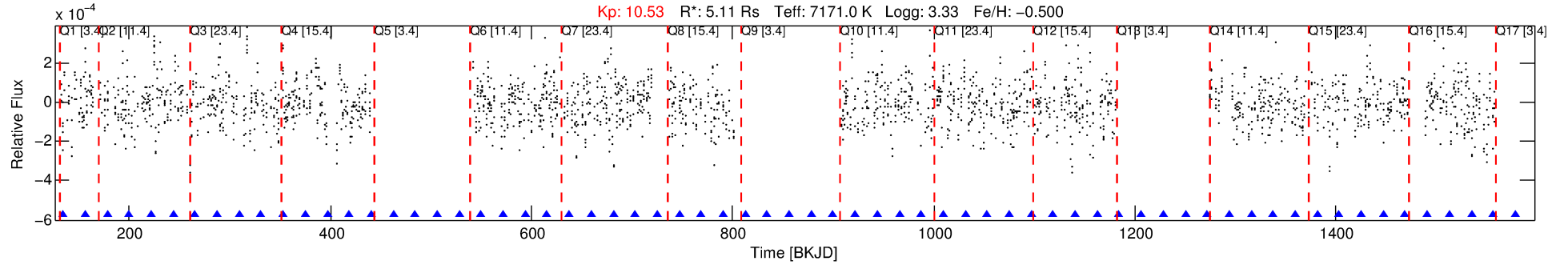
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006421759-07

No Significant Match Found

DV One-Page Summary

KIC: 6421759 Candidate: 7 of 10 Period: 21.876 d



DV Fit Results:

Period = 21.87638 [0.00018] d
Epoch = 134.4622 [0.0070] BKJD
Rp/R* = 0.0150 [0.0093]
a/R* = 21.36 [82.74]
b = 0.90 [0.83]
Seff = 1630.87 [1203.87]
Teq = 1620 [299] K
Rp = 8.39 [6.58] Re
a = 0.1949 [0.0893] AU
Ag = 24.32 [35.80] [0.65σ]
Teffp = 5564 [1790] K [2.17σ]

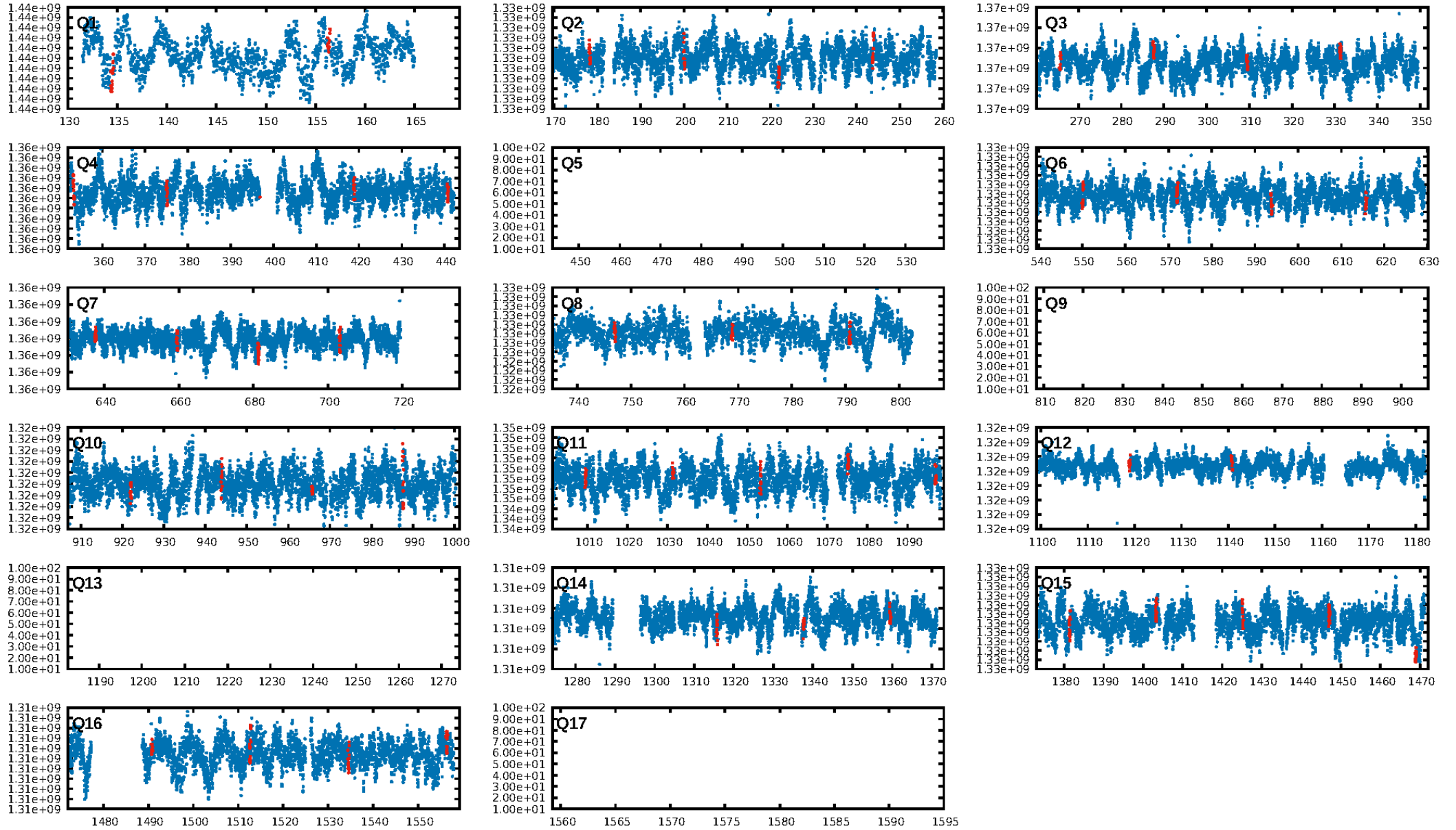
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [30.87σ]
LongPeriod-sig: 100.0% [12.81σ]
ModelChiSquare2-sig: 14.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.2625
Centroid-sig: 13.5%
Centroid-so: 0.499 arcsec [1.48σ]
OotOffset-rm: 1.969 arcsec [3.07σ]
KicOffset-rm: 2.059 arcsec [3.45σ]
OotOffset-st: 3/3/4/0 [10]
KicOffset-st: 3/3/4/0 [10]
DiffImageQuality-fgm: 0.20 [2/10]
DiffImageOverlap-fno: 0.23 [3/13]

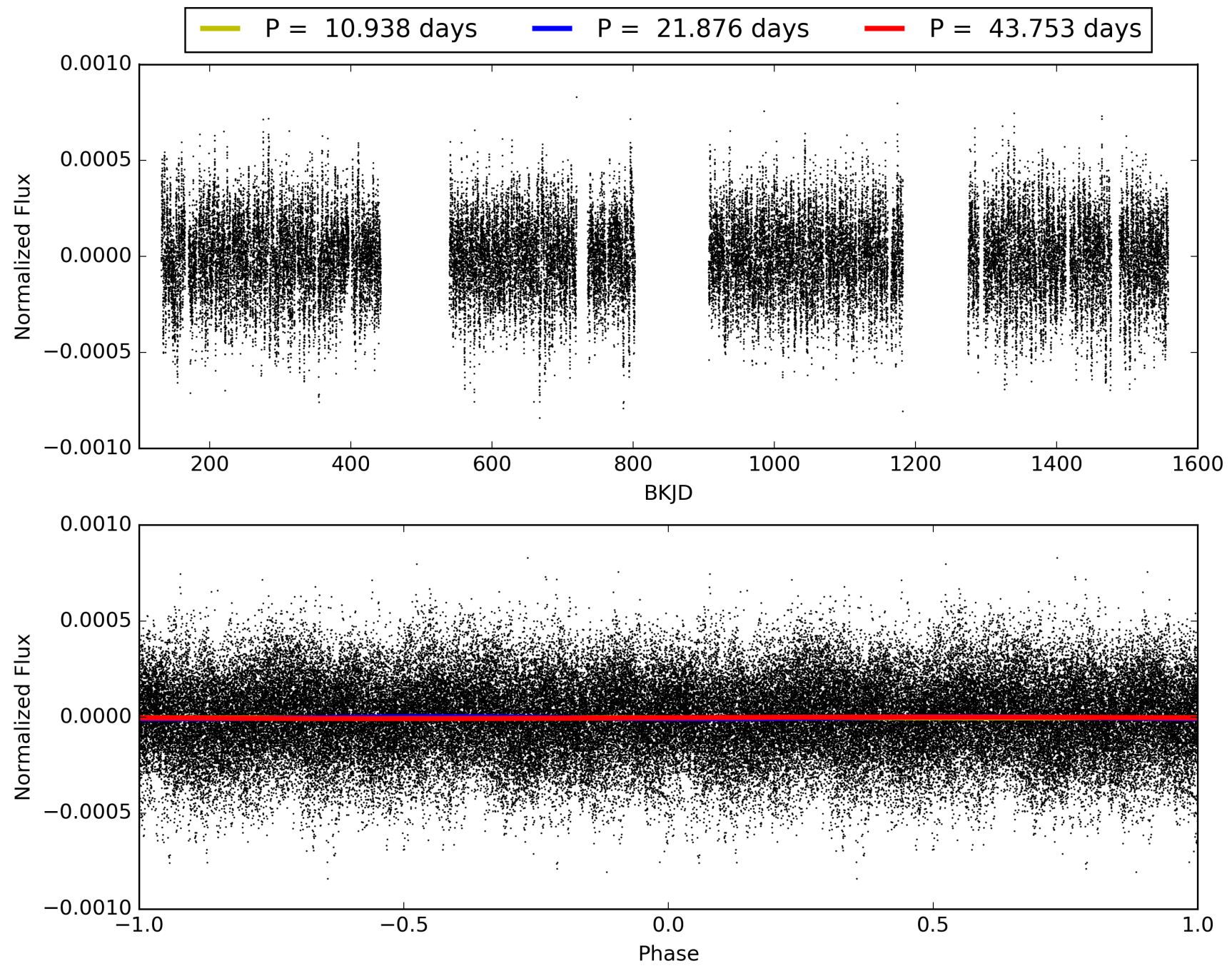
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:25:24 Z

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

TCE 006421759-07, PDC Light Curves

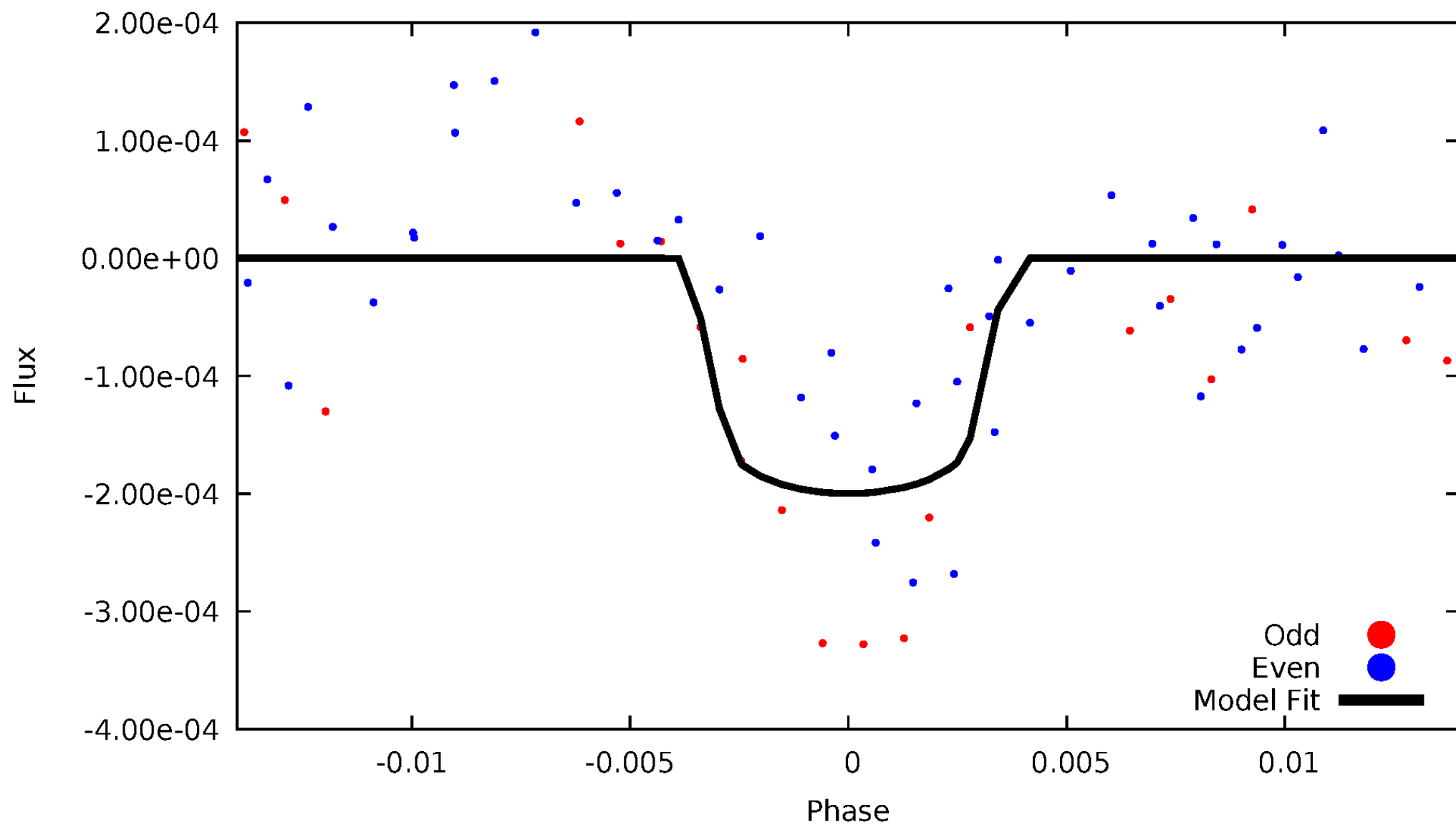


TCE 006421759-07



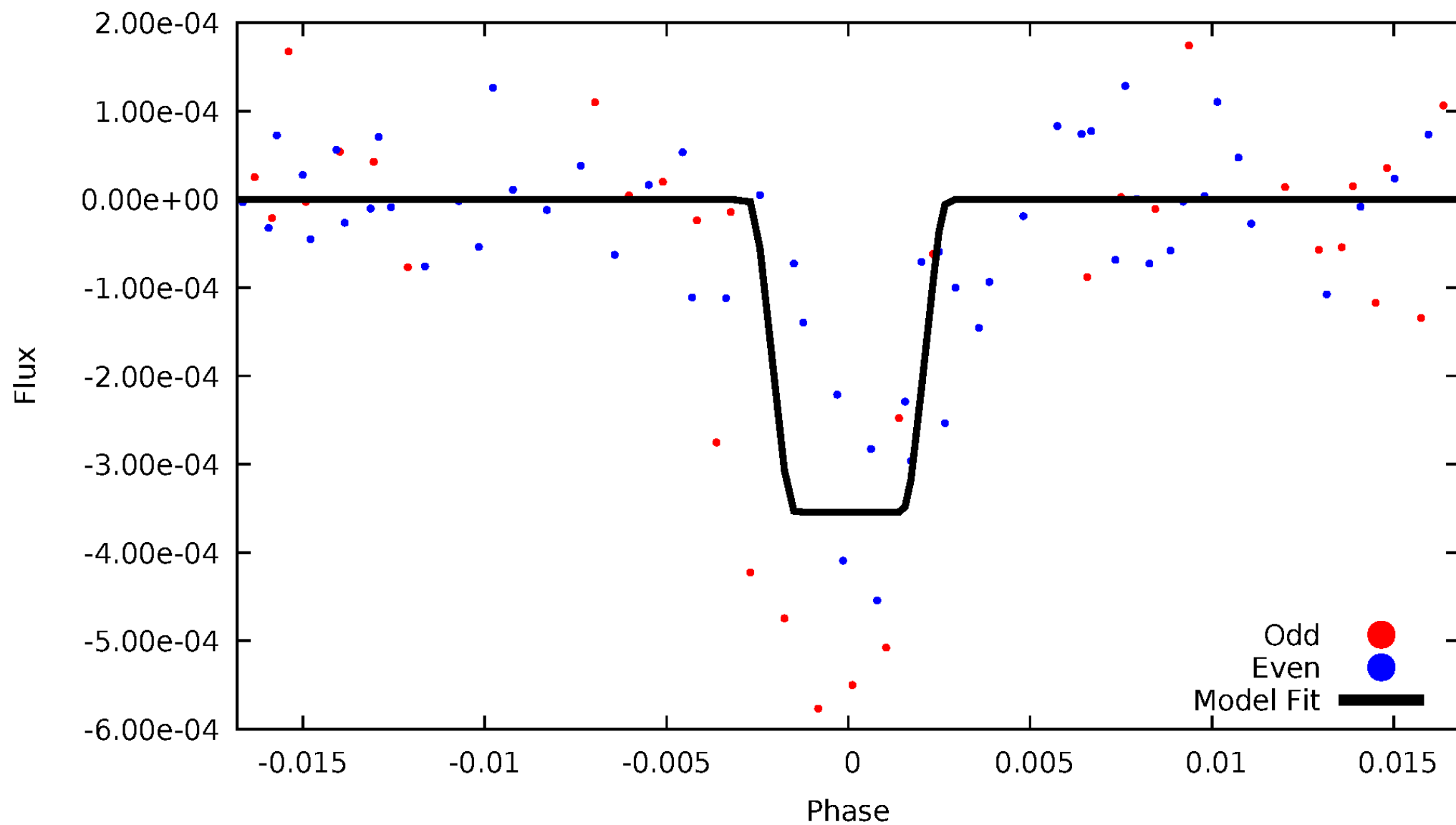
DV Odd/Even

TCE 006421759-07



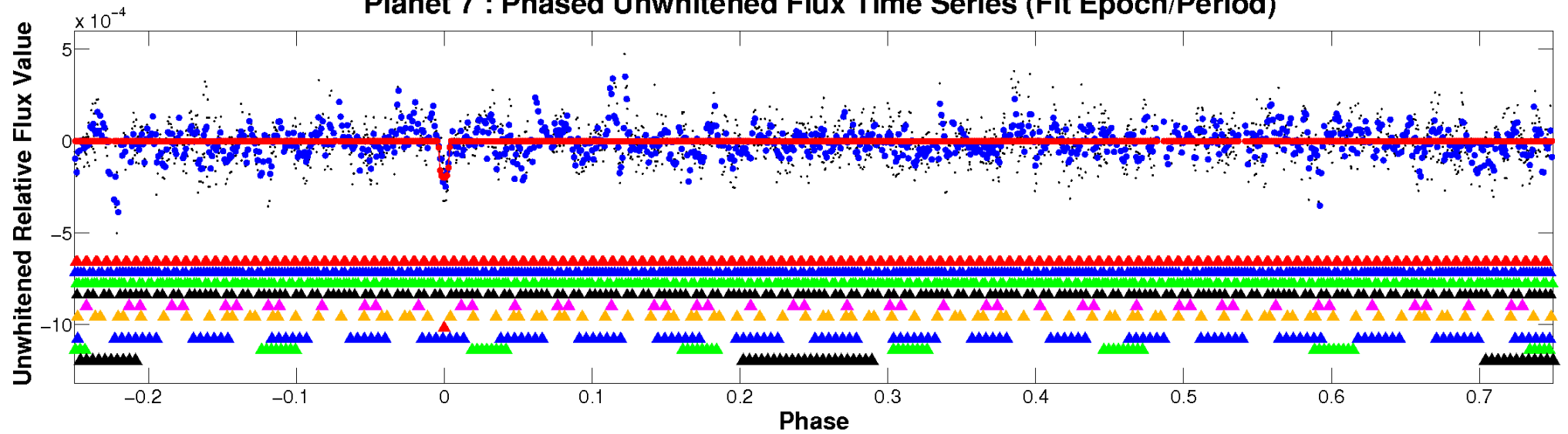
ALT Odd/Even

TCE 006421759-07

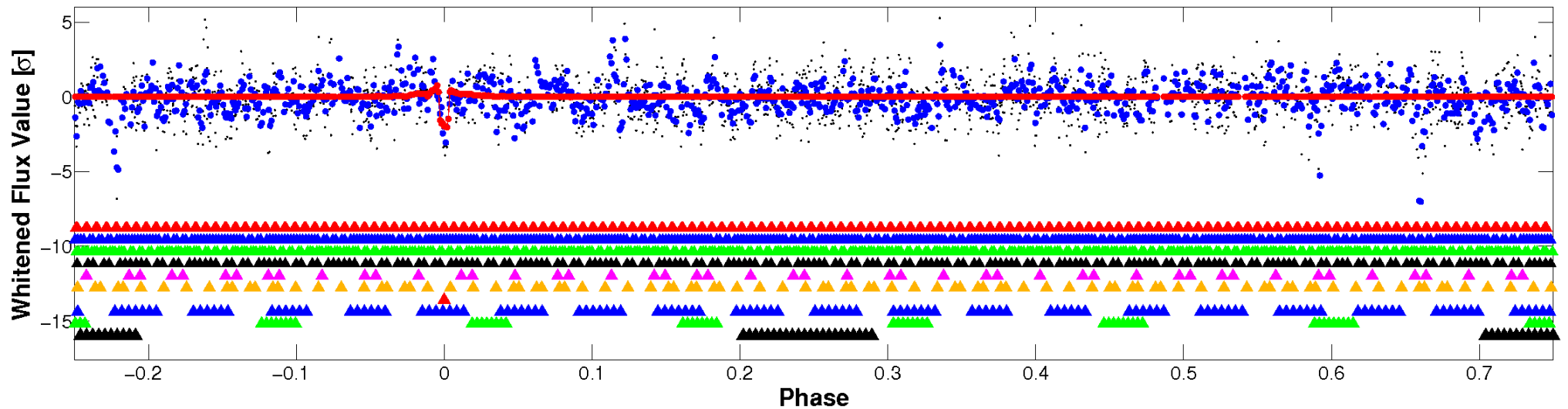


Non-Whitened Vs. Whitened Light Curve

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

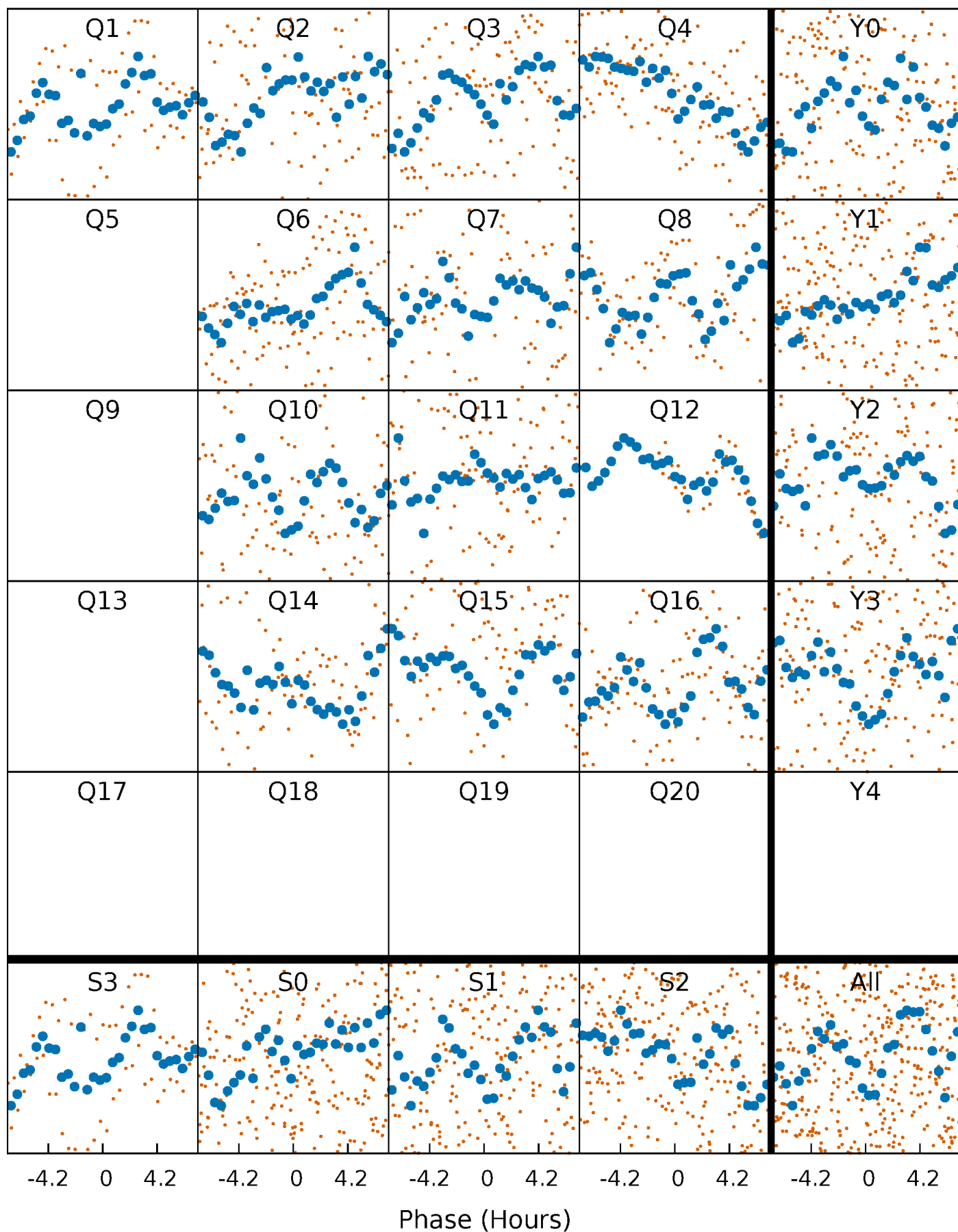


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



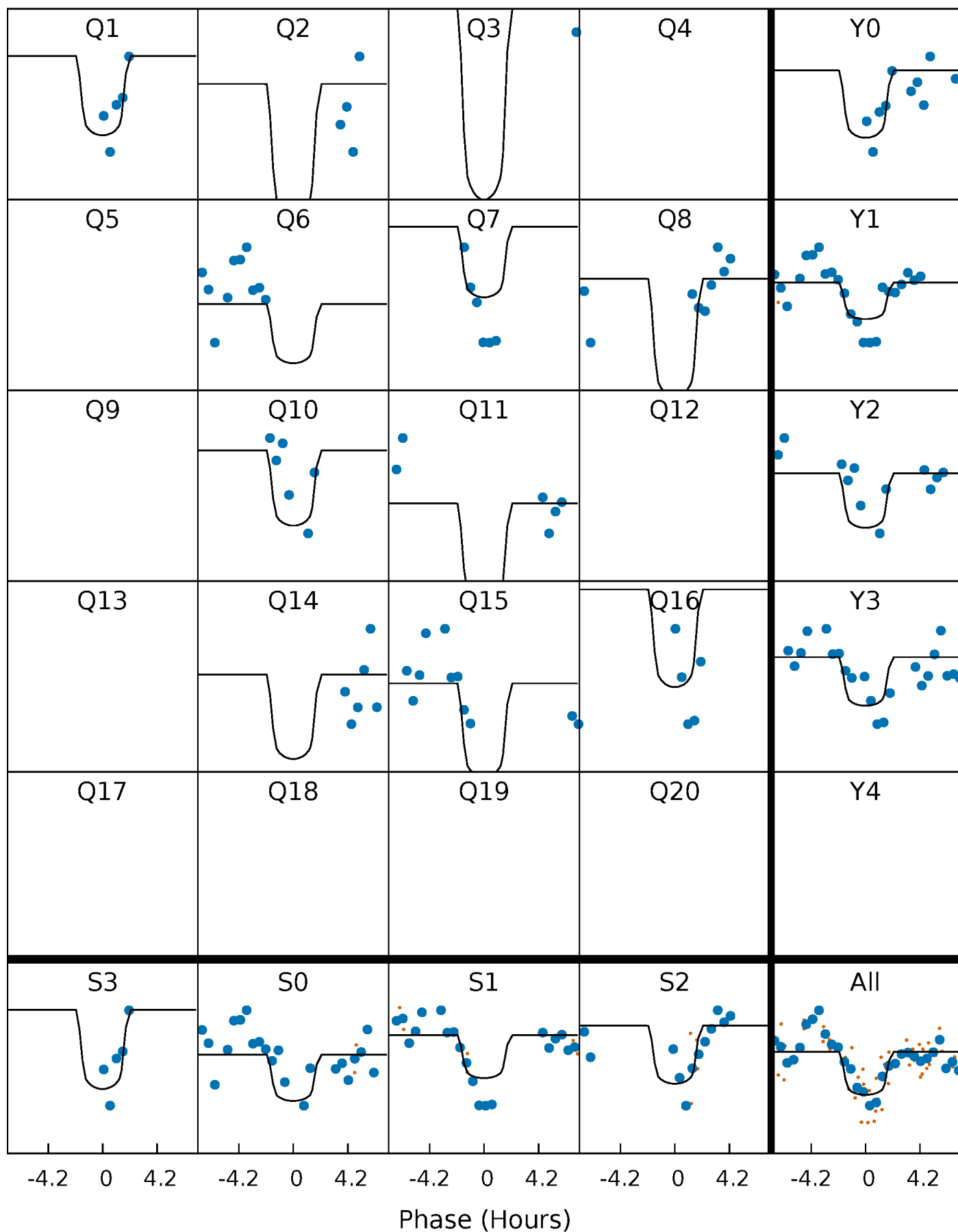
PDC Quarter-Phased Transit Curves

TCE 006421759-07 P= 21.876376 Days $T_0=134.462210$ (BKJD)



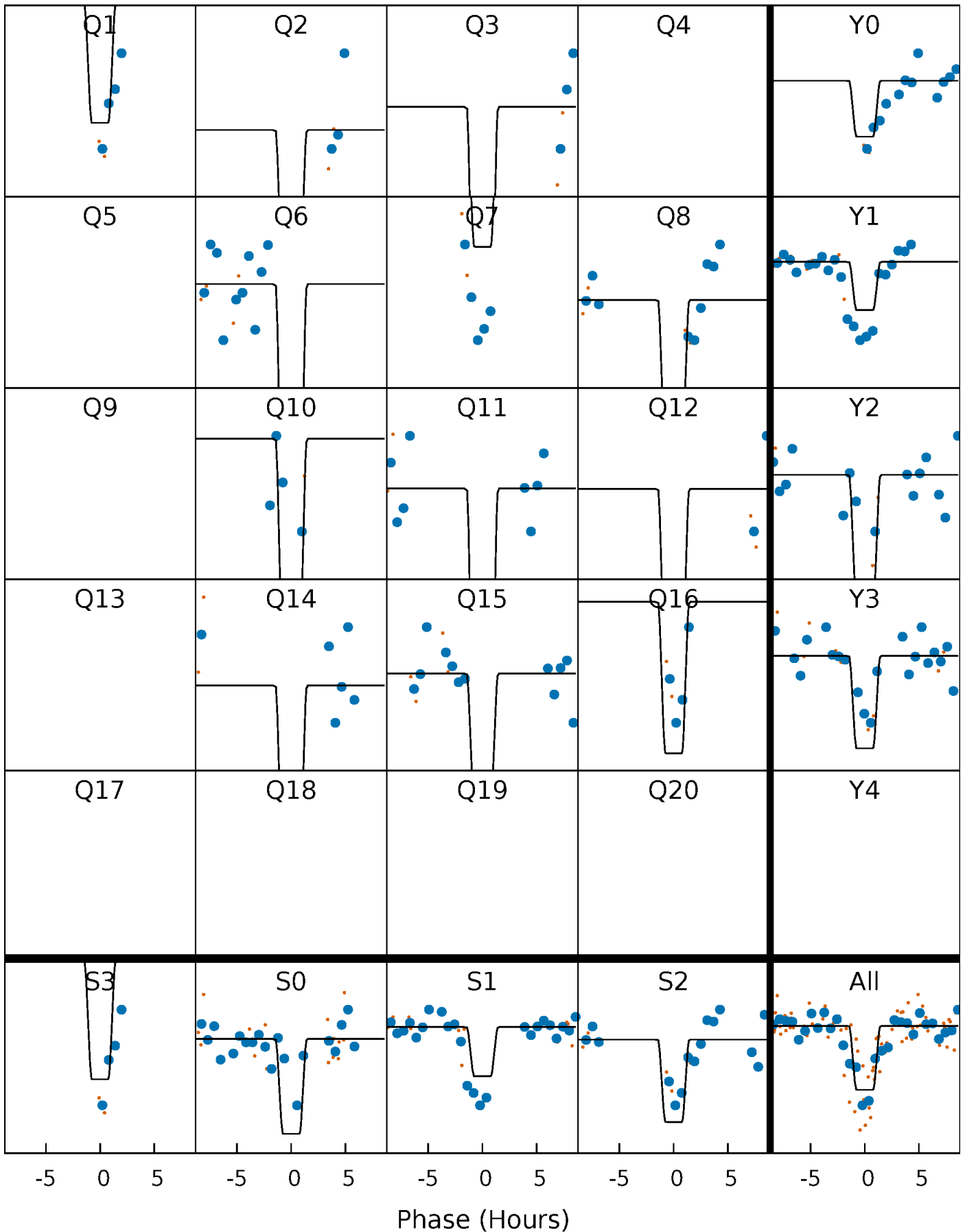
DV Quarter-Phased Transit Curves

TCE 006421759-07 $P = 21.876376$ Days $T_0 = 134.462210$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

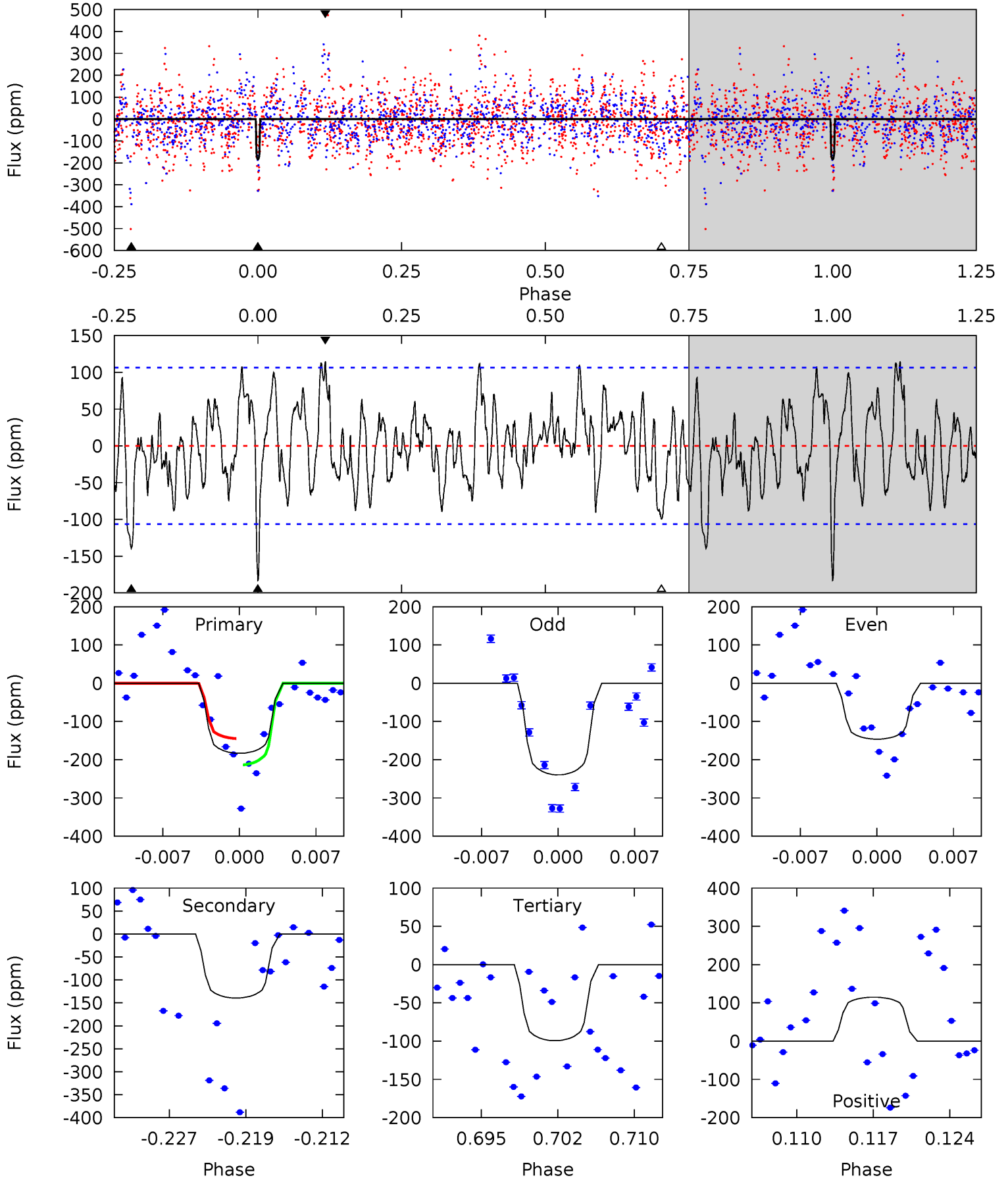
TCE 006421759-07 $P = 21.876725$ Days $T_0 = 134.458649$ (BKJD)



DV Model-Shift Uniqueness Test

006421759-07, P = 21.876376 Days, E = 112.585834 Days

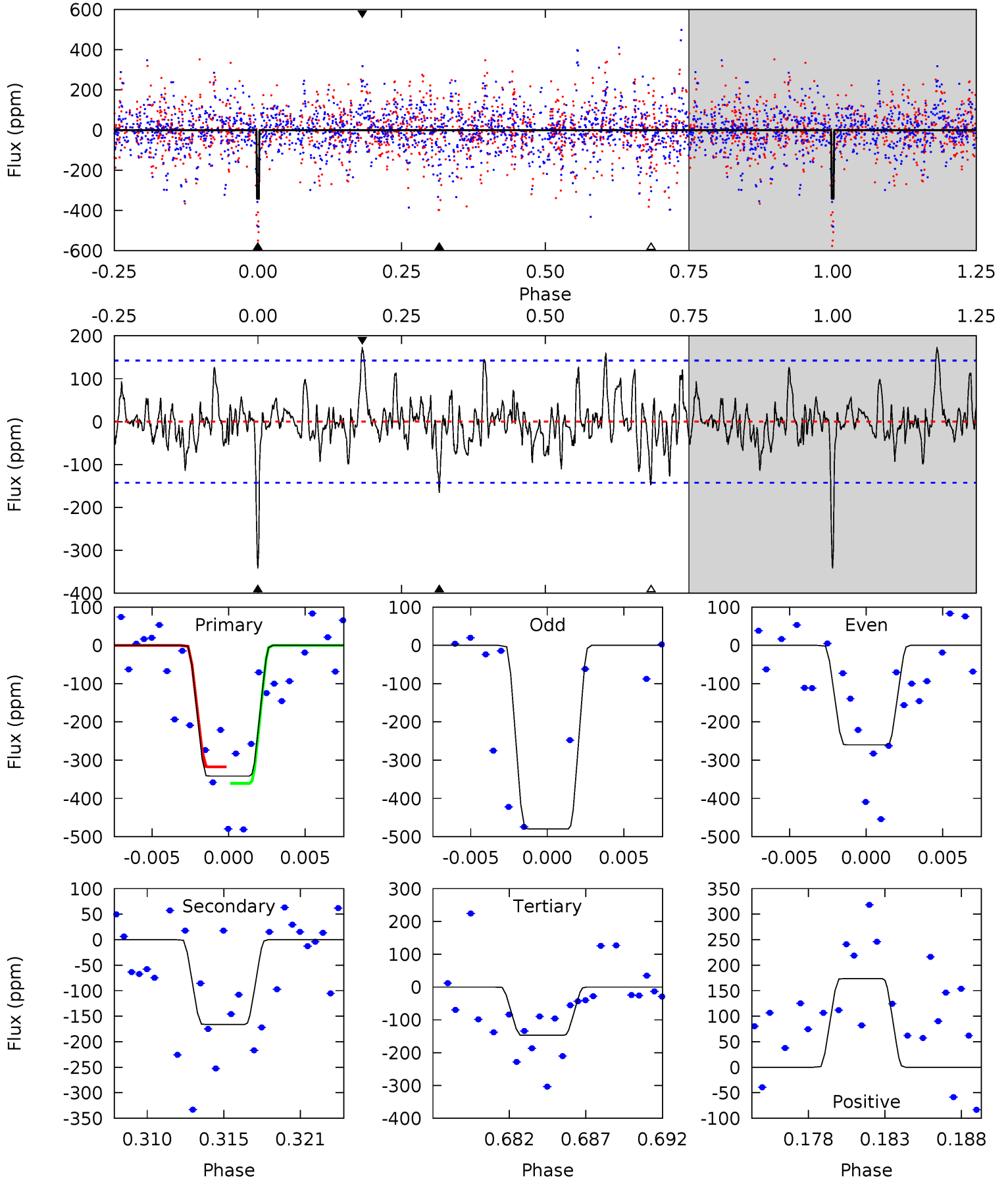
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.75	6.66	4.75	5.49	5.09	2.68	2.05	4.00	3.27	1.91	1.17	2.25	0.91	0.39	1.64



Alt Model-Shift Uniqueness Test

006421759-07, P = 21.876725 Days, E = 112.581924 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	6.01	5.32	6.28	5.15	2.80	1.62	7.04	6.08	0.68	-0.27	3.78	1.21	0.34	0.74



Stellar Parameters For KIC 006421759

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7171^{+171}_{-235}	$3.335^{+0.424}_{-0.053}$	$-0.500^{+0.350}_{-0.300}$	$5.114^{+1.061}_{-2.475}$	$2.063^{+0.055}_{-0.519}$	$0.022^{+0.090}_{-0.006}$
	+2%/-3%	+13%/-2%	+70%/-60%	+21%/-48%	+3%/-25%	+415%/-27%
Source	PHO1	FLK73	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 006421759-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-139 ± 21	$7.56^{+5.02}_{-4.25}$	2140^{+155}_{-247}	6015^{+3512}_{-1125}	49^{+192}_{-31}
Alt.	-166 ± 28	$8.80^{+4.76}_{-4.50}$	2136^{+160}_{-250}	5806^{+2566}_{-964}	42^{+124}_{-24}

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 $A_{\text{obs}} \gg 1.0$

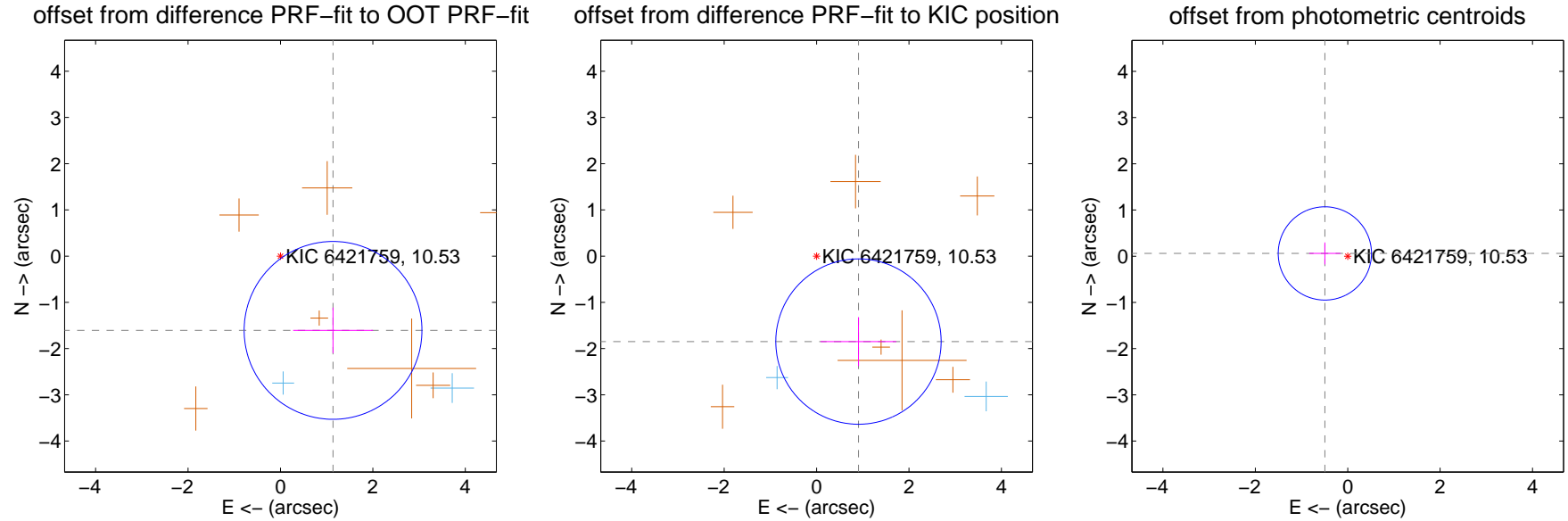
DV Centroid Data

Supplemental centroid analysis for 006421759-07. **Kepler magnitude: 10.53.** Transit SNR 8.52

There are 2 quarters with good PRF difference image offsets

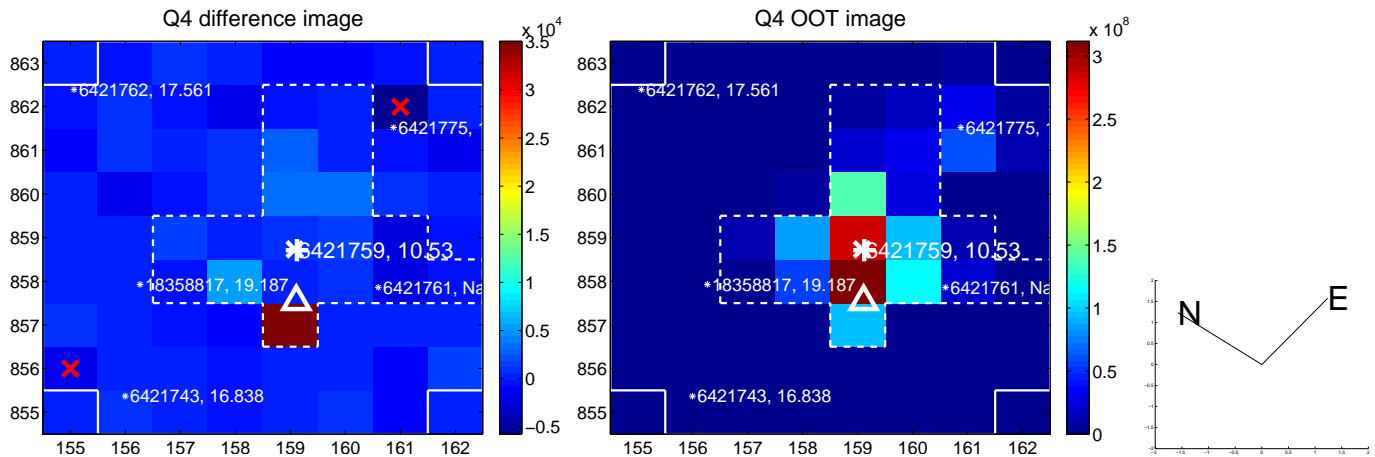
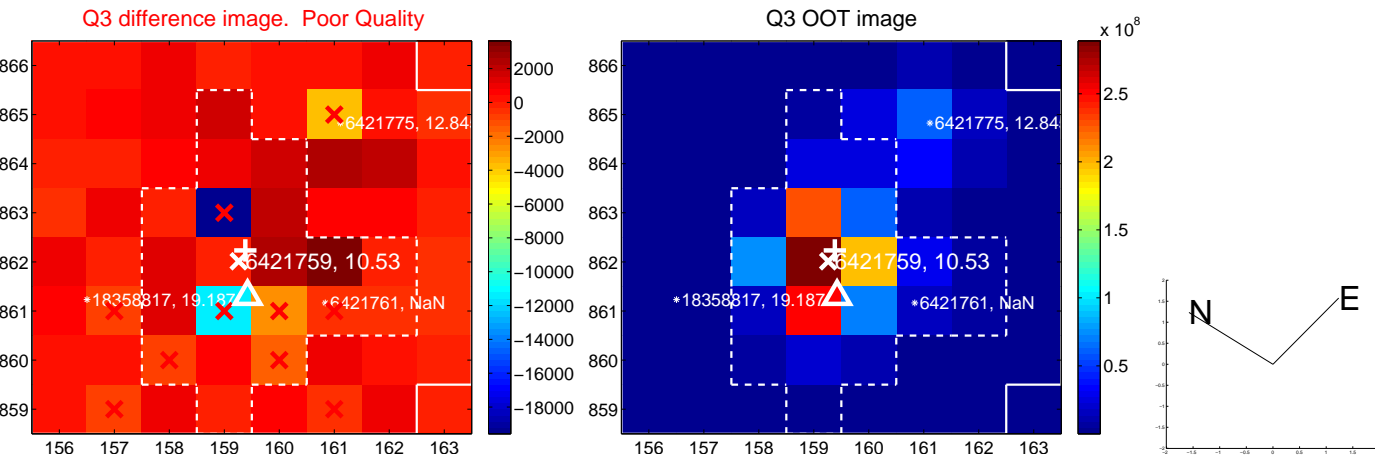
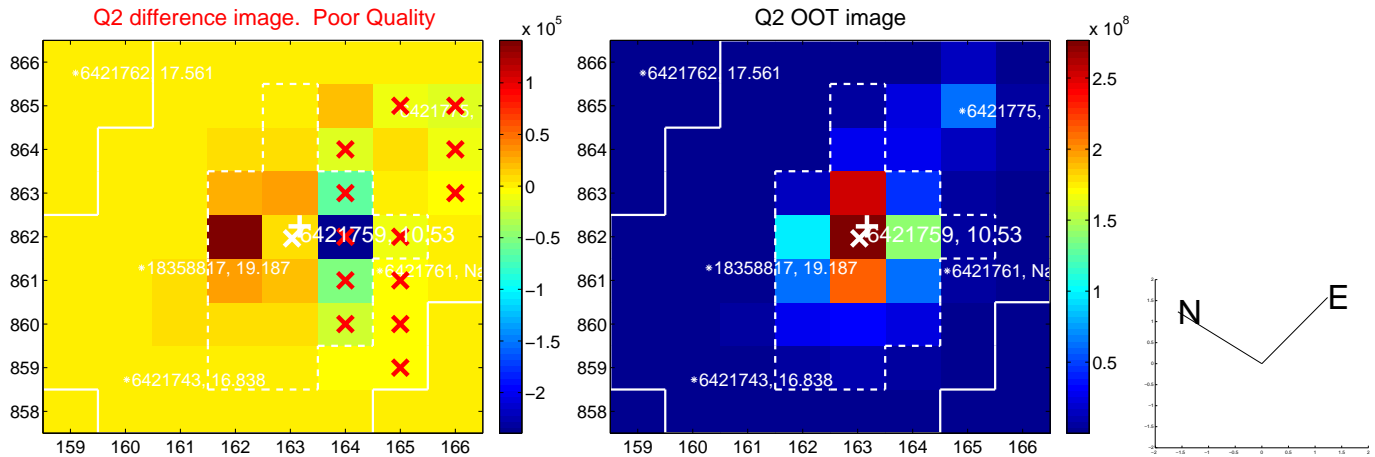
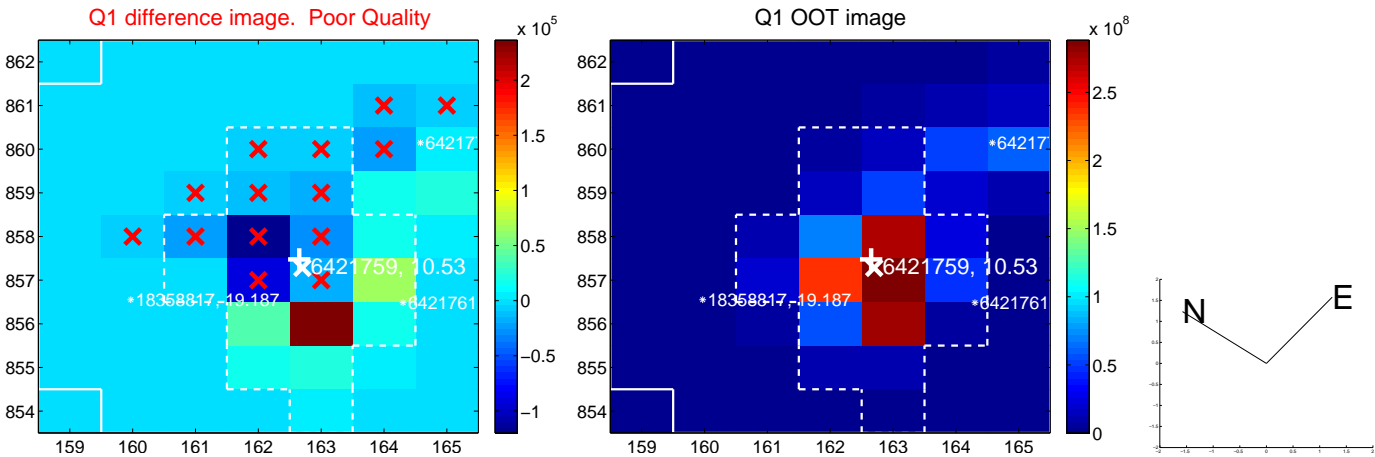
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.969 ± 0.641	3.07	-1.138 ± 0.864	-1.607 ± 0.493
PRF-fit source offset from KIC position	2.059 ± 0.596	3.45	-0.907 ± 0.820	-1.849 ± 0.529
photometric centroid source offset	0.50 ± 0.34	1.48	0.49 ± 0.34	0.06 ± 0.24

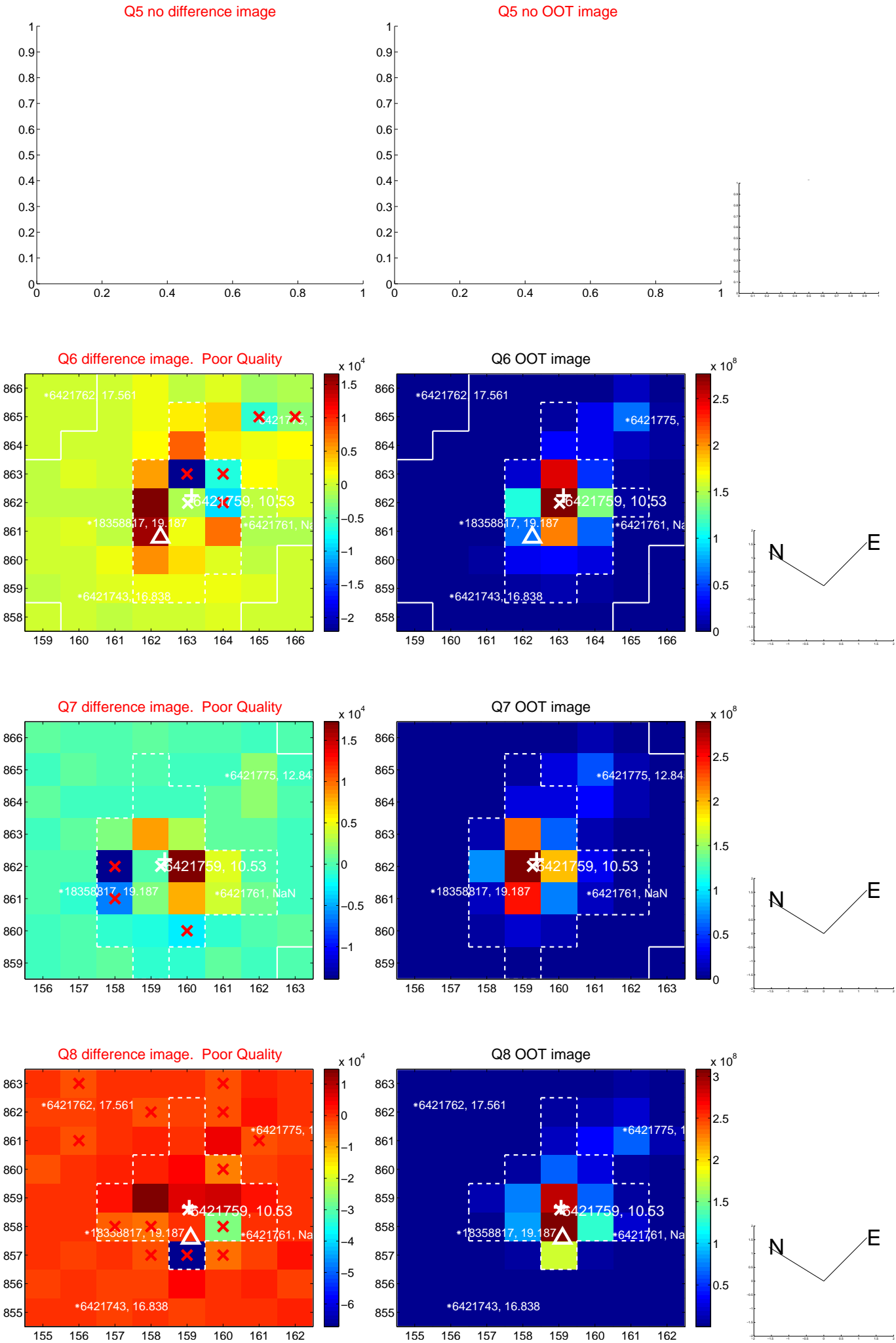


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

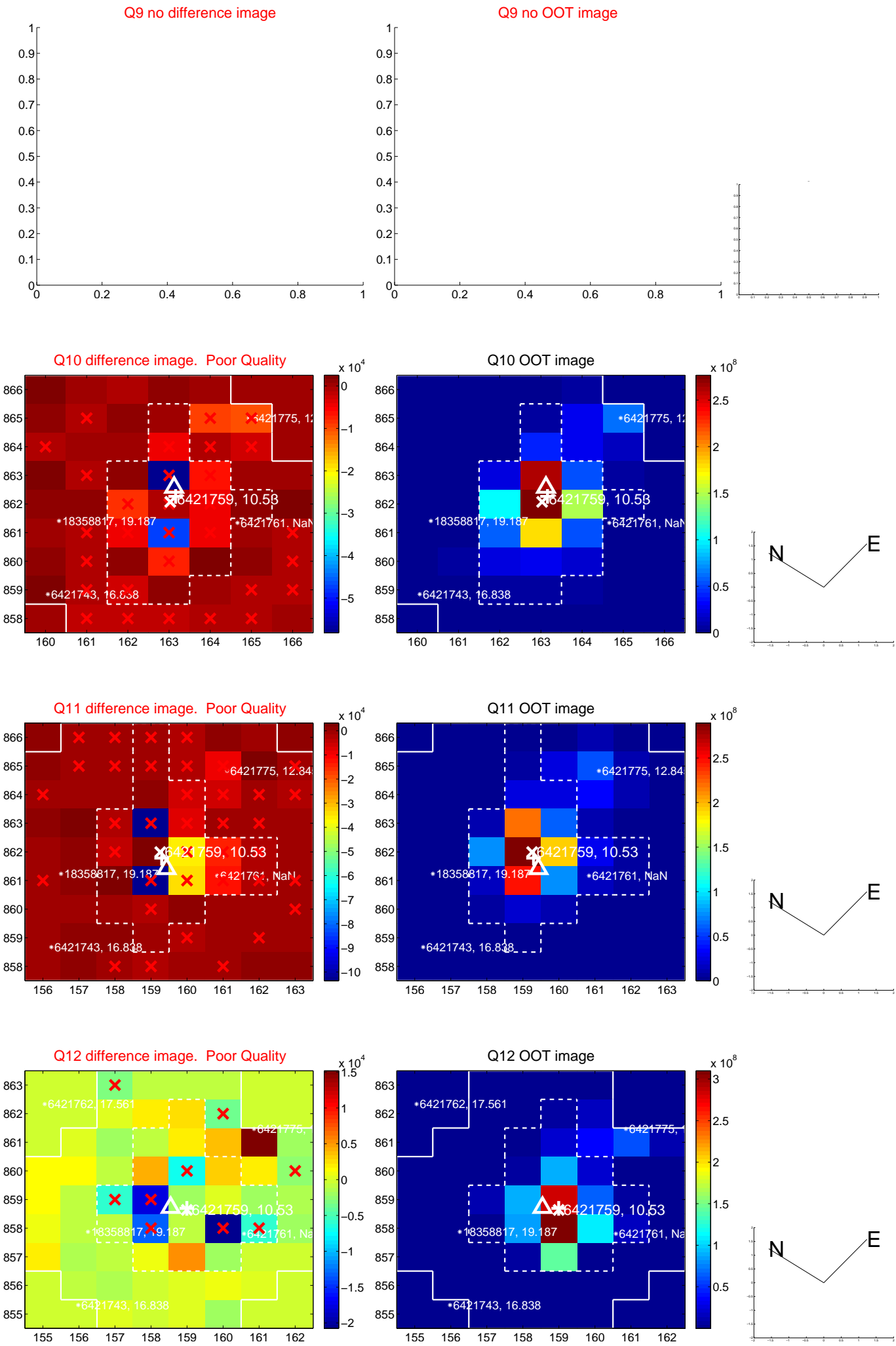
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



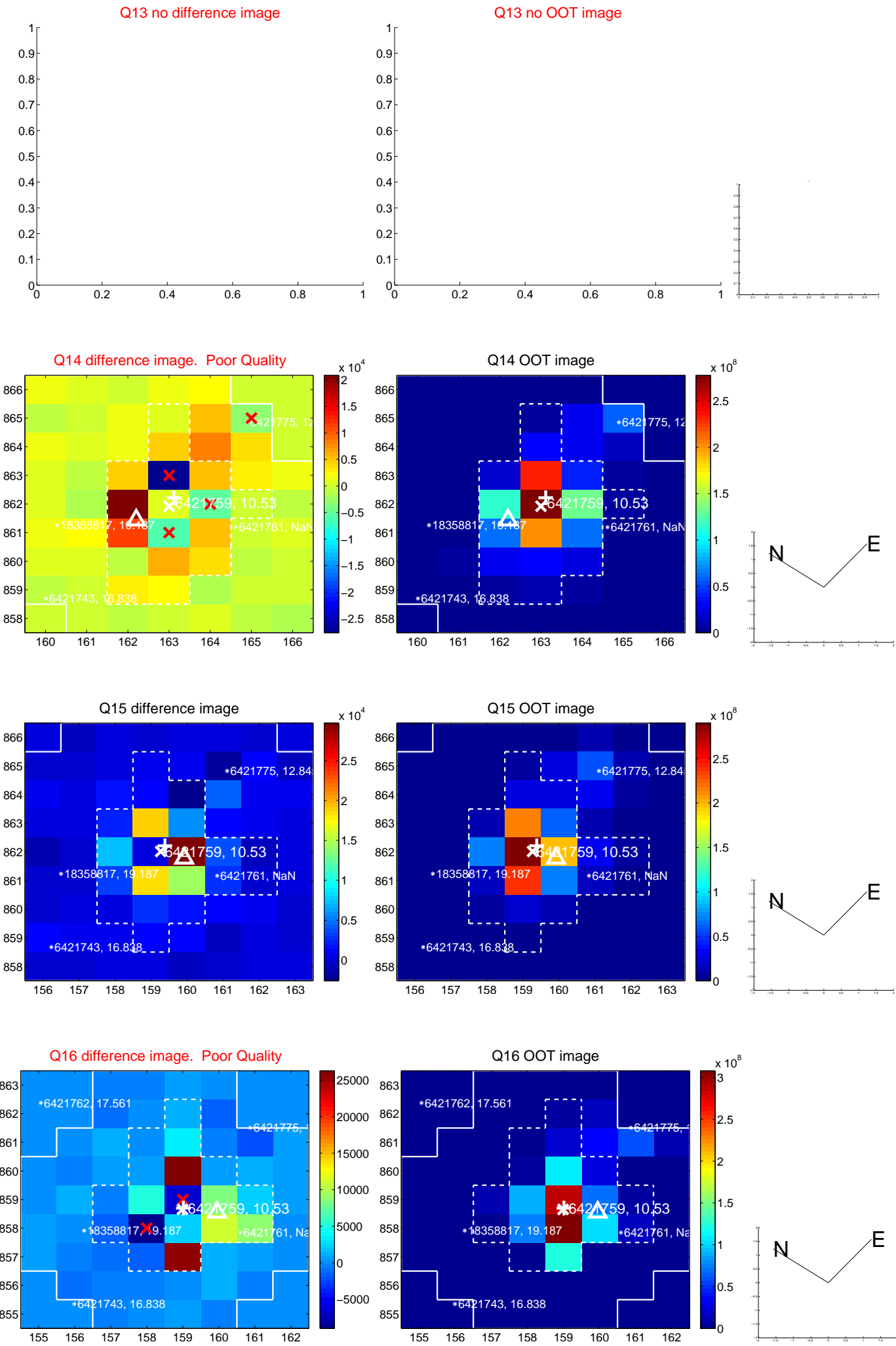
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



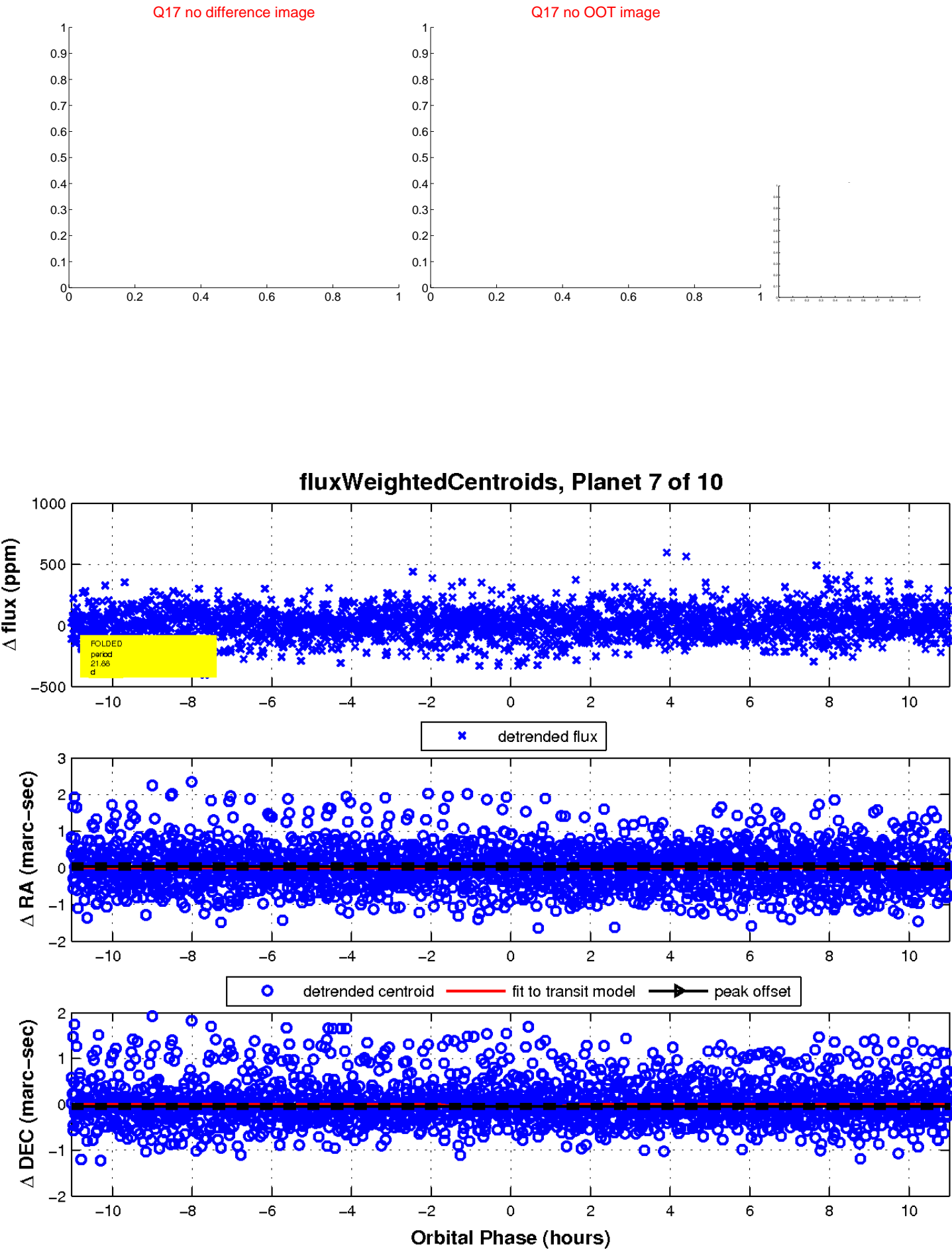
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



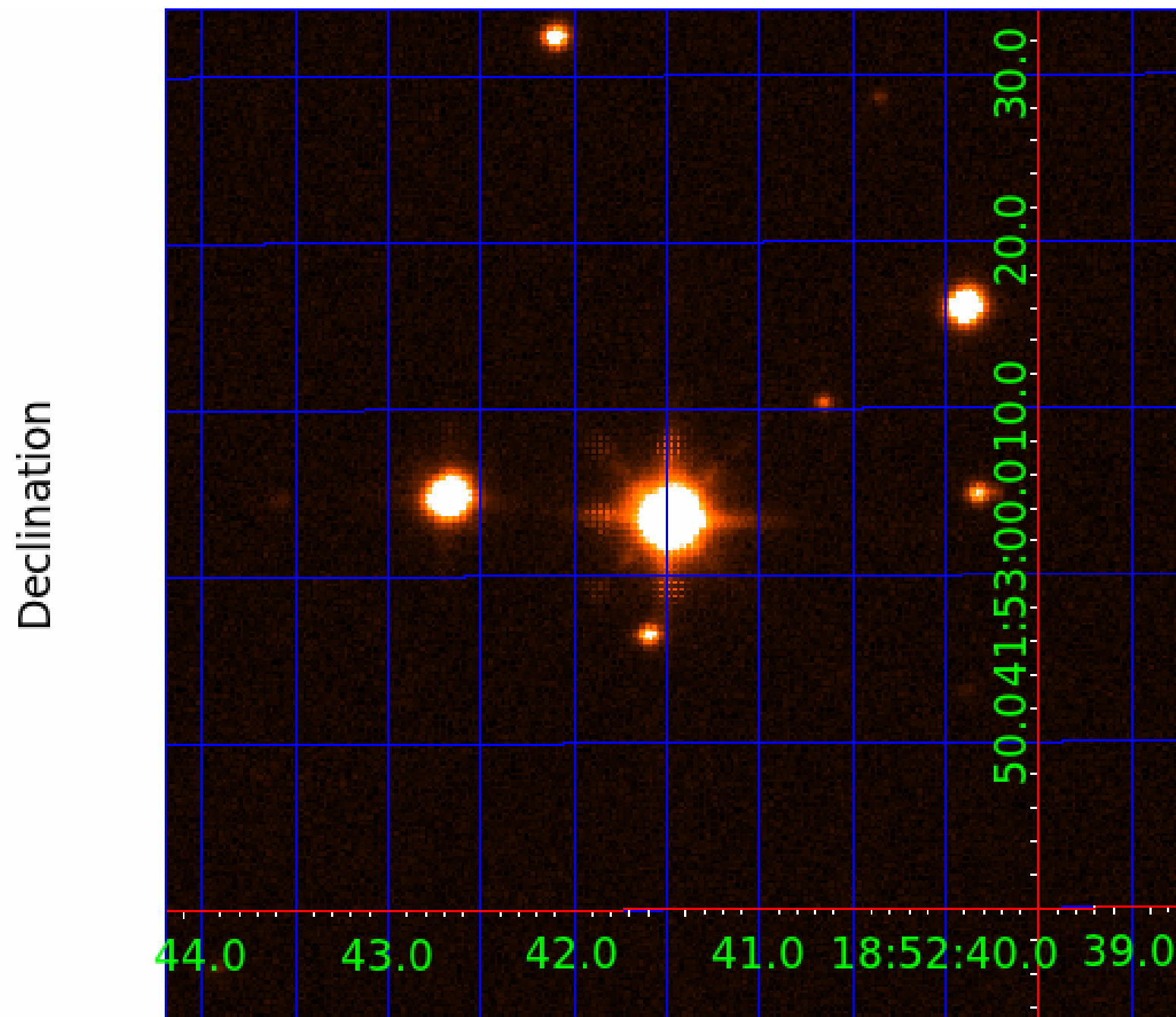
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006421759

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})
006421759-01	OBS	No	1.174548	131.976455	13.2	1.853	8.4	5.4	5.11	7171	1.89	80517.94
006421759-02	OBS	No	3.461164	131.928381	34.7	13.275	8.5	7.9	5.11	7171	3.51	19058.59
006421759-03	OBS	No	3.461214	133.627859	38.3	12.303	10.1	11.3	5.11	7171	3.68	19058.22
006421759-05	OBS	No	29.644193	152.310432	241.2	4.575	11.1	10.3	5.11	7171	9.13	1087.60
006421759-06	OBS	No	15.347249	142.020655	85.4	3.500	9.6	-1.0	5.11	7171	4.78	2616.25
006421759-07	OBS	No	21.876376	134.462209	199.8	3.676	9.5	8.5	5.11	7171	8.39	1630.87
006421759-08	OBS	No	11.519251	134.137520	175.7	3.377	9.0	9.6	5.11	7171	7.87	3835.49
006421759-09	OBS	No	24.991356	144.794029	203.1	4.532	8.6	7.7	5.11	7171	14.15	1365.63
006421759-10	OBS	No	32.859842	160.763969	152.6	3.170	7.2	7.6	5.11	7171	7.33	948.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006421759-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006421759-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
006421759-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

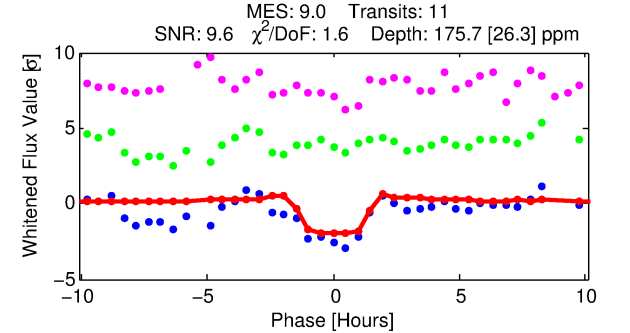
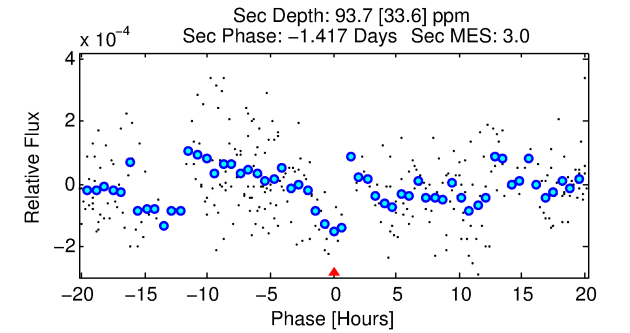
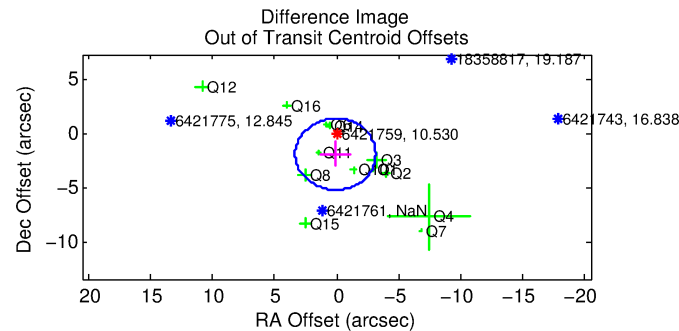
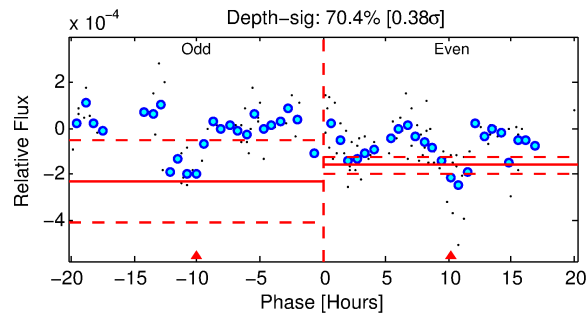
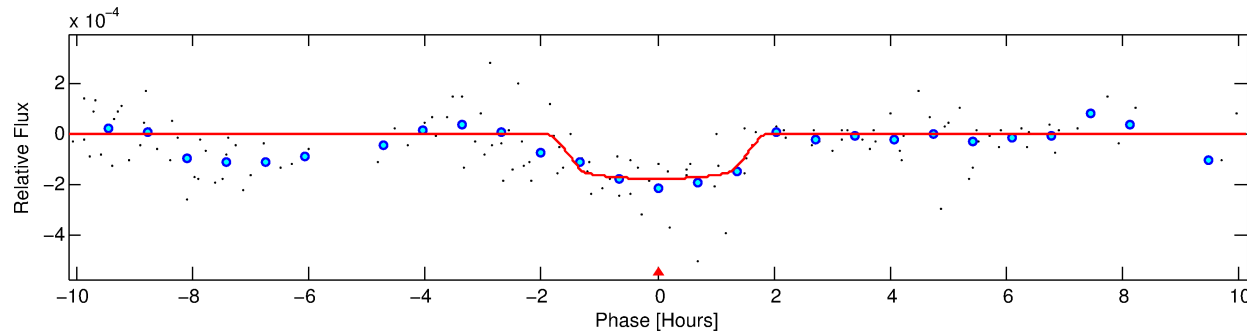
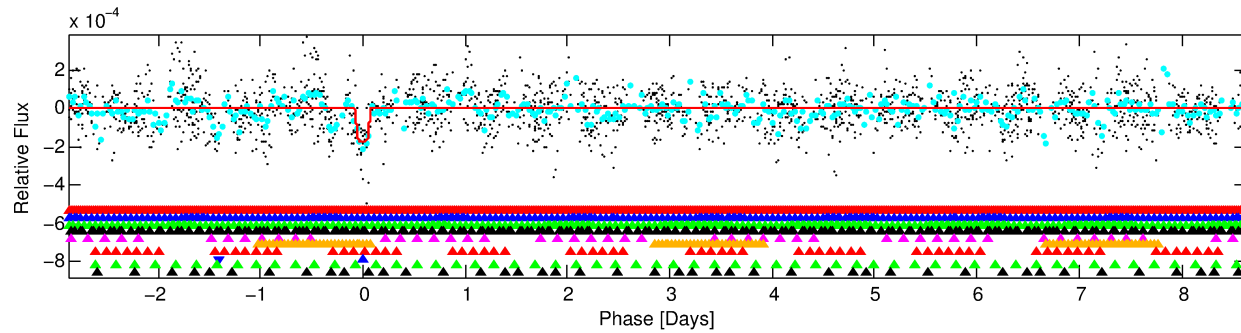
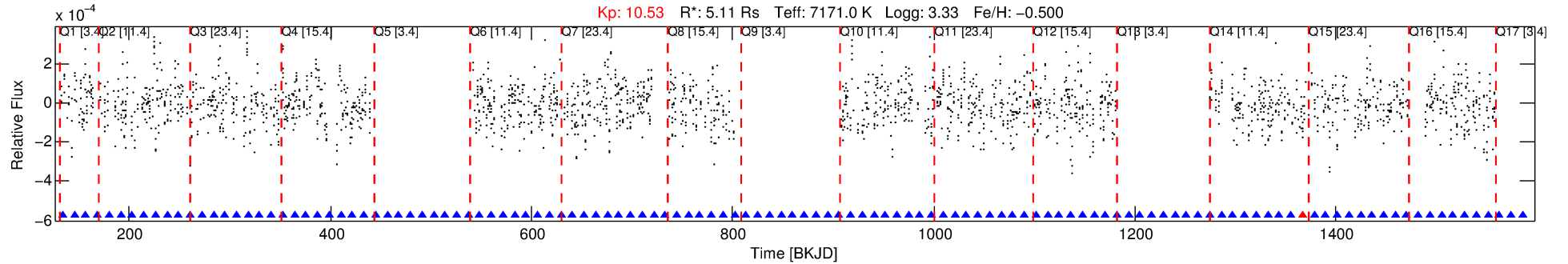
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006421759-08

No Significant Match Found

DV One-Page Summary

KIC: 6421759 Candidate: 8 of 10 Period: 11.519 d



DV Fit Results:

Period = 11.51925 [0.00011] d
Epoch = 134.1375 [0.0082] BKJD
Rp/R* = 0.0141 [0.0087]
a/R* = 12.15 [47.36]
b = 0.90 [0.83]
Seff = 3835.49 [2831.28]
Teq = 2007 [370] K
Rp = 7.87 [6.19] Re
a = 0.1271 [0.0582] AU
Ag = 13.43 [19.88] [0.63 σ]
Teffp = 5939 [1925] K [2.01 σ]

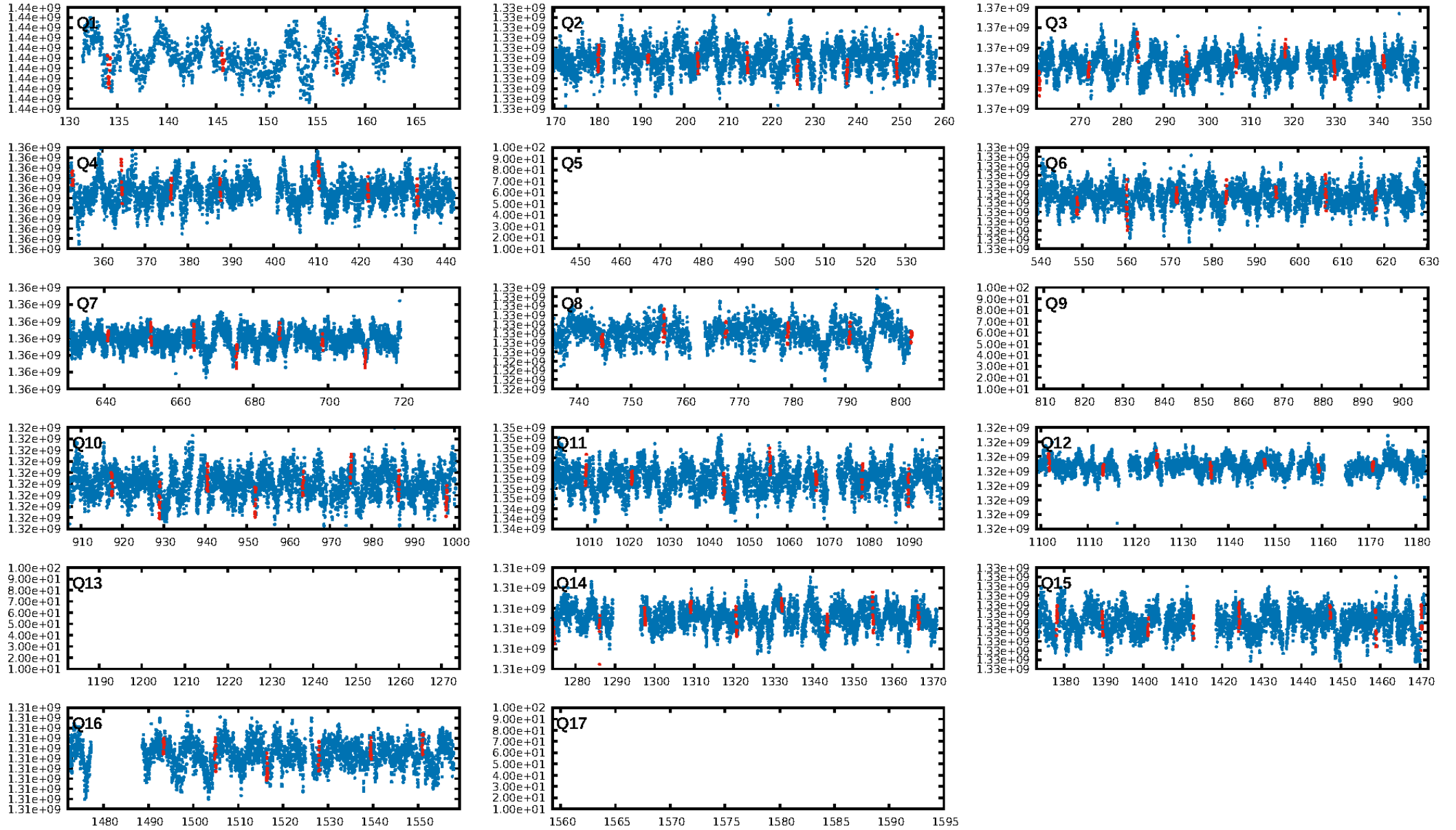
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [29.06 σ]
LongPeriod-sig: 100.0% [18.89 σ]
ModelChiSquare2-sig: 3.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.91 [10/11]
GhostDiagnostic-chr: -1.609
Centroid-sig: 0.8%
Centroid-so: 0.171 arcsec [0.60 σ]
OotOffset-rm: 1.867 arcsec [1.72 σ]
KicOffset-rm: 1.958 arcsec [2.88 σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.15 [2/13]
DiffImageOverlap-fno: 0.46 [6/13]

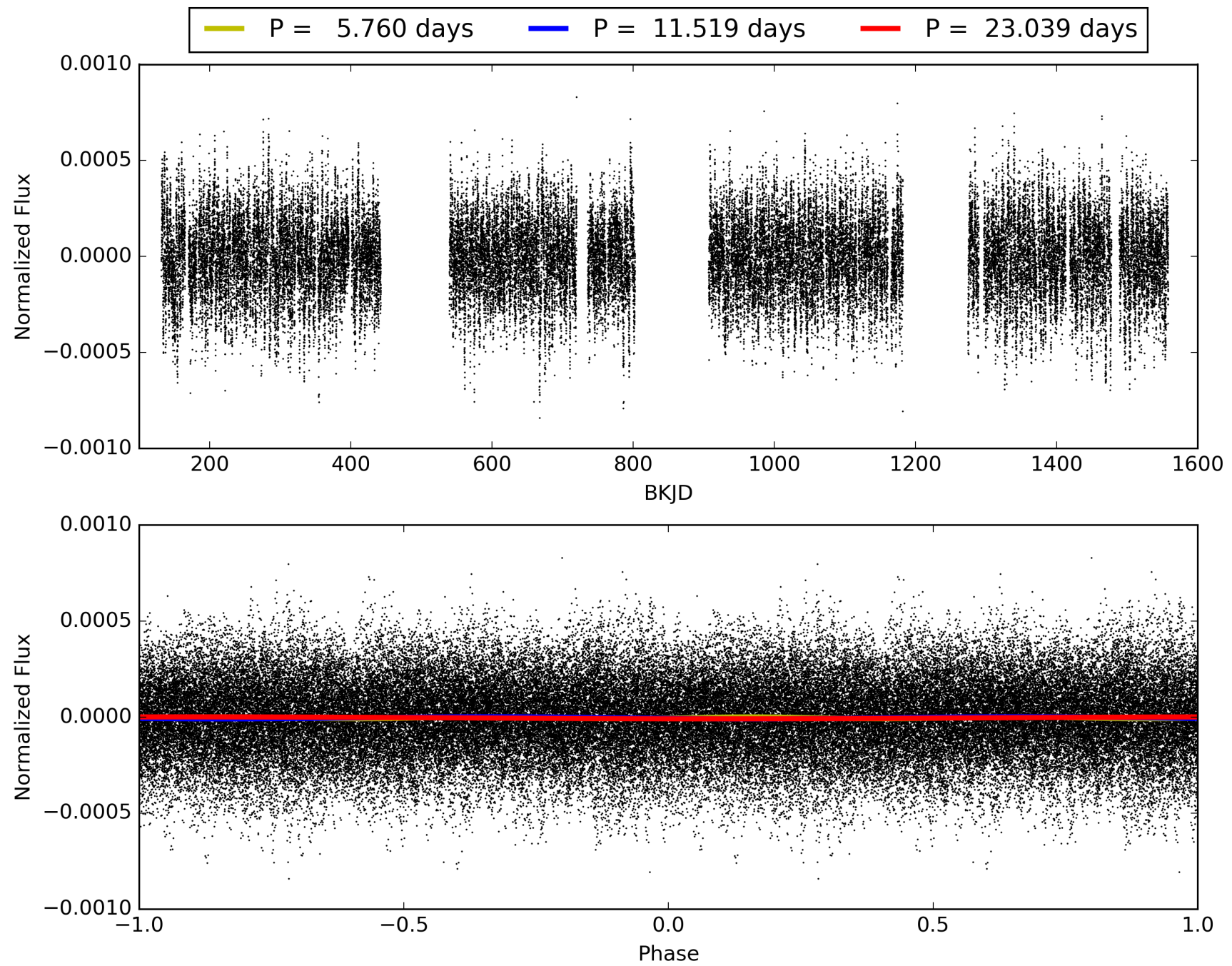
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:25:27 Z

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

TCE 006421759-08, PDC Light Curves

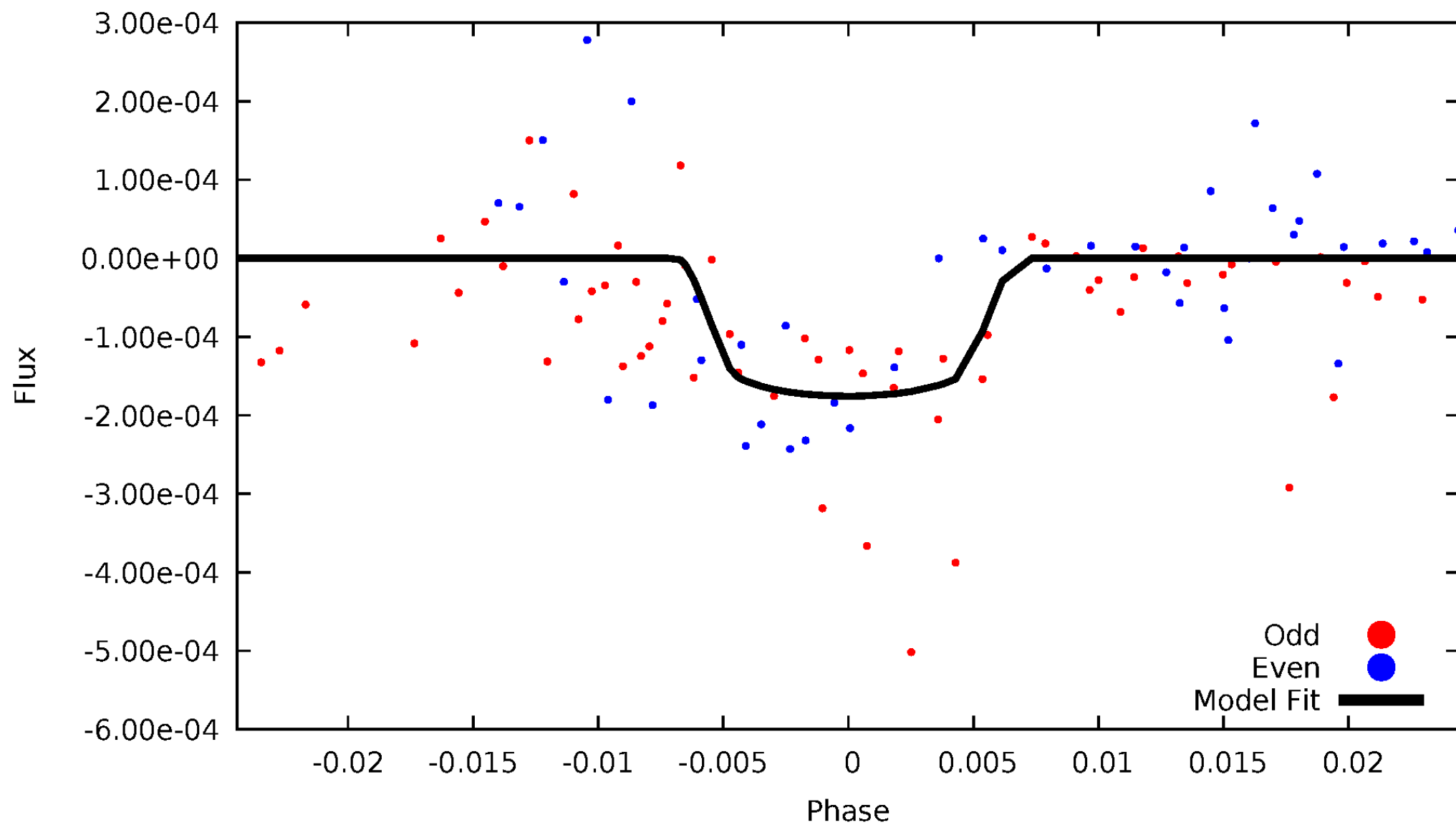


TCE 006421759-08



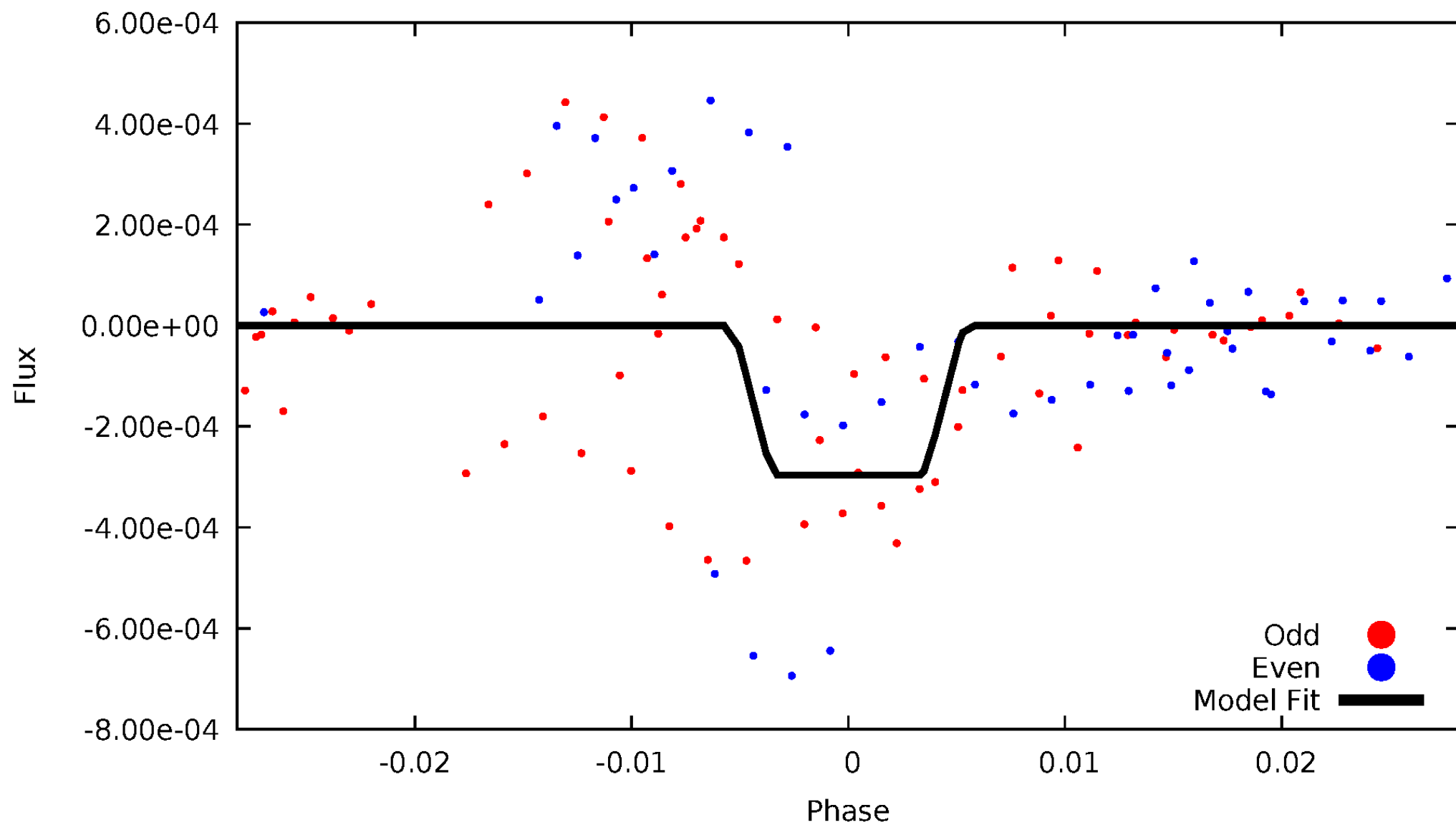
DV Odd/Even

TCE 006421759-08



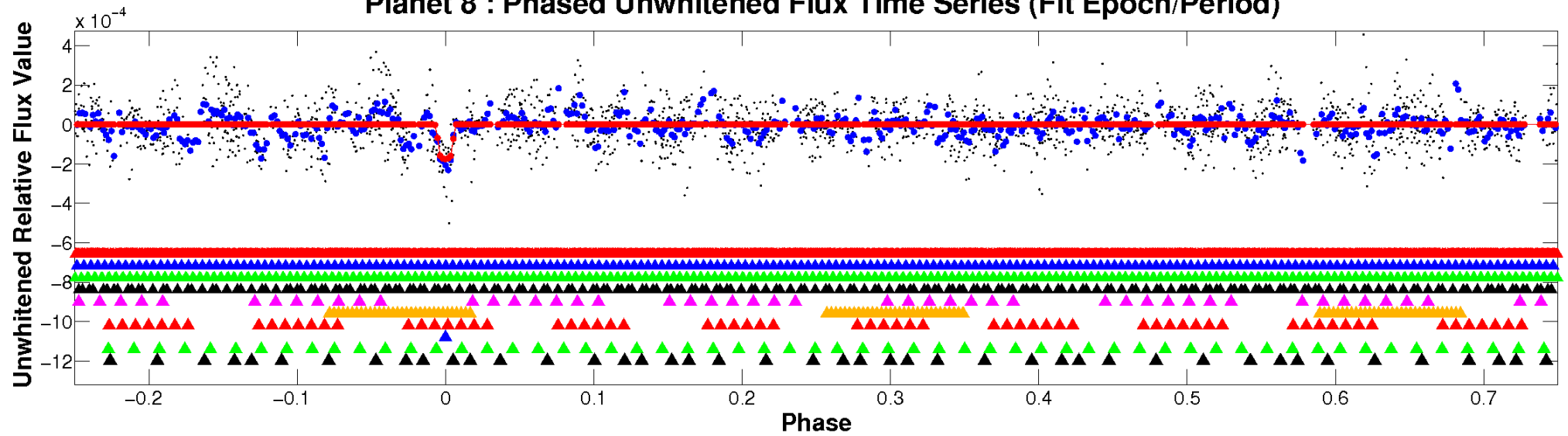
ALT Odd/Even

TCE 006421759-08

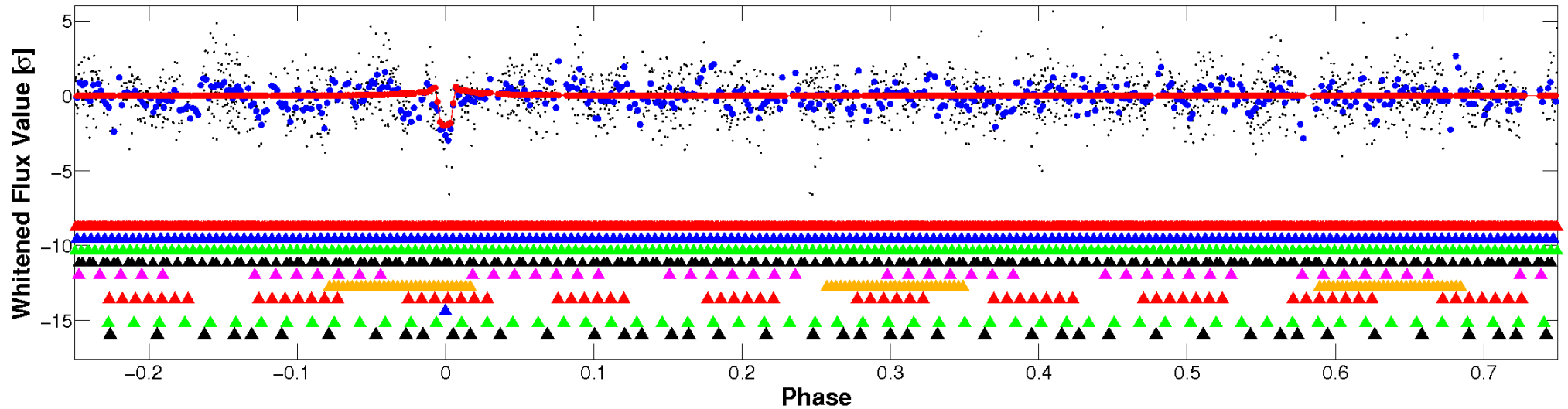


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

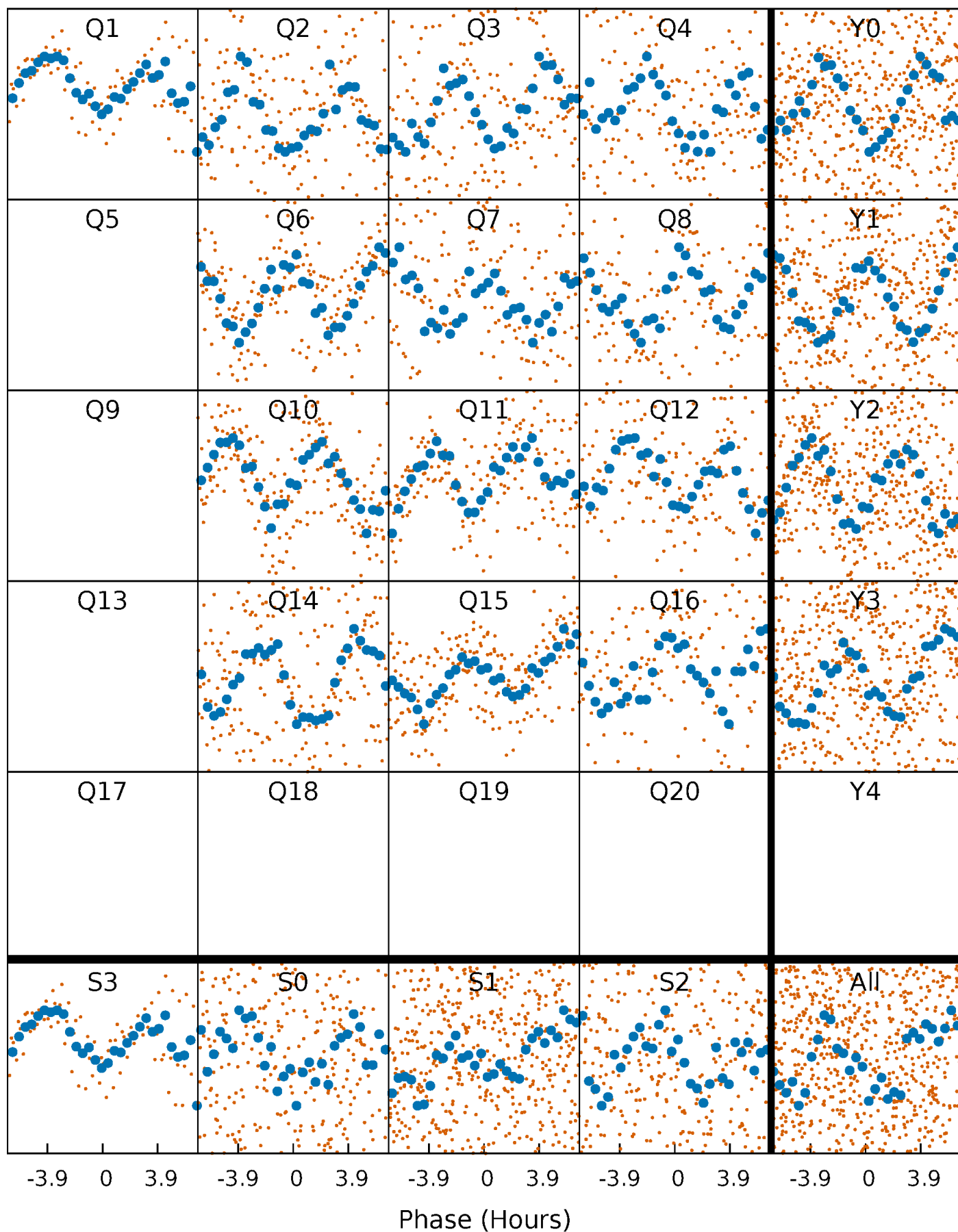


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



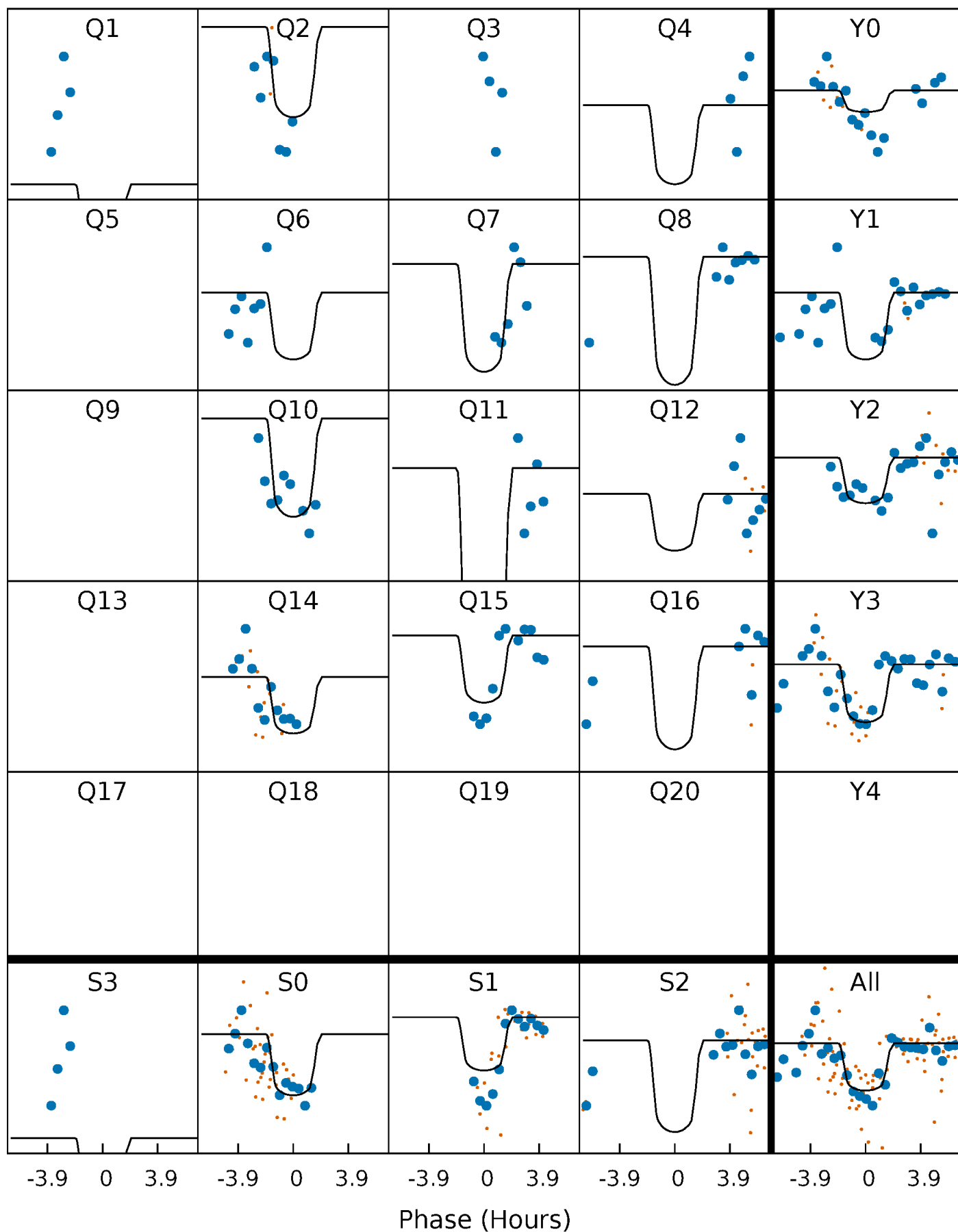
PDC Quarter-Phased Transit Curves

TCE 006421759-08 P= 11.519251 Days $T_0=134.137520$ (BKJD)



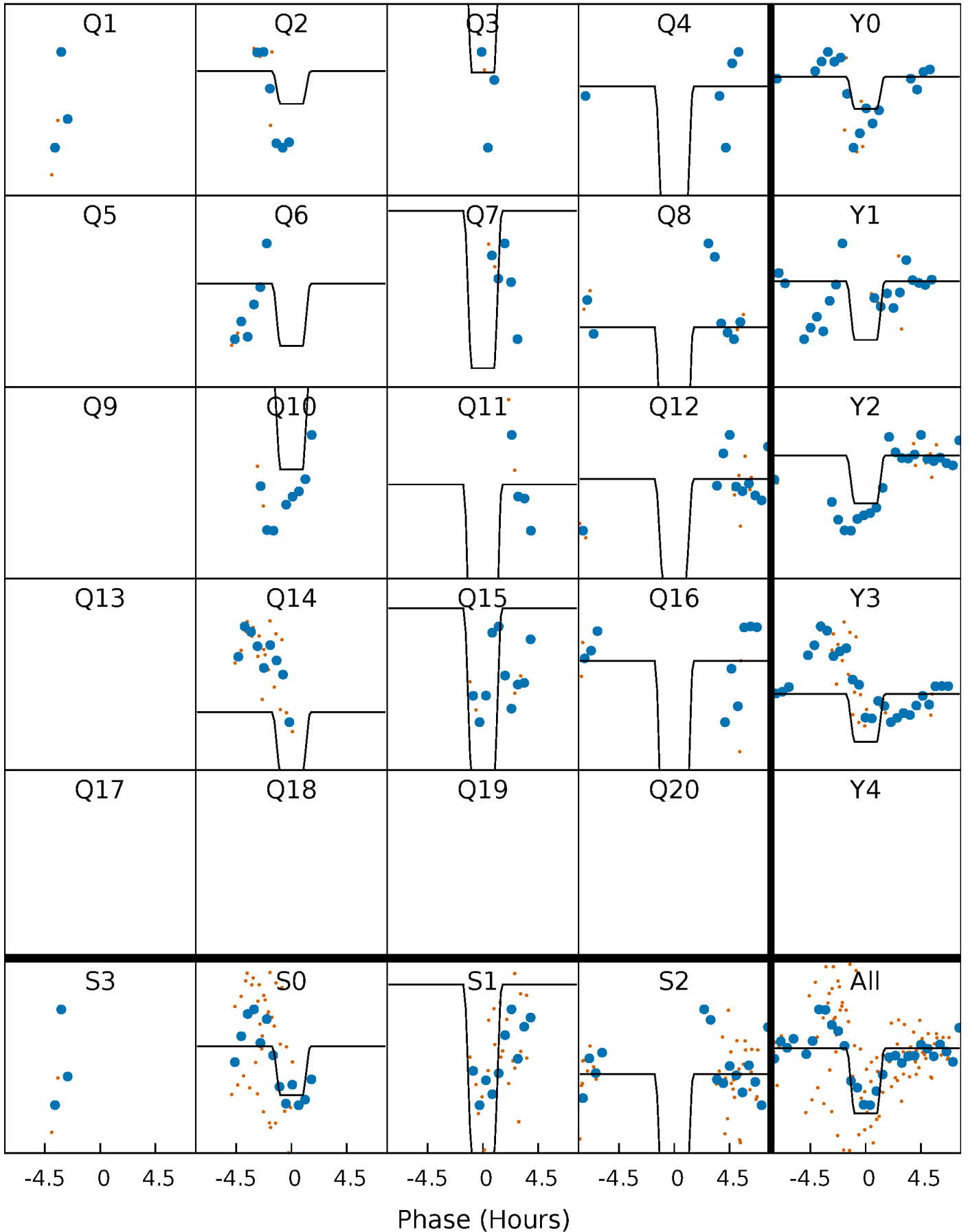
DV Quarter-Phased Transit Curves

TCE 006421759-08 P= 11.519251 Days $T_0=134.137520$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

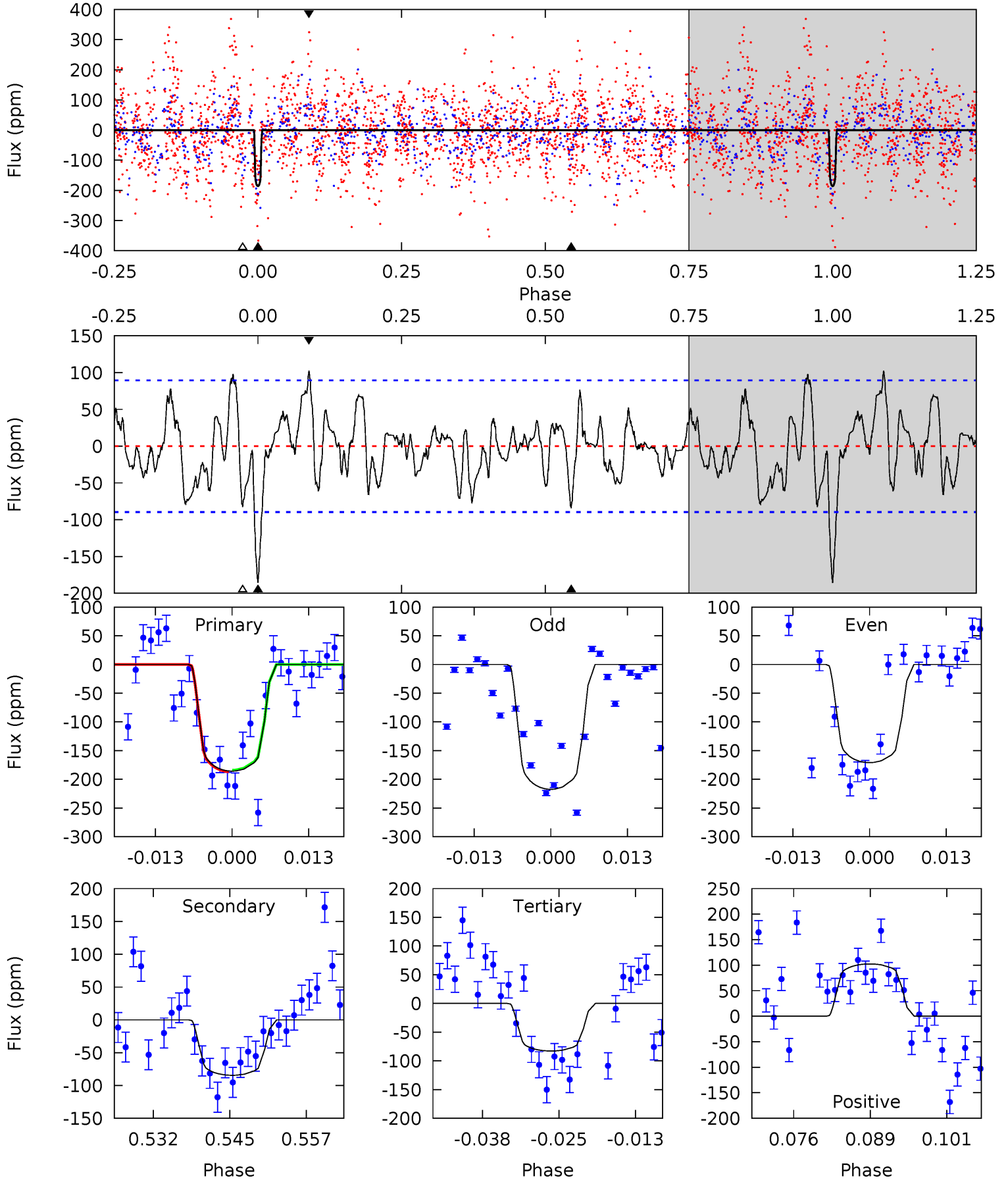
TCE 006421759-08 P= 11.519255 Days $T_0=134.140728$ (BKJD)



DV Model-Shift Uniqueness Test

006421759-08, $P = 11.519251$ Days, $E = 122.618269$ Days

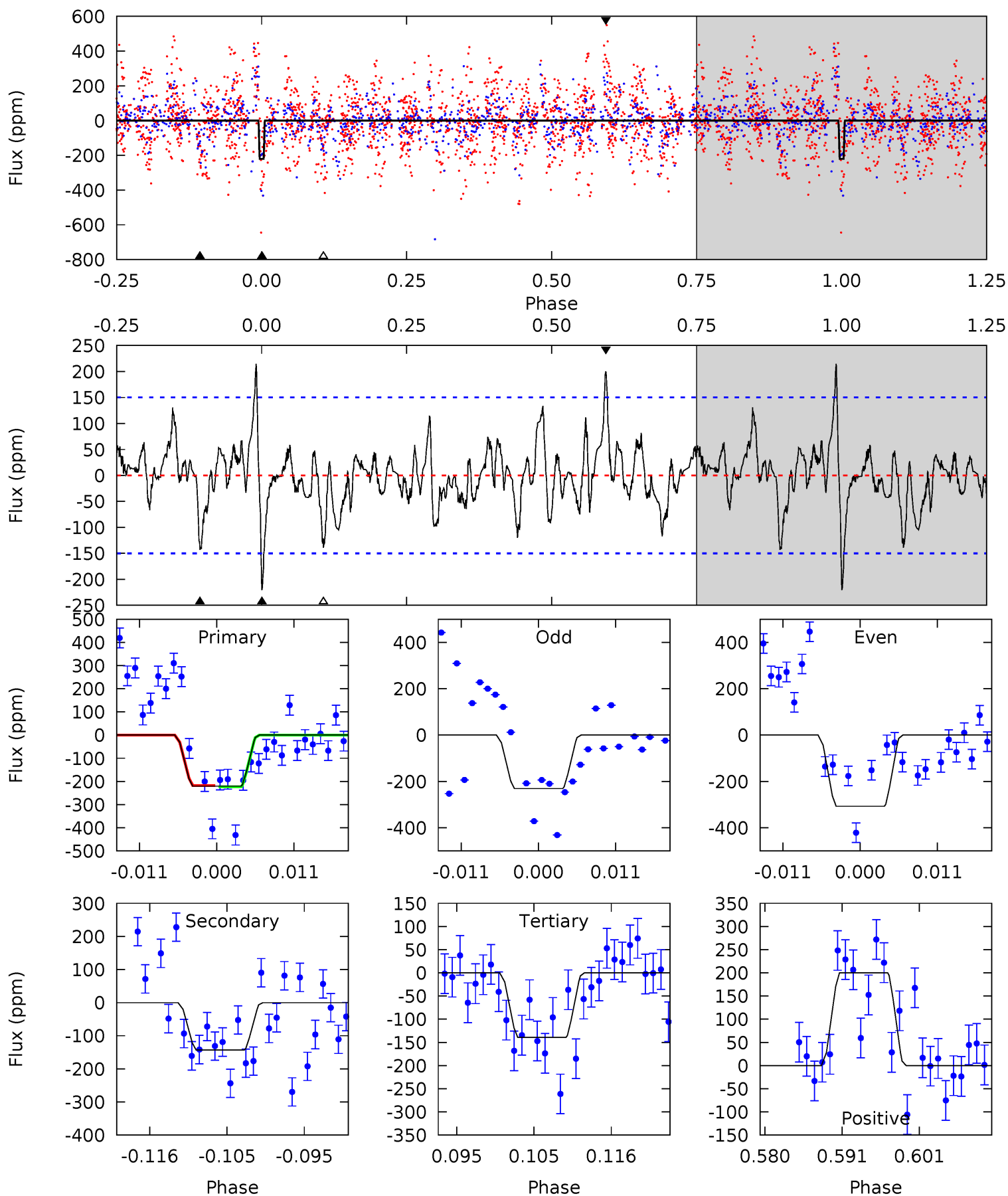
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	4.70	4.61	5.70	4.98	2.49	1.94	5.73	4.63	0.09	-1.00	1.29	1.23	0.36	0.08



Alt Model-Shift Uniqueness Test

006421759-08, P = 11.519255 Days, E = 122.621473 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.37	4.78	4.65	6.68	5.02	2.56	1.63	2.72	0.69	0.13	-1.90	1.31	1.25	0.49	0.09



Stellar Parameters For KIC 006421759

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7171^{+171}_{-235}	$3.335^{+0.424}_{-0.053}$	$-0.500^{+0.350}_{-0.300}$	$5.114^{+1.061}_{-2.475}$	$2.063^{+0.055}_{-0.519}$	$0.022^{+0.090}_{-0.006}$
	+2%/-3%	+13%/-2%	+70%/-60%	+21%/-48%	+3%/-25%	+415%/-27%
Source	PHO1	FLK73	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 006421759-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-84 ± 18	$6.92^{+4.21}_{-3.71}$	2661^{+189}_{-304}	5537^{+2627}_{-966}	15^{+52}_{-9}
Alt.	-143 ± 30	$7.95^{+5.17}_{-4.01}$	2633^{+207}_{-296}	5801^{+2682}_{-1019}	20^{+56}_{-13}

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

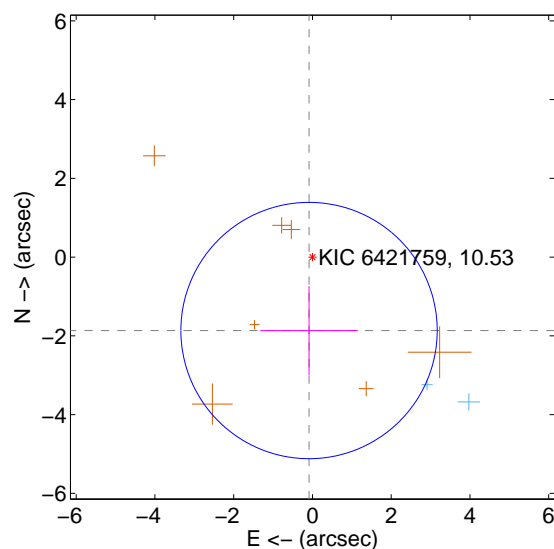
Supplemental centroid analysis for 006421759-08. **Kepler magnitude: 10.53.** Transit SNR 9.56

There are 2 quarters with good PRF difference image offsets

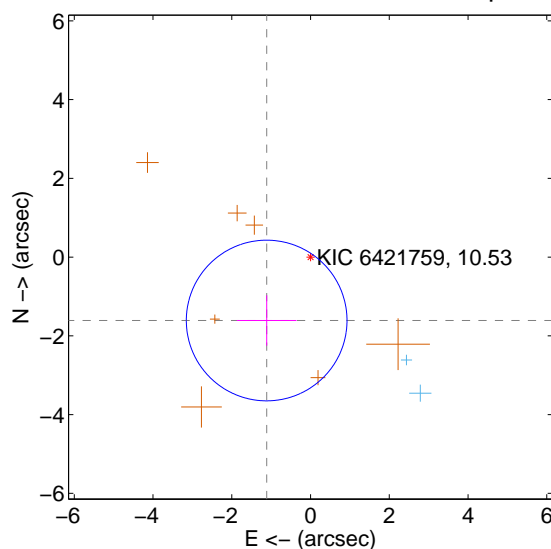
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.867 ± 1.085	1.72	0.086 ± 1.239	-1.865 ± 1.129
PRF-fit source offset from KIC position	1.958 ± 0.680	2.88	1.114 ± 0.757	-1.610 ± 0.640
photometric centroid source offset	0.17 ± 0.28	0.60	0.17 ± 0.29	0.04 ± 0.20

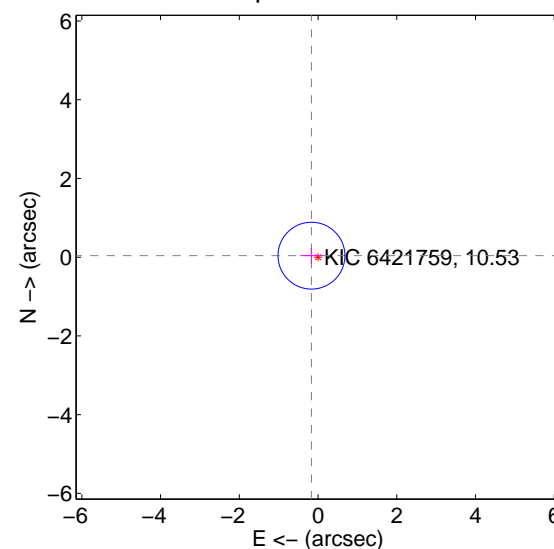
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

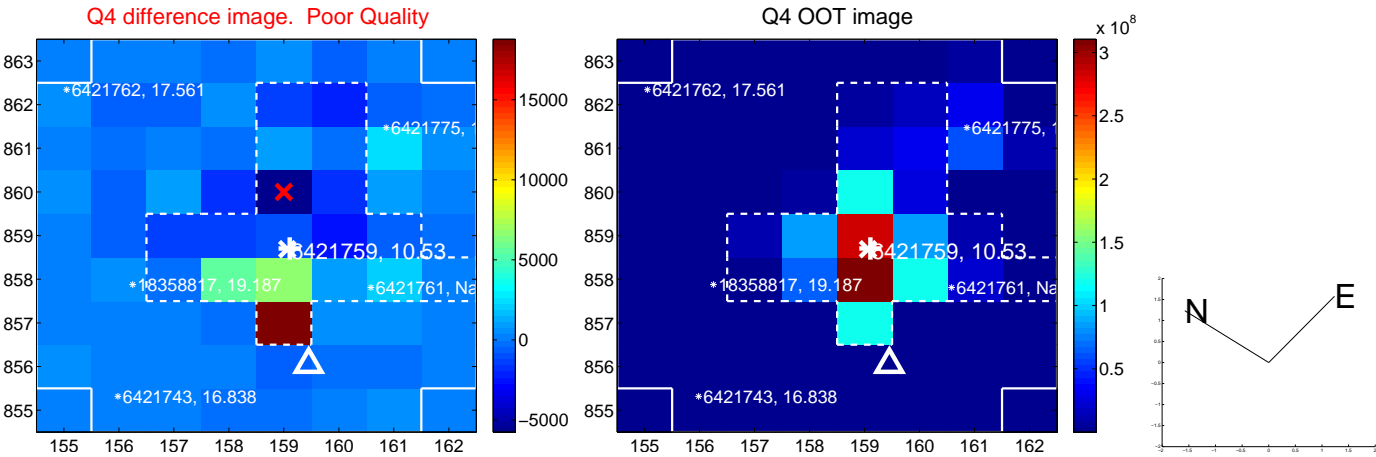
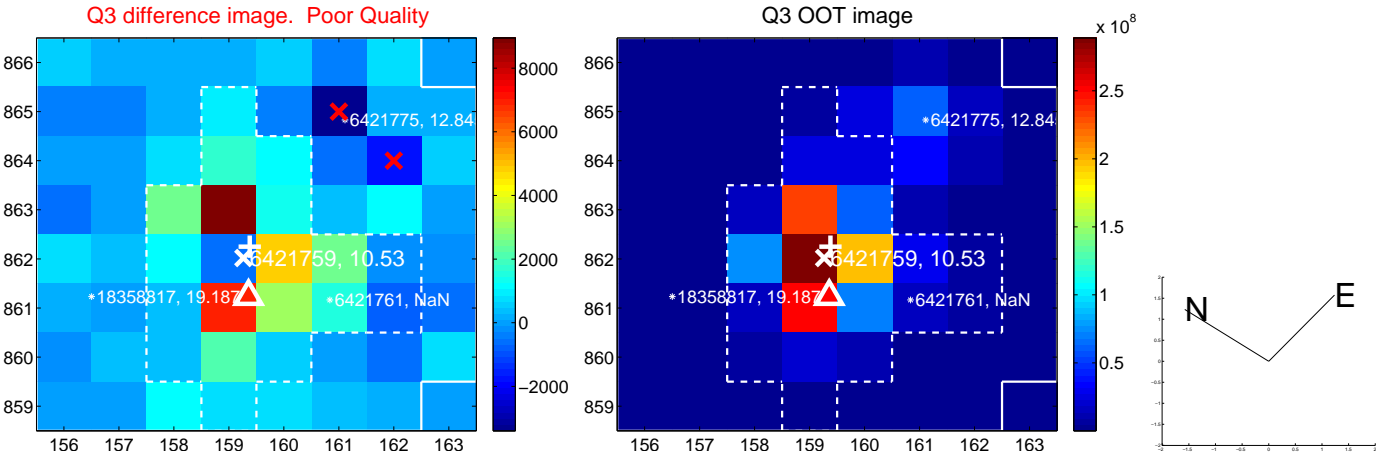
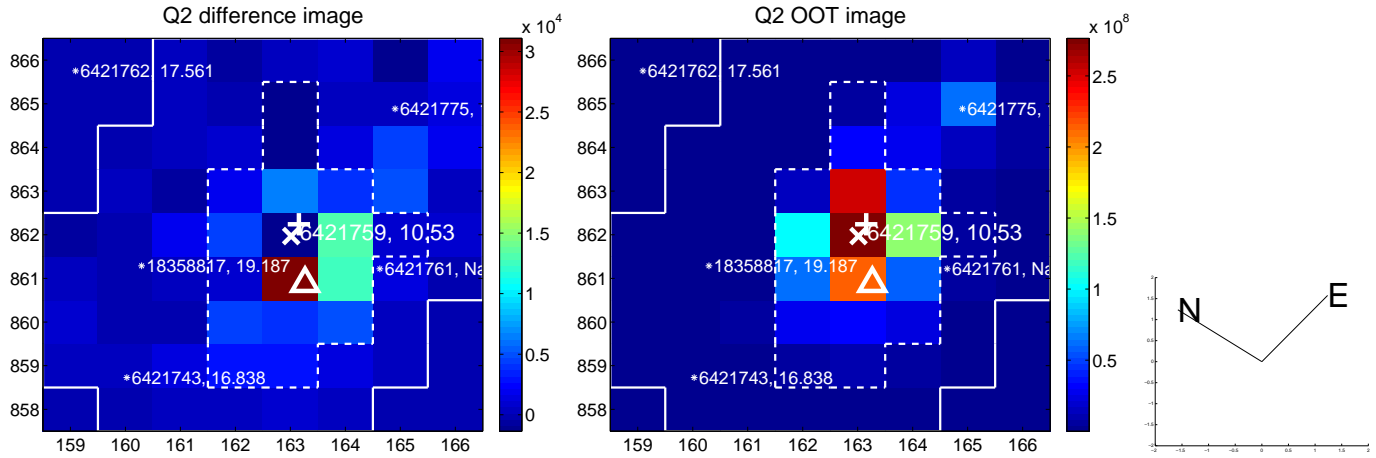
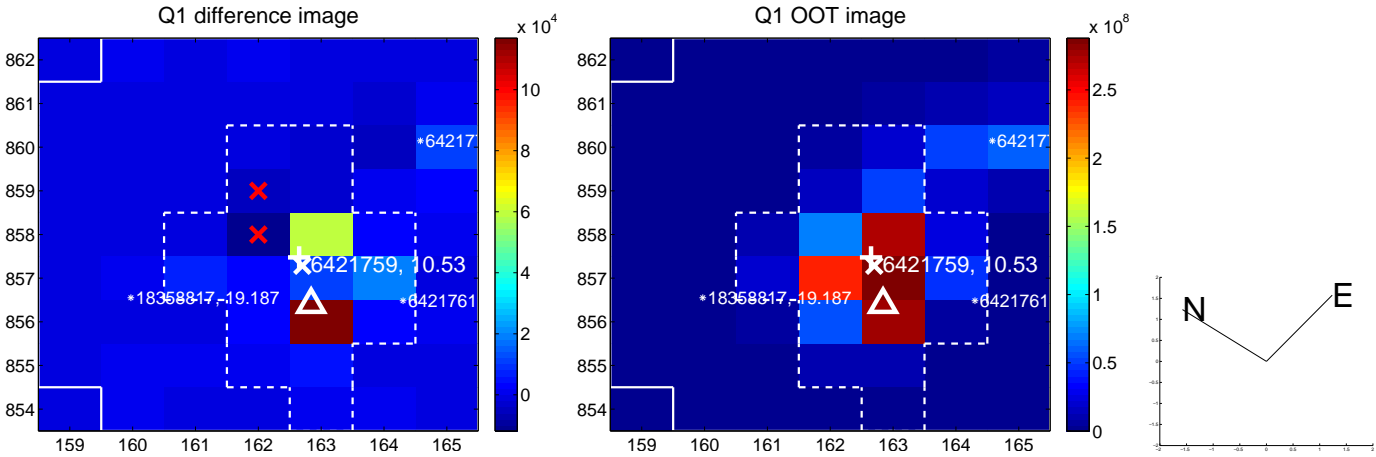


offset from photometric centroids

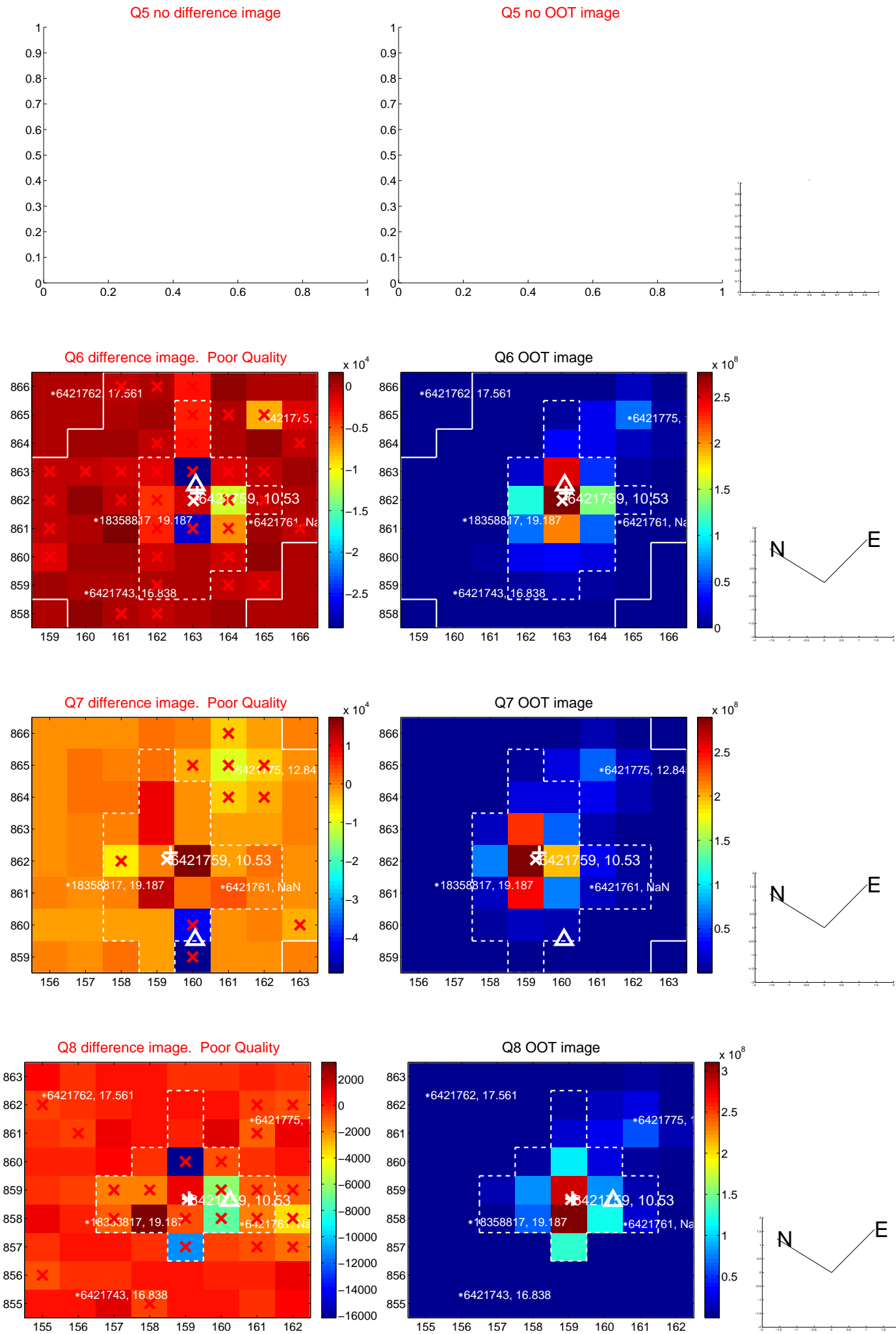


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

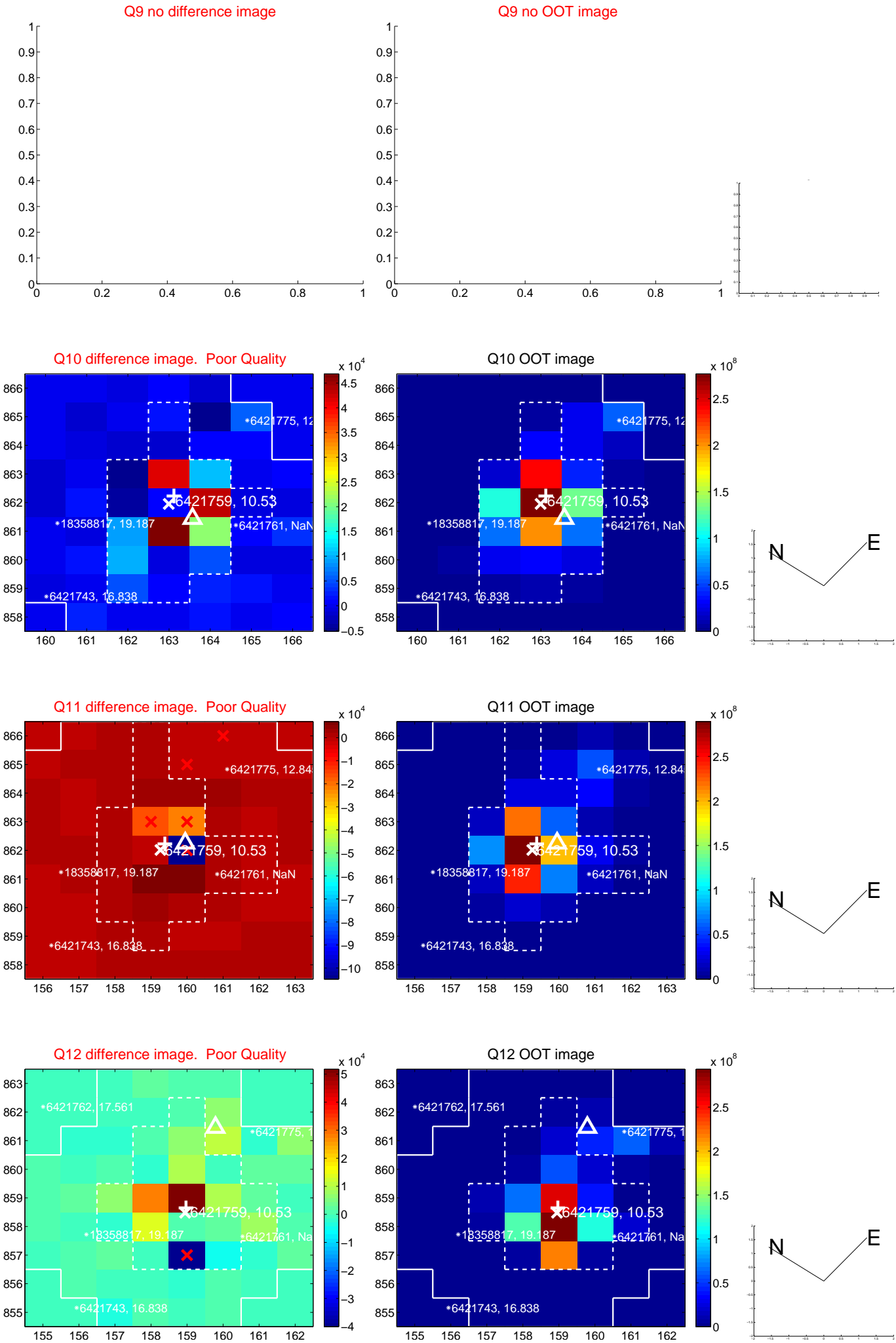
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



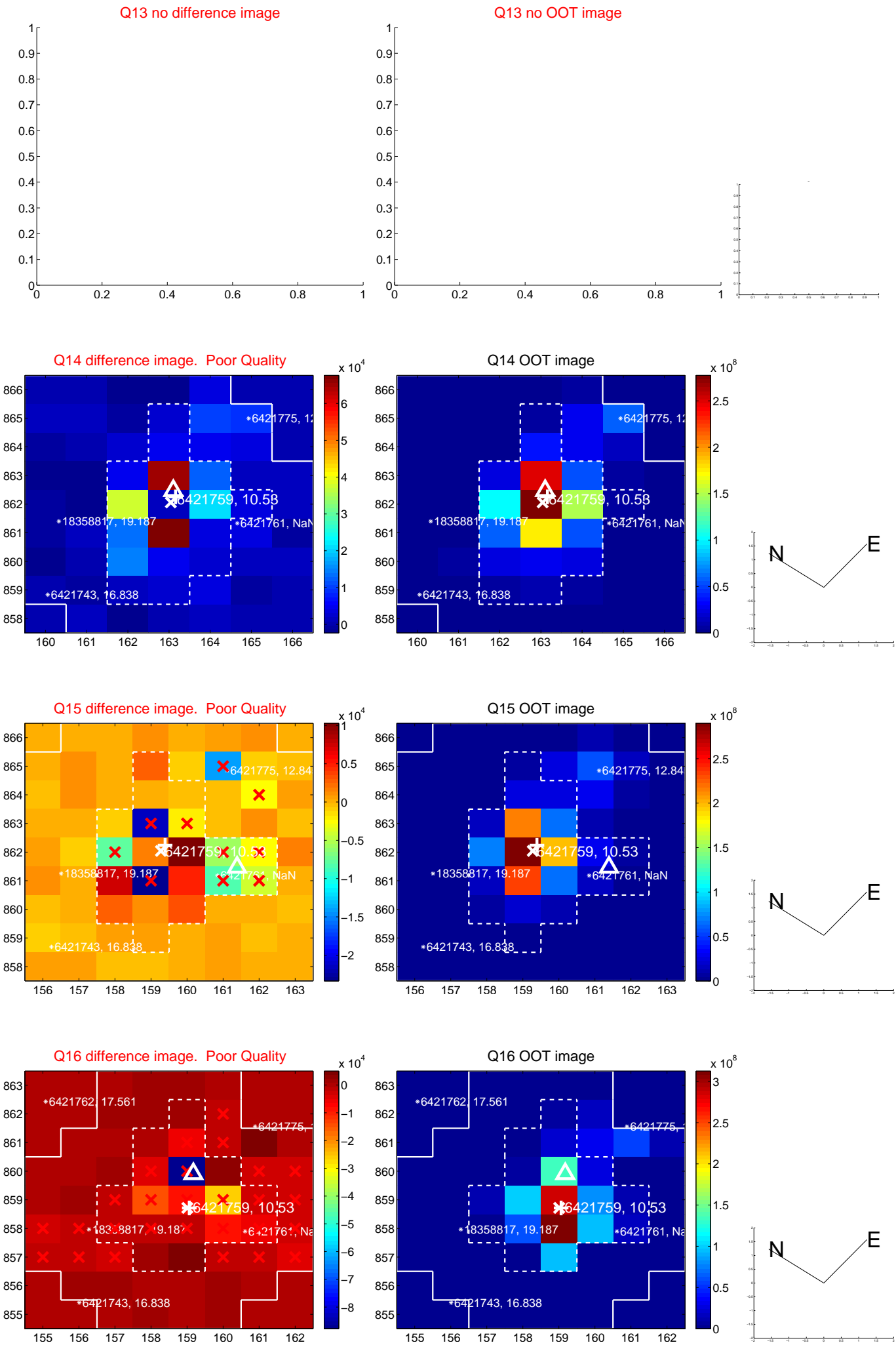
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



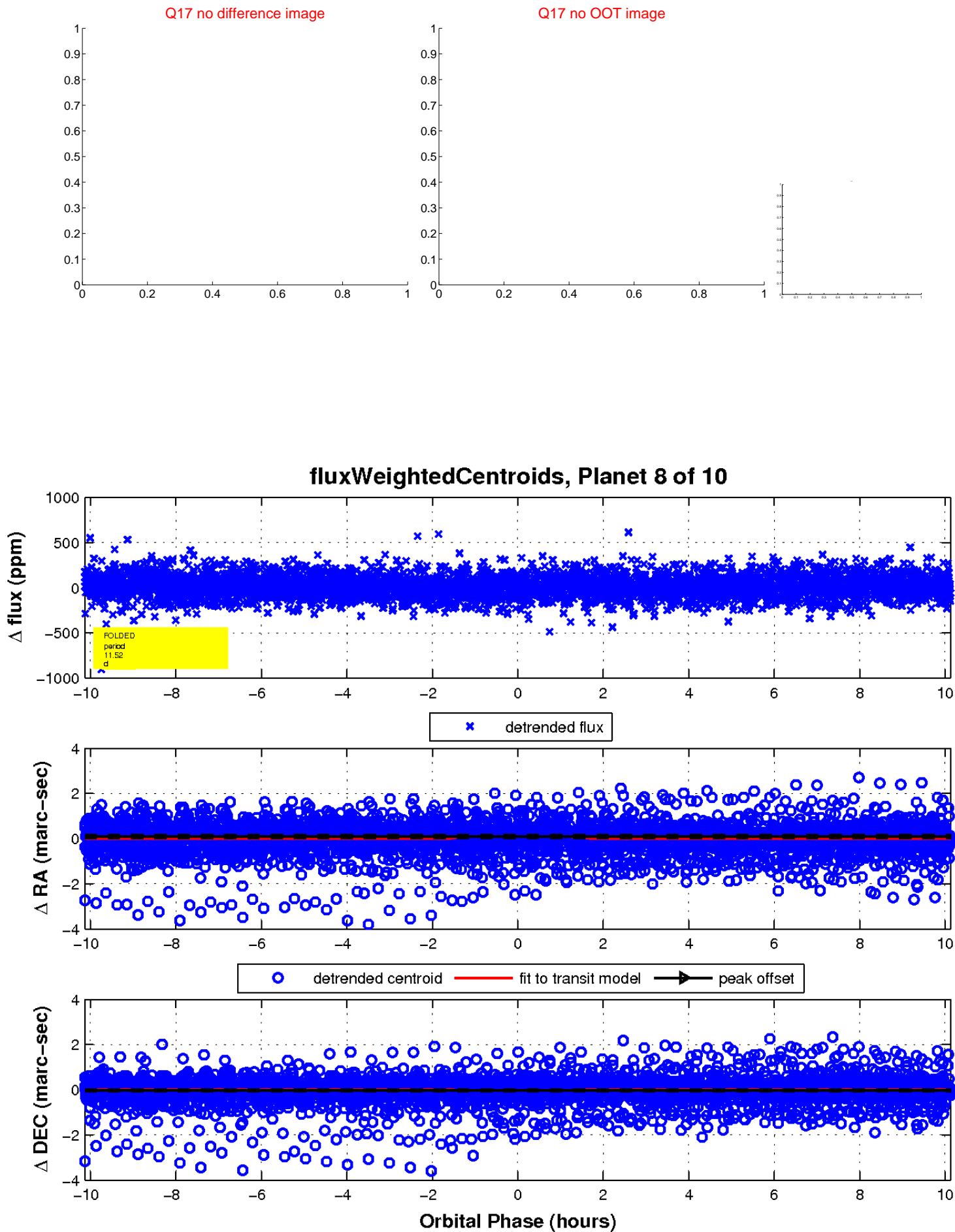
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



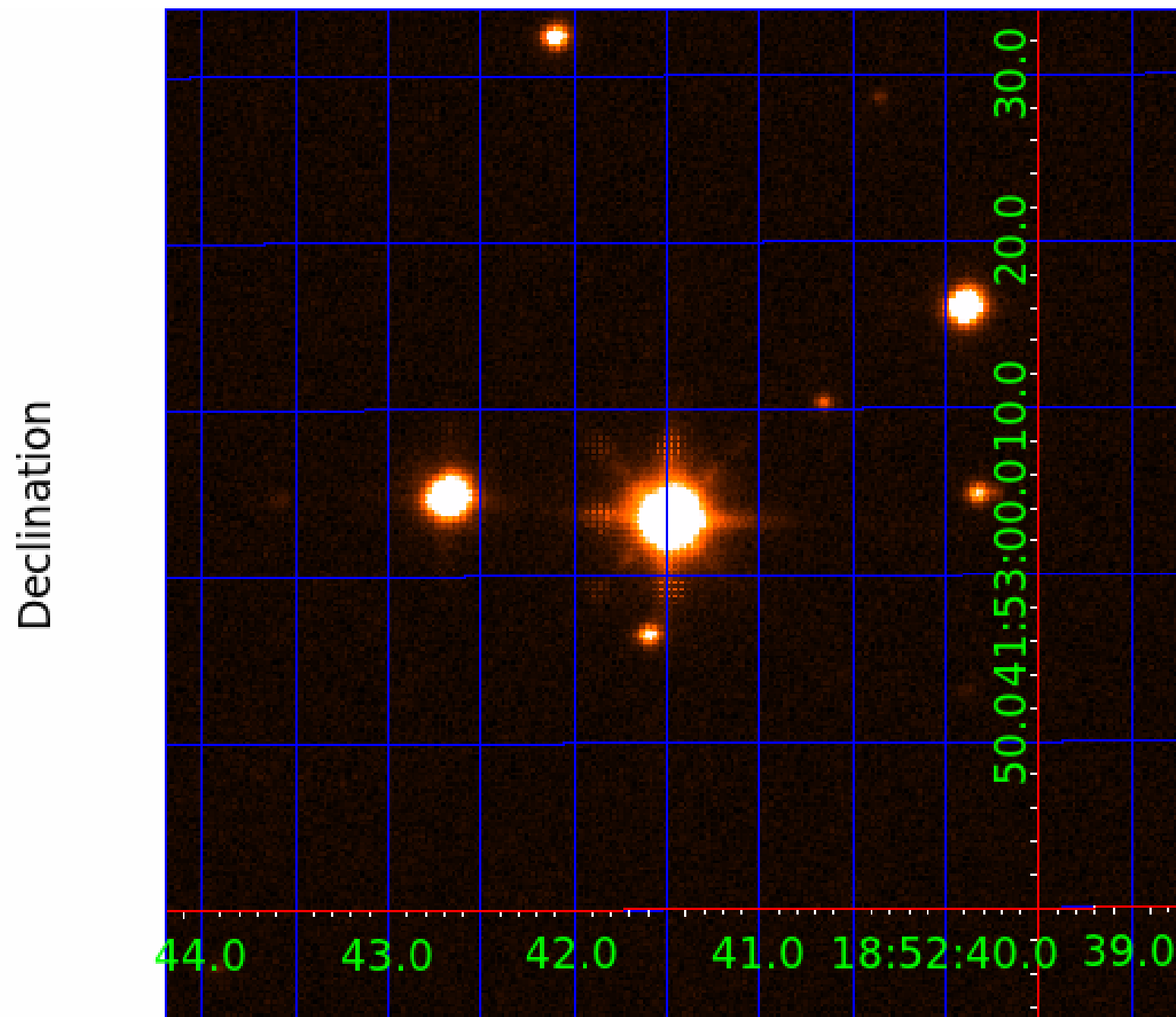
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006421759

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})
006421759-01	OBS	No	1.174548	131.976455	13.2	1.853	8.4	5.4	5.11	7171	1.89	80517.94
006421759-02	OBS	No	3.461164	131.928381	34.7	13.275	8.5	7.9	5.11	7171	3.51	19058.59
006421759-03	OBS	No	3.461214	133.627859	38.3	12.303	10.1	11.3	5.11	7171	3.68	19058.22
006421759-05	OBS	No	29.644193	152.310432	241.2	4.575	11.1	10.3	5.11	7171	9.13	1087.60
006421759-06	OBS	No	15.347249	142.020655	85.4	3.500	9.6	-1.0	5.11	7171	4.78	2616.25
006421759-07	OBS	No	21.876376	134.462209	199.8	3.676	9.5	8.5	5.11	7171	8.39	1630.87
006421759-08	OBS	No	11.519251	134.137520	175.7	3.377	9.0	9.6	5.11	7171	7.87	3835.49
006421759-09	OBS	No	24.991356	144.794029	203.1	4.532	8.6	7.7	5.11	7171	14.15	1365.63
006421759-10	OBS	No	32.859842	160.763969	152.6	3.170	7.2	7.6	5.11	7171	7.33	948.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006421759-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006421759-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
006421759-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

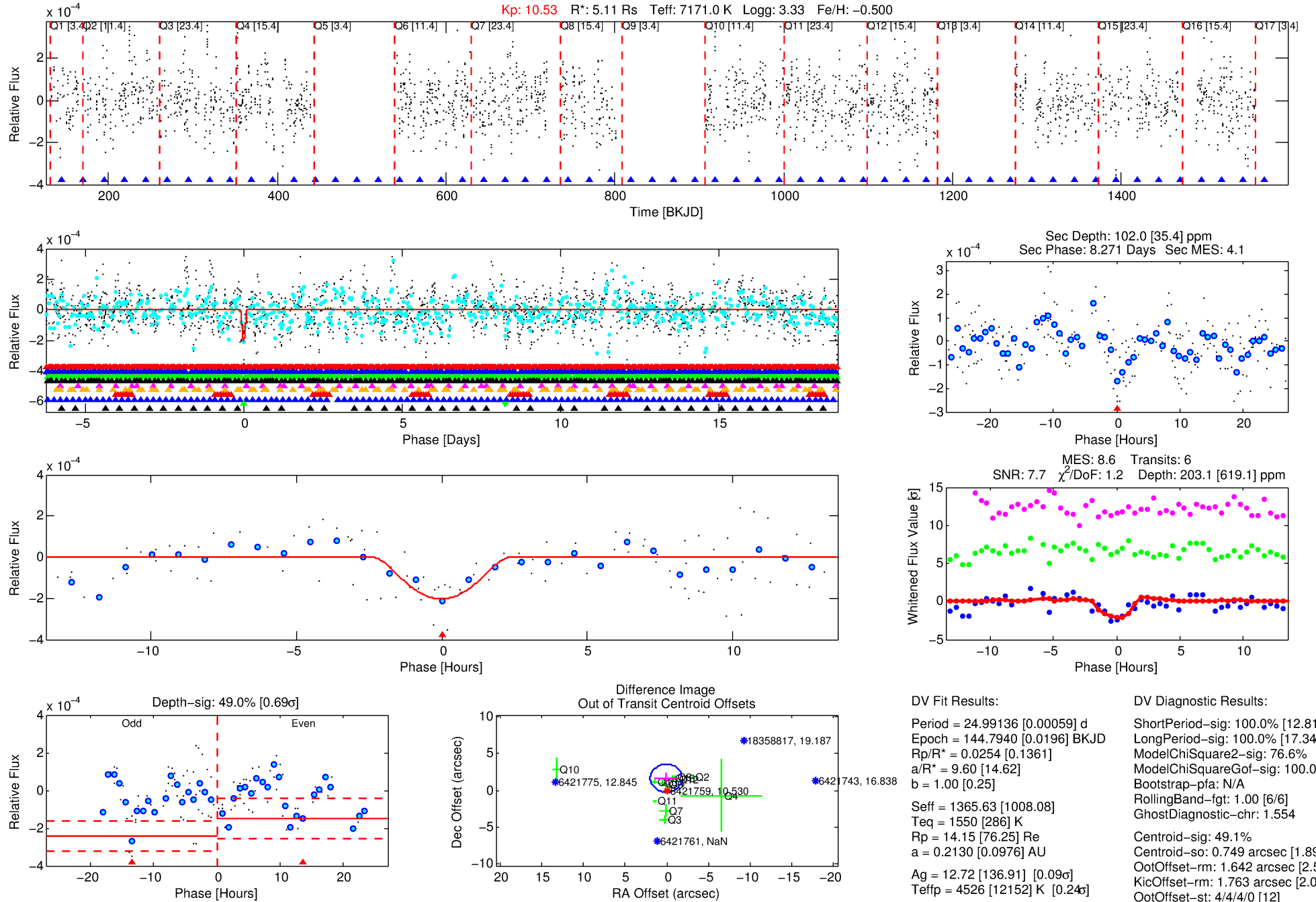
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006421759-09

No Significant Match Found

DV One-Page Summary

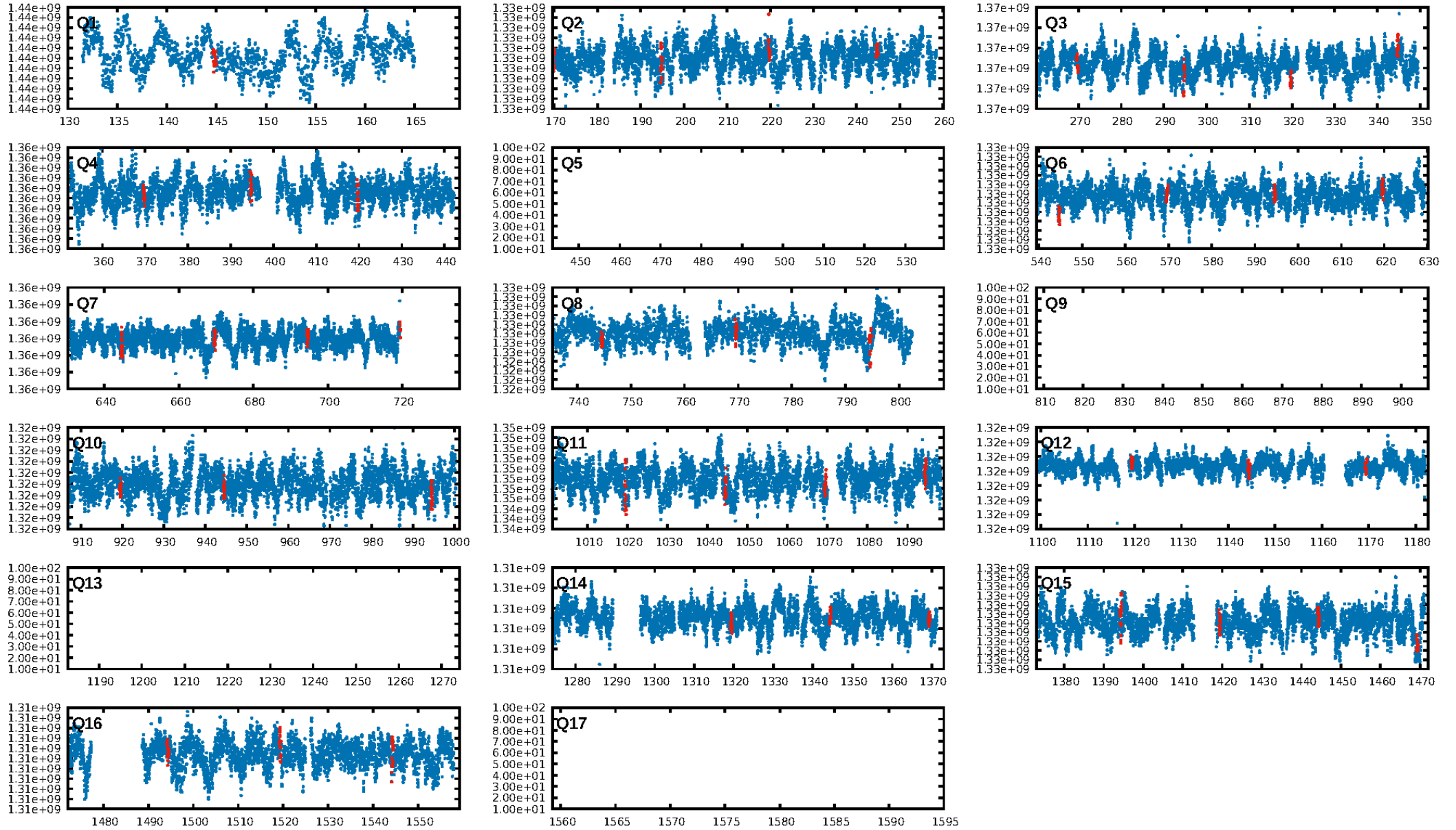
KIC: 6421759 Candidate: 9 of 10 Period: 24.991 d



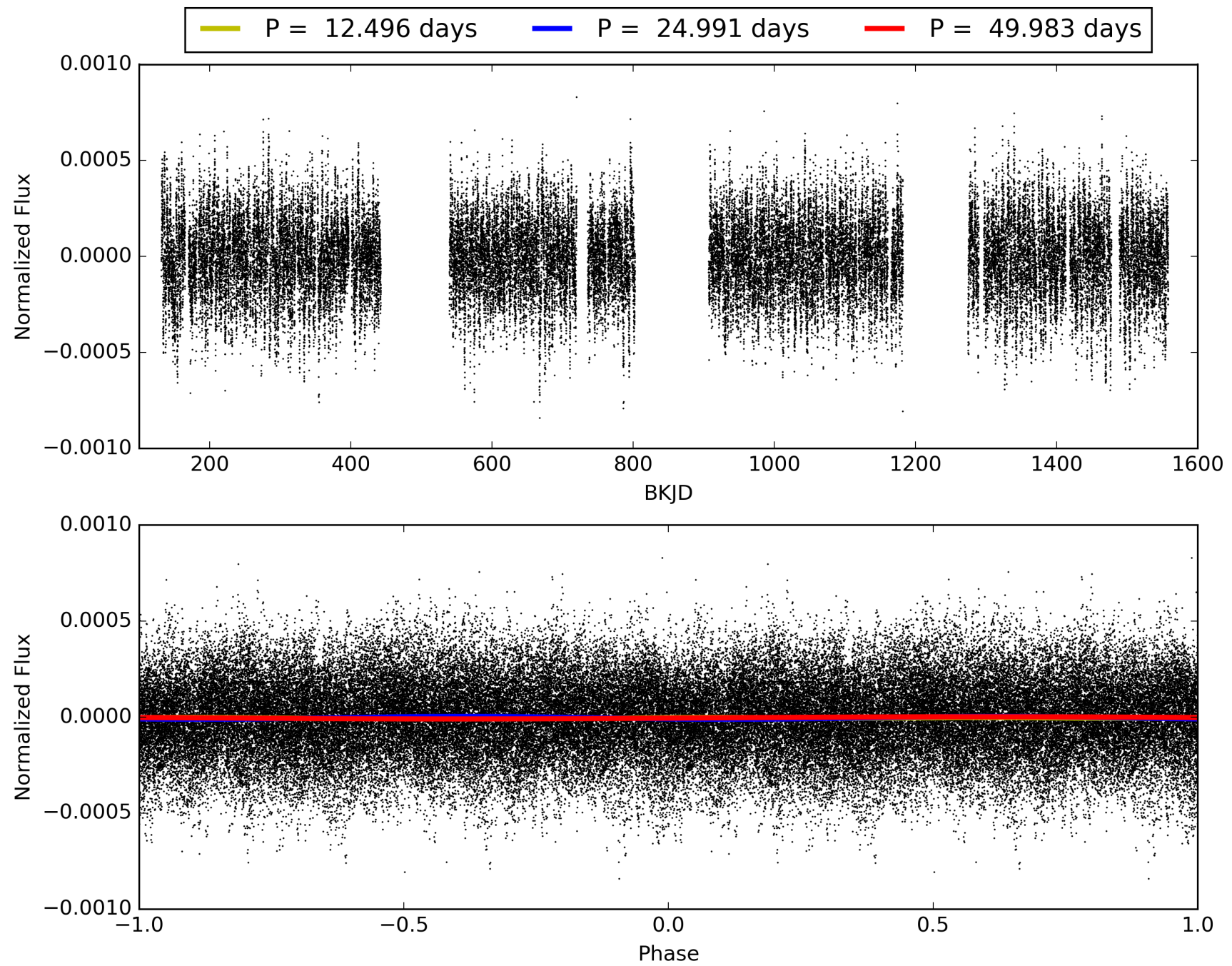
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:25:29 Z

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

TCE 006421759-09, PDC Light Curves

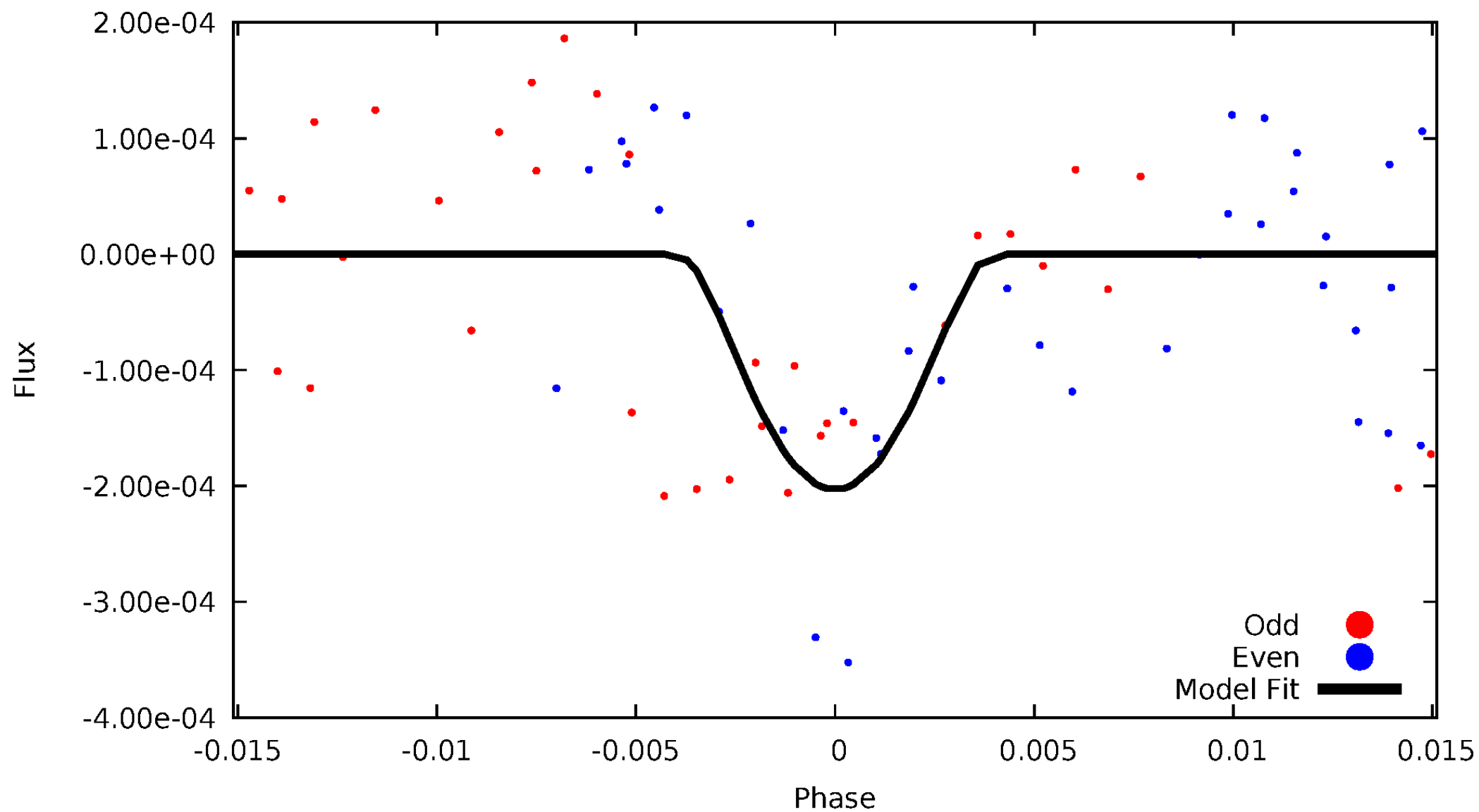


TCE 006421759-09



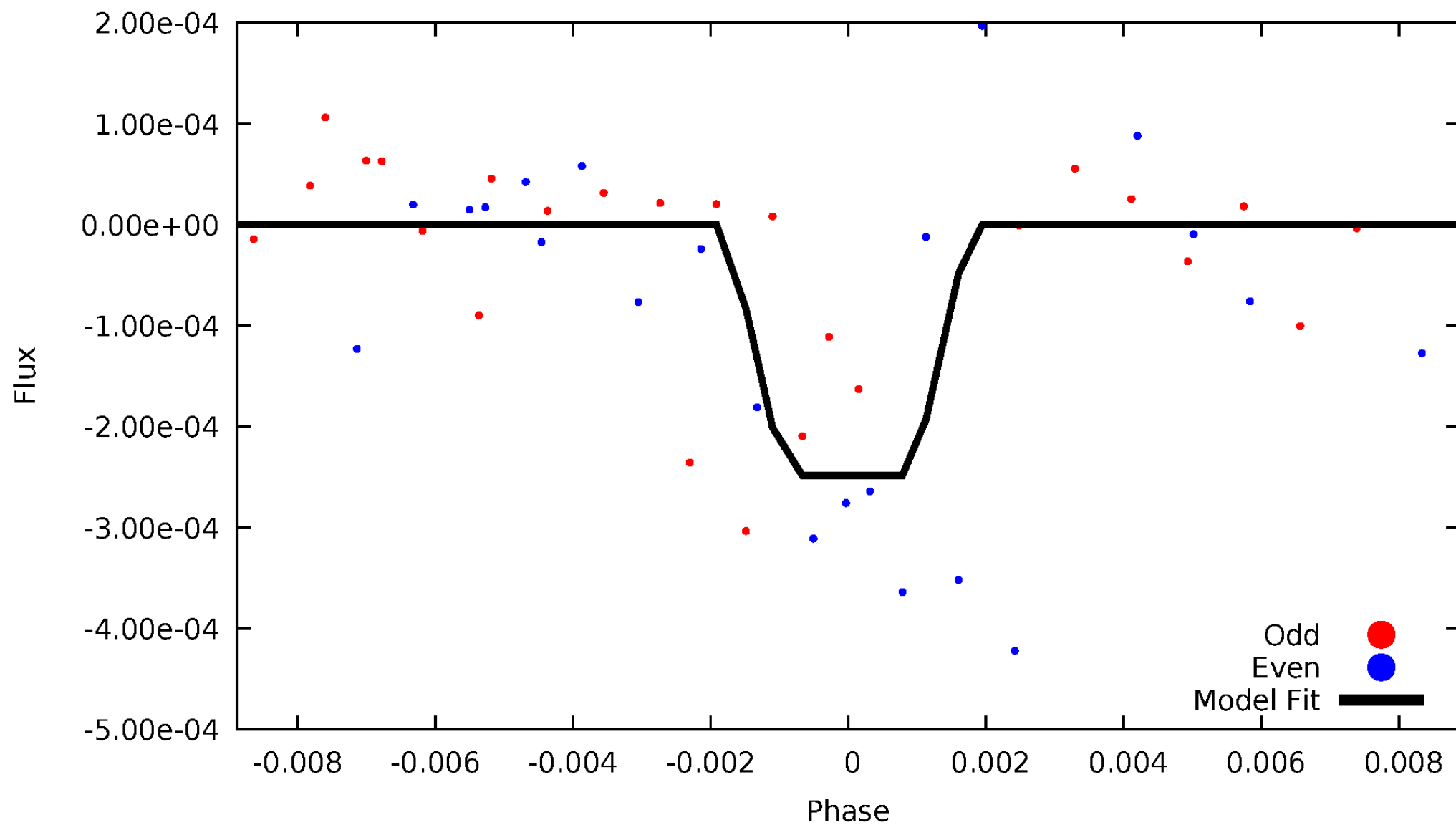
DV Odd/Even

TCE 006421759-09



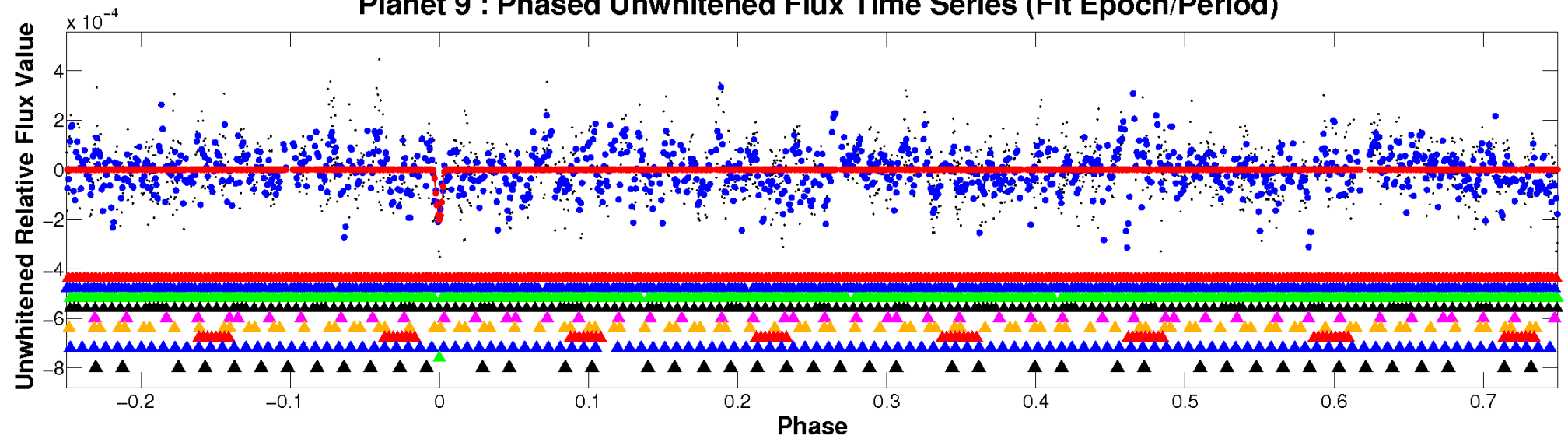
ALT Odd/Even

TCE 006421759-09

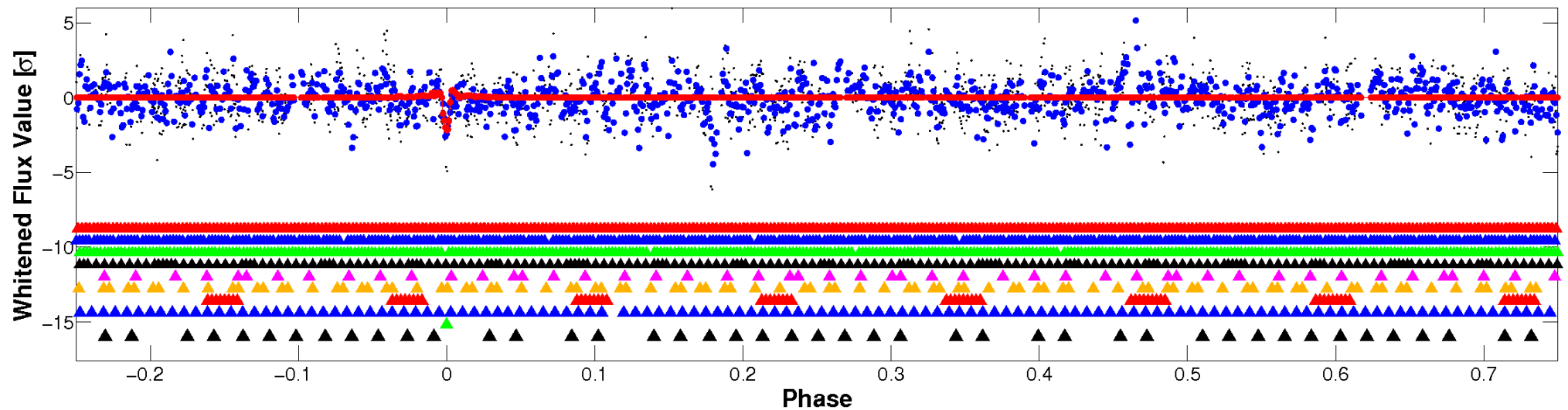


Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

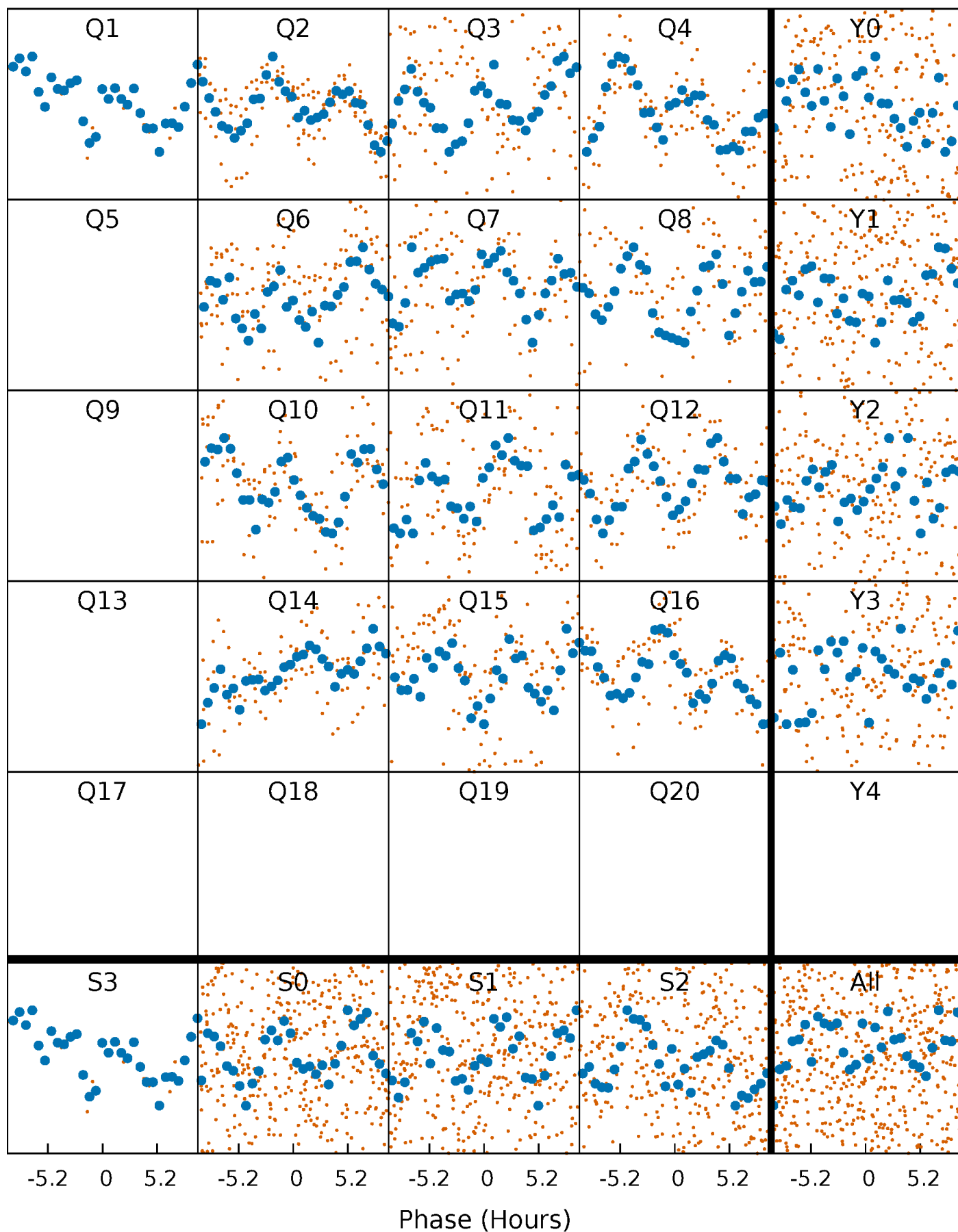


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



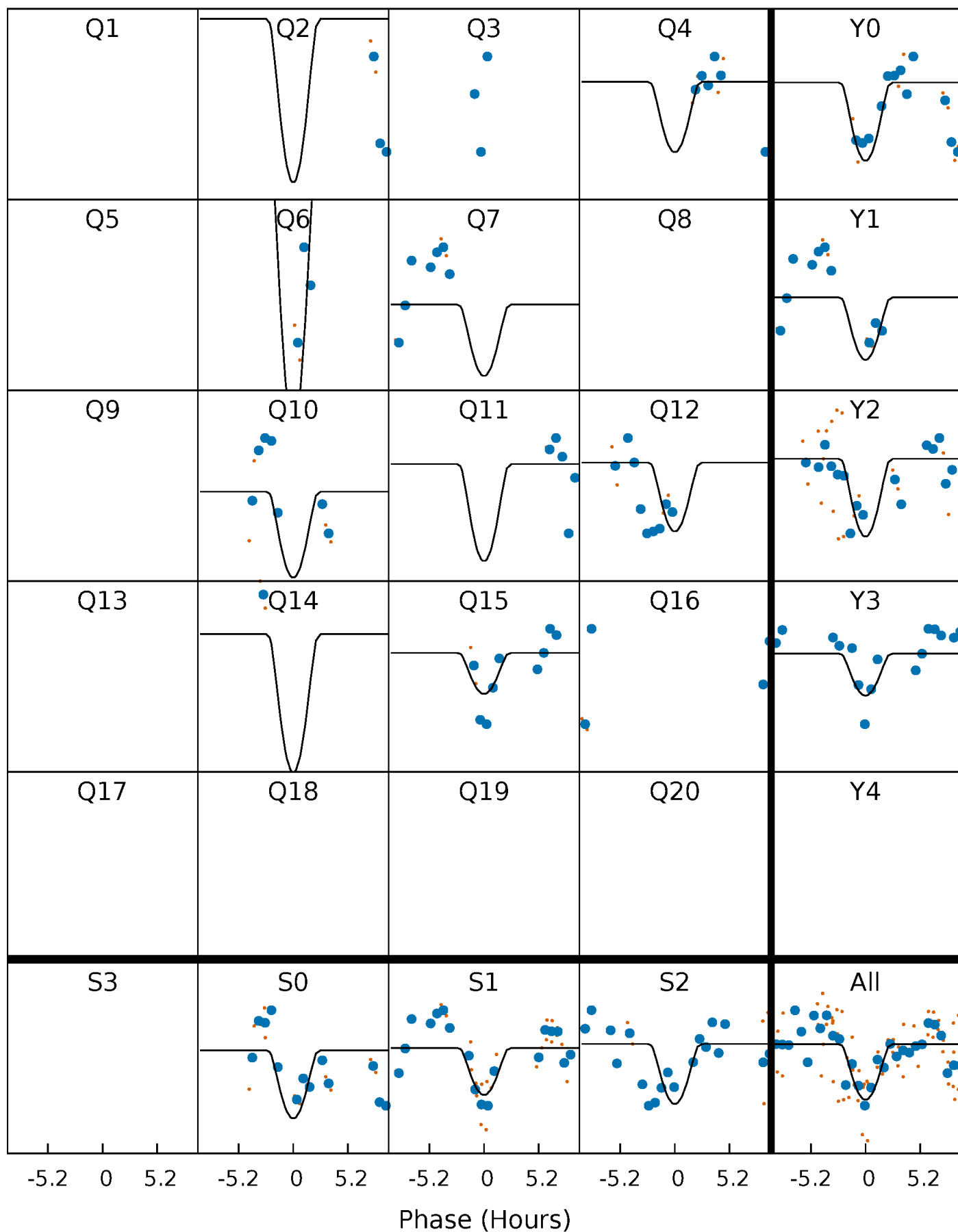
PDC Quarter-Phased Transit Curves

TCE 006421759-09 P= 24.991356 Days $T_0=144.794029$ (BKJD)



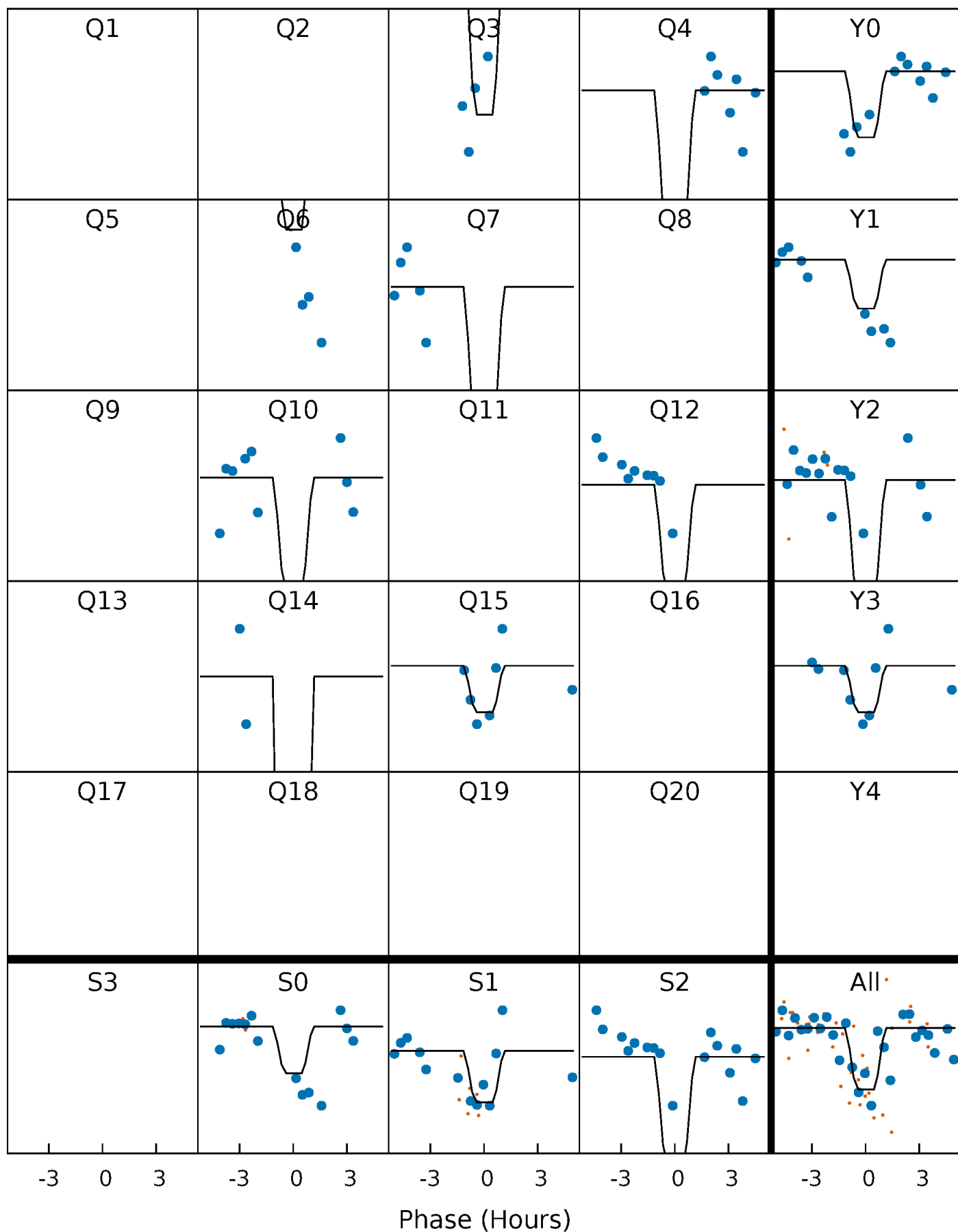
DV Quarter-Phased Transit Curves

TCE 006421759-09 P= 24.991356 Days $T_0=144.794029$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

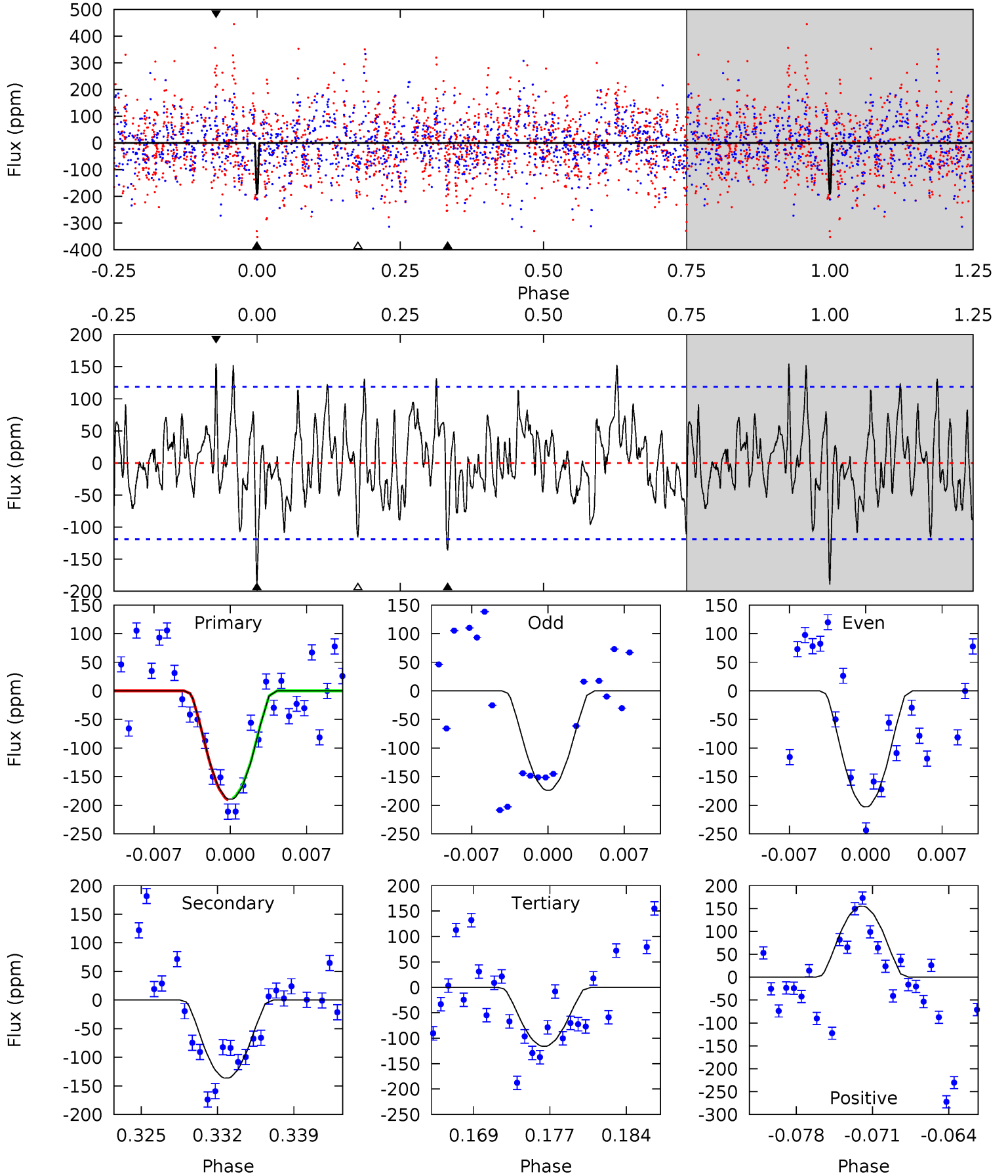
TCE 006421759-09 P= 24.991188 Days $T_0=144.802911$ (BKJD)



DV Model-Shift Uniqueness Test

006421759-09, P = 24.991356 Days, E = 119.802673 Days

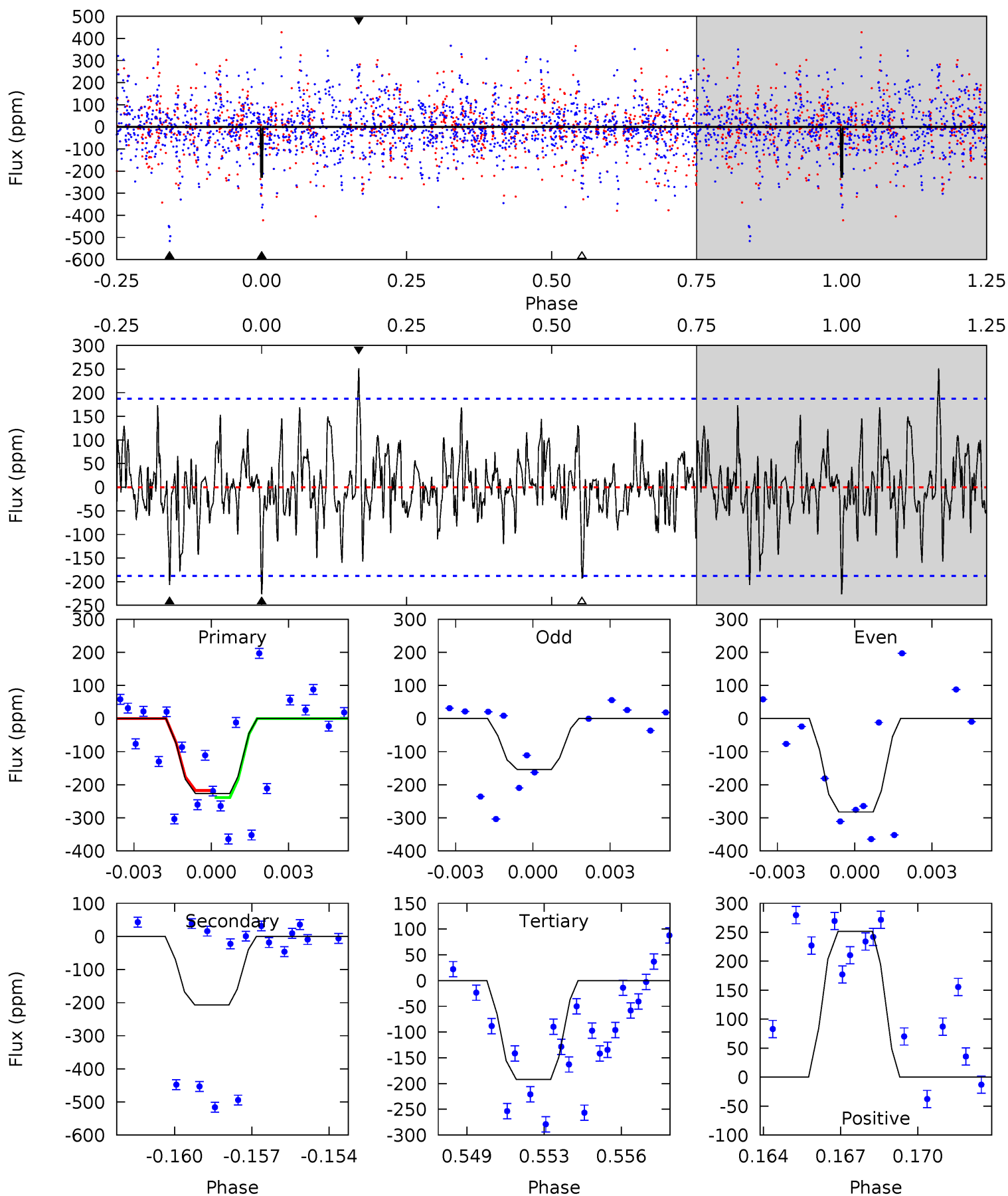
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.12	5.85	4.96	6.64	5.09	2.69	2.10	3.16	1.48	0.88	-0.79	0.62	1.02	0.45	0.07



Alt Model-Shift Uniqueness Test

006421759-09, P = 24.991188 Days, E = 119.811723 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.32	5.77	5.36	7.02	5.24	2.94	1.61	0.96	-0.70	0.40	-1.26	1.77	0.95	0.53	0.30



Stellar Parameters For KIC 006421759

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7171^{+171}_{-235}	$3.335^{+0.424}_{-0.053}$	$-0.500^{+0.350}_{-0.300}$	$5.114^{+1.061}_{-2.475}$	$2.063^{+0.055}_{-0.519}$	$0.022^{+0.090}_{-0.006}$
	+2%/-3%	+13%/-2%	+70%/-60%	+21%/-48%	+3%/-25%	+415%/-27%
Source	PHO1	FLK73	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 006421759-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-136 ± 23	$50.34^{+53.48}_{-35.07}$	2031^{+154}_{-223}	2841^{+1578}_{-1284}	$1.293^{+12.999}_{-0.989}$
Alt.	-207 ± 36	$44.84^{+48.61}_{-31.85}$	2051^{+150}_{-245}	3240^{+1740}_{-837}	$2.489^{+24.166}_{-1.960}$

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

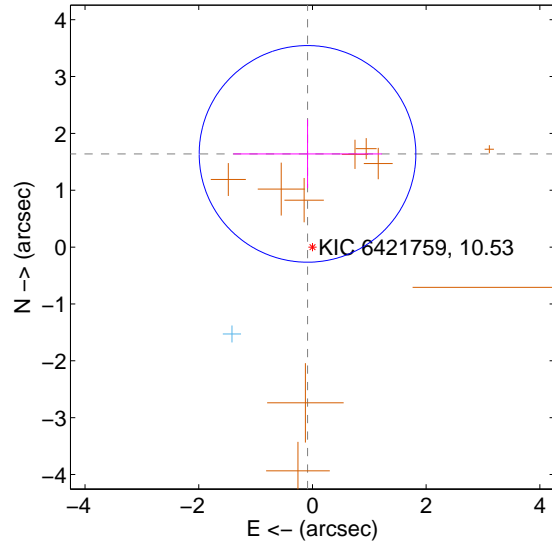
Supplemental centroid analysis for 006421759-09. **Kepler magnitude: 10.53.** Transit SNR 7.72

There are 1 quarters with good PRF difference image offsets

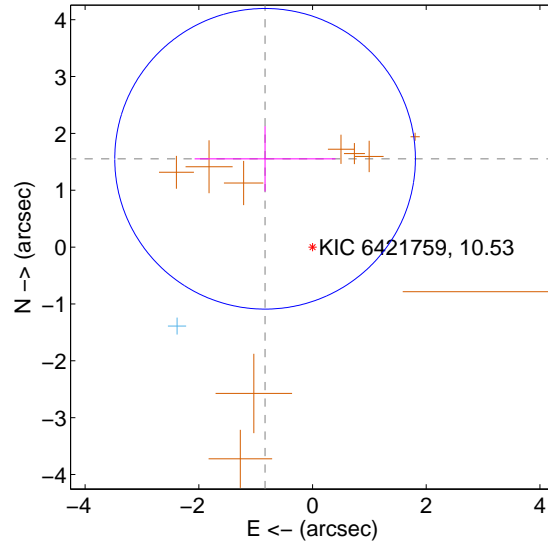
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.642 ± 0.635	2.59	0.087 ± 1.308	1.640 ± 0.603
PRF-fit source offset from KIC position	1.763 ± 0.881	2.00	0.835 ± 1.239	1.553 ± 0.574
photometric centroid source offset	0.75 ± 0.40	1.89	0.67 ± 0.42	-0.33 ± 0.29

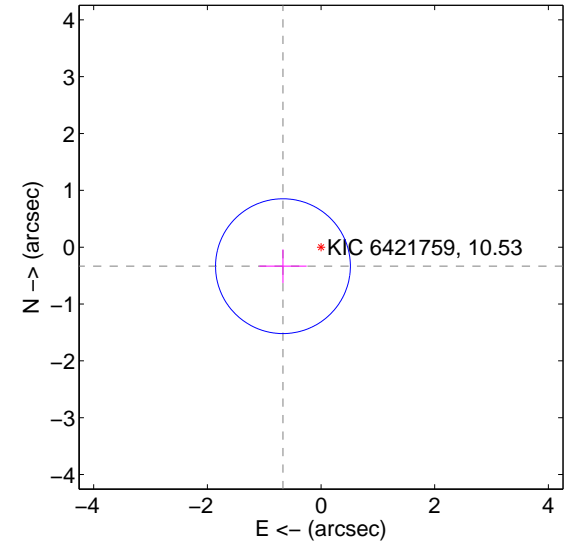
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

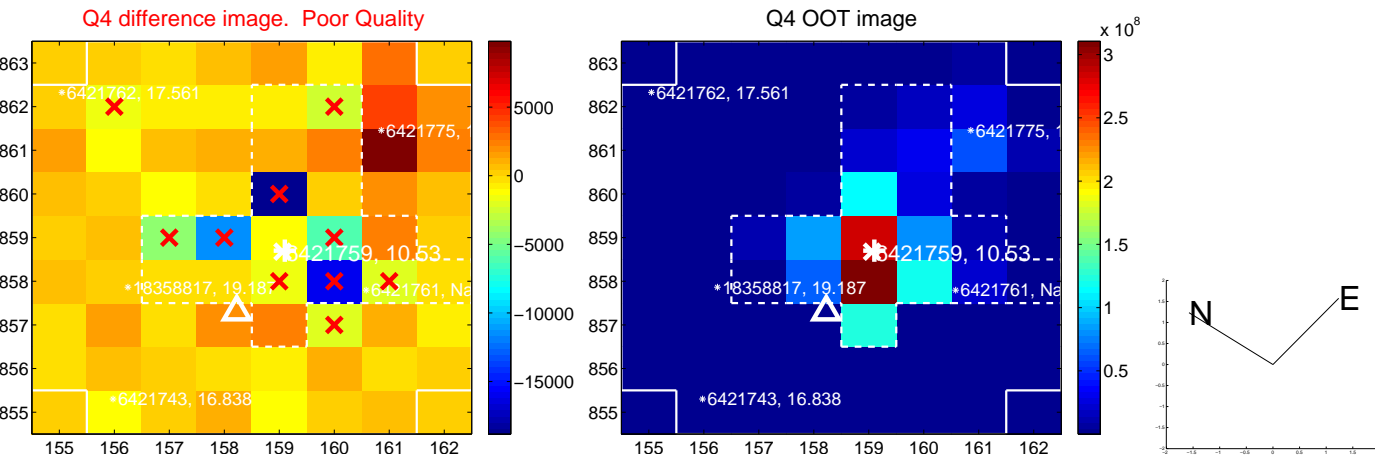
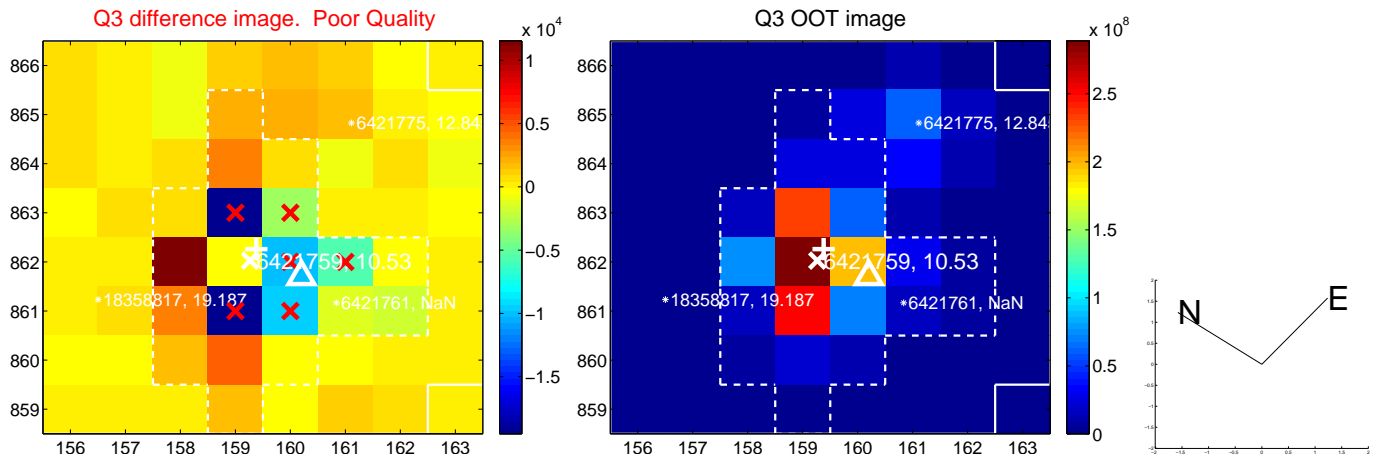
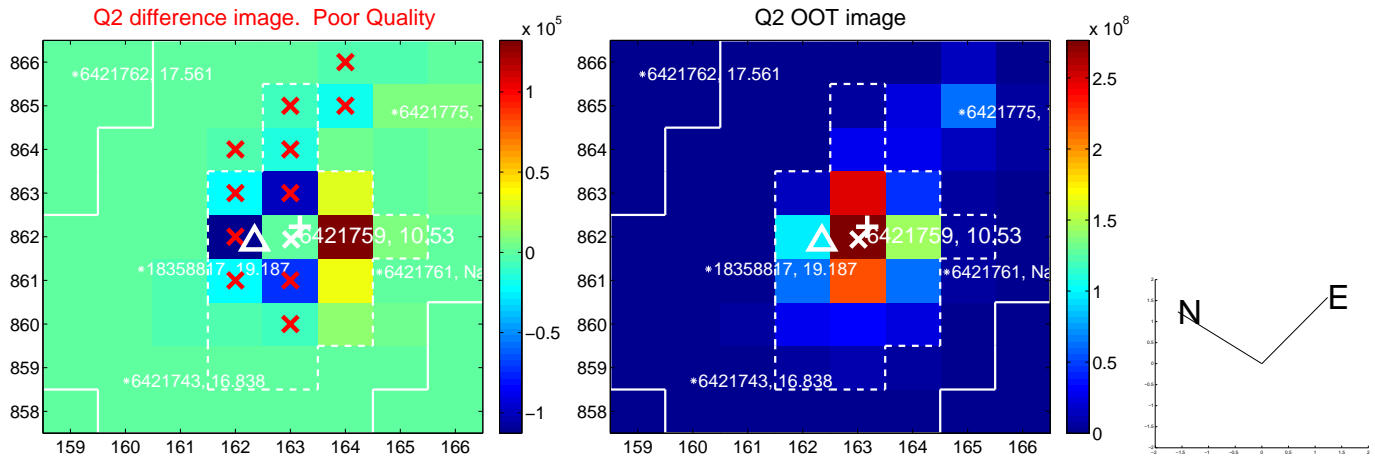
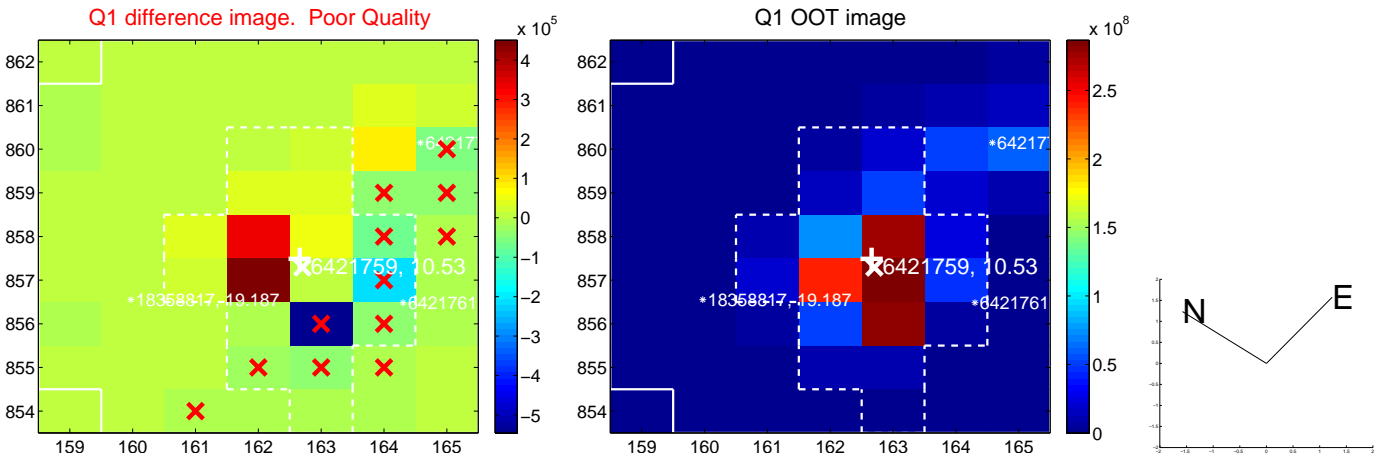


offset from photometric centroids

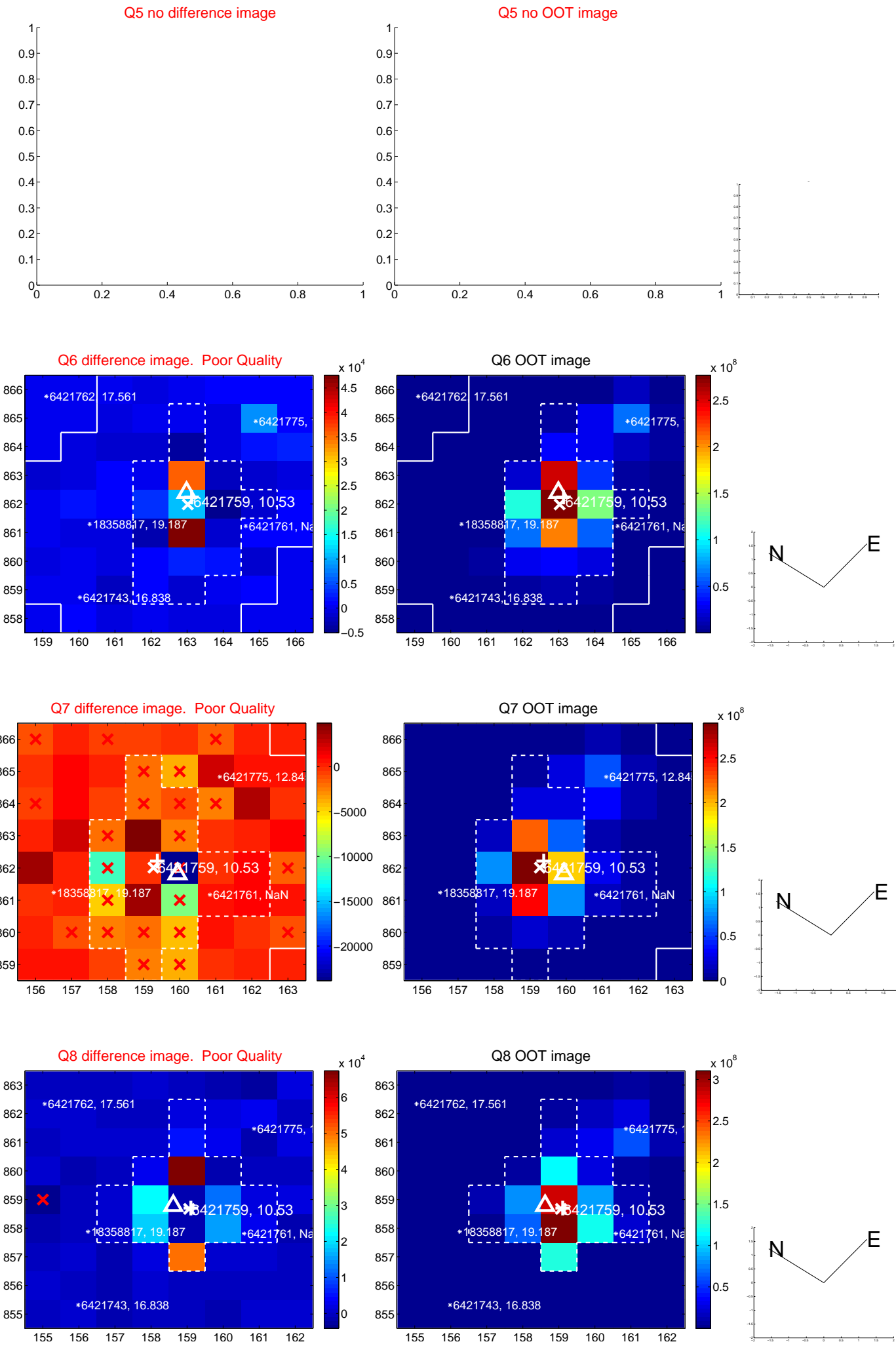


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

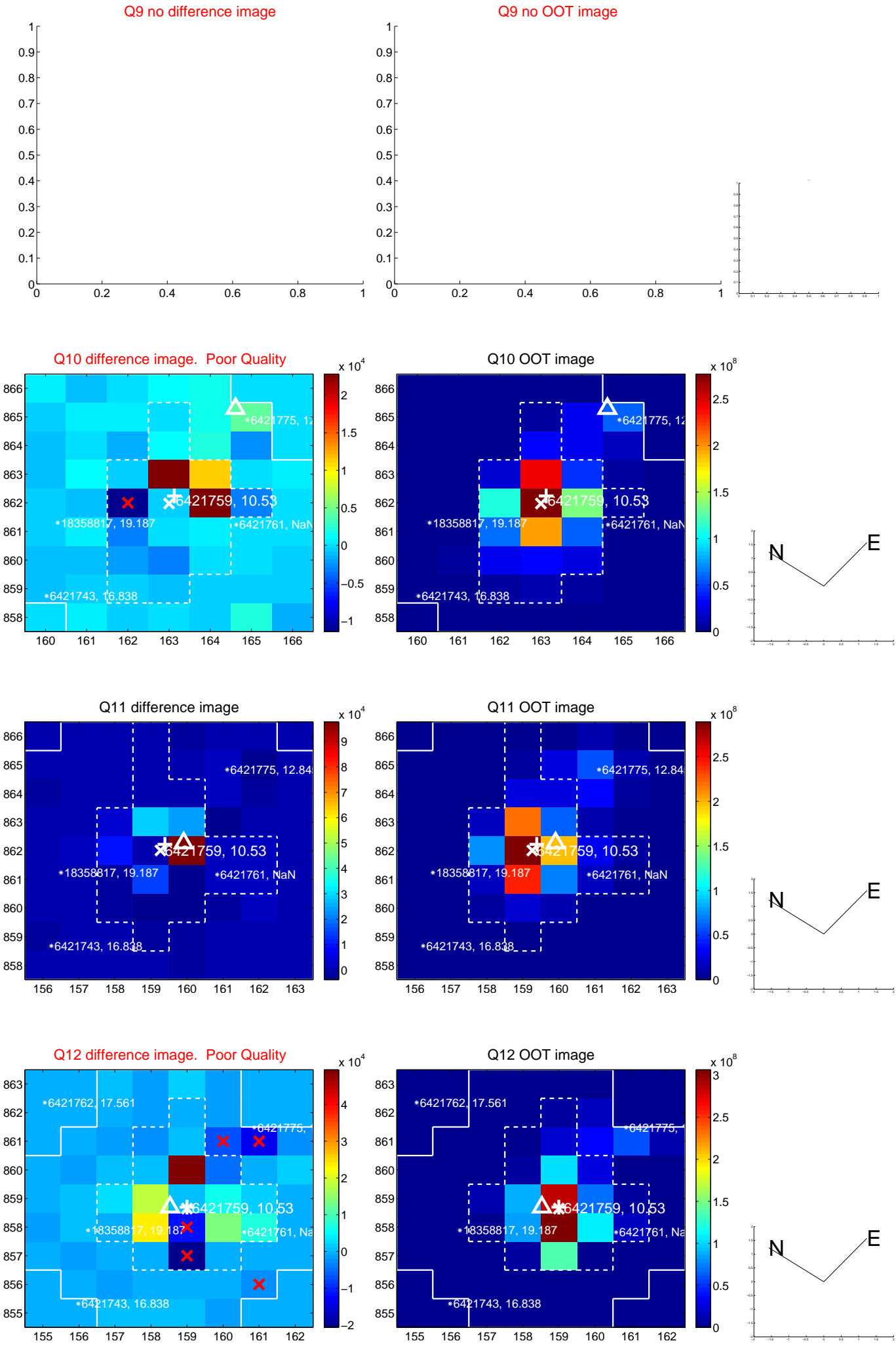
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



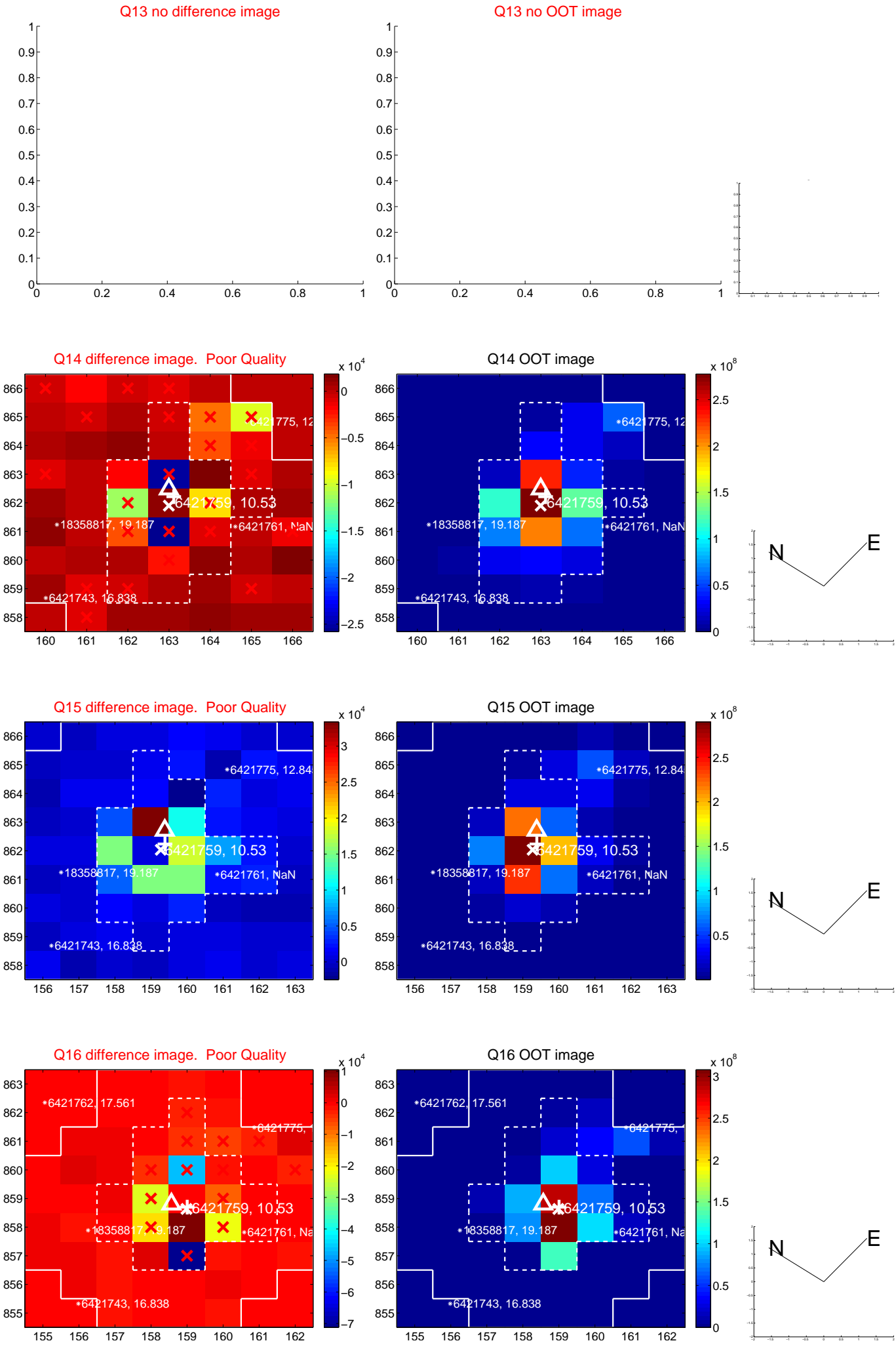
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



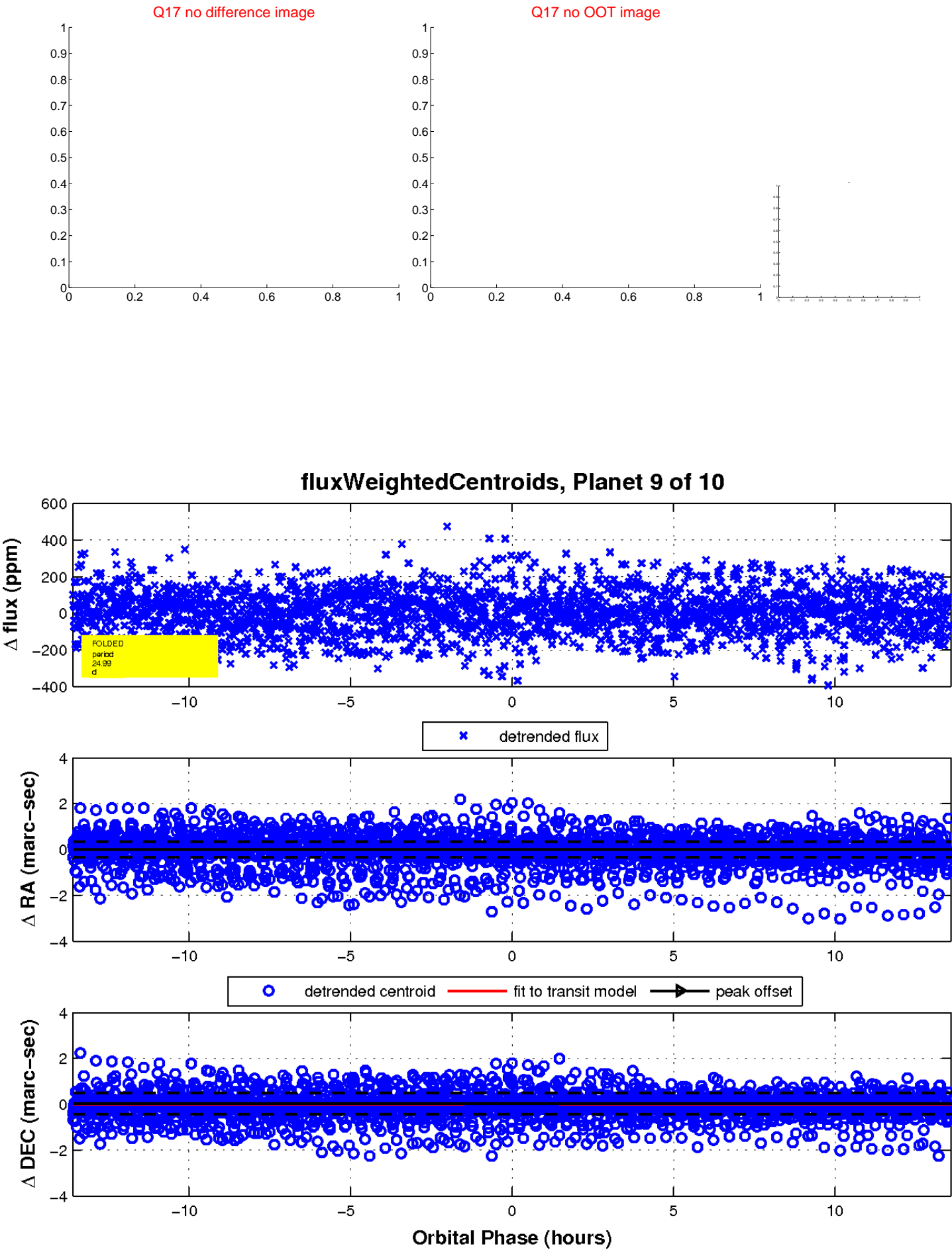
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



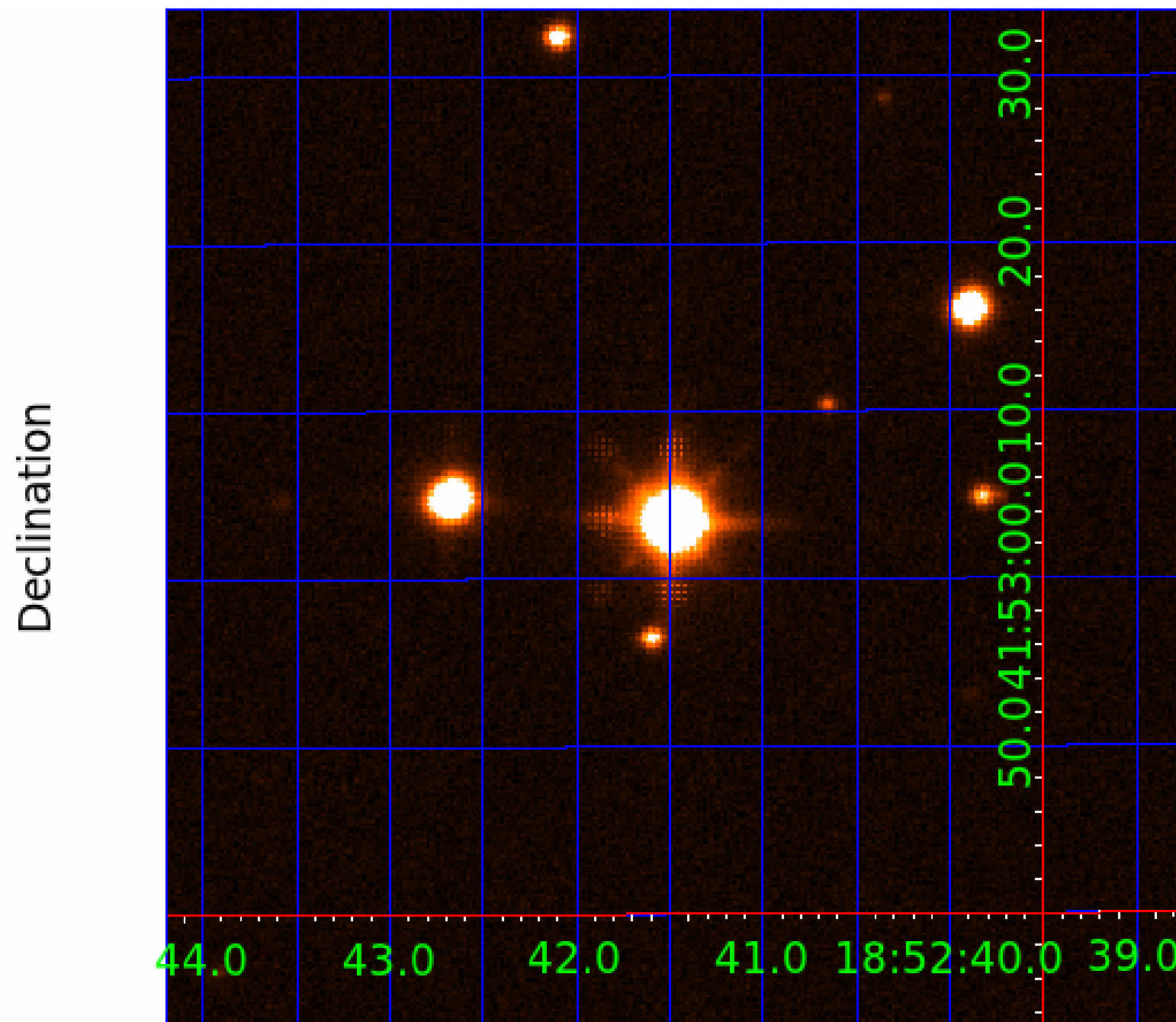
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006421759

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})
006421759-01	OBS	No	1.174548	131.976455	13.2	1.853	8.4	5.4	5.11	7171	1.89	80517.94
006421759-02	OBS	No	3.461164	131.928381	34.7	13.275	8.5	7.9	5.11	7171	3.51	19058.59
006421759-03	OBS	No	3.461214	133.627859	38.3	12.303	10.1	11.3	5.11	7171	3.68	19058.22
006421759-05	OBS	No	29.644193	152.310432	241.2	4.575	11.1	10.3	5.11	7171	9.13	1087.60
006421759-06	OBS	No	15.347249	142.020655	85.4	3.500	9.6	-1.0	5.11	7171	4.78	2616.25
006421759-07	OBS	No	21.876376	134.462209	199.8	3.676	9.5	8.5	5.11	7171	8.39	1630.87
006421759-08	OBS	No	11.519251	134.137520	175.7	3.377	9.0	9.6	5.11	7171	7.87	3835.49
006421759-09	OBS	No	24.991356	144.794029	203.1	4.532	8.6	7.7	5.11	7171	14.15	1365.63
006421759-10	OBS	No	32.859842	160.763969	152.6	3.170	7.2	7.6	5.11	7171	7.33	948.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006421759-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006421759-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
006421759-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006421759-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006421759-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

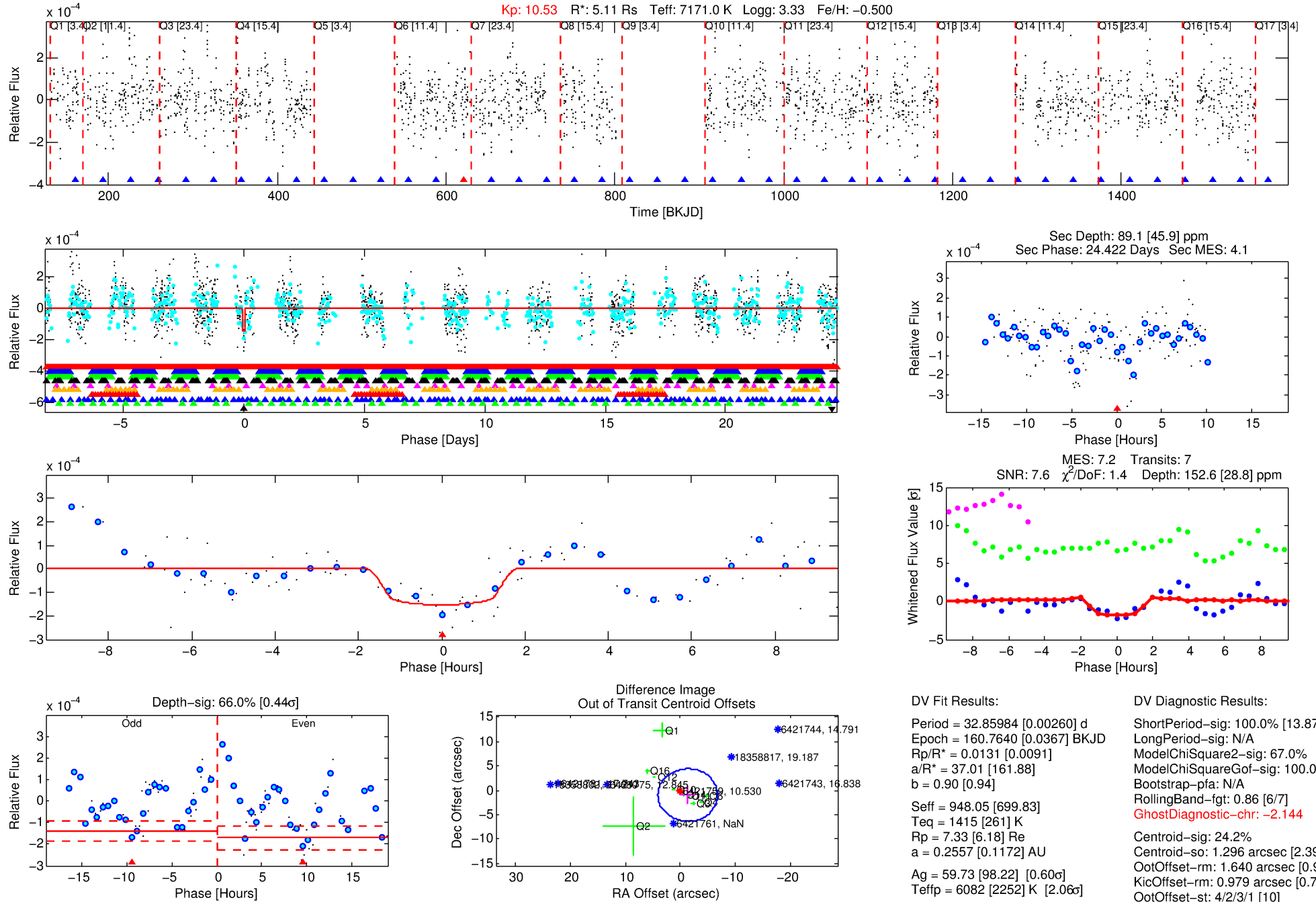
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006421759-10

No Significant Match Found

DV One-Page Summary

KIC: 6421759 Candidate: 10 of 10 Period: 32.860 d



DV Fit Results:

Period = 32.85984 [0.00260] d
Epoch = 160.7640 [0.0367] BKJD
Rp/R* = 0.0131 [0.0091]
a/R* = 37.01 [161.88]
b = 0.90 [0.94]
Seff = 948.05 [699.83]
Teq = 1415 [261] K
Rp = 7.33 [6.18] Re
a = 0.2557 [0.1172] AU
Ag = 59.73 [98.22] [0.60σ]
Teffp = 6082 [2252] K [2.06σ]

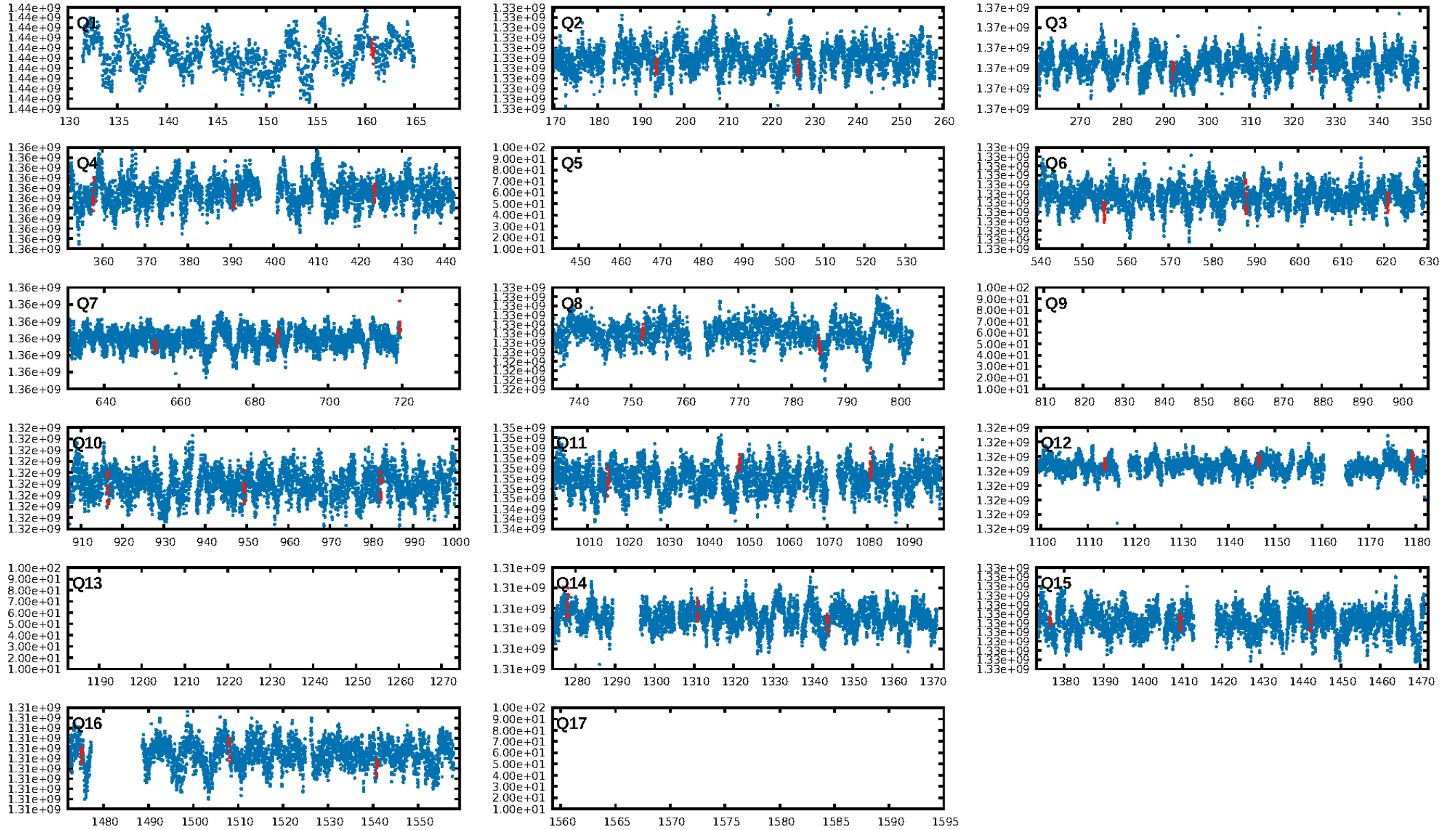
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.87σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 67.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.86 [6/7]
GhostDiagnostic-chr: -2.144
Centroid-sig: 24.2%
Centroid-so: 1.296 arcsec [2.39σ]
OotOffset-rm: 1.640 arcsec [0.91σ]
OotOffset-st: 4/2/3/1 [10]
KicOffset-rm: 0.979 arcsec [0.70σ]
KicOffset-st: 4/2/3/1 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 0.23 [3/13]

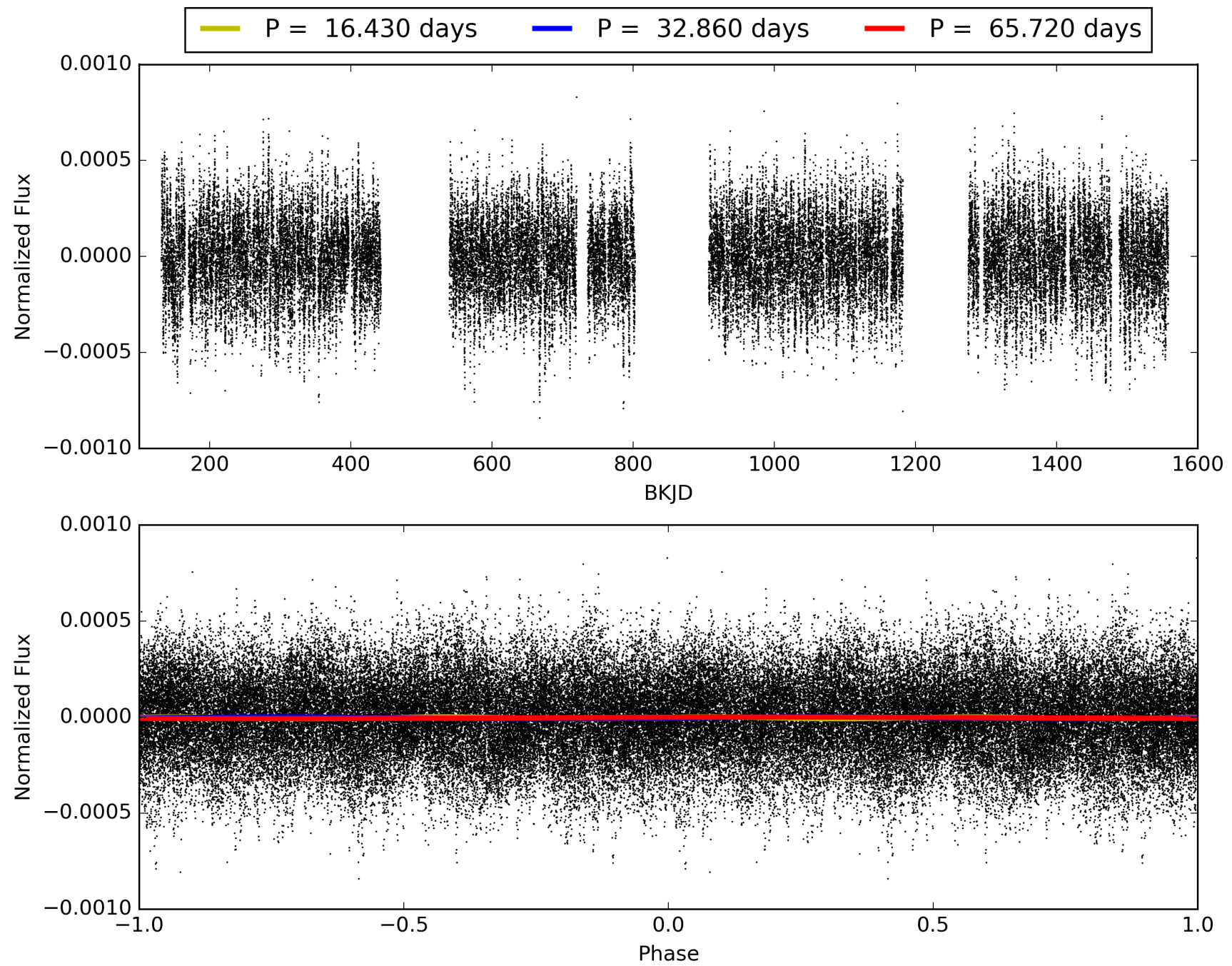
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:25:32 Z

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

TCE 006421759-10, PDC Light Curves

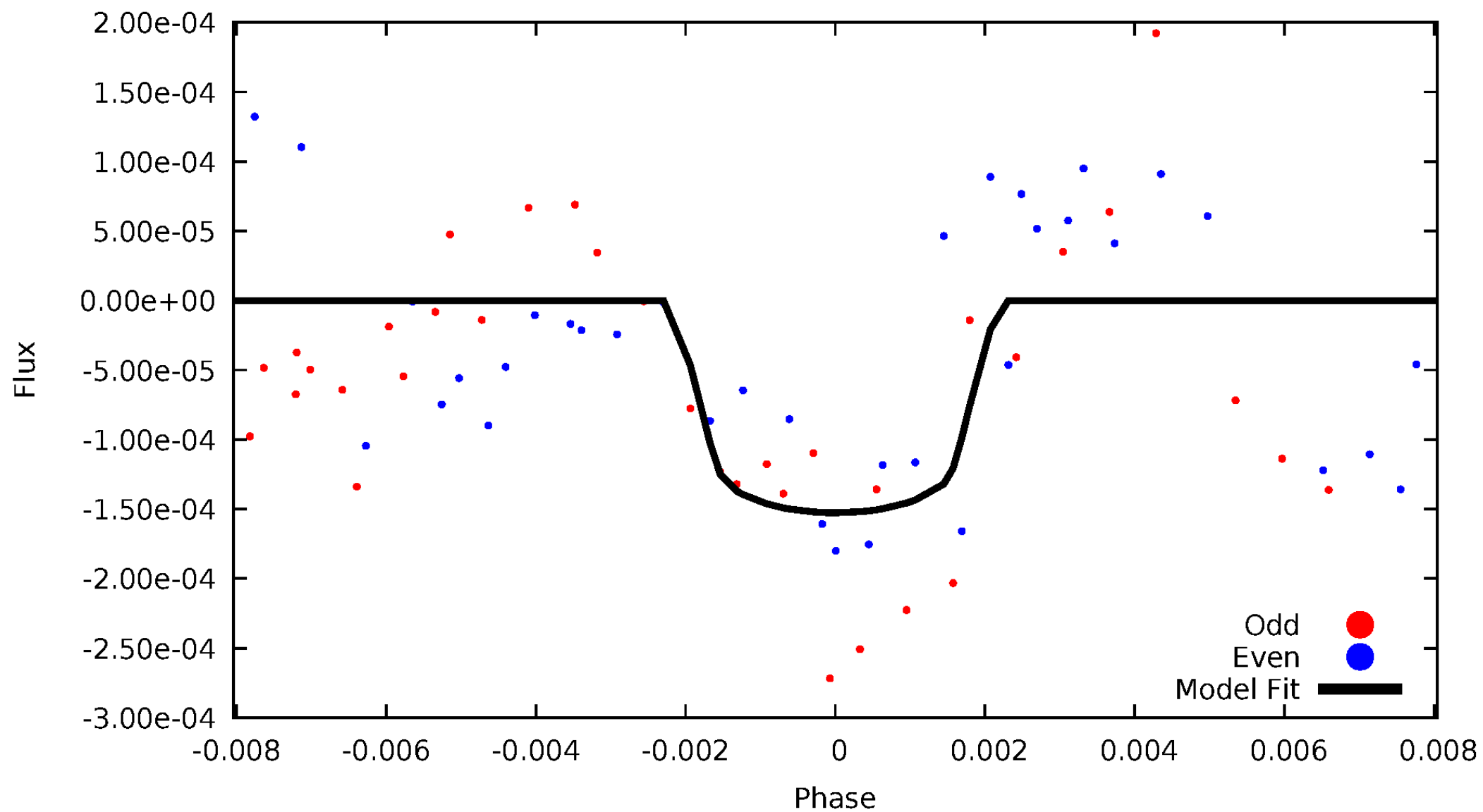


TCE 006421759-10



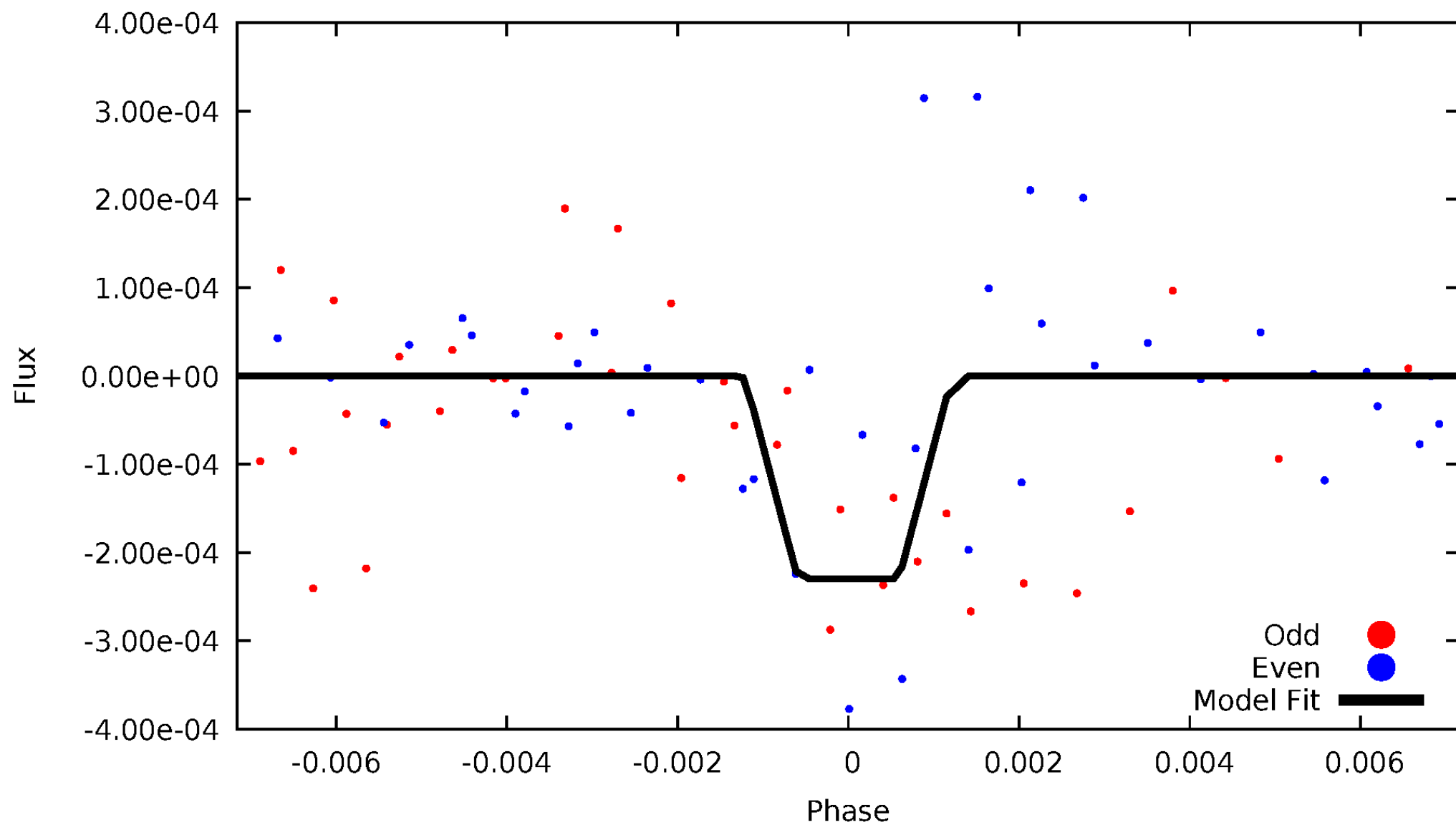
DV Odd/Even

TCE 006421759-10



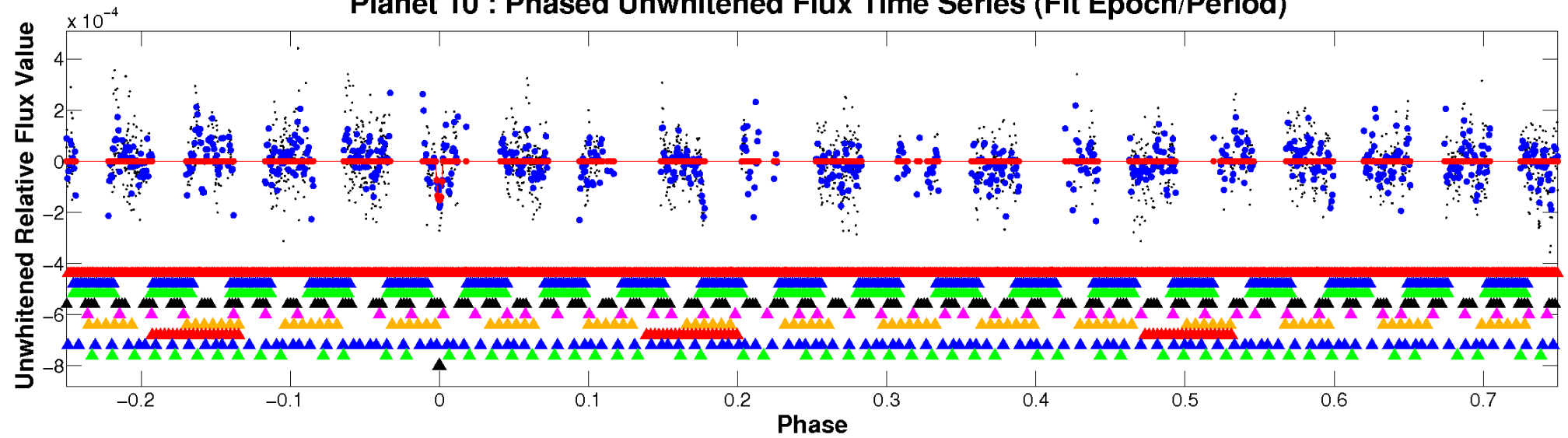
ALT Odd/Even

TCE 006421759-10

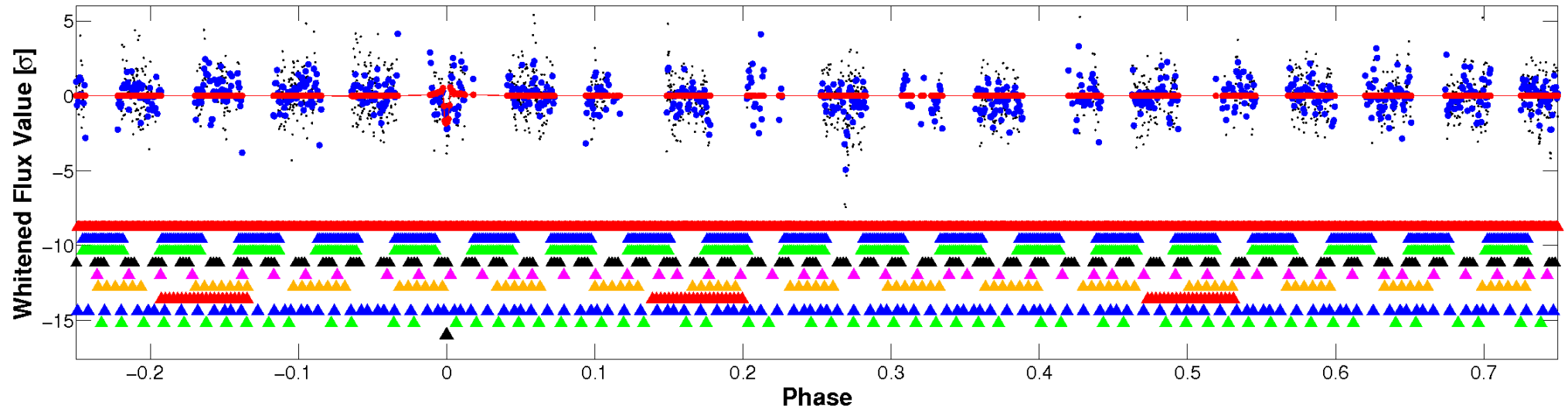


Non-Whitened Vs. Whitened Light Curve

Planet 10 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

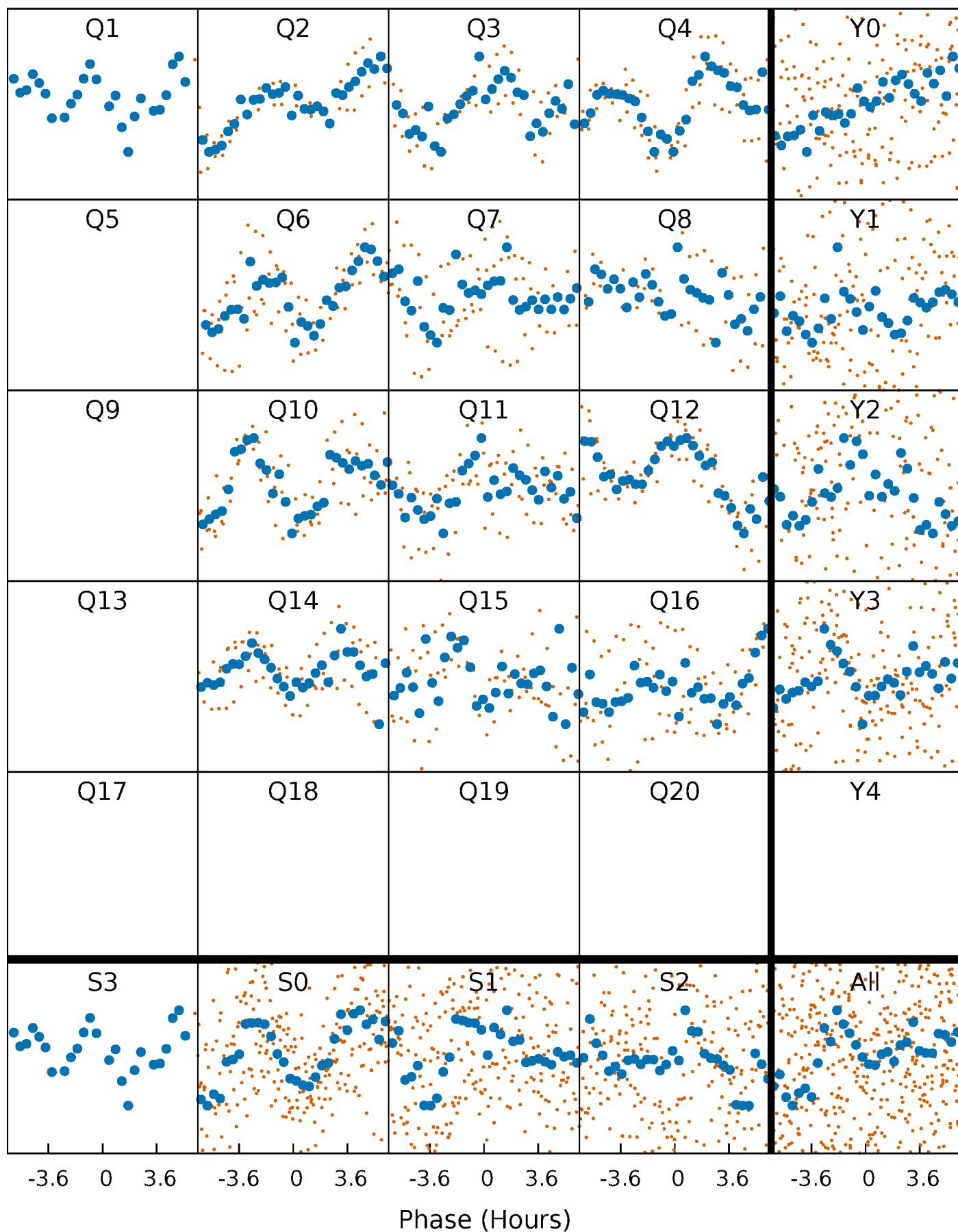


Planet 10 : Phased Whitened Flux Time Series (Fit Epoch/Period)



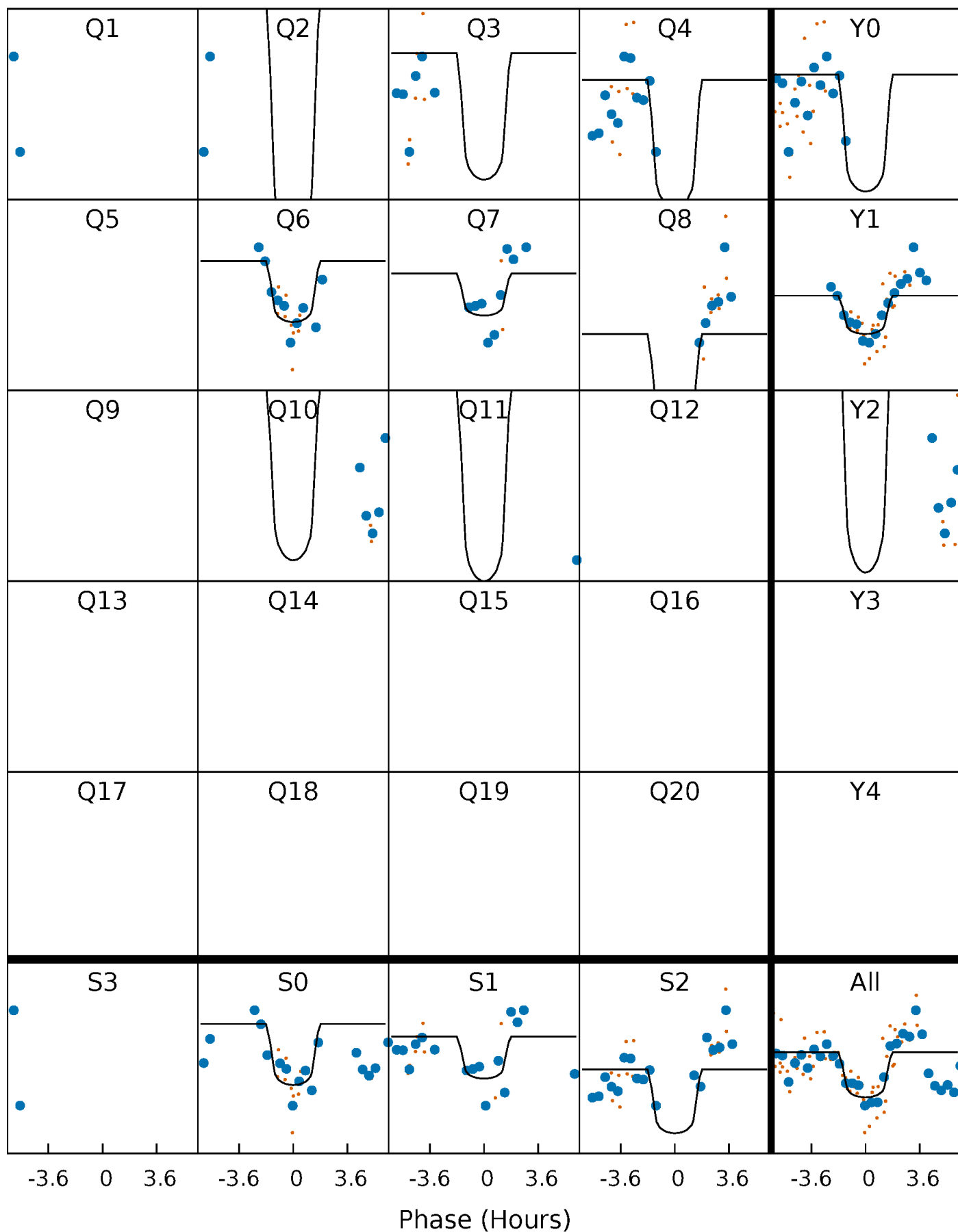
PDC Quarter-Phased Transit Curves

TCE 006421759-10 P= 32.859842 Days $T_0=160.763969$ (BKJD)



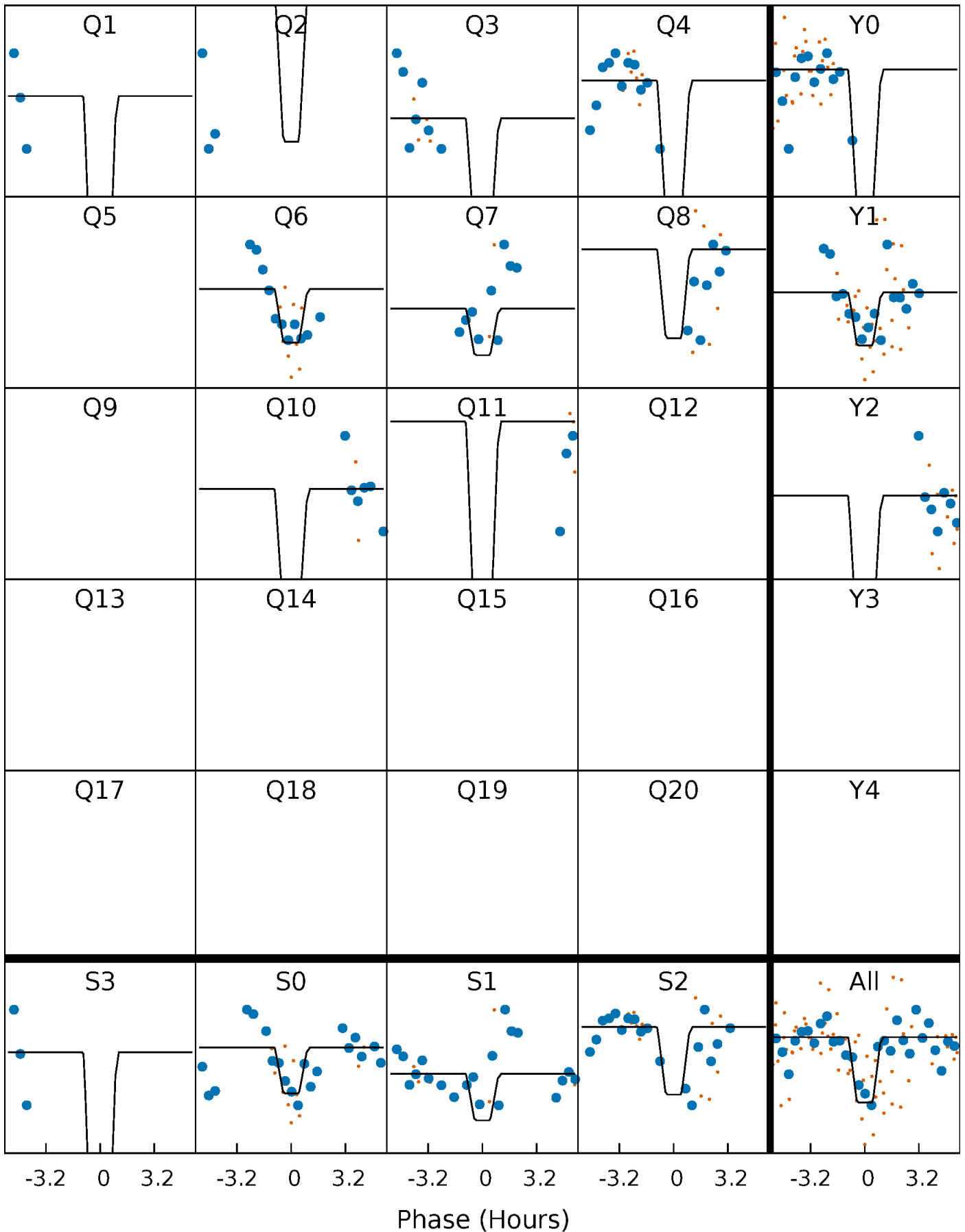
DV Quarter-Phased Transit Curves

TCE 006421759-10 P= 32.859842 Days $T_0=160.763969$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

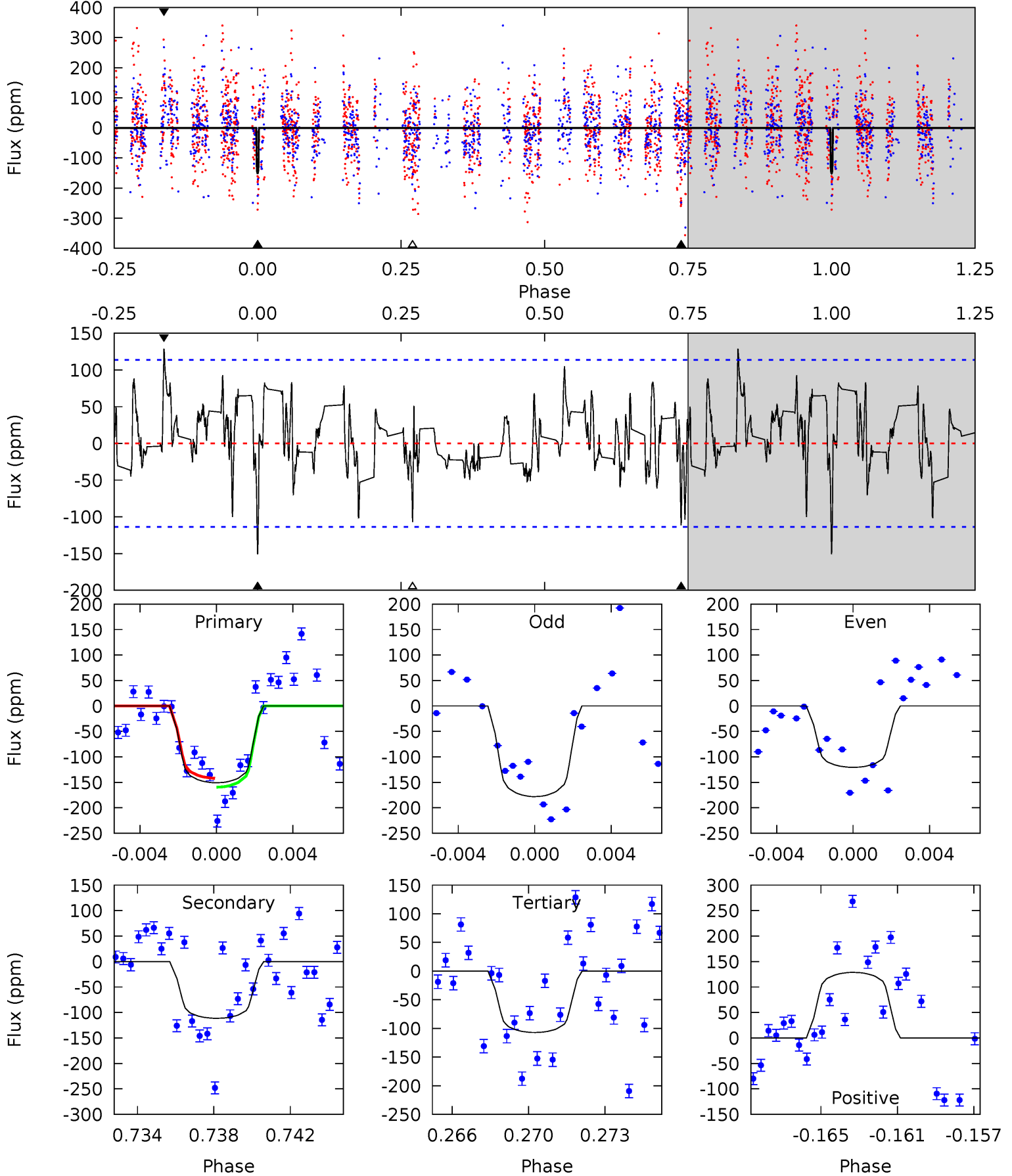
TCE 006421759-10 P= 32.864466 Days $T_0=160.708465$ (BKJD)



DV Model-Shift Uniqueness Test

006421759-10, $P = 32.859842$ Days, $E = 127.904127$ Days

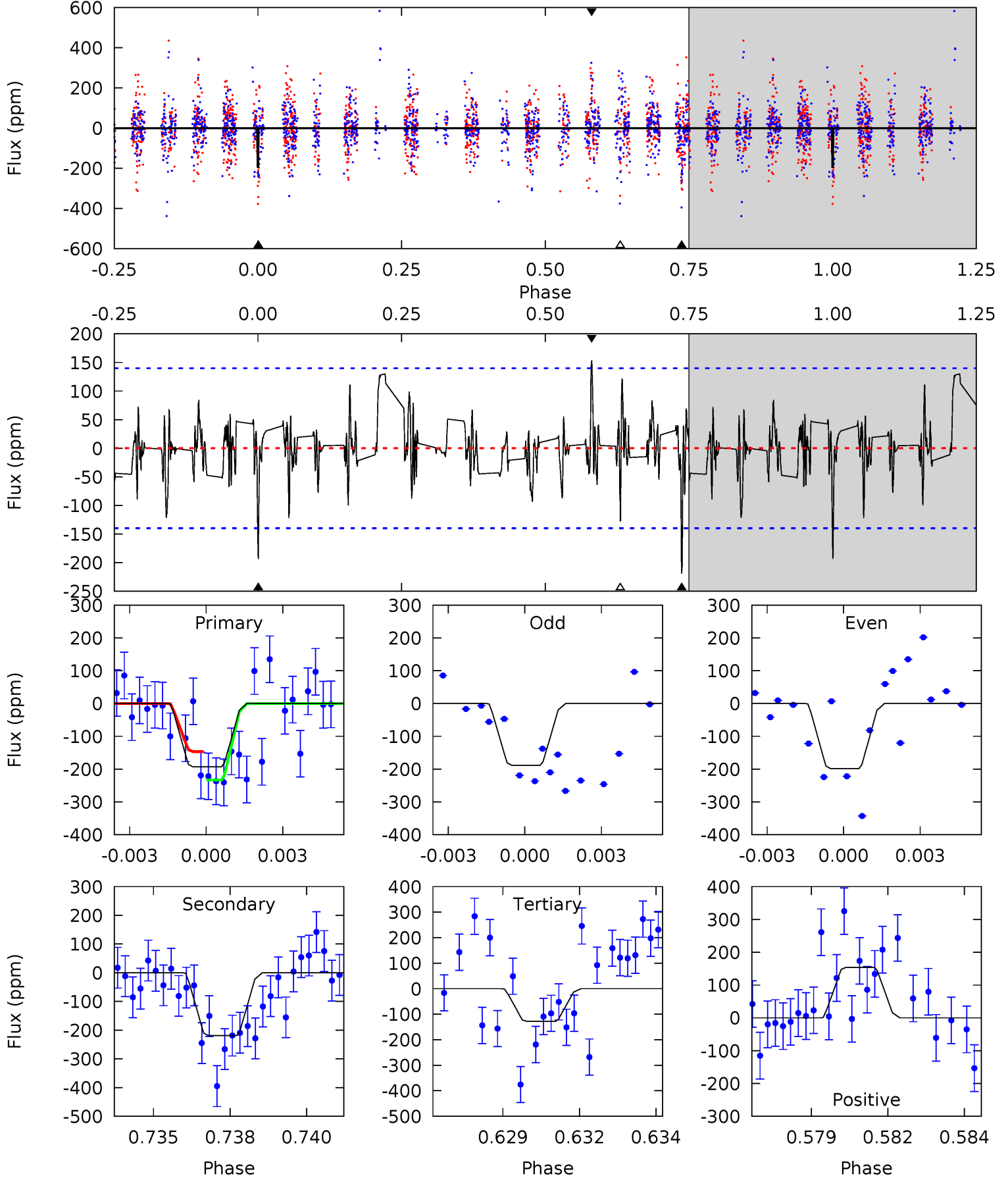
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.92	5.11	4.91	5.90	5.21	2.90	1.77	2.01	1.01	0.20	-0.79	1.31	0.69	0.46	0.41



Alt Model-Shift Uniqueness Test

006421759-10, P = 32.864466 Days, E = 127.843999 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.29	8.25	4.82	5.80	5.28	3.01	1.49	2.47	1.49	3.43	2.45	0.19	1.02	0.41	1.63



Stellar Parameters For KIC 006421759

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7171^{+171}_{-235}	$3.335^{+0.424}_{-0.053}$	$-0.500^{+0.350}_{-0.300}$	$5.114^{+1.061}_{-2.475}$	$2.063^{+0.055}_{-0.519}$	$0.022^{+0.090}_{-0.006}$
	+2%/-3%	+13%/-2%	+70%/-60%	+21%/-48%	+3%/-25%	+415%/-27%
Source	PHO1	FLK73	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 006421759-10 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-111 ± 22	$6.26^{+4.58}_{-3.40}$	1862^{+145}_{-220}	6189^{+3918}_{-1323}	94^{+361}_{-61}
Alt.	-219 ± 26	$7.55^{+4.74}_{-4.29}$	1874^{+121}_{-208}	6813^{+4503}_{-1333}	134^{+578}_{-83}

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

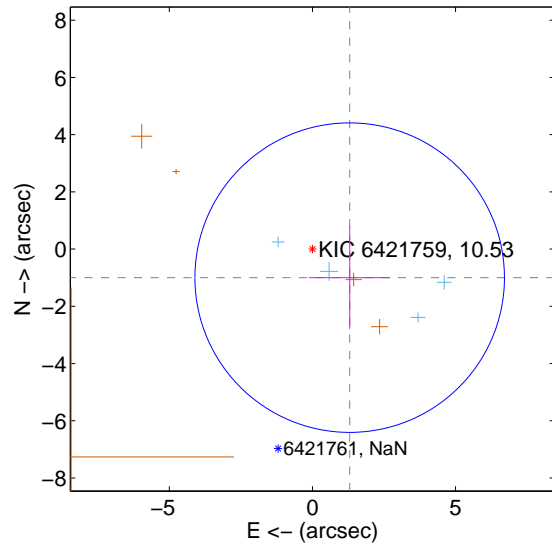
Supplemental centroid analysis for 006421759-10. **Kepler magnitude: 10.53.** Transit SNR 7.58

There are 4 quarters with good PRF difference image offsets

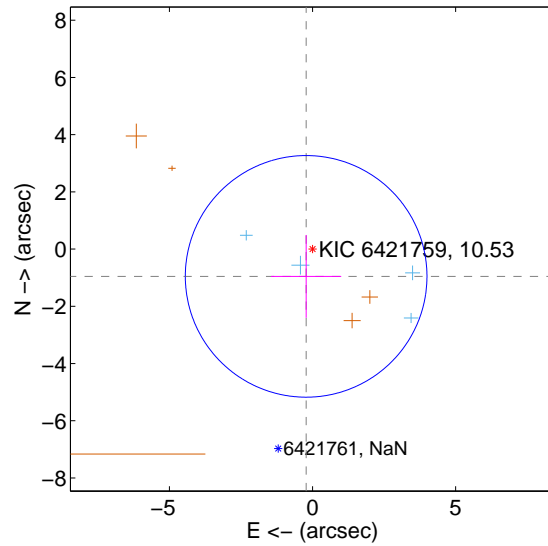
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.640 ± 1.803	0.91	-1.301 ± 1.418	-0.998 ± 1.790
PRF-fit source offset from KIC position	0.979 ± 1.407	0.70	0.223 ± 1.225	-0.953 ± 1.449
photometric centroid source offset	1.30 ± 0.54	2.39	1.29 ± 0.55	-0.16 ± 0.39

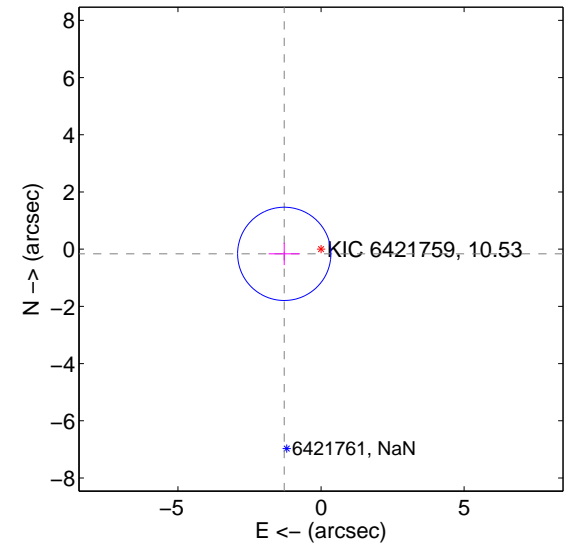
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

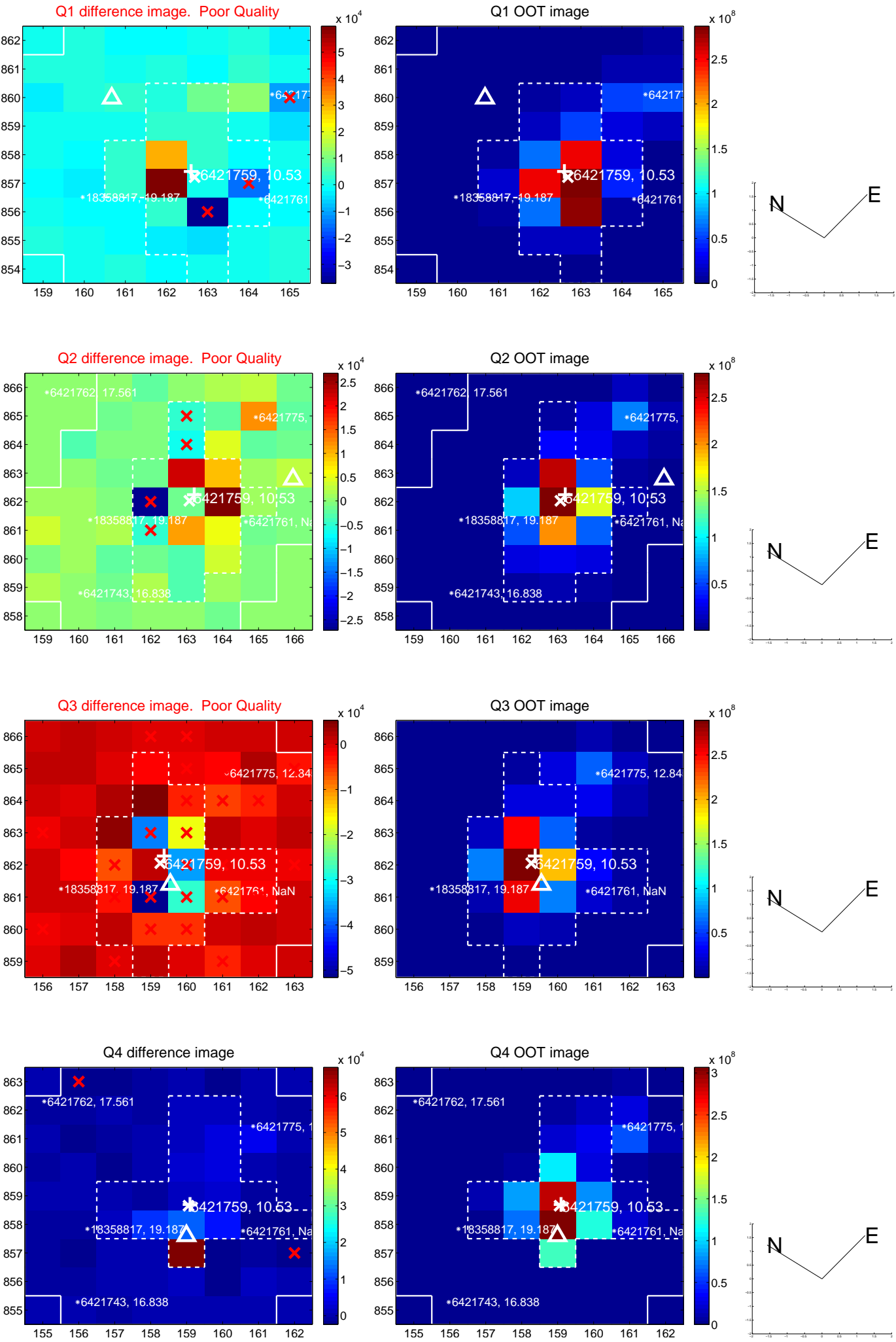


offset from photometric centroids

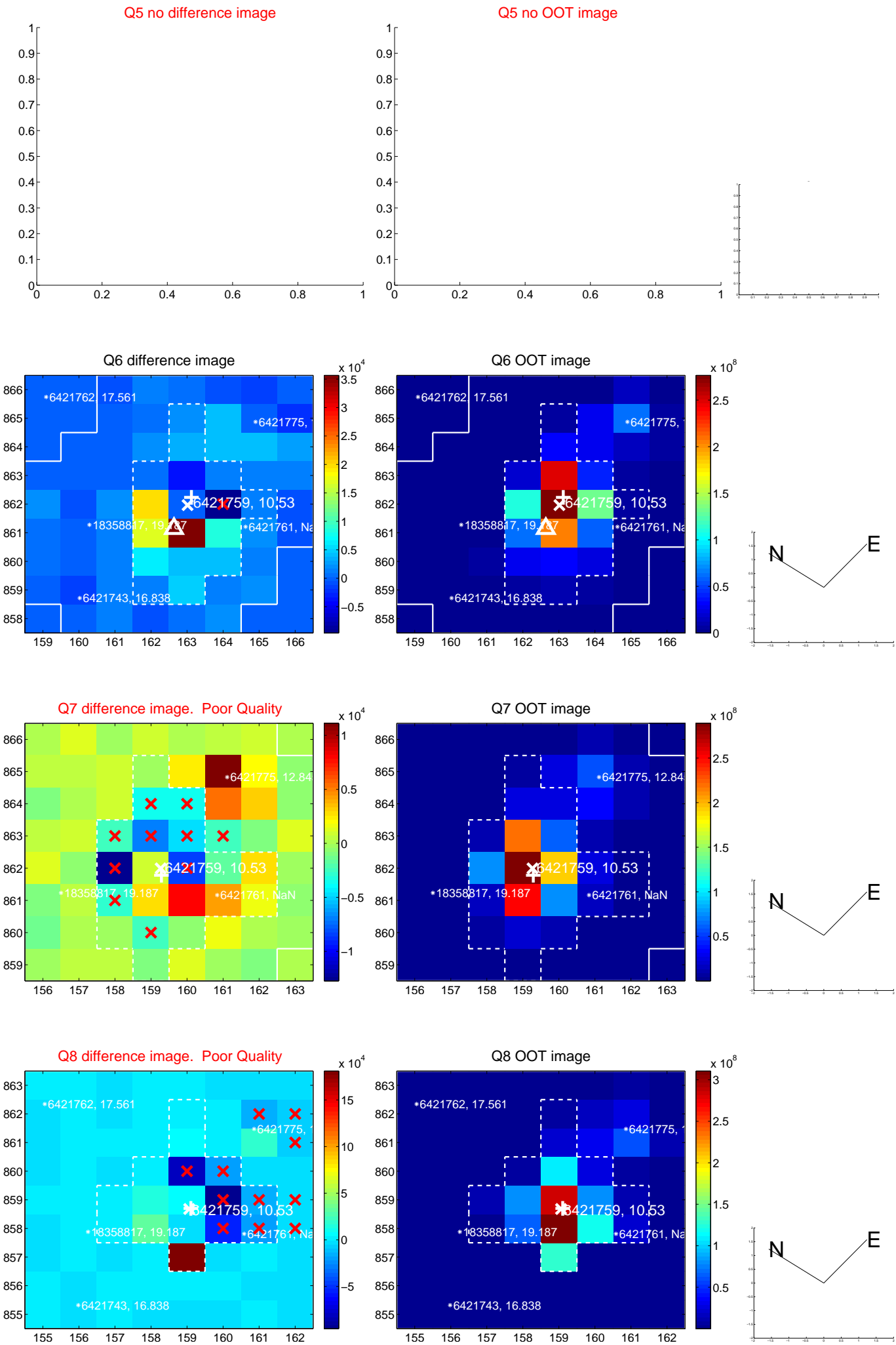


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

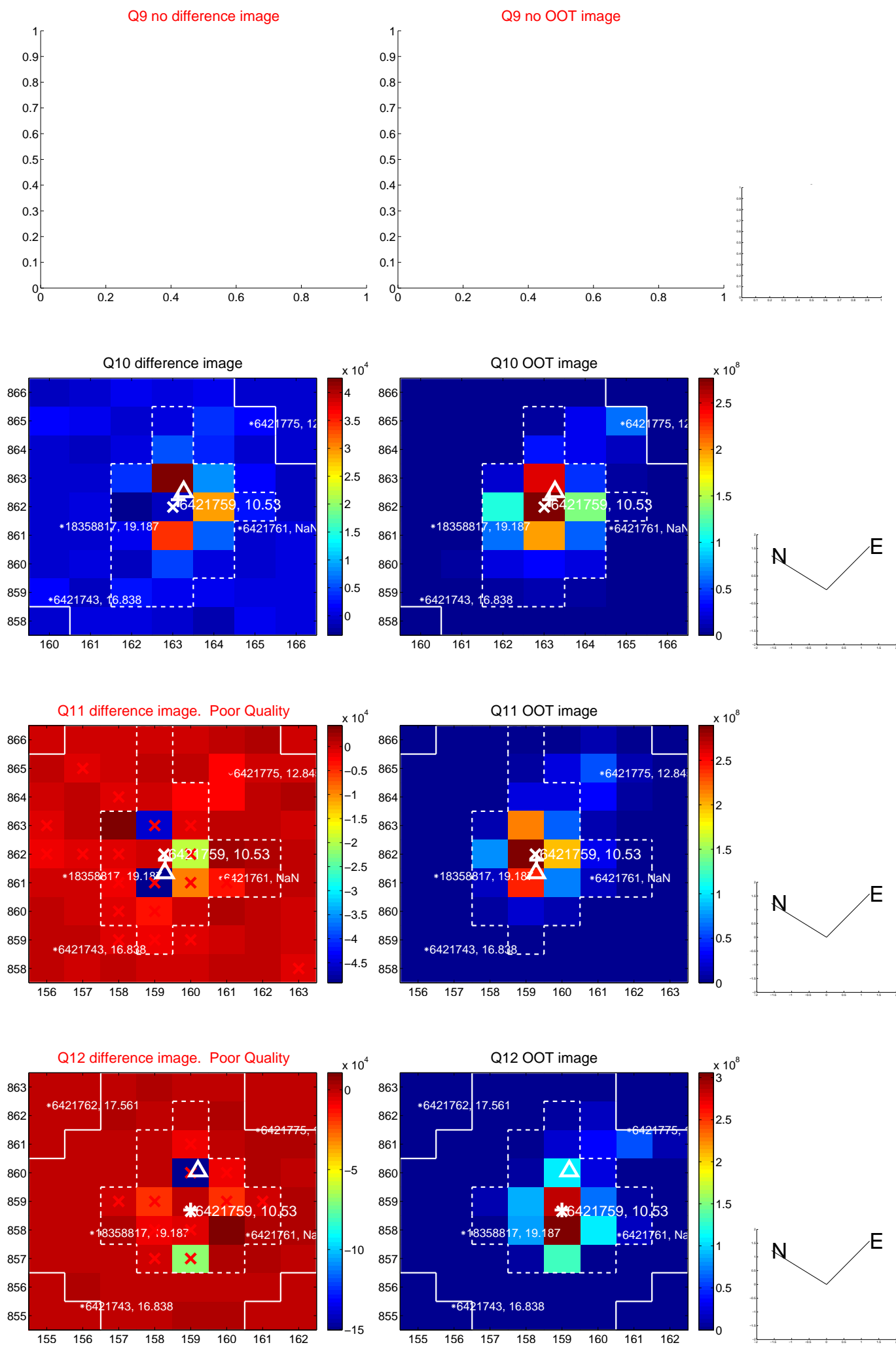
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



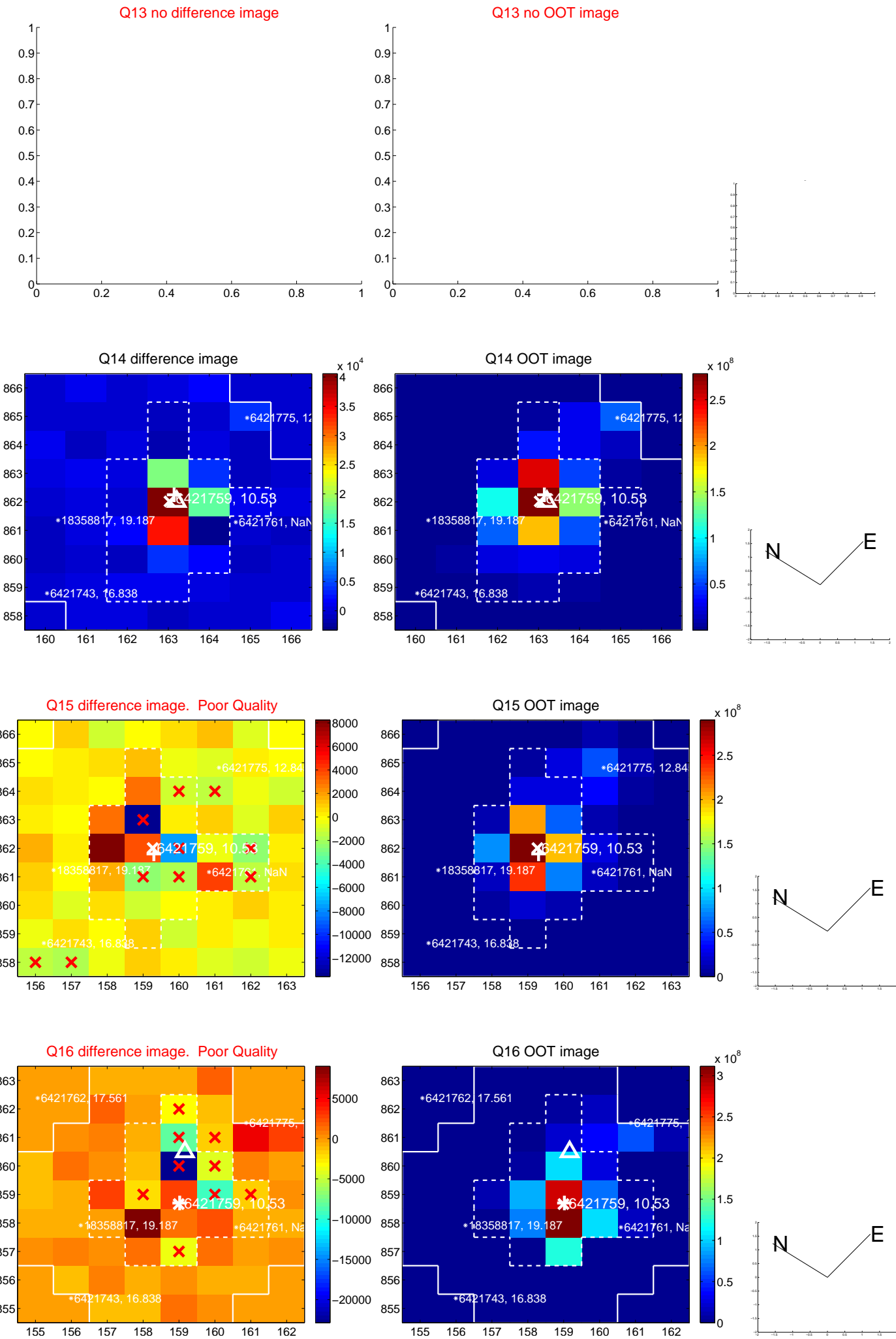
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



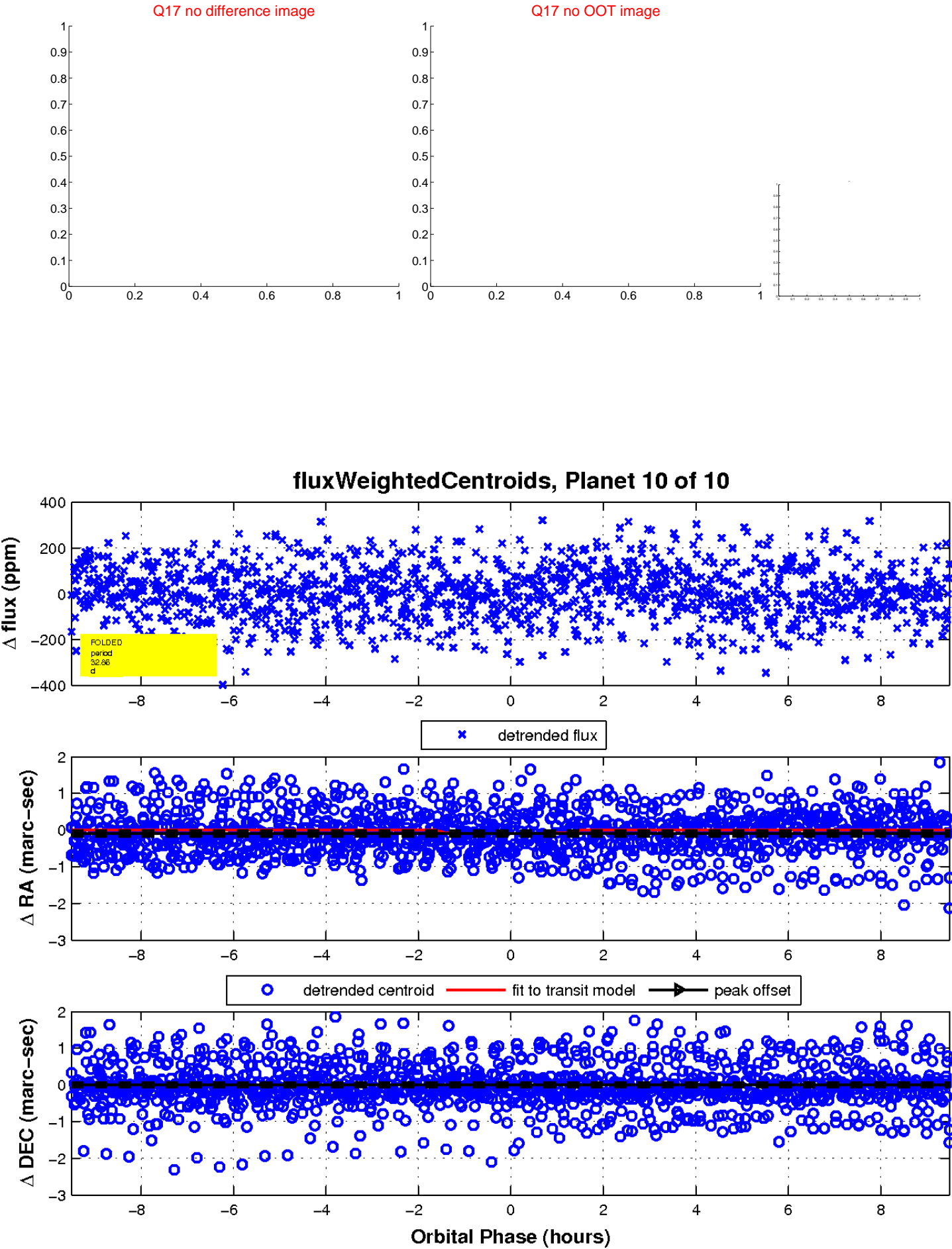
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

