

KIC 006022792

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})
006022792-01	OBS	No	1.451725	131.913901	21.5	5.527	11.0	11.3	2.55	7032	1.28	15187.87
006022792-02	OBS	No	379.098406	257.187694	74.3	2.382	9.5	3.1	2.55	7032	2.56	9.10
006022792-03	OBS	No	112.424771	141.962314	236.3	6.066	9.5	8.9	2.55	7032	7.40	46.01
006022792-04	OBS	No	379.079238	257.031047	230.7	5.095	8.9	7.7	2.55	7032	3.96	9.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006022792-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006022792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006022792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_SATURATED
006022792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_SATURATED

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

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

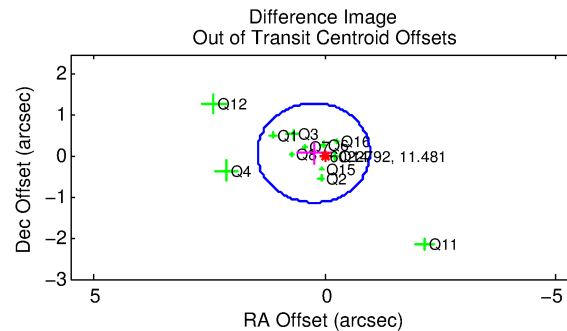
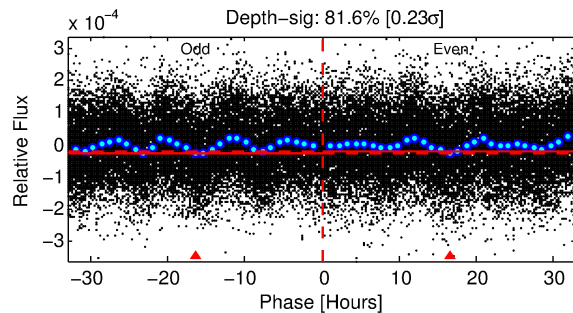
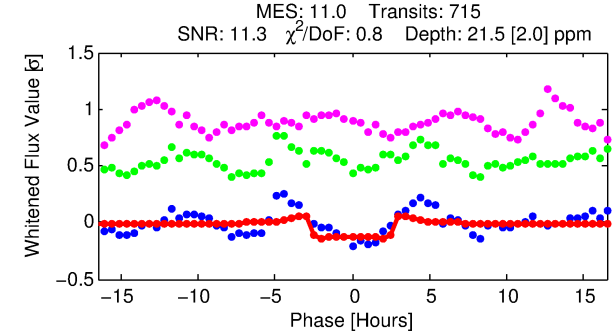
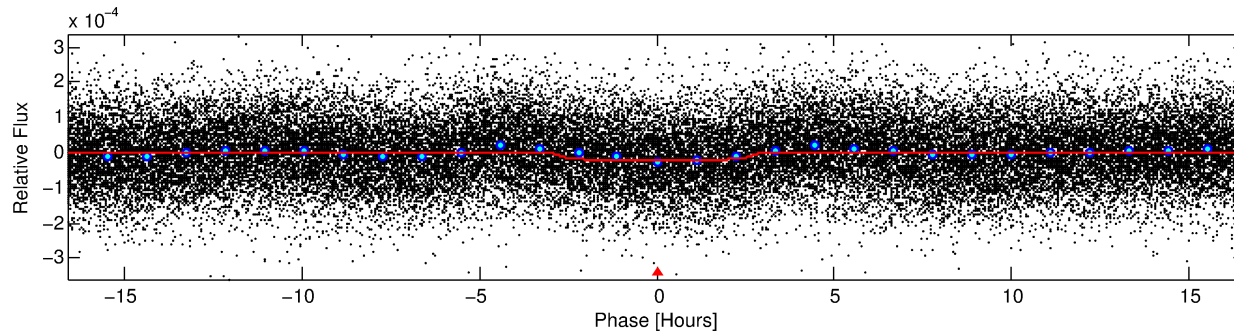
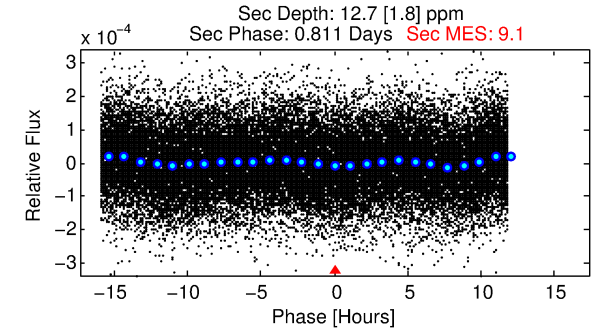
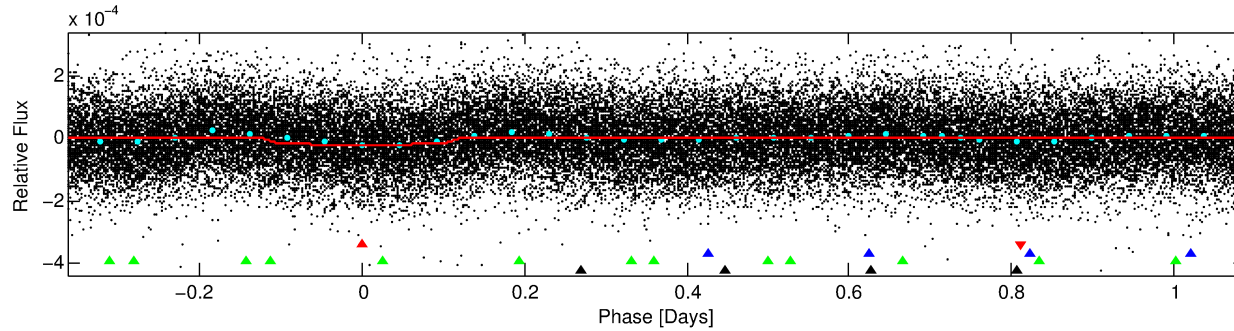
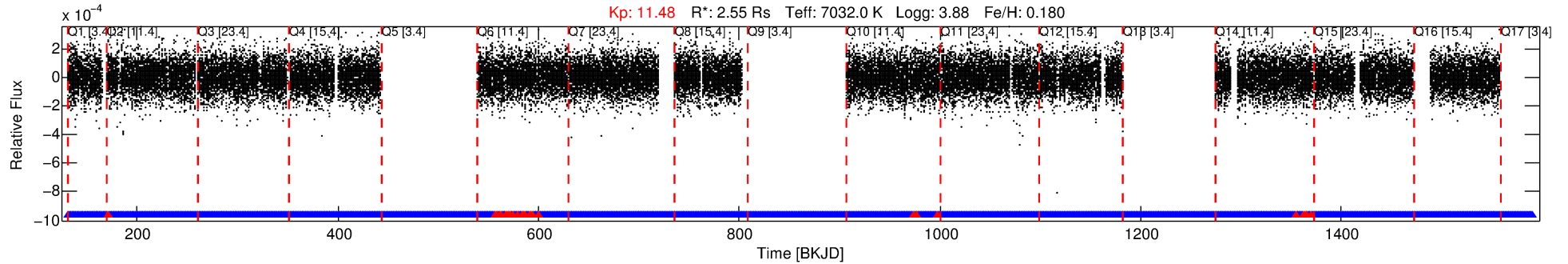
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006022792-01

No Significant Match Found

DV One-Page Summary

KIC: 6022792 Candidate: 1 of 4 Period: 1.452 d



DV Fit Results:

Period = 1.45172 [0.00001] d
Epoch = 131.9139 [0.0027] BKJD
Rp/R* = 0.0046 [0.0008]
a/R* = 1.58 [0.99]
b = 0.75 [0.60]
Seff = 15187.87 [6716.08]
Teff = 2831 [313] K
Rp = 1.28 [0.48] Re
a = 0.0306 [0.0086] AU
Ag = 3.99 [2.27] [1.32σ]
Teffp = 6186 [634] K [4.75σ]

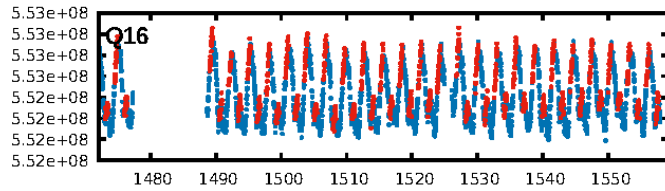
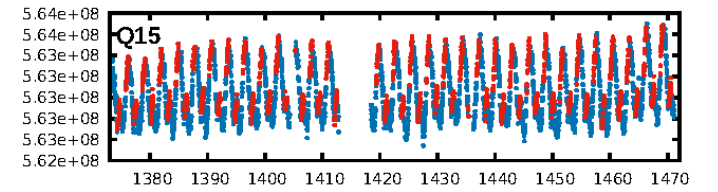
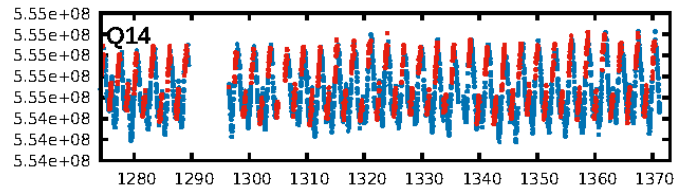
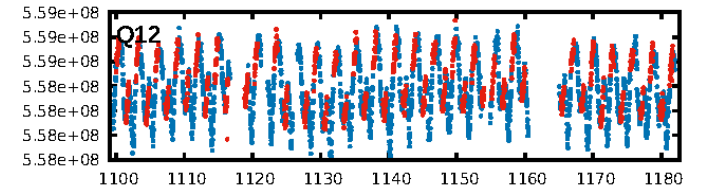
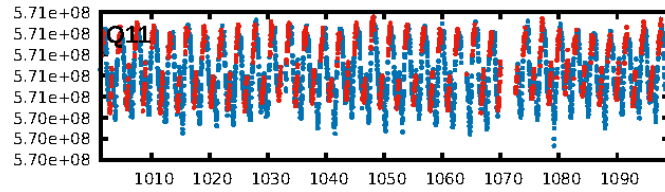
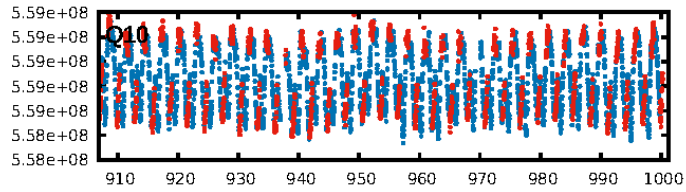
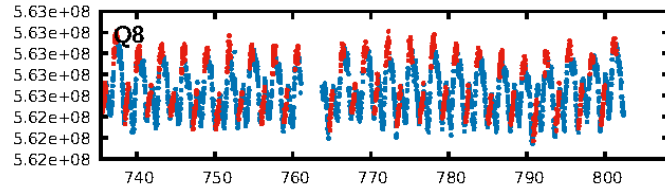
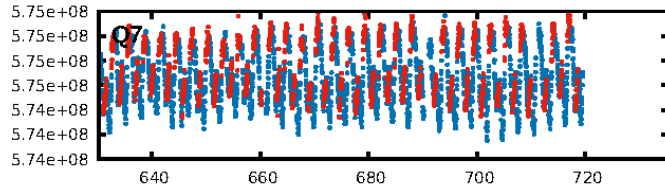
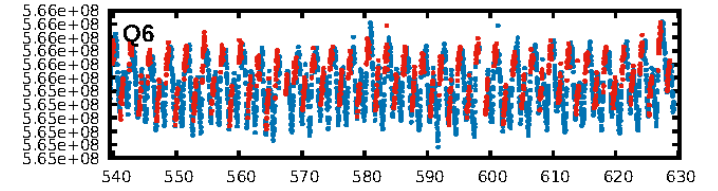
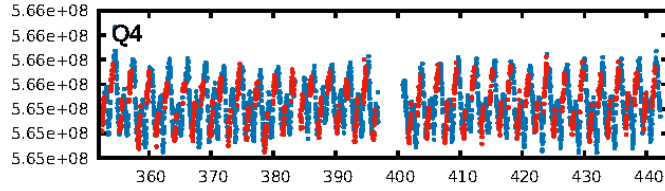
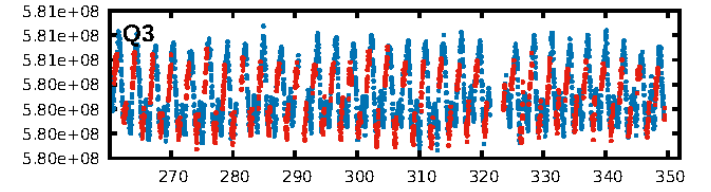
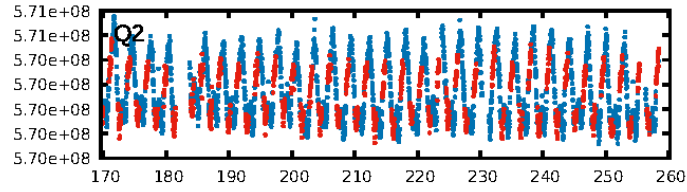
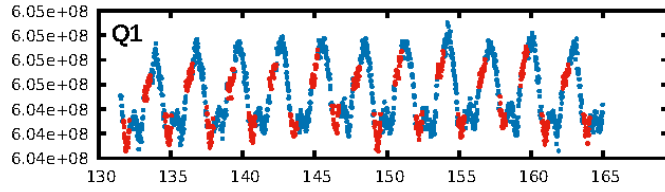
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [324.53σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.90e-18
RollingBand-fgt: 0.96 [666/692]
GhostDiagnostic-chr: 23.93
Centroid-sig: 98.2%
Centroid-so: 0.073 arcsec [0.14σ]
OotOffset-rm: 0.254 arcsec [0.63σ]
OotOffset-st: 3/4/4/1 [12]
KicOffset-rm: 0.314 arcsec [0.89σ]
KicOffset-st: 3/4/4/1 [12]
DiffImageQuality-fgm: 0.25 [3/12]
DiffImageOverlap-fno: 1.00 [13/13]

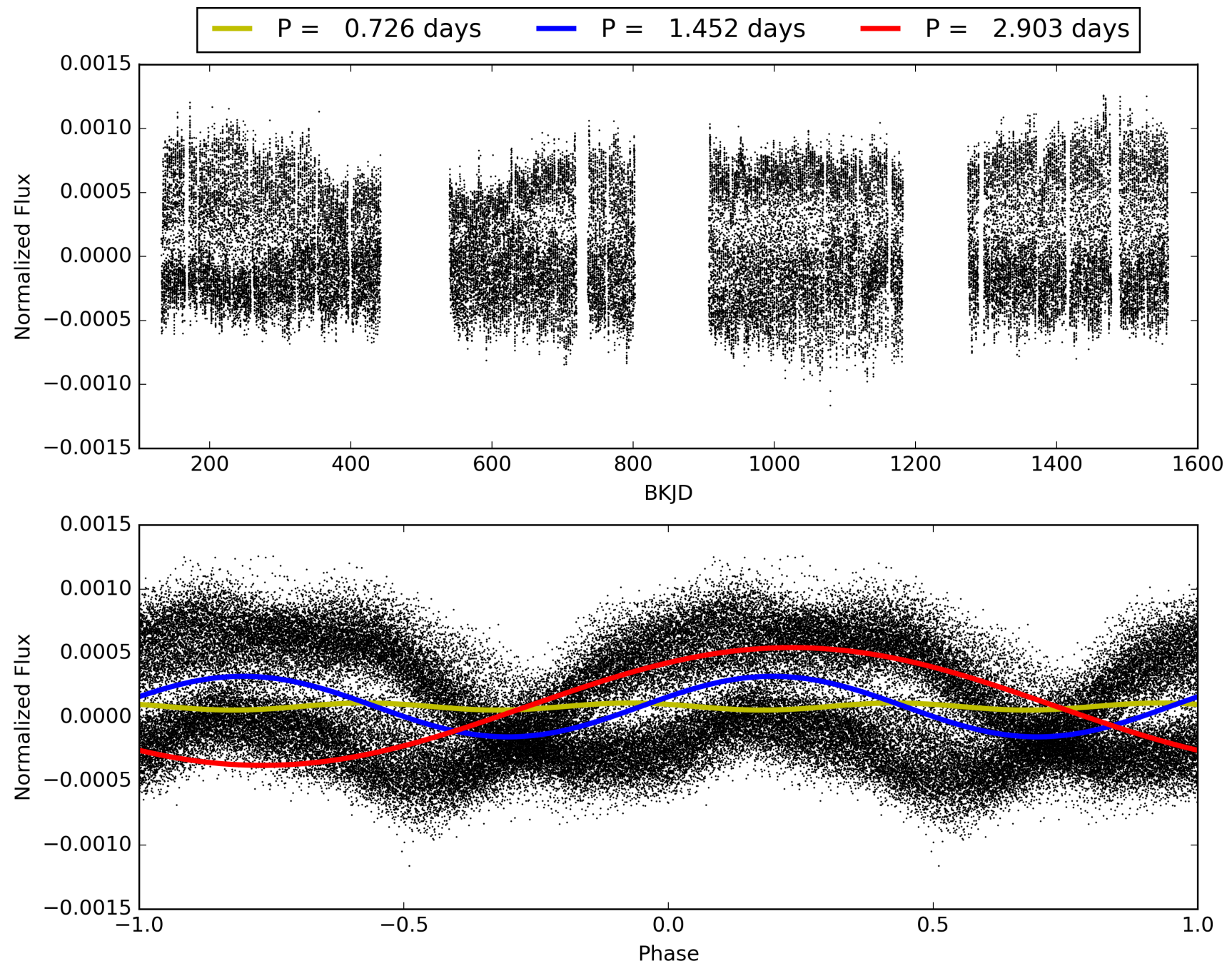
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 16:52:27 Z

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

TCE 006022792-01, PDC Light Curves

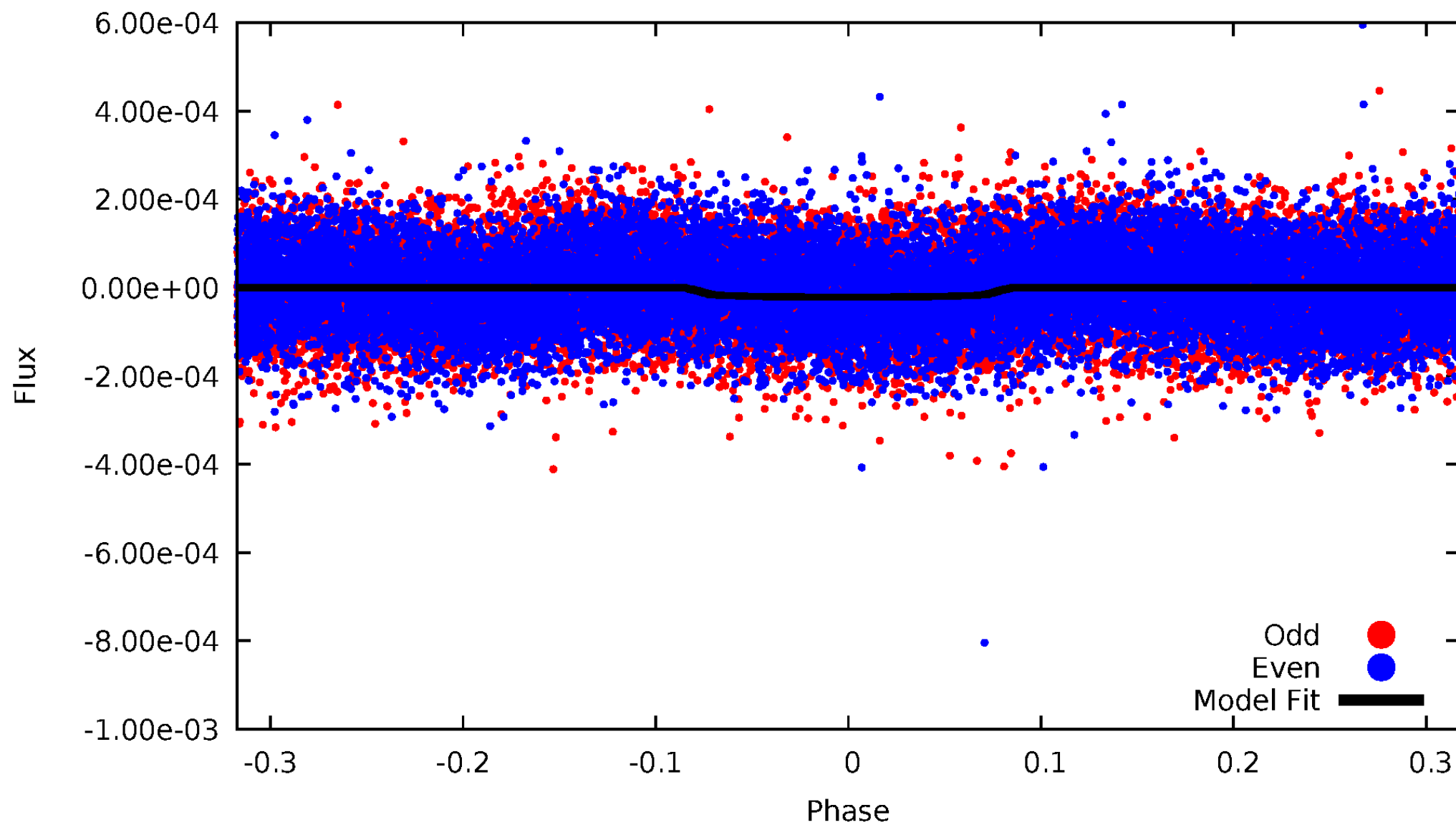


TCE 006022792-01



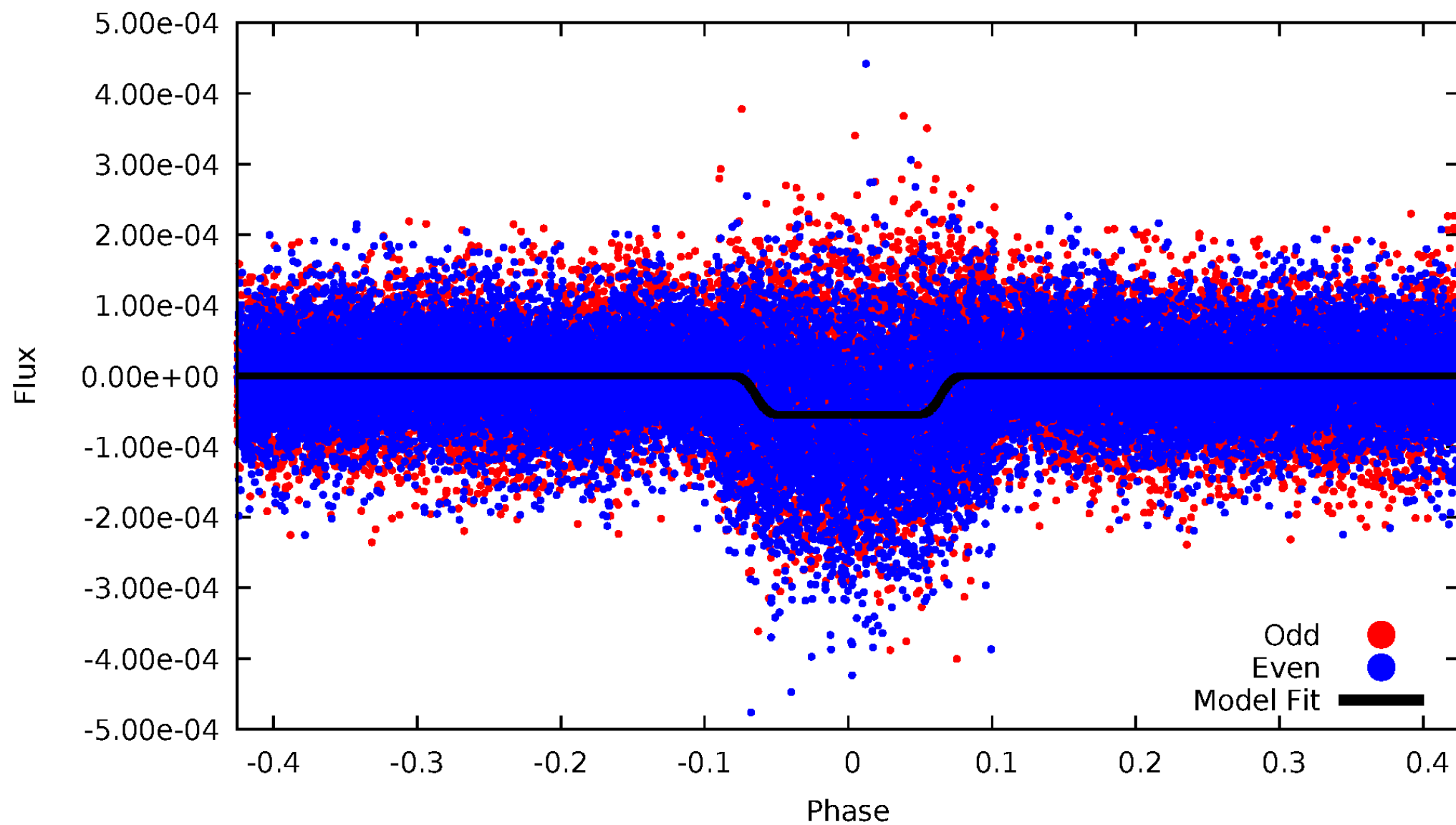
DV Odd/Even

TCE 006022792-01

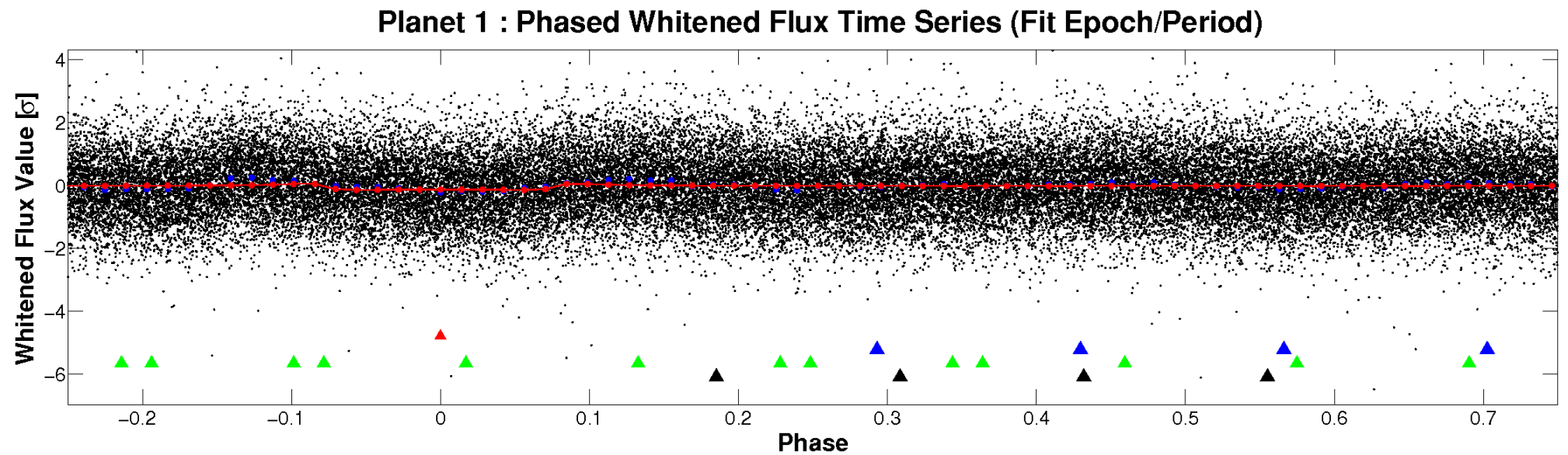
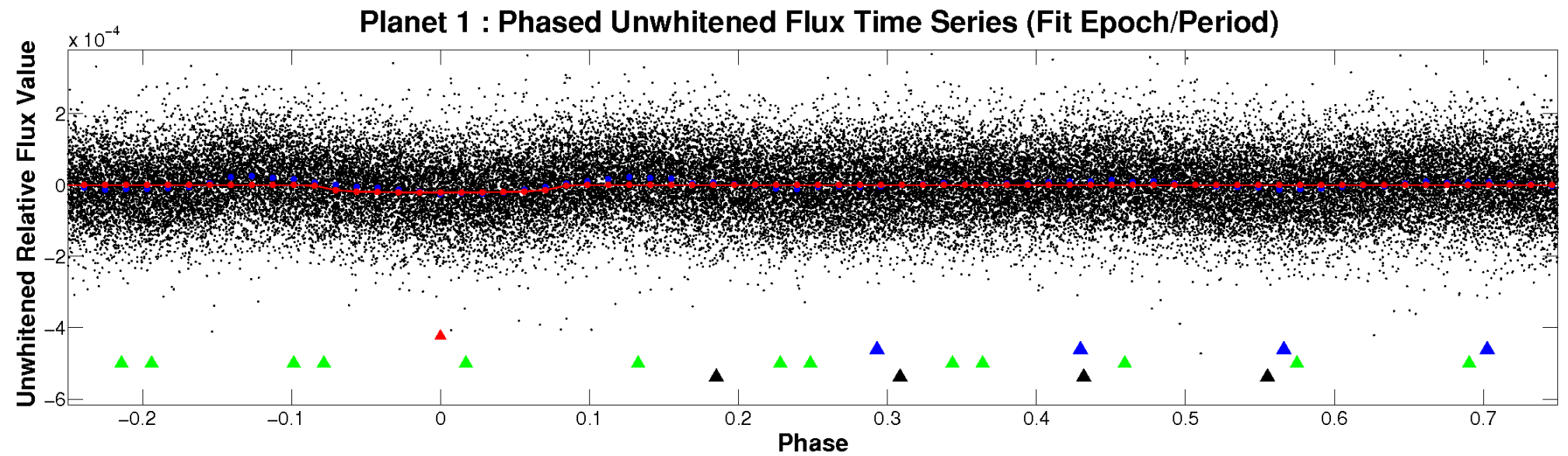


ALT Odd/Even

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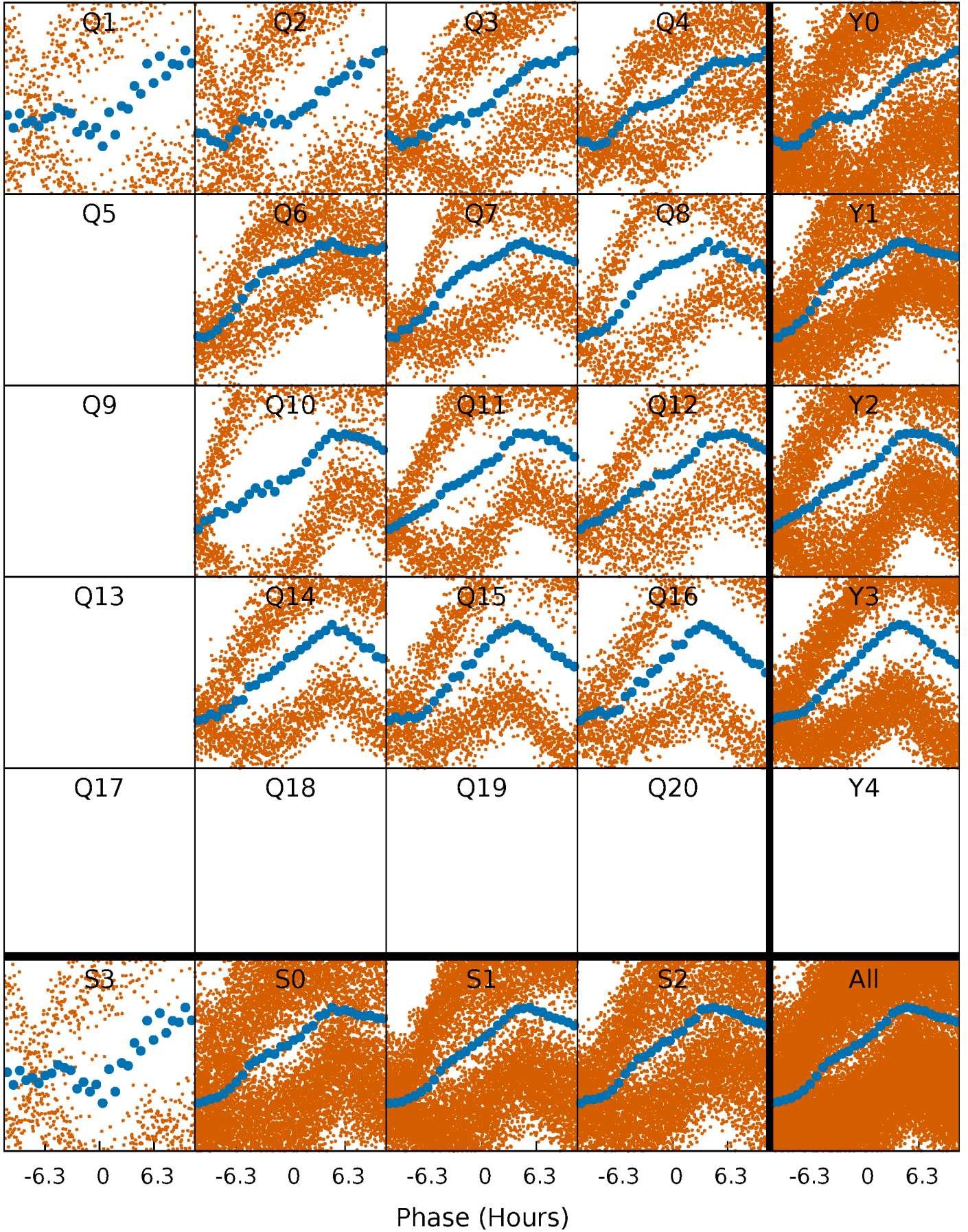


Non-Whitened Vs. Whitened Light Curve



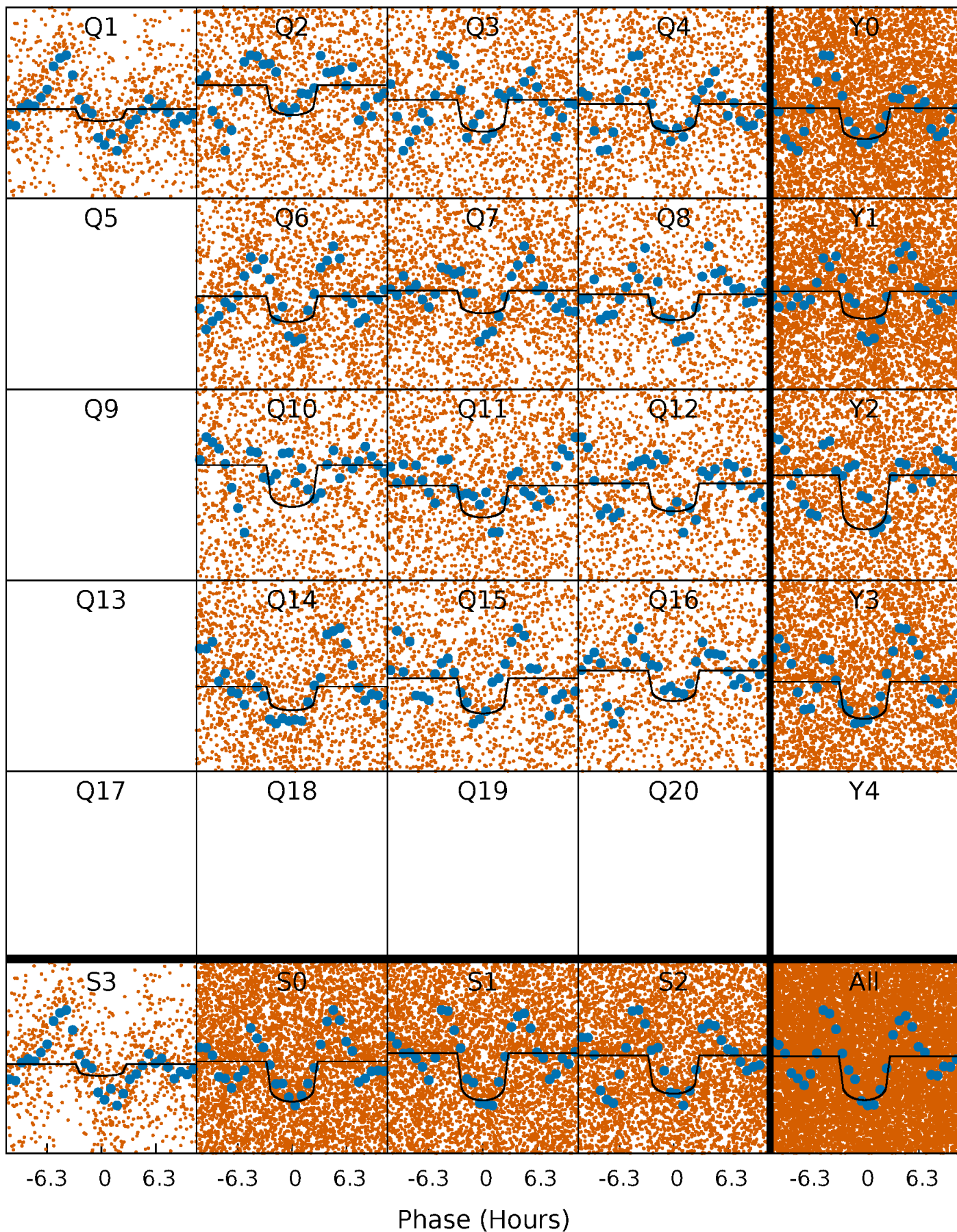
PDC Quarter-Phased Transit Curves

TCE 006022792-01 P= 1.451725 Days $T_0=131.913901$ (BKJD)



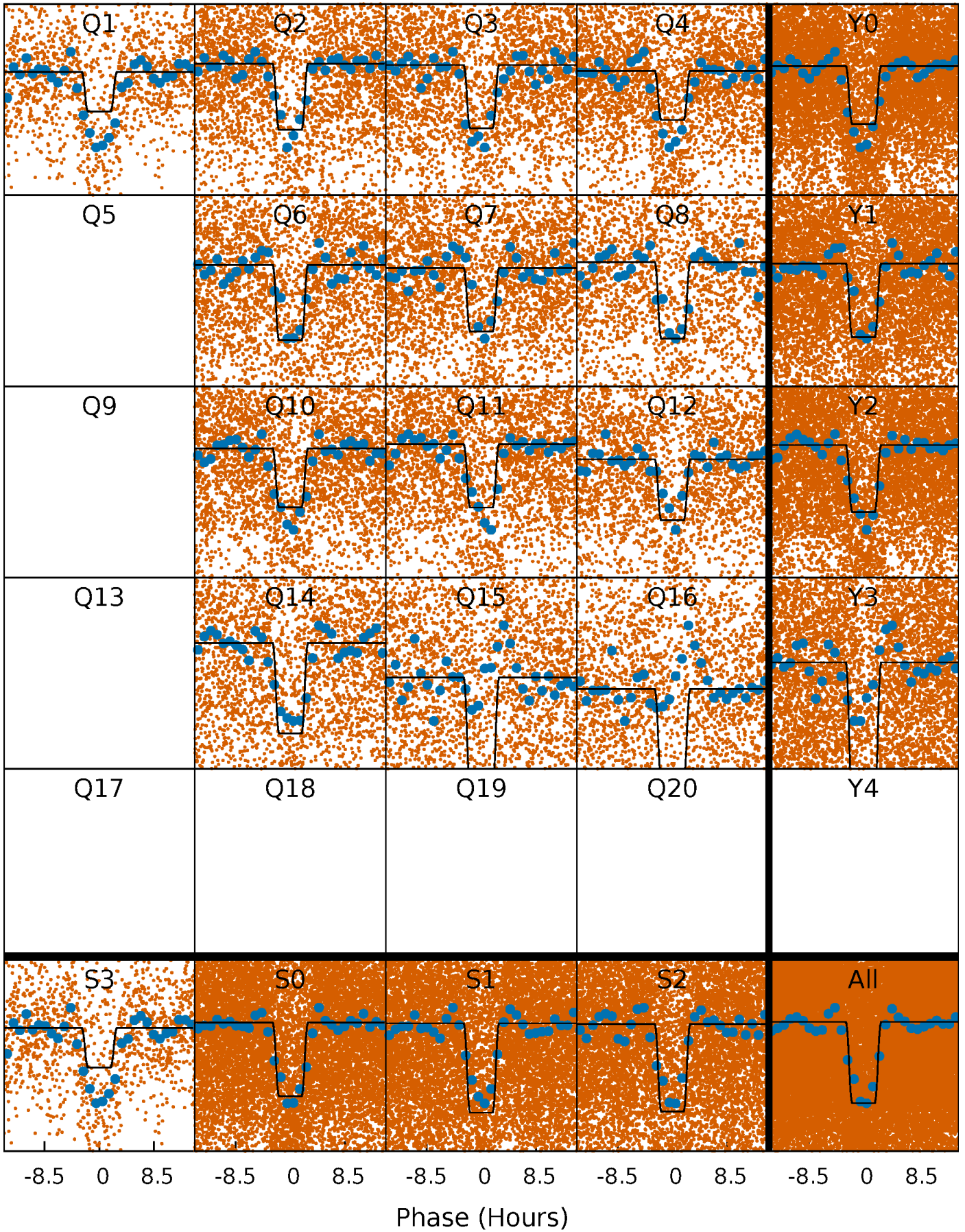
DV Quarter-Phased Transit Curves

TCE 006022792-01 P= 1.451725 Days $T_0=131.913901$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

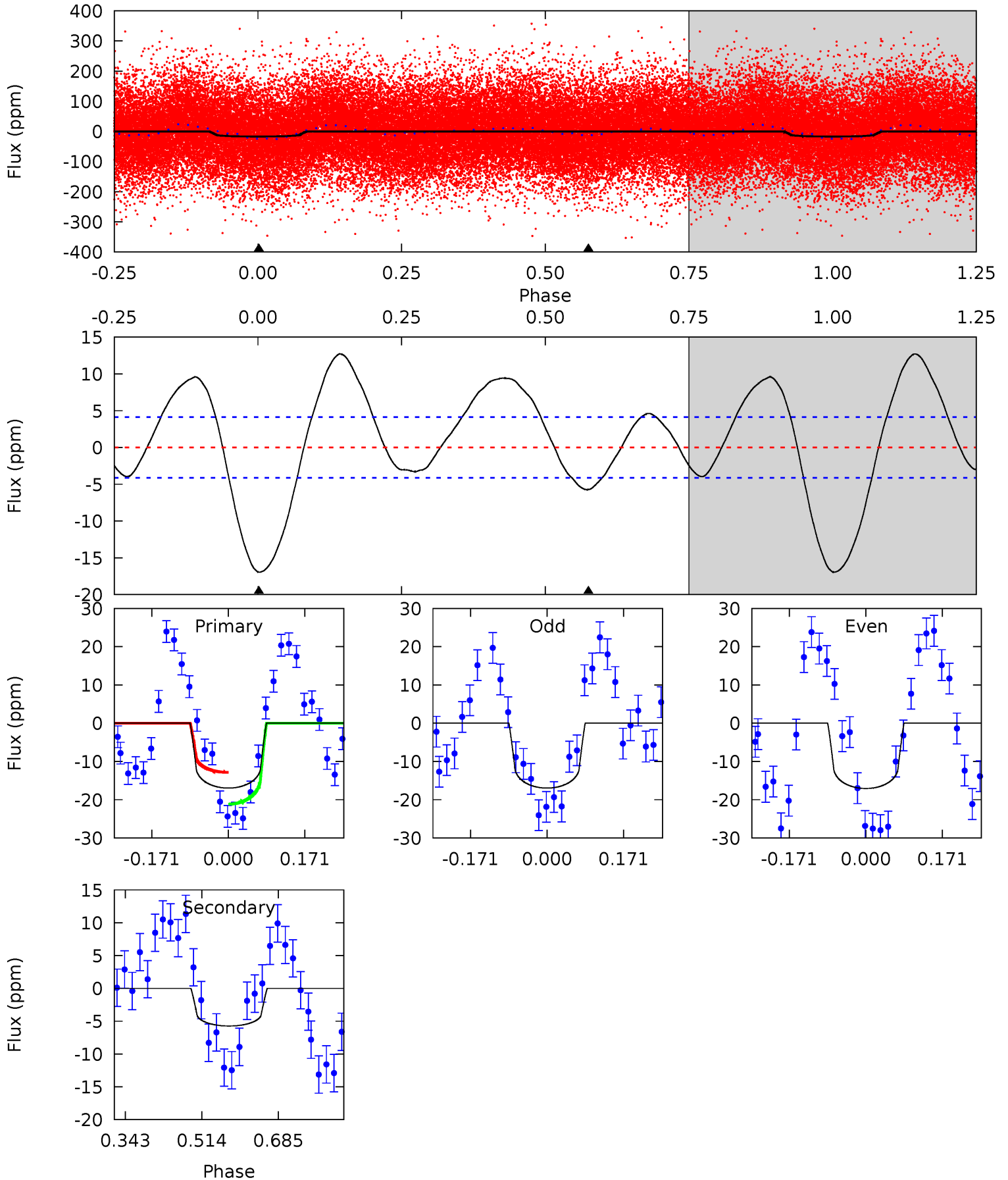
TCE 006022792-01 P= 1.451744 Days $T_0=131.913372$ (BKJD)



DV Model-Shift Uniqueness Test

006022792-01, P = 1.451725 Days, E = 130.462176 Days

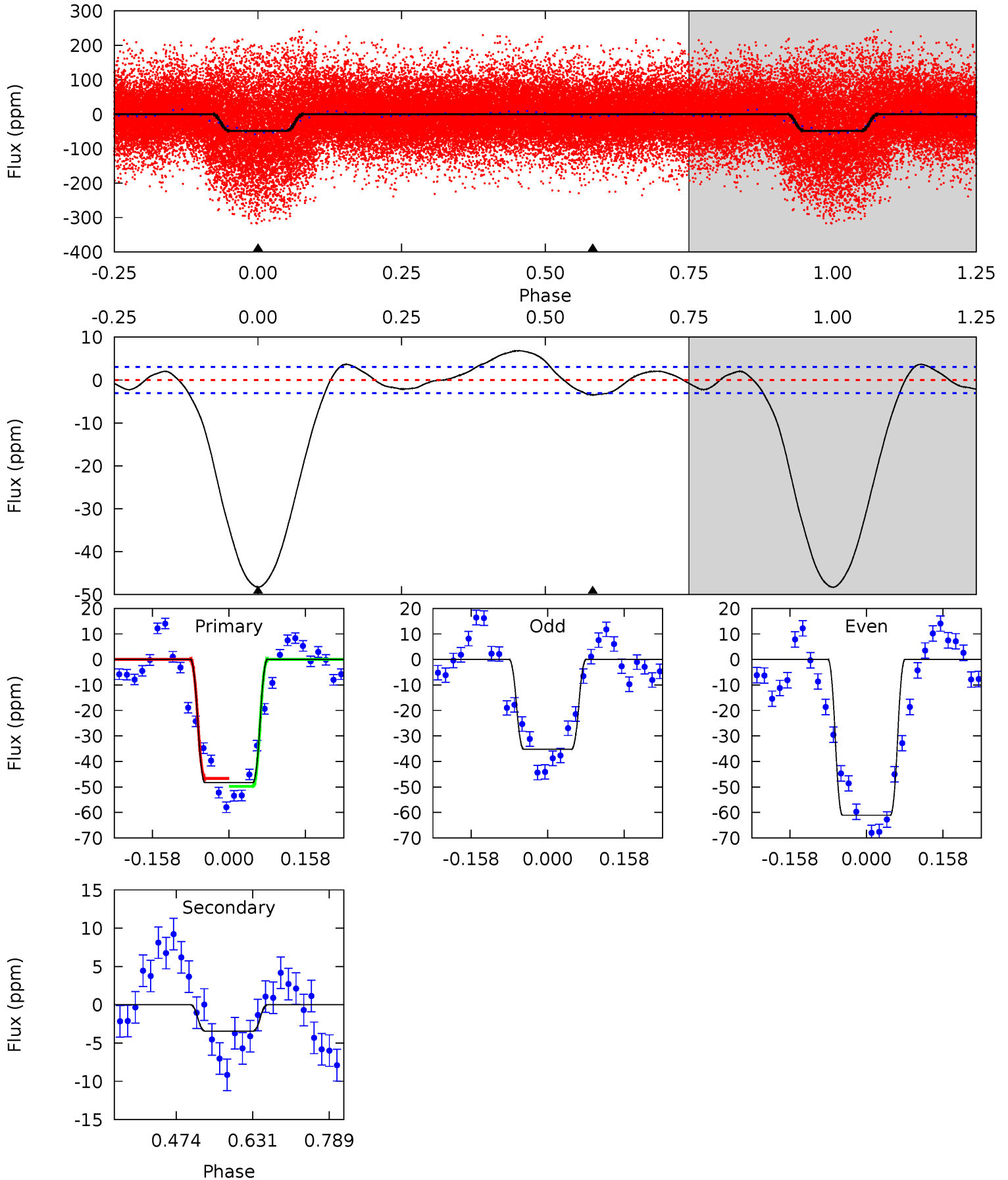
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.3	6.17	0	0	4.45	1.37	4.31	18.3	18.3	6.17	6.17	0.06	1.00	0.43	4.42



Alt Model-Shift Uniqueness Test

006022792-01, P = 1.451744 Days, E = 130.461628 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.9	5.06	0	0	4.47	1.41	3.12	70.9	70.9	5.06	5.06	19.2	0.96	0.12	2.24



Stellar Parameters For KIC 006022792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7032^{+158}_{-246}	$3.884^{+0.234}_{-0.108}$	$0.180^{+0.200}_{-0.350}$	$2.548^{+0.446}_{-0.828}$	$1.810^{+0.152}_{-0.355}$	$0.154^{+0.225}_{-0.060}$
	+2%/-3%	+6%/-3%	+111%/-194%	+18%/-32%	+8%/-20%	+146%/-39%
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 006022792-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6 ± 1	$1.24^{+0.27}_{-0.27}$	3902^{+232}_{-273}	4873^{+543}_{-419}	$1.881^{+1.266}_{-0.651}$
Alt.	-3 ± 1	$1.99^{+0.37}_{-0.40}$	3912^{+228}_{-307}	3182^{+451}_{-5540}	$0.433^{+0.258}_{-0.146}$

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 $A_{obs} \gg 1.0$

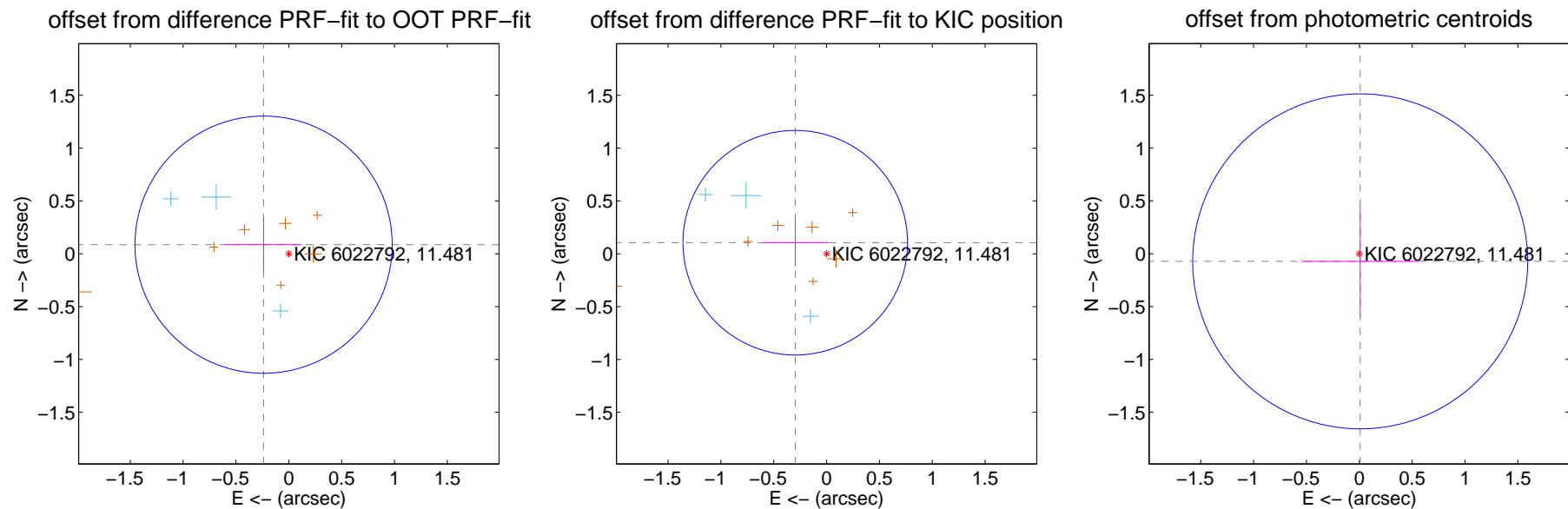
DV Centroid Data

Supplemental centroid analysis for 006022792-01. **Kepler magnitude: 11.48.** Transit SNR 11.29

There are 3 quarters with good PRF difference image offsets

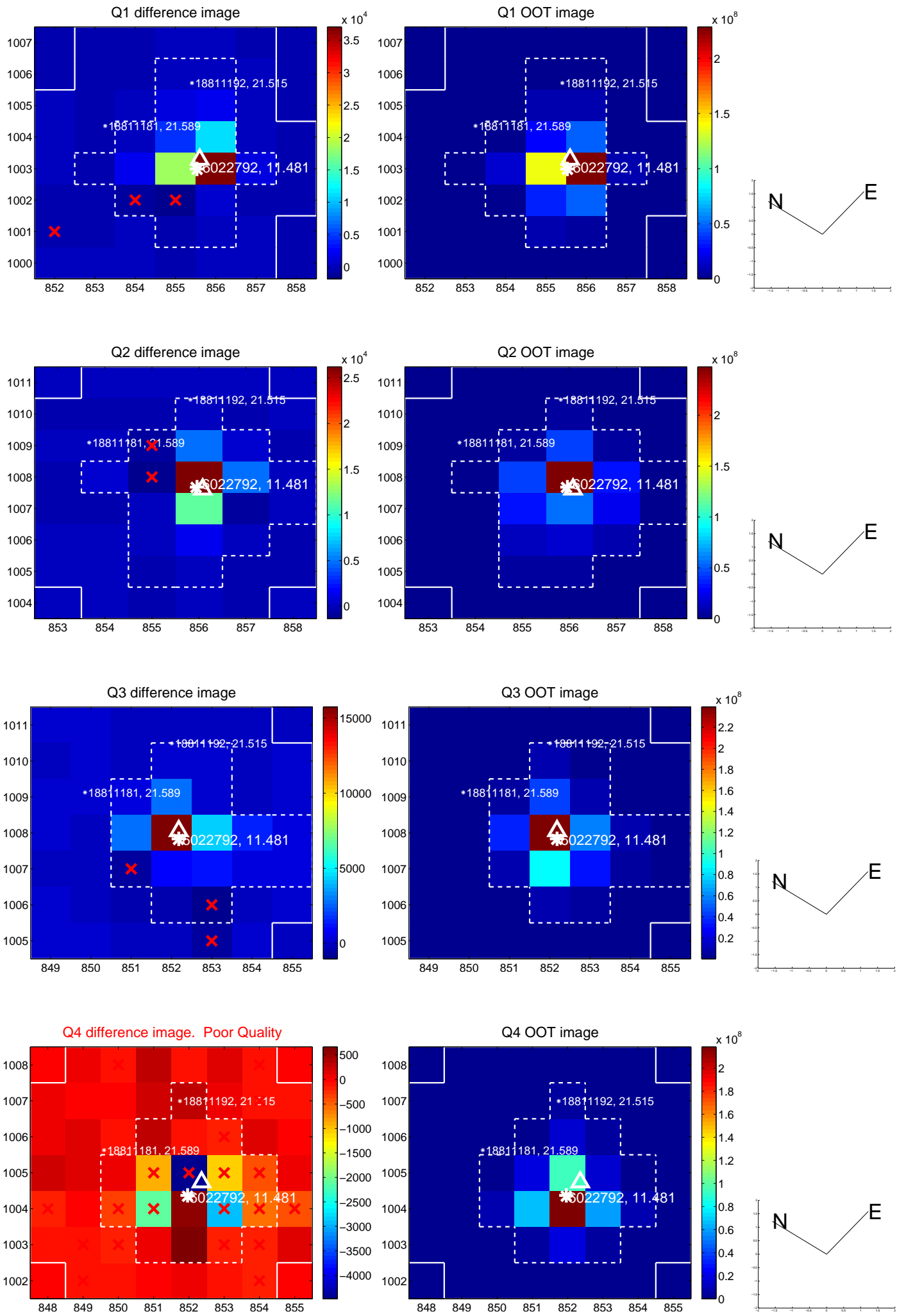
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.254 ± 0.406	0.63	0.239 ± 0.363	0.086 ± 0.255
PRF-fit source offset from KIC position	0.314 ± 0.354	0.89	0.296 ± 0.316	0.105 ± 0.223
photometric centroid source offset	0.07 ± 0.53	0.14	-0.01 ± 0.55	-0.07 ± 0.53

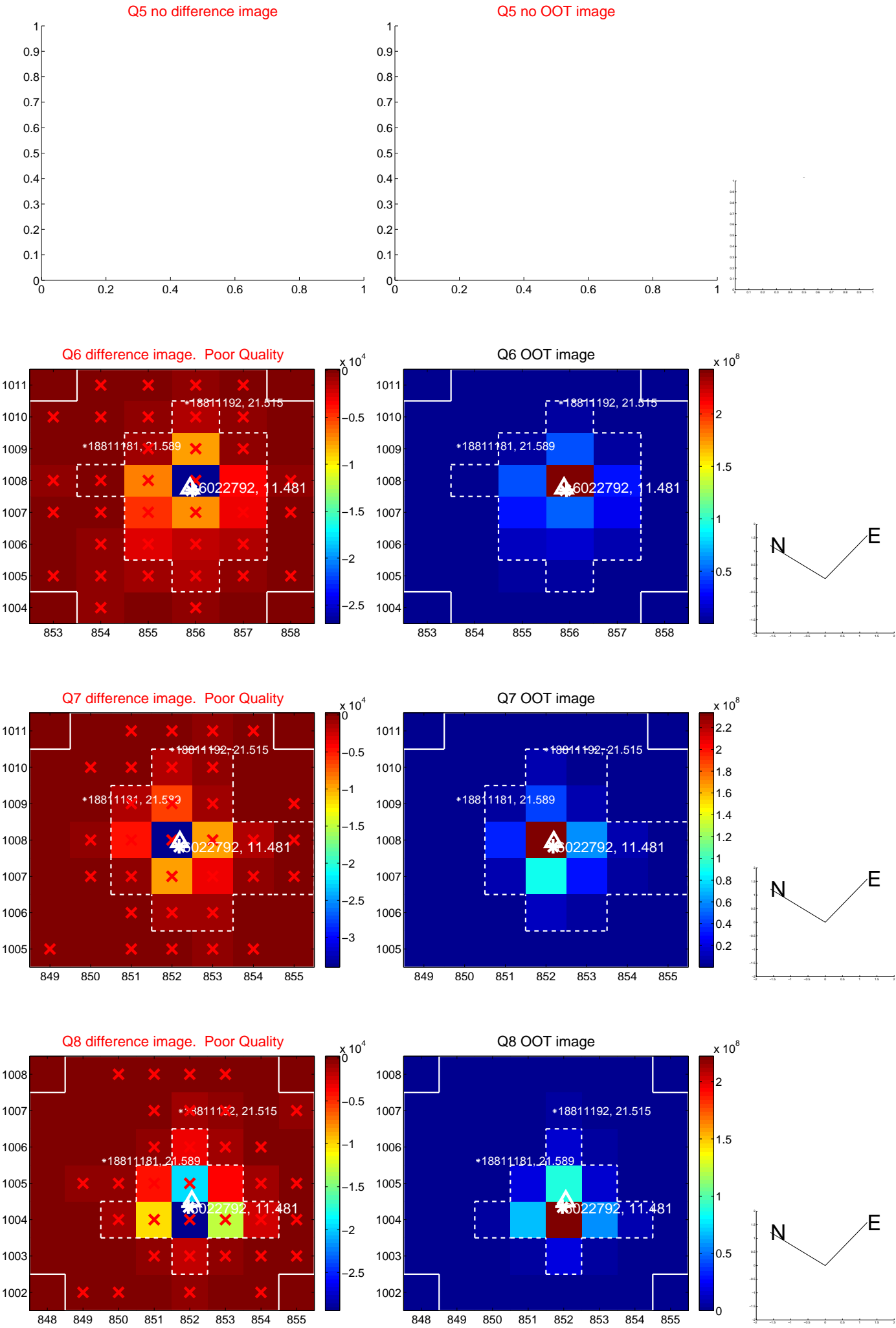


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

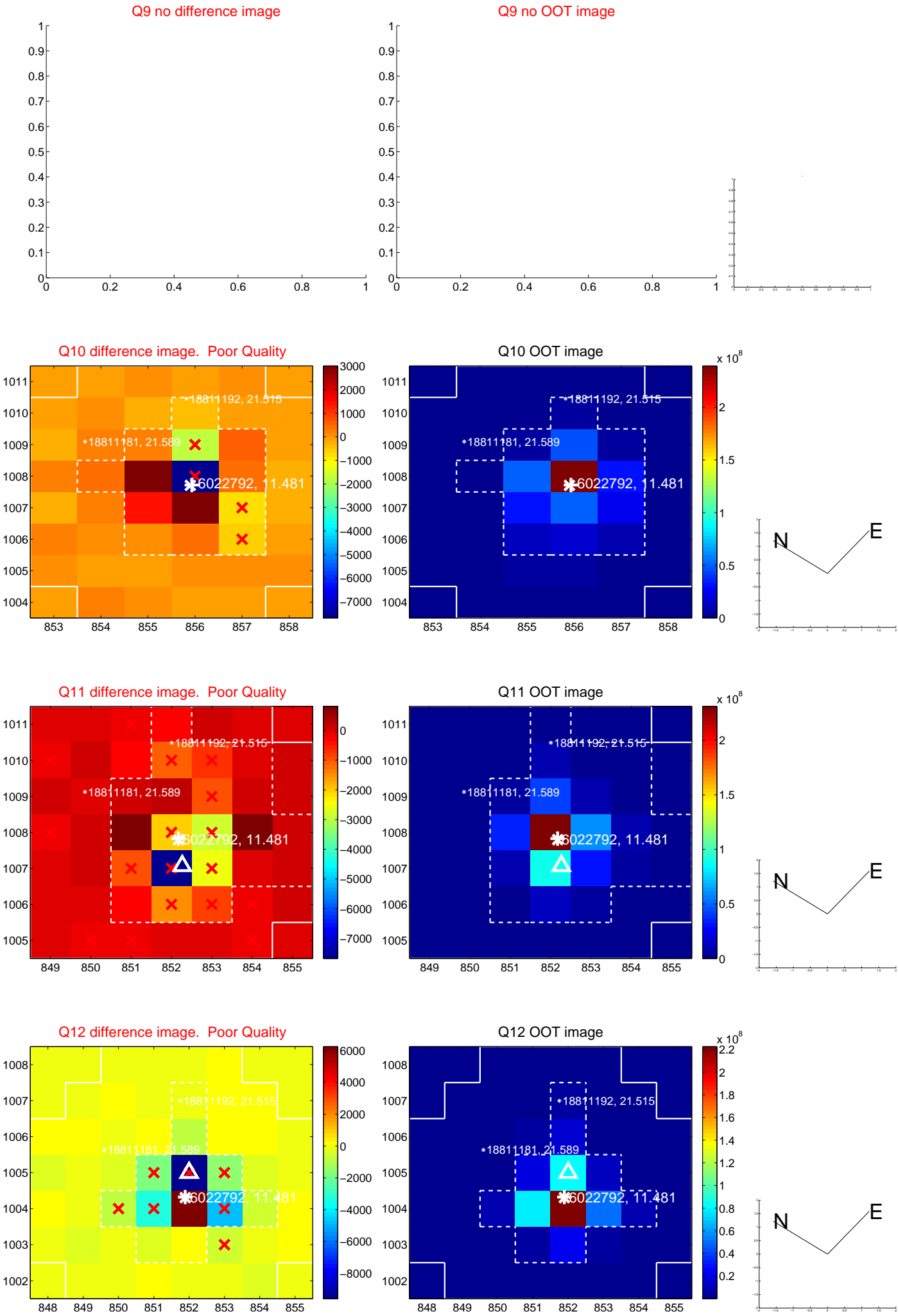
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



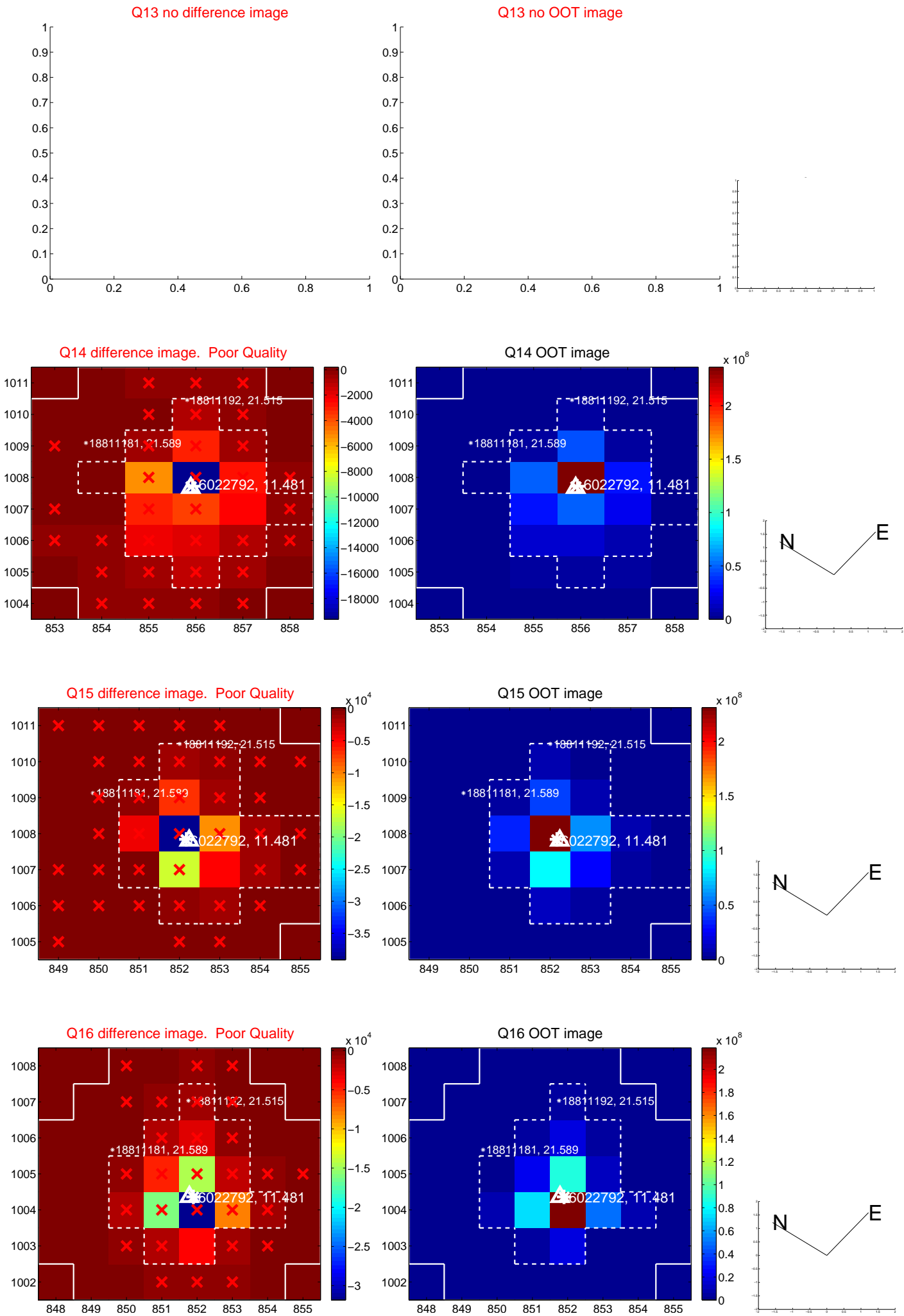
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



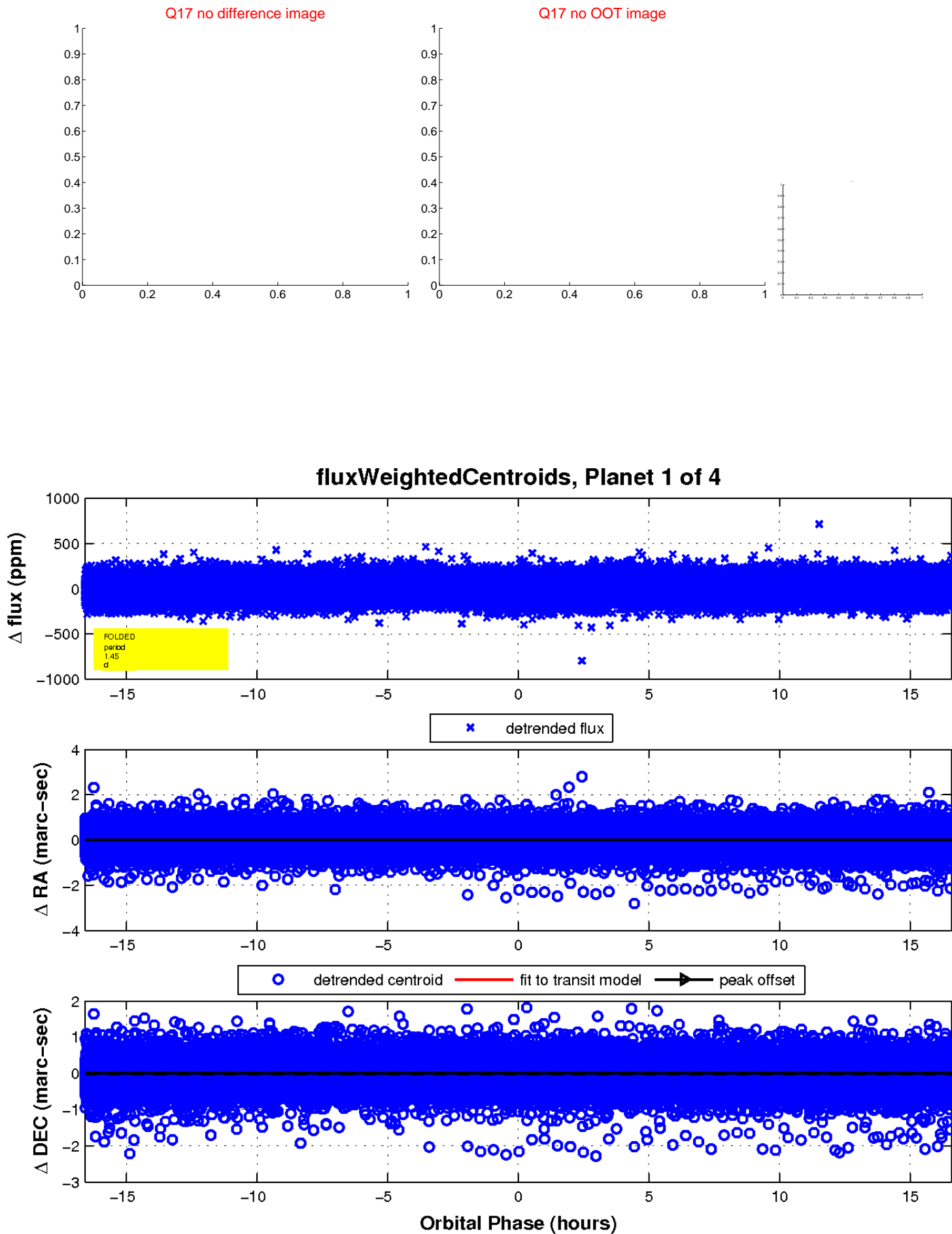
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

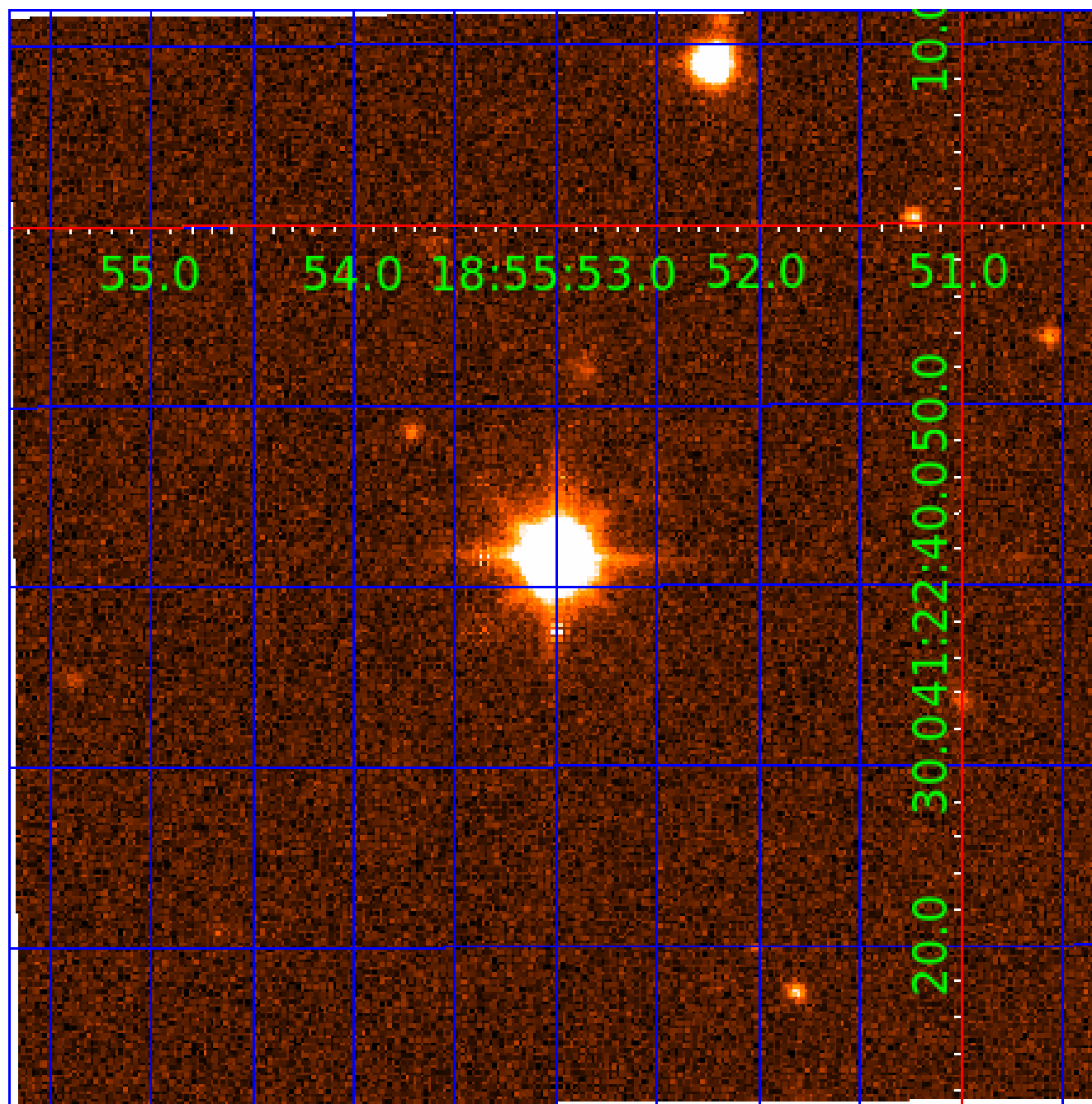


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006022792

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})
006022792-01	OBS	No	1.451725	131.913901	21.5	5.527	11.0	11.3	2.55	7032	1.28	15187.87
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006022792-04	OBS	No	379.079238	257.031047	230.7	5.095	8.9	7.7	2.55	7032	3.96	9.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006022792-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006022792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006022792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_SATURATED
006022792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_SATURATED

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

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

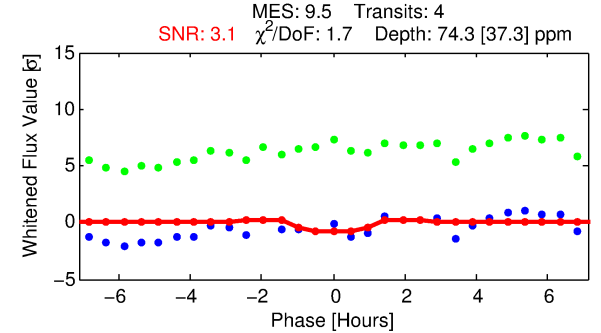
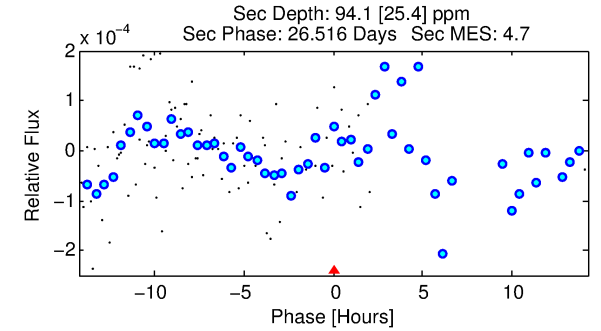
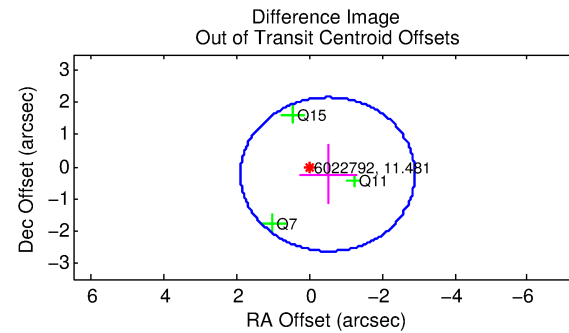
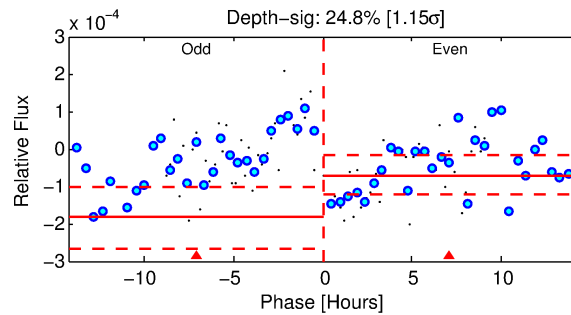
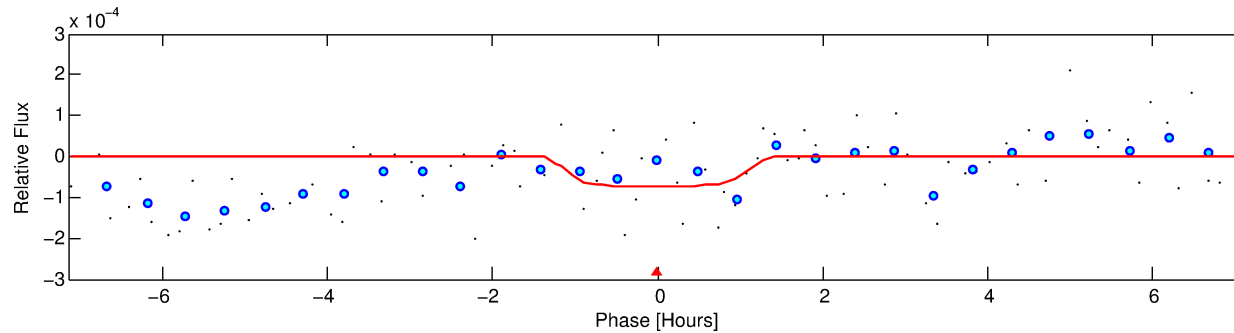
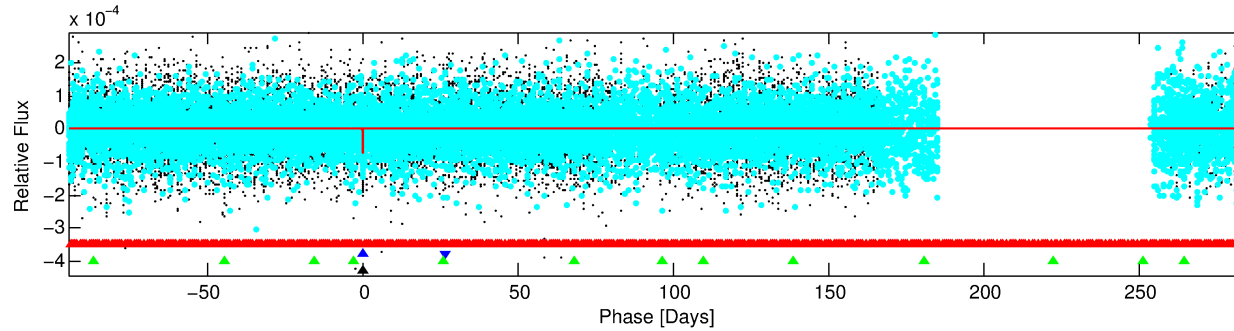
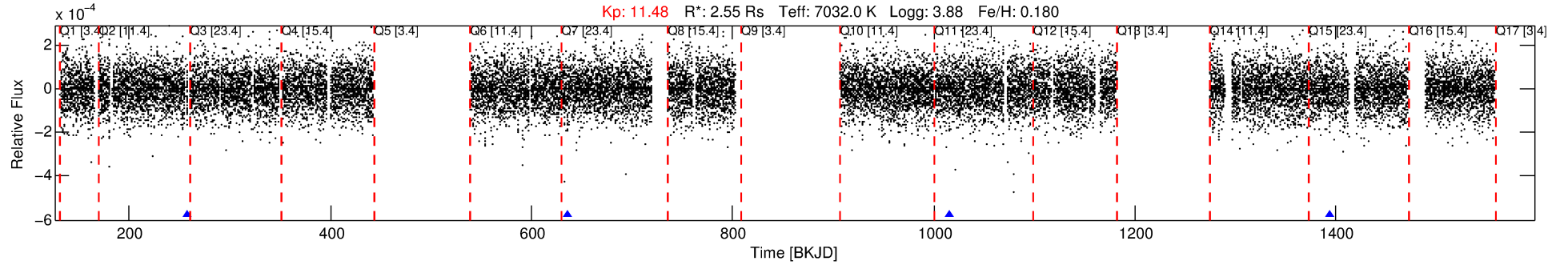
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006022792-02

No Significant Match Found

DV One-Page Summary

KIC: 6022792 Candidate: 2 of 4 Period: 379.098 d



DV Fit Results:

Period = 379.09841 [0.01111] d
Epoch = 257.1877 [0.0192] BKJD
Rp/R* = 0.0092 [0.0279]
a/R* = 552.88 [10372.37]
b = 0.90 [3.97]
Seff = 9.10 [4.02]
Teq = 443 [49] K
Rp = 2.56 [7.81] Re
a = 1.2503 [0.3518] AU
Ag = 12386.49 [75496.97] [0.16 σ]
Teffp = 7224 [10984] K [0.62 σ]

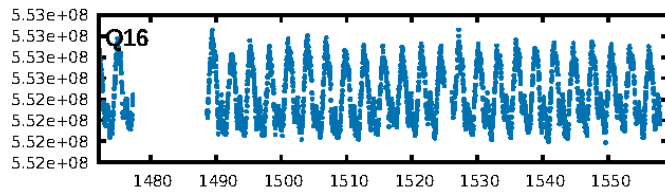
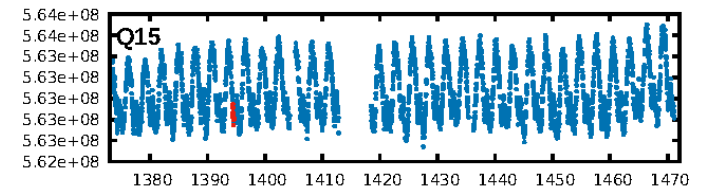
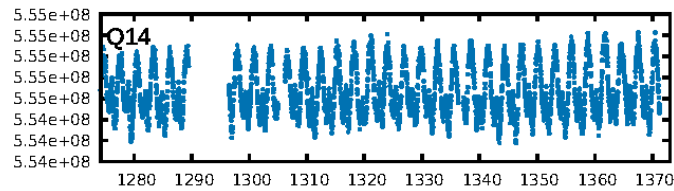
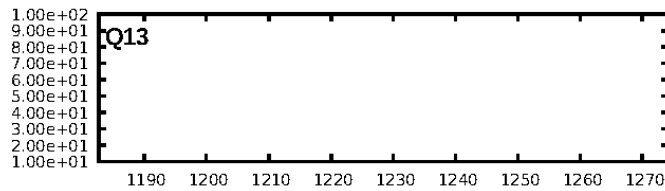
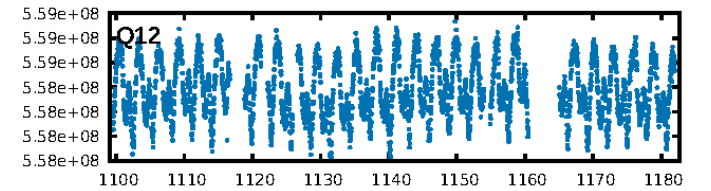
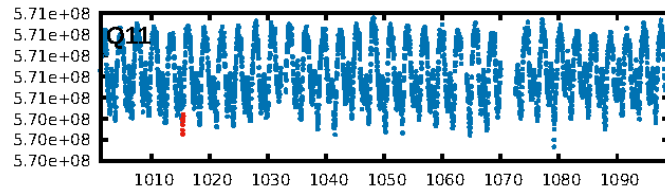
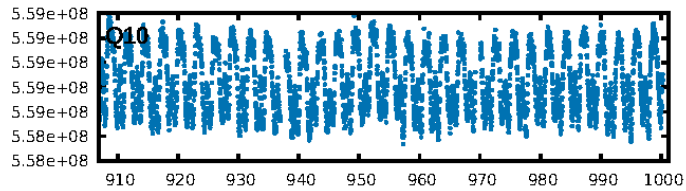
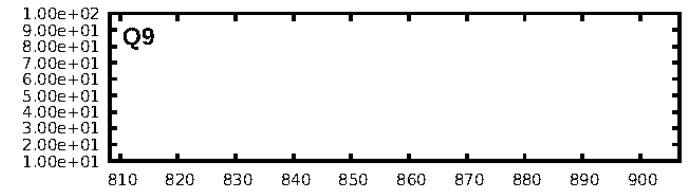
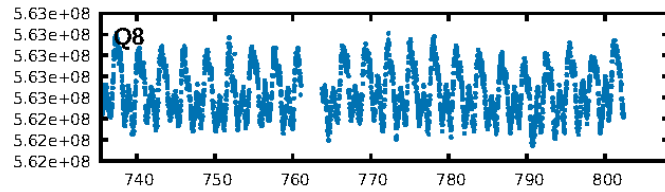
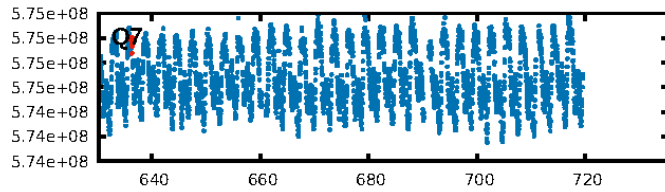
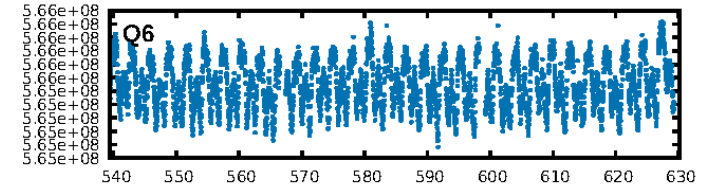
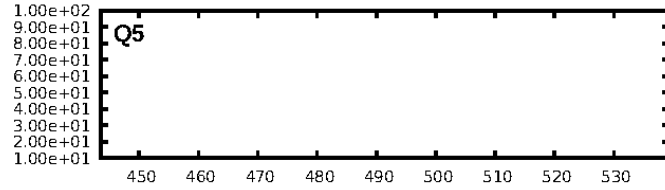
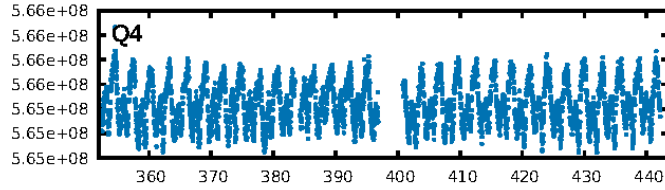
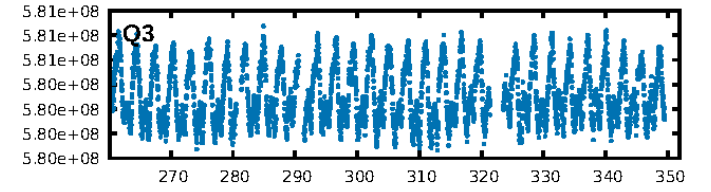
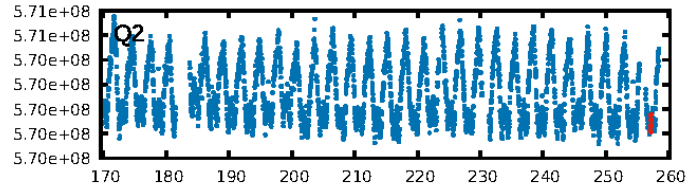
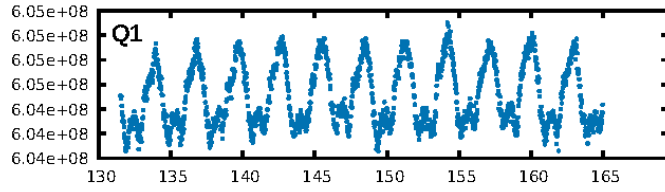
DV Diagnostic Results:

ShortPeriod-sig: 6.5% [0.08 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 63.2%
ModelChiSquareGof-sig: 39.0%
Bootstrap-pfa: 5.61e-16
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.604
Centroid-sig: 76.3%
Centroid-so: 1.126 arcsec [0.38 σ]
OotOffset-rm: 0.562 arcsec [0.70 σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-rm: 0.456 arcsec [0.59 σ]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/4]

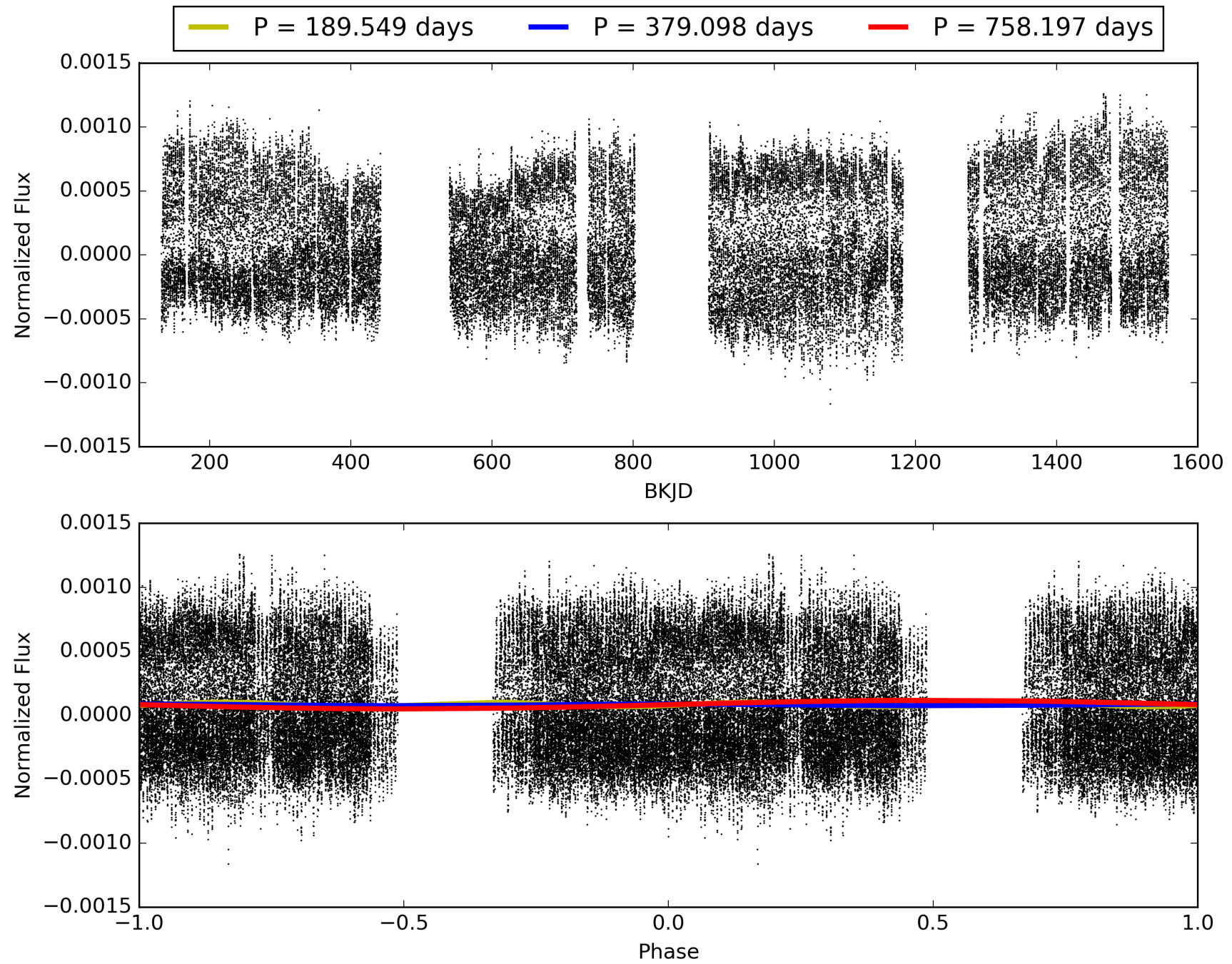
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 16:52:42 Z

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

TCE 006022792-02, PDC Light Curves

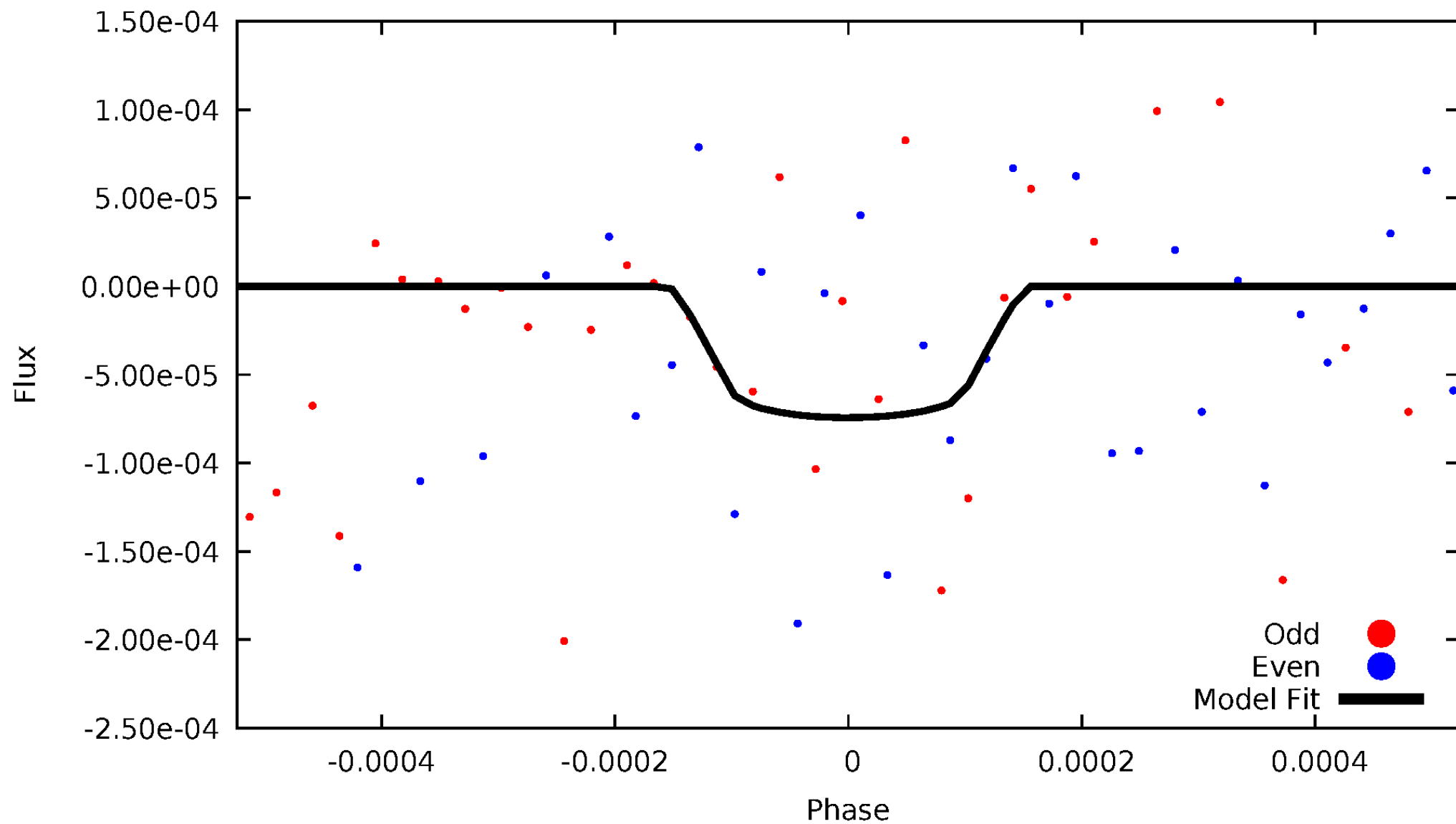


TCE 006022792-02



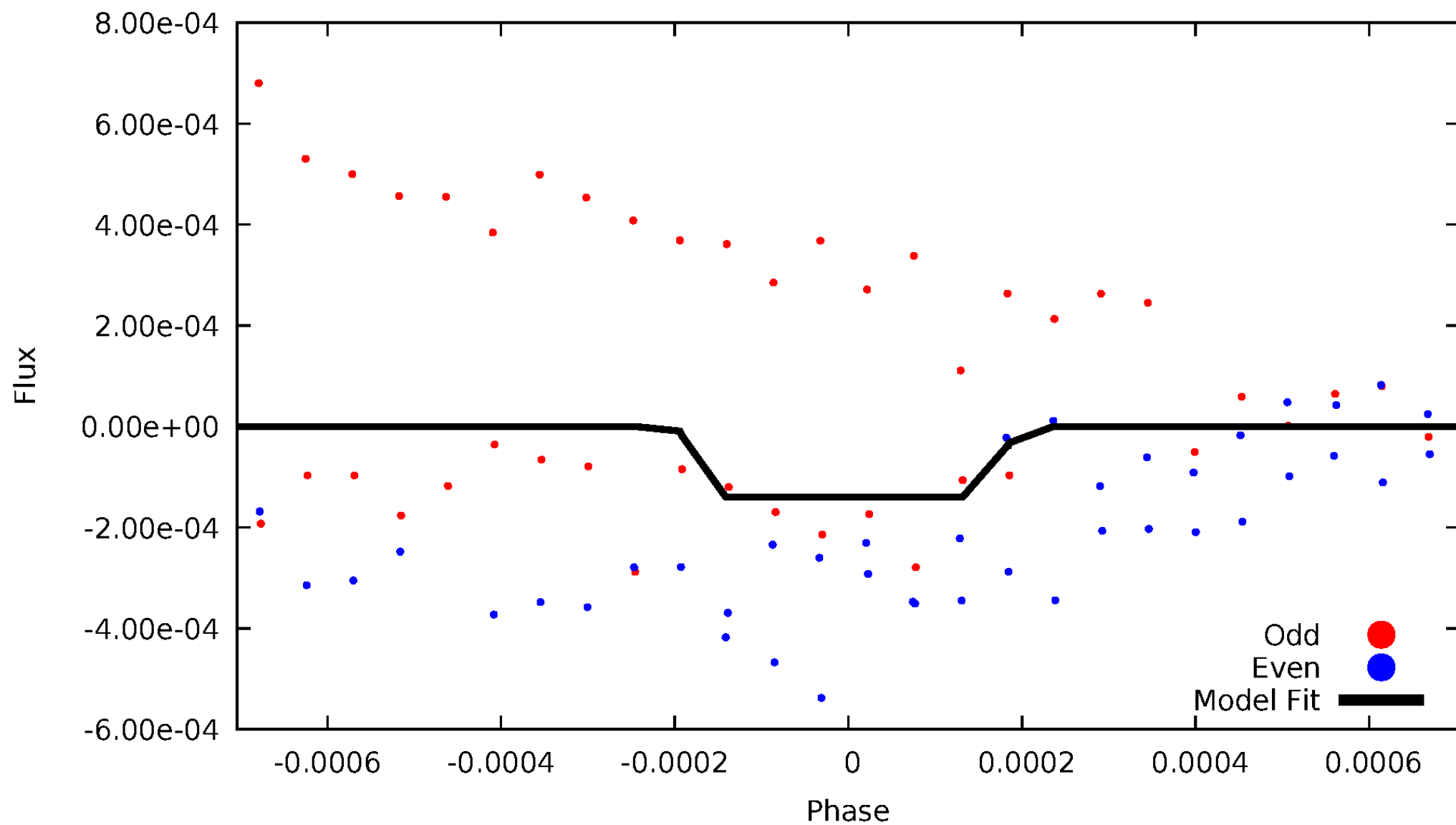
DV Odd/Even

TCE 006022792-02



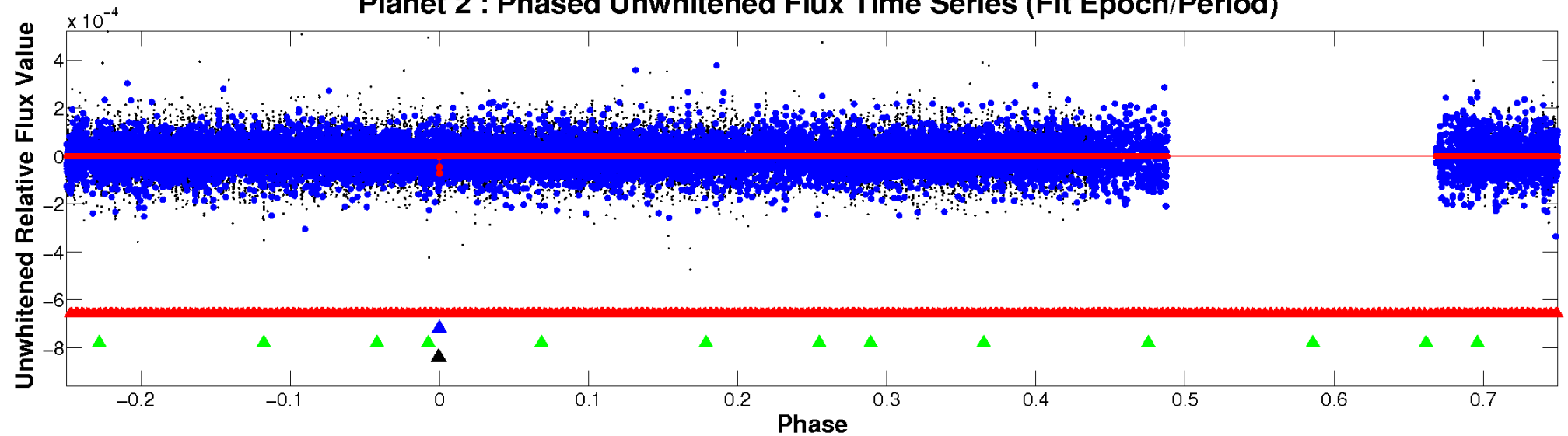
ALT Odd/Even

TCE 006022792-02

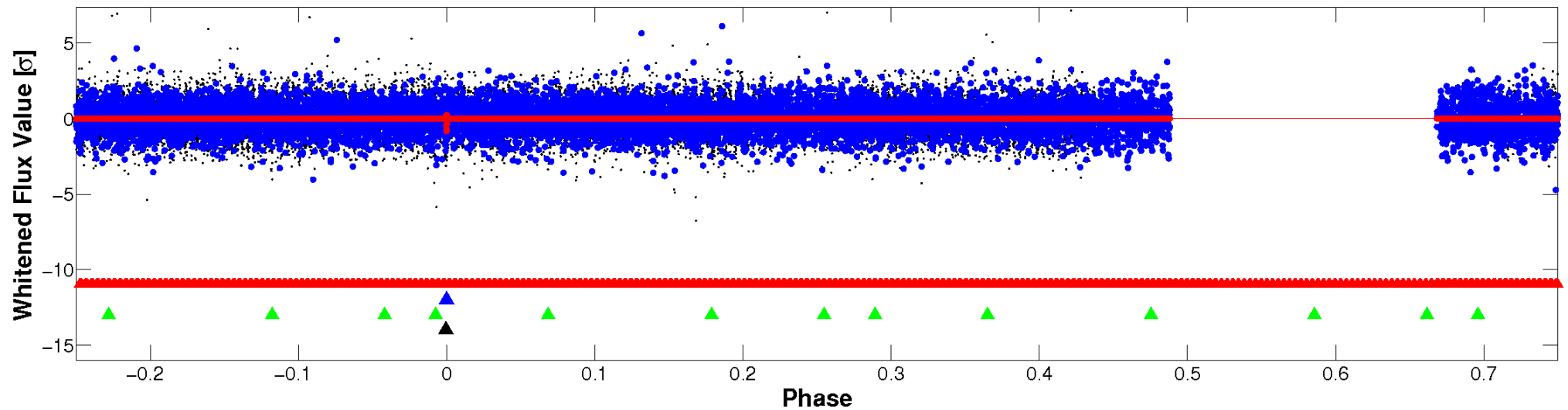


Non-Whitened Vs. Whitened Light Curve

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

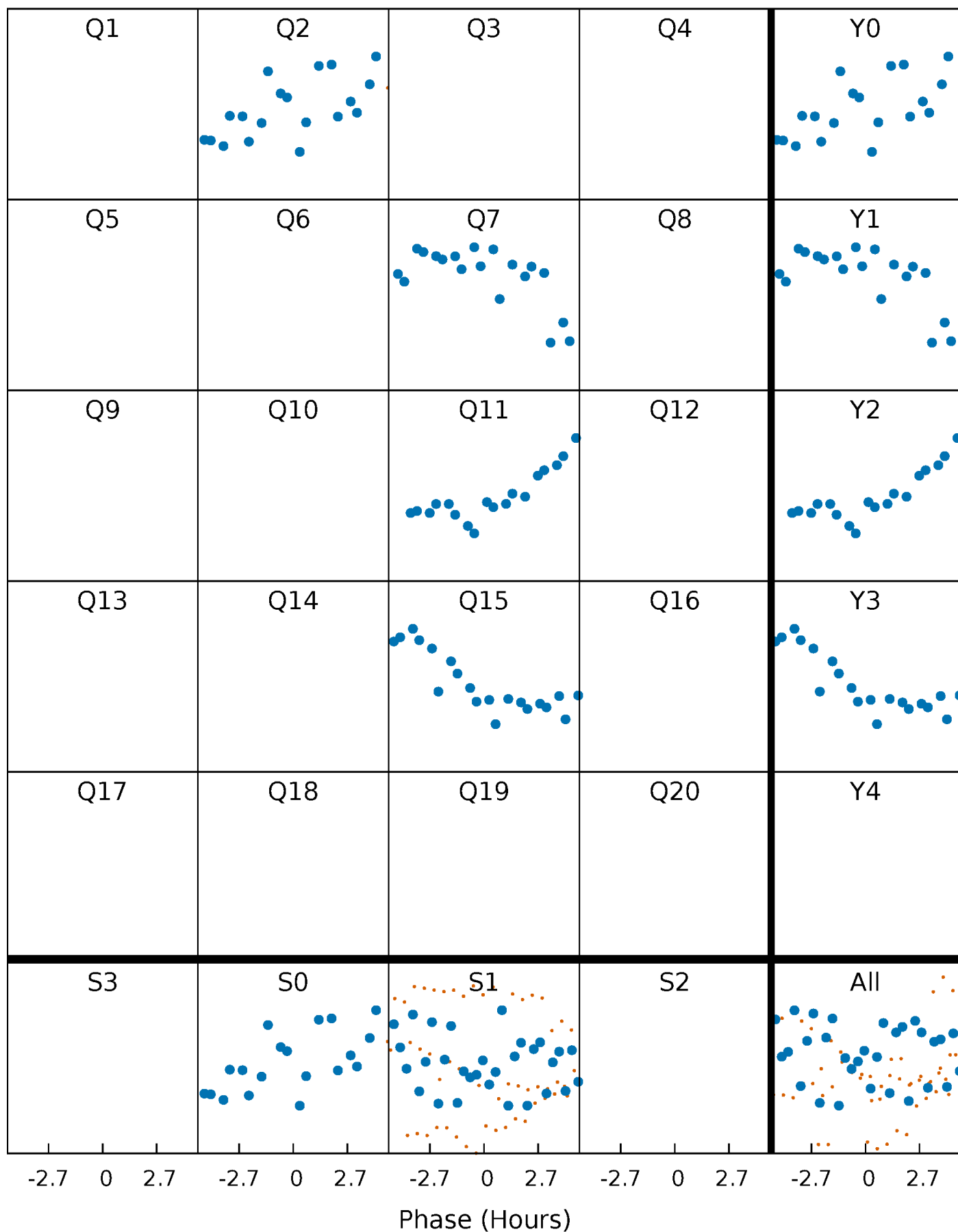


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



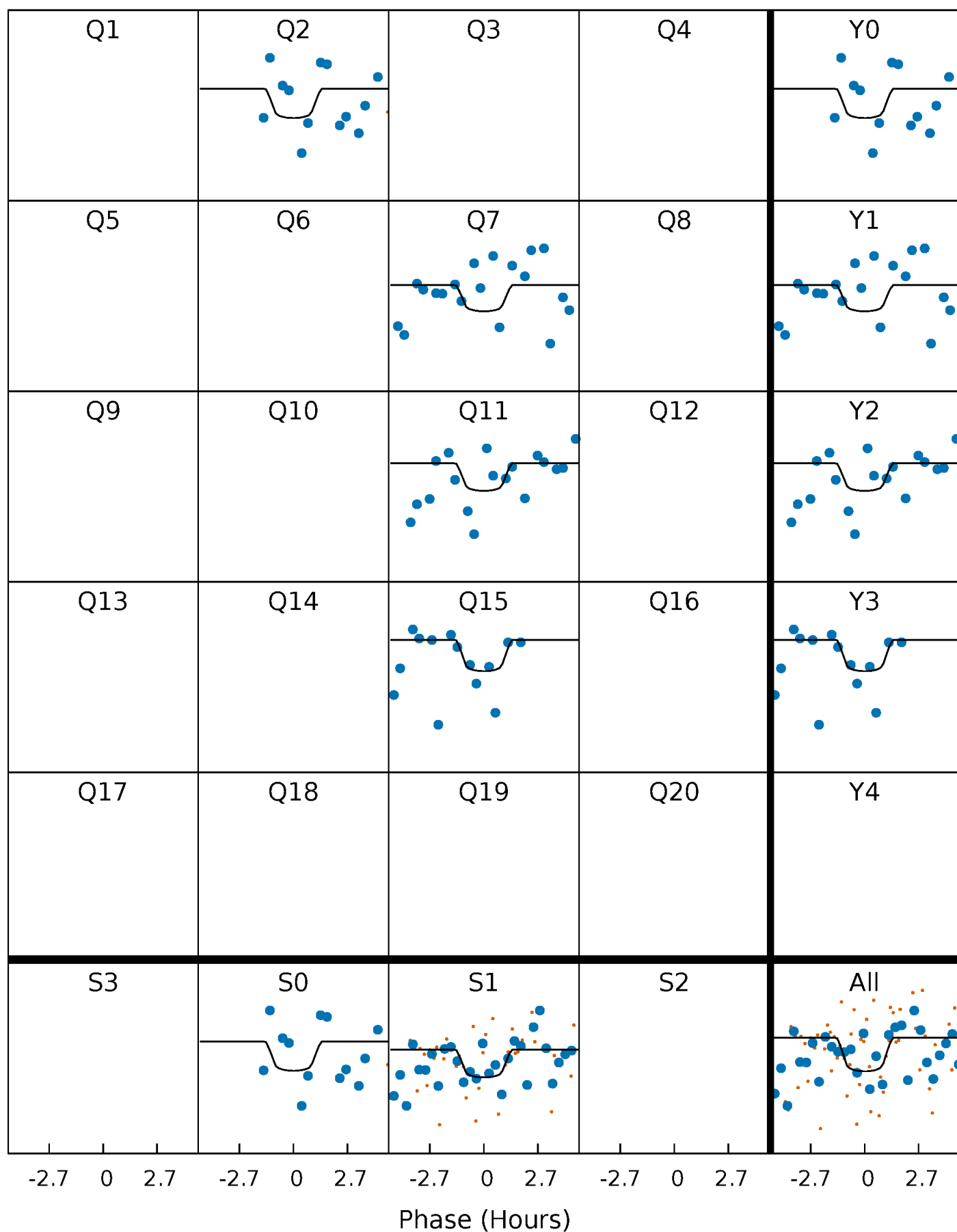
PDC Quarter-Phased Transit Curves

TCE 006022792-02 P=379.098406 Days $T_0=257.187694$ (BKJD)



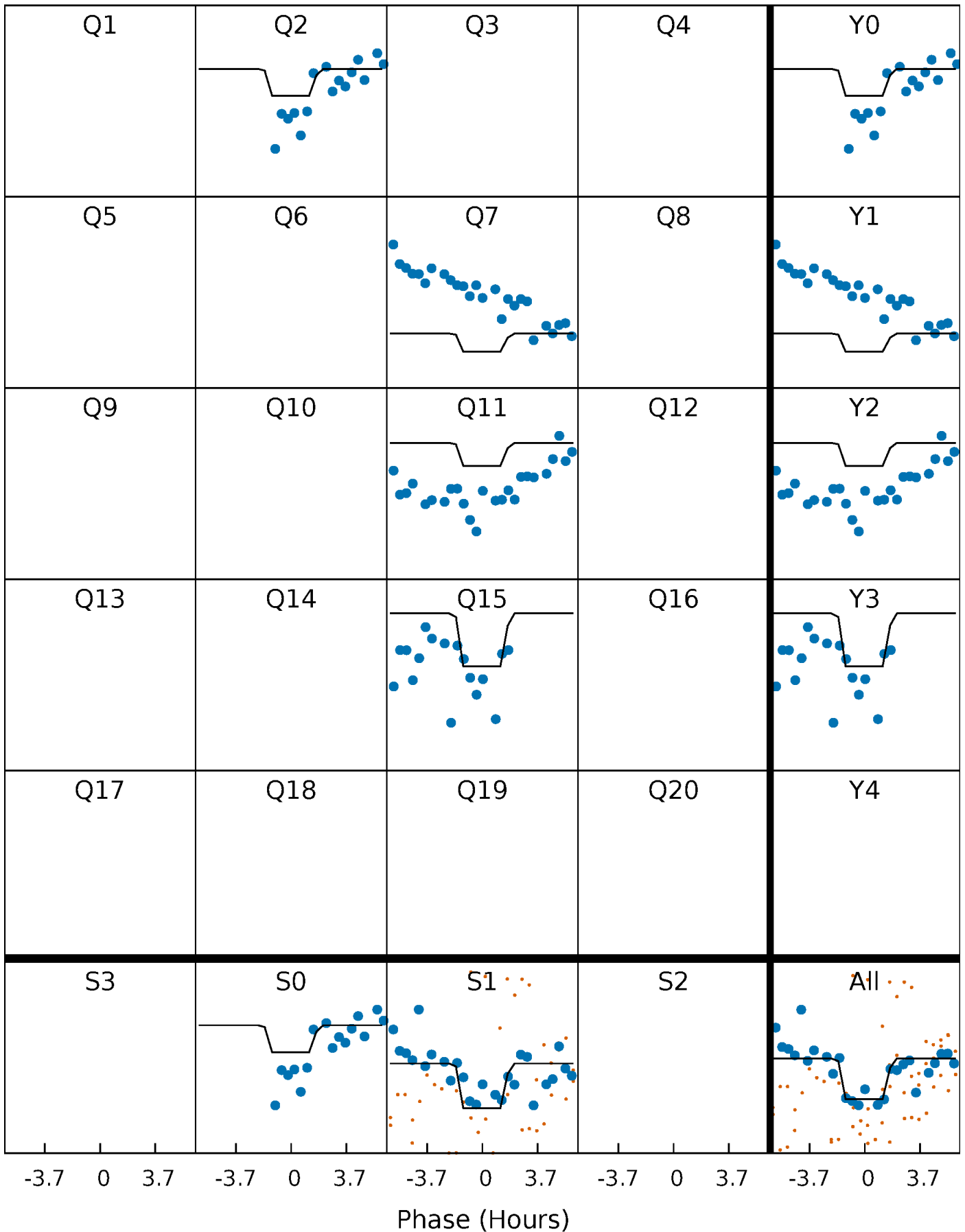
DV Quarter-Phased Transit Curves

TCE 006022792-02 P=379.098406 Days $T_0=257.187694$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

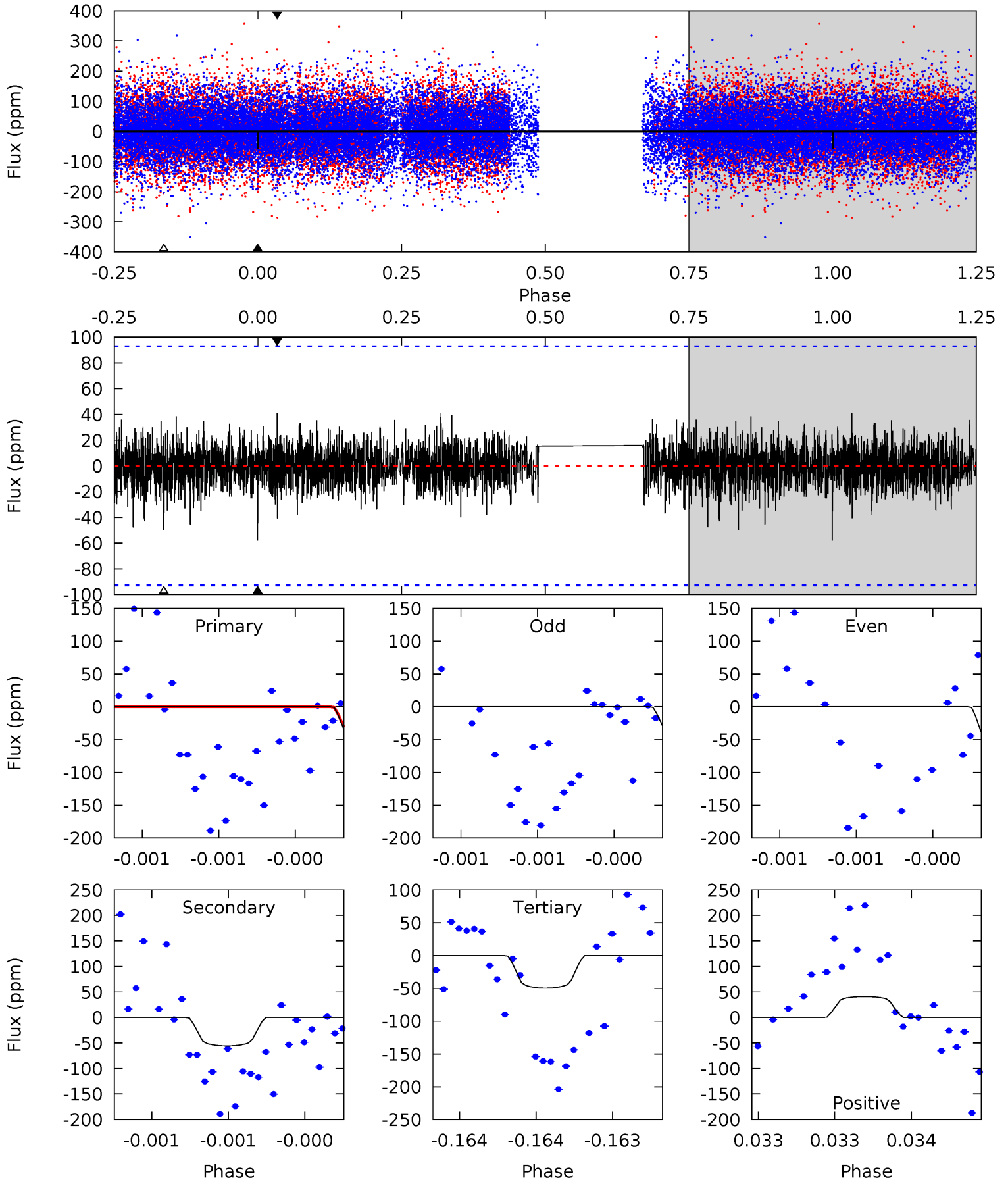
TCE 006022792-02 P=379.103839 Days $T_0=257.172159$ (BKJD)



DV Model-Shift Uniqueness Test

006022792-02, P = 379.098406 Days, E = 257.187694 Days

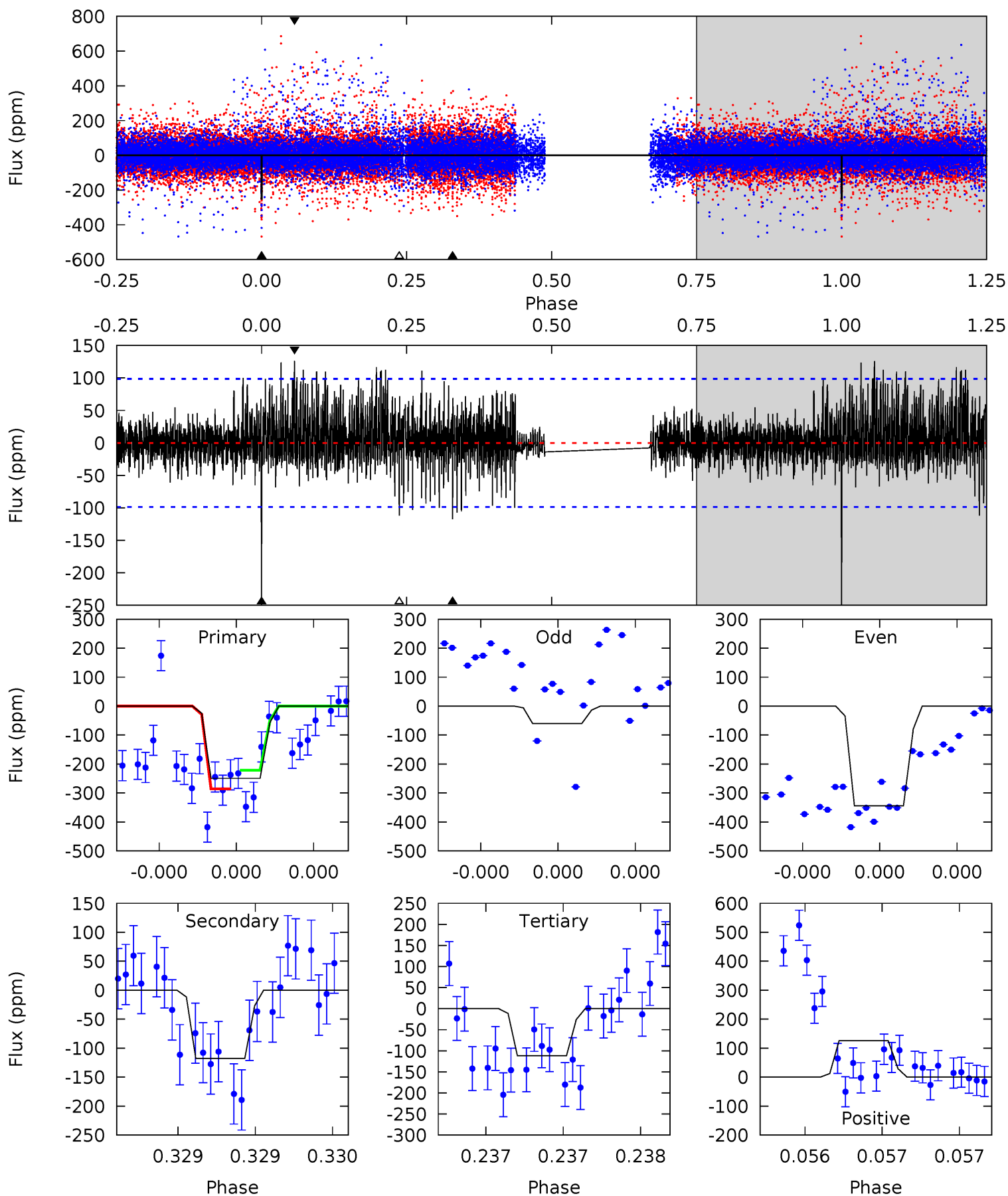
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.53	3.39	3.02	2.50	5.66	3.61	0.72	0.51	1.03	0.37	0.89	0.55	0.87	0.41	0.39



Alt Model-Shift Uniqueness Test

006022792-02, P = 379.103839 Days, E = 257.172159 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	6.68	6.36	7.16	5.60	3.52	1.55	7.80	7.00	0.32	-0.48	8.97	0.61	0.34	1.88



Stellar Parameters For KIC 006022792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7032^{+158}_{-246}	$3.884^{+0.234}_{-0.108}$	$0.180^{+0.200}_{-0.350}$	$2.548^{+0.446}_{-0.828}$	$1.810^{+0.152}_{-0.355}$	$0.154^{+0.225}_{-0.060}$
	+2%/-3%	+6%/-3%	+111%/-194%	+18%/-32%	+8%/-20%	+146%/-39%
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 006022792-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-56 ± 16	$5.74^{+6.34}_{-3.93}$	610^{+36}_{-48}	4382^{+2858}_{-1025}	1493^{+13087}_{-1173}
Alt.	-118 ± 18	$5.95^{+6.38}_{-4.00}$	609^{+37}_{-46}	4954^{+3700}_{-1204}	2923^{+21607}_{-2281}

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

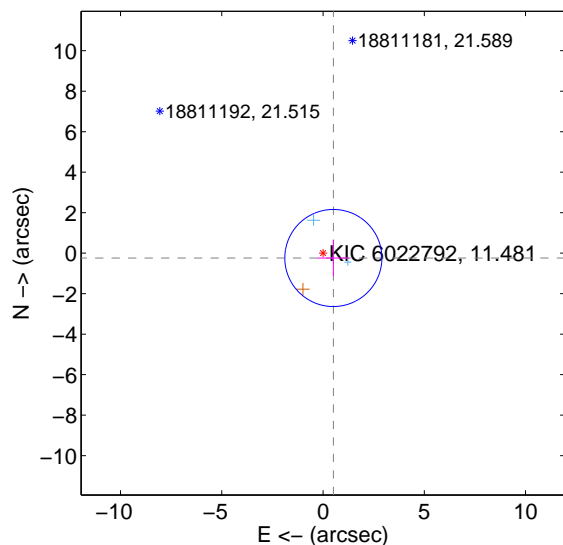
Supplemental centroid analysis for 006022792-02. **Kepler magnitude: 11.48.** Transit SNR 3.13

There are 2 quarters with good PRF difference image offsets

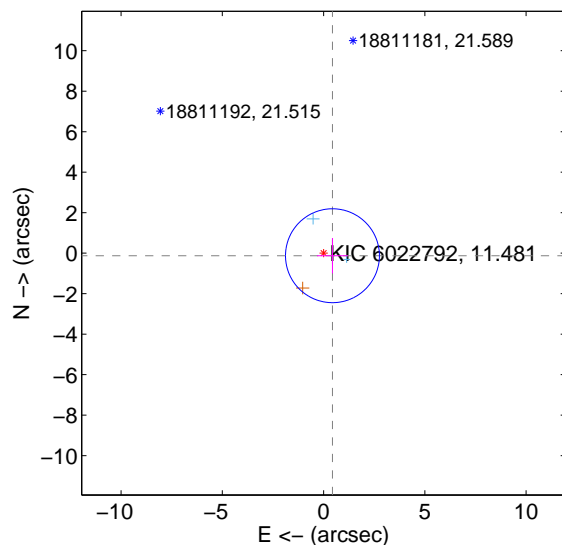
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.562 ± 0.799	0.70	-0.509 ± 0.779	-0.238 ± 0.885
PRF-fit source offset from KIC position	0.456 ± 0.773	0.59	-0.438 ± 0.764	-0.126 ± 0.874
photometric centroid source offset	1.13 ± 2.94	0.38	0.56 ± 3.02	-0.98 ± 2.92

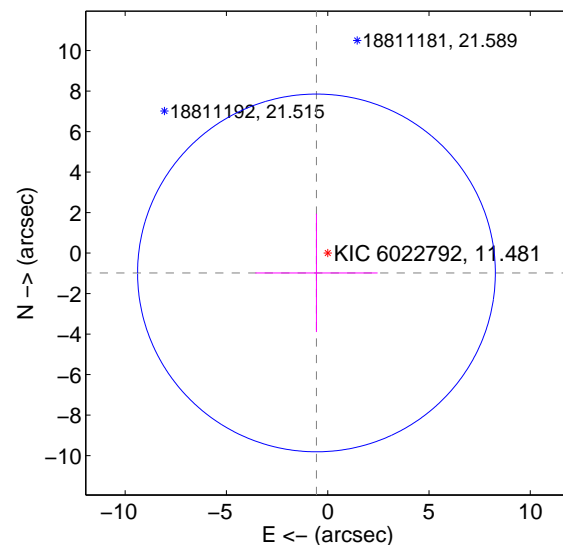
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

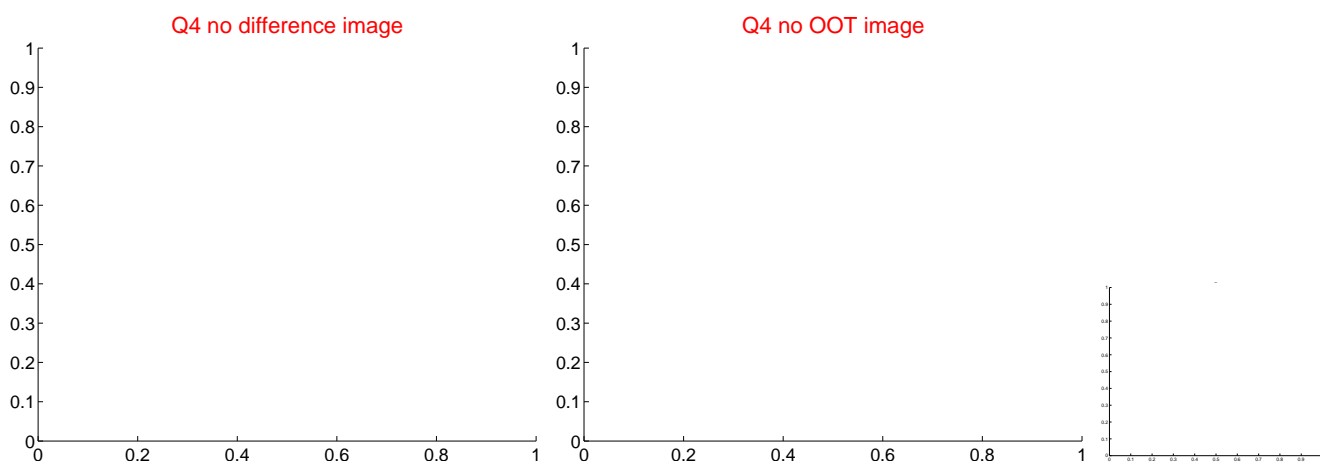
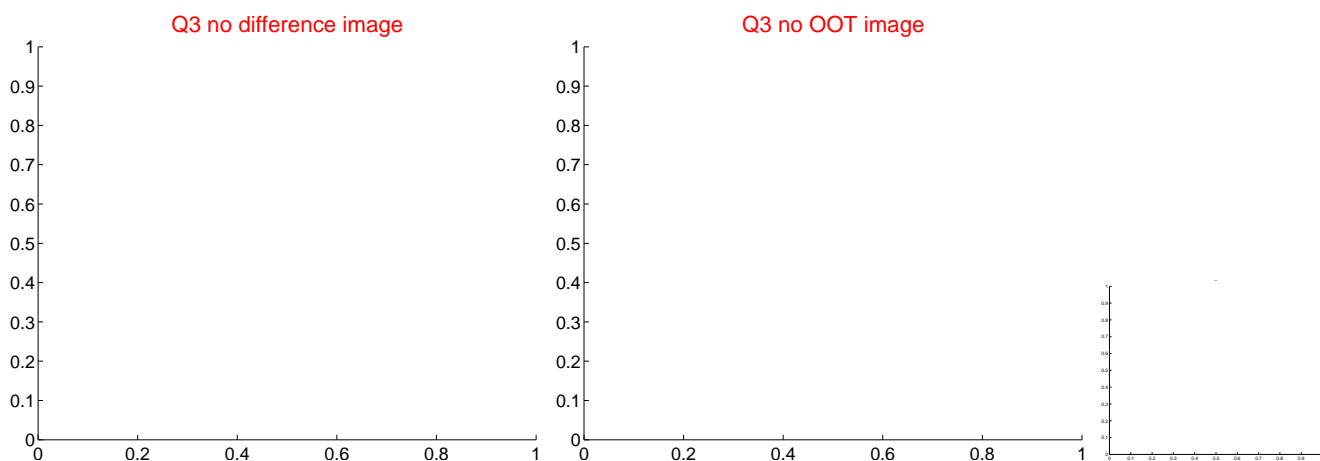
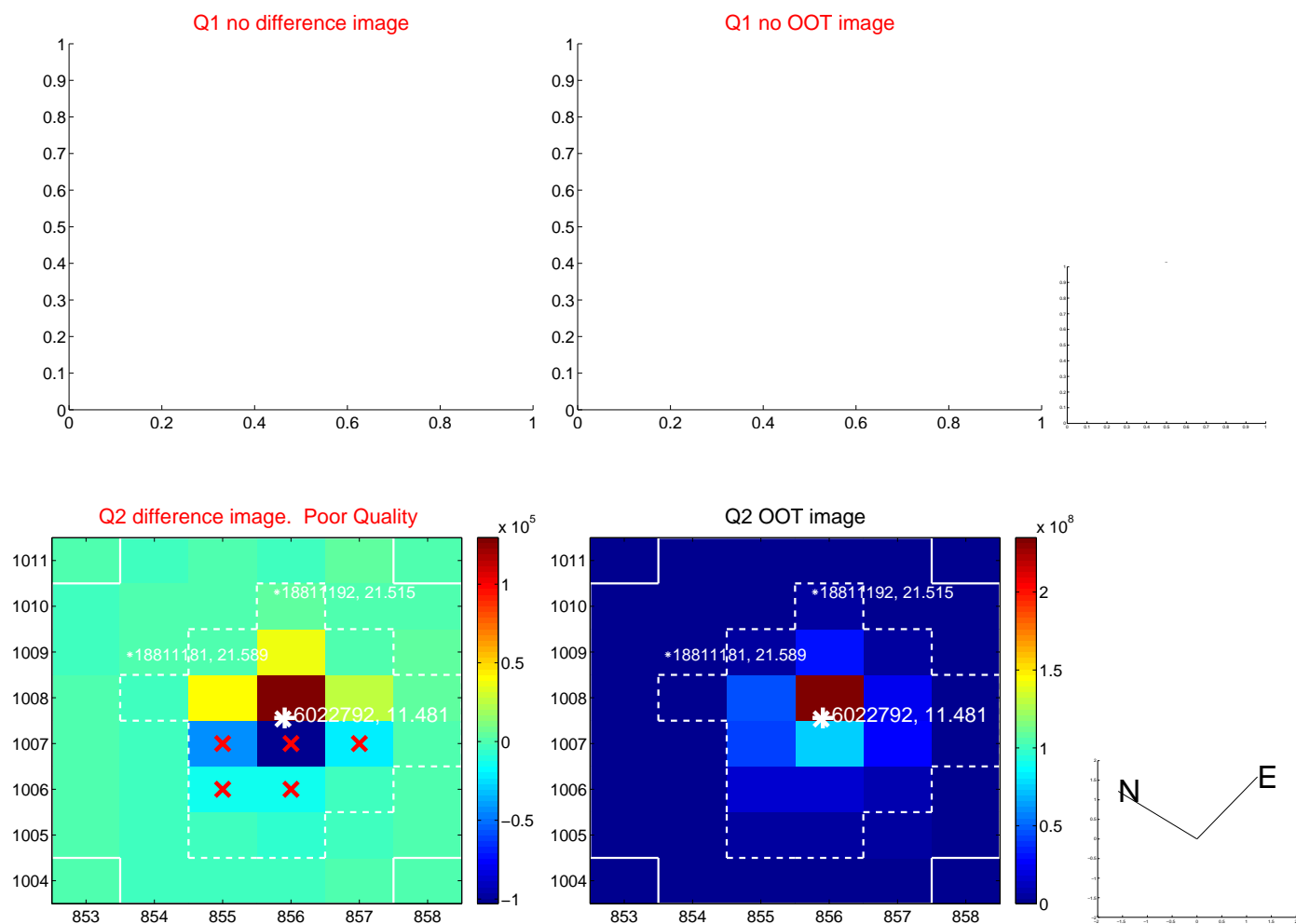


offset from photometric centroids

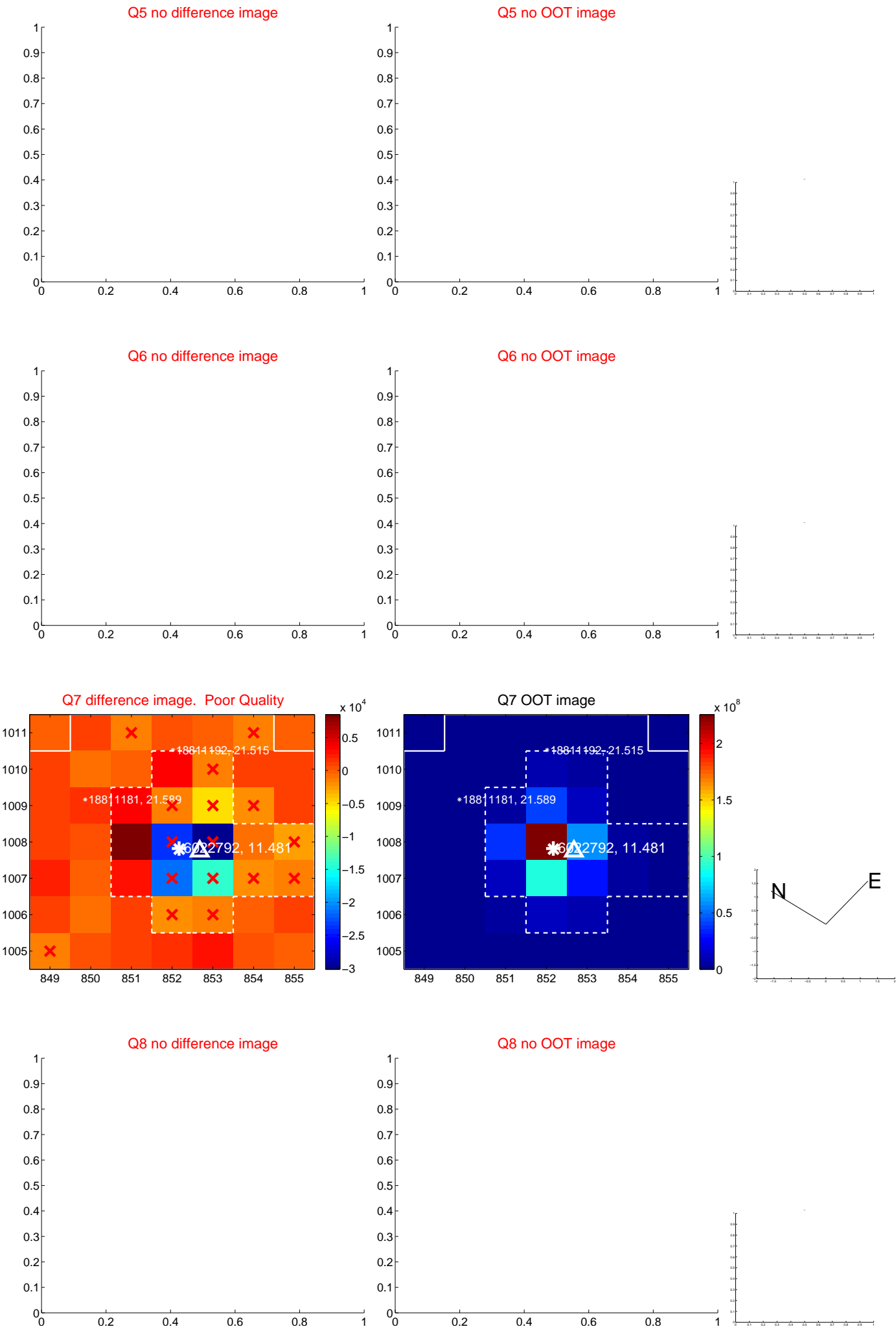


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

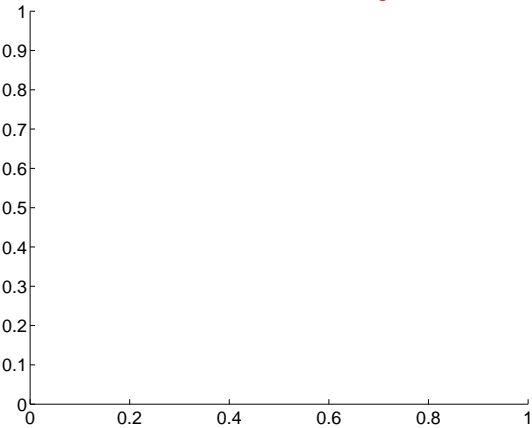
Q9 no difference image



Q9 no OOT image



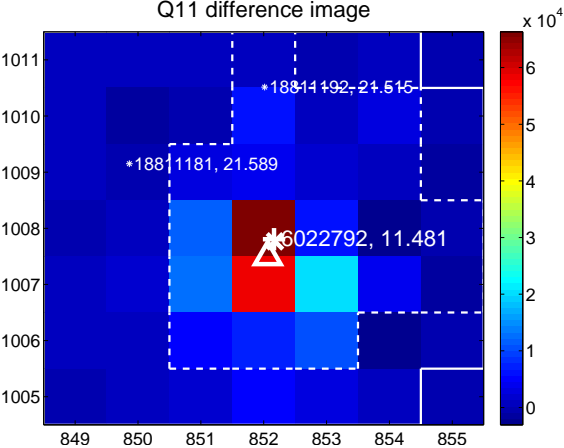
Q10 no difference image



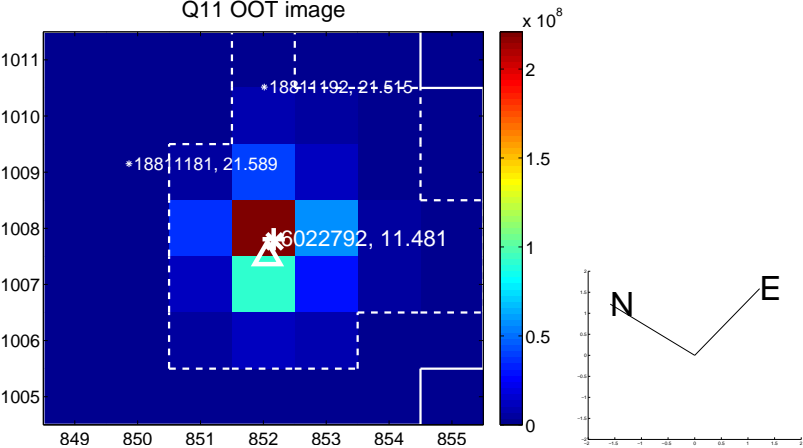
Q10 no OOT image



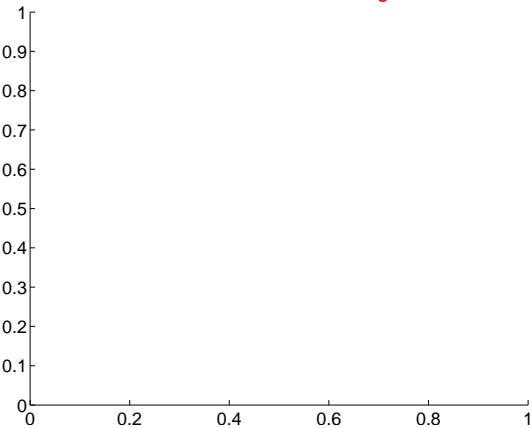
Q11 difference image



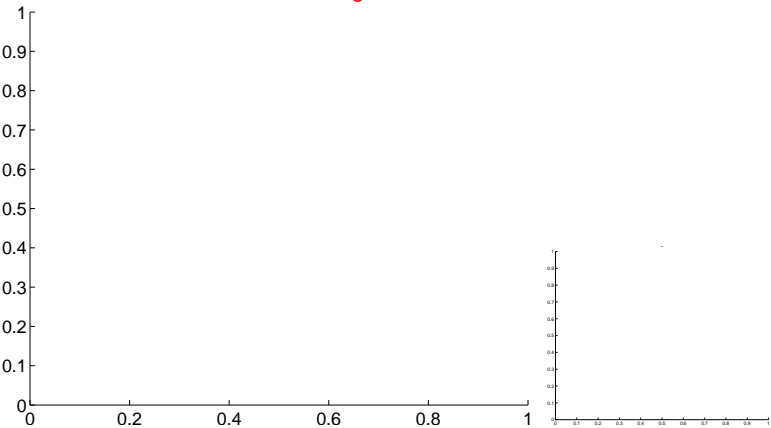
Q11 OOT image



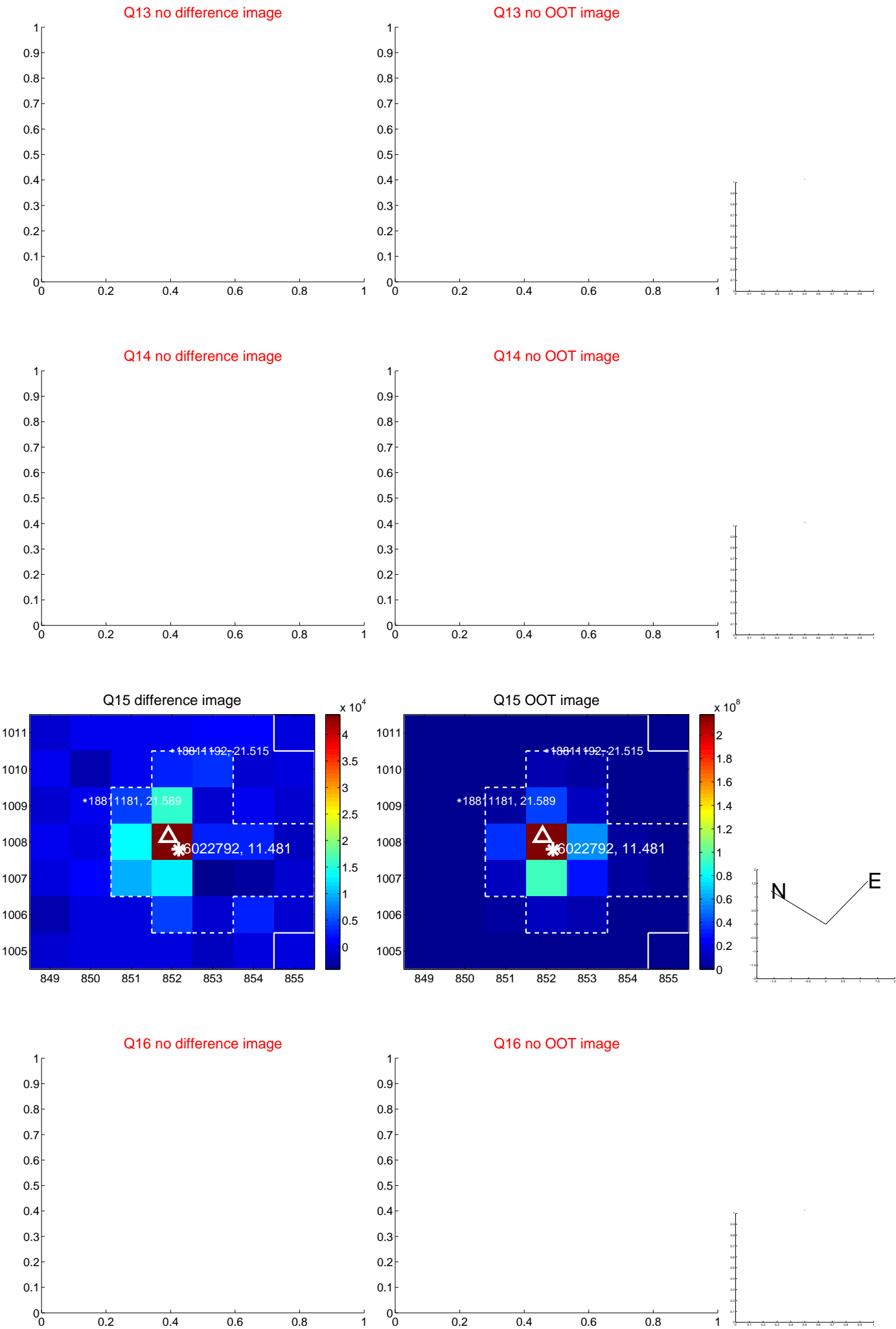
Q12 no difference image



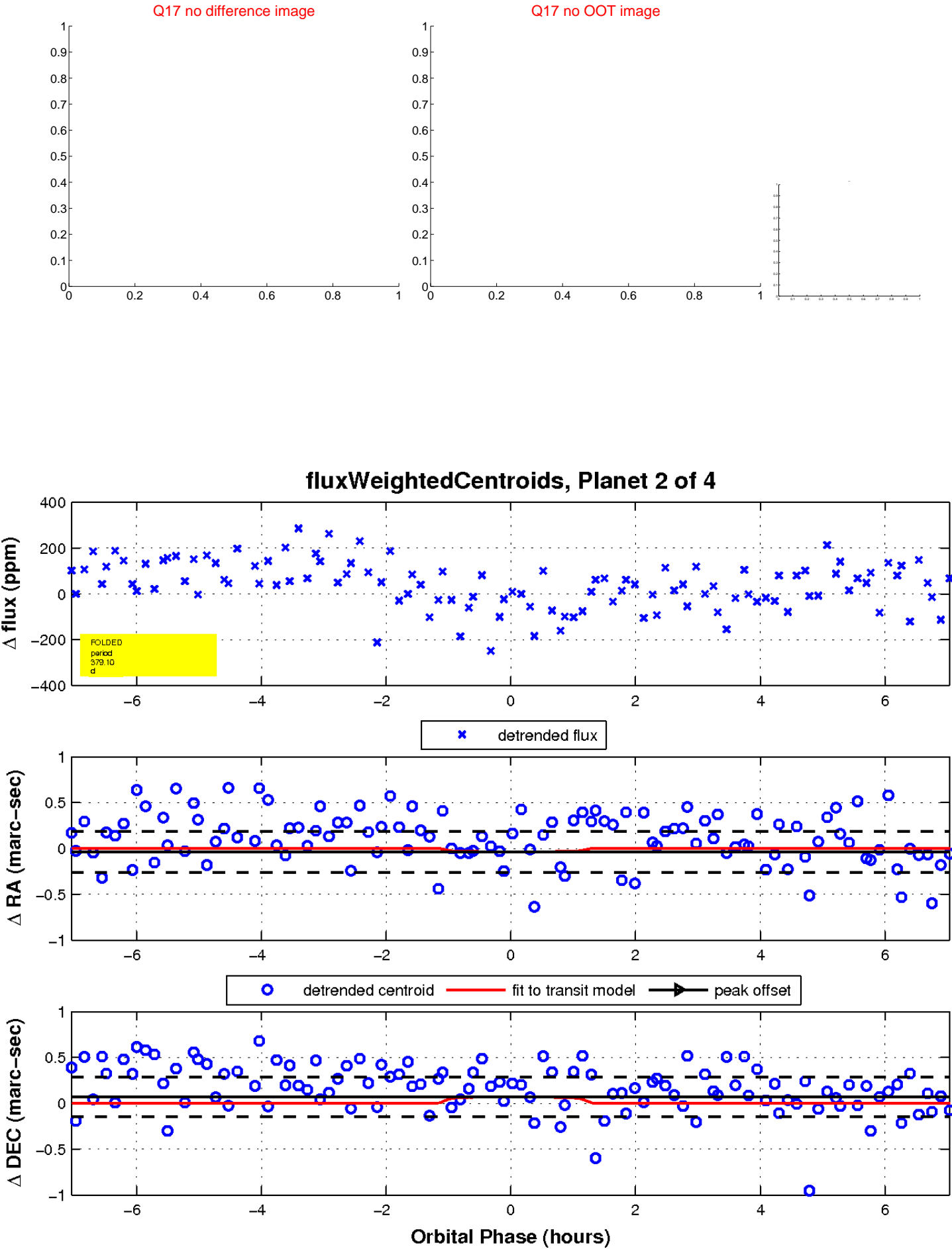
Q12 no OOT image



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

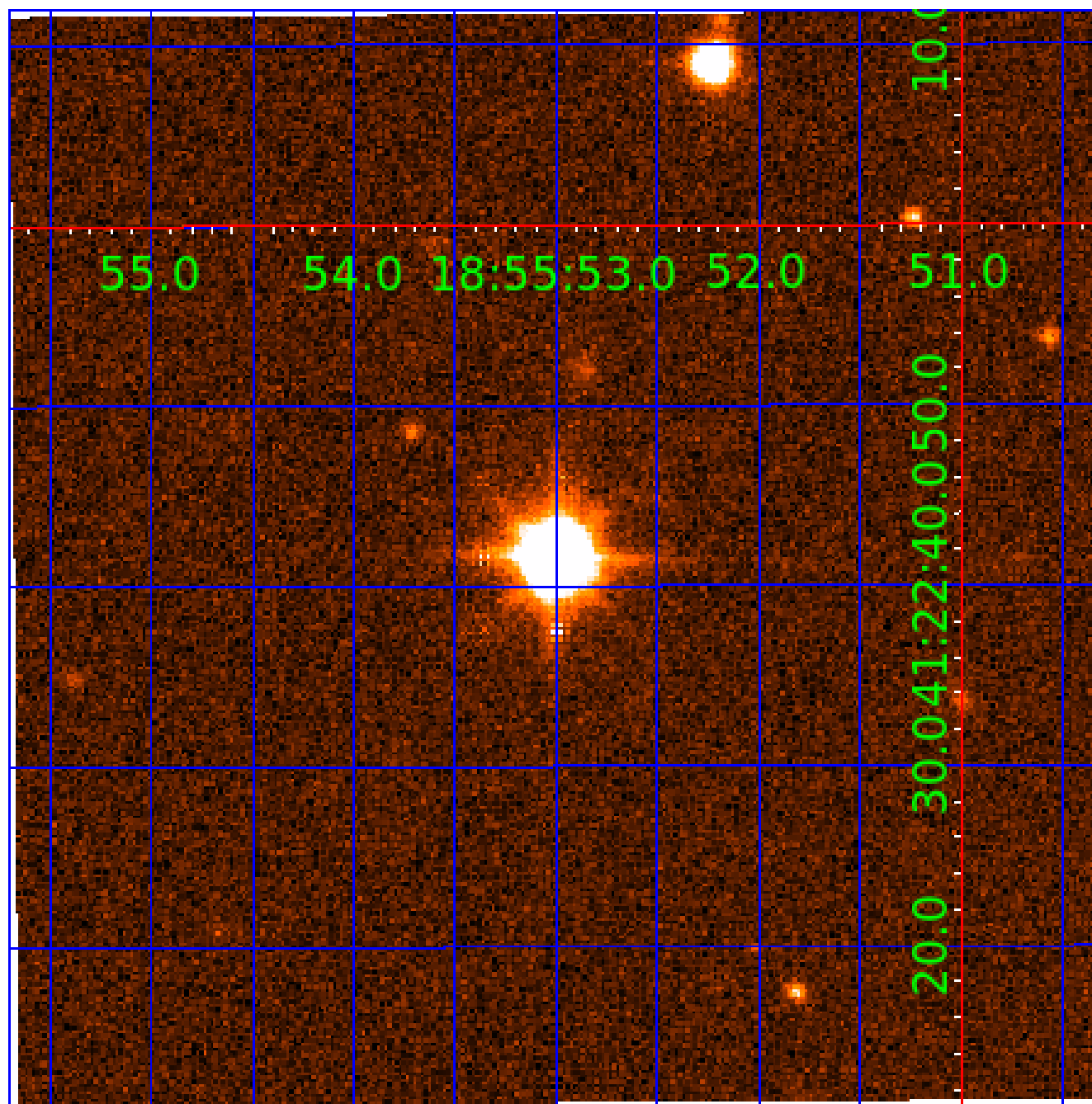


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006022792

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})
006022792-01	OBS	No	1.451725	131.913901	21.5	5.527	11.0	11.3	2.55	7032	1.28	15187.87
006022792-02	OBS	No	379.098406	257.187694	74.3	2.382	9.5	3.1	2.55	7032	2.56	9.10
006022792-03	OBS	No	112.424771	141.962314	236.3	6.066	9.5	8.9	2.55	7032	7.40	46.01
006022792-04	OBS	No	379.079238	257.031047	230.7	5.095	8.9	7.7	2.55	7032	3.96	9.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006022792-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006022792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006022792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_SATURATED
006022792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_SATURATED

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

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

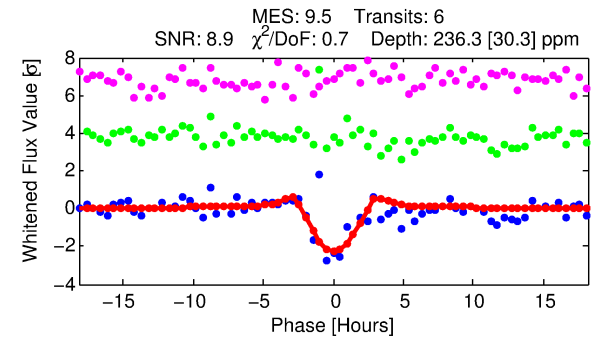
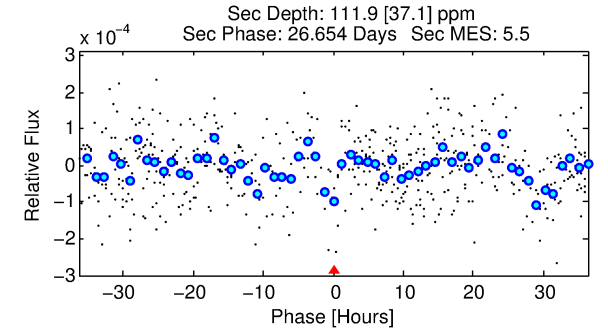
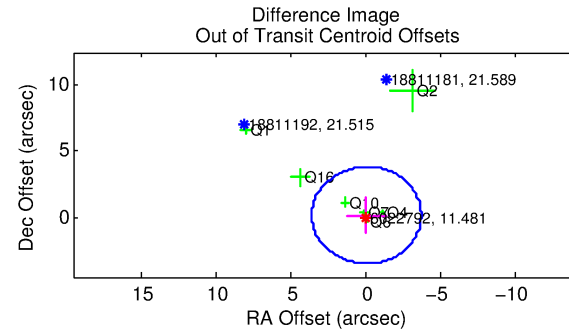
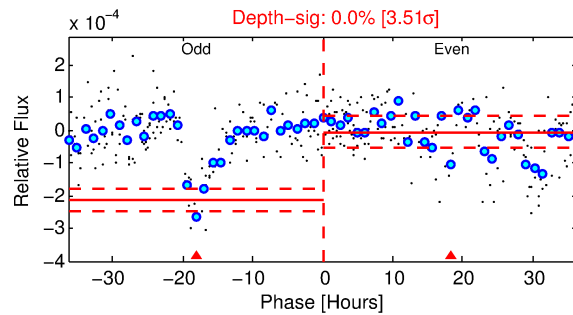
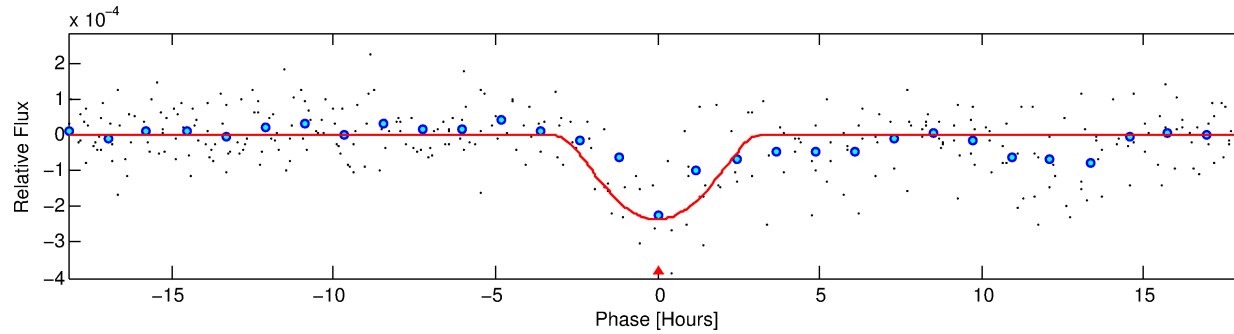
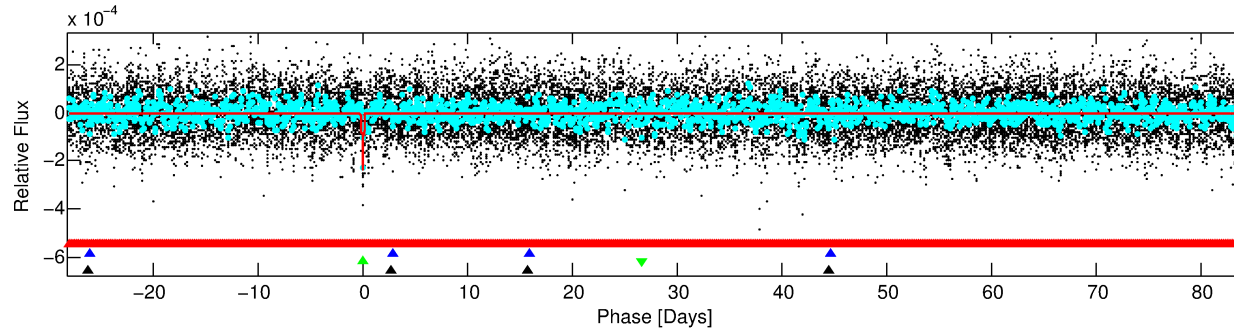
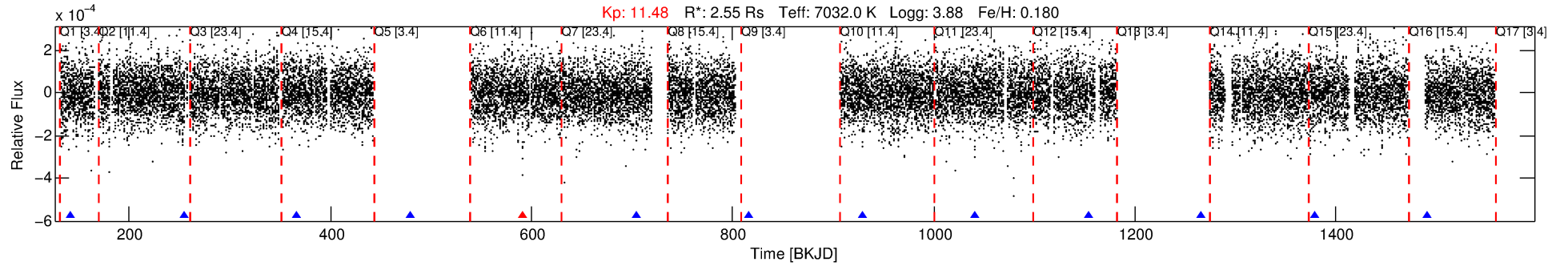
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006022792-03

No Significant Match Found

DV One-Page Summary

KIC: 6022792 Candidate: 3 of 4 Period: 112.425 d



DV Fit Results:

Period = 112.42477 [0.00173] d
Epoch = 141.9623 [0.0125] BKJD
Rp/R* = 0.0266 [0.0650]
a/R* = 33.63 [22.79]
b = 1.00 [0.10]
Seff = 46.01 [20.35]
Teq = 664 [73] K
Rp = 7.40 [18.24] Re
a = 0.5560 [0.1565] AU
Ag = 347.25 [1706.86] [0.20 σ]
Teff = 4432 [5429] K [0.69 σ]

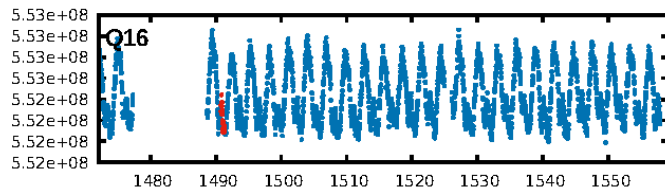
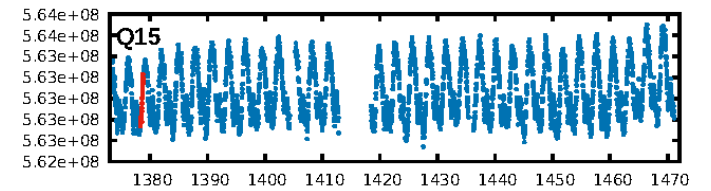
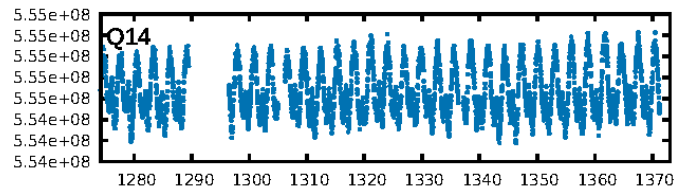
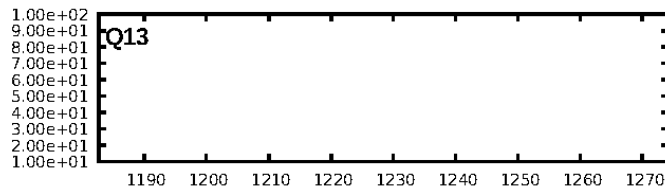
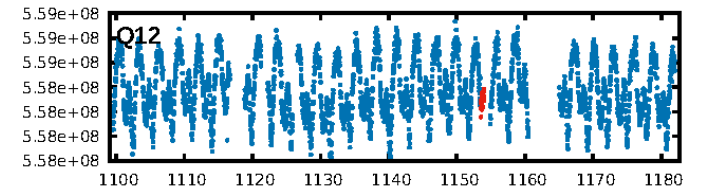
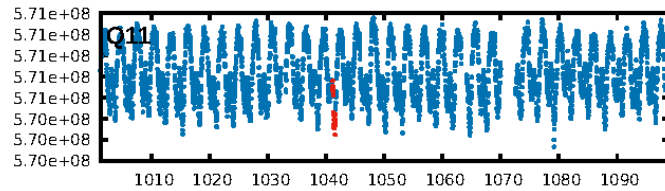
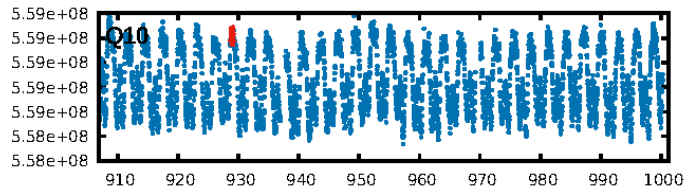
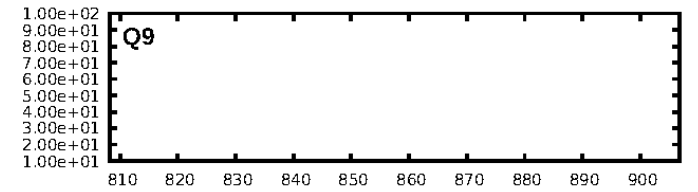
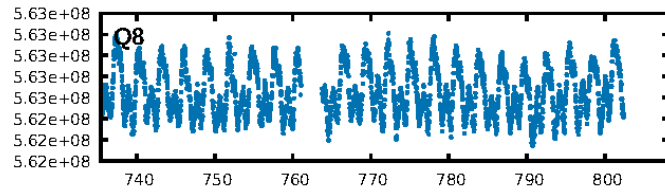
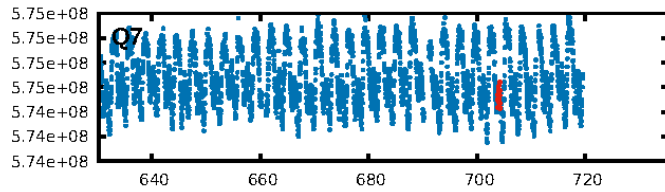
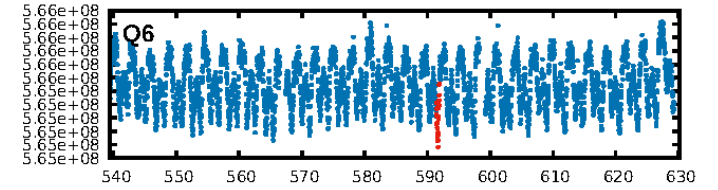
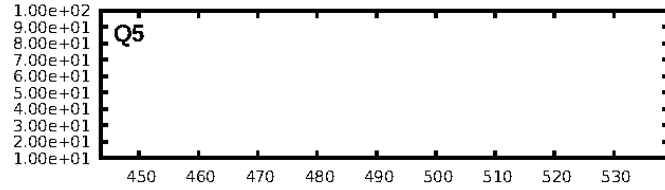
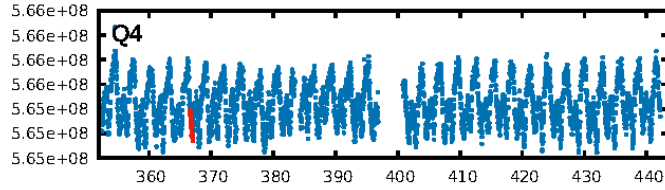
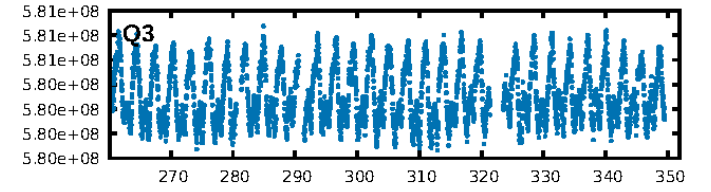
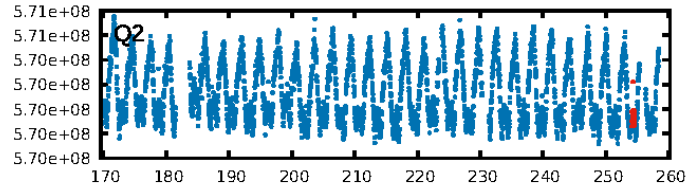
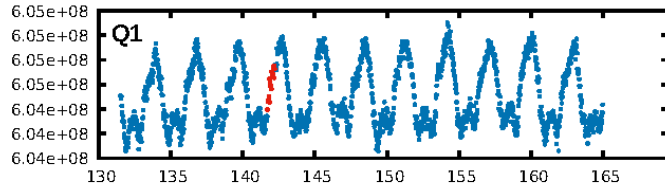
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [324.53 σ]
LongPeriod-sig: 100.0% [807.84 σ]
ModelChiSquare2-sig: 74.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.48e-15
RollingBand-fgt: 0.83 [5/6]
GhostDiagnostic-chr: 0.3065
Centroid-sig: 39.3%
Centroid-so: 0.594 arcsec [1.10 σ]
OotOffset-rm: 0.204 arcsec [0.17 σ]
KicOffset-rm: 0.163 arcsec [0.12 σ]
OotOffset-st: 3/1/2/1 [7]
KicOffset-st: 3/1/2/1 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 0.00 [0/8]

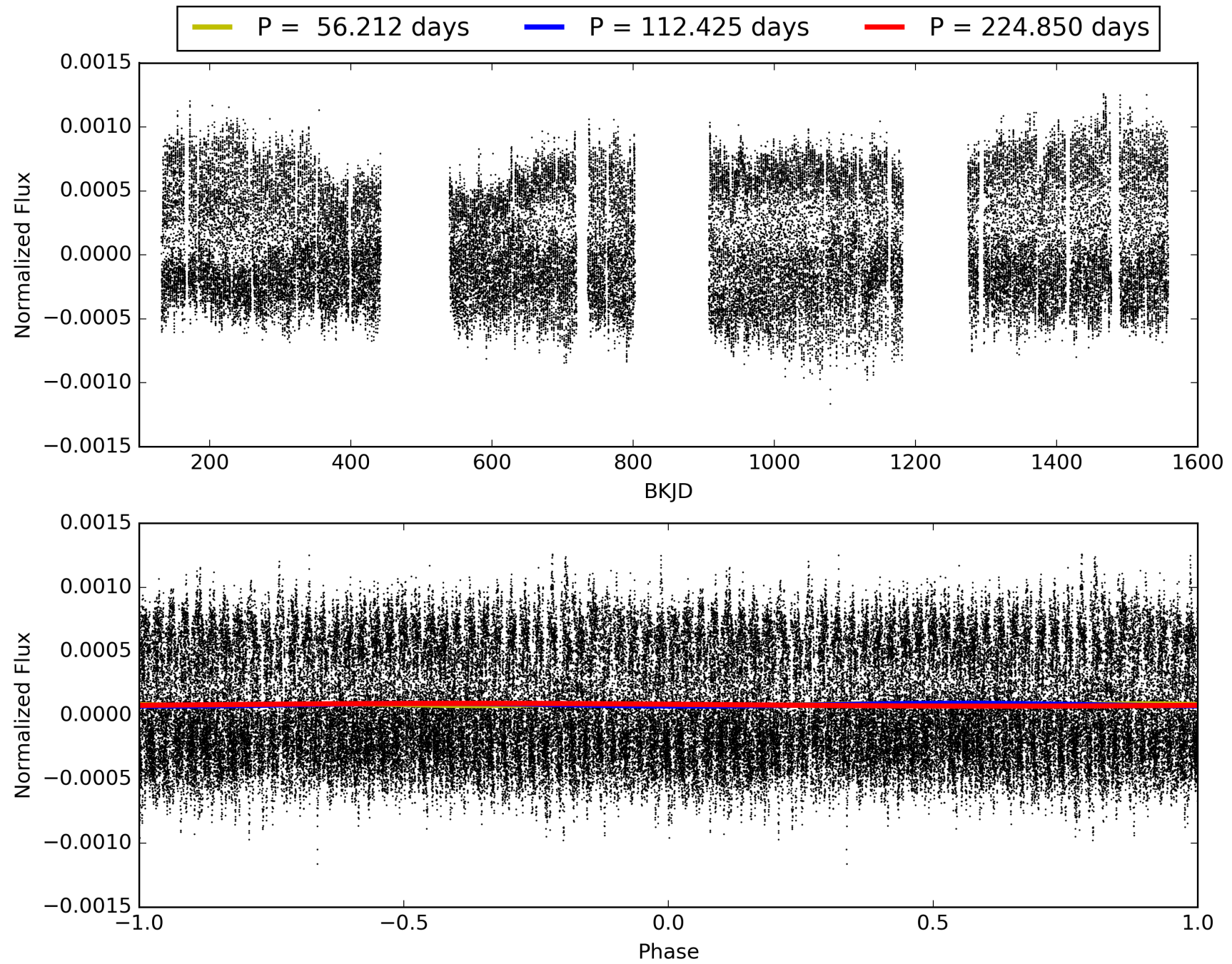
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 16:52:47 Z

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

TCE 006022792-03, PDC Light Curves

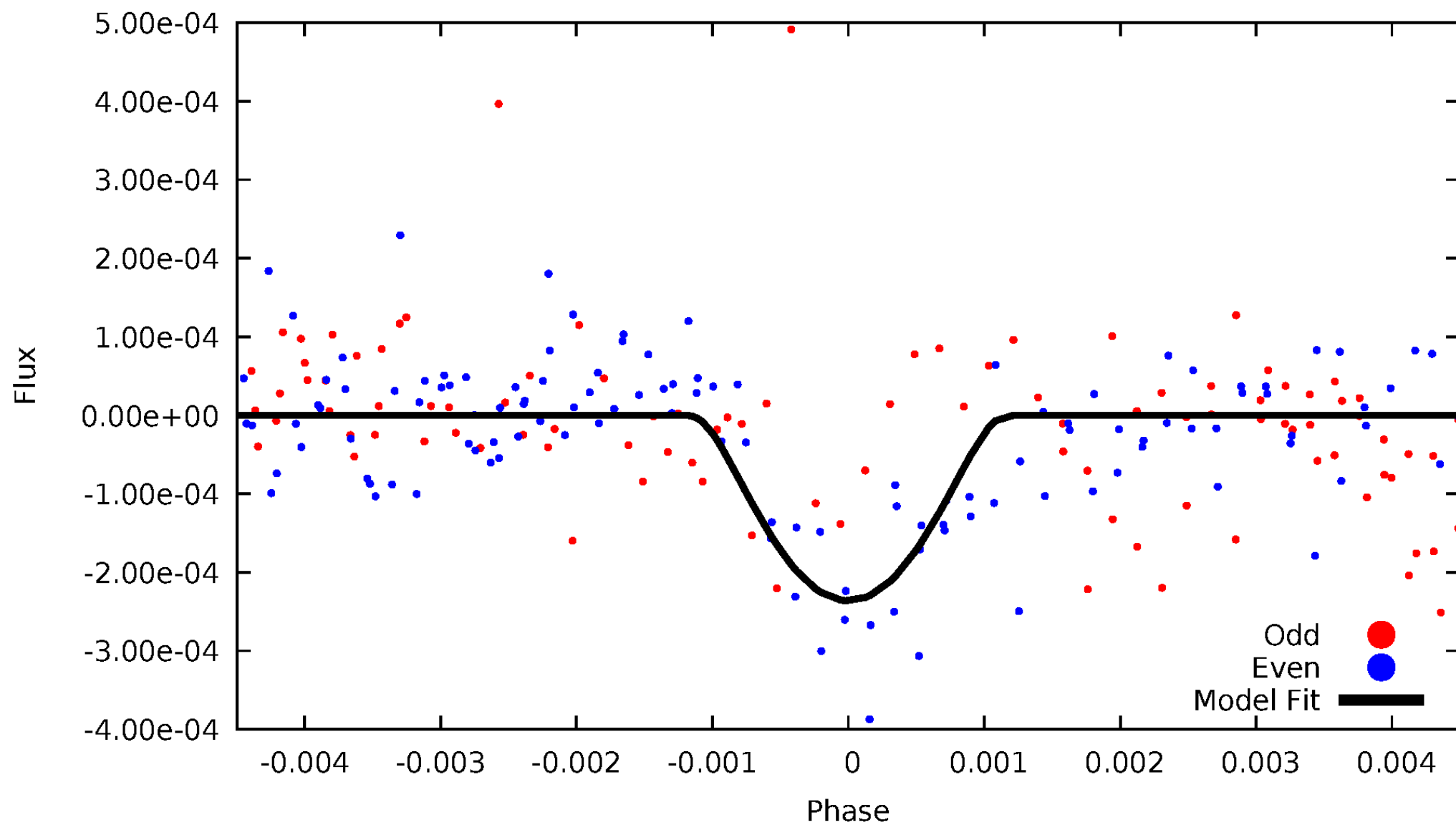


TCE 006022792-03



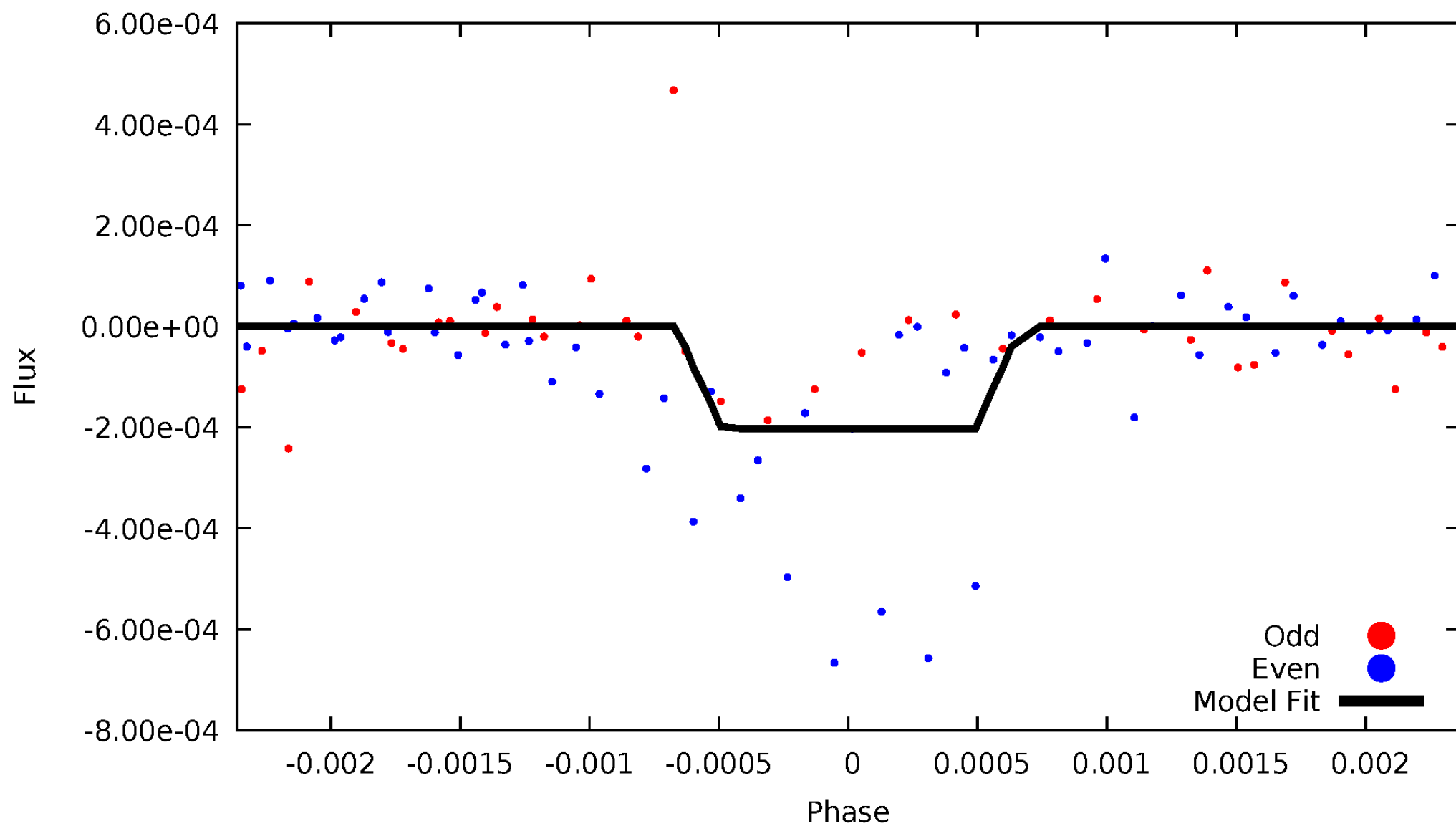
DV Odd/Even

TCE 006022792-03



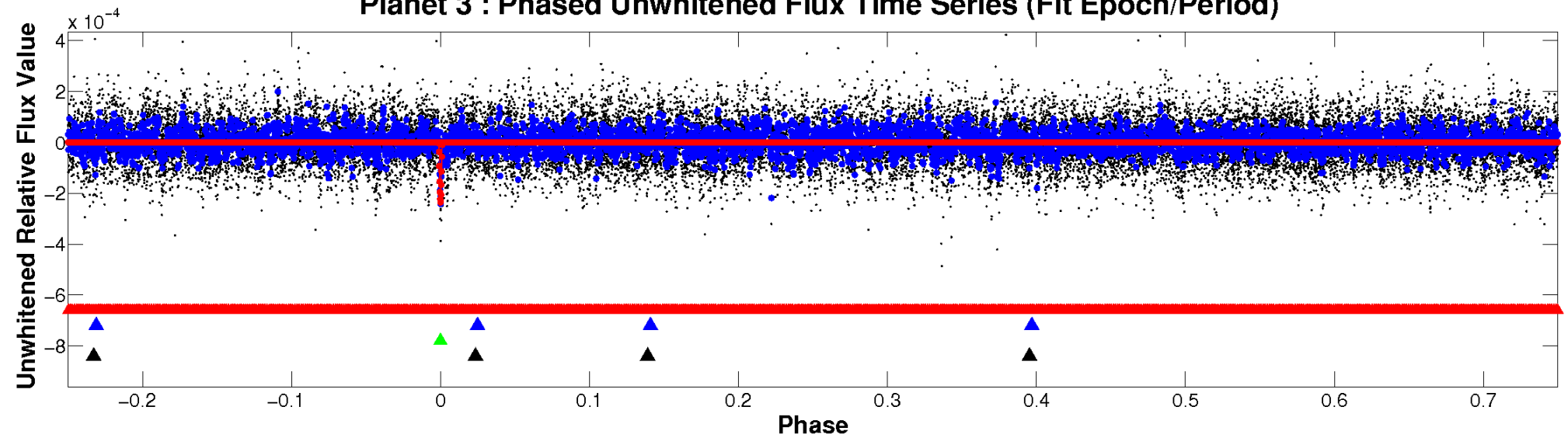
ALT Odd/Even

TCE 006022792-03

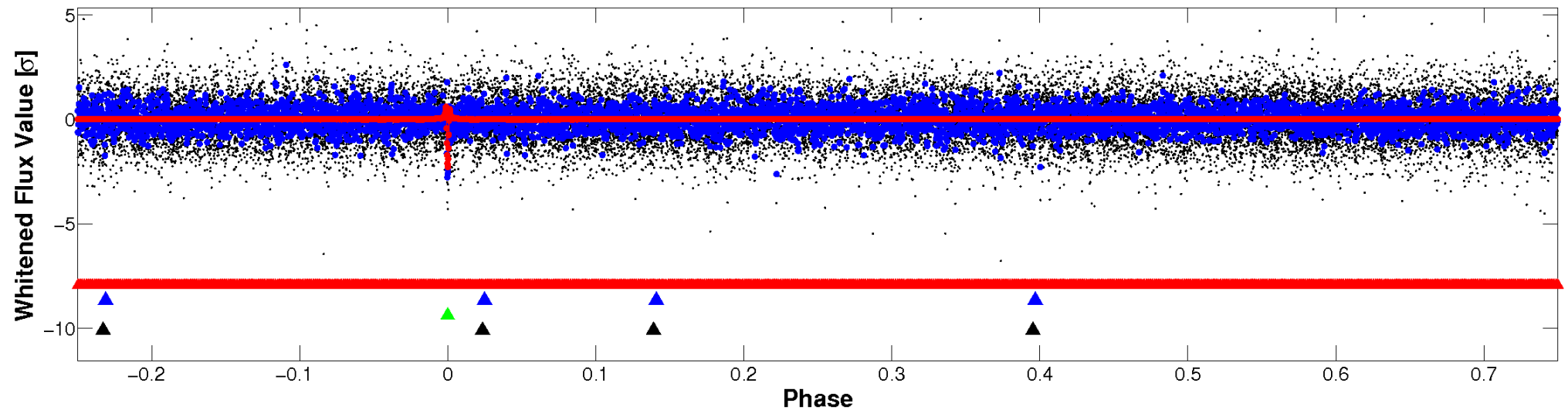


Non-Whitened Vs. Whitened Light Curve

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

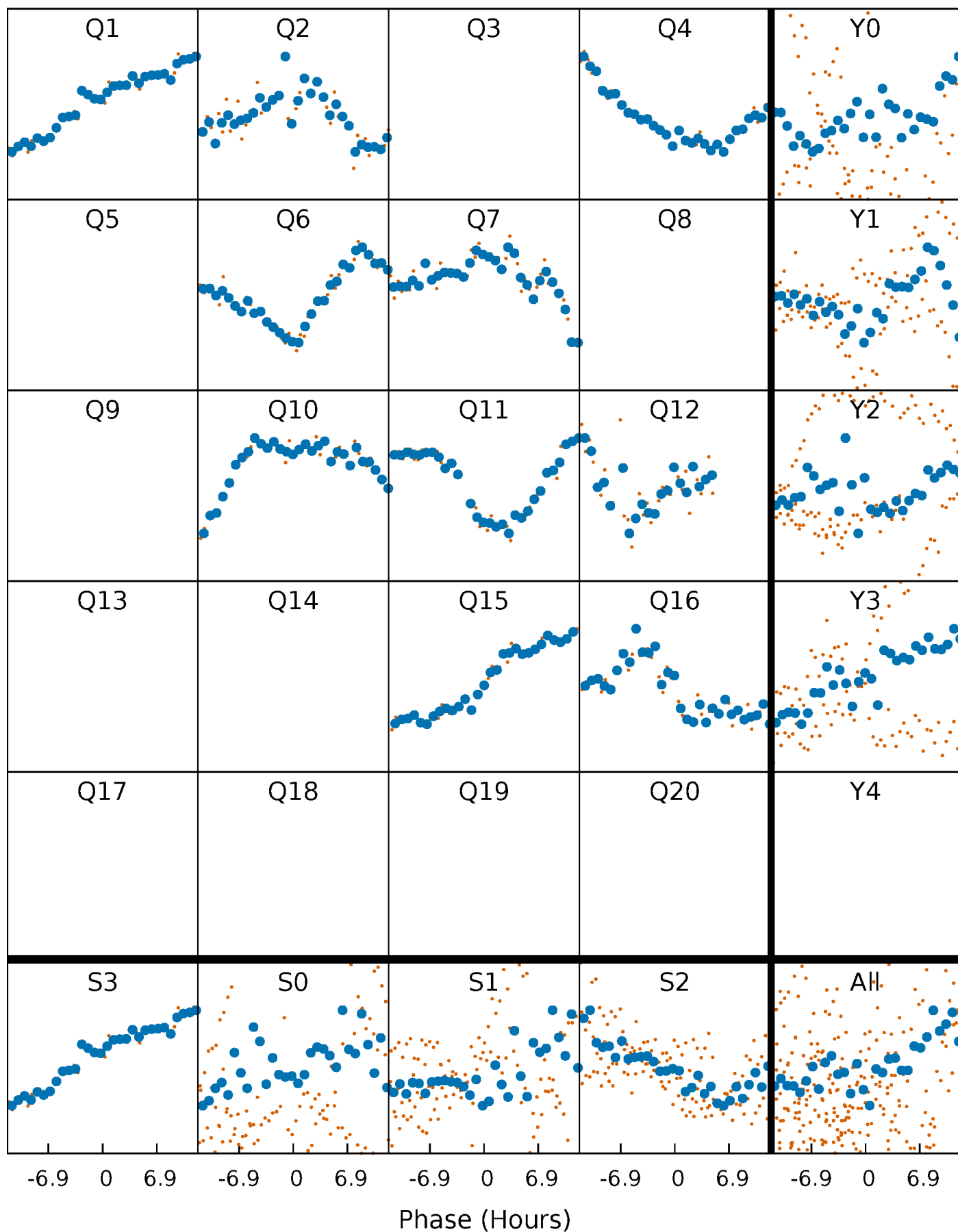


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



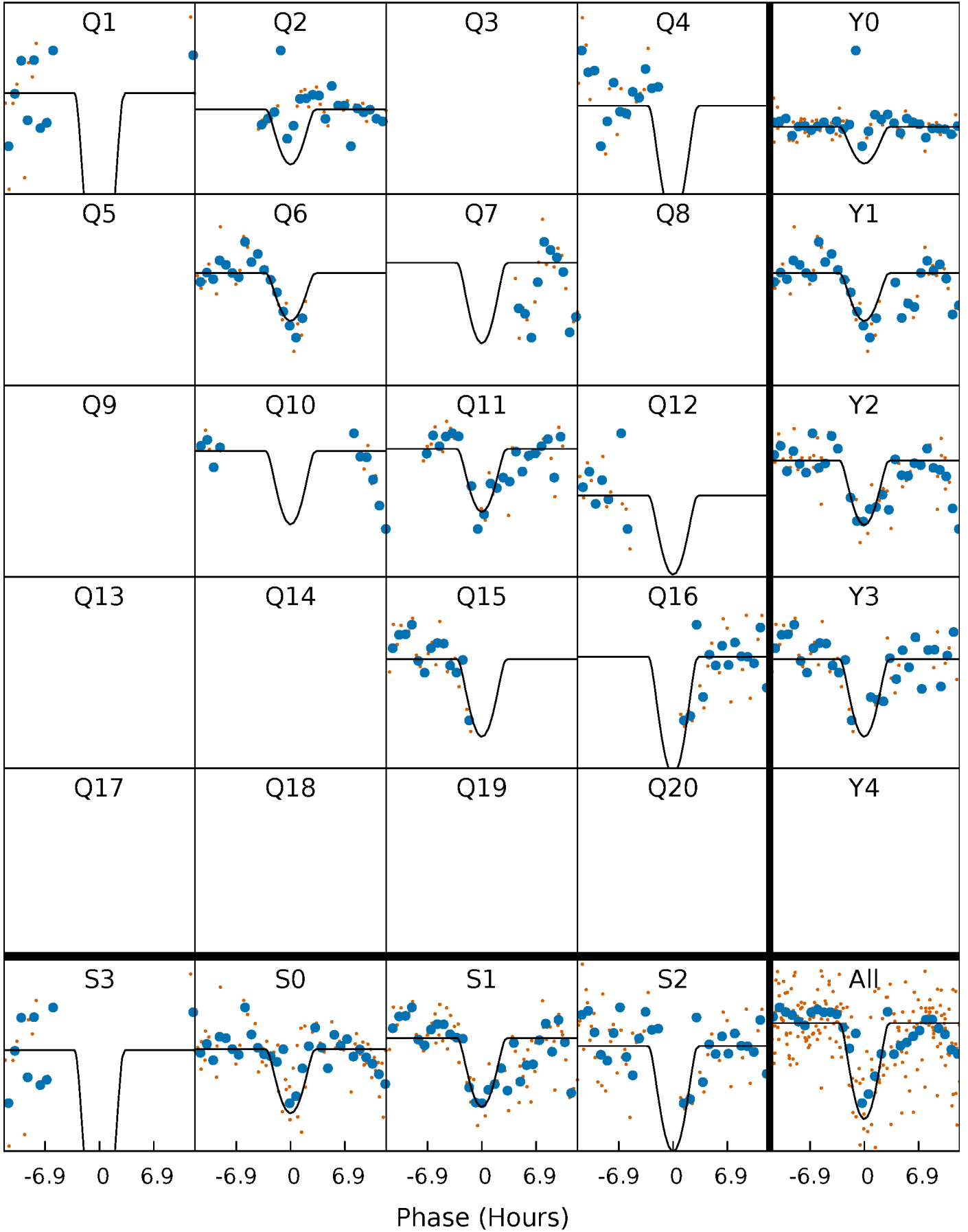
PDC Quarter-Phased Transit Curves

TCE 006022792-03 $P=112.424771$ Days $T_0=141.962314$ (BKJD)



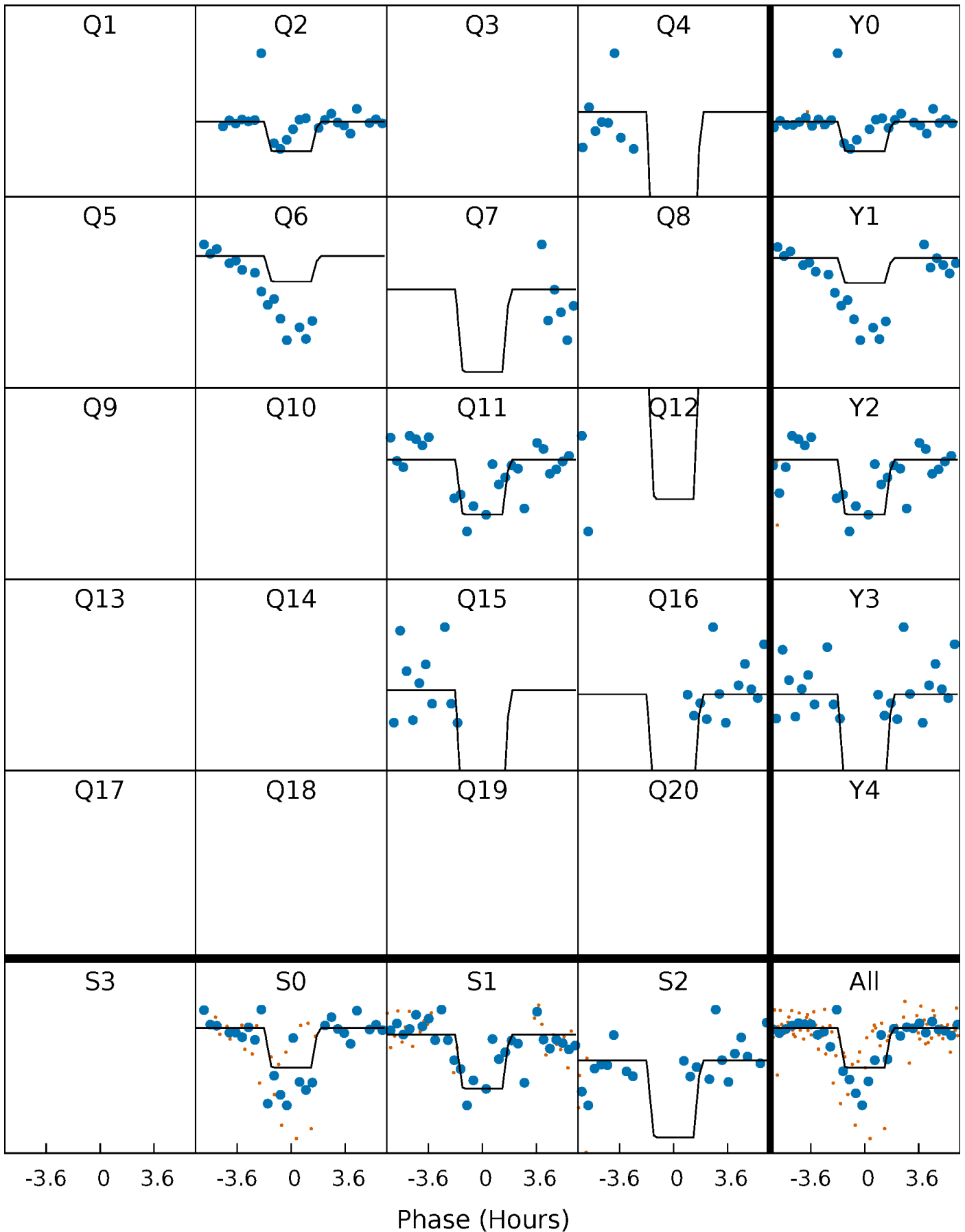
DV Quarter-Phased Transit Curves

TCE 006022792-03 P=112.424771 Days $T_0=141.962314$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

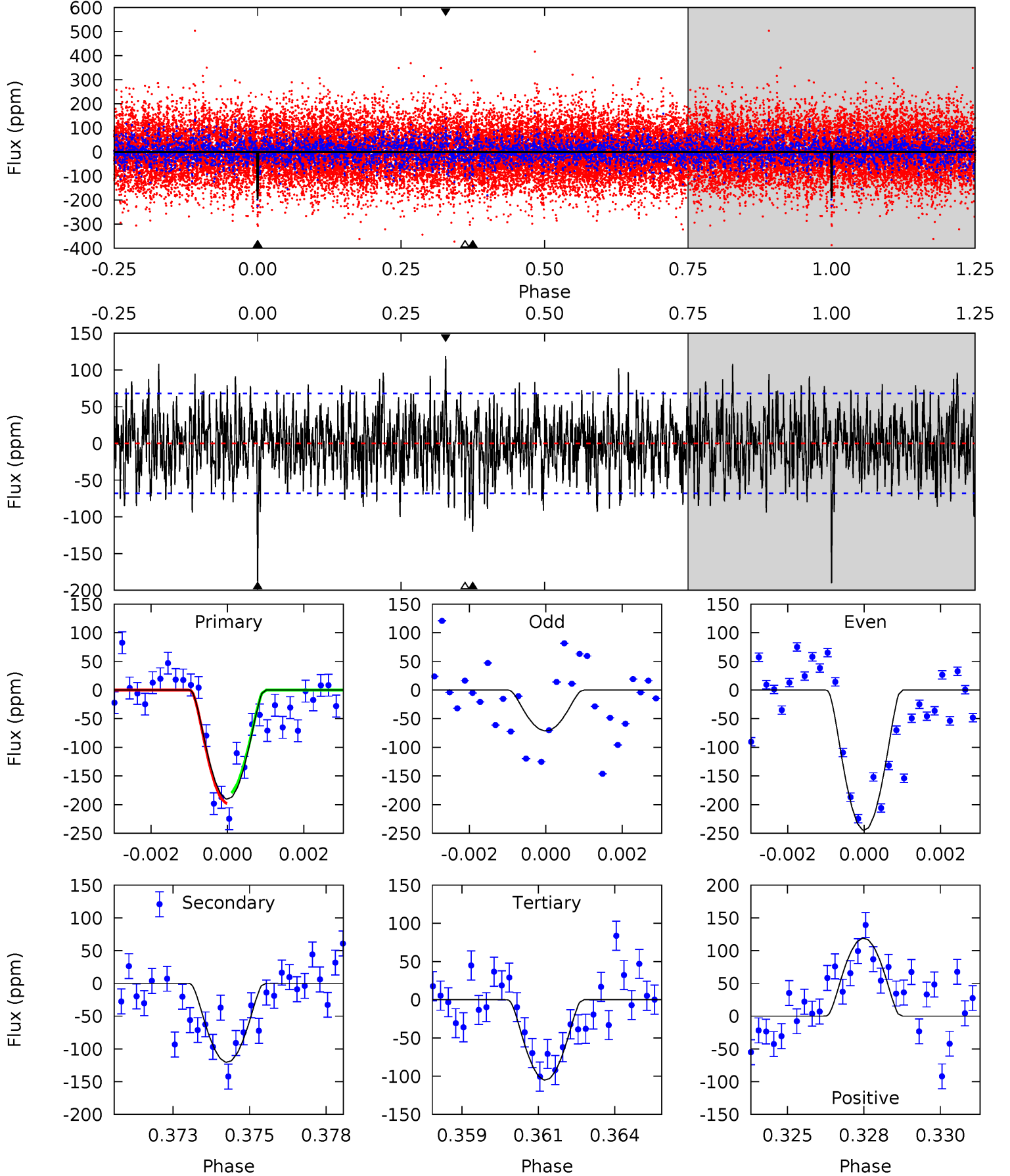
TCE 006022792-03 P=112.423085 Days $T_0=141.992590$ (BKJD)



DV Model-Shift Uniqueness Test

006022792-03, P = 112.424771 Days, E = 29.537543 Days

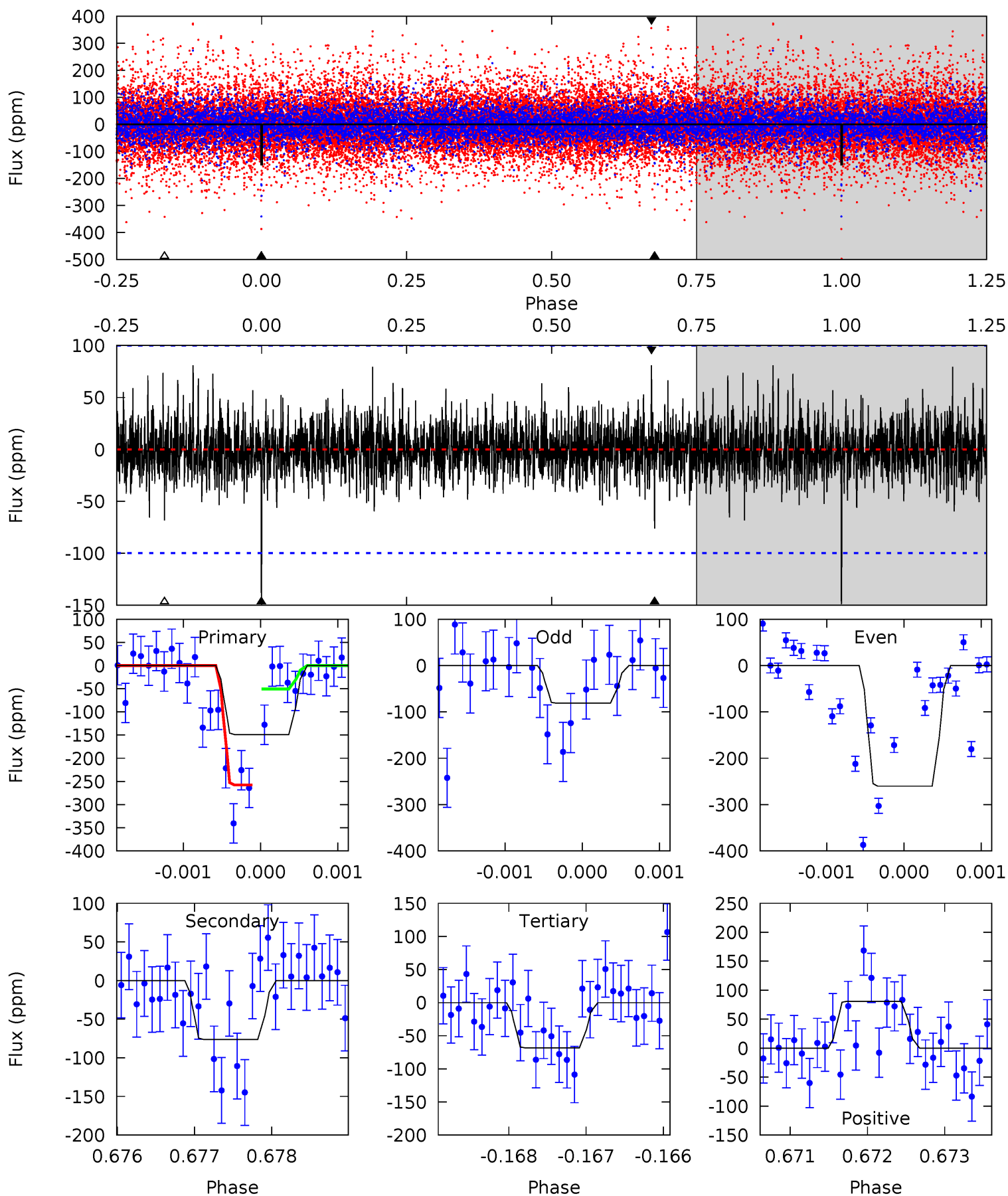
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	9.36	8.17	9.25	5.29	3.04	2.61	6.64	5.56	1.19	0.11	6.45	0.66	0.38	0.71



Alt Model-Shift Uniqueness Test

006022792-03, P = 112.423085 Days, E = 29.569505 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.08	4.13	3.71	4.39	5.41	3.23	1.02	4.37	3.69	0.42	-0.26	4.79	1.75	0.35	0



Stellar Parameters For KIC 006022792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7032^{+158}_{-246}	$3.884^{+0.234}_{-0.108}$	$0.180^{+0.200}_{-0.350}$	$2.548^{+0.446}_{-0.828}$	$1.810^{+0.152}_{-0.355}$	$0.154^{+0.225}_{-0.060}$
	+2%/-3%	+6%/-3%	+111%/-194%	+18%/-32%	+8%/-20%	+146%/-39%
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 006022792-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-120 ± 13	$14.32^{+14.14}_{-9.84}$	919^{+51}_{-70}	3578^{+1841}_{-655}	95^{+883}_{-71}
Alt.	-76 ± 18	$12.97^{+14.59}_{-8.87}$	914^{+55}_{-68}	3447^{+1787}_{-699}	72^{+662}_{-56}

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 $A_{obs} \gg 1.0$

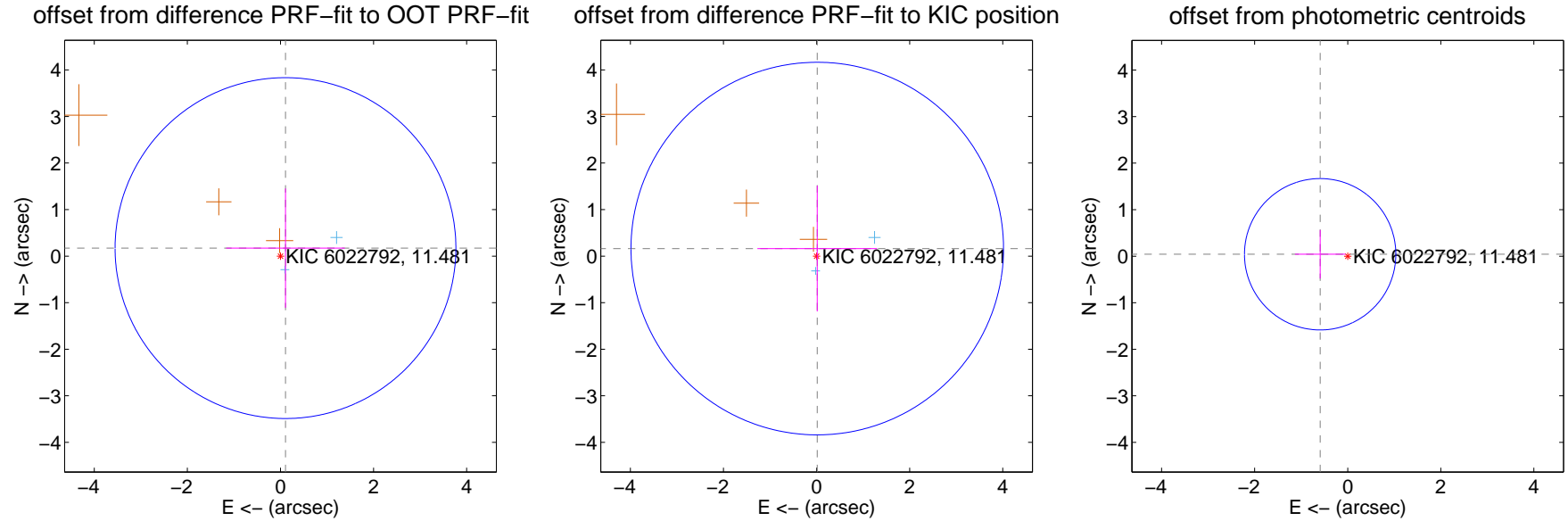
DV Centroid Data

Supplemental centroid analysis for 006022792-03. **Kepler magnitude: 11.48.** Transit SNR 8.92

There are 2 quarters with good PRF difference image offsets

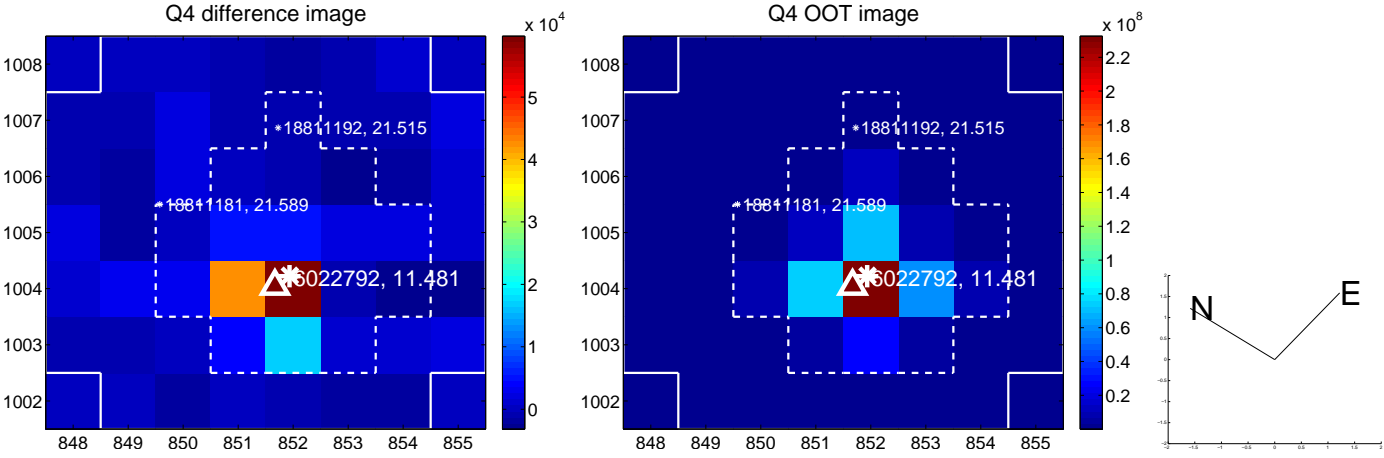
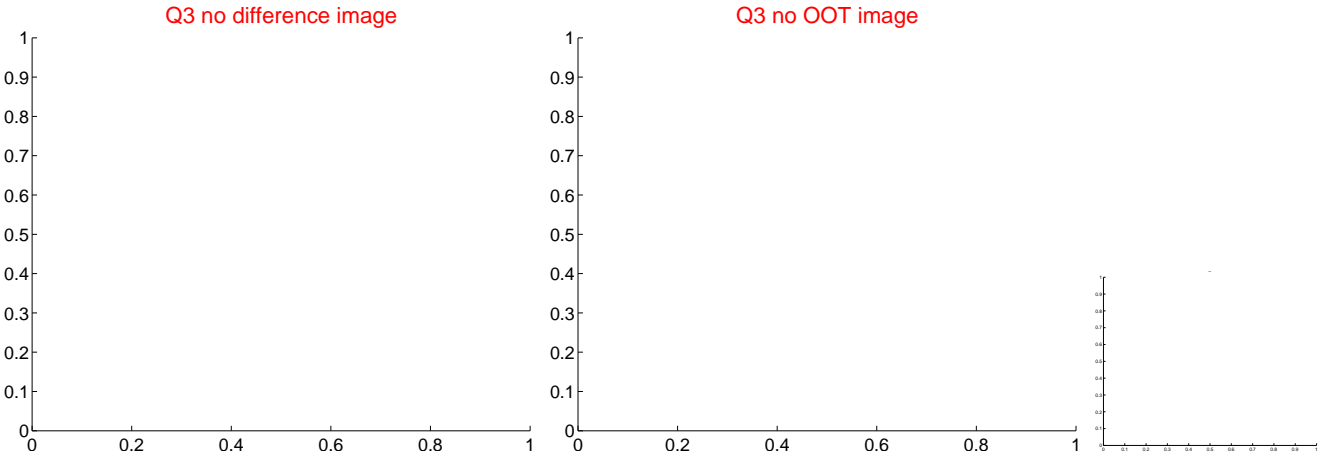
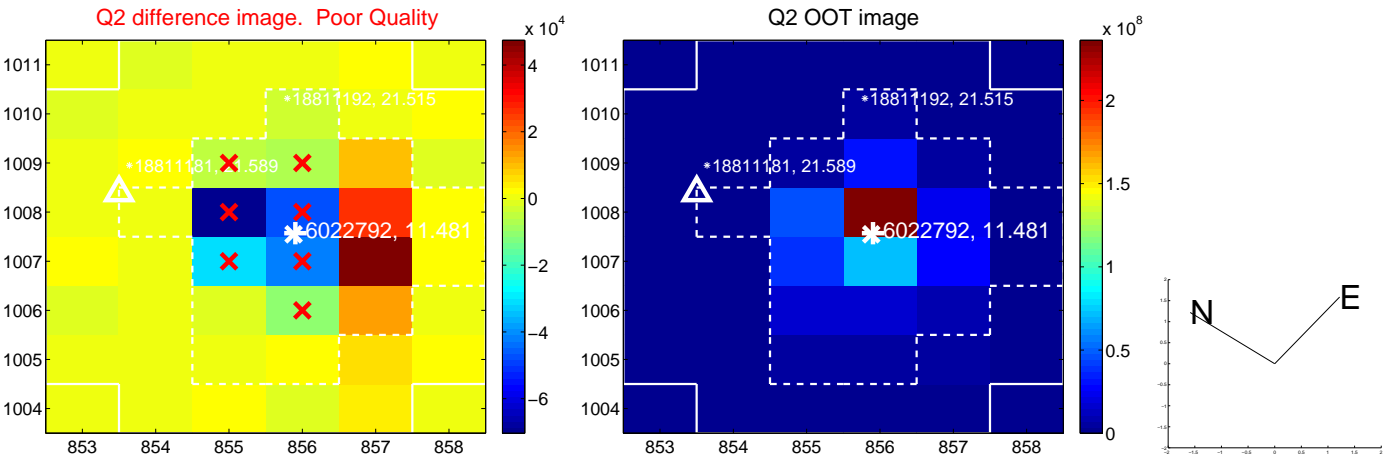
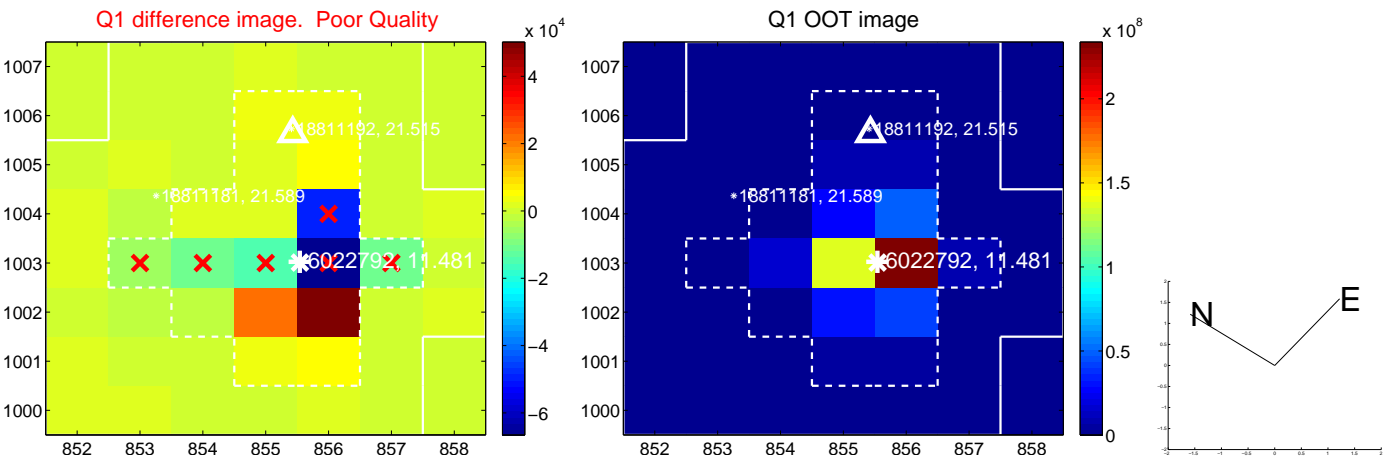
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.204 ± 1.220	0.17	-0.108 ± 1.274	0.173 ± 1.282
PRF-fit source offset from KIC position	0.163 ± 1.334	0.12	-0.015 ± 1.286	0.162 ± 1.351
photometric centroid source offset	0.59 ± 0.54	1.10	0.59 ± 0.54	0.04 ± 0.52



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.

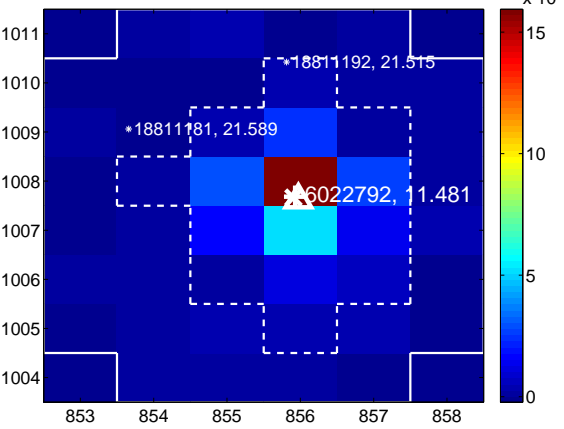
Q5 no difference image



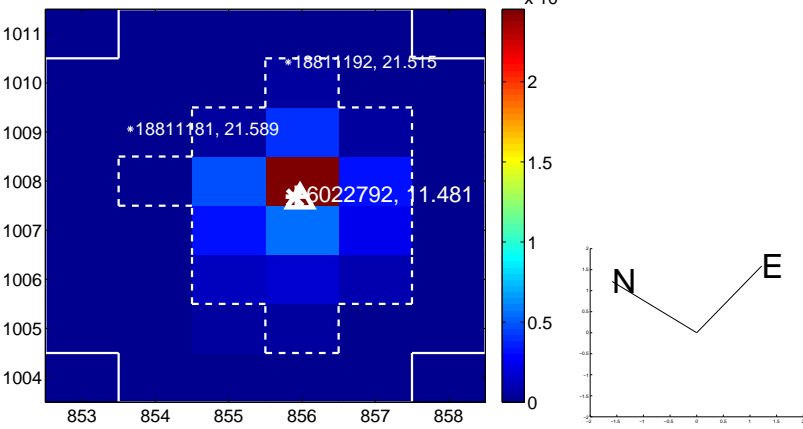
Q5 no OOT image



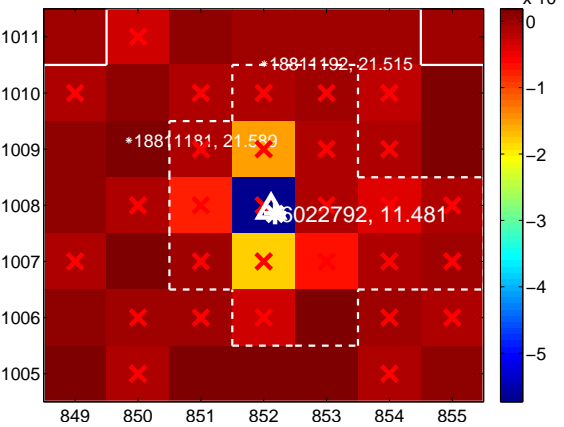
Q6 difference image



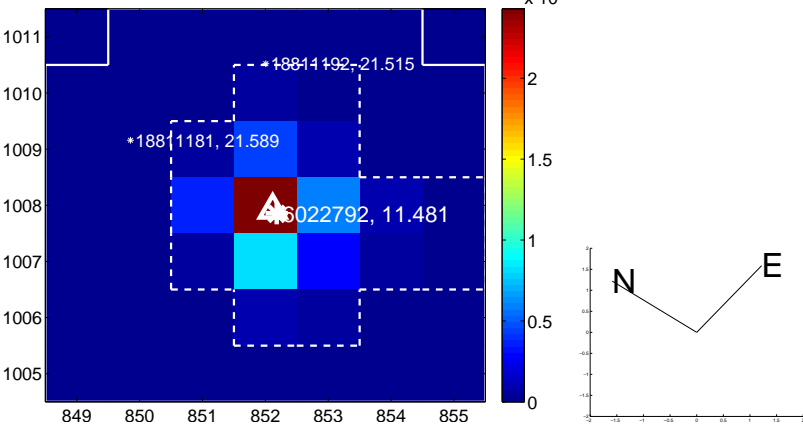
Q6 OOT image



Q7 difference image. Poor Quality



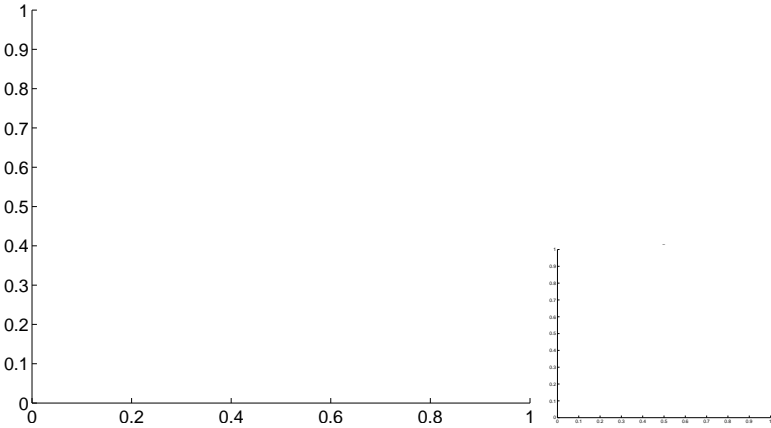
Q7 OOT image



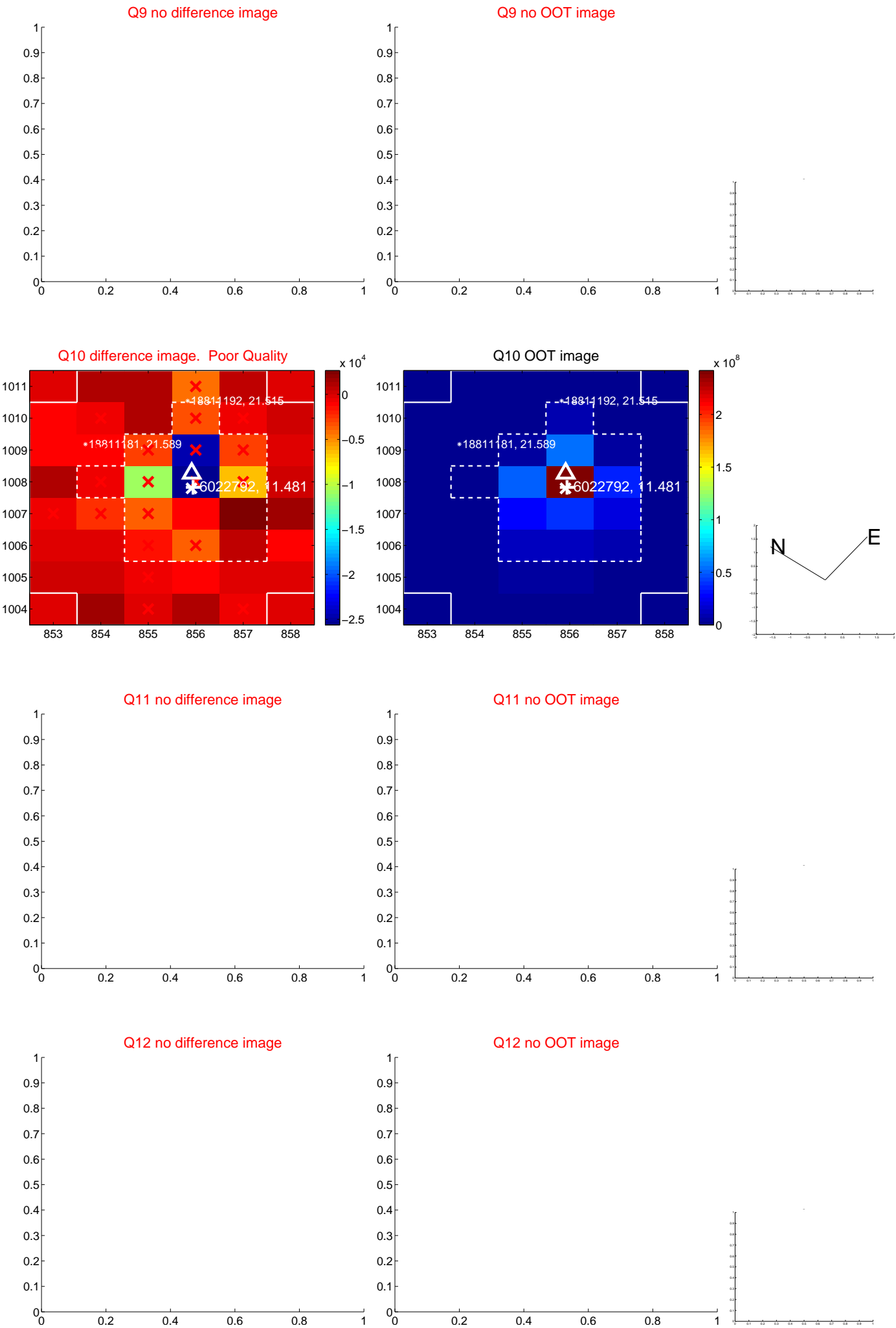
Q8 no difference image



Q8 no OOT image



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.

Q13 no difference image



Q13 no OOT image



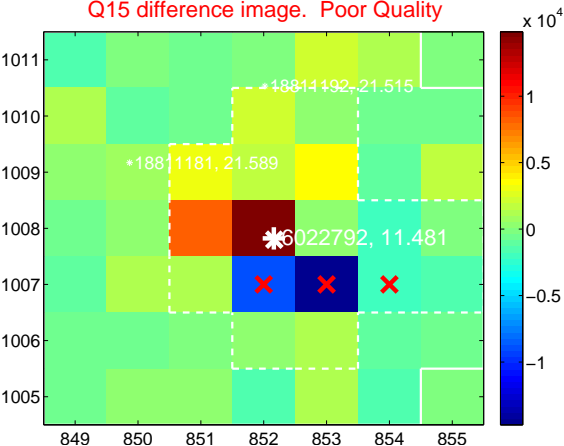
Q14 no difference image



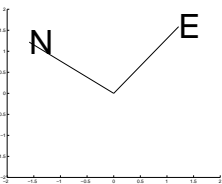
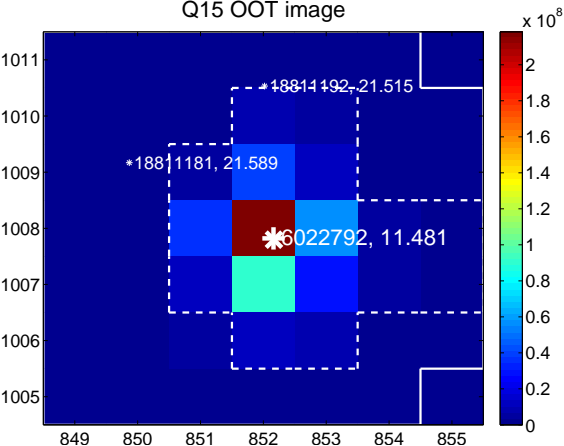
Q14 no OOT image



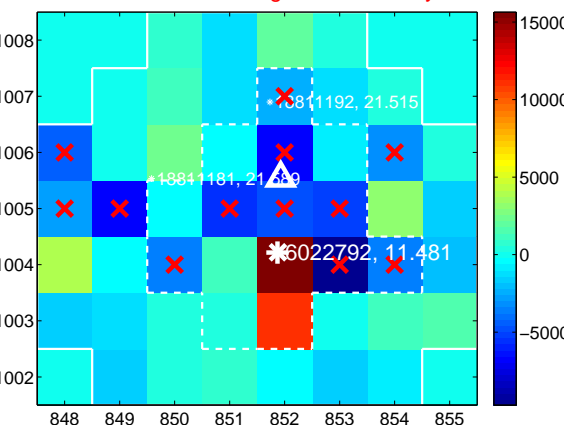
Q15 difference image. Poor Quality



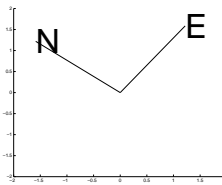
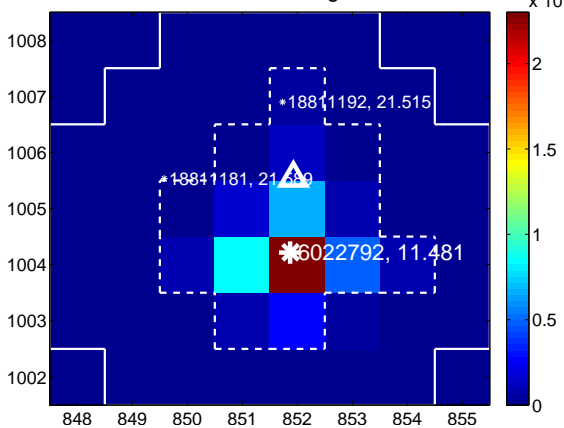
Q15 OOT image



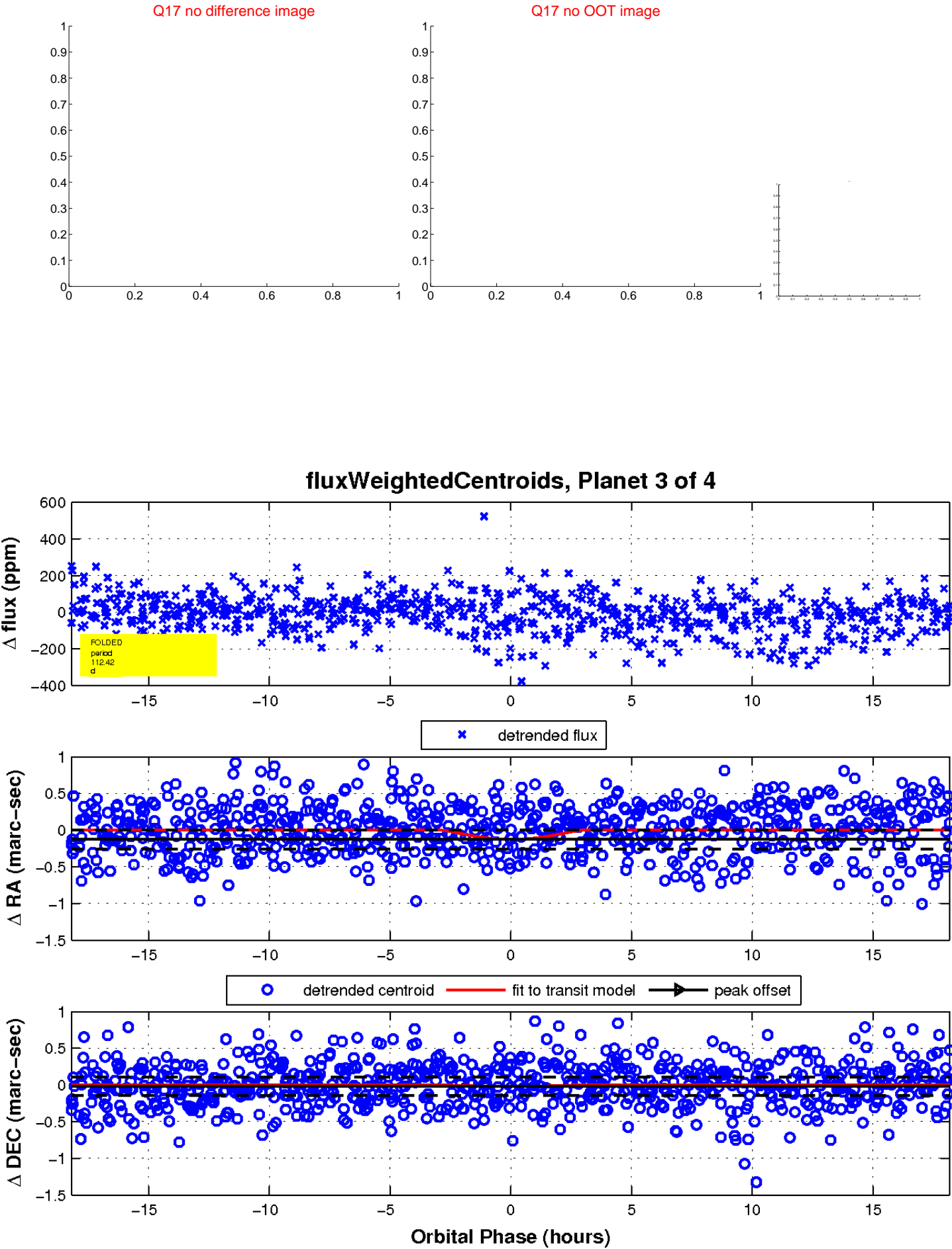
Q16 difference image. Poor Quality



Q16 OOT image

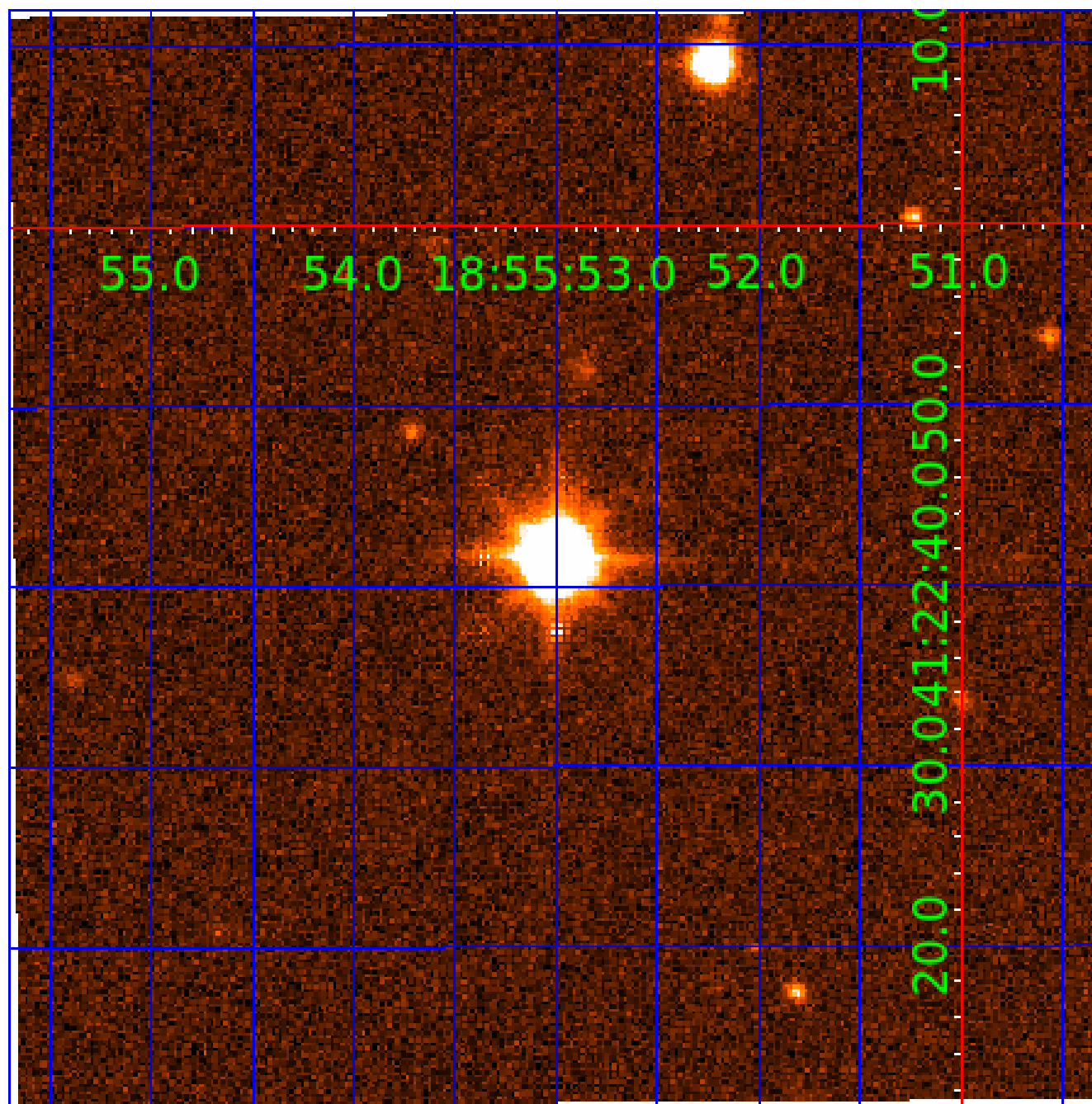


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006022792

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})
006022792-01	OBS	No	1.451725	131.913901	21.5	5.527	11.0	11.3	2.55	7032	1.28	15187.87
006022792-02	OBS	No	379.098406	257.187694	74.3	2.382	9.5	3.1	2.55	7032	2.56	9.10
006022792-03	OBS	No	112.424771	141.962314	236.3	6.066	9.5	8.9	2.55	7032	7.40	46.01
006022792-04	OBS	No	379.079238	257.031047	230.7	5.095	8.9	7.7	2.55	7032	3.96	9.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006022792-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006022792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006022792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_SATURATED
006022792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_SATURATED

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

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

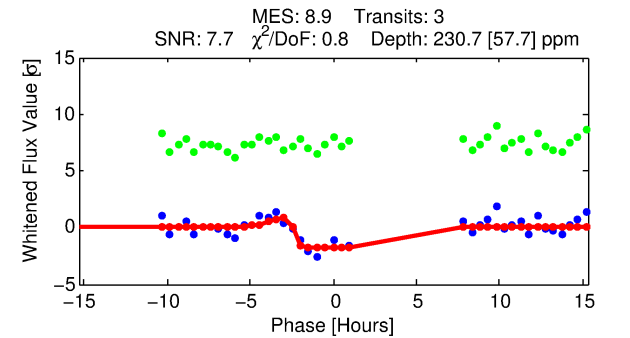
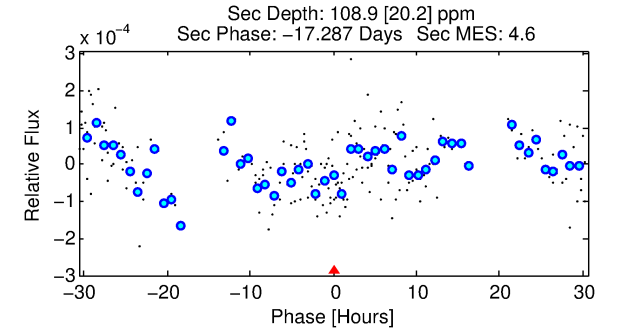
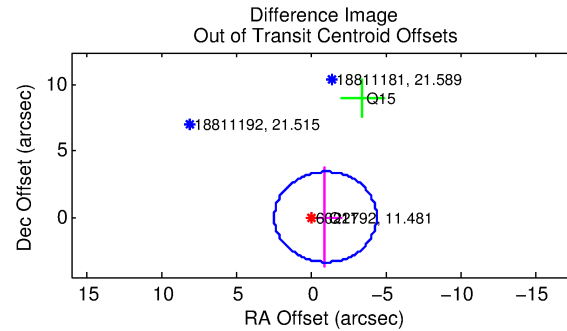
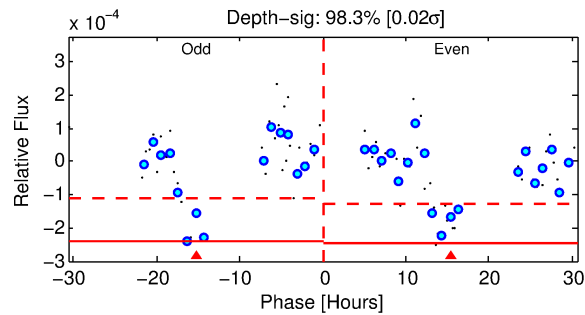
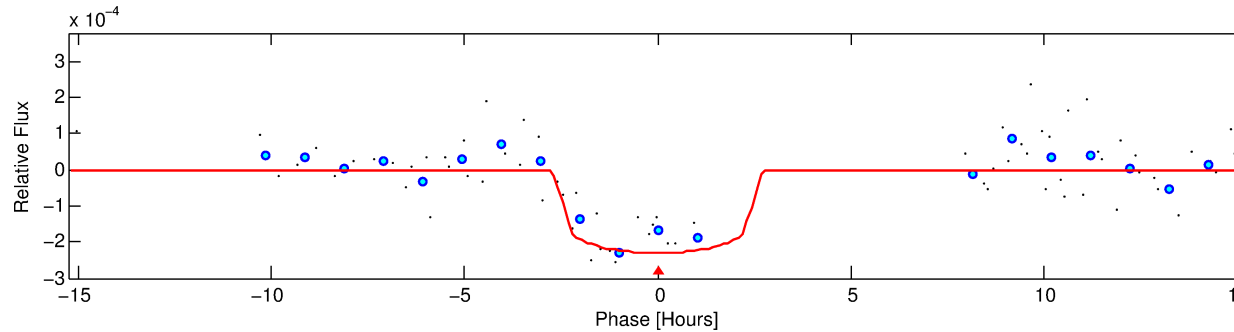
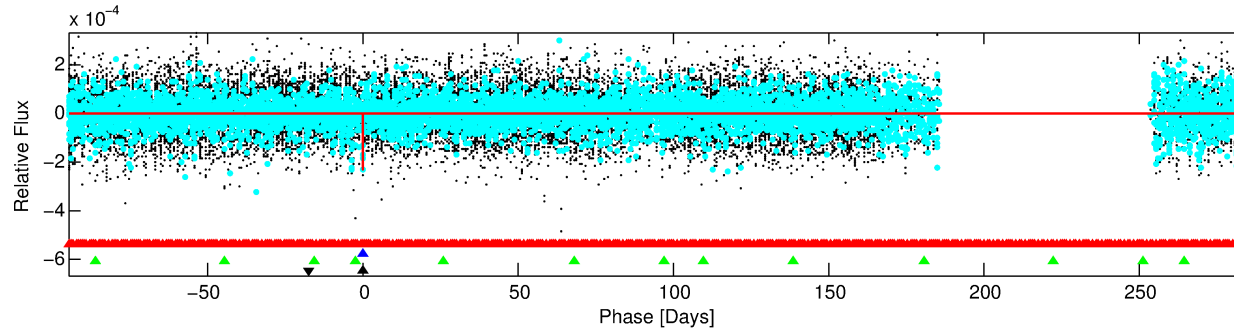
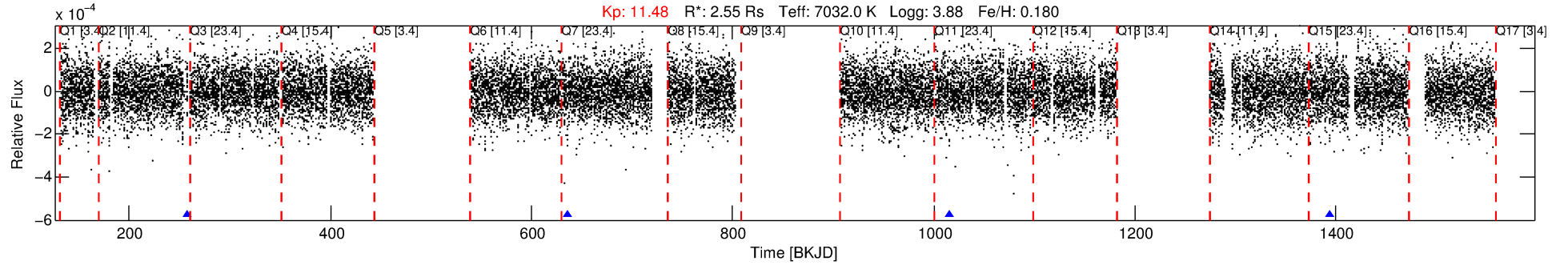
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006022792-04

No Significant Match Found

DV One-Page Summary

KIC: 6022792 Candidate: 4 of 4 Period: 379.079 d



DV Fit Results:

Period = 379.07924 [0.01202] d
Epoch = 257.0310 [0.0231] BKJD
Rp/R* = 0.0142 [0.0251]
a/R* = 540.87 [5445.35]
b = 0.35 [25.65]
Seff = 9.10 [4.02]
Teq = 443 [49] K
Rp = 3.96 [7.09] Re
a = 1.2502 [0.3518] AU
Ag = 5984.44 [21276.52] [0.28σ]
Teffp = 6023 [5320] K [1.05σ]

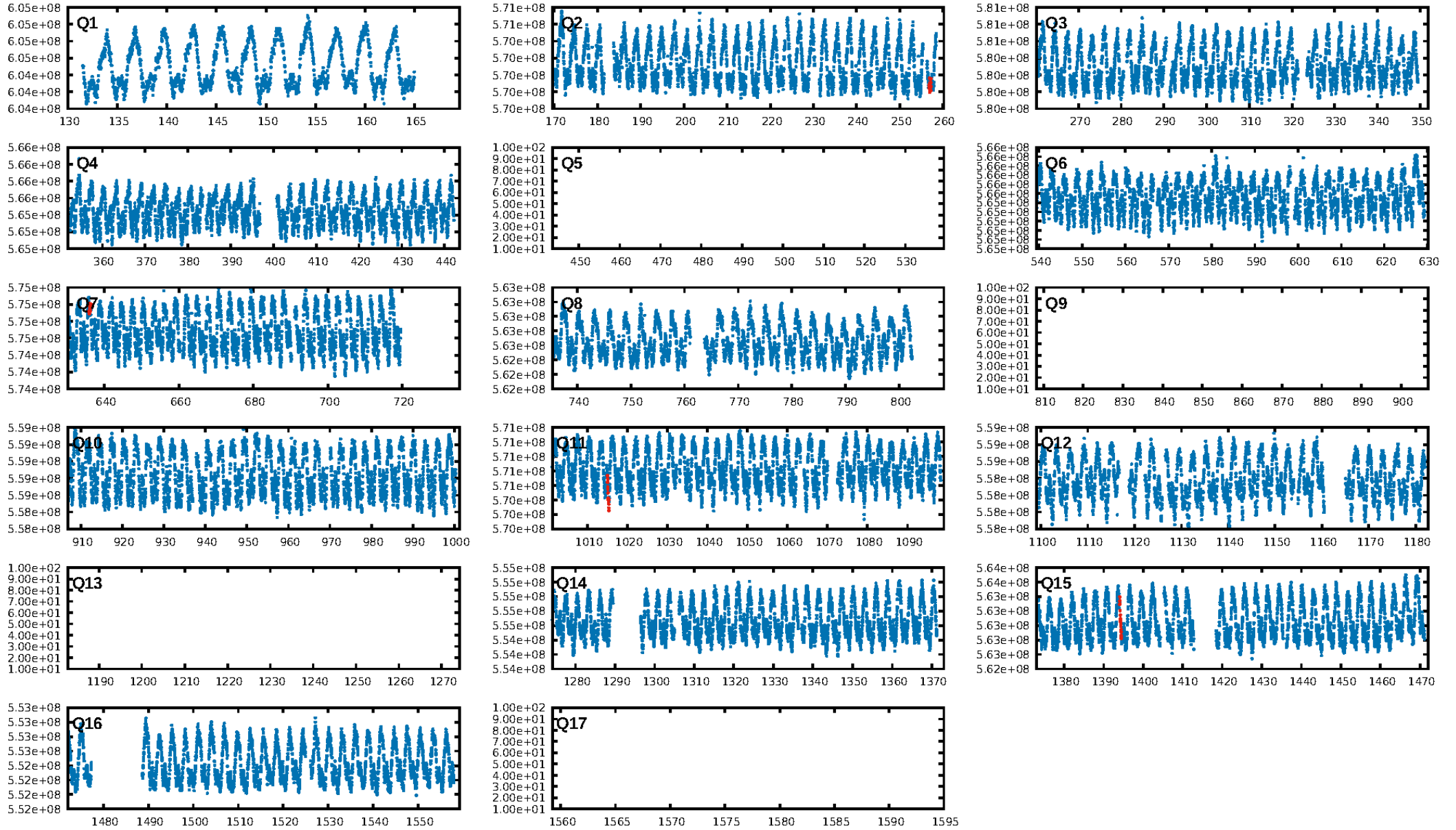
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [807.84σ]
LongPeriod-sig: 6.5% [0.08σ]
ModelChiSquare2-sig: 63.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.40e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.915
Centroid-sig: 1.1%
Centroid-so: 1.309 arcsec [1.74σ]
OotOffset-rm: 1.000 arcsec [0.88σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-rm: 0.930 arcsec [0.90σ]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/4]

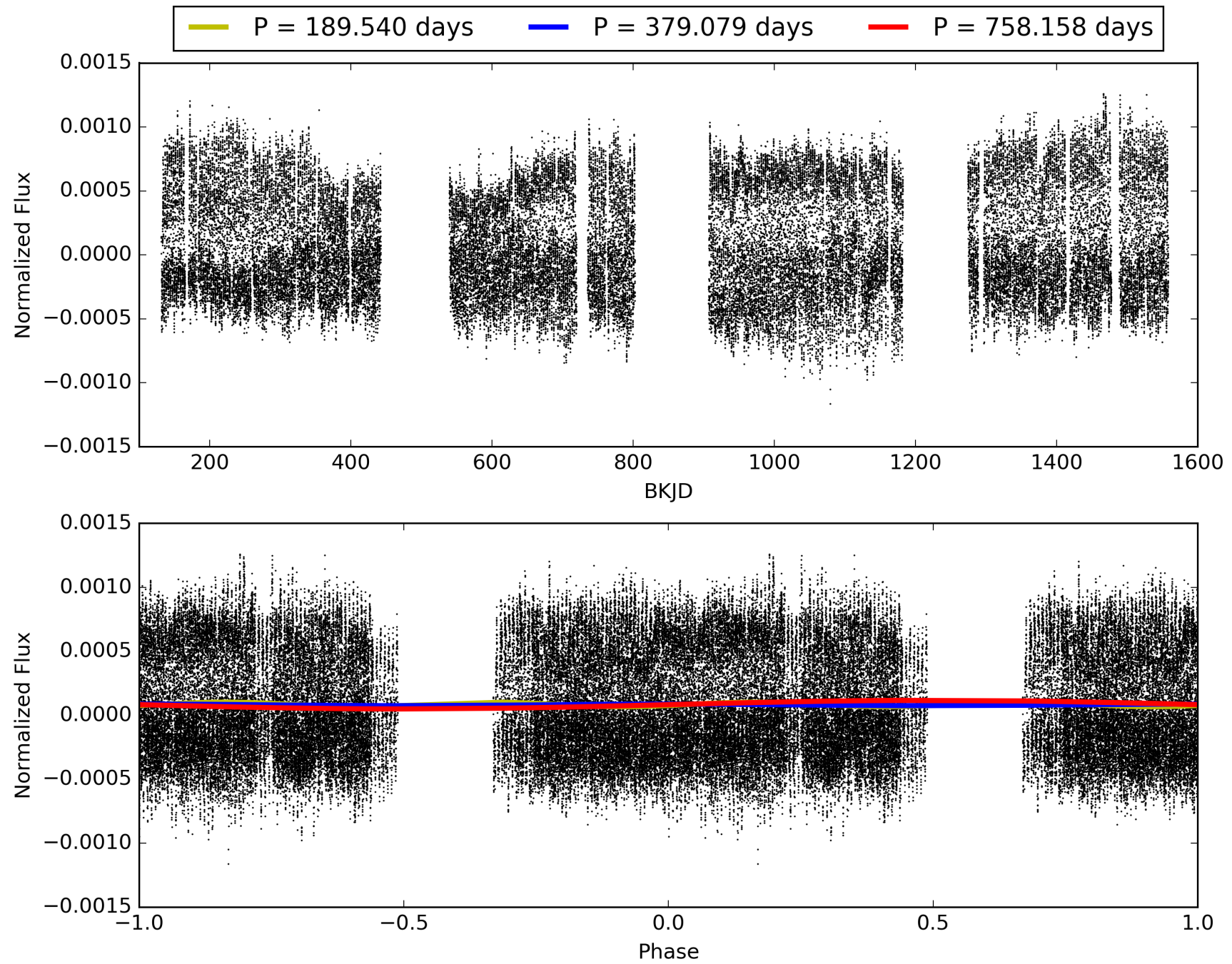
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 16:52:55 Z

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

TCE 006022792-04, PDC Light Curves

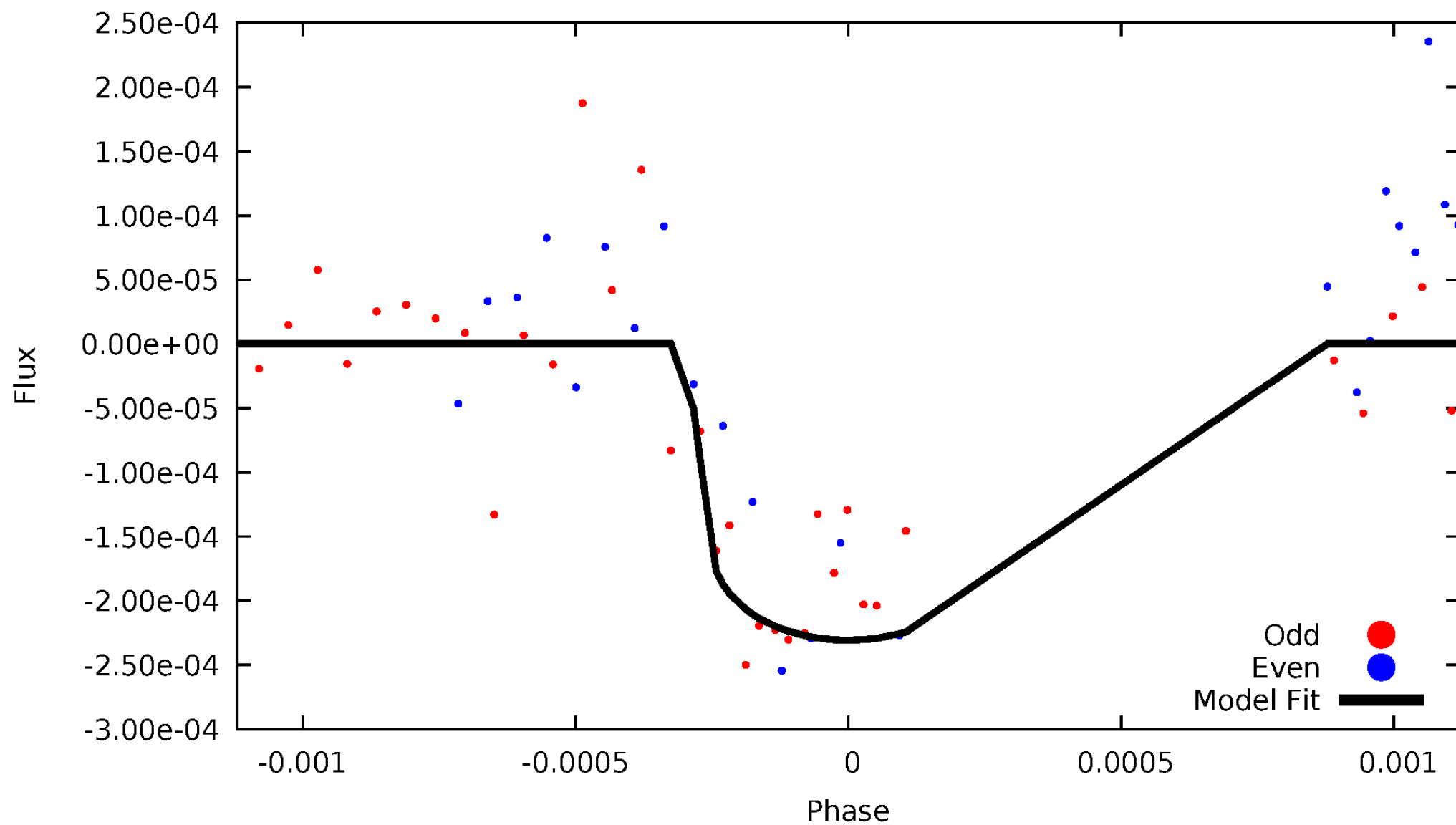


TCE 006022792-04



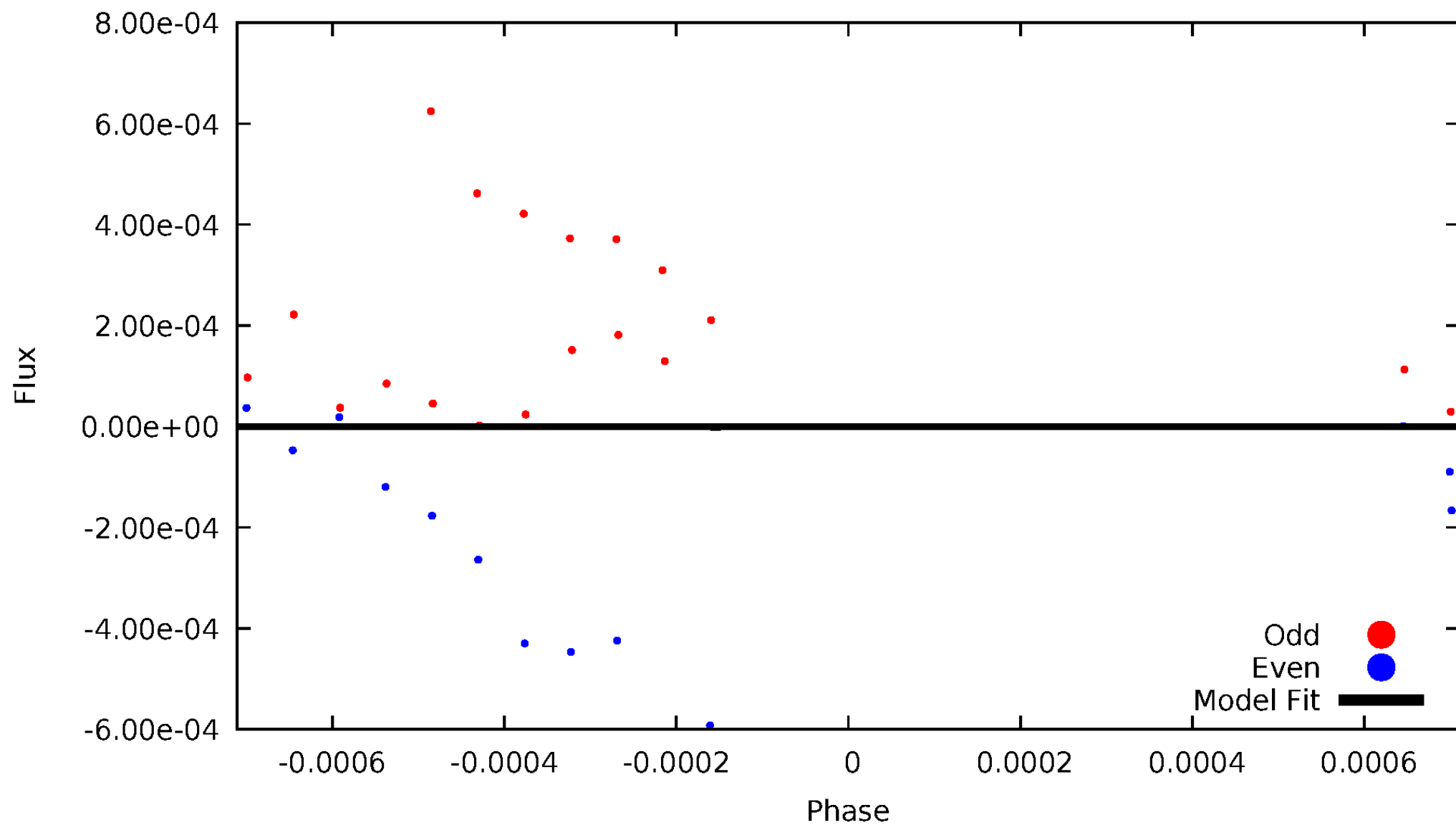
DV Odd/Even

TCE 006022792-04



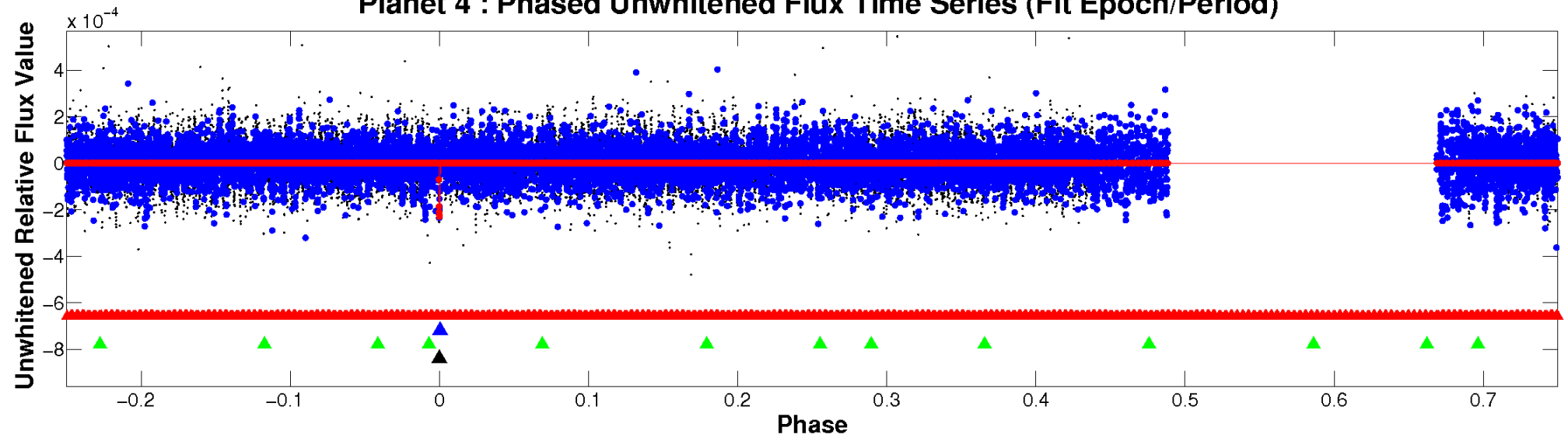
ALT Odd/Even

TCE 006022792-04

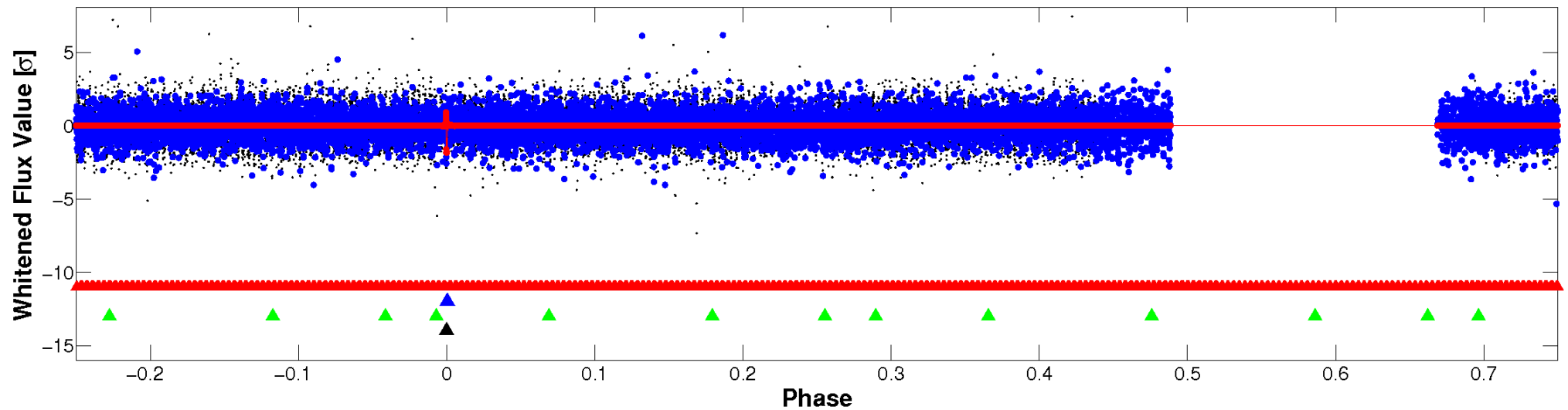


Non-Whitened Vs. Whitened Light Curve

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

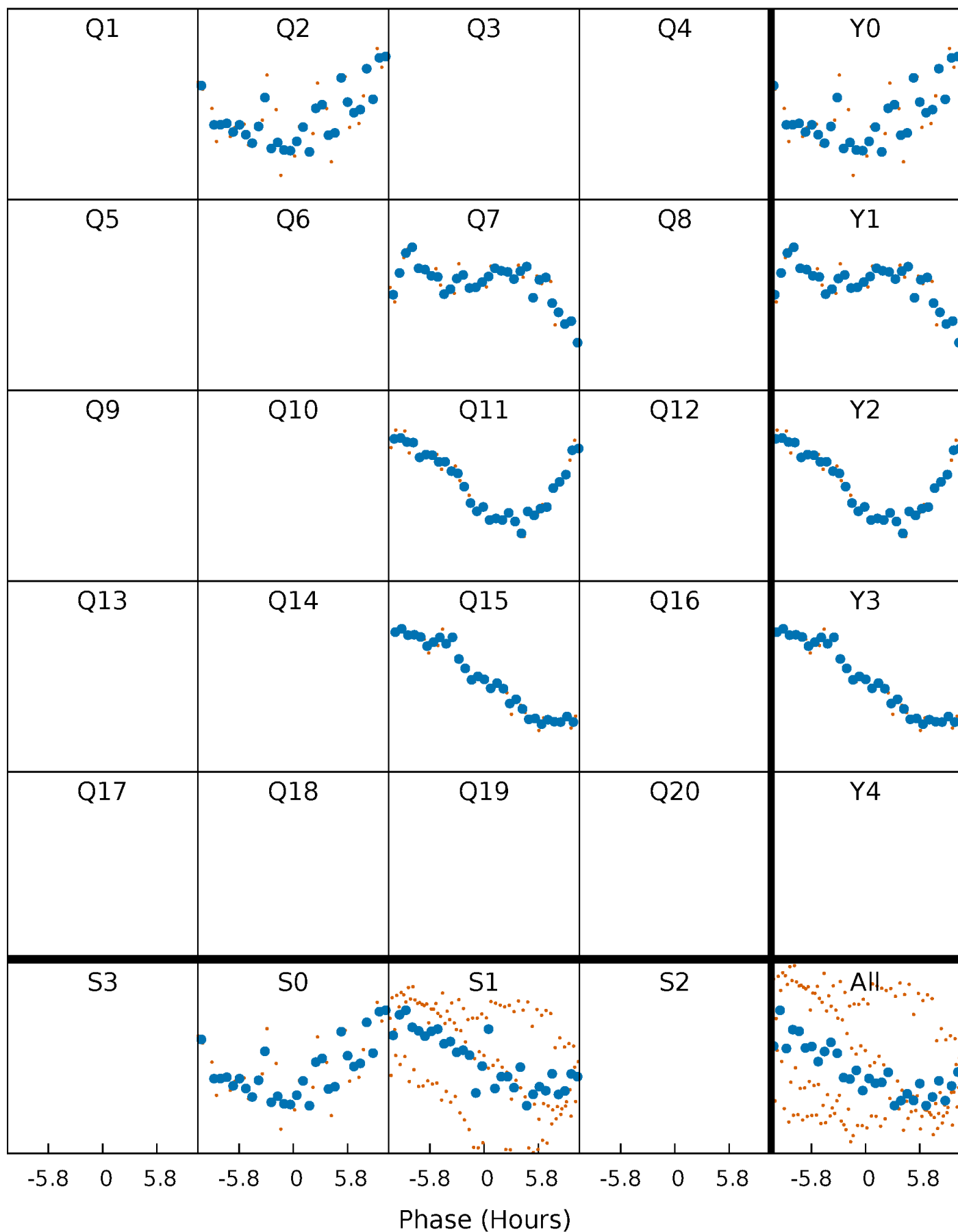


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



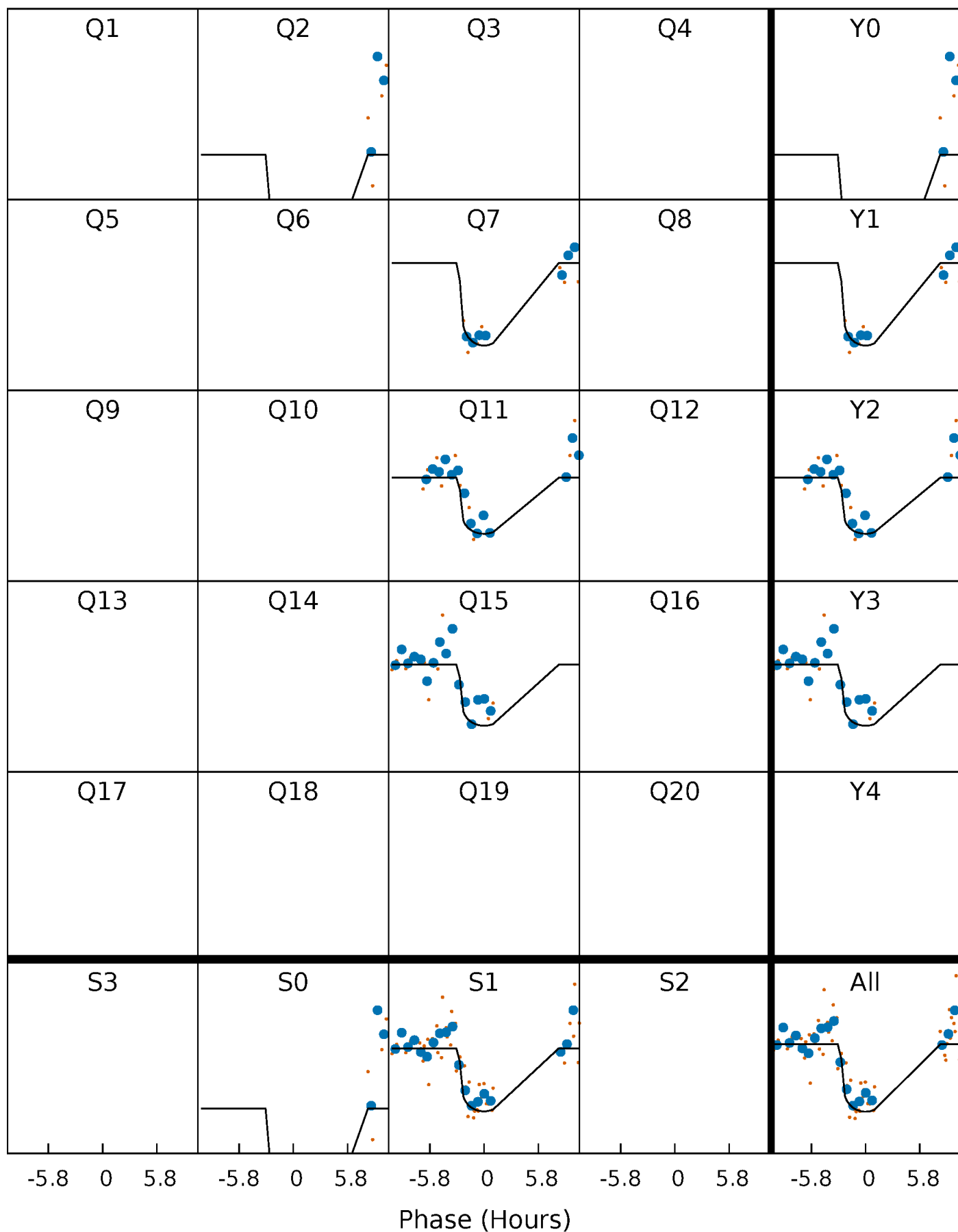
PDC Quarter-Phased Transit Curves

TCE 006022792-04 P=379.079238 Days $T_0=257.031047$ (BKJD)



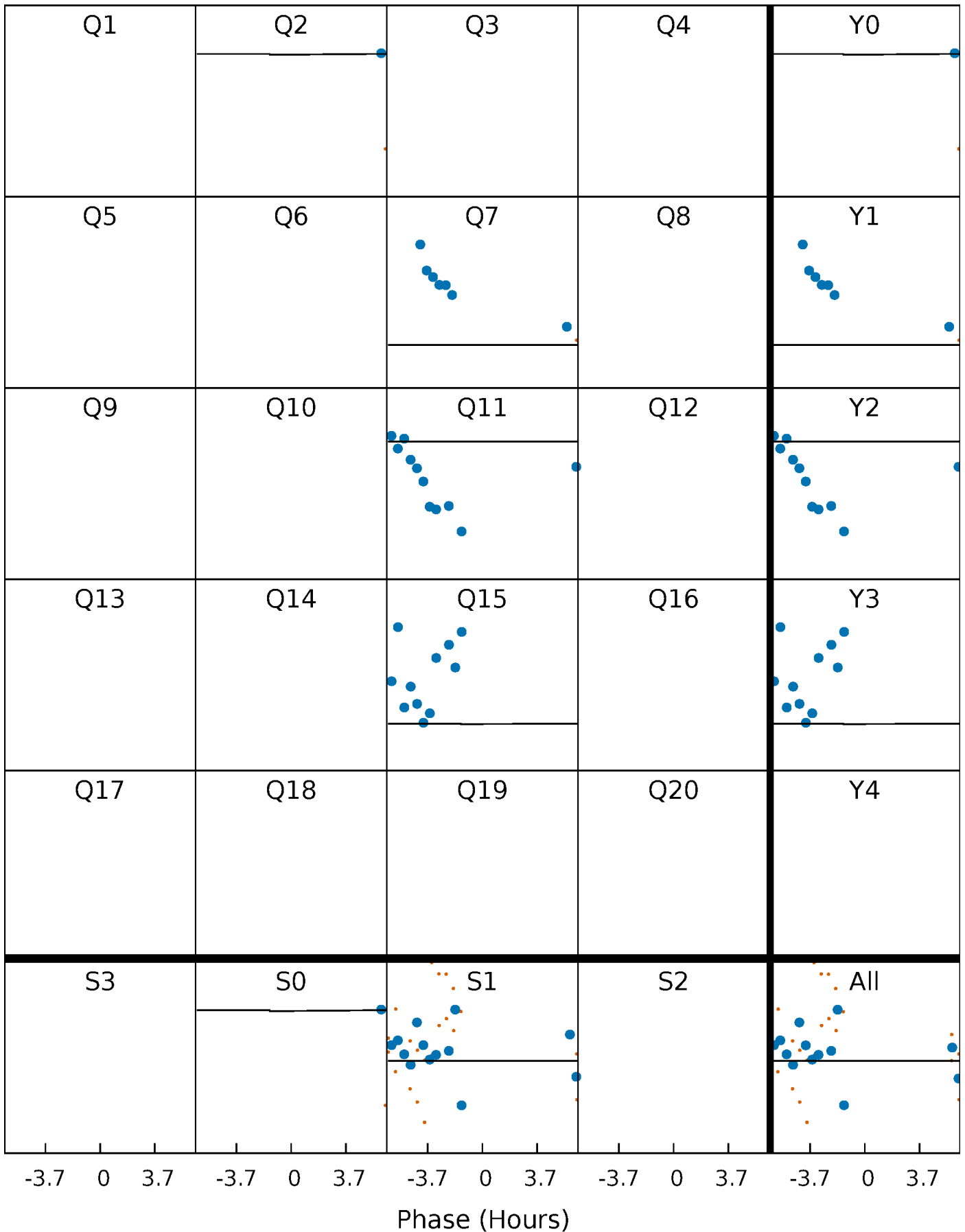
DV Quarter-Phased Transit Curves

TCE 006022792-04 $P=379.079238$ Days $T_0=257.031047$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

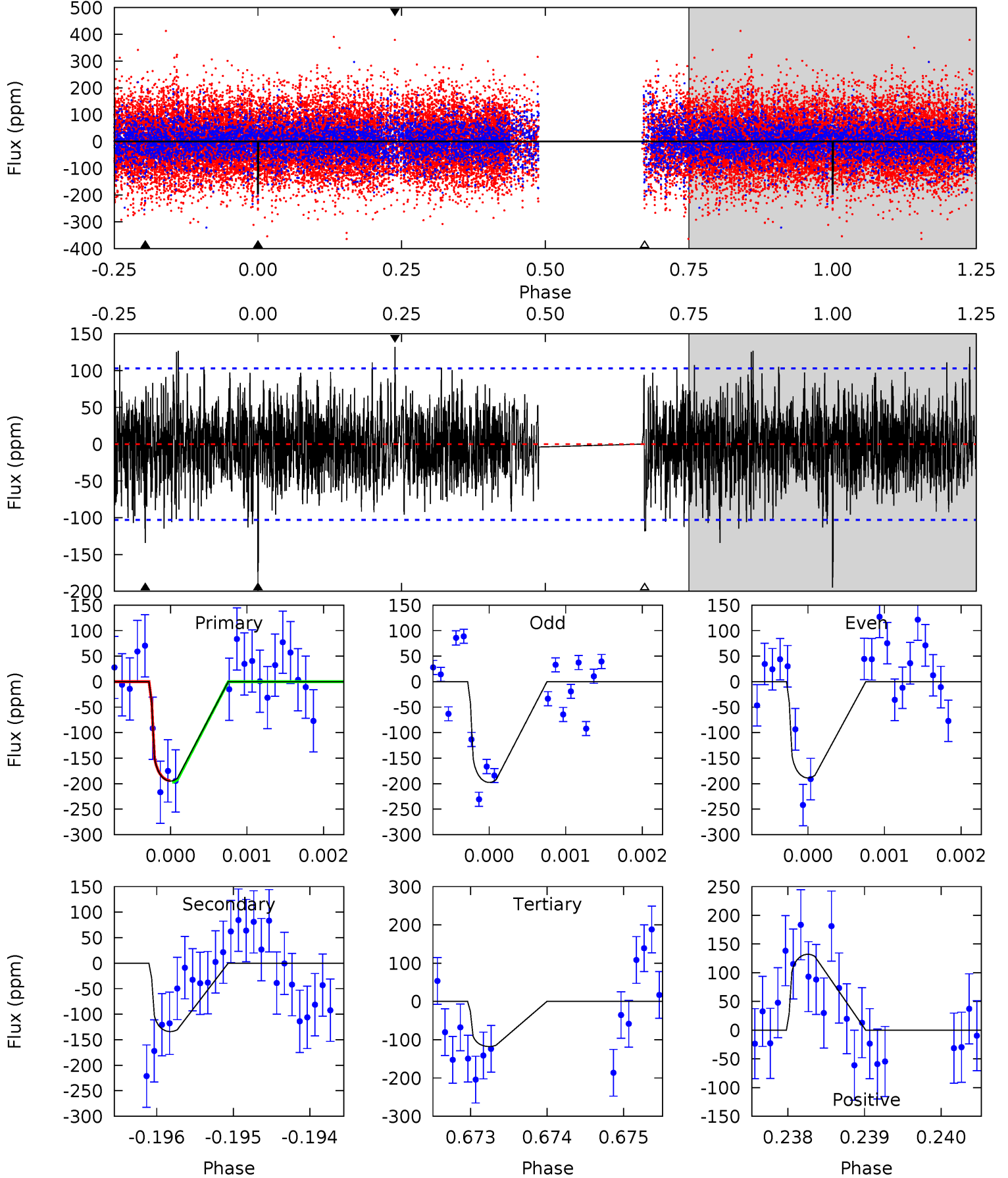
TCE 006022792-04 $P=379.083405$ Days $T_0=257.119164$ (BKJD)



DV Model-Shift Uniqueness Test

006022792-04, P = 379.079238 Days, E = 257.031047 Days

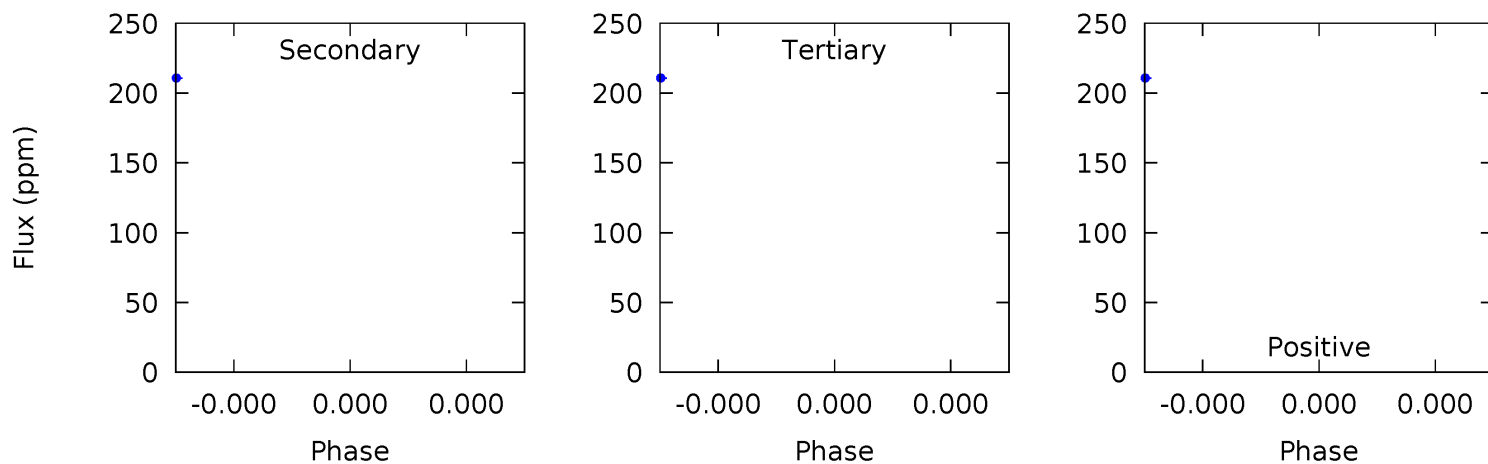
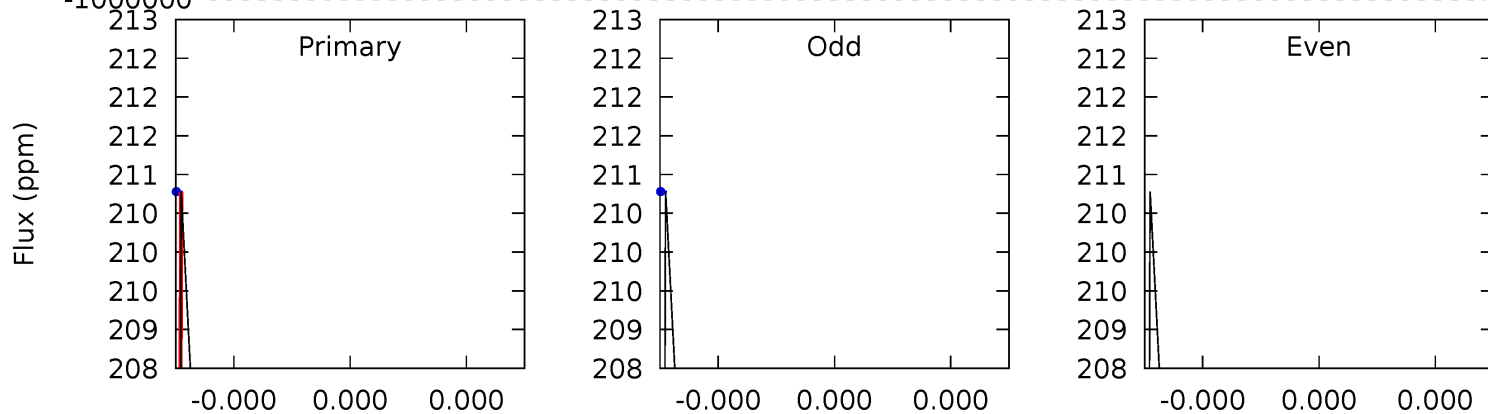
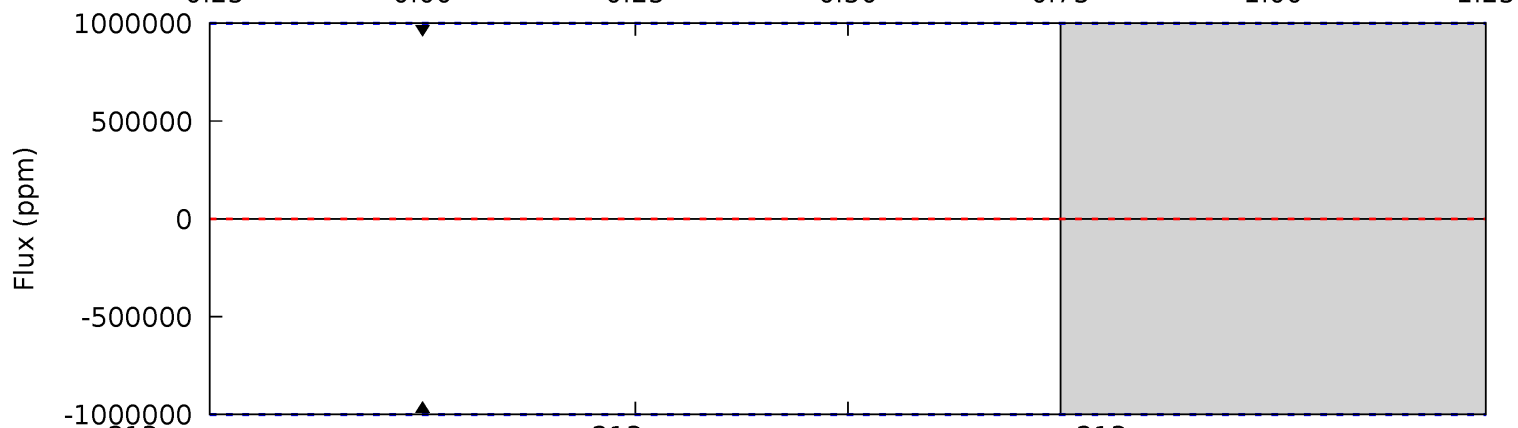
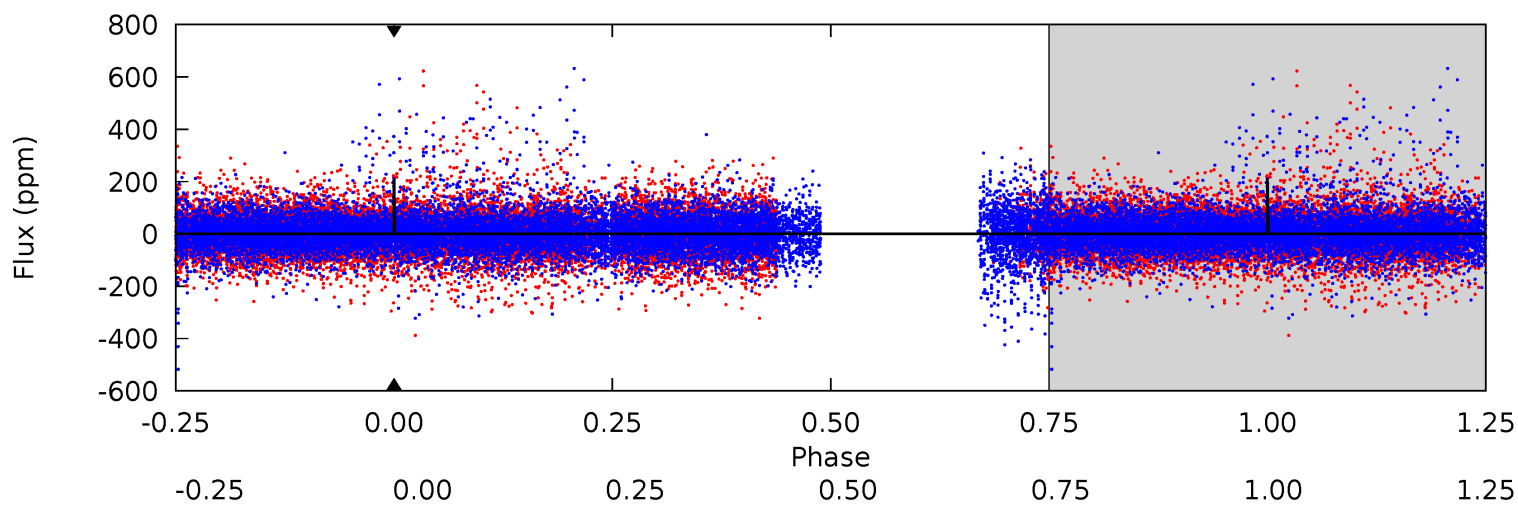
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	7.07	6.20	6.97	5.42	3.25	1.81	4.06	3.30	0.86	0.10	0.21	1.04	0.40	0.07



Alt Model-Shift Uniqueness Test

006022792-04, P = 379.083405 Days, E = 257.119164 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



Stellar Parameters For KIC 006022792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7032^{+158}_{-246}	$3.884^{+0.234}_{-0.108}$	$0.180^{+0.200}_{-0.350}$	$2.548^{+0.446}_{-0.828}$	$1.810^{+0.152}_{-0.355}$	$0.154^{+0.225}_{-0.060}$
	+2%/-3%	+6%/-3%	+111%/-194%	+18%/-32%	+8%/-20%	+146%/-39%
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 006022792-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-134 ± 19	$6.12^{+5.61}_{-3.85}$	610^{+37}_{-49}	4957^{+3640}_{-1010}	3033^{+19959}_{-2215}
Alt.	-0 ± 1000000	$8.50^{+6.75}_{-4.91}$	611^{+36}_{-47}	$-7826^{+109589}_{-93147}$	$-15268.751^{+1685174.545}_{-1479535.896}$

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

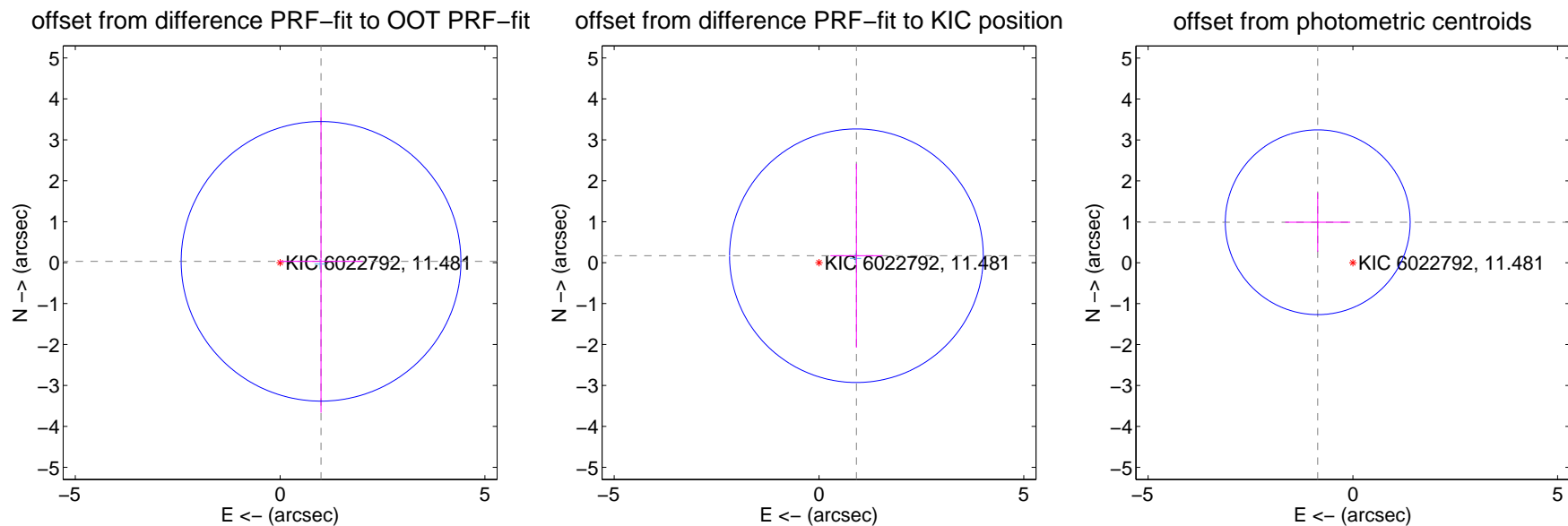
DV Centroid Data

Supplemental centroid analysis for 006022792-04. **Kepler magnitude: 11.48.** Transit SNR 7.72

There are 1 quarters with good PRF difference image offsets

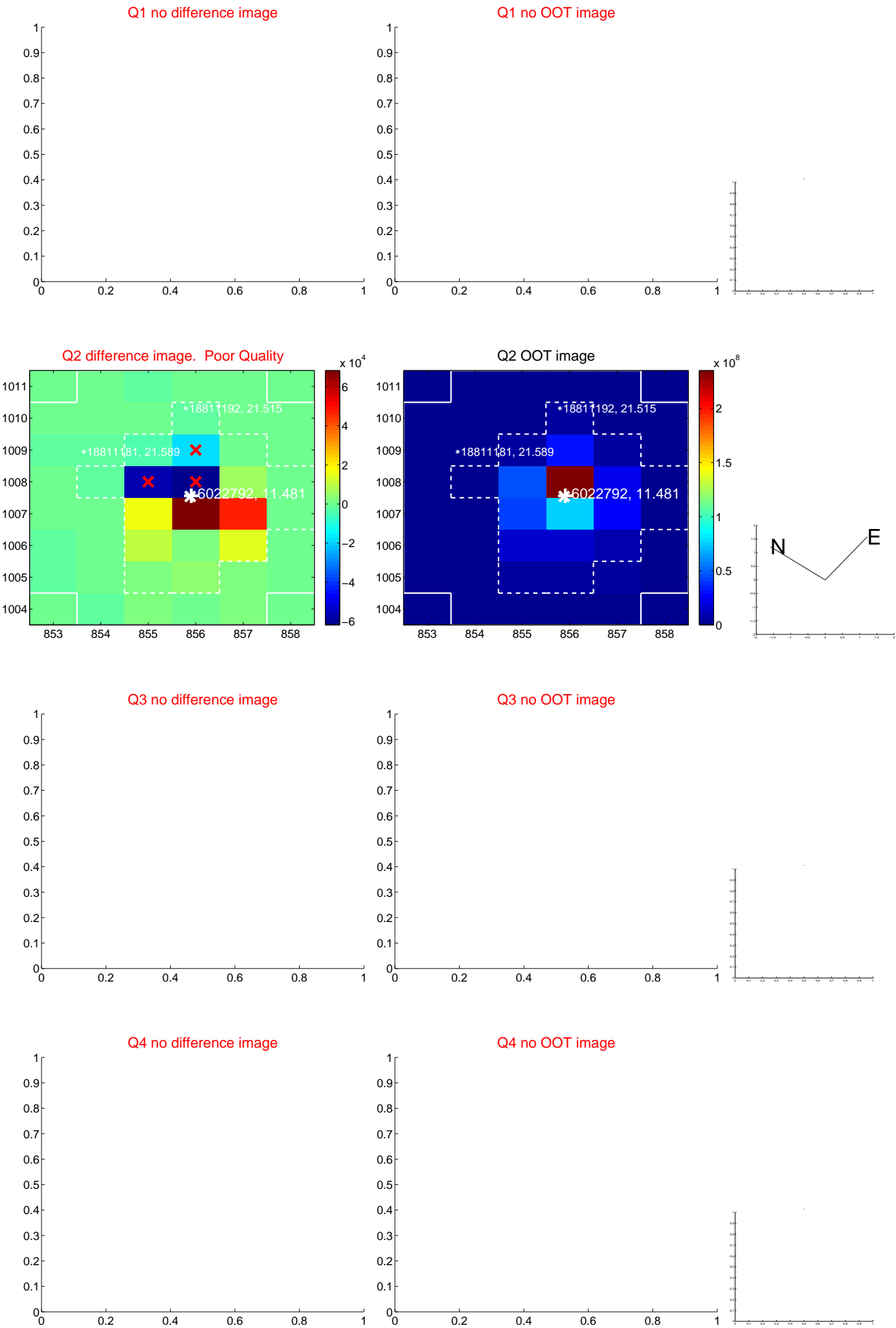
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.000 ± 1.138	0.88	-0.999 ± 1.021	0.032 ± 3.695
PRF-fit source offset from KIC position	0.930 ± 1.032	0.90	-0.914 ± 0.636	0.169 ± 2.246
photometric centroid source offset	1.31 ± 0.75	1.74	0.86 ± 0.79	0.99 ± 0.72

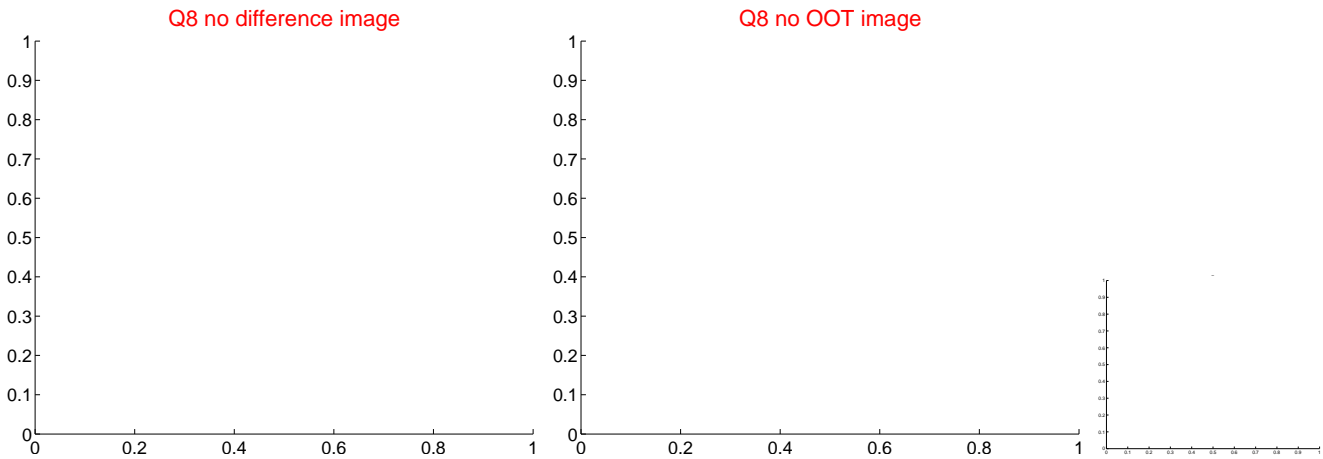
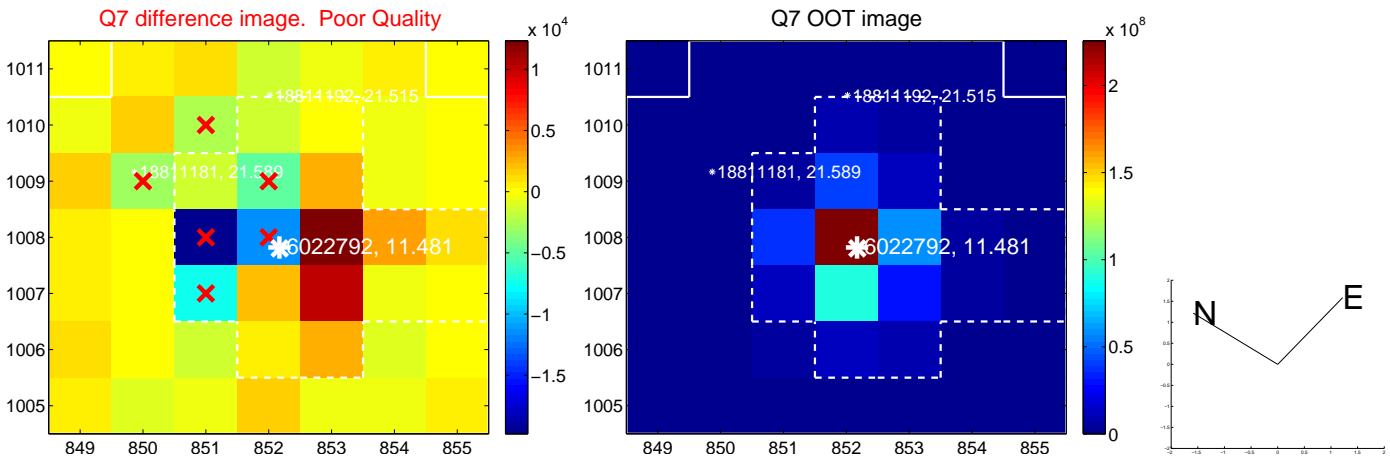
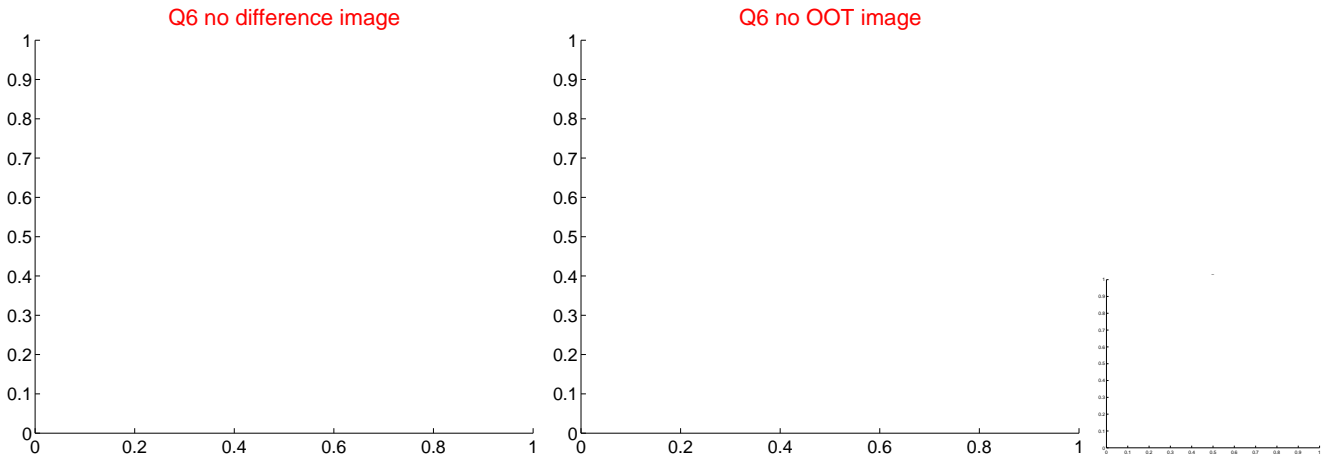
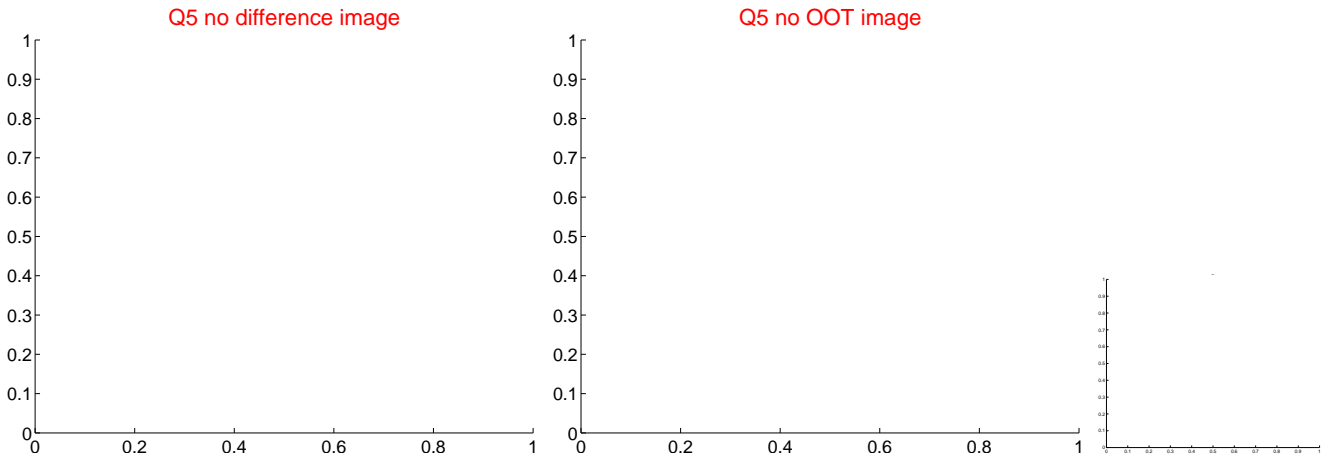


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

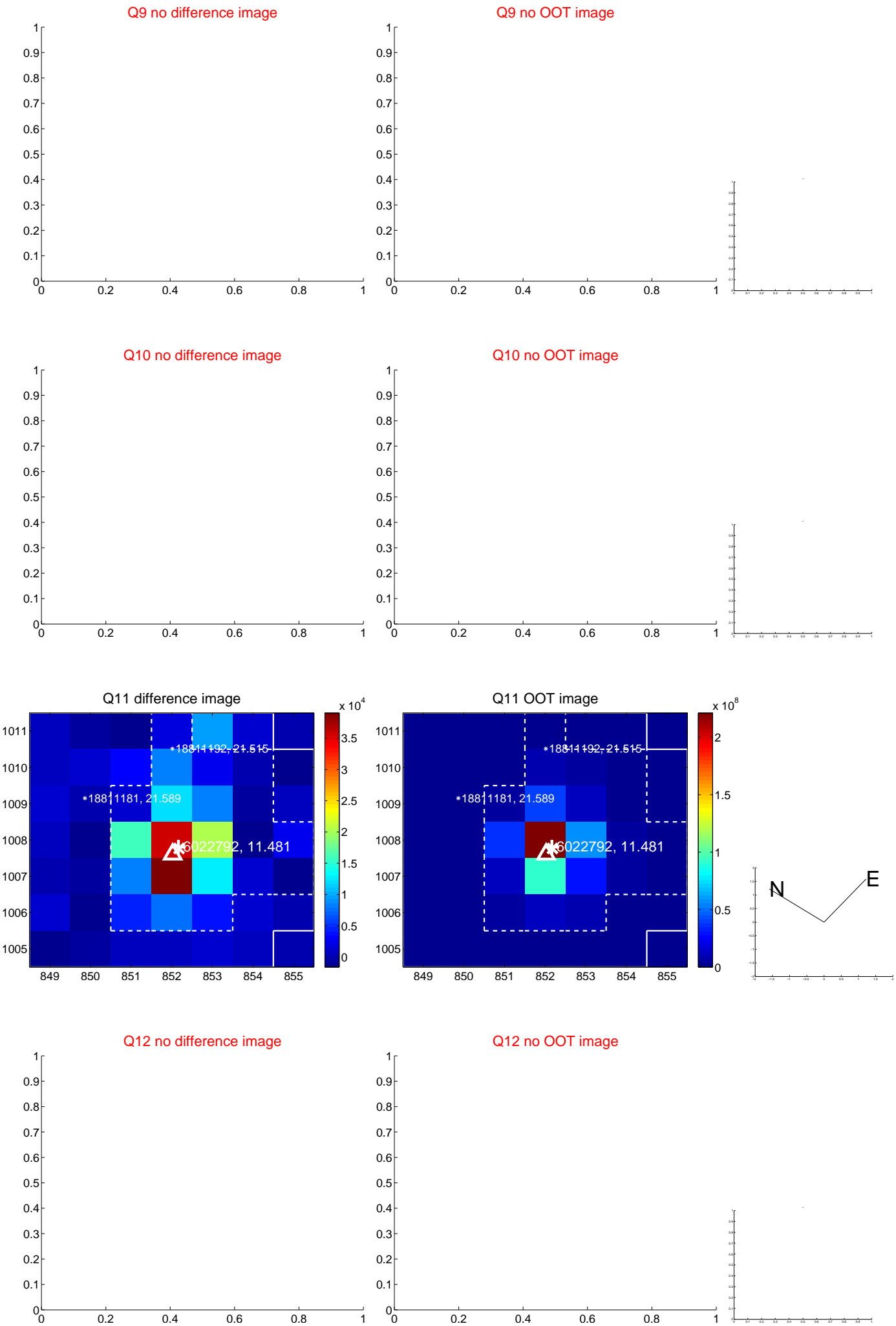
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



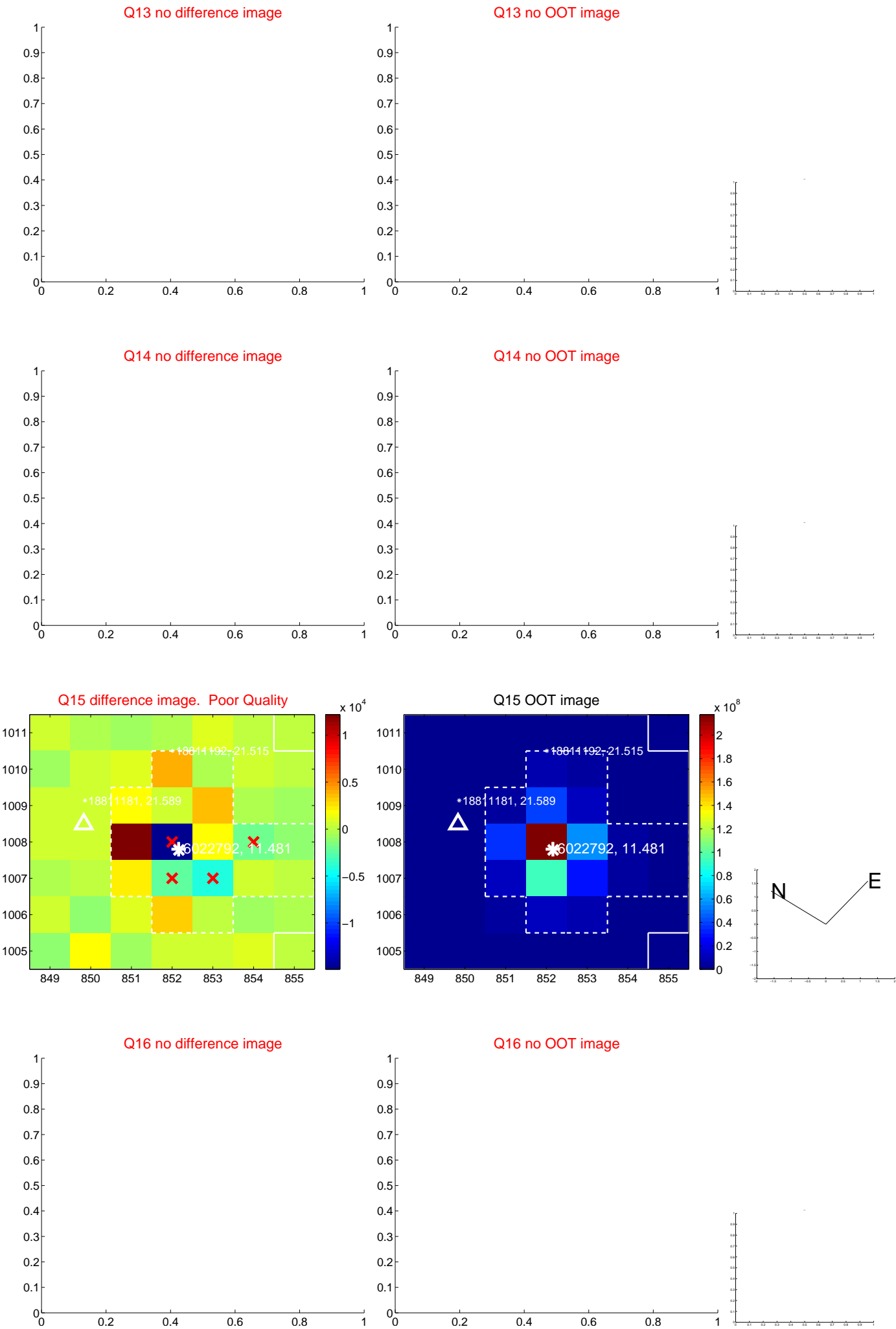
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



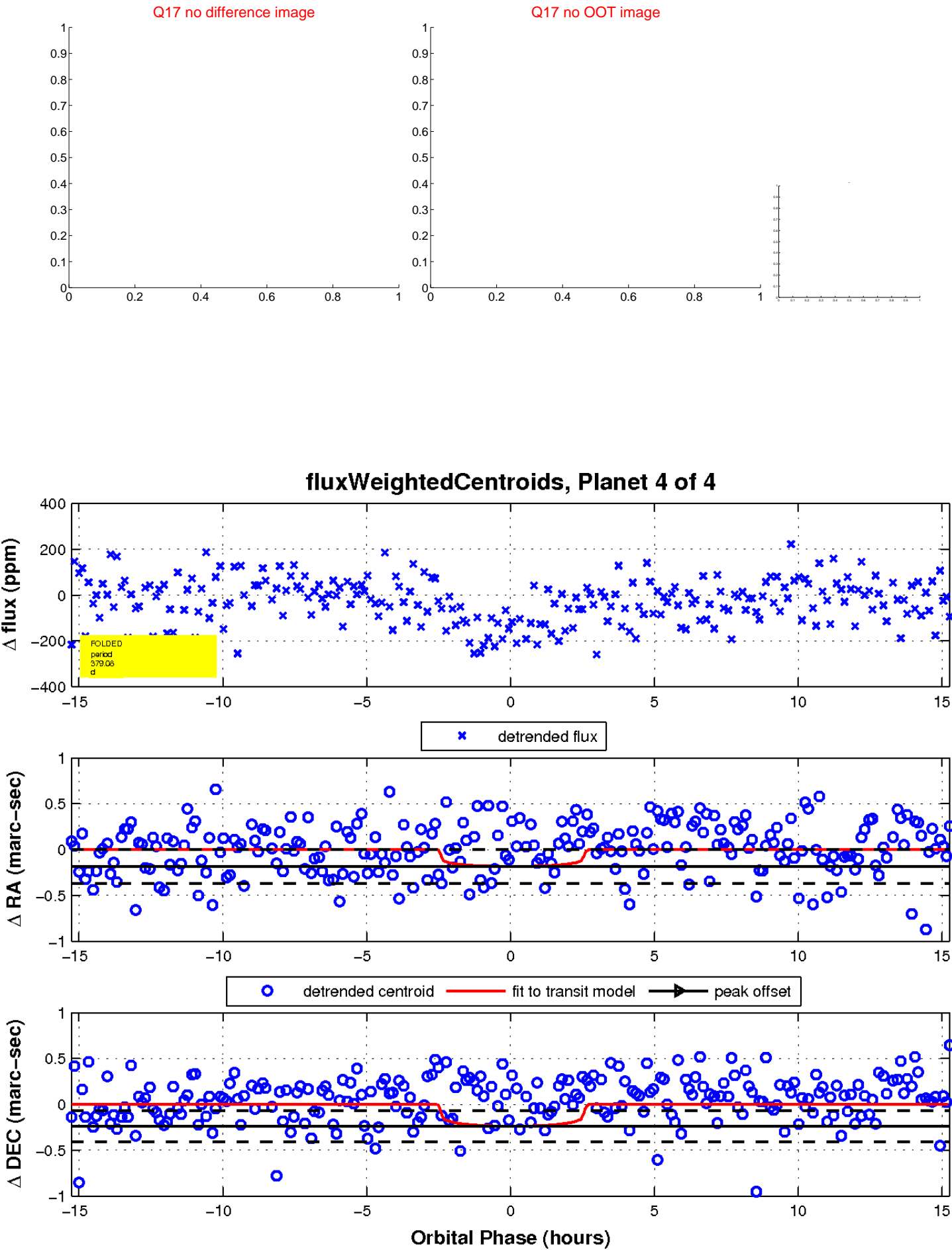
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

