

KIC 007698937

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})
007698937-01	OBS	No	1.372720	131.715322	16.1	8.383	11.0	5.4	1.60	6897	0.68	7692.16
007698937-02	OBS	No	122.074895	189.001565	113.8	6.189	14.3	2.4	1.60	6897	1.90	19.38
007698937-03	OBS	No	198.129687	132.124236	675.0	9.176	11.5	8.4	1.60	6897	5.28	10.16
007698937-04	OBS	No	86.583323	133.931085	429.4	7.280	10.3	10.3	1.60	6897	4.30	30.64
007698937-05	OBS	No	176.884888	132.658048	434.1	8.402	10.5	7.9	1.60	6897	6.38	11.82
007698937-06	OBS	No	41.237027	145.732381	222.1	4.988	9.0	7.9	1.60	6897	2.73	82.37
007698937-07	OBS	No	391.234562	265.561959	86.0	7.500	8.3	-1.0	1.60	6897	1.50	4.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007698937-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007698937-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
007698937-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007698937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007698937-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698937-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007698937-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

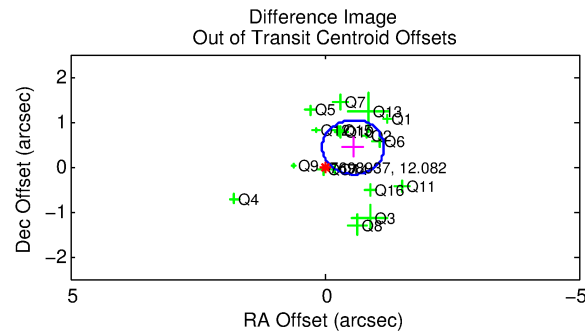
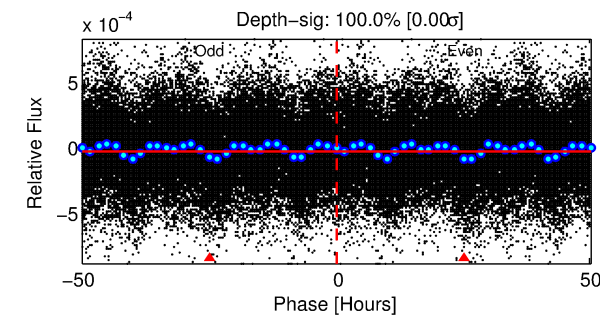
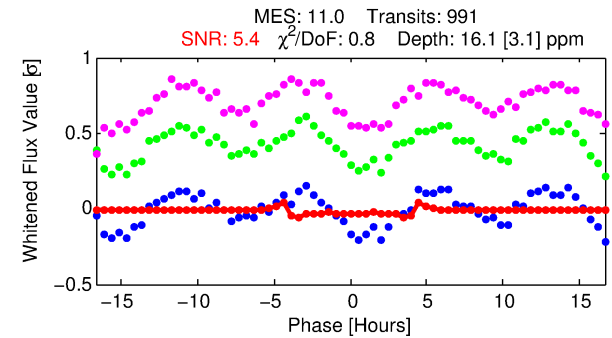
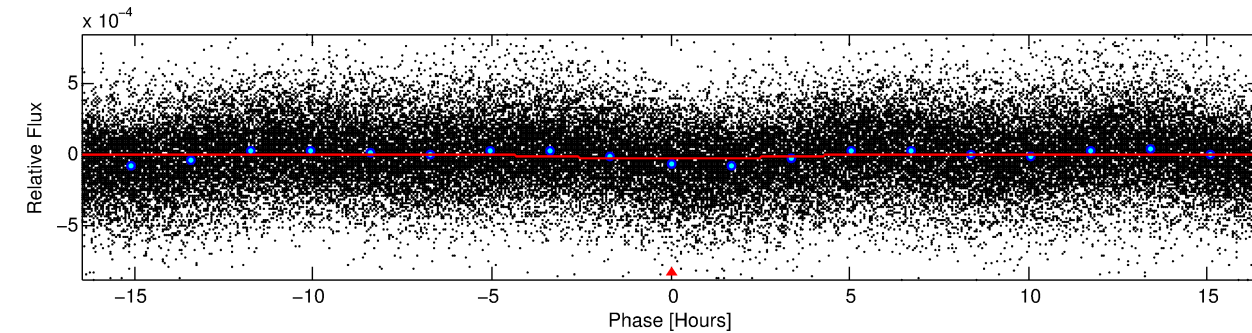
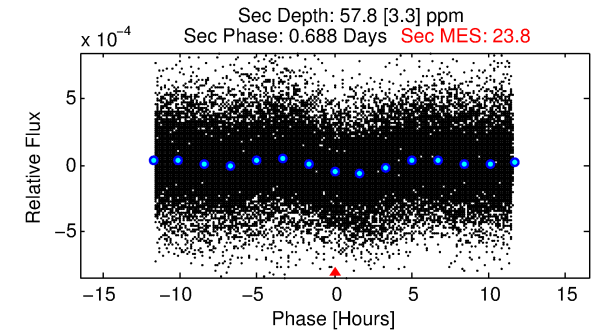
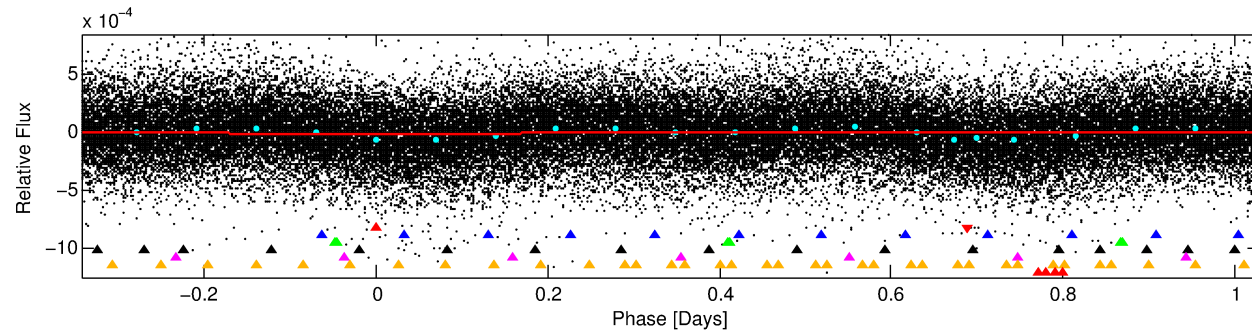
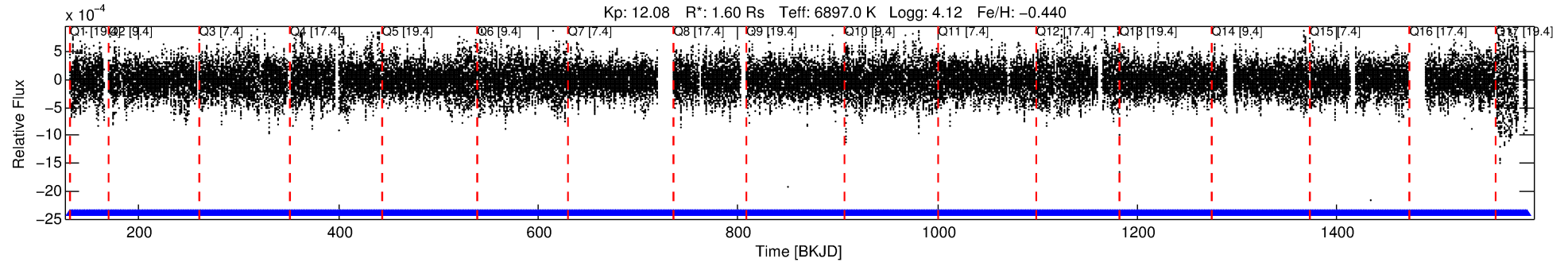
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007698937-01

No Significant Match Found

DV One-Page Summary

KIC: 7698937 Candidate: 1 of 7 Period: 1.373 d



DV Fit Results:

Period = 1.37272 [0.00002] d
Epoch = 131.7153 [0.0040] BKJD
Rp/R* = 0.0039 [0.0011]
a/R* = 1.25 [0.74]
b = 0.65 [1.47]
Seff = 7692.16 [3040.57]
Teq = 2388 [236] K
Rp = 0.68 [0.27] Re
a = 0.0260 [0.0064] AU
Ag = 46.33 [32.14] [1.41σ]
Teffp = 9632 [1453] K [4.92σ]

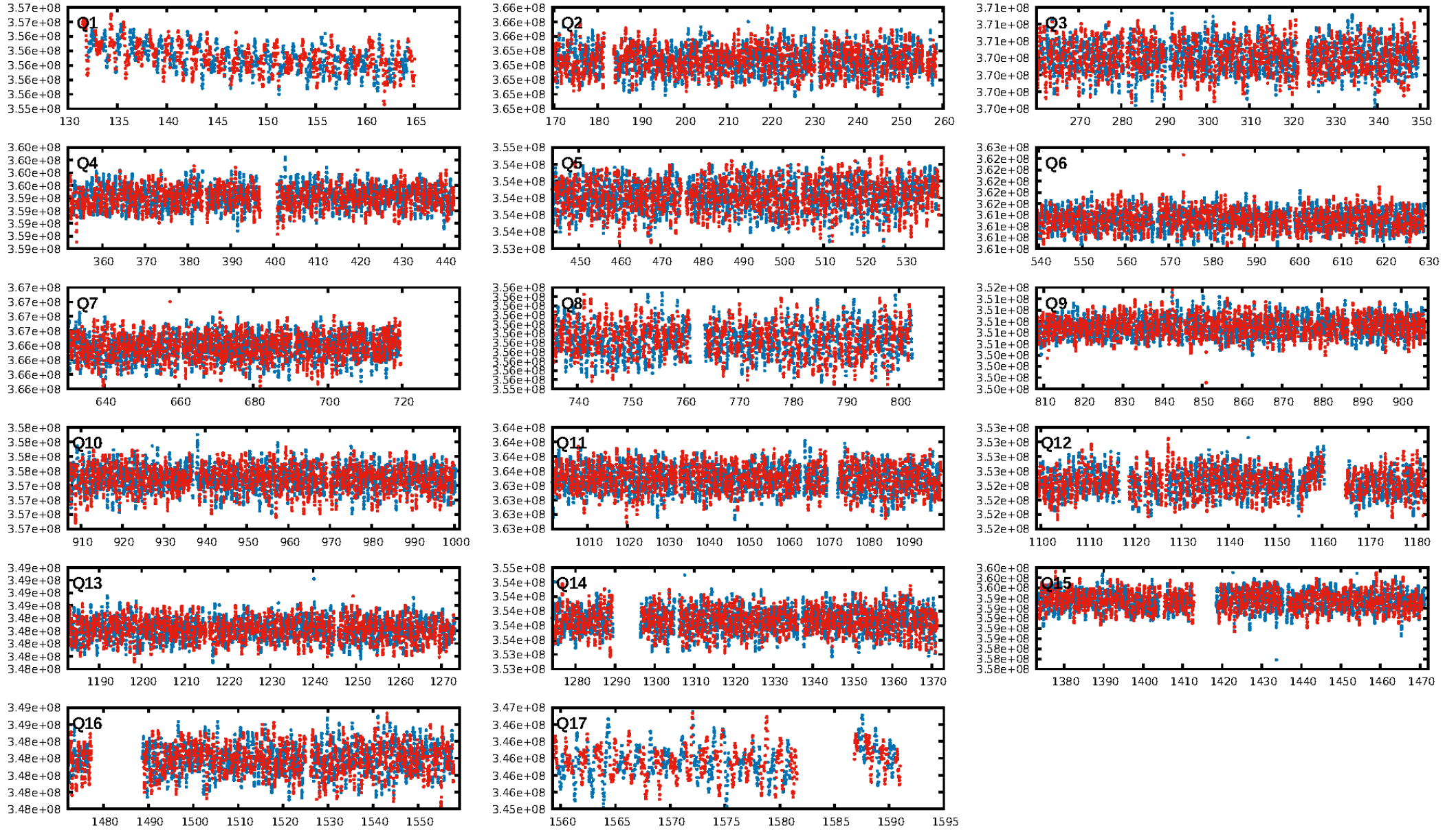
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [98.08σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [945/945]
GhostDiagnostic-chr: 1.804
Centroid-sig: 38.4%
Centroid-so: 0.354 arcsec [0.72σ]
OotOffset-rm: 0.709 arcsec [3.51σ]
KicOffset-rm: 0.694 arcsec [3.36σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

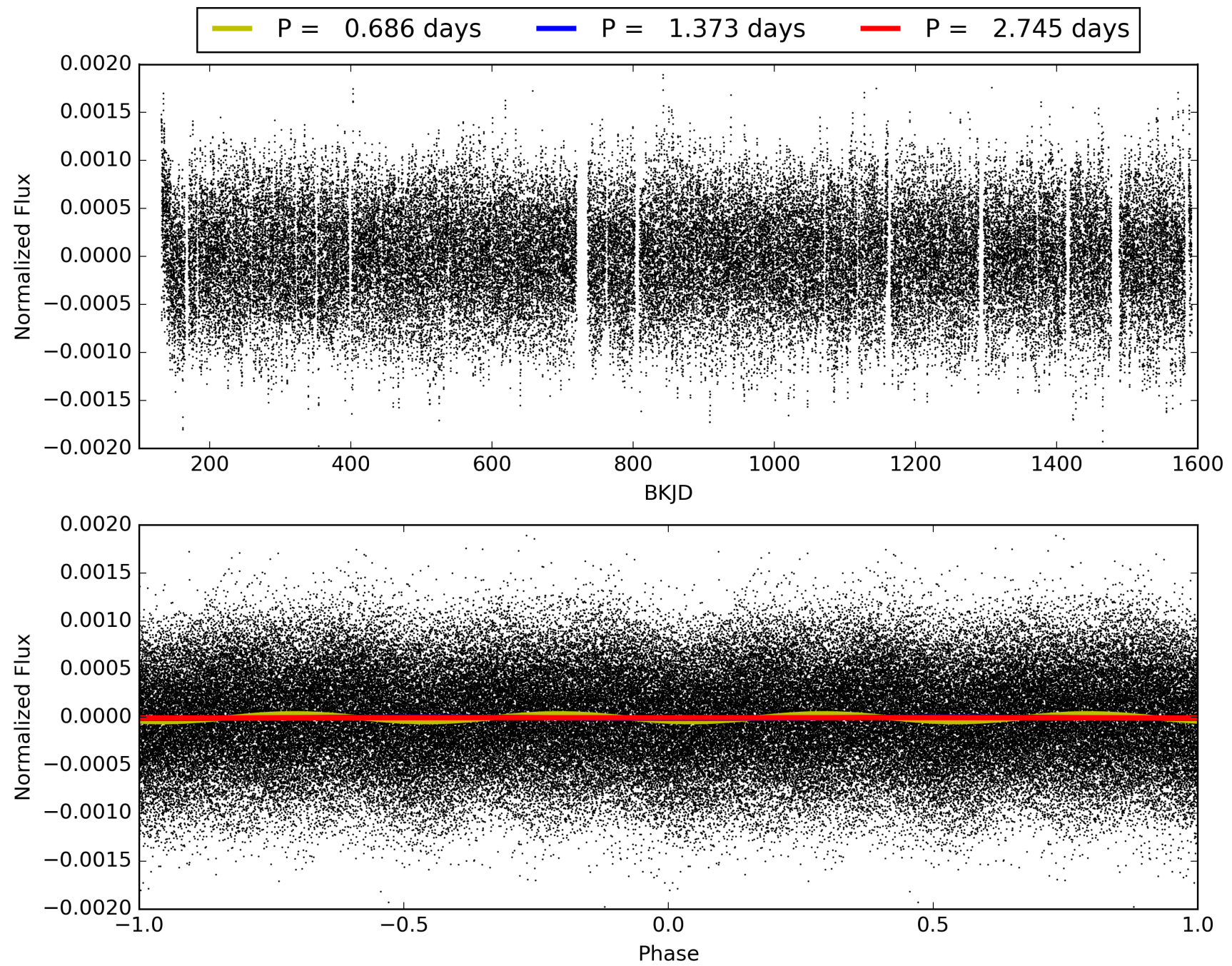
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:30:12 Z

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

TCE 007698937-01, PDC Light Curves

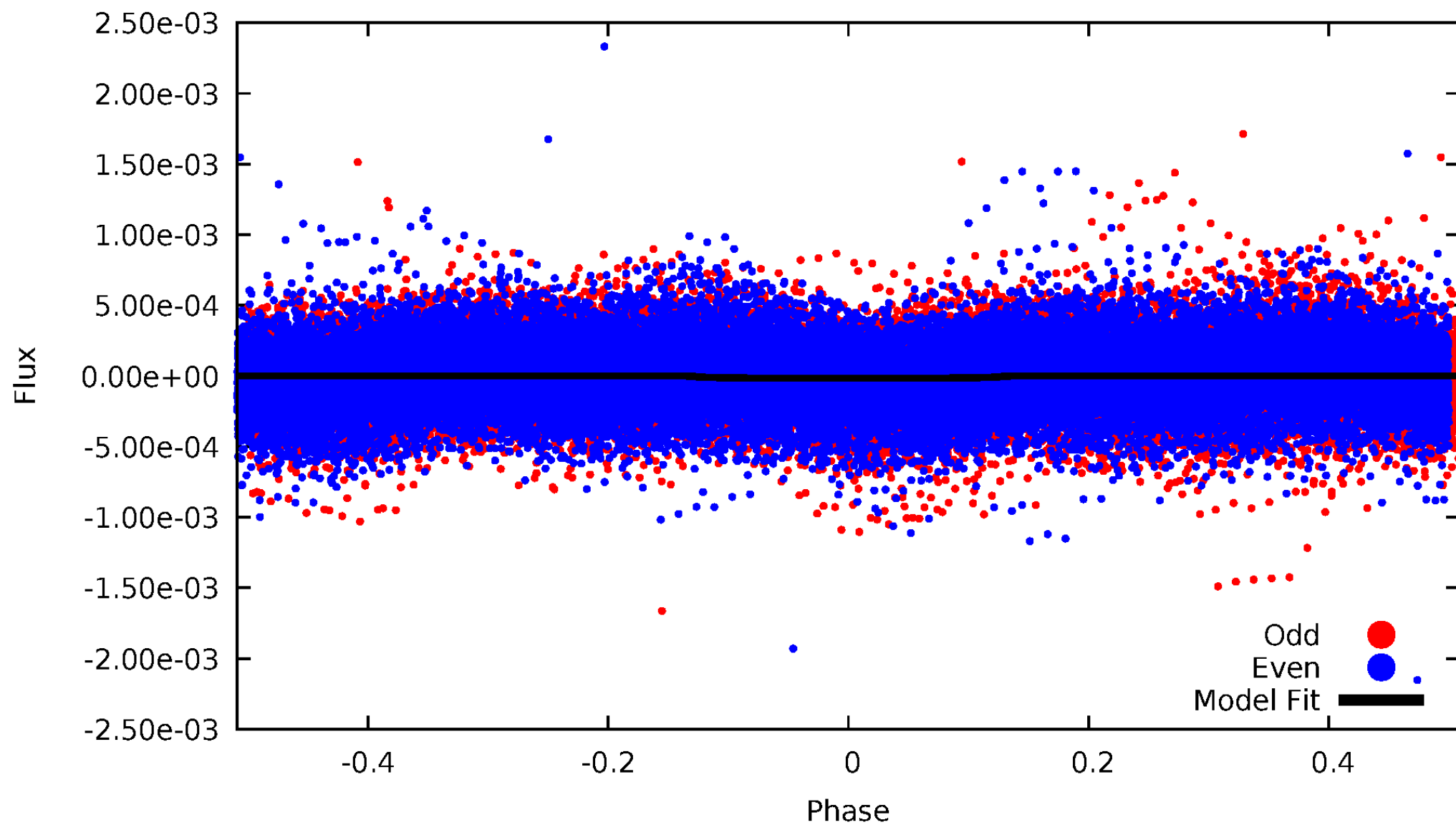


TCE 007698937-01



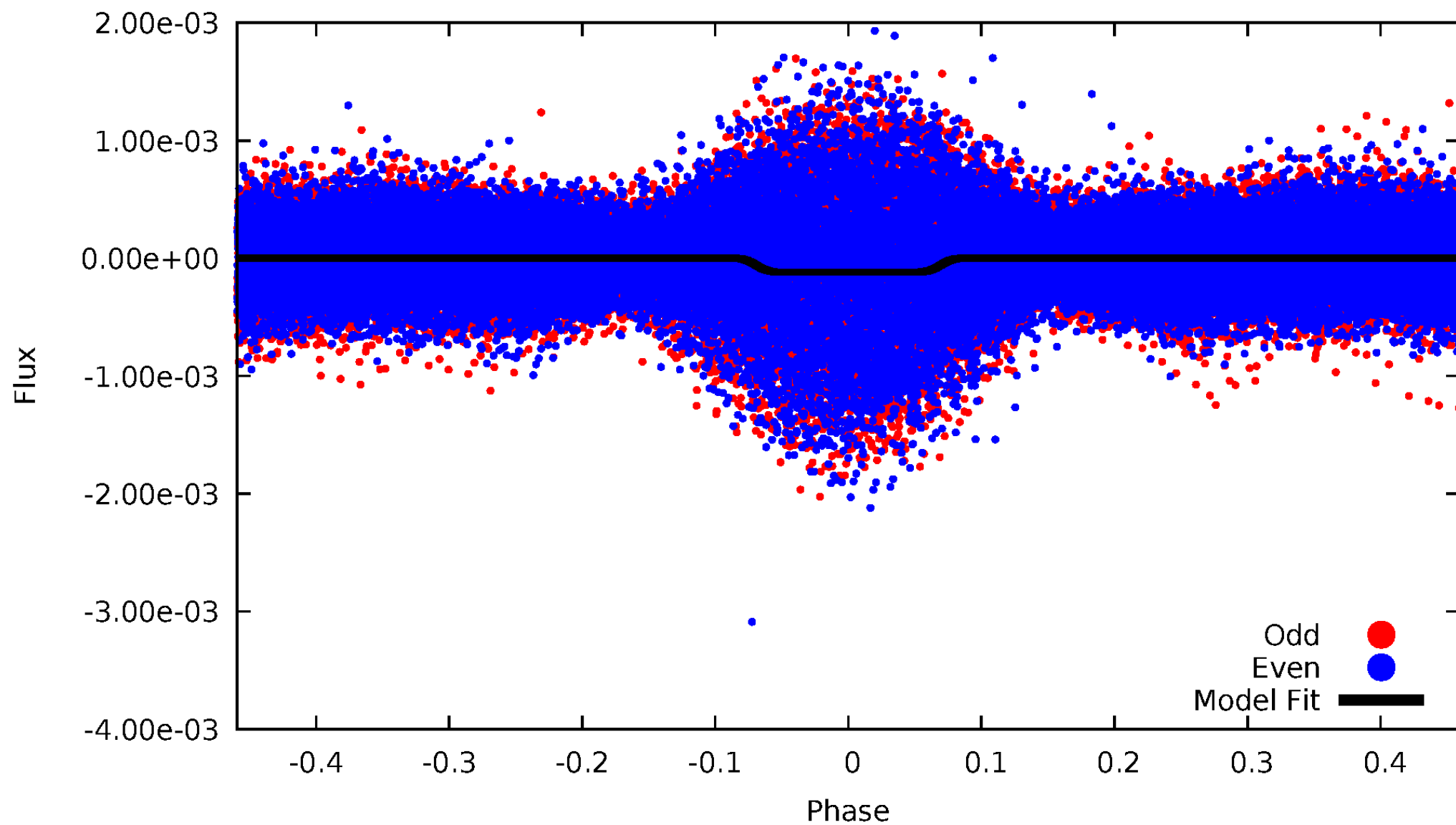
DV Odd/Even

TCE 007698937-01



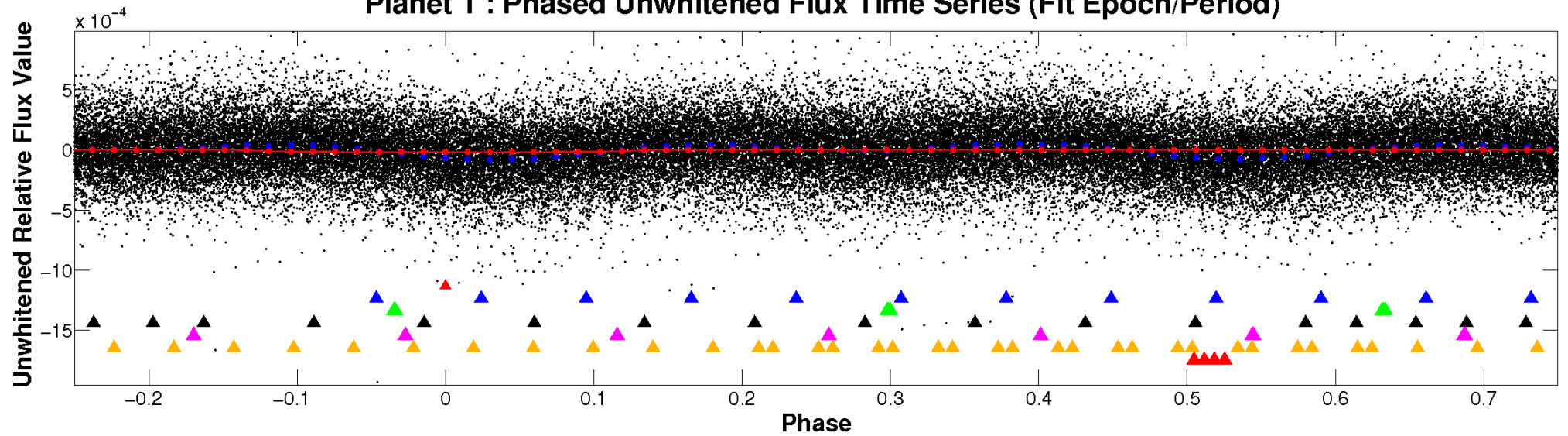
ALT Odd/Even

TCE 007698937-01

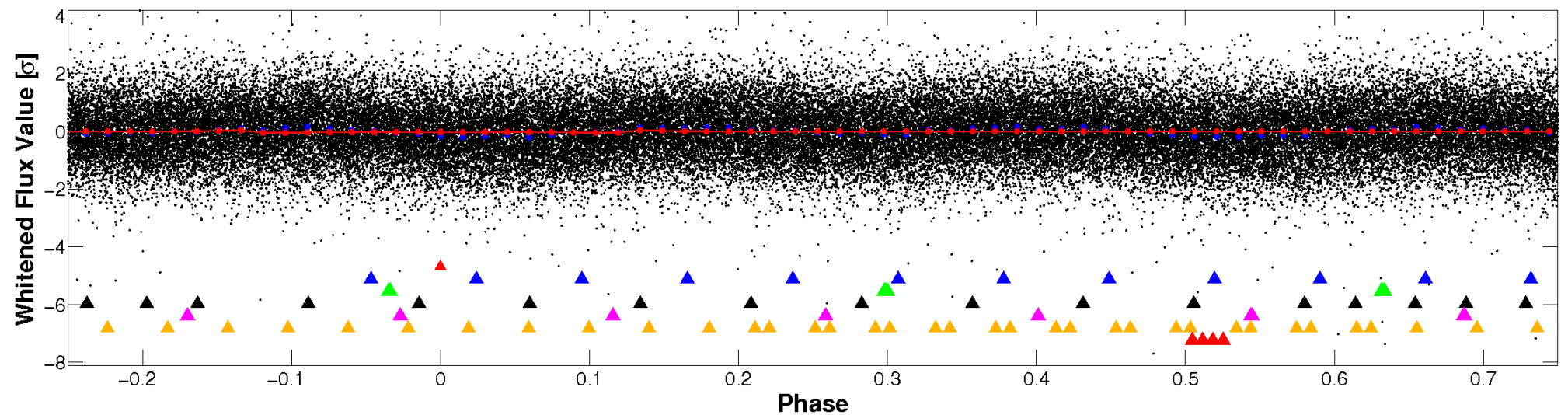


Non-Whitened Vs. Whitened Light Curve

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

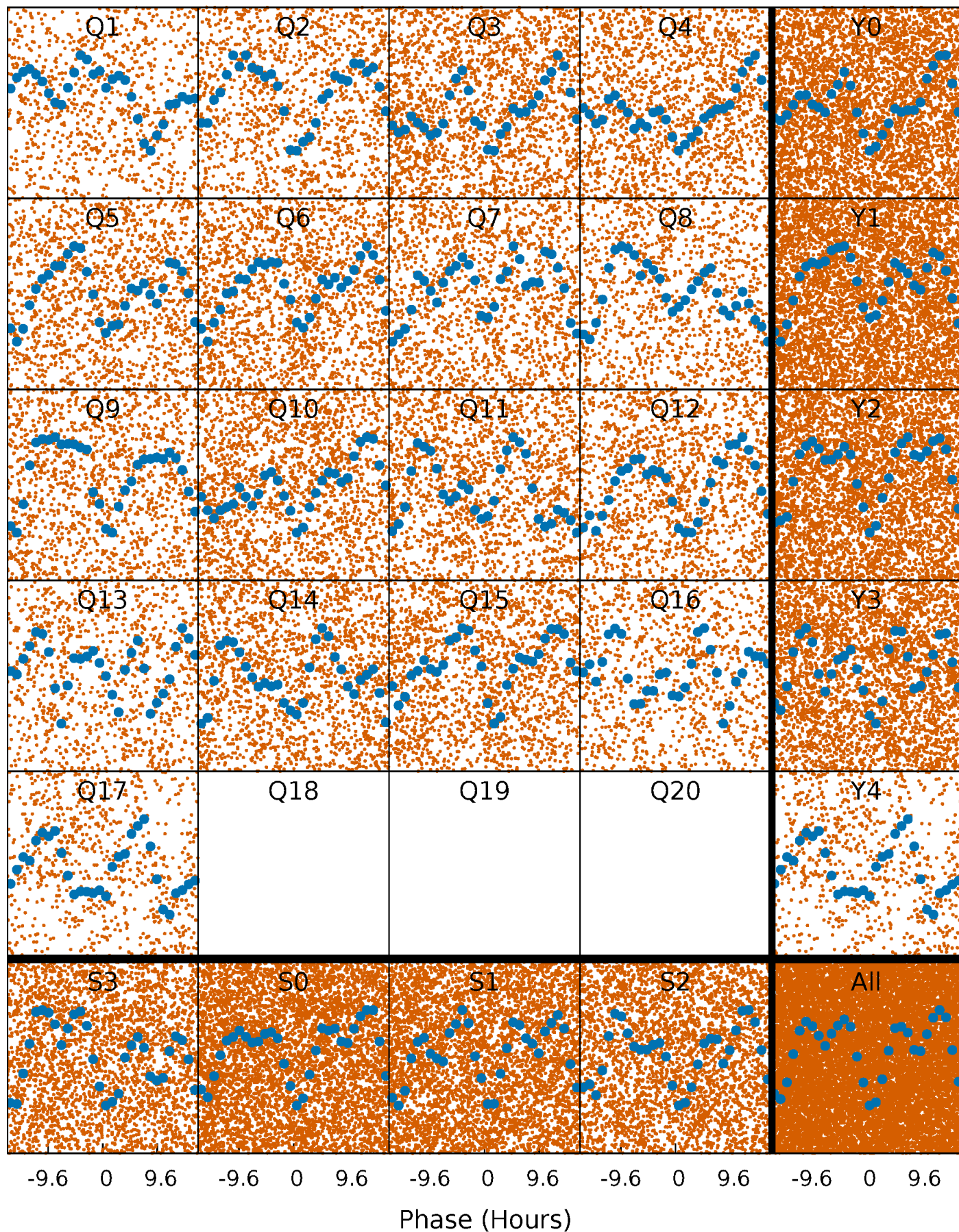


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



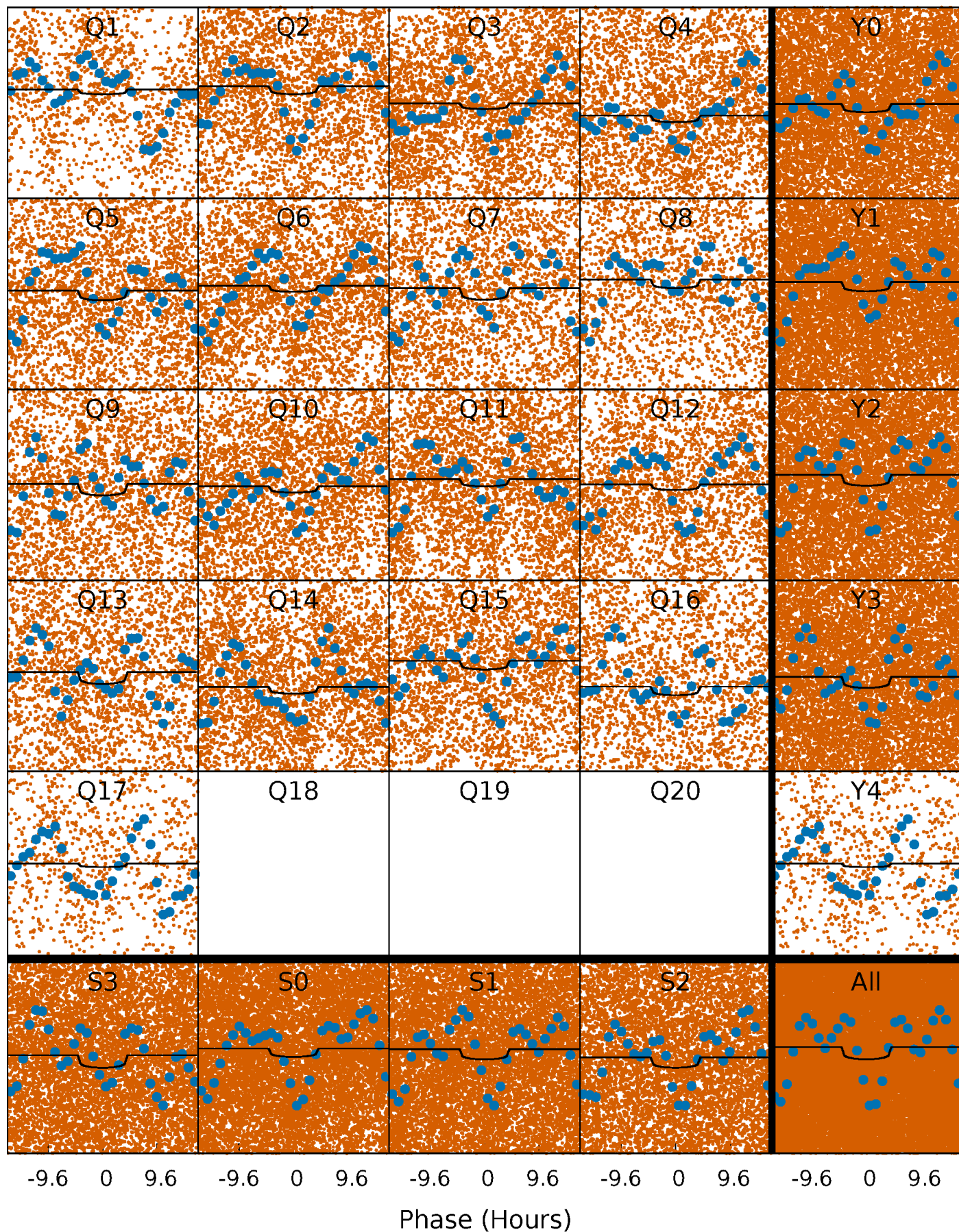
PDC Quarter-Phased Transit Curves

TCE 007698937-01 P= 1.372720 Days $T_0=131.715322$ (BKJD)



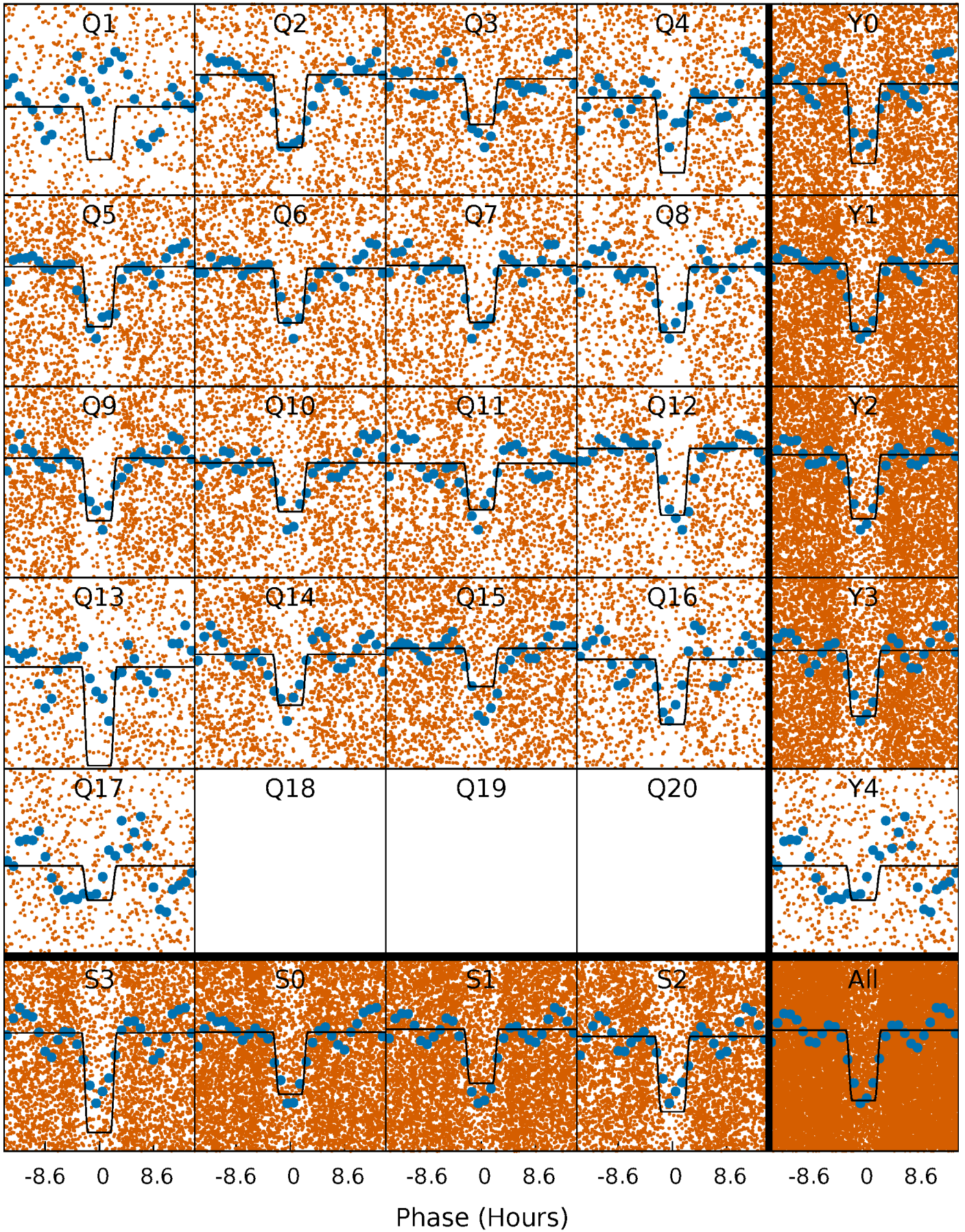
DV Quarter-Phased Transit Curves

TCE 007698937-01 P= 1.372720 Days $T_0=131.715322$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

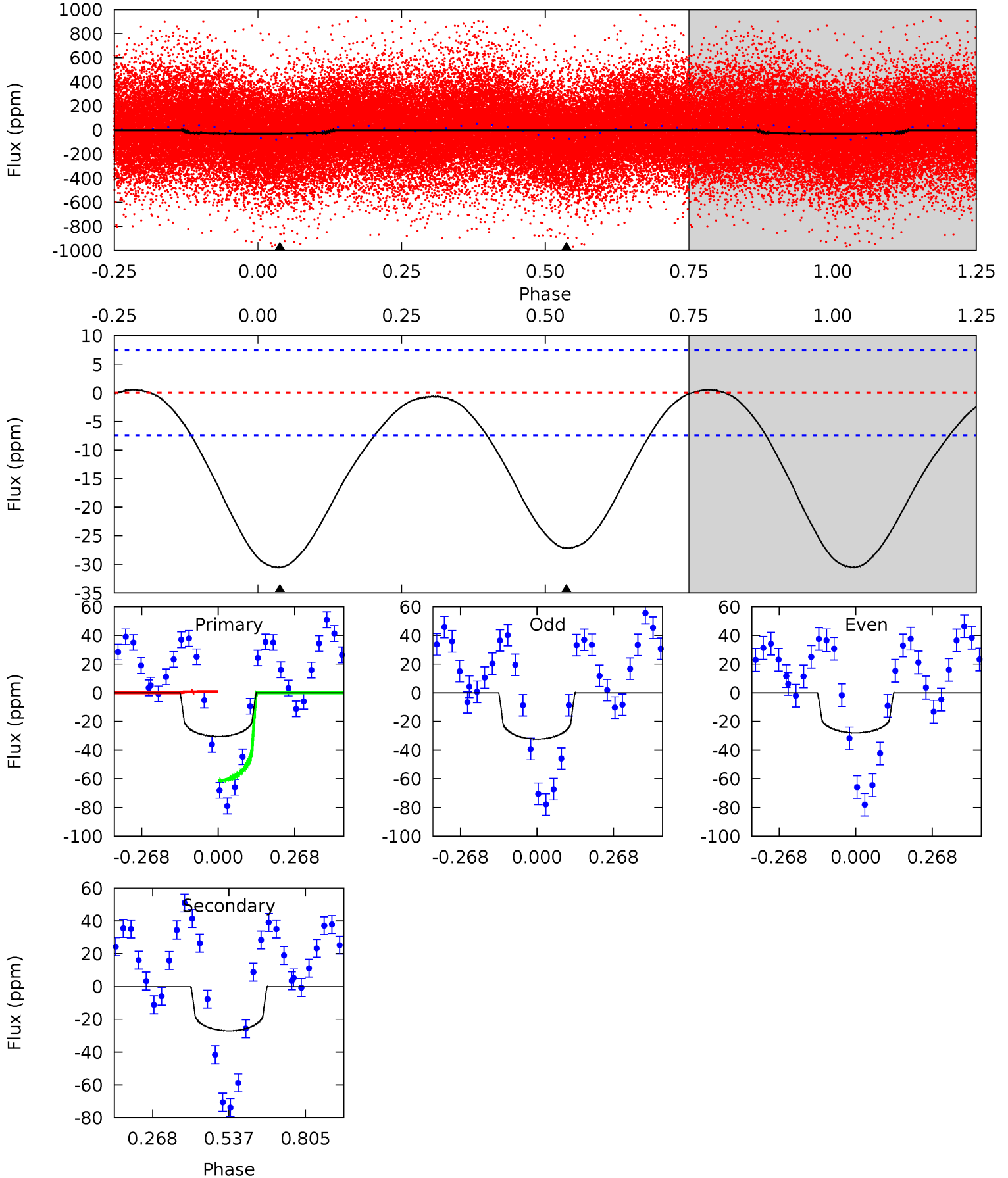
TCE 007698937-01 P= 1.372745 Days $T_0=131.738478$ (BKJD)



DV Model-Shift Uniqueness Test

007698937-01, P = 1.372720 Days, E = 130.342602 Days

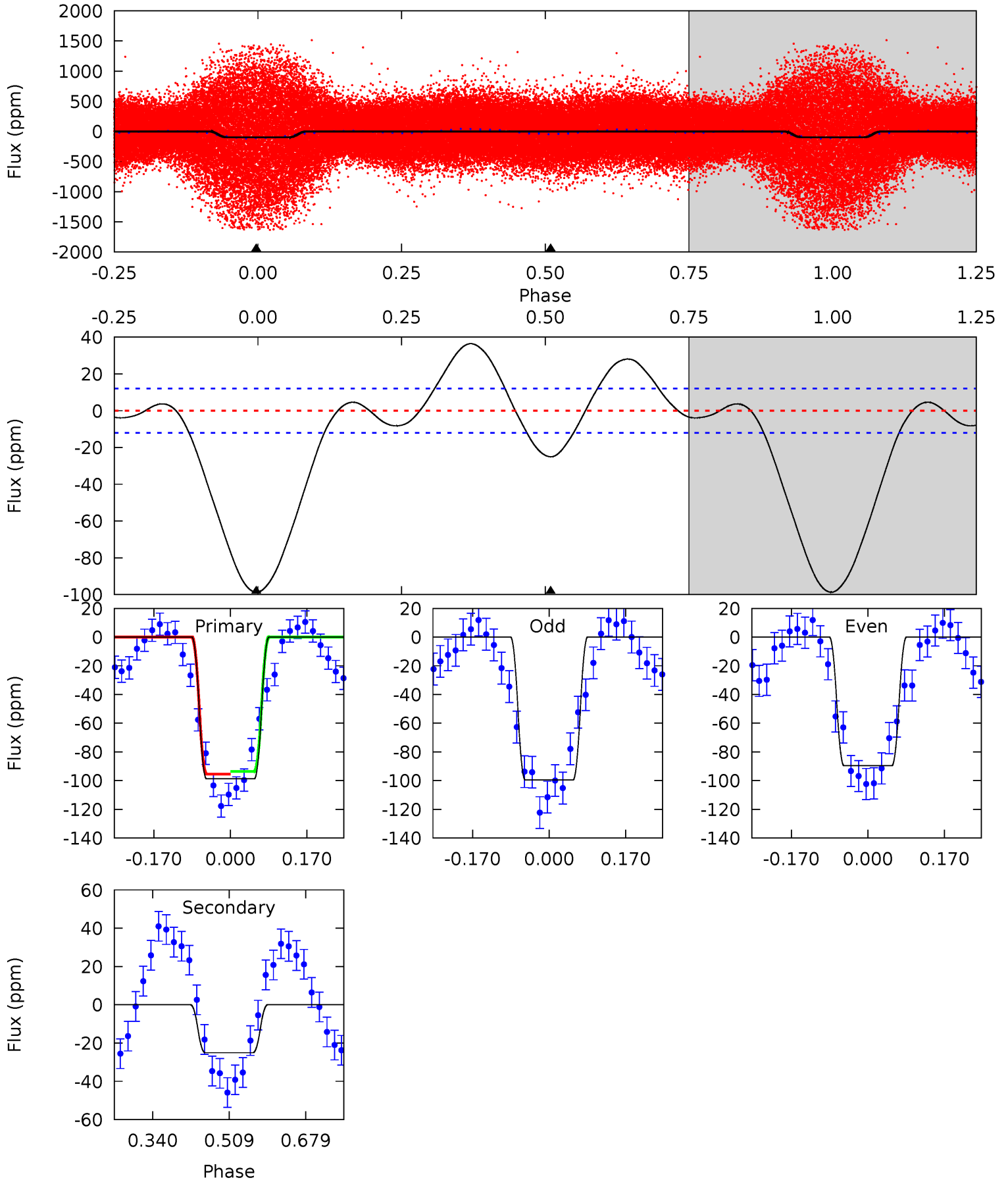
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	15.9	0	0	4.35	1.11	0.40	17.9	17.9	15.9	15.9	1.26	1.52	0.02	17.6



Alt Model-Shift Uniqueness Test

007698937-01, P = 1.372745 Days, E = 130.365733 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.4	9.24	0	0	4.45	1.37	3.17	36.4	36.4	9.24	9.24	1.83	1.22	0.27	0.35



Stellar Parameters For KIC 007698937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6897^{+192}_{-240}	$4.124^{+0.209}_{-0.171}$	$-0.440^{+0.300}_{-0.300}$	$1.603^{+0.443}_{-0.443}$	$1.249^{+0.185}_{-0.203}$	$0.427^{+0.535}_{-0.210}$
	+3%/-3%	+5%/-4%	+68%/-68%	+28%/-28%	+15%/-16%	+125%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007698937-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-27 ± 2	$0.67^{+0.25}_{-0.21}$	3316^{+259}_{-246}	8067^{+2318}_{-1216}	22^{+25}_{-10}
Alt.	-25 ± 3	$1.88^{+0.33}_{-0.35}$	3293^{+259}_{-249}	4654^{+273}_{-255}	$2.668^{+1.272}_{-0.772}$

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 $A_{obs} \gg 1.0$

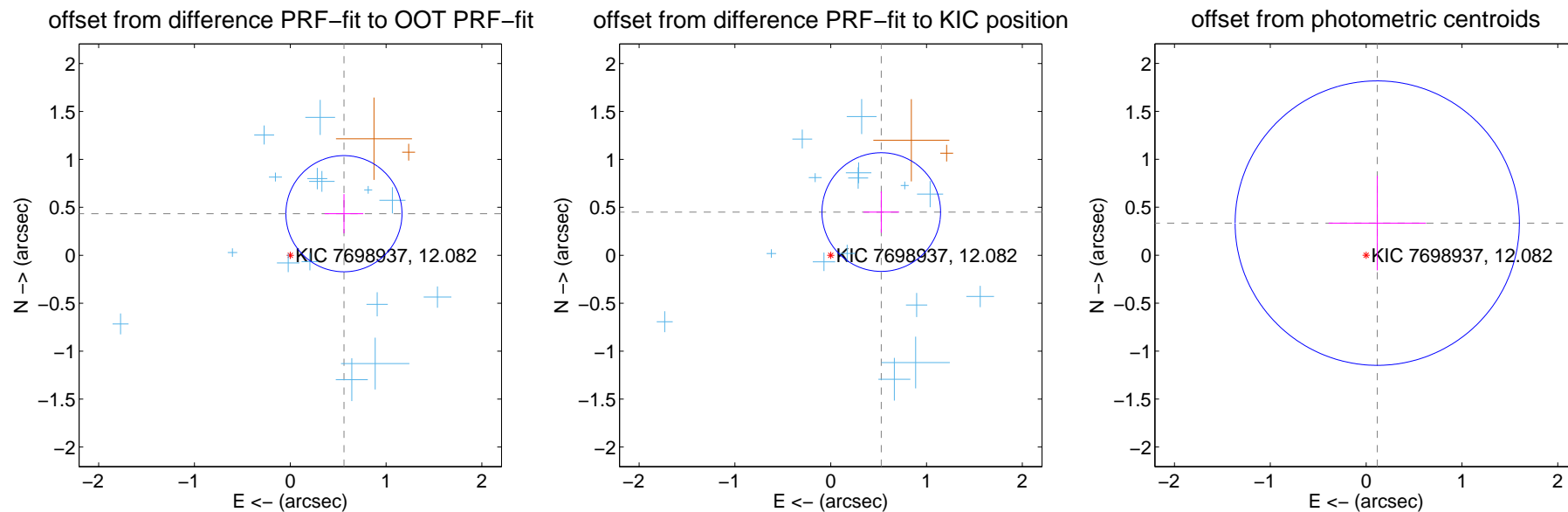
DV Centroid Data

Supplemental centroid analysis for 007698937-01. Kepler magnitude: 12.08. Transit SNR 5.42

There are 15 quarters with good PRF difference image offsets

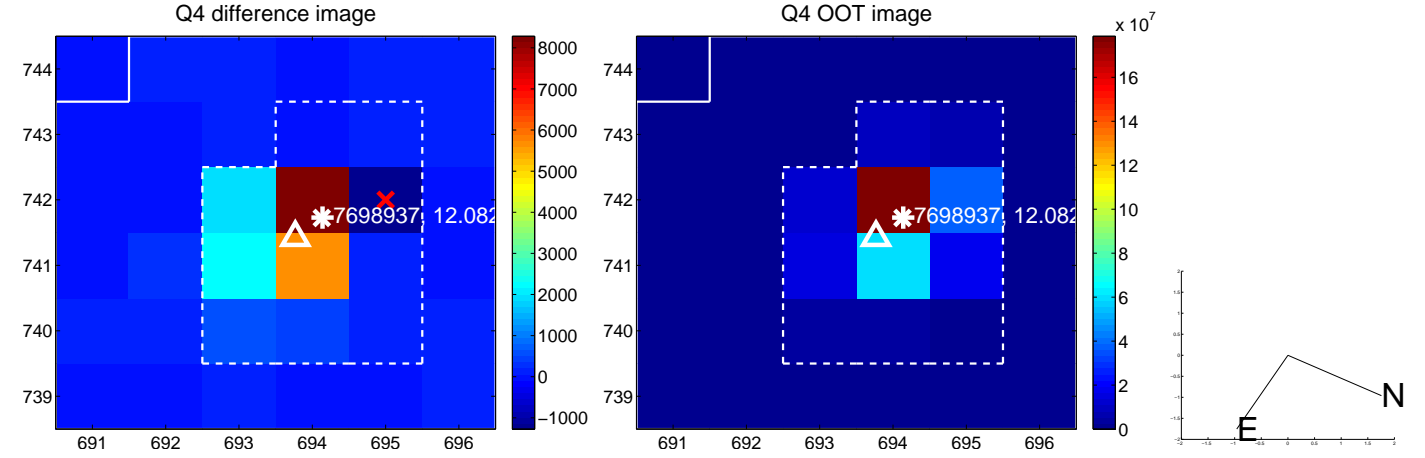
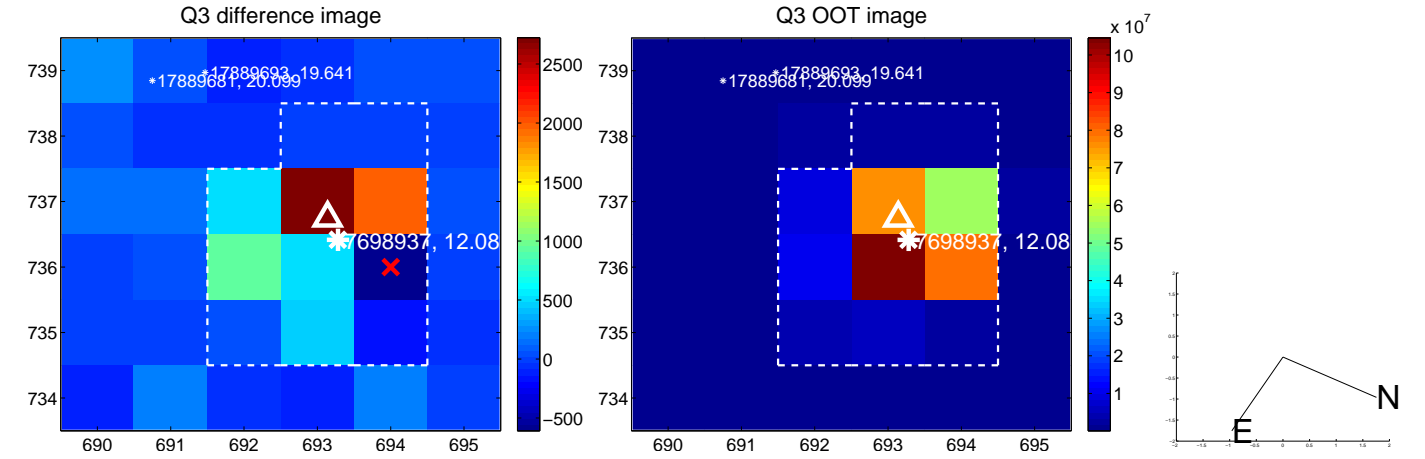
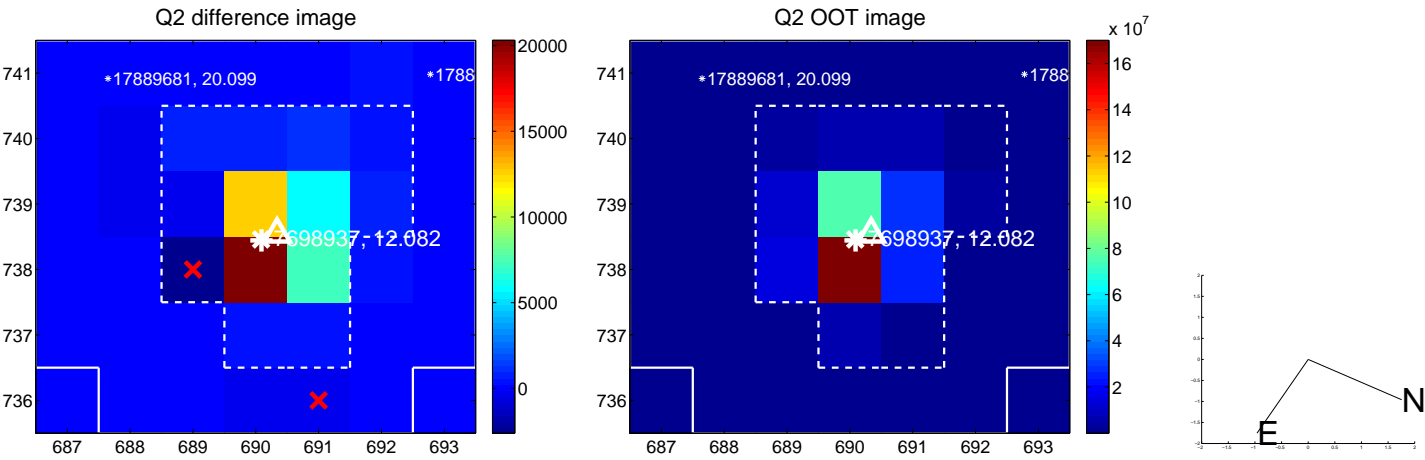
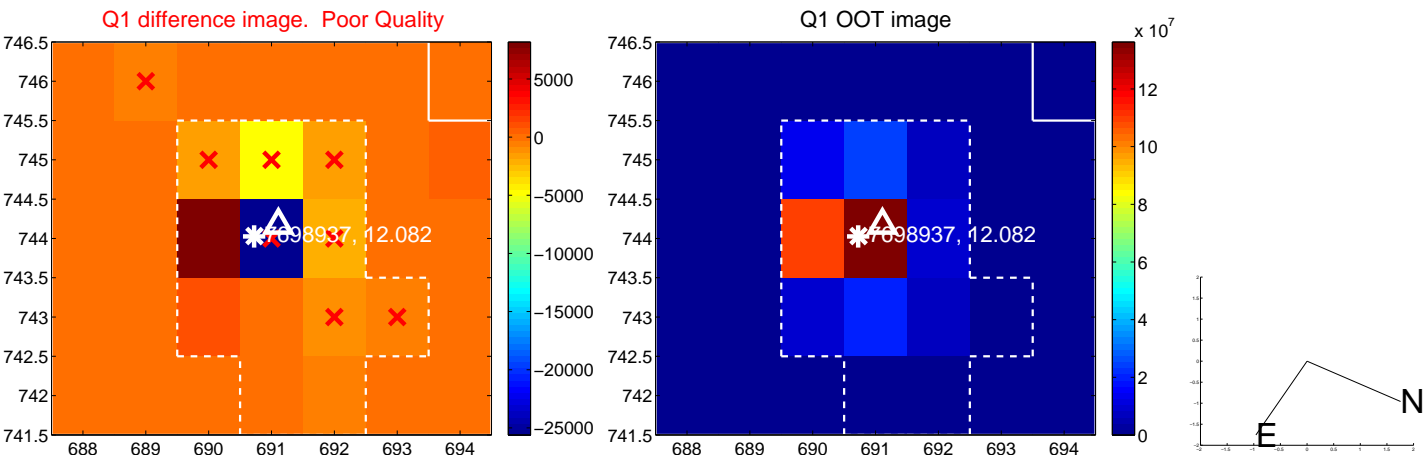
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.709 \pm 0.202	3.51	-0.561 \pm 0.202	0.434 \pm 0.204
PRF-fit source offset from KIC position	0.694 \pm 0.206	3.36	-0.528 \pm 0.187	0.451 \pm 0.215
photometric centroid source offset	0.35 \pm 0.49	0.72	-0.12 \pm 0.51	0.33 \pm 0.49

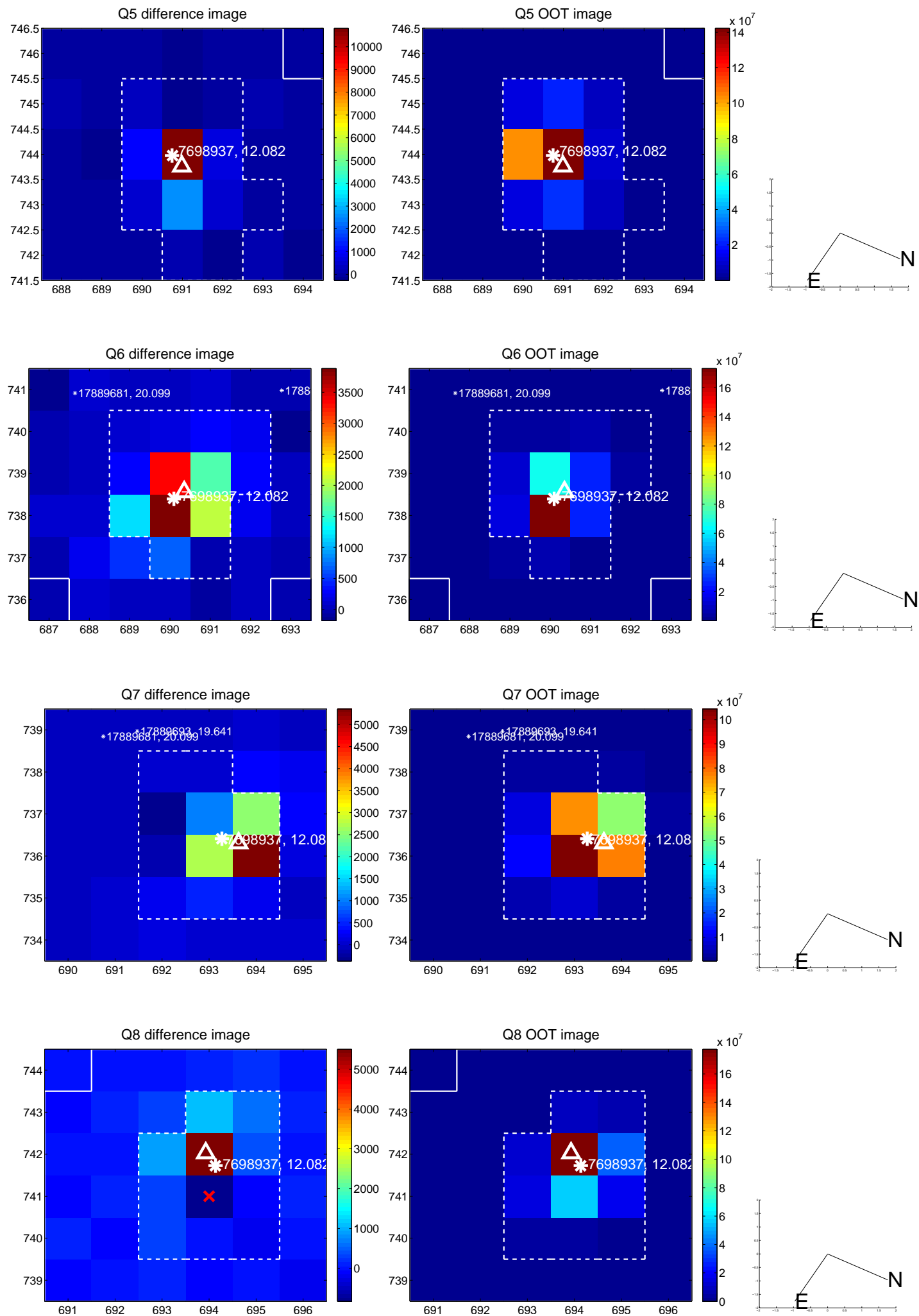


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

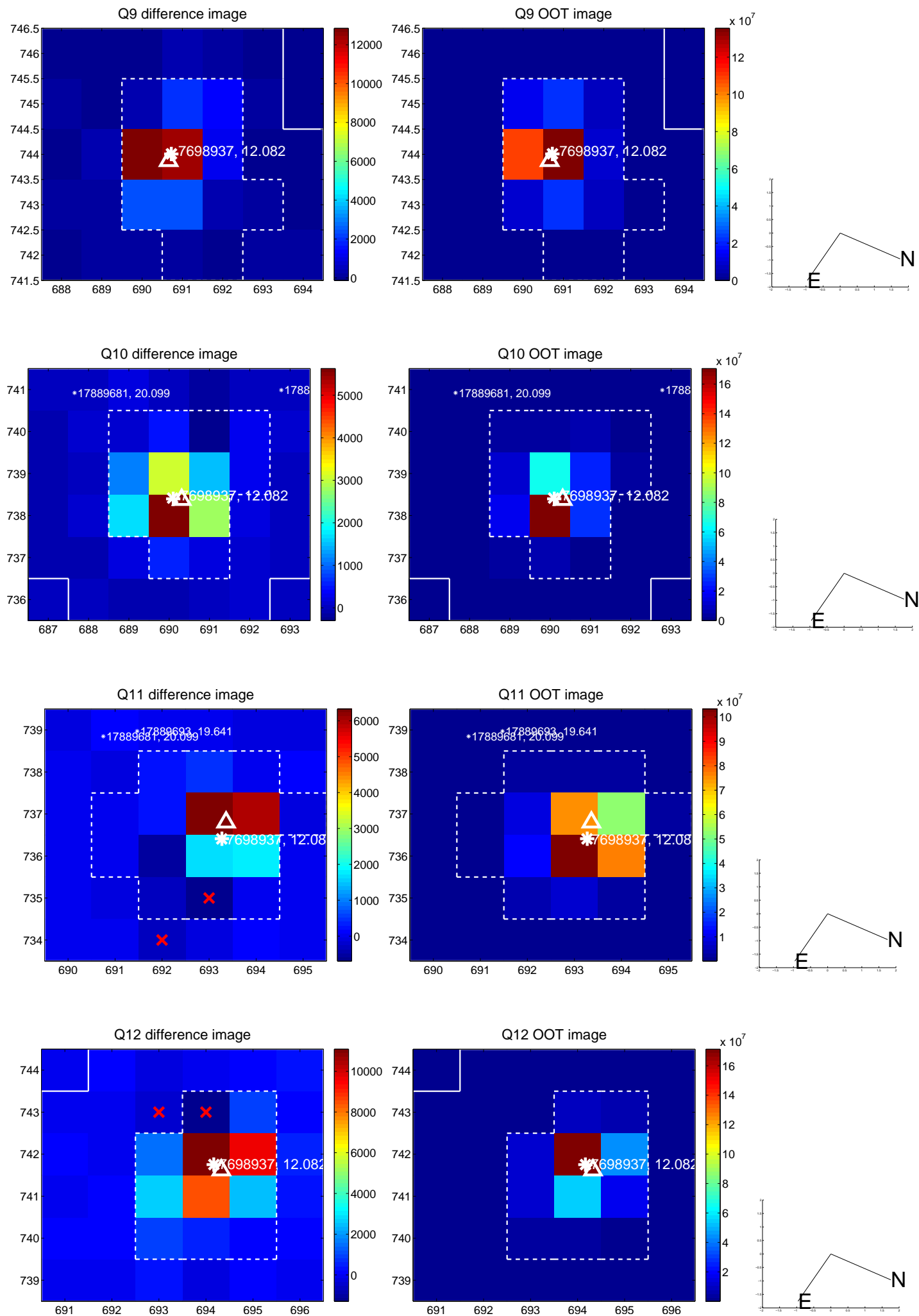
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



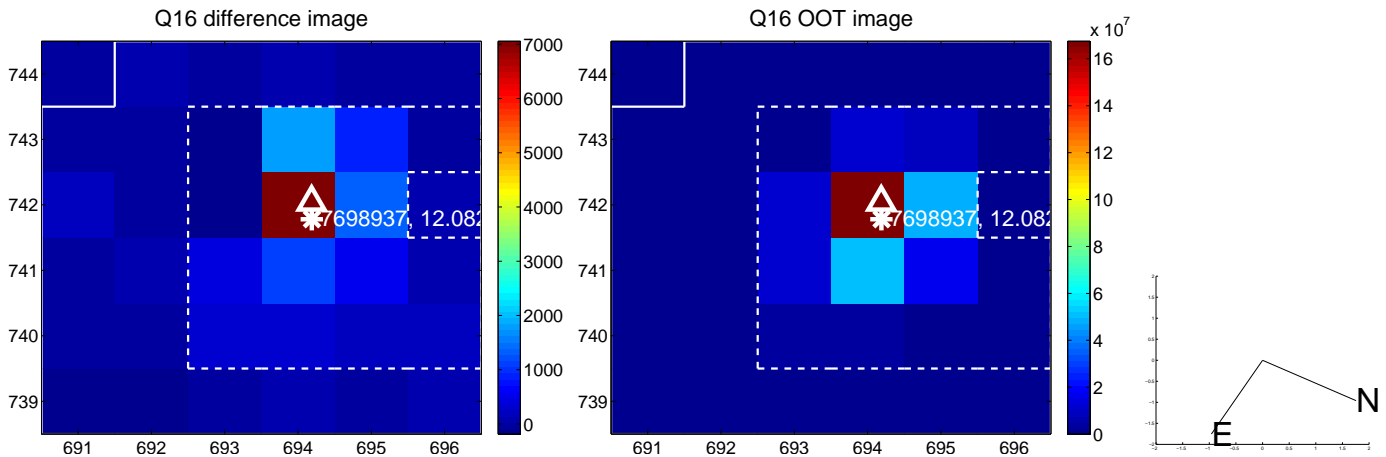
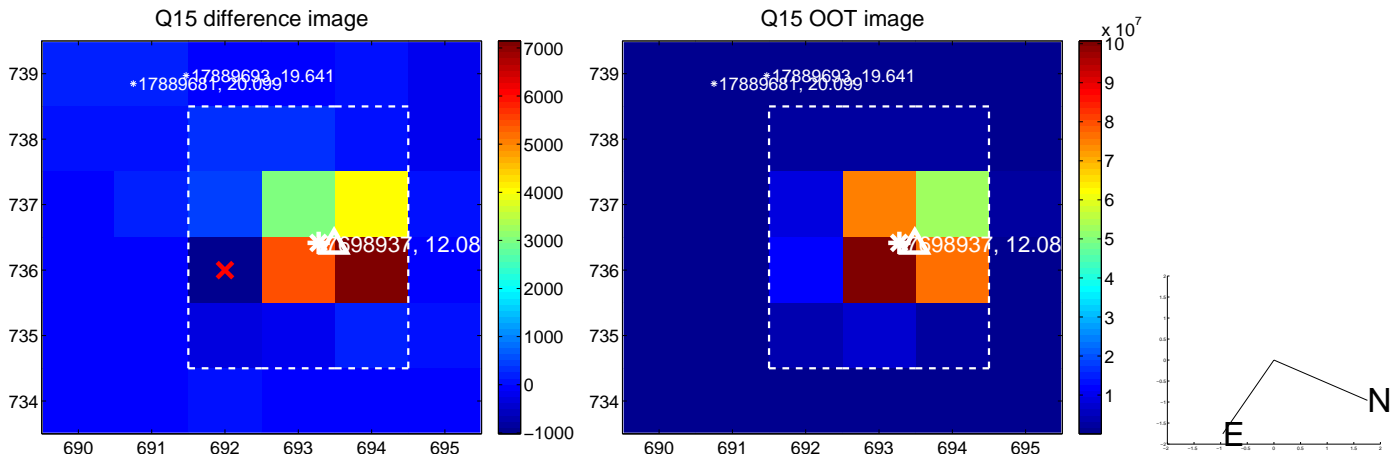
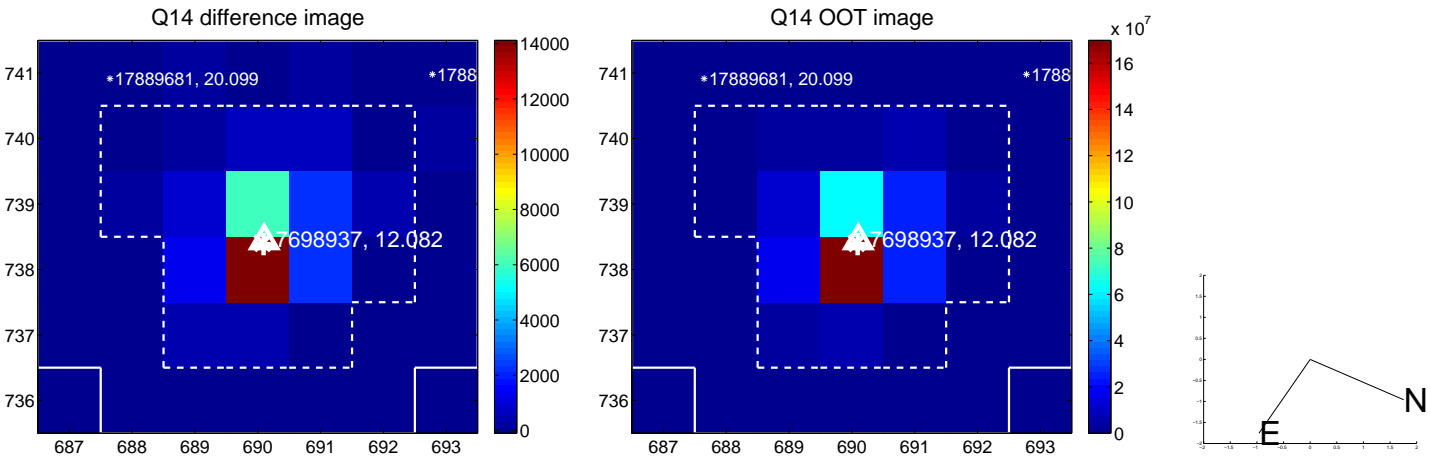
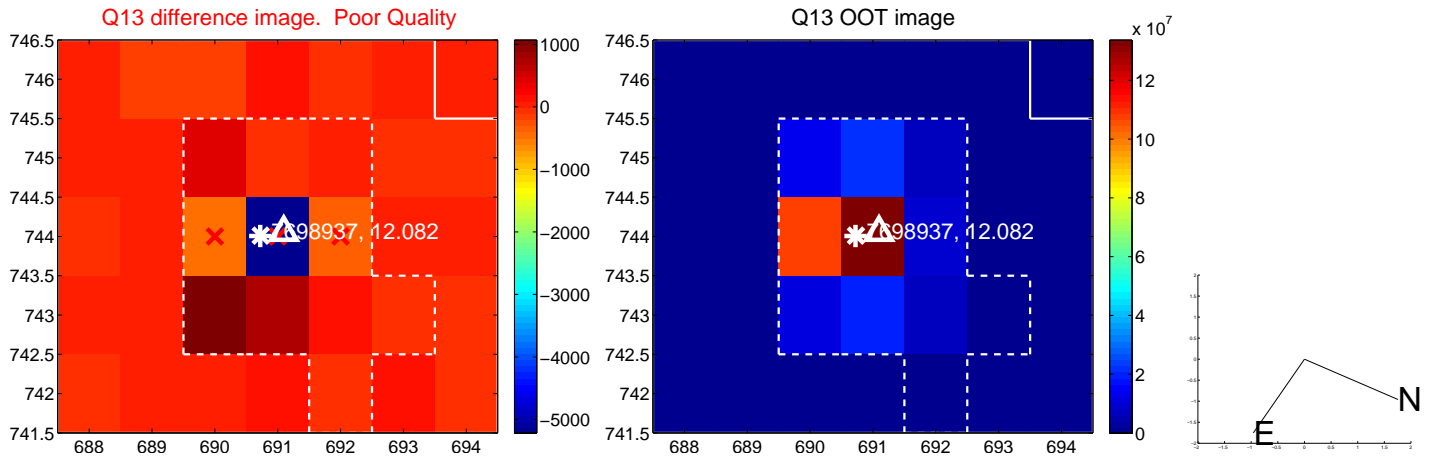
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



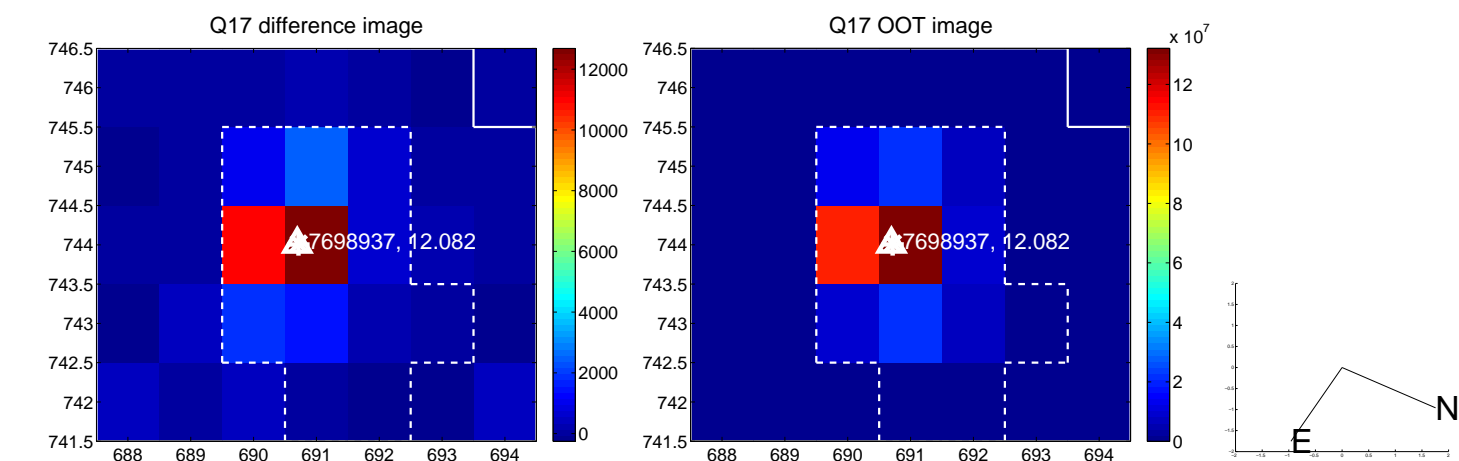
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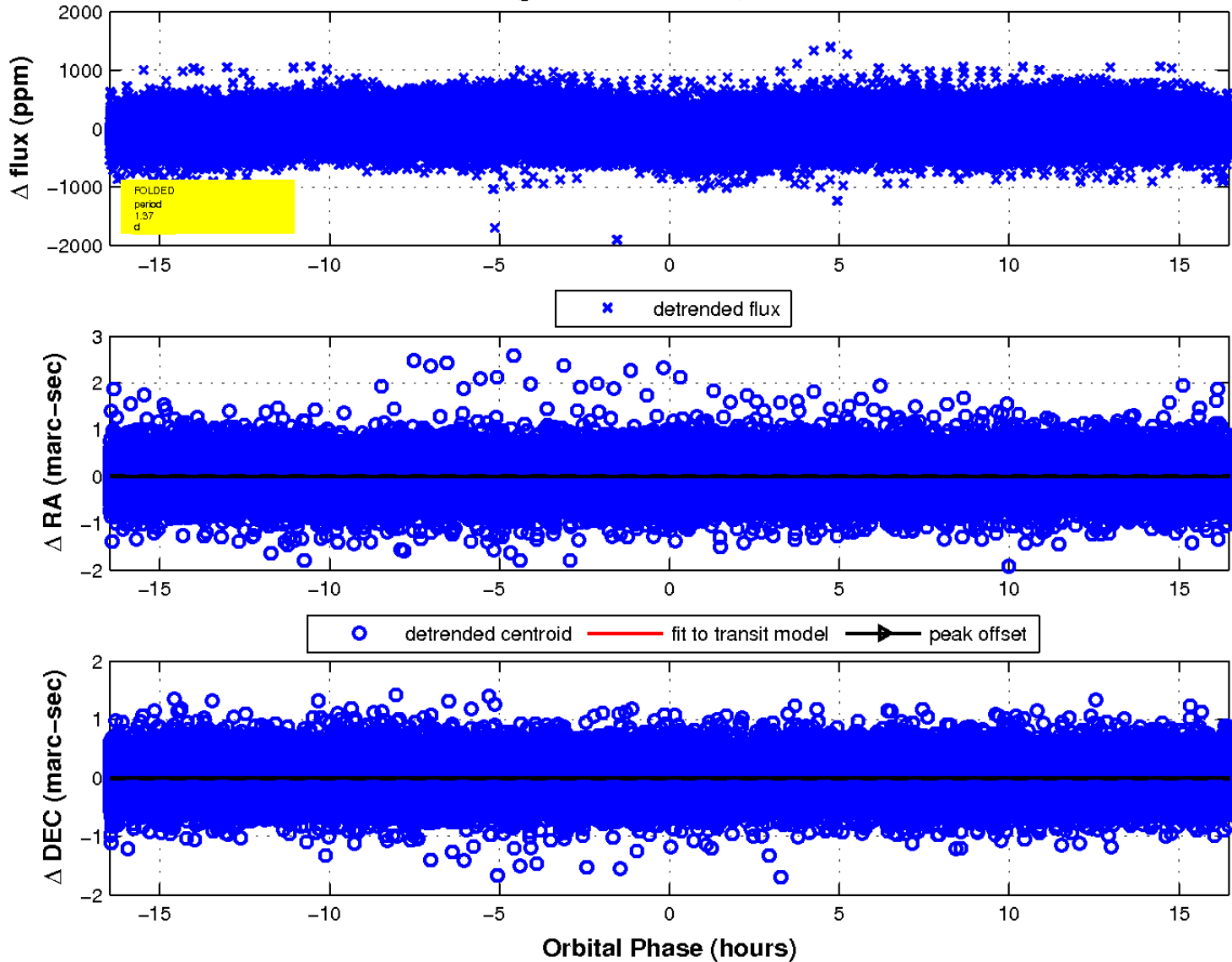
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

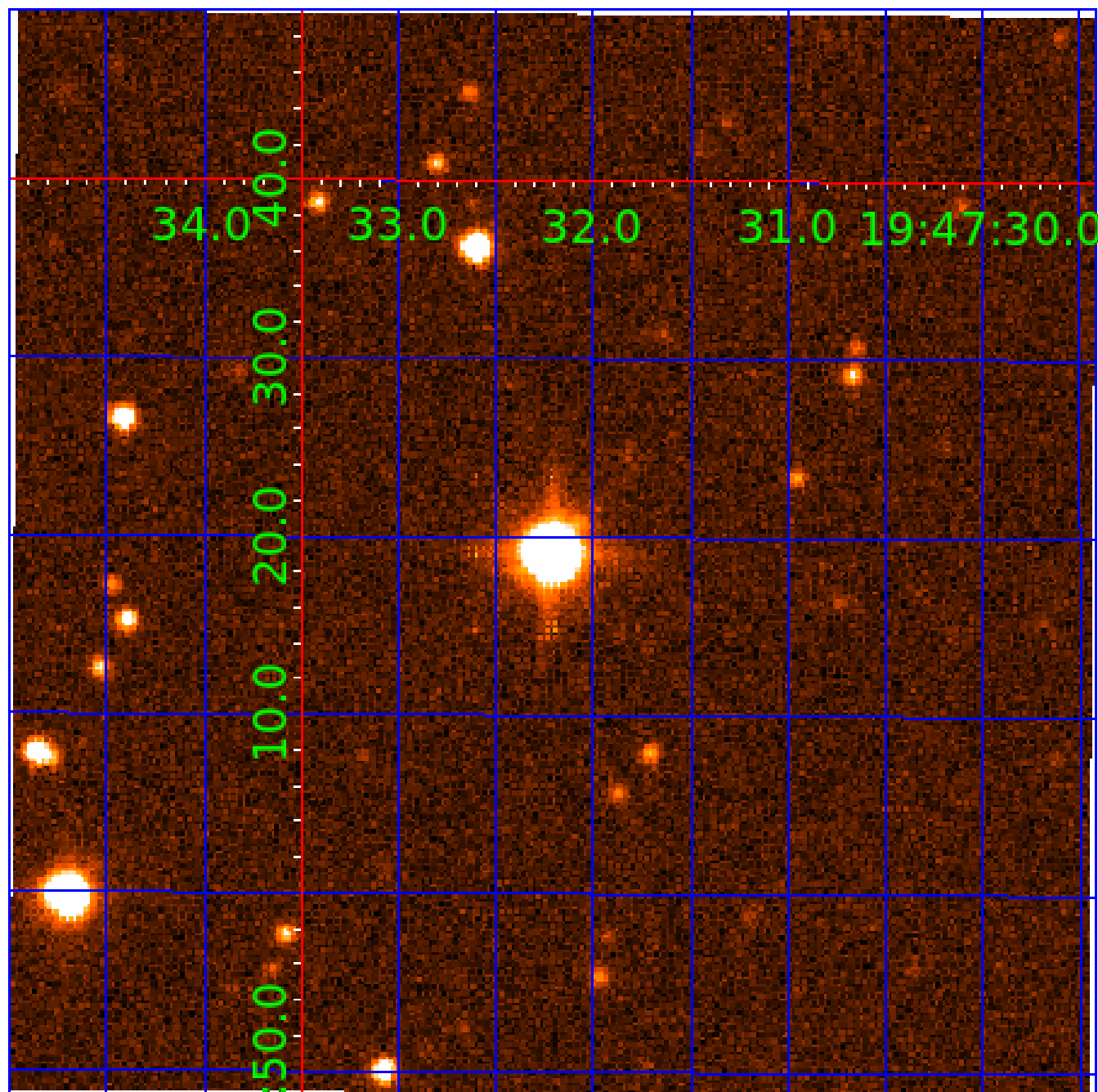


fluxWeightedCentroids, Planet 1 of 7



UKIRT Image

Declination



KIC 007698937

Q1-17 DR25 TCE Parameters

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007698937-03	OBS	No	198.129687	132.124236	675.0	9.176	11.5	8.4	1.60	6897	5.28	10.16
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007698937-07	OBS	No	391.234562	265.561959	86.0	7.500	8.3	-1.0	1.60	6897	1.50	4.10

Robovetter Results

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007698937-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007698937-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
007698937-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007698937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007698937-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698937-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007698937-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

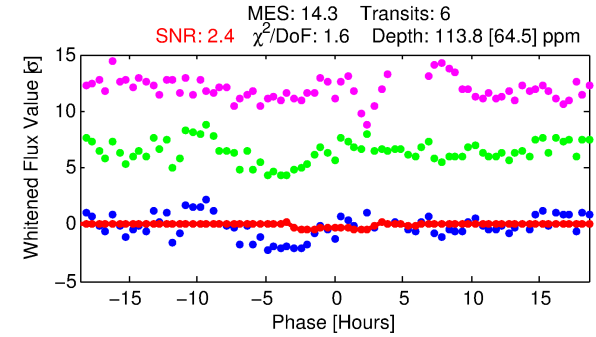
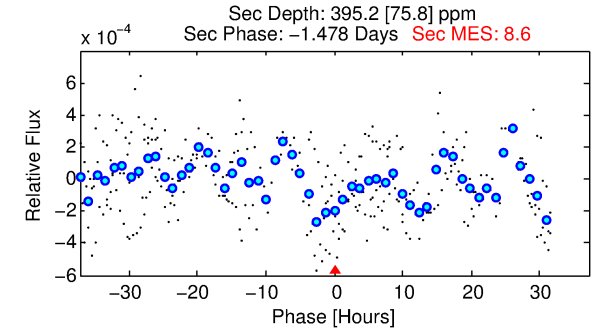
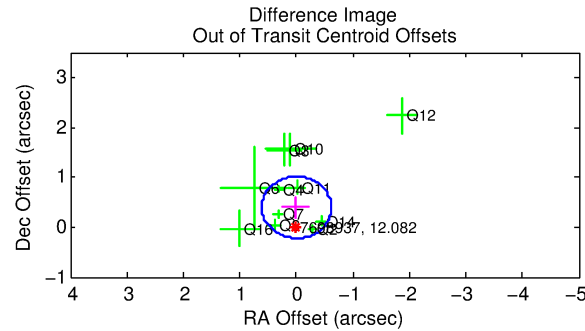
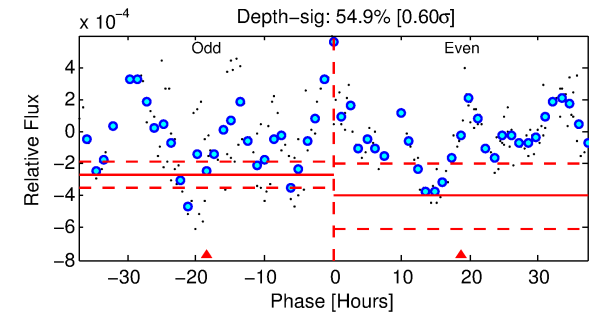
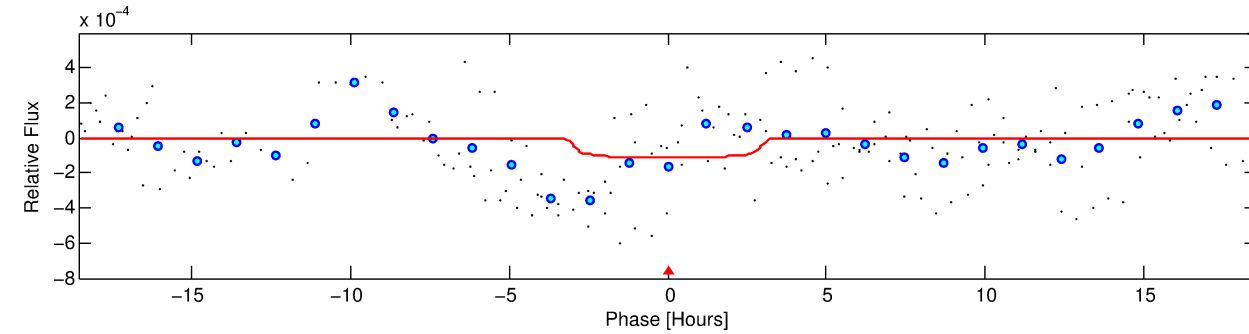
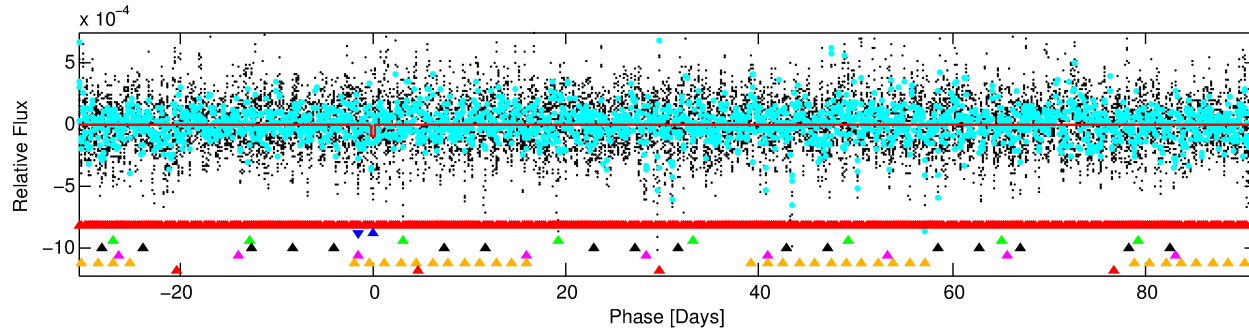
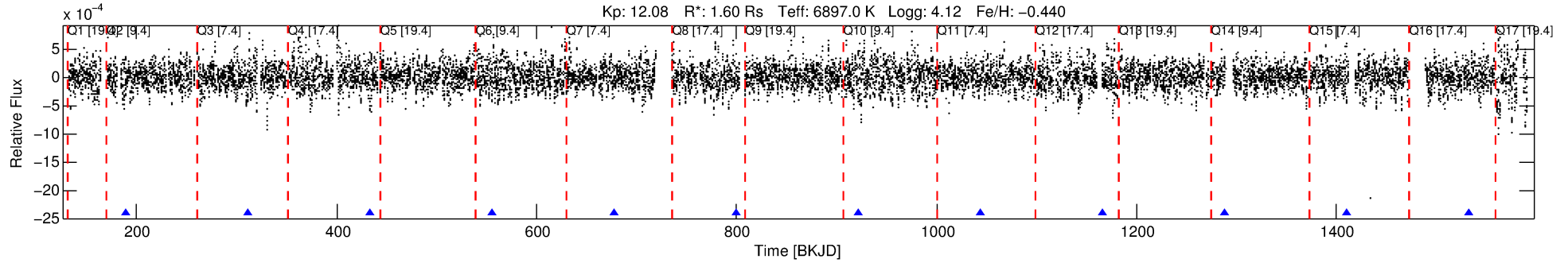
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007698937-02

No Significant Match Found

DV One-Page Summary

KIC: 7698937 Candidate: 2 of 7 Period: 122.075 d



DV Fit Results:

Period = 122.07490 [0.01529] d
Epoch = 189.0016 [0.0579] BKJD
Rp/R* = 0.0108 [0.0184]
a/R* = 90.55 [898.53]
b = 0.81 [4.21]
Seff = 19.38 [7.66]
Teq = 535 [53] K
Rp = 1.90 [3.26] Re
a = 0.5185 [0.1267] AU
Ag = 16266.25 [55677.33] [0.29 σ]
Teffp = 9342 [7954] K [1.11 σ]

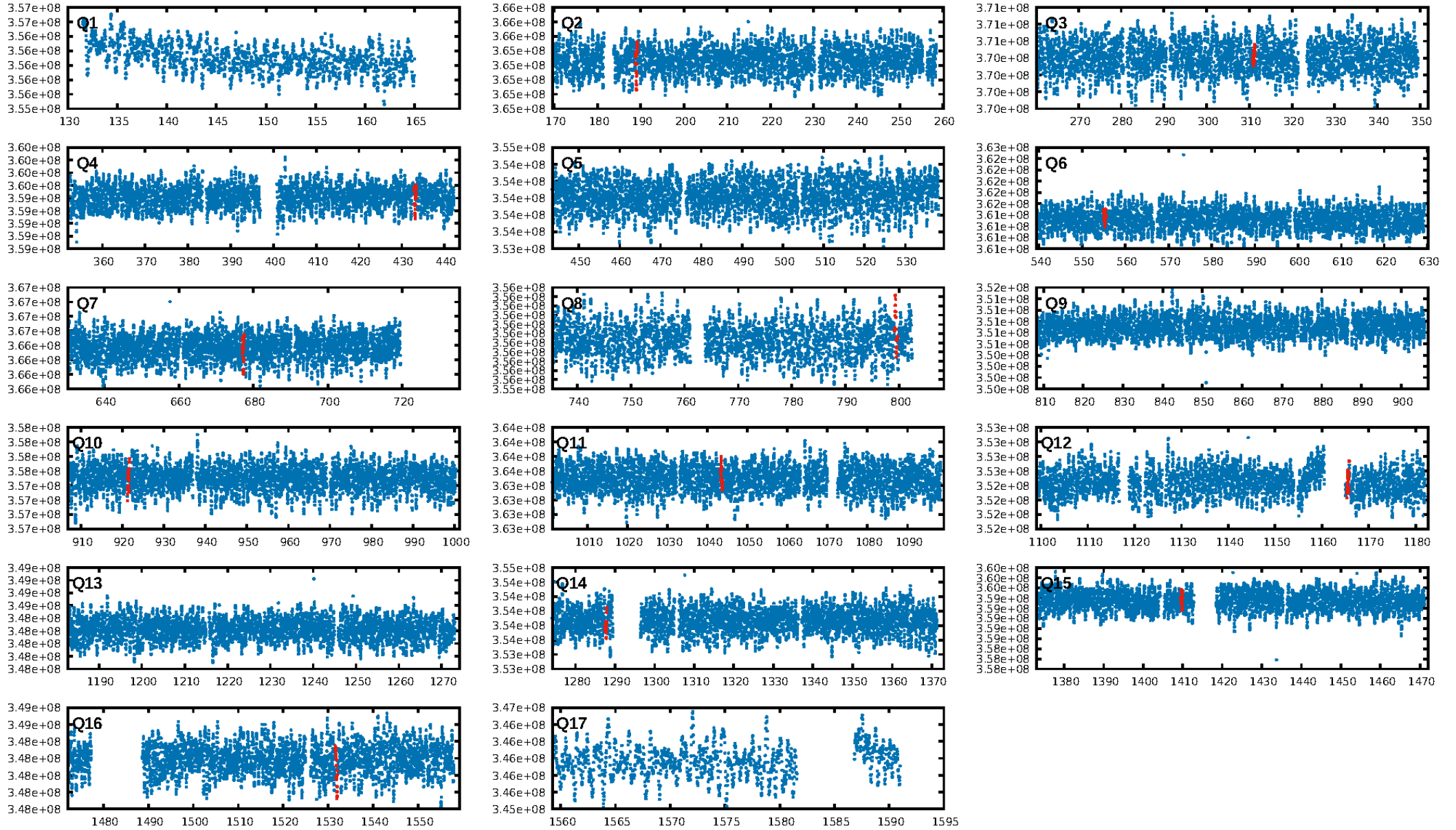
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [89.14 σ]
LongPeriod-sig: 100.0% [126.06 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.1337
Centroid-sig: 94.4%
Centroid-so: 0.130 arcsec [0.16 σ]
OotOffset-rm: 0.393 arcsec [1.91 σ]
OotOffset-st: 4/3/4/0 [11]
KicOffset-rm: 0.414 arcsec [1.66 σ]
KicOffset-st: 4/3/4/0 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.00 [0/11]

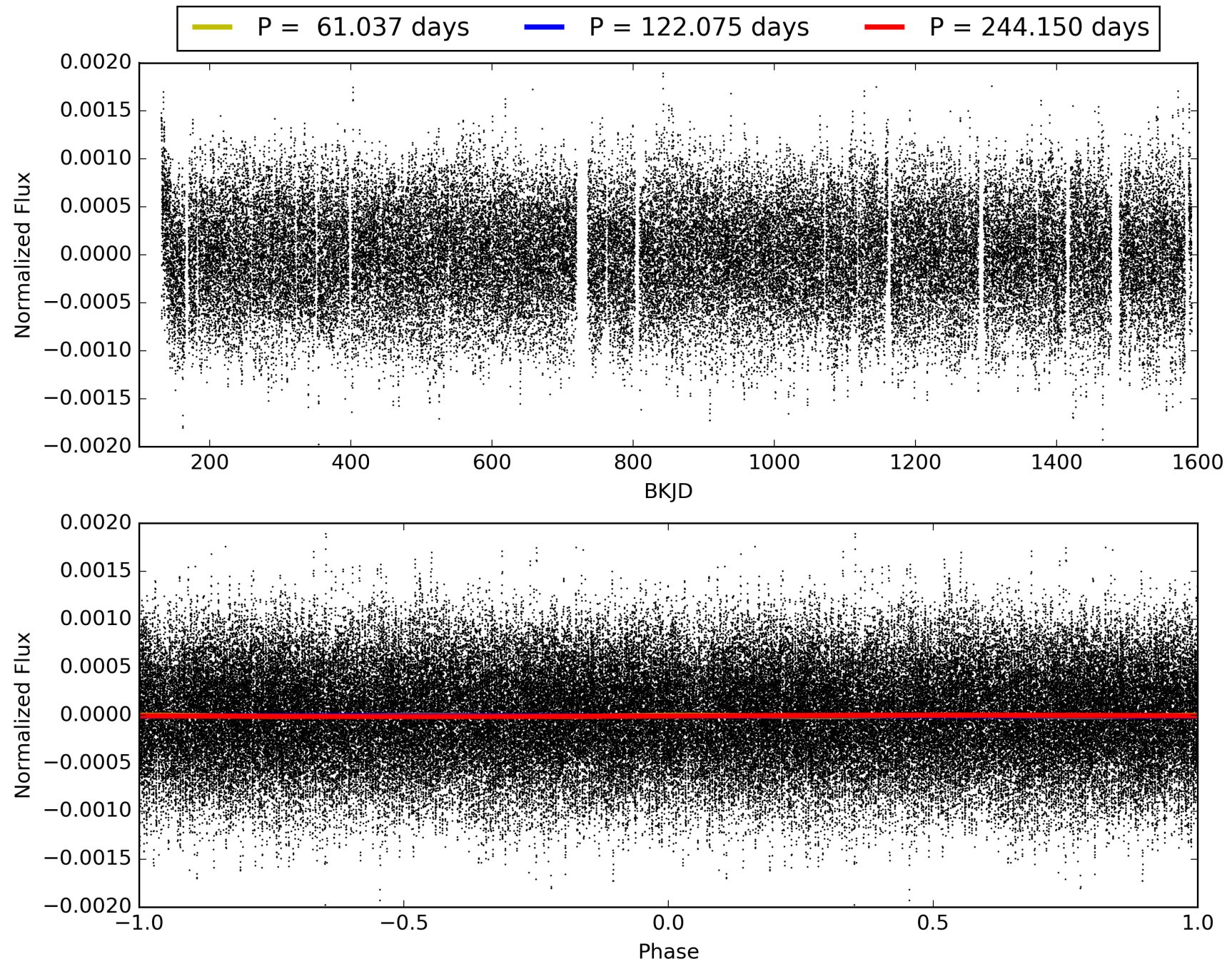
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:30:23 Z

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

TCE 007698937-02, PDC Light Curves

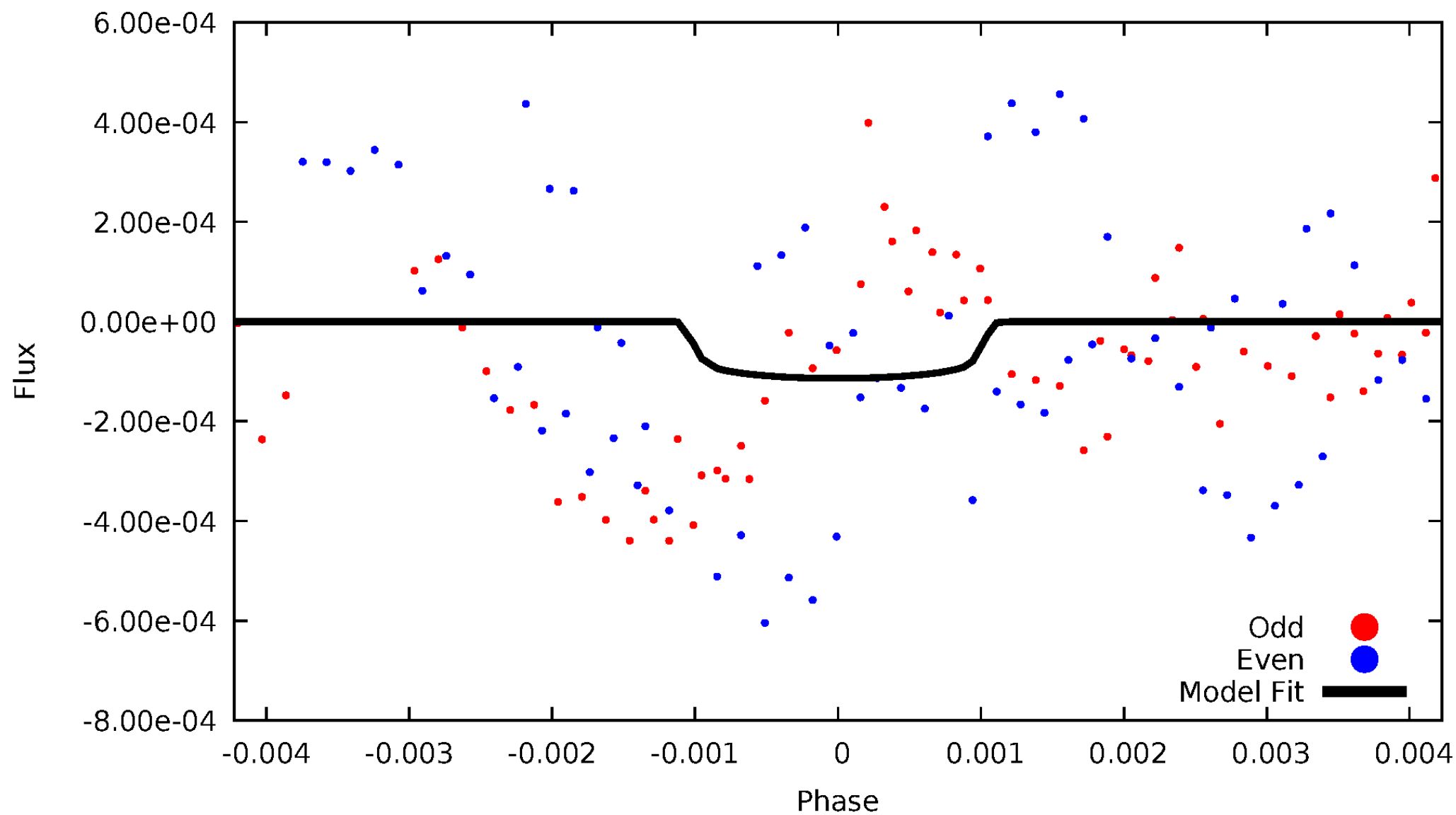


TCE 007698937-02



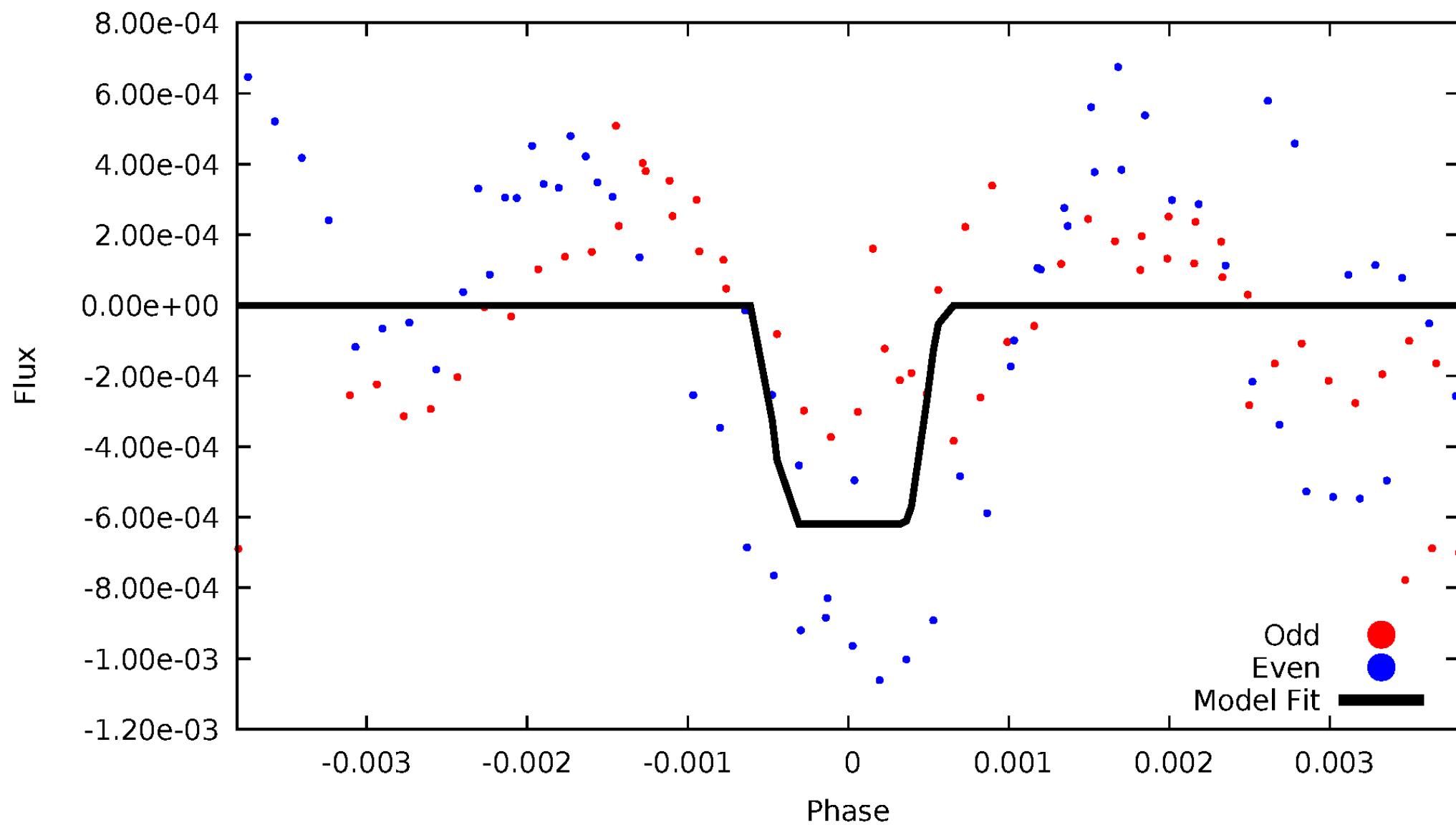
DV Odd/Even

TCE 007698937-02



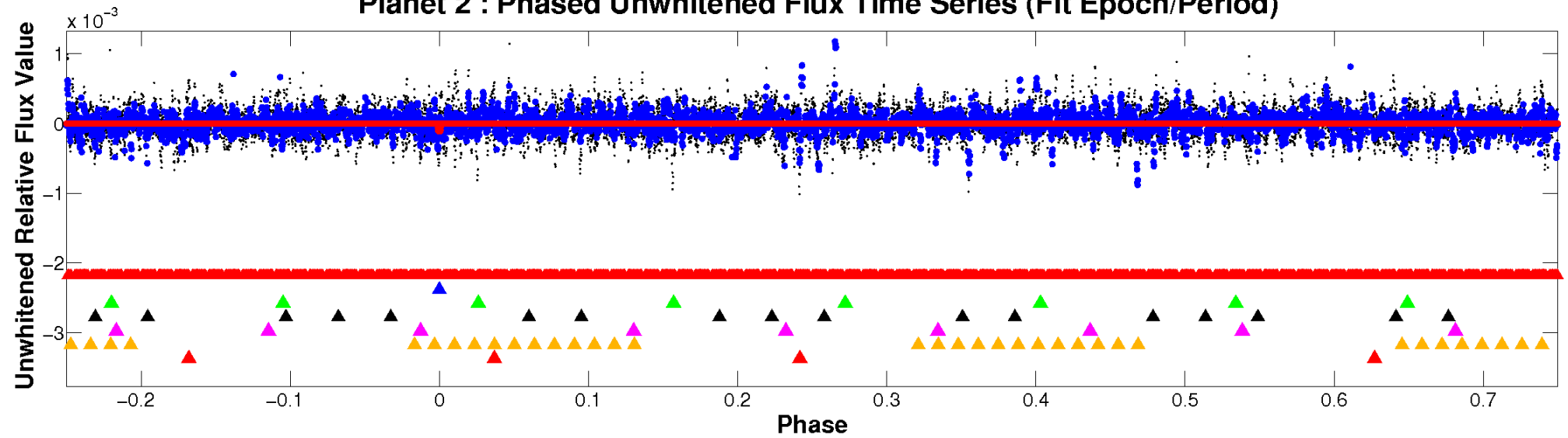
ALT Odd/Even

TCE 007698937-02

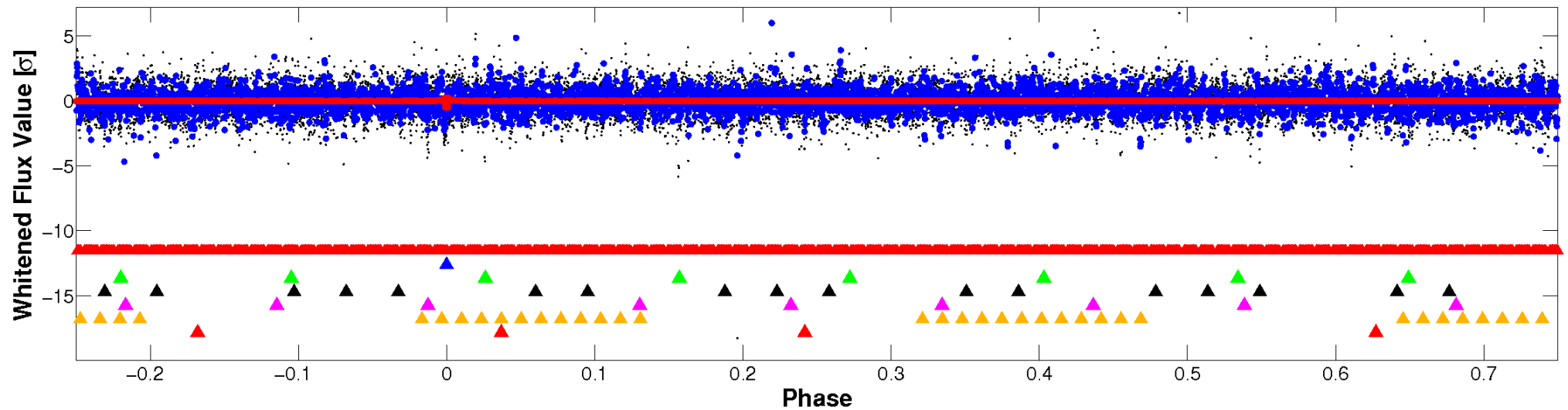


Non-Whitened Vs. Whitened Light Curve

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

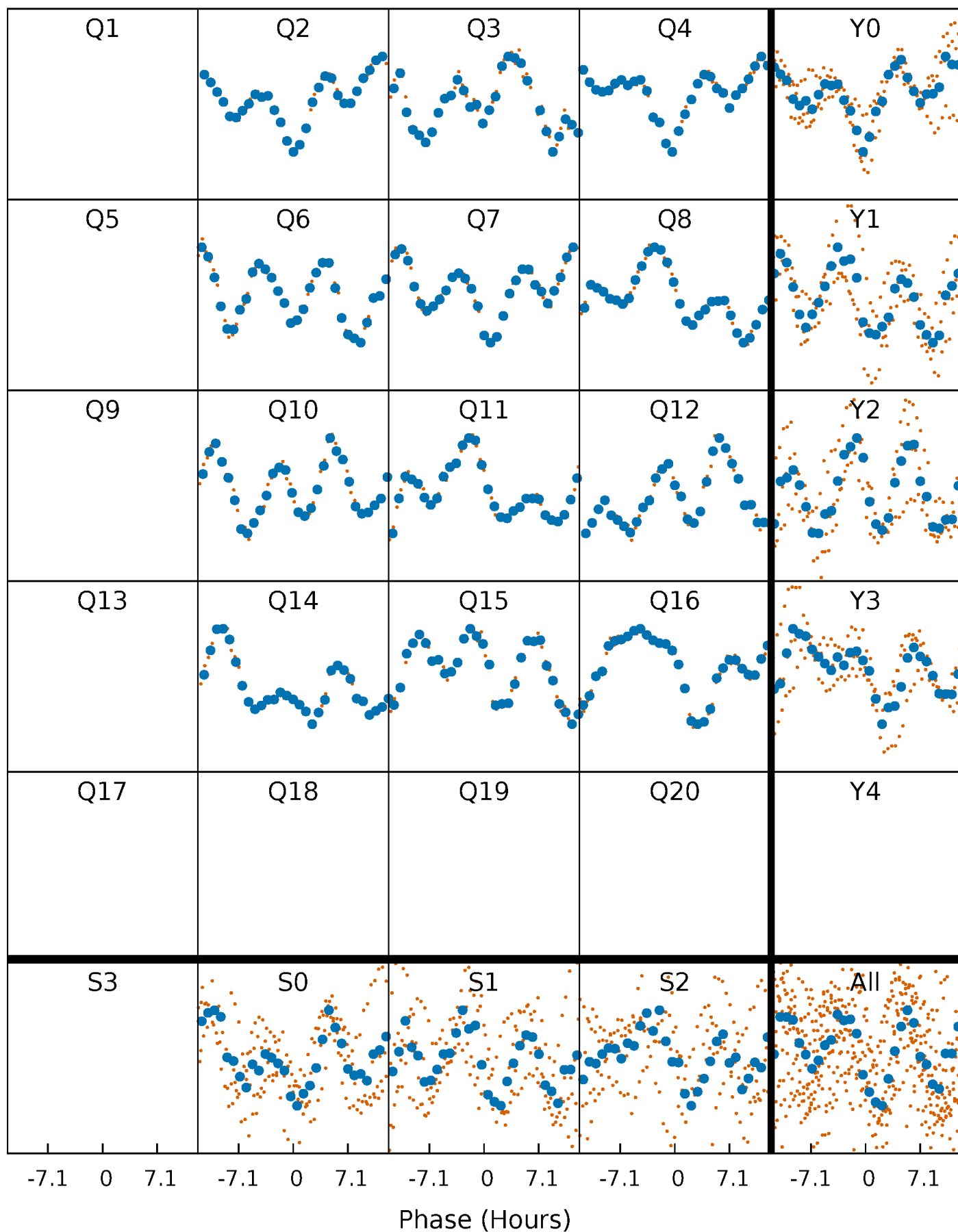


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



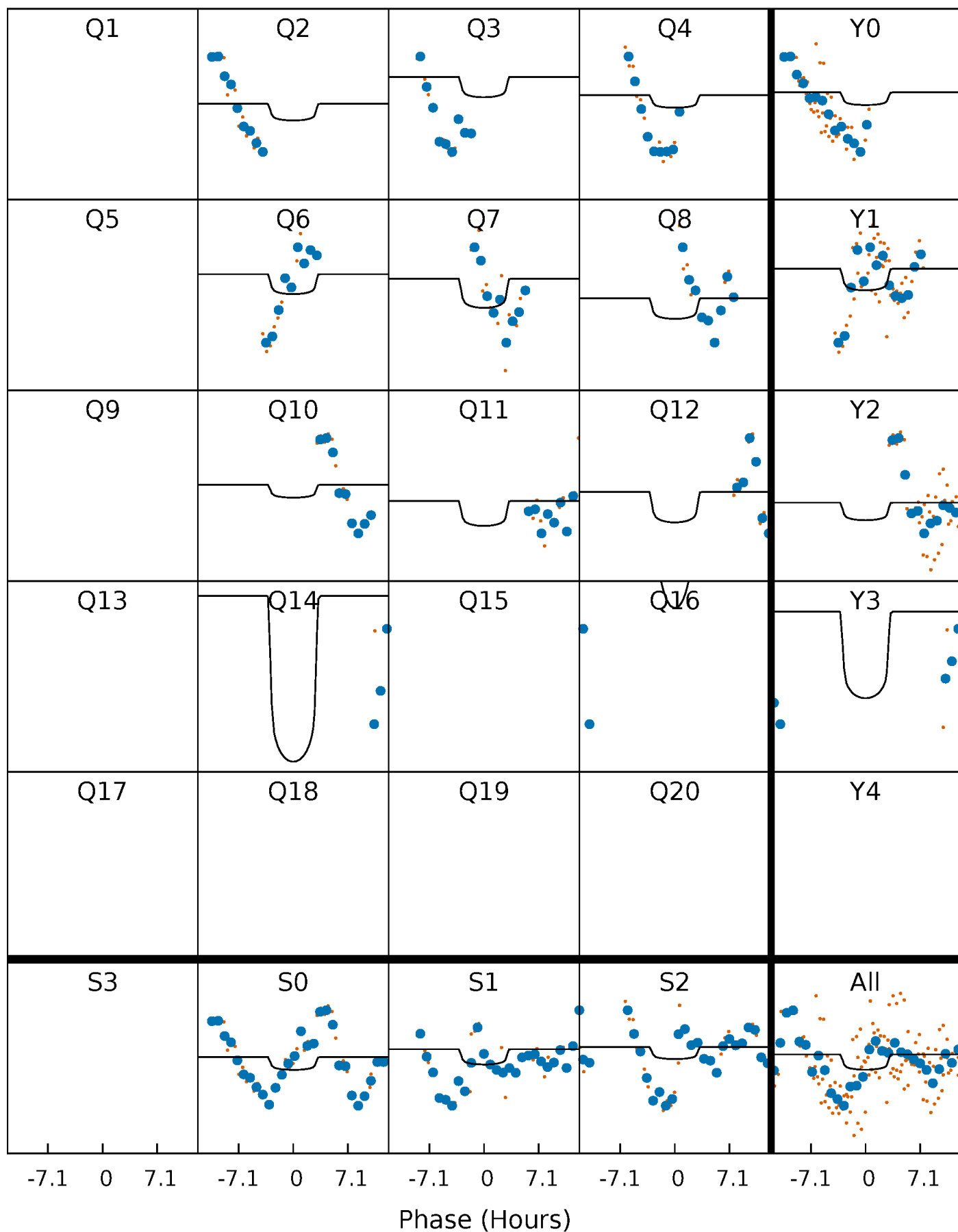
PDC Quarter-Phased Transit Curves

TCE 007698937-02 $P=122.074895$ Days $T_0=189.001565$ (BKJD)



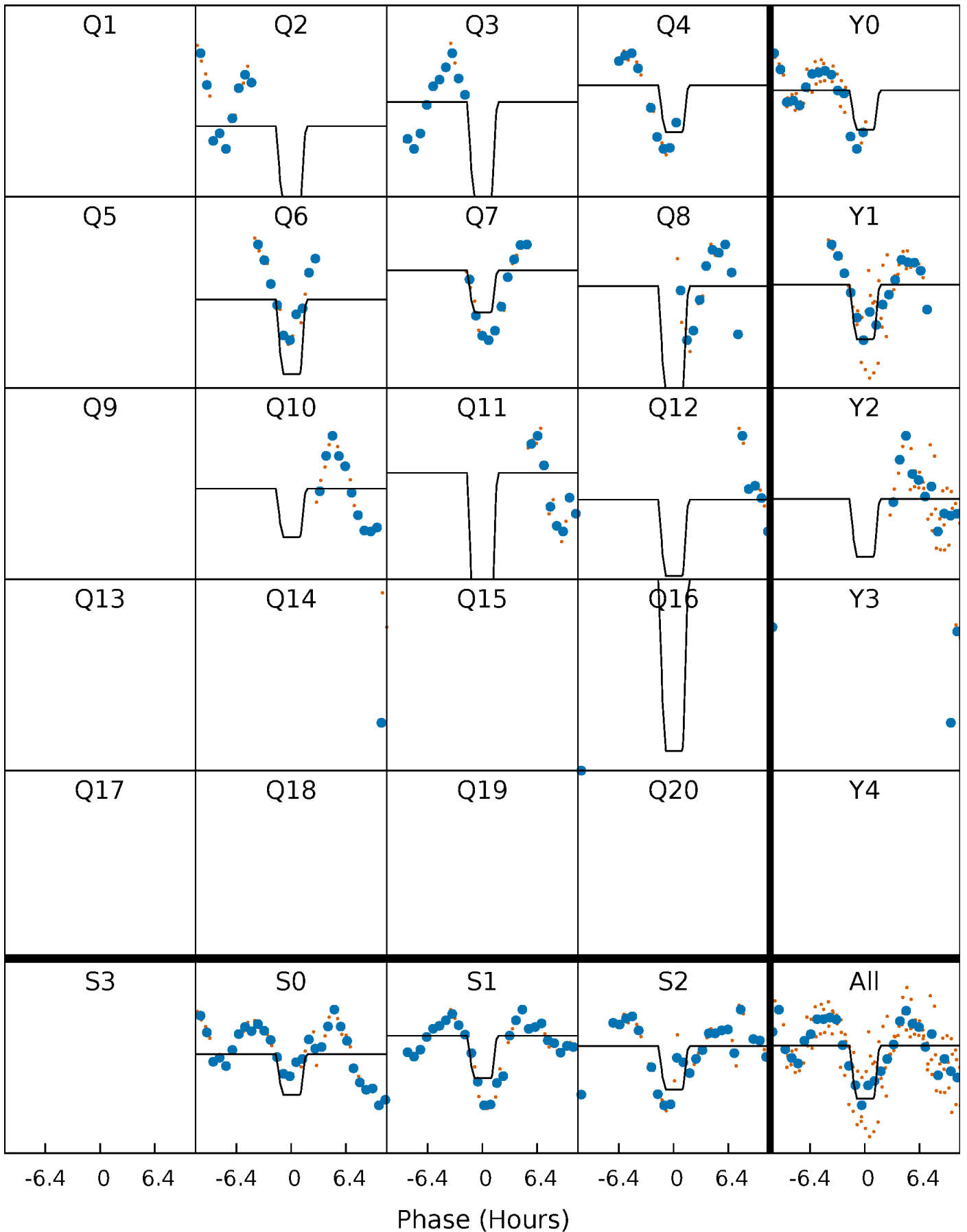
DV Quarter-Phased Transit Curves

TCE 007698937-02 P=122.074895 Days $T_0=189.001565$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

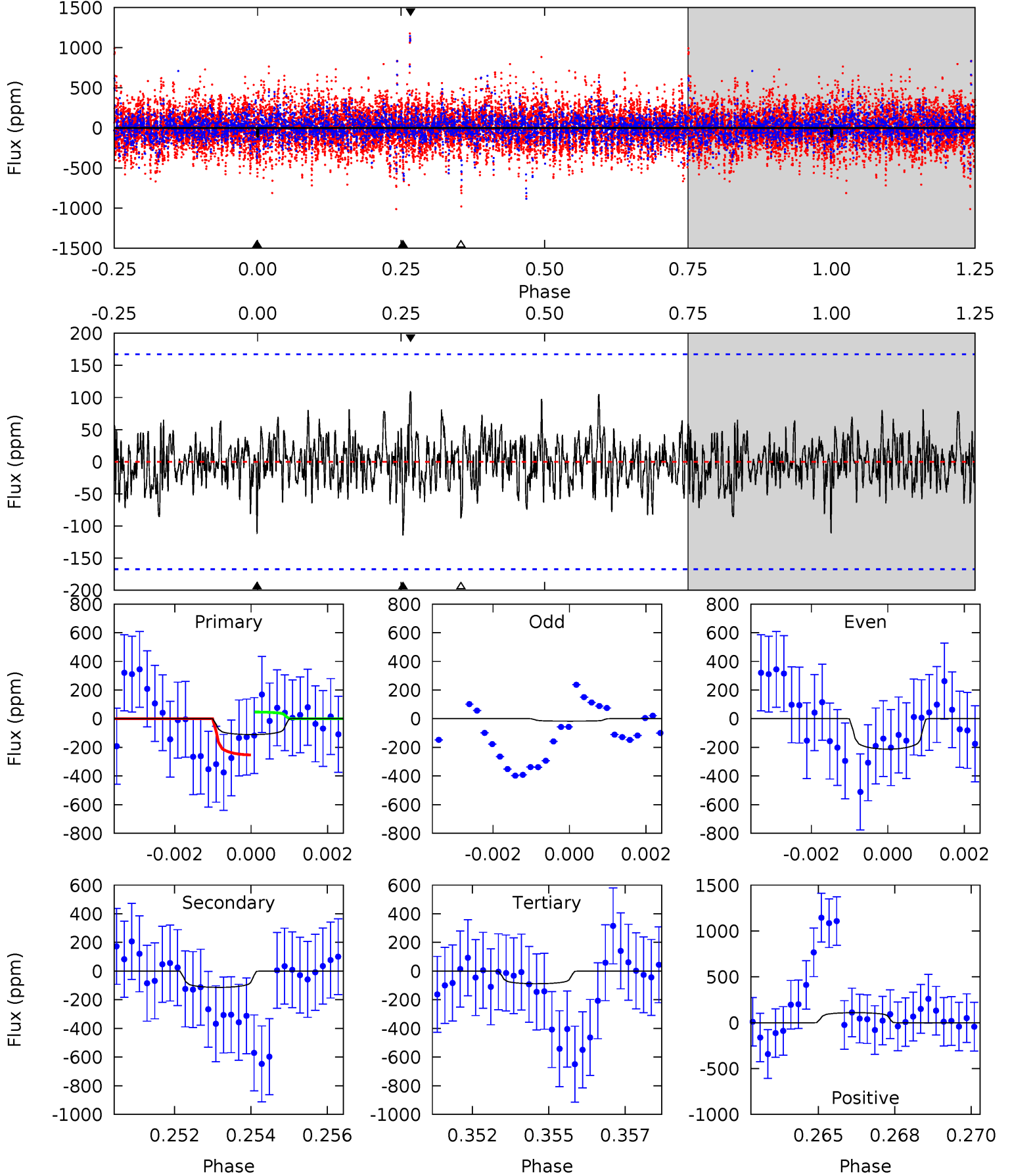
TCE 007698937-02 P=122.072399 Days $T_0=189.021138$ (BKJD)



DV Model-Shift Uniqueness Test

007698937-02, P = 122.074895 Days, E = 66.926670 Days

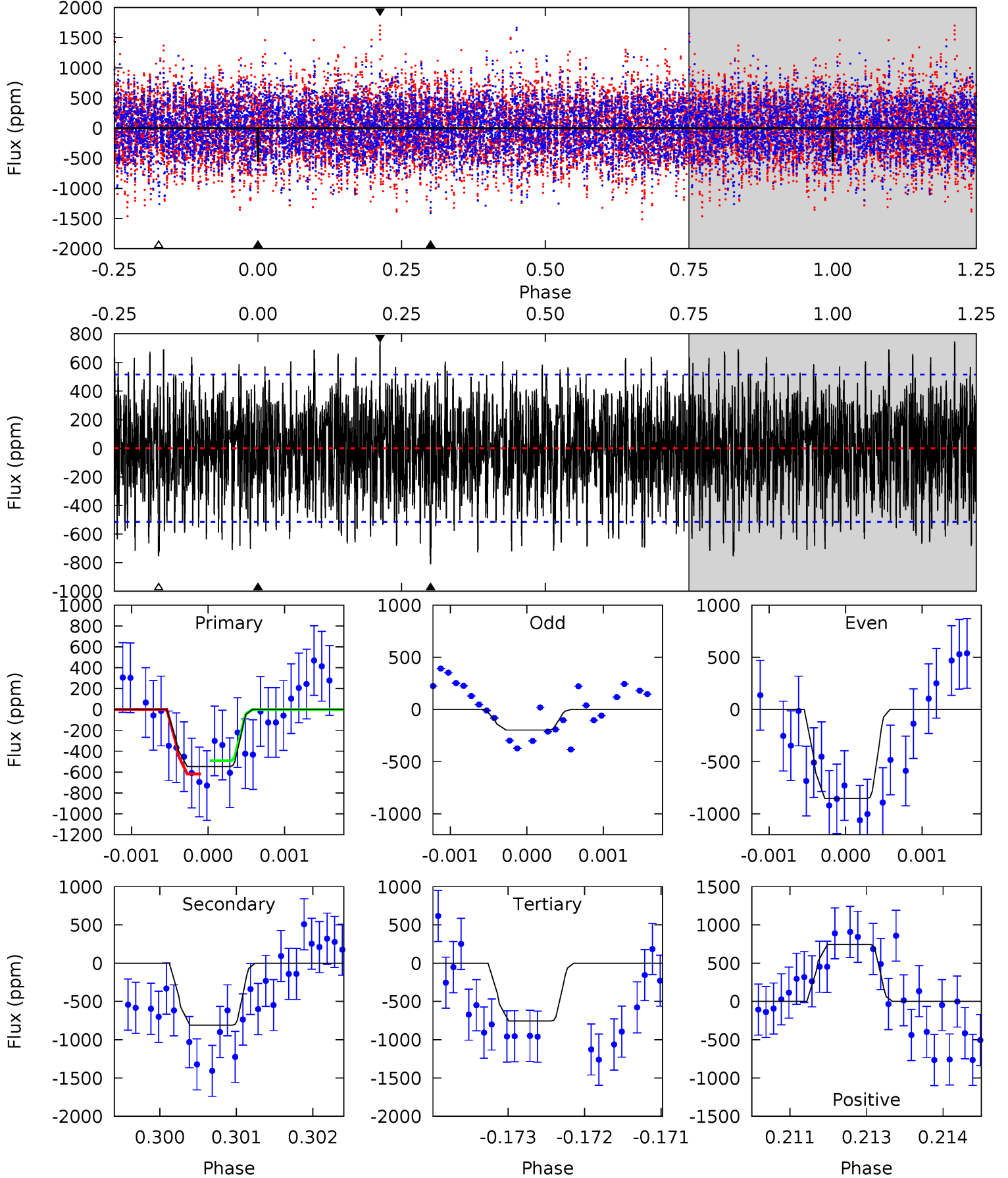
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.52	3.61	2.79	3.46	5.31	3.06	0.94	0.73	0.06	0.81	0.15	3.12	4.41	0.49	3.30



Alt Model-Shift Uniqueness Test

007698937-02, P = 122.072399 Days, E = 66.948739 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.76	8.53	7.95	7.85	5.43	3.26	2.96	-2.19	-2.09	0.58	0.68	3.46	0.95	0.48	0.65



Stellar Parameters For KIC 007698937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6897^{+192}_{-240}	$4.124^{+0.209}_{-0.171}$	$-0.440^{+0.300}_{-0.300}$	$1.603^{+0.443}_{-0.443}$	$1.249^{+0.185}_{-0.203}$	$0.427^{+0.535}_{-0.210}$
	+3%/-3%	+5%/-4%	+68%/-68%	+28%/-28%	+15%/-16%	+125%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007698937-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-114 ± 32	$2.88^{+2.78}_{-1.90}$	745^{+55}_{-52}	5479^{+4388}_{-1302}	1954^{+14442}_{-1465}
Alt.	-810 ± 95	$4.70^{+3.20}_{-2.82}$	744^{+55}_{-59}	7080^{+5743}_{-1659}	5345^{+28186}_{-3495}

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

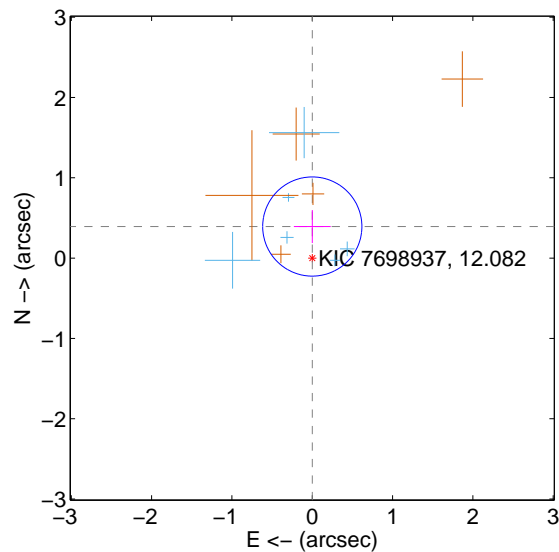
Supplemental centroid analysis for 007698937-02. Kepler magnitude: 12.08. Transit SNR 2.42

There are 6 quarters with good PRF difference image offsets

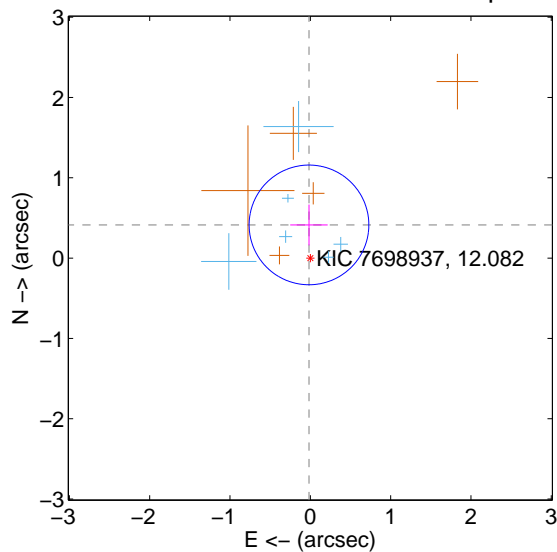
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.393 ± 0.206	1.91	-0.001 ± 0.230	0.393 ± 0.206
PRF-fit source offset from KIC position	0.414 ± 0.248	1.66	0.017 ± 0.233	0.413 ± 0.254
photometric centroid source offset	0.13 ± 0.79	0.16	-0.12 ± 0.80	0.04 ± 0.74

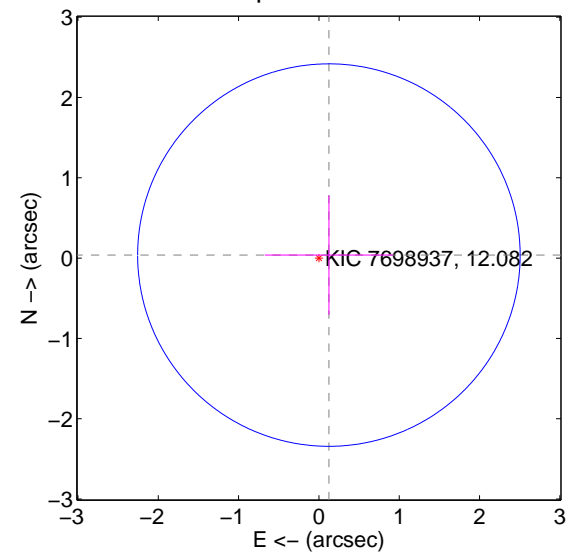
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

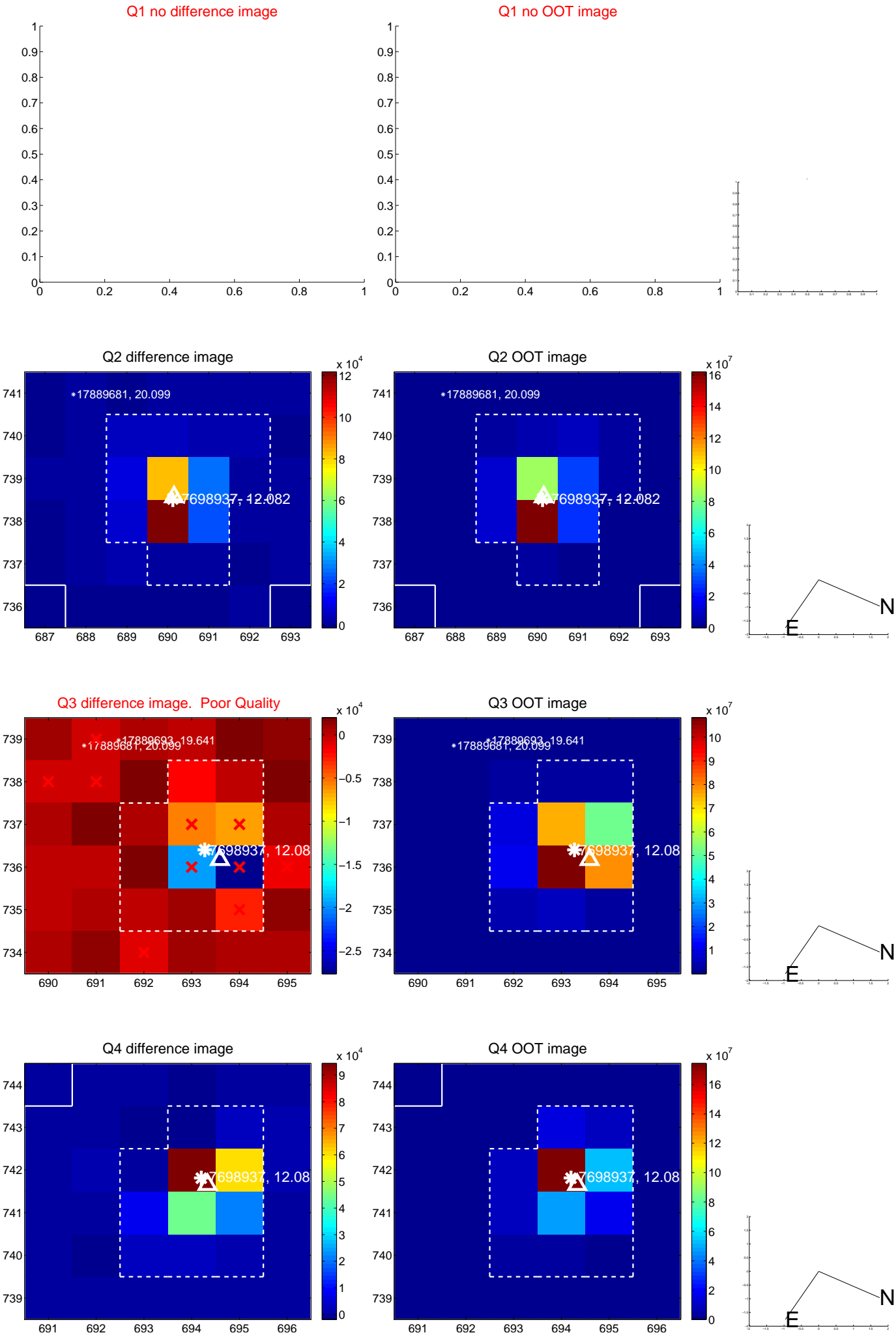


offset from photometric centroids

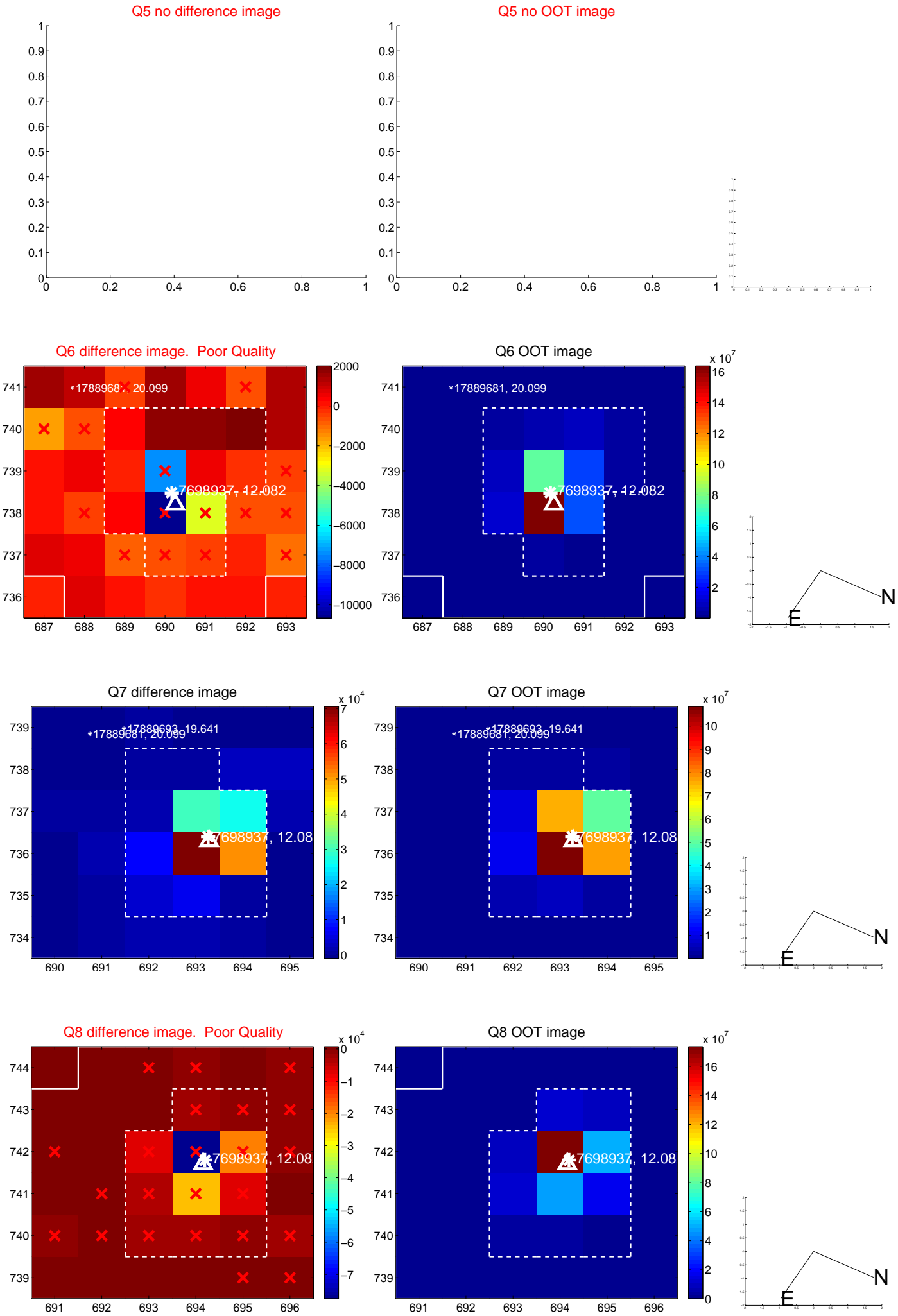


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

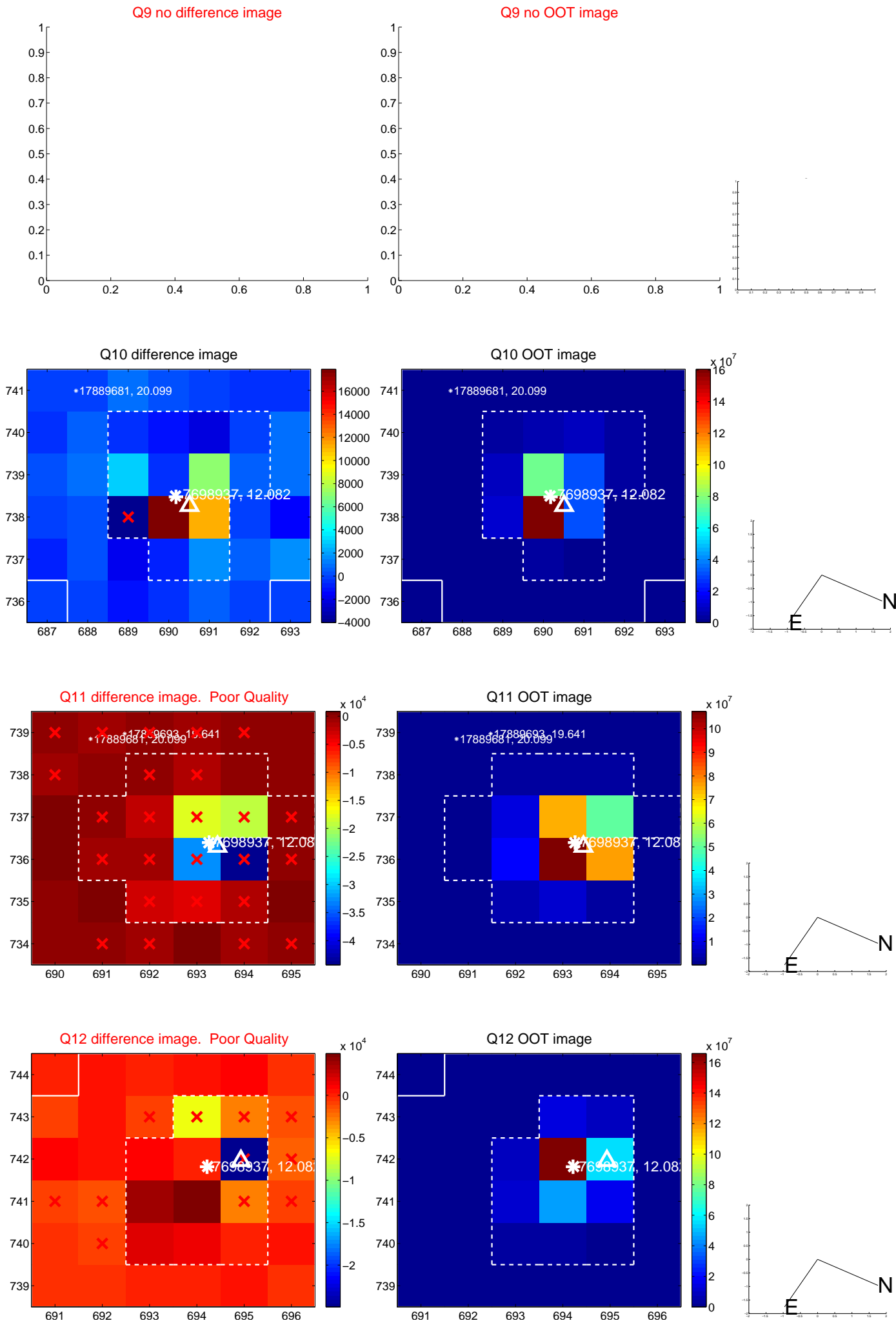
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



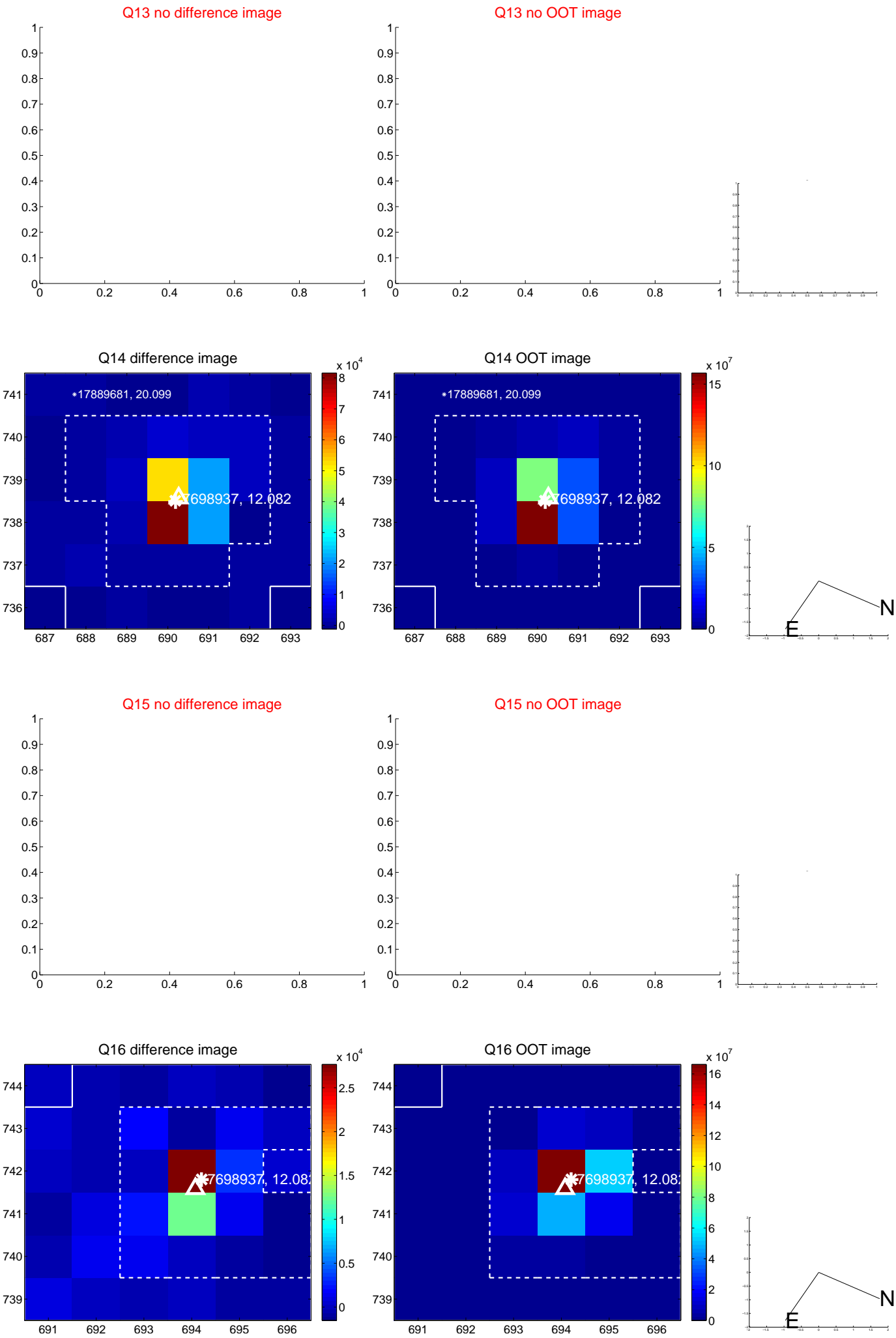
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



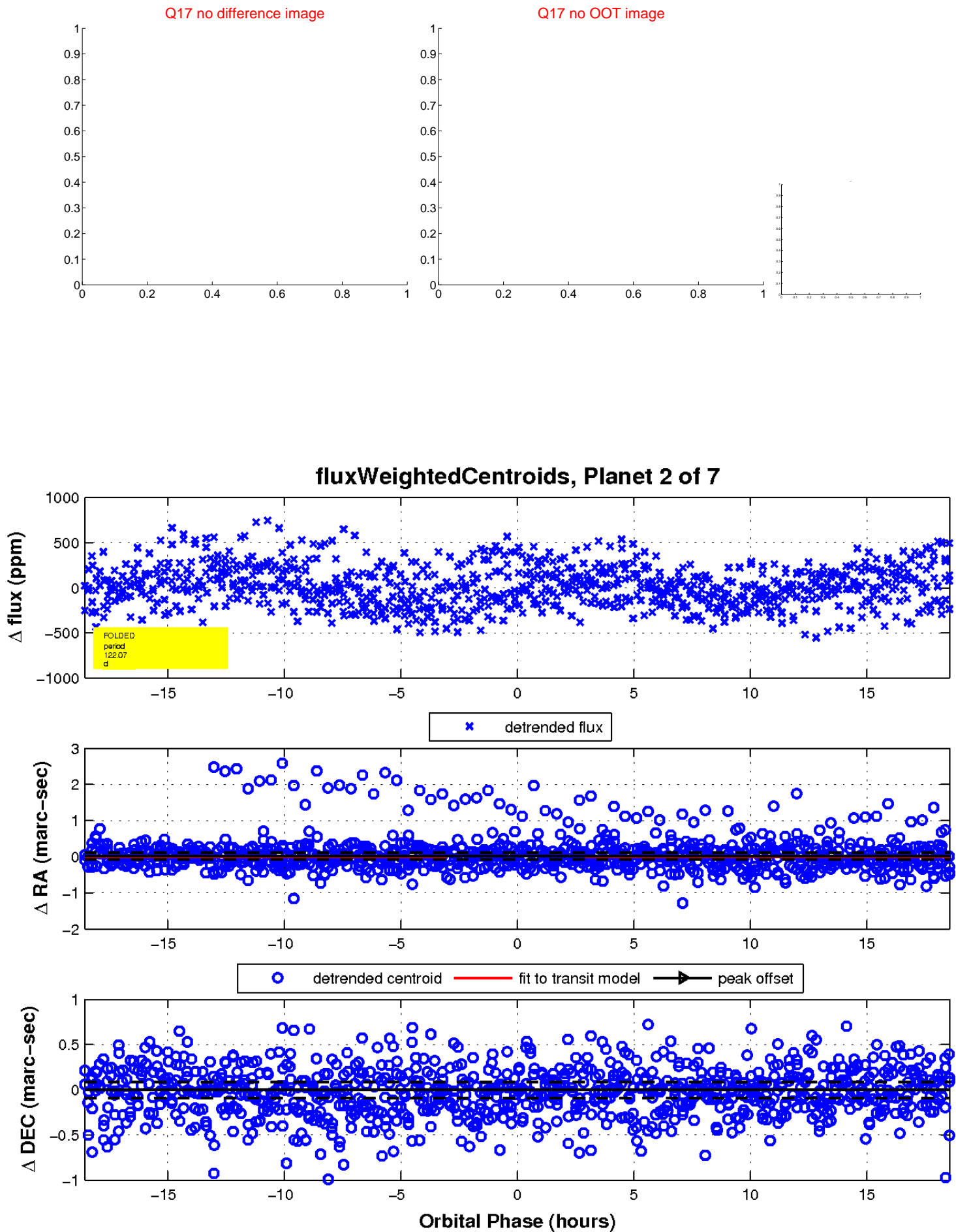
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

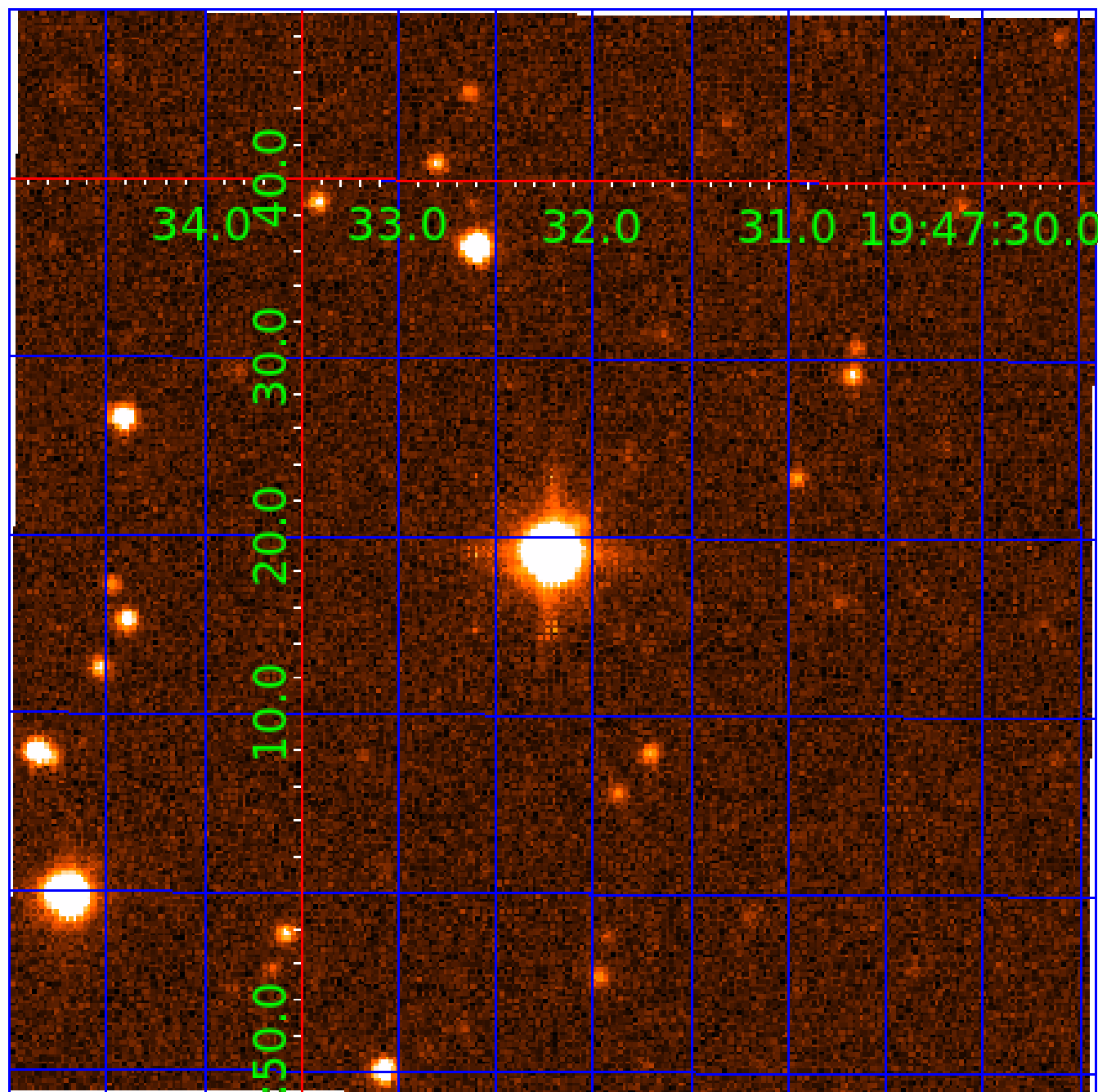


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007698937

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})
007698937-01	OBS	No	1.372720	131.715322	16.1	8.383	11.0	5.4	1.60	6897	0.68	7692.16
007698937-02	OBS	No	122.074895	189.001565	113.8	6.189	14.3	2.4	1.60	6897	1.90	19.38
007698937-03	OBS	No	198.129687	132.124236	675.0	9.176	11.5	8.4	1.60	6897	5.28	10.16
007698937-04	OBS	No	86.583323	133.931085	429.4	7.280	10.3	10.3	1.60	6897	4.30	30.64
007698937-05	OBS	No	176.884888	132.658048	434.1	8.402	10.5	7.9	1.60	6897	6.38	11.82
007698937-06	OBS	No	41.237027	145.732381	222.1	4.988	9.0	7.9	1.60	6897	2.73	82.37
007698937-07	OBS	No	391.234562	265.561959	86.0	7.500	8.3	-1.0	1.60	6897	1.50	4.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007698937-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007698937-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
007698937-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007698937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007698937-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698937-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007698937-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

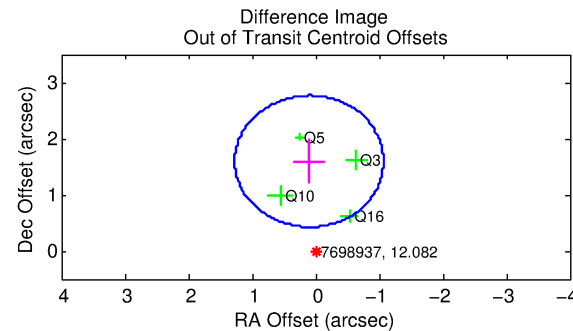
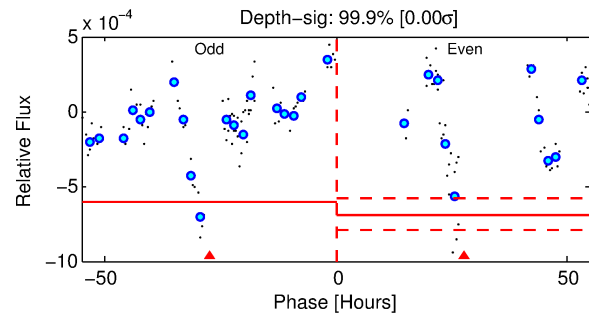
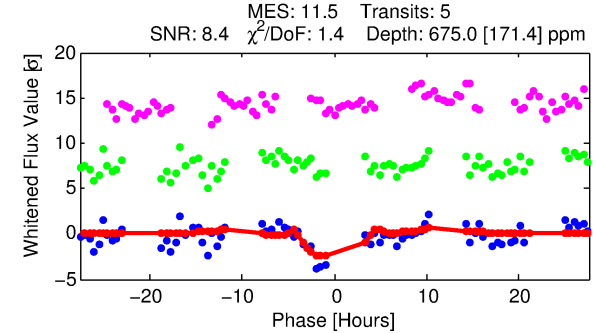
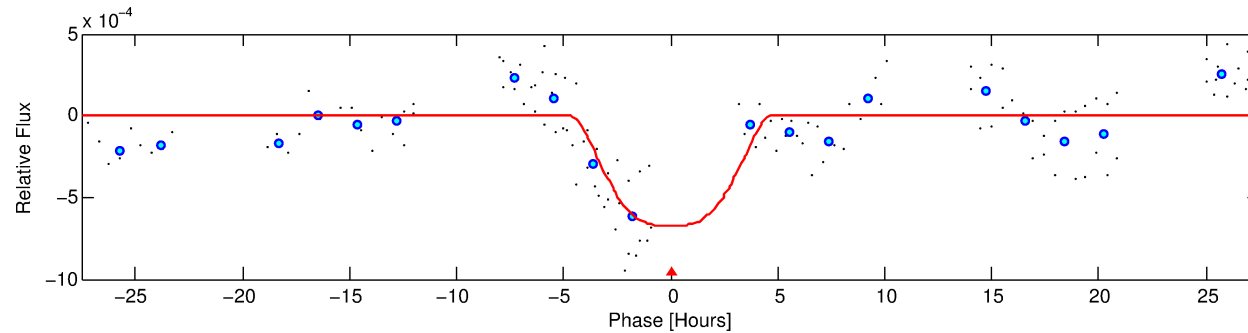
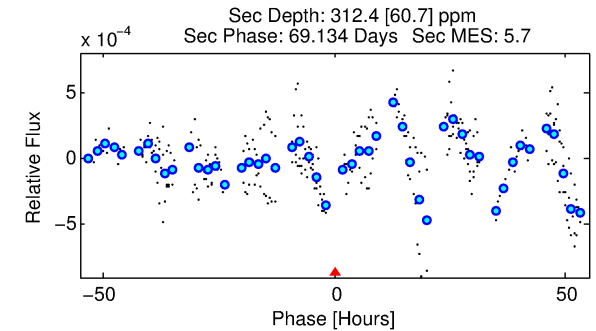
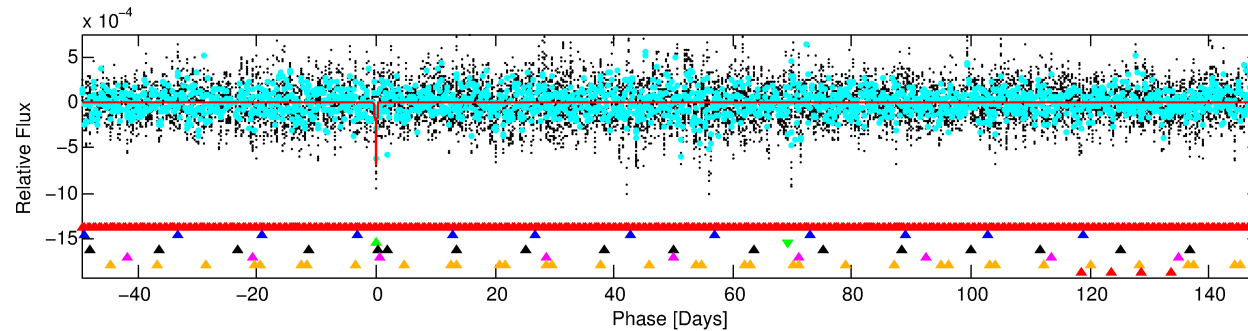
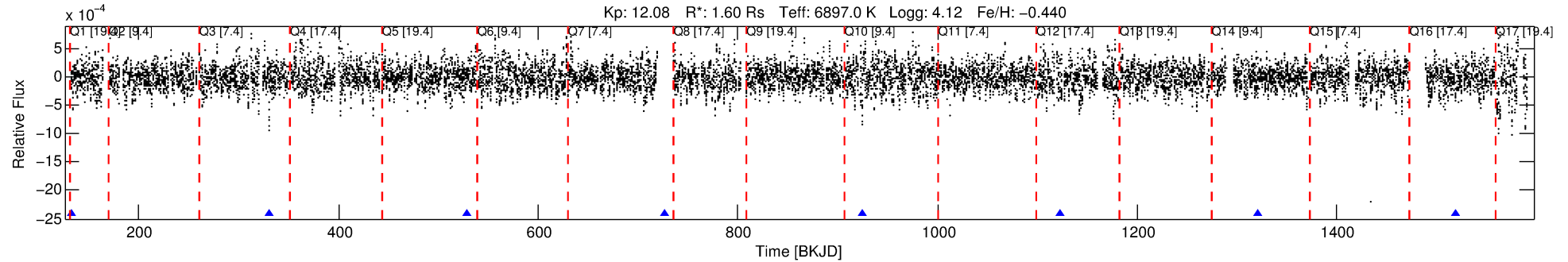
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007698937-03

No Significant Match Found

DV One-Page Summary

KIC: 7698937 Candidate: 3 of 7 Period: 198.130 d



DV Fit Results:

Period = 198.12969 [0.00331] d
Epoch = 132.1242 [0.0144] BKJD
Rp/R* = 0.0302 [0.0046]
a/R* = 58.93 [7.17]
b = 0.97 [0.01]
Seff = 10.16 [4.02]
Teq = 455 [45] K
Rp = 5.28 [1.67] Re
a = 0.7161 [0.1749] AU
Ag = 3156.67 [1638.30] [1.93 σ]
Teffp = 5276 [514] K [9.34 σ]

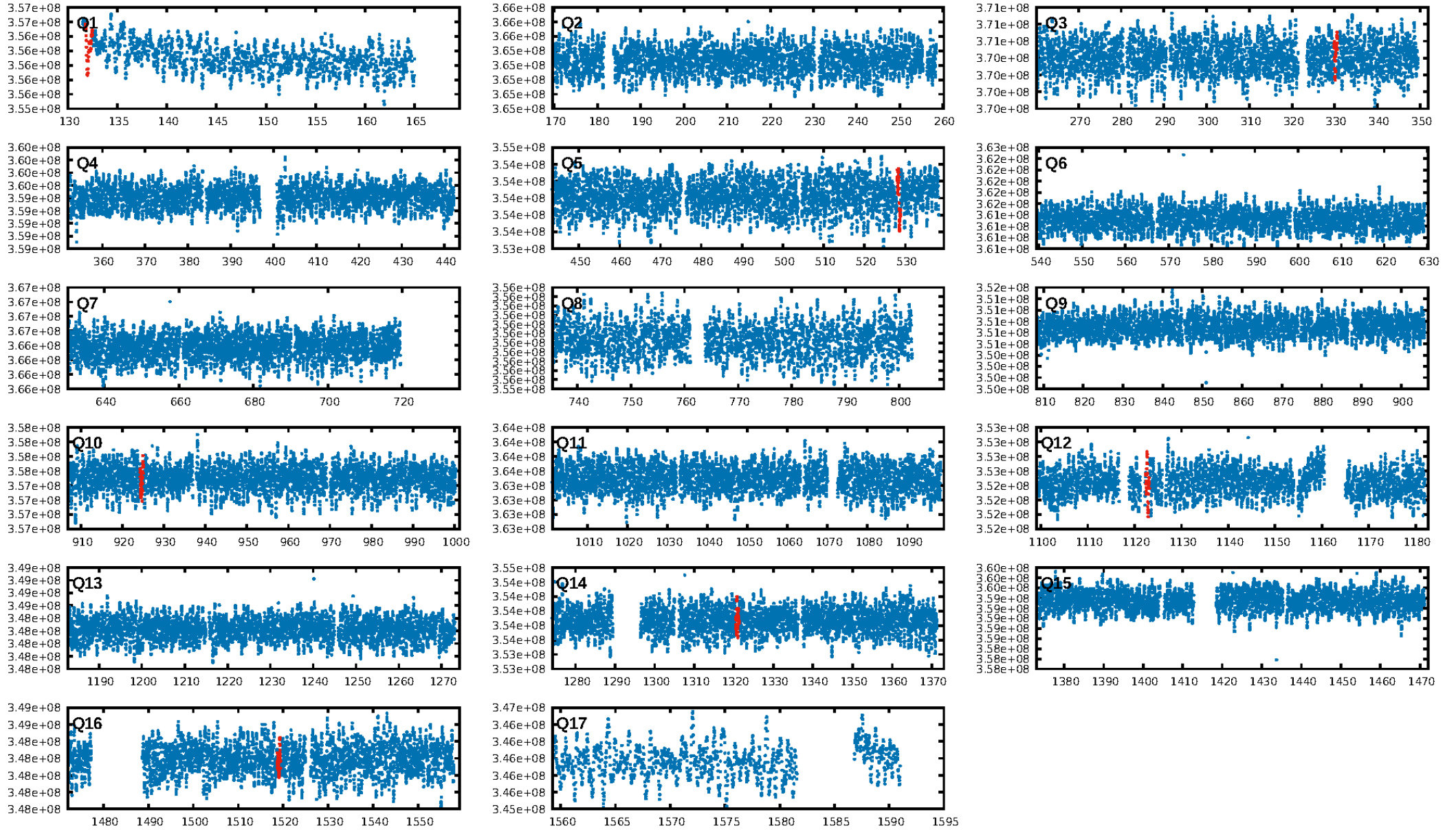
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [40.98 σ]
LongPeriod-sig: 100.0% [391.06 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.4231
Centroid-sig: 1.4%
Centroid-so: 0.268 arcsec [1.51 σ]
OotOffset-rm: 1.600 arcsec [4.10 σ]
KicOffset-rm: 1.570 arcsec [4.26 σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.00 [0/5]

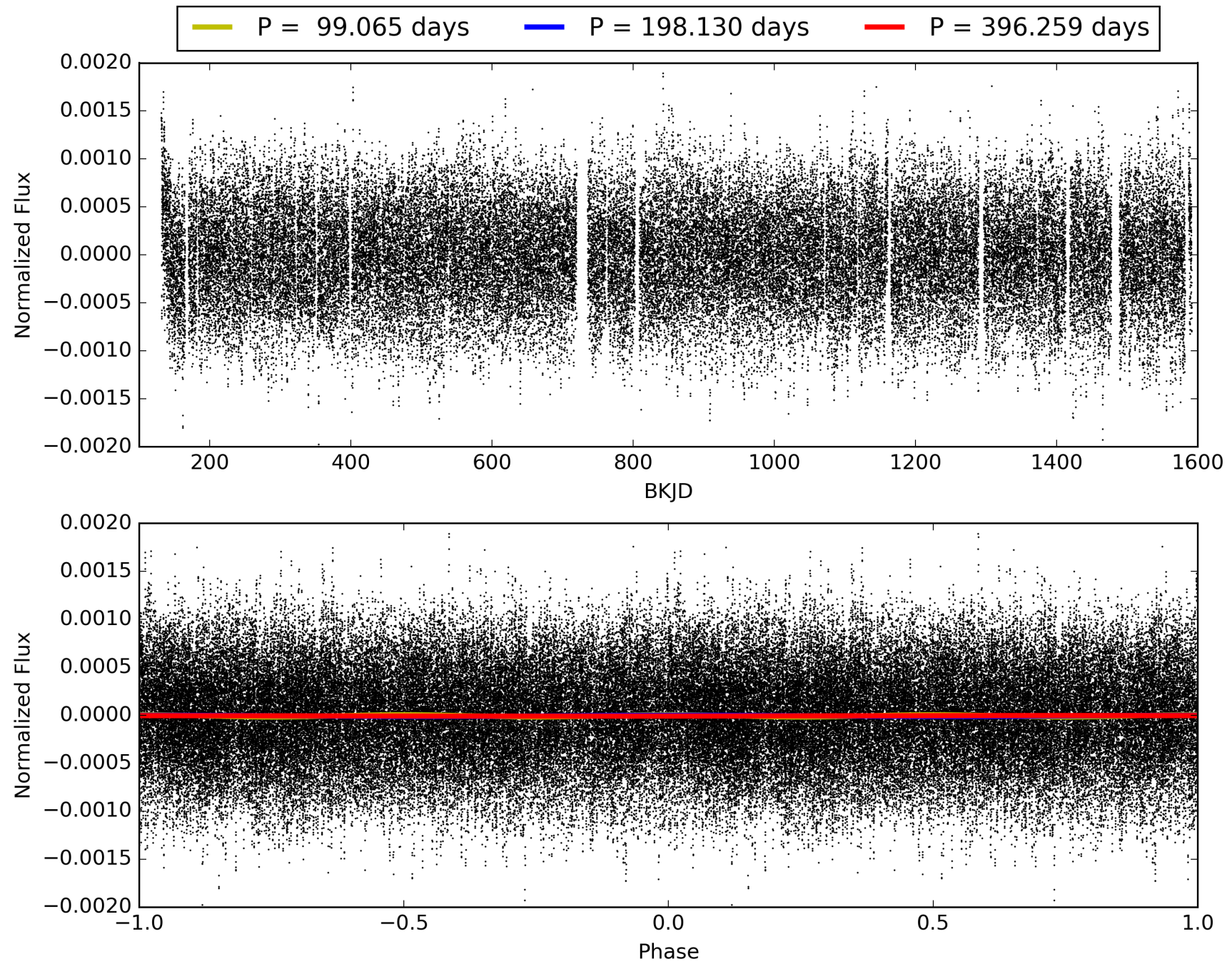
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:30:27 Z

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

TCE 007698937-03, PDC Light Curves

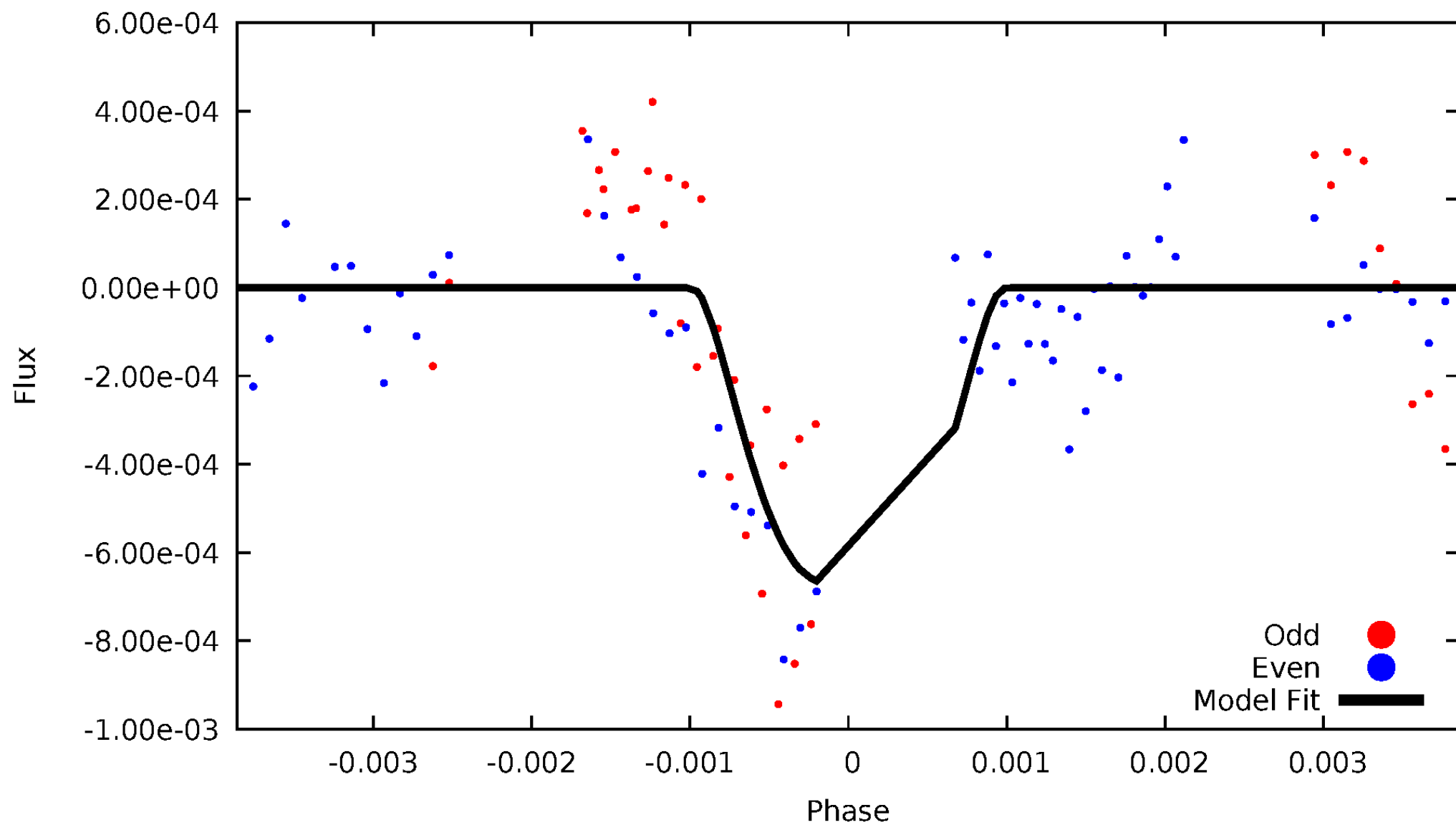


TCE 007698937-03



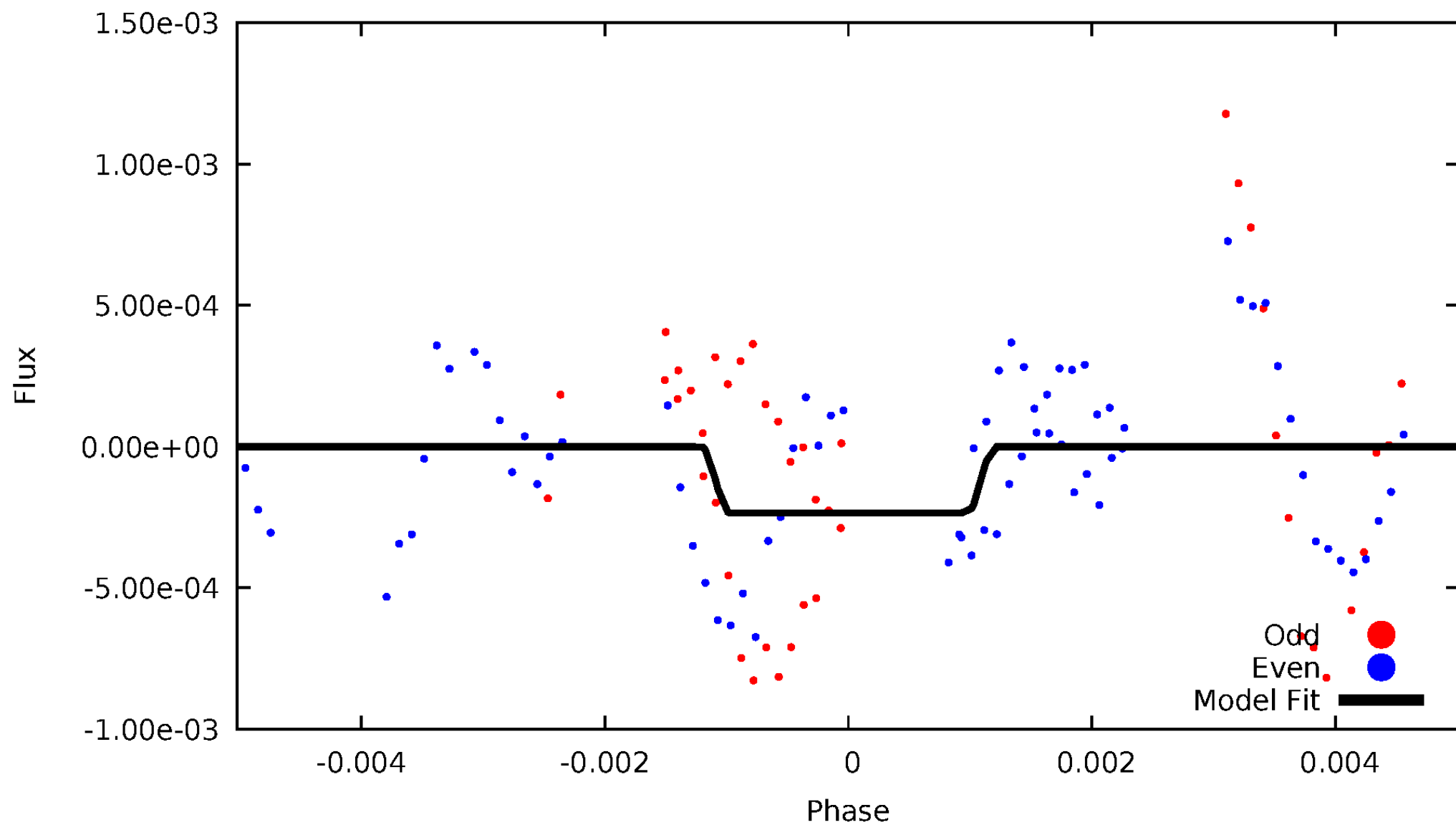
DV Odd/Even

TCE 007698937-03



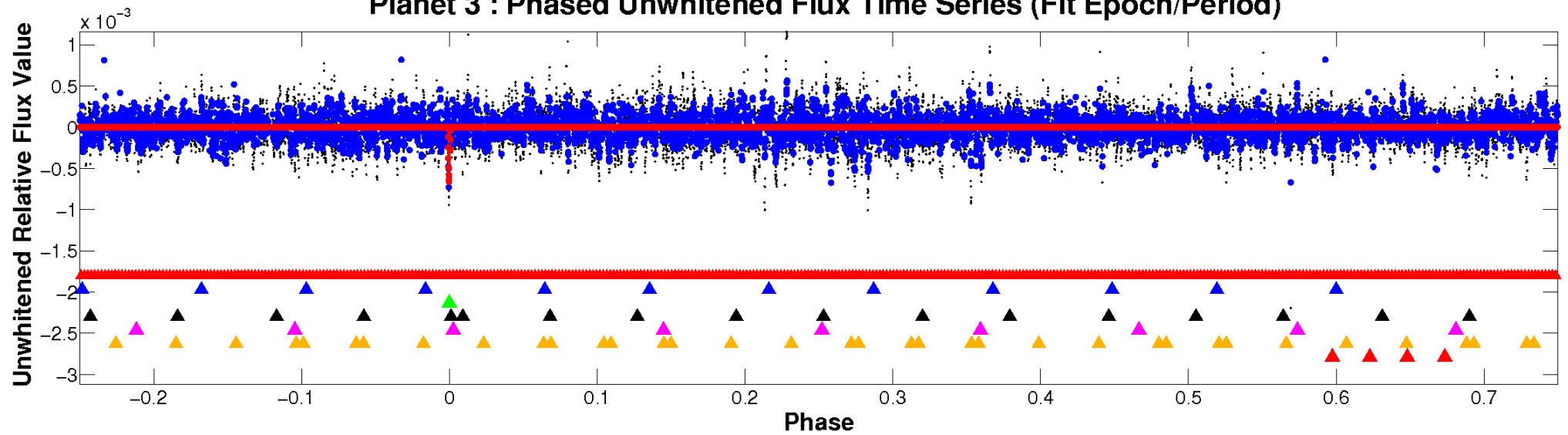
ALT Odd/Even

TCE 007698937-03

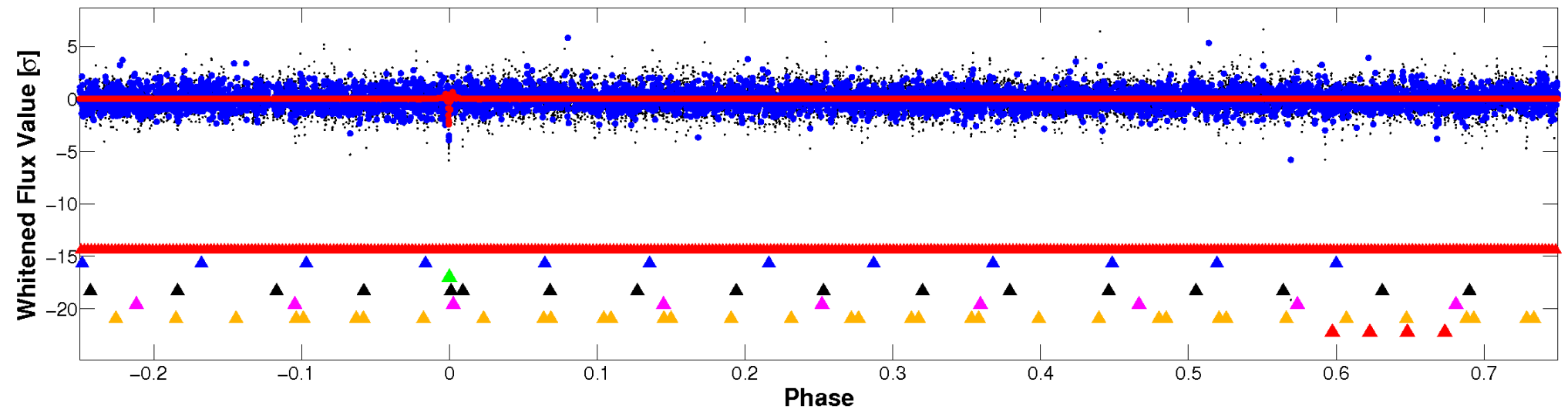


Non-Whitened Vs. Whitened Light Curve

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

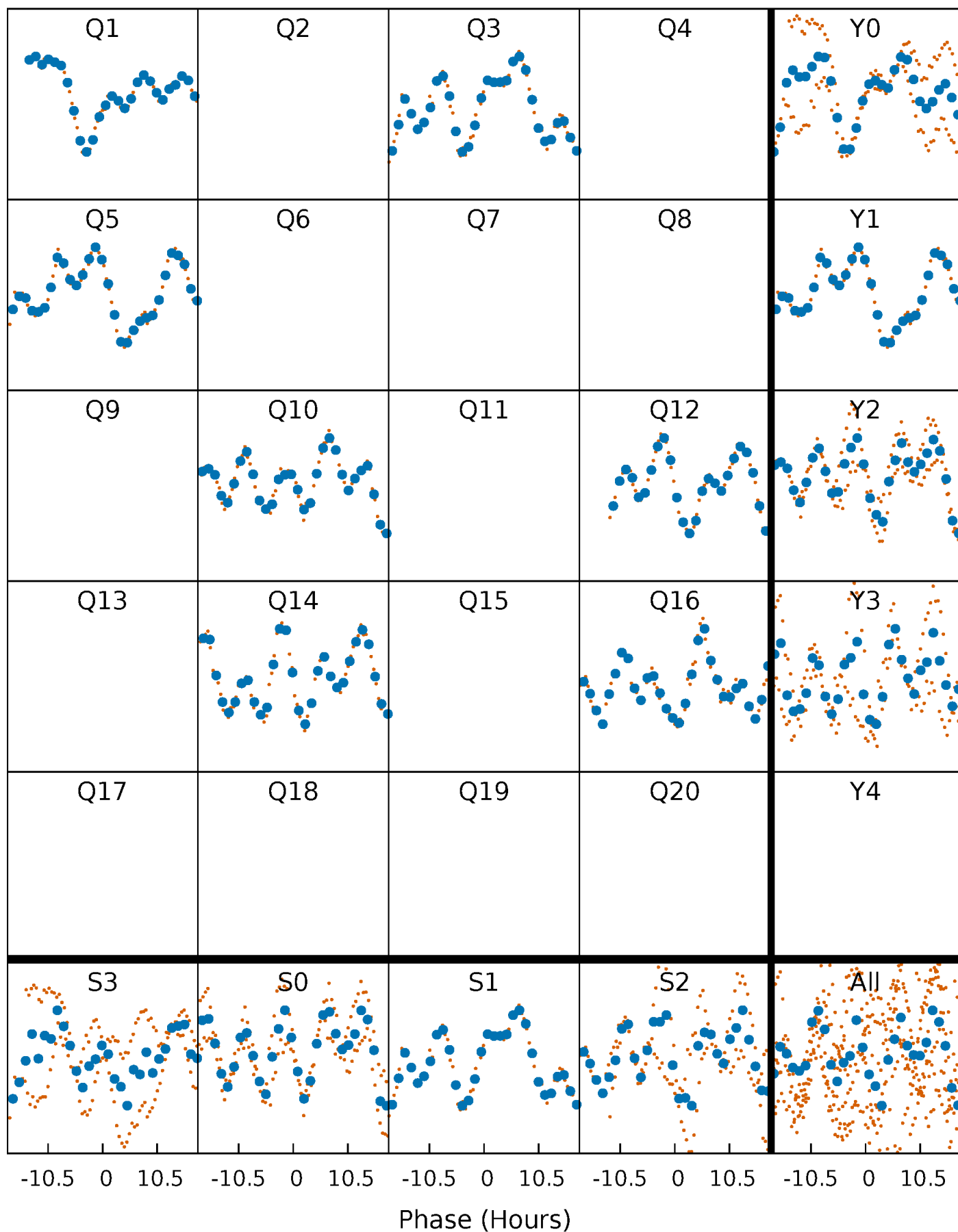


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



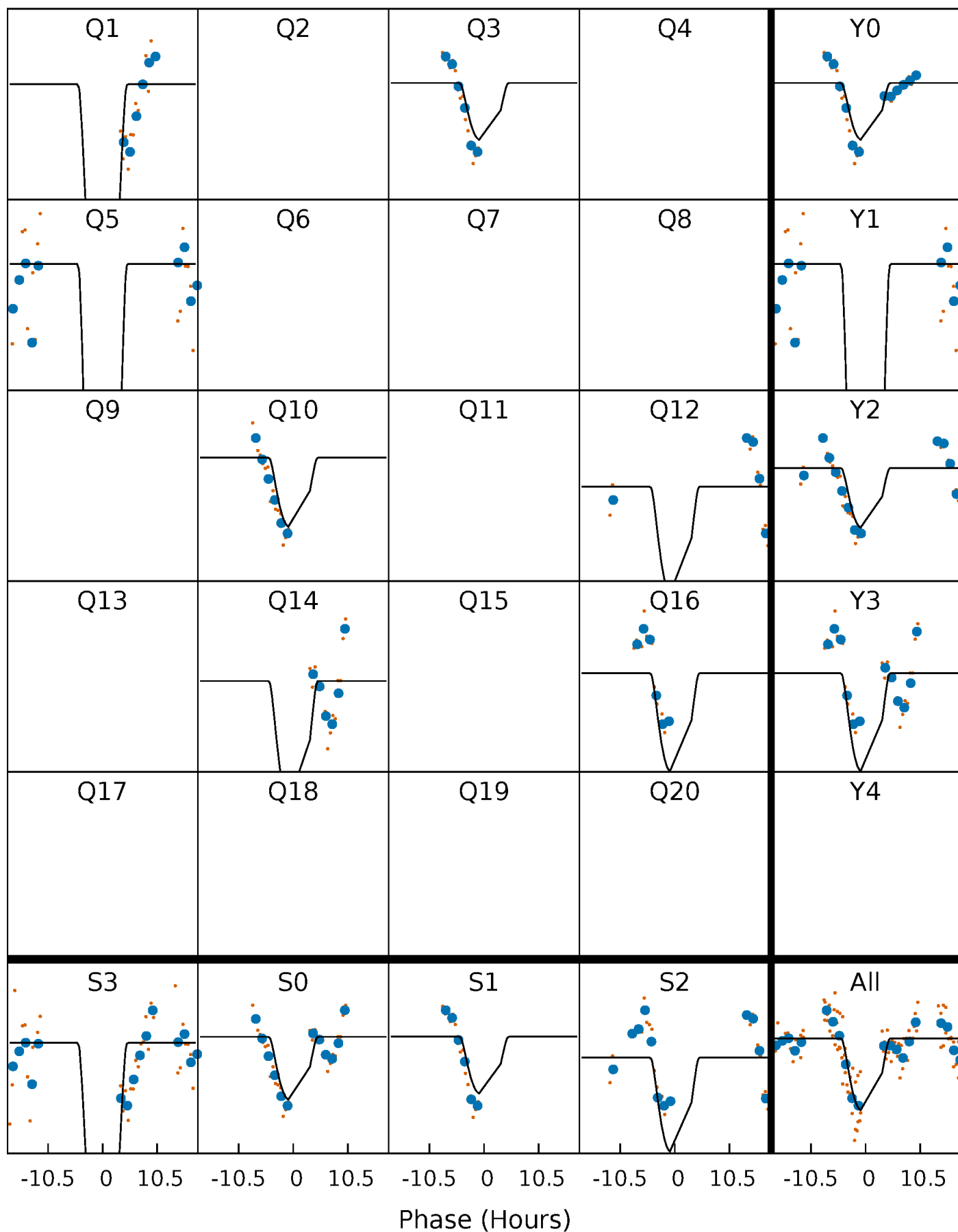
PDC Quarter-Phased Transit Curves

TCE 007698937-03 P=198.129687 Days $T_0=132.124236$ (BKJD)



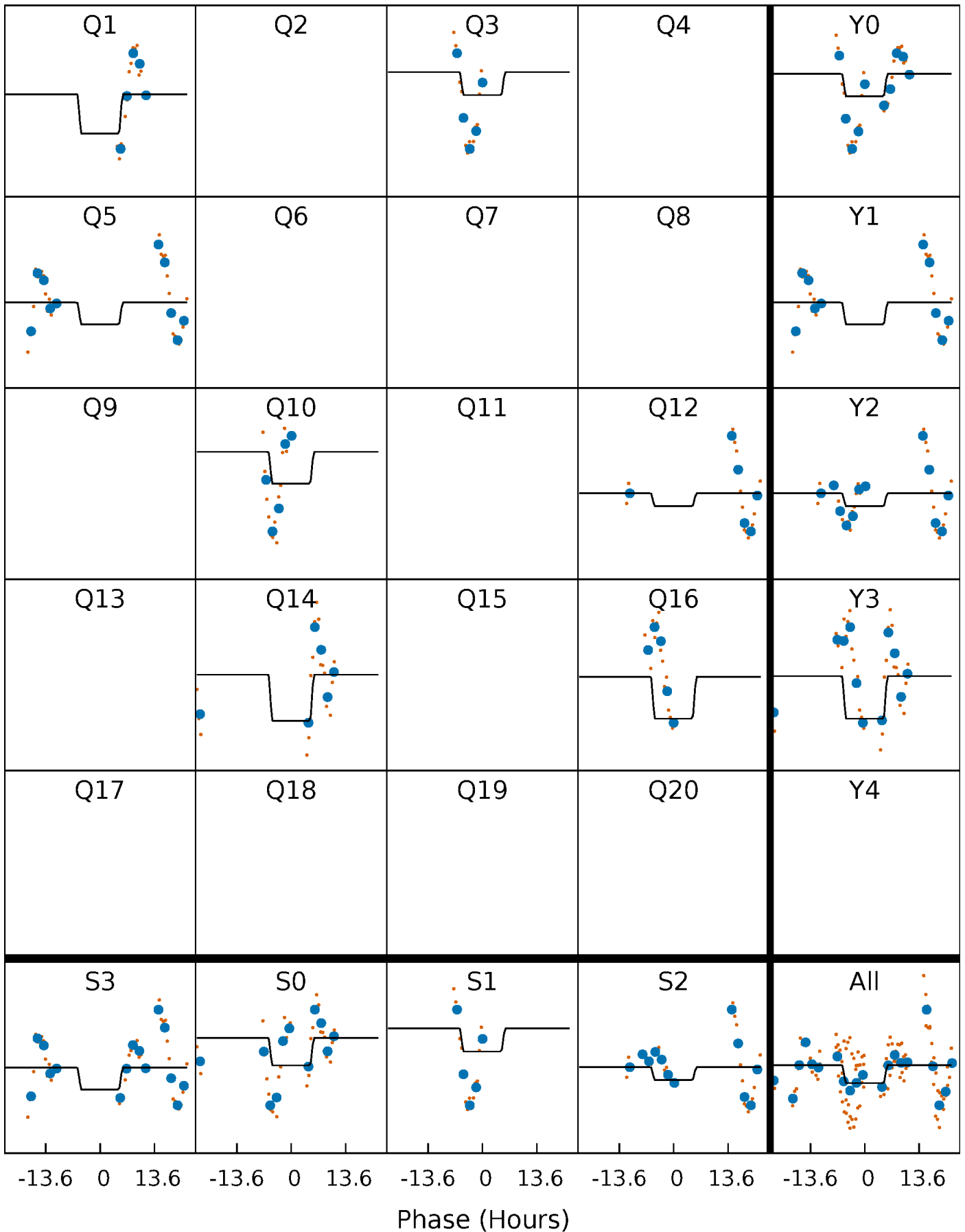
DV Quarter-Phased Transit Curves

TCE 007698937-03 P=198.129687 Days $T_0=132.124236$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

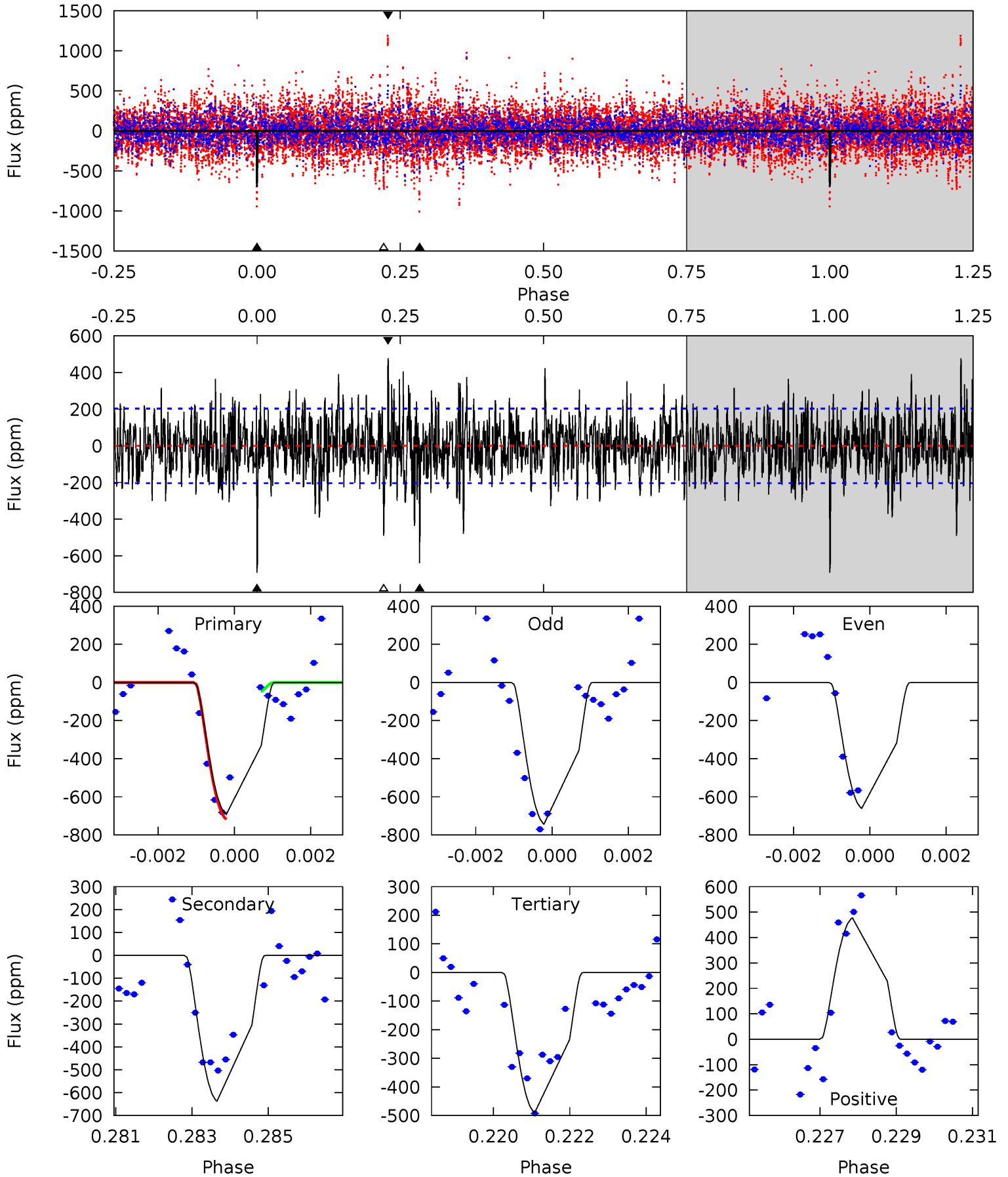
TCE 007698937-03 P=198.130811 Days $T_0=132.087815$ (BKJD)



DV Model-Shift Uniqueness Test

007698937-03, P = 198.129687 Days, E = 132.124236 Days

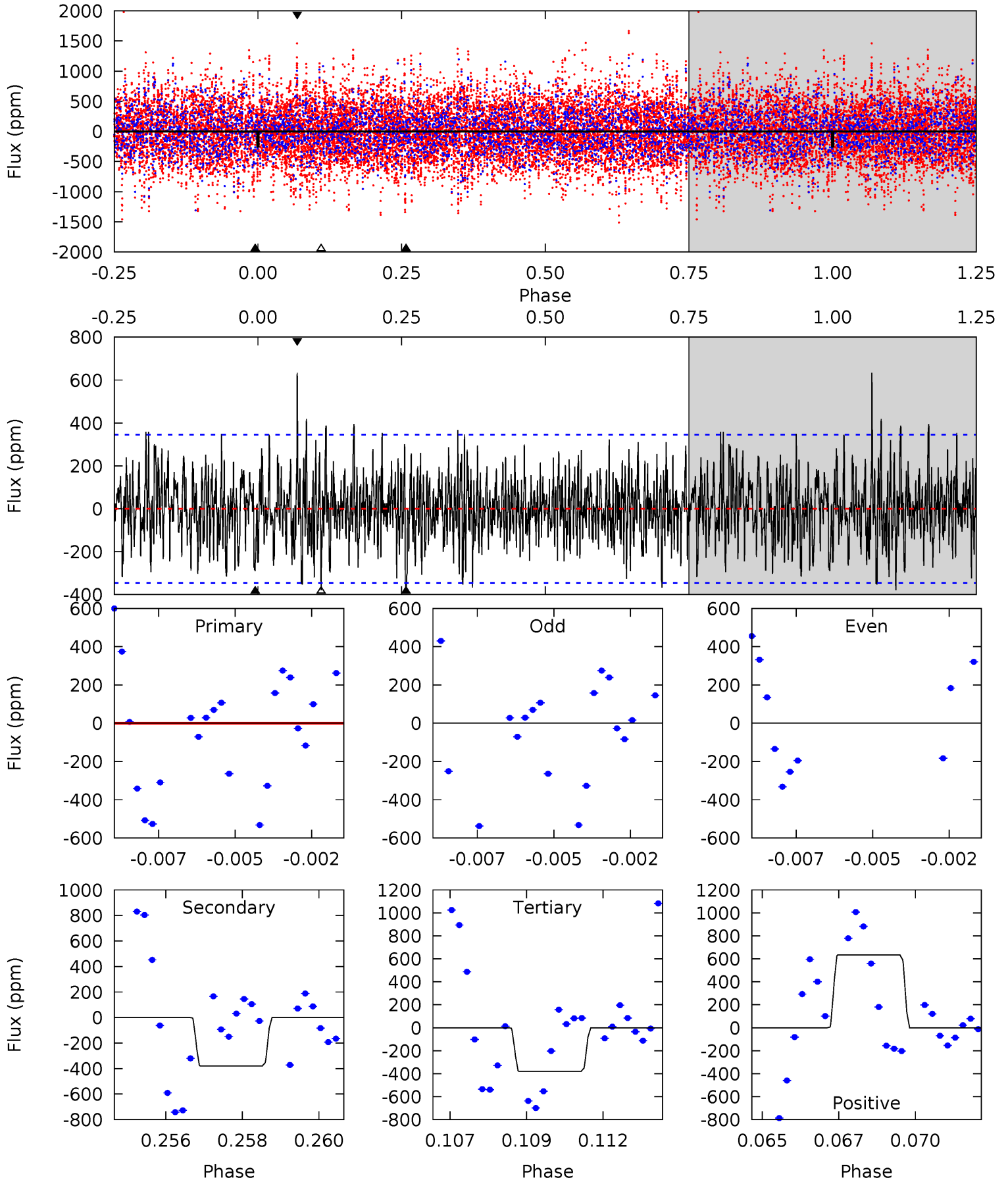
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	16.7	12.8	12.5	5.33	3.10	3.27	5.28	5.62	3.85	4.19	1.10	1.09	0.41	6.99



Alt Model-Shift Uniqueness Test

007698937-03, P = 198.130811 Days, E = 132.087815 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.89	5.81	5.80	9.70	5.30	3.05	1.98	-1.91	-5.81	0.01	-3.90	0.03	1.08	0.63	0.36



Stellar Parameters For KIC 007698937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6897^{+192}_{-240}	$4.124^{+0.209}_{-0.171}$	$-0.440^{+0.300}_{-0.300}$	$1.603^{+0.443}_{-0.443}$	$1.249^{+0.185}_{-0.203}$	$0.427^{+0.535}_{-0.210}$
	+3%/-3%	+5%/-4%	+68%/-68%	+28%/-28%	+15%/-16%	+125%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007698937-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-637 ± 38	$5.28^{+1.19}_{-1.08}$	630^{+49}_{-46}	6222^{+575}_{-456}	6489^{+3673}_{-2195}
Alt.	-379 ± 65	$2.64^{+0.94}_{-0.92}$	635^{+46}_{-51}	7892^{+2372}_{-1183}	15247^{+20586}_{-7096}

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 $A_{obs} \gg 1.0$

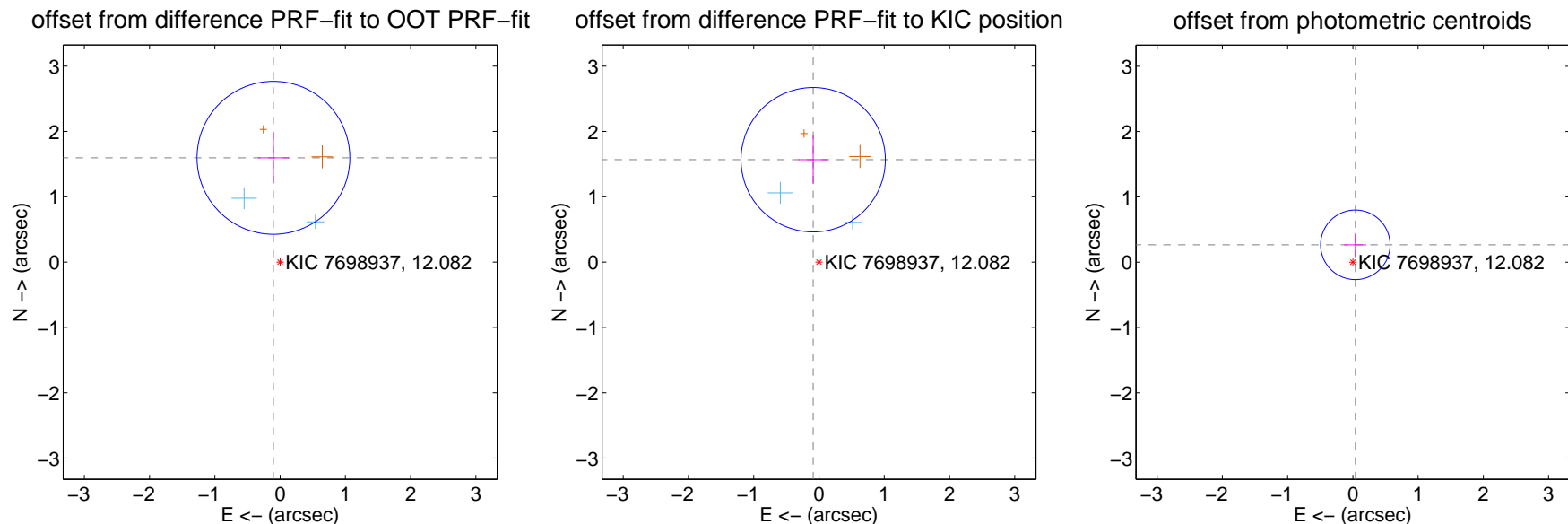
DV Centroid Data

Supplemental centroid analysis for 007698937-03. Kepler magnitude: 12.08. Transit SNR 8.37

There are 2 quarters with good PRF difference image offsets

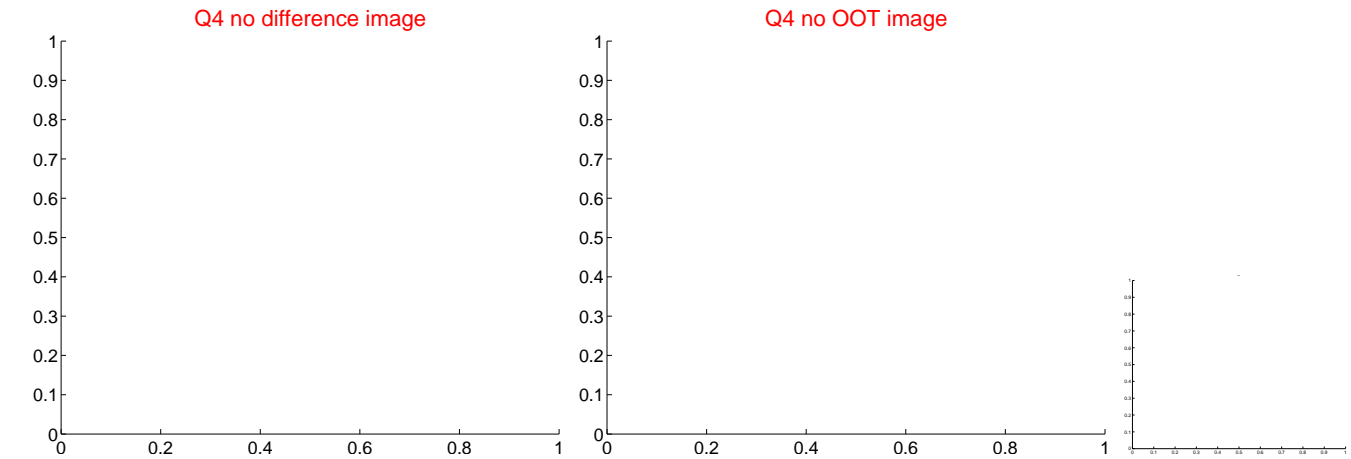
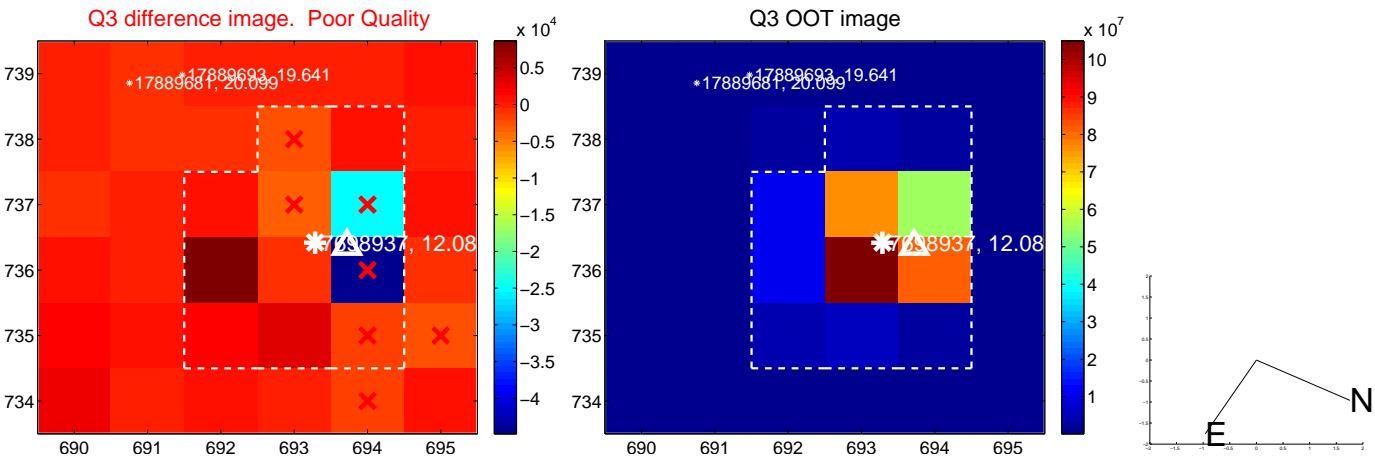
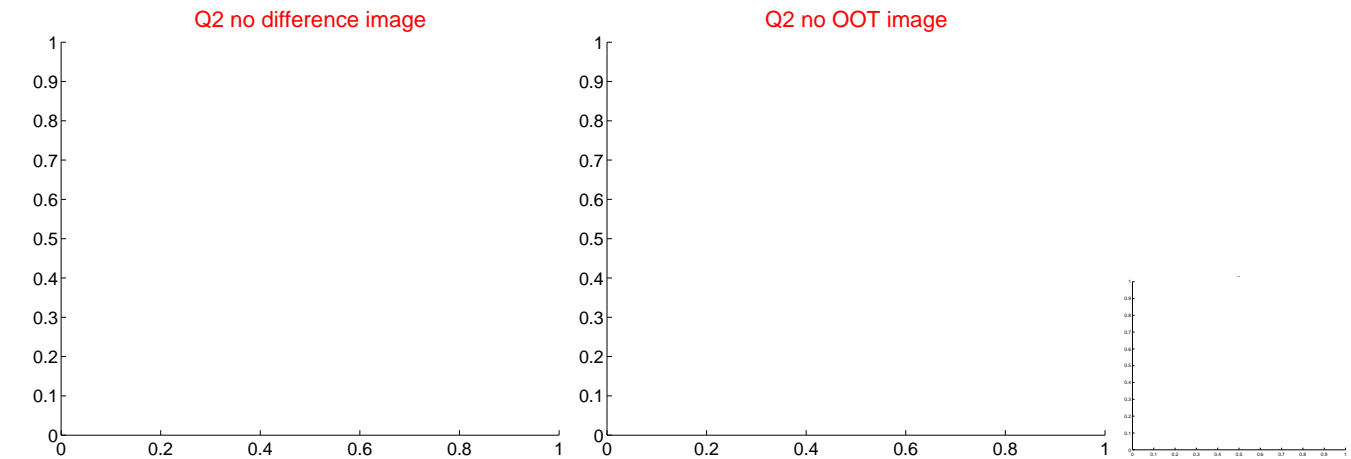
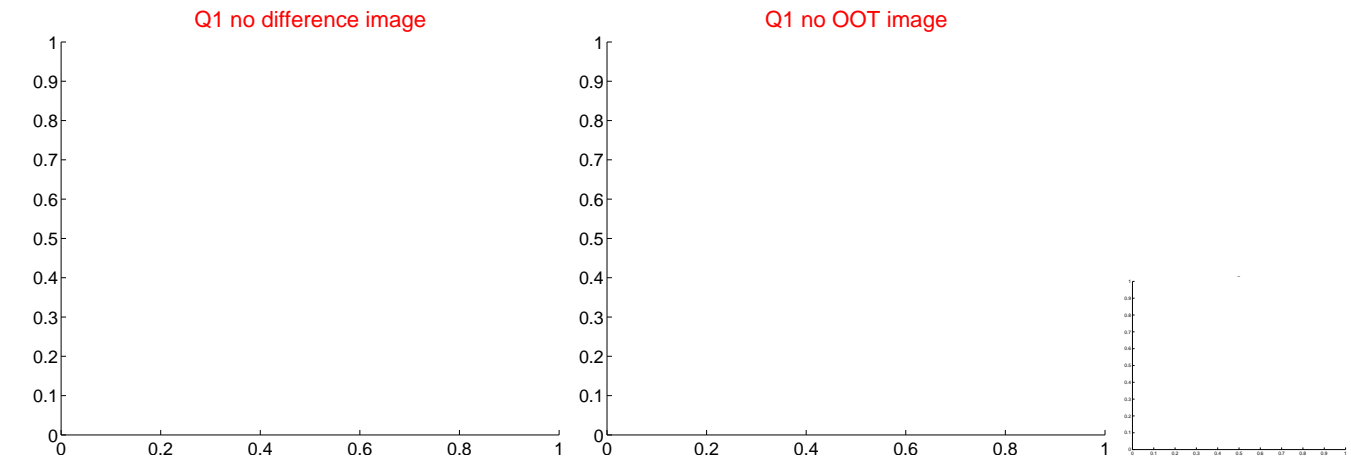
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.600 ± 0.390	4.10	0.102 ± 0.236	1.596 ± 0.391
PRF-fit source offset from KIC position	1.570 ± 0.368	4.26	0.089 ± 0.228	1.567 ± 0.369
photometric centroid source offset	0.27 ± 0.18	1.51	-0.04 ± 0.17	0.27 ± 0.18

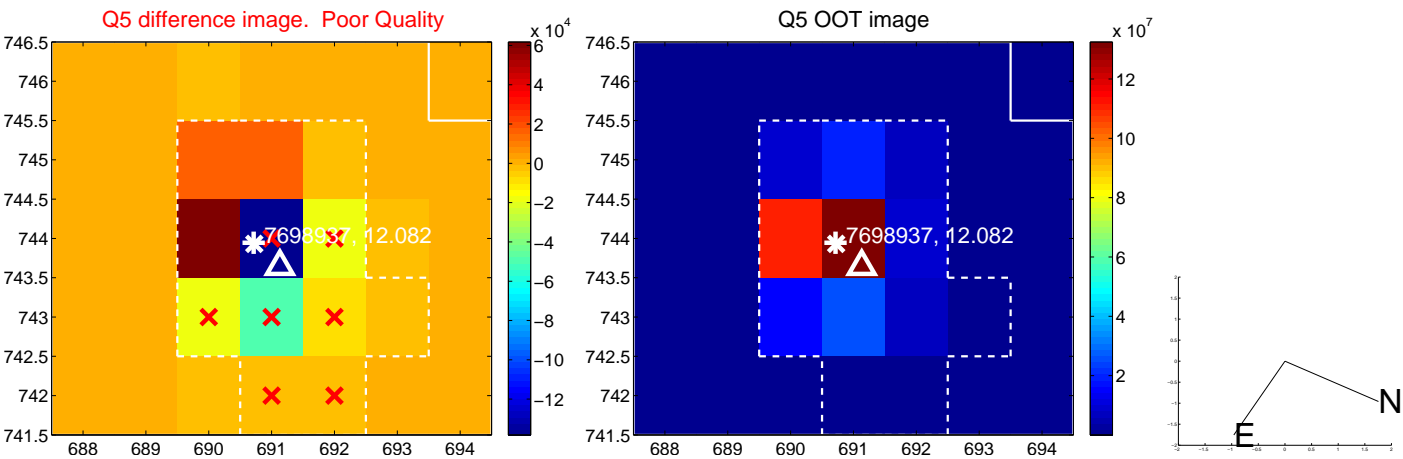


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

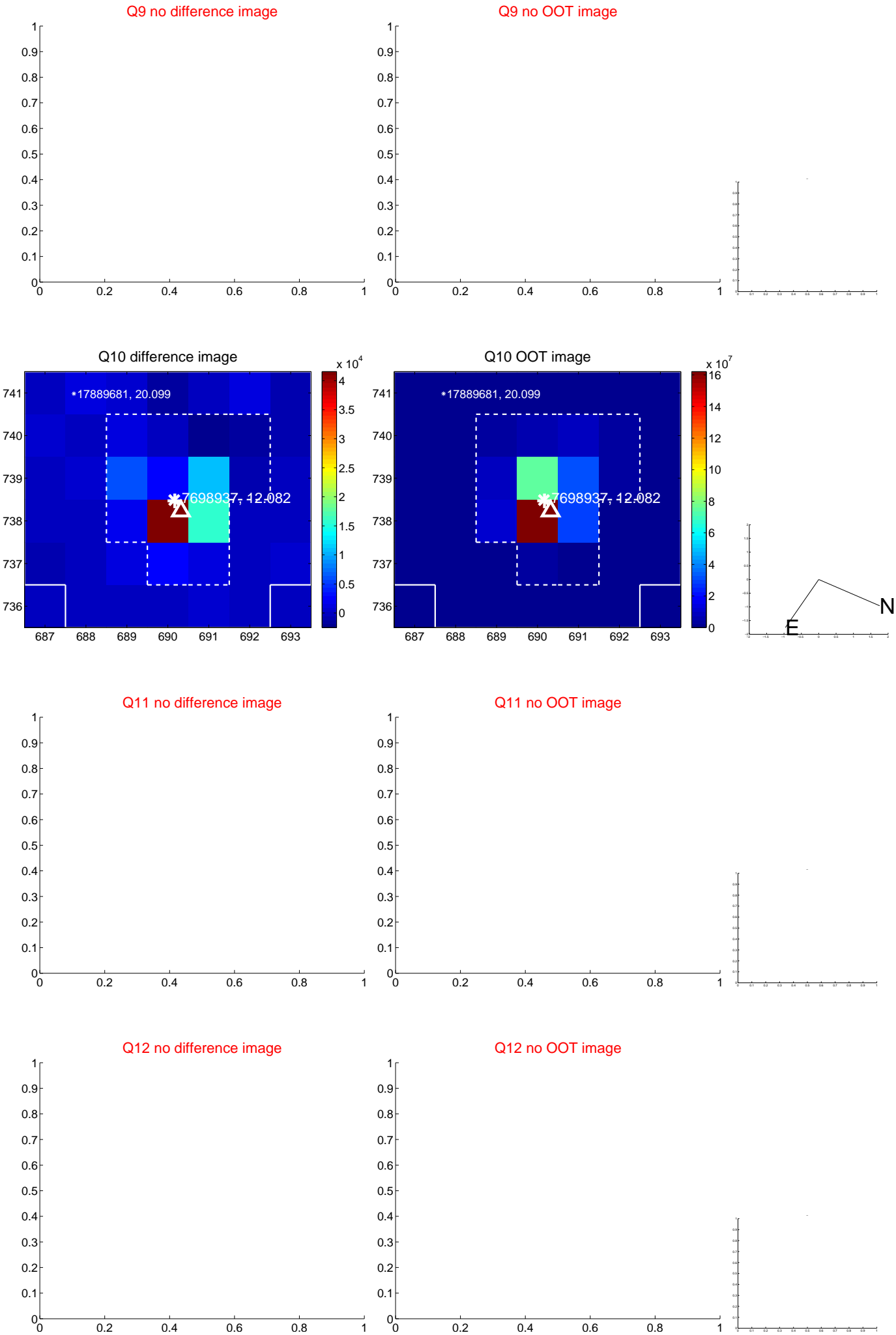
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



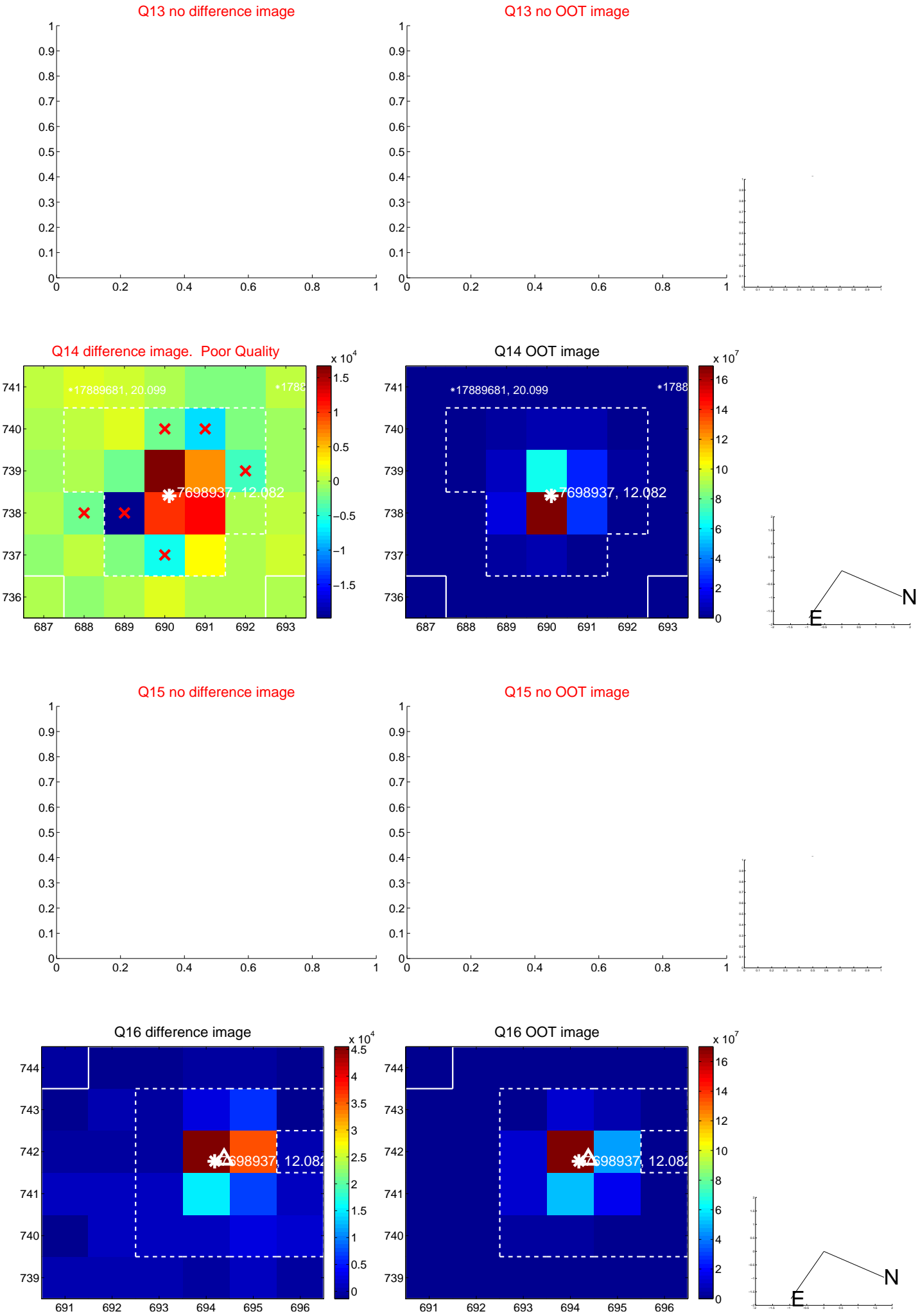
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



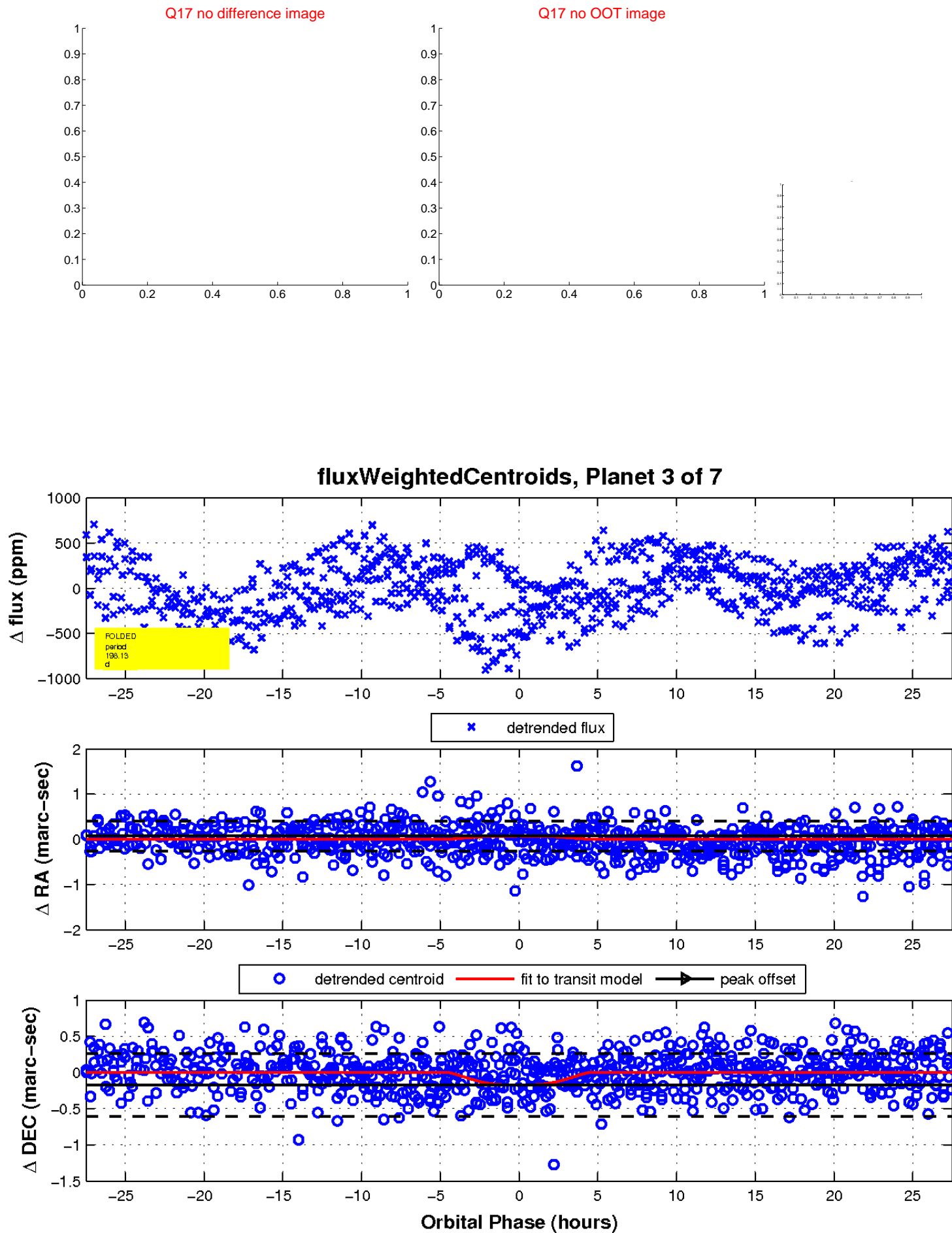
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

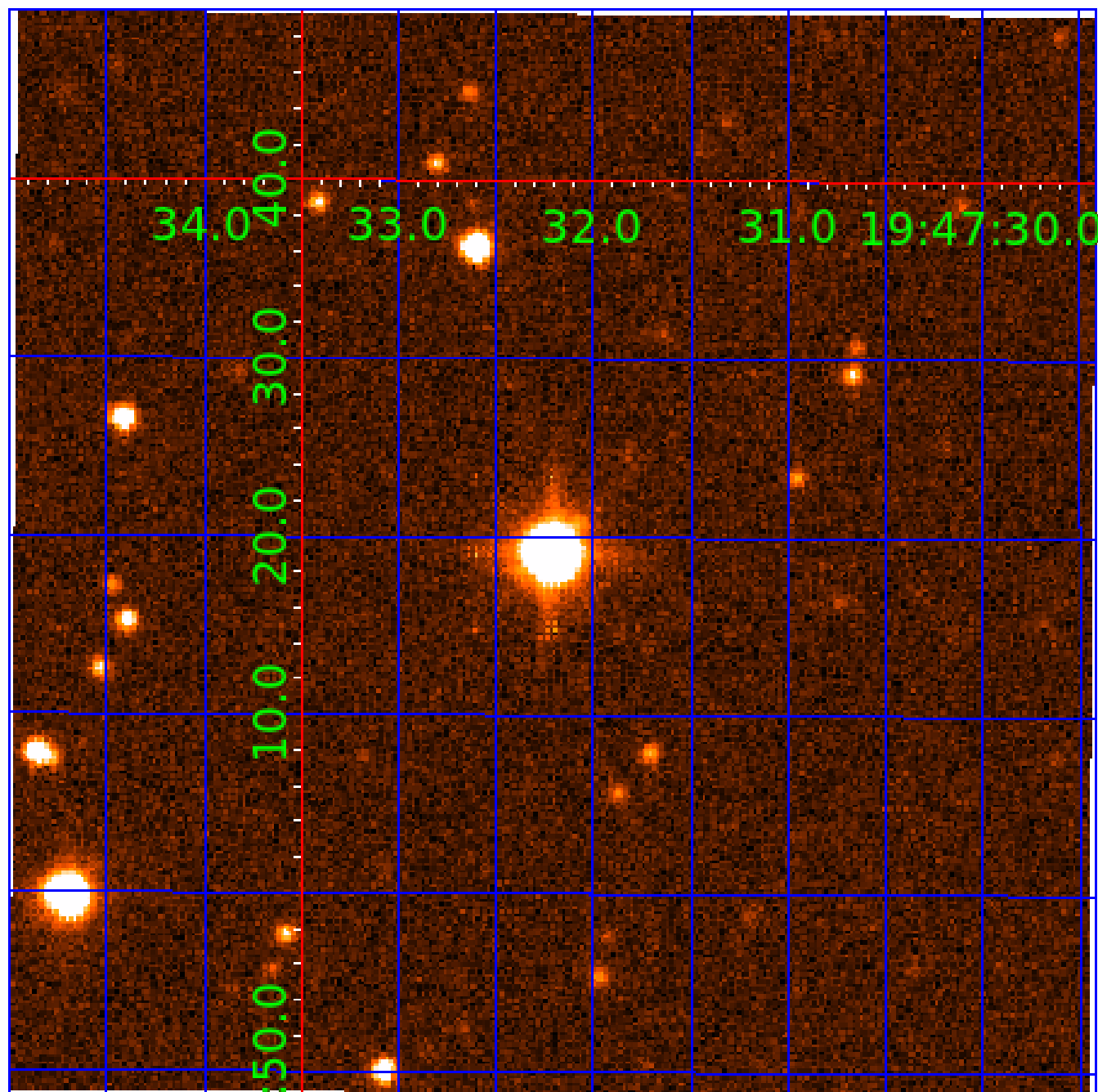


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007698937

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})
007698937-01	OBS	No	1.372720	131.715322	16.1	8.383	11.0	5.4	1.60	6897	0.68	7692.16
007698937-02	OBS	No	122.074895	189.001565	113.8	6.189	14.3	2.4	1.60	6897	1.90	19.38
007698937-03	OBS	No	198.129687	132.124236	675.0	9.176	11.5	8.4	1.60	6897	5.28	10.16
007698937-04	OBS	No	86.583323	133.931085	429.4	7.280	10.3	10.3	1.60	6897	4.30	30.64
007698937-05	OBS	No	176.884888	132.658048	434.1	8.402	10.5	7.9	1.60	6897	6.38	11.82
007698937-06	OBS	No	41.237027	145.732381	222.1	4.988	9.0	7.9	1.60	6897	2.73	82.37
007698937-07	OBS	No	391.234562	265.561959	86.0	7.500	8.3	-1.0	1.60	6897	1.50	4.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007698937-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007698937-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
007698937-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007698937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007698937-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698937-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007698937-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

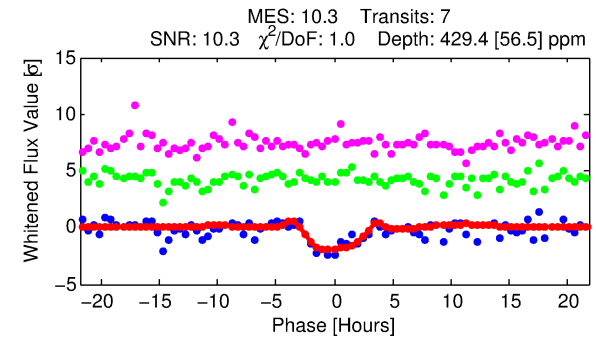
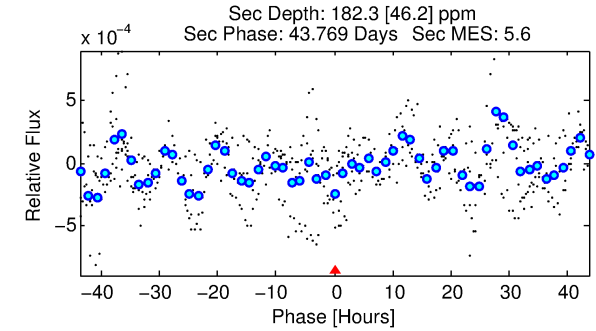
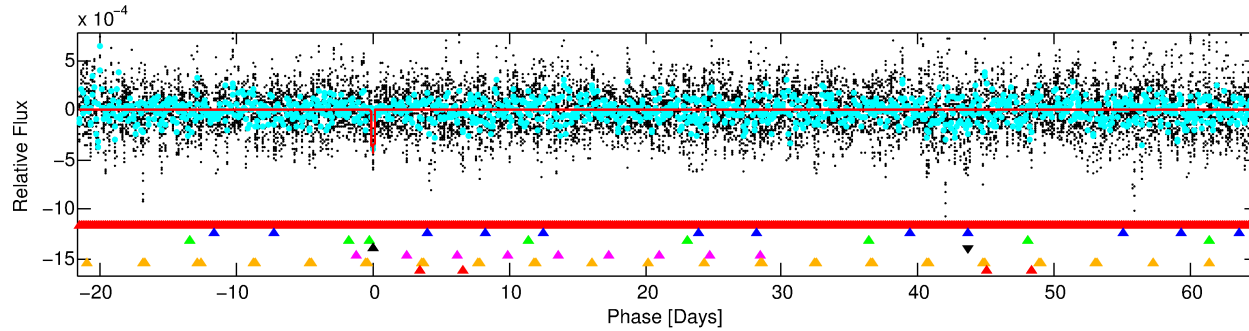
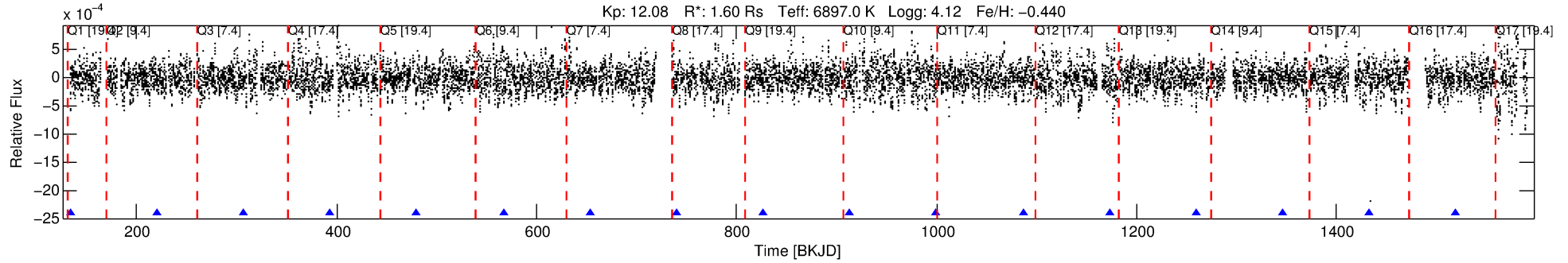
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007698937-04

No Significant Match Found

DV One-Page Summary

KIC: 7698937 Candidate: 4 of 7 Period: 86.583 d

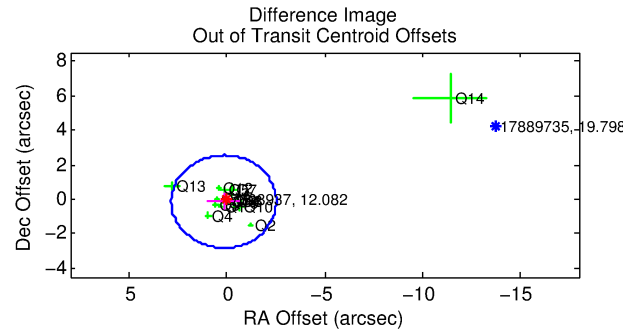
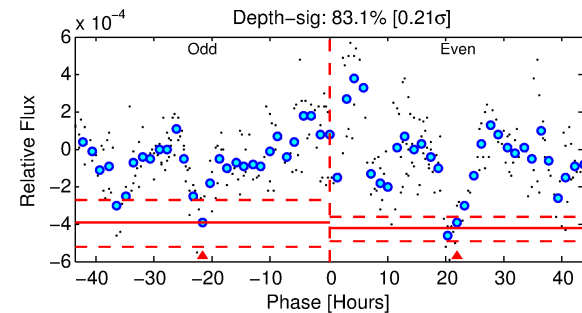
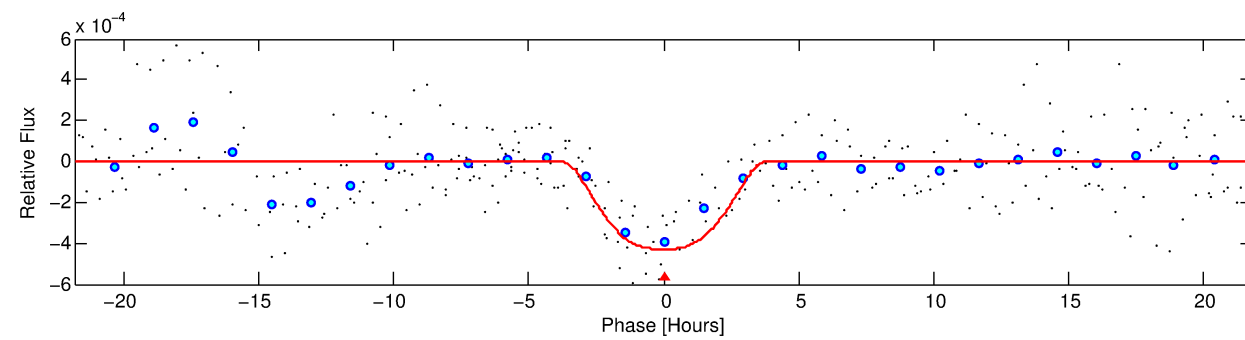


DV Fit Results:

Period = 86.58332 [0.00117] d
Epoch = 133.9311 [0.0117] BKJD
Rp/R* = 0.0246 [0.0020]
a/R* = 28.78 [2.94]
b = 0.97 [0.01]
Seff = 30.64 [12.11]
Teq = 600 [59] K
Rp = 4.30 [1.24] Re
a = 0.4124 [0.1007] AU
Ag = 921.65 [438.58] [2.10σ]
Teffp = 5111 [422] K [10.59σ]

DV Diagnostic Results:

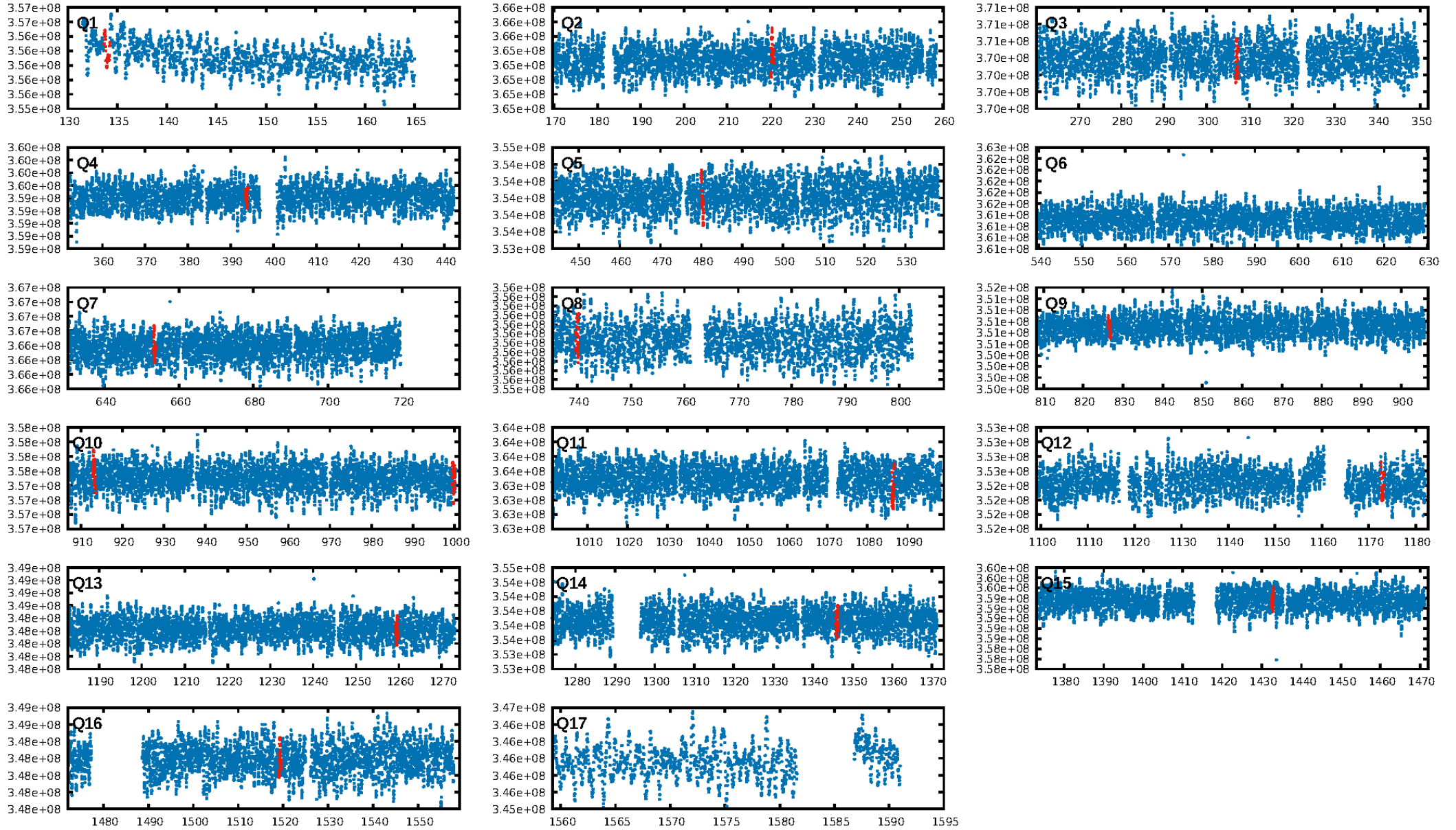
ShortPeriod-sig: 100.0% [123.32σ]
LongPeriod-sig: 100.0% [89.14σ]
ModelChiSquare2-sig: 0.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.4677
Centroid-sig: 3.7%
Centroid-so: 0.303 arcsec [1.54σ]
OotOffset-rm: 0.210 arcsec [0.23σ]
KicOffset-rm: 0.213 arcsec [0.24σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.33 [5/15]
DiffImageOverlap-fno: 0.00 [0/15]



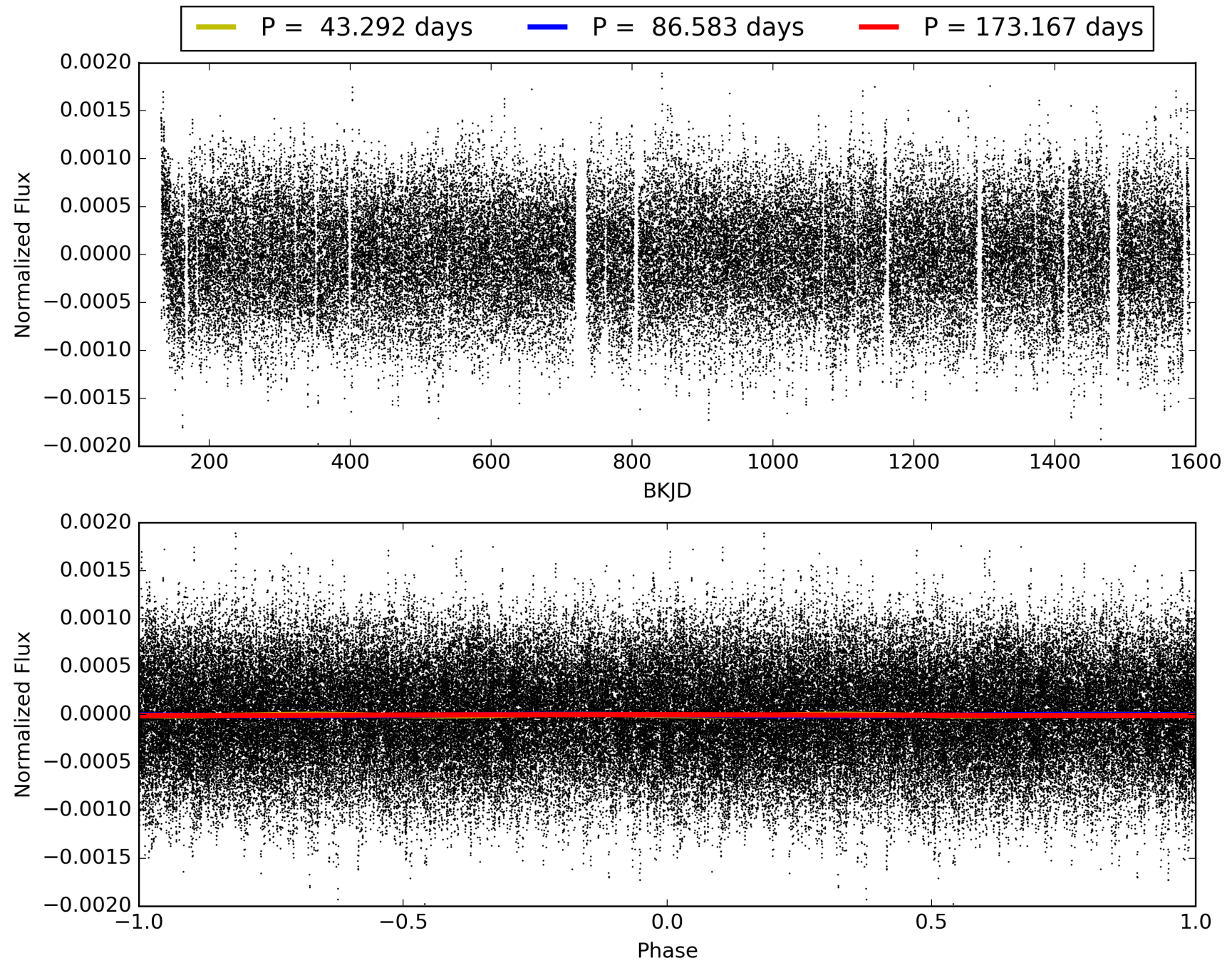
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:30:31 Z

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

TCE 007698937-04, PDC Light Curves

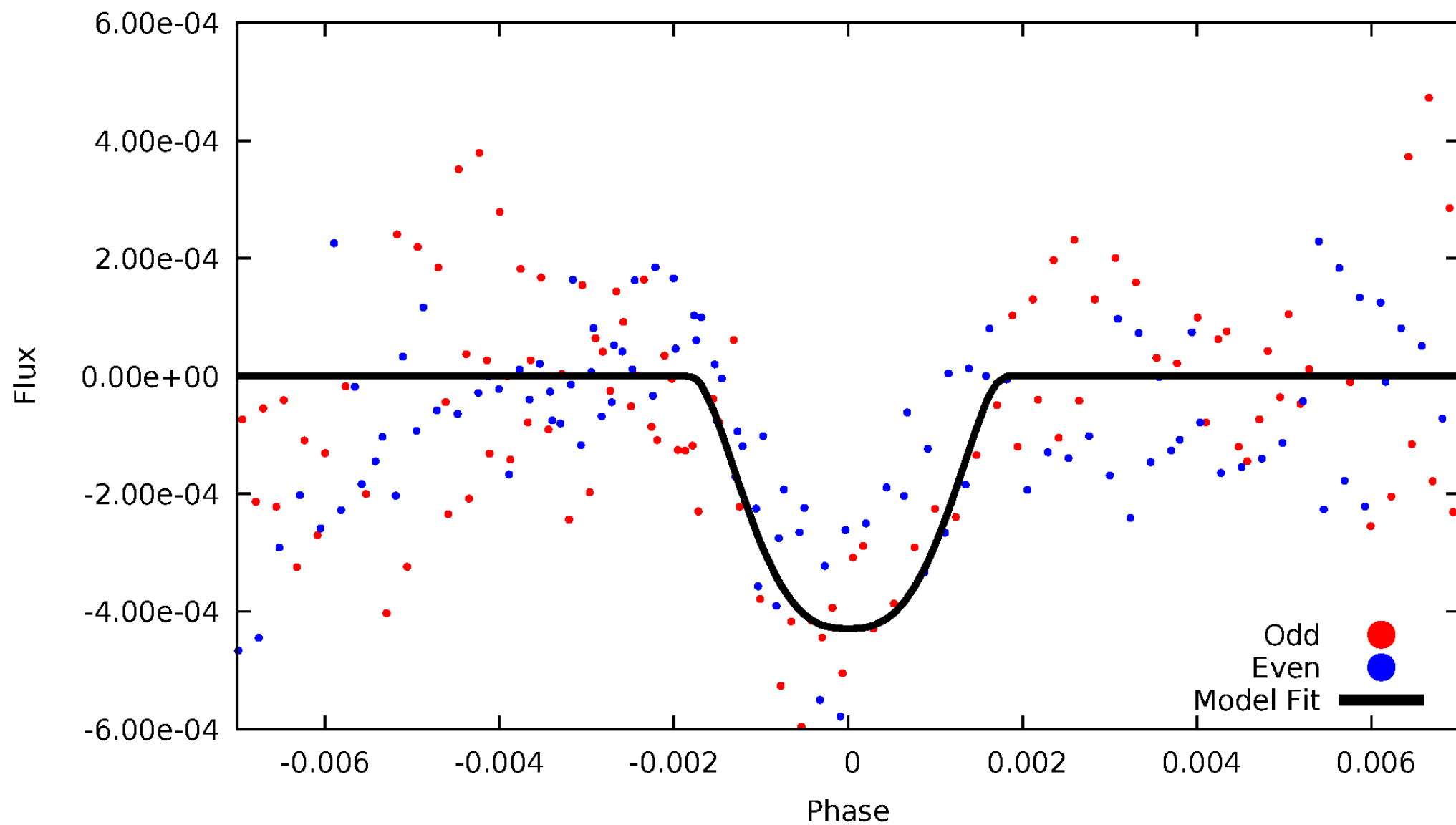


TCE 007698937-04



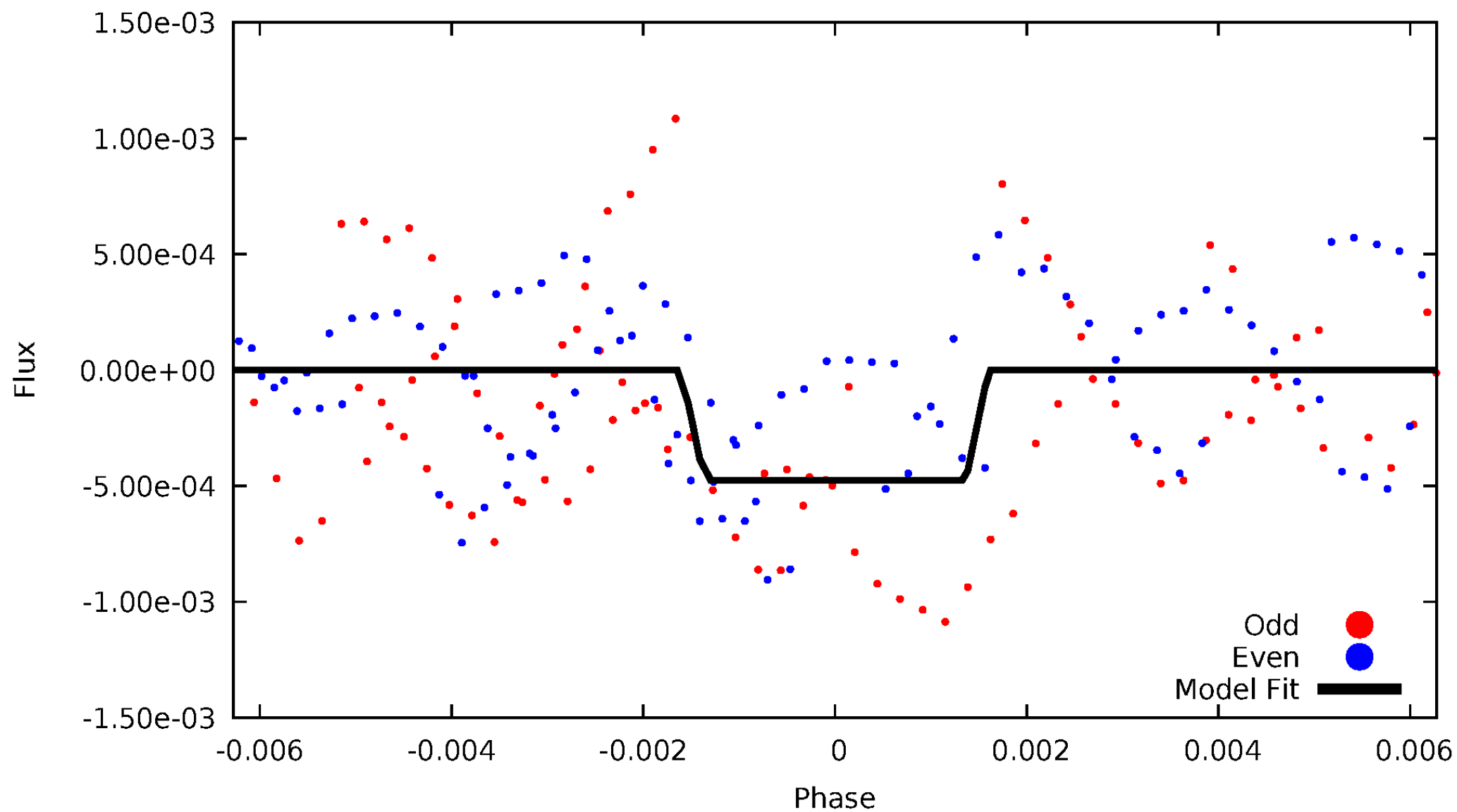
DV Odd/Even

TCE 007698937-04



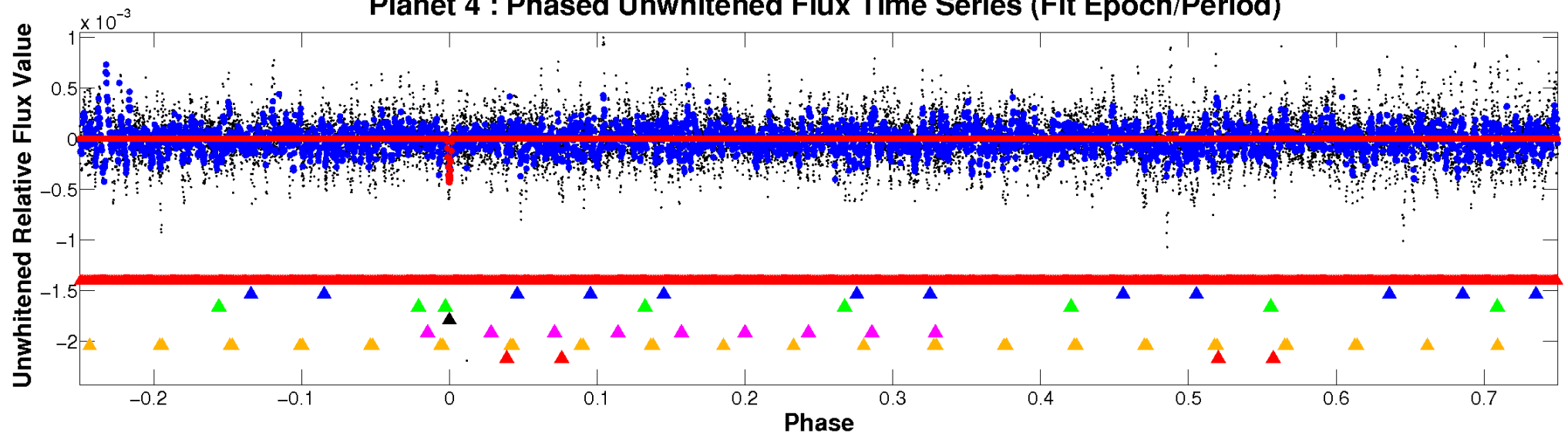
ALT Odd/Even

TCE 007698937-04

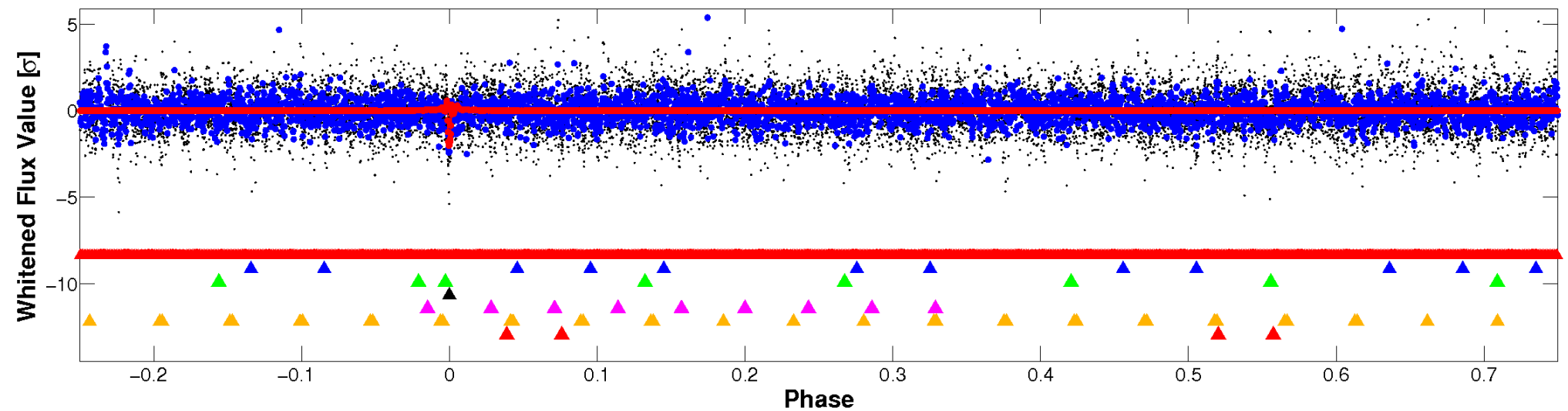


Non-Whitened Vs. Whitened Light Curve

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

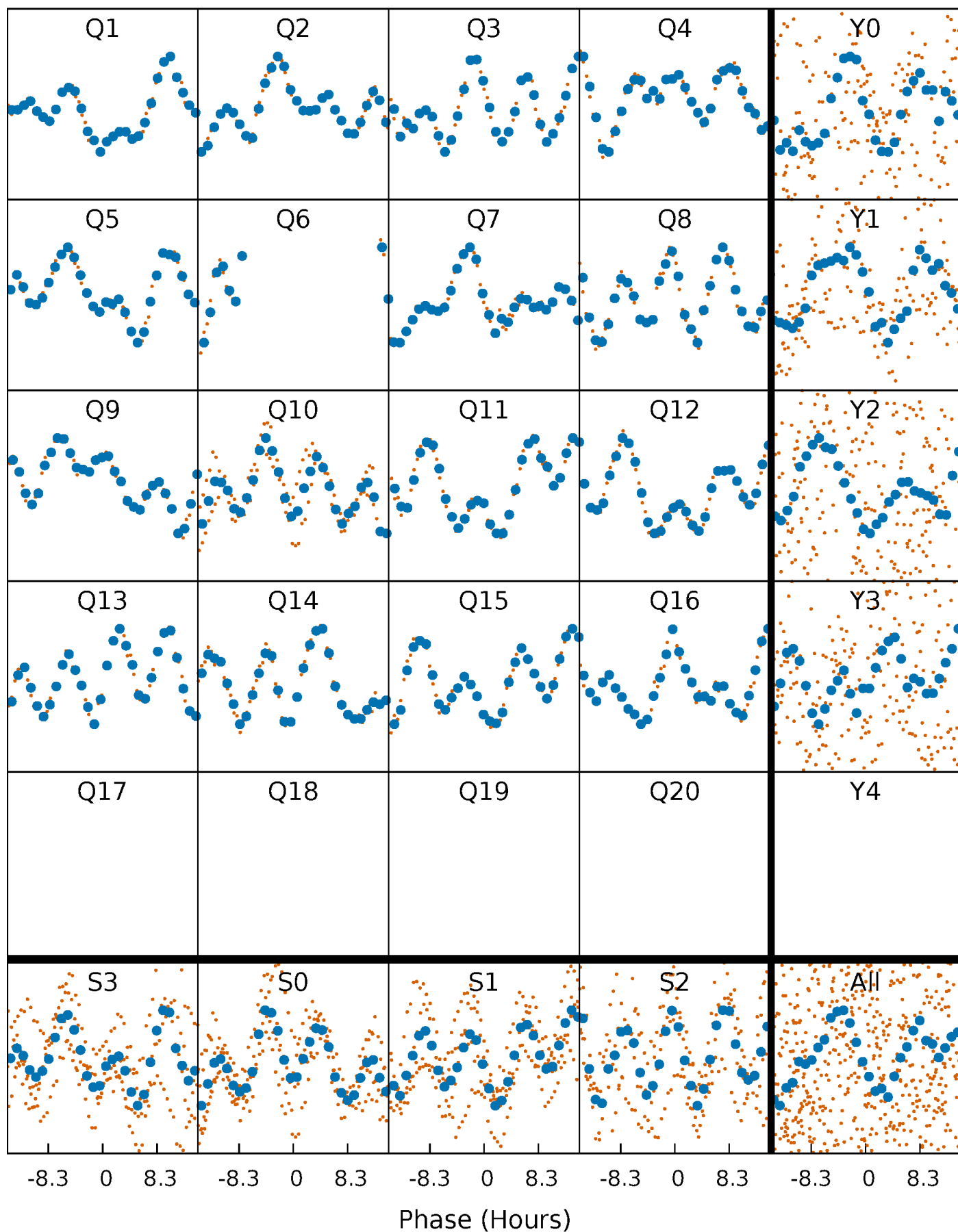


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



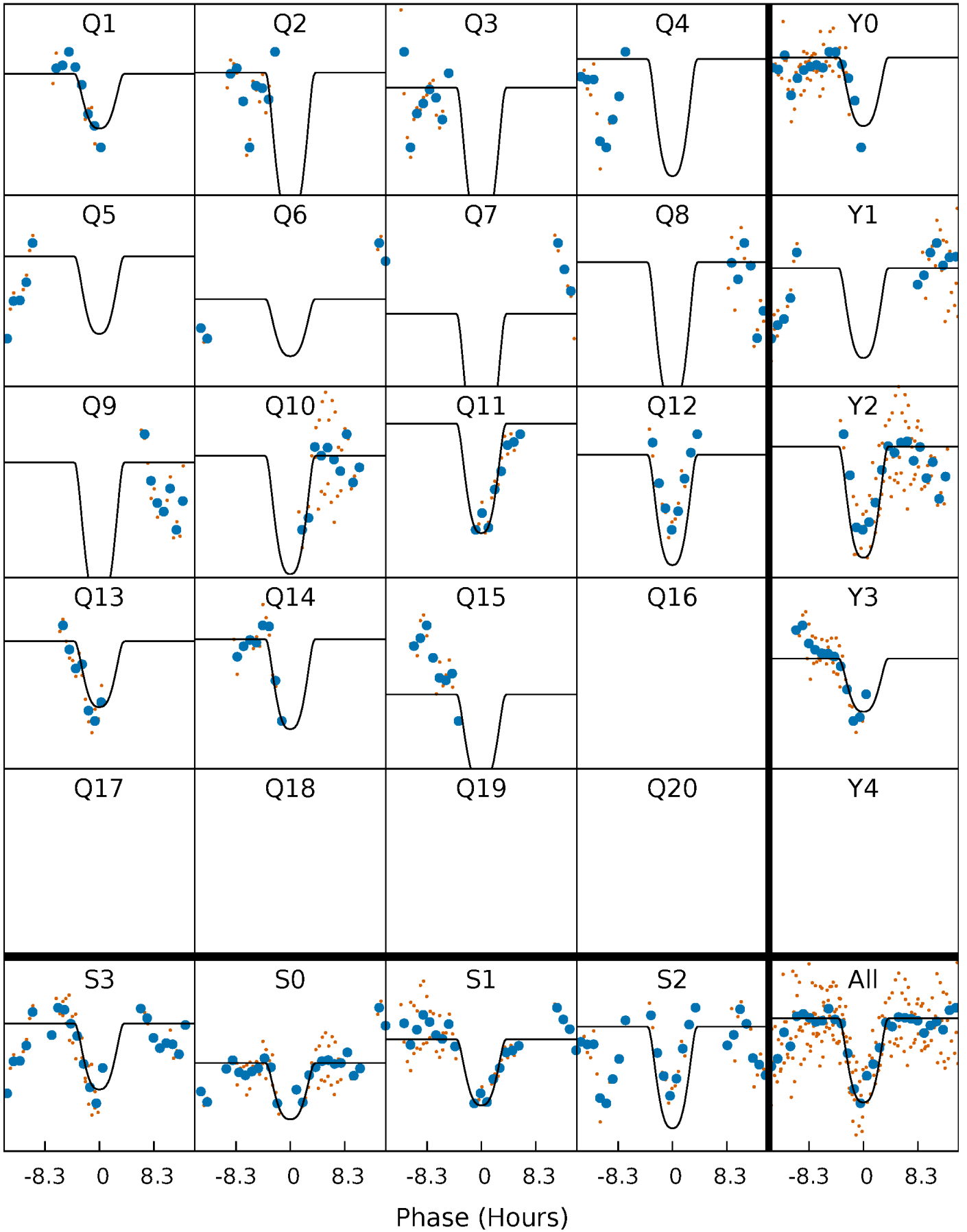
PDC Quarter-Phased Transit Curves

TCE 007698937-04 P= 86.583323 Days $T_0=133.931085$ (BKJD)



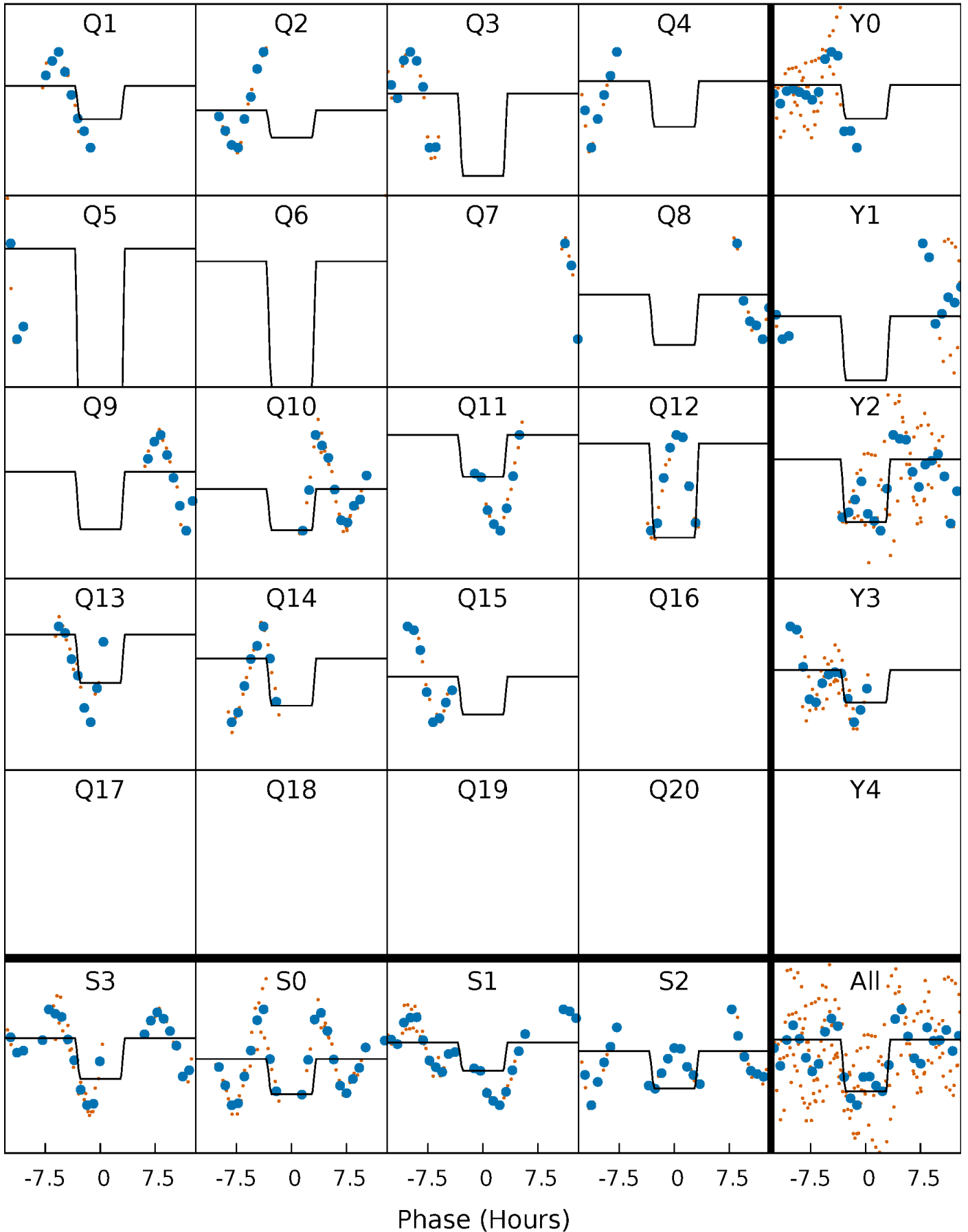
DV Quarter-Phased Transit Curves

TCE 007698937-04 P= 86.583323 Days $T_0=133.931085$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

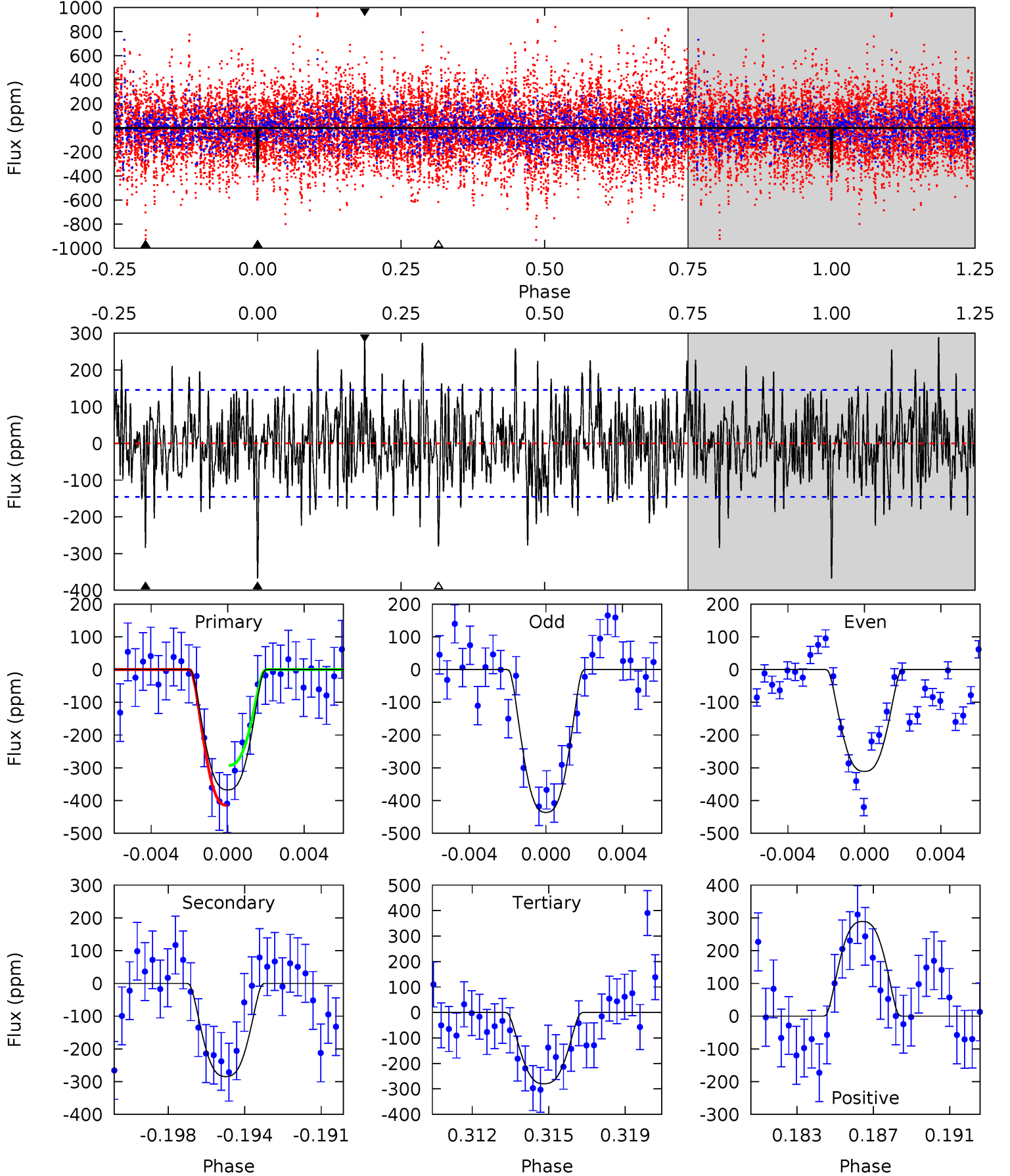
TCE 007698937-04 P= 86.581003 Days $T_0=133.963628$ (BKJD)



DV Model-Shift Uniqueness Test

007698937-04, P = 86.583323 Days, E = 47.347762 Days

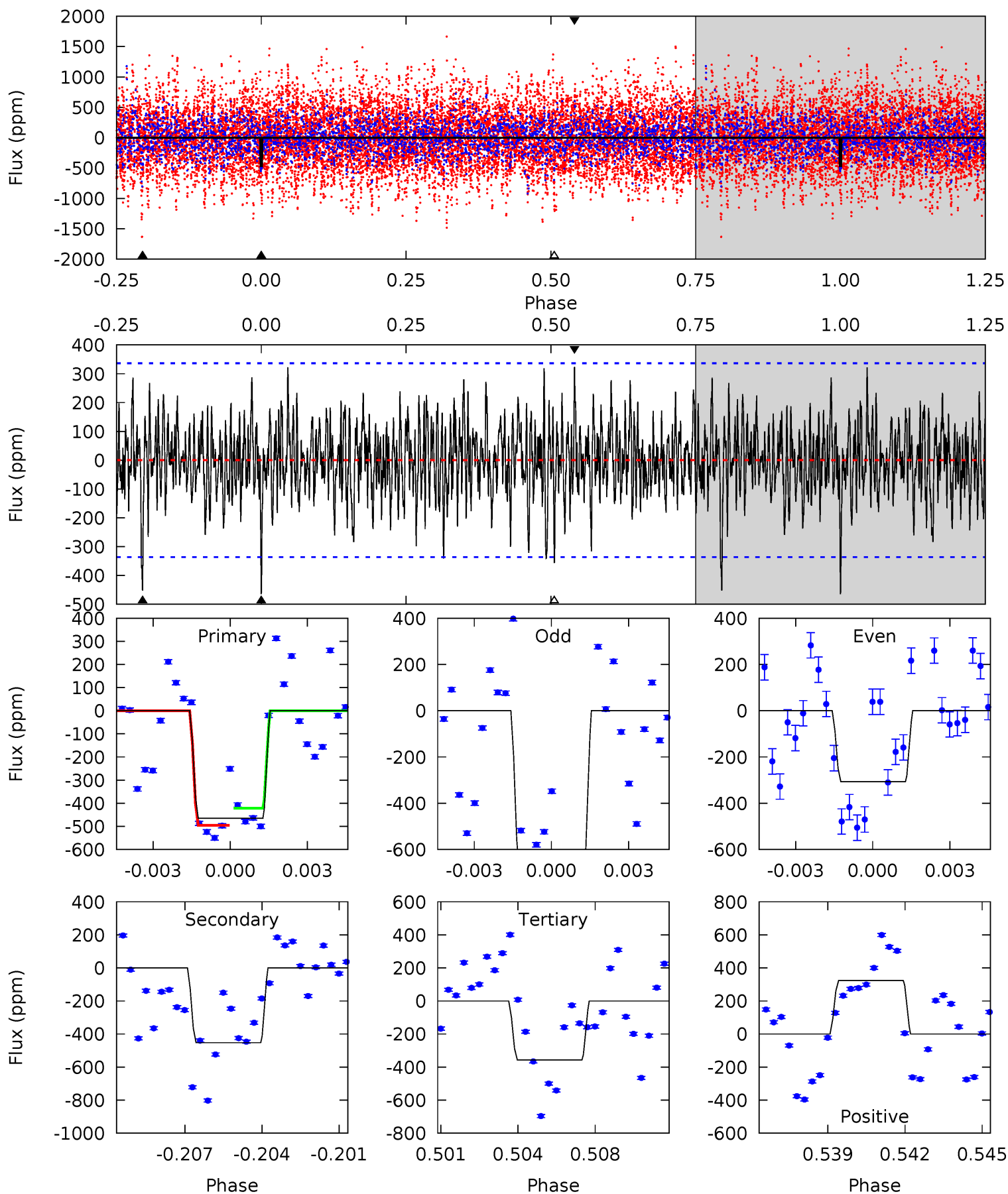
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	10.2	10.0	10.4	5.22	2.91	3.01	3.14	2.81	0.17	-0.16	2.15	0.80	0.44	2.16



Alt Model-Shift Uniqueness Test

007698937-04, P = 86.581003 Days, E = 47.382625 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.25	7.06	5.56	5.05	5.24	2.95	1.66	1.69	2.20	1.50	2.01	2.91	1.03	0.41	0.57



Stellar Parameters For KIC 007698937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6897^{+192}_{-240}	$4.124^{+0.209}_{-0.171}$	$-0.440^{+0.300}_{-0.300}$	$1.603^{+0.443}_{-0.443}$	$1.249^{+0.185}_{-0.203}$	$0.427^{+0.535}_{-0.210}$
	+3%/-3%	+5%/-4%	+68%/-68%	+28%/-28%	+15%/-16%	+125%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007698937-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-284 ± 28	$4.33^{+0.78}_{-0.73}$	835^{+61}_{-65}	5667^{+323}_{-280}	1433^{+564}_{-402}
Alt.	-453 ± 64	$3.80^{+0.64}_{-0.61}$	837^{+65}_{-66}	6780^{+494}_{-451}	2882^{+1292}_{-866}

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 $A_{obs} \gg 1.0$

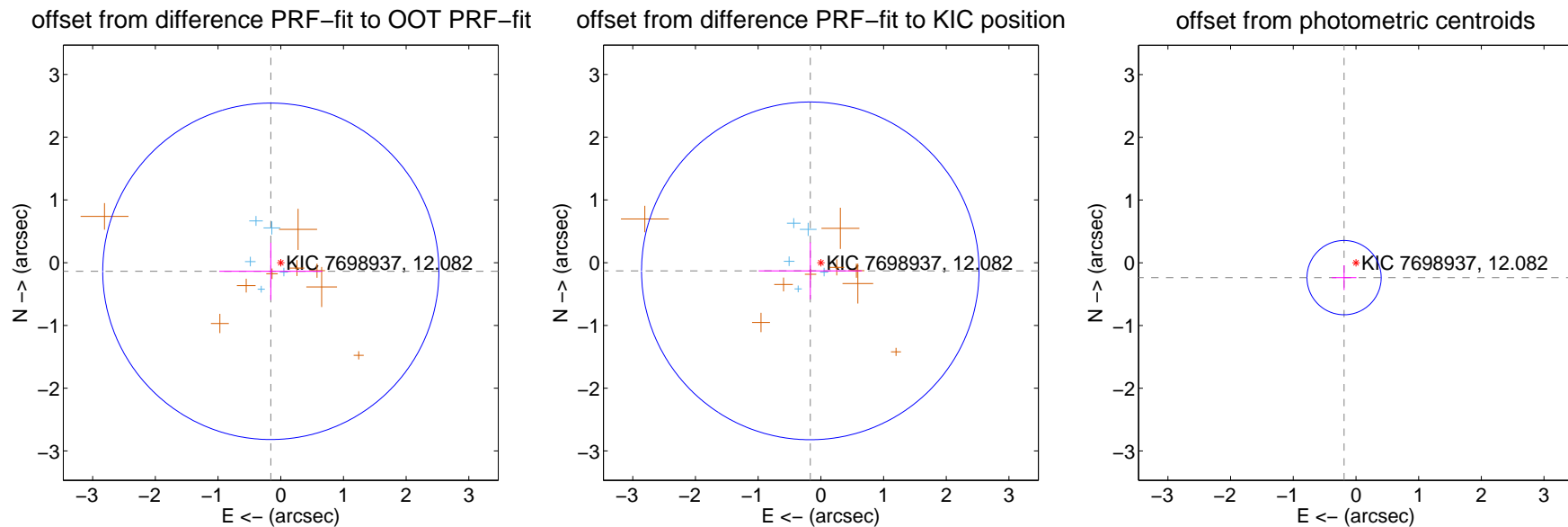
DV Centroid Data

Supplemental centroid analysis for 007698937-04. Kepler magnitude: 12.08. Transit SNR 10.30

There are 5 quarters with good PRF difference image offsets

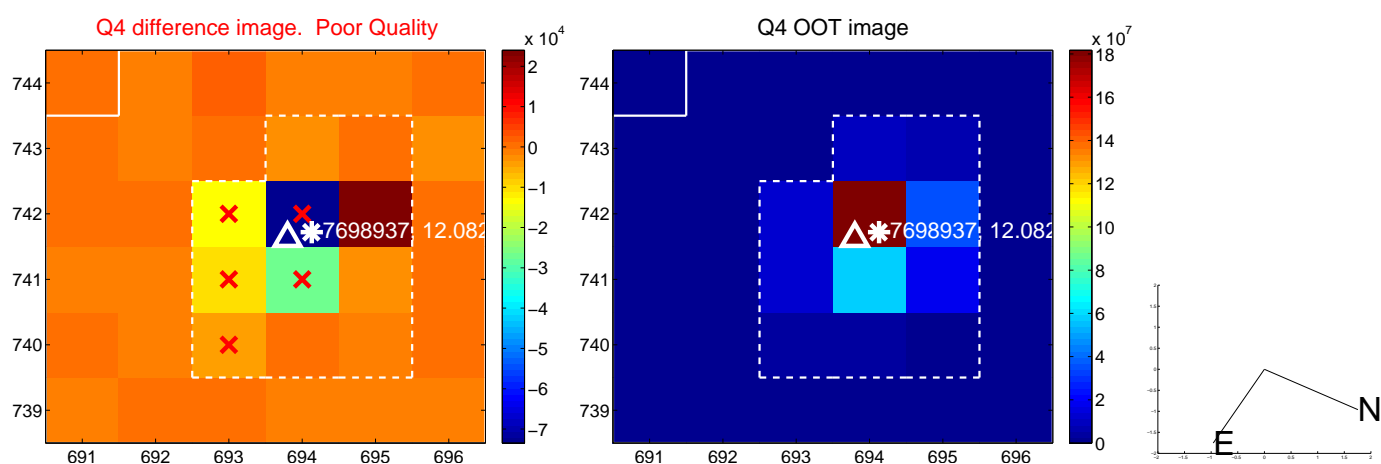
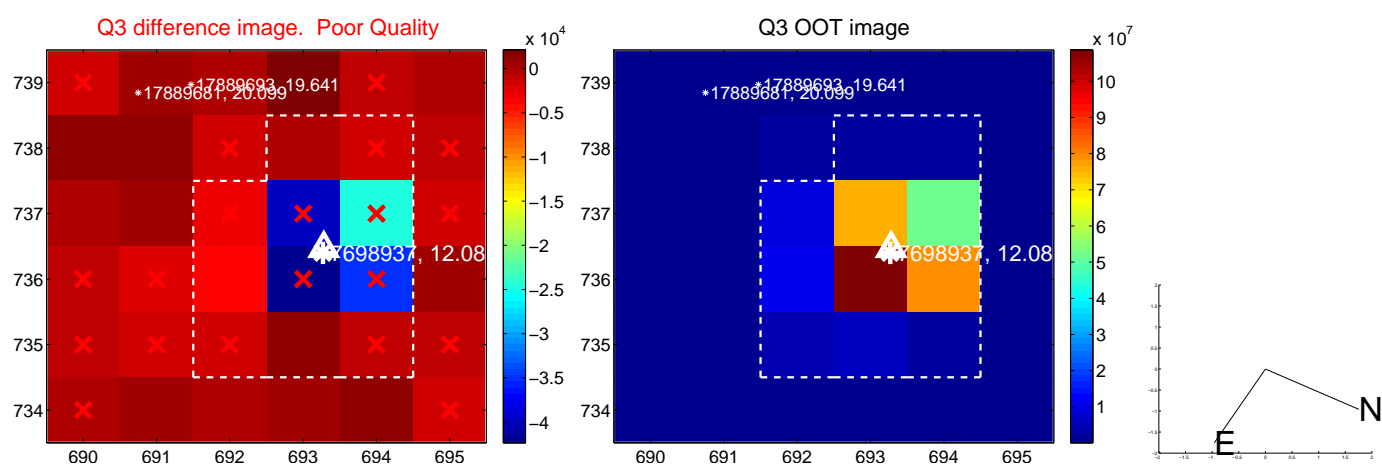
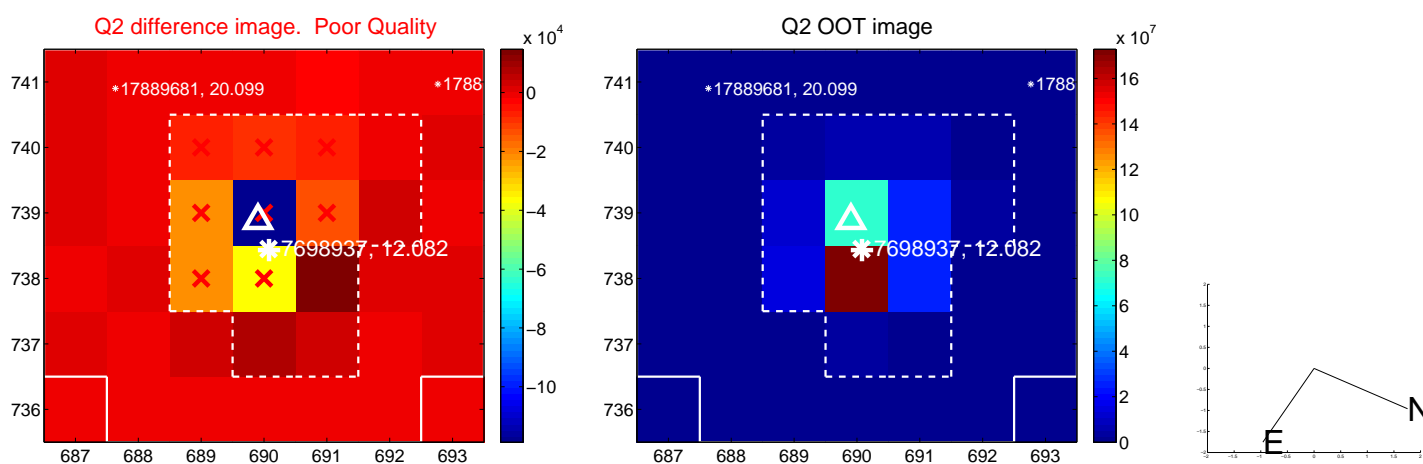
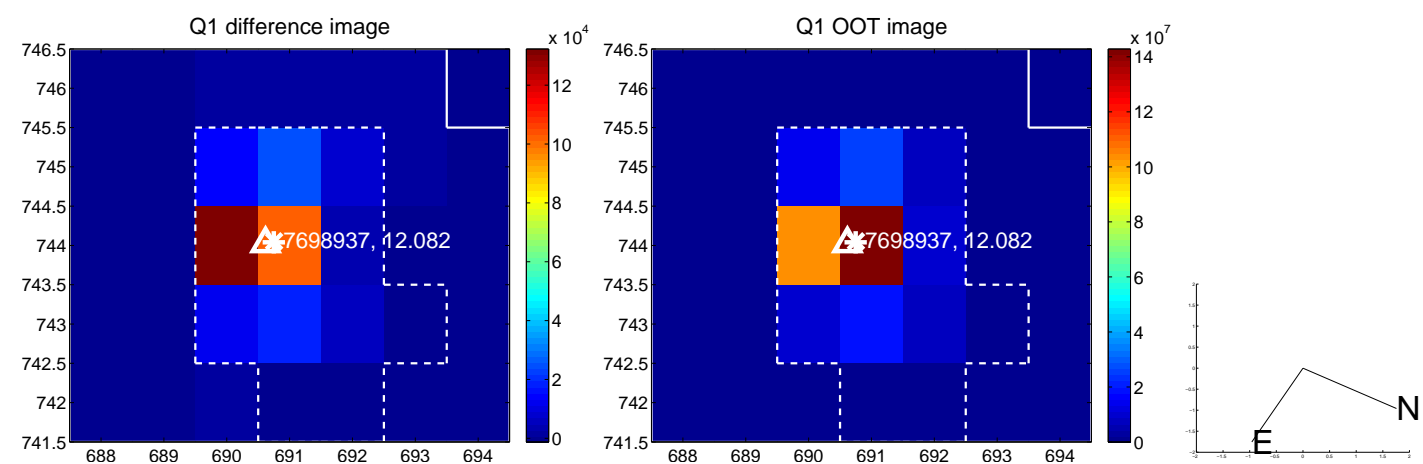
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.210 ± 0.894	0.23	0.158 ± 0.822	-0.137 ± 0.456
PRF-fit source offset from KIC position	0.213 ± 0.897	0.24	0.169 ± 0.824	-0.130 ± 0.453
photometric centroid source offset	0.30 ± 0.20	1.54	0.19 ± 0.20	-0.24 ± 0.20

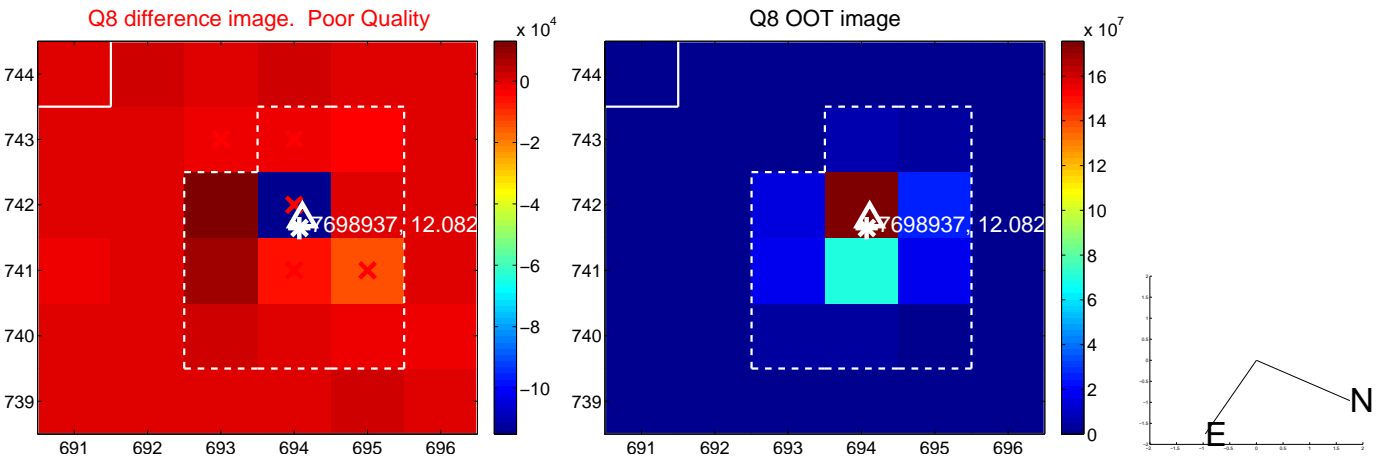
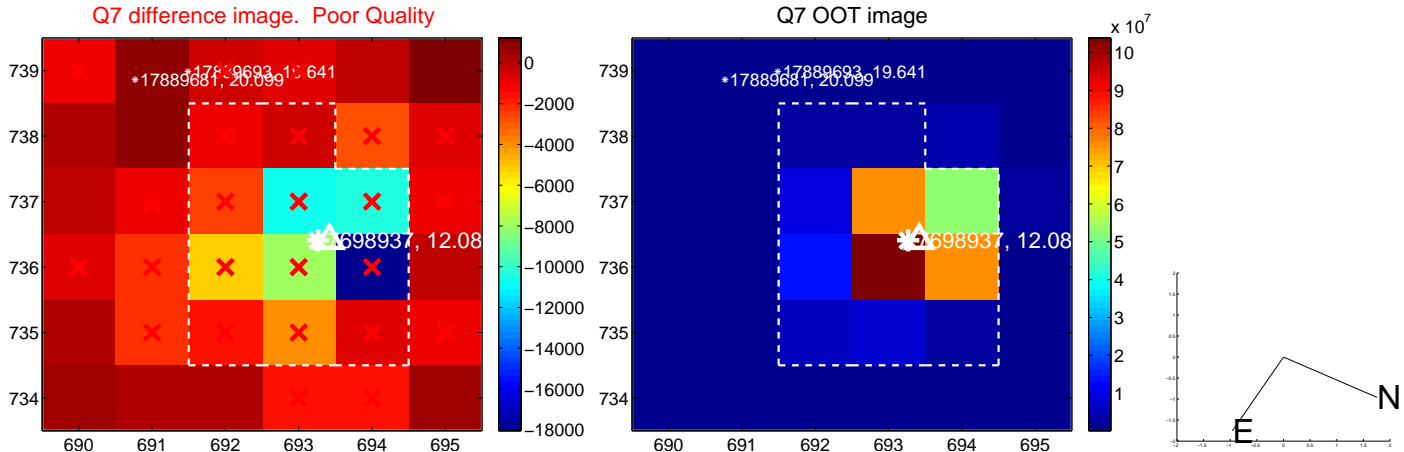
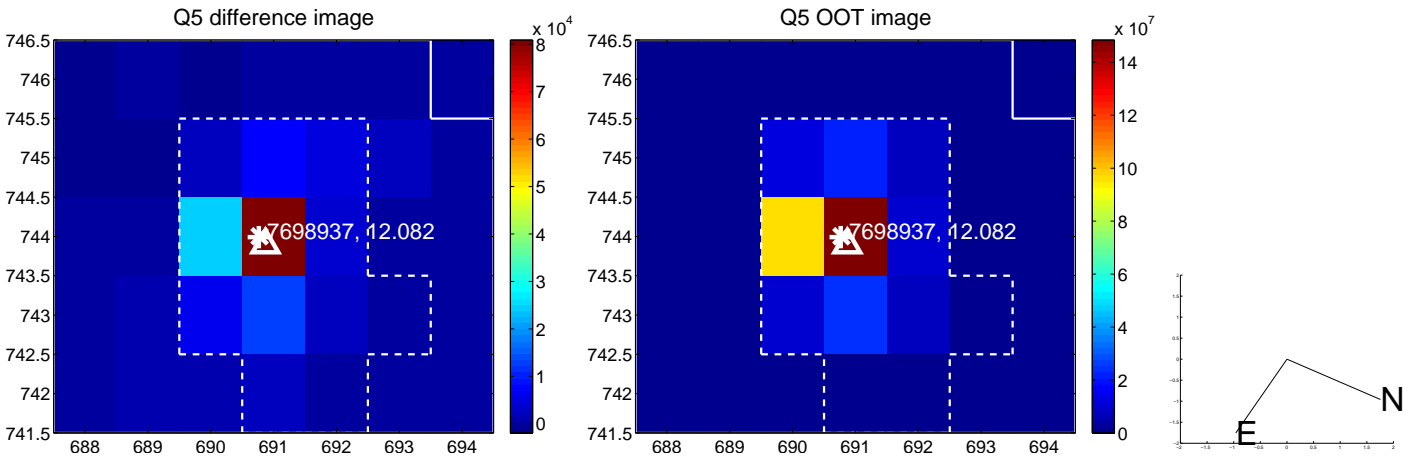


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

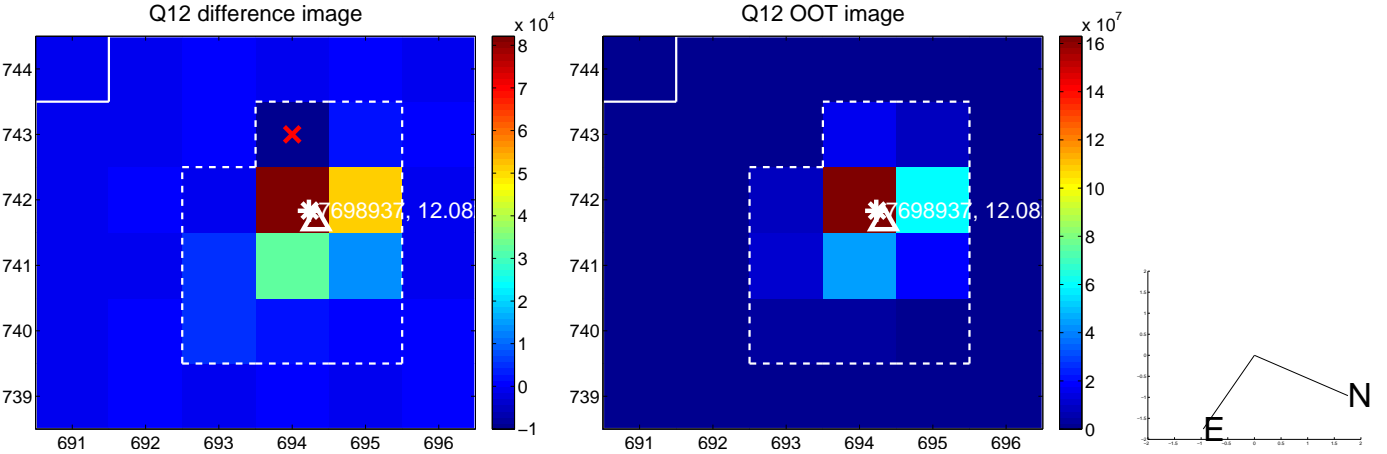
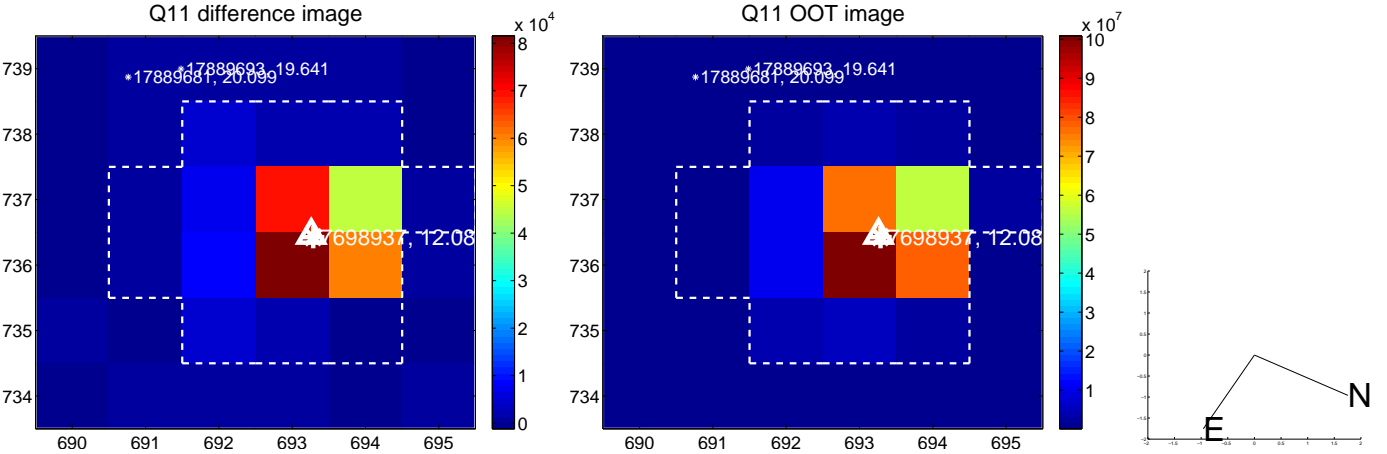
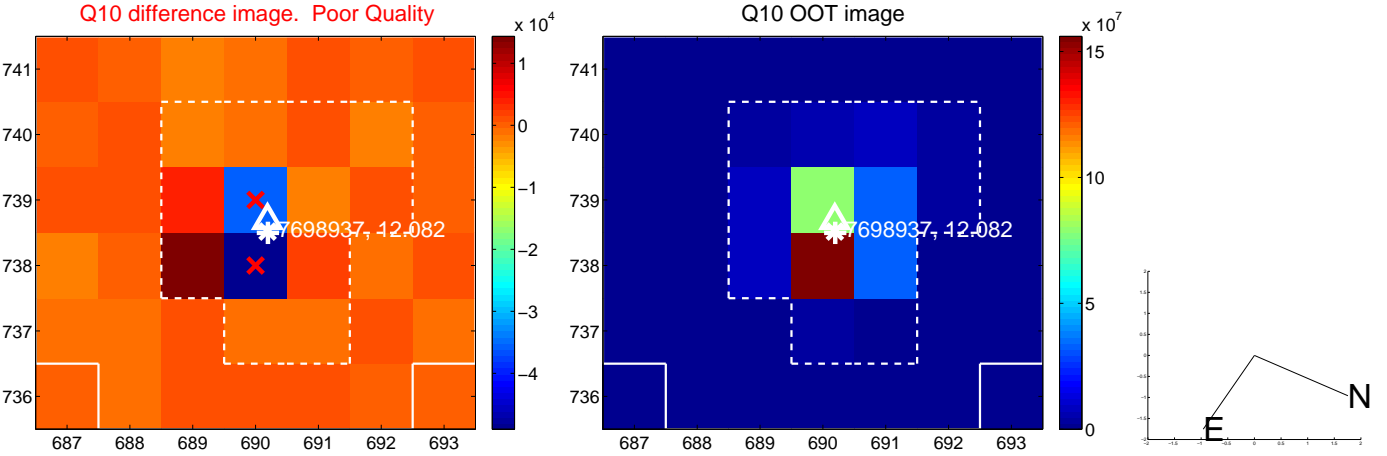
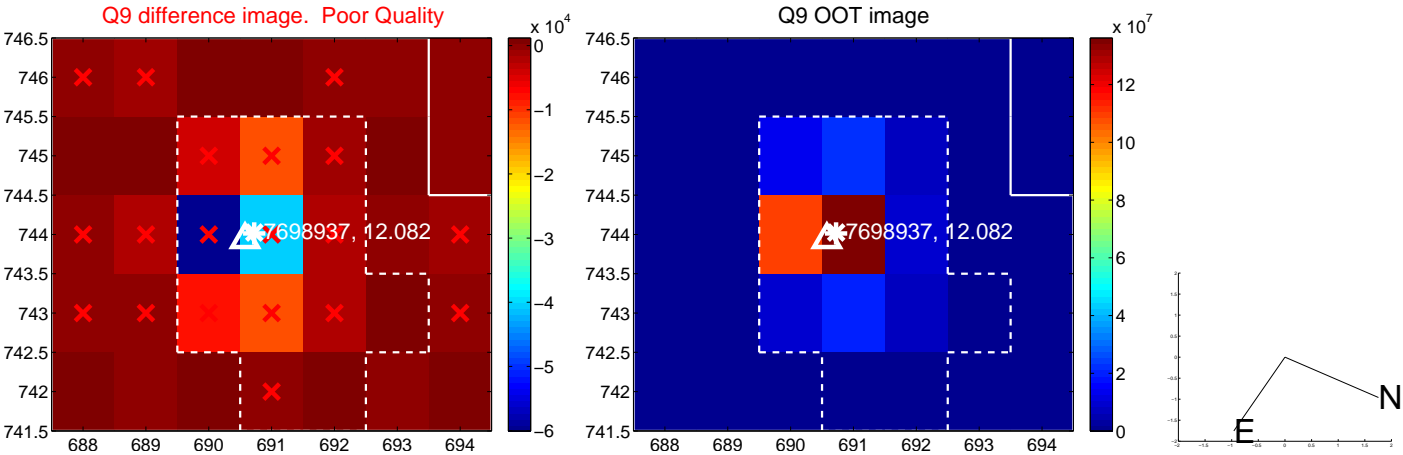
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



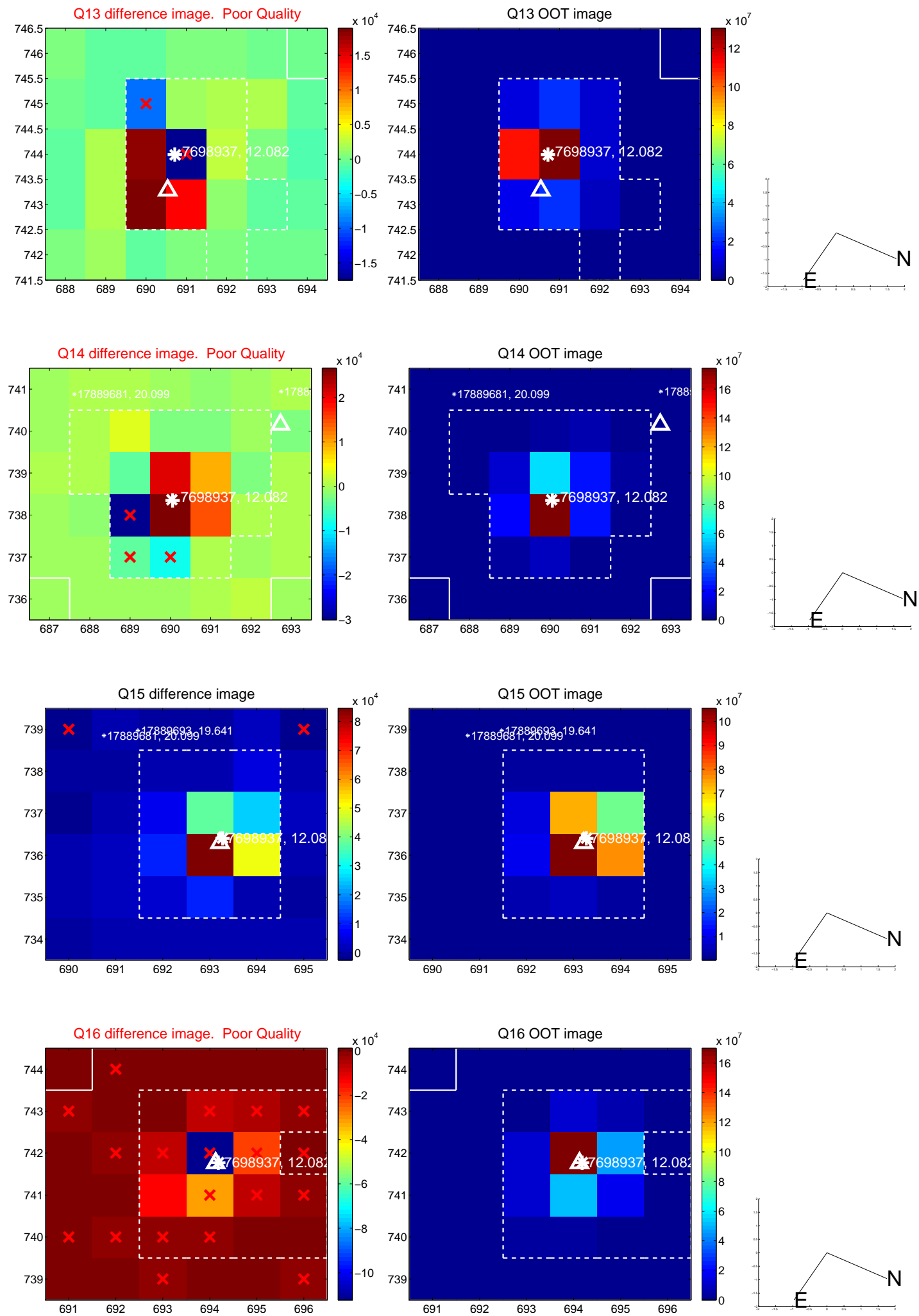
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



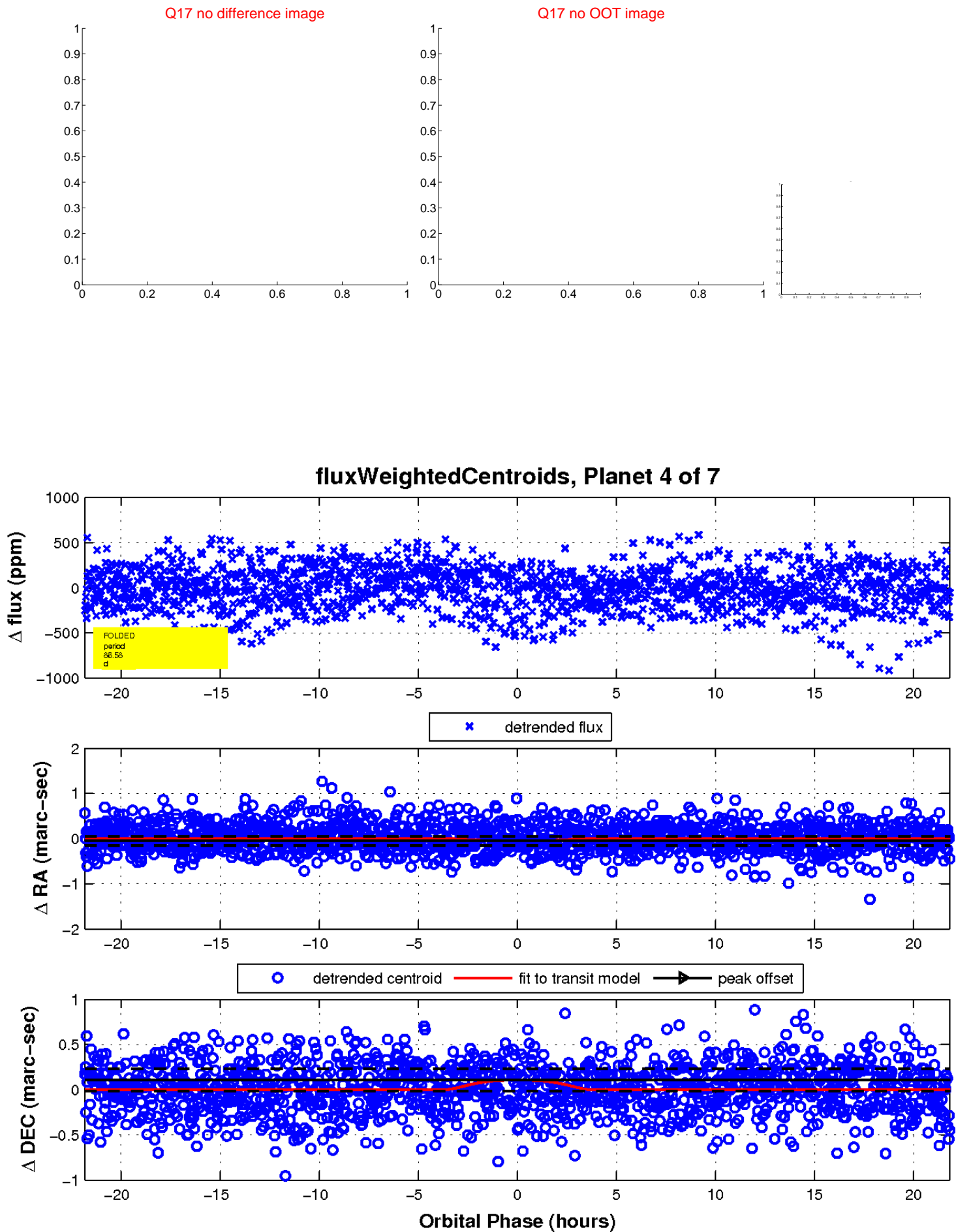
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

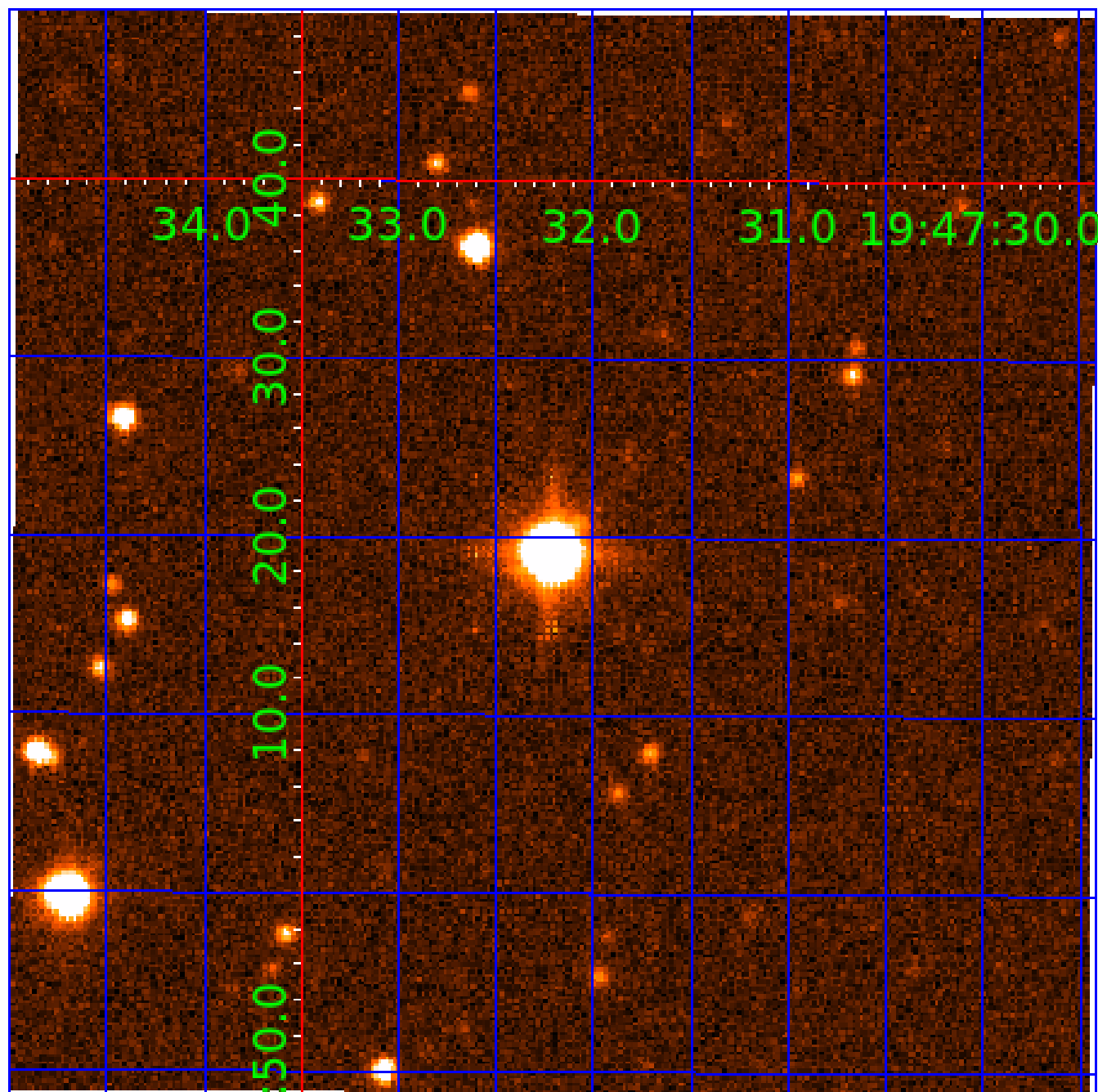


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007698937

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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007698937-02	OBS	No	122.074895	189.001565	113.8	6.189	14.3	2.4	1.60	6897	1.90	19.38
007698937-03	OBS	No	198.129687	132.124236	675.0	9.176	11.5	8.4	1.60	6897	5.28	10.16
007698937-04	OBS	No	86.583323	133.931085	429.4	7.280	10.3	10.3	1.60	6897	4.30	30.64
007698937-05	OBS	No	176.884888	132.658048	434.1	8.402	10.5	7.9	1.60	6897	6.38	11.82
007698937-06	OBS	No	41.237027	145.732381	222.1	4.988	9.0	7.9	1.60	6897	2.73	82.37
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Robovetter Results

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007698937-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
007698937-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007698937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007698937-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698937-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007698937-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

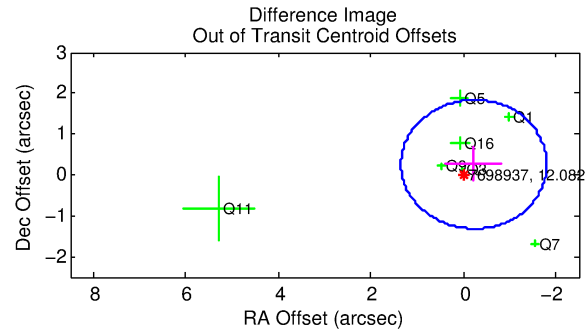
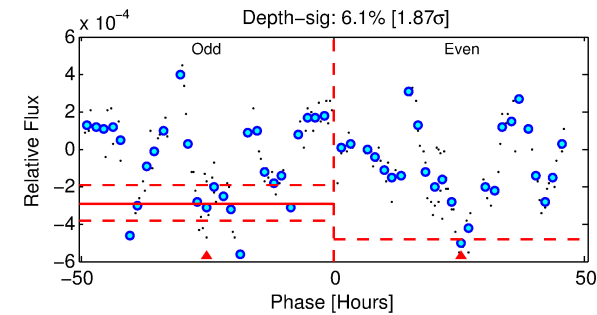
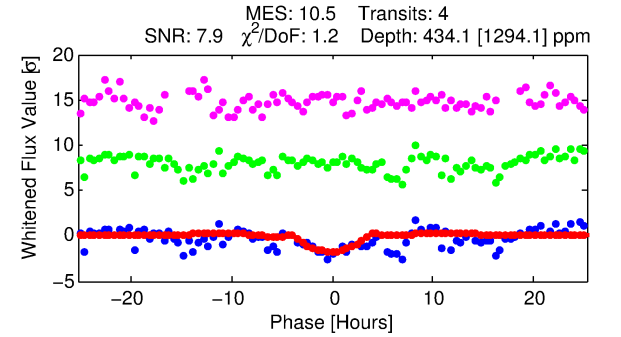
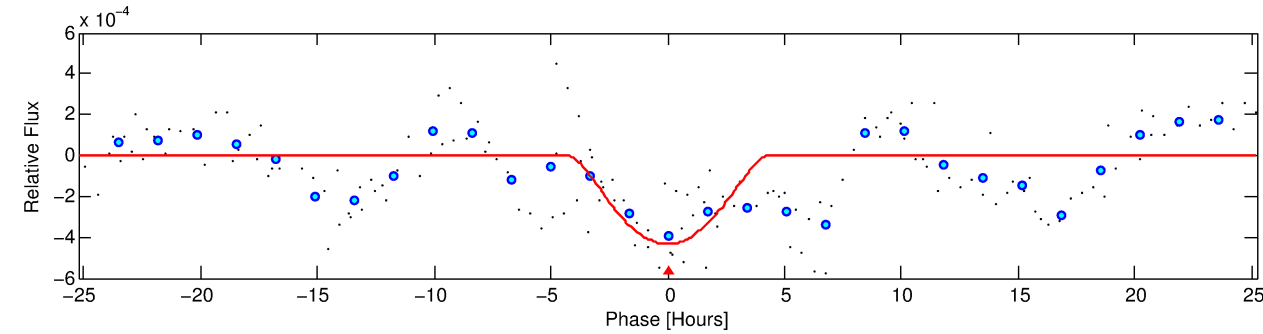
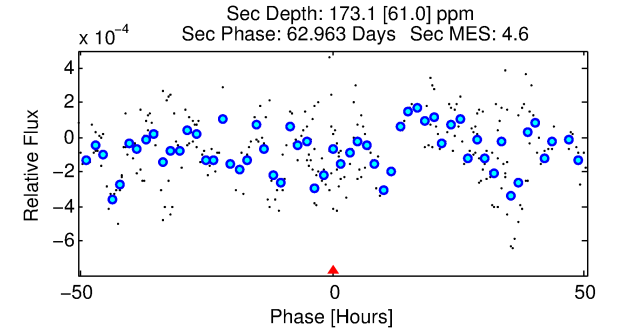
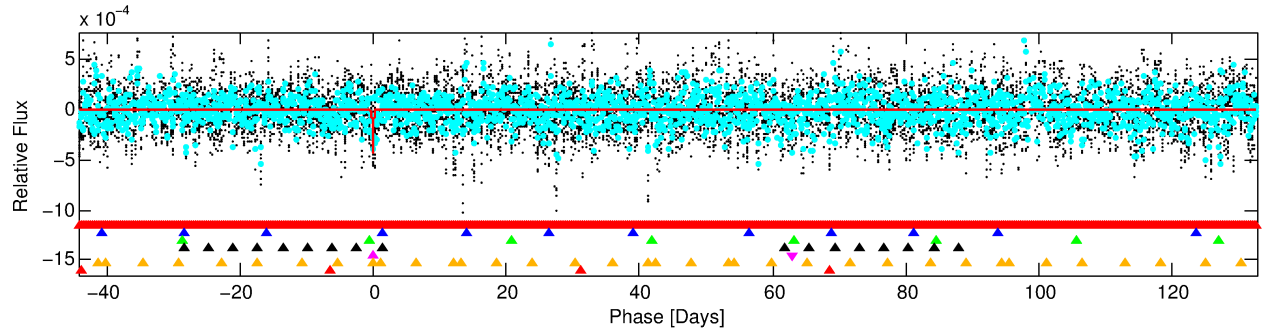
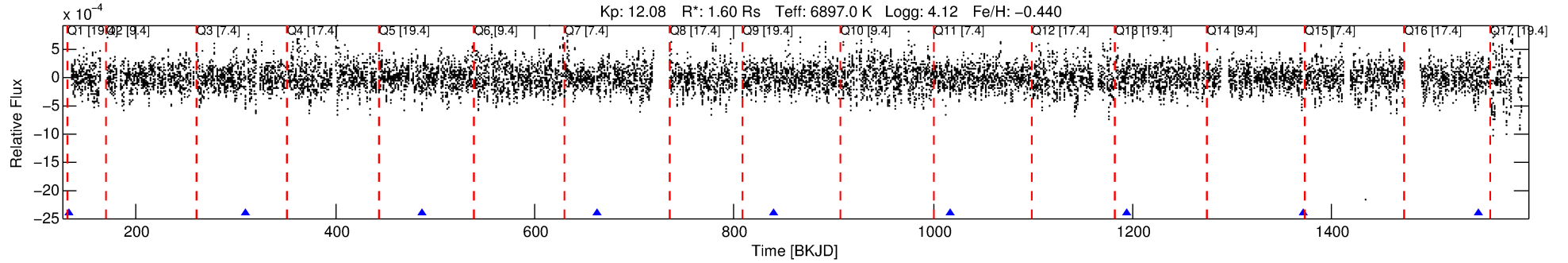
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007698937-05

No Significant Match Found

DV One-Page Summary

KIC: 7698937 Candidate: 5 of 7 Period: 176.885 d



DV Fit Results:

Period = 176.88489 [0.00523] d
Epoch = 132.6580 [0.0245] BKJD
Rp/R* = 0.0365 [0.1047]
a/R* = 43.86 [32.74]
b = 1.00 [0.23]
Seff = 11.82 [4.67]
Teq = 473 [47] K
Rp = 6.38 [18.39] Re
a = 0.6639 [0.1622] AU
Ag = 1030.00 [5930.58] [0.17 σ]
Teffp = 4141 [5950] K [0.62 σ]

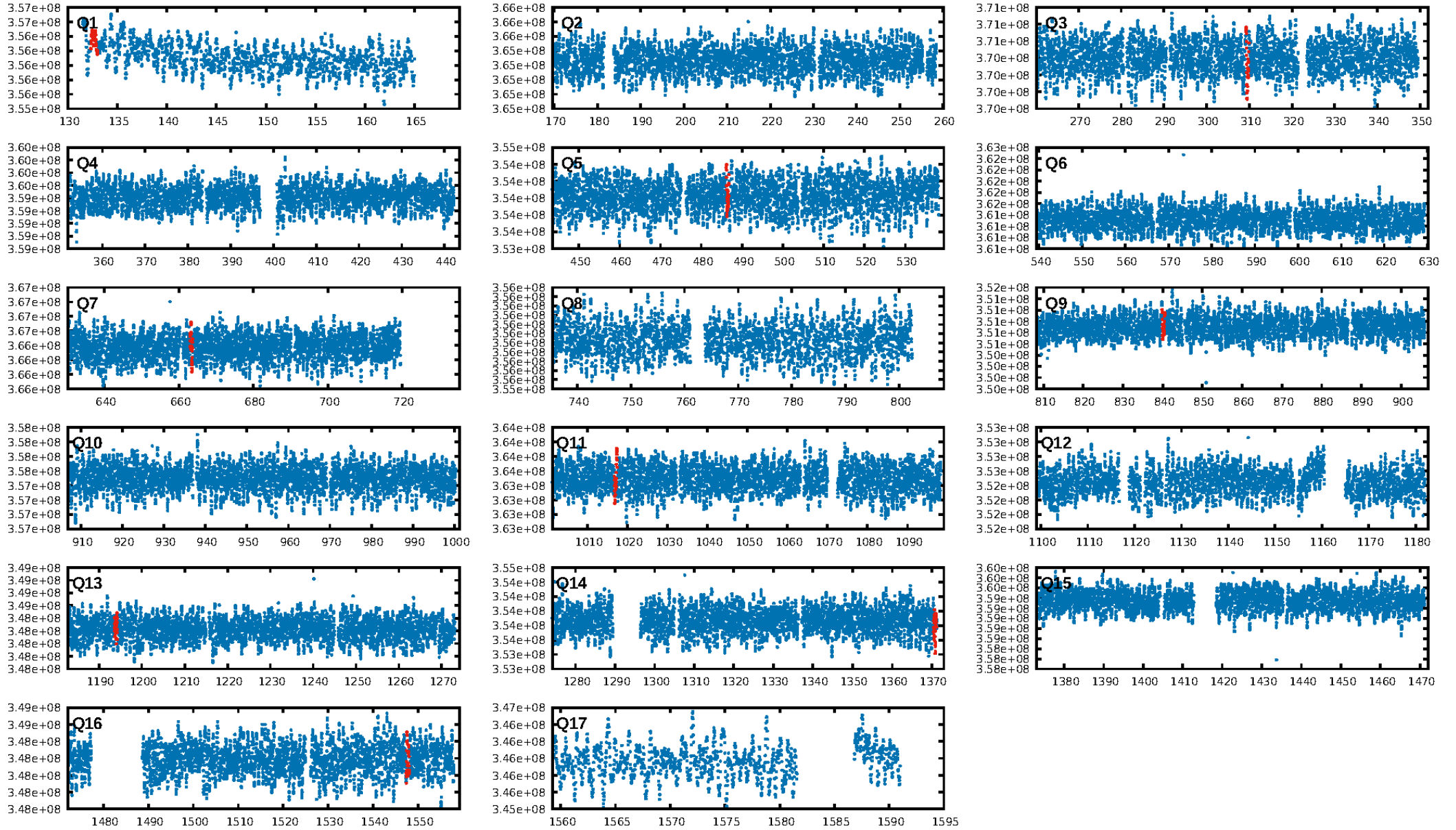
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [126.06 σ]
LongPeriod-sig: 100.0% [40.98 σ]
ModelChiSquare2-sig: 9.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.6658
Centroid-sig: 65.3%
Centroid-so: 0.109 arcsec [0.44 σ]
OotOffset-rm: 0.343 arcsec [0.65 σ]
KicOffset-rm: 0.343 arcsec [0.55 σ]
OotOffset-st: 0/3/1/3 [7]
KicOffset-st: 0/3/1/3 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 0.00 [0/7]

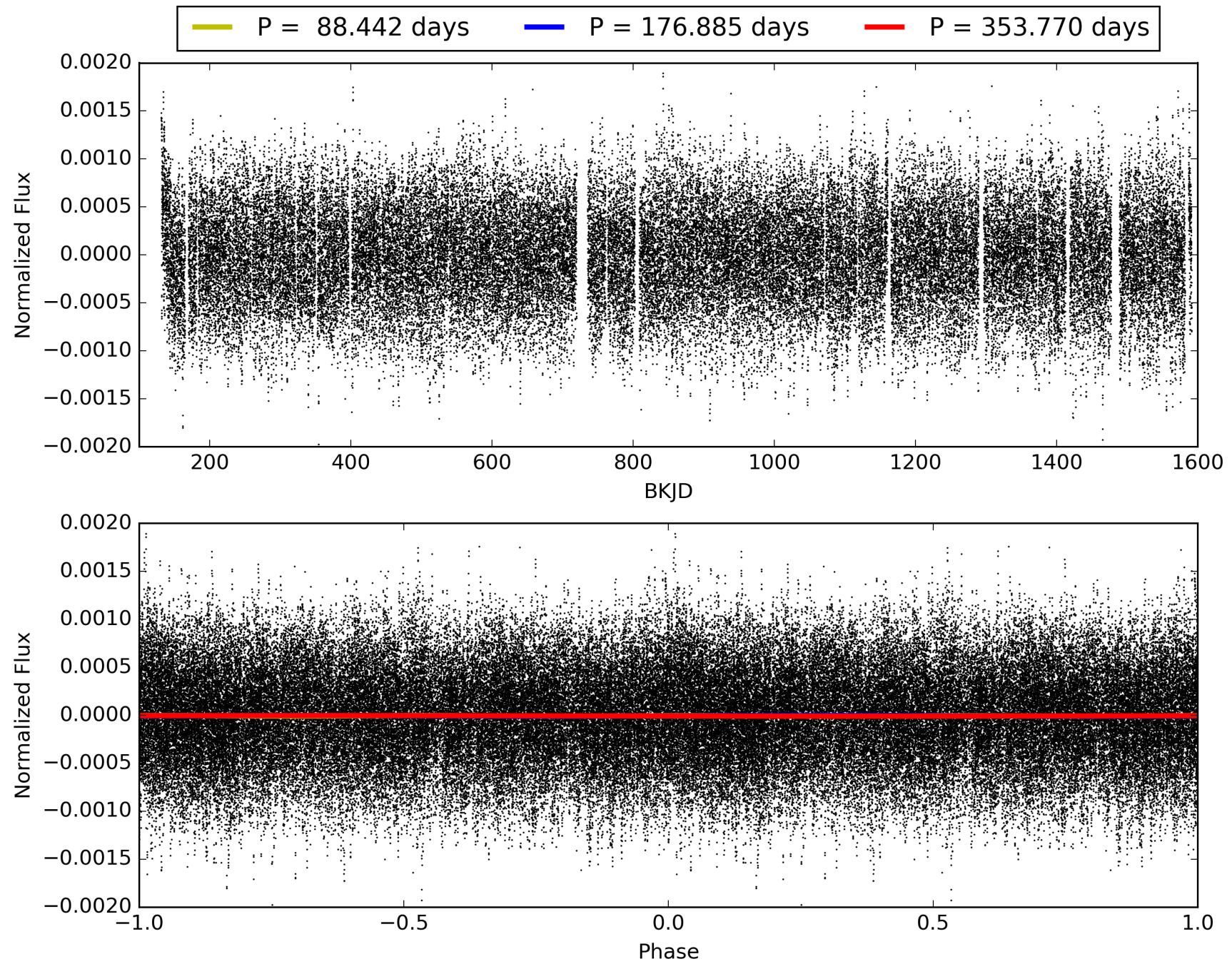
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:30:35 Z

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

TCE 007698937-05, PDC Light Curves

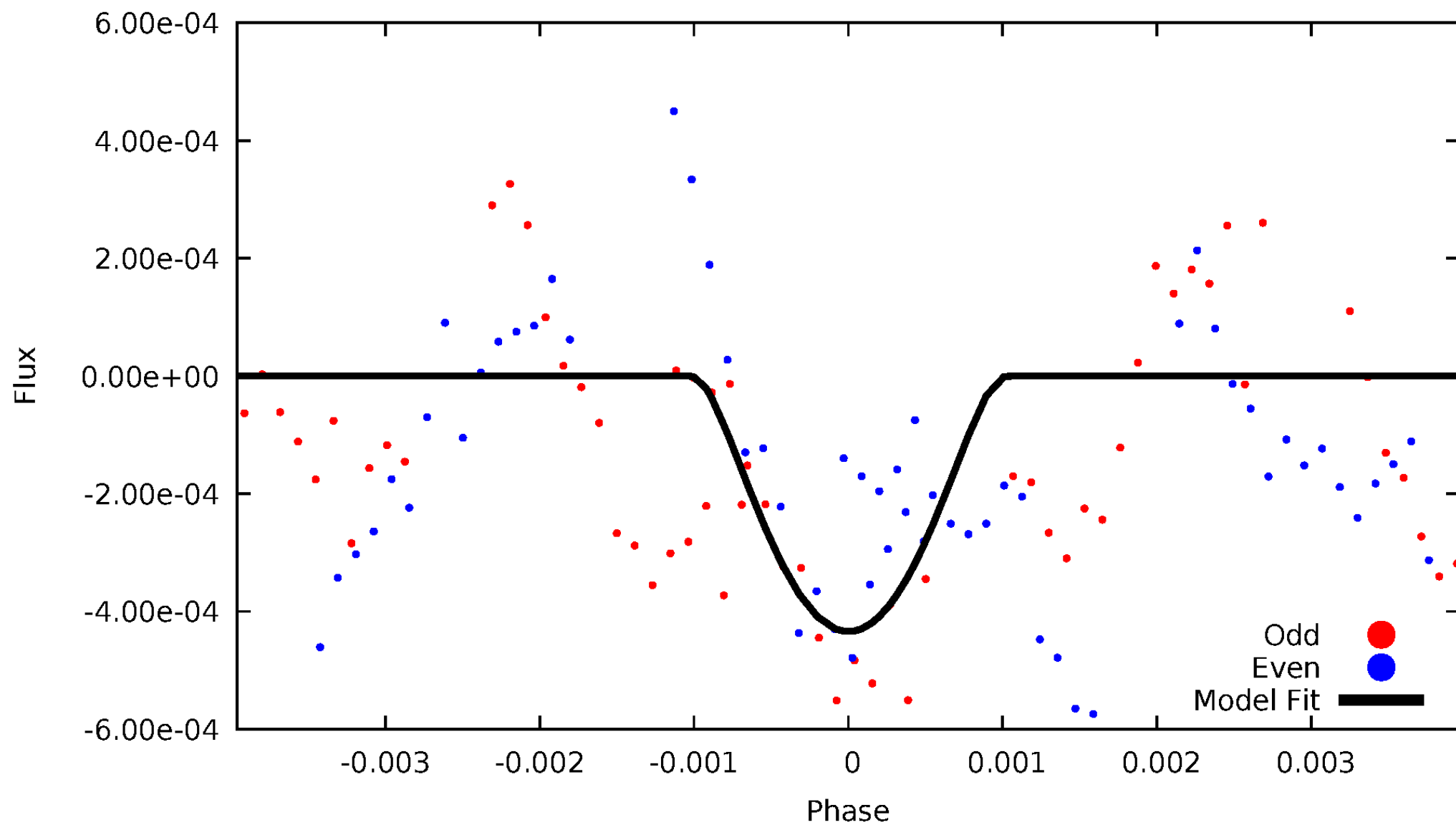


TCE 007698937-05



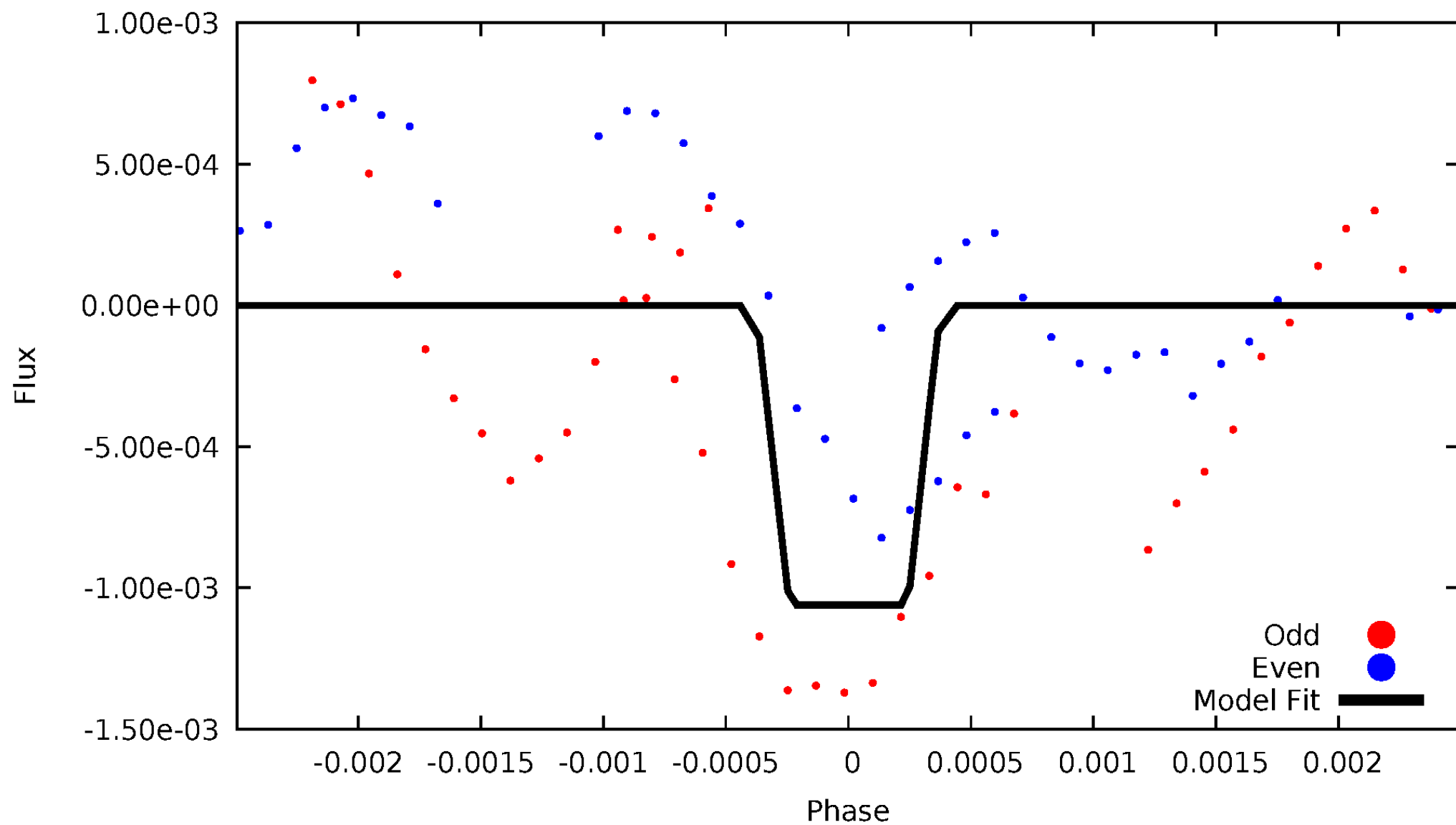
DV Odd/Even

TCE 007698937-05



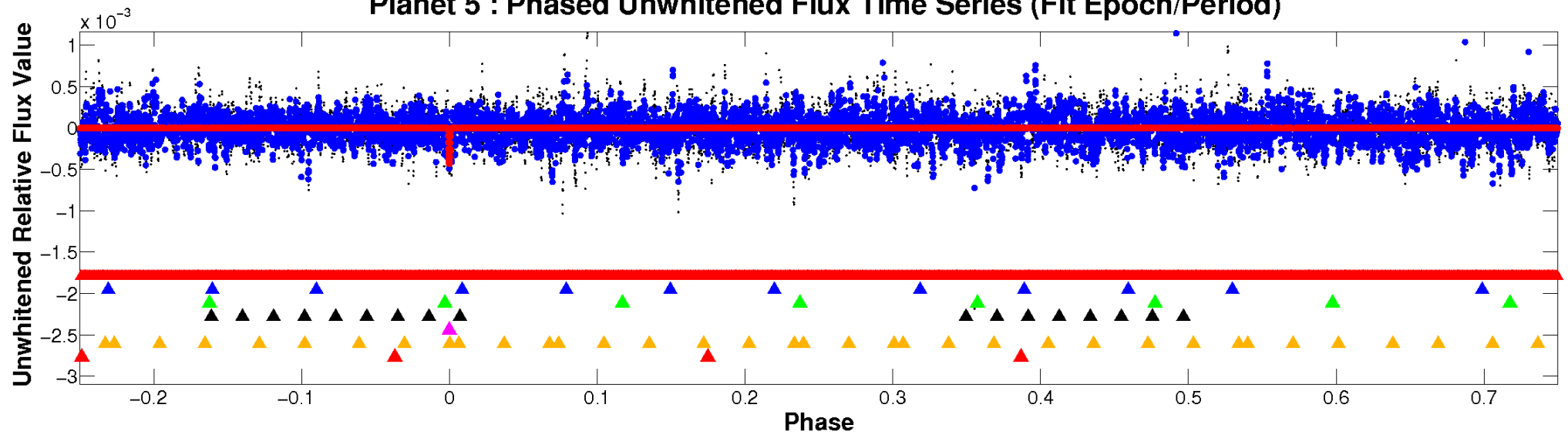
ALT Odd/Even

TCE 007698937-05

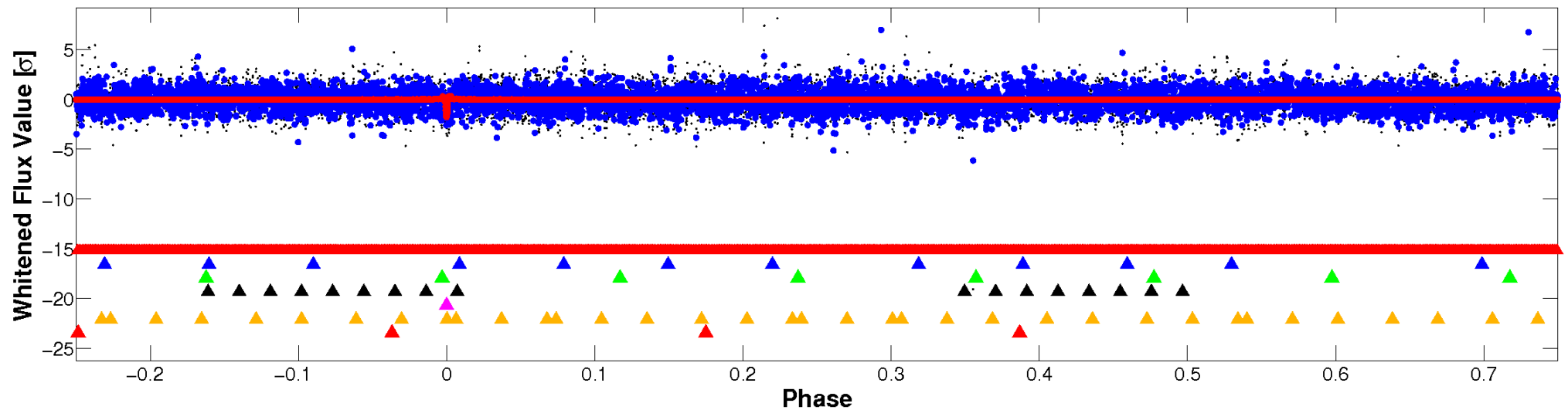


Non-Whitened Vs. Whitened Light Curve

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

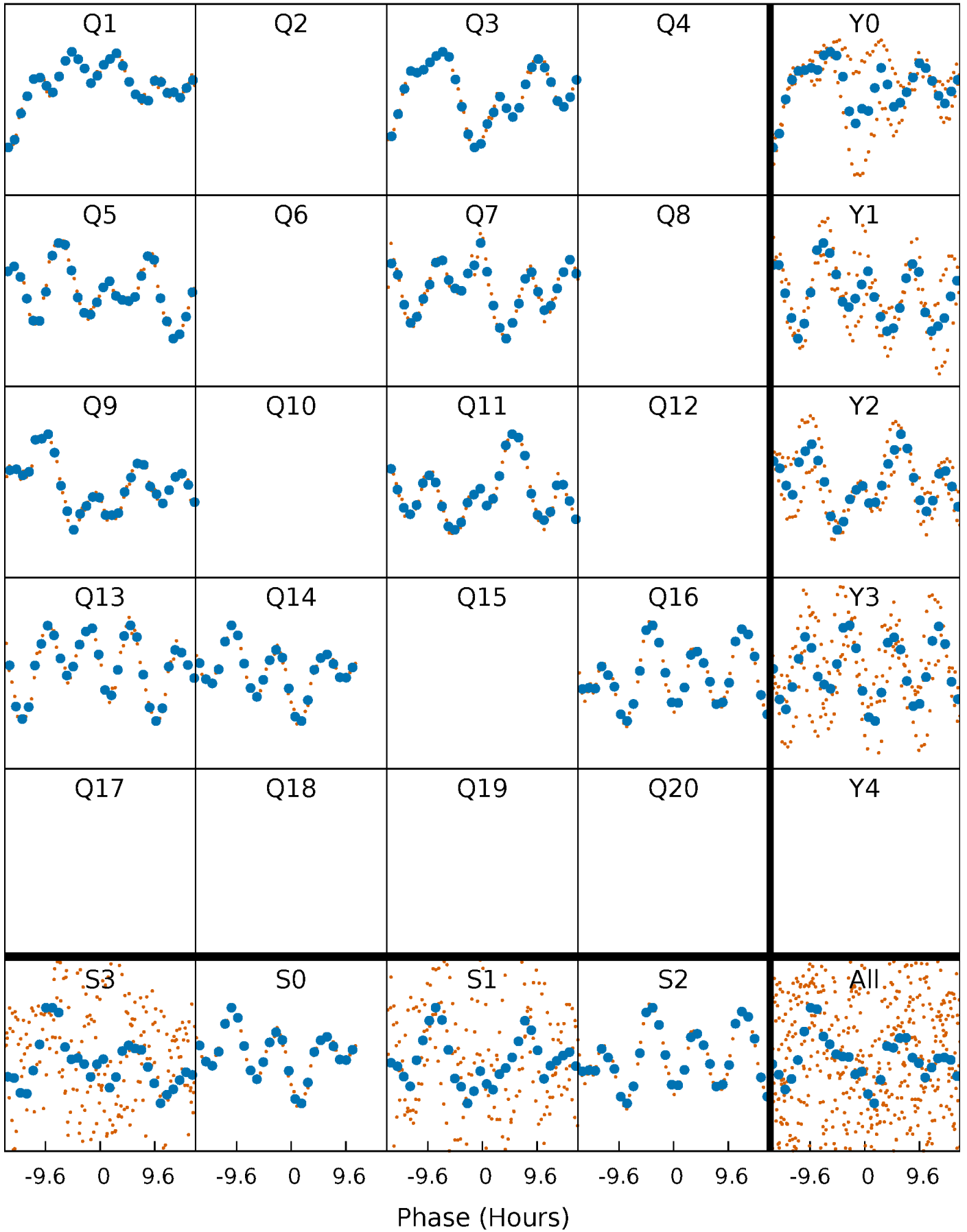


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



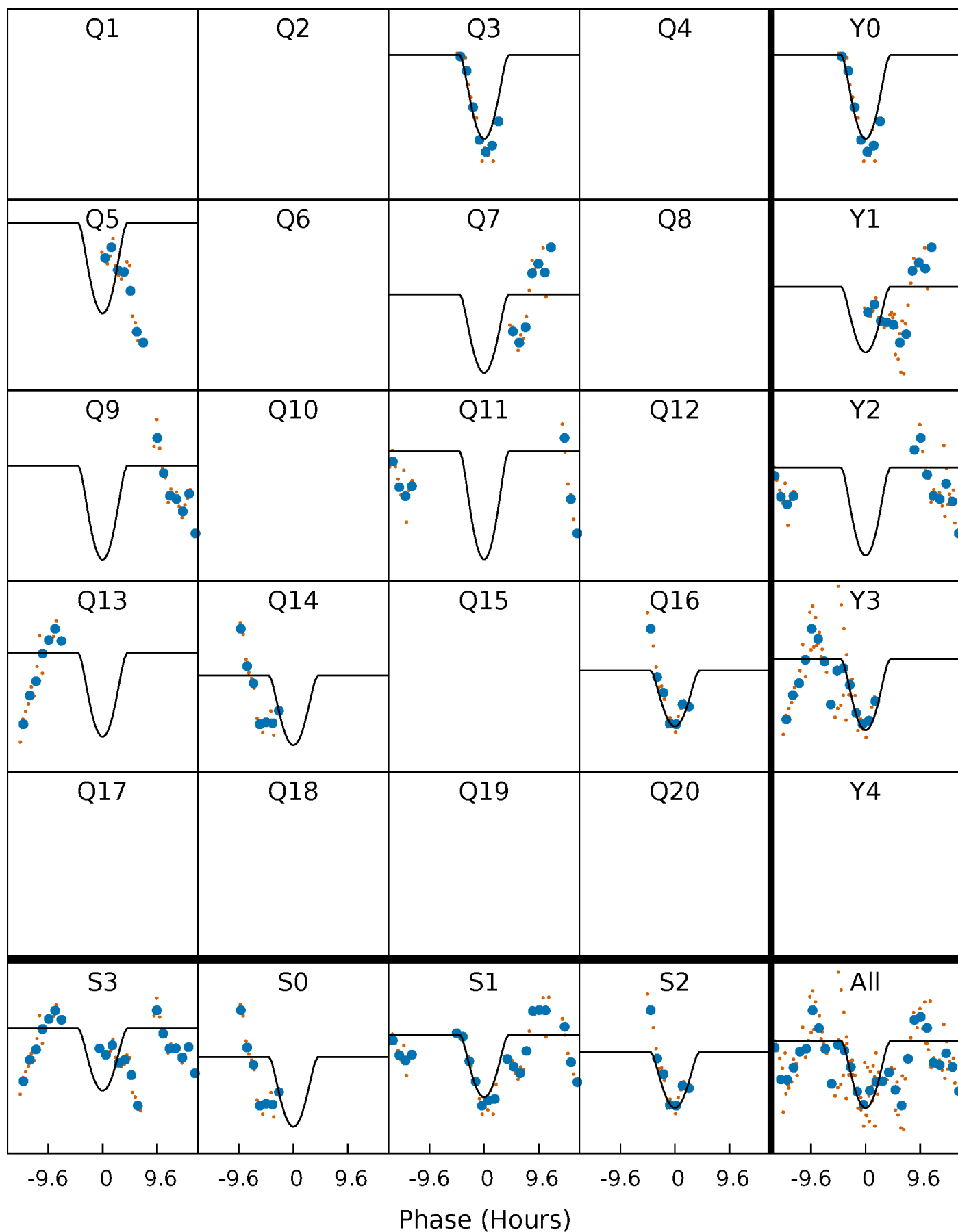
PDC Quarter-Phased Transit Curves

TCE 007698937-05 P=176.884888 Days $T_0=132.658048$ (BKJD)



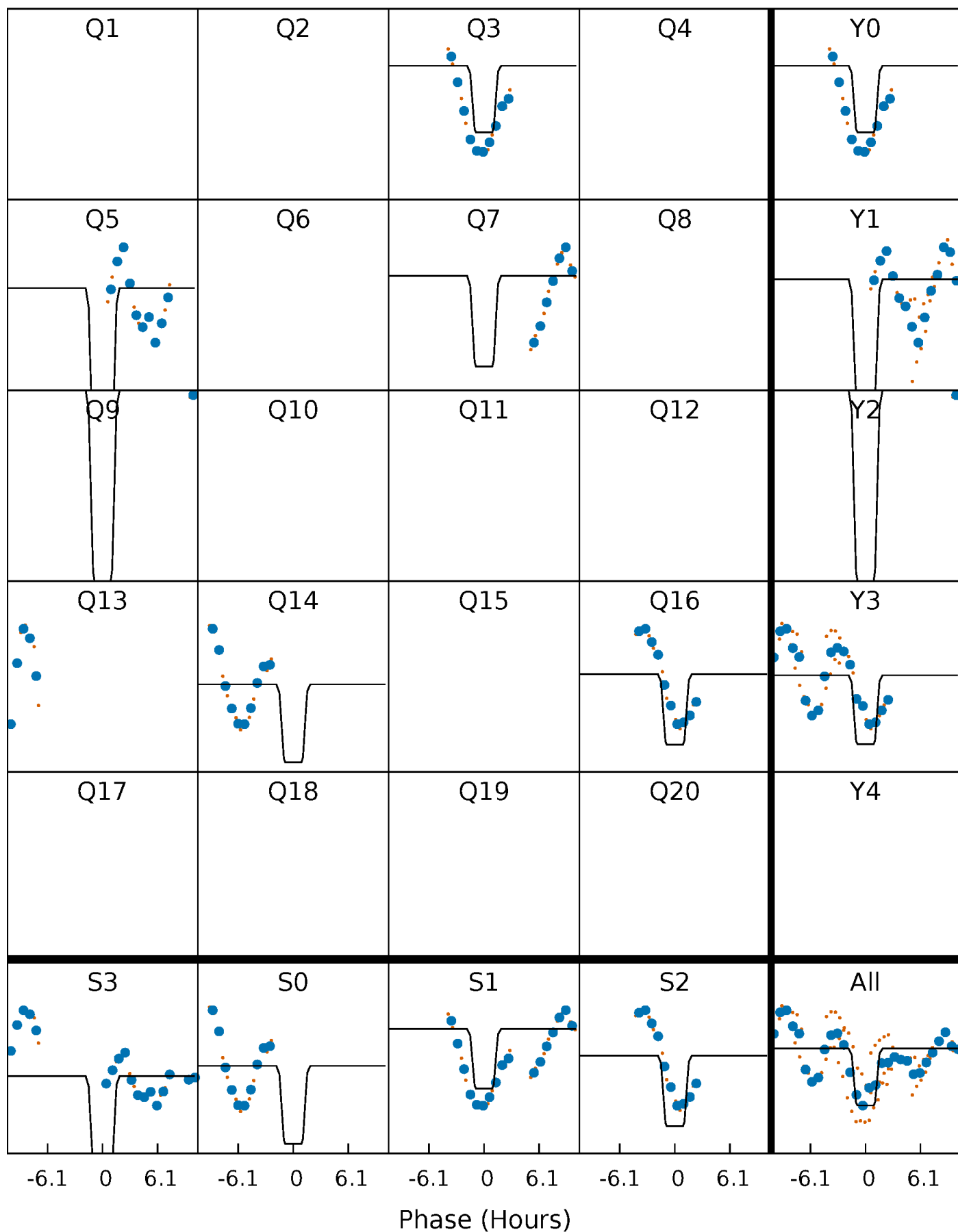
DV Quarter-Phased Transit Curves

TCE 007698937-05 $P=176.884888$ Days $T_0=132.658048$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

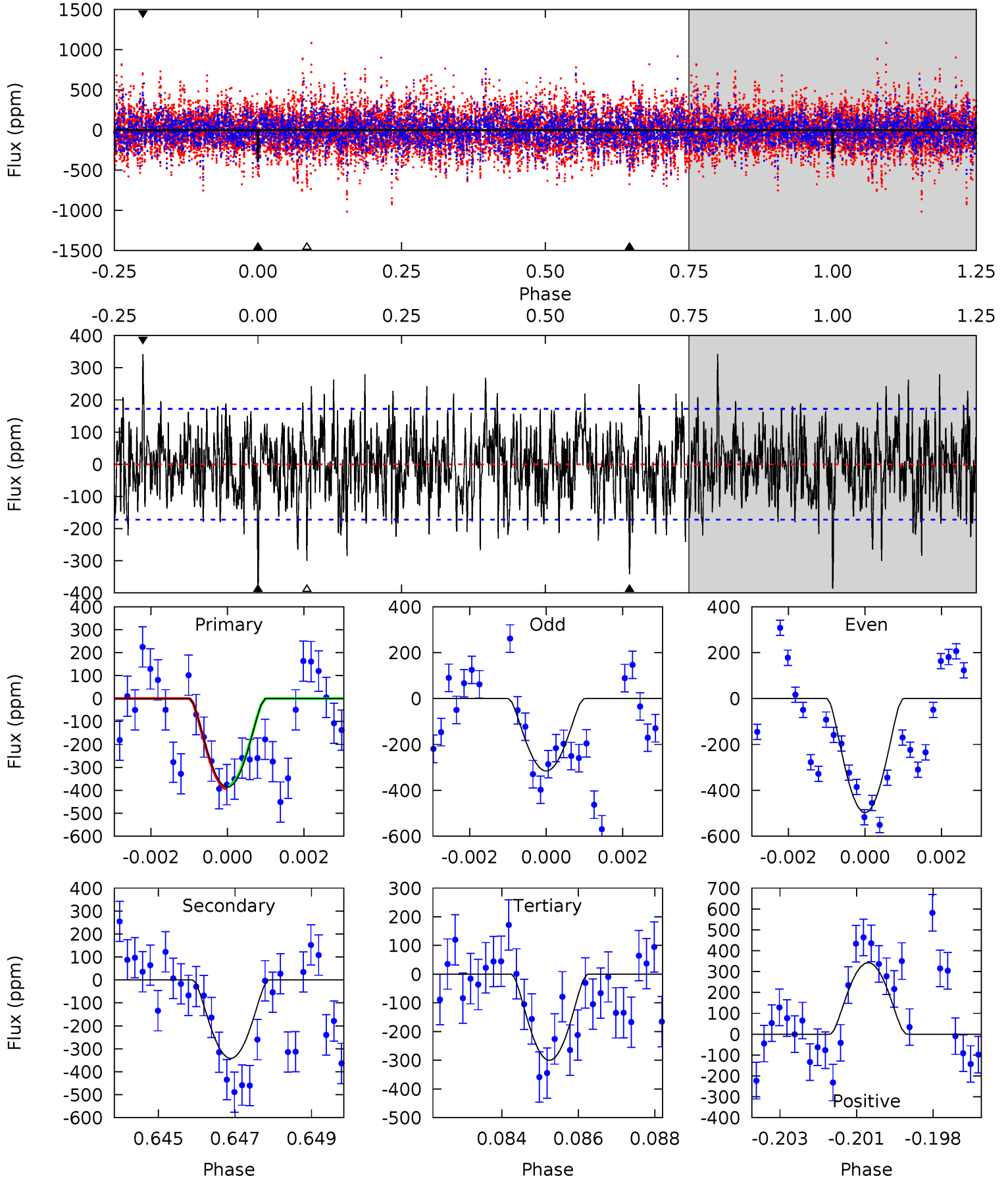
TCE 007698937-05 $P=176.886518$ Days $T_0=132.625472$ (BKJD)



DV Model-Shift Uniqueness Test

007698937-05, P = 176.884888 Days, E = 132.658048 Days

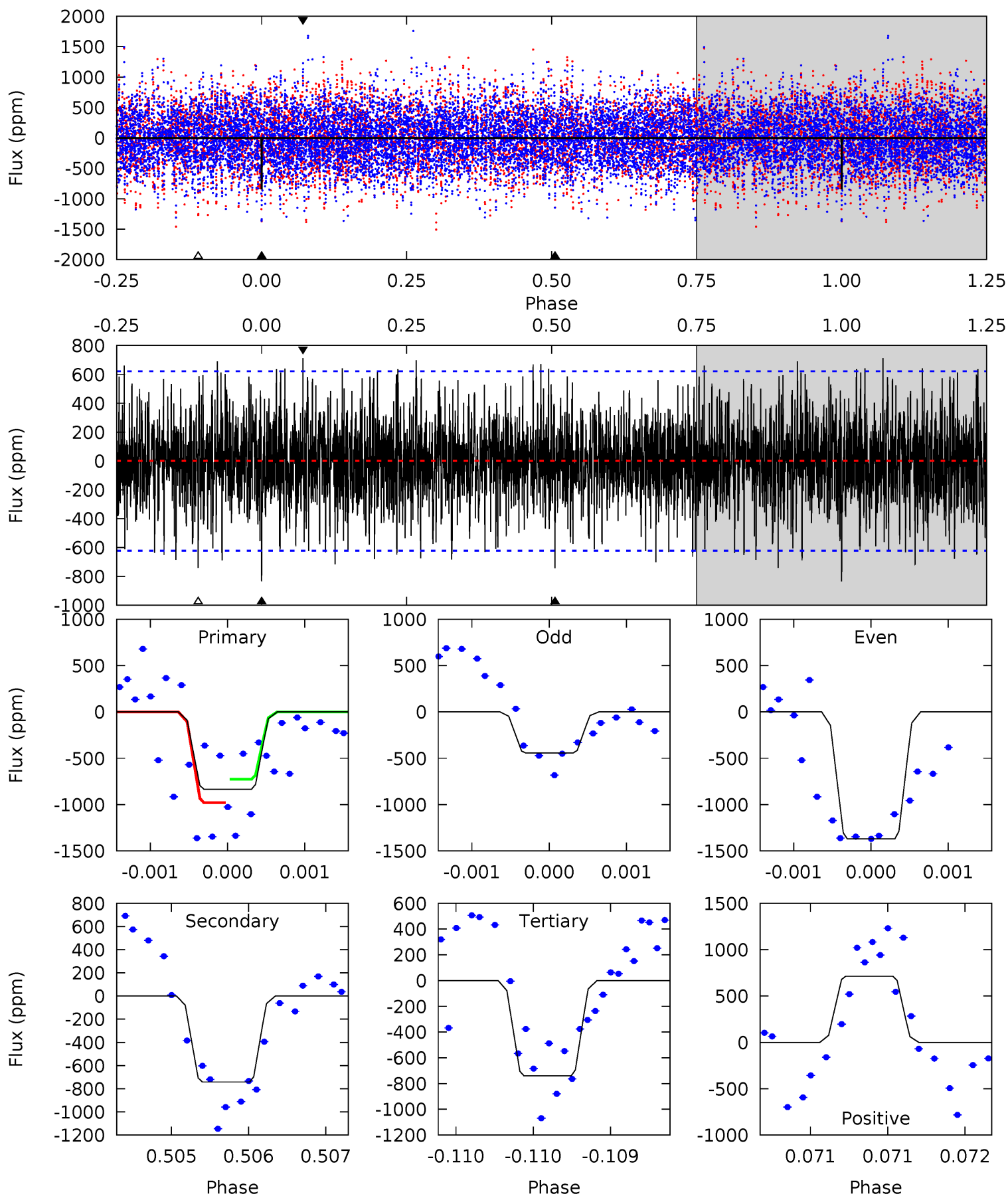
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	10.6	9.27	10.6	5.32	3.08	2.80	2.66	1.35	1.29	-0.02	2.77	1.16	0.47	0.21



Alt Model-Shift Uniqueness Test

007698937-05, P = 176.886518 Days, E = 132.625472 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.40	6.58	6.55	6.32	5.52	3.39	1.97	0.84	1.08	0.03	0.27	4.08	1.09	0.46	1.08



Stellar Parameters For KIC 007698937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6897^{+192}_{-240}	$4.124^{+0.209}_{-0.171}$	$-0.440^{+0.300}_{-0.300}$	$1.603^{+0.443}_{-0.443}$	$1.249^{+0.185}_{-0.203}$	$0.427^{+0.535}_{-0.210}$
	+3%/-3%	+5%/-4%	+68%/-68%	+28%/-28%	+15%/-16%	+125%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007698937-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-342 ± 32	$15.00^{+14.47}_{-10.47}$	659^{+47}_{-47}	3624^{+2120}_{-668}	368^{+3529}_{-270}
Alt.	-742 ± 113	$15.30^{+15.26}_{-10.56}$	658^{+51}_{-53}	4077^{+2736}_{-824}	731^{+6620}_{-545}

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

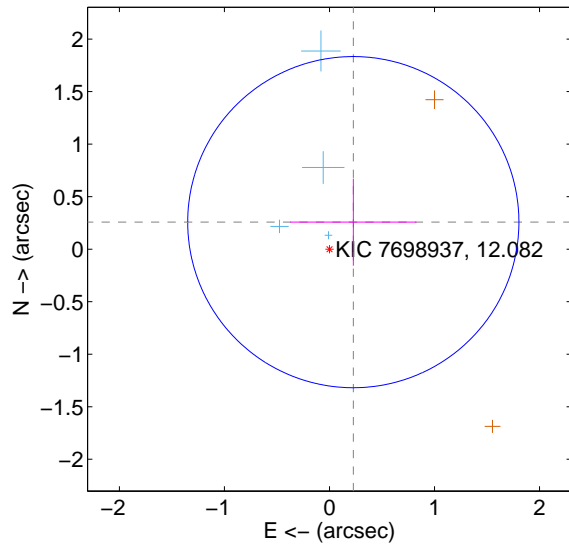
Supplemental centroid analysis for 007698937-05. Kepler magnitude: 12.08. Transit SNR 7.89

There are 4 quarters with good PRF difference image offsets

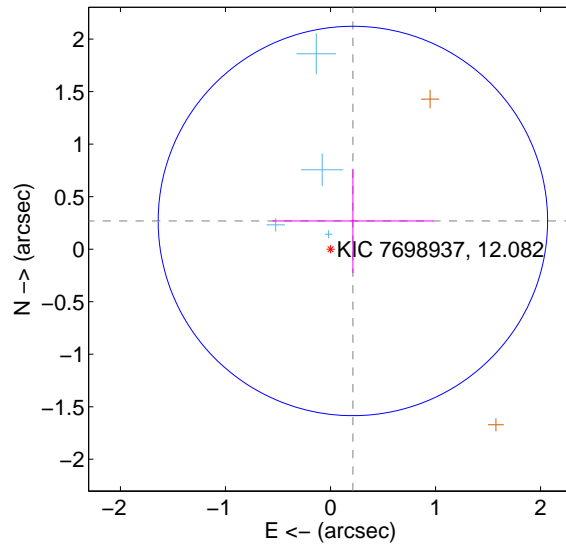
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.343 ± 0.525	0.65	-0.227 ± 0.601	0.257 ± 0.414
PRF-fit source offset from KIC position	0.343 ± 0.618	0.55	-0.213 ± 0.765	0.269 ± 0.496
photometric centroid source offset	0.11 ± 0.25	0.44	-0.10 ± 0.25	-0.03 ± 0.26

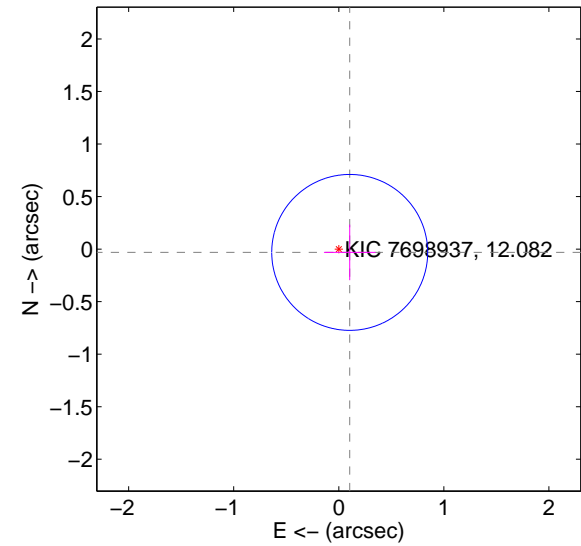
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

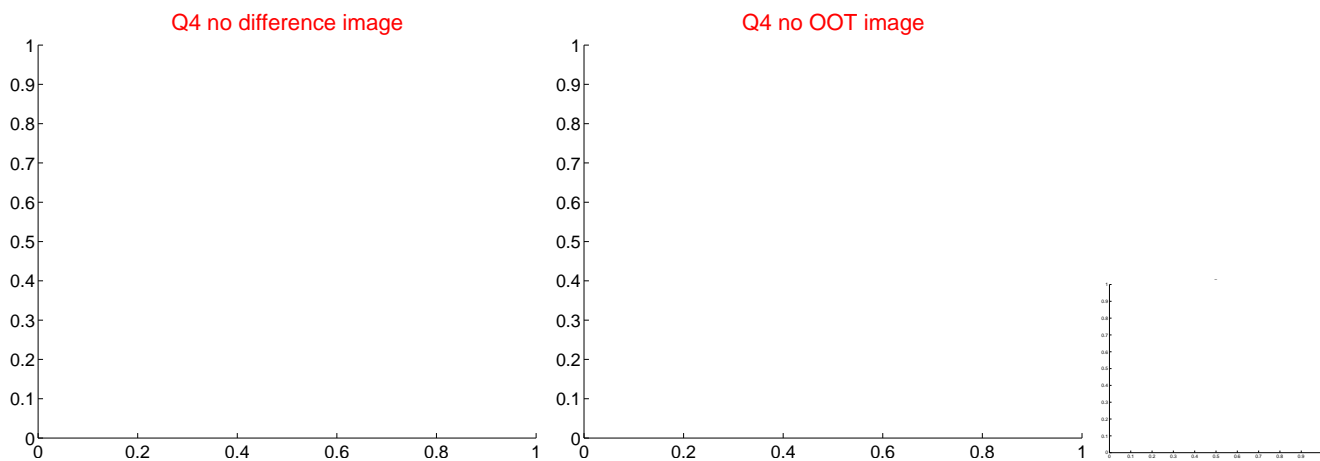
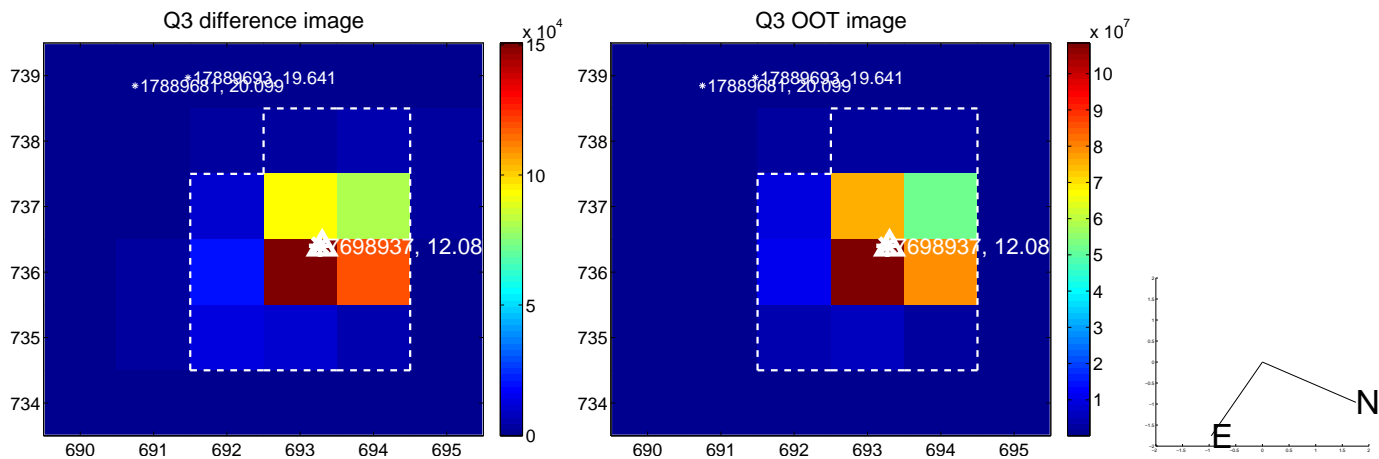
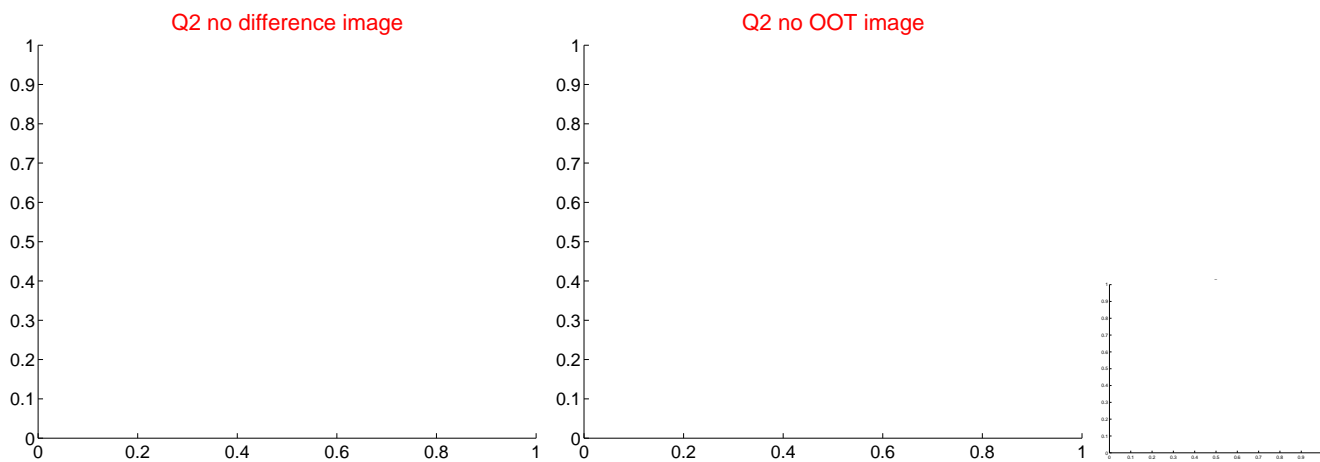
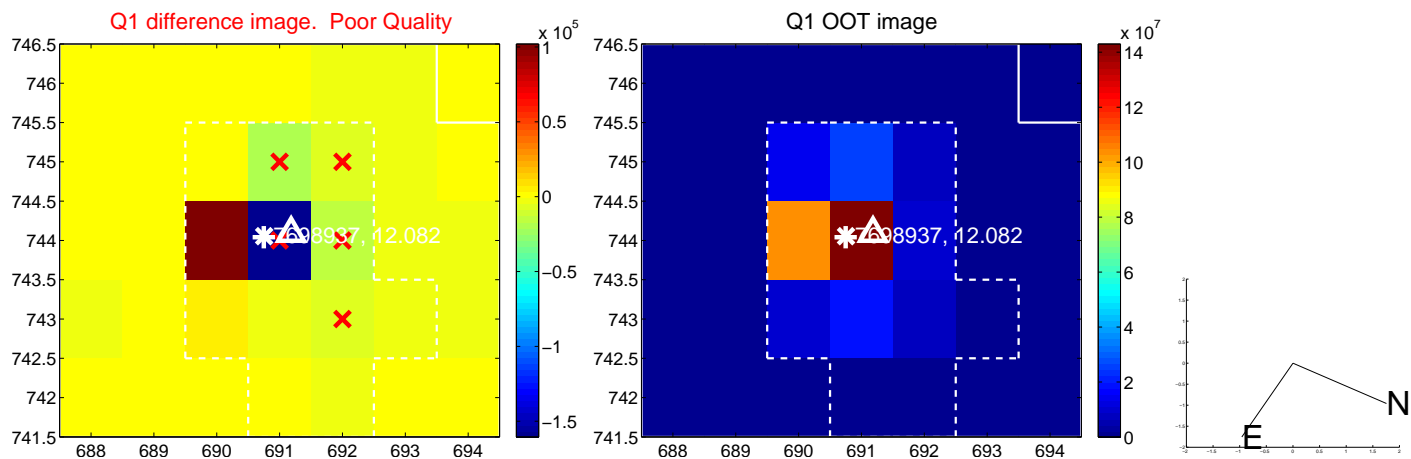


offset from photometric centroids

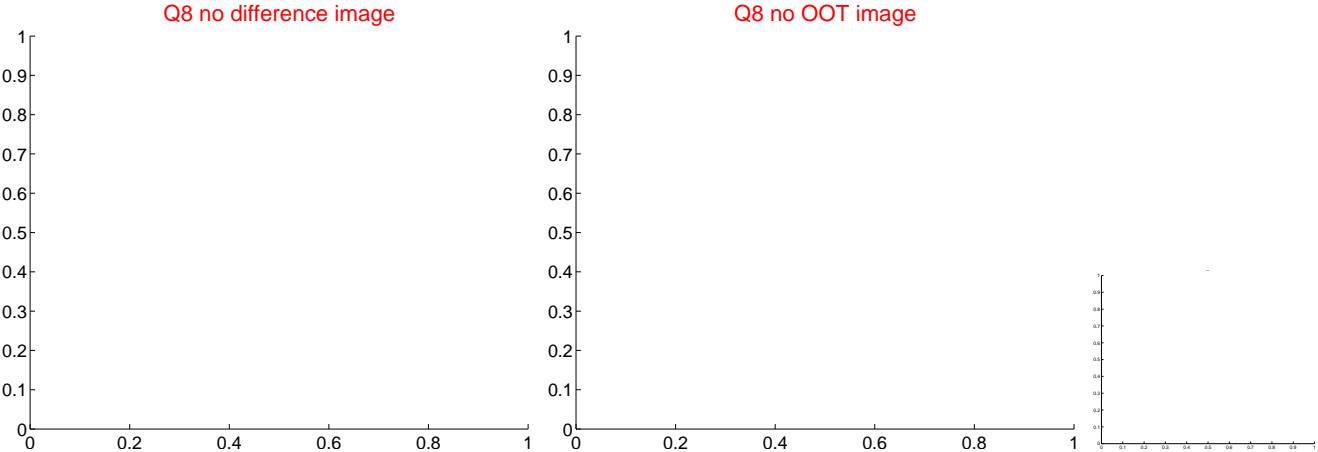
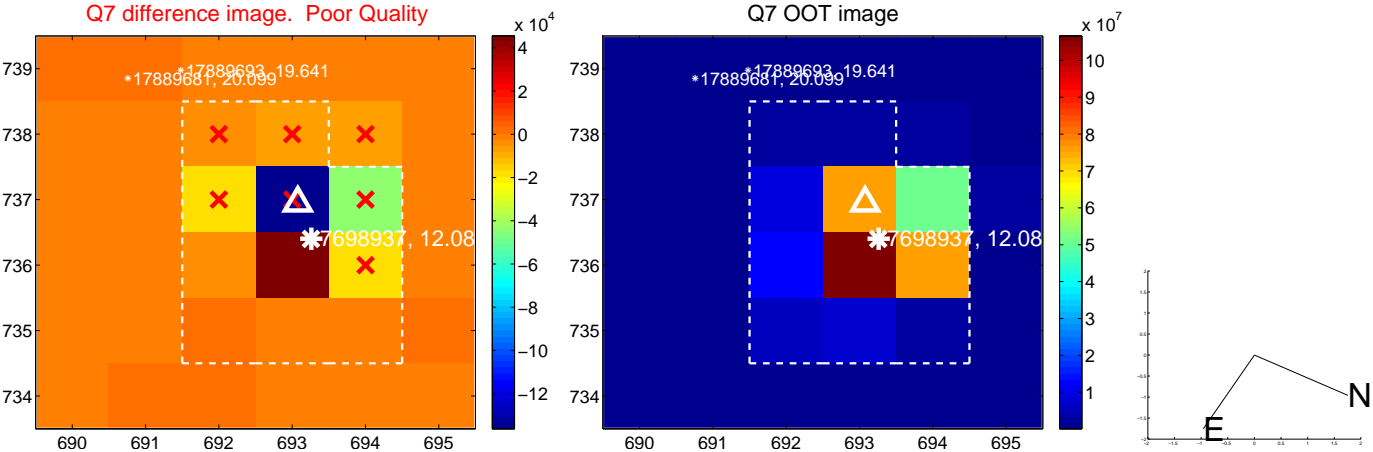
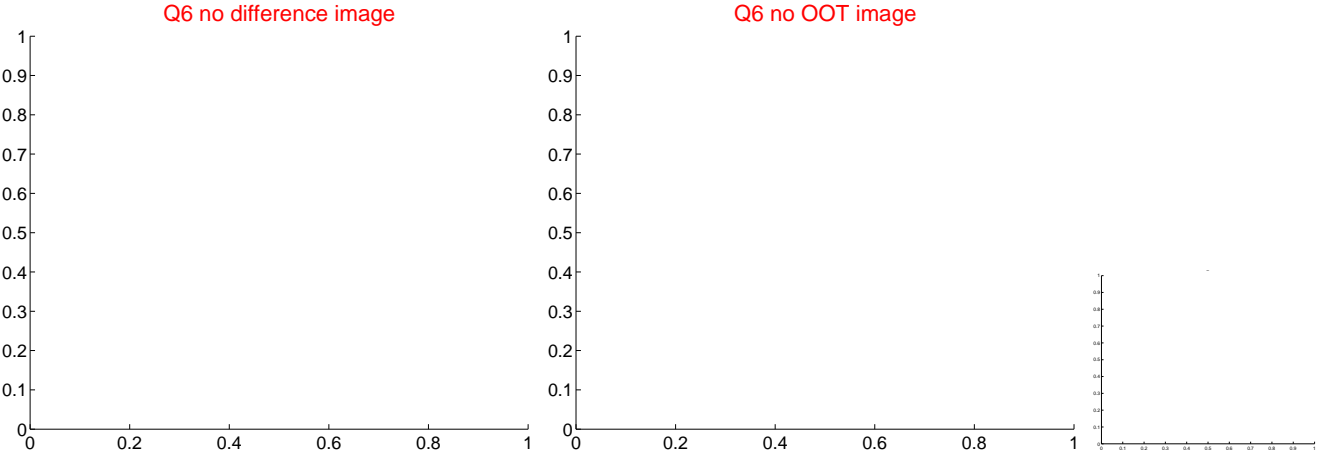
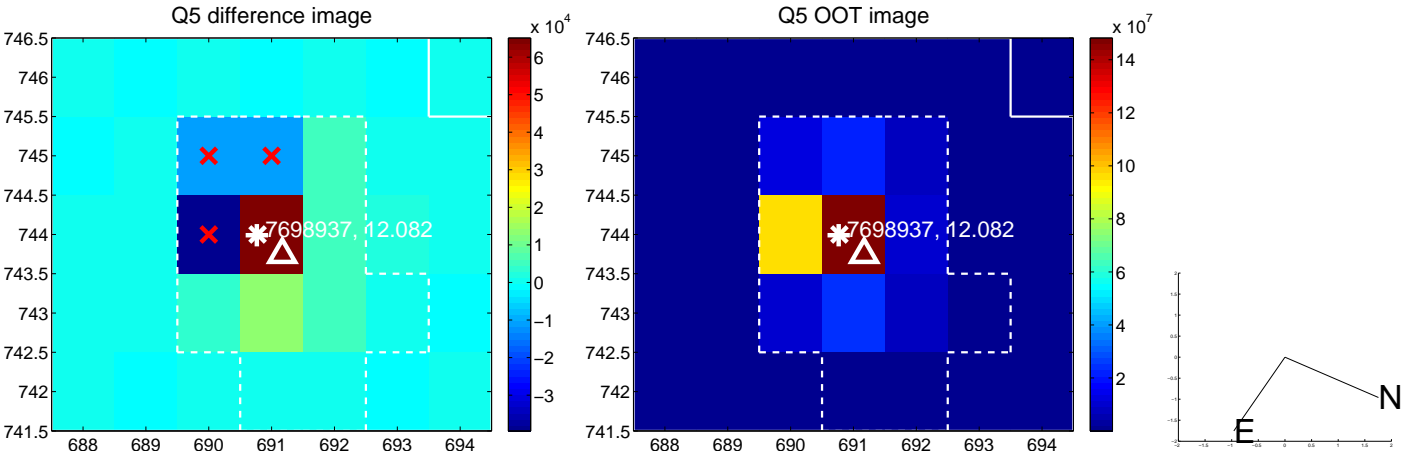


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

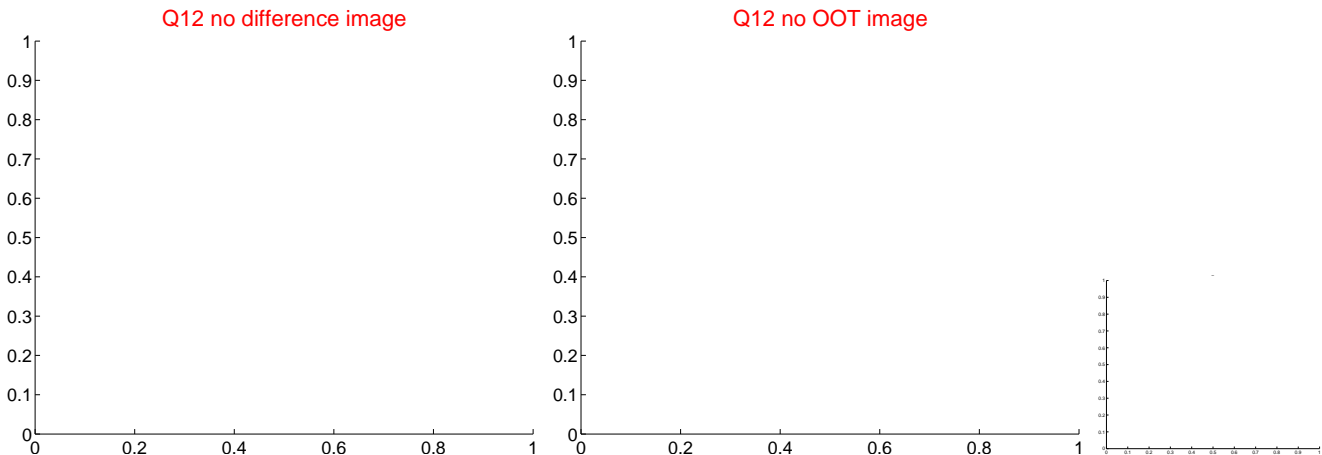
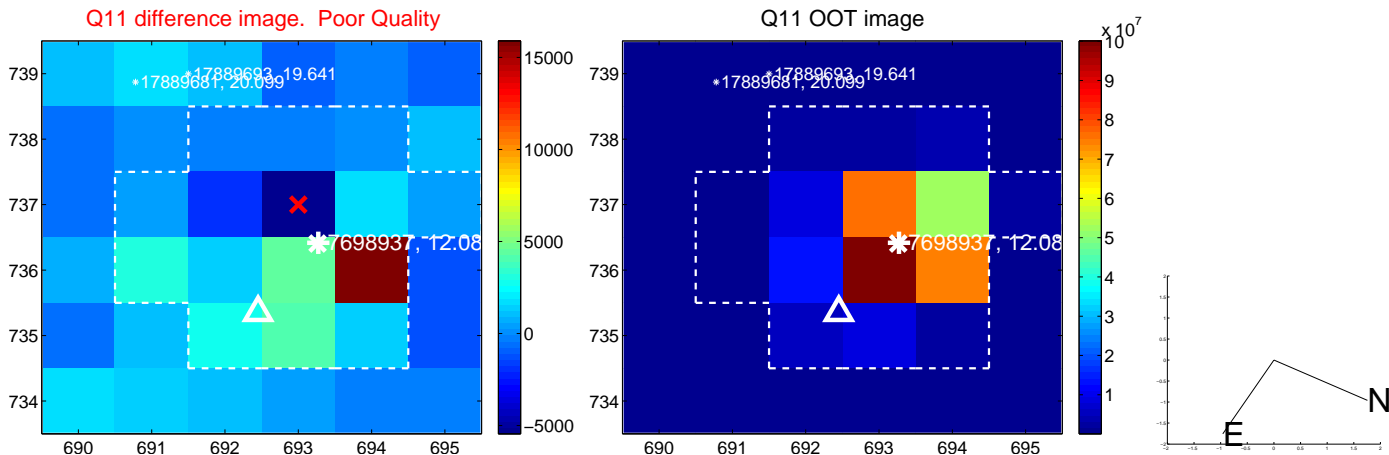
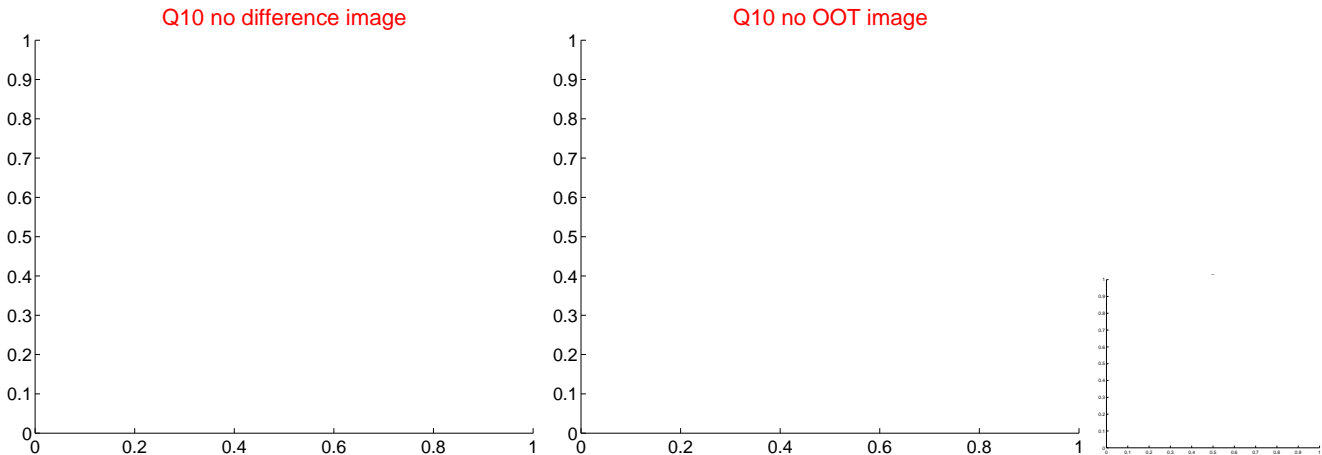
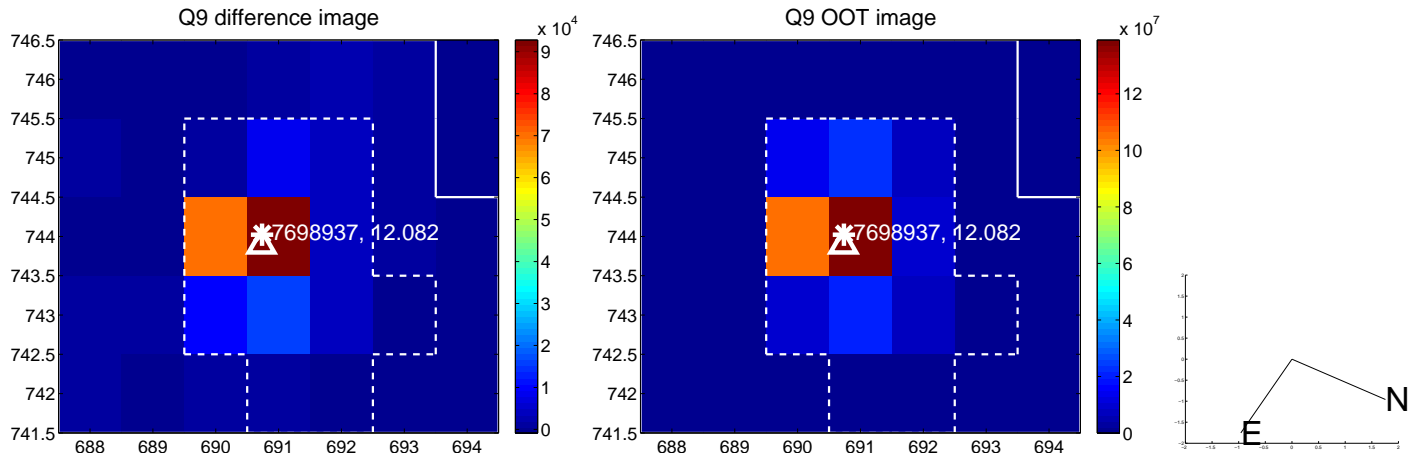
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



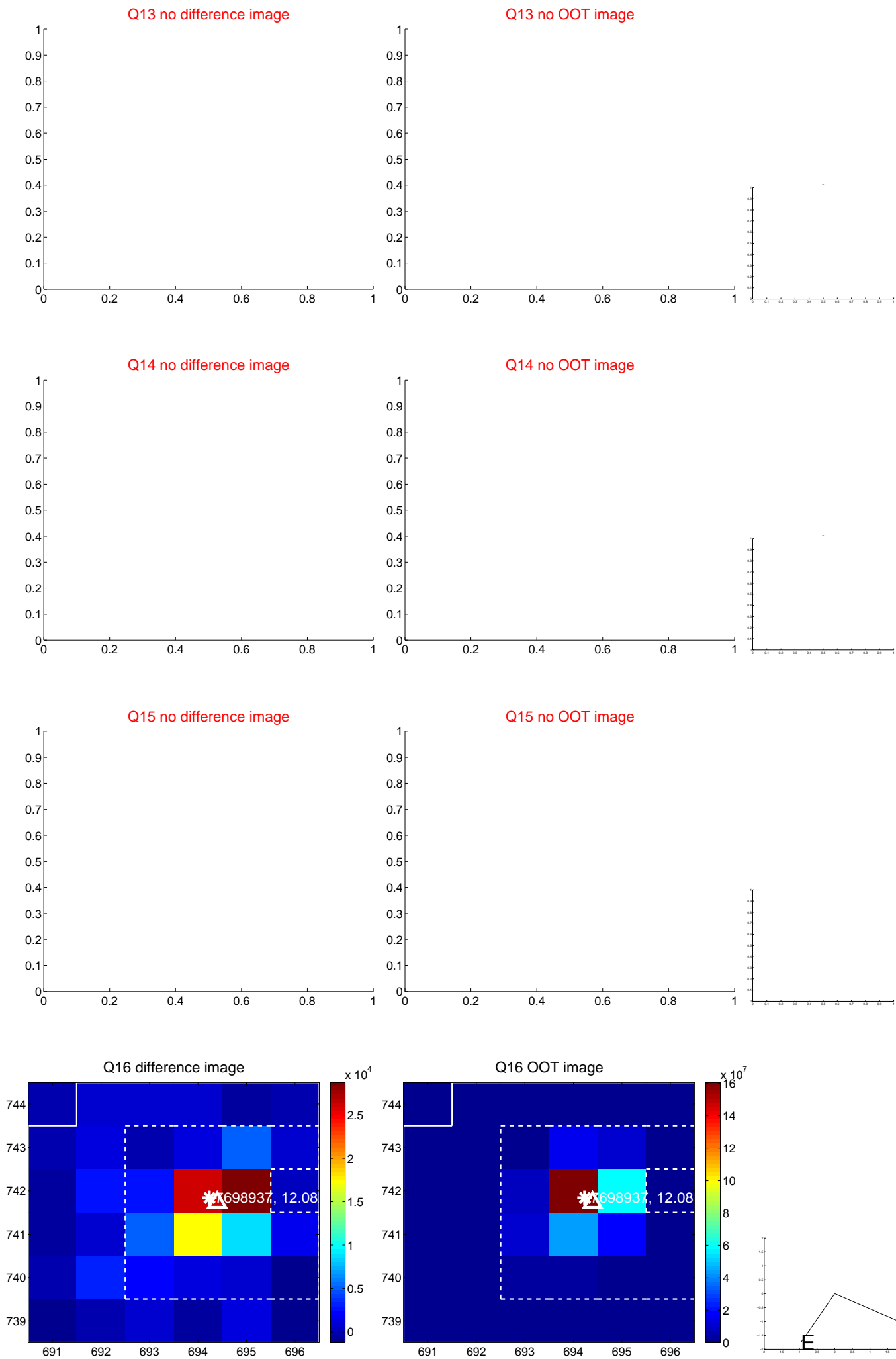
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



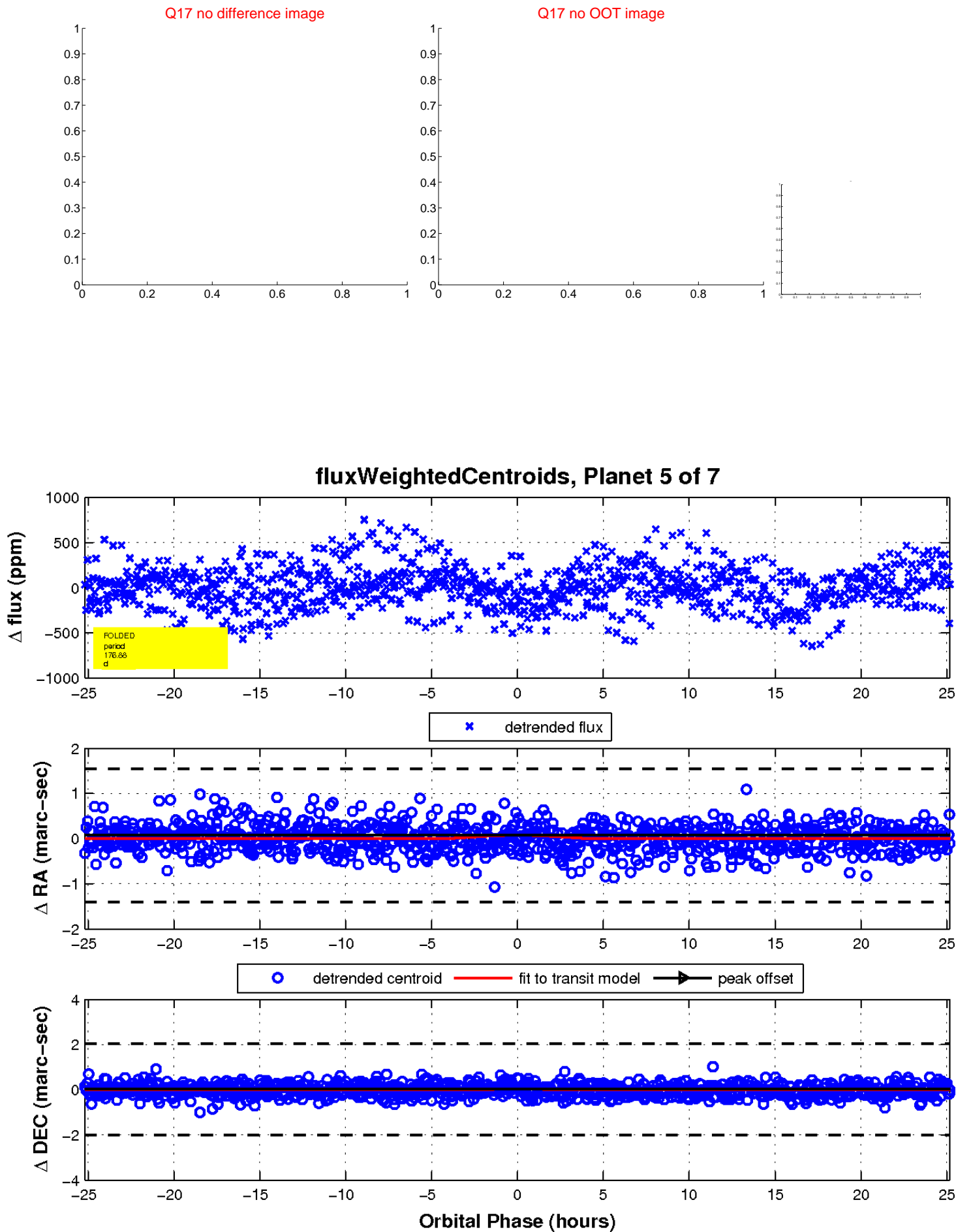
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

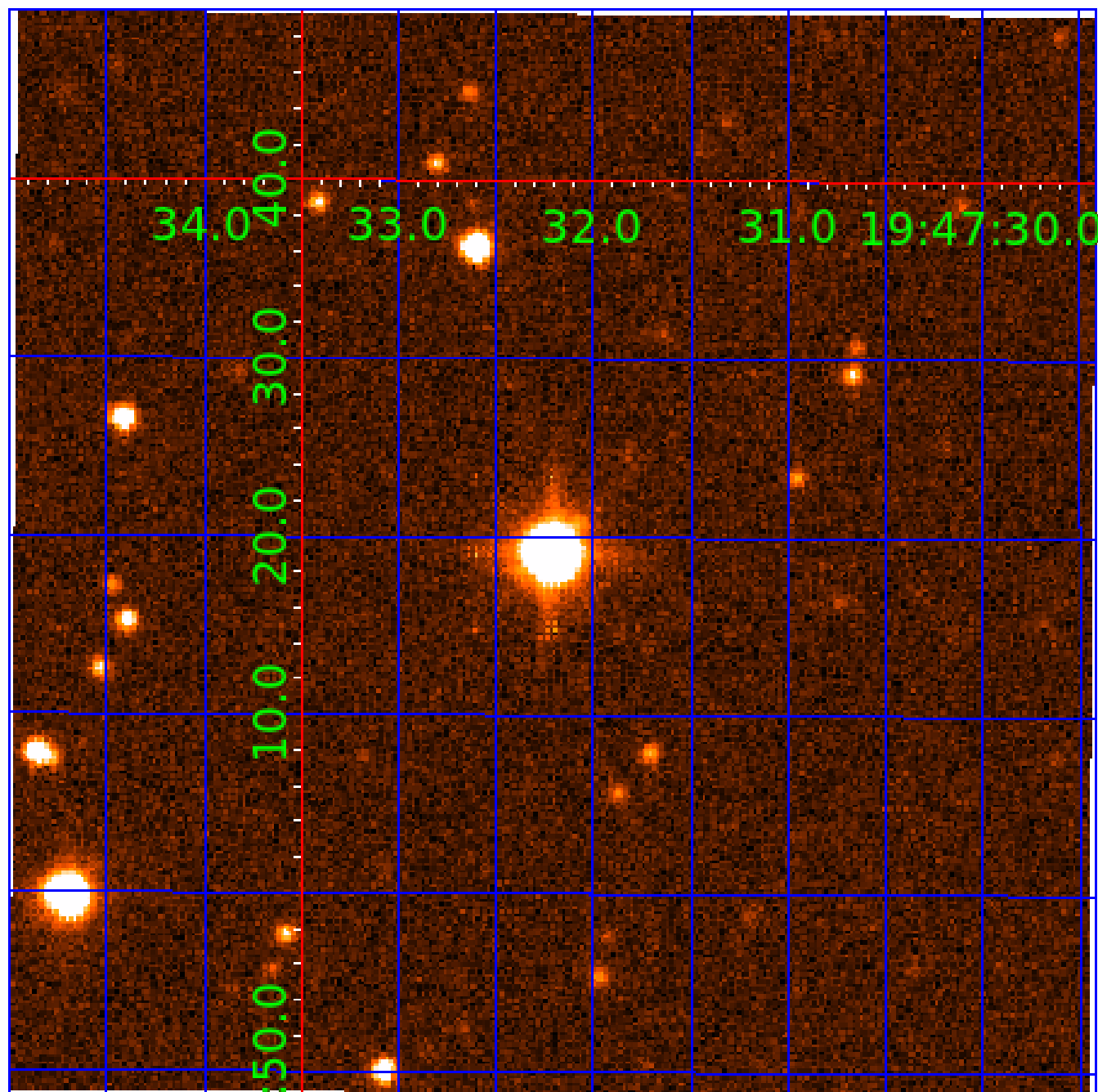


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007698937

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})
007698937-01	OBS	No	1.372720	131.715322	16.1	8.383	11.0	5.4	1.60	6897	0.68	7692.16
007698937-02	OBS	No	122.074895	189.001565	113.8	6.189	14.3	2.4	1.60	6897	1.90	19.38
007698937-03	OBS	No	198.129687	132.124236	675.0	9.176	11.5	8.4	1.60	6897	5.28	10.16
007698937-04	OBS	No	86.583323	133.931085	429.4	7.280	10.3	10.3	1.60	6897	4.30	30.64
007698937-05	OBS	No	176.884888	132.658048	434.1	8.402	10.5	7.9	1.60	6897	6.38	11.82
007698937-06	OBS	No	41.237027	145.732381	222.1	4.988	9.0	7.9	1.60	6897	2.73	82.37
007698937-07	OBS	No	391.234562	265.561959	86.0	7.500	8.3	-1.0	1.60	6897	1.50	4.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007698937-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007698937-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
007698937-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007698937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007698937-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698937-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007698937-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

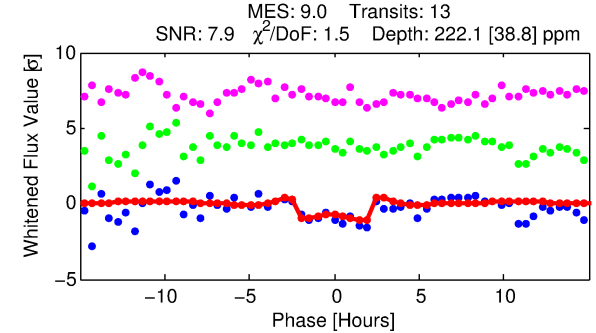
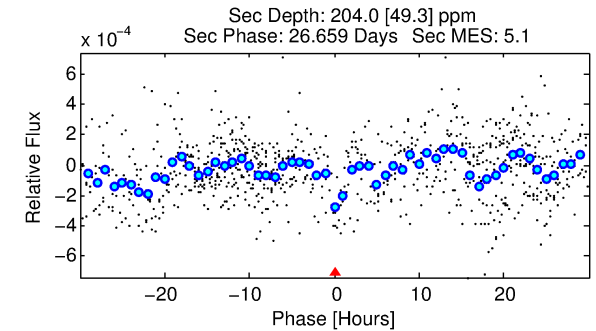
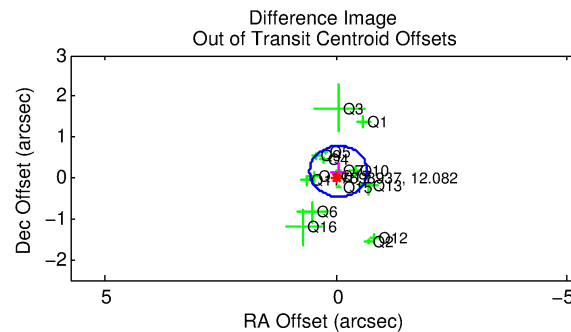
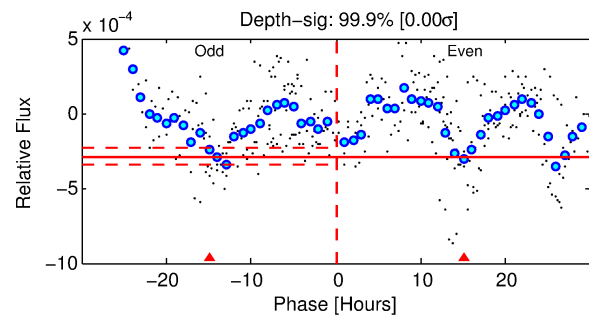
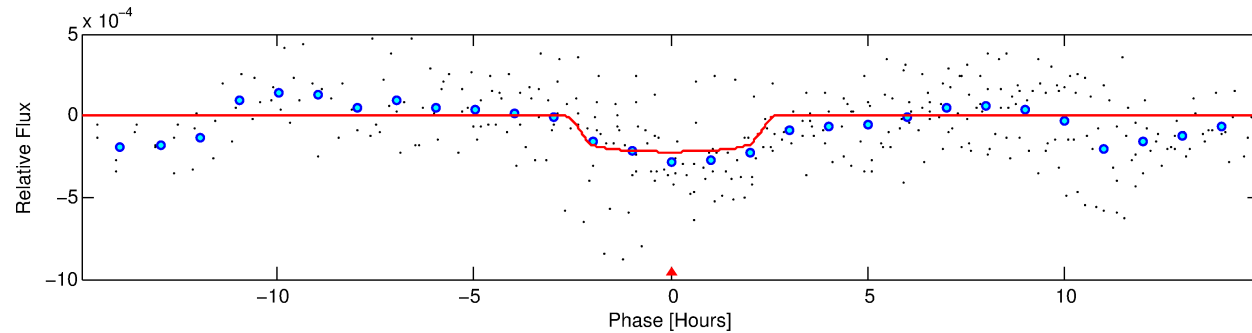
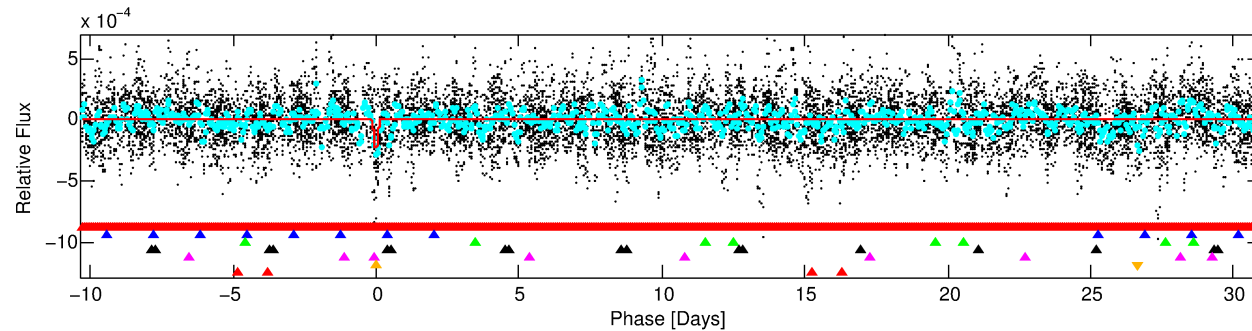
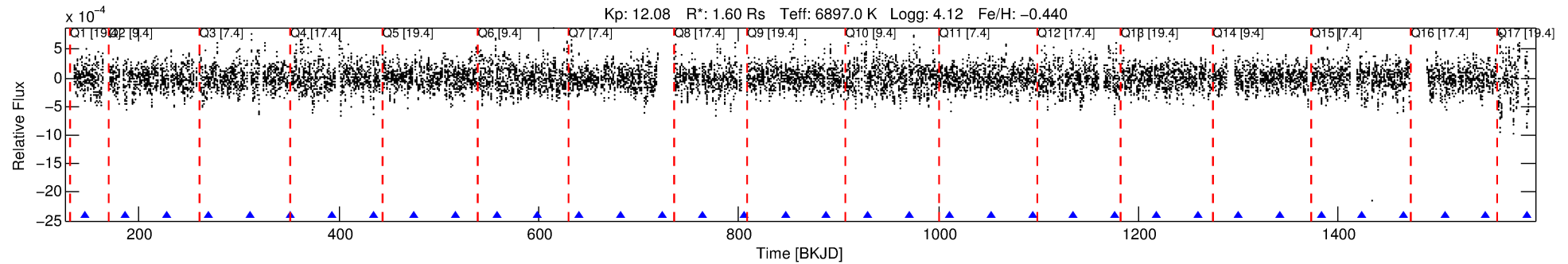
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007698937-06

No Significant Match Found

DV One-Page Summary

KIC: 7698937 Candidate: 6 of 7 Period: 41.237 d



DV Fit Results:

Period = 41.23703 [0.00040] d
Epoch = 145.7324 [0.0095] BKJD
Rp/R* = 0.0156 [0.0040]
a/R* = 32.55 [44.31]
b = 0.88 [0.37]
Seff = 82.37 [32.56]
Teq = 768 [76] K
Rp = 2.73 [1.03] Re
a = 0.2515 [0.0614] AU
Ag = 951.86 [645.58] [1.47 σ]
Teffp = 6597 [965] K [6.02 σ]

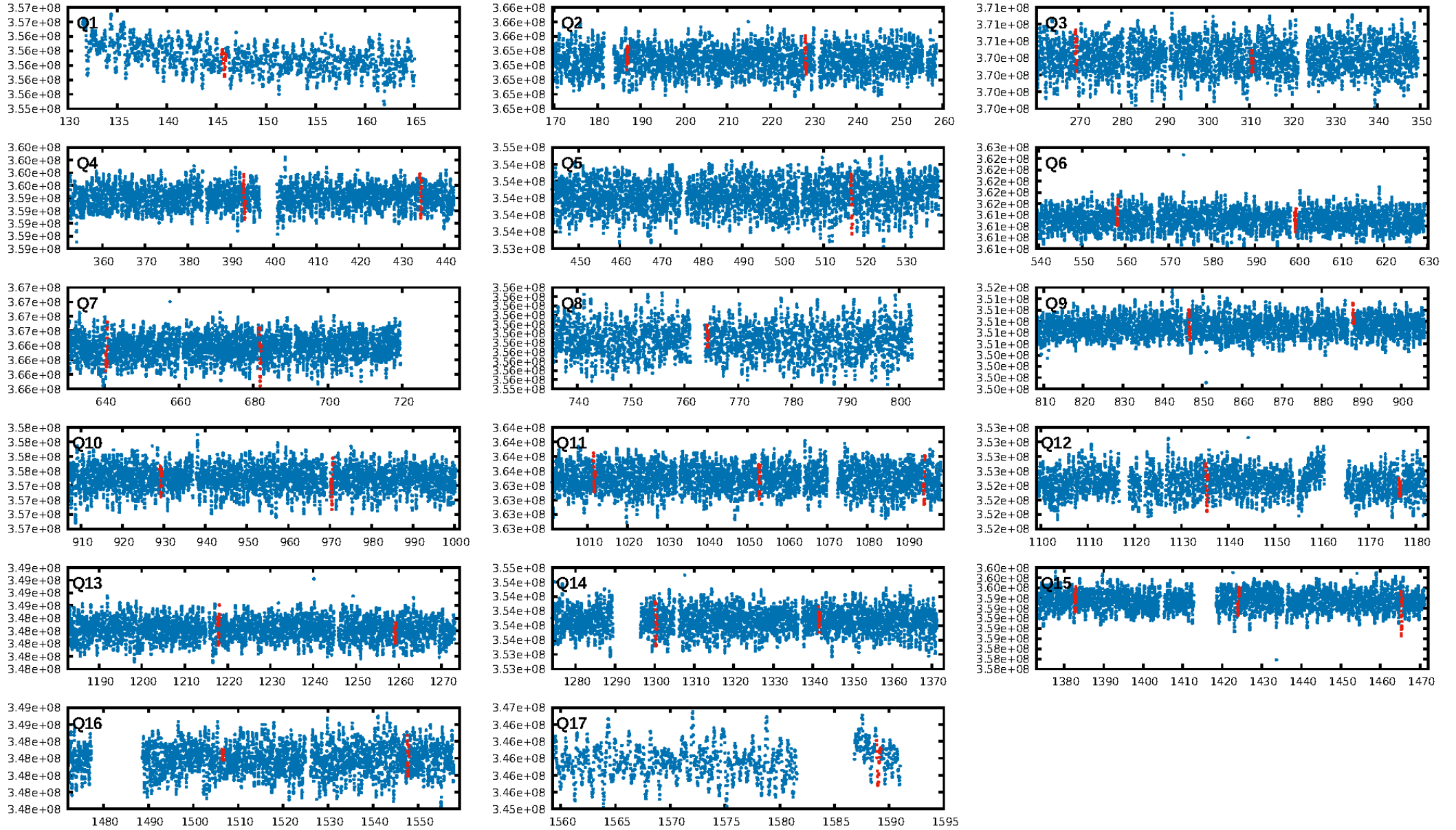
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [98.08 σ]
LongPeriod-sig: 100.0% [123.32 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: -2.322
Centroid-sig: 37.1%
Centroid-so: 0.161 arcsec [0.63 σ]
OotOffset-rm: 0.164 arcsec [0.79 σ]
KicOffset-rm: 0.196 arcsec [0.81 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.69 [11/16]
DiffImageOverlap-fno: 0.12 [2/16]

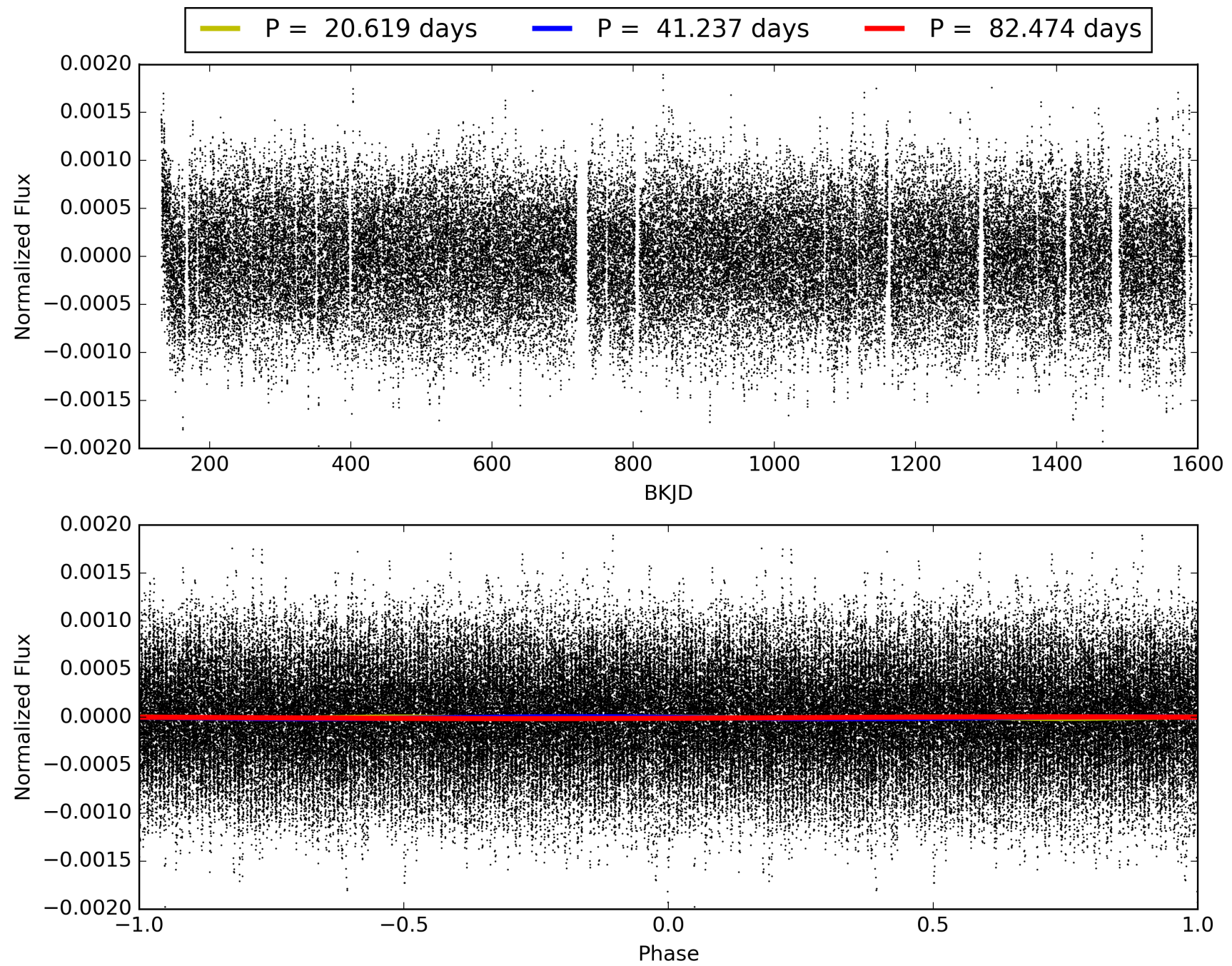
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:30:39 Z

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

TCE 007698937-06, PDC Light Curves

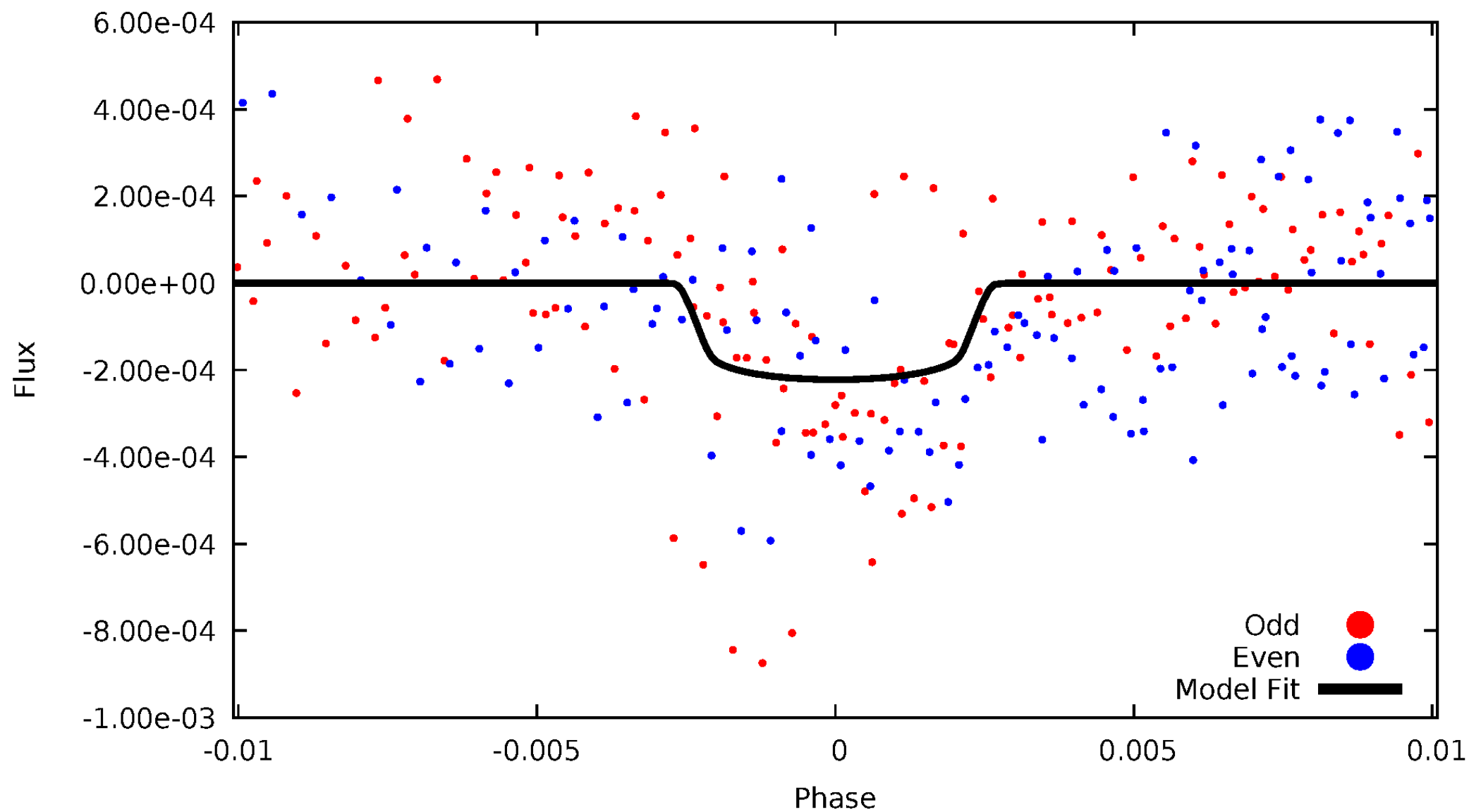


TCE 007698937-06



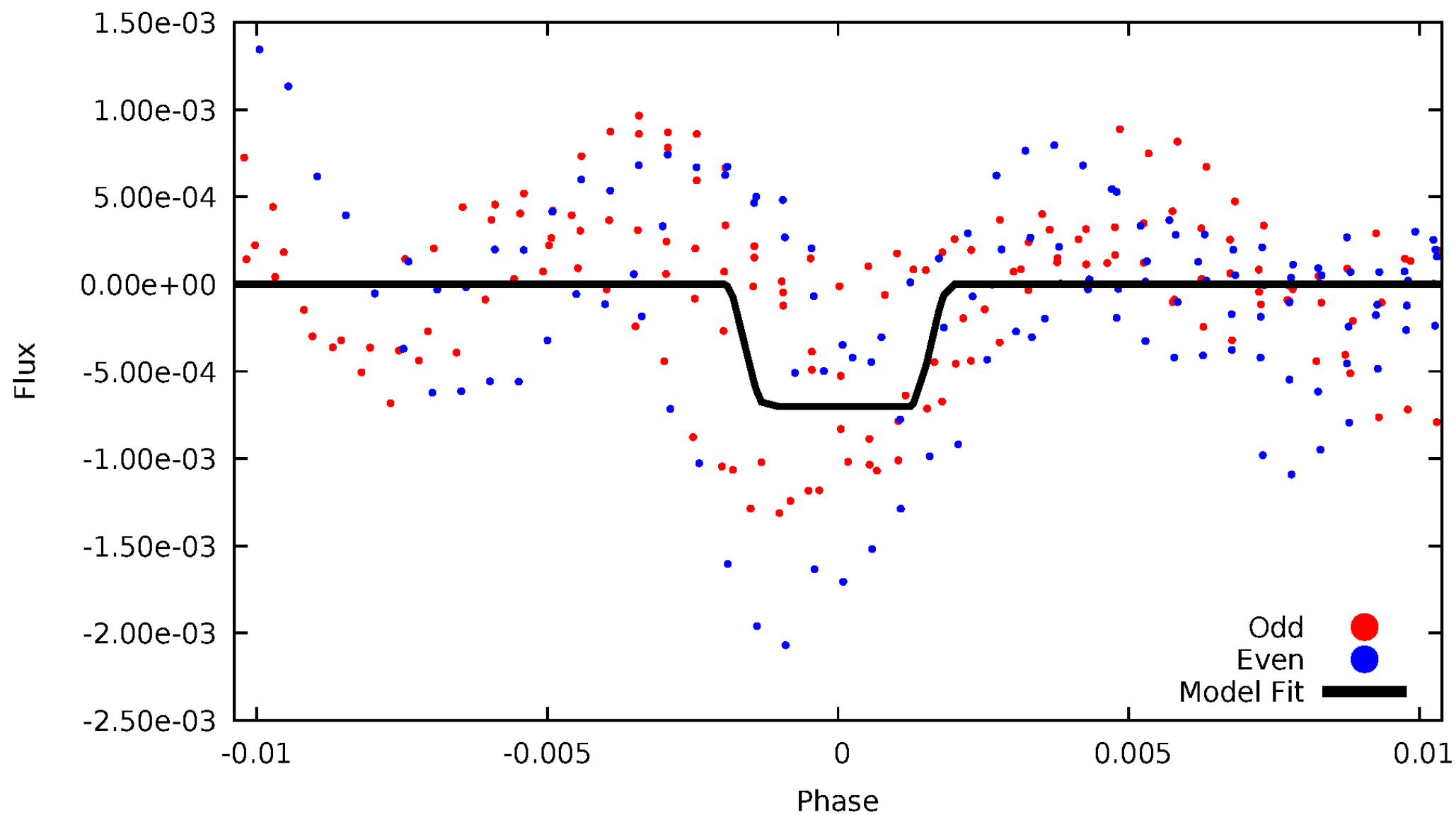
DV Odd/Even

TCE 007698937-06



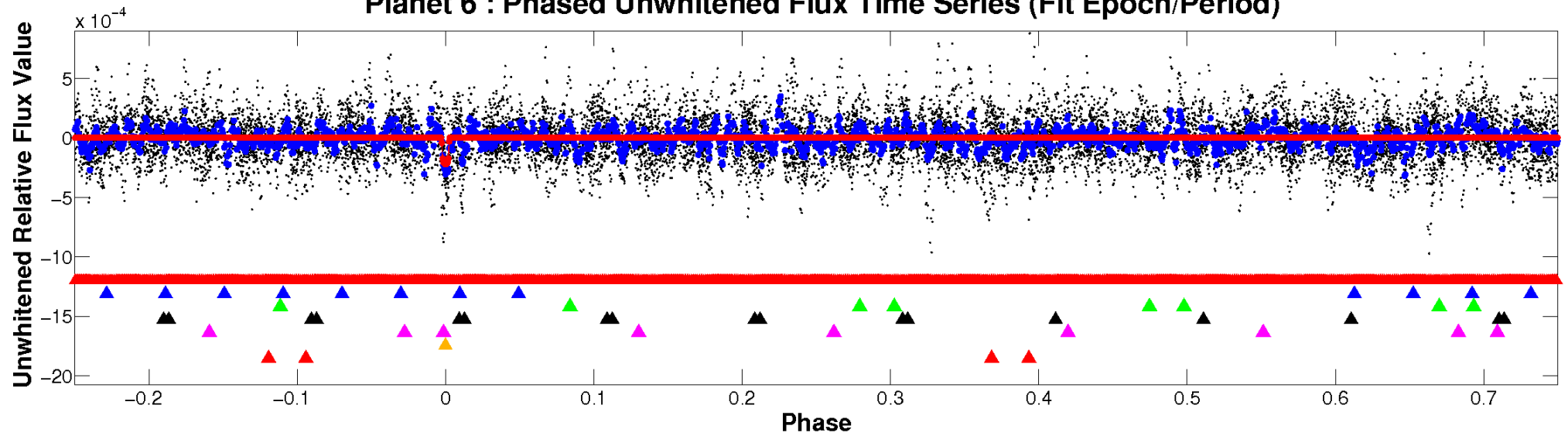
ALT Odd/Even

TCE 007698937-06

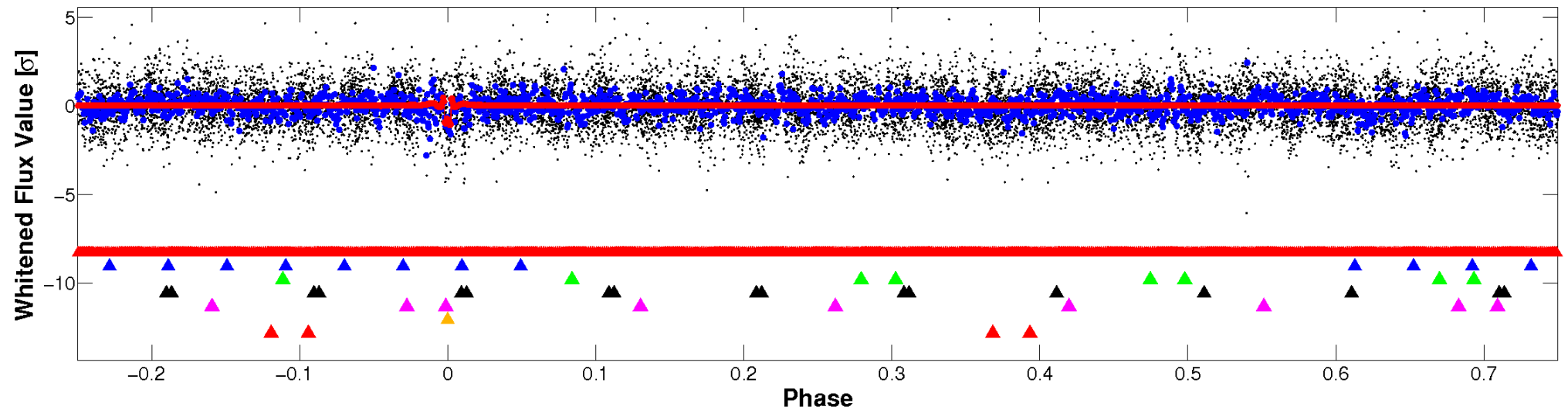


Non-Whitened Vs. Whitened Light Curve

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

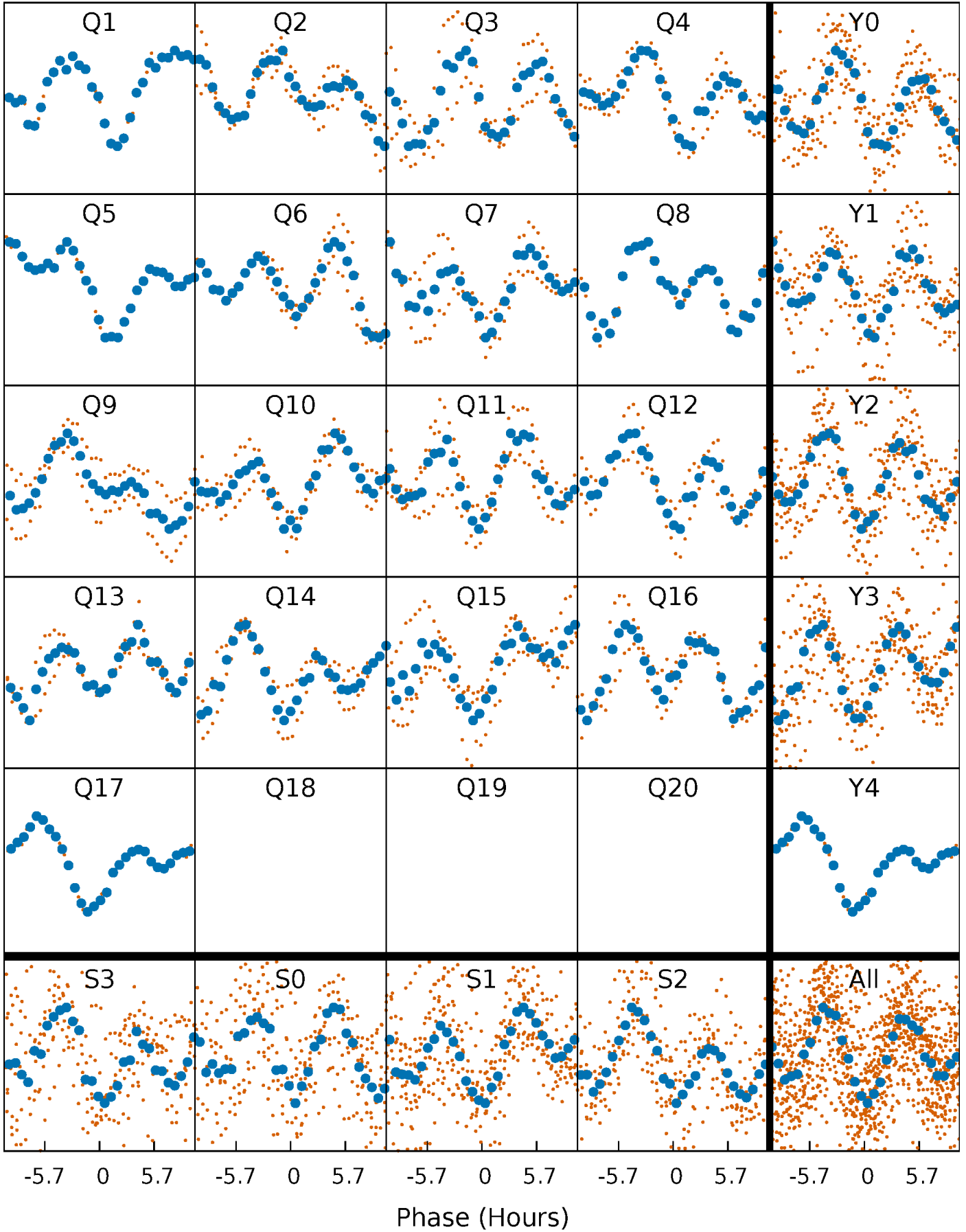


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



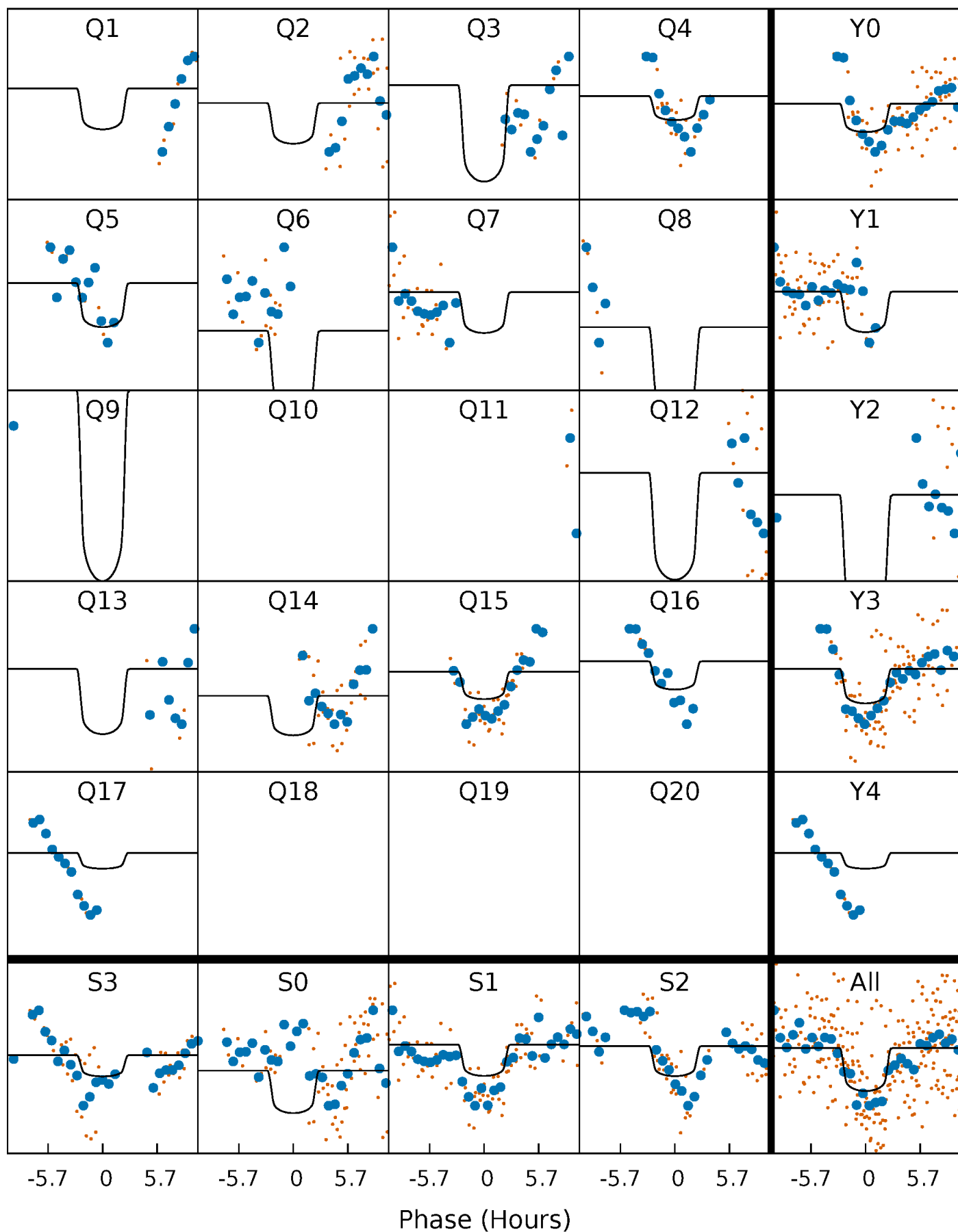
PDC Quarter-Phased Transit Curves

TCE 007698937-06 P= 41.237027 Days $T_0=145.732381$ (BKJD)



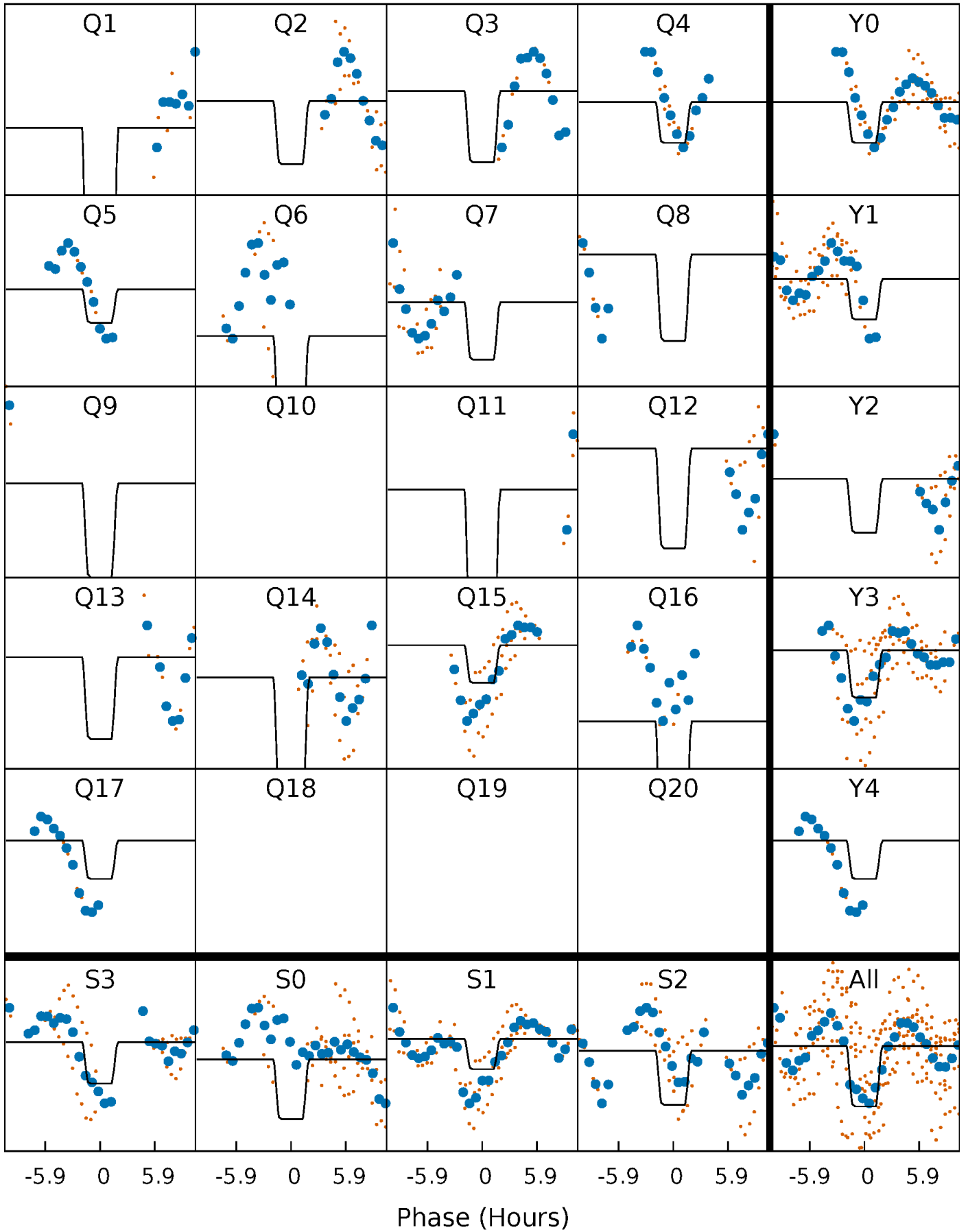
DV Quarter-Phased Transit Curves

TCE 007698937-06 P= 41.237027 Days $T_0=145.732381$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

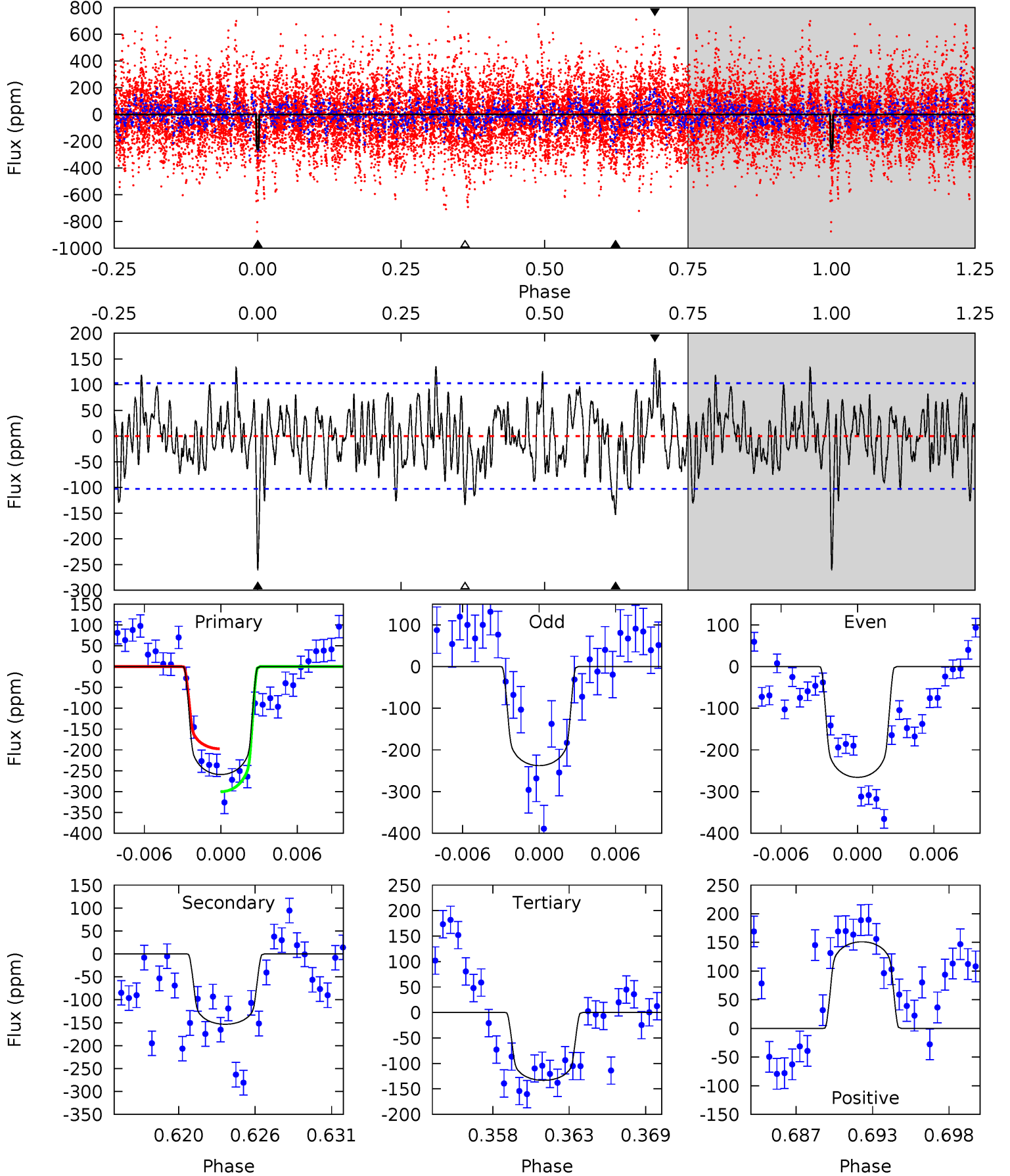
TCE 007698937-06 P= 41.236599 Days $T_0=145.738569$ (BKJD)



DV Model-Shift Uniqueness Test

007698937-06, P = 41.237027 Days, E = 104.495354 Days

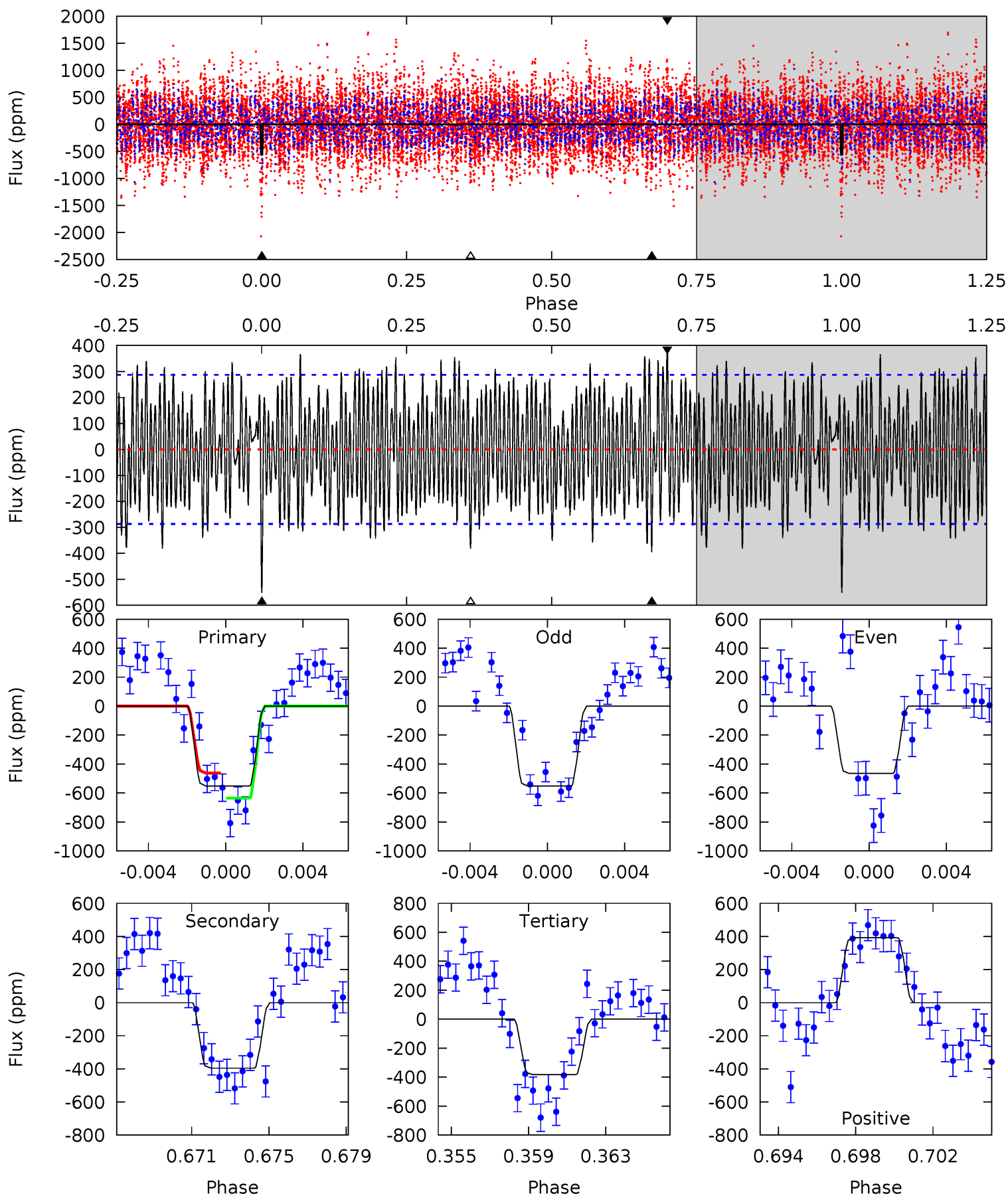
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	7.68	6.66	7.56	5.14	2.77	2.44	6.30	5.40	1.01	0.12	0.68	0.83	0.37	2.56



Alt Model-Shift Uniqueness Test

007698937-06, P = 41.236599 Days, E = 104.501970 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	7.17	6.93	7.10	5.20	2.88	3.09	3.07	2.90	0.24	0.07	0.76	1.26	0.42	1.57



Stellar Parameters For KIC 007698937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6897^{+192}_{-240}	$4.124^{+0.209}_{-0.171}$	$-0.440^{+0.300}_{-0.300}$	$1.603^{+0.443}_{-0.443}$	$1.249^{+0.185}_{-0.203}$	$0.427^{+0.535}_{-0.210}$
	+3%/-3%	+5%/-4%	+68%/-68%	+28%/-28%	+15%/-16%	+125%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007698937-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-153 ± 20	$2.71^{+0.82}_{-0.83}$	1077^{+74}_{-92}	6109^{+1147}_{-668}	732^{+758}_{-307}
Alt.	-396 ± 55	$4.62^{+1.05}_{-0.92}$	1067^{+89}_{-76}	5926^{+602}_{-447}	646^{+358}_{-224}

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 $A_{obs} \gg 1.0$

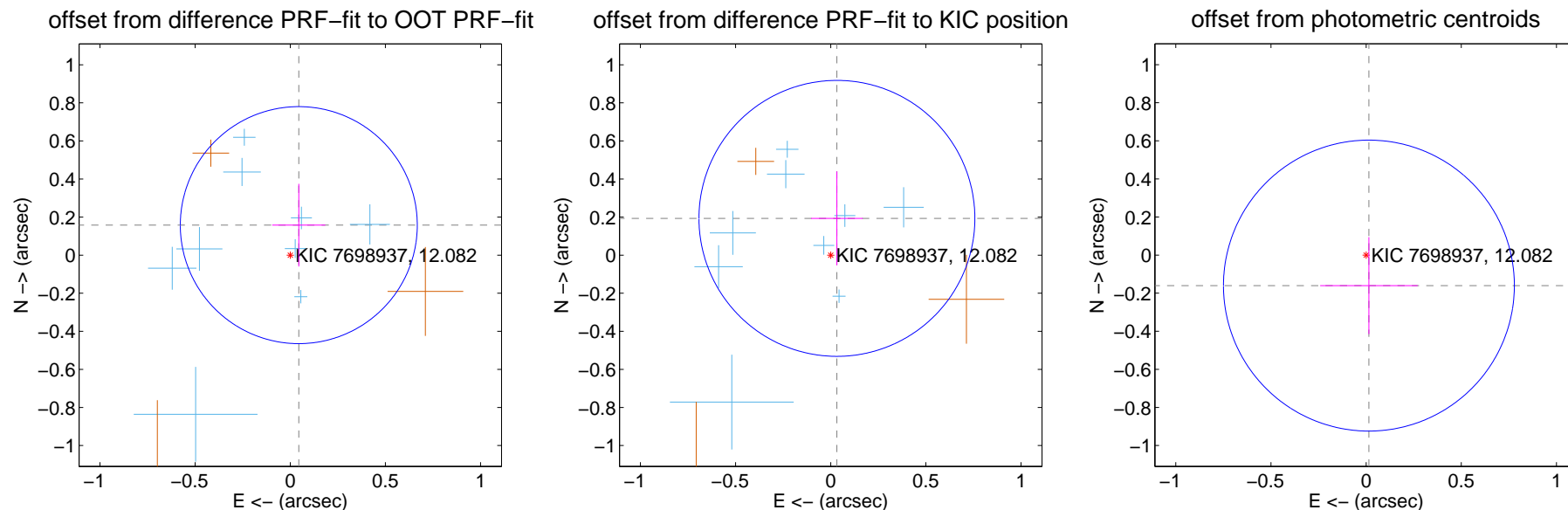
DV Centroid Data

Supplemental centroid analysis for 007698937-06. Kepler magnitude: 12.08. Transit SNR 7.94

There are 11 quarters with good PRF difference image offsets

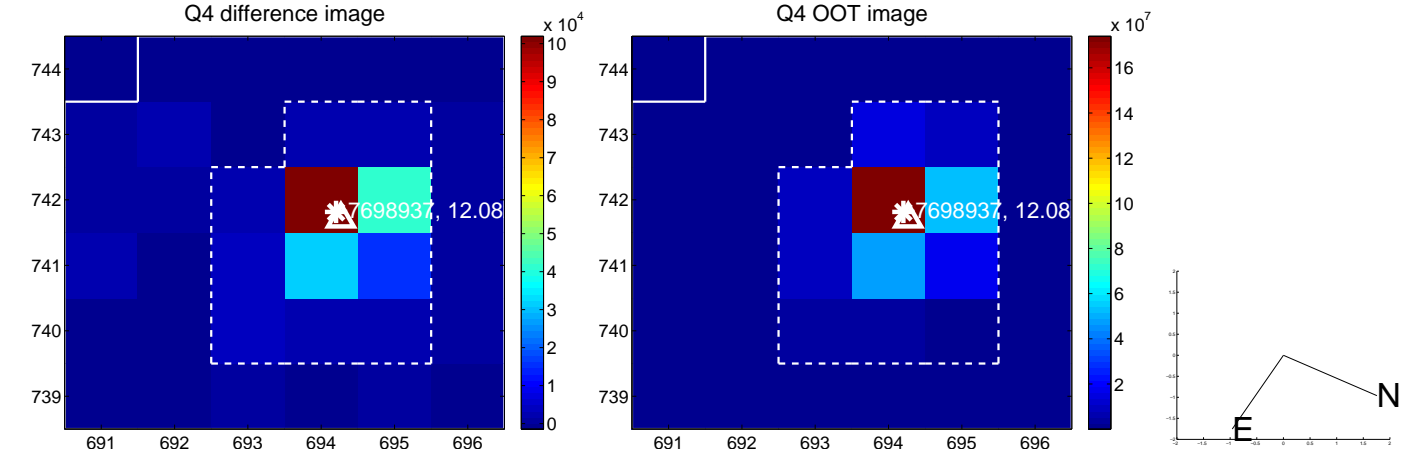
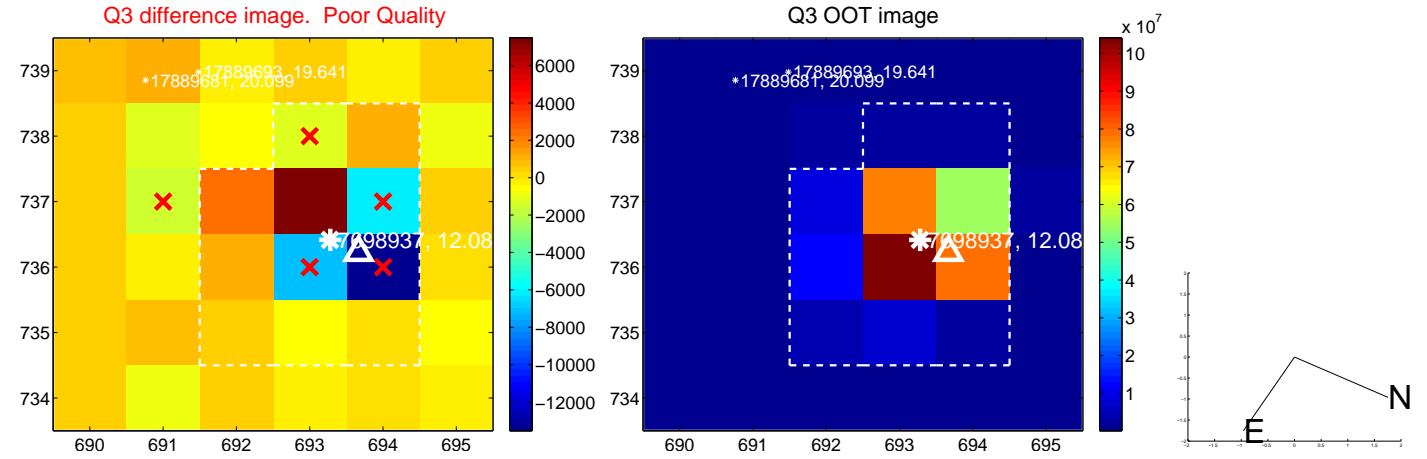
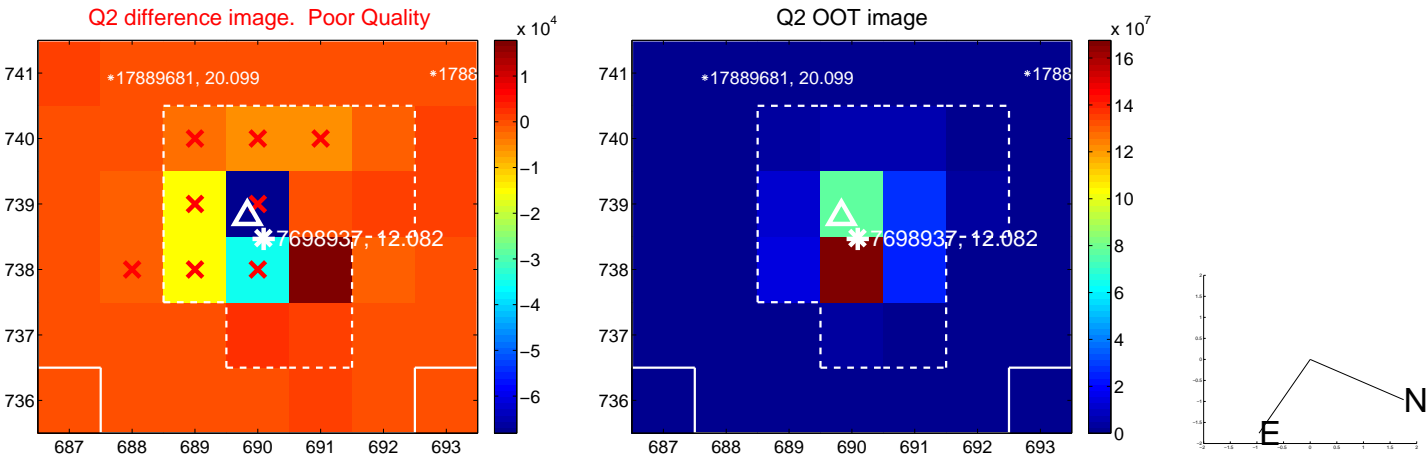
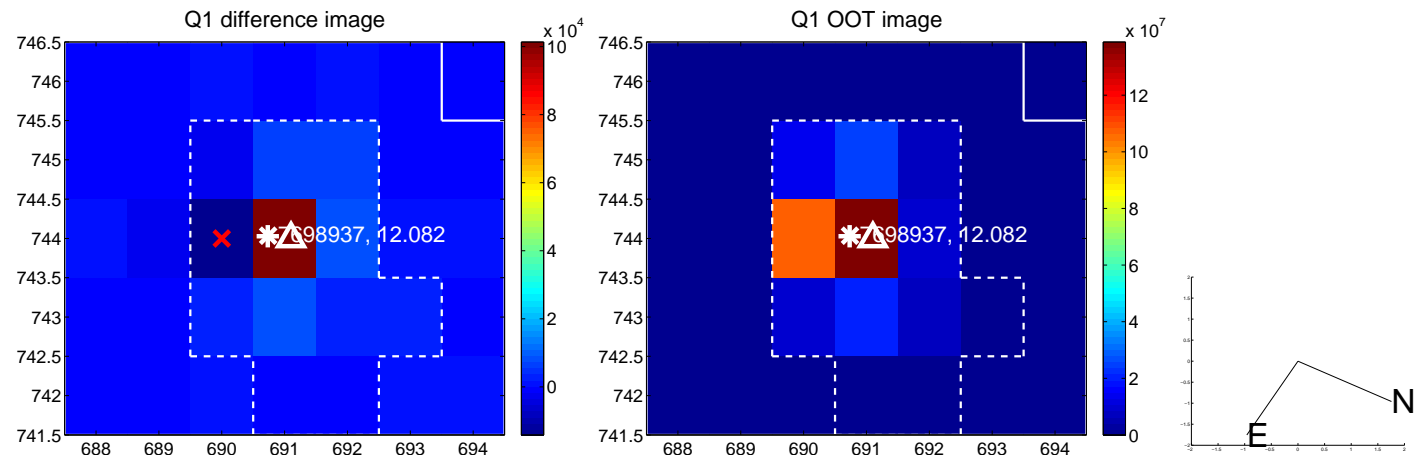
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.164 ± 0.207	0.79	-0.045 ± 0.139	0.158 ± 0.217
PRF-fit source offset from KIC position	0.196 ± 0.242	0.81	-0.033 ± 0.136	0.193 ± 0.247
photometric centroid source offset	0.16 ± 0.25	0.63	-0.01 ± 0.26	-0.16 ± 0.25

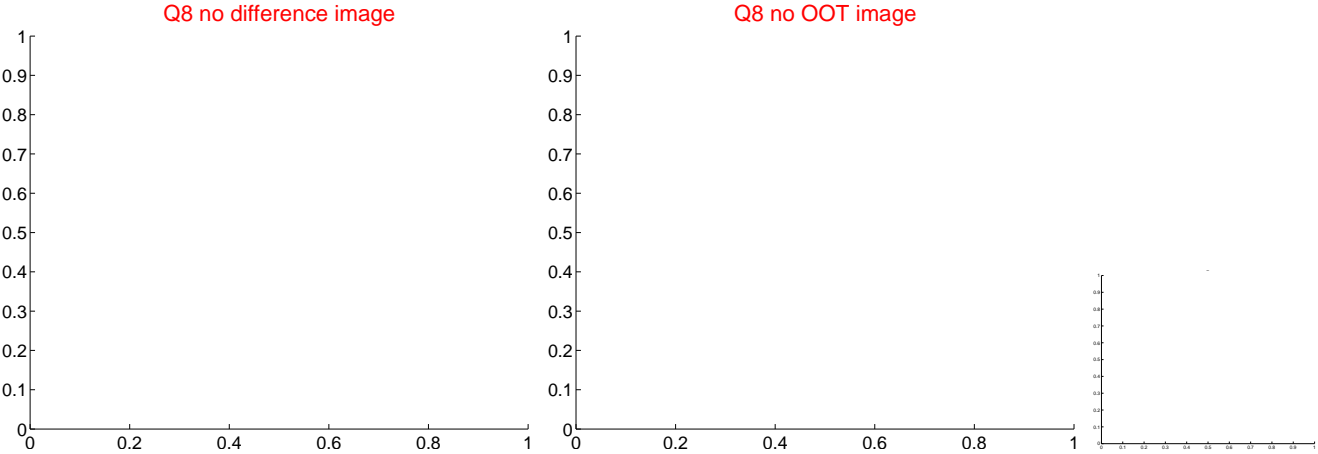
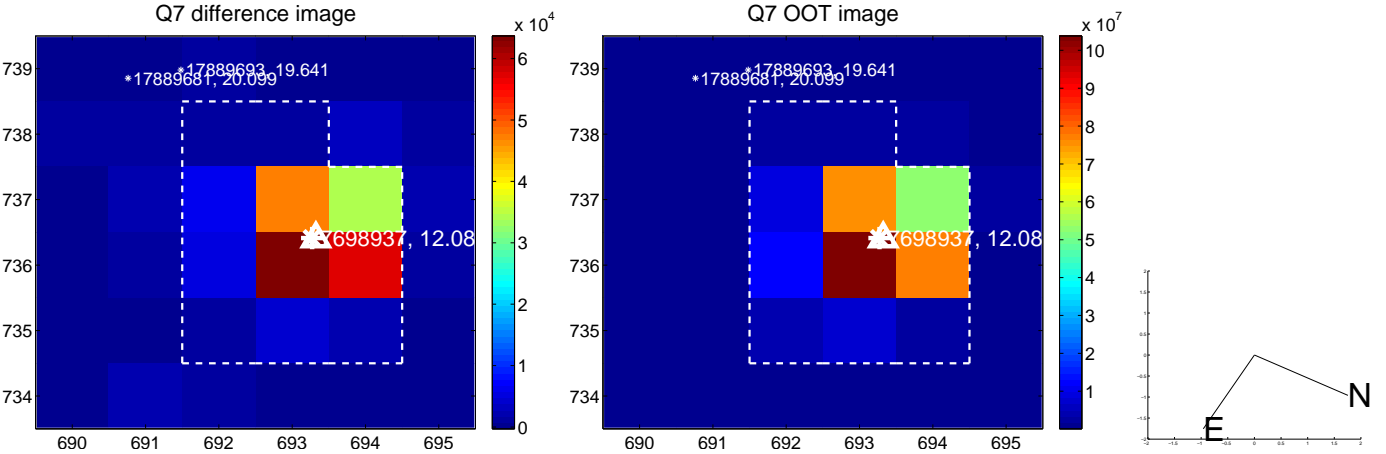
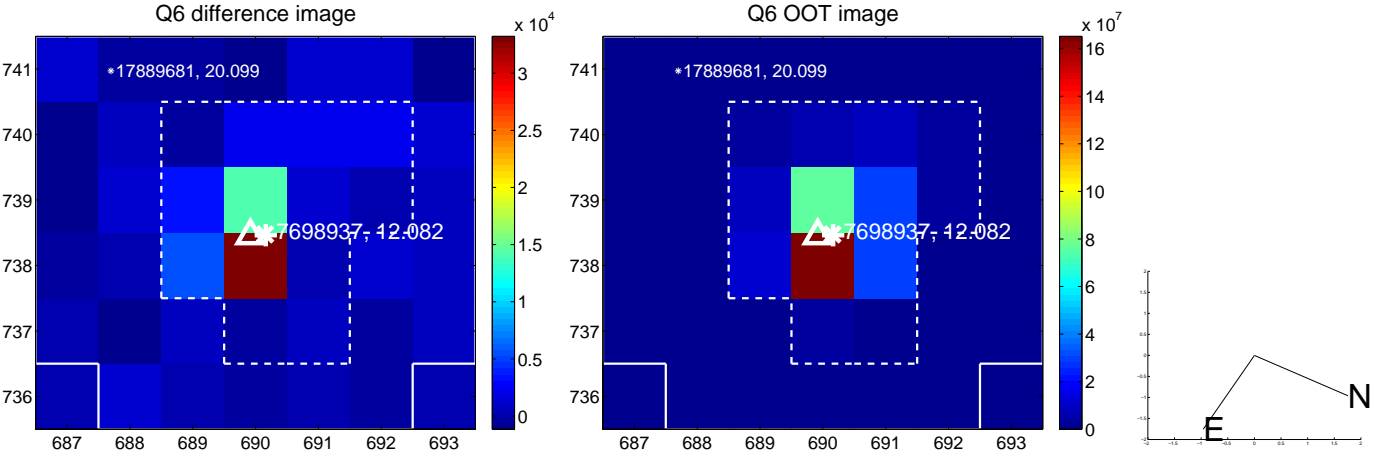
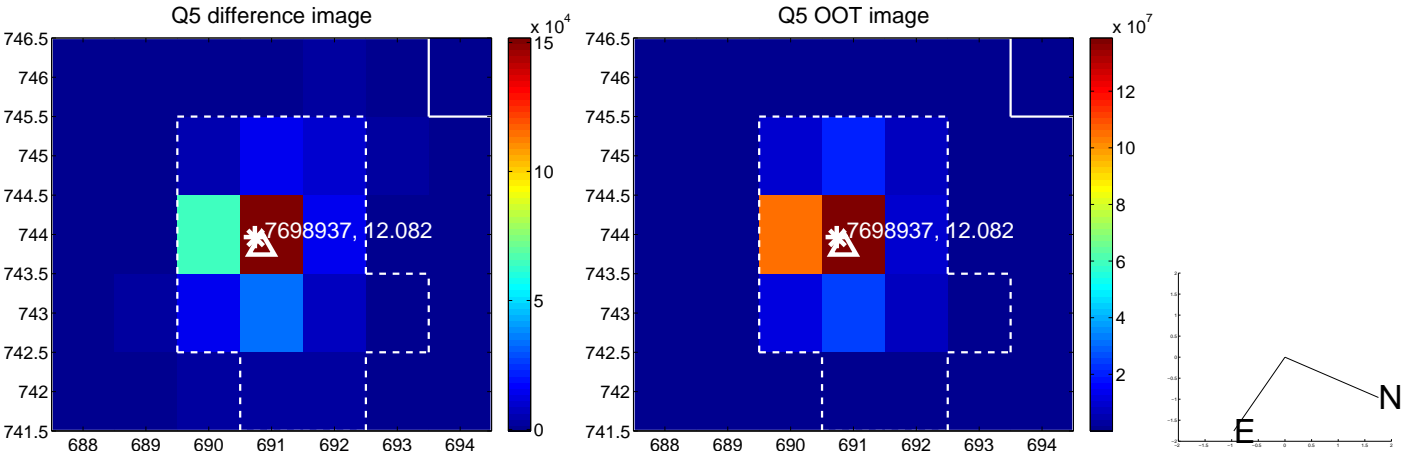


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

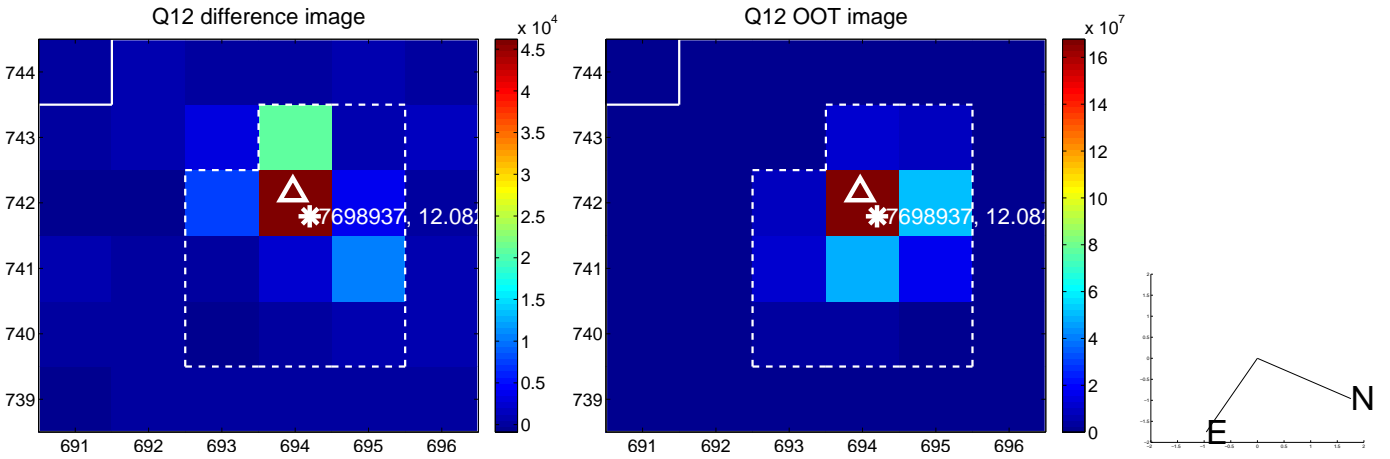
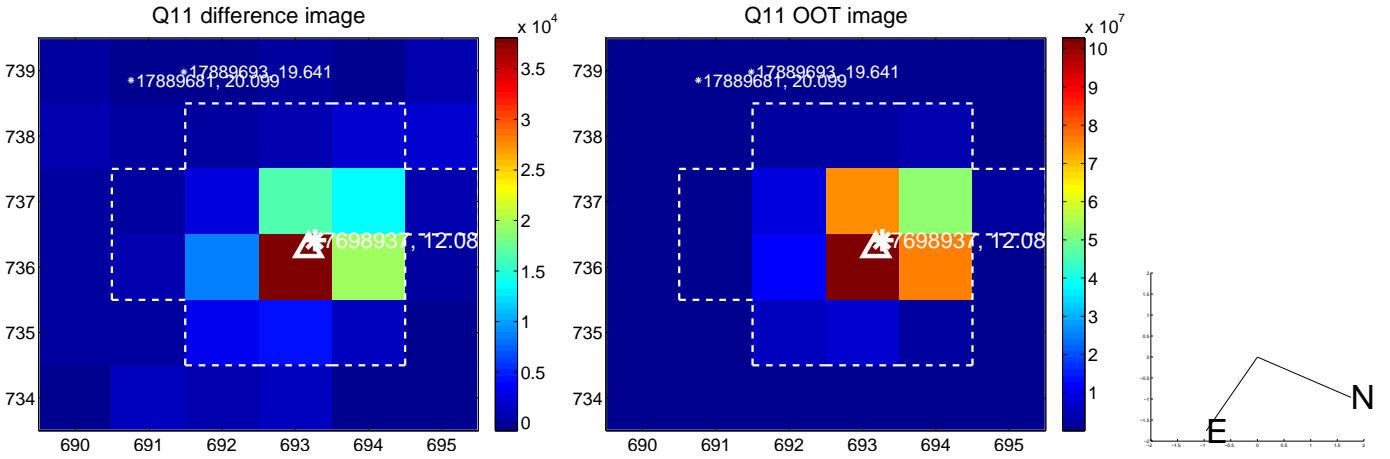
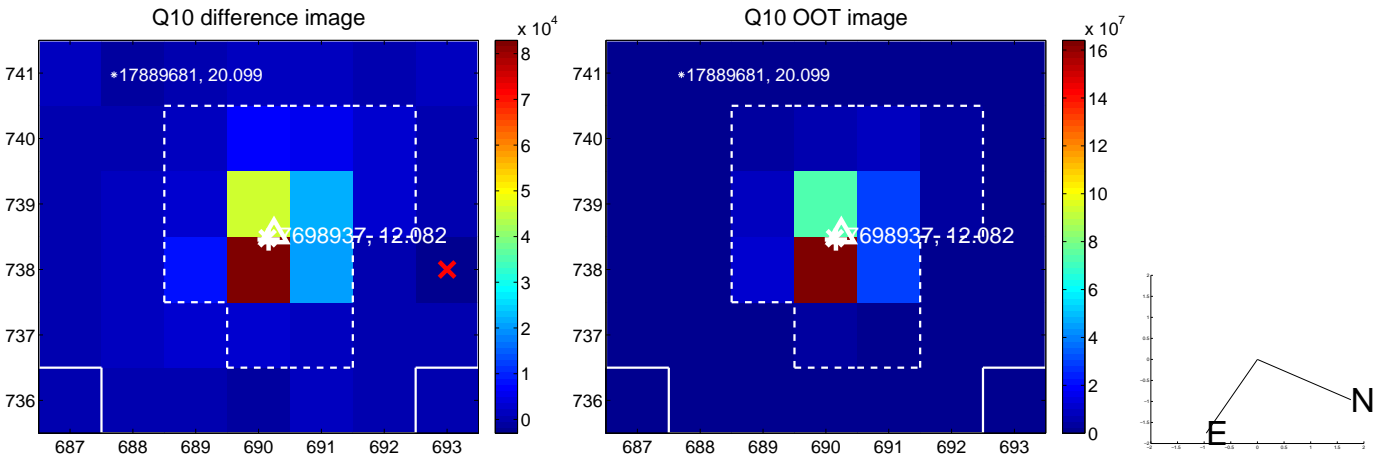
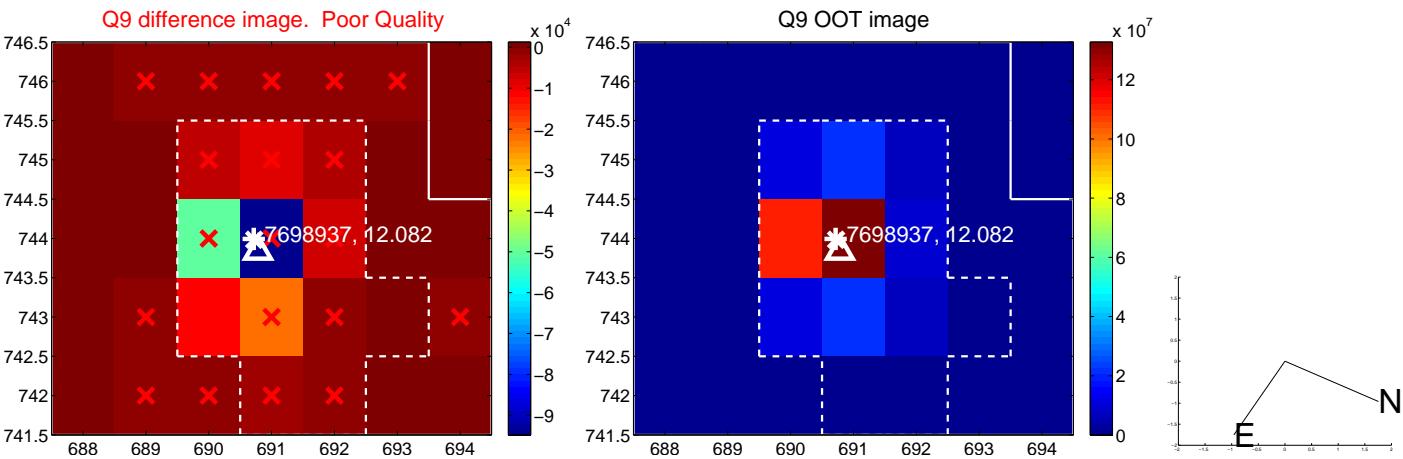
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



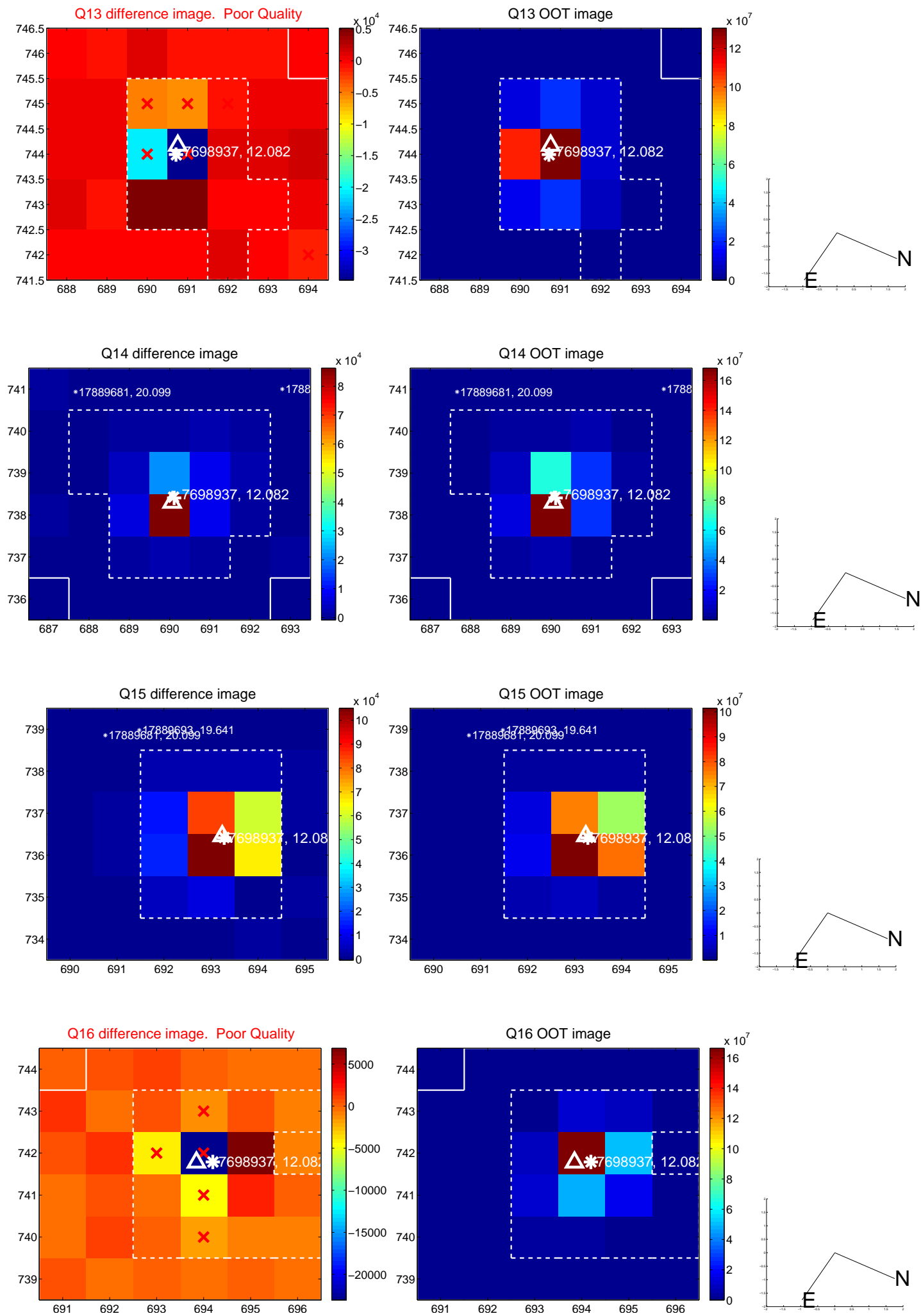
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



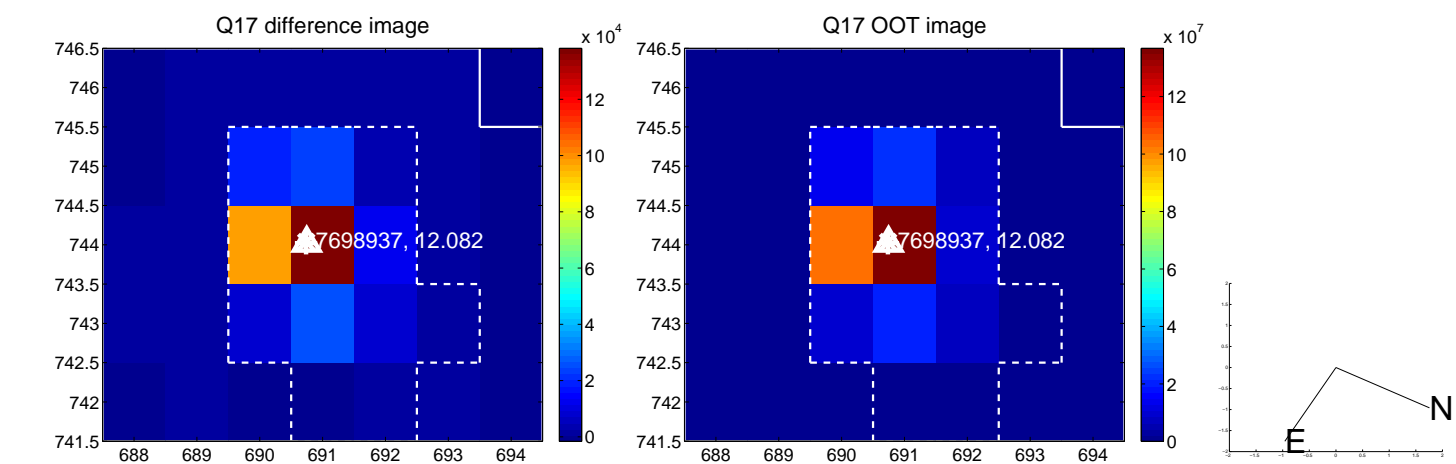
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



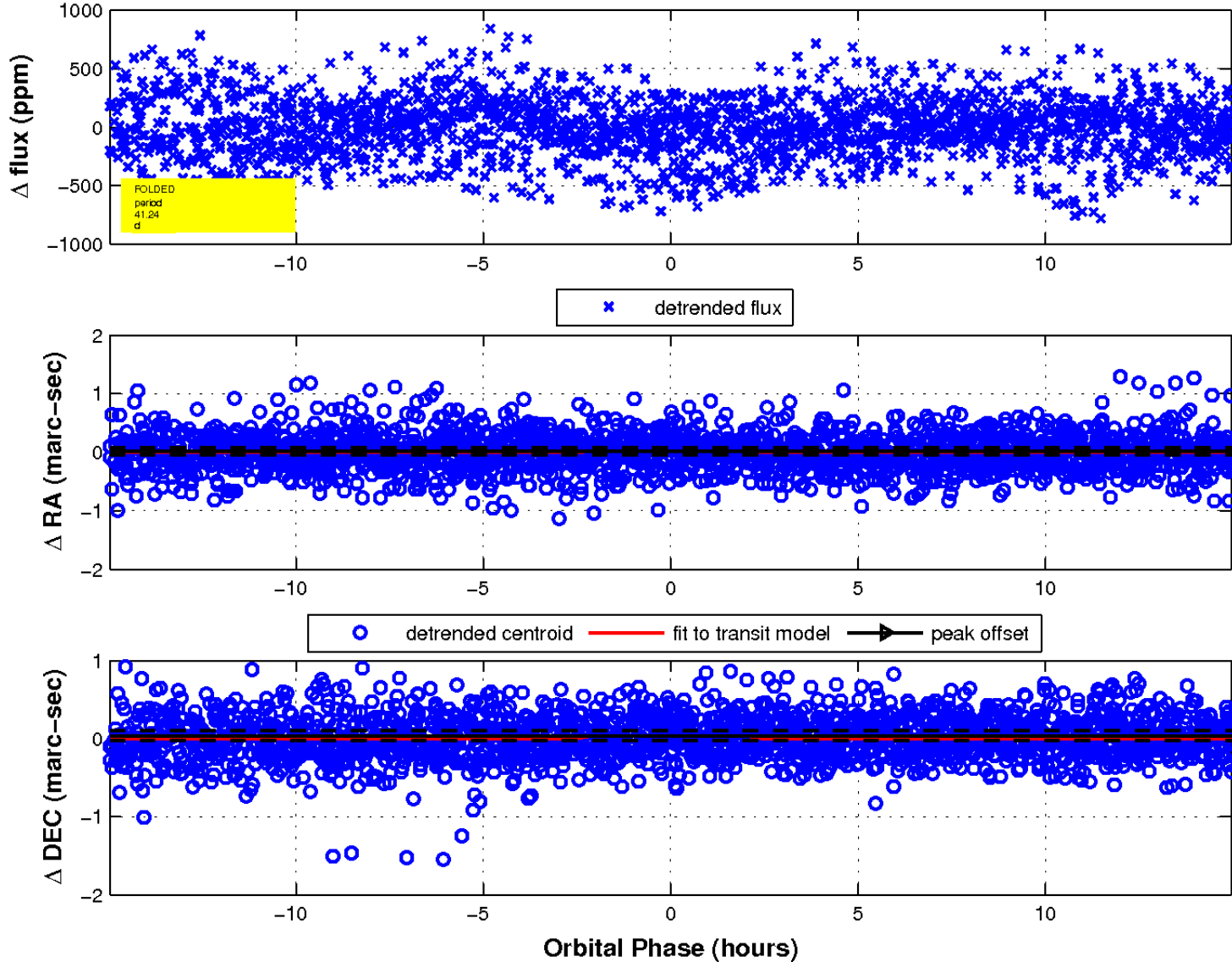
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

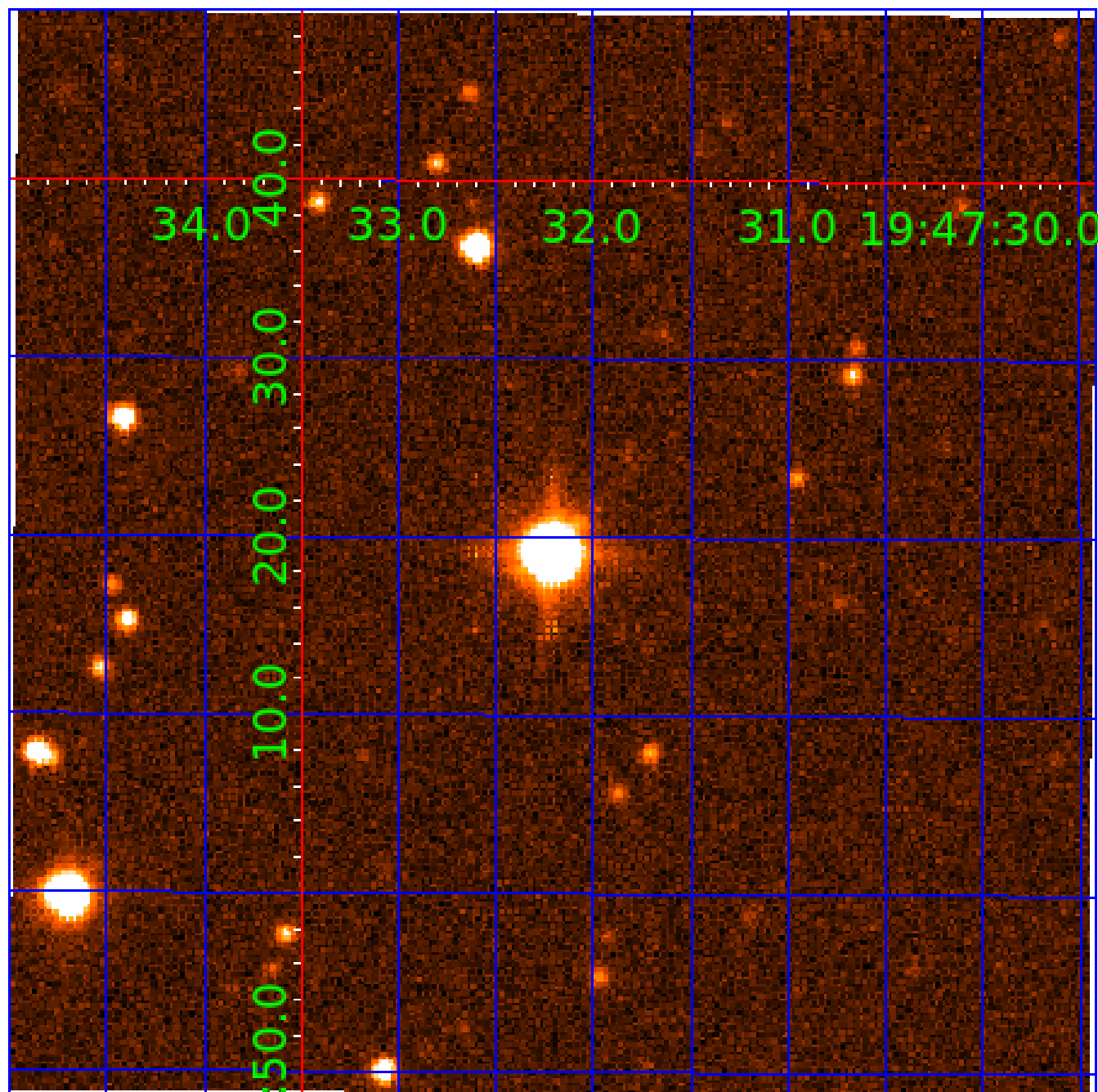


fluxWeightedCentroids, Planet 6 of 7



UKIRT Image

Declination



KIC 007698937

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})
007698937-01	OBS	No	1.372720	131.715322	16.1	8.383	11.0	5.4	1.60	6897	0.68	7692.16
007698937-02	OBS	No	122.074895	189.001565	113.8	6.189	14.3	2.4	1.60	6897	1.90	19.38
007698937-03	OBS	No	198.129687	132.124236	675.0	9.176	11.5	8.4	1.60	6897	5.28	10.16
007698937-04	OBS	No	86.583323	133.931085	429.4	7.280	10.3	10.3	1.60	6897	4.30	30.64
007698937-05	OBS	No	176.884888	132.658048	434.1	8.402	10.5	7.9	1.60	6897	6.38	11.82
007698937-06	OBS	No	41.237027	145.732381	222.1	4.988	9.0	7.9	1.60	6897	2.73	82.37
007698937-07	OBS	No	391.234562	265.561959	86.0	7.500	8.3	-1.0	1.60	6897	1.50	4.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007698937-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007698937-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
007698937-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007698937-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007698937-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698937-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007698937-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

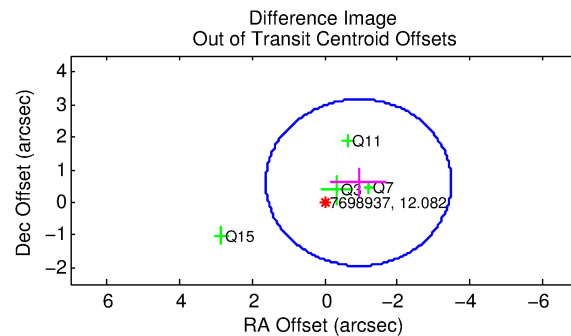
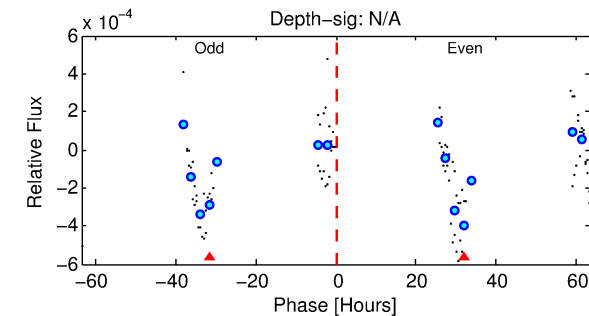
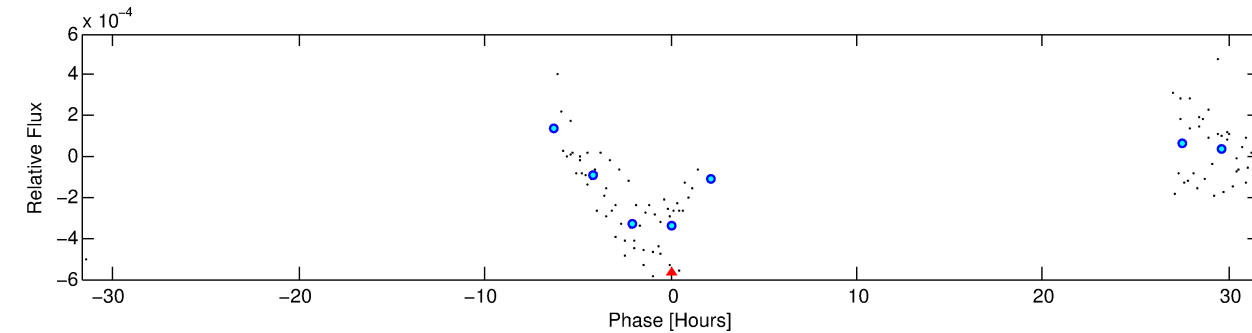
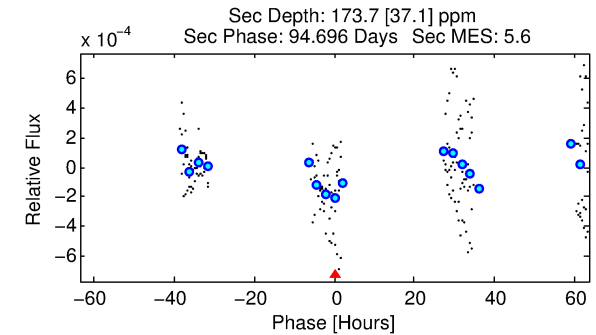
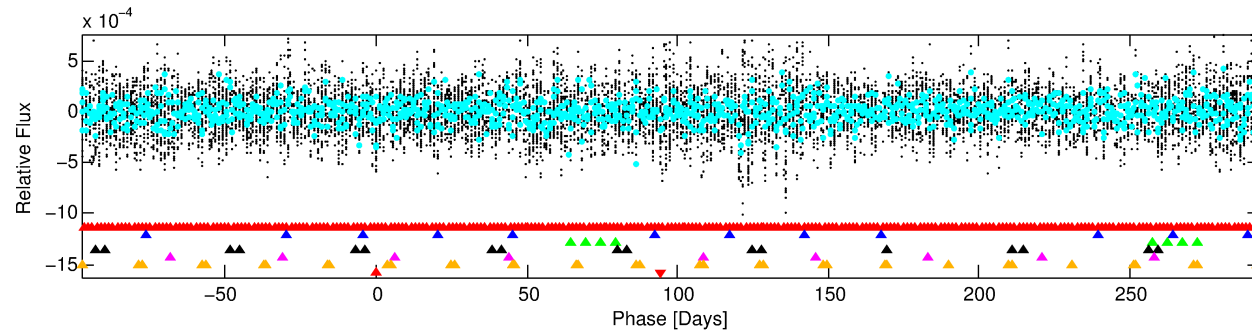
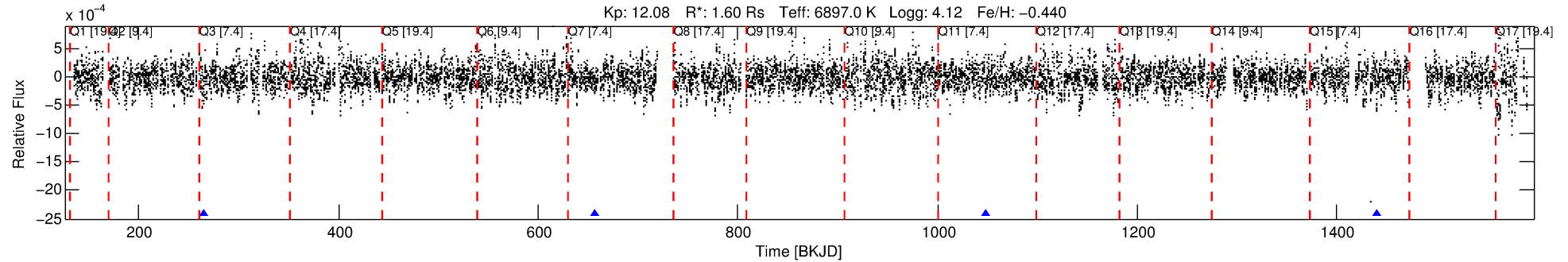
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007698937-07

No Significant Match Found

DV One-Page Summary

KIC: 7698937 Candidate: 7 of 7 Period: 391.235 d



TPS TCE Results:

Period = 391.23456 d
Epoch = 265.5620 BKJD

DV fit results are unavailable

DV Diagnostic Results:

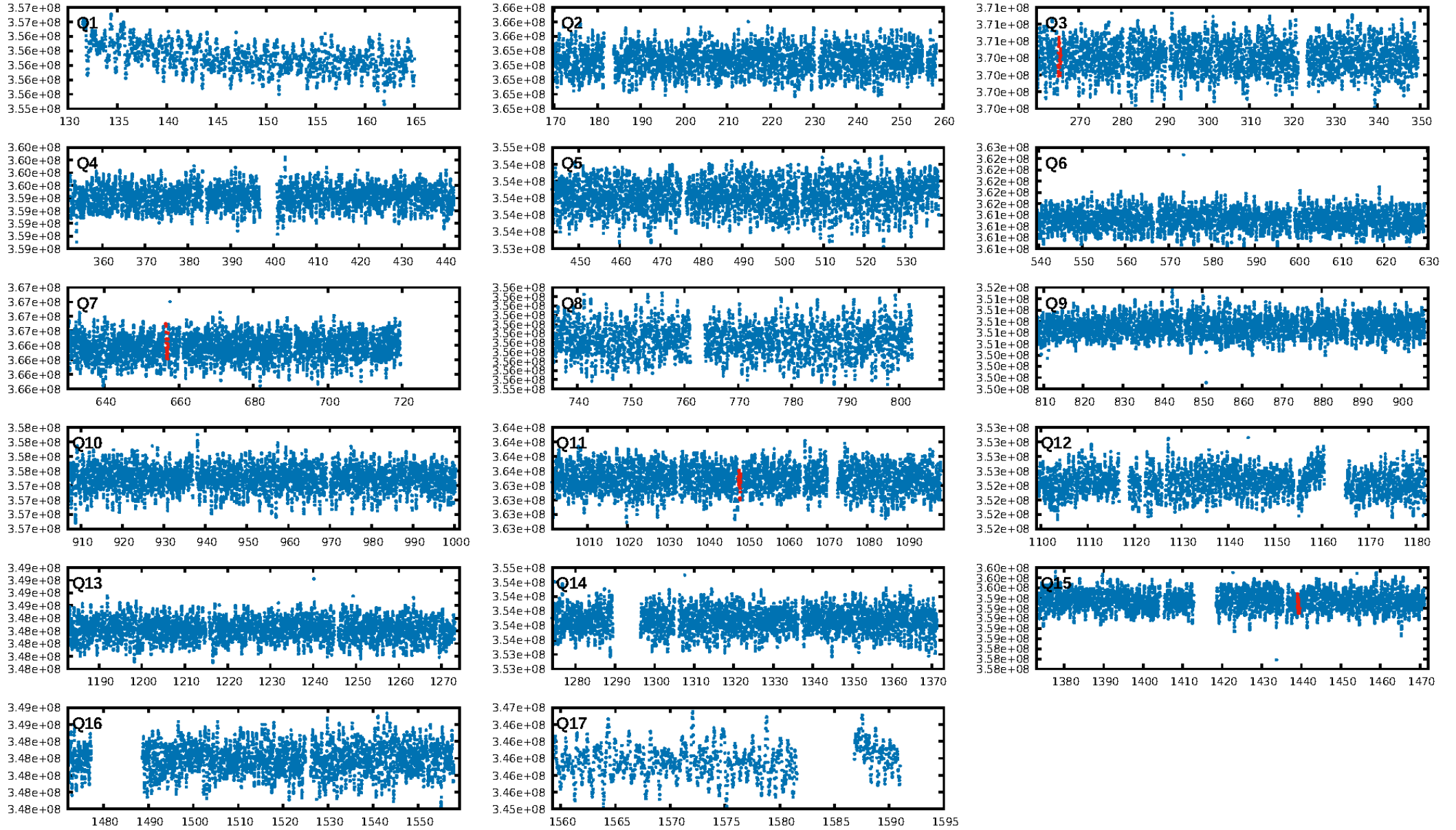
ShortPeriod-sig: 100.0% [391.06σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.387

Centroid-sig: 0.1%
Centroid-so: 0.573 arcsec [1.82σ]
OotOffset-rm: 1.113 arcsec [1.31σ]
KicOffset-rm: 1.144 arcsec [1.76σ]
OotOffset-st: 0/4/0/0 [4]
KicOffset-st: 0/4/0/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.00 [0/4]

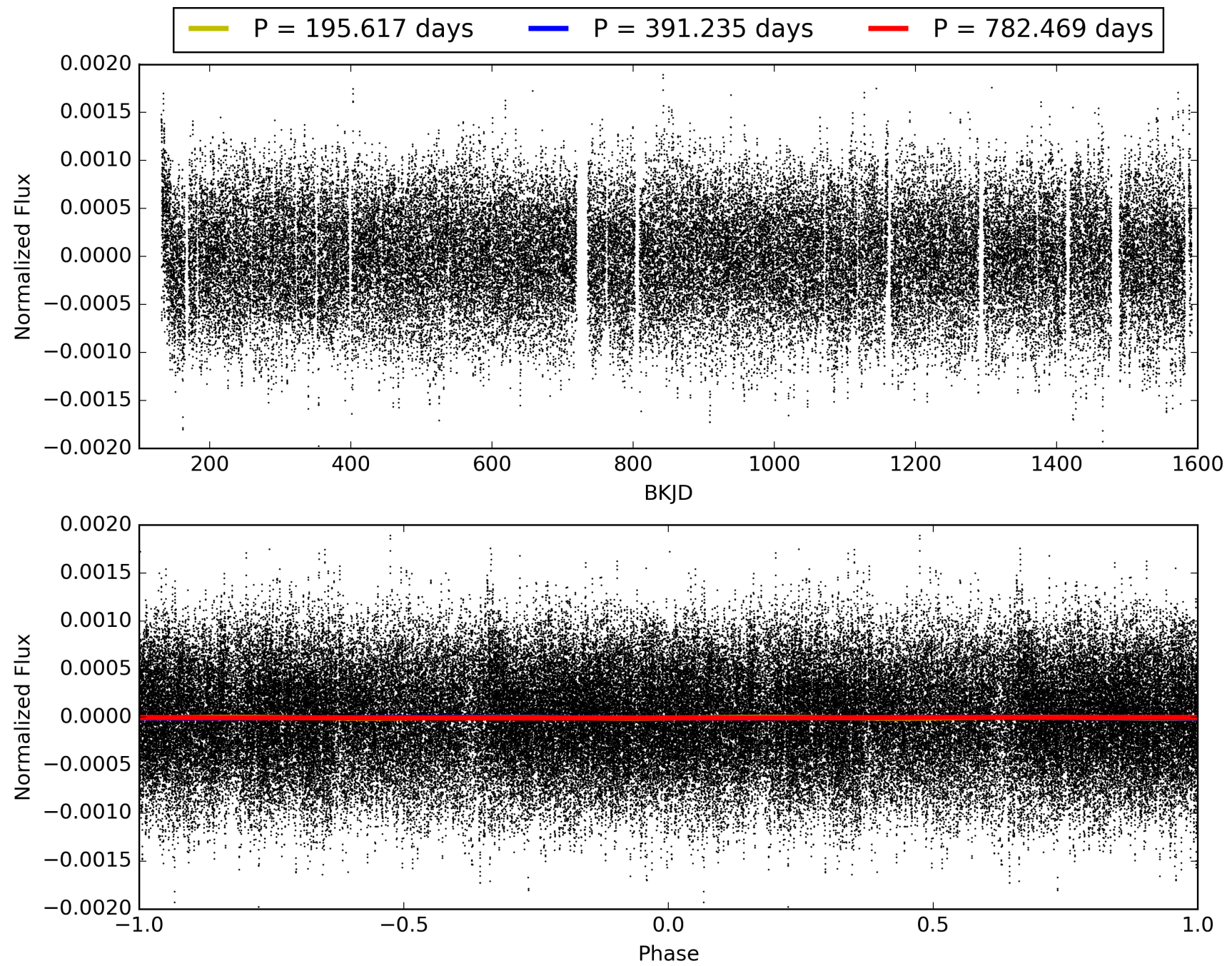
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:30:43 Z

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

TCE 007698937-07, PDC Light Curves

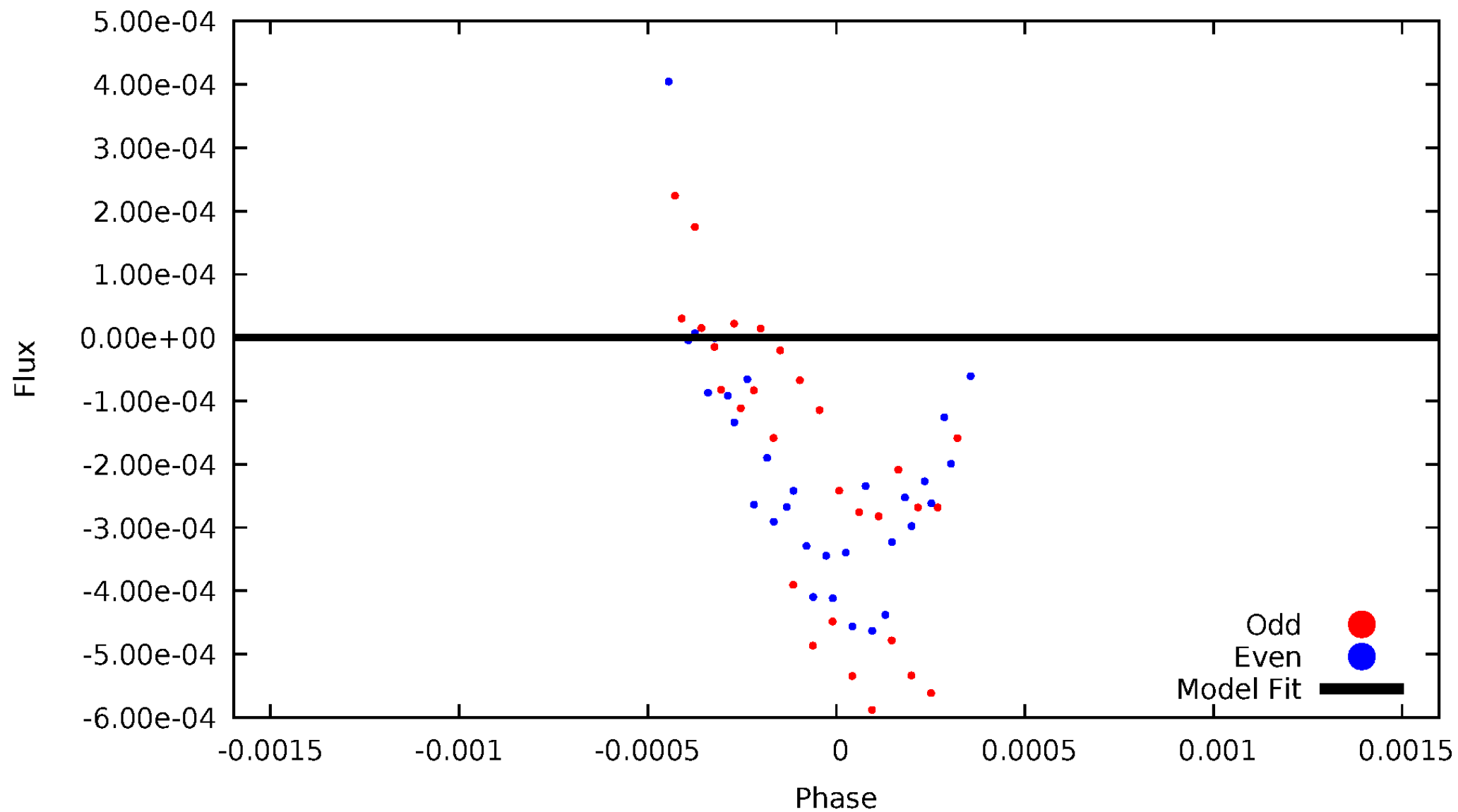


TCE 007698937-07



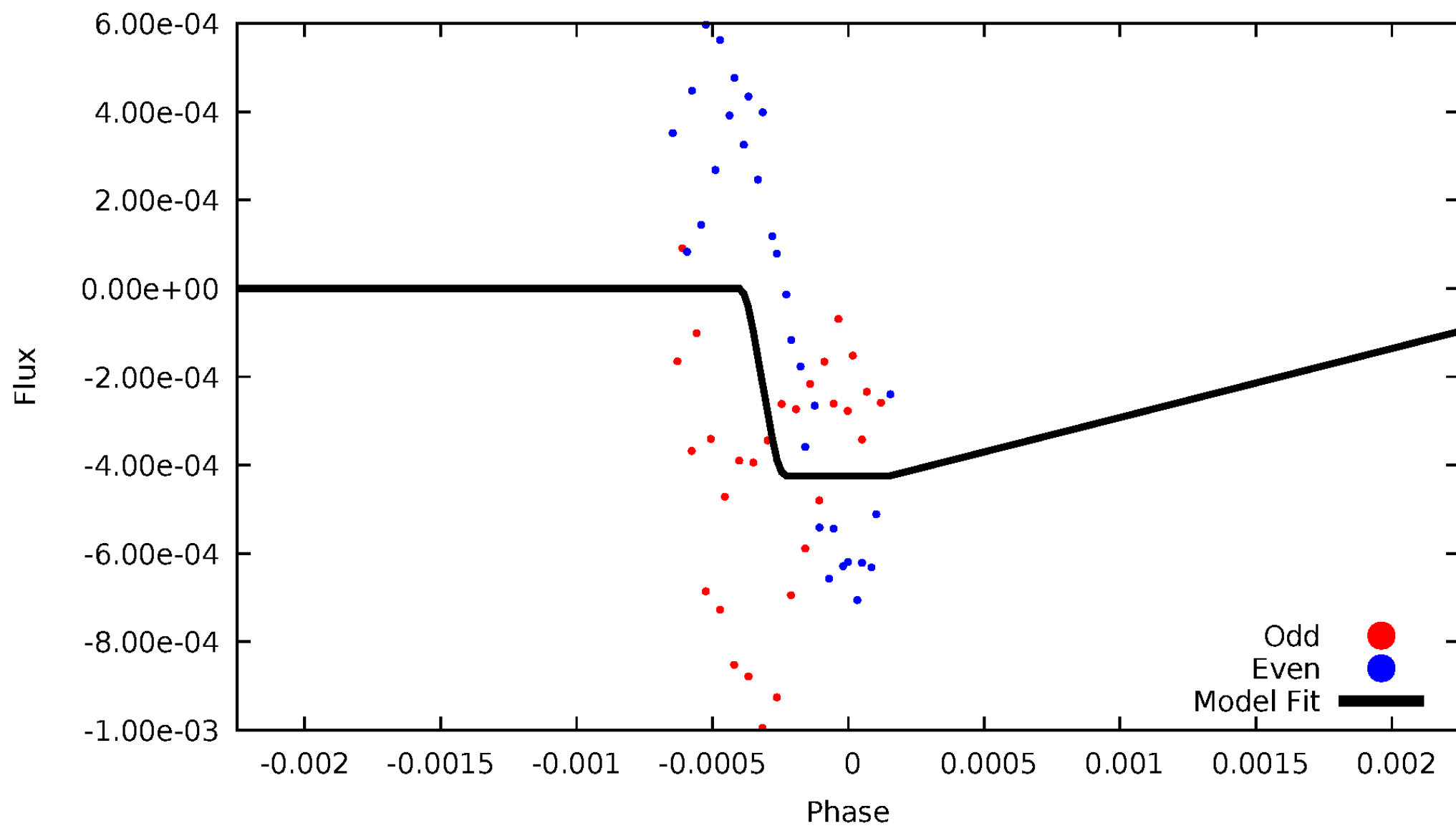
DV Odd/Even

TCE 007698937-07

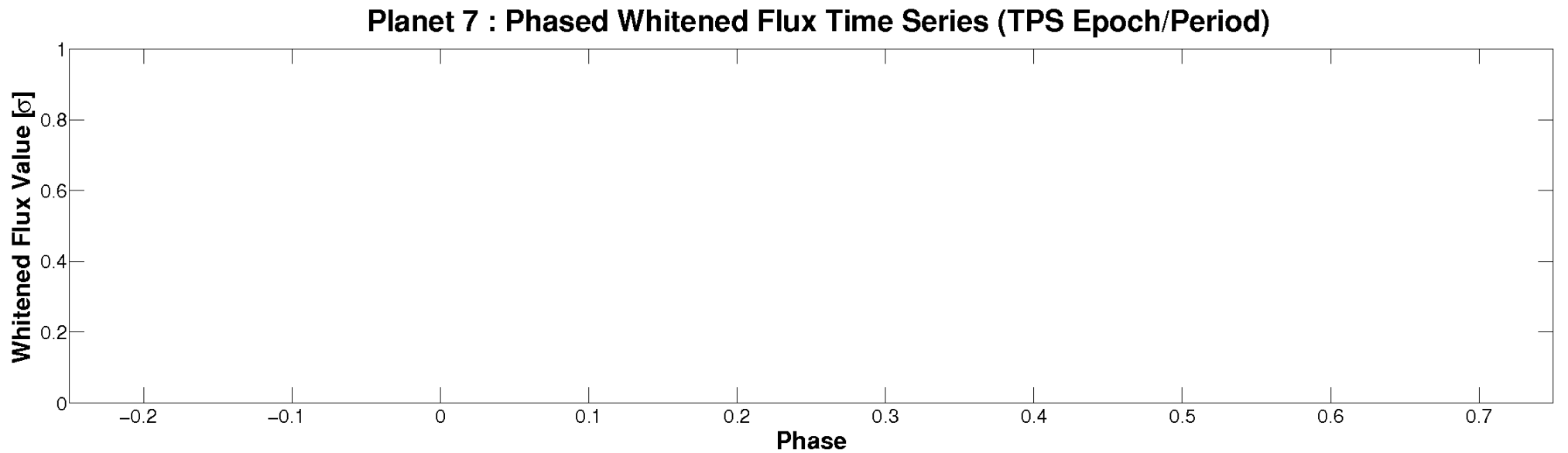
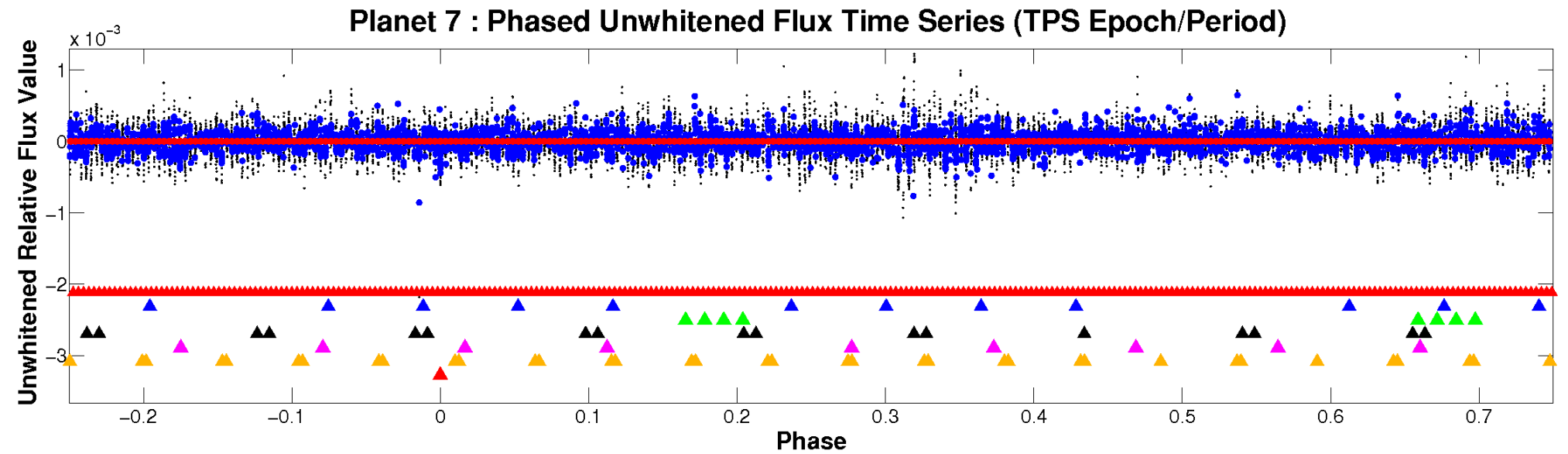


ALT Odd/Even

TCE 007698937-07

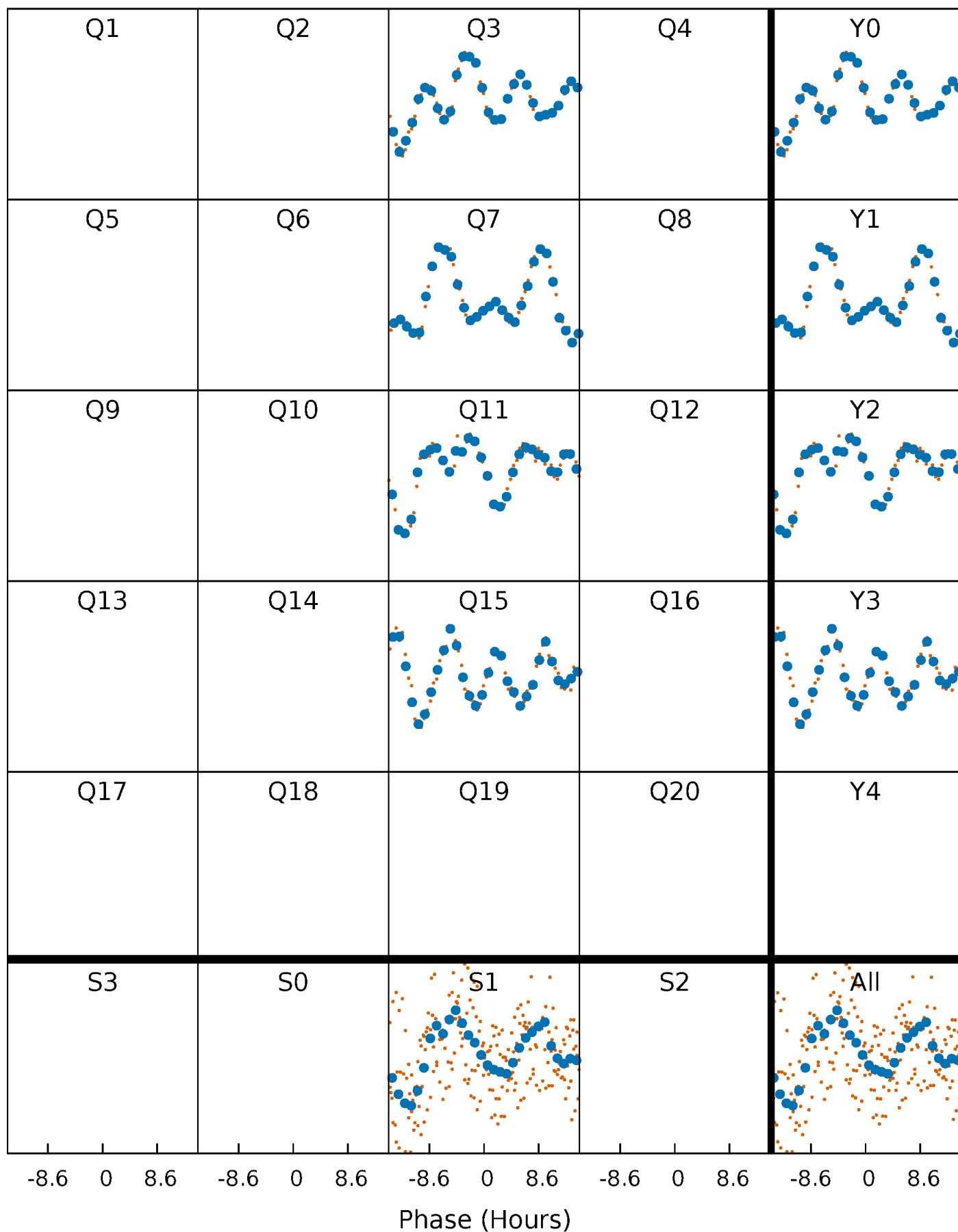


Non-Whitened Vs. Whitened Light Curve



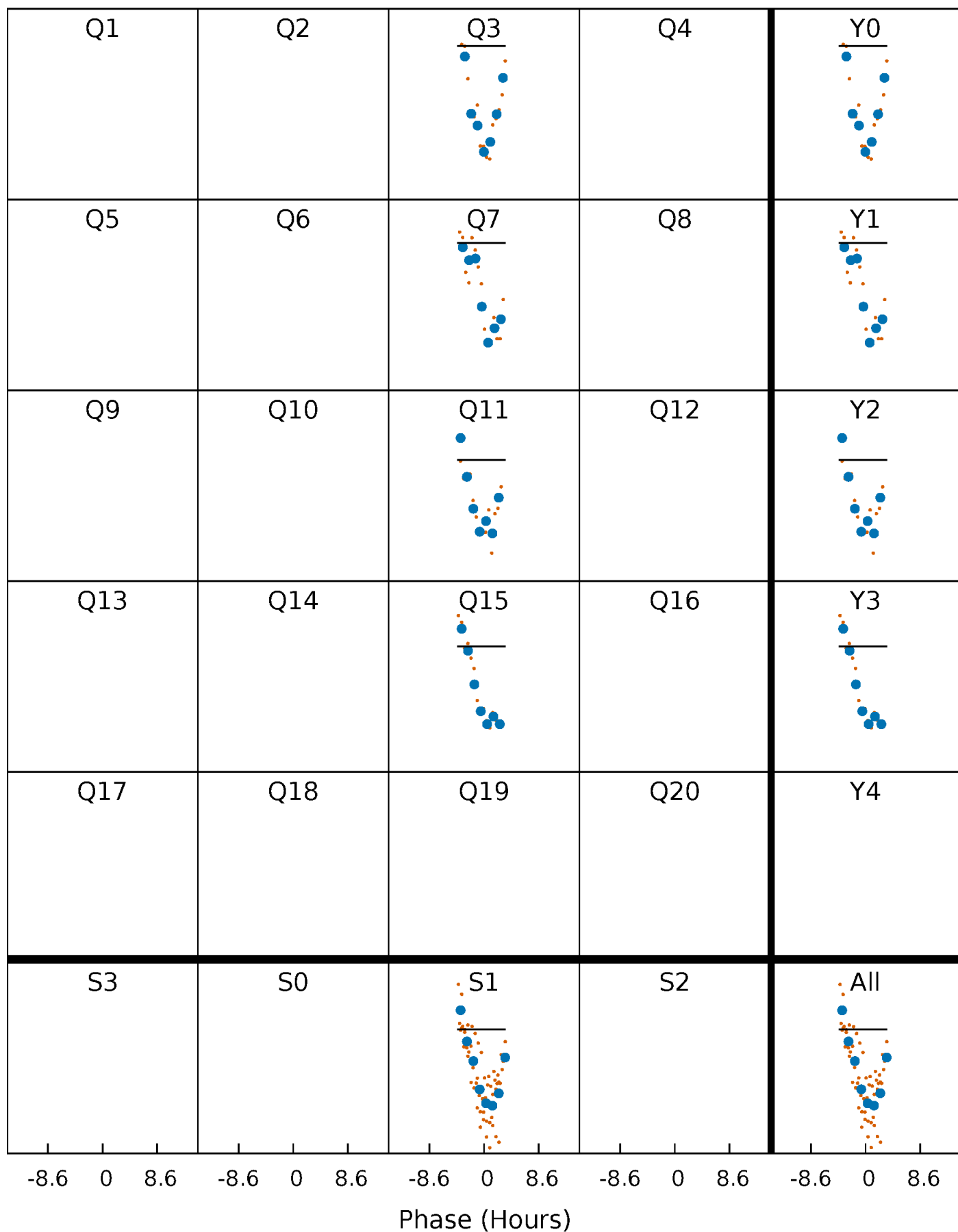
PDC Quarter-Phased Transit Curves

TCE 007698937-07 $P=391.234562$ Days $T_0=265.561959$ (BKJD)



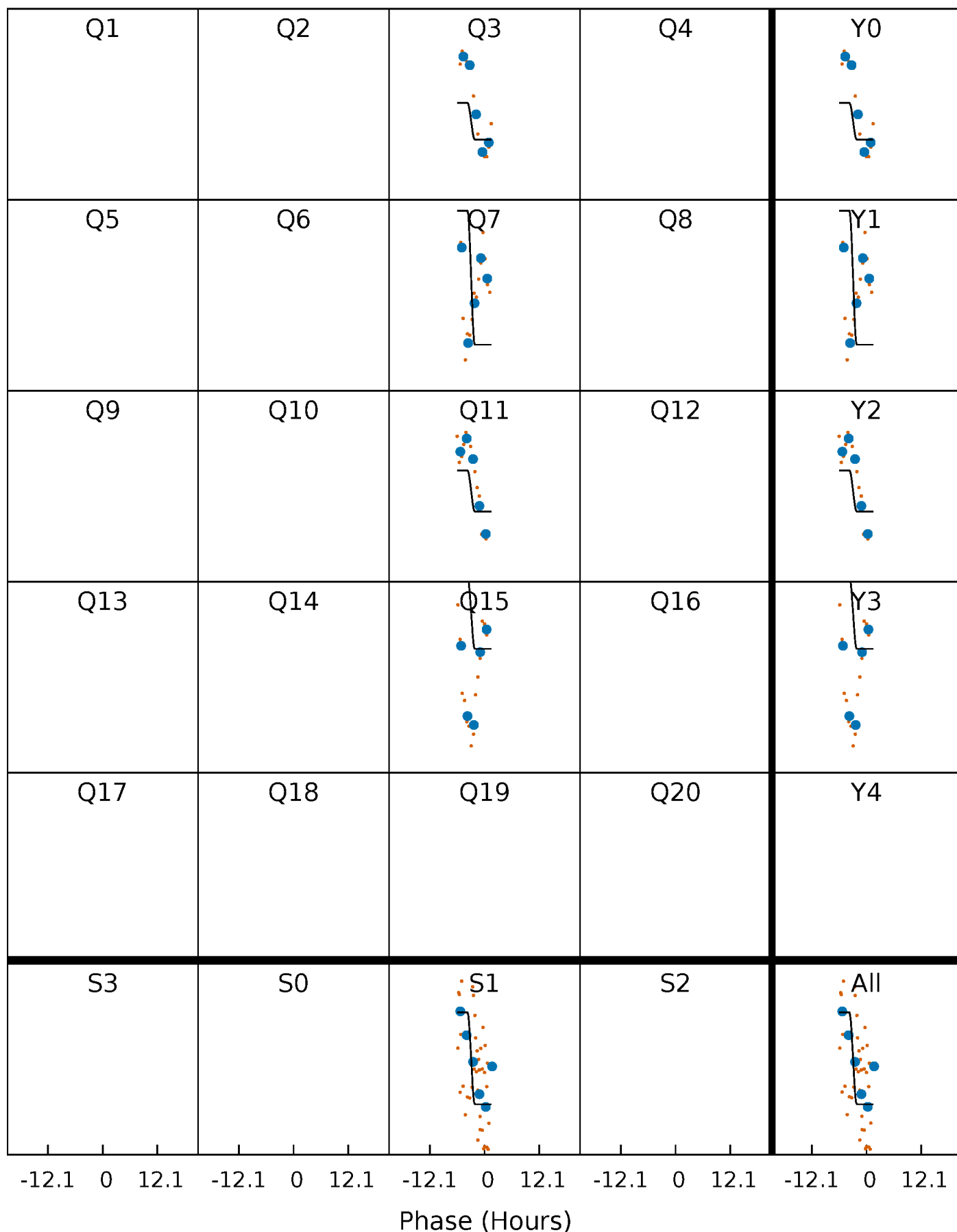
DV Quarter-Phased Transit Curves

TCE 007698937-07 $P=391.234562$ Days $T_0=265.561959$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

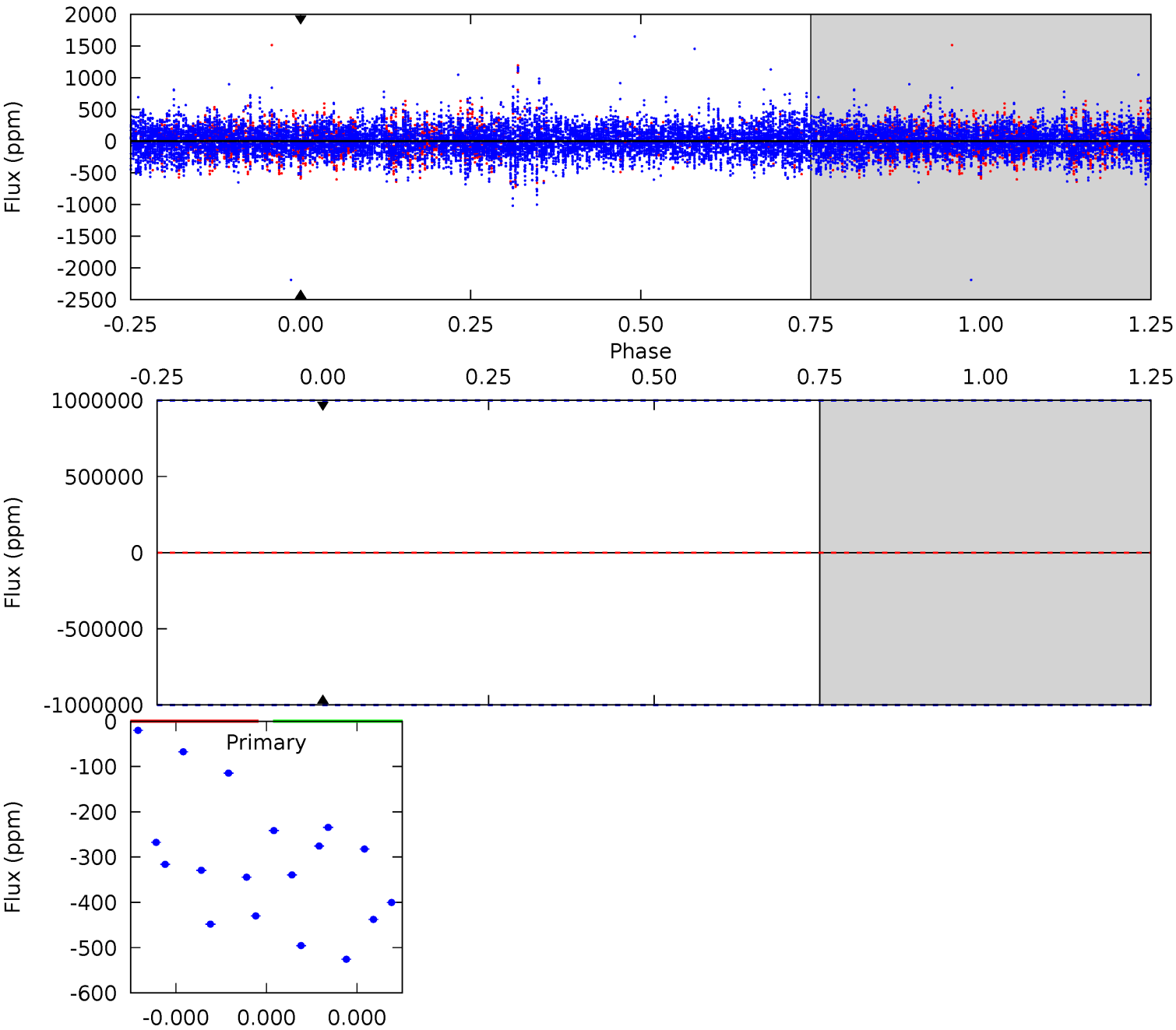
TCE 007698937-07 P=391.234562 Days $T_0=265.640579$ (BKJD)



DV Model-Shift Uniqueness Test

007698937-07, P = 391.234562 Days, E = 265.561959 Days

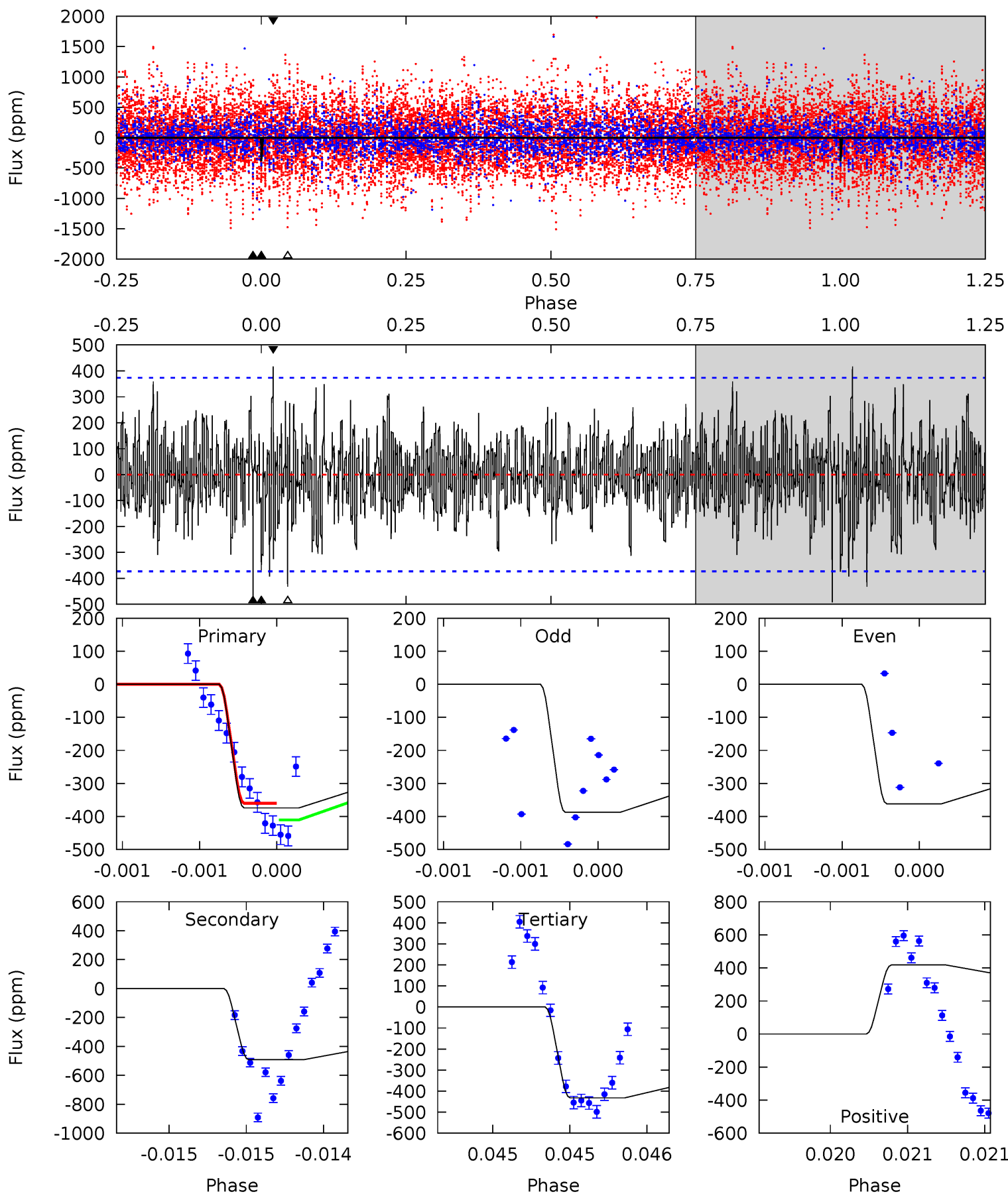
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007698937-07, P = 391.234562 Days, E = 265.640579 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.57	7.33	6.43	6.22	5.56	3.46	1.59	-0.86	-0.64	0.90	1.11	0.19	1.06	0.46	0.30



Stellar Parameters For KIC 007698937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6897^{+192}_{-240}	$4.124^{+0.209}_{-0.171}$	$-0.440^{+0.300}_{-0.300}$	$1.603^{+0.443}_{-0.443}$	$1.249^{+0.185}_{-0.203}$	$0.427^{+0.535}_{-0.210}$
	+3%/-3%	+5%/-4%	+68%/-68%	+28%/-28%	+15%/-16%	+125%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007698937-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$11.71^{+13.08}_{-7.99}$	504^{+36}_{-39}	-5985^{+44550}_{-25277}	$-13772.978^{+1083689.614}_{-738630.936}$
Alt.	-492 ± 67	$13.38^{+13.64}_{-9.38}$	504^{+40}_{-39}	3952^{+2742}_{-773}	1836^{+19427}_{-1371}

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

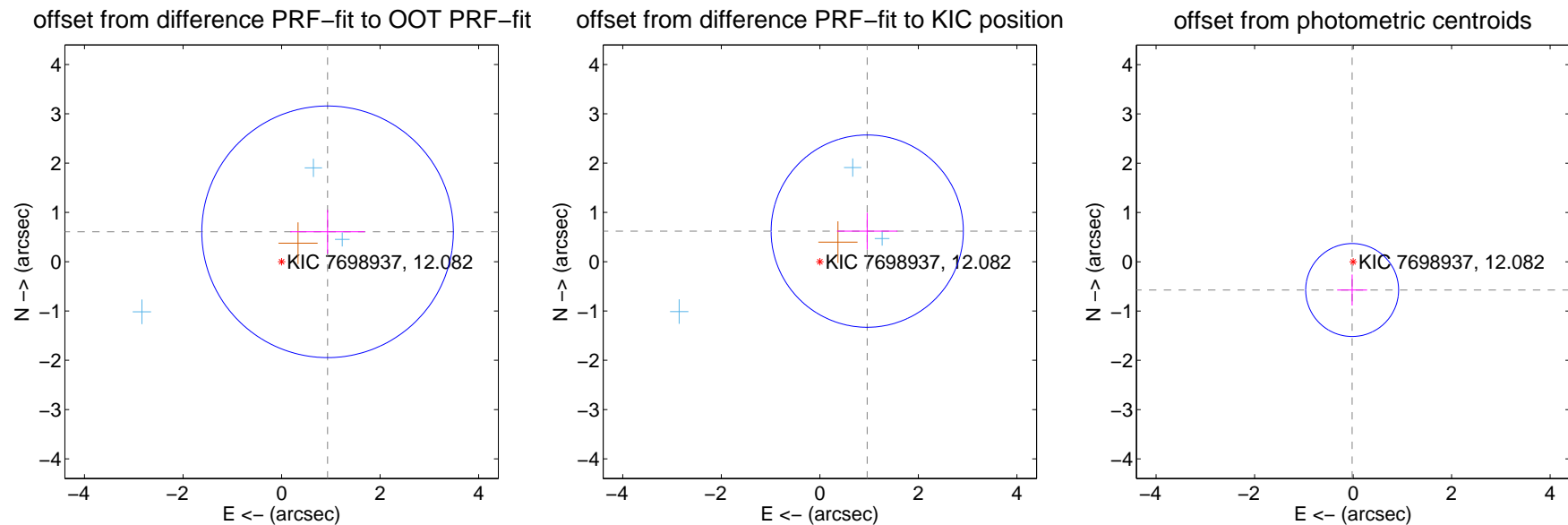
DV Centroid Data

Supplemental centroid analysis for 007698937-07. Kepler magnitude: 12.08. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

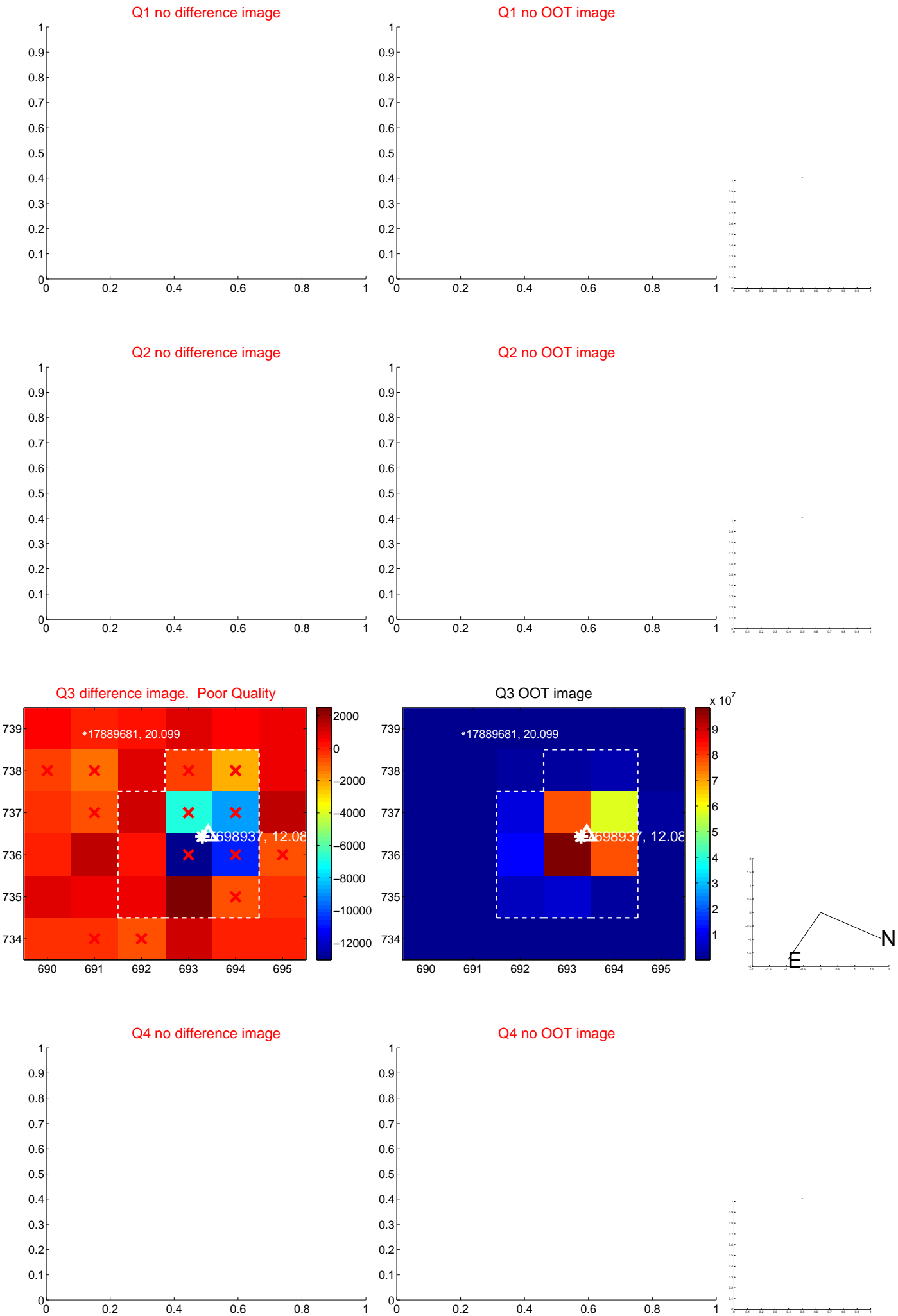
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.113 ± 0.851	1.31	-0.933 ± 0.758	0.606 ± 0.444
PRF-fit source offset from KIC position	1.144 ± 0.650	1.76	-0.962 ± 0.614	0.620 ± 0.373
photometric centroid source offset	0.57 ± 0.31	1.82	0.02 ± 0.30	-0.57 ± 0.31

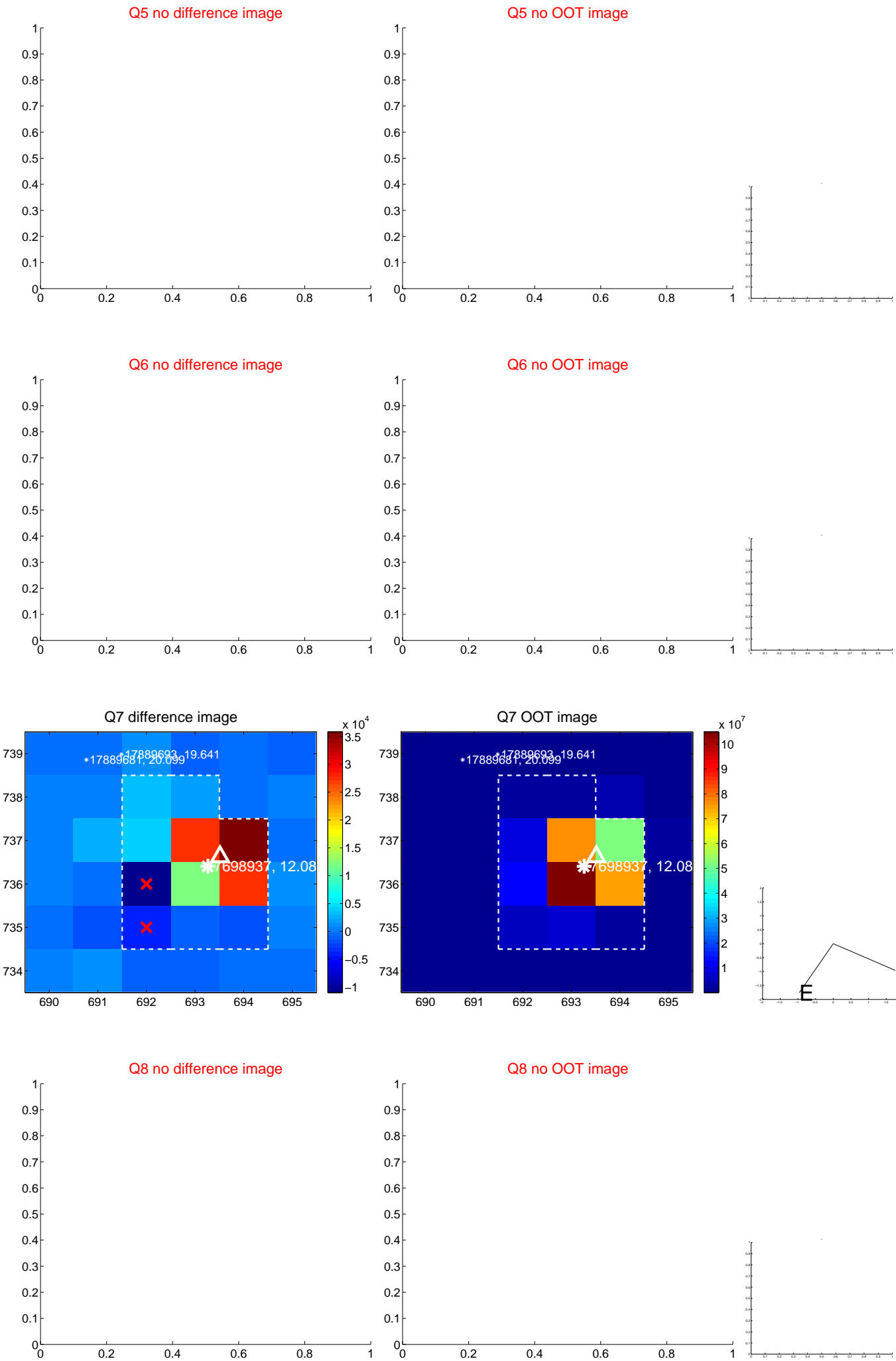


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

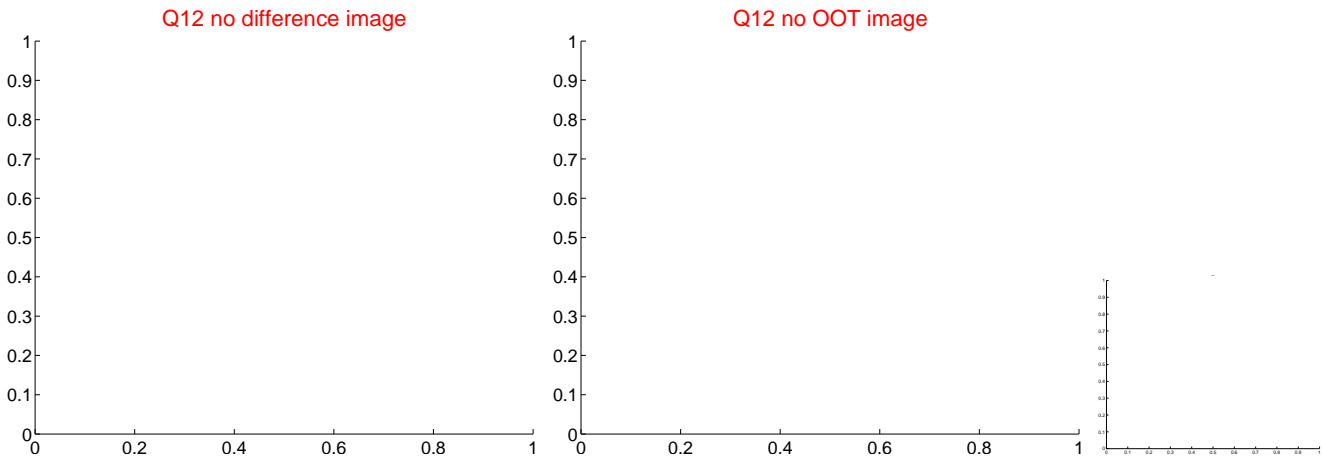
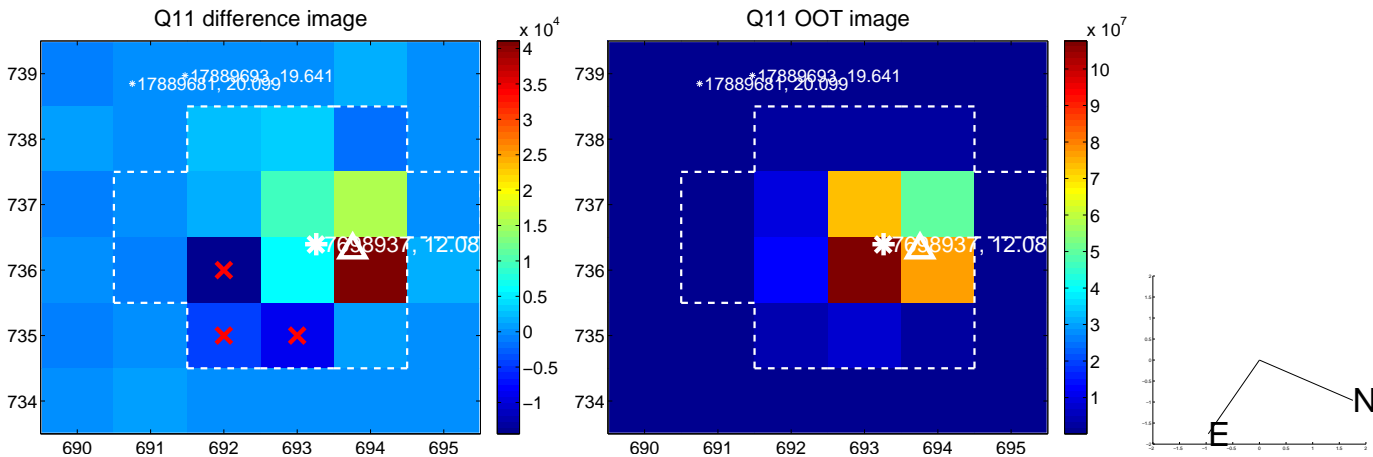
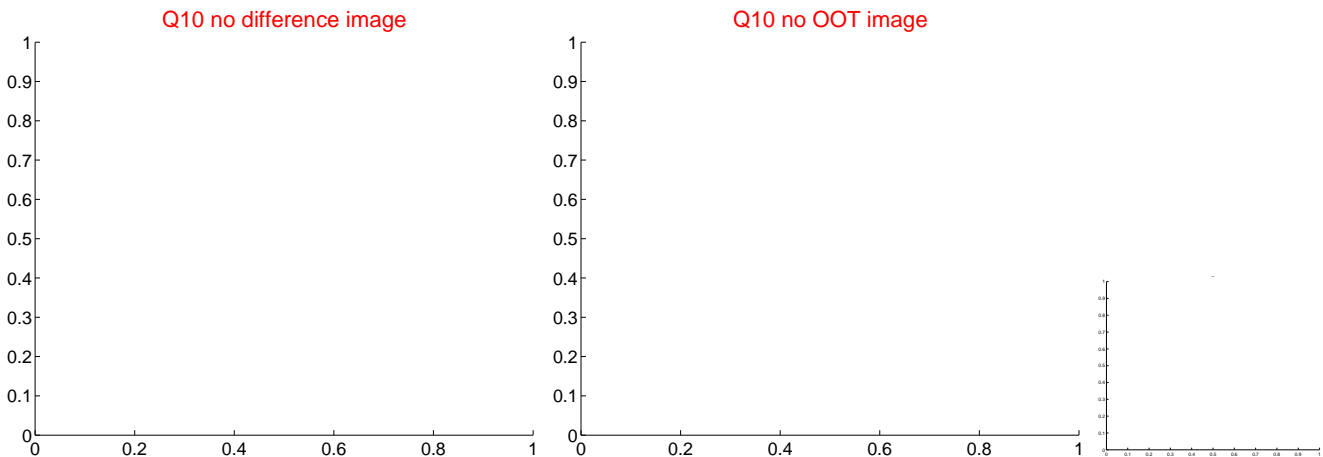
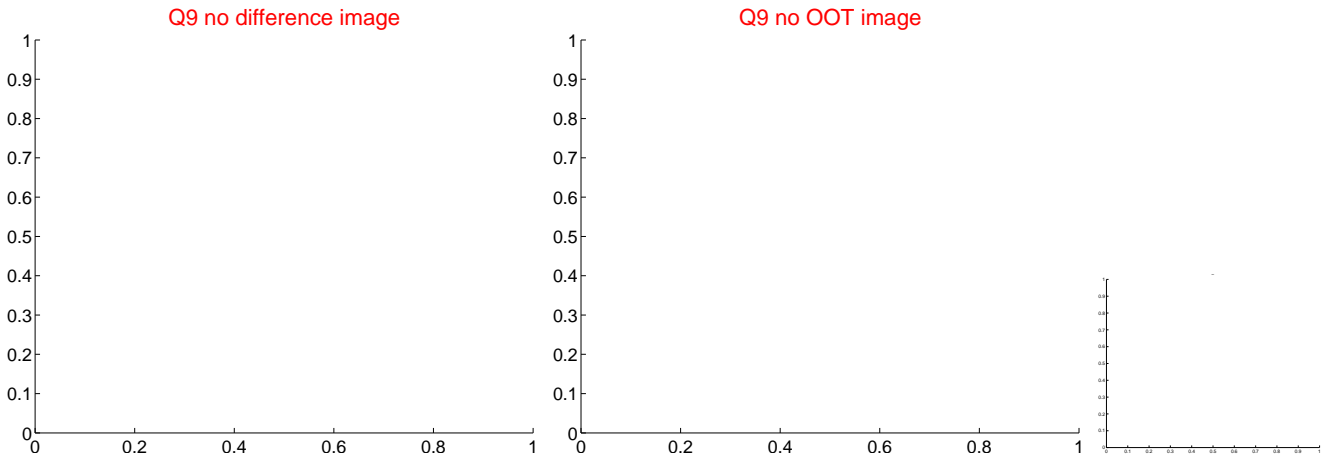
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



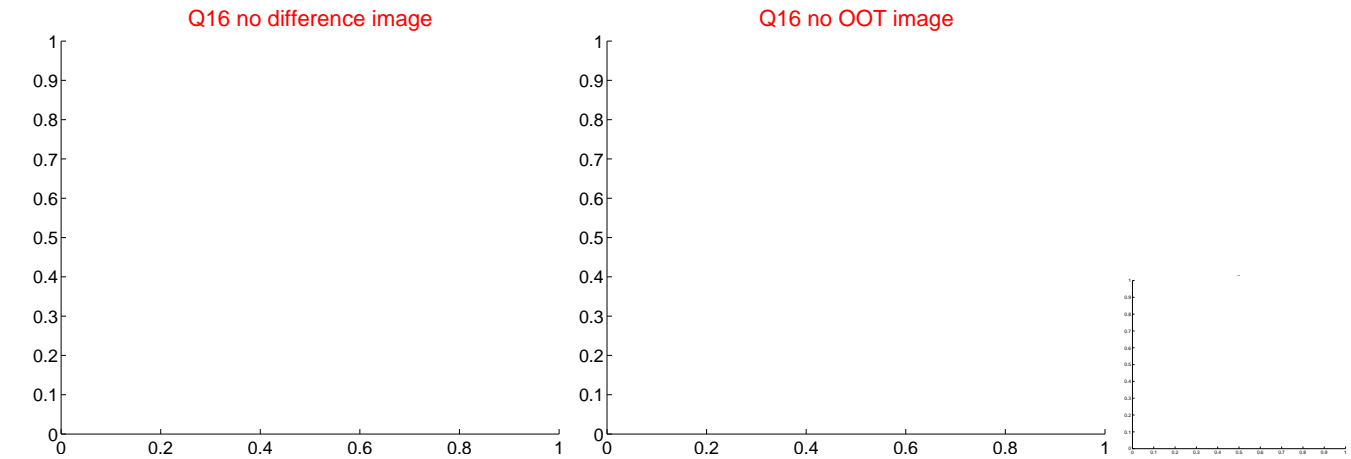
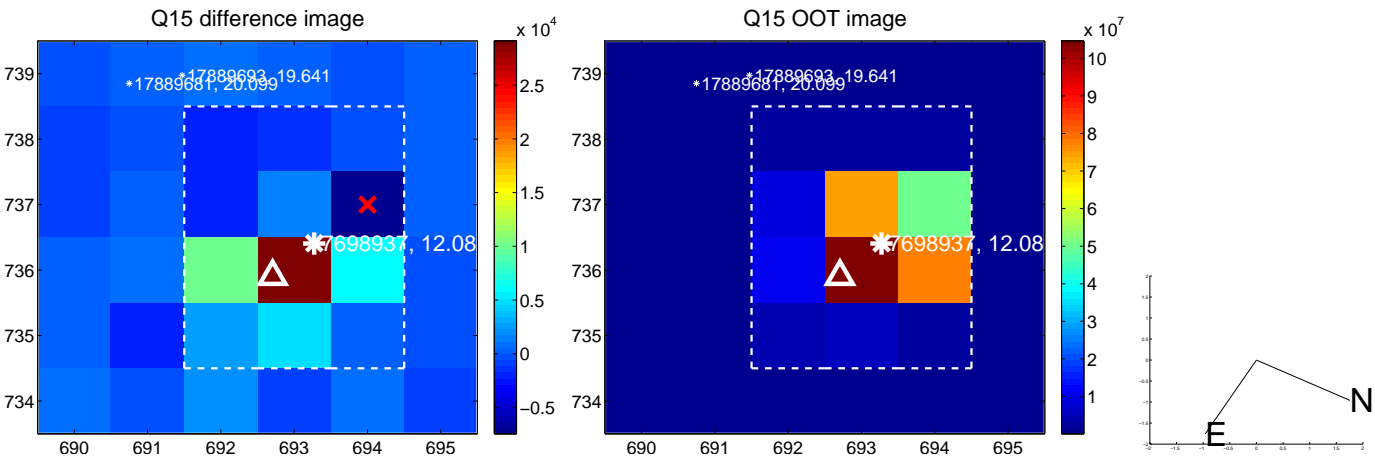
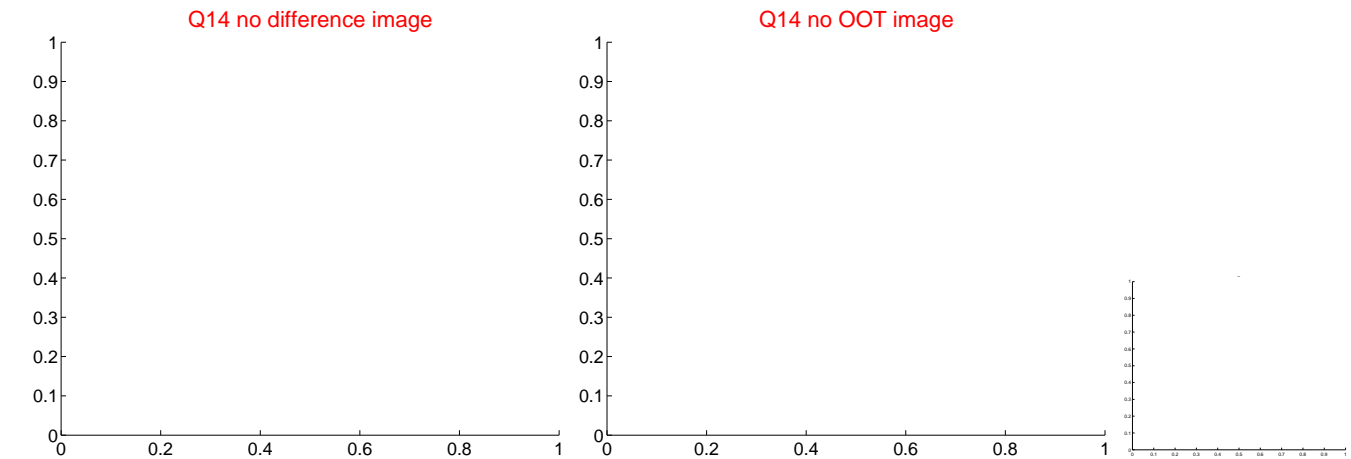
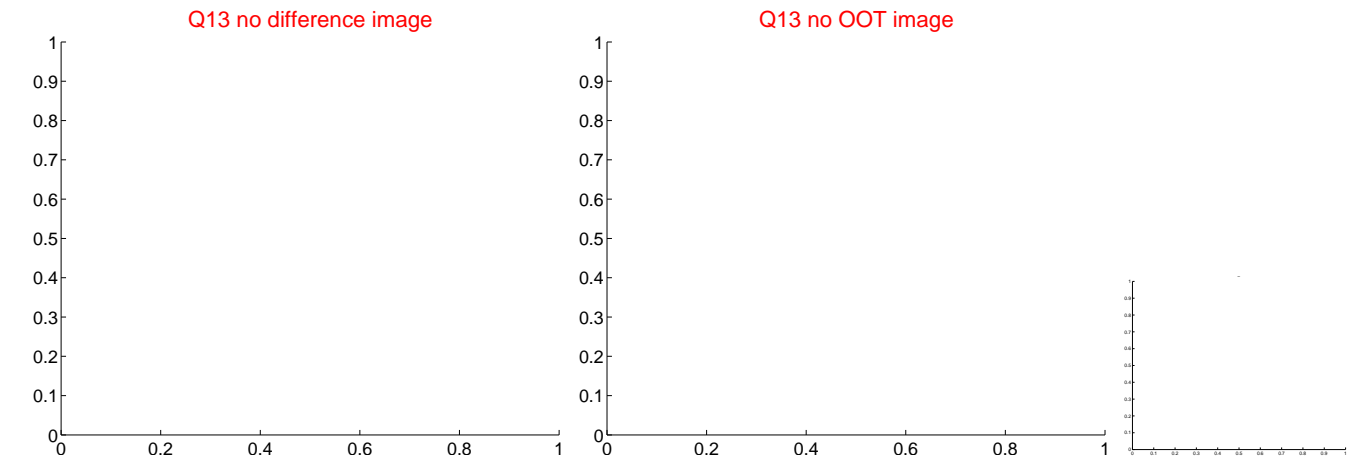
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



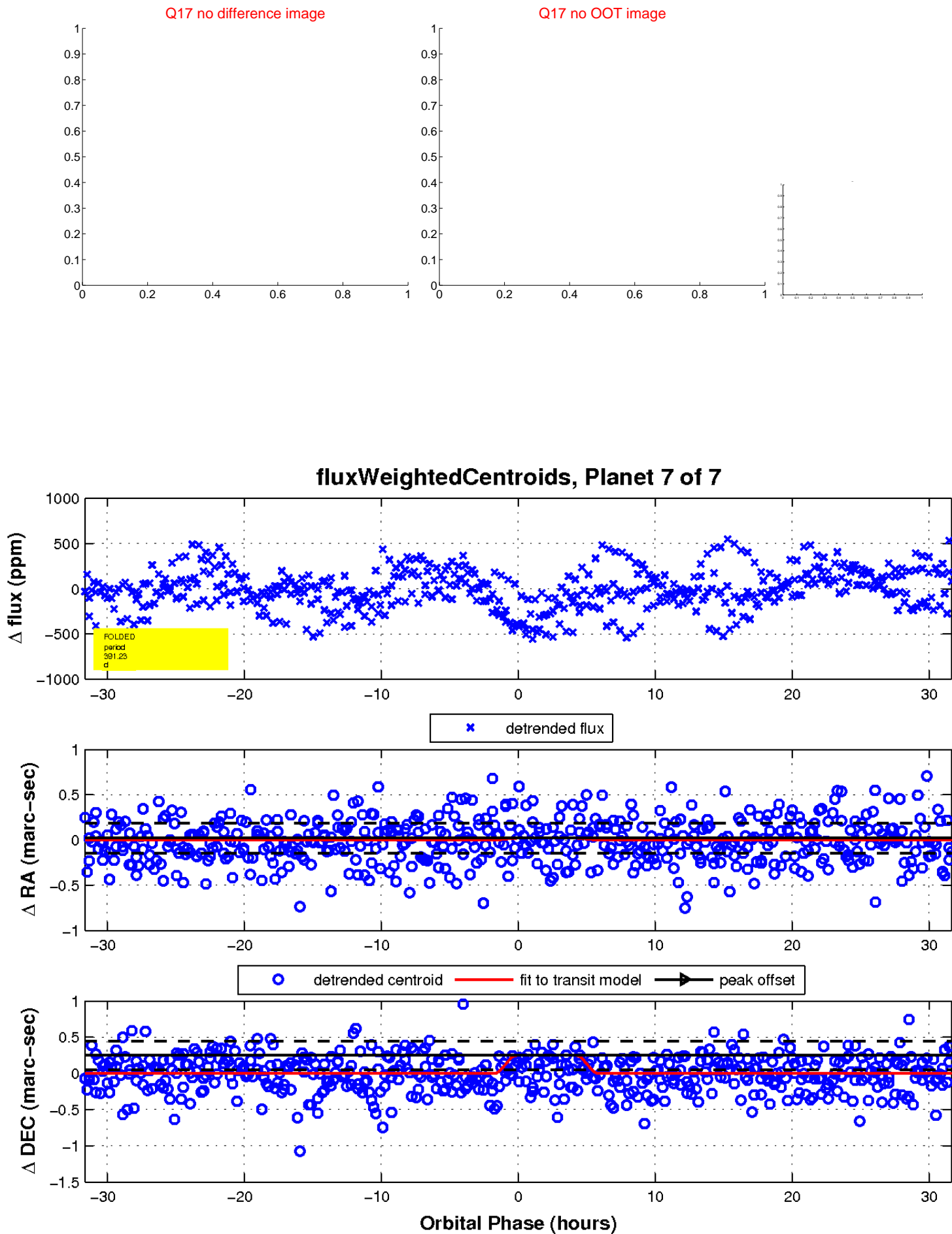
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

