

KIC 007293937

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})
007293937-01	OBS	3211.01	1.366968	132.200864	39.4	2.394	21.0	22.6	1.00	5780	0.75	1720.26
007293937-02	OBS	No	251.646928	325.990631	255.4	1.720	10.7	6.7	1.00	5780	1.75	1.64
007293937-03	OBS	No	498.189864	367.203561	350.1	4.049	11.1	7.4	1.00	5780	2.27	0.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007293937-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
007293937-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007293937-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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 007293937-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007293937-01	7293937	007374746-01	7374746	1:1	14.1	-2	-2	15.00	11.95	4434.80	Direct-PRF	0	1.32	0.27

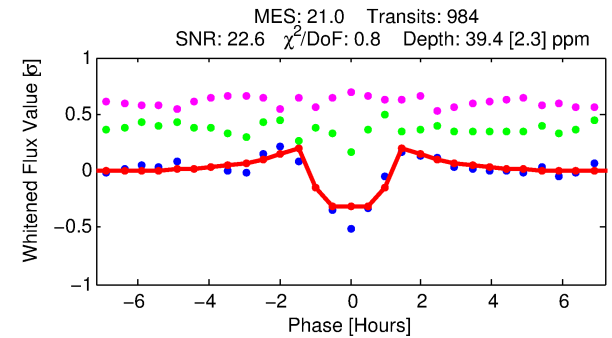
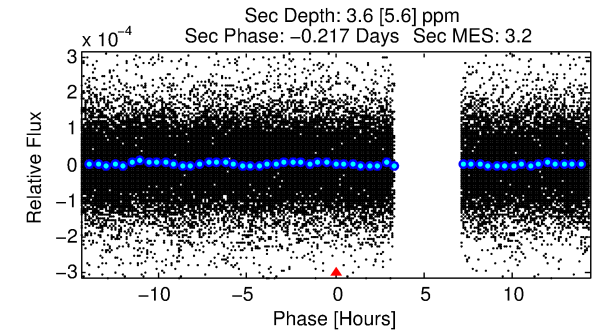
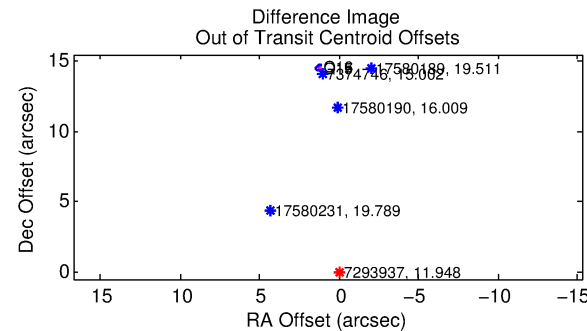
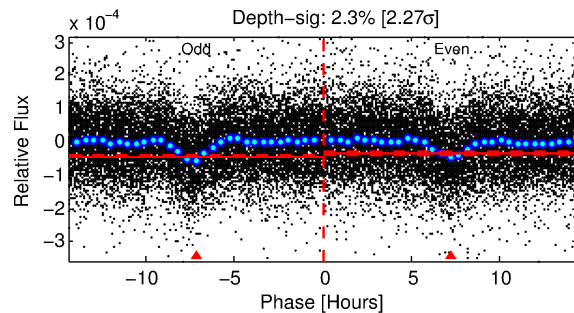
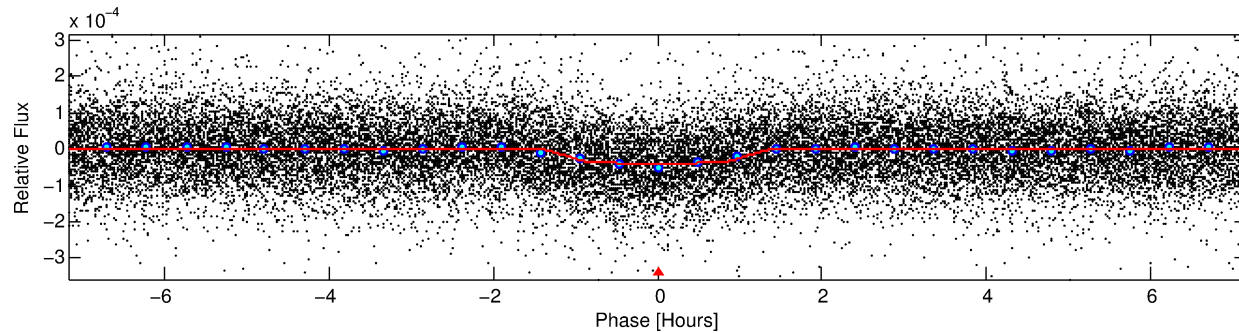
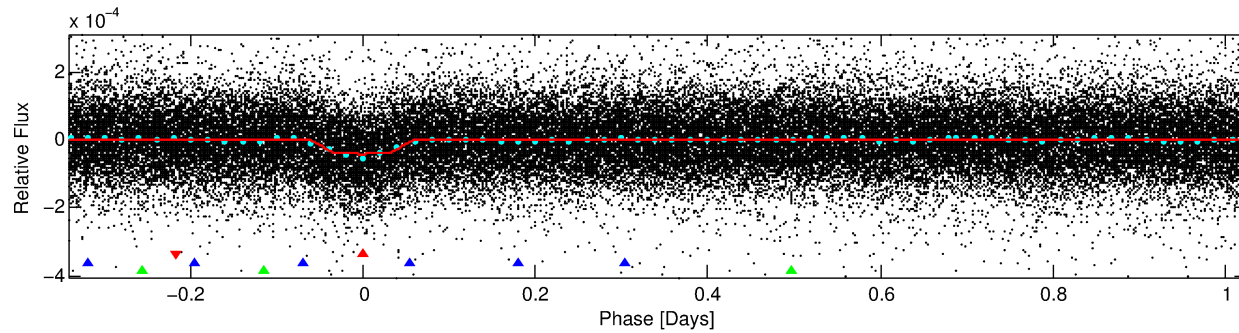
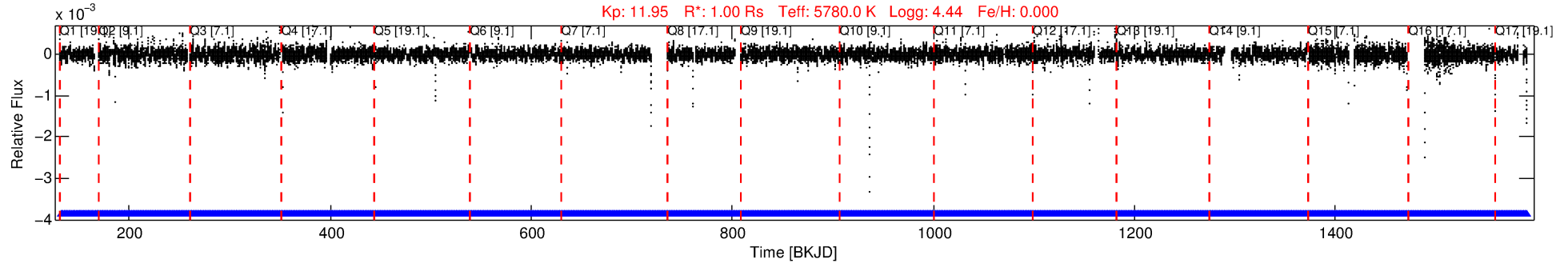
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7293937 Candidate: 1 of 3 Period: 1.367 d

KOI: K03211.01 Corr: 0.885

Kp: 11.95 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



DV Fit Results:

Period = 1.36697 [0.00000] d
Epoch = 132.2009 [0.0009] BKJD
Rp/R* = 0.0069 [0.0009]
a/R* = 2.17 [1.10]
b = 0.90 [0.14]
Seff = 1720.26 [0.01]
Teq = 1642 [0] K
Rp = 0.75 [0.10] Re
a = 0.0241 [0.0000] AU
Ag = 2.06 [3.25] [0.33σ]
Teffp = 3041 [1200] K [1.17σ]

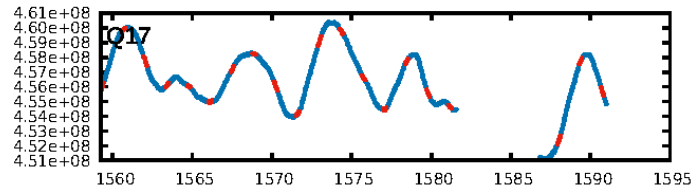
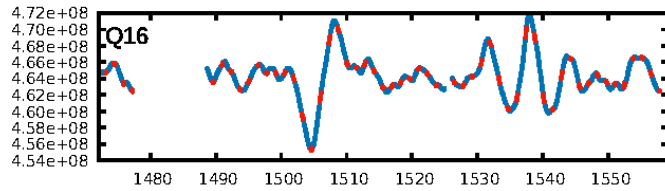
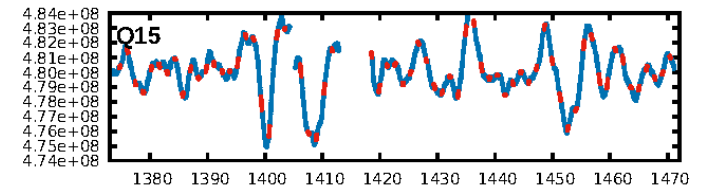
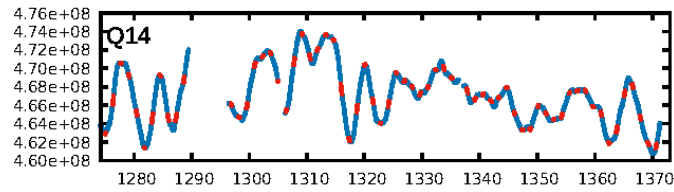
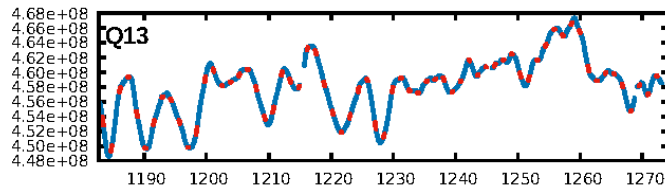
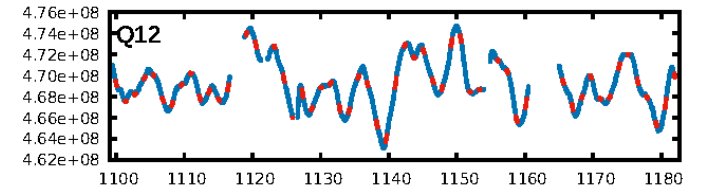
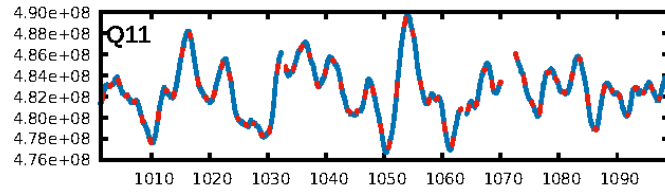
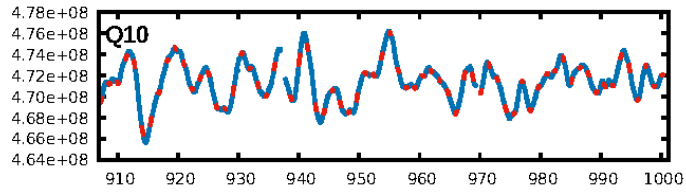
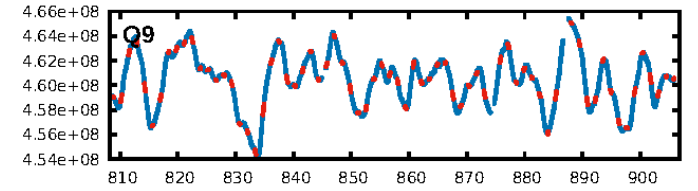
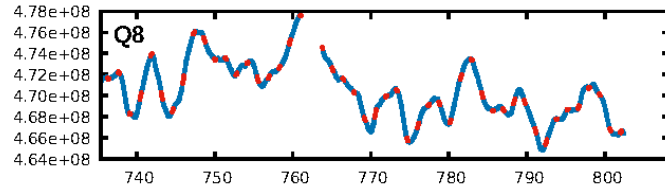
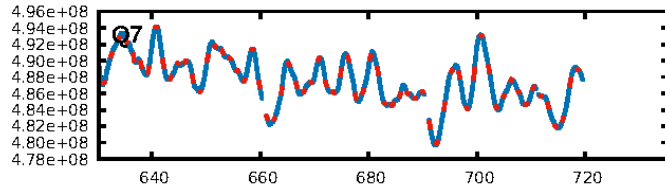
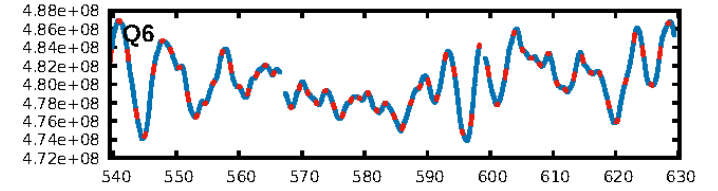
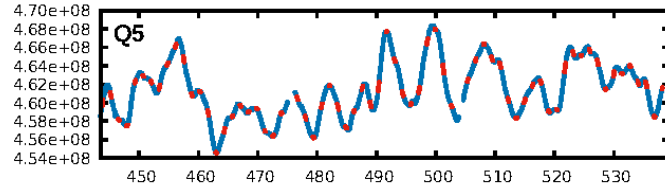
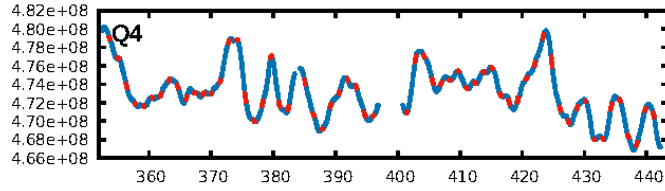
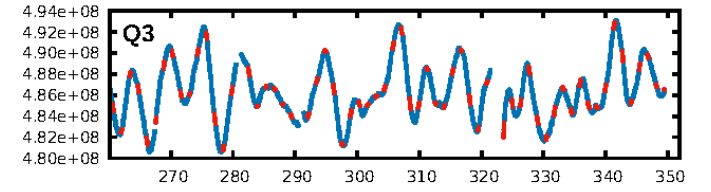
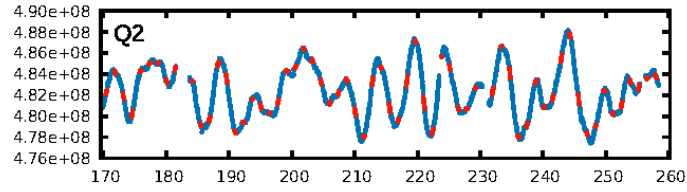
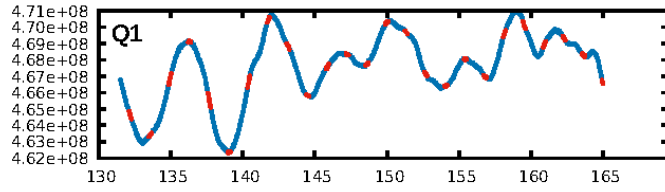
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [2037.90σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.20e-89
RollingBand-fgt: 1.00 [939/939]
GhostDiagnostic-chr: -0.05436
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 14.565 arcsec [205.71σ]
KicOffset-rm: 14.543 arcsec [208.86σ]
OotOffset-st: 0/1/1/2 [4]
KicOffset-st: 0/1/1/2 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [17/17]

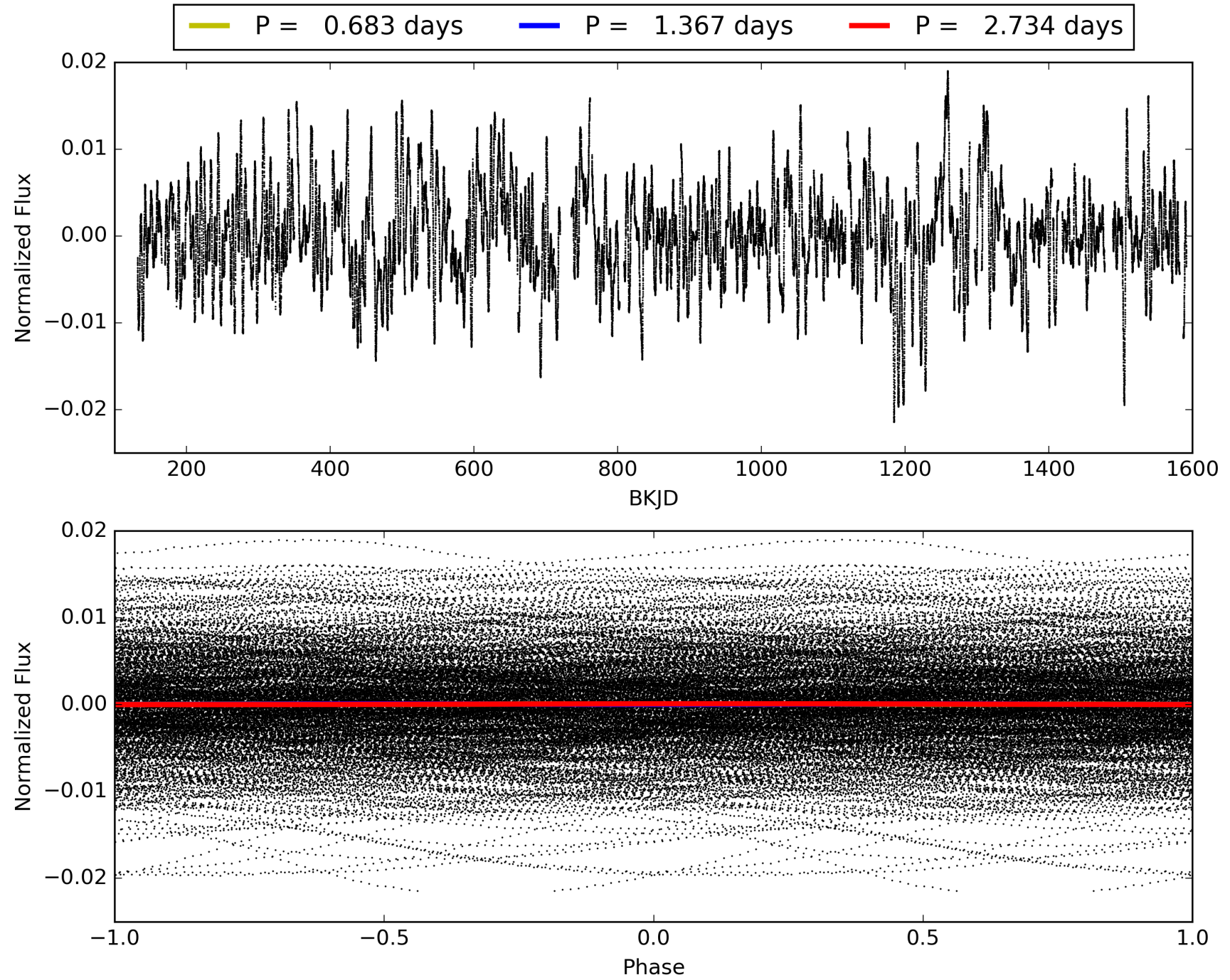
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007293937-01, PDC Light Curves

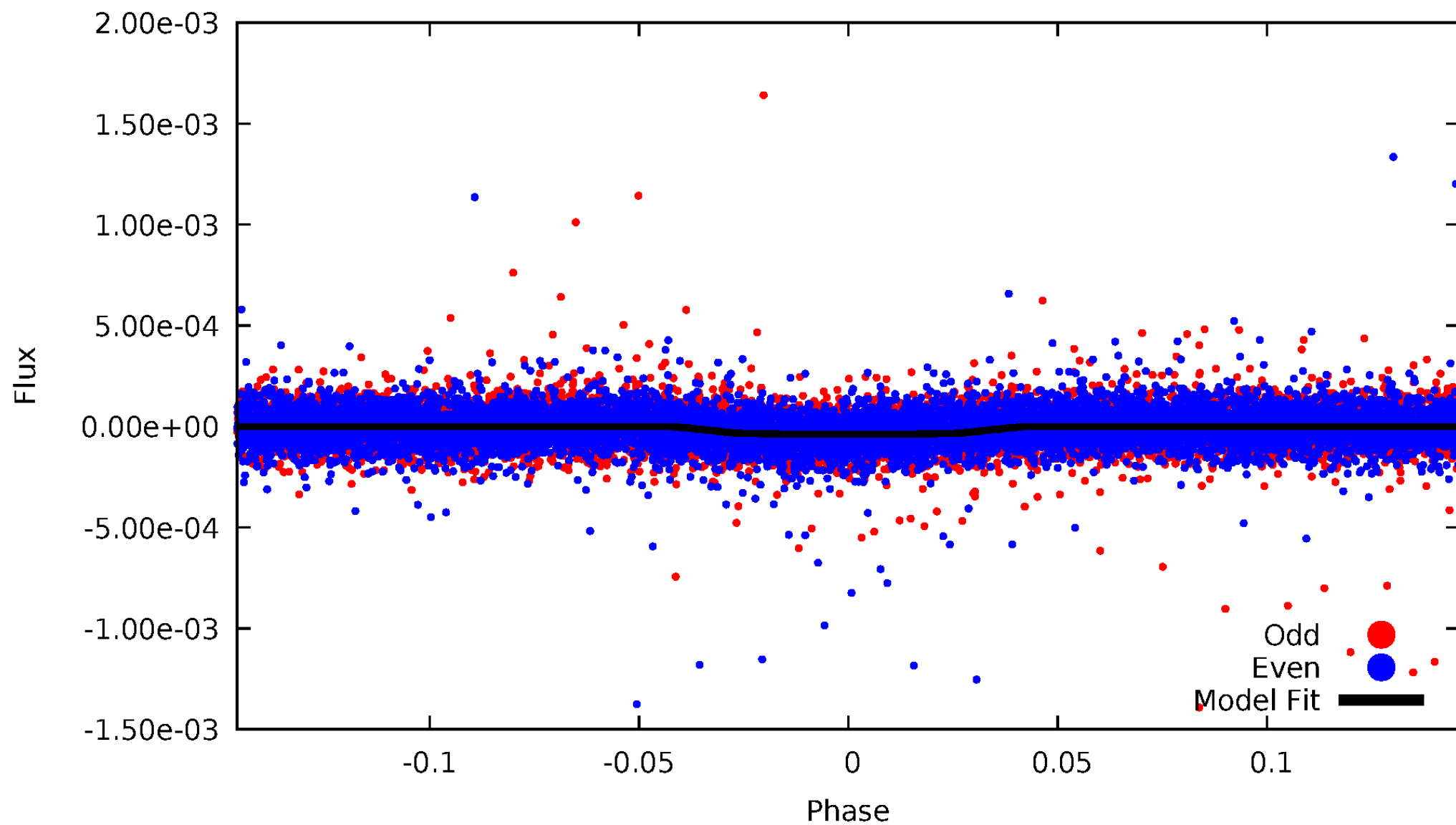


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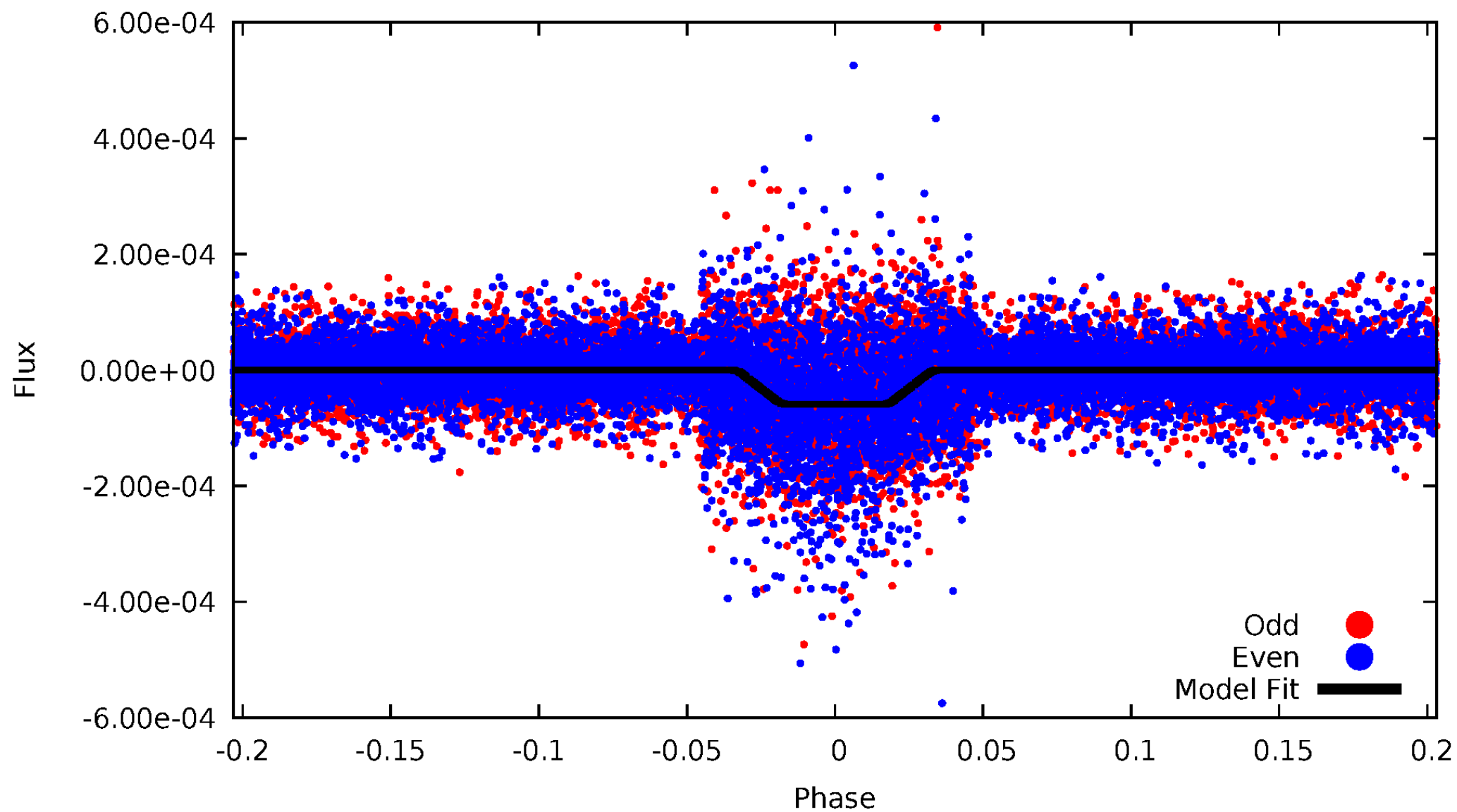
DV Odd/Even

TCE 007293937-01

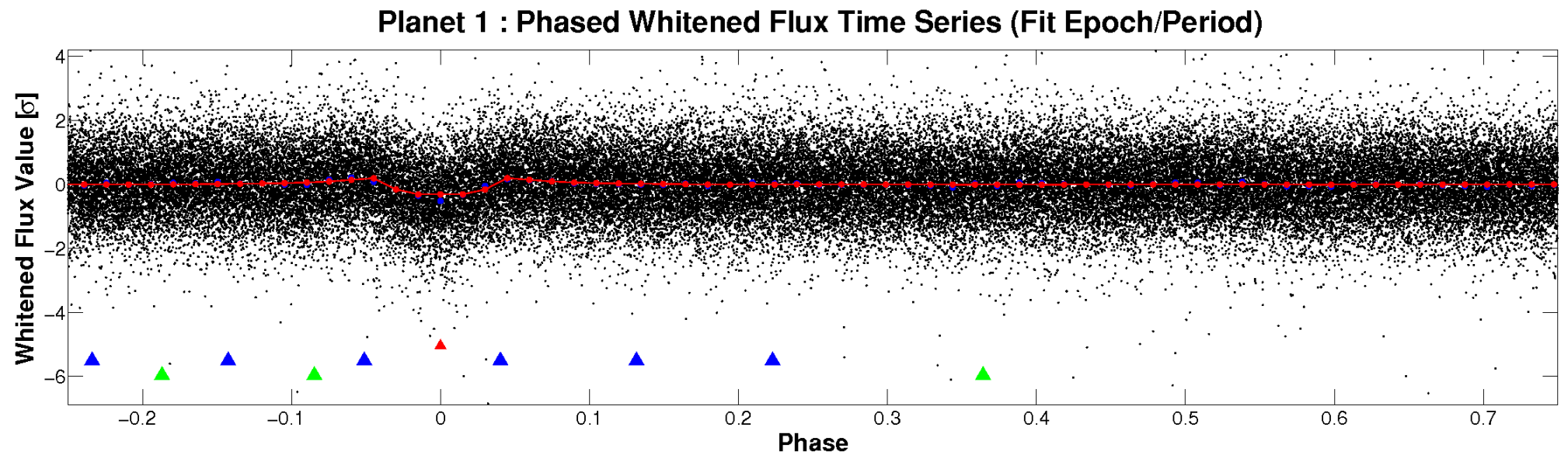
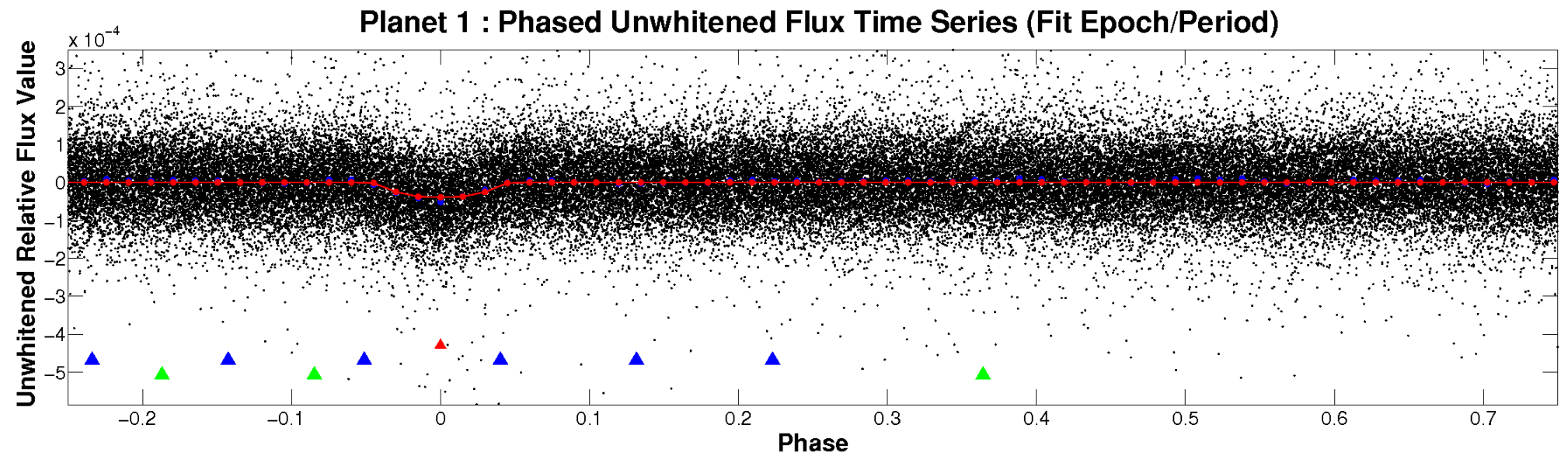


ALT Odd/Even

TCE 007293937-01

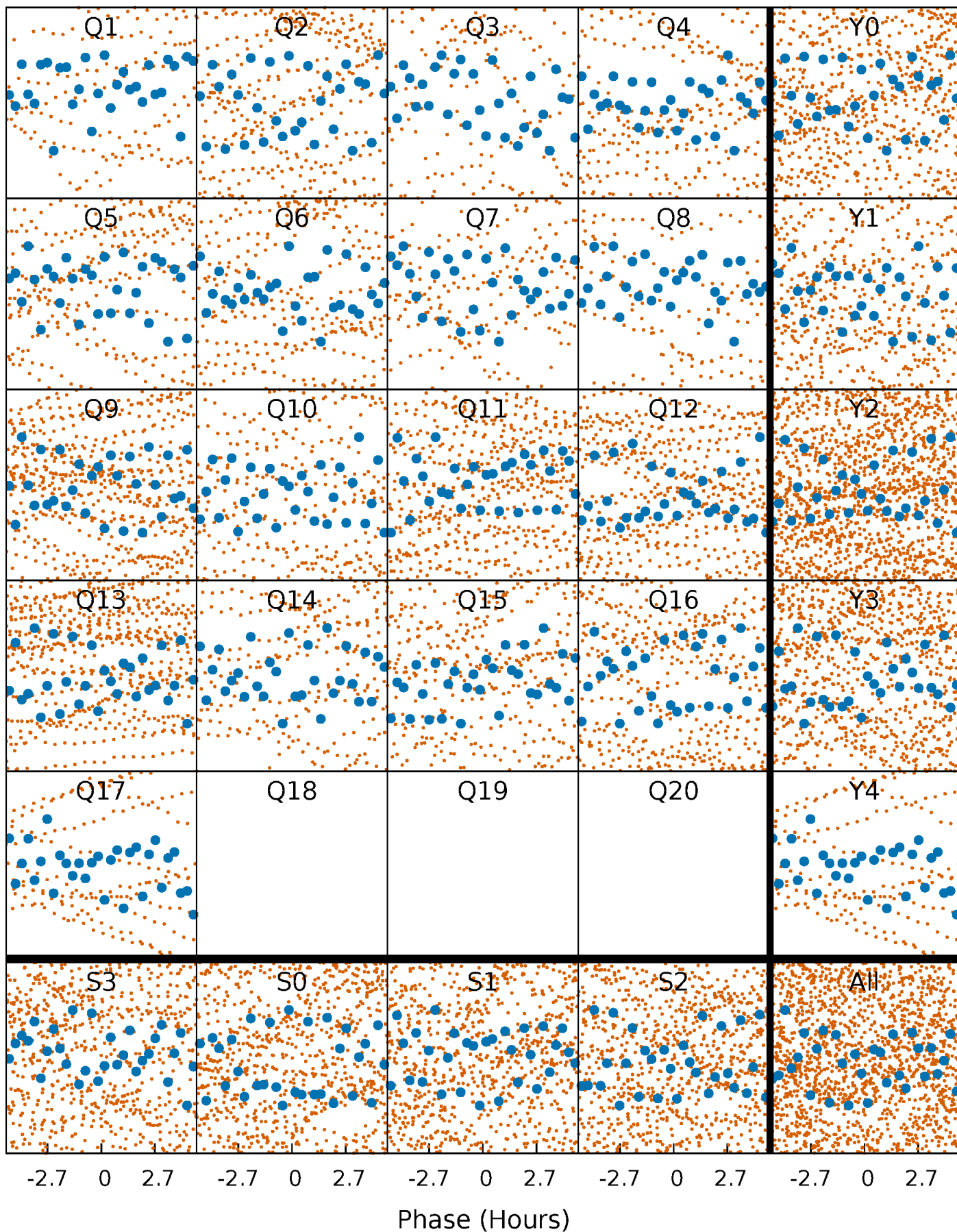


Non-Whitened Vs. Whitened Light Curve



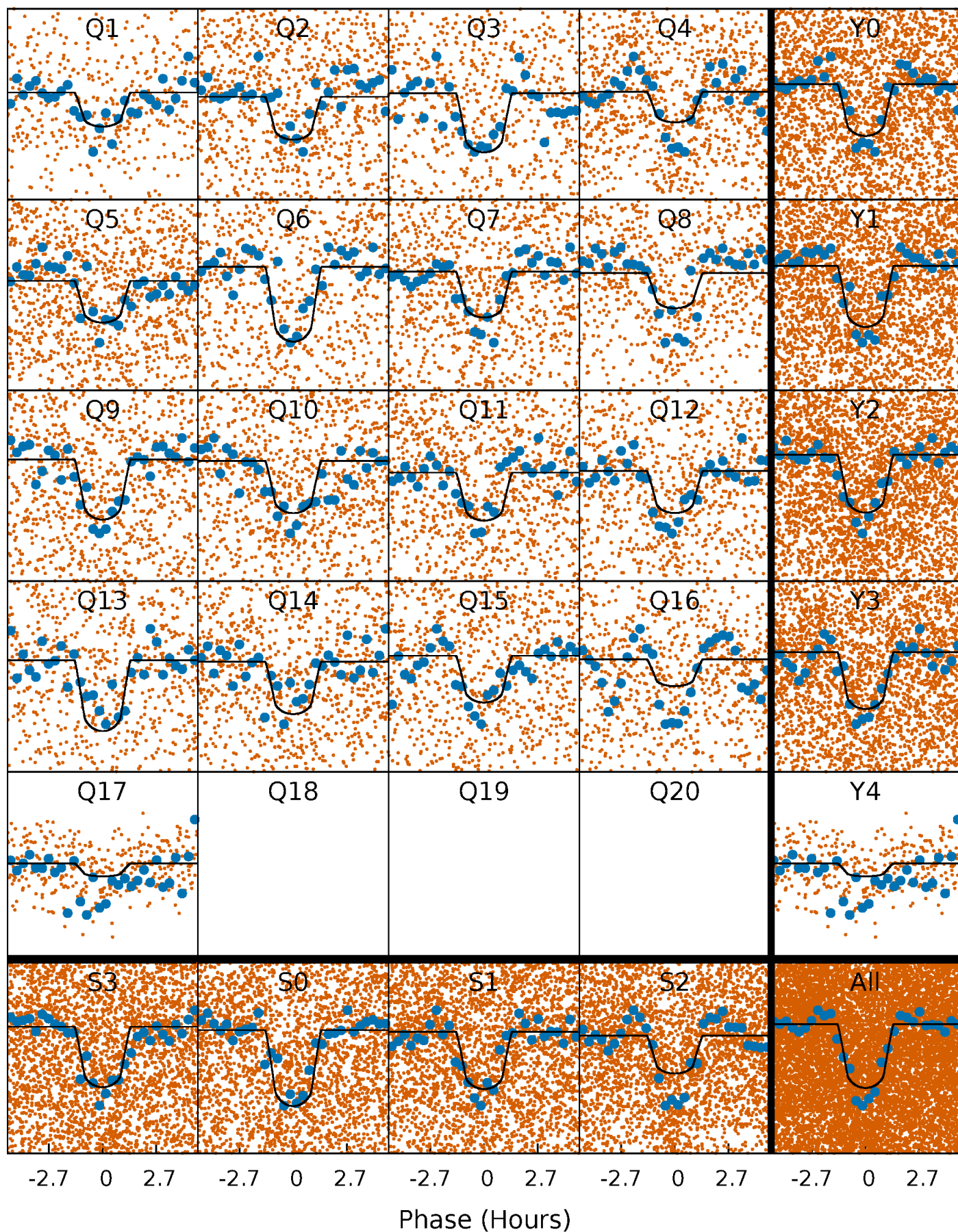
PDC Quarter-Phased Transit Curves

TCE 007293937-01 P= 1.366968 Days $T_0=132.200864$ (BKJD)



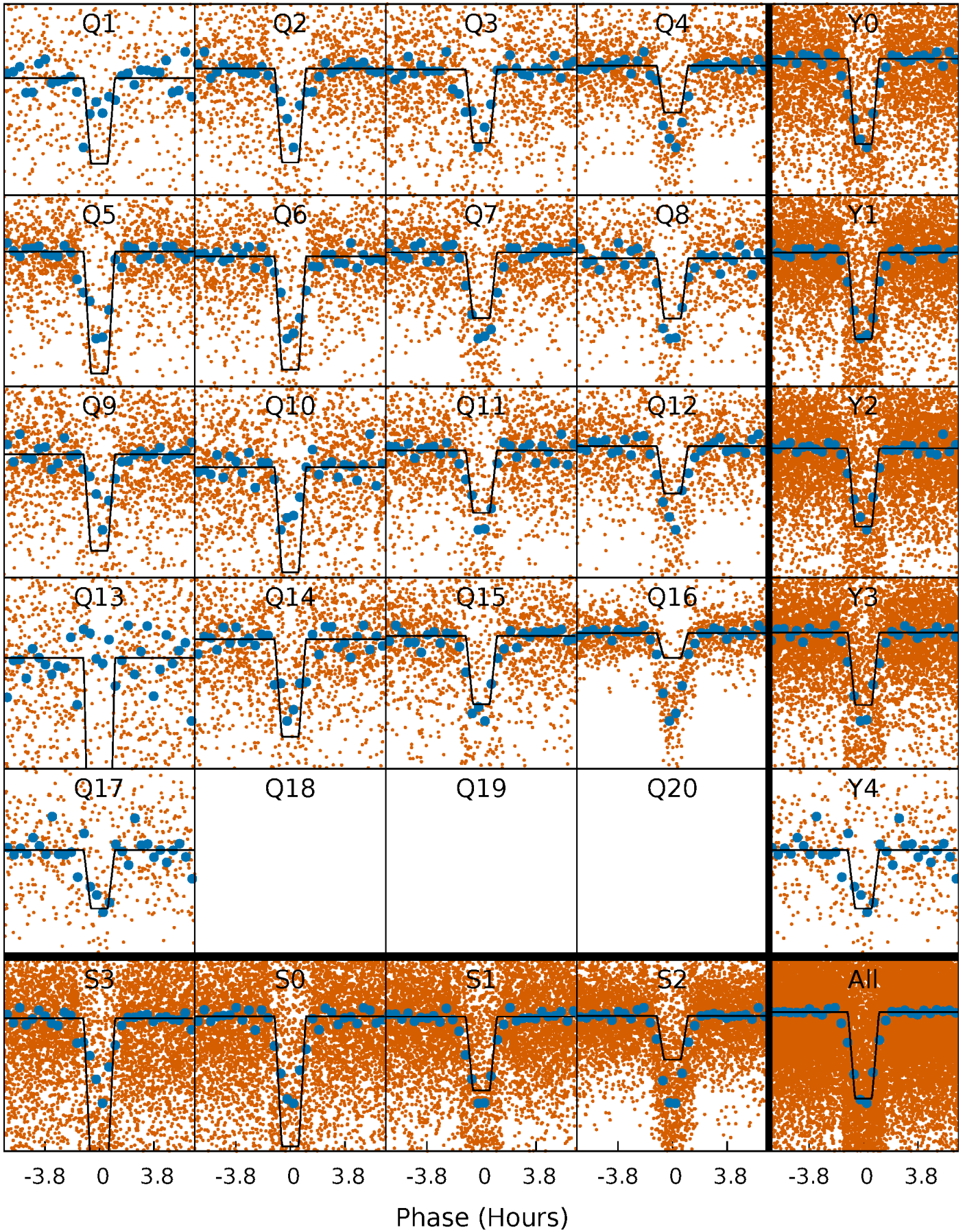
DV Quarter-Phased Transit Curves

TCE 007293937-01 P= 1.366968 Days $T_0=132.200864$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

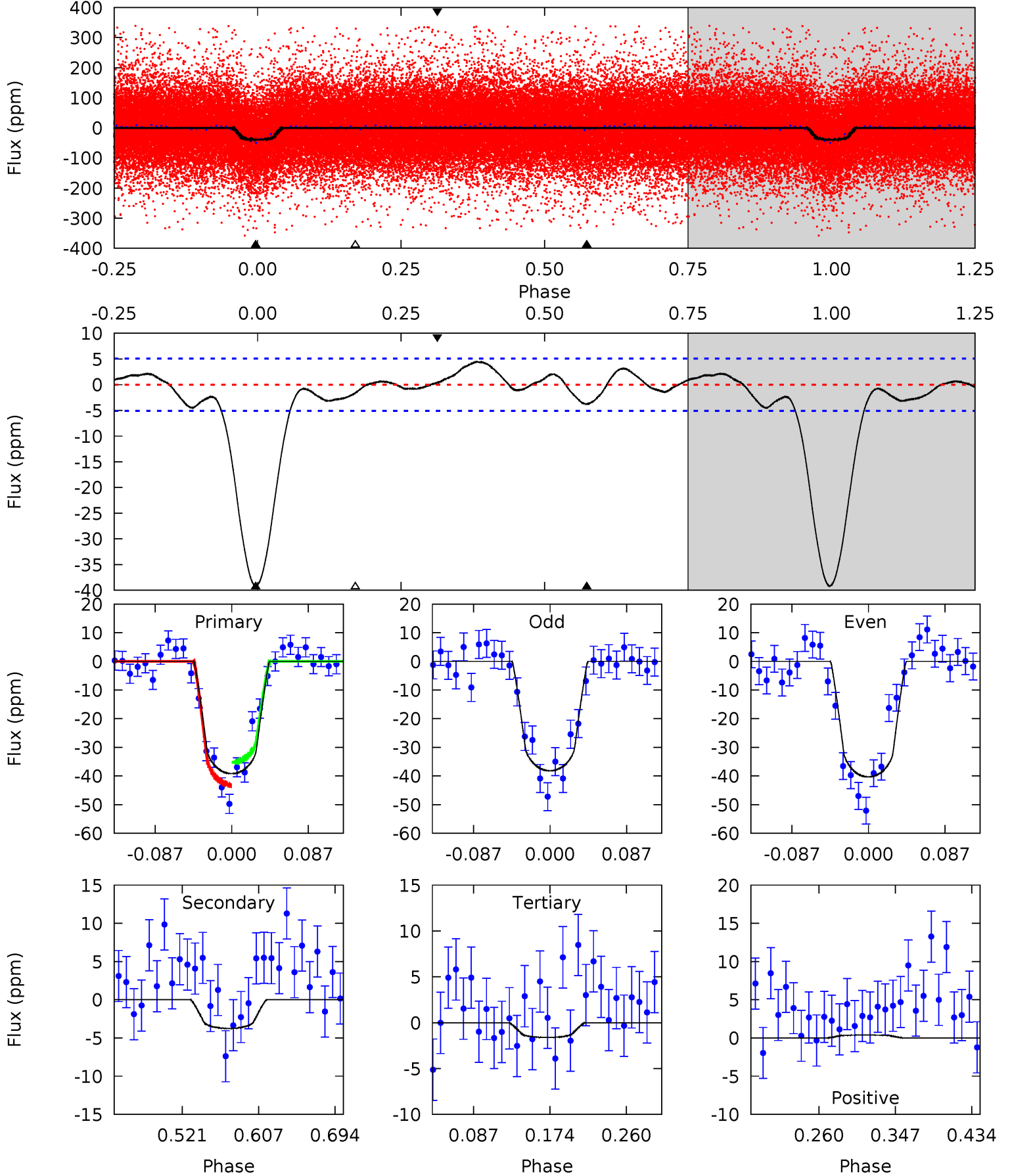
TCE 007293937-01 P= 1.366946 Days $T_0=132.205980$ (BKJD)



DV Model-Shift Uniqueness Test

007293937-01, P = 1.366968 Days, E = 130.833896 Days

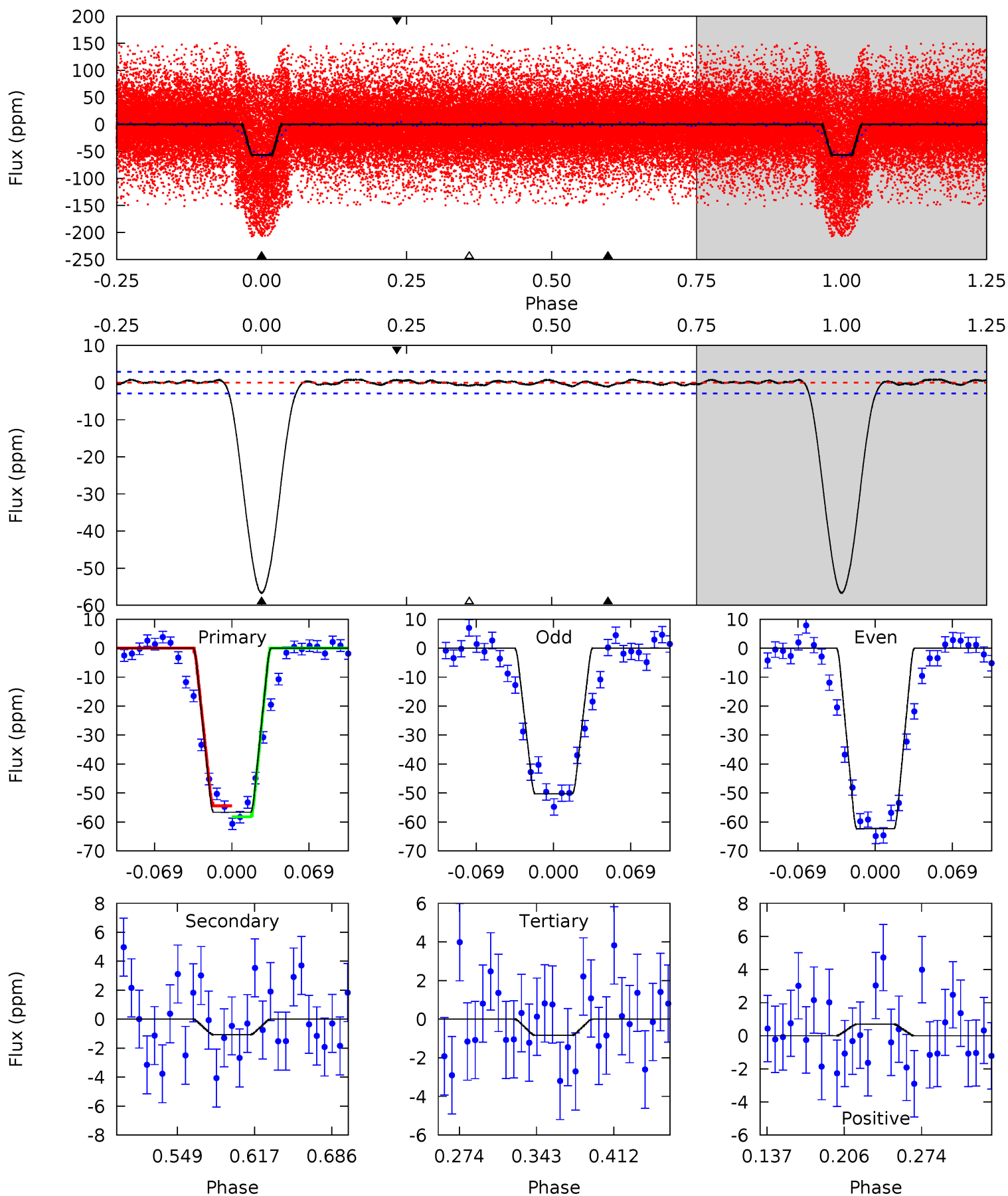
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.4	3.40	1.46	0.34	4.59	1.71	1.81	33.9	35.1	1.94	3.05	0.96	1.02	0.10	3.57



Alt Model-Shift Uniqueness Test

007293937-01, P = 1.366946 Days, E = 130.839034 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
90.1	1.69	1.32	1.10	4.64	1.82	0.68	88.7	88.9	0.37	0.59	9.55	1.08	0.01	3.00



Stellar Parameters For KIC 007293937

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

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

Secondary Eclipse Parameters for KIC 007293937-01 / KOI 3211.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 1	$0.74^{+0.12}_{-0.11}$	2296^{+104}_{-106}	3455^{+268}_{-301}	$2.135^{+1.038}_{-0.797}$
Alt.	-1 ± 1	$0.84^{+0.12}_{-0.12}$	2298^{+109}_{-100}	2473^{+392}_{-4871}	$0.464^{+0.346}_{-0.284}$

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 $A_{obs} \gg 1.0$

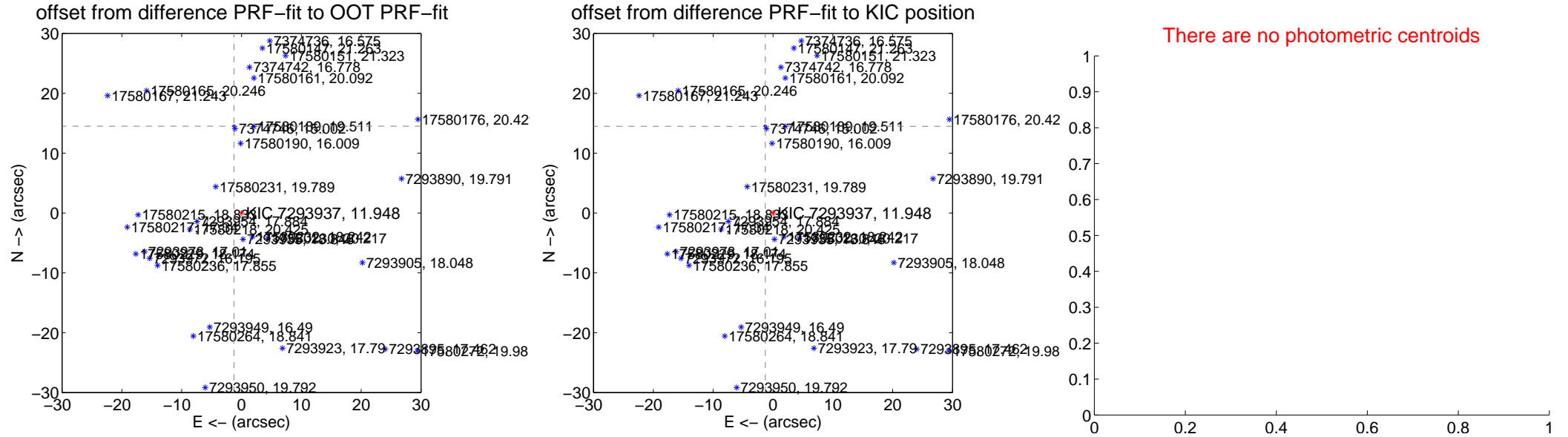
DV Centroid Data

Supplemental centroid analysis for 007293937-01. **Kepler magnitude: 11.95.** Transit SNR 22.65

There are 4 quarters with good PRF difference image offsets

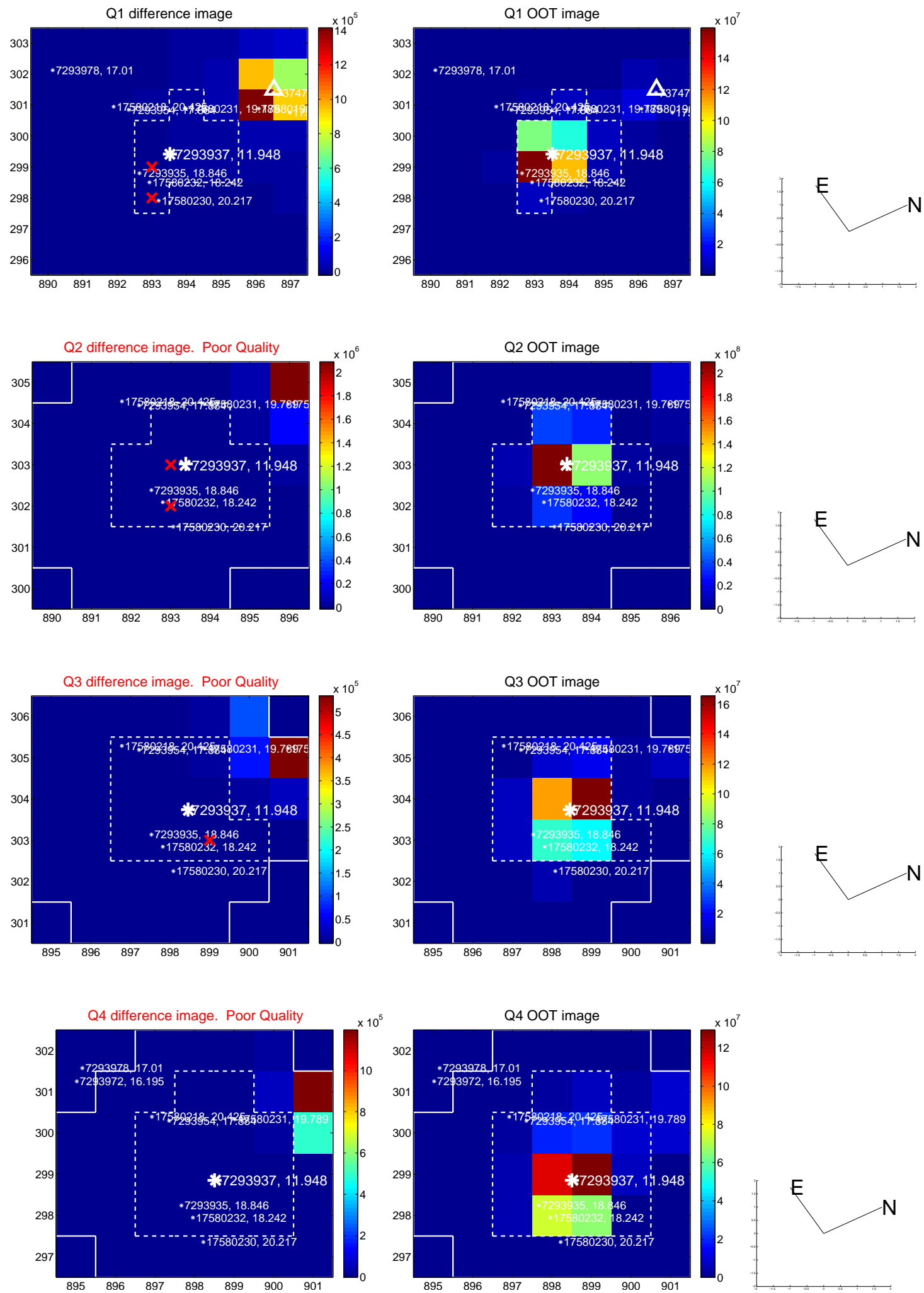
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	14.565 \pm 0.071	205.71	1.264 \pm 0.069	14.510 \pm 0.071
PRF-fit source offset from KIC position	14.543 \pm 0.070	208.86	1.292 \pm 0.067	14.486 \pm 0.070
photometric centroid source offset	—	—	—	—

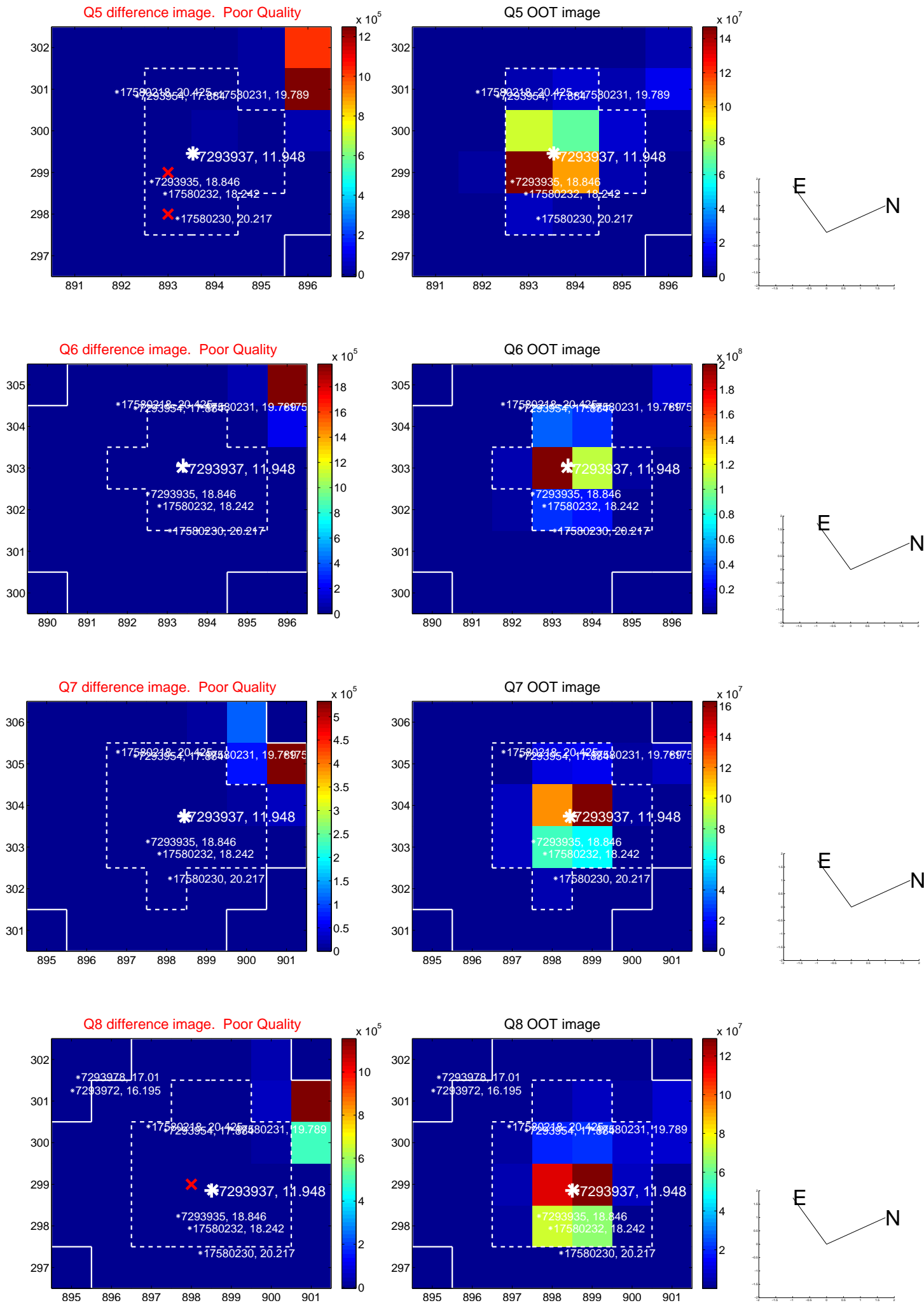


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

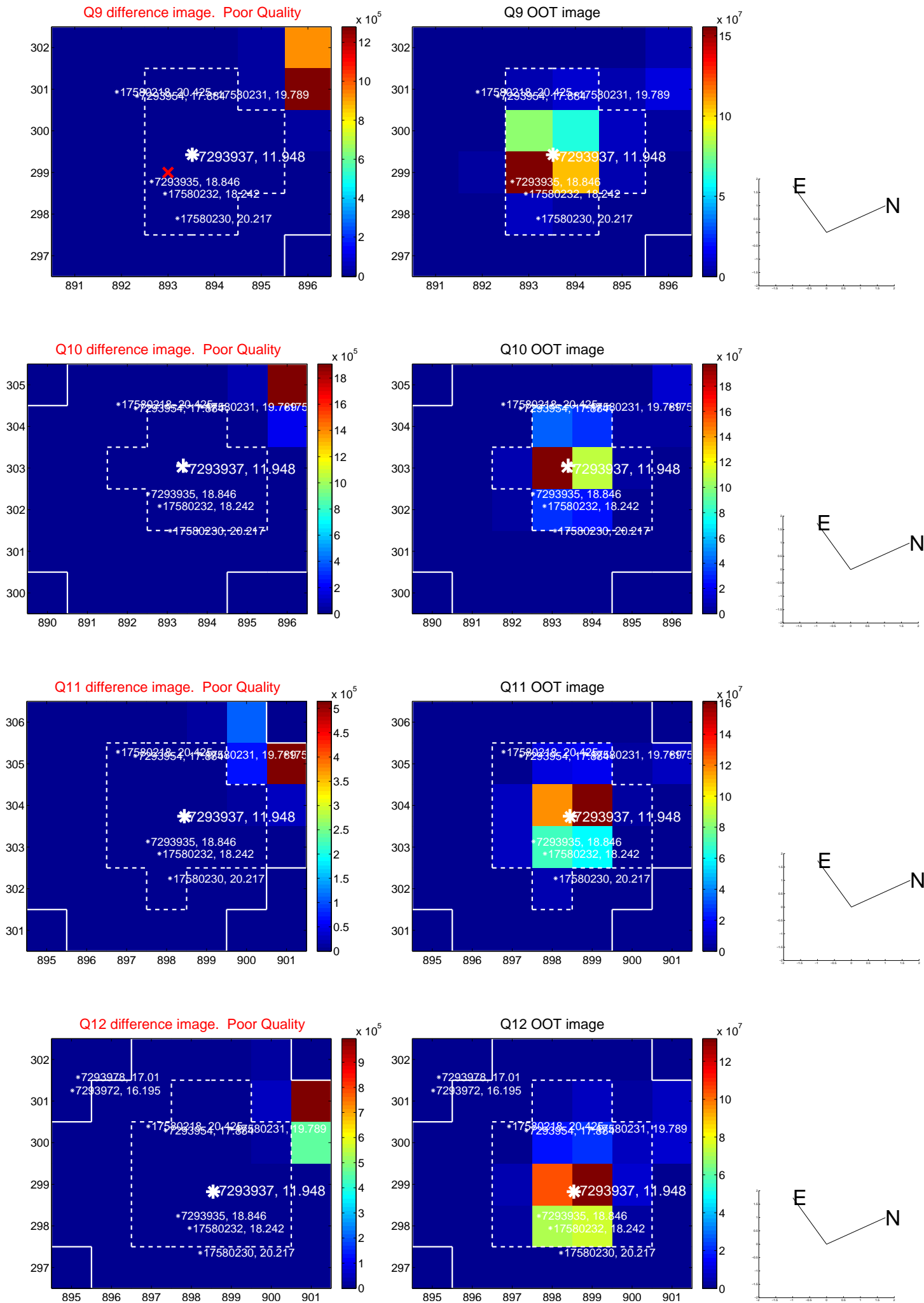
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



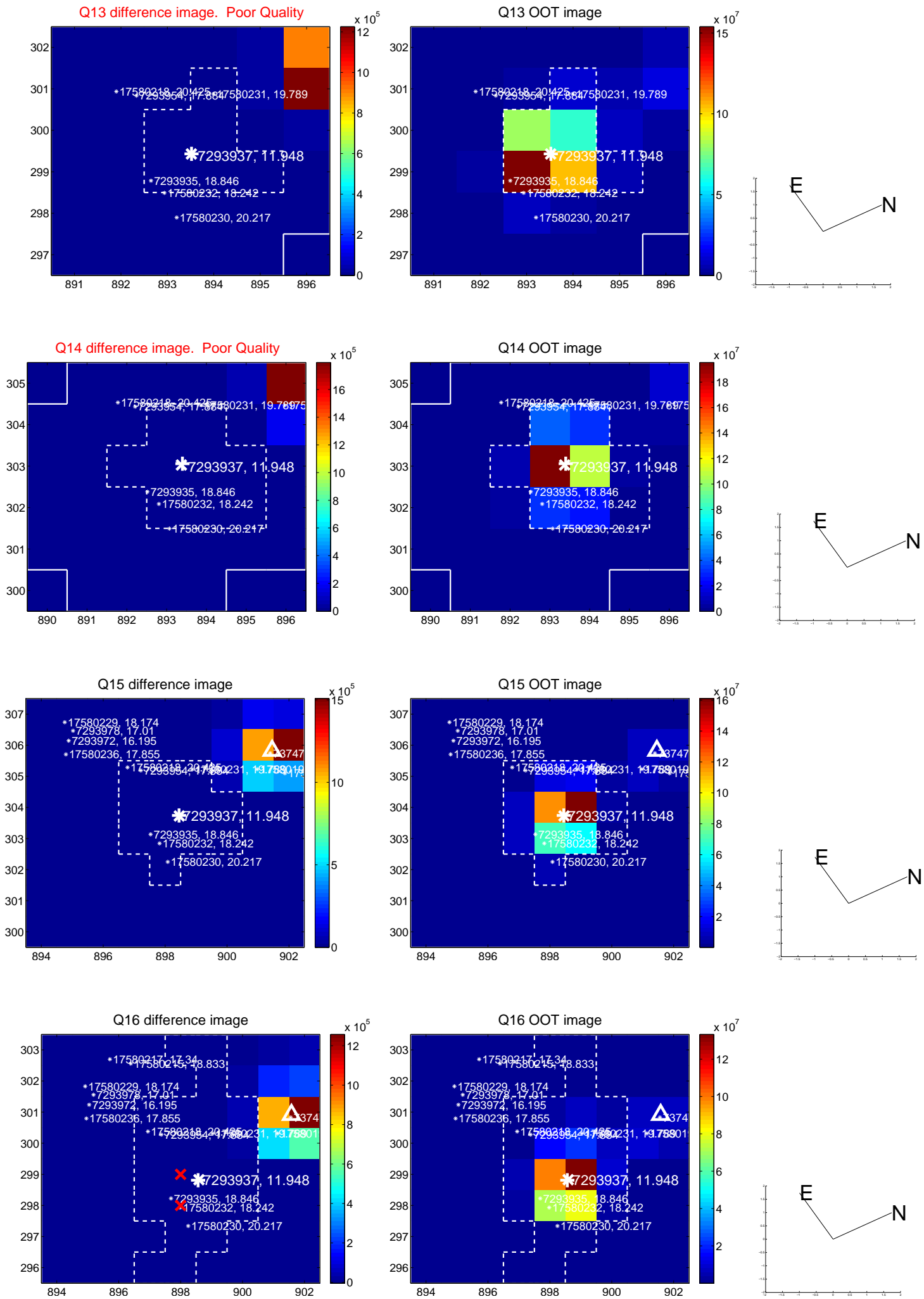
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



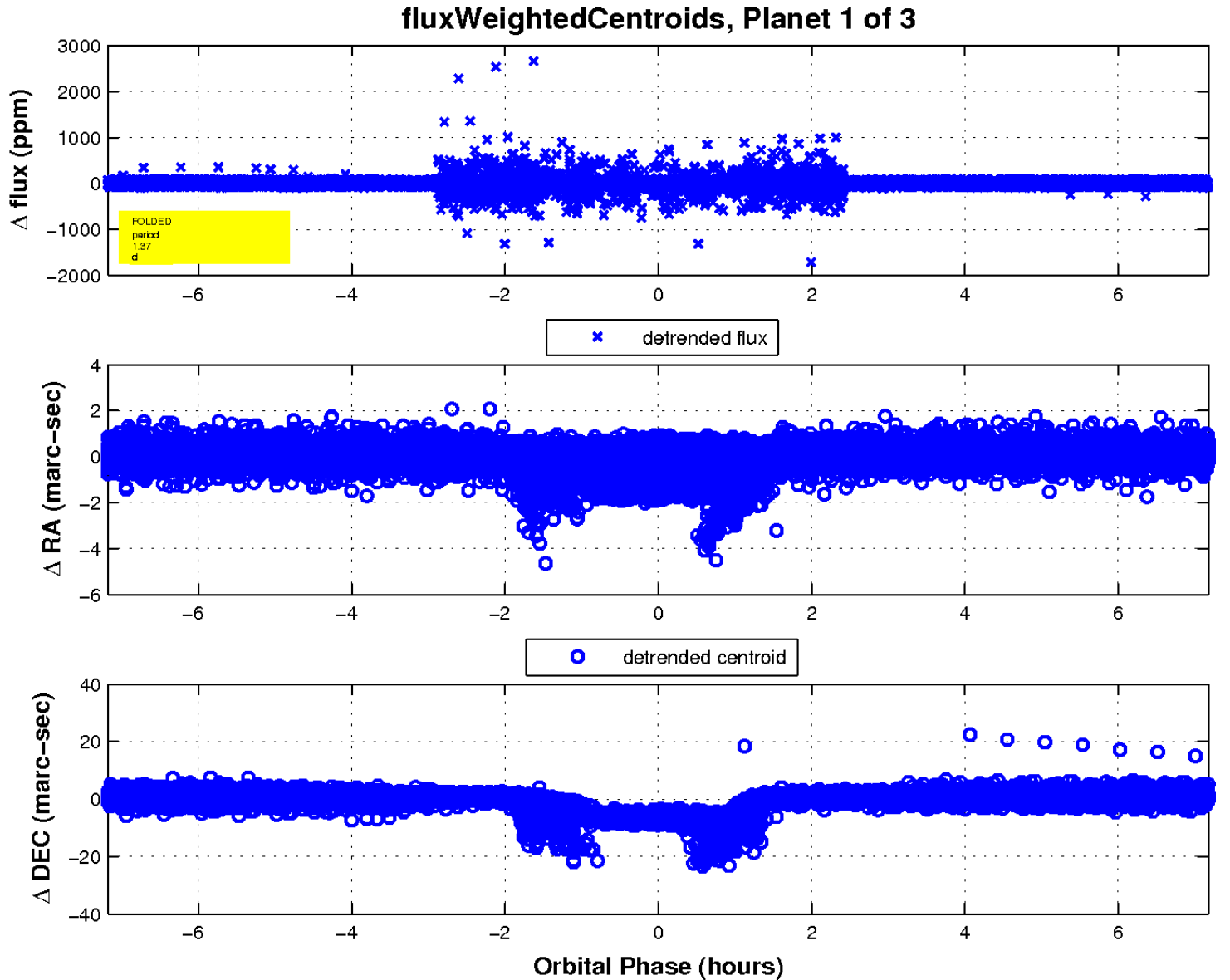
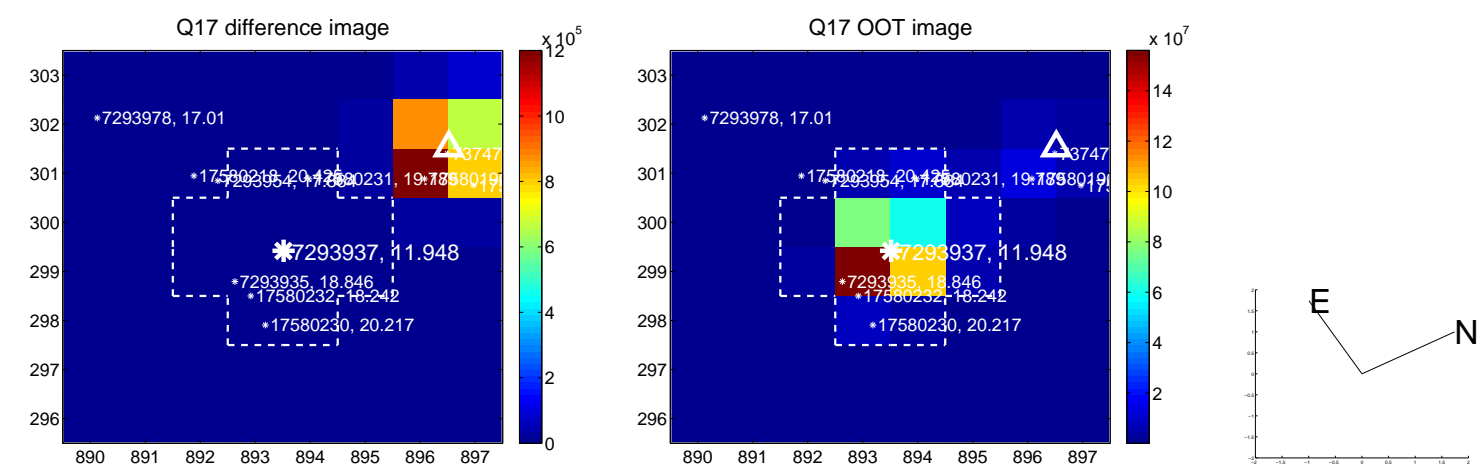
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

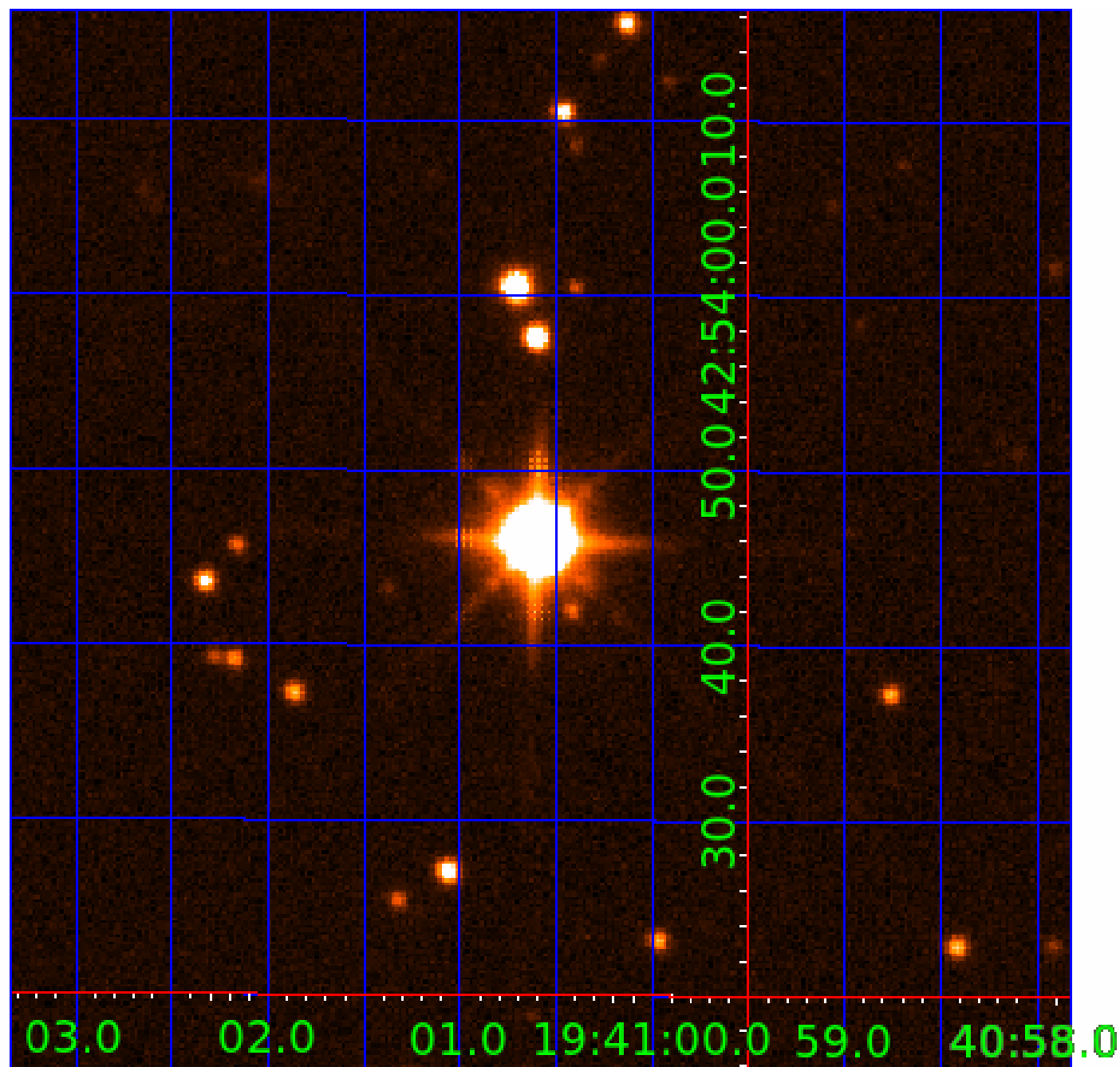


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007293937

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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007293937-03	OBS	No	498.189864	367.203561	350.1	4.049	11.1	7.4	1.00	5780	2.27	0.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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007293937-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007293937-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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.

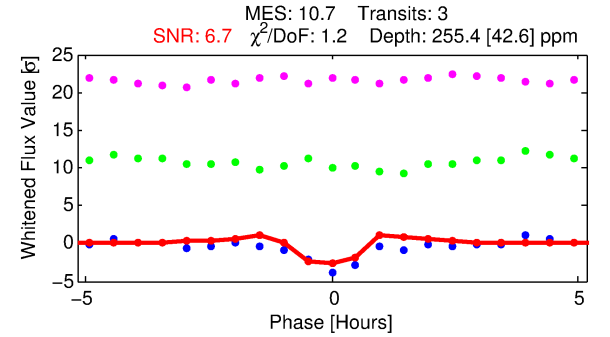
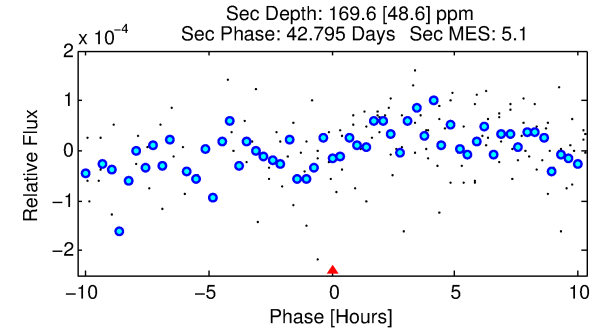
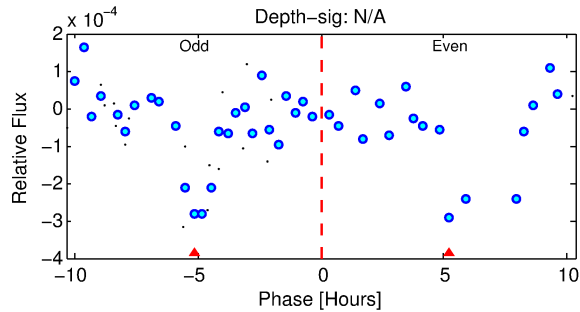
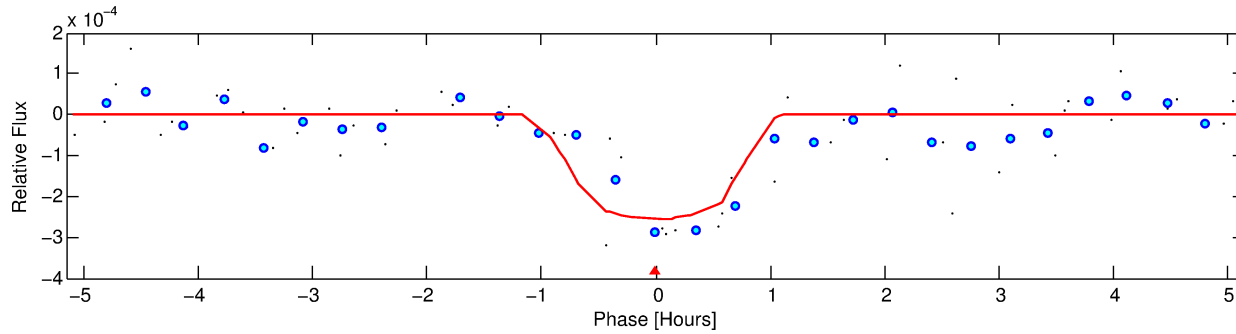
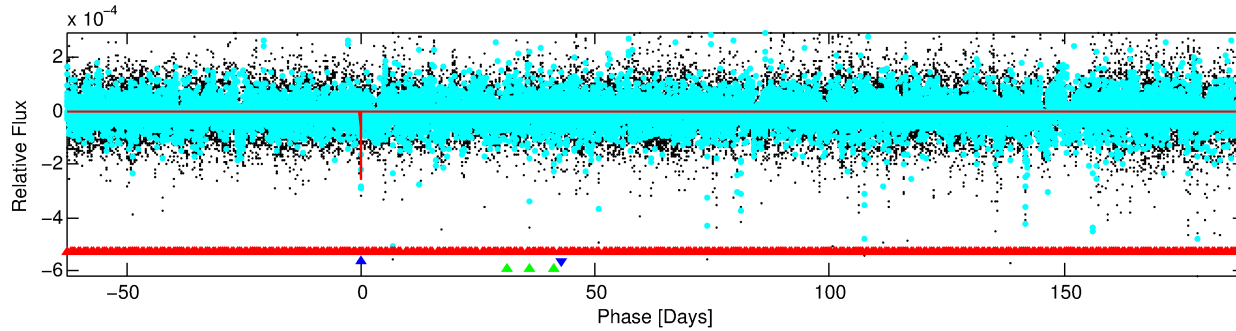
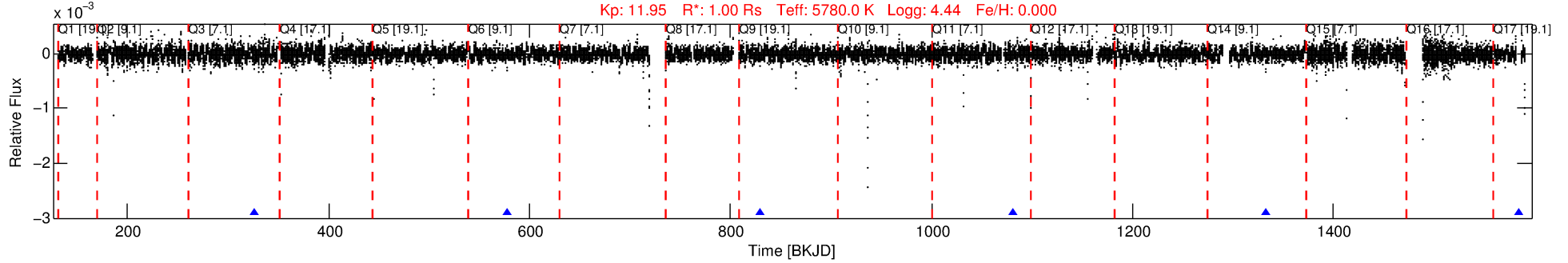
Ephemeris Match Information For 007293937-02

No Significant Match Found

DV One-Page Summary

KIC: 7293937 Candidate: 2 of 3 Period: 251.647 d
KOI: K03211 Corr: No Ephemeris Match

Kp: 11.95 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



DV Fit Results:

Period = 251.64693 [0.00277] d
Epoch = 325.9906 [0.0055] BKJD
Rp/R* = 0.0161 [0.0327]
a/R* = 749.41 [6780.76]
b = 0.76 [5.00]
Seff = 1.64 [0.00]
Teq = 289 [0] K
Rp = 1.75 [3.56] Re
a = 0.7802 [0.0000] AU
Ag = 18515.03 [75540.01] [0.25σ]
Teff = 5206 [5310] K [0.93σ]

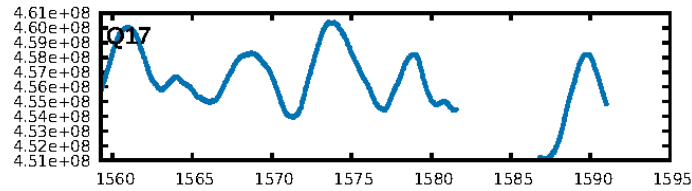
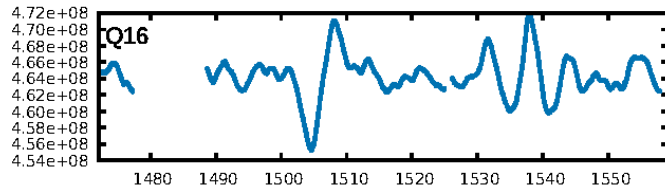
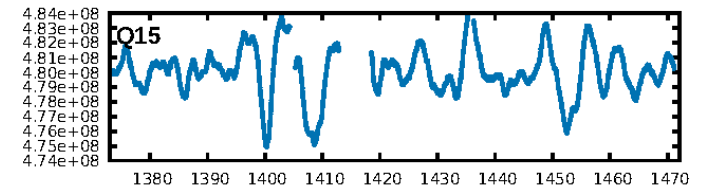
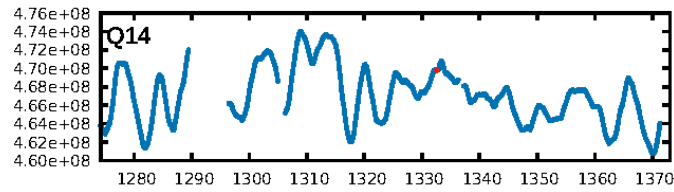
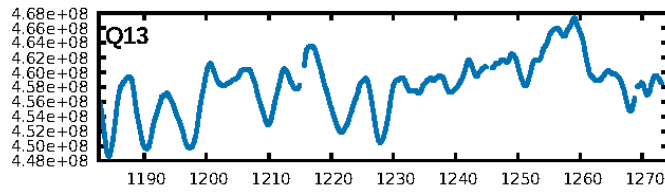
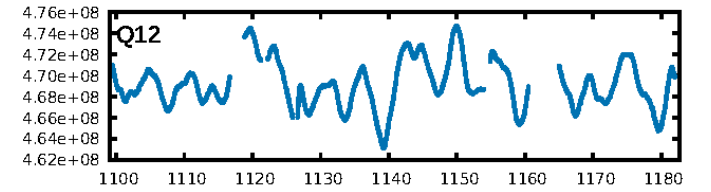
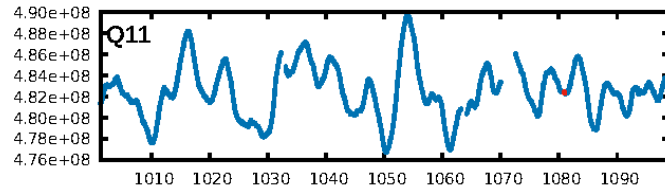
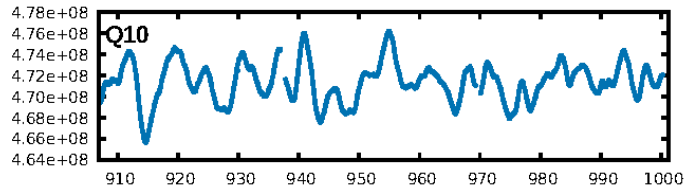
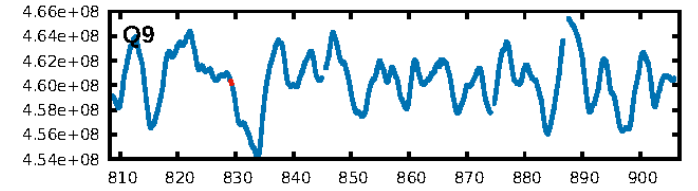
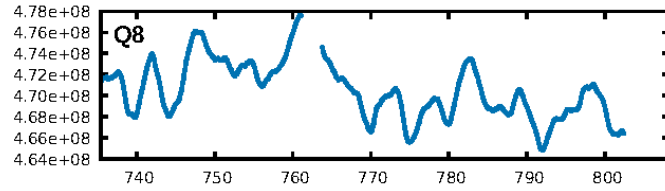
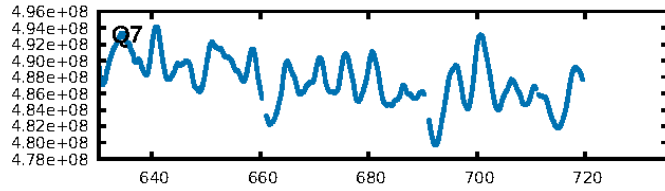
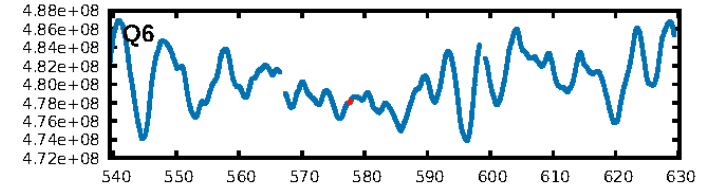
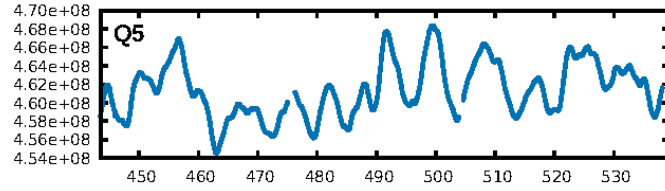
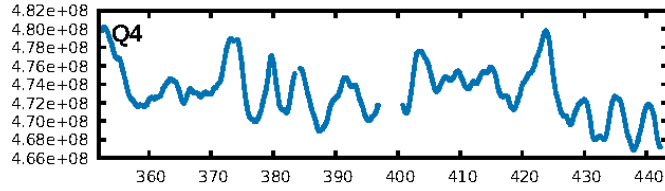
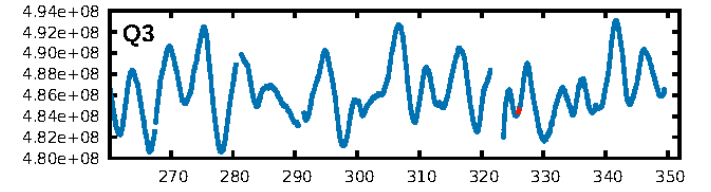
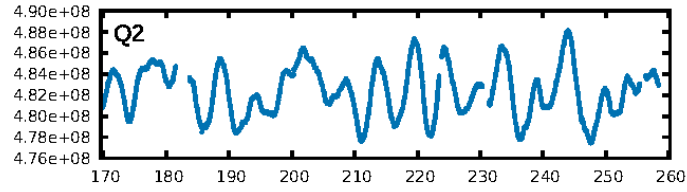
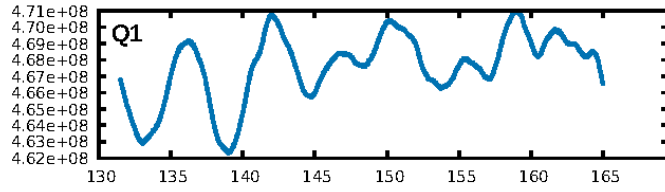
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [2037.90σ]
LongPeriod-sig: 100.0% [1345.01σ]
ModelChiSquare2-sig: 22.6%
ModelChiSquareGof-sig: 72.4%
Bootstrap-pfa: 2.28e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.4842
Centroid-sig: N/A
Centroid-so: 0.865 arcsec [1.04σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.20 [1/5]

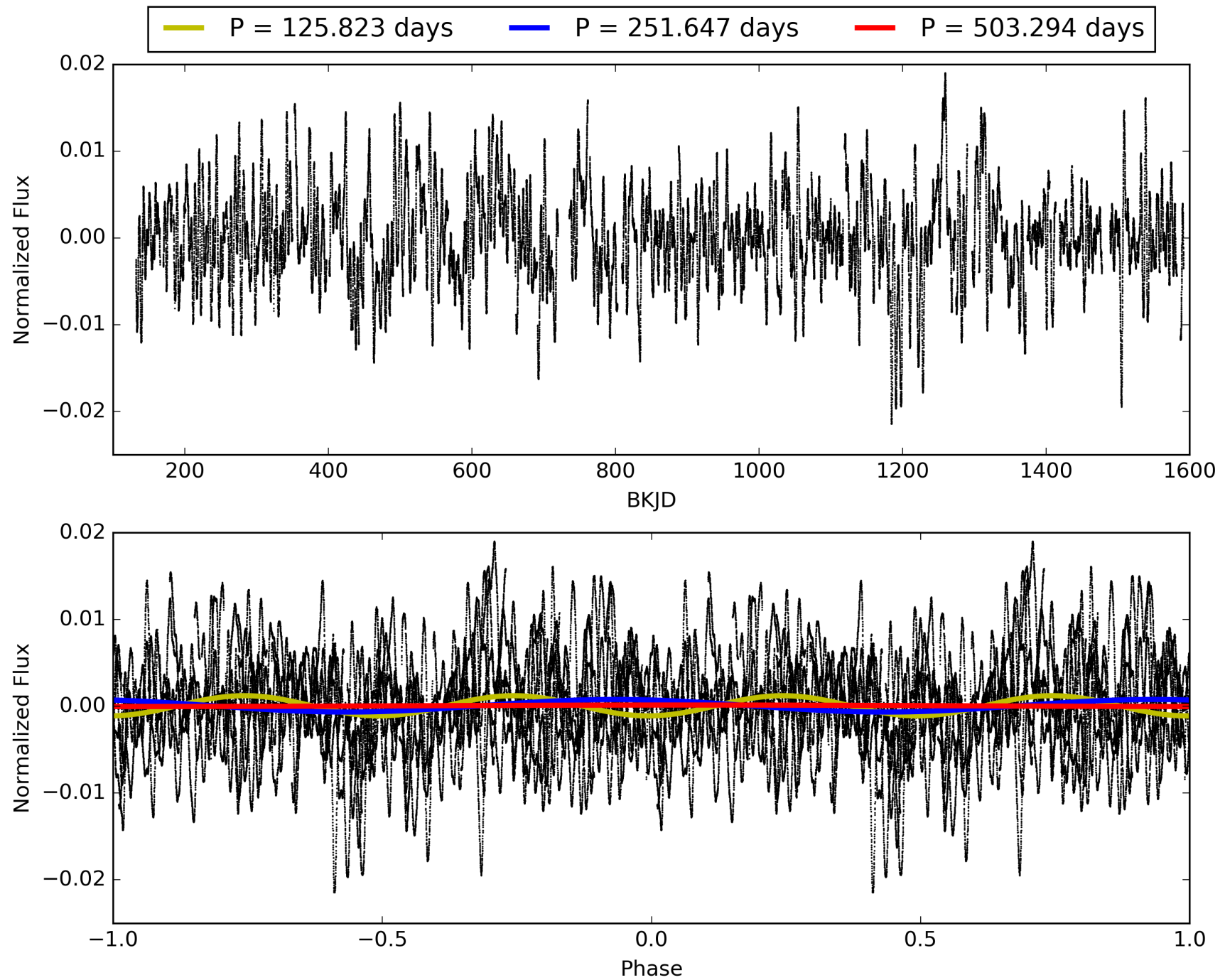
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:43:18 Z

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

TCE 007293937-02, PDC Light Curves

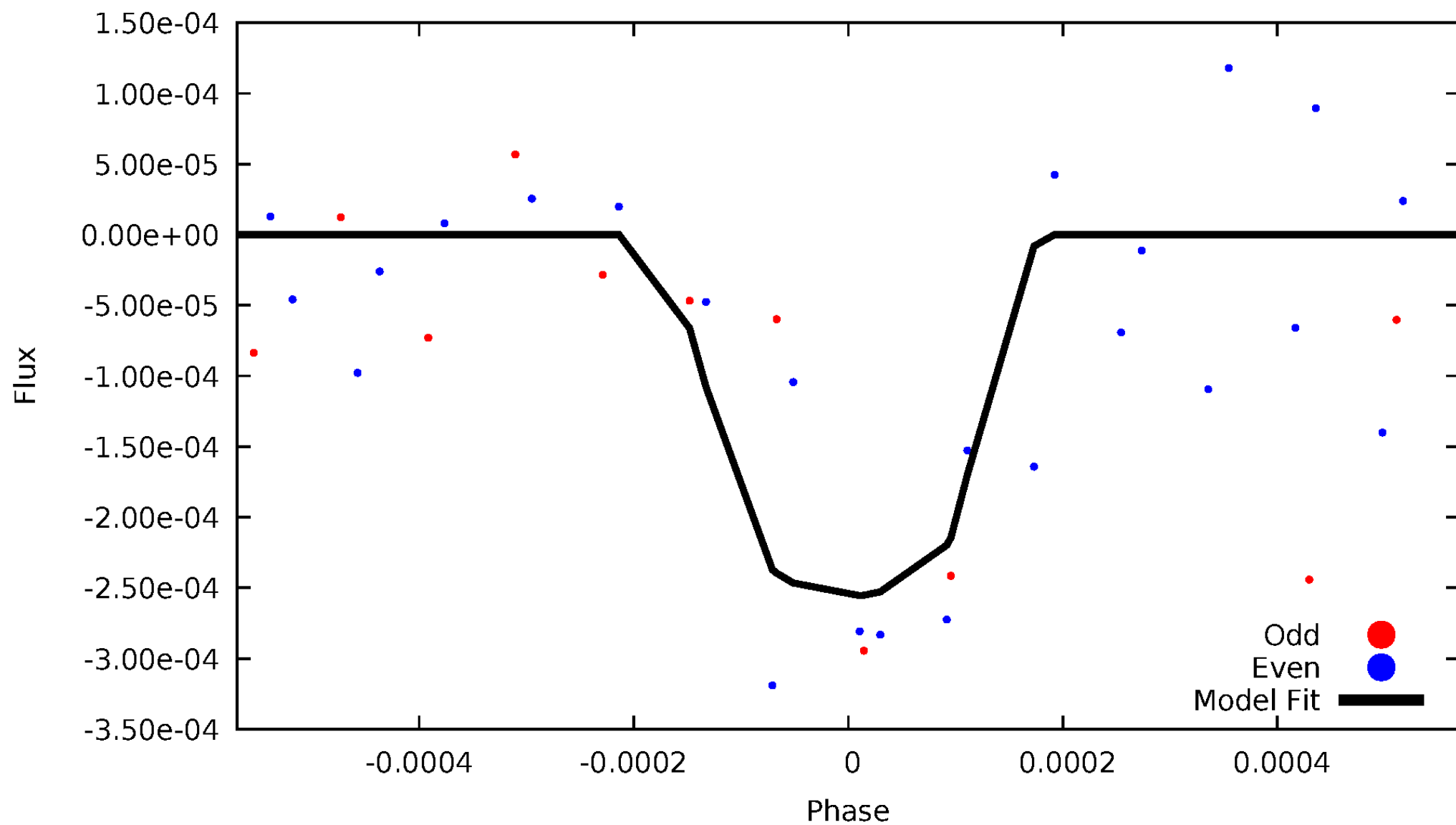


TCE 007293937-02



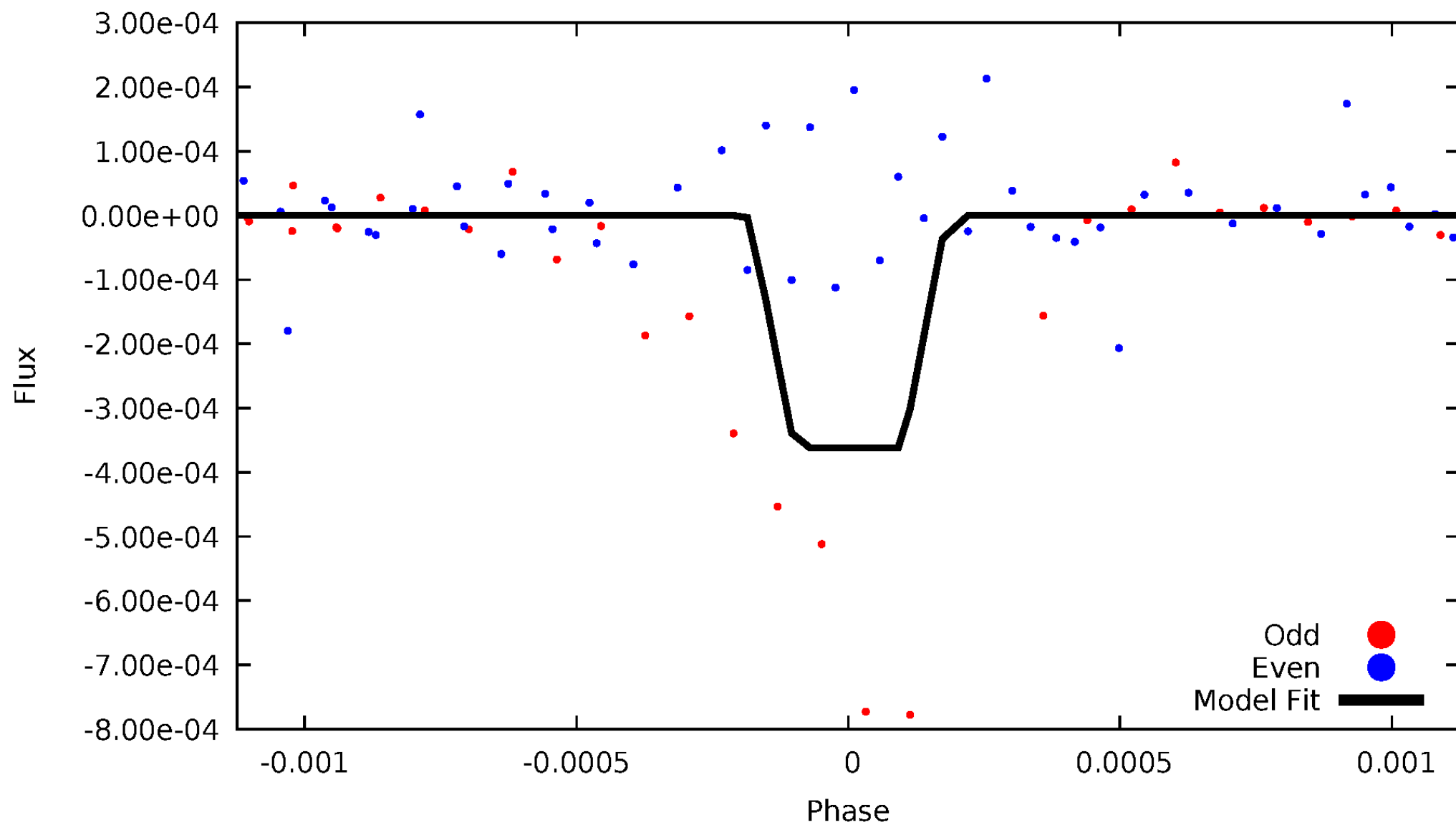
DV Odd/Even

TCE 007293937-02



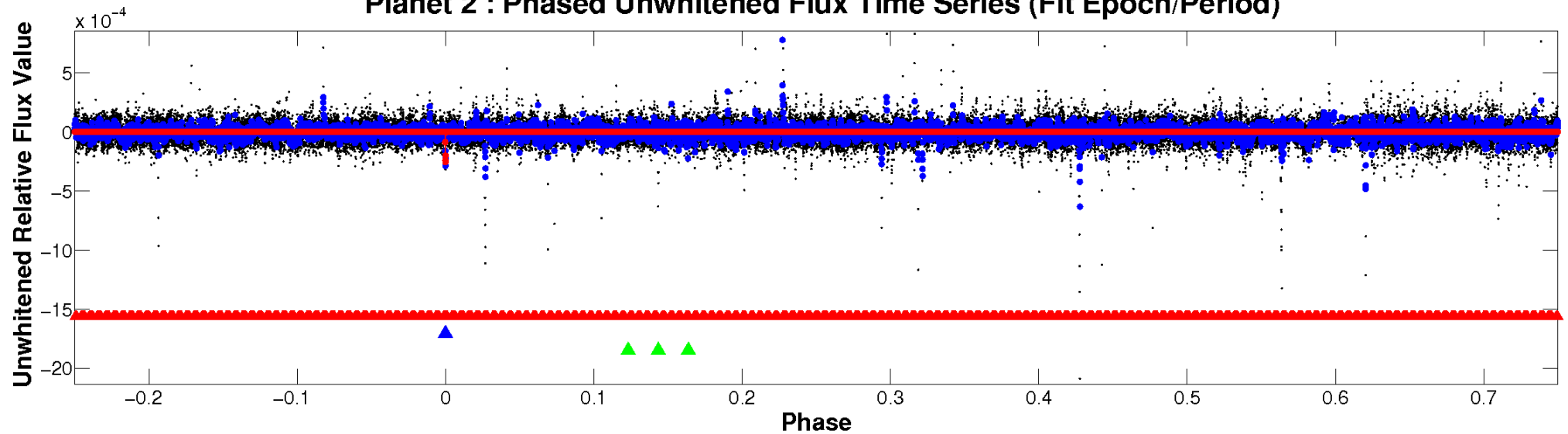
ALT Odd/Even

TCE 007293937-02

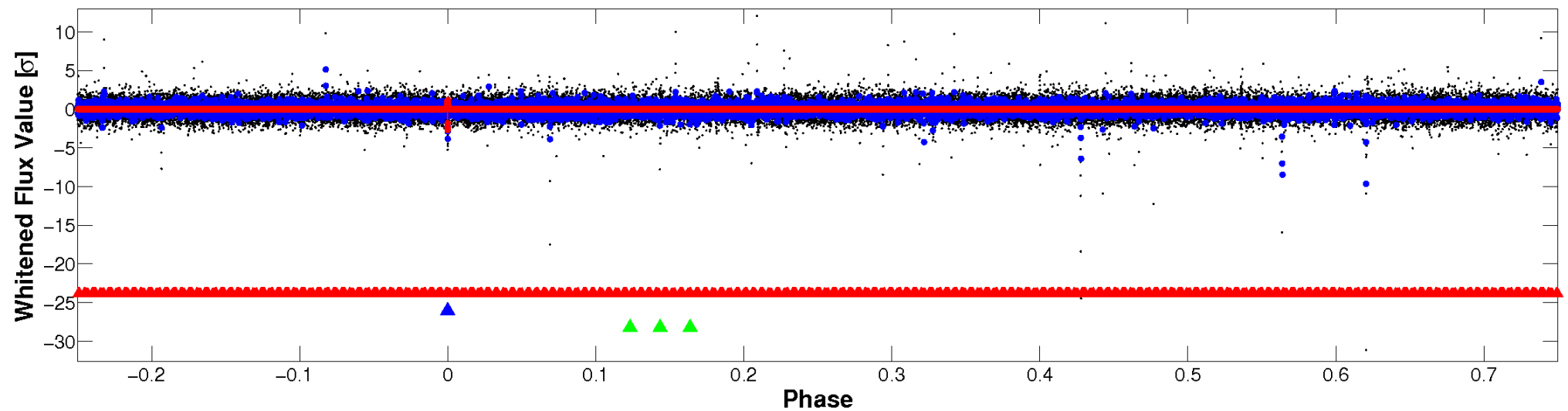


Non-Whitened Vs. Whitened Light Curve

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

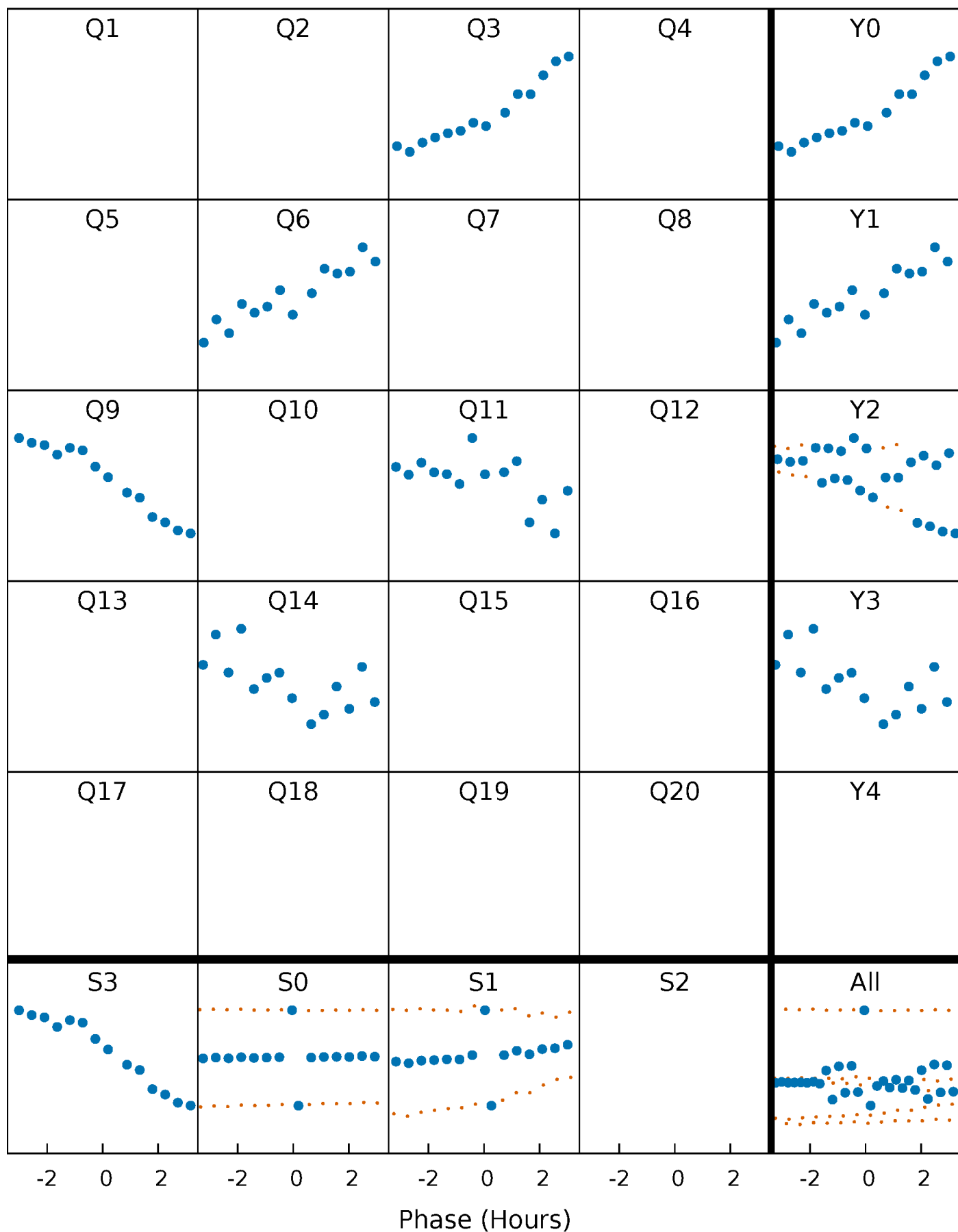


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



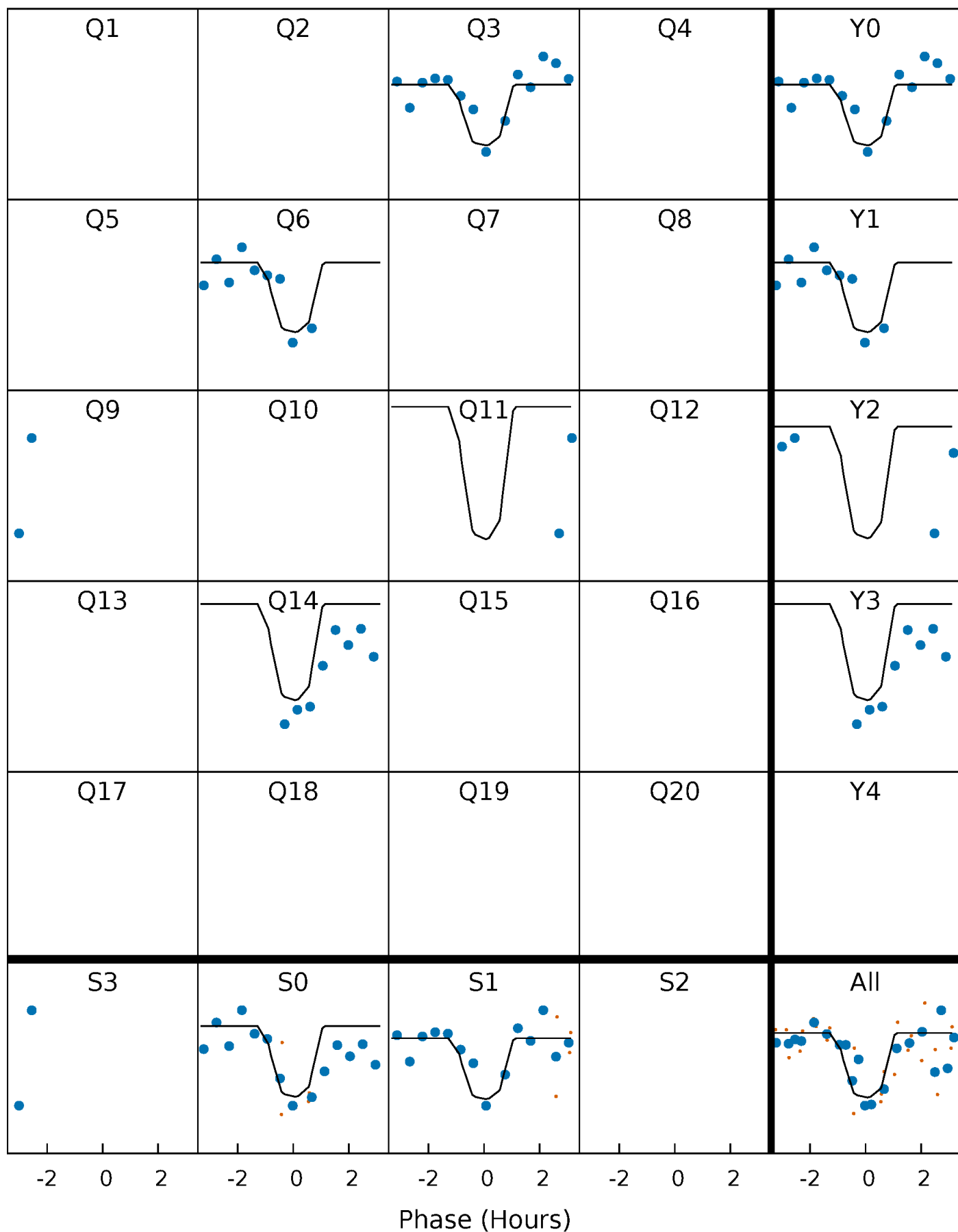
PDC Quarter-Phased Transit Curves

TCE 007293937-02 $P=251.646928$ Days $T_0=325.990631$ (BKJD)



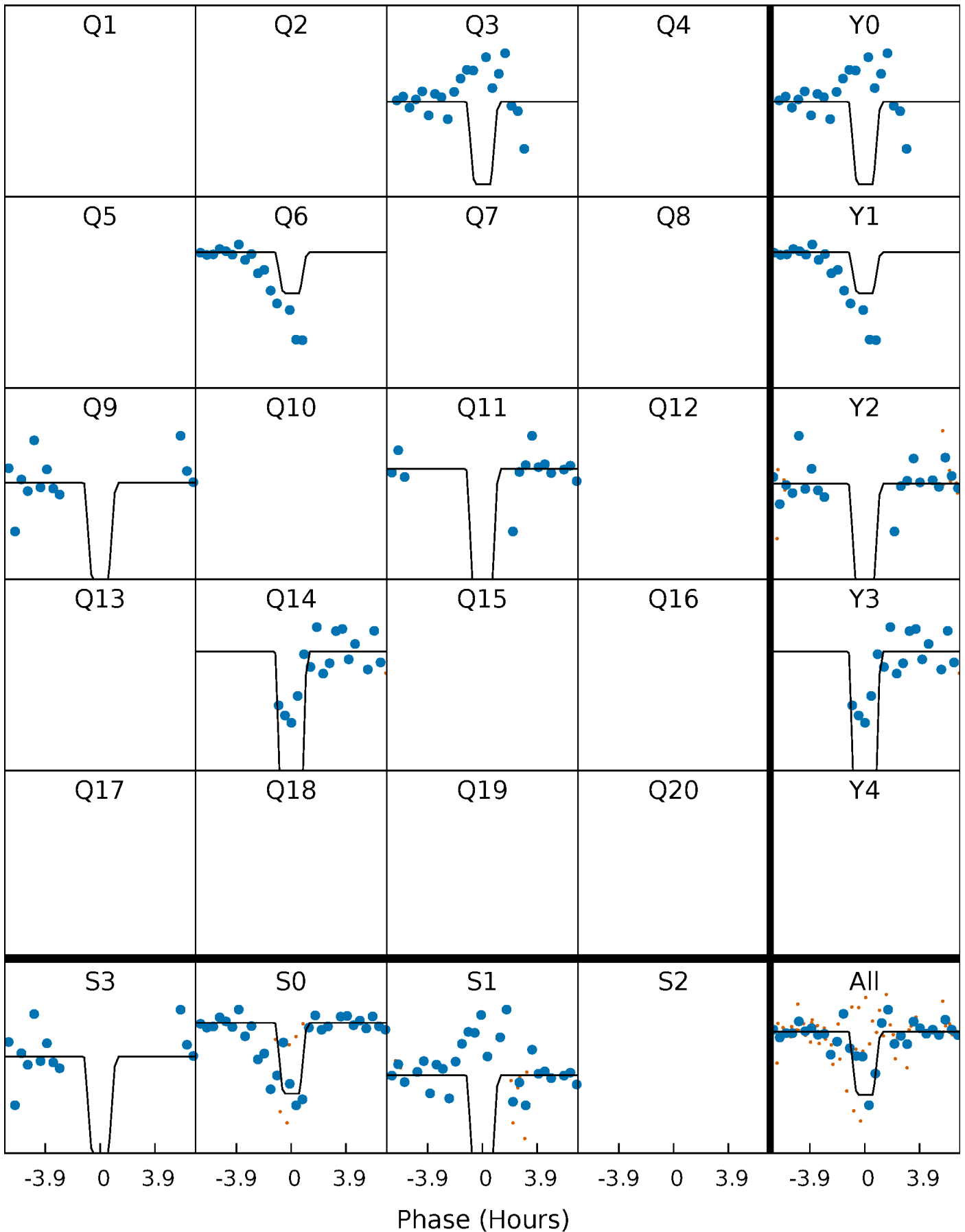
DV Quarter-Phased Transit Curves

TCE 007293937-02 P=251.646928 Days $T_0=325.990631$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

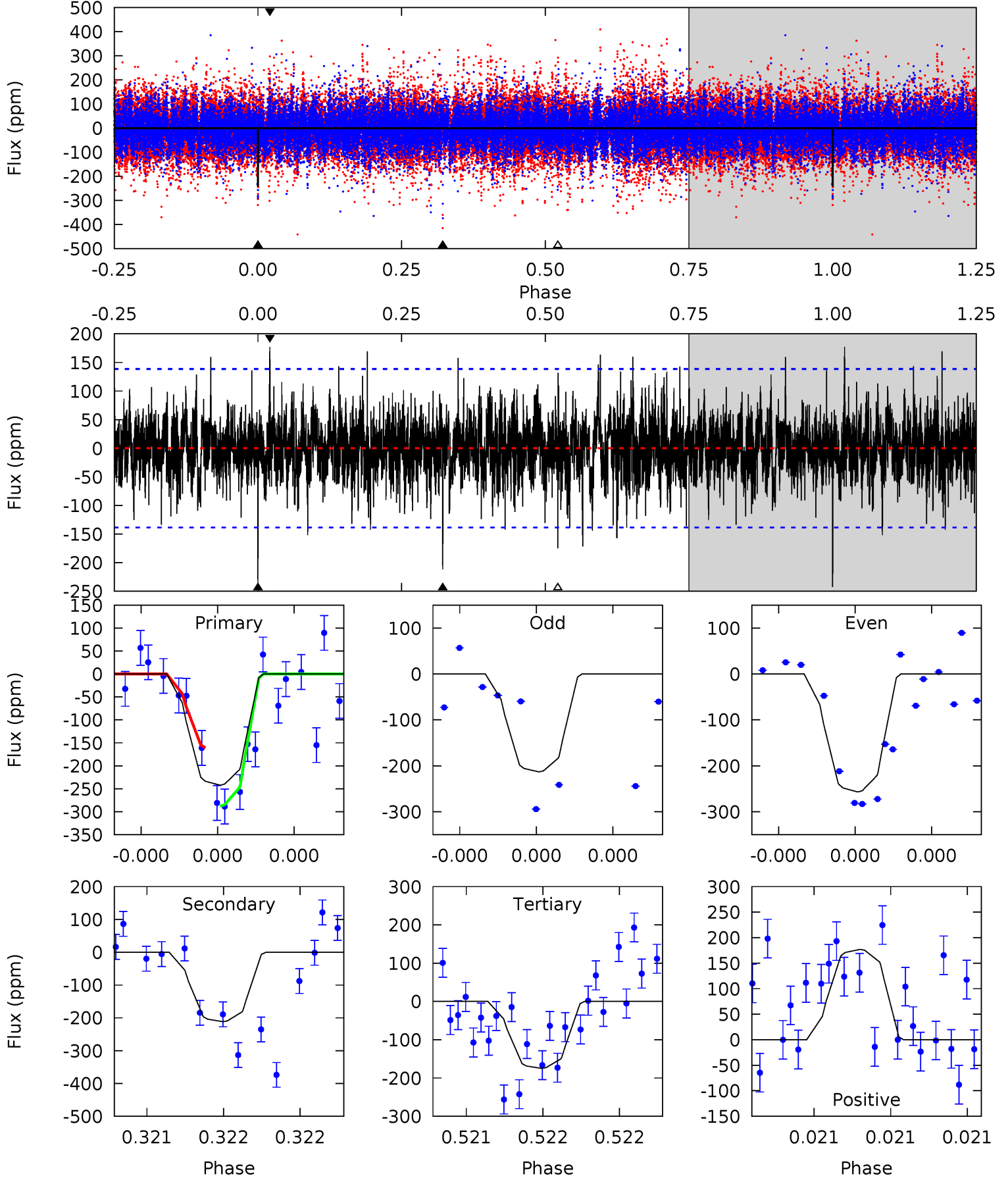
TCE 007293937-02 P=251.658081 Days $T_0=325.975001$ (BKJD)



DV Model-Shift Uniqueness Test

007293937-02, P = 251.646928 Days, E = 74.343703 Days

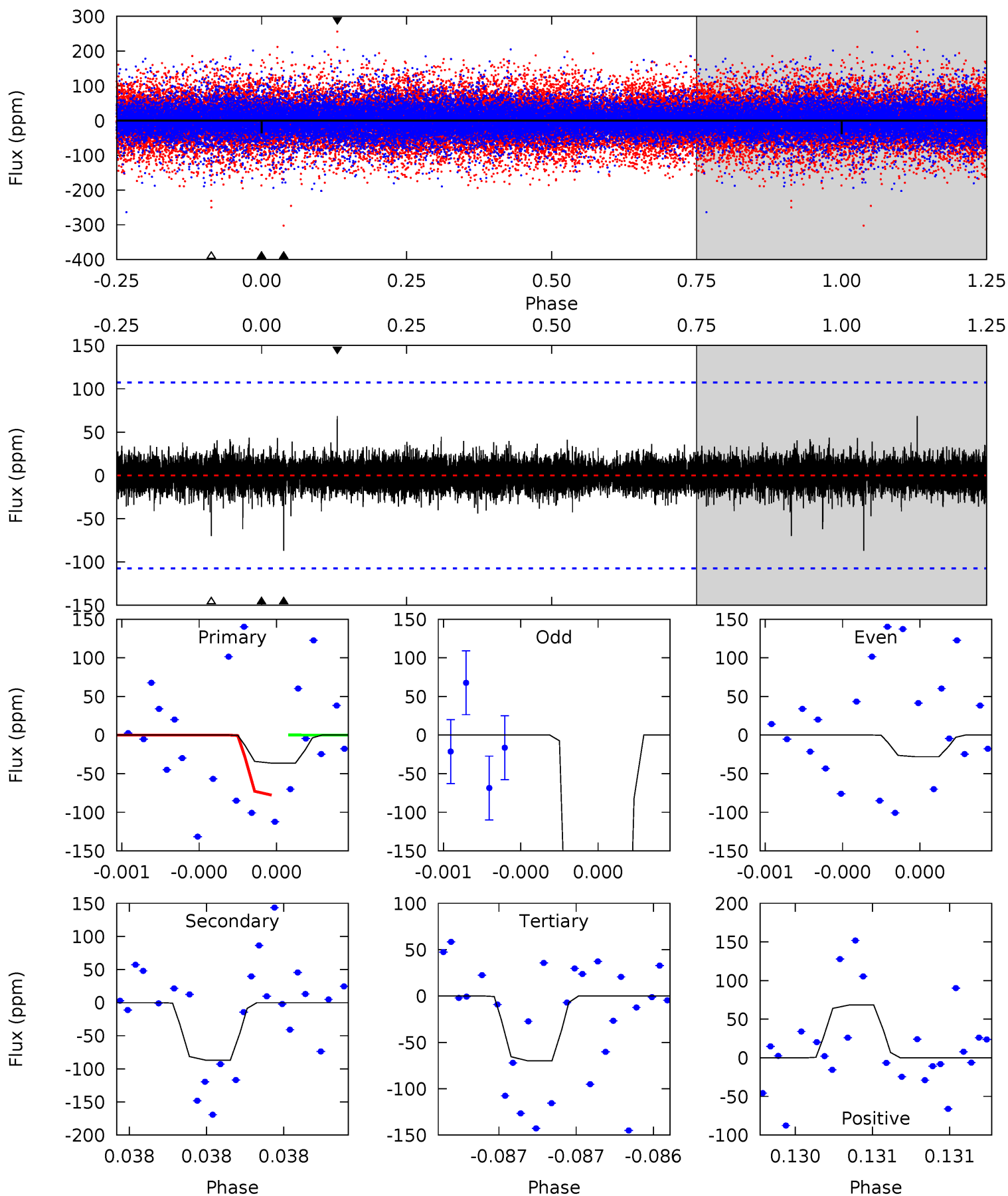
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.88	8.64	7.13	7.23	5.65	3.60	1.48	2.75	2.65	1.50	1.40	0.81	1.13	0.42	2.55



Alt Model-Shift Uniqueness Test

007293937-02, P = 251.658081 Days, E = 74.316920 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.91	4.56	3.67	3.59	5.62	3.56	0.54	-1.76	-1.68	0.90	0.98	24.7	2.48	0.44	1.95



Stellar Parameters For KIC 007293937

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

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

Secondary Eclipse Parameters for KIC 007293937-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-212 ± 24	$3.17^{+2.74}_{-2.13}$	403^{+19}_{-17}	4309^{+2992}_{-825}	7112^{+59281}_{-5092}
Alt.	-87 ± 19	$3.26^{+3.15}_{-2.17}$	402^{+18}_{-20}	3627^{+2073}_{-664}	2615^{+23771}_{-1946}

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 $A_{obs} \gg 1.0$

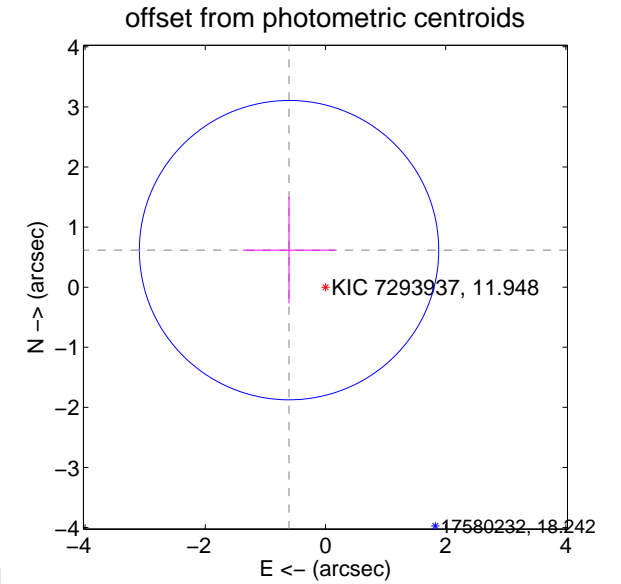
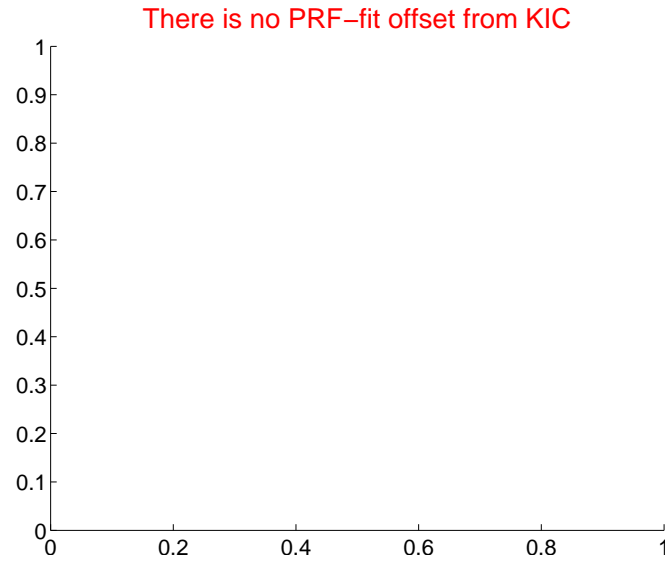
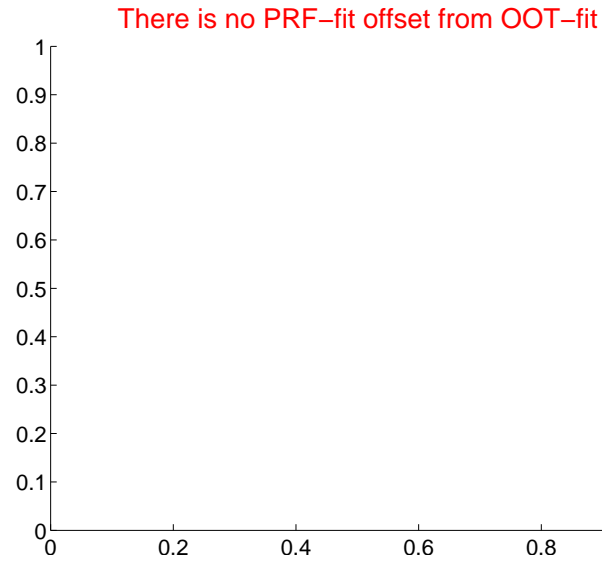
DV Centroid Data

Supplemental centroid analysis for 007293937-02. **Kepler magnitude: 11.95.** Transit SNR 6.68

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.86 ± 0.83	1.04	0.61 ± 0.77	0.62 ± 0.89



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.

Q1 no difference image



Q1 no OOT image



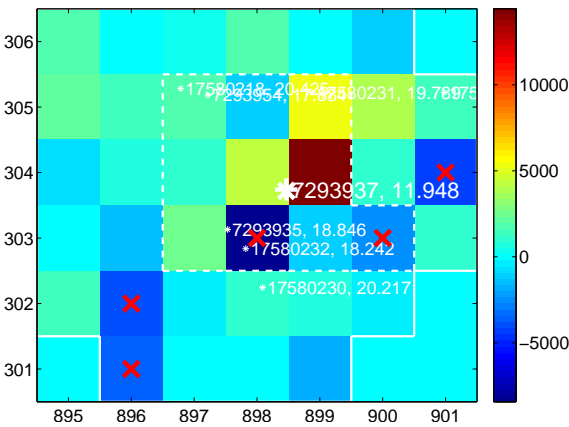
Q2 no difference image



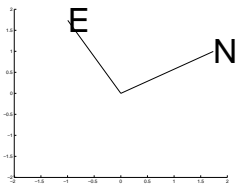
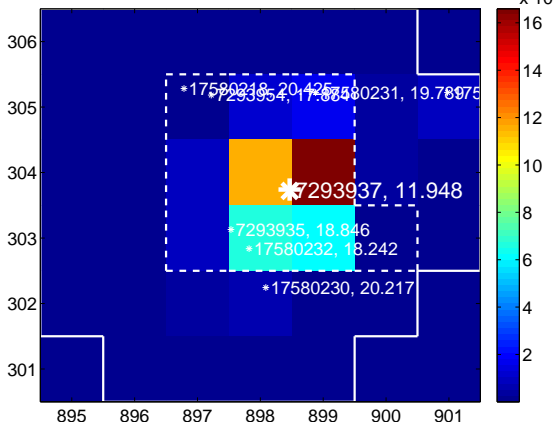
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



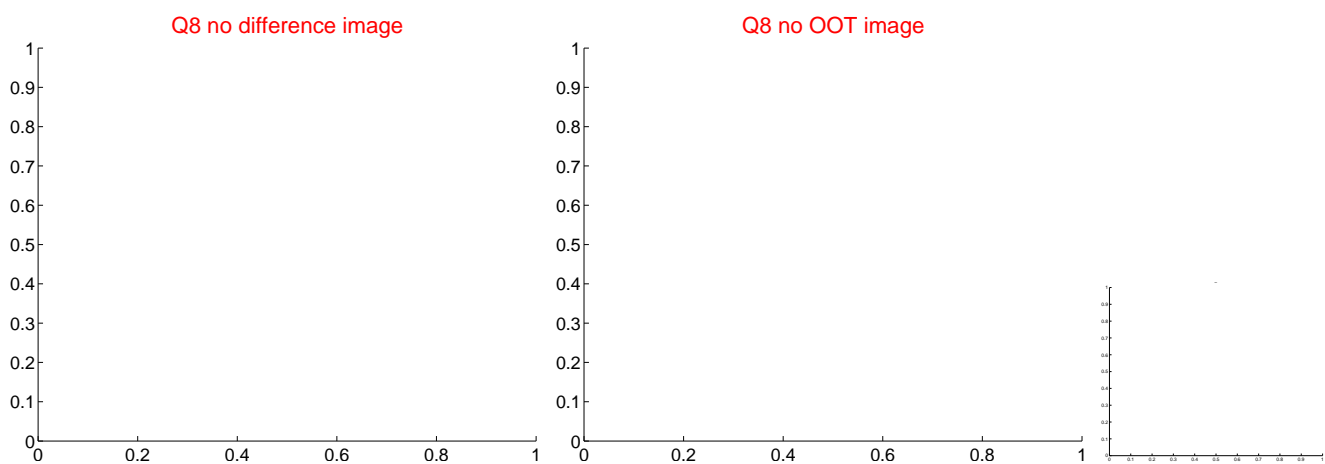
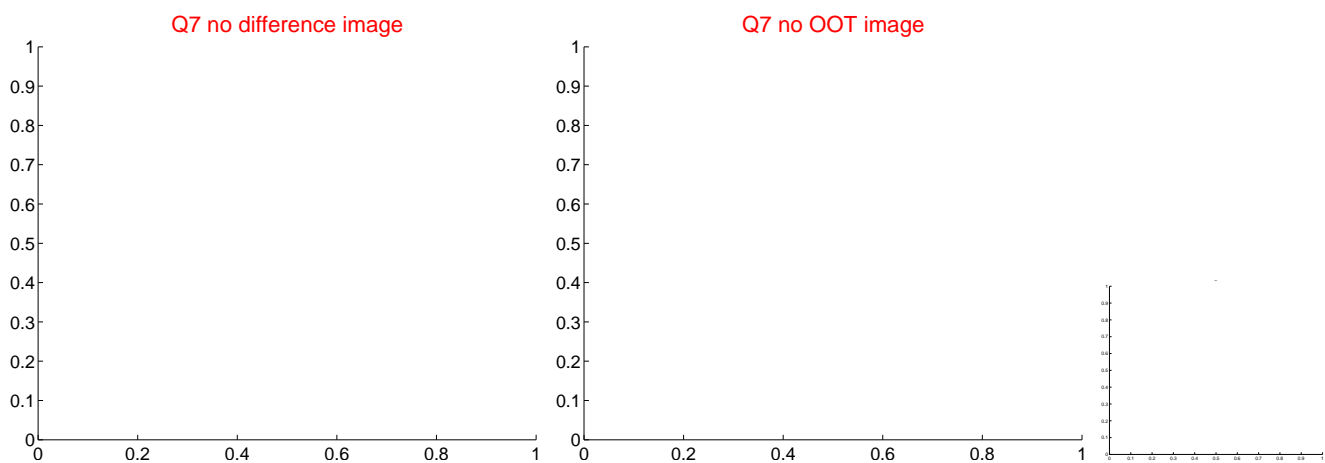
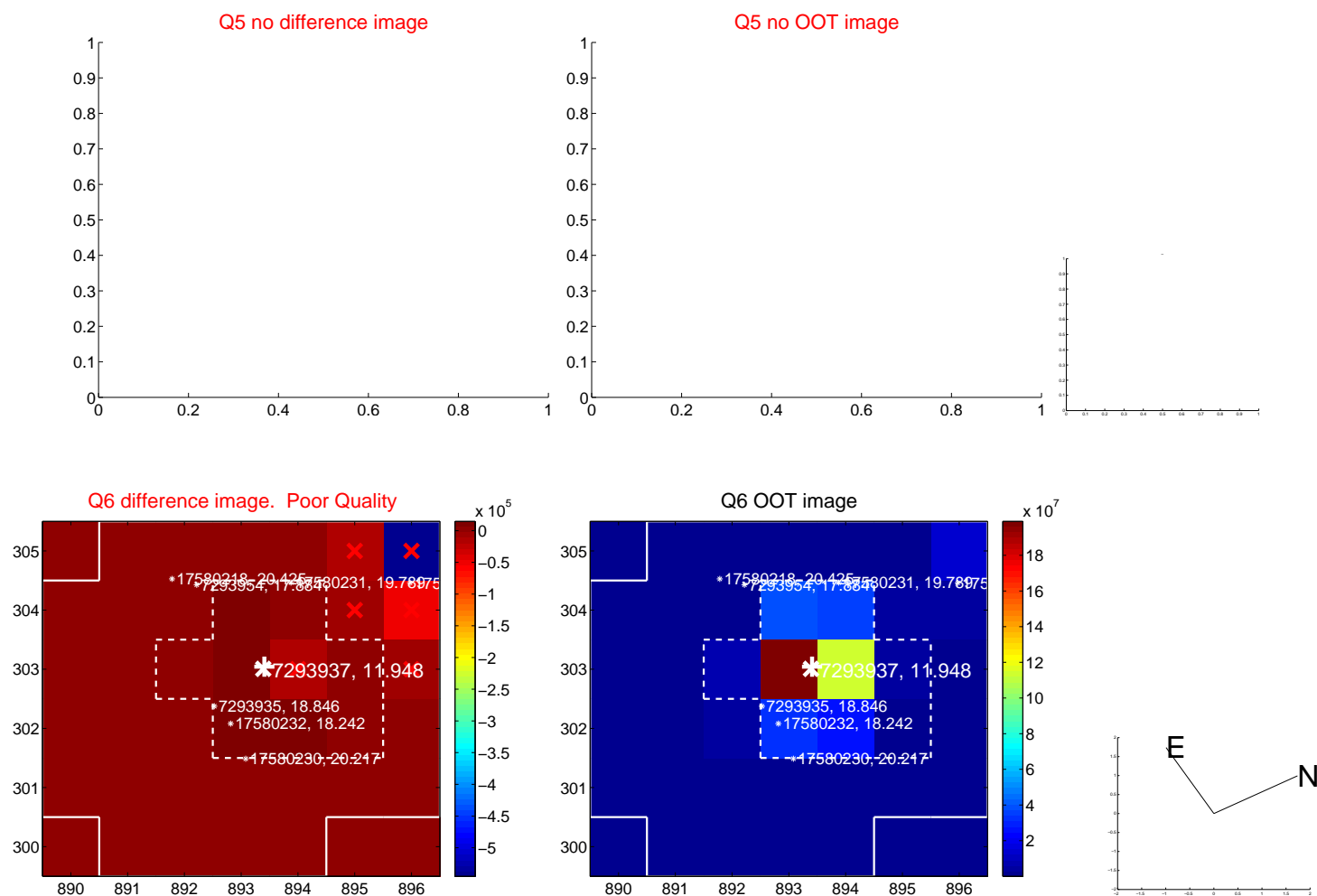
Q4 no difference image



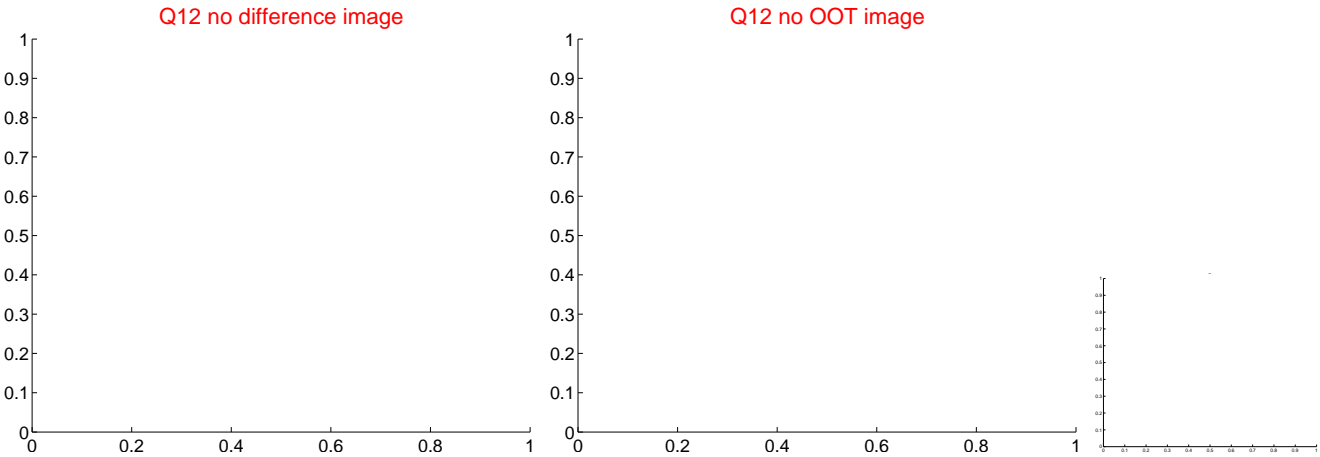
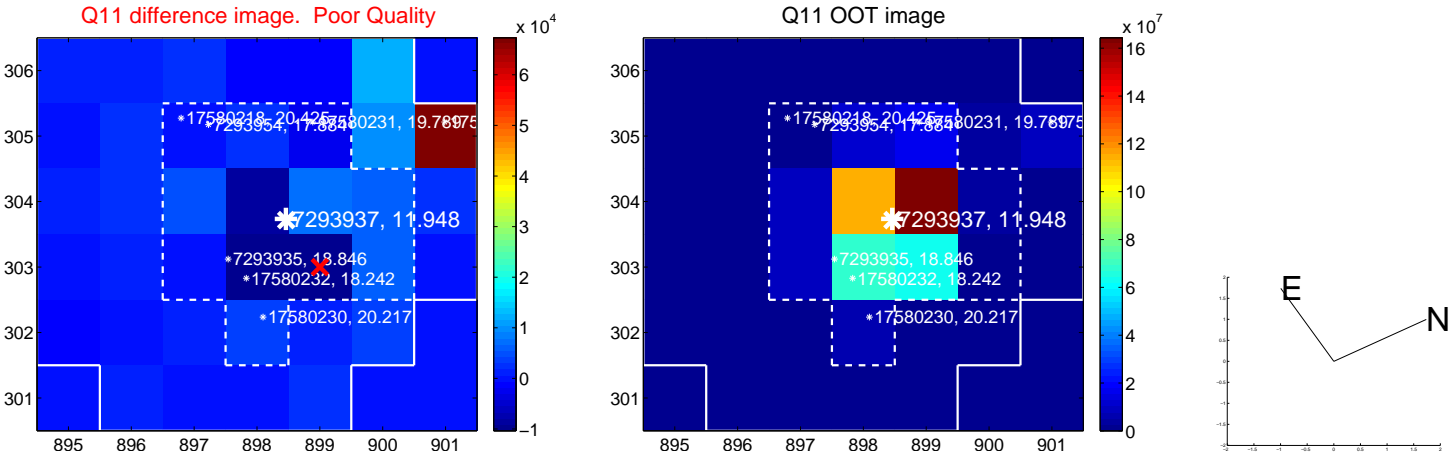
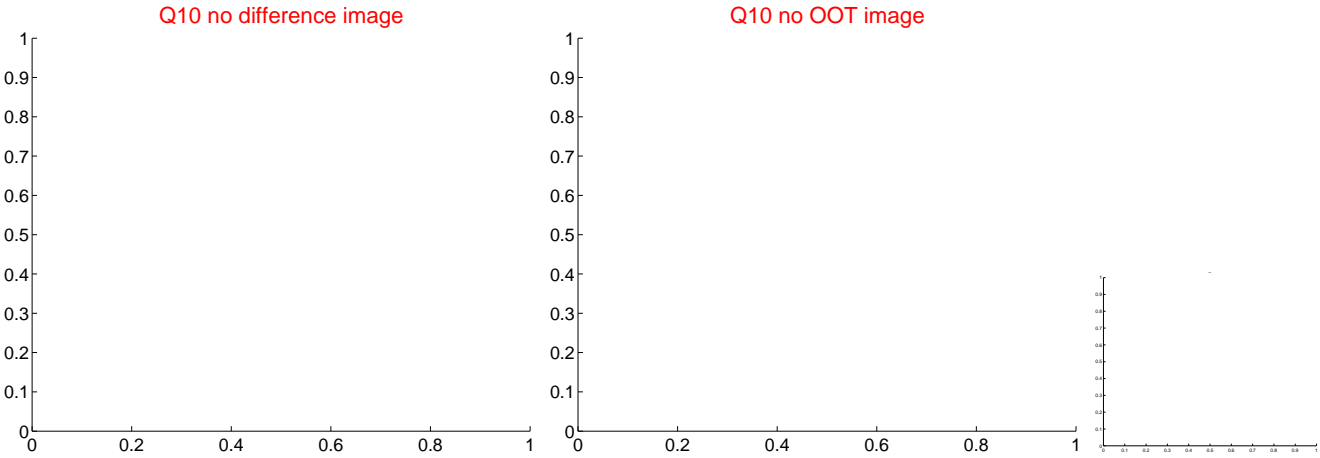
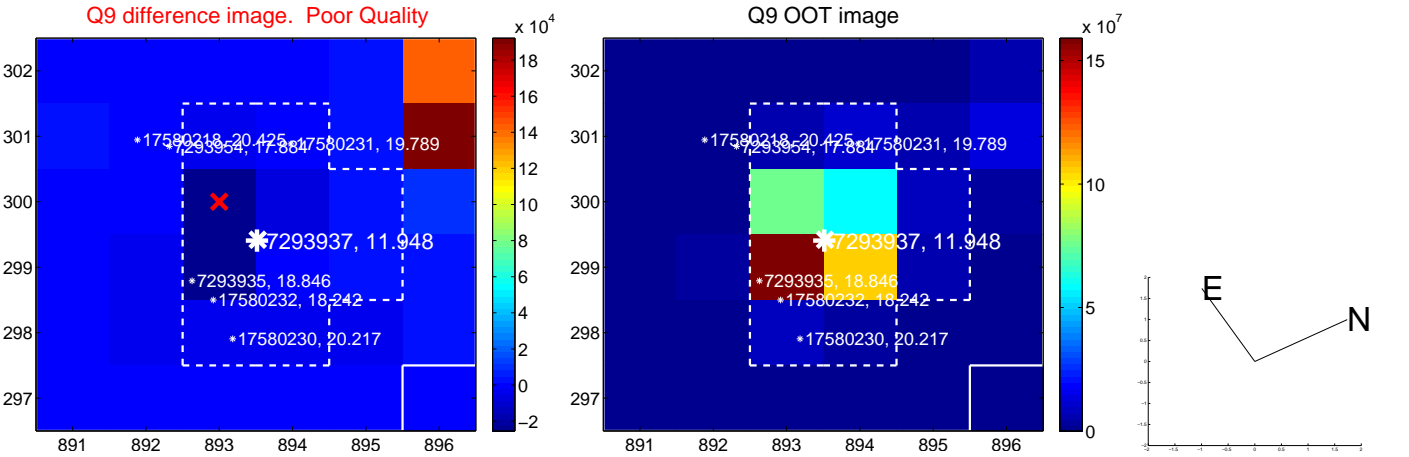
Q4 no OOT image



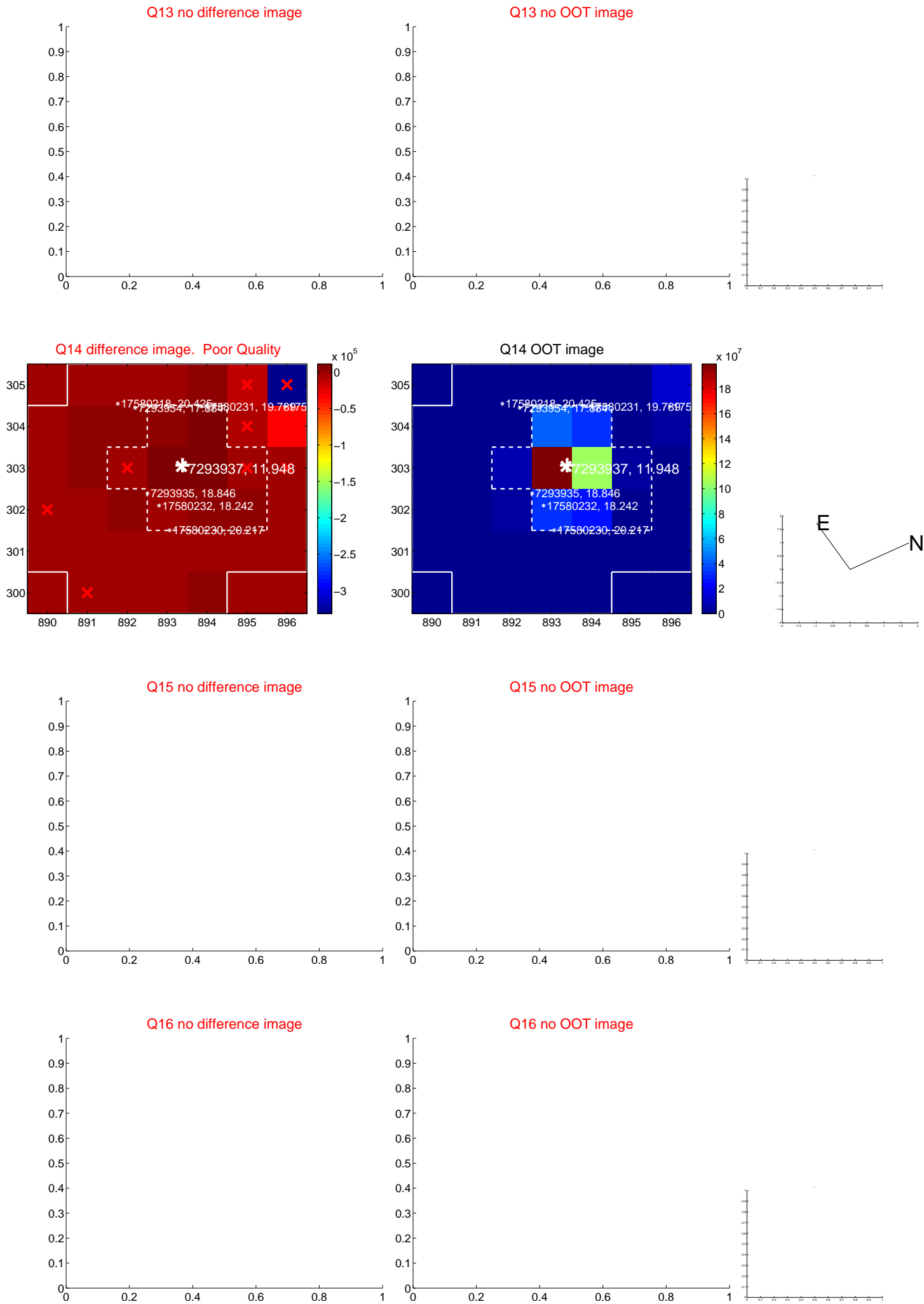
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



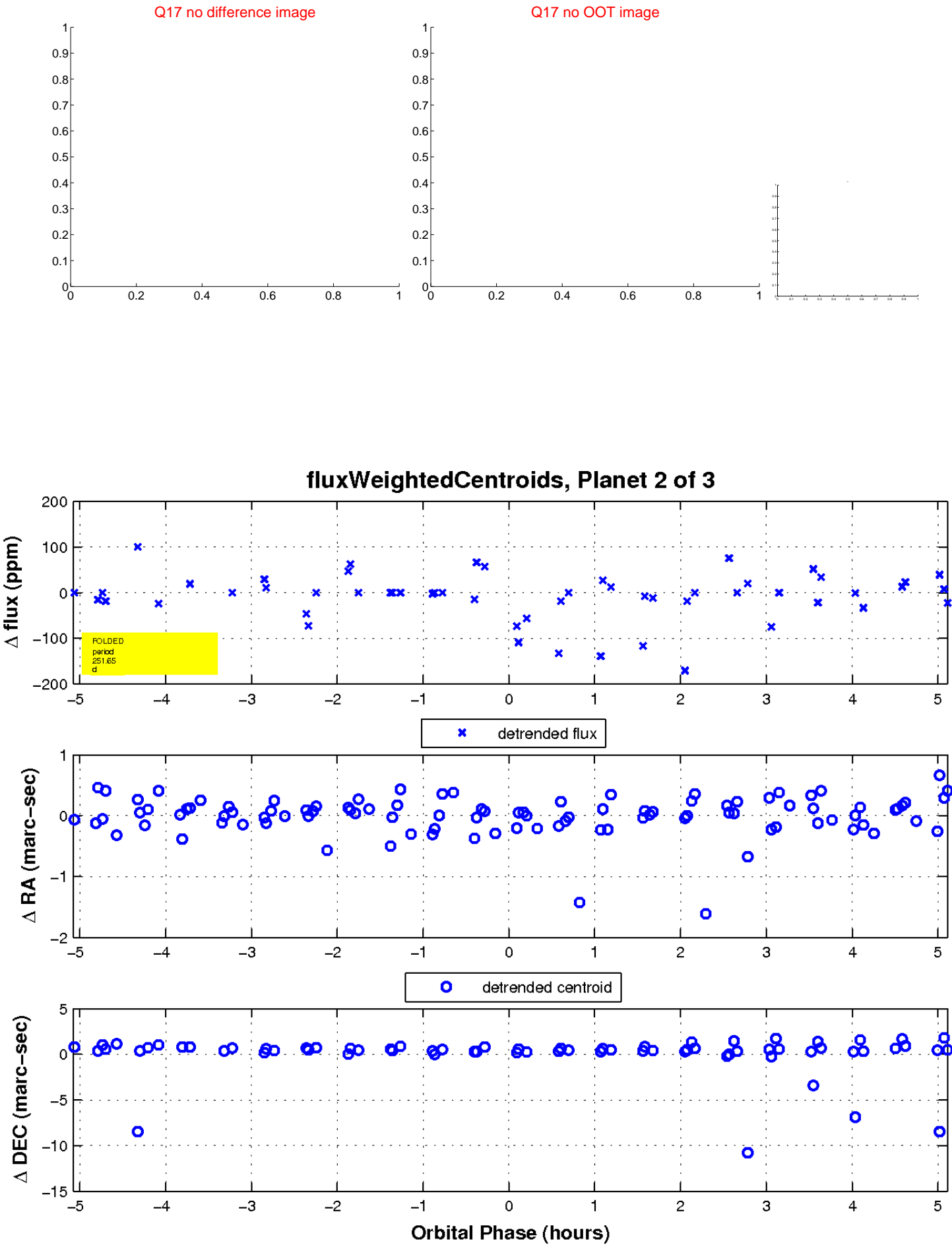
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

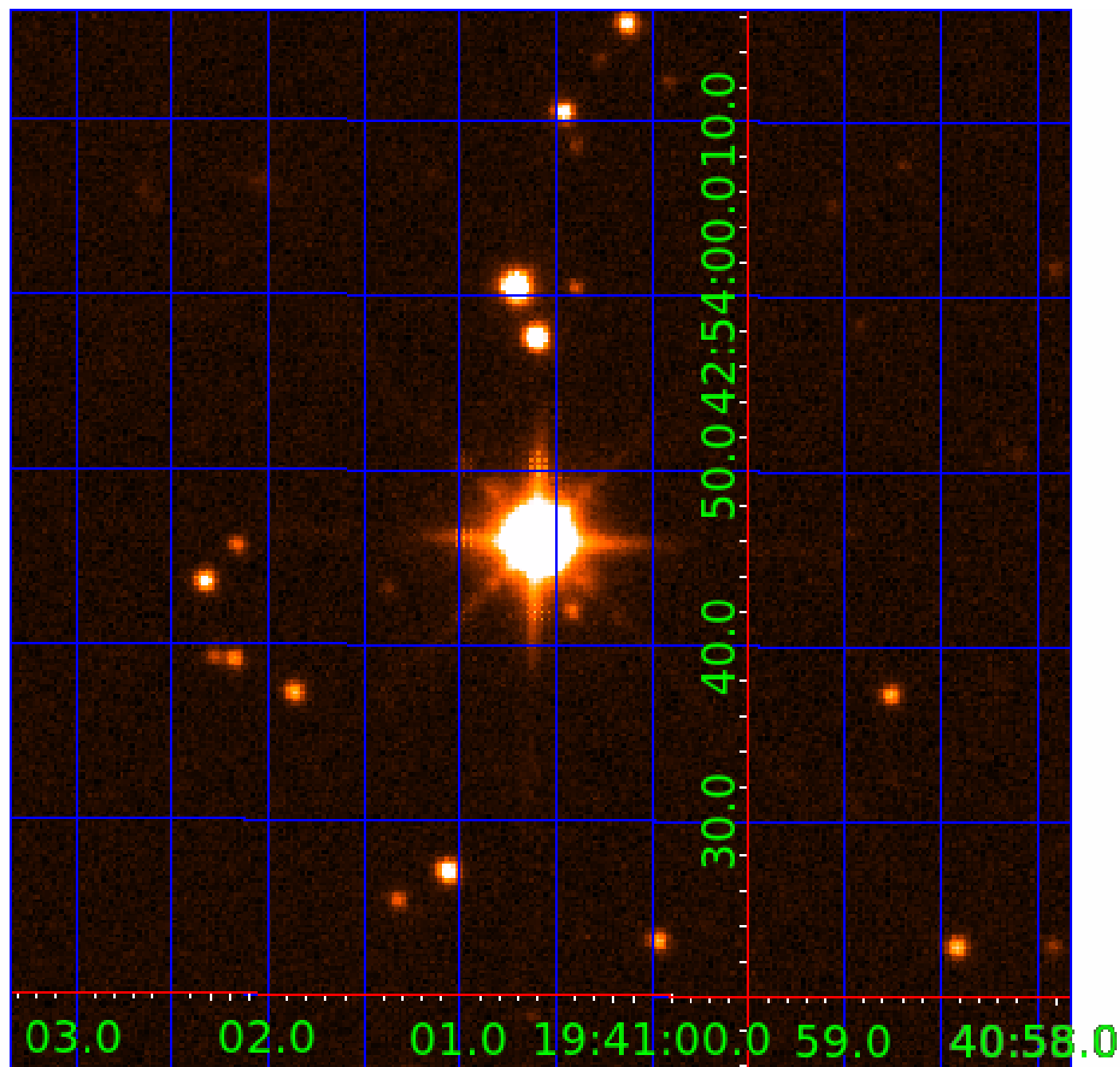


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007293937

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})
007293937-01	OBS	3211.01	1.366968	132.200864	39.4	2.394	21.0	22.6	1.00	5780	0.75	1720.26
007293937-02	OBS	No	251.646928	325.990631	255.4	1.720	10.7	6.7	1.00	5780	1.75	1.64
007293937-03	OBS	No	498.189864	367.203561	350.1	4.049	11.1	7.4	1.00	5780	2.27	0.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007293937-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
007293937-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007293937-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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.

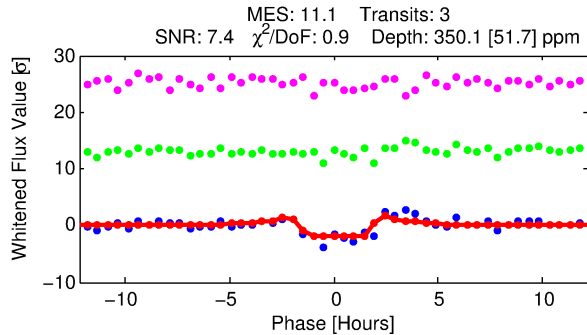
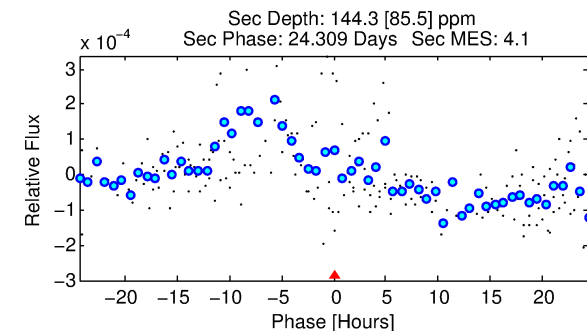
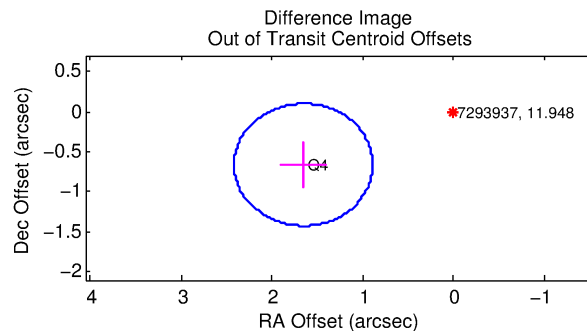
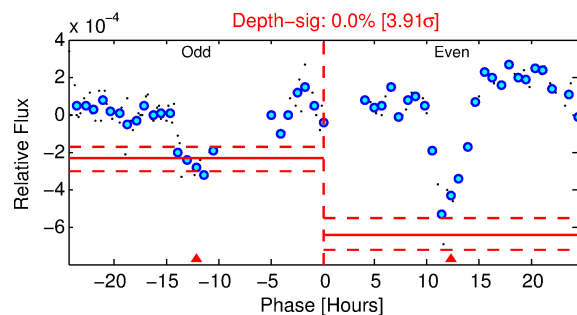
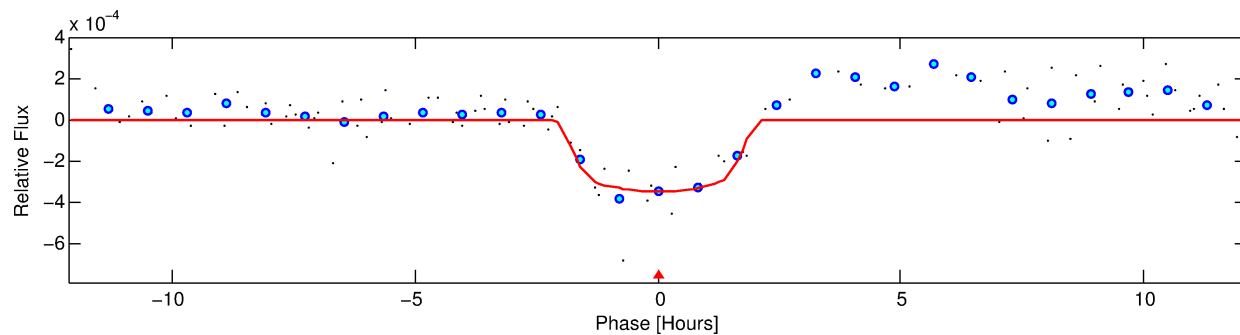
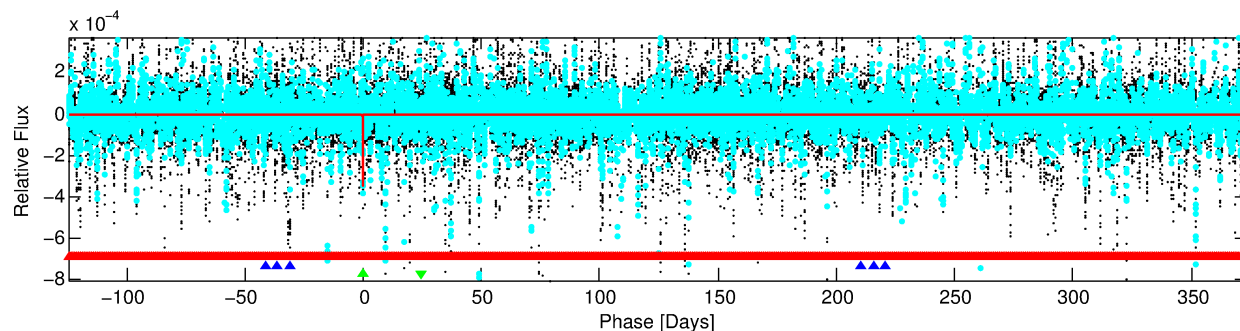
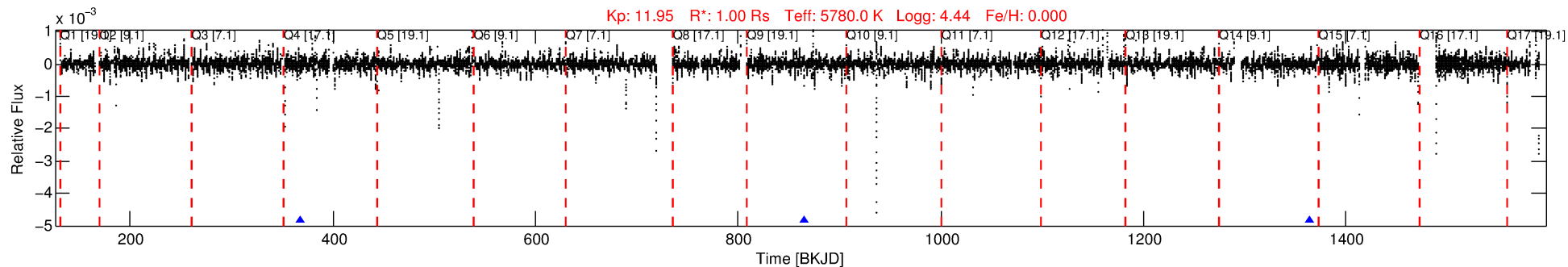
Ephemeris Match Information For 007293937-03

No Significant Match Found

DV One-Page Summary

KIC: 7293937 Candidate: 3 of 3 Period: 498.190 d
KOI: K03211 Corr: No Ephemeris Match

Kp: 11.95 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



DV Fit Results:

Period = 498.18986 [0.00527] d
Epoch = 367.2036 [0.0068] BKJD
Rp/R* = 0.0208 [0.0048]
a/R* = 417.10 [410.03]
b = 0.92 [0.17]
Seff = 0.66 [0.00]
Teq = 230 [0] K
Rp = 2.27 [0.52] Re
a = 1.2302 [0.0000] AU
Ag = 23260.04 [17427.42] [1.33σ]
Teff = 4390 [822] K [5.06σ]

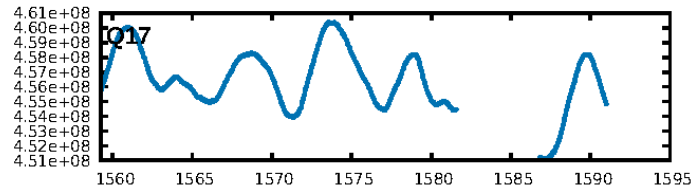
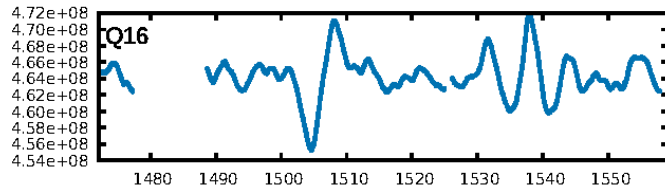
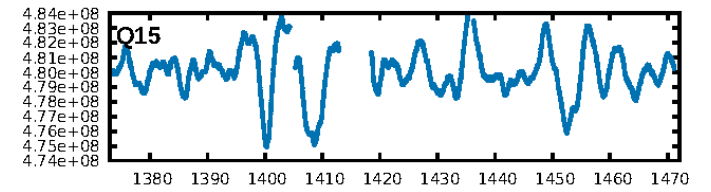
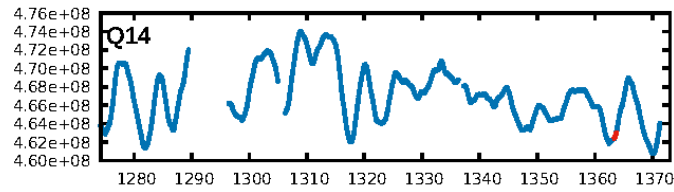
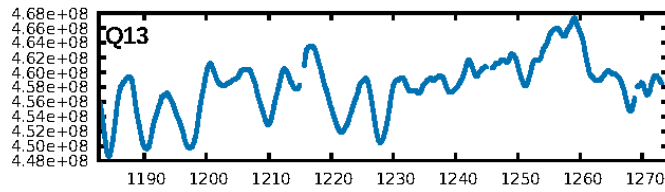
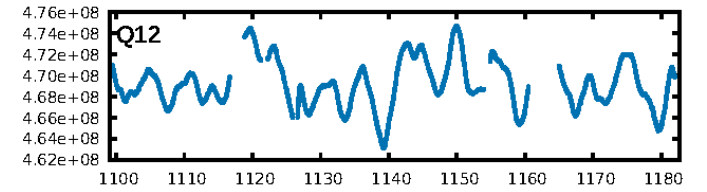
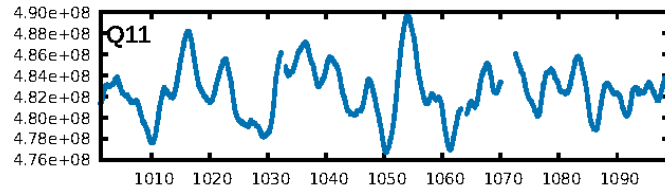
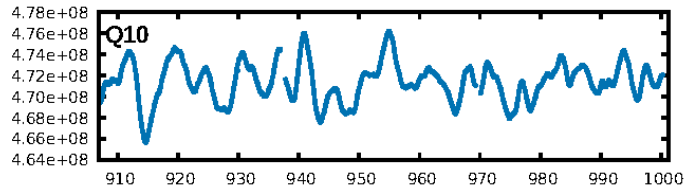
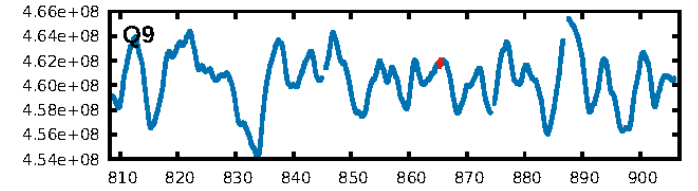
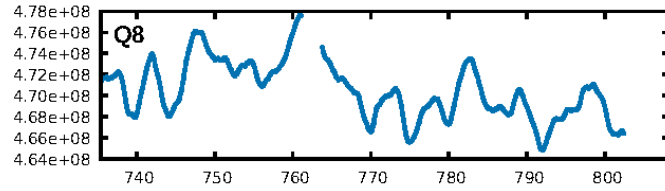
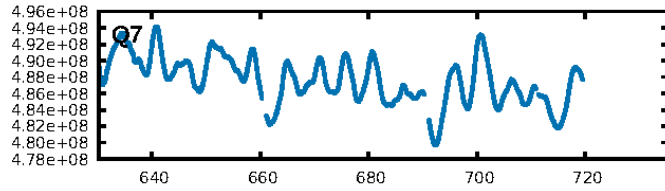
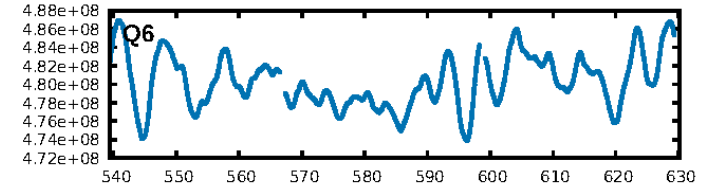
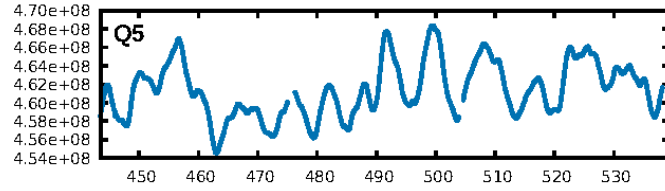
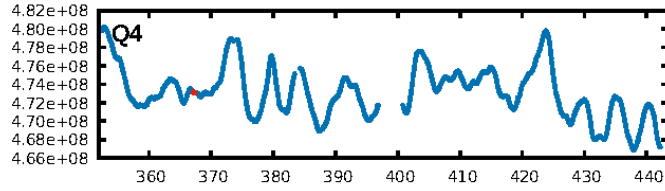
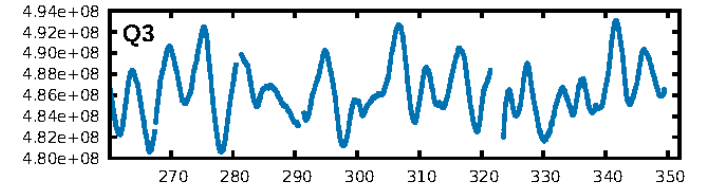
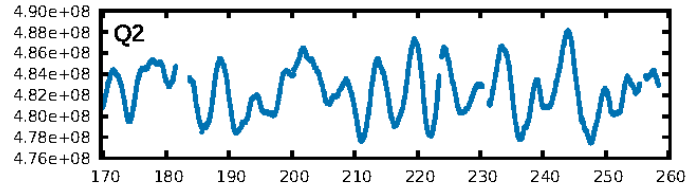
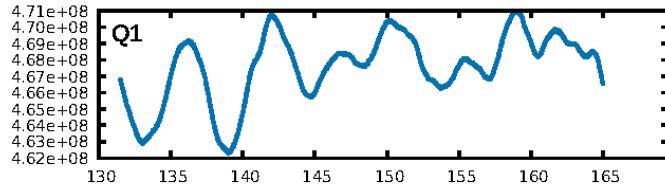
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1345.01σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 32.5%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 6.09e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.1428
Centroid-sig: N/A
Centroid-so: 1.254 arcsec [1.72σ]
OotOffset-rm: 1.780 arcsec [7.01σ]
KicOffset-rm: 1.835 arcsec [7.21σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.33 [1/3]

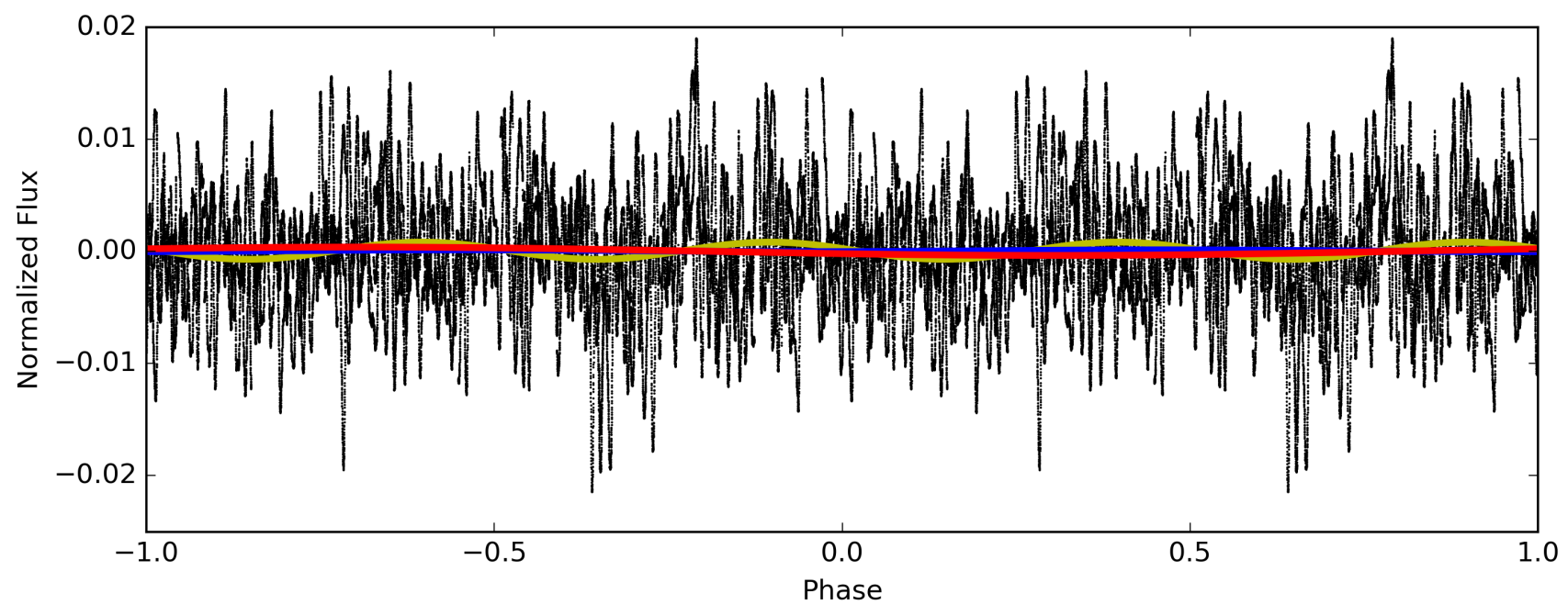
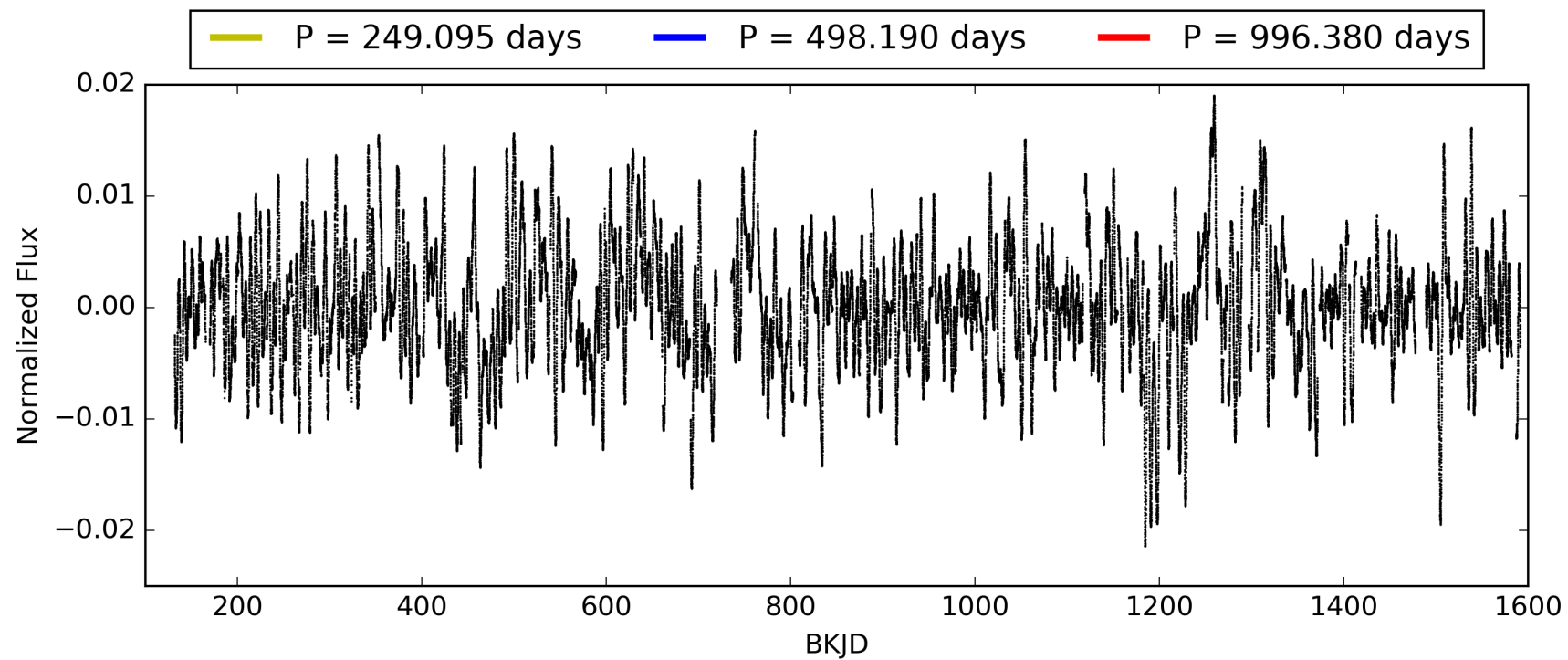
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:43:33 Z

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

TCE 007293937-03, PDC Light Curves

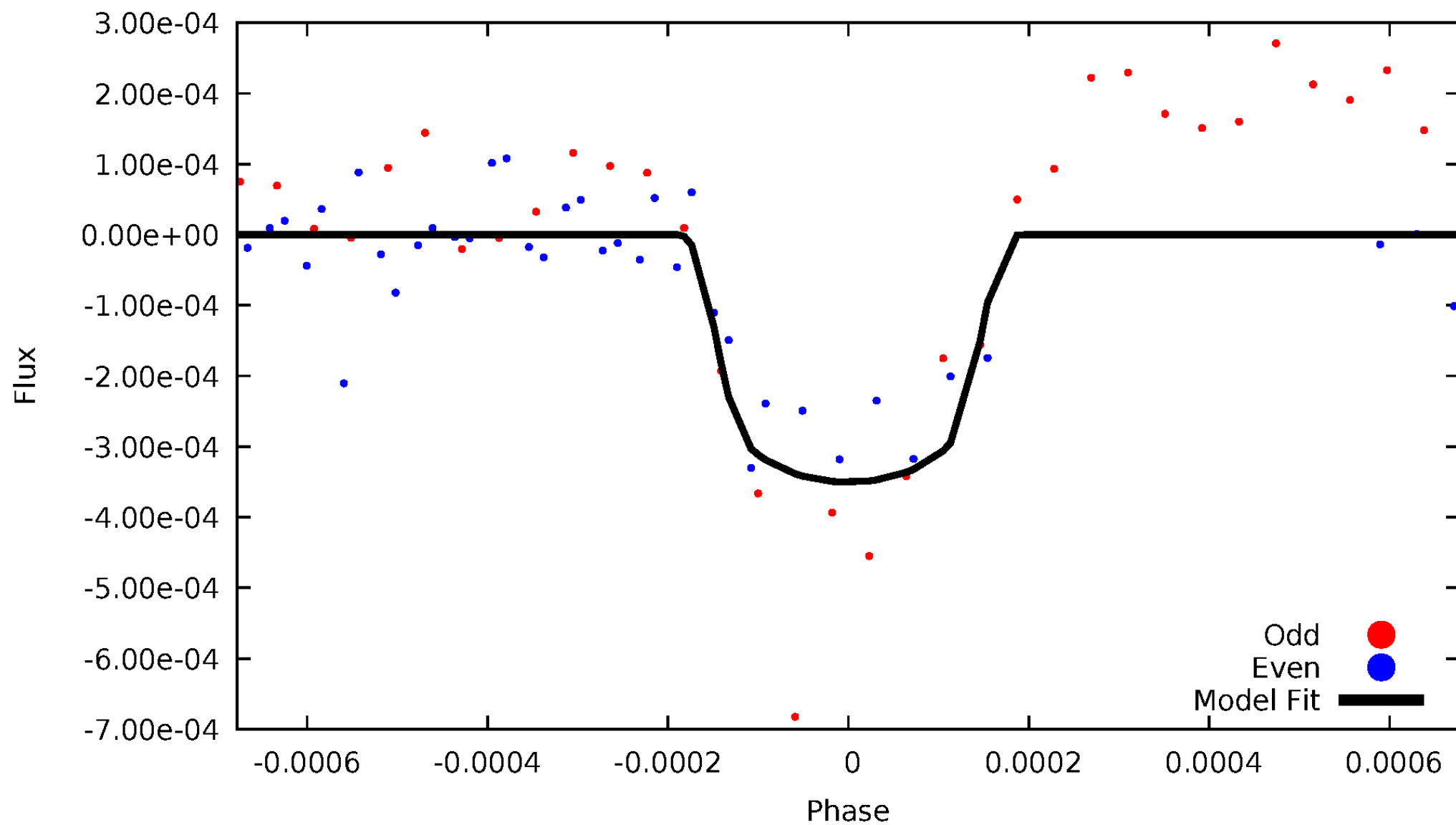


TCE 007293937-03



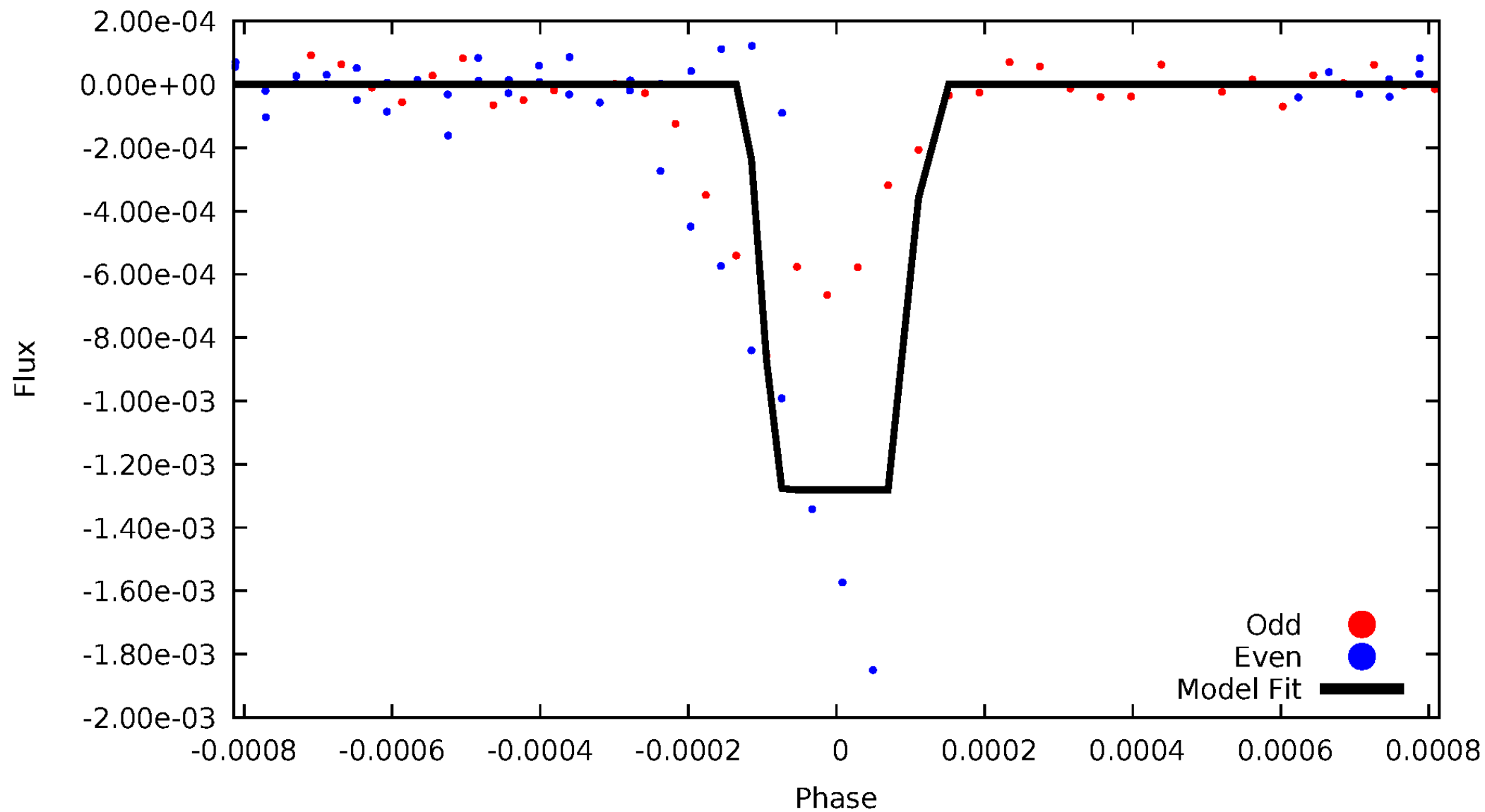
DV Odd/Even

TCE 007293937-03



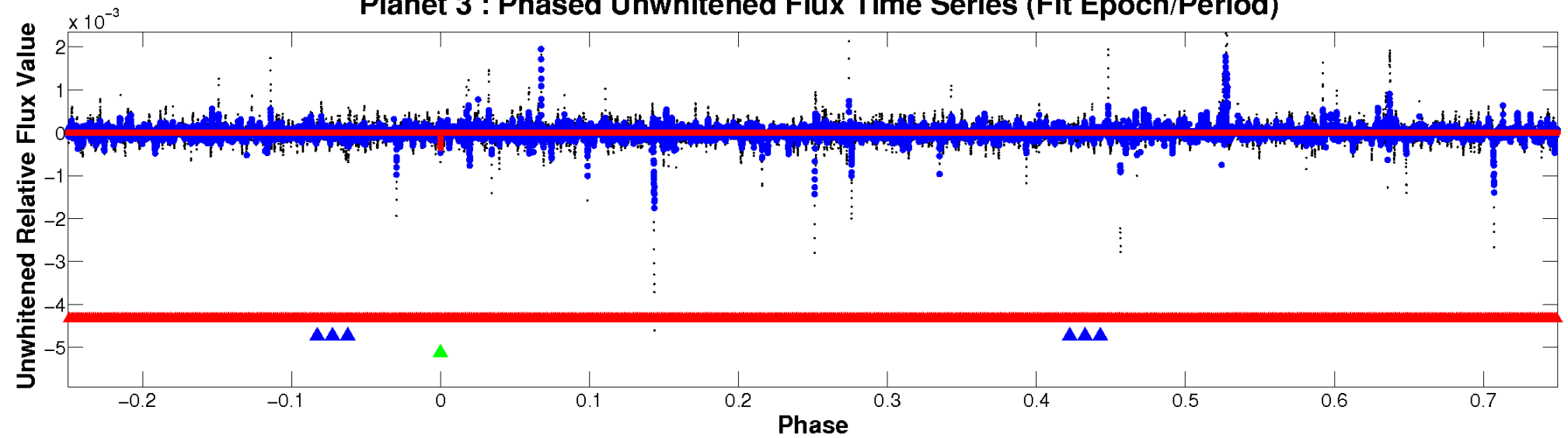
ALT Odd/Even

TCE 007293937-03

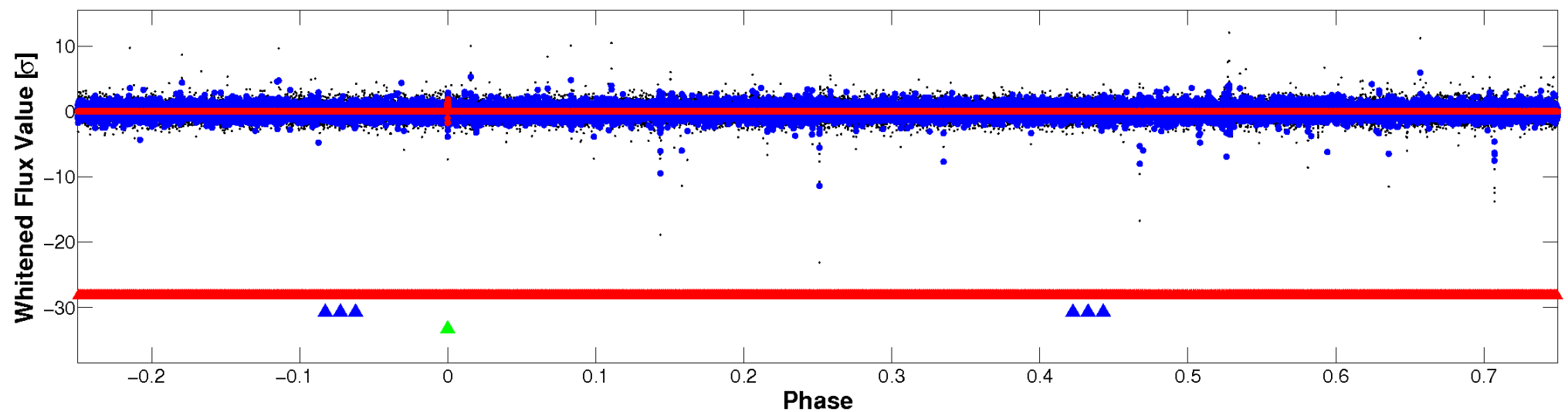


Non-Whitened Vs. Whitened Light Curve

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

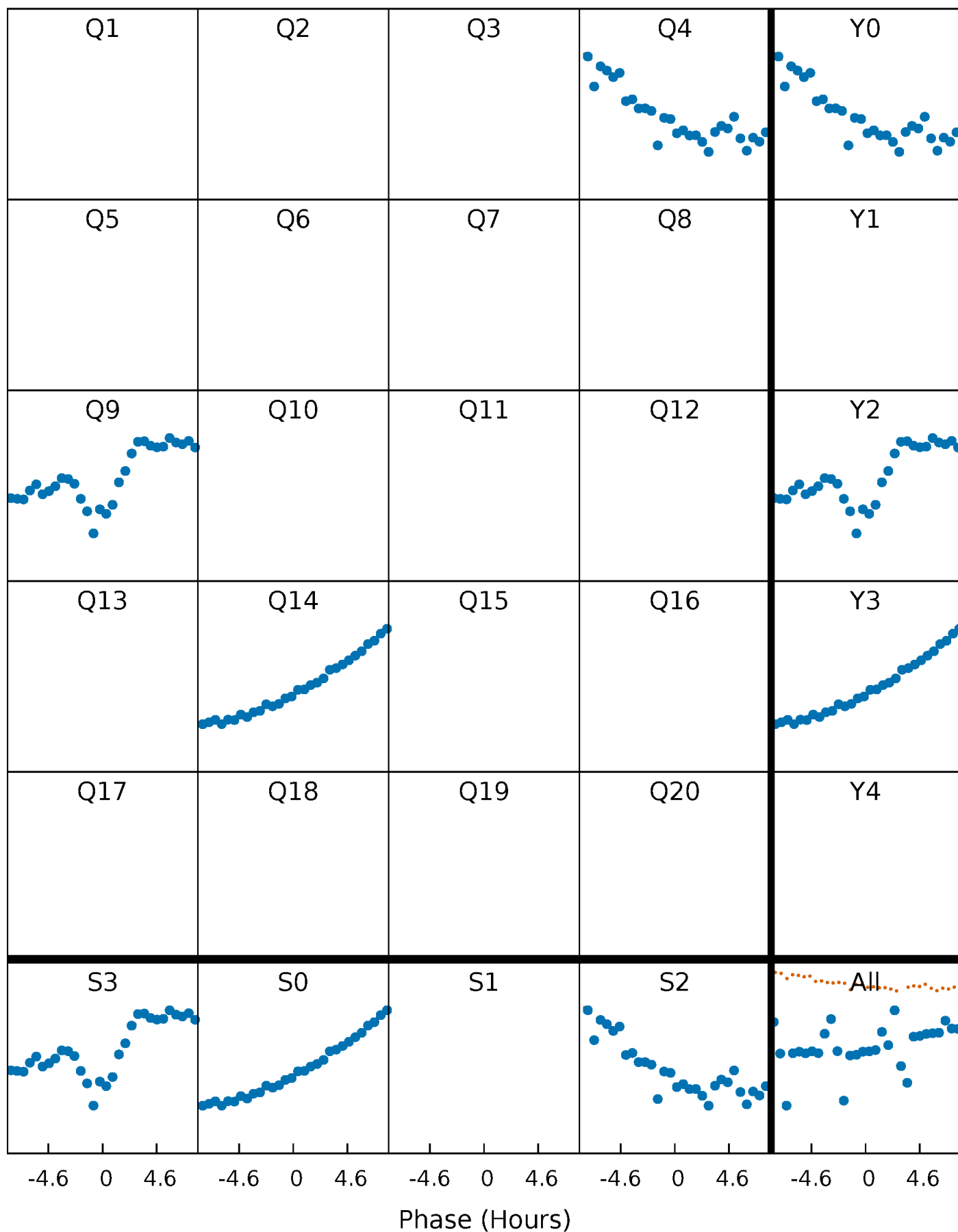


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



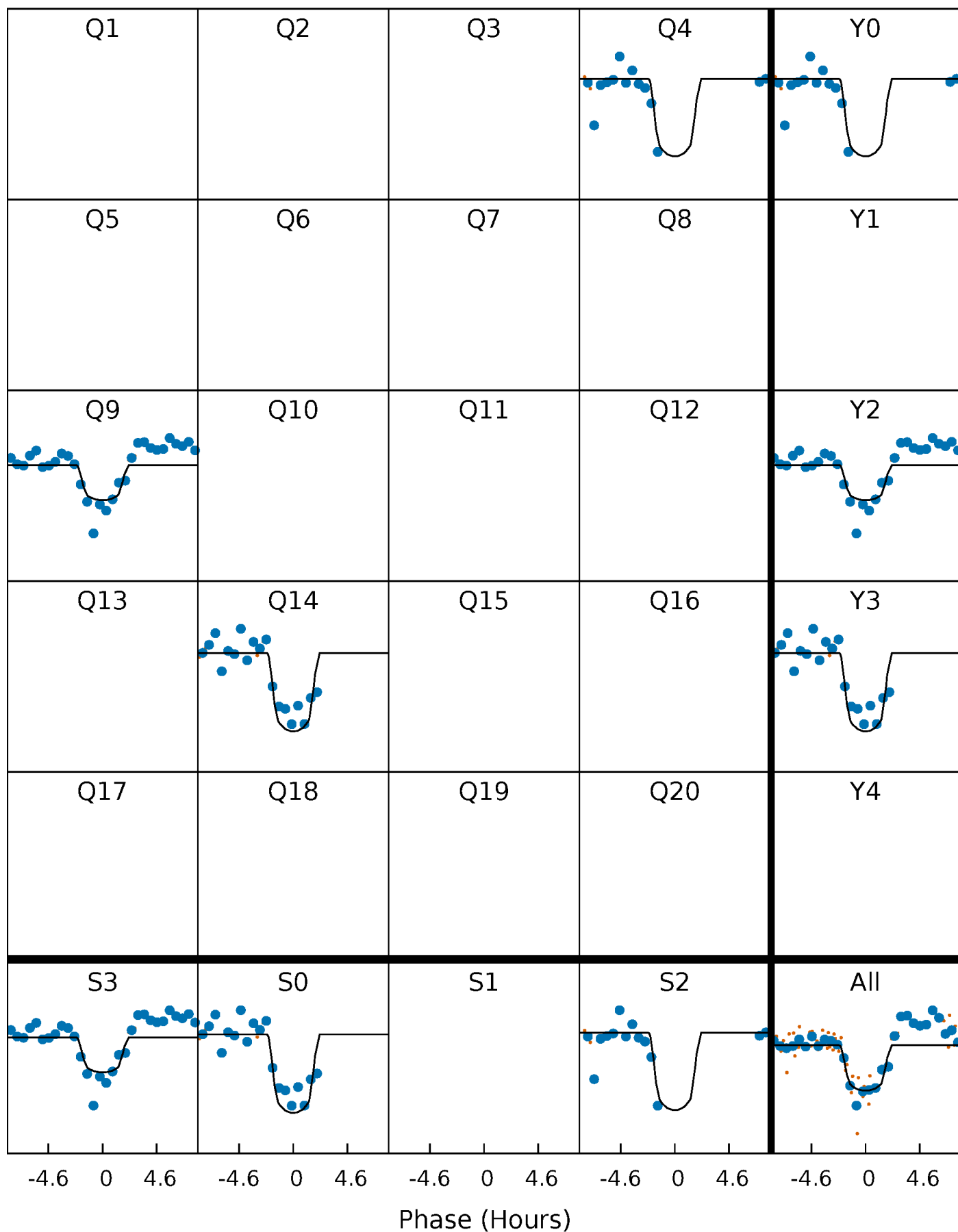
PDC Quarter-Phased Transit Curves

TCE 007293937-03 P=498.189864 Days $T_0=367.203561$ (BKJD)



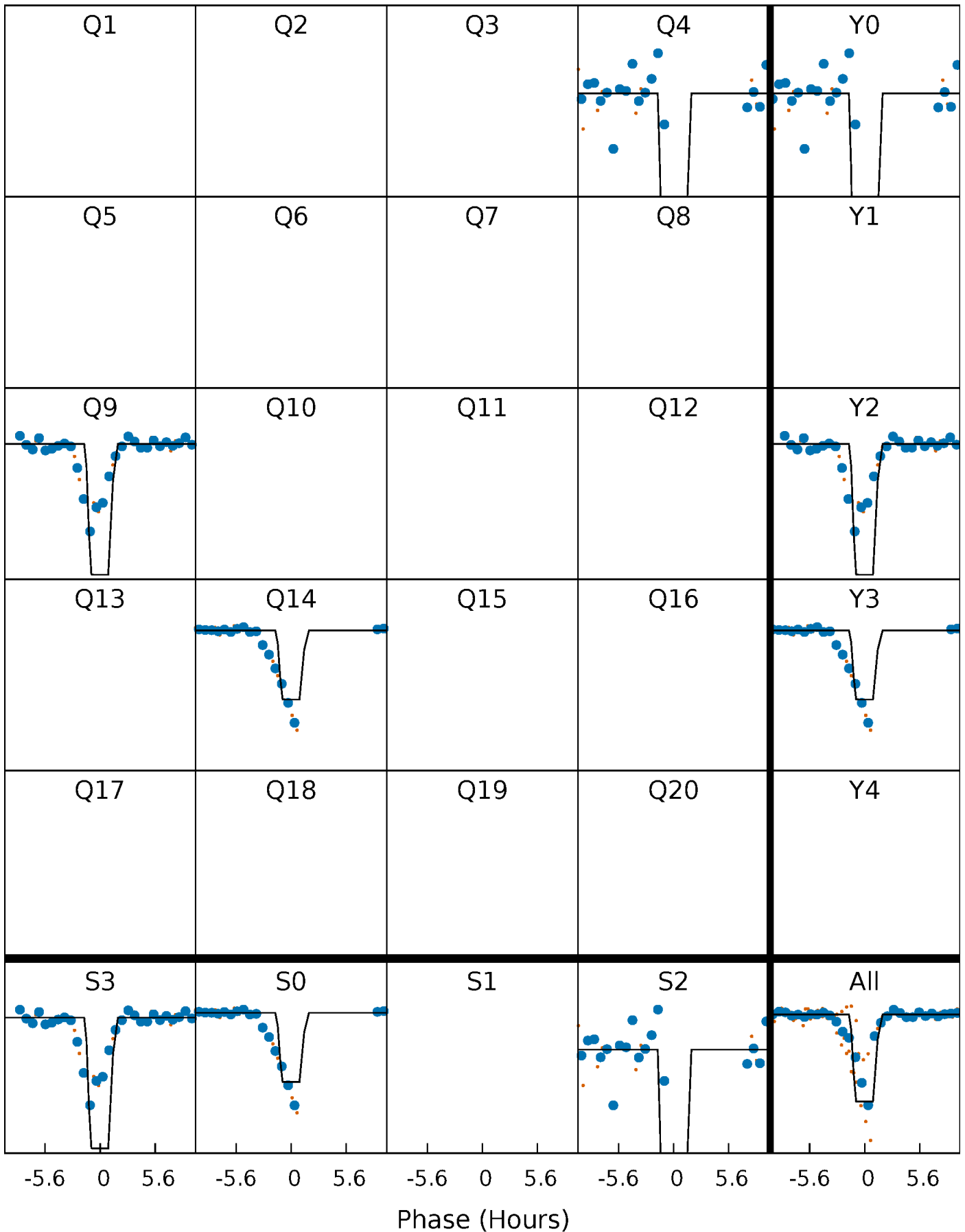
DV Quarter-Phased Transit Curves

TCE 007293937-03 $P=498.189864$ Days $T_0=367.203561$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

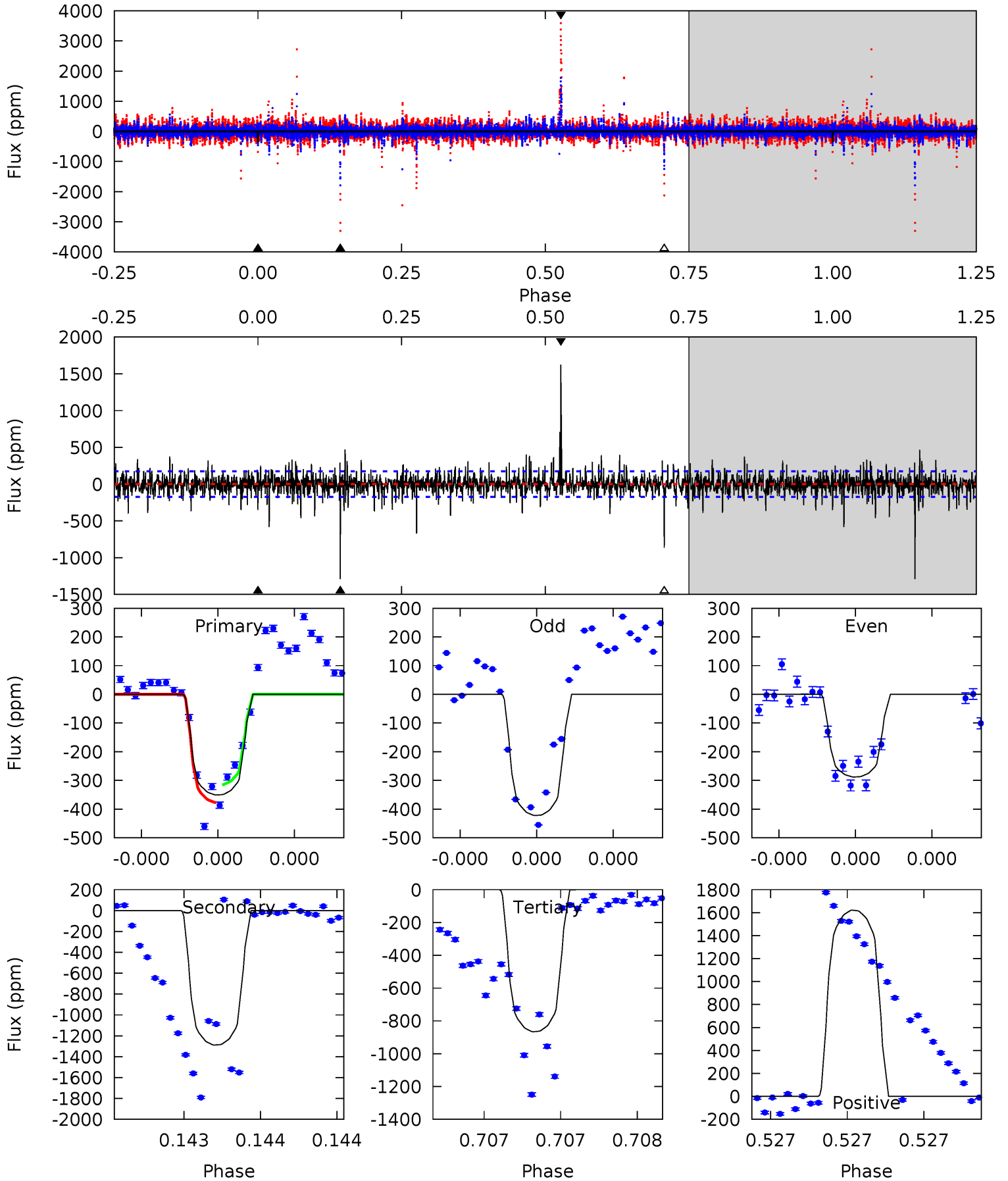
TCE 007293937-03 P=498.224682 Days $T_0=367.186313$ (BKJD)



DV Model-Shift Uniqueness Test

007293937-03, P = 498.189864 Days, E = 367.203561 Days

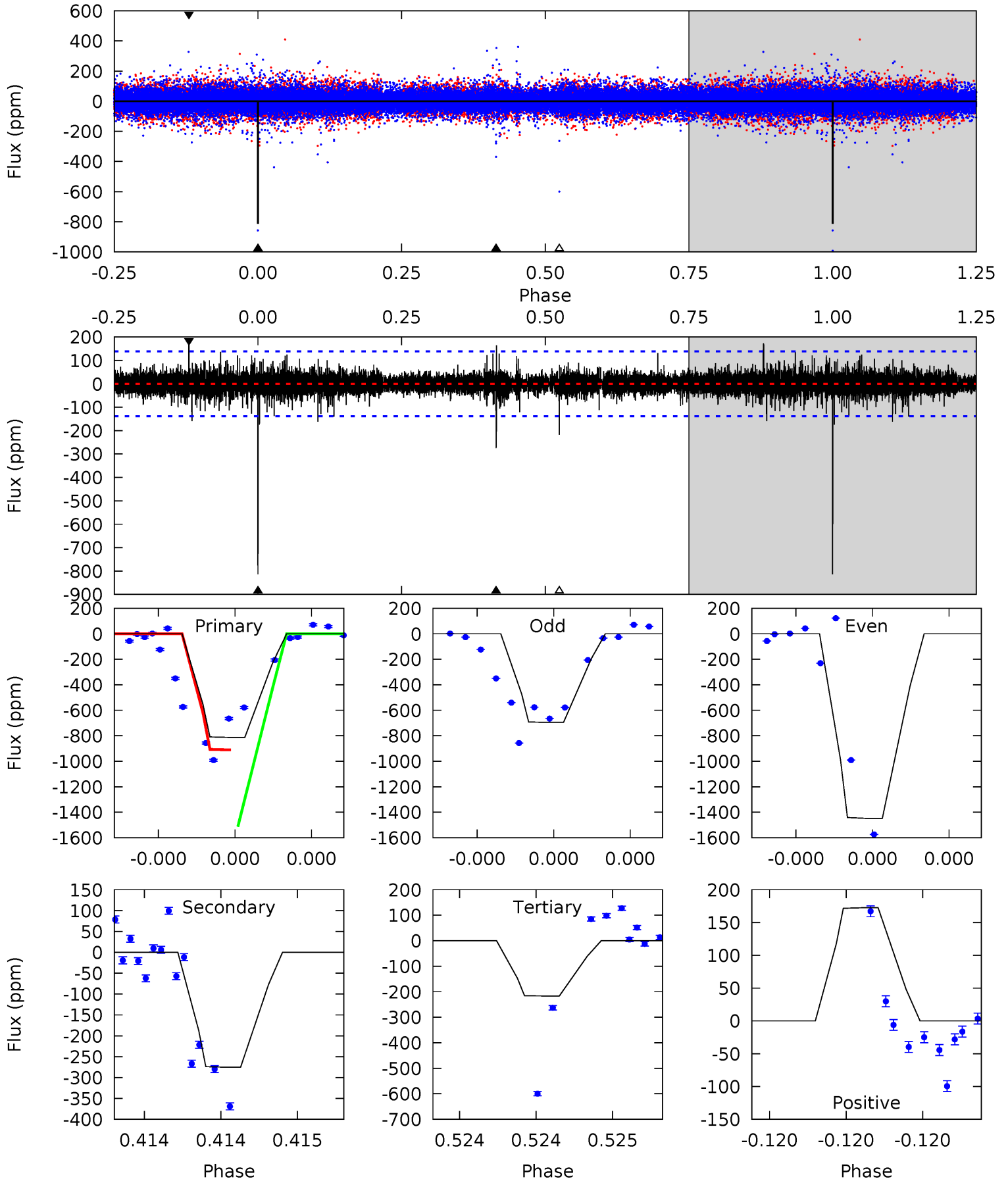
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	41.5	27.9	52.3	5.61	3.53	2.94	-16.6	-41.0	13.6	-10.7	2.00	0.97	0.56	1.01



Alt Model-Shift Uniqueness Test

007293937-03, P = 498.224682 Days, E = 367.186313 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.5	11.3	8.93	7.11	5.71	3.69	0.95	24.6	26.4	2.41	4.23	17.9	1.17	0.17	11.0



Stellar Parameters For KIC 007293937

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

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

Secondary Eclipse Parameters for KIC 007293937-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1289 ± 31	$2.28^{+0.55}_{-0.52}$	322^{+16}_{-14}	7692^{+1377}_{-899}	$205507^{+134251}_{-69821}$
Alt.	-275 ± 24	$3.92^{+0.61}_{-0.55}$	323^{+16}_{-16}	4198^{+261}_{-223}	14788^{+5726}_{-3737}

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

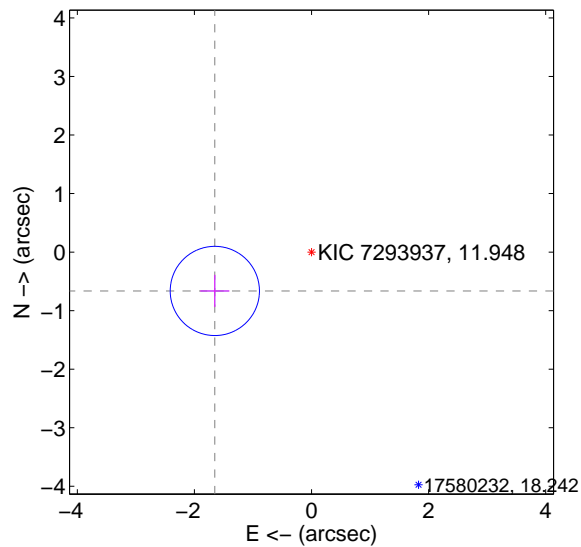
Supplemental centroid analysis for 007293937-03. **Kepler magnitude: 11.95.** Transit SNR 7.45

There are 1 quarters with good PRF difference image offsets

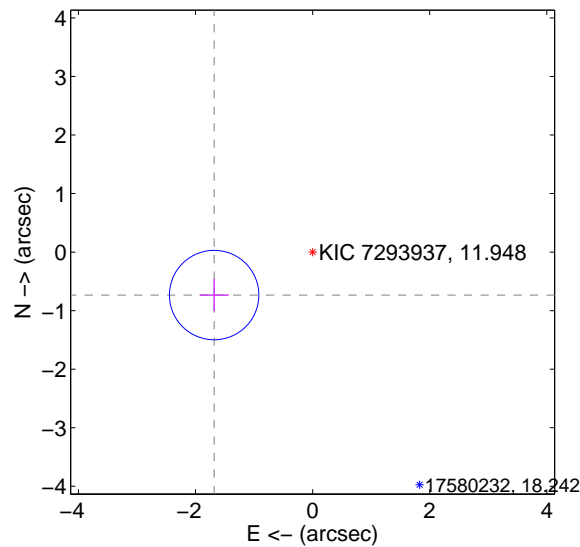
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.780 ± 0.254	7.01	1.652 ± 0.250	-0.664 ± 0.275
PRF-fit source offset from KIC position	1.835 ± 0.255	7.21	1.682 ± 0.250	-0.734 ± 0.275
photometric centroid source offset	1.25 ± 0.73	1.72	-1.06 ± 0.61	0.66 ± 0.97

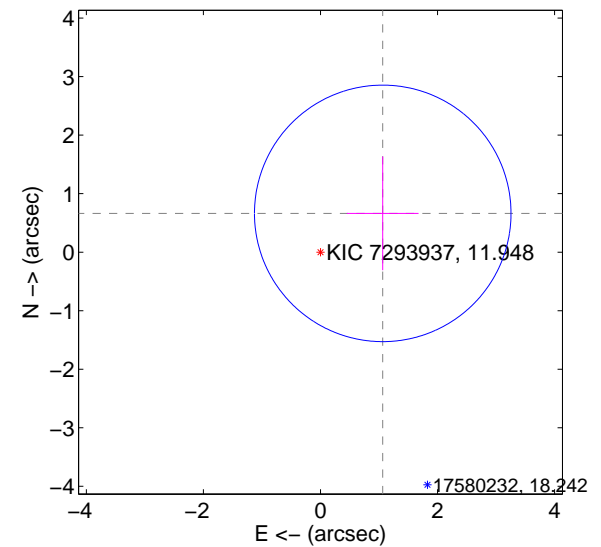
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

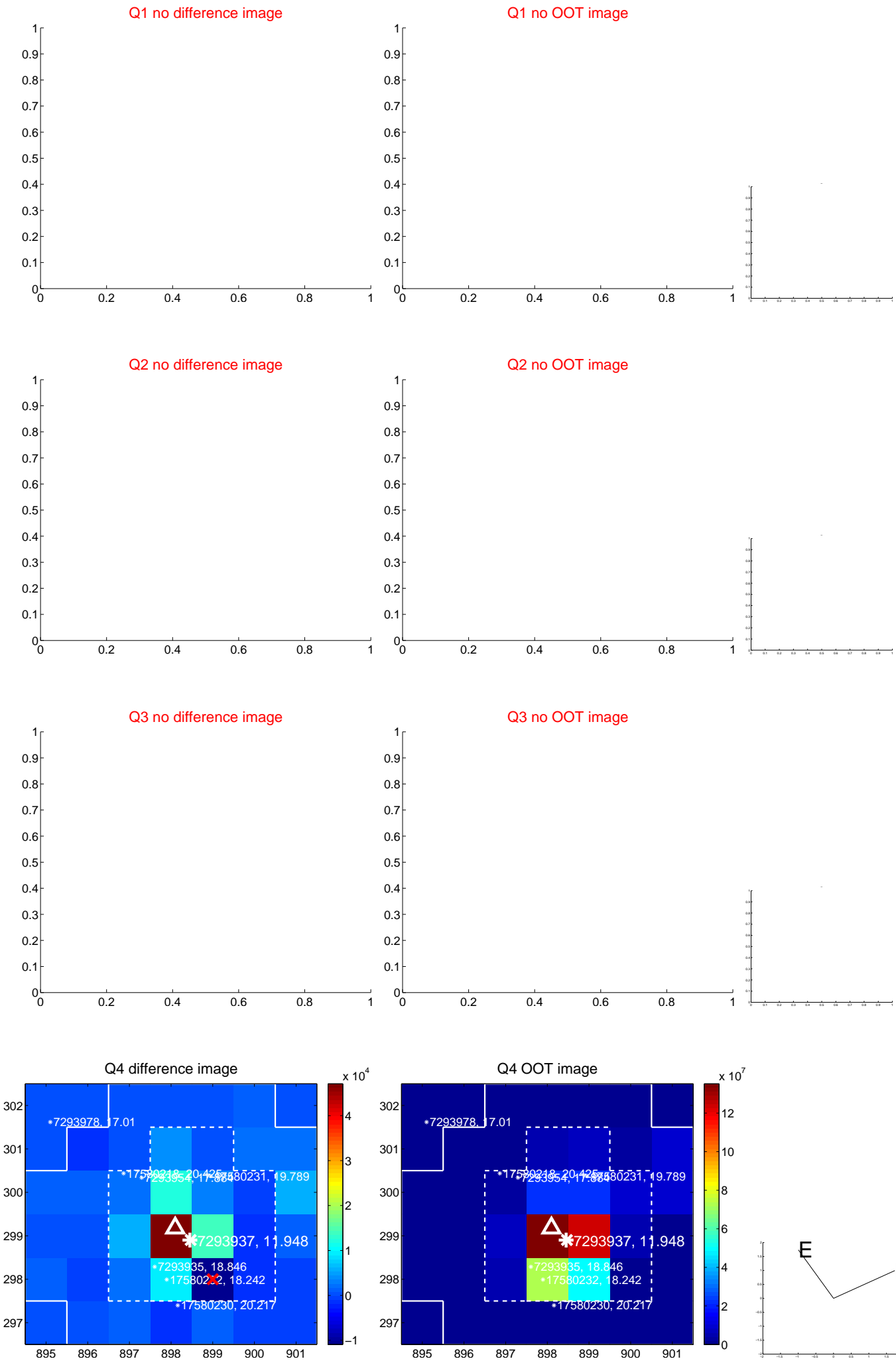


offset from photometric centroids



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.

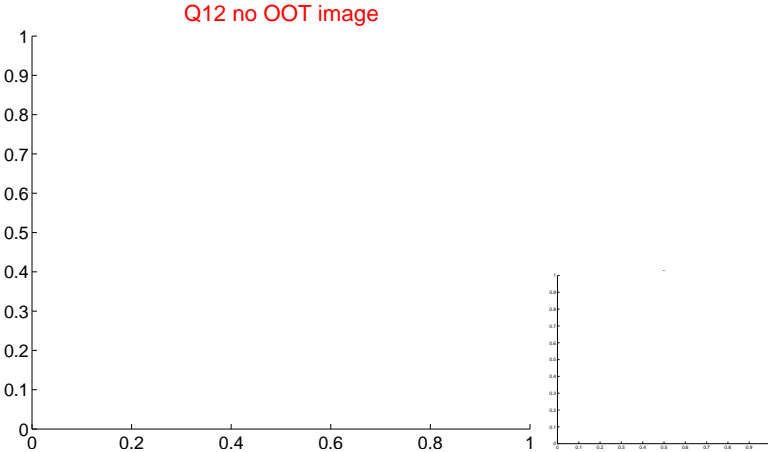
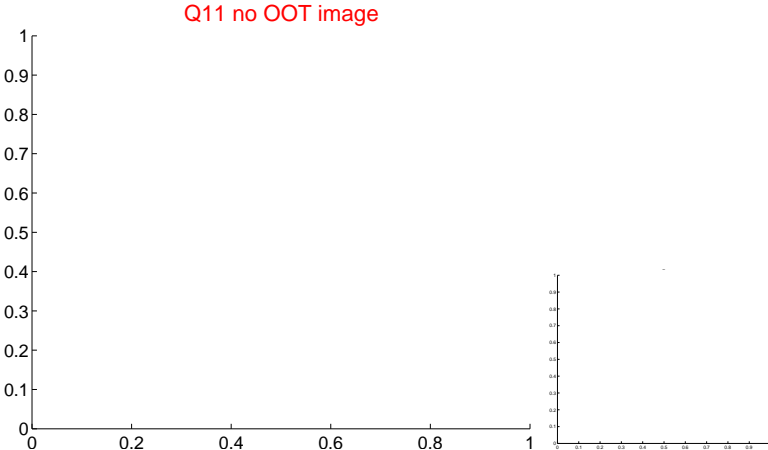
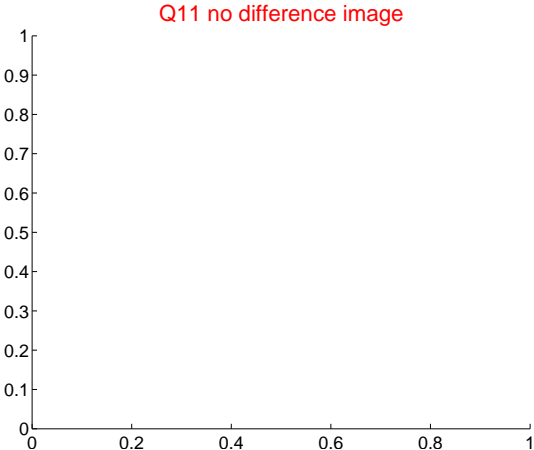
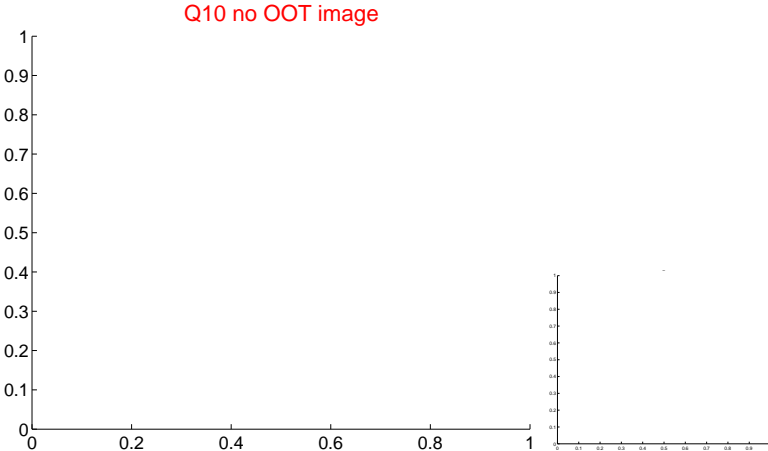
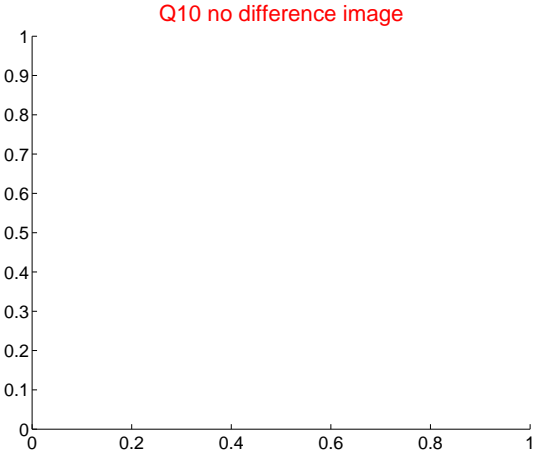
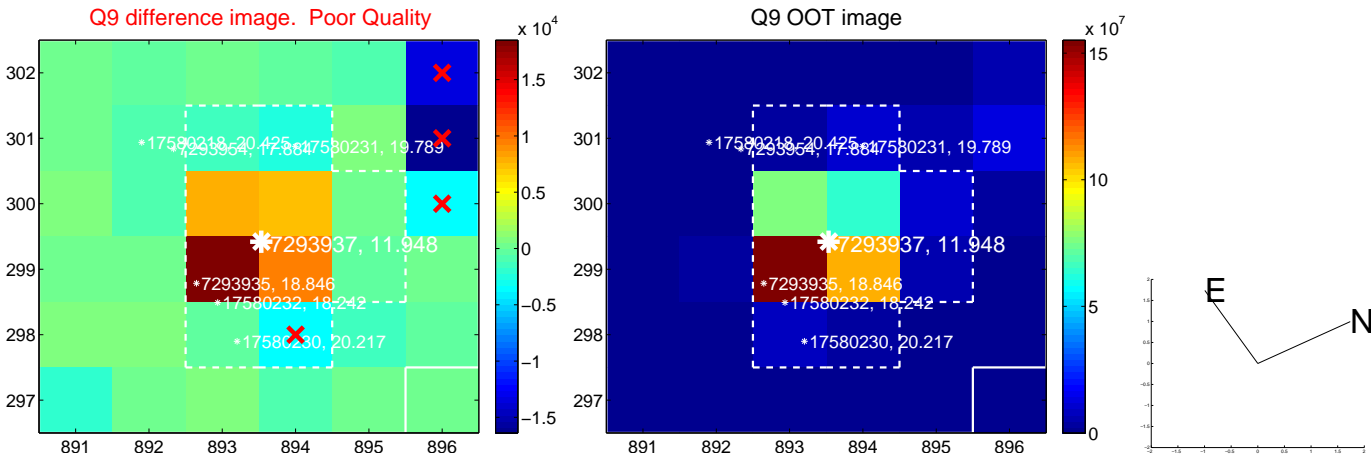
white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



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.

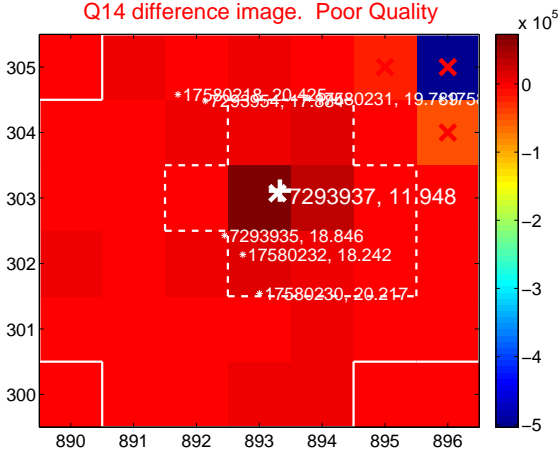
Q13 no difference image



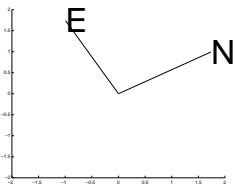
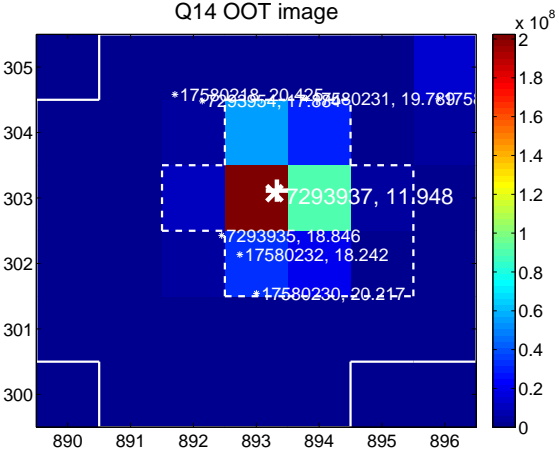
Q13 no OOT image



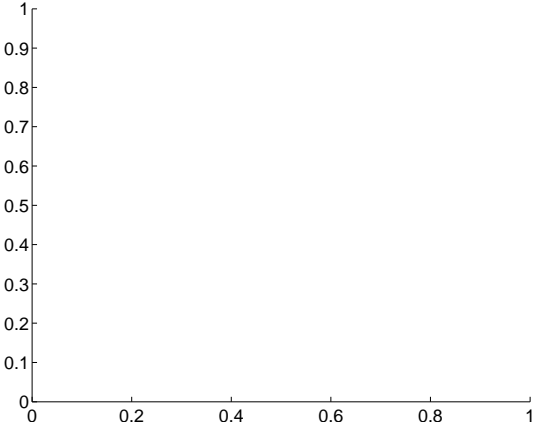
Q14 difference image. Poor Quality



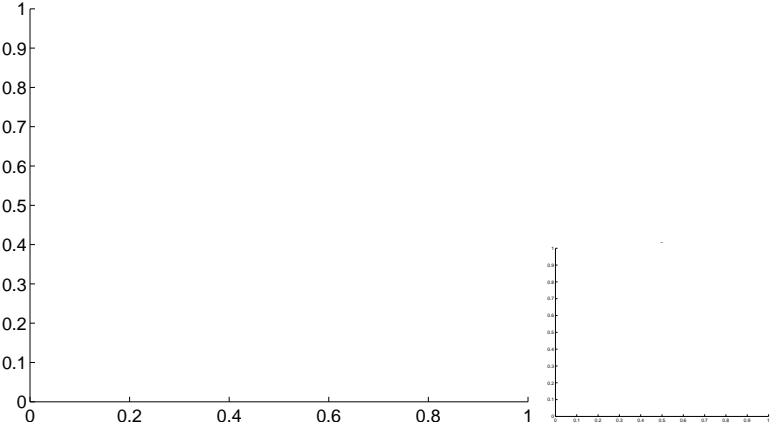
Q14 OOT image



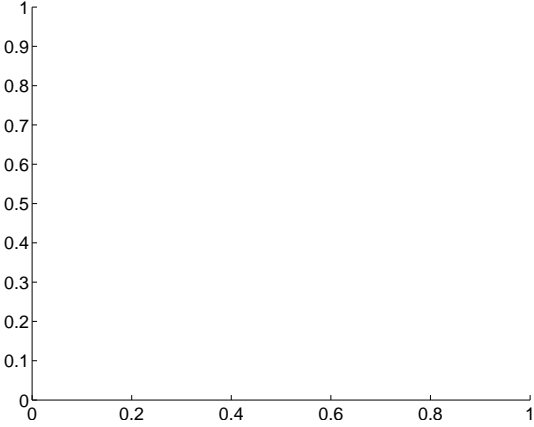
Q15 no difference image



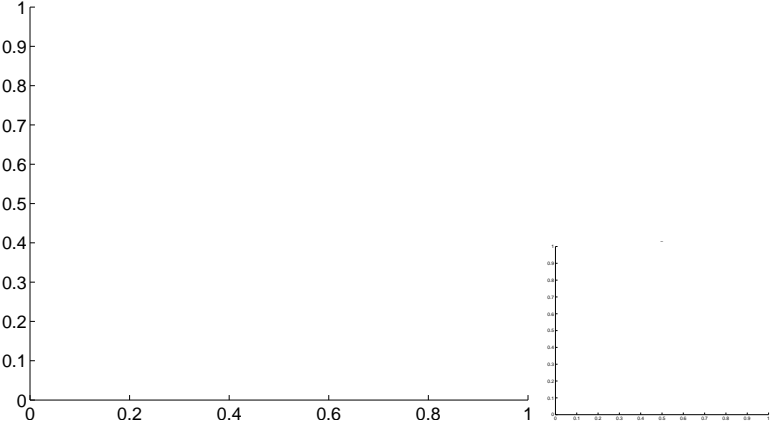
Q15 no OOT image



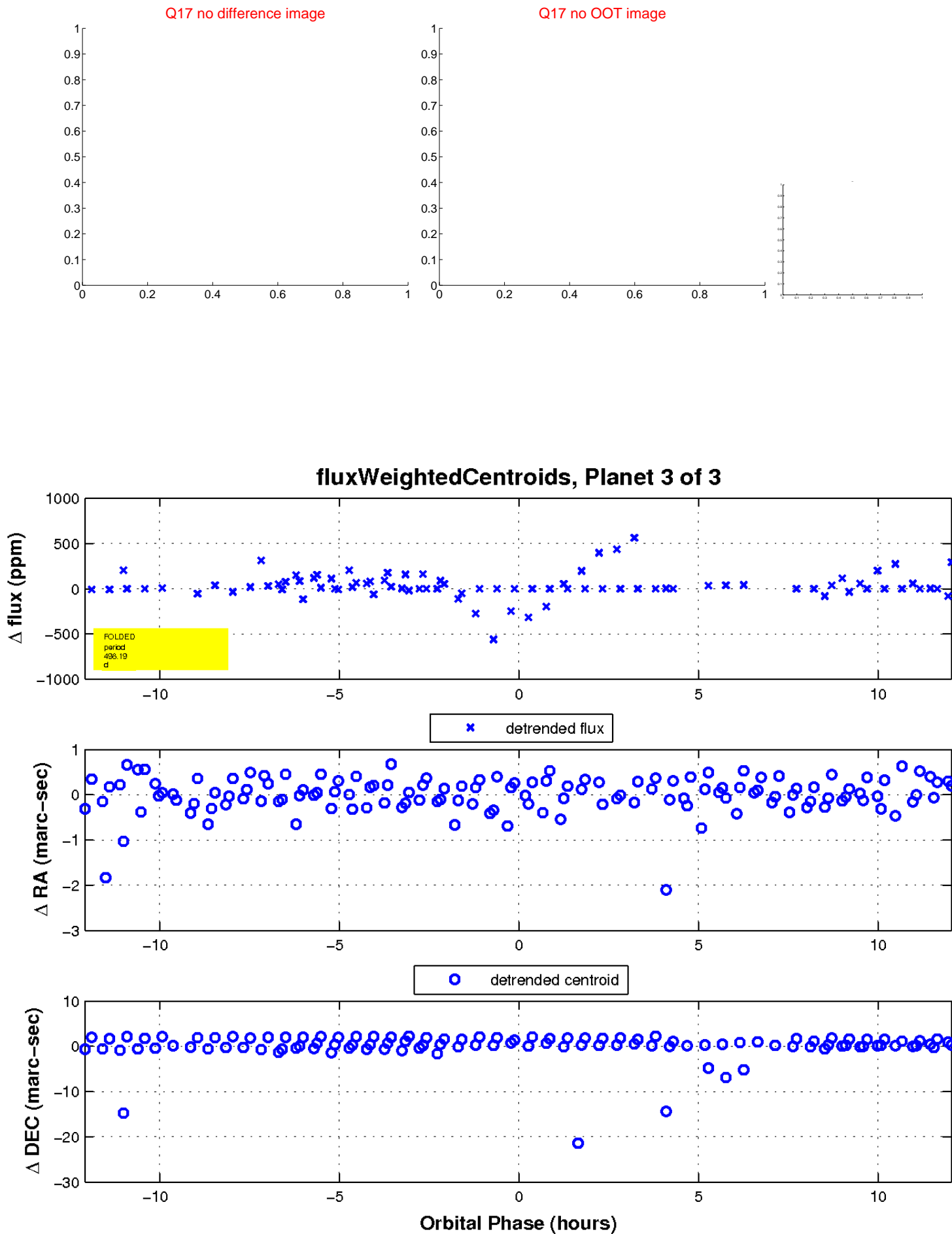
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

