

KIC 009948002

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})
009948002-01	OBS	3562.01	101.263377	214.125131	72774.2	17.844	2230.1	2213.3	1.06	6309	41.97	8.49
009948002-02	OBS	No	101.263399	186.589566	43110.0	9.569	1430.0	1099.9	1.06	6309	23.47	8.49
009948002-03	OBS	No	415.045259	151.763717	341.4	17.979	7.3	7.0	1.06	6309	2.04	1.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009948002-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
009948002-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
009948002-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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.

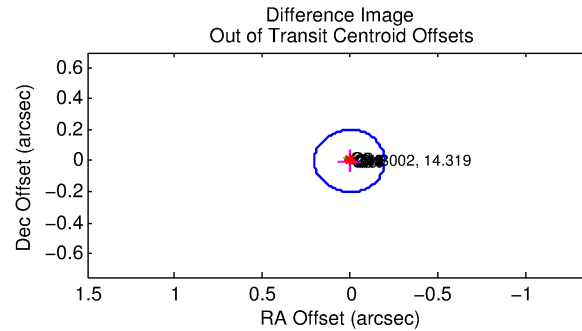
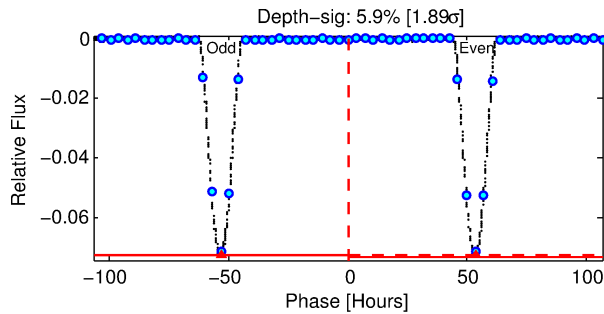
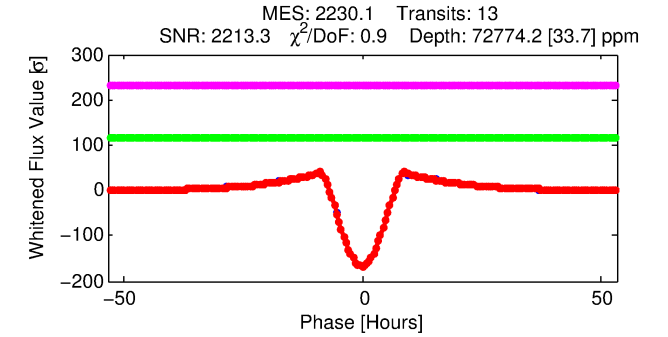
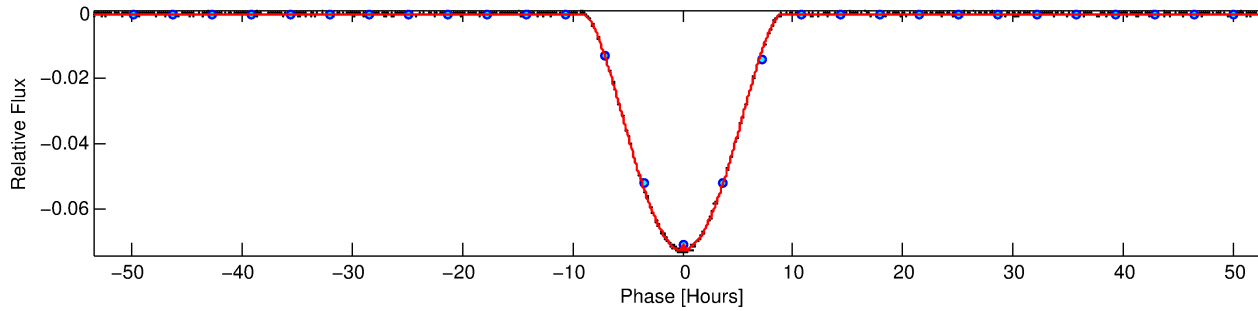
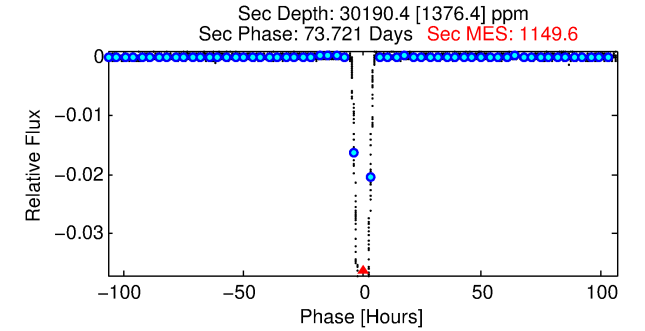
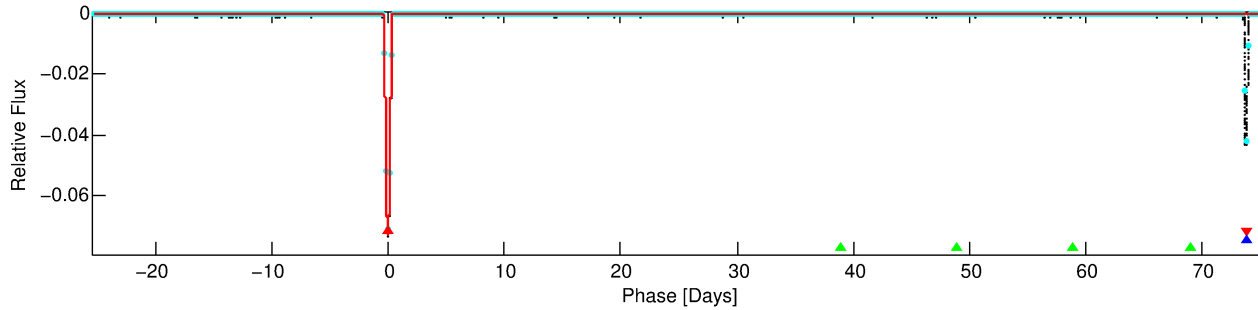
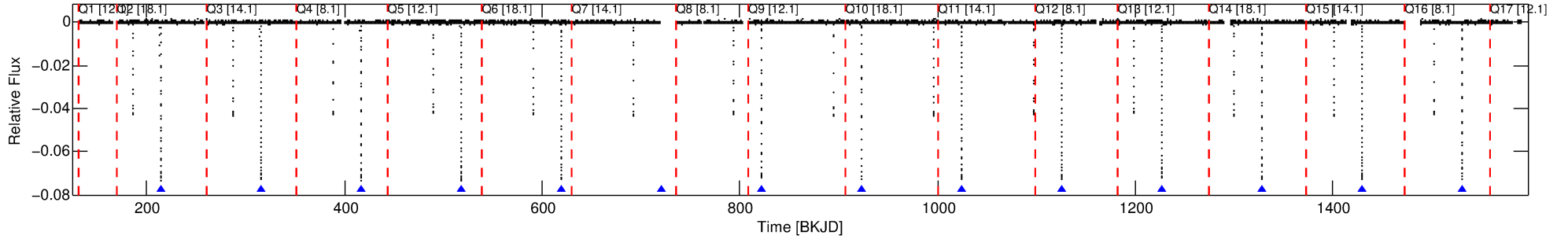
Ephemeris Match Information For 009948002-01

No Significant Match Found

DV One-Page Summary

KIC: 9948002 Candidate: 1 of 3 Period: 101.263 d
KOI: K03562.01 Corr: 0.998

Kp: 14.32 R*: 1.06 Rs Teff: 6309.0 K Logg: 4.41 Fe/H: -0.200



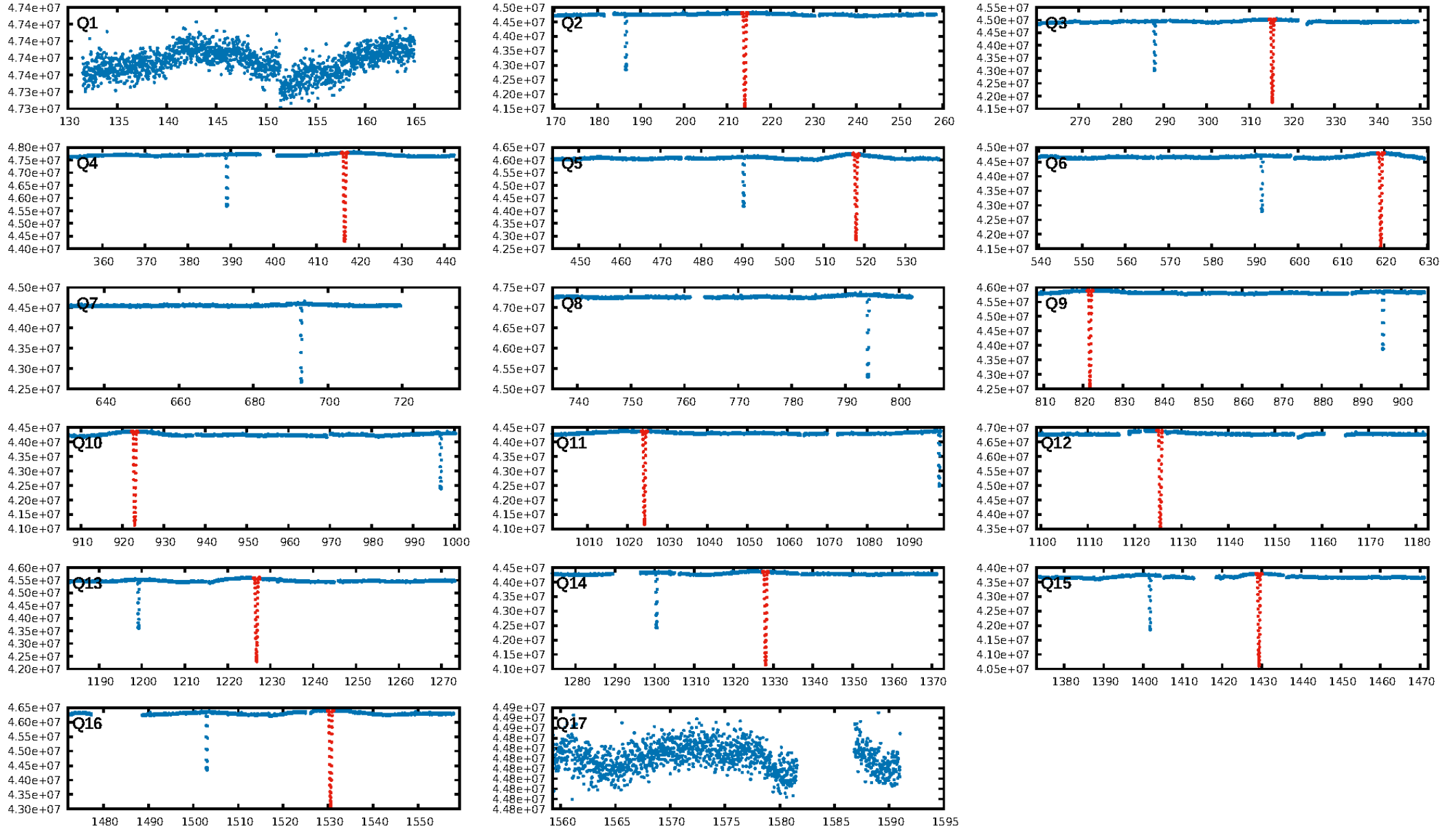
DV Fit Results:

Period = 101.26338 [0.00002] d
Epoch = 214.1251 [0.0001] BKJD
Rp/R* = 0.3622 [0.0074]
a/R* = 43.59 [0.03]
b = 0.92 [0.01]
Seff = 8.49 [3.53]
Teff = 435 [45] K
Rp = 41.97 [14.41] Re
a = 0.4343 [0.1214] AU
Ag = 1778.21 [711.02] [2.50σ]
Teffp = 4370 [158] K [24.00σ]

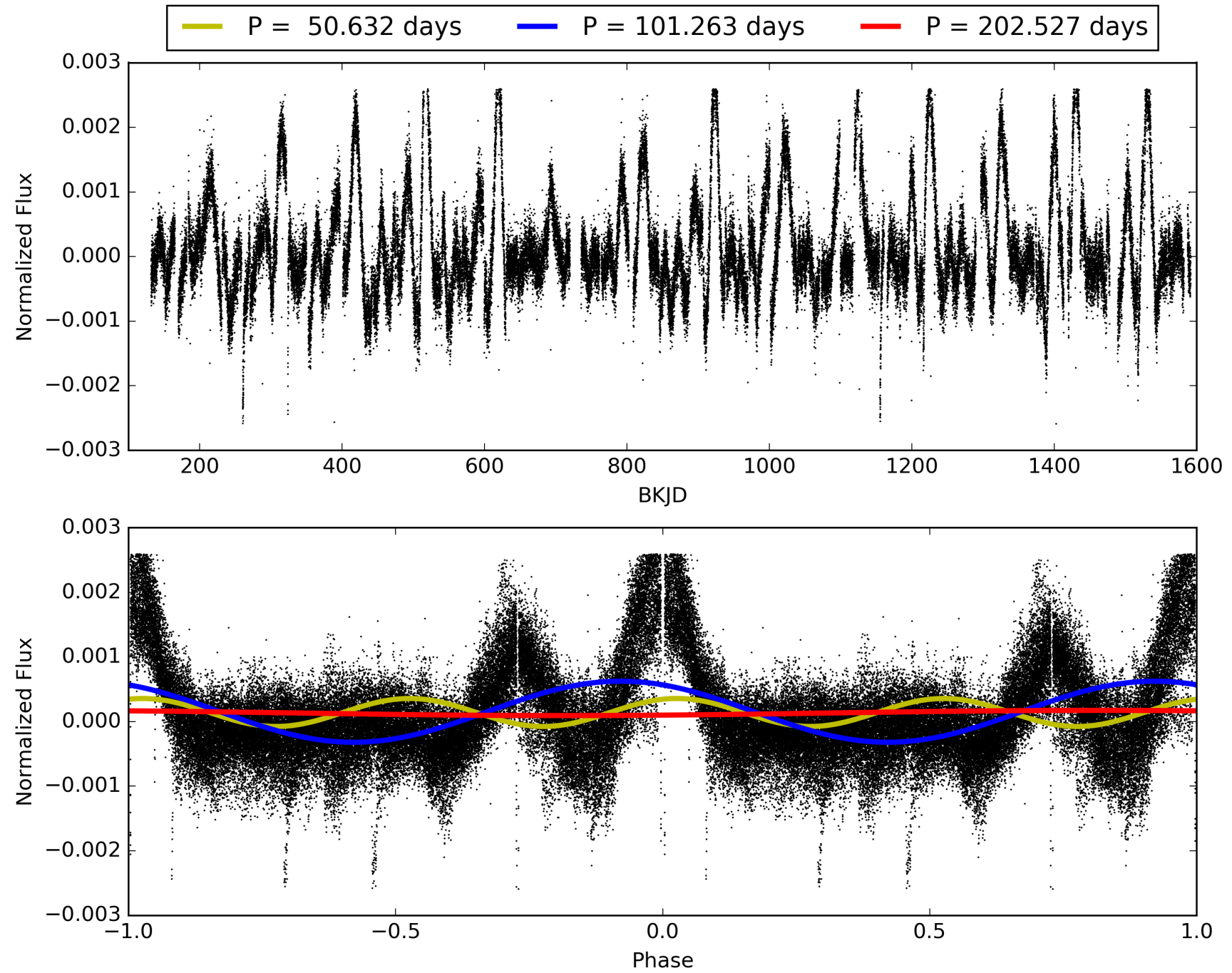
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: 5.863
Centroid-sig: 0.0%
Centroid-so: 0.078 arcsec [21.83σ]
OotOffset-rm: 0.005 arcsec [0.07σ]
OotOffset-st: 4/3/2/2 [11]
KicOffset-rm: 0.079 arcsec [1.13σ]
KicOffset-st: 4/3/2/2 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [11/11]

TCE 009948002-01, PDC Light Curves

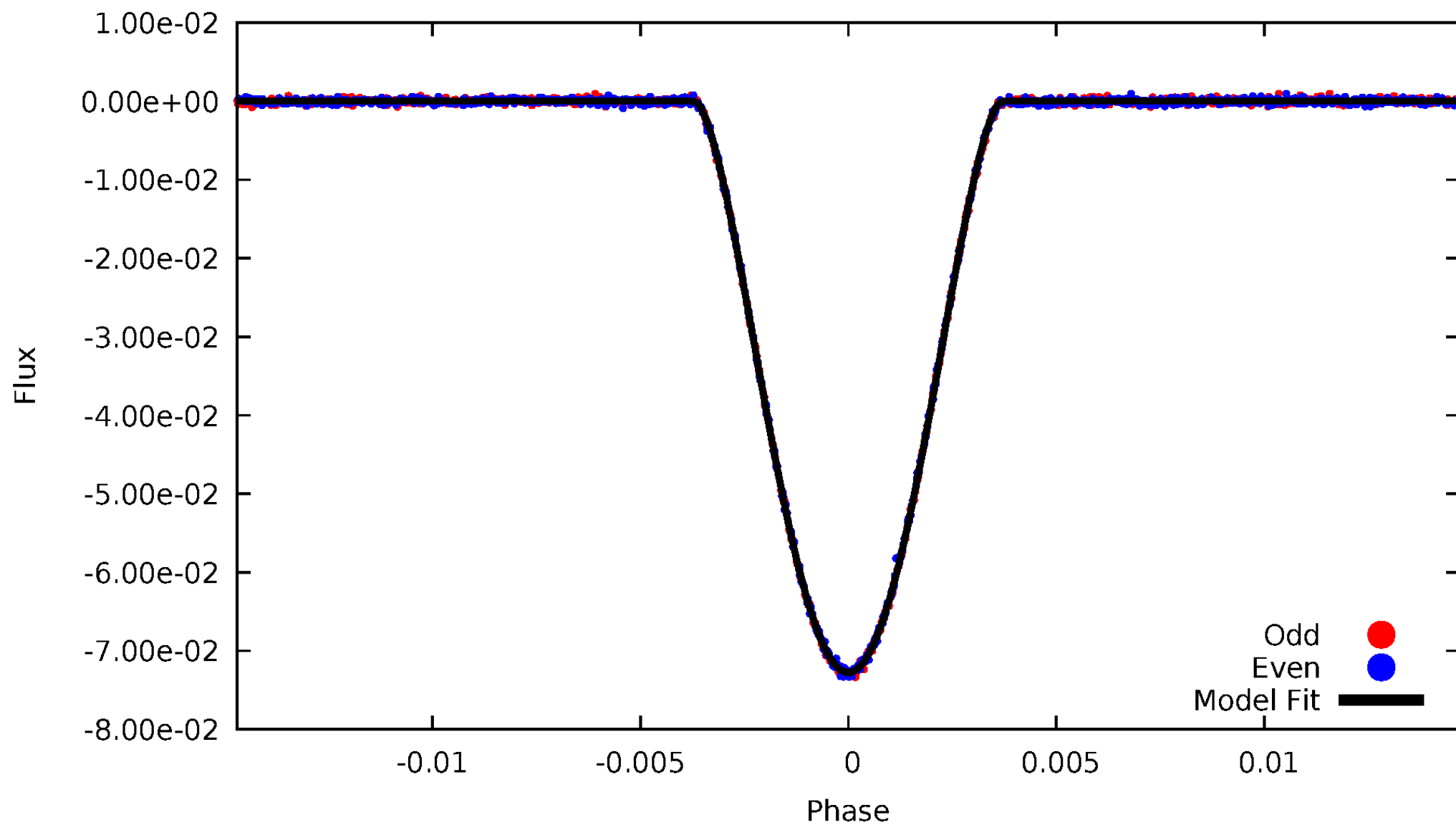


TCE 009948002-01



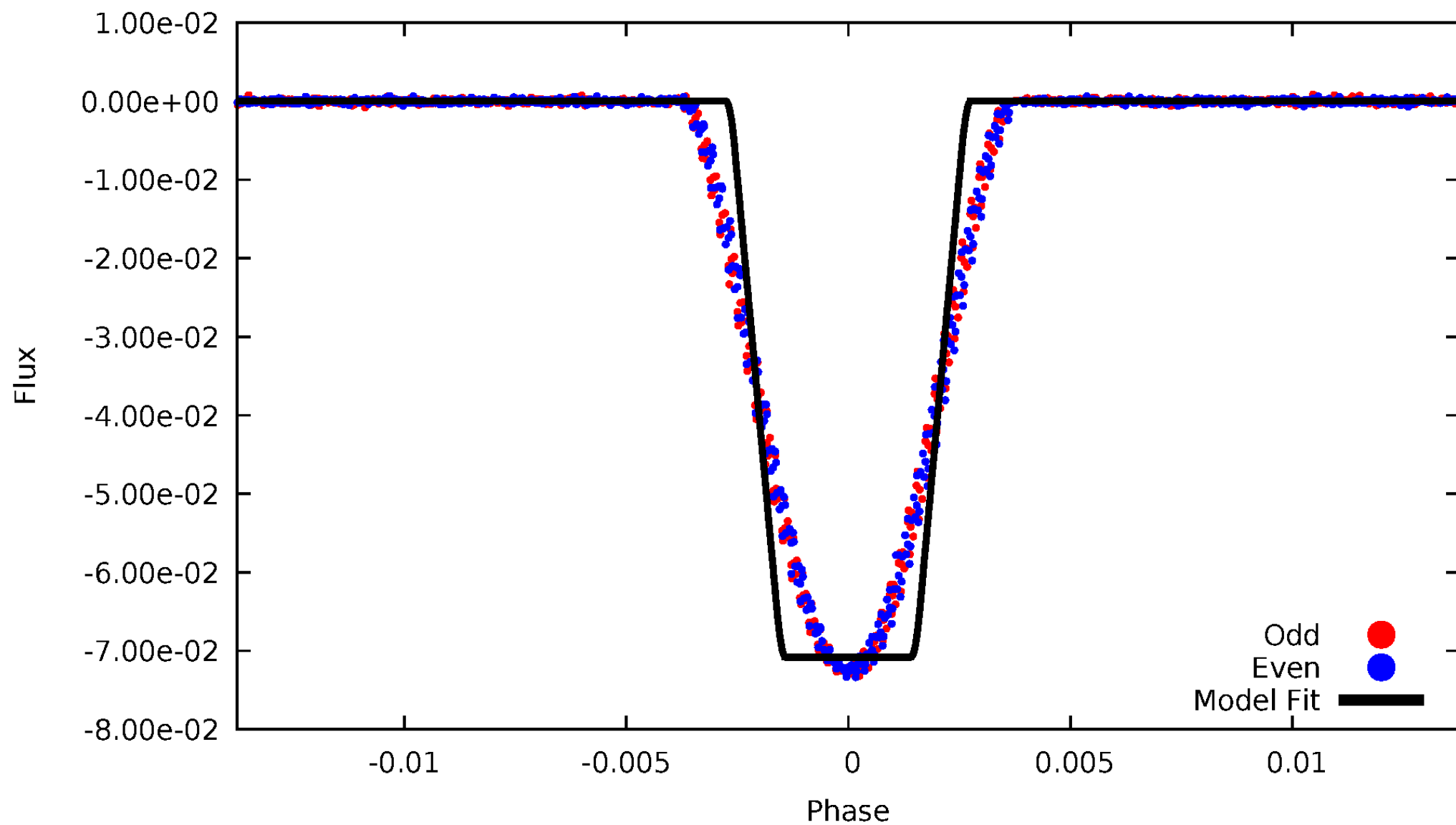
DV Odd/Even

TCE 009948002-01



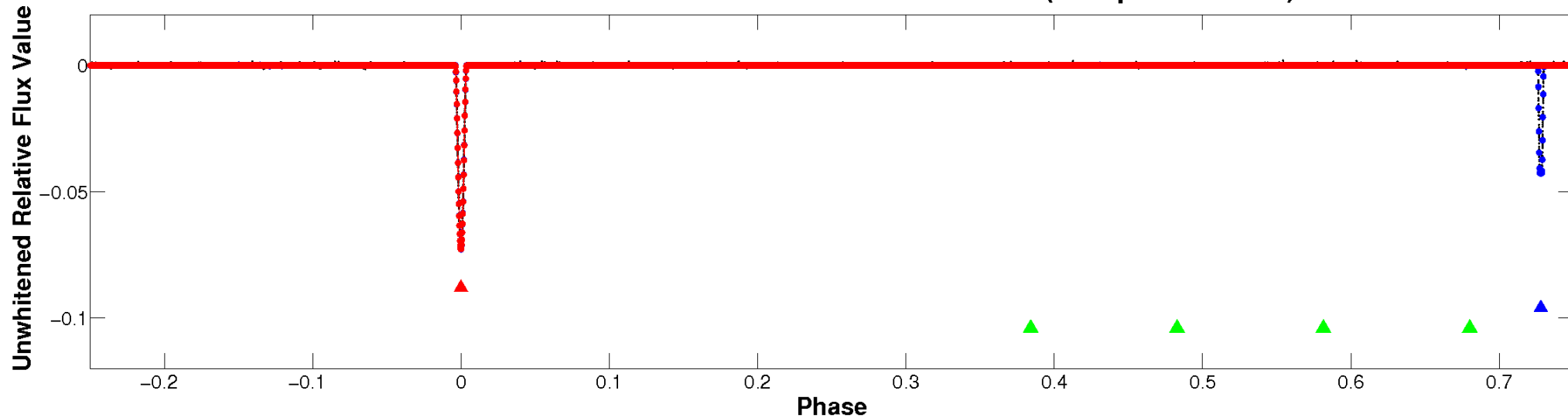
ALT Odd/Even

TCE 009948002-01

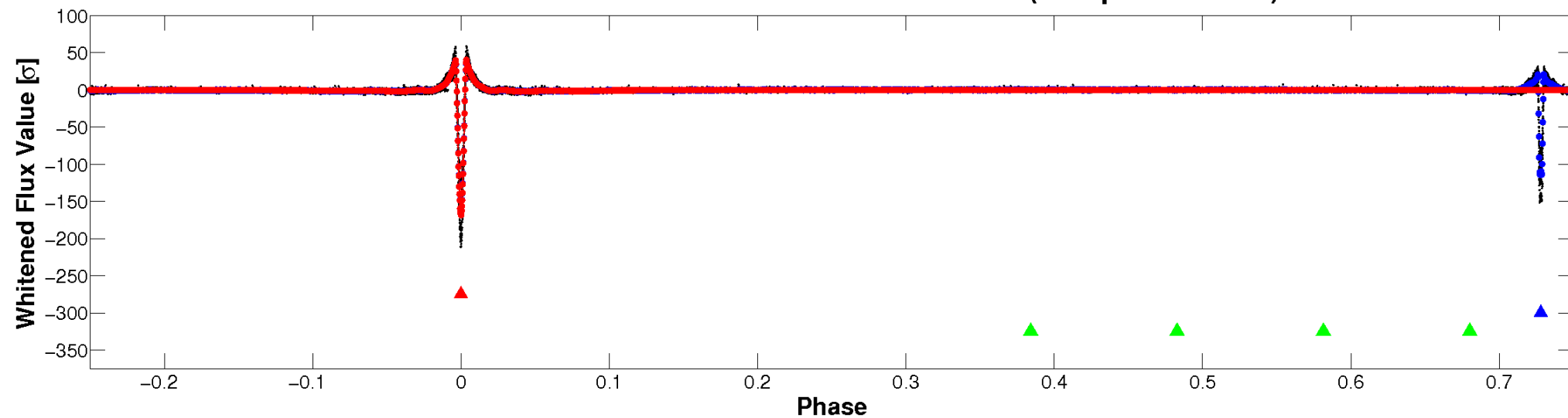


Non-Whitened Vs. Whitened Light Curve

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

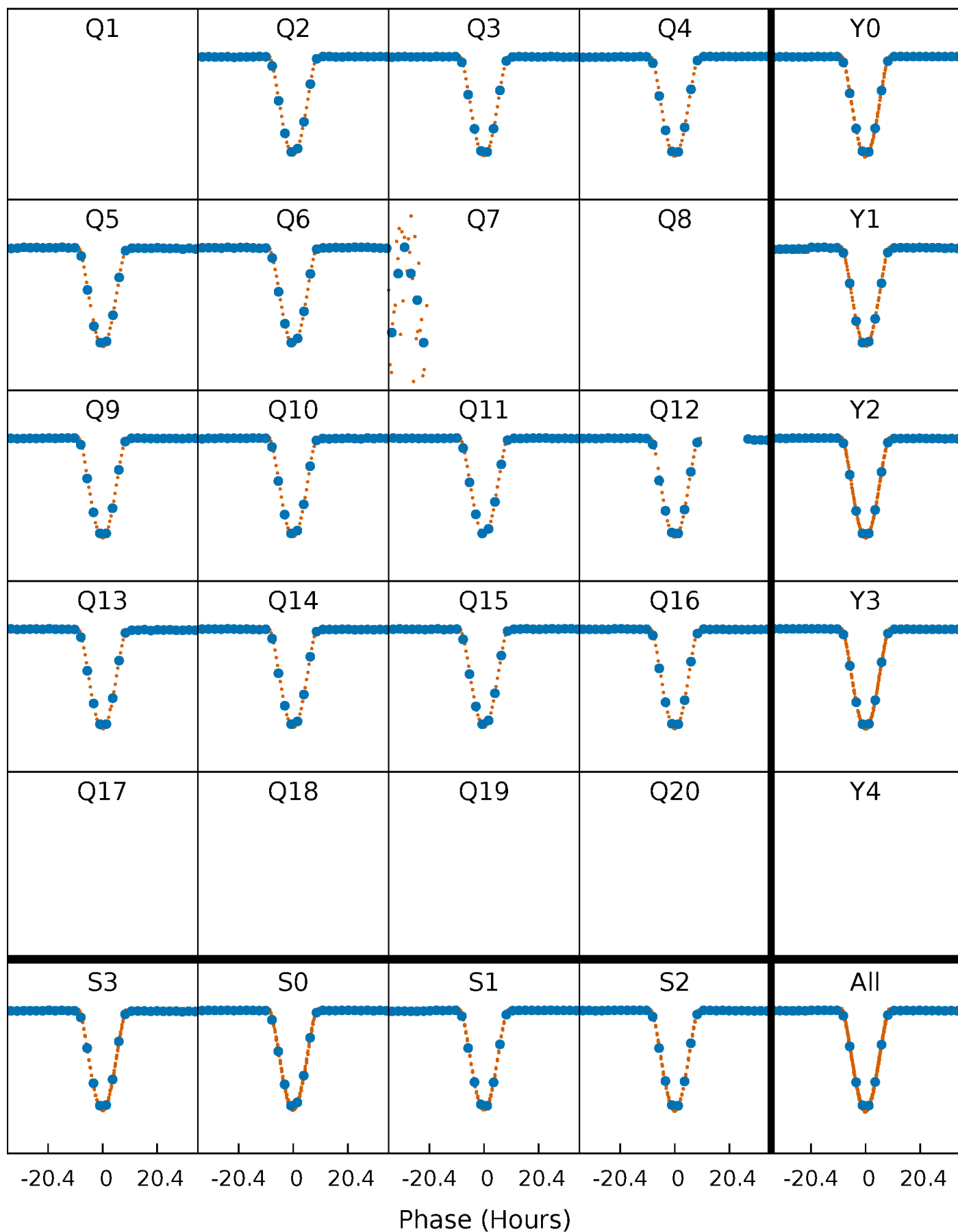


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



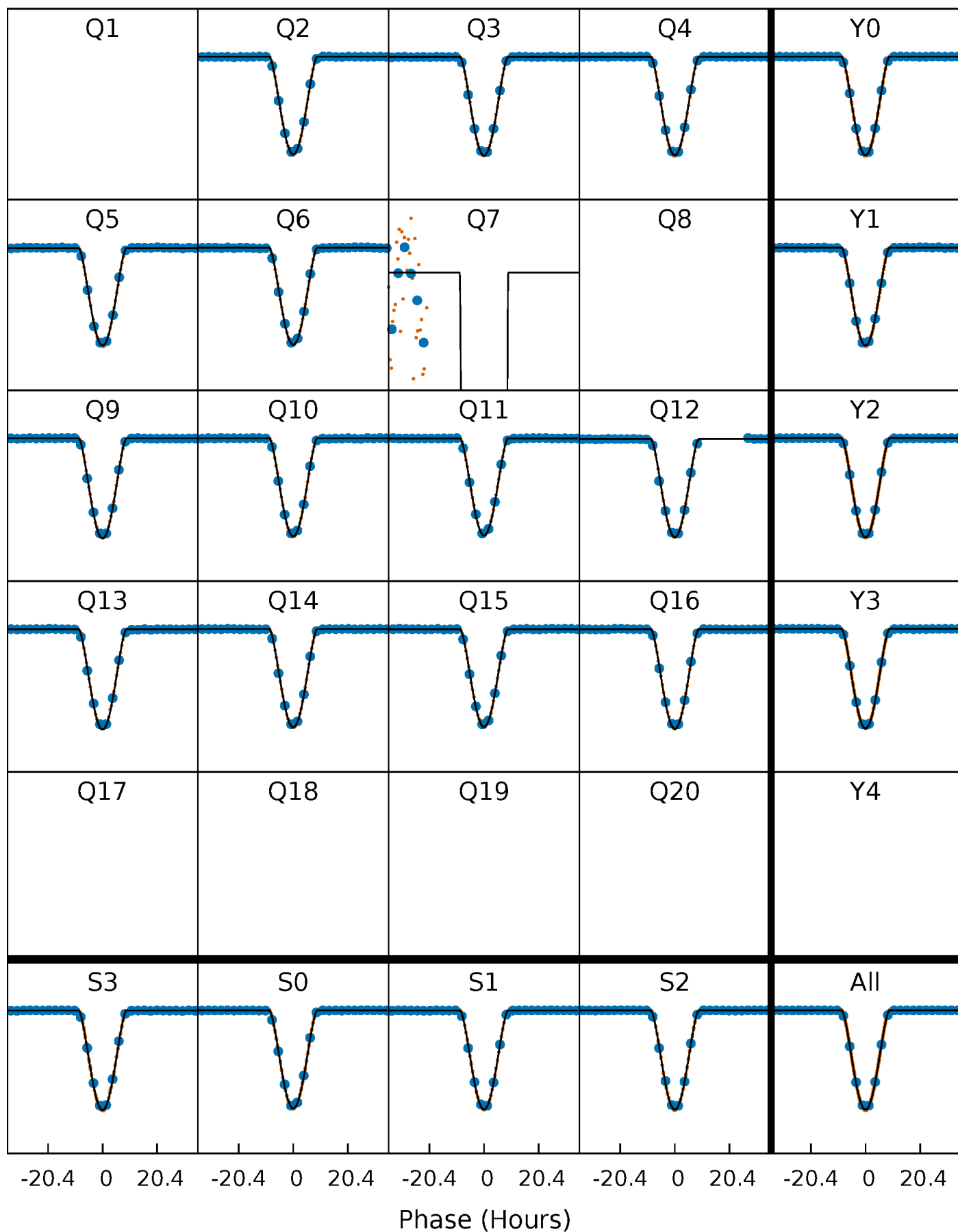
PDC Quarter-Phased Transit Curves

TCE 009948002-01 P=101.263377 Days $T_0=214.125131$ (BKJD)



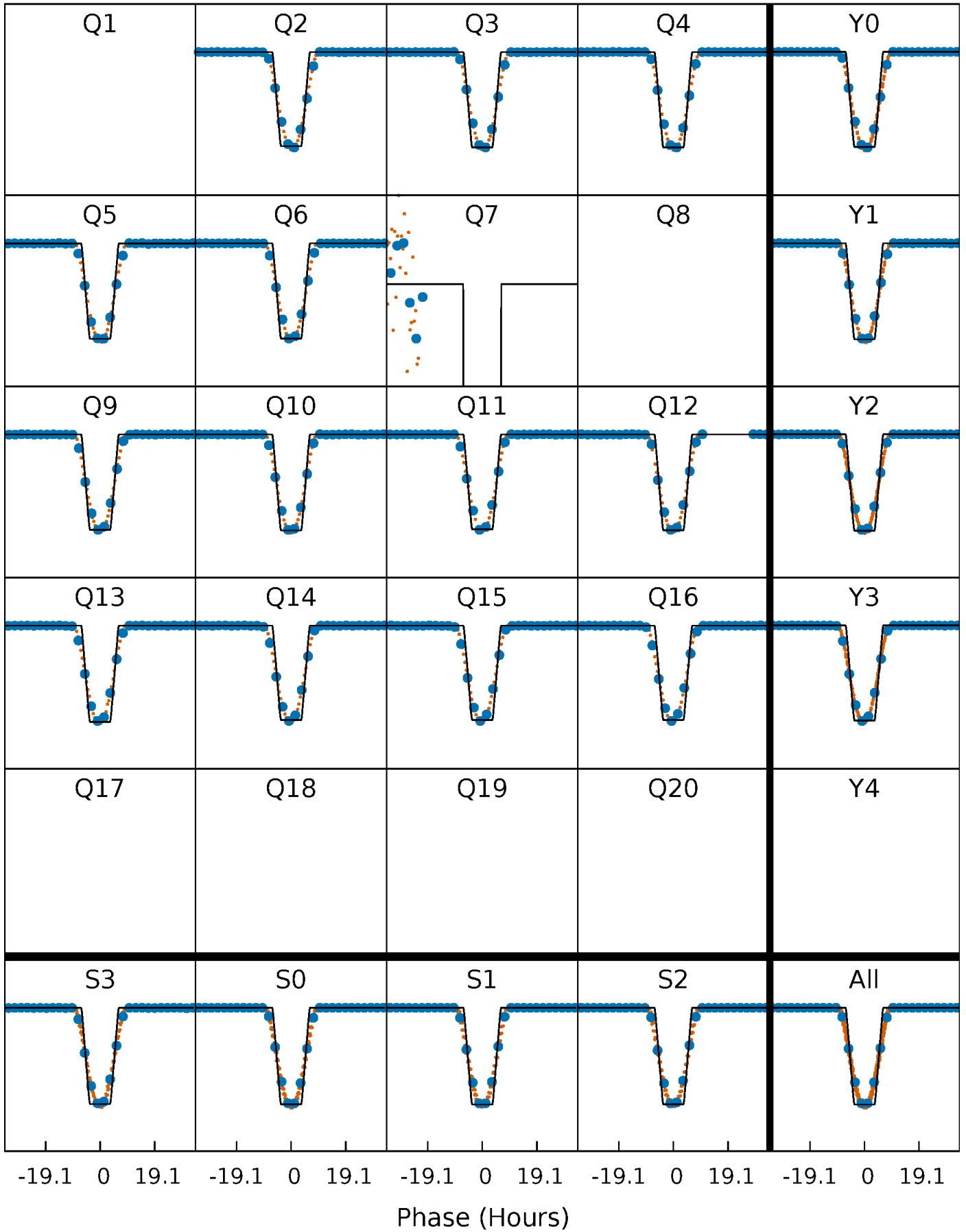
DV Quarter-Phased Transit Curves

TCE 009948002-01 P=101.263377 Days $T_0=214.125131$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

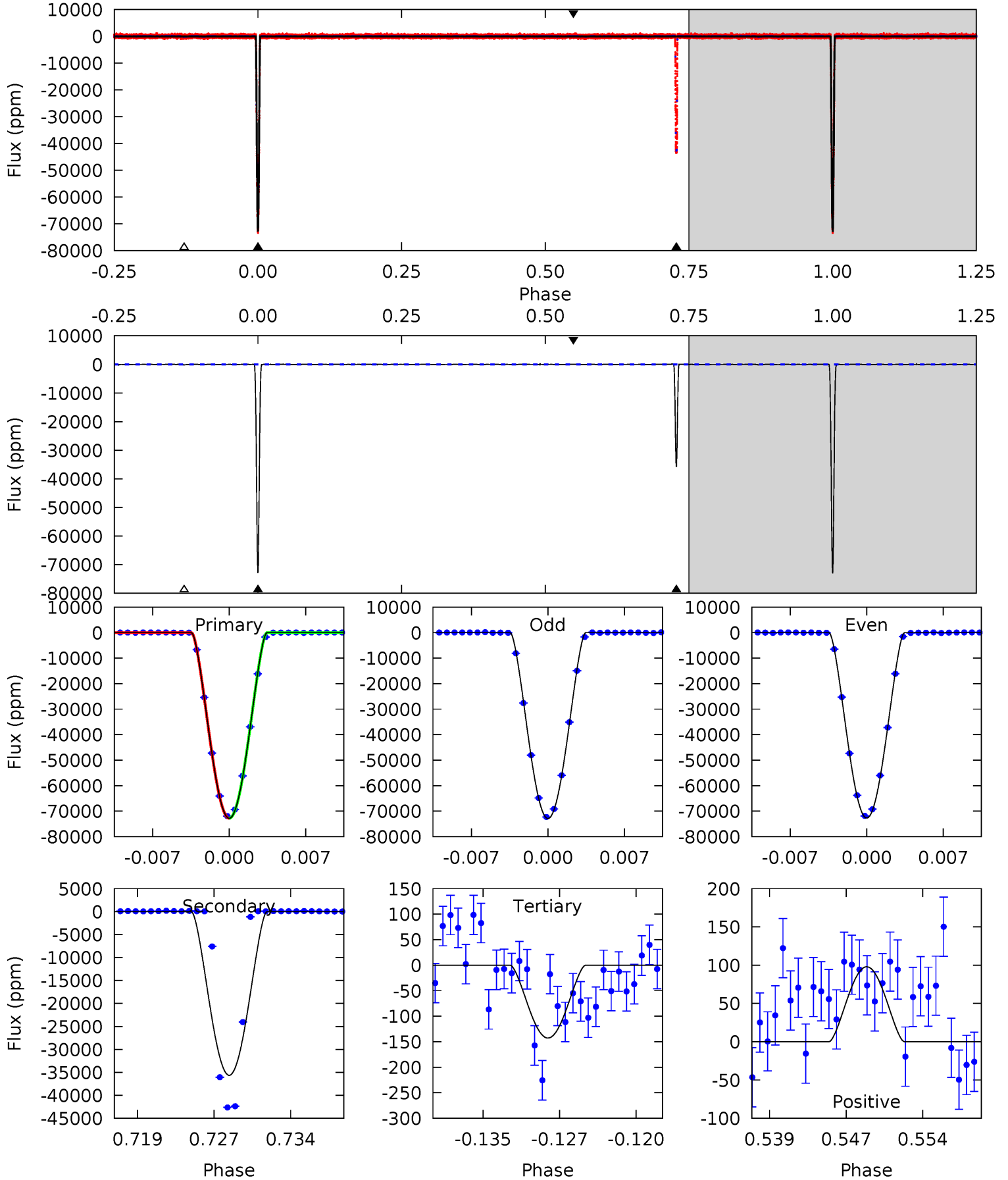
TCE 009948002-01 P=101.265593 Days $T_0=214.110253$ (BKJD)



DV Model-Shift Uniqueness Test

009948002-01, P = 101.263377 Days, E = 112.861754 Days

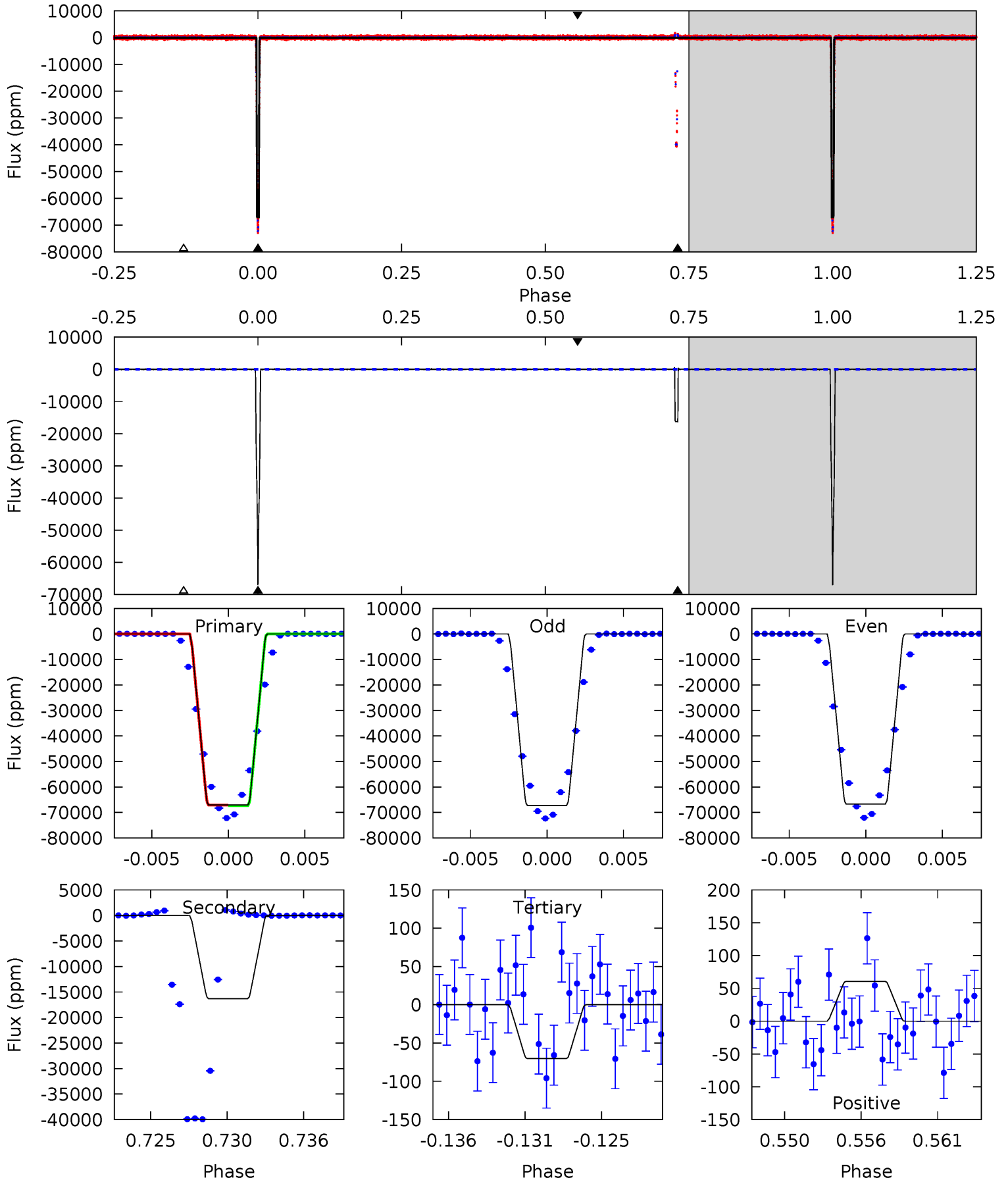
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6217	3044	12.2	8.36	5.08	2.67	3.18	6205	6209	3032	3036	7.92	1.00	0.00	0.10



Alt Model-Shift Uniqueness Test

009948002-01, P = 101.265593 Days, E = 112.844660 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3459	840.2	3.62	3.12	5.14	2.78	1.04	3455	3455	836.6	837.1	14.3	1.00	0.01	1.13



Stellar Parameters For KIC 009948002

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6309^{+169}_{-206}	$4.413^{+0.070}_{-0.210}$	$-0.200^{+0.250}_{-0.300}$	$1.062^{+0.364}_{-0.121}$	$1.058^{+0.173}_{-0.129}$	$1.244^{+0.384}_{-0.694}$
	+3%/-3%	+2%/-5%	+125%/-150%	+34%/-11%	+16%/-12%	+31%/-56%
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 009948002-01 / KOI 3562.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-35640 ± 12	$42.58^{+7.26}_{-3.35}$	616^{+45}_{-28}	4732^{+111}_{-124}	2070^{+331}_{-482}
Alt.	-16294 ± 19	$31.19^{+5.64}_{-2.55}$	616^{+48}_{-29}	4563^{+113}_{-122}	1728^{+277}_{-435}

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 $A_{obs} \gg 1.0$

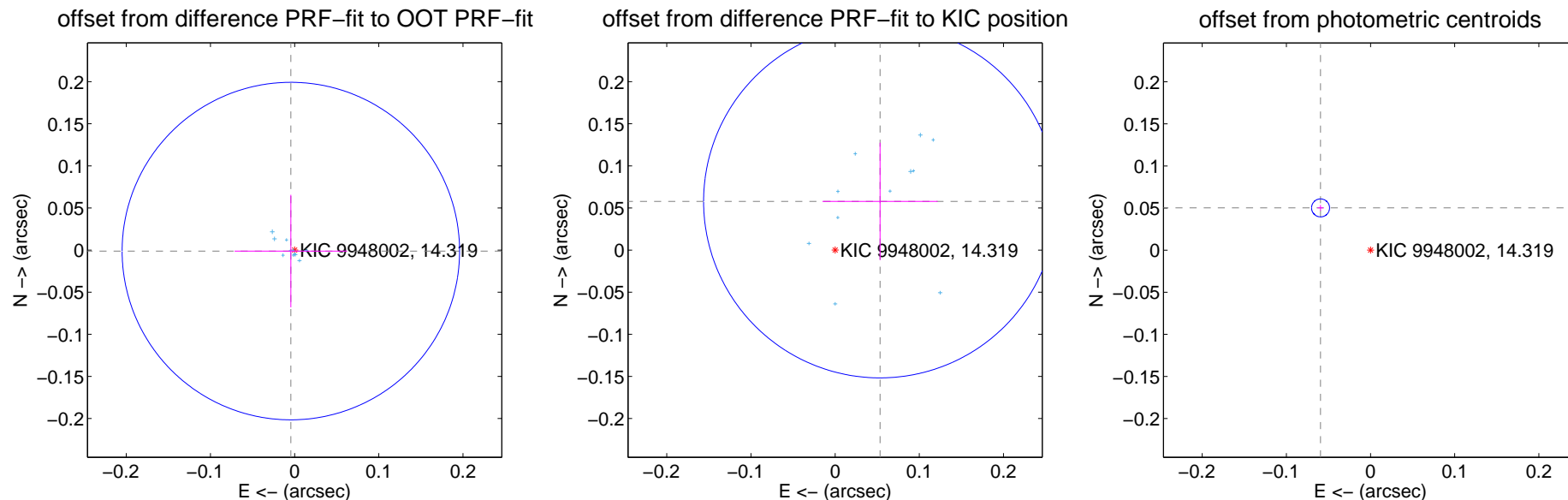
DV Centroid Data

Supplemental centroid analysis for 009948002-01. Kepler magnitude: 14.32. Transit SNR 2213.25

There are 11 quarters with good PRF difference image offsets

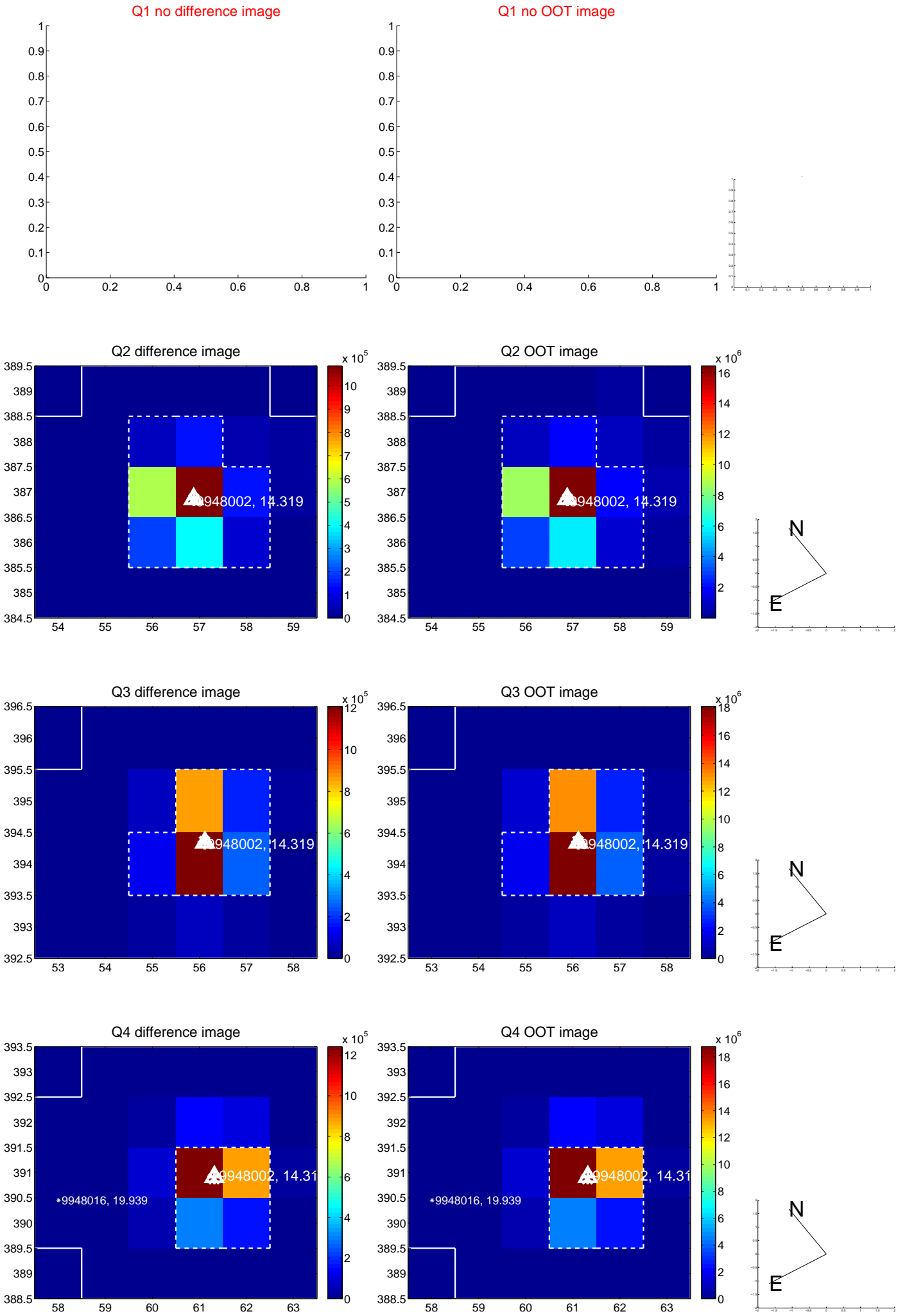
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.005 ± 0.067	0.07	0.004 ± 0.067	-0.001 ± 0.067
PRF-fit source offset from KIC position	0.079 ± 0.070	1.13	-0.053 ± 0.068	0.058 ± 0.070
photometric centroid source offset	0.08 ± 0.00	21.83	0.06 ± 0.00	0.05 ± 0.00

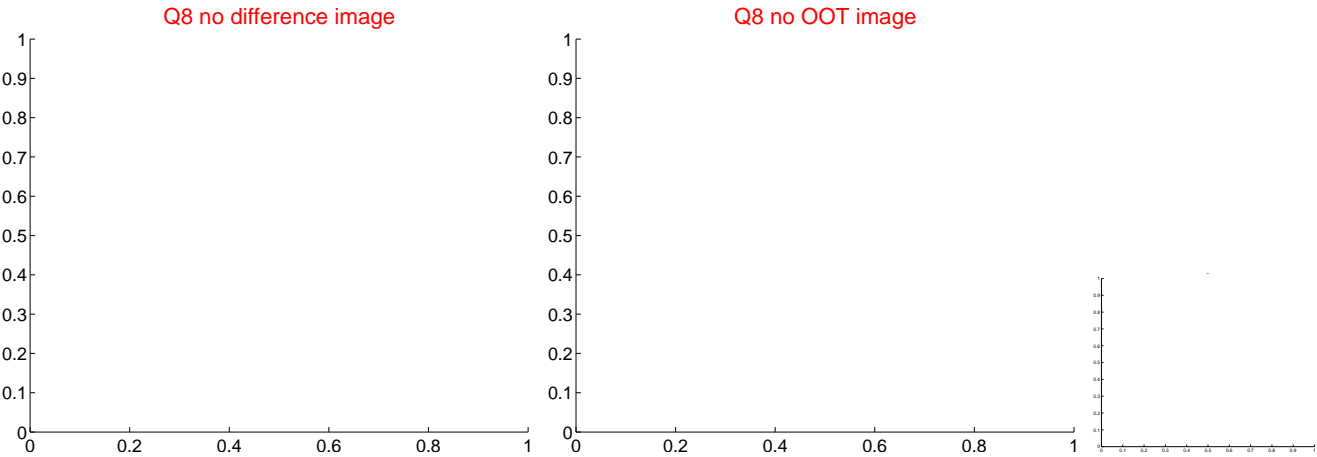
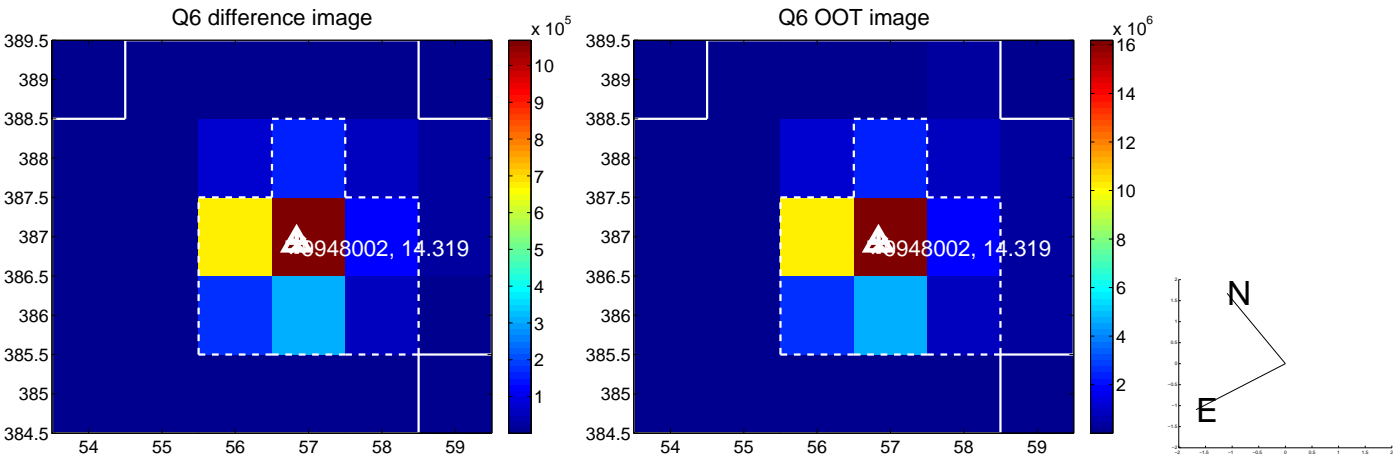
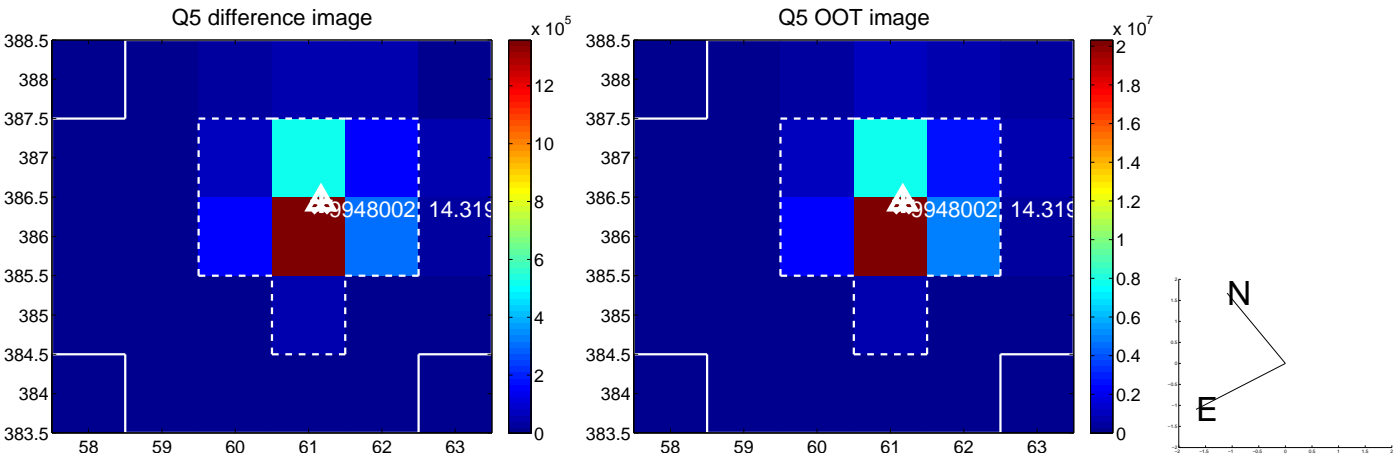


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

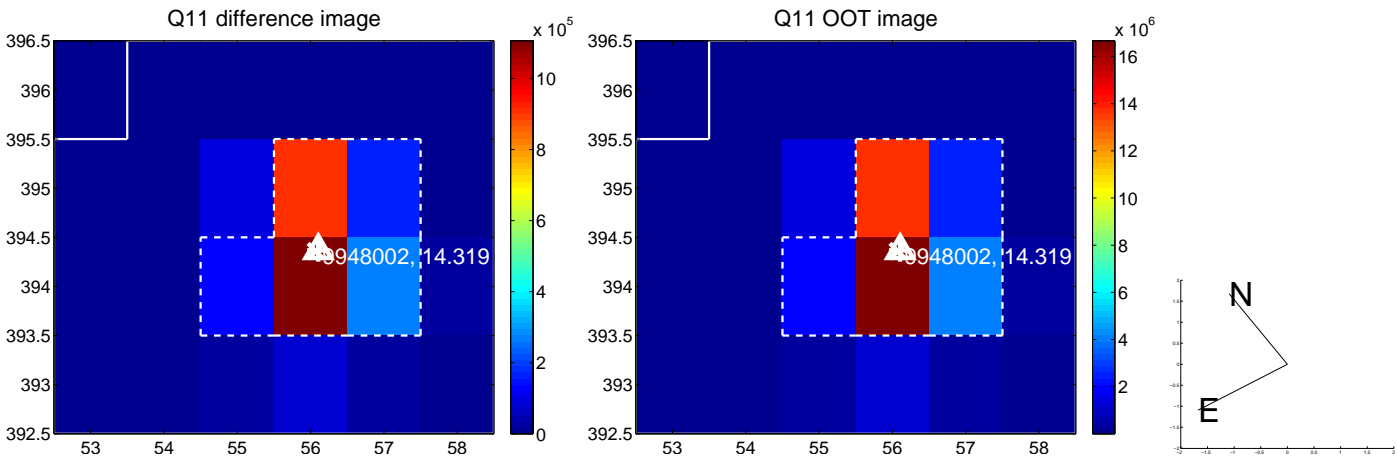
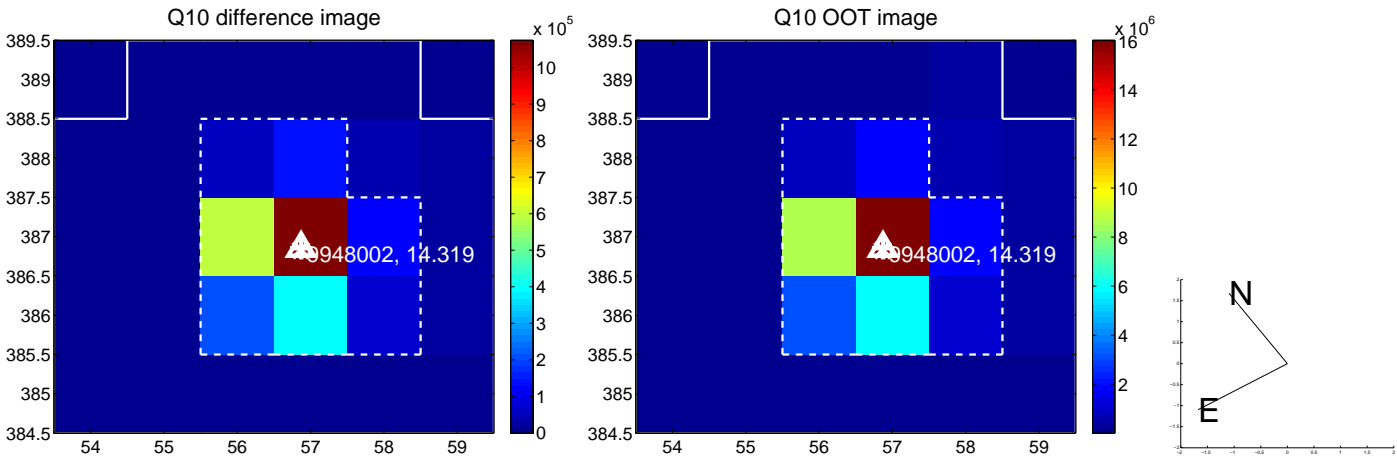
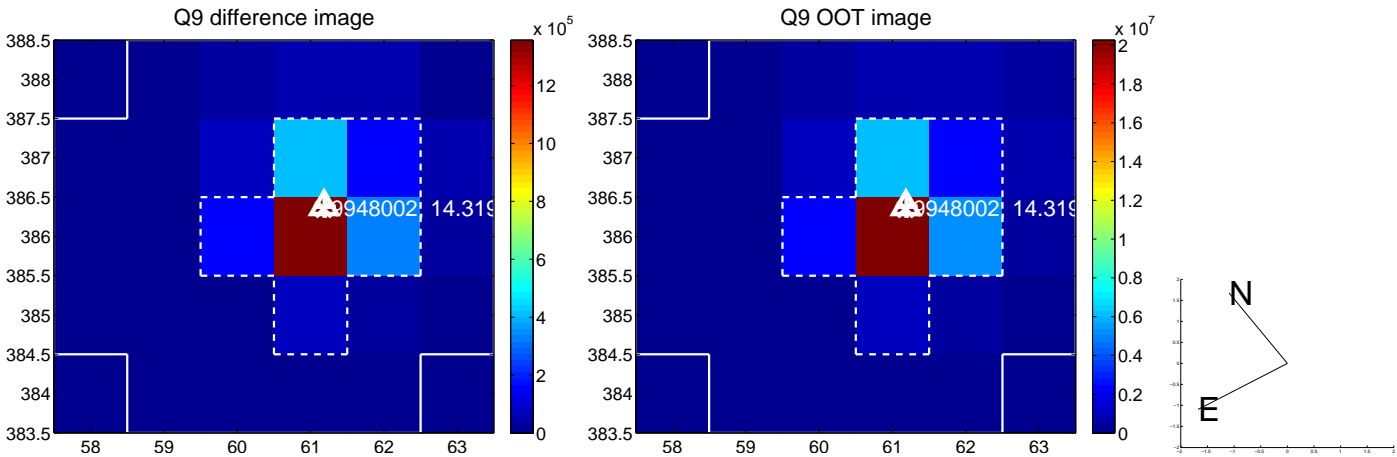
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



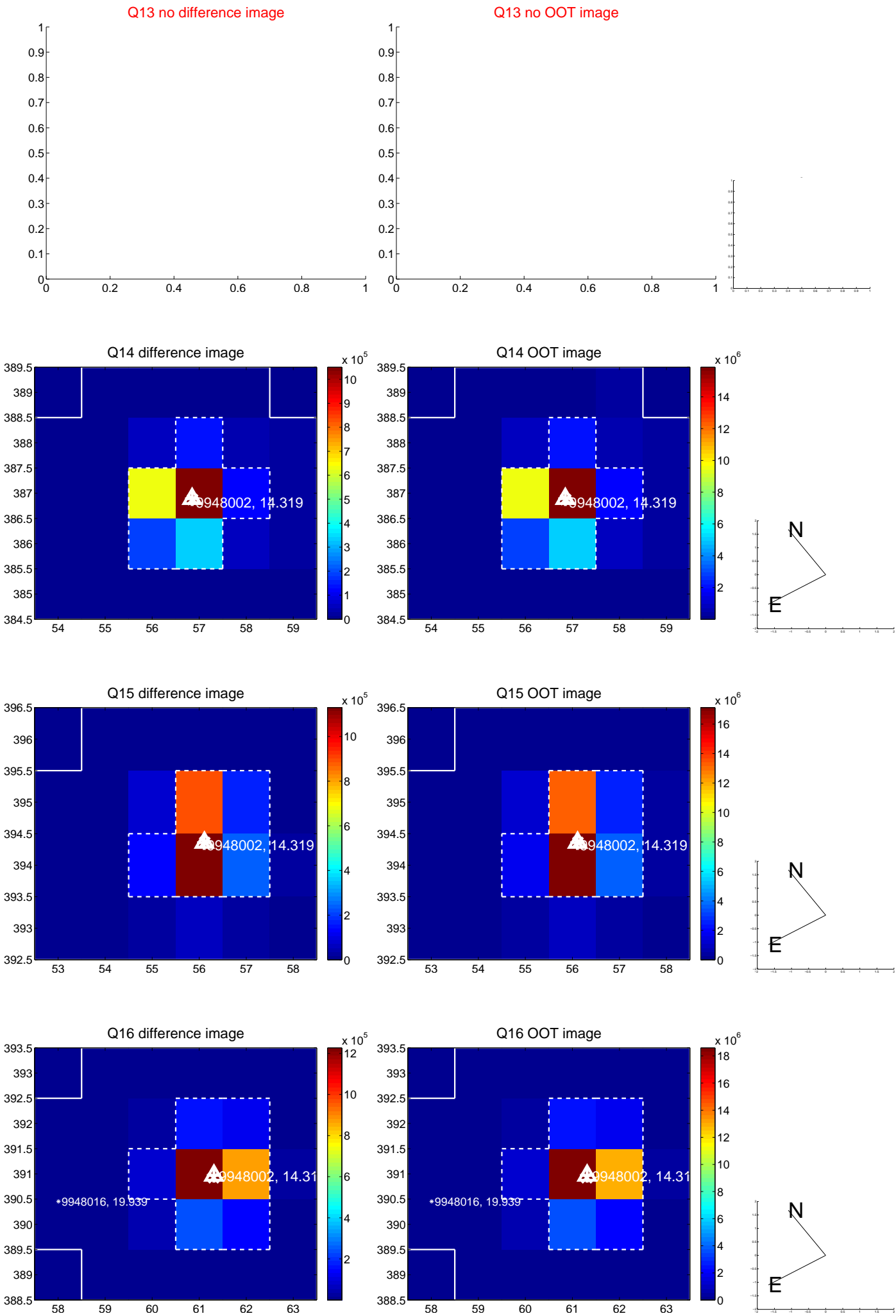
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



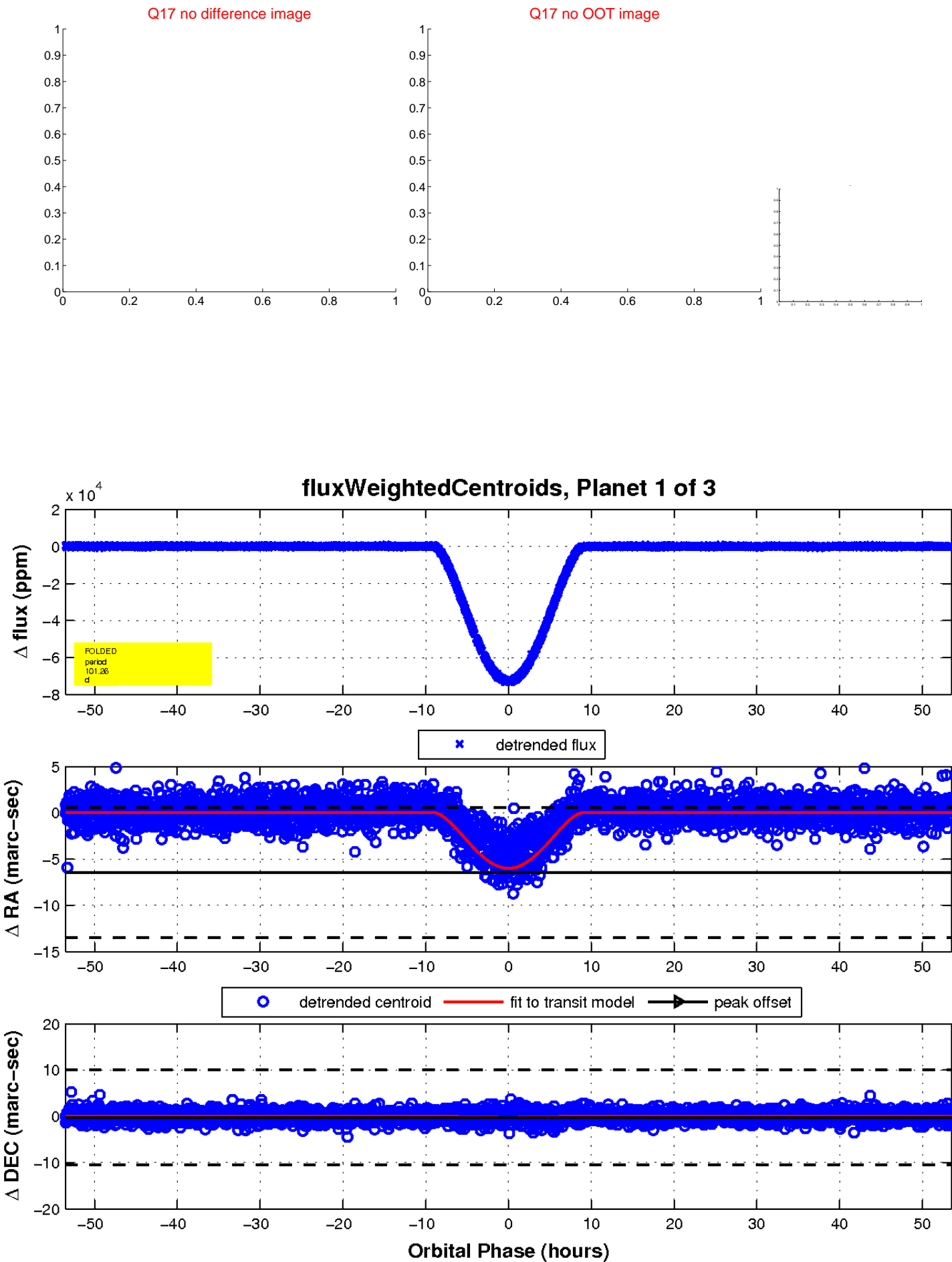
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

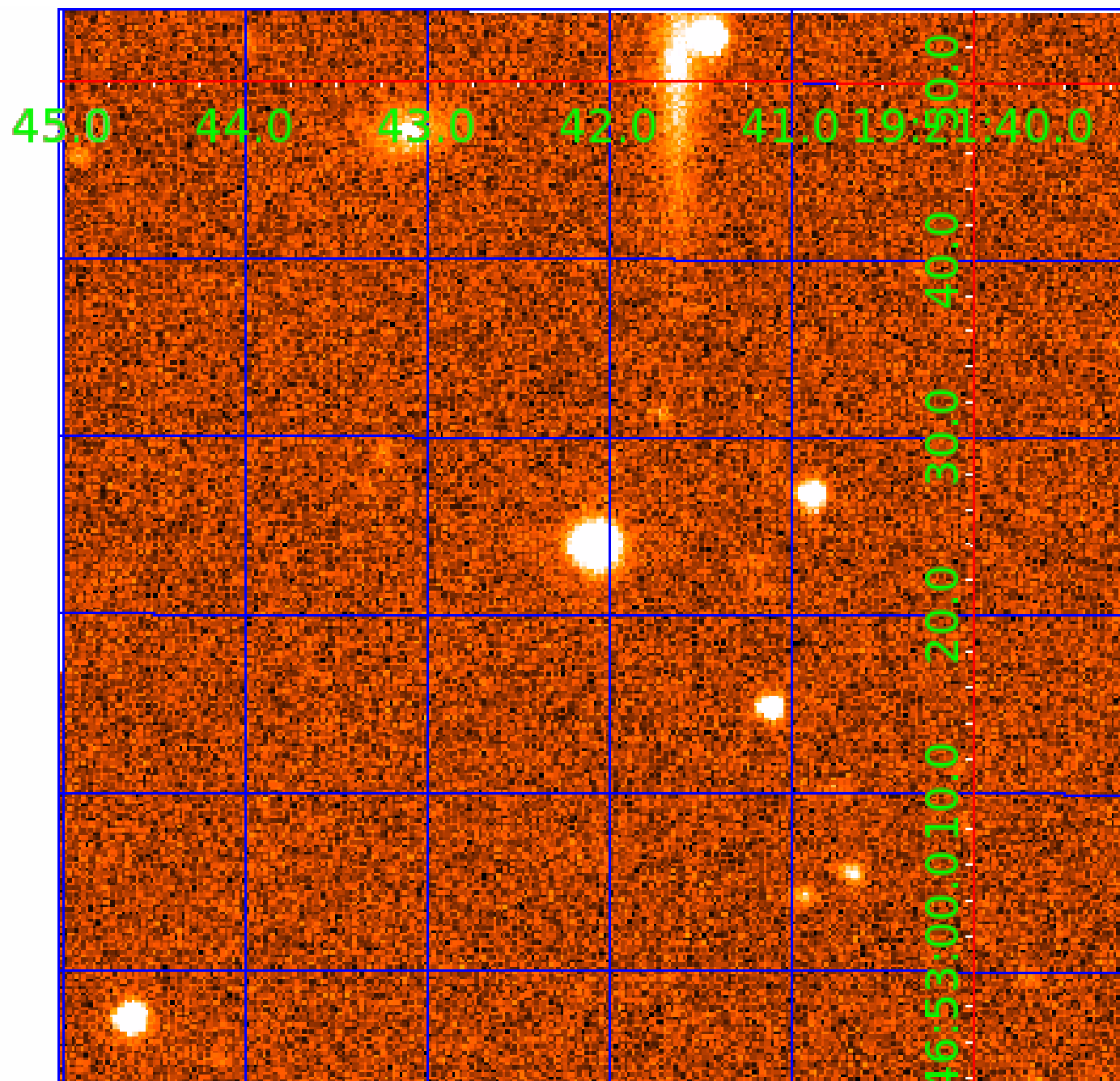


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009948002

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})
009948002-01	OBS	3562.01	101.263377	214.125131	72774.2	17.844	2230.1	2213.3	1.06	6309	41.97	8.49
009948002-02	OBS	No	101.263399	186.589566	43110.0	9.569	1430.0	1099.9	1.06	6309	23.47	8.49
009948002-03	OBS	No	415.045259	151.763717	341.4	17.979	7.3	7.0	1.06	6309	2.04	1.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009948002-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
009948002-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
009948002-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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 009948002-02

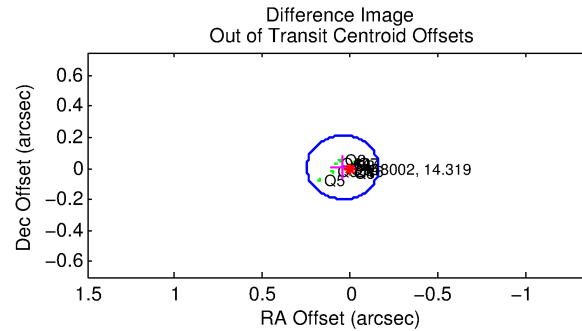
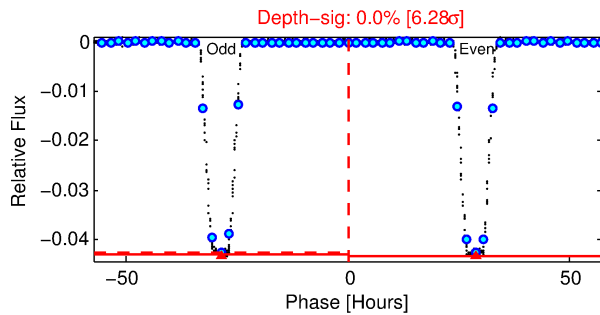
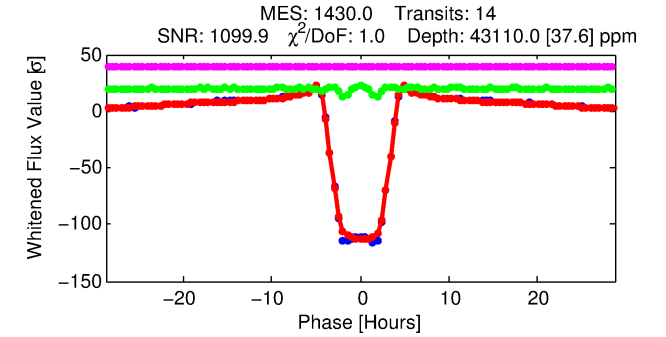
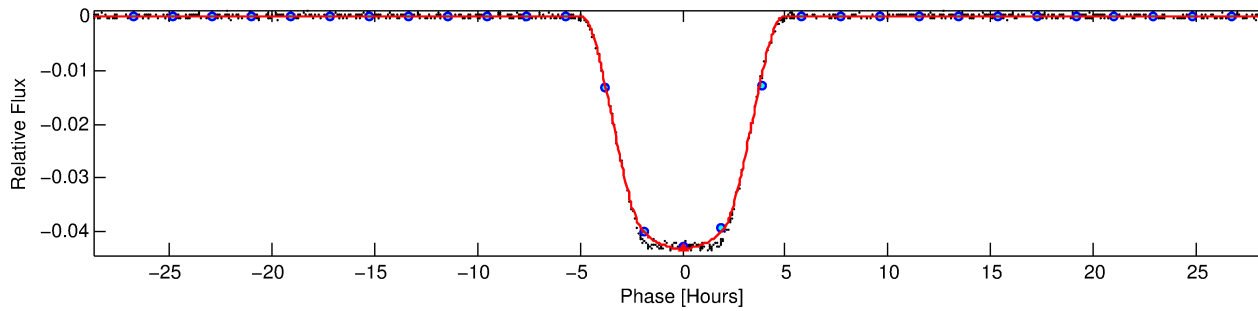
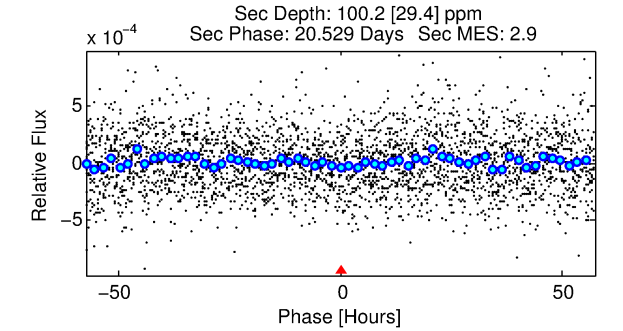
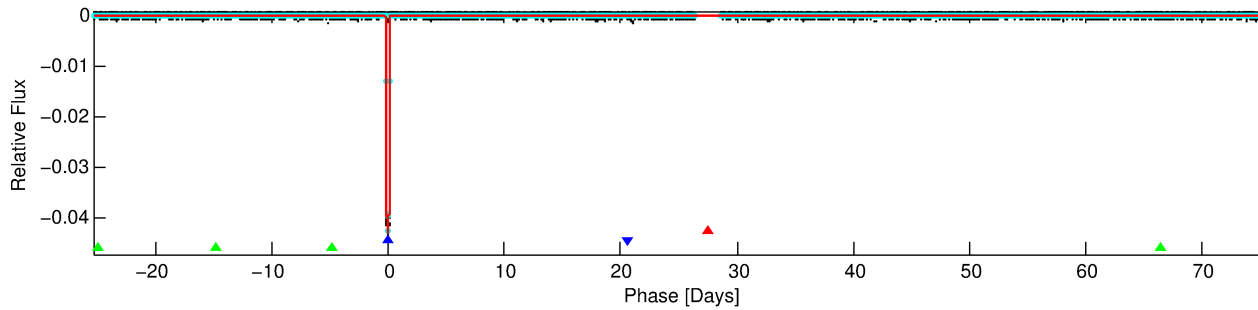
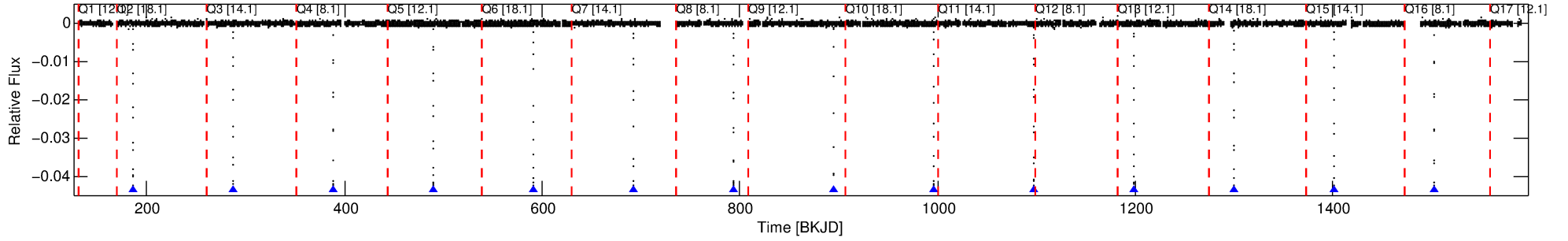
No Significant Match Found

DV One-Page Summary

KIC: 9948002 Candidate: 2 of 3 Period: 101.263 d

KOI: K03562 Corr: No Ephemeris Match

Kp: 14.32 R*: 1.06 Rs Teff: 6309.0 K Logg: 4.41 Fe/H: -0.200



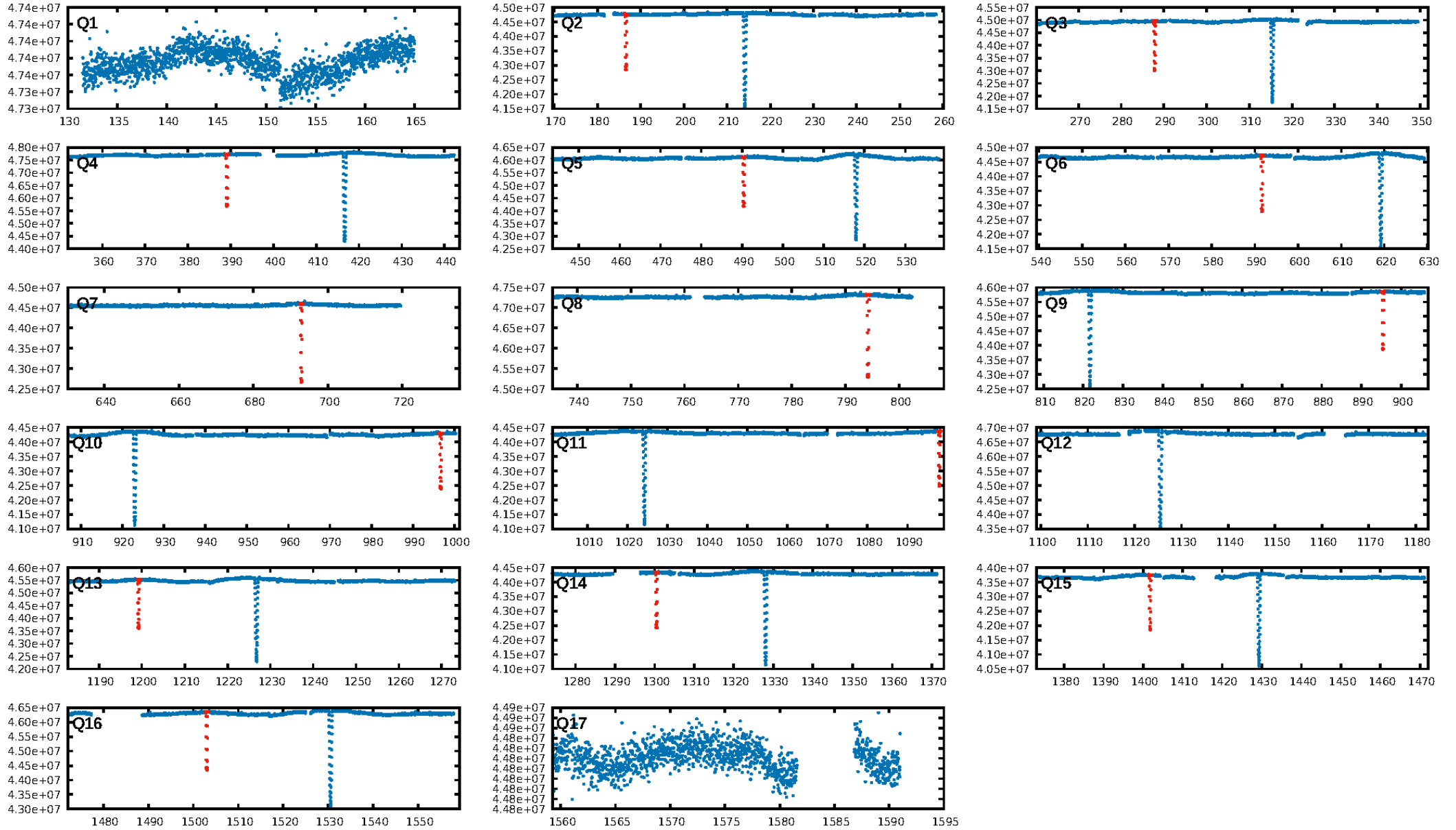
DV Fit Results:

Period = 101.26340 [0.00002] d
Epoch = 186.5896 [0.0001] BKJD
Rp/R* = 0.2025 [0.0001]
a/R* = 81.47 [0.12]
b = 0.66 [0.00]
Seff = 8.49 [3.53]
Teq = 435 [45] K
Rp = 23.47 [8.05] Re
a = 0.4343 [0.1214] AU
Ag = 18.88 [9.29] [1.92σ]
Teffp = 1403 [113] K [7.97σ]

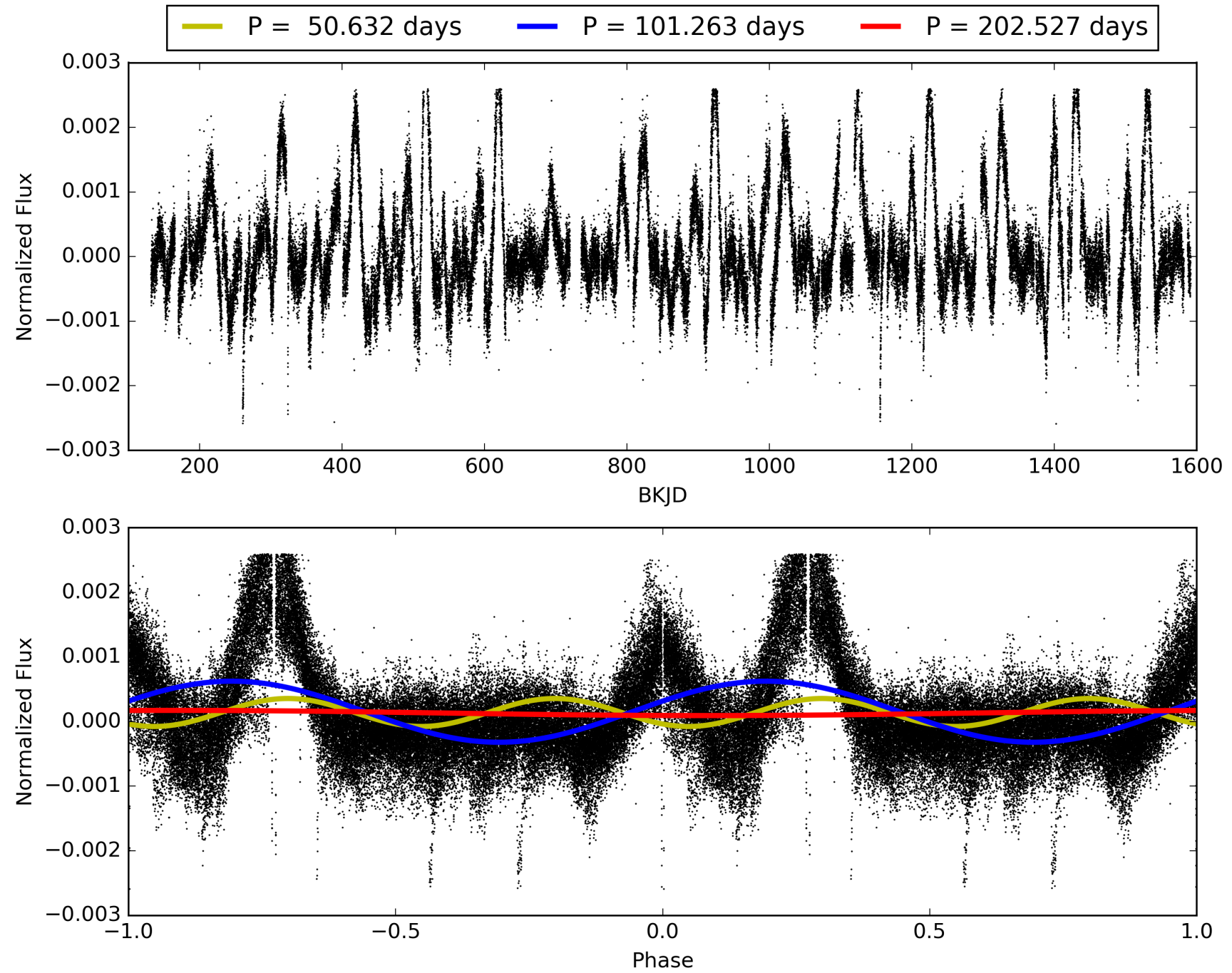
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [369.75σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: 4.191
Centroid-sig: 0.0%
Centroid-so: 0.097 arcsec [14.93σ]
OotOffset-rm: 0.044 arcsec [0.64σ]
OotOffset-st: 4/3/3/2 [12]
KicOffset-rm: 0.066 arcsec [0.96σ]
KicOffset-st: 4/3/3/2 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [12/12]

TCE 009948002-02, PDC Light Curves

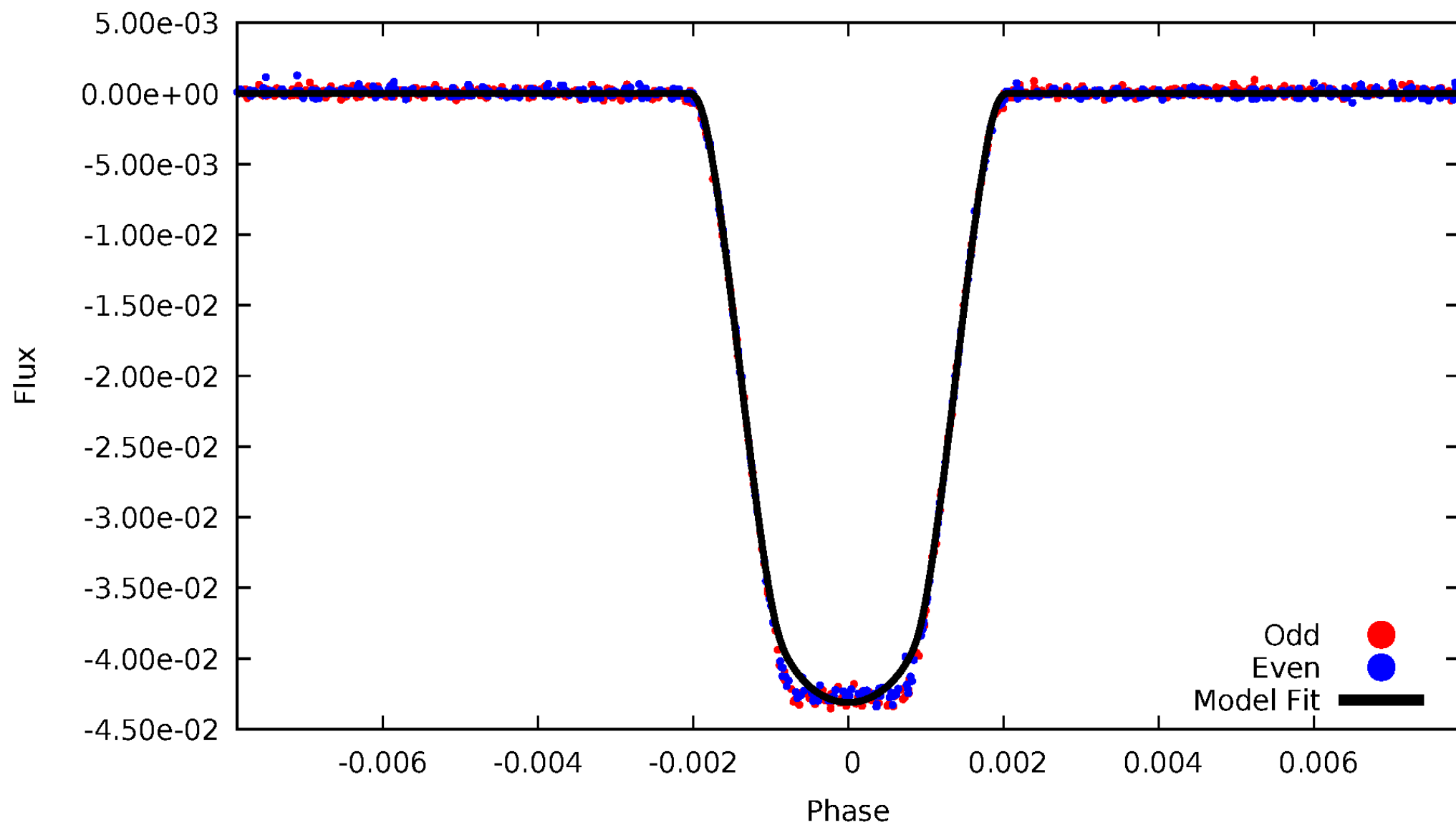


TCE 009948002-02



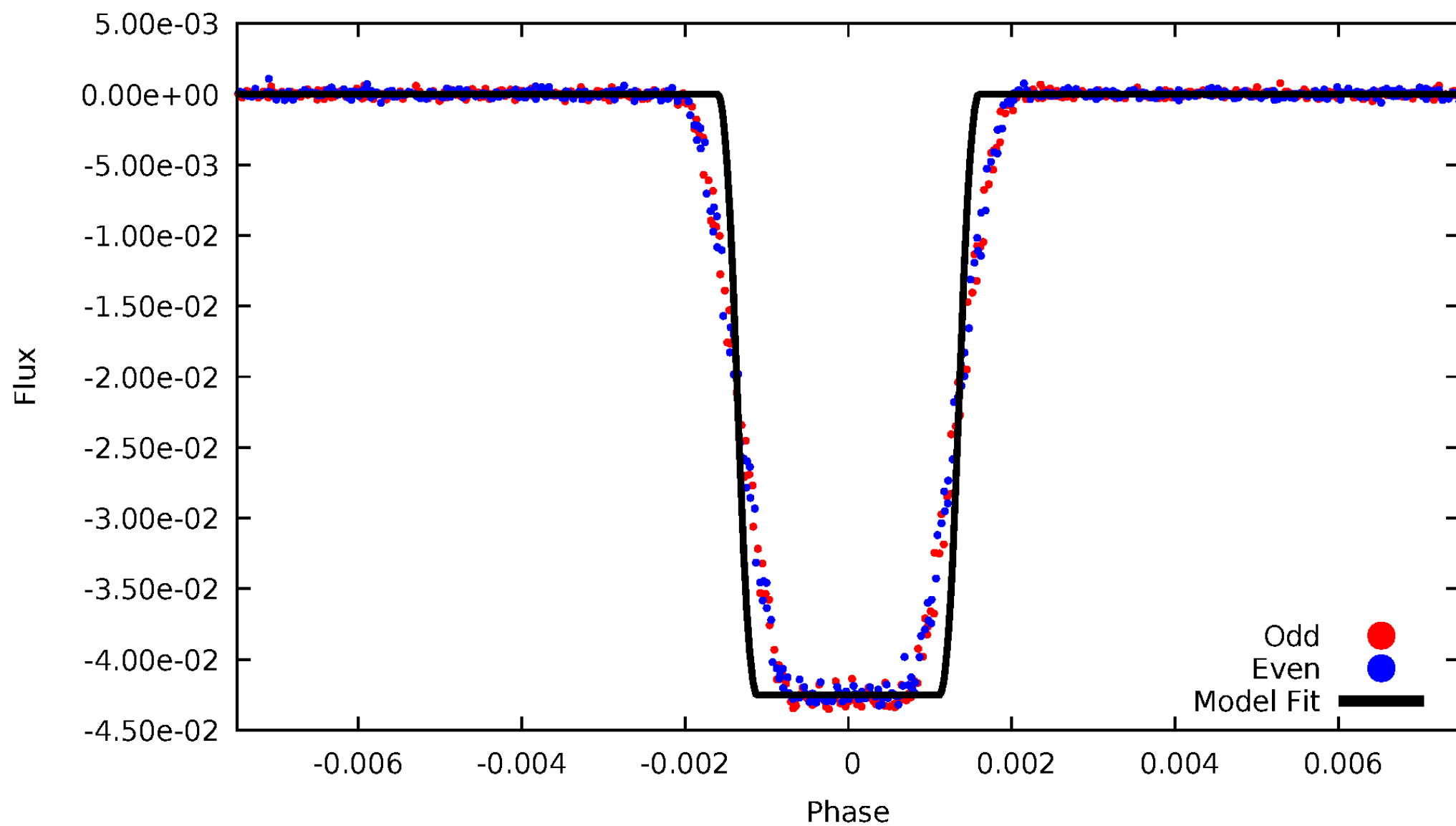
DV Odd/Even

TCE 009948002-02



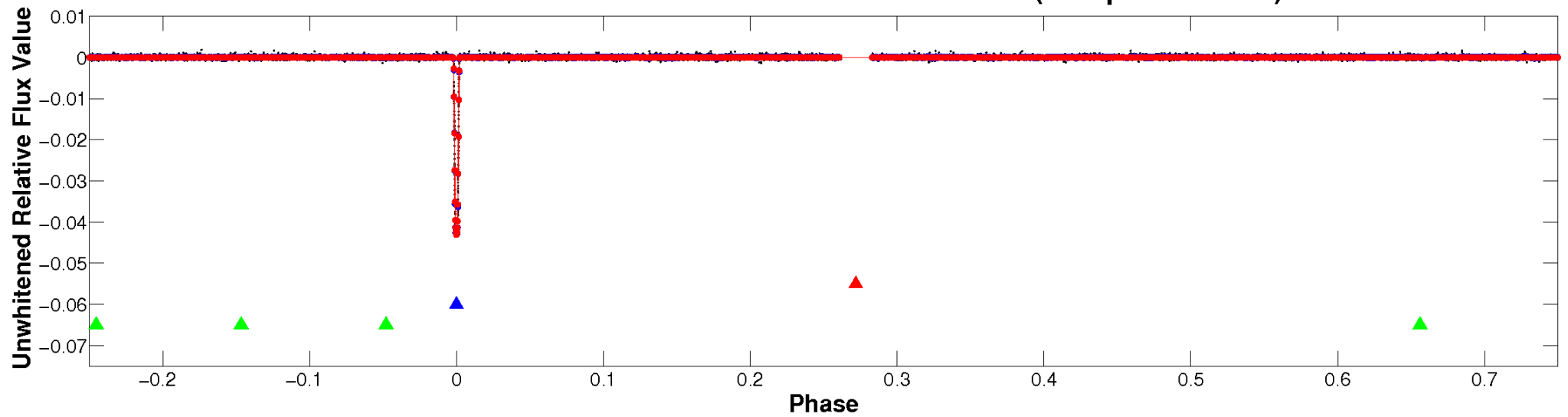
ALT Odd/Even

TCE 009948002-02

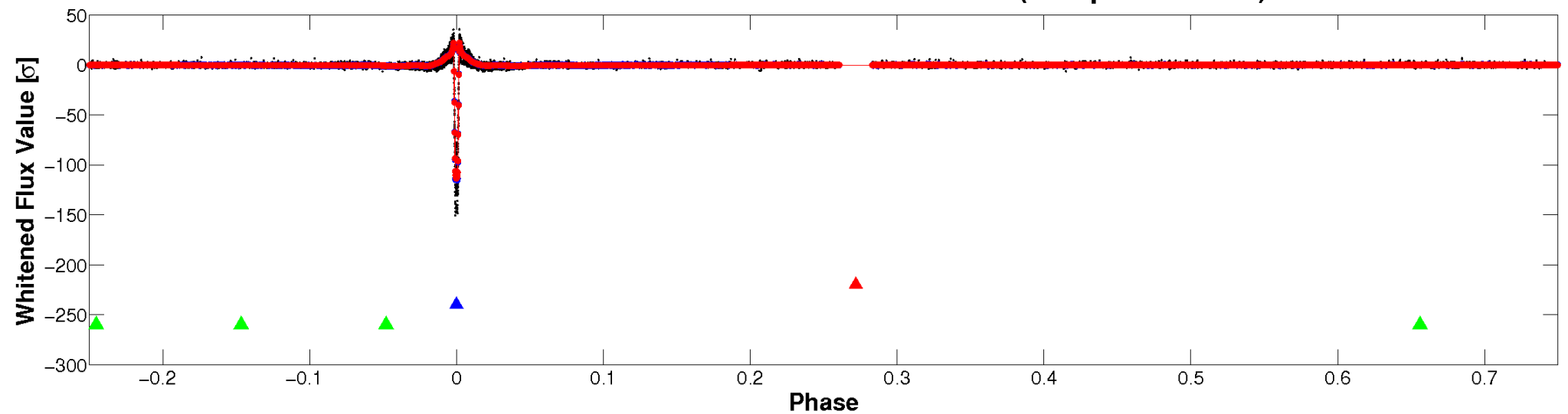


Non-Whitened Vs. Whitened Light Curve

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

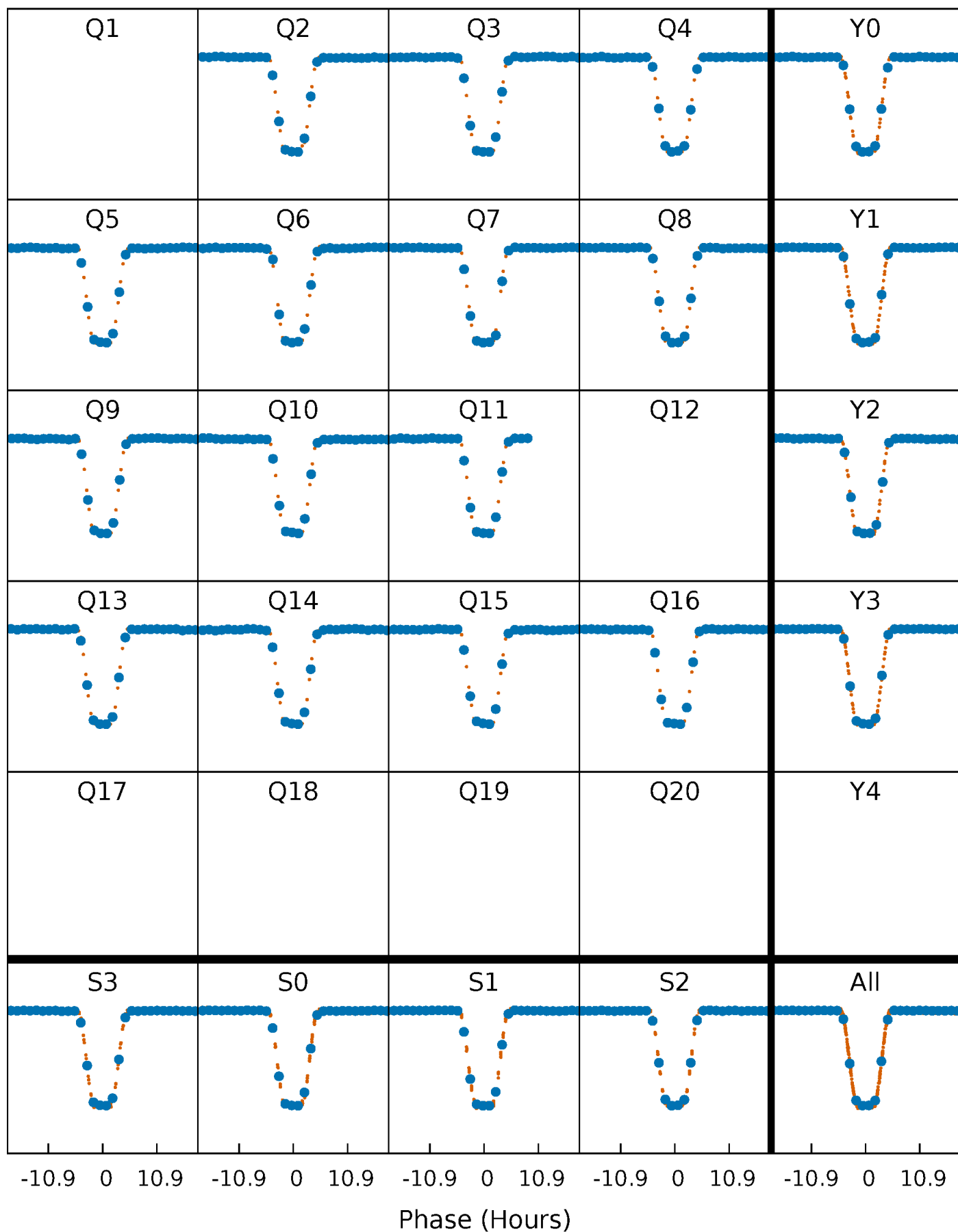


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



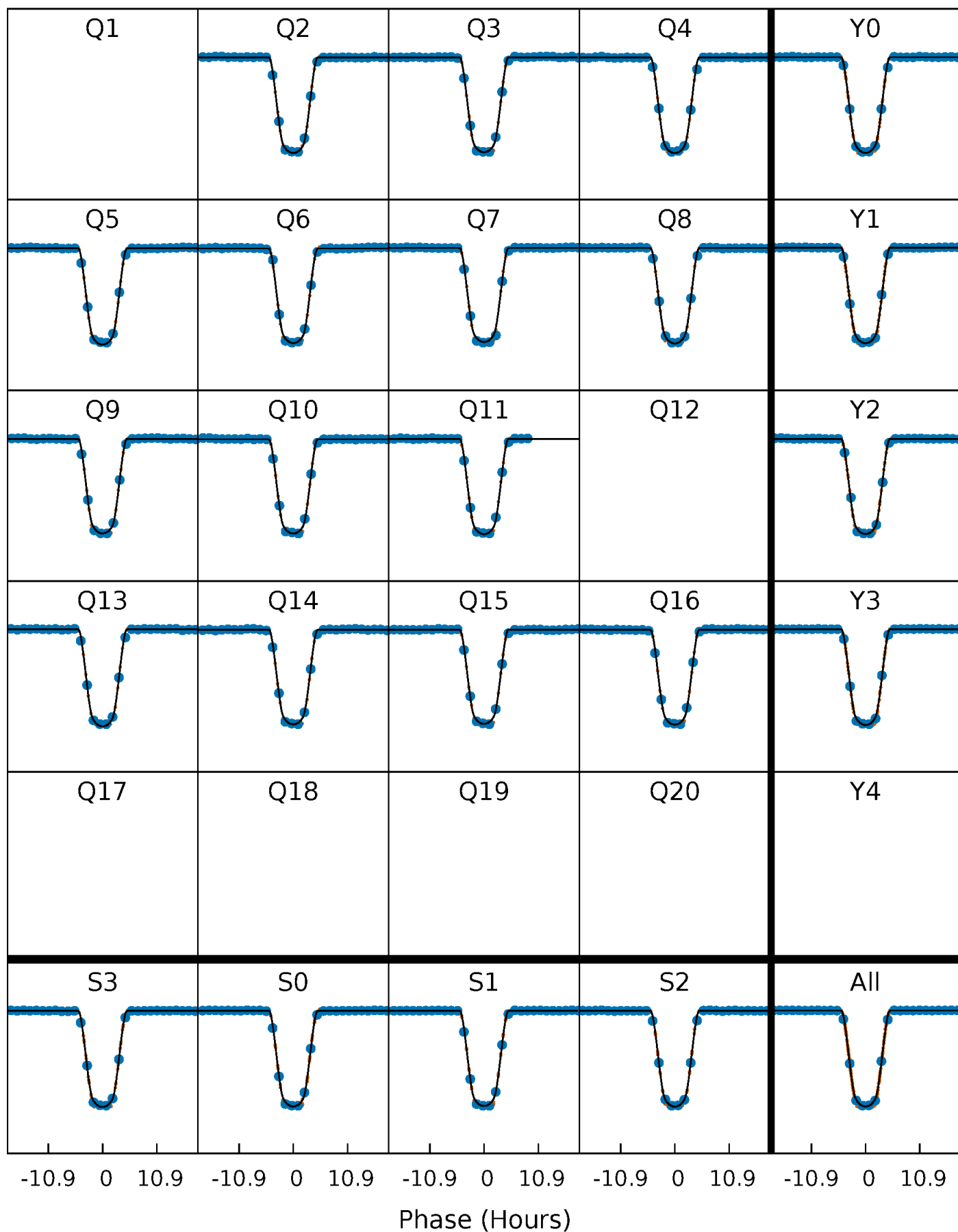
PDC Quarter-Phased Transit Curves

TCE 009948002-02 P=101.263399 Days $T_0=186.589566$ (BKJD)



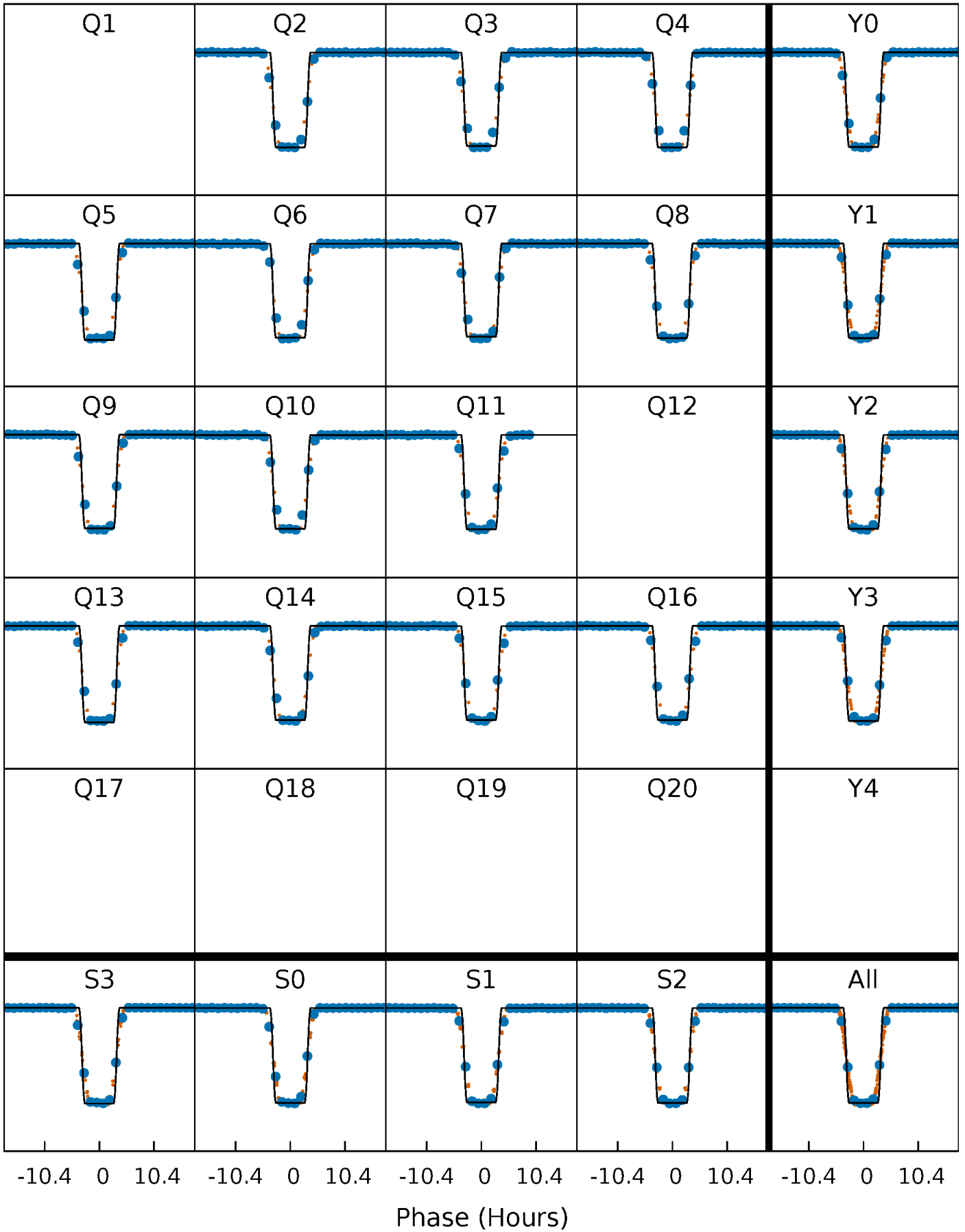
DV Quarter-Phased Transit Curves

TCE 009948002-02 P=101.263399 Days $T_0=186.589566$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

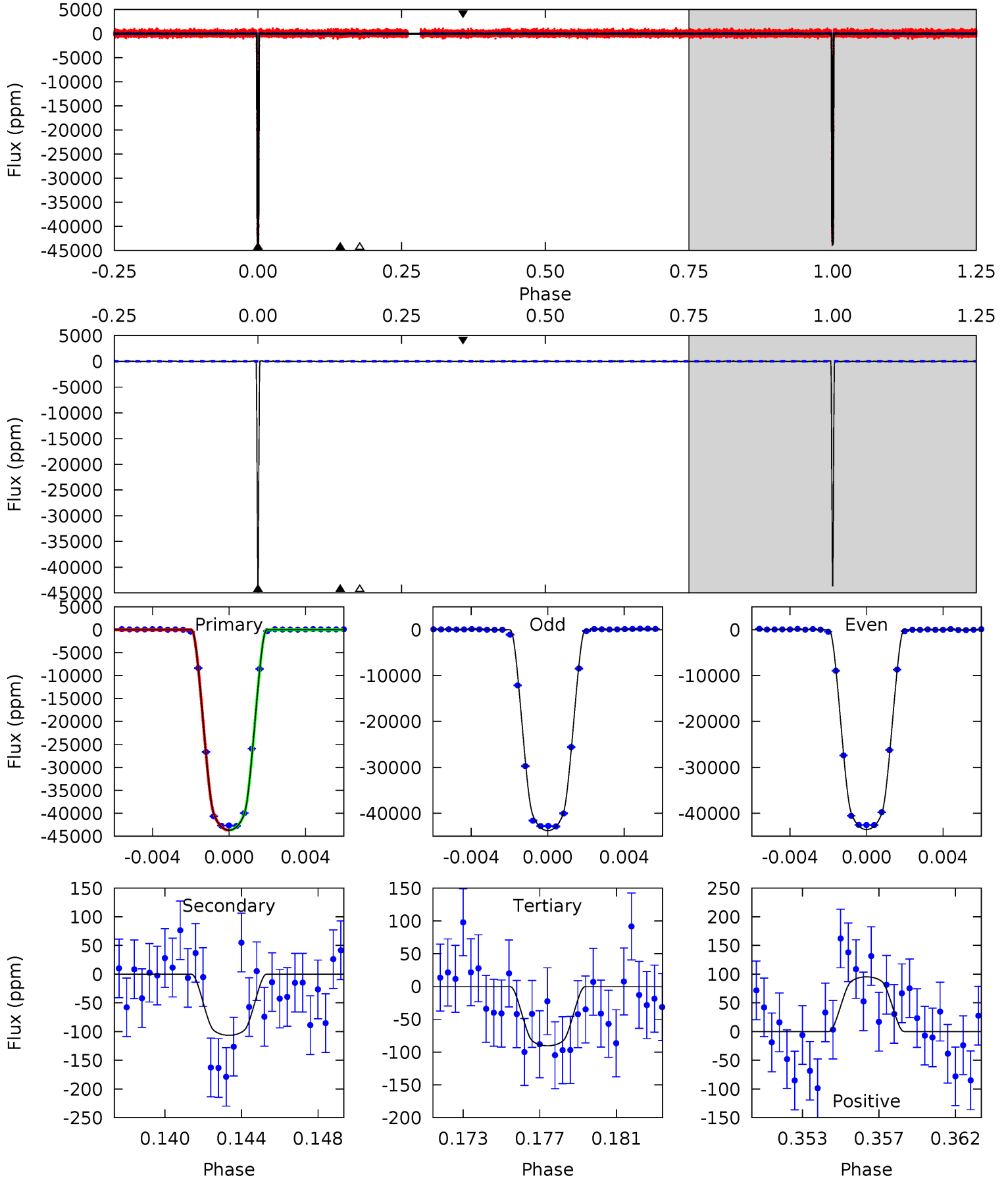
TCE 009948002-02 P=101.262638 Days $T_0=186.594441$ (BKJD)



DV Model-Shift Uniqueness Test

009948002-02, P = 101.263399 Days, E = 85.326167 Days

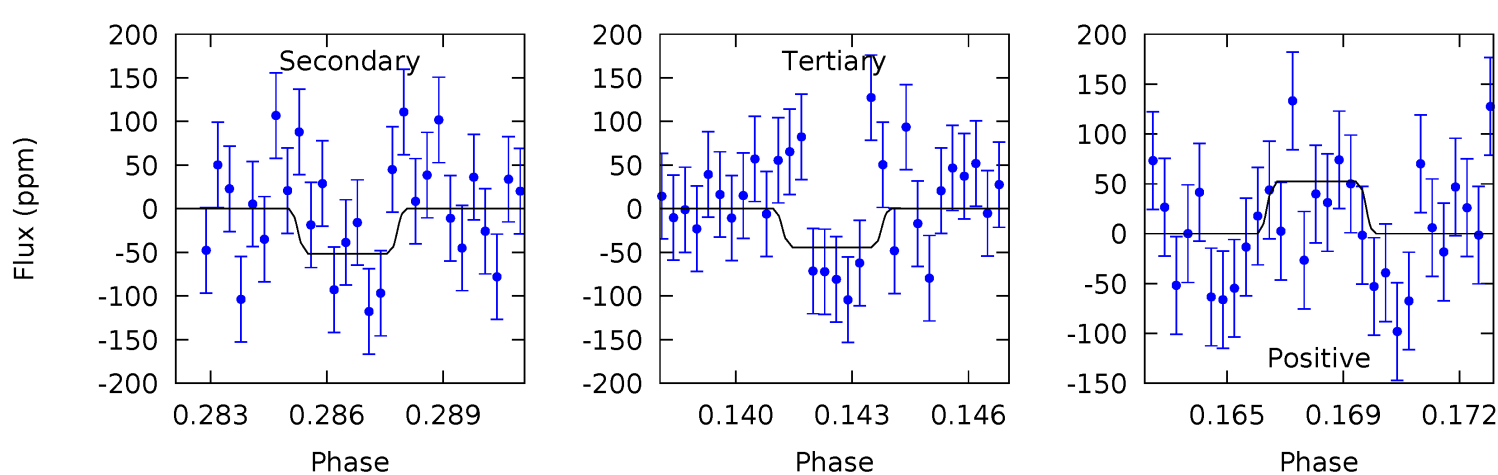
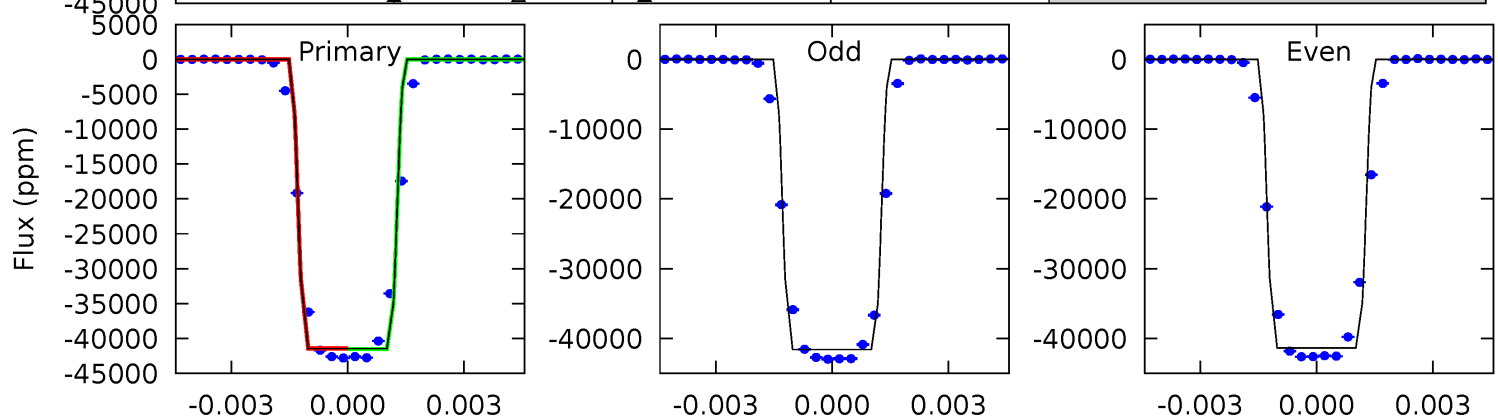
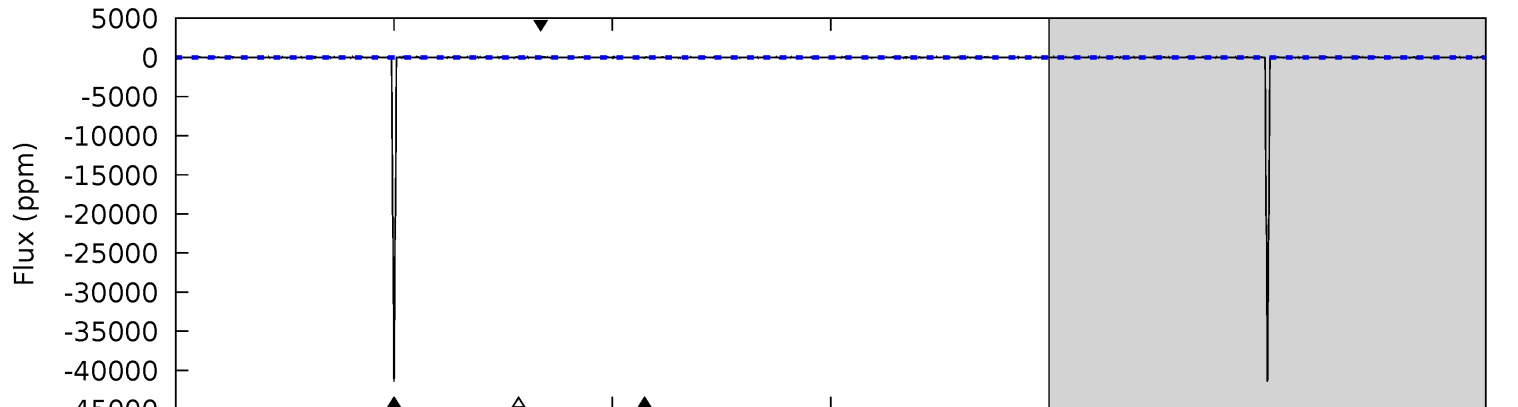
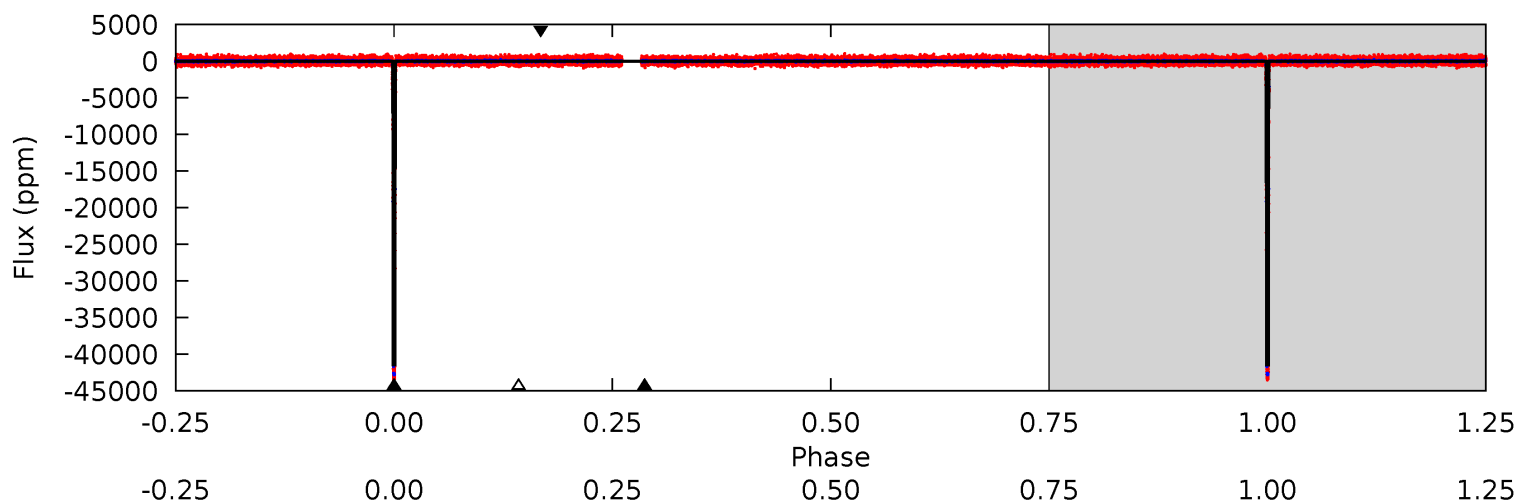
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2956	7.21	6.12	6.45	5.19	2.87	1.93	2950	2949	1.09	0.76	7.98	1.00	0.00	0.94



Alt Model-Shift Uniqueness Test

009948002-02, P = 101.262638 Days, E = 85.331803 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2293	2.85	2.45	2.89	5.24	2.95	0.81	2291	2290	0.40	-0.04	5.50	1.00	0.00	2.54



Stellar Parameters For KIC 009948002

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6309^{+169}_{-206}	$4.413^{+0.070}_{-0.210}$	$-0.200^{+0.250}_{-0.300}$	$1.062^{+0.364}_{-0.121}$	$1.058^{+0.173}_{-0.129}$	$1.244^{+0.384}_{-0.694}$
	+3%/-3%	+2%/-5%	+125%/-150%	+34%/-11%	+16%/-12%	+31%/-56%
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 009948002-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-107 ± 15	$23.97^{+4.54}_{-1.99}$	618^{+50}_{-31}	2330^{+48}_{-51}	18^{+5}_{-5}
Alt.	-52 ± 18	$24.39^{+4.78}_{-1.94}$	619^{+49}_{-30}	2134^{+79}_{-107}	$8.222^{+3.980}_{-3.239}$

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

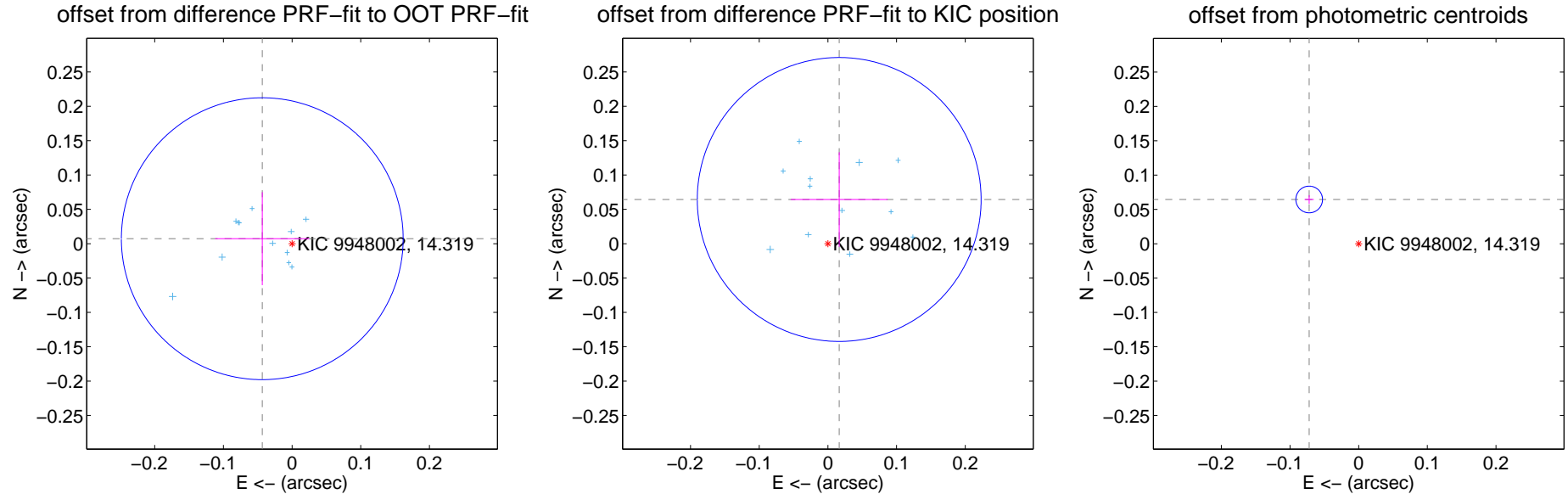
DV Centroid Data

Supplemental centroid analysis for 009948002-02. Kepler magnitude: 14.32. Transit SNR 1099.91

There are 12 quarters with good PRF difference image offsets

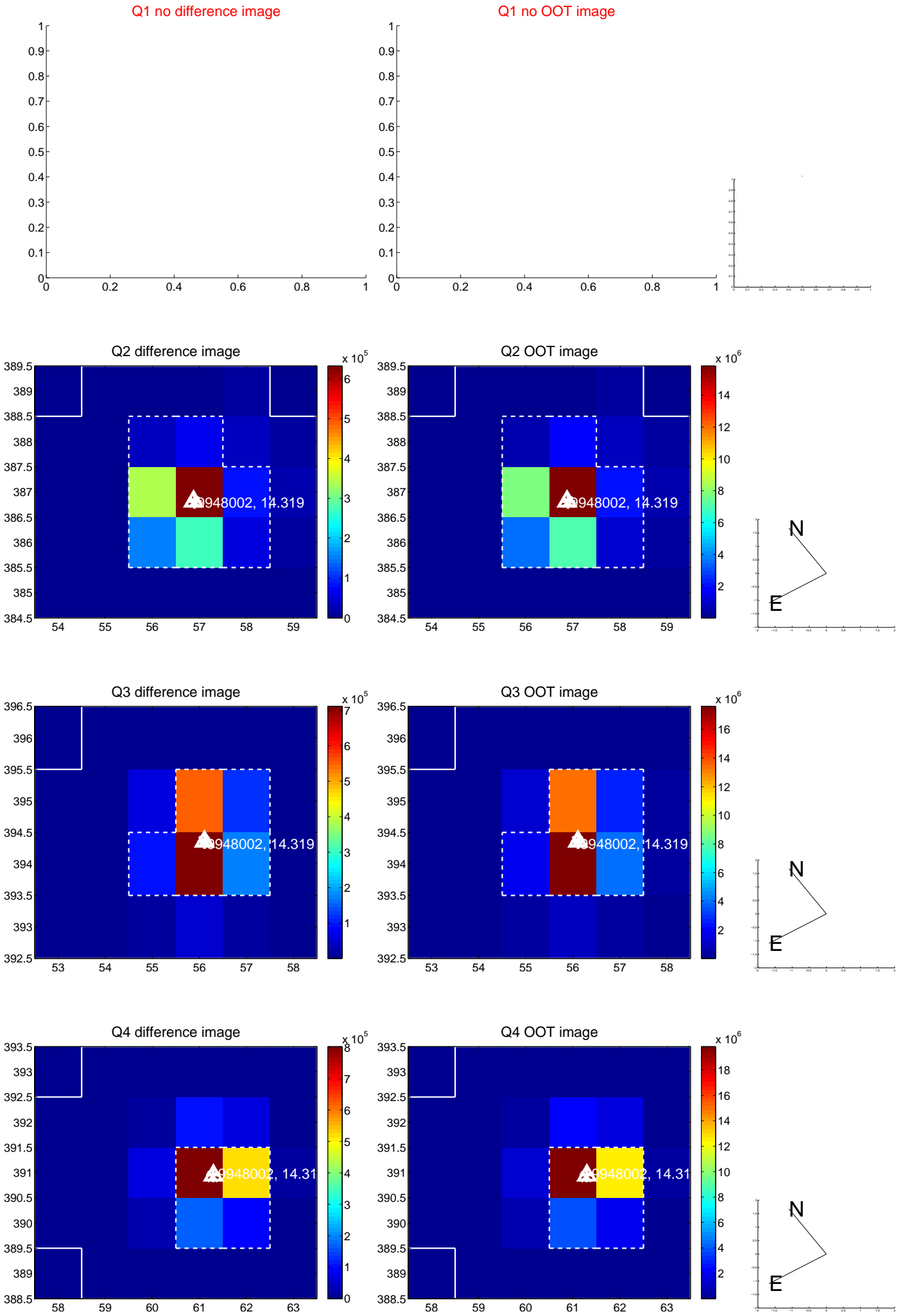
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.044 ± 0.068	0.64	0.043 ± 0.068	0.007 ± 0.068
PRF-fit source offset from KIC position	0.066 ± 0.069	0.96	-0.016 ± 0.070	0.064 ± 0.069
photometric centroid source offset	0.10 ± 0.01	14.93	0.07 ± 0.01	0.06 ± 0.01

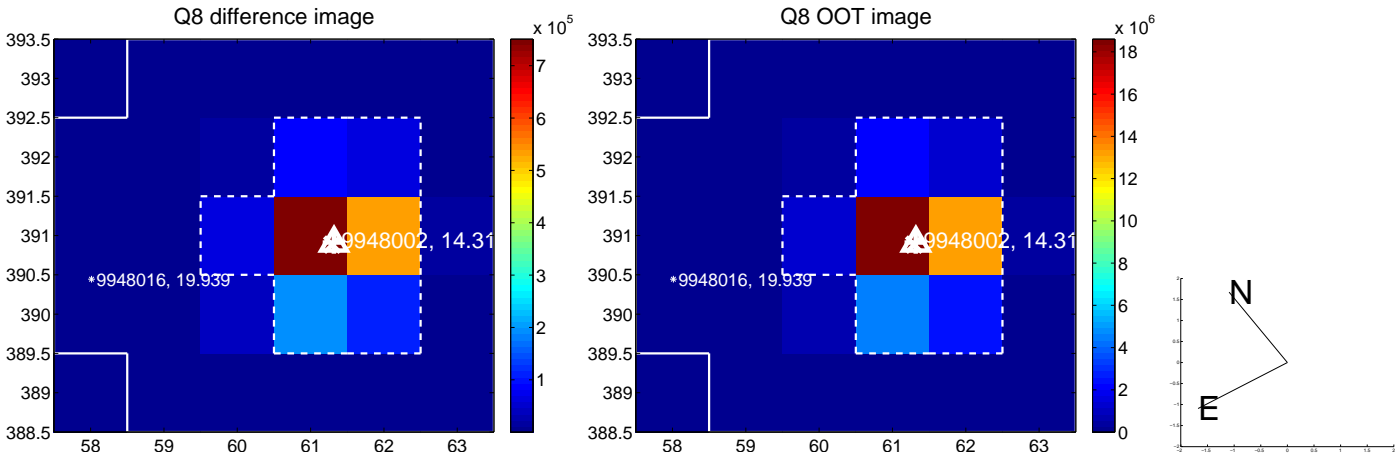
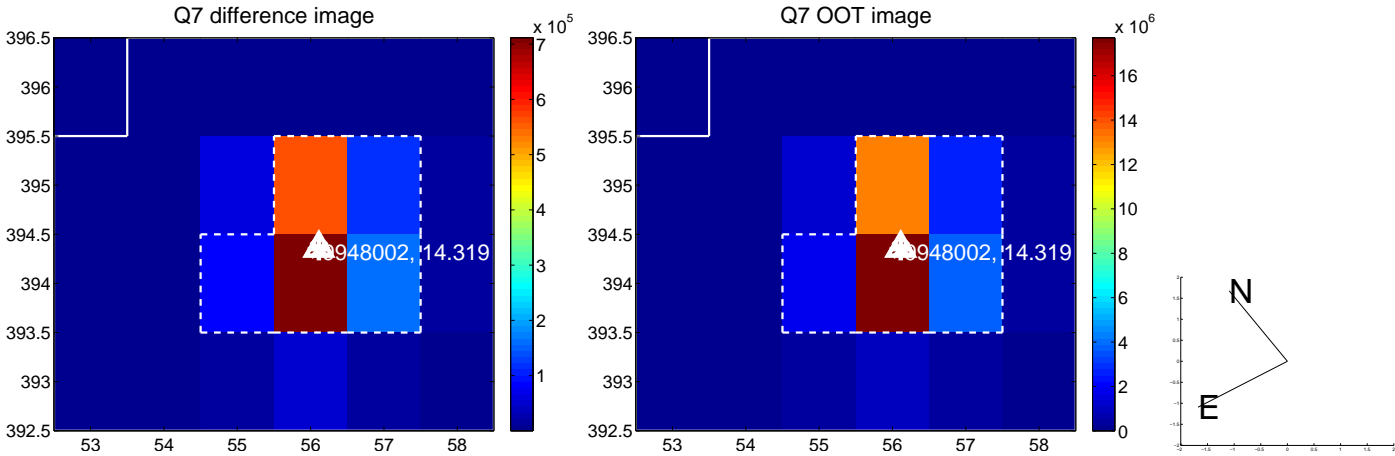
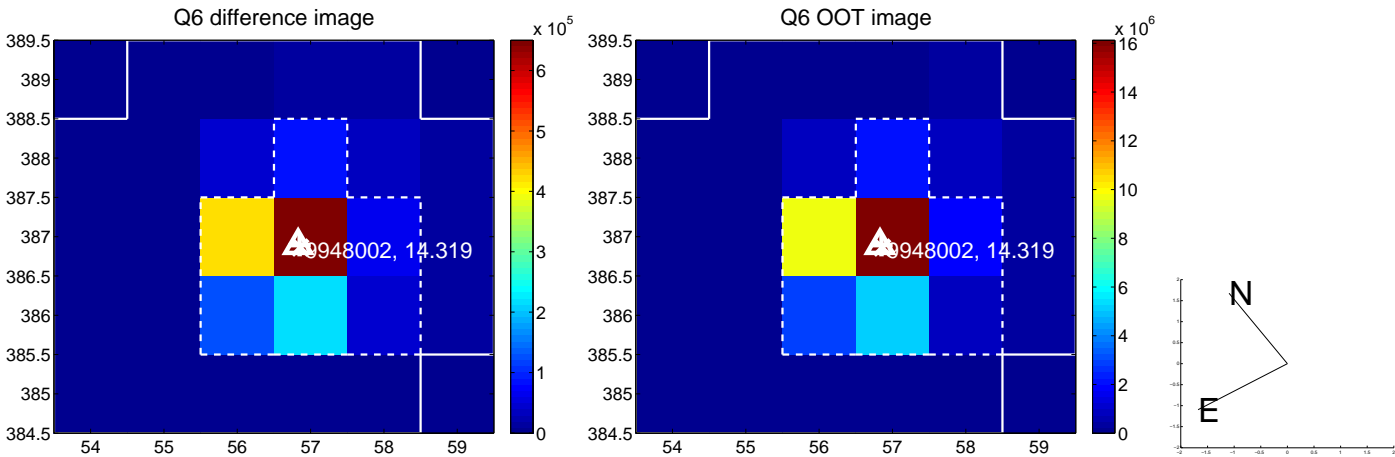
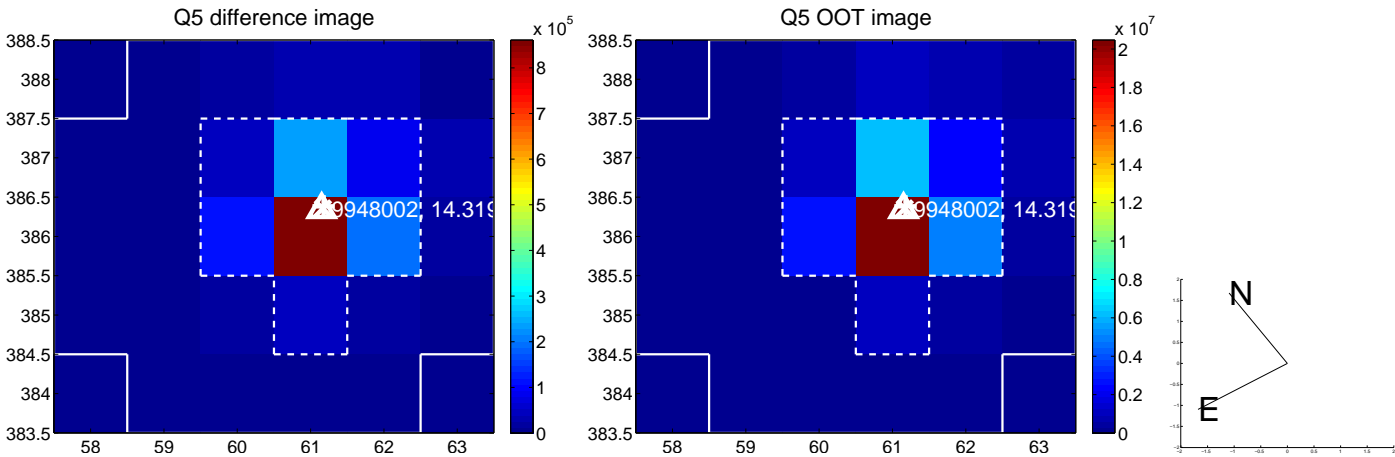


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

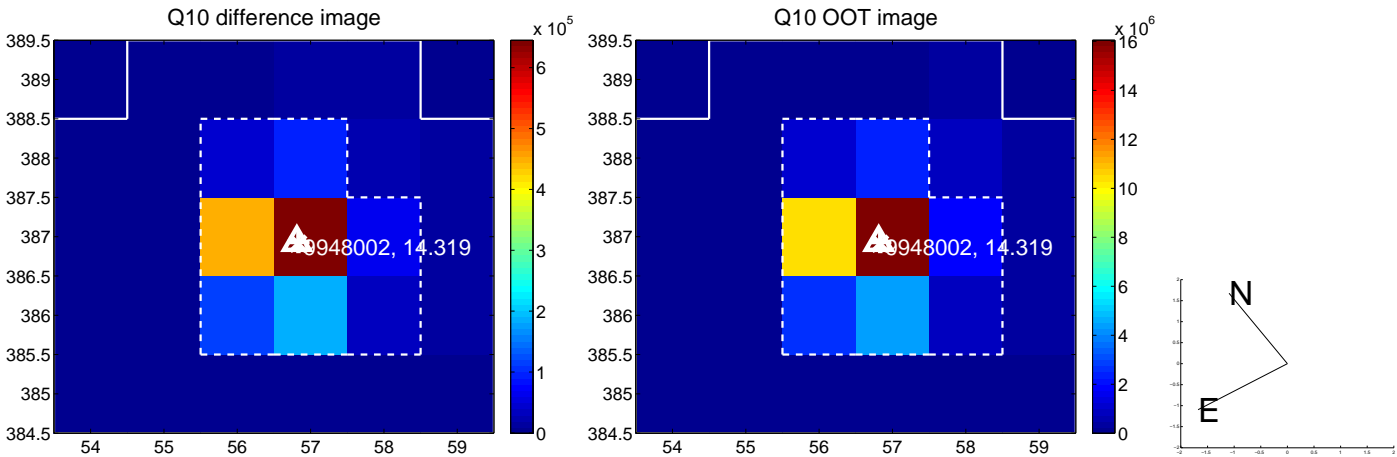
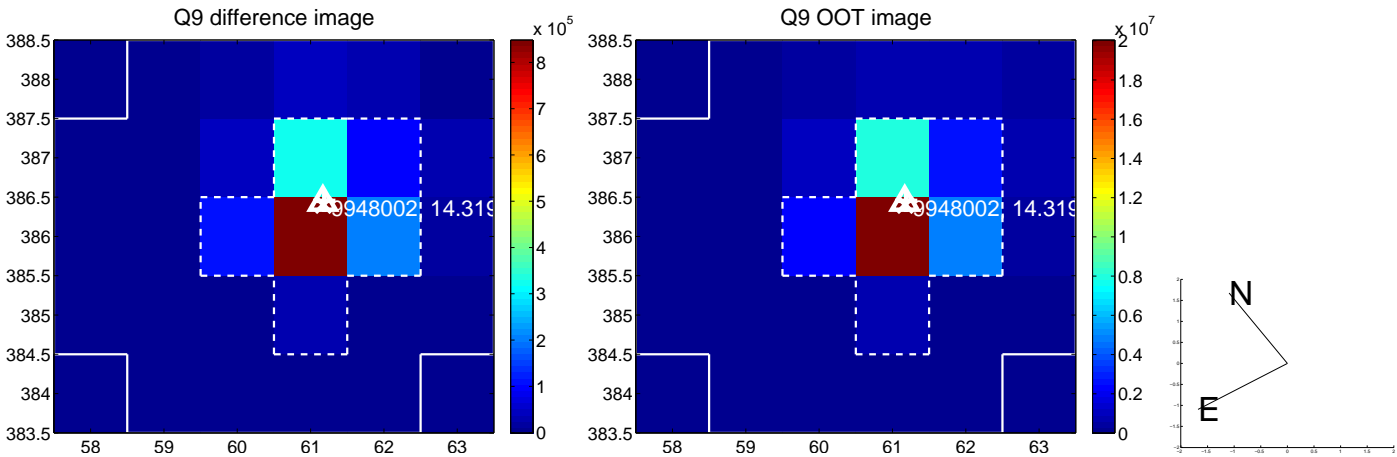
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



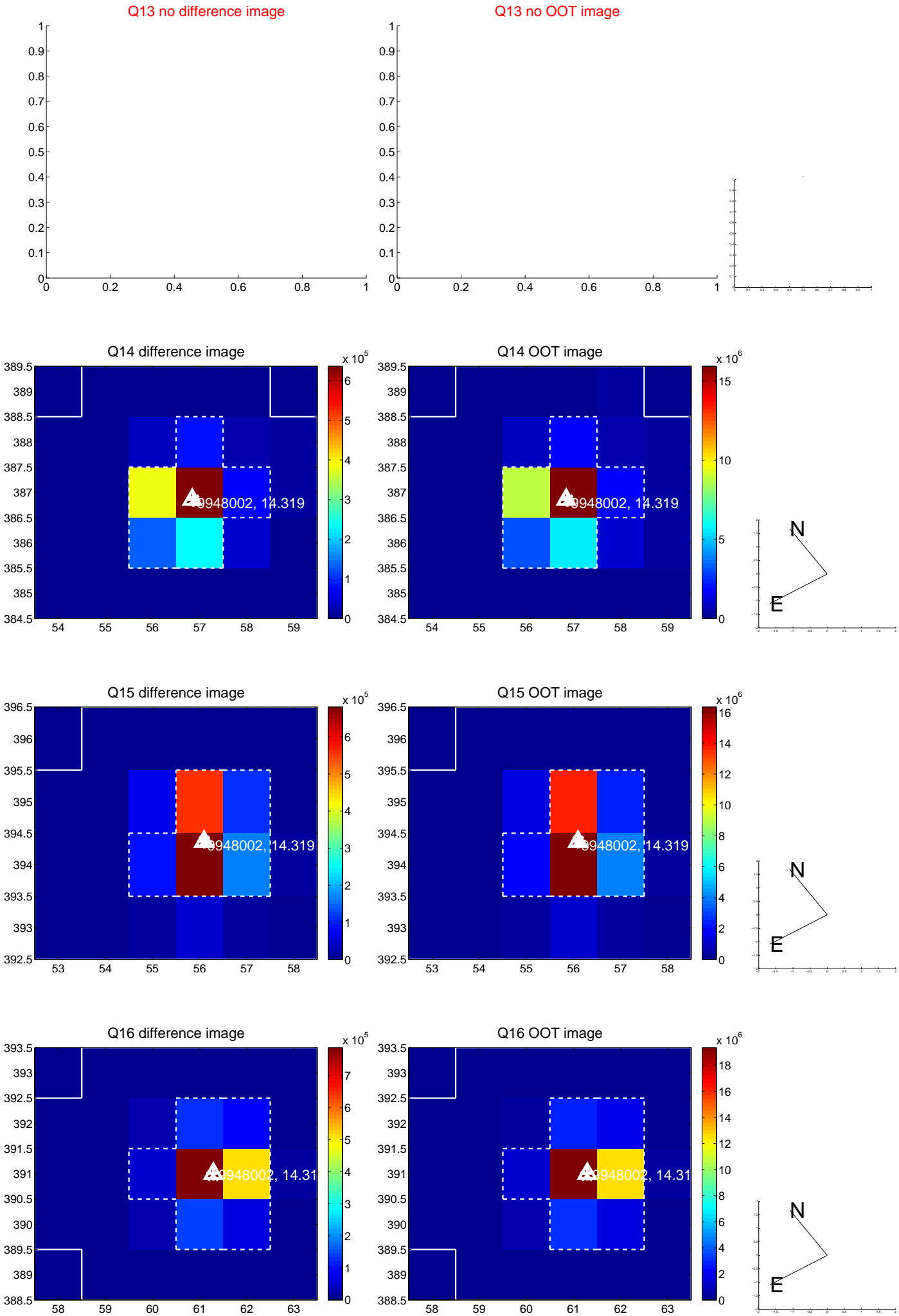
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



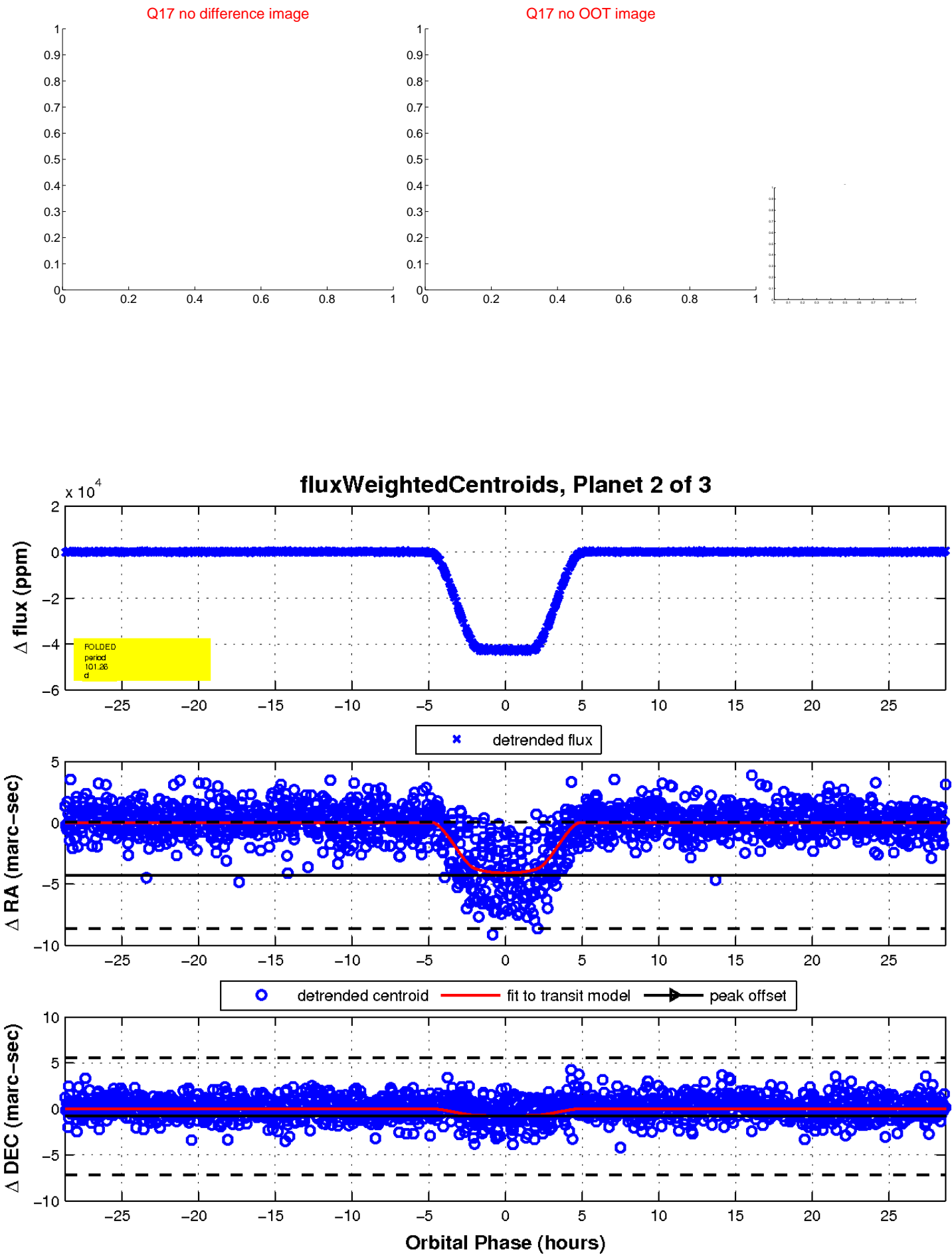
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

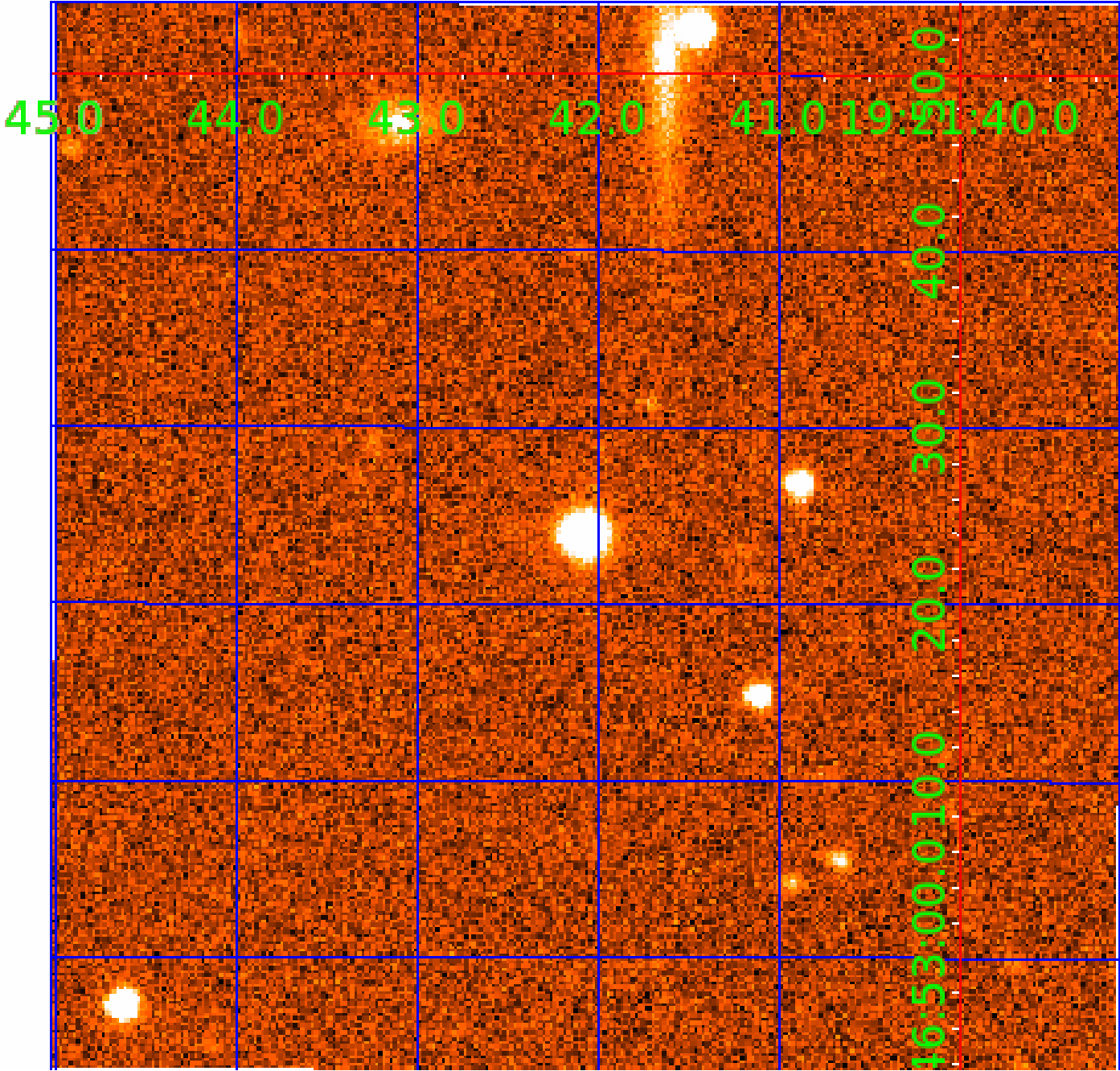


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009948002

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})
009948002-01	OBS	3562.01	101.263377	214.125131	72774.2	17.844	2230.1	2213.3	1.06	6309	41.97	8.49
009948002-02	OBS	No	101.263399	186.589566	43110.0	9.569	1430.0	1099.9	1.06	6309	23.47	8.49
009948002-03	OBS	No	415.045259	151.763717	341.4	17.979	7.3	7.0	1.06	6309	2.04	1.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009948002-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
009948002-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
009948002-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

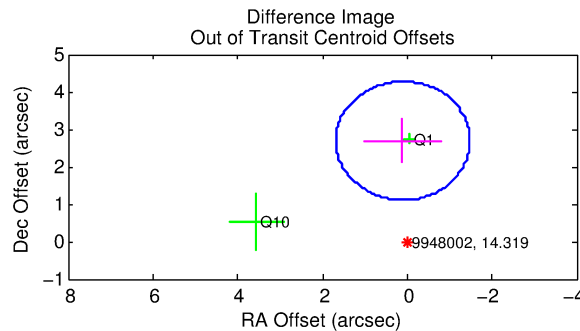
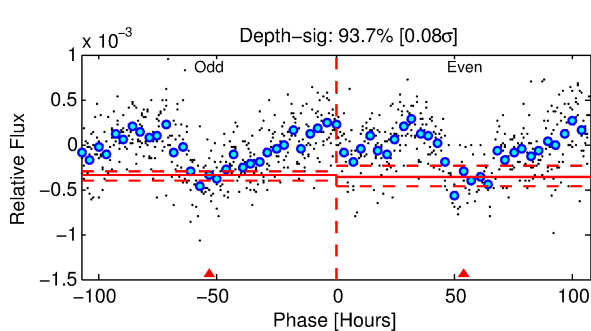
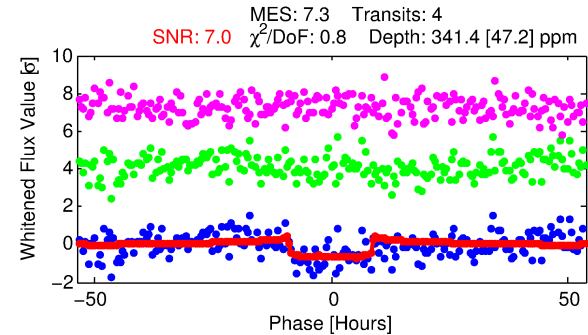
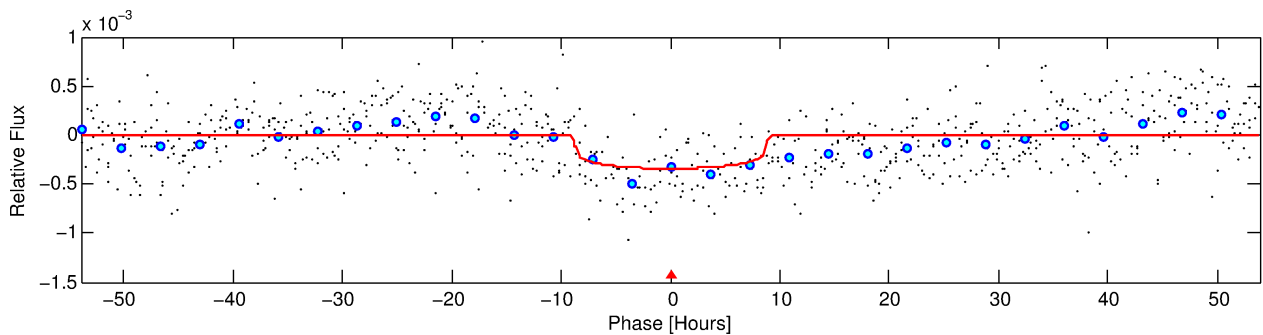
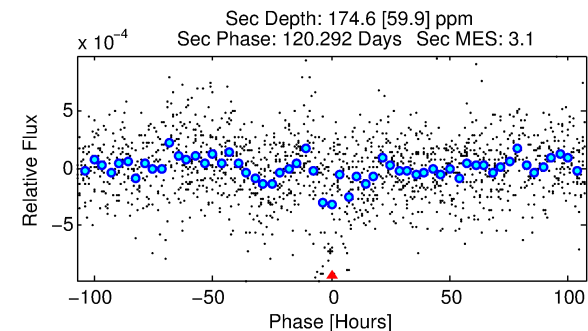
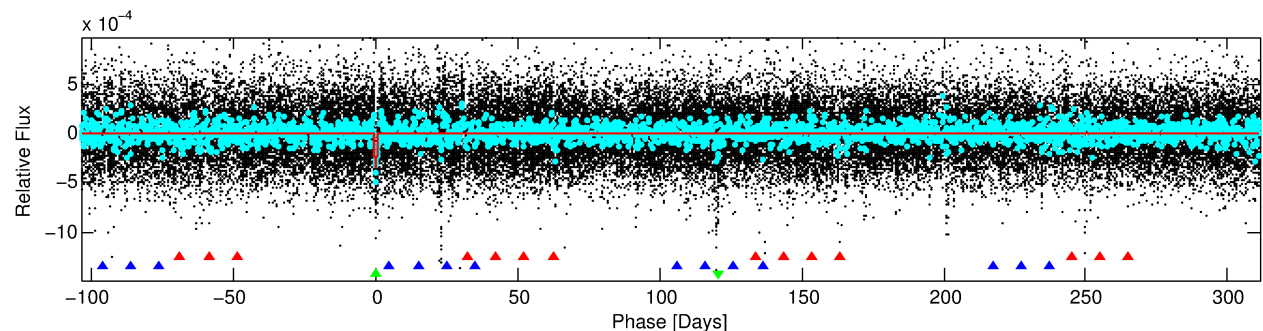
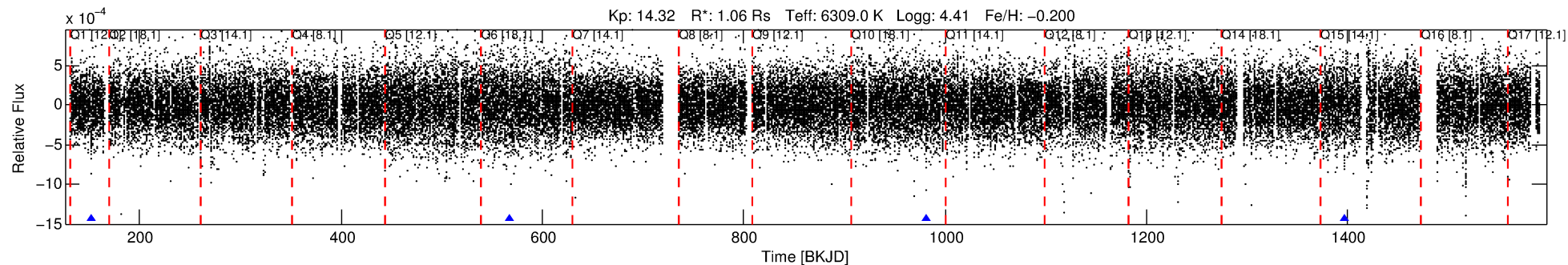
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009948002-03

No Significant Match Found

DV One-Page Summary

KIC: 9948002 Candidate: 3 of 3 Period: 415.045 d
KOI: K03562 Corr: No Ephemeris Match



DV Fit Results:

Period = 415.04526 [0.00833] d
Epoch = 151.7637 [0.0155] BKJD
Rp/R* = 0.0176 [0.0072]
a/R* = 150.11 [310.36]
b = 0.56 [2.58]
Seff = 1.29 [0.54]
Teff = 272 [28] K
Rp = 2.04 [1.09] Re
a = 1.1122 [0.3110] AU
Ag = 28579.25 [27763.83] [1.03σ]
Teffp = 5467 [1226] K [4.24σ]

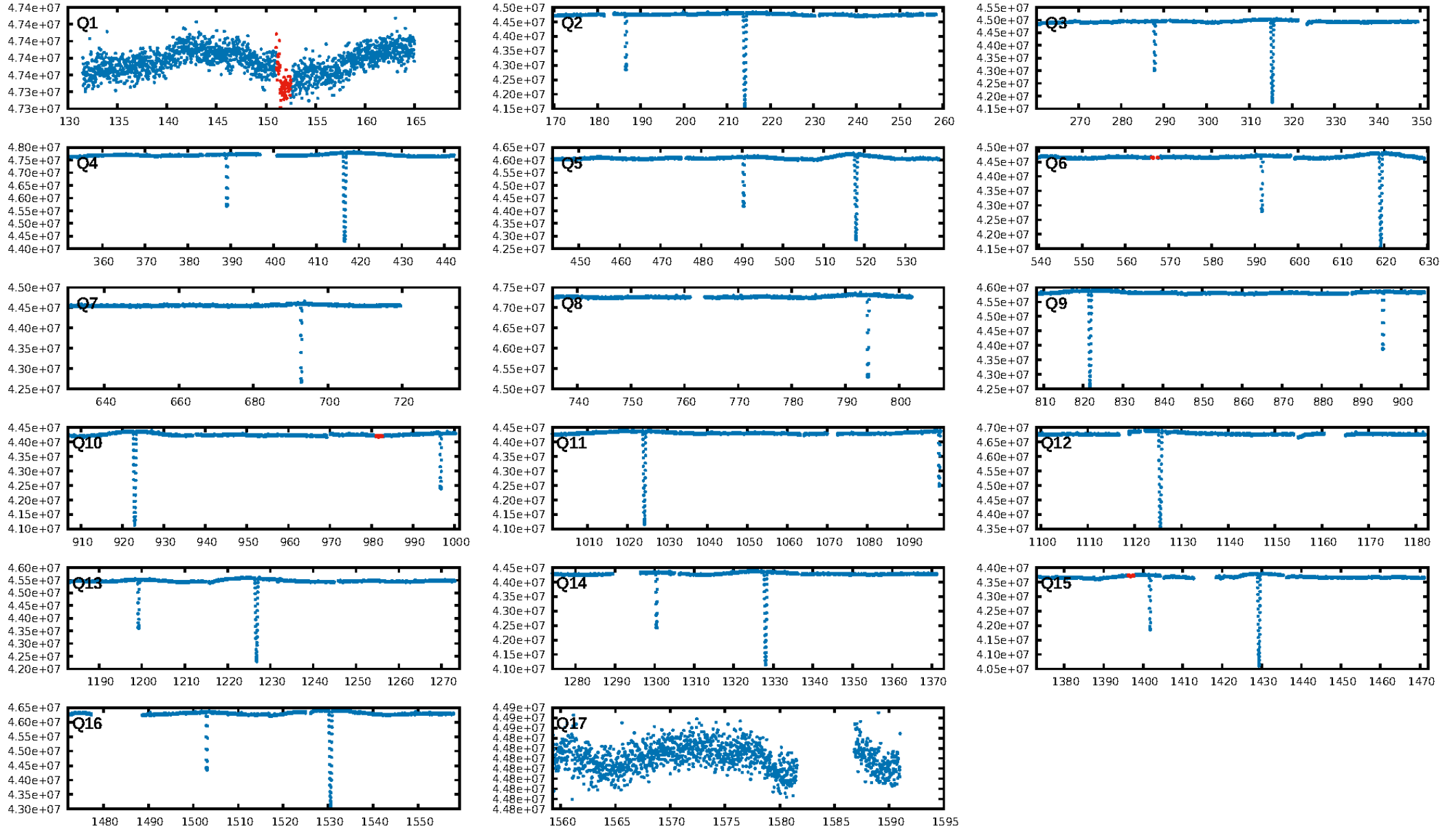
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [369.75σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 81.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.10e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.876
Centroid-sig: 55.4%
Centroid-so: 0.984 arcsec [0.91σ]
OotOffset-rm: 2.692 arcsec [5.10σ]
KicOffset-rm: 2.822 arcsec [4.91σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

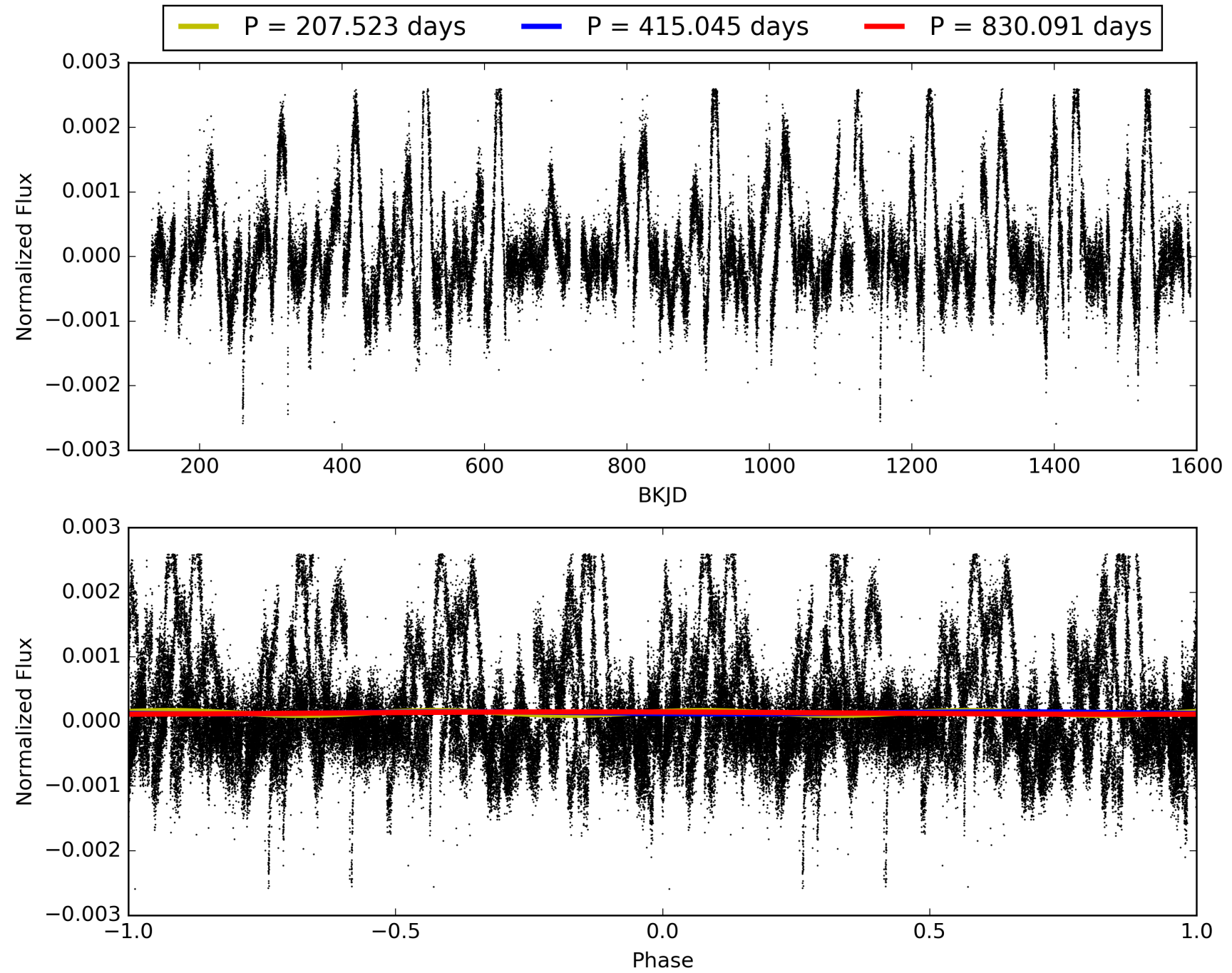
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:56:00 Z

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

TCE 009948002-03, PDC Light Curves

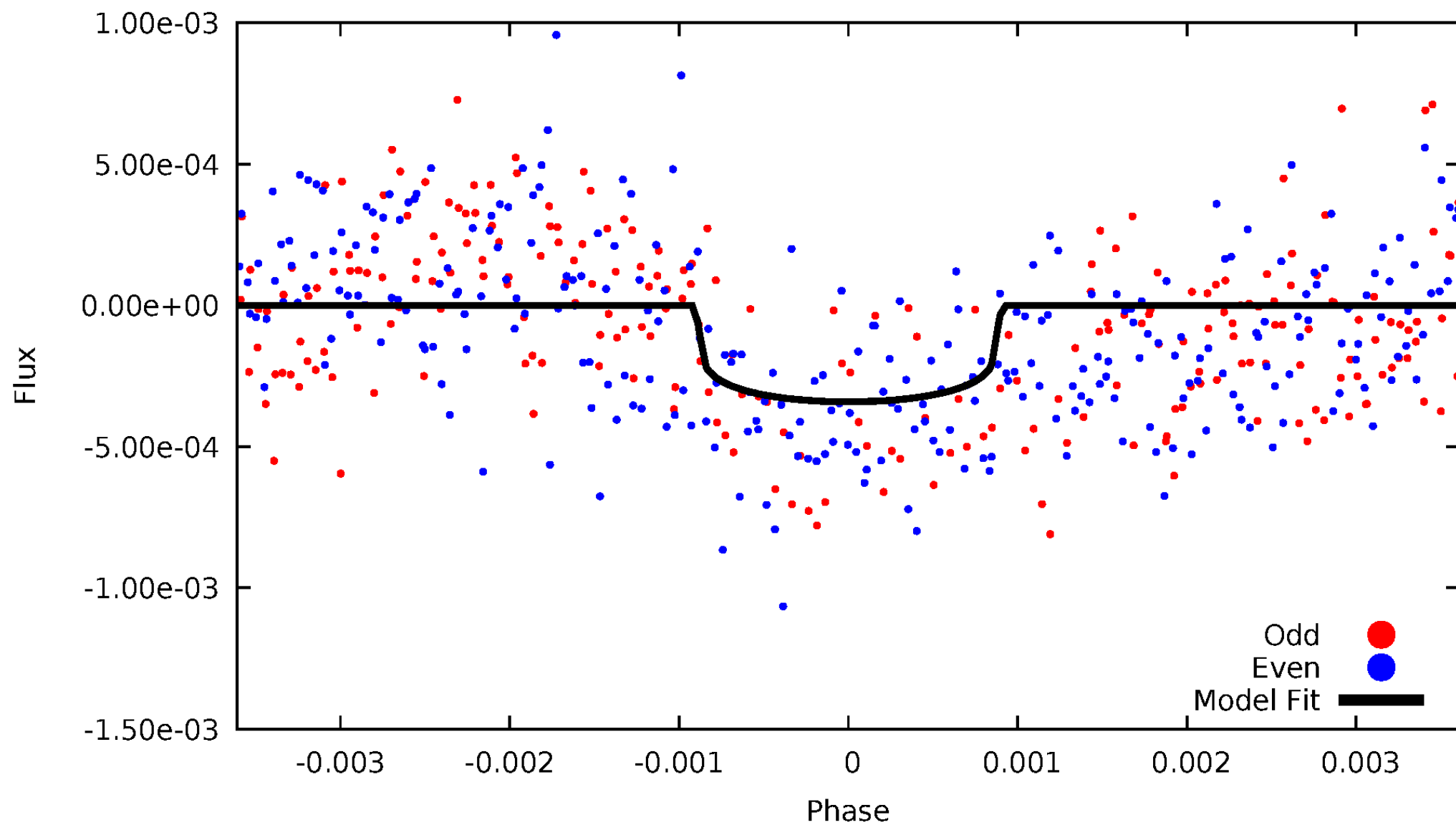


TCE 009948002-03



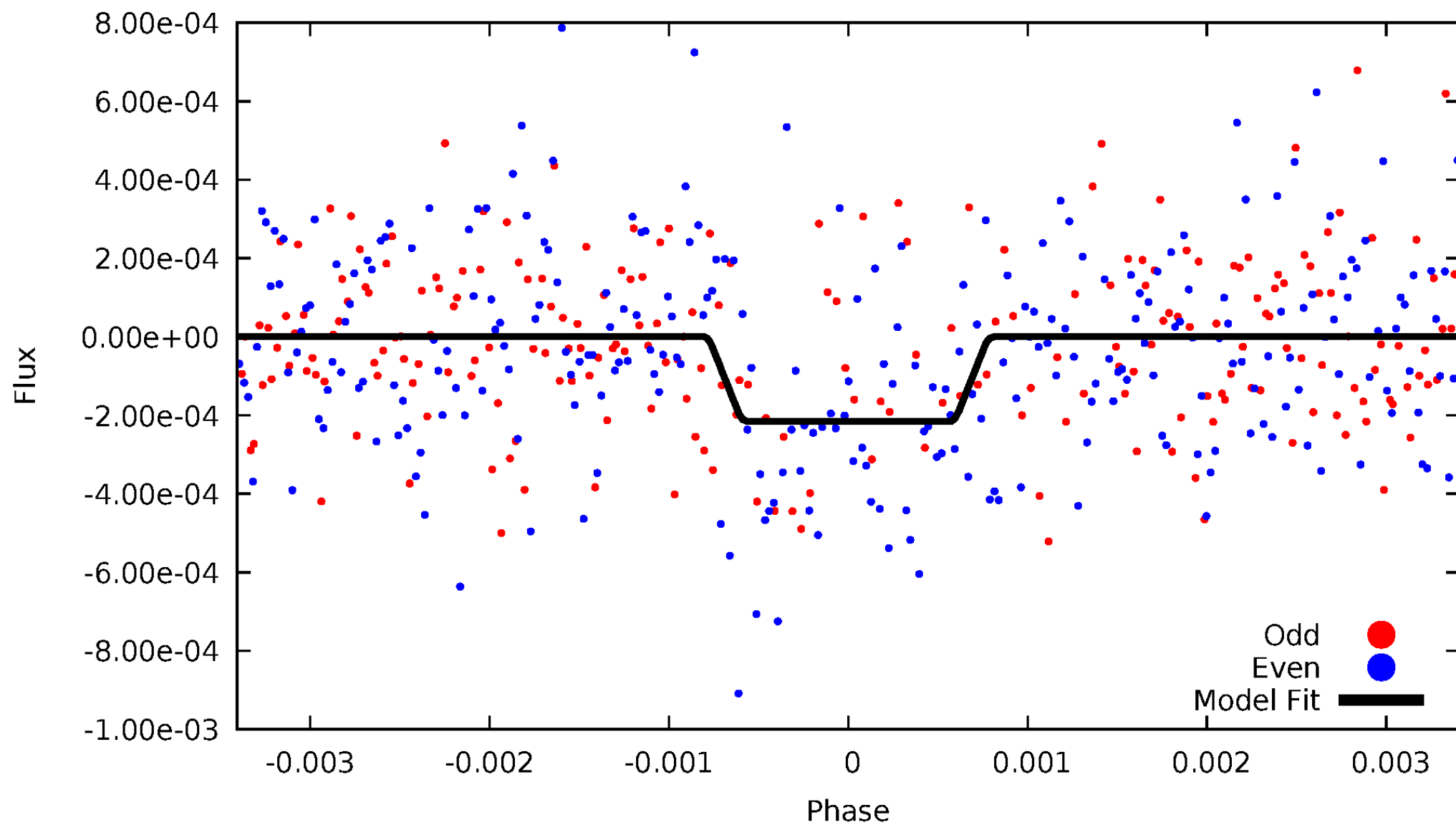
DV Odd/Even

TCE 009948002-03

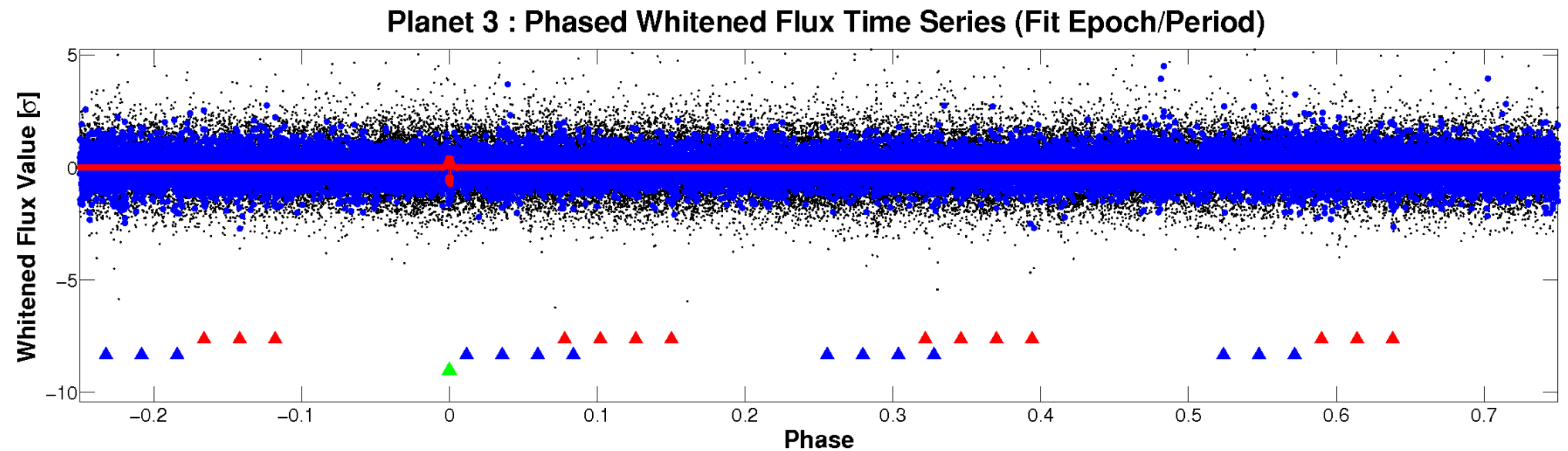
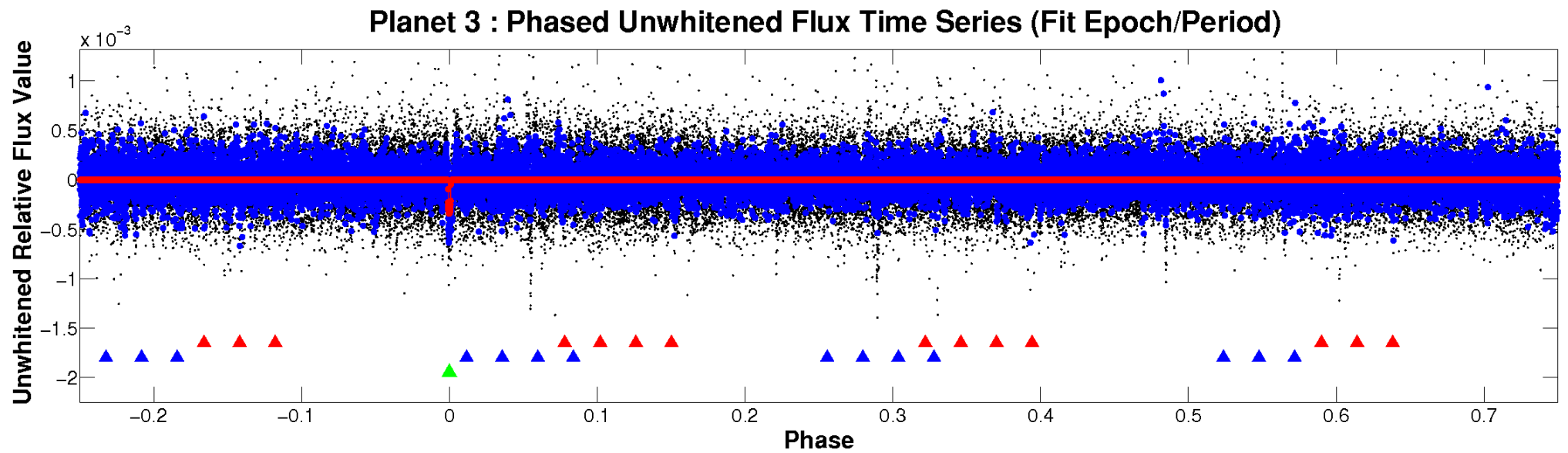


ALT Odd/Even

TCE 009948002-03



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 009948002-03 $P=415.045259$ Days $T_0=151.763717$ (BKJD)



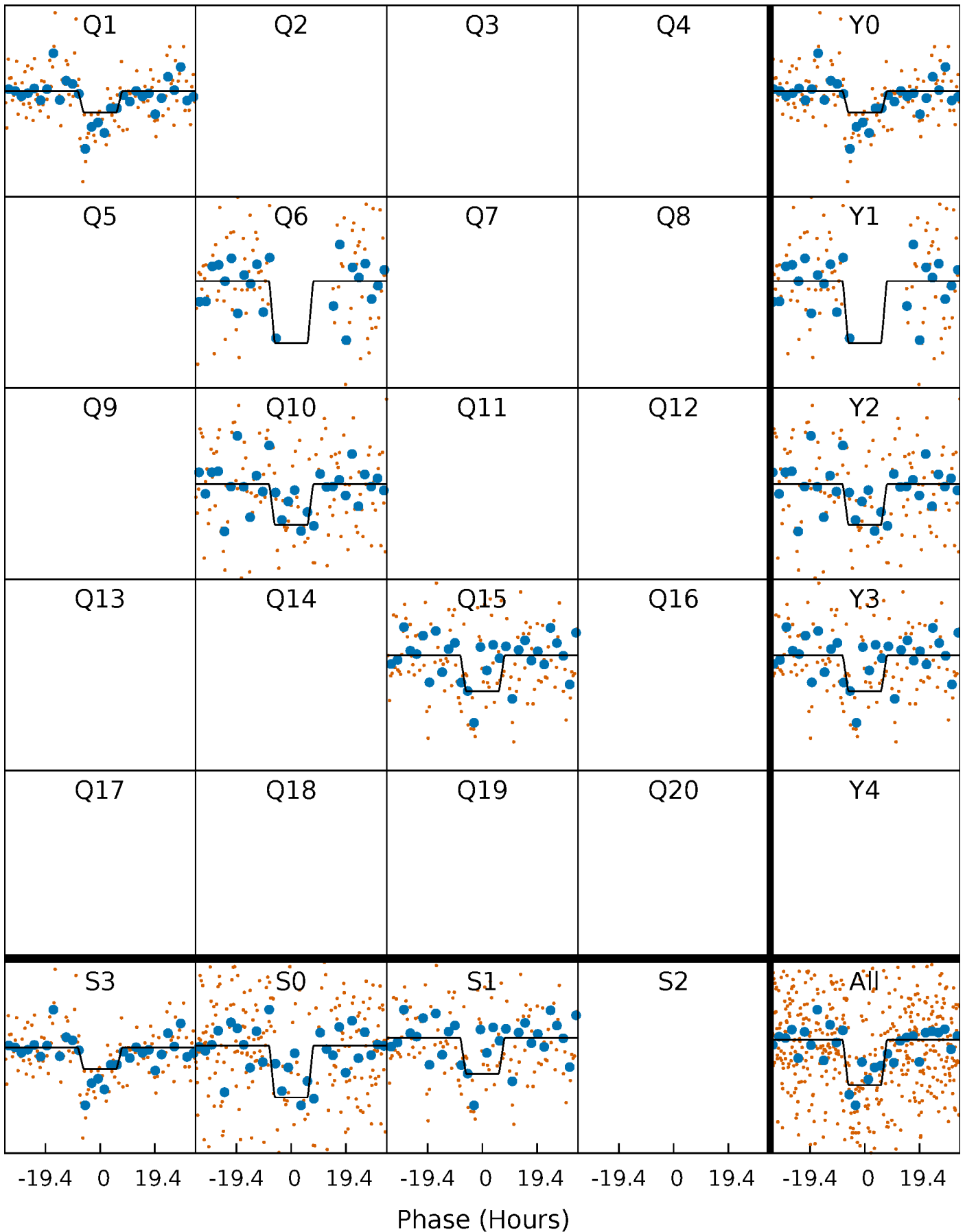
DV Quarter-Phased Transit Curves

TCE 009948002-03 $P=415.045259$ Days $T_0=151.763717$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

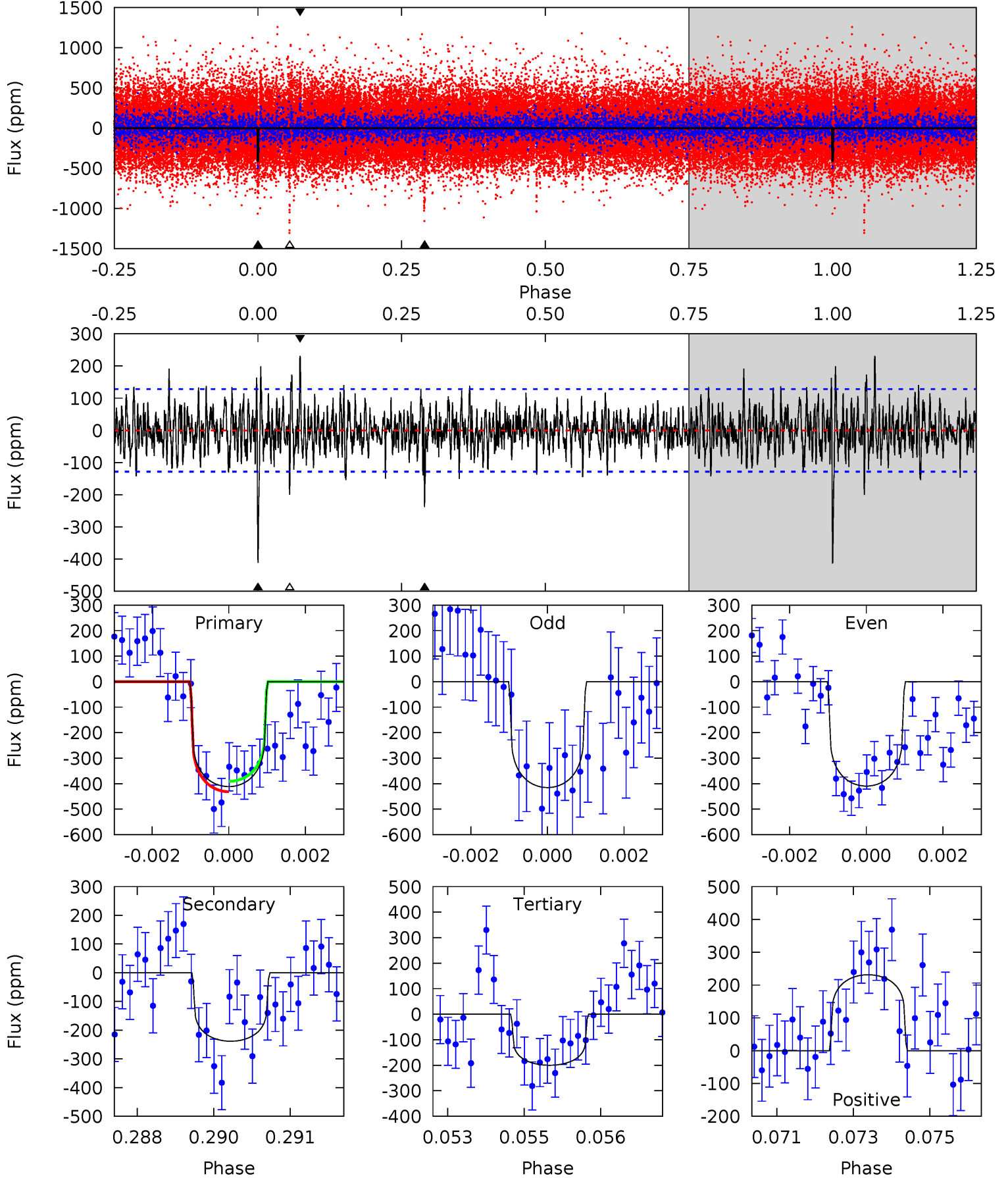
TCE 009948002-03 $P=415.073715$ Days $T_0=151.710212$ (BKJD)



DV Model-Shift Uniqueness Test

009948002-03, P = 415.045259 Days, E = 151.763717 Days

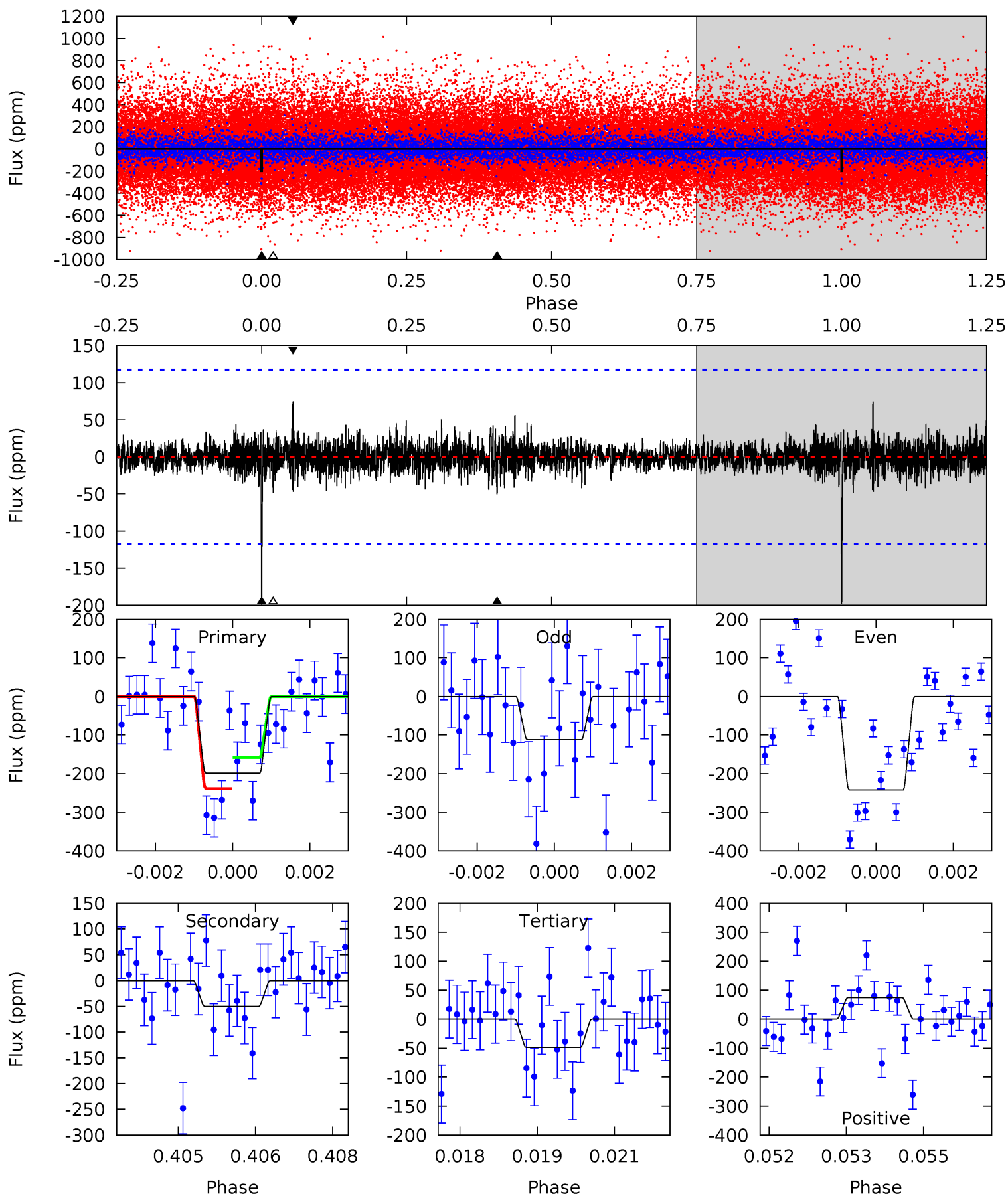
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	9.94	8.33	9.64	5.34	3.12	2.09	8.81	7.50	1.61	0.30	0.11	0.74	0.36	0.85



Alt Model-Shift Uniqueness Test

009948002-03, P = 415.073715 Days, E = 151.710212 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.06	2.29	2.22	3.39	5.36	3.15	0.58	6.83	5.67	0.07	-1.10	2.84	1.30	0.27	1.84



Stellar Parameters For KIC 009948002

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6309^{+169}_{-206}	$4.413^{+0.070}_{-0.210}$	$-0.200^{+0.250}_{-0.300}$	$1.062^{+0.364}_{-0.121}$	$1.058^{+0.173}_{-0.129}$	$1.244^{+0.384}_{-0.694}$
	+3%/-3%	+2%/-5%	+125%/-150%	+34%/-11%	+16%/-12%	+31%/-56%
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 009948002-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-239 ± 24	$2.11^{+1.04}_{-0.86}$	387^{+27}_{-19}	5924^{+1951}_{-917}	36469^{+64579}_{-20661}
Alt.	-50 ± 22	$1.78^{+0.85}_{-0.83}$	386^{+27}_{-18}	4513^{+1493}_{-709}	10212^{+27140}_{-6378}

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

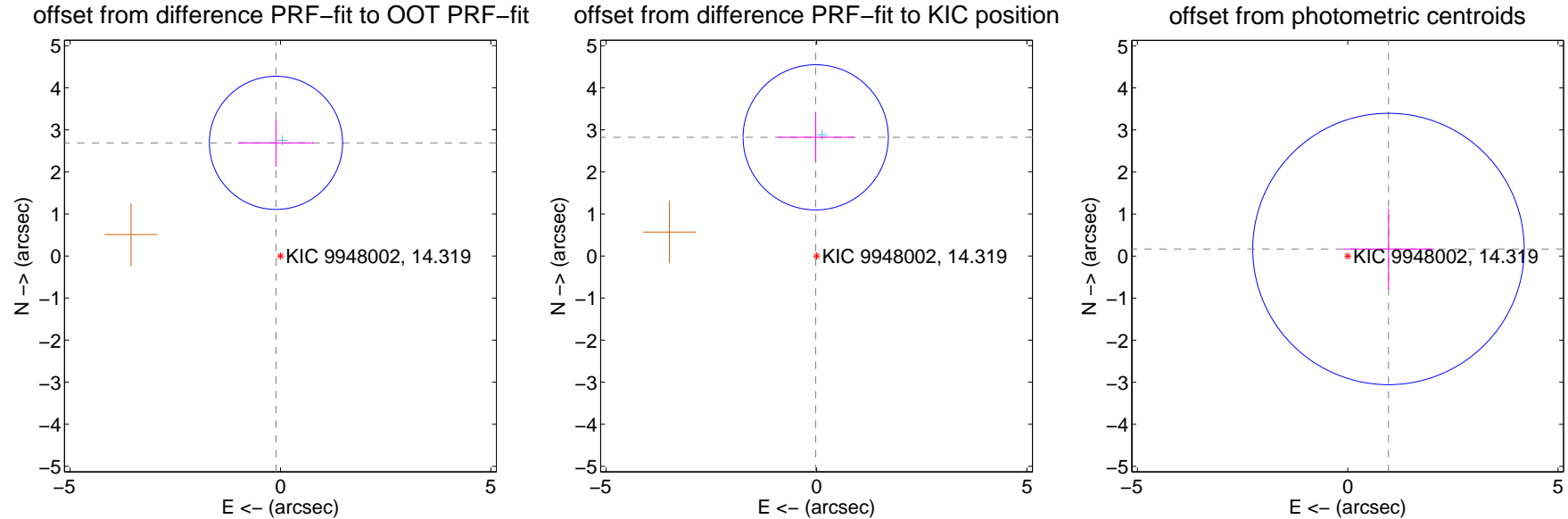
DV Centroid Data

Supplemental centroid analysis for 009948002-03. Kepler magnitude: 14.32. Transit SNR 7.00

There are 1 quarters with good PRF difference image offsets

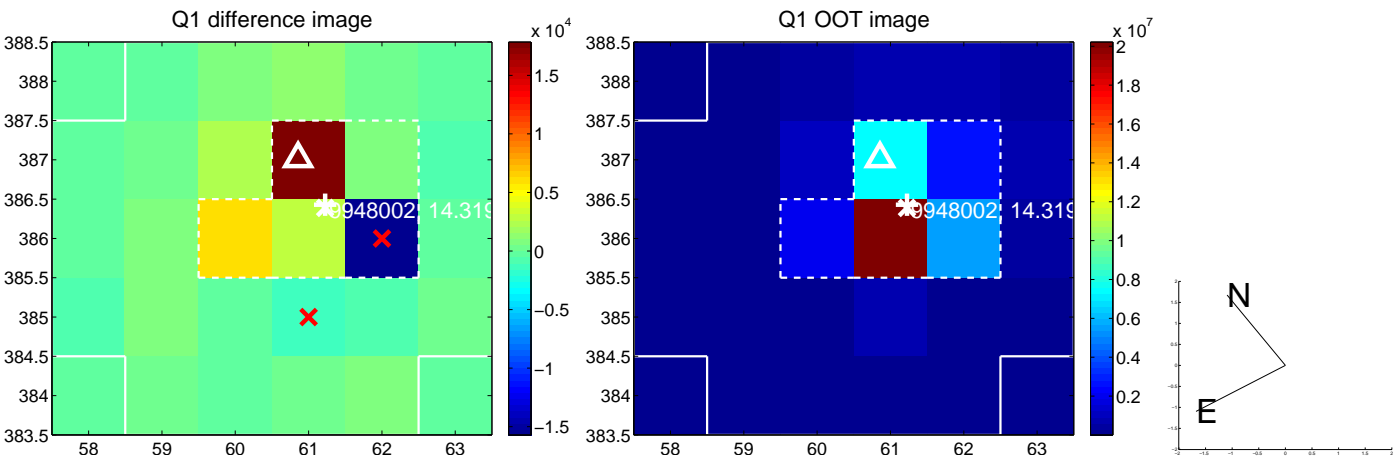
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.692 ± 0.528	5.10	0.107 ± 0.902	2.690 ± 0.563
PRF-fit source offset from KIC position	2.822 ± 0.575	4.91	0.021 ± 0.910	2.822 ± 0.582
photometric centroid source offset	0.98 ± 1.08	0.91	-0.97 ± 1.08	0.17 ± 0.96



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.

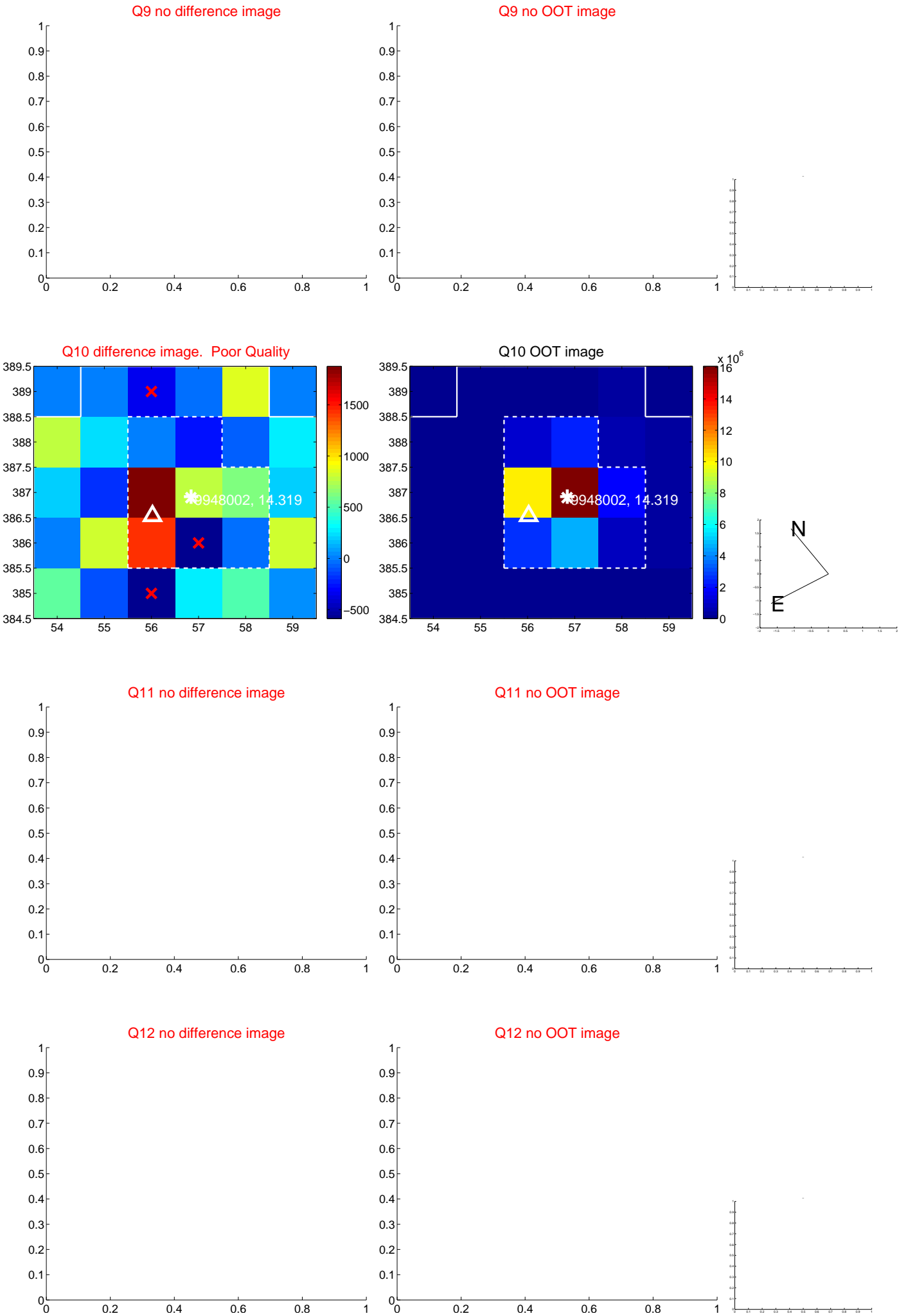
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



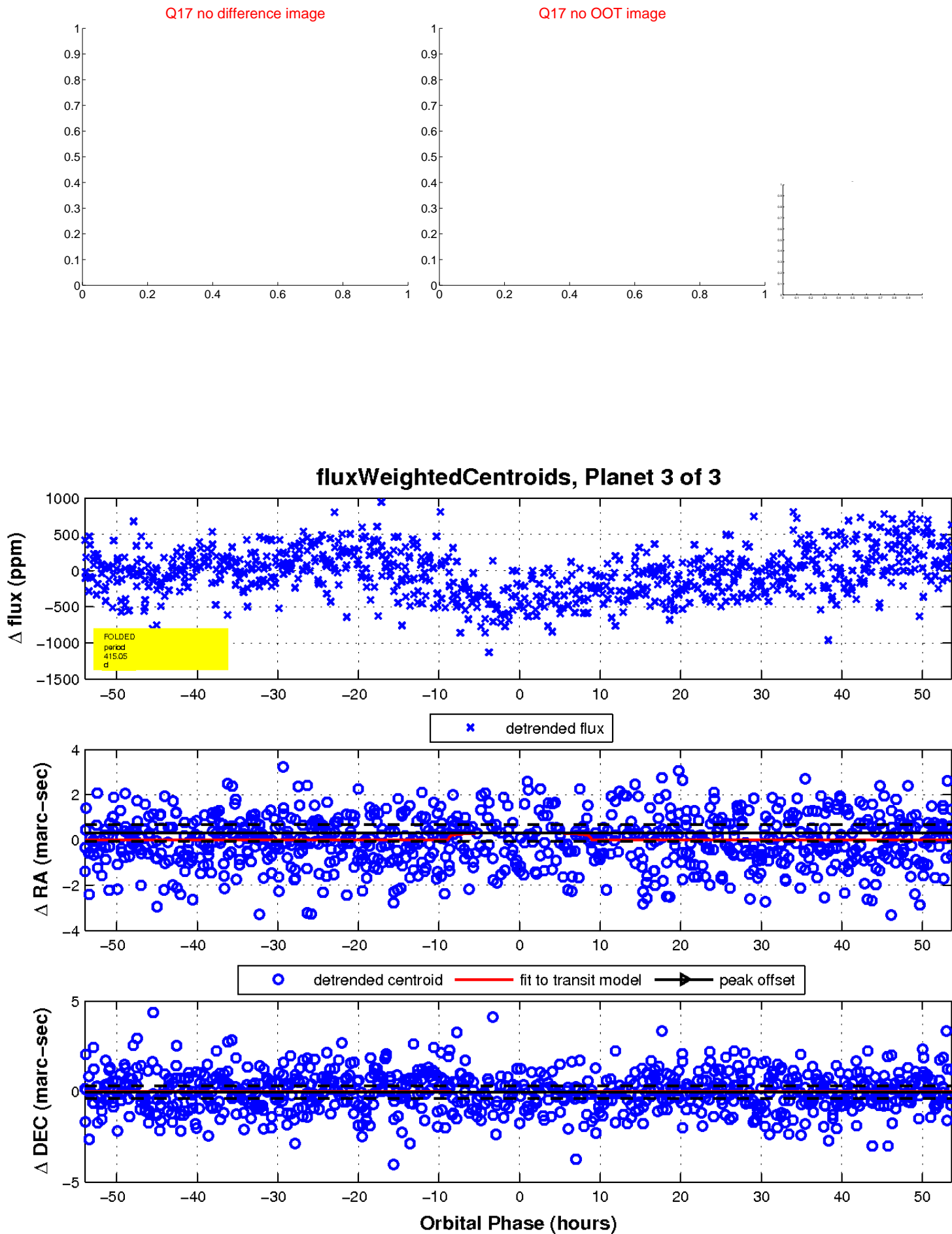
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

