

KIC 004946584

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})
004946584-01	OBS	4088.01	0.907951	132.132093	117.1	1.098	14.1	23.0	1.17	6434	1.49	5743.82
004946584-02	OBS	No	0.907936	131.683134	115.4	0.763	13.0	19.6	1.17	6434	1.49	5743.95
004946584-03	OBS	No	300.978970	196.851164	993.5	6.666	7.5	8.3	1.17	6434	4.34	2.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004946584-01	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET
004946584-02	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_UNRESOLVED_OFFSET
004946584-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

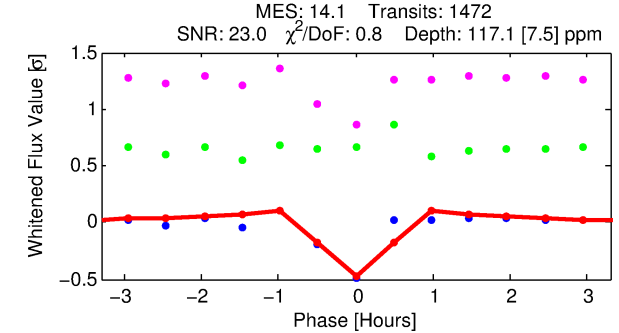
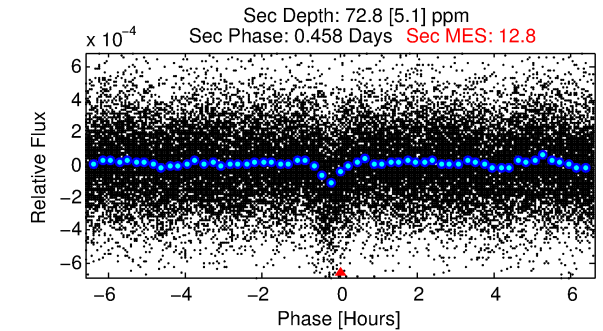
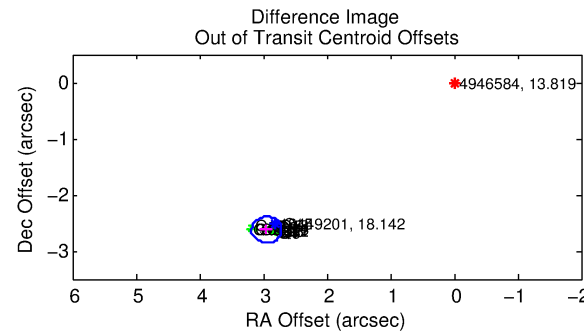
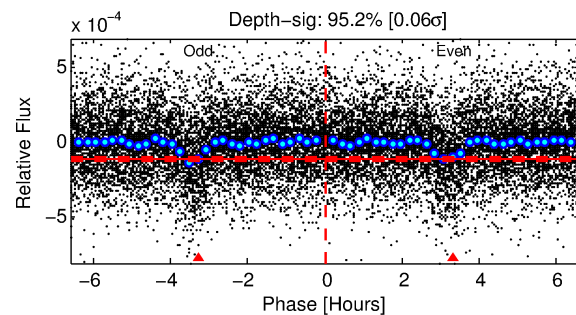
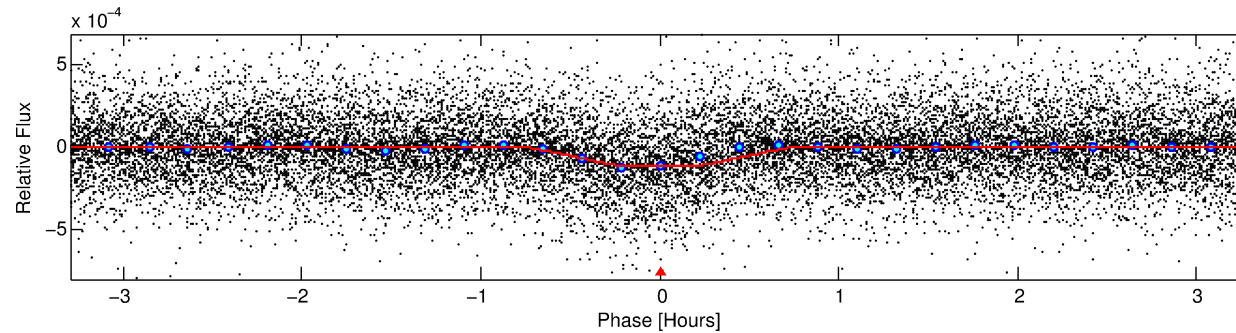
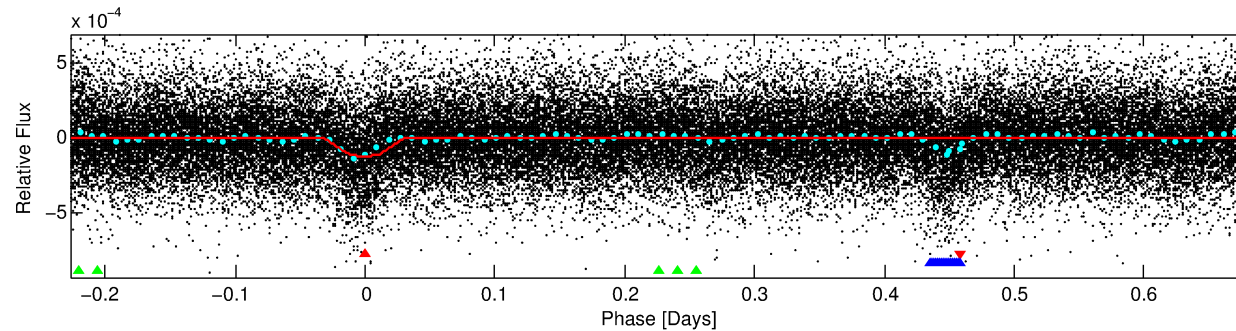
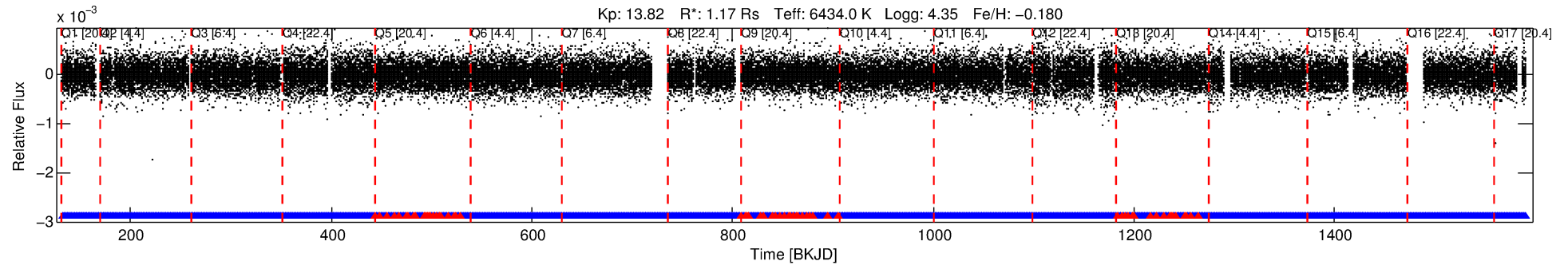
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004946584-01

No Significant Match Found

DV One-Page Summary

KIC: 4946584 Candidate: 1 of 3 Period: 0.908 d
KOI: K04088.01 Corr: 0.752



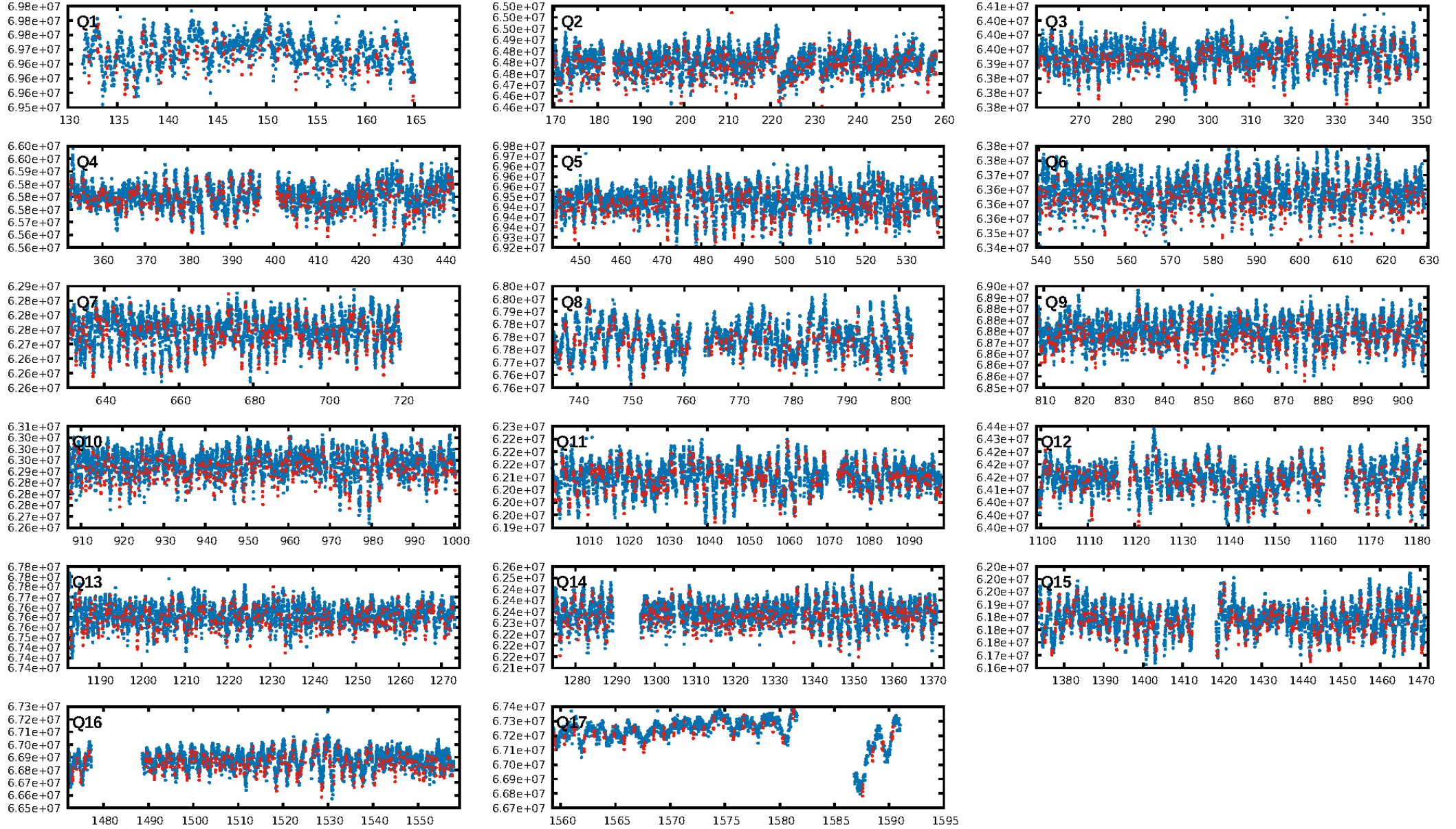
DV Fit Results:

Period = 0.90795 [0.00000] d
Epoch = 132.1321 [0.0007] BKJD
Rp/R* = 0.0117 [0.0032]
a/R* = 3.01 [4.08]
b = 0.90 [0.31]
Seff = 5743.82 [2355.40]
Teq = 2220 [228] K
Rp = 1.49 [0.63] Re
a = 0.0191 [0.0051] AU
Ag = 6.54 [4.37] [1.27 σ]
Teff = 5489 [768] K [4.08 σ]

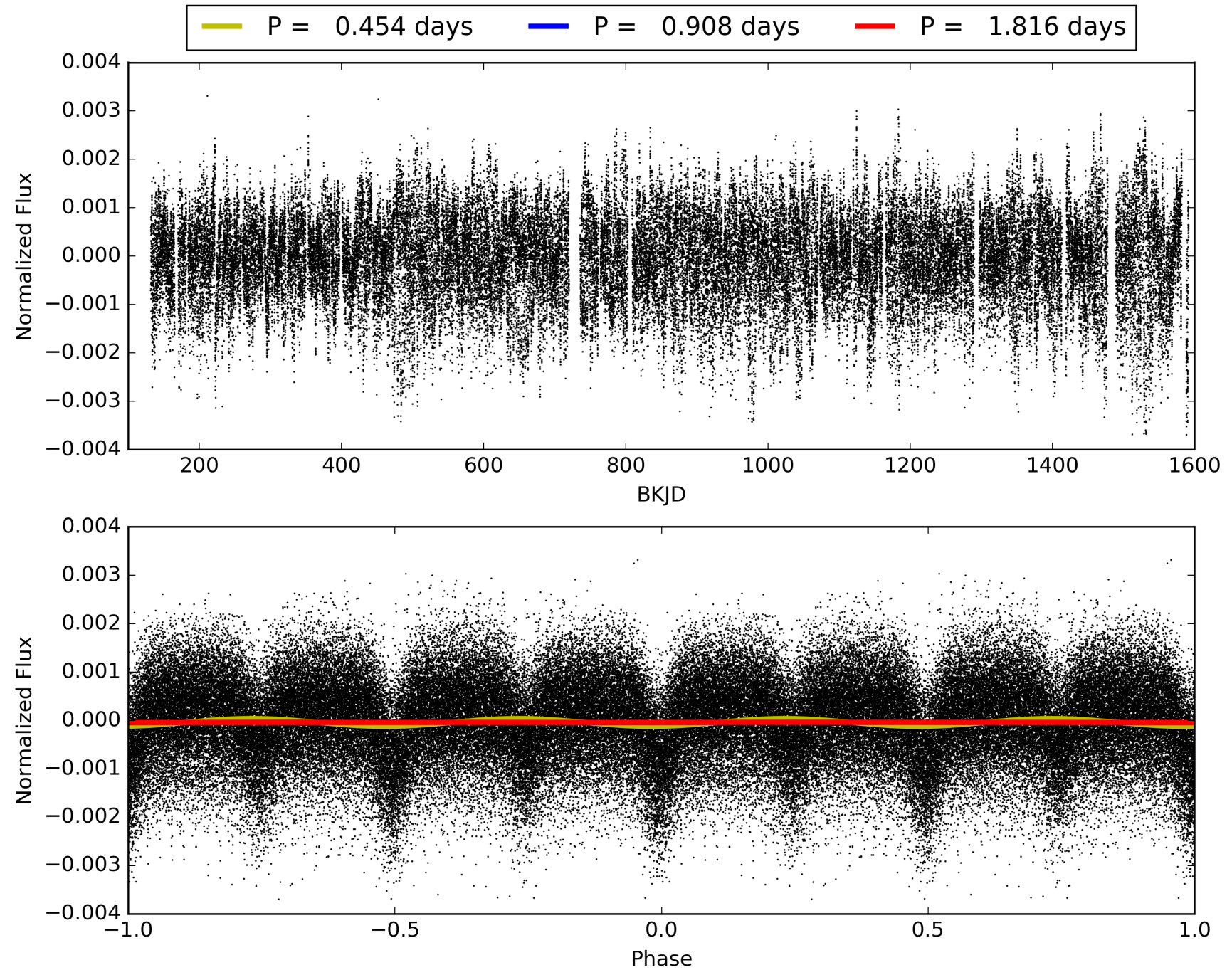
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [1065.96 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.58e-46
RollingBand-fgt: 0.95 [1339/1406]
GhostDiagnostic-chr: 0.64
Centroid-sig: 0.0%
Centroid-so: 6.823 arcsec [16.17 σ]
OotOffset-rm: 3.948 arcsec [50.62 σ]
KicOffset-rm: 3.885 arcsec [52.20 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004946584-01, PDC Light Curves

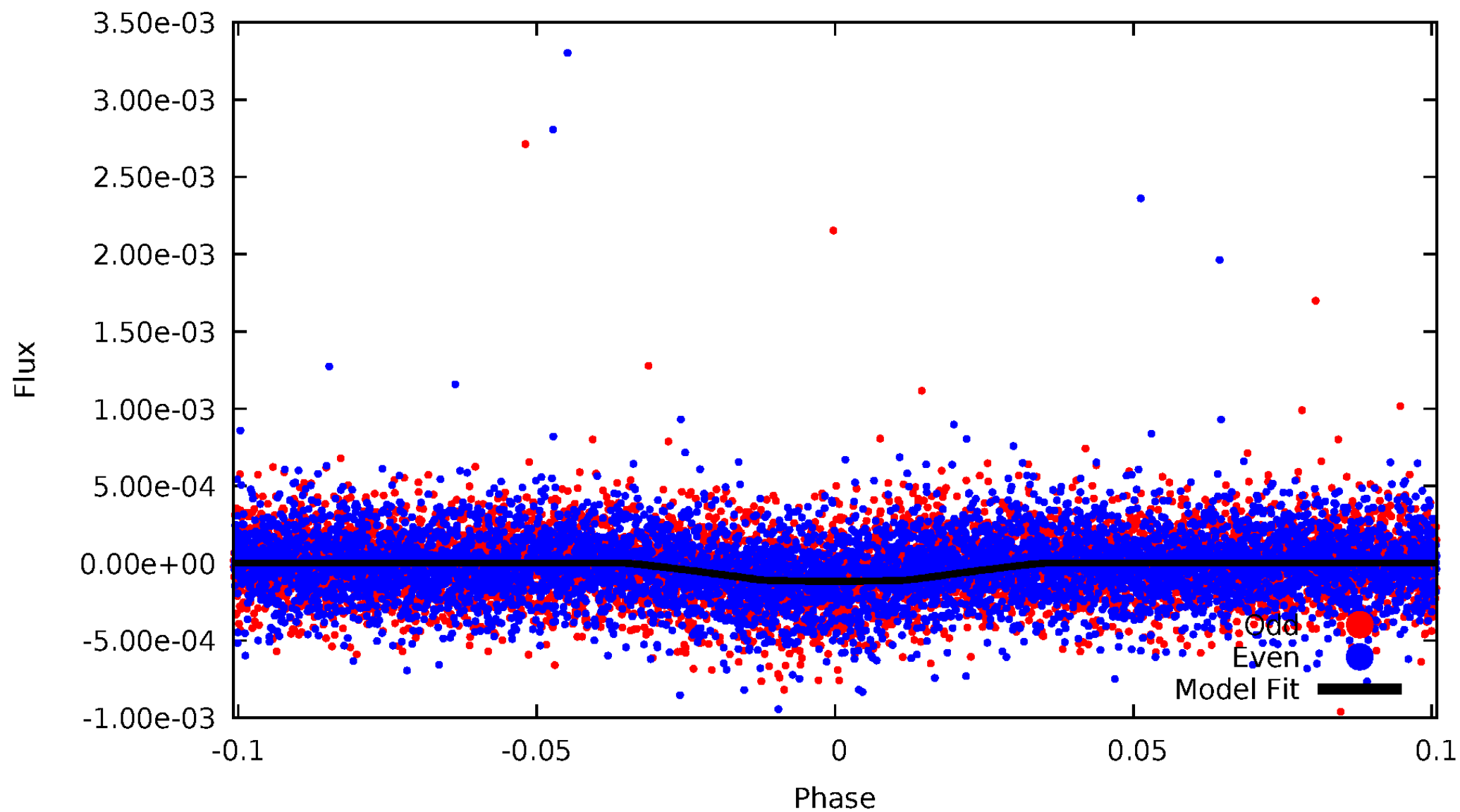


TCE 004946584-01



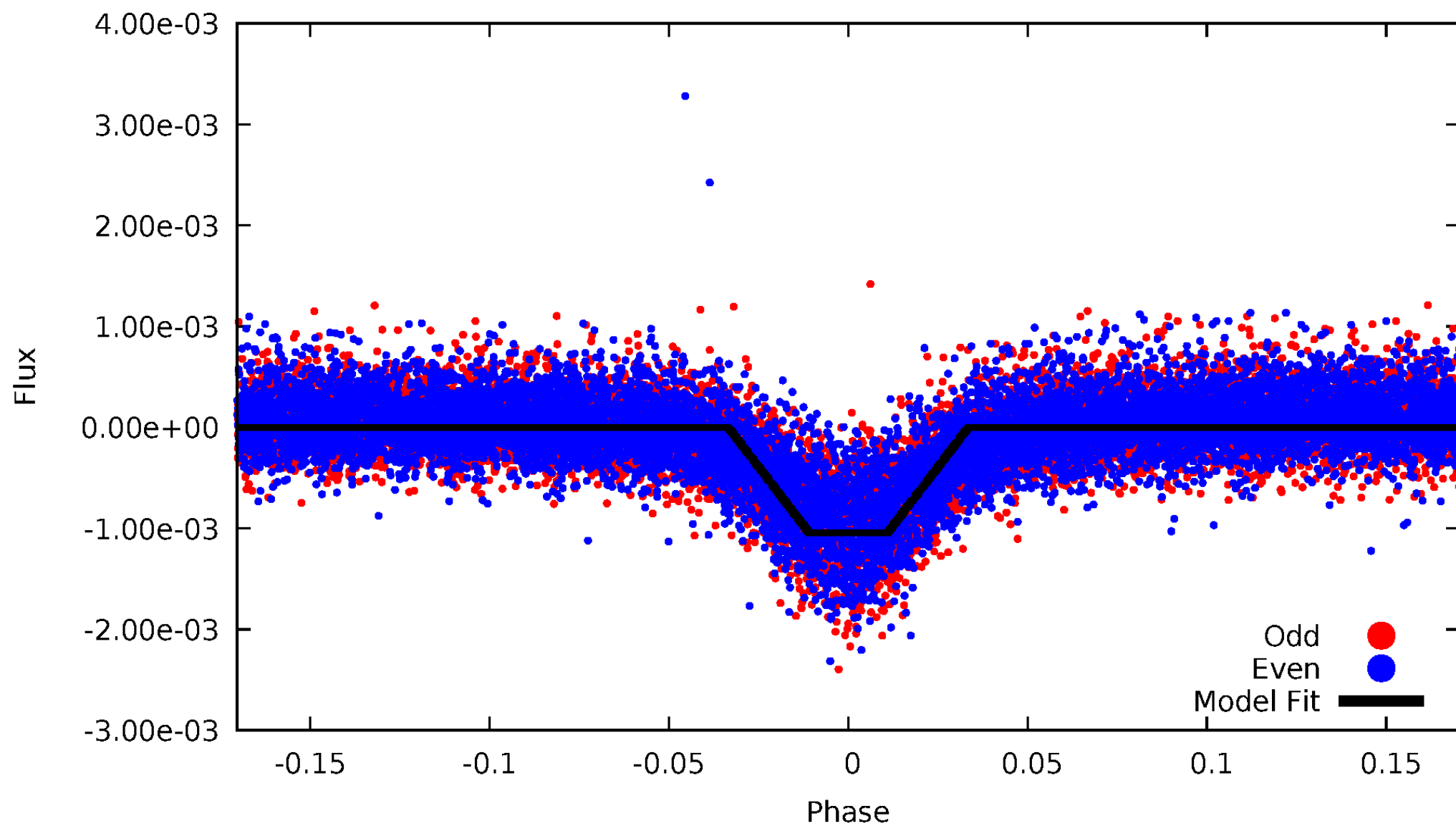
DV Odd/Even

TCE 004946584-01



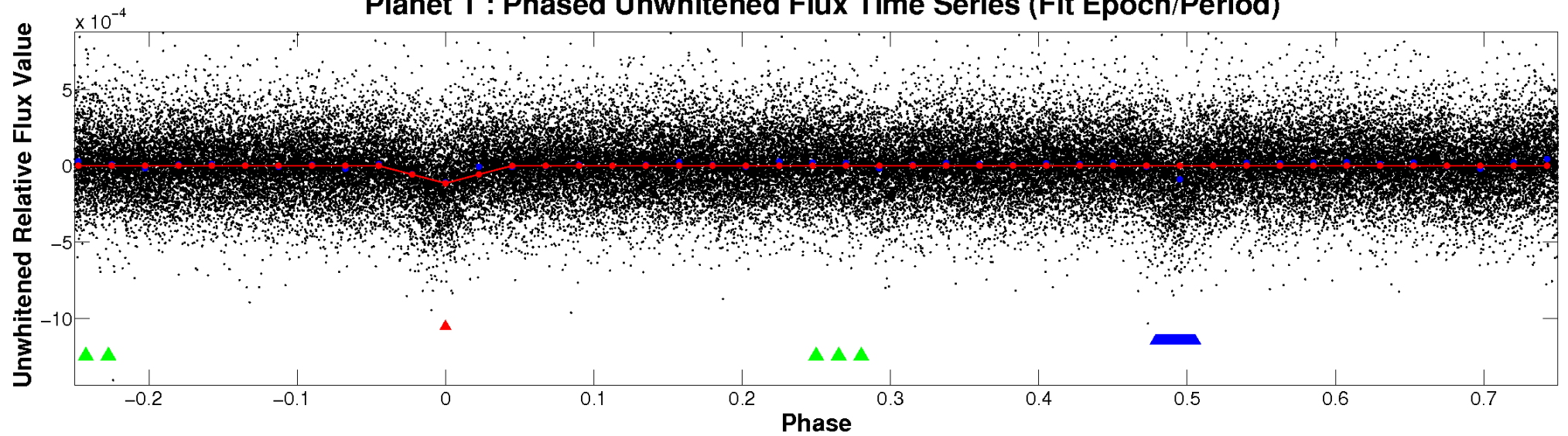
ALT Odd/Even

TCE 004946584-01

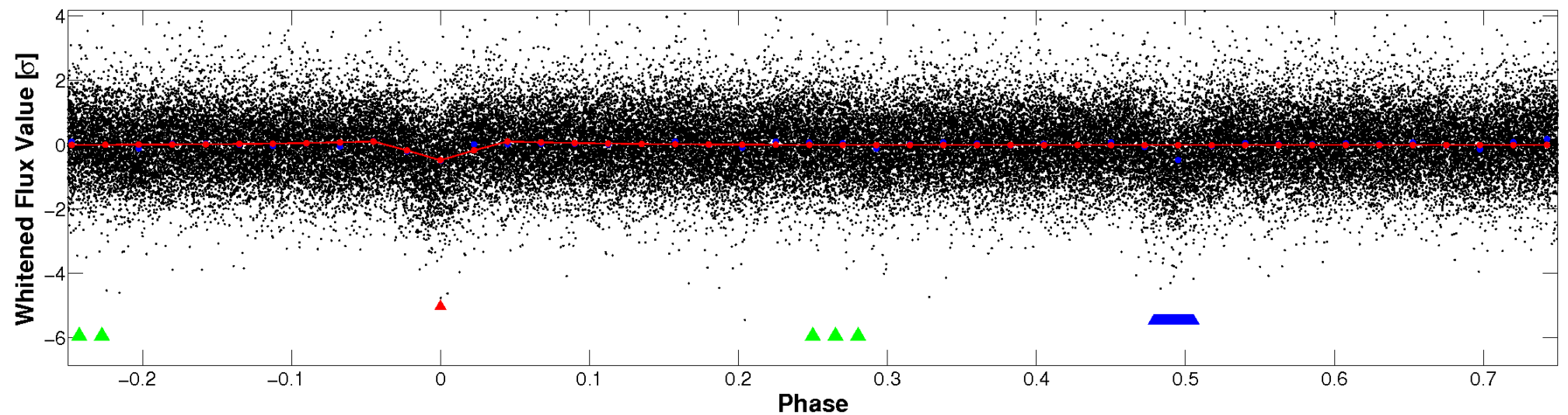


Non-Whitened Vs. Whitened Light Curve

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

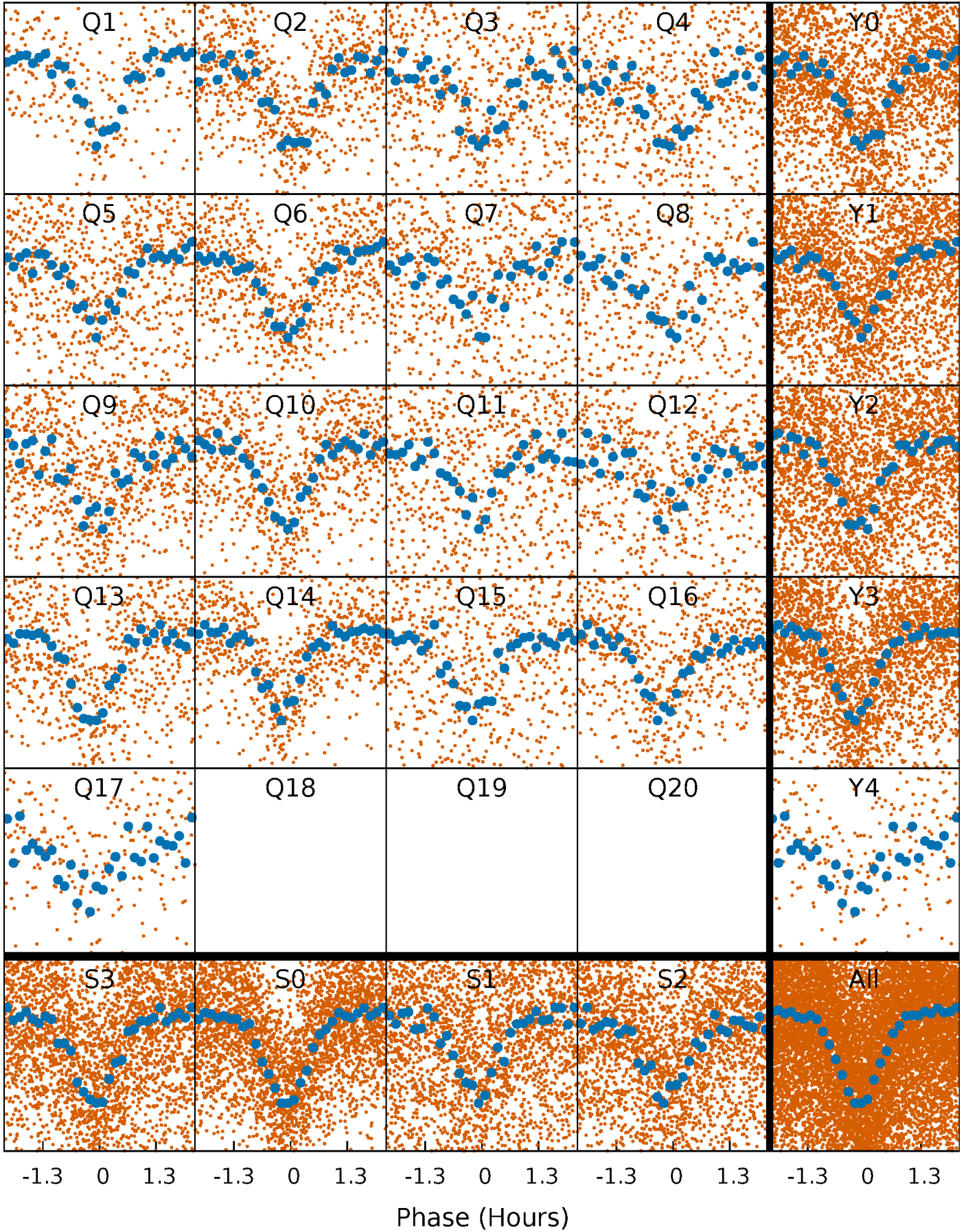


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



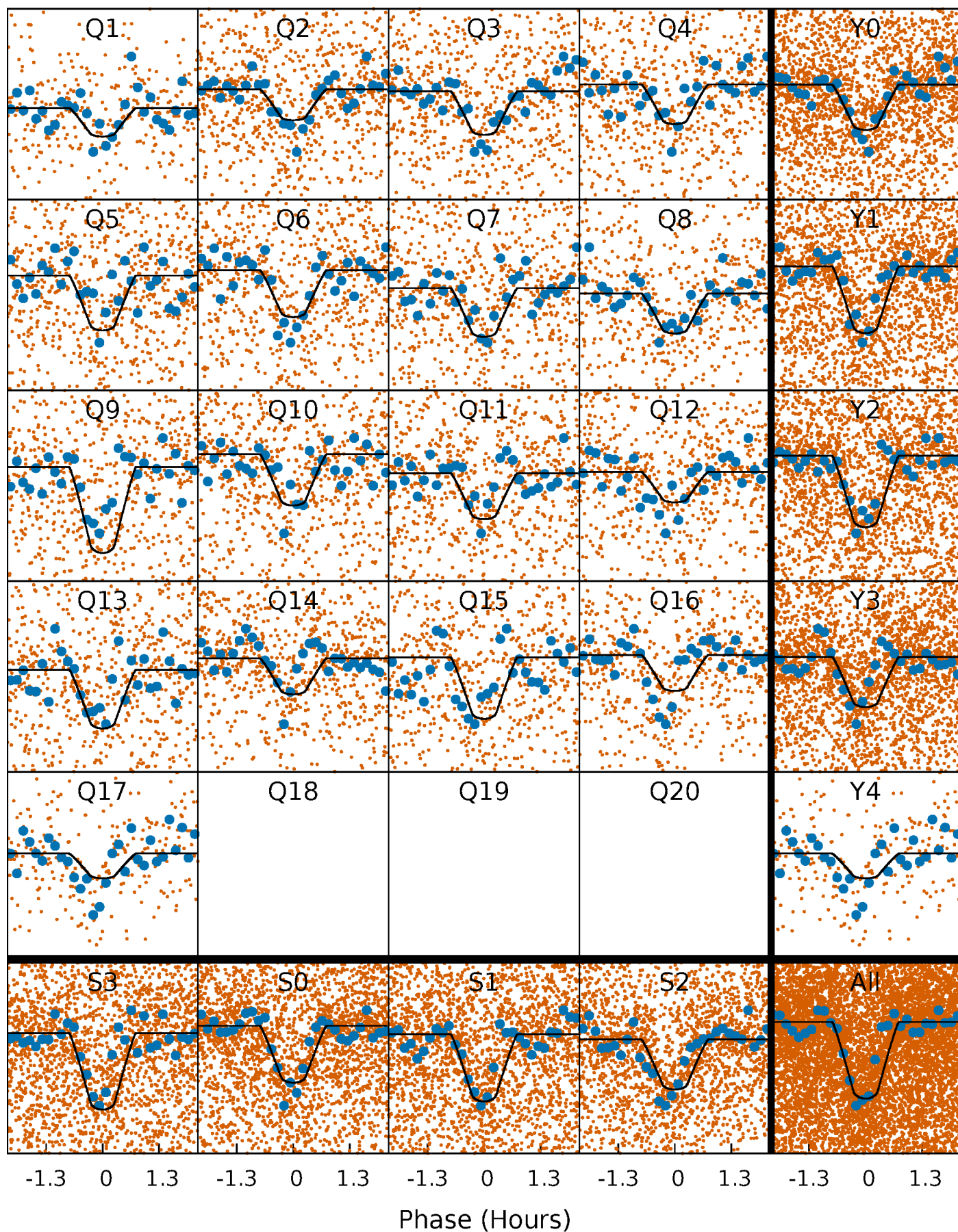
PDC Quarter-Phased Transit Curves

TCE 004946584-01 P= 0.907951 Days $T_0=132.132093$ (BKJD)



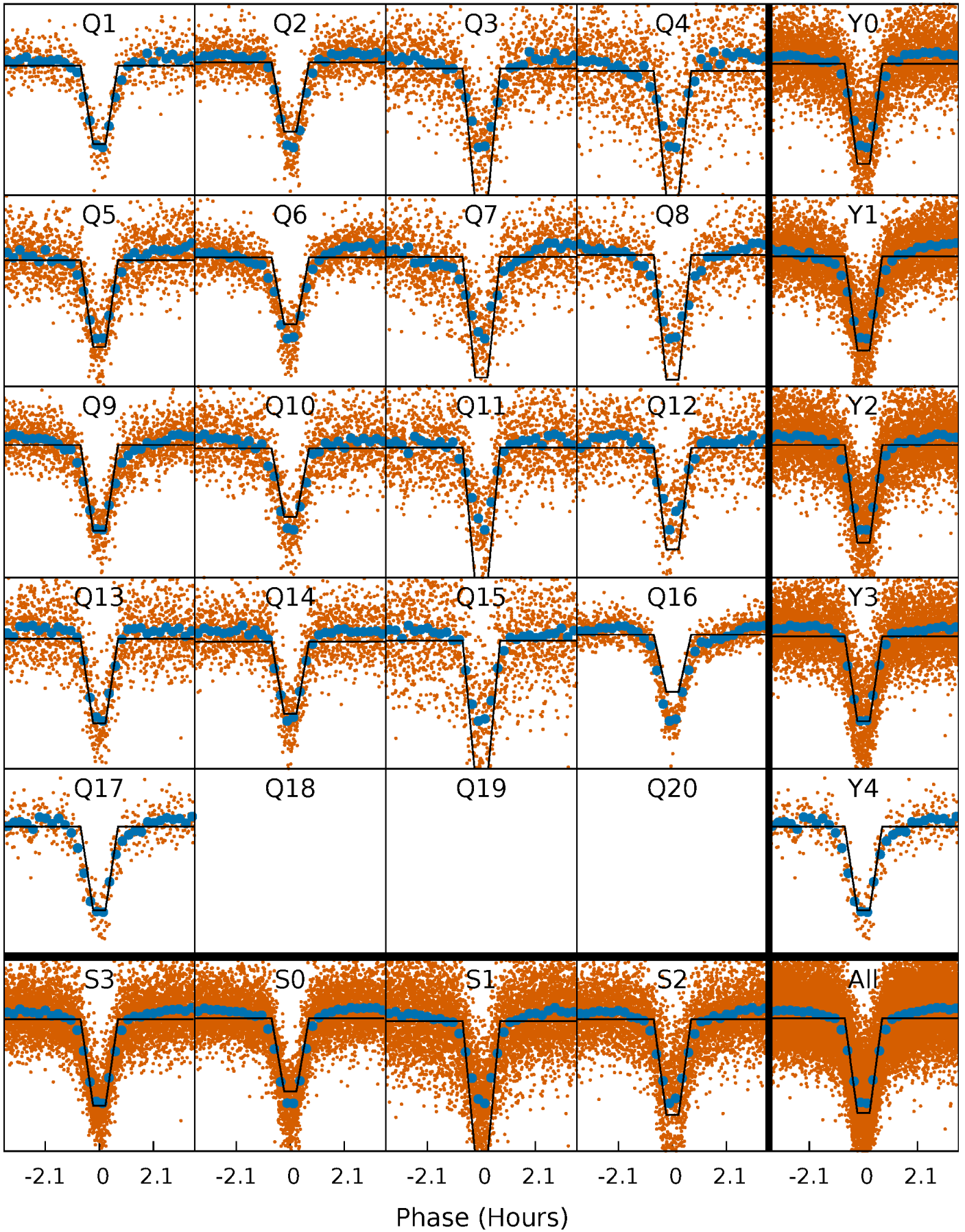
DV Quarter-Phased Transit Curves

TCE 004946584-01 P= 0.907951 Days $T_0=132.132093$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

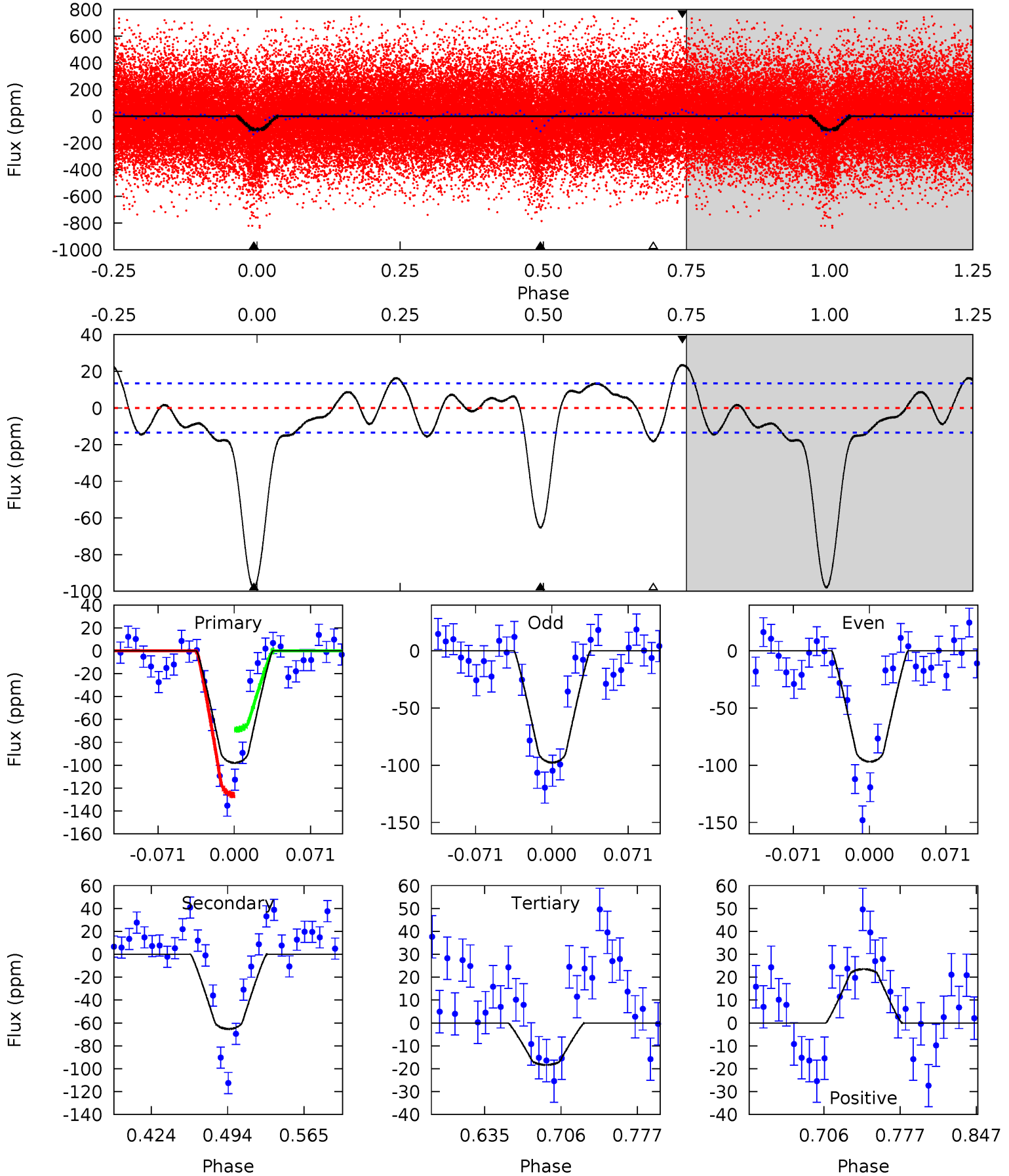
TCE 004946584-01 P= 0.907944 Days $T_0=132.133329$ (BKJD)



DV Model-Shift Uniqueness Test

004946584-01, P = 0.907951 Days, E = 131.224142 Days

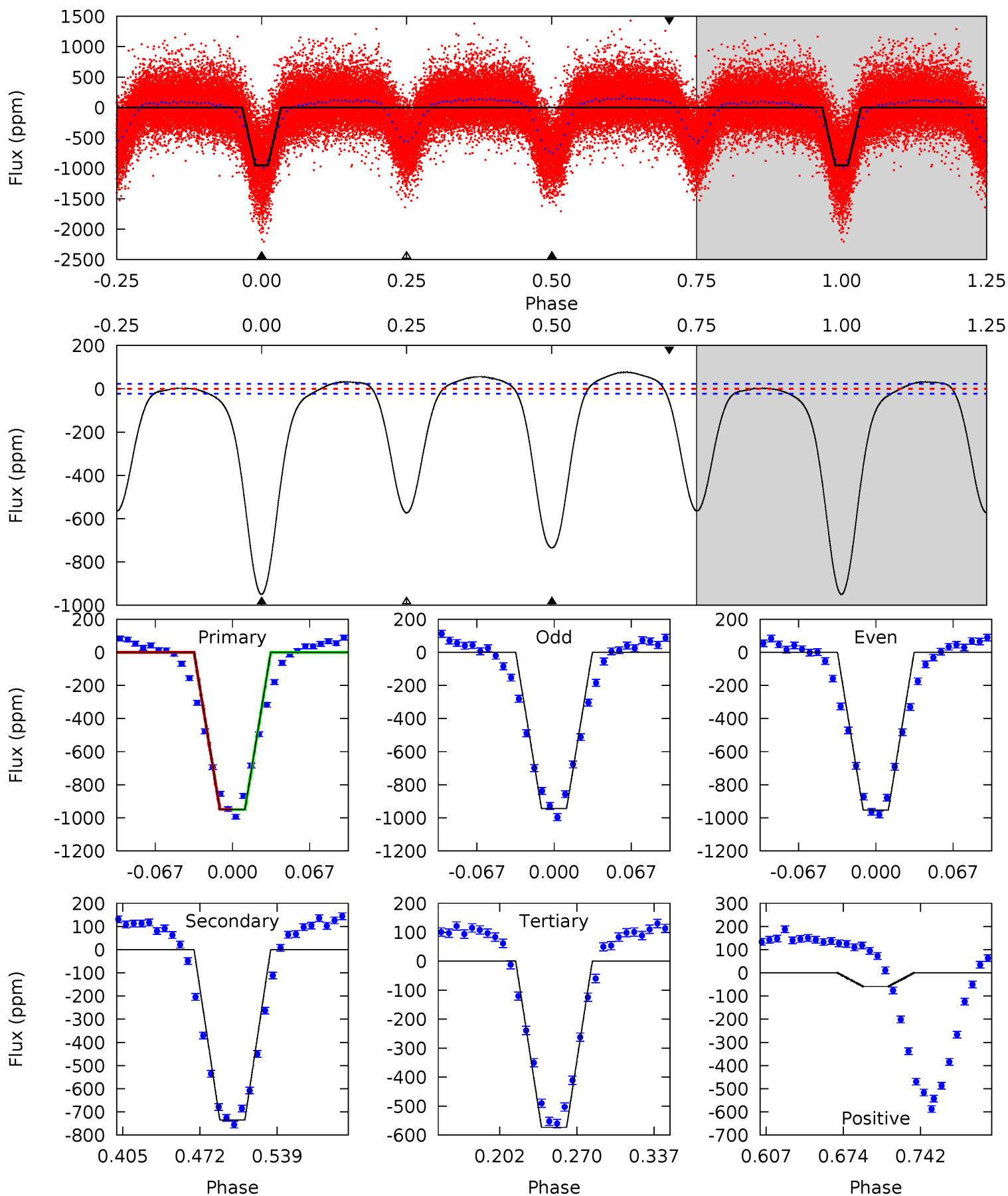
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.8	22.5	6.32	8.11	4.64	1.81	3.36	27.5	25.7	16.2	14.4	0.14	1.00	0.19	9.90



Alt Model-Shift Uniqueness Test

004946584-01, P = 0.907944 Days, E = 131.225385 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
192.8	149.2	116.4	-12.0	4.65	1.83	37.3	76.4	204.7	32.8	161.1	1.01	1.02	0.07	0.24



Stellar Parameters For KIC 004946584

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6434^{+155}_{-213}	$4.354^{+0.084}_{-0.210}$	$-0.180^{+0.250}_{-0.300}$	$1.166^{+0.378}_{-0.162}$	$1.119^{+0.178}_{-0.129}$	$0.994^{+0.377}_{-0.521}$
	+2%/-3%	+2%/-5%	+139%/-167%	+32%/-14%	+16%/-12%	+38%/-52%
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 004946584-01 / KOI 4088.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-65 ± 3	$1.55^{+0.46}_{-0.42}$	3141^{+246}_{-164}	5290^{+821}_{-548}	$5.405^{+4.513}_{-2.220}$
Alt.	-735 ± 5	$4.19^{+0.76}_{-0.58}$	3126^{+236}_{-159}	5824^{+366}_{-315}	$8.233^{+2.846}_{-2.072}$

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

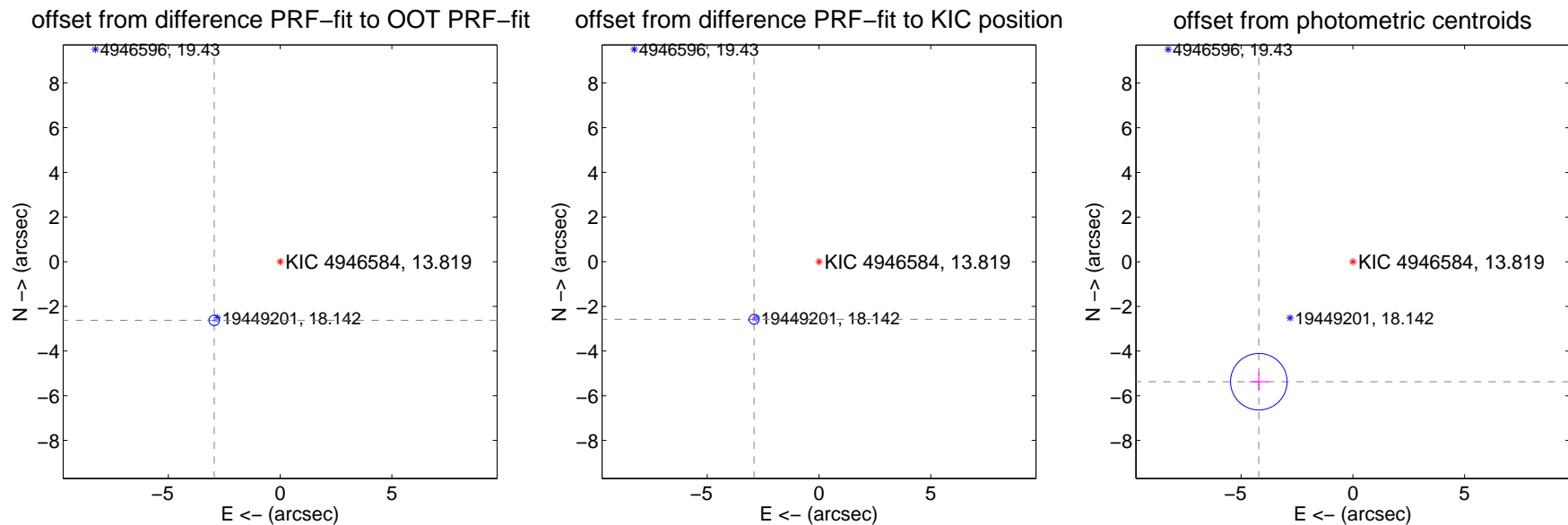
DV Centroid Data

Supplemental centroid analysis for 004946584-01. Kepler magnitude: 13.82. Transit SNR 23.00

There are 17 quarters with good PRF difference image offsets

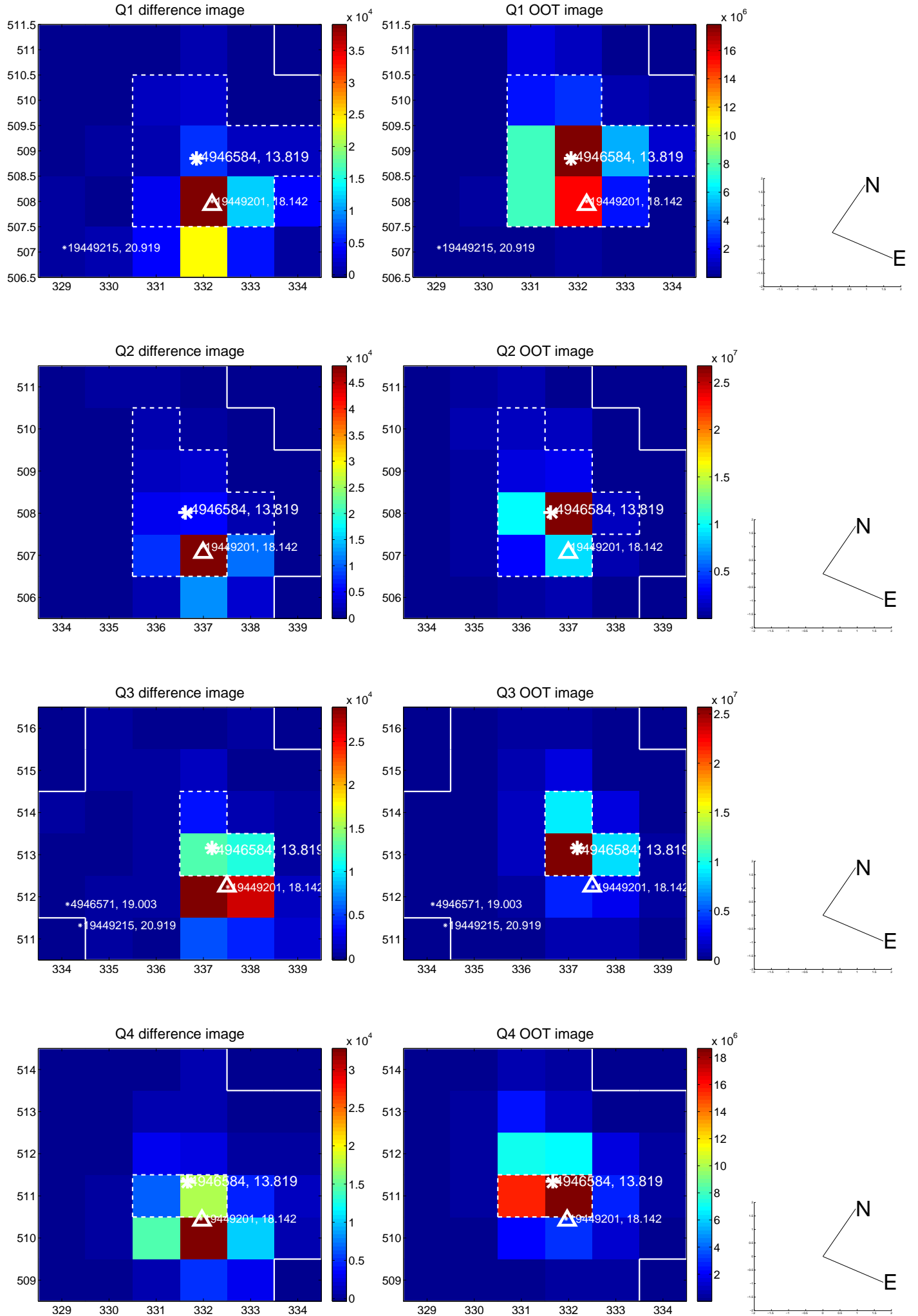
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.948 ± 0.078	50.62	2.948 ± 0.085	-2.626 ± 0.067
PRF-fit source offset from KIC position	3.885 ± 0.074	52.20	2.904 ± 0.079	-2.581 ± 0.069
photometric centroid source offset	6.82 ± 0.42	16.17	4.21 ± 0.42	-5.37 ± 0.42

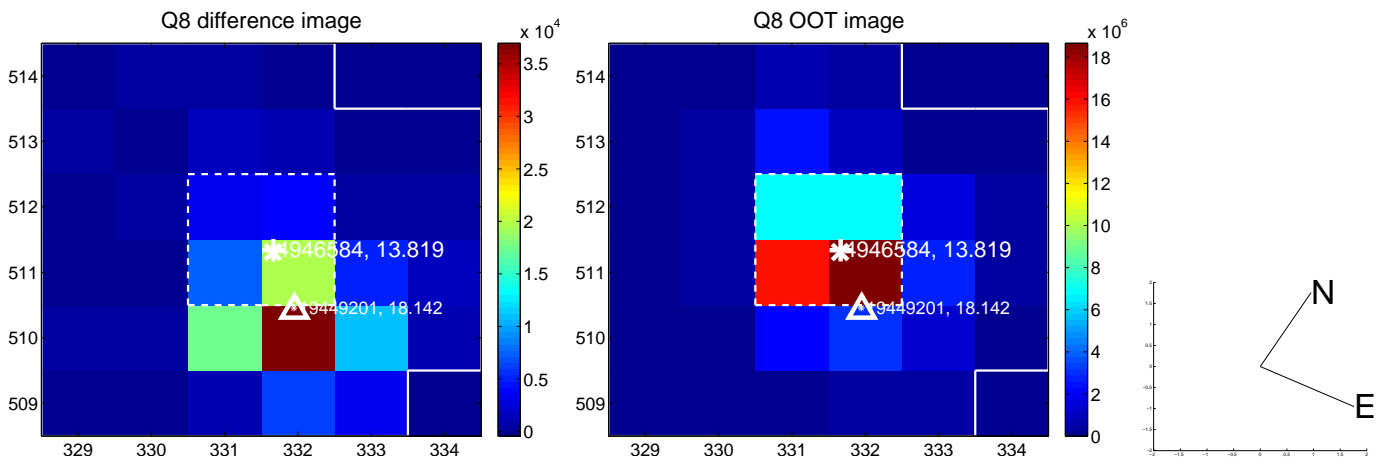
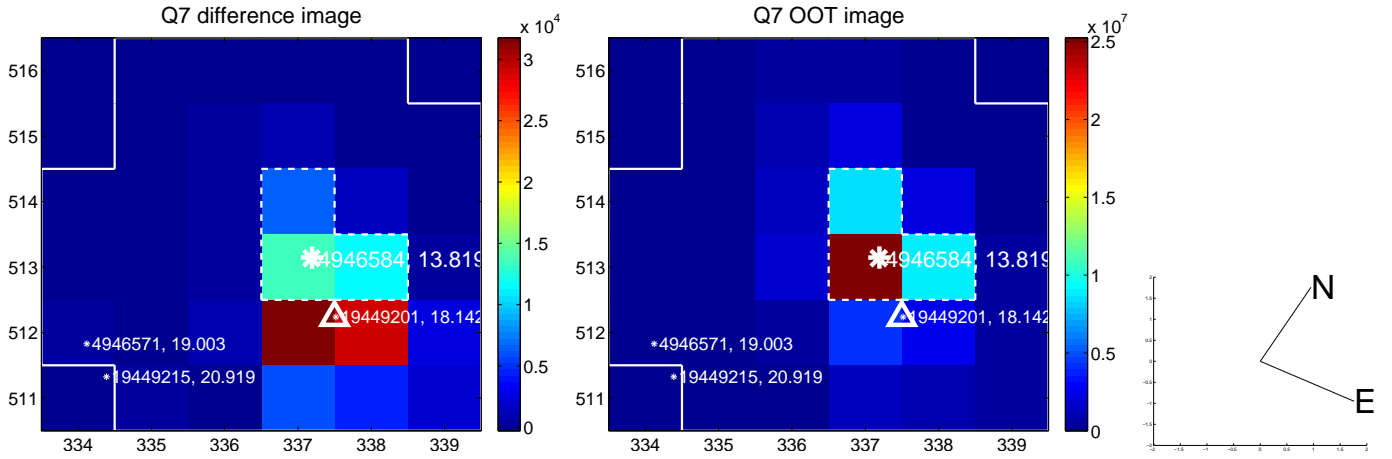
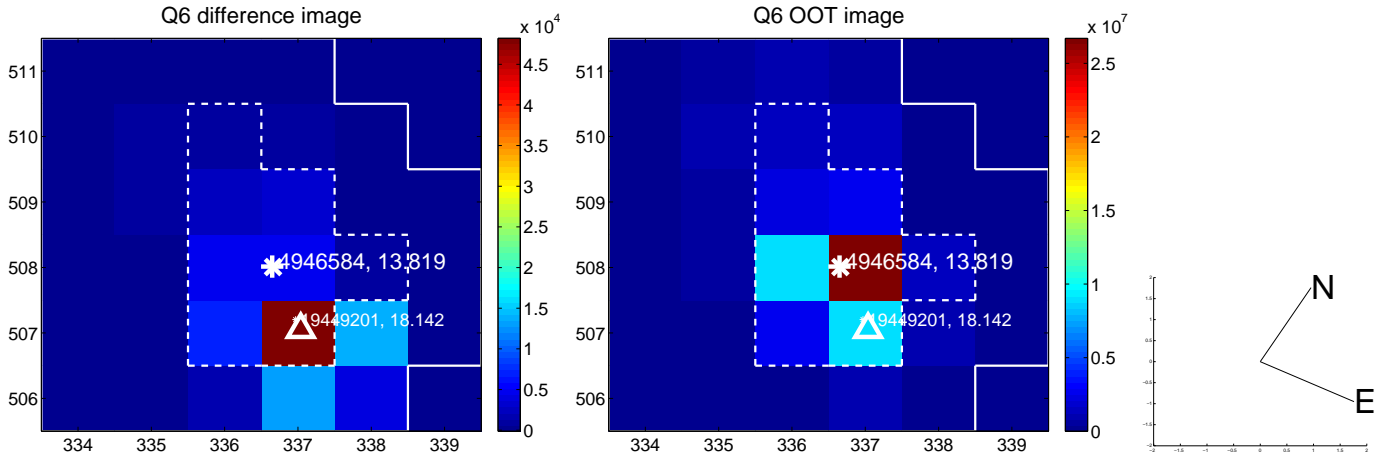
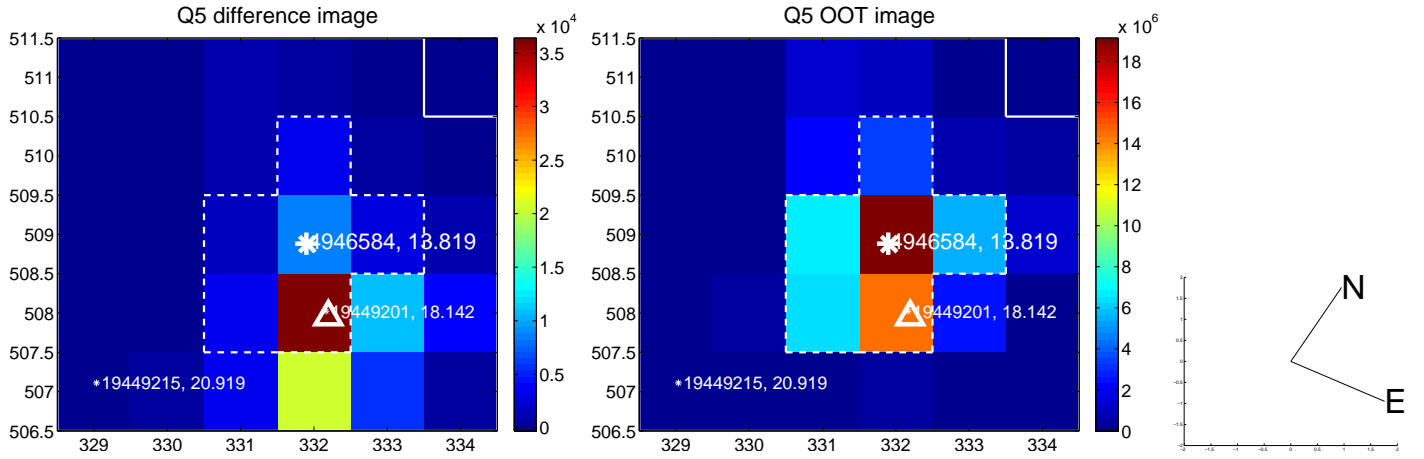


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

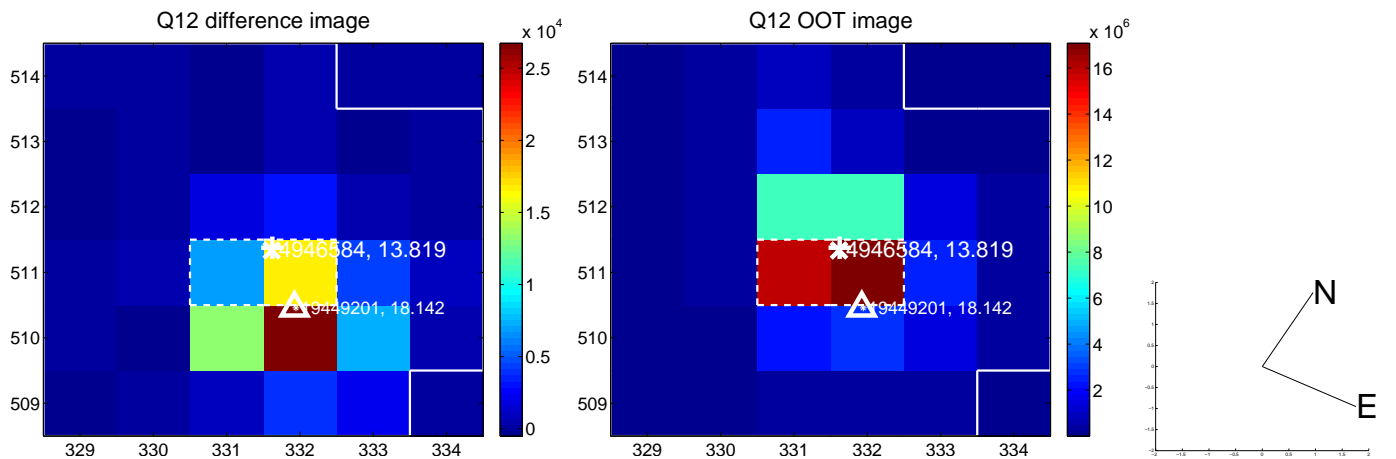
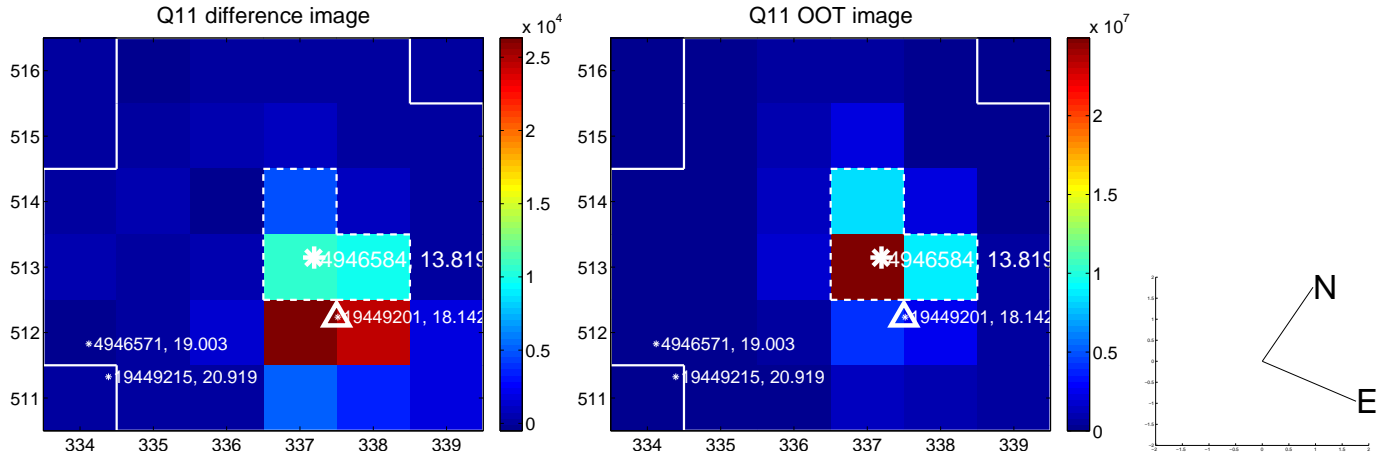
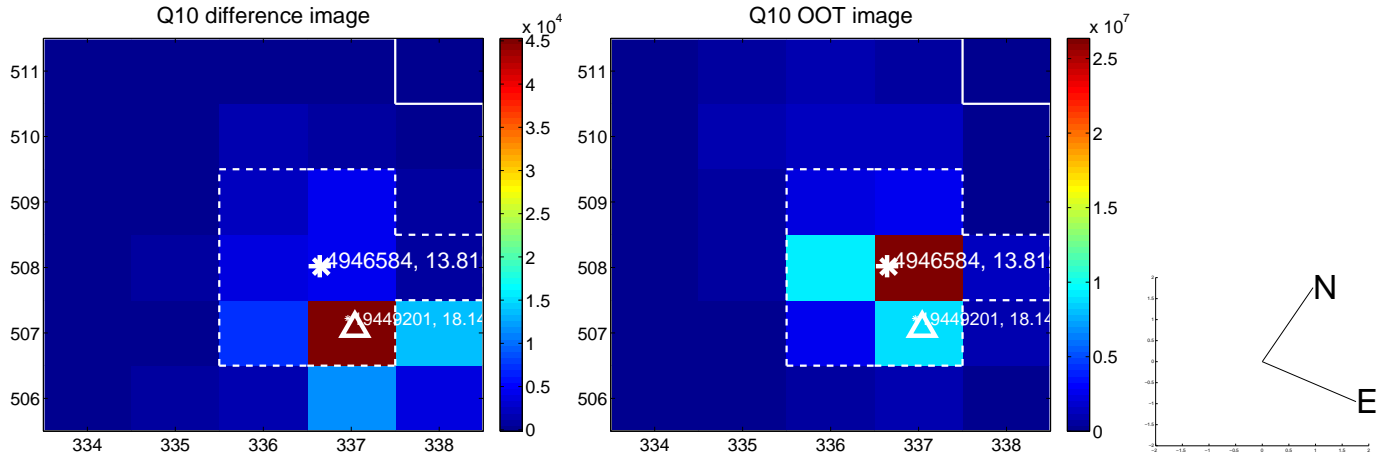
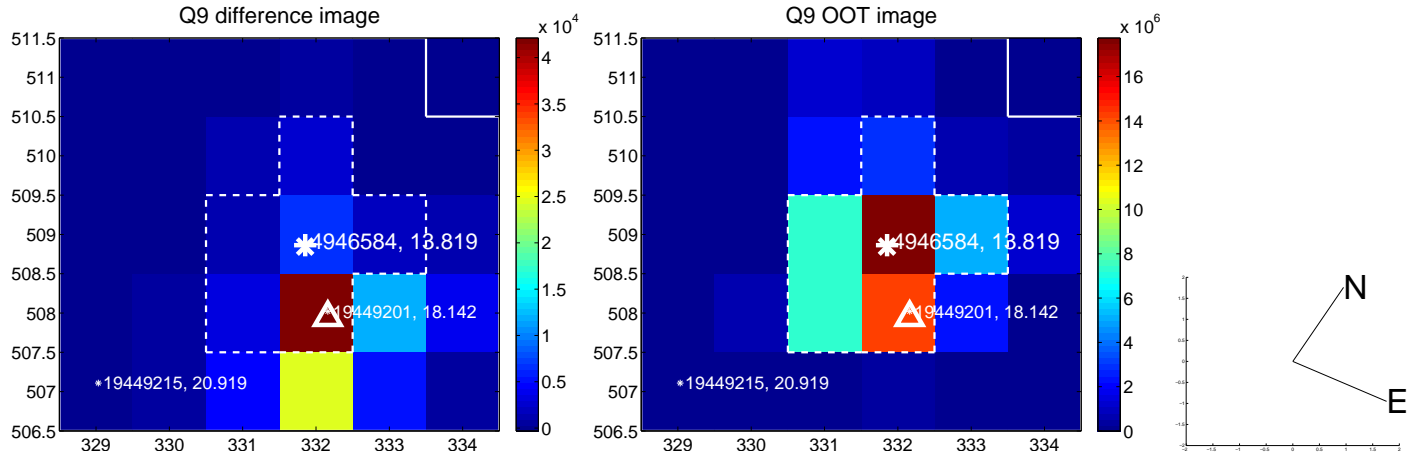
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



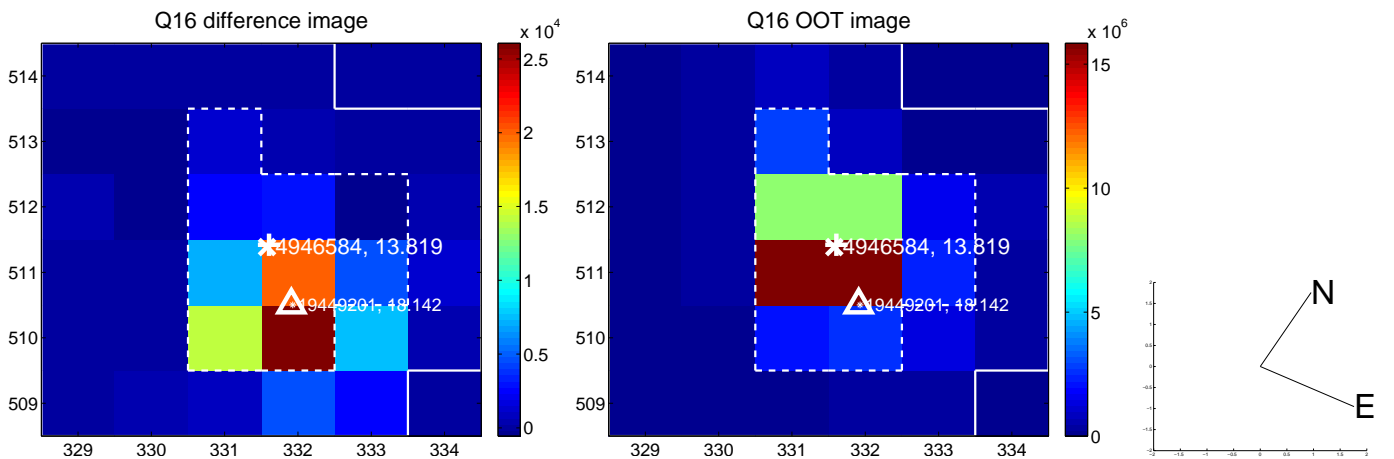
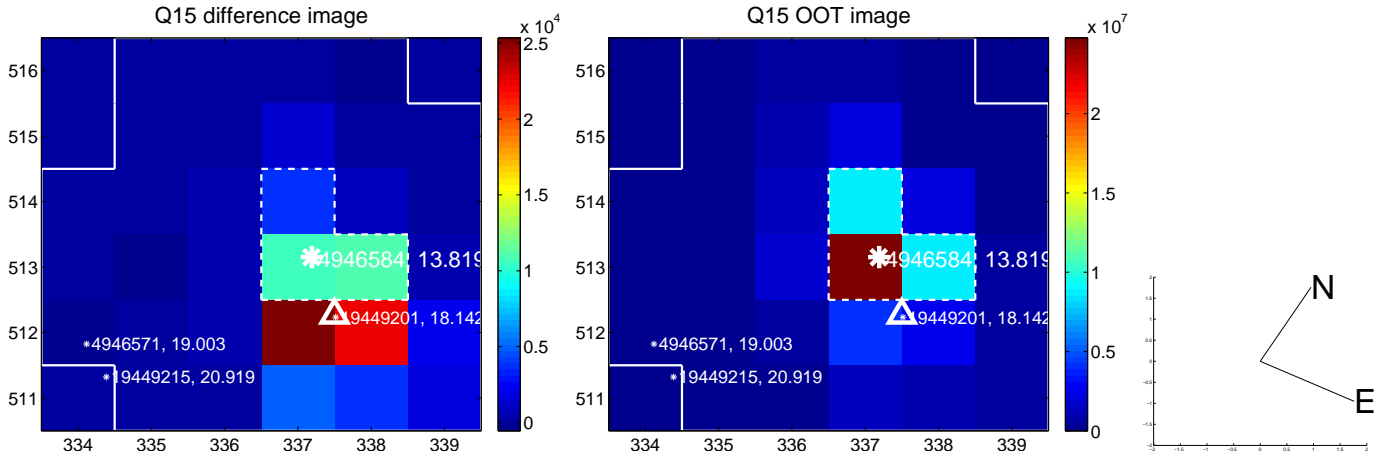
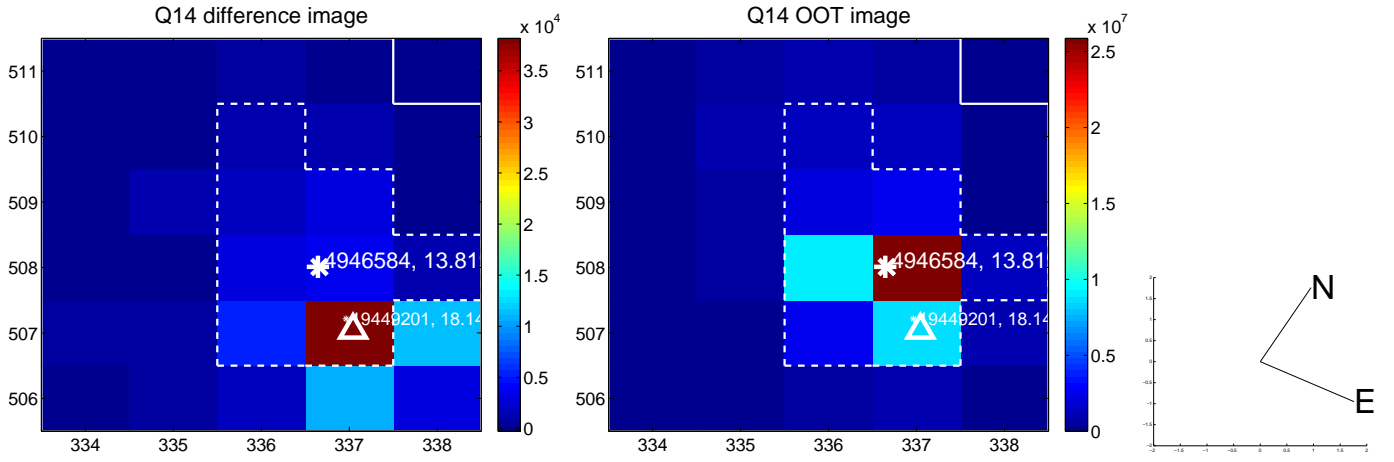
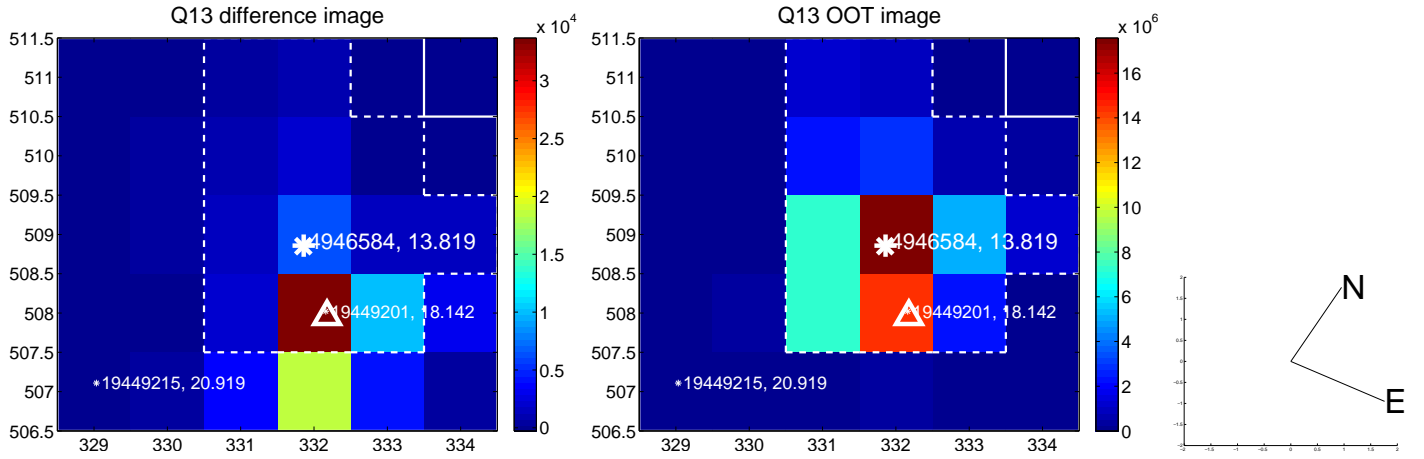
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



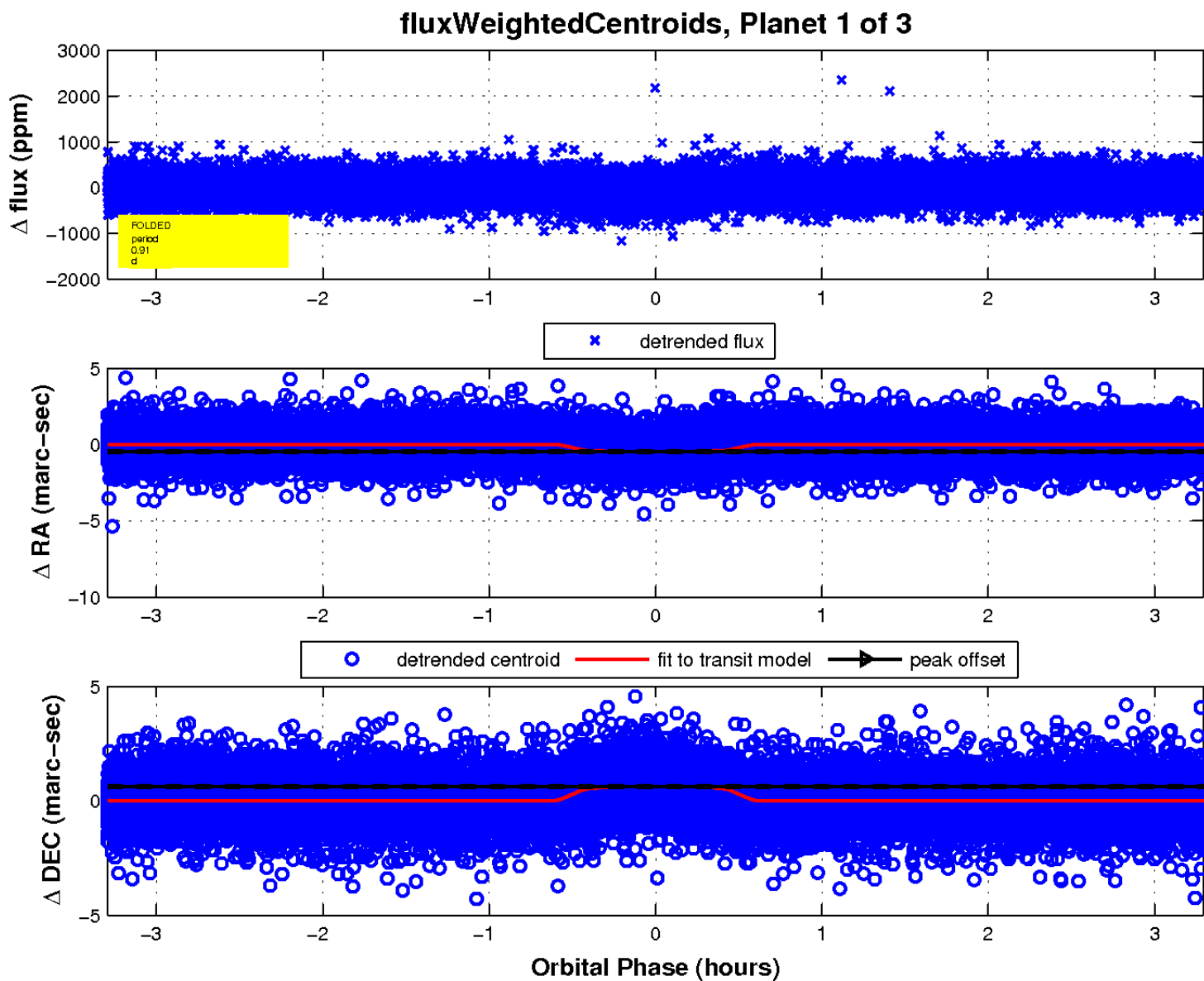
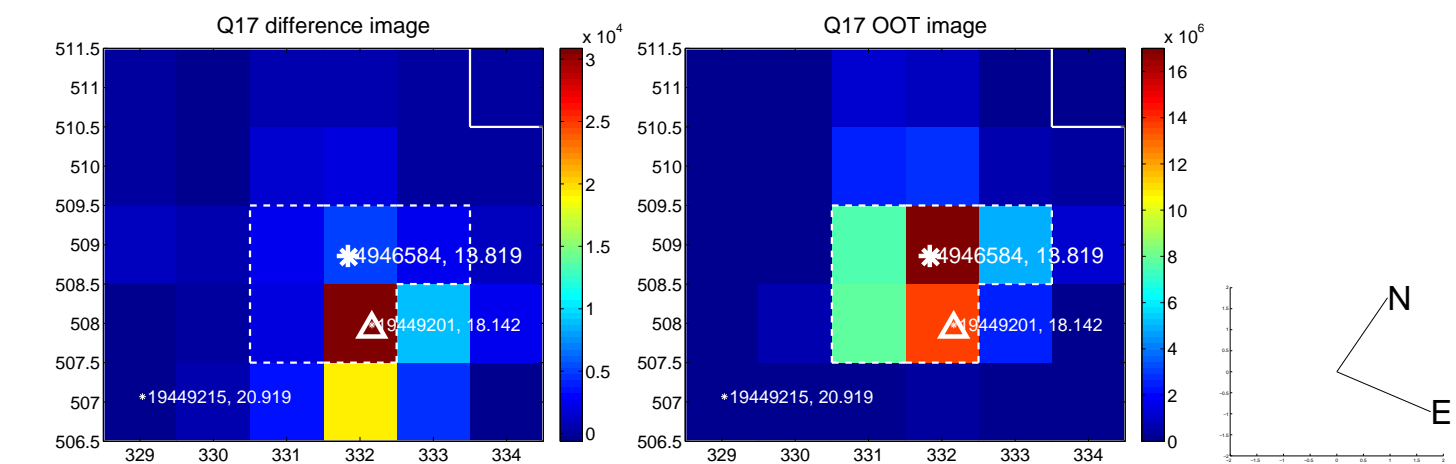
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

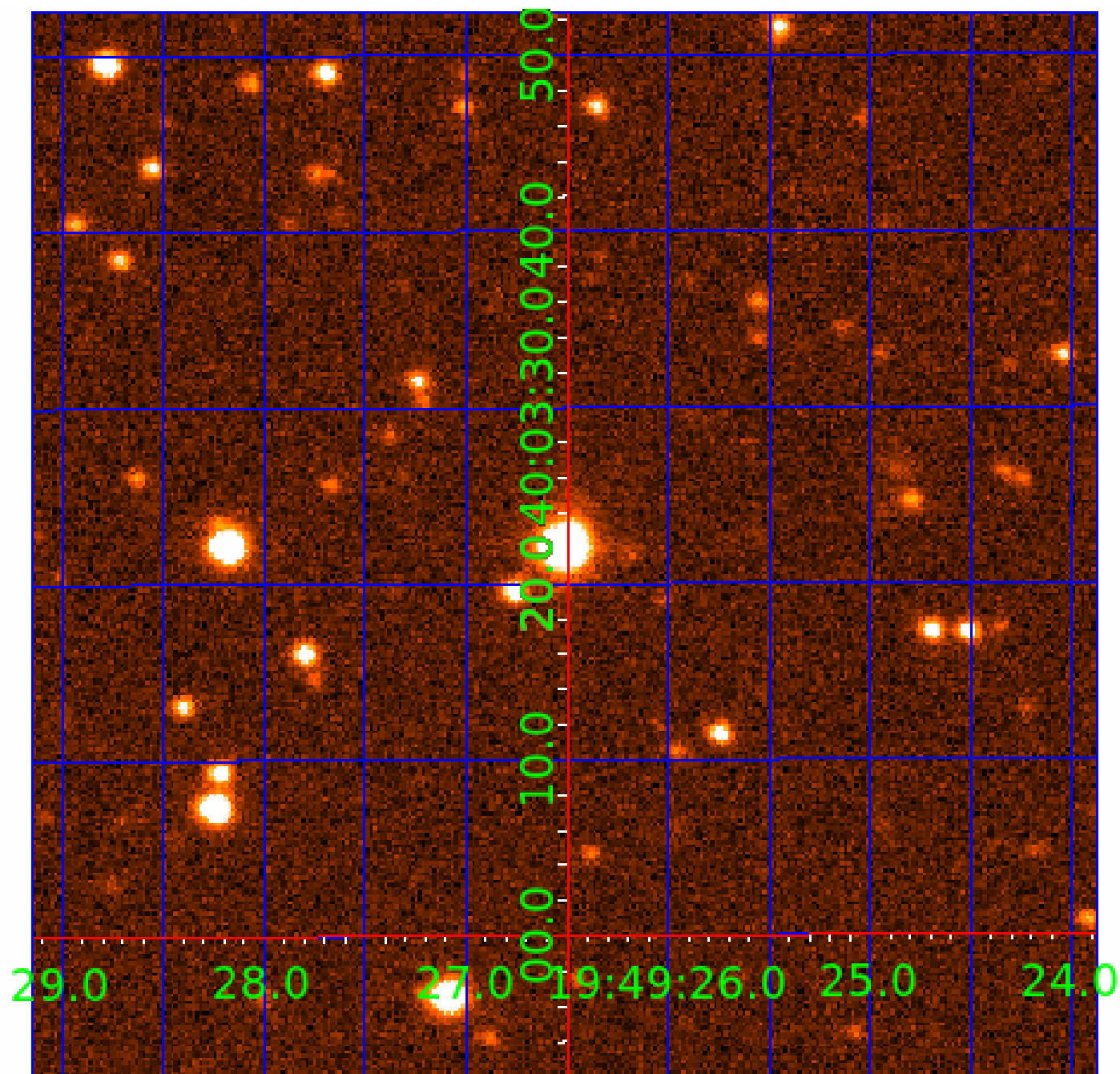


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004946584

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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004946584-03	OBS	No	300.978970	196.851164	993.5	6.666	7.5	8.3	1.17	6434	4.34	2.50

Robovetter Results

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004946584-02	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_UNRESOLVED_OFFSET
004946584-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT

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.

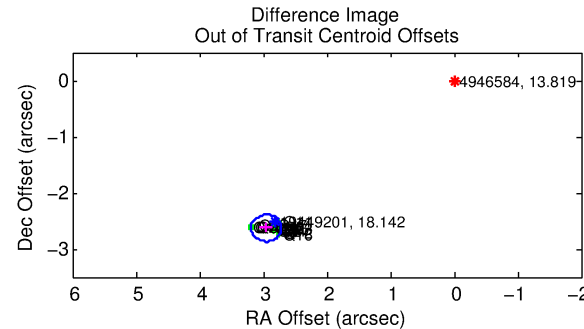
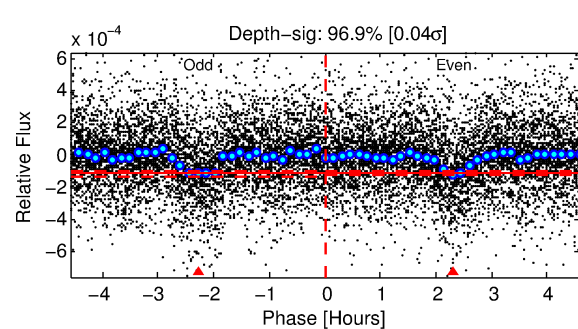
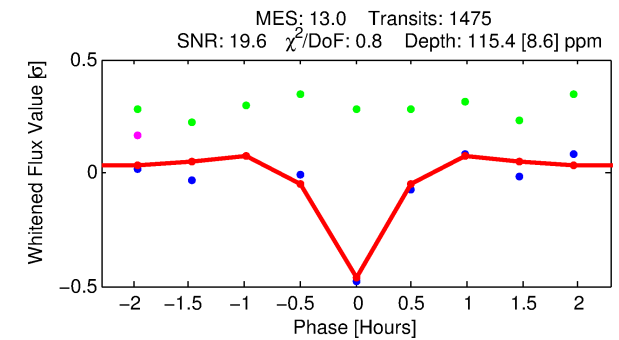
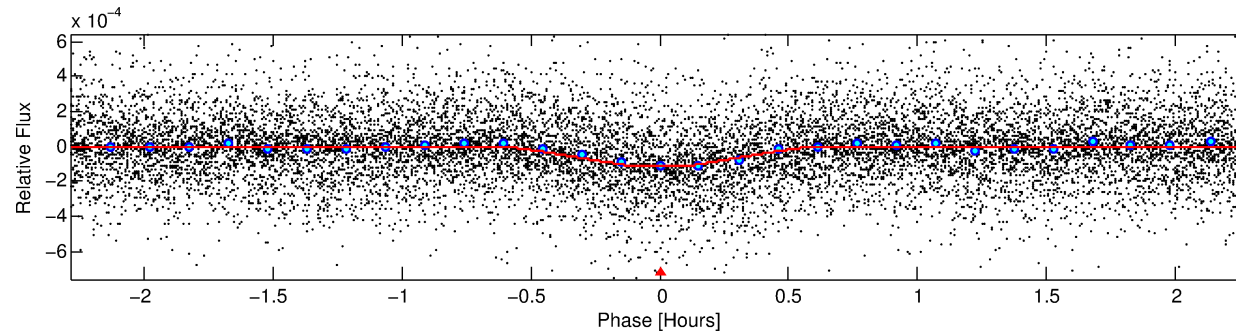
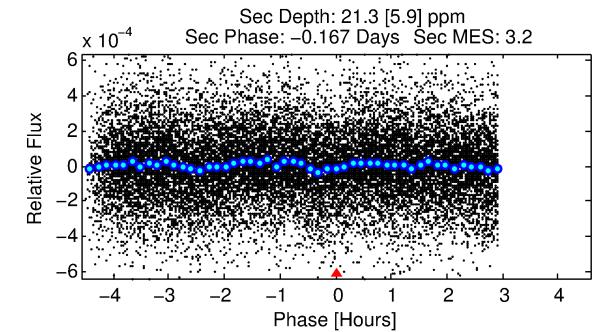
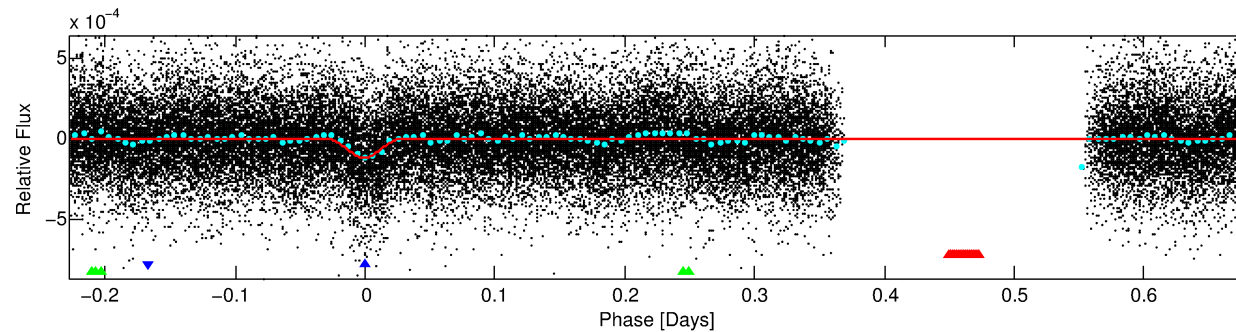
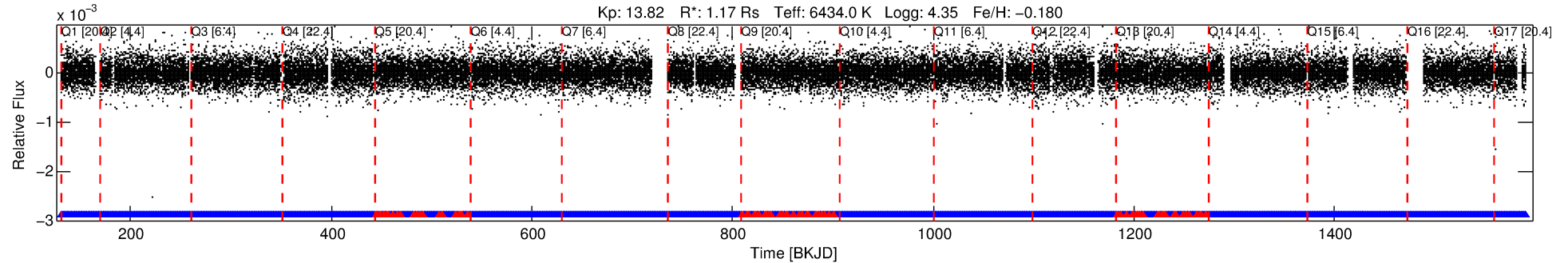
Ephemeris Match Information For 004946584-02

No Significant Match Found

DV One-Page Summary

KIC: 4946584 Candidate: 2 of 3 Period: 0.908 d
KOI: K04088 Corr: No Ephemeris Match

Kp: 13.82 R*: 1.17 Rs Teff: 6434.0 K Logg: 4.35 Fe/H: -0.180



DV Fit Results:

Period = 0.90794 [0.00000] d
Epoch = 131.6831 [0.0006] BKJD
Rp/R* = 0.0117 [0.0017]
a/R* = 4.30 [3.15]
b = 0.90 [0.17]
Seff = 5743.95 [2355.45]
Teq = 2220 [228] K
Rp = 1.49 [0.53] Re
a = 0.0191 [0.0051] AU
Ag = 1.93 [1.07] [0.87σ]
Teff = 4045 [422] K [3.80σ]

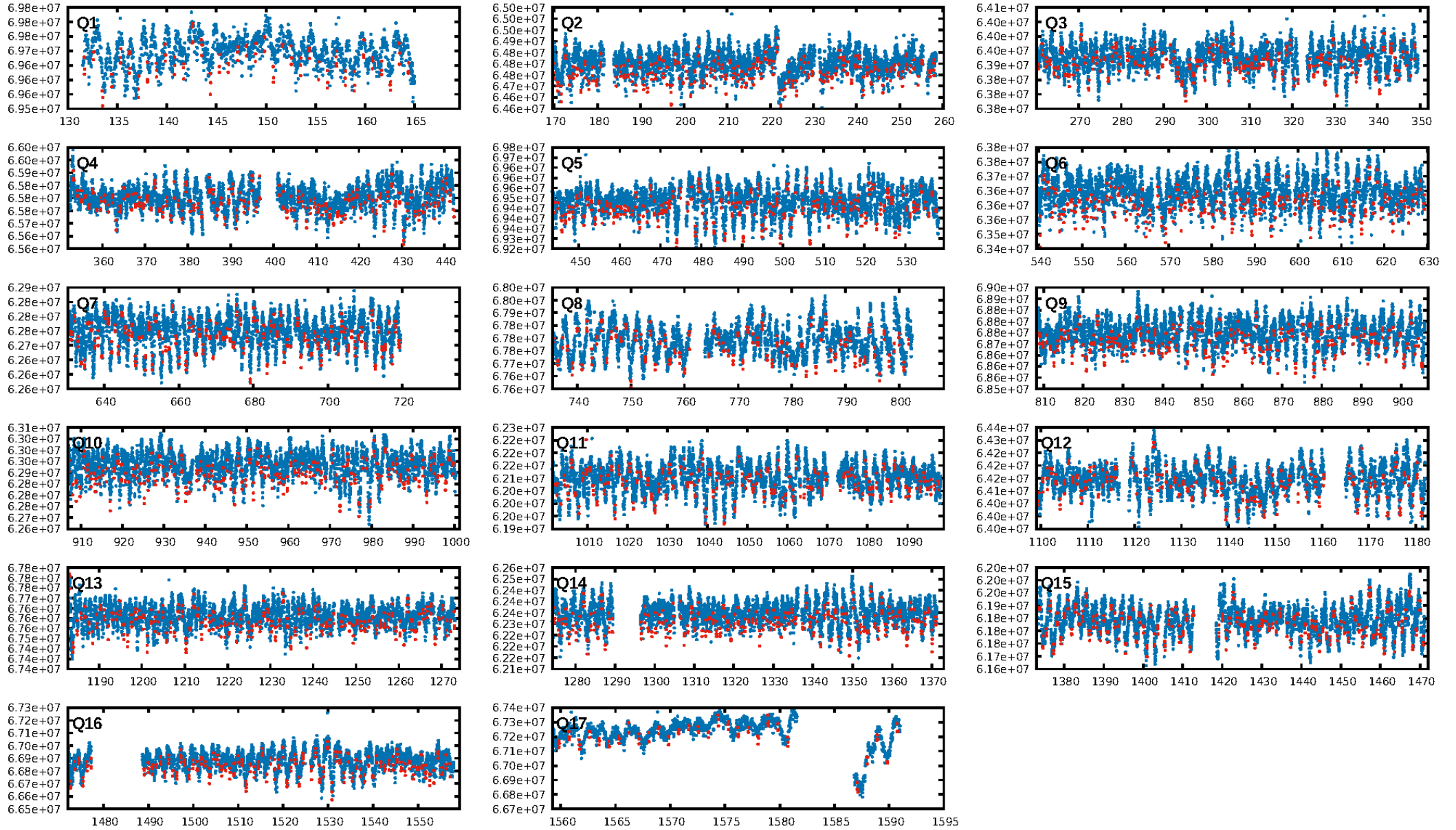
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.83e-40
RollingBand-fgt: 0.95 [1336/1409]
GhostDiagnostic-chr: 0.5233
Centroid-sig: 0.0%
Centroid-so: 7.922 arcsec [15.16σ]
OotOffset-rm: 3.955 arcsec [50.21σ]
KicOffset-rm: 3.904 arcsec [52.07σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

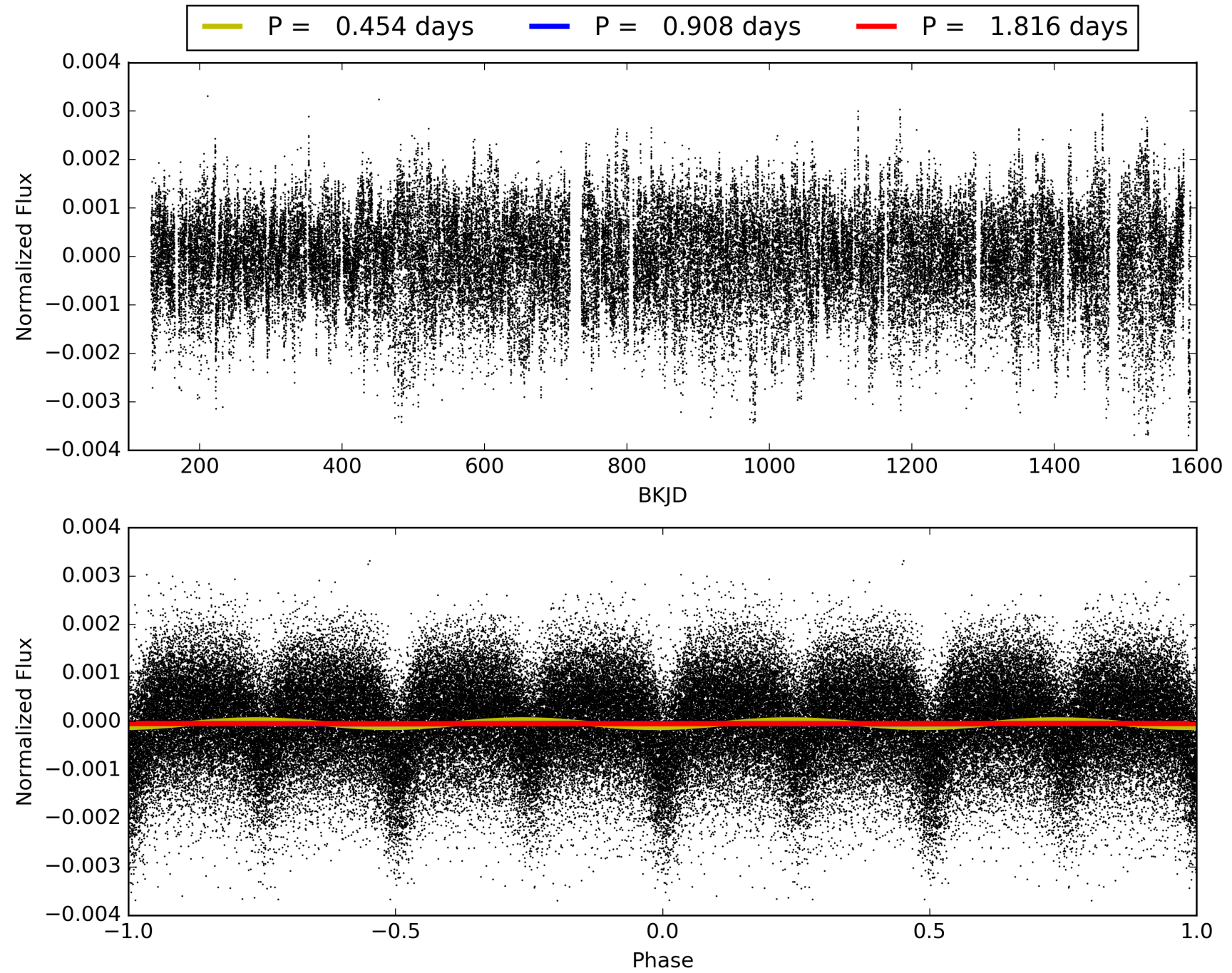
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:01:37 Z

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

TCE 004946584-02, PDC Light Curves

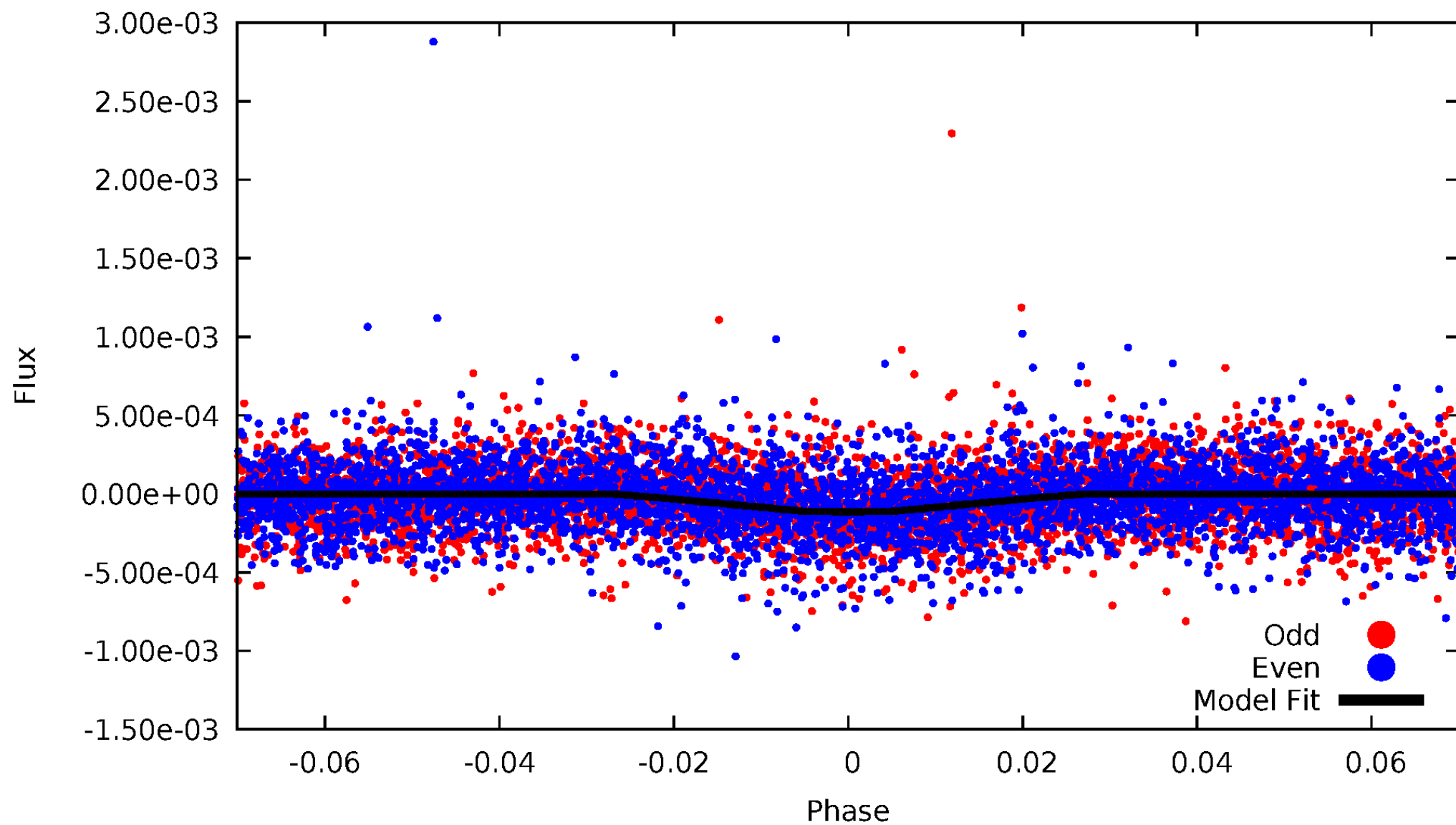


TCE 004946584-02



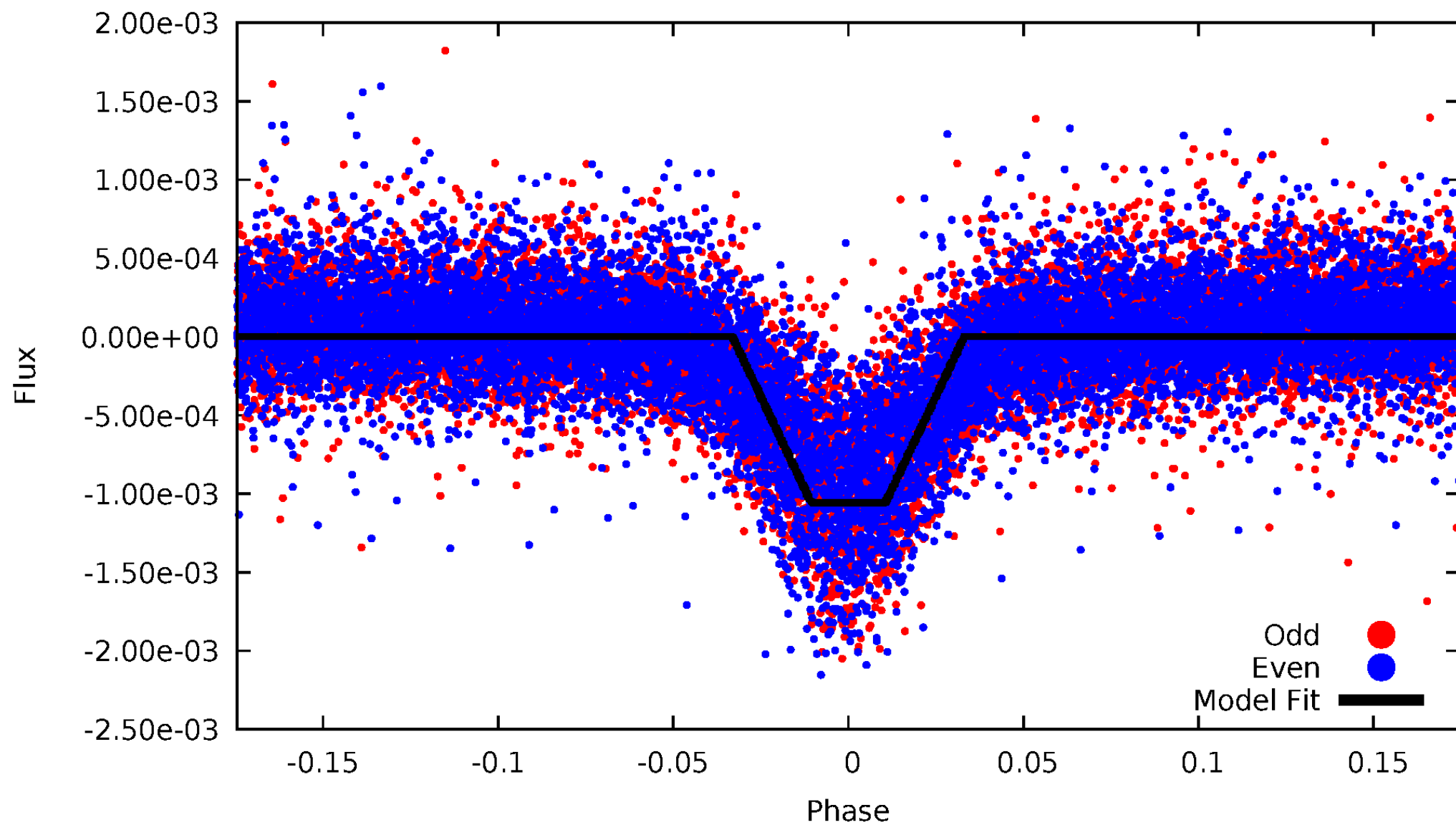
DV Odd/Even

TCE 004946584-02



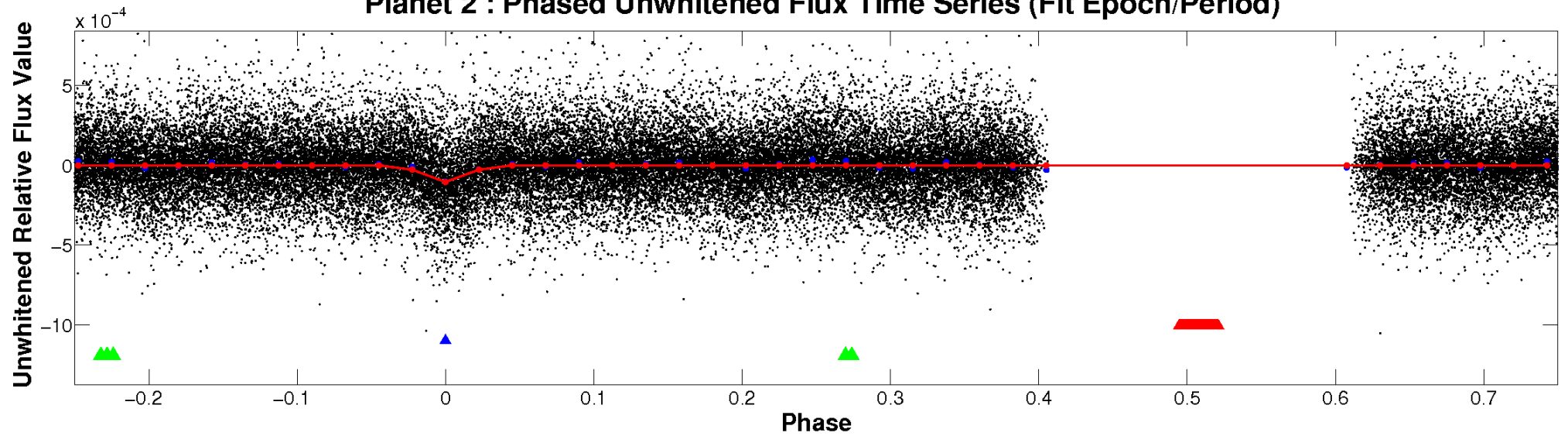
ALT Odd/Even

TCE 004946584-02

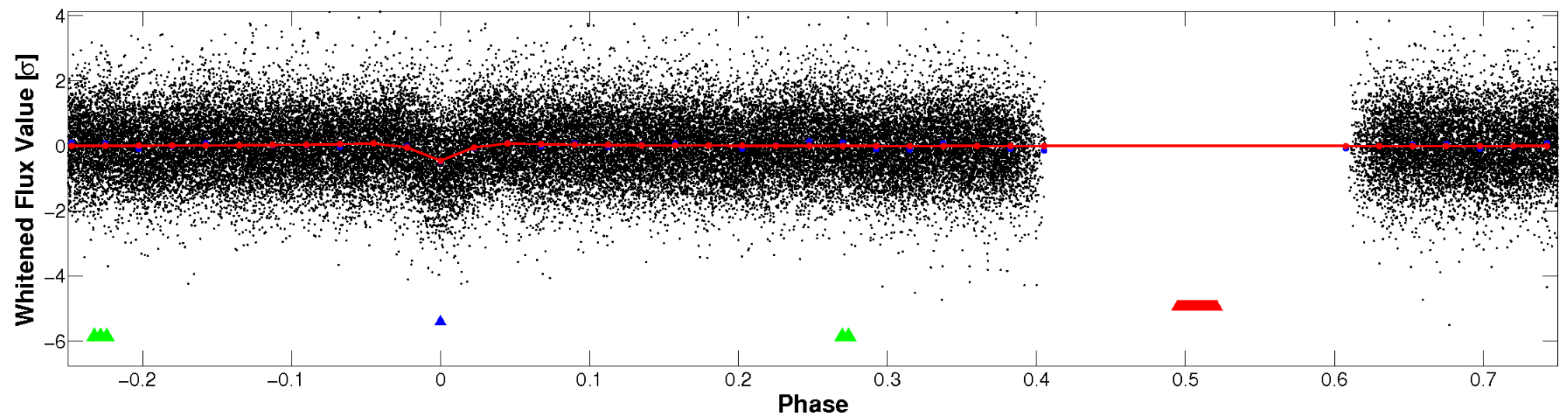


Non-Whitened Vs. Whitened Light Curve

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

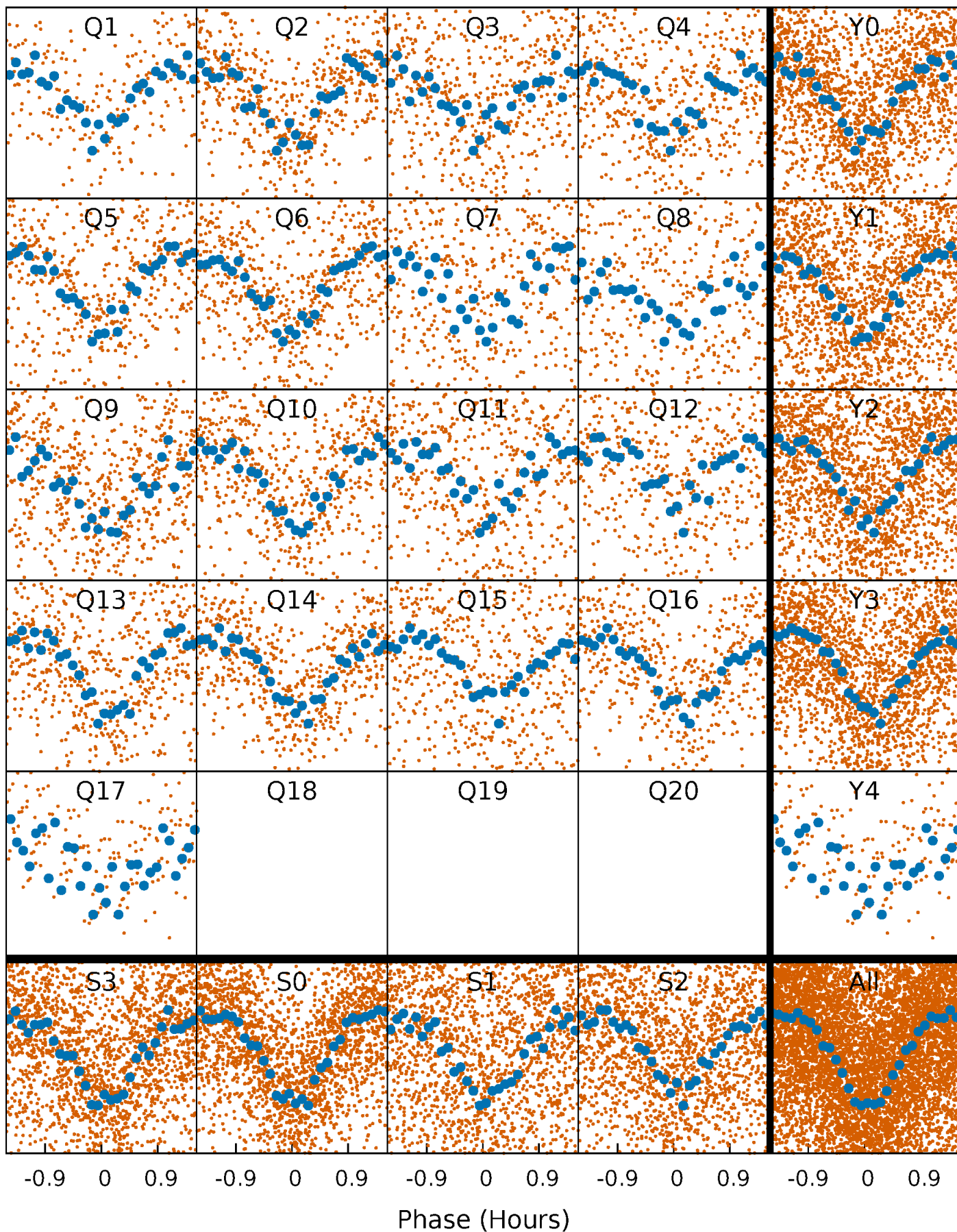


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



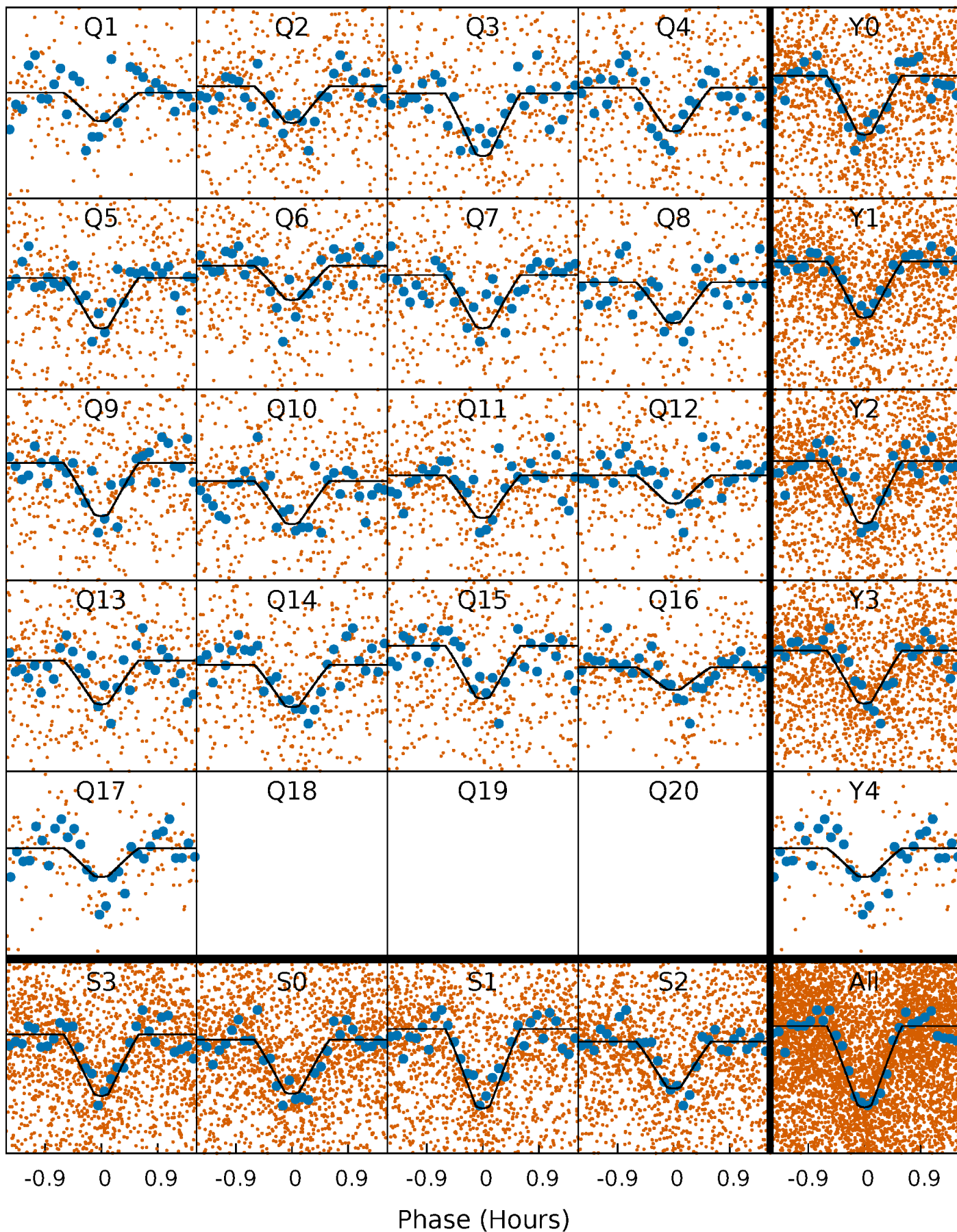
PDC Quarter-Phased Transit Curves

TCE 004946584-02 P= 0.907936 Days $T_0=131.683134$ (BKJD)



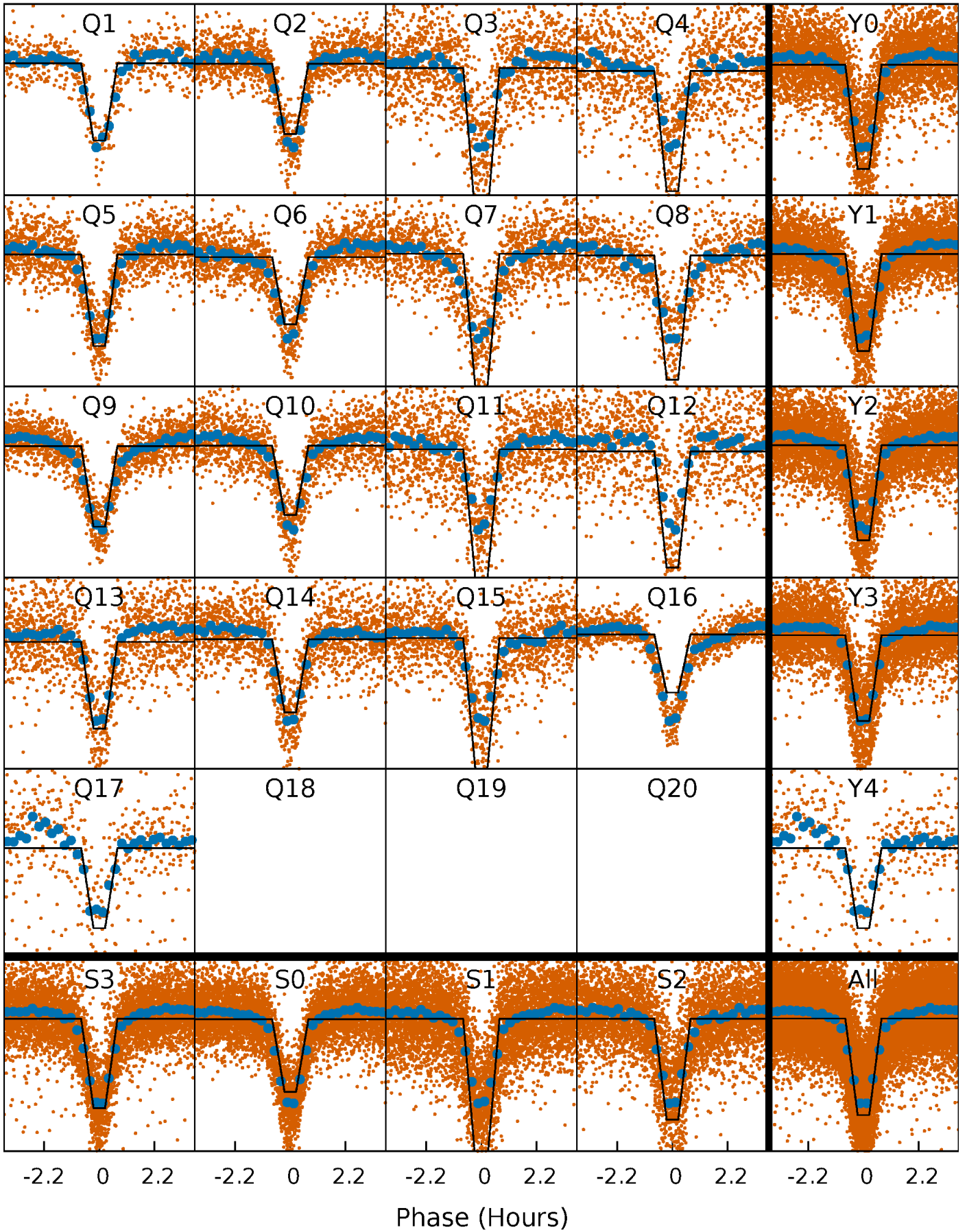
DV Quarter-Phased Transit Curves

TCE 004946584-02 P= 0.907936 Days $T_0=131.683134$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

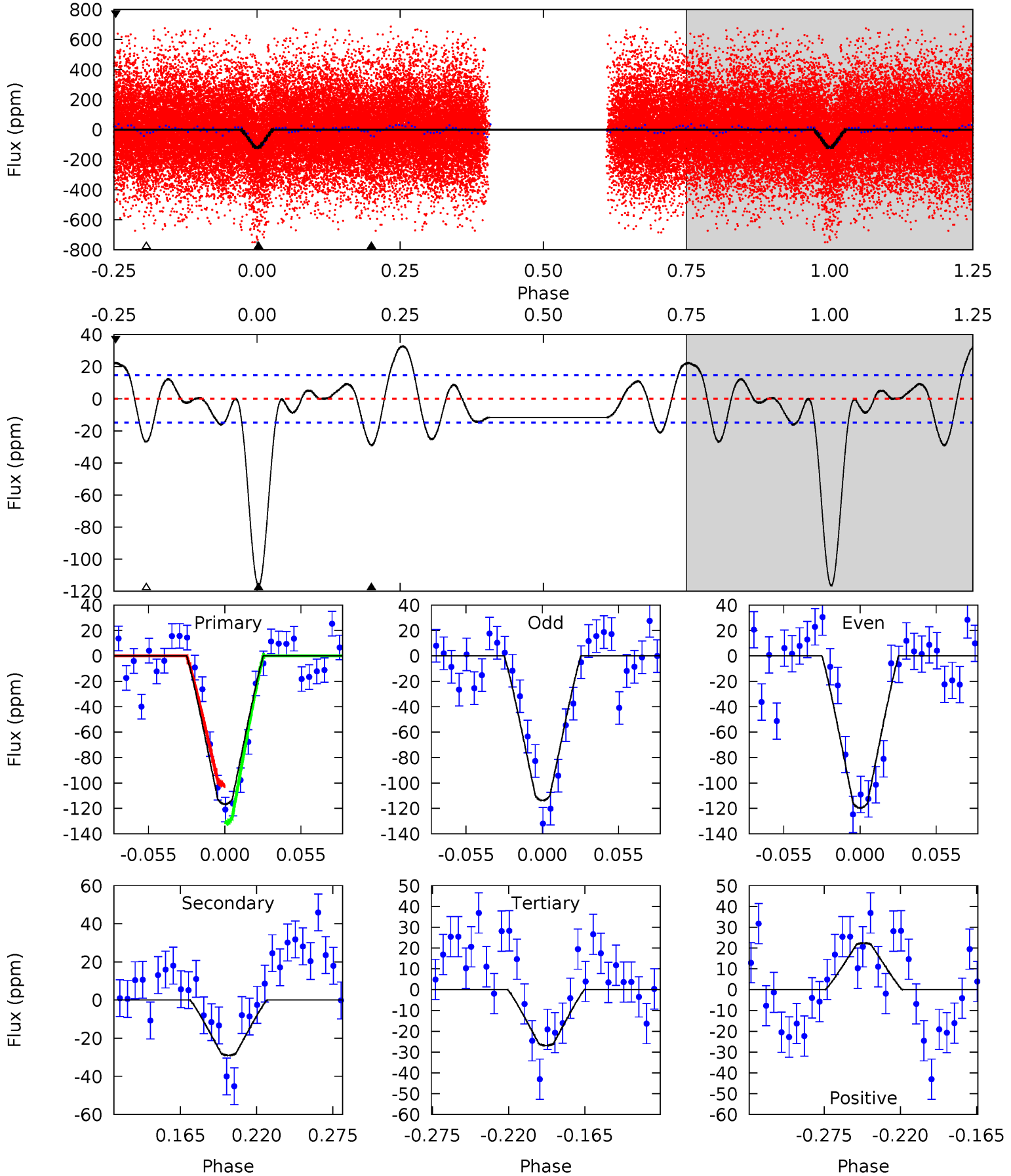
TCE 004946584-02 $P = 0.907944$ Days $T_0 = 131.679420$ (BKJD)



DV Model-Shift Uniqueness Test

004946584-02, P = 0.907936 Days, E = 130.775198 Days

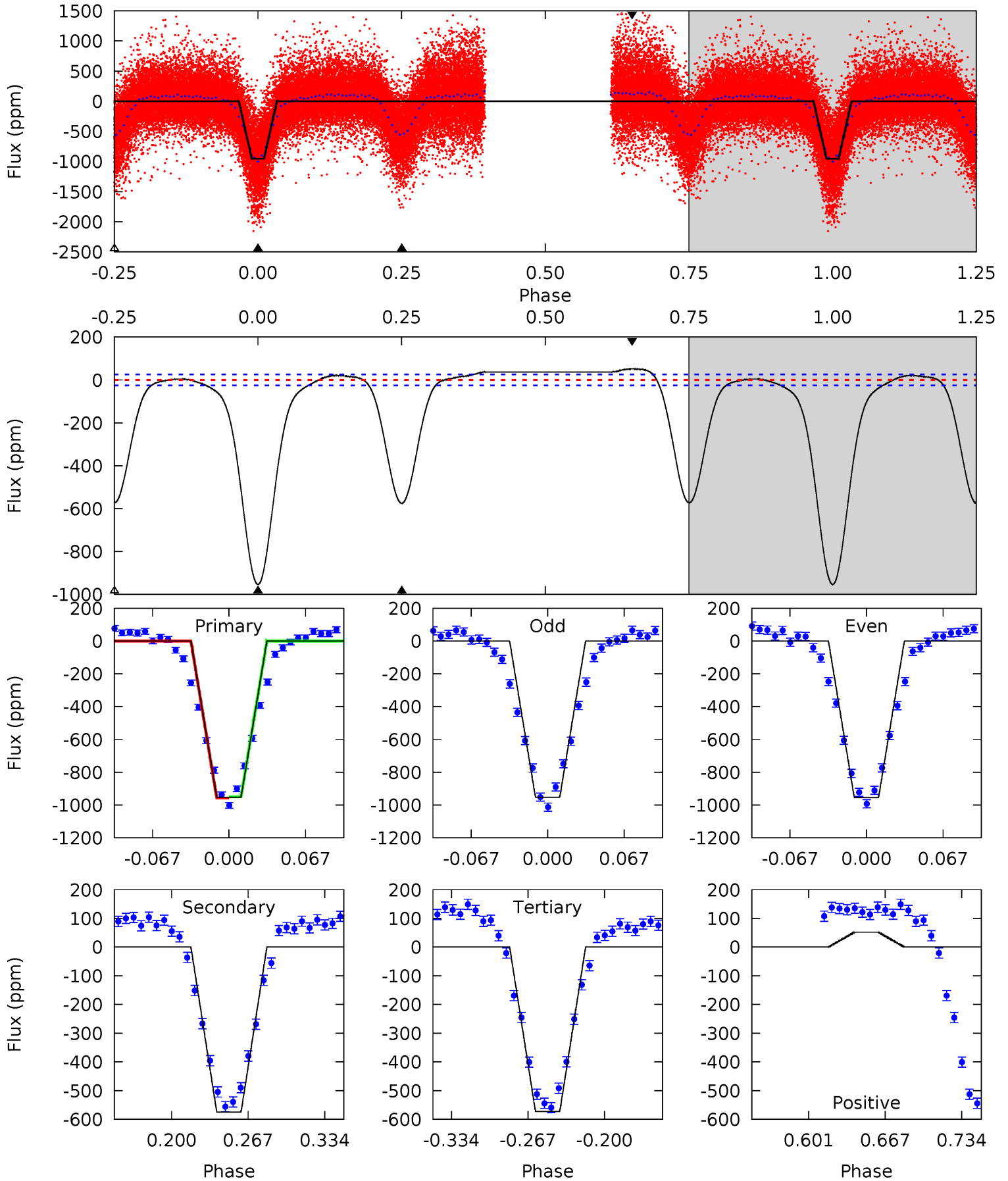
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.0	9.19	8.52	7.11	4.69	1.92	4.05	28.5	29.9	0.68	2.09	0.94	0.95	0.22	4.79



Alt Model-Shift Uniqueness Test

004946584-02, P = 0.907944 Days, E = 130.771476 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
171.5	103.4	103.1	9.30	4.65	1.83	28.6	68.4	162.2	0.38	94.2	0.14	1.02	0.05	0.67



Stellar Parameters For KIC 004946584

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6434^{+155}_{-213}	$4.354^{+0.084}_{-0.210}$	$-0.180^{+0.250}_{-0.300}$	$1.166^{+0.378}_{-0.162}$	$1.119^{+0.178}_{-0.129}$	$0.994^{+0.377}_{-0.521}$
	+2%/-3%	+2%/-5%	+139%/-167%	+32%/-14%	+16%/-12%	+38%/-52%
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 004946584-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-29 ± 3	$1.56^{+0.34}_{-0.28}$	3159^{+249}_{-173}	4423^{+323}_{-305}	$2.390^{+1.087}_{-0.777}$
Alt.	-575 ± 6	$4.25^{+0.78}_{-0.45}$	3142^{+250}_{-169}	5485^{+190}_{-218}	$6.377^{+1.398}_{-1.703}$

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

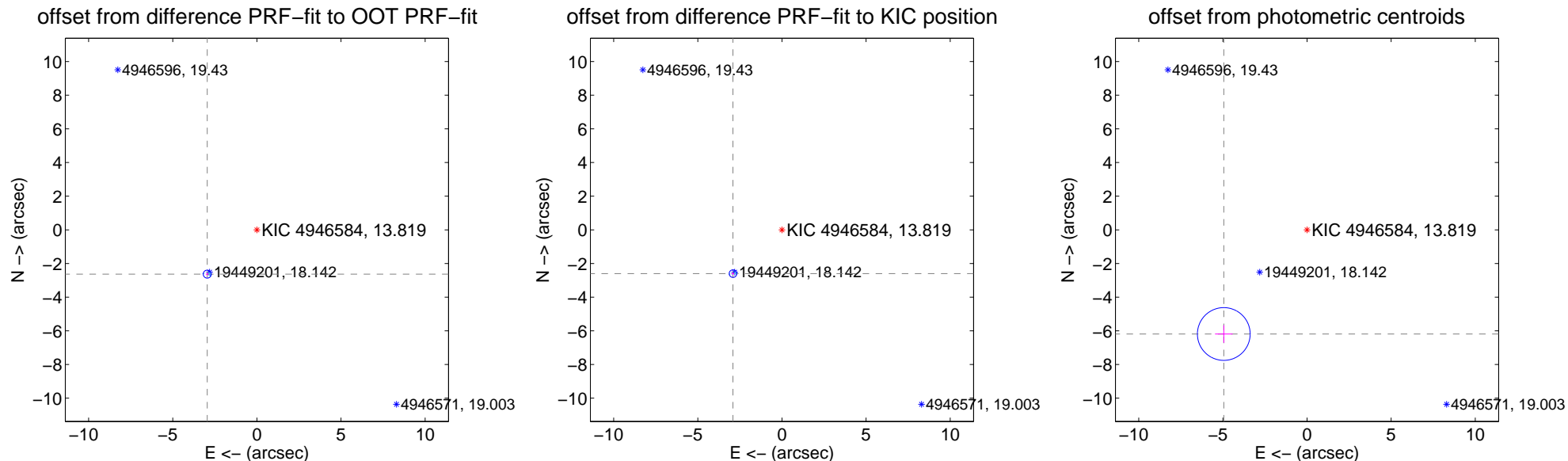
DV Centroid Data

Supplemental centroid analysis for 004946584-02. Kepler magnitude: 13.82. Transit SNR 19.56

There are 17 quarters with good PRF difference image offsets

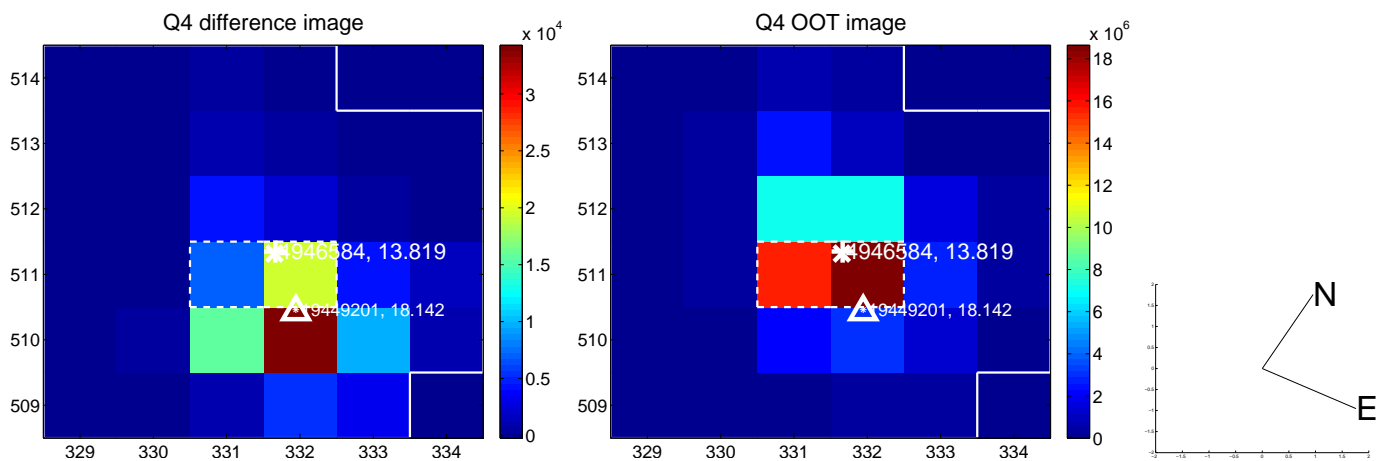
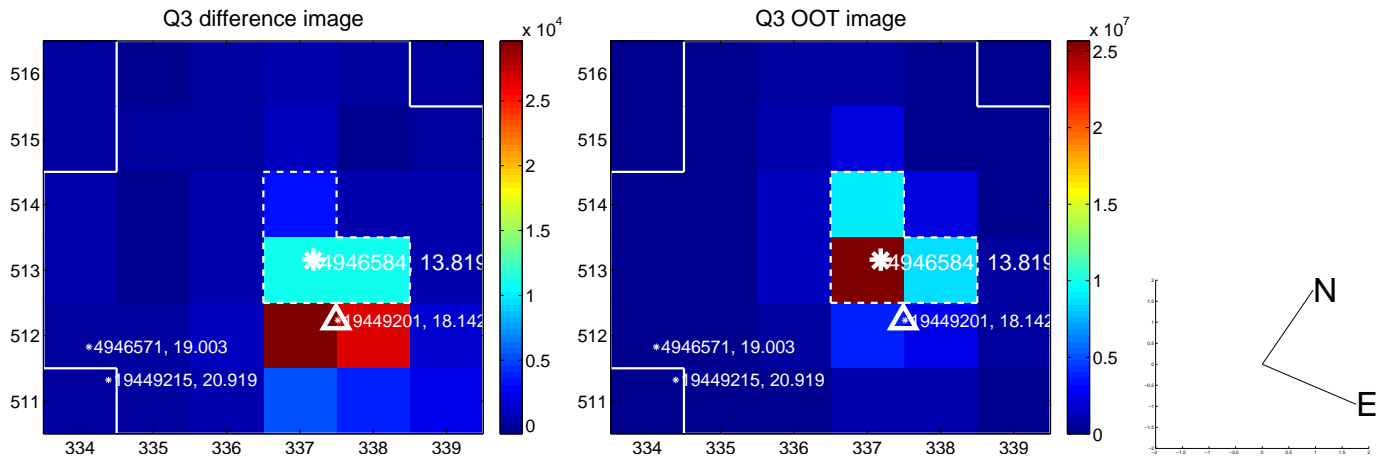
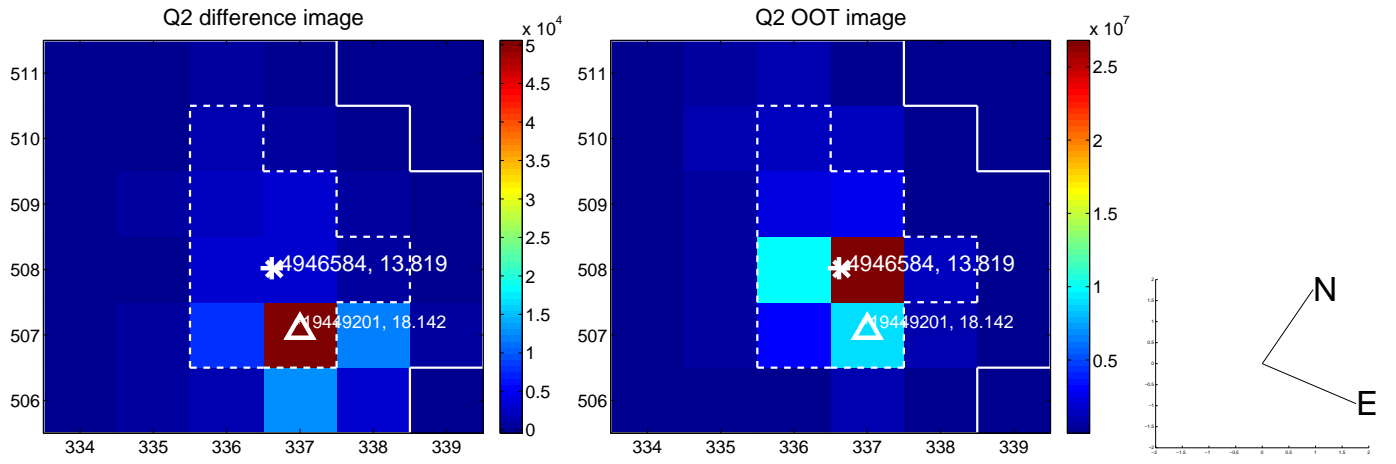
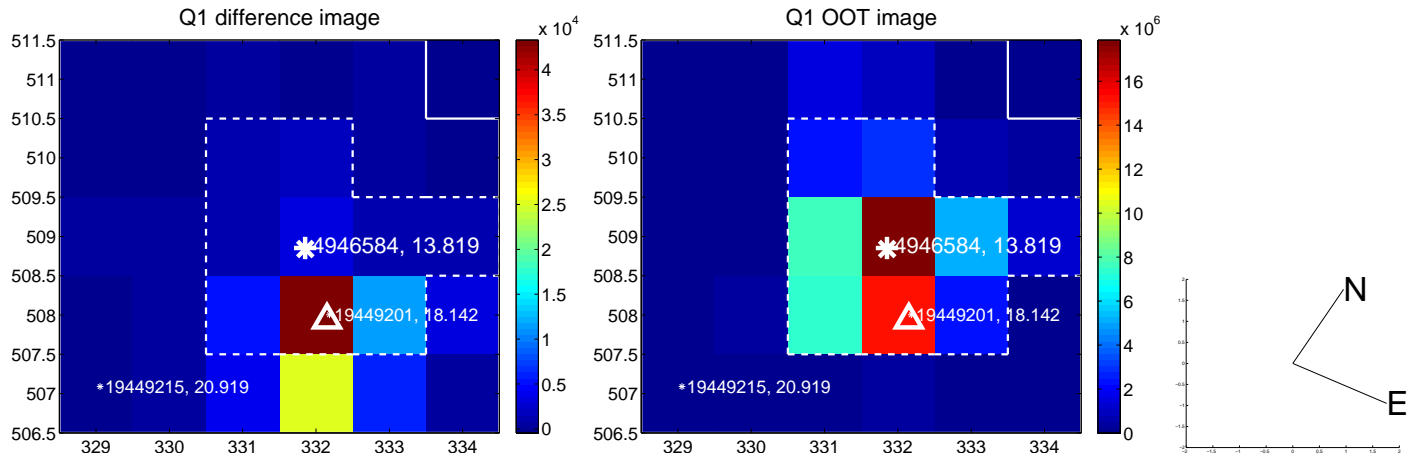
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.955 \pm 0.079	50.21	2.952 \pm 0.087	-2.631 \pm 0.068
PRF-fit source offset from KIC position	3.904 \pm 0.075	52.07	2.911 \pm 0.081	-2.601 \pm 0.067
photometric centroid source offset	7.92 \pm 0.52	15.16	4.95 \pm 0.52	-6.19 \pm 0.52

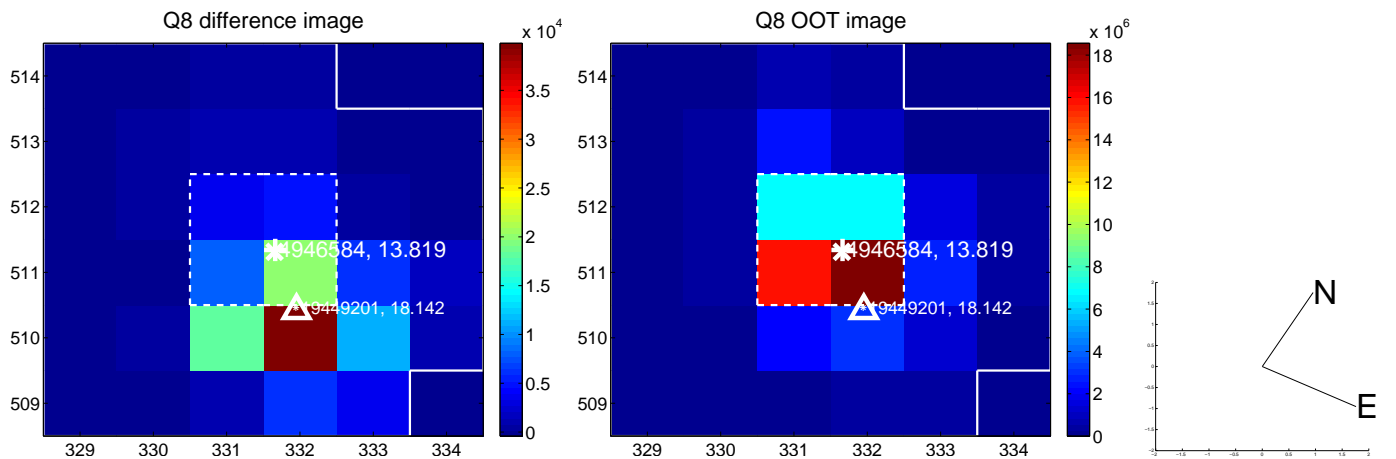
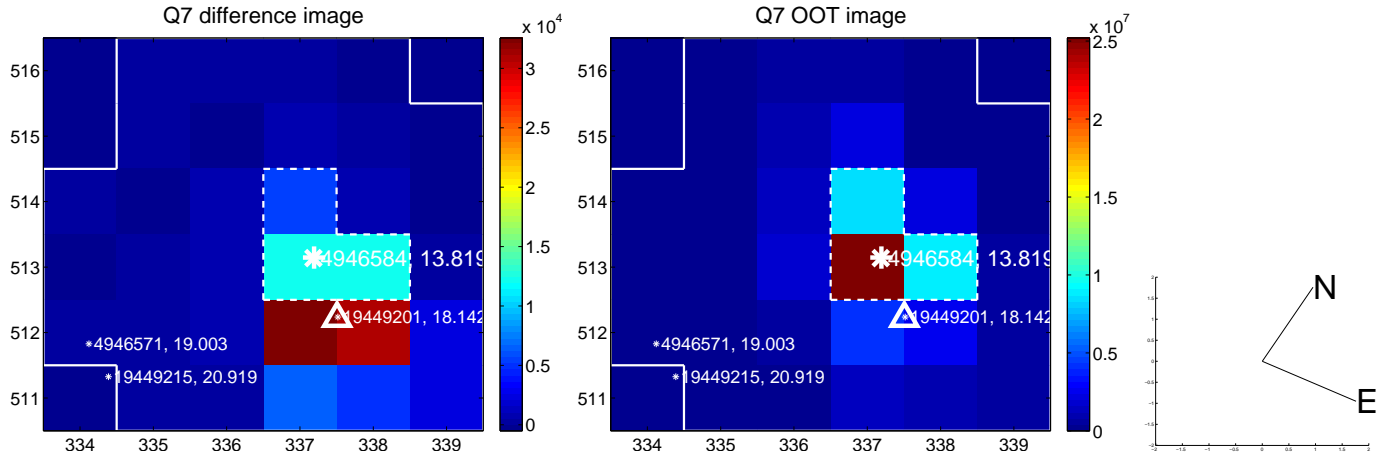
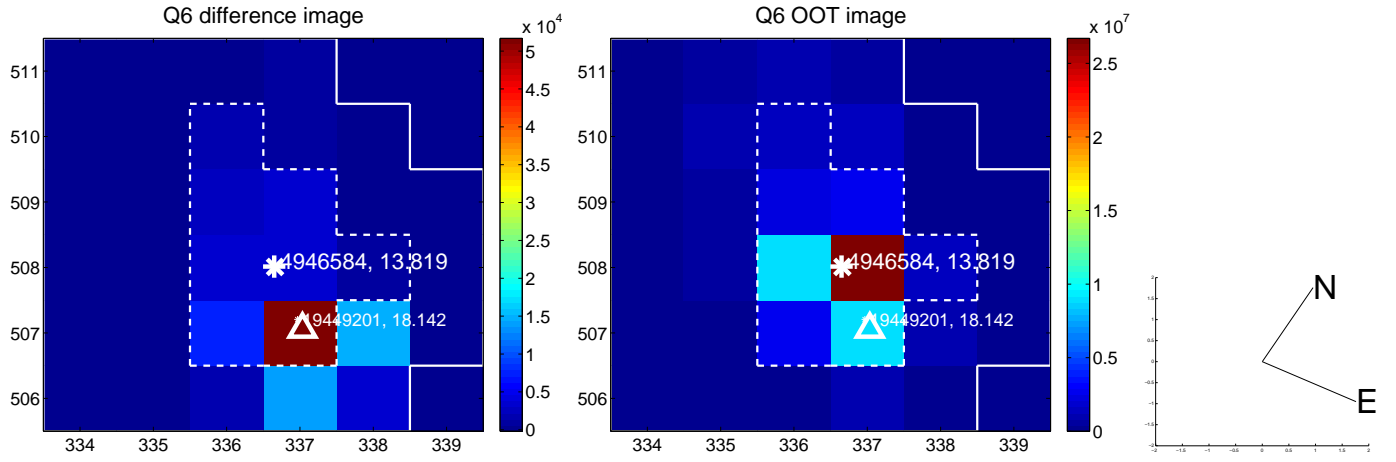
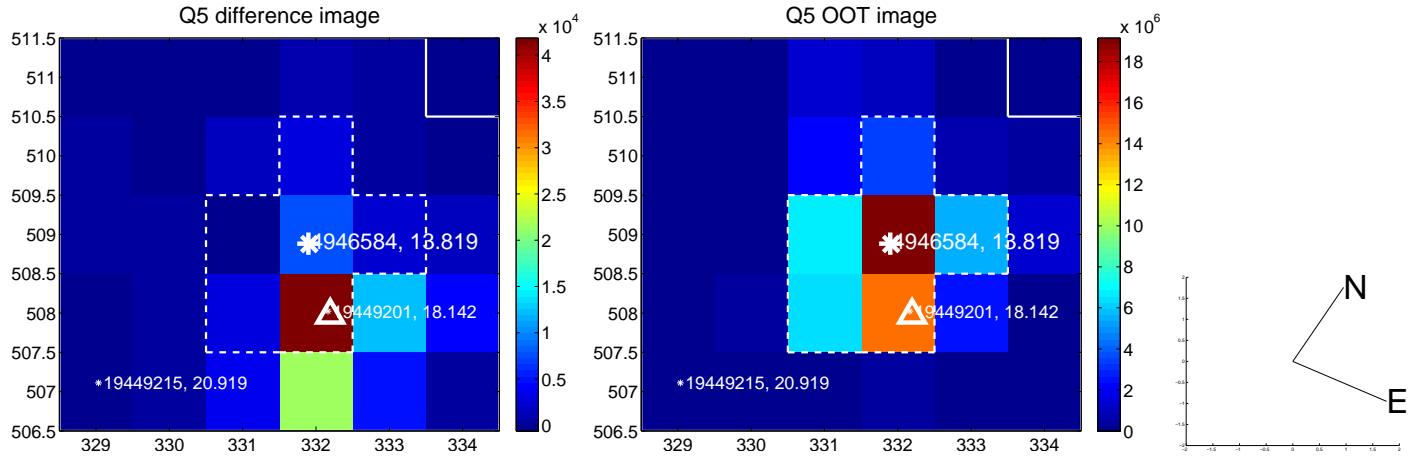


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

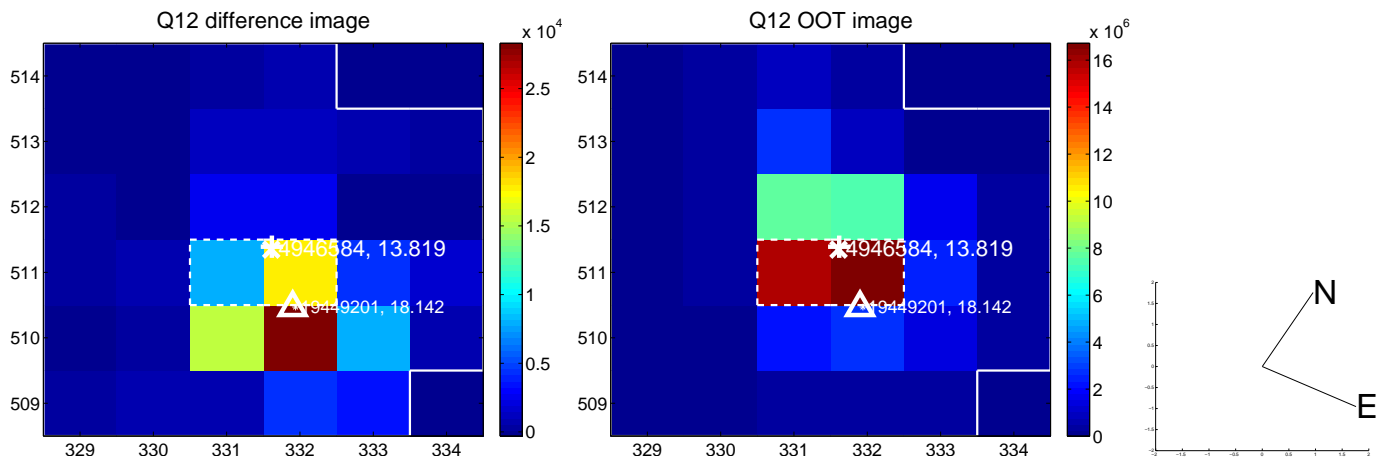
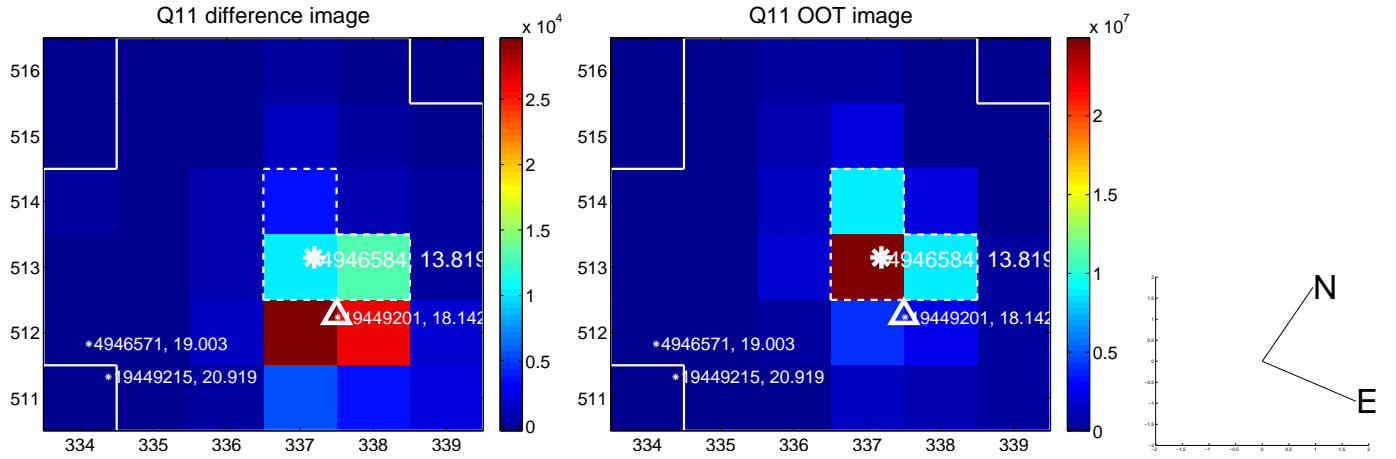
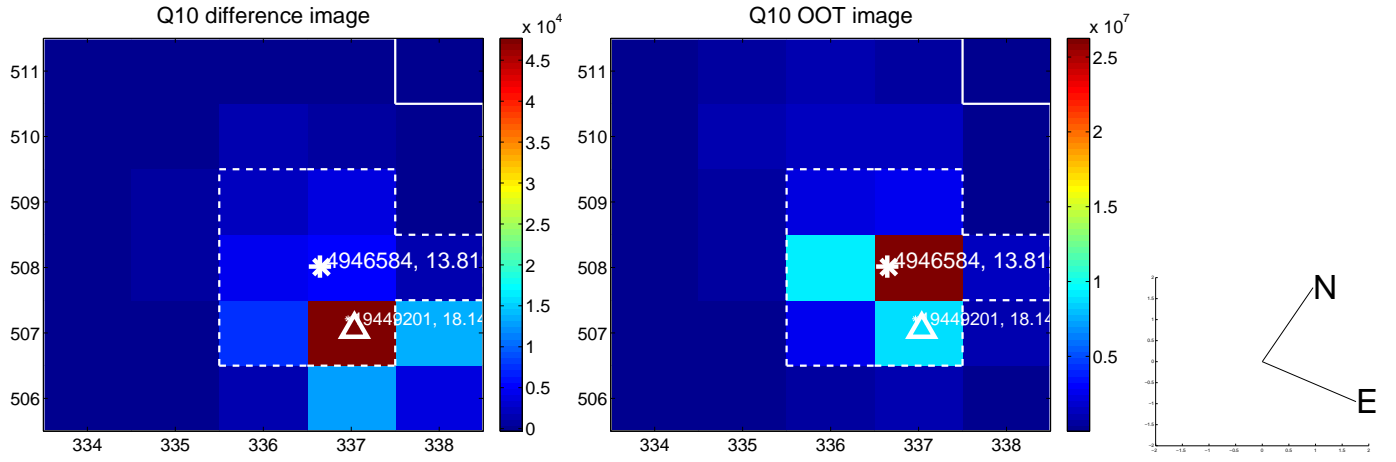
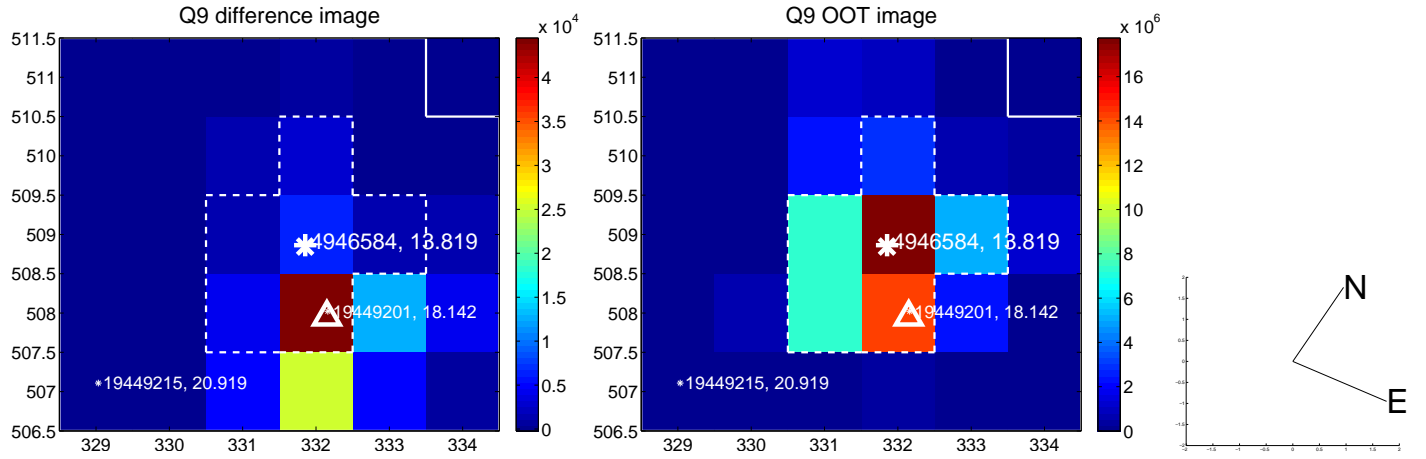
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



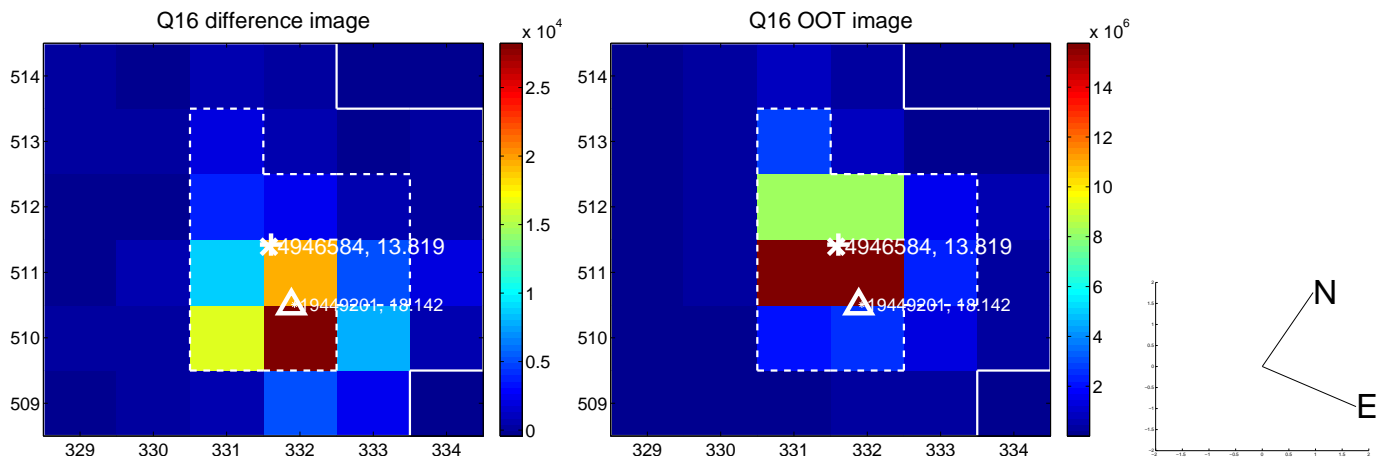
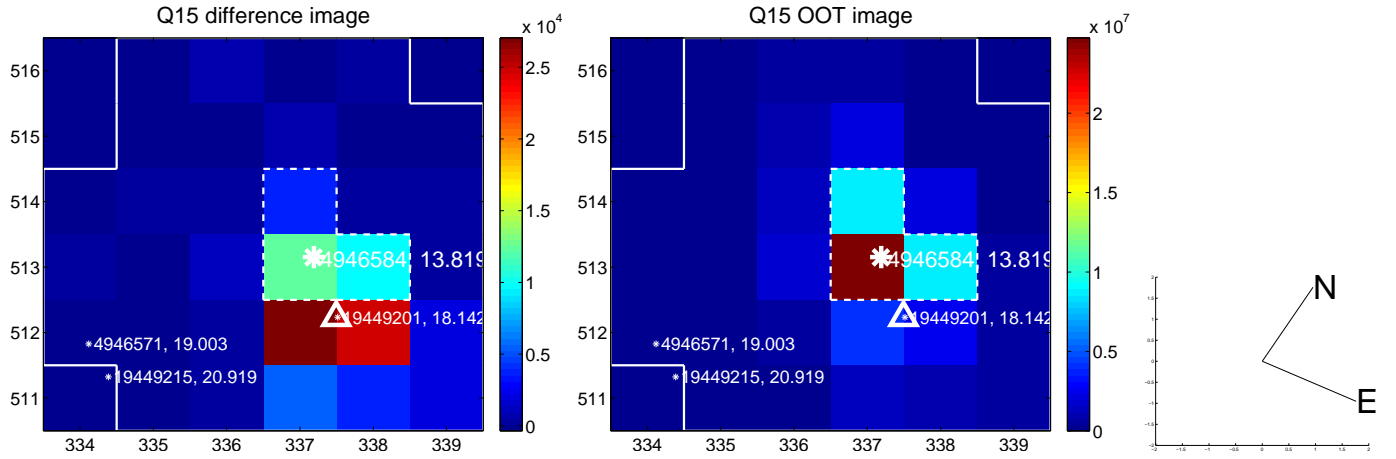
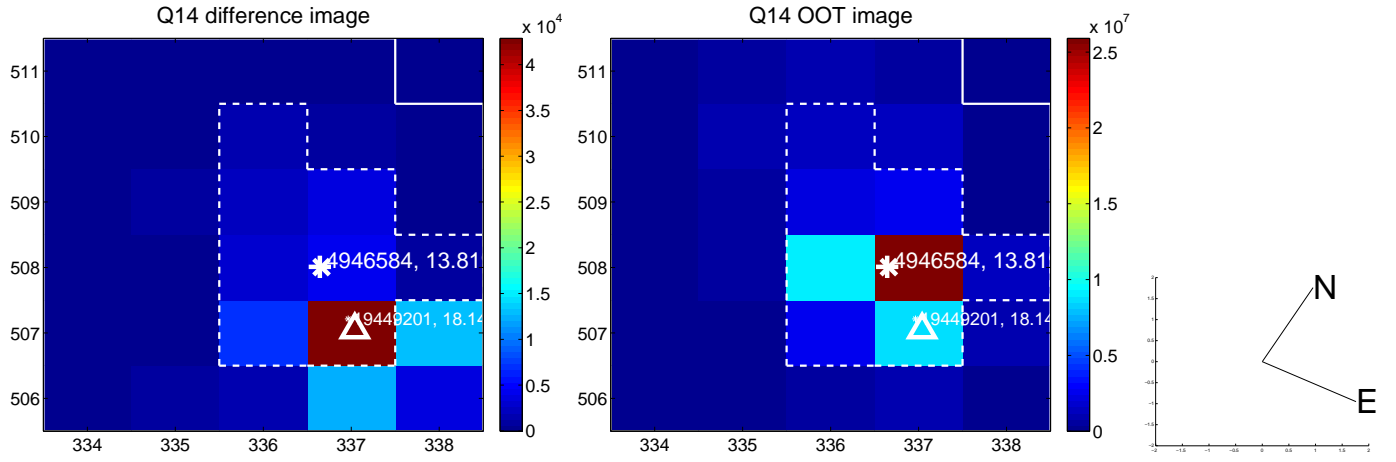
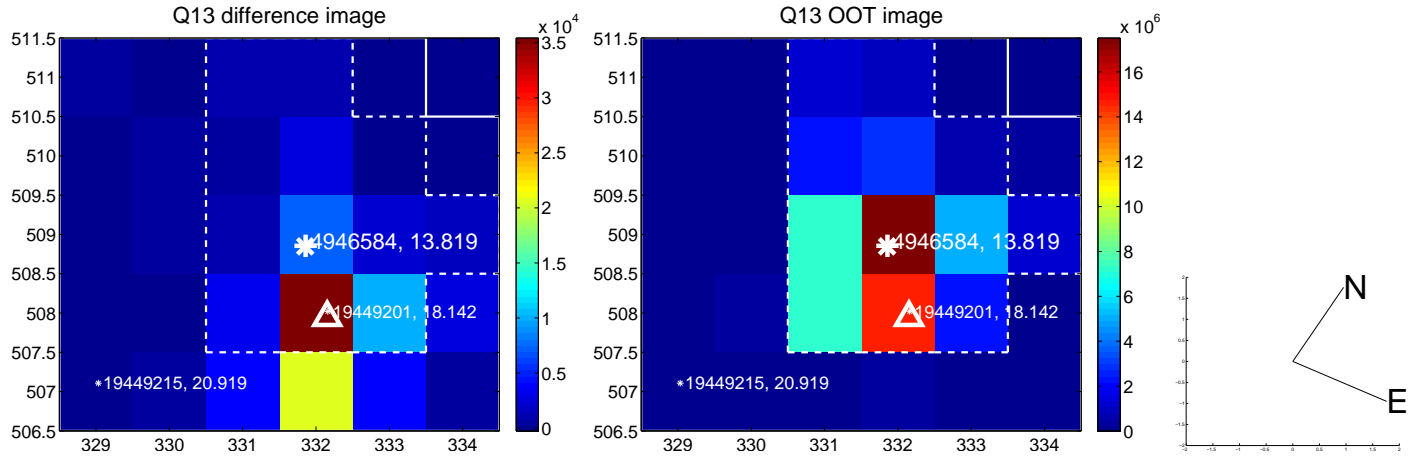
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



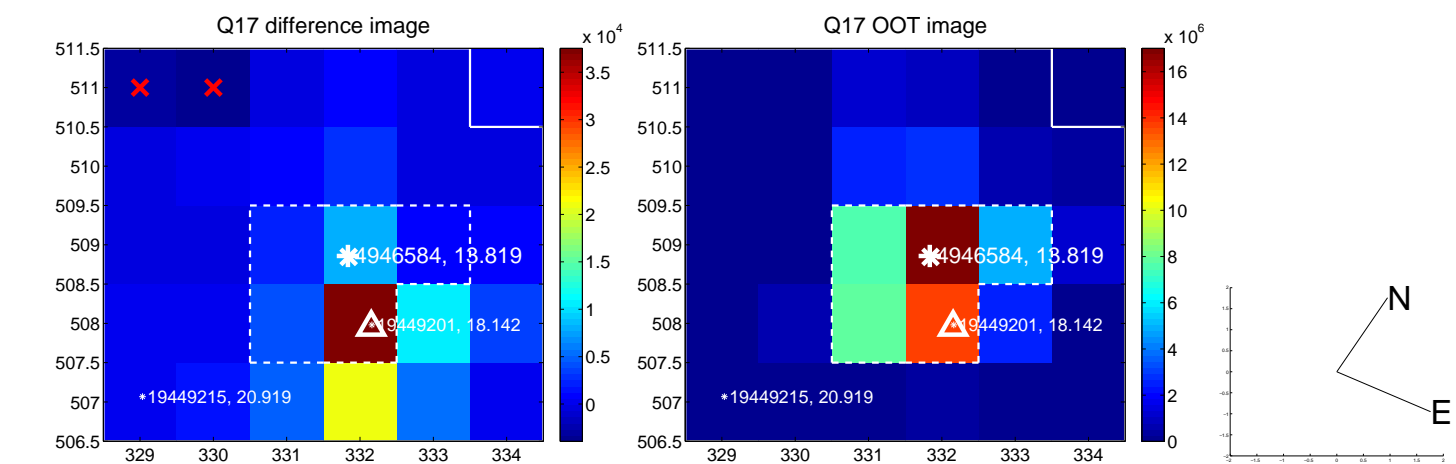
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



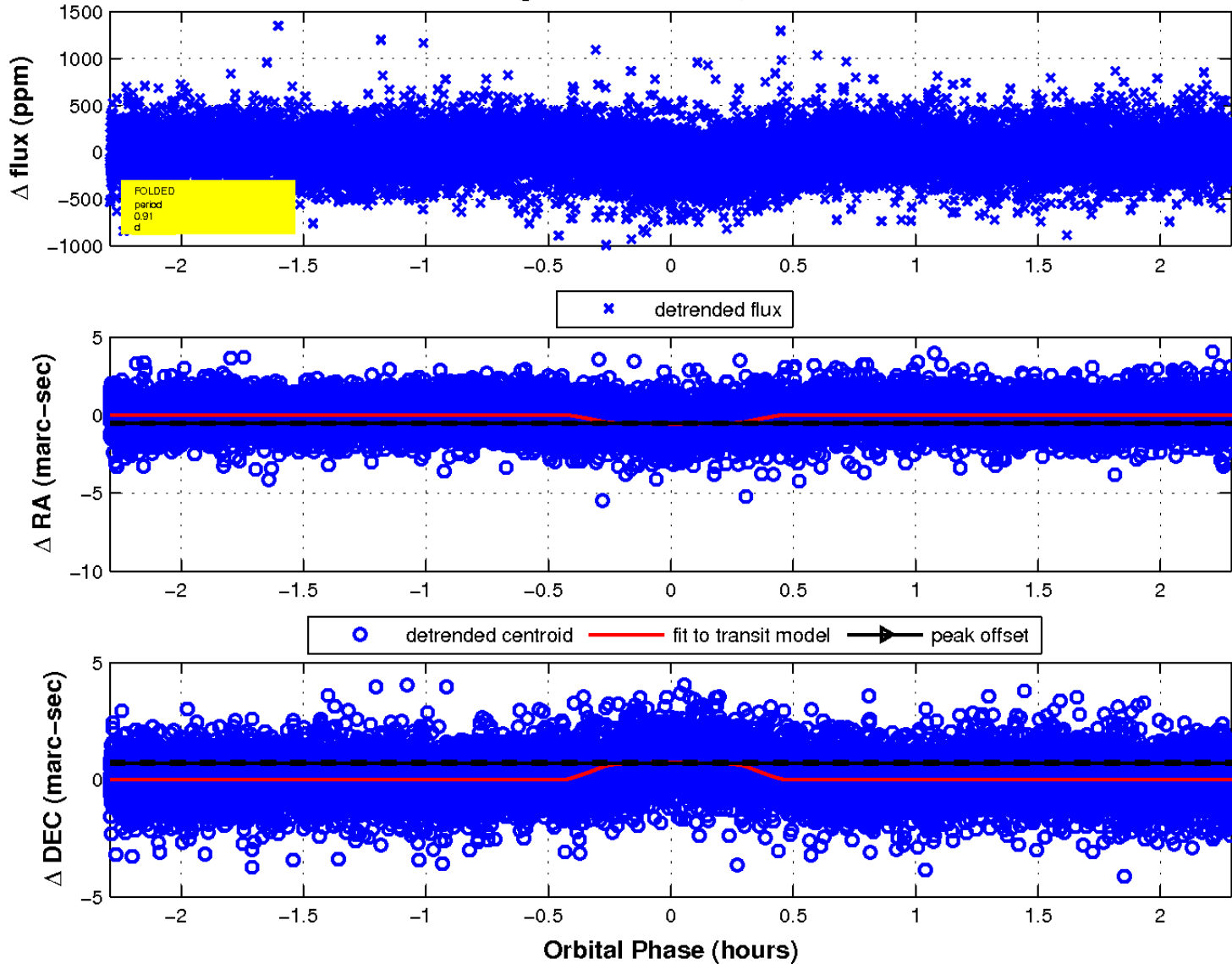
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

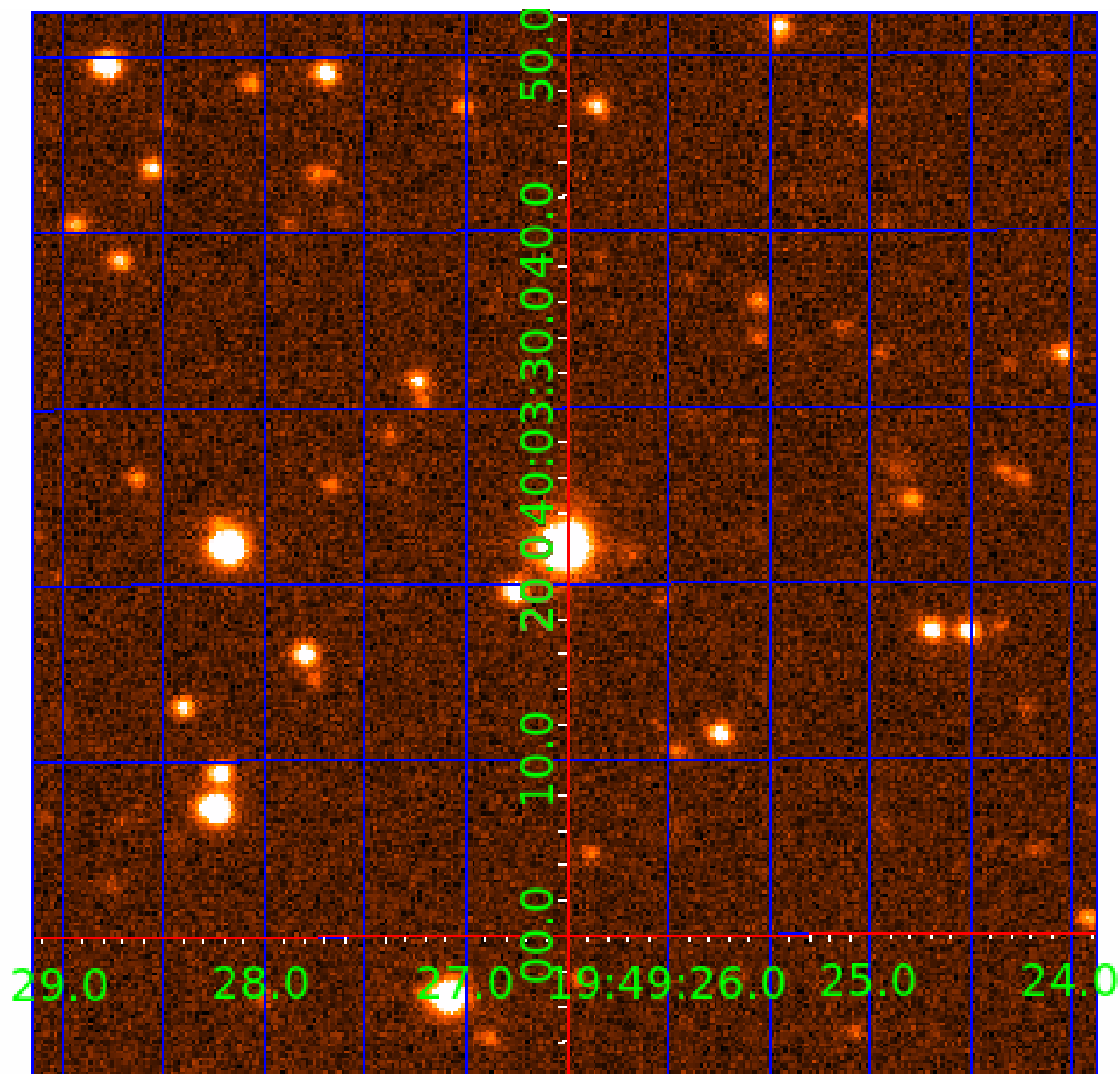


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 004946584

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})
004946584-01	OBS	4088.01	0.907951	132.132093	117.1	1.098	14.1	23.0	1.17	6434	1.49	5743.82
004946584-02	OBS	No	0.907936	131.683134	115.4	0.763	13.0	19.6	1.17	6434	1.49	5743.95
004946584-03	OBS	No	300.978970	196.851164	993.5	6.666	7.5	8.3	1.17	6434	4.34	2.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004946584-01	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET
004946584-02	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_UNRESOLVED_OFFSET
004946584-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT

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.

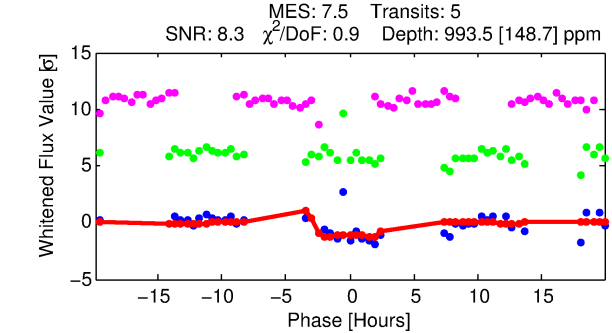
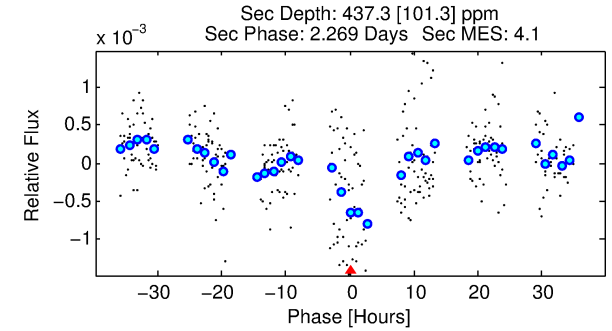
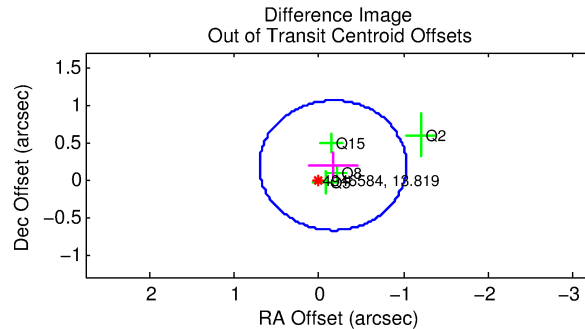
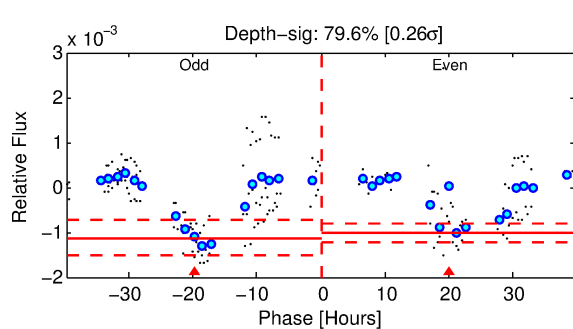
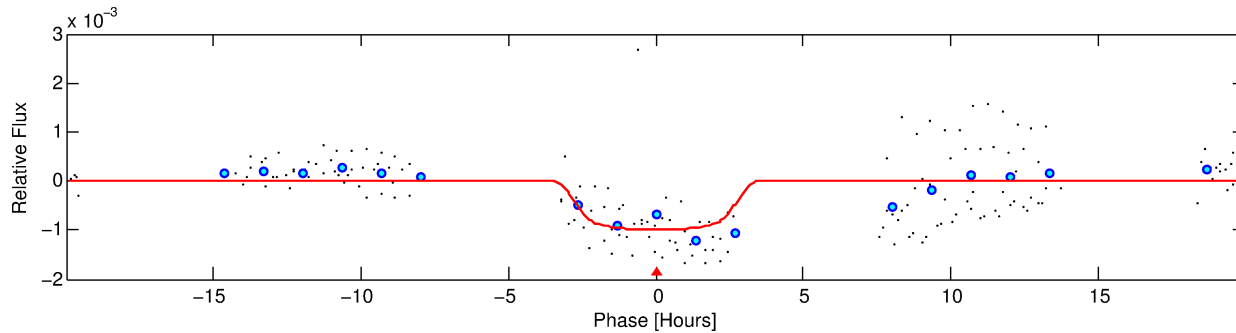
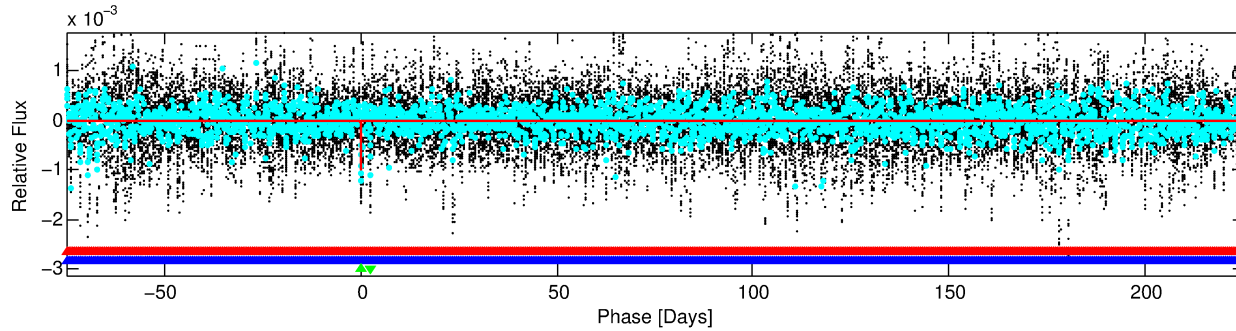
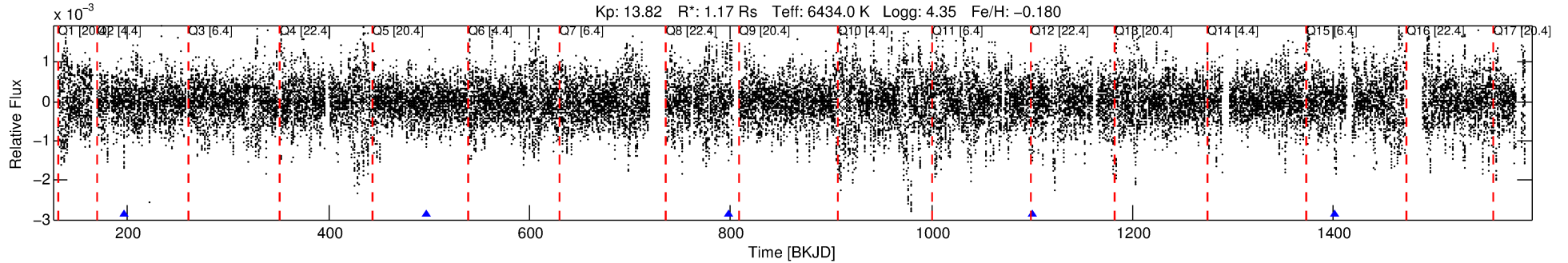
Ephemeris Match Information For 004946584-03

No Significant Match Found

DV One-Page Summary

KIC: 4946584 Candidate: 3 of 3 Period: 300.979 d
KOI: K04088 Corr: No Ephemeris Match

Kp: 13.82 R*: 1.17 Rs Teff: 6434.0 K Logg: 4.35 Fe/H: -0.180



DV Fit Results:

Period = 300.97897 [0.00432] d
Epoch = 196.8512 [0.0126] BKJD
Rp/R* = 0.0341 [0.0033]
a/R* = 169.18 [43.79]
b = 0.91 [0.04]
Seff = 2.50 [1.03]
Teq = 321 [33] K
Rp = 4.34 [1.47] Re
a = 0.9131 [0.2462] AU
Ag = 10641.85 [5230.76] [2.03σ]
Teff = 5037 [415] K [11.33σ]

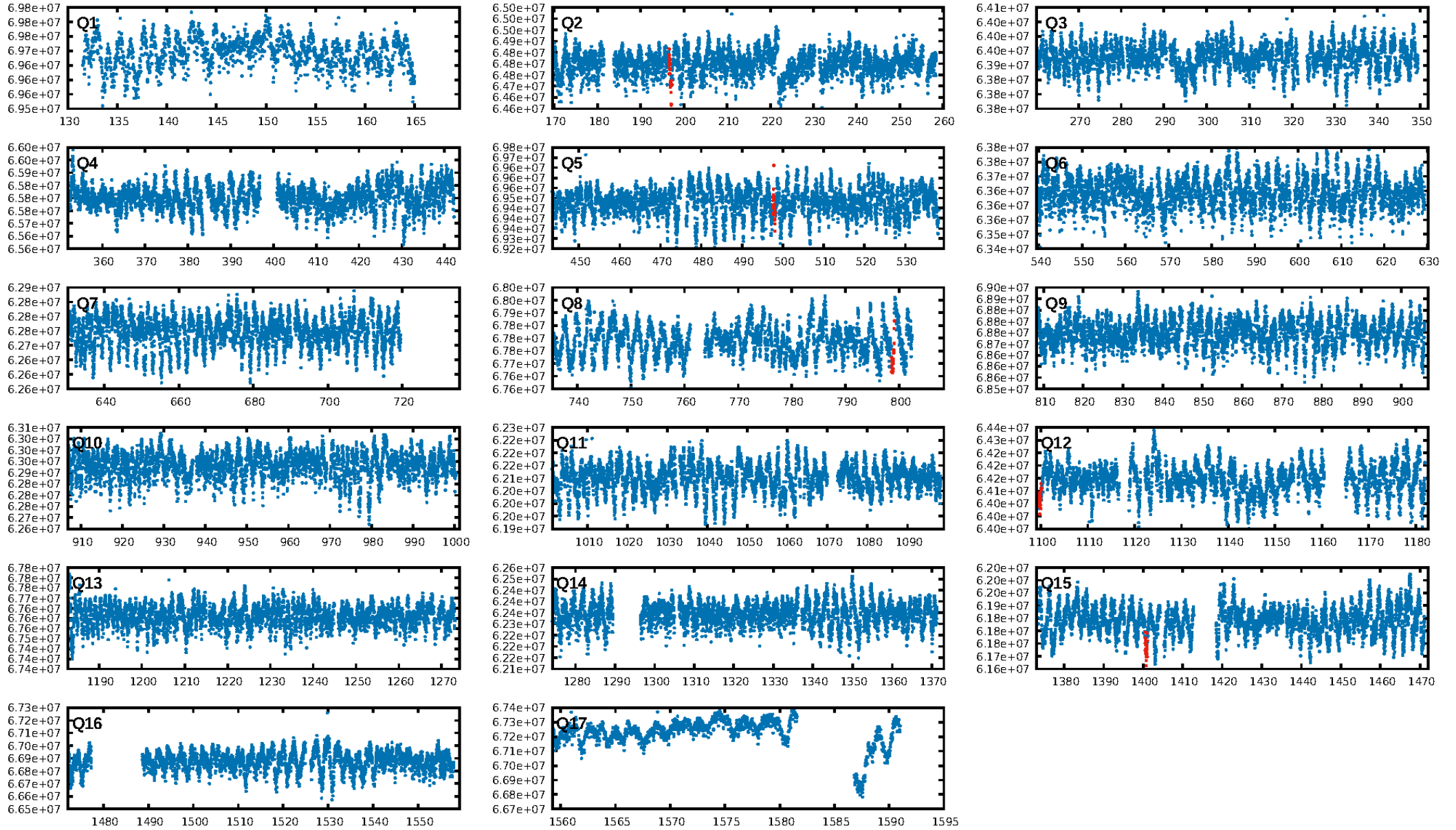
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1065.96σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 90.4%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 3.18e-10
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.023
Centroid-sig: 46.0%
Centroid-so: 0.187 arcsec [0.50σ]
OotOffset-rm: 0.254 arcsec [0.88σ]
KicOffset-rm: 0.293 arcsec [0.94σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.00 [0/4]

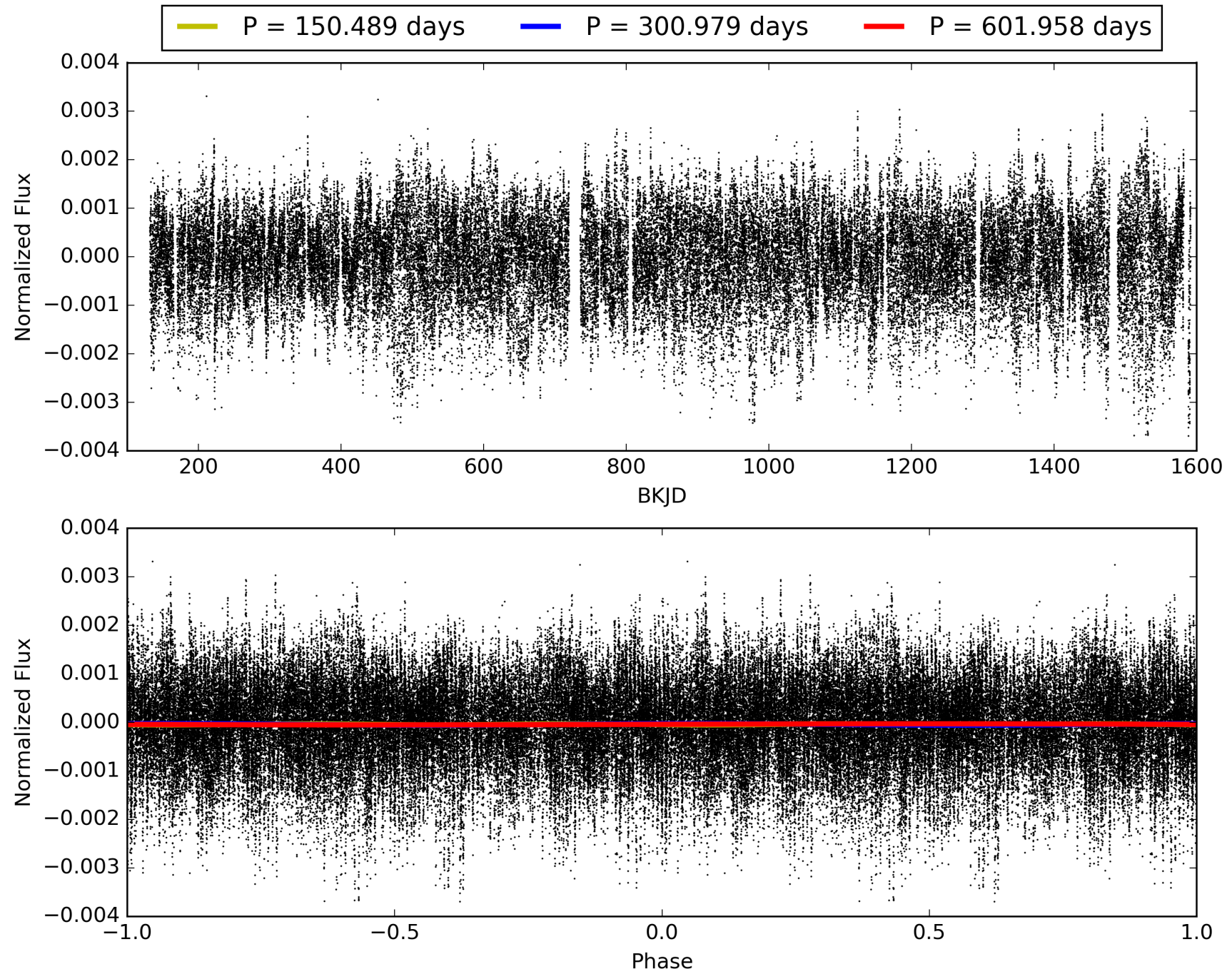
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:01:51 Z

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

TCE 004946584-03, PDC Light Curves

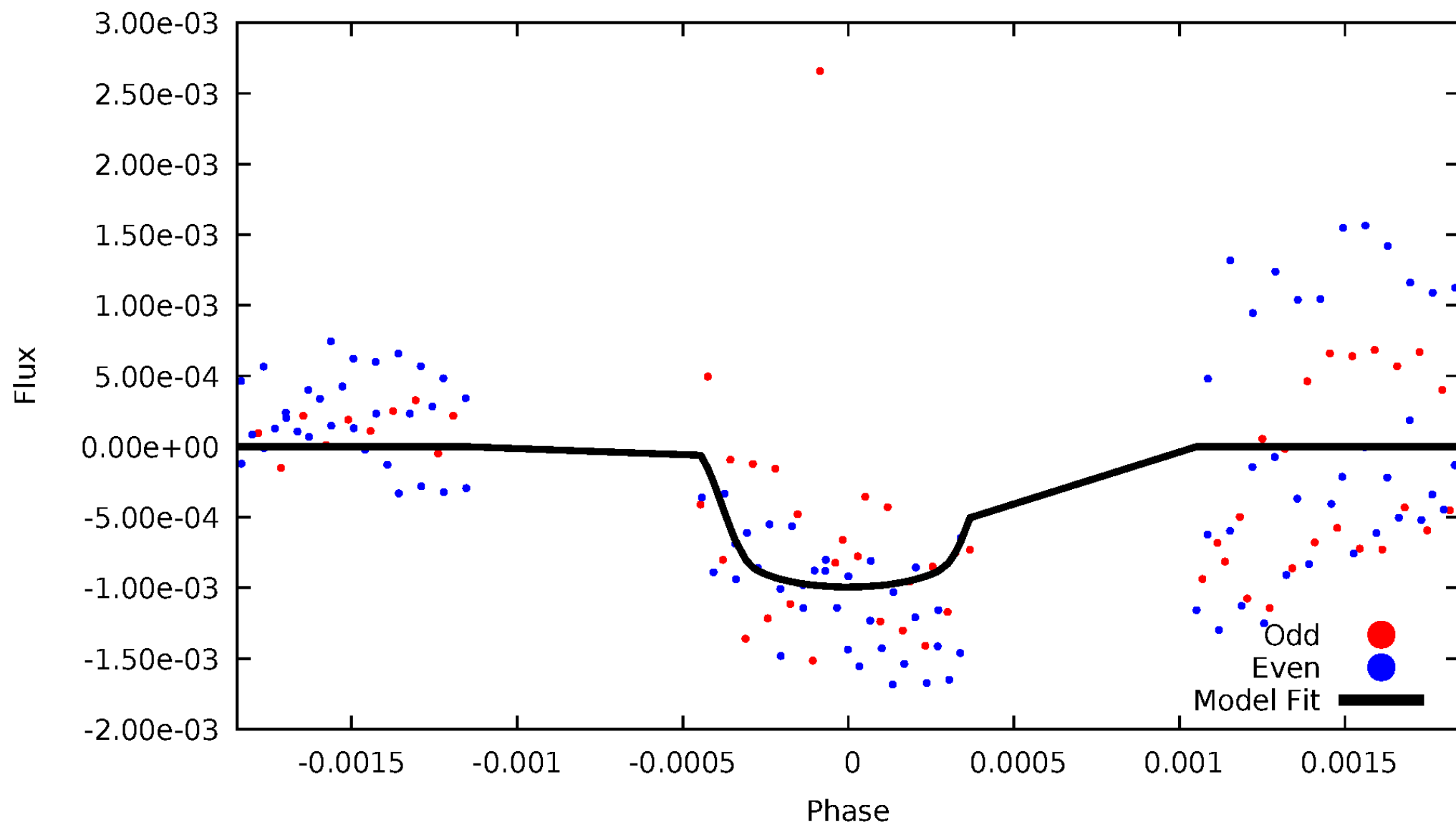


TCE 004946584-03



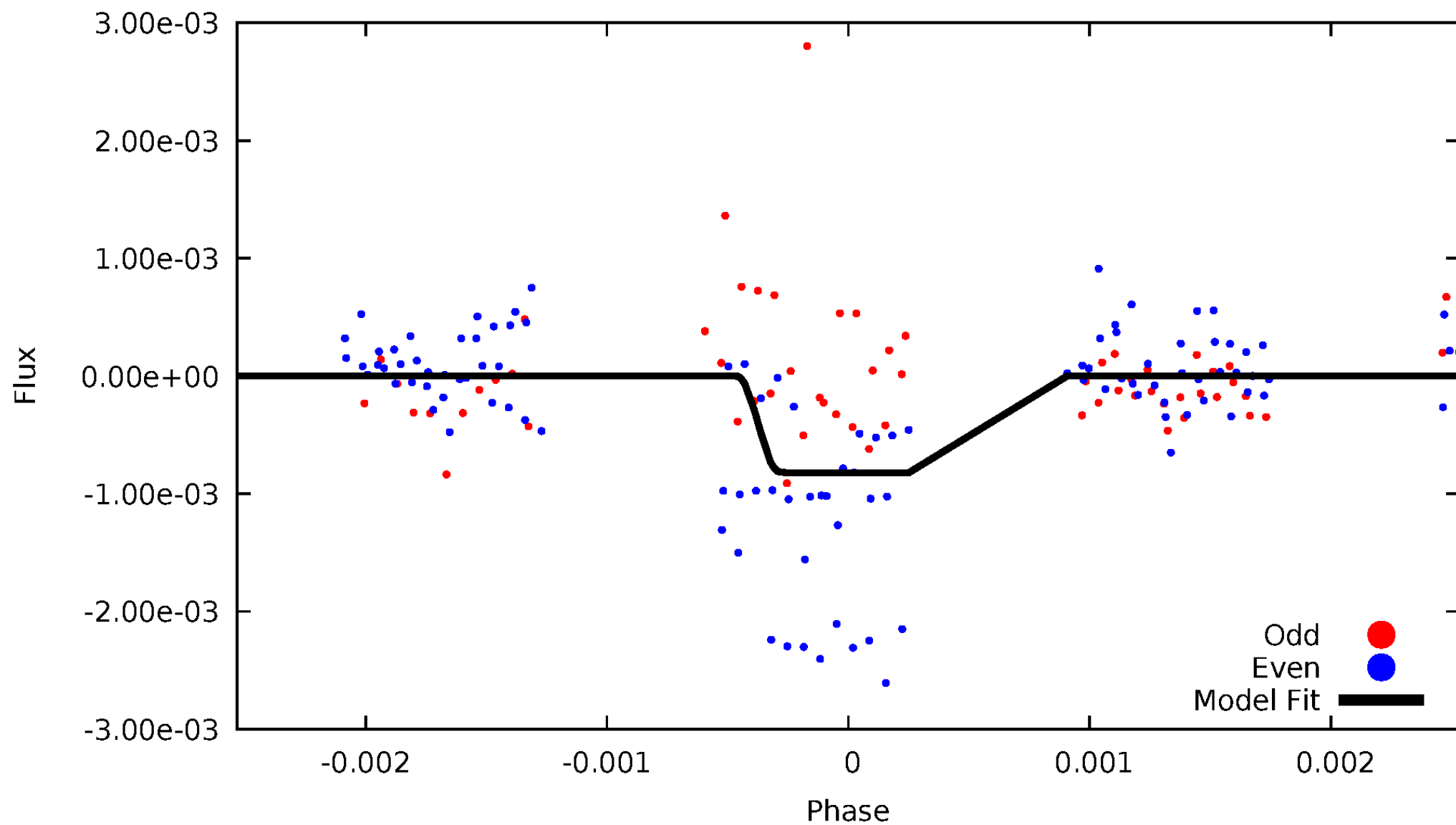
DV Odd/Even

TCE 004946584-03



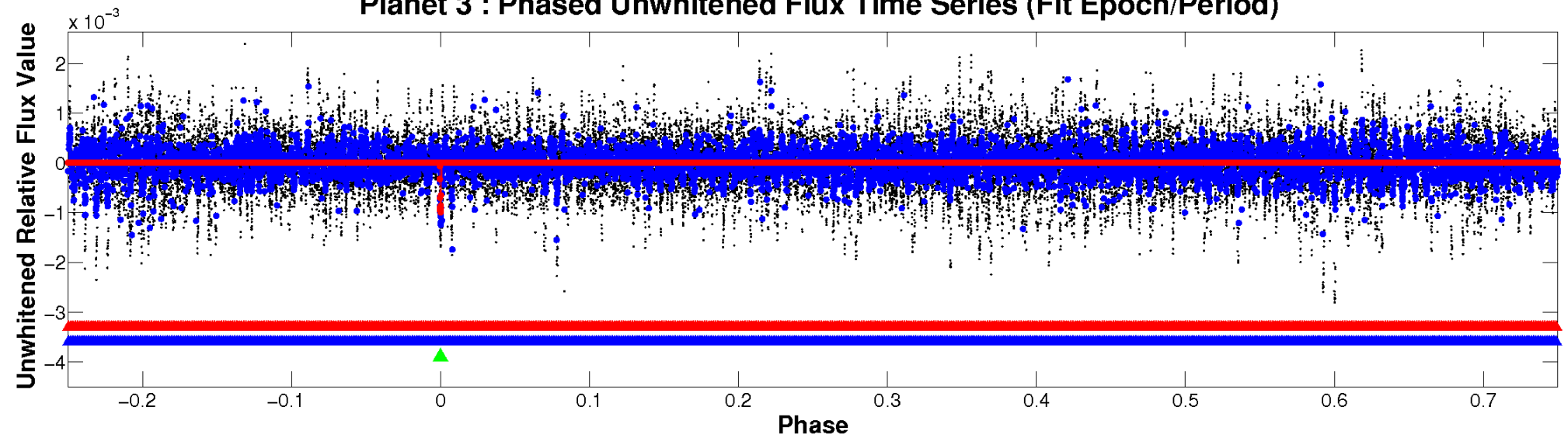
ALT Odd/Even

TCE 004946584-03

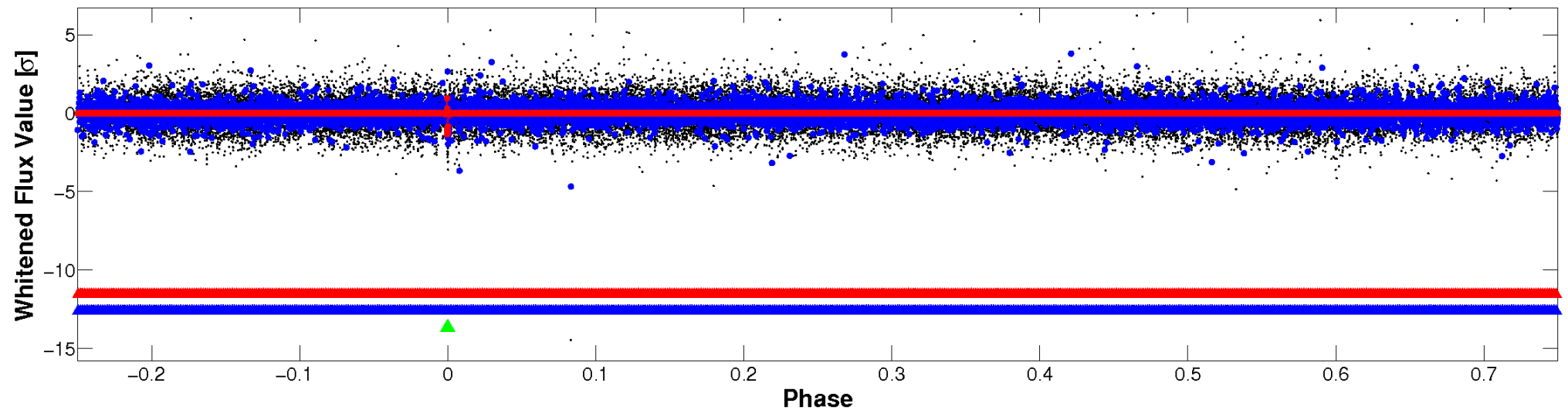


Non-Whitened Vs. Whitened Light Curve

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

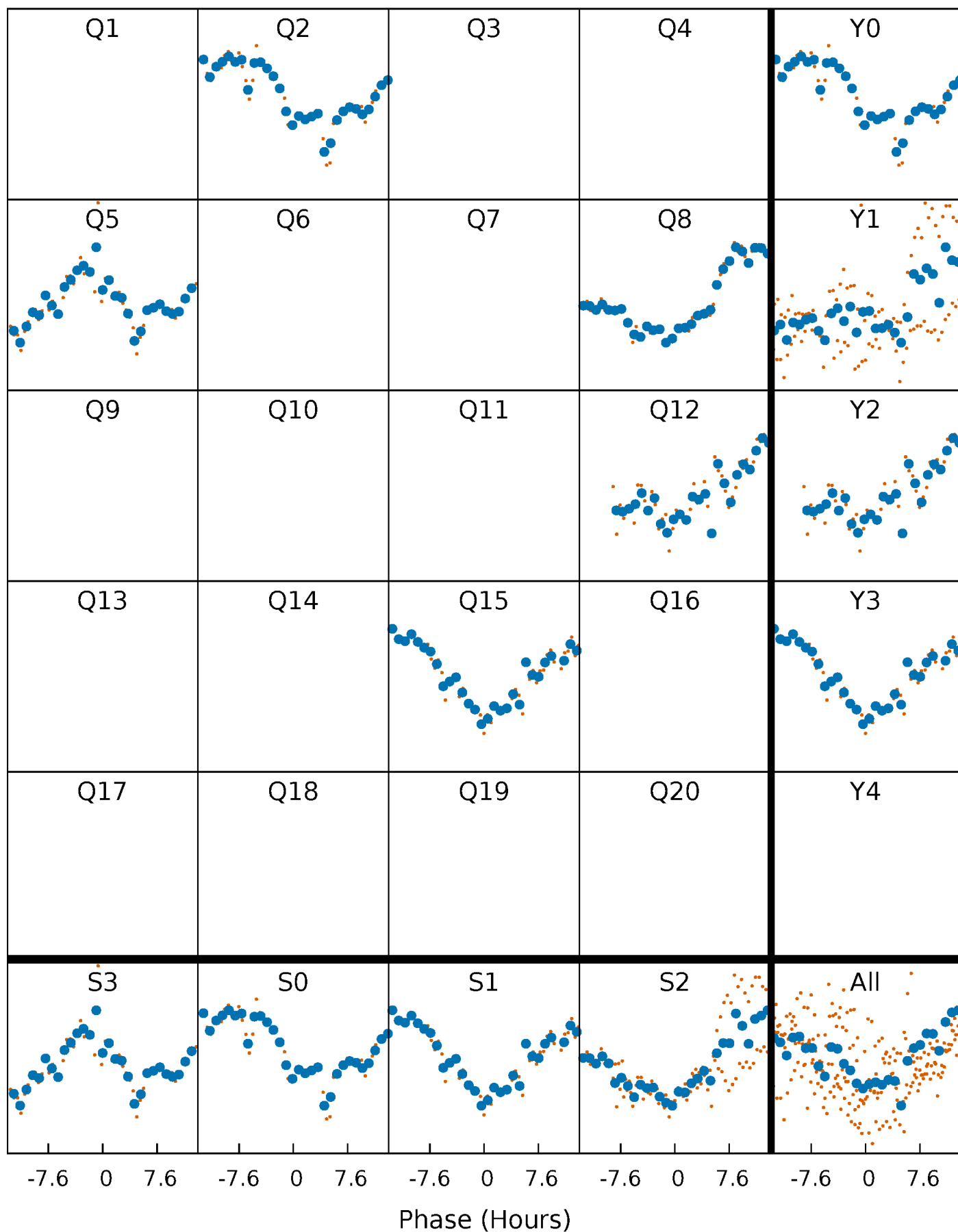


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



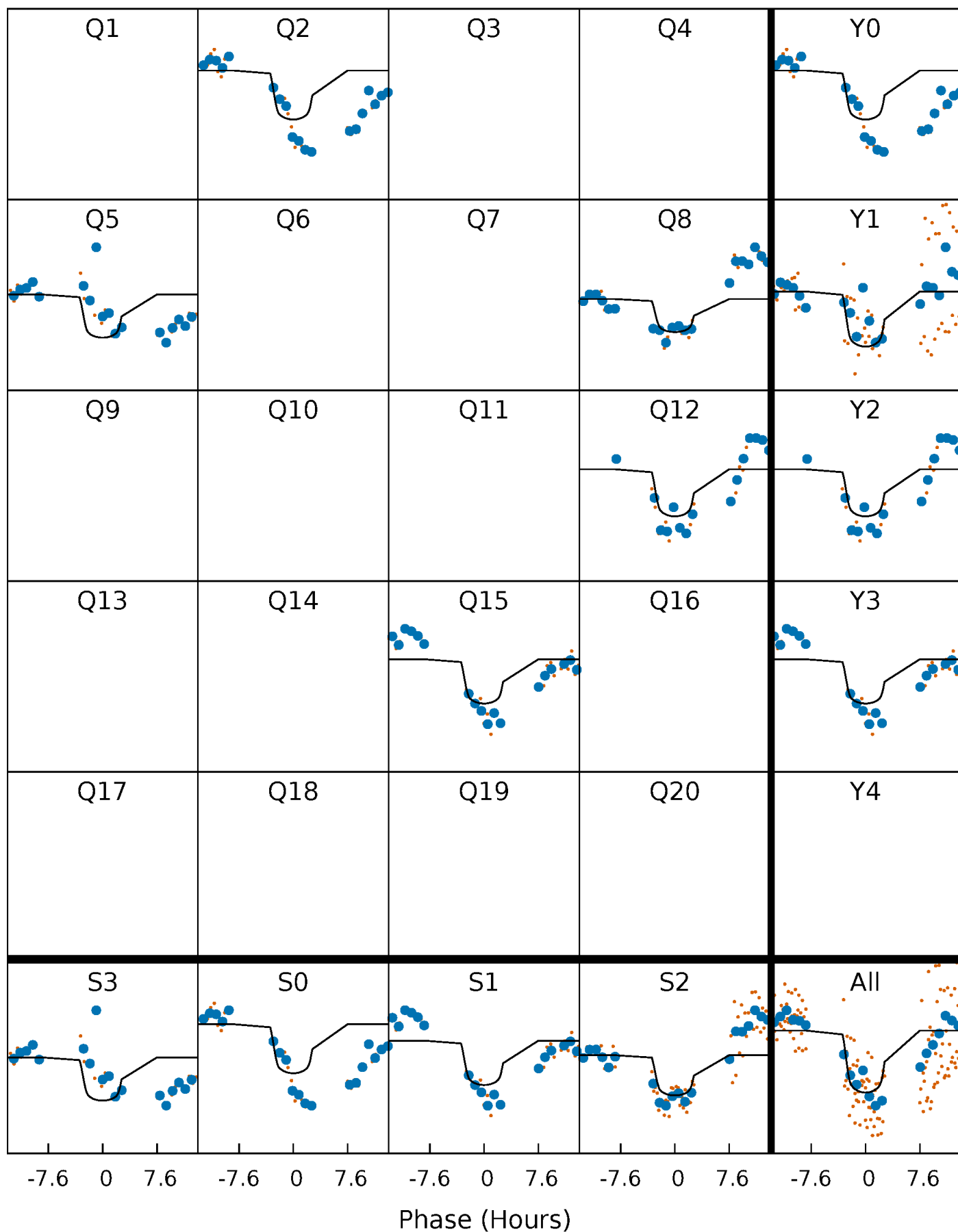
PDC Quarter-Phased Transit Curves

TCE 004946584-03 P=300.978970 Days $T_0=196.851164$ (BKJD)



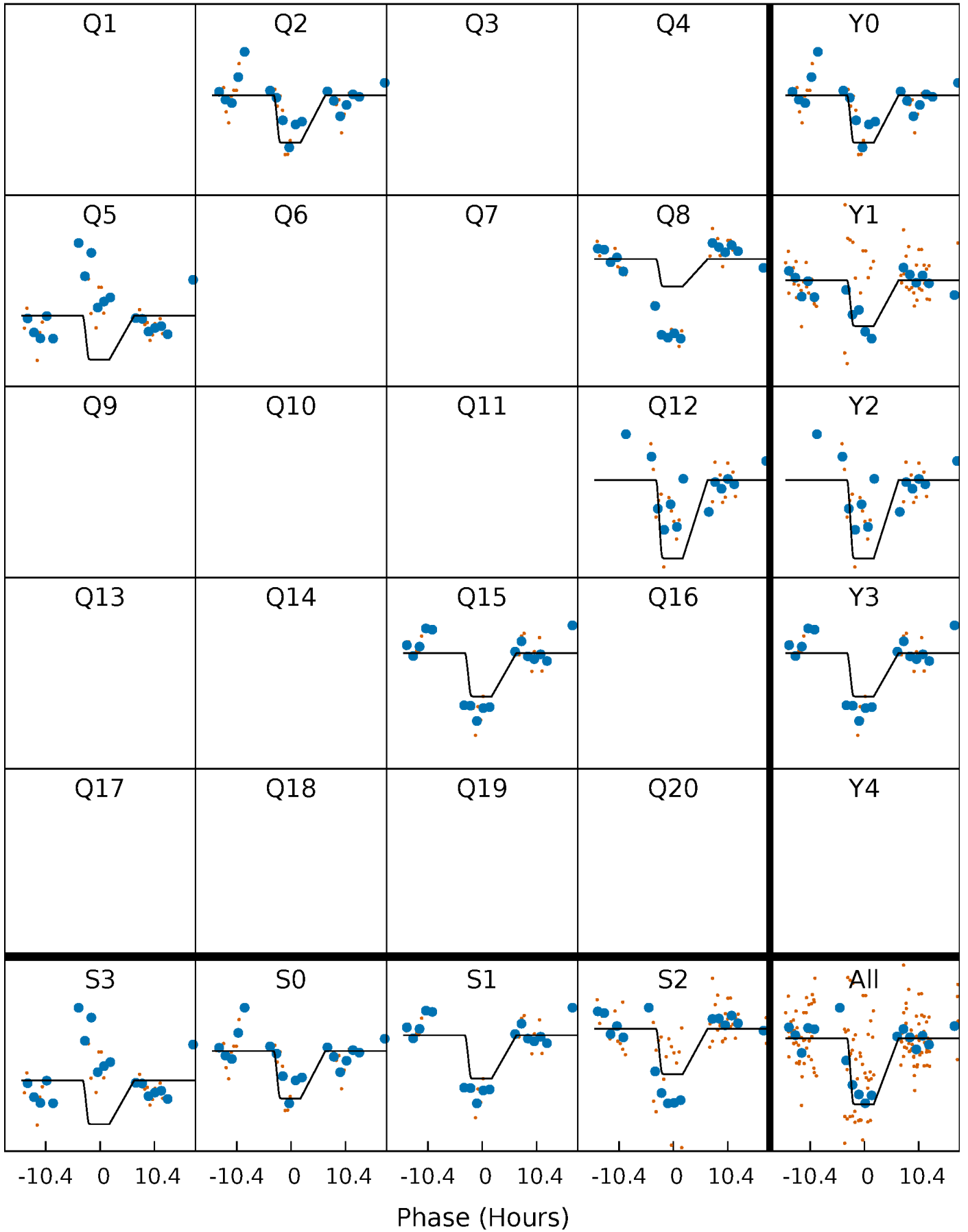
DV Quarter-Phased Transit Curves

TCE 004946584-03 $P=300.978970$ Days $T_0=196.851164$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

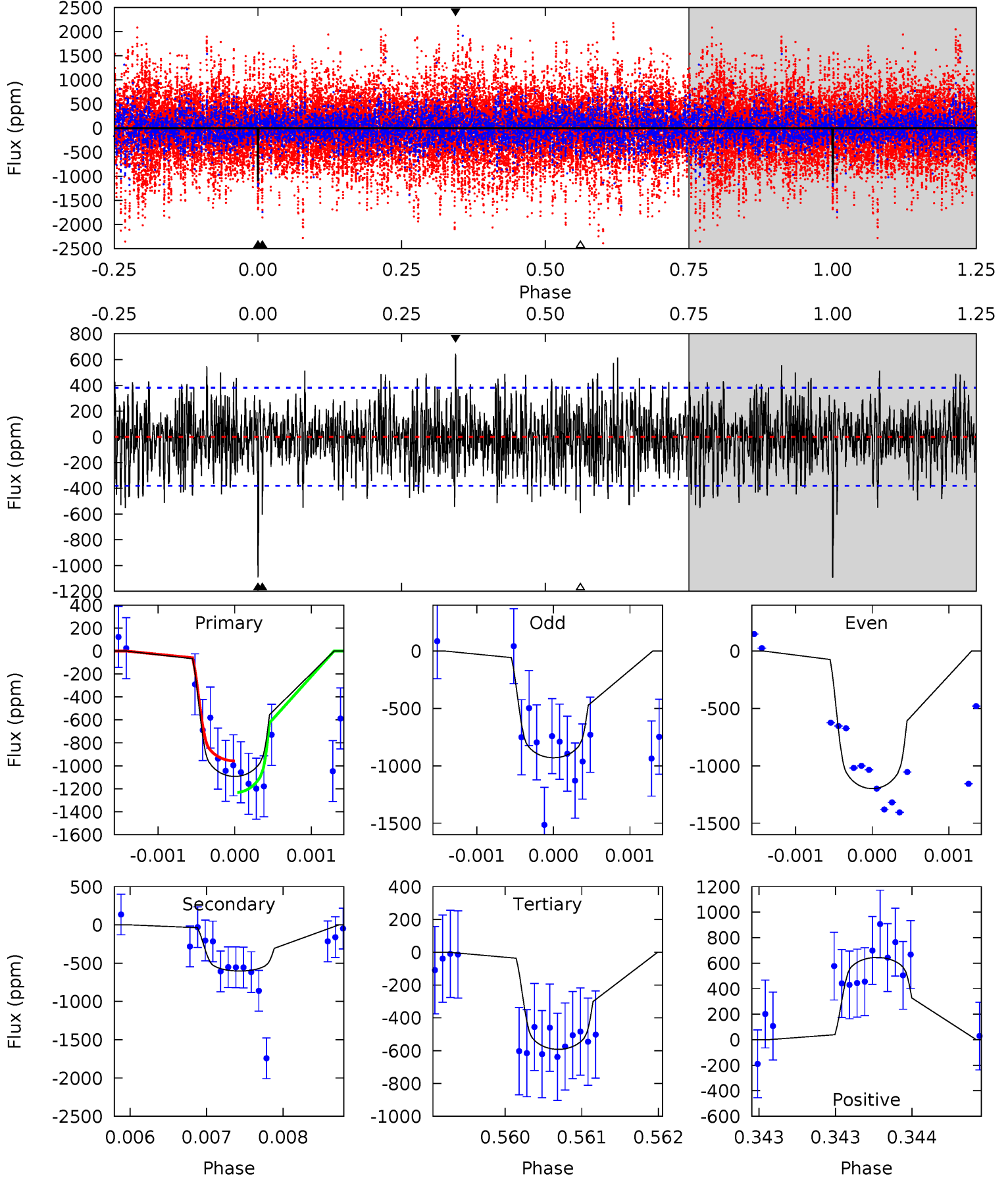
TCE 004946584-03 P=300.988172 Days $T_0=196.867791$ (BKJD)



DV Model-Shift Uniqueness Test

004946584-03, P = 300.978970 Days, E = 196.851164 Days

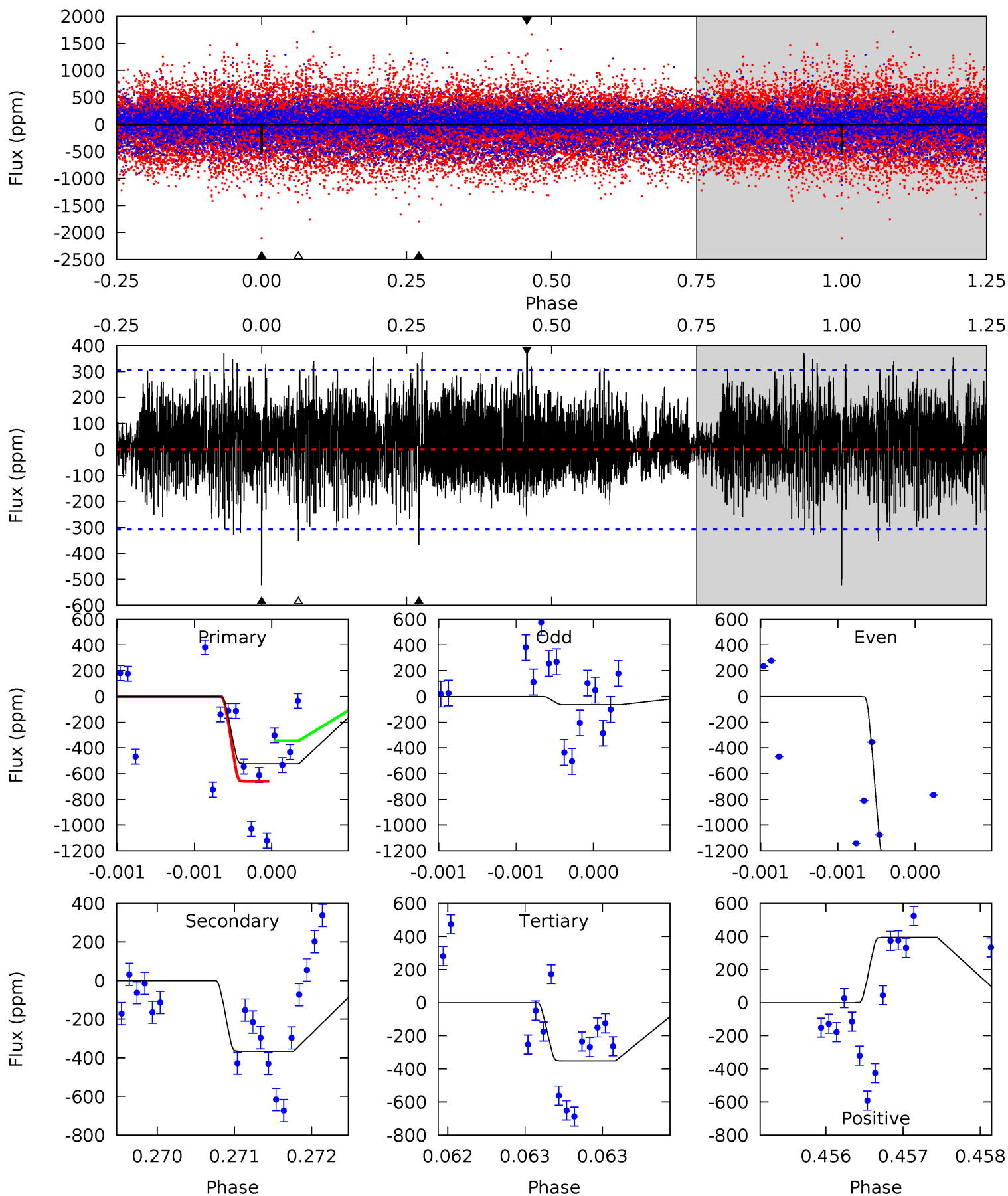
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	8.69	8.53	9.29	5.49	3.35	2.75	7.21	6.45	0.16	-0.60	1.88	0.83	0.37	1.98



Alt Model-Shift Uniqueness Test

004946584-03, P = 300.988172 Days, E = 196.867791 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.40	6.57	6.34	7.11	5.51	3.39	1.91	3.06	2.29	0.24	-0.53	11.8	1.38	0.43	2.66



Stellar Parameters For KIC 004946584

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6434^{+155}_{-213}	$4.354^{+0.084}_{-0.210}$	$-0.180^{+0.250}_{-0.300}$	$1.166^{+0.378}_{-0.162}$	$1.119^{+0.178}_{-0.129}$	$0.994^{+0.377}_{-0.521}$
	+2%/-3%	+2%/-5%	+139%/-167%	+32%/-14%	+16%/-12%	+38%/-52%
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 004946584-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-603 ± 69	$4.46^{+0.82}_{-0.64}$	454^{+34}_{-23}	5461^{+349}_{-282}	13560^{+5161}_{-3930}
Alt.	-366 ± 56	$3.77^{+0.71}_{-0.61}$	453^{+31}_{-24}	5293^{+382}_{-335}	11788^{+4939}_{-3475}

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

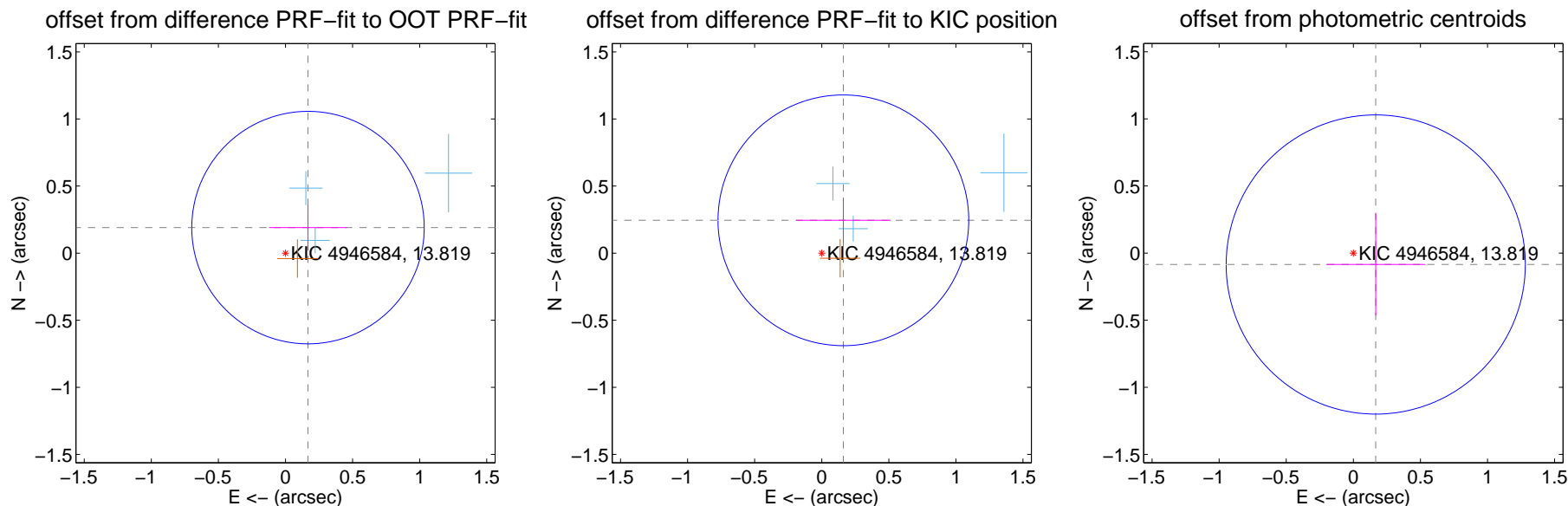
DV Centroid Data

Supplemental centroid analysis for 004946584-03. Kepler magnitude: 13.82. Transit SNR 8.34

There are 3 quarters with good PRF difference image offsets

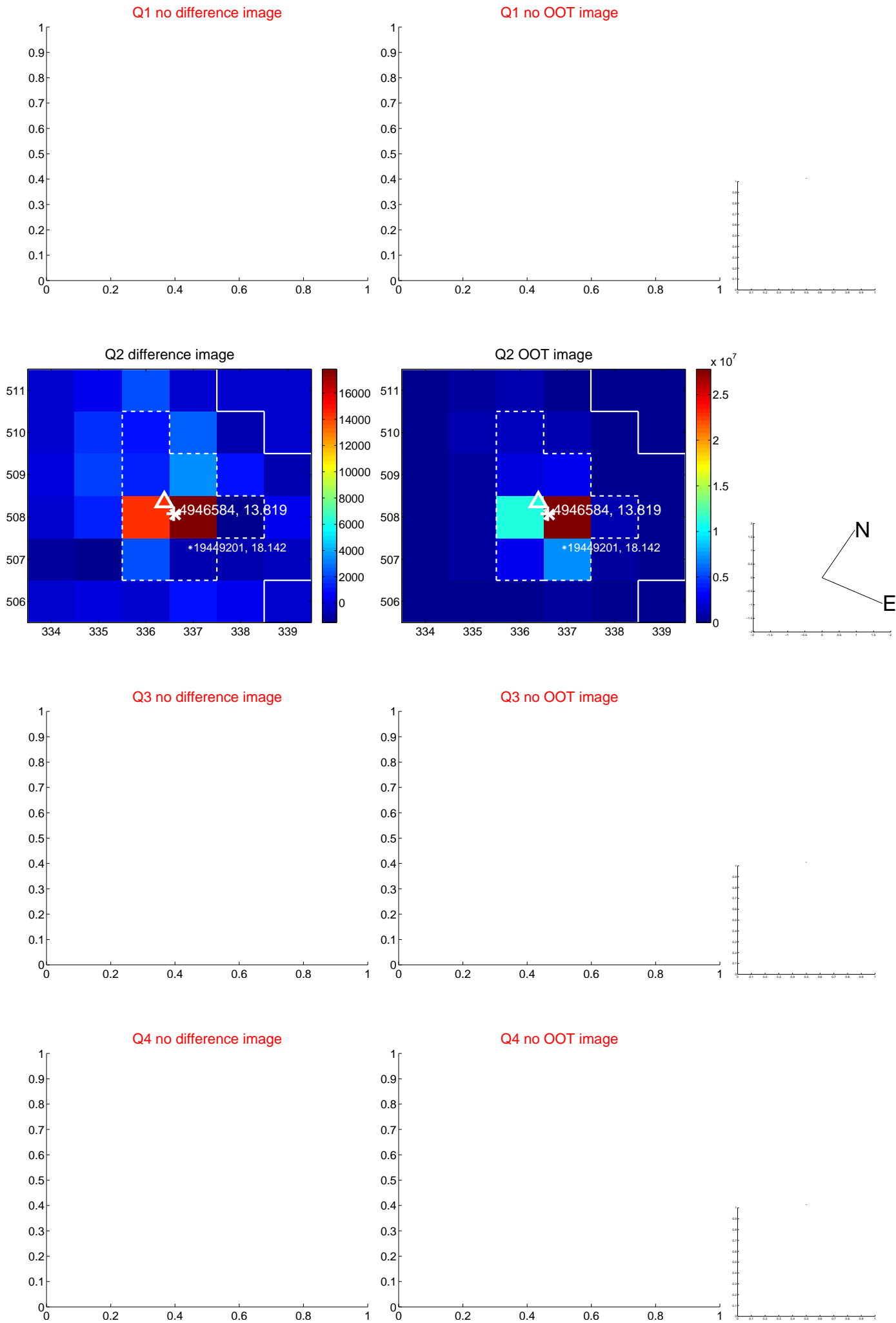
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.254 ± 0.289	0.88	-0.168 ± 0.290	0.190 ± 0.172
PRF-fit source offset from KIC position	0.293 ± 0.311	0.94	-0.161 ± 0.352	0.245 ± 0.169
photometric centroid source offset	0.19 ± 0.37	0.50	-0.17 ± 0.37	-0.09 ± 0.38

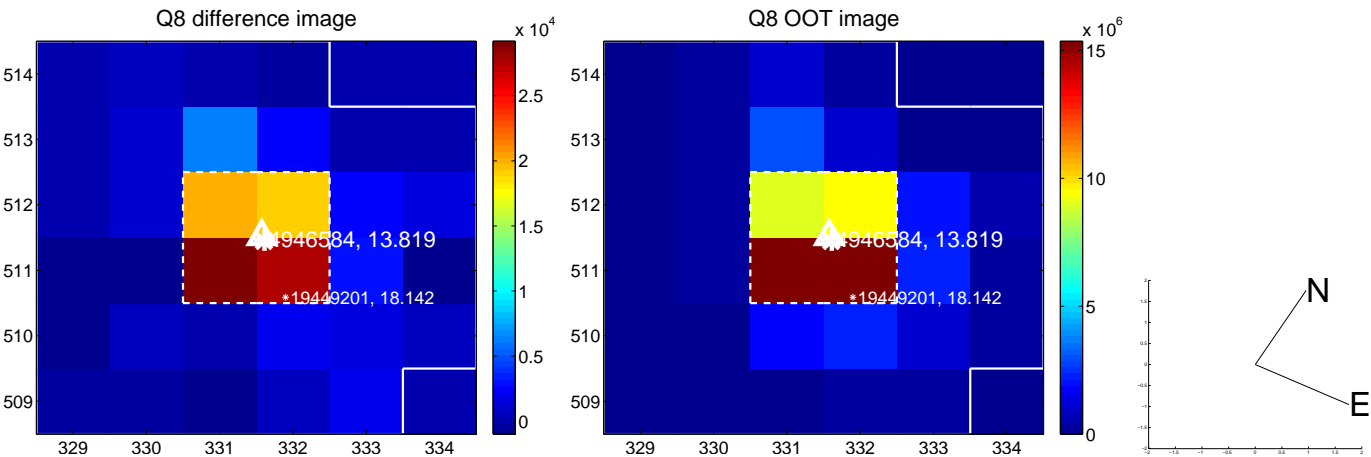
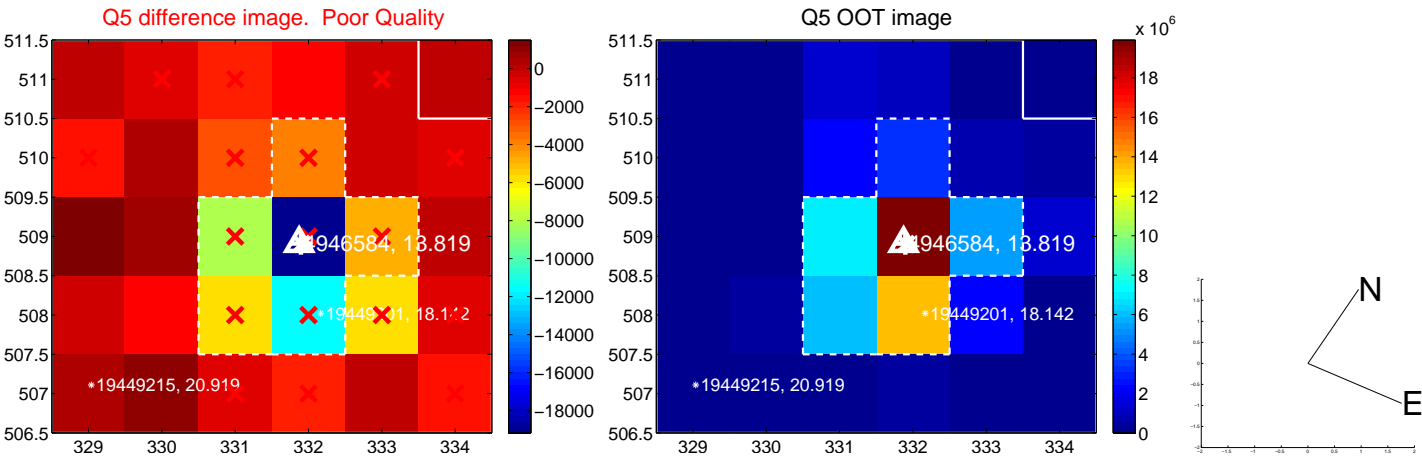


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



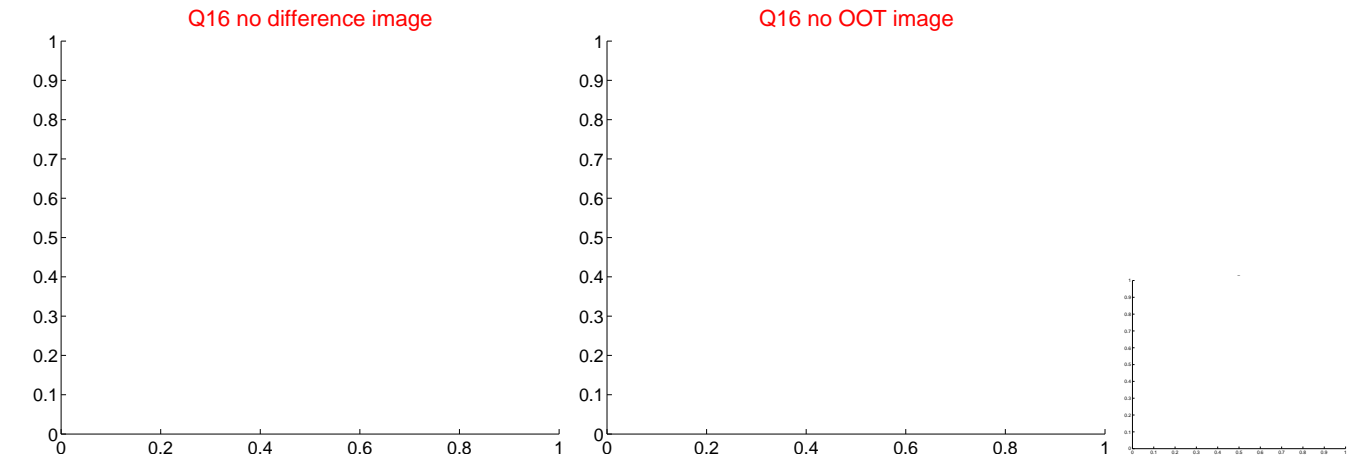
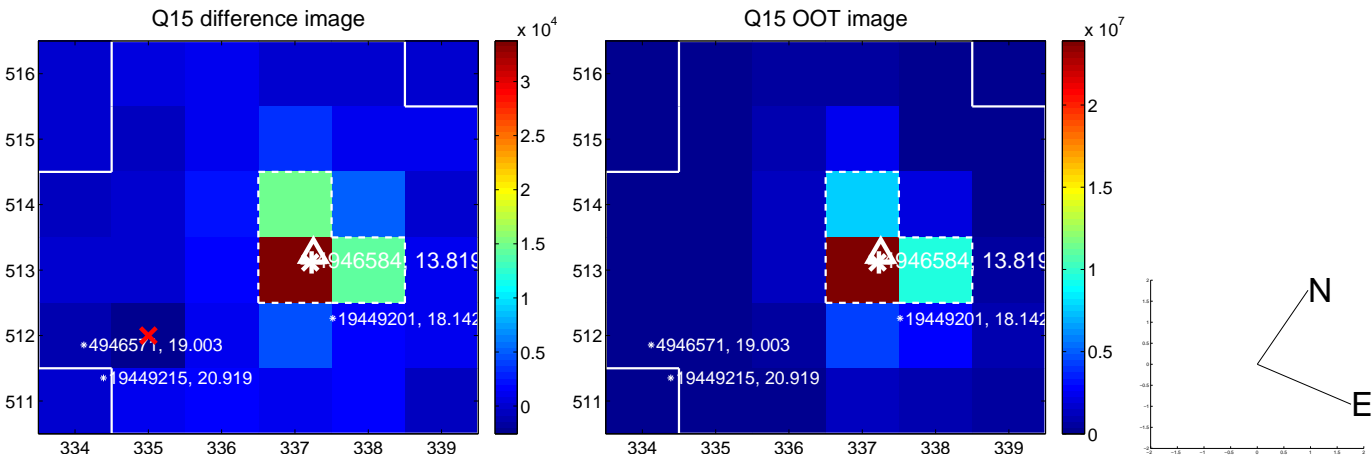
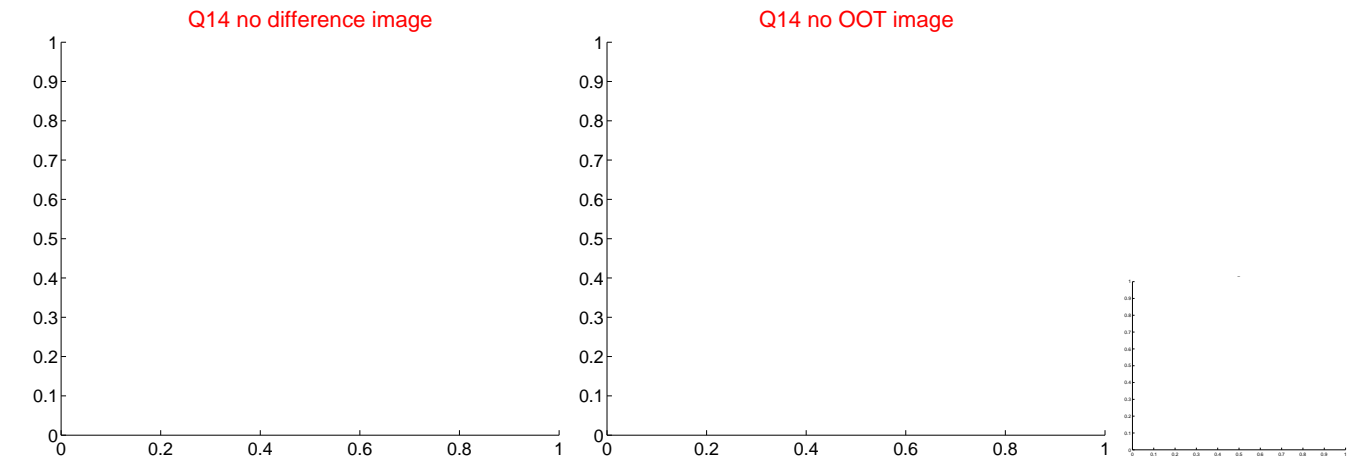
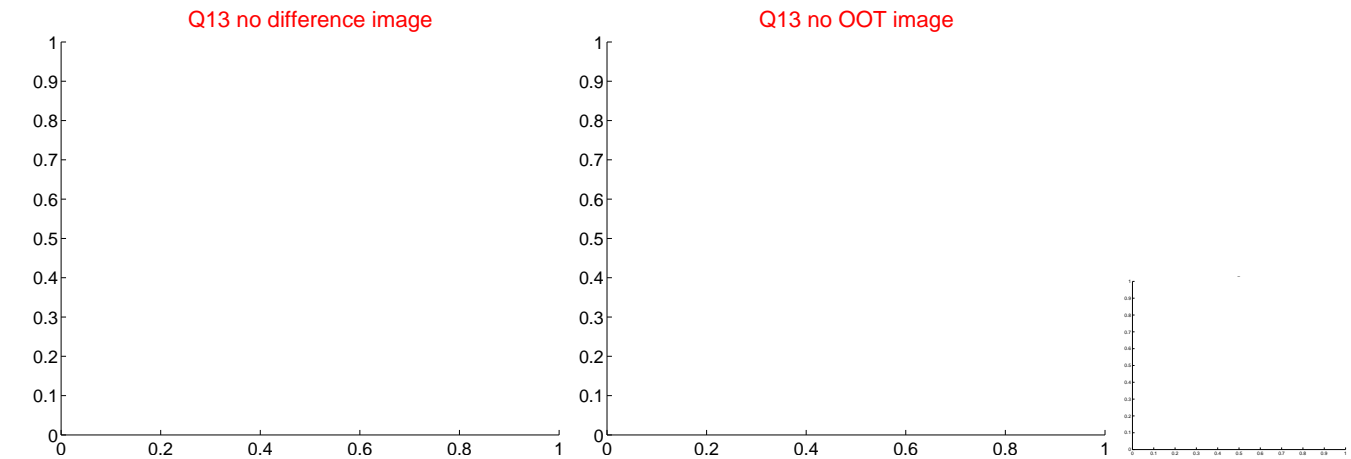
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



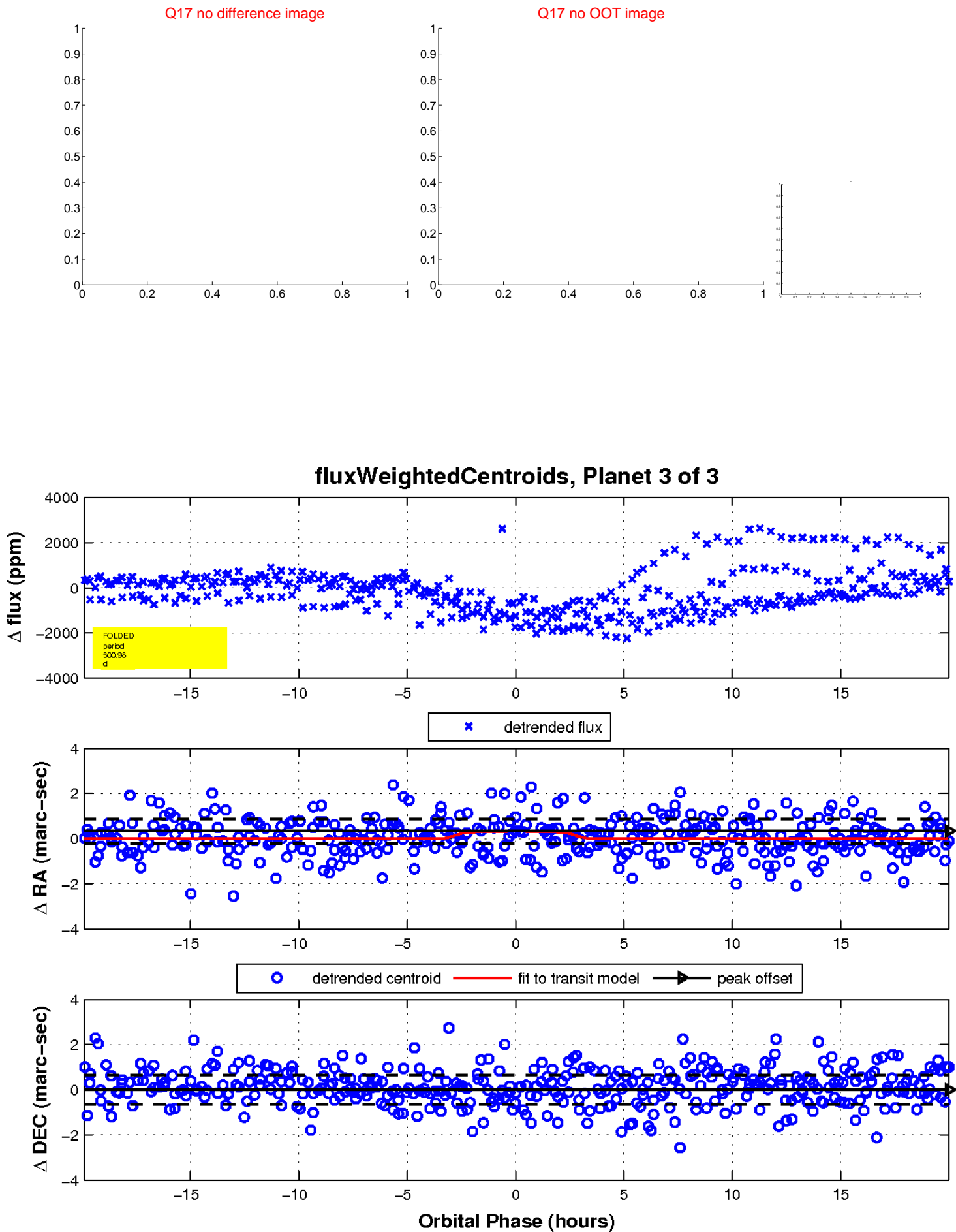
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

