

KIC 002854914

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})
002854914-01	OBS	1113.01	25.934099	149.761188	416.8	4.795	34.3	35.7	1.23	5952	2.85	55.18
002854914-02	OBS	1113.02	83.446256	158.682813	487.9	7.076	27.4	28.8	1.23	5952	3.19	11.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002854914-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
002854914-02	OBS	PC	0.91	0	0	0	0	NO_COMMENT

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

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

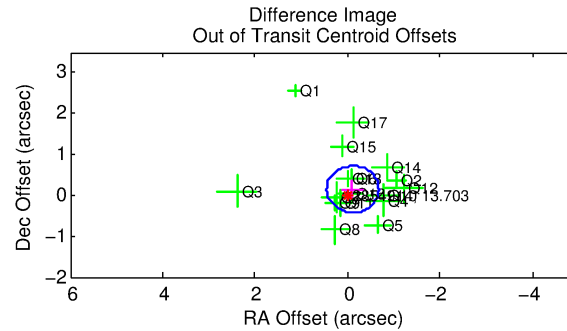
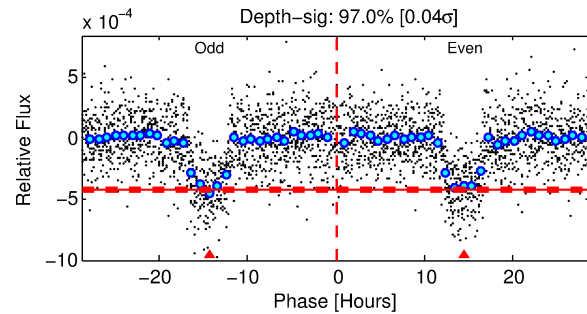
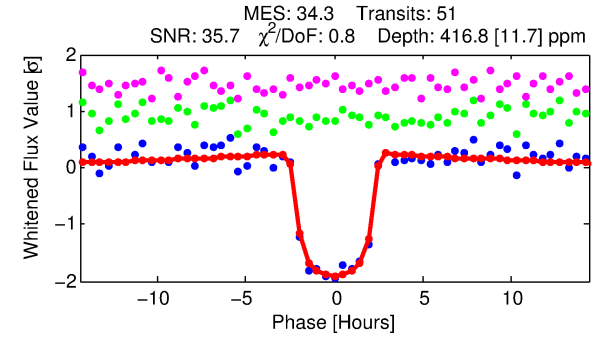
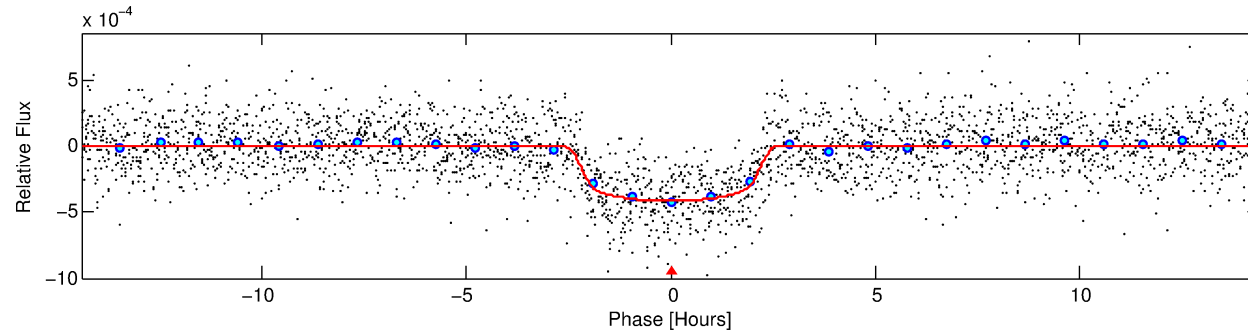
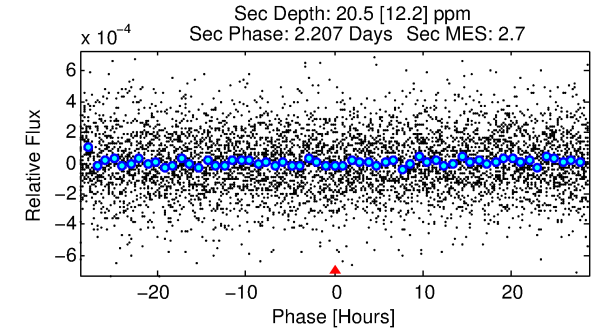
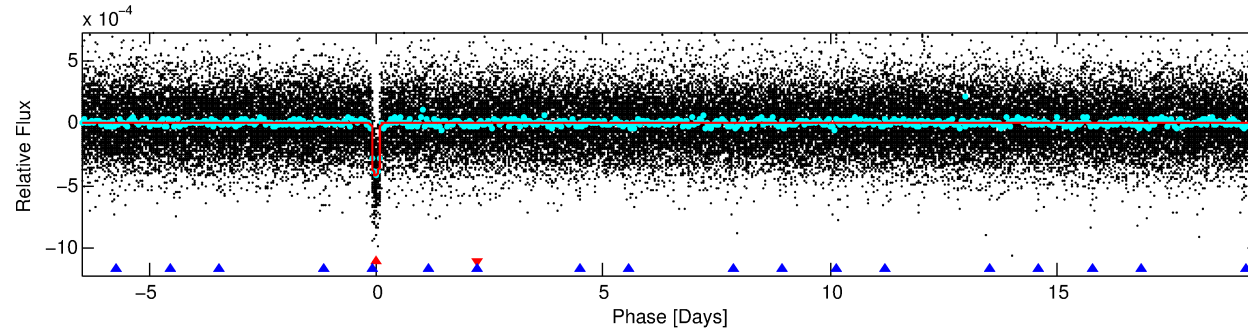
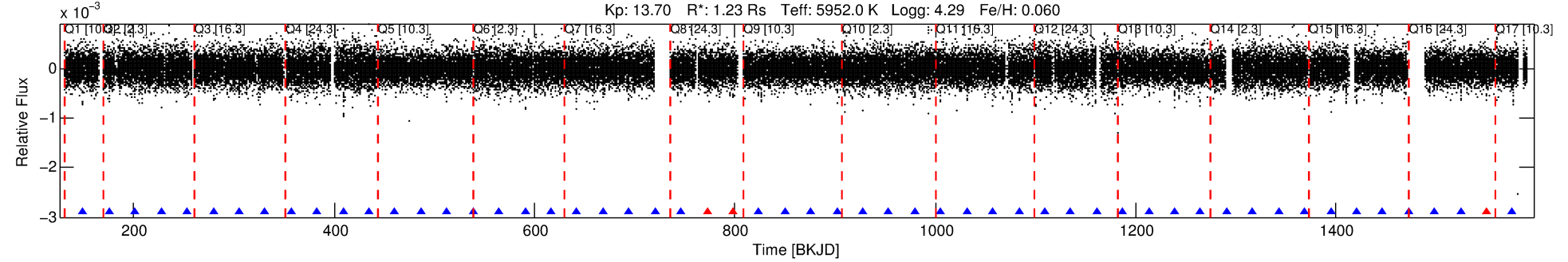
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002854914-01

No Significant Match Found

DV One-Page Summary

KIC: 2854914 Candidate: 1 of 2 Period: 25.934 d
KOI: K01113.01 Name: Kepler-268b Corr: 0.982



DV Fit Results:

Period = 25.93410 [0.00008] d
Epoch = 149.7612 [0.0025] BKJD
Rp/R* = 0.0213 [0.0022]
a/R* = 23.35 [11.18]
b = 0.85 [0.16]
Seff = 55.18 [12.71]
Teff = 695 [40] K
Rp = 2.85 [0.56] Re
a = 0.1749 [0.0254] AU
Ag = 42.44 [28.23] [1.47σ]
Teffp = 2743 [435] K [4.69σ]

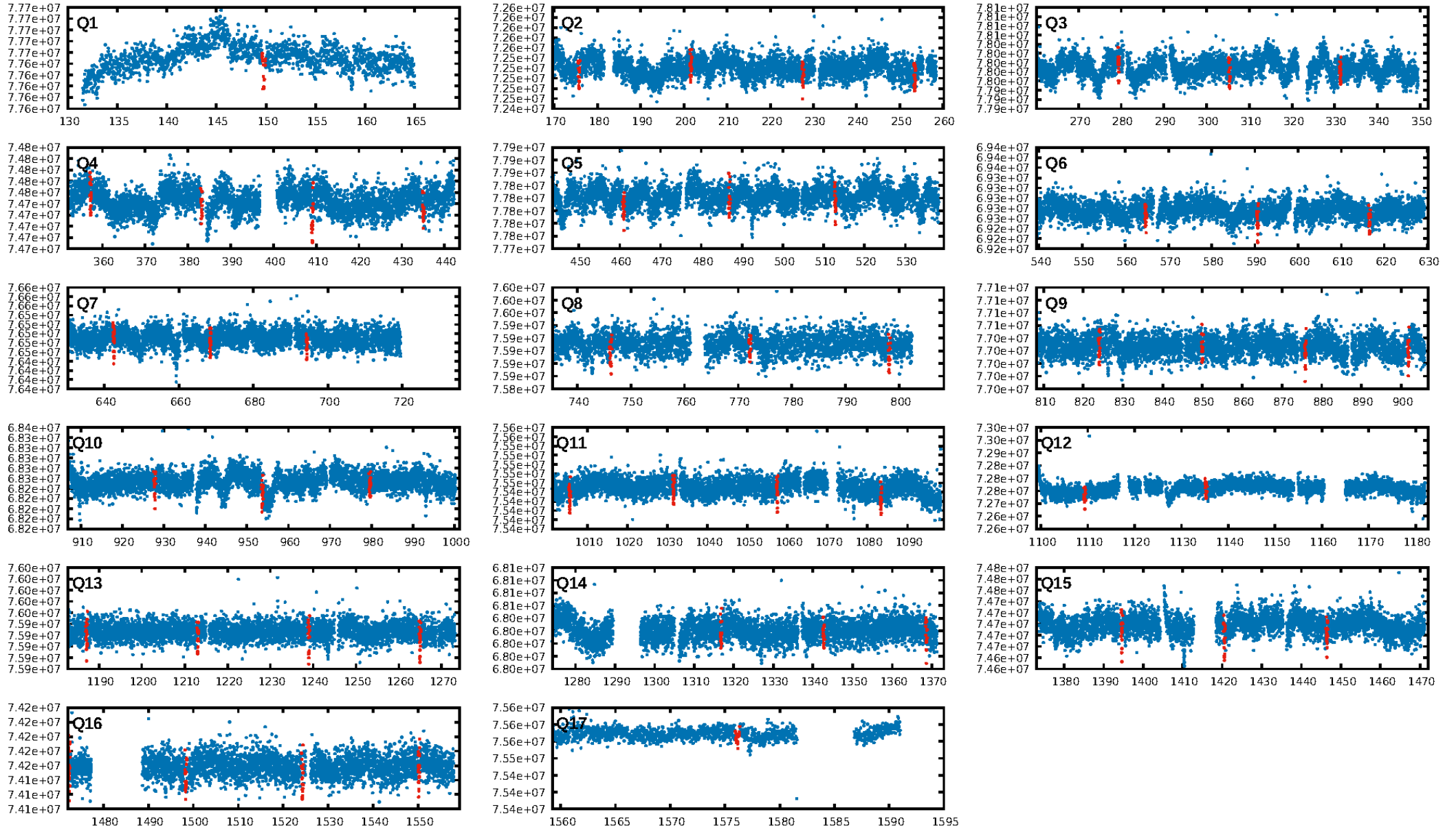
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [161.49σ]
ModelChiSquare2-sig: 92.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.78e-243
RollingBand-fgt: 0.94 [46/49]
GhostDiagnostic-chr: 2.777
Centroid-sig: 1.0%
Centroid-so: 1.266 arcsec [3.30σ]
OotOffset-rm: 0.181 arcsec [0.96σ]
KicOffset-rm: 0.291 arcsec [1.25σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

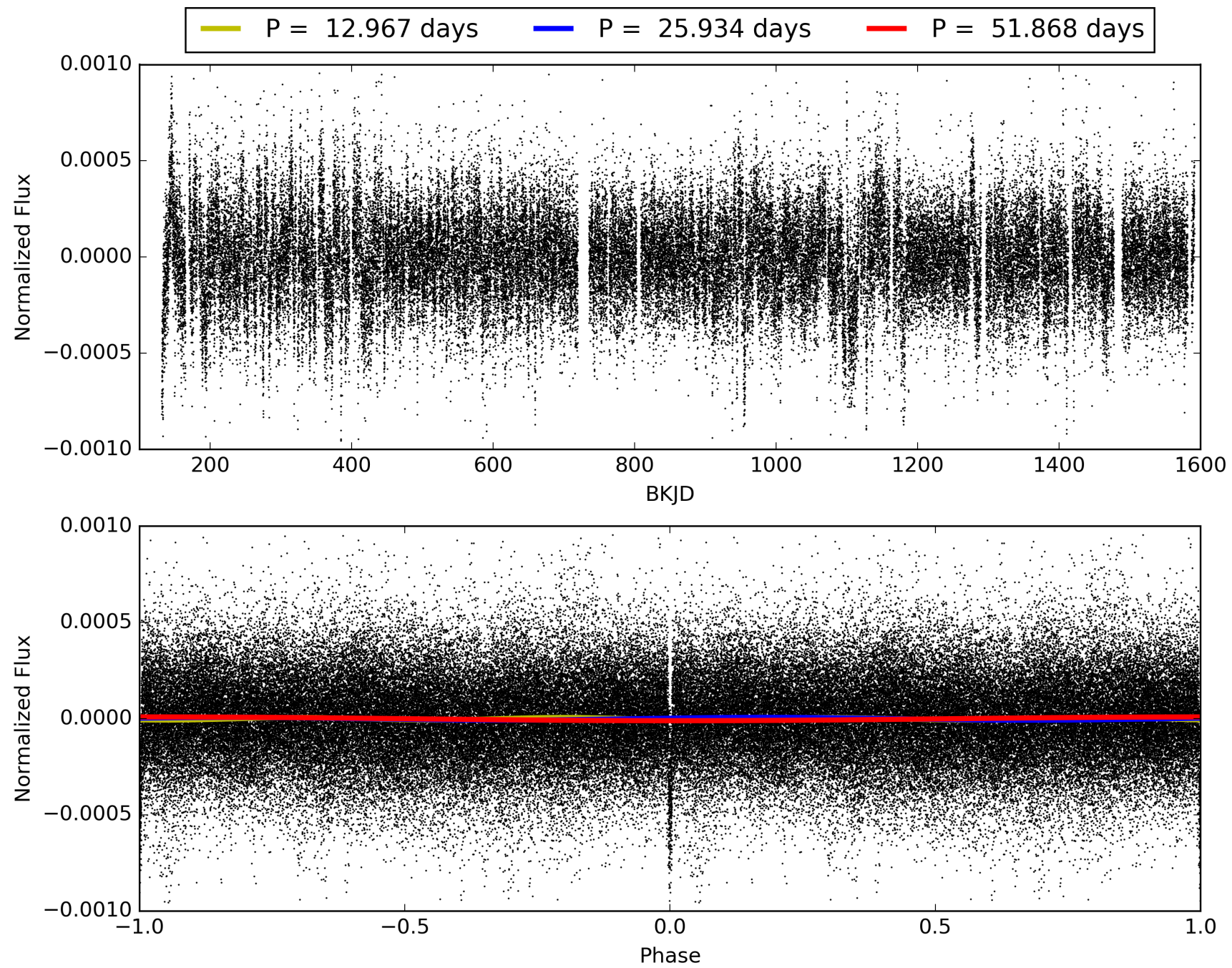
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:24:51 Z

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

TCE 002854914-01, PDC Light Curves

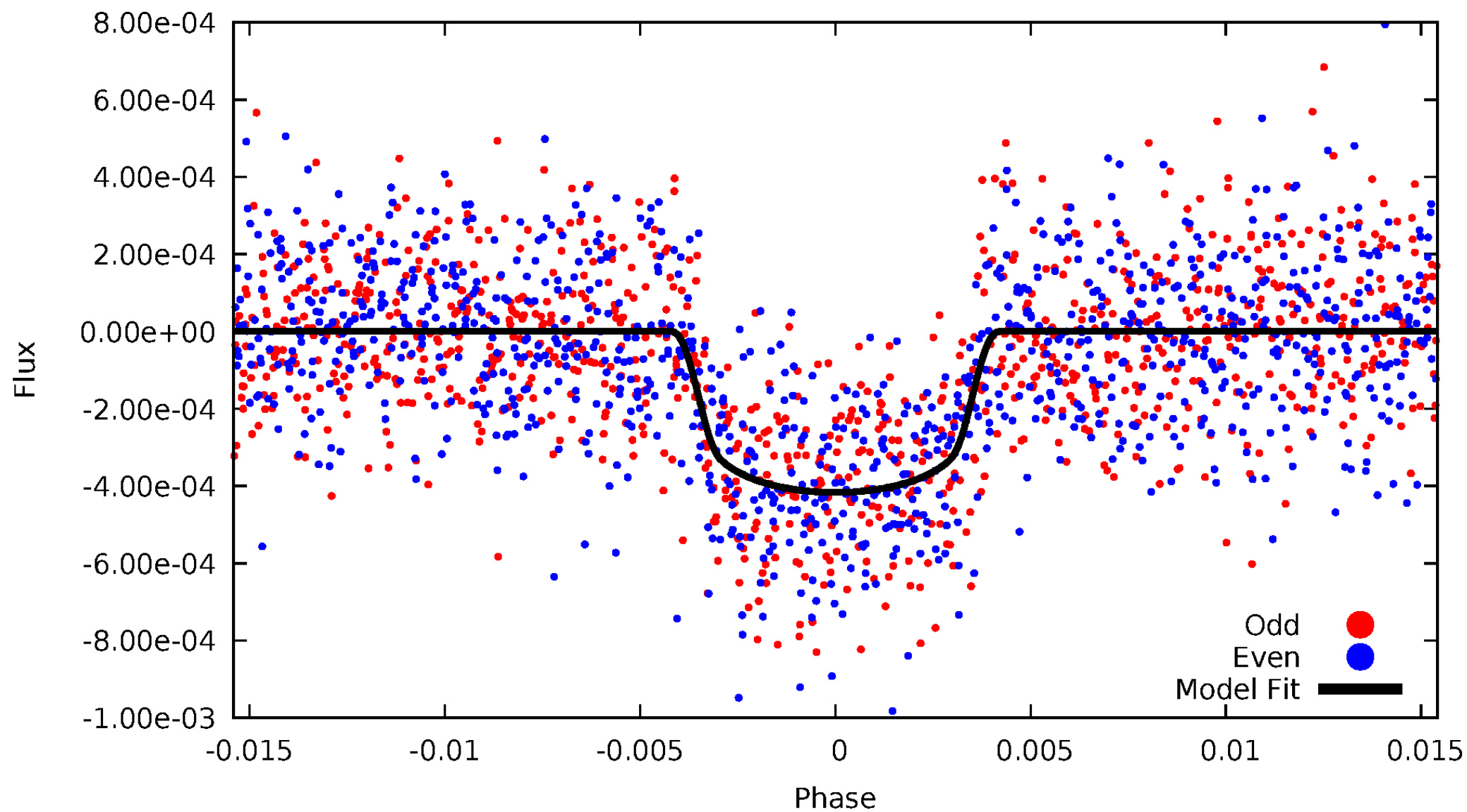


TCE 002854914-01



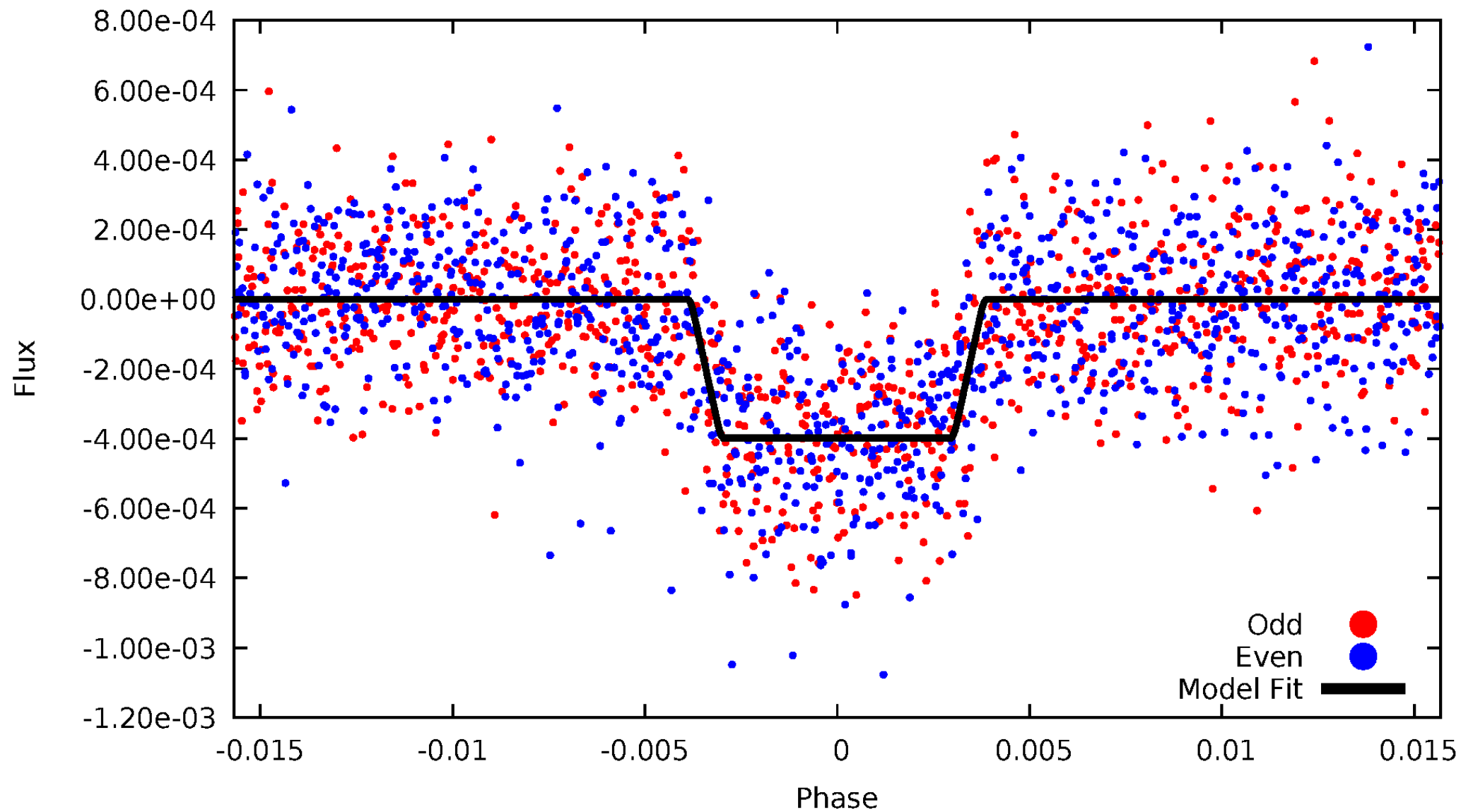
DV Odd/Even

TCE 002854914-01



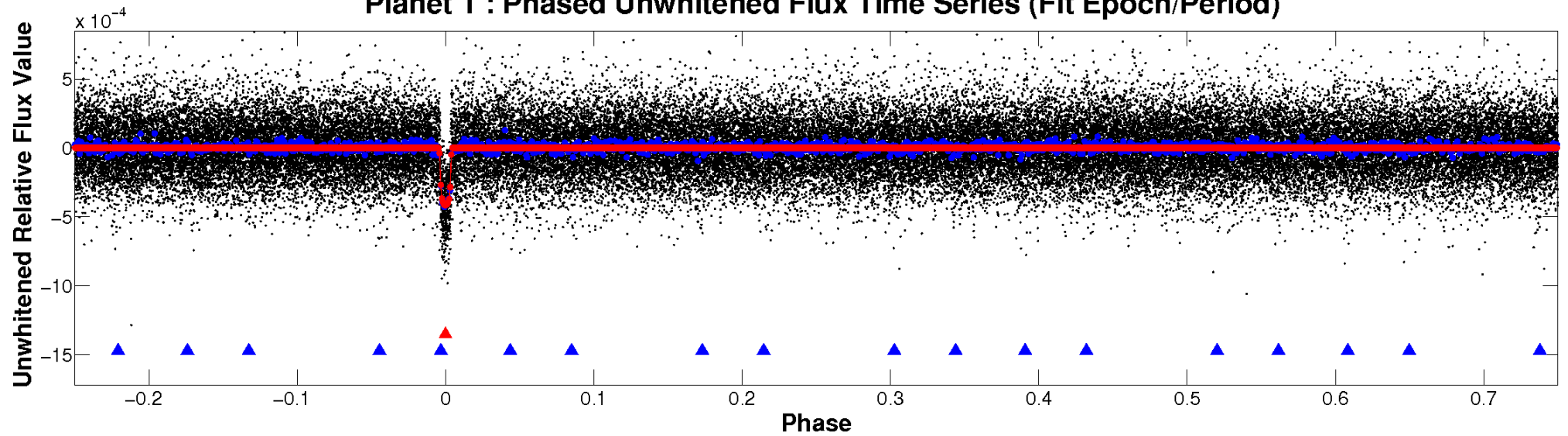
ALT Odd/Even

TCE 002854914-01

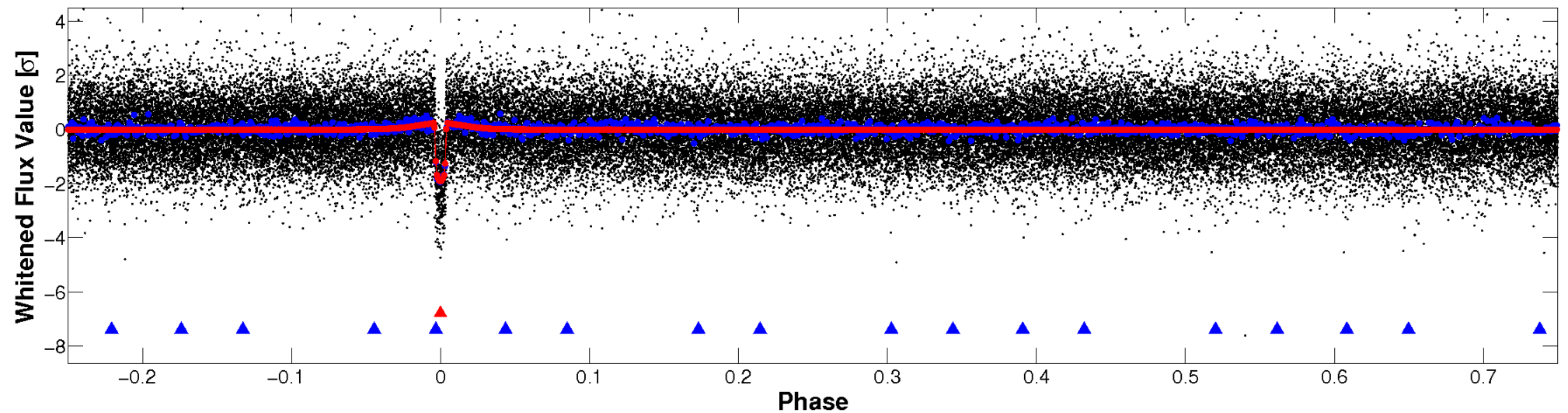


Non-Whitened Vs. Whitened Light Curve

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

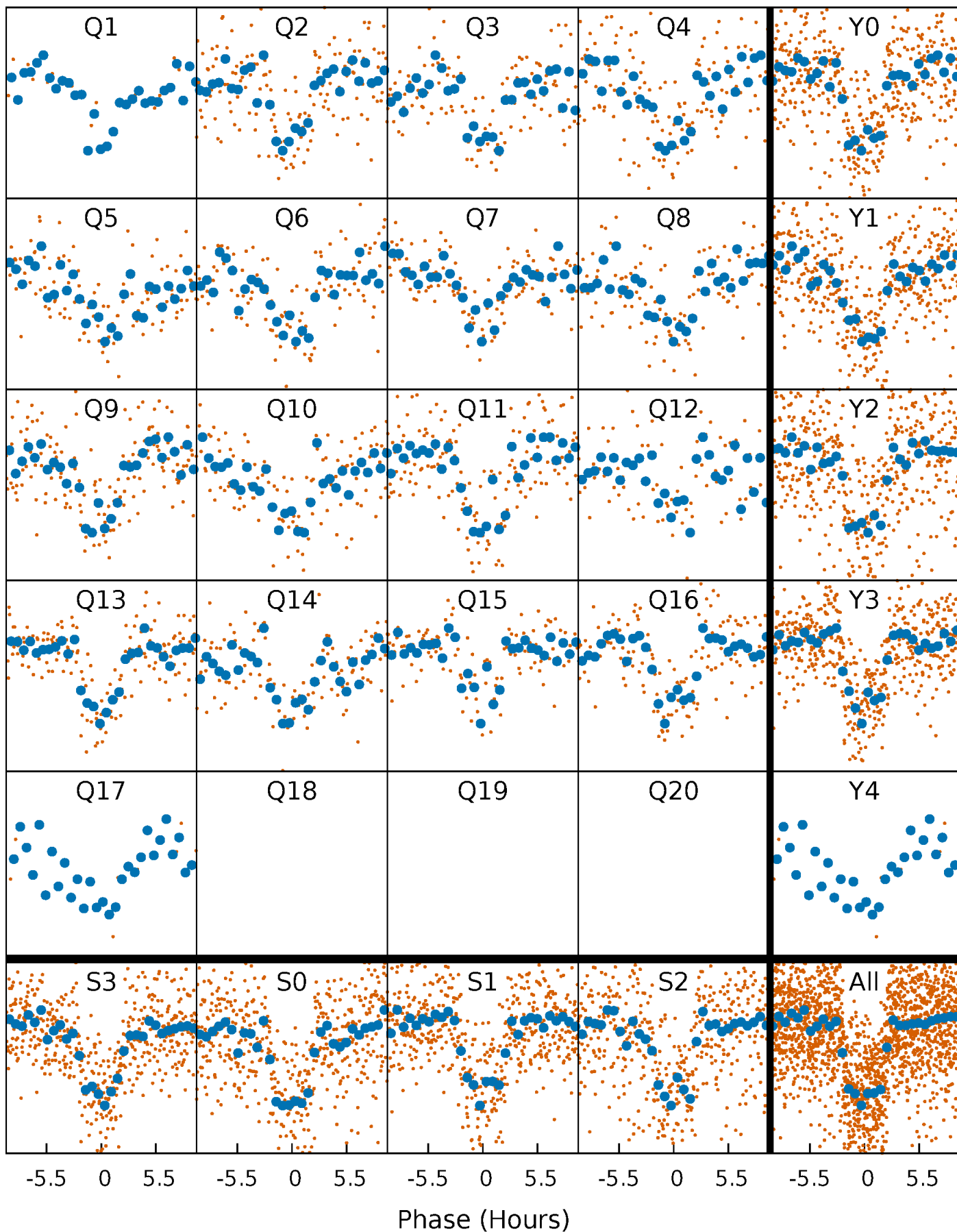


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



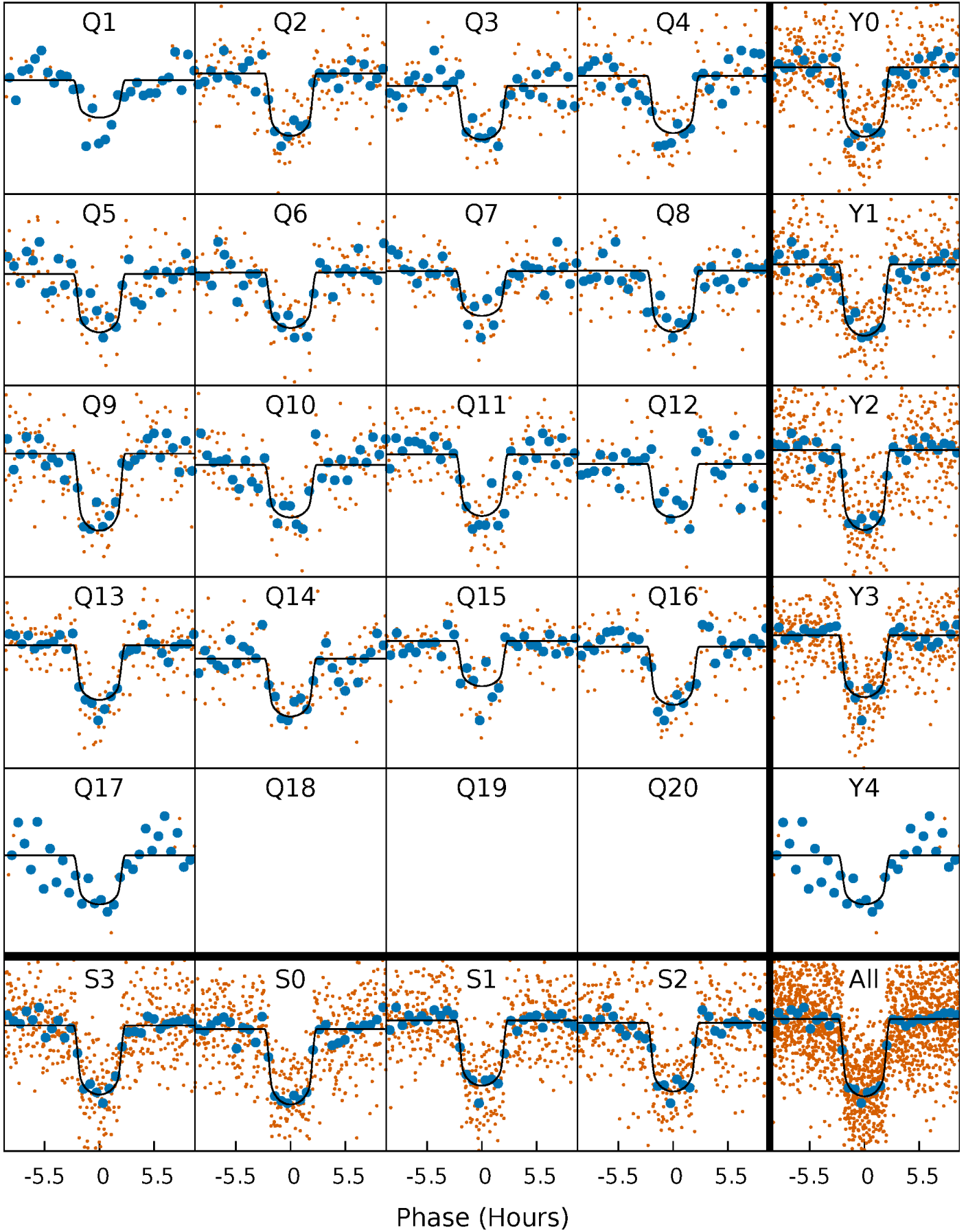
PDC Quarter-Phased Transit Curves

TCE 002854914-01 P= 25.934099 Days $T_0=149.761188$ (BKJD)



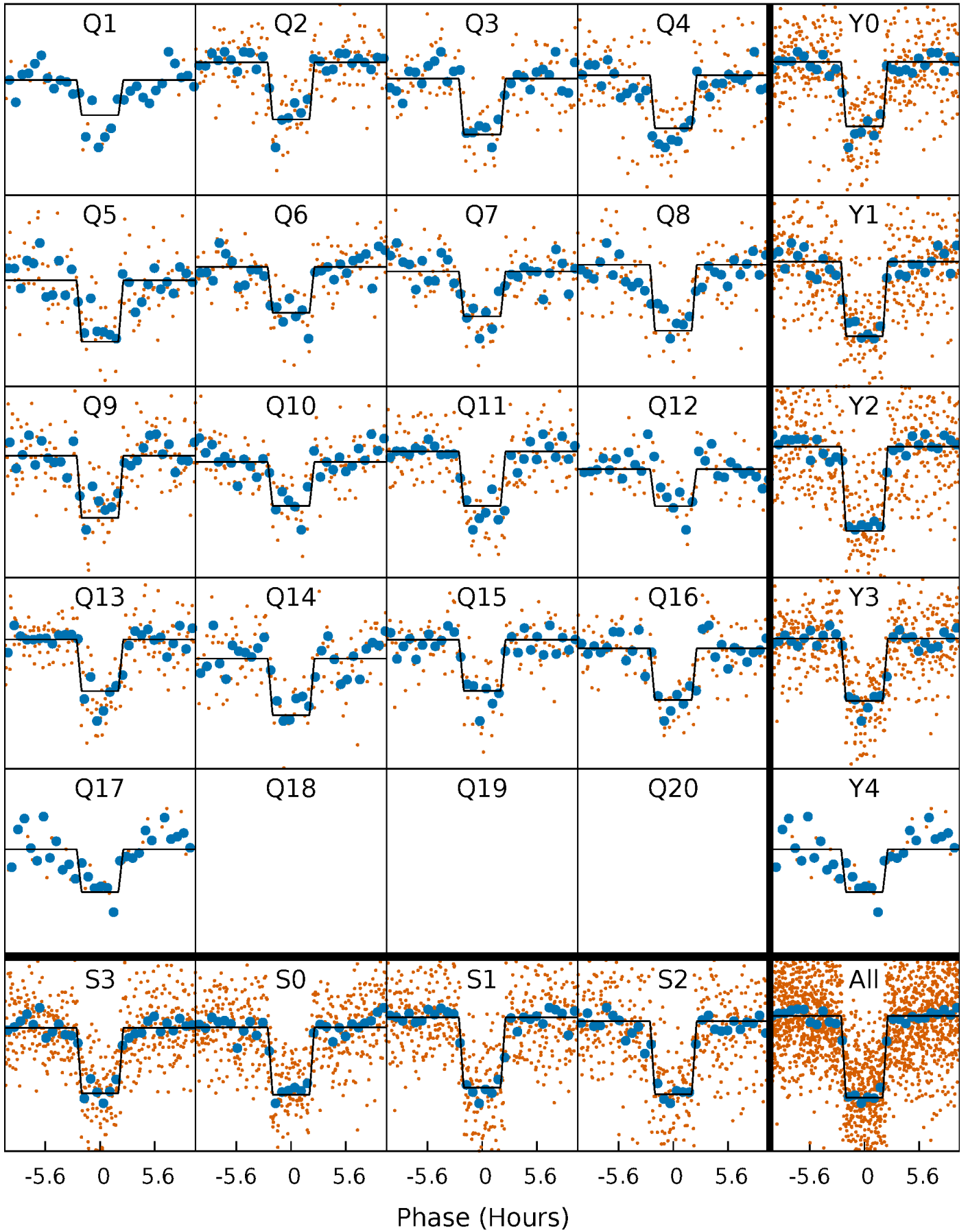
DV Quarter-Phased Transit Curves

TCE 002854914-01 P= 25.934099 Days $T_0=149.761188$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

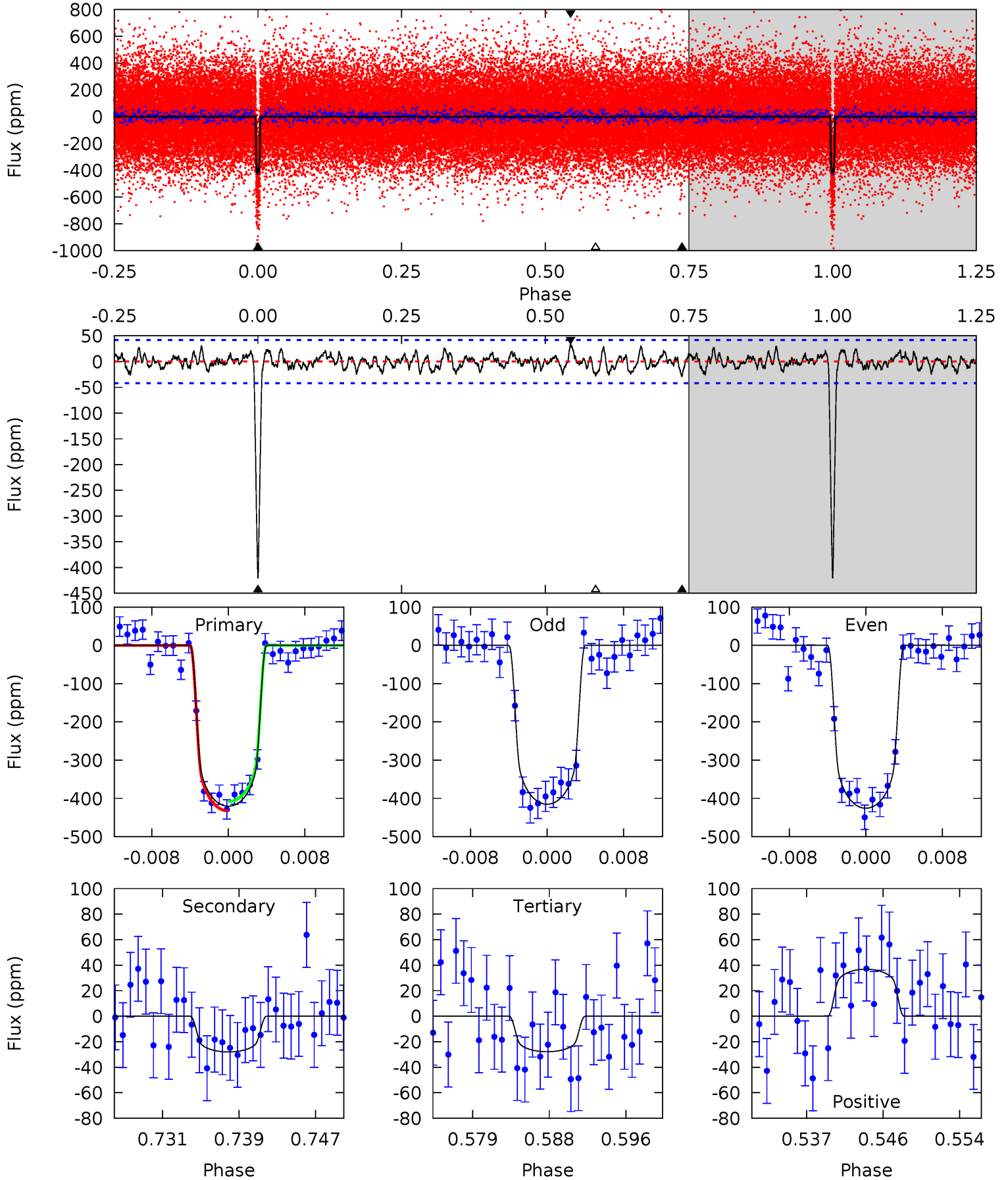
TCE 002854914-01 P= 25.933717 Days $T_0=149.771807$ (BKJD)



DV Model-Shift Uniqueness Test

002854914-01, $P = 25.934099$ Days, $E = 123.827089$ Days

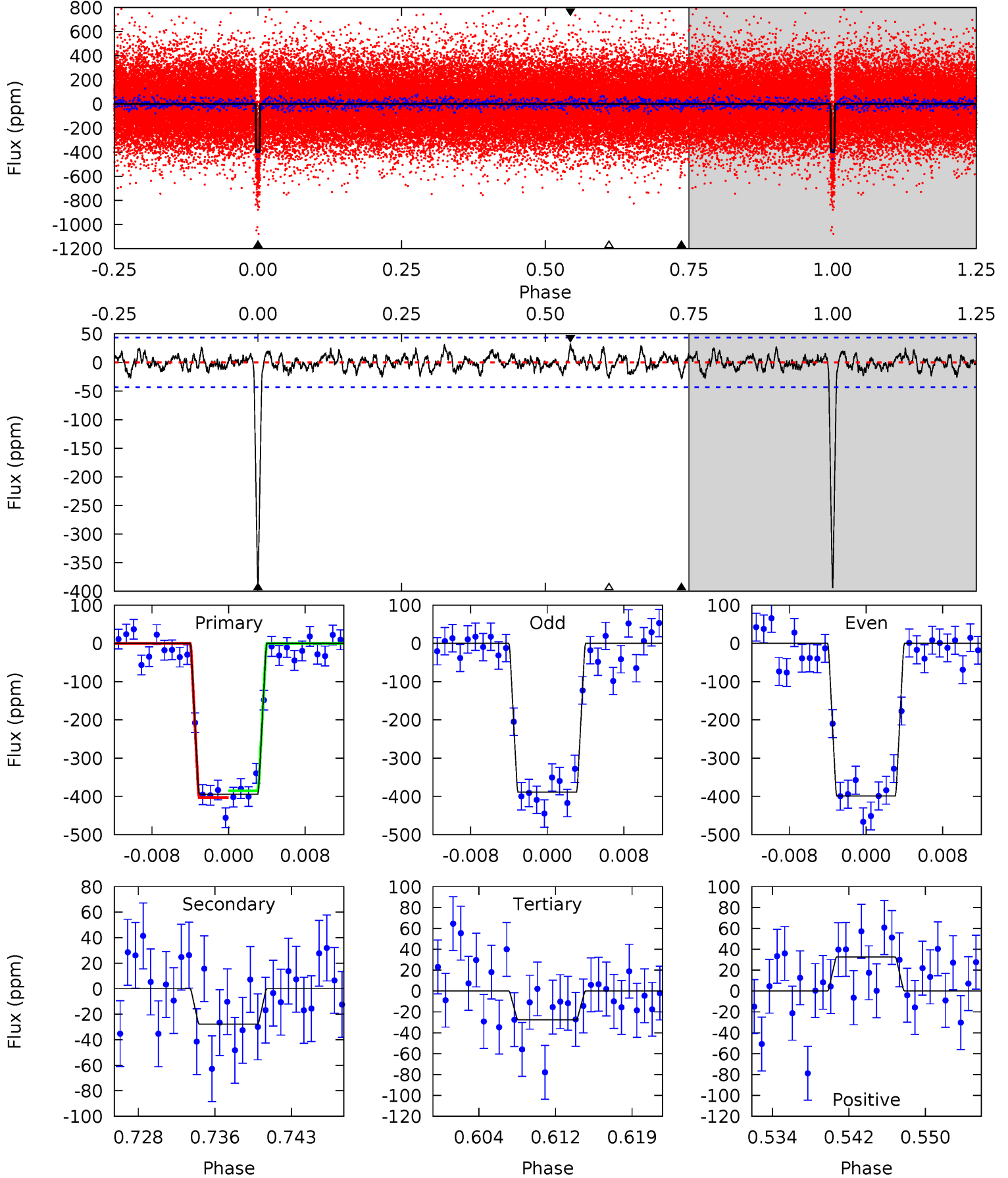
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.9	3.39	3.37	4.46	5.06	2.64	1.32	47.5	46.4	0.02	-1.07	0.63	1.01	0.08	1.50



Alt Model-Shift Uniqueness Test

002854914-01, $P = 25.933717$ Days, $E = 123.838090$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.9	3.23	3.20	3.81	5.08	2.66	1.18	42.7	42.1	0.03	-0.58	0.57	1.02	0.08	1.05



Stellar Parameters For KIC 002854914

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5952^{+119}_{-119}	$4.287^{+0.120}_{-0.120}$	$0.060^{+0.150}_{-0.150}$	$1.225^{+0.207}_{-0.170}$	$1.059^{+0.093}_{-0.070}$	$0.811^{+0.476}_{-0.277}$
	+2%/-2%	+3%/-3%	+250%/-250%	+17%/-14%	+9%/-7%	+59%/-34%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 002854914-01 / KOI 1113.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-28 ± 8	$2.86^{+0.42}_{-0.35}$	973^{+46}_{-45}	3455^{+200}_{-206}	57^{+26}_{-18}
Alt.	-28 ± 9	$2.70^{+0.38}_{-0.39}$	972^{+48}_{-43}	3519^{+230}_{-210}	64^{+32}_{-23}

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

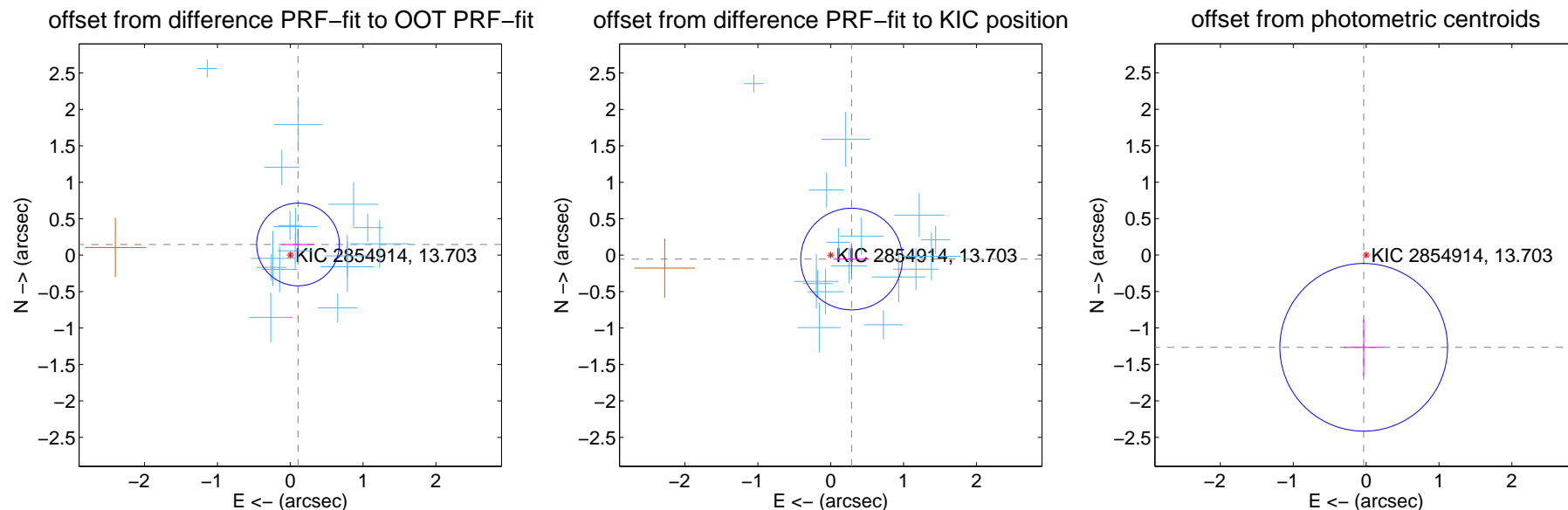
DV Centroid Data

Supplemental centroid analysis for 002854914-01. Kepler magnitude: 13.70. Transit SNR 35.67

There are 16 quarters with good PRF difference image offsets

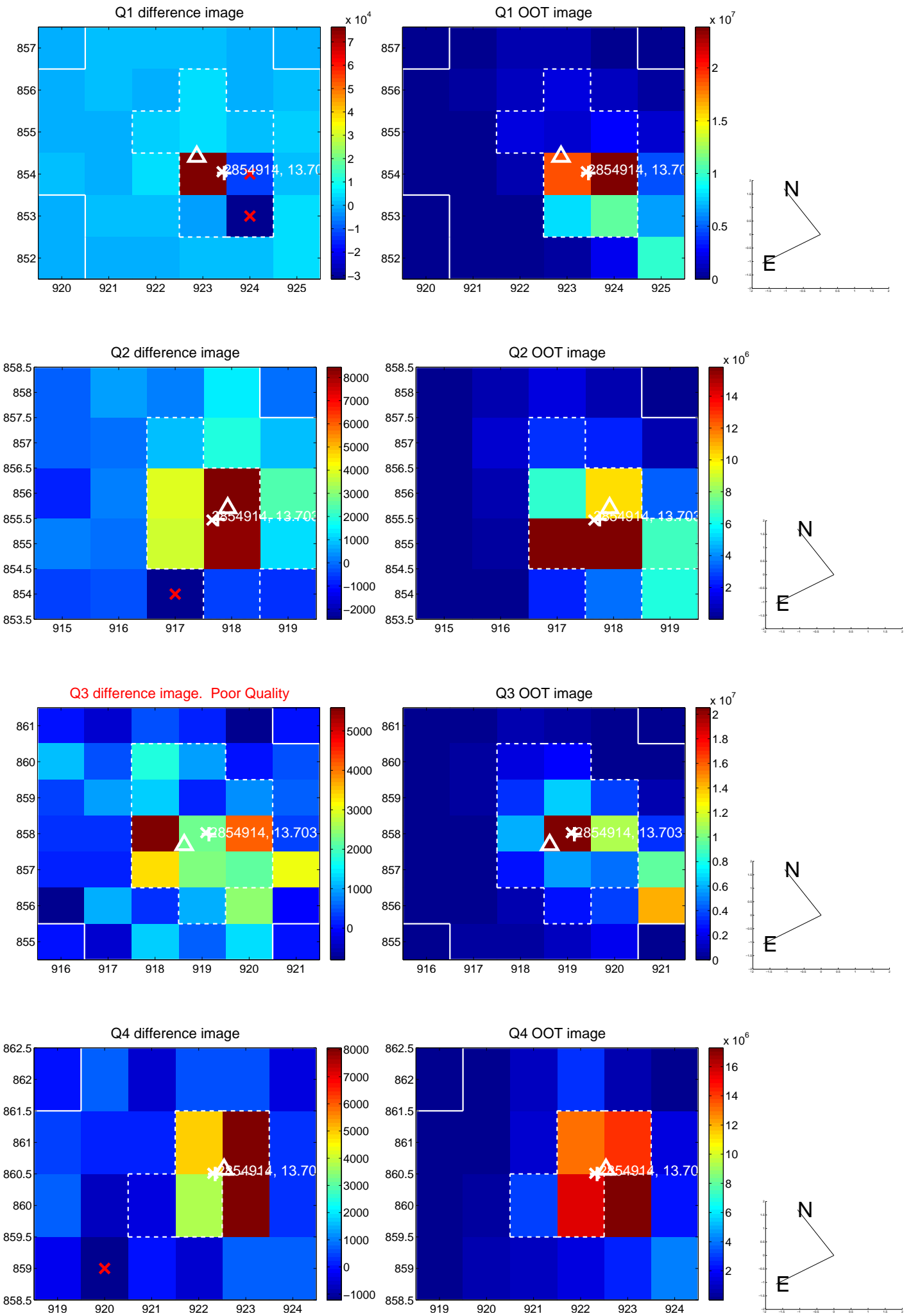
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.181 ± 0.189	0.96	-0.106 ± 0.224	0.146 ± 0.201
PRF-fit source offset from KIC position	0.291 ± 0.232	1.25	-0.286 ± 0.229	-0.054 ± 0.192
photometric centroid source offset	1.27 ± 0.38	3.30	0.03 ± 0.28	-1.27 ± 0.38

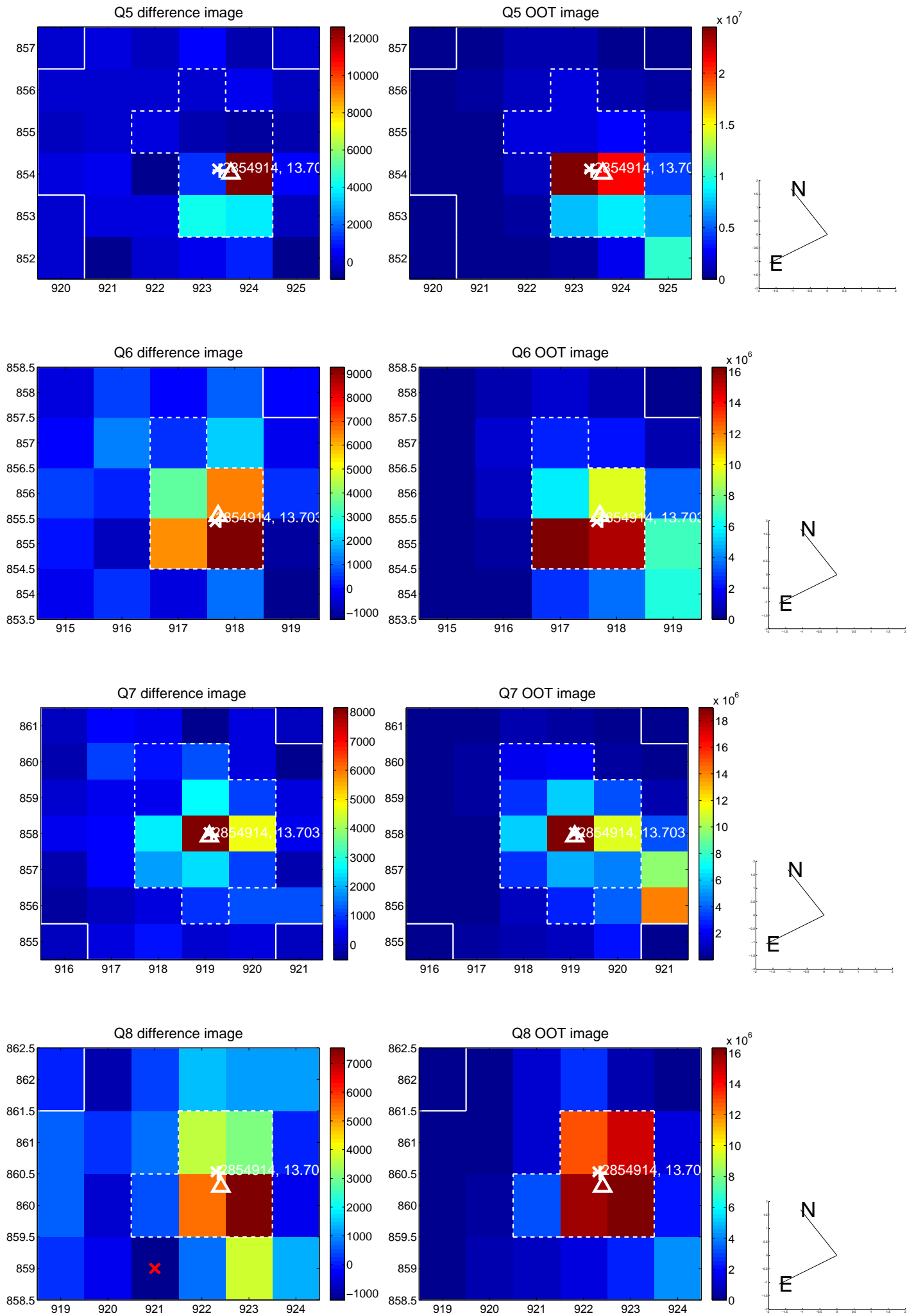


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

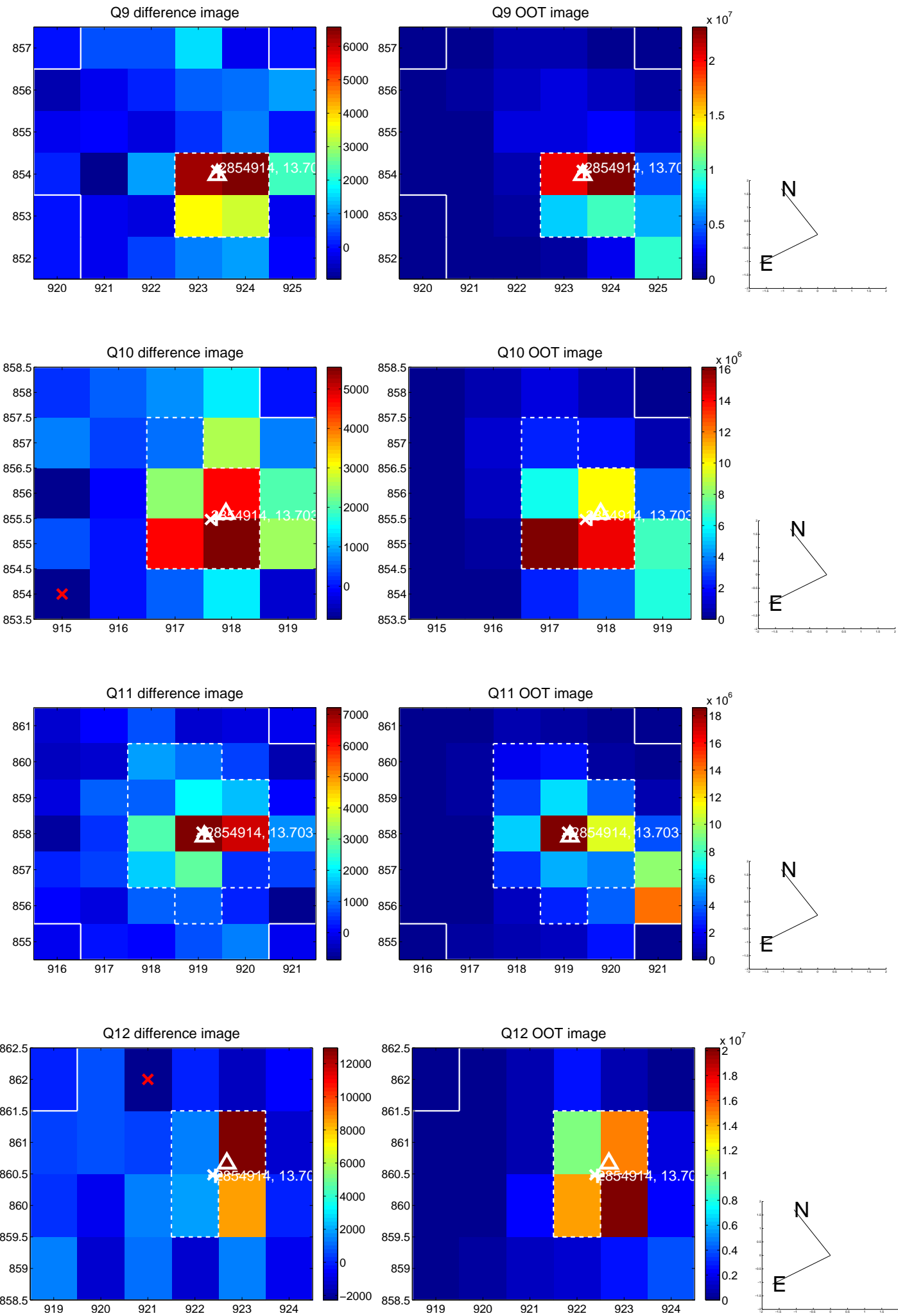
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



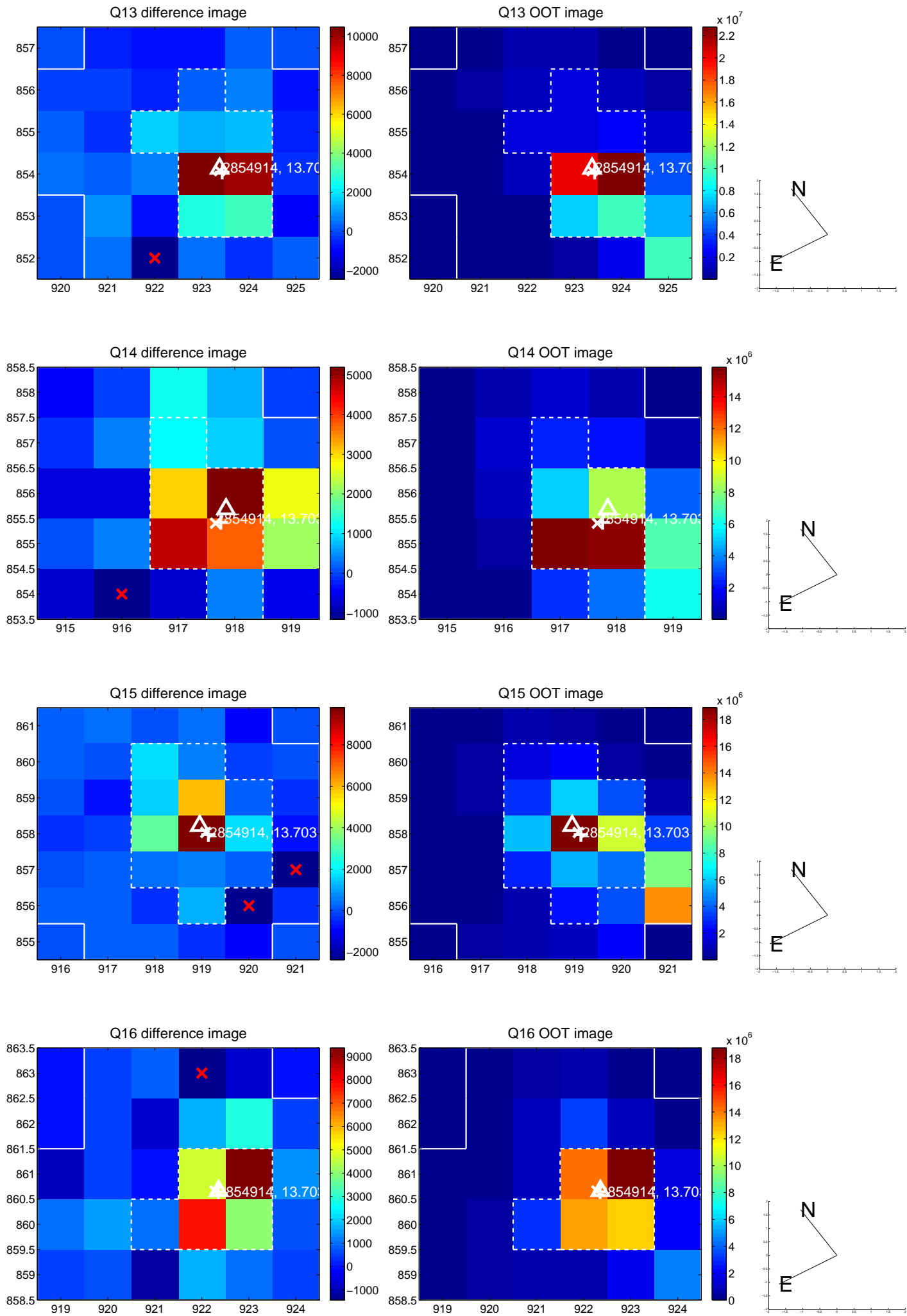
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



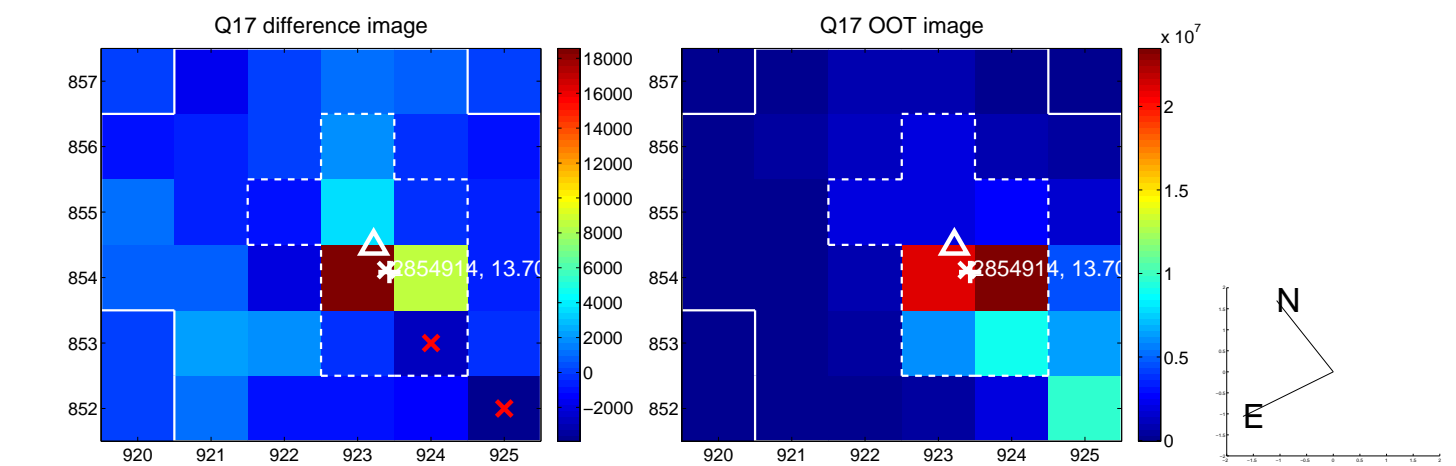
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



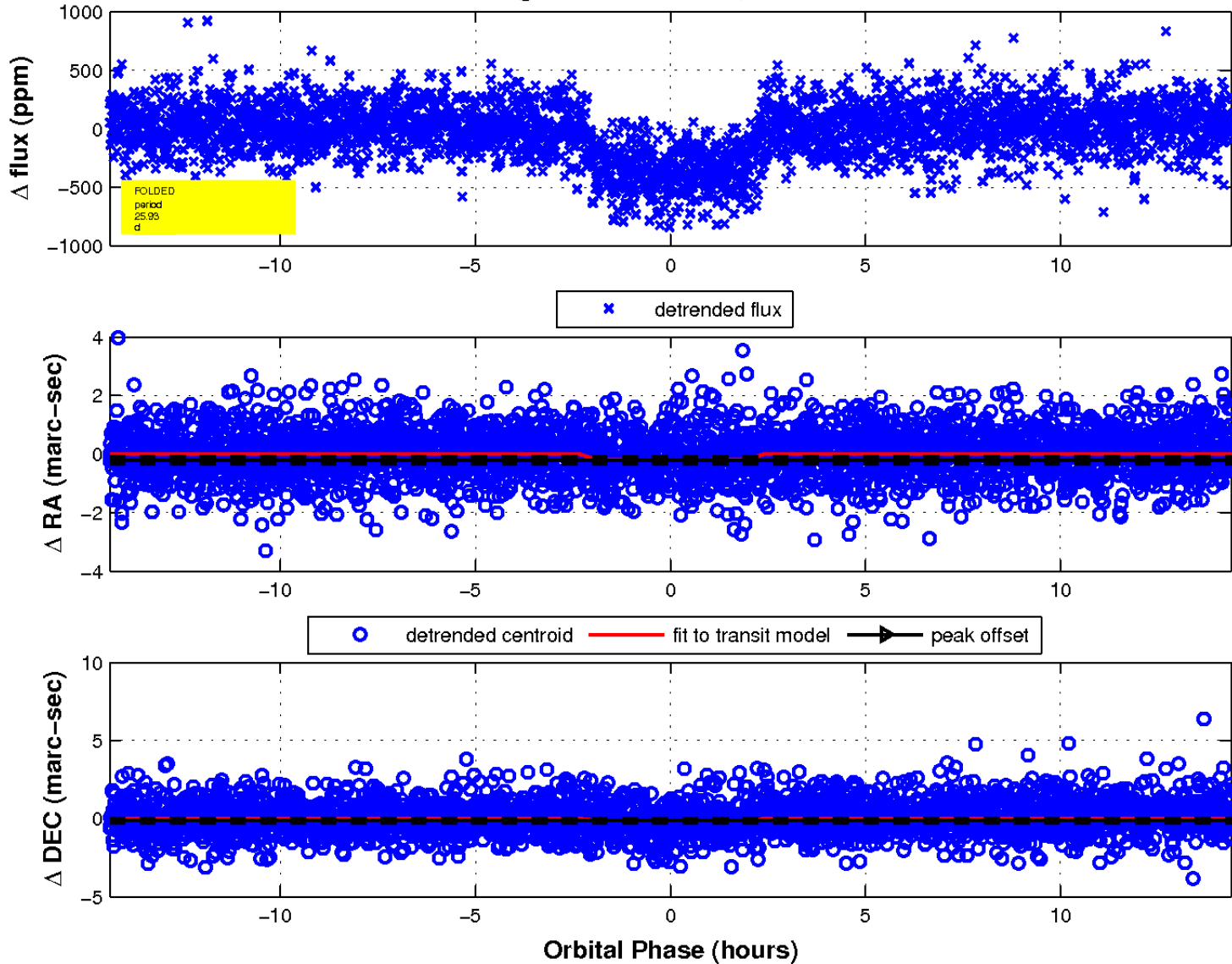
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

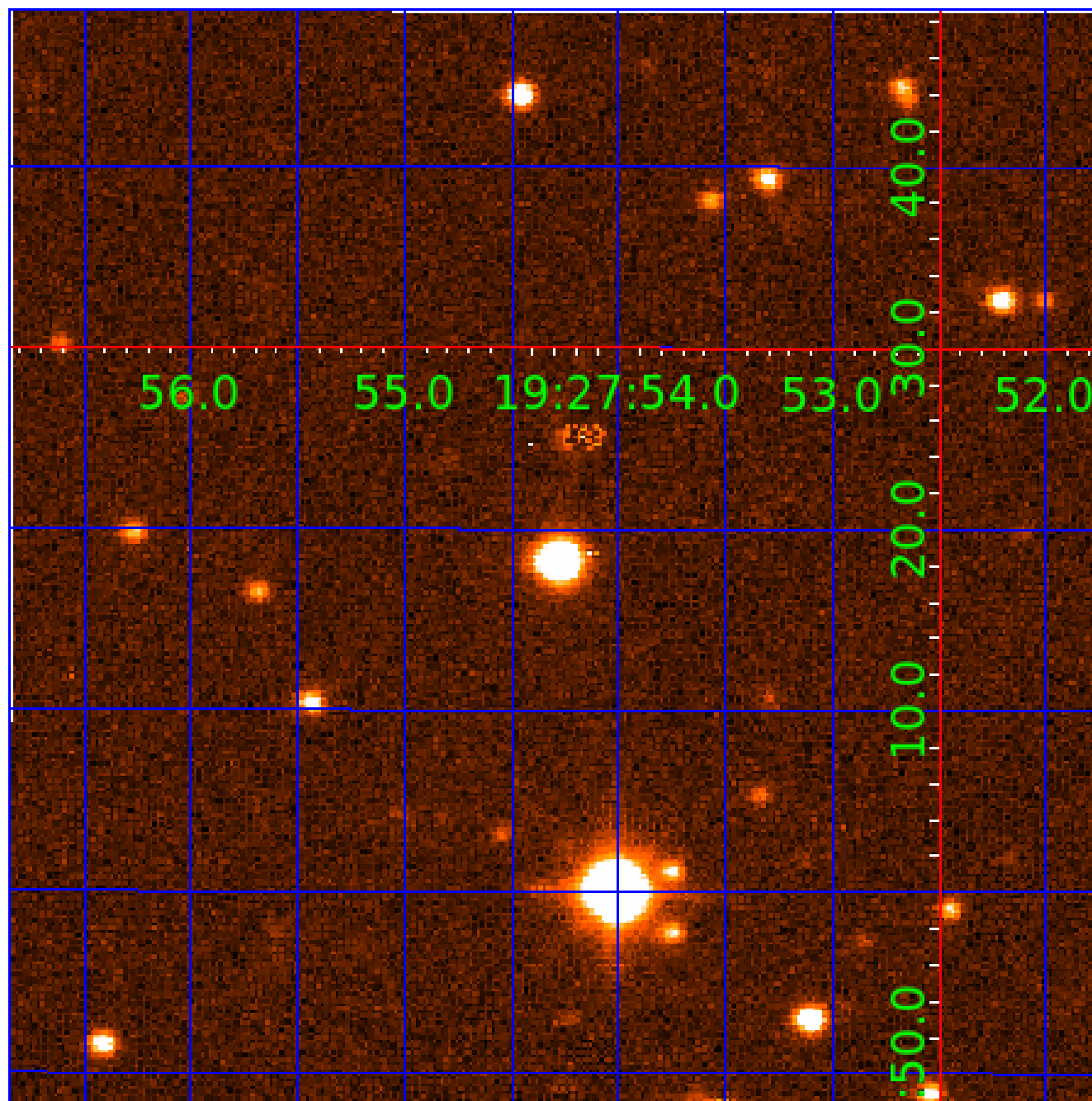


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 002854914

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})
002854914-01	OBS	1113.01	25.934099	149.761188	416.8	4.795	34.3	35.7	1.23	5952	2.85	55.18
002854914-02	OBS	1113.02	83.446256	158.682813	487.9	7.076	27.4	28.8	1.23	5952	3.19	11.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002854914-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
002854914-02	OBS	PC	0.91	0	0	0	0	NO_COMMENT

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

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

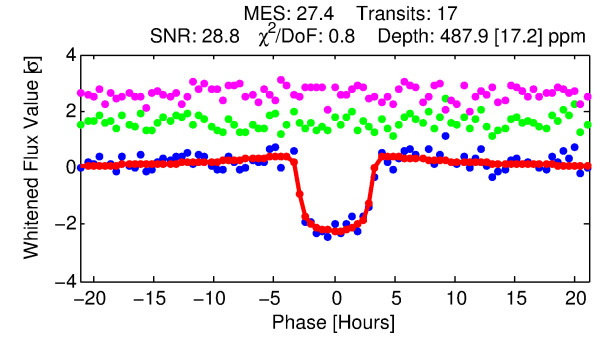
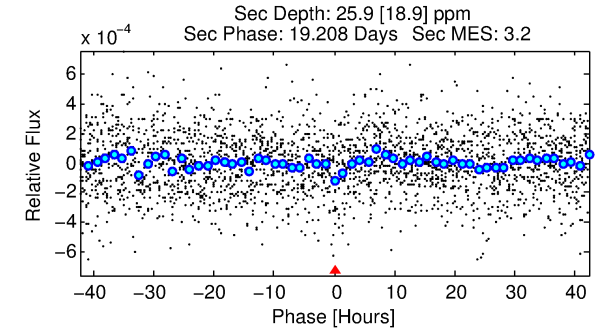
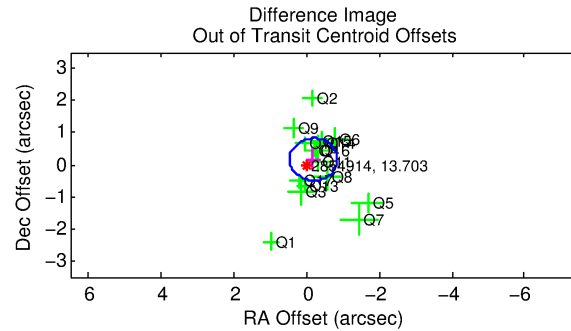
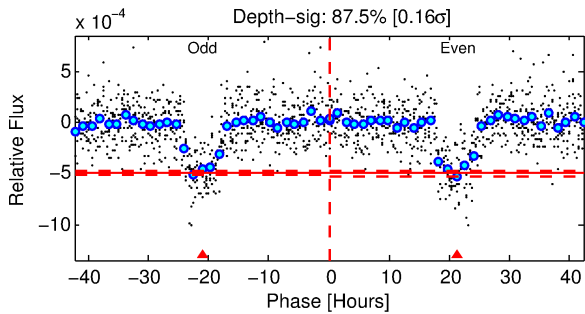
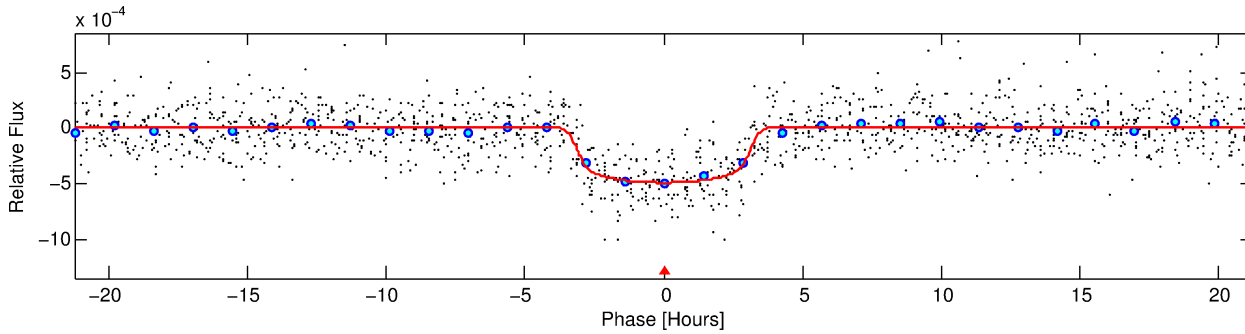
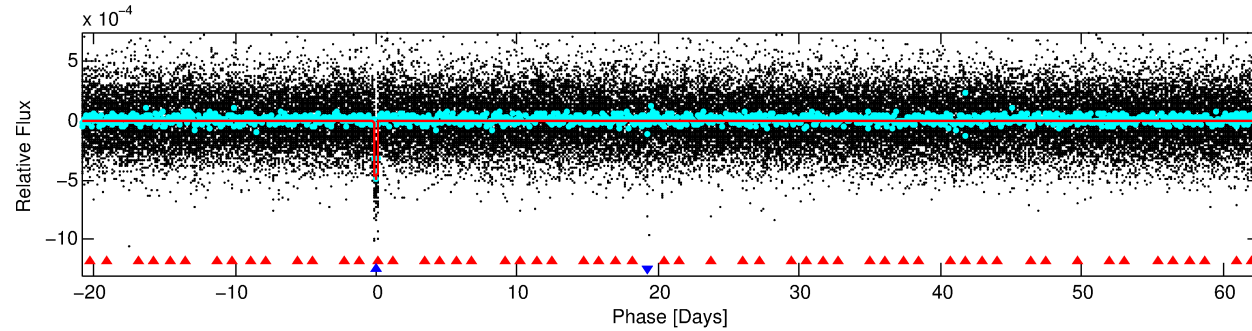
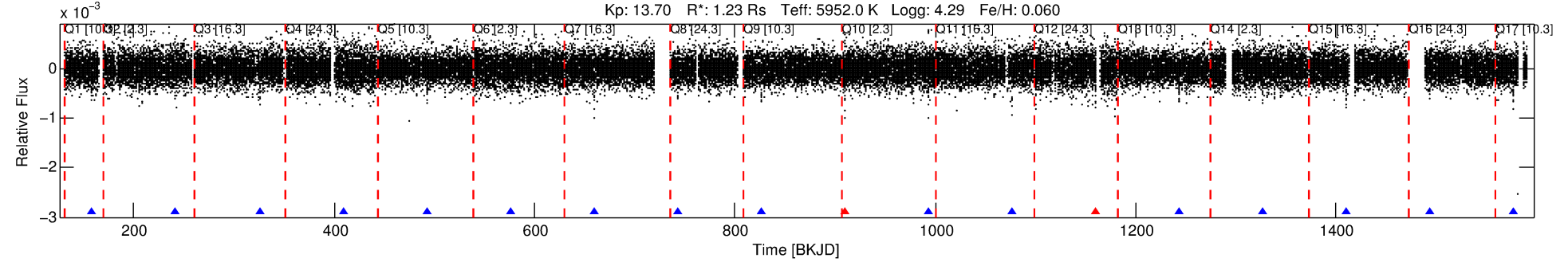
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002854914-02

No Significant Match Found

DV One-Page Summary

KIC: 2854914 Candidate: 2 of 2 Period: 83.446 d
KOI: K01113.02 Name: Kepler-268c Corr: 0.960



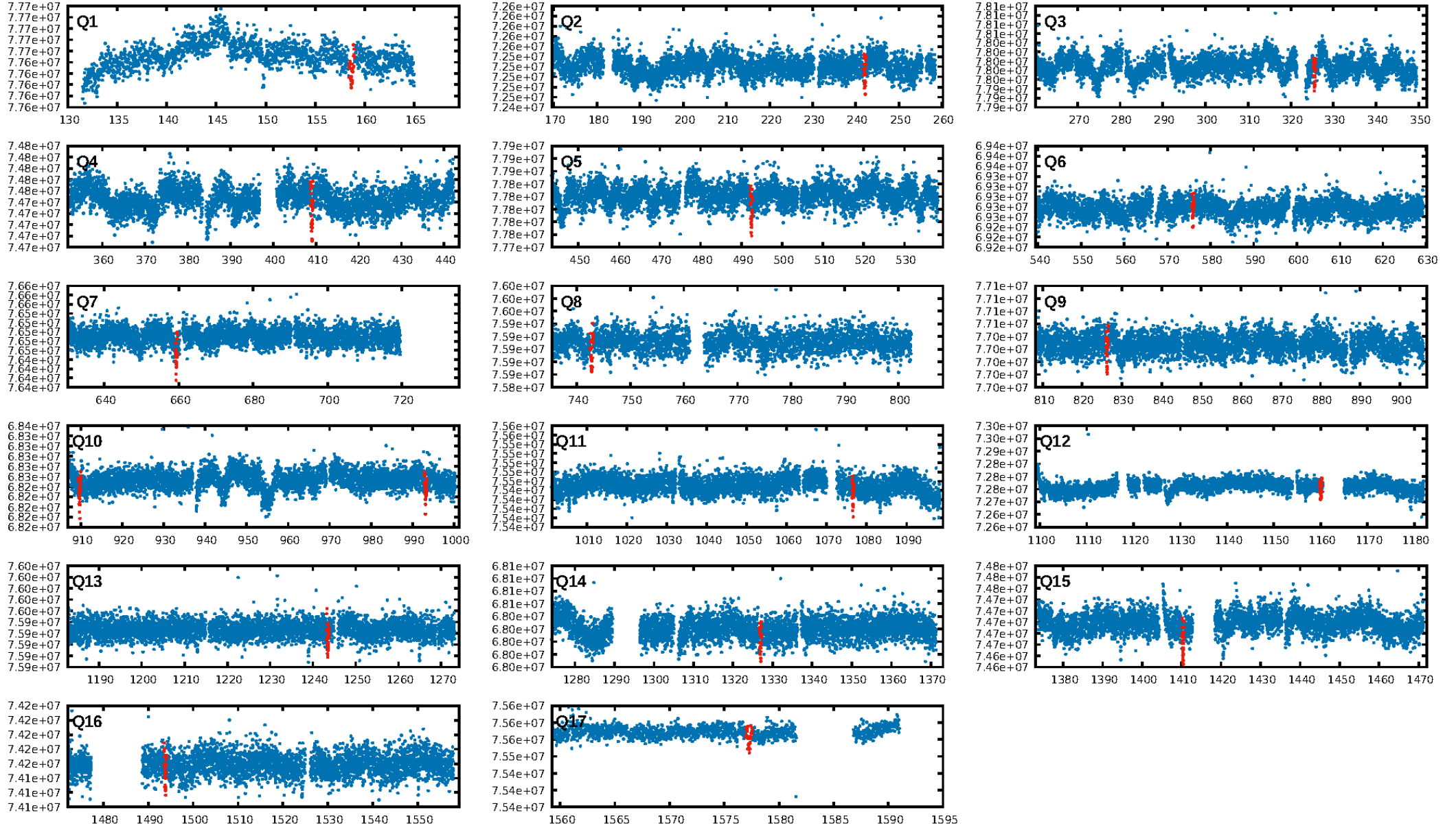
DV Fit Results:

Period = 83.44626 [0.00044] d
Epoch = 158.6828 [0.0045] BKJD
Rp/R* = 0.0239 [0.0013]
a/R* = 44.73 [10.85]
b = 0.90 [0.05]
Seff = 11.62 [2.67]
Teq = 471 [27] K
Rp = 3.19 [0.57] Re
a = 0.3811 [0.0555] AU
Ag = 203.39 [156.40] [1.29 σ]
Teffp = 2749 [510] K [4.46 σ]

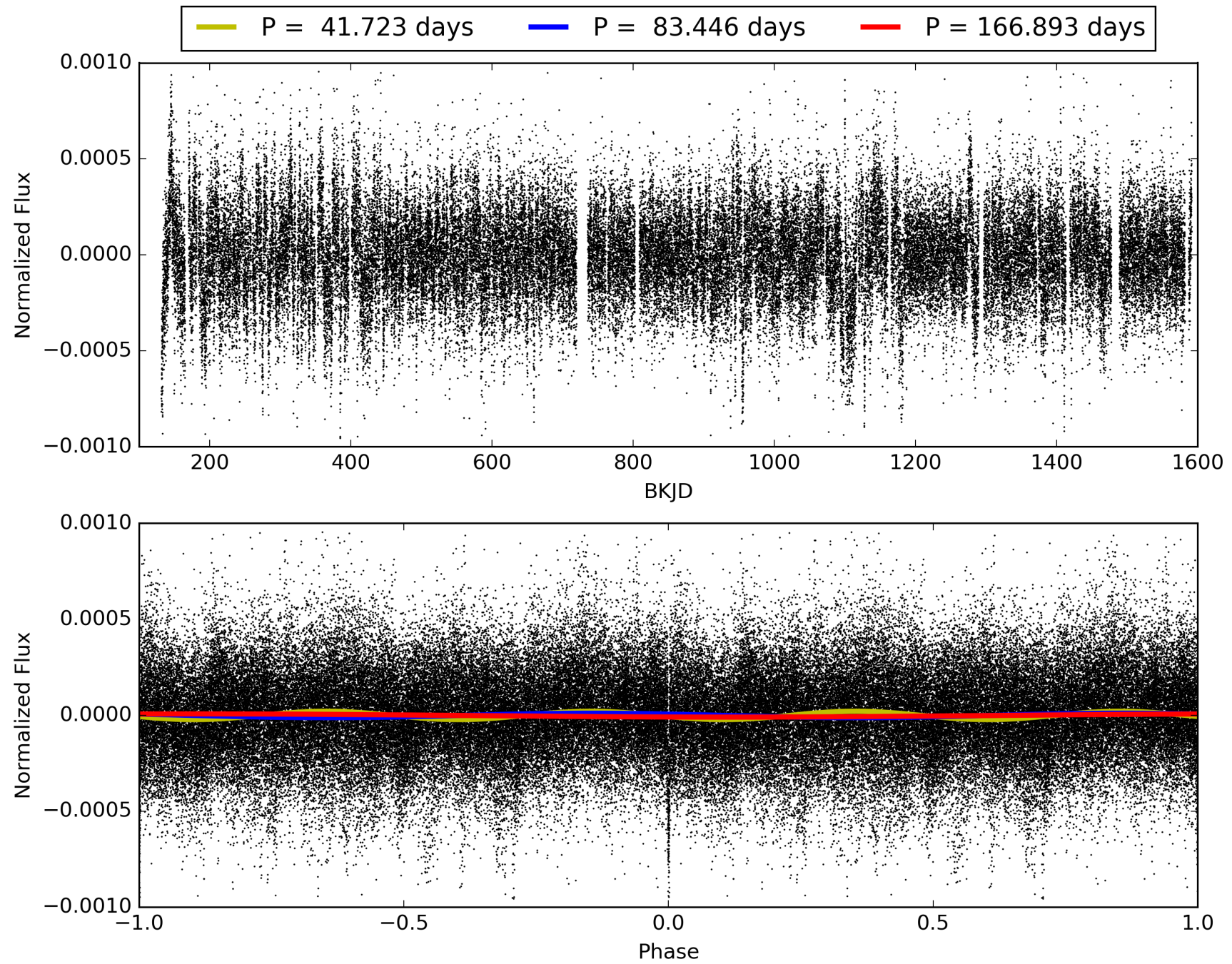
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [161.49 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.31e-148
RollingBand-fgt: 0.87 [13/15]
GhostDiagnostic-chr: 3.643
Centroid-sig: 0.0%
Centroid-so: 0.791 arcsec [1.68 σ]
OotOffset-rm: 0.249 arcsec [1.14 σ]
KicOffset-rm: 0.351 arcsec [2.08 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 0.94 [15/16]

TCE 002854914-02, PDC Light Curves

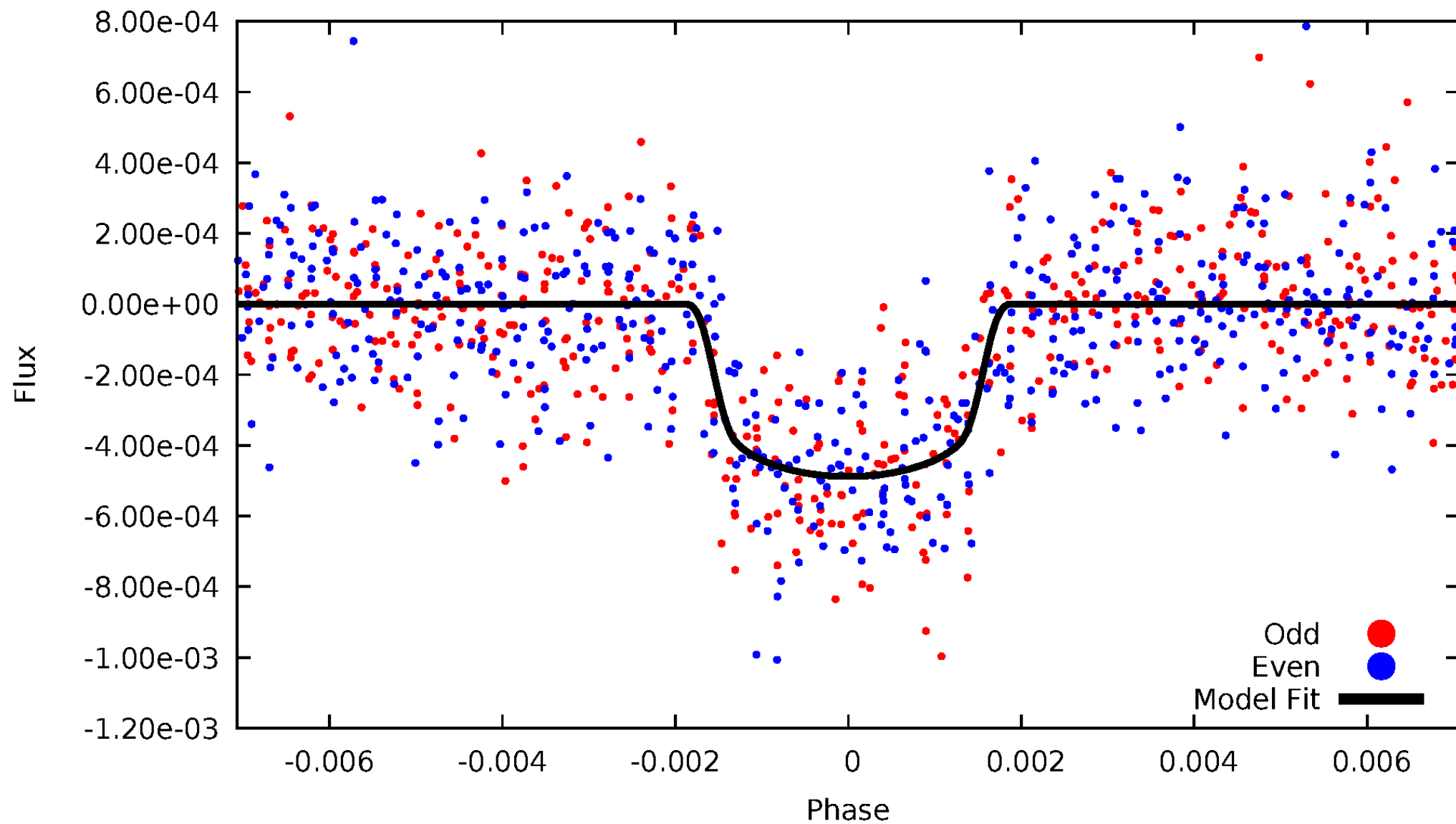


TCE 002854914-02



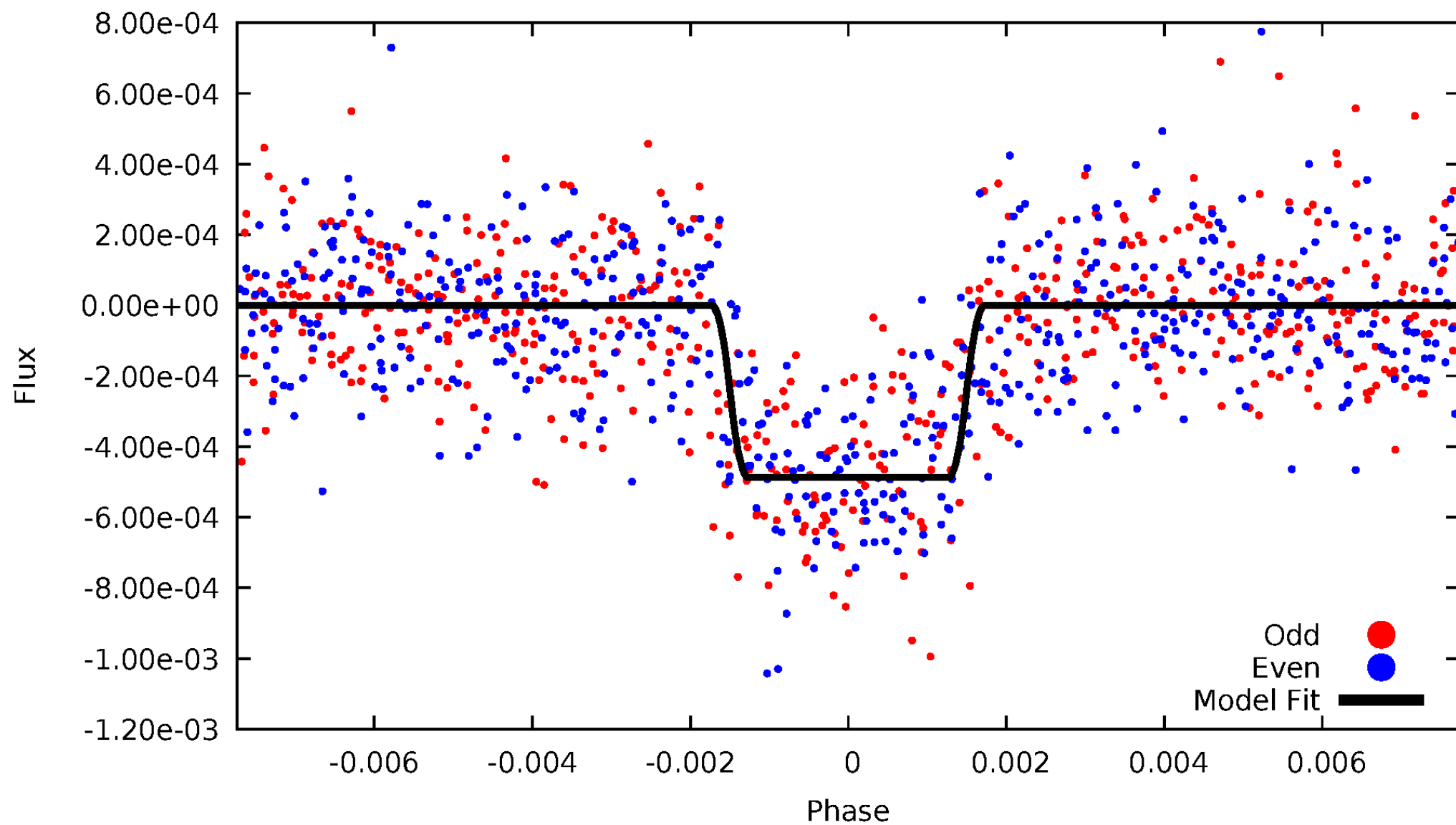
DV Odd/Even

TCE 002854914-02



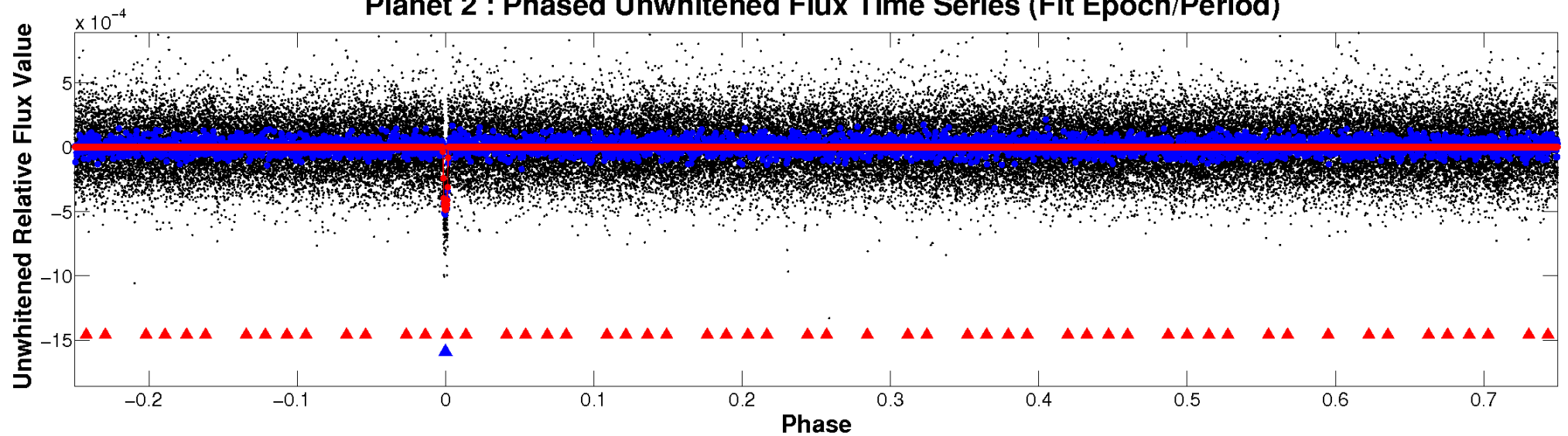
ALT Odd/Even

TCE 002854914-02

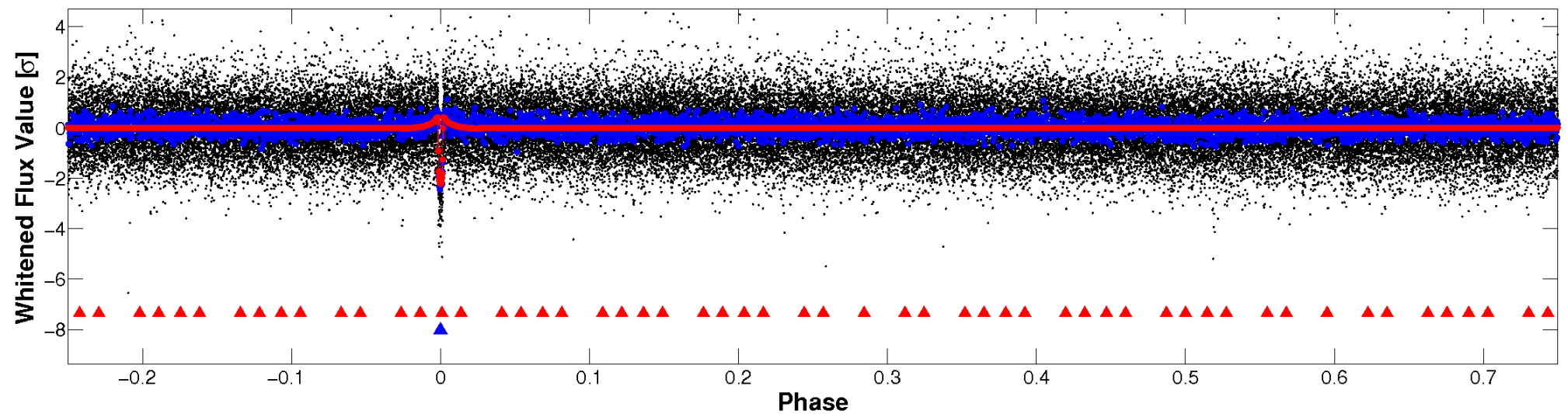


Non-Whitened Vs. Whitened Light Curve

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

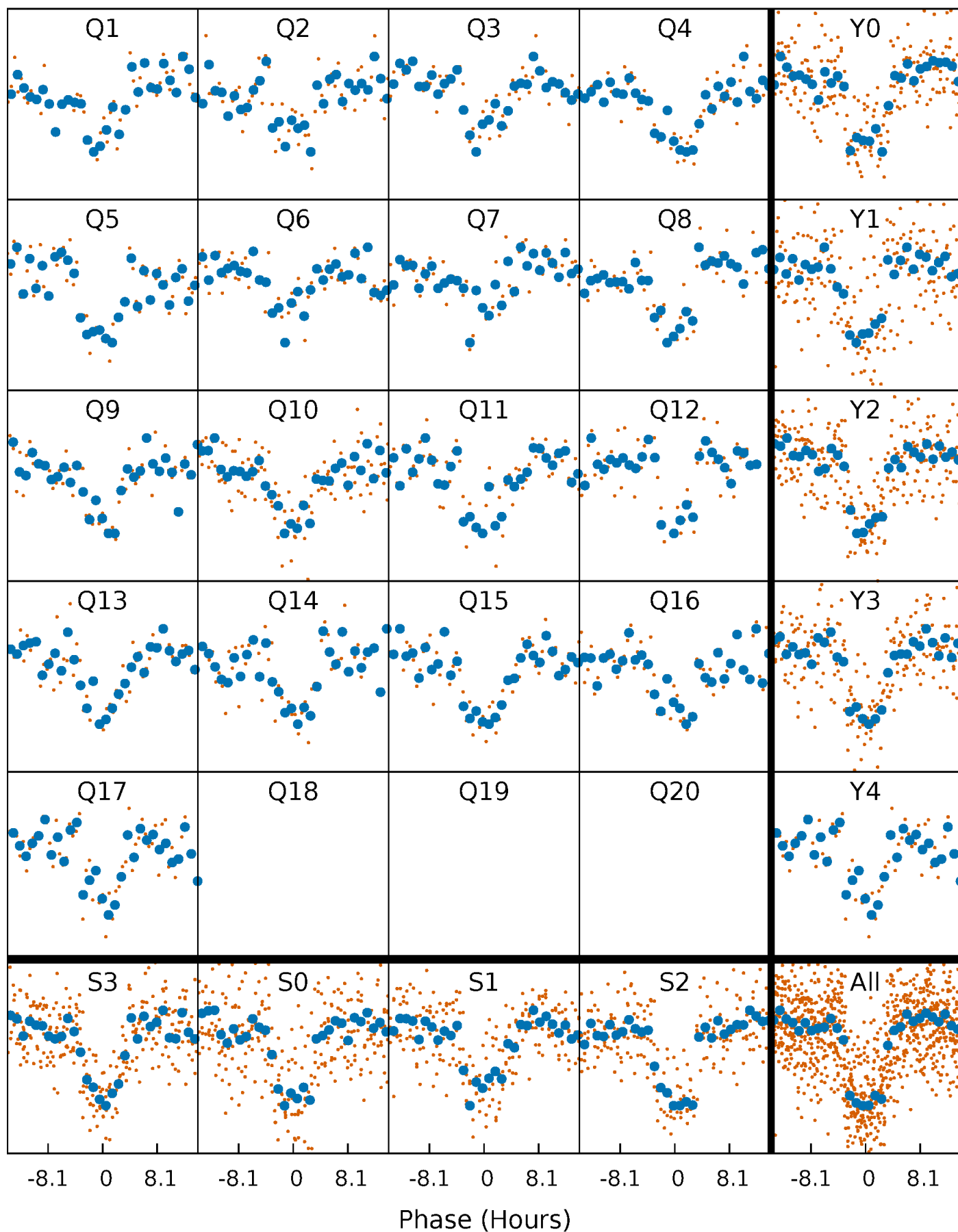


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



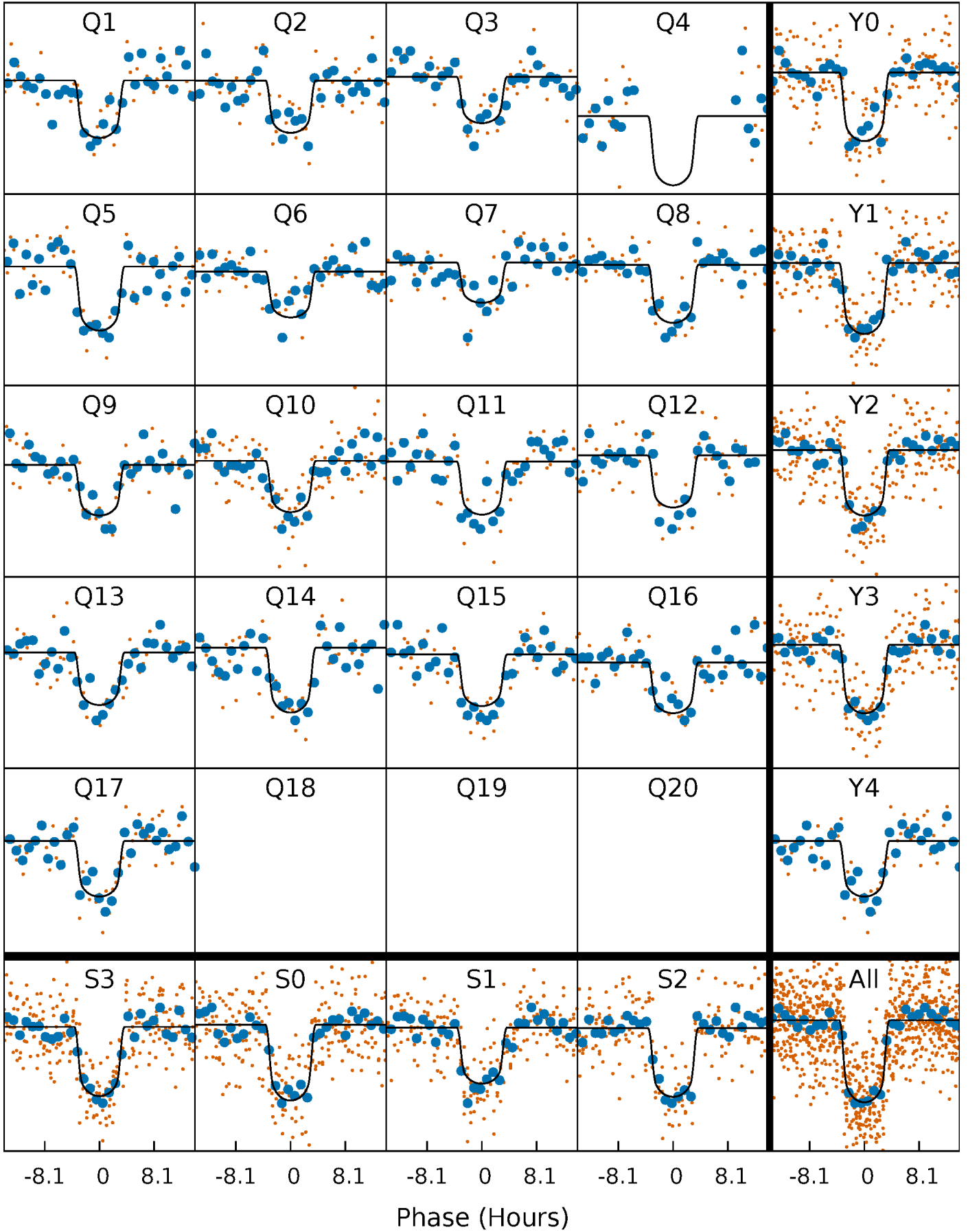
PDC Quarter-Phased Transit Curves

TCE 002854914-02 P= 83.446256 Days $T_0=158.682813$ (BKJD)



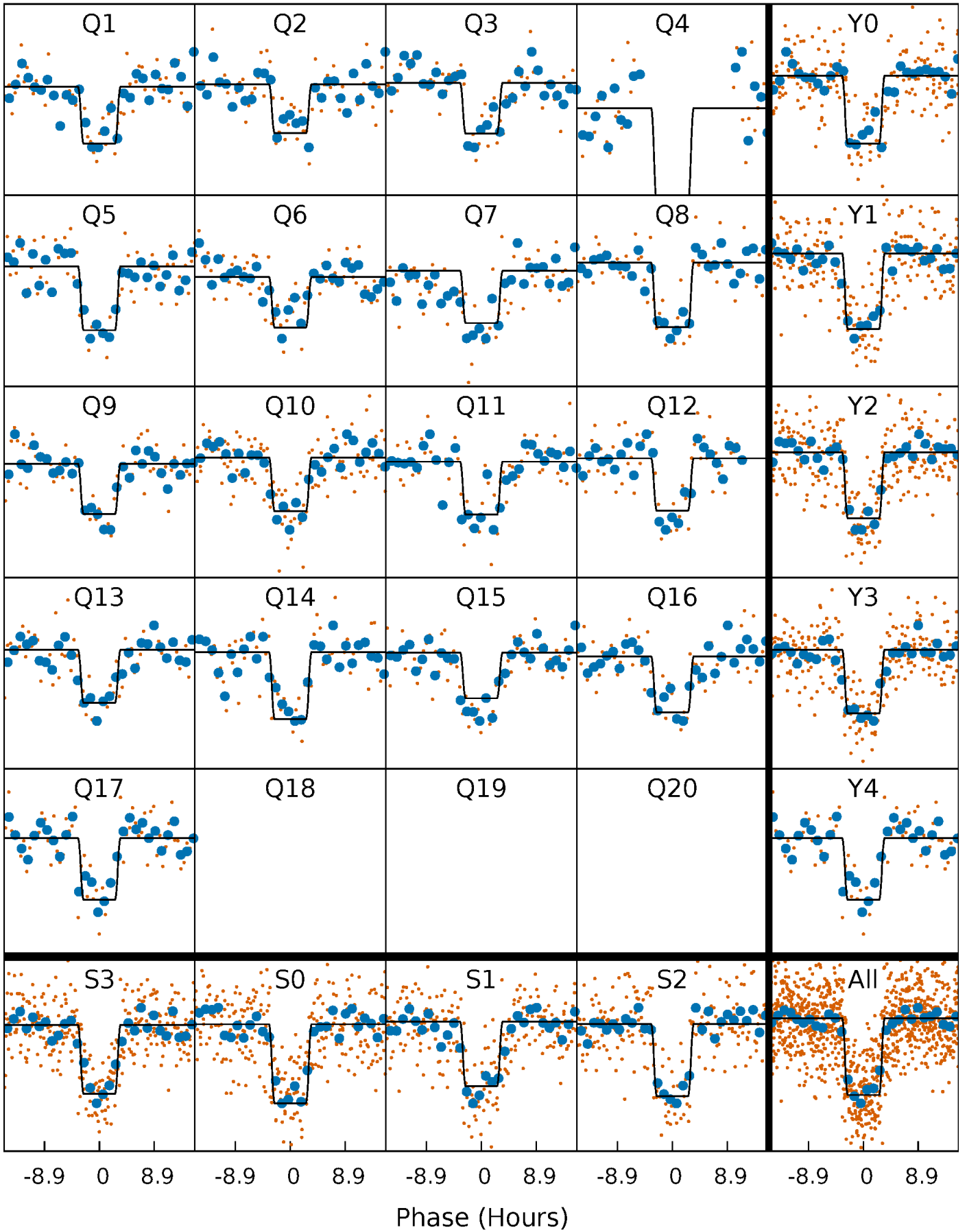
DV Quarter-Phased Transit Curves

TCE 002854914-02 P= 83.446256 Days $T_0=158.682813$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

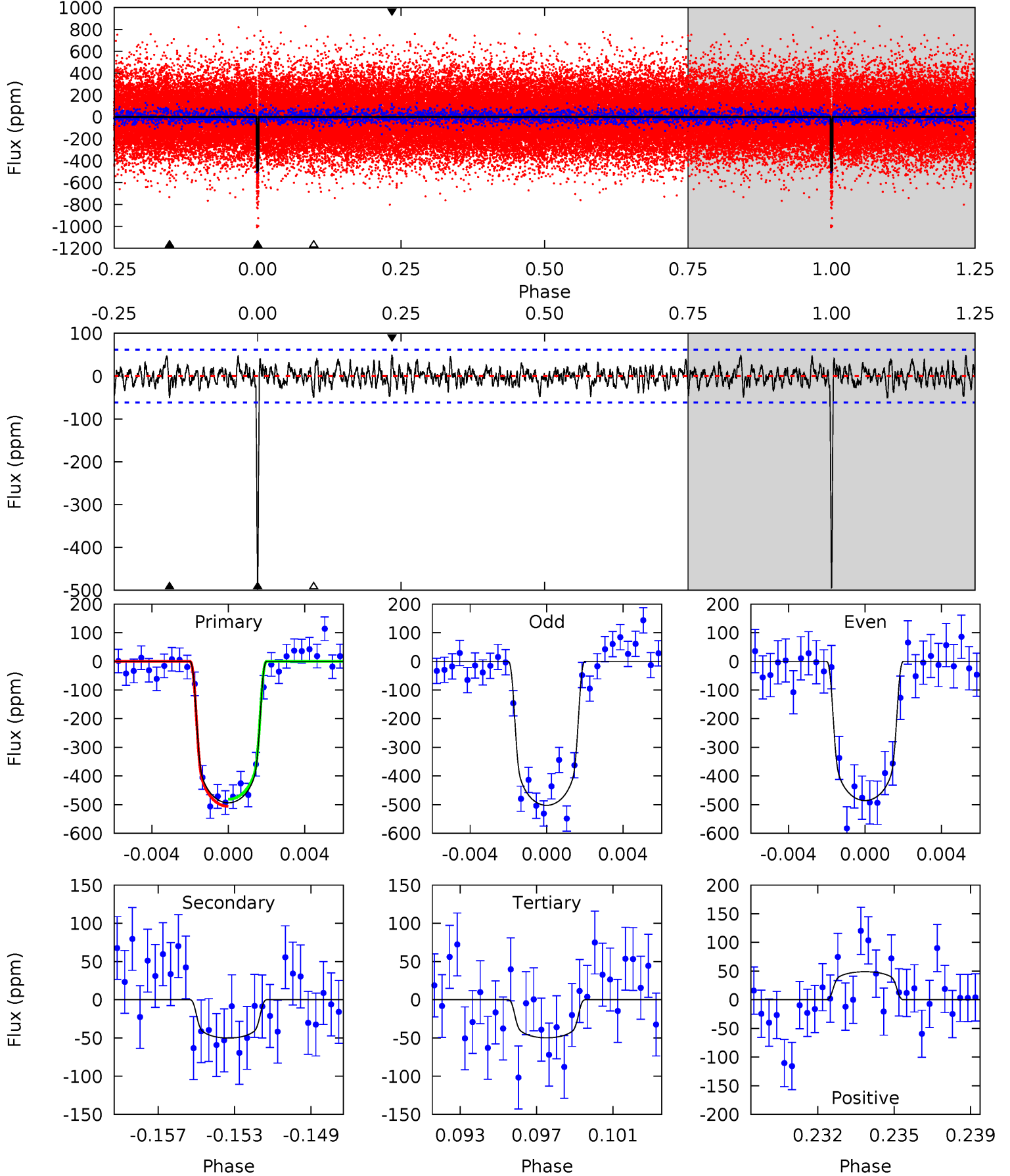
TCE 002854914-02 P= 83.448373 Days $T_0=158.667071$ (BKJD)



DV Model-Shift Uniqueness Test

002854914-02, P = 83.446256 Days, E = 75.236557 Days

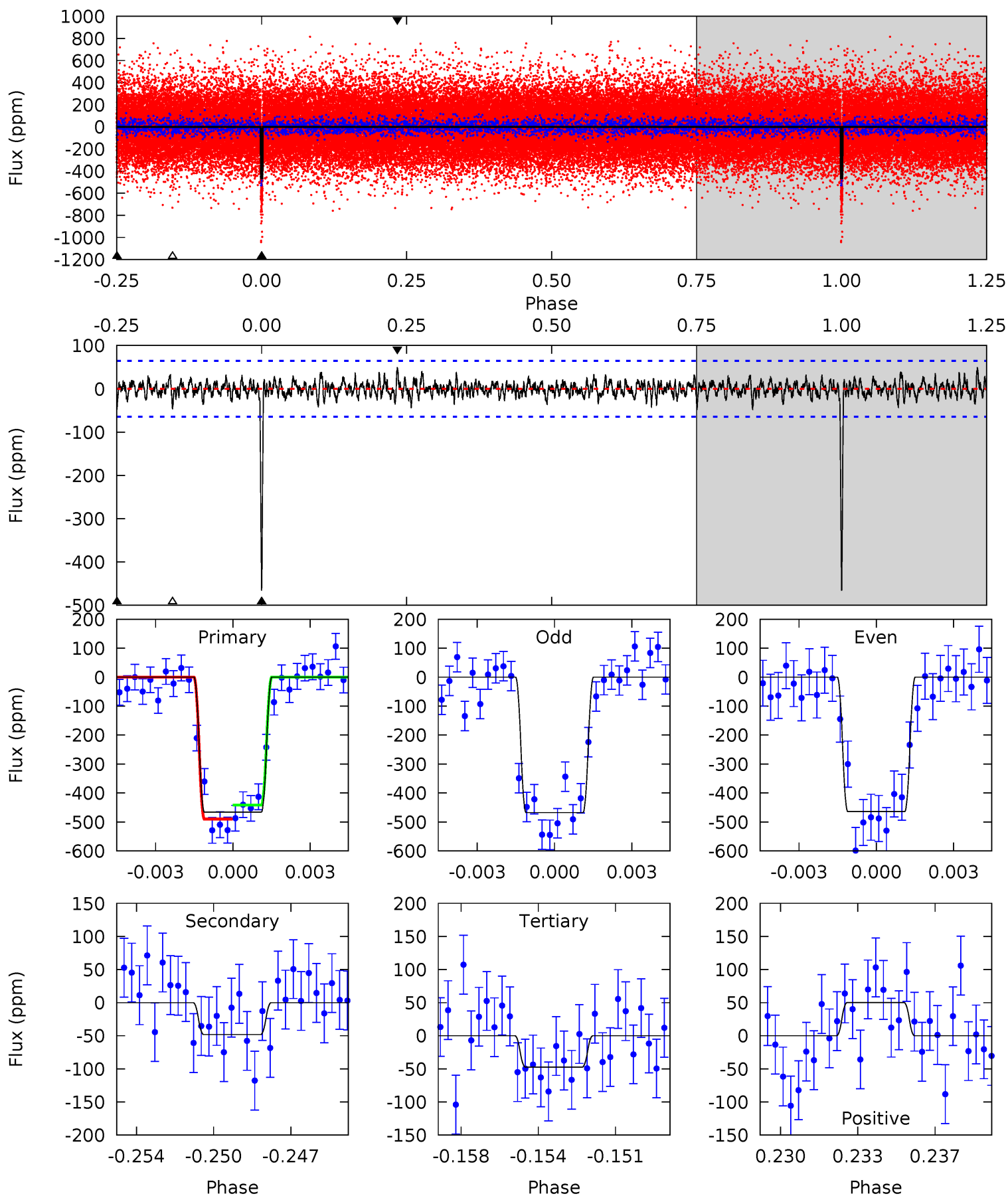
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.6	4.23	4.20	4.12	5.21	2.90	1.34	37.4	37.5	0.03	0.10	0.70	1.00	0.09	1.04



Alt Model-Shift Uniqueness Test

002854914-02, P = 83.448373 Days, E = 75.218698 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.8	3.92	3.84	4.07	5.23	2.93	1.09	34.0	33.8	0.08	-0.15	0.14	0.98	0.10	1.96



Stellar Parameters For KIC 002854914

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5952^{+119}_{-119}	$4.287^{+0.120}_{-0.120}$	$0.060^{+0.150}_{-0.150}$	$1.225^{+0.207}_{-0.170}$	$1.059^{+0.093}_{-0.070}$	$0.811^{+0.476}_{-0.277}$
	+2%/-2%	+3%/-3%	+250%/-250%	+17%/-14%	+9%/-7%	+59%/-34%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 002854914-02 / KOI 1113.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-50 ± 12	$3.23^{+0.34}_{-0.34}$	658^{+32}_{-29}	3670^{+152}_{-189}	385^{+133}_{-116}
Alt.	-48 ± 12	$2.98^{+0.34}_{-0.34}$	658^{+34}_{-30}	3738^{+182}_{-165}	435^{+167}_{-126}

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 $A_{obs} \gg 1.0$

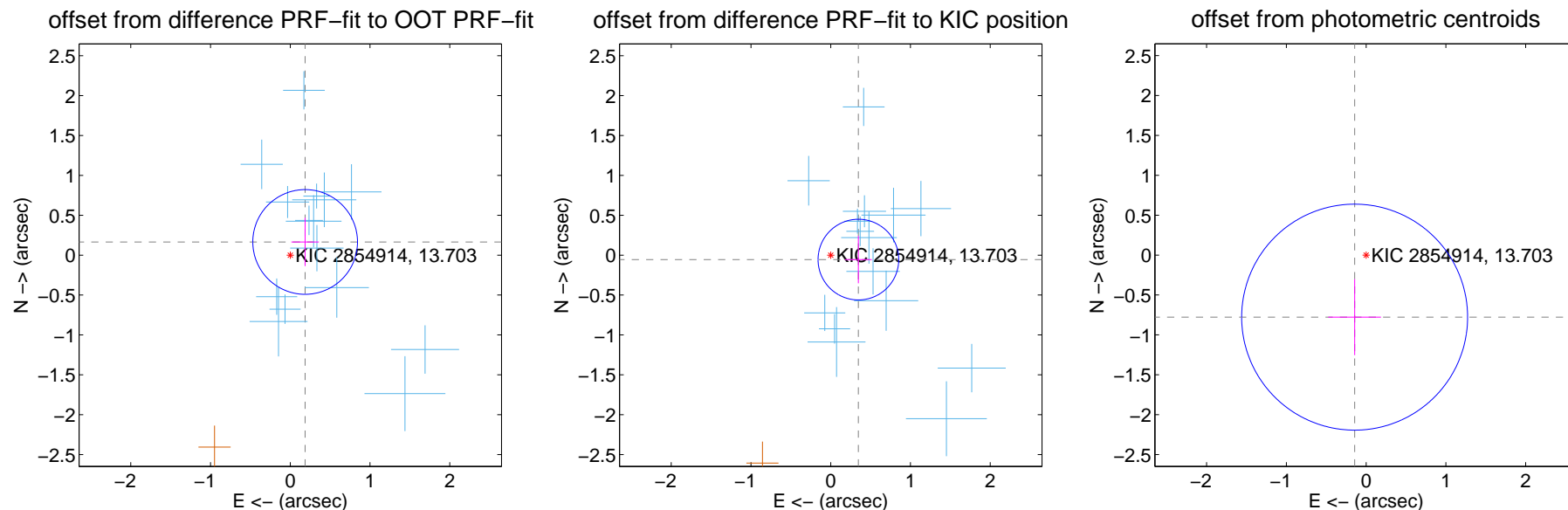
DV Centroid Data

Supplemental centroid analysis for 002854914-02. Kepler magnitude: 13.70. Transit SNR 28.81

There are 15 quarters with good PRF difference image offsets

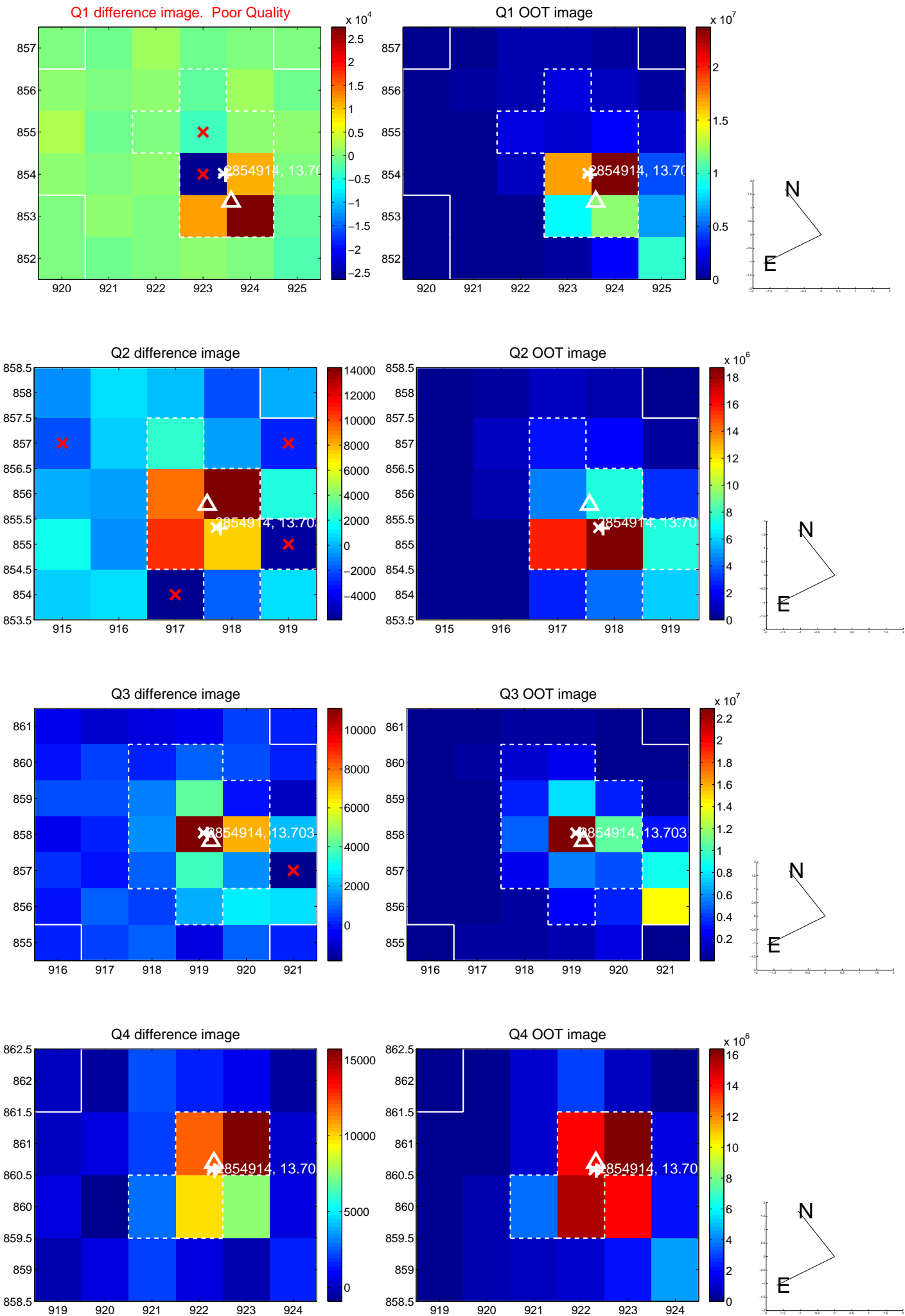
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.249 ± 0.219	1.14	-0.187 ± 0.173	0.165 ± 0.303
PRF-fit source offset from KIC position	0.351 ± 0.169	2.08	-0.347 ± 0.168	-0.056 ± 0.297
photometric centroid source offset	0.79 ± 0.47	1.68	0.14 ± 0.33	-0.78 ± 0.48

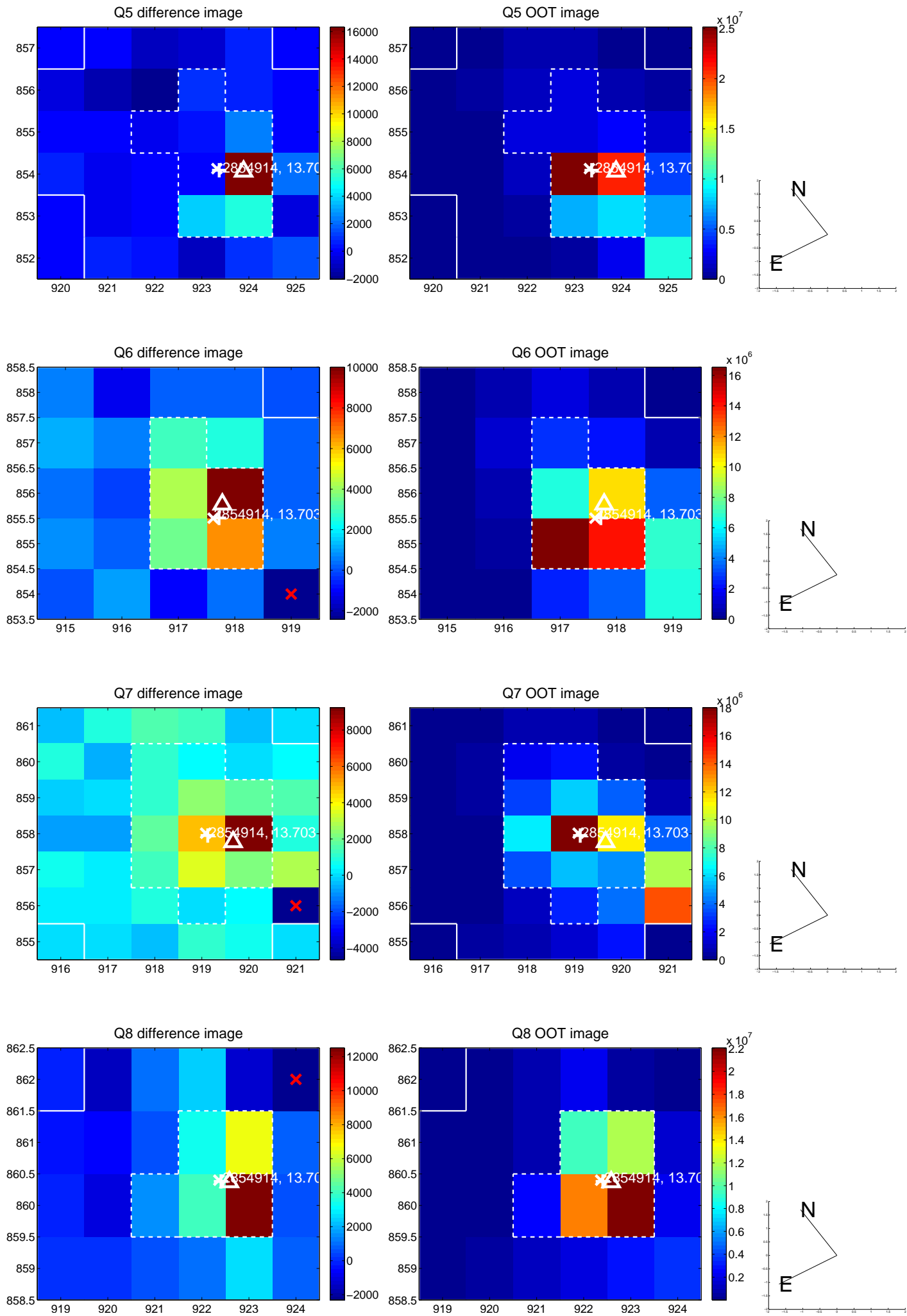


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

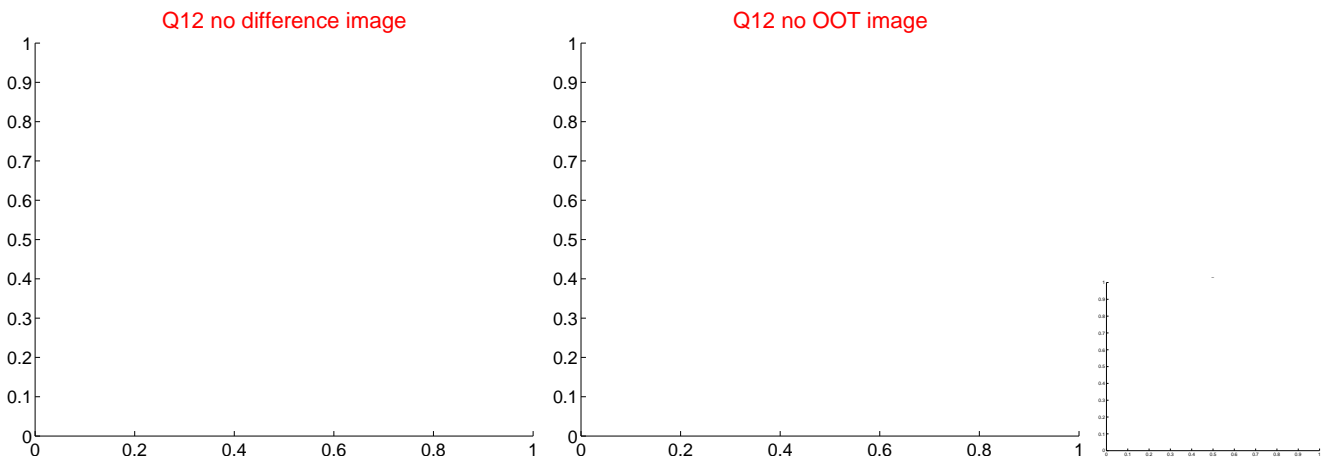
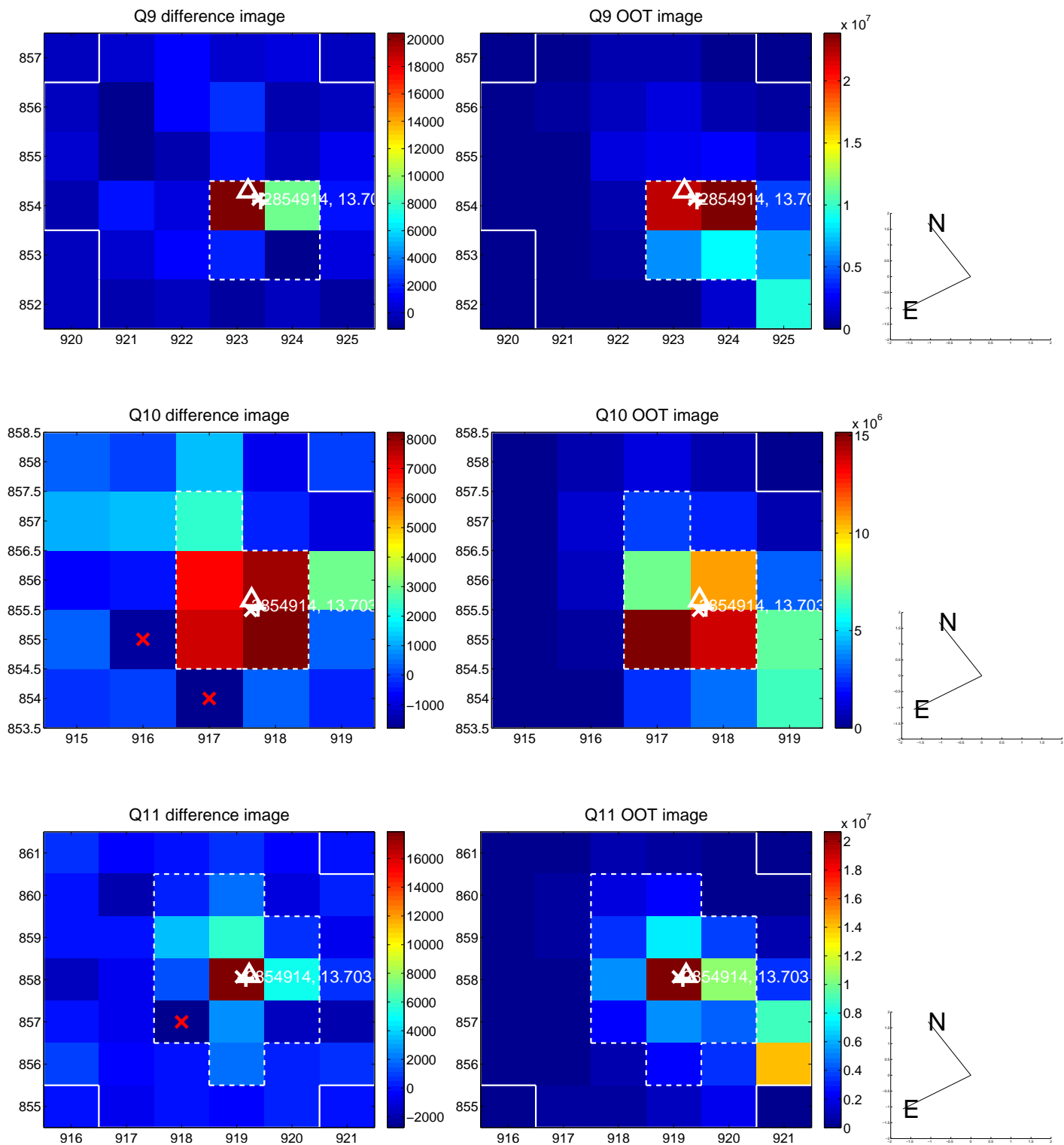
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



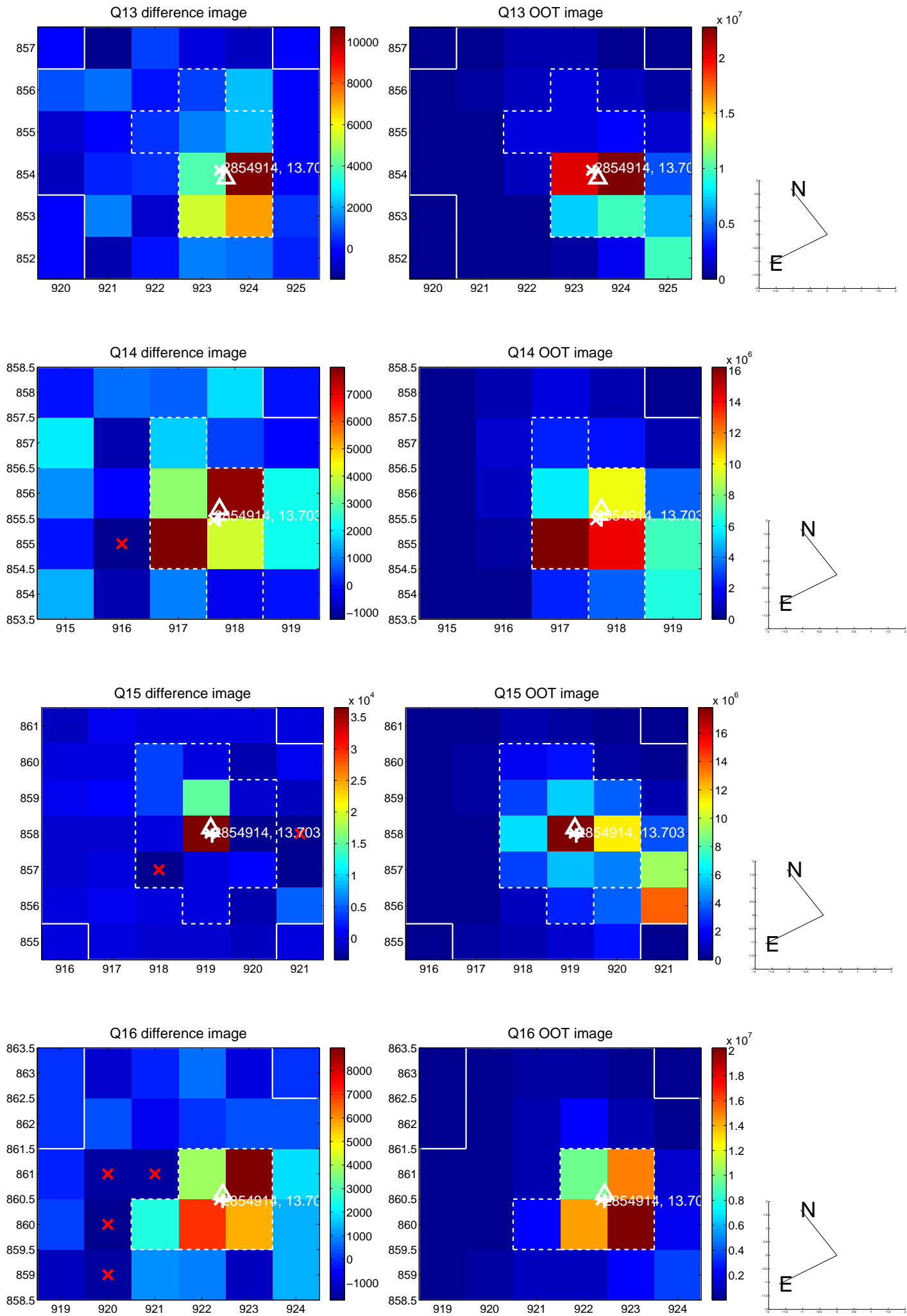
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



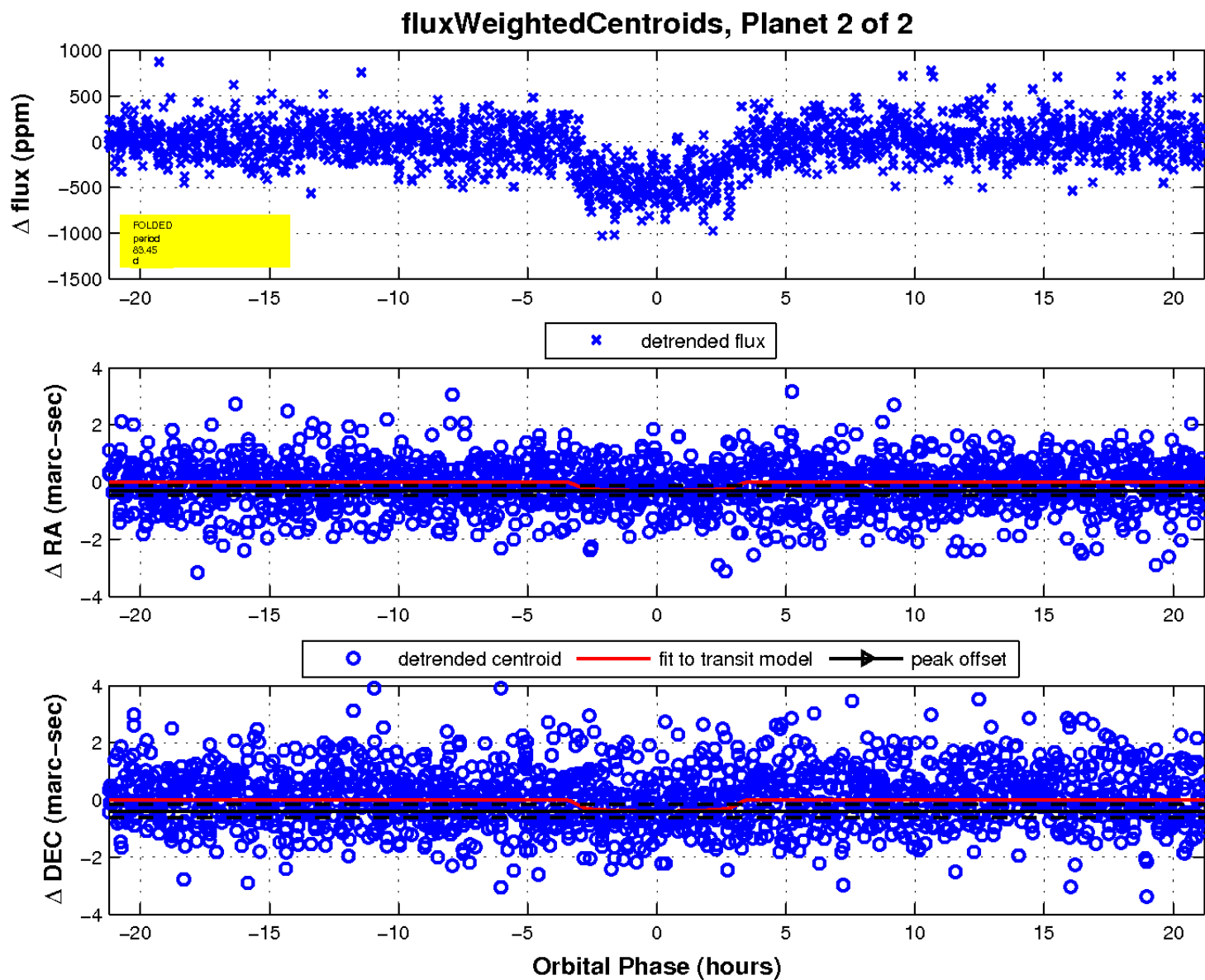
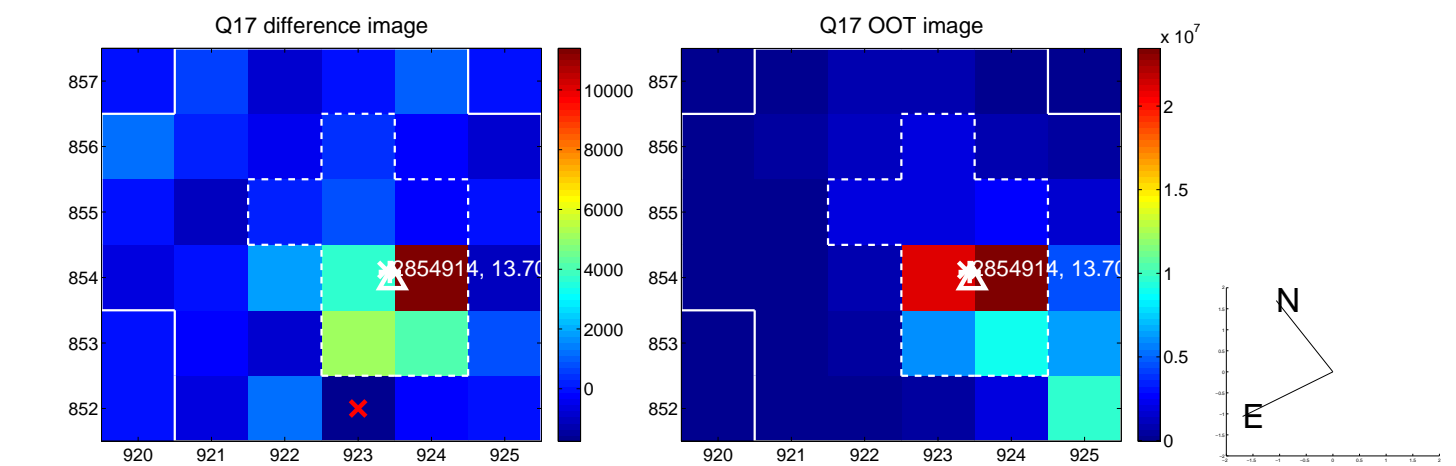
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

