

KIC 007910148

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})
007910148-01	OBS	3661.01	4.252068	134.302502	3947.5	3.180	379.8	195.5	0.79	5802	6.25	303.59
007910148-02	OBS	No	4.252063	132.177340	946.2	2.963	61.2	65.3	0.79	5802	3.15	303.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007910148-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_UNRESOLVED_OFFSET—HALO_GHOST
007910148-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET—HALO_GHOST

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

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

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

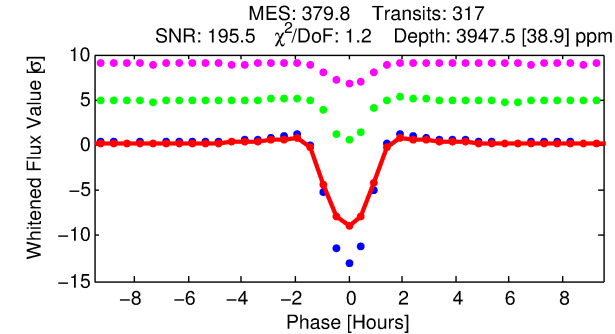
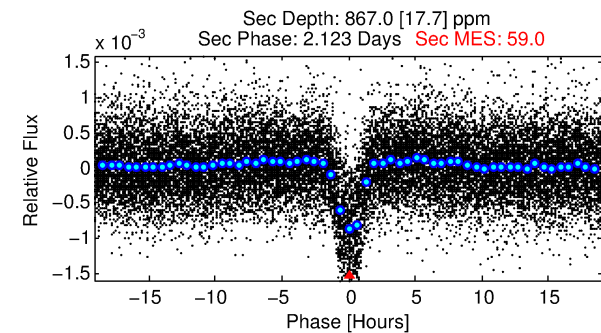
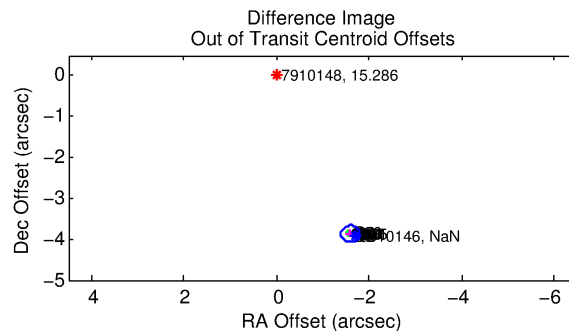
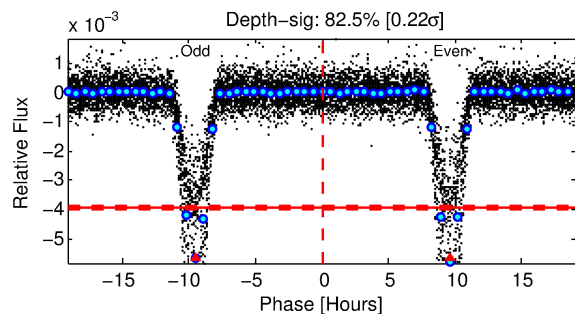
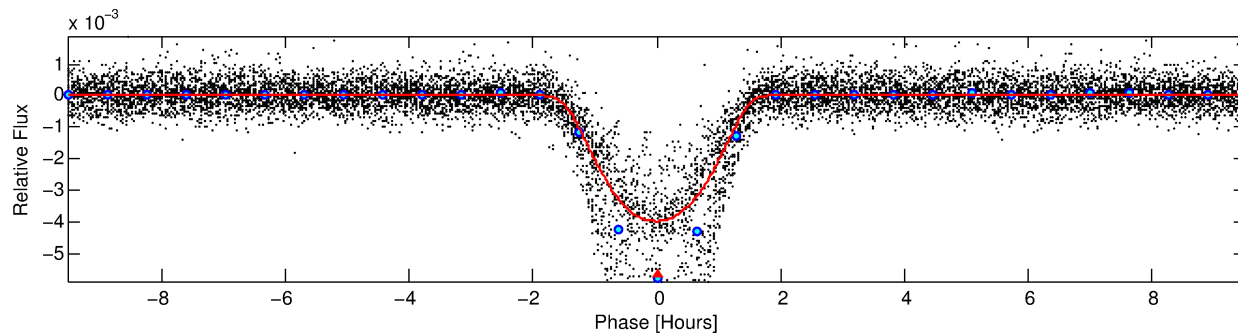
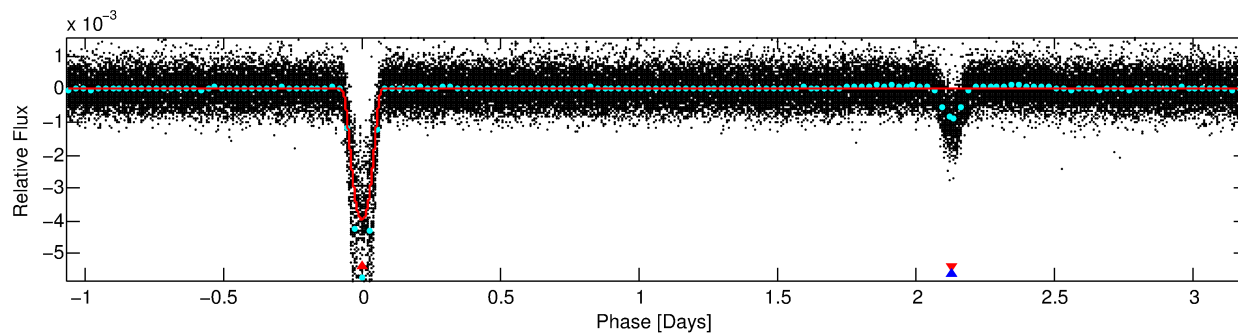
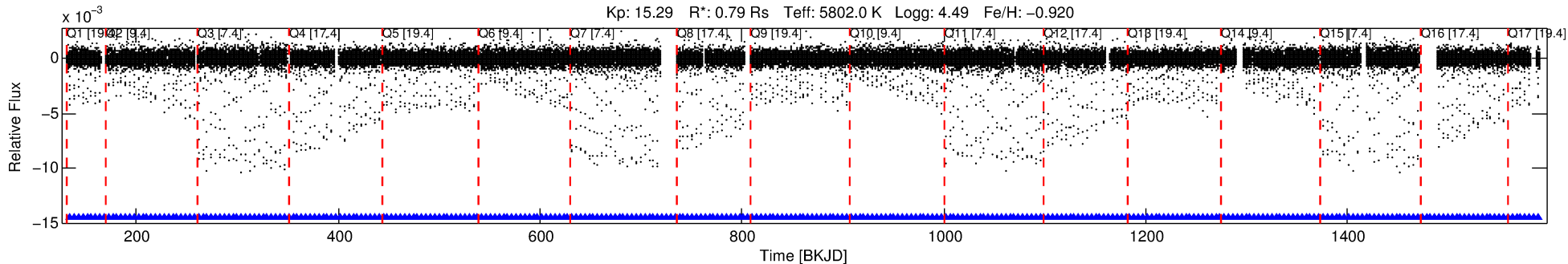
Ephemeris Match Information For 007910148-01

No Significant Match Found

DV One-Page Summary

KIC: 7910148 Candidate: 1 of 2 Period: 4.252 d
KOI: K03661.01 Corr: 0.981

Kp: 15.29 R*: 0.79 Rs Teff: 5802.0 K Logg: 4.49 Fe/H: -0.920



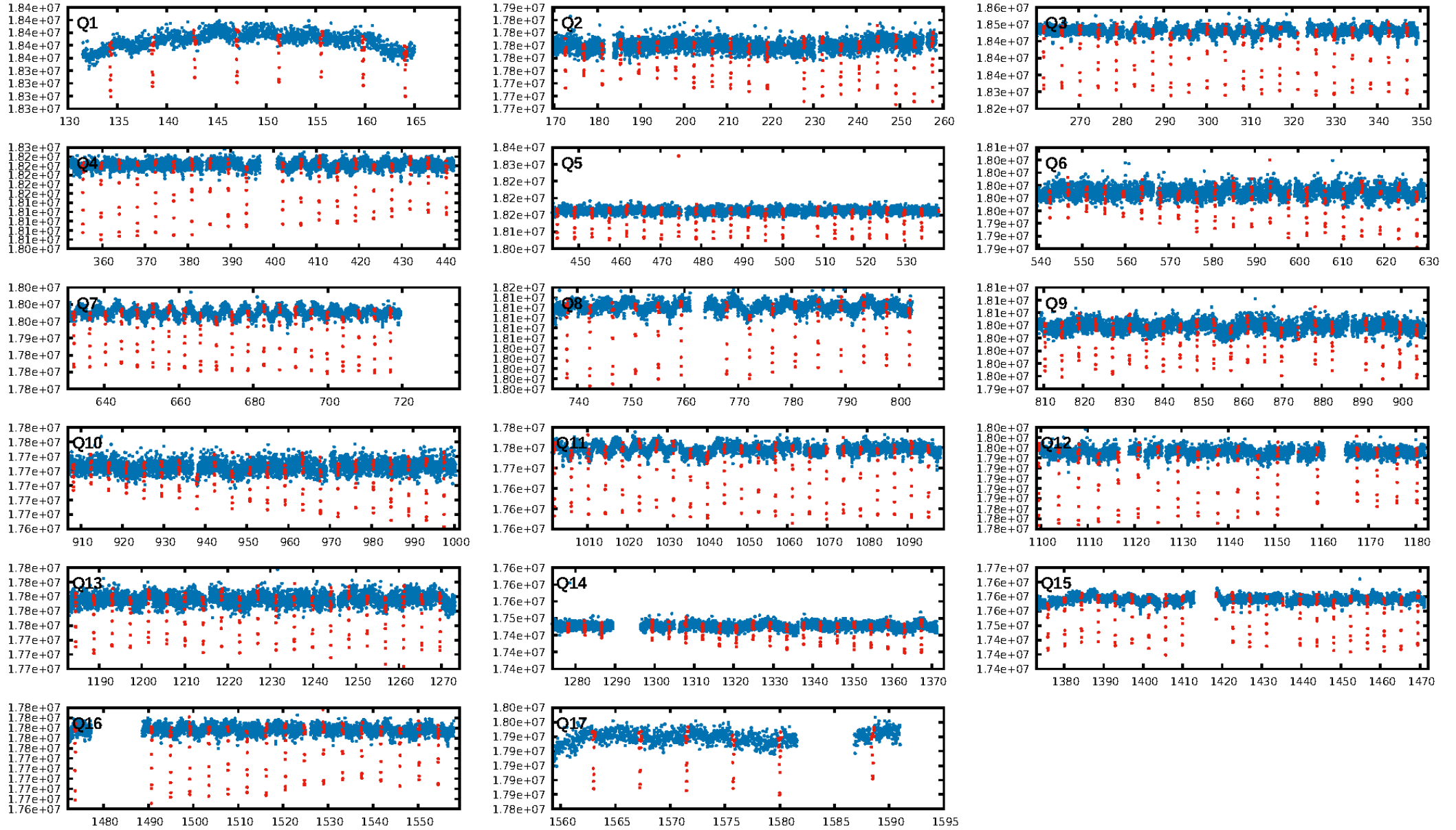
DV Fit Results:

Period = 4.25207 [0.00000] d
Epoch = 134.3025 [0.0003] BKJD
Rp/R* = 0.0721 [0.0013]
a/R* = 5.42 [0.08]
b = 0.94 [0.00]
Seff = 303.59 [81.22]
Teq = 1064 [71] K
Rp = 6.25 [1.13] Re
a = 0.0459 [0.0072] AU
Ag = 25.75 [6.10] [4.06σ]
Teff = 3707 [128] K [18.02σ]

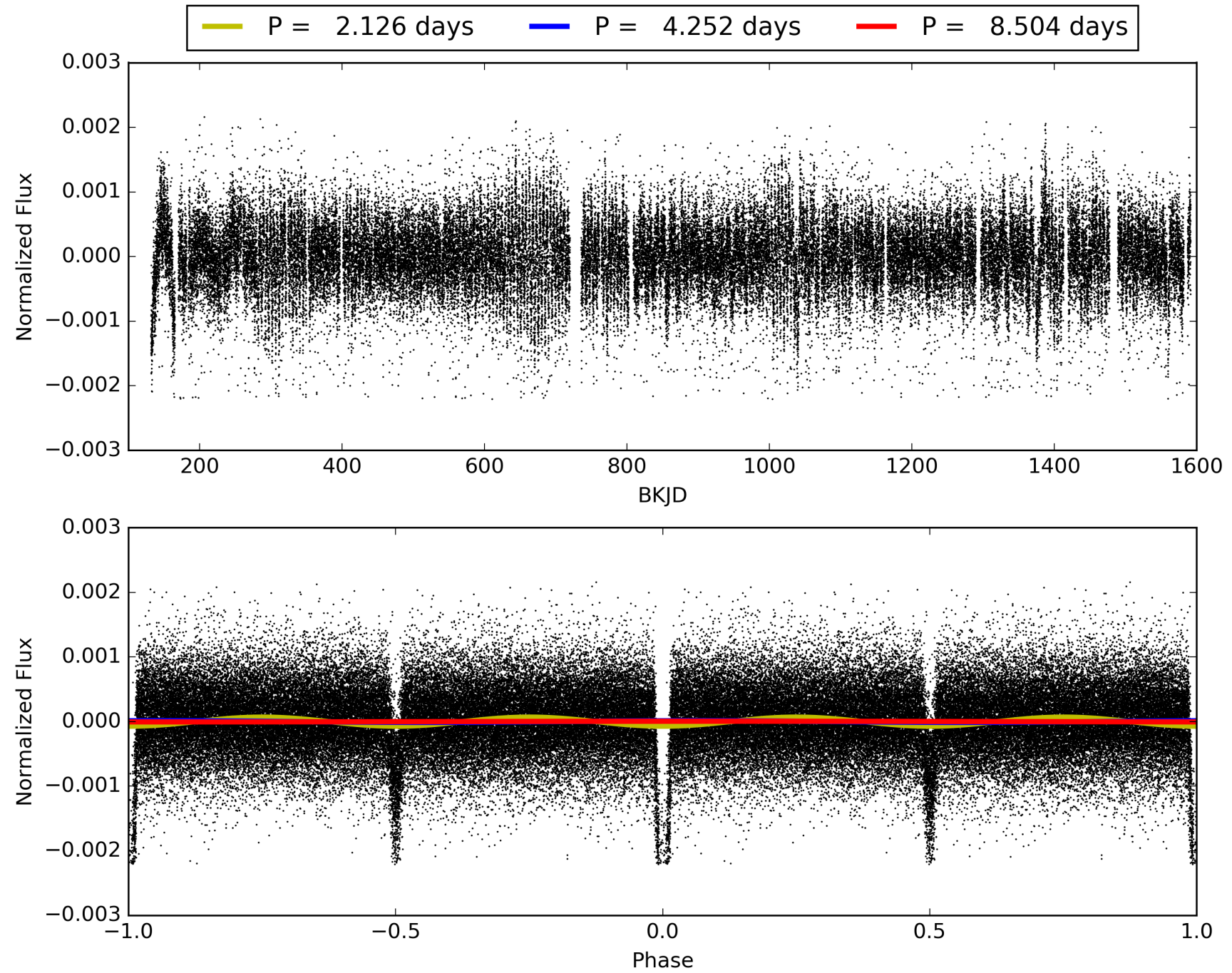
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [303/303]
GhostDiagnostic-chr: -0.06313
Centroid-sig: 0.0%
Centroid-so: 17.895 arcsec [367.31σ]
OotOffset-rm: 4.181 arcsec [62.18σ]
KicOffset-rm: 4.385 arcsec [65.01σ]
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 007910148-01, PDC Light Curves

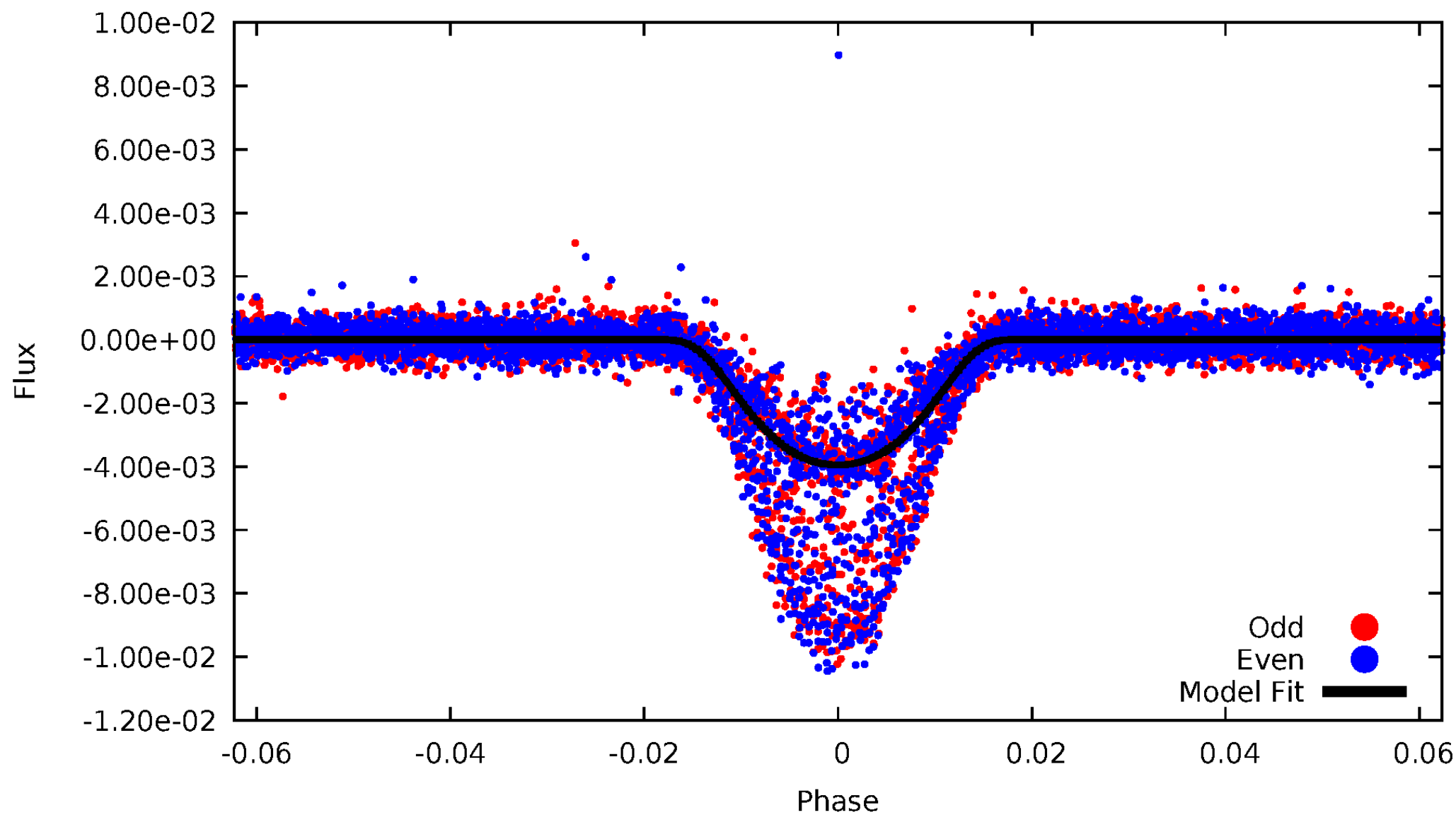


TCE 007910148-01



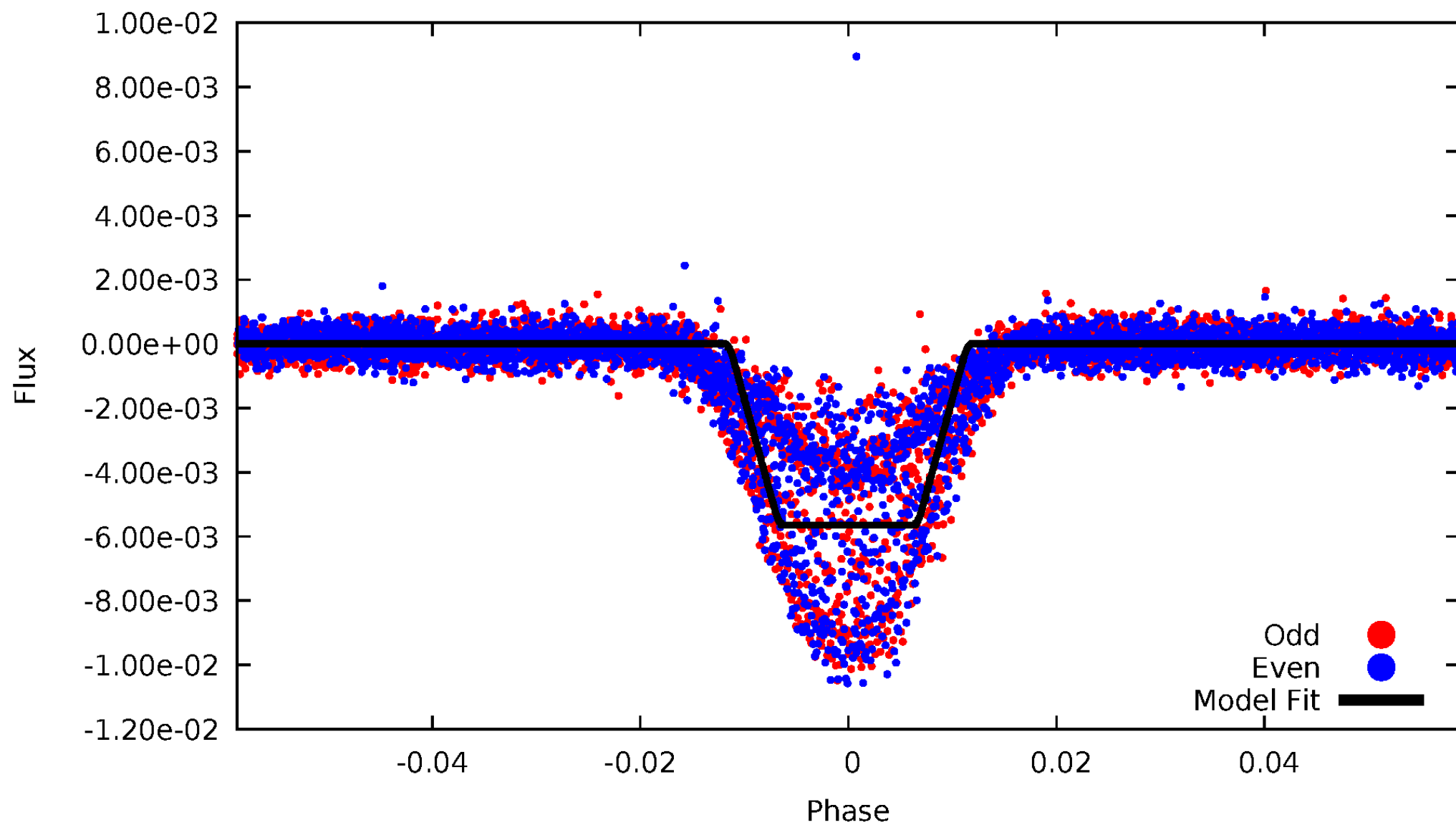
DV Odd/Even

TCE 007910148-01



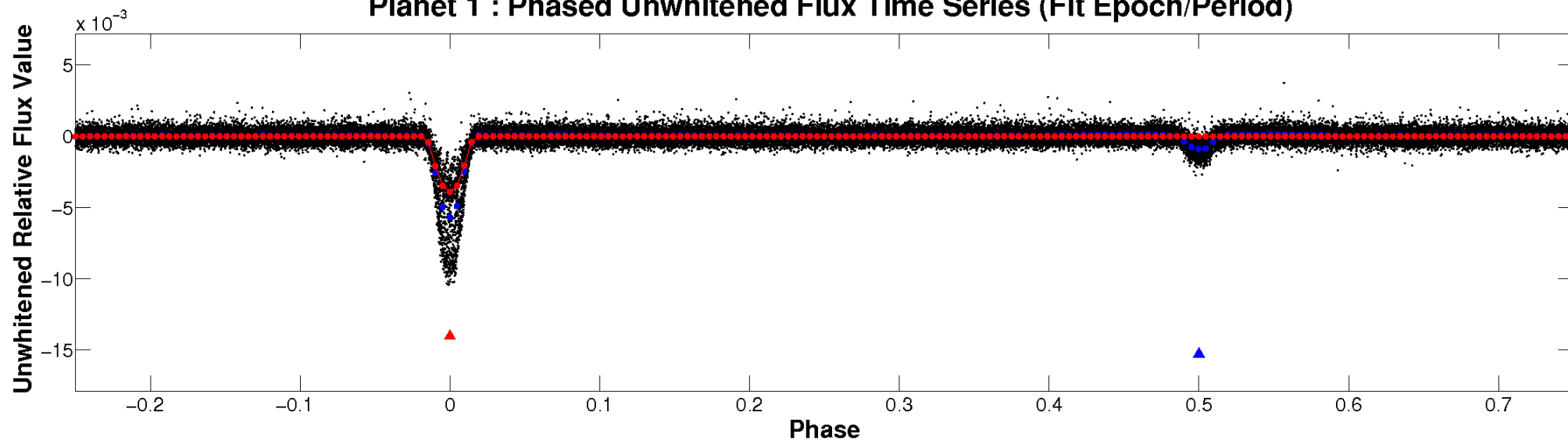
ALT Odd/Even

TCE 007910148-01

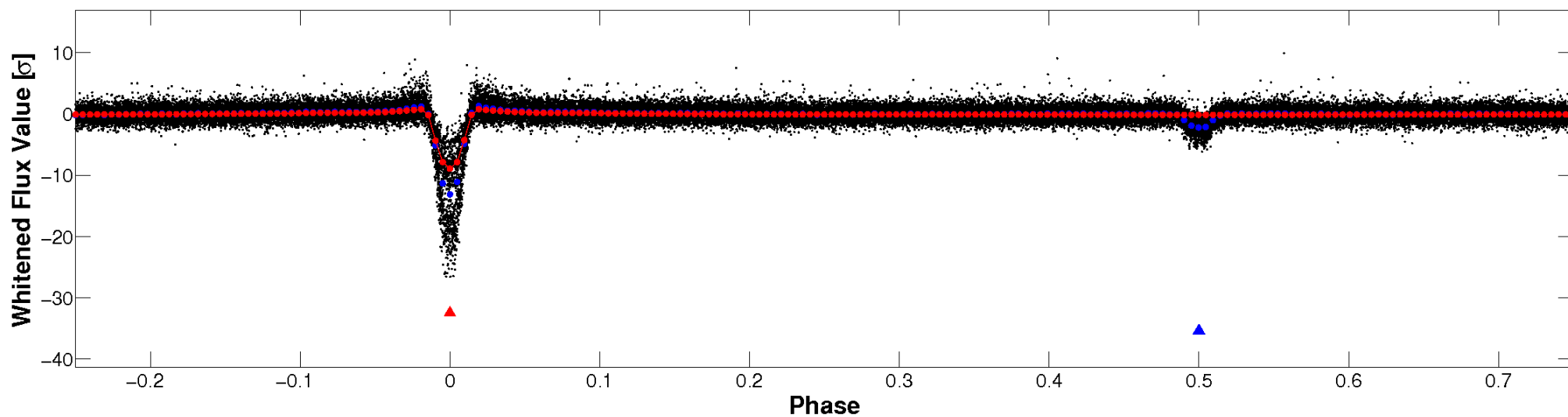


Non-Whitened Vs. Whitened Light Curve

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

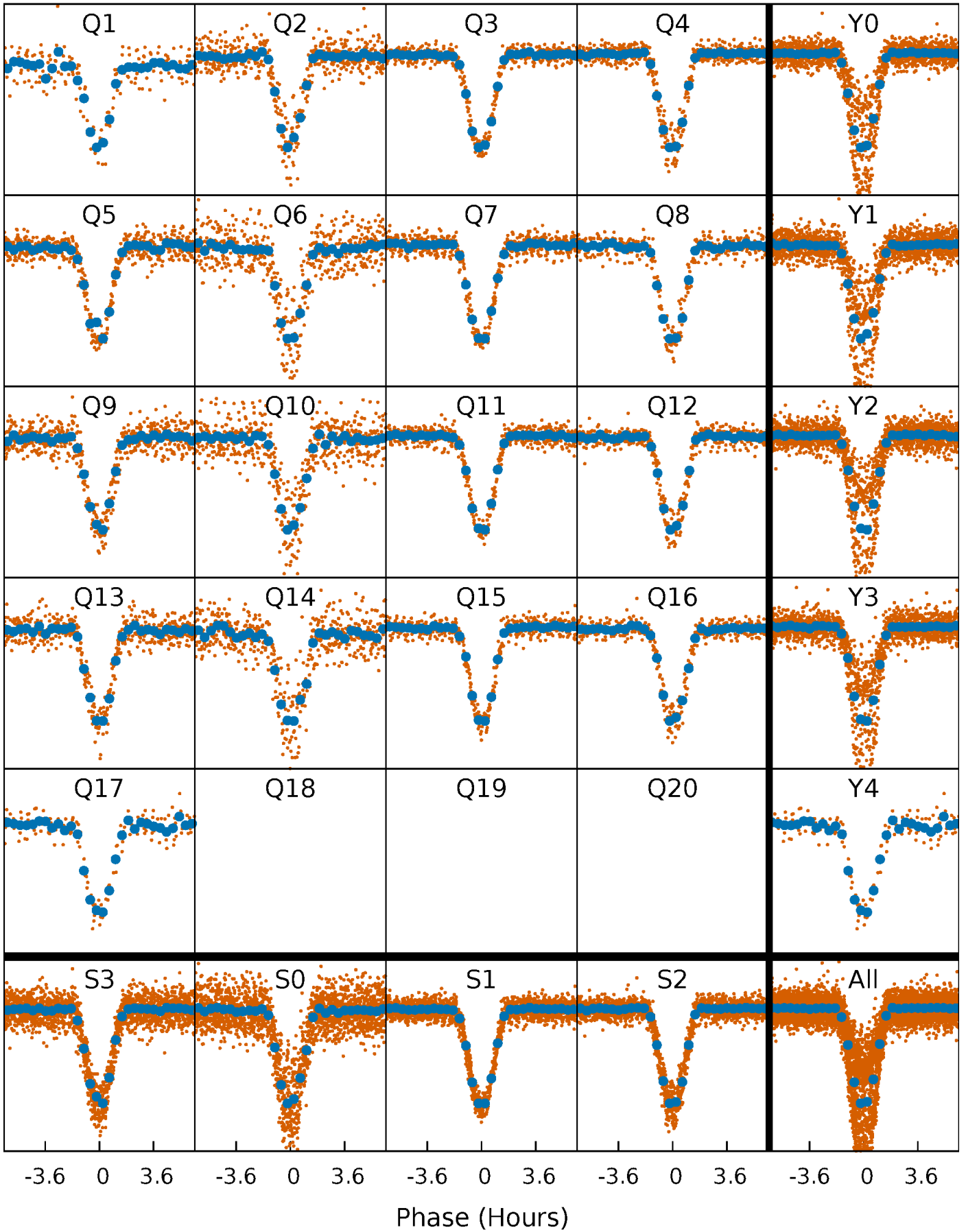


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



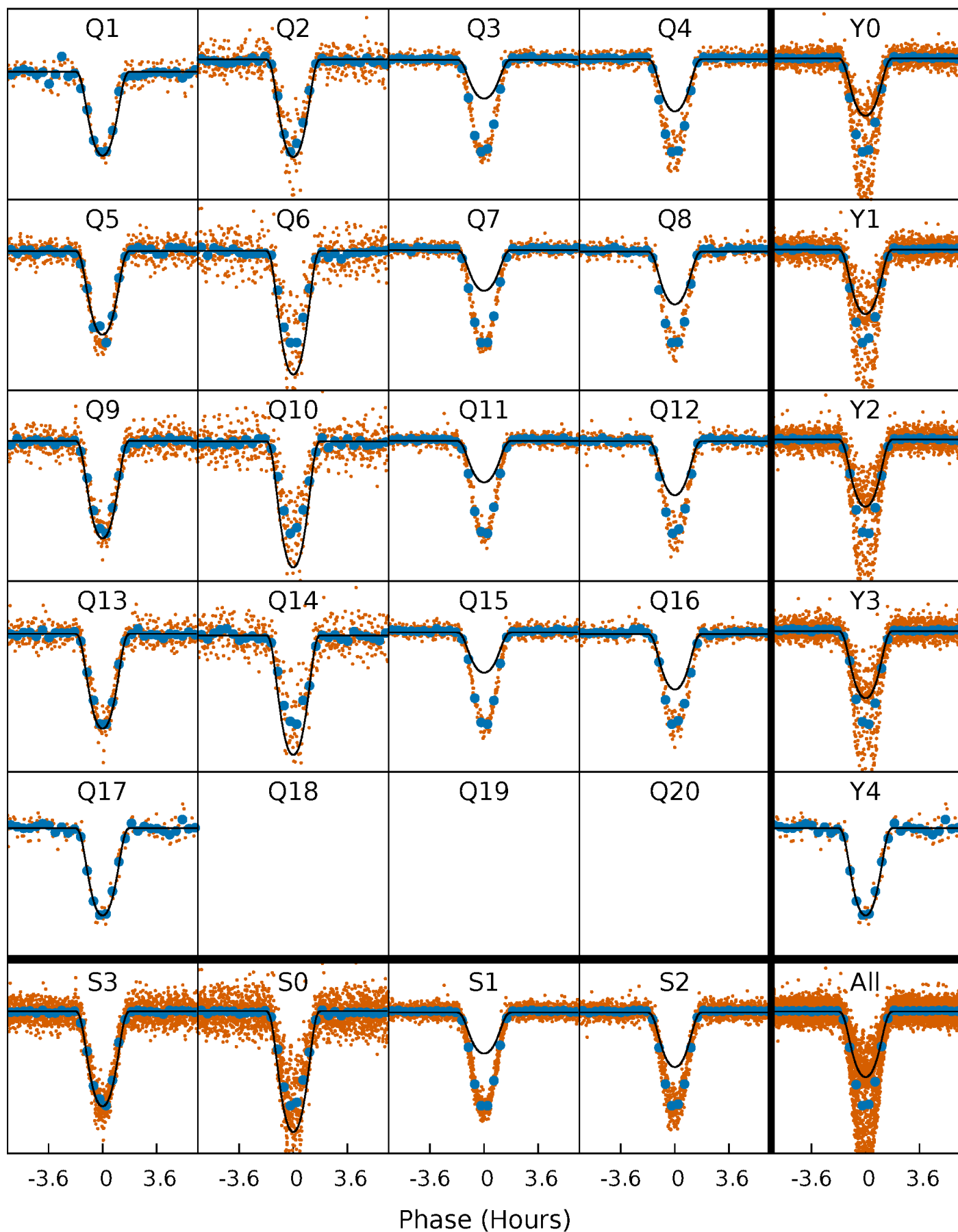
PDC Quarter-Phased Transit Curves

TCE 007910148-01 P= 4.252068 Days $T_0=134.302502$ (BKJD)



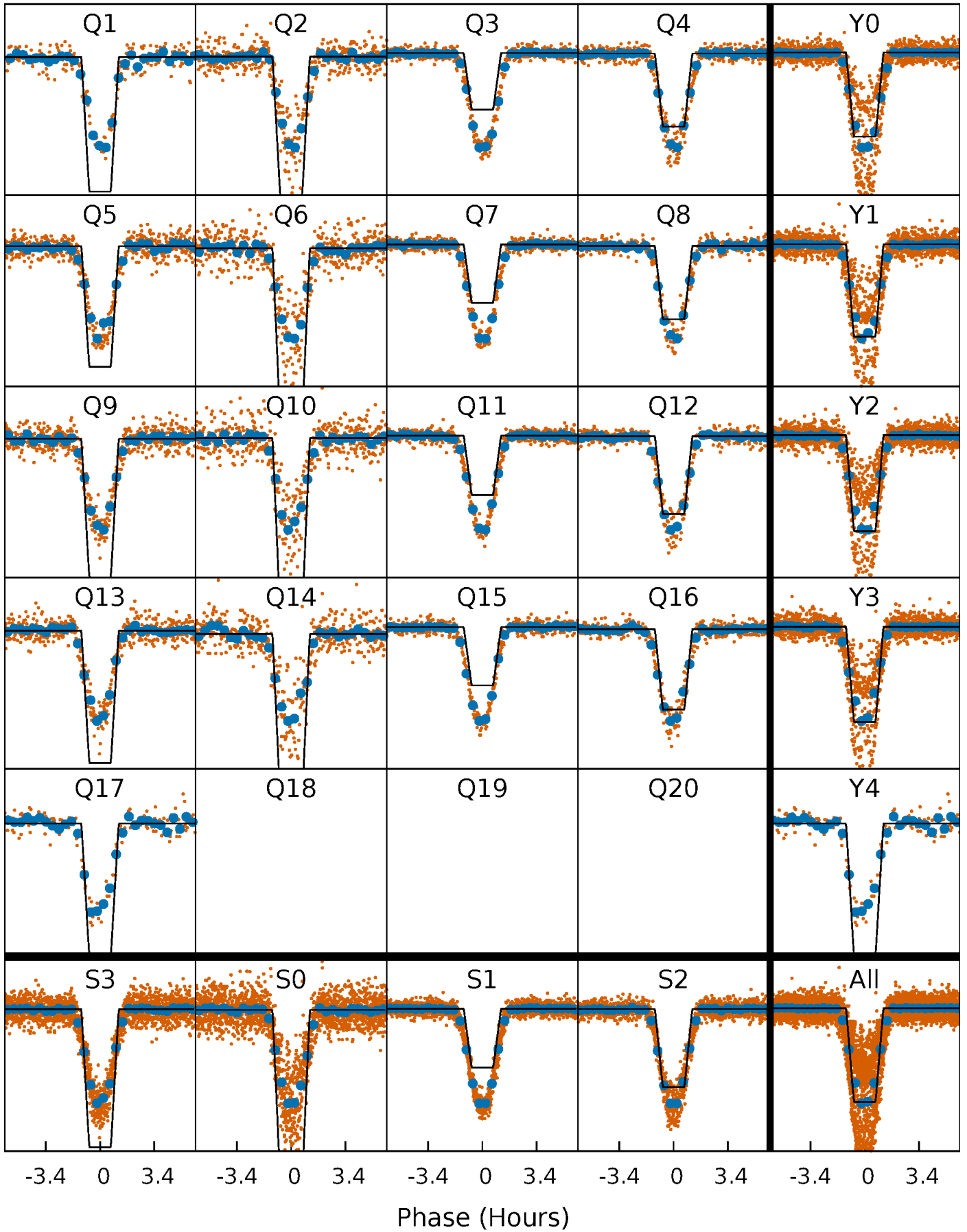
DV Quarter-Phased Transit Curves

TCE 007910148-01 P= 4.252068 Days $T_0=134.302502$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

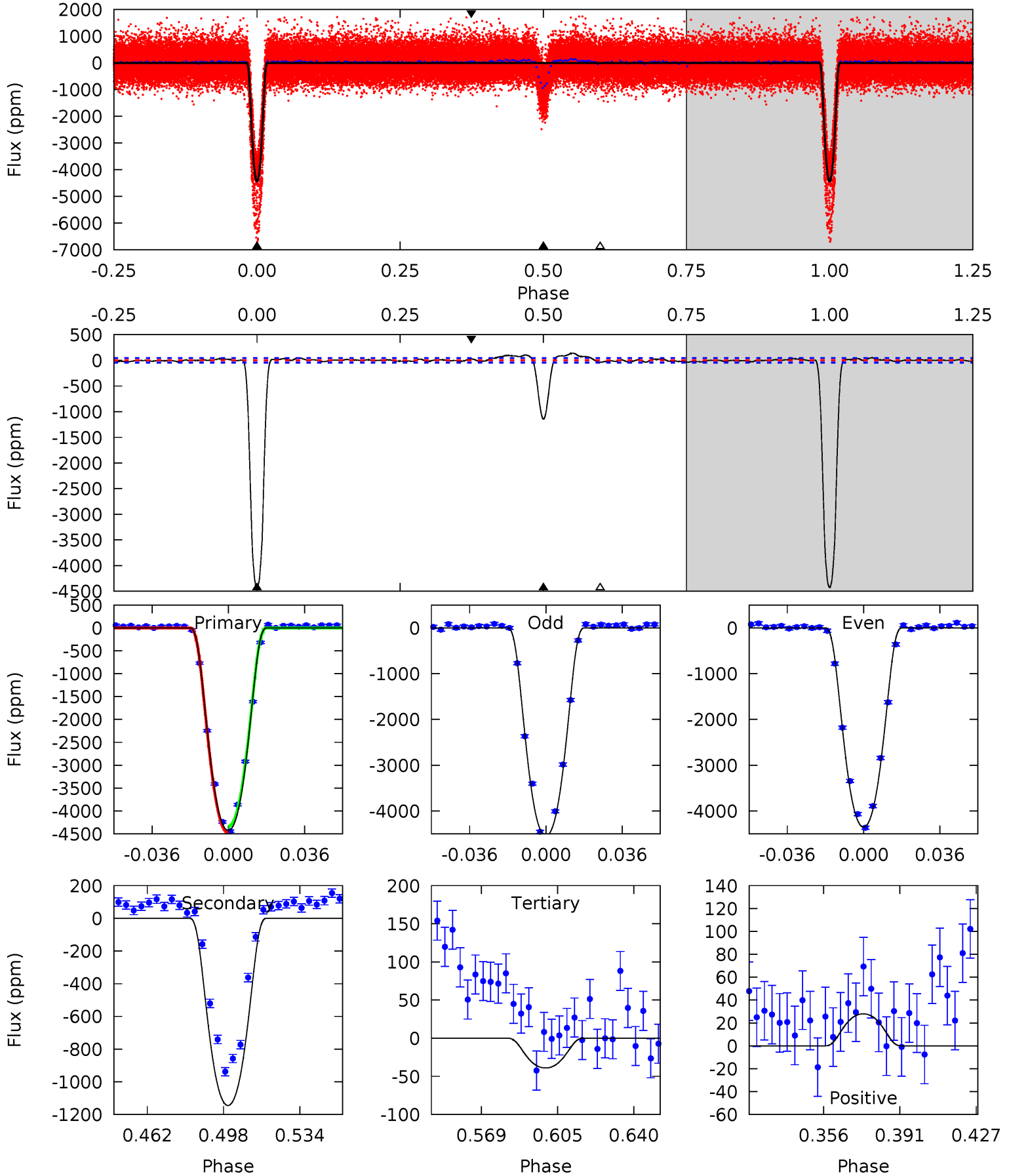
TCE 007910148-01 P= 4.252101 Days $T_0=134.296867$ (BKJD)



DV Model-Shift Uniqueness Test

007910148-01, P = 4.252068 Days, E = 130.050434 Days

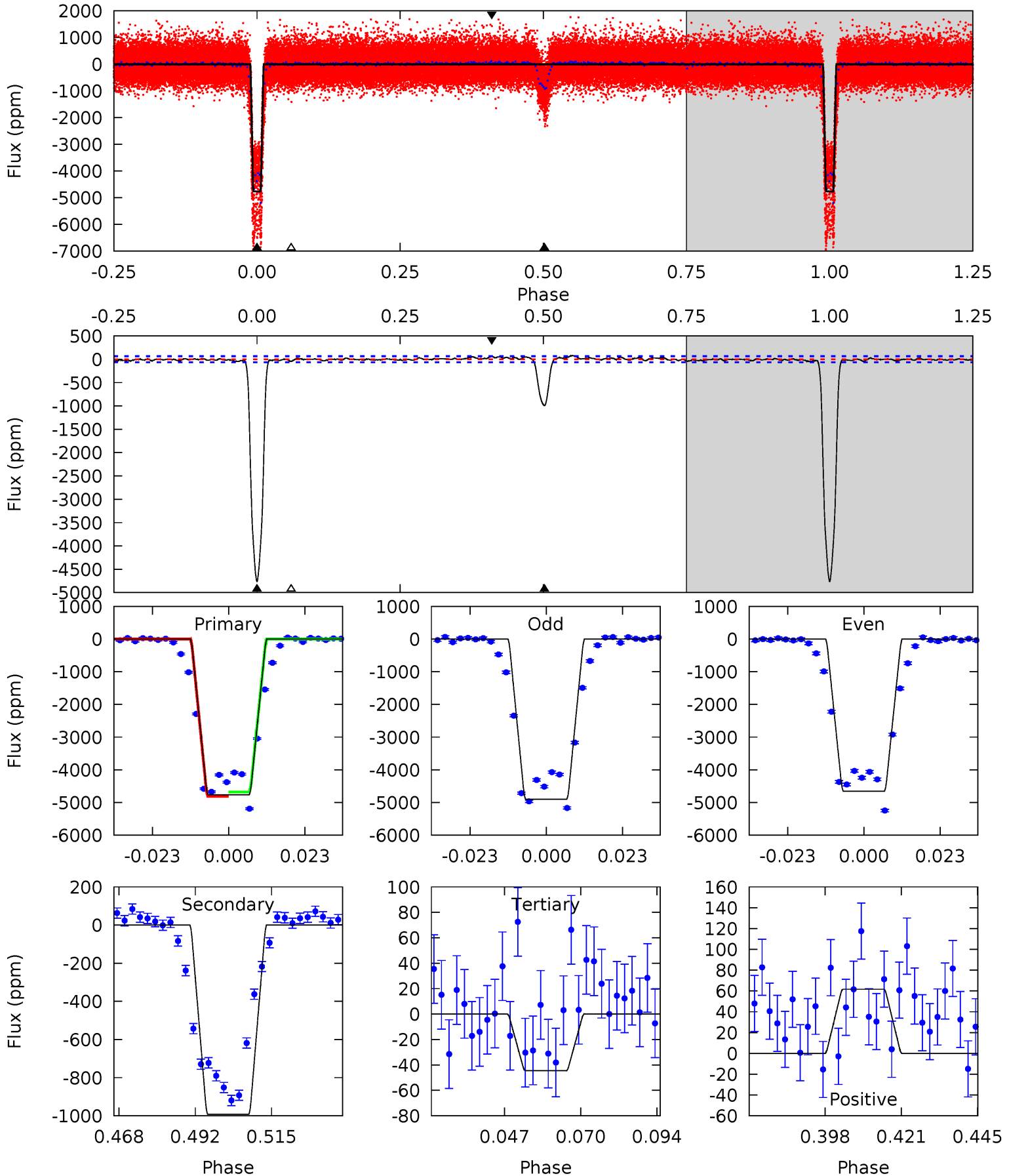
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
466.3	120.6	4.11	2.94	4.78	2.10	3.48	462.2	463.4	116.5	117.7	10.2	1.17	0.03	7.58



Alt Model-Shift Uniqueness Test

007910148-01, P = 4.252101 Days, E = 130.044766 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
353.4	73.6	3.31	4.57	4.86	2.27	1.65	350.1	348.8	70.3	69.0	8.92	1.18	0.02	5.19



Stellar Parameters For KIC 007910148

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5802^{+191}_{-191}	$4.492^{+0.130}_{-0.130}$	$-0.920^{+0.350}_{-0.300}$	$0.794^{+0.143}_{-0.104}$	$0.714^{+0.085}_{-0.030}$	$2.005^{+1.054}_{-0.689}$
	+3%/-3%	+3%/-3%	+38%/-33%	+18%/-13%	+12%/-4%	+53%/-34%
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 007910148-01 / KOI 3661.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1145 ± 9	$6.29^{+0.67}_{-0.52}$	1488^{+81}_{-78}	4220^{+105}_{-112}	34^{+6}_{-6}
Alt.	-992 ± 13	$6.52^{+0.75}_{-0.54}$	1484^{+86}_{-80}	4043^{+112}_{-99}	27^{+5}_{-5}

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

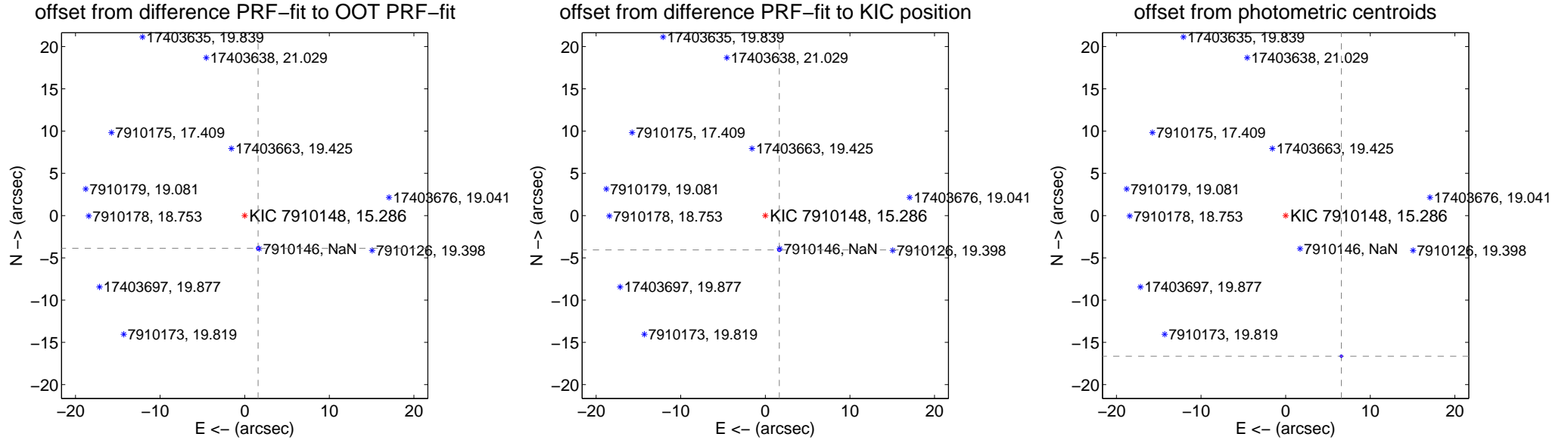
DV Centroid Data

Supplemental centroid analysis for 007910148-01. Kepler magnitude: 15.29. Transit SNR 195.55

There are 17 quarters with good PRF difference image offsets

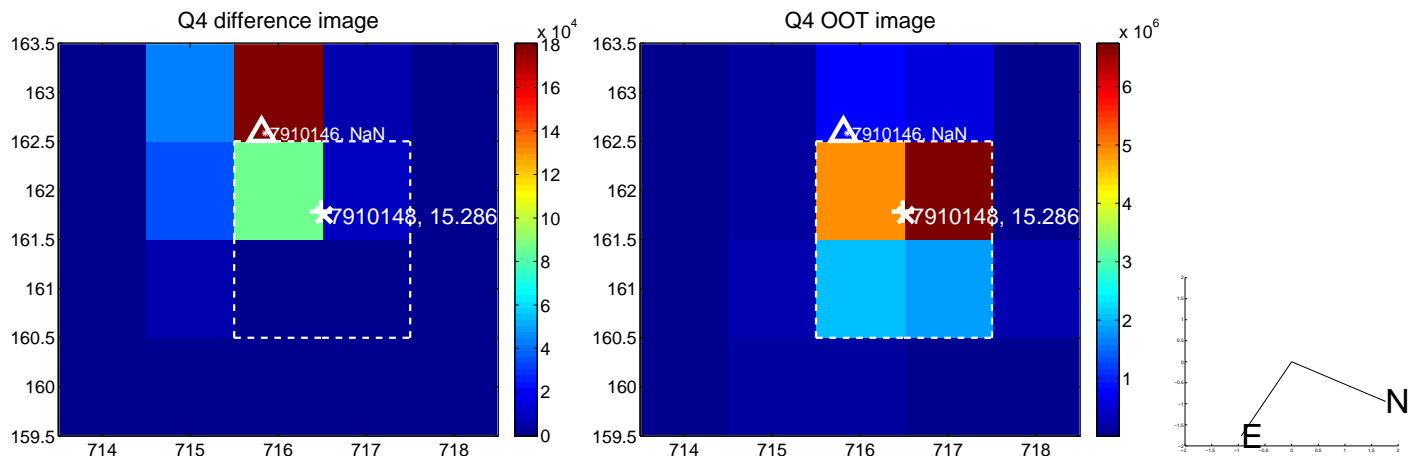
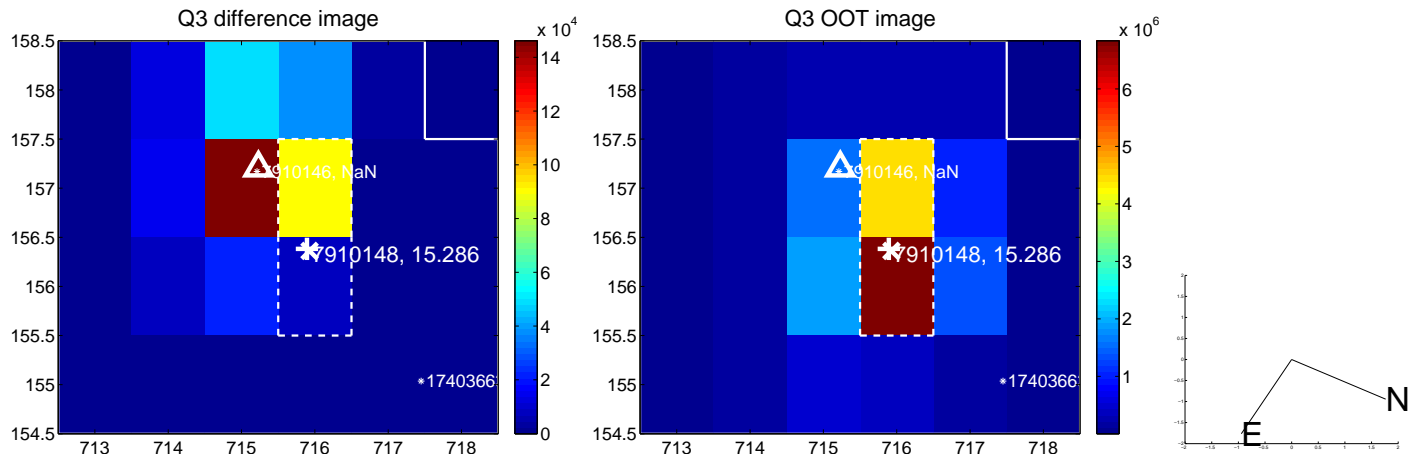
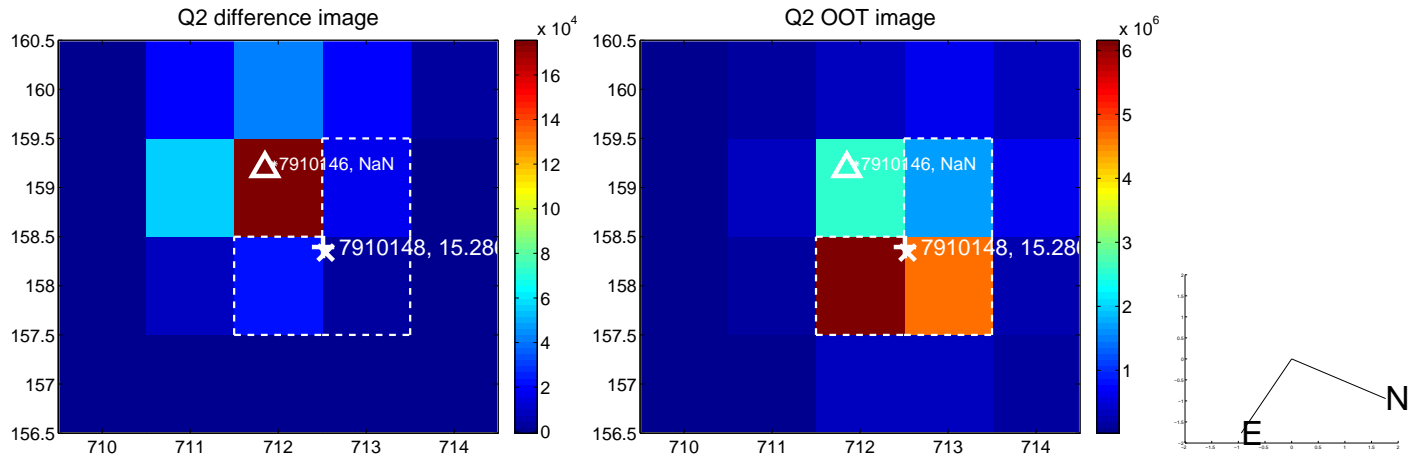
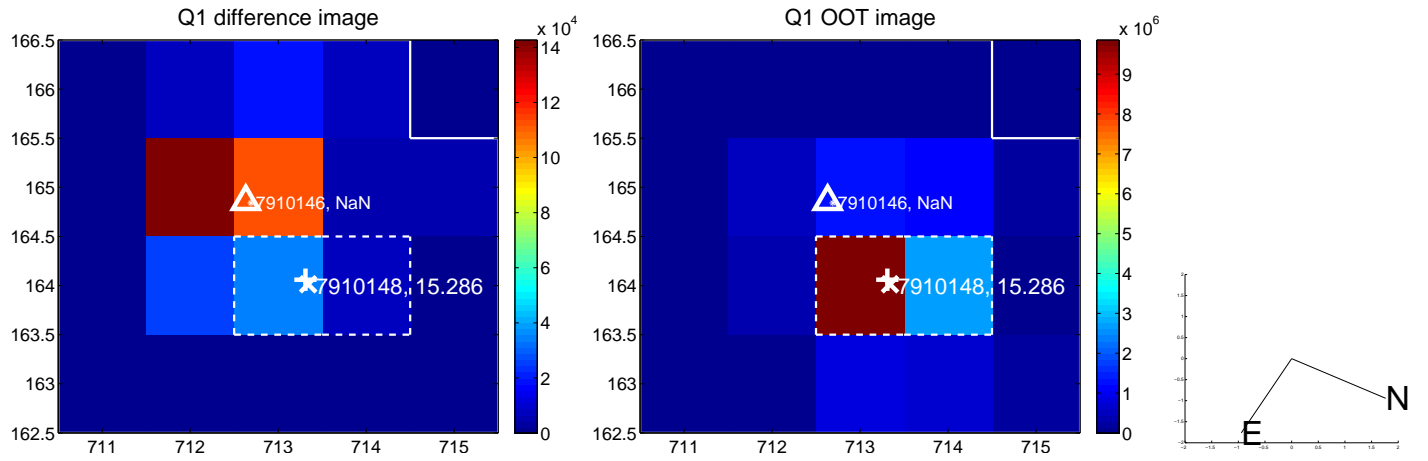
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.181 ± 0.067	62.18	-1.585 ± 0.069	-3.869 ± 0.067
PRF-fit source offset from KIC position	4.385 ± 0.067	65.01	-1.656 ± 0.068	-4.061 ± 0.067
photometric centroid source offset	17.89 ± 0.05	367.31	-6.58 ± 0.04	-16.64 ± 0.05

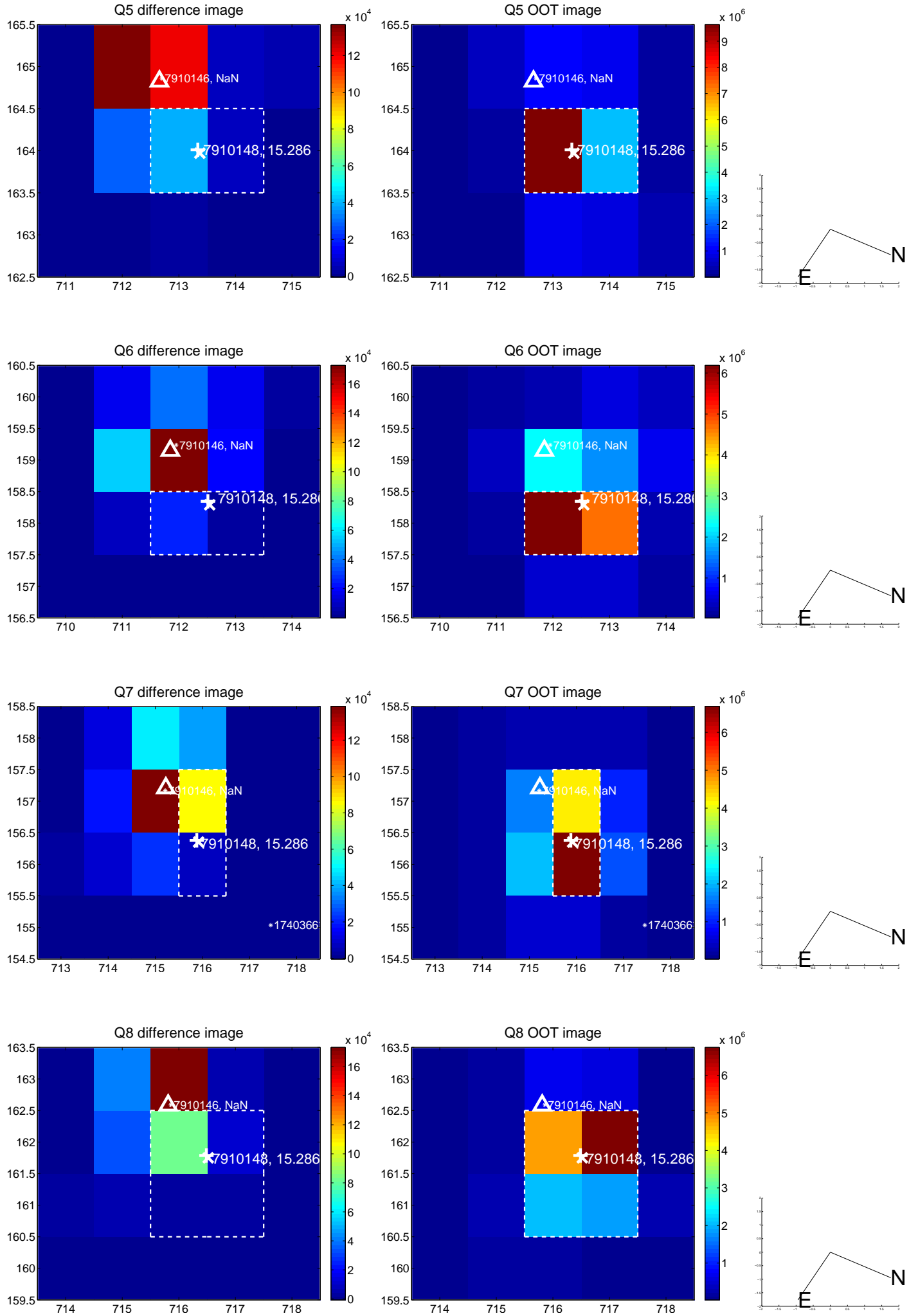


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

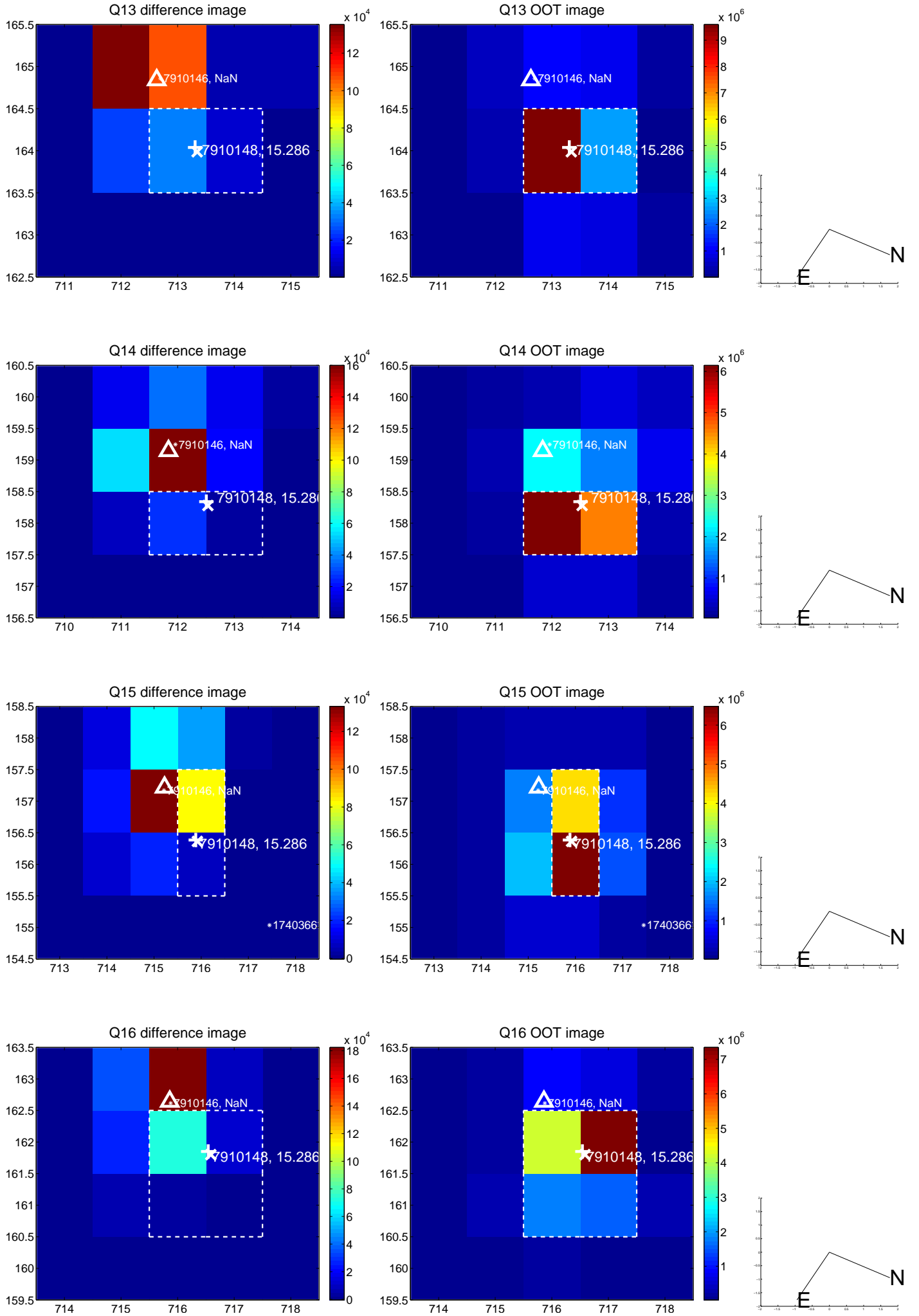
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



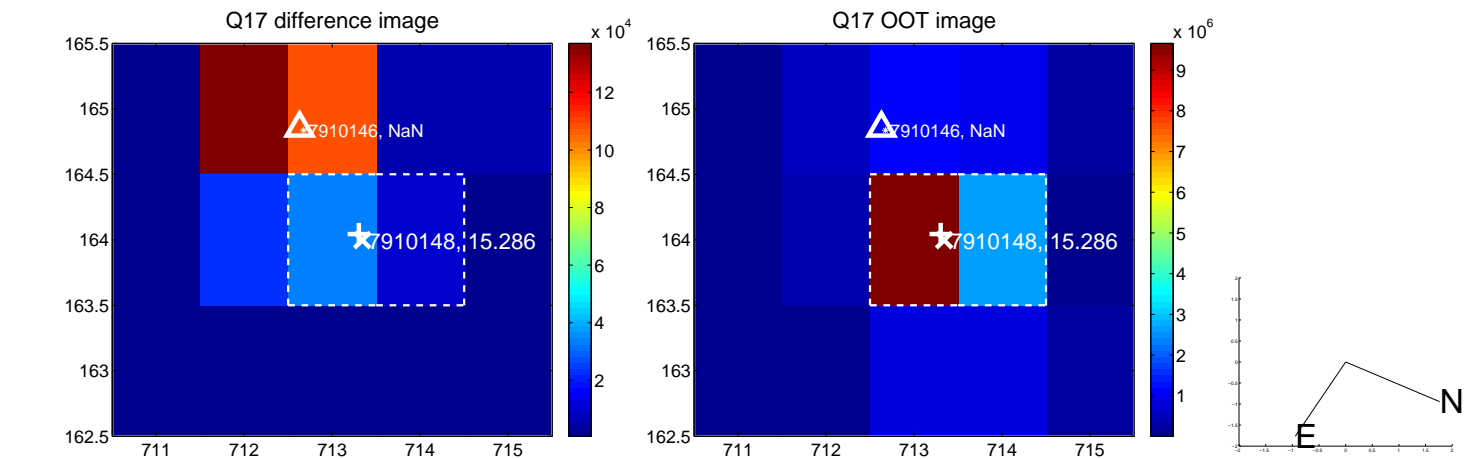
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



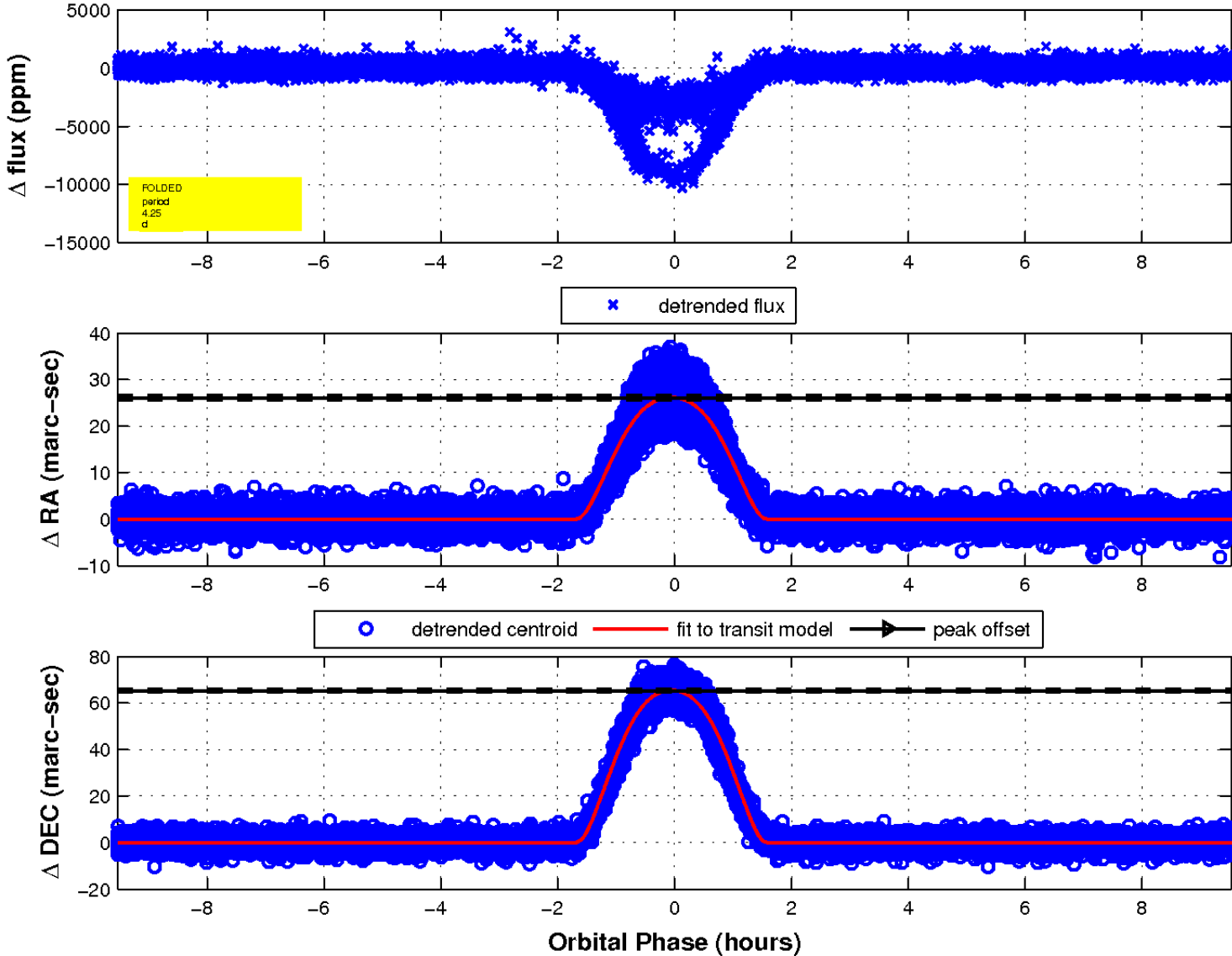
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

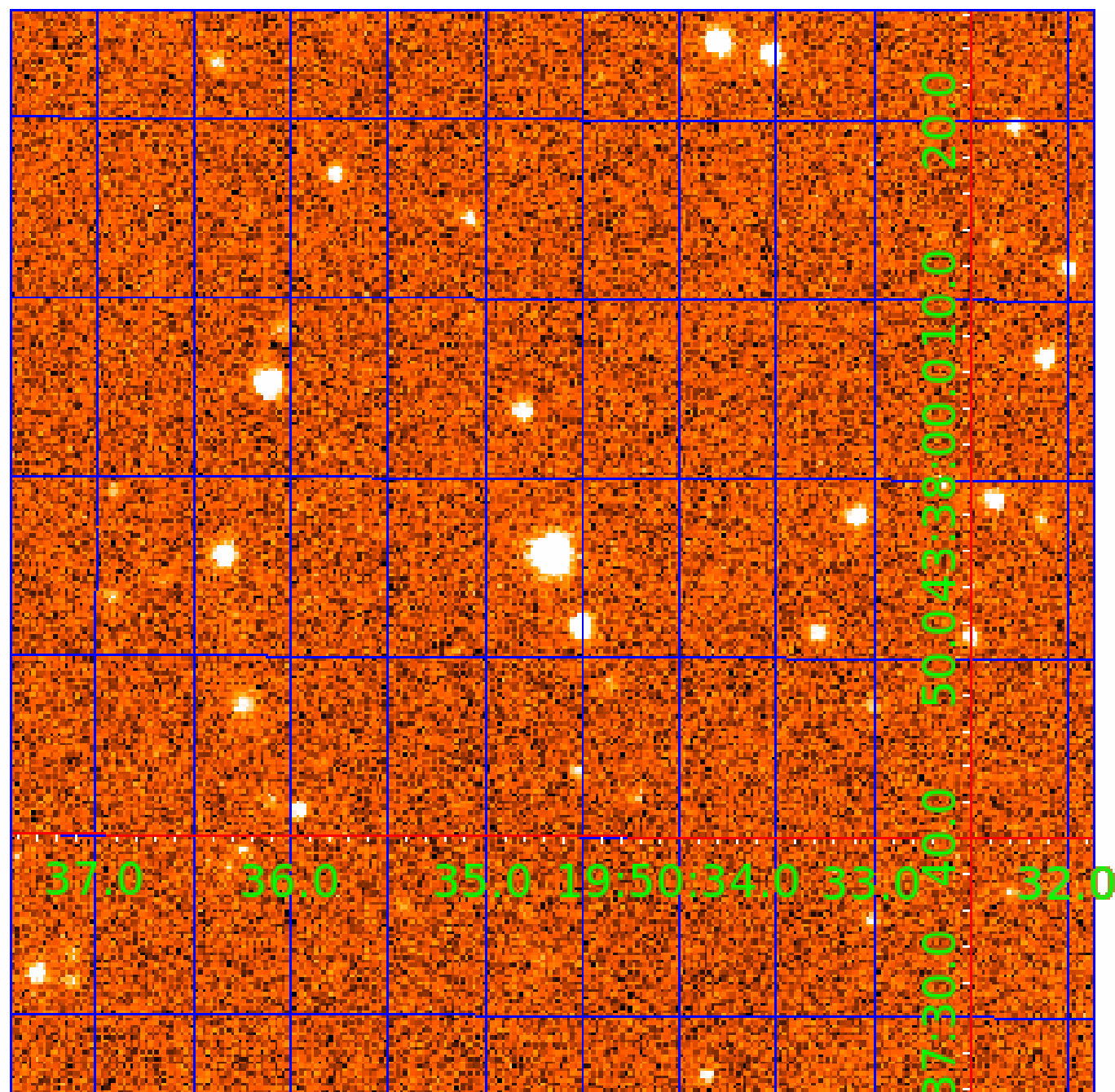


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007910148

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})
007910148-01	OBS	3661.01	4.252068	134.302502	3947.5	3.180	379.8	195.5	0.79	5802	6.25	303.59
007910148-02	OBS	No	4.252063	132.177340	946.2	2.963	61.2	65.3	0.79	5802	3.15	303.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007910148-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_UNRESOLVED_OFFSET—HALO_GHOST
007910148-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET—HALO_GHOST

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

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

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

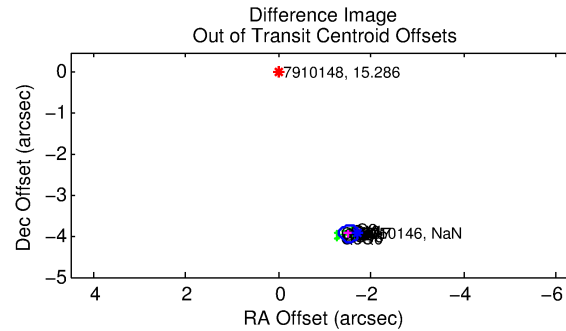
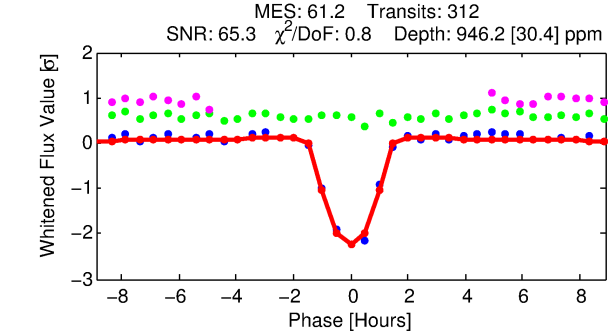
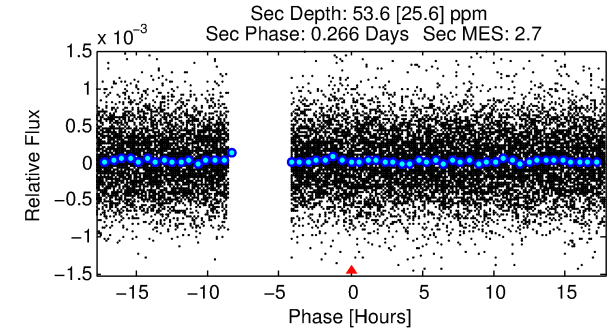
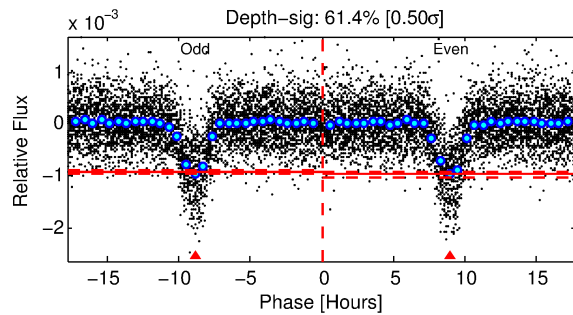
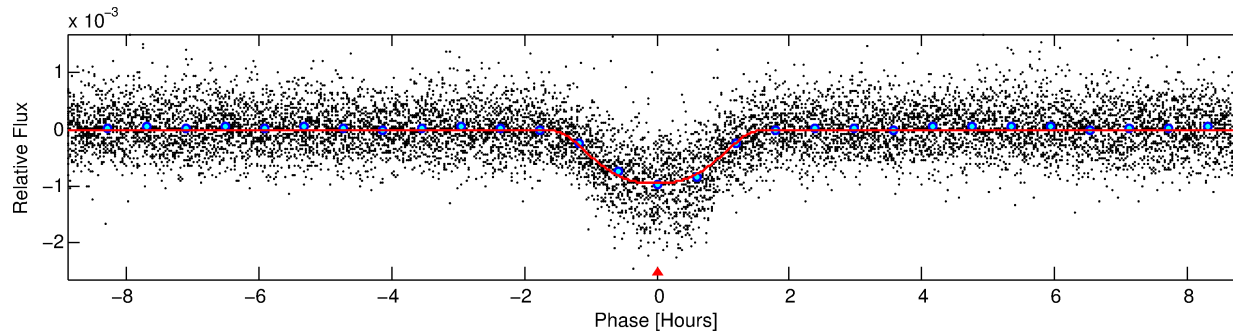
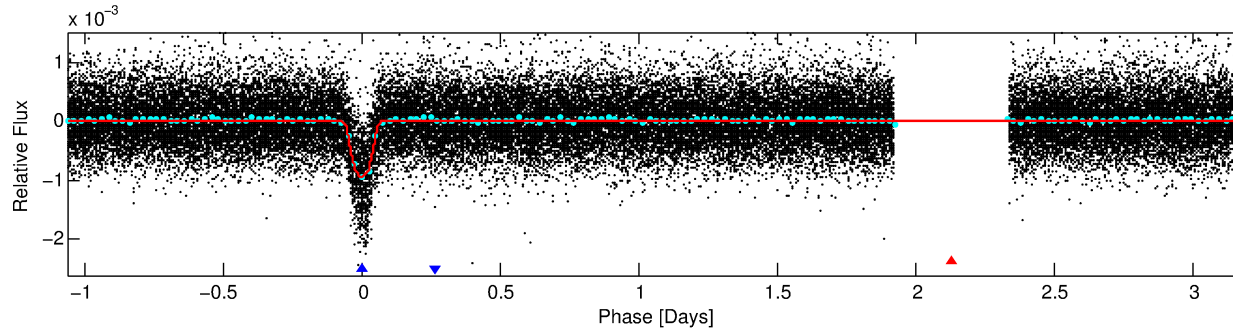
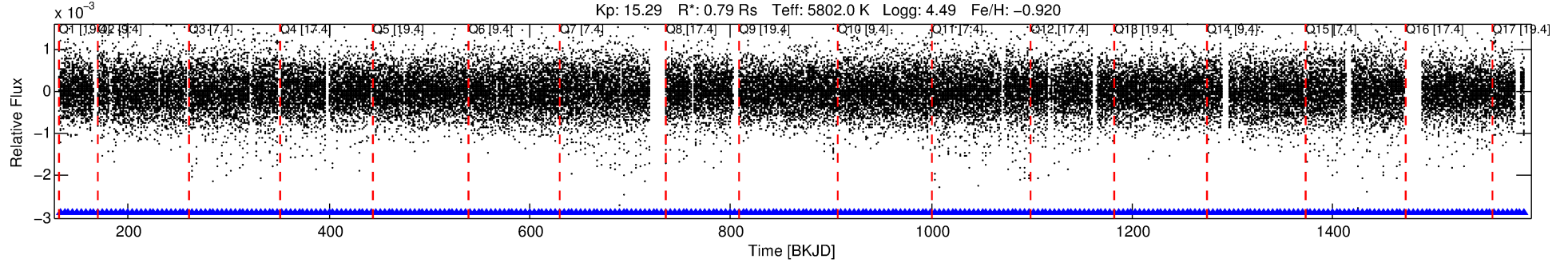
Ephemeris Match Information For 007910148-02

No Significant Match Found

DV One-Page Summary

KIC: 7910148 Candidate: 2 of 2 Period: 4.252 d
KOI: K03661 Corr: No Ephemeris Match

Kp: 15.29 R*: 0.79 Rs Teff: 5802.0 K Logg: 4.49 Fe/H: -0.920



DV Fit Results:

Period = 4.25206 [0.00001] d
Epoch = 132.1773 [0.0009] BKJD
Rp/R* = 0.0363 [0.0010]
a/R* = 4.31 [0.17]
b = 0.96 [0.00]
Seff = 303.59 [81.22]
Teq = 1064 [71] K
Rp = 3.15 [0.57] Re
a = 0.0459 [0.0072] AU
Ag = 6.28 [3.35] [1.57σ]
Teff = 2605 [325] K [4.63σ]

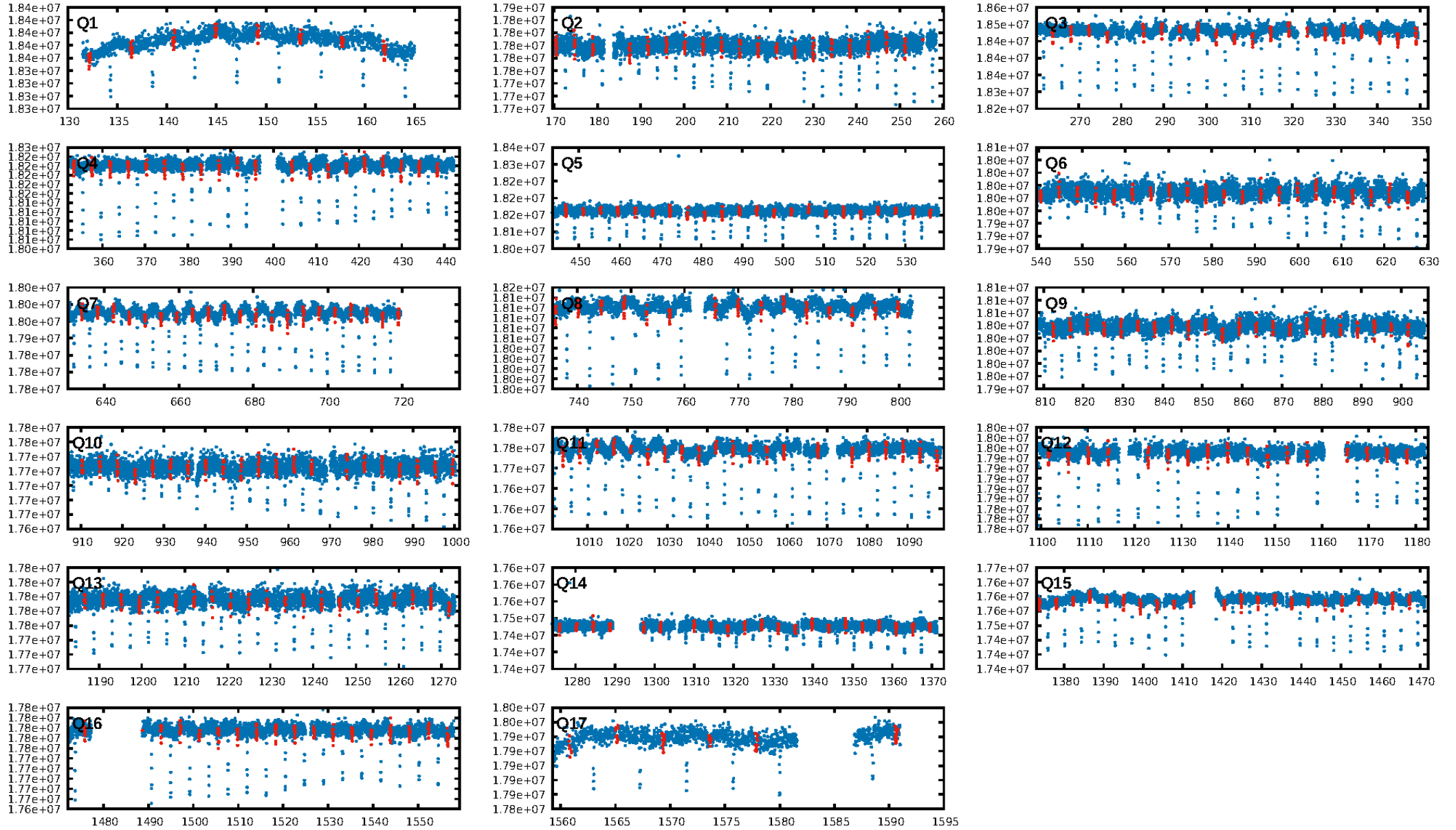
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [298/298]
GhostDiagnostic-chr: 0.05209
Centroid-sig: 0.0%
Centroid-so: 12.779 arcsec [62.93σ]
OotOffset-rm: 4.222 arcsec [60.58σ]
KicOffset-rm: 4.432 arcsec [63.26σ]
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]

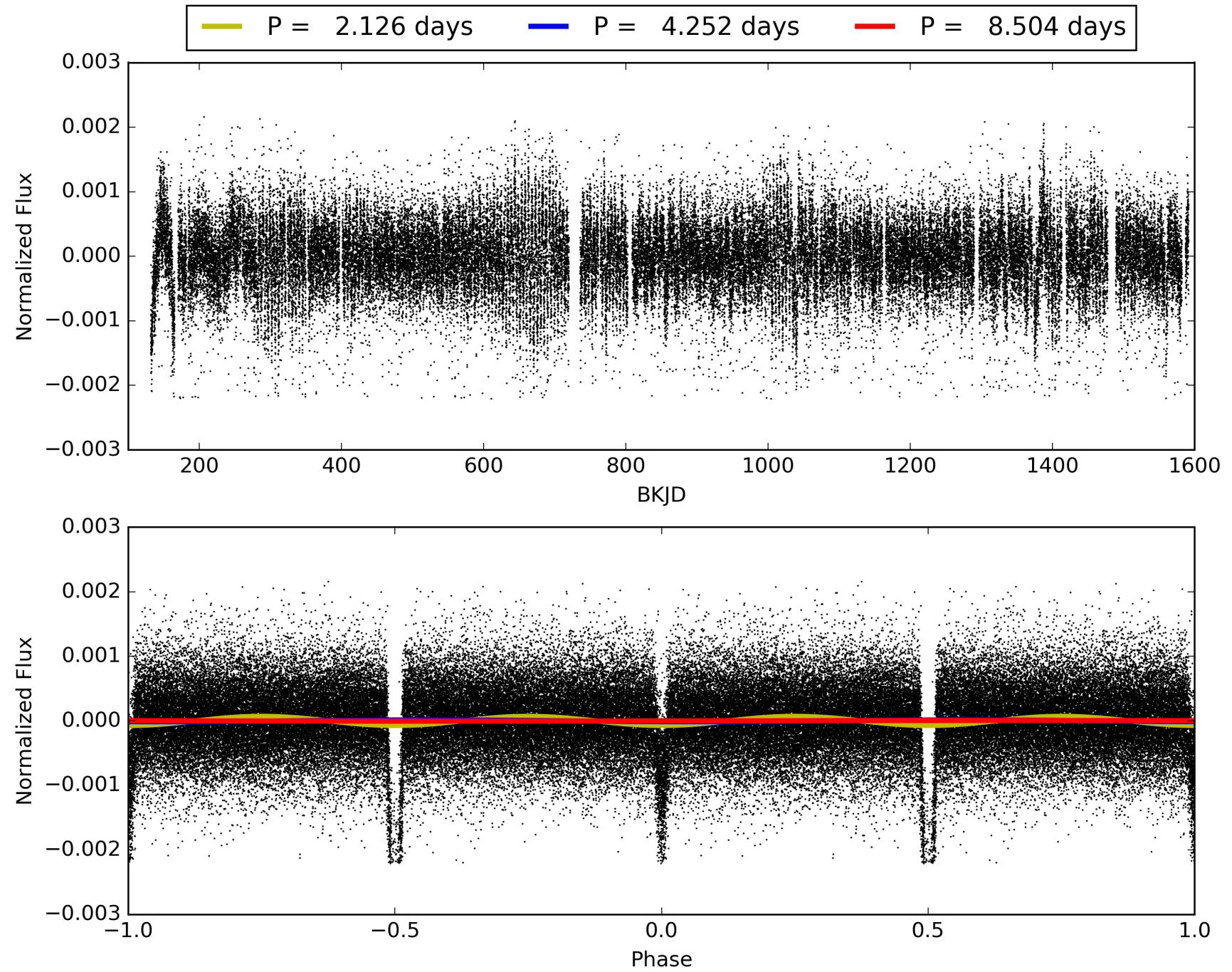
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:48:25 Z

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

TCE 007910148-02, PDC Light Curves

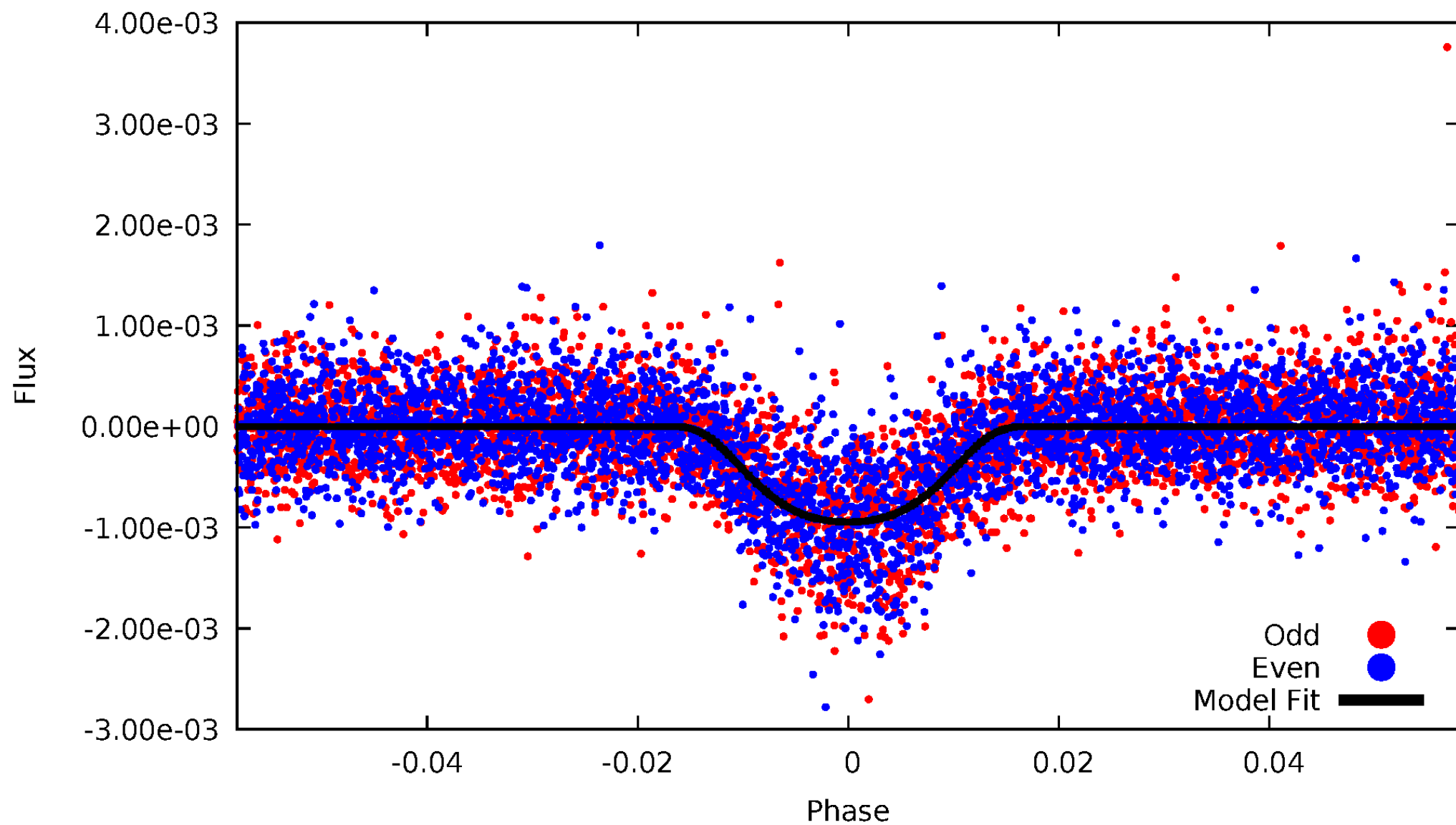


TCE 007910148-02



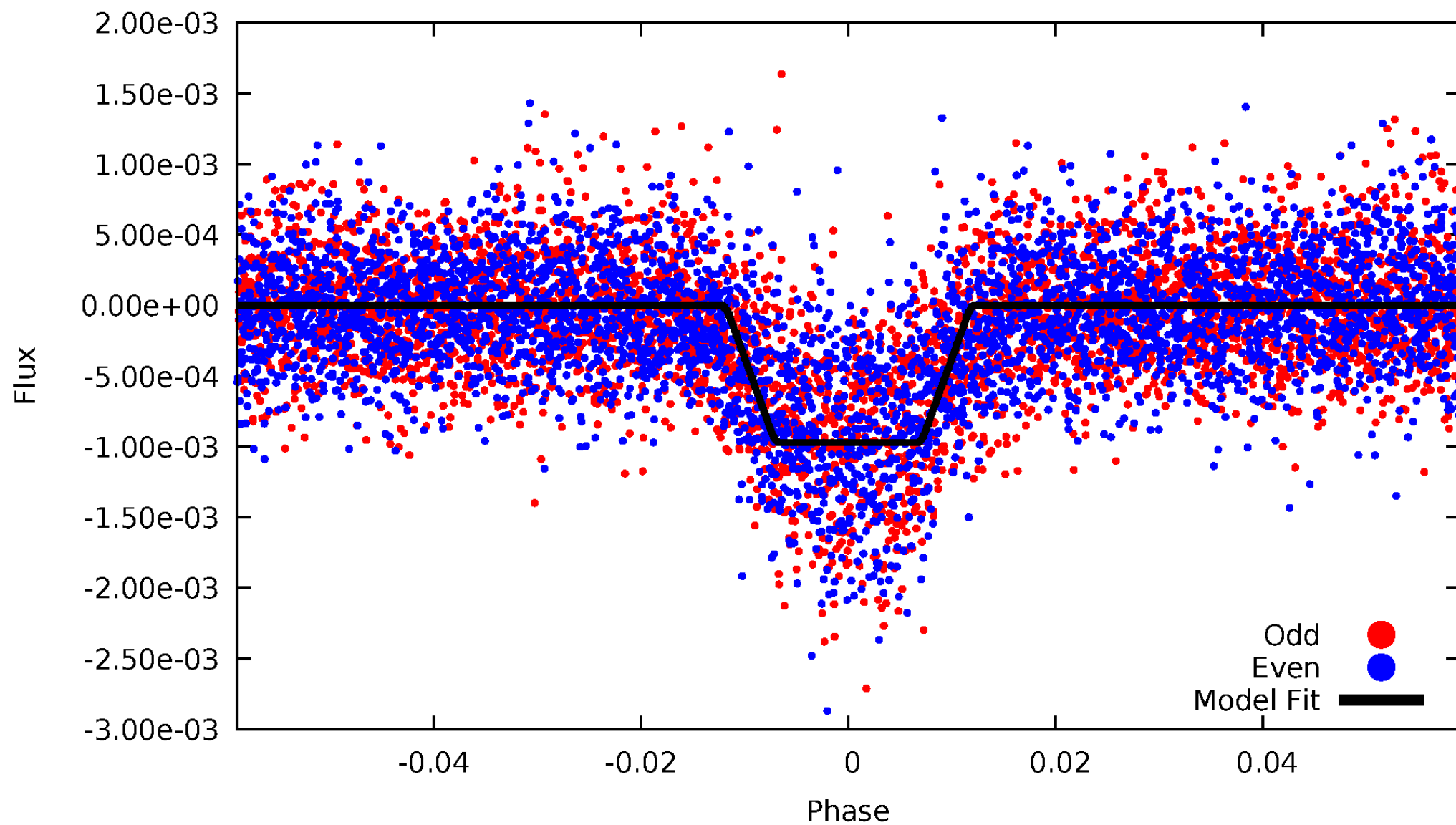
DV Odd/Even

TCE 007910148-02



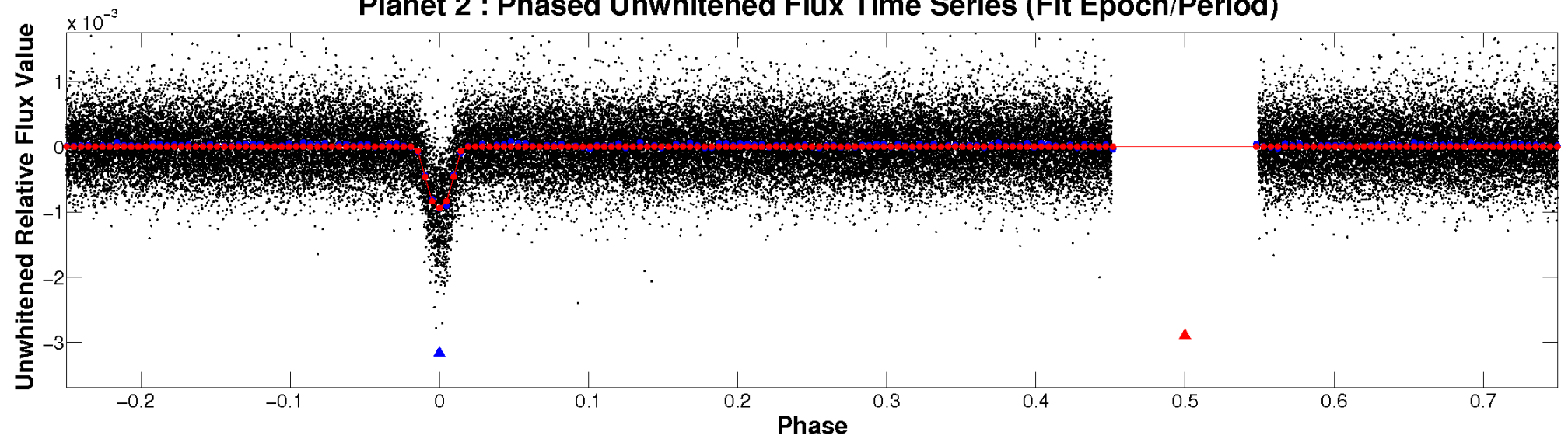
ALT Odd/Even

TCE 007910148-02

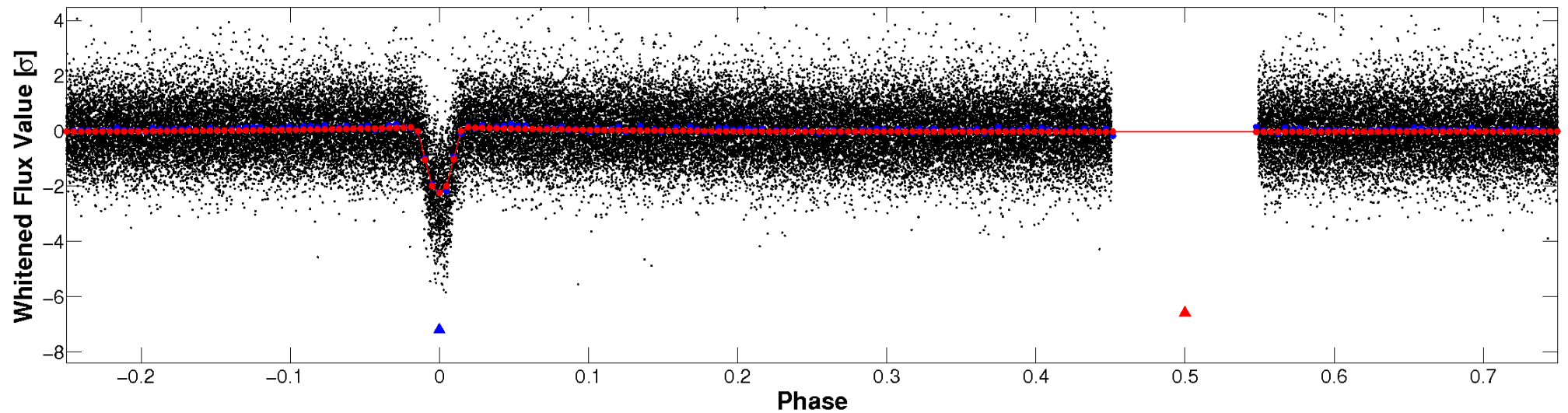


Non-Whitened Vs. Whitened Light Curve

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

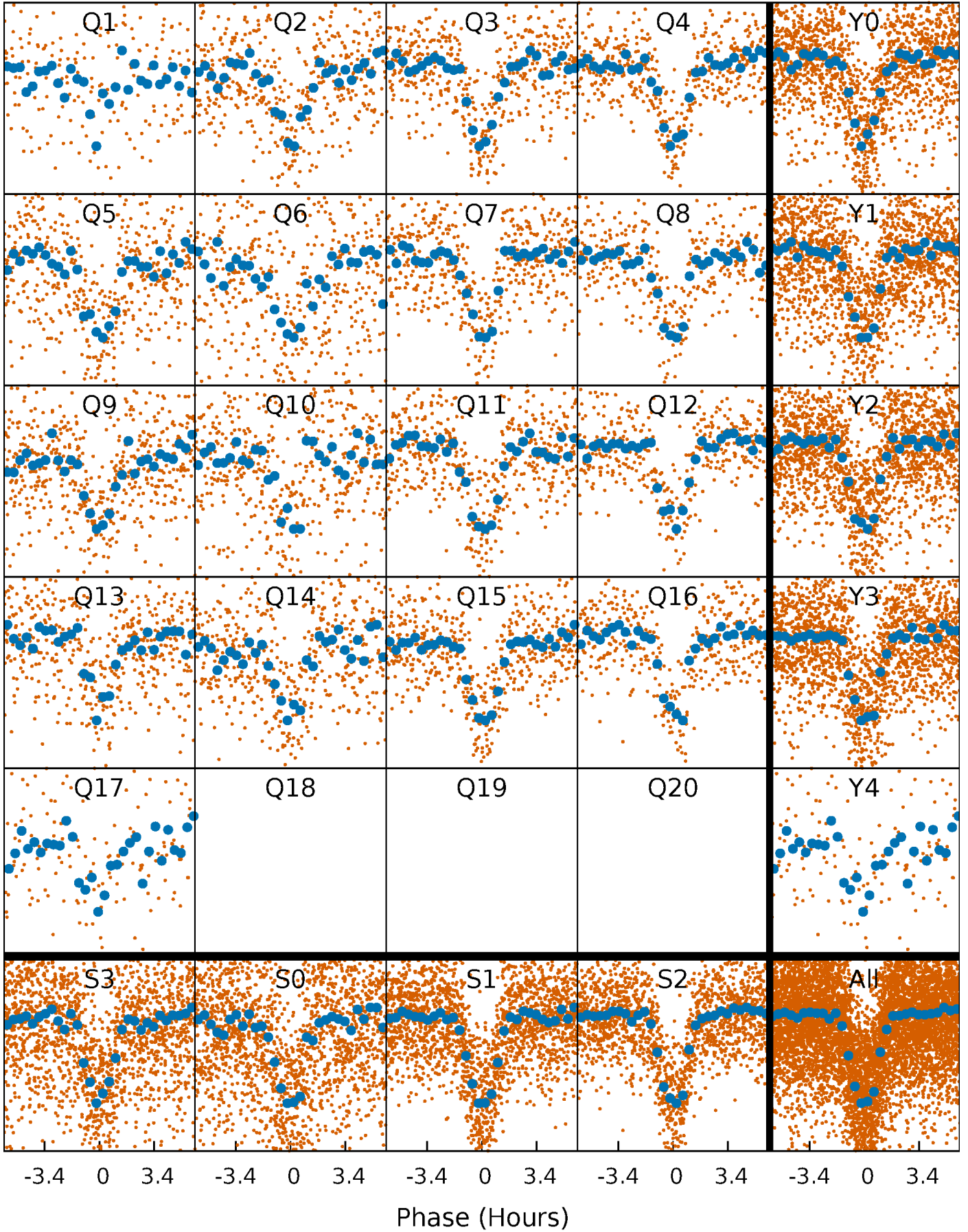


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



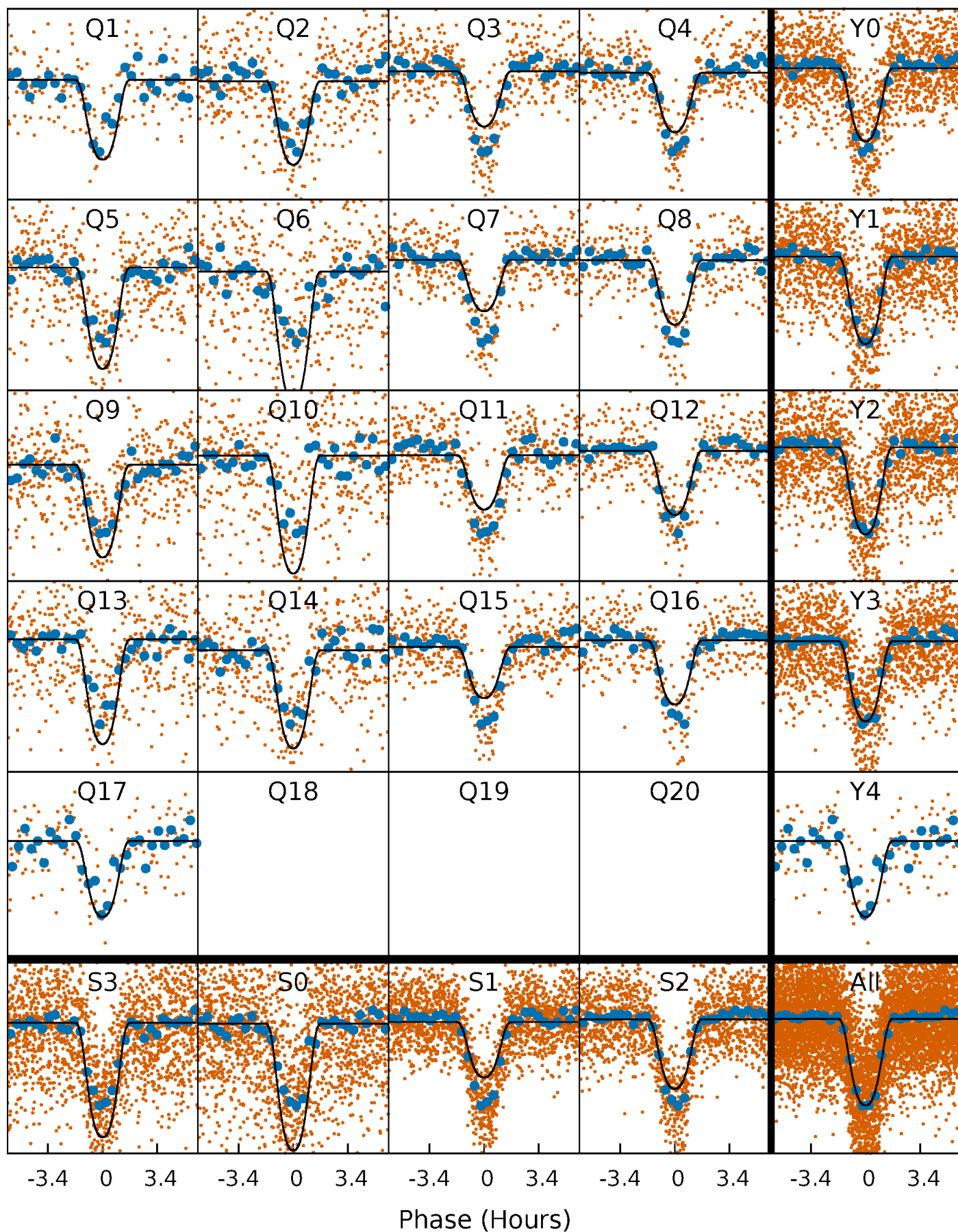
PDC Quarter-Phased Transit Curves

TCE 007910148-02 P= 4.252063 Days $T_0=132.177340$ (BKJD)



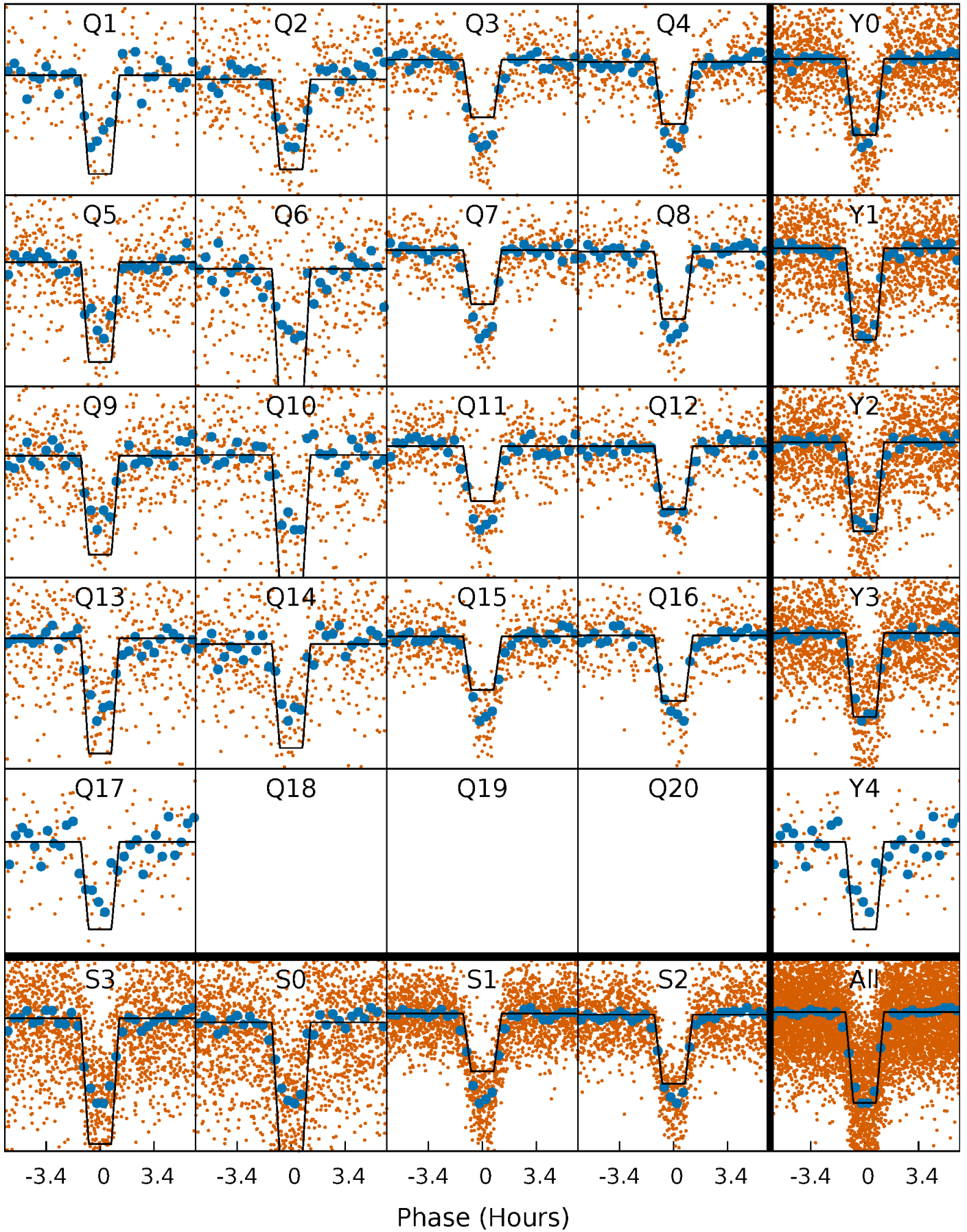
DV Quarter-Phased Transit Curves

TCE 007910148-02 P= 4.252063 Days $T_0=132.177340$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

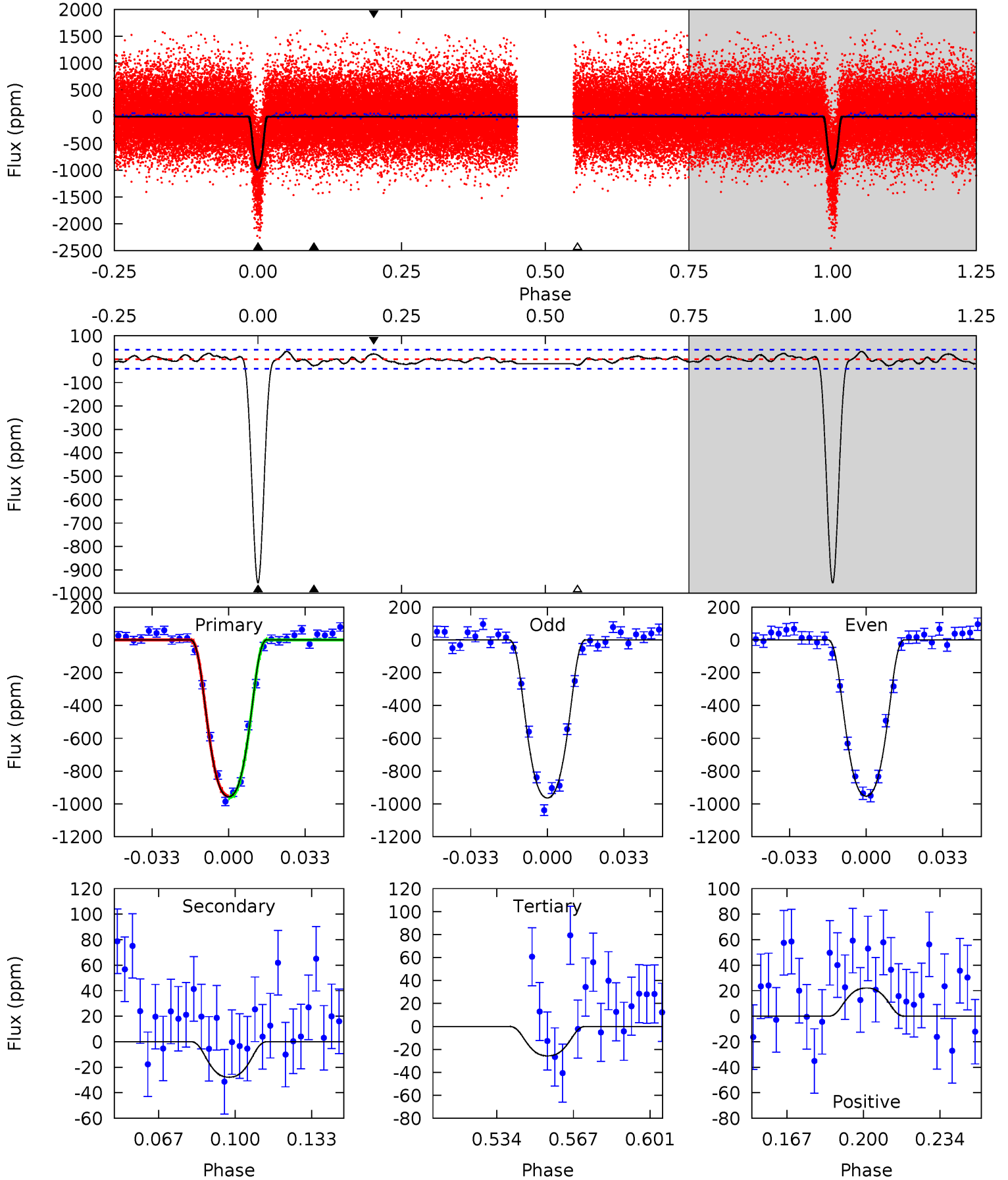
TCE 007910148-02 P= 4.252055 Days $T_0=132.179260$ (BKJD)



DV Model-Shift Uniqueness Test

007910148-02, P = 4.252063 Days, E = 127.925277 Days

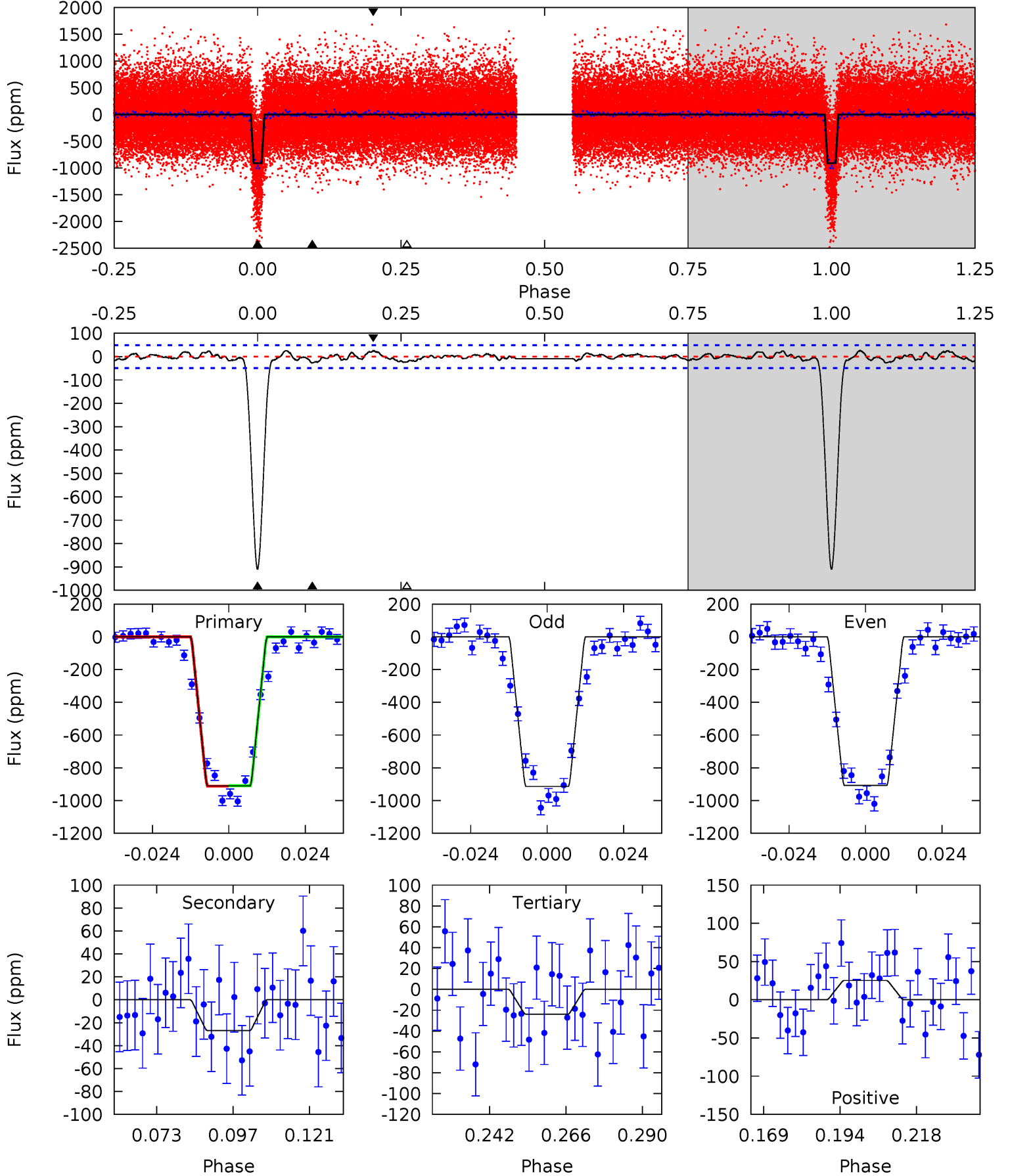
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
112.7	3.28	3.03	2.61	4.79	2.13	1.31	109.7	110.1	0.25	0.67	0.69	1.05	0.03	0.60



Alt Model-Shift Uniqueness Test

007910148-02, P = 4.252055 Days, E = 127.927205 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
90.9	2.69	2.37	2.52	4.85	2.25	1.02	88.5	88.3	0.32	0.17	0.28	1.05	0.03	0.13



Stellar Parameters For KIC 007910148

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5802^{+191}_{-191}	$4.492^{+0.130}_{-0.130}$	$-0.920^{+0.350}_{-0.300}$	$0.794^{+0.143}_{-0.104}$	$0.714^{+0.085}_{-0.030}$	$2.005^{+1.054}_{-0.689}$
	+3%/-3%	+3%/-3%	+38%/-33%	+18%/-13%	+12%/-4%	+53%/-34%
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 007910148-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-28 ± 8	$3.15^{+0.36}_{-0.25}$	1479^{+90}_{-70}	2877^{+124}_{-162}	$3.286^{+1.227}_{-1.116}$
Alt.	-27 ± 10	$2.72^{+0.31}_{-0.23}$	1487^{+91}_{-82}	2975^{+182}_{-198}	$4.133^{+1.944}_{-1.603}$

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

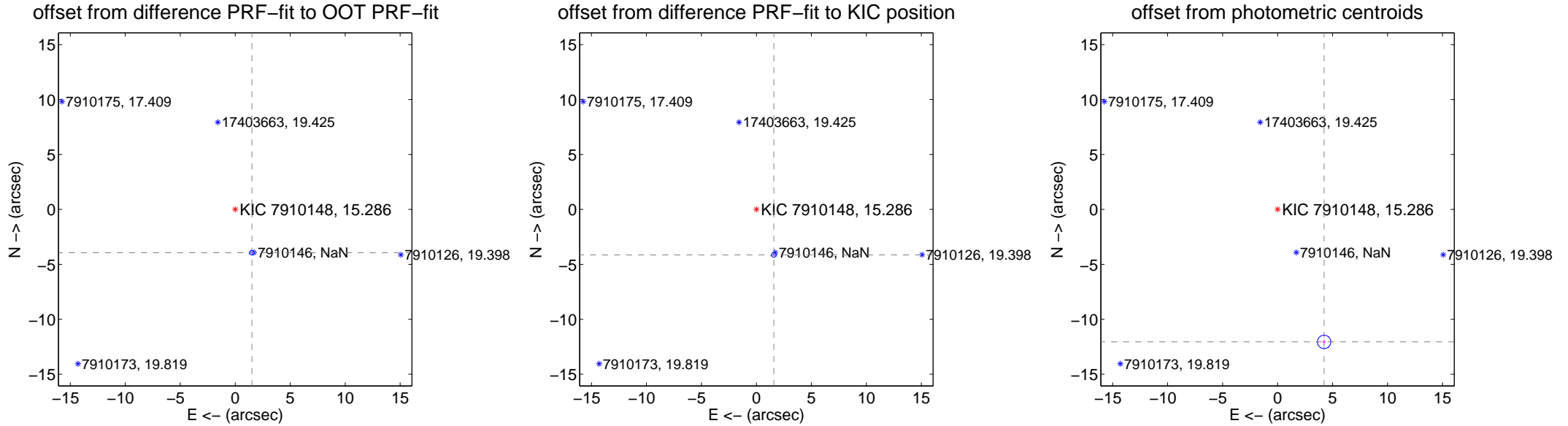
DV Centroid Data

Supplemental centroid analysis for 007910148-02. Kepler magnitude: 15.29. Transit SNR 65.28

There are 17 quarters with good PRF difference image offsets

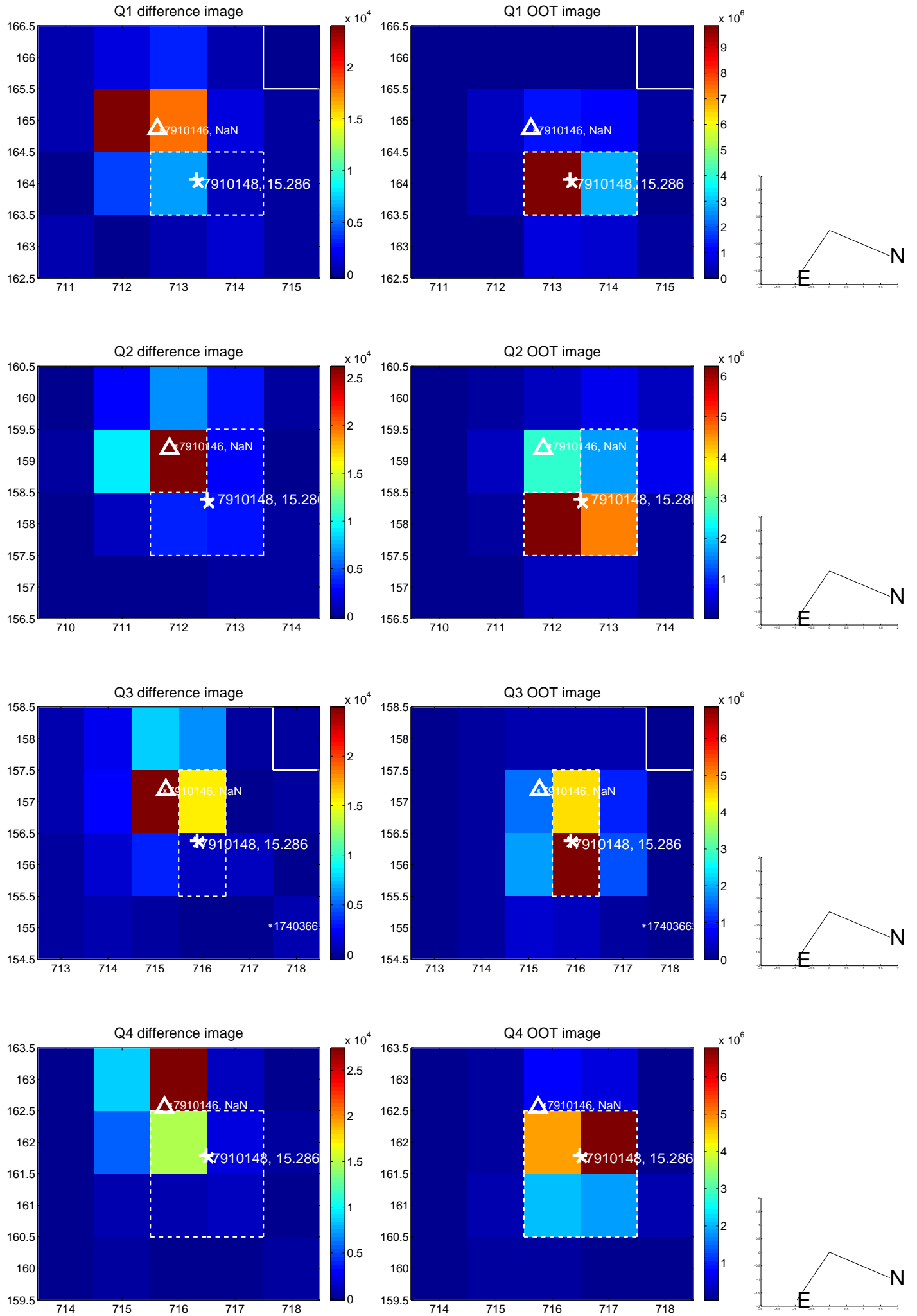
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.222 \pm 0.070	60.58	-1.519 \pm 0.077	-3.939 \pm 0.069
PRF-fit source offset from KIC position	4.432 \pm 0.070	63.26	-1.587 \pm 0.076	-4.138 \pm 0.069
photometric centroid source offset	12.78 \pm 0.20	62.93	-4.23 \pm 0.16	-12.06 \pm 0.21

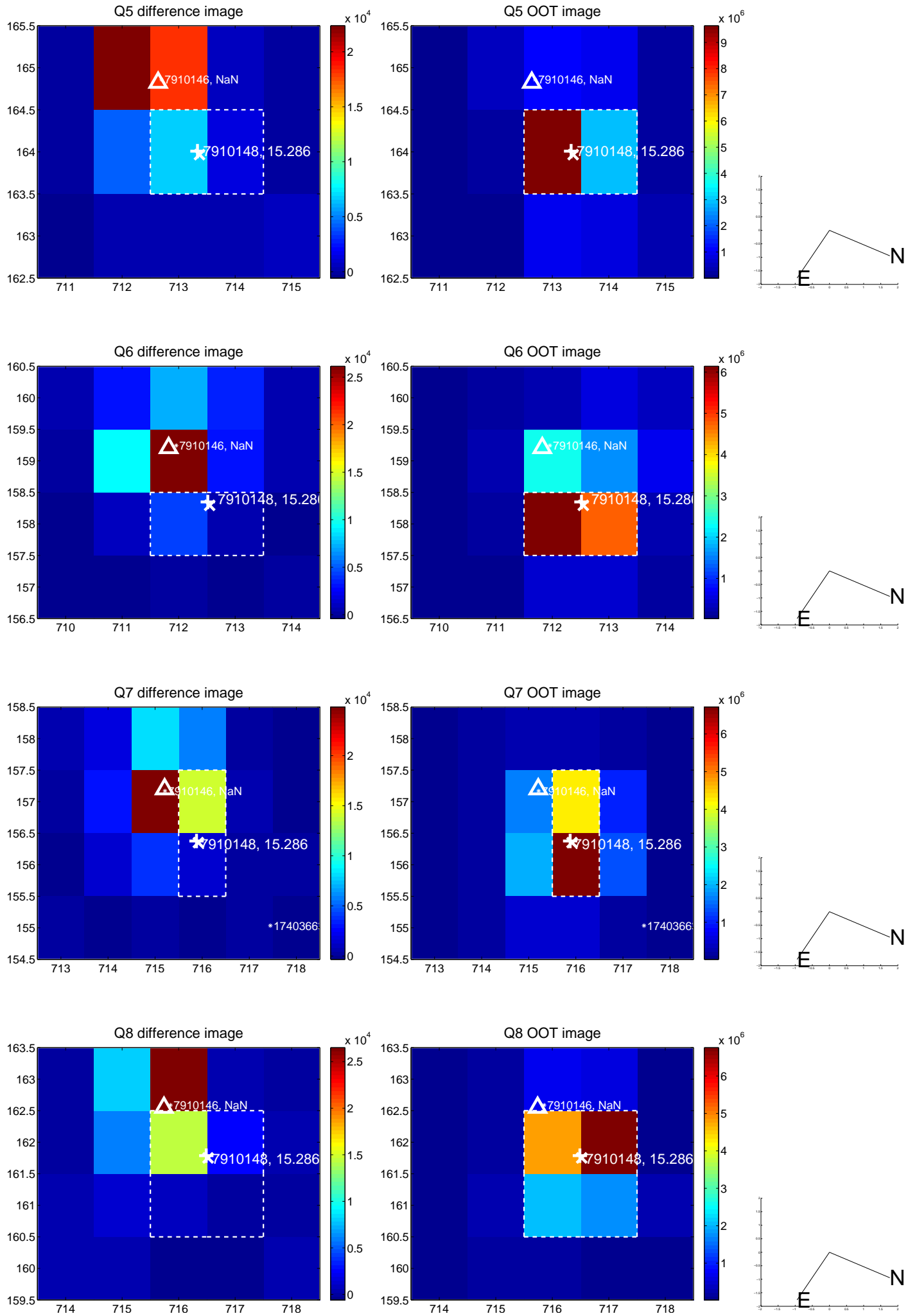


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

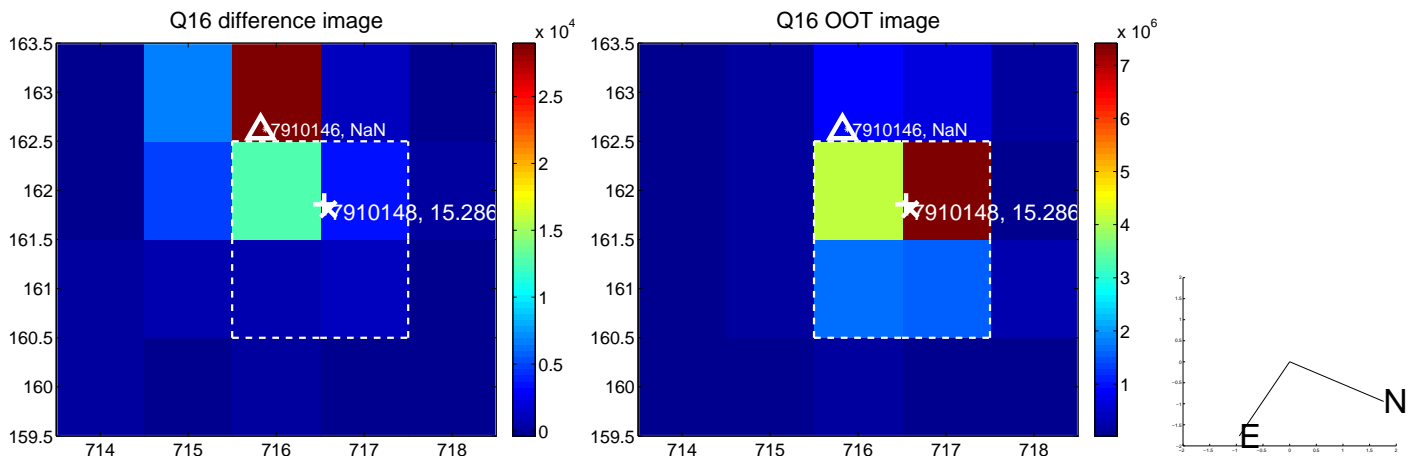
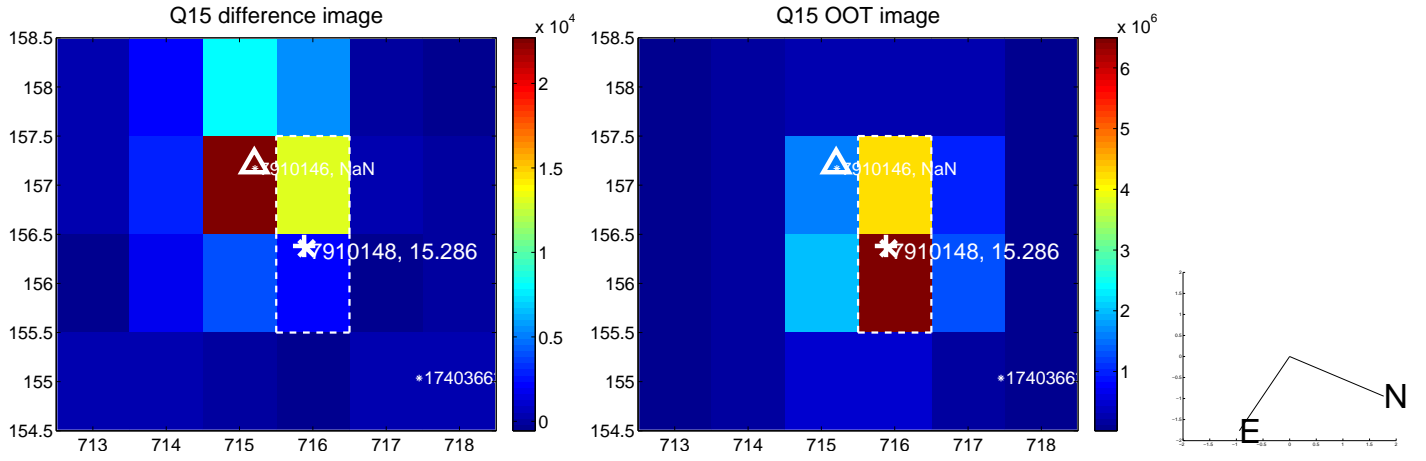
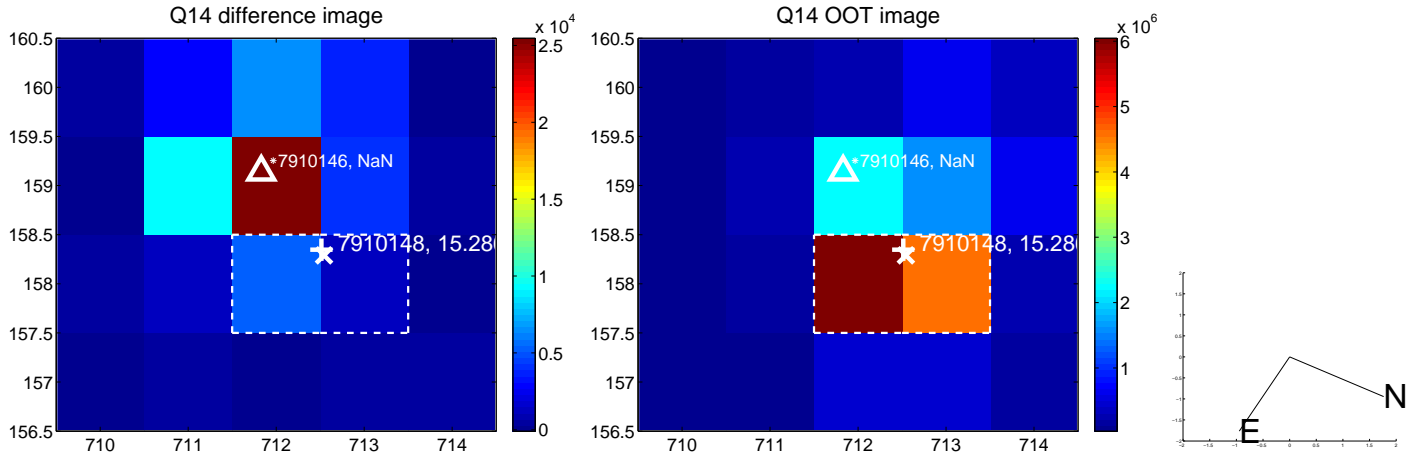
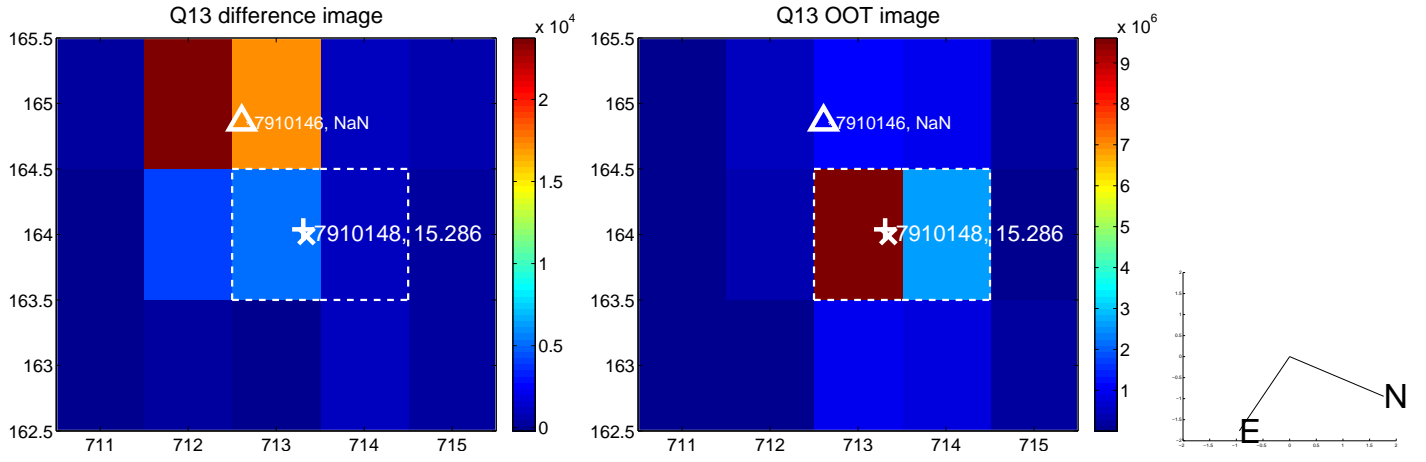
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



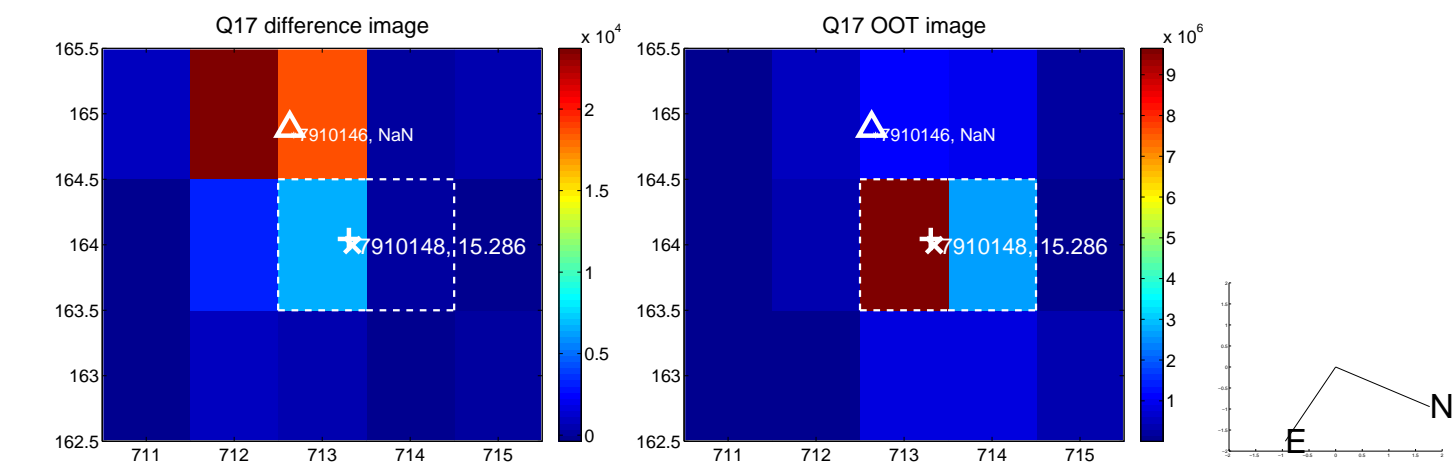
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



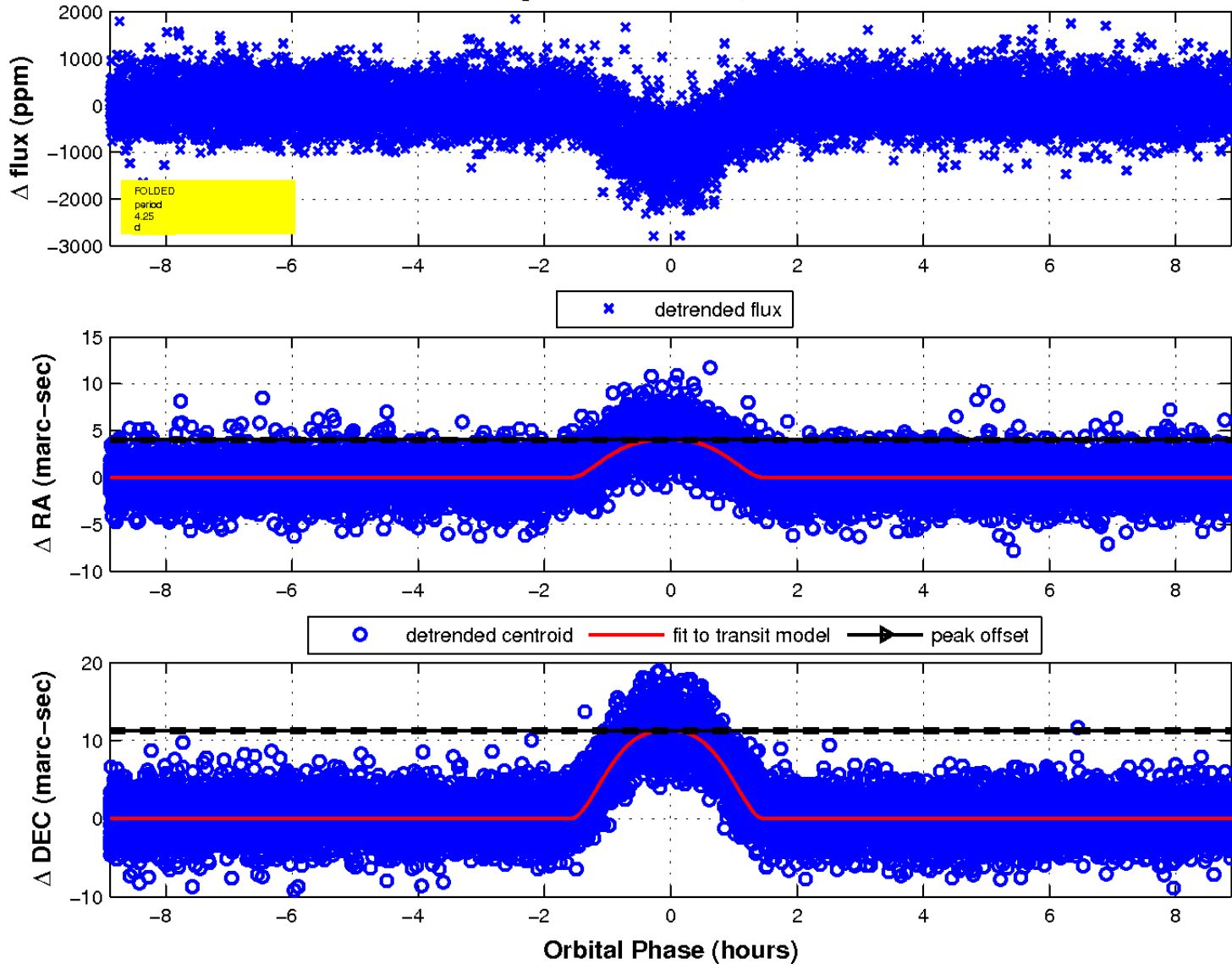
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

