

KIC 007901948

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})
007901948-01	OBS	1511.01	2.578854	133.223554	323.9	2.484	32.9	36.6	0.85	5743	1.81	542.23
007901948-02	OBS	No	561.014863	217.795258	1493.8	16.169	14.7	13.9	0.85	5743	6.34	0.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007901948-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007901948-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—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.

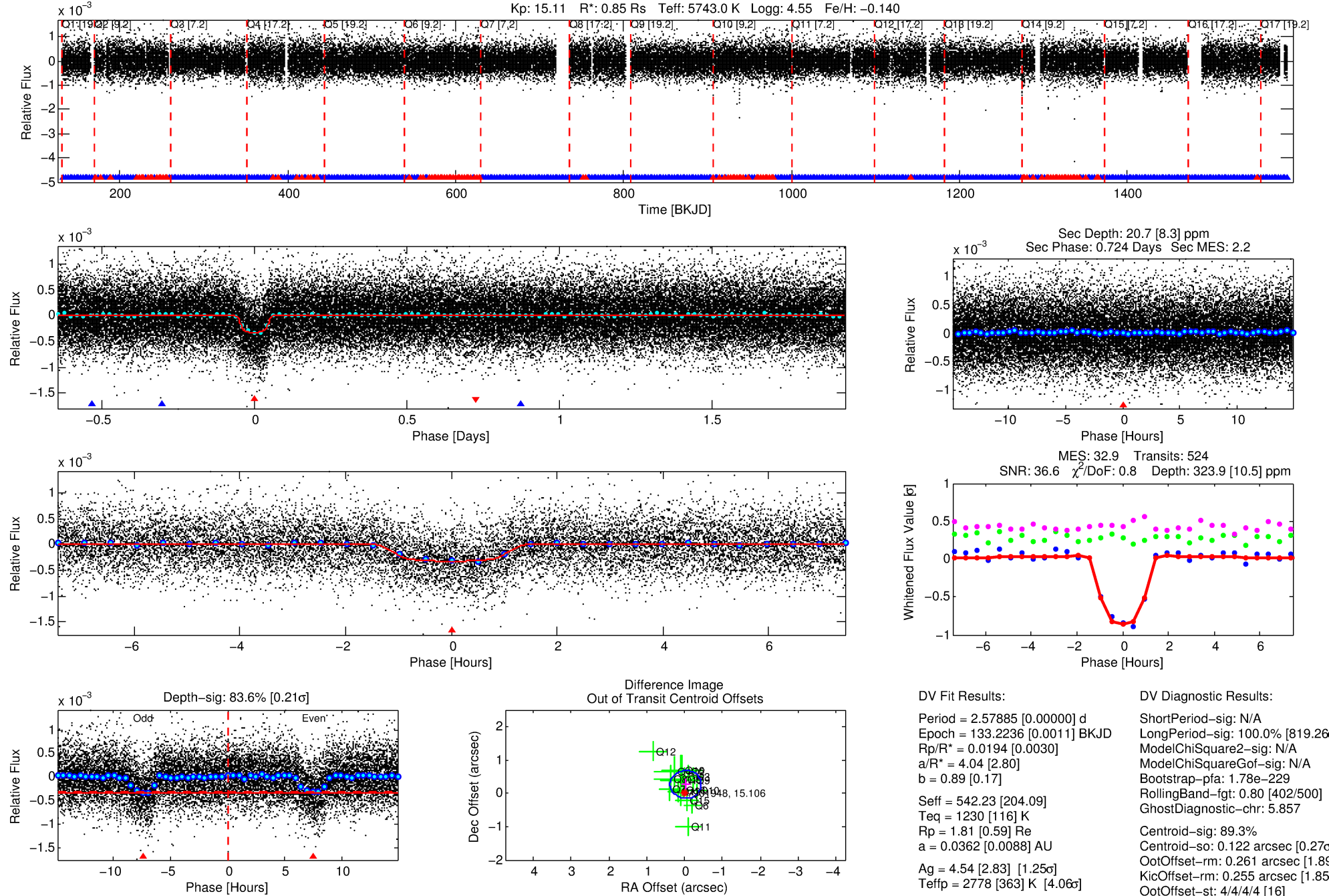
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007901948-01

No Significant Match Found

DV One-Page Summary

KIC: 7901948 Candidate: 1 of 2 Period: 2.579 d
KOI: K01511.01 Corr: 0.968



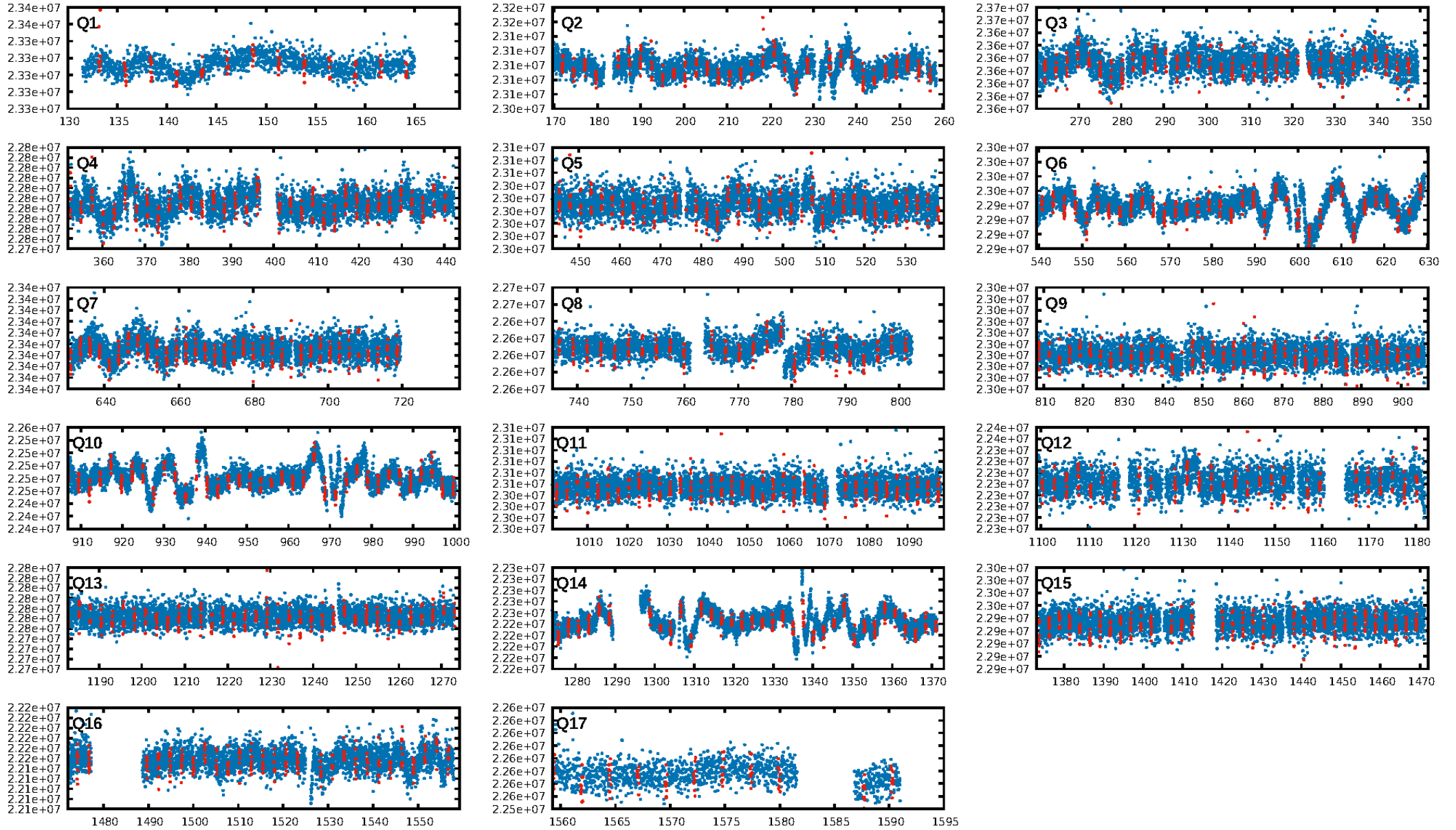
DV Fit Results:

Period = 2.57885 [0.00000] d
Epoch = 133.2236 [0.0011] BKJD
Rp/R* = 0.0194 [0.0030]
a/R* = 4.04 [2.80]
b = 0.89 [0.17]
Seff = 542.23 [204.09]
Teq = 1230 [116] K
Rp = 1.81 [0.59] Re
a = 0.0362 [0.0088] AU
Ag = 4.54 [2.83] [1.25 σ]
Teffp = 2778 [363] K [4.06 σ]

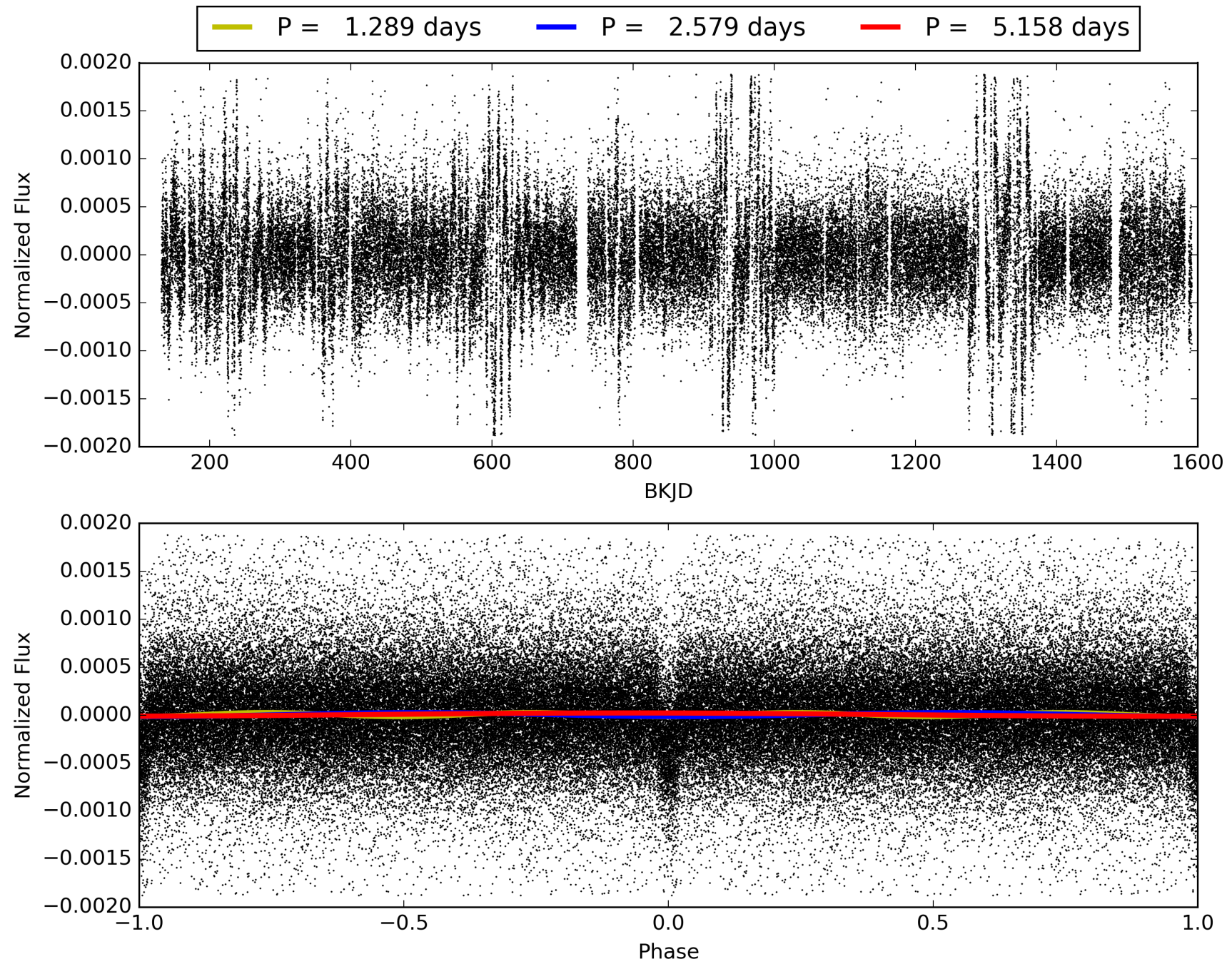
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [819.26 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.78e-229
RollingBand-fgt: 0.80 [402/500]
GhostDiagnostic-chr: 5.857
Centroid-sig: 89.3%
Centroid-so: 0.122 arcsec [0.27 σ]
OotOffset-rm: 0.261 arcsec [1.89 σ]
KicOffset-rm: 0.255 arcsec [1.85 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007901948-01, PDC Light Curves

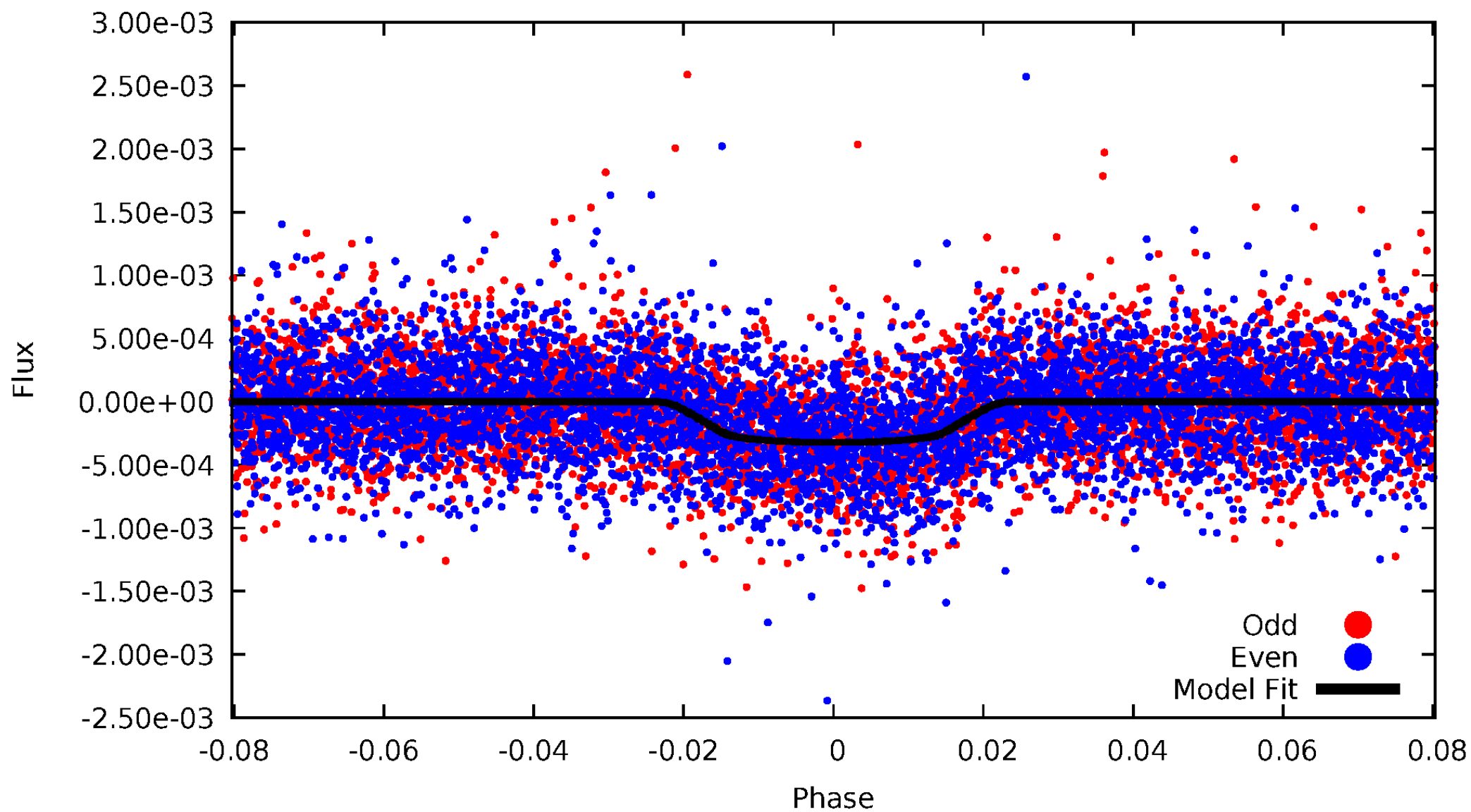


TCE 007901948-01



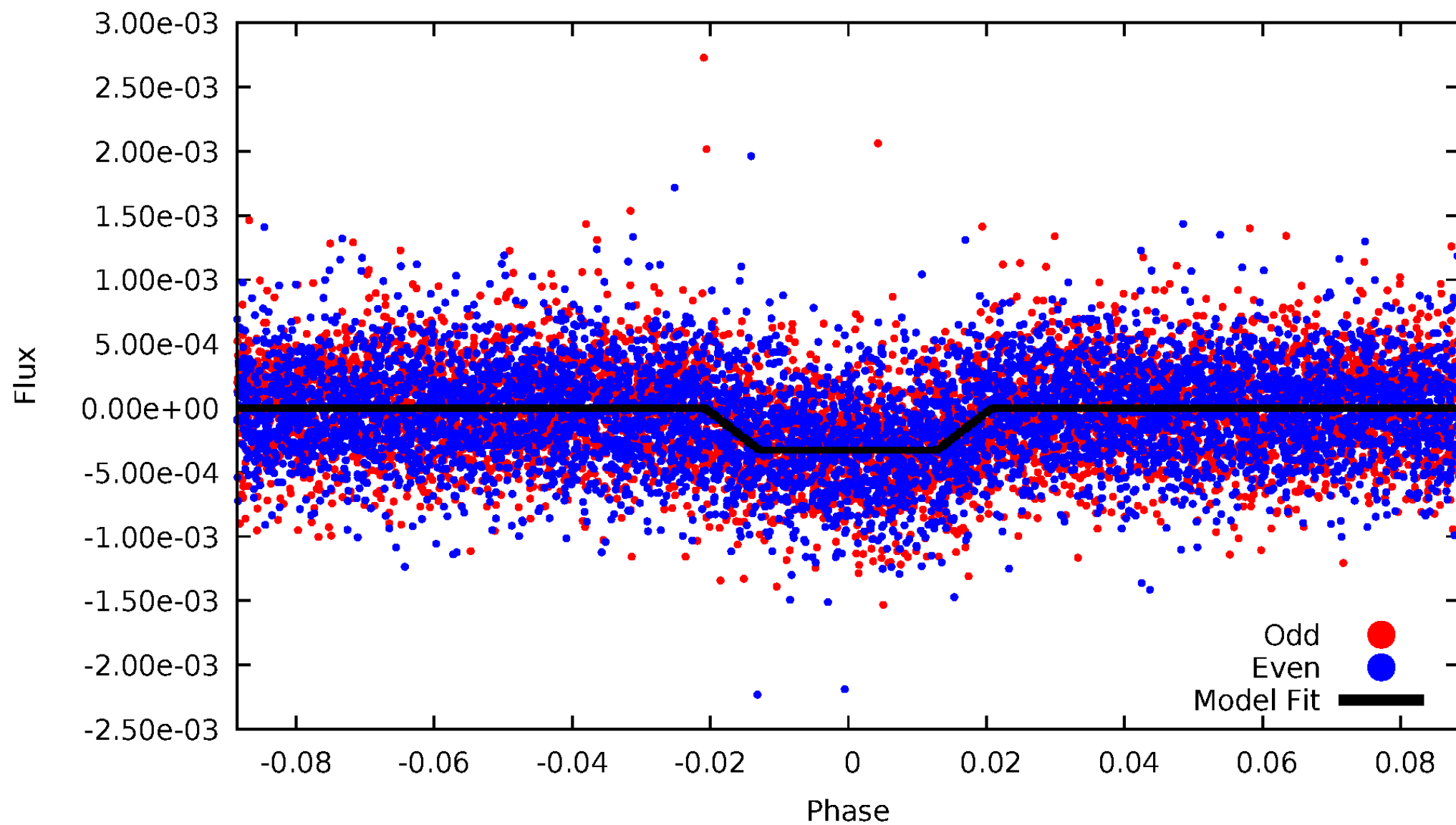
DV Odd/Even

TCE 007901948-01



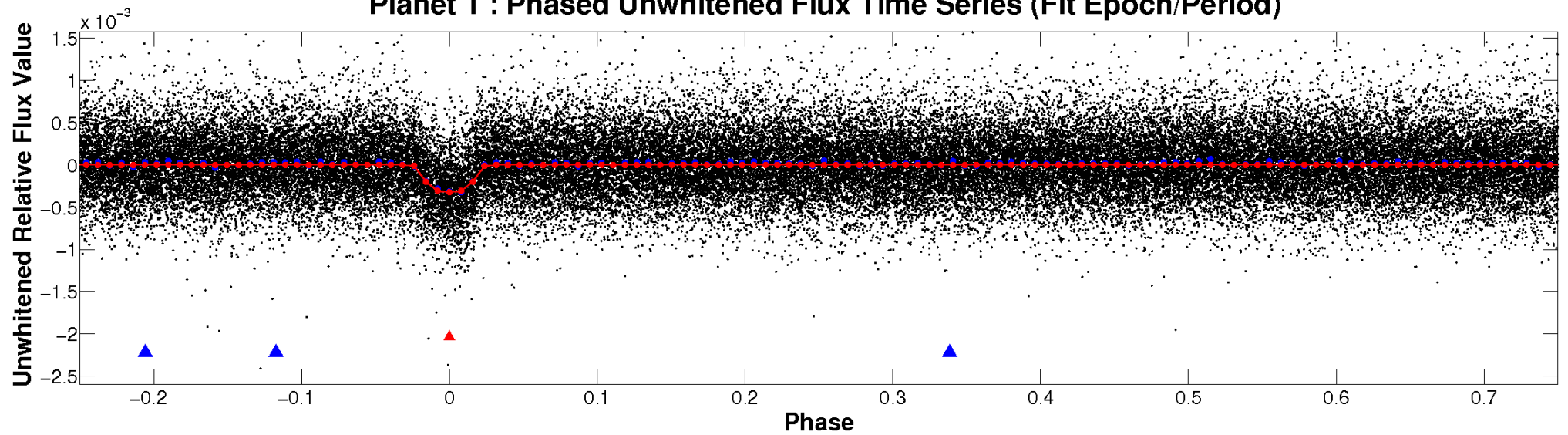
ALT Odd/Even

TCE 007901948-01

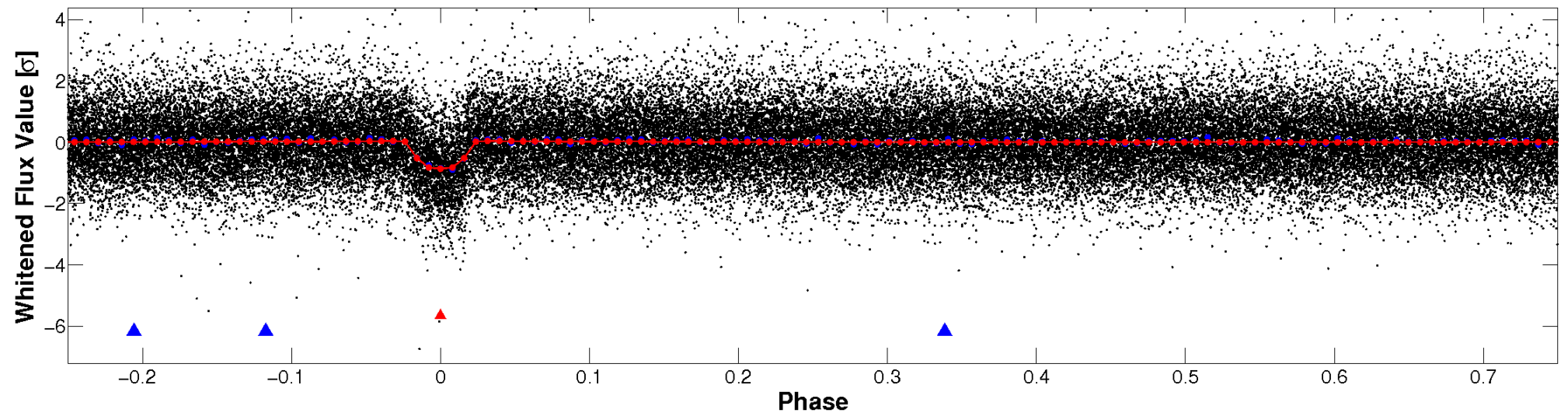


Non-Whitened Vs. Whitened Light Curve

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

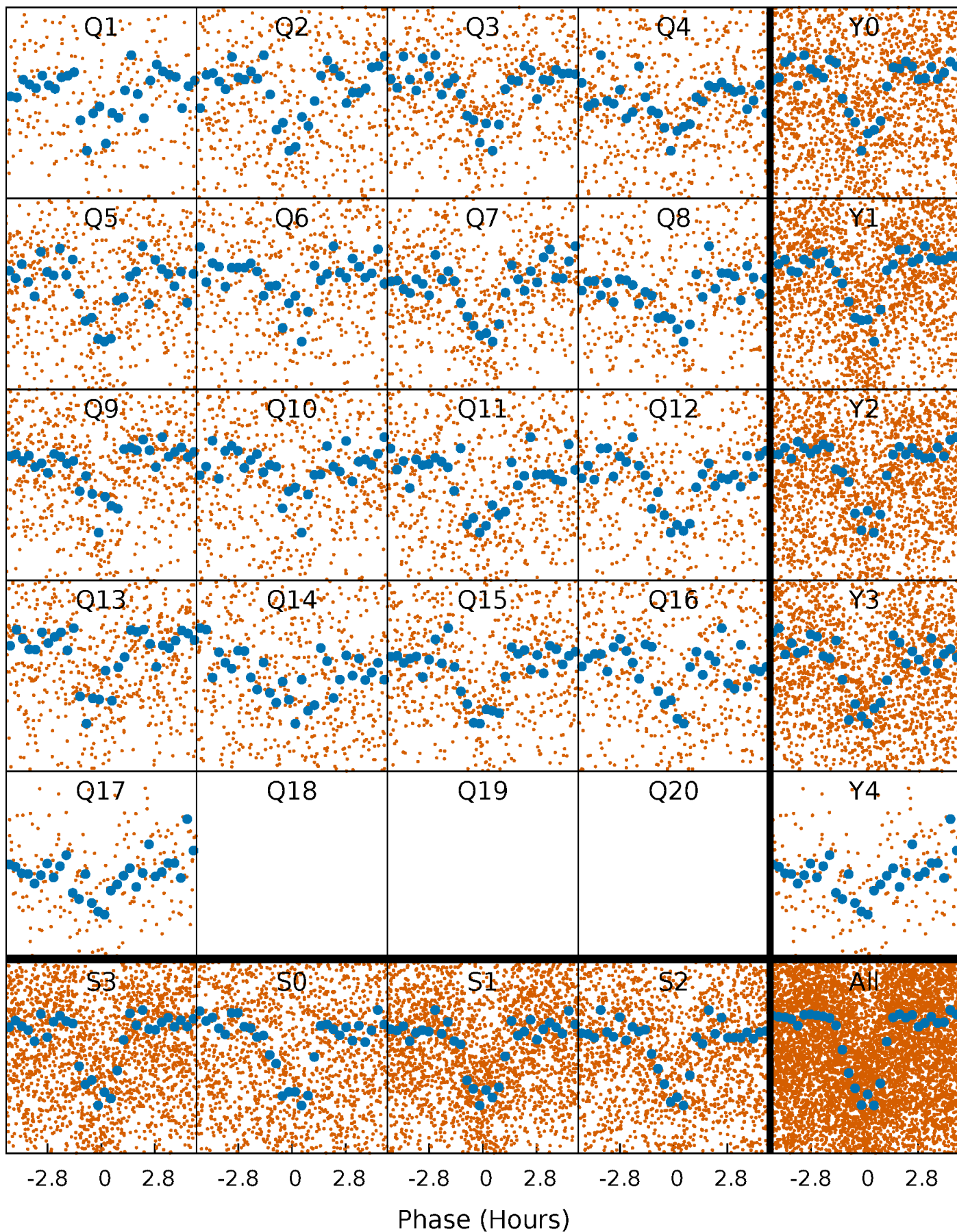


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



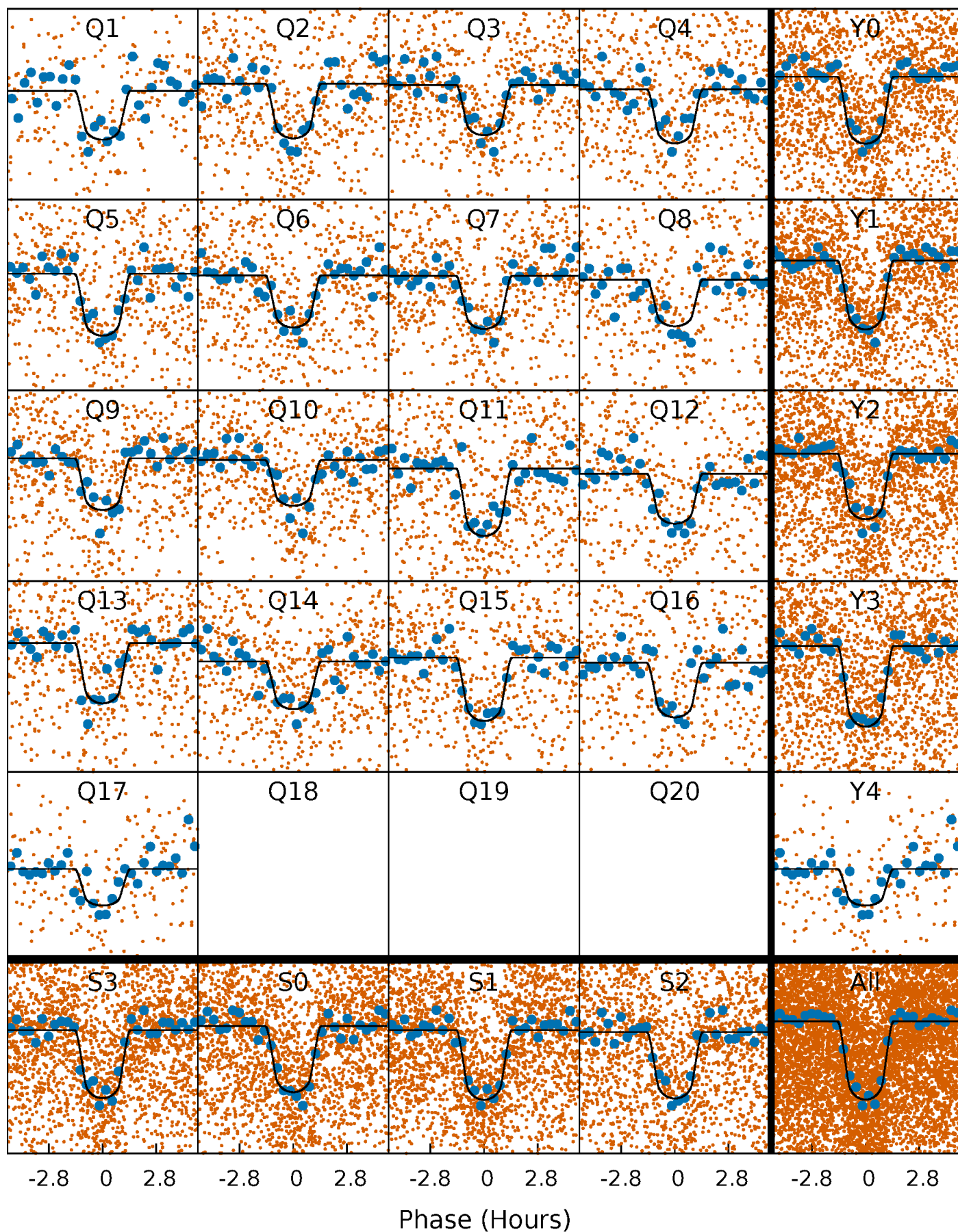
PDC Quarter-Phased Transit Curves

TCE 007901948-01 P= 2.578854 Days $T_0=133.223554$ (BKJD)



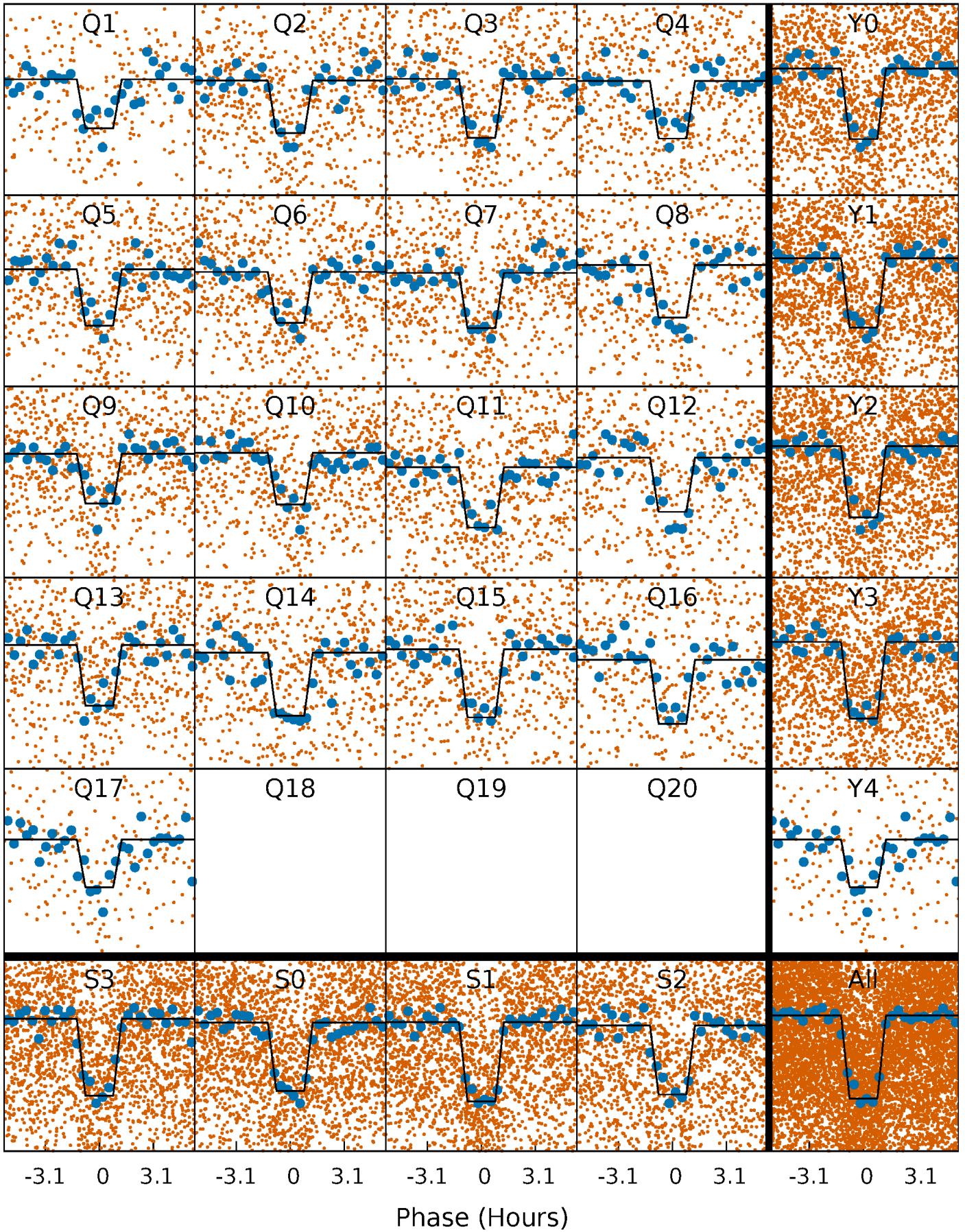
DV Quarter-Phased Transit Curves

TCE 007901948-01 P= 2.578854 Days $T_0=133.223554$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

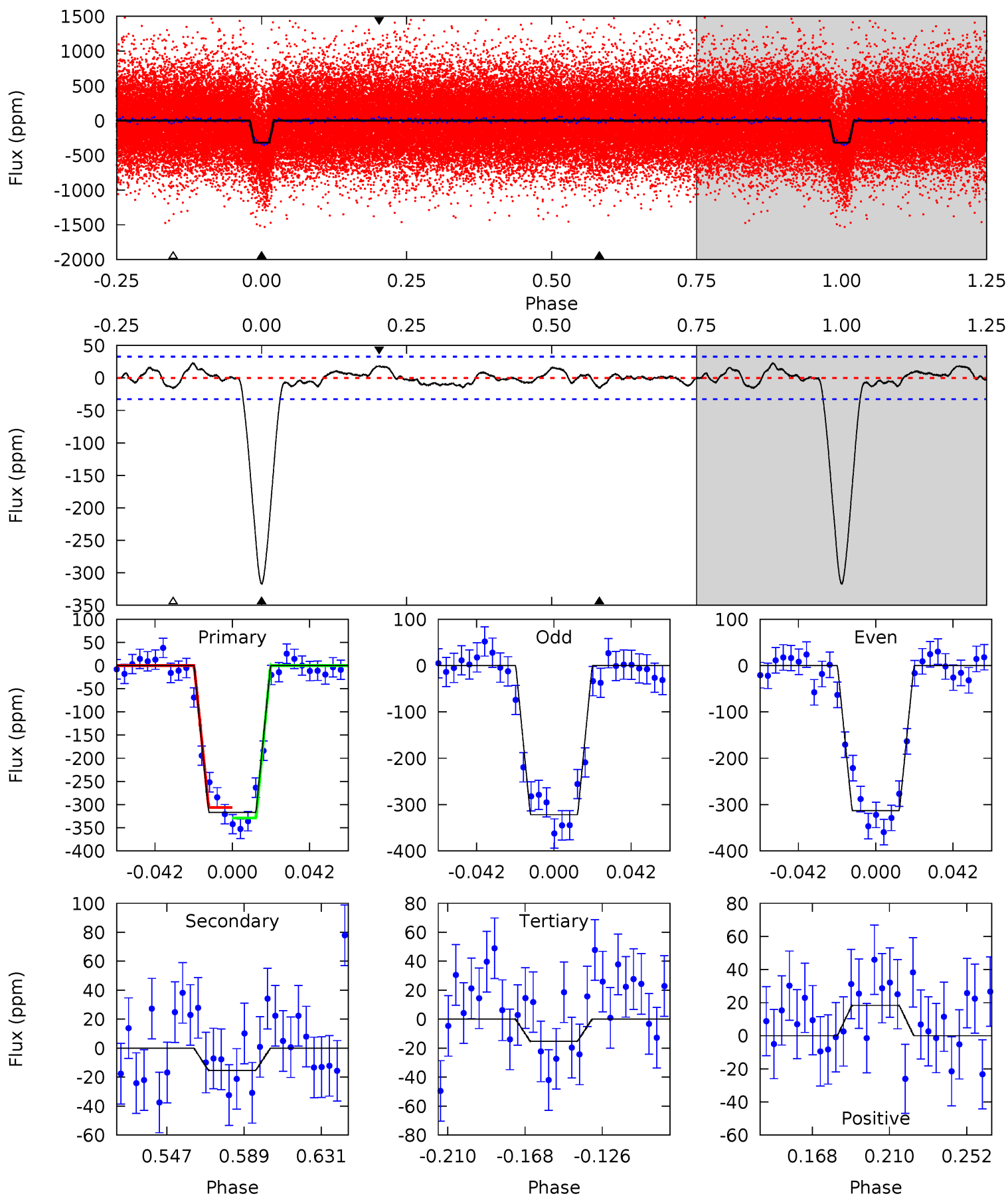
TCE 007901948-01 P= 2.578838 Days $T_0=133.227739$ (BKJD)



Alt Model-Shift Uniqueness Test

007901948-01, P = 2.578838 Days, E = 130.648901 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	2.21	2.21	2.66	4.74	2.03	1.19	43.7	43.3	0.01	-0.44	0.64	0.98	0.07	1.64



Stellar Parameters For KIC 007901948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5743^{+154}_{-171}	$4.553^{+0.035}_{-0.196}$	$-0.140^{+0.300}_{-0.300}$	$0.853^{+0.246}_{-0.077}$	$0.949^{+0.103}_{-0.113}$	$2.155^{+0.417}_{-1.097}$
	+3%/-3%	+1%/-4%	+214%/-214%	+29%/-9%	+11%/-12%	+19%/-51%
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 007901948-01 / KOI 1511.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 6	$1.91^{+0.41}_{-0.34}$	1764^{+115}_{-80}	3187^{+259}_{-268}	$3.406^{+2.116}_{-1.564}$
Alt.	-15 ± 7	$1.77^{+0.39}_{-0.34}$	1764^{+109}_{-79}	3181^{+309}_{-329}	$3.358^{+2.418}_{-1.693}$

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 $A_{obs} \gg 1.0$

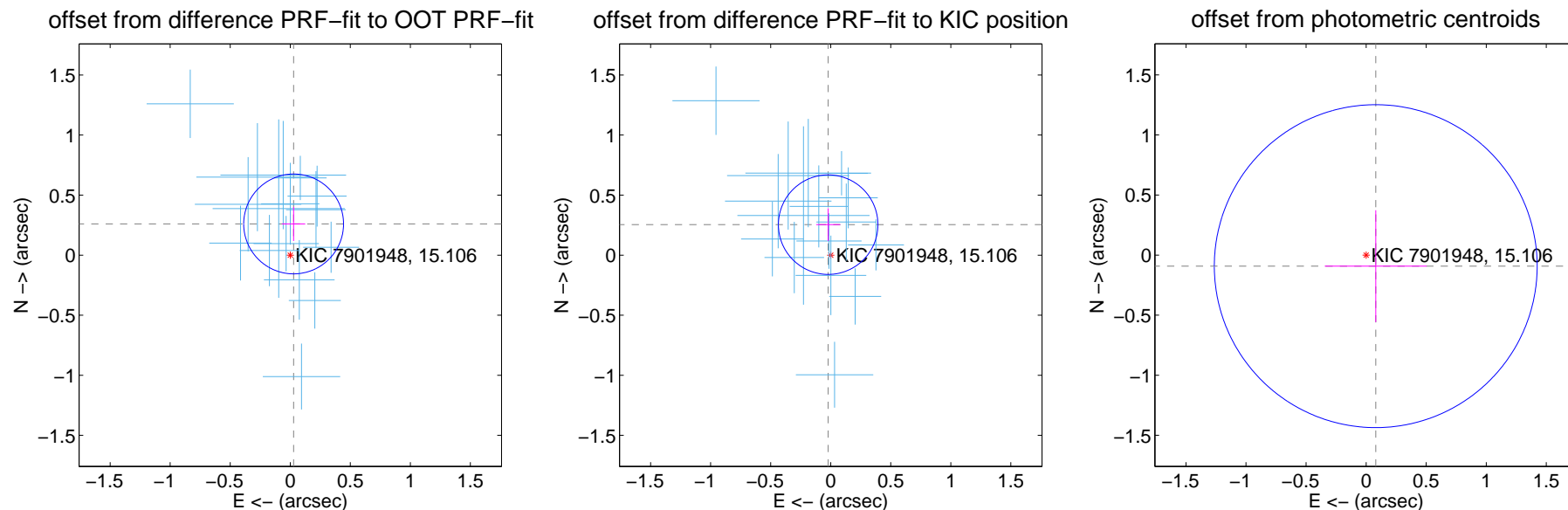
DV Centroid Data

Supplemental centroid analysis for 007901948-01. Kepler magnitude: 15.11. Transit SNR 36.62

There are 16 quarters with good PRF difference image offsets

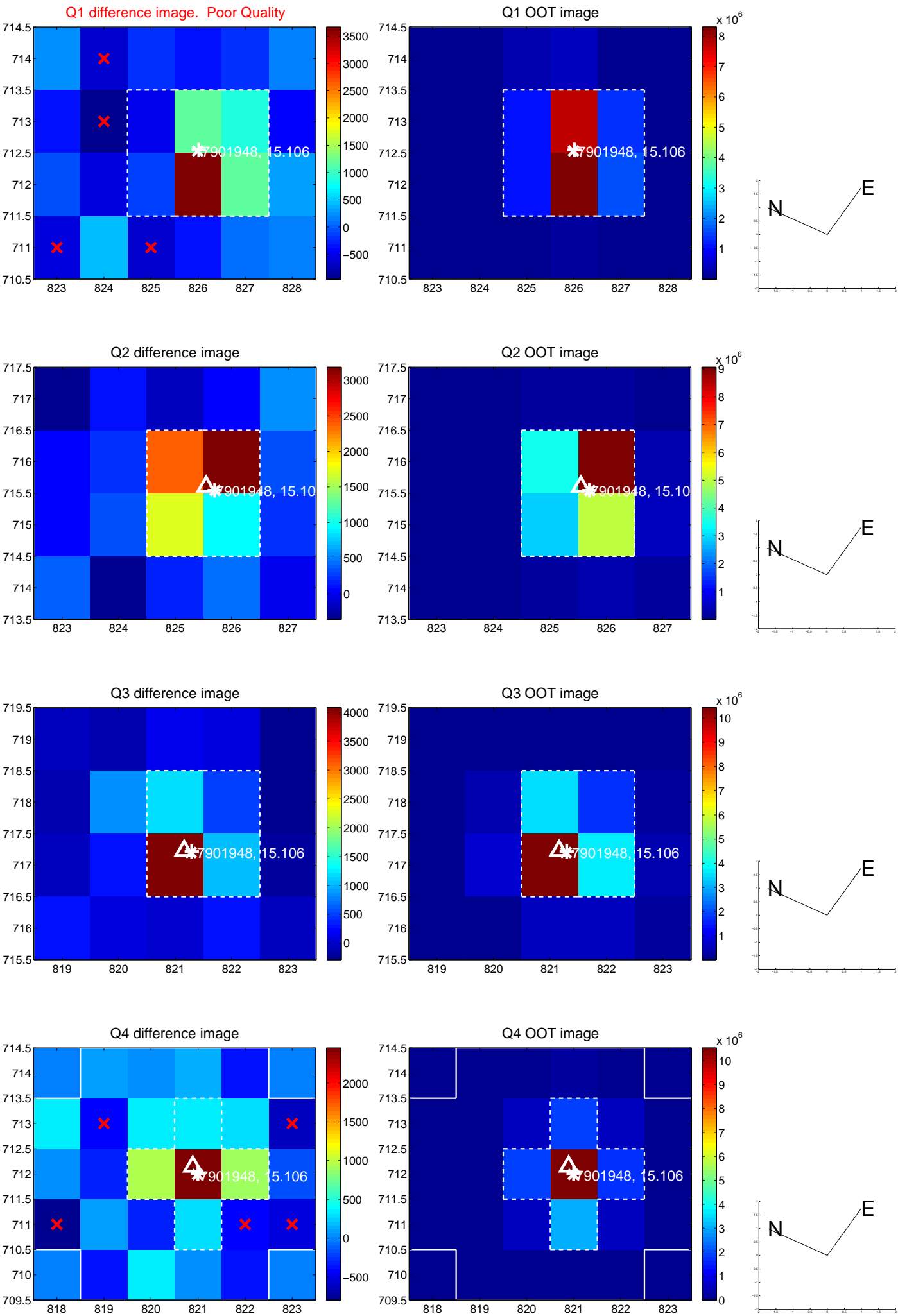
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.261 ± 0.139	1.89	-0.028 ± 0.096	0.260 ± 0.142
PRF-fit source offset from KIC position	0.255 ± 0.138	1.85	0.021 ± 0.100	0.254 ± 0.136
photometric centroid source offset	0.12 ± 0.45	0.27	-0.08 ± 0.42	-0.09 ± 0.47

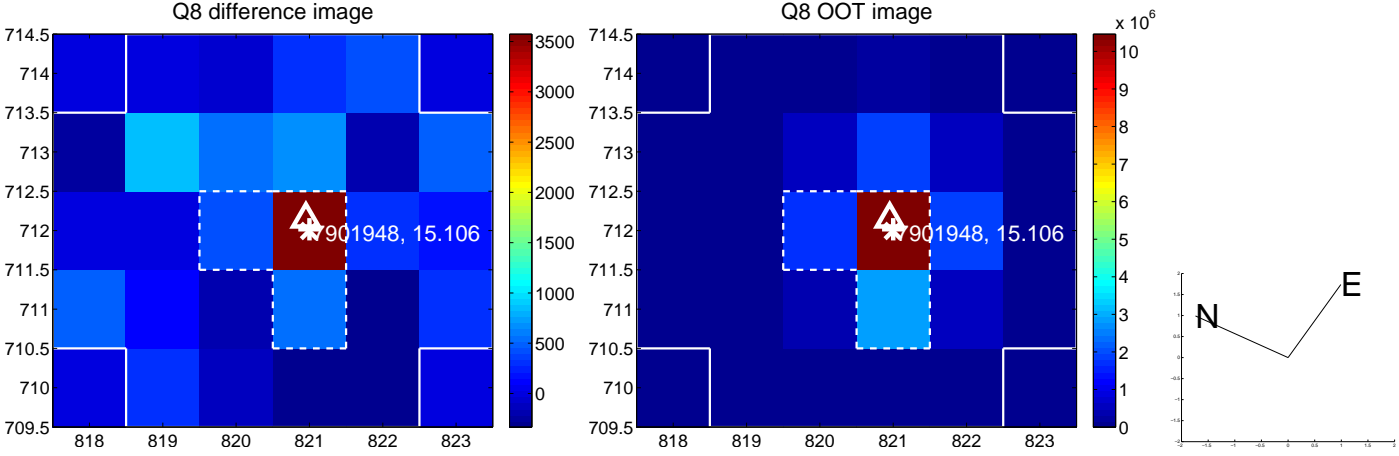
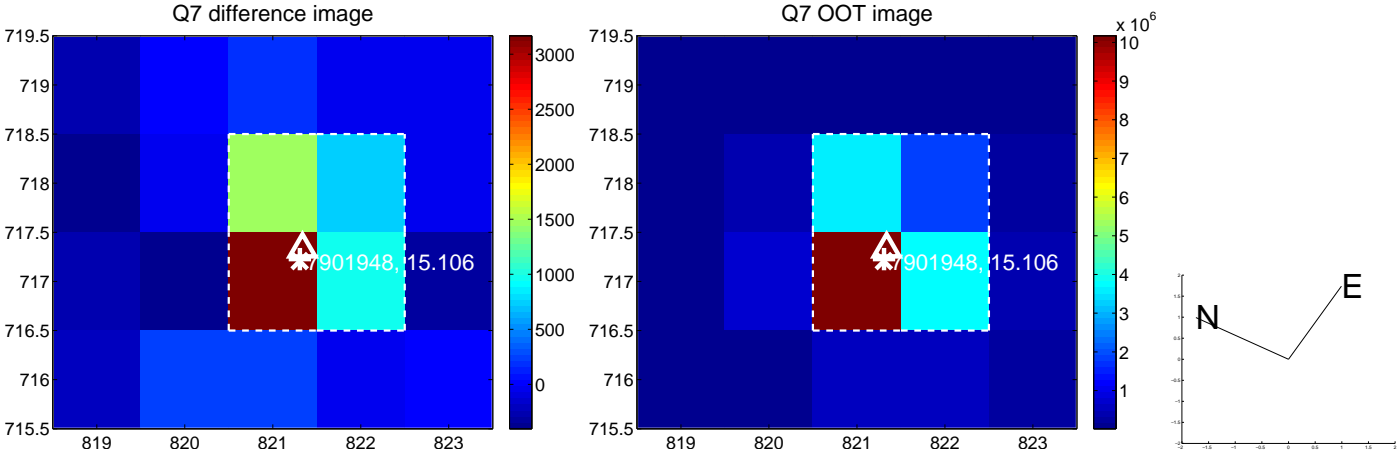
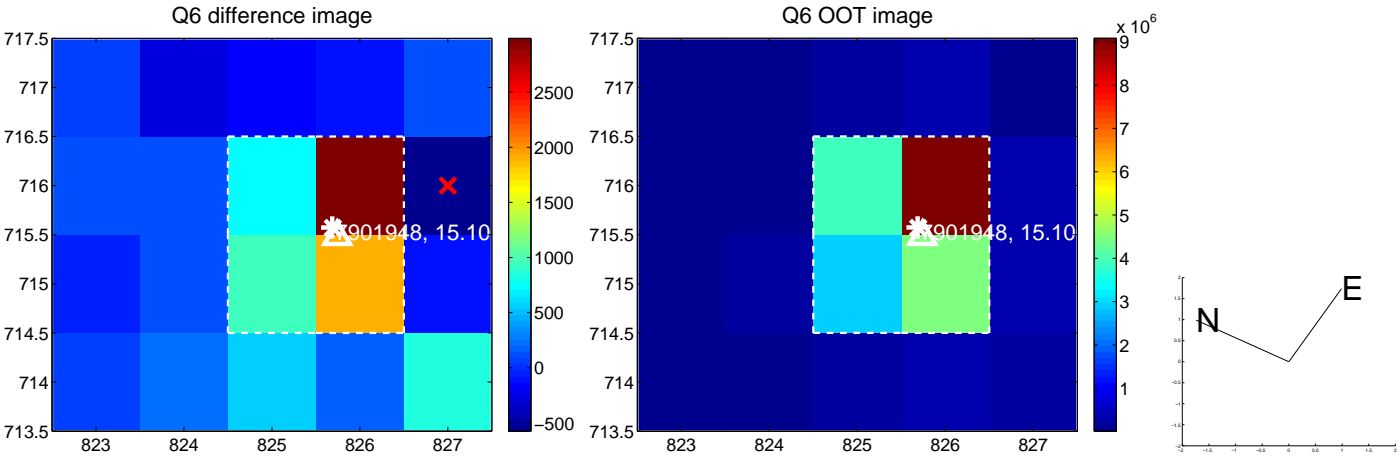
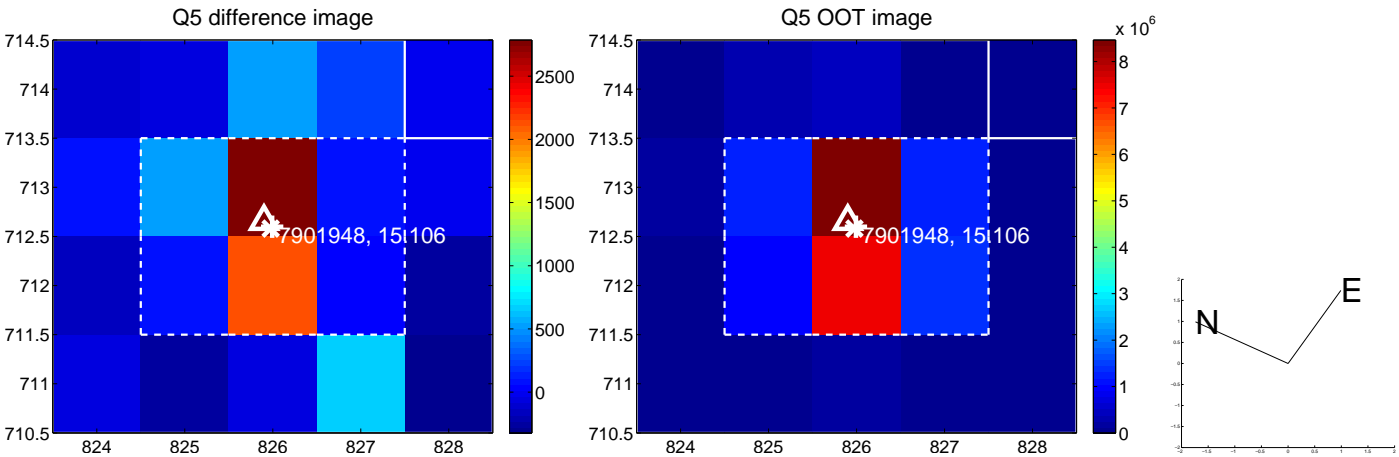


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

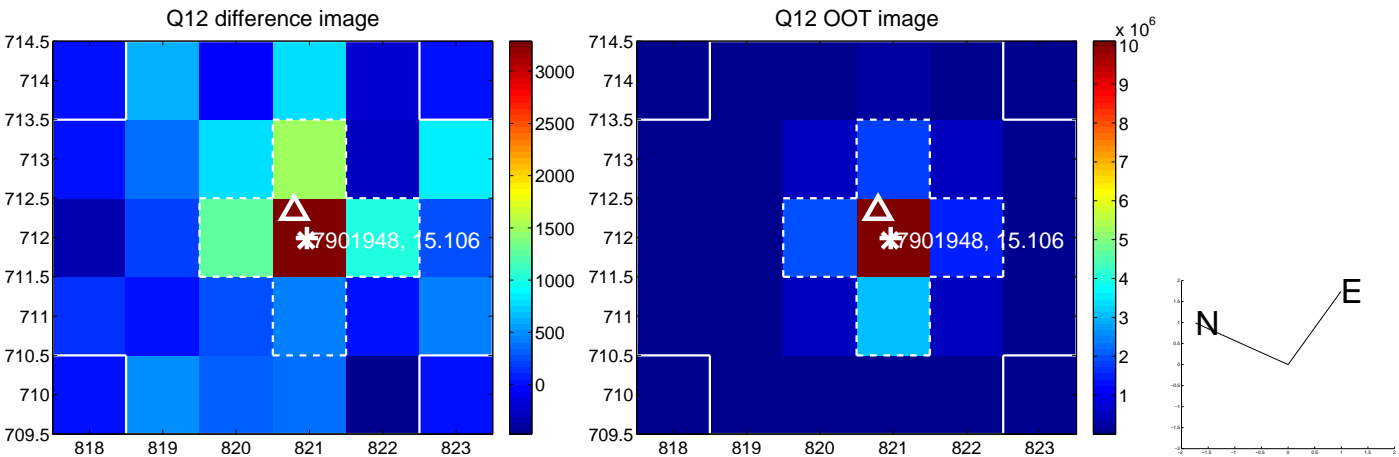
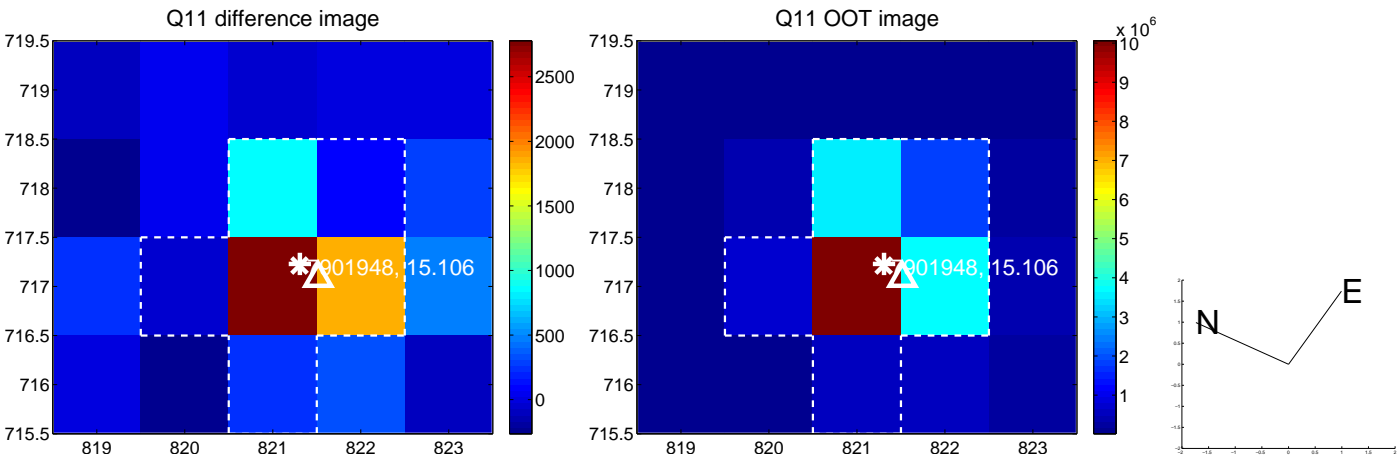
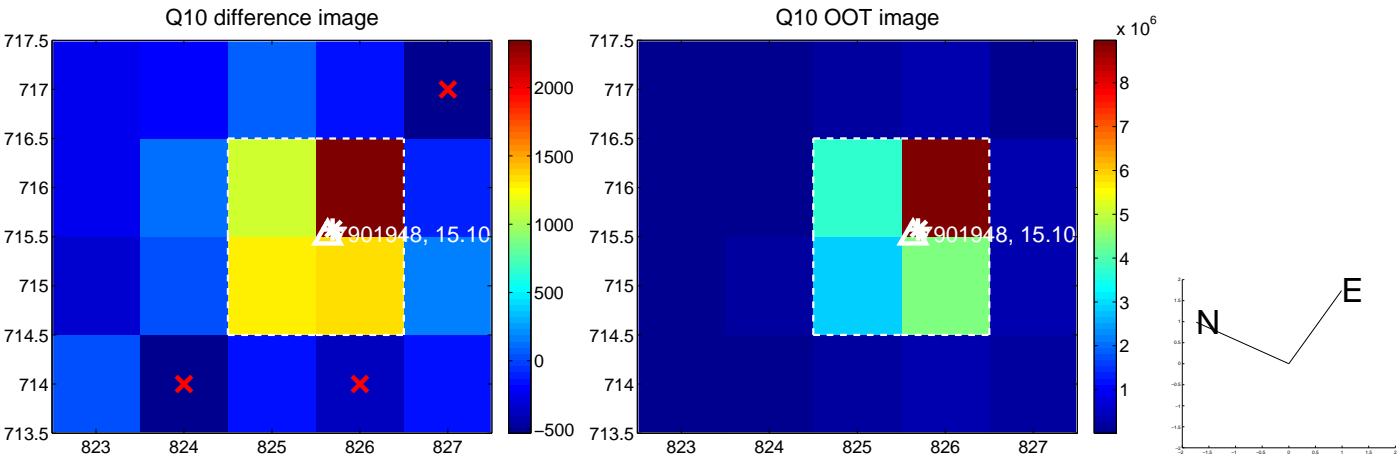
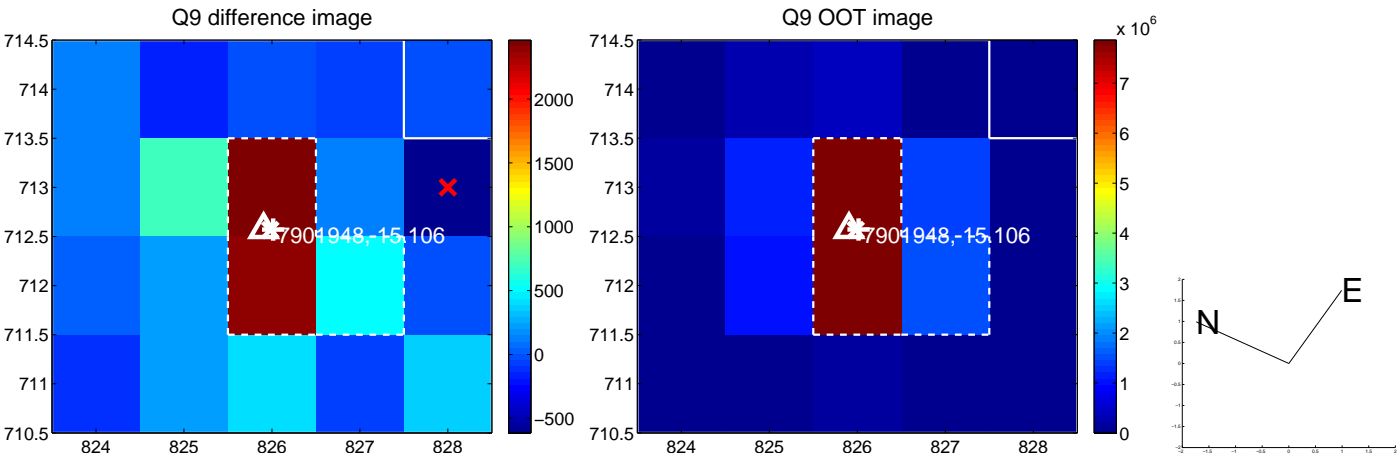
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



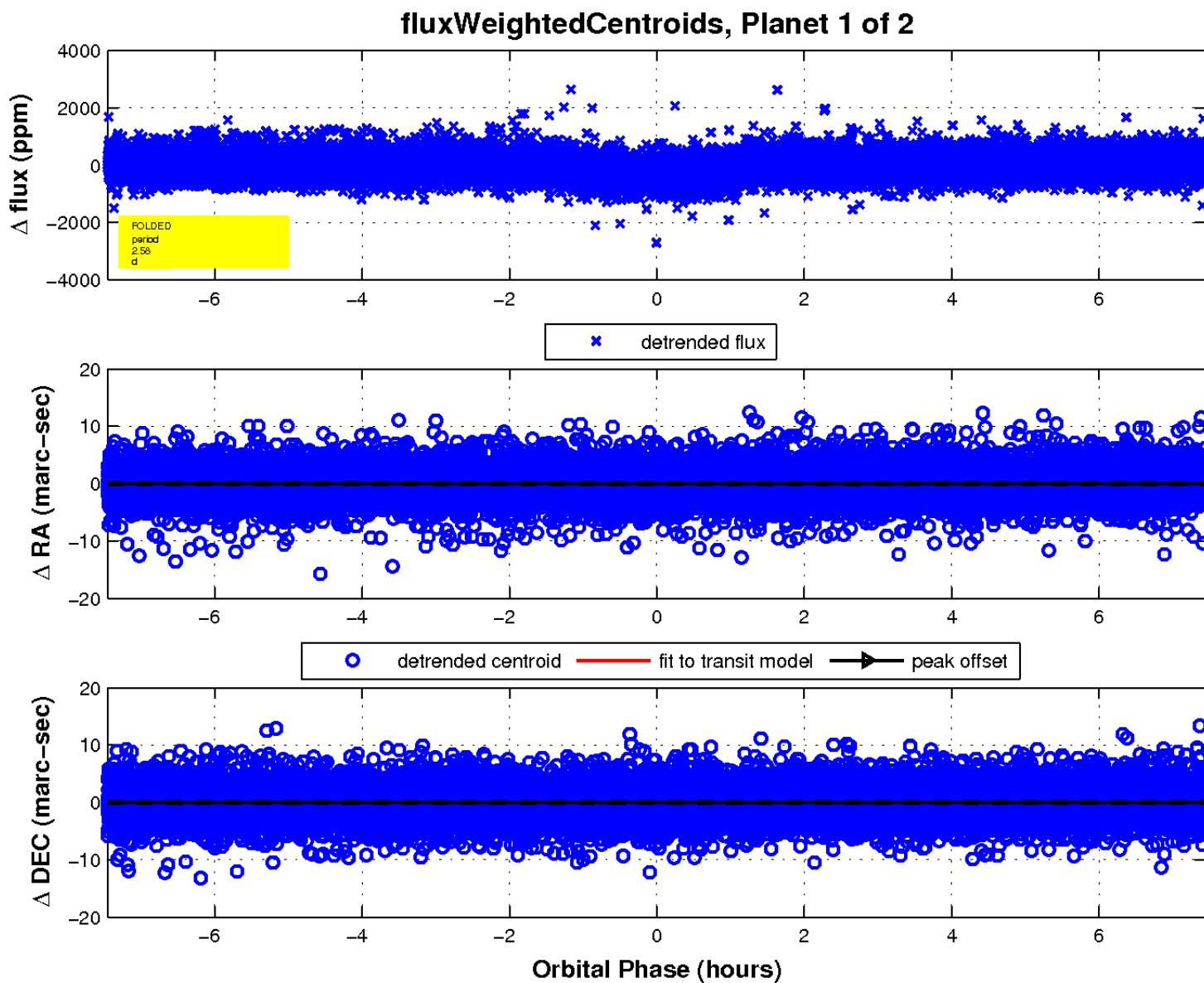
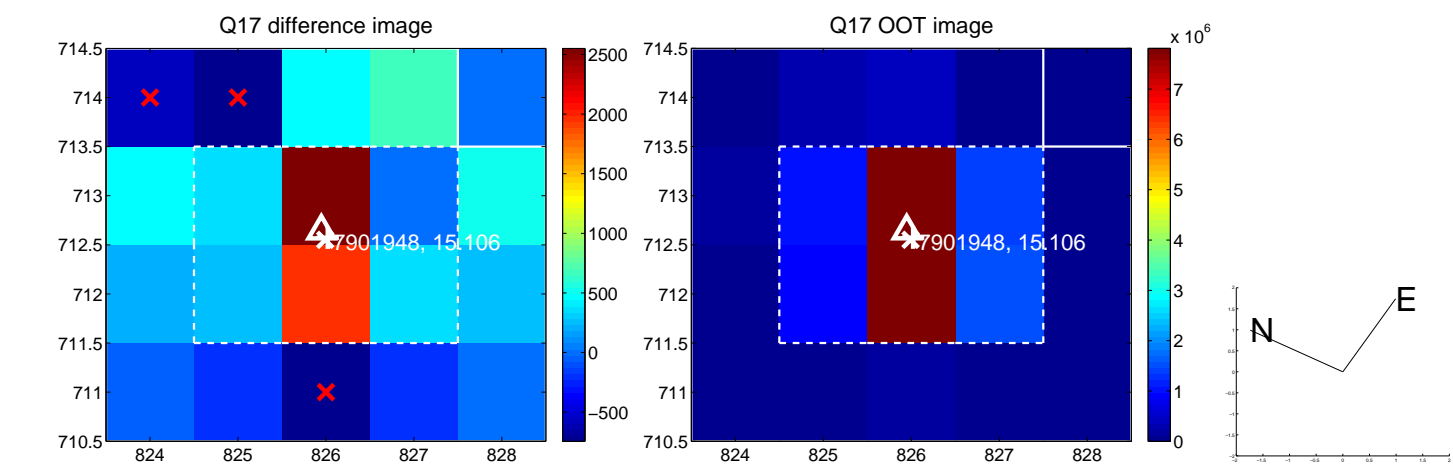
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

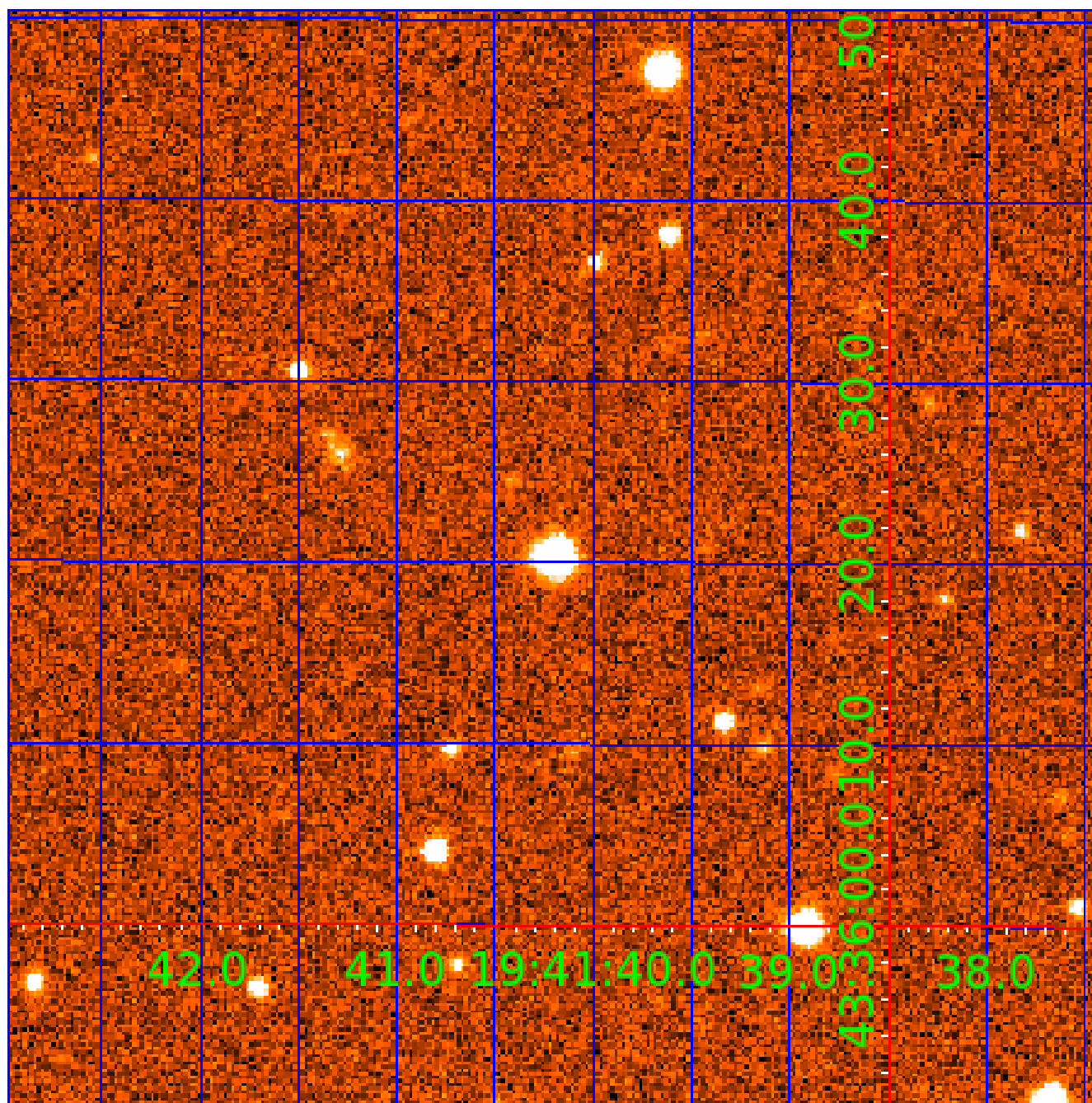


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007901948

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})
007901948-01	OBS	1511.01	2.578854	133.223554	323.9	2.484	32.9	36.6	0.85	5743	1.81	542.23
007901948-02	OBS	No	561.014863	217.795258	1493.8	16.169	14.7	13.9	0.85	5743	6.34	0.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007901948-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007901948-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—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.

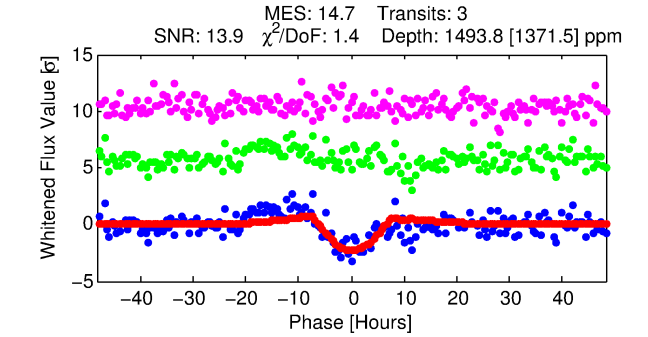
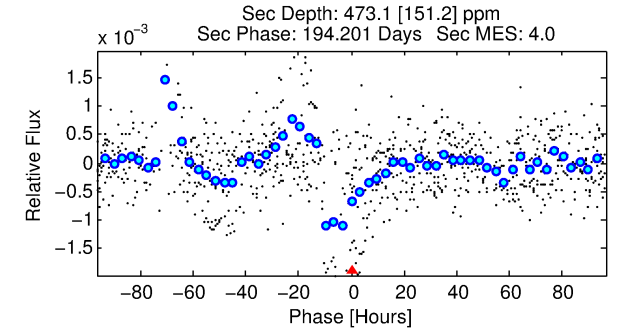
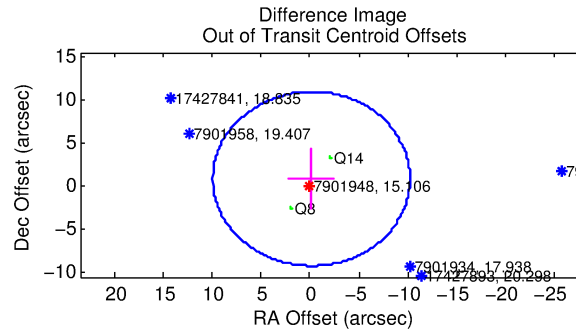
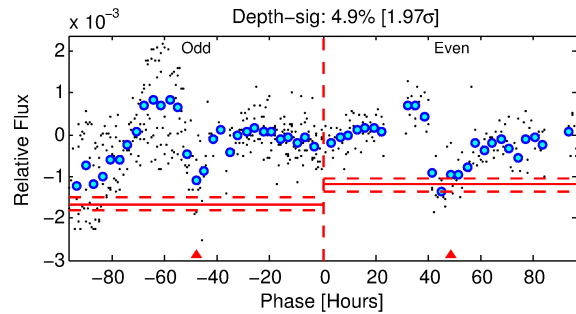
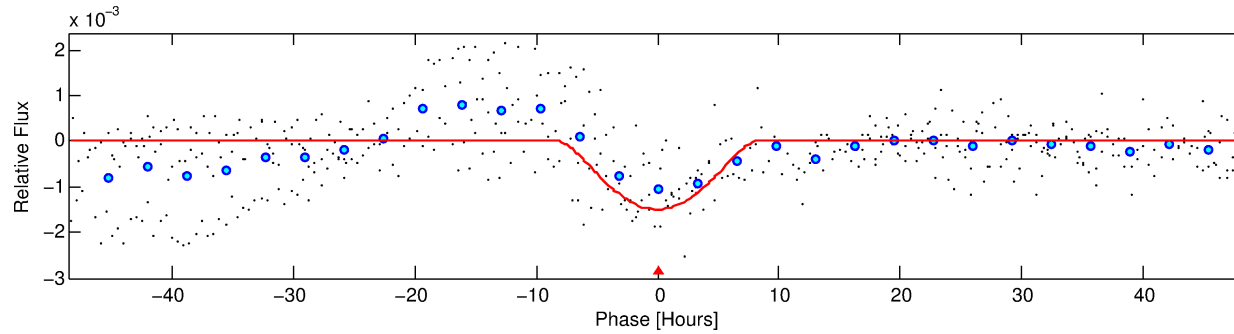
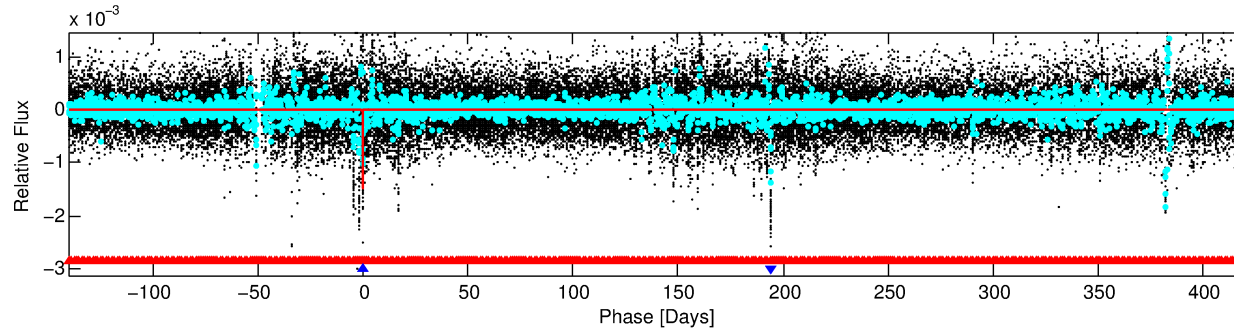
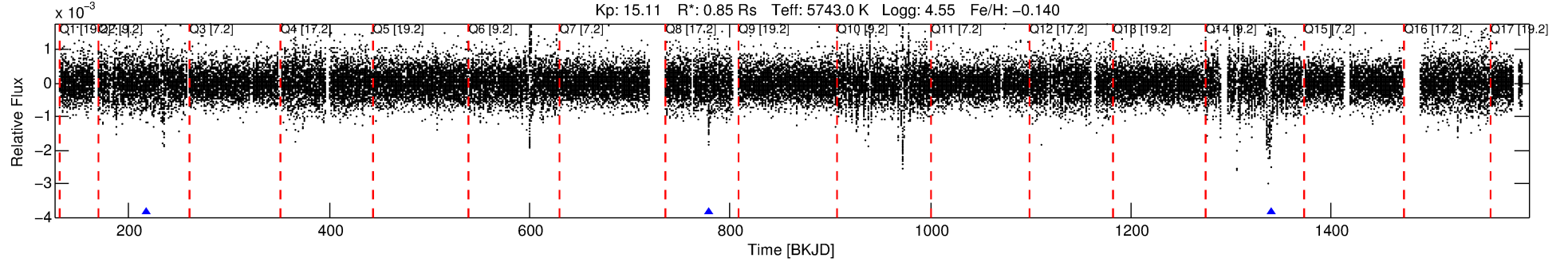
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007901948-02

No Significant Match Found

DV One-Page Summary

KIC: 7901948 Candidate: 2 of 2 Period: 561.015 d
KOI: K01511 Corr: No Ephemeris Match



DV Fit Results:

Period = 561.01486 [0.01983] d
Epoch = 217.7953 [0.0223] BKJD
Rp/R* = 0.0681 [0.0241]
a/R* = 99.48 [67.15]
b = 1.00 [0.25]
Seff = 0.41 [0.16]
Teq = 205 [19] K
Rp = 6.34 [19.08] Re
a = 1.3081 [0.3193] AU
Ag = 11085.17 [66647.42] [0.17 σ]
Teffp = 3246 [4871] K [0.62 σ]

DV Diagnostic Results:

ShortPeriod-sig: 100.0% [819.26 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 42.5%
Bootstrap-pfa: 3.36e-18
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.4
Centroid-sig: 51.7%
Centroid-so: 0.900 arcsec [0.70 σ]
OotOffset-rm: 0.877 arcsec [0.26 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-rm: 0.897 arcsec [0.27 σ]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/3]

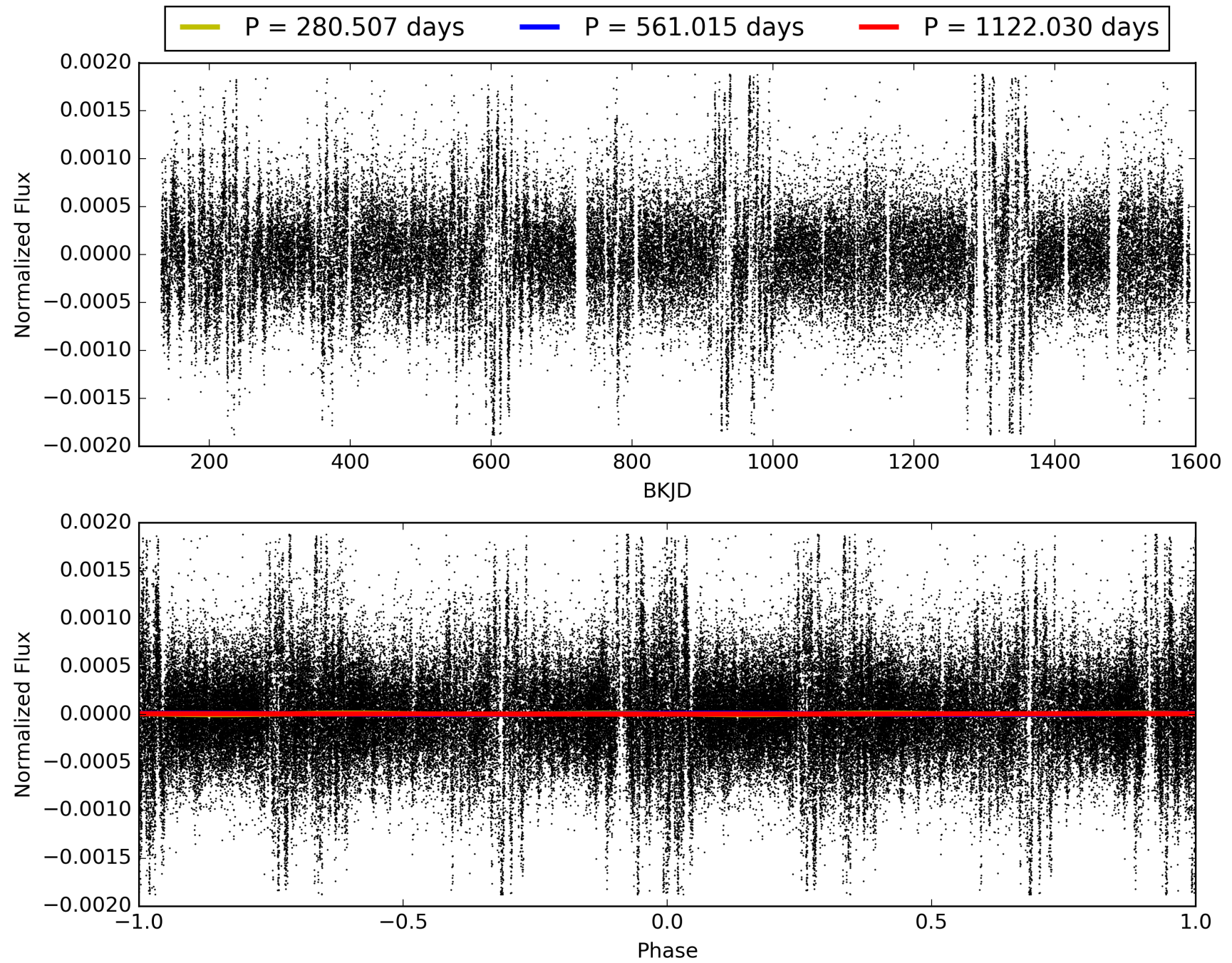
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:48:51 Z

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

TCE 007901948-02, PDC Light Curves

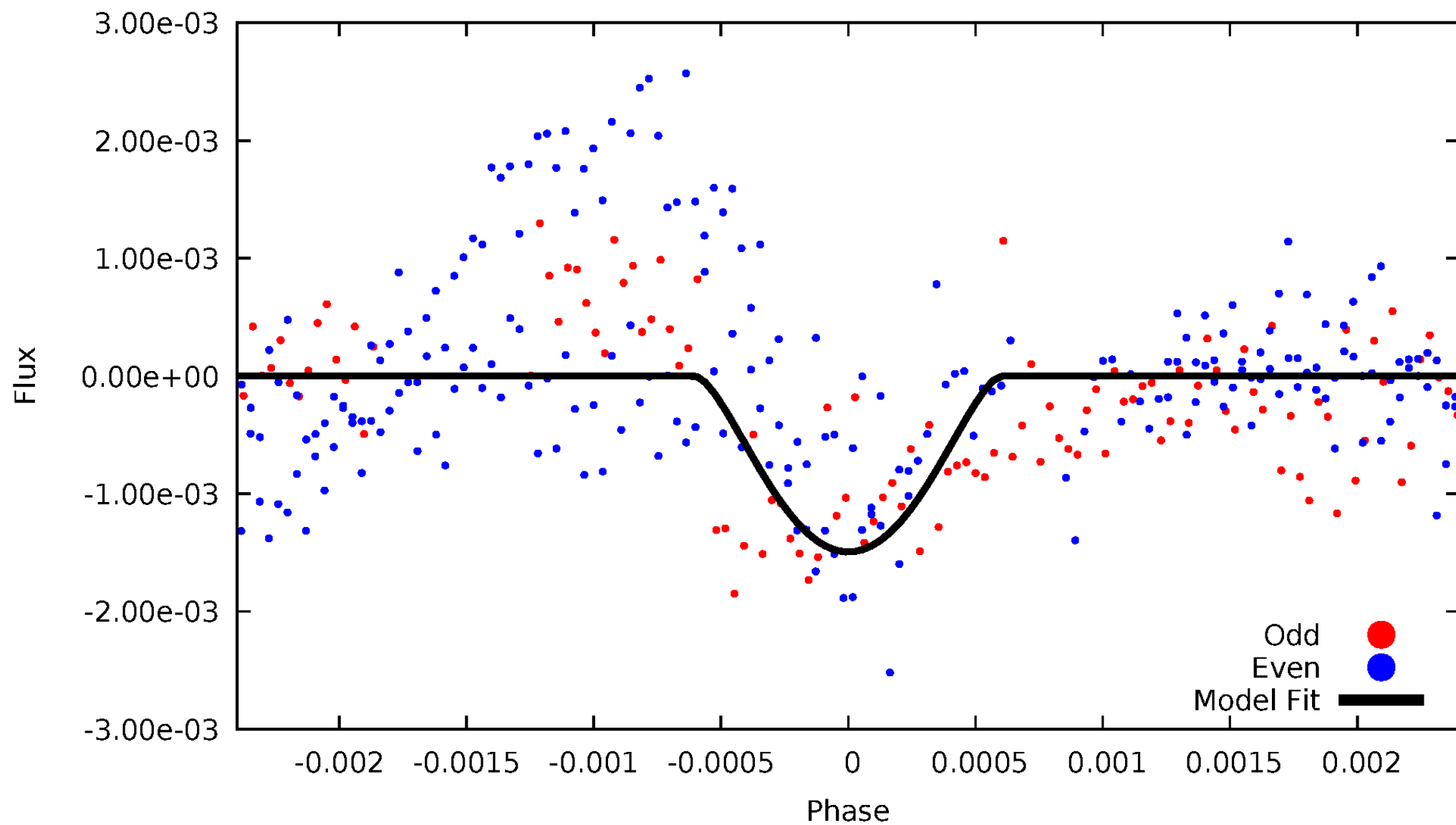


TCE 007901948-02



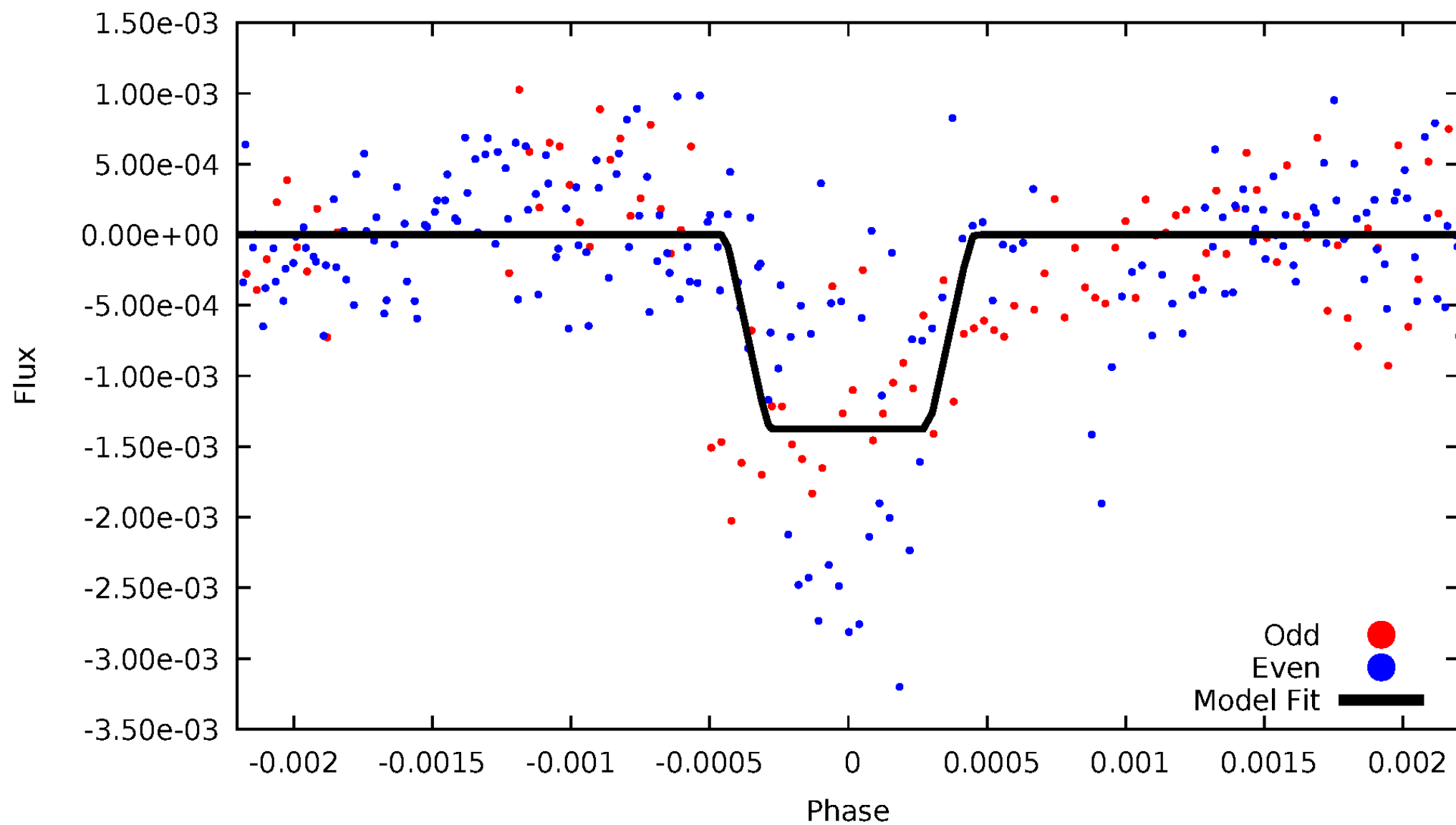
DV Odd/Even

TCE 007901948-02



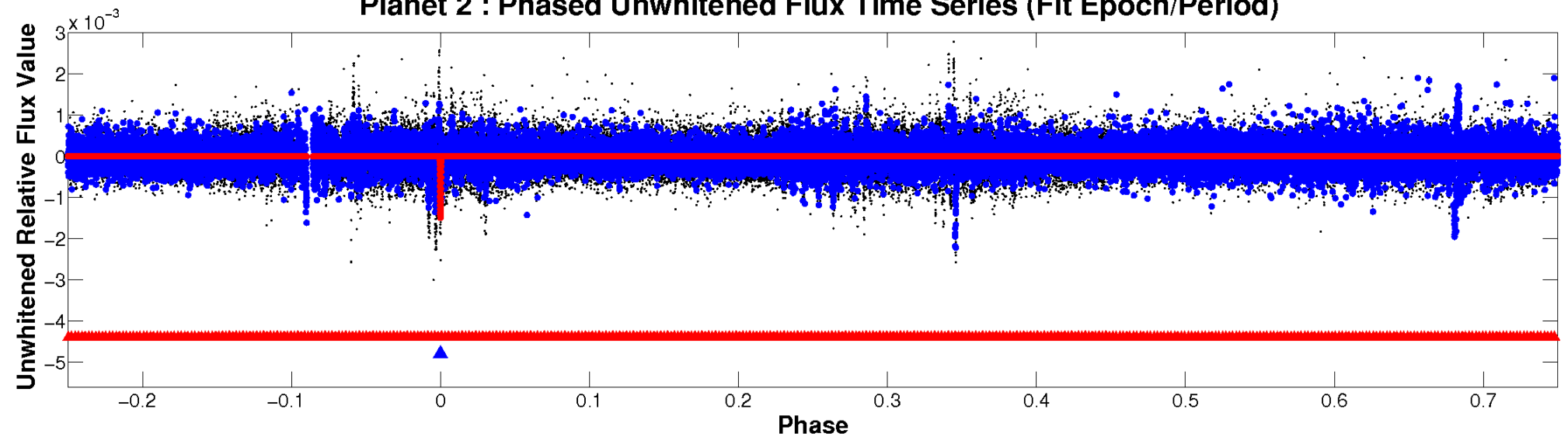
ALT Odd/Even

TCE 007901948-02

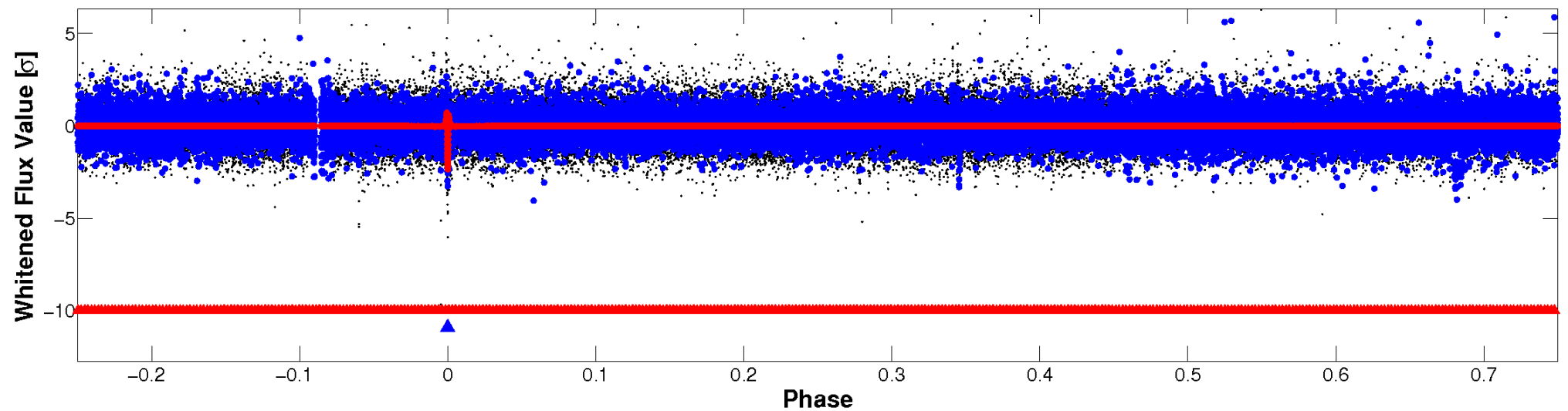


Non-Whitened Vs. Whitened Light Curve

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

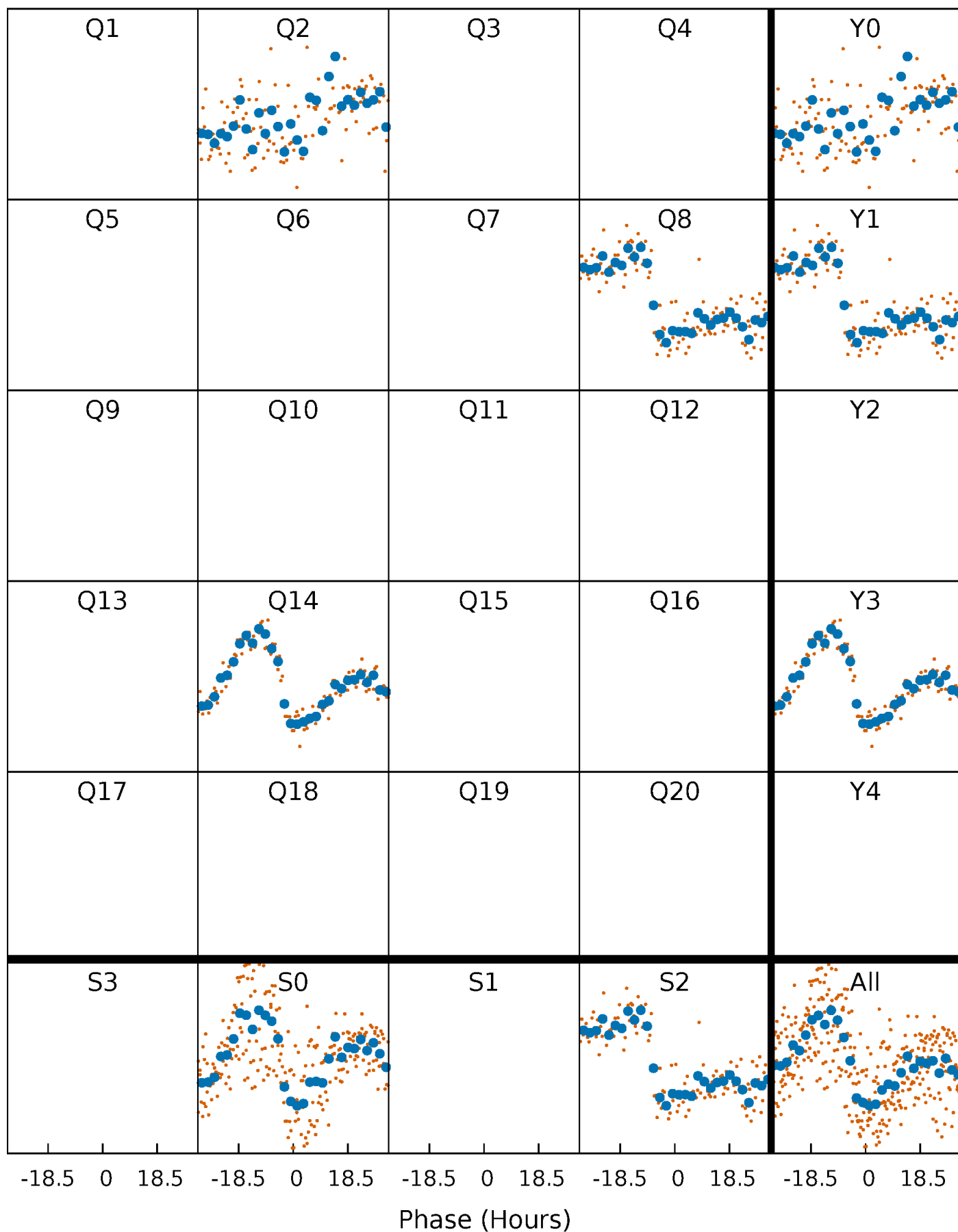


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



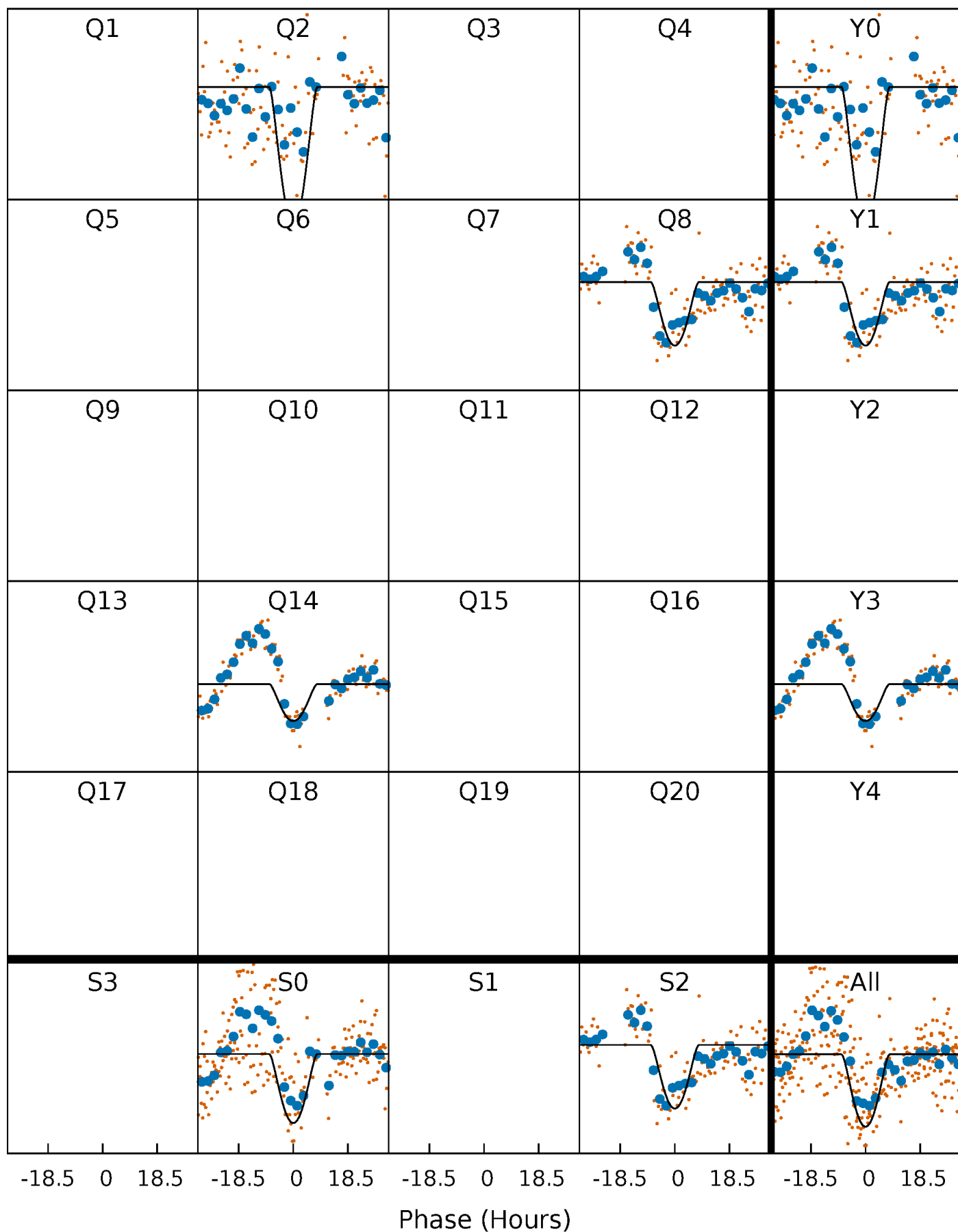
PDC Quarter-Phased Transit Curves

TCE 007901948-02 $P=561.014863$ Days $T_0=217.795258$ (BKJD)



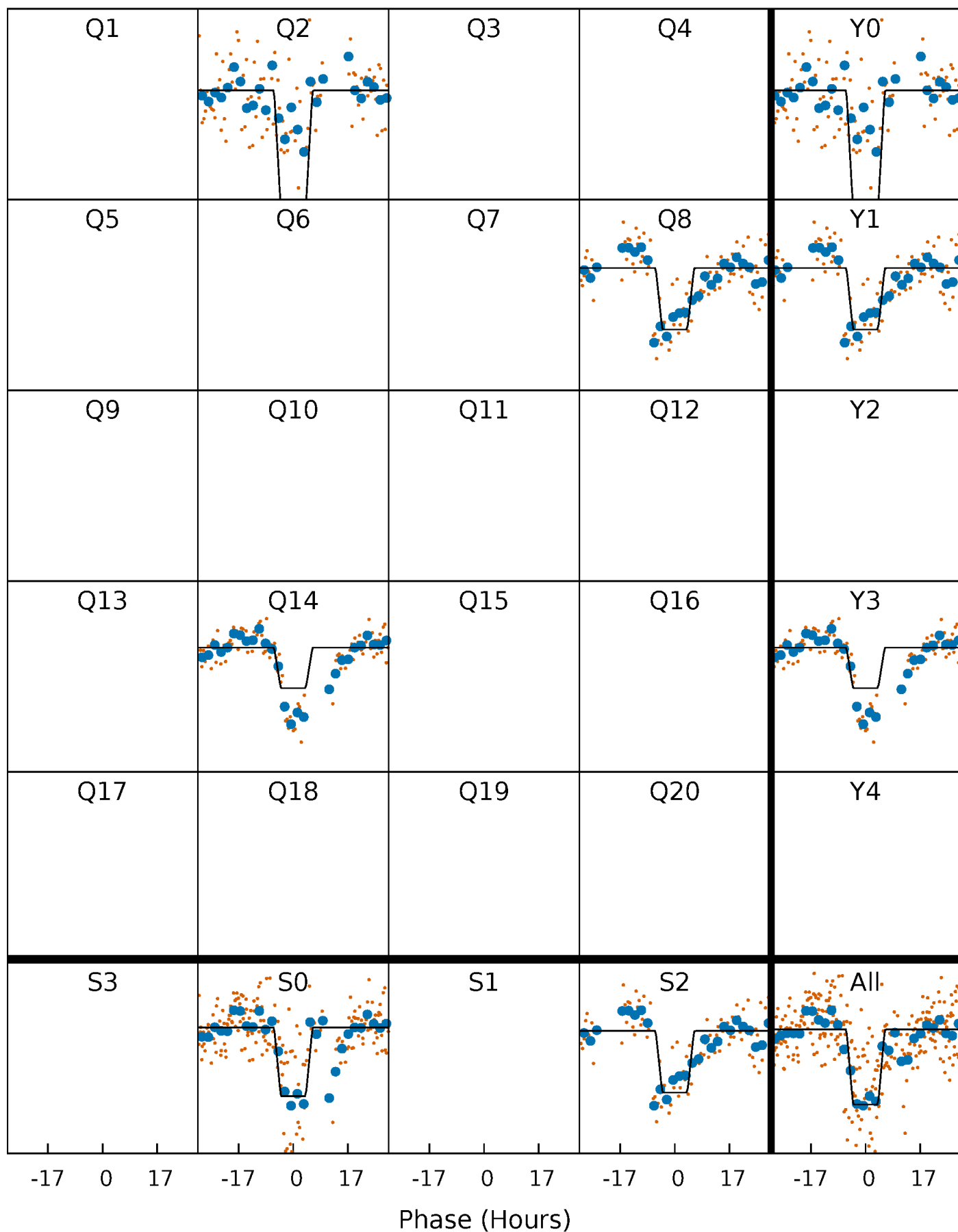
DV Quarter-Phased Transit Curves

TCE 007901948-02 P=561.014863 Days $T_0=217.795258$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

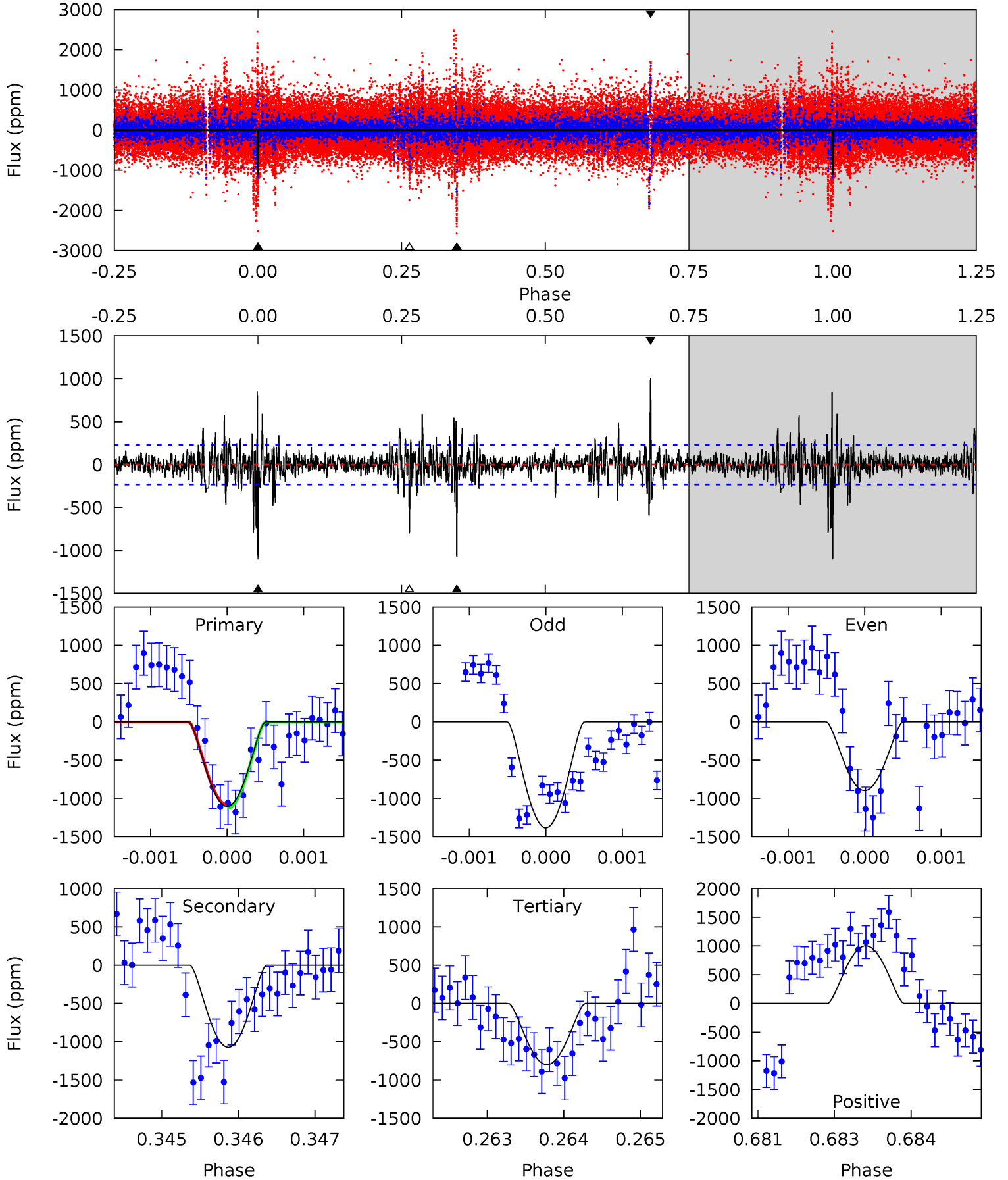
TCE 007901948-02 P=561.017012 Days $T_0=217.778918$ (BKJD)



DV Model-Shift Uniqueness Test

007901948-02, P = 561.014863 Days, E = 217.795258 Days

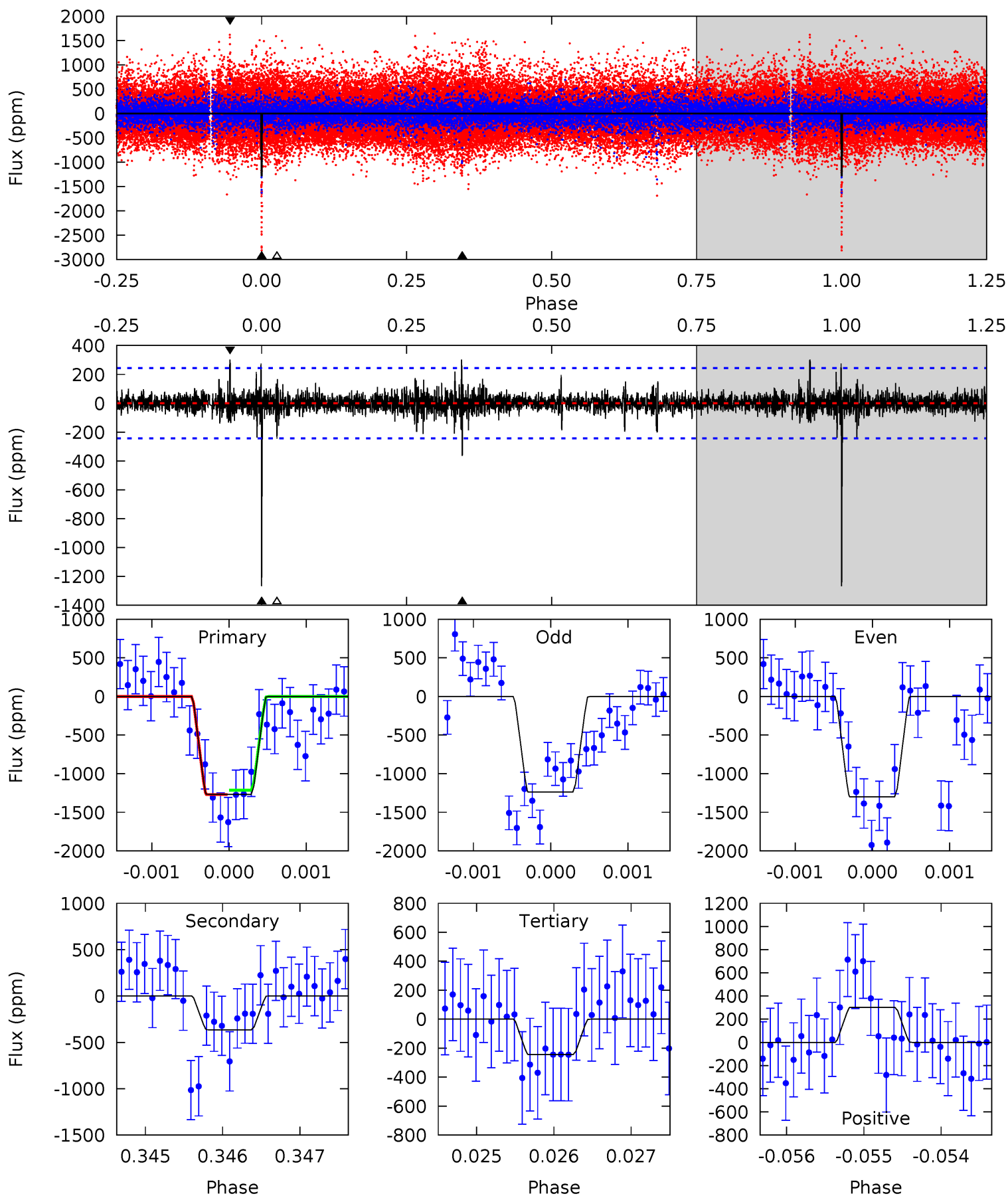
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.7	25.0	18.6	23.4	5.42	3.24	2.99	7.11	2.36	6.37	1.63	5.52	0.85	0.48	0.56



Alt Model-Shift Uniqueness Test

007901948-02, P = 561.017012 Days, E = 217.778918 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.4	8.17	5.48	6.79	5.46	3.31	1.06	23.0	21.7	2.69	1.38	0.68	1.03	0.19	0.62



Stellar Parameters For KIC 007901948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5743^{+154}_{-171}	$4.553^{+0.035}_{-0.196}$	$-0.140^{+0.300}_{-0.300}$	$0.853^{+0.246}_{-0.077}$	$0.949^{+0.103}_{-0.113}$	$2.155^{+0.417}_{-1.097}$
	+3%/-3%	+1%/-4%	+214%/-214%	+29%/-9%	+11%/-12%	+19%/-51%
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 007901948-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1073 ± 43	$16.20^{+16.67}_{-11.00}$	292^{+20}_{-13}	3155^{+1527}_{-534}	3795^{+34099}_{-2872}
Alt.	-364 ± 45	$14.83^{+16.03}_{-10.04}$	292^{+20}_{-13}	2788^{+1150}_{-459}	1506^{+12882}_{-1137}

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 $A_{obs} \gg 1.0$

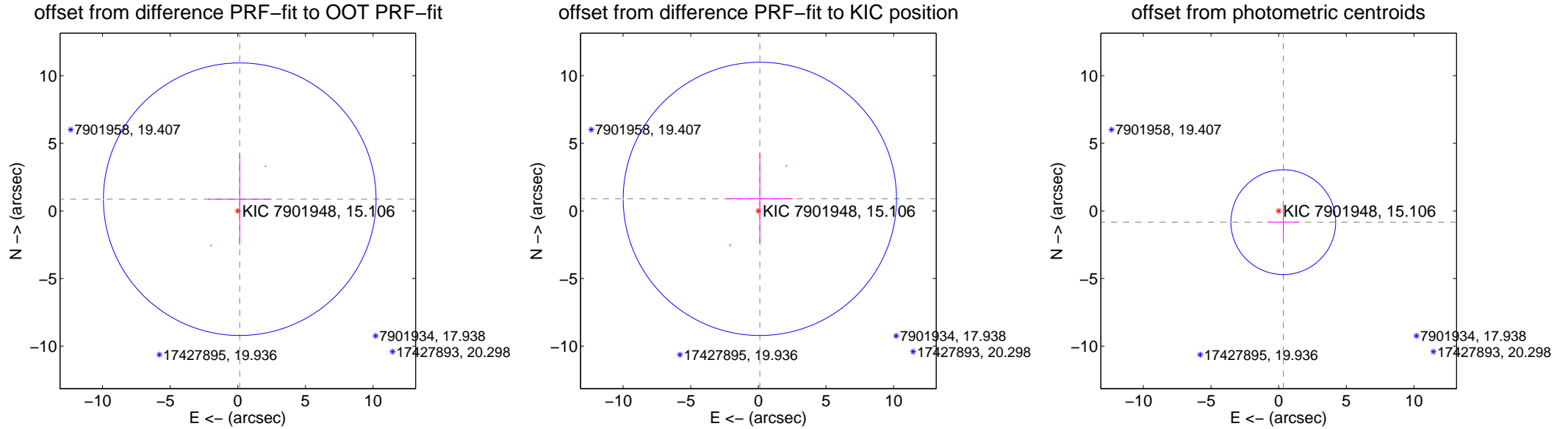
DV Centroid Data

Supplemental centroid analysis for 007901948-02. Kepler magnitude: 15.11. Transit SNR 13.89

There are 2 quarters with good PRF difference image offsets

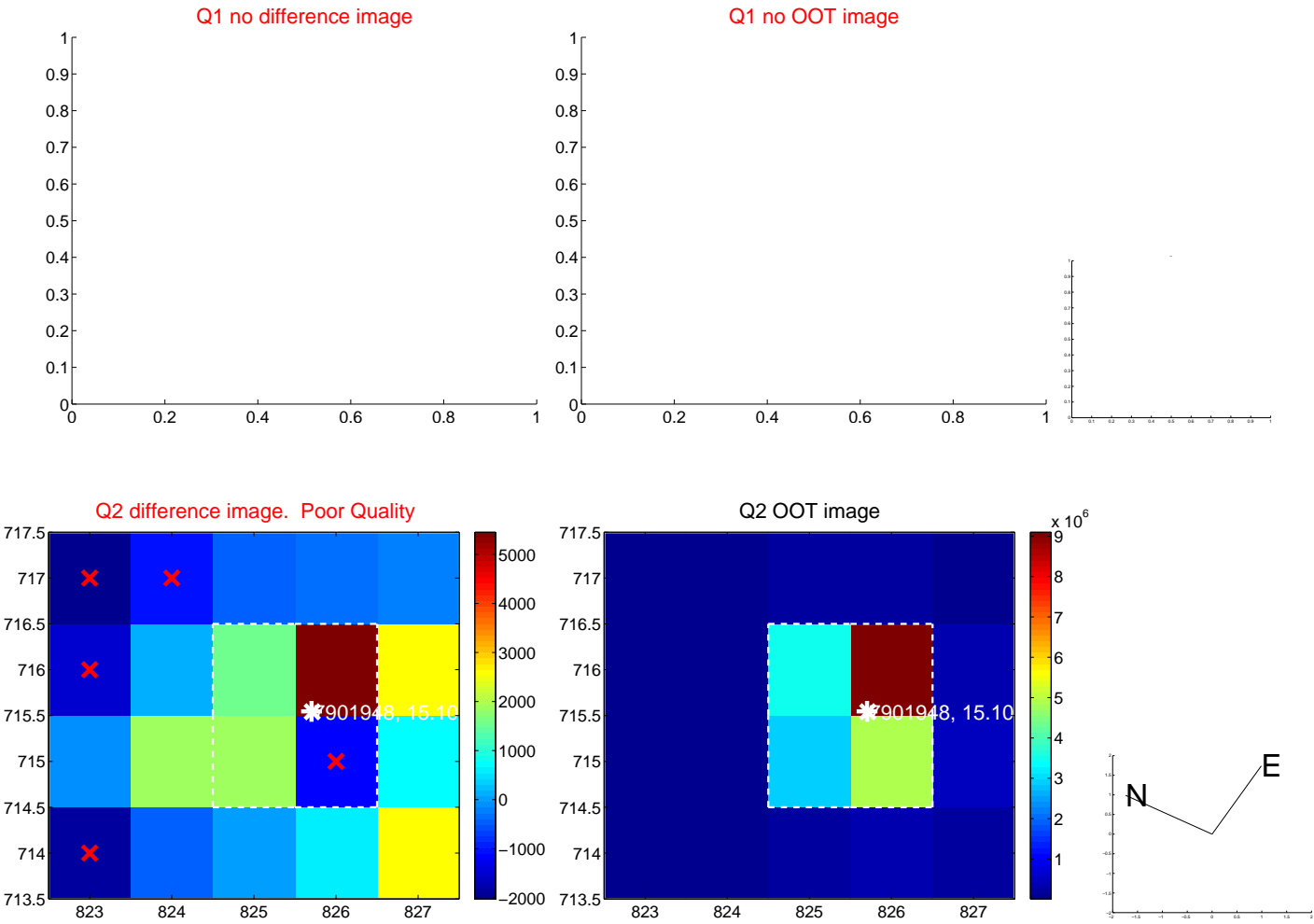
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.877 ± 3.360	0.26	-0.143 ± 2.355	0.865 ± 3.383
PRF-fit source offset from KIC position	0.897 ± 3.368	0.27	-0.109 ± 2.431	0.890 ± 3.380
photometric centroid source offset	0.90 ± 1.29	0.70	-0.34 ± 1.19	-0.83 ± 1.31

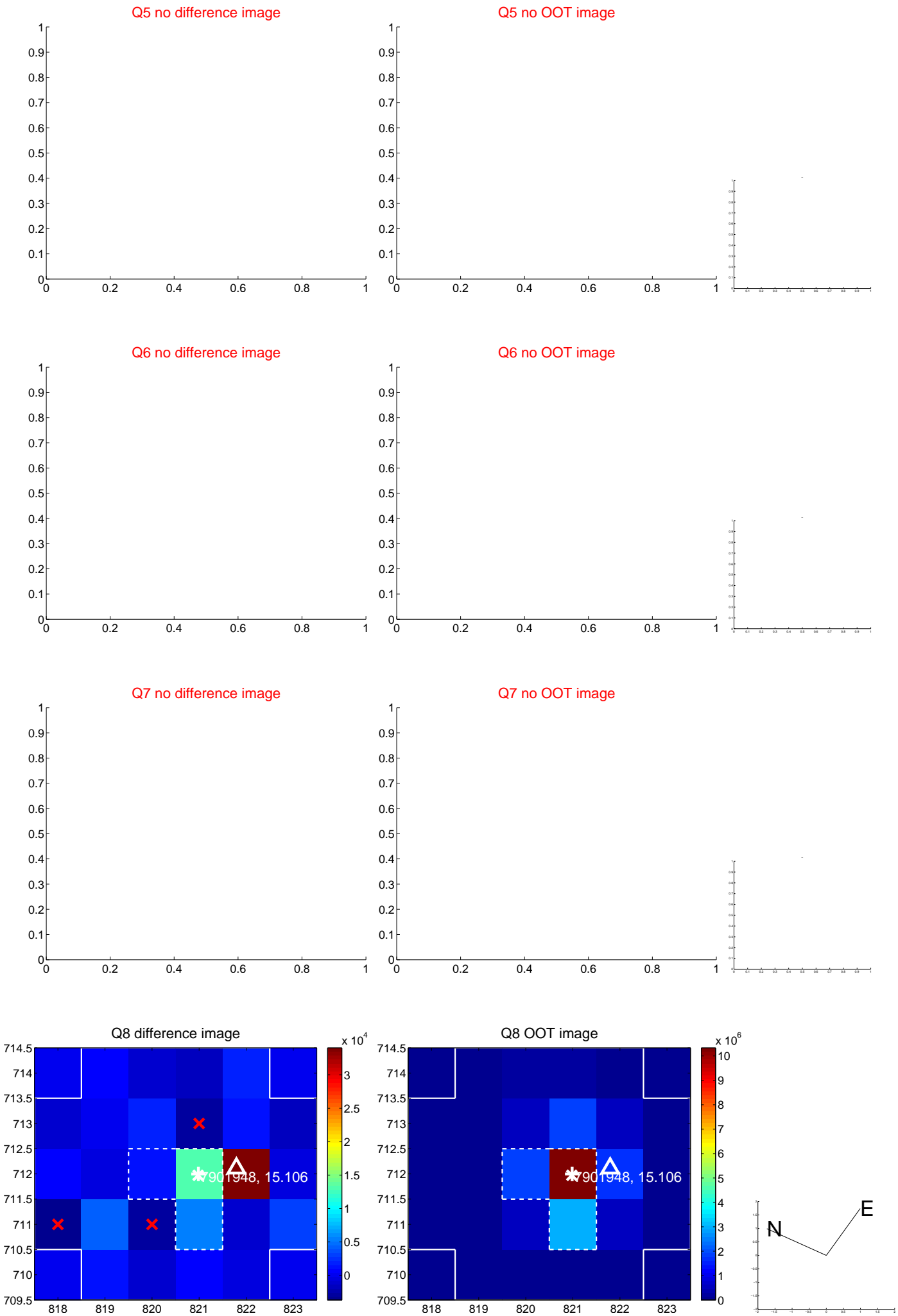


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



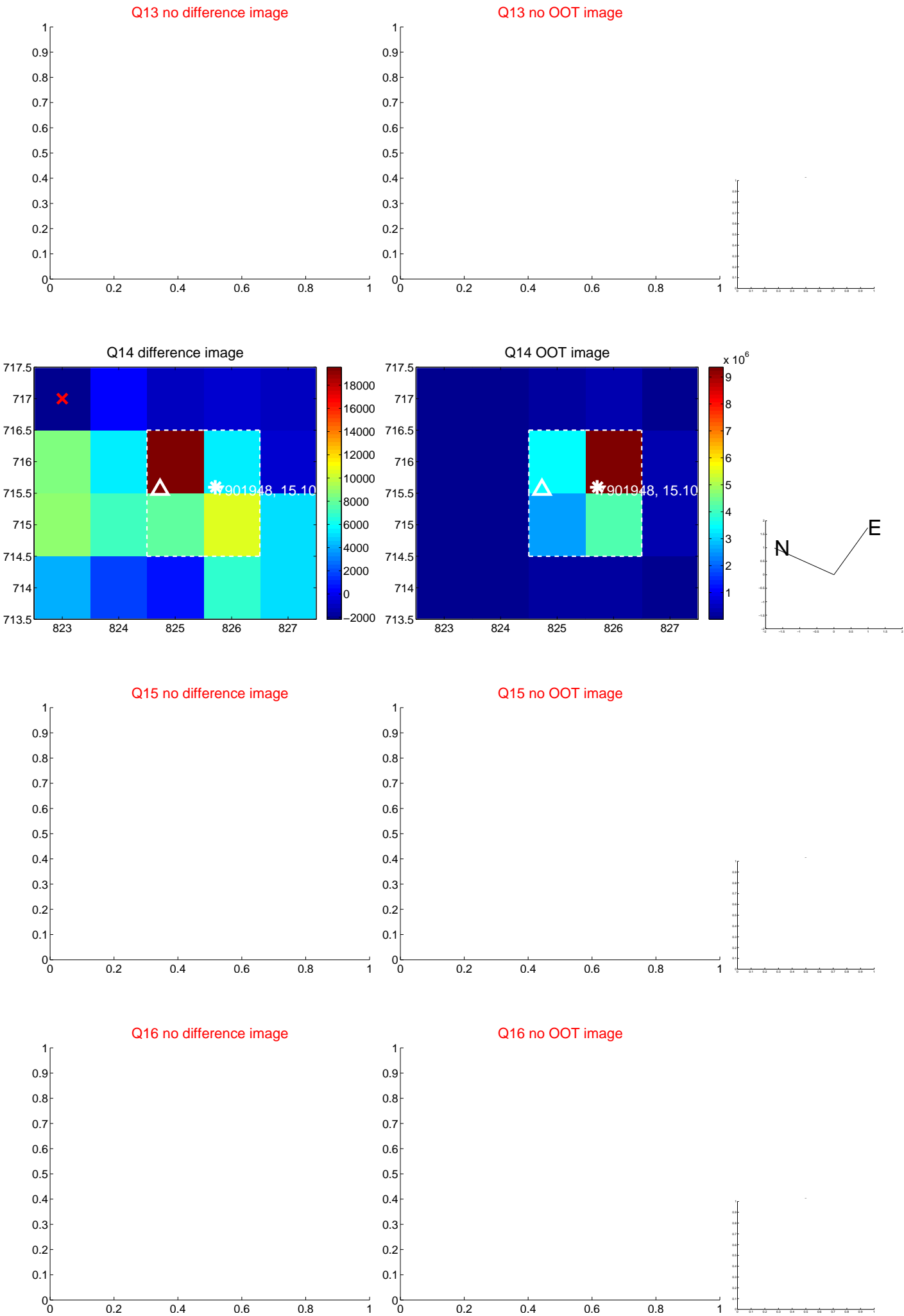
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



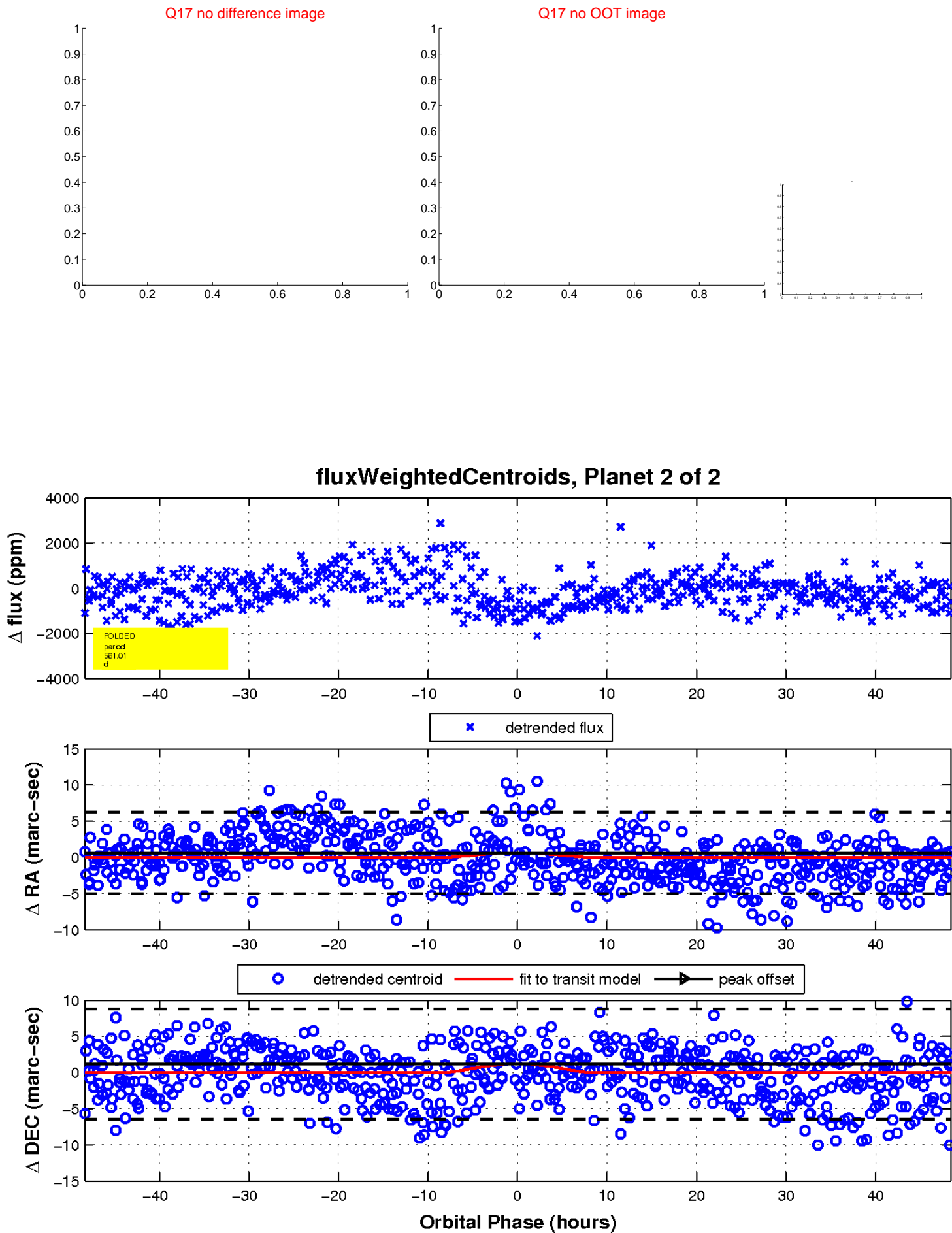
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

