

KIC 007694116

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})
007694116-01	OBS	No	370.036557	232.321604	1268.7	22.964	9.0	9.8	0.72	5191	5.01	0.43
007694116-02	OBS	No	306.060580	413.752443	865.7	15.862	12.4	11.1	0.72	5191	2.26	0.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007694116-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS
007694116-02	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

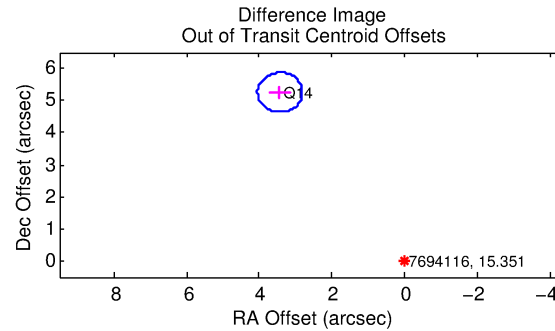
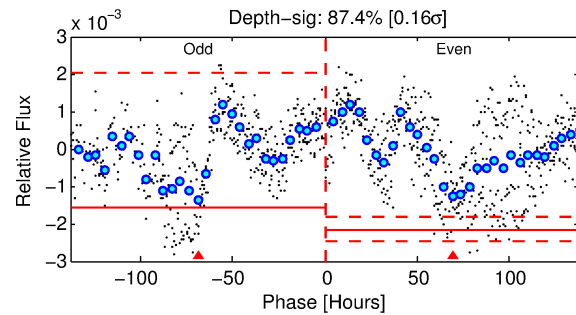
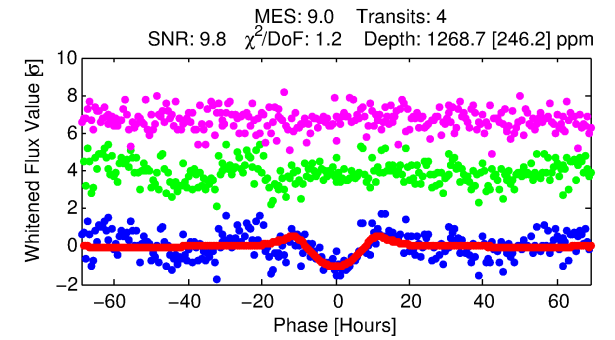
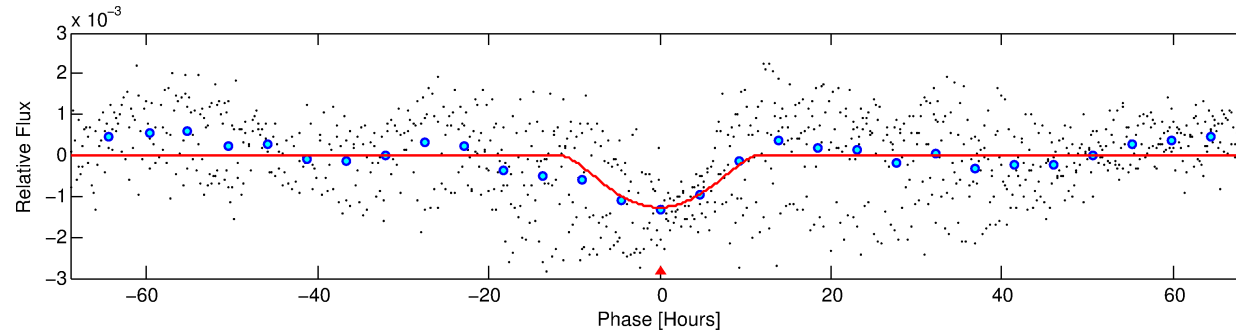
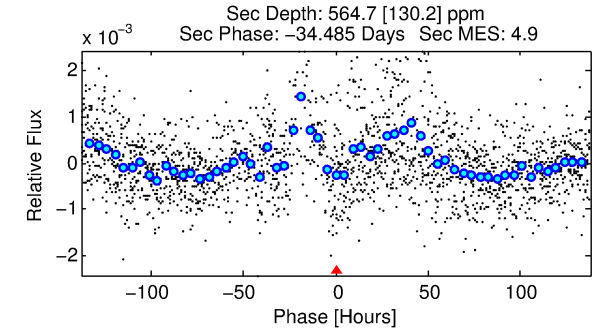
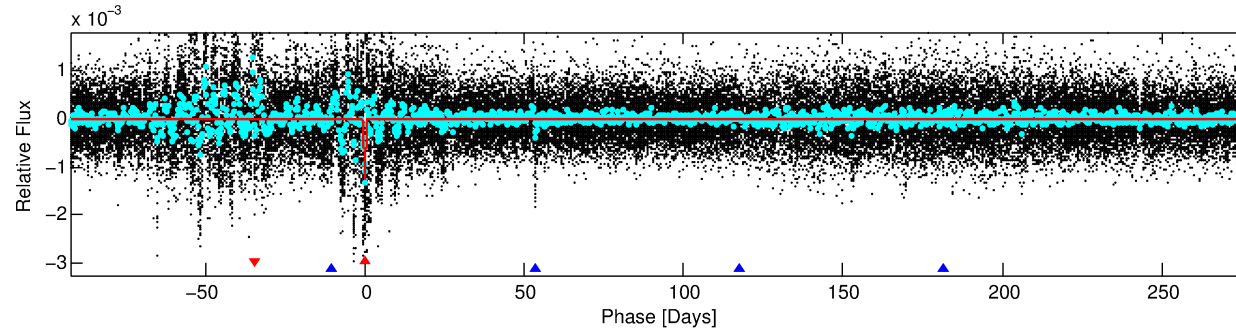
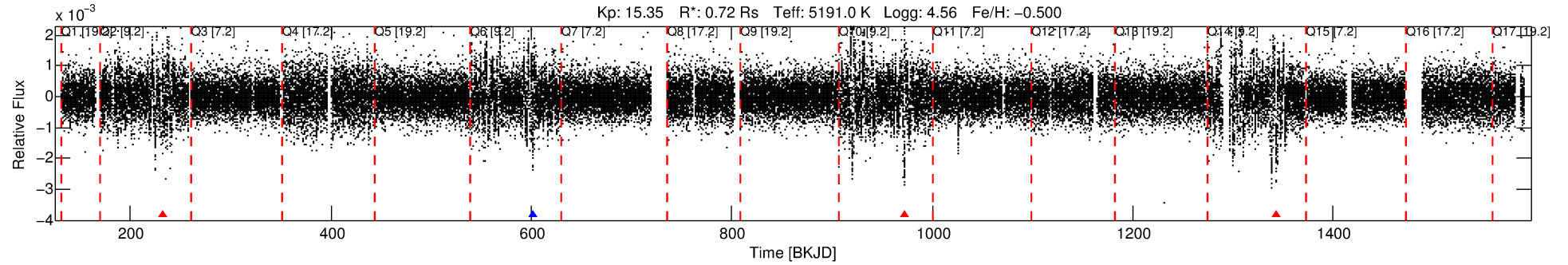
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007694116-01

No Significant Match Found

DV One-Page Summary

KIC: 7694116 Candidate: 1 of 2 Period: 370.037 d



DV Fit Results:

Period = 370.03656 [0.01963] d
Epoch = 232.3216 [0.0359] BKJD
Rp/R* = 0.0637 [0.1532]
a/R* = 45.01 [24.70]
b = 1.00 [0.23]
Seff = 0.43 [0.08]
Teq = 206 [10] K
Rp = 5.01 [12.05] Re
a = 0.8894 [0.0898] AU
Ag = 9802.47 [47216.06] [0.21σ]
Teff = 3170 [3816] K [0.78σ]

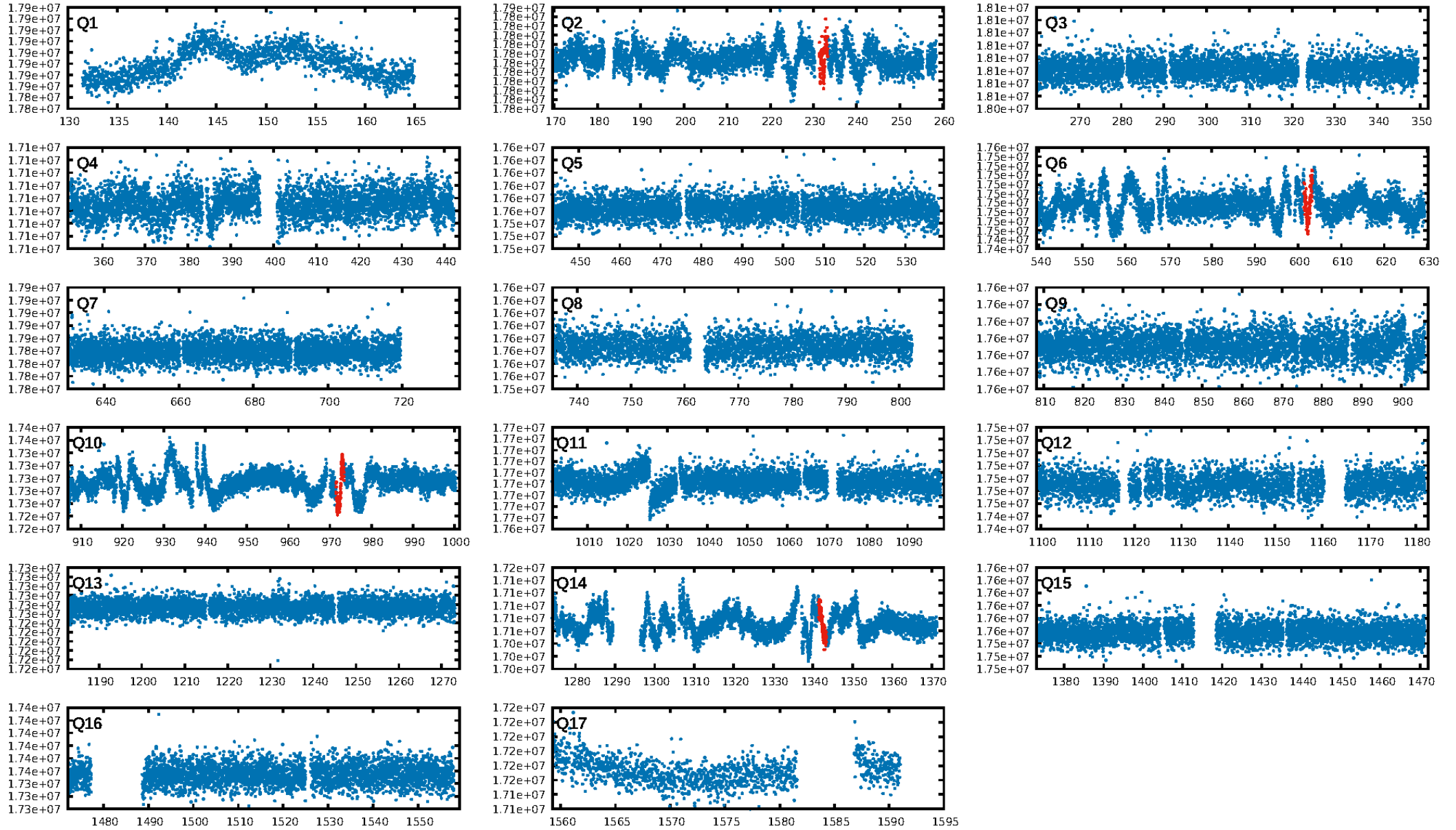
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [55.01σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 23.5%
ModelChiSquareGoF-sig: 98.8%
Bootstrap-pfa: 2.44e-12
RollingBand-fgt: 0.25 [1/4]
GhostDiagnostic-chr: 1.655
Centroid-sig: 0.0%
Centroid-so: 6.442 arcsec [2.92σ]
OotOffset-rm: 6.277 arcsec [30.44σ]
KicOffset-rm: 6.080 arcsec [29.66σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

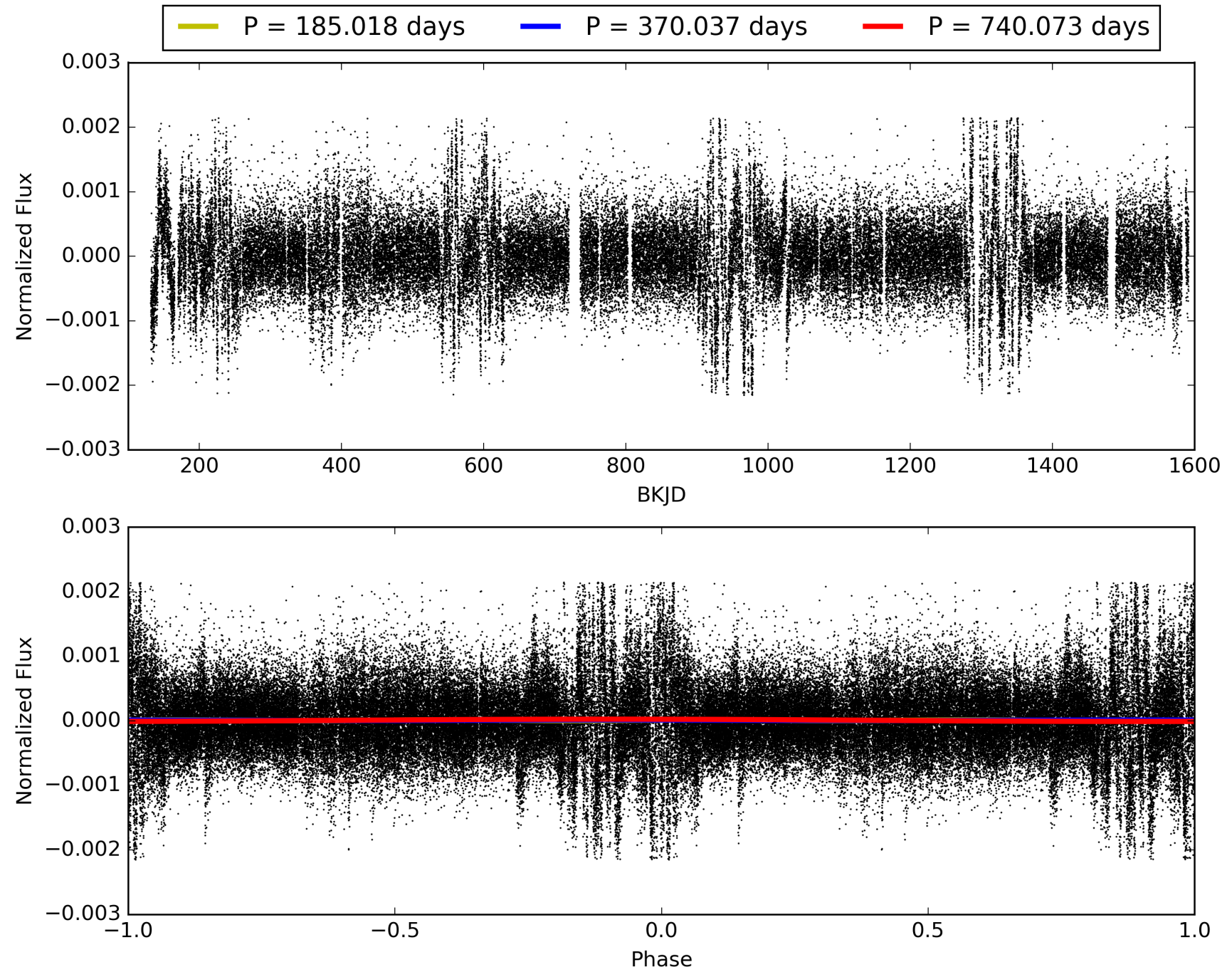
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:57:58 Z

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

TCE 007694116-01, PDC Light Curves

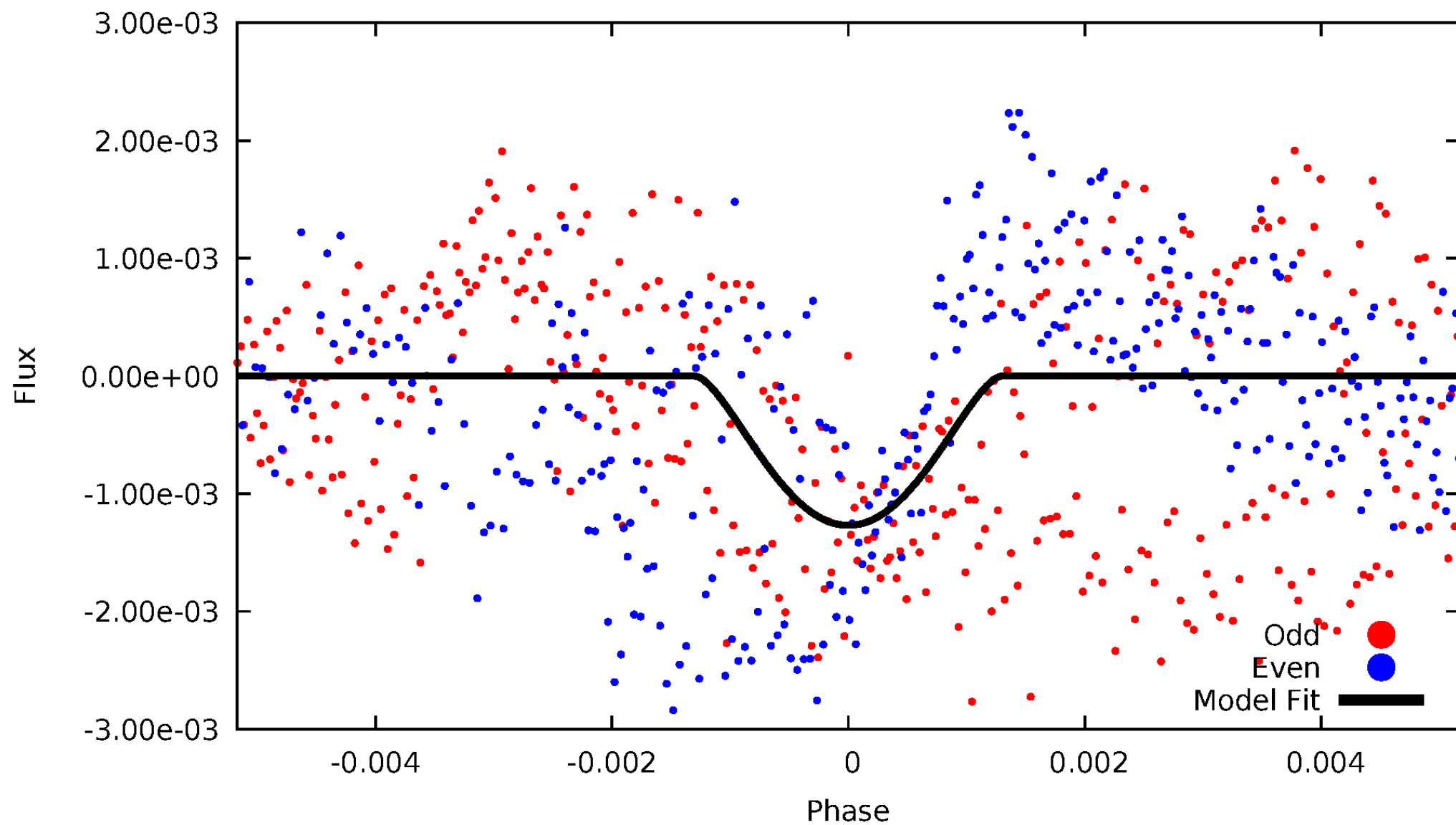


TCE 007694116-01



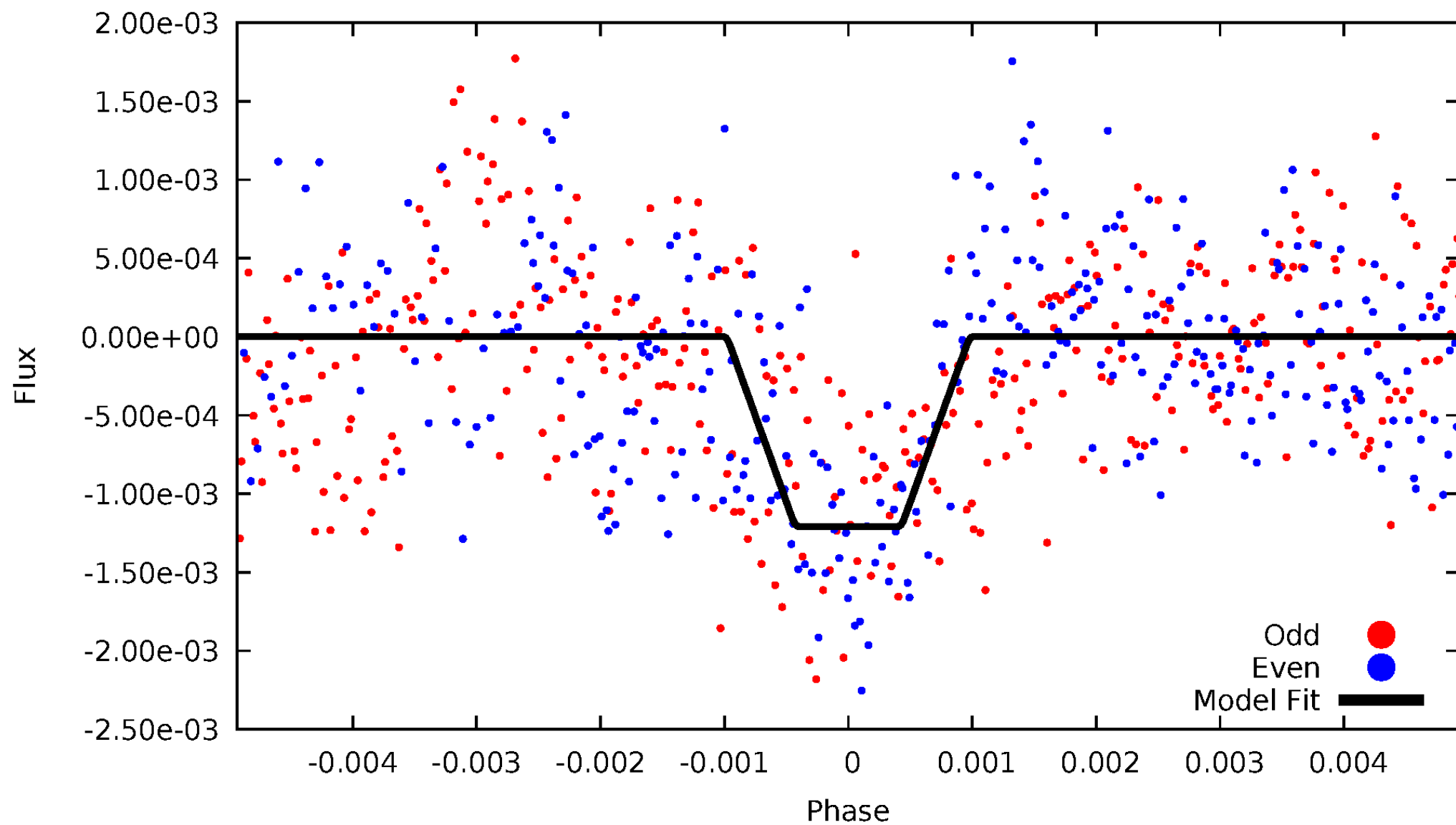
DV Odd/Even

TCE 007694116-01



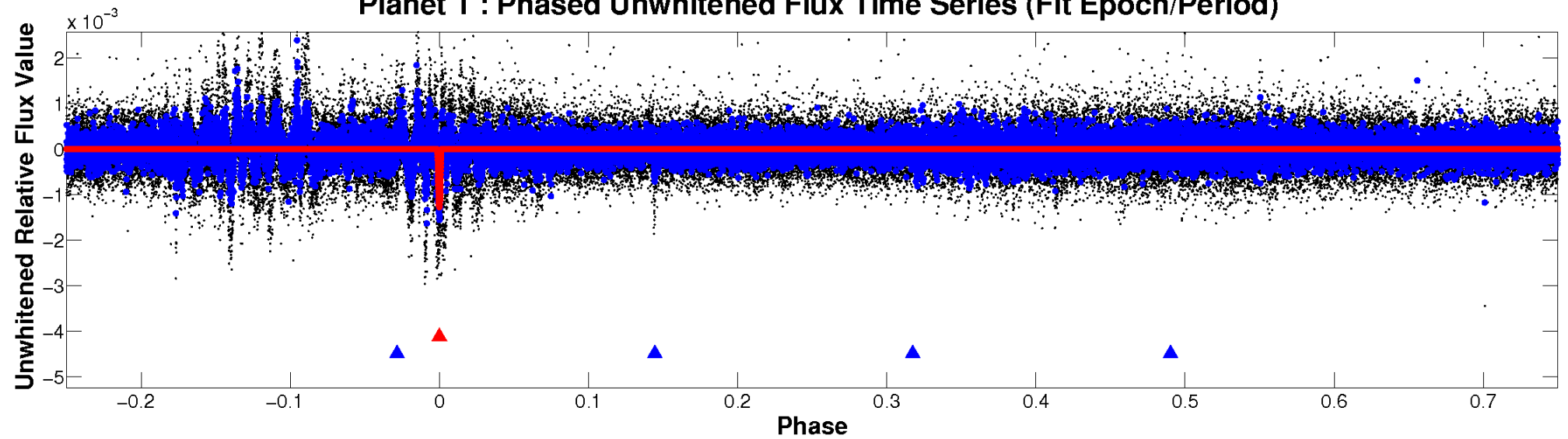
ALT Odd/Even

TCE 007694116-01

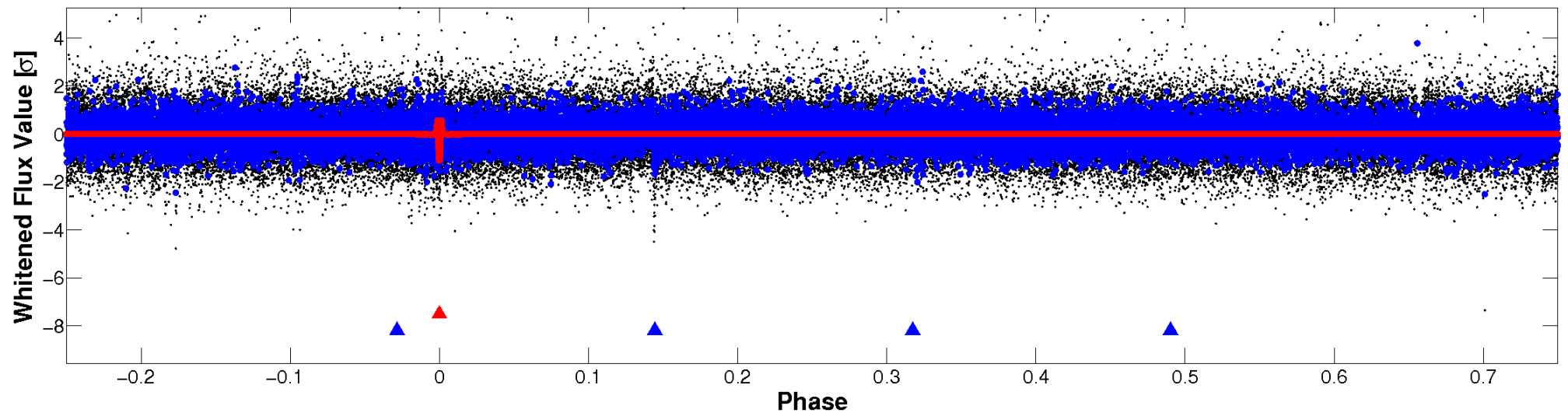


Non-Whitened Vs. Whitened Light Curve

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

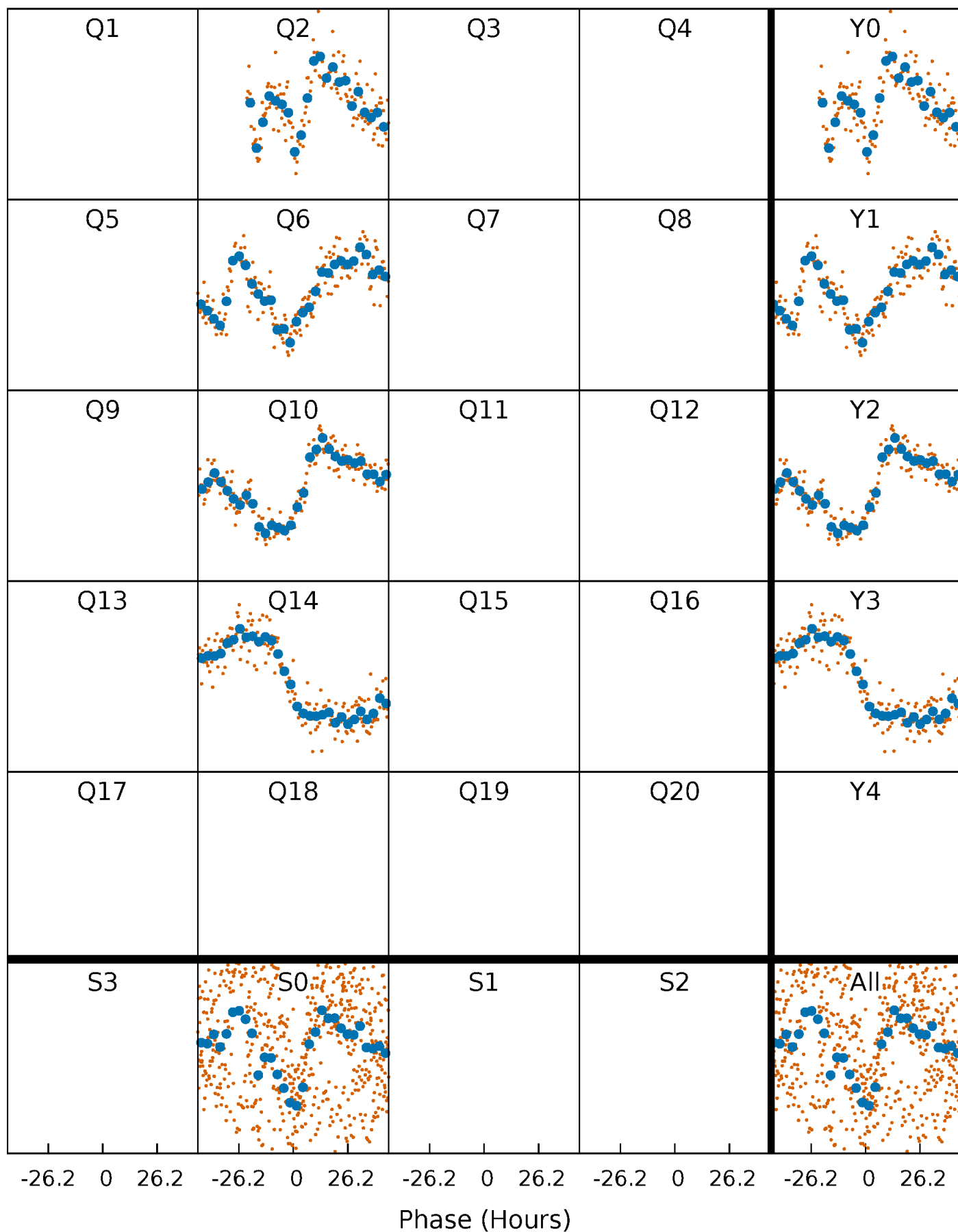


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



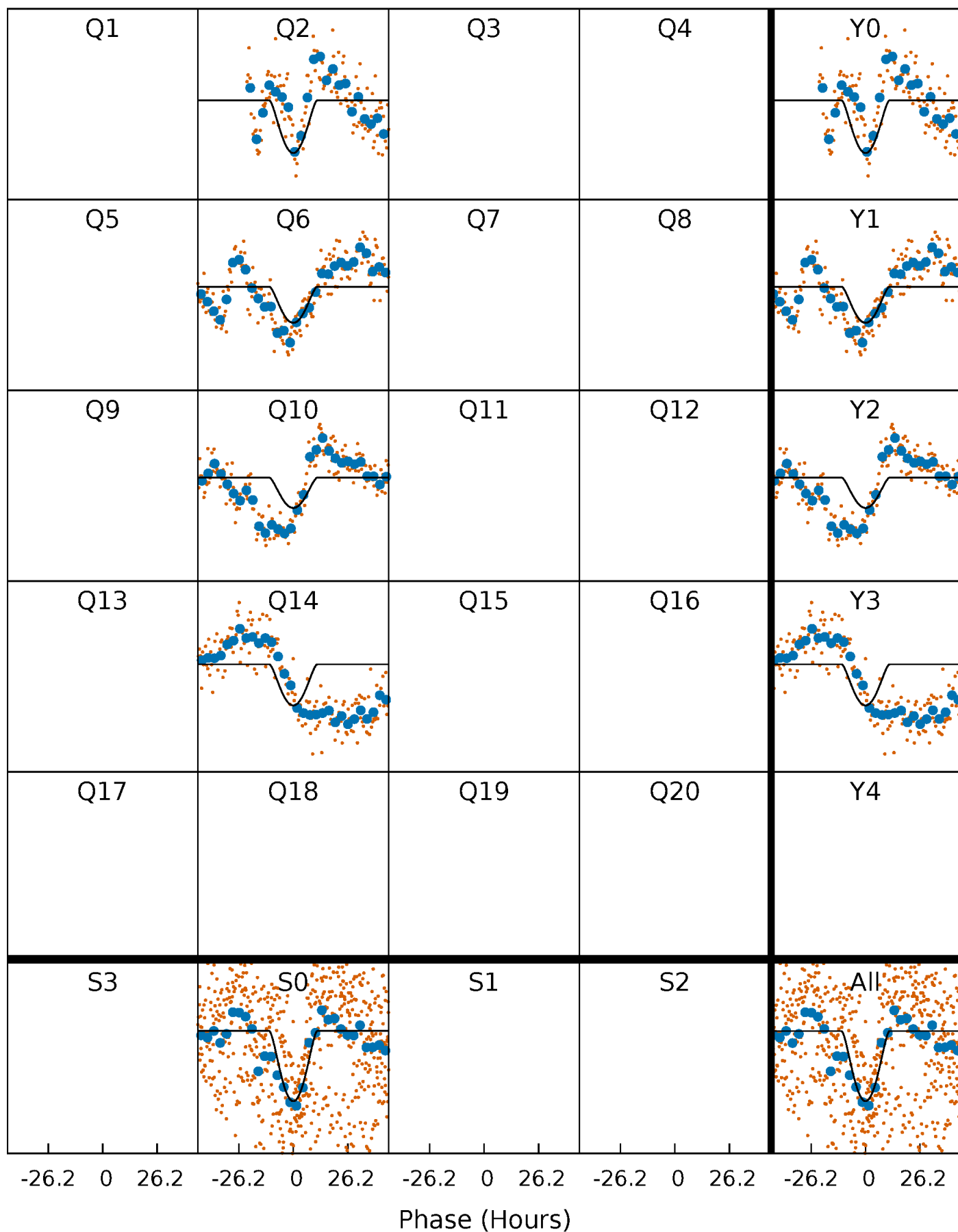
PDC Quarter-Phased Transit Curves

TCE 007694116-01 P=370.036557 Days $T_0=232.321604$ (BKJD)



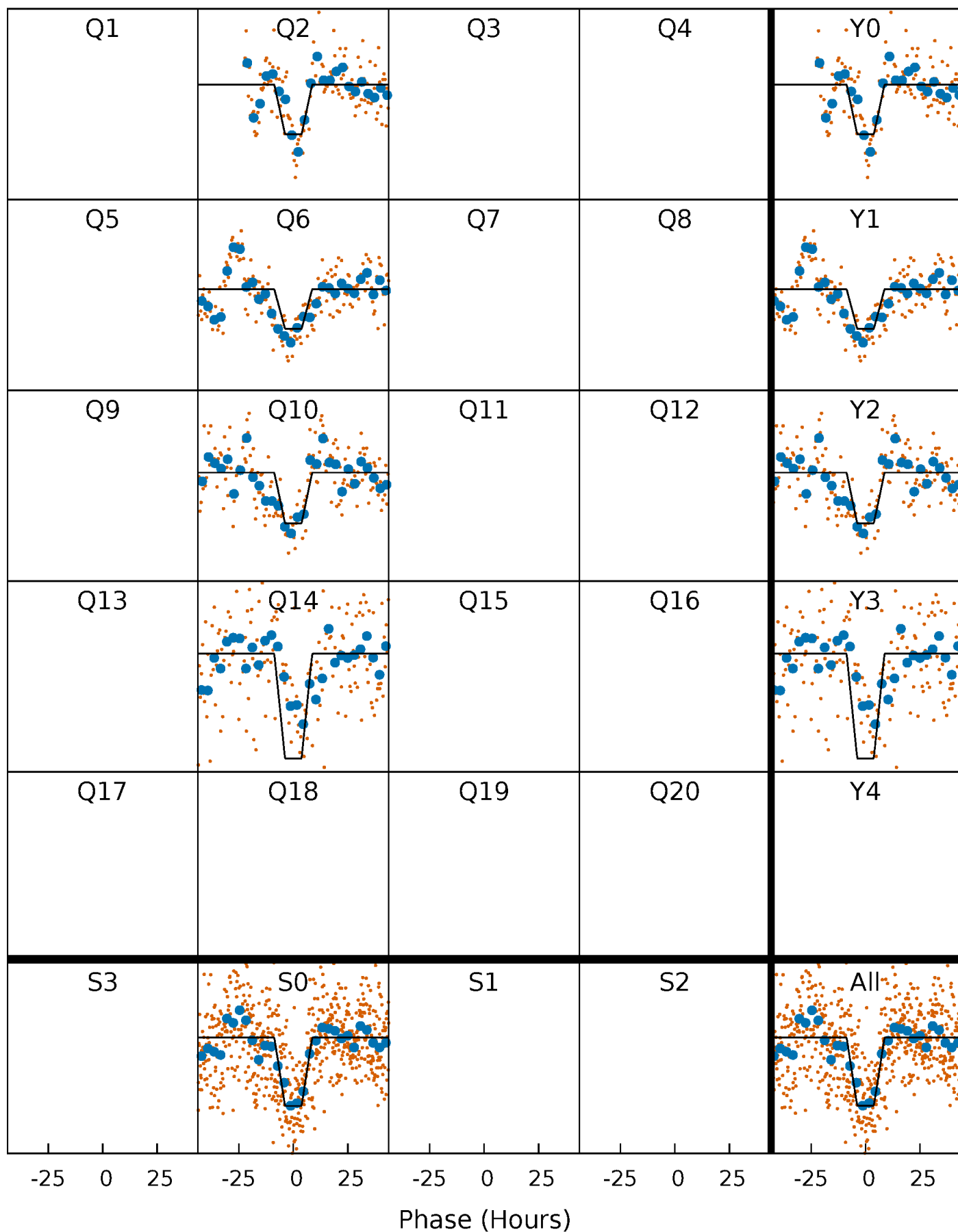
DV Quarter-Phased Transit Curves

TCE 007694116-01 P=370.036557 Days $T_0=232.321604$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

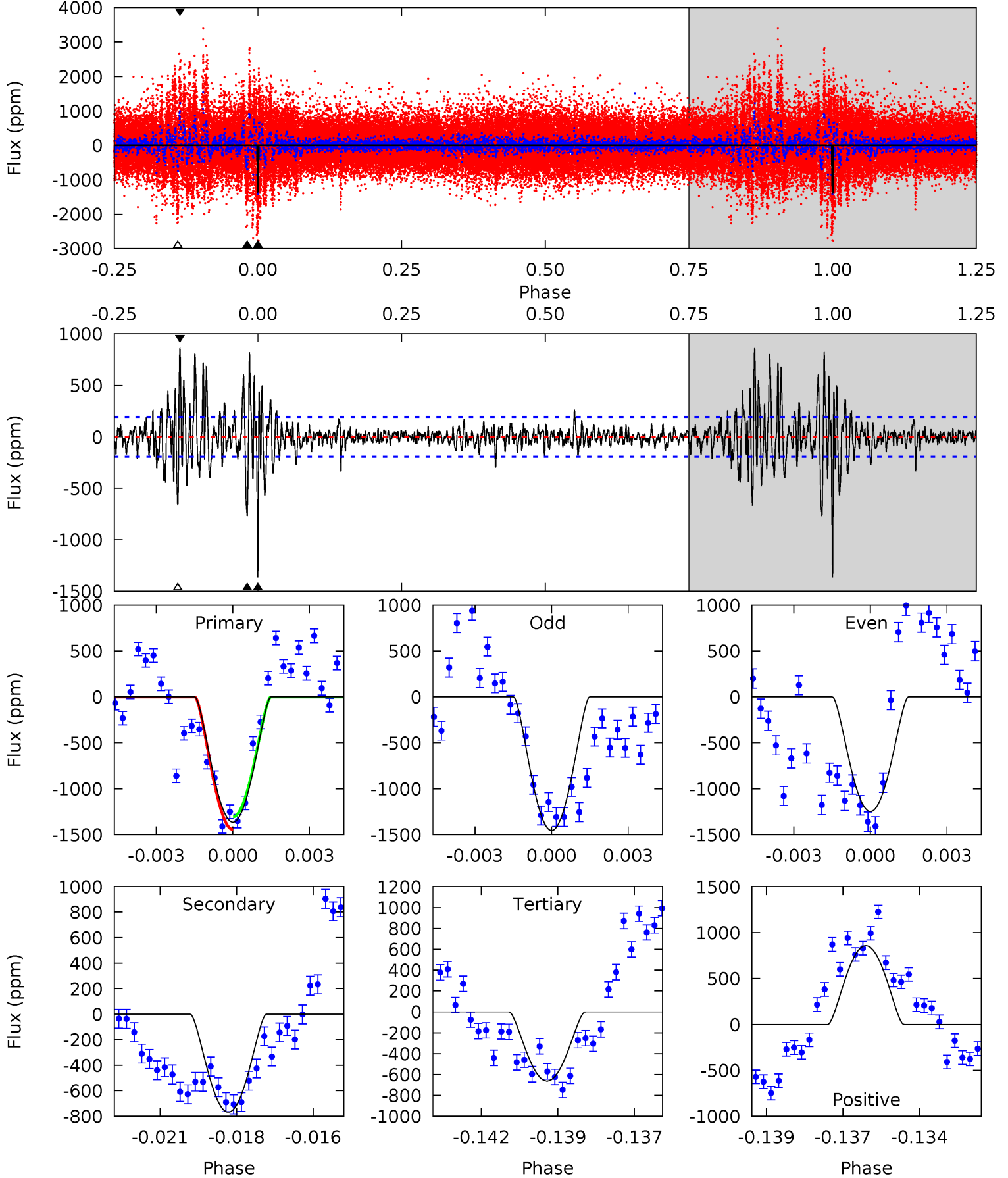
TCE 007694116-01 P=370.024527 Days $T_0=232.335021$ (BKJD)



DV Model-Shift Uniqueness Test

007694116-01, P = 370.036557 Days, E = 232.321604 Days

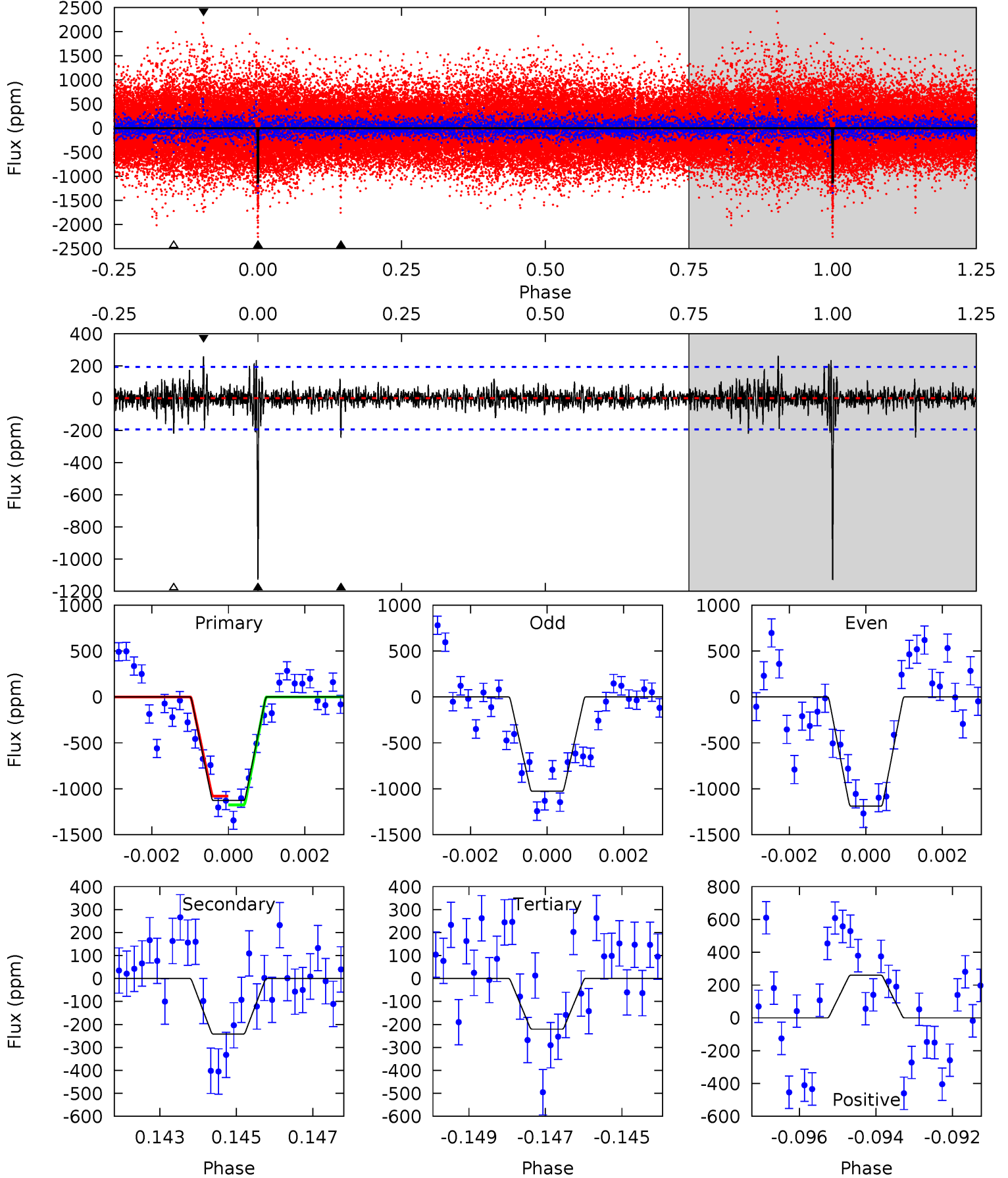
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.2	20.9	18.0	23.4	5.28	3.01	3.89	19.1	13.8	2.89	-2.45	2.80	0.93	0.39	1.85



Alt Model-Shift Uniqueness Test

007694116-01, P = 370.024527 Days, E = 232.335021 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.9	6.63	6.04	7.12	5.33	3.09	1.11	24.9	23.8	0.58	-0.49	2.23	0.93	0.19	1.29



Stellar Parameters For KIC 007694116

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5191^{+155}_{-155}	$4.559^{+0.084}_{-0.063}$	$-0.500^{+0.300}_{-0.300}$	$0.720^{+0.084}_{-0.076}$	$0.684^{+0.094}_{-0.036}$	$2.584^{+0.873}_{-0.547}$
	+3%/-3%	+2%/-1%	+60%/-60%	+12%/-11%	+14%/-5%	+34%/-21%
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 007694116-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-768 ± 37	$10.56^{+10.39}_{-6.99}$	287^{+11}_{-12}	3023^{+1270}_{-511}	3120^{+23044}_{-2339}
Alt.	-242 ± 36	$9.34^{+9.09}_{-6.60}$	287^{+12}_{-12}	2661^{+1096}_{-411}	1216^{+12644}_{-900}

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 $A_{obs} \gg 1.0$

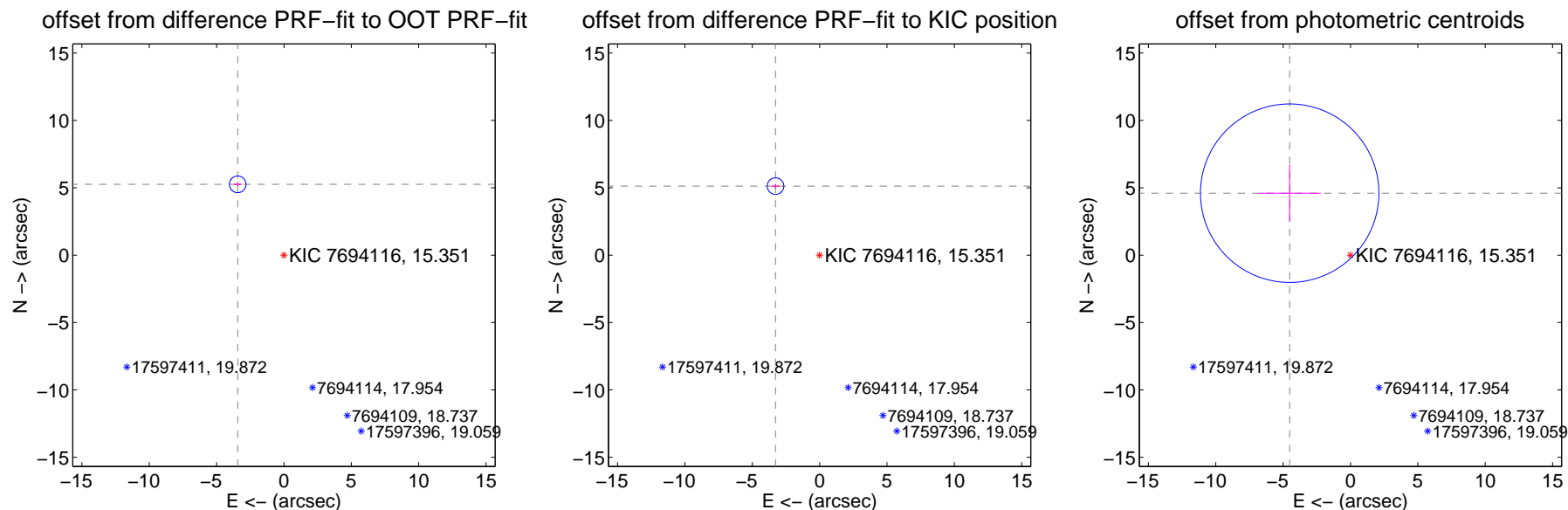
DV Centroid Data

Supplemental centroid analysis for 007694116-01. Kepler magnitude: 15.35. Transit SNR 9.82

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.277 \pm 0.206	30.44	3.432 \pm 0.284	5.255 \pm 0.162
PRF-fit source offset from KIC position	6.080 \pm 0.205	29.66	3.274 \pm 0.284	5.123 \pm 0.162
photometric centroid source offset	6.44 \pm 2.21	2.92	4.51 \pm 2.31	4.60 \pm 2.11

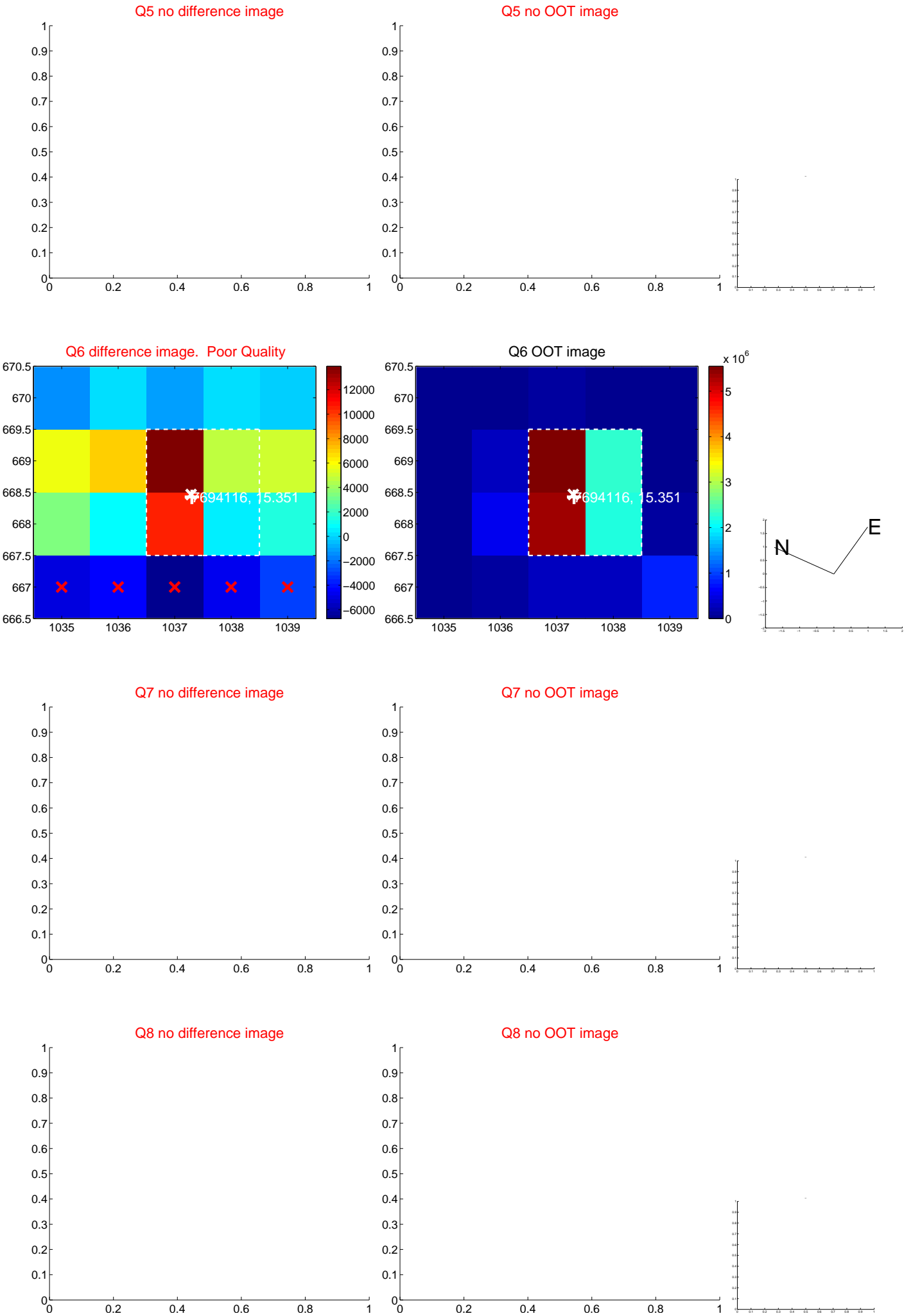


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



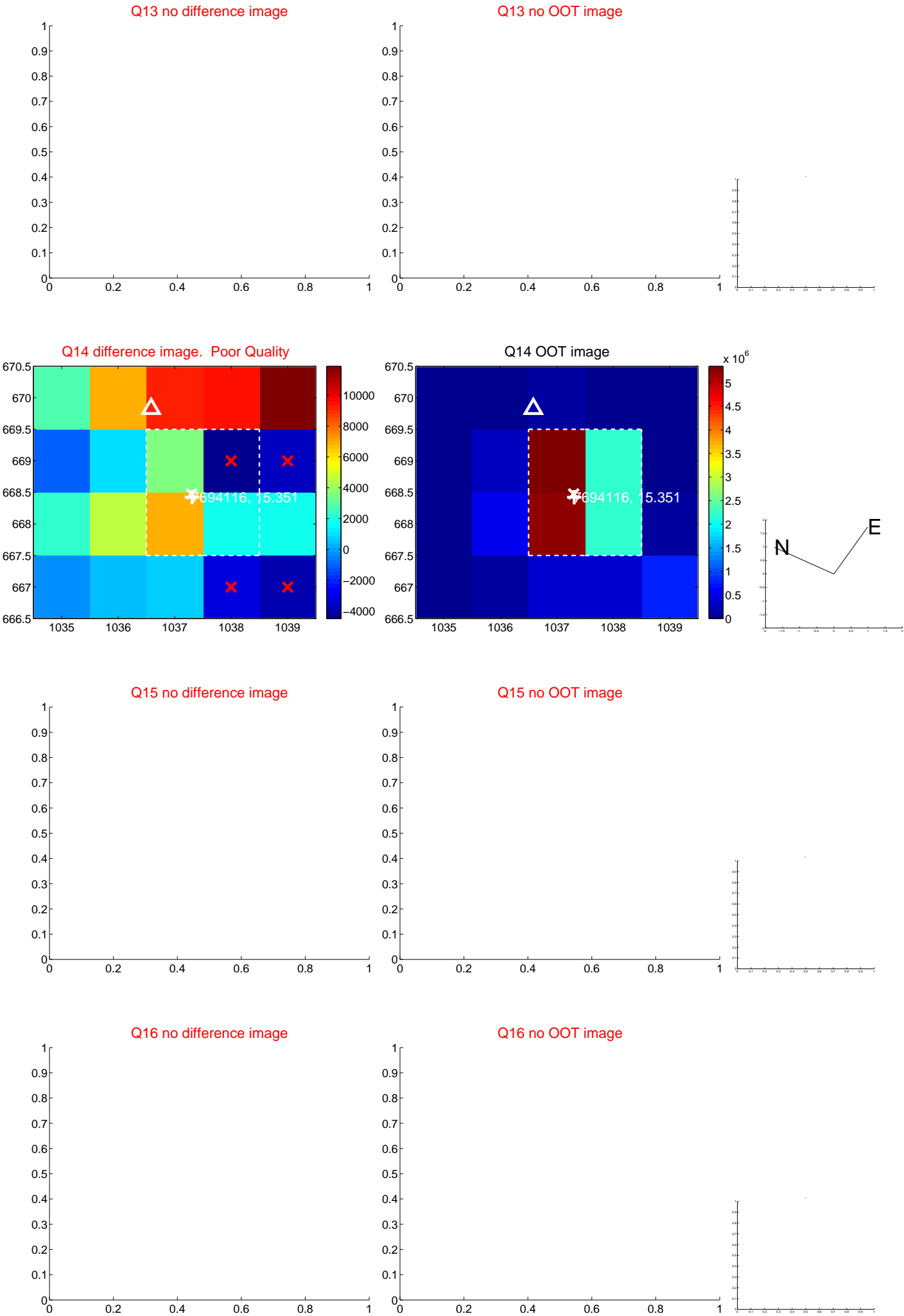
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



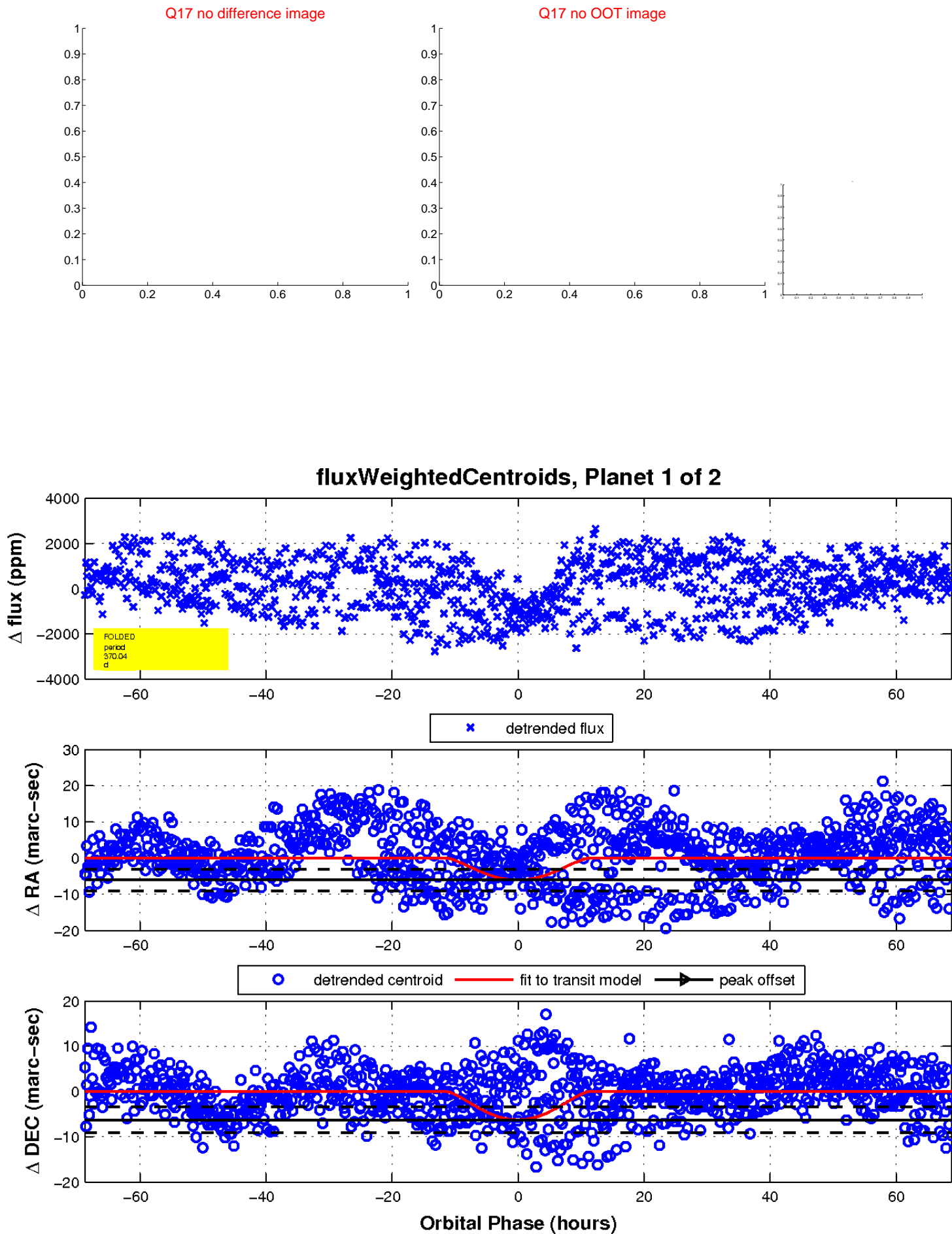
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

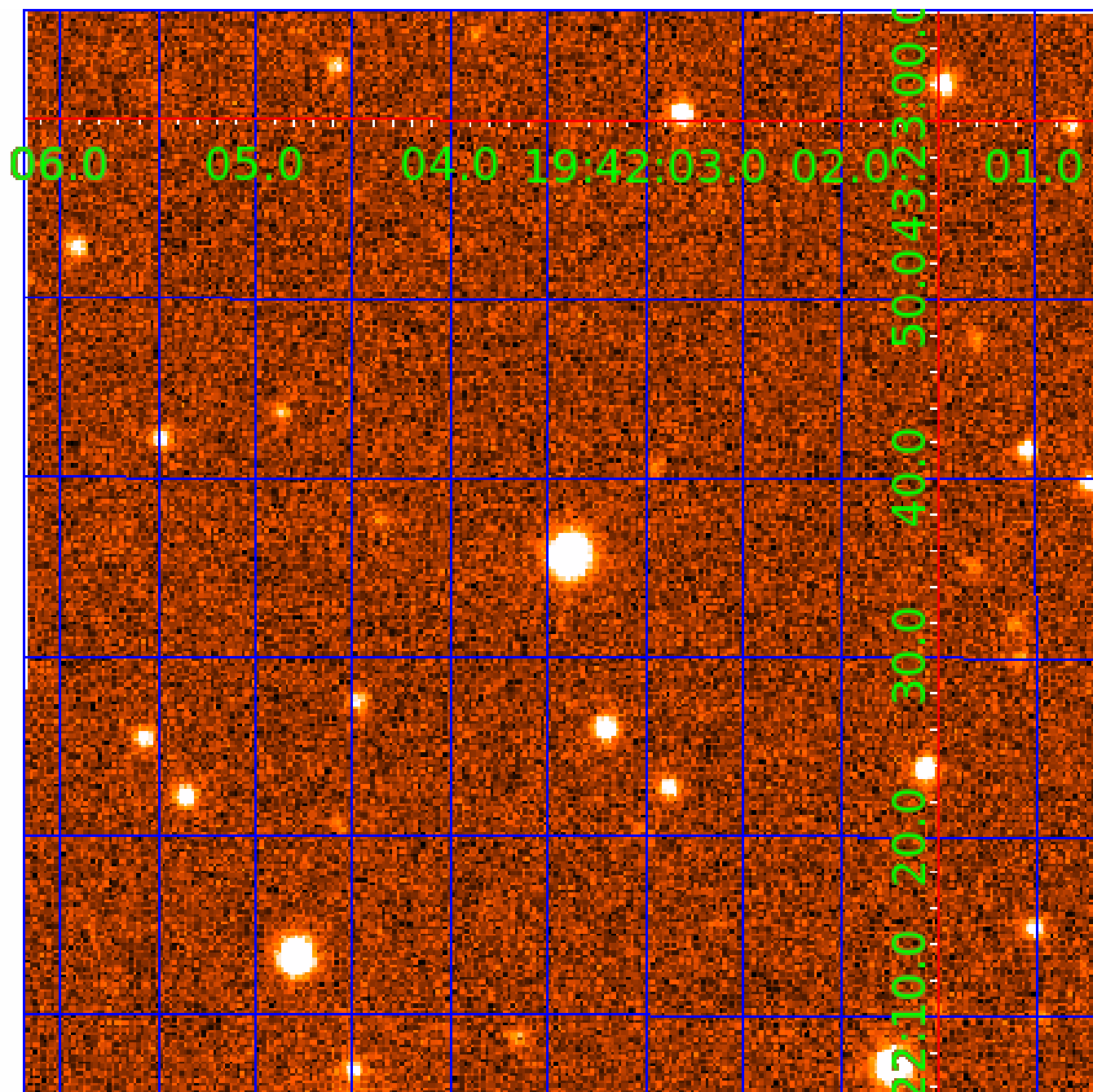


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007694116

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})
007694116-01	OBS	No	370.036557	232.321604	1268.7	22.964	9.0	9.8	0.72	5191	5.01	0.43
007694116-02	OBS	No	306.060580	413.752443	865.7	15.862	12.4	11.1	0.72	5191	2.26	0.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007694116-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS
007694116-02	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

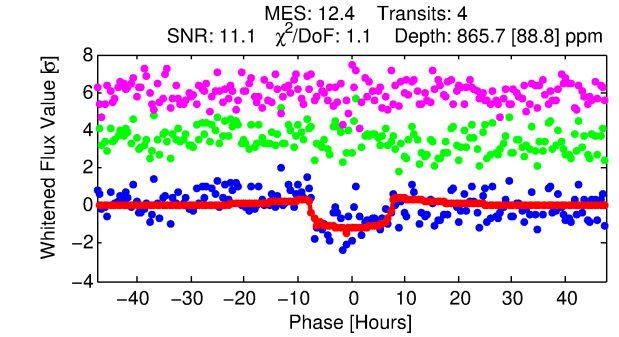
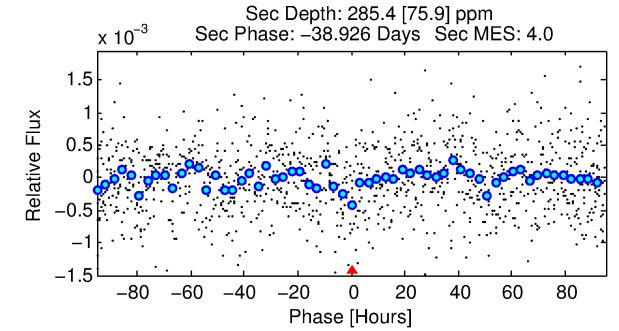
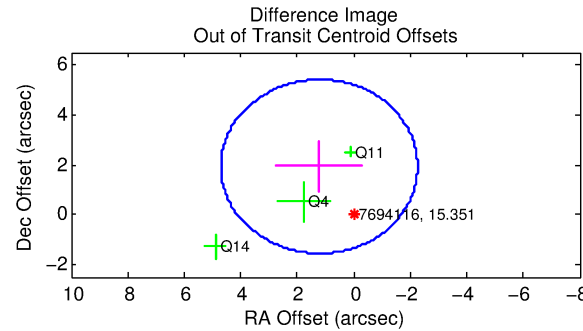
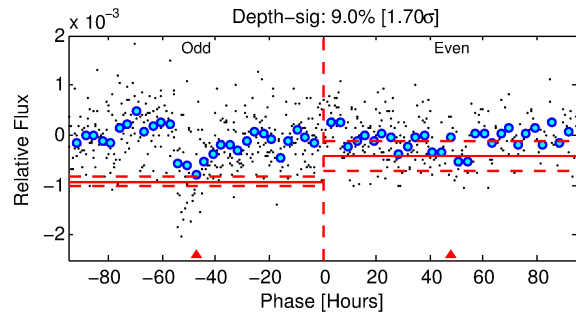
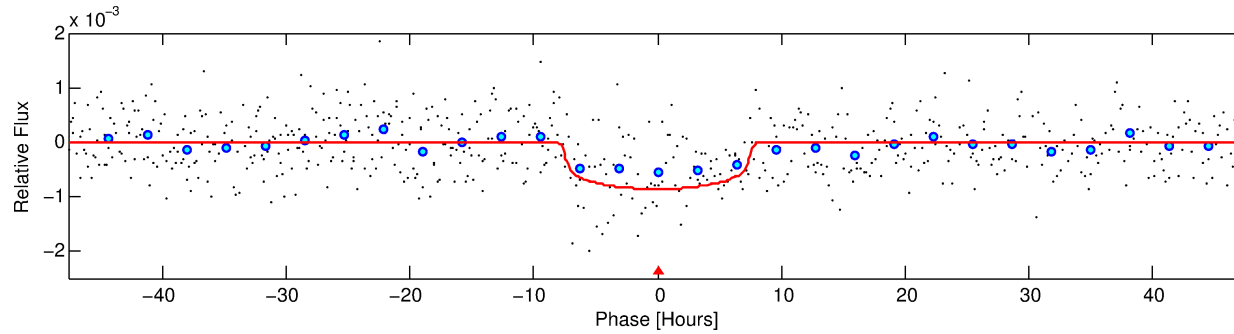
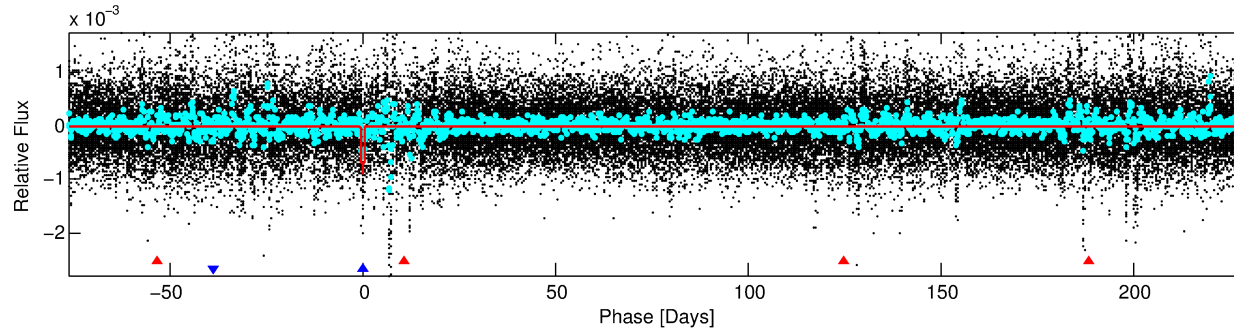
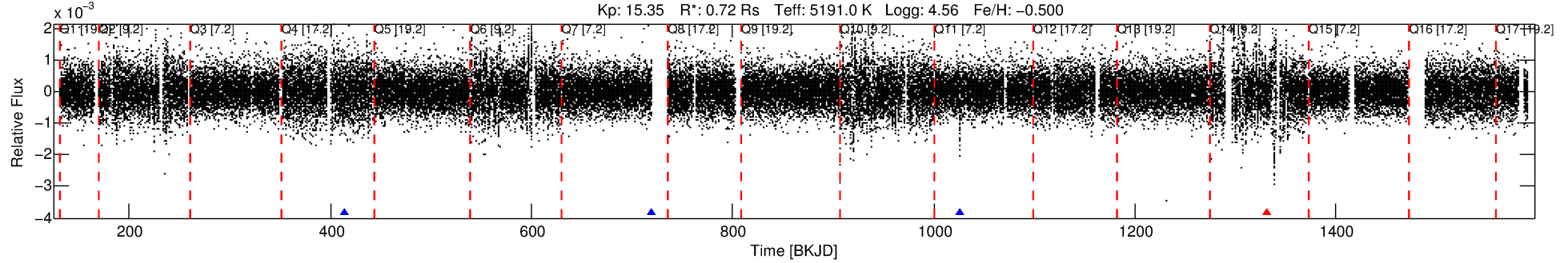
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007694116-02

No Significant Match Found

DV One-Page Summary

KIC: 7694116 Candidate: 2 of 2 Period: 306.061 d



DV Fit Results:

Period = 306.06058 [0.01022] d
Epoch = 413.7524 [0.0204] BKJD
Rp/R* = 0.0287 [0.0065]
a/R* = 111.25 [96.05]
b = 0.70 [0.64]
Seff = 0.55 [0.11]
Teq = 220 [11] K
Rp = 2.26 [0.58] Re
a = 0.7837 [0.0792] AU
Ag = 18911.34 [10375.76] [1.82 σ]
Teffp = 3980 [538] K [6.99 σ]

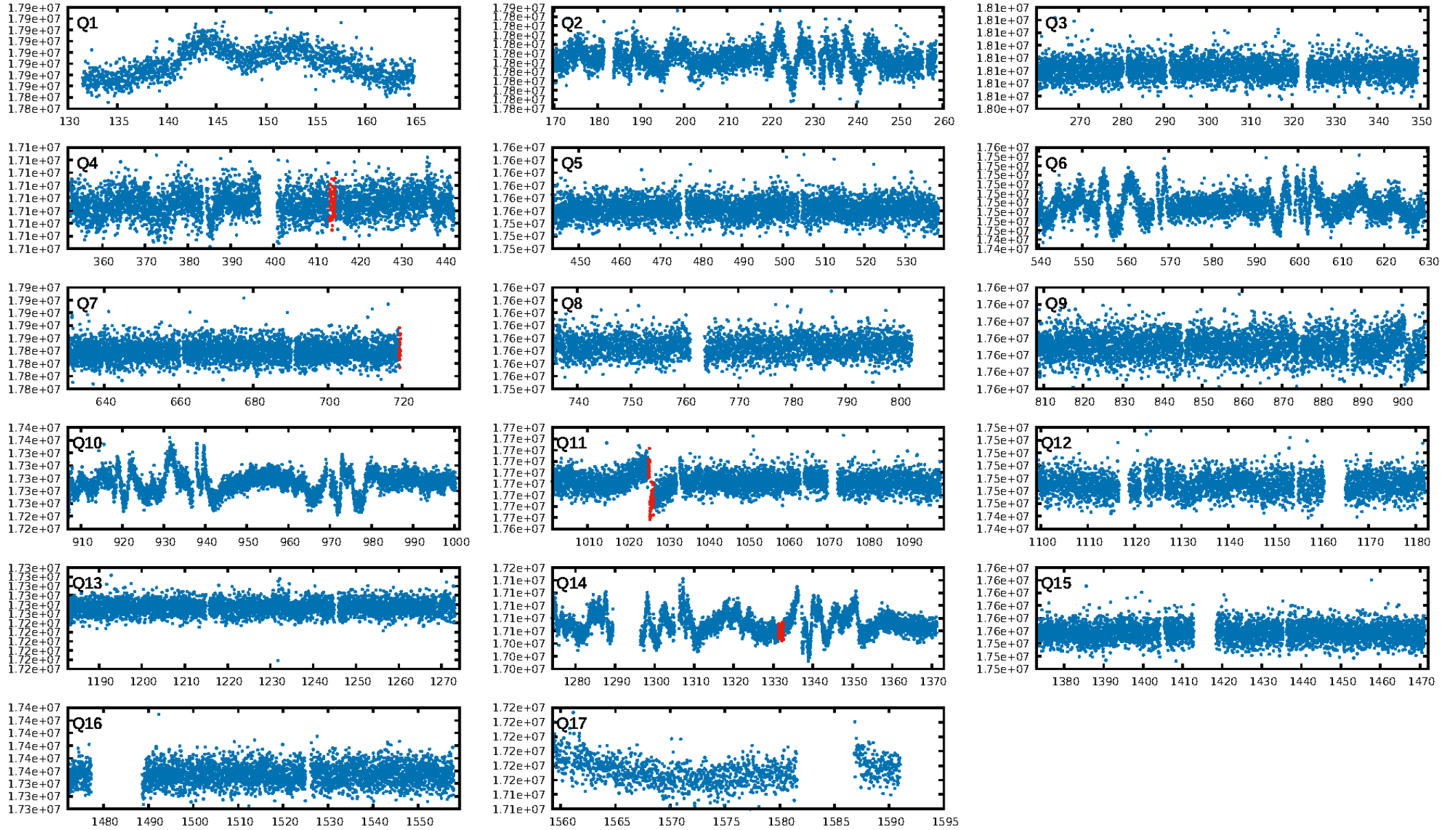
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [55.01 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.45e-16
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 1.434
Centroid-sig: 0.0%
Centroid-so: 2.913 arcsec [1.82 σ]
OotOffset-rm: 2.282 arcsec [1.97 σ]
KicOffset-rm: 2.065 arcsec [1.82 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

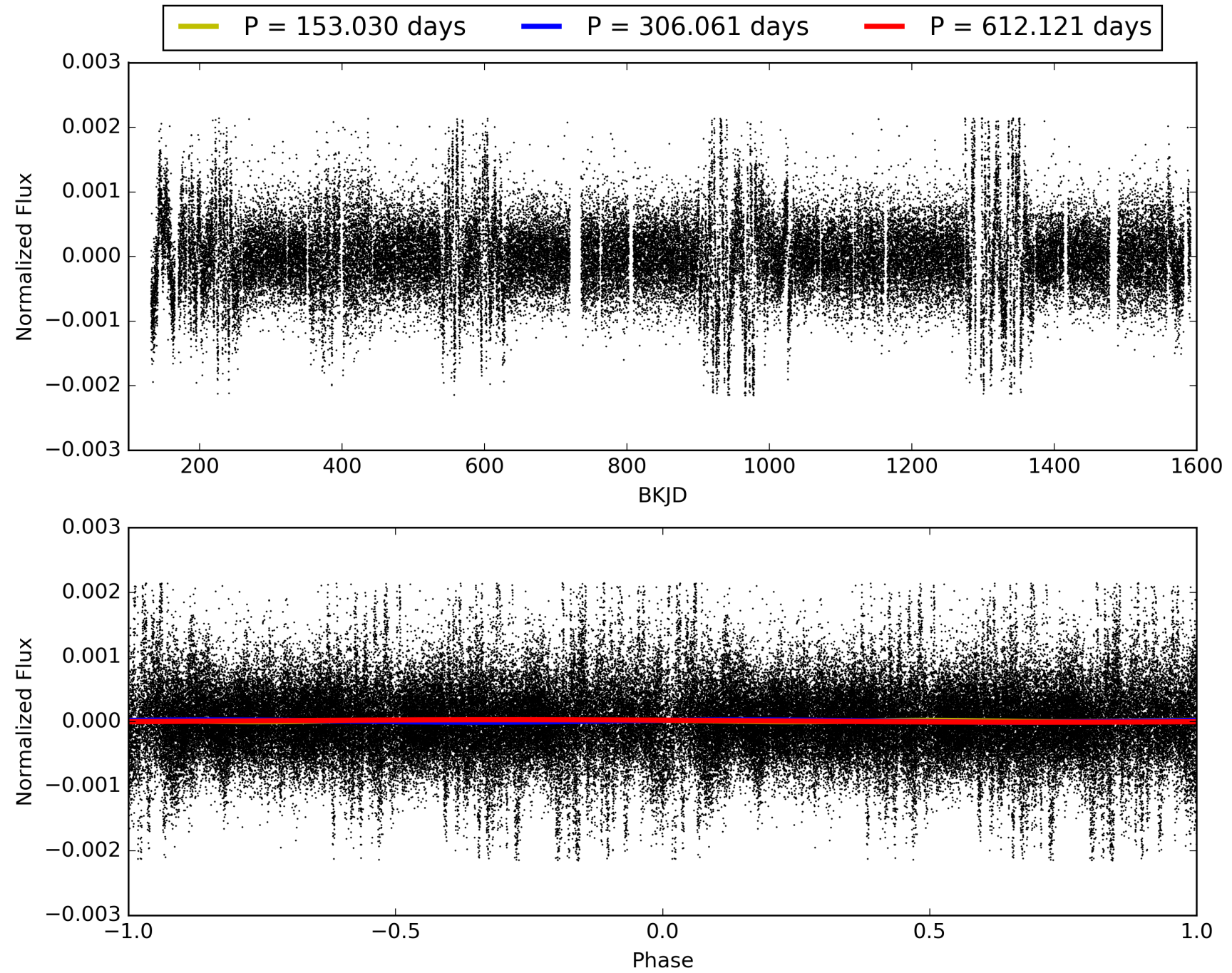
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:58:06 Z

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

TCE 007694116-02, PDC Light Curves

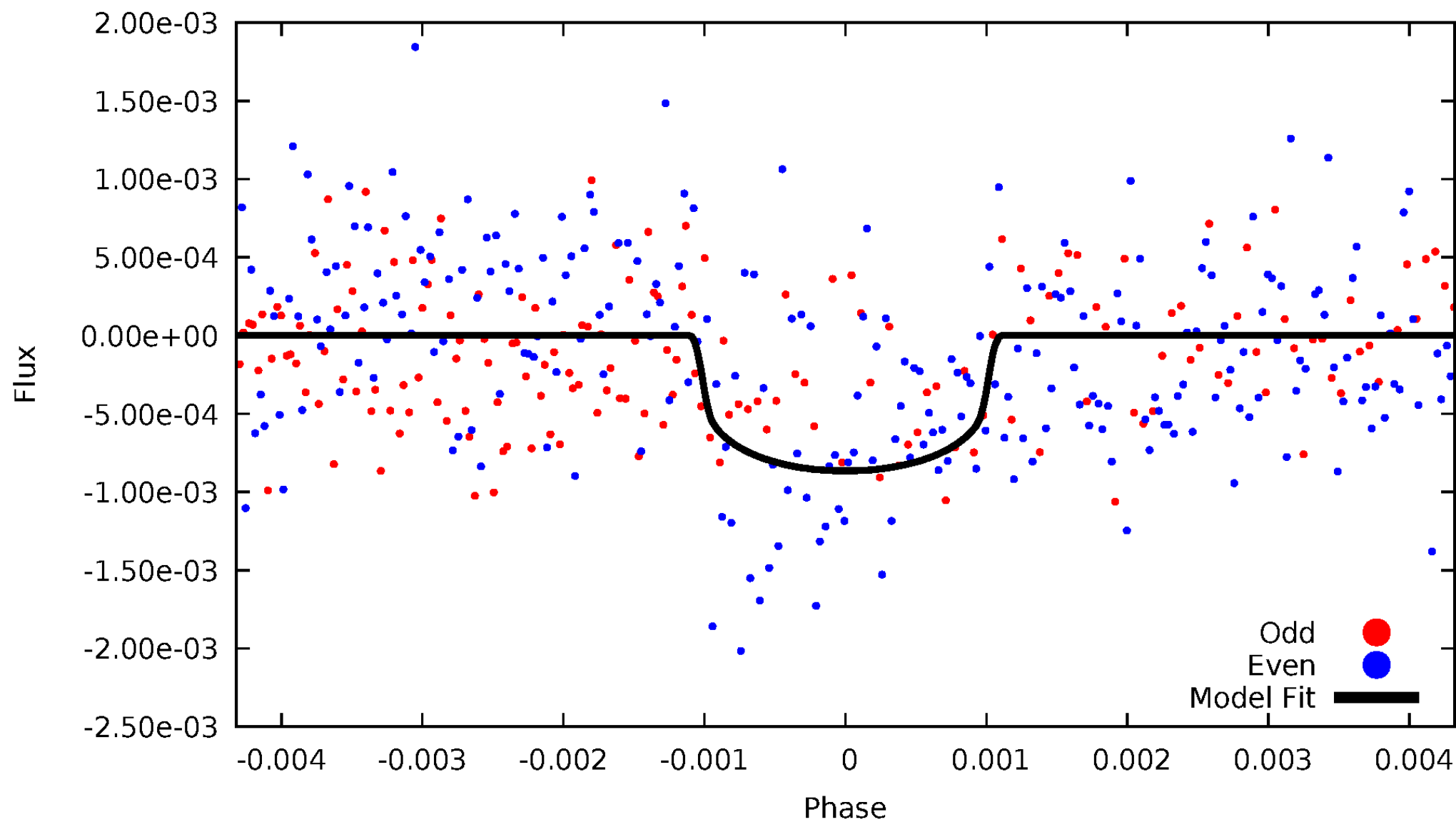


TCE 007694116-02



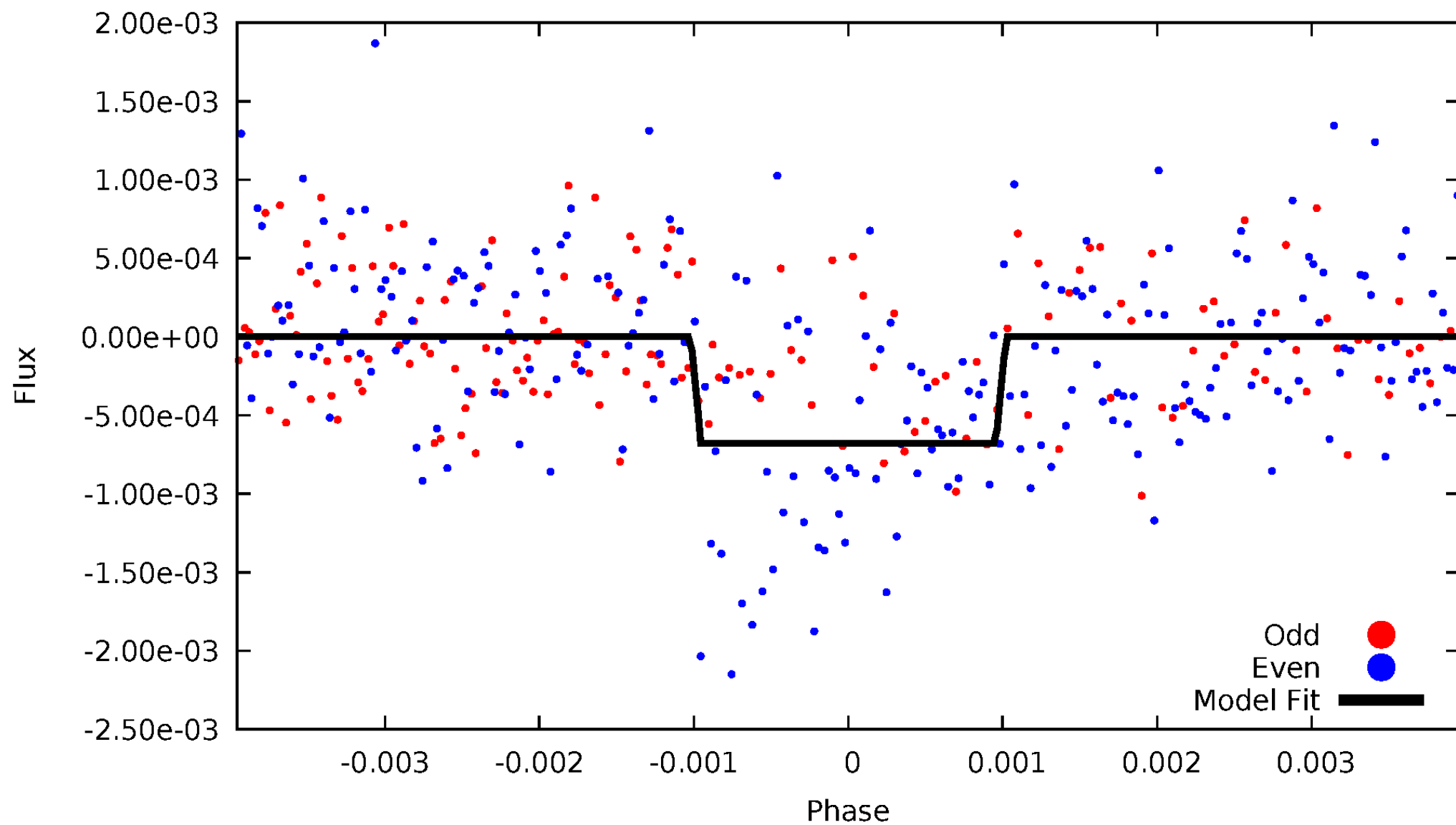
DV Odd/Even

TCE 007694116-02



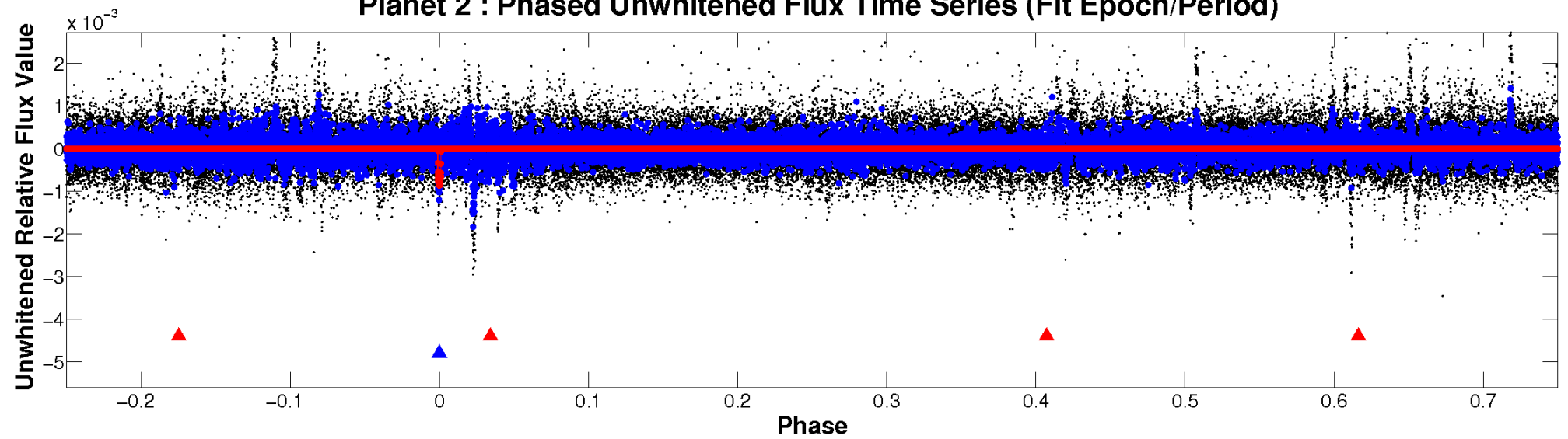
ALT Odd/Even

TCE 007694116-02

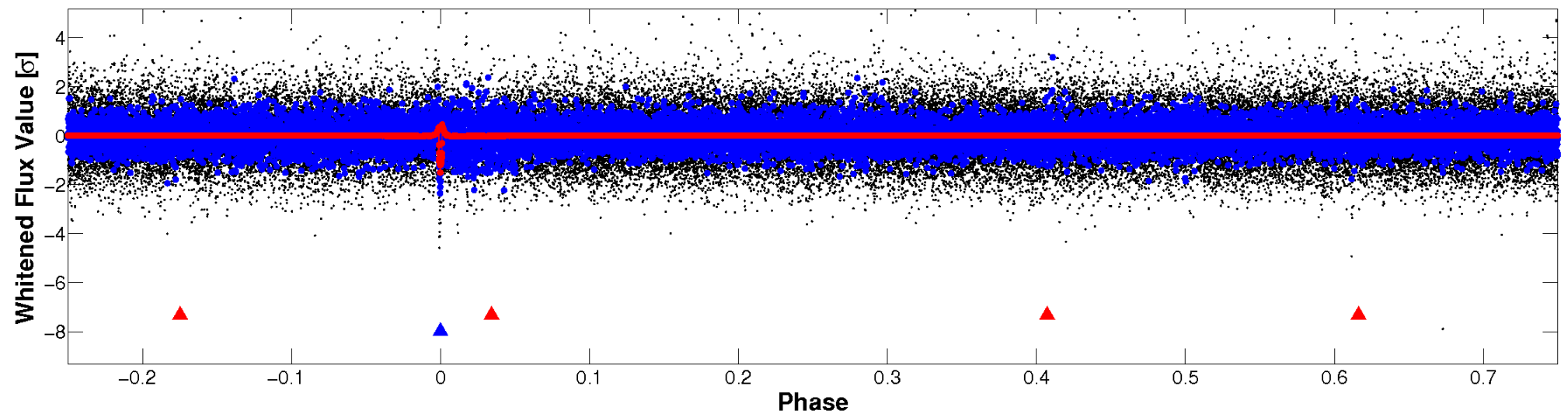


Non-Whitened Vs. Whitened Light Curve

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

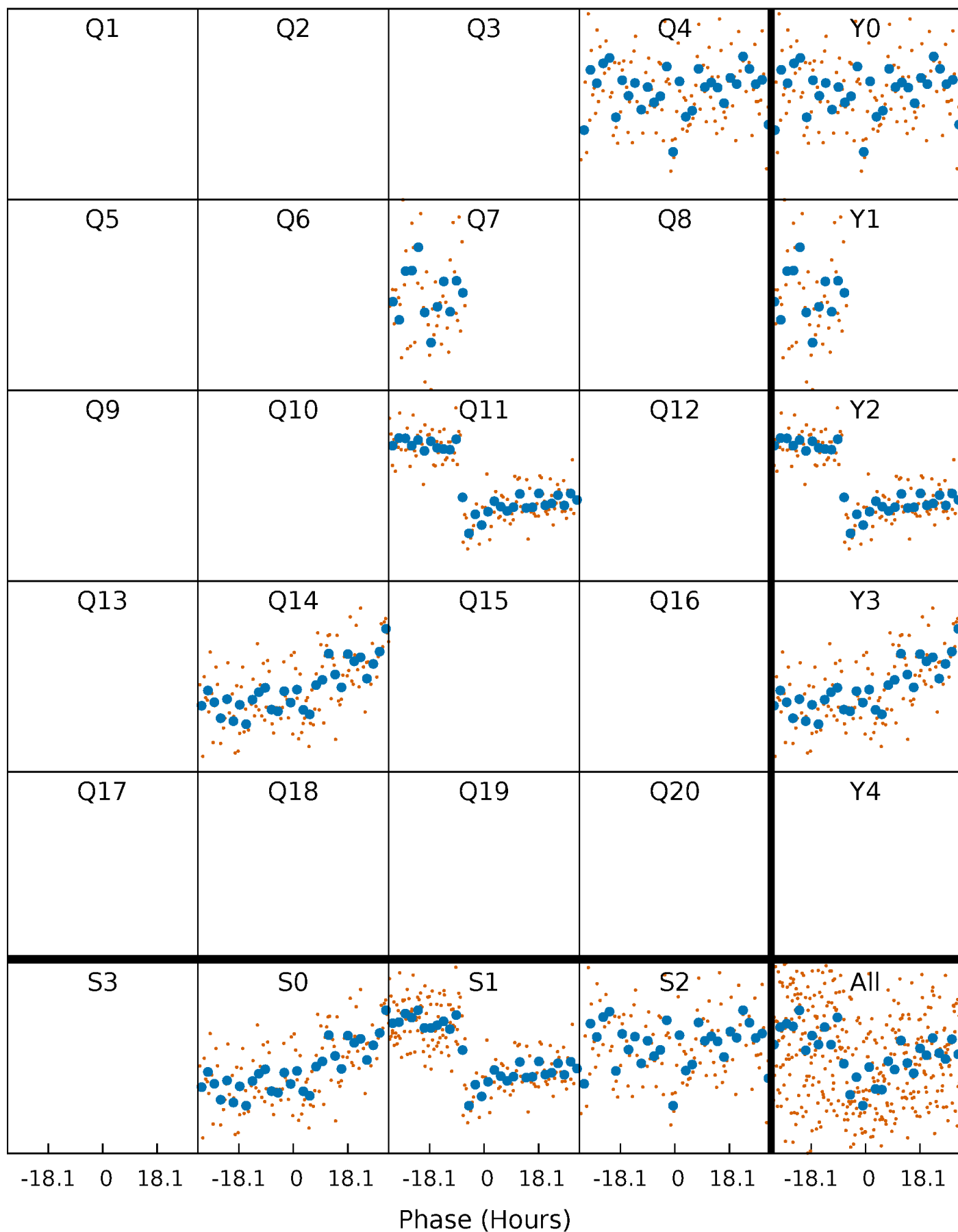


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



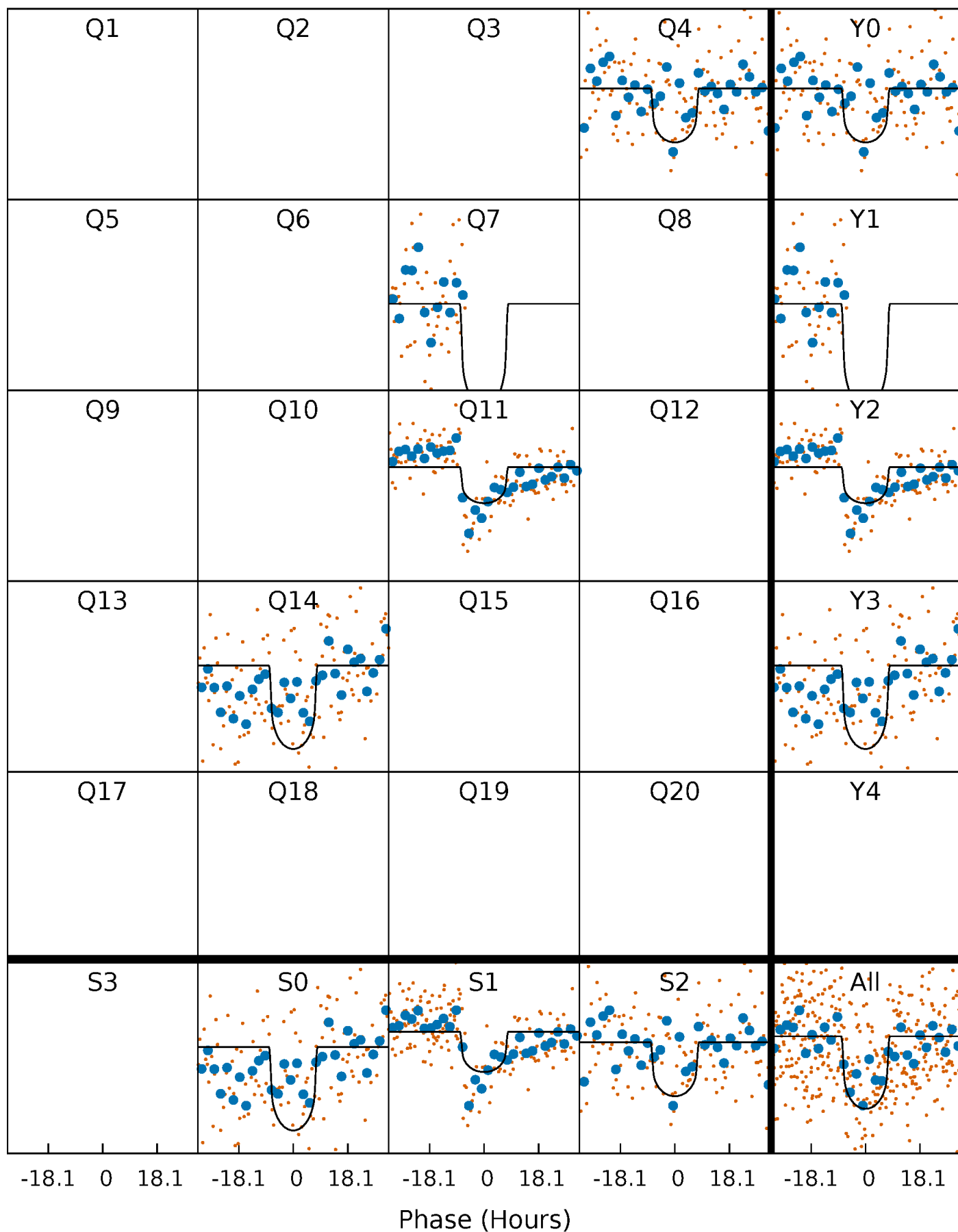
PDC Quarter-Phased Transit Curves

TCE 007694116-02 P=306.060580 Days $T_0=413.752443$ (BKJD)



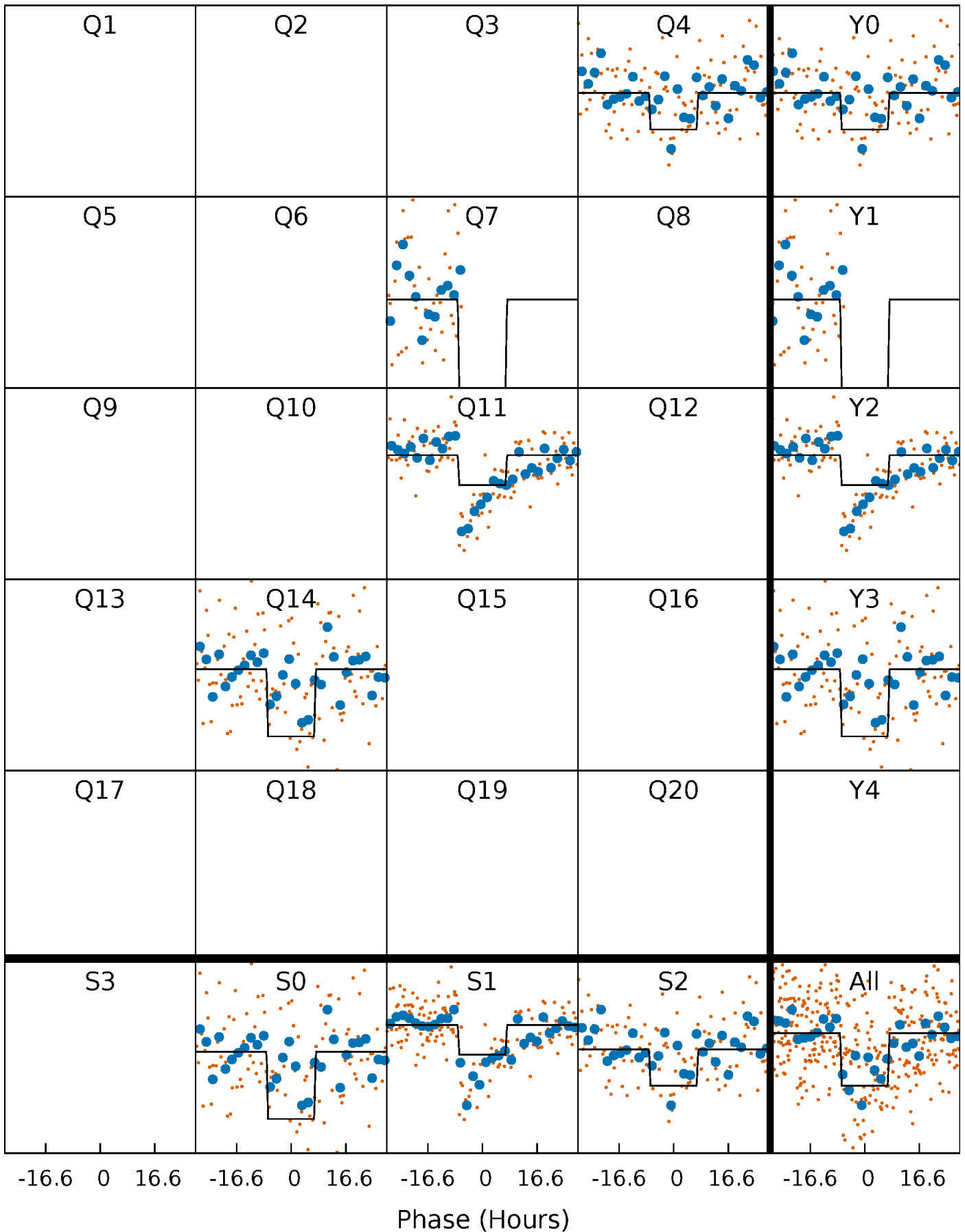
DV Quarter-Phased Transit Curves

TCE 007694116-02 P=306.060580 Days $T_0=413.752443$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

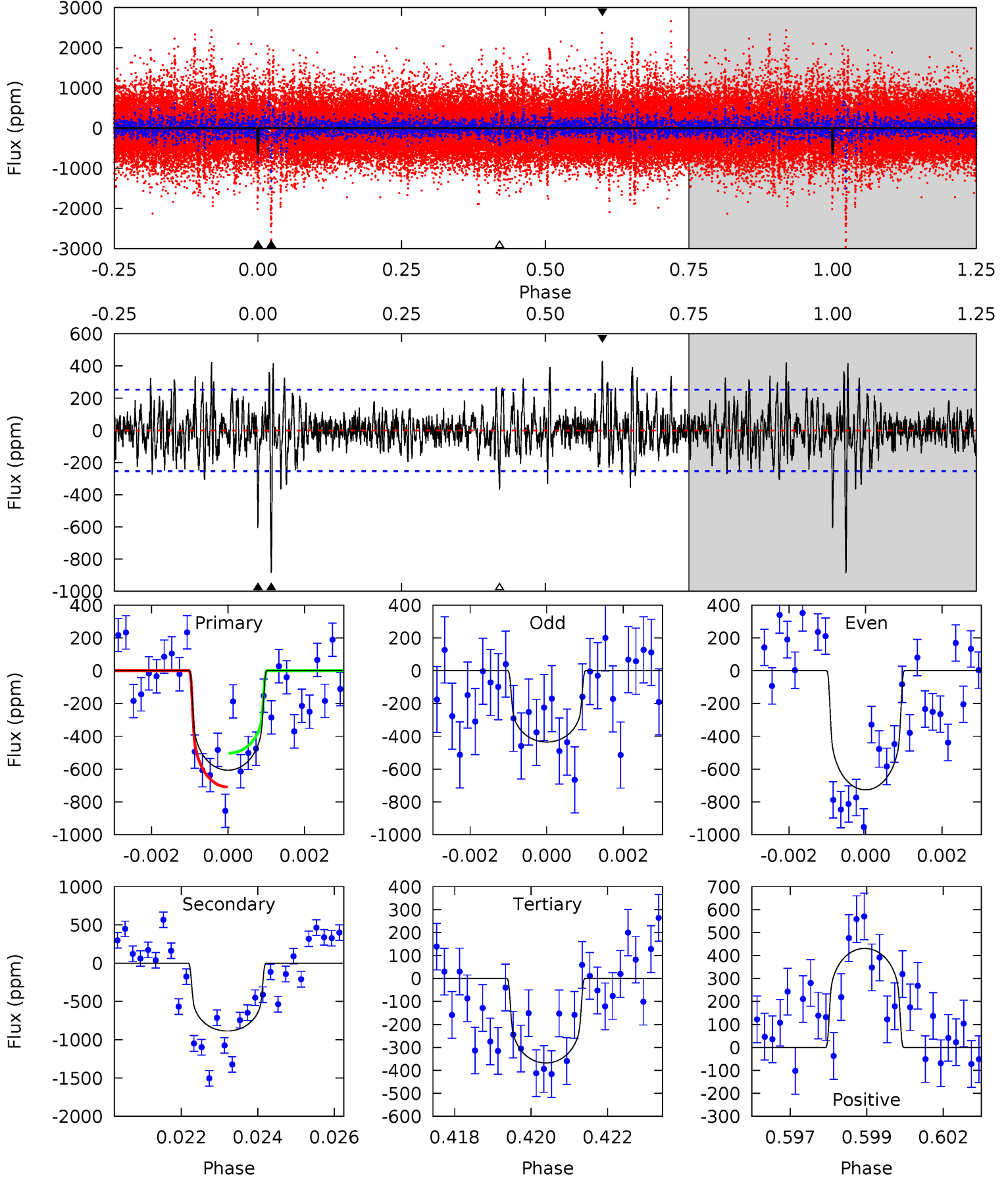
TCE 007694116-02 P=306.060673 Days $T_0=413.756352$ (BKJD)



DV Model-Shift Uniqueness Test

007694116-02, P = 306.060580 Days, E = 107.691863 Days

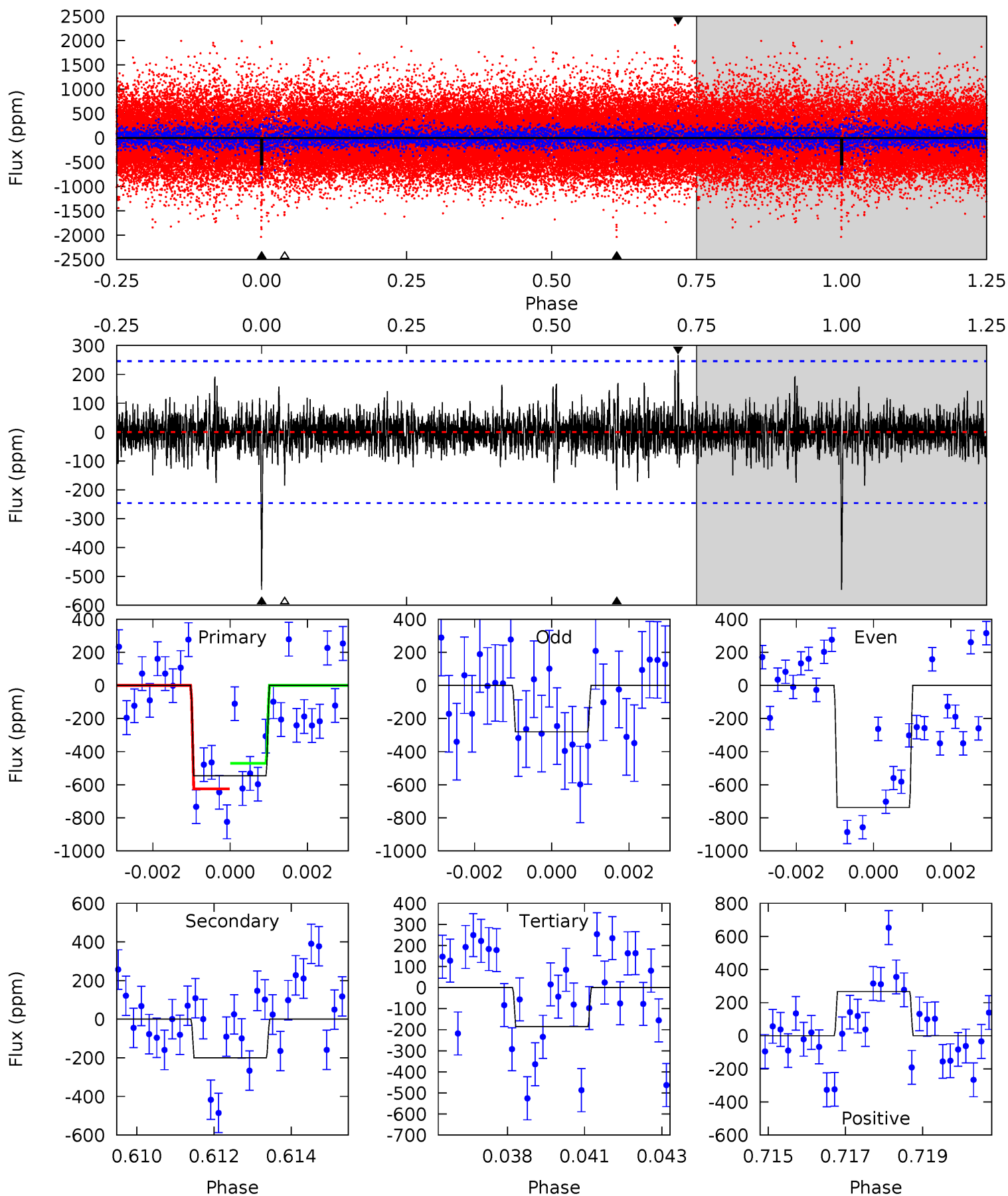
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	18.6	7.71	9.04	5.31	3.06	2.14	5.01	3.69	10.9	9.55	2.87	1.08	0.33	2.16



Alt Model-Shift Uniqueness Test

007694116-02, P = 306.060673 Days, E = 107.695679 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	4.34	4.00	5.78	5.32	3.09	0.97	7.84	6.06	0.34	-1.44	4.71	1.47	0.33	1.68



Stellar Parameters For KIC 007694116

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5191^{+155}_{-155}	$4.559^{+0.084}_{-0.063}$	$-0.500^{+0.300}_{-0.300}$	$0.720^{+0.084}_{-0.076}$	$0.684^{+0.094}_{-0.036}$	$2.584^{+0.873}_{-0.547}$
	+3%/-3%	+2%/-1%	+60%/-60%	+12%/-11%	+14%/-5%	+34%/-21%
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 007694116-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-886 ± 48	$2.28^{+0.57}_{-0.54}$	306^{+13}_{-12}	5258^{+673}_{-490}	58521^{+41264}_{-20778}
Alt.	-200 ± 46	$2.06^{+0.47}_{-0.55}$	306^{+12}_{-12}	4073^{+536}_{-355}	16075^{+14736}_{-6365}

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

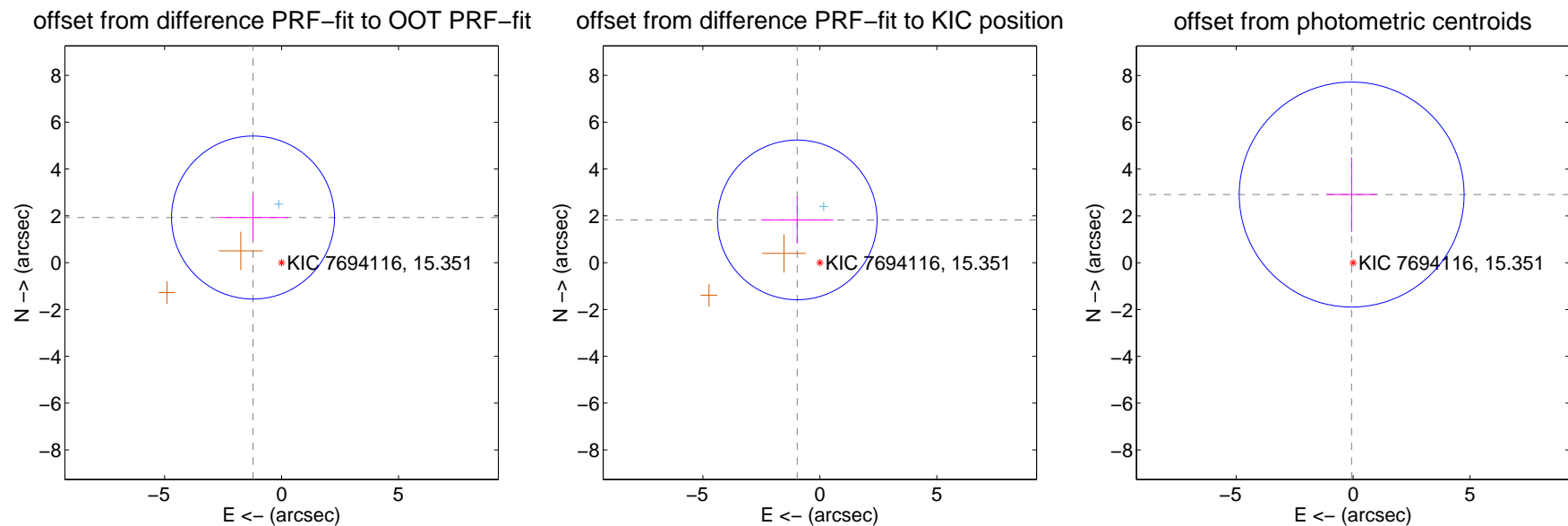
DV Centroid Data

Supplemental centroid analysis for 007694116-02. Kepler magnitude: 15.35. Transit SNR 11.09

There are 1 quarters with good PRF difference image offsets

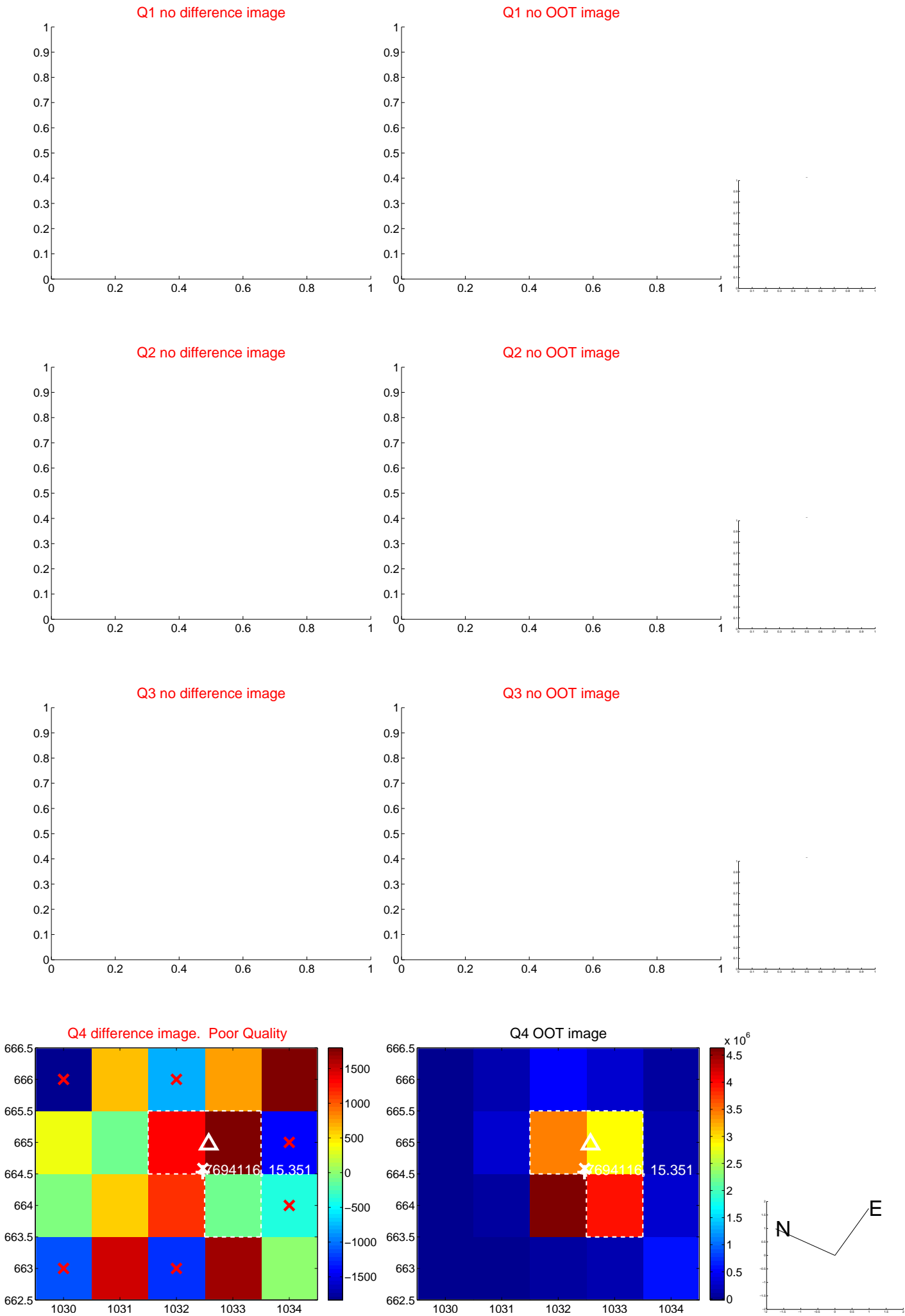
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.282 ± 1.161	1.97	1.221 ± 1.504	1.928 ± 0.990
PRF-fit source offset from KIC position	2.065 ± 1.137	1.82	0.965 ± 1.544	1.826 ± 0.994
photometric centroid source offset	2.91 ± 1.60	1.82	0.06 ± 1.07	2.91 ± 1.60



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.

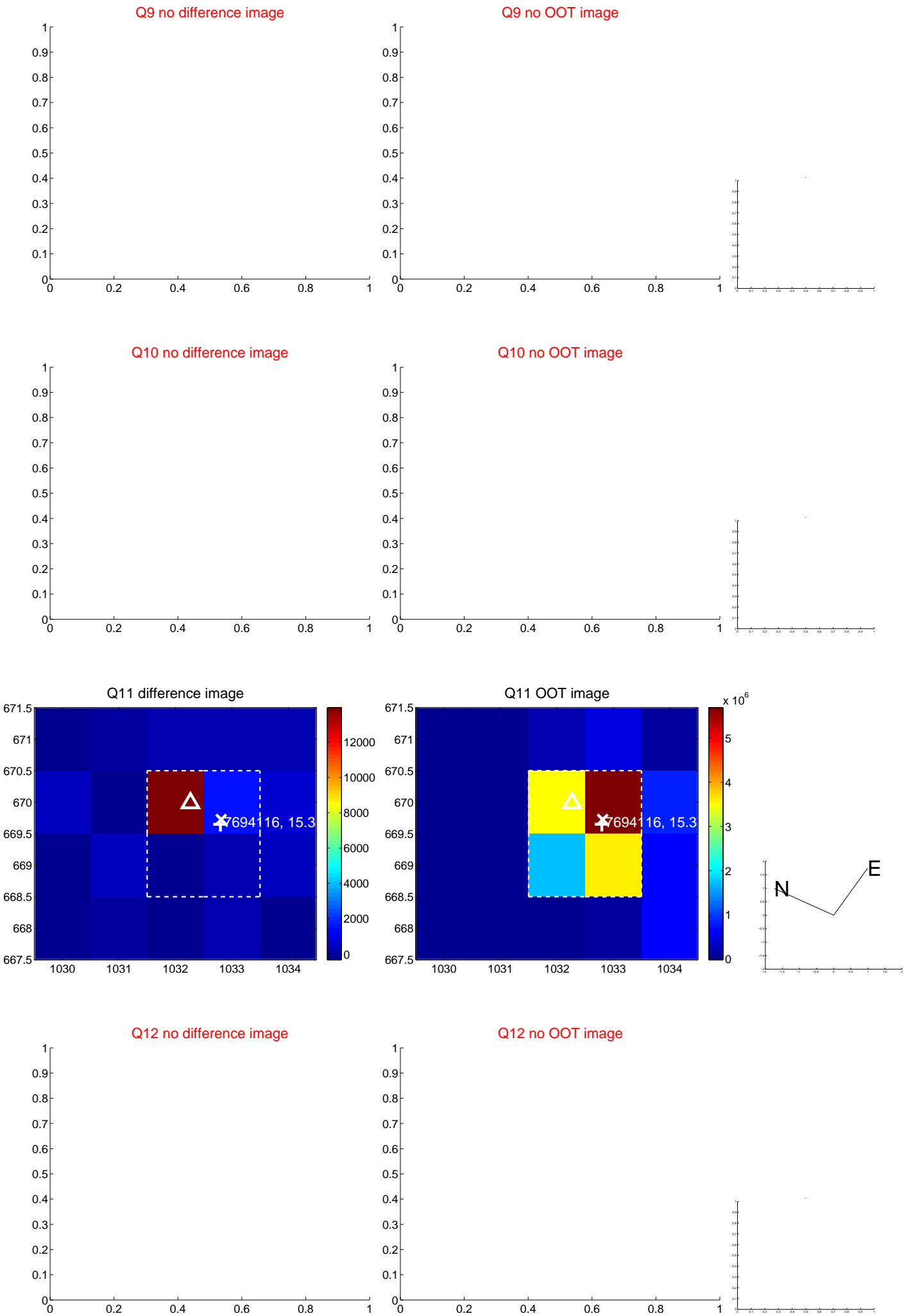
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



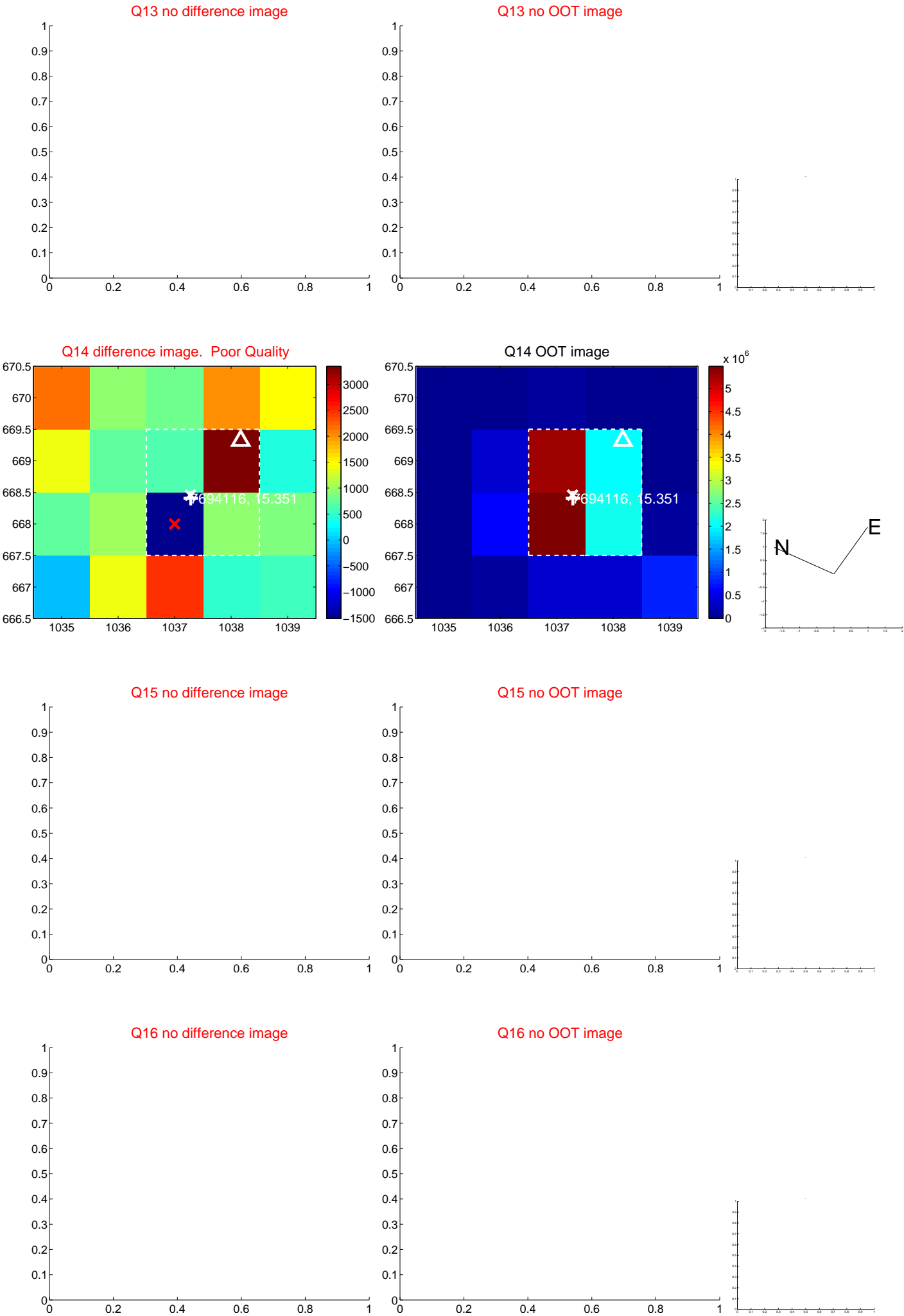
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



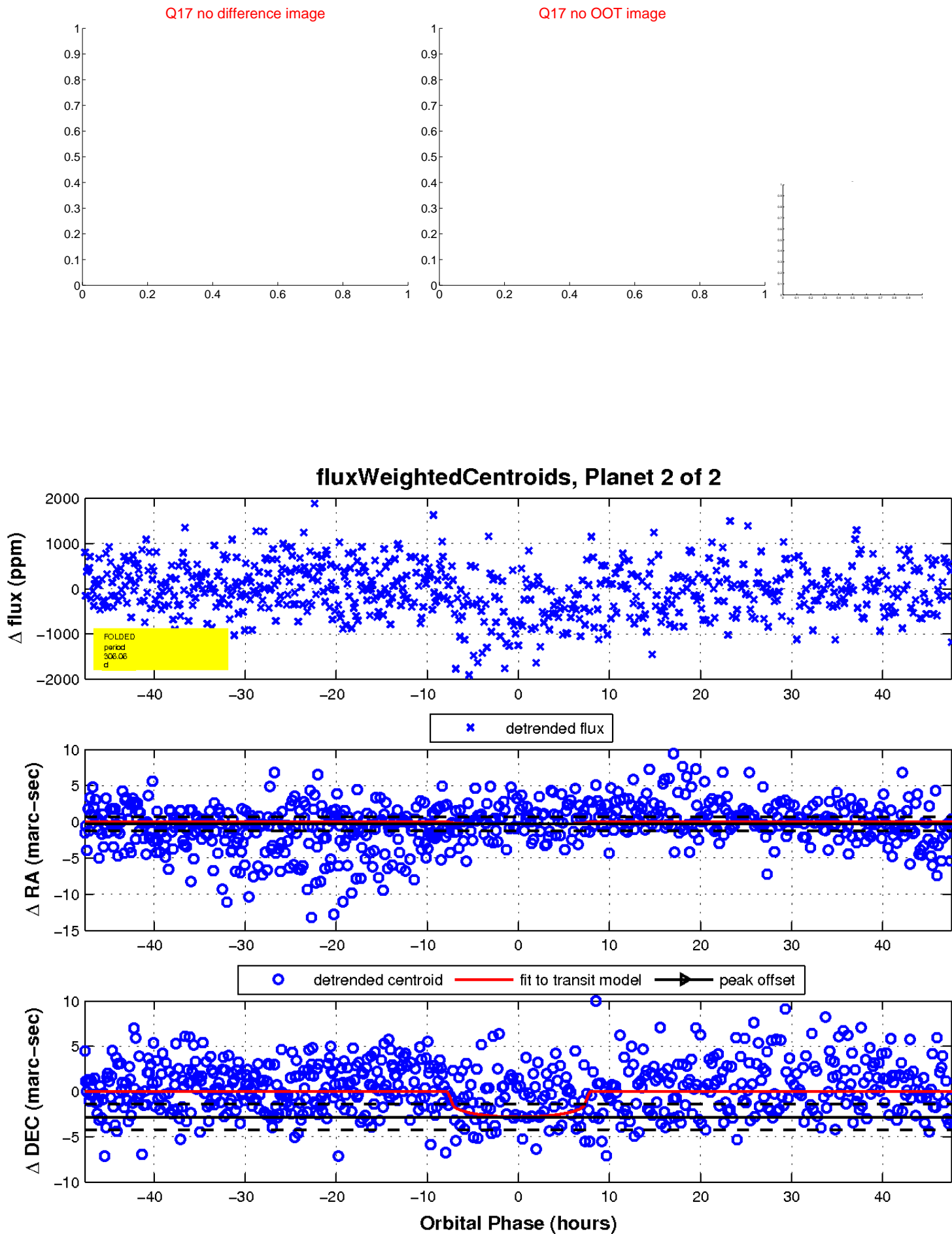
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

