

KIC 007944566

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})
007944566-01	OBS	No	109.024453	171.986013	66958.9	4.538	702.0	205.3	0.81	5193	36.10	2.56
007944566-02	OBS	No	235.002858	217.631784	482.3	20.701	7.4	5.9	0.81	5193	1.91	0.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007944566-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—INCONSISTENT_TRANS
007944566-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

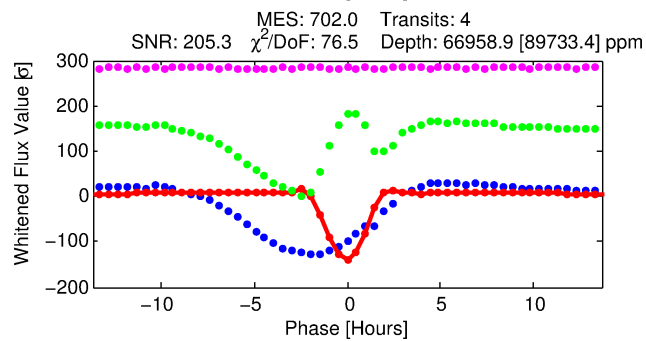
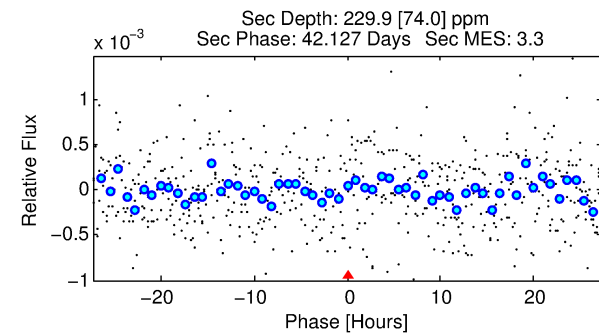
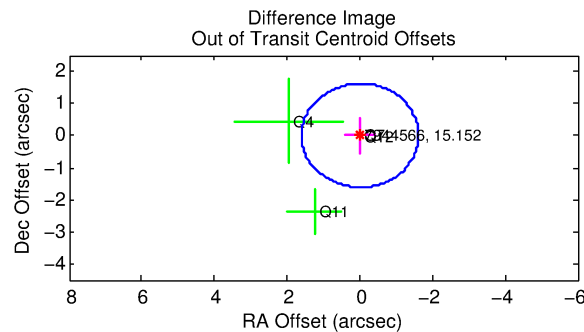
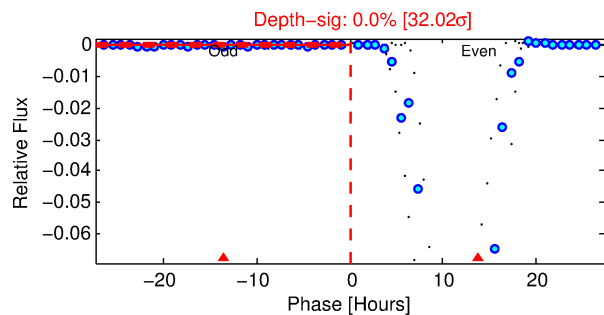
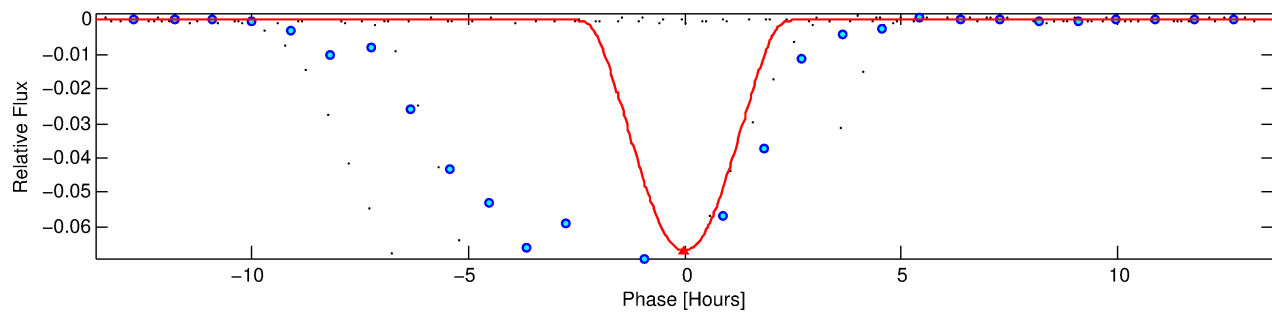
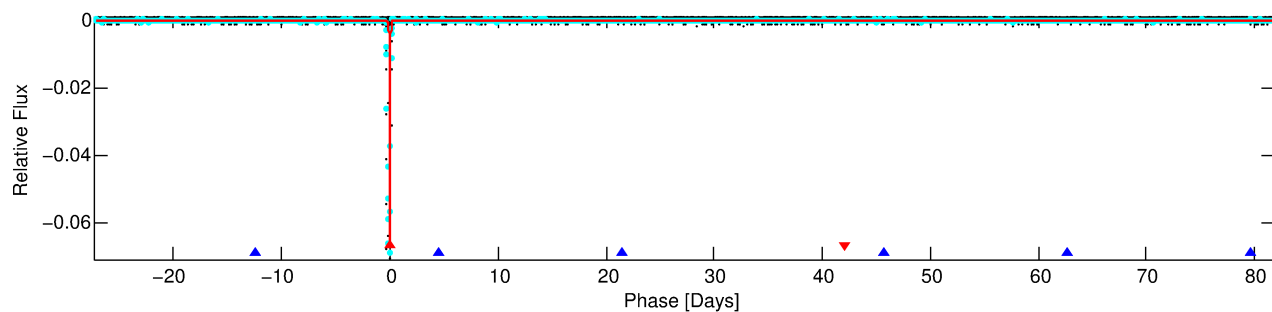
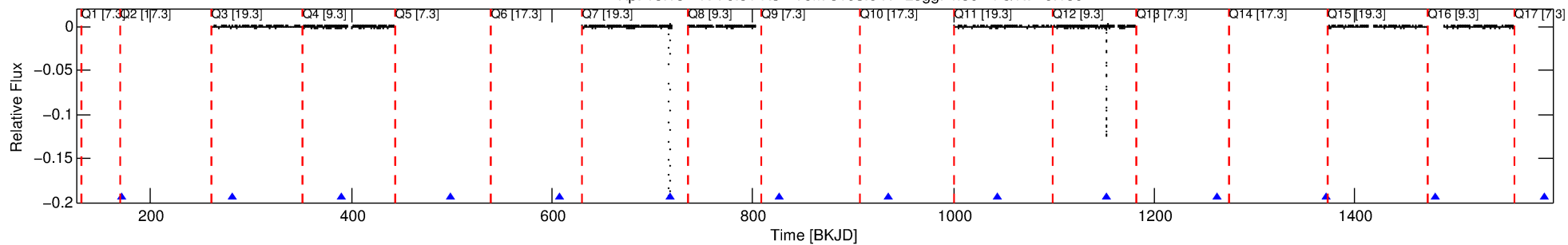
Ephemeris Match Information For 007944566-01

No Significant Match Found

DV One-Page Summary

KIC: 7944566 Candidate: 1 of 2 Period: 109.024 d

Kp: 15.15 R*: 0.81 Rs Teff: 5193.0 K Logg: 4.50 Fe/H: -0.180



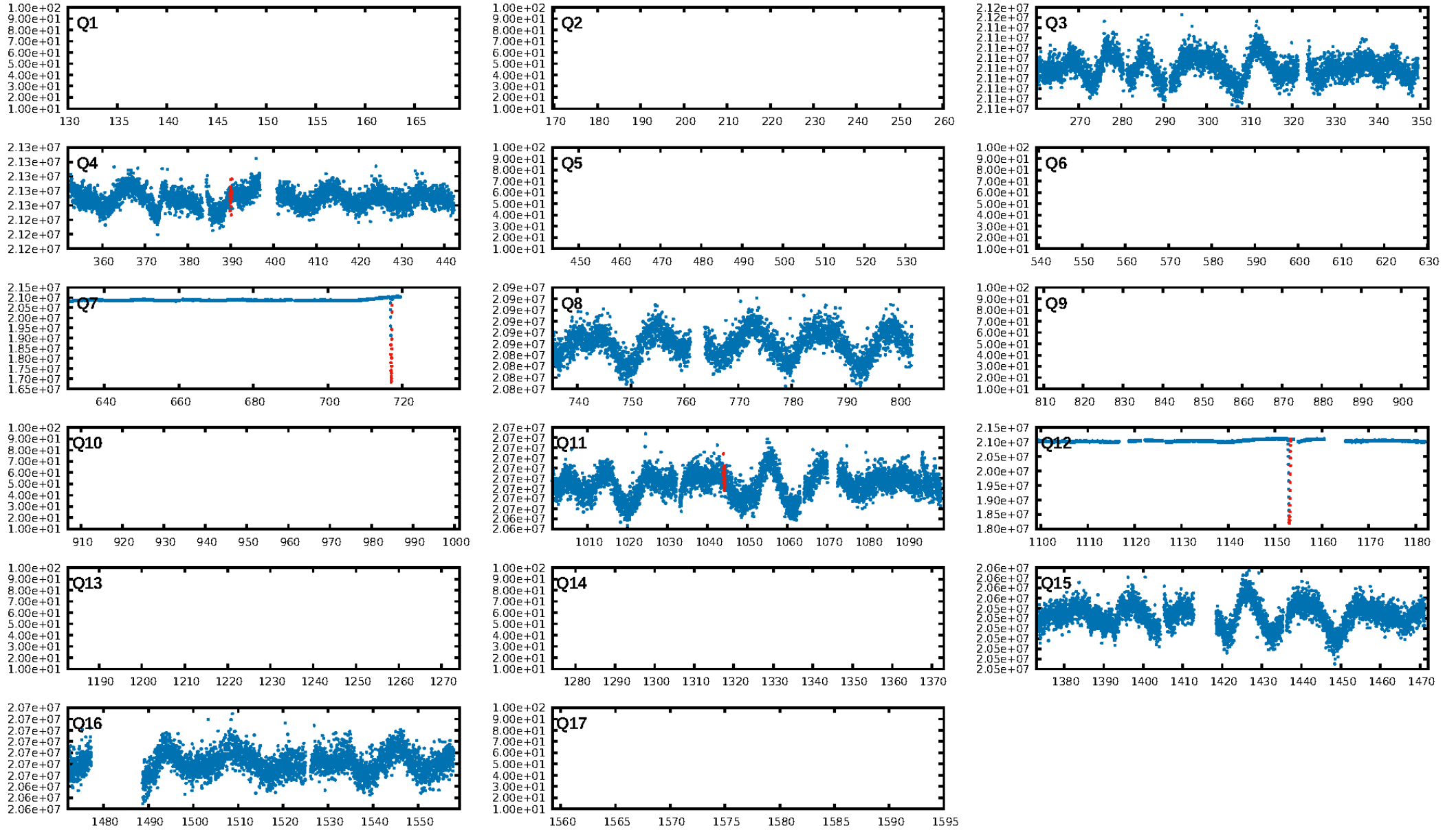
DV Fit Results:

Period = 109.02445 [0.00044] d
Epoch = 171.9860 [0.0027] BKJD
Rp/R* = 0.4110 [1.9536]
a/R* = 182.70 [29.08]
b = 1.00 [2.21]
Seff = 2.56 [0.58]
Teff = 322 [18] K
Rp = 36.10 [171.68] Re
a = 0.4064 [0.0456] AU
Ag = 16.03 [152.49] [0.10σ]
Teffp = 997 [2373] K [0.28σ]

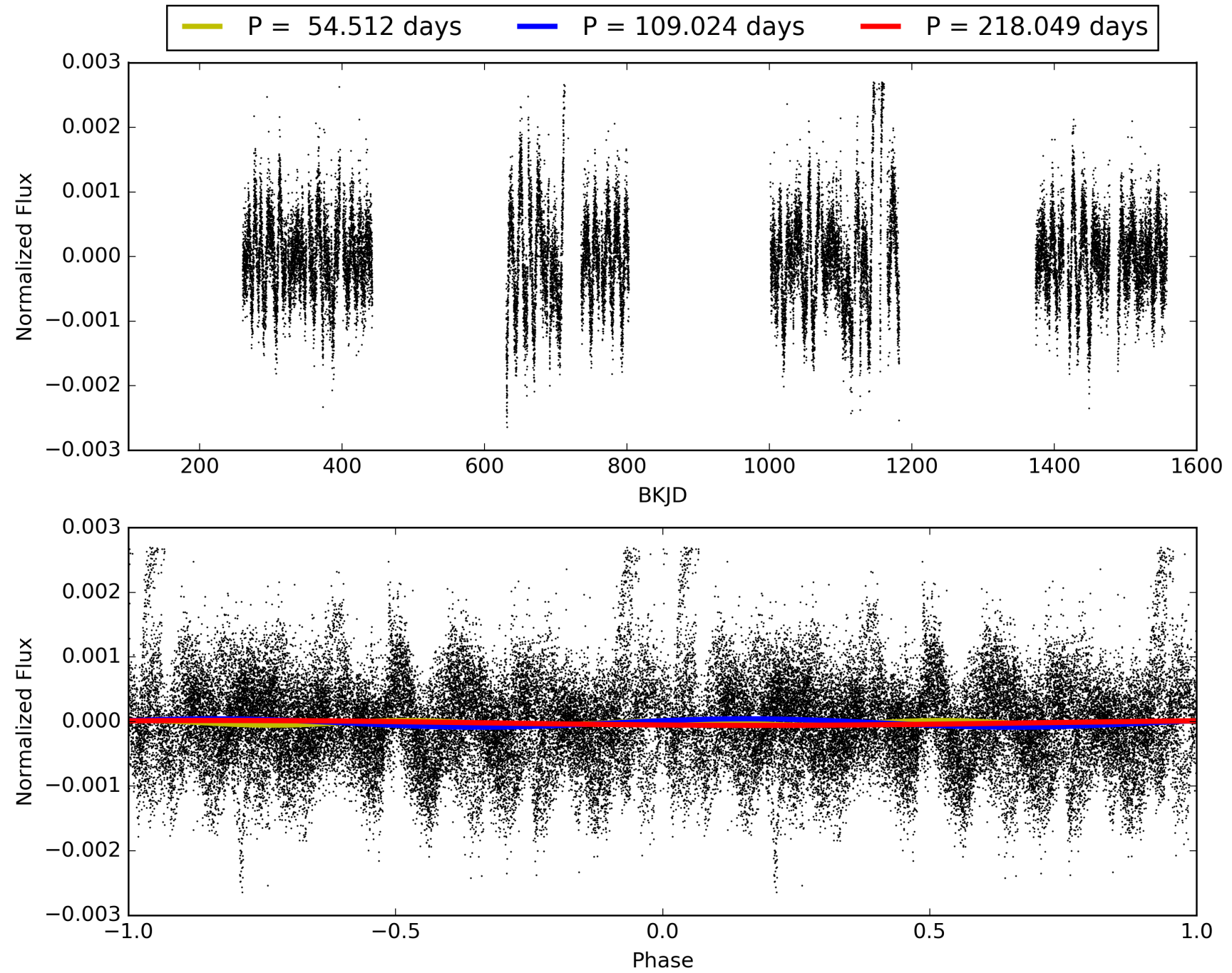
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [142.67σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.548
Centroid-sig: 0.0%
Centroid-so: 0.126 arcsec [6.65σ]
OotOffset-rm: 0.002 arcsec [0.00σ]
KicOffset-rm: 0.156 arcsec [0.28σ]
OotOffset-st: 0/2/2/0 [4]
KicOffset-st: 0/2/2/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 007944566-01, PDC Light Curves

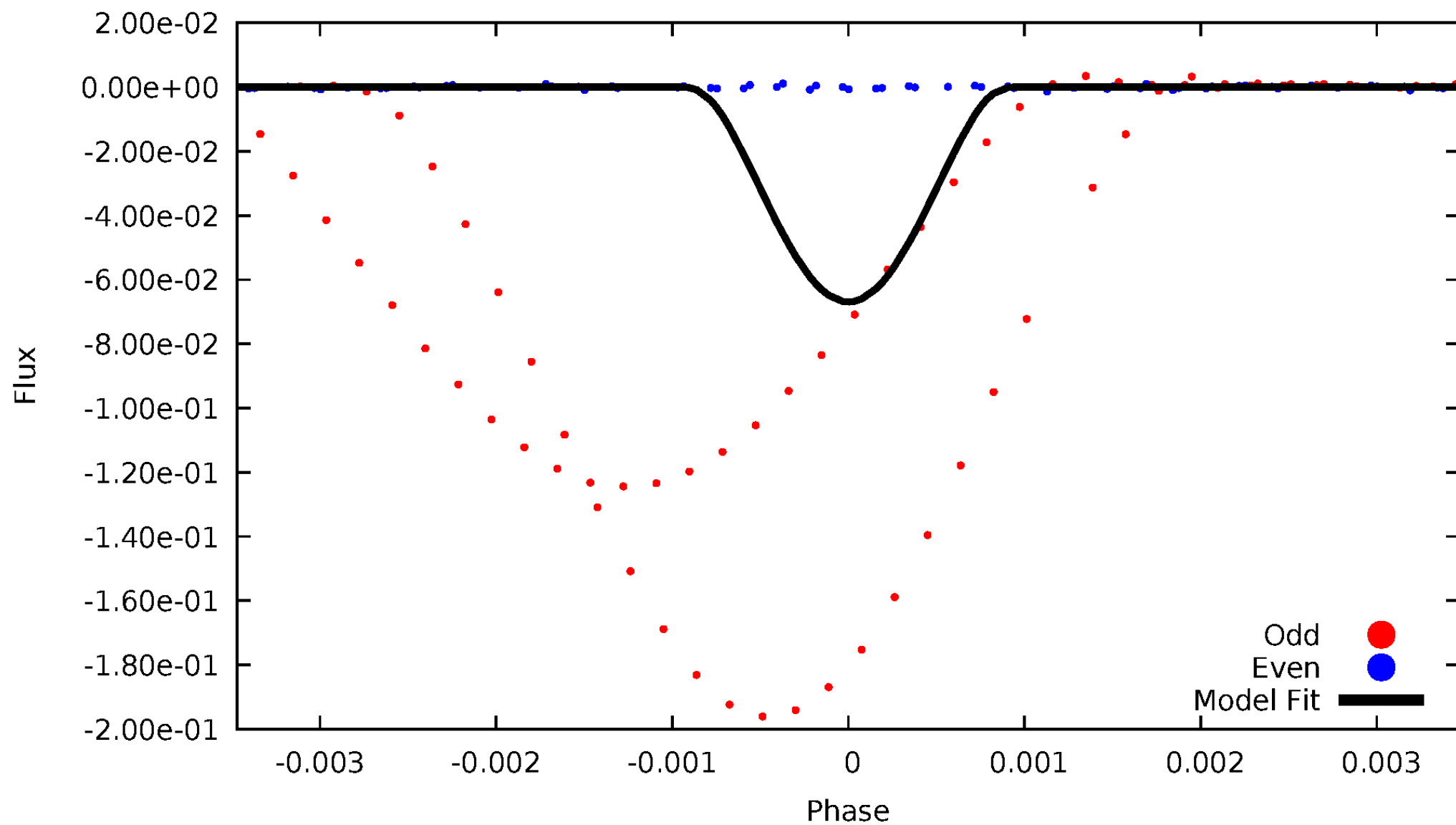


TCE 007944566-01



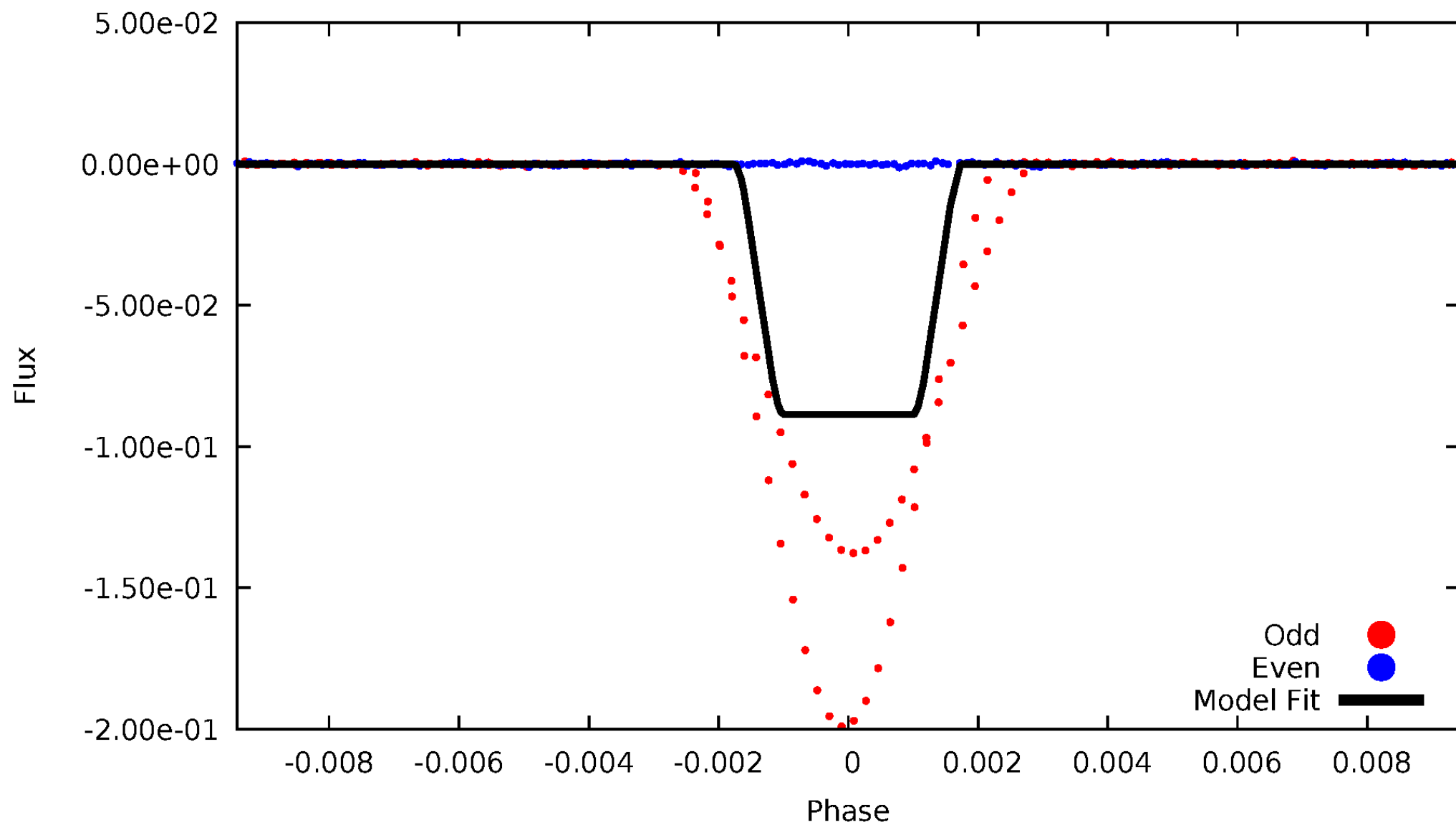
DV Odd/Even

TCE 007944566-01



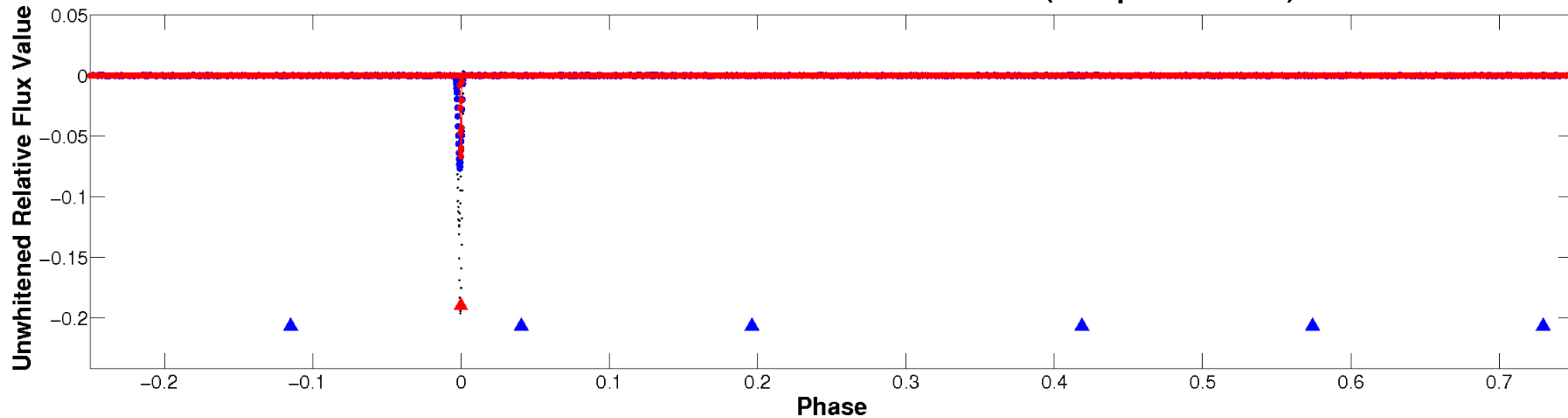
ALT Odd/Even

TCE 007944566-01

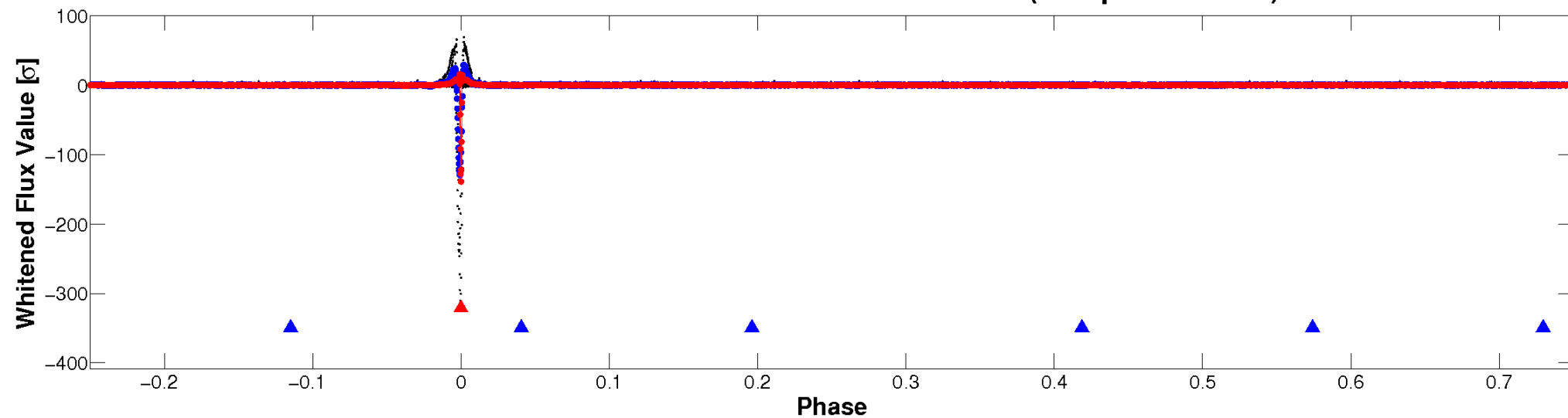


Non-Whitened Vs. Whitened Light Curve

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

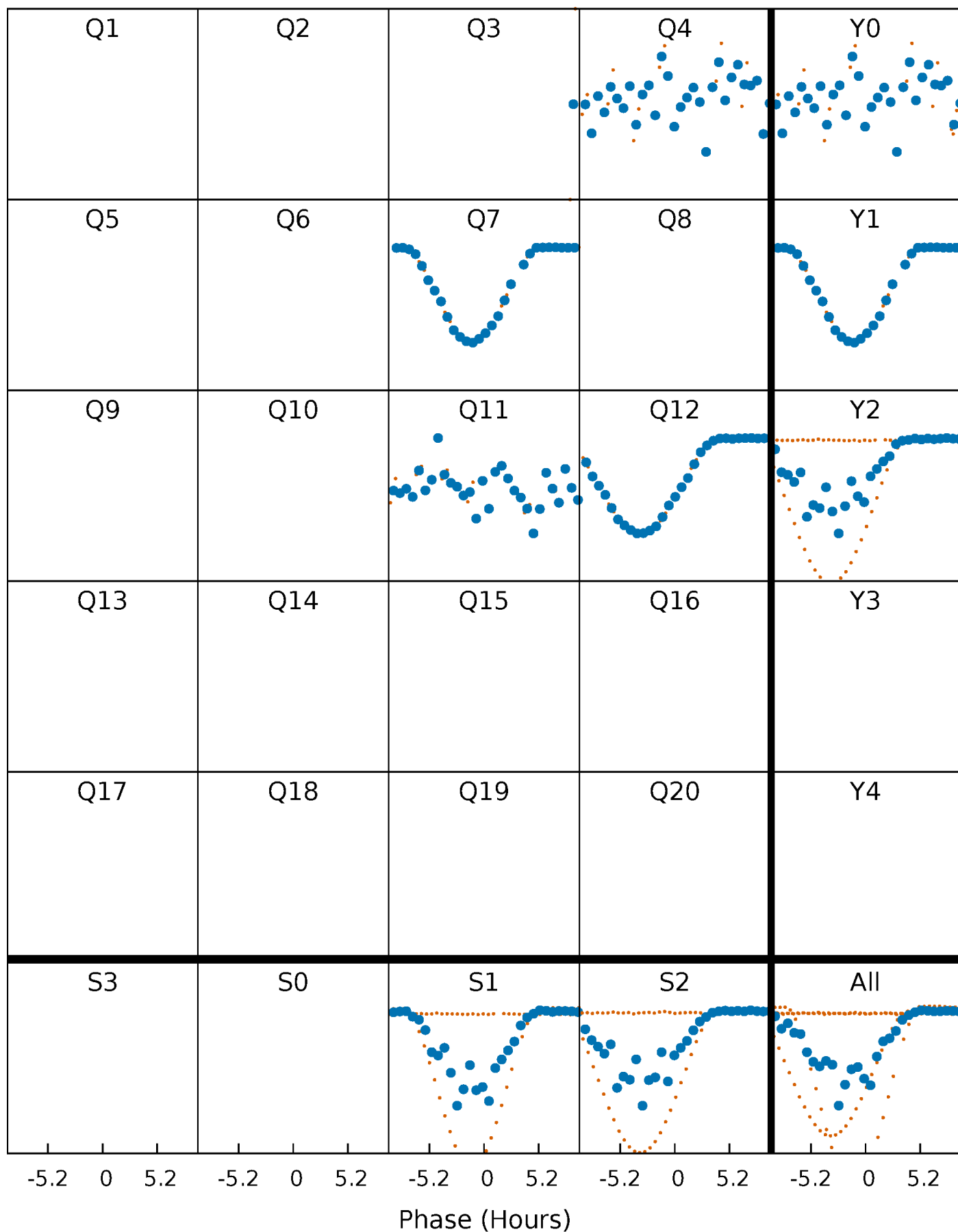


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



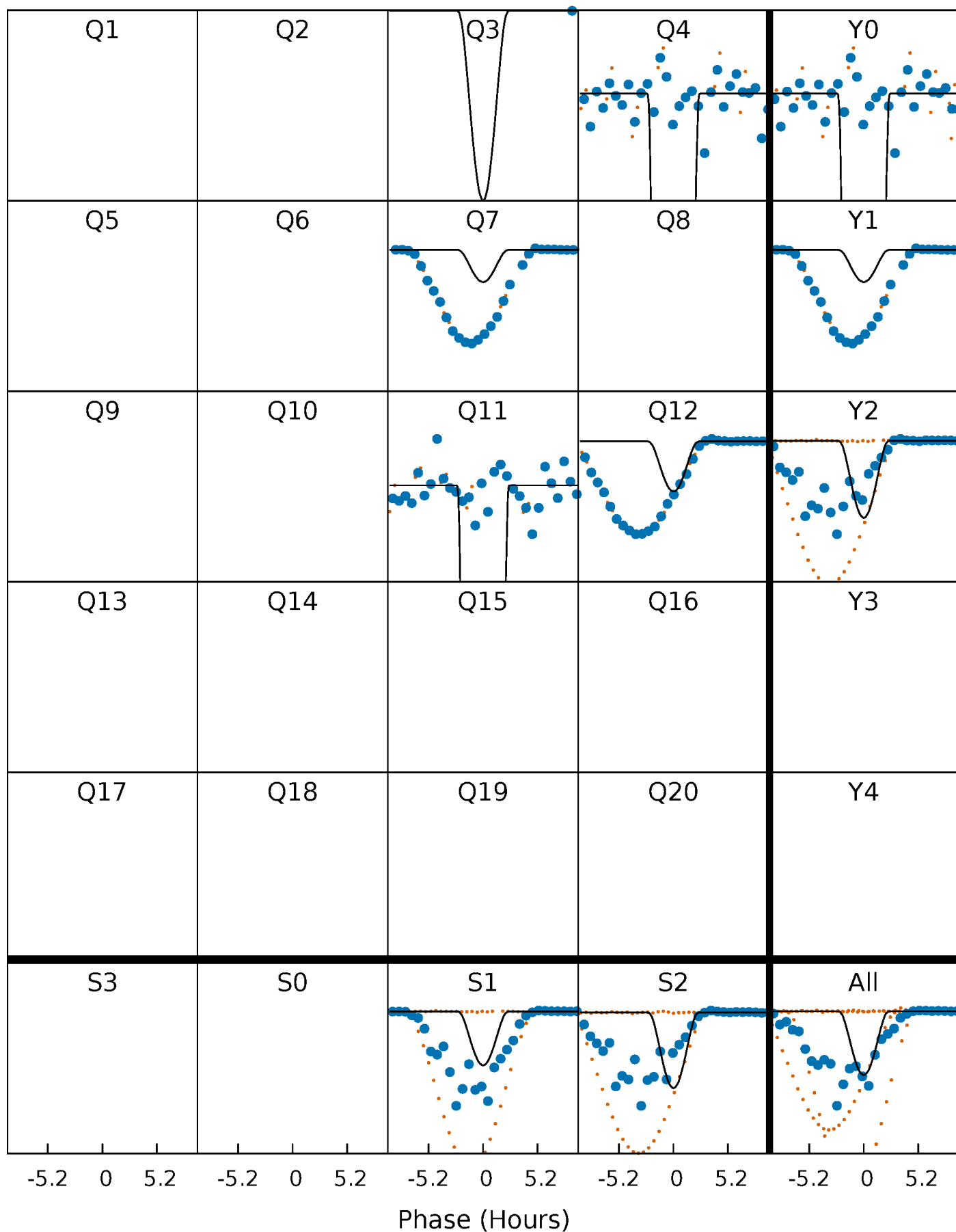
PDC Quarter-Phased Transit Curves

TCE 007944566-01 P=109.024453 Days $T_0=171.986013$ (BKJD)



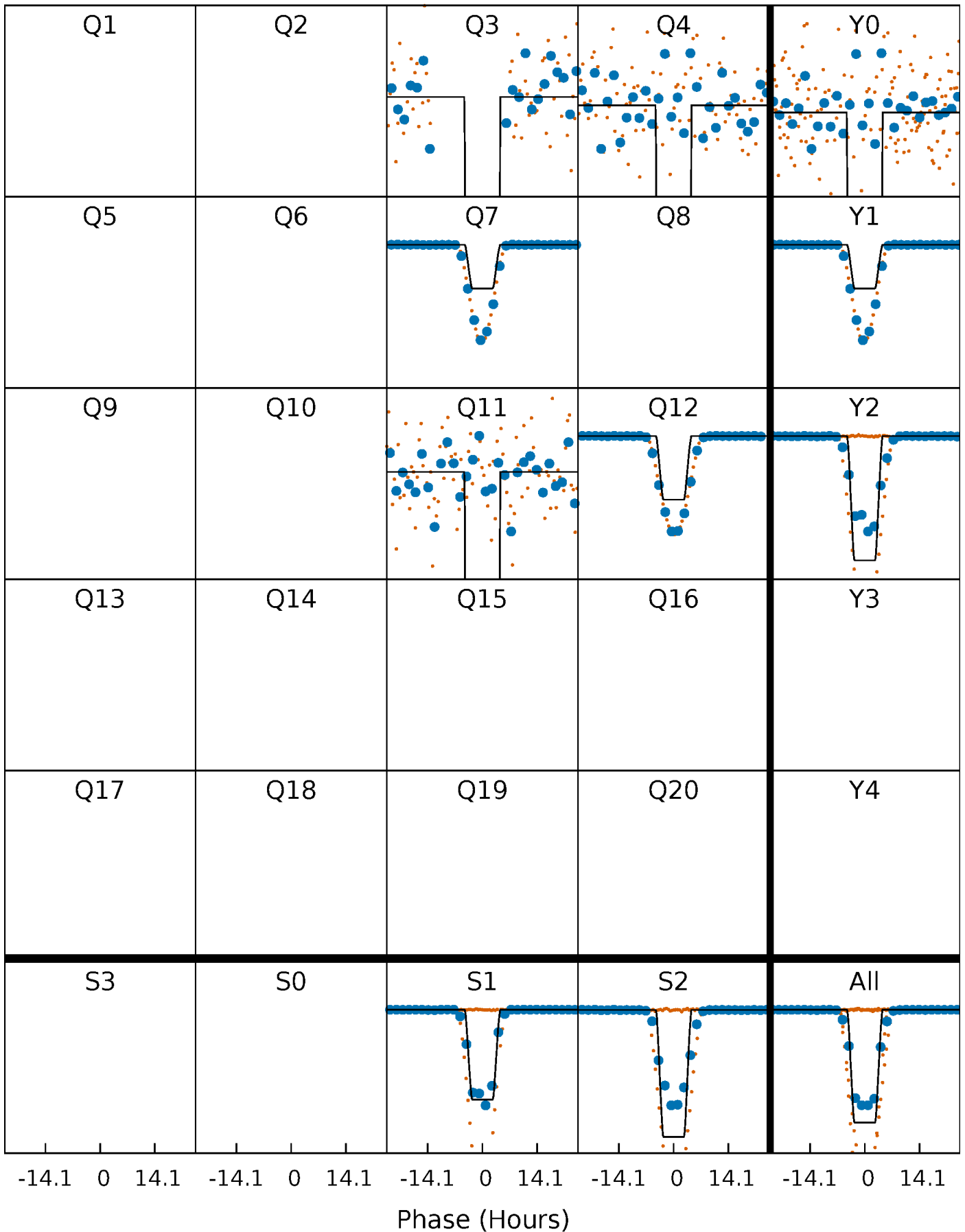
DV Quarter-Phased Transit Curves

TCE 007944566-01 P=109.024453 Days $T_0=171.986013$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

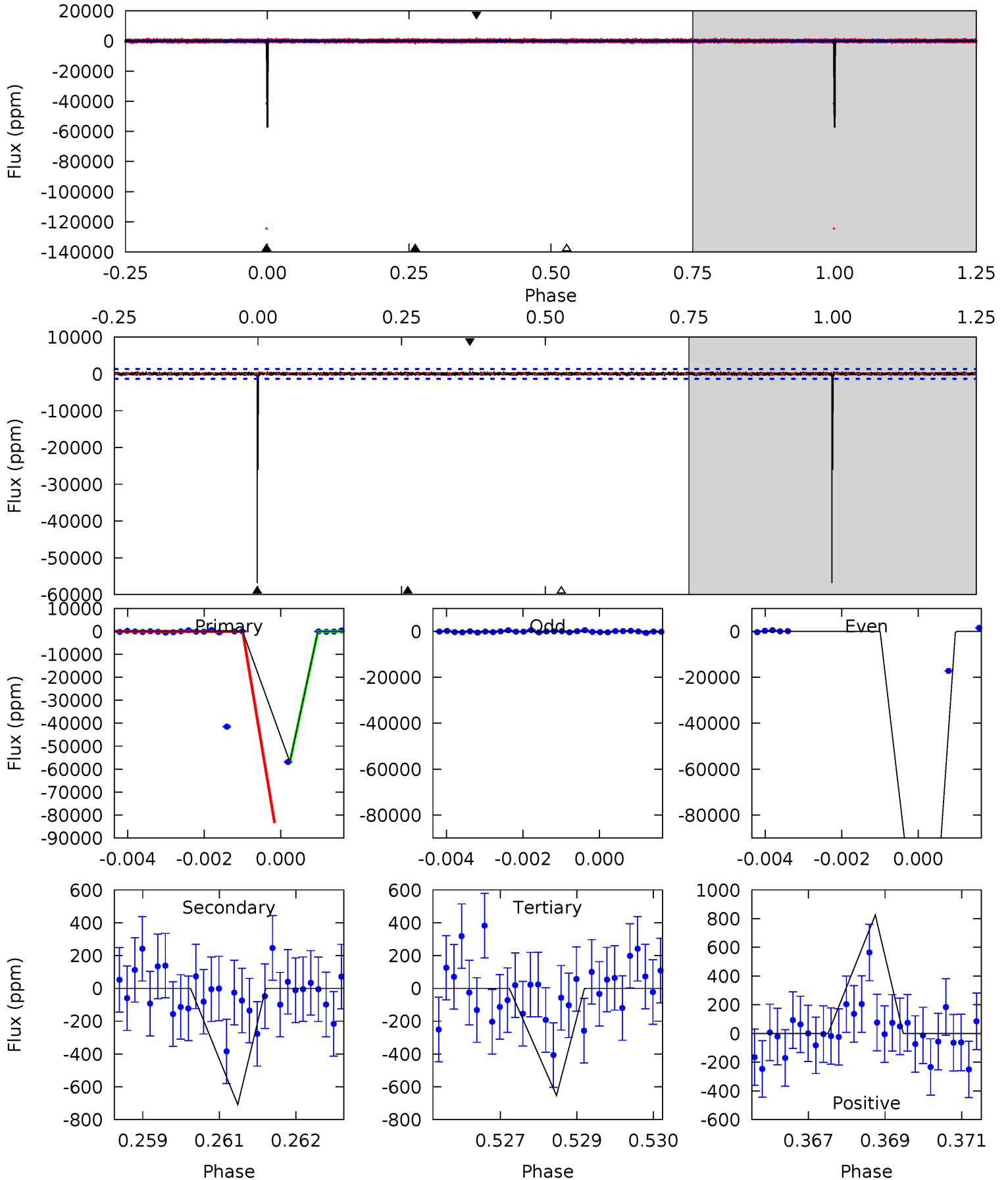
TCE 007944566-01 P=108.998031 Days $T_0=172.076285$ (BKJD)



DV Model-Shift Uniqueness Test

007944566-01, P = 109.024453 Days, E = 171.986013 Days

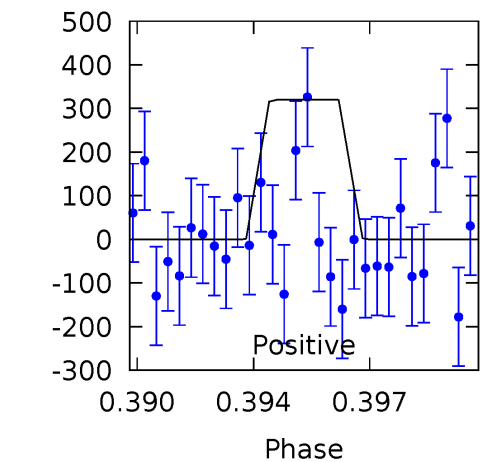
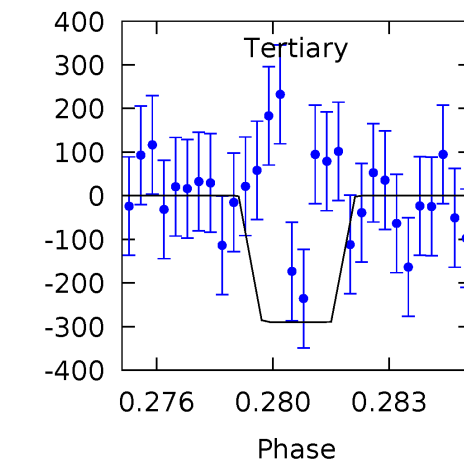
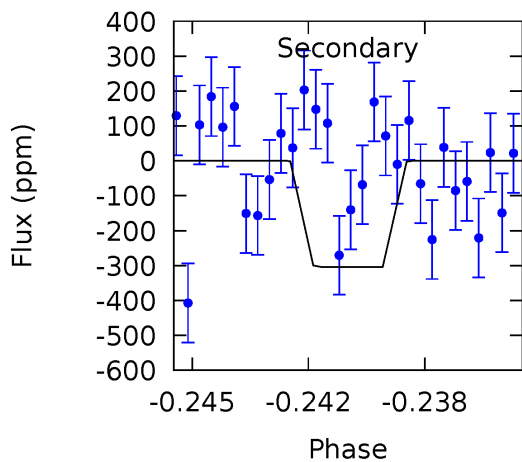
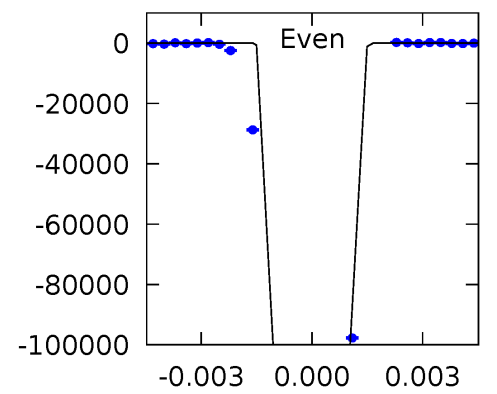
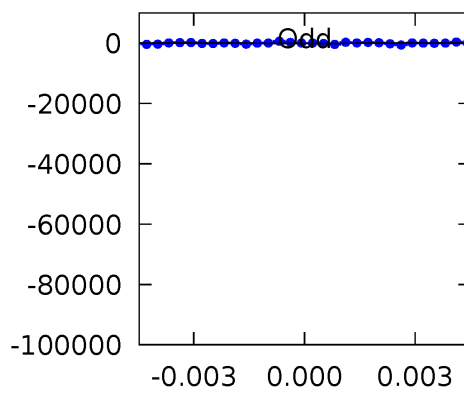
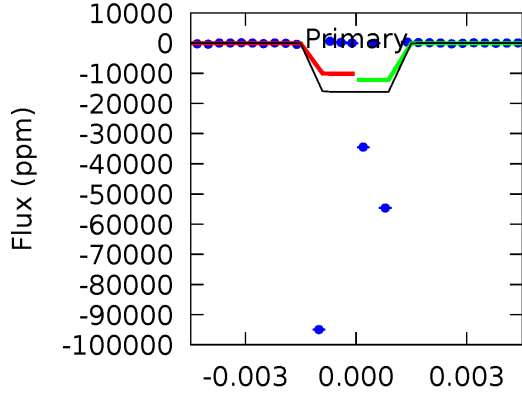
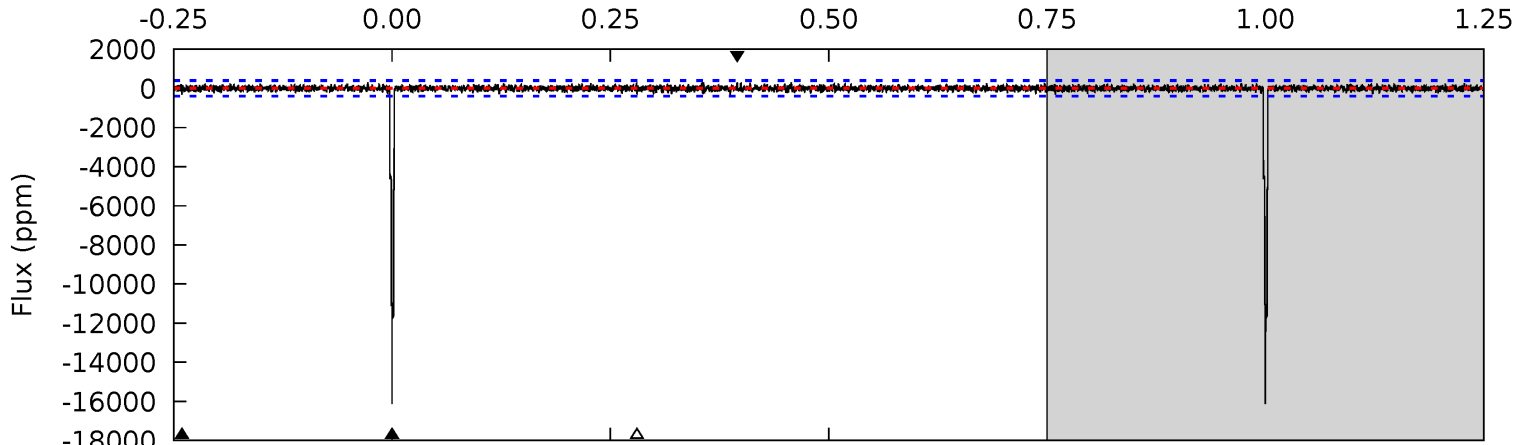
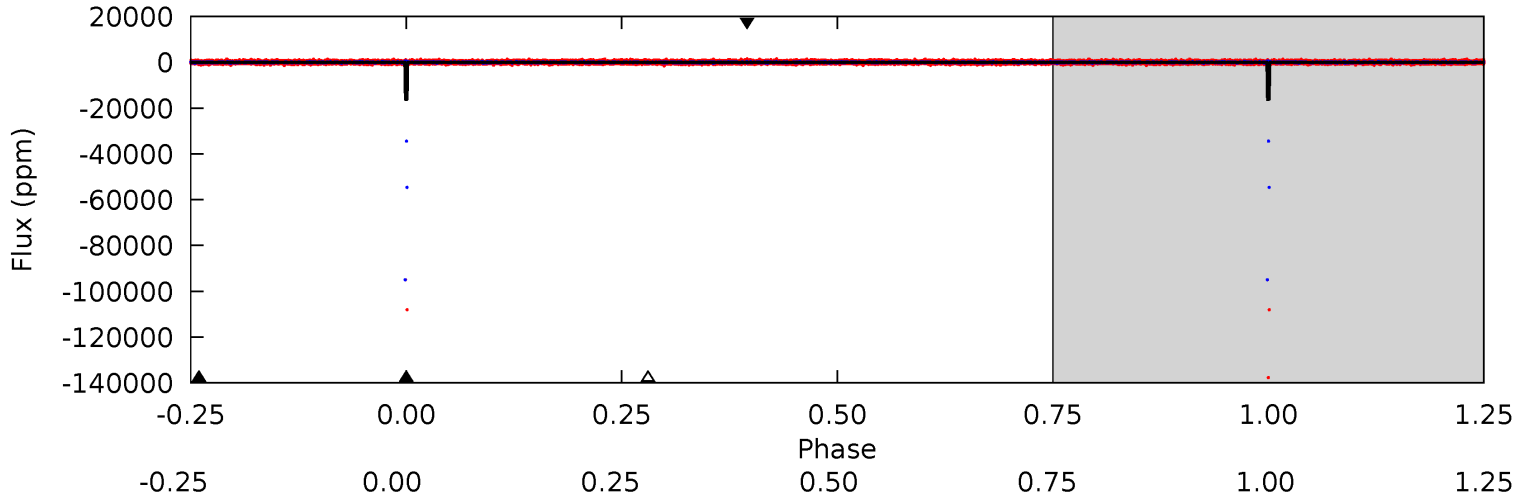
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
224.2	2.80	2.58	3.26	5.34	3.11	0.65	221.7	221.0	0.22	-0.46	660.5	1.70	0.01	0



Alt Model-Shift Uniqueness Test

007944566-01, P = 108.998031 Days, E = 172.076285 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
212.6	4.01	3.82	4.22	5.23	2.92	1.03	208.8	208.4	0.19	-0.21	877.4	1.17	0.02	12.3



Stellar Parameters For KIC 007944566

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5193^{+196}_{-179}	$4.503^{+0.095}_{-0.095}$	$-0.180^{+0.300}_{-0.300}$	$0.805^{+0.103}_{-0.093}$	$0.753^{+0.106}_{-0.057}$	$2.032^{+0.797}_{-0.571}$
	+4%/-3%	+2%/-2%	+167%/-167%	+13%/-12%	+14%/-8%	+39%/-28%
Source	KIC0	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 007944566-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-709 ± 254	$134.34^{+138.91}_{-92.19}$	451^{+23}_{-21}	1710^{+476}_{-264}	$3.540^{+33.280}_{-2.793}$
Alt.	-304 ± 76	$125.45^{+138.54}_{-83.61}$	452^{+23}_{-22}	1588^{+382}_{-277}	$1.704^{+13.419}_{-1.298}$

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 $A_{obs} \gg 1.0$

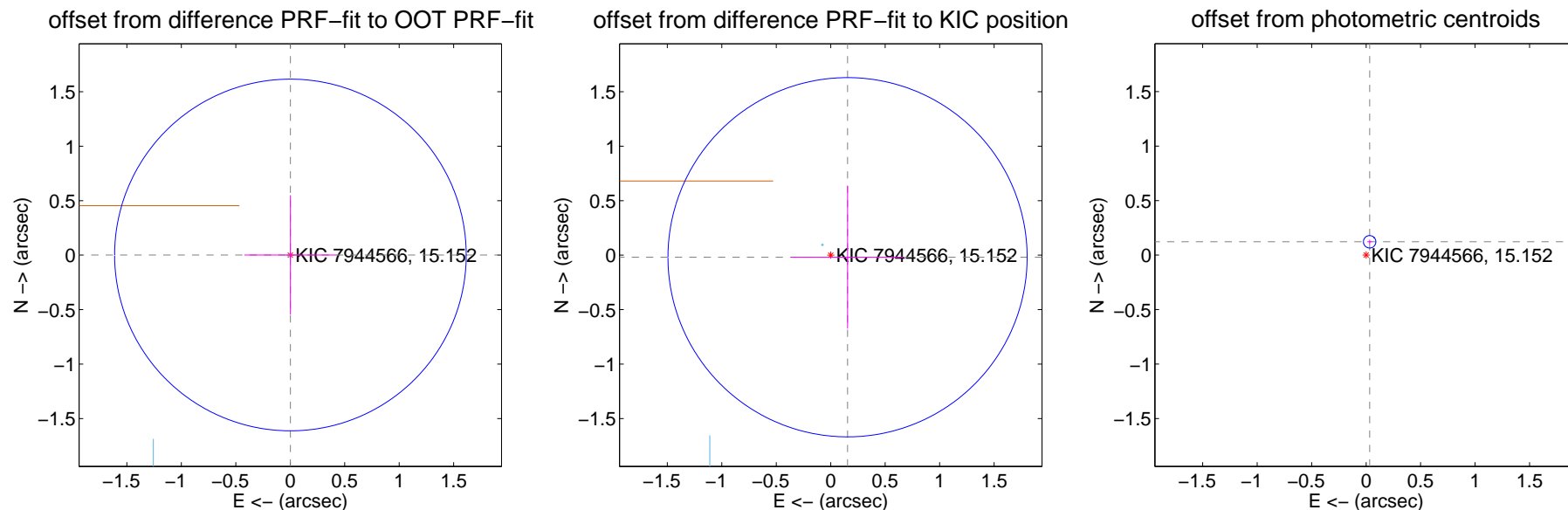
DV Centroid Data

Supplemental centroid analysis for 007944566-01. Kepler magnitude: 15.15. Transit SNR 205.30

There are 3 quarters with good PRF difference image offsets

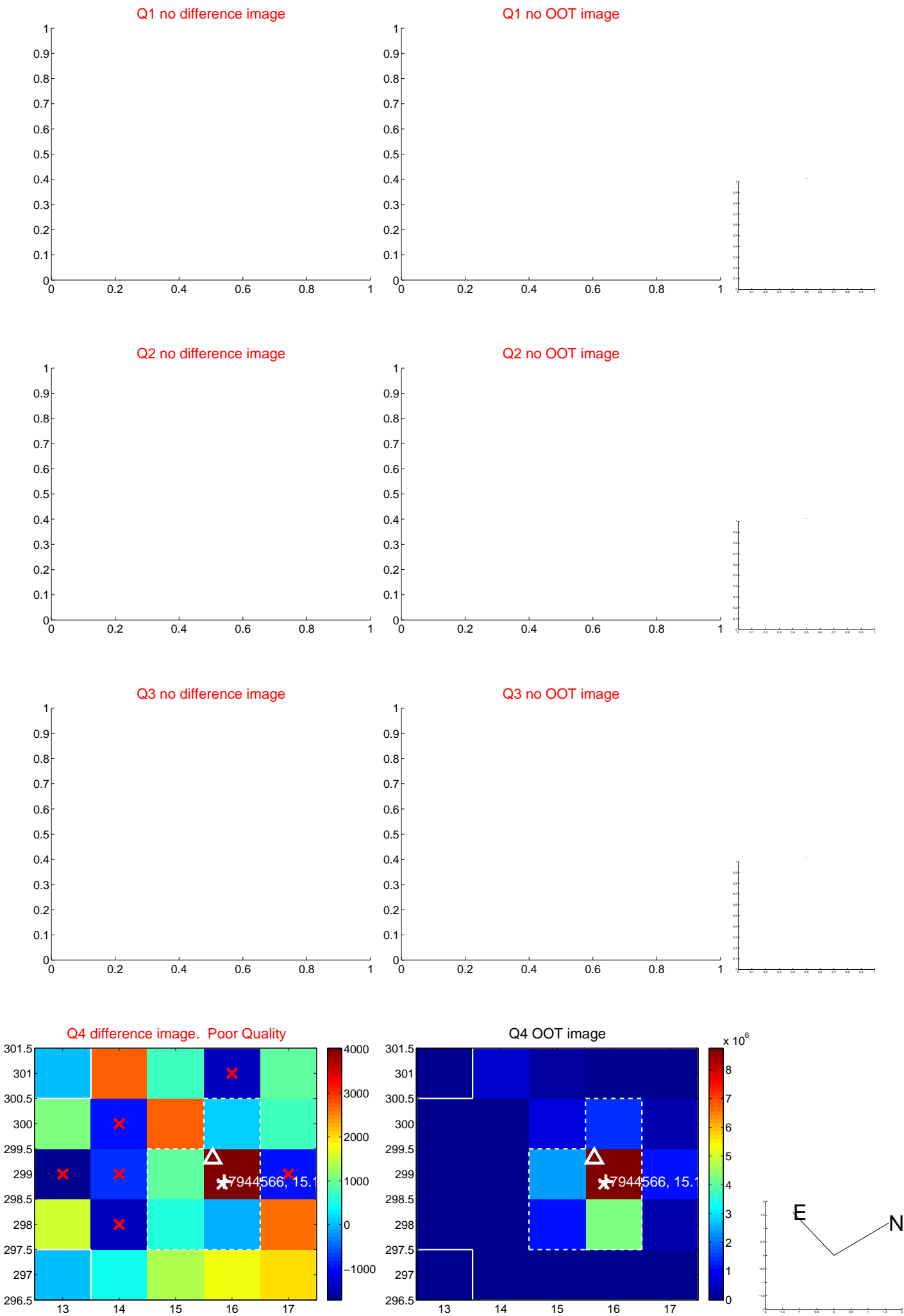
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.002 ± 0.538	0.00	-0.001 ± 0.422	0.002 ± 0.548
PRF-fit source offset from KIC position	0.156 ± 0.550	0.28	-0.155 ± 0.519	-0.019 ± 0.655
photometric centroid source offset	0.13 ± 0.02	6.65	-0.03 ± 0.02	0.12 ± 0.02

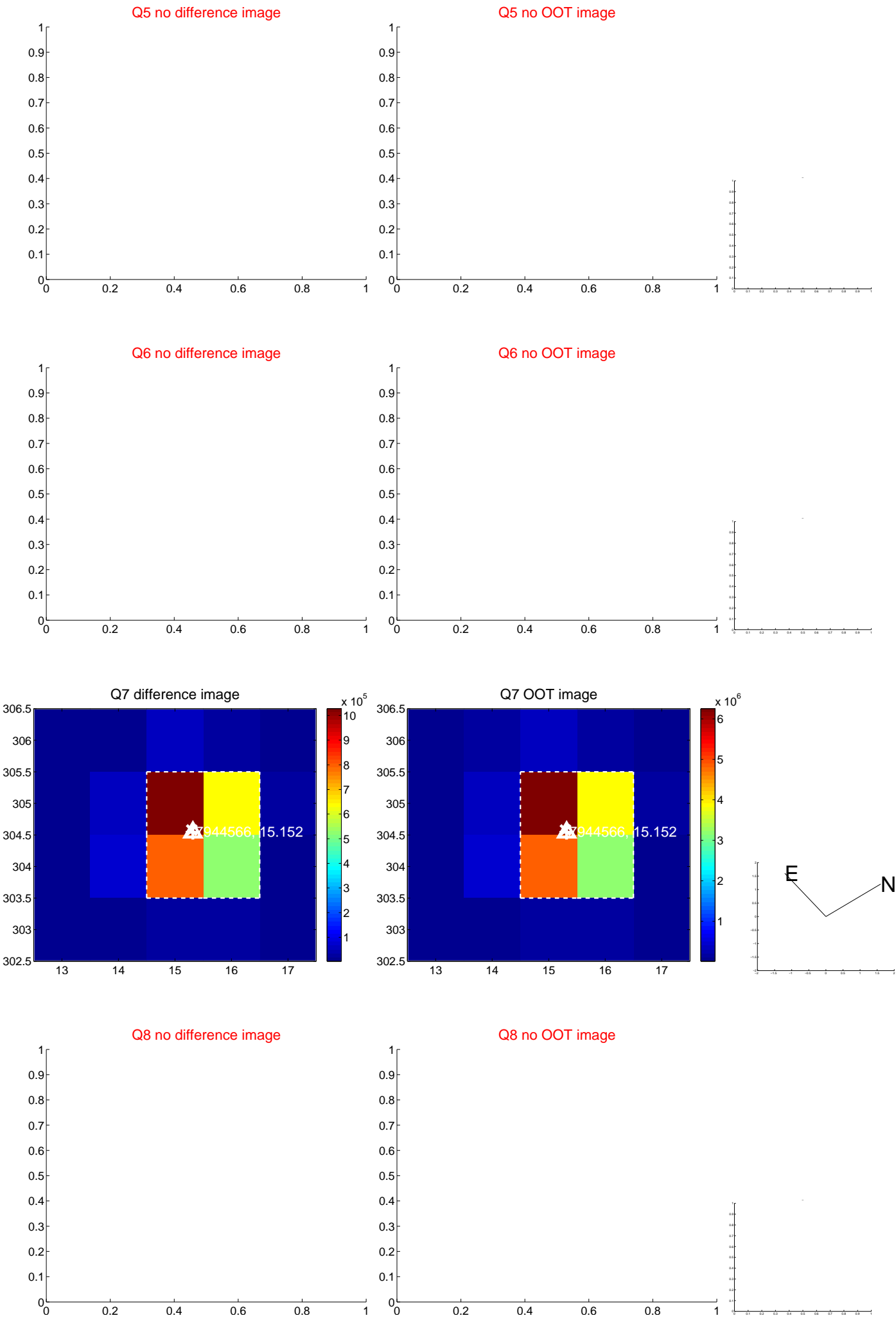


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

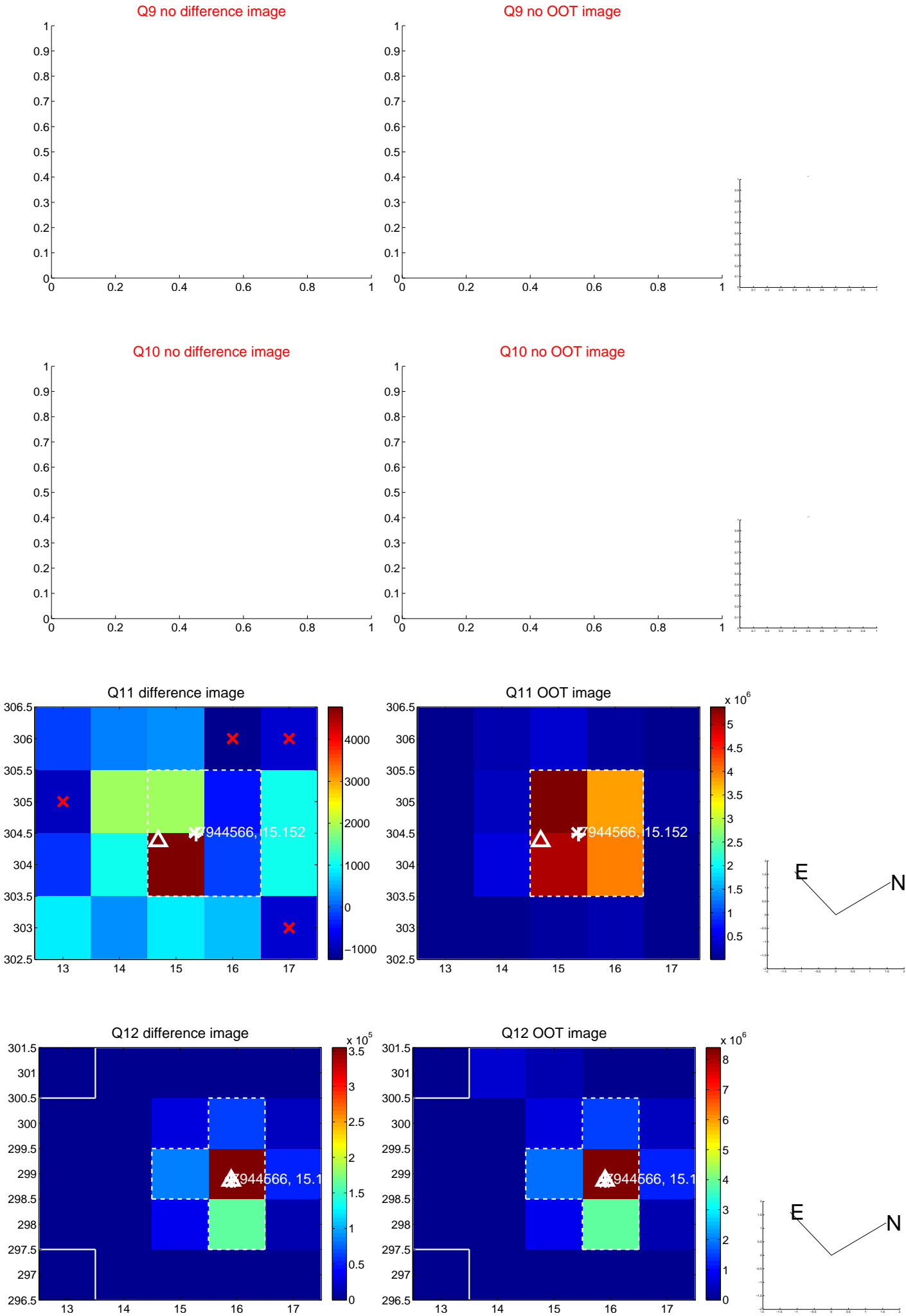
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



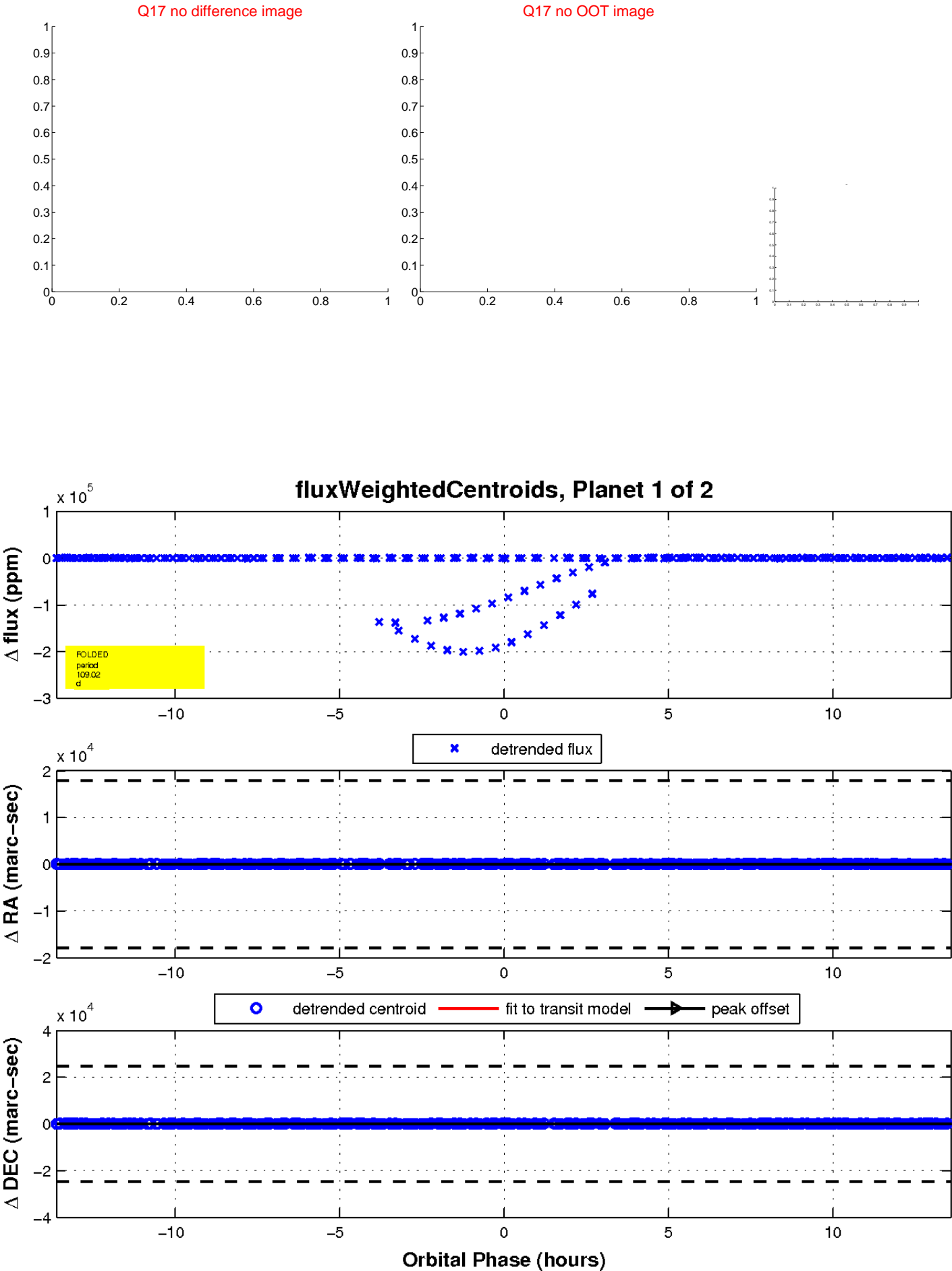
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

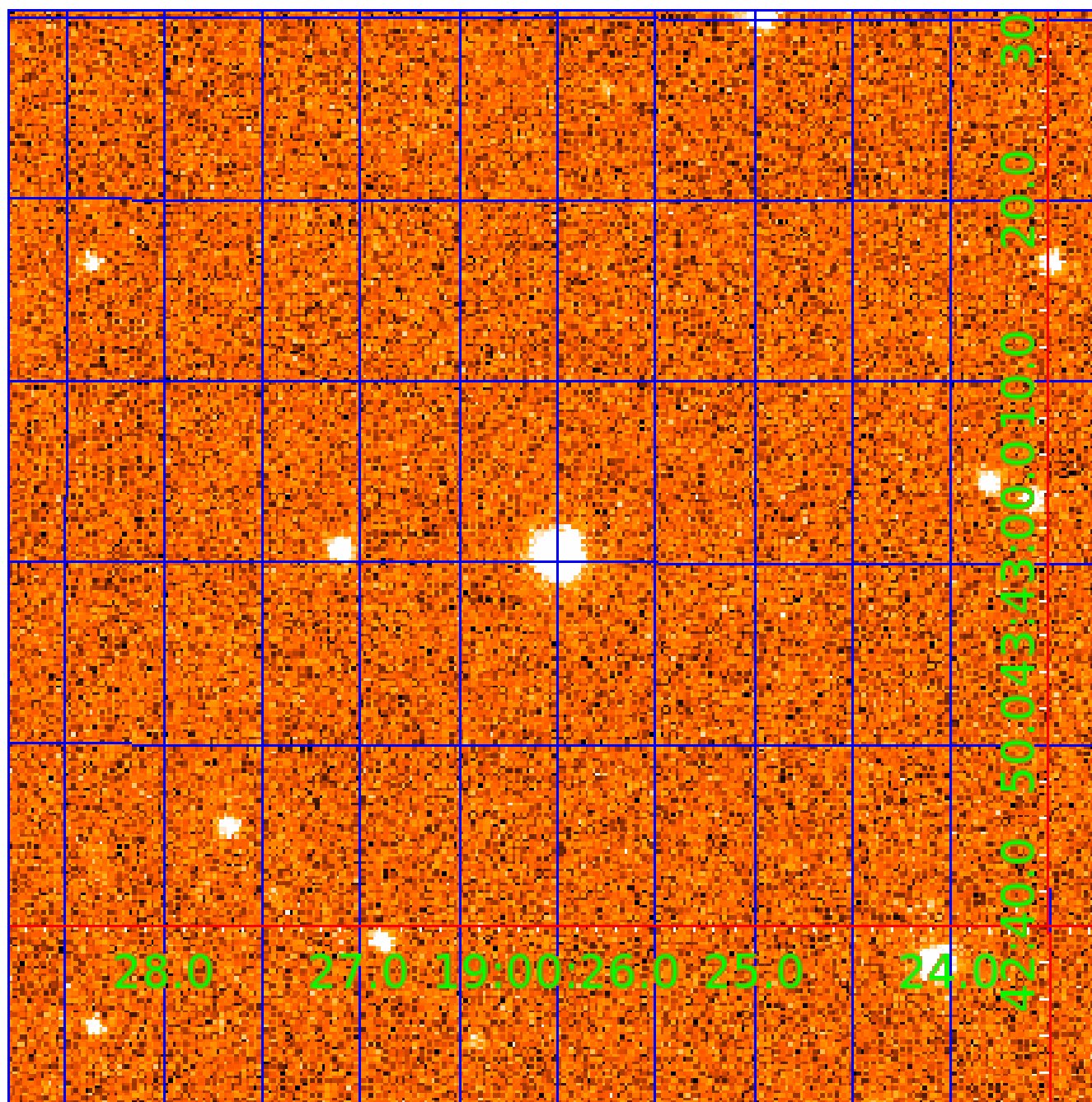


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007944566

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})
007944566-01	OBS	No	109.024453	171.986013	66958.9	4.538	702.0	205.3	0.81	5193	36.10	2.56
007944566-02	OBS	No	235.002858	217.631784	482.3	20.701	7.4	5.9	0.81	5193	1.91	0.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007944566-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—INCONSISTENT_TRANS
007944566-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

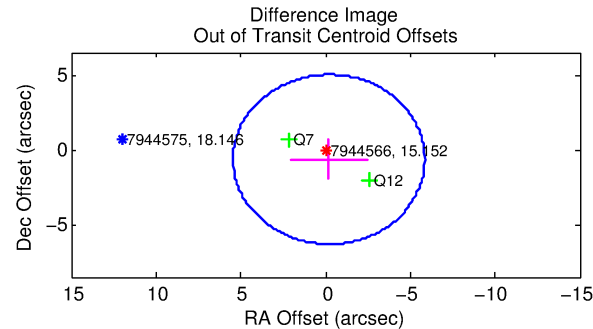
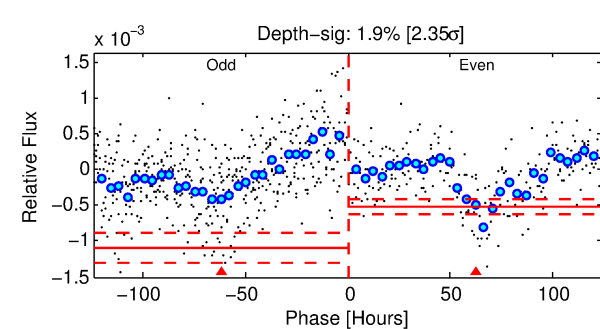
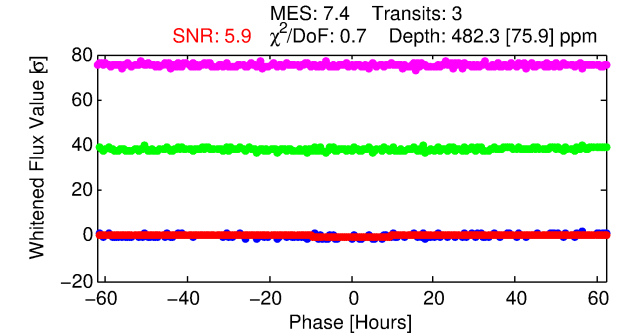
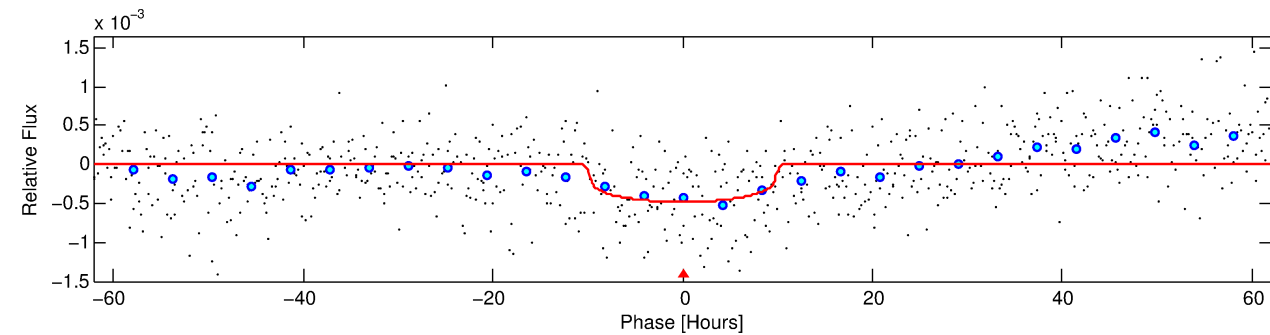
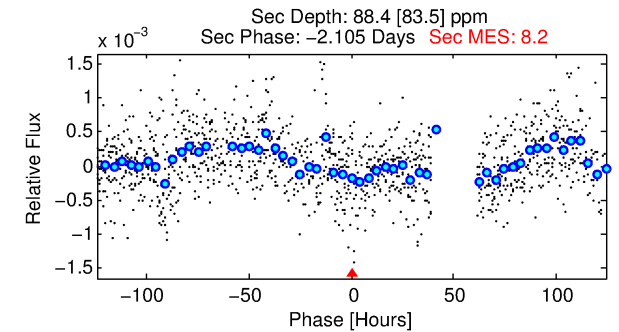
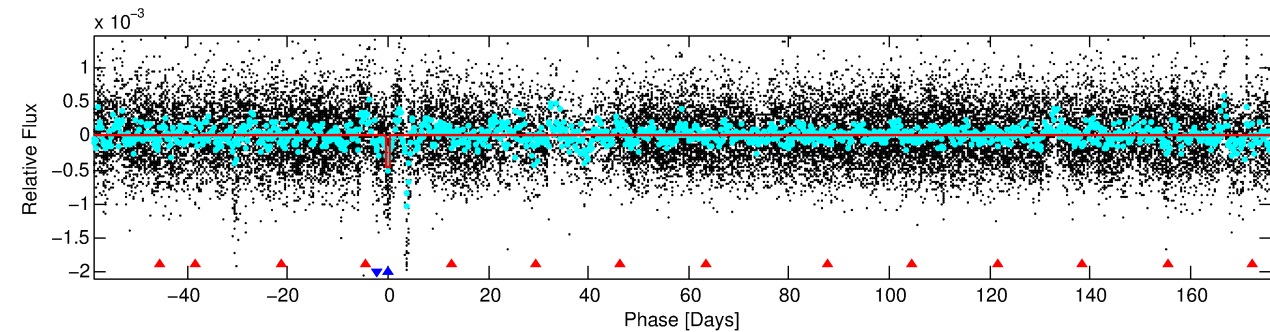
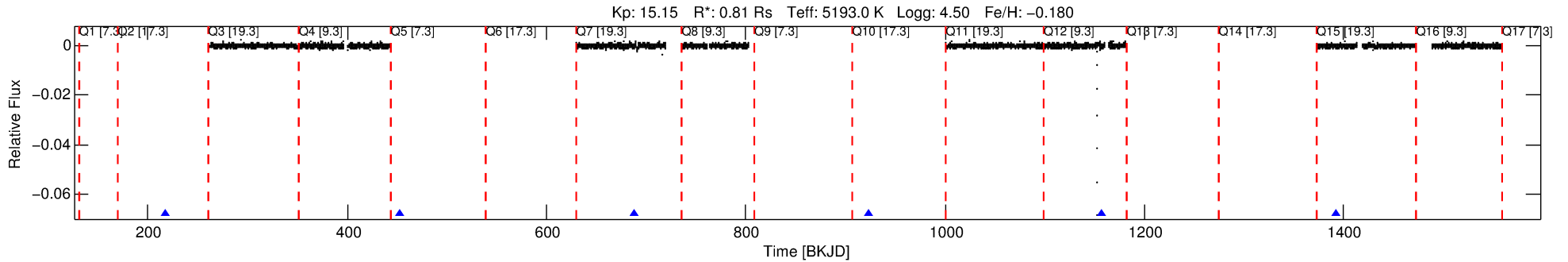
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007944566-02

No Significant Match Found

DV One-Page Summary

KIC: 7944566 Candidate: 2 of 2 Period: 235.003 d



DV Fit Results:

Period = 235.00286 [0.01318] d
Epoch = 217.6318 [0.0513] BKJD
Rp/R* = 0.0217 [0.0065]
a/R* = 61.92 [66.69]
b = 0.73 [0.70]
Seff = 0.92 [0.21]
Teff = 250 [14] K
Rp = 1.91 [0.62] Re
a = 0.6781 [0.0761] AU
Ag = 6147.34 [6935.72] [0.89σ]
Teffp = 3417 [962] K [3.29σ]

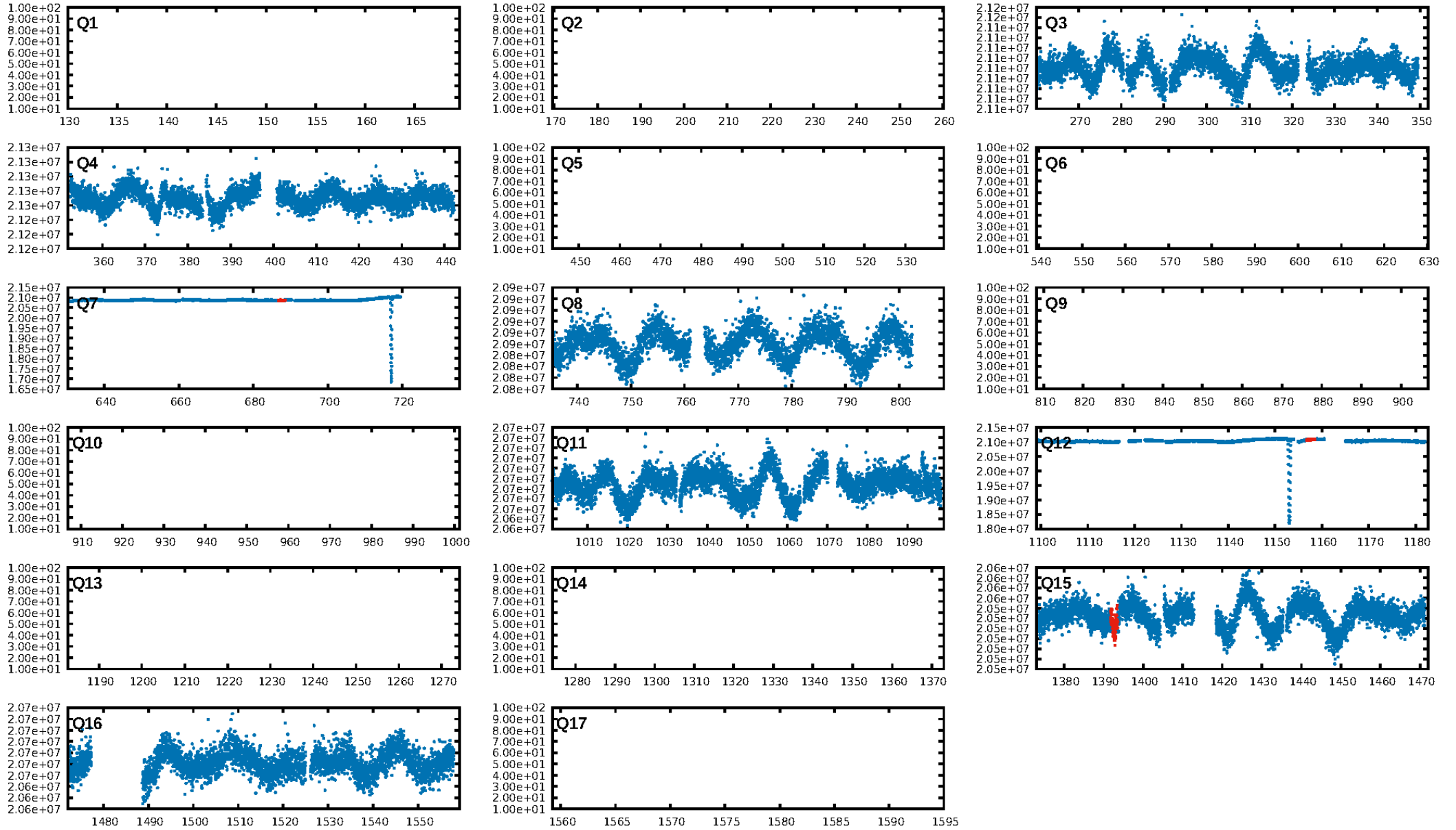
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [142.67σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 91.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.40e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8989
Centroid-sig: 0.3%
Centroid-so: 1.971 arcsec [1.84σ]
OotOffset-rm: 0.678 arcsec [0.36σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 0.673 arcsec [0.40σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

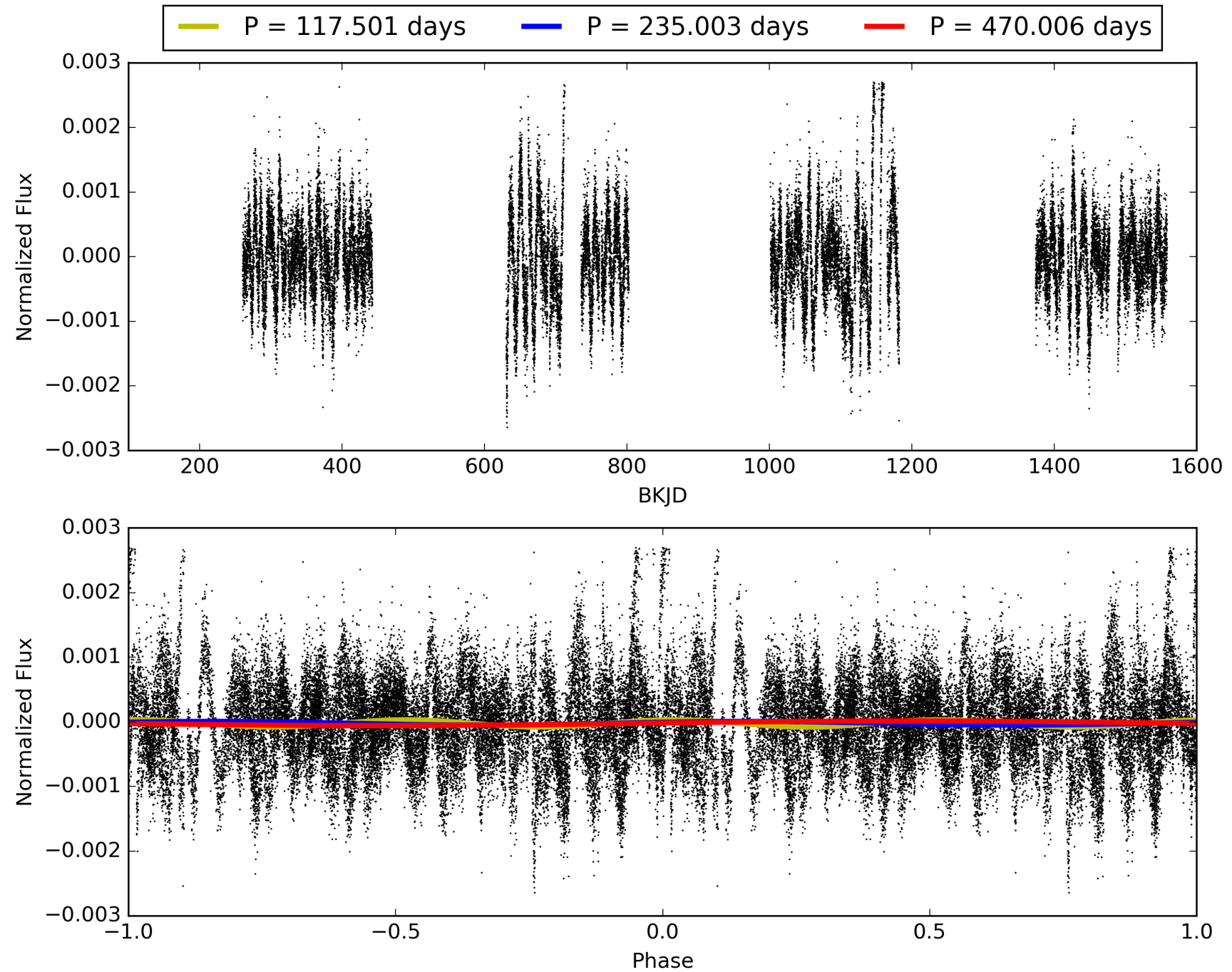
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:24:53 Z

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

TCE 007944566-02, PDC Light Curves

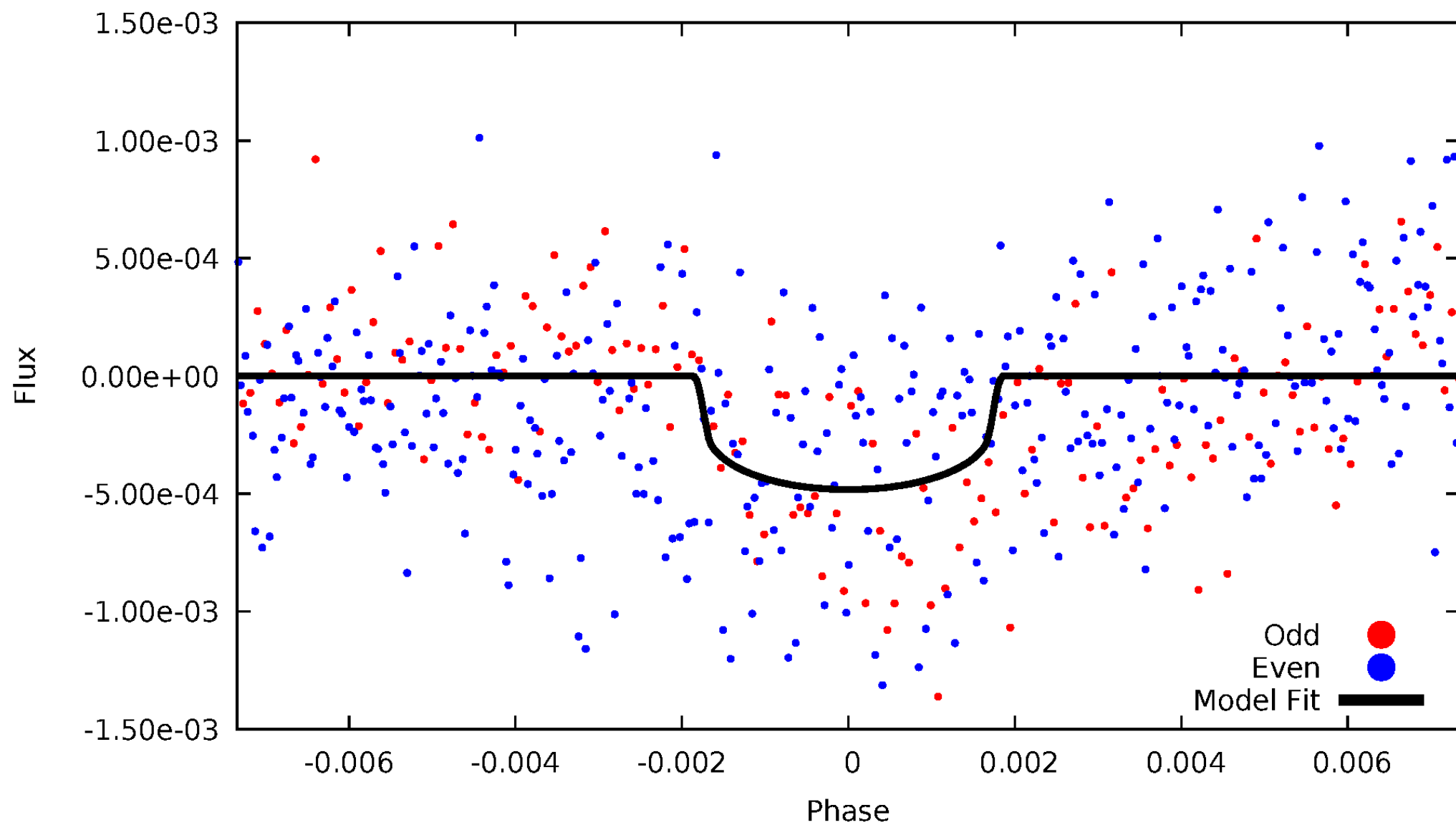


TCE 007944566-02



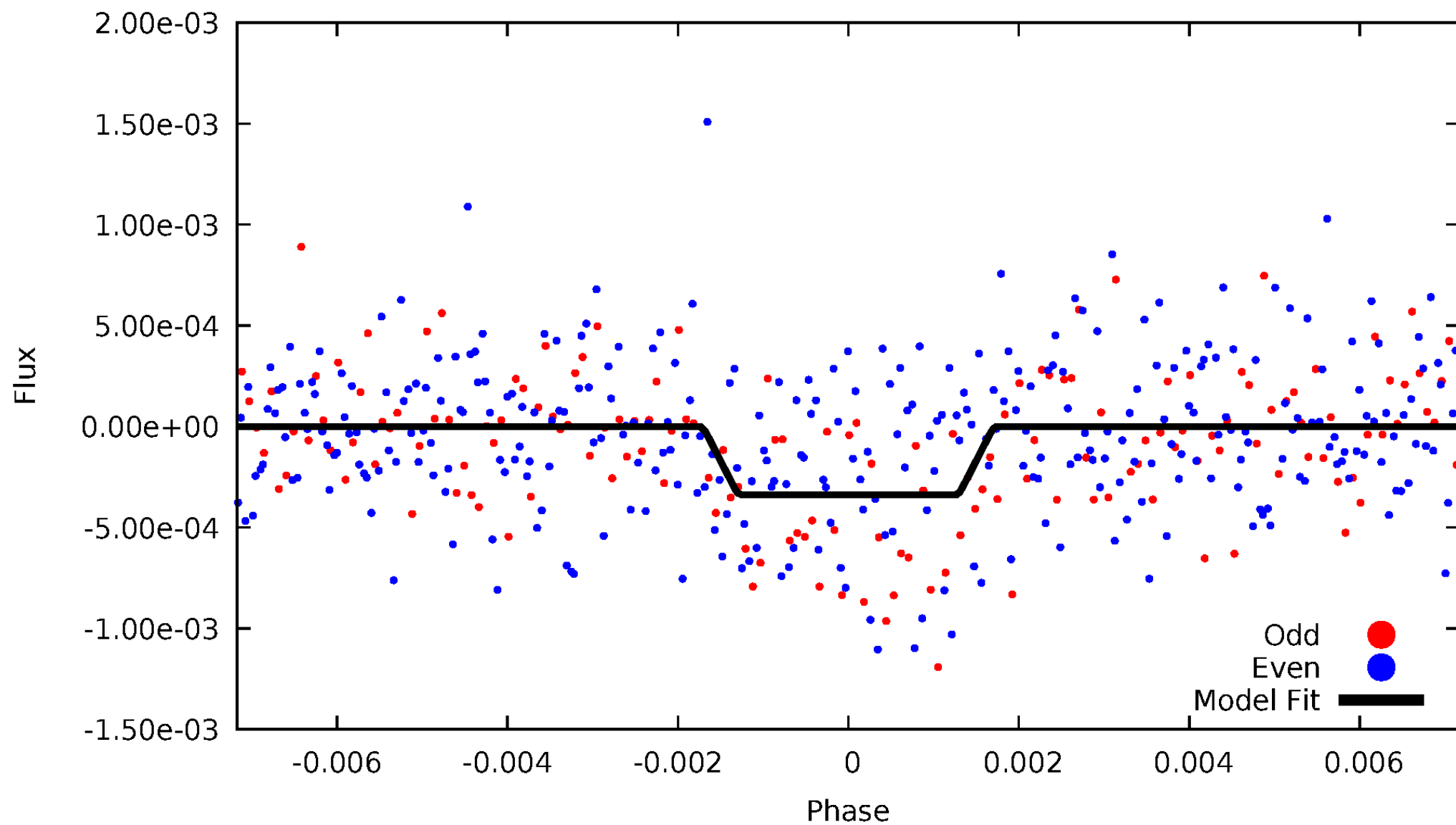
DV Odd/Even

TCE 007944566-02



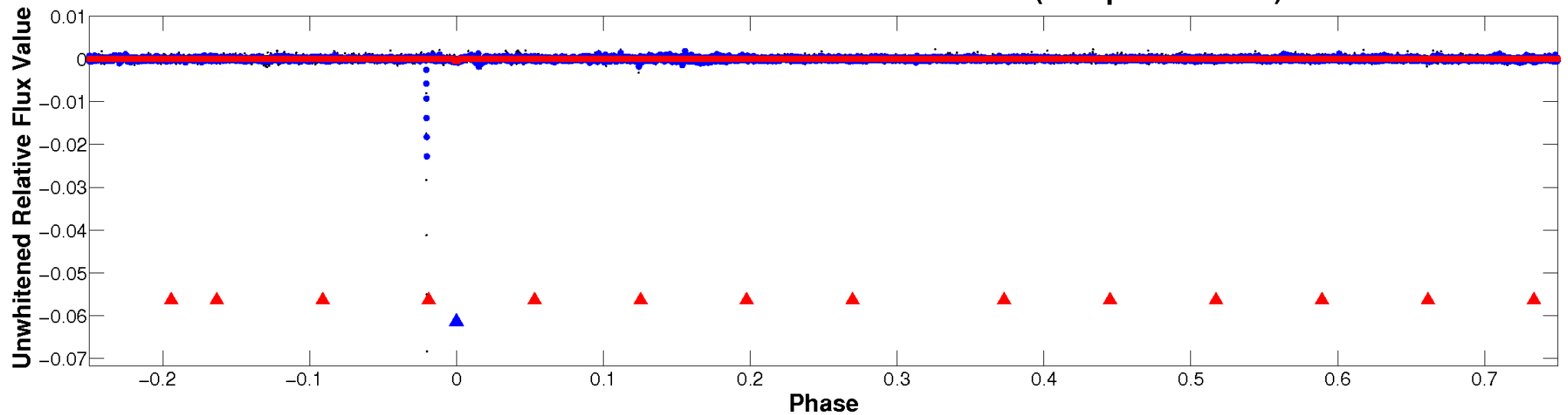
ALT Odd/Even

TCE 007944566-02

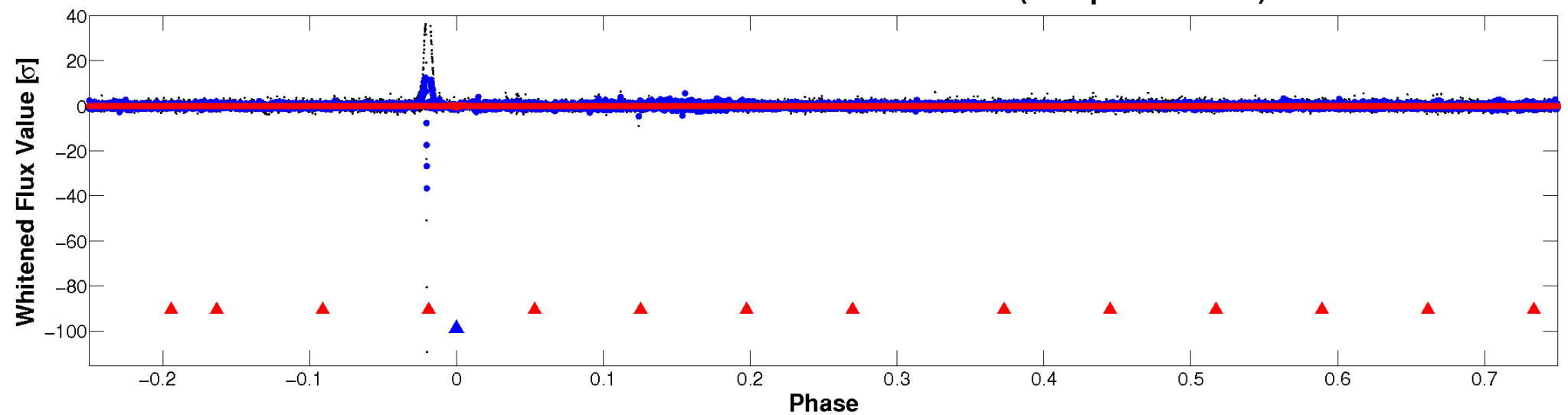


Non-Whitened Vs. Whitened Light Curve

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

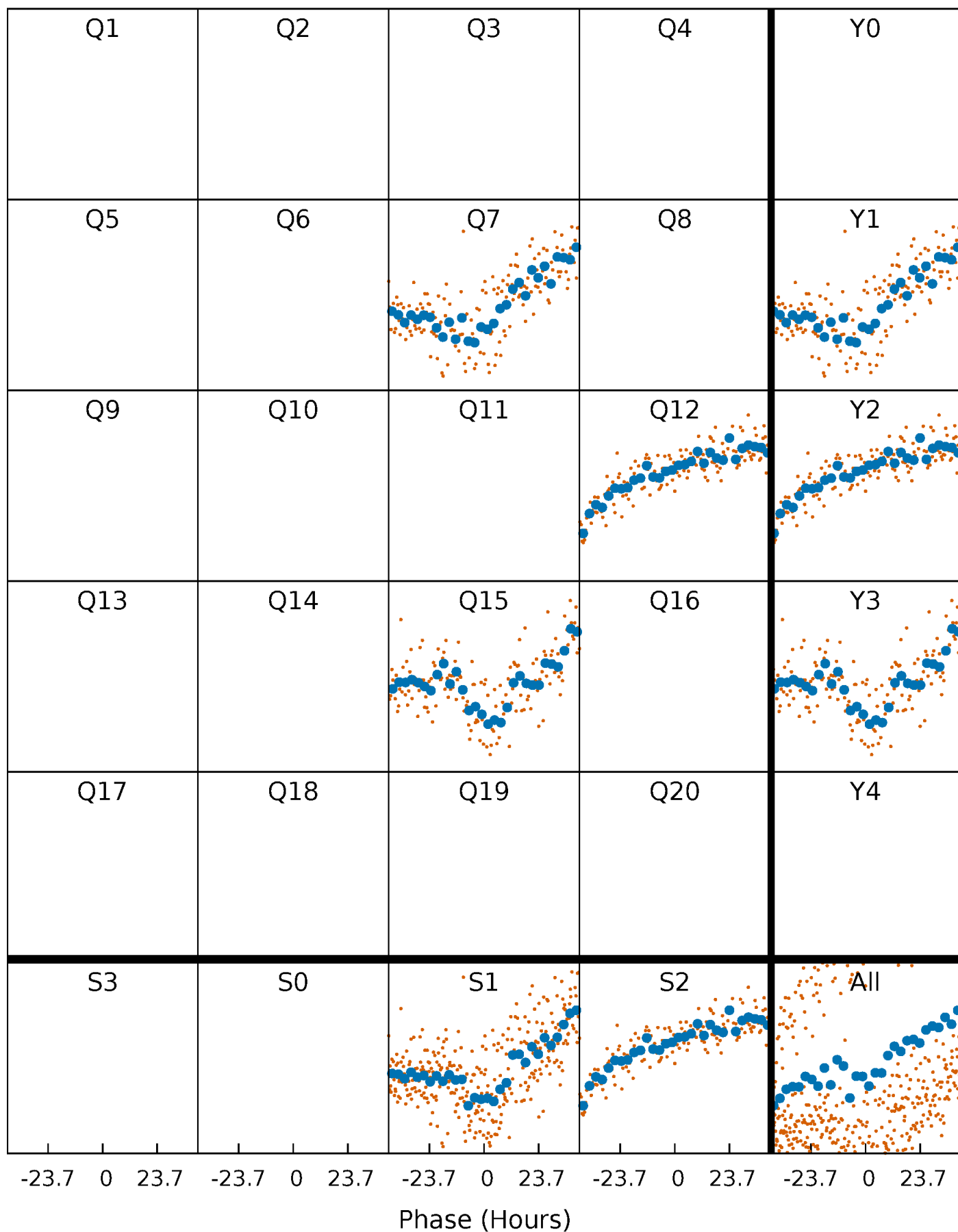


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 007944566-02 P=235.002858 Days $T_0=217.631784$ (BKJD)



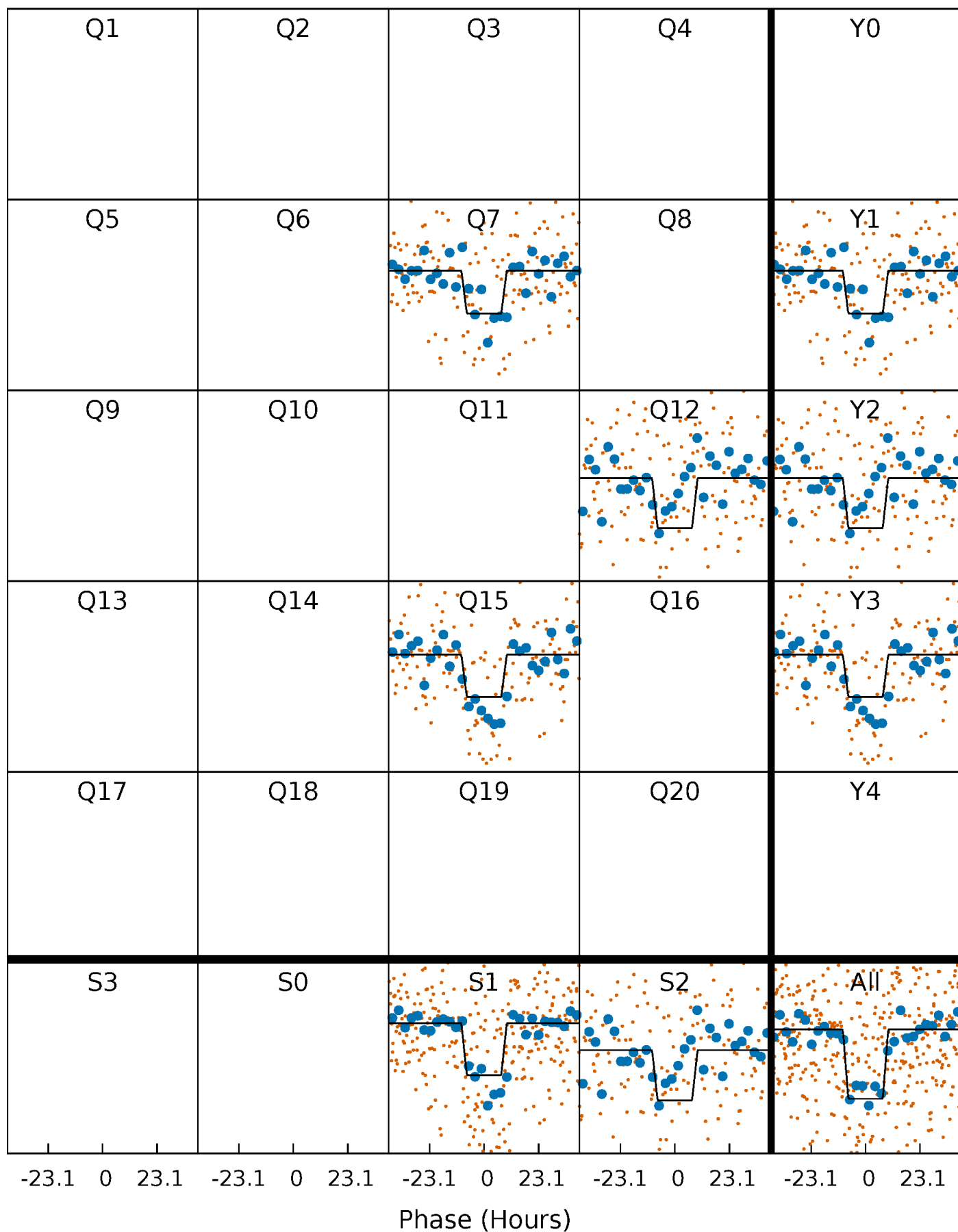
DV Quarter-Phased Transit Curves

TCE 007944566-02 P=235.002858 Days $T_0=217.631784$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

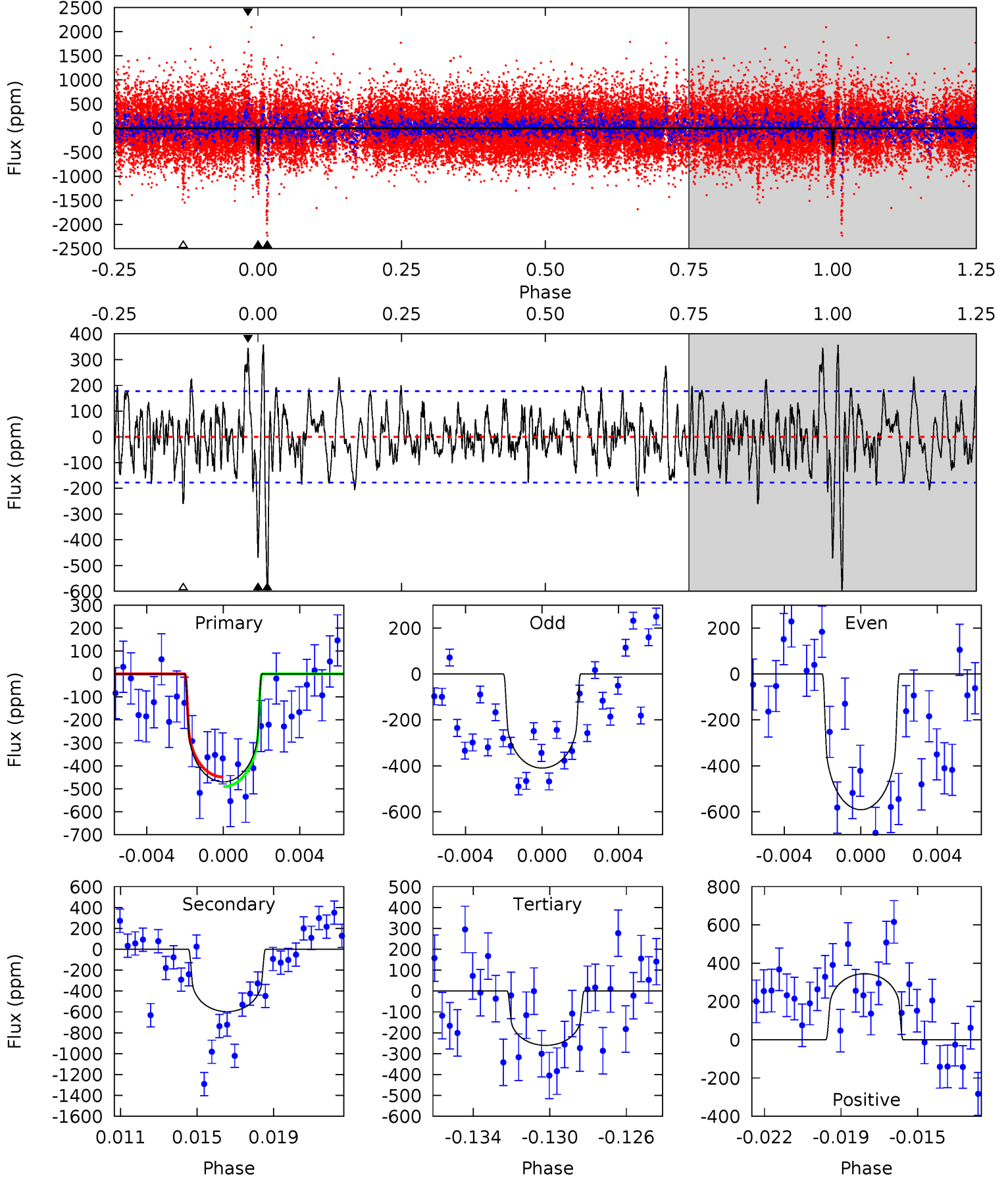
TCE 007944566-02 $P=234.999562$ Days $T_0=217.653568$ (BKJD)



DV Model-Shift Uniqueness Test

007944566-02, P = 235.002858 Days, E = 217.631784 Days

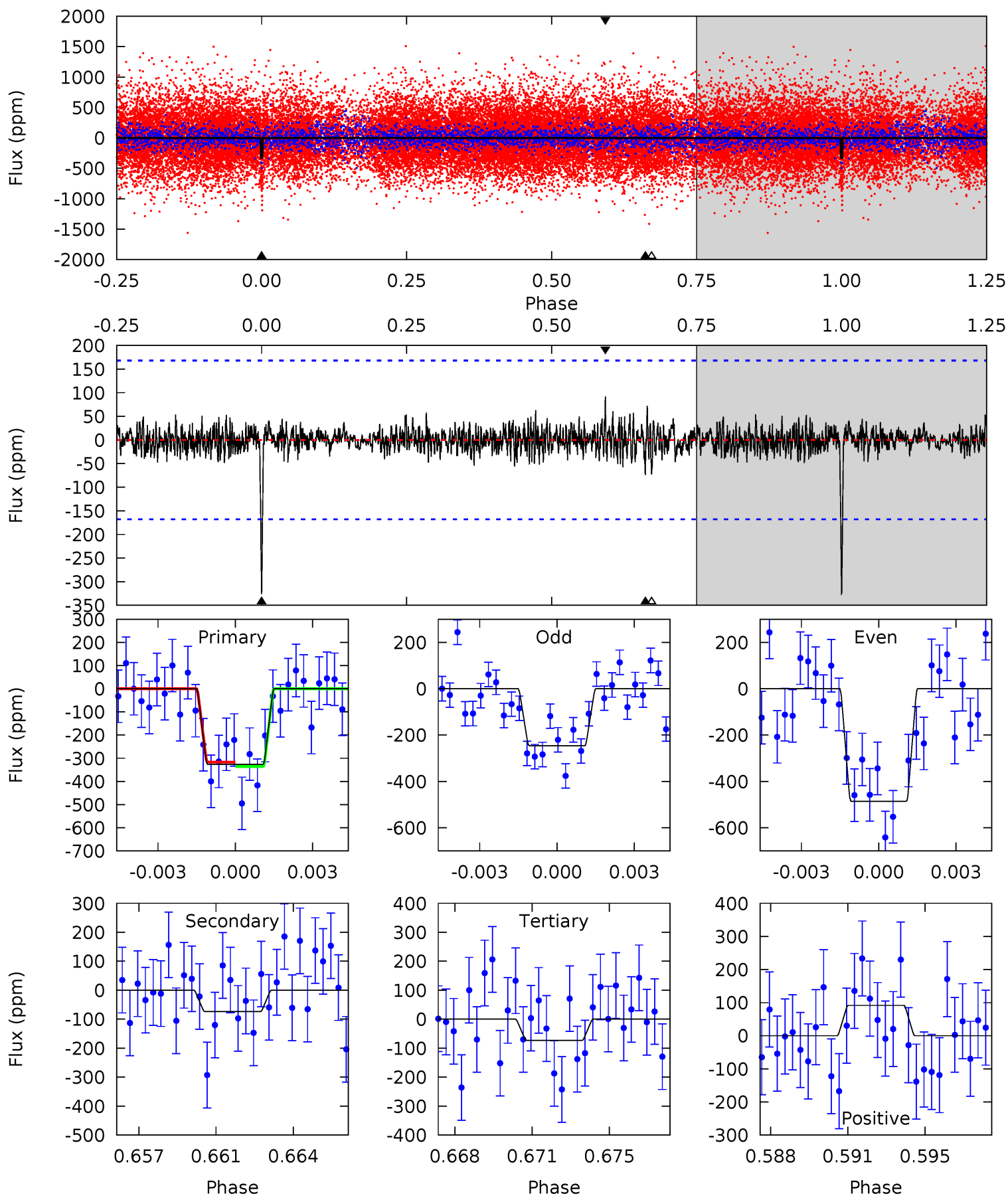
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	17.6	7.66	10.1	5.21	2.90	2.47	6.17	3.68	9.91	7.43	2.53	0.80	0.37	0.62



Alt Model-Shift Uniqueness Test

007944566-02, P = 234.999562 Days, E = 217.653568 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	2.30	2.27	2.85	5.23	2.92	0.59	7.87	7.29	0.02	-0.56	3.52	0.93	0.22	0.29



Stellar Parameters For KIC 007944566

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5193^{+196}_{-179}	$4.503^{+0.095}_{-0.095}$	$-0.180^{+0.300}_{-0.300}$	$0.805^{+0.103}_{-0.093}$	$0.753^{+0.106}_{-0.057}$	$2.032^{+0.797}_{-0.571}$
	+4%/-3%	+2%/-2%	+167%/-167%	+13%/-12%	+14%/-8%	+39%/-28%
Source	KIC0	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 007944566-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-598 ± 34	$1.92^{+0.60}_{-0.59}$	349^{+17}_{-17}	5466^{+1024}_{-621}	42154^{+41354}_{-17963}
Alt.	-74 ± 32	$1.66^{+0.56}_{-0.60}$	350^{+19}_{-16}	3817^{+727}_{-496}	6690^{+9574}_{-3921}

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 $A_{obs} \gg 1.0$

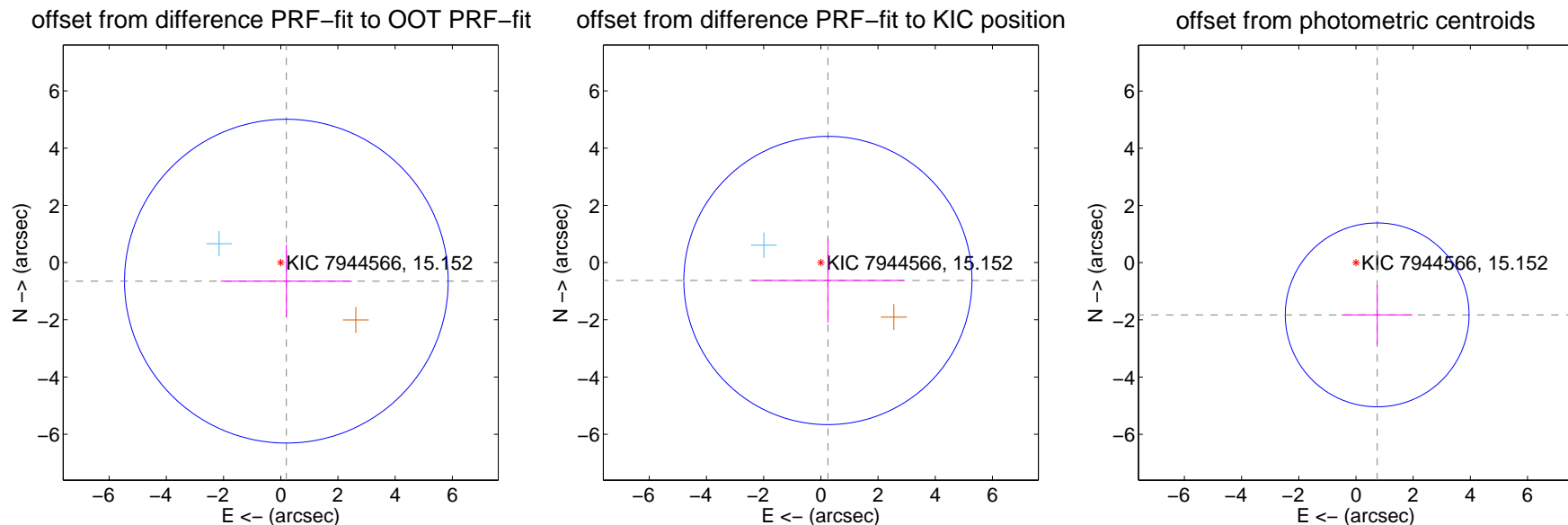
DV Centroid Data

Supplemental centroid analysis for 007944566-02. Kepler magnitude: 15.15. Transit SNR 5.91

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.678 ± 1.886	0.36	-0.196 ± 2.291	-0.649 ± 1.279
PRF-fit source offset from KIC position	0.673 ± 1.679	0.40	-0.246 ± 2.658	-0.626 ± 1.471
photometric centroid source offset	1.97 ± 1.07	1.84	-0.74 ± 1.24	-1.83 ± 1.04

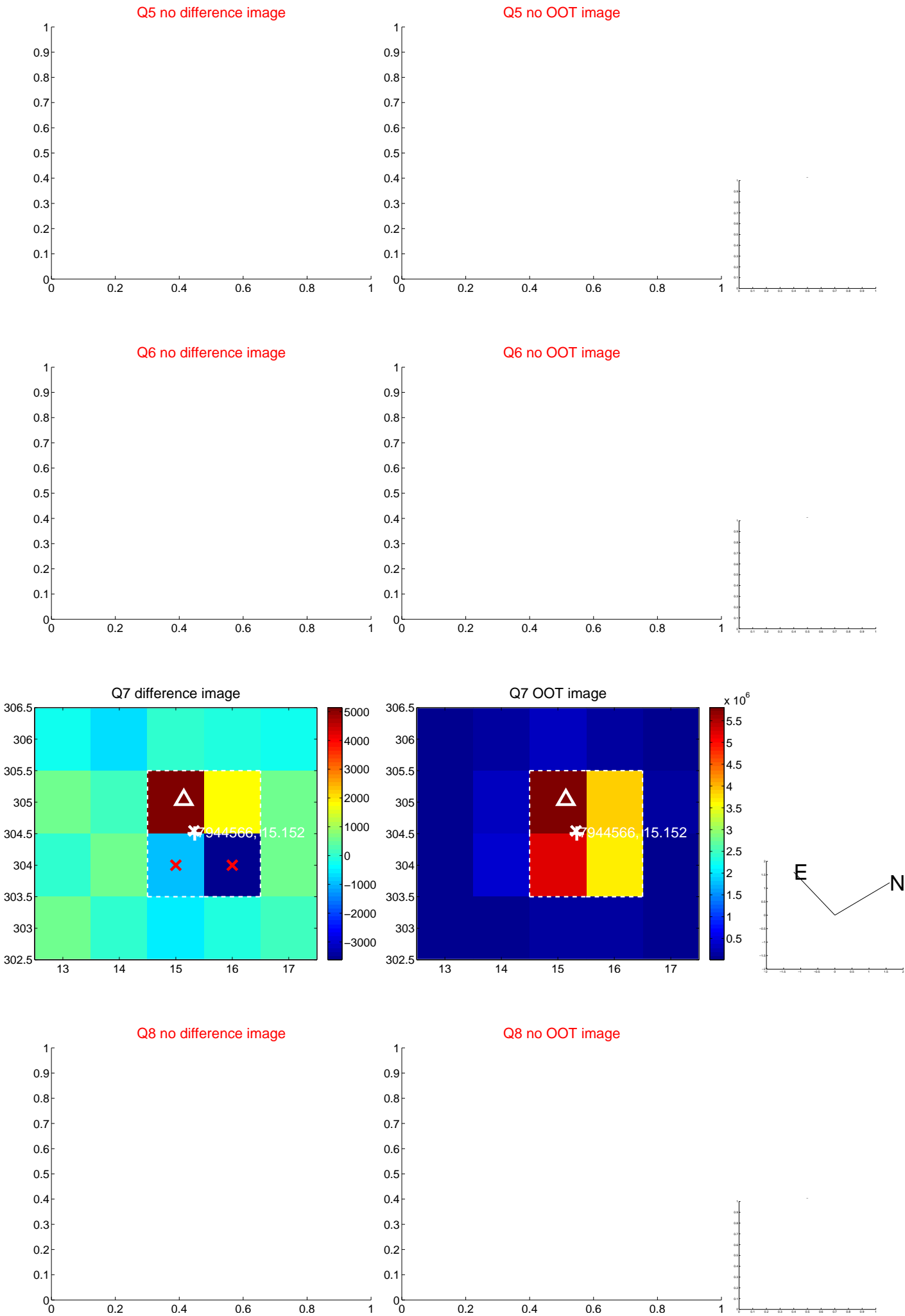


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

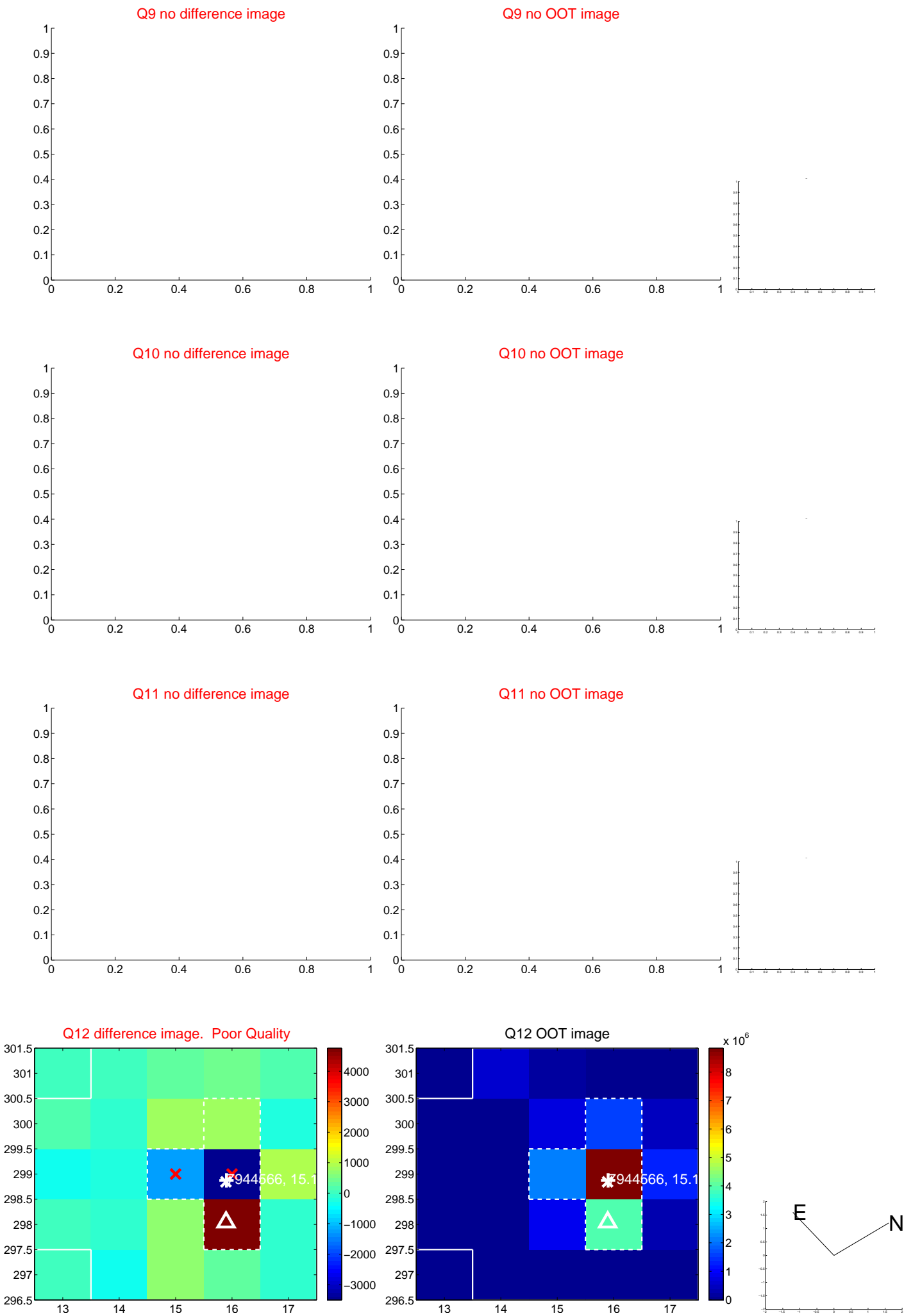
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



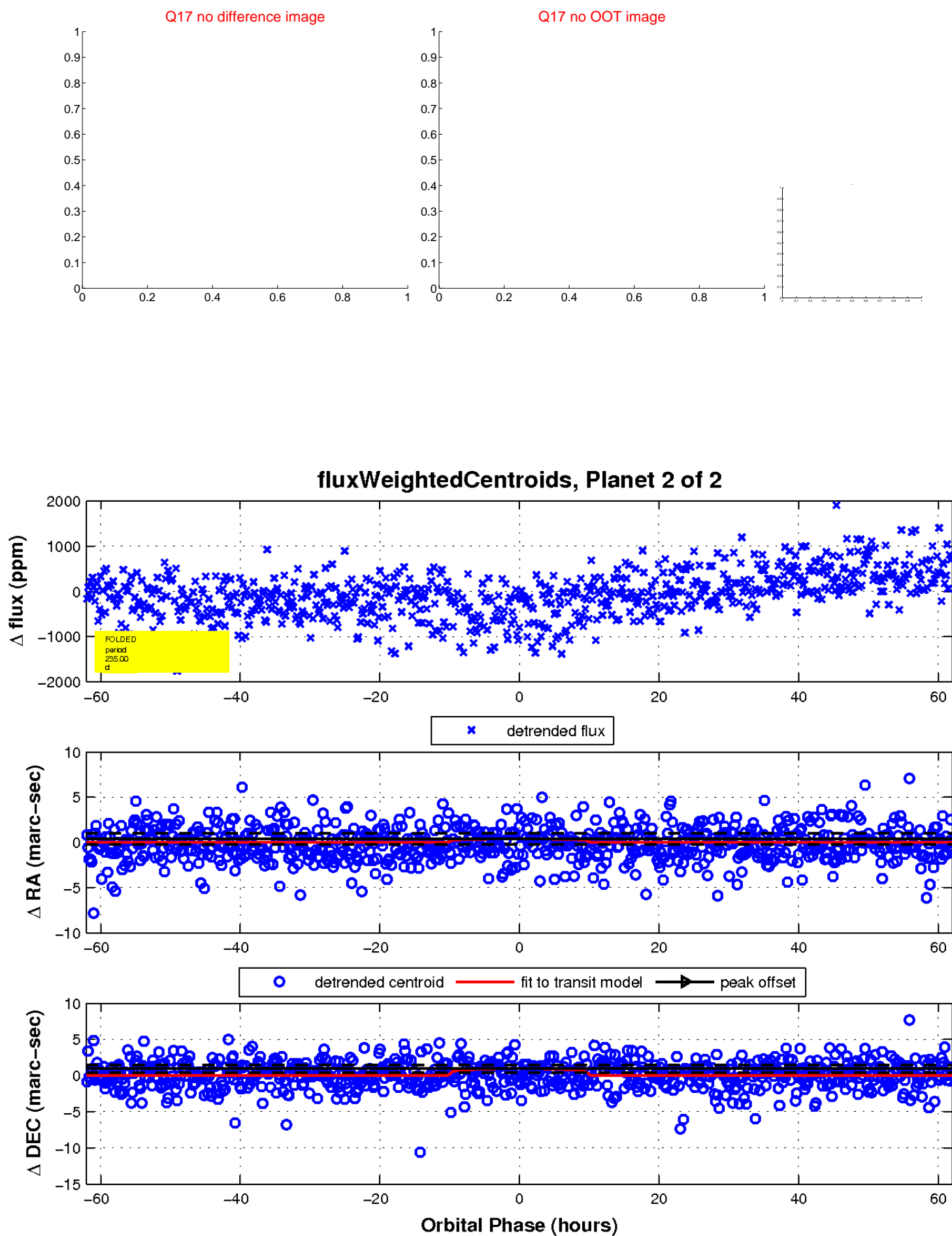
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

