

KIC 009844791

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})
009844791-01	OBS	No	0.685300	132.092035	35.5	1.821	10.1	6.6	1.68	7087	1.17	21934.67
009844791-02	OBS	No	307.306211	306.169838	1765.3	6.262	8.4	7.3	1.68	7087	12.98	6.39
009844791-03	OBS	No	475.367742	137.247176	1138.3	10.733	8.0	6.4	1.68	7087	6.57	3.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009844791-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
009844791-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
009844791-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS

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

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

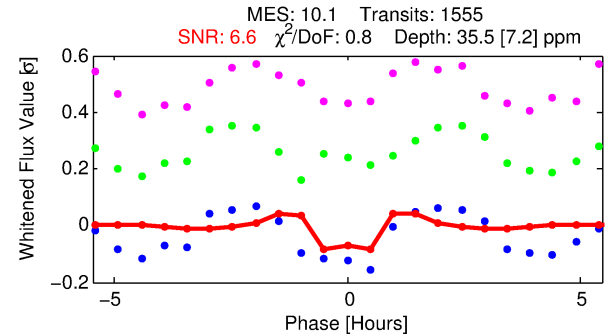
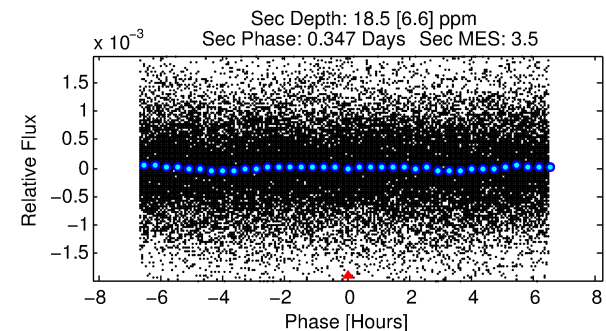
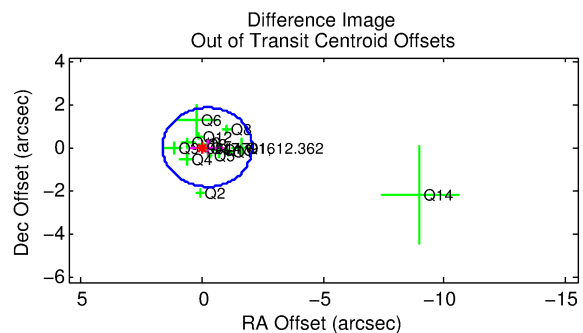
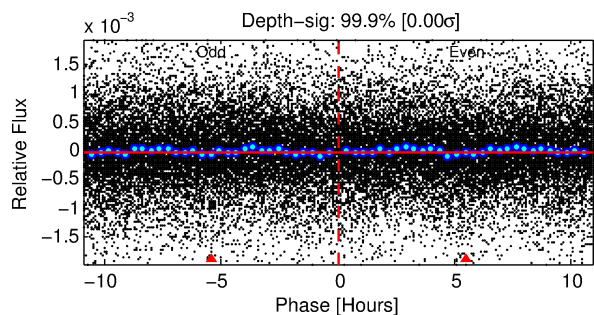
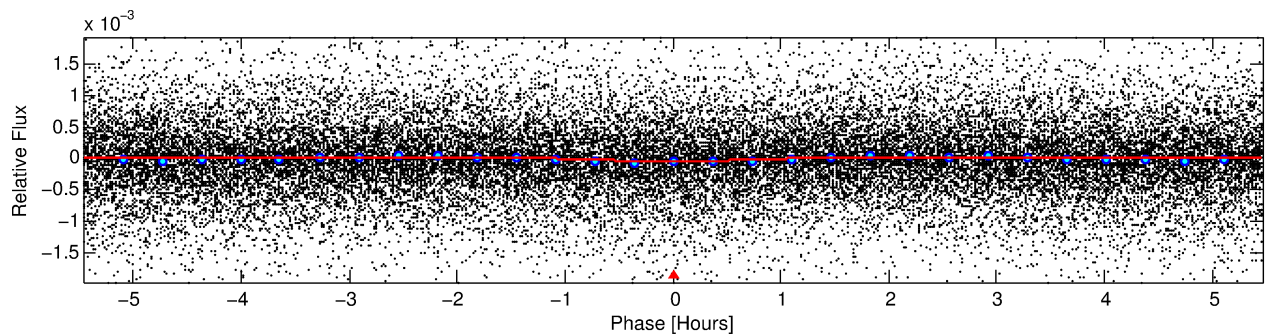
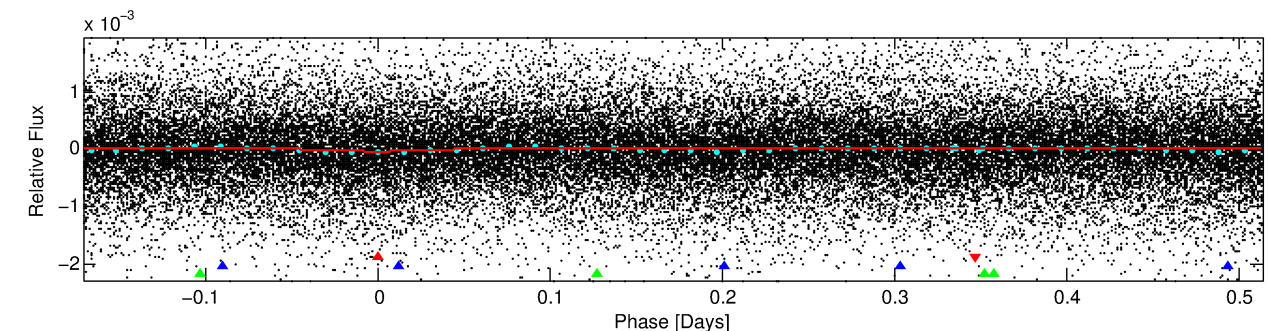
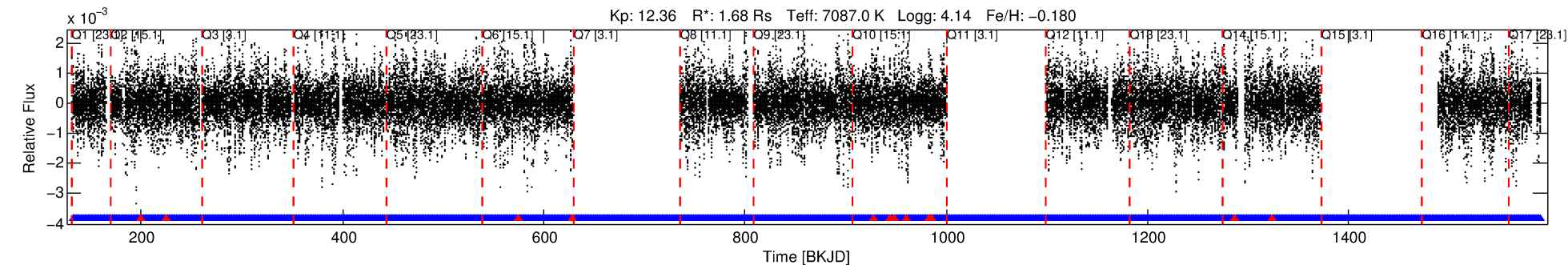
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009844791-01

No Significant Match Found

DV One-Page Summary

KIC: 9844791 Candidate: 1 of 3 Period: 0.685 d



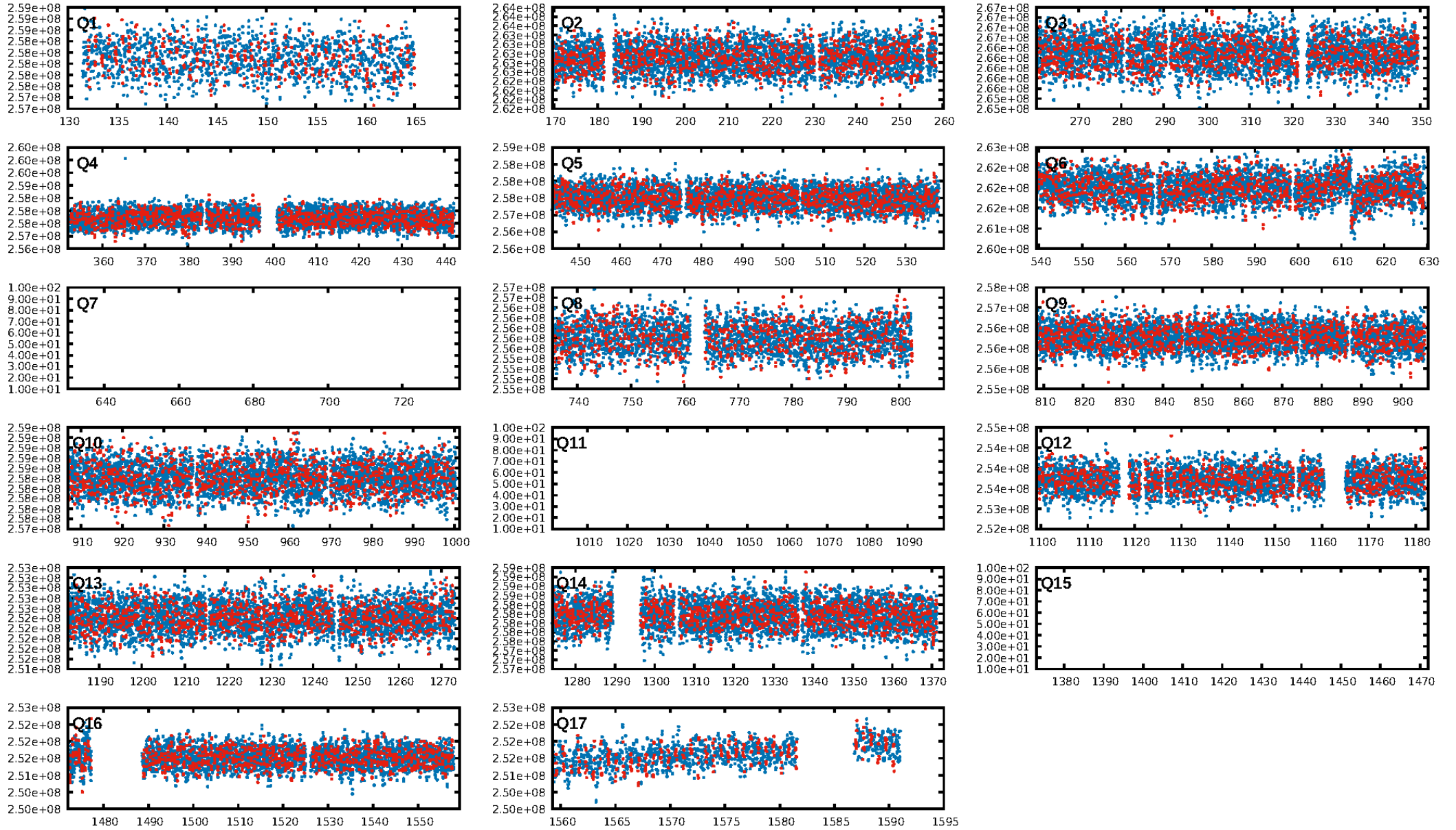
DV Fit Results:

Period = 0.68530 [0.00001] d
Epoch = 132.0920 [0.0019] BKJD
Rp/R* = 0.0063 [0.0020]
a/R* = 1.60 [1.86]
b = 0.90 [0.41]
Seff = 21934.67 [8637.41]
Teq = 3103 [305] K
Rp = 1.17 [0.52] Re
a = 0.0171 [0.0044] AU
Ag = 2.19 [1.80] [0.67σ]
Teffp = 5839 [1095] K [2.41σ]

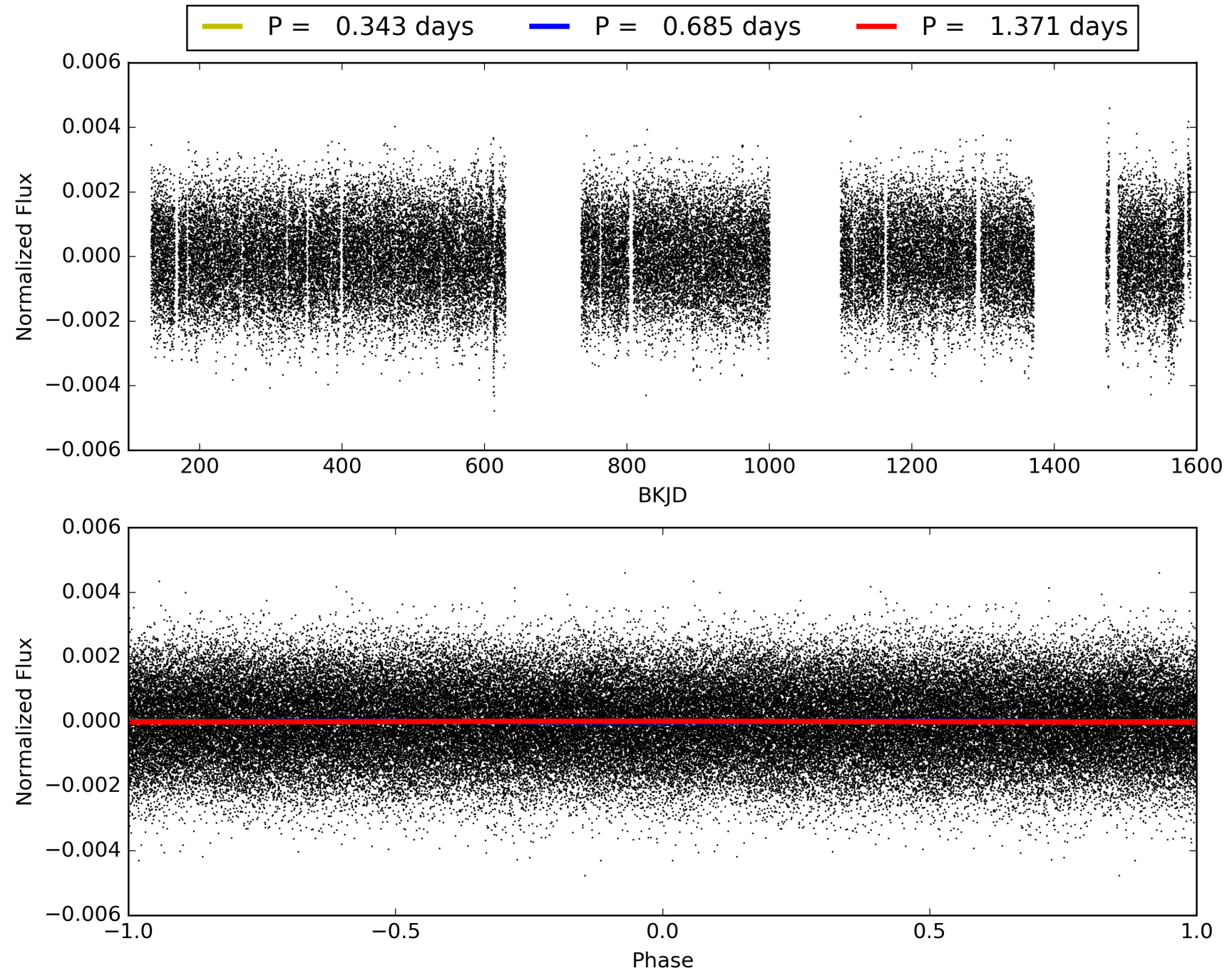
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1128.48σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 3.10e-20
RollingBand-fgt: 0.99 [1455/1467]
GhostDiagnostic-chr: 2.499
Centroid-sig: 0.0%
Centroid-so: 1.363 arcsec [3.05σ]
OotOffset-rm: 0.235 arcsec [0.38σ]
KicOffset-rm: 0.300 arcsec [0.47σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 009844791-01, PDC Light Curves

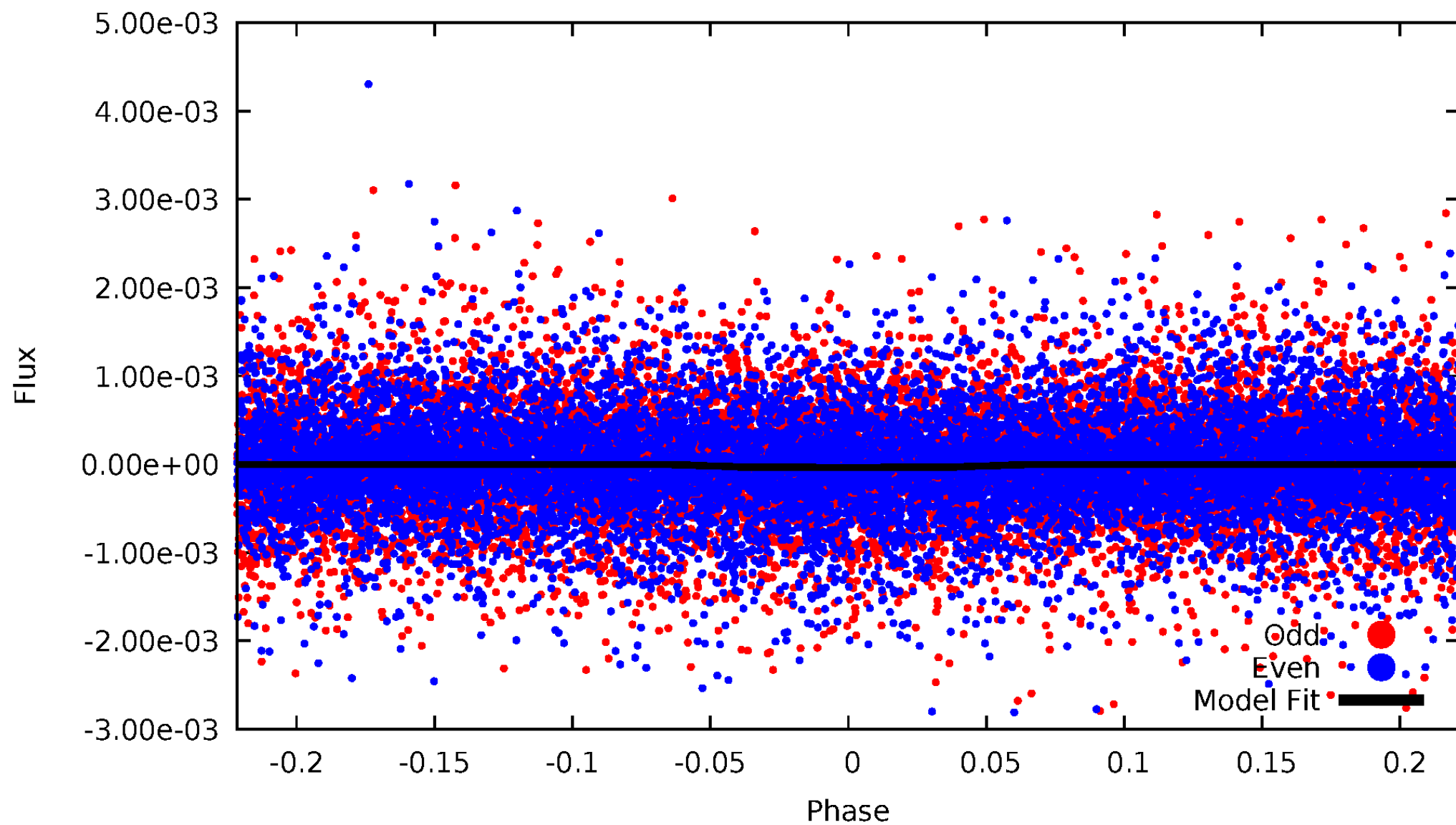


TCE 009844791-01



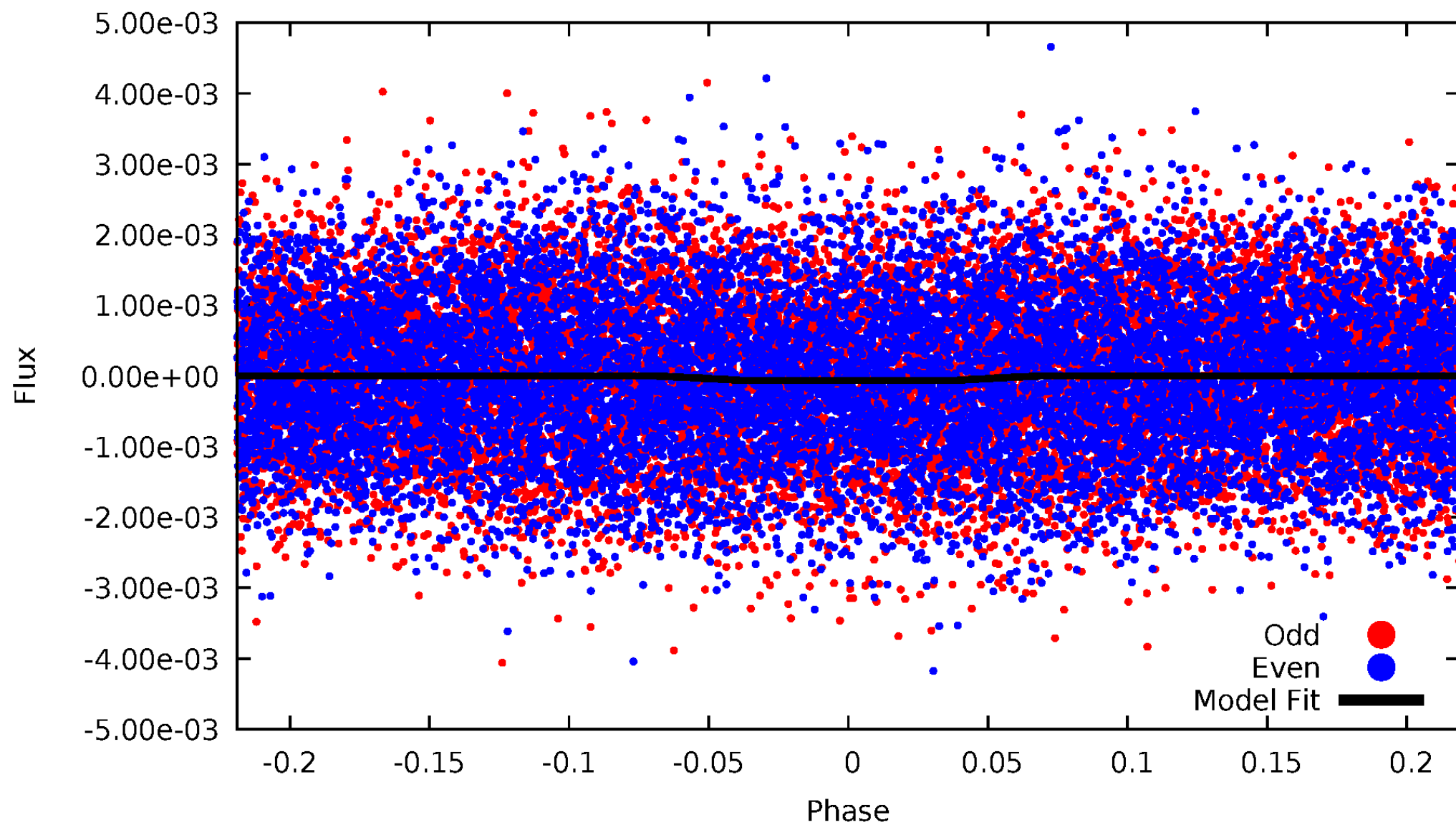
DV Odd/Even

TCE 009844791-01

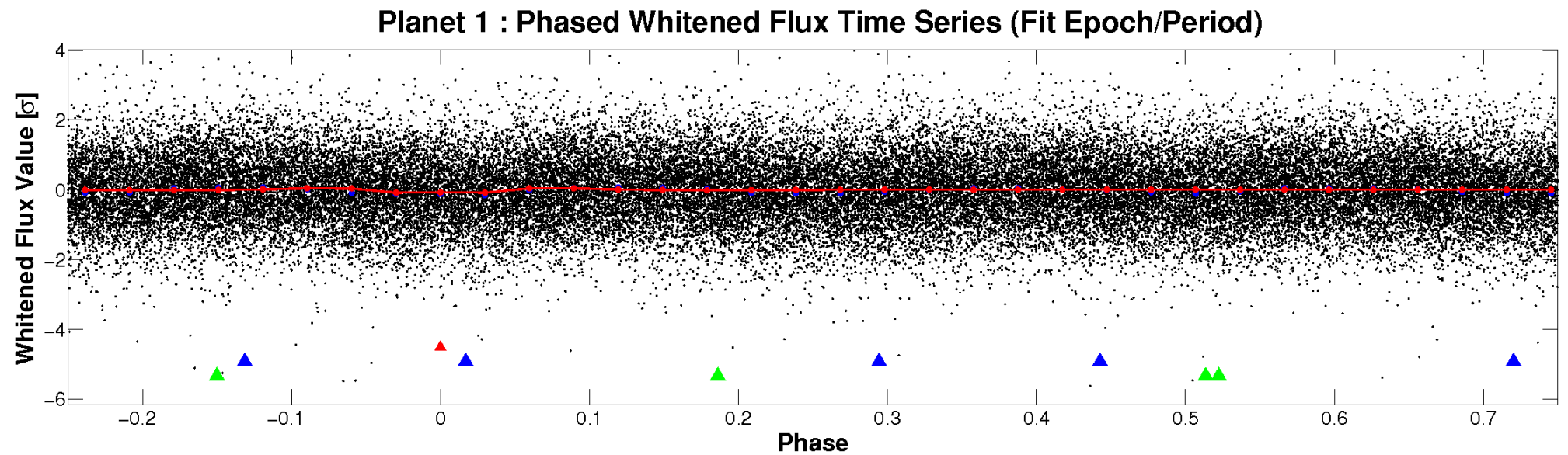
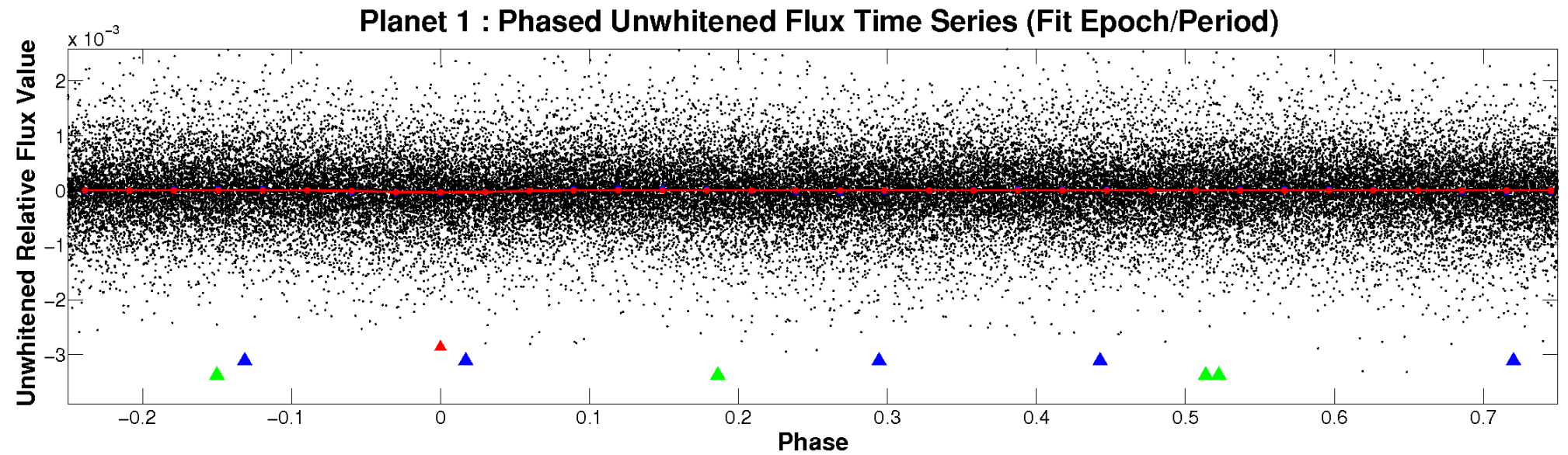


ALT Odd/Even

TCE 009844791-01

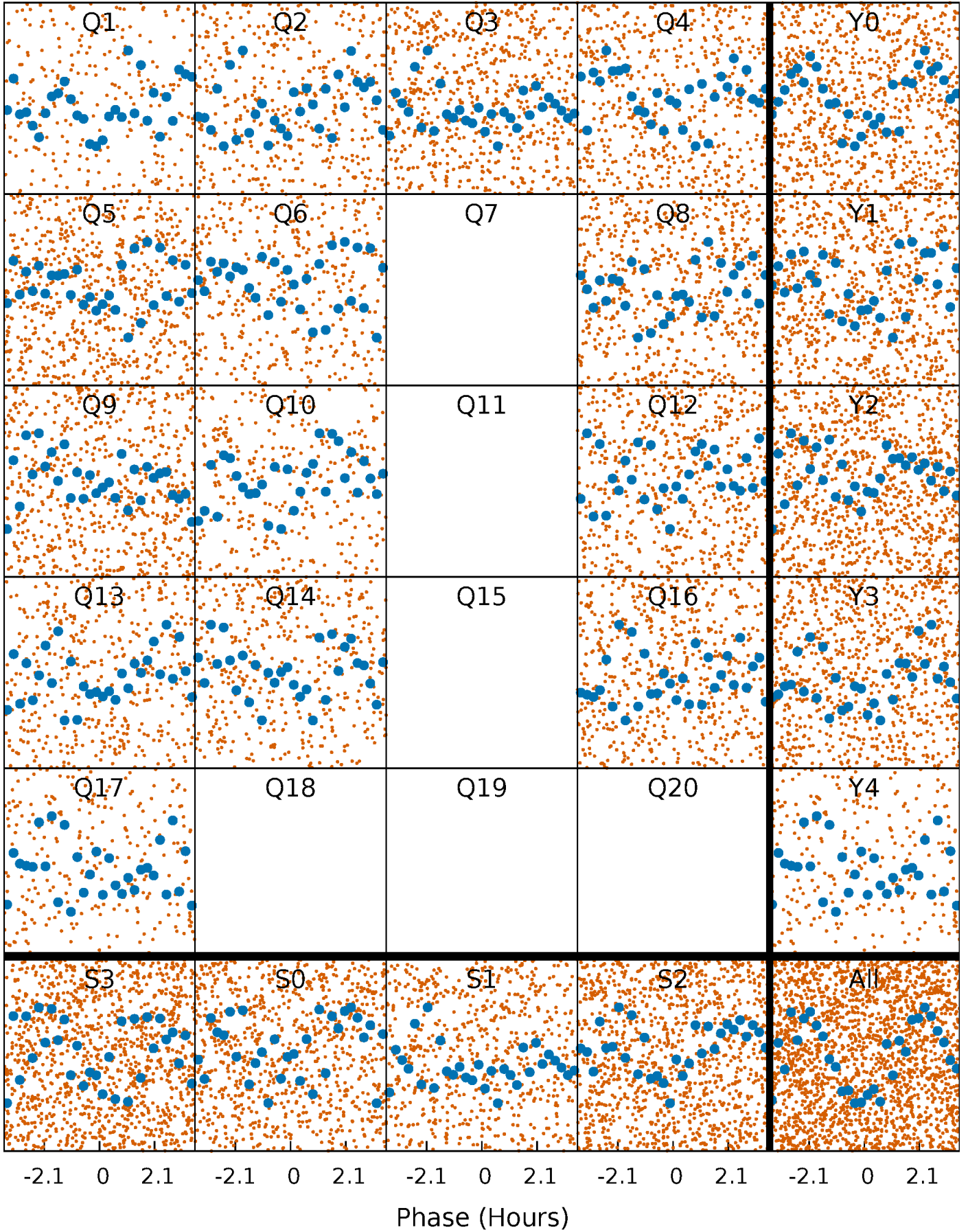


Non-Whitened Vs. Whitened Light Curve



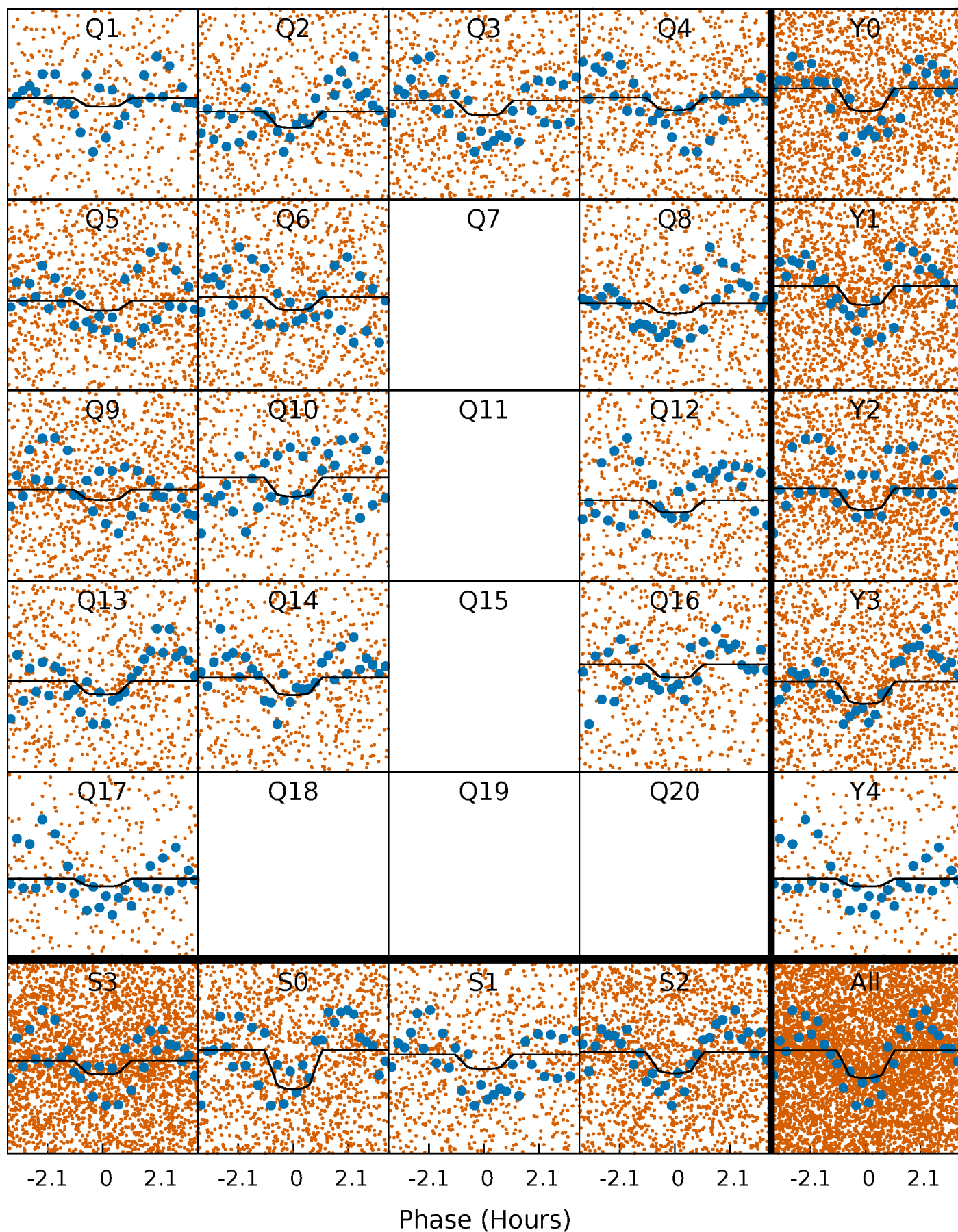
PDC Quarter-Phased Transit Curves

TCE 009844791-01 P= 0.685300 Days $T_0=132.092035$ (BKJD)



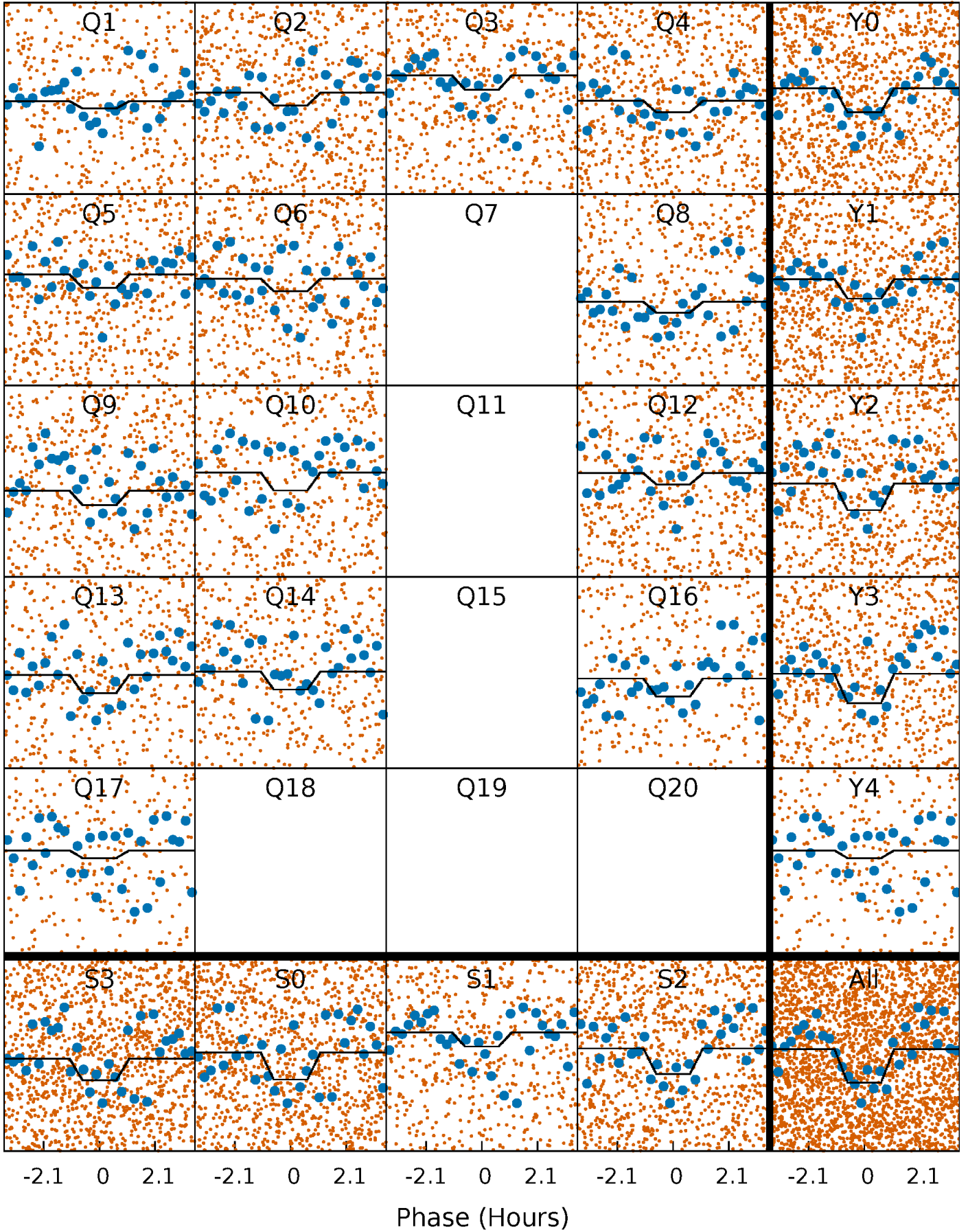
DV Quarter-Phased Transit Curves

TCE 009844791-01 P= 0.685300 Days $T_0=132.092035$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

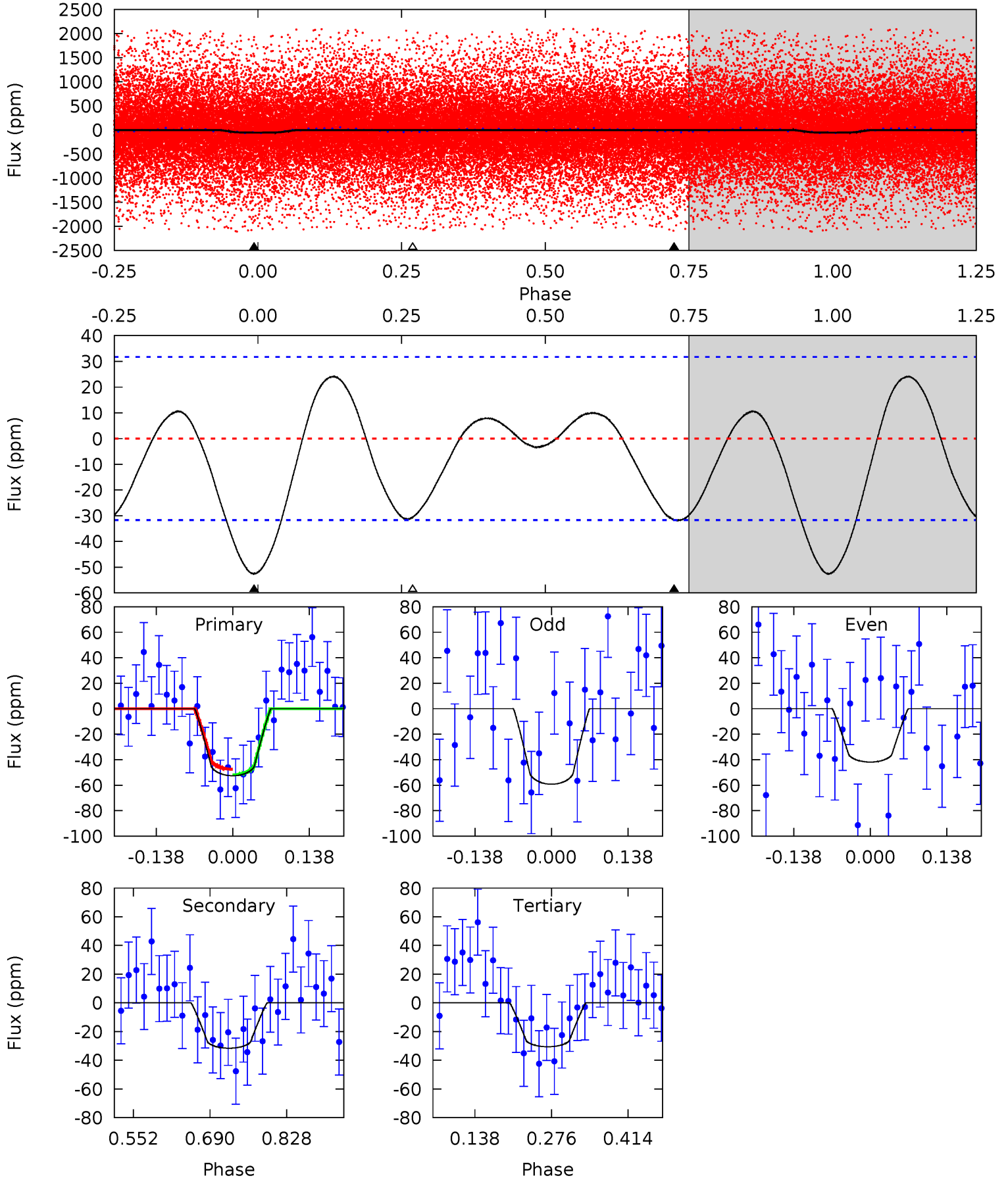
TCE 009844791-01 P= 0.685295 Days $T_0=132.089468$ (BKJD)



DV Model-Shift Uniqueness Test

009844791-01, P = 0.685300 Days, E = 131.406735 Days

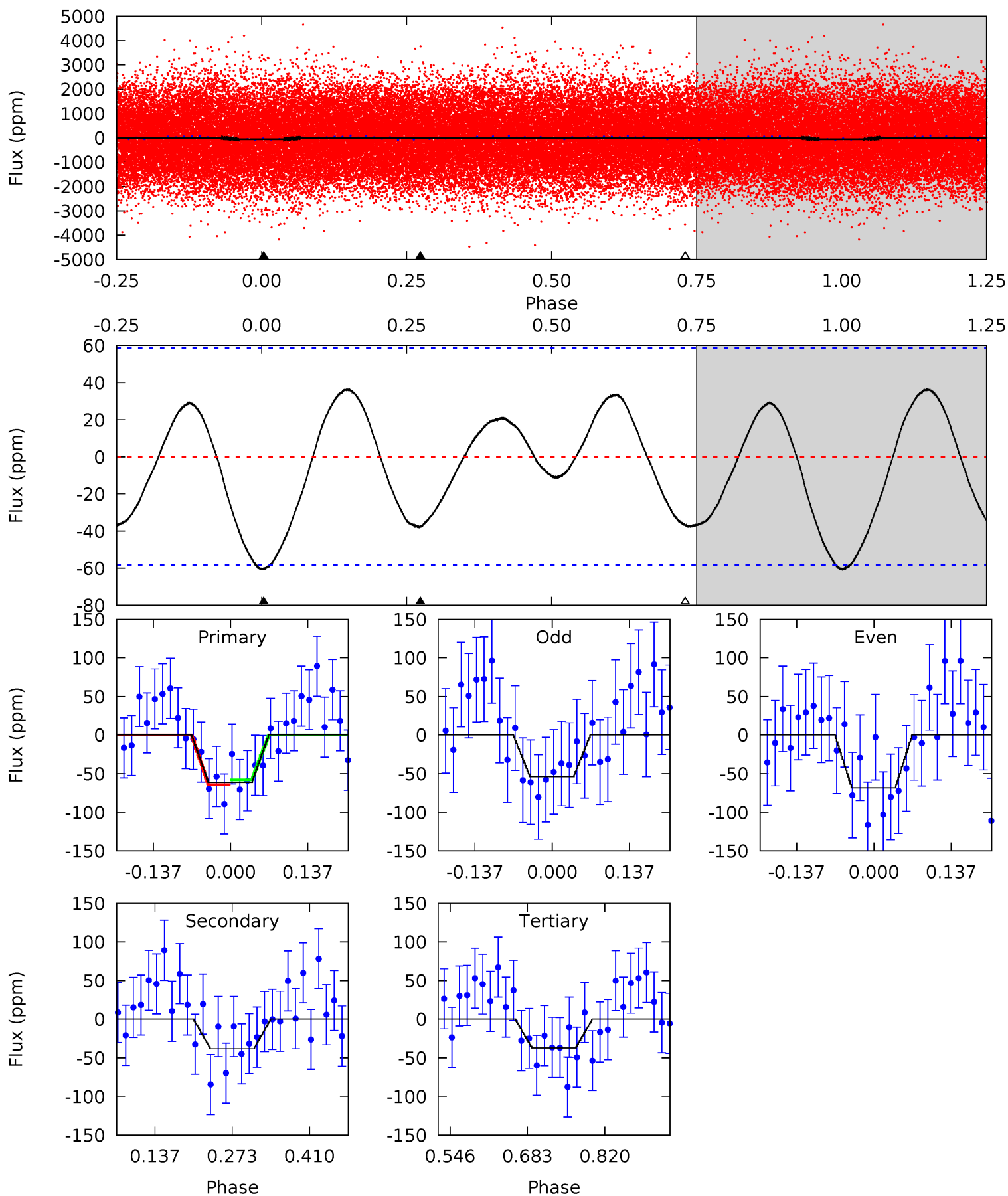
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.45	4.48	4.34	0	4.50	1.48	2.03	3.11	7.45	0.14	4.48	1.24	1.95	0.31	0.32



Alt Model-Shift Uniqueness Test

009844791-01, P = 0.685295 Days, E = 131.404173 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.70	2.93	2.86	0	4.50	1.49	1.65	1.84	4.70	0.07	2.93	0.55	1.53	0.38	0.24



Stellar Parameters For KIC 009844791

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7087^{+175}_{-275}	$4.137^{+0.158}_{-0.193}$	$-0.180^{+0.250}_{-0.350}$	$1.684^{+0.525}_{-0.394}$	$1.418^{+0.218}_{-0.239}$	$0.419^{+0.334}_{-0.213}$
	+2%/-4%	+4%/-5%	+139%/-194%	+31%/-23%	+15%/-17%	+80%/-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 009844791-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-32 ± 7	$1.17^{+0.42}_{-0.36}$	4336^{+346}_{-296}	6393^{+1603}_{-963}	$3.601^{+4.127}_{-1.762}$
Alt.	-38 ± 13	$1.42^{+0.48}_{-0.41}$	4342^{+341}_{-295}	6047^{+1429}_{-972}	$2.849^{+3.277}_{-1.435}$

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

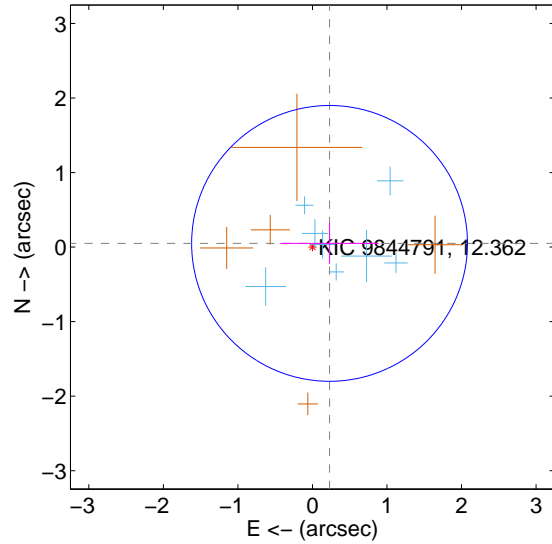
Supplemental centroid analysis for 009844791-01. Kepler magnitude: 12.36. Transit SNR 6.63

There are 8 quarters with good PRF difference image offsets

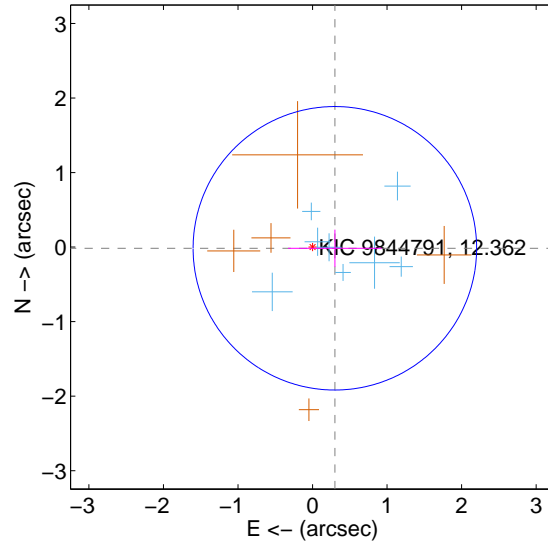
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.235 ± 0.617	0.38	-0.229 ± 0.662	0.050 ± 0.275
PRF-fit source offset from KIC position	0.300 ± 0.634	0.47	-0.300 ± 0.628	-0.016 ± 0.251
photometric centroid source offset	1.36 ± 0.45	3.05	0.79 ± 0.47	-1.11 ± 0.44

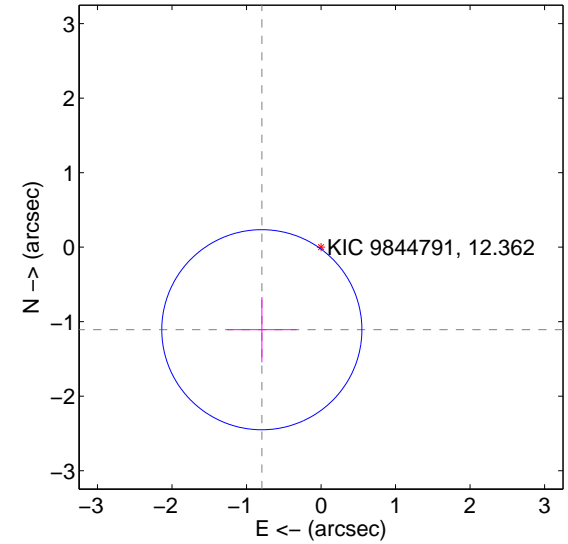
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

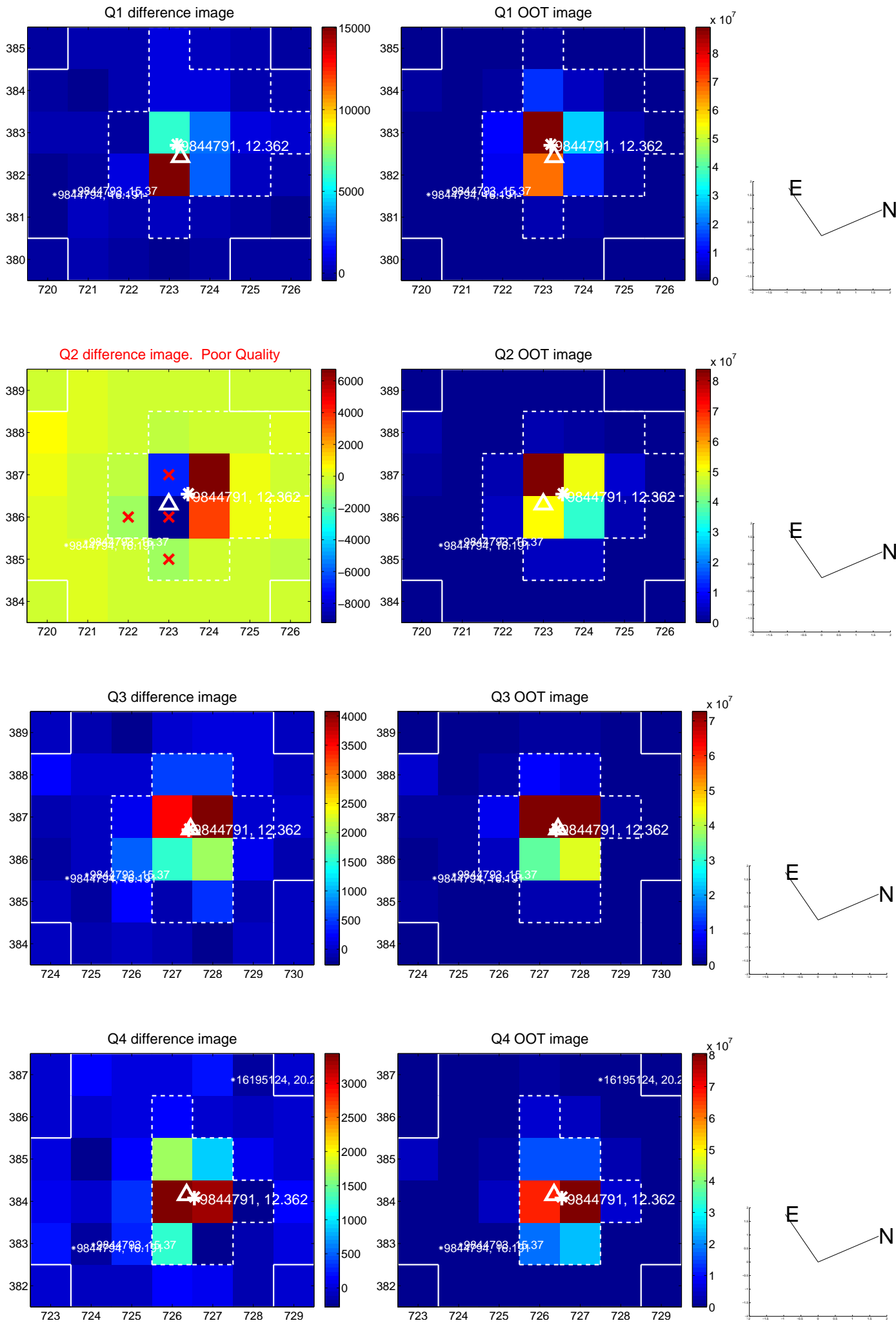


offset from photometric centroids

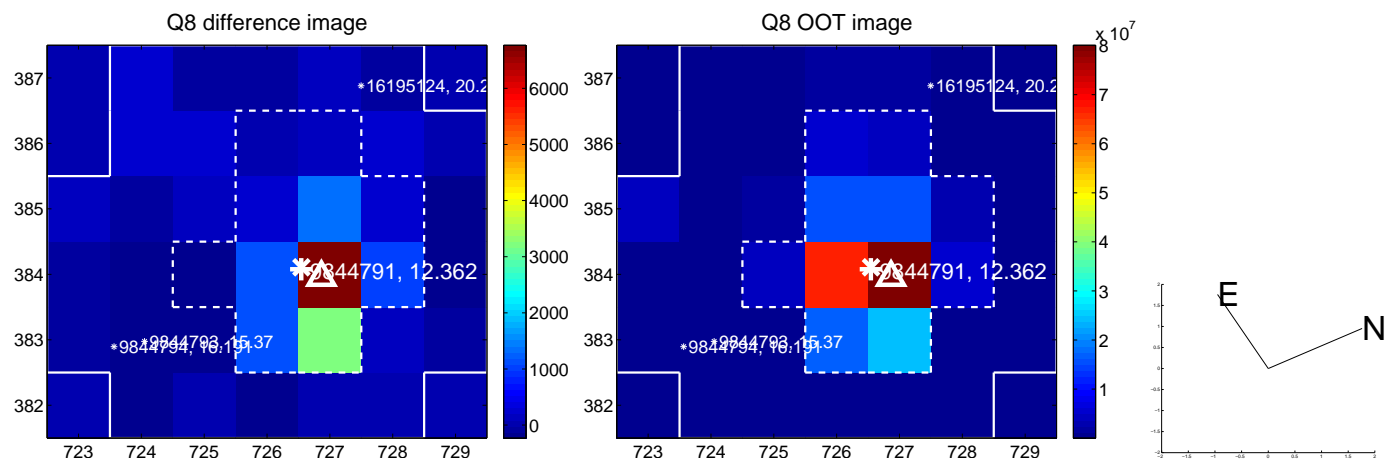
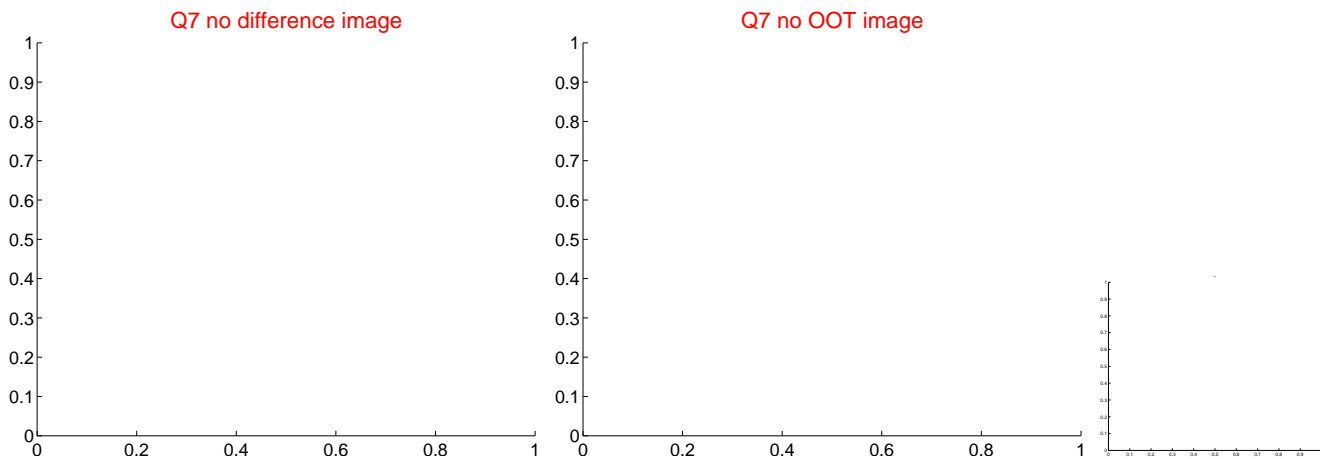
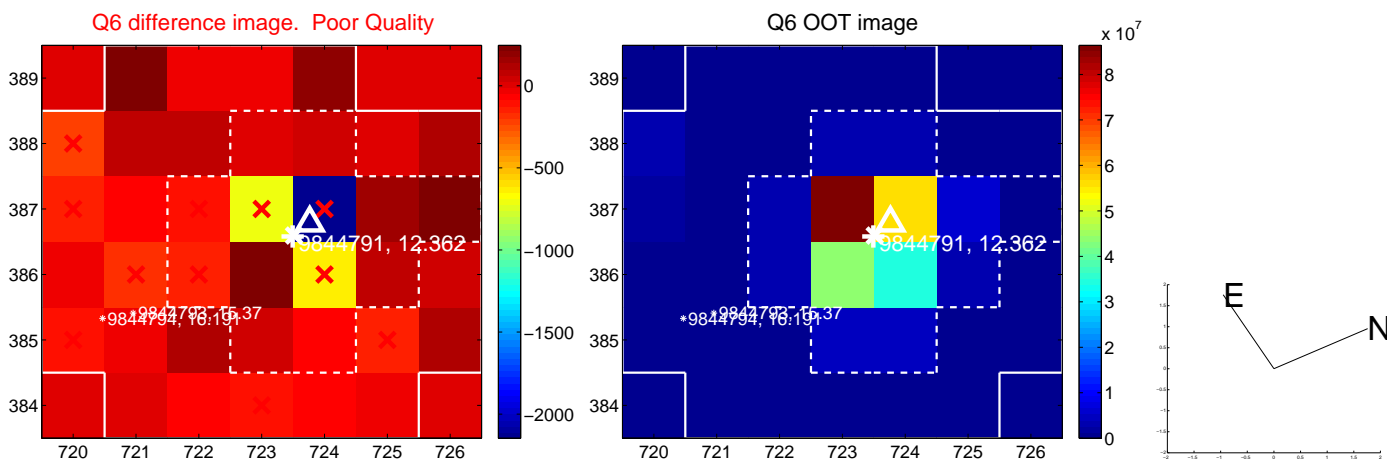
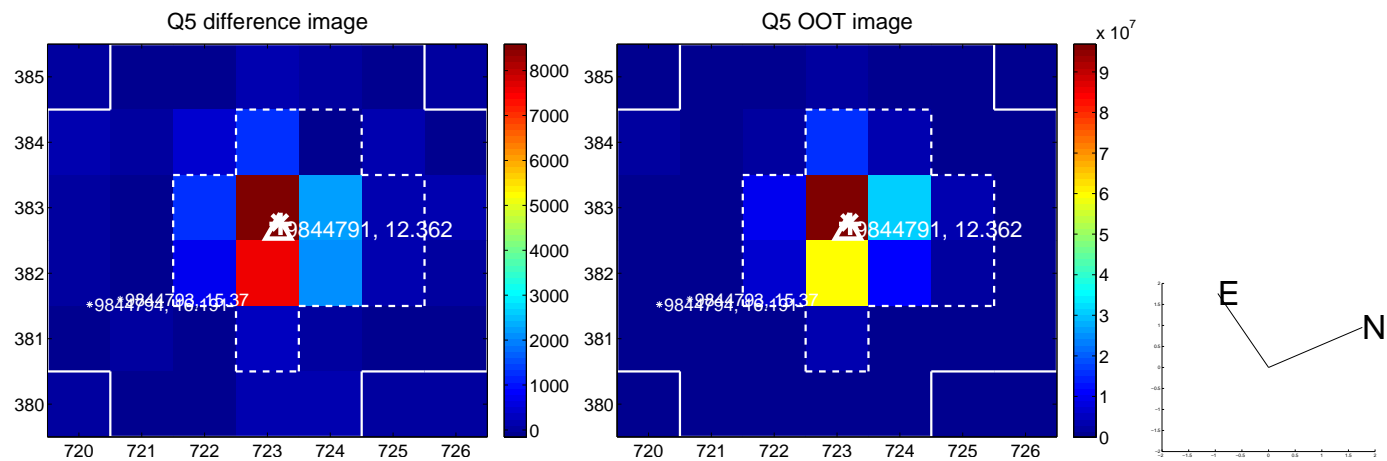


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

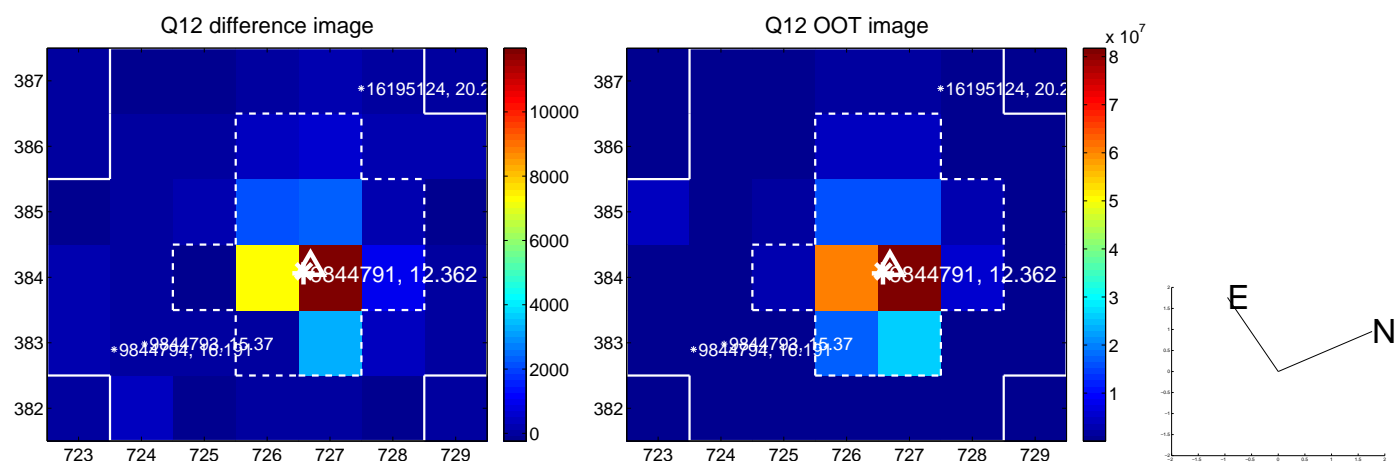
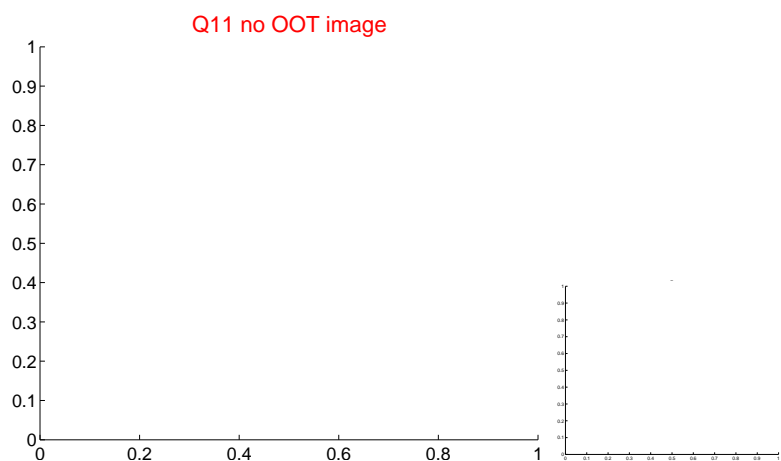
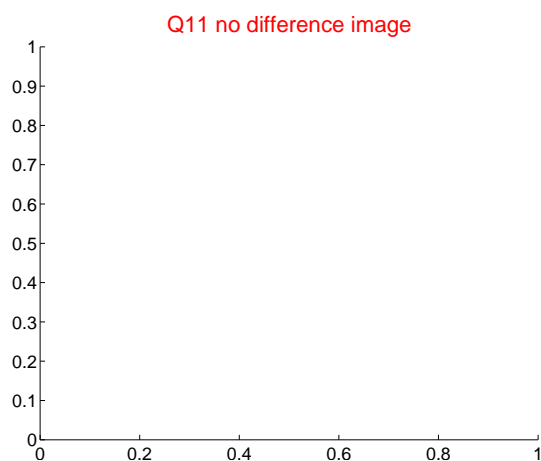
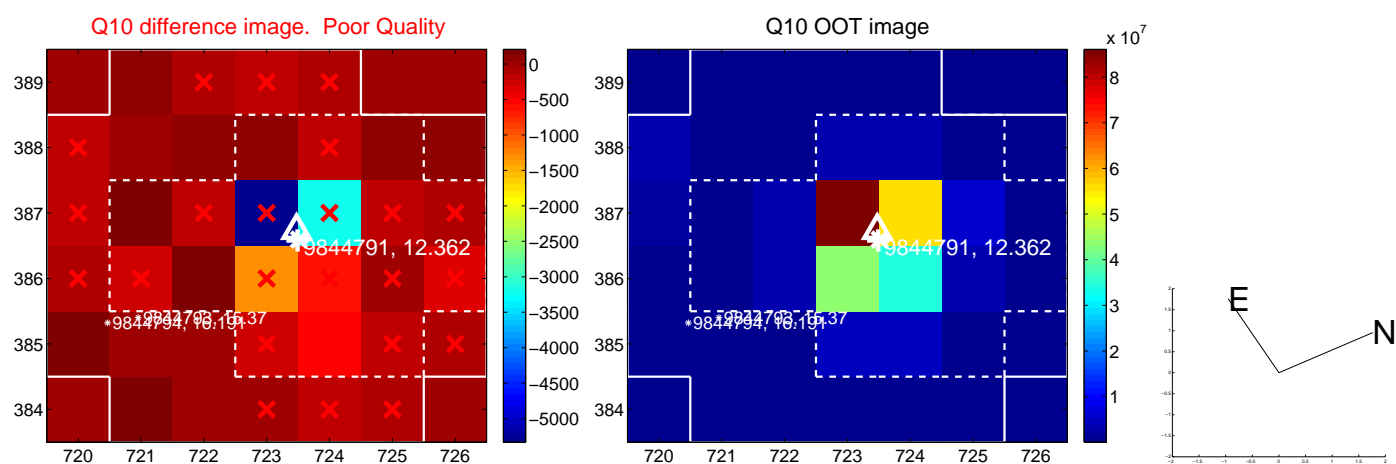
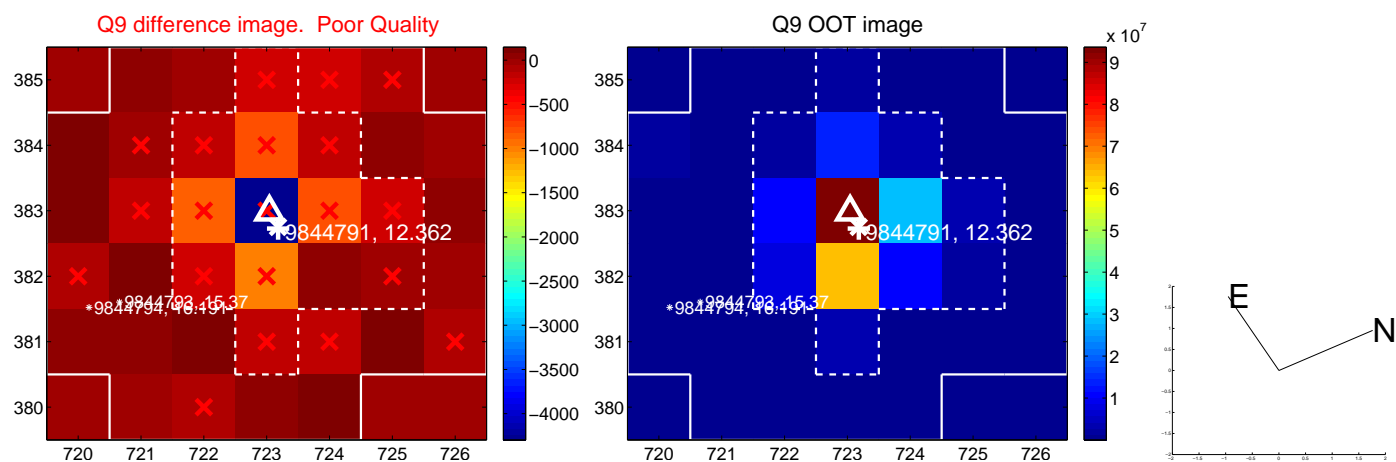
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



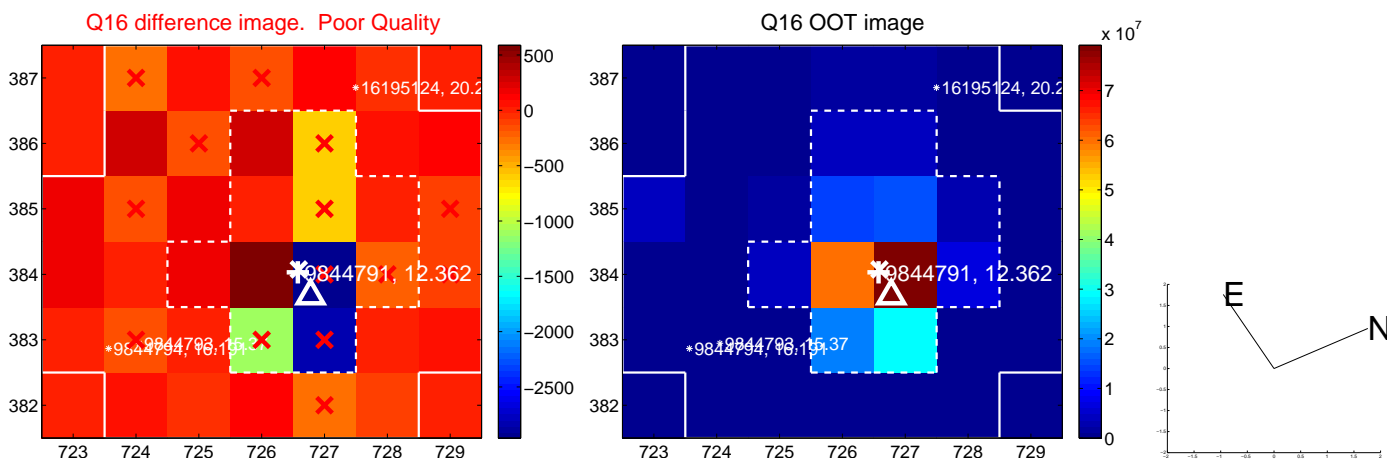
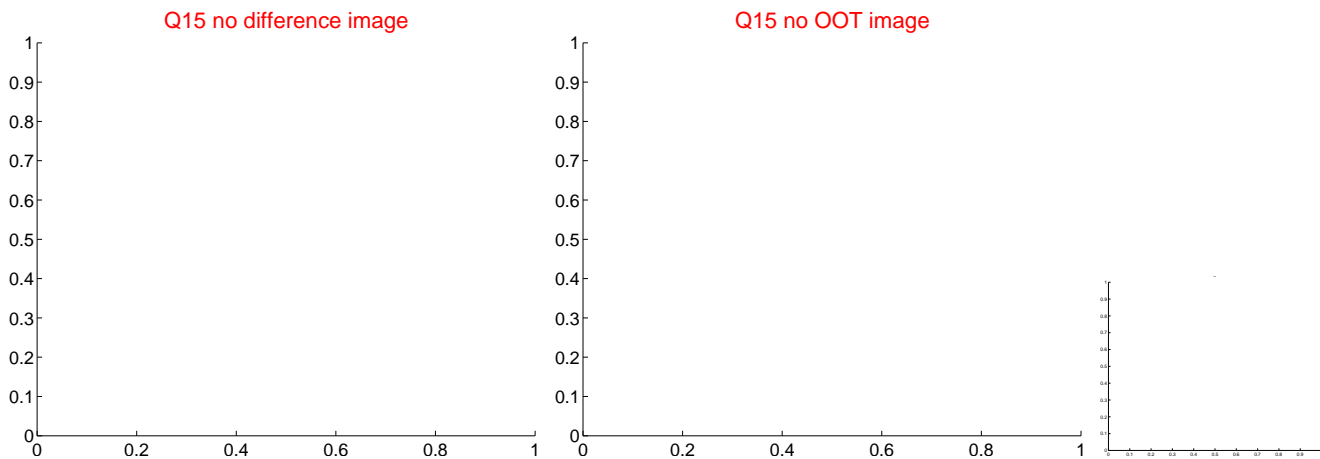
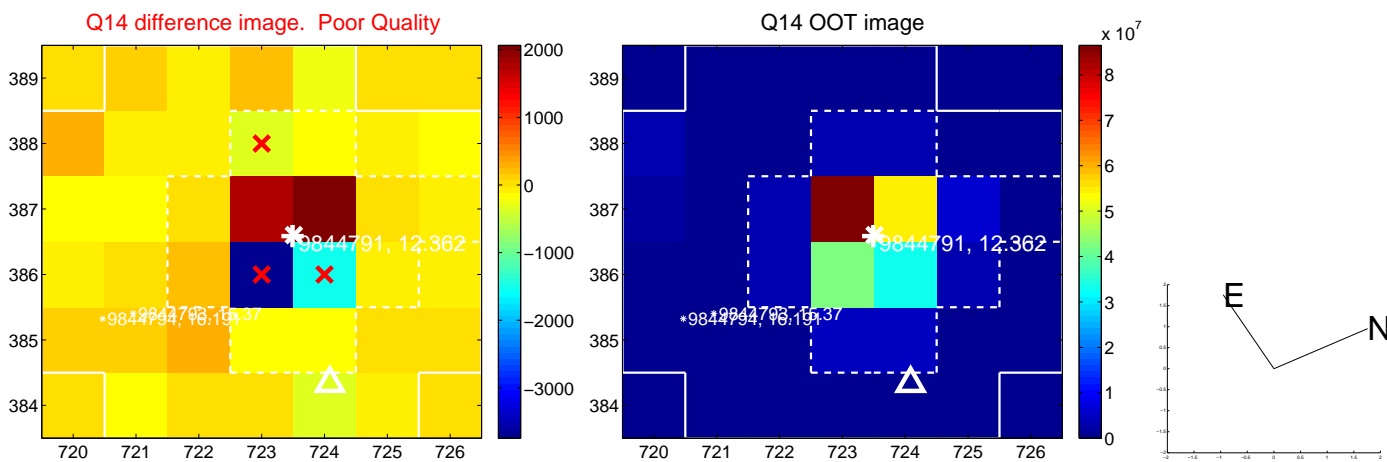
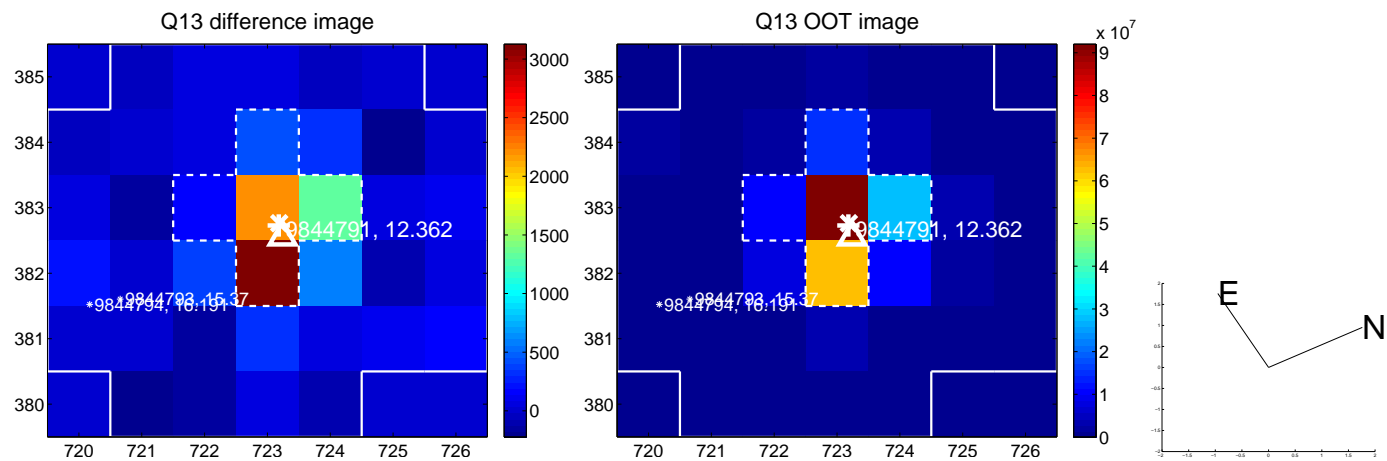
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



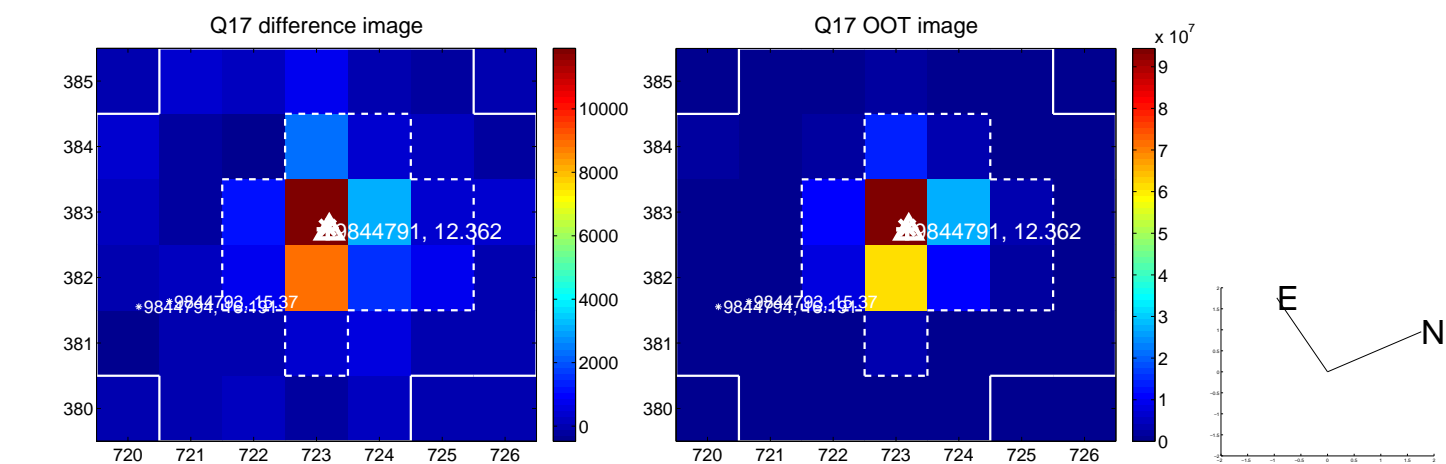
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



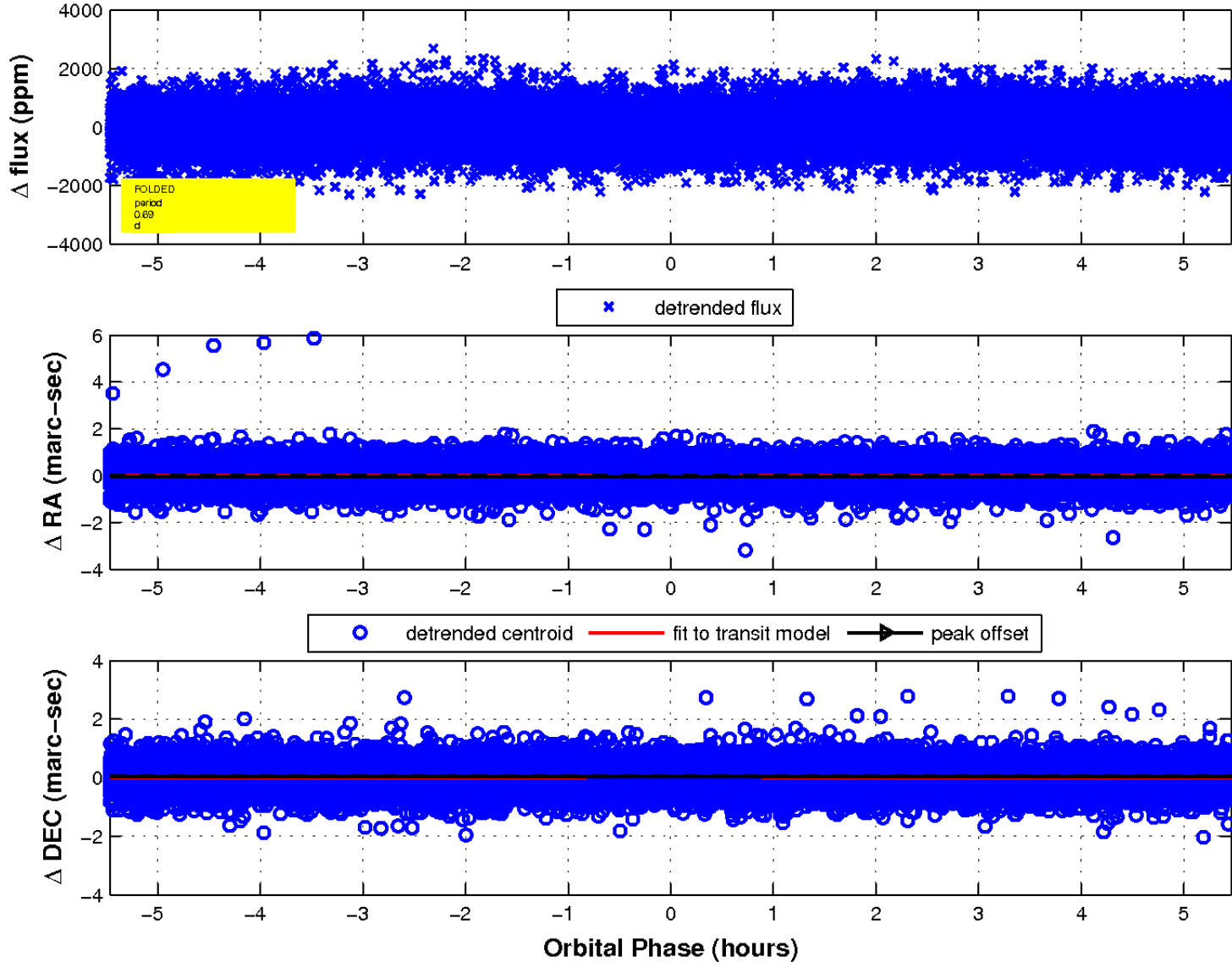
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

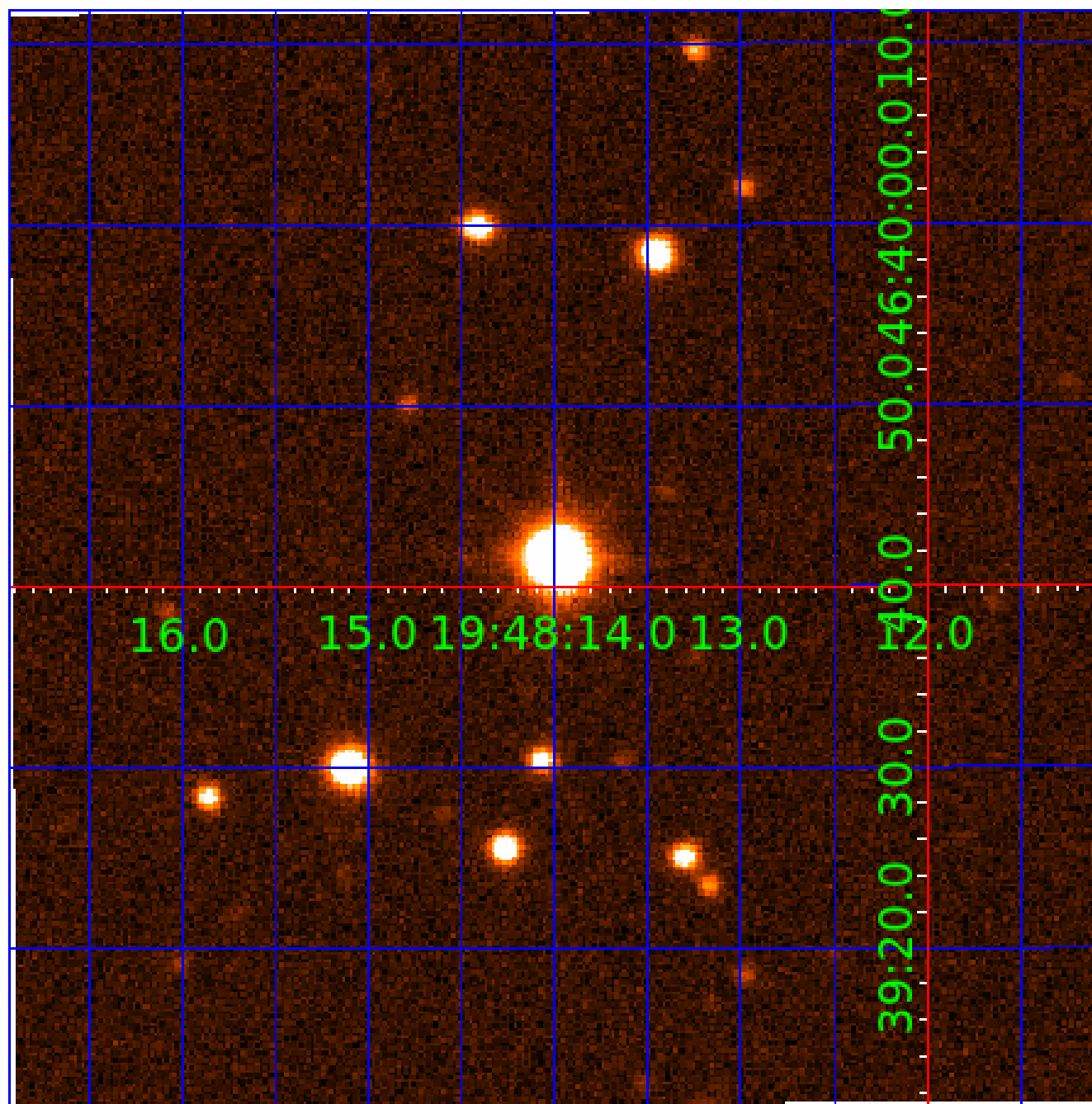


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 009844791

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})
009844791-01	OBS	No	0.685300	132.092035	35.5	1.821	10.1	6.6	1.68	7087	1.17	21934.67
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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009844791-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
009844791-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS

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

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

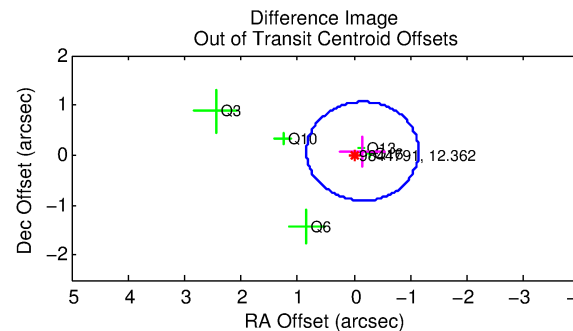
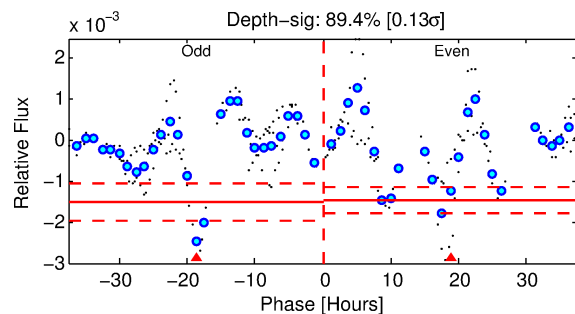
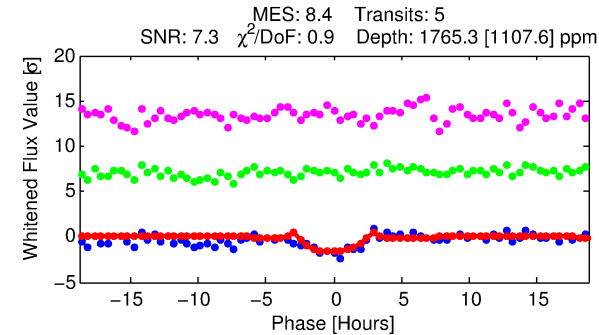
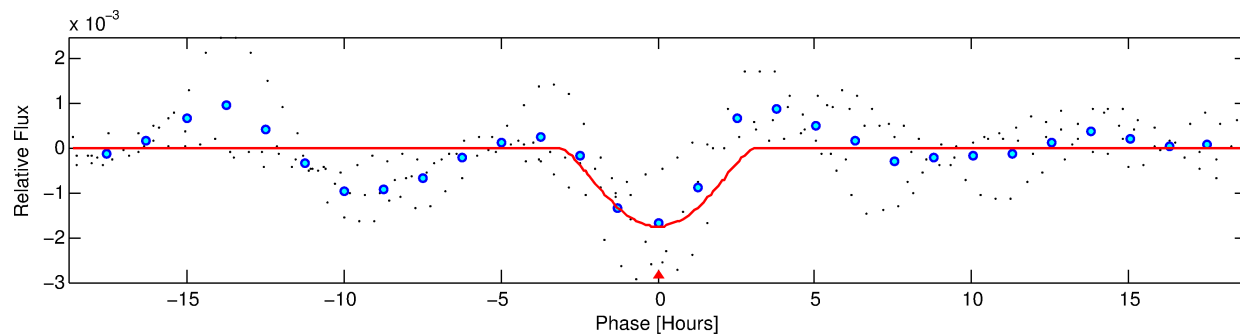
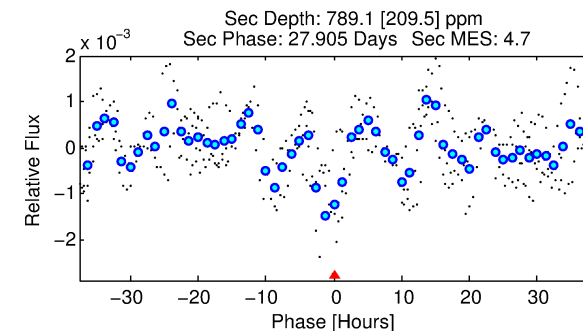
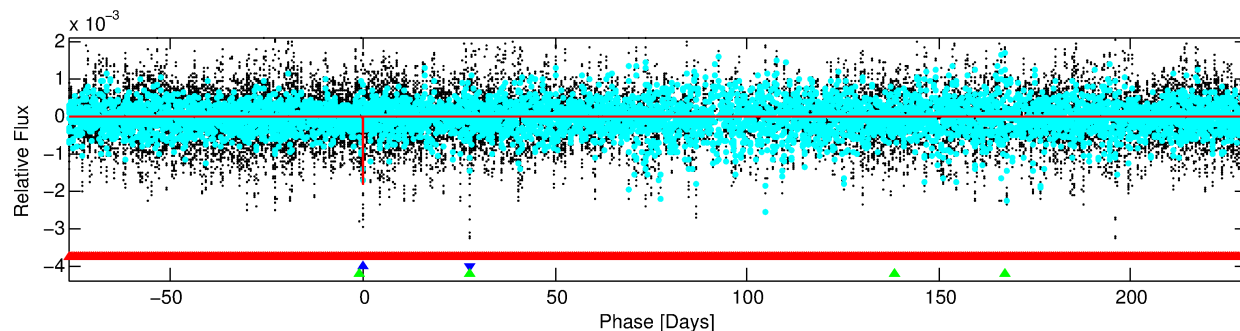
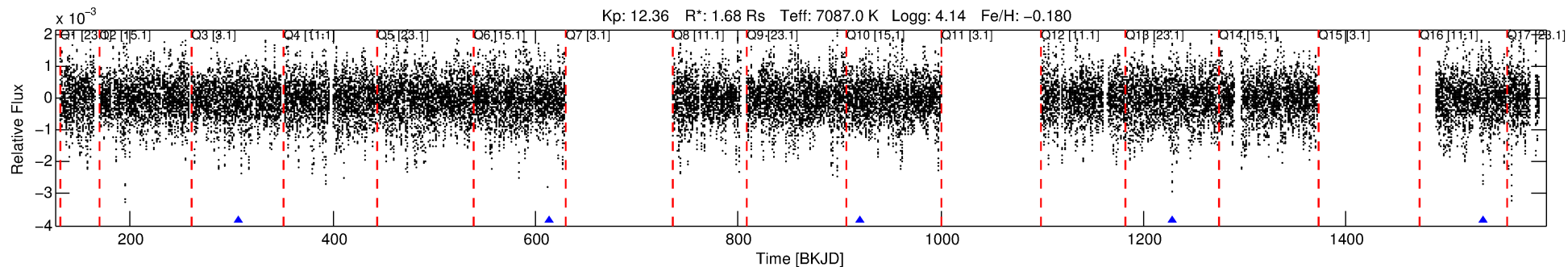
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009844791-02

No Significant Match Found

DV One-Page Summary

KIC: 9844791 Candidate: 2 of 3 Period: 307.306 d



DV Fit Results:

Period = 307.30621 [0.00642] d
Epoch = 306.1698 [0.0156] BKJD
Rp/R* = 0.0707 [0.1096]
a/R* = 143.42 [47.79]
b = 1.00 [0.19]
Seff = 6.39 [2.52]
Teq = 405 [40] K
Rp = 12.98 [20.55] Re
a = 1.0015 [0.2556] AU
Ag = 2582.63 [8096.69] [0.32σ]
Teff = 4469 [3483] K [1.17σ]

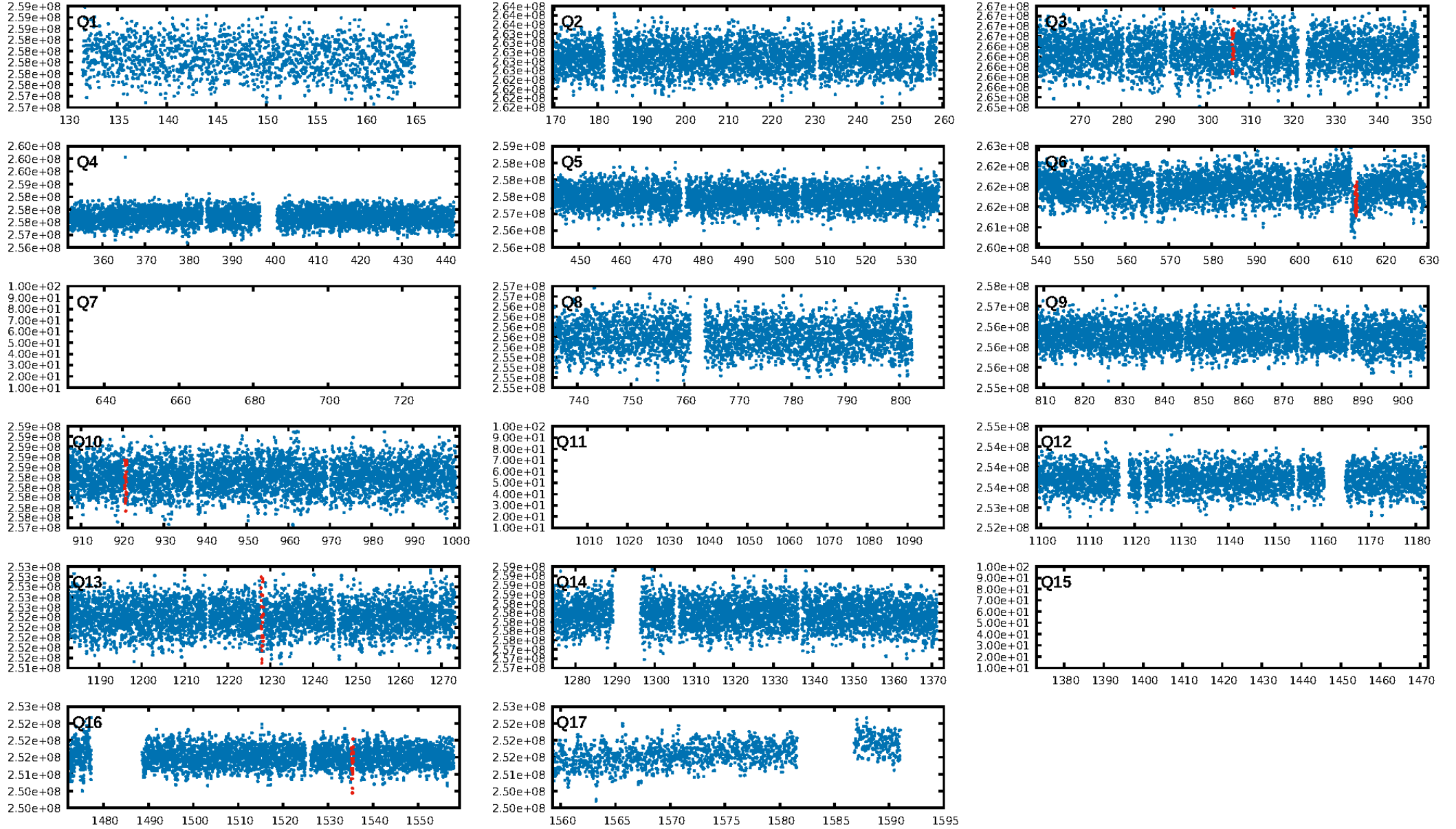
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1128.48σ]
LongPeriod-sig: 100.0% [324.59σ]
ModelChiSquare2-sig: 59.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.19e-11
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 3.777
Centroid-sig: 0.8%
Centroid-so: 0.073 arcsec [0.58σ]
OotOffset-rm: 0.168 arcsec [0.51σ]
KicOffset-rm: 0.248 arcsec [0.59σ]
OotOffset-st: 2/1/1/1 [5]
KicOffset-st: 2/1/1/1 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 0.00 [0/5]

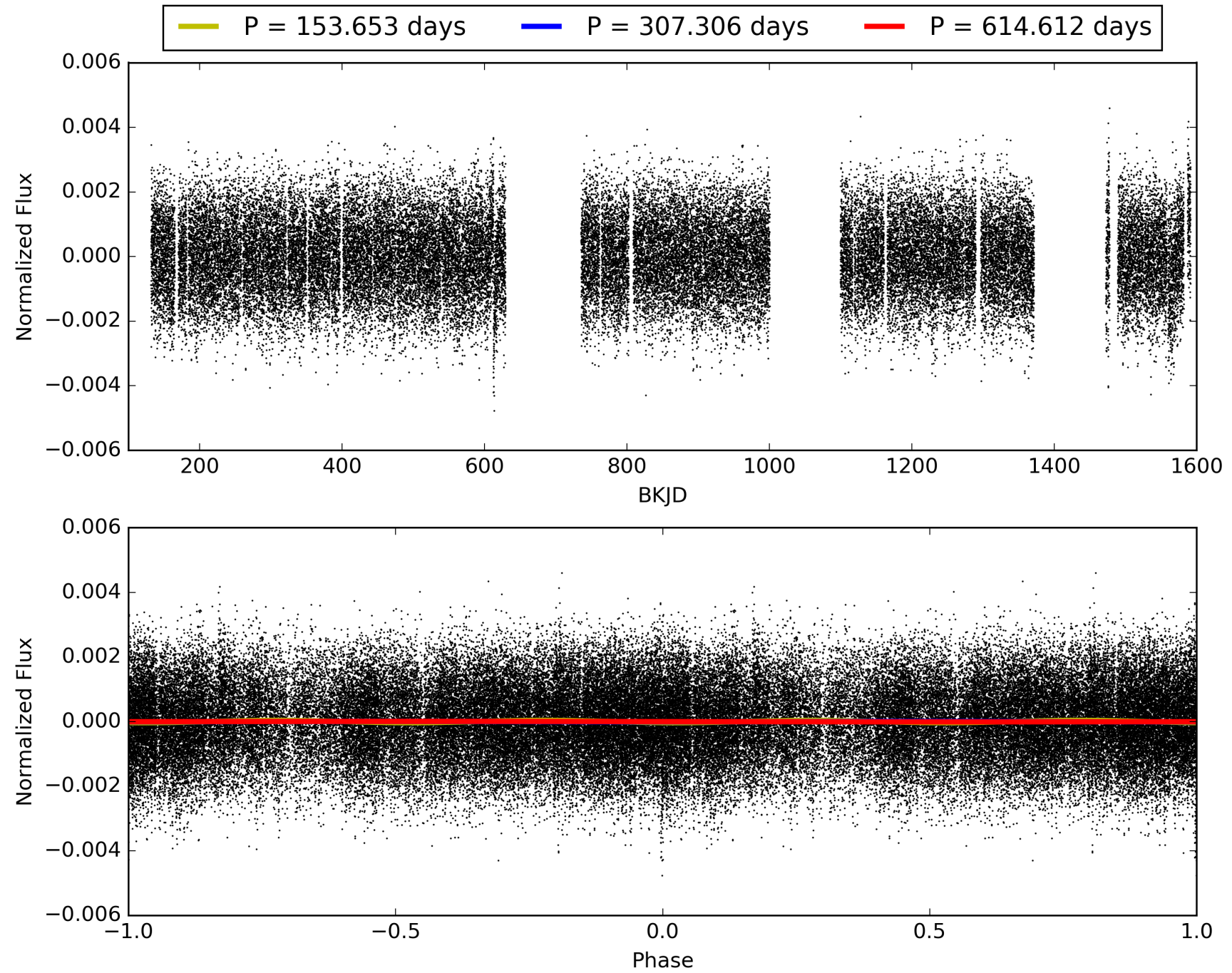
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:03:14 Z

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

TCE 009844791-02, PDC Light Curves

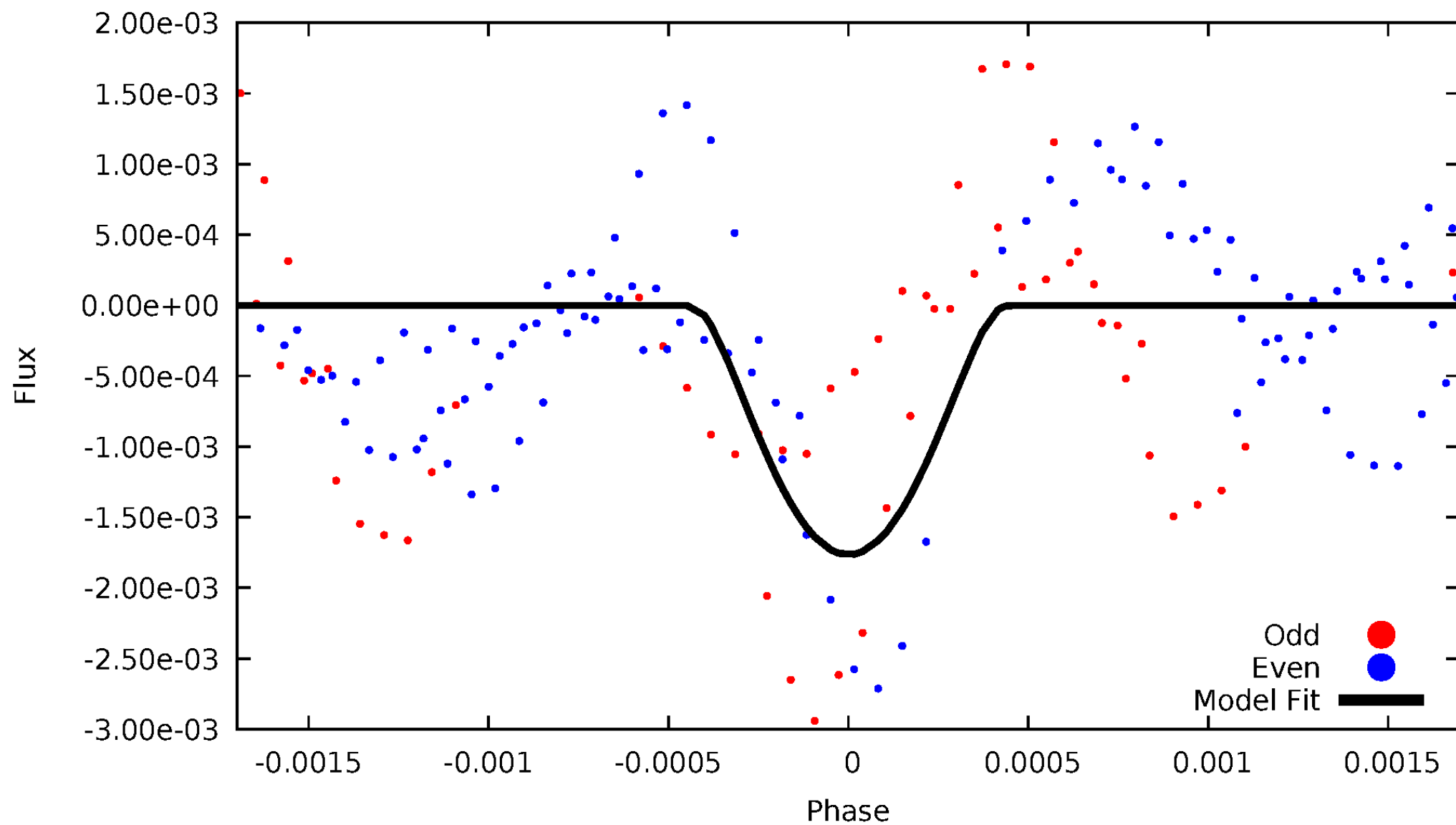


TCE 009844791-02



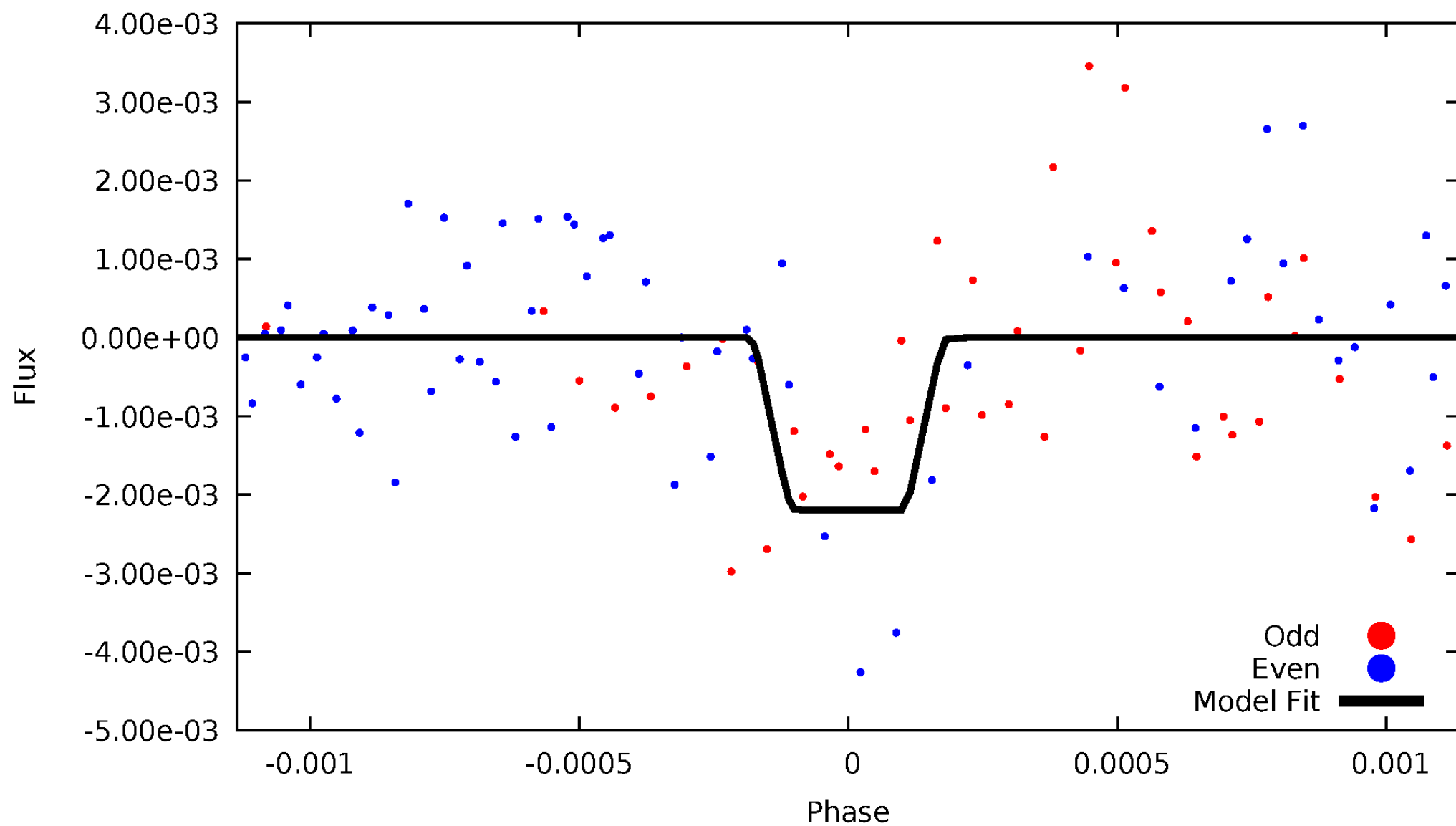
DV Odd/Even

TCE 009844791-02



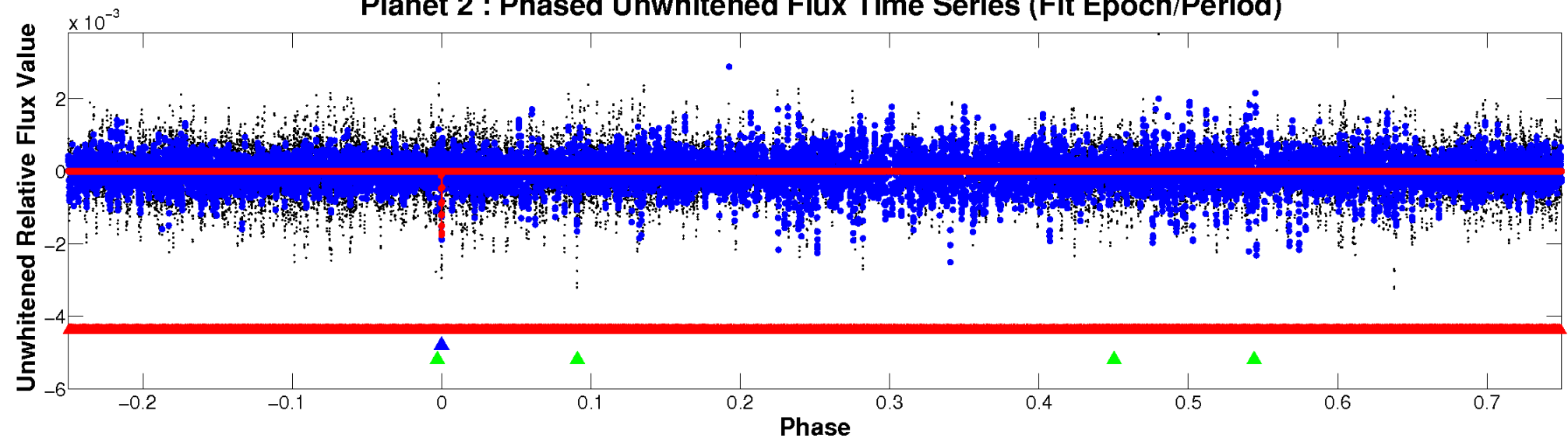
ALT Odd/Even

TCE 009844791-02

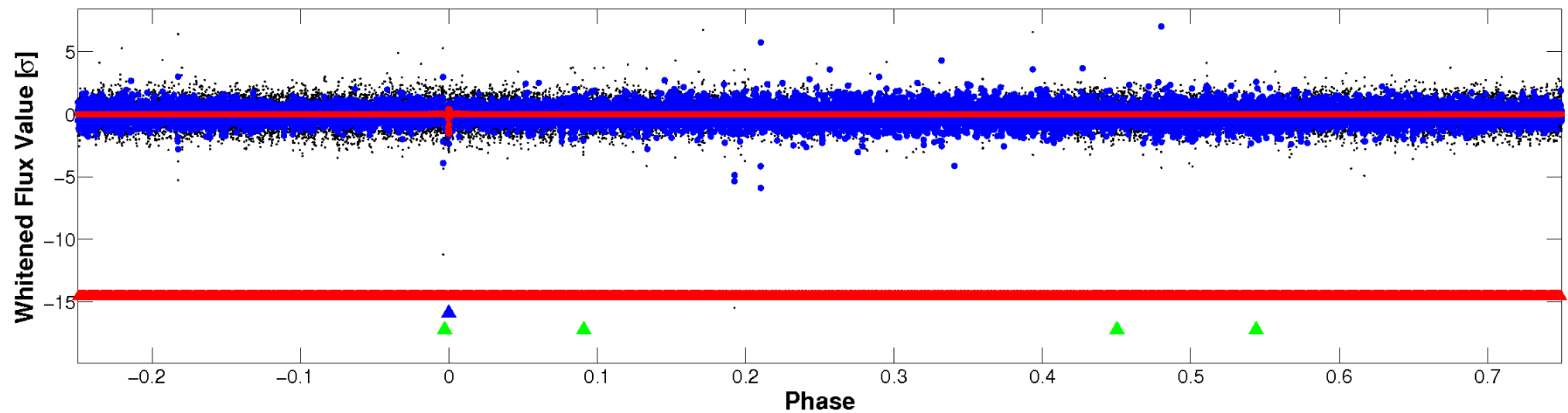


Non-Whitened Vs. Whitened Light Curve

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

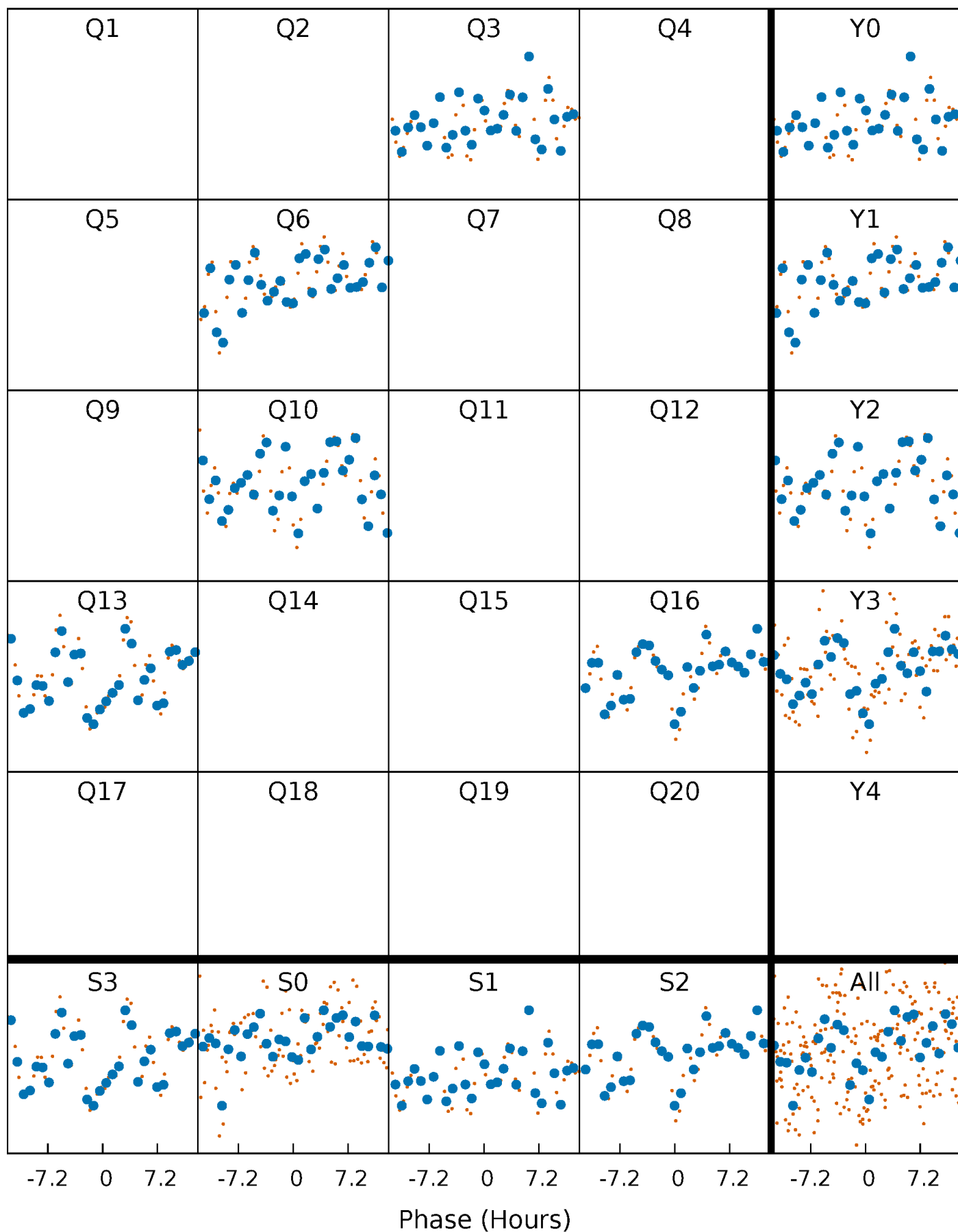


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



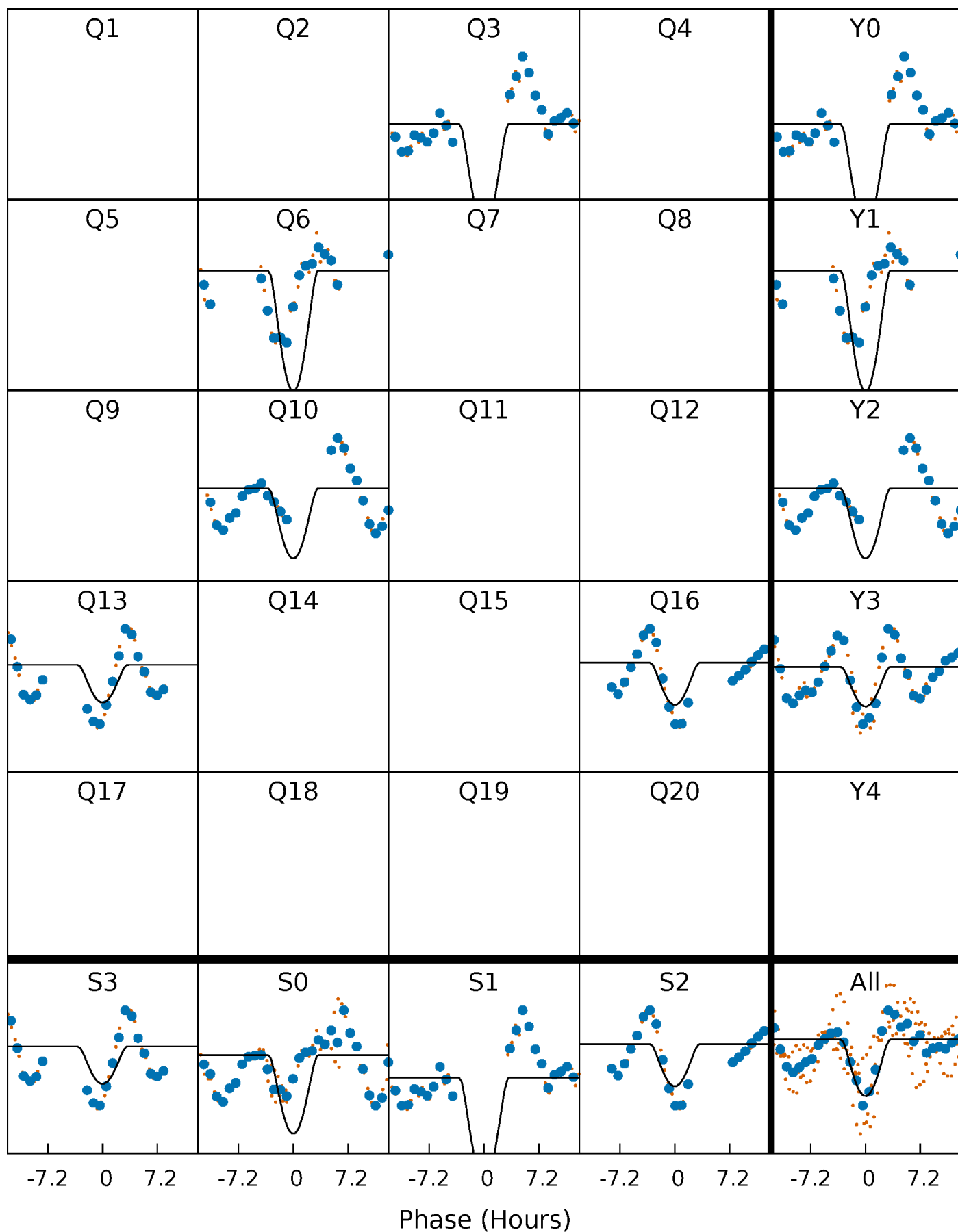
PDC Quarter-Phased Transit Curves

TCE 009844791-02 P=307.306211 Days $T_0=306.169838$ (BKJD)



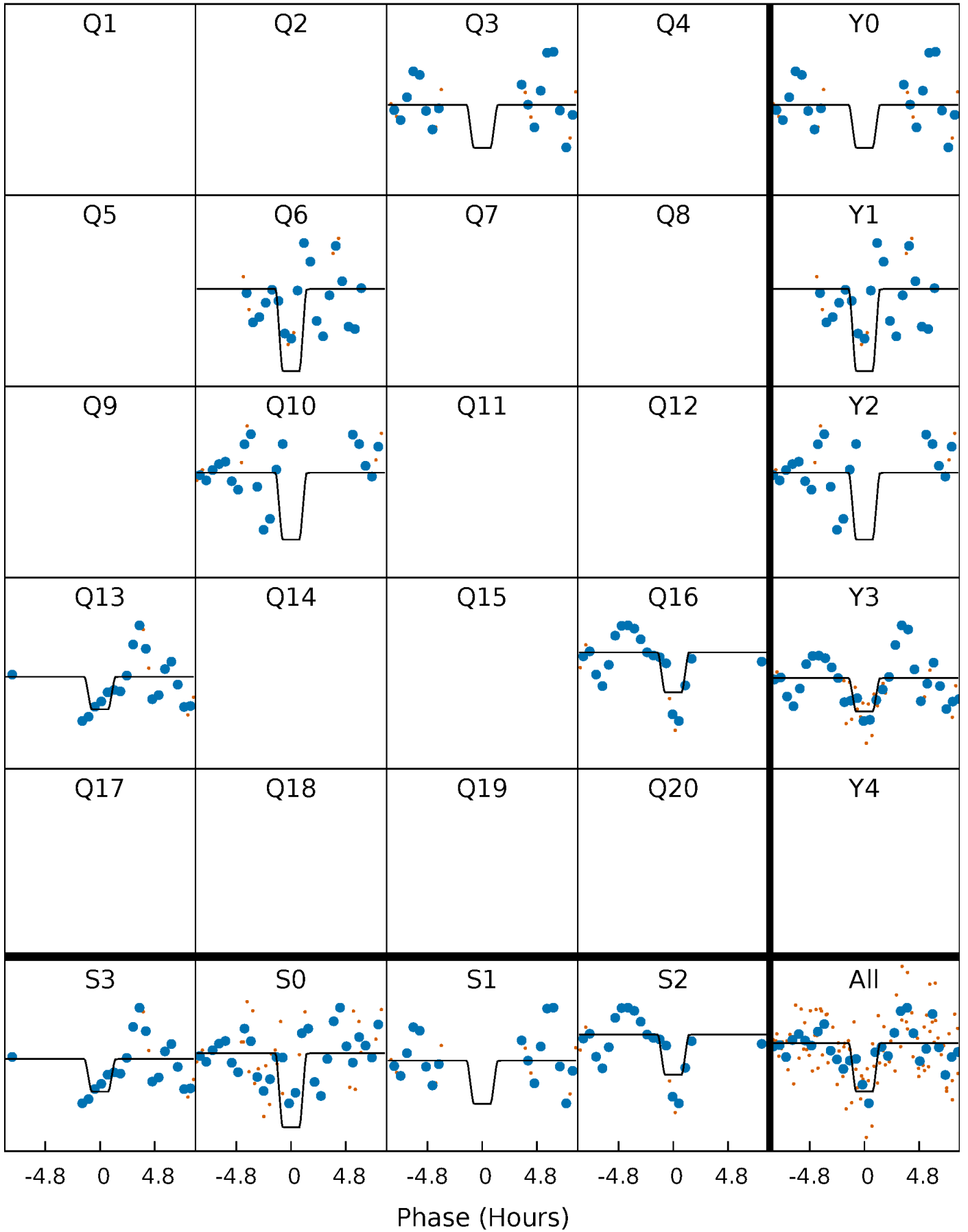
DV Quarter-Phased Transit Curves

TCE 009844791-02 P=307.306211 Days $T_0=306.169838$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

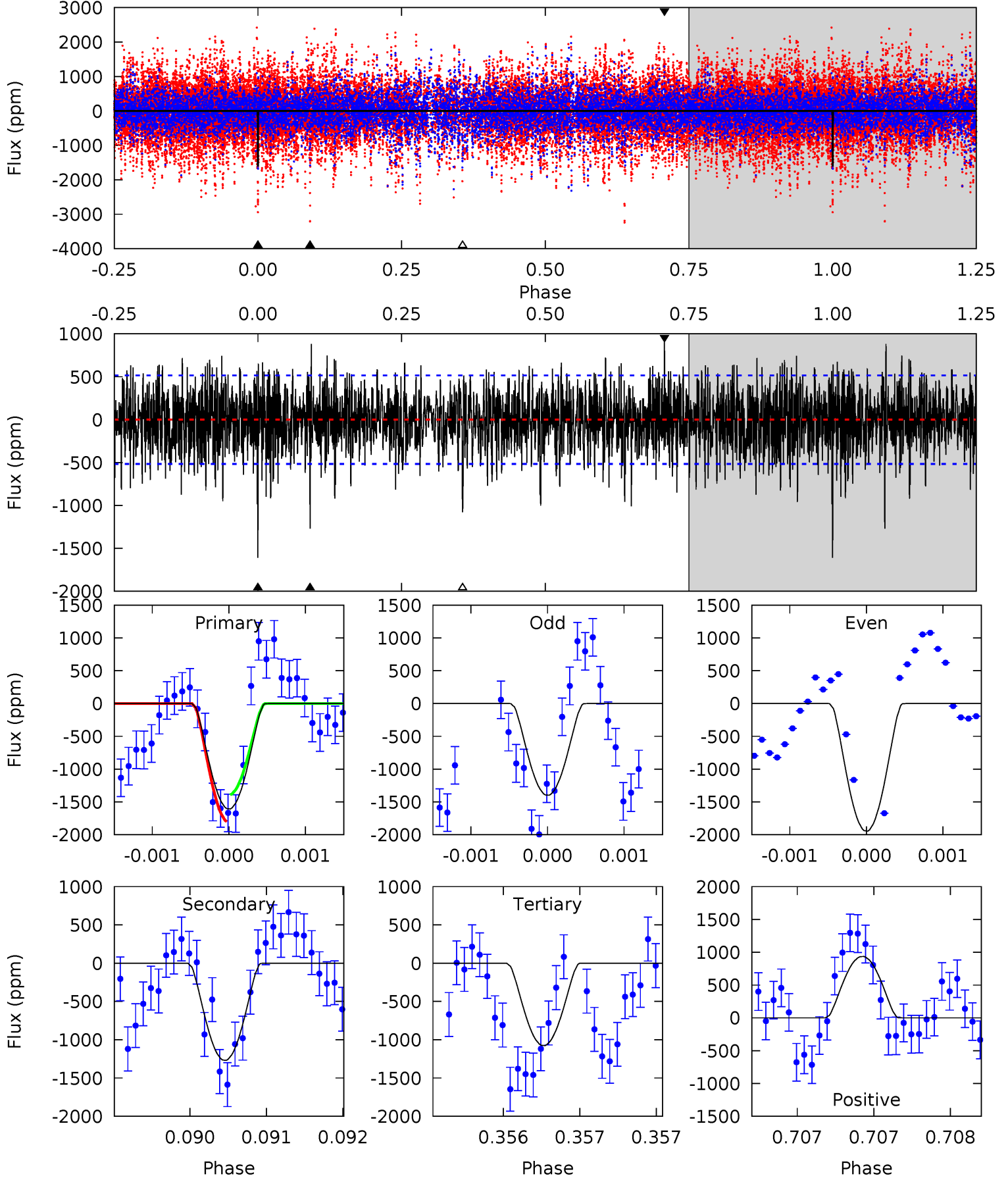
TCE 009844791-02 P=307.307120 Days $T_0=306.164381$ (BKJD)



DV Model-Shift Uniqueness Test

009844791-02, P = 307.306211 Days, E = 306.169838 Days

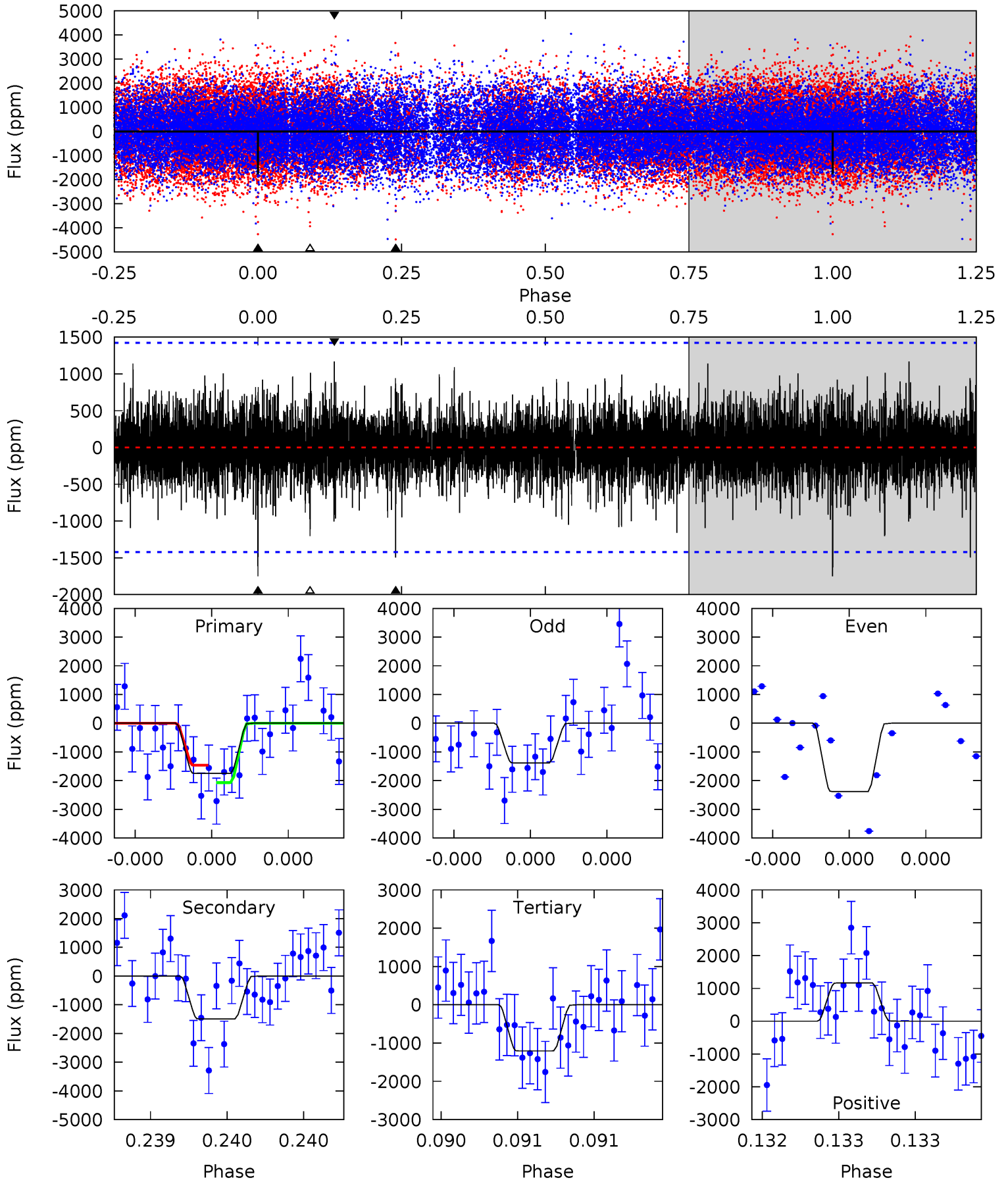
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.0	13.4	11.4	9.91	5.46	3.31	2.88	5.62	7.11	2.04	3.53	2.84	0.94	0.37	2.16



Alt Model-Shift Uniqueness Test

009844791-02, P = 307.307120 Days, E = 306.164381 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.90	5.89	4.75	4.60	5.61	3.54	1.16	2.15	2.30	1.14	1.29	1.96	1.03	0.40	1.19



Stellar Parameters For KIC 009844791

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7087^{+175}_{-275}	$4.137^{+0.158}_{-0.193}$	$-0.180^{+0.250}_{-0.350}$	$1.684^{+0.525}_{-0.394}$	$1.418^{+0.218}_{-0.239}$	$0.419^{+0.334}_{-0.213}$
	+2%/-4%	+4%/-5%	+139%/-194%	+31%/-23%	+15%/-17%	+80%/-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 009844791-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1270 ± 94	$19.28^{+17.09}_{-12.99}$	569^{+44}_{-41}	4354^{+2715}_{-902}	1881^{+15156}_{-1362}
Alt.	-1494 ± 253	$16.75^{+17.22}_{-11.92}$	567^{+45}_{-40}	4745^{+3894}_{-1095}	2943^{+30227}_{-2241}

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 $A_{obs} \gg 1.0$

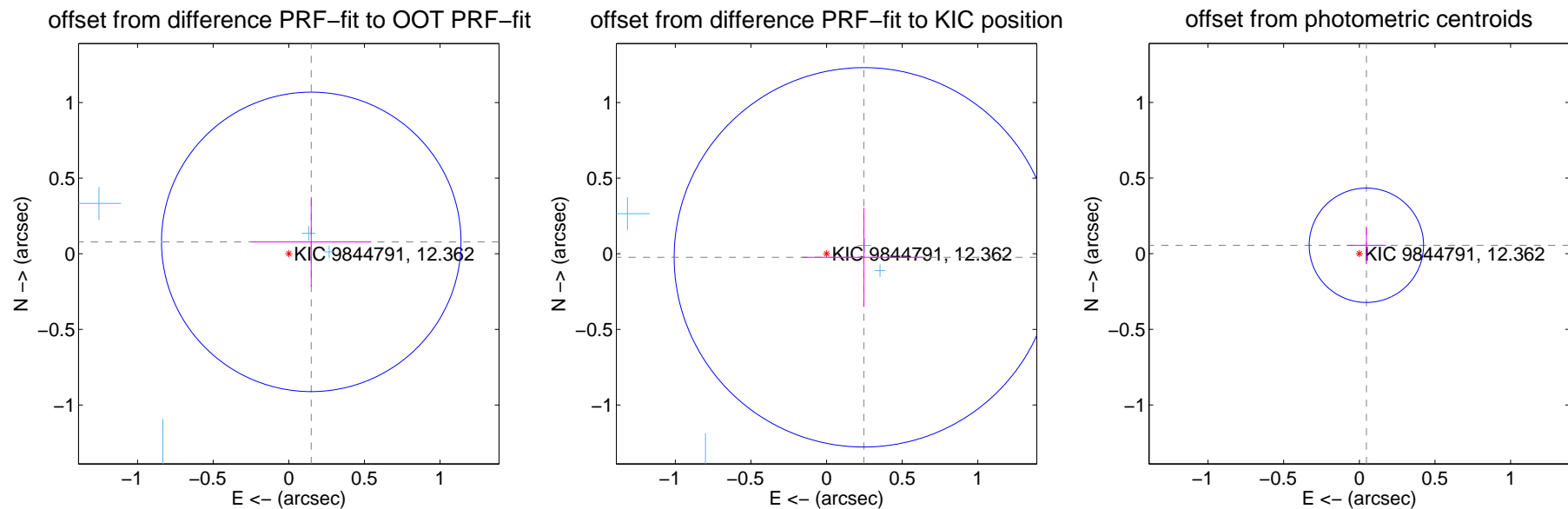
DV Centroid Data

Supplemental centroid analysis for 009844791-02. Kepler magnitude: 12.36. Transit SNR 7.34

There are 4 quarters with good PRF difference image offsets

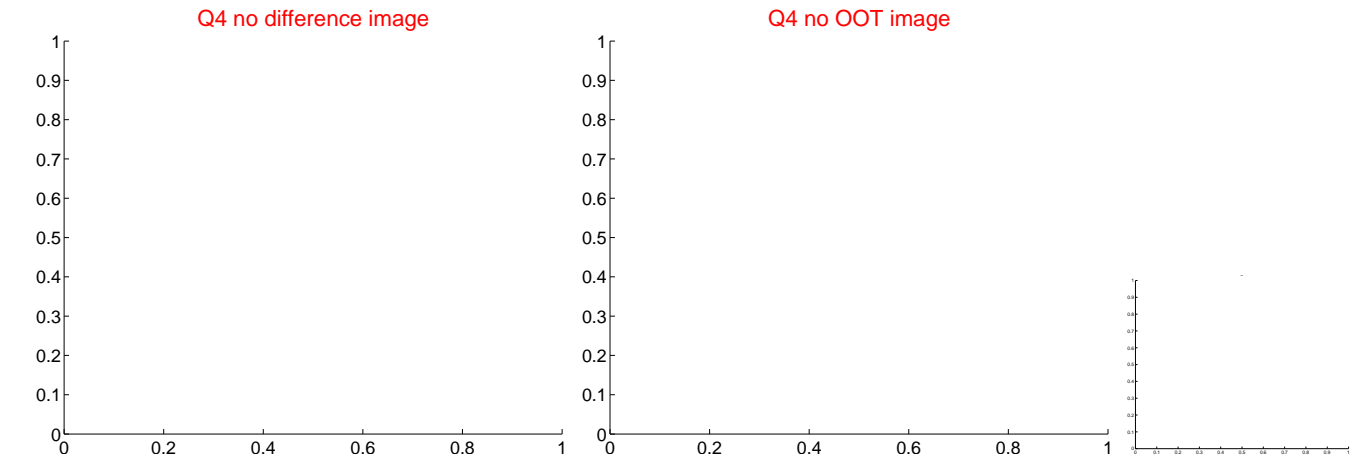
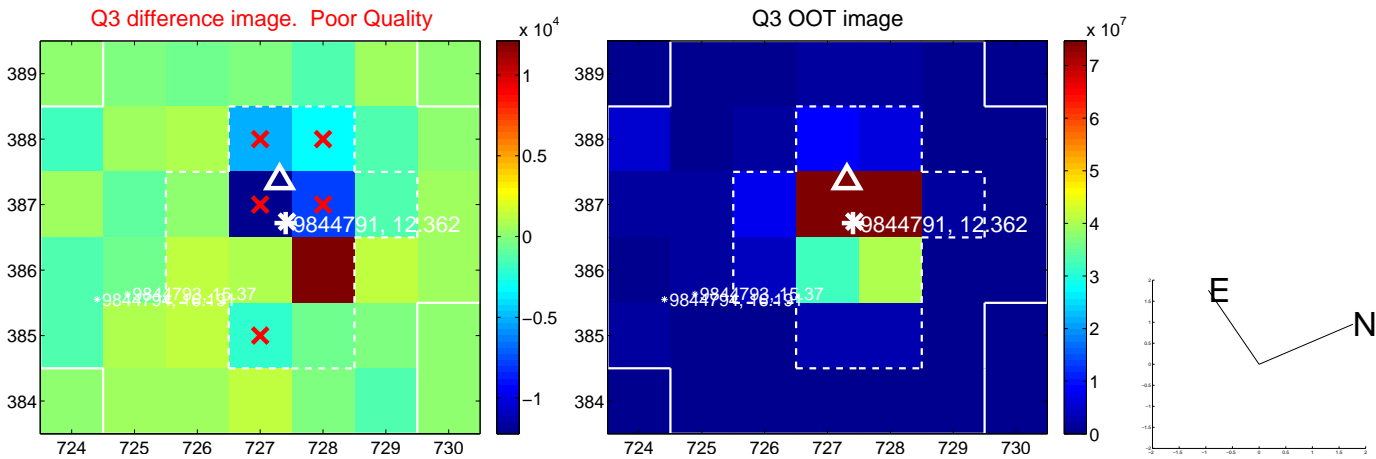
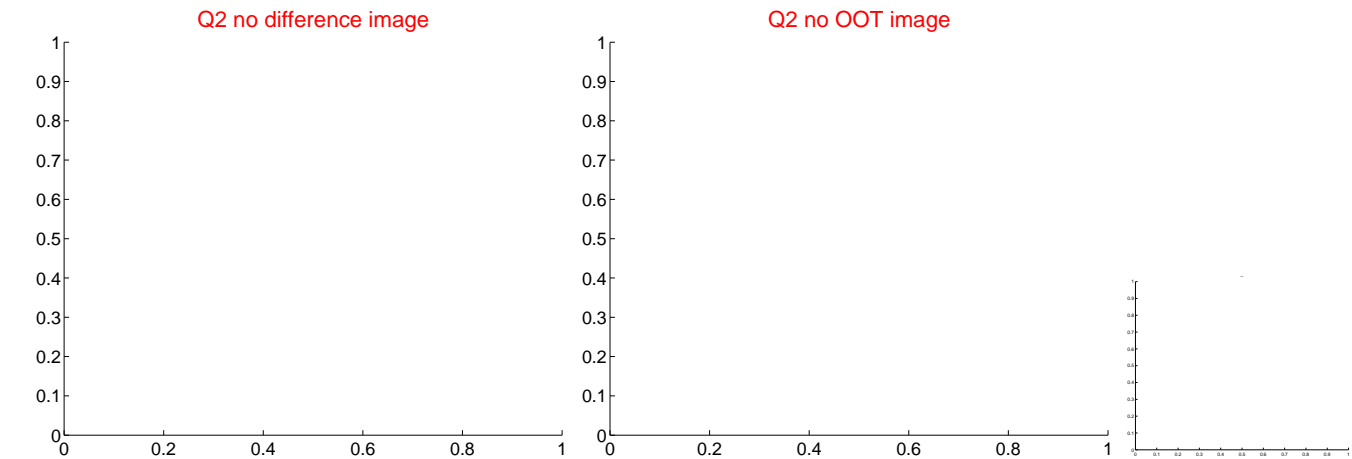
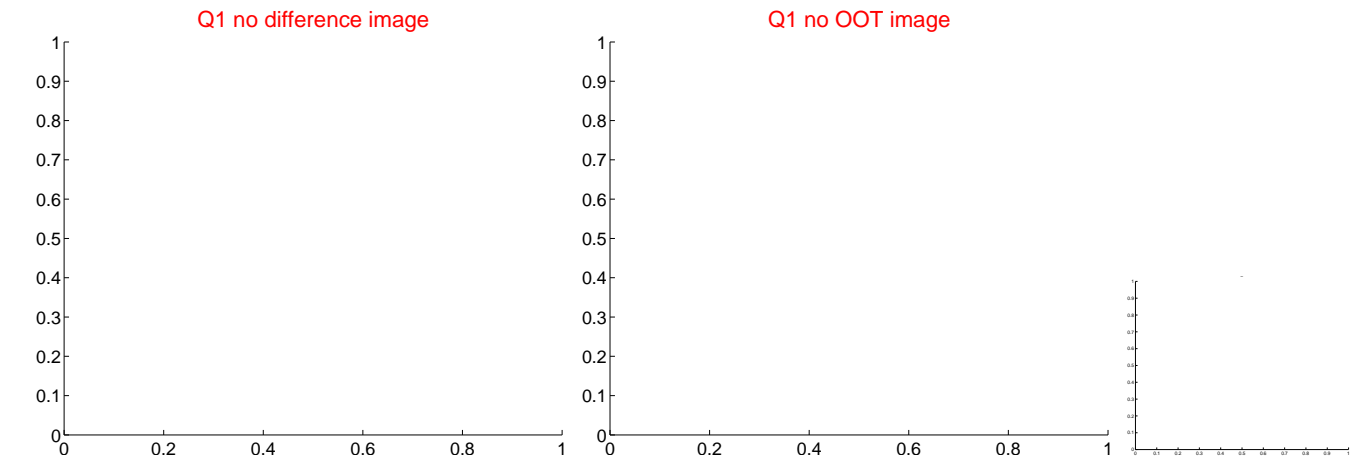
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.168 ± 0.330	0.51	-0.148 ± 0.397	0.079 ± 0.296
PRF-fit source offset from KIC position	0.248 ± 0.418	0.59	-0.247 ± 0.408	-0.023 ± 0.328
photometric centroid source offset	0.07 ± 0.13	0.58	-0.05 ± 0.13	0.06 ± 0.12

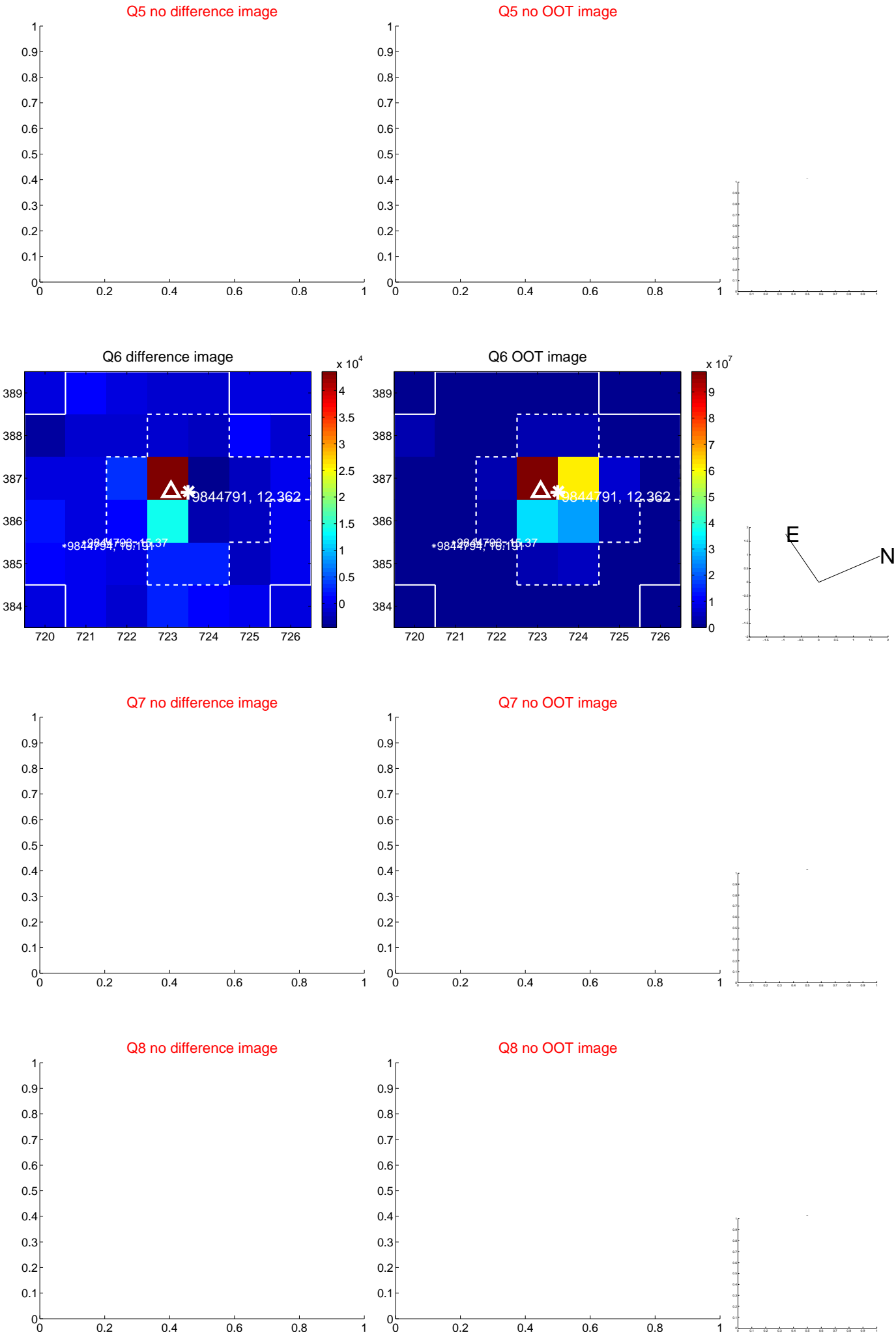


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

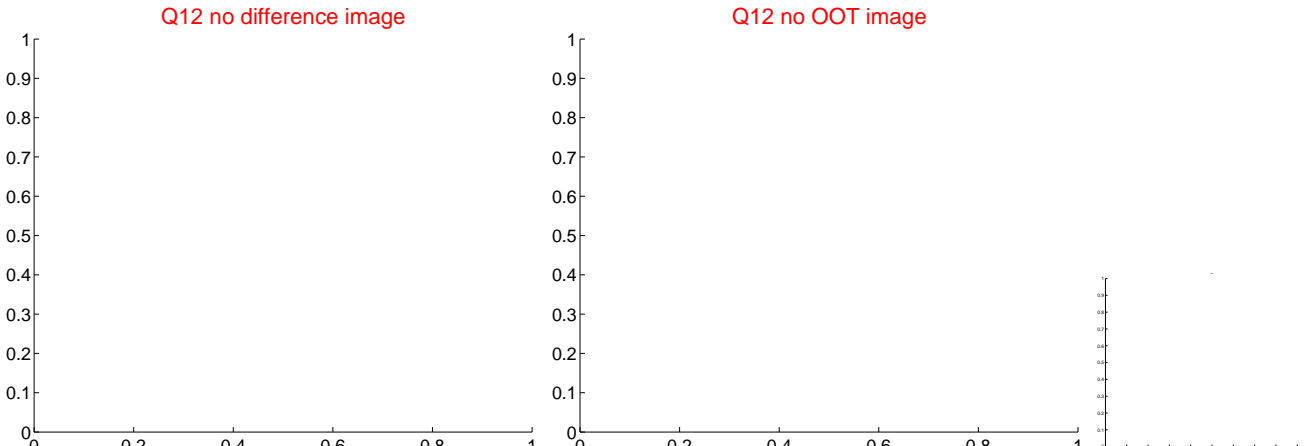
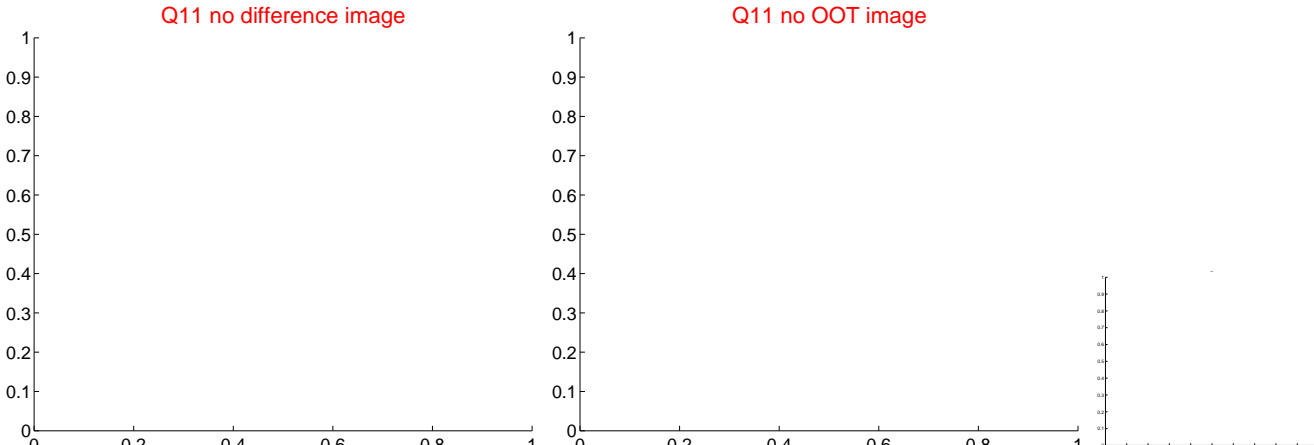
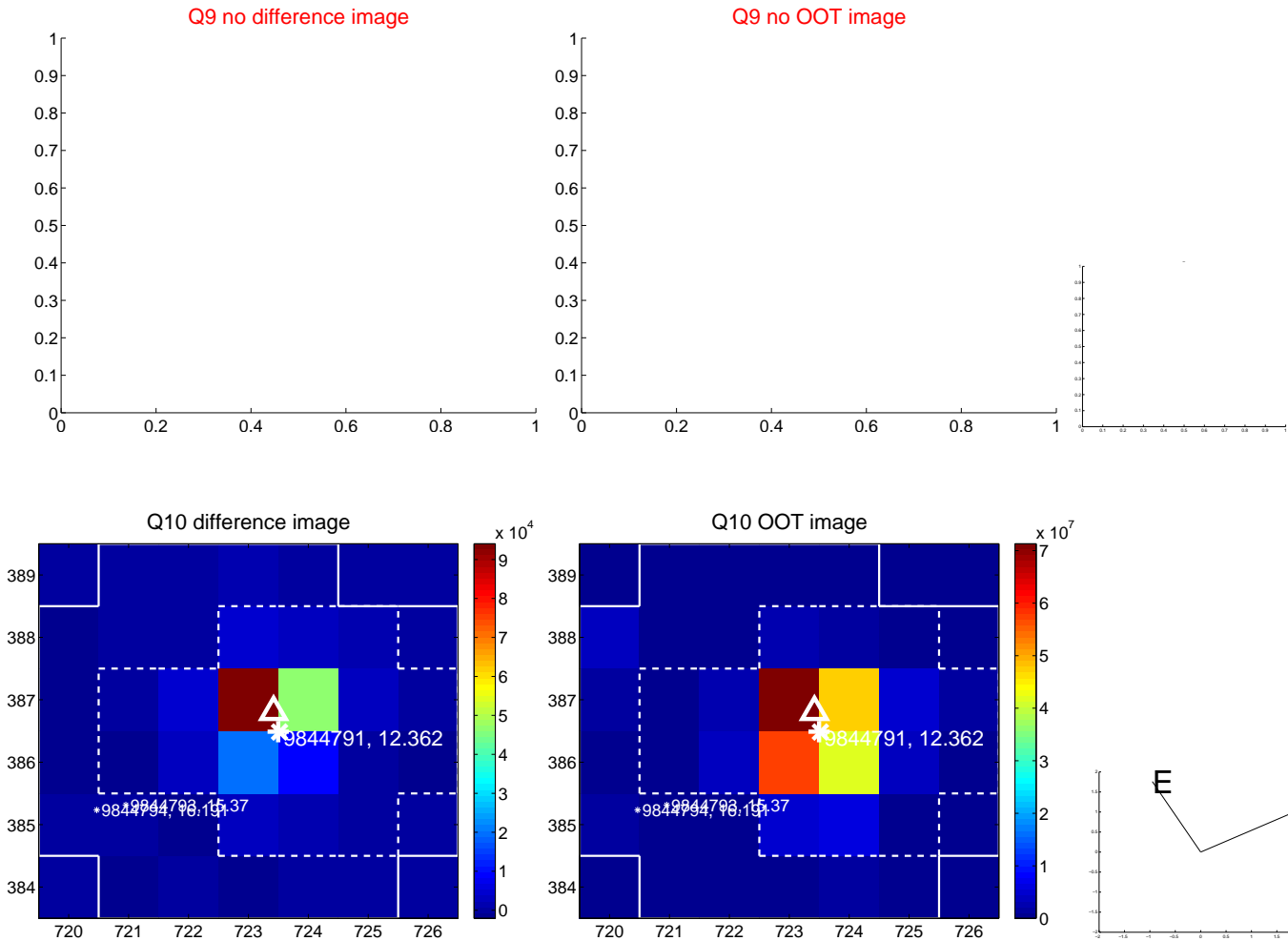
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



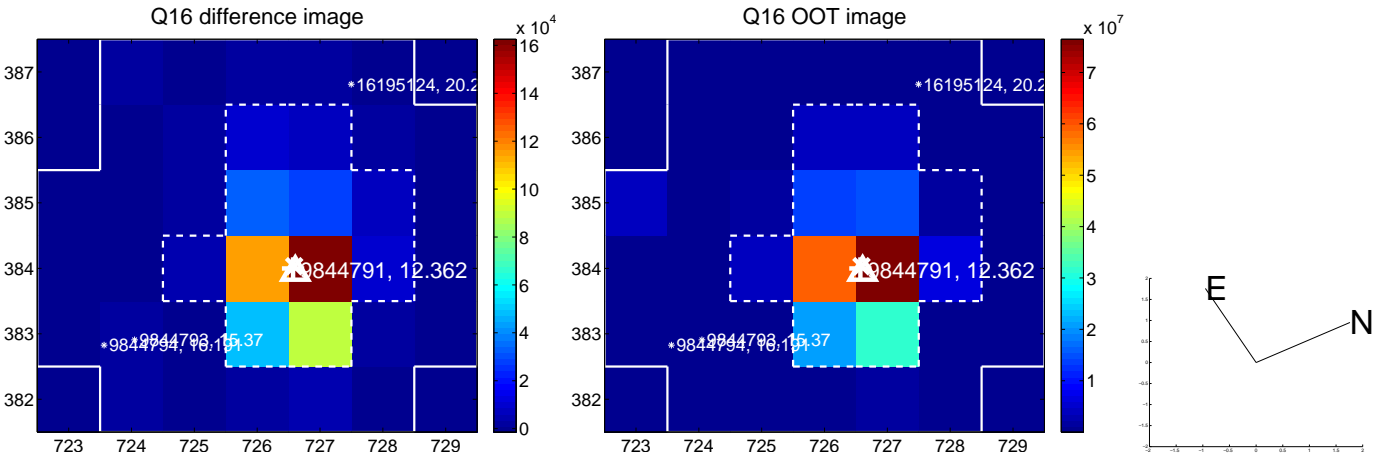
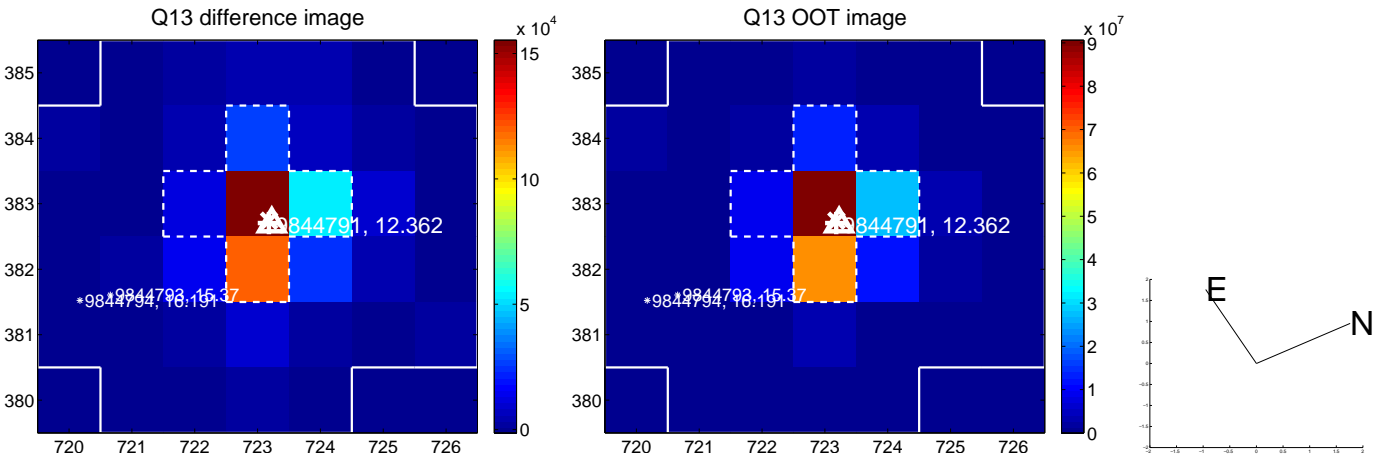
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



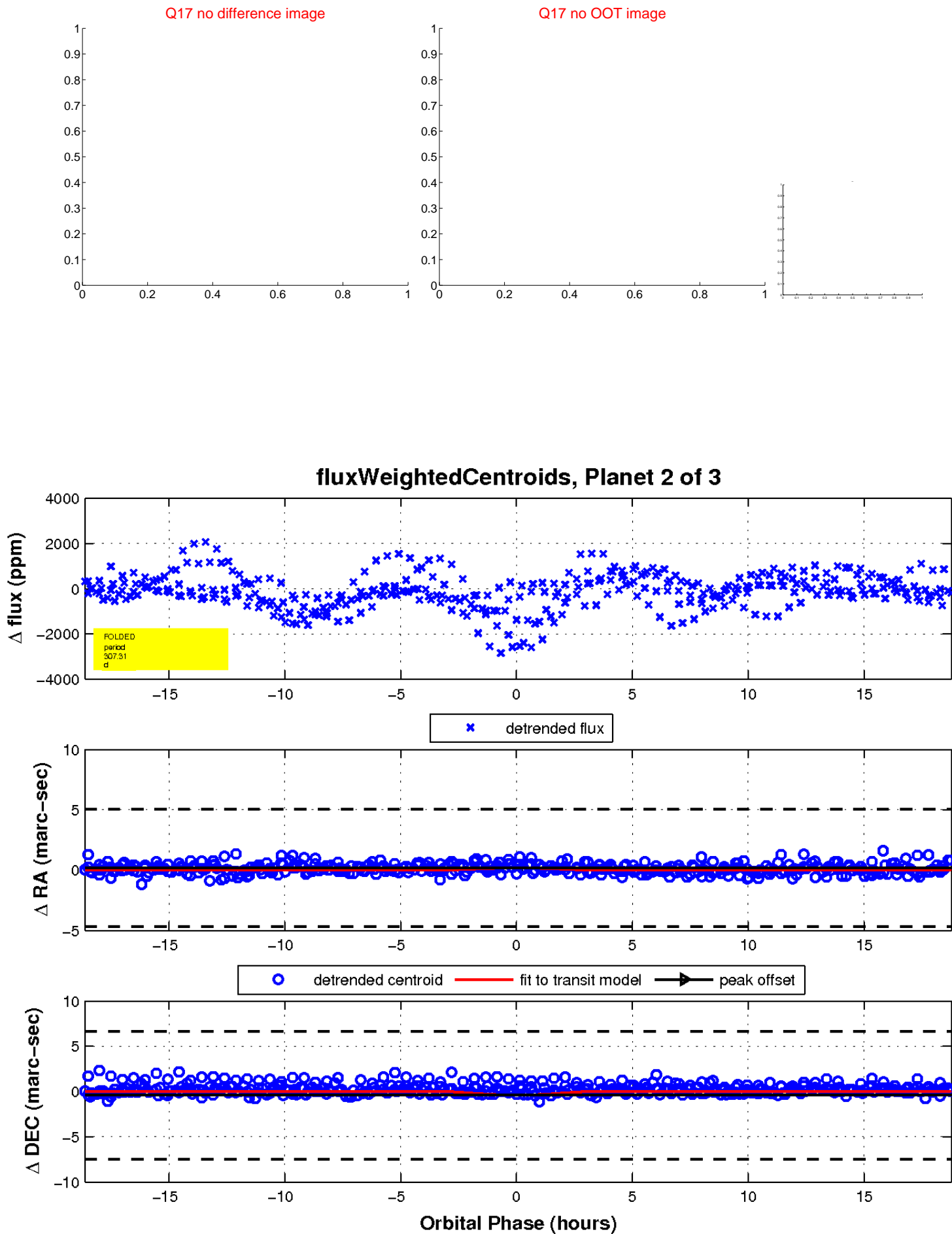
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

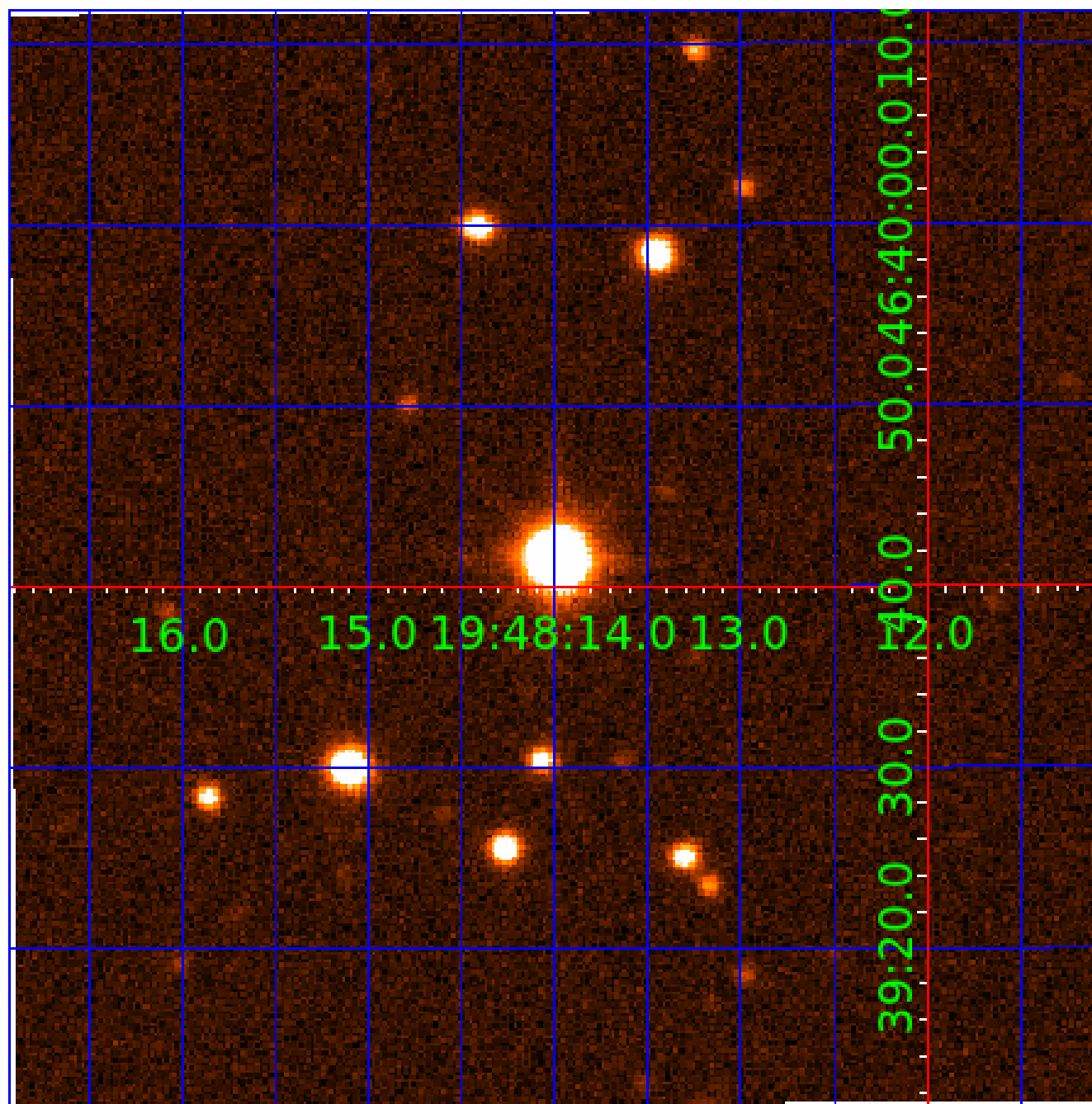


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009844791

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})
009844791-01	OBS	No	0.685300	132.092035	35.5	1.821	10.1	6.6	1.68	7087	1.17	21934.67
009844791-02	OBS	No	307.306211	306.169838	1765.3	6.262	8.4	7.3	1.68	7087	12.98	6.39
009844791-03	OBS	No	475.367742	137.247176	1138.3	10.733	8.0	6.4	1.68	7087	6.57	3.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009844791-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
009844791-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
009844791-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS

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

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

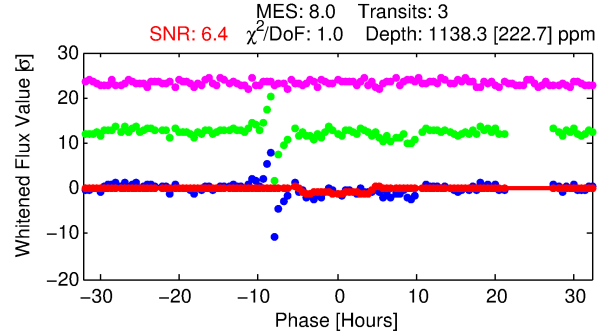
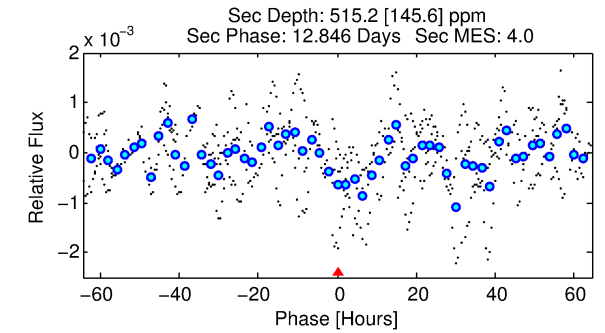
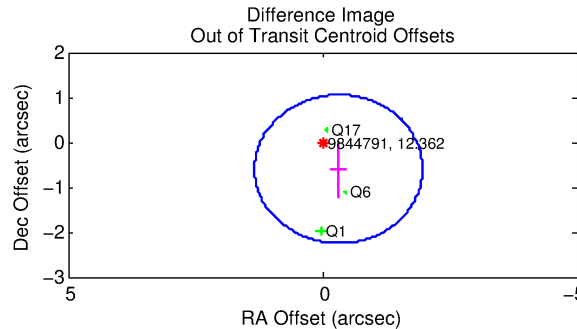
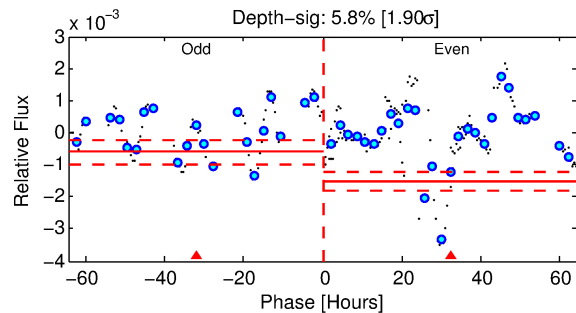
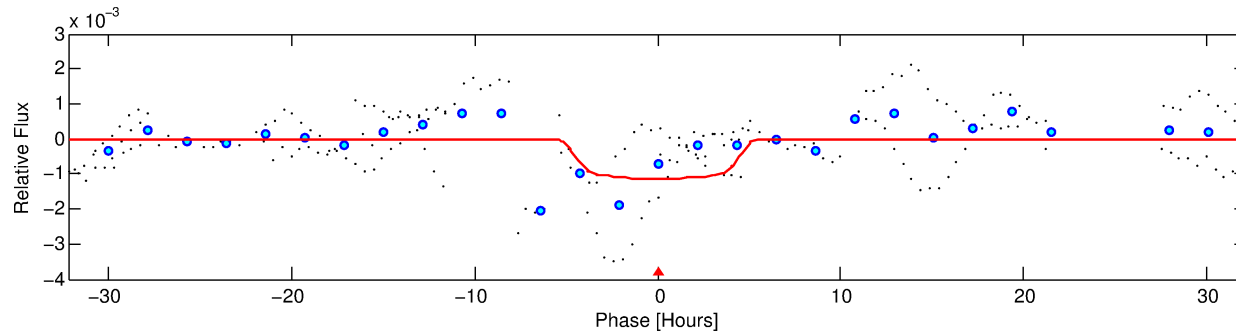
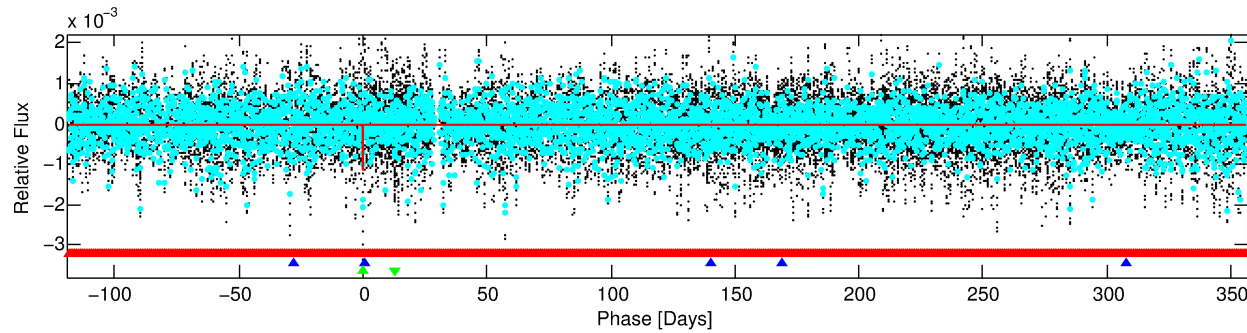
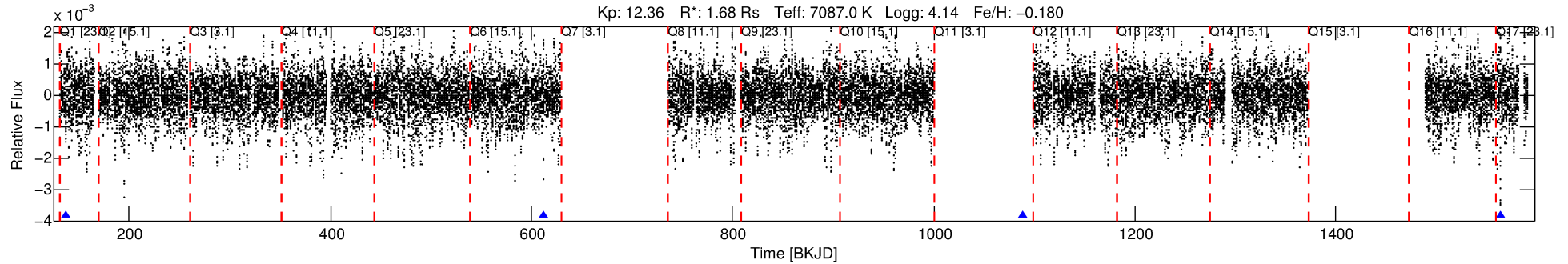
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009844791-03

No Significant Match Found

DV One-Page Summary

KIC: 9844791 Candidate: 3 of 3 Period: 475.368 d



DV Fit Results:

Period = 475.36774 [0.00823] d
Epoch = 137.2472 [0.0149] BKJD
Rp/R* = 0.0358 [0.0038]
a/R* = 176.52 [34.15]
b = 0.89 [0.04]
Seff = 3.57 [1.41]
Teq = 351 [35] K
Rp = 6.57 [2.16] Re
a = 1.3395 [0.3419] AU
Ag = 11766.08 [5948.33] [1.98 σ]
Teffp = 5645 [544] K [9.71 σ]

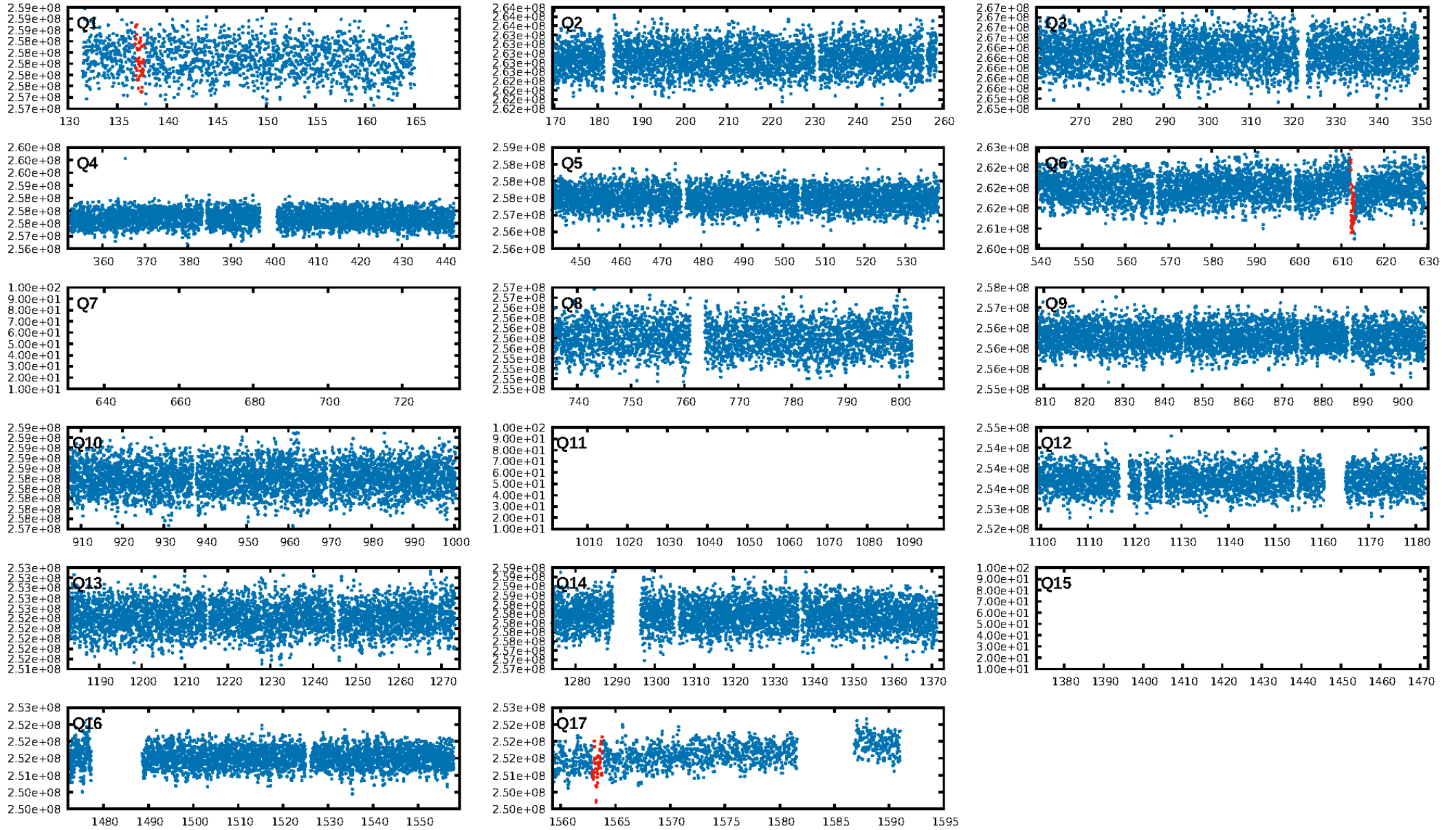
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [324.59 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.9%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.04e-12
RollingBand-fgt: 1.00 [1/1]
GhostDiagnostic-chr: 2.257
Centroid-sig: 82.6%
Centroid-so: 0.174 arcsec [1.25 σ]
OotOffset-rm: 0.674 arcsec [1.23 σ]
KicOffset-rm: 0.755 arcsec [1.36 σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

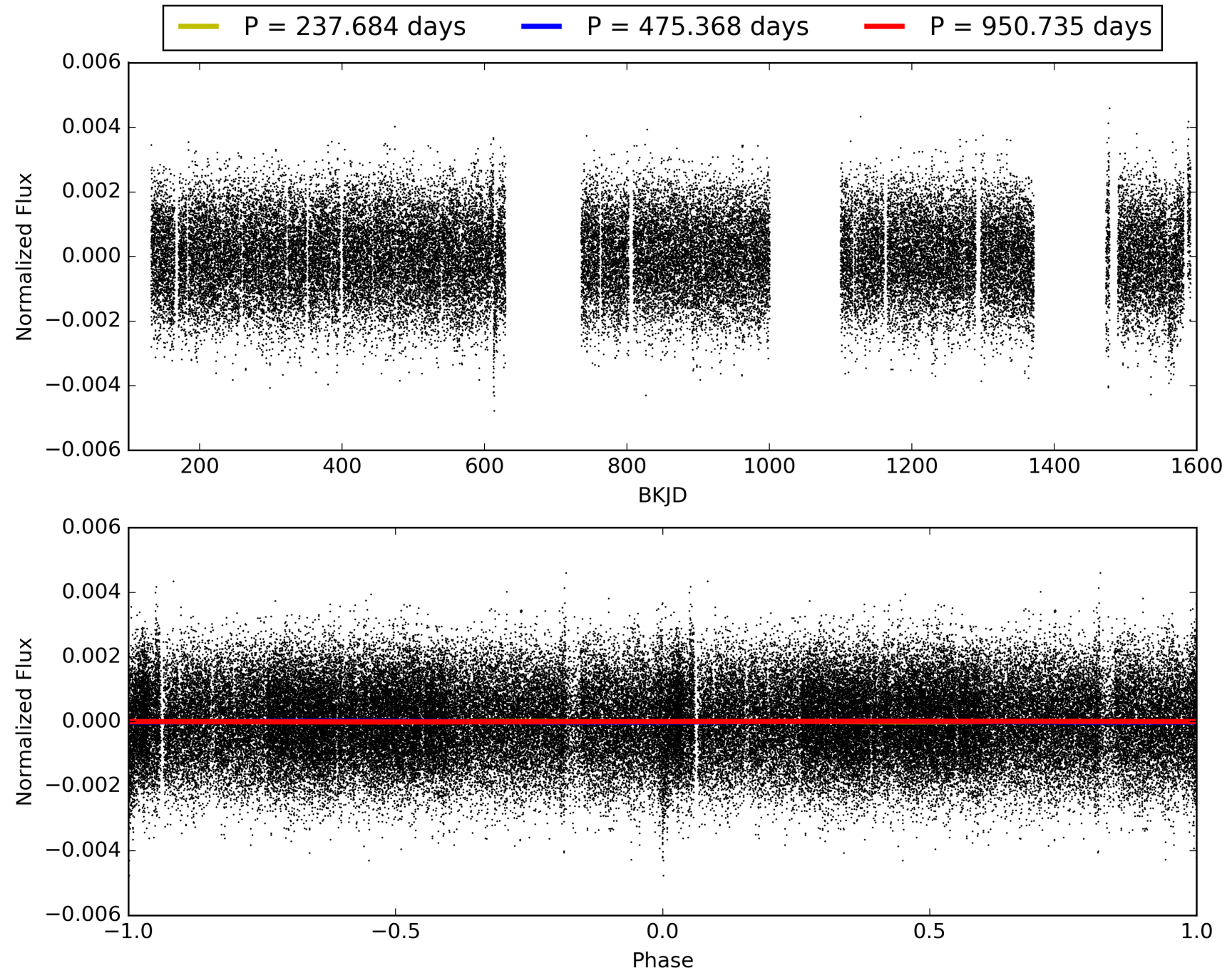
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:03:21 Z

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

TCE 009844791-03, PDC Light Curves

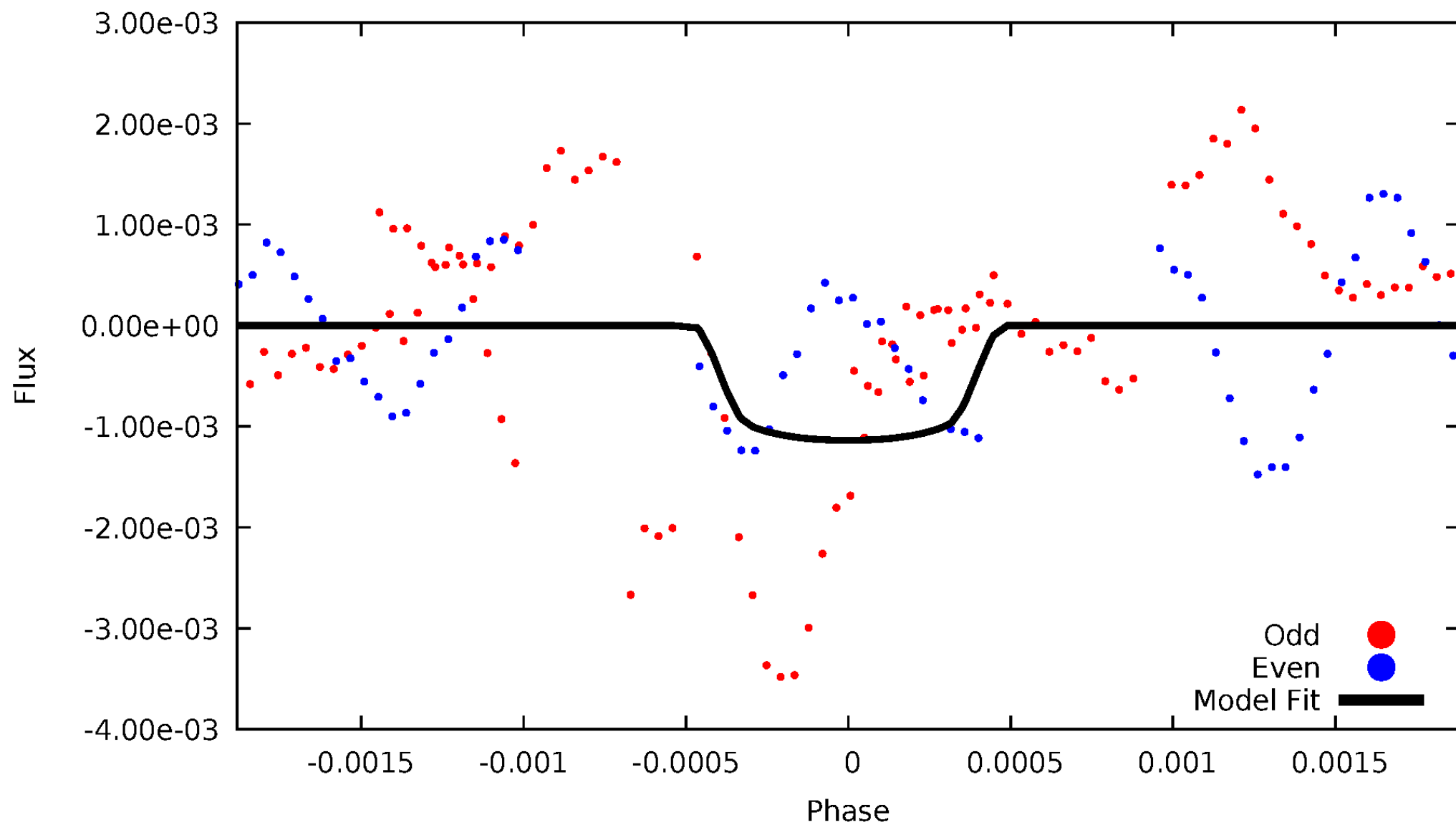


TCE 009844791-03



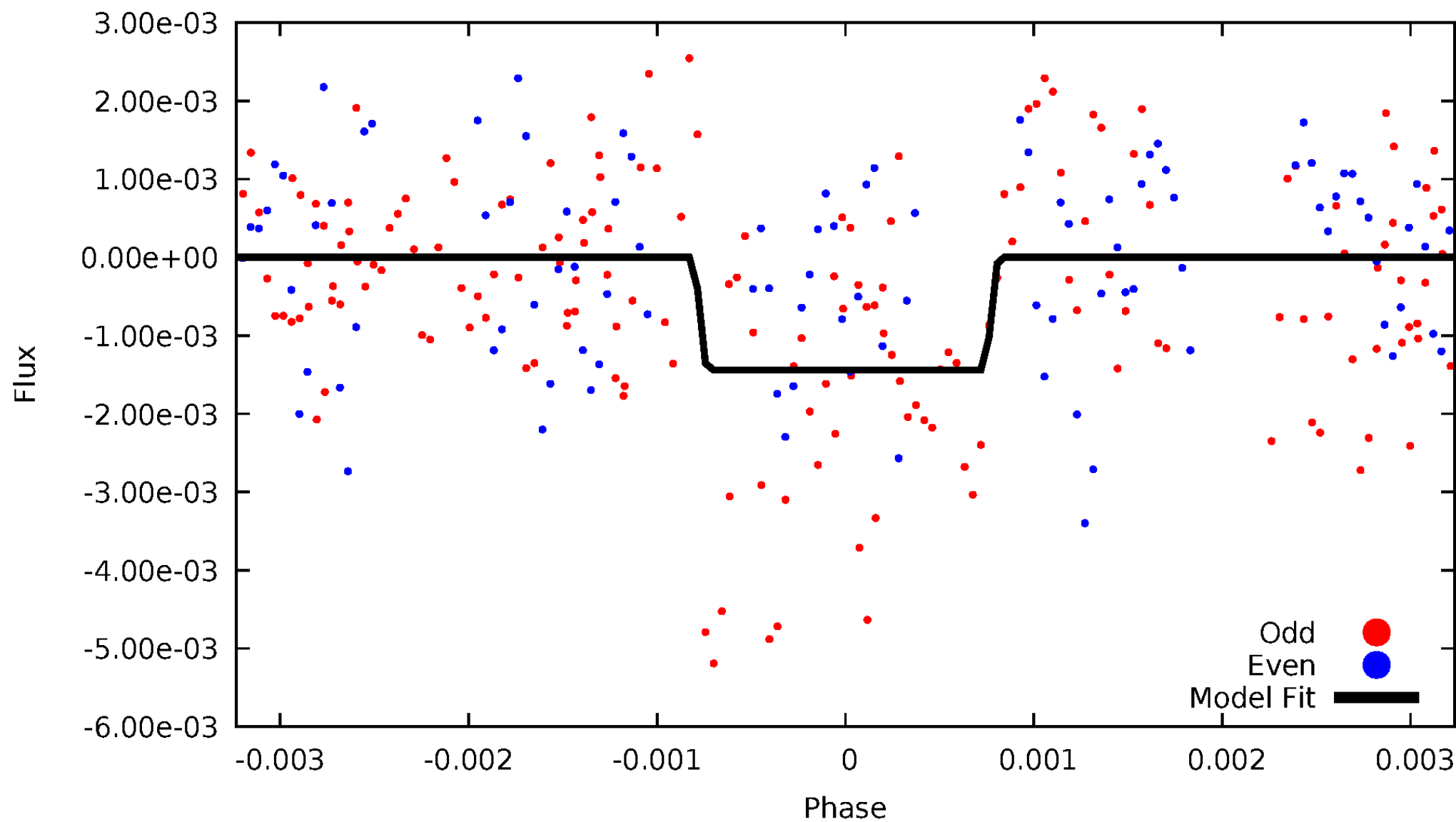
DV Odd/Even

TCE 009844791-03



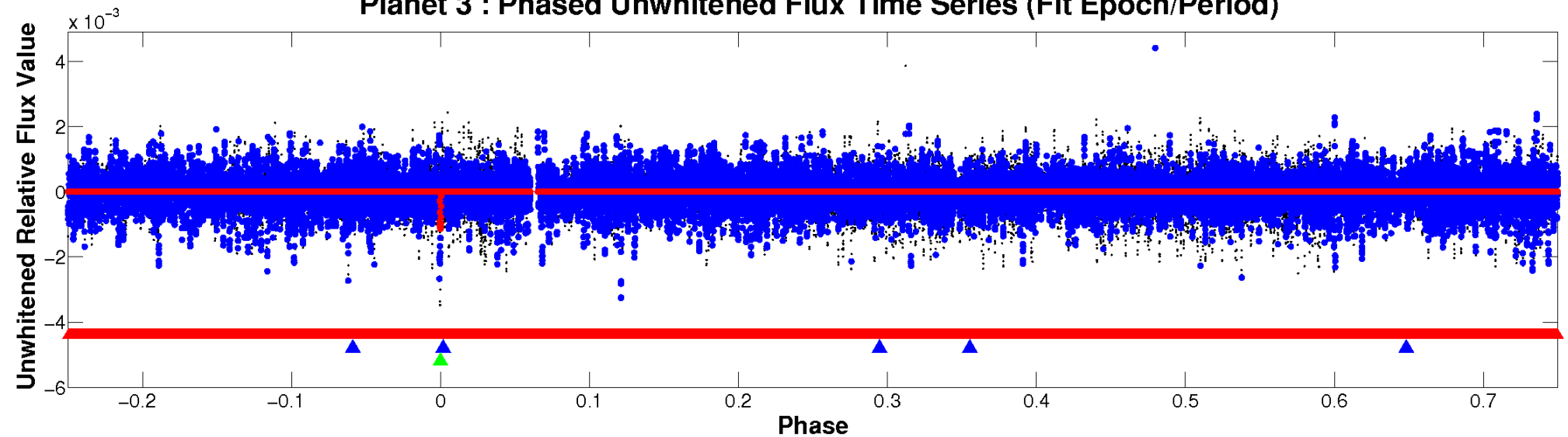
ALT Odd/Even

TCE 009844791-03

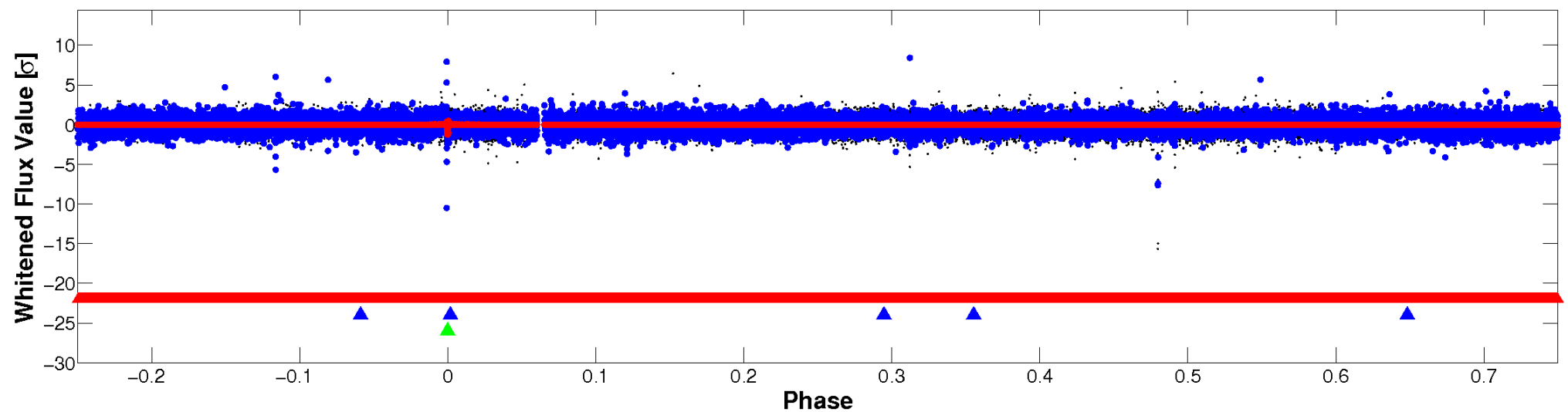


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

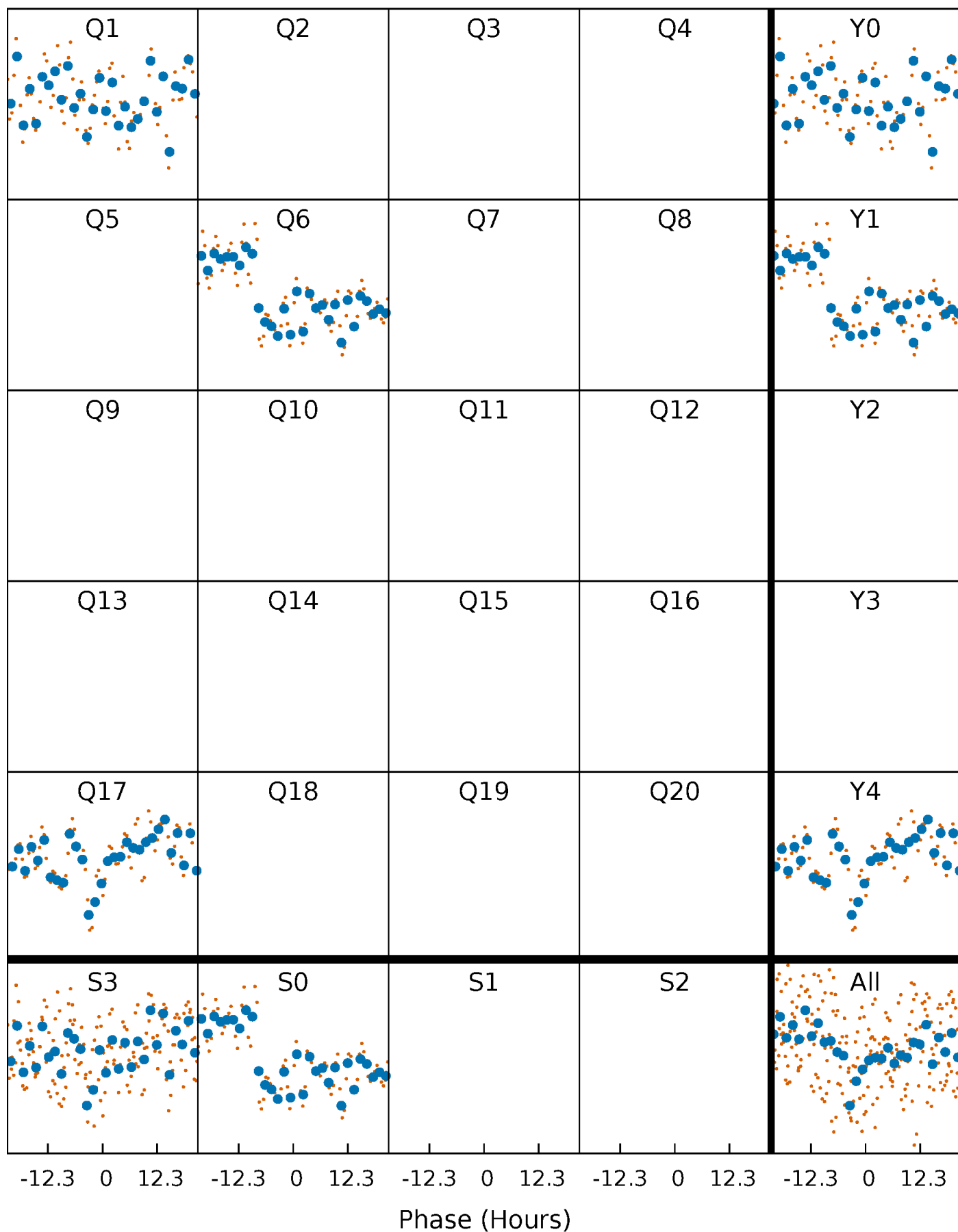


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



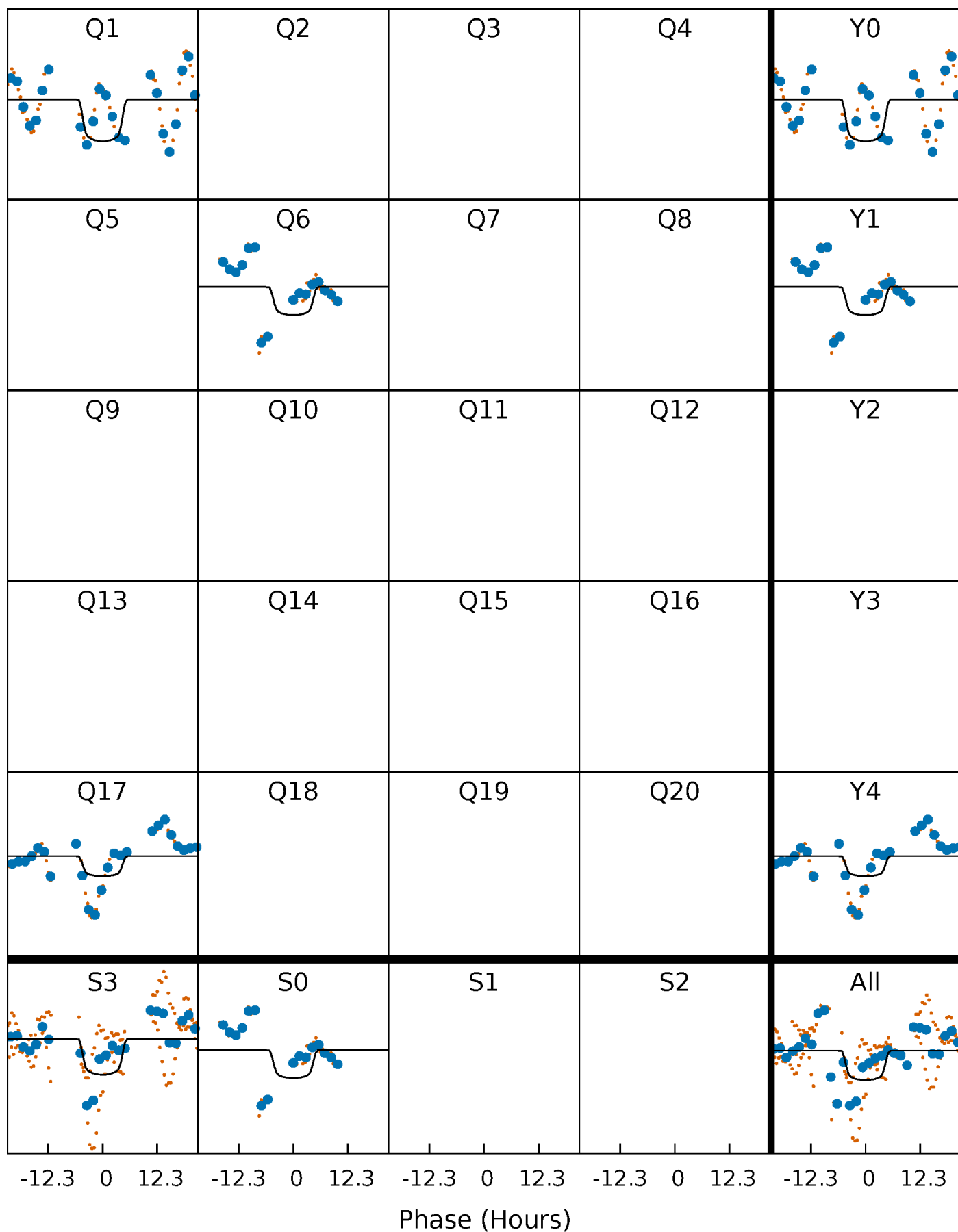
PDC Quarter-Phased Transit Curves

TCE 009844791-03 $P=475.367742$ Days $T_0=137.247176$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009844791-03 $P=475.367742$ Days $T_0=137.247176$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

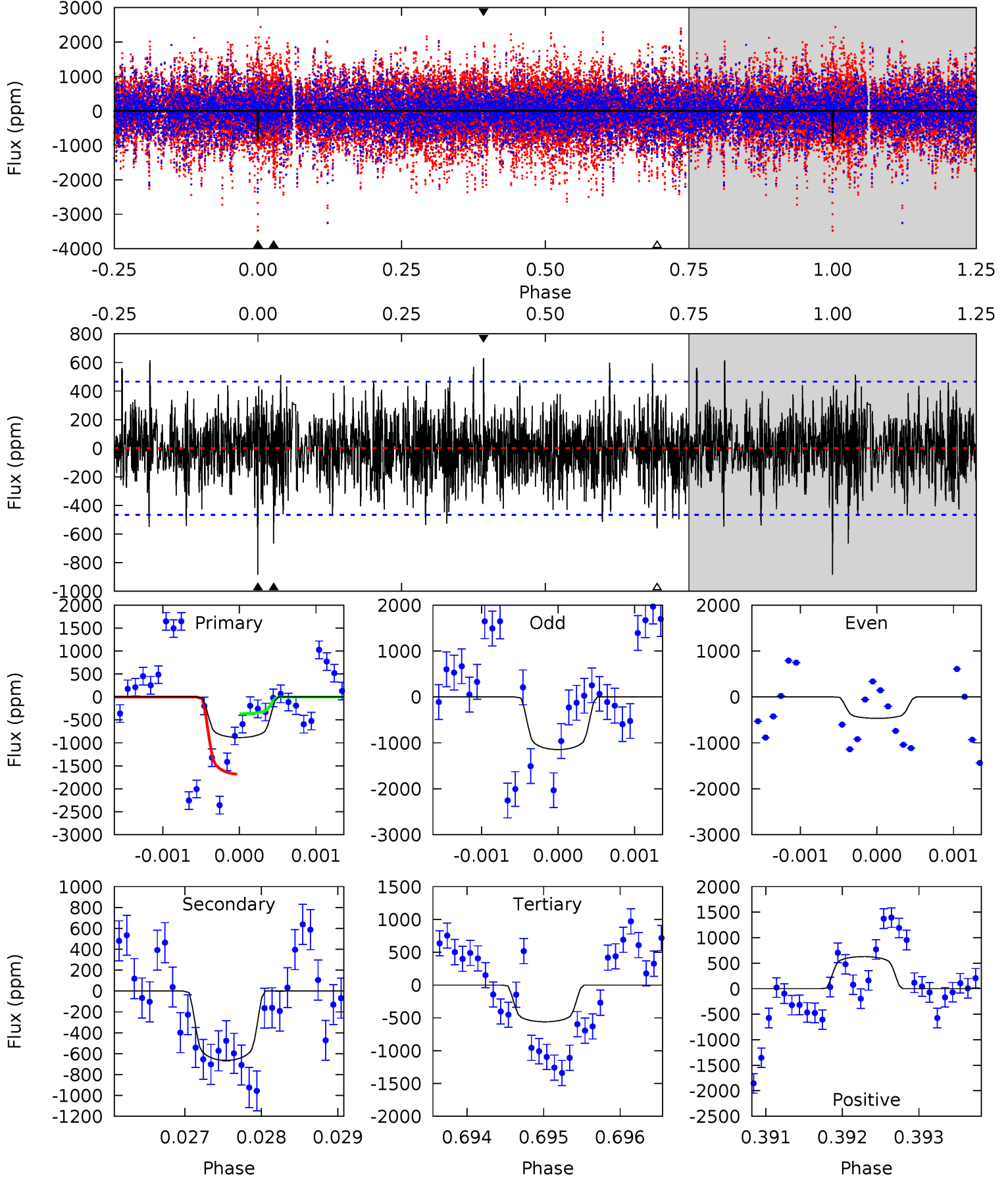
TCE 009844791-03 $P=475.386773$ Days $T_0=137.262498$ (BKJD)



DV Model-Shift Uniqueness Test

009844791-03, P = 475.367742 Days, E = 137.247176 Days

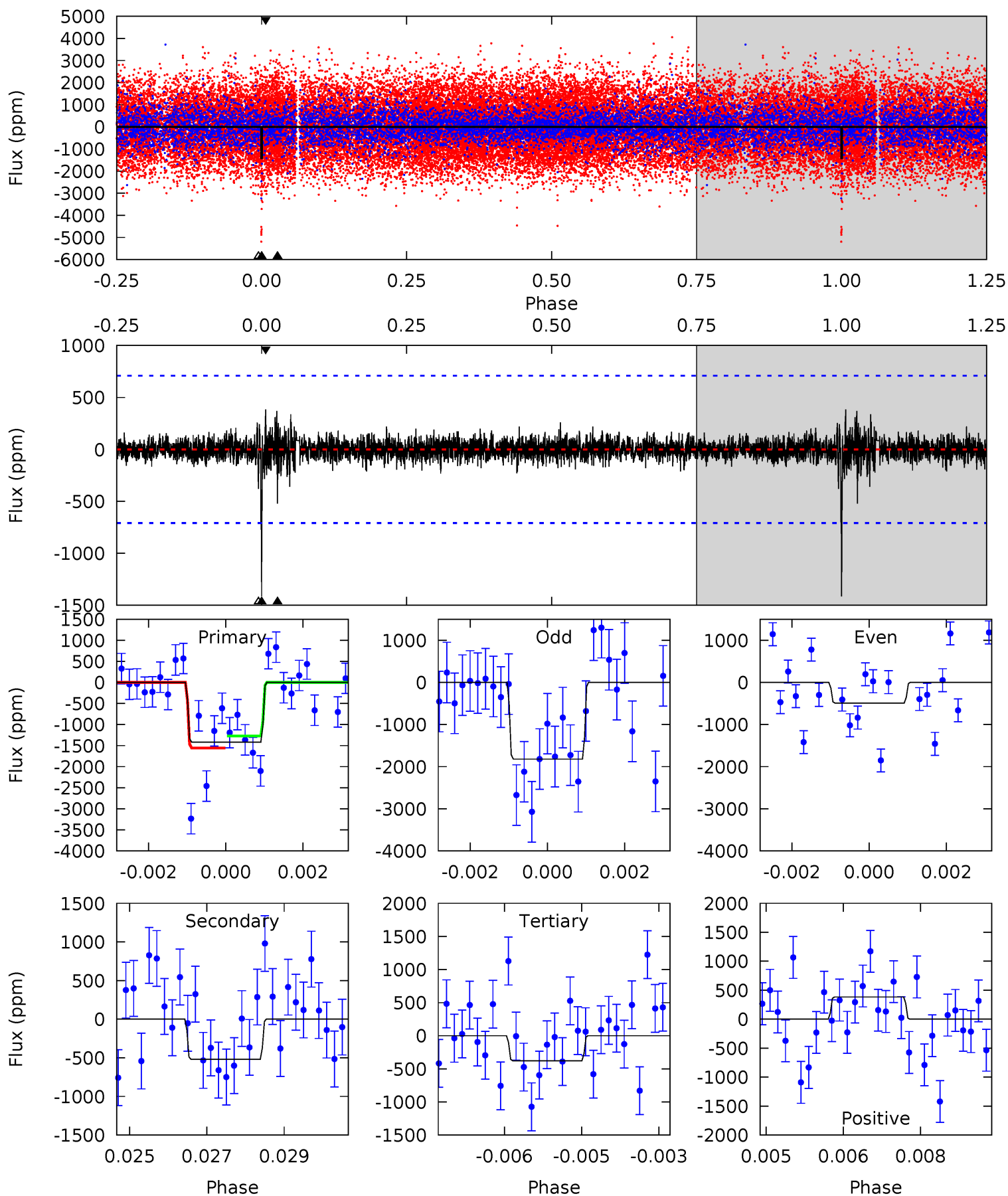
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	7.80	6.57	7.38	5.46	3.30	1.96	3.80	2.99	1.23	0.42	3.90	1.67	0.42	7.56



Alt Model-Shift Uniqueness Test

009844791-03, P = 475.386773 Days, E = 137.262498 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	3.94	2.87	2.90	5.37	3.16	0.51	7.85	7.82	1.07	1.04	4.62	1.19	0.21	1.07



Stellar Parameters For KIC 009844791

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7087^{+175}_{-275}	$4.137^{+0.158}_{-0.193}$	$-0.180^{+0.250}_{-0.350}$	$1.684^{+0.525}_{-0.394}$	$1.418^{+0.218}_{-0.239}$	$0.419^{+0.334}_{-0.213}$
	+2%/-4%	+4%/-5%	+139%/-194%	+31%/-23%	+15%/-17%	+80%/-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 009844791-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-665 ± 85	$6.61^{+1.22}_{-1.05}$	493^{+36}_{-36}	5946^{+431}_{-378}	14881^{+5884}_{-4525}
Alt.	-520 ± 132	$7.09^{+1.42}_{-1.17}$	493^{+37}_{-34}	5425^{+443}_{-392}	9820^{+5255}_{-3504}

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 $A_{obs} \gg 1.0$

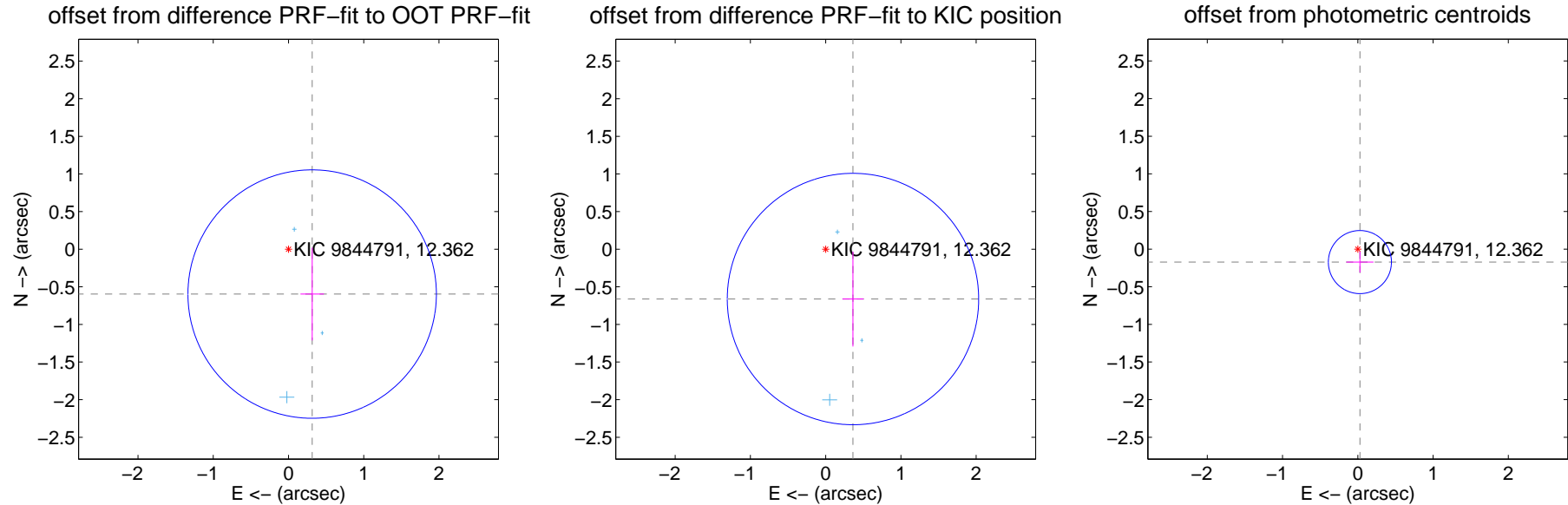
DV Centroid Data

Supplemental centroid analysis for 009844791-03. Kepler magnitude: 12.36. Transit SNR 6.36

There are 3 quarters with good PRF difference image offsets

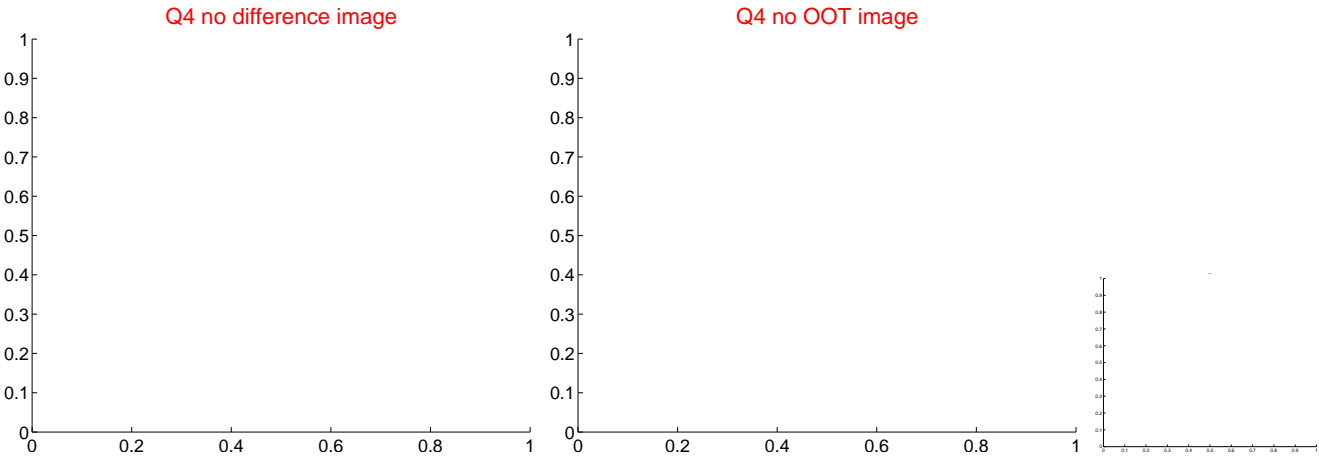
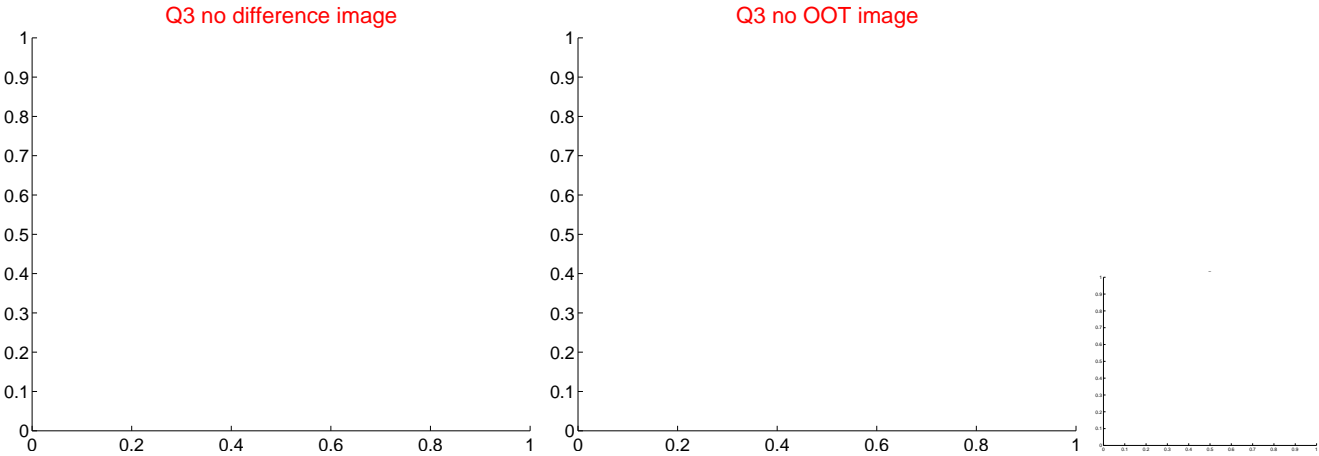
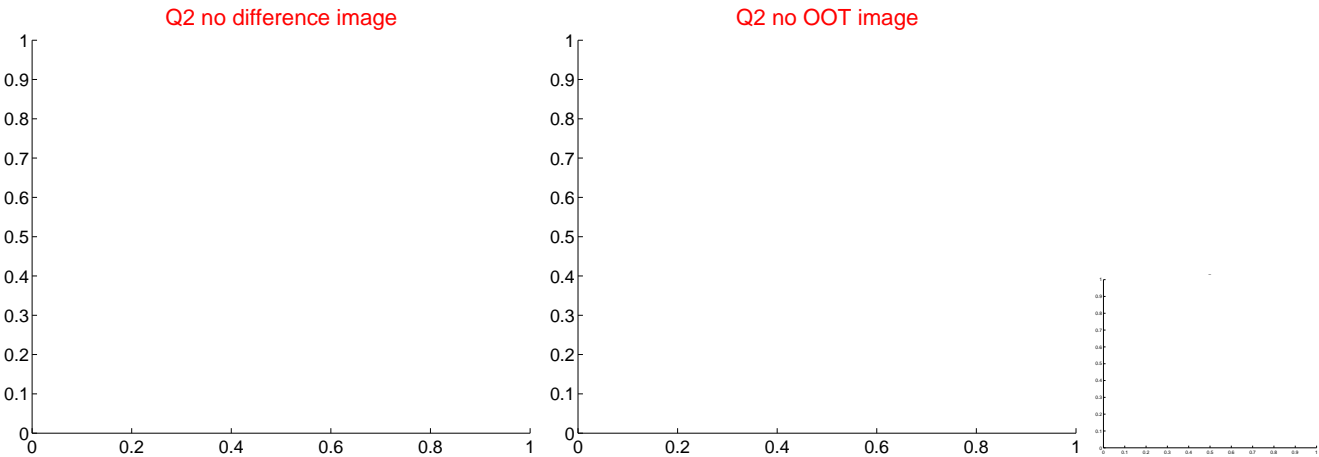
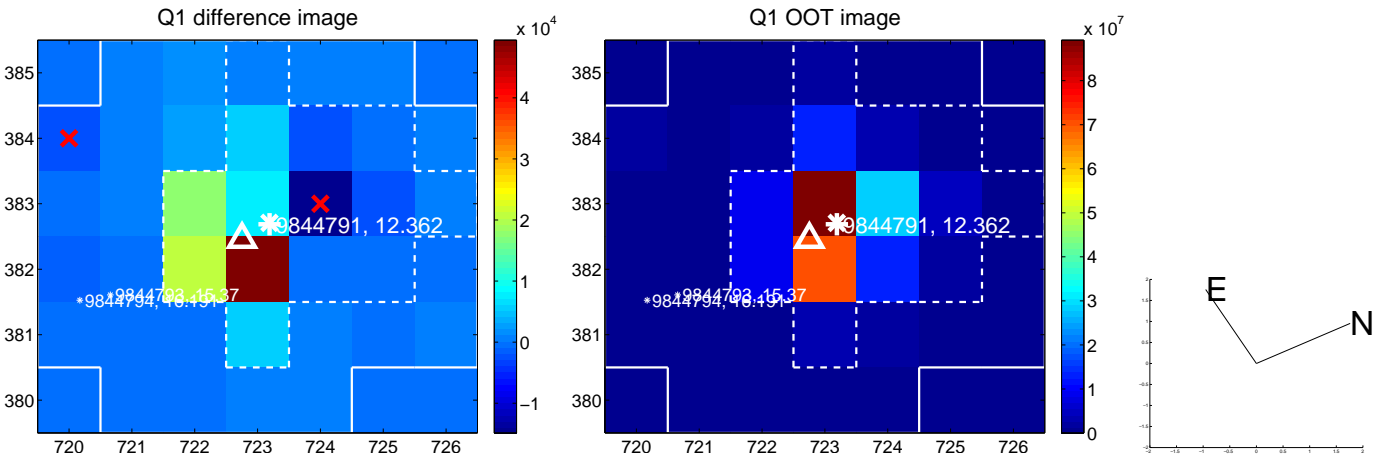
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.674 ± 0.550	1.23	-0.314 ± 0.156	-0.596 ± 0.617
PRF-fit source offset from KIC position	0.755 ± 0.557	1.36	-0.363 ± 0.141	-0.663 ± 0.630
photometric centroid source offset	0.17 ± 0.14	1.25	-0.03 ± 0.18	-0.17 ± 0.14

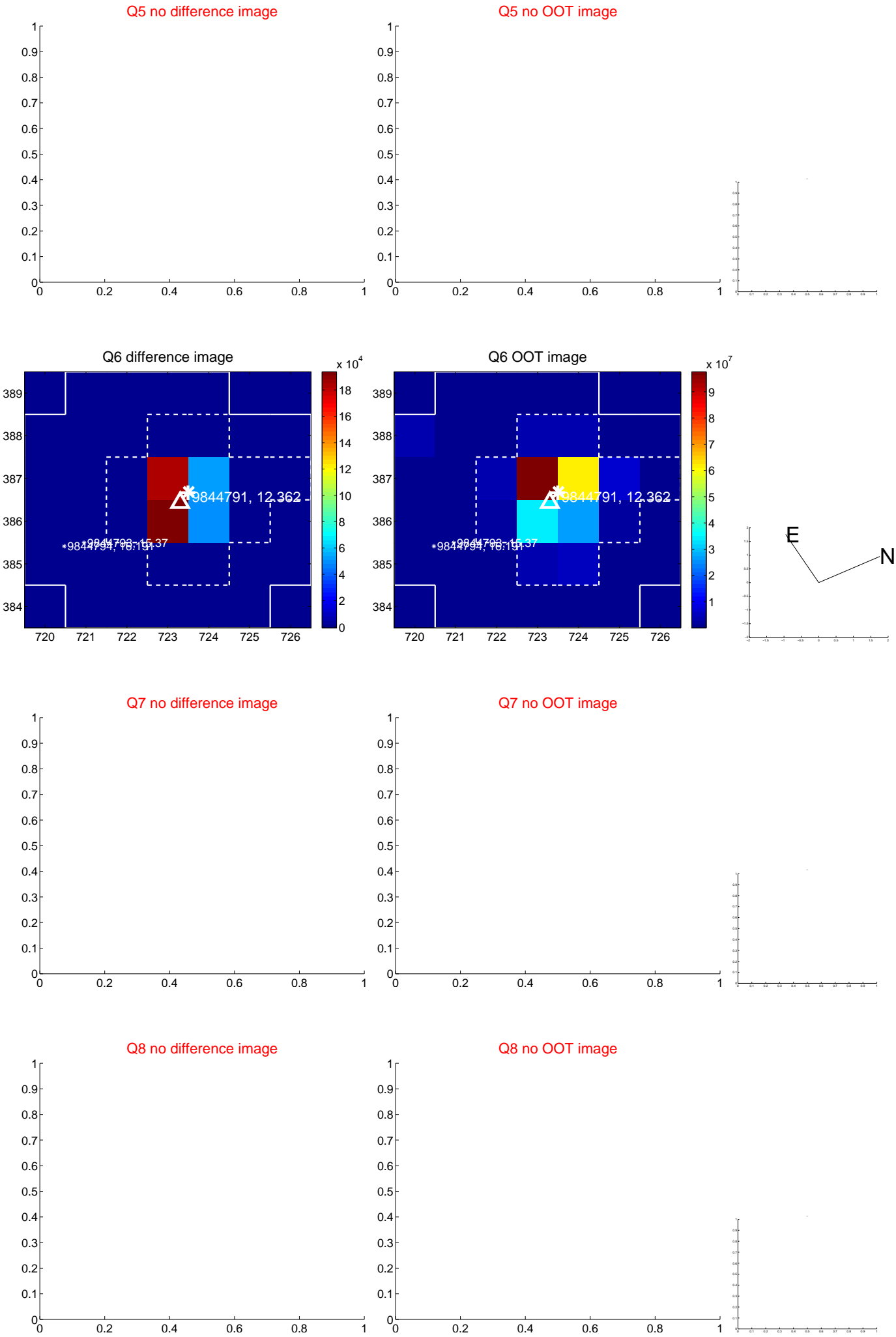


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



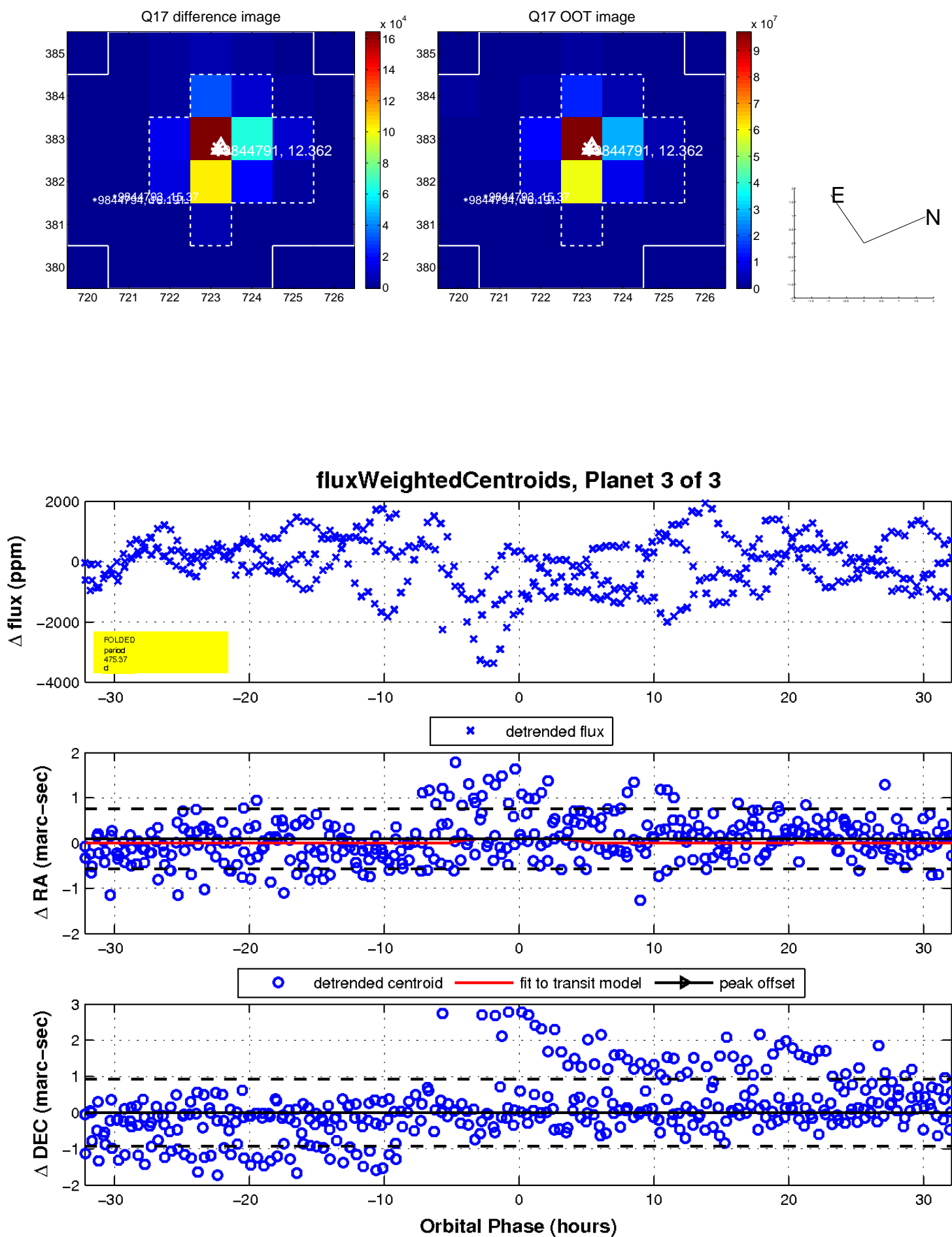
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

