

KIC 008233314

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})
008233314-01	OBS	No	329.561744	278.584313	1098.5	3.009	11.3	5.7	0.77	5528	2.71	0.71
008233314-02	OBS	No	710.281613	141.074719	1253.9	4.872	11.0	6.3	0.77	5528	2.79	0.26
008233314-03	OBS	No	526.633885	511.799929	1291.1	6.191	10.8	5.8	0.77	5528	2.90	0.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008233314-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008233314-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008233314-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

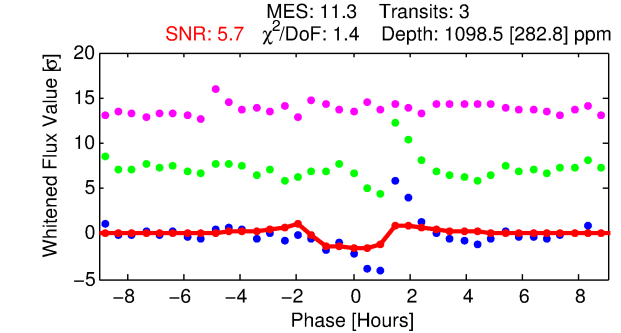
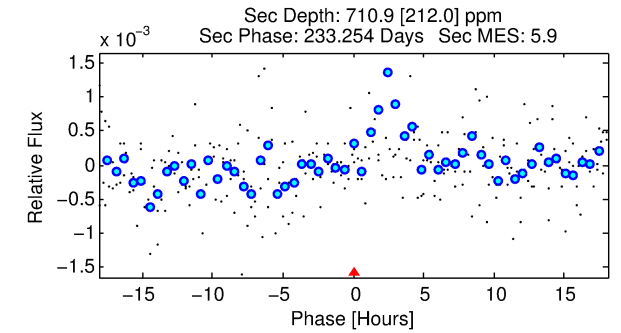
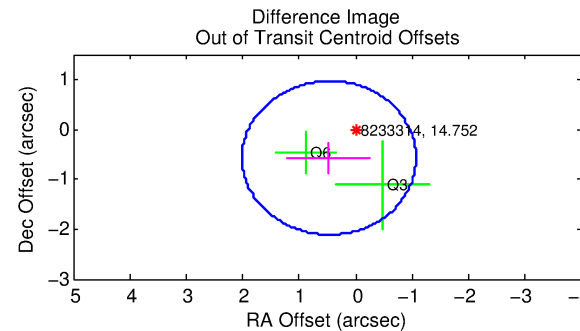
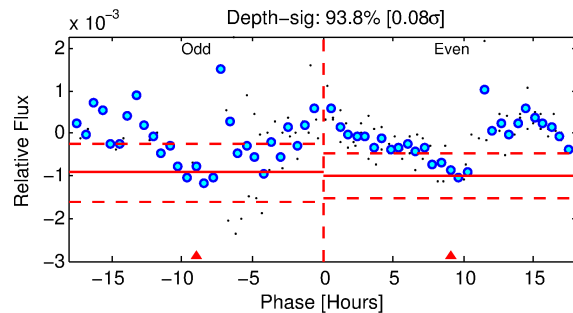
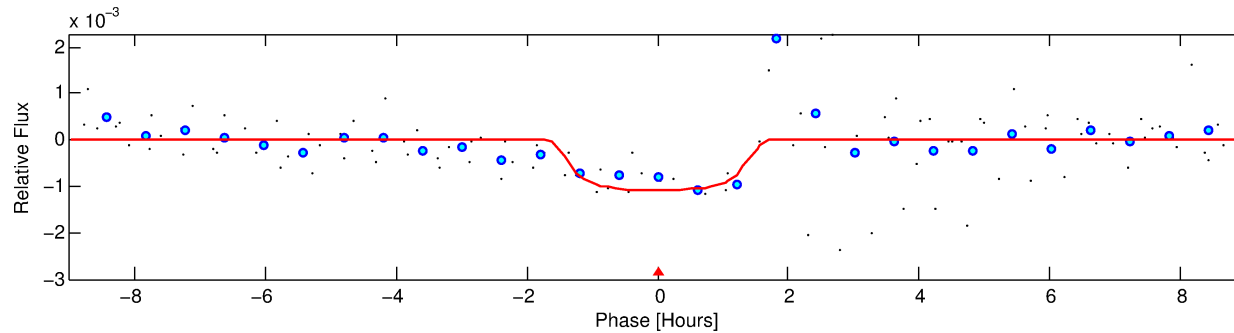
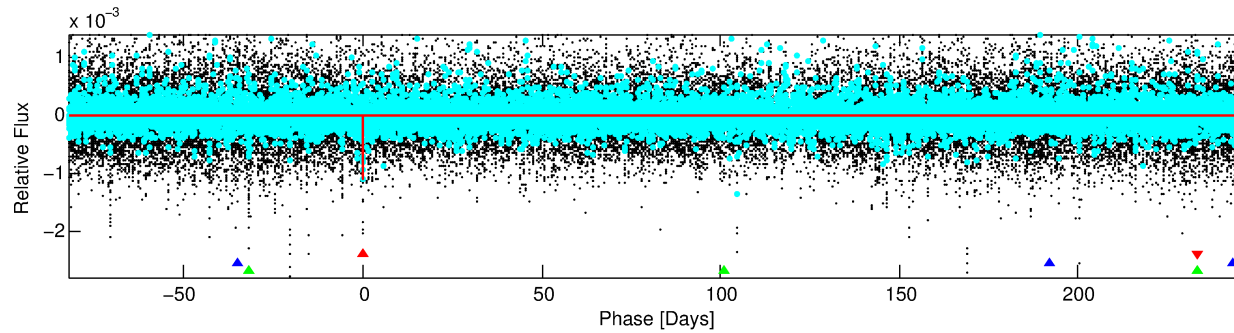
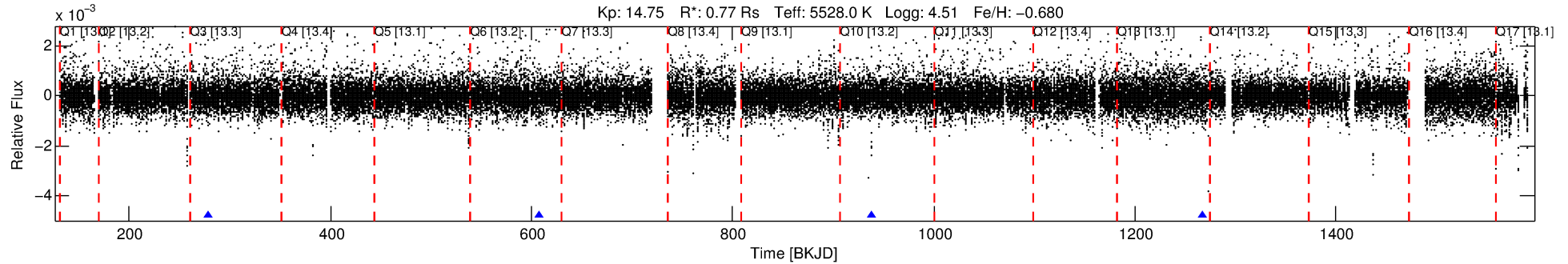
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008233314-01

No Significant Match Found

DV One-Page Summary

KIC: 8233314 Candidate: 1 of 3 Period: 329.562 d



DV Fit Results:

Period = 329.56174 [0.00448] d
Epoch = 278.5843 [0.0086] BKJD
Rp/R* = 0.0324 [0.0624]
a/R* = 643.20 [5639.33]
b = 0.69 [6.76]
Seff = 0.71 [0.17]
Teq = 234 [14] K
Rp = 2.71 [5.24] Re
a = 0.8302 [0.1120] AU
Ag = 36742.05 [142191.46] [0.26 σ]
Teffp = 5018 [4851] K [0.99 σ]

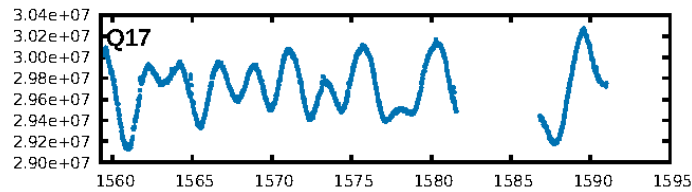
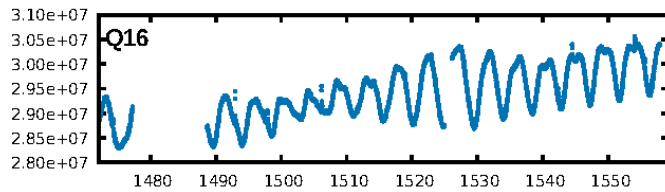
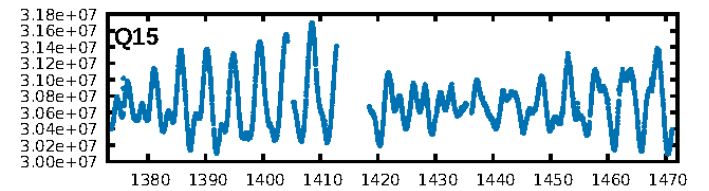
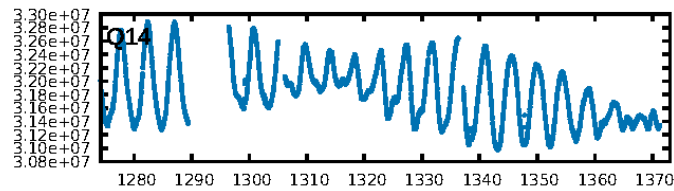
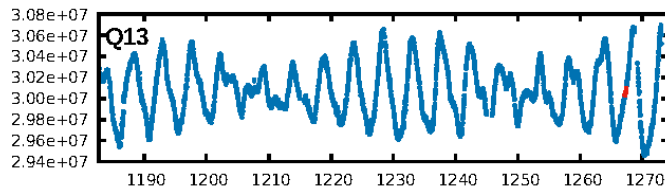
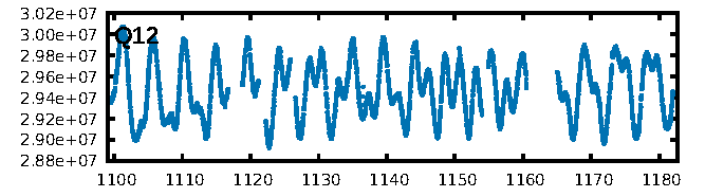
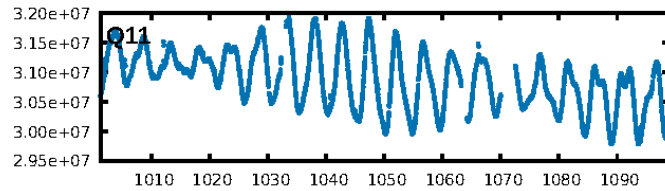
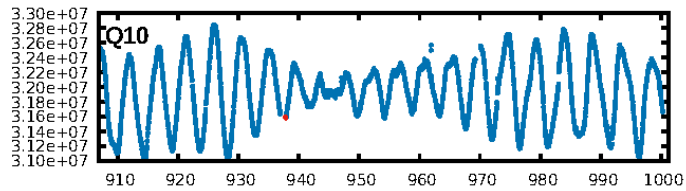
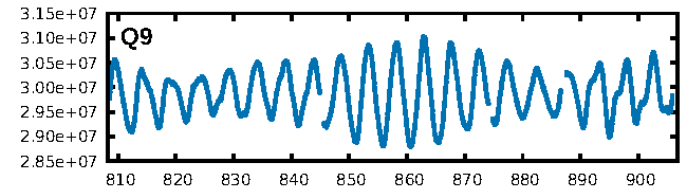
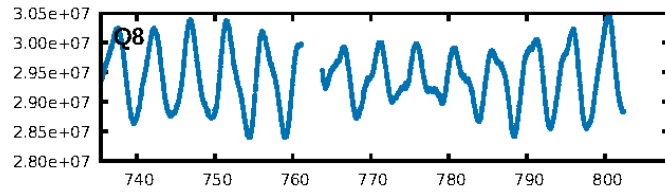
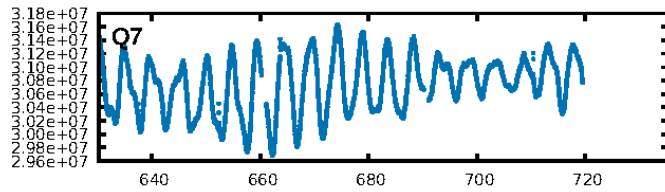
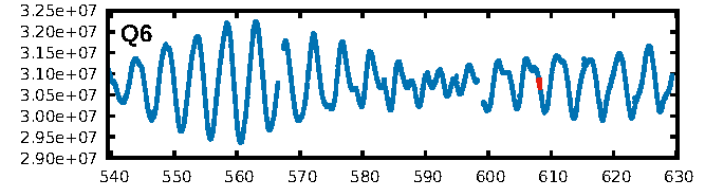
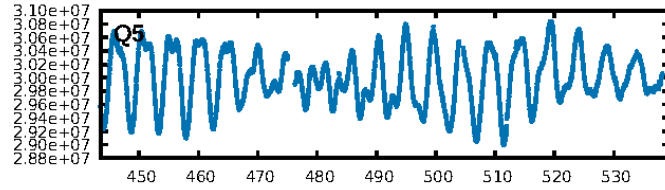
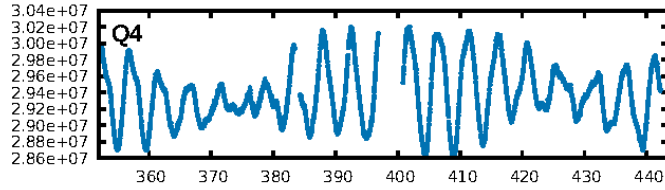
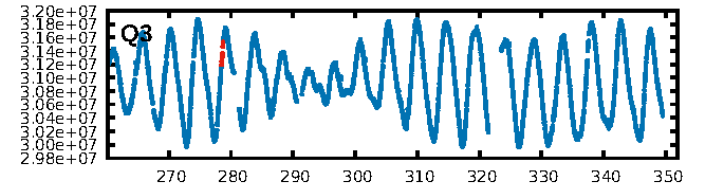
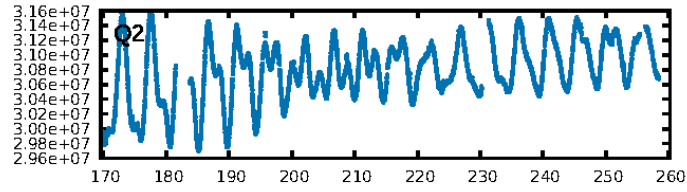
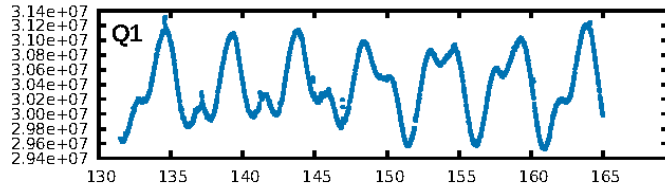
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [687.12 σ]
ModelChiSquare2-sig: 17.5%
ModelChiSquareGof-sig: 92.9%
Bootstrap-pfa: 3.32e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 17.88
Centroid-sig: 20.8%
Centroid-so: 1.352 arcsec [1.04 σ]
OotOffset-rm: 0.743 arcsec [1.45 σ]
KicOffset-rm: 0.816 arcsec [1.67 σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

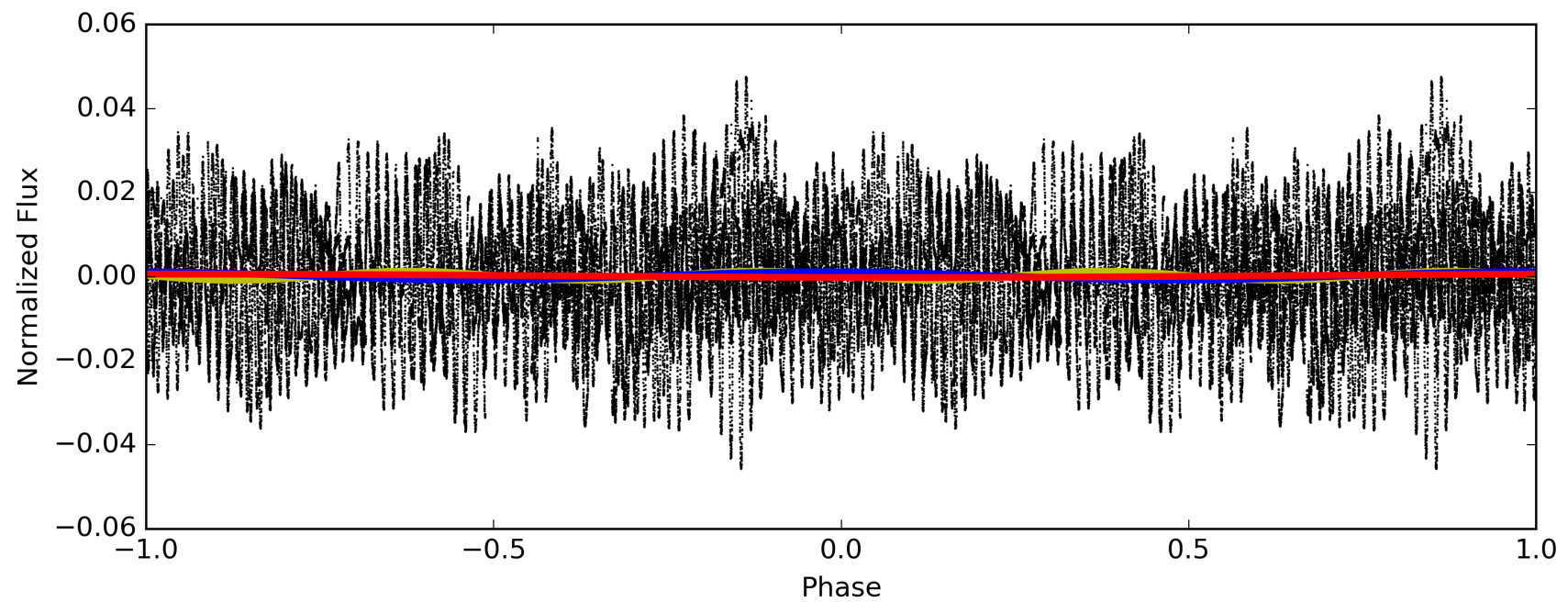
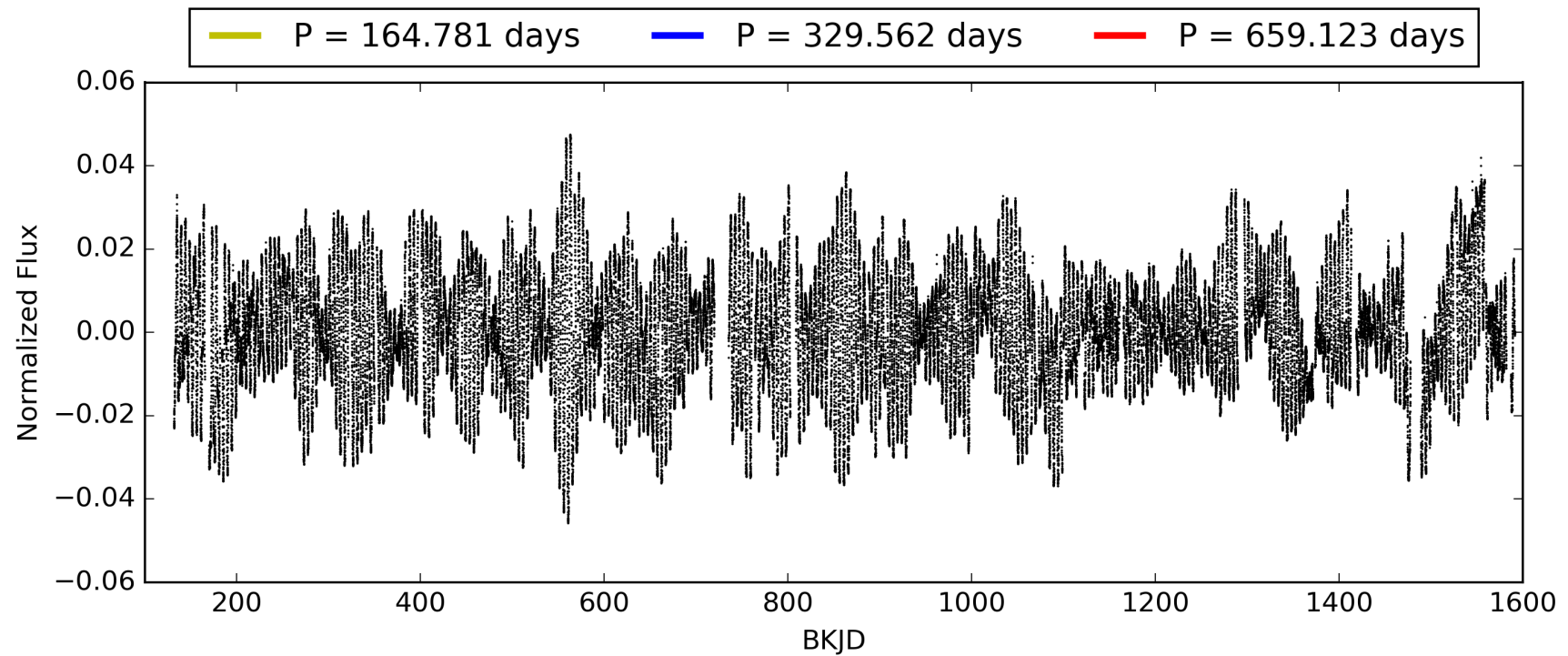
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:07:39 Z

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

TCE 008233314-01, PDC Light Curves

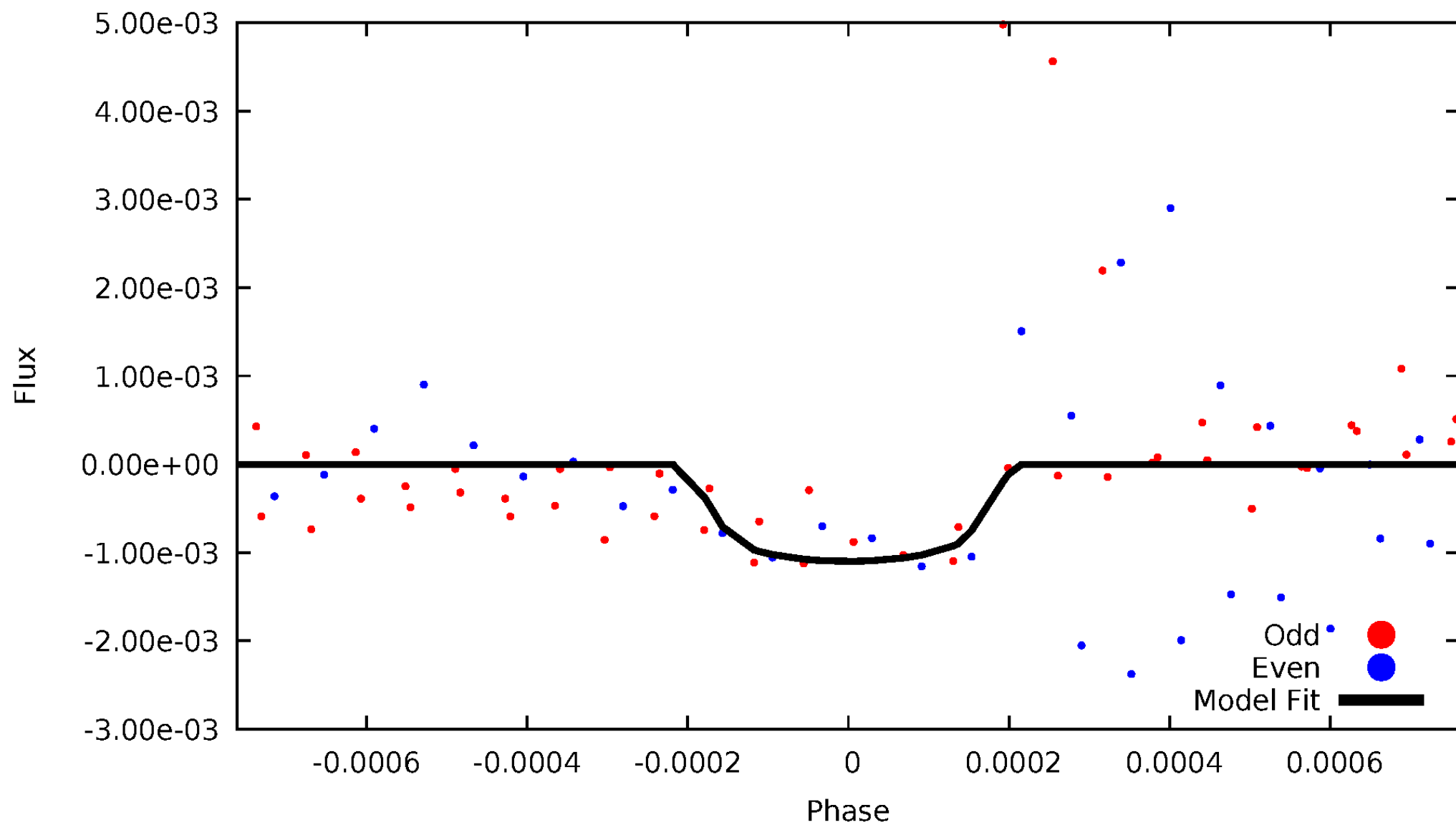


TCE 008233314-01



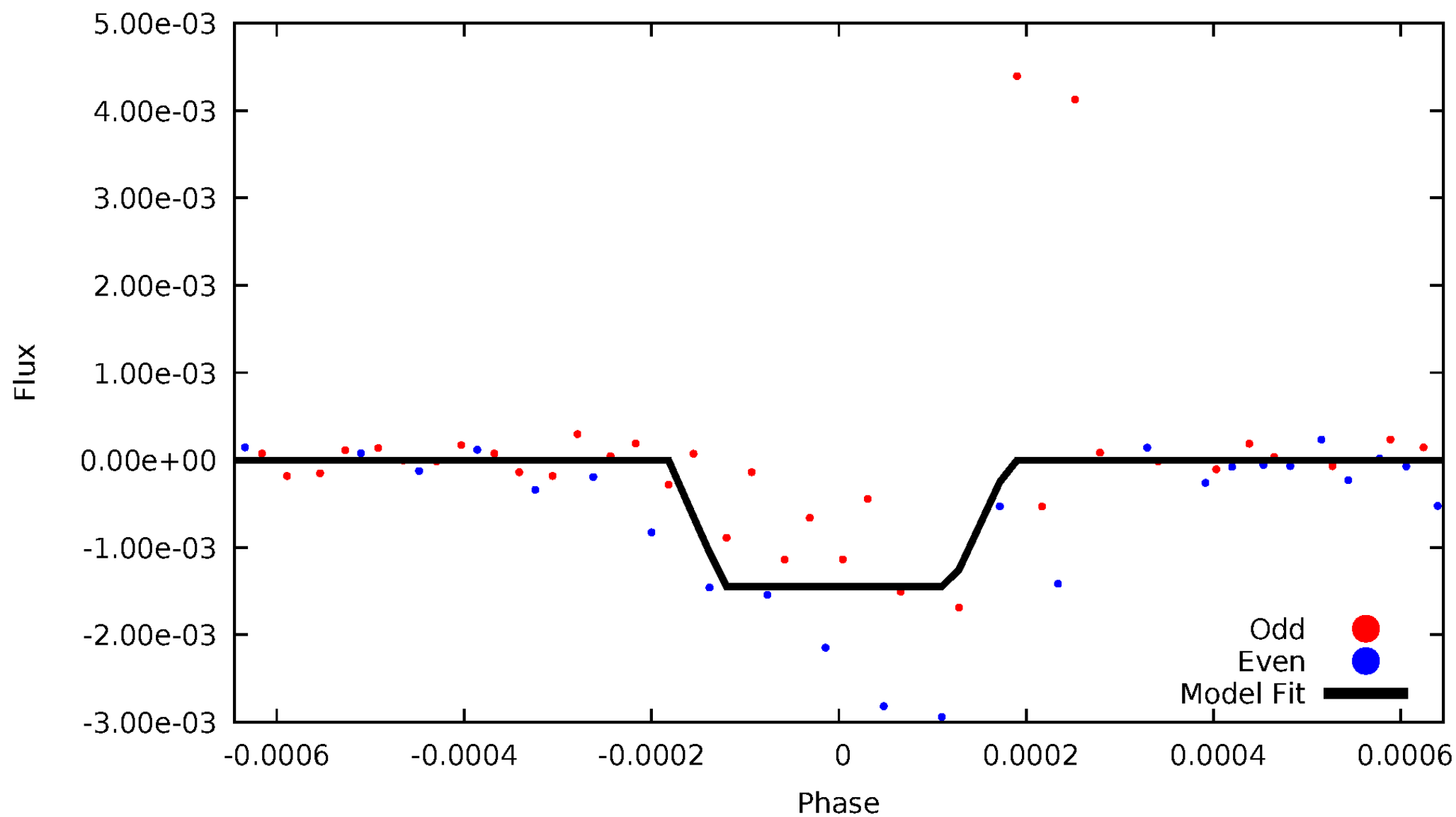
DV Odd/Even

TCE 008233314-01



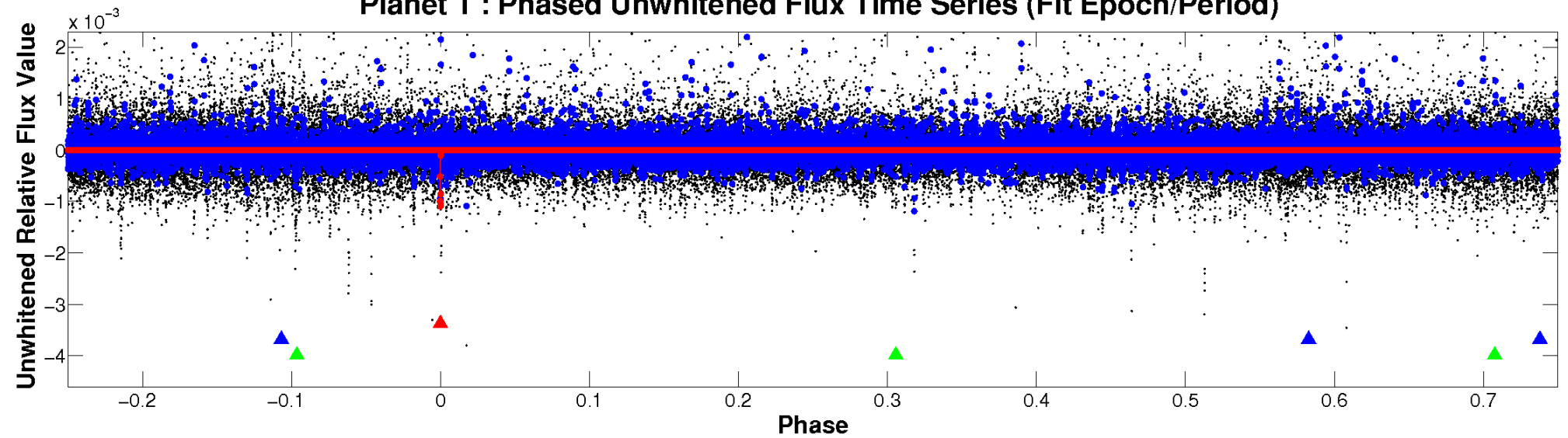
ALT Odd/Even

TCE 008233314-01

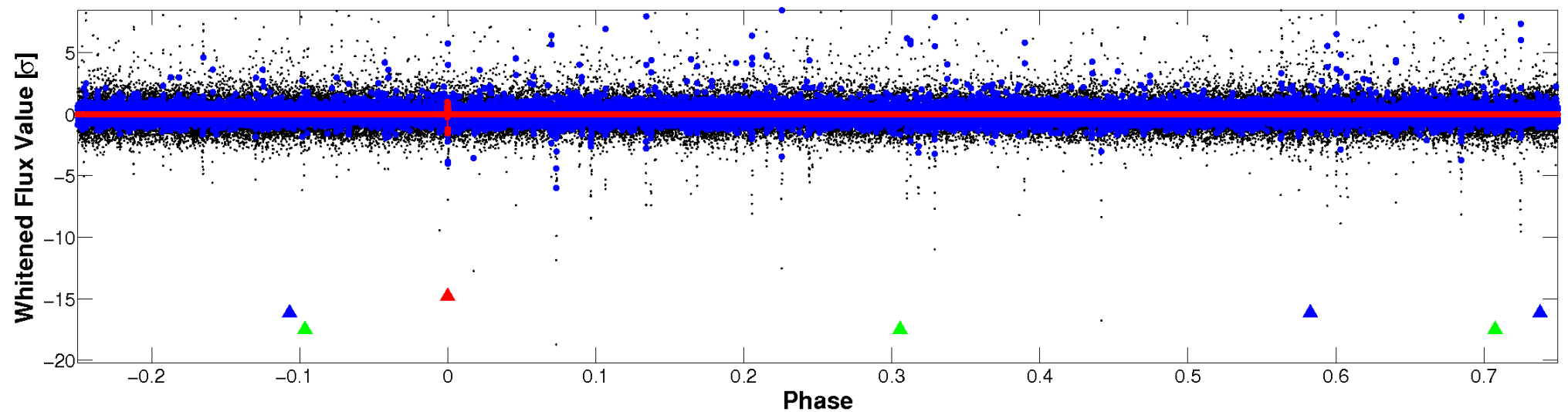


Non-Whitened Vs. Whitened Light Curve

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

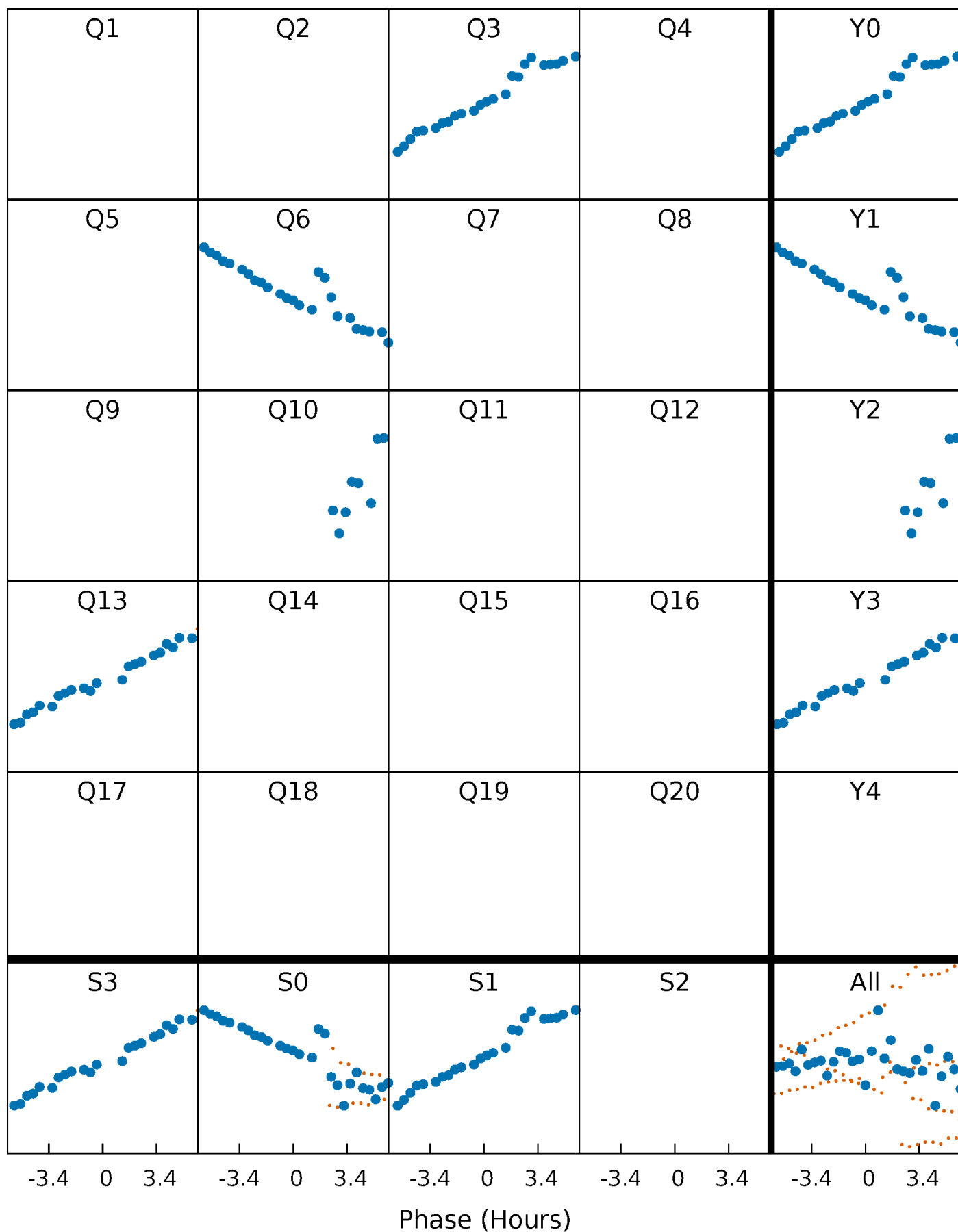


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



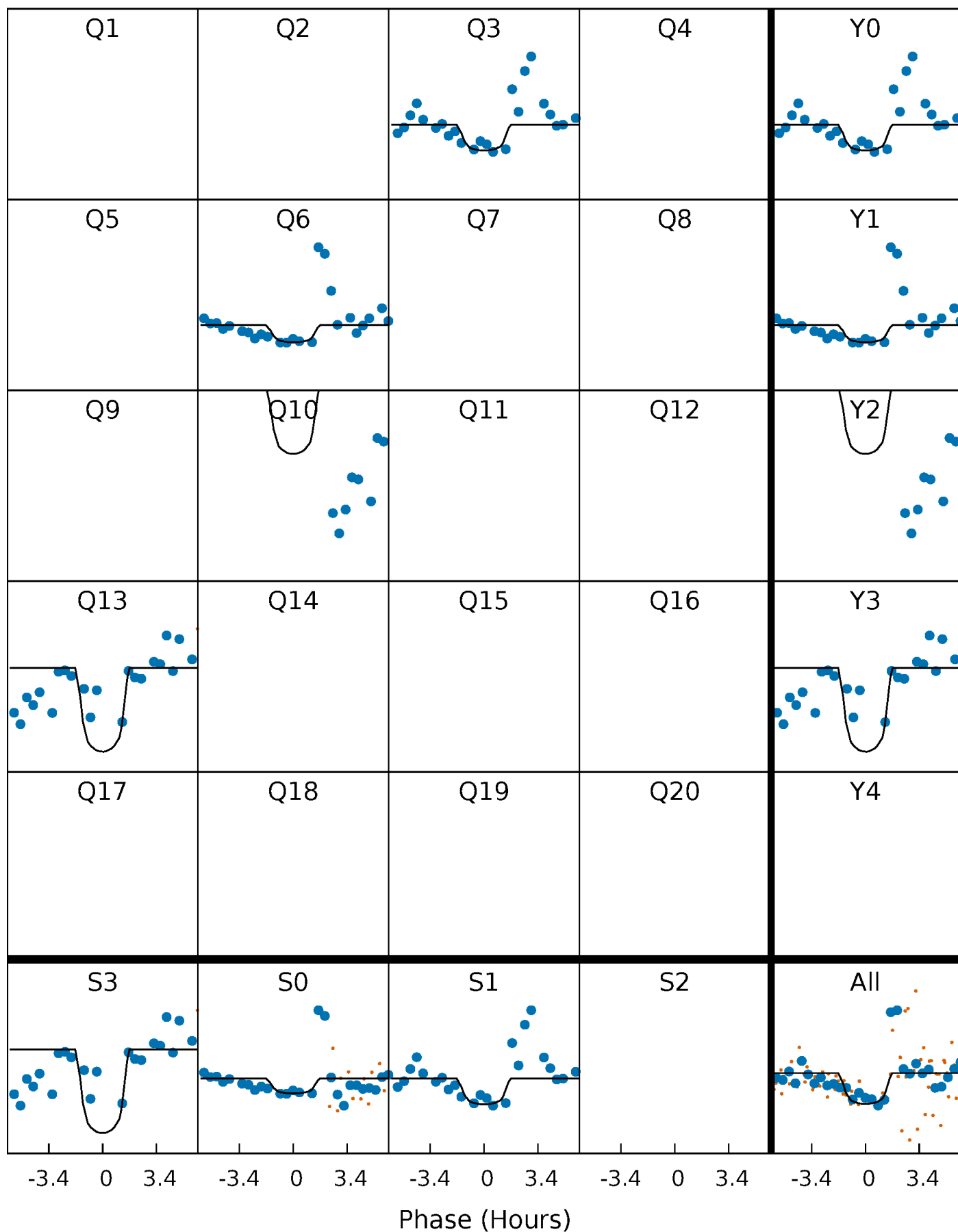
PDC Quarter-Phased Transit Curves

TCE 008233314-01 P=329.561744 Days $T_0=278.584313$ (BKJD)



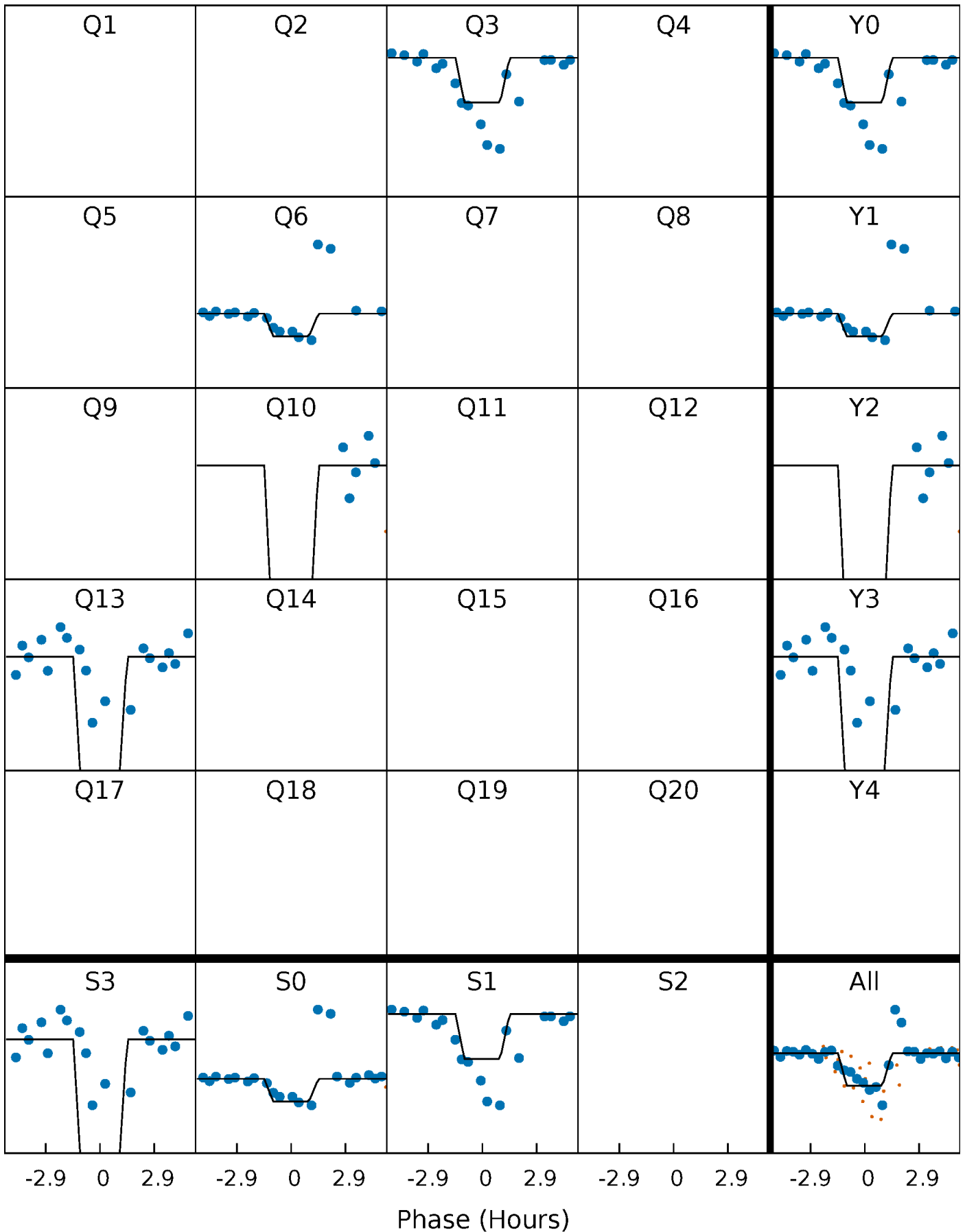
DV Quarter-Phased Transit Curves

TCE 008233314-01 P=329.561744 Days $T_0=278.584313$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

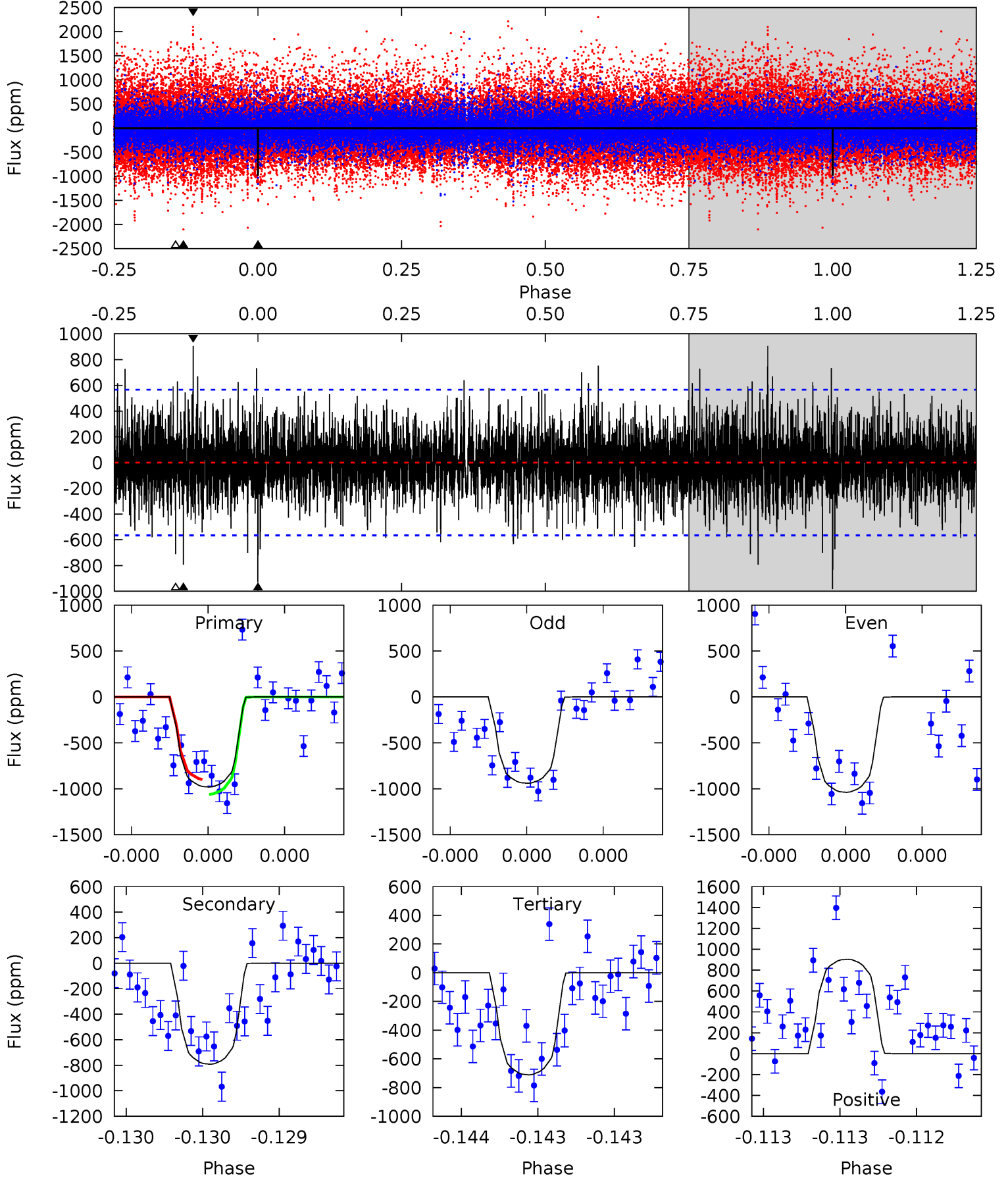
TCE 008233314-01 P=329.548178 Days $T_0=278.598669$ (BKJD)



DV Model-Shift Uniqueness Test

008233314-01, P = 329.561744 Days, E = 278.584313 Days

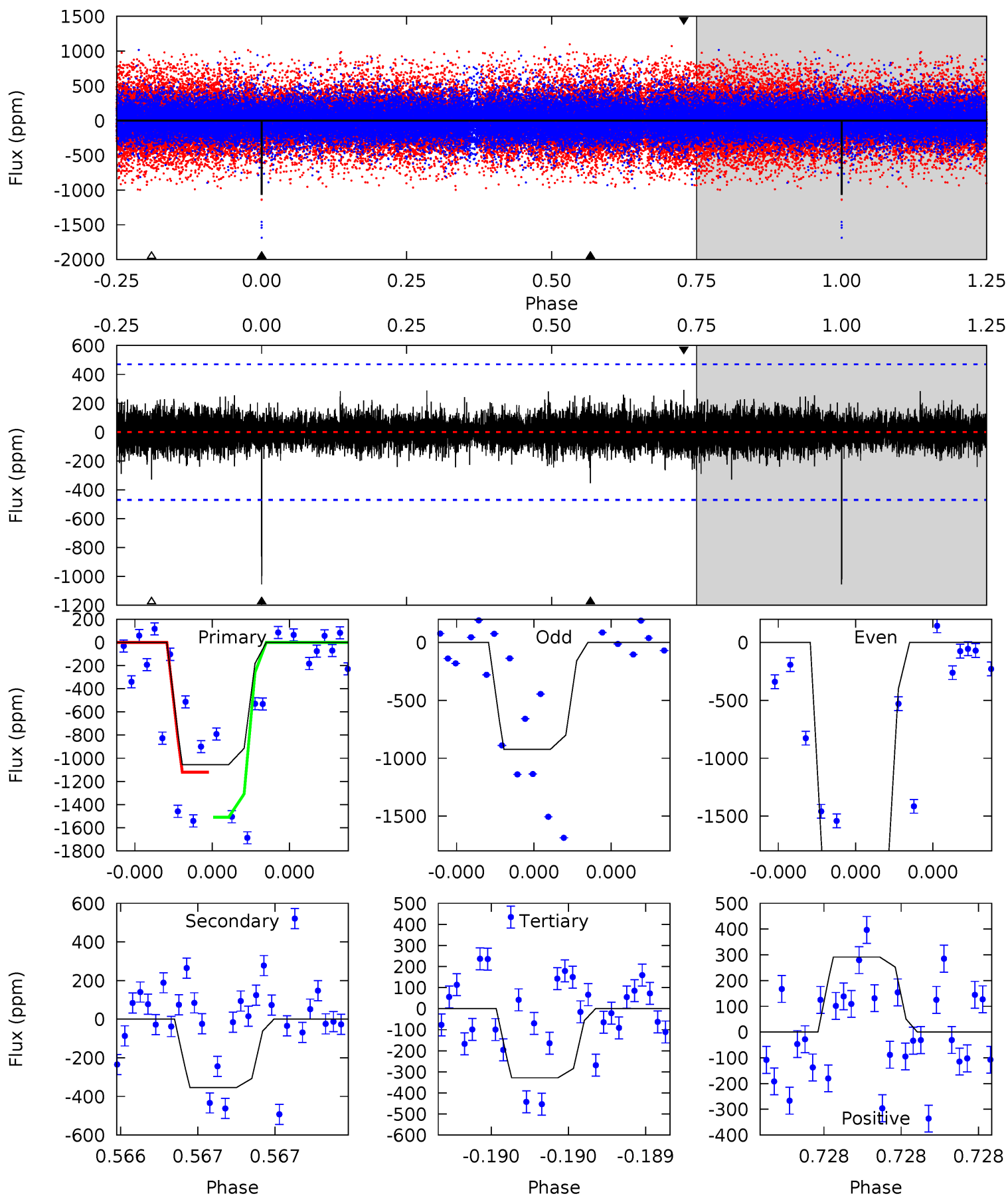
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.71	7.84	7.04	8.95	5.60	3.52	1.65	2.67	0.76	0.80	-1.12	0.46	0.92	0.48	0.81



Alt Model-Shift Uniqueness Test

008233314-01, P = 329.548178 Days, E = 278.598669 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	4.27	3.95	3.51	5.66	3.61	0.76	8.76	9.20	0.32	0.76	9.89	1.03	0.22	2.26



Stellar Parameters For KIC 008233314

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5528^{+181}_{-165}	$4.515^{+0.110}_{-0.110}$	$-0.680^{+0.350}_{-0.300}$	$0.767^{+0.121}_{-0.099}$	$0.703^{+0.098}_{-0.033}$	$2.192^{+1.044}_{-0.706}$
	+3%/-3%	+2%/-2%	+51%/-44%	+16%/-13%	+14%/-5%	+48%/-32%
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 008233314-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-792 ± 101	$4.87^{+4.17}_{-3.24}$	329^{+17}_{-16}	4112^{+2651}_{-784}	$13122^{+101142}_{-9612}$
Alt.	-354 ± 83	$5.15^{+4.36}_{-3.49}$	328^{+17}_{-16}	3541^{+1811}_{-593}	5226^{+42899}_{-3801}

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 $A_{obs} \gg 1.0$

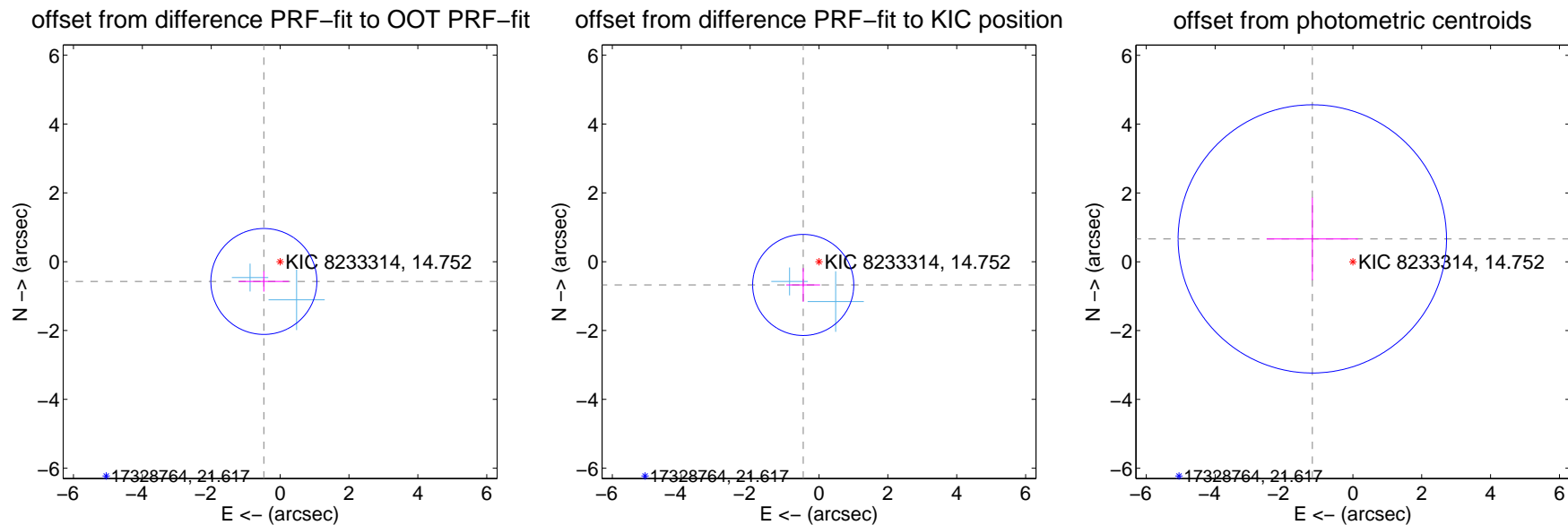
DV Centroid Data

Supplemental centroid analysis for 008233314-01. Kepler magnitude: 14.75. Transit SNR 5.67

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.743 ± 0.513	1.45	0.472 ± 0.724	-0.574 ± 0.295
PRF-fit source offset from KIC position	0.816 ± 0.489	1.67	0.458 ± 0.490	-0.676 ± 0.489
photometric centroid source offset	1.35 ± 1.30	1.04	1.18 ± 1.33	0.66 ± 1.20



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.

Q1 no difference image



Q1 no OOT image



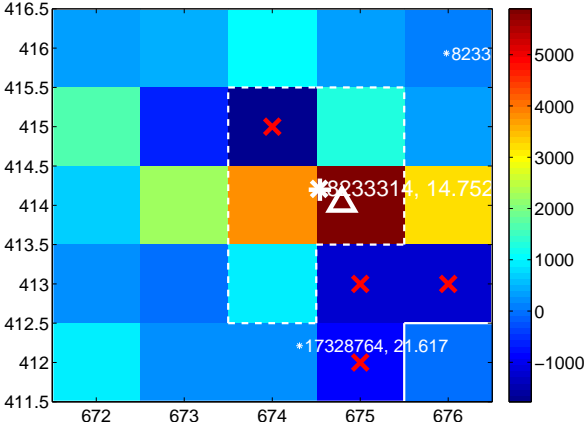
Q2 no difference image



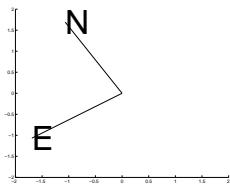
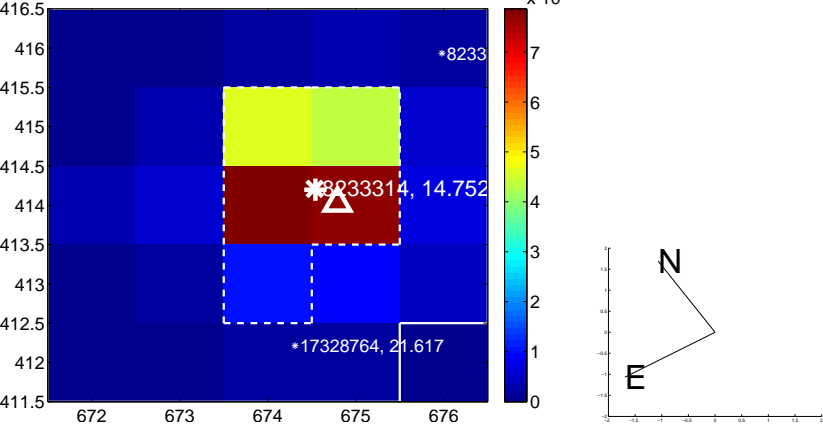
Q2 no OOT image



Q3 difference image



Q3 OOT image



Q4 no difference image



Q4 no OOT image



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

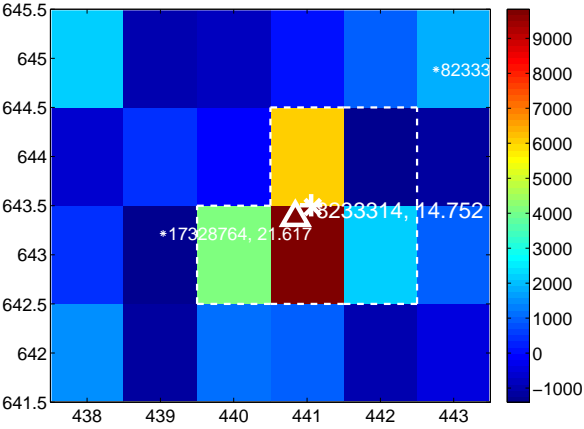
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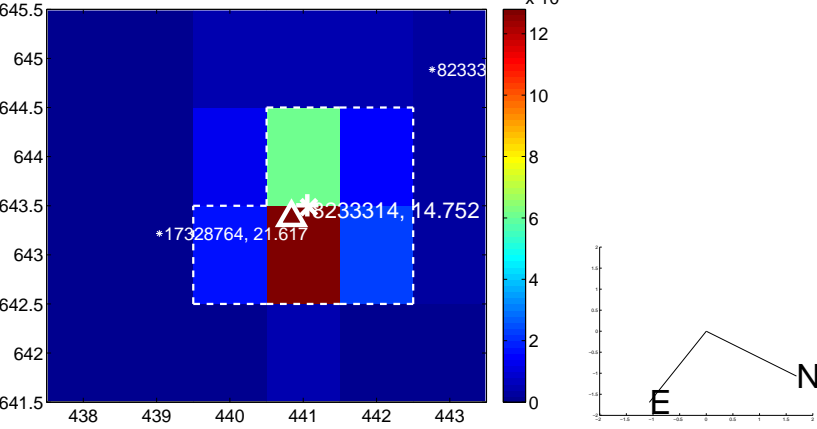
Q5 no OOT image



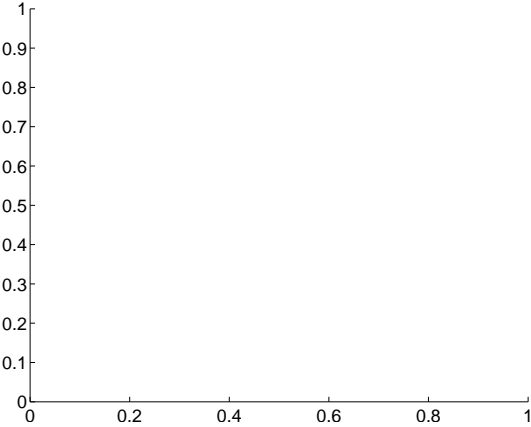
Q6 difference image



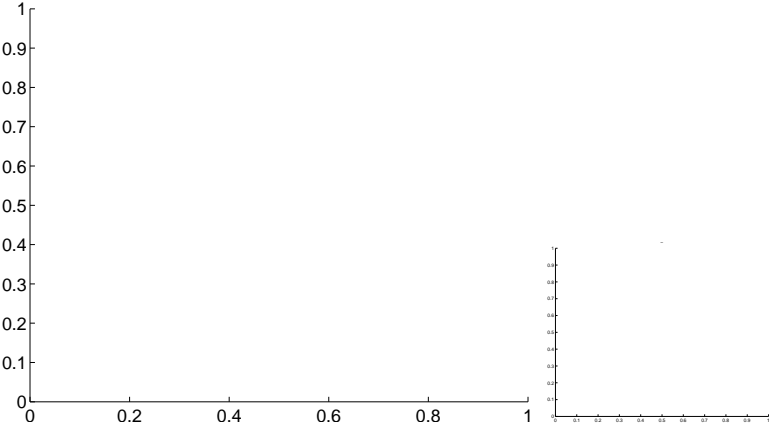
Q6 OOT image



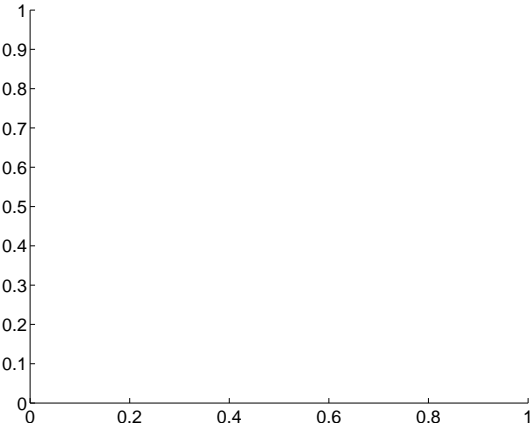
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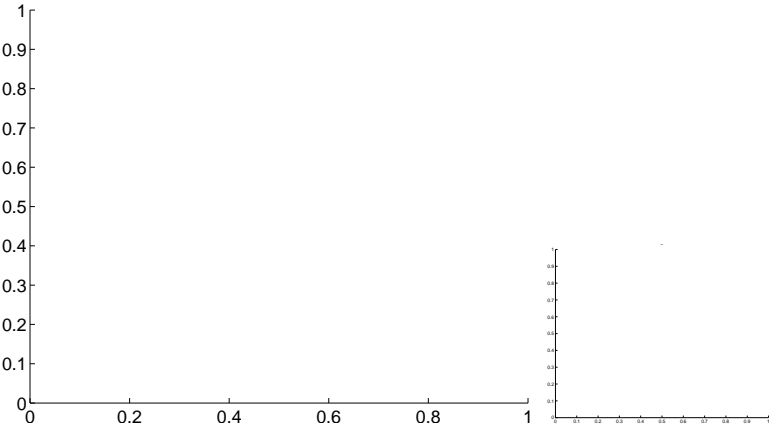
Q7 no OOT image



Q8 no difference image



Q8 no OOT image



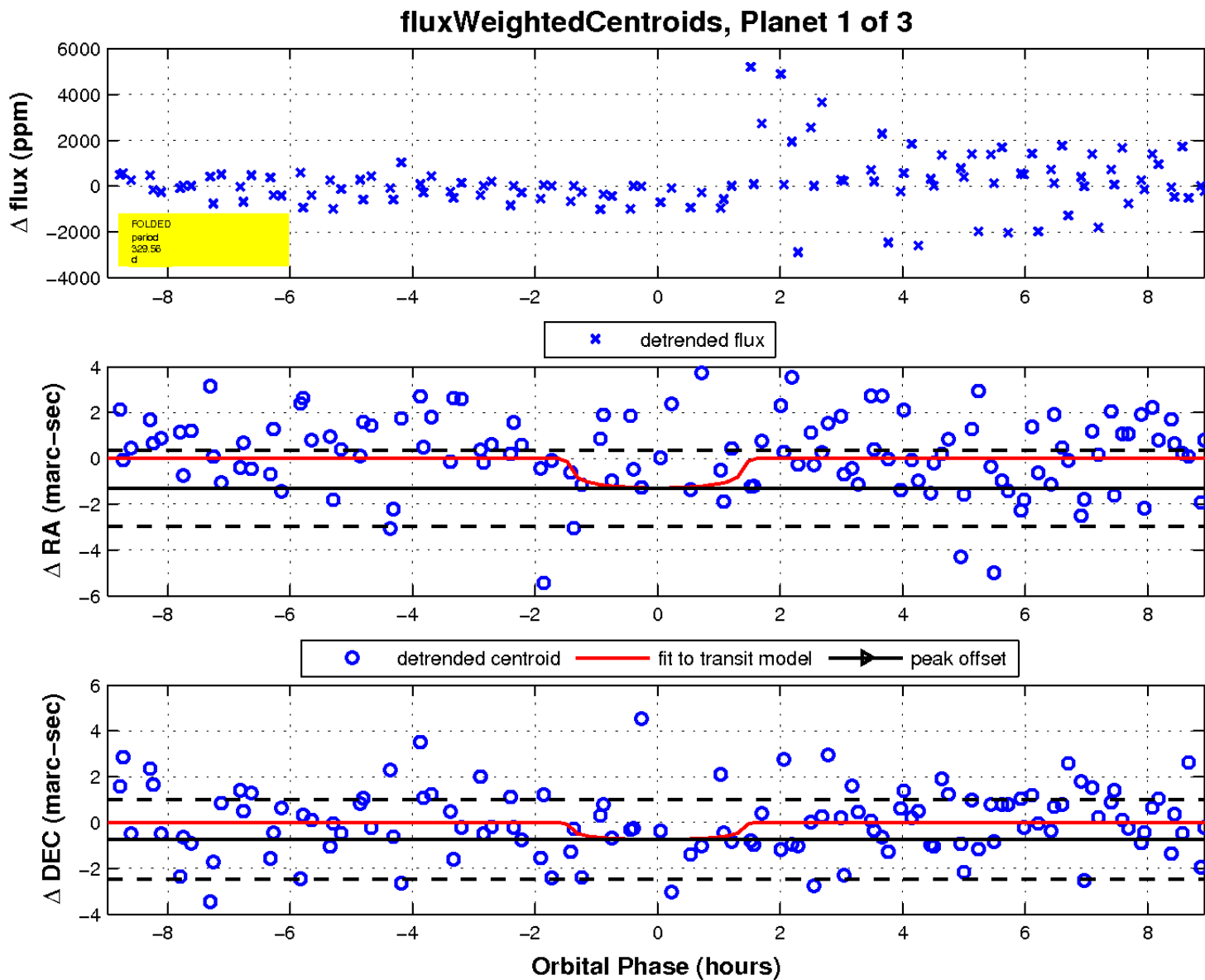
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

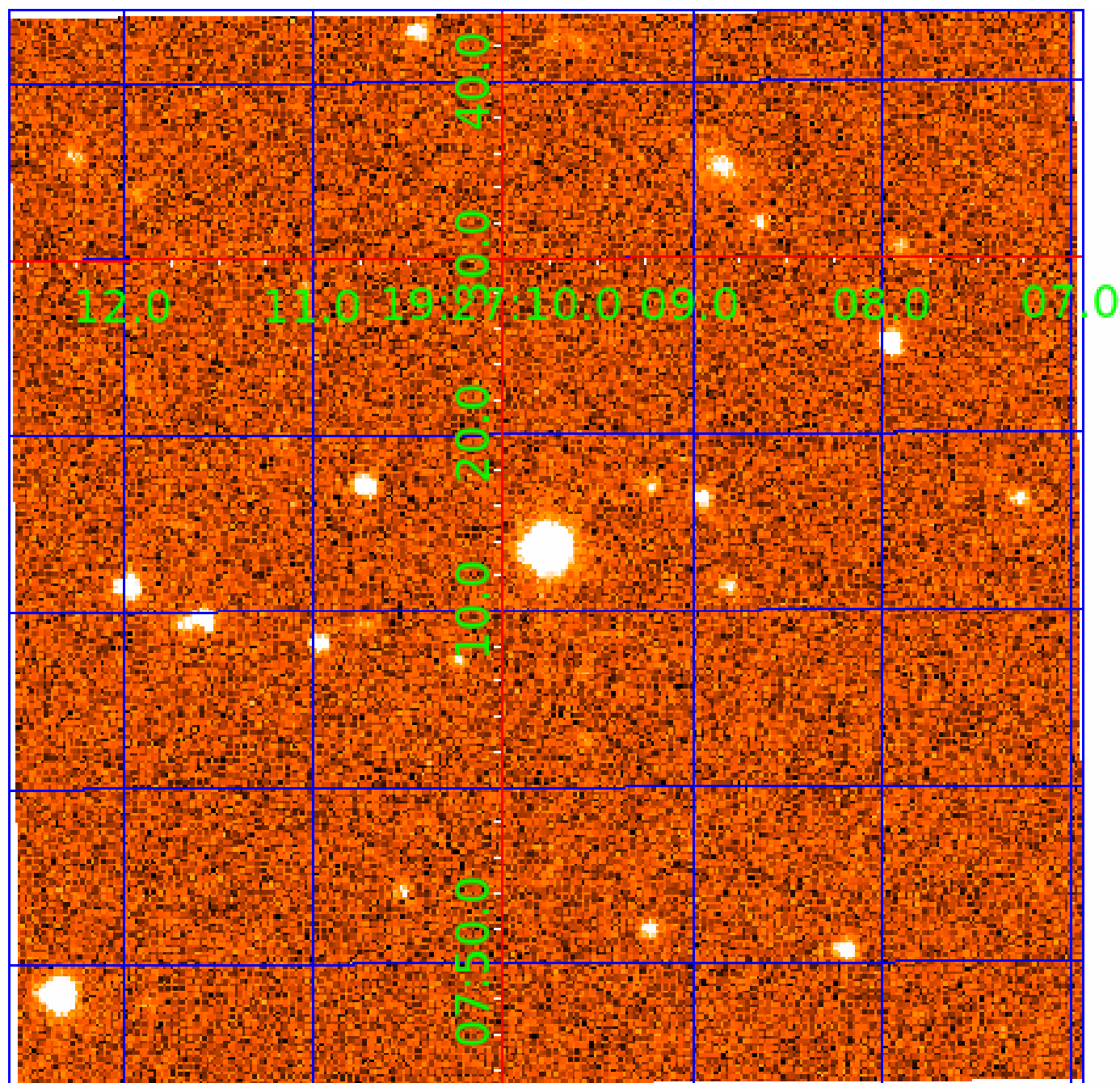


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008233314

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})
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Robovetter Results

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008233314-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008233314-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

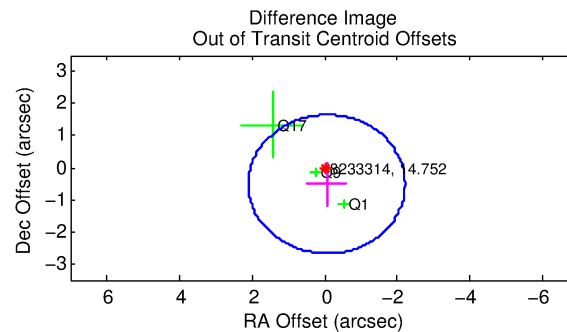
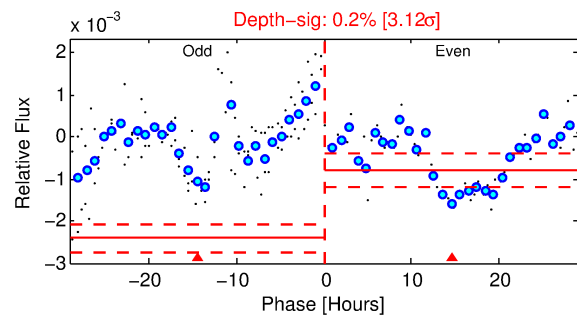
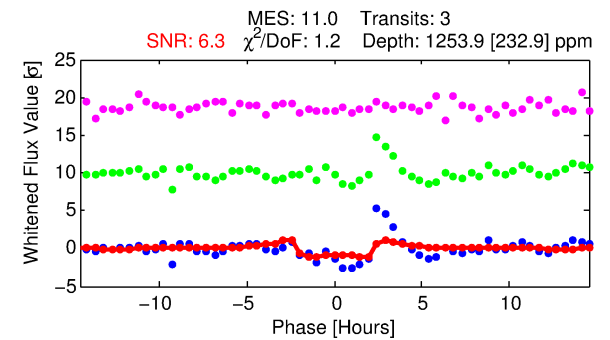
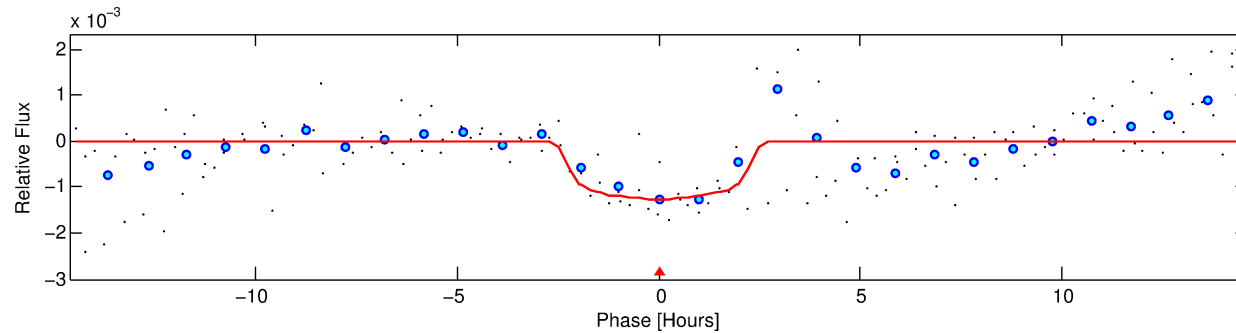
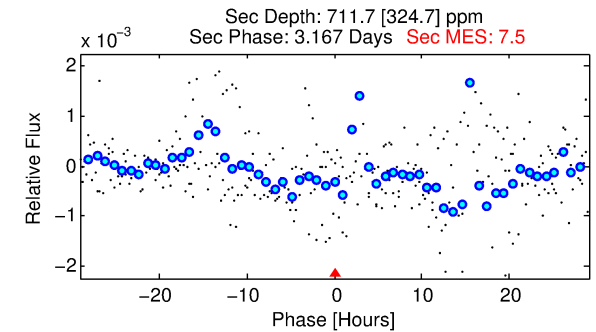
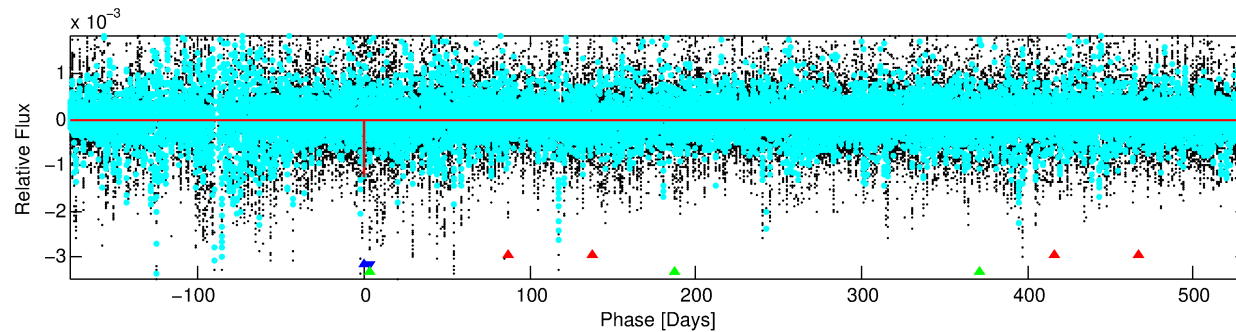
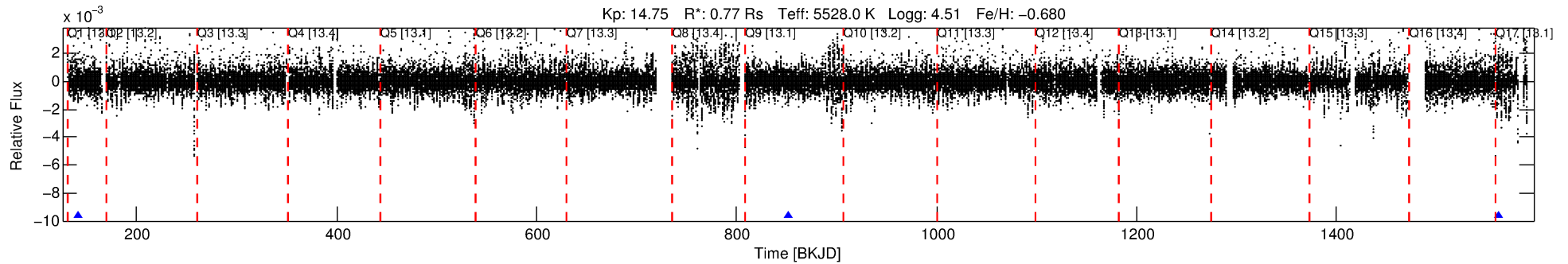
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008233314-02

No Significant Match Found

DV One-Page Summary

KIC: 8233314 Candidate: 2 of 3 Period: 710.282 d



DV Fit Results:

Period = 710.28161 [0.00630] d
Epoch = 141.0747 [0.0075] BKJD
Rp/R* = 0.0334 [0.3080]
a/R* = 987.11 [41322.84]
b = 0.53 [57.29]
Seff = 0.26 [0.06]
Teq = 181 [11] K
Rp = 2.80 [25.79] Re
a = 1.3852 [0.1868] AU
Ag = 96168.99 [1774776.22] [0.05σ]
Teffp = 4941 [22795] K [0.21σ]

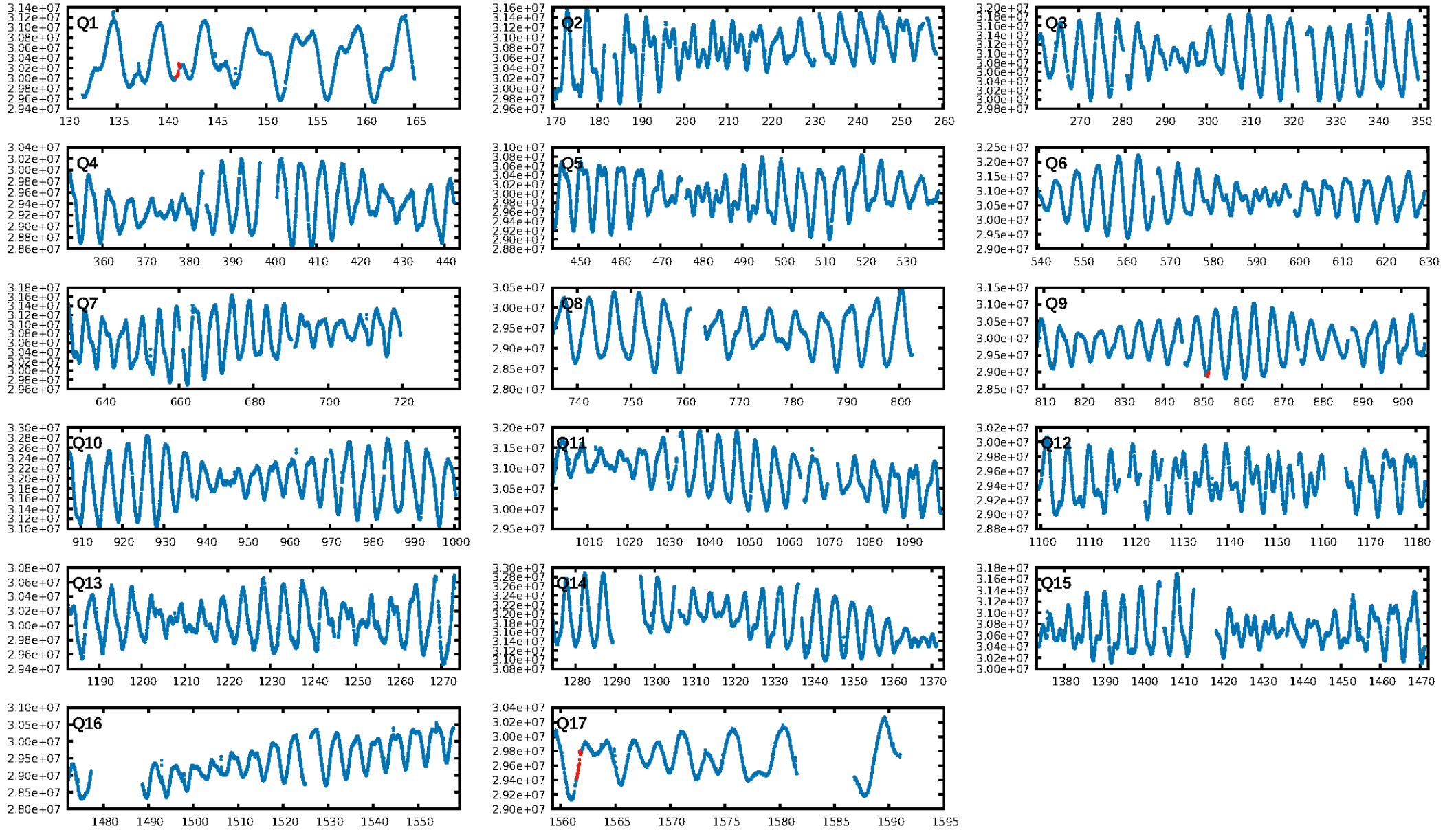
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [559.48σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.2%
ModelChiSquareGof-sig: 88.3%
Bootstrap-pfa: 1.06e-08
RollingBand-fgt: 1.00 [1/1]
GhostDiagnostic-chr: 2.089
Centroid-sig: 97.6%
Centroid-so: 0.131 arcsec [0.15σ]
OotOffset-rm: 0.519 arcsec [0.72σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-rm: 0.540 arcsec [0.85σ]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

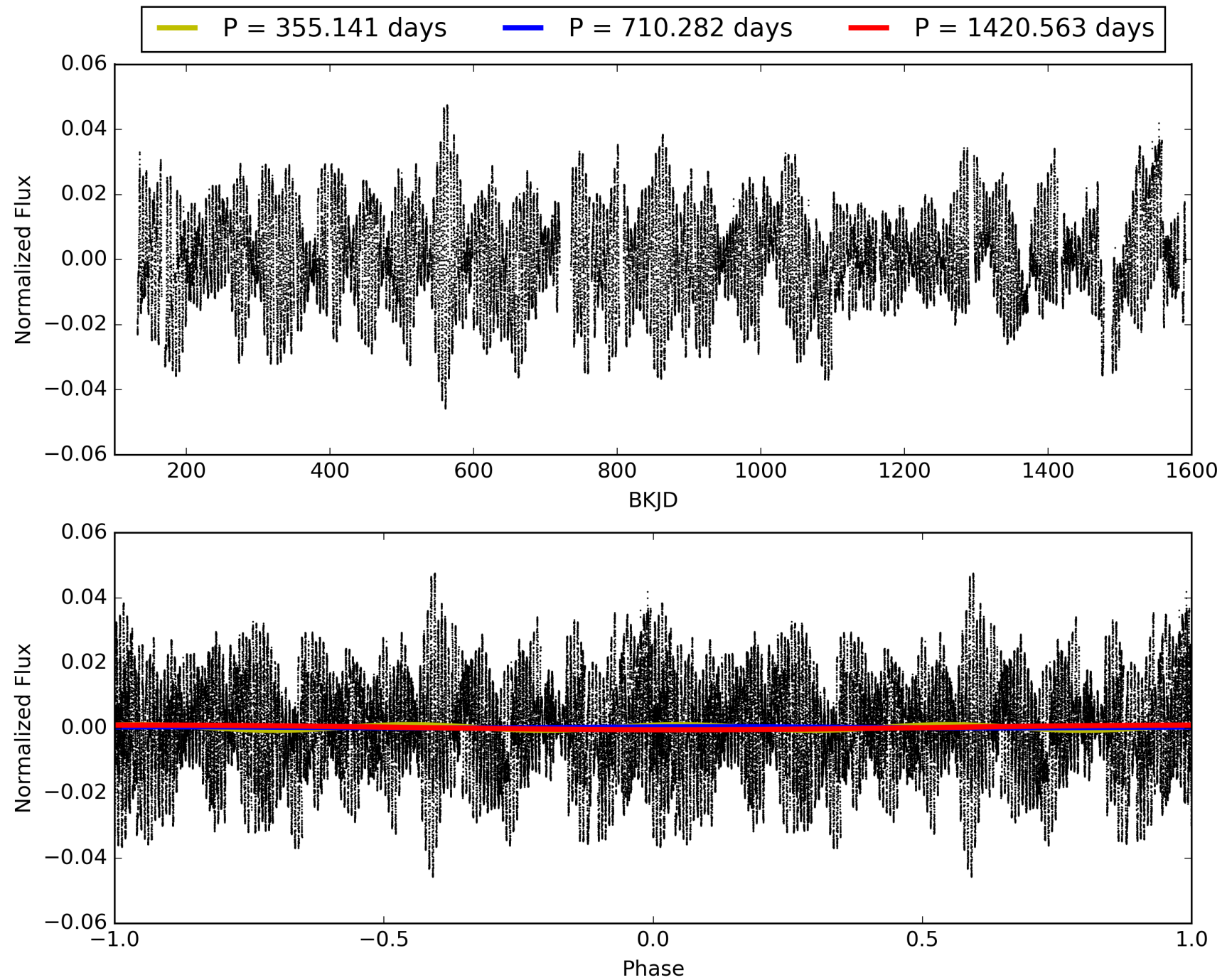
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:08:00 Z

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

TCE 008233314-02, PDC Light Curves

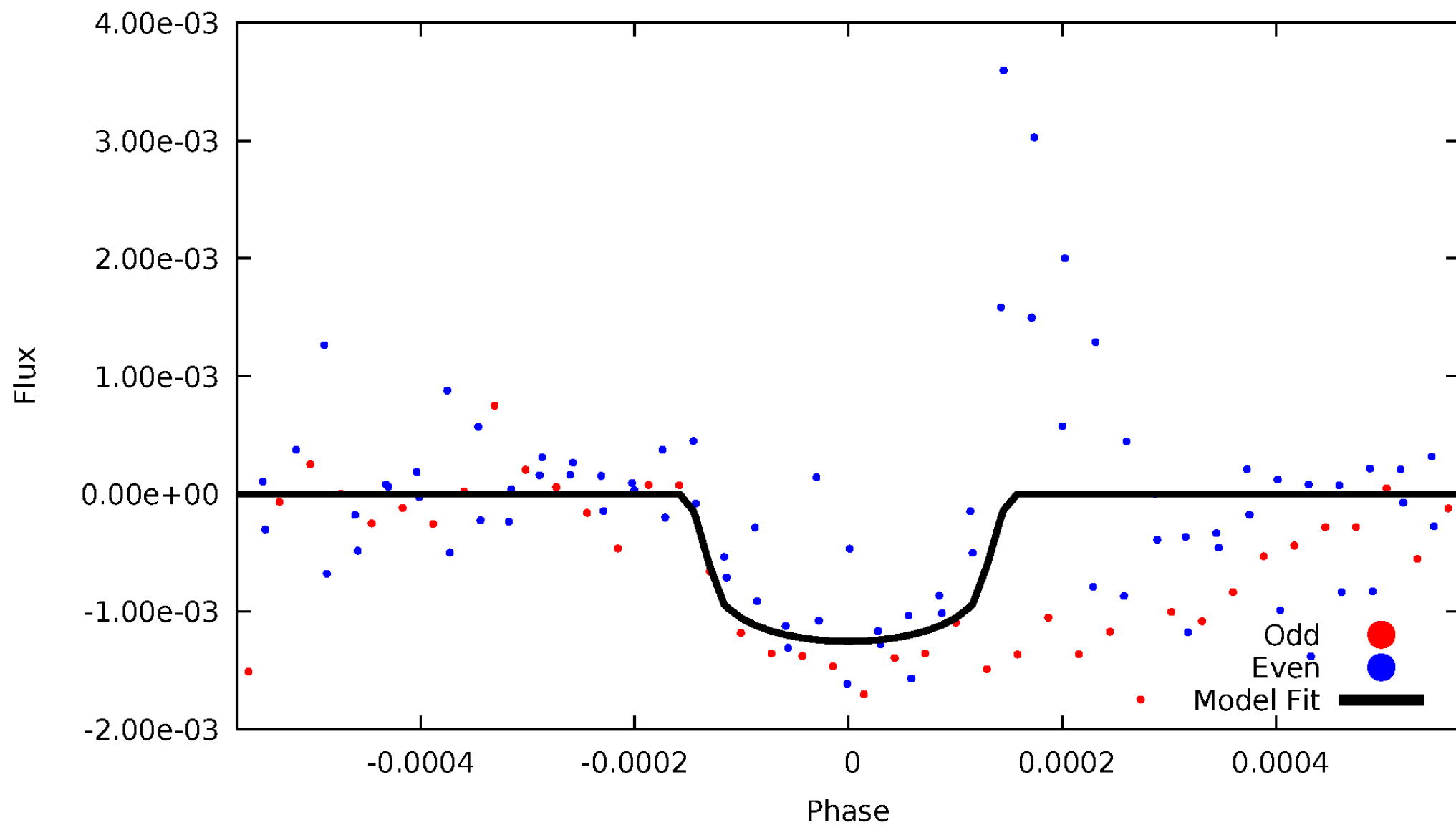


TCE 008233314-02



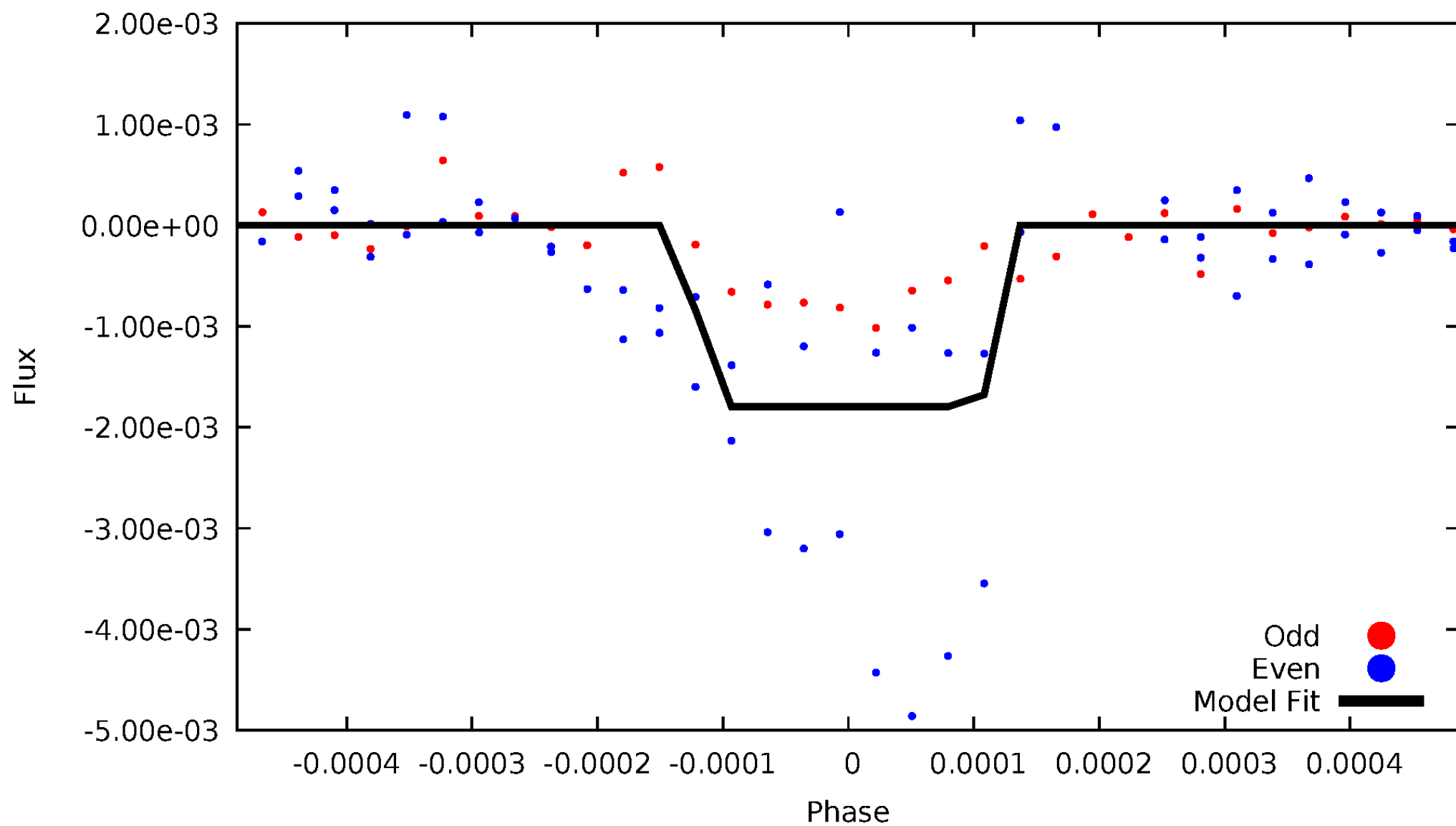
DV Odd/Even

TCE 008233314-02



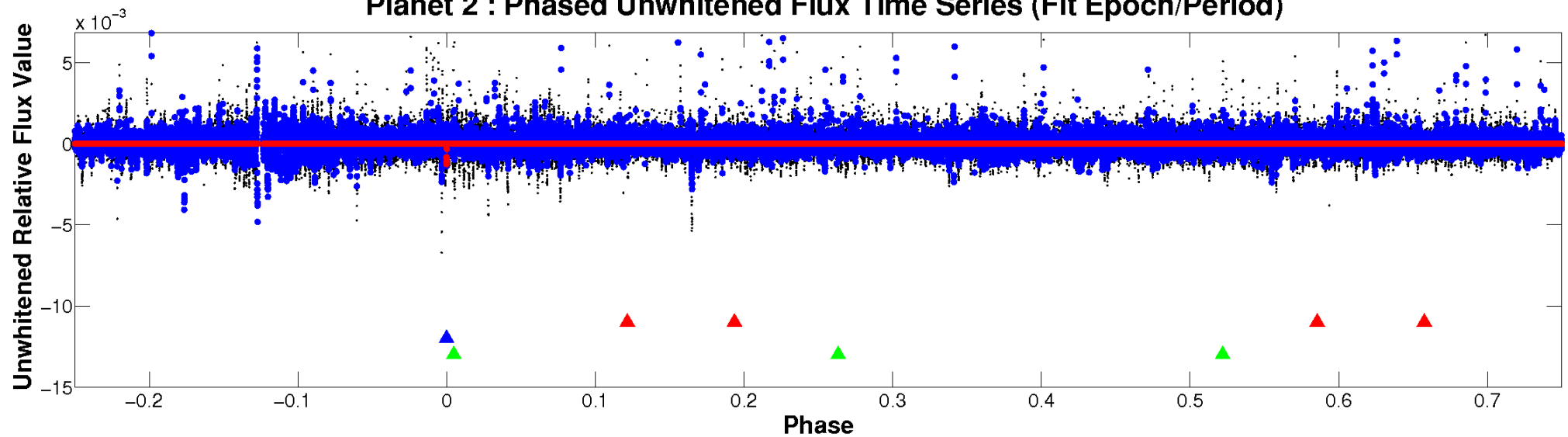
ALT Odd/Even

TCE 008233314-02

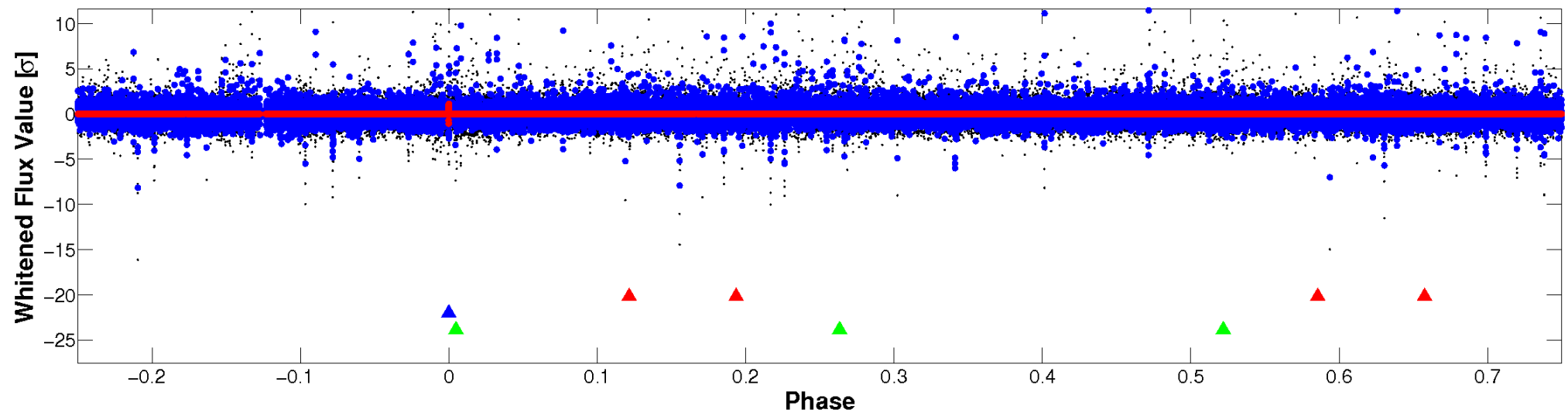


Non-Whitened Vs. Whitened Light Curve

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

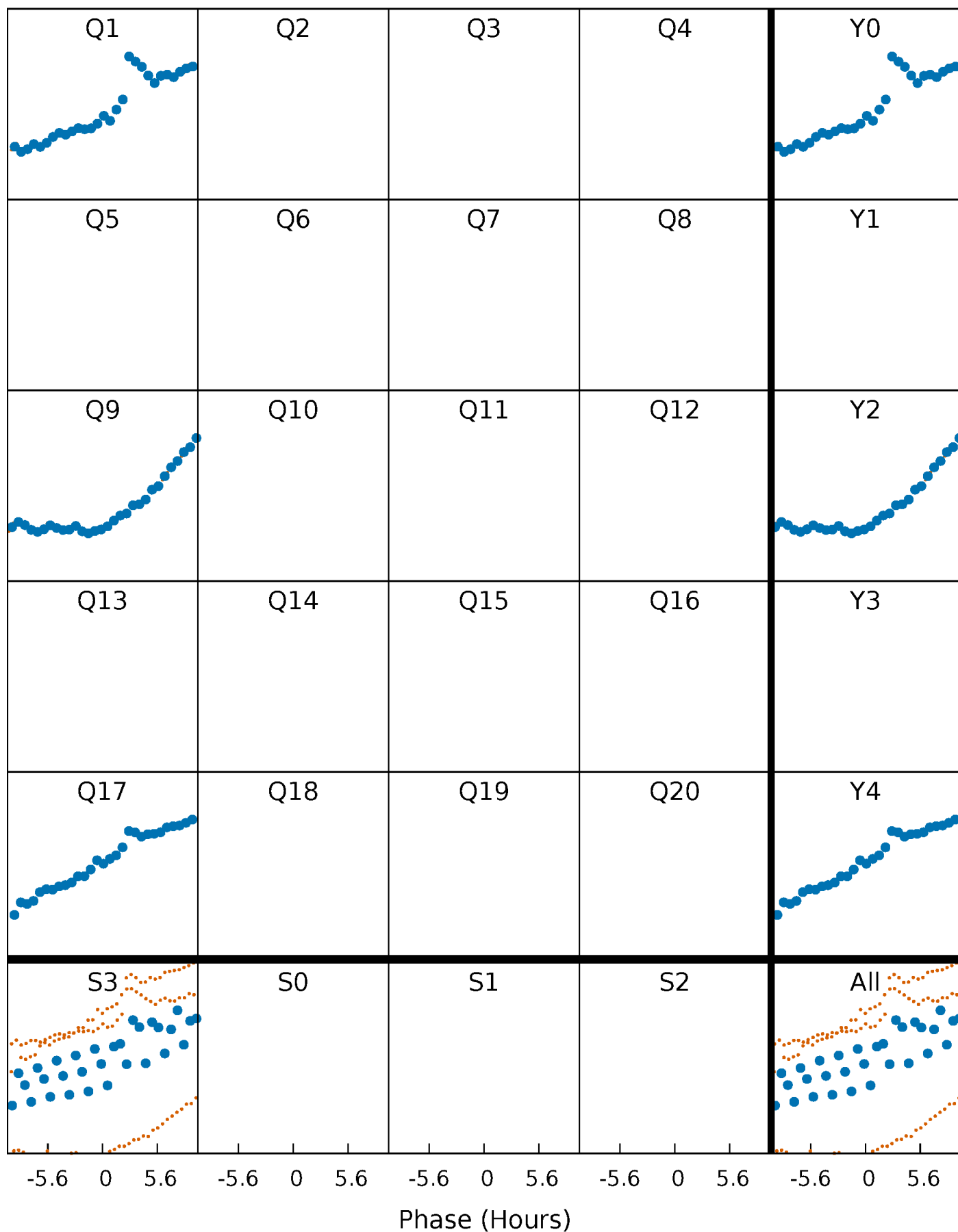


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



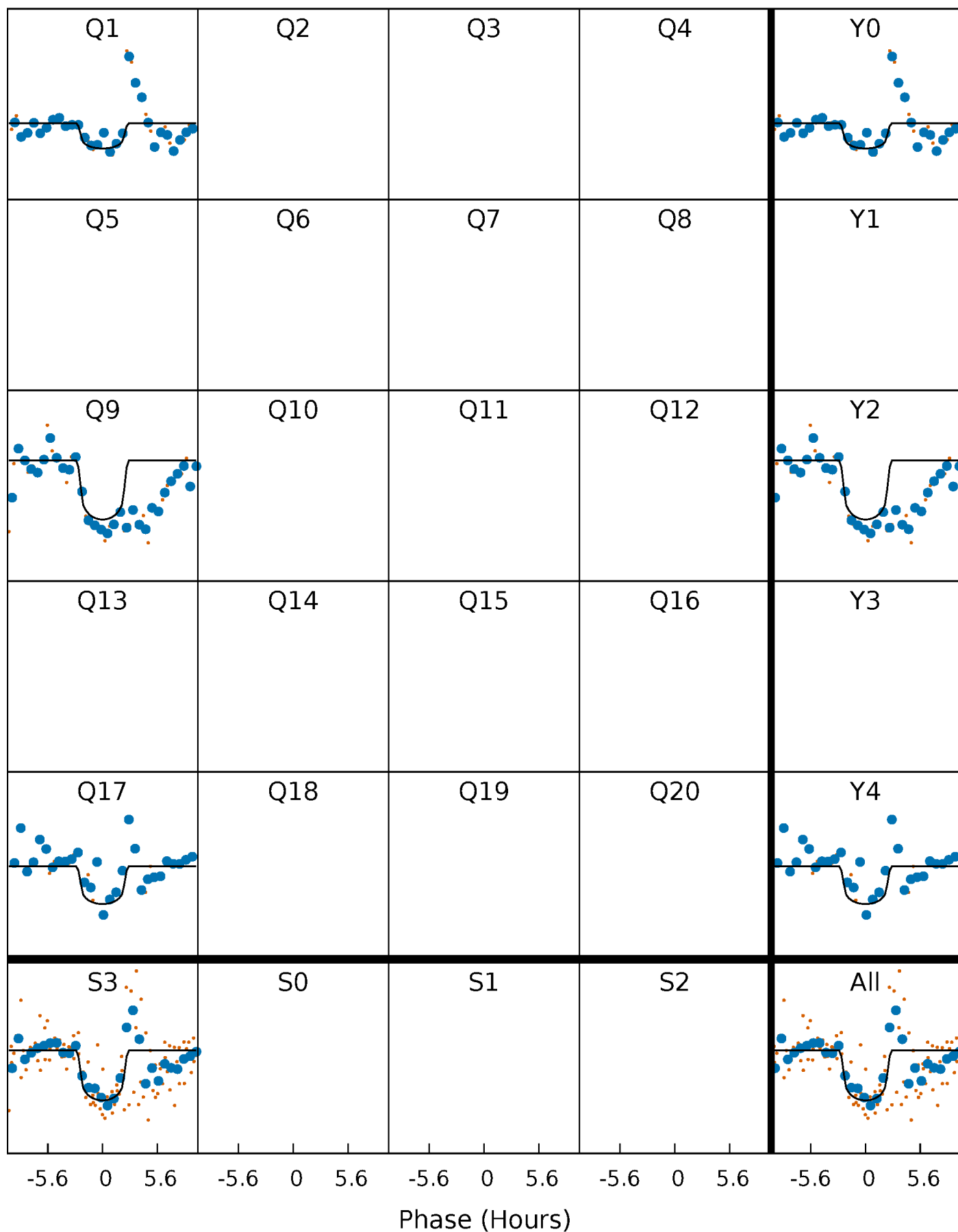
PDC Quarter-Phased Transit Curves

TCE 008233314-02 P=710.281613 Days $T_0=141.074719$ (BKJD)



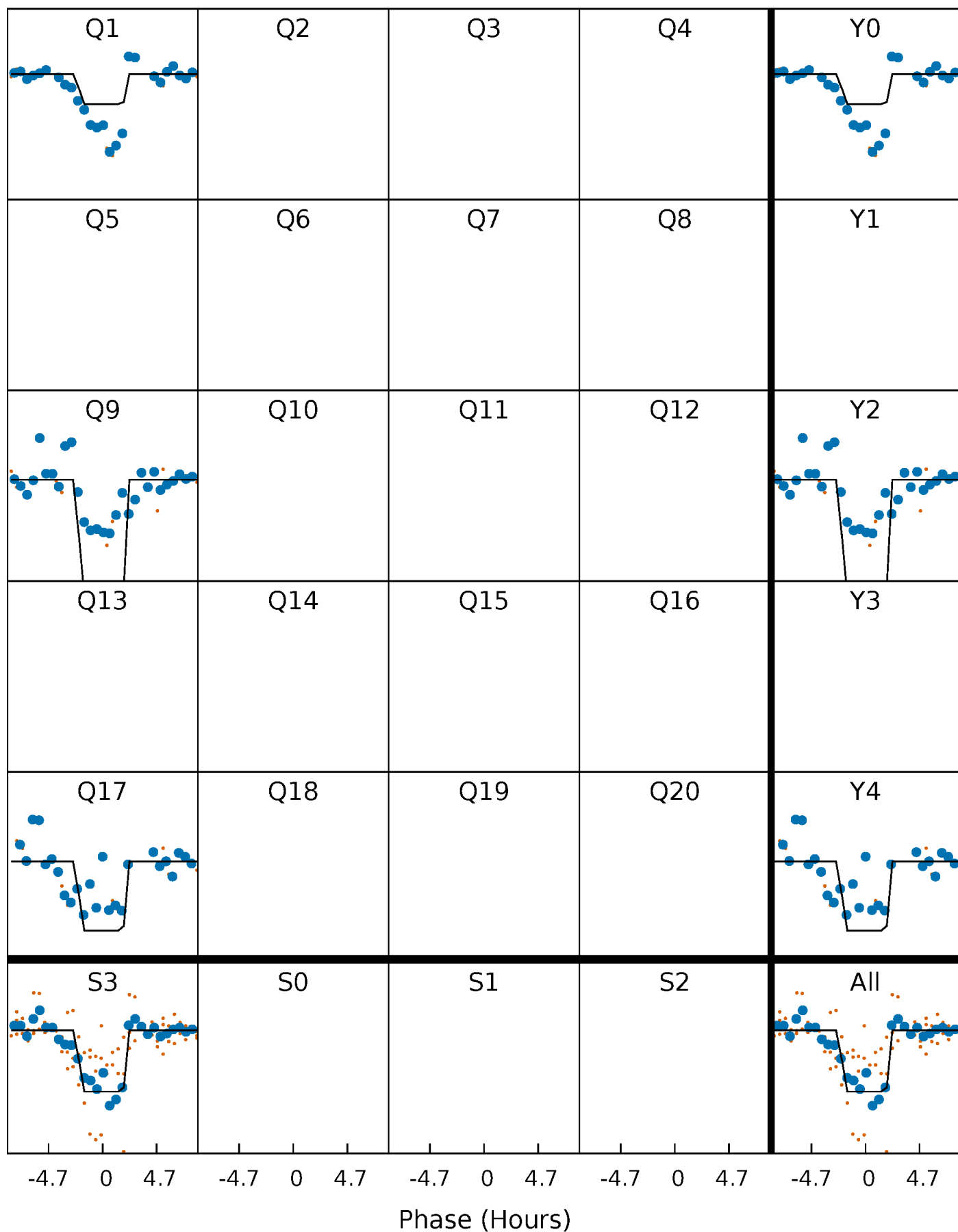
DV Quarter-Phased Transit Curves

TCE 008233314-02 $P=710.281613$ Days $T_0=141.074719$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

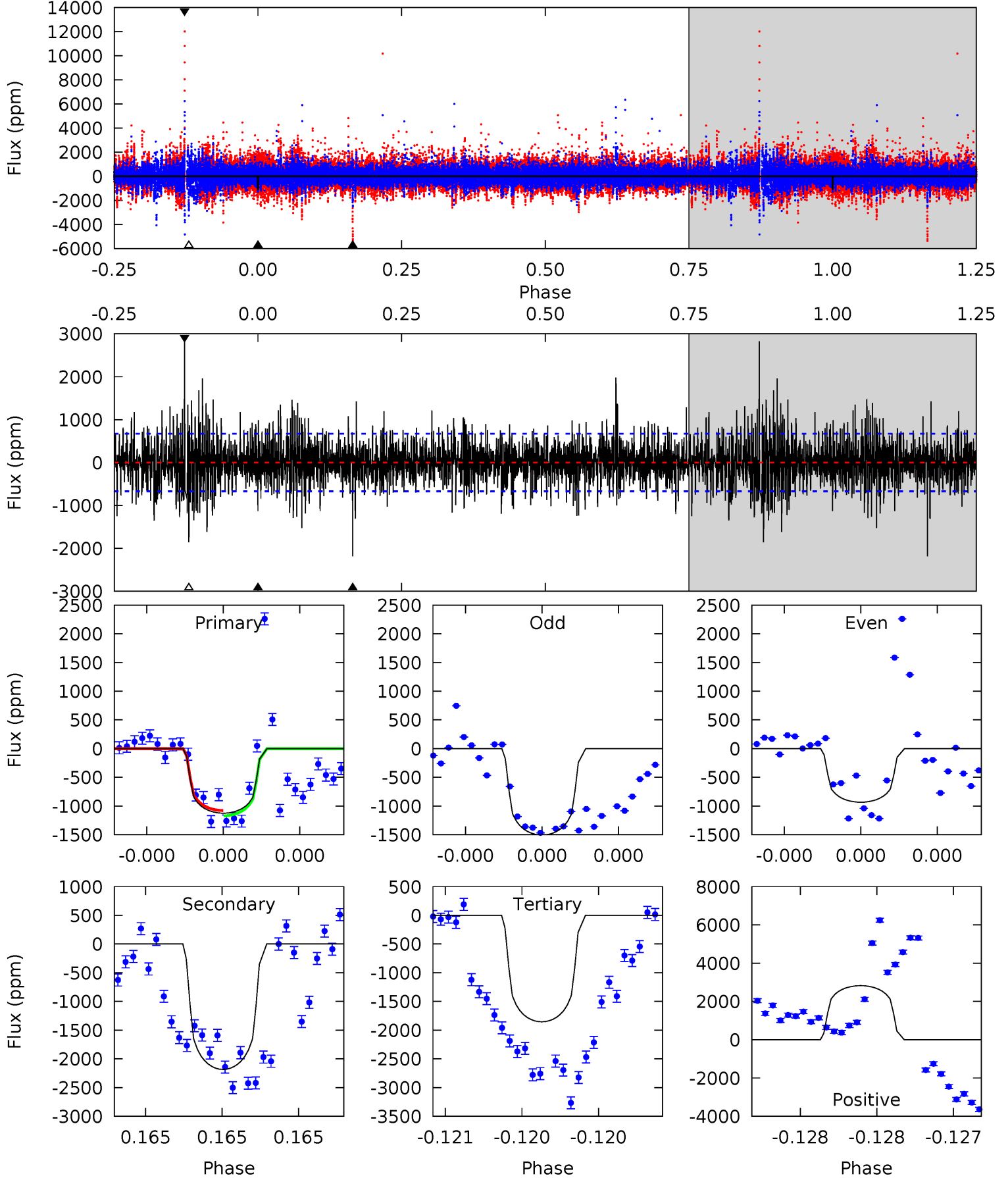
TCE 008233314-02 P=710.270546 Days $T_0=141.080445$ (BKJD)



DV Model-Shift Uniqueness Test

008233314-02, P = 710.281613 Days, E = 141.074719 Days

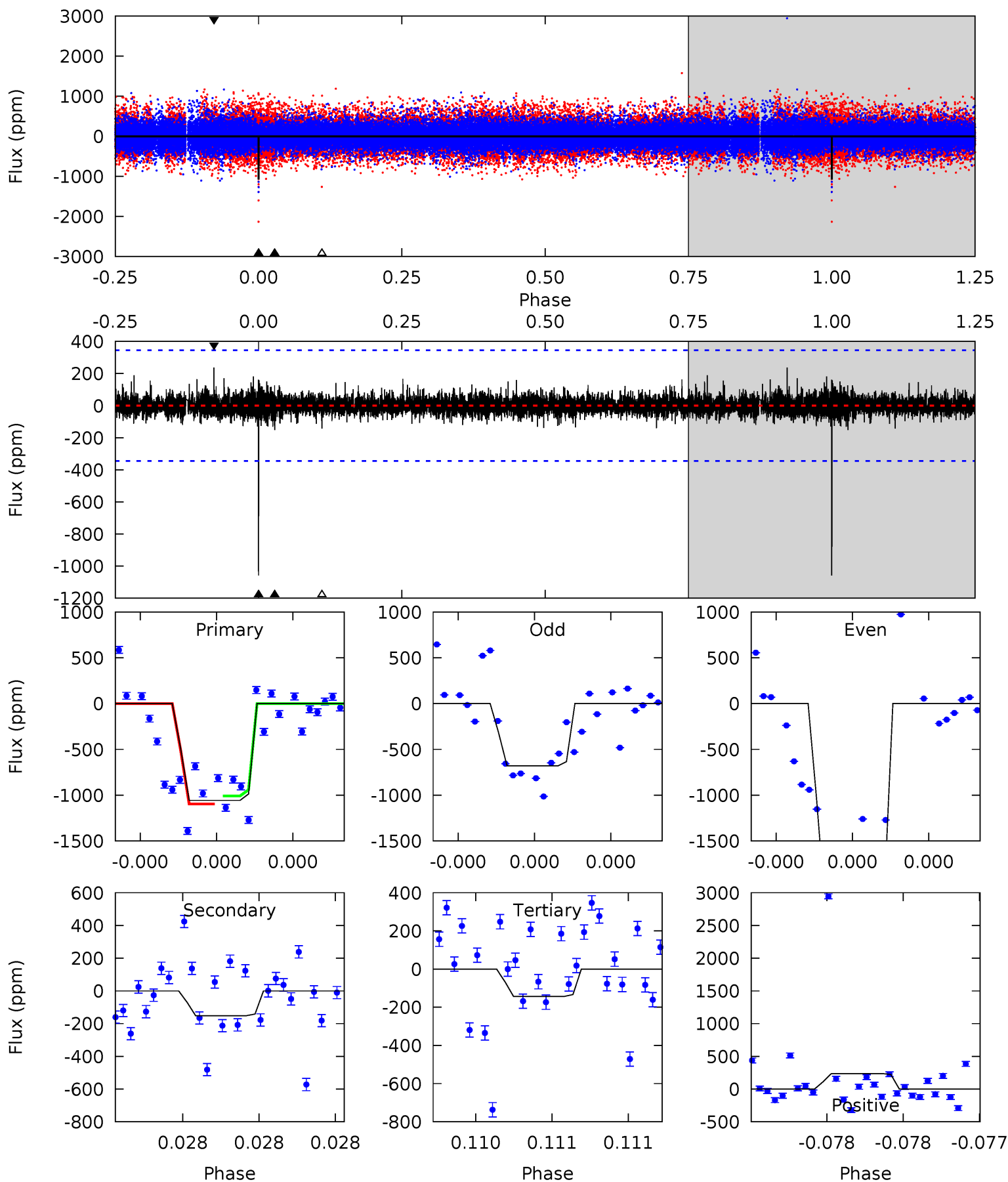
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.50	18.4	15.7	23.9	5.66	3.61	3.09	-6.16	-14.4	2.78	-5.42	2.13	1.07	0.56	0.39



Alt Model-Shift Uniqueness Test

008233314-02, P = 710.270546 Days, E = 141.080445 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	2.49	2.36	3.92	5.69	3.65	0.53	15.1	13.5	0.13	-1.42	14.8	1.76	0.18	0



Stellar Parameters For KIC 008233314

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5528^{+181}_{-165}	$4.515^{+0.110}_{-0.110}$	$-0.680^{+0.350}_{-0.300}$	$0.767^{+0.121}_{-0.099}$	$0.703^{+0.098}_{-0.033}$	$2.192^{+1.044}_{-0.706}$
	+3%/-3%	+2%/-2%	+51%/-44%	+16%/-13%	+14%/-5%	+48%/-32%
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 008233314-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2184 ± 118	$18.65^{+20.21}_{-13.15}$	254^{+14}_{-12}	3156^{+1665}_{-566}	6901^{+69932}_{-5305}
Alt.	-151 ± 61	$17.79^{+22.15}_{-12.76}$	253^{+14}_{-13}	2245^{+811}_{-355}	475^{+5642}_{-379}

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 $A_{obs} \gg 1.0$

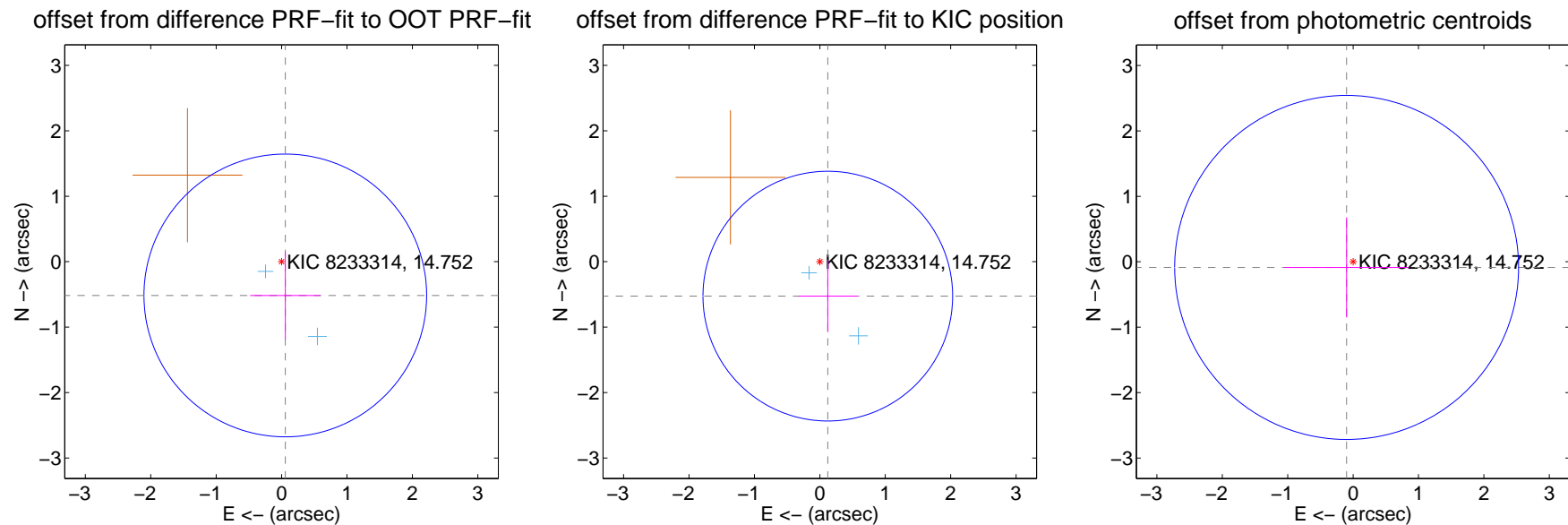
DV Centroid Data

Supplemental centroid analysis for 008233314-02. Kepler magnitude: 14.75. Transit SNR 6.29

There are 2 quarters with good PRF difference image offsets

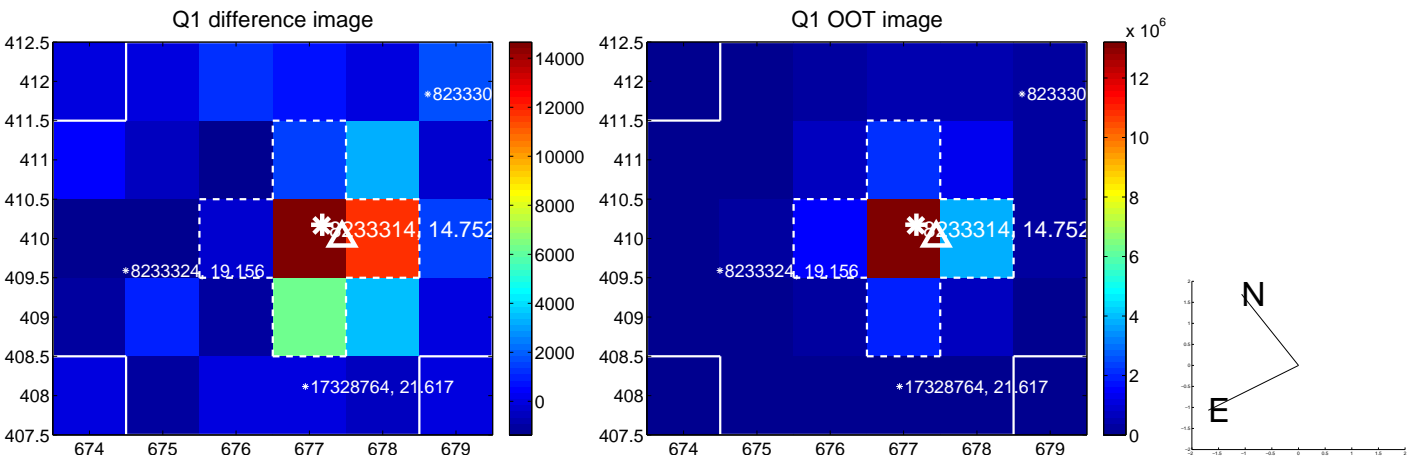
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.519 ± 0.720	0.72	-0.057 ± 0.538	-0.516 ± 0.666
PRF-fit source offset from KIC position	0.540 ± 0.636	0.85	-0.122 ± 0.448	-0.526 ± 0.551
photometric centroid source offset	0.13 ± 0.88	0.15	0.10 ± 0.95	-0.09 ± 0.77



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.

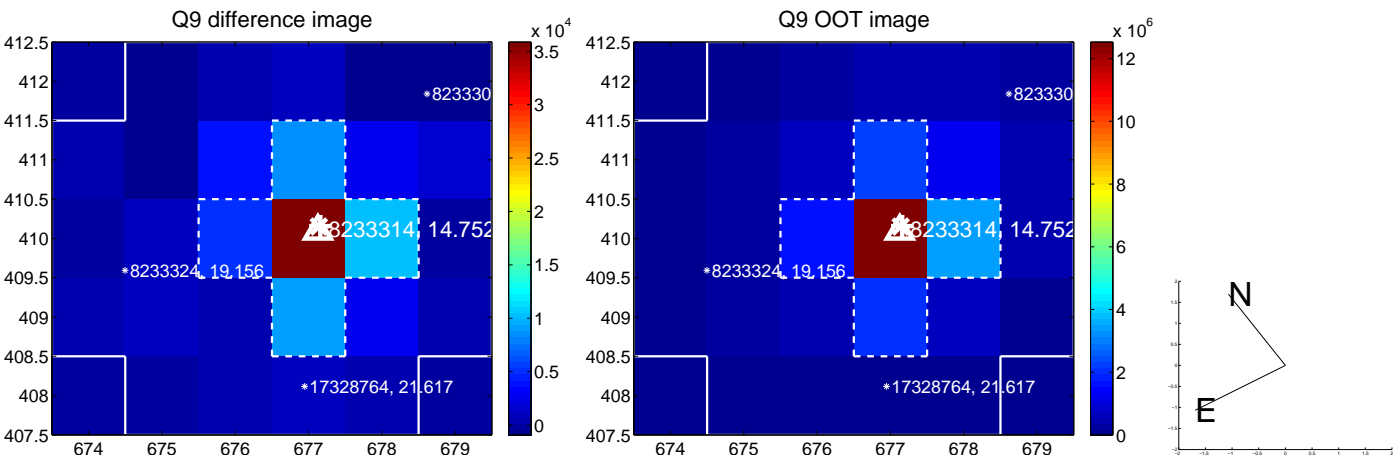
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



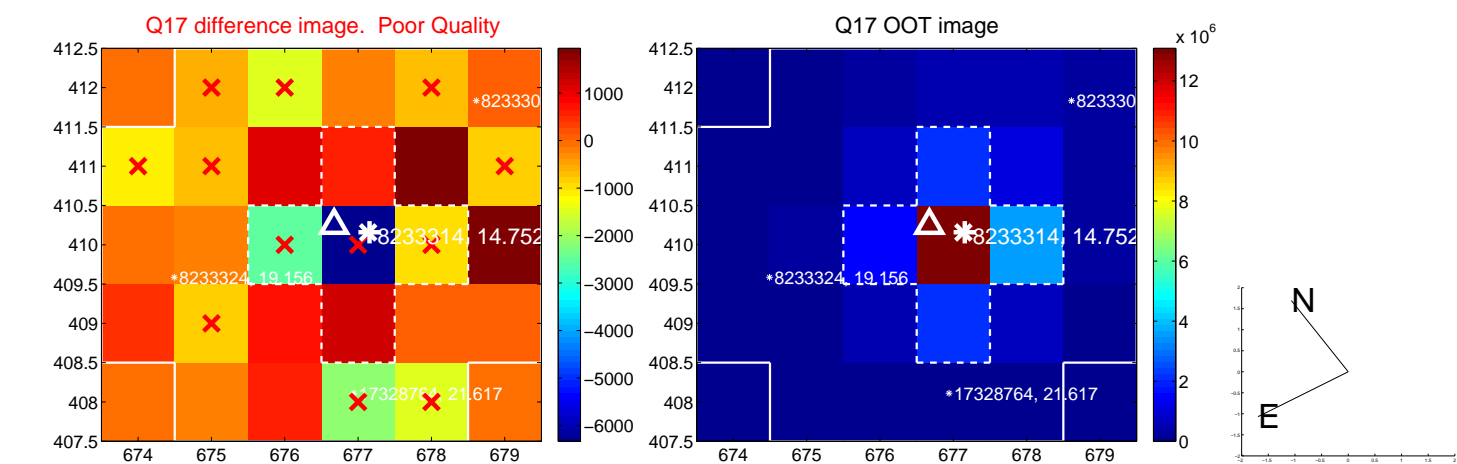
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



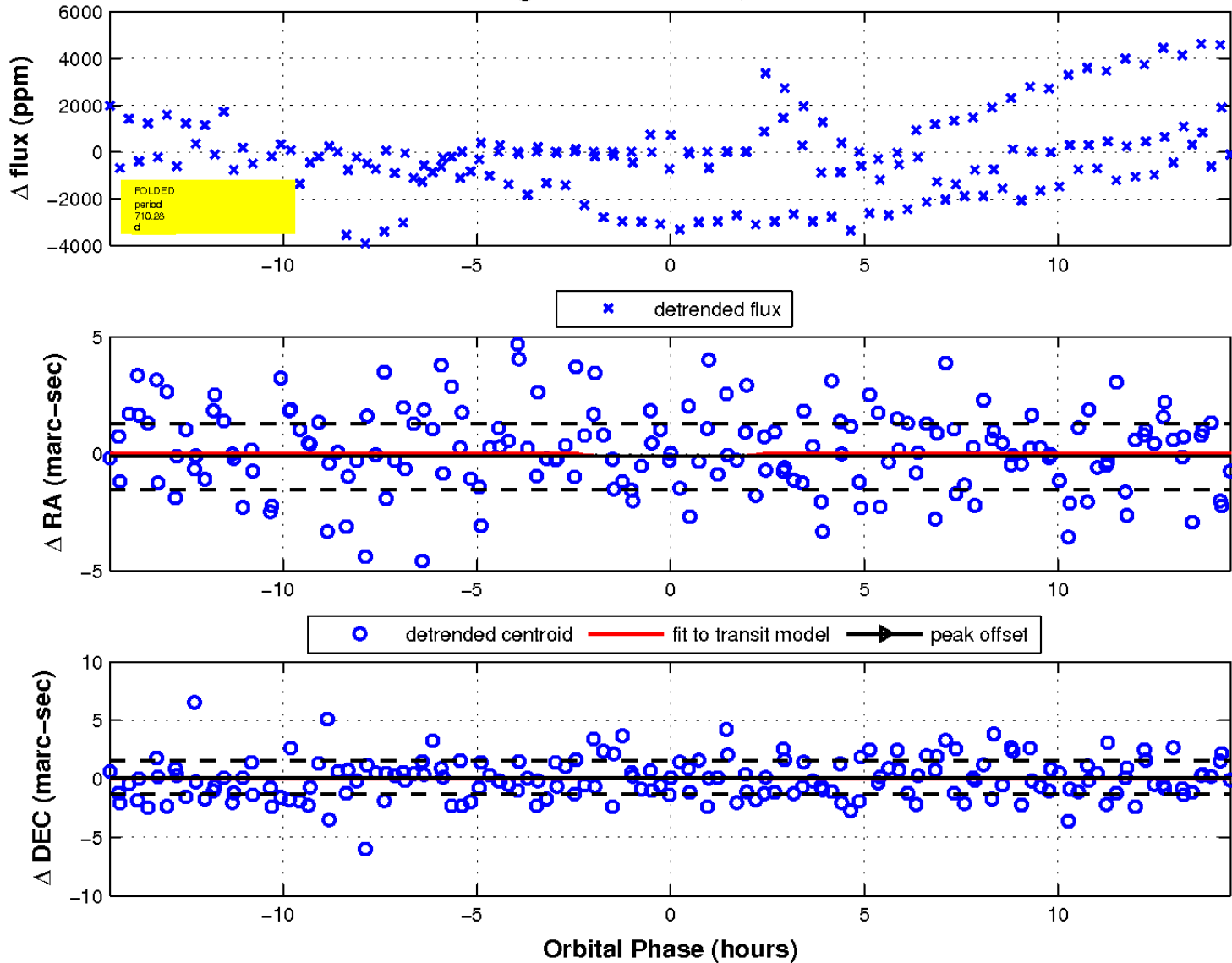
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

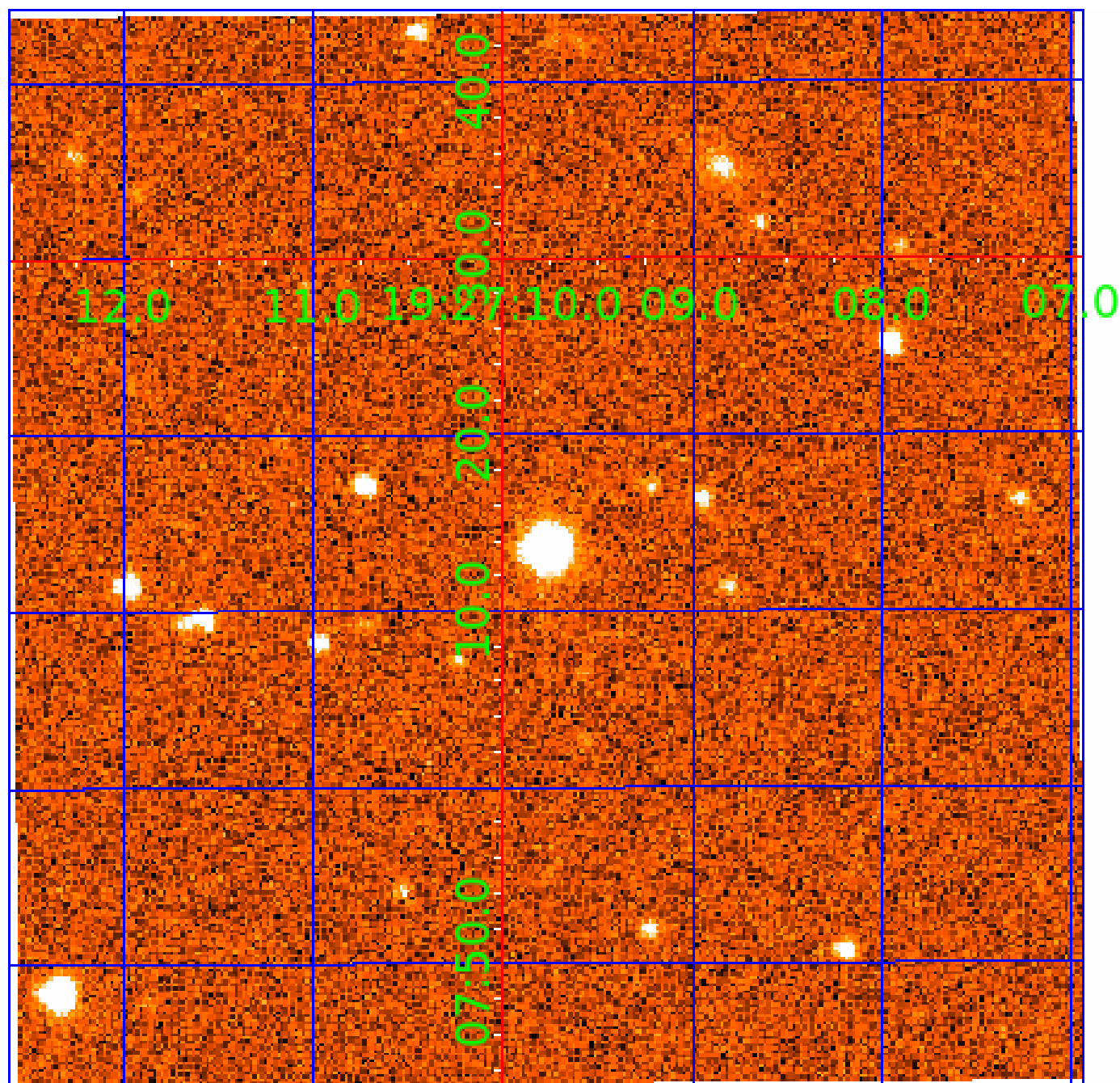


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 008233314

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})
008233314-01	OBS	No	329.561744	278.584313	1098.5	3.009	11.3	5.7	0.77	5528	2.71	0.71
008233314-02	OBS	No	710.281613	141.074719	1253.9	4.872	11.0	6.3	0.77	5528	2.79	0.26
008233314-03	OBS	No	526.633885	511.799929	1291.1	6.191	10.8	5.8	0.77	5528	2.90	0.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008233314-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008233314-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008233314-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

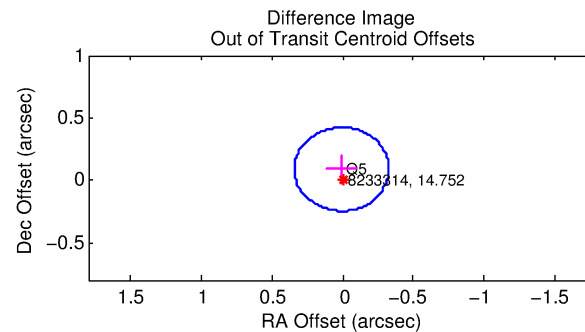
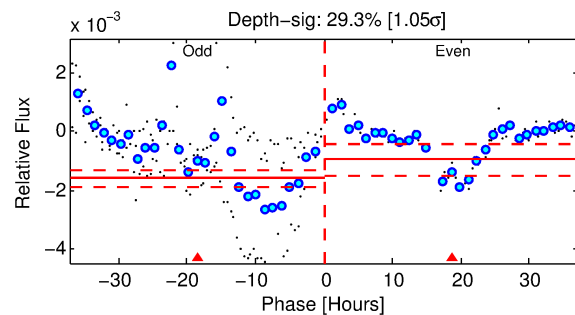
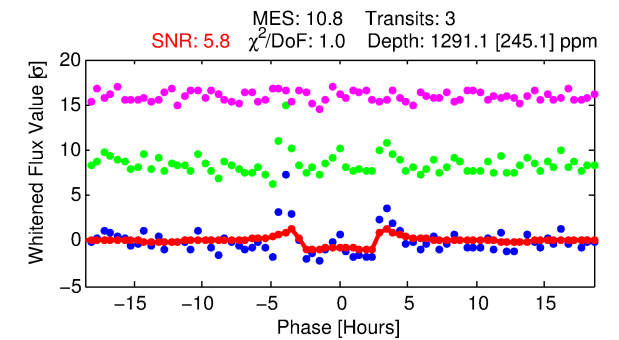
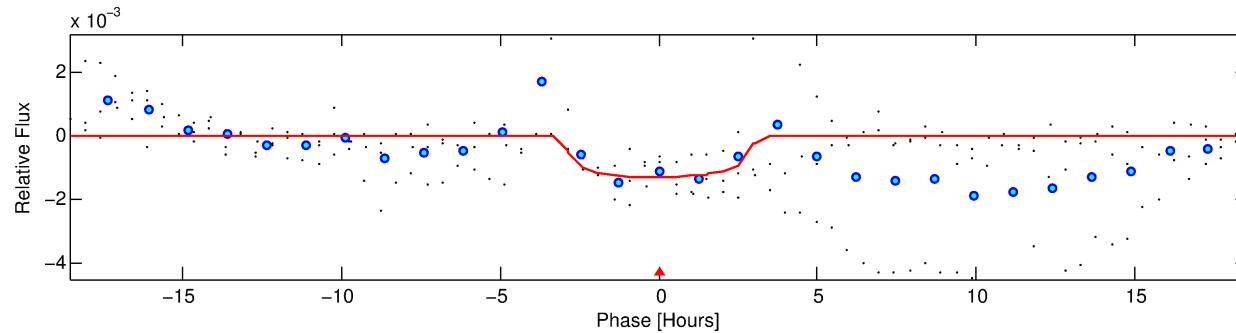
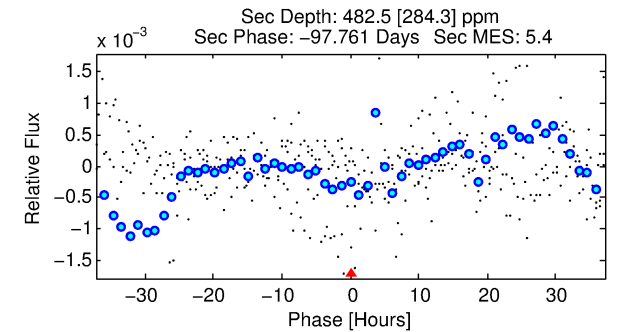
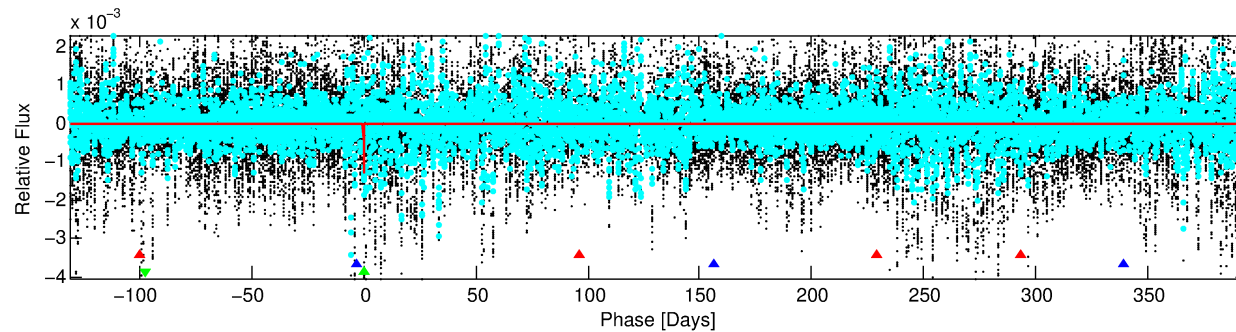
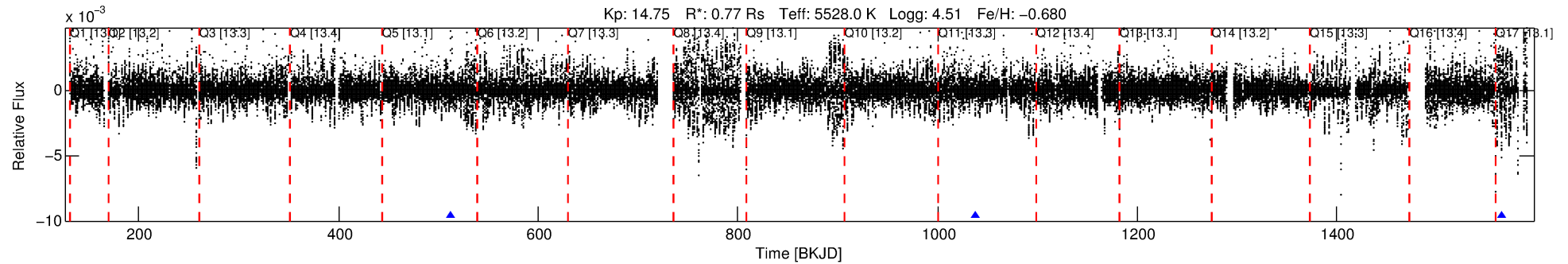
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008233314-03

No Significant Match Found

DV One-Page Summary

KIC: 8233314 Candidate: 3 of 3 Period: 526.634 d



DV Fit Results:

Period = 526.63388 [0.00555] d
Epoch = 511.7999 [0.0074] BKJD
Rp/R* = 0.0346 [0.0677]
a/R* = 528.71 [4687.60]
b = 0.64 [8.32]
Seff = 0.38 [0.09]
Teq = 200 [12] K
Rp = 2.90 [5.69] Re
a = 1.1347 [0.1530] AU
Ag = 40739.84 [161519.37] [0.25σ]
Teffp = 4404 [4362] K [0.96σ]

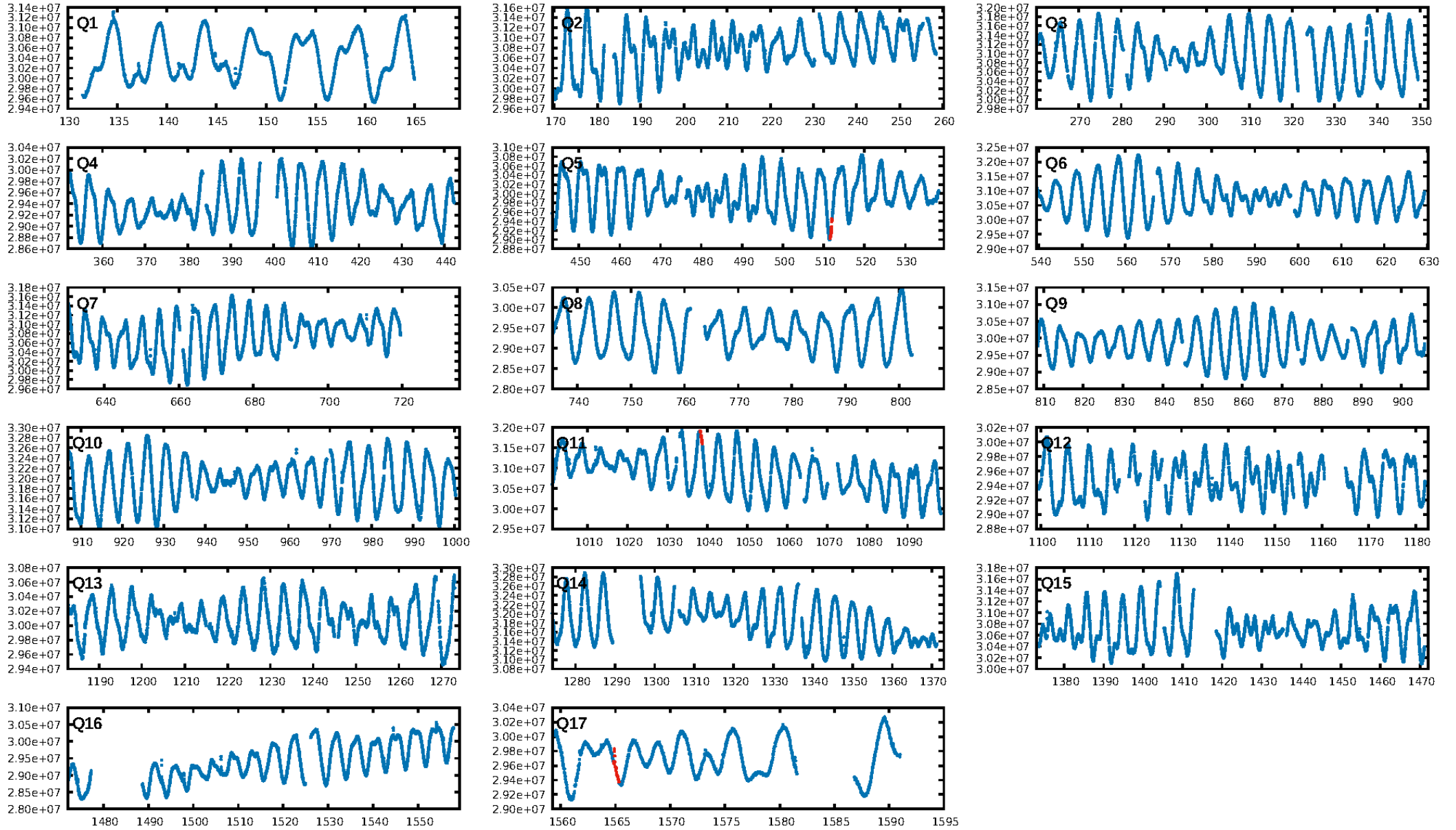
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [687.12σ]
LongPeriod-sig: 100.0% [559.48σ]
ModelChiSquare2-sig: 22.1%
ModelChiSquareGof-sig: 98.3%
Bootstrap-pfa: 5.03e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.415
Centroid-sig: 95.6%
Centroid-so: 0.113 arcsec [0.15σ]
OotOffset-rm: 0.087 arcsec [0.78σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-rm: 0.080 arcsec [0.72σ]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

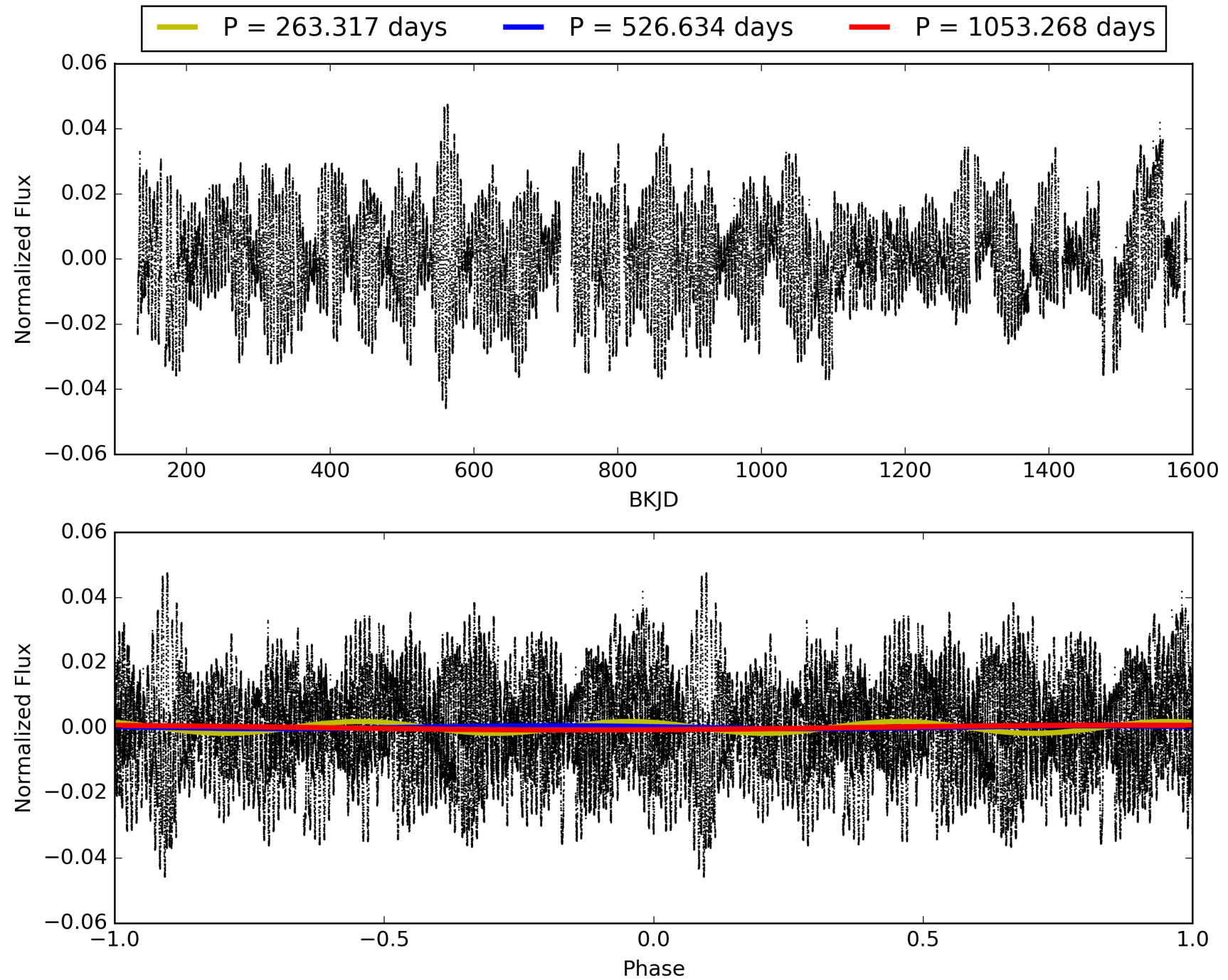
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:08:15 Z

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

TCE 008233314-03, PDC Light Curves

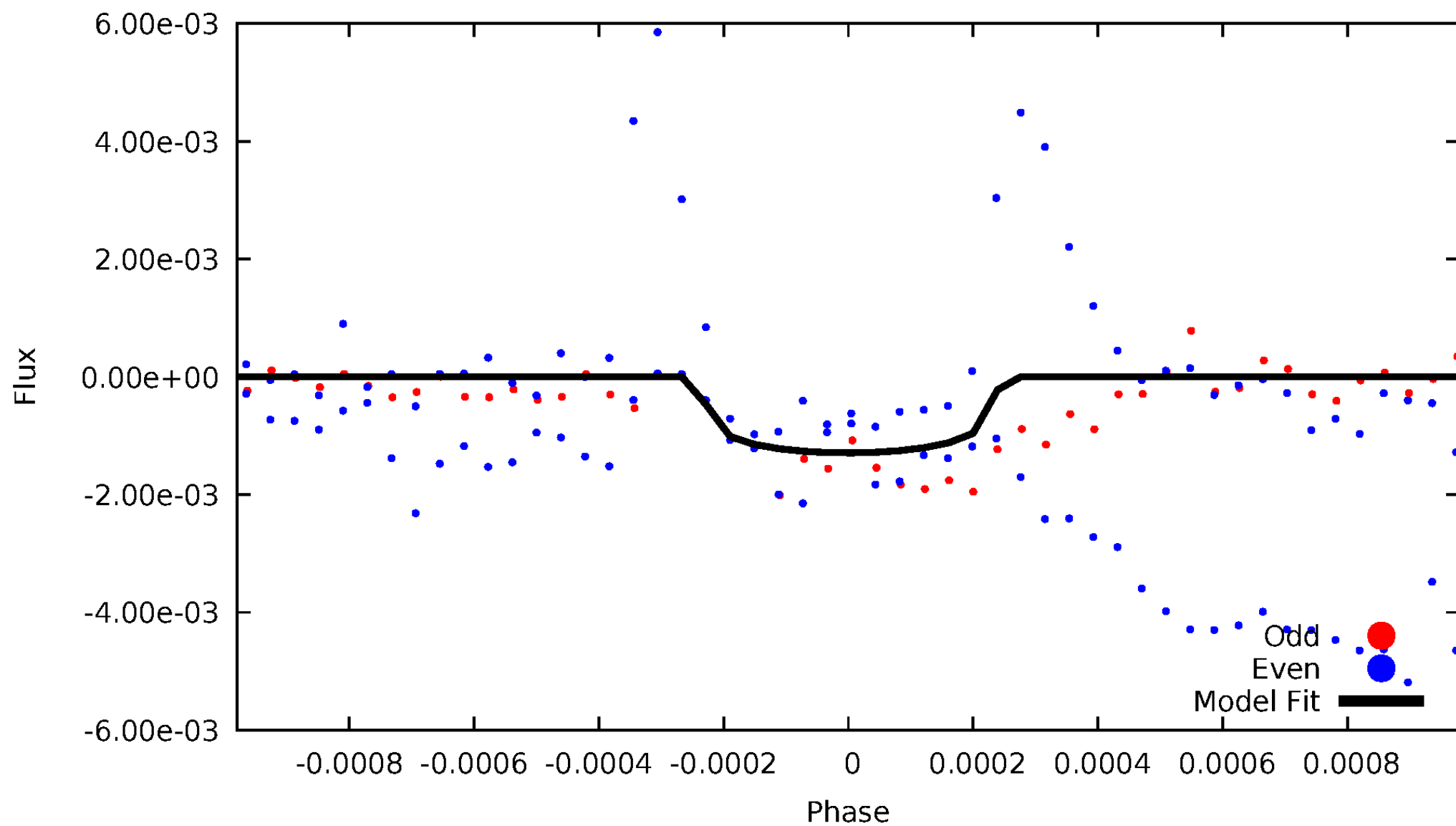


TCE 008233314-03



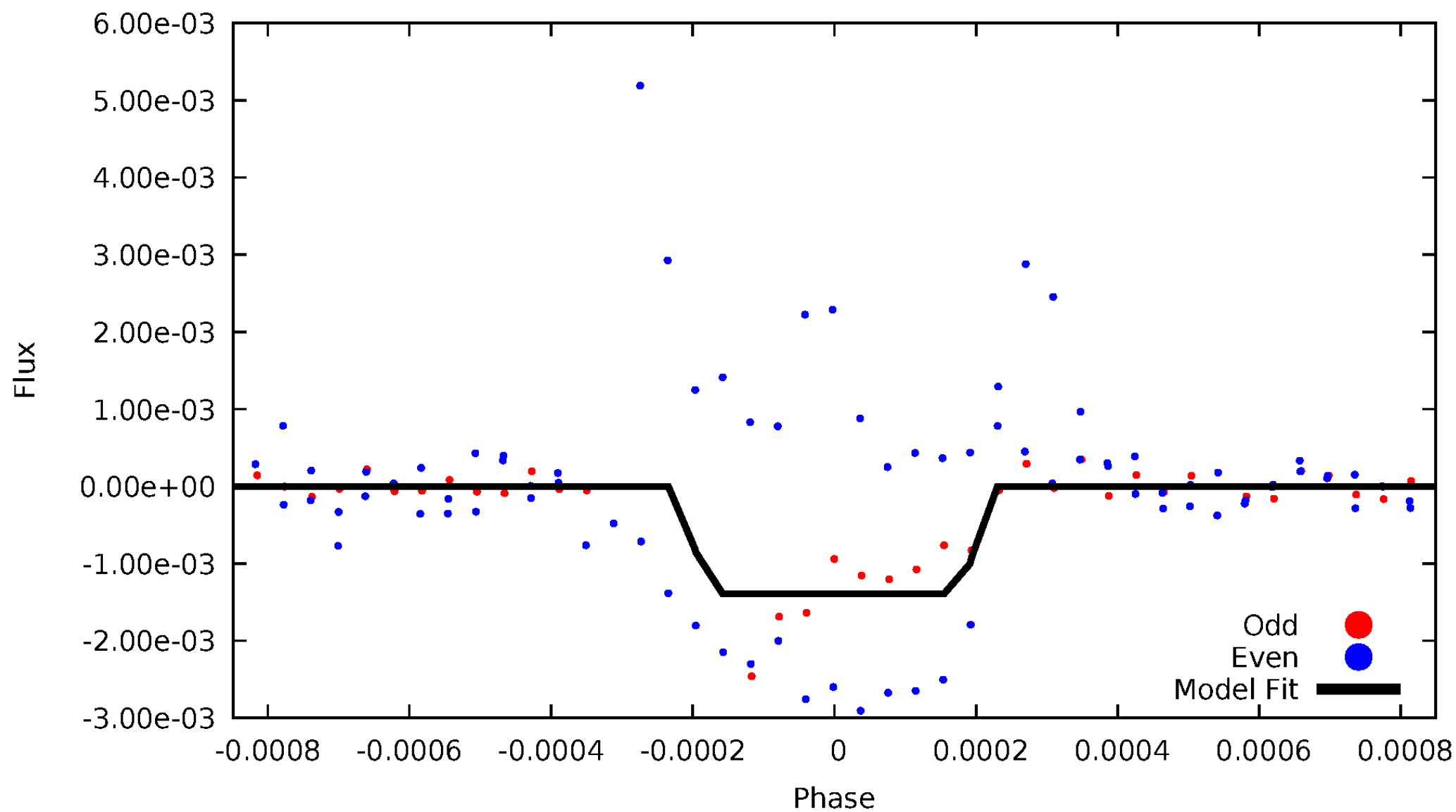
DV Odd/Even

TCE 008233314-03

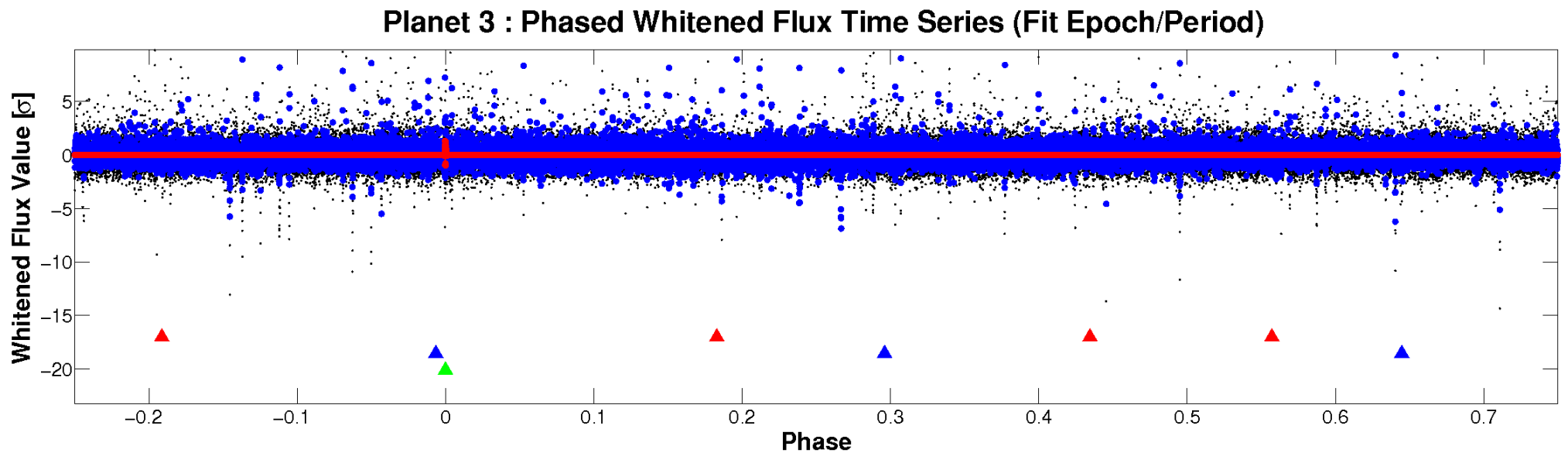
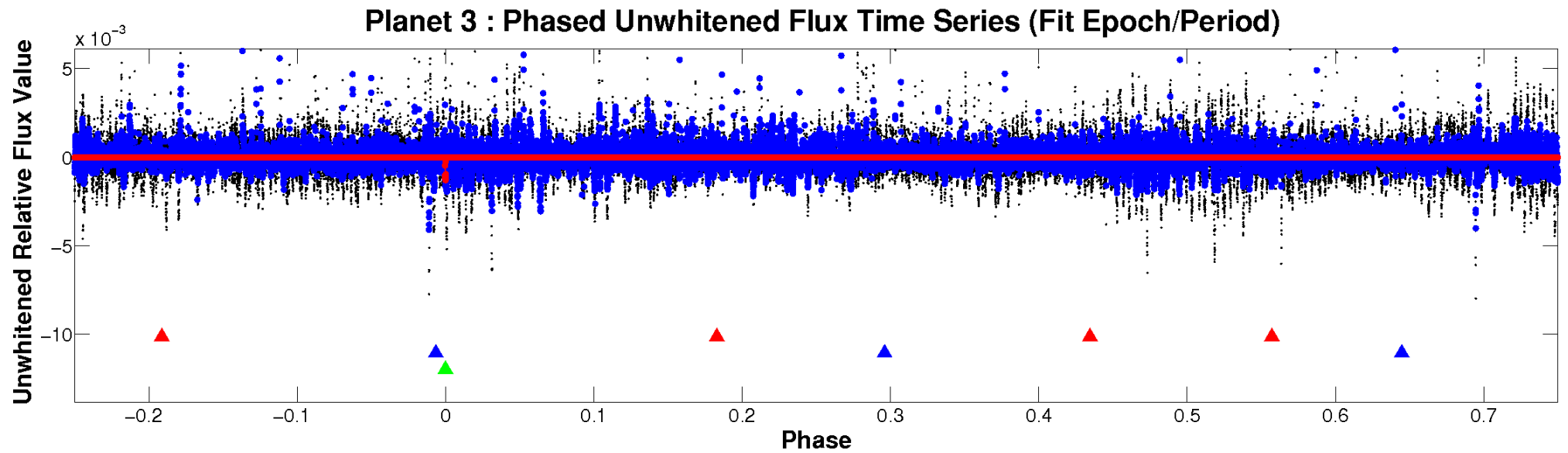


ALT Odd/Even

TCE 008233314-03

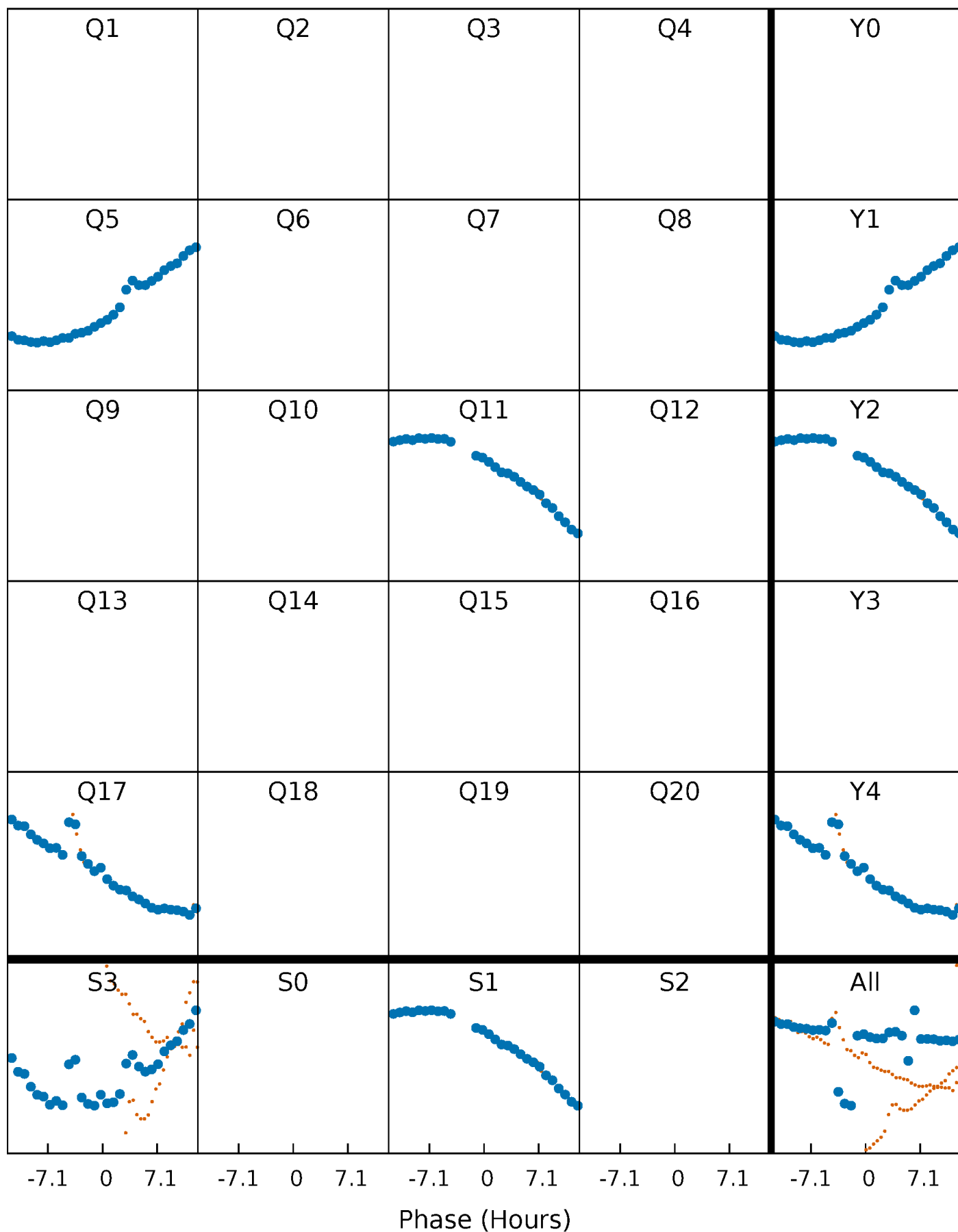


Non-Whitened Vs. Whitened Light Curve



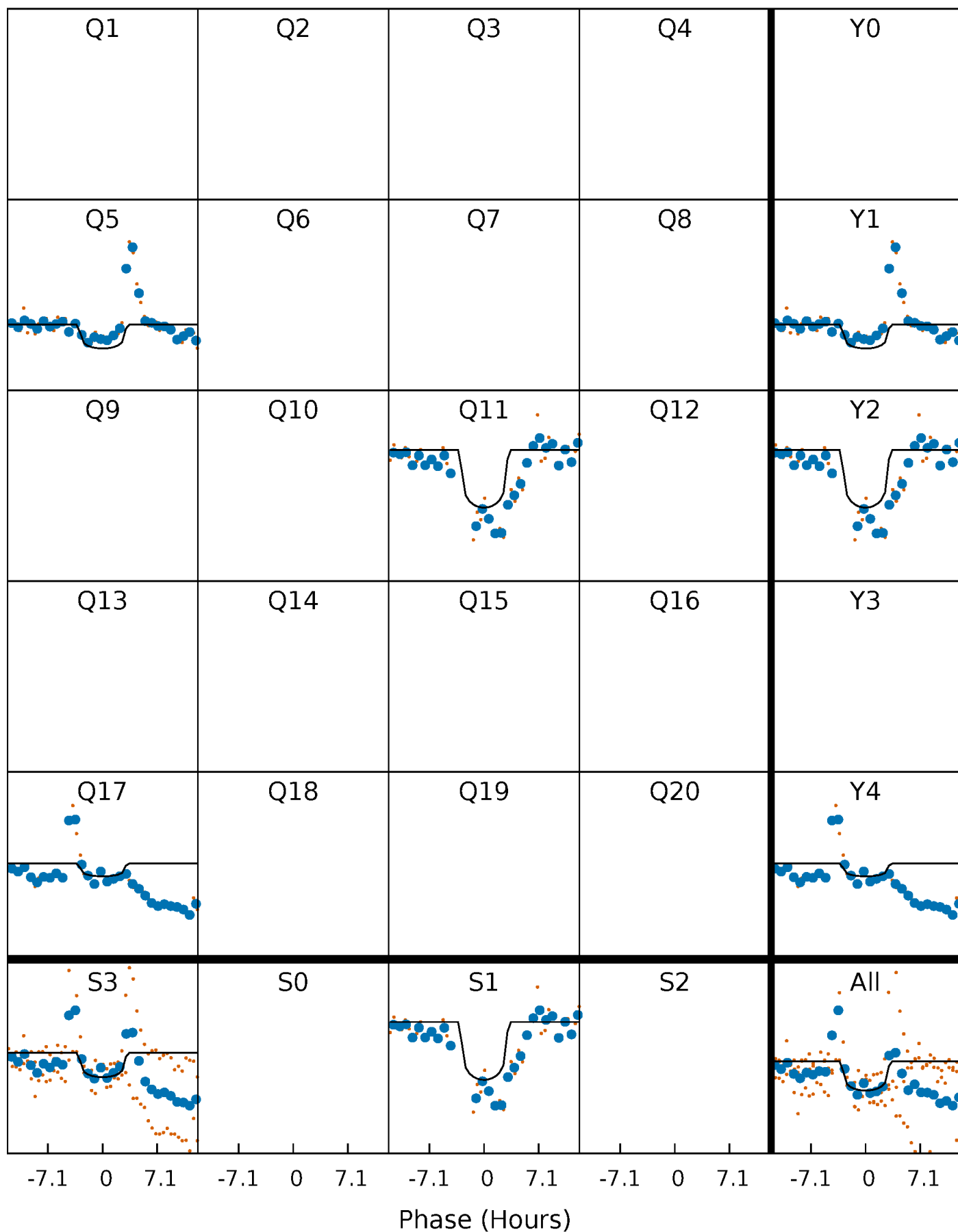
PDC Quarter-Phased Transit Curves

TCE 008233314-03 P=526.633885 Days $T_0=511.799929$ (BKJD)



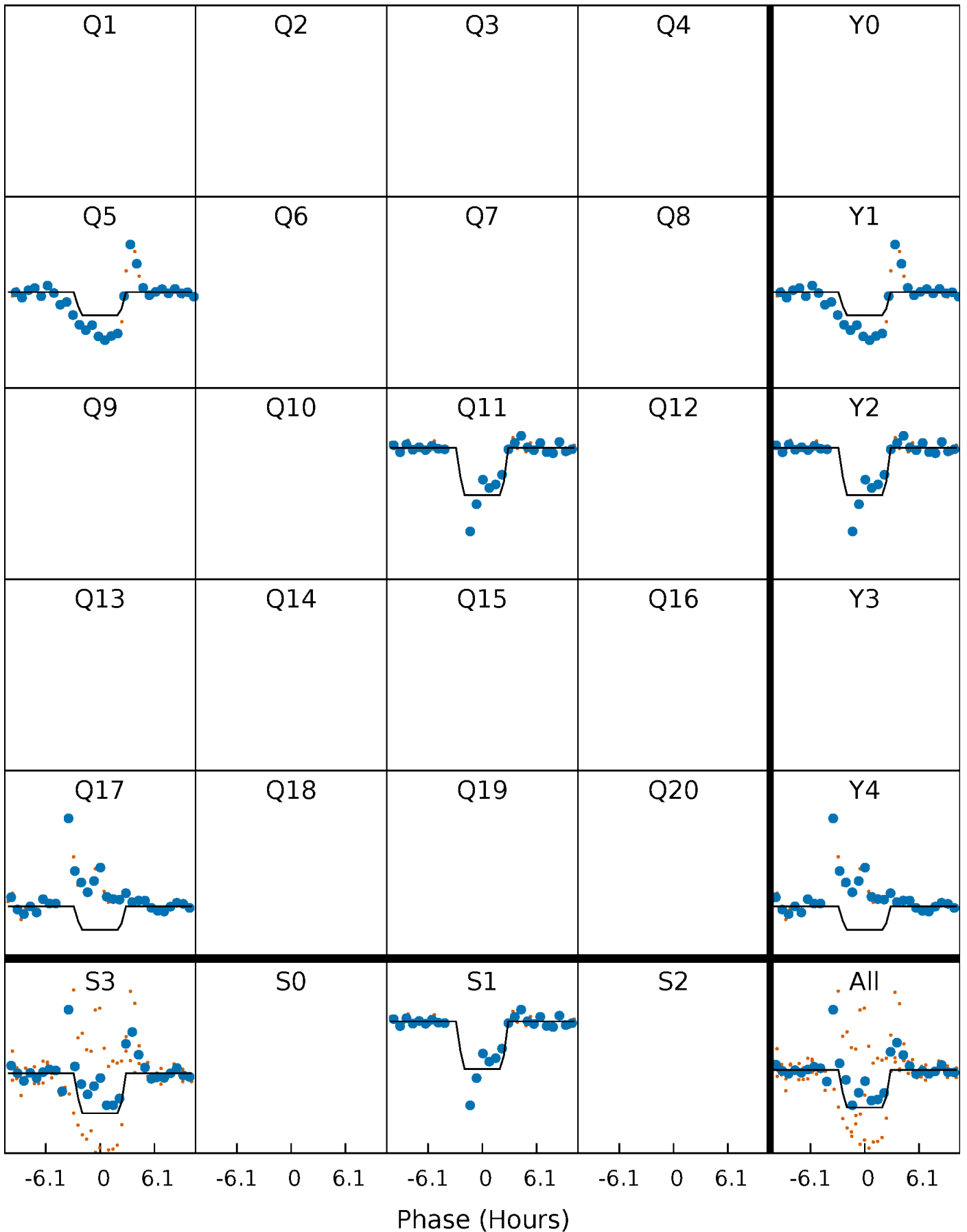
DV Quarter-Phased Transit Curves

TCE 008233314-03 $P=526.633885$ Days $T_0=511.799929$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

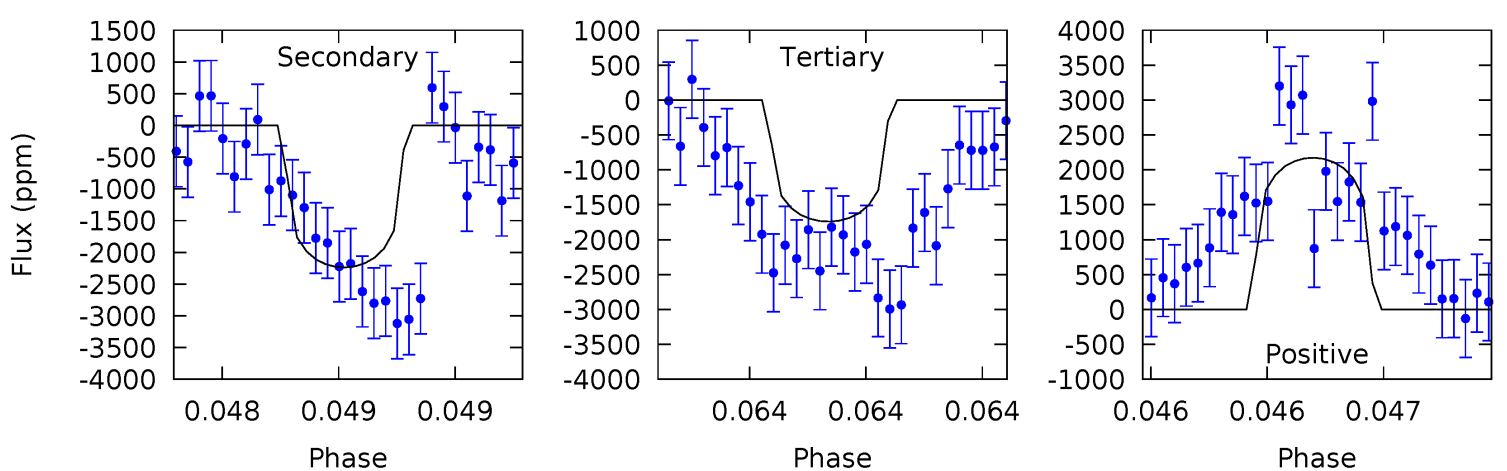
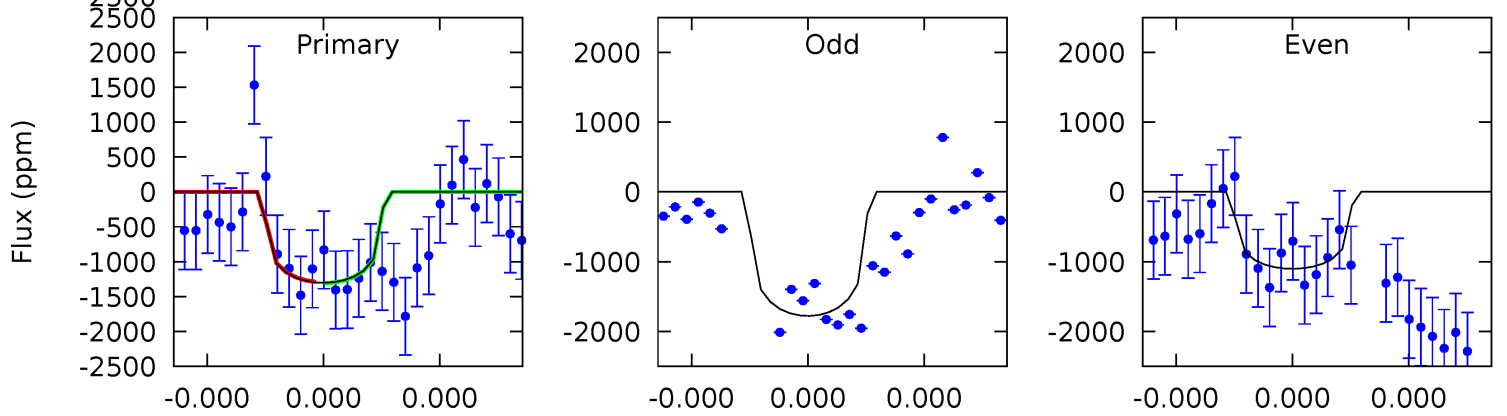
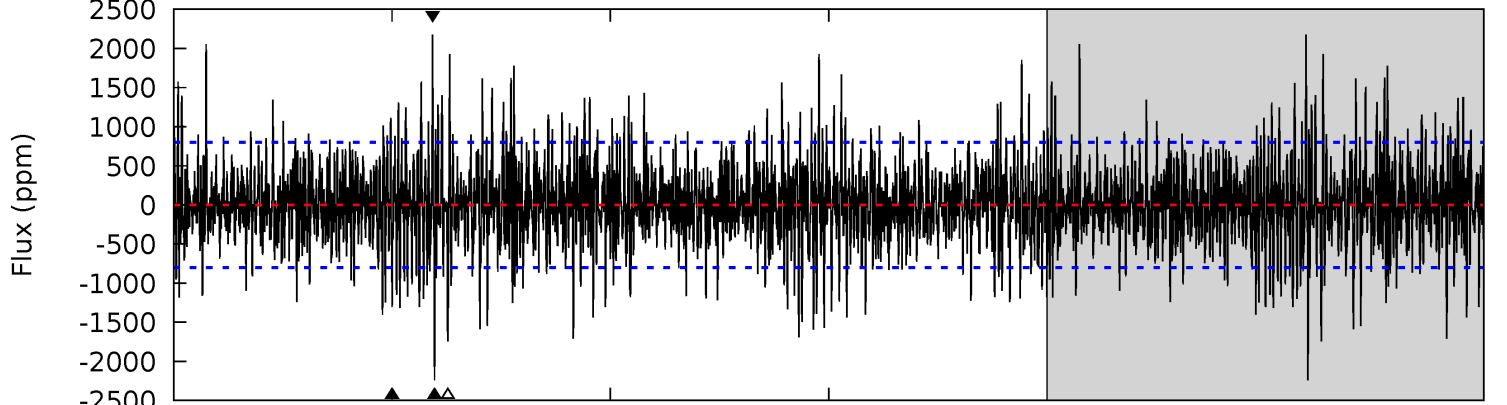
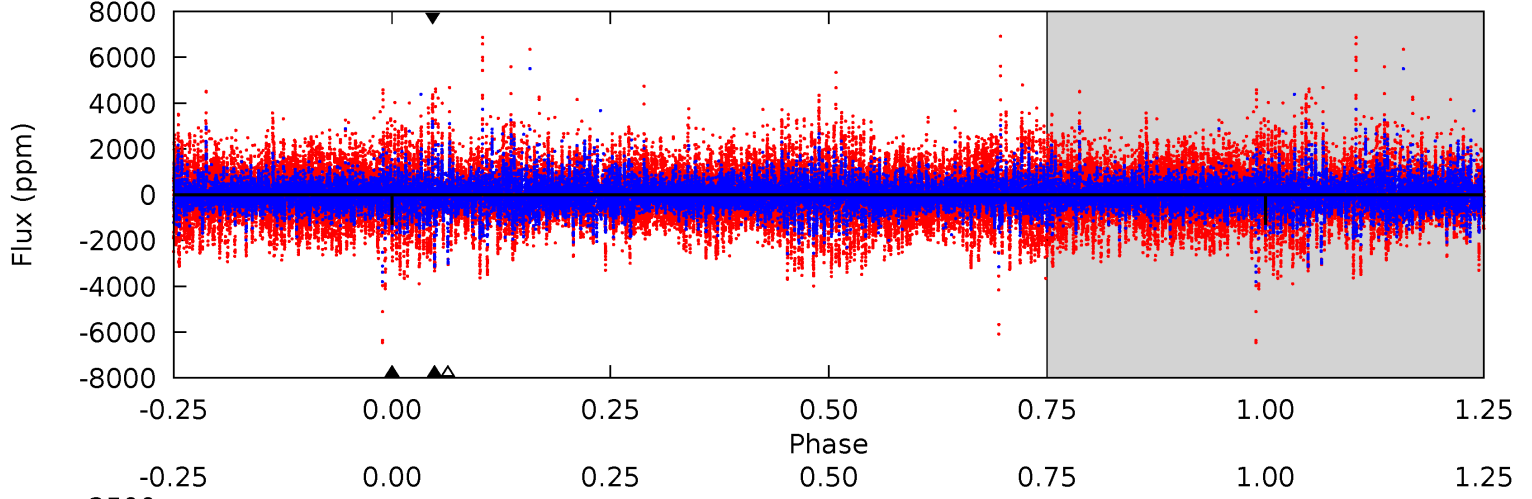
TCE 008233314-03 $P=526.634142$ Days $T_0=511.803209$ (BKJD)



DV Model-Shift Uniqueness Test

008233314-03, P = 526.633885 Days, E = 511.799929 Days

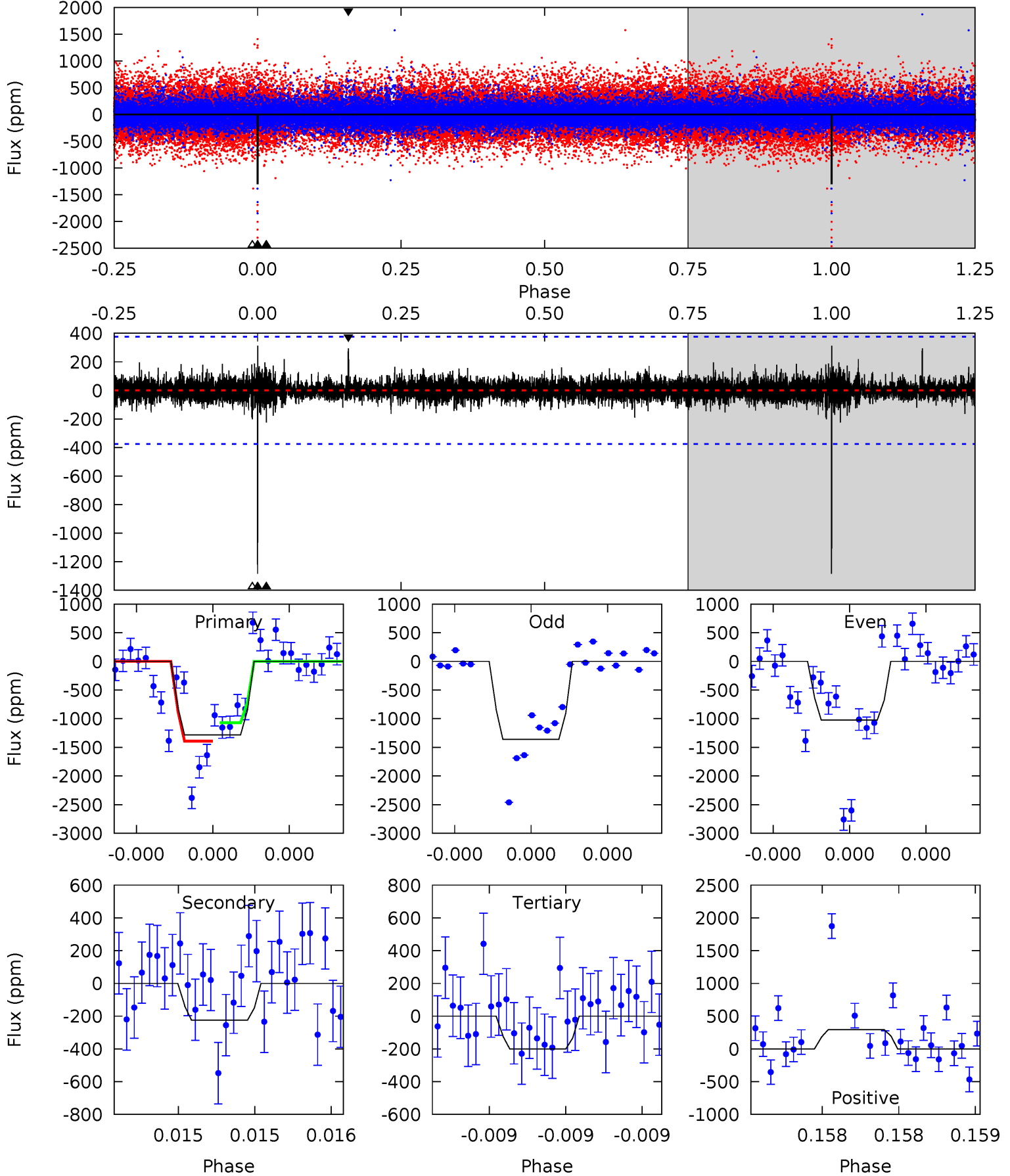
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.09	15.6	12.1	15.2	5.59	3.50	3.08	-3.06	-6.08	3.46	0.45	1.92	0.87	0.49	0.06



Alt Model-Shift Uniqueness Test

008233314-03, P = 526.634142 Days, E = 511.803209 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	3.35	3.00	4.36	5.60	3.52	0.57	16.1	14.8	0.36	-1.01	3.32	0.69	0.20	2.32



Stellar Parameters For KIC 008233314

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5528^{+181}_{-165}	$4.515^{+0.110}_{-0.110}$	$-0.680^{+0.350}_{-0.300}$	$0.767^{+0.121}_{-0.099}$	$0.703^{+0.098}_{-0.033}$	$2.192^{+1.044}_{-0.706}$
	+3%/-3%	+2%/-2%	+51%/-44%	+16%/-13%	+14%/-5%	+48%/-32%
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 008233314-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2238 ± 143	$5.05^{+4.72}_{-3.51}$	281^{+14}_{-14}	5021^{+4560}_{-1138}	$63272^{+620014}_{-46204}$
Alt.	-225 ± 67	$5.05^{+4.97}_{-3.42}$	281^{+13}_{-14}	3301^{+1711}_{-603}	6227^{+58246}_{-4822}

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 $A_{obs} \gg 1.0$

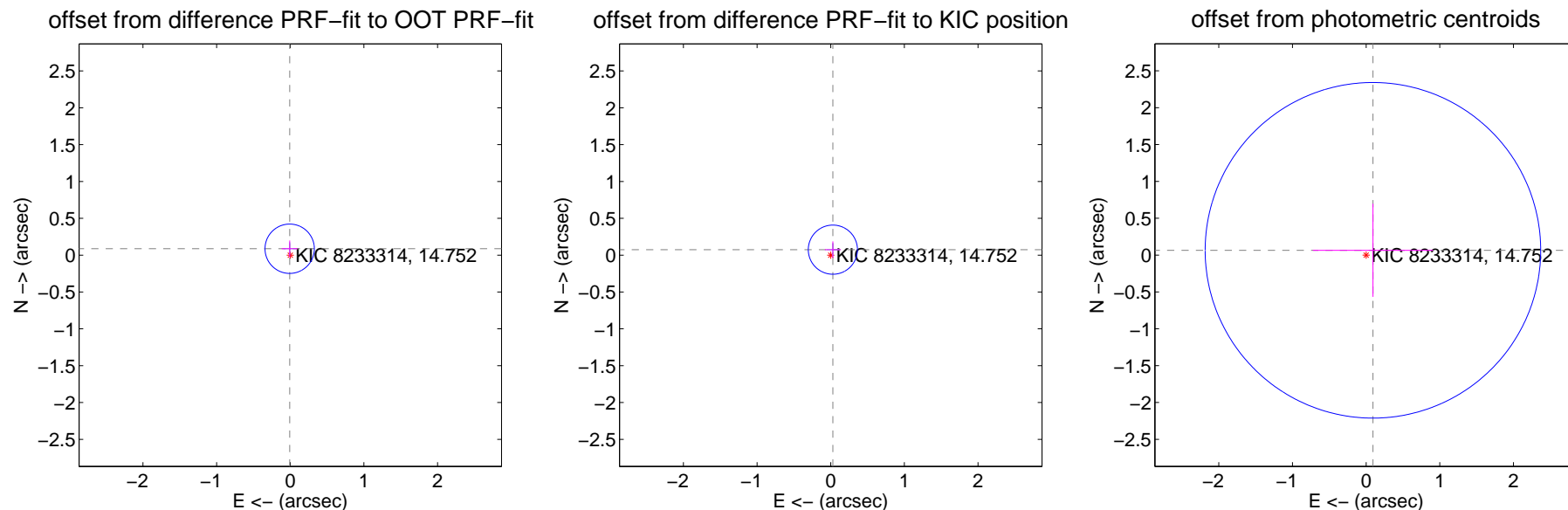
DV Centroid Data

Supplemental centroid analysis for 008233314-03. Kepler magnitude: 14.75. Transit SNR 5.85

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.087 ± 0.112	0.78	0.008 ± 0.108	0.087 ± 0.112
PRF-fit source offset from KIC position	0.080 ± 0.111	0.72	-0.029 ± 0.108	0.075 ± 0.112
photometric centroid source offset	0.11 ± 0.76	0.15	-0.09 ± 0.81	0.06 ± 0.63

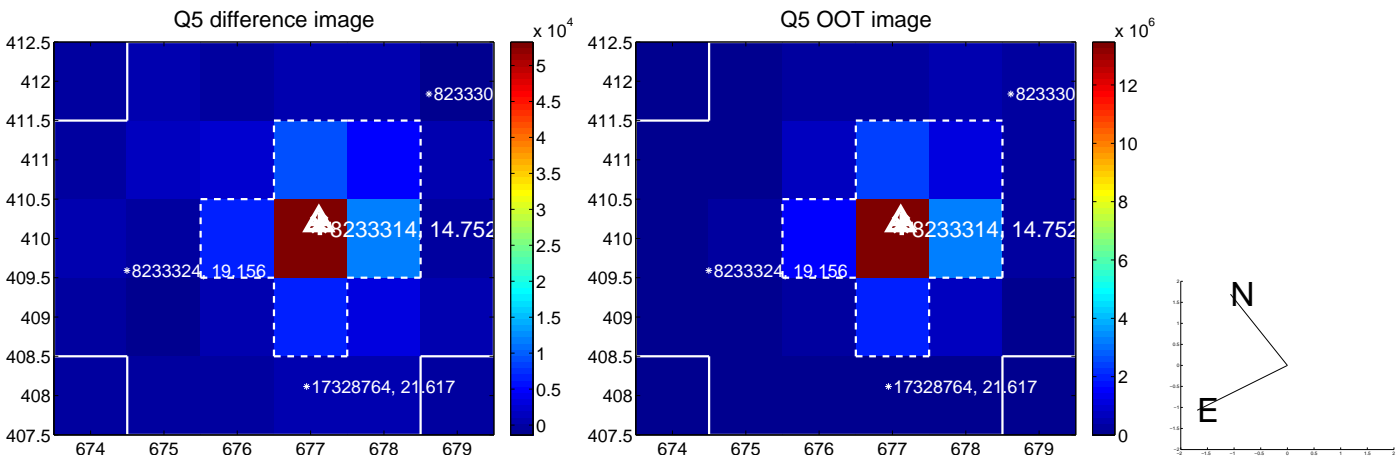


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



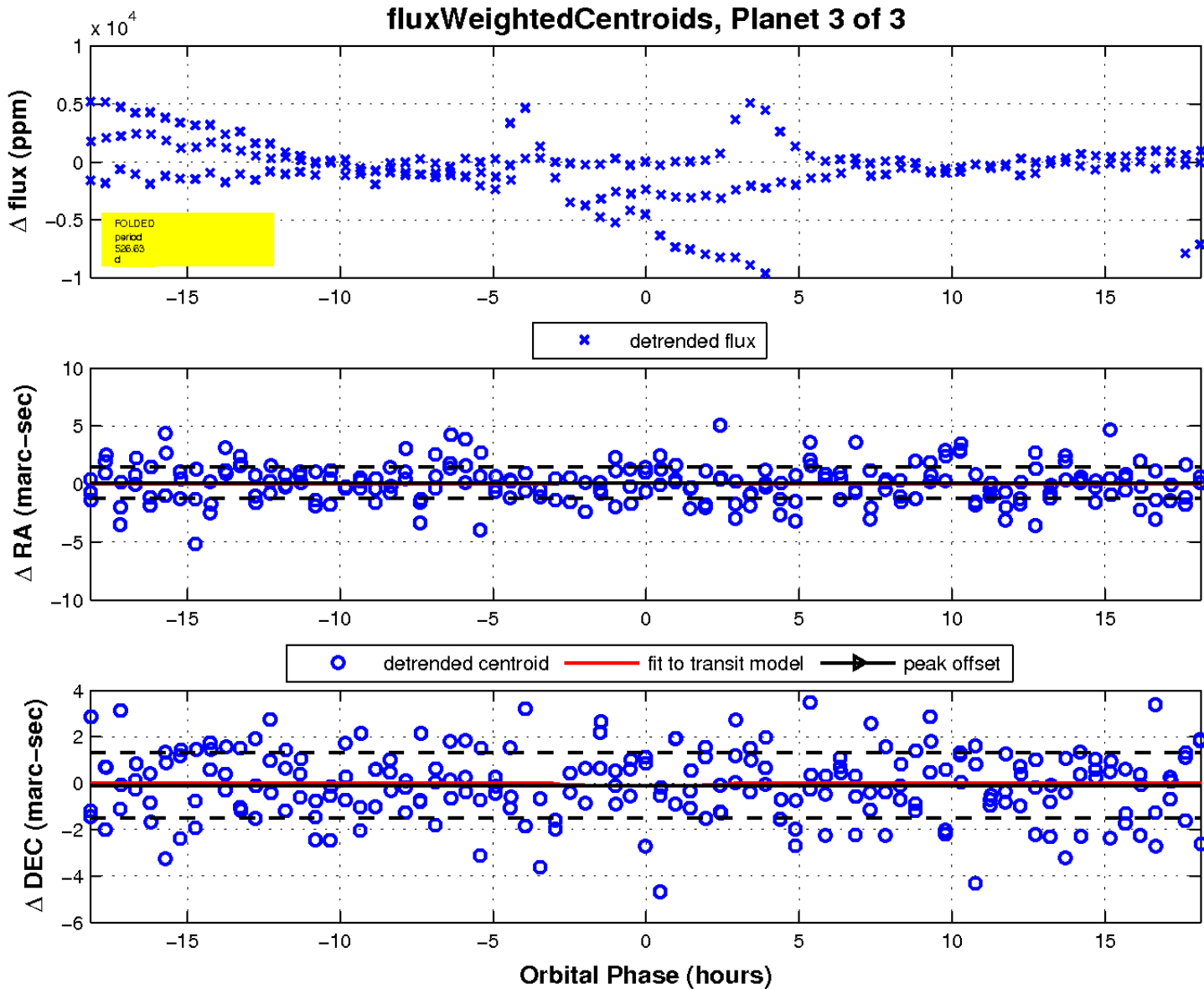
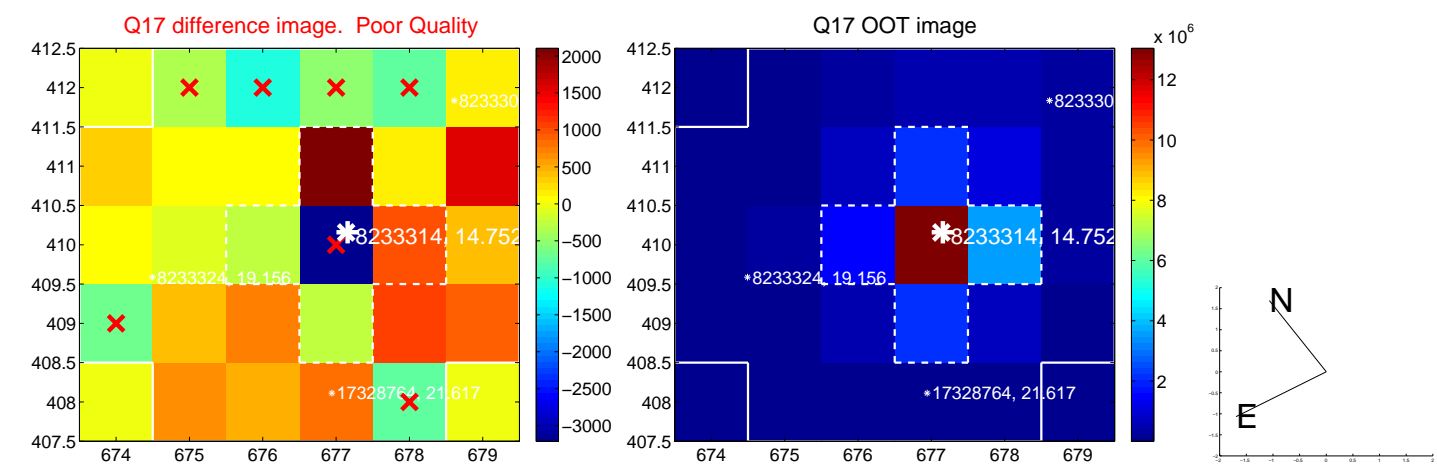
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

