

KIC 012003808

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})
012003808-01	OBS	No	496.070455	454.057356	2324.3	6.083	11.5	6.3	0.60	5266	3.05	0.22
012003808-02	OBS	No	292.991368	148.755477	2649.6	2.707	10.5	6.6	0.60	5266	3.14	0.44
012003808-03	OBS	No	572.609005	246.537780	3854.8	11.809	8.7	7.4	0.60	5266	5.13	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012003808-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012003808-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012003808-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

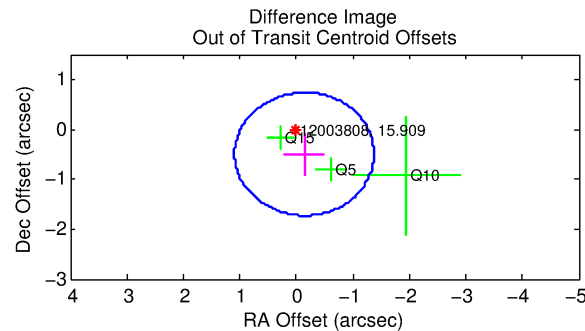
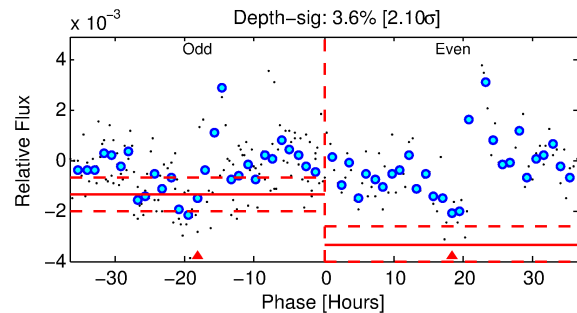
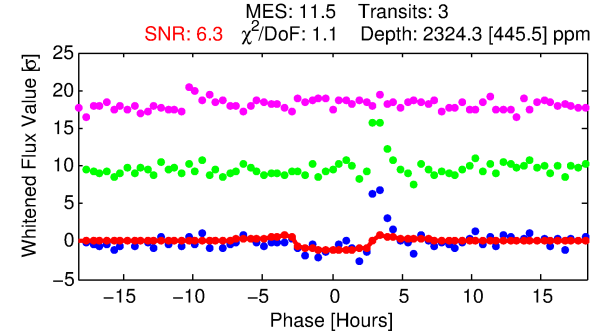
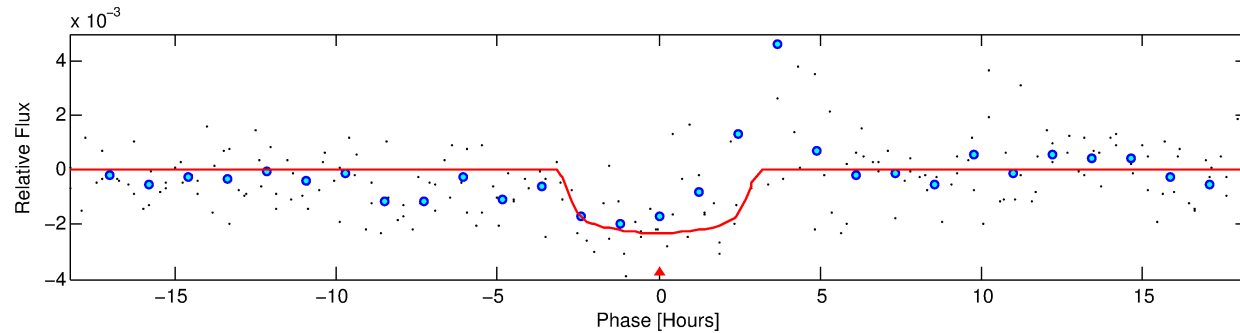
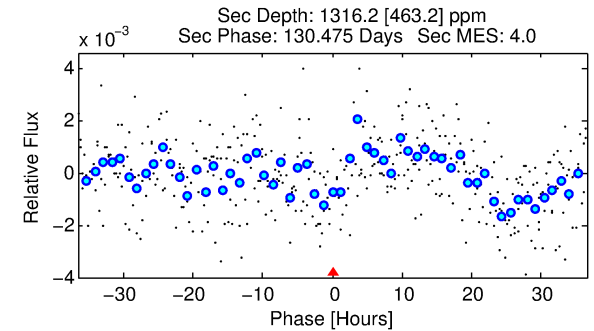
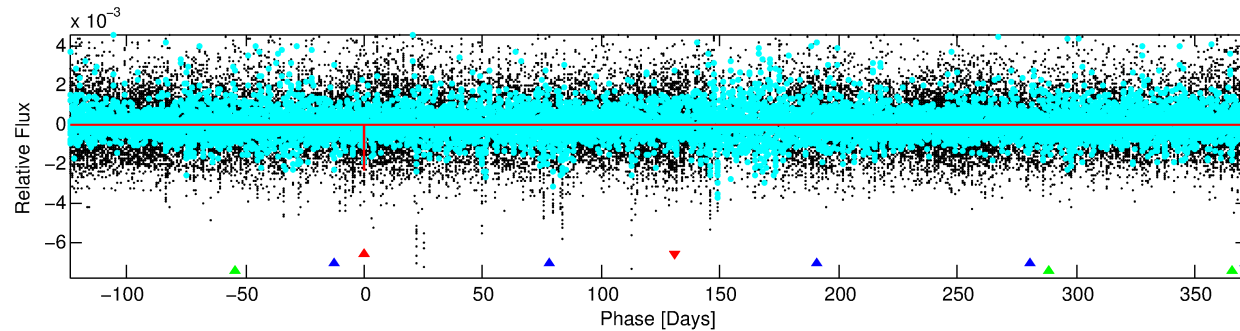
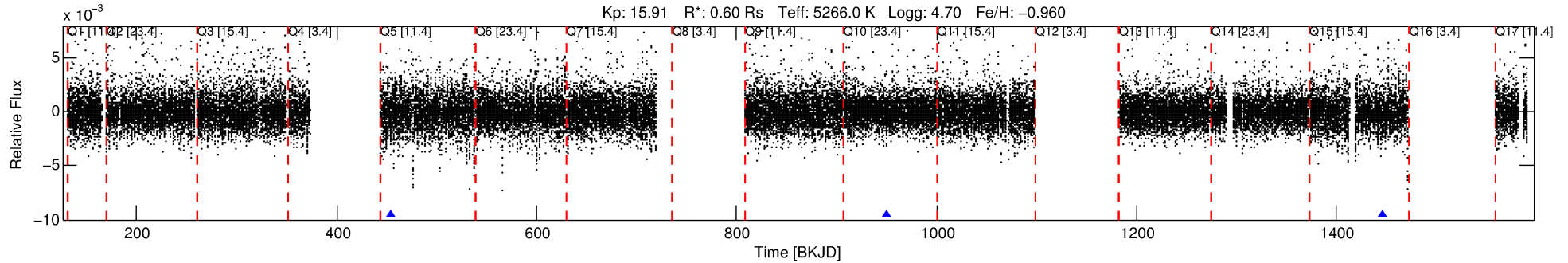
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012003808-01

No Significant Match Found

DV One-Page Summary

KIC: 12003808 Candidate: 1 of 3 Period: 496.070 d



DV Fit Results:

Period = 496.07046 [0.00956] d
Epoch = 454.0574 [0.0124] BKJD
Rp/R* = 0.0462 [0.0227]
a/R* = 524.40 [1061.63]
b = 0.62 [2.02]
Seff = 0.22 [0.04]
Teq = 174 [8] K
Rp = 3.05 [1.53] Re
a = 1.0746 [0.0935] AU
Ag = 89976.19 [94679.97] [0.95 σ]
Teffp = 4668 [1227] K [3.66 σ]

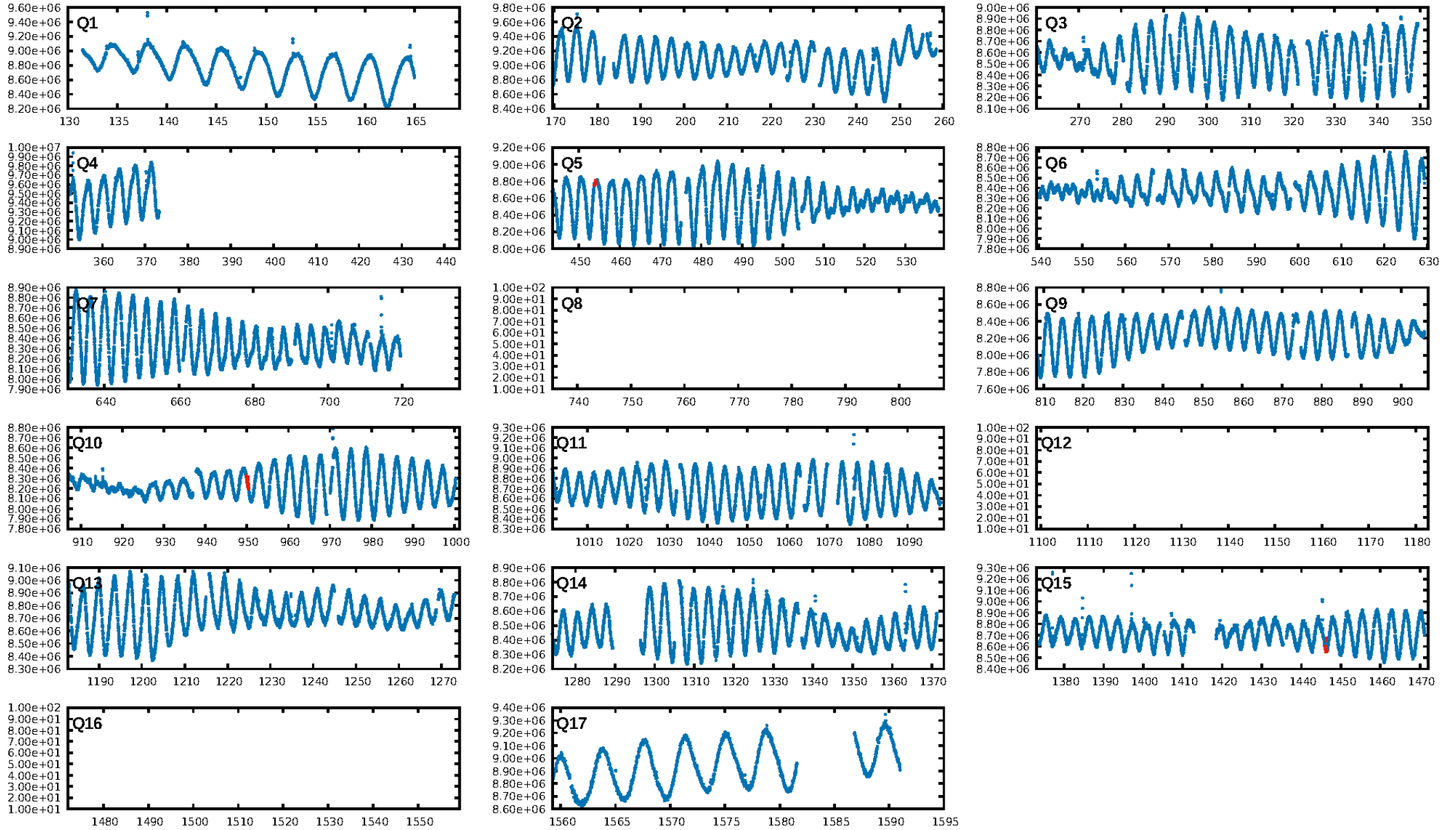
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [732.05 σ]
LongPeriod-sig: 100.0% [138.29 σ]
ModelChiSquare2-sig: 14.7%
ModelChiSquareGof-sig: 96.5%
Bootstrap-pfa: 7.33e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.498
Centroid-sig: 46.7%
Centroid-so: 1.251 arcsec [1.02 σ]
OotOffset-rm: 0.517 arcsec [1.26 σ]
KicOffset-rm: 0.548 arcsec [1.32 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

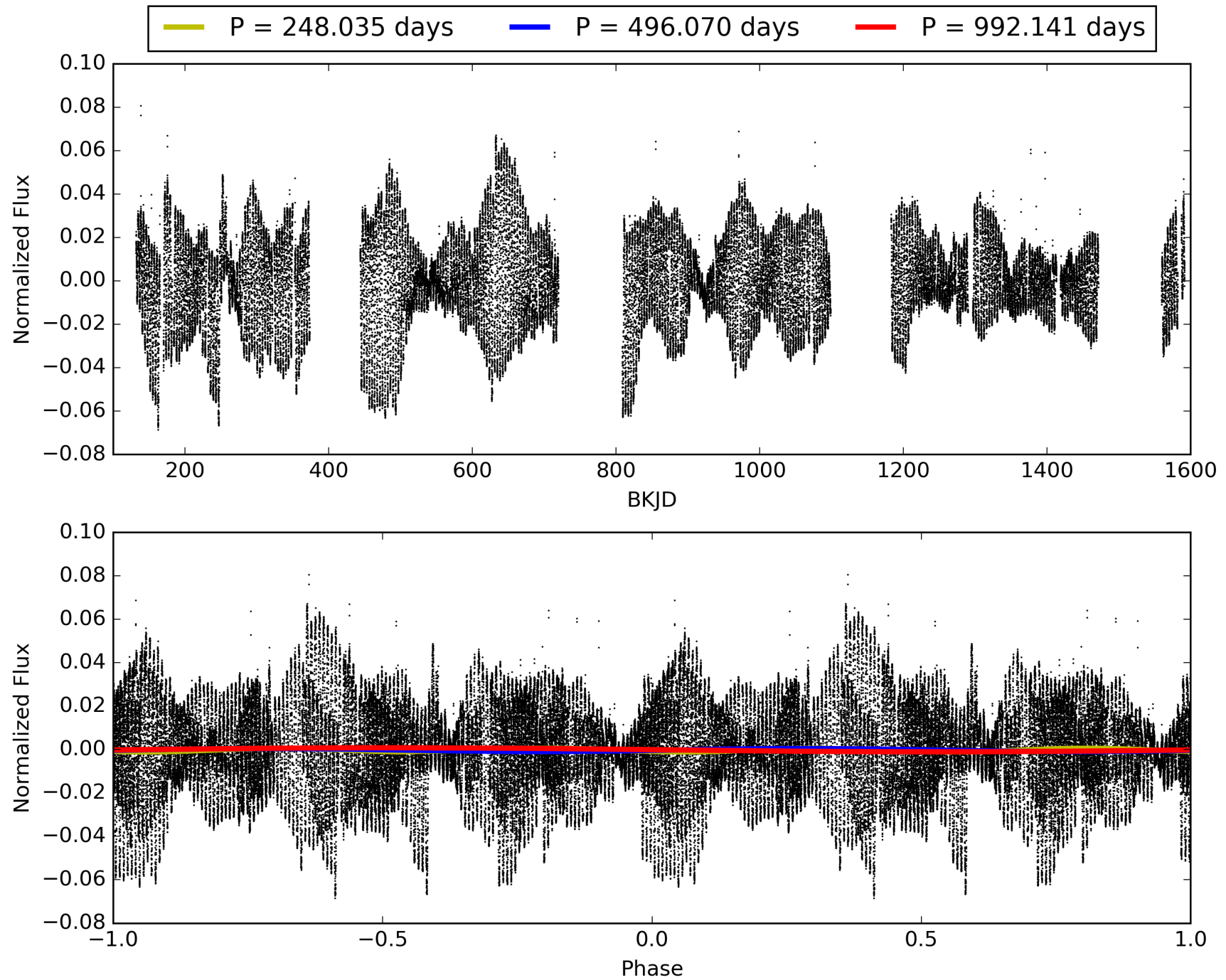
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 13:27:43 Z

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

TCE 012003808-01, PDC Light Curves

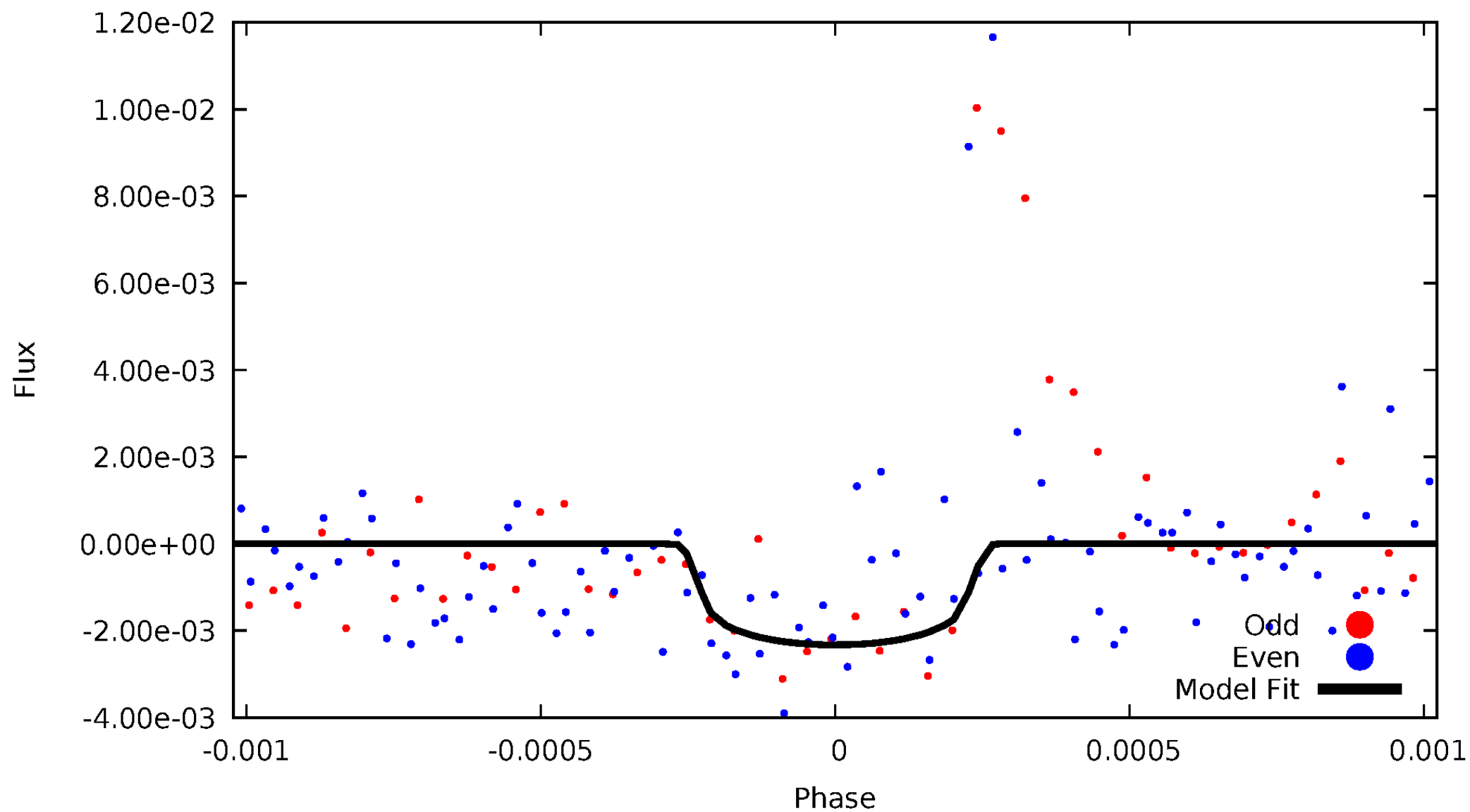


TCE 012003808-01



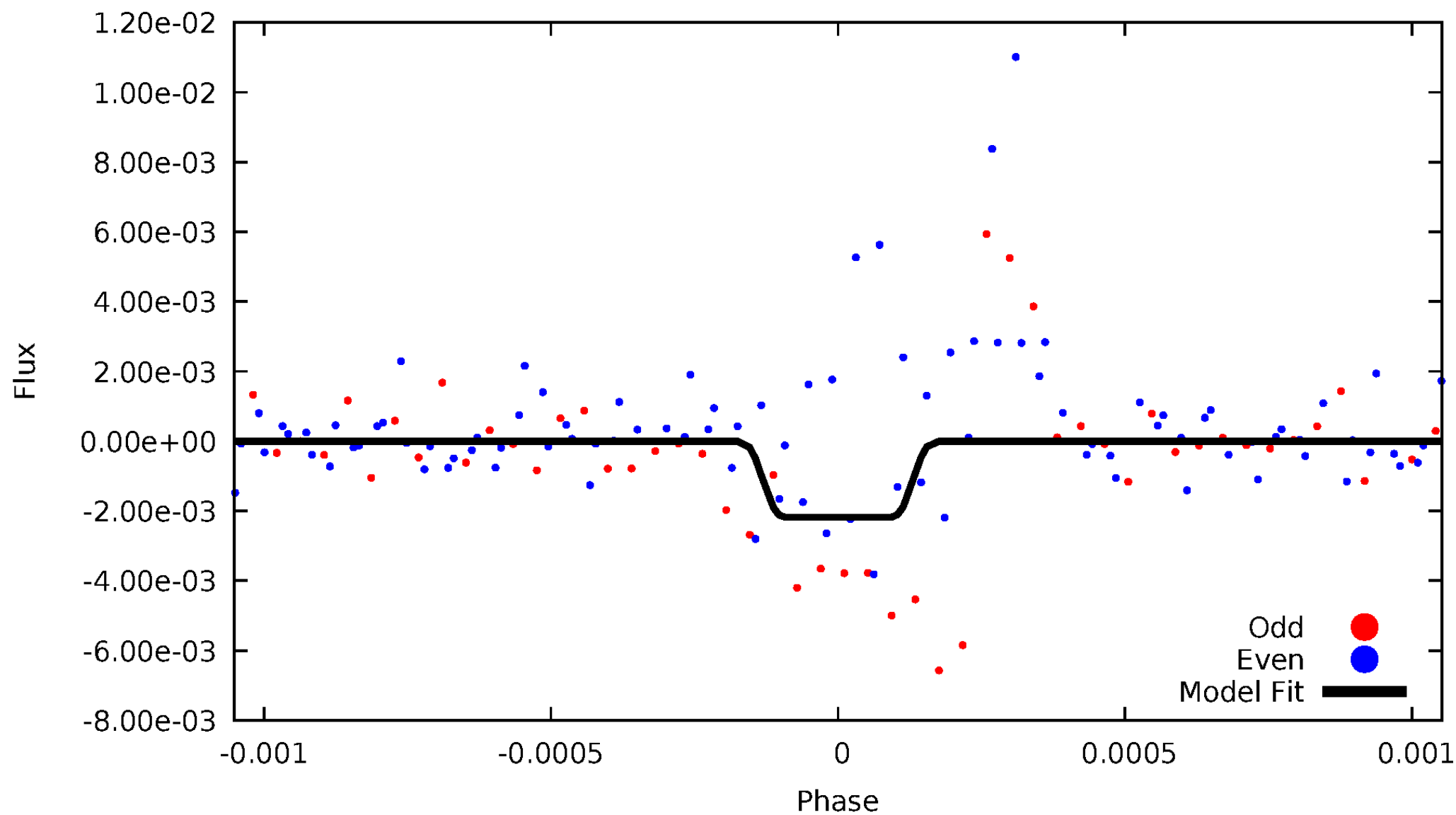
DV Odd/Even

TCE 012003808-01



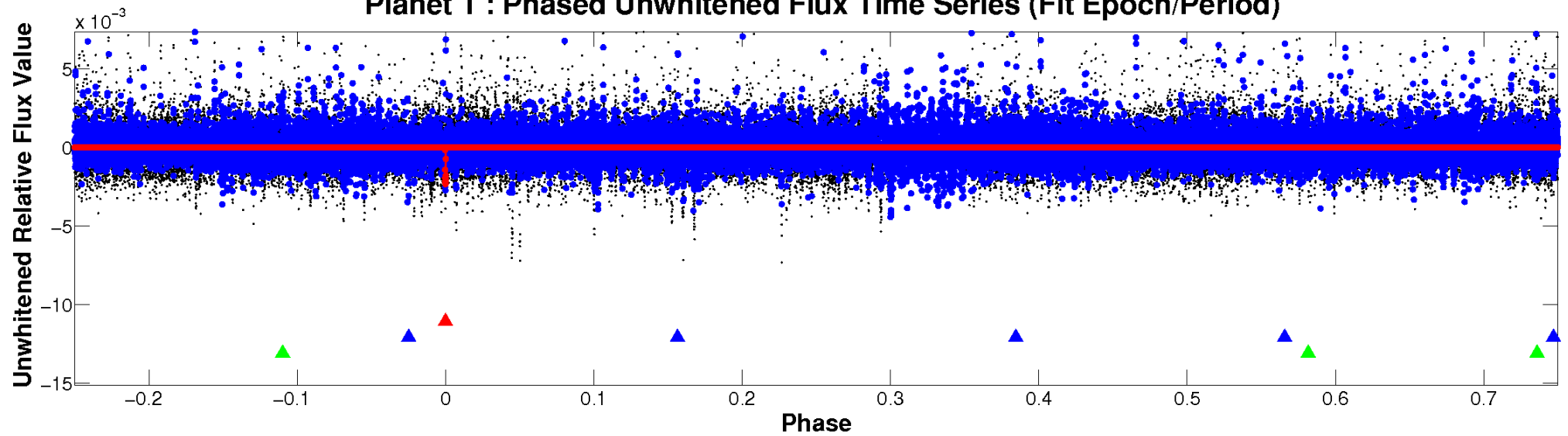
ALT Odd/Even

TCE 012003808-01

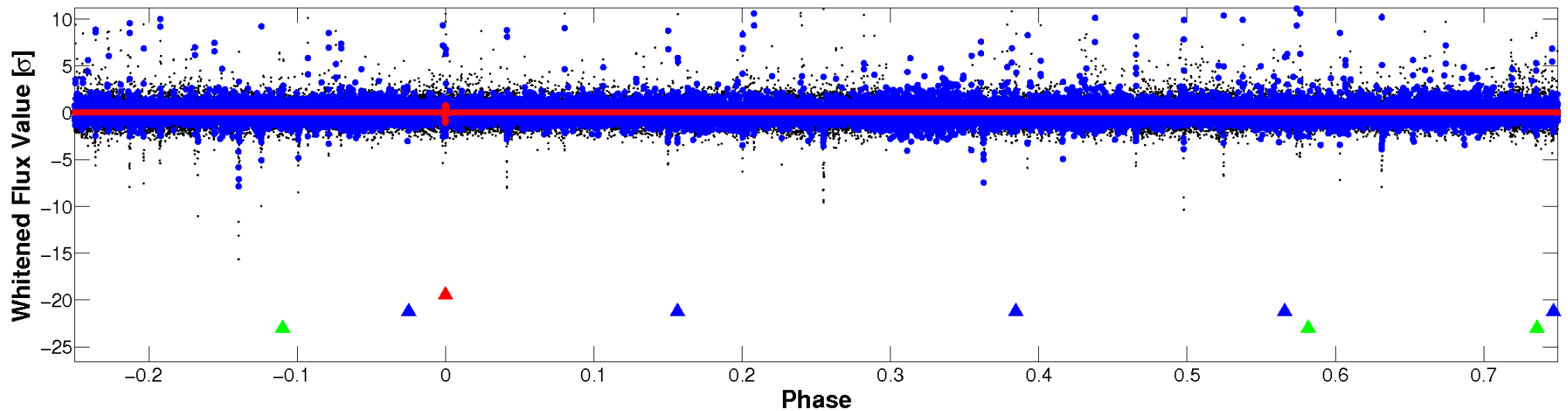


Non-Whitened Vs. Whitened Light Curve

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

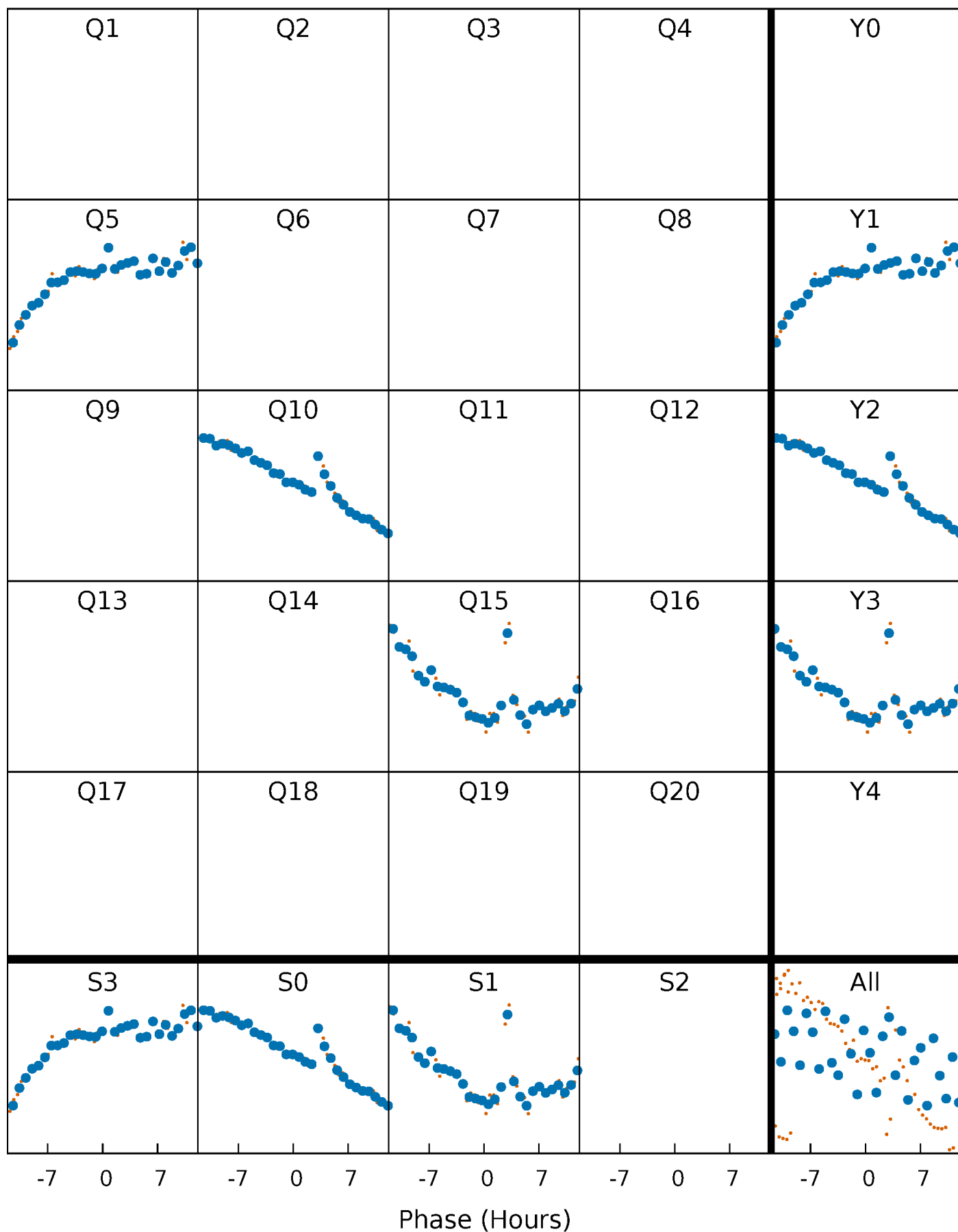


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



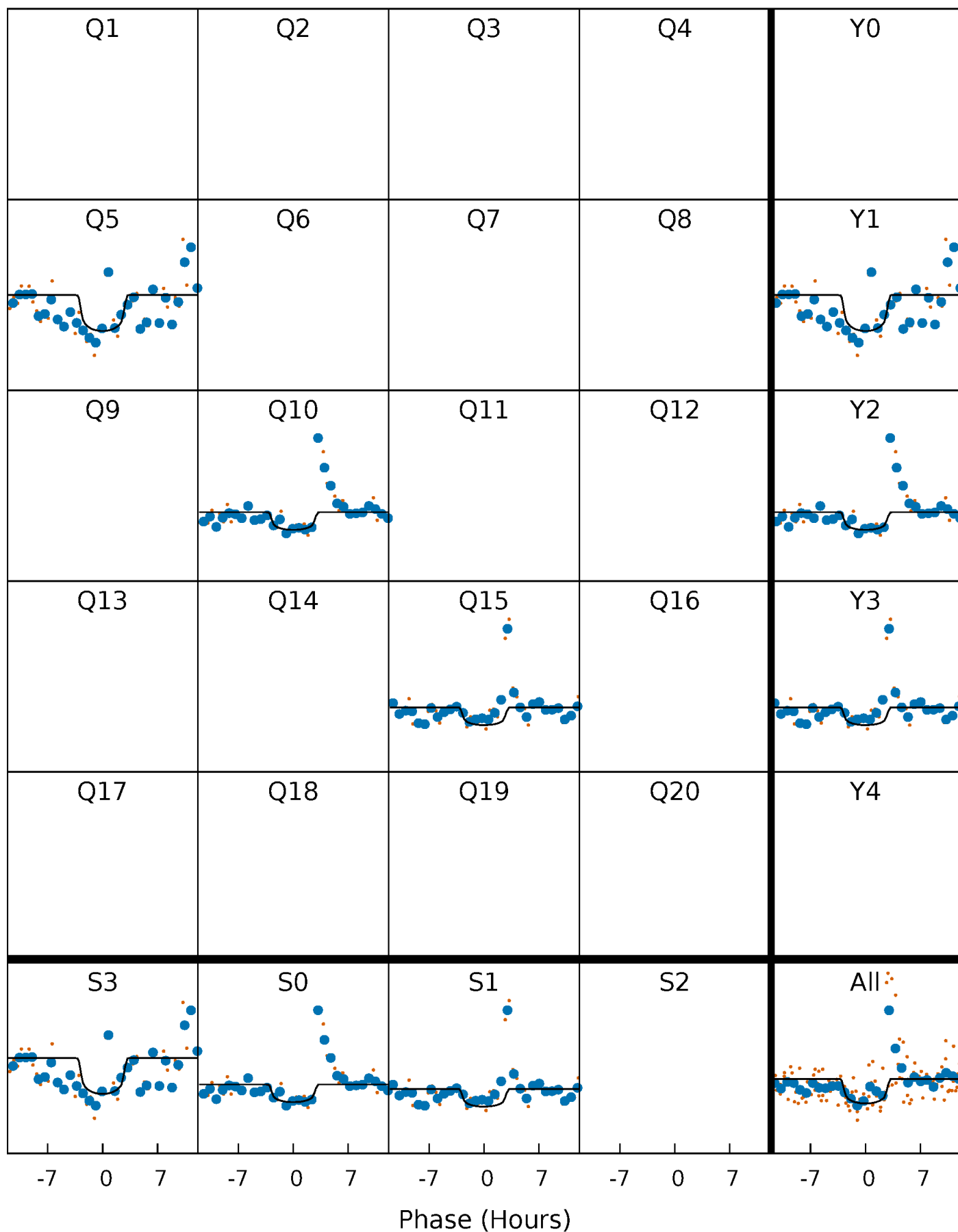
PDC Quarter-Phased Transit Curves

TCE 012003808-01 P=496.070455 Days $T_0=454.057356$ (BKJD)



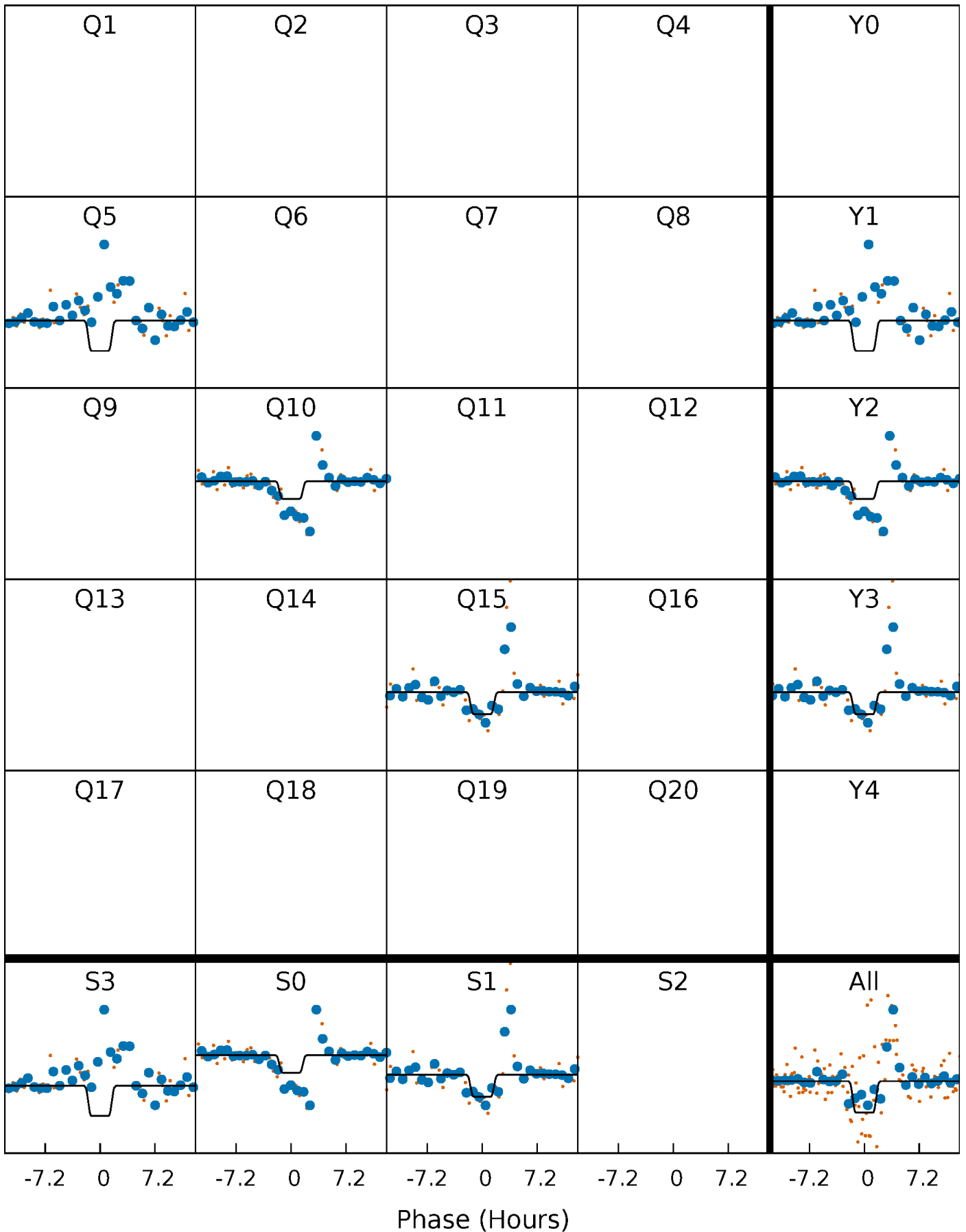
DV Quarter-Phased Transit Curves

TCE 012003808-01 P=496.070455 Days $T_0=454.057356$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

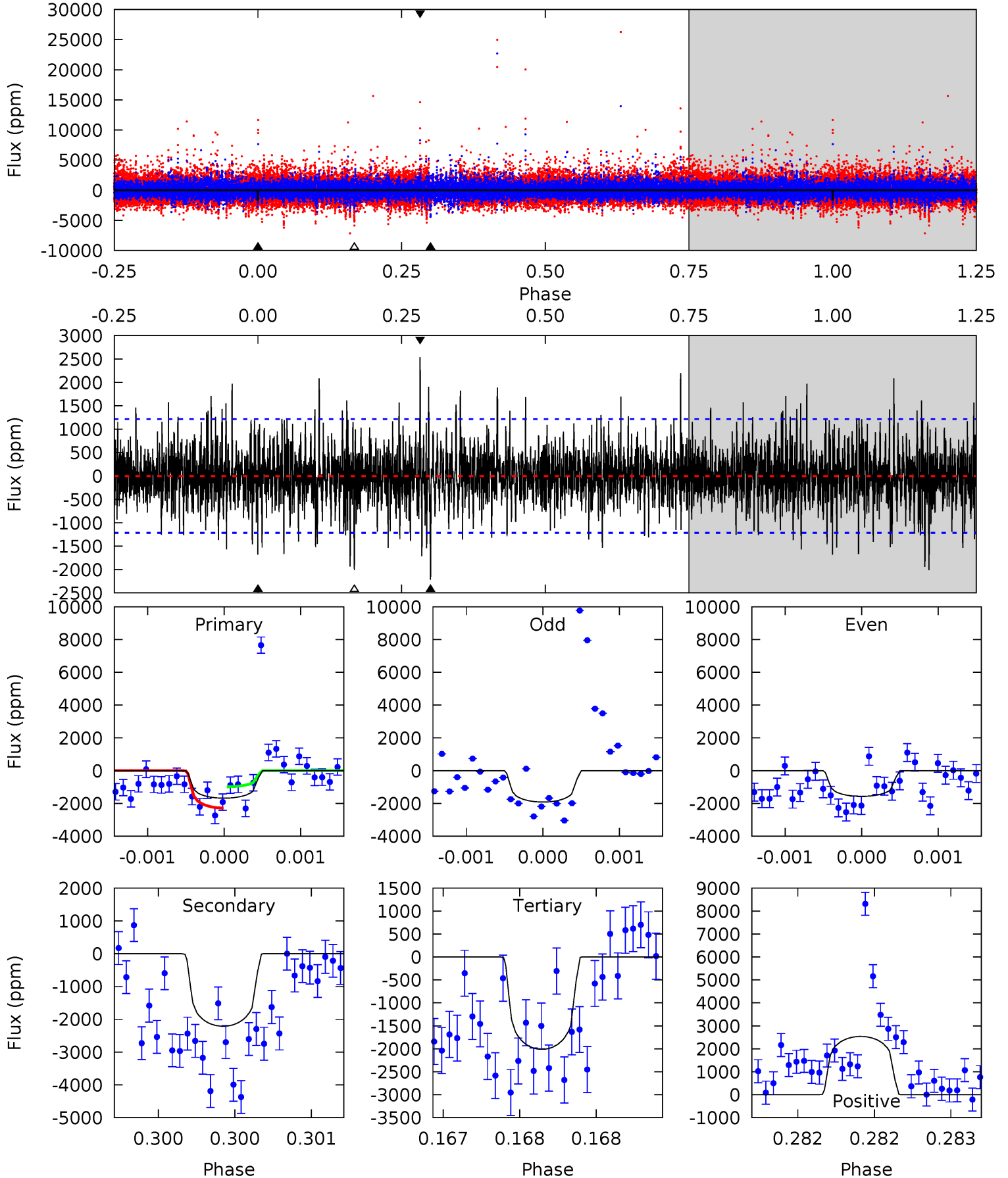
TCE 012003808-01 P=496.058725 Days $T_0=454.060257$ (BKJD)



DV Model-Shift Uniqueness Test

012003808-01, P = 496.070455 Days, E = 454.057356 Days

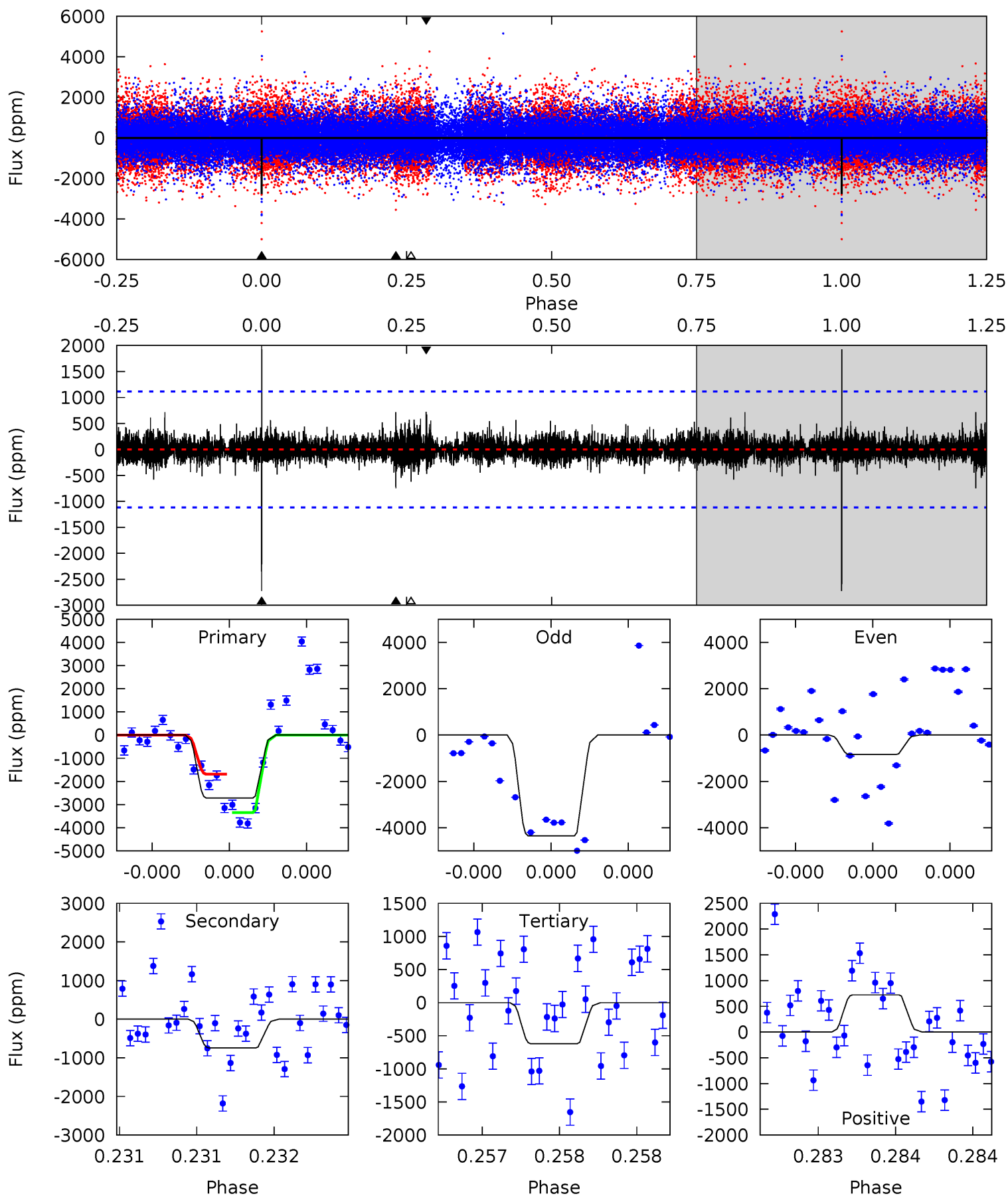
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.69	10.1	9.21	11.6	5.56	3.46	2.13	-1.52	-3.92	0.92	-1.48	0.57	0.83	0.53	2.97



Alt Model-Shift Uniqueness Test

012003808-01, P = 496.058725 Days, E = 454.060257 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	3.77	3.15	3.66	5.66	3.61	0.62	10.6	10.1	0.63	0.11	9.12	0.49	0.41	4.27



Stellar Parameters For KIC 012003808

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5266^{+157}_{-157}	$4.702^{+0.023}_{-0.072}$	$-0.960^{+0.300}_{-0.300}$	$0.605^{+0.061}_{-0.031}$	$0.673^{+0.046}_{-0.046}$	$4.286^{+0.464}_{-0.970}$
	+3%/-3%	+0%/-2%	+31%/-31%	+10%/-5%	+7%/-7%	+11%/-23%
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 012003808-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2213 ± 219	$3.14^{+1.47}_{-1.35}$	245^{+9}_{-8}	5290^{+1658}_{-825}	$143076^{+295929}_{-78765}$
Alt.	-744 ± 197	$3.24^{+1.36}_{-1.41}$	246^{+9}_{-9}	4209^{+1045}_{-583}	44993^{+94775}_{-24724}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

DV Centroid Data

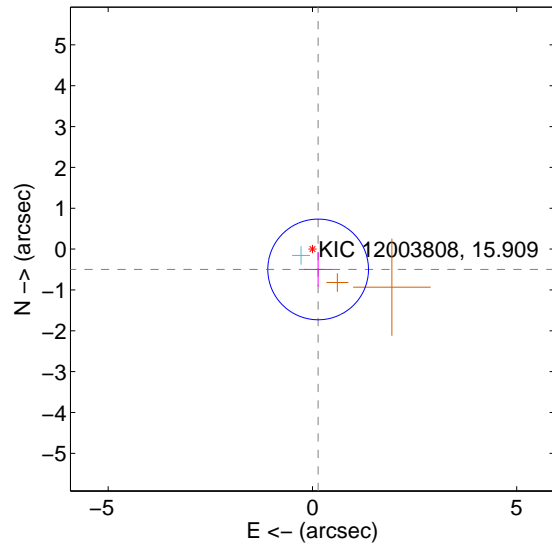
Supplemental centroid analysis for 012003808-01. Kepler magnitude: 15.91. Transit SNR 6.25

There are 1 quarters with good PRF difference image offsets

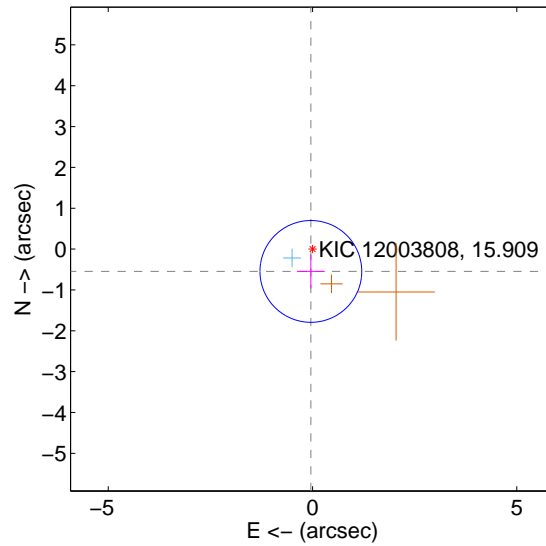
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.517 ± 0.411	1.26	-0.140 ± 0.343	-0.498 ± 0.416
PRF-fit source offset from KIC position	0.548 ± 0.415	1.32	0.041 ± 0.343	-0.546 ± 0.416
photometric centroid source offset	1.25 ± 1.23	1.02	1.09 ± 1.27	0.62 ± 1.09

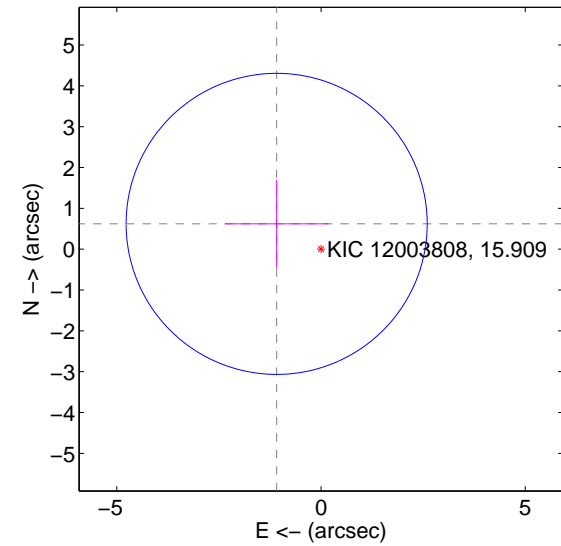
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

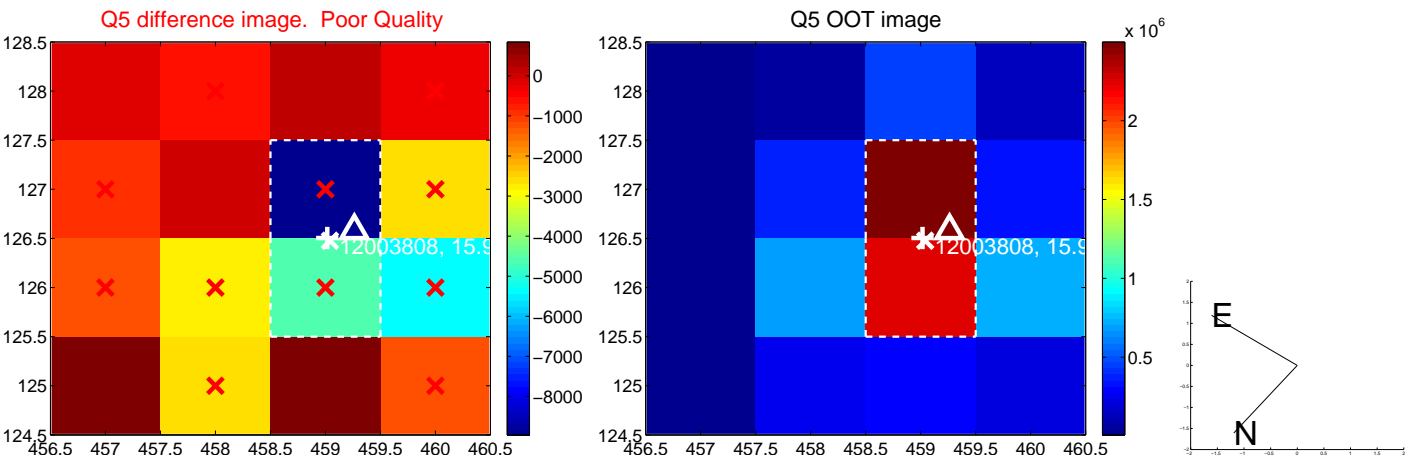


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

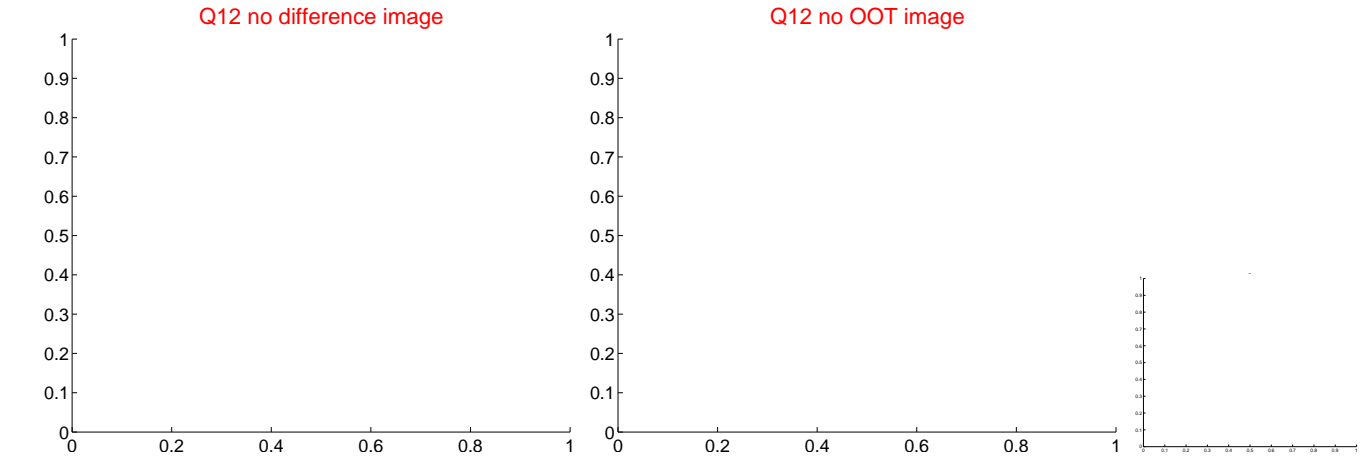
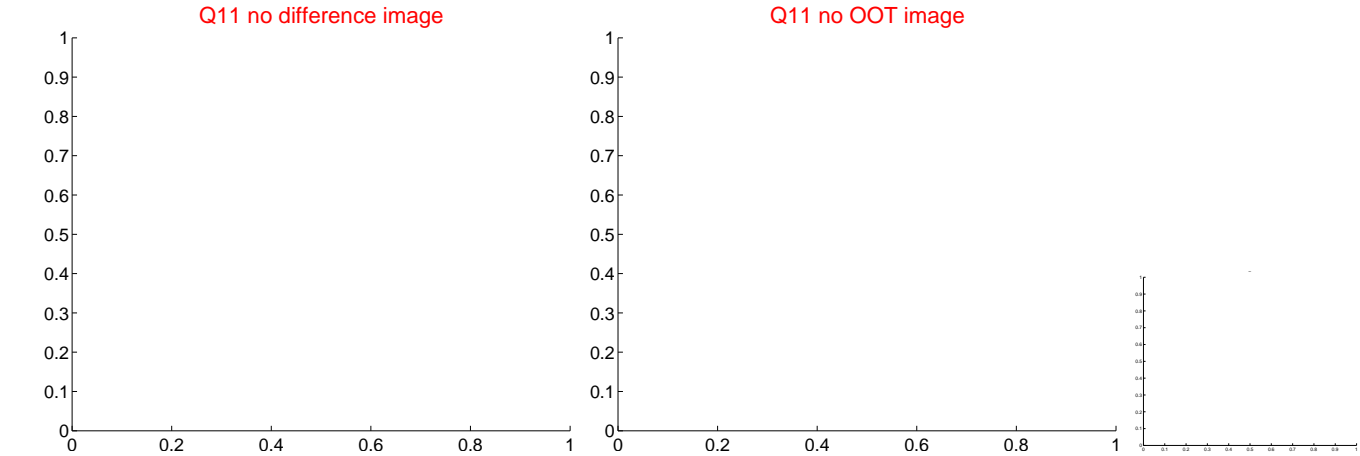
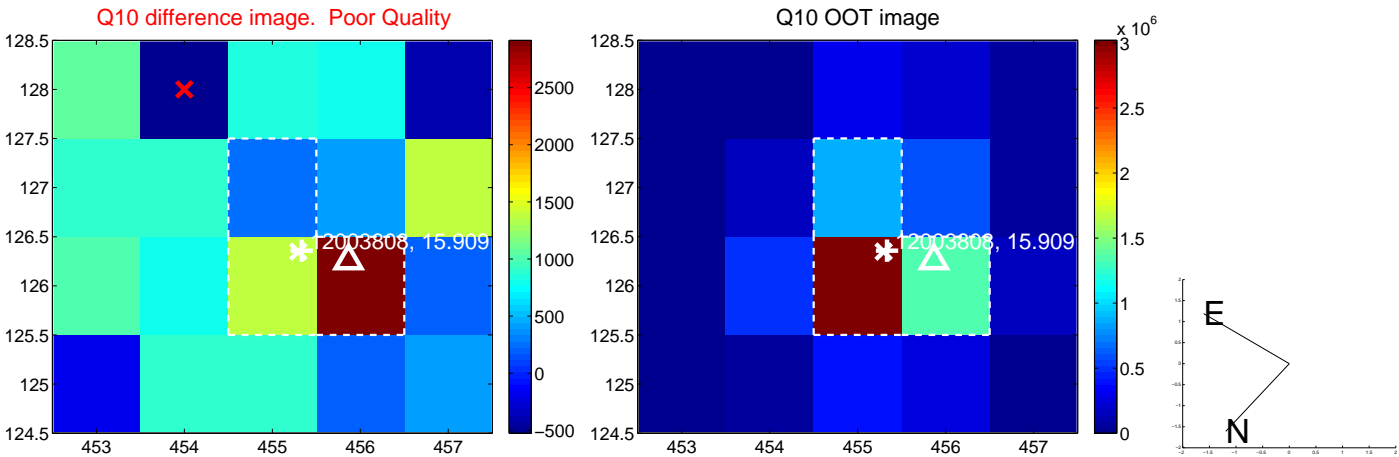
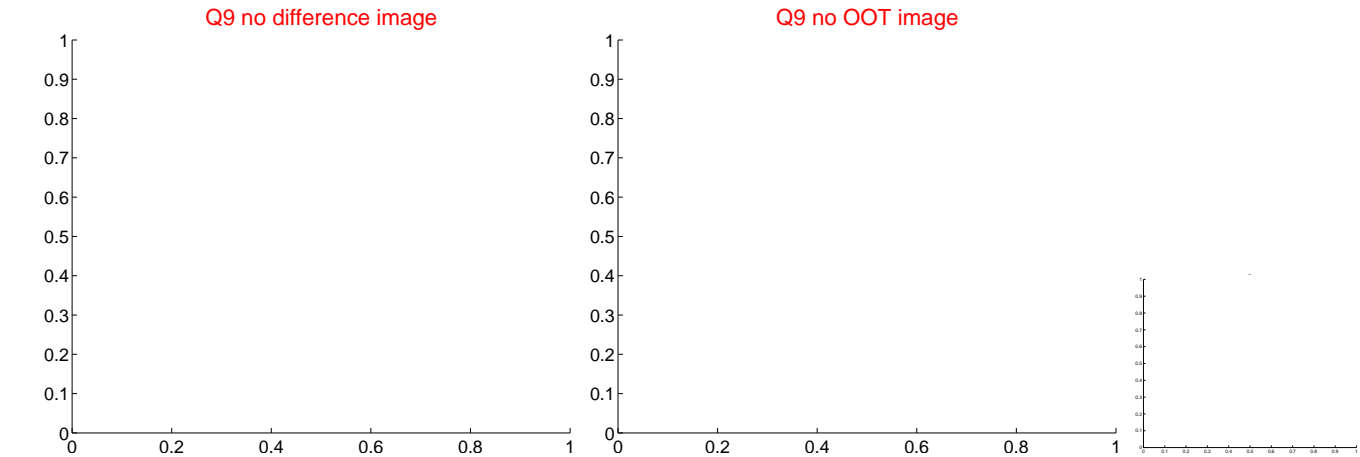
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



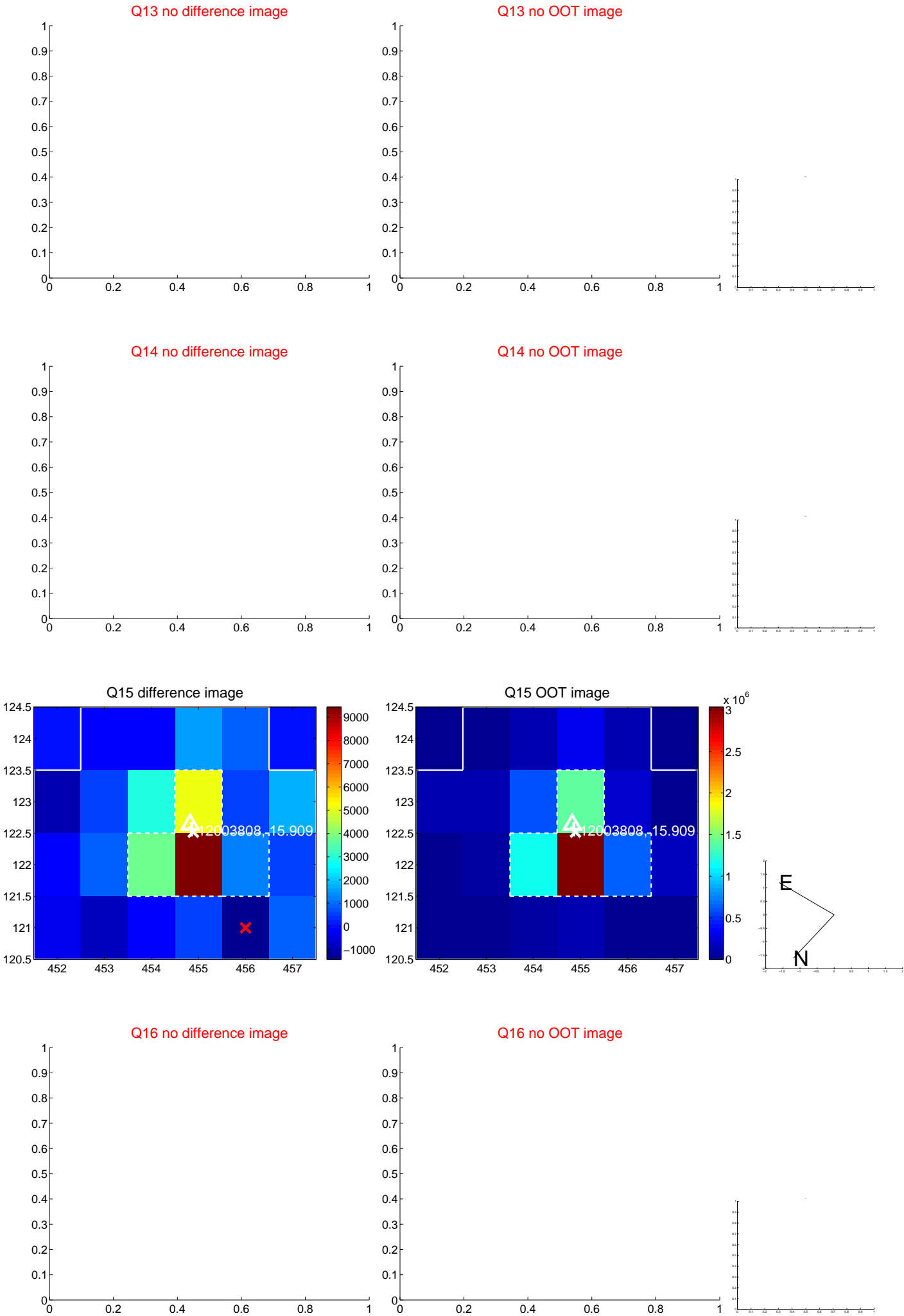
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



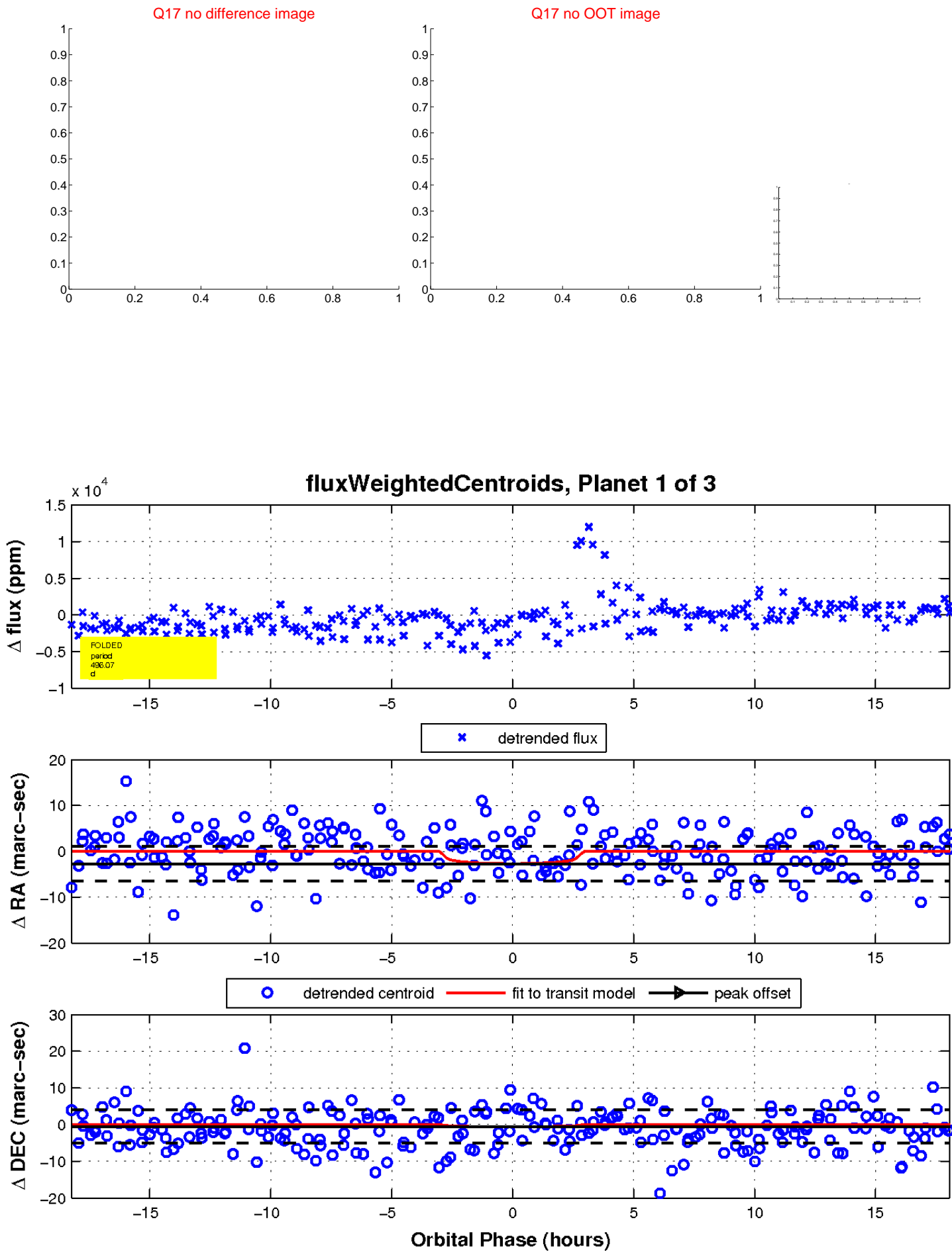
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

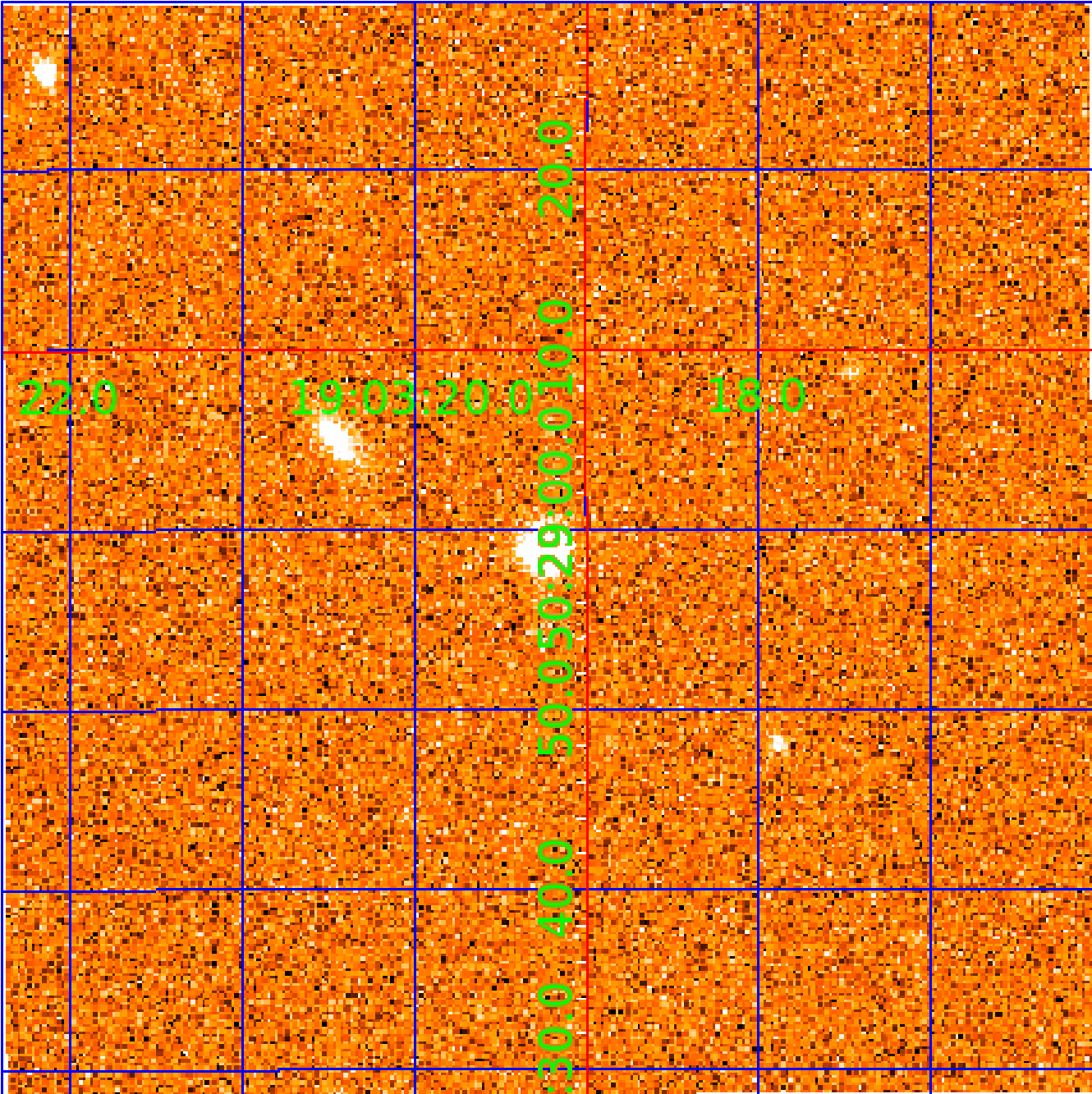


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012003808

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})
012003808-01	OBS	No	496.070455	454.057356	2324.3	6.083	11.5	6.3	0.60	5266	3.05	0.22
012003808-02	OBS	No	292.991368	148.755477	2649.6	2.707	10.5	6.6	0.60	5266	3.14	0.44
012003808-03	OBS	No	572.609005	246.537780	3854.8	11.809	8.7	7.4	0.60	5266	5.13	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012003808-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012003808-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012003808-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

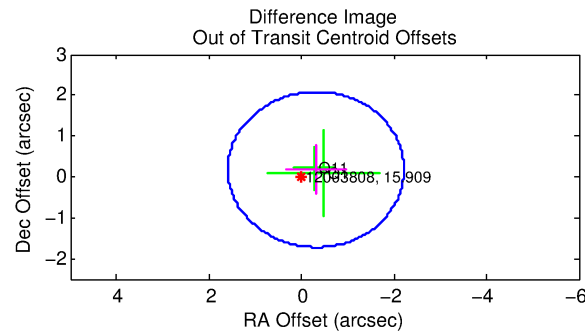
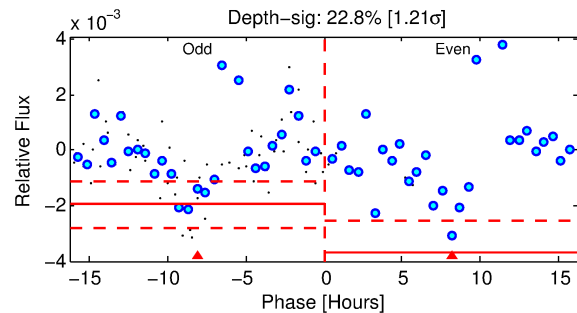
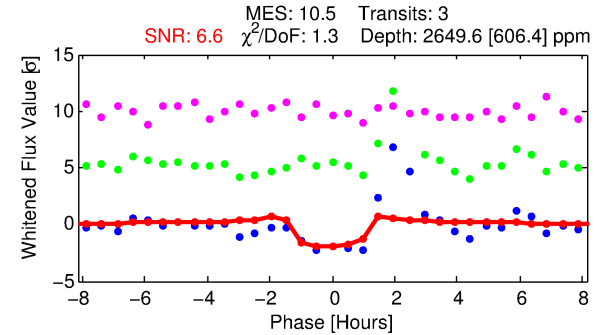
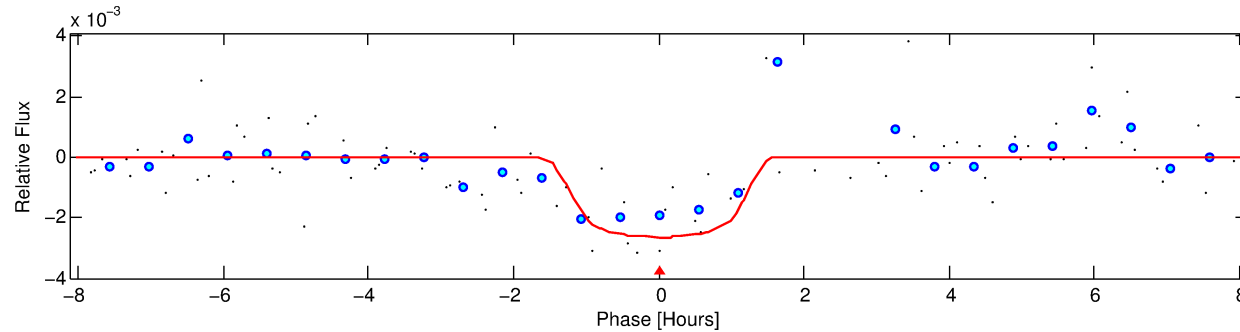
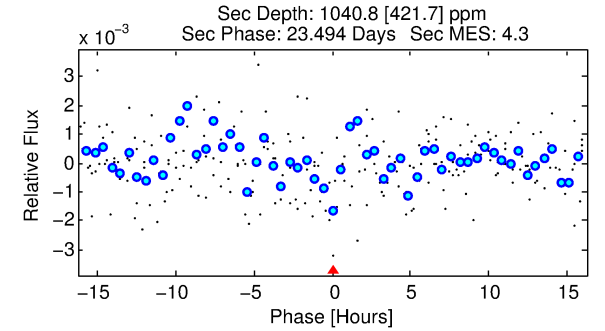
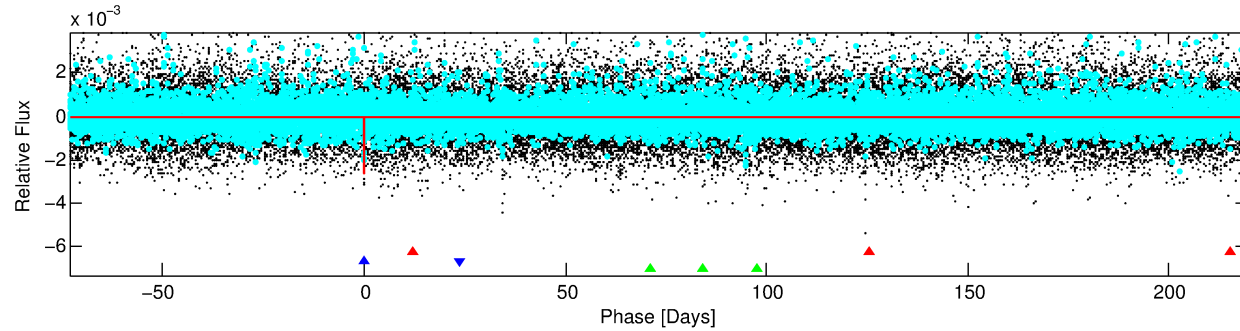
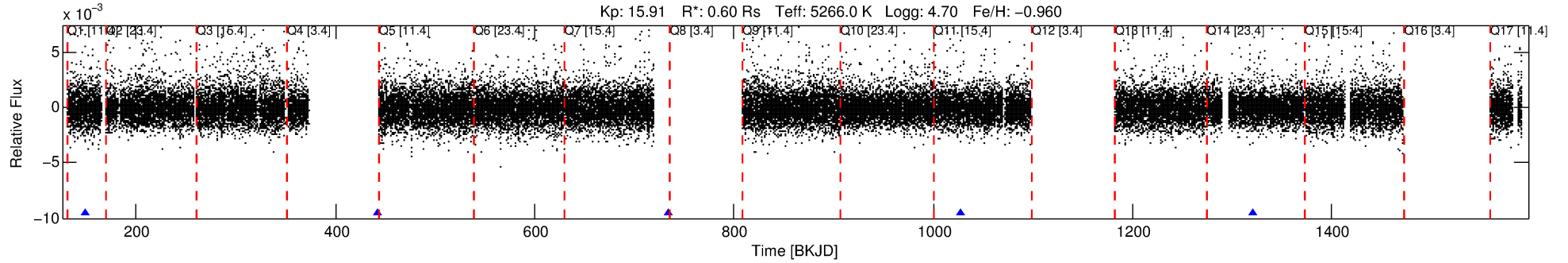
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012003808-02

No Significant Match Found

DV One-Page Summary

KIC: 12003808 Candidate: 2 of 3 Period: 292.991 d



DV Fit Results:

Period = 292.99137 [0.00374] d
Epoch = 148.7555 [0.0118] BKJD
Rp/R* = 0.0476 [0.0816]
a/R* = 802.88 [5941.35]
b = 0.39 [16.05]
Seff = 0.44 [0.08]
Teq = 208 [9] K
Rp = 3.14 [5.39] Re
a = 0.7564 [0.0658] AU
Ag = 33162.17 [114503.05] [0.29σ]
Teffp = 4335 [3741] K [1.10σ]

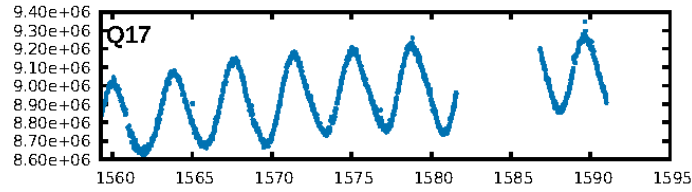
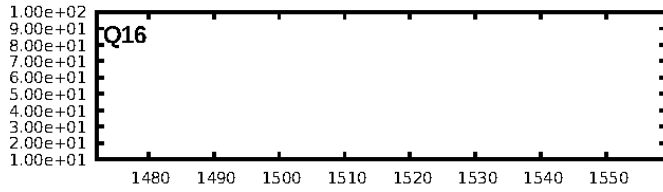
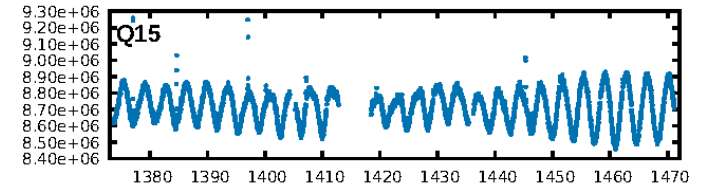
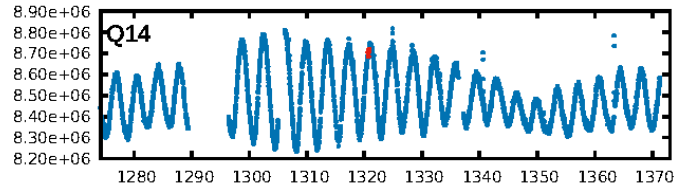
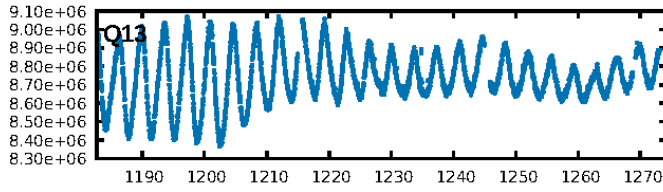
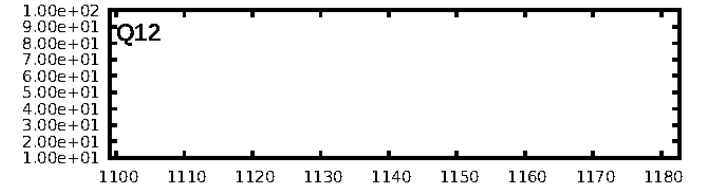
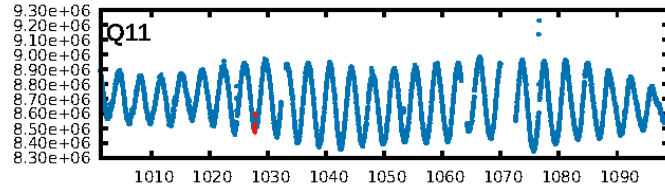
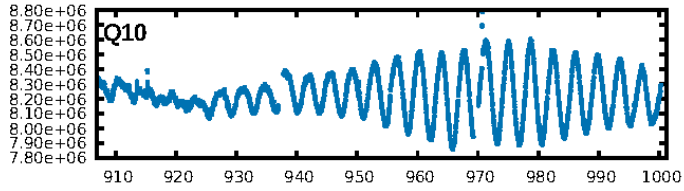
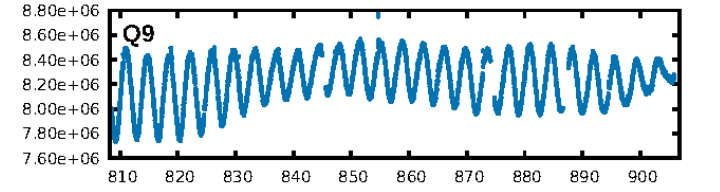
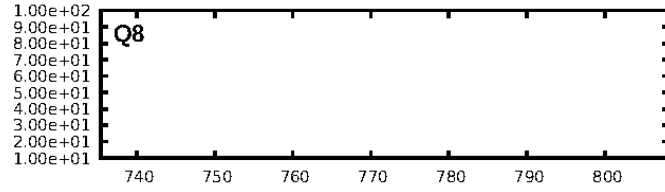
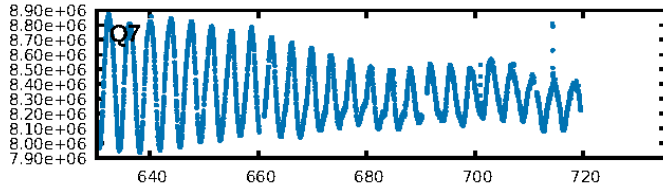
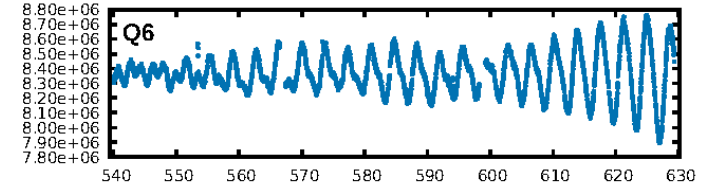
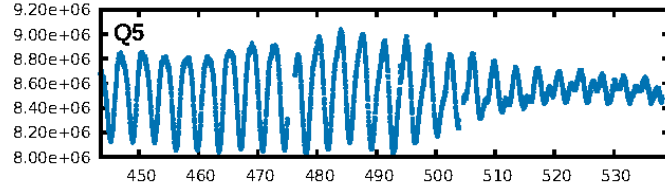
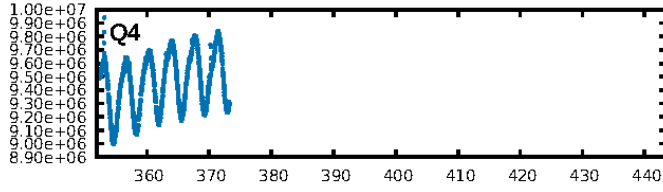
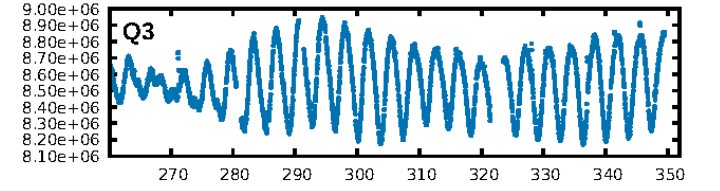
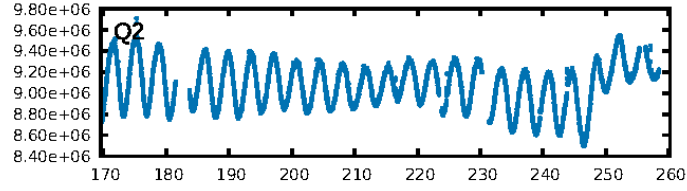
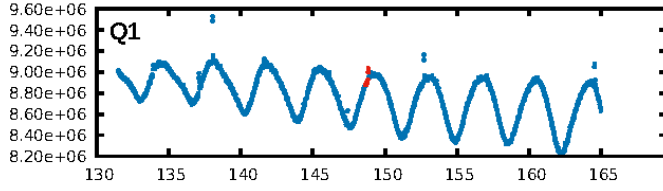
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [732.05σ]
ModelChiSquare2-sig: 1.4%
ModelChiSquareGof-sig: 44.4%
Bootstrap-pfa: 1.06e-12
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.978
Centroid-sig: 12.9%
Centroid-so: 2.934 arcsec [2.04σ]
OotOffset-rm: 0.361 arcsec [0.57σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-rm: 0.278 arcsec [0.44σ]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

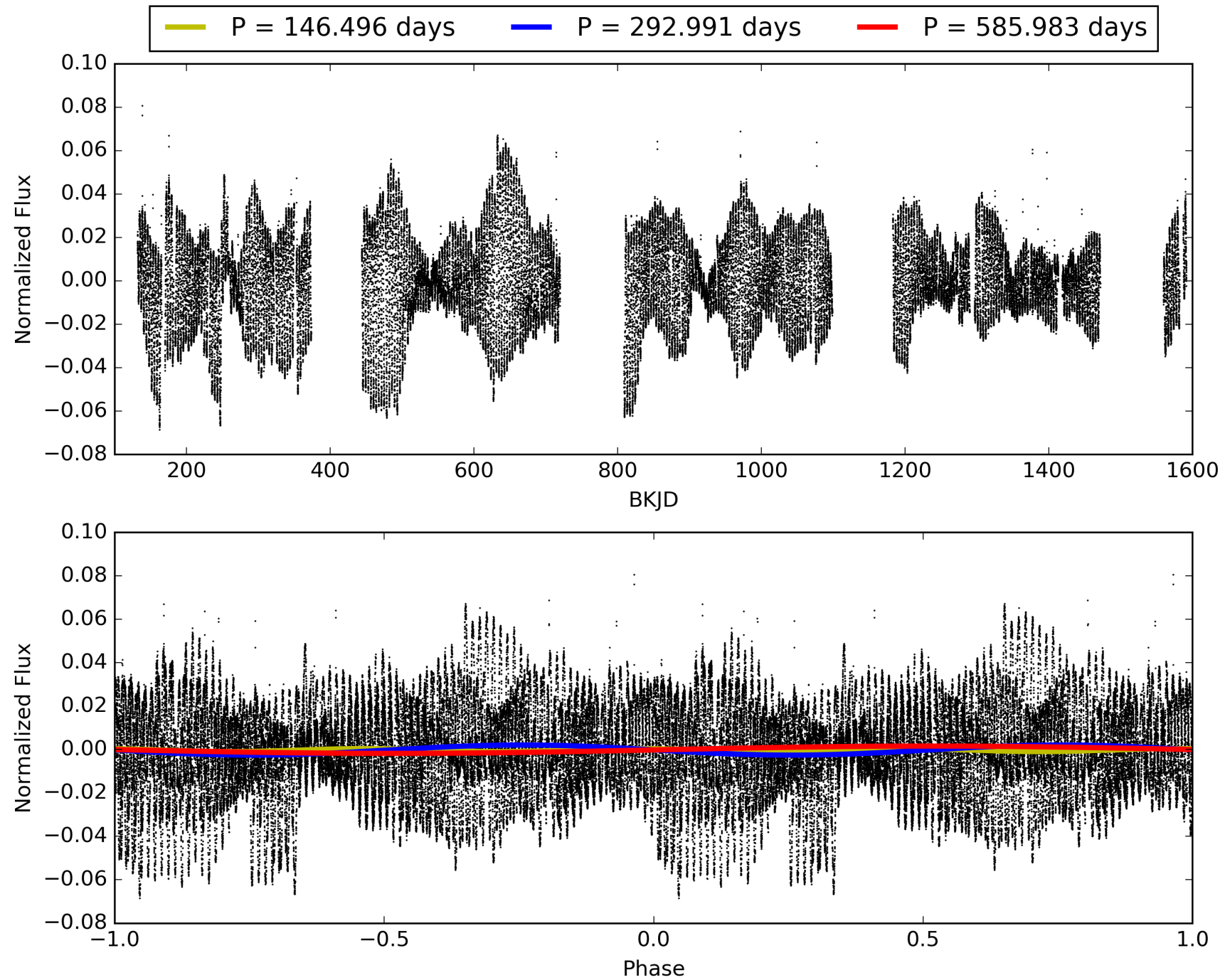
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 13:27:57 Z

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

TCE 012003808-02, PDC Light Curves

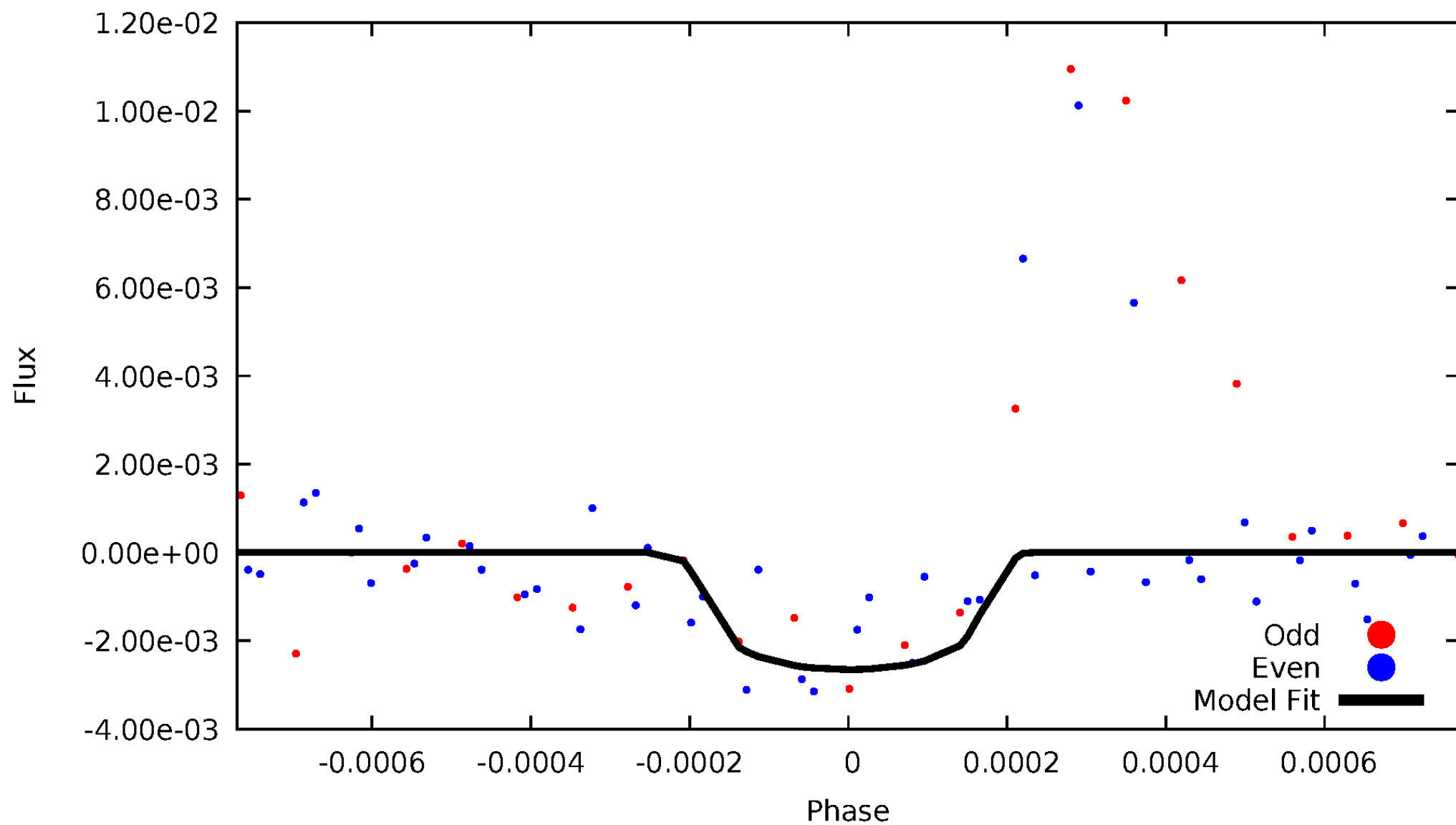


TCE 012003808-02



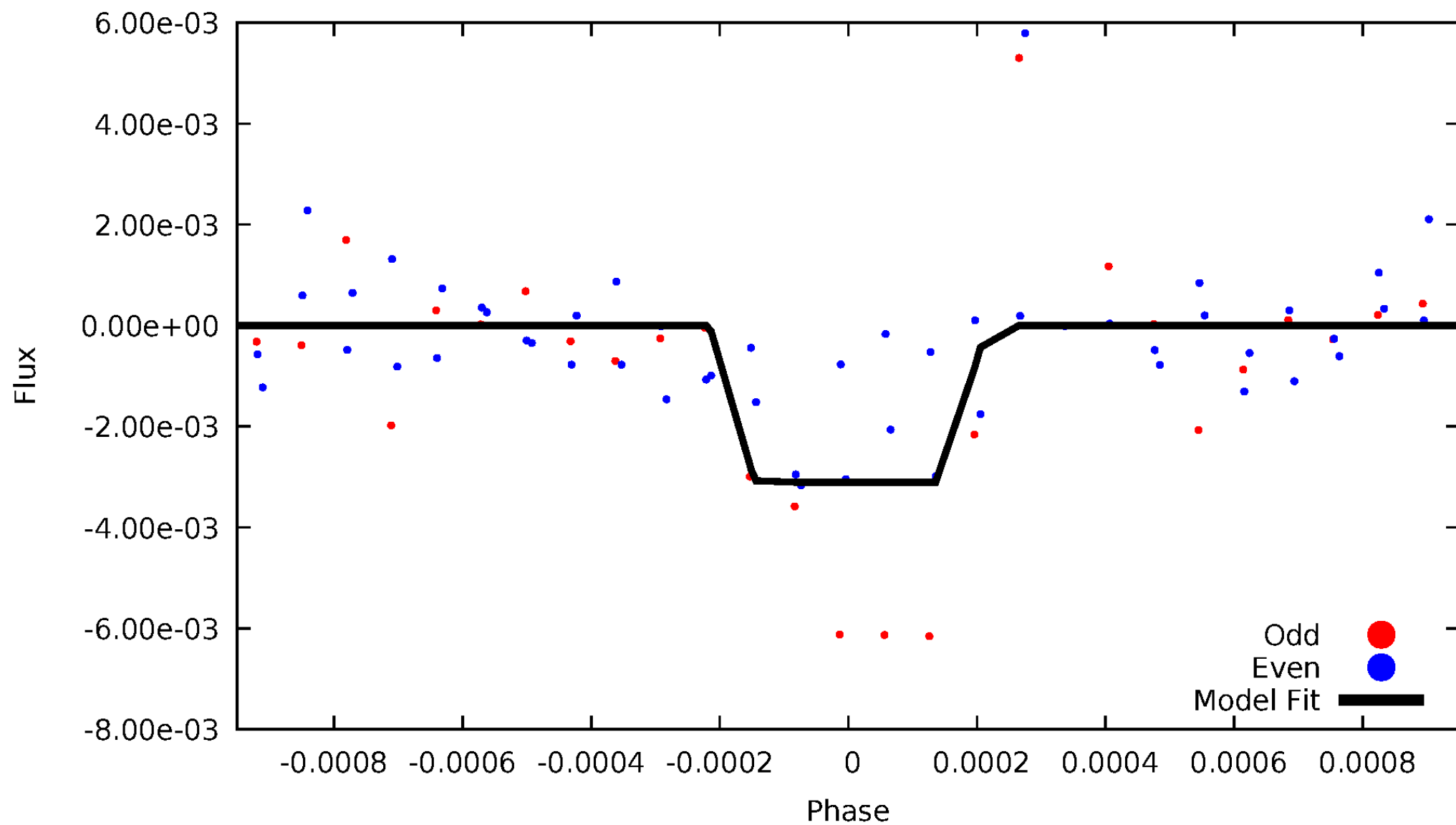
DV Odd/Even

TCE 012003808-02



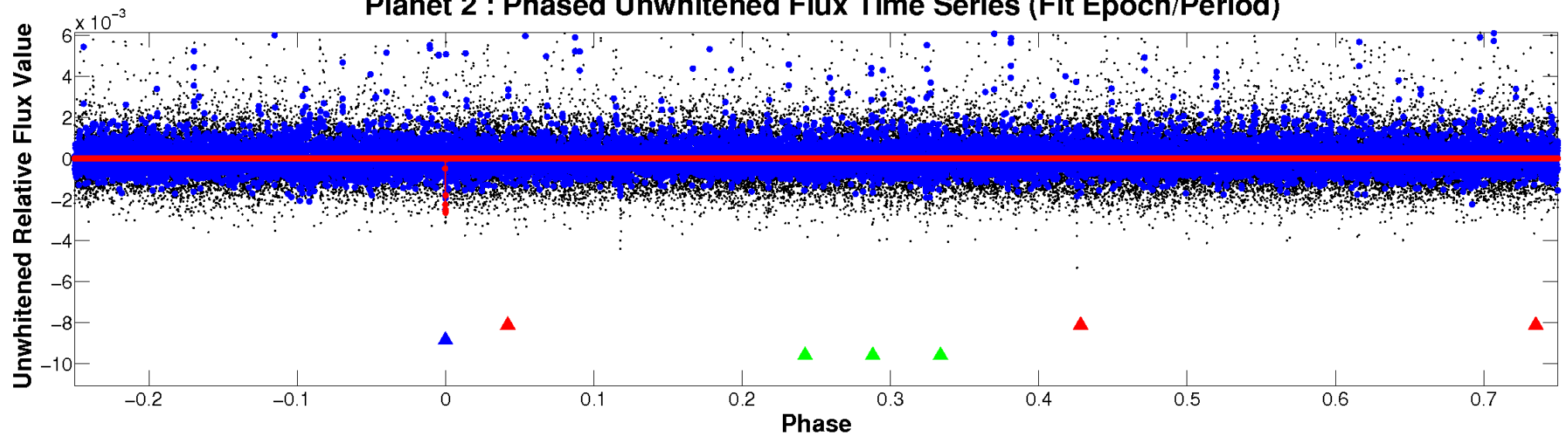
ALT Odd/Even

TCE 012003808-02

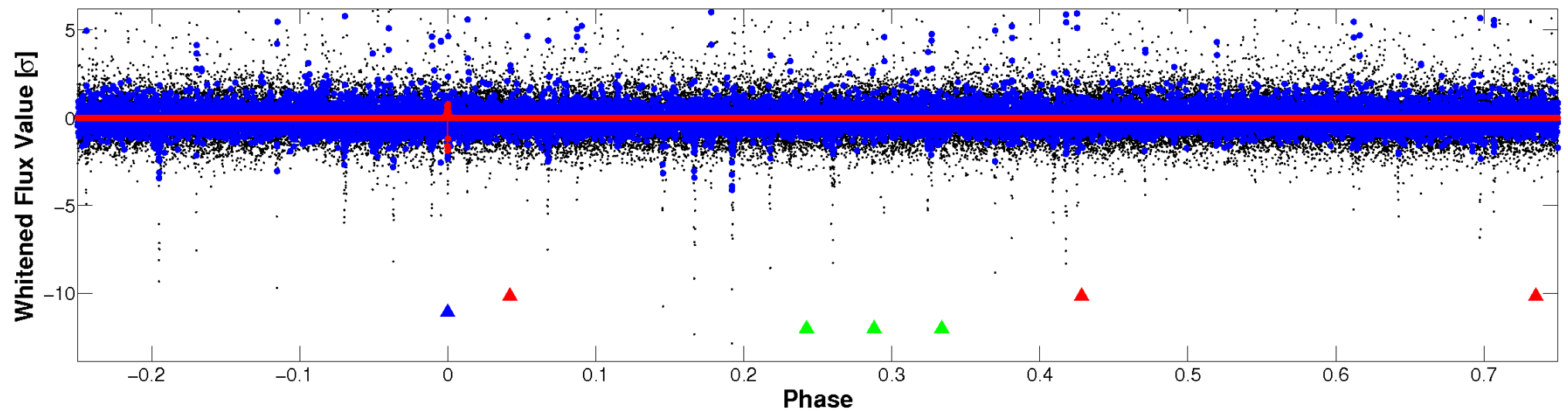


Non-Whitened Vs. Whitened Light Curve

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

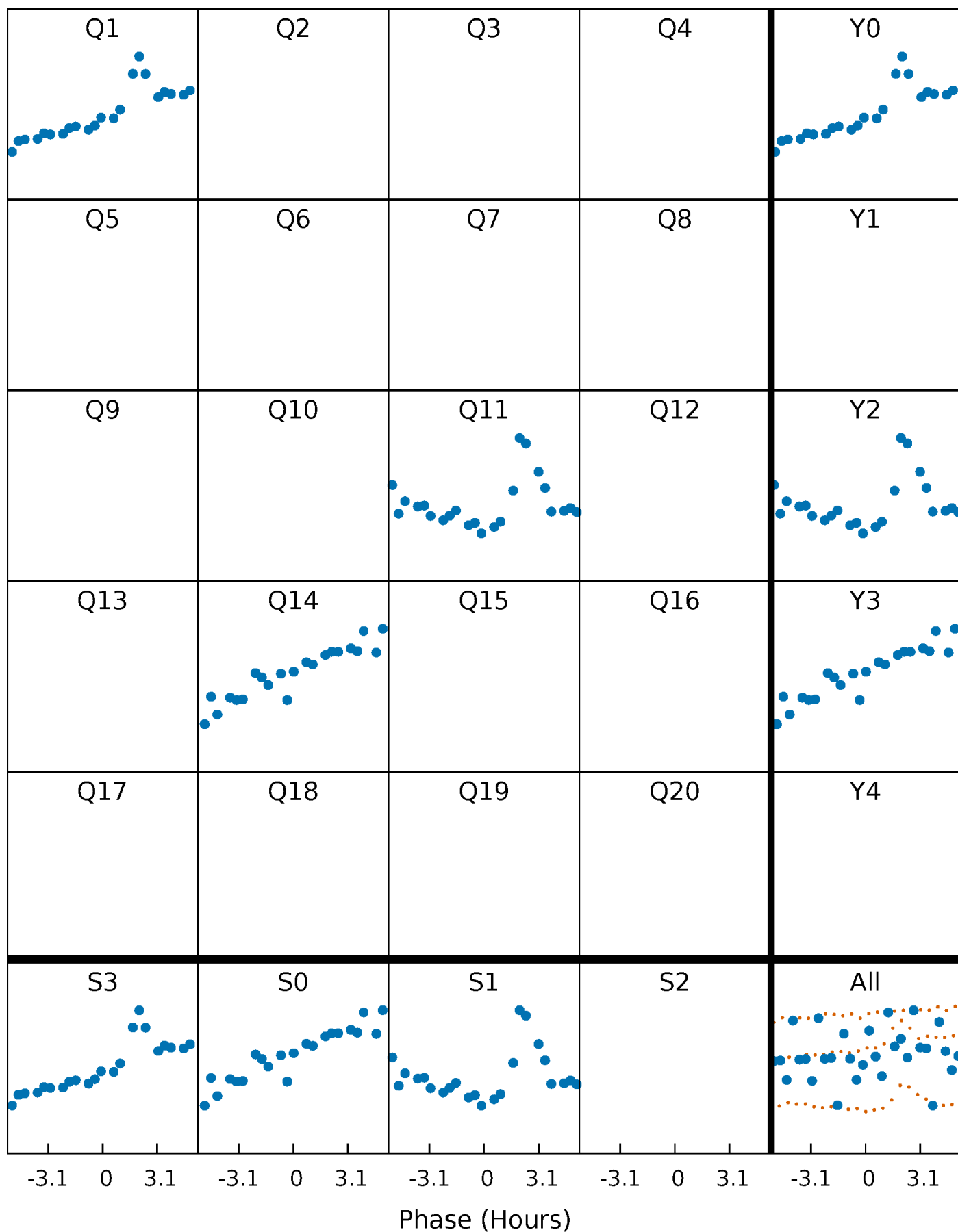


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



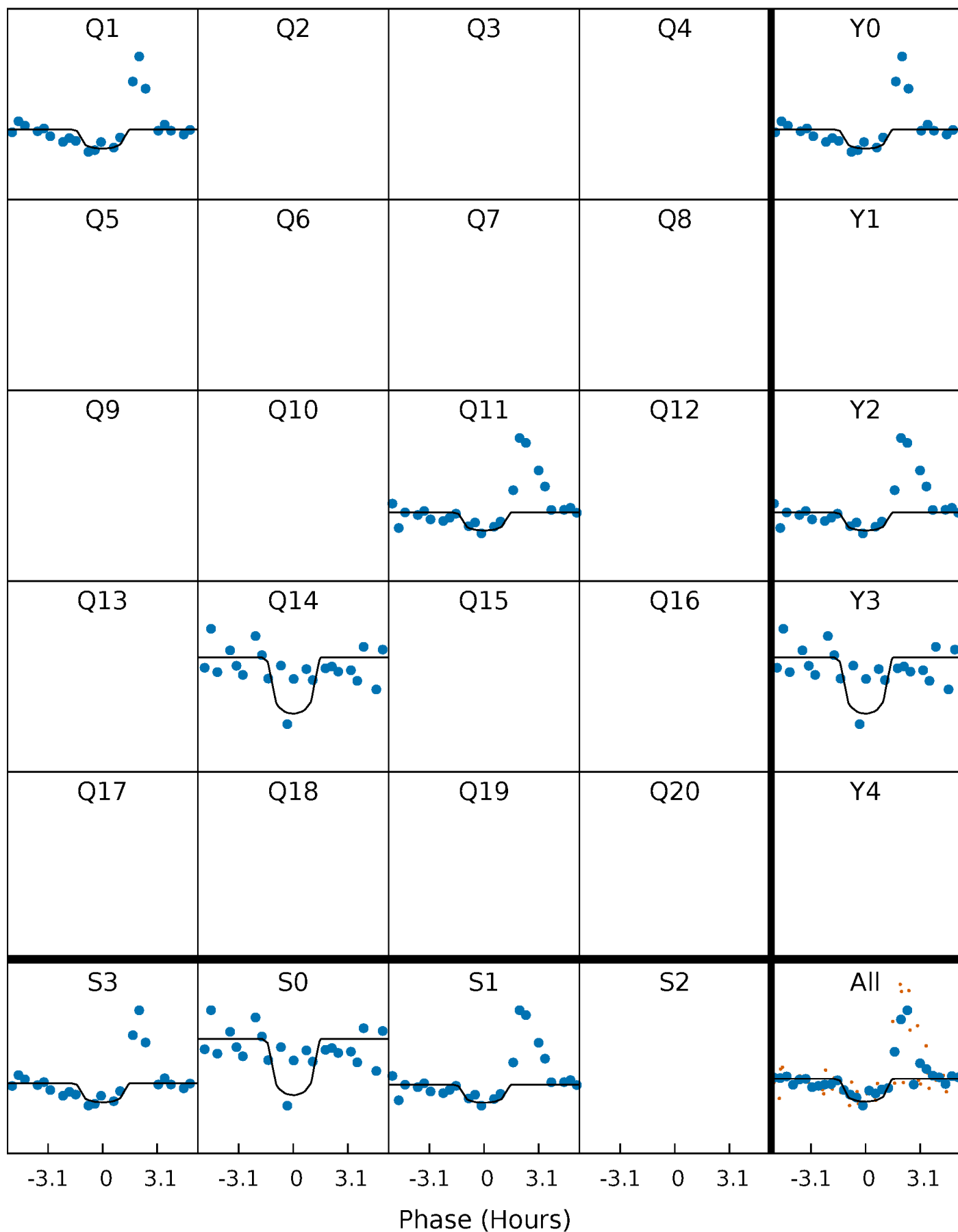
PDC Quarter-Phased Transit Curves

TCE 012003808-02 $P=292.991368$ Days $T_0=148.755477$ (BKJD)



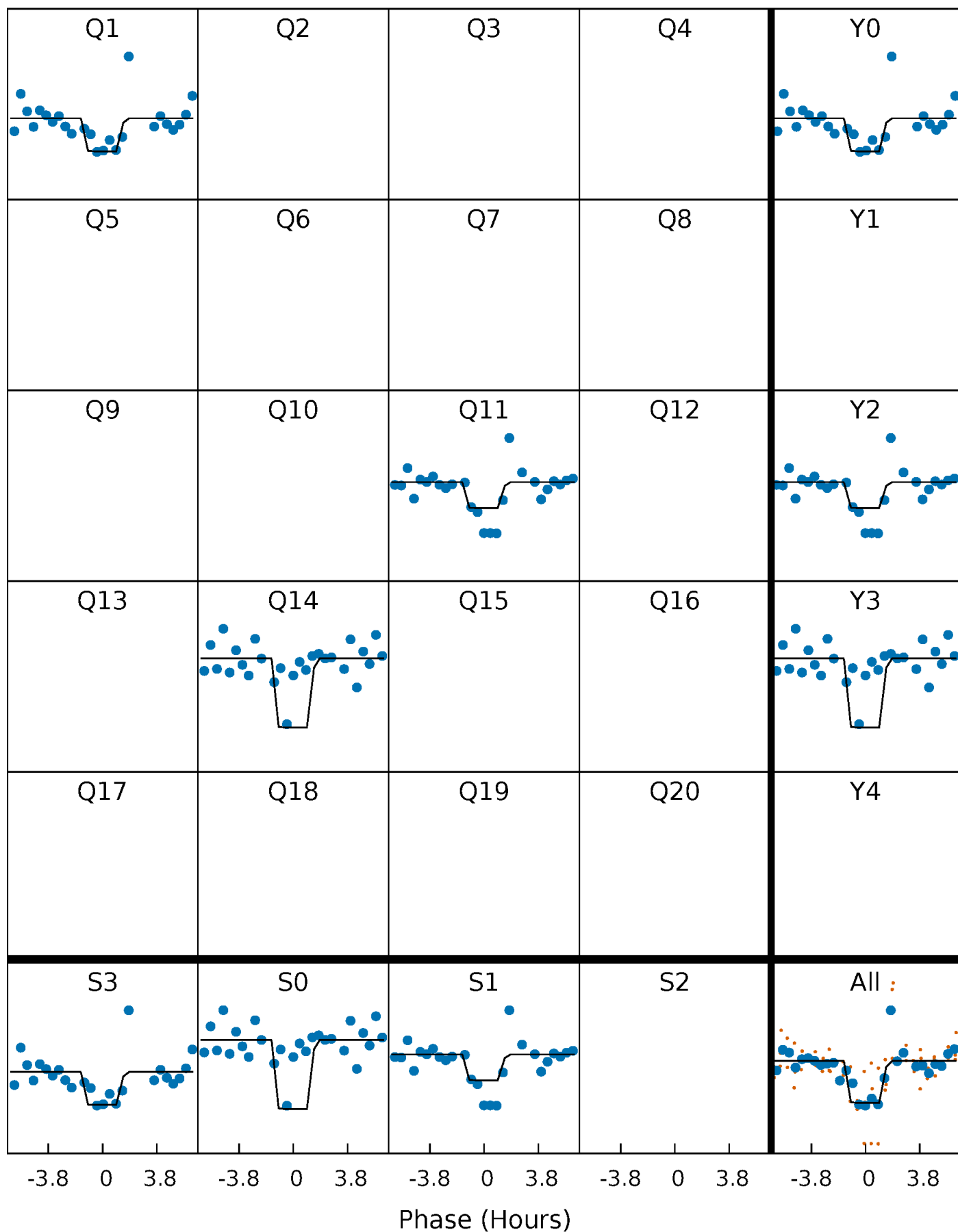
DV Quarter-Phased Transit Curves

TCE 012003808-02 P=292.991368 Days $T_0=148.755477$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

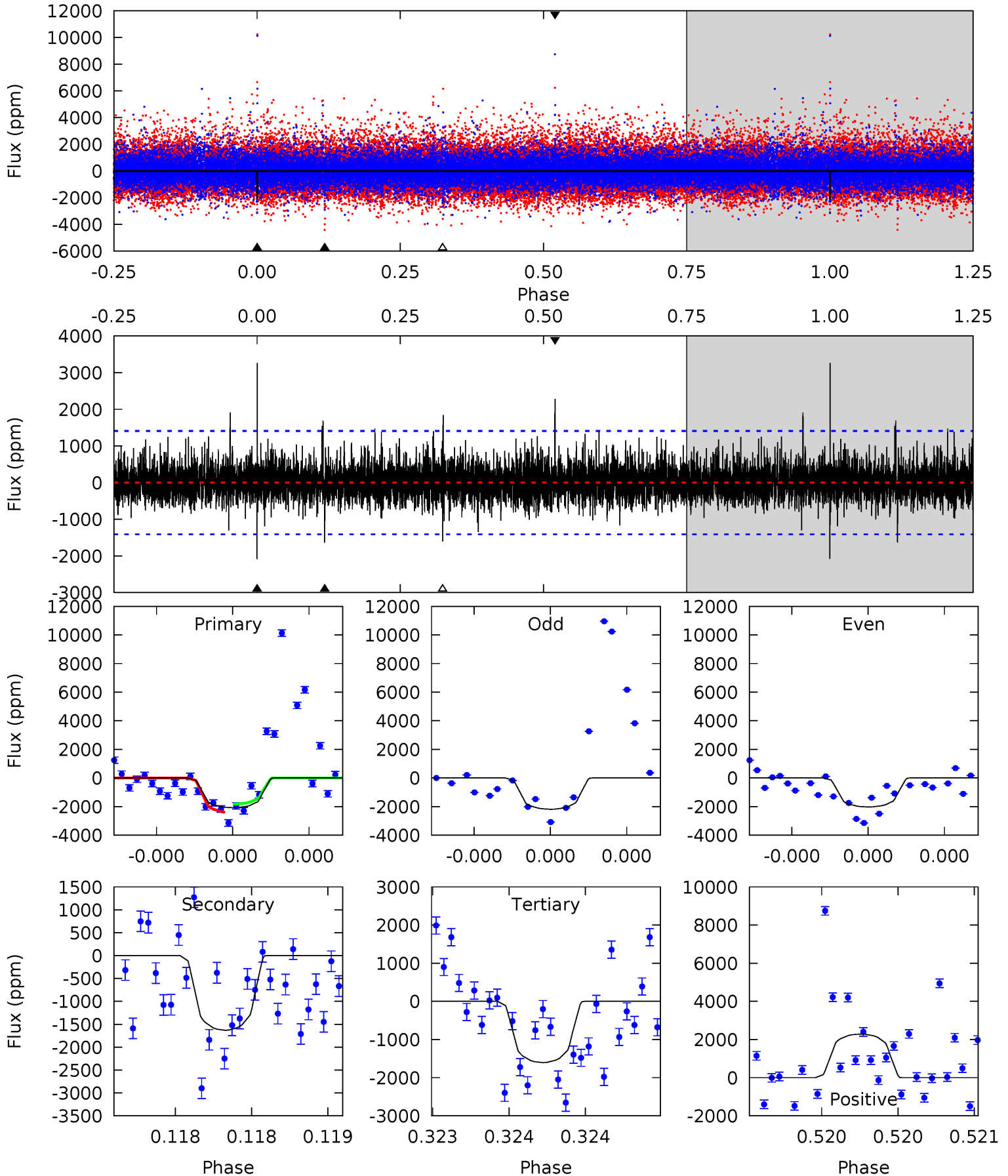
TCE 012003808-02 P=292.998170 Days $T_0=148.739429$ (BKJD)



DV Model-Shift Uniqueness Test

012003808-02, P = 292.991368 Days, E = 148.755477 Days

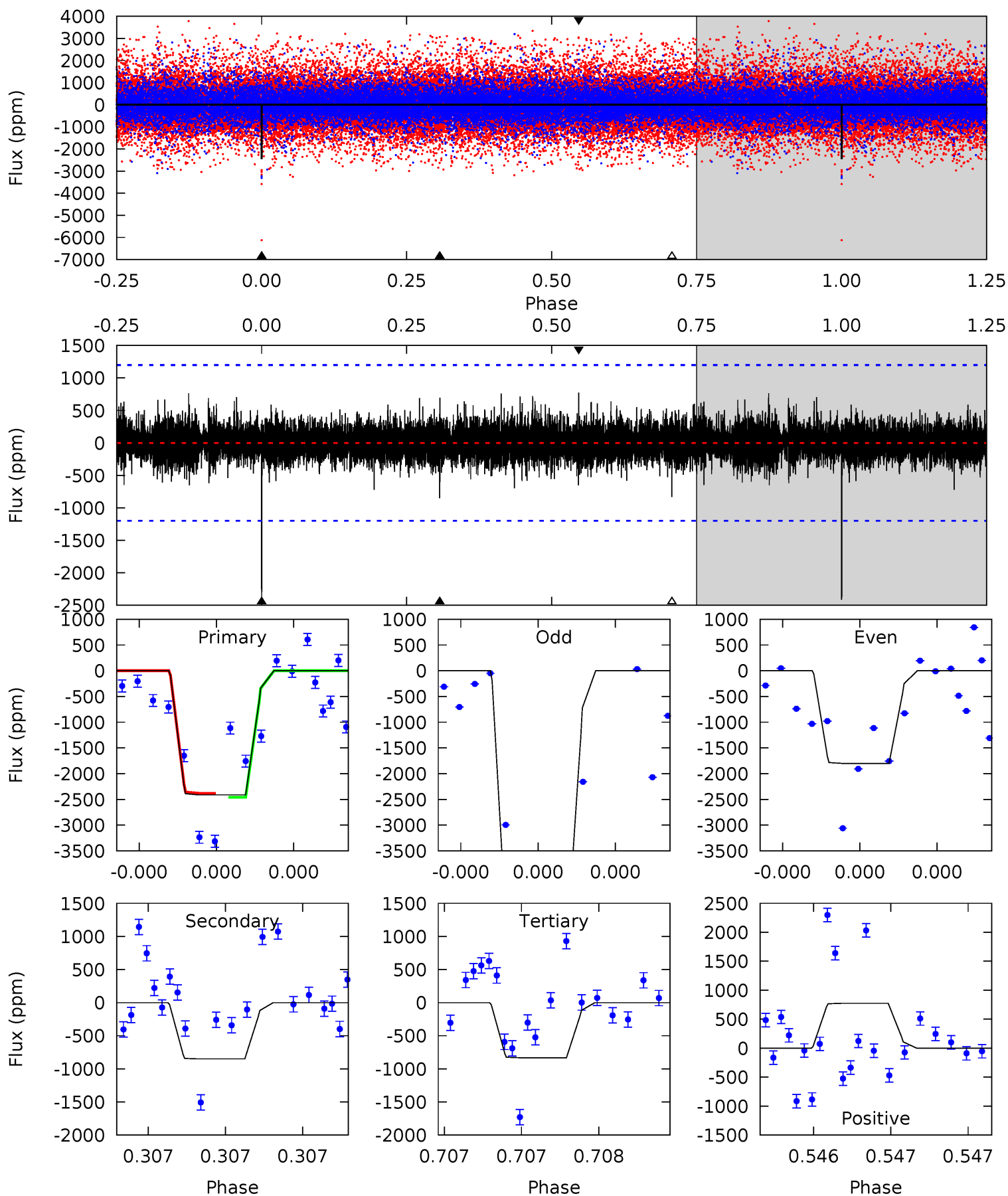
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.25	6.47	6.37	9.07	5.60	3.52	1.40	1.89	-0.82	0.10	-2.60	0.27	0.95	0.61	1.13



Alt Model-Shift Uniqueness Test

012003808-02, P = 292.998170 Days, E = 148.739429 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	3.99	3.90	3.63	5.63	3.57	0.77	7.42	7.69	0.08	0.36	7.89	1.12	0.24	0.18



Stellar Parameters For KIC 012003808

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5266^{+157}_{-157}	$4.702^{+0.023}_{-0.072}$	$-0.960^{+0.300}_{-0.300}$	$0.605^{+0.061}_{-0.031}$	$0.673^{+0.046}_{-0.046}$	$4.286^{+0.464}_{-0.970}$
	+3%/-3%	+0%/-2%	+31%/-31%	+10%/-5%	+7%/-7%	+11%/-23%
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 012003808-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1631 ± 252	$5.49^{+4.39}_{-3.88}$	293^{+10}_{-10}	4021^{+2688}_{-734}	$17093^{+171554}_{-11966}$
Alt.	-849 ± 213	$5.70^{+4.84}_{-3.76}$	293^{+11}_{-10}	3537^{+1664}_{-602}	8210^{+58966}_{-5848}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

DV Centroid Data

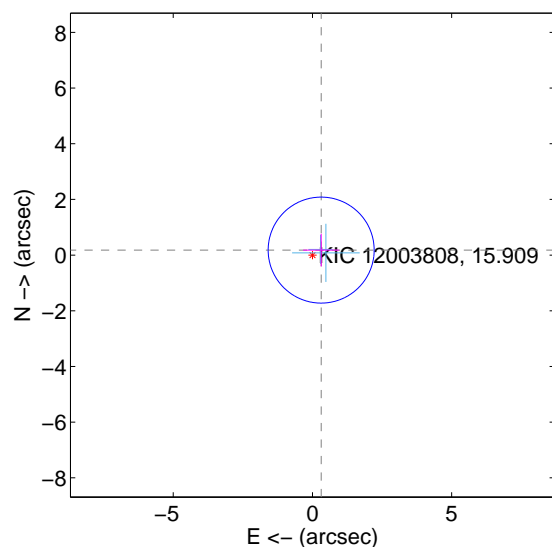
Supplemental centroid analysis for 012003808-02. Kepler magnitude: 15.91. Transit SNR 6.58

There are 2 quarters with good PRF difference image offsets

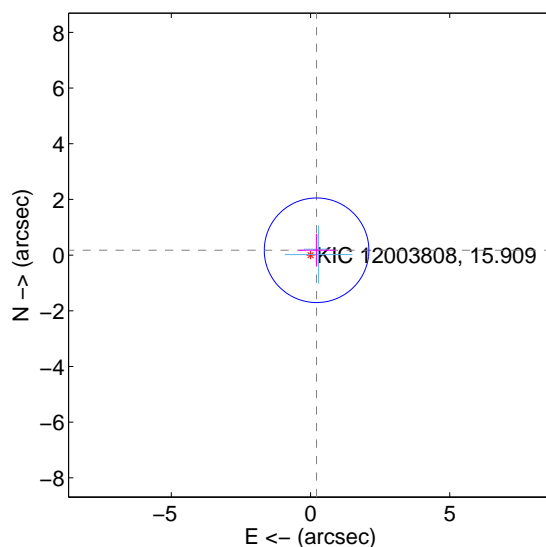
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.361 ± 0.635	0.57	-0.313 ± 0.649	0.179 ± 0.589
PRF-fit source offset from KIC position	0.278 ± 0.626	0.44	-0.217 ± 0.649	0.174 ± 0.589
photometric centroid source offset	2.93 ± 1.44	2.04	-2.93 ± 1.44	0.04 ± 1.38

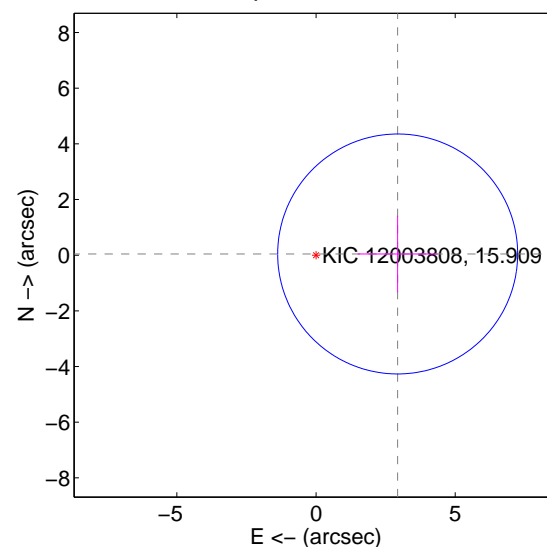
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

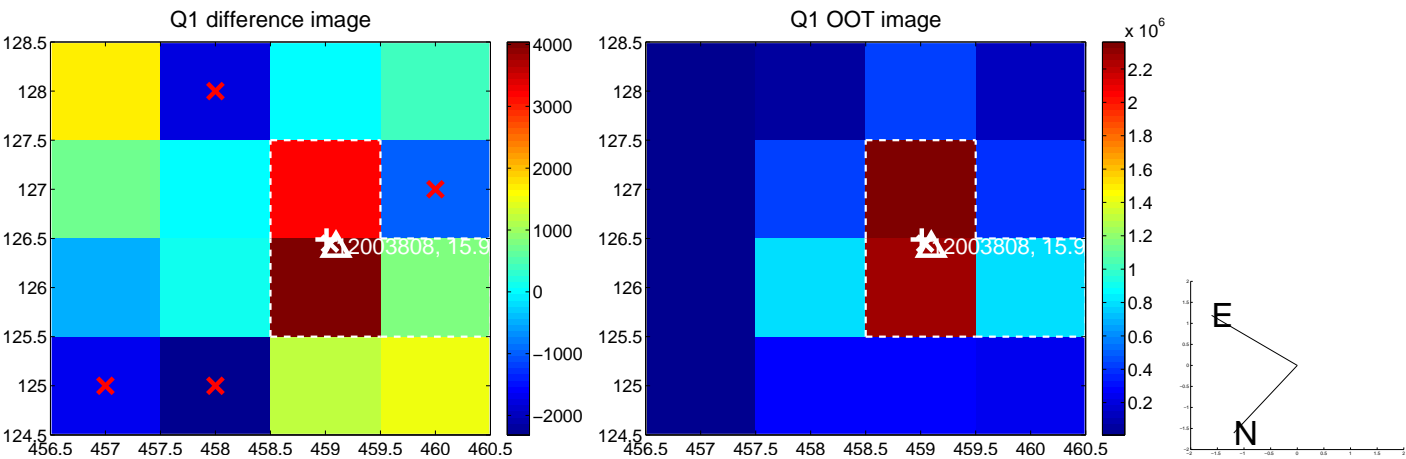


offset from photometric centroids



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.

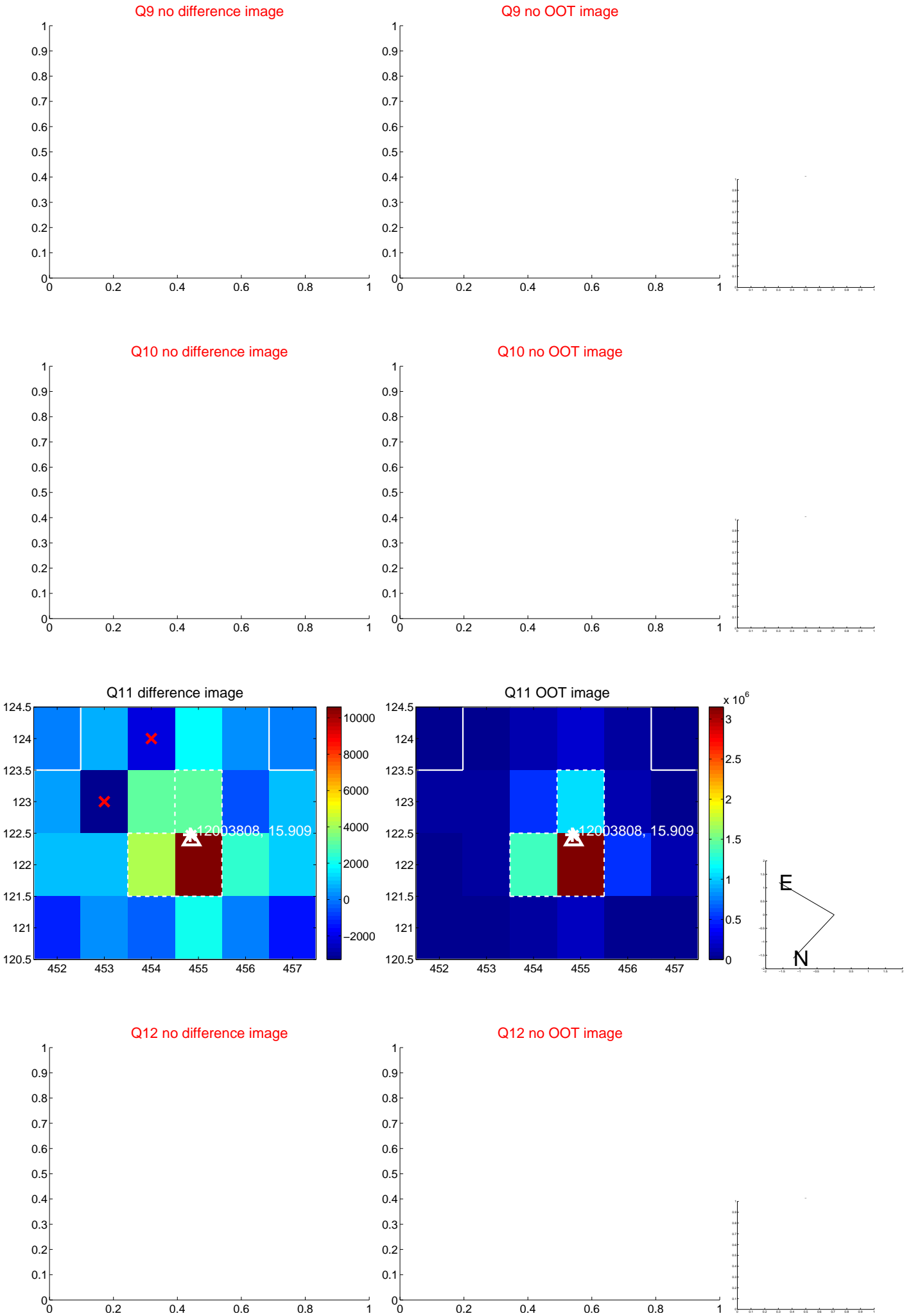
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



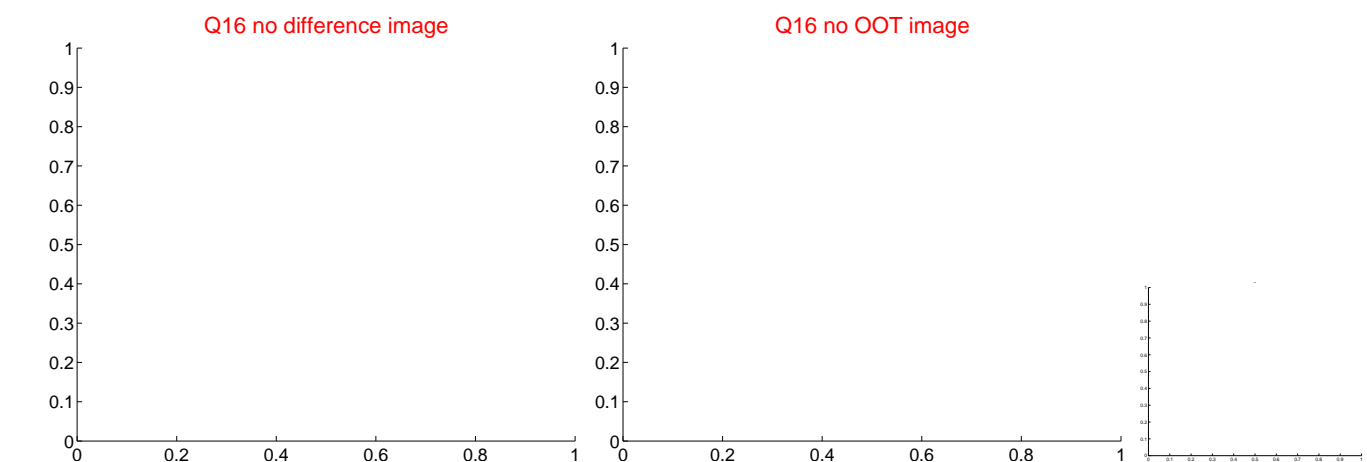
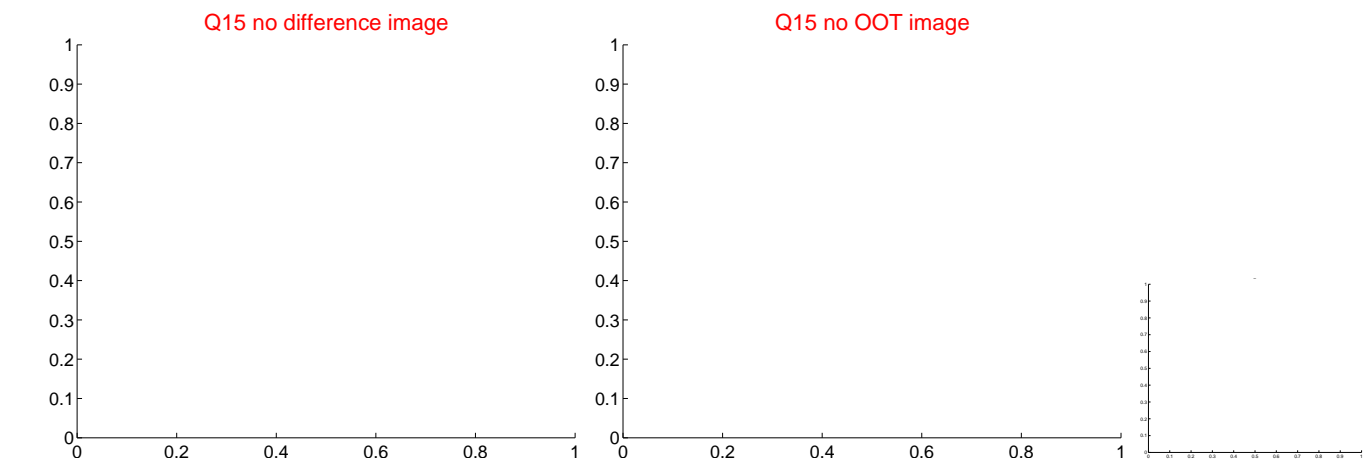
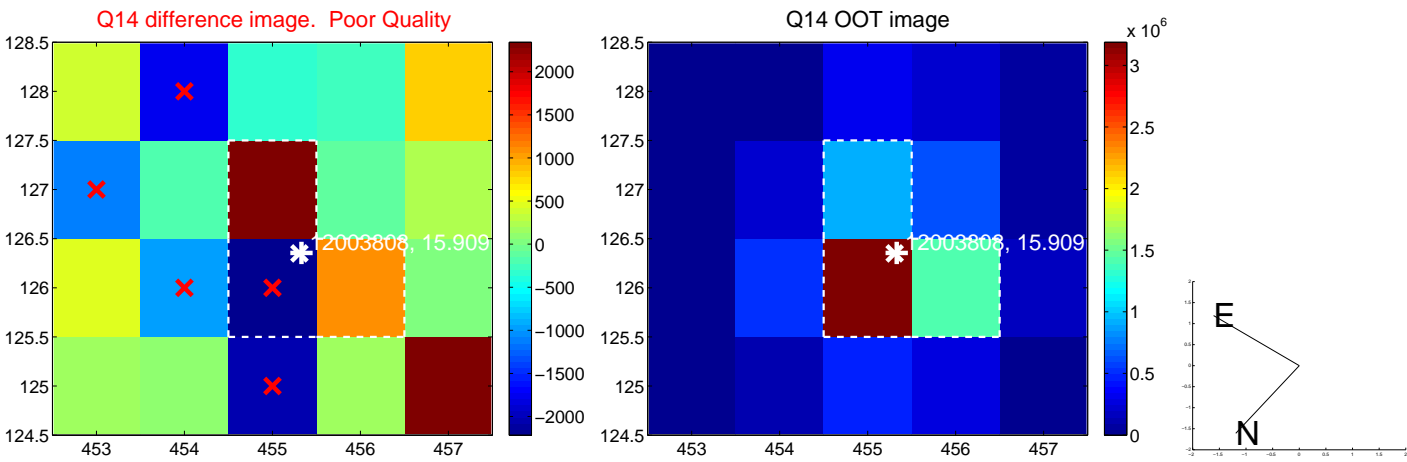
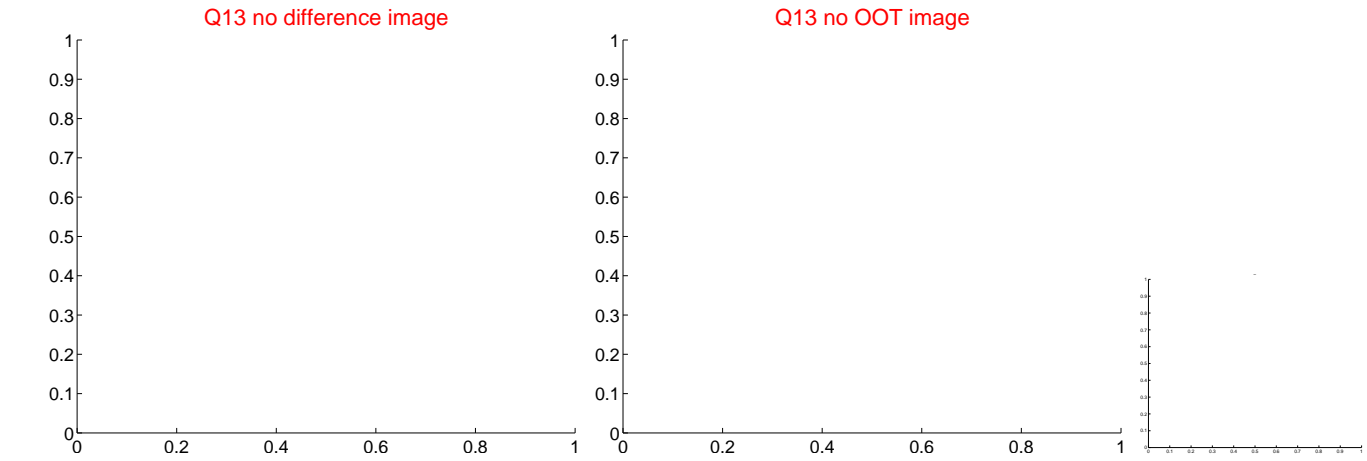
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



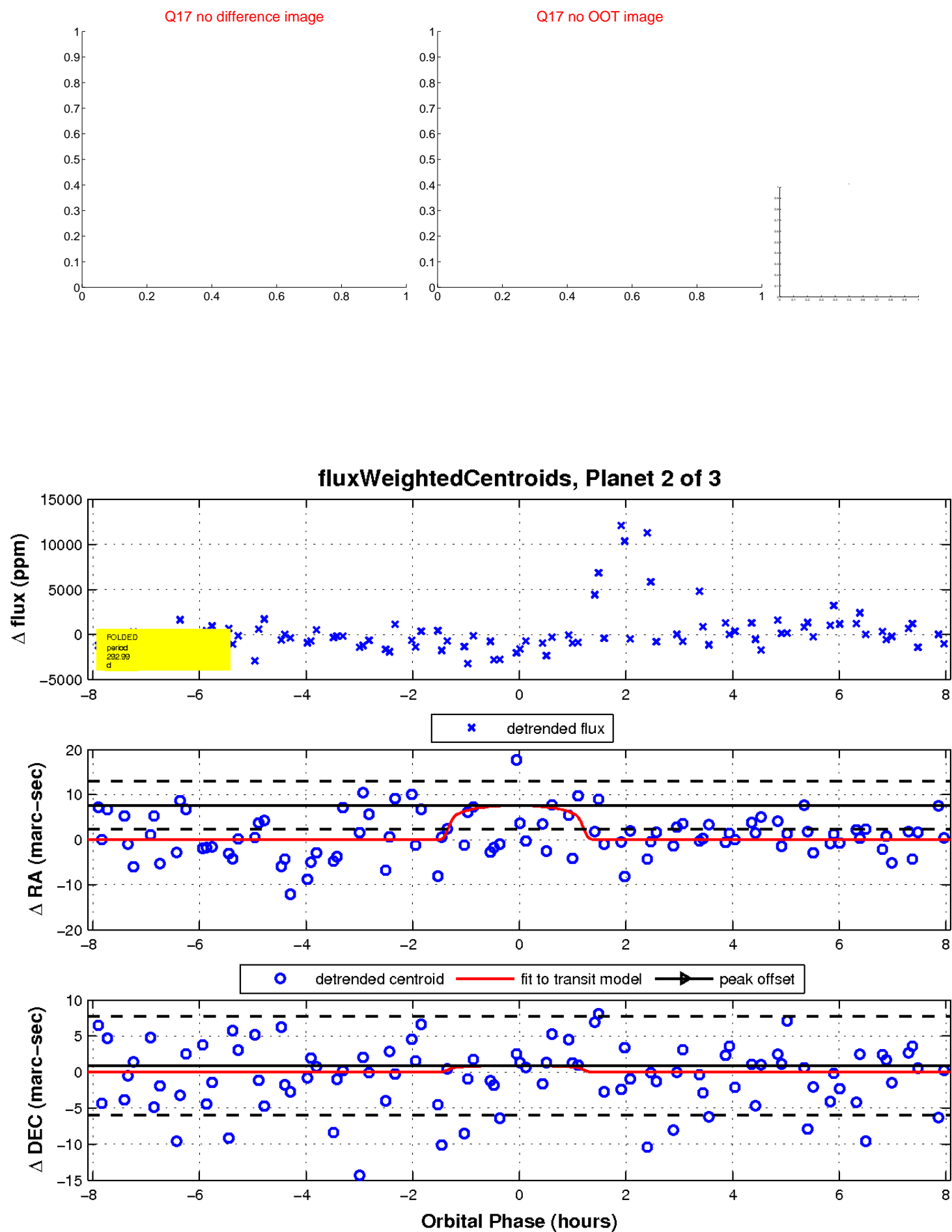
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

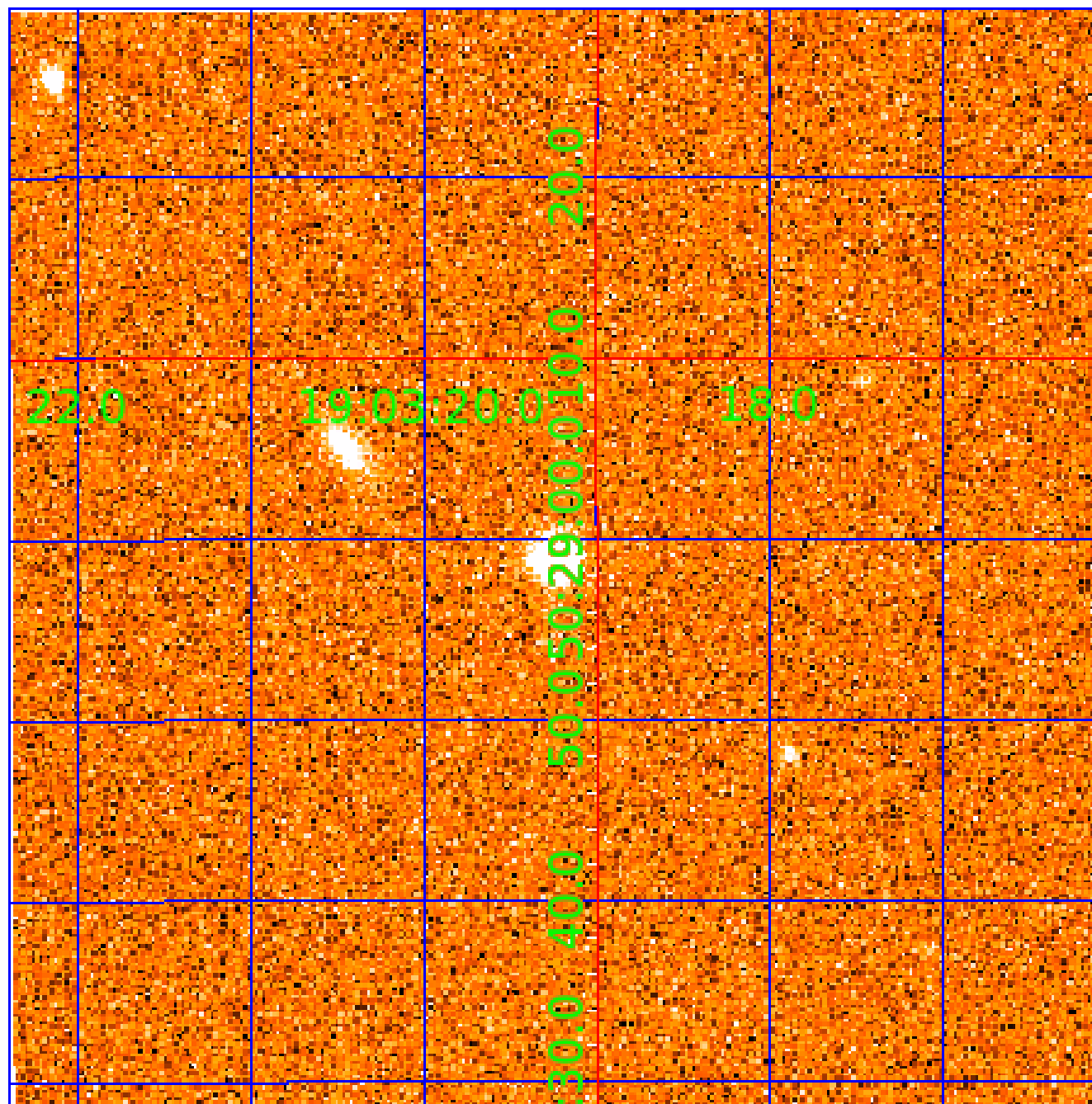


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012003808

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})
012003808-01	OBS	No	496.070455	454.057356	2324.3	6.083	11.5	6.3	0.60	5266	3.05	0.22
012003808-02	OBS	No	292.991368	148.755477	2649.6	2.707	10.5	6.6	0.60	5266	3.14	0.44
012003808-03	OBS	No	572.609005	246.537780	3854.8	11.809	8.7	7.4	0.60	5266	5.13	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012003808-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012003808-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012003808-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

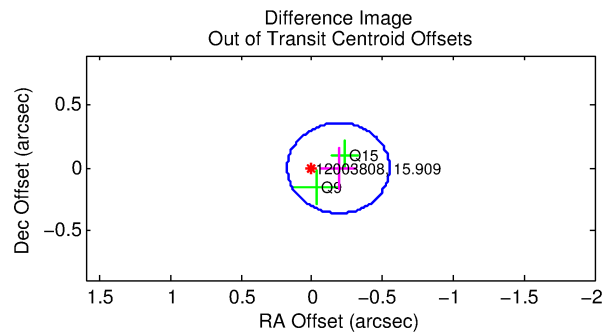
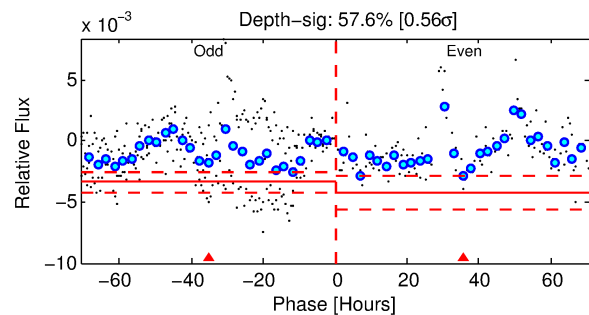
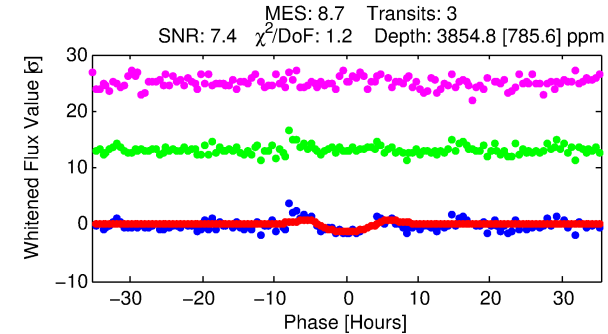
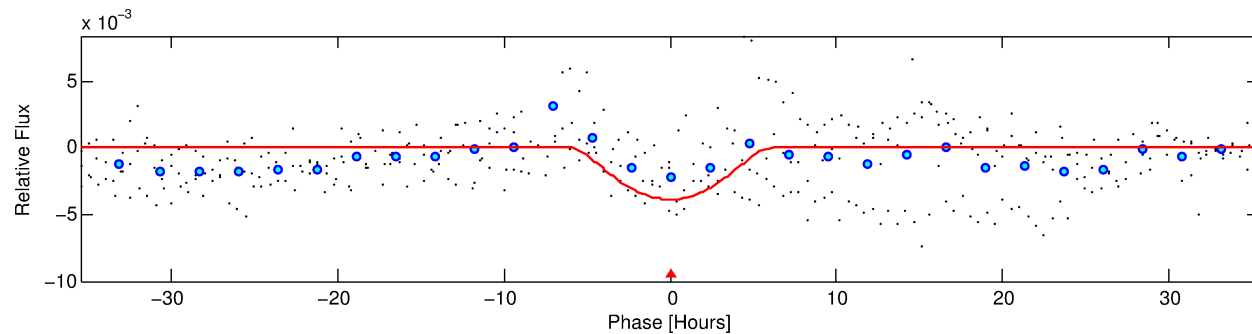
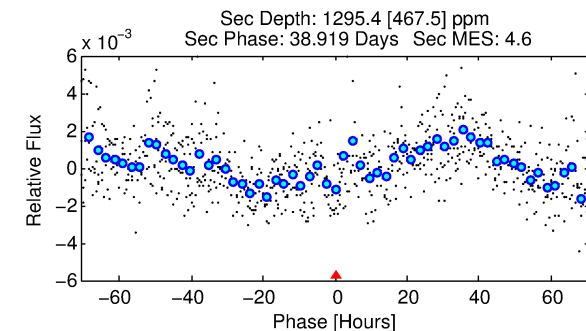
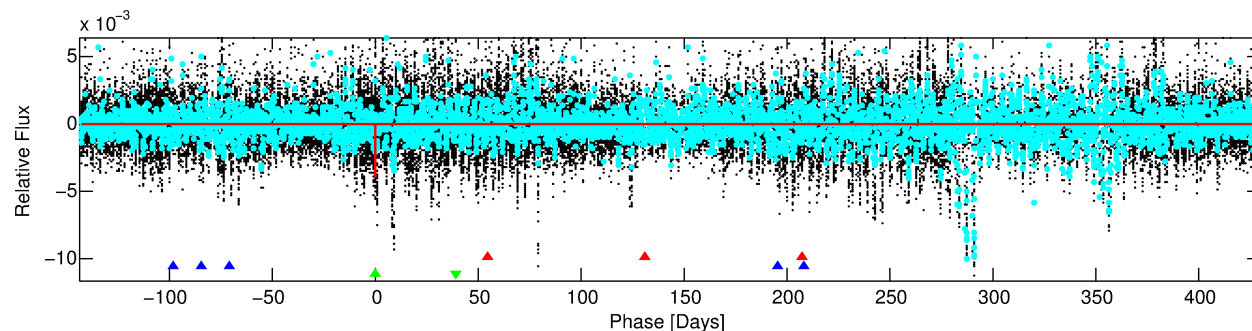
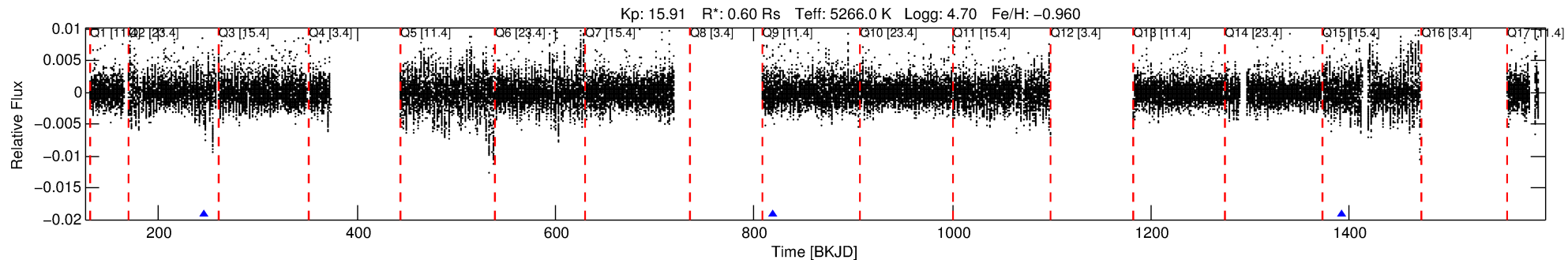
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012003808-03

No Significant Match Found

DV One-Page Summary

KIC: 12003808 Candidate: 3 of 3 Period: 572.609 d



DV Fit Results:

Period = 572.60900 [0.01640] d
Epoch = 246.5378 [0.0214] BKJD
Rp/R* = 0.0777 [0.0512]
a/R* = 187.99 [55.05]
b = 0.95 [0.11]
Seff = 0.18 [0.03]
Teq = 166 [7] K
Rp = 5.13 [3.42] Re
a = 1.1824 [0.1029] AU
Ag = 37866.41 [51966.91] [0.73σ]
Teffp = 3584 [1229] K [2.78σ]

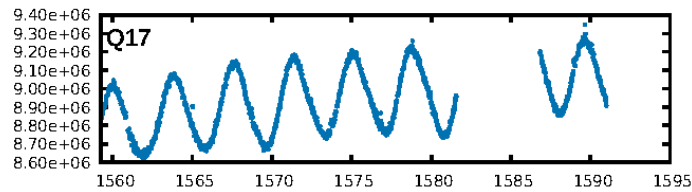
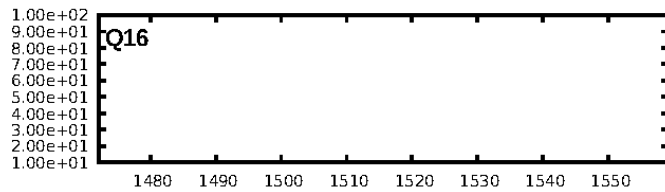
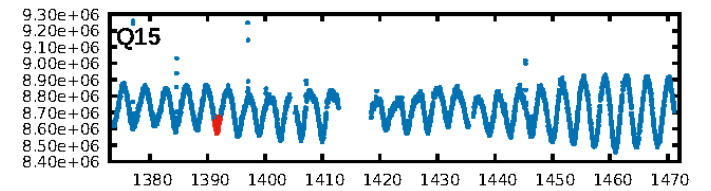
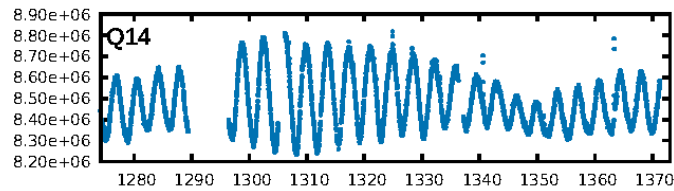
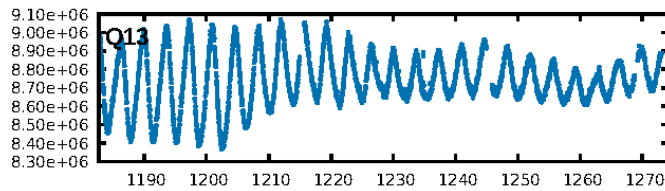
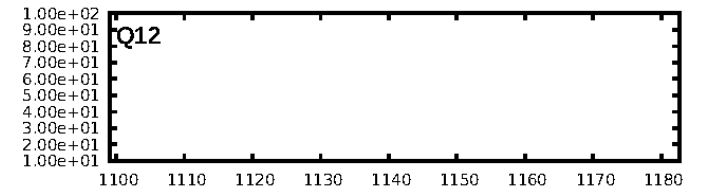
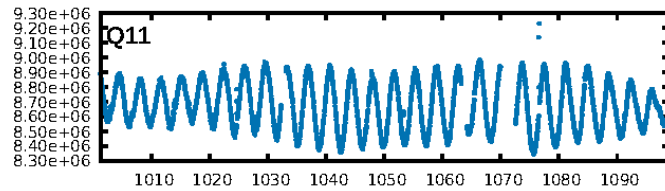
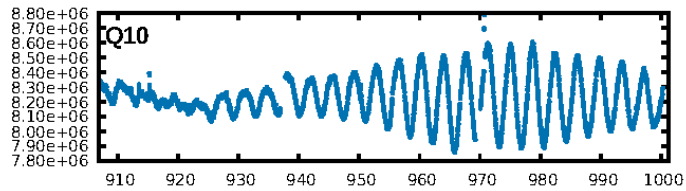
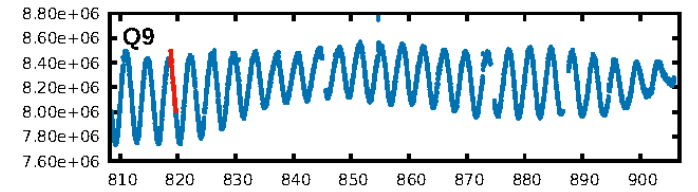
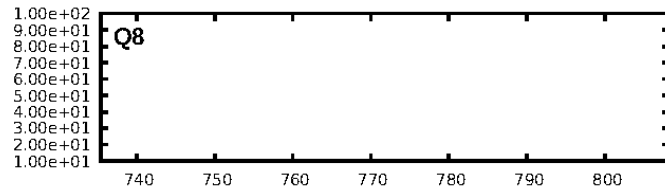
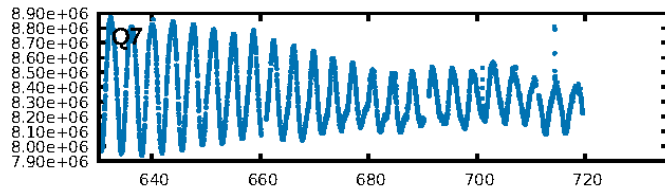
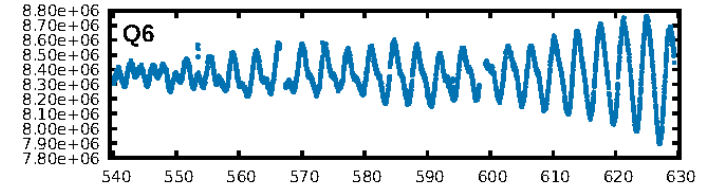
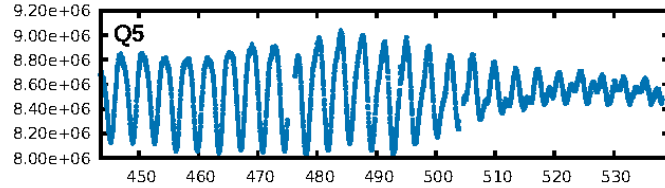
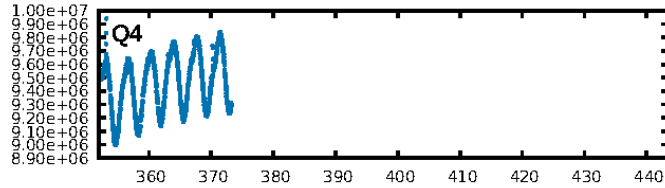
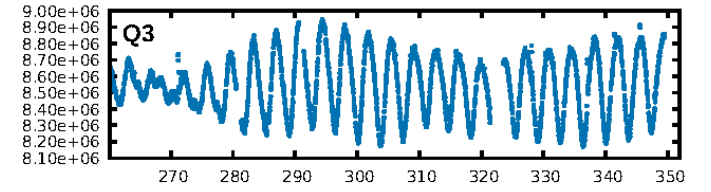
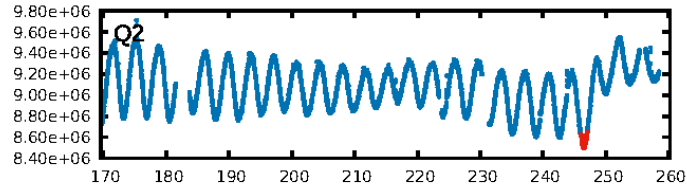
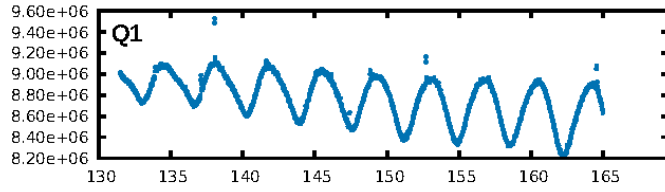
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [138.29σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 26.8%
ModelChiSquareGof-sig: 83.1%
Bootstrap-pfa: 2.41e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.6656
Centroid-sig: 30.3%
Centroid-so: 0.940 arcsec [1.39σ]
OotOffset-rm: 0.187 arcsec [1.55σ]
OotOffset-st: 0.1/0/1 [2]
KicOffset-rm: 0.065 arcsec [0.40σ]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

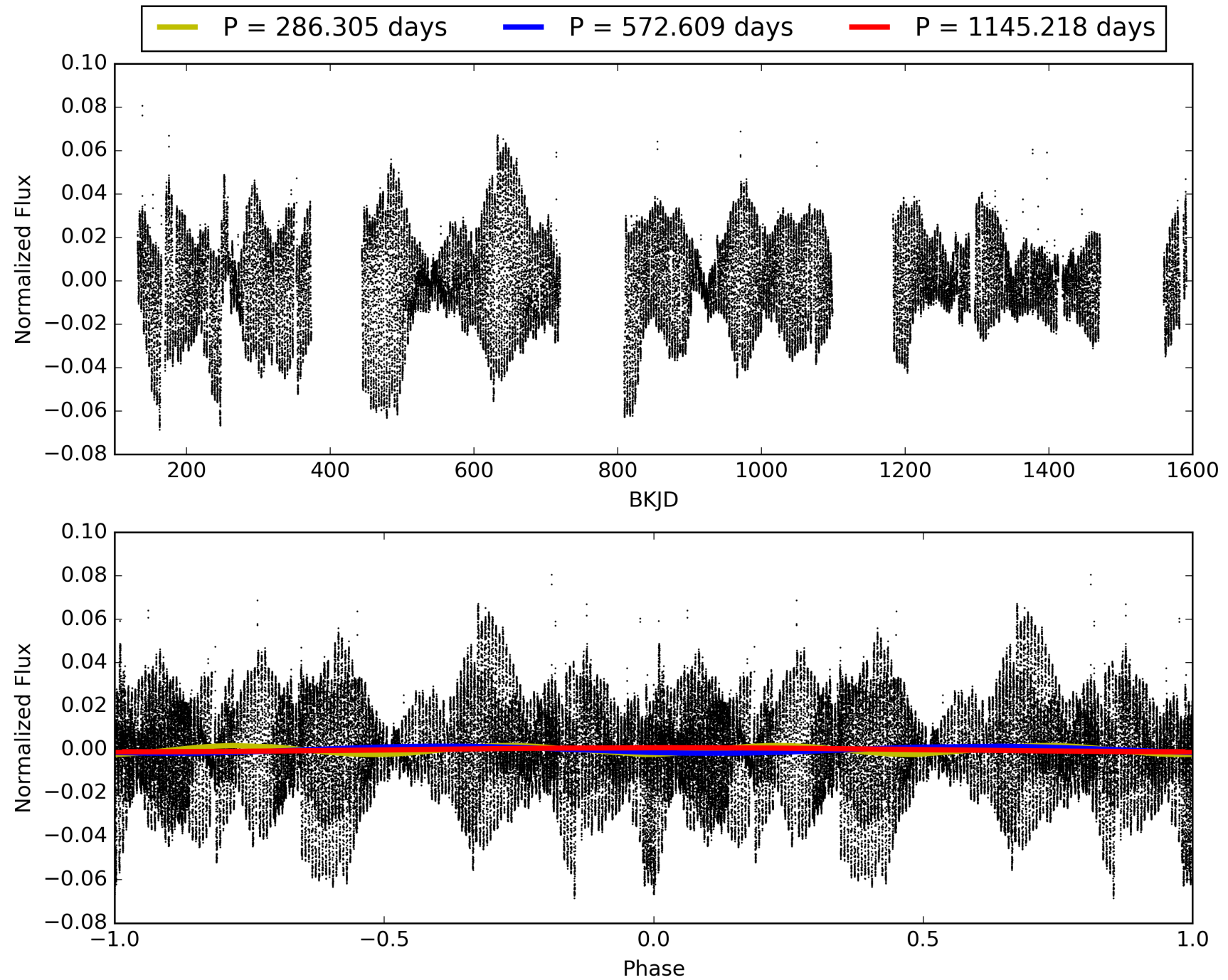
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 13:28:07 Z

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

TCE 012003808-03, PDC Light Curves

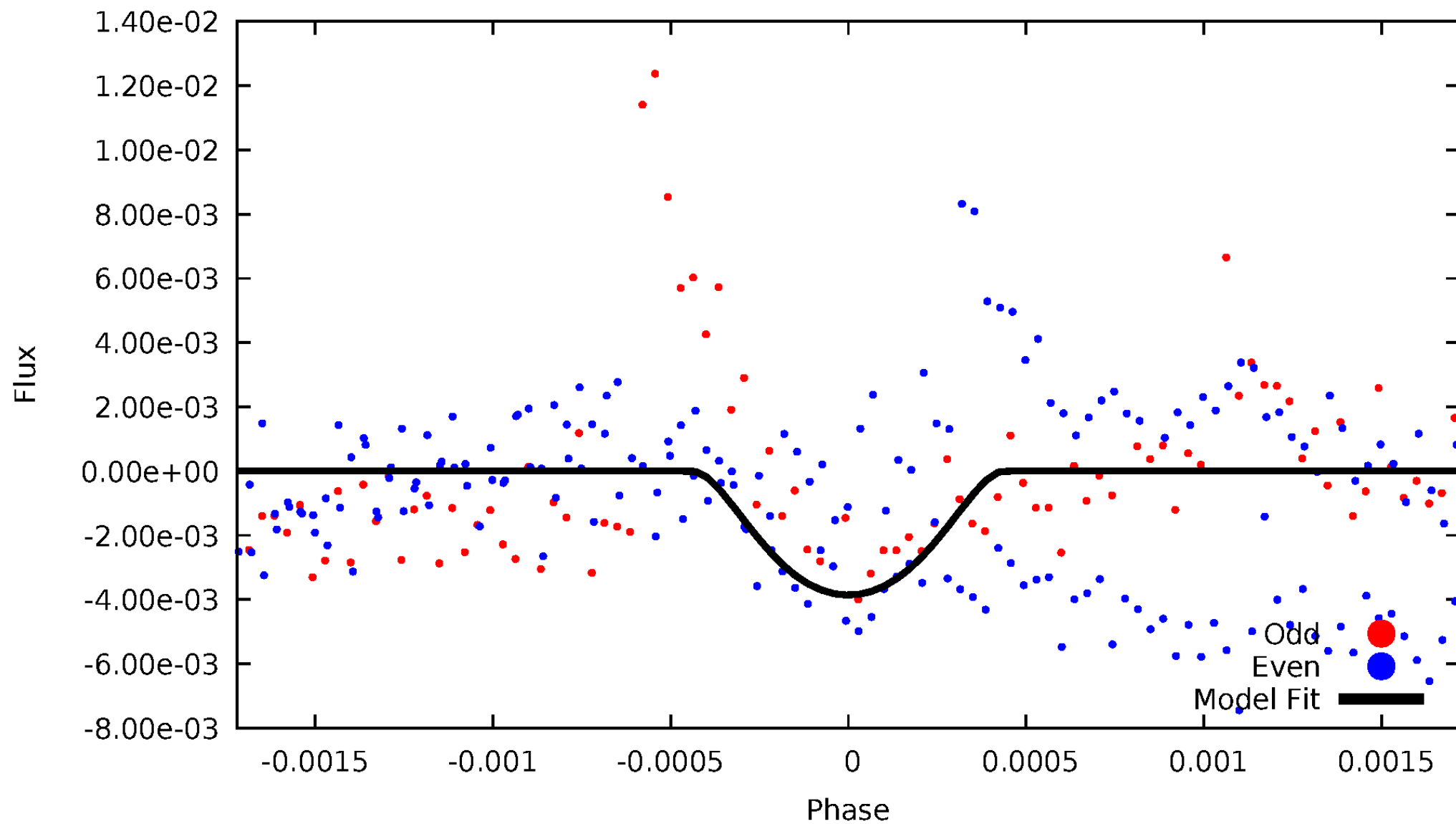


TCE 012003808-03



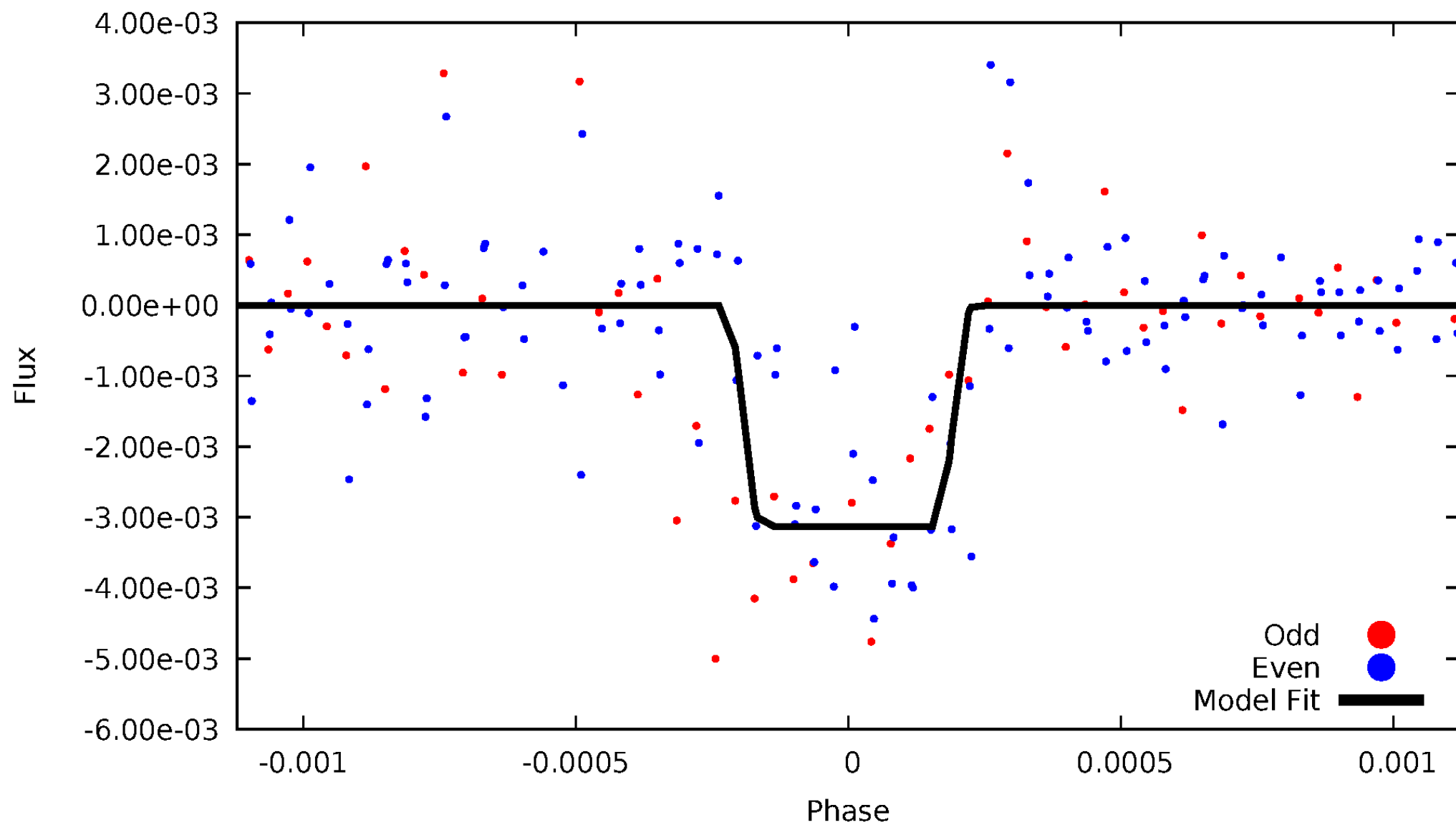
DV Odd/Even

TCE 012003808-03



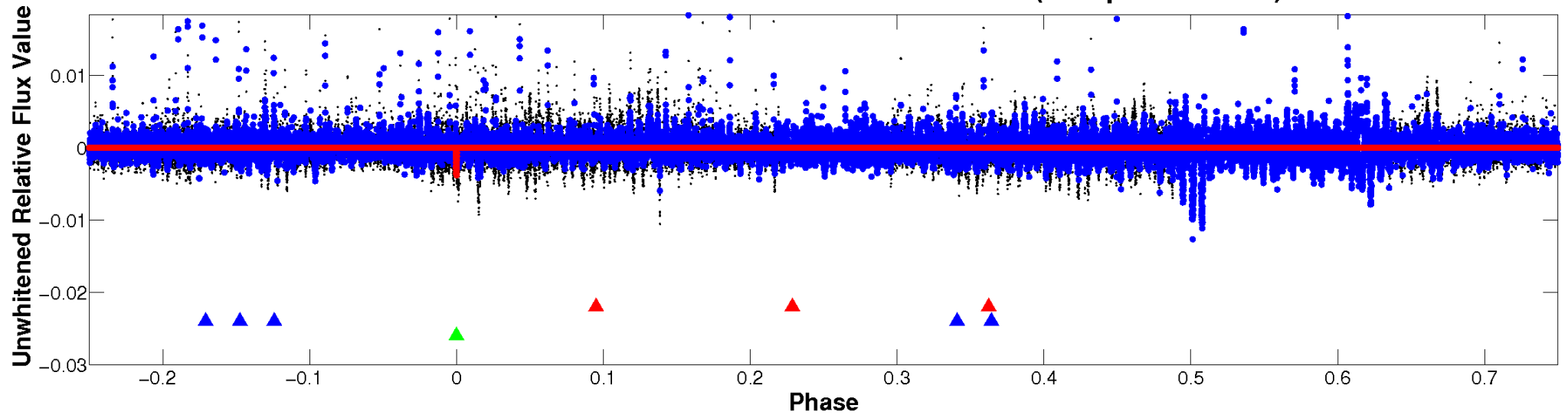
ALT Odd/Even

TCE 012003808-03

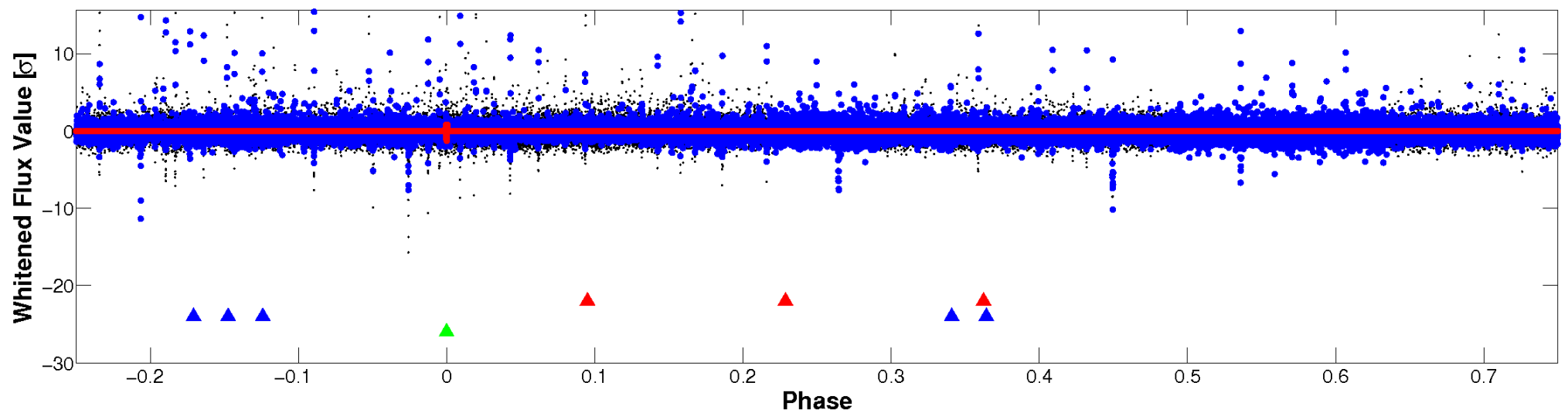


Non-Whitened Vs. Whitened Light Curve

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

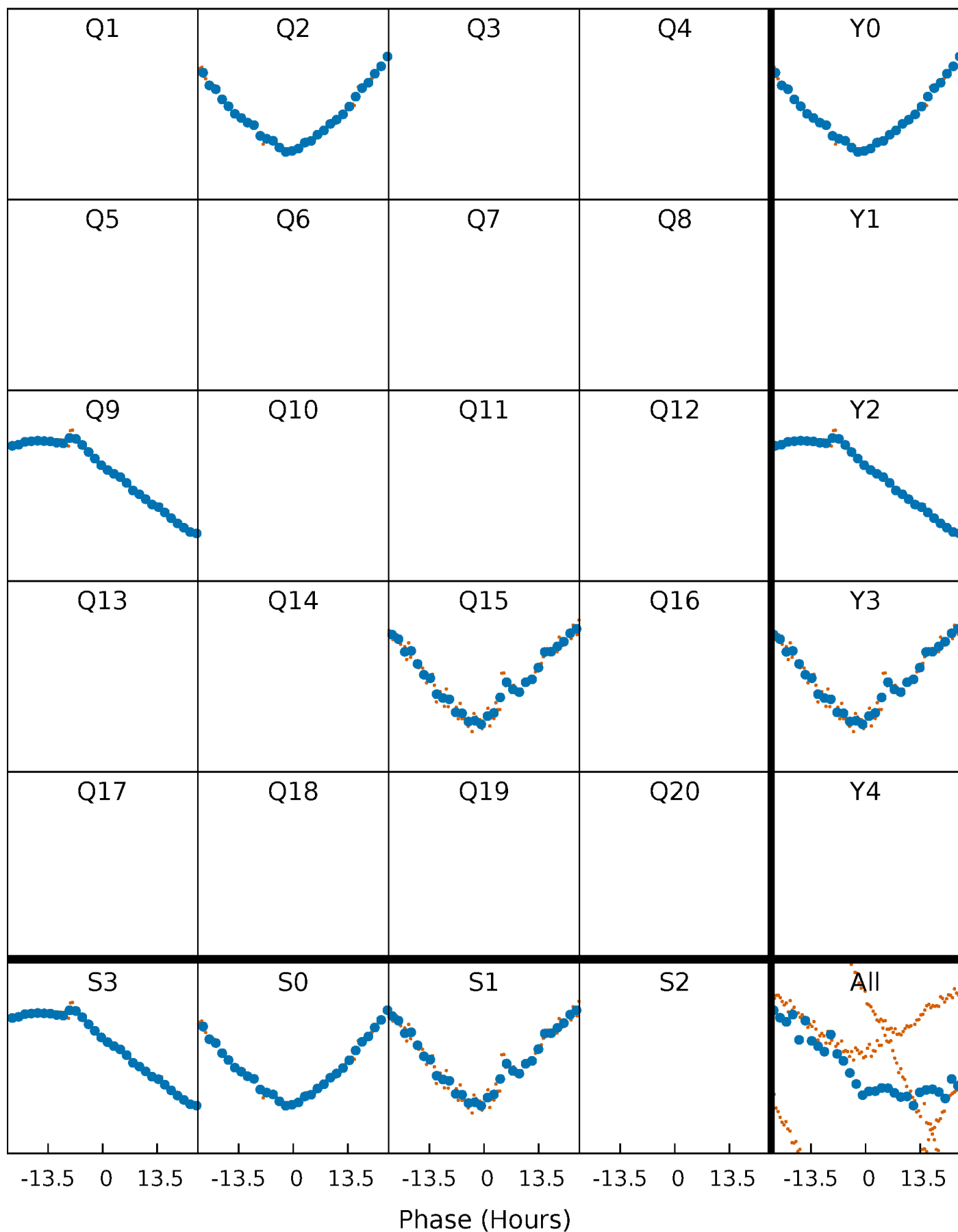


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



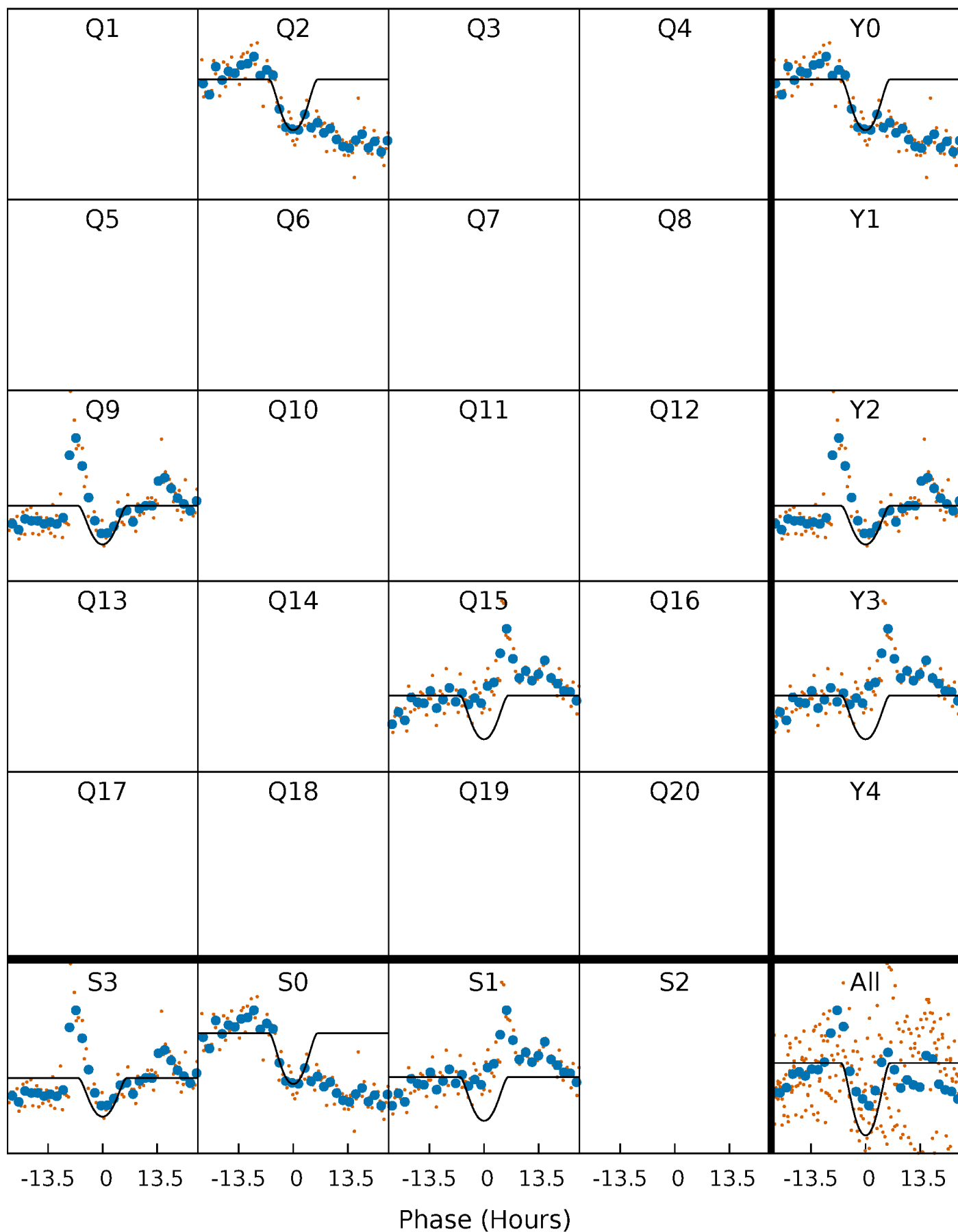
PDC Quarter-Phased Transit Curves

TCE 012003808-03 P=572.609005 Days $T_0=246.537780$ (BKJD)



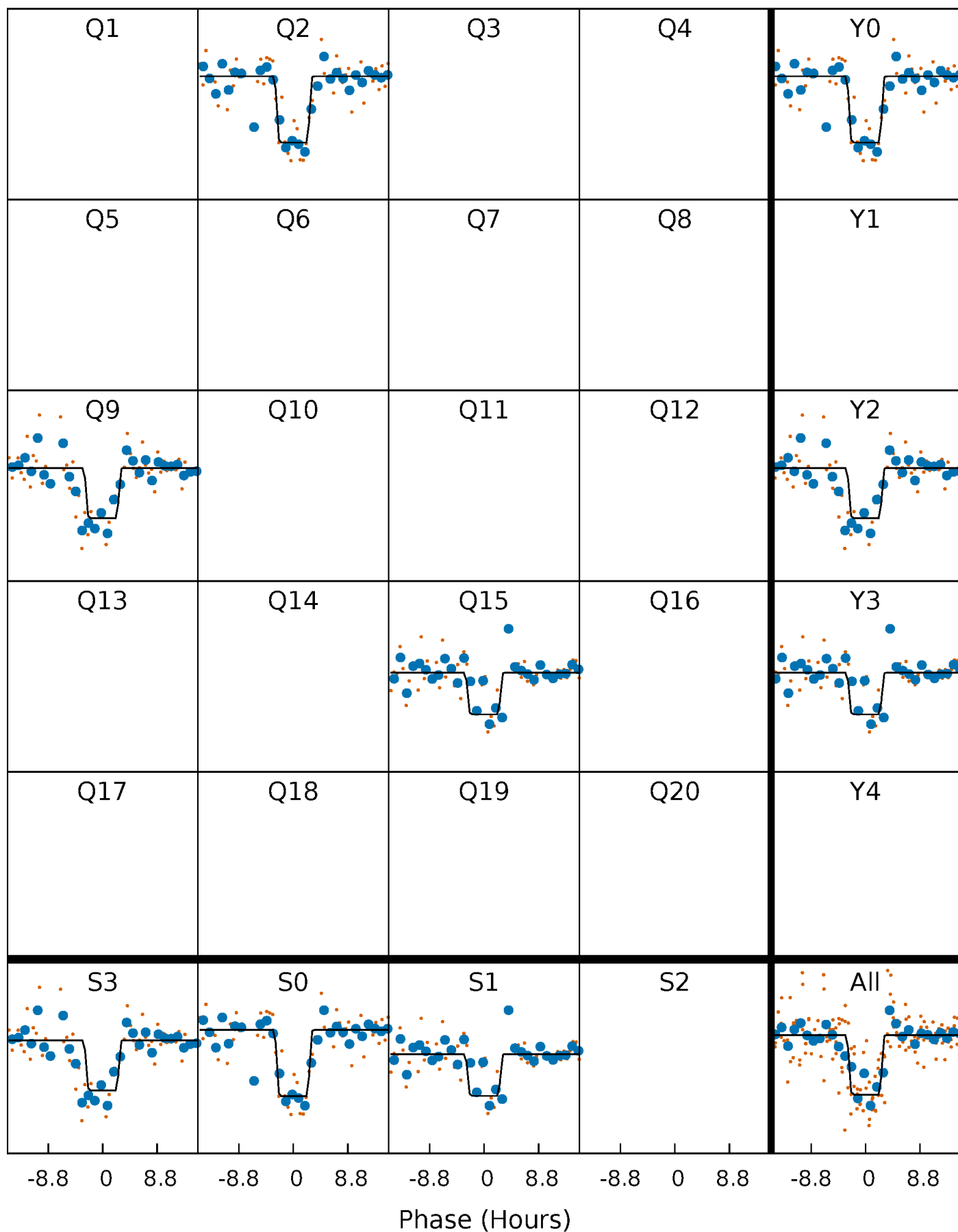
DV Quarter-Phased Transit Curves

TCE 012003808-03 $P=572.609005$ Days $T_0=246.537780$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

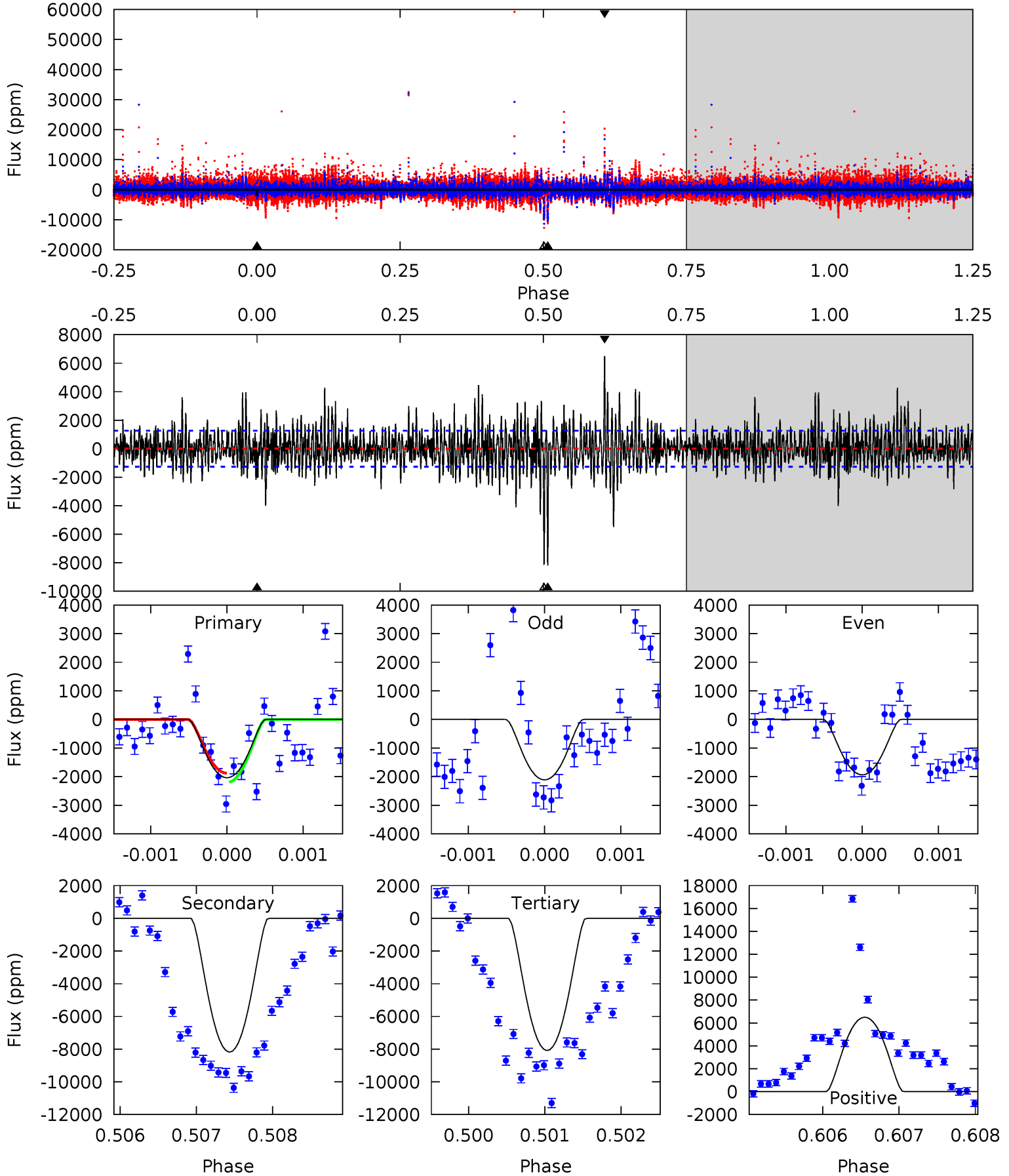
TCE 012003808-03 P=572.650519 Days $T_0=246.487989$ (BKJD)



DV Model-Shift Uniqueness Test

012003808-03, P = 572.609005 Days, E = 246.537780 Days

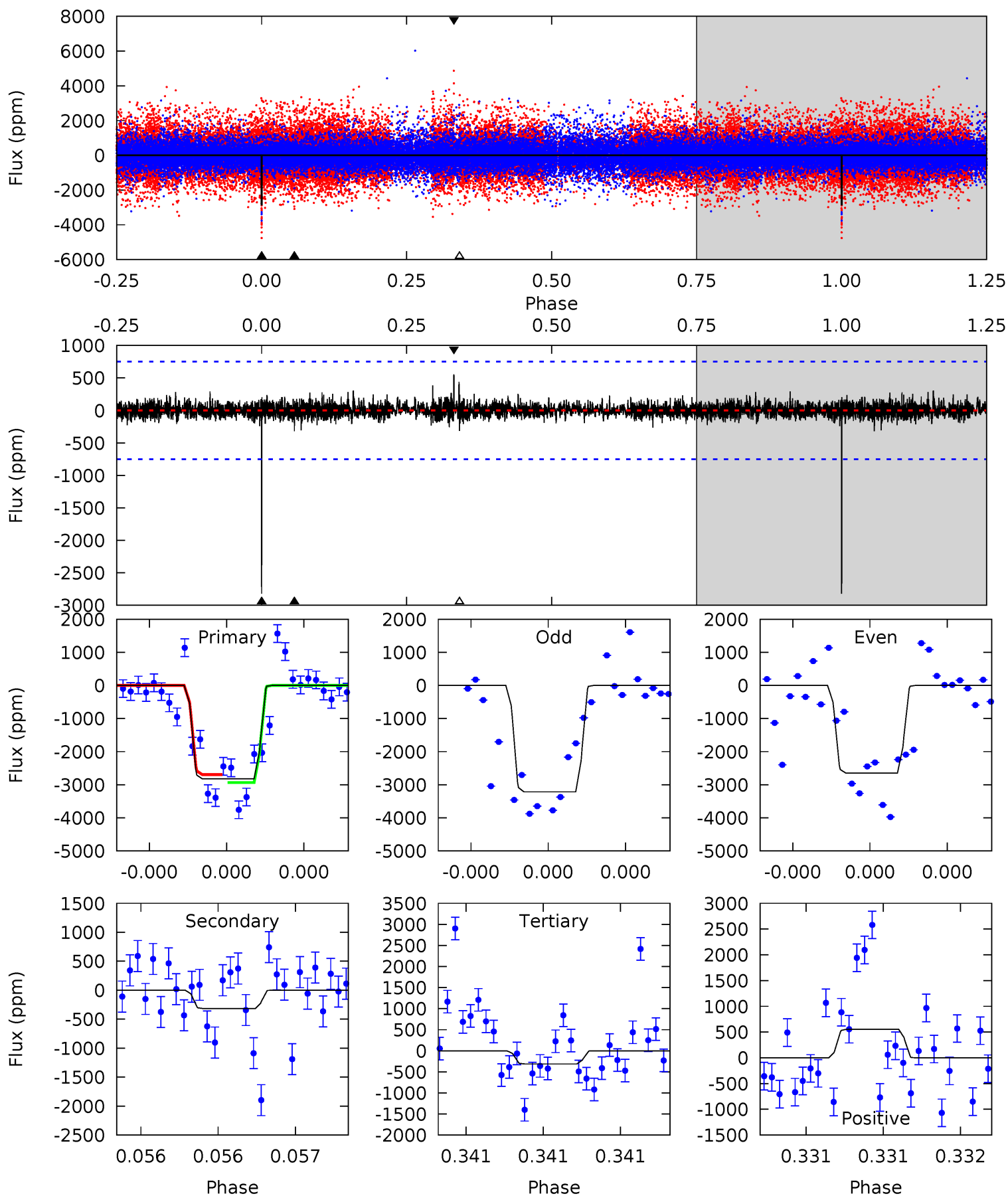
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.81	35.4	35.0	28.1	5.48	3.33	5.02	-26.2	-19.3	0.41	7.27	0.34	0.91	0.44	0.68



Alt Model-Shift Uniqueness Test

012003808-03, P = 572.650519 Days, E = 246.487989 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.0	2.36	2.33	4.14	5.60	3.52	0.50	18.7	16.9	0.03	-1.78	2.00	0.92	0.16	0.90



Stellar Parameters For KIC 012003808

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5266^{+157}_{-157}	$4.702^{+0.023}_{-0.072}$	$-0.960^{+0.300}_{-0.300}$	$0.605^{+0.061}_{-0.031}$	$0.673^{+0.046}_{-0.046}$	$4.286^{+0.464}_{-0.970}$
	+3%/-3%	+0%/-2%	+31%/-31%	+10%/-5%	+7%/-7%	+11%/-23%
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 012003808-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-8181 ± 231	$5.50^{+3.30}_{-3.03}$	235^{+9}_{-8}	5516^{+3063}_{-1033}	$209756^{+813085}_{-129736}$
Alt.	-317 ± 134	$4.35^{+3.27}_{-2.64}$	235^{+9}_{-8}	3274^{+1171}_{-535}	12199^{+63637}_{-8832}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

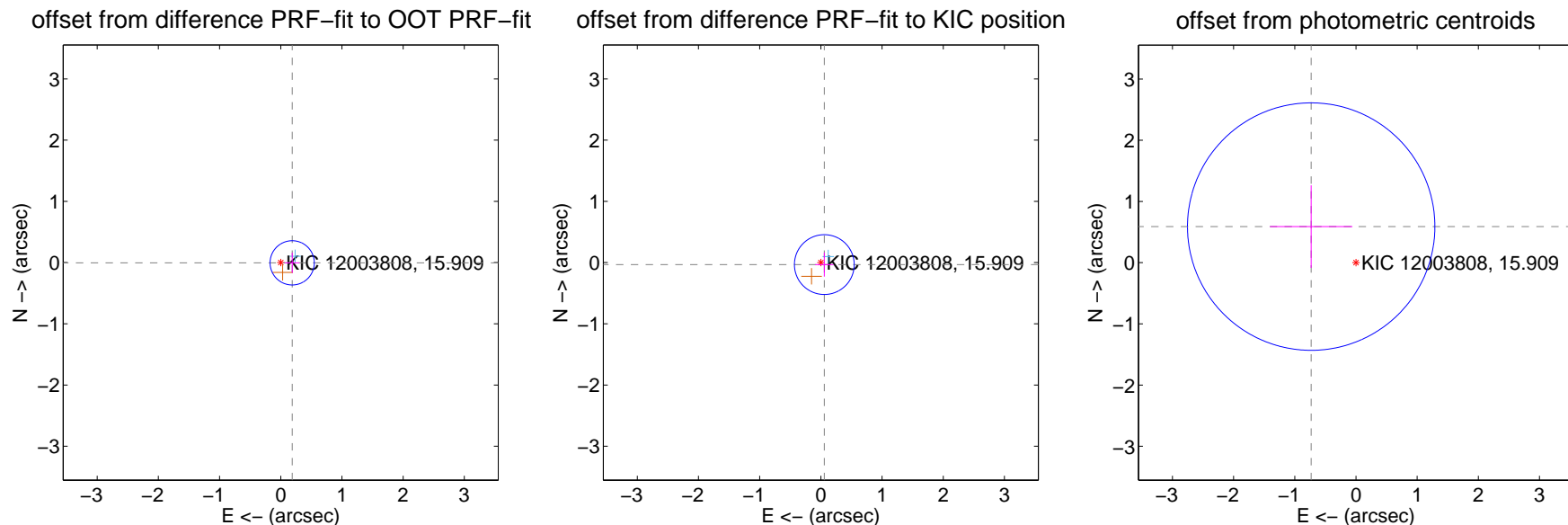
DV Centroid Data

Supplemental centroid analysis for 012003808-03. Kepler magnitude: 15.91. Transit SNR 7.42

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.187 ± 0.120	1.55	-0.187 ± 0.120	-0.004 ± 0.165
PRF-fit source offset from KIC position	0.065 ± 0.163	0.40	-0.056 ± 0.150	-0.033 ± 0.197
photometric centroid source offset	0.94 ± 0.67	1.39	0.73 ± 0.67	0.59 ± 0.67



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.

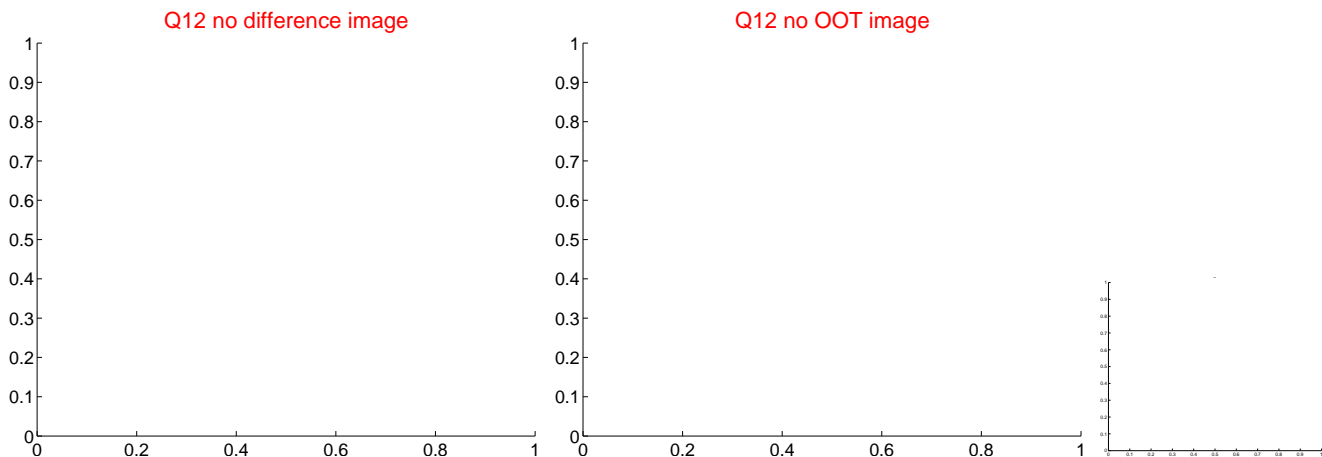
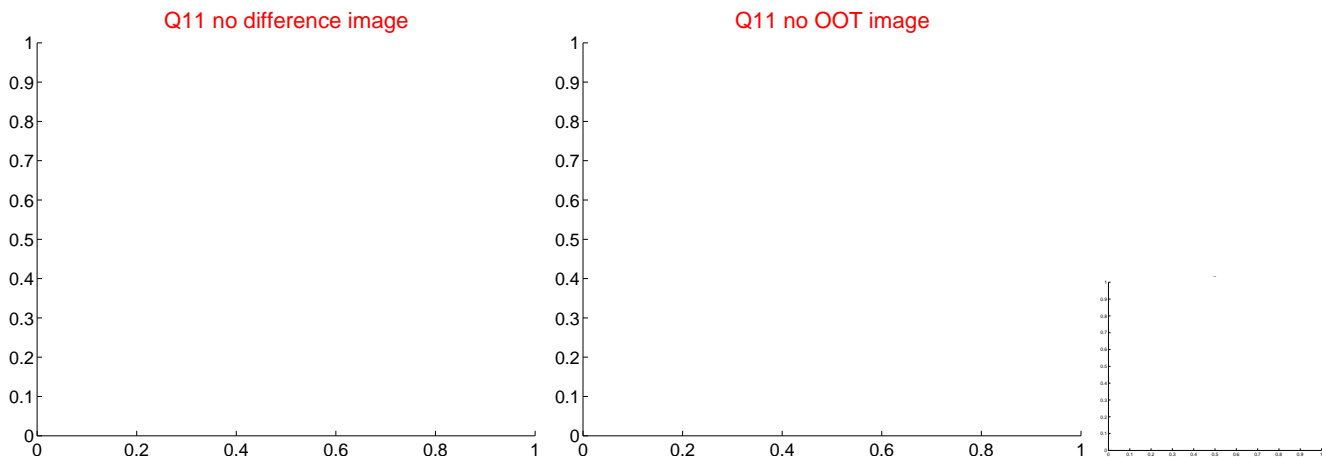
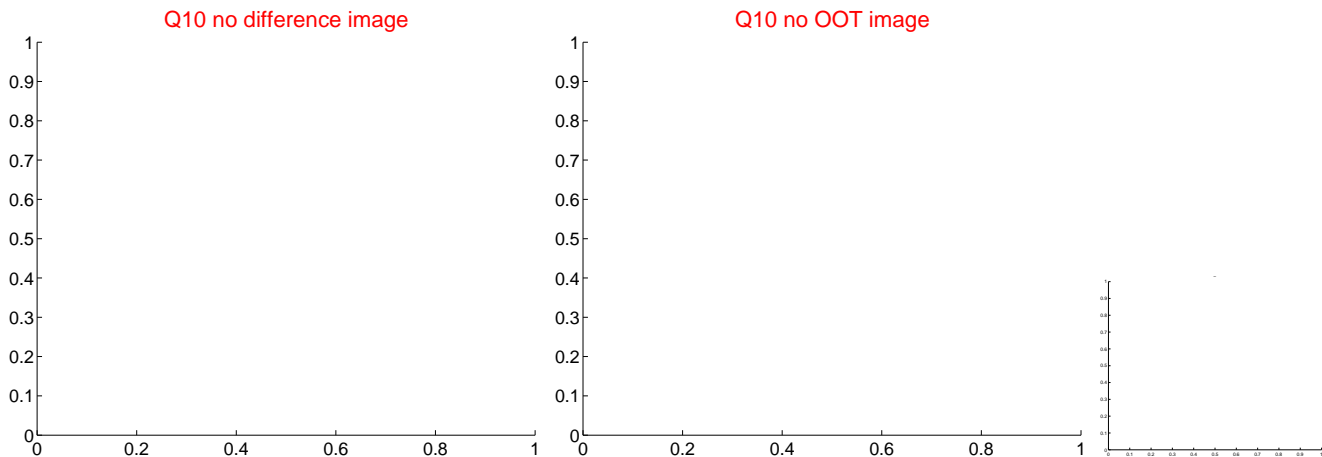
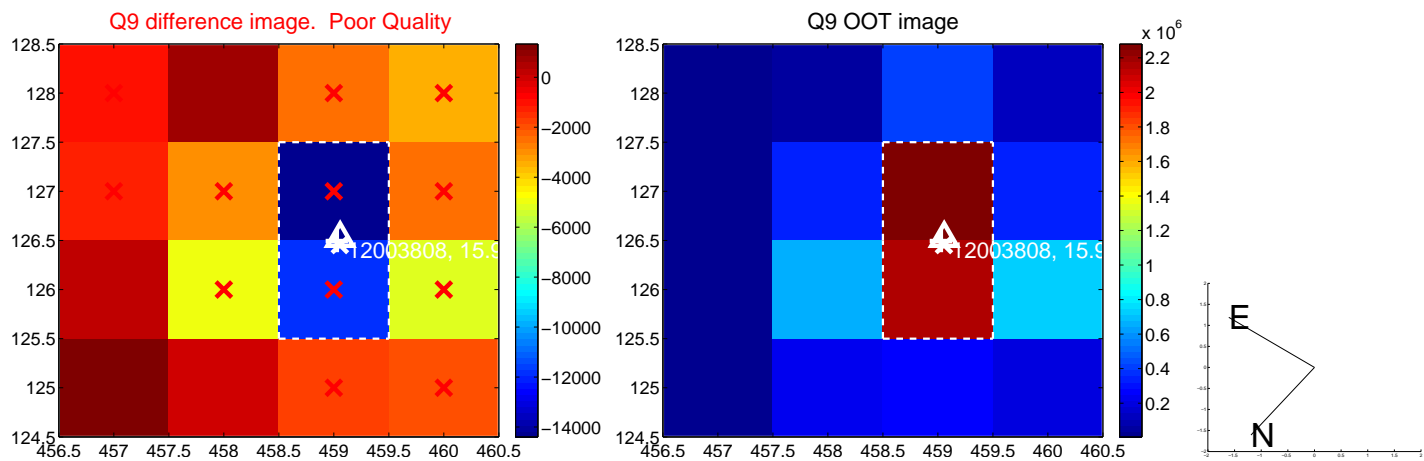
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



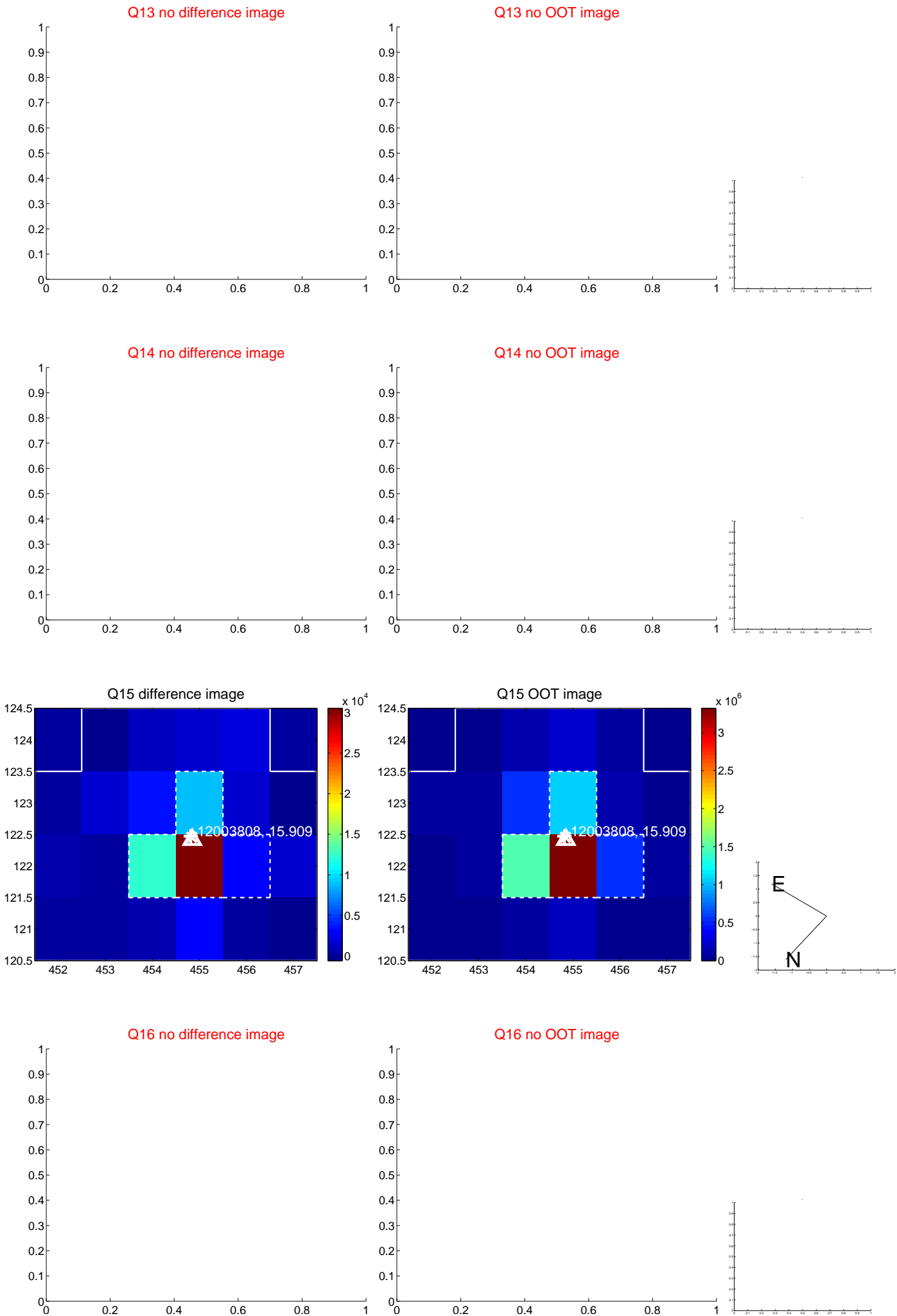
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



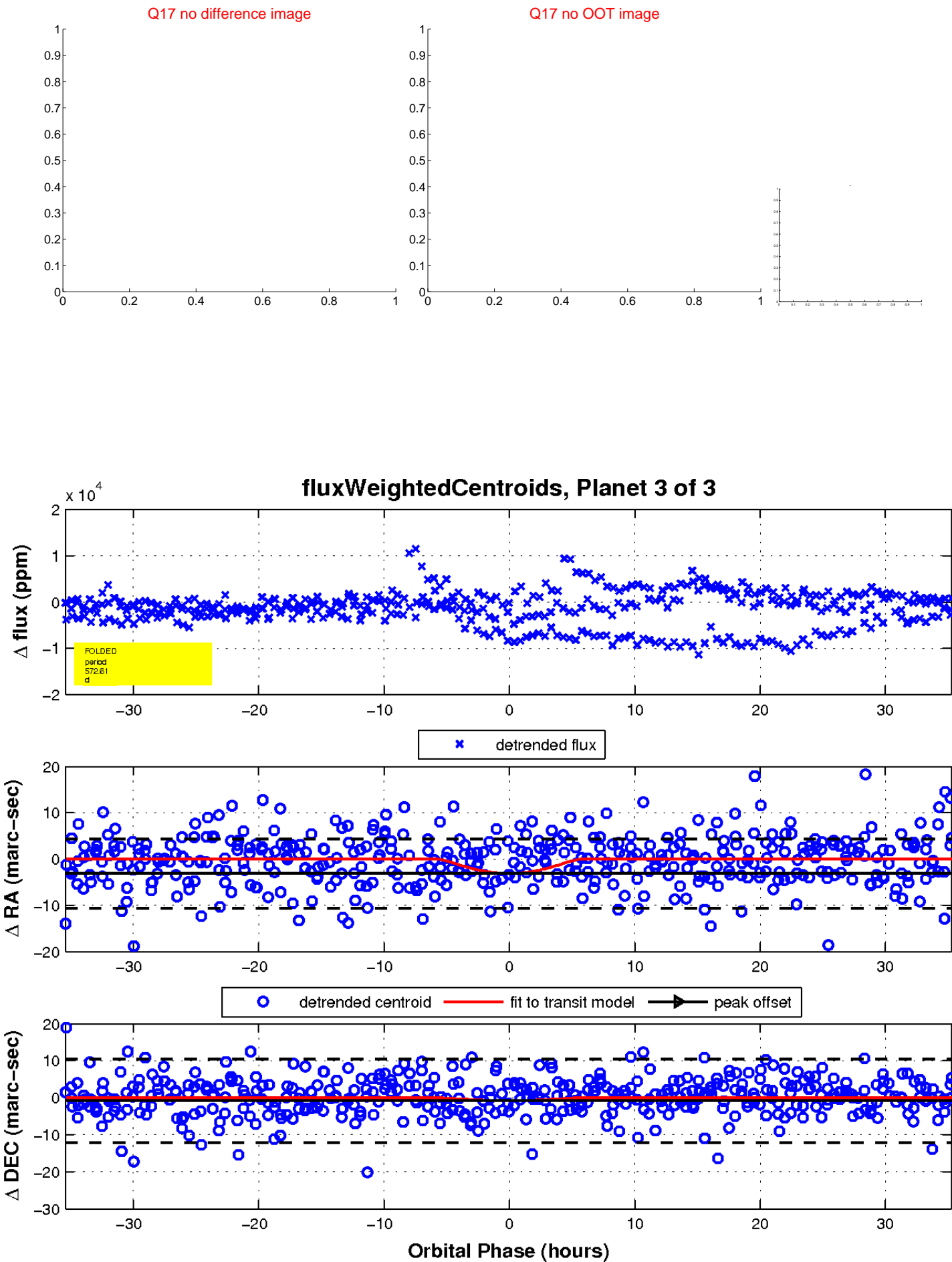
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

