

KIC 008733898

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})
008733898-01	OBS	2842.01	1.565401	132.919511	2706.3	0.670	33.5	44.7	0.33	3464	1.79	41.84
008733898-02	OBS	2842.03	3.036194	134.064857	1639.5	0.972	18.2	22.6	0.33	3464	1.37	17.30
008733898-03	OBS	2842.02	5.148870	133.330658	2181.8	1.074	17.2	21.1	0.33	3464	1.85	8.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008733898-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008733898-02	OBS	PC	0.95	0	0	0	0	NO_COMMENT
008733898-03	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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.

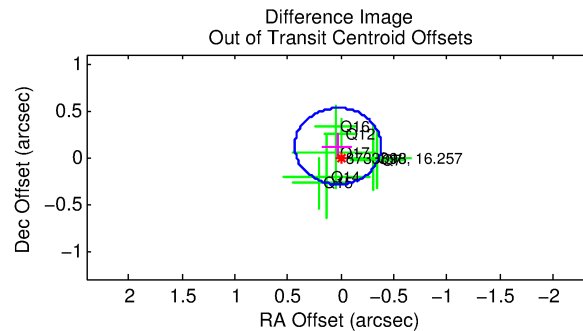
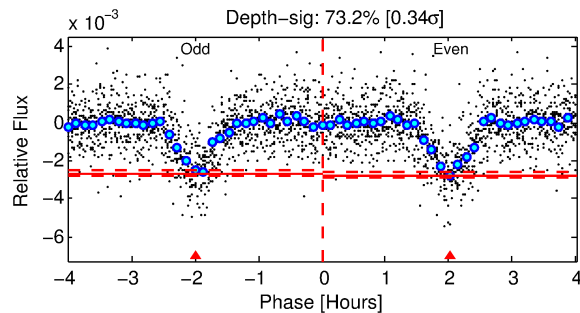
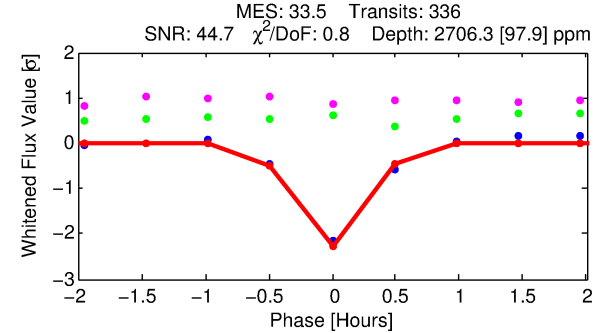
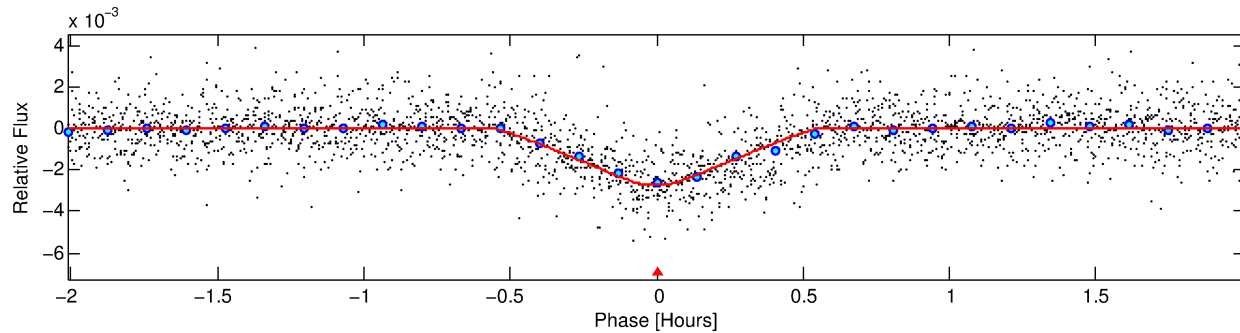
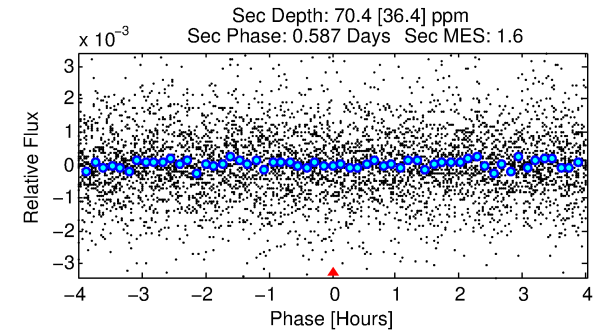
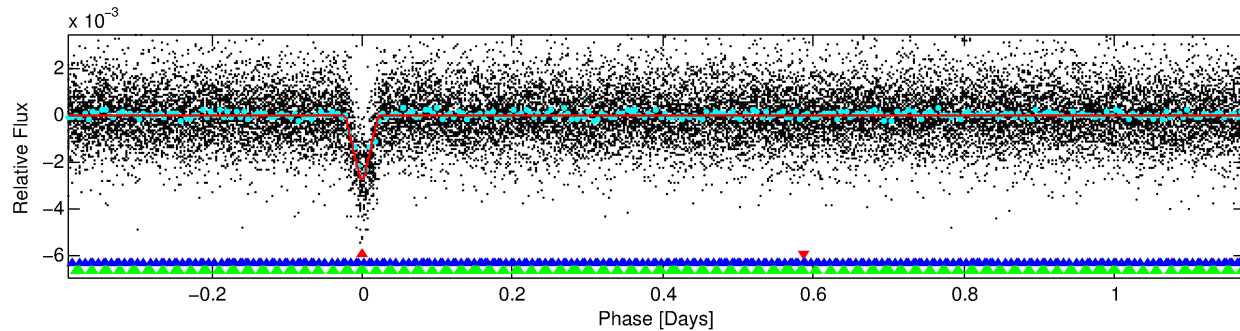
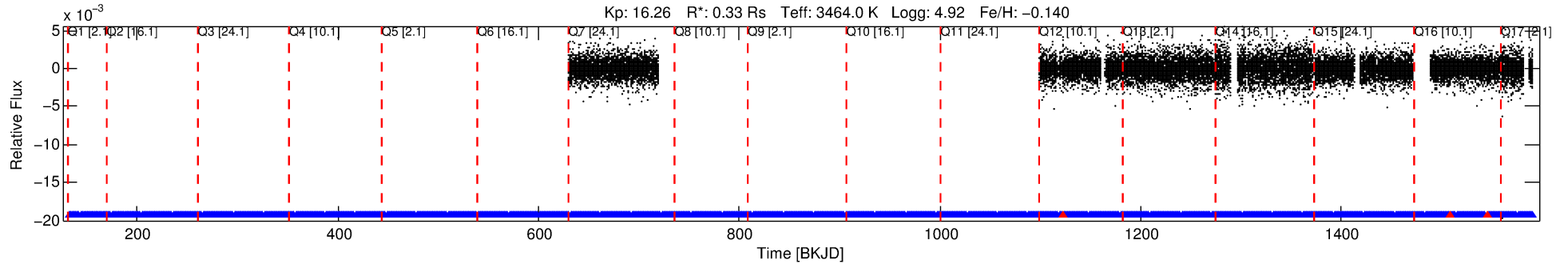
Ephemeris Match Information For 008733898-01

No Significant Match Found

DV One-Page Summary

KIC: 8733898 Candidate: 1 of 3 Period: 1.565 d
KOI: K02842.01 Name: Kepler-446b Corr: 0.888

Kp: 16.26 R*: 0.33 Rs Teff: 3464.0 K Logg: 4.92 Fe/H: -0.140



DV Fit Results:

Period = 1.56540 [0.00000] d
Epoch = 132.9195 [0.0003] BKJD
Rp/R* = 0.0500 [0.0068]
a/R* = 16.49 [9.77]
b = 0.50 [0.90]
Seff = 41.84 [5.54]
Teq = 649 [21] K
Rp = 1.79 [0.33] Re
a = 0.0182 [0.0016] AU
Ag = 4.01 [2.38] [1.26σ]
Teffp = 1419 [209] K [3.66σ]

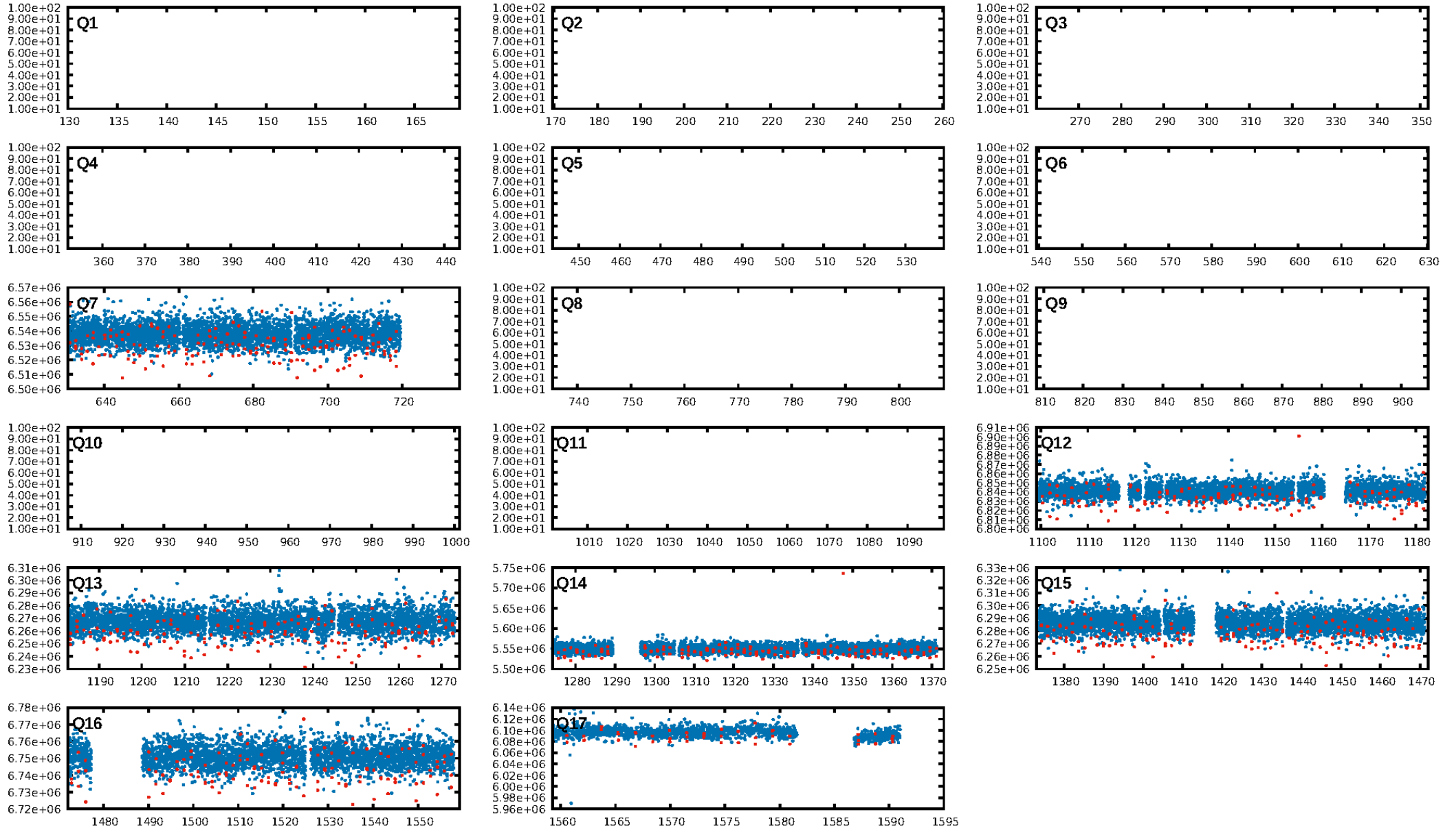
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [29.90σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.94e-251
RollingBand-fgt: 0.99 [316/319]
GhostDiagnostic-chr: 4.406
Centroid-sig: 0.0%
Centroid-so: 0.893 arcsec [2.38σ]
OotOffset-rm: 0.121 arcsec [0.89σ]
KicOffset-rm: 0.284 arcsec [2.15σ]
OotOffset-st: 1/2/2/2 [7]
KicOffset-st: 1/2/2/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

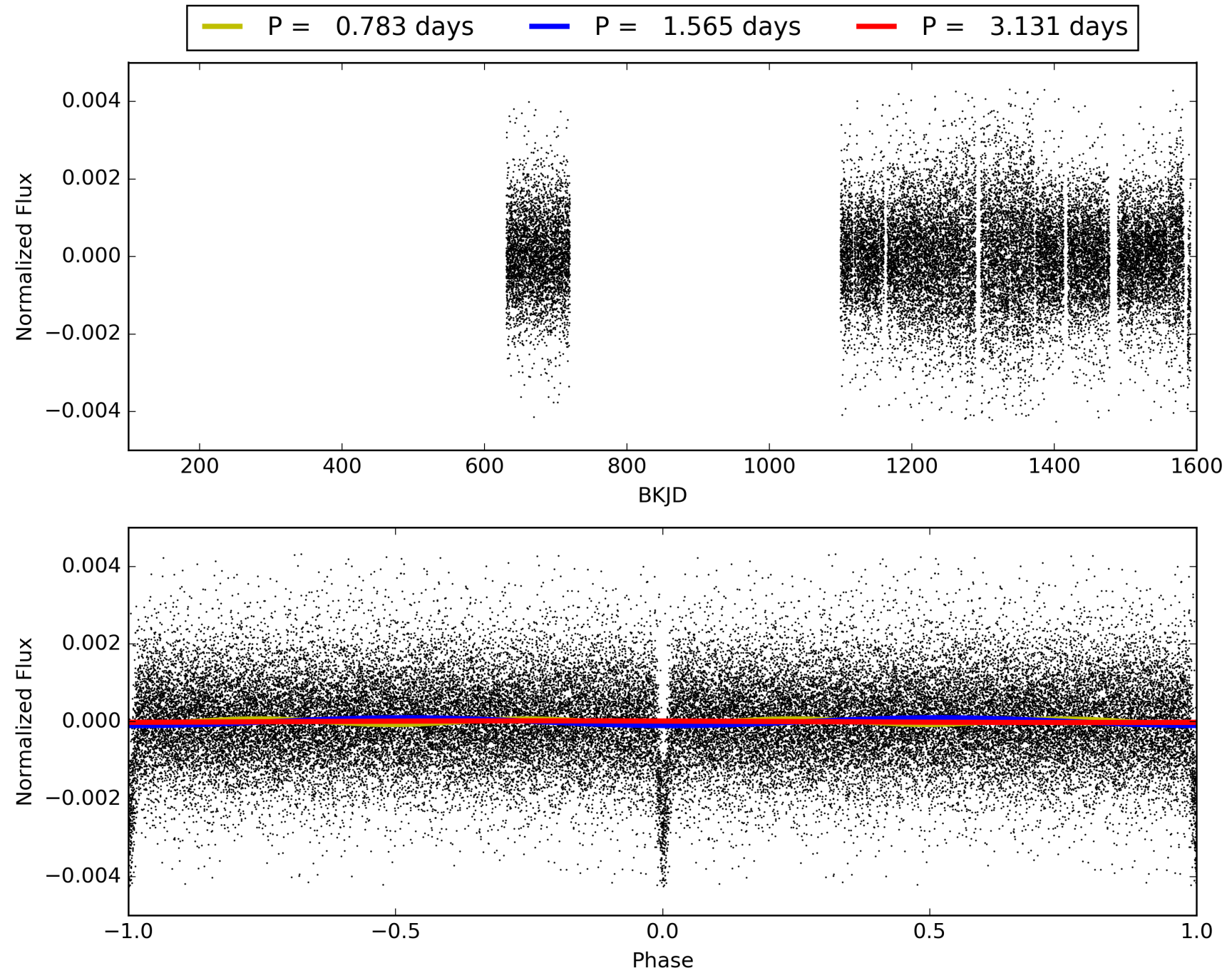
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 08:48:58 Z

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

TCE 008733898-01, PDC Light Curves

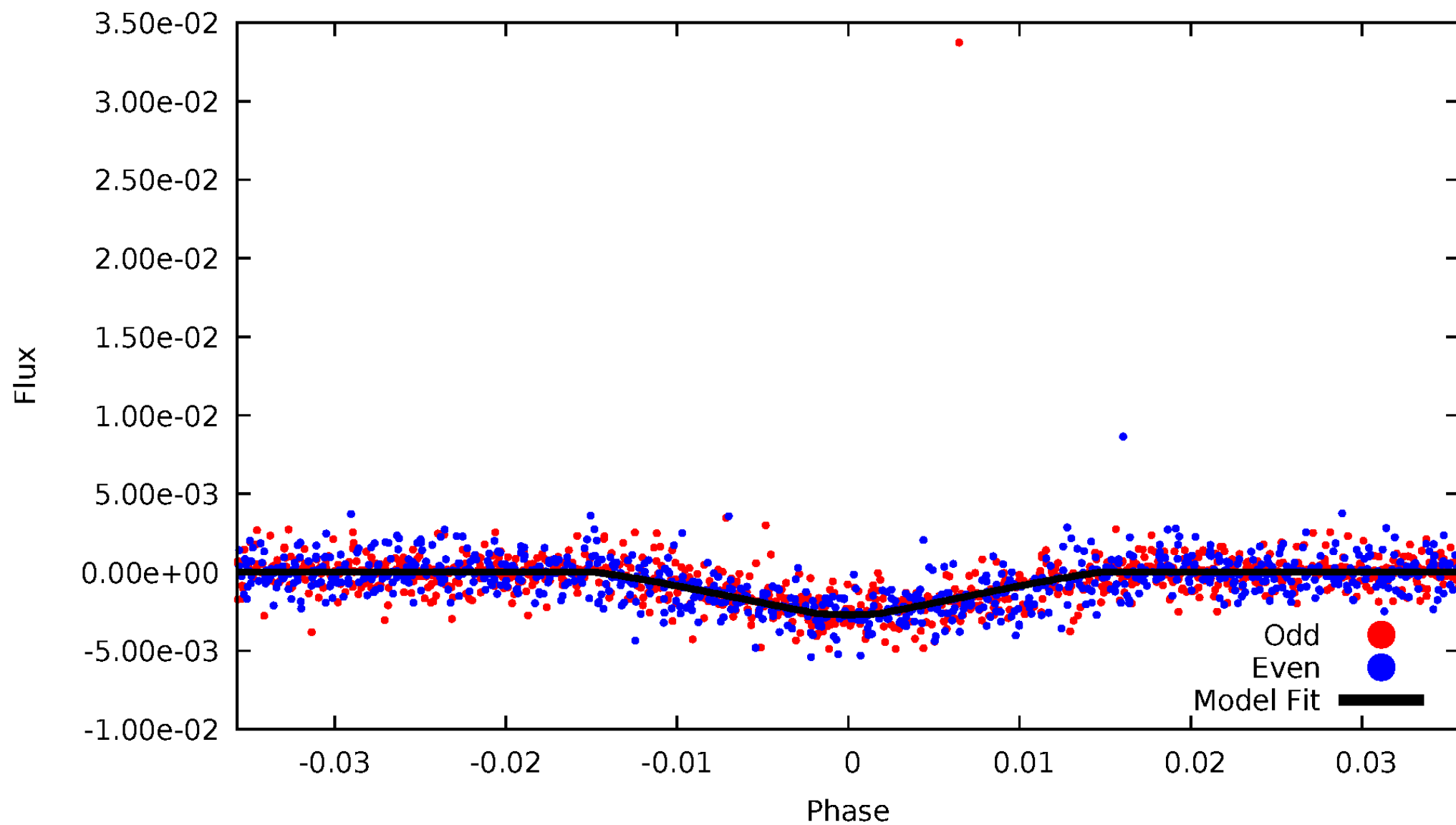


TCE 008733898-01



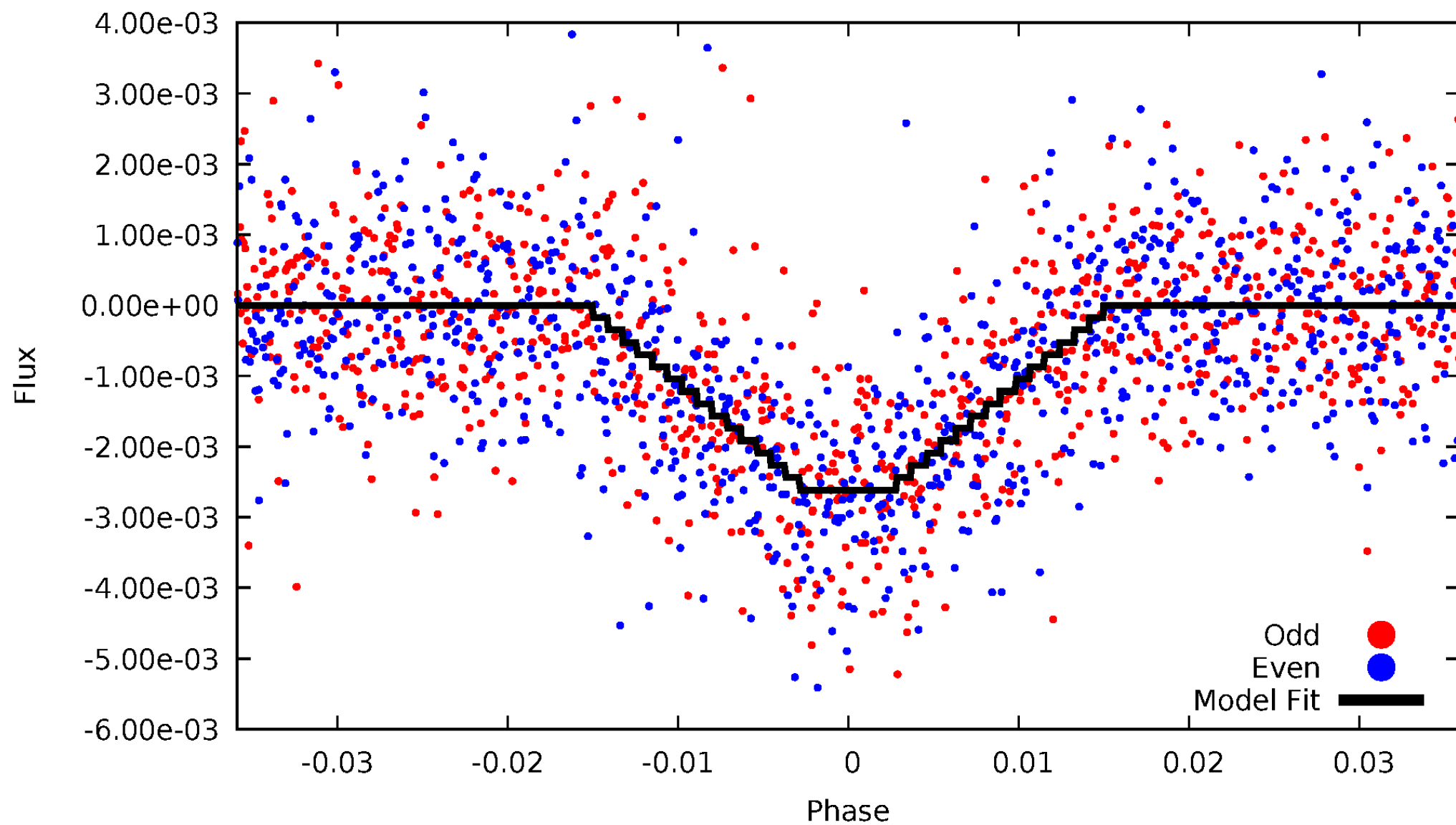
DV Odd/Even

TCE 008733898-01



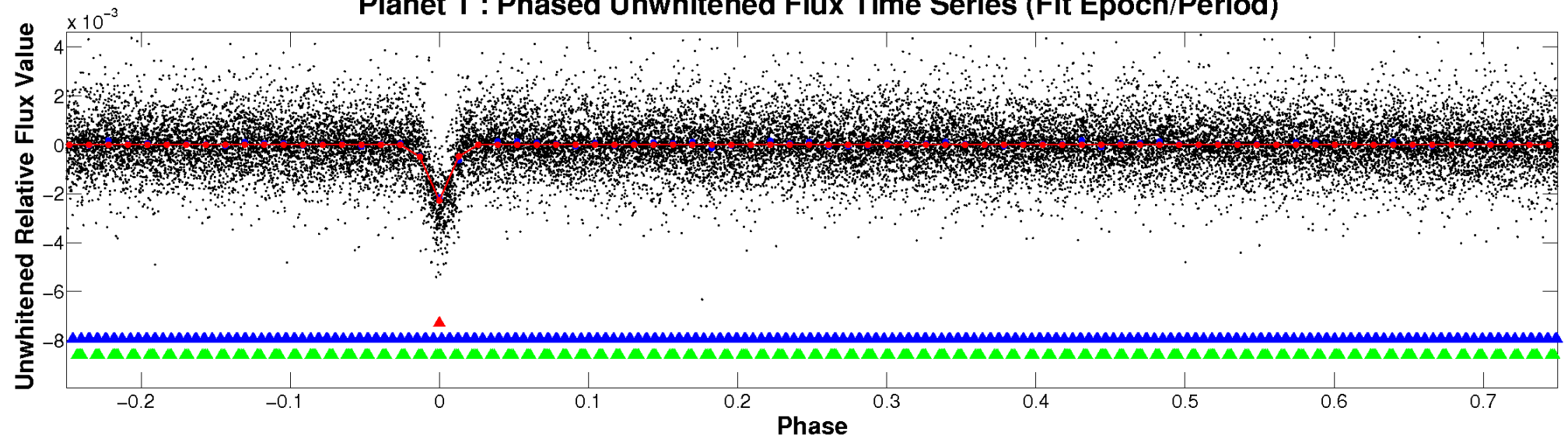
ALT Odd/Even

TCE 008733898-01

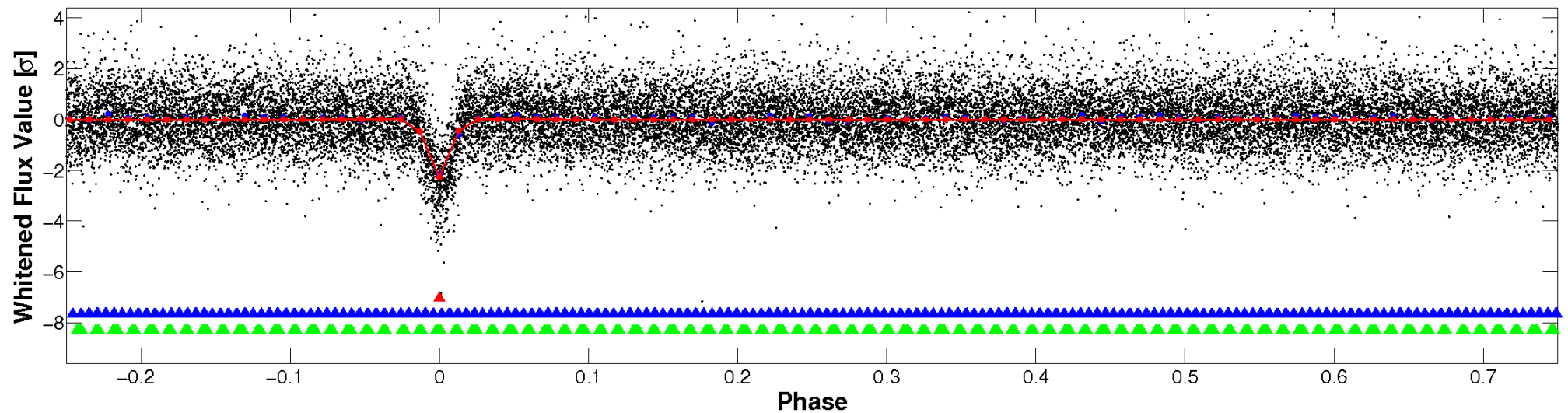


Non-Whitened Vs. Whitened Light Curve

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

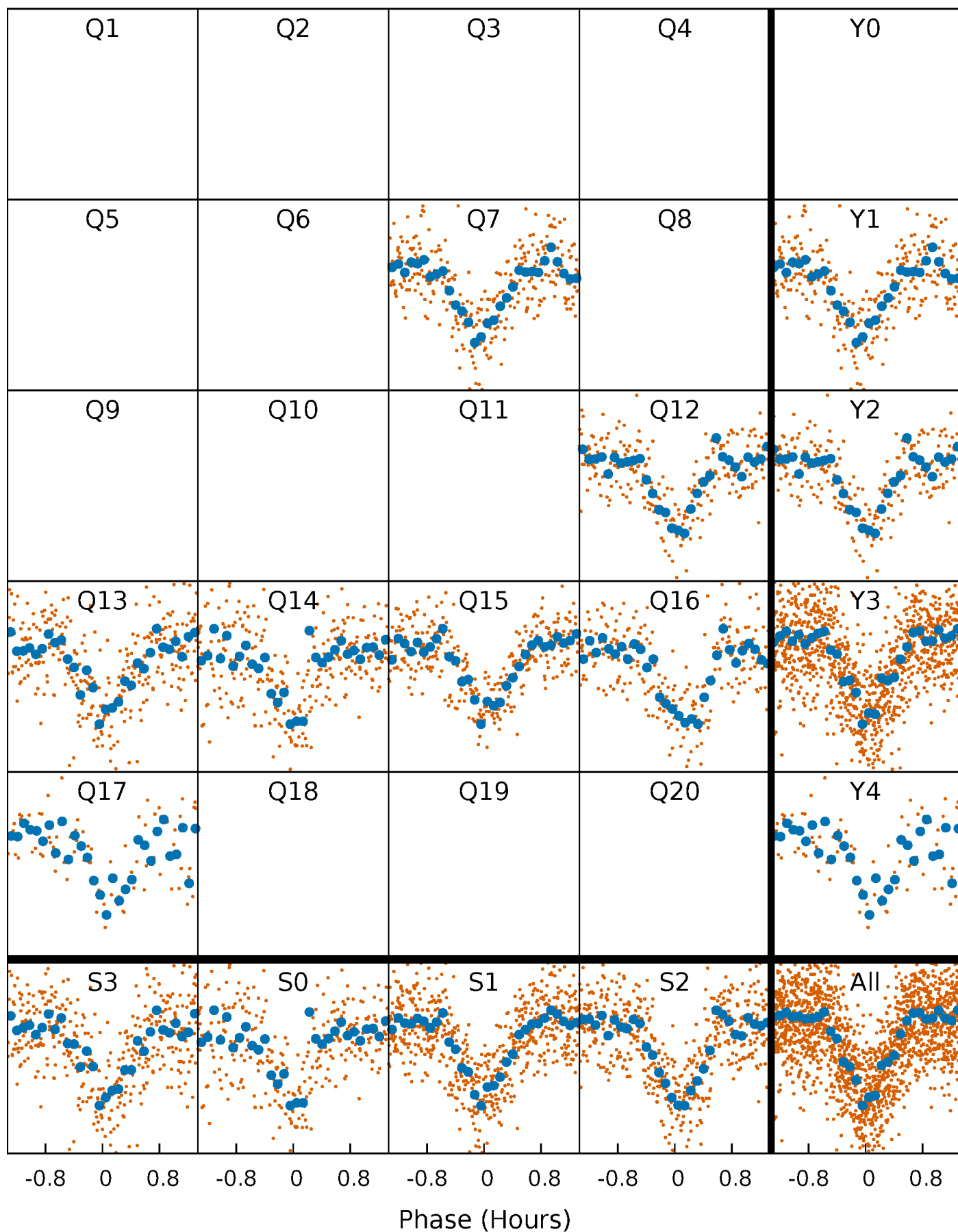


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



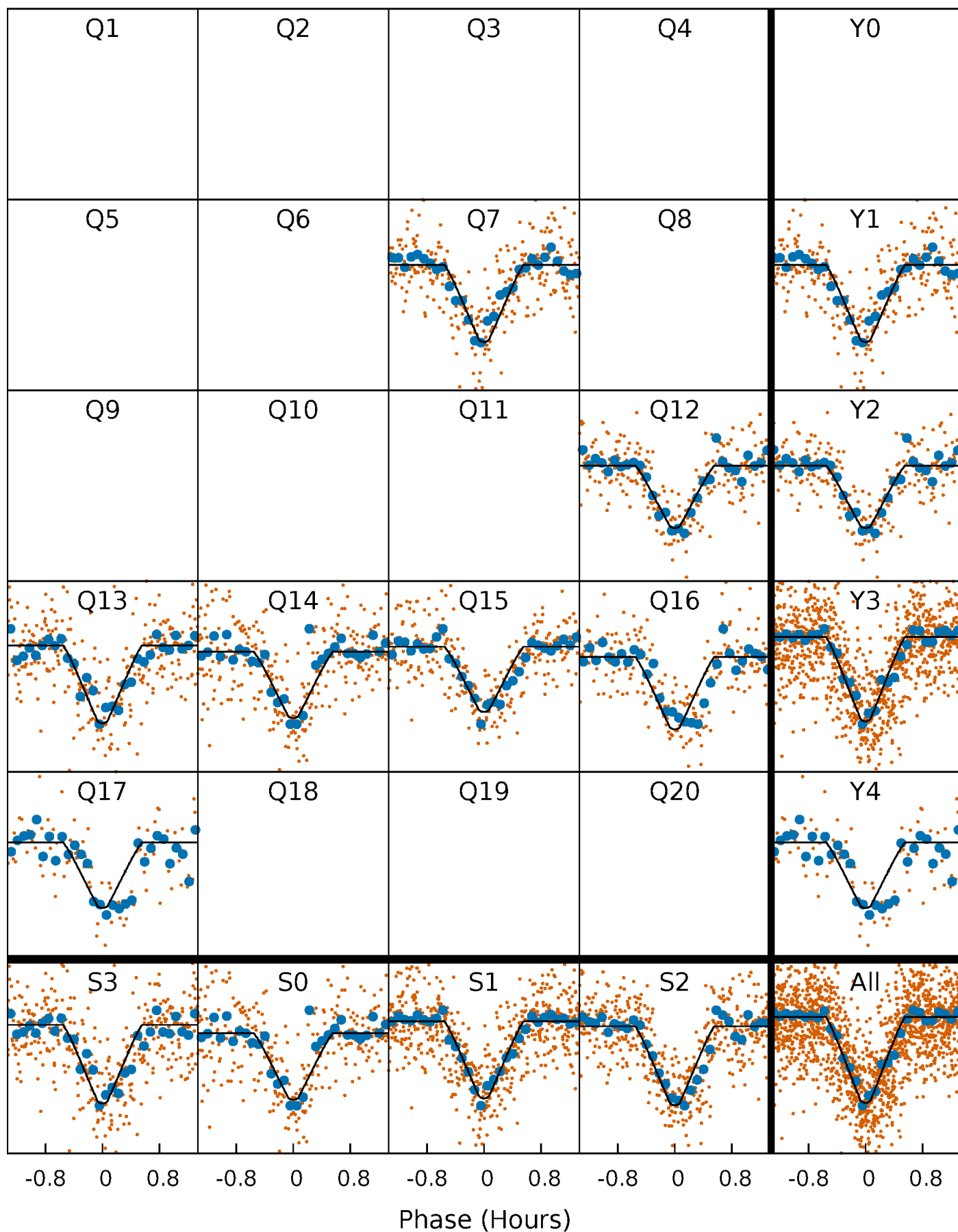
PDC Quarter-Phased Transit Curves

TCE 008733898-01 P= 1.565401 Days $T_0=132.919511$ (BKJD)



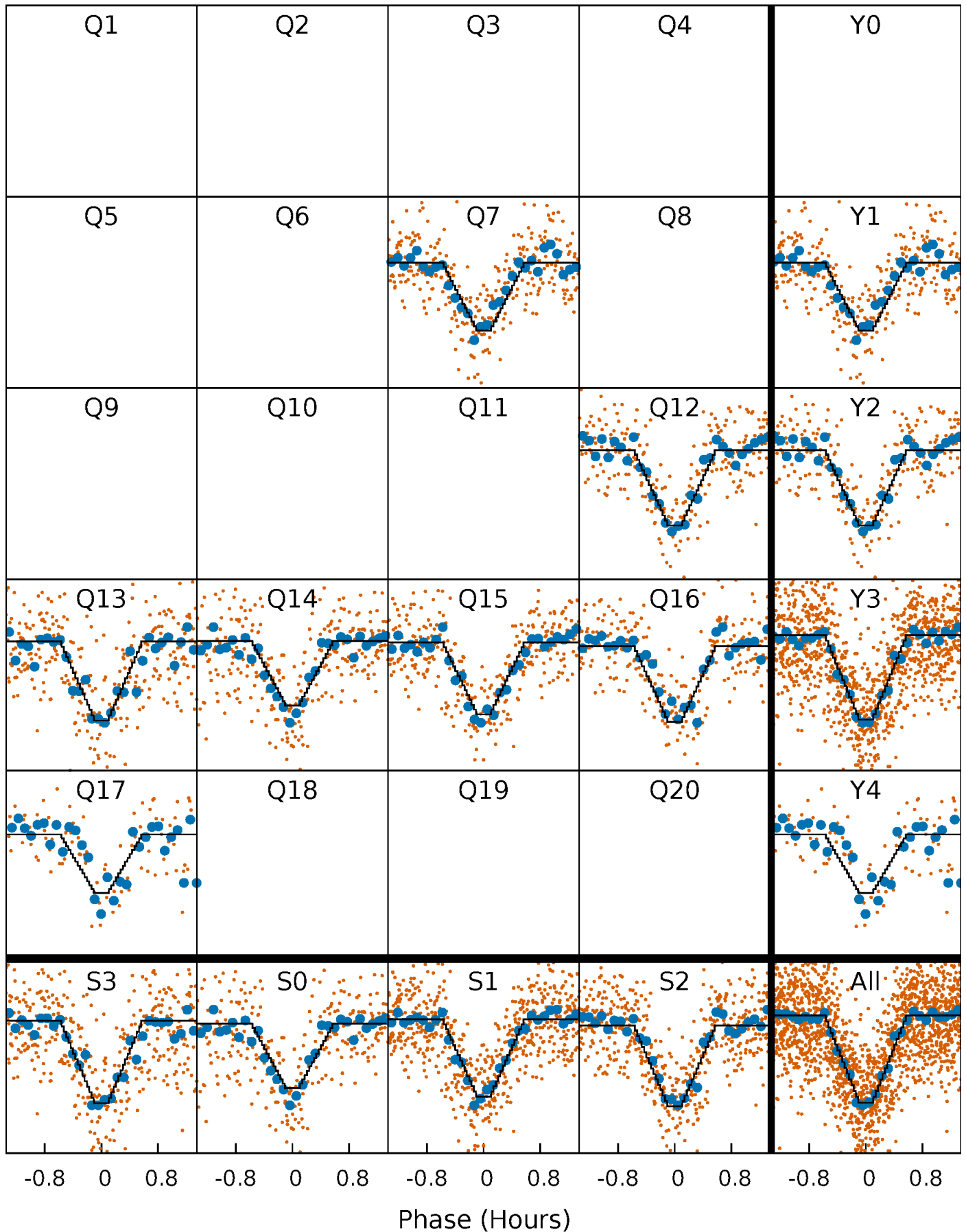
DV Quarter-Phased Transit Curves

TCE 008733898-01 P= 1.565401 Days $T_0=132.919511$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

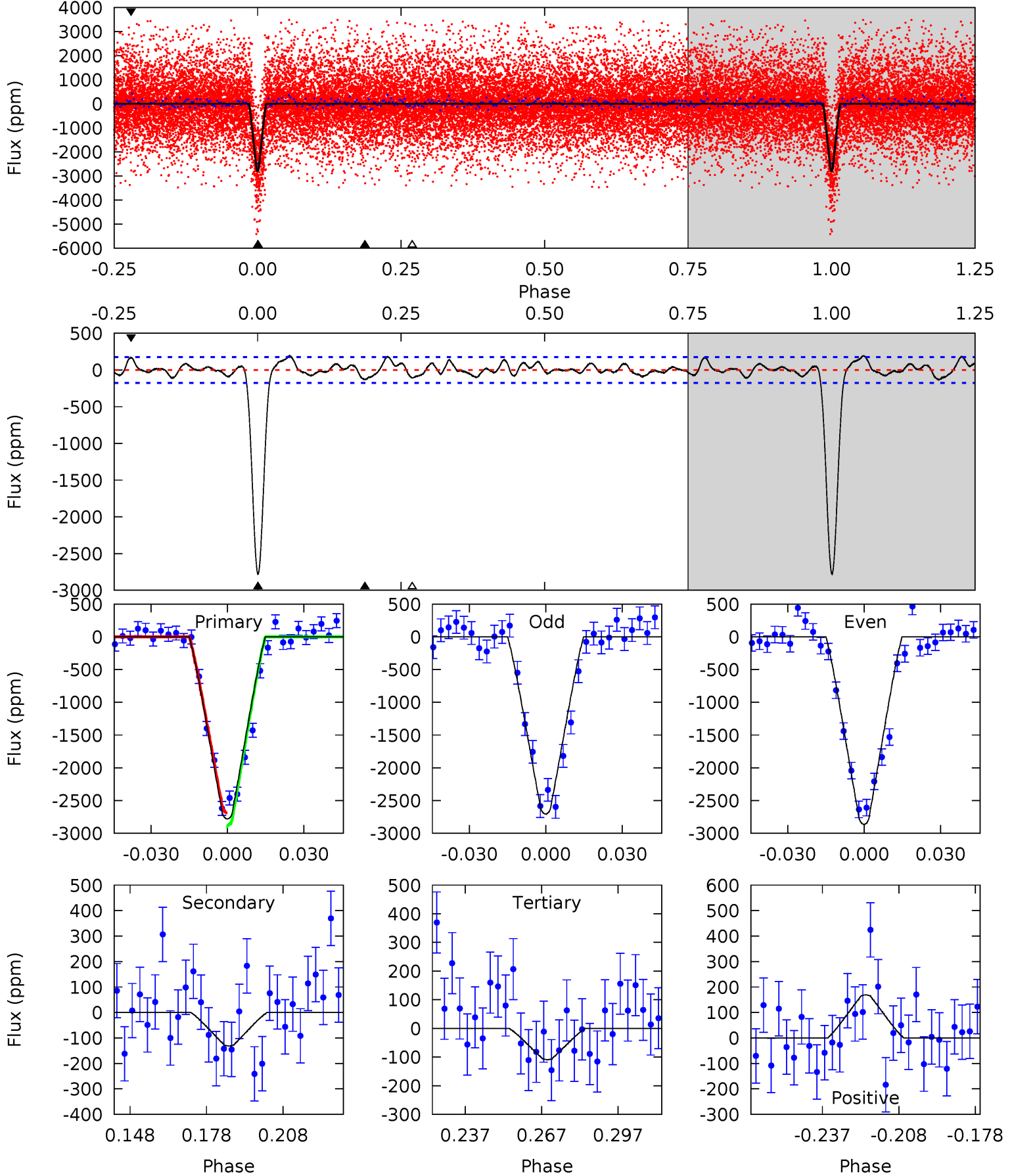
TCE 008733898-01 P= 1.565404 Days $T_0=132.918959$ (BKJD)



DV Model-Shift Uniqueness Test

008733898-01, P = 1.565401 Days, E = 132.919511 Days

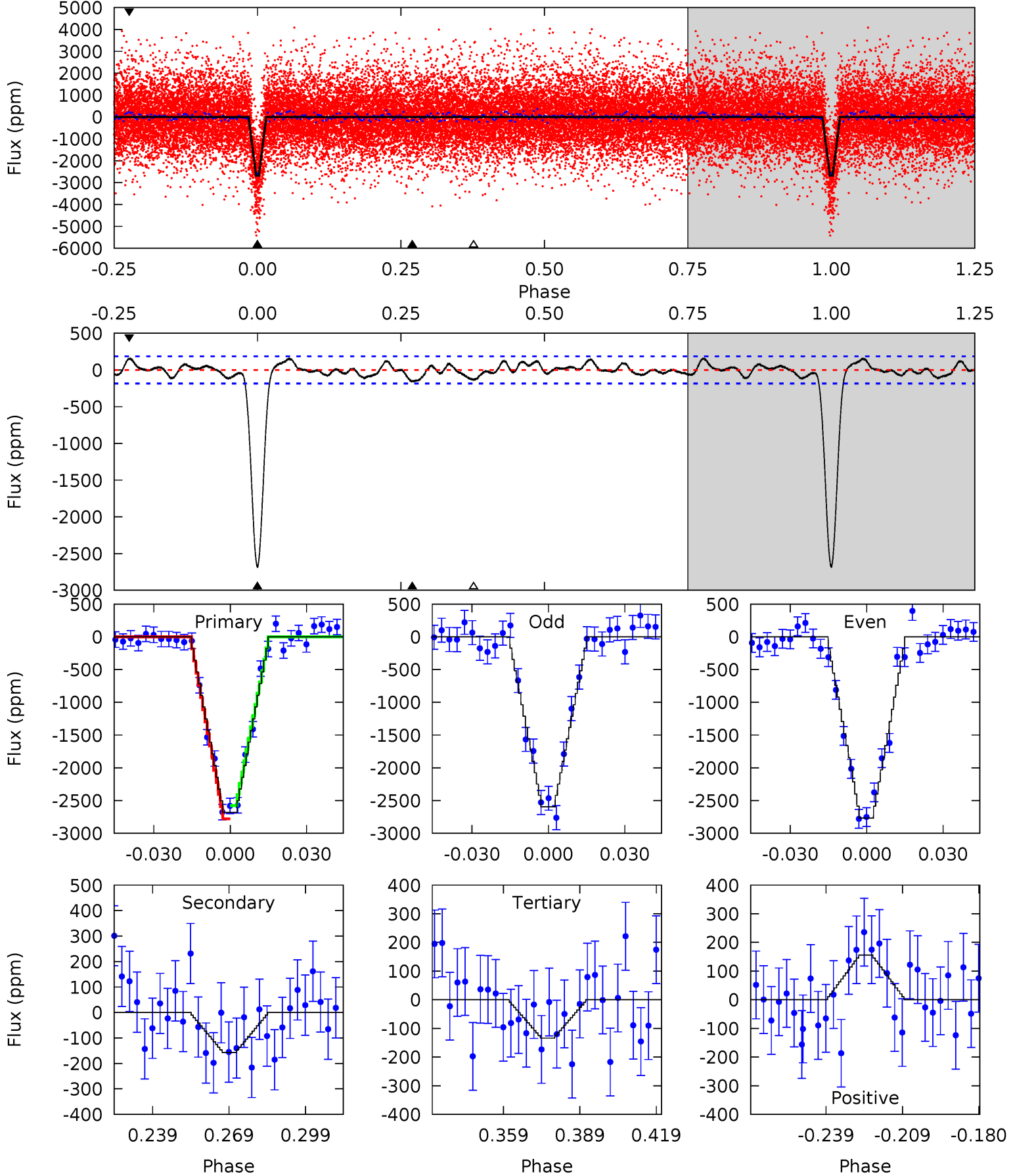
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
76.0	3.58	2.97	4.61	4.81	2.17	1.71	73.0	71.4	0.61	-1.03	2.16	0.95	0.07	2.63



Alt Model-Shift Uniqueness Test

008733898-01, P = 1.565404 Days, E = 132.918959 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
69.6	4.07	3.48	4.05	4.81	2.17	1.61	66.1	65.6	0.60	0.03	2.29	0.99	0.05	2.63



Stellar Parameters For KIC 008733898

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3464^{+69}_{-55}	$4.923^{+0.044}_{-0.044}$	$-0.140^{+0.150}_{-0.150}$	$0.328^{+0.040}_{-0.036}$	$0.328^{+0.053}_{-0.043}$	$13.110^{+3.210}_{-2.579}$
	+2%/-2%	+1%/-1%	+107%/-107%	+12%/-11%	+16%/-13%	+24%/-20%
Source	SPE86	PHO2	SPE86	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008733898-01 / KOI 2842.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-131 ± 37	$1.80^{+0.27}_{-0.27}$	908^{+25}_{-22}	2321^{+121}_{-117}	$7.403^{+3.451}_{-2.479}$
Alt.	-157 ± 39	$1.83^{+0.29}_{-0.25}$	907^{+26}_{-25}	2353^{+113}_{-109}	$8.295^{+3.859}_{-2.676}$

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

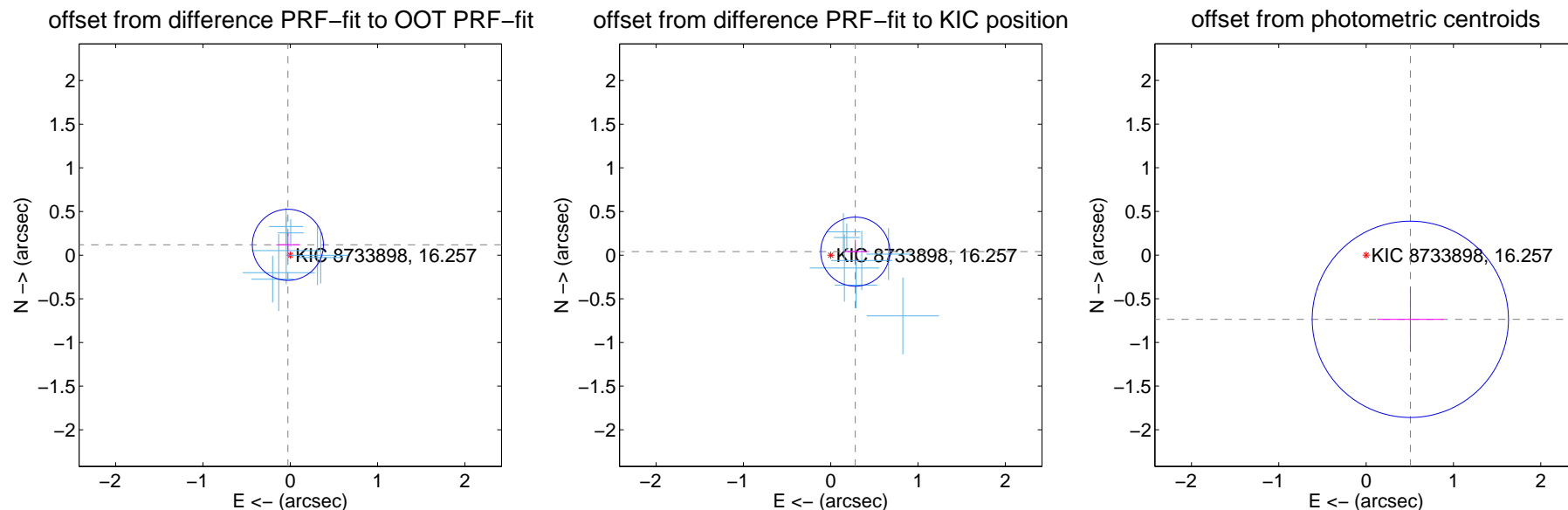
DV Centroid Data

Supplemental centroid analysis for 008733898-01. Kepler magnitude: 16.26. Transit SNR 44.66

There are 7 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.121 ± 0.136	0.89	0.027 ± 0.132	0.118 ± 0.136
PRF-fit source offset from KIC position	0.284 ± 0.132	2.15	-0.281 ± 0.132	0.040 ± 0.136
photometric centroid source offset	0.89 ± 0.37	2.38	-0.51 ± 0.38	-0.74 ± 0.37

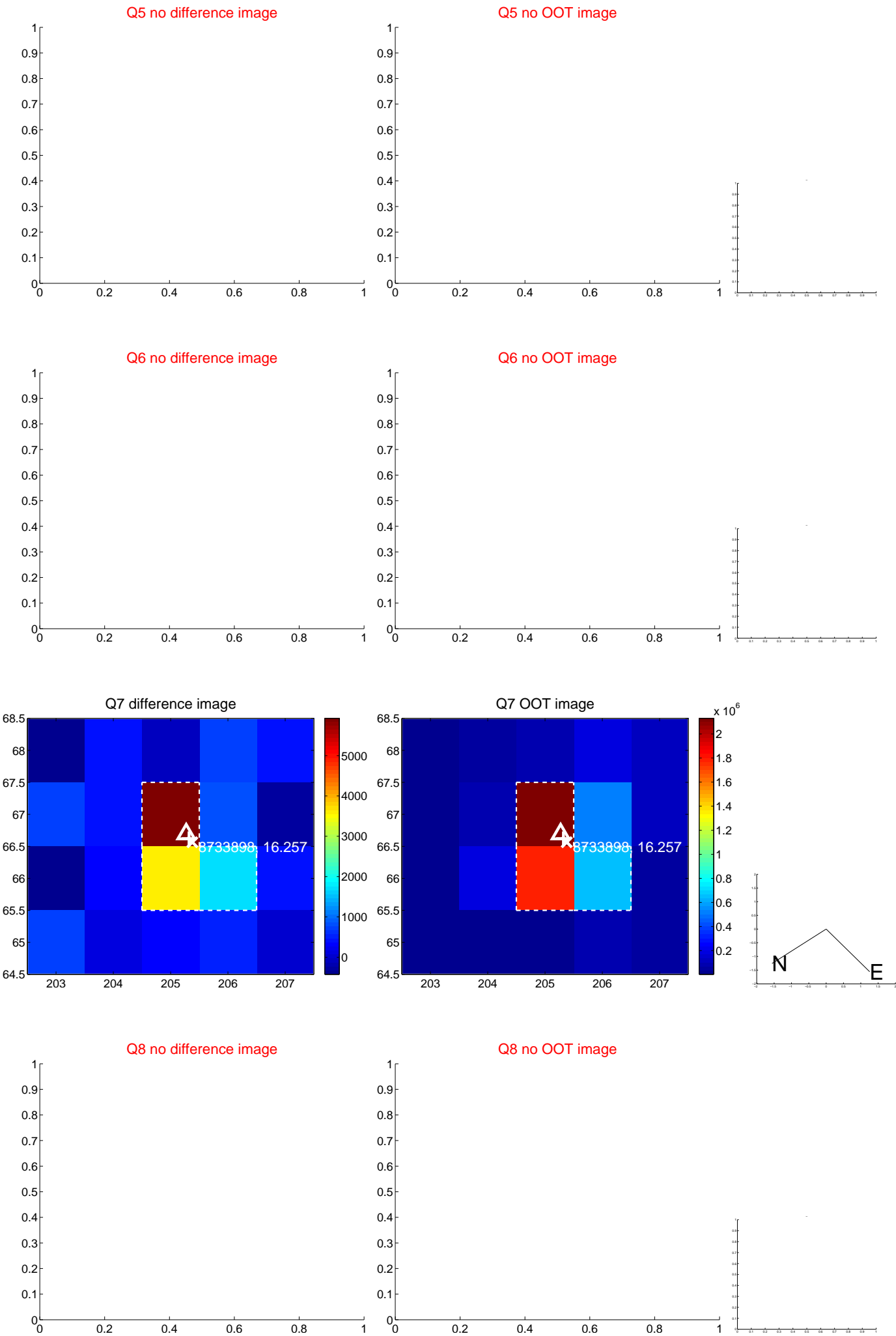


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

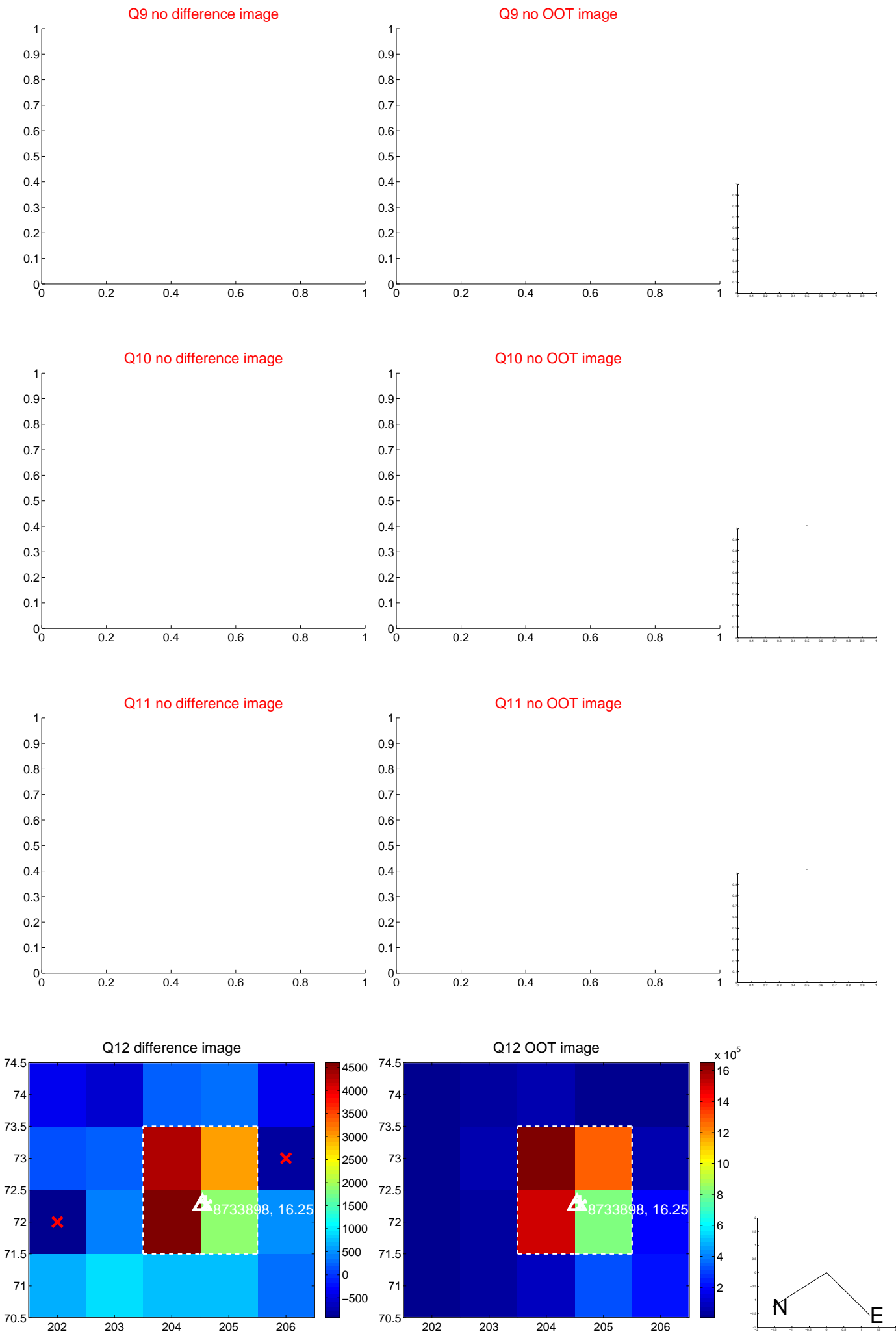
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



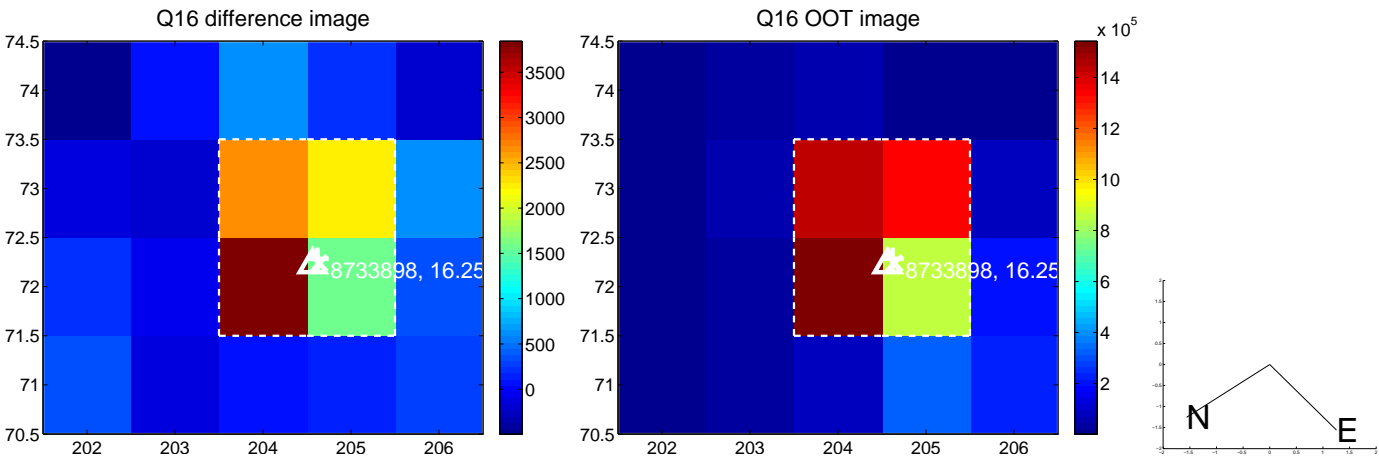
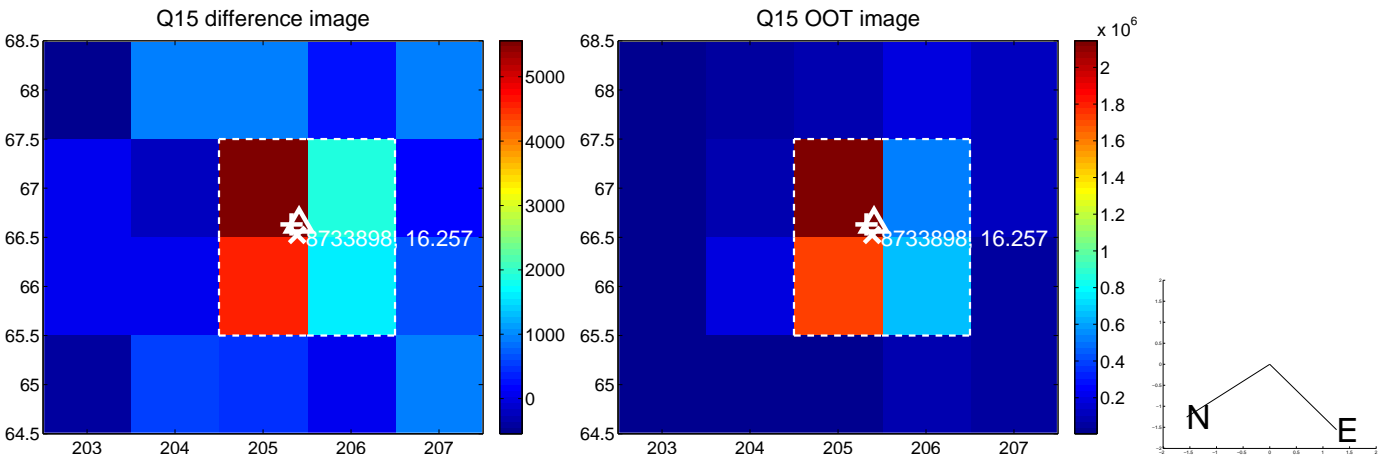
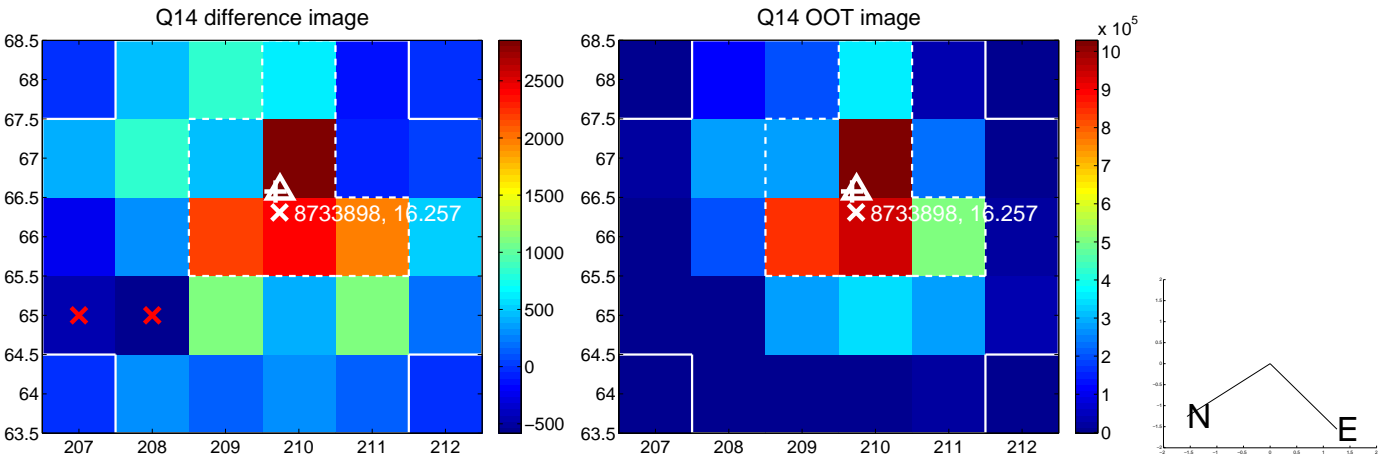
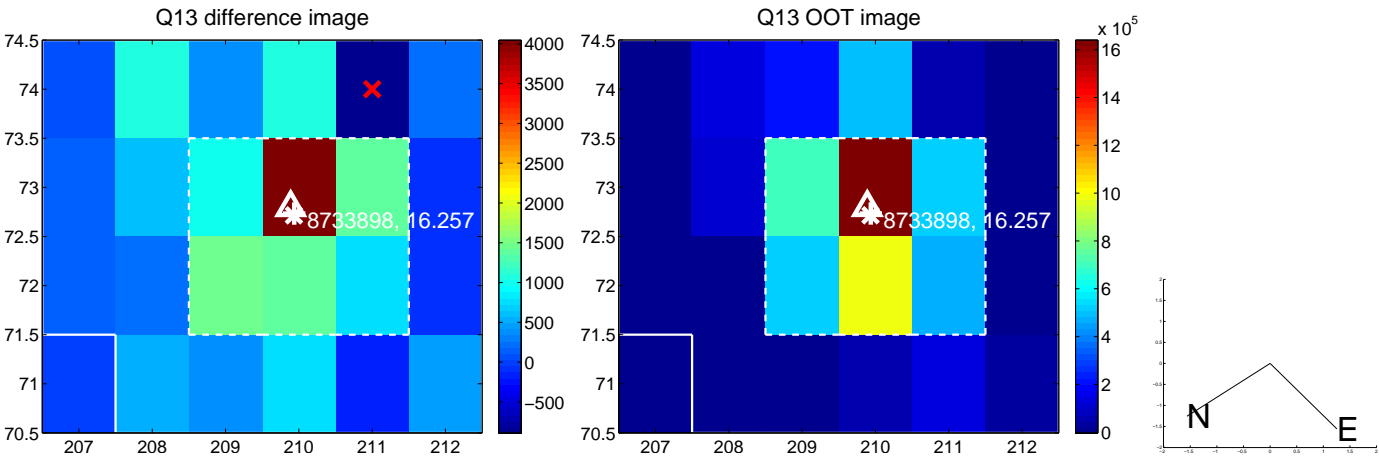
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



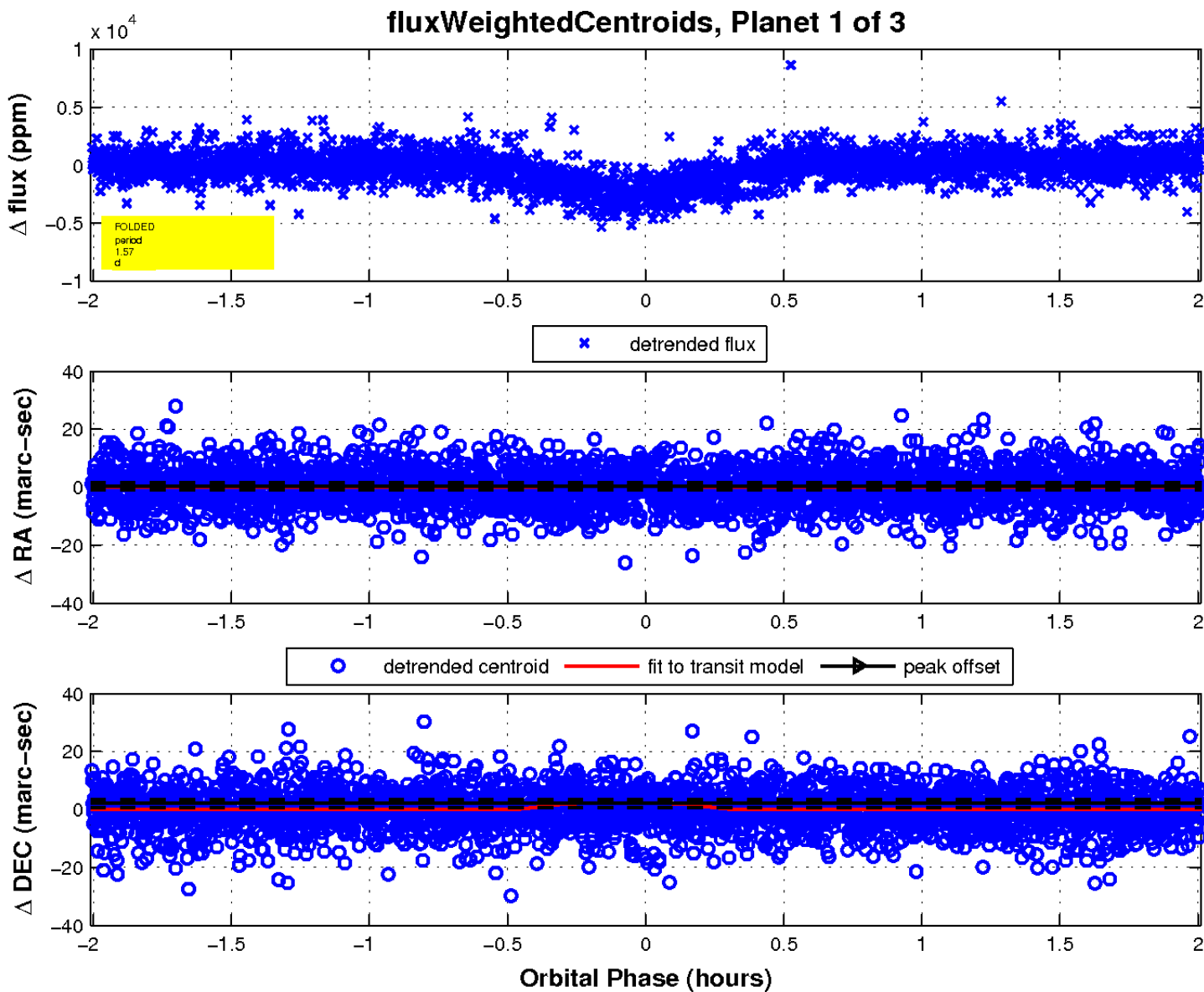
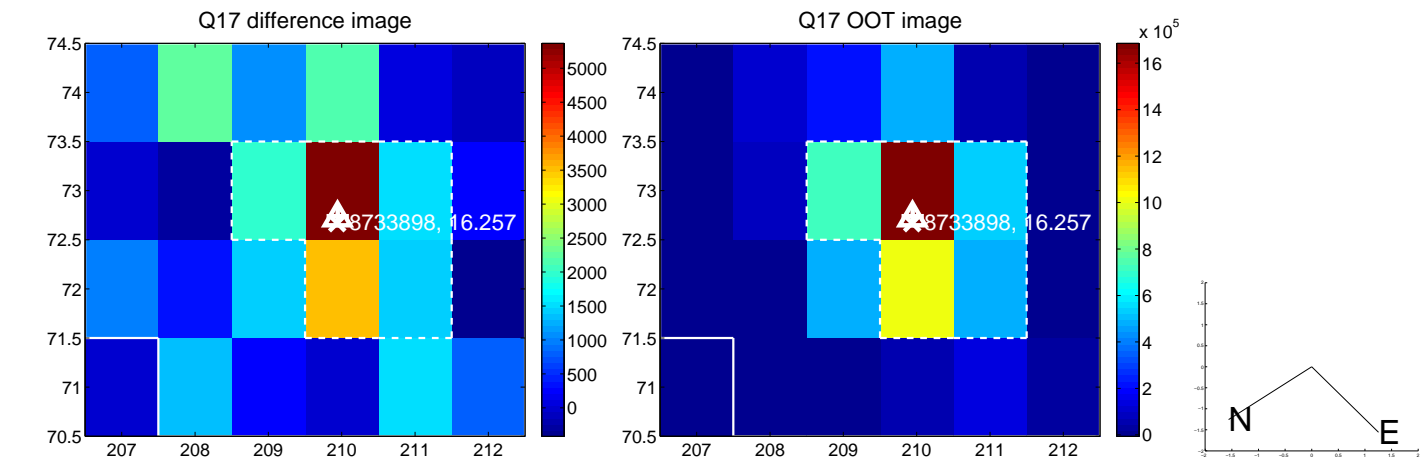
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

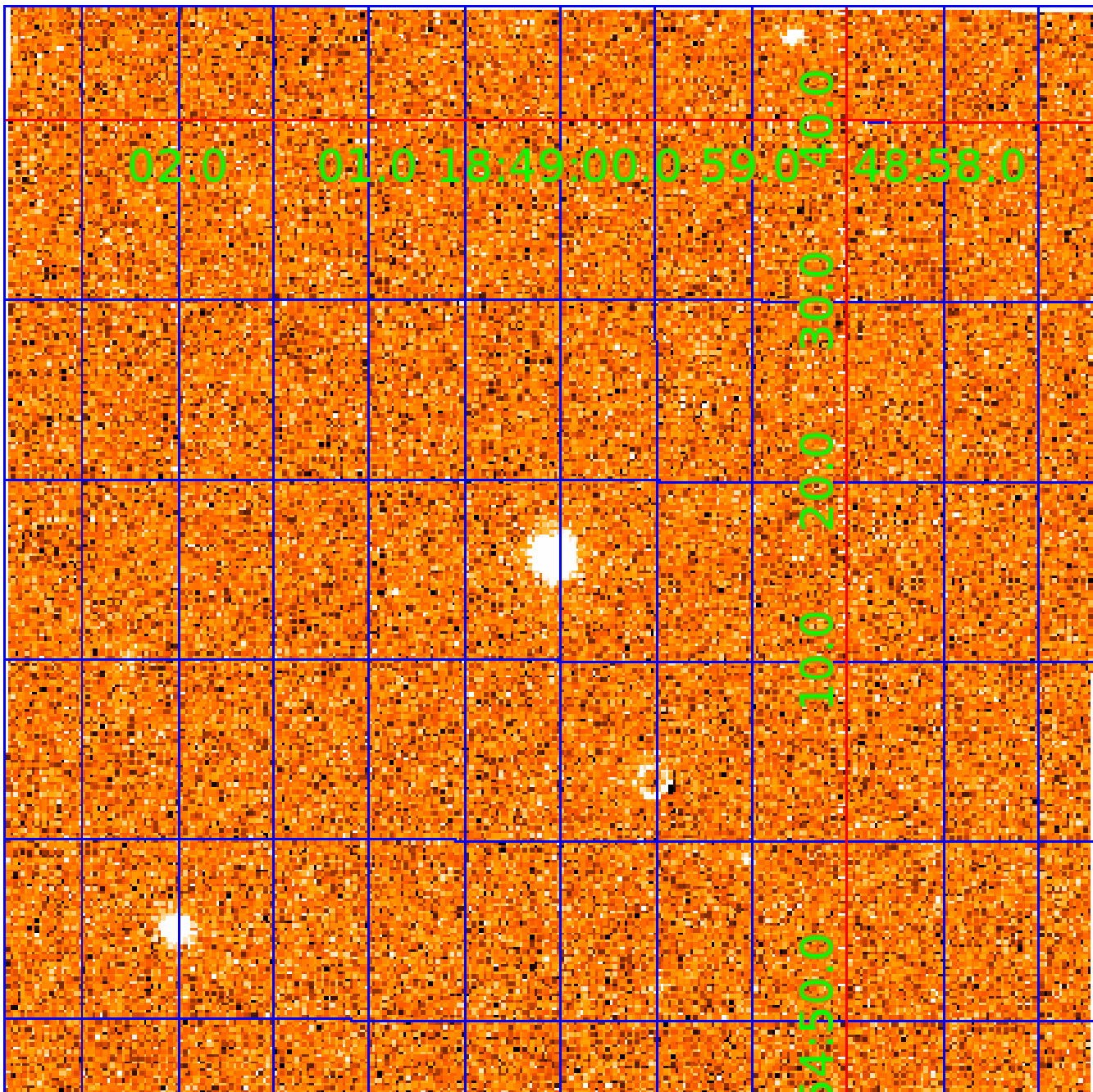


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008733898

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})
008733898-01	OBS	2842.01	1.565401	132.919511	2706.3	0.670	33.5	44.7	0.33	3464	1.79	41.84
008733898-02	OBS	2842.03	3.036194	134.064857	1639.5	0.972	18.2	22.6	0.33	3464	1.37	17.30
008733898-03	OBS	2842.02	5.148870	133.330658	2181.8	1.074	17.2	21.1	0.33	3464	1.85	8.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008733898-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008733898-02	OBS	PC	0.95	0	0	0	0	NO_COMMENT
008733898-03	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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.

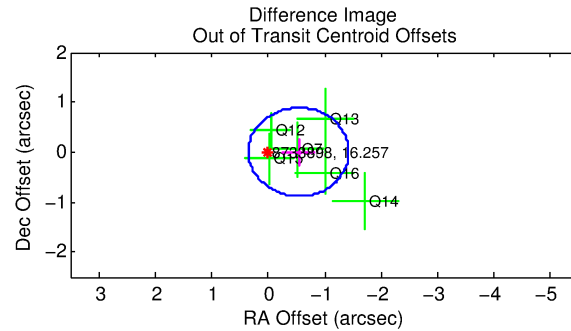
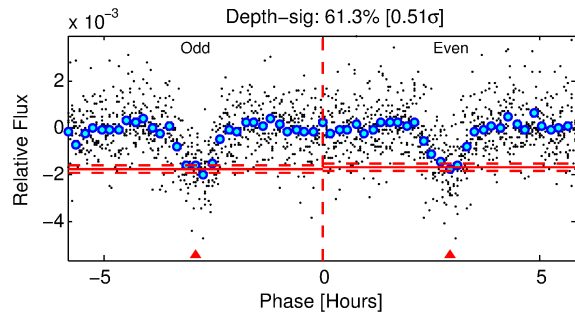
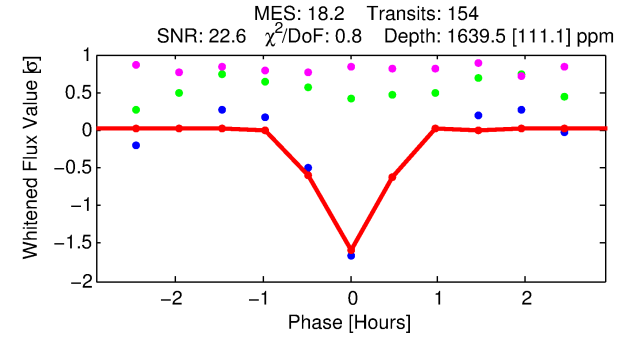
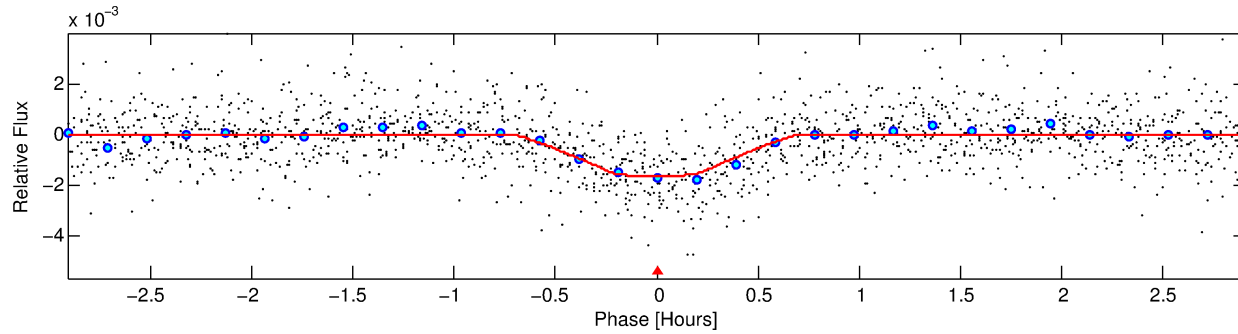
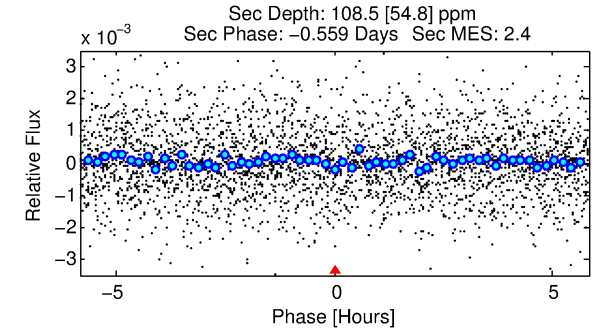
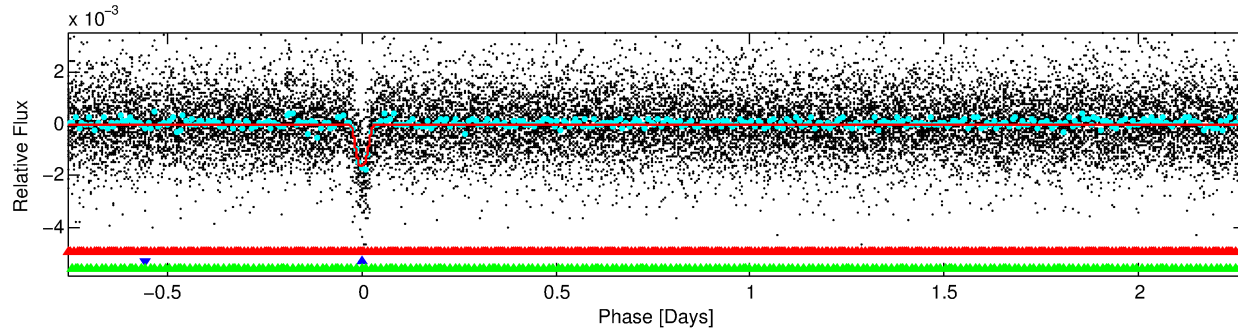
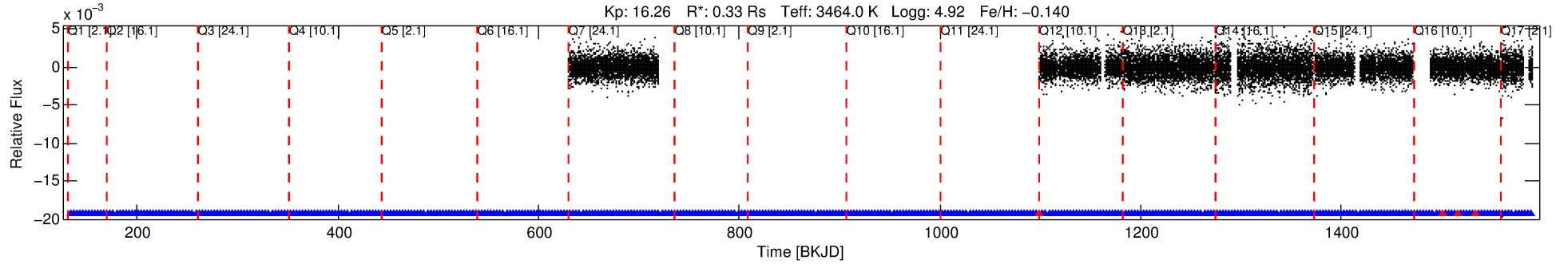
Ephemeris Match Information For 008733898-02

No Significant Match Found

DV One-Page Summary

KIC: 8733898 Candidate: 2 of 3 Period: 3.036 d
KOI: K02842.03 Name: Kepler-446c Corr: 0.932

Kp: 16.26 R*: 0.33 Rs Teff: 3464.0 K Logg: 4.92 Fe/H: -0.140



DV Fit Results:

Period = 3.03619 [0.00000] d
Epoch = 134.0649 [0.0008] BKJD
Rp/R* = 0.0383 [0.0144]
a/R* = 21.73 [36.01]
b = 0.50 [2.51]
Seff = 17.30 [2.29]
Teq = 520 [17] K
Rp = 1.37 [0.54] Re
a = 0.0283 [0.0025] AU
Ag = 25.50 [23.24] [1.05σ]
Teffp = 1807 [411] K [3.13σ]

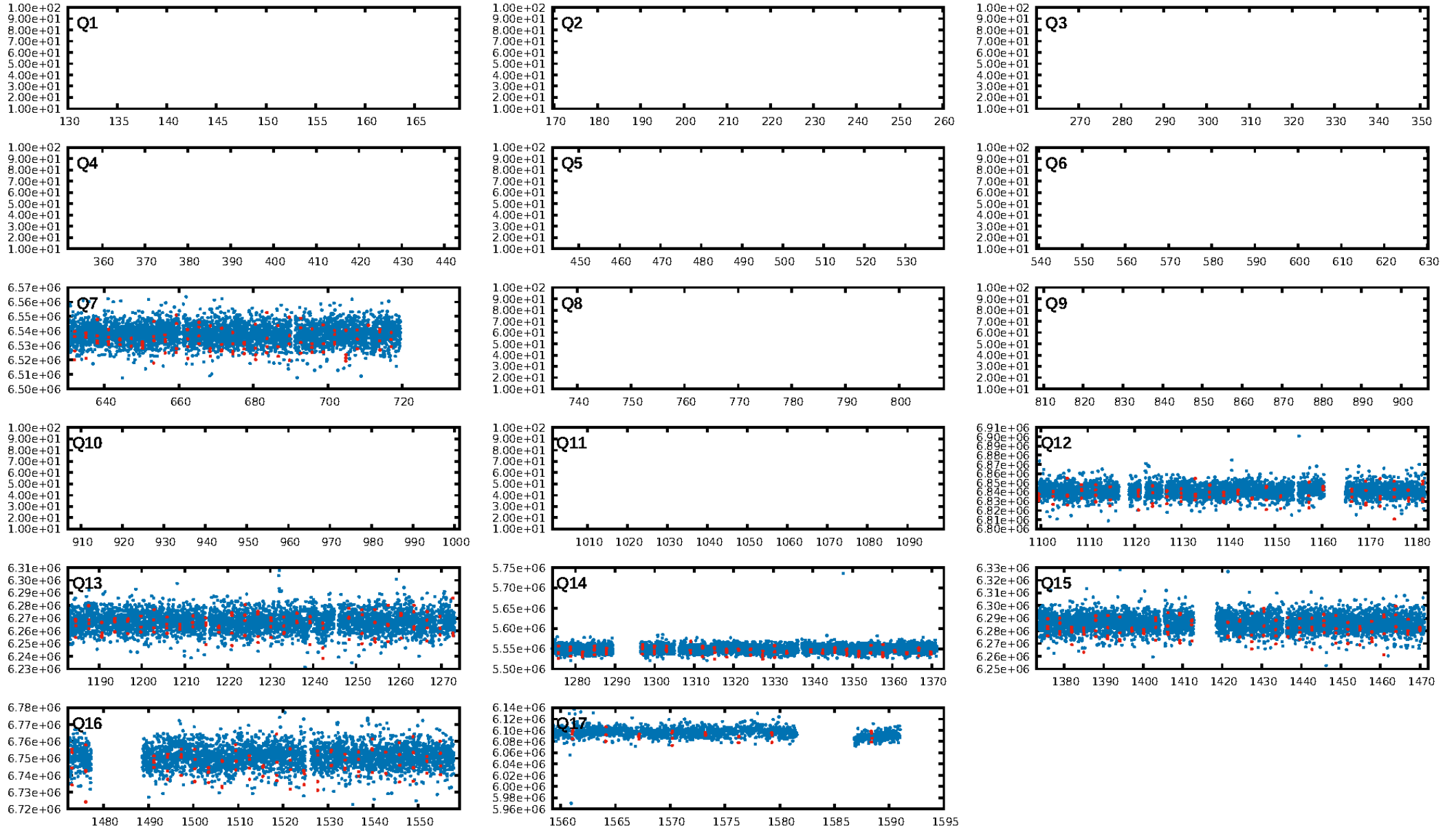
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [29.90σ]
LongPeriod-sig: 100.0% [35.00σ]
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.38e-77
RollingBand-fgt: 0.97 [144/148]
GhostDiagnostic-chr: 4.12
Centroid-sig: 0.5%
Centroid-so: 1.290 arcsec [1.81σ]
OotOffset-rm: 0.538 arcsec [1.82σ]
KicOffset-rm: 0.777 arcsec [2.27σ]
OotOffset-st: 1/2/2/1 [6]
KicOffset-st: 1/2/2/1 [6]
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DiffImageOverlap-fno: 1.00 [7/7]

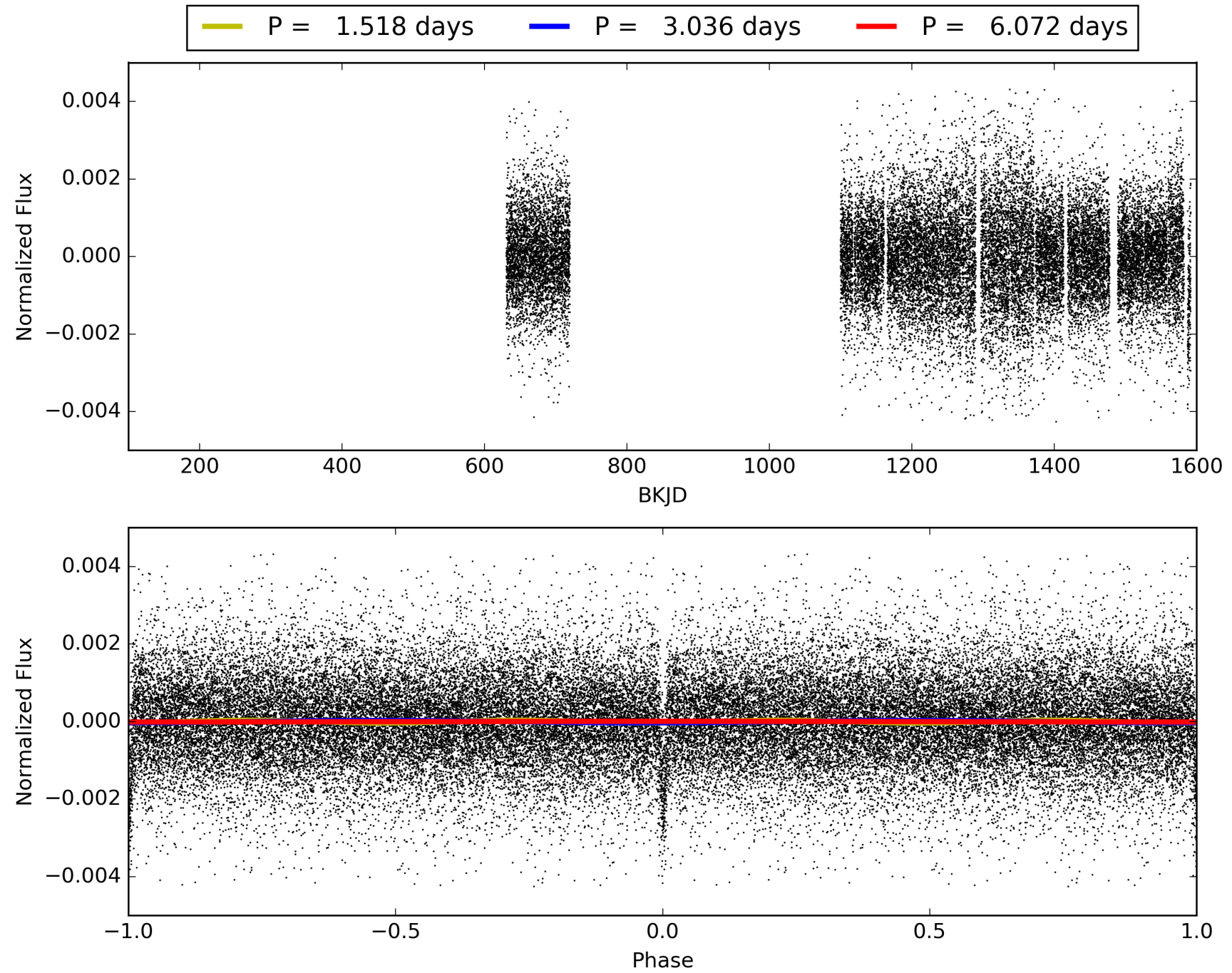
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008733898-02, PDC Light Curves

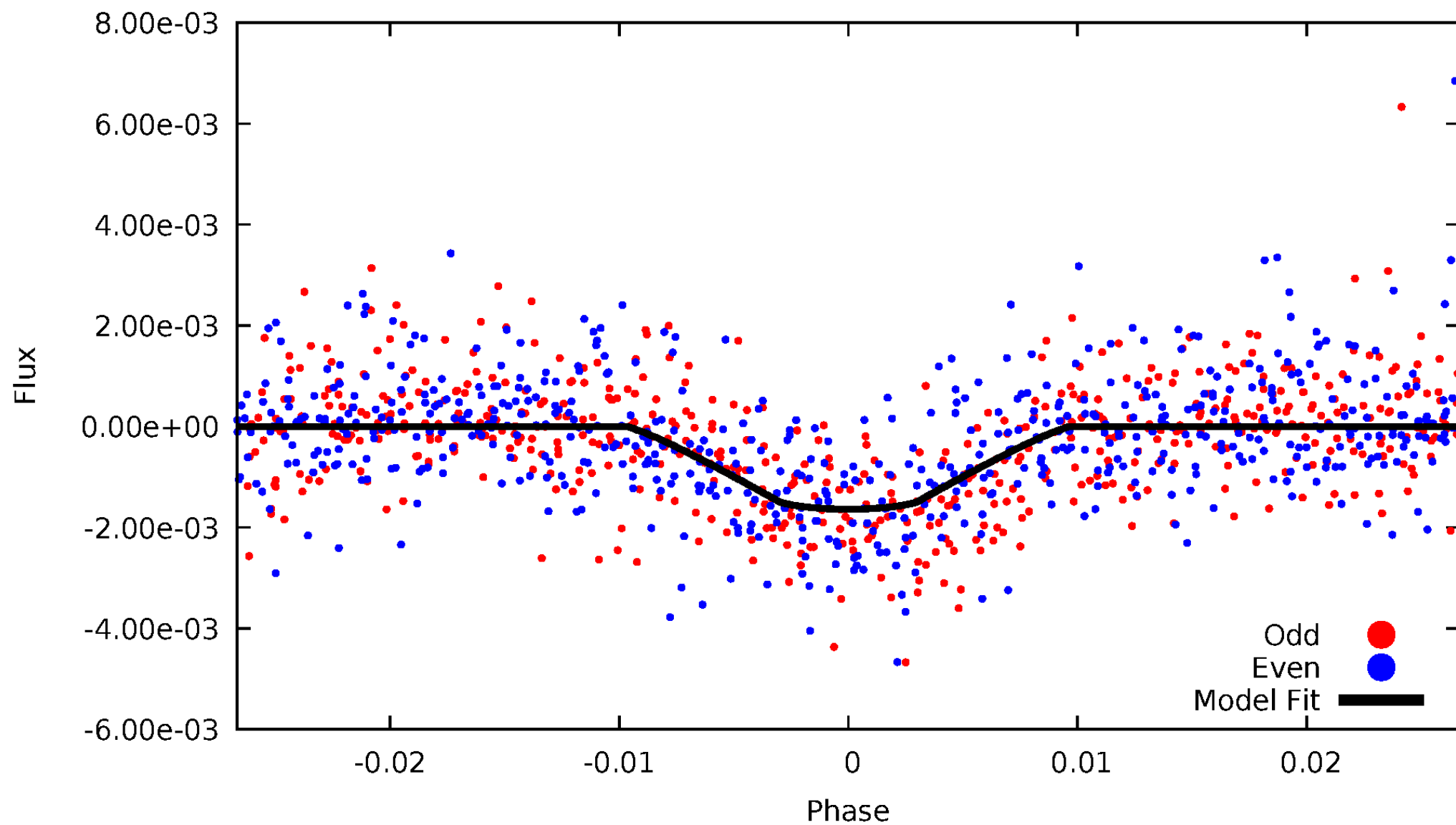


TCE 008733898-02



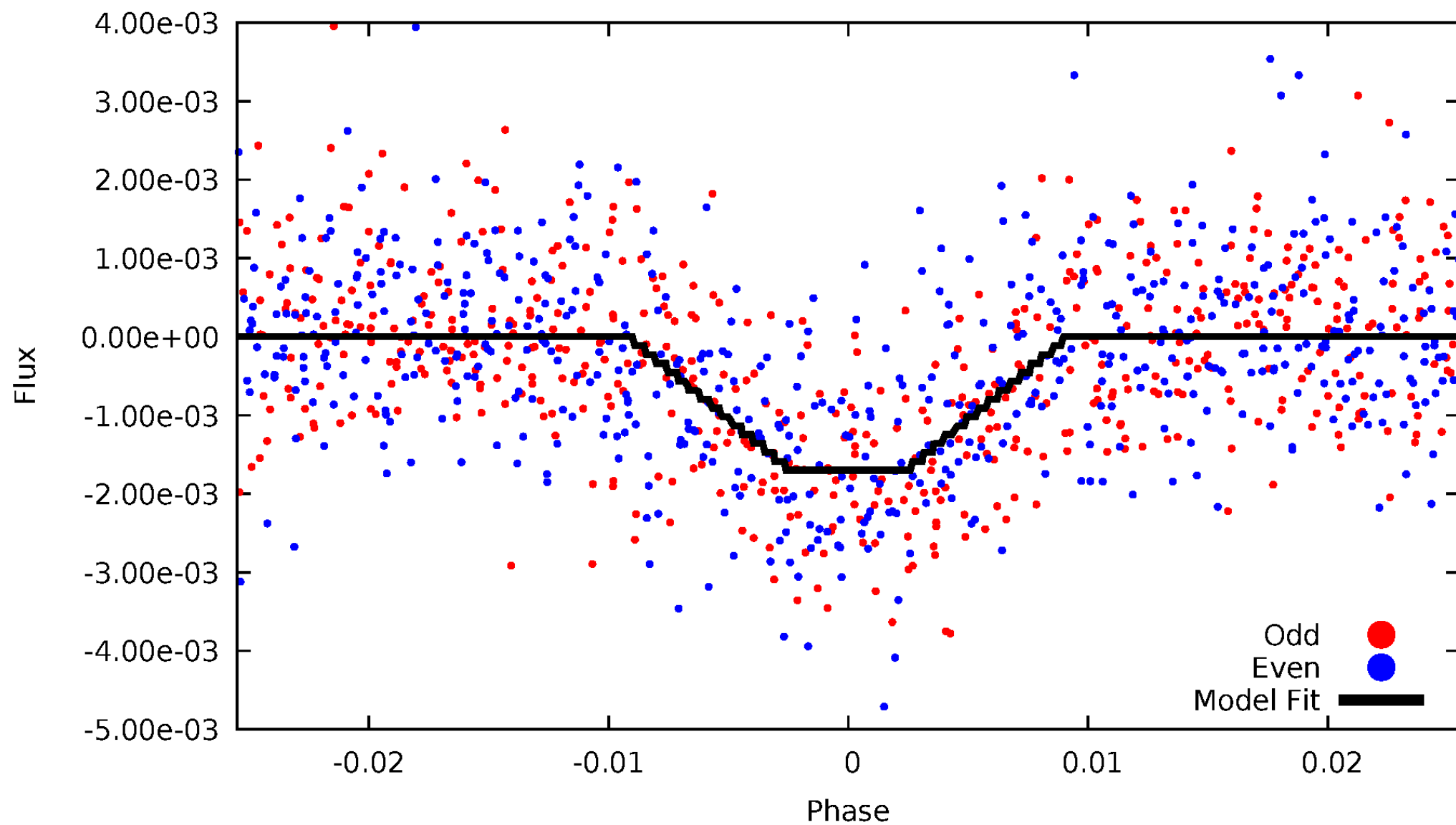
DV Odd/Even

TCE 008733898-02



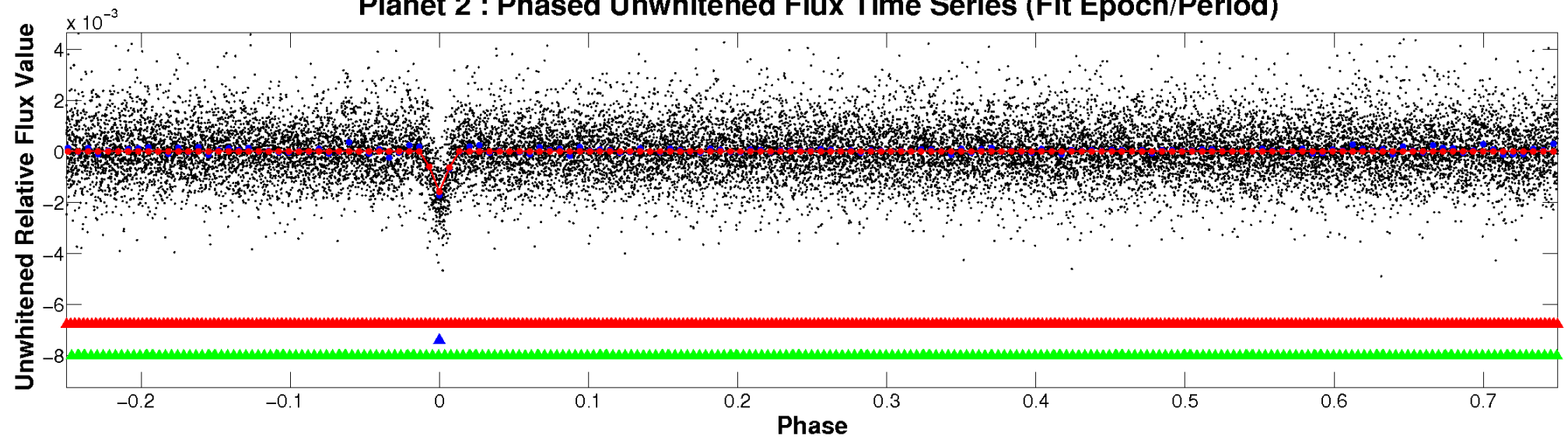
ALT Odd/Even

TCE 008733898-02

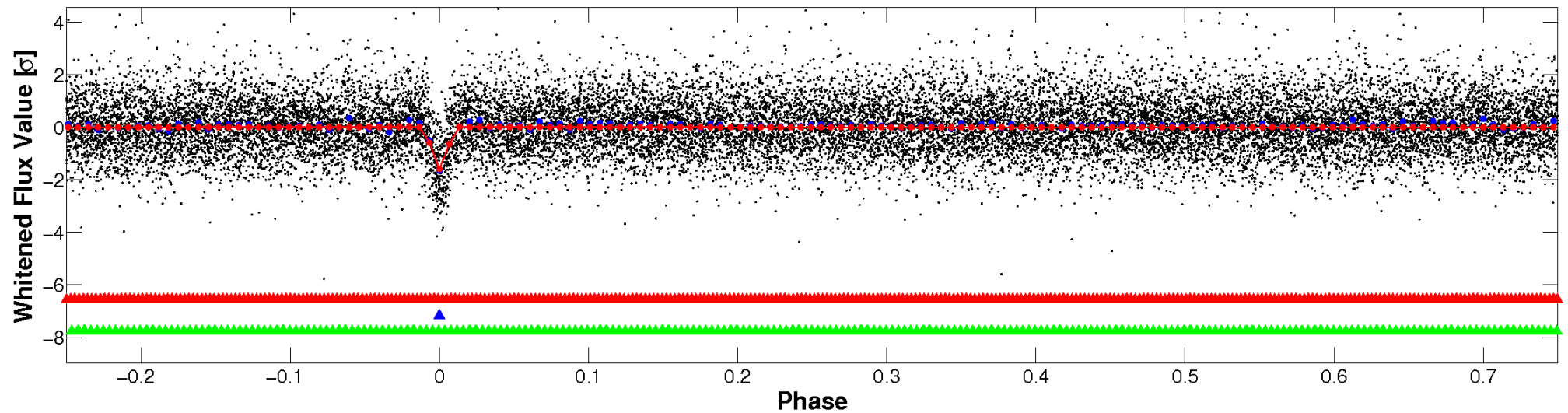


Non-Whitened Vs. Whitened Light Curve

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

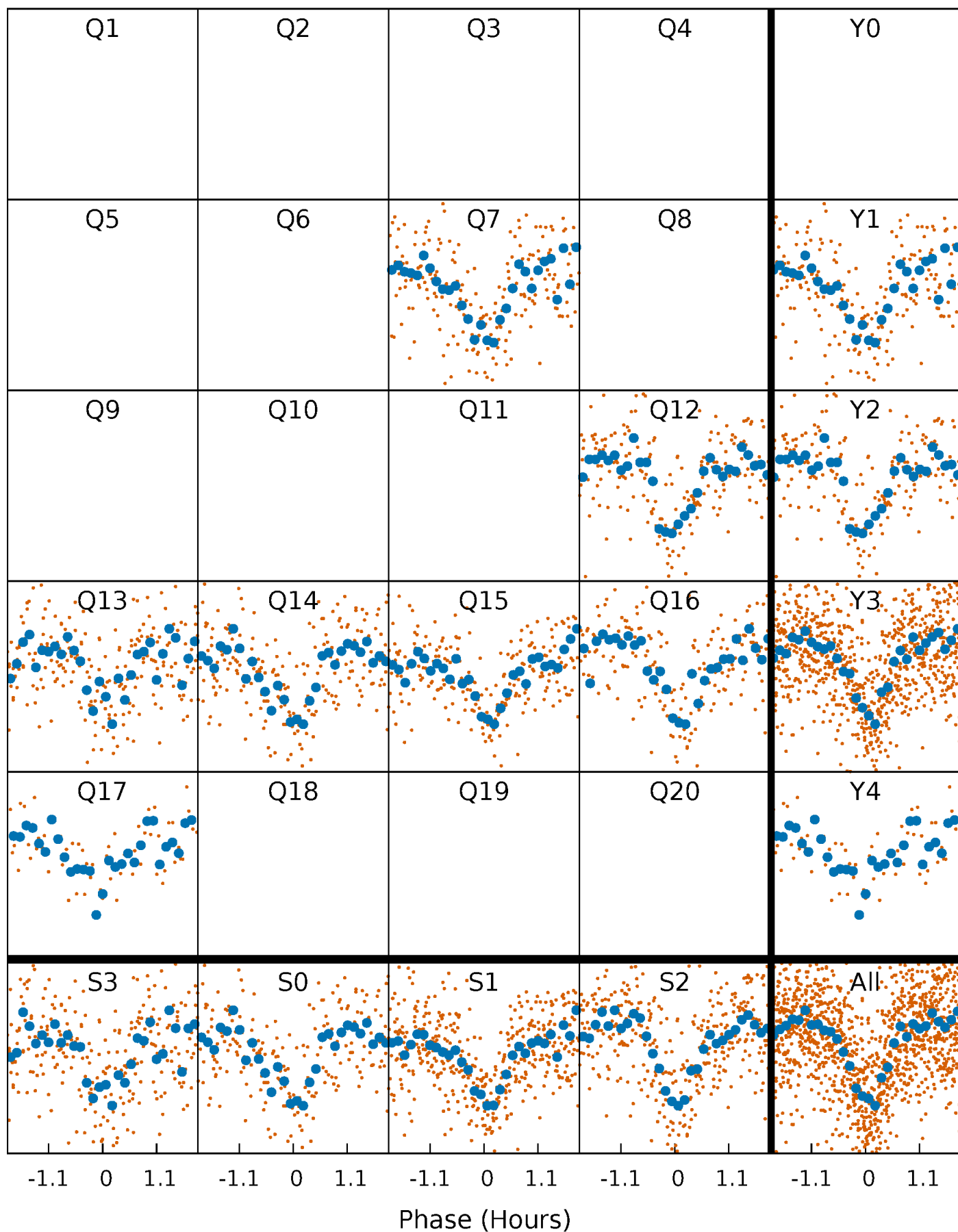


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



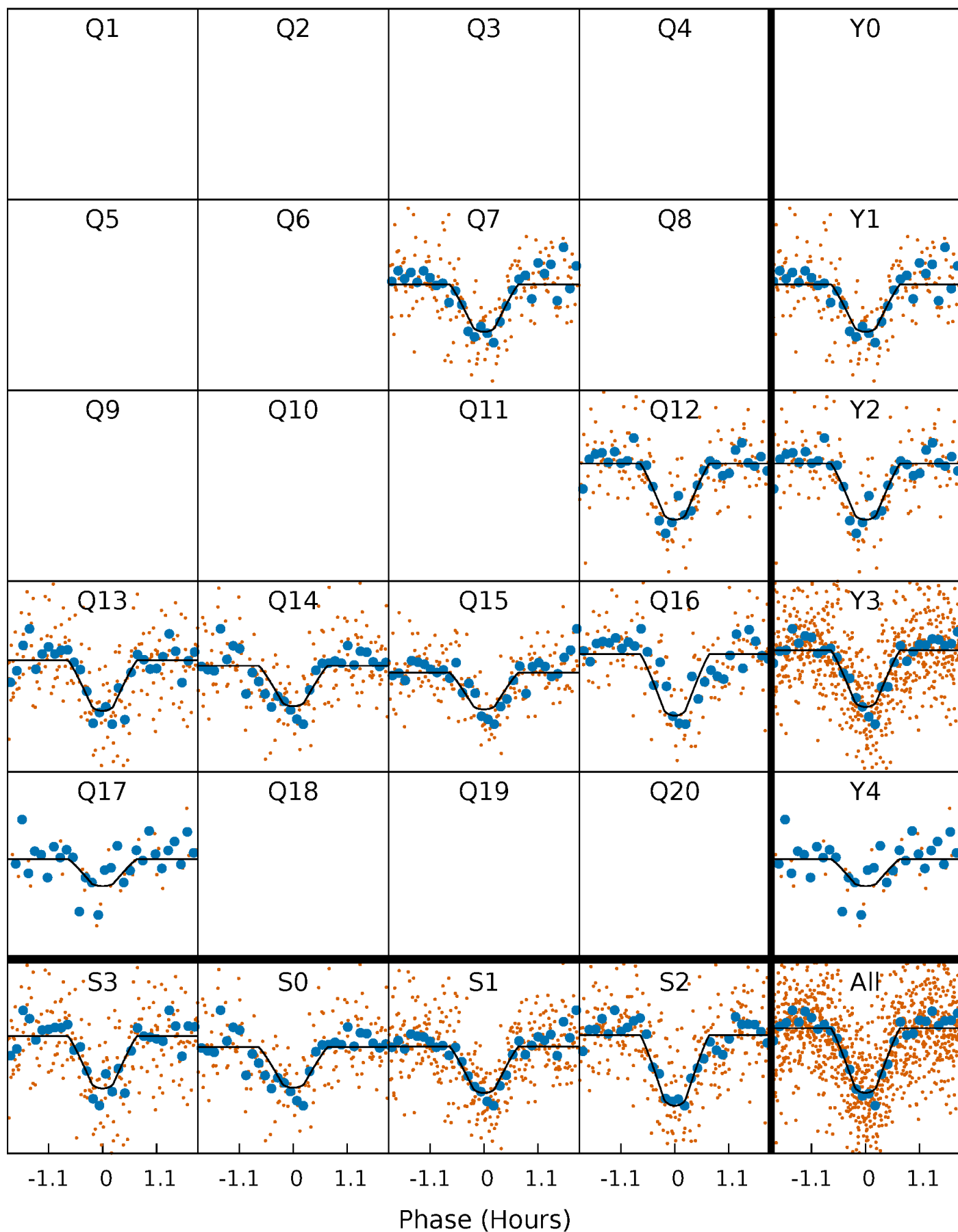
PDC Quarter-Phased Transit Curves

TCE 008733898-02 P= 3.036194 Days $T_0=134.064857$ (BKJD)



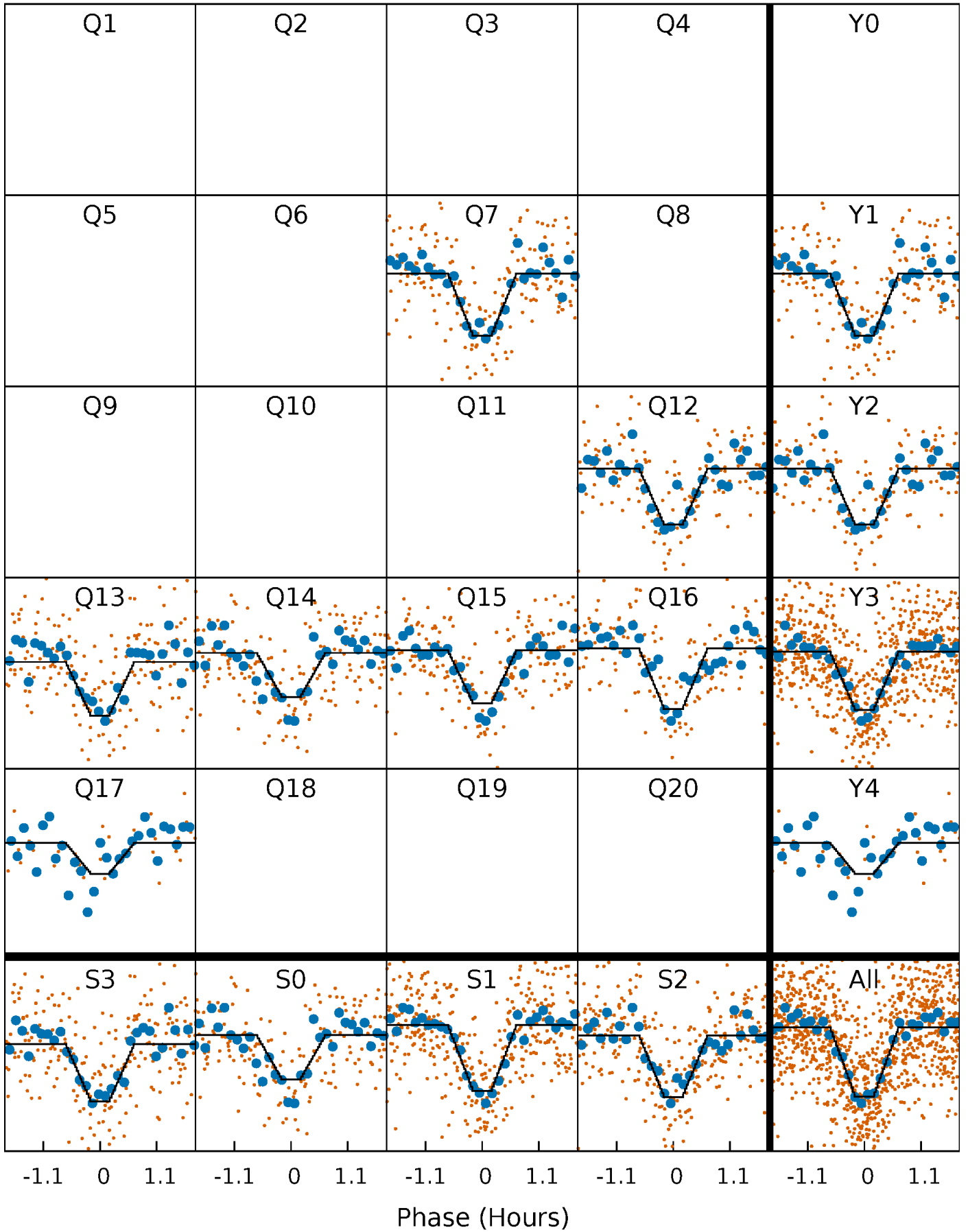
DV Quarter-Phased Transit Curves

TCE 008733898-02 P= 3.036194 Days $T_0=134.064857$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

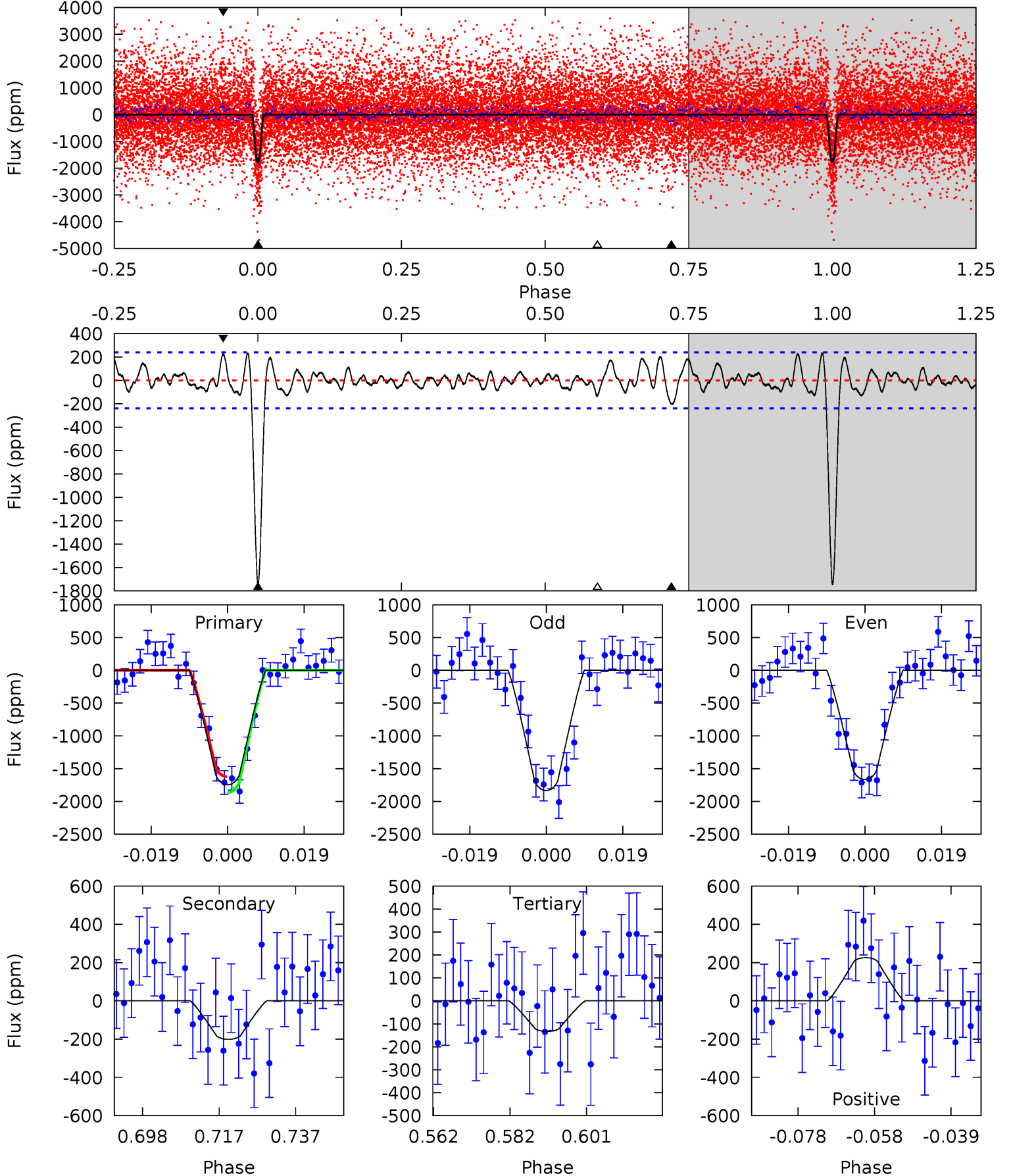
TCE 008733898-02 $P = 3.036207$ Days $T_0 = 134.061730$ (BKJD)



DV Model-Shift Uniqueness Test

008733898-02, P = 3.036194 Days, E = 134.064857 Days

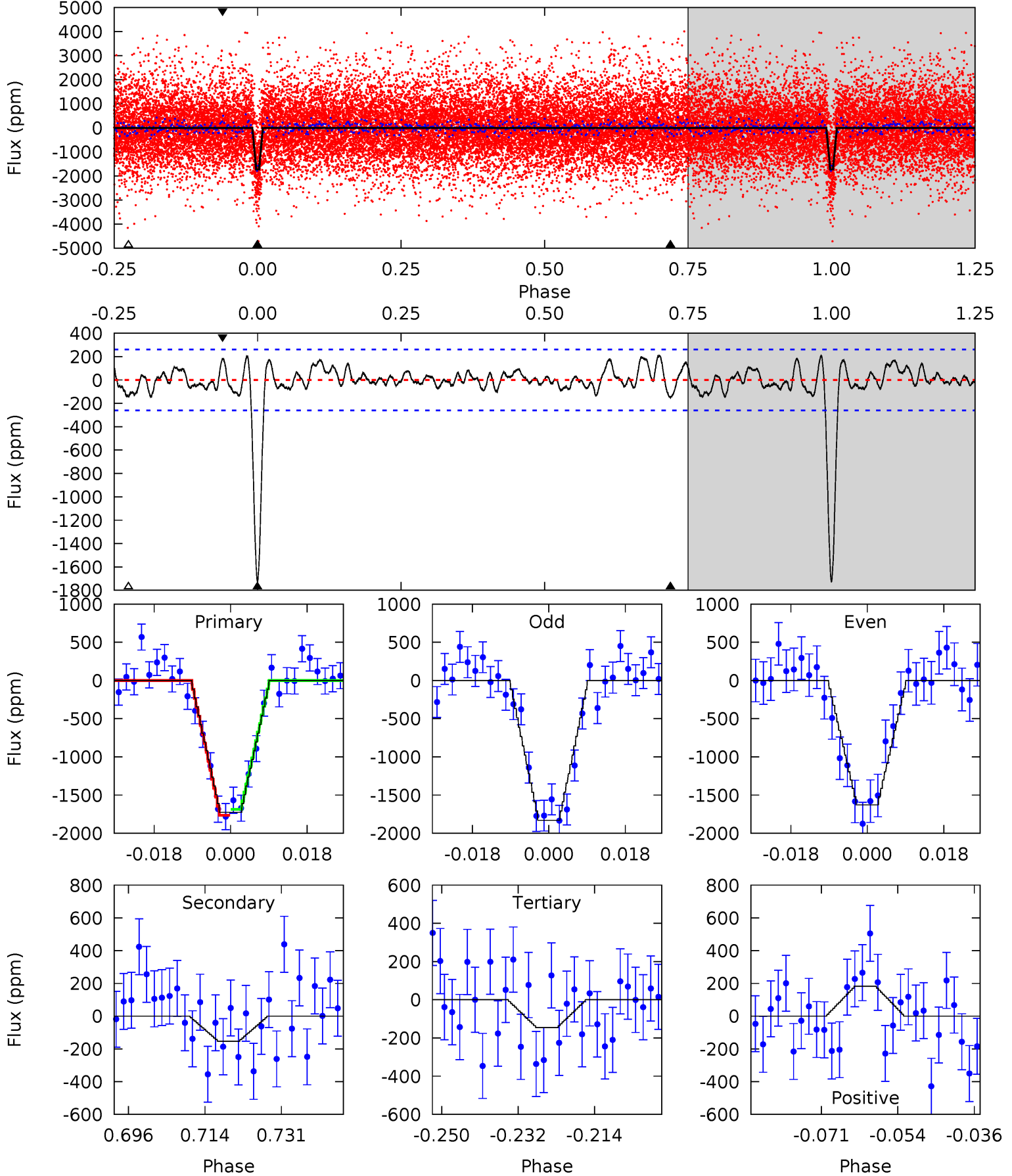
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.8	4.12	2.73	4.63	4.90	2.34	1.36	33.0	31.1	1.39	-0.51	1.74	1.03	0.12	2.45



Alt Model-Shift Uniqueness Test

008733898-02, P = 3.036207 Days, E = 134.061730 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.5	2.88	2.74	3.44	4.91	2.37	1.36	29.8	29.1	0.14	-0.55	1.91	1.01	0.11	0.71



Stellar Parameters For KIC 008733898

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3464^{+69}_{-55}	$4.923^{+0.044}_{-0.044}$	$-0.140^{+0.150}_{-0.150}$	$0.328^{+0.040}_{-0.036}$	$0.328^{+0.053}_{-0.043}$	$13.110^{+3.210}_{-2.579}$
	+2%/-2%	+1%/-1%	+107%/-107%	+12%/-11%	+16%/-13%	+24%/-20%
Source	SPE86	PHO2	SPE86	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008733898-02 / KOI 2842.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-201 ± 49	$1.32^{+0.58}_{-0.50}$	728^{+19}_{-20}	2632^{+368}_{-233}	50^{+82}_{-26}
Alt.	-153 ± 53	$1.46^{+0.57}_{-0.46}$	728^{+20}_{-17}	2470^{+304}_{-205}	29^{+45}_{-16}

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

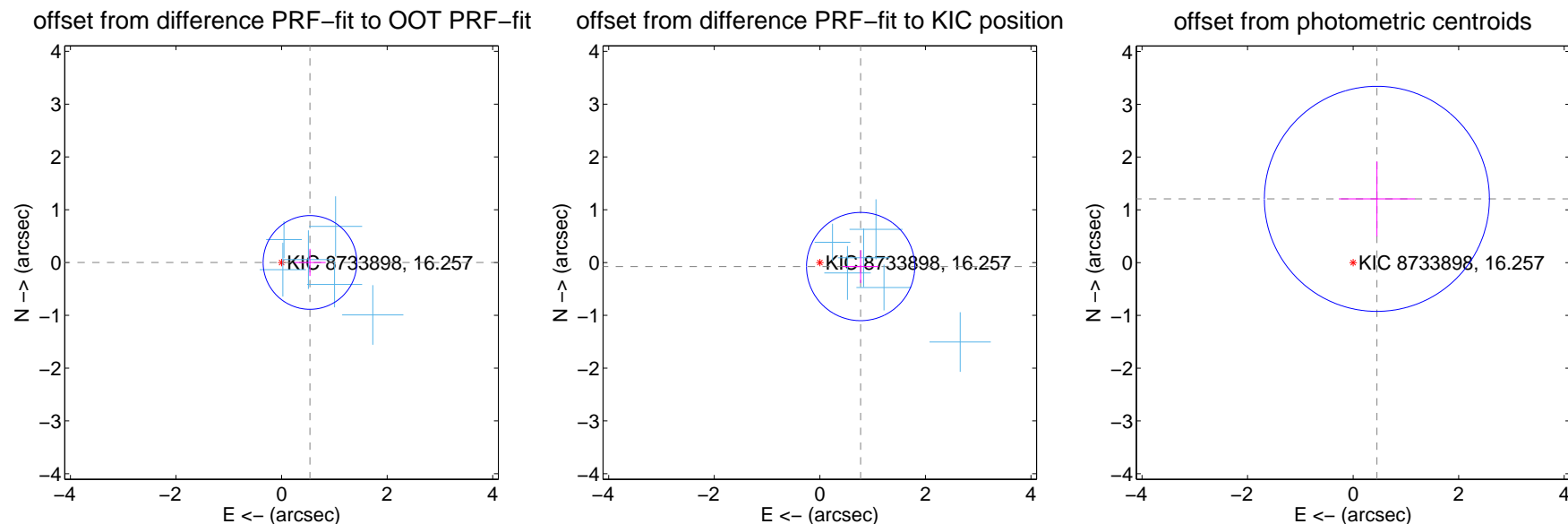
DV Centroid Data

Supplemental centroid analysis for 008733898-02. Kepler magnitude: 16.26. Transit SNR 22.57

There are 6 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.538 ± 0.296	1.82	-0.538 ± 0.296	0.002 ± 0.258
PRF-fit source offset from KIC position	0.777 ± 0.342	2.27	-0.773 ± 0.342	-0.076 ± 0.313
photometric centroid source offset	1.29 ± 0.71	1.81	-0.45 ± 0.72	1.21 ± 0.71



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.

Q5 no difference image



Q5 no OOT image



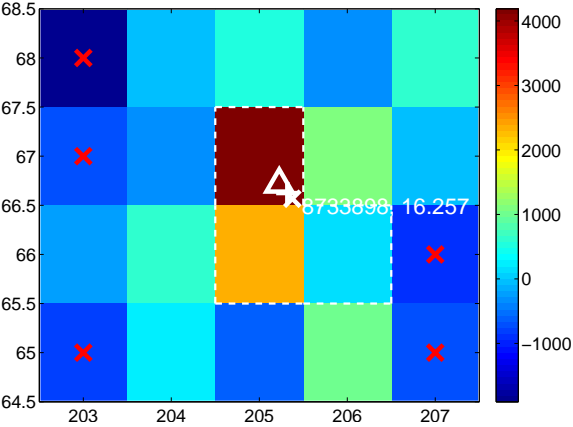
Q6 no difference image



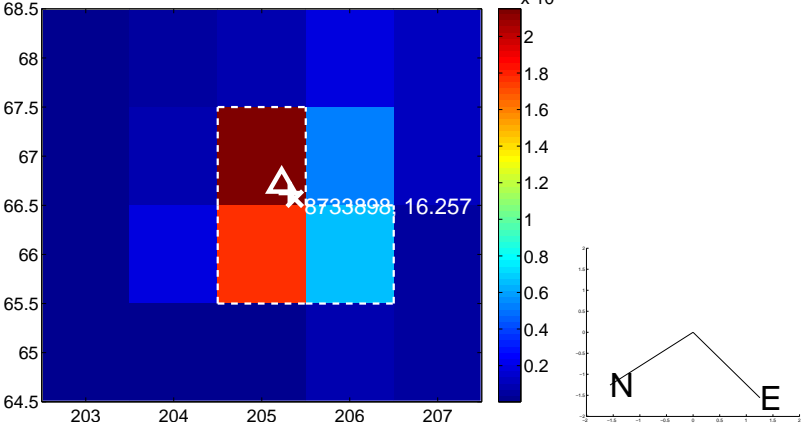
Q6 no OOT image



Q7 difference image



Q7 OOT image



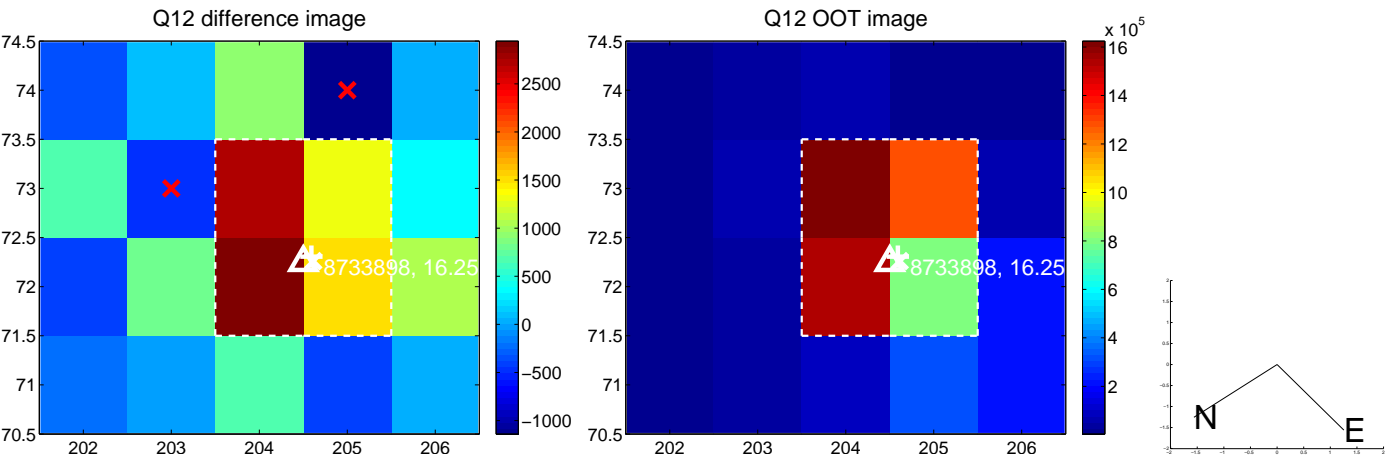
Q8 no difference image



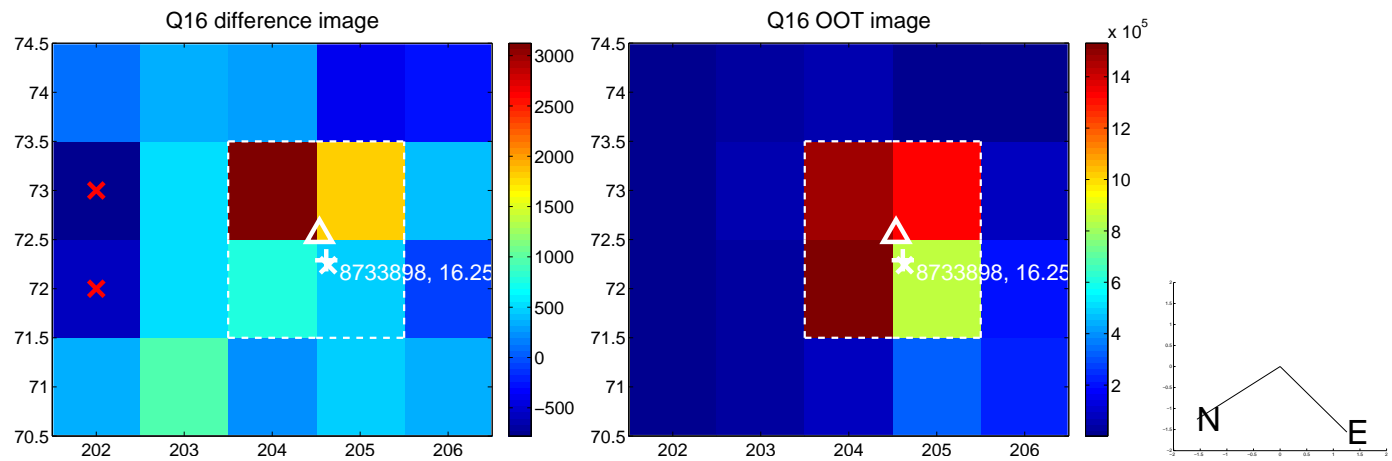
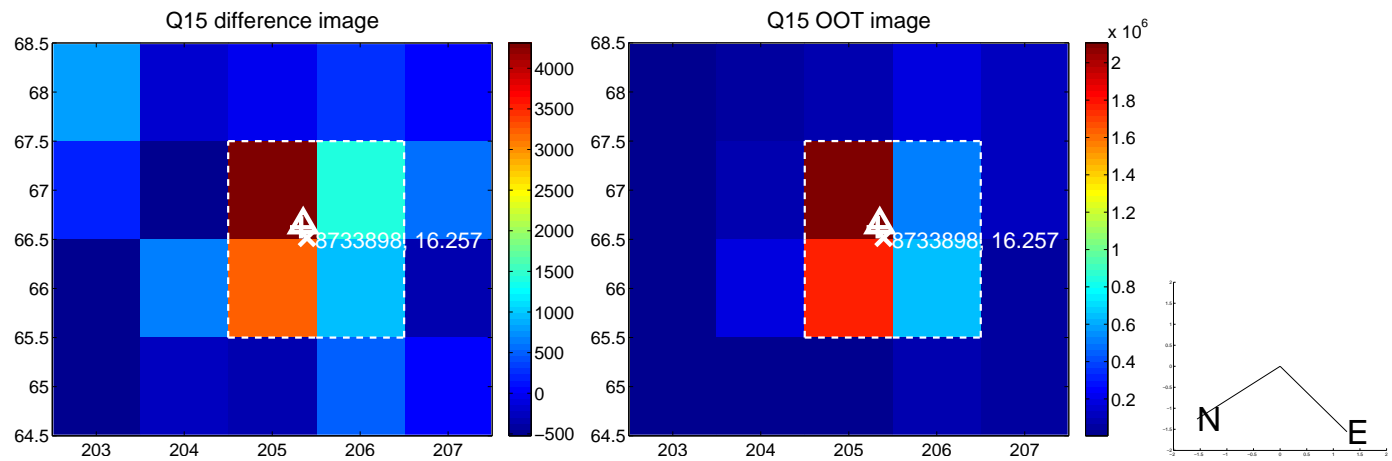
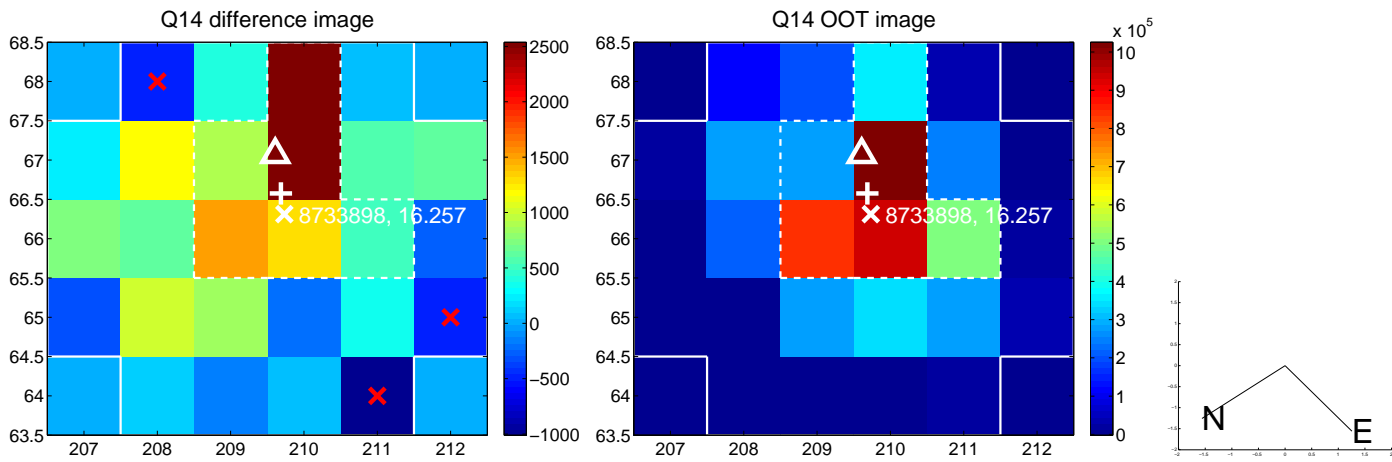
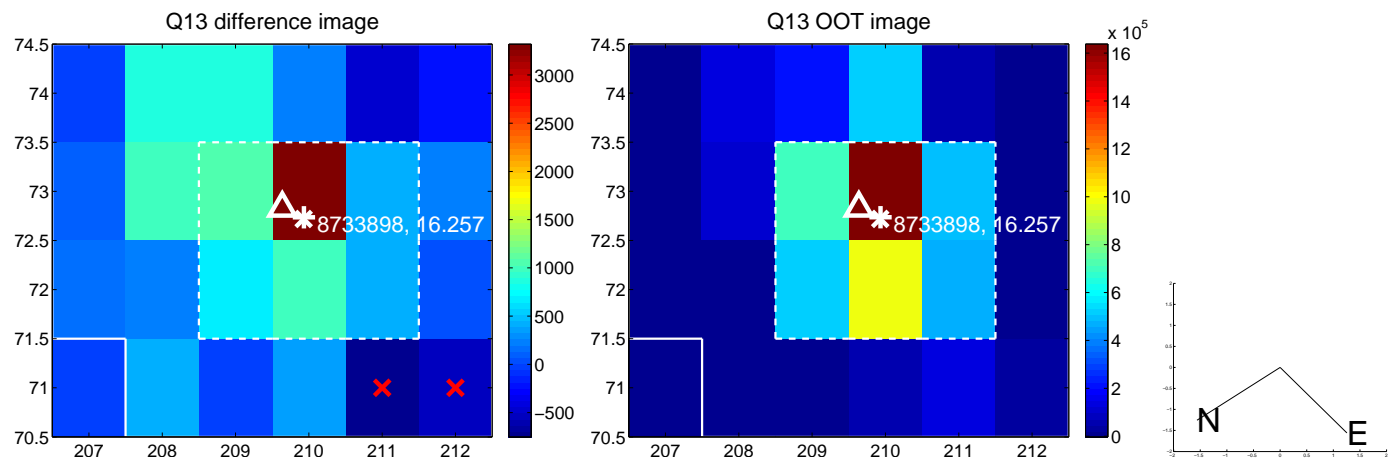
Q8 no OOT image



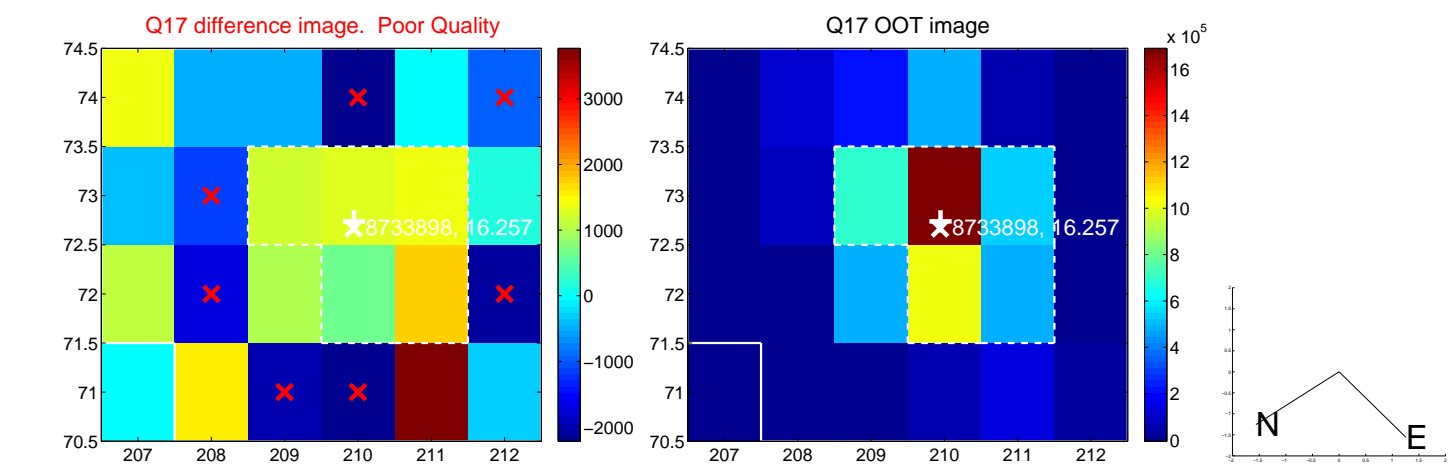
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



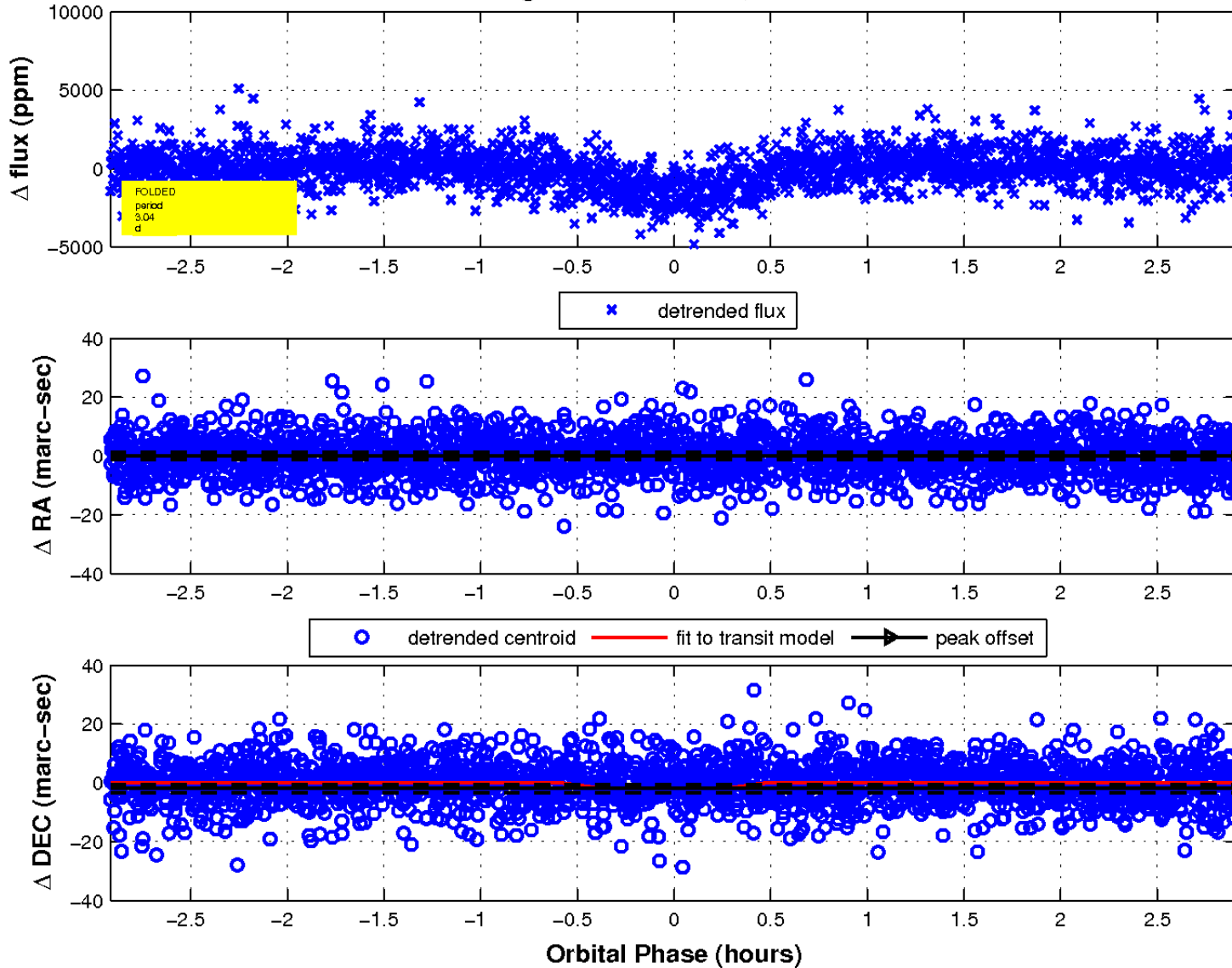
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

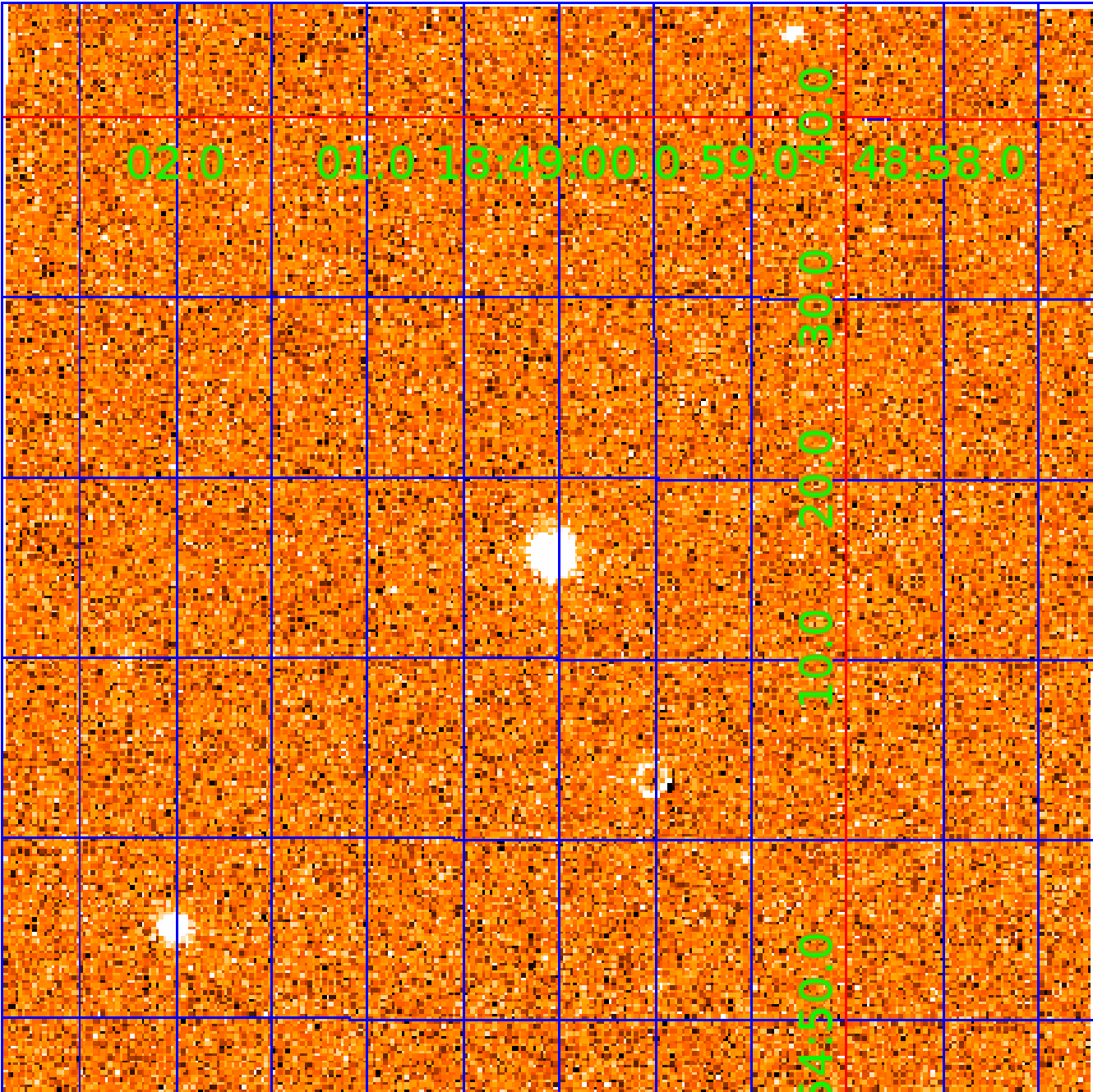


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 008733898

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})
008733898-01	OBS	2842.01	1.565401	132.919511	2706.3	0.670	33.5	44.7	0.33	3464	1.79	41.84
008733898-02	OBS	2842.03	3.036194	134.064857	1639.5	0.972	18.2	22.6	0.33	3464	1.37	17.30
008733898-03	OBS	2842.02	5.148870	133.330658	2181.8	1.074	17.2	21.1	0.33	3464	1.85	8.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008733898-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008733898-02	OBS	PC	0.95	0	0	0	0	NO_COMMENT
008733898-03	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

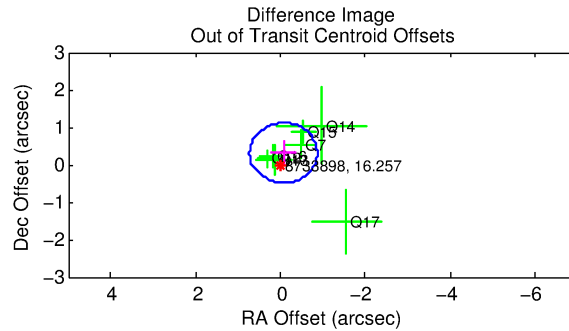
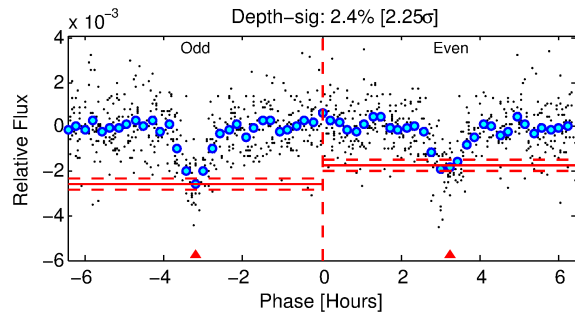
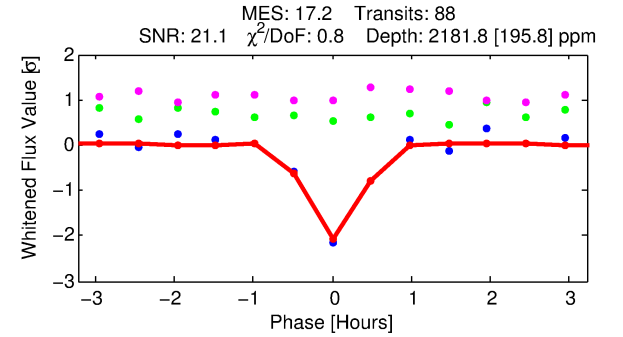
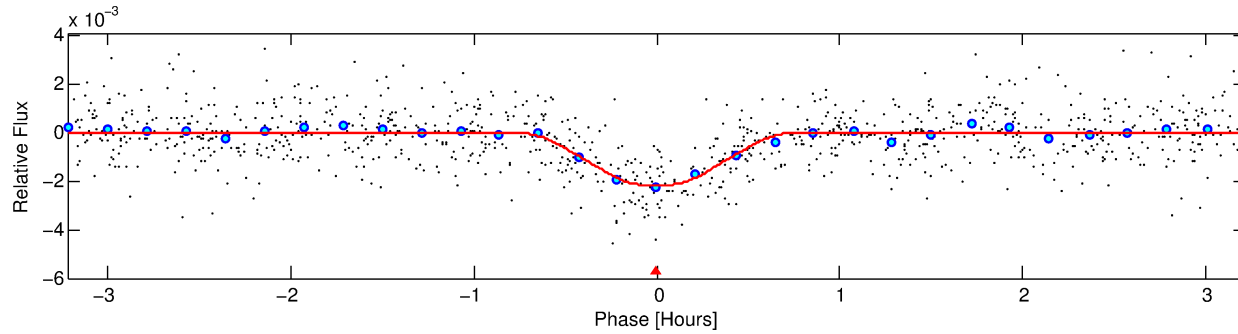
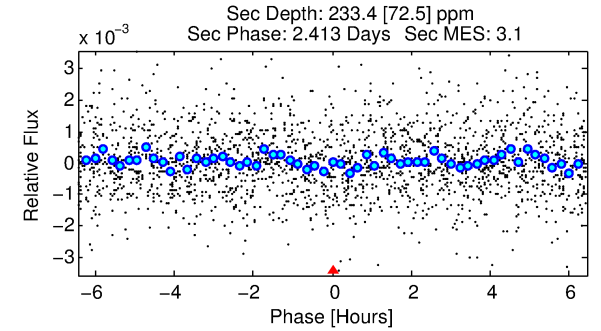
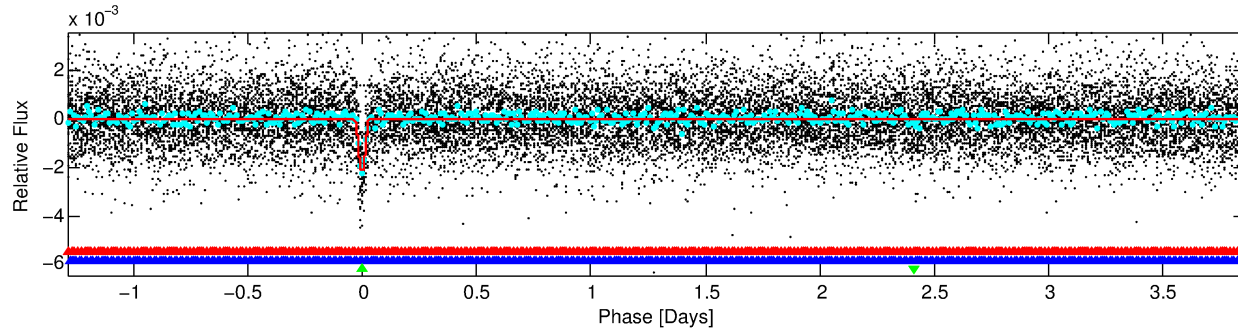
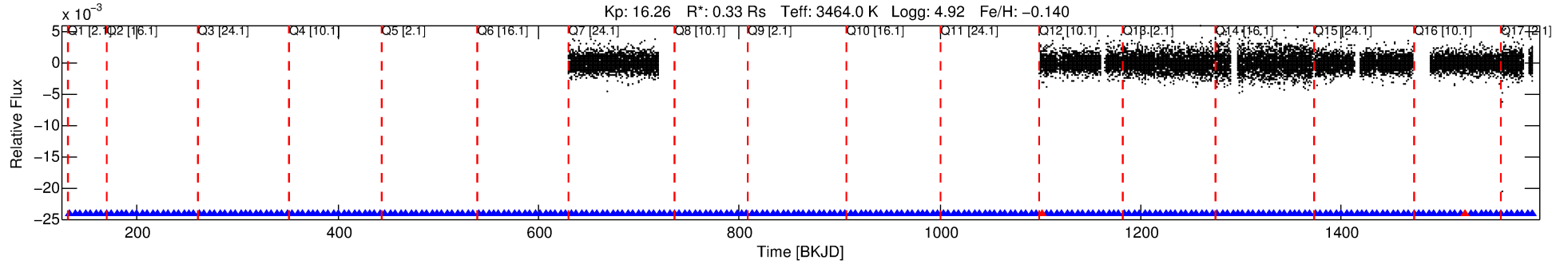
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008733898-03

No Significant Match Found

DV One-Page Summary

KIC: 8733898 Candidate: 3 of 3 Period: 5.149 d
KOI: K02842.02 Name: Kepler-446d Corr: 0.875



DV Fit Results:

Period = 5.14887 [0.00001] d
Epoch = 133.3307 [0.0012] BKJD
Rp/R* = 0.0517 [0.0110]
a/R* = 19.95 [15.69]
b = 0.90 [0.17]
Seff = 8.55 [1.13]
Teq = 436 [14] K
Rp = 1.85 [0.45] Re
a = 0.0403 [0.0035] AU
Ag = 60.84 [32.62] [1.83σ]
Teffp = 1883 [250] K [5.77σ]

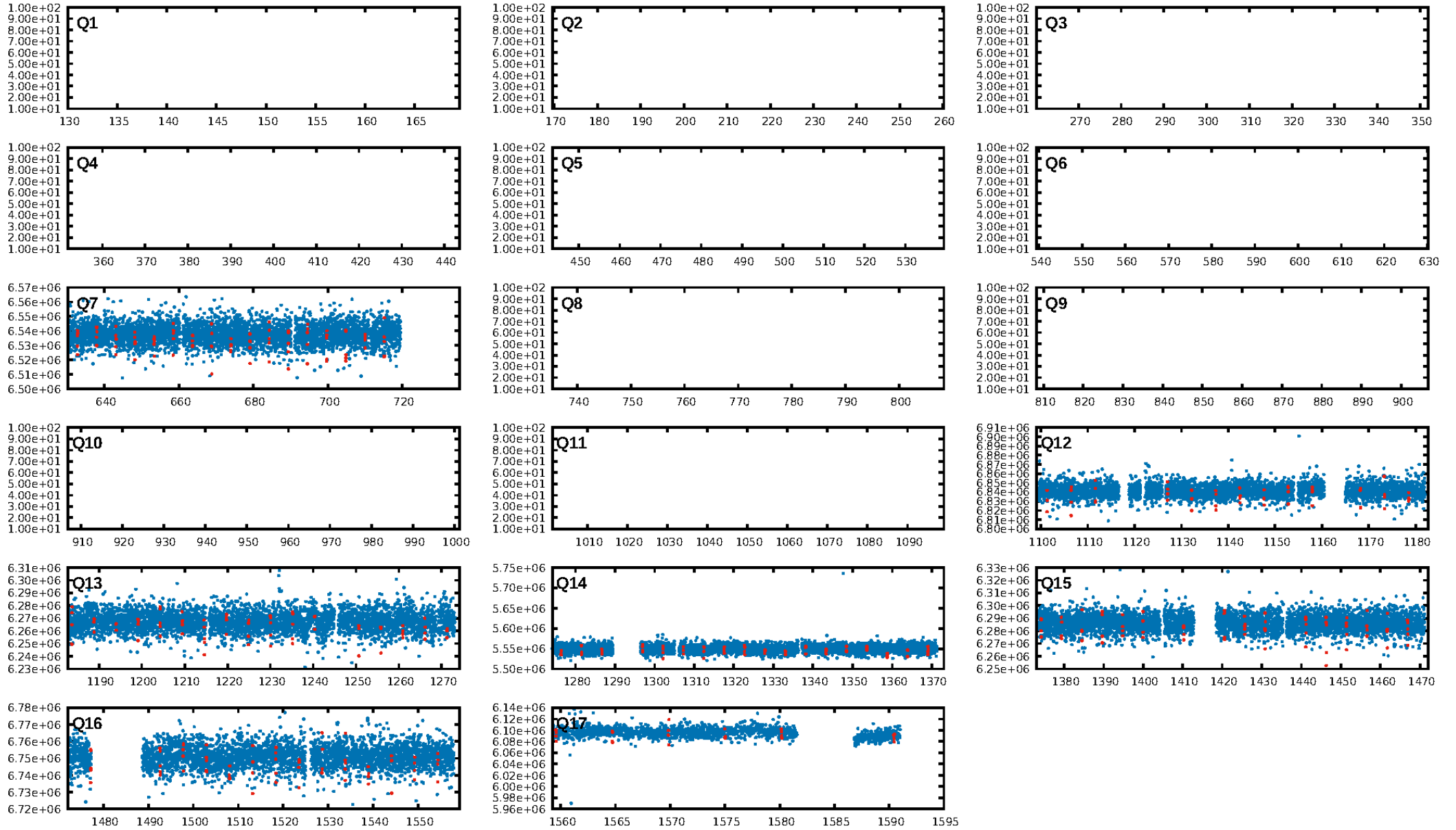
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [35.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.63e-68
RollingBand-fgt: 0.98 [80/82]
GhostDiagnostic-chr: 2.323
Centroid-sig: 75.9%
Centroid-so: 0.374 arcsec [0.51σ]
OotOffset-rm: 0.324 arcsec [1.22σ]
KicOffset-rm: 0.409 arcsec [1.61σ]
OotOffset-st: 1/2/2/2 [7]
KicOffset-st: 1/2/2/2 [7]
DiffImageQuality-fgm: 0.86 [6/7]
DiffImageOverlap-fno: 1.00 [7/7]

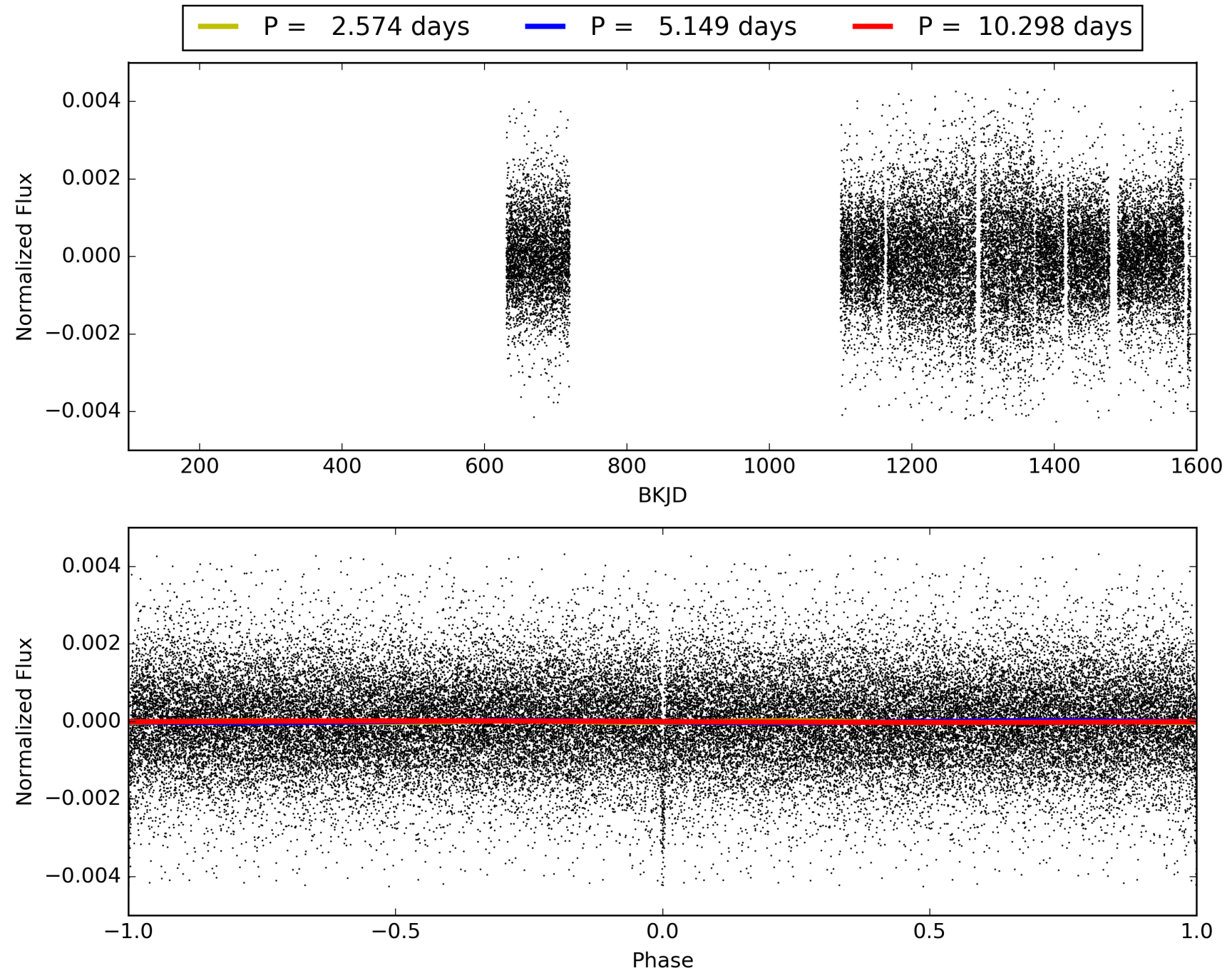
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 08:49:07 Z

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

TCE 008733898-03, PDC Light Curves

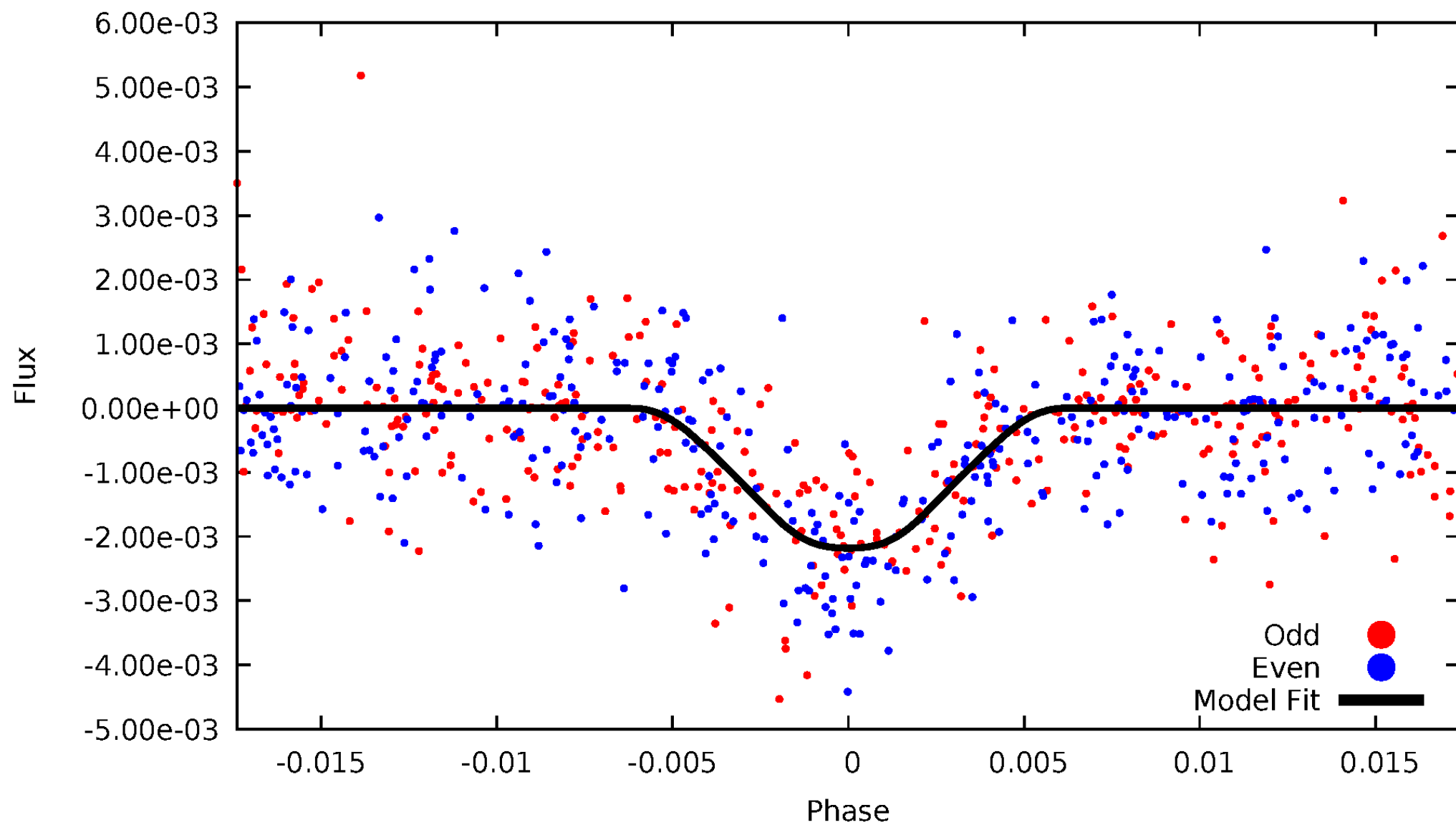


TCE 008733898-03



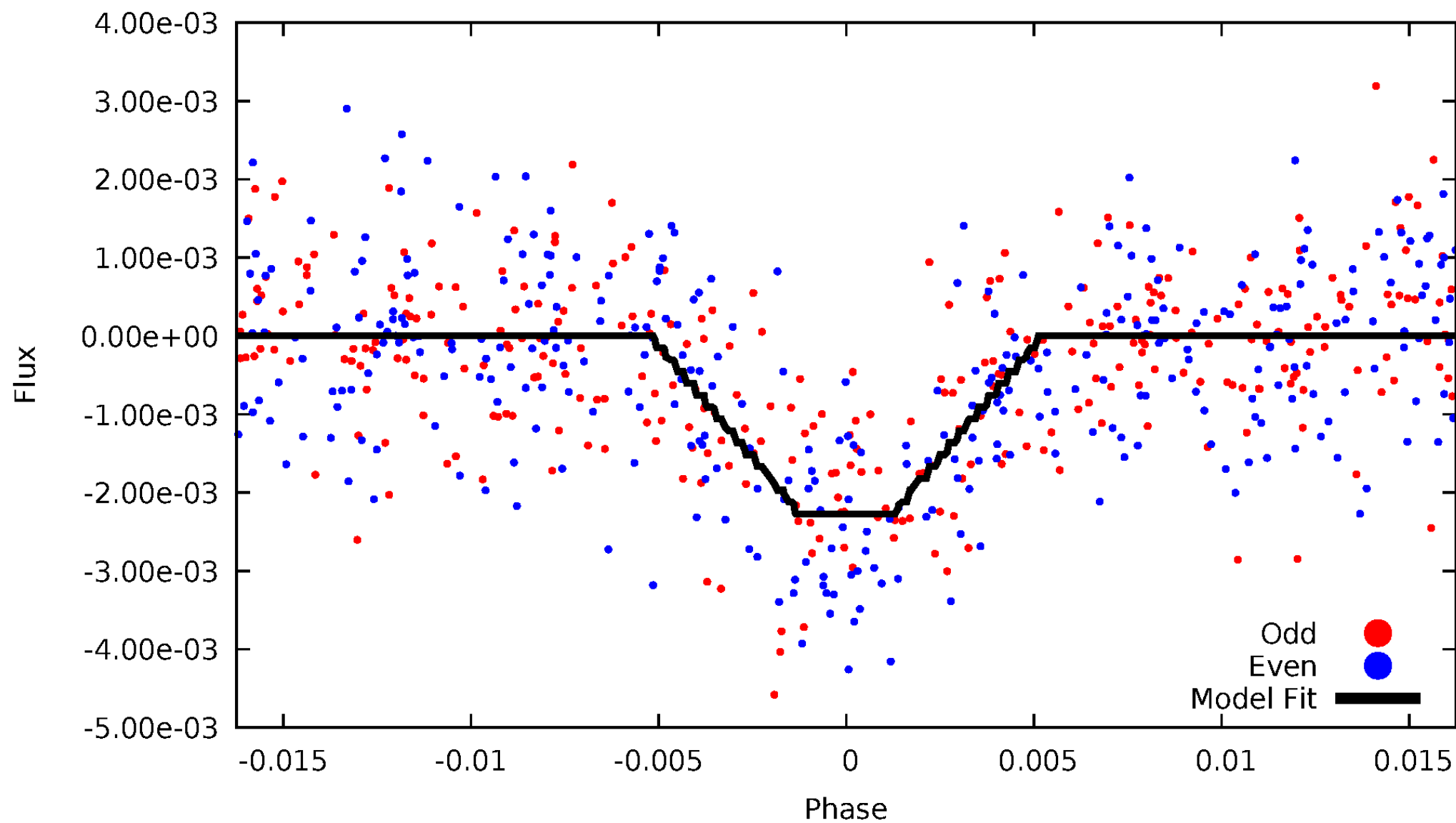
DV Odd/Even

TCE 008733898-03

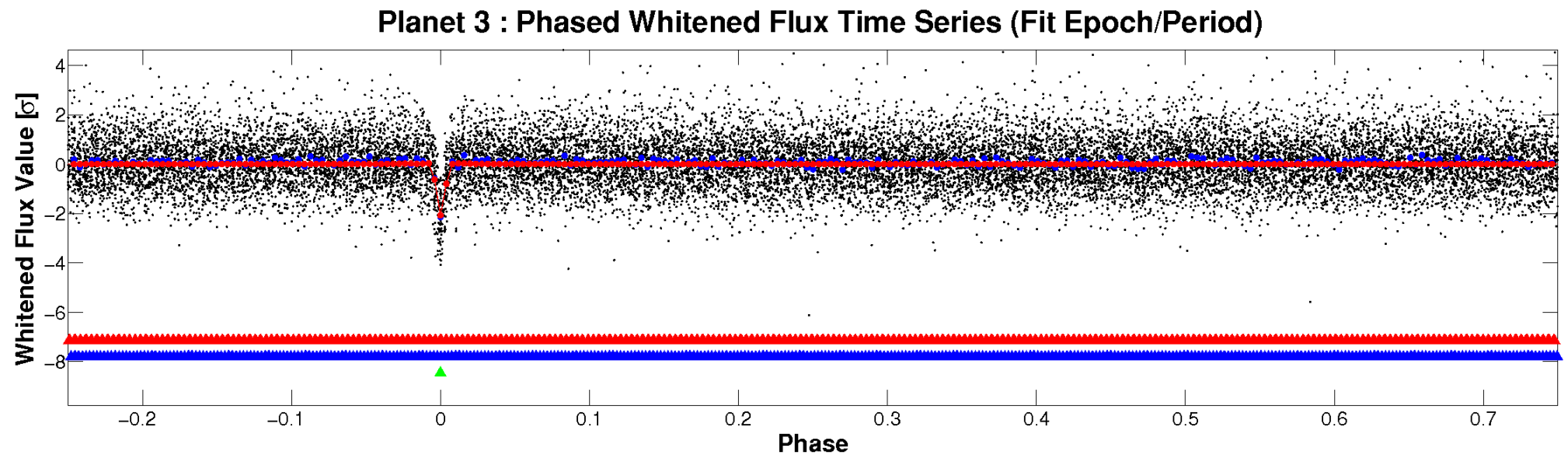
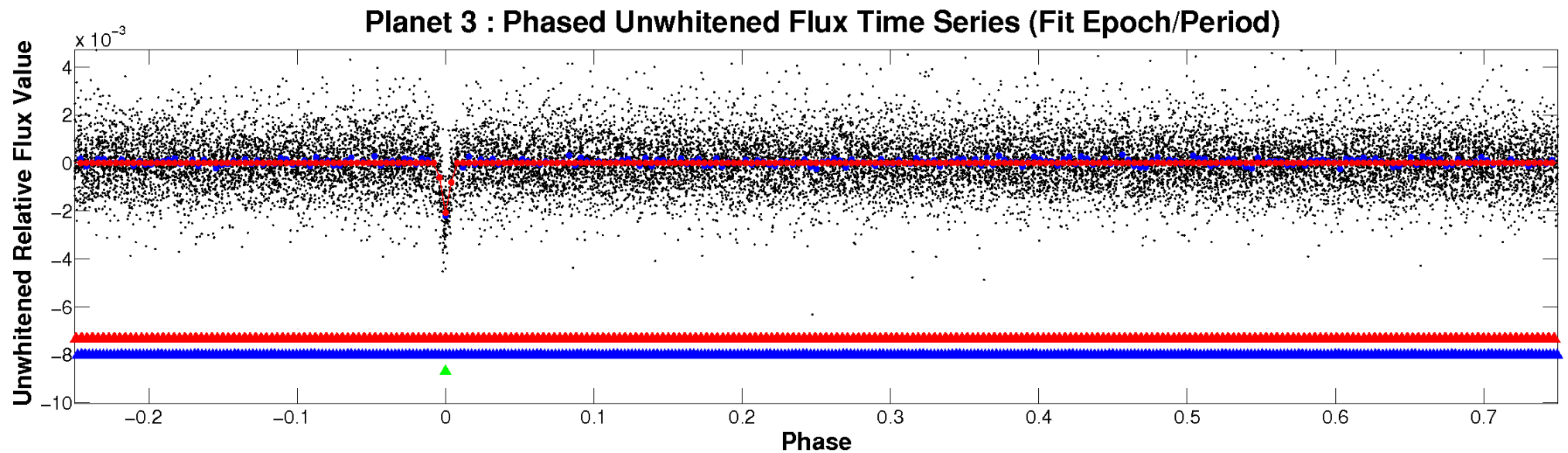


ALT Odd/Even

TCE 008733898-03

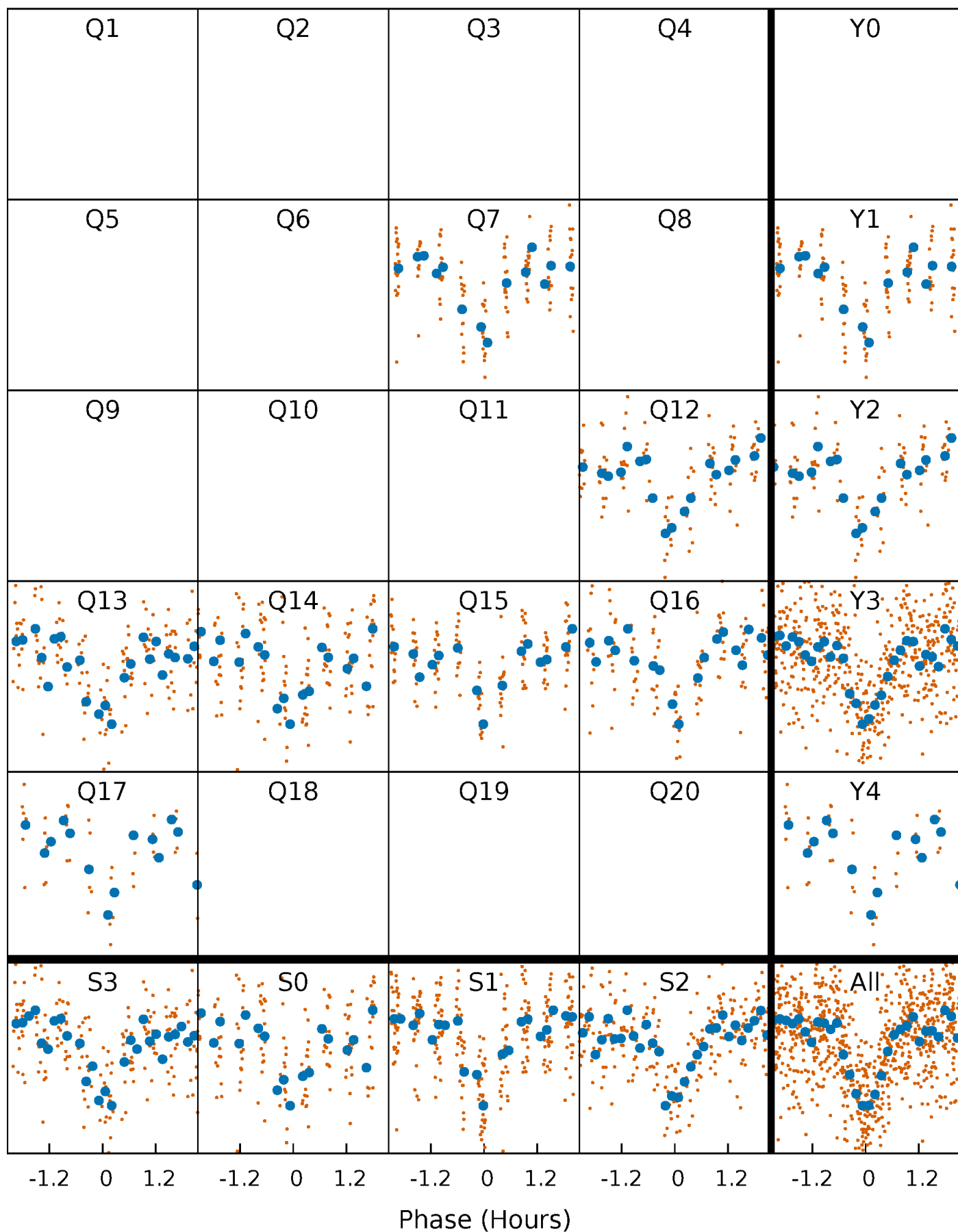


Non-Whitened Vs. Whitened Light Curve



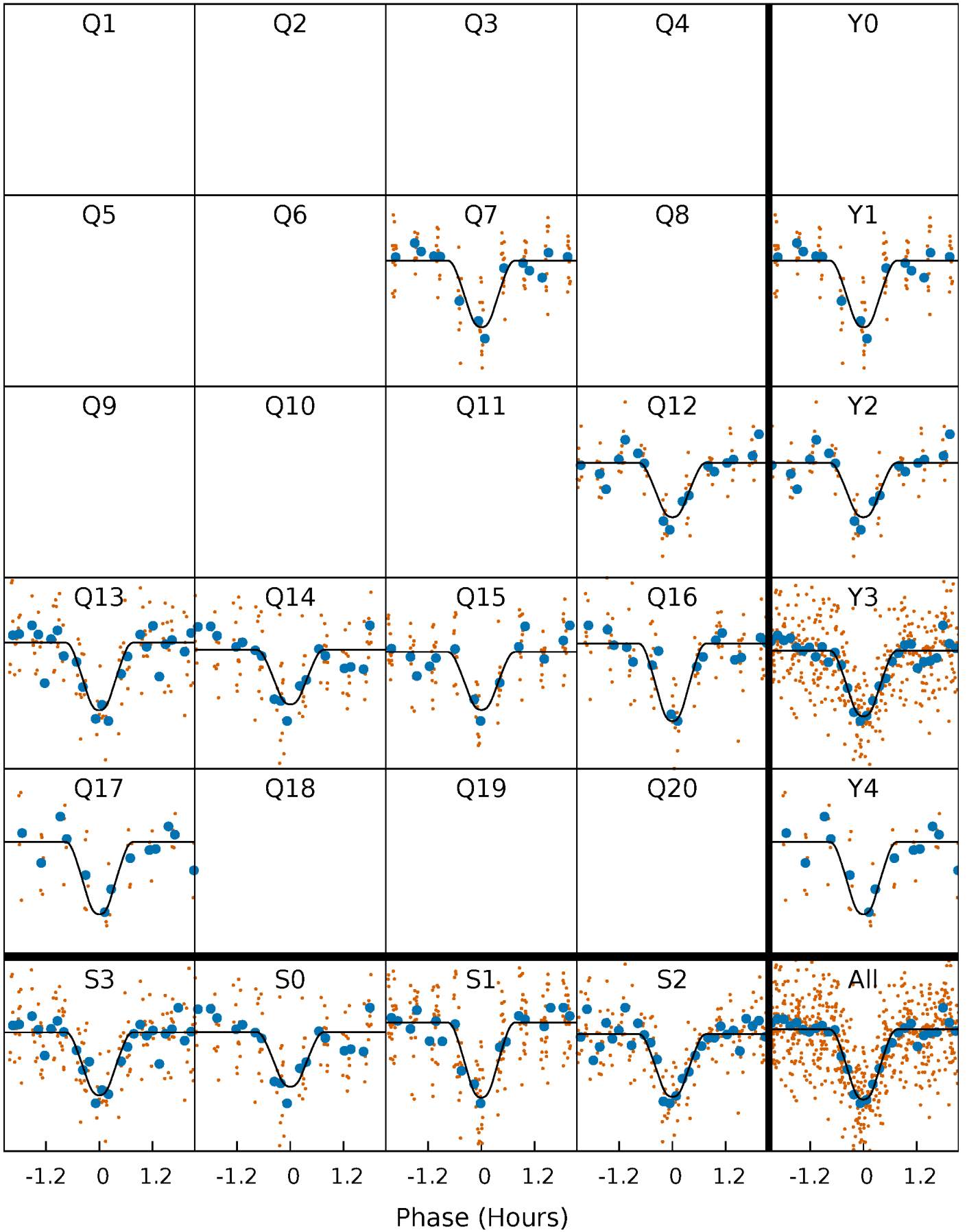
PDC Quarter-Phased Transit Curves

TCE 008733898-03 P= 5.148870 Days $T_0=133.330658$ (BKJD)



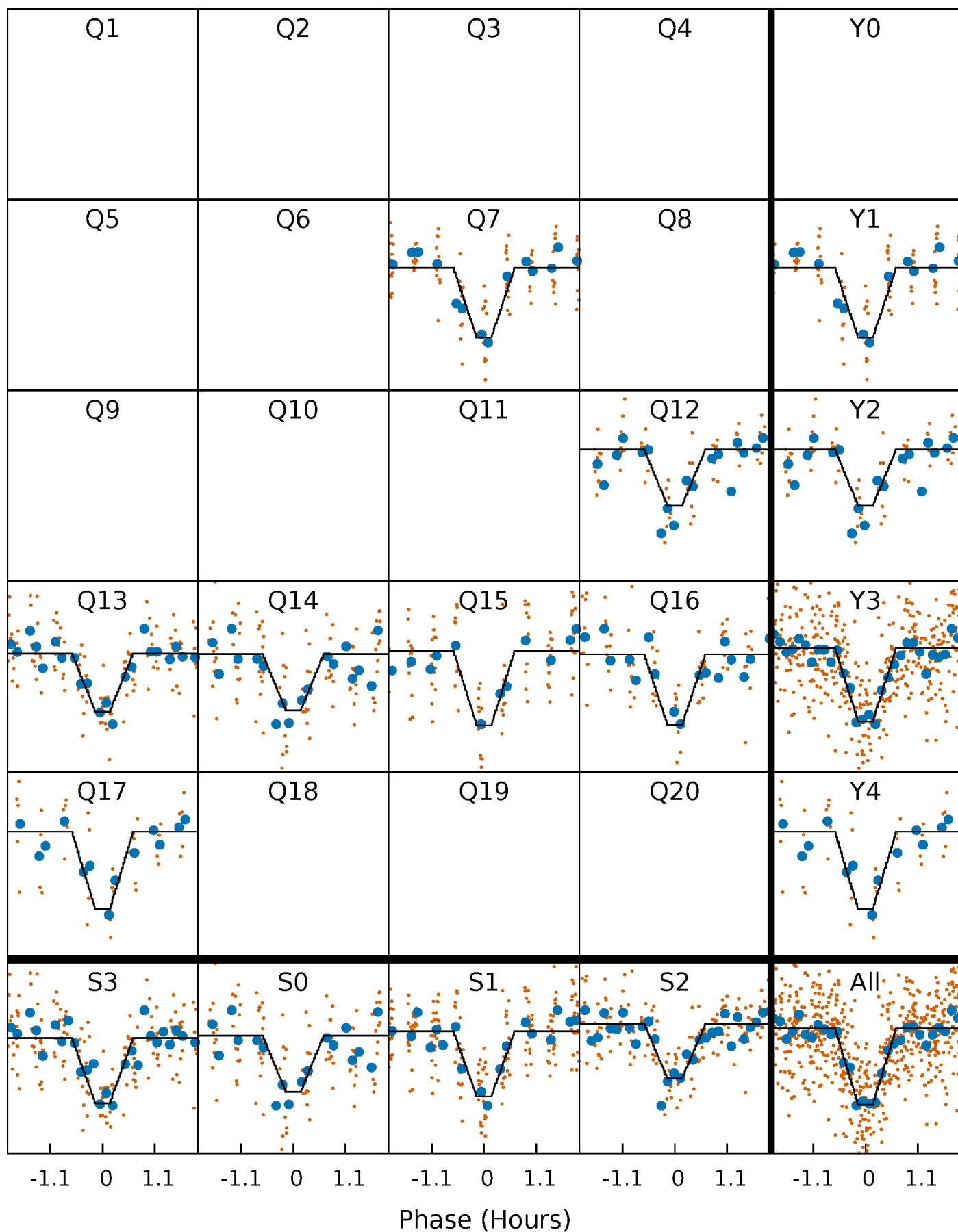
DV Quarter-Phased Transit Curves

TCE 008733898-03 P= 5.148870 Days $T_0=133.330658$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

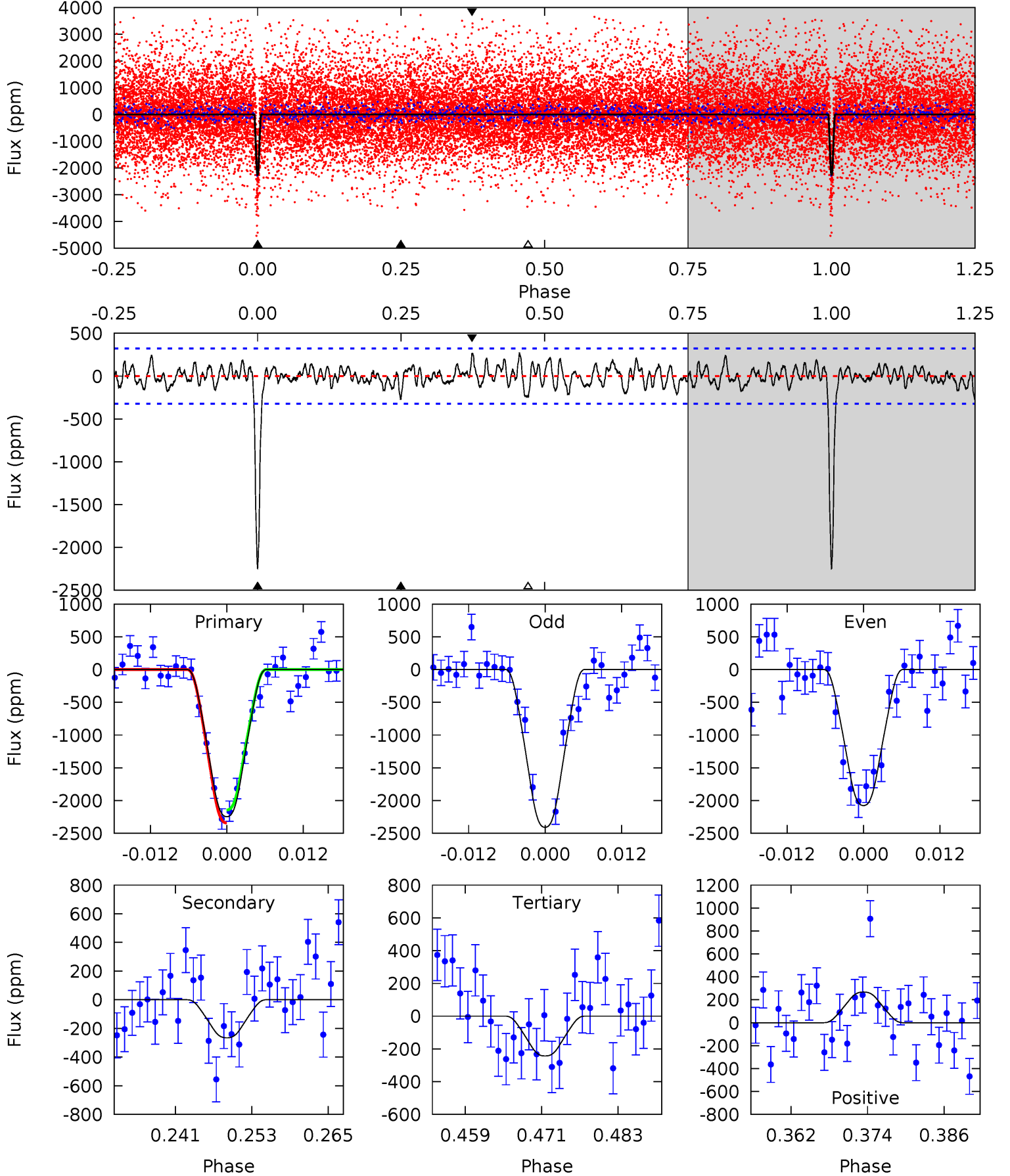
TCE 008733898-03 $P = 5.148871$ Days $T_0 = 133.330126$ (BKJD)



DV Model-Shift Uniqueness Test

008733898-03, P = 5.148870 Days, E = 133.330658 Days

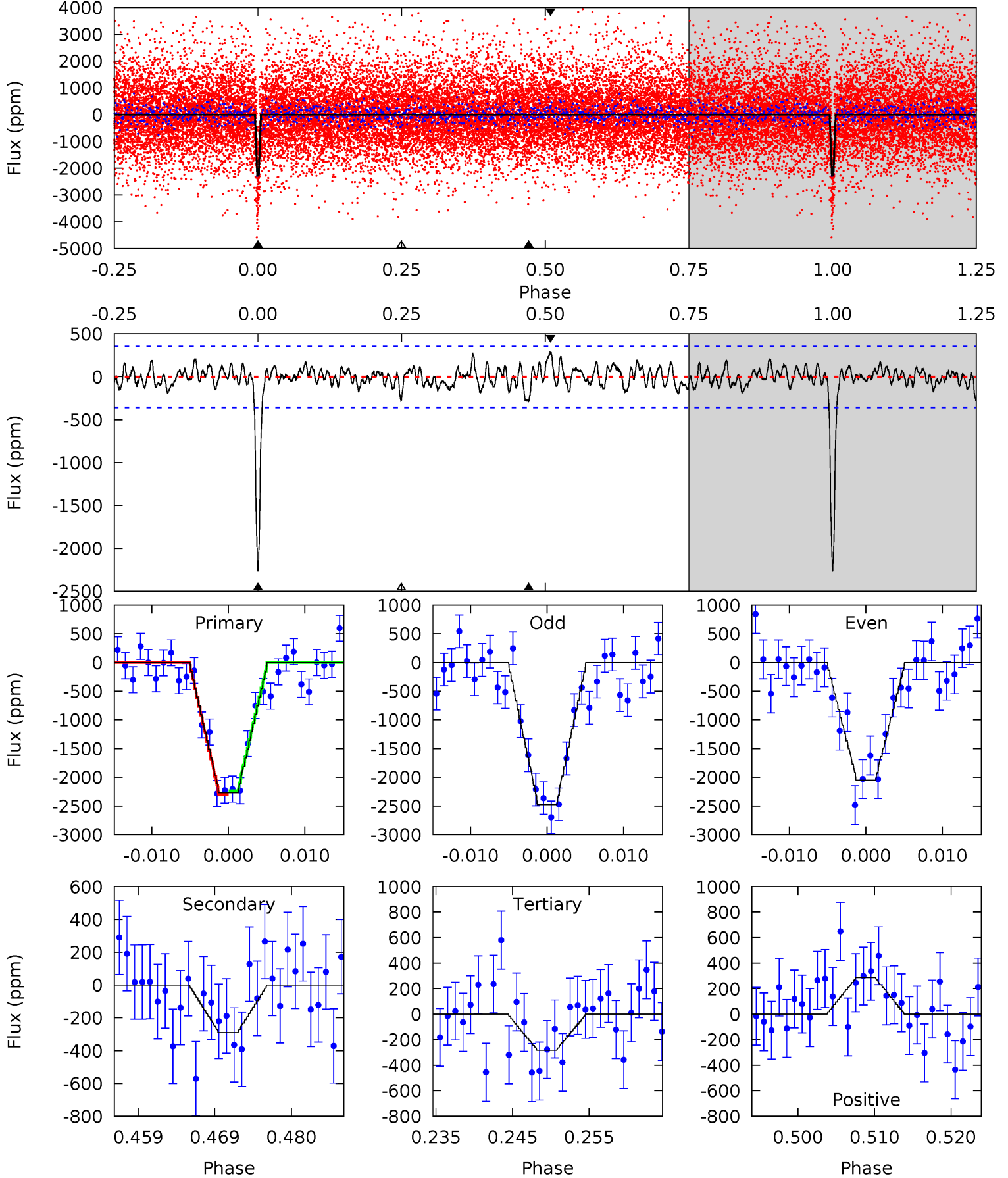
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.7	4.11	3.76	4.13	4.99	2.51	1.44	31.0	30.6	0.35	-0.03	2.59	1.06	0.11	1.55



Alt Model-Shift Uniqueness Test

008733898-03, P = 5.148871 Days, E = 133.330126 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.8	4.06	3.97	4.03	5.02	2.57	1.29	27.8	27.8	0.09	0.03	2.99	1.01	0.11	0.40



Stellar Parameters For KIC 008733898

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3464^{+69}_{-55}	$4.923^{+0.044}_{-0.044}$	$-0.140^{+0.150}_{-0.150}$	$0.328^{+0.040}_{-0.036}$	$0.328^{+0.053}_{-0.043}$	$13.110^{+3.210}_{-2.579}$
	+2%/-2%	+1%/-1%	+107%/-107%	+12%/-11%	+16%/-13%	+24%/-20%
Source	SPE86	PHO2	SPE86	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008733898-03 / KOI 2842.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-266 ± 65	$1.85^{+0.42}_{-0.40}$	611^{+16}_{-15}	2512^{+190}_{-143}	68^{+52}_{-27}
Alt.	-290 ± 71	$1.72^{+0.43}_{-0.43}$	611^{+16}_{-17}	2594^{+217}_{-167}	86^{+75}_{-35}

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 $A_{obs} \gg 1.0$

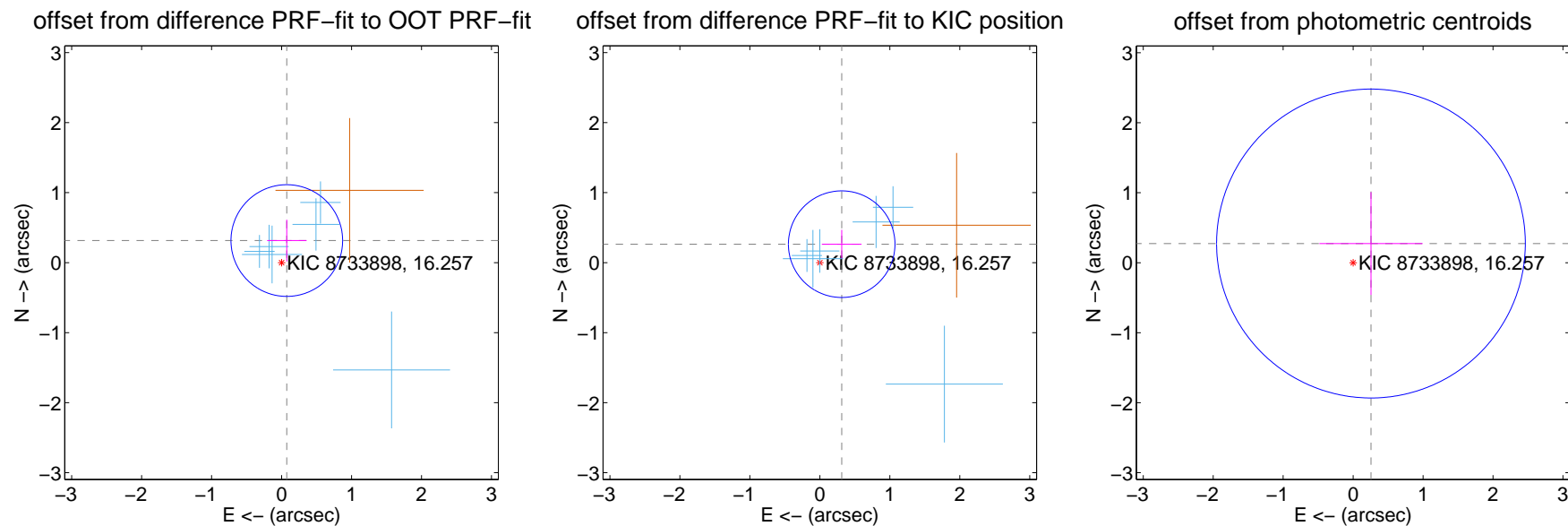
DV Centroid Data

Supplemental centroid analysis for 008733898-03. Kepler magnitude: 16.26. Transit SNR 21.12

There are 6 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.324 ± 0.266	1.22	-0.075 ± 0.283	0.315 ± 0.298
PRF-fit source offset from KIC position	0.409 ± 0.254	1.61	-0.312 ± 0.284	0.264 ± 0.205
photometric centroid source offset	0.37 ± 0.74	0.51	-0.26 ± 0.74	0.27 ± 0.73



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.

Q5 no difference image



Q5 no OOT image



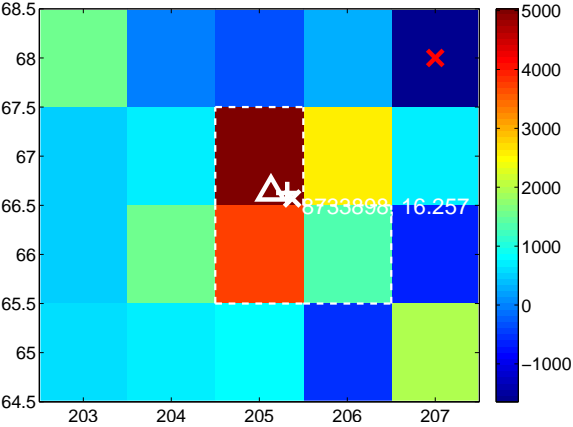
Q6 no difference image



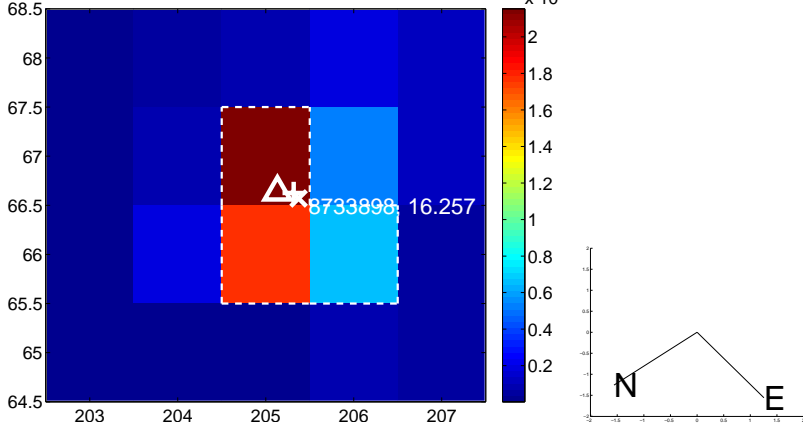
Q6 no OOT image



Q7 difference image



Q7 OOT image



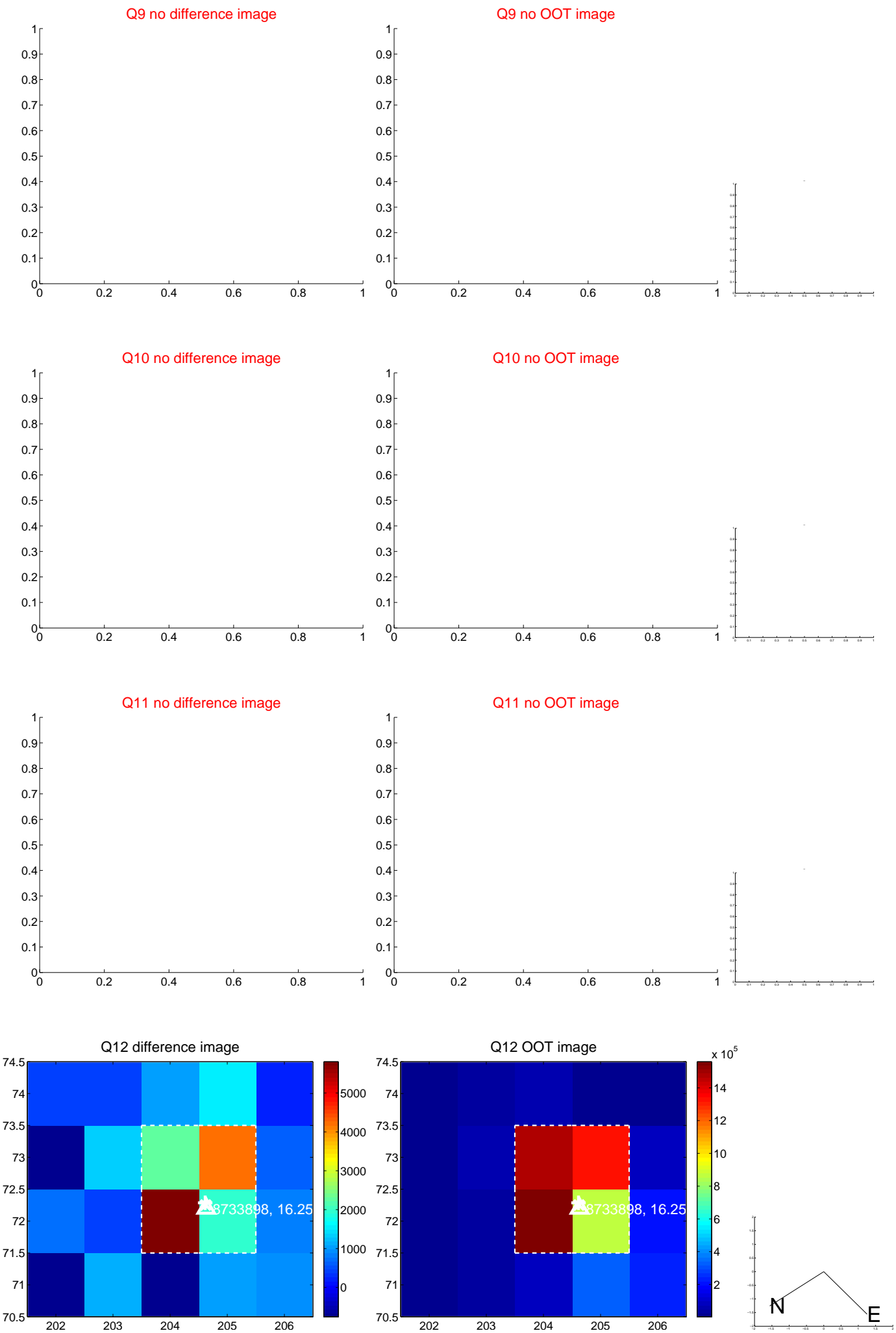
Q8 no difference image



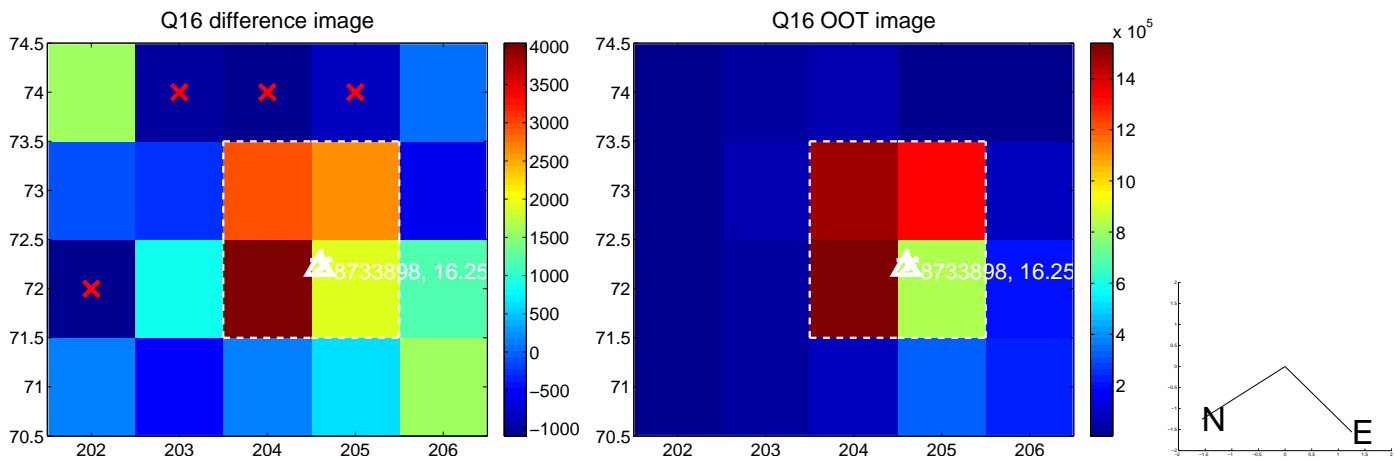
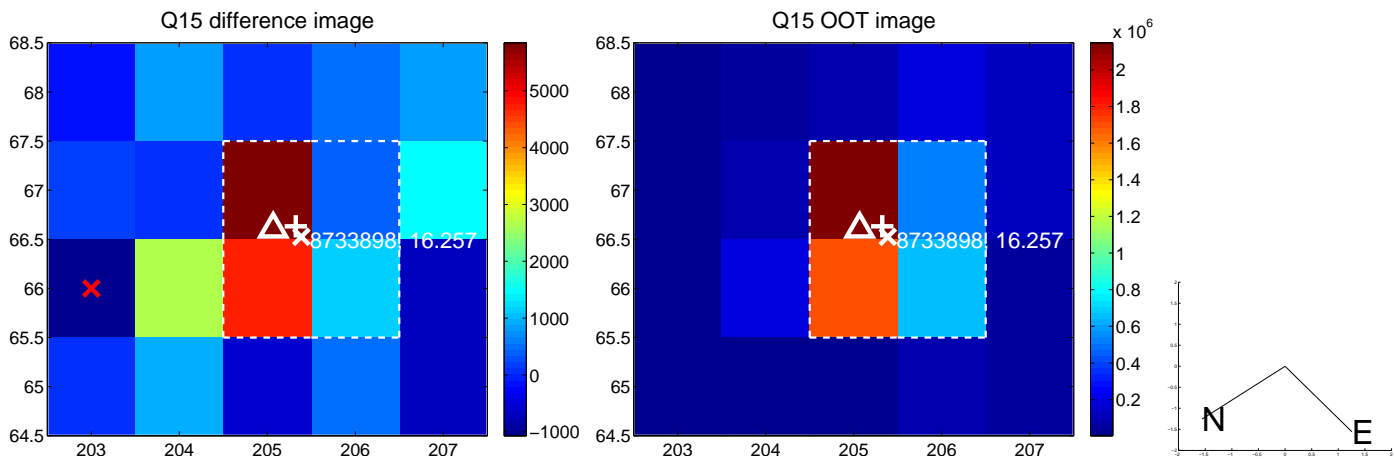
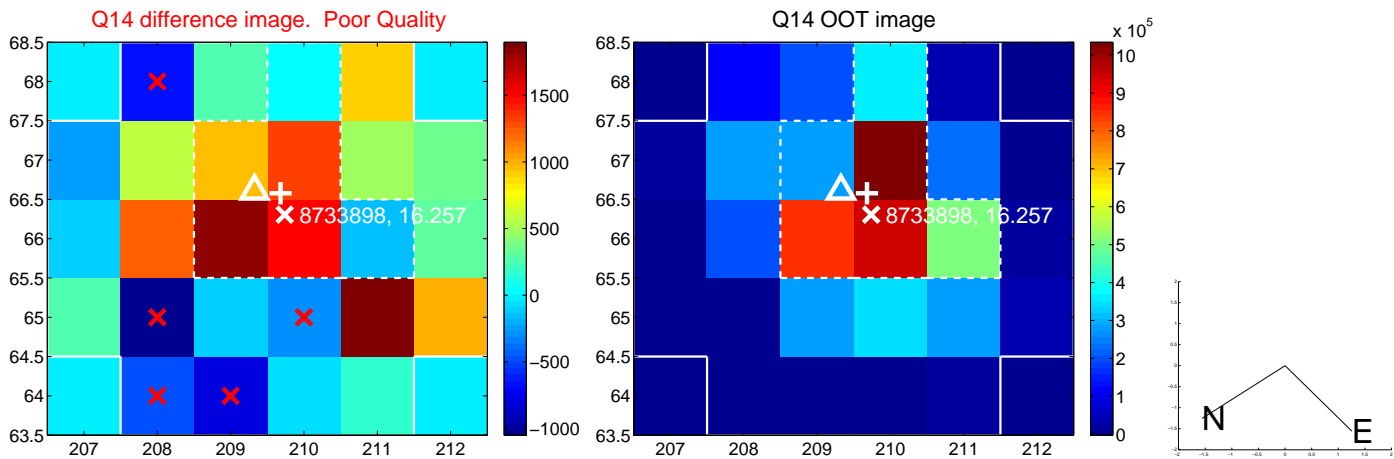
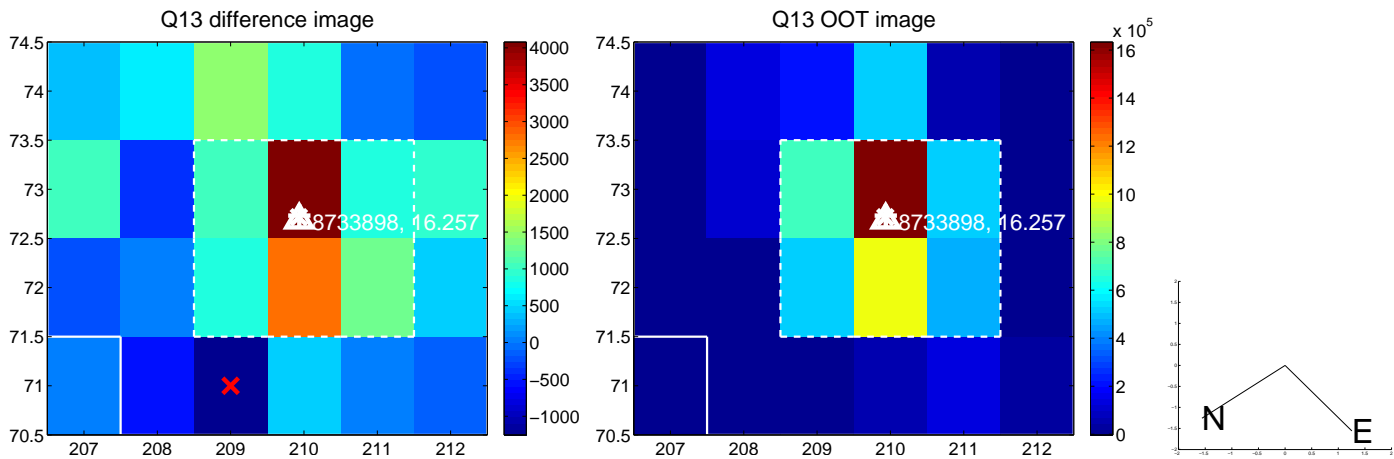
Q8 no OOT image



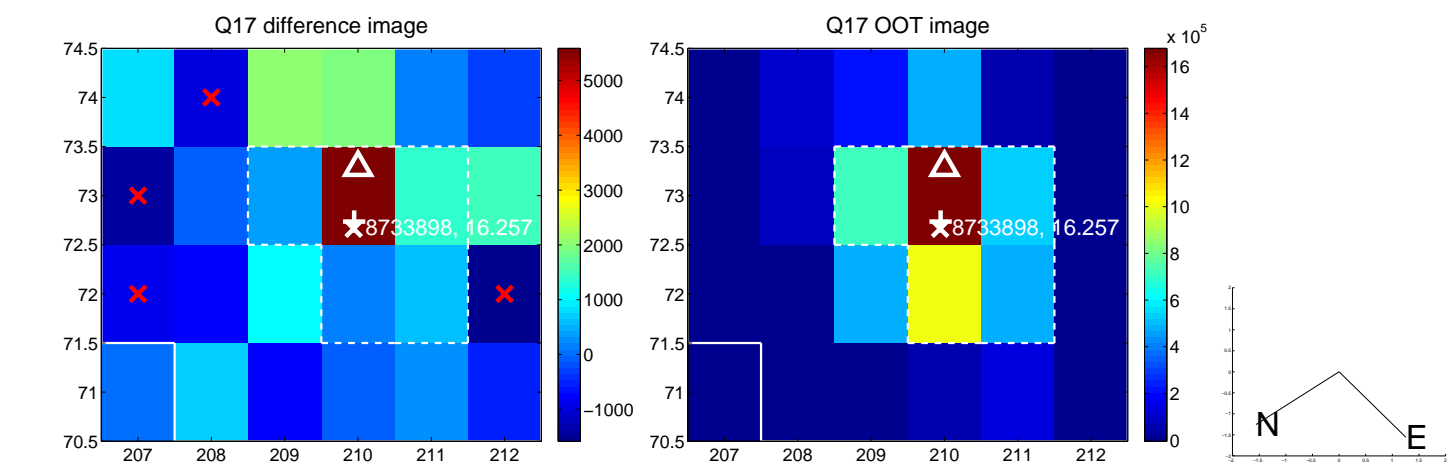
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



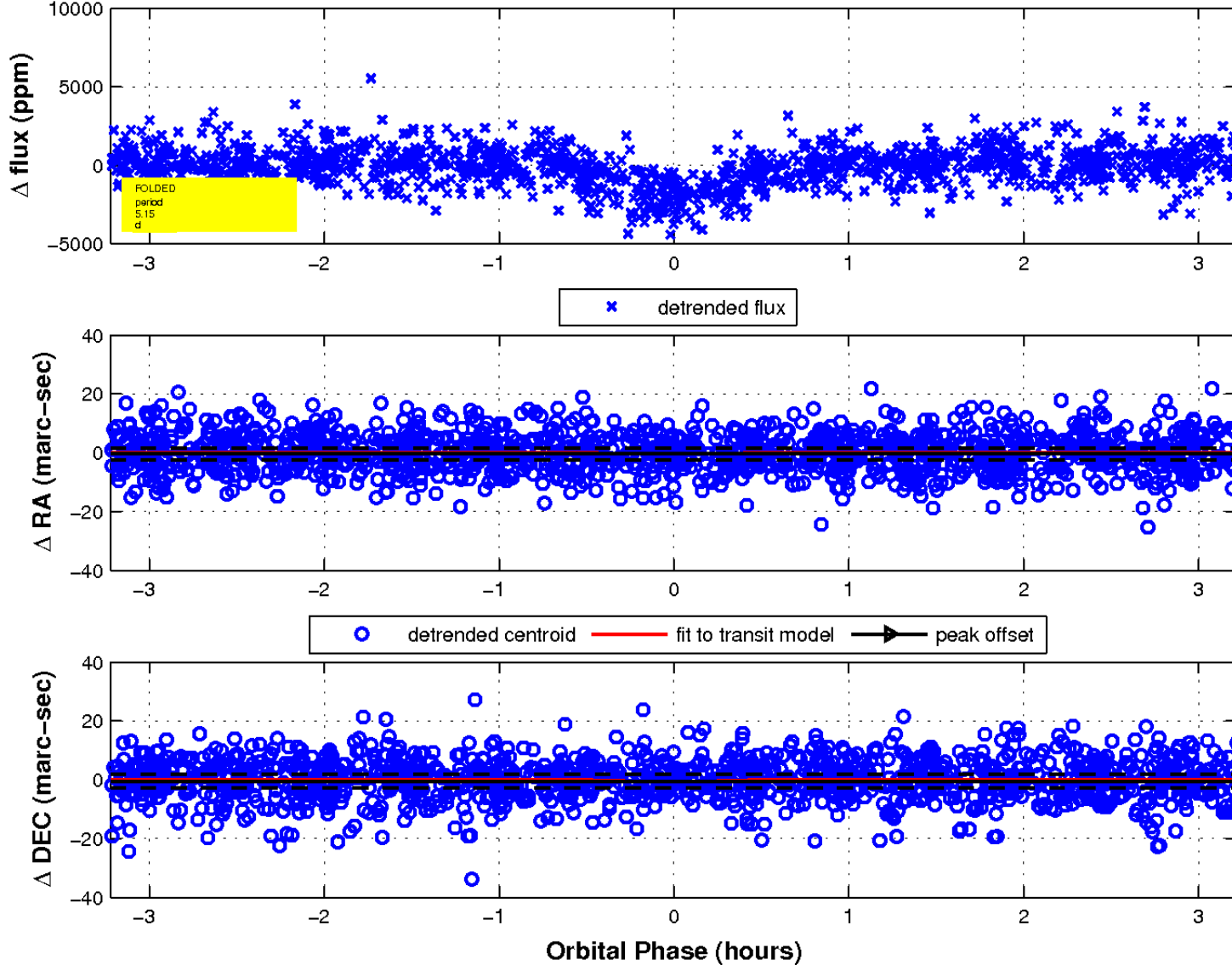
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

