

KIC 005818068

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})
005818068-01	OBS	3332.01	14.126774	137.903508	7711.9	5.834	176.8	151.1	0.78	5656	11.96	47.69
005818068-02	OBS	No	14.126741	134.434129	4687.5	5.952	118.8	103.9	0.78	5656	9.25	47.69
005818068-03	OBS	No	385.177244	290.654428	11068.0	25.358	25.8	31.2	0.78	5656	9.19	0.58
005818068-04	OBS	No	347.941645	340.274480	10536.9	23.581	25.9	25.9	0.78	5656	8.95	0.67
005818068-06	OBS	No	372.776819	278.193745	12716.4	25.520	25.0	32.7	0.78	5656	9.82	0.61
005818068-07	OBS	No	360.349029	320.336863	12126.7	29.771	24.6	35.6	0.78	5656	9.79	0.64
005818068-08	OBS	No	385.172458	283.104389	11740.6	31.154	24.9	34.9	0.78	5656	9.82	0.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005818068-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-03	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
005818068-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS
005818068-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—SAME_NTL_PERIOD—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.

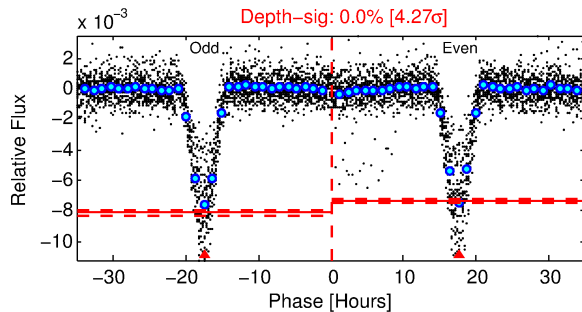
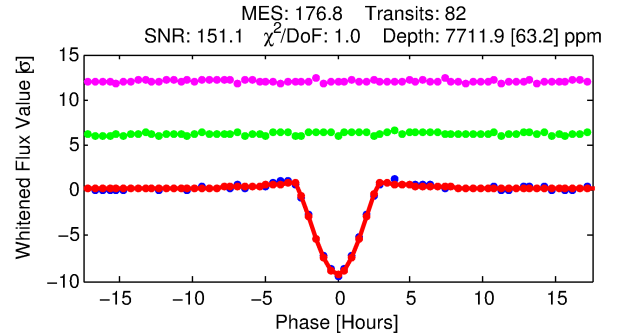
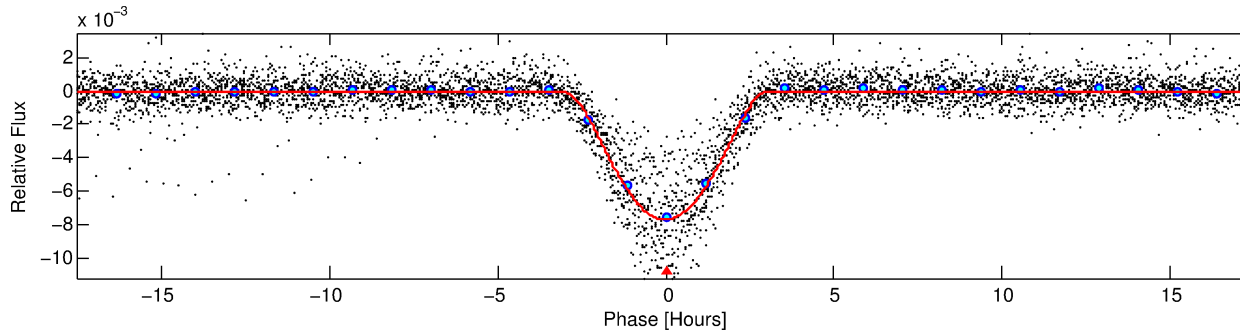
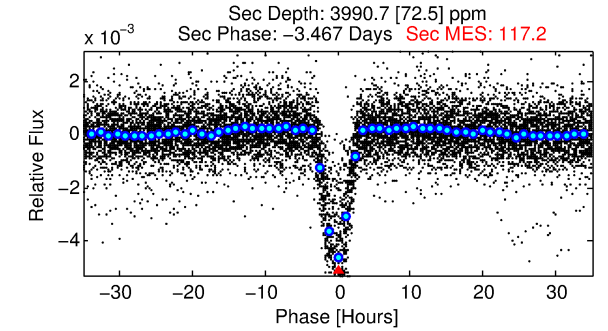
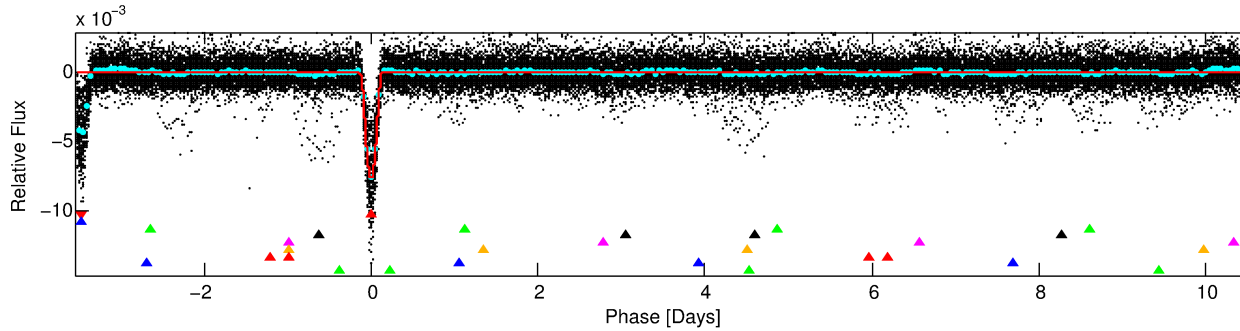
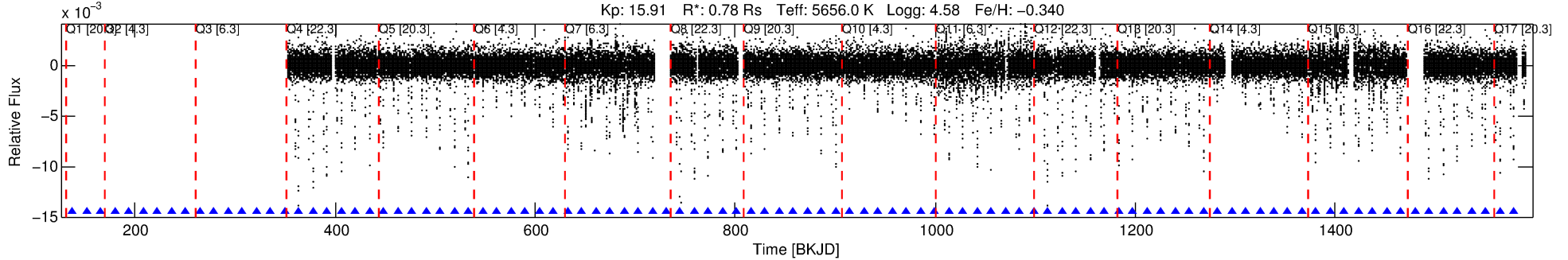
Ephemeris Match Information For 005818068-01

No Significant Match Found

DV One-Page Summary

KIC: 5818068 Candidate: 1 of 9 Period: 14.127 d
KOI: K03332.01 Corr: 0.987

Kp: 15.91 R*: 0.78 Rs Teff: 5656.0 K Logg: 4.58 Fe/H: -0.340



DV Fit Results:

Period = 14.12677 [0.00002] d
Epoch = 137.9035 [0.0010] BKJD
Rp/R* = 0.1398 [0.0341]
a/R* = 10.49 [0.44]
b = 0.99 [0.05]
Seff = 47.69 [15.72]
Teq = 670 [55] K
Rp = 11.96 [4.30] Re
a = 0.1087 [0.0233] AU
Ag = 181.42 [104.27] [1.73σ]
Teff = 3802 [481] K [6.47σ]

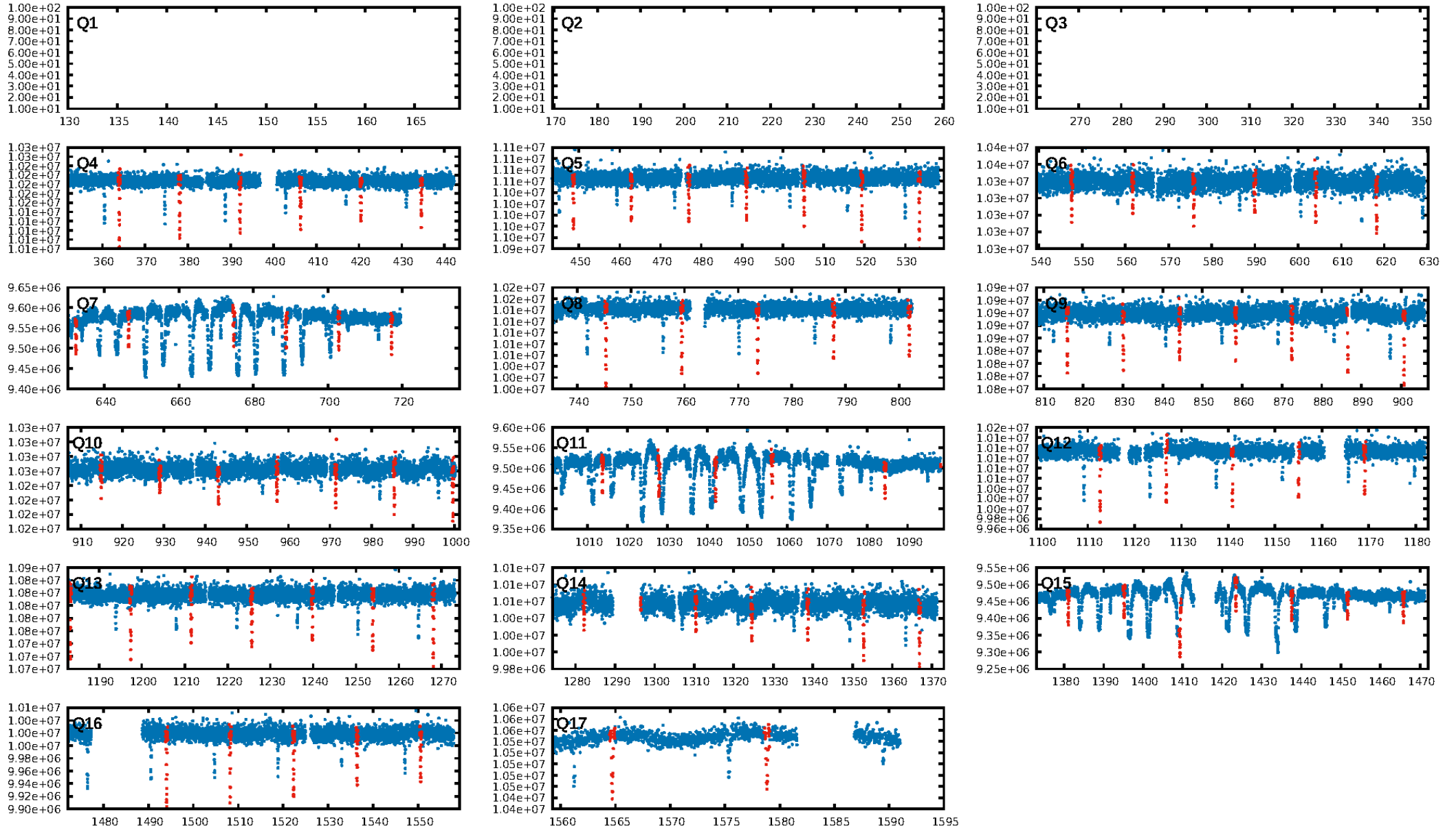
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [329.80σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [80/80]
GhostDiagnostic-chr: -0.3948
Centroid-sig: 0.0%
Centroid-so: 26.479 arcsec [391.05σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [14/14]

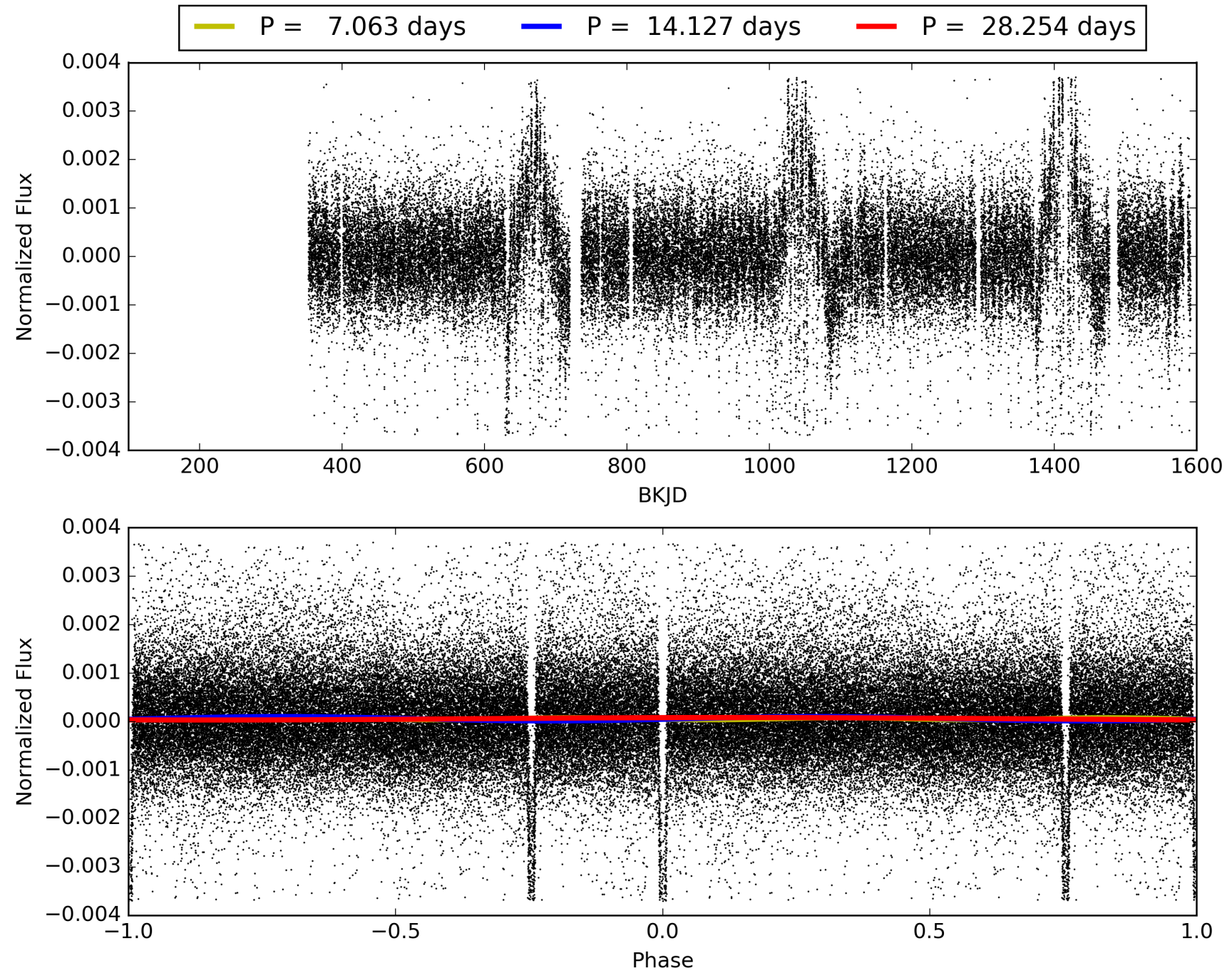
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:34:22 Z

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

TCE 005818068-01, PDC Light Curves

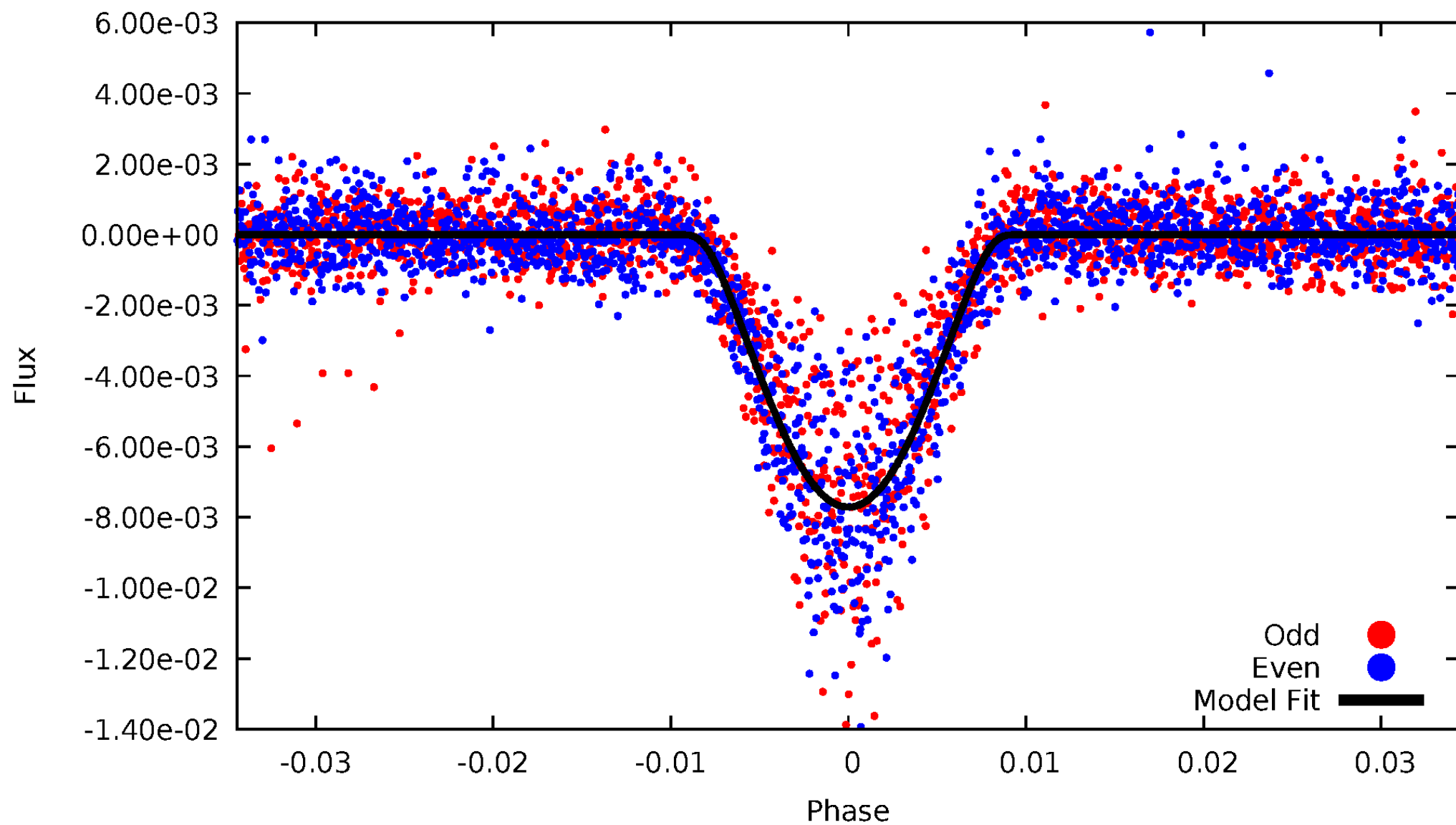


TCE 005818068-01



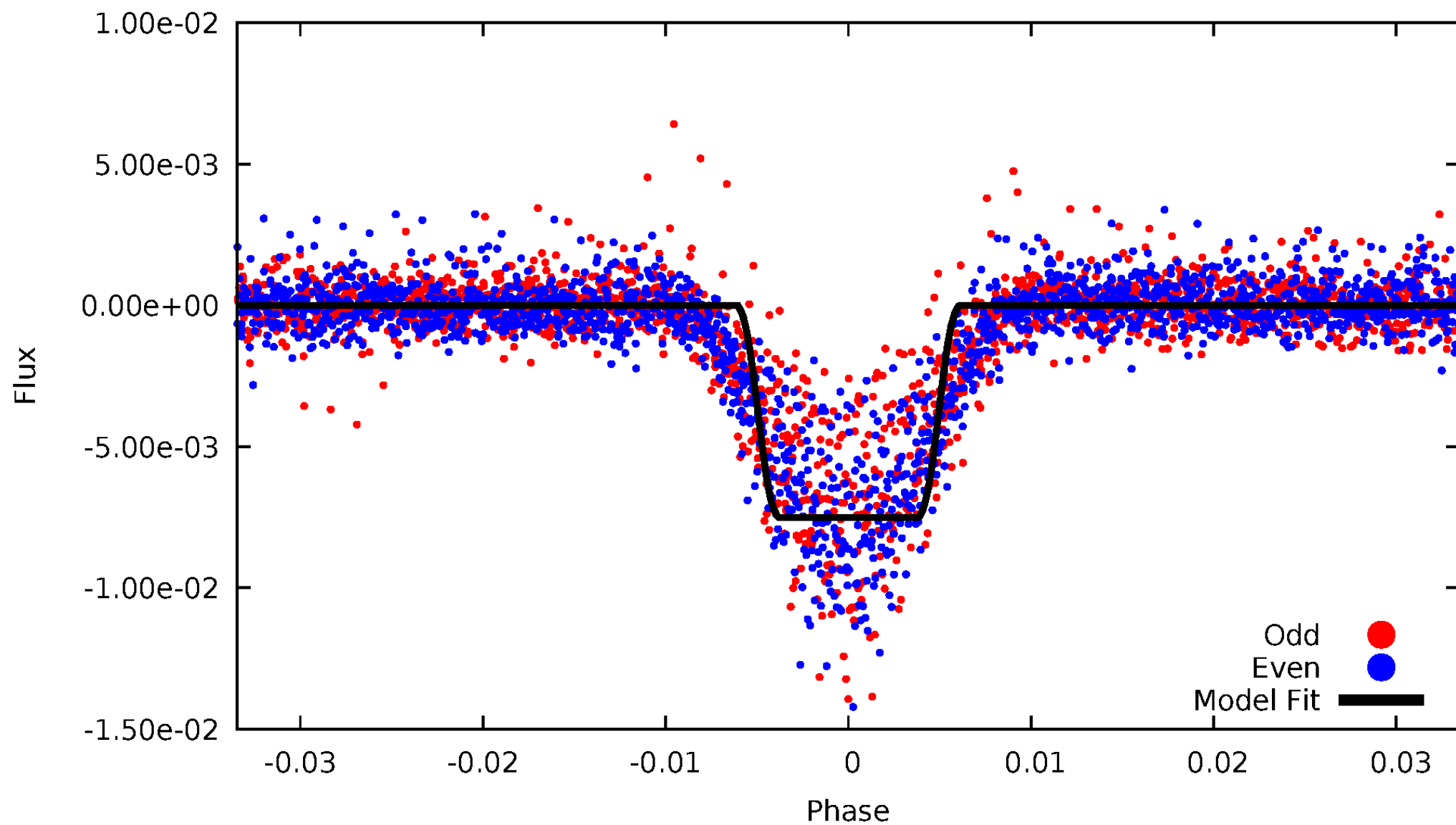
DV Odd/Even

TCE 005818068-01



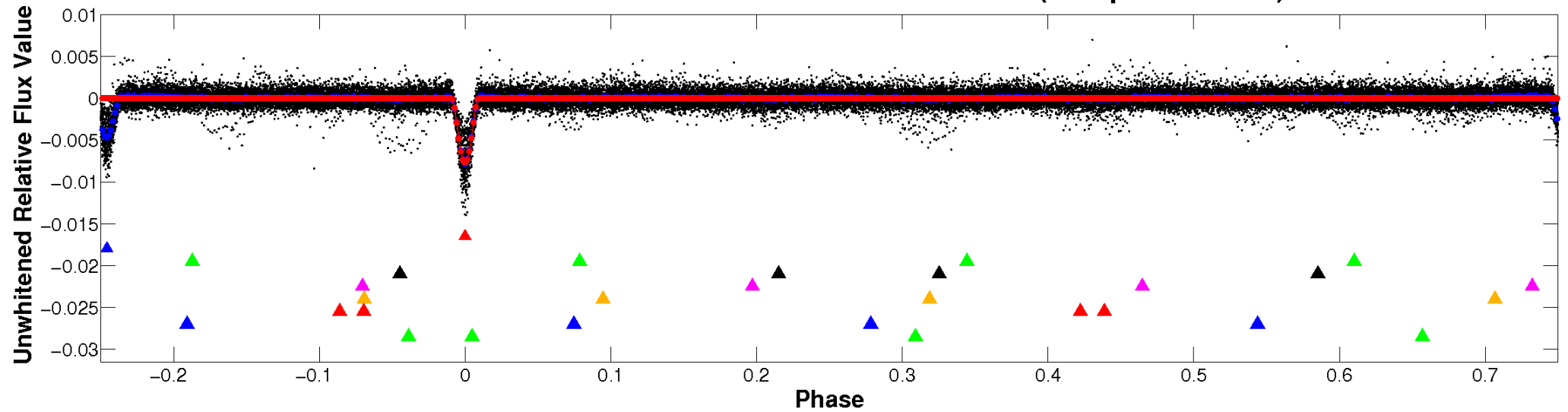
ALT Odd/Even

TCE 005818068-01

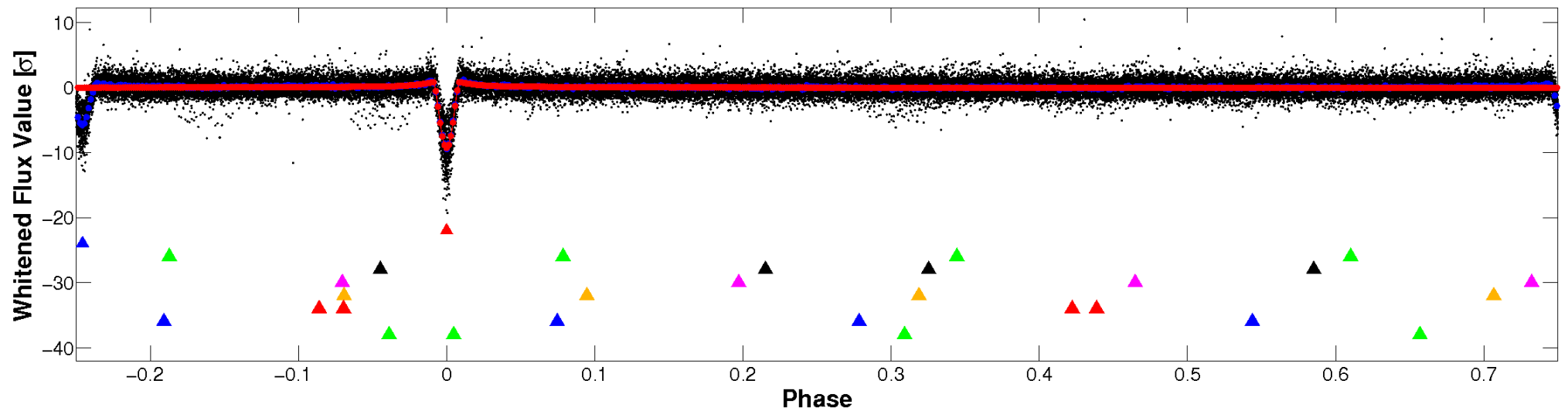


Non-Whitened Vs. Whitened Light Curve

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

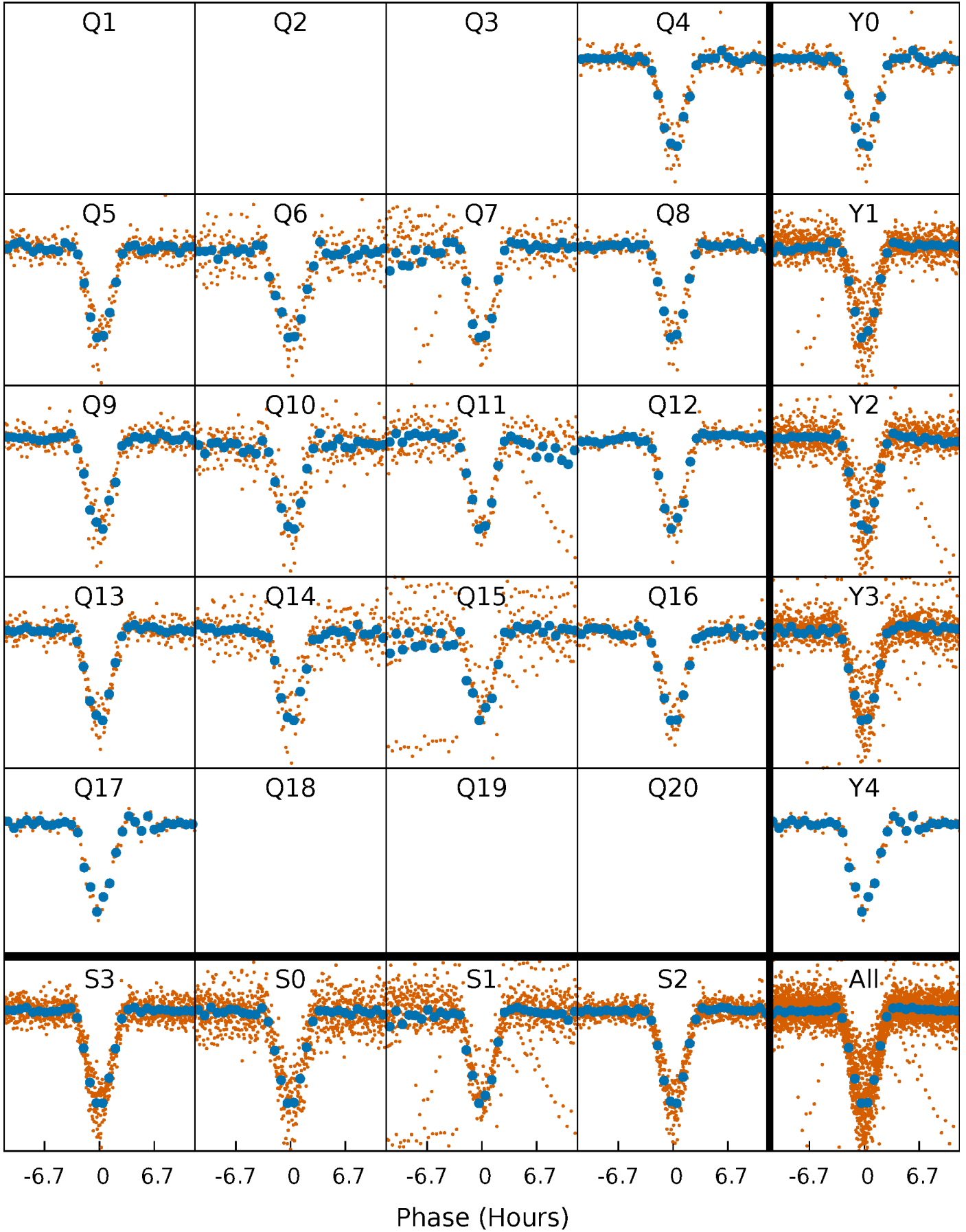


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



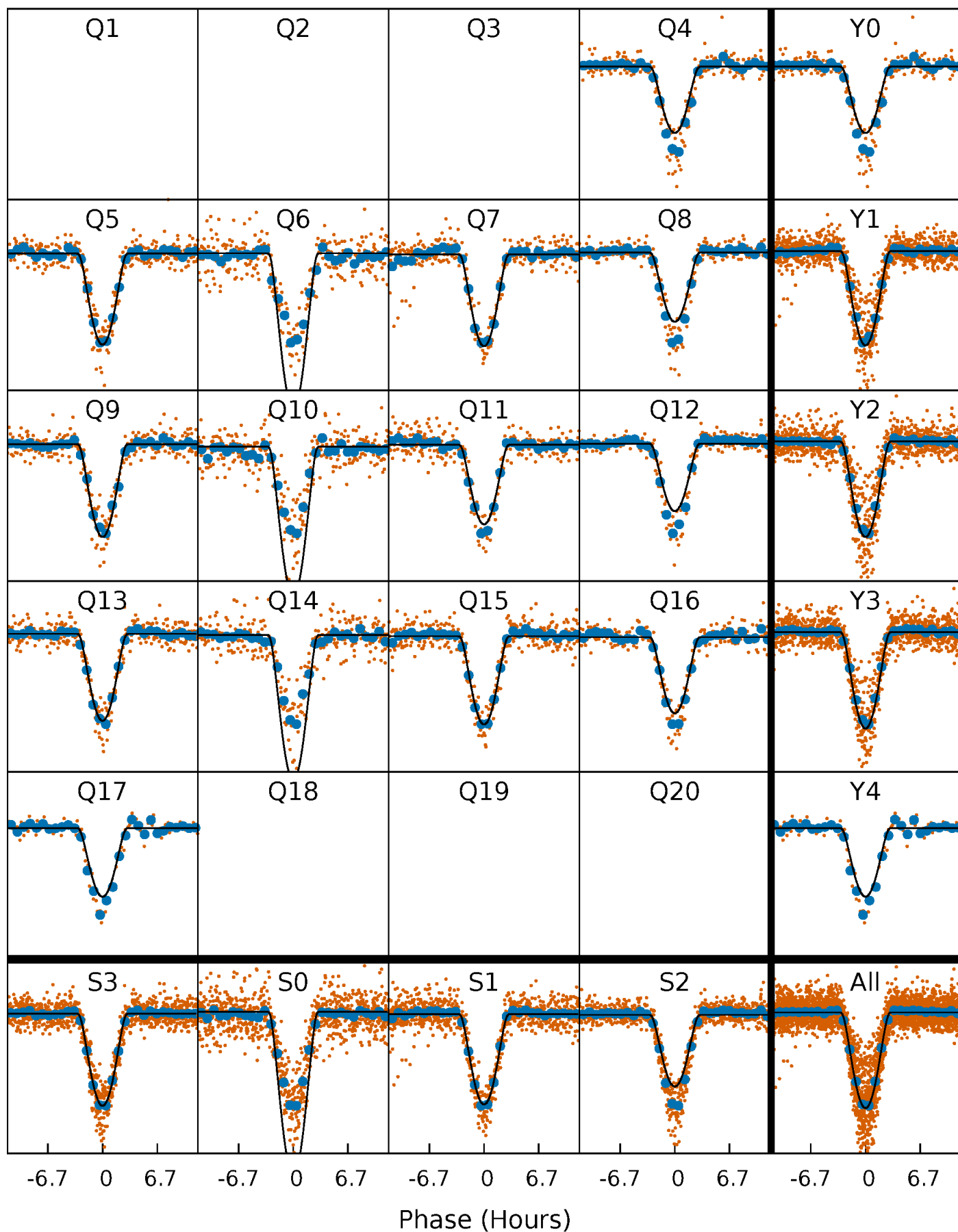
PDC Quarter-Phased Transit Curves

TCE 005818068-01 P= 14.126774 Days $T_0=137.903508$ (BKJD)



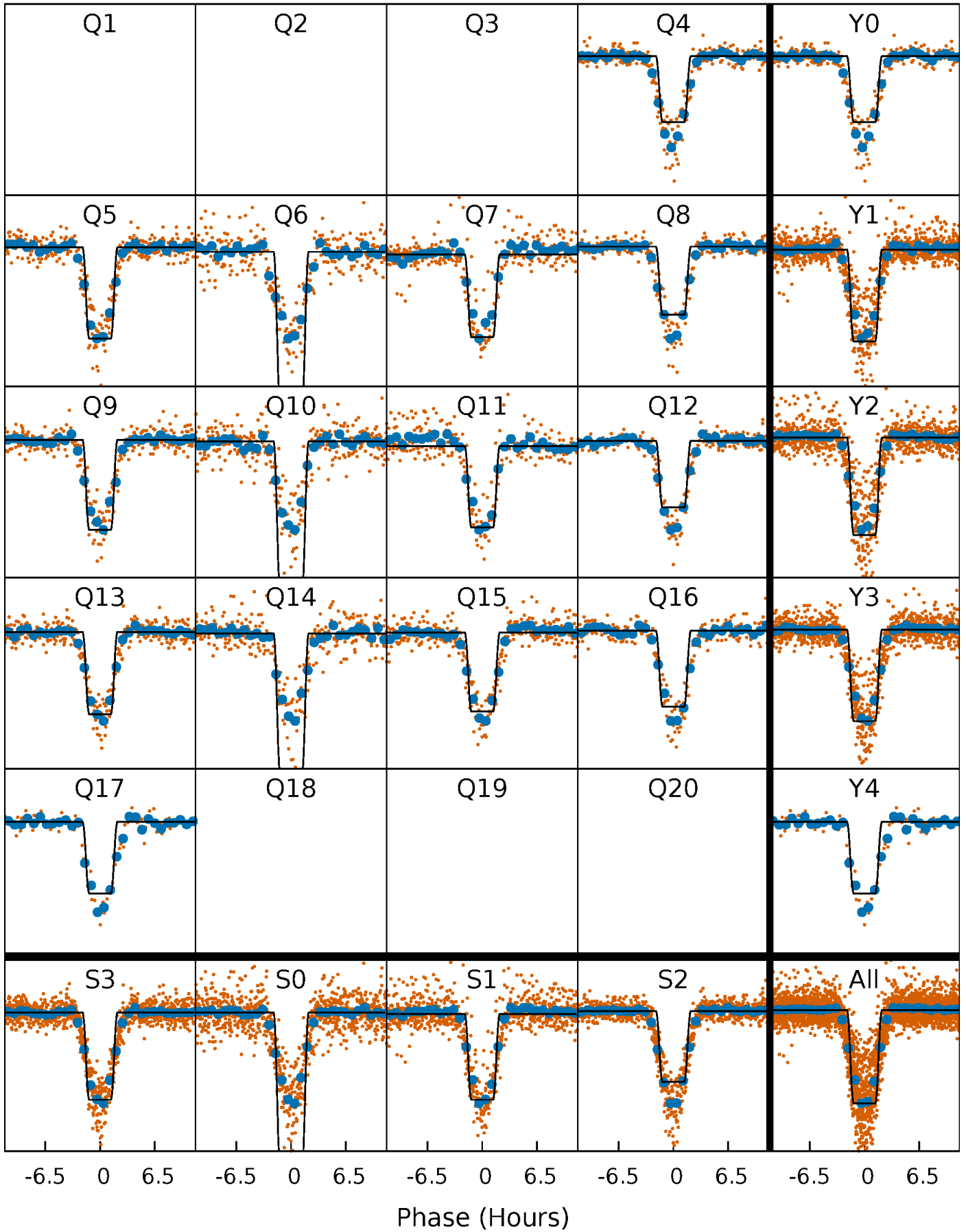
DV Quarter-Phased Transit Curves

TCE 005818068-01 P= 14.126774 Days $T_0=137.903508$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

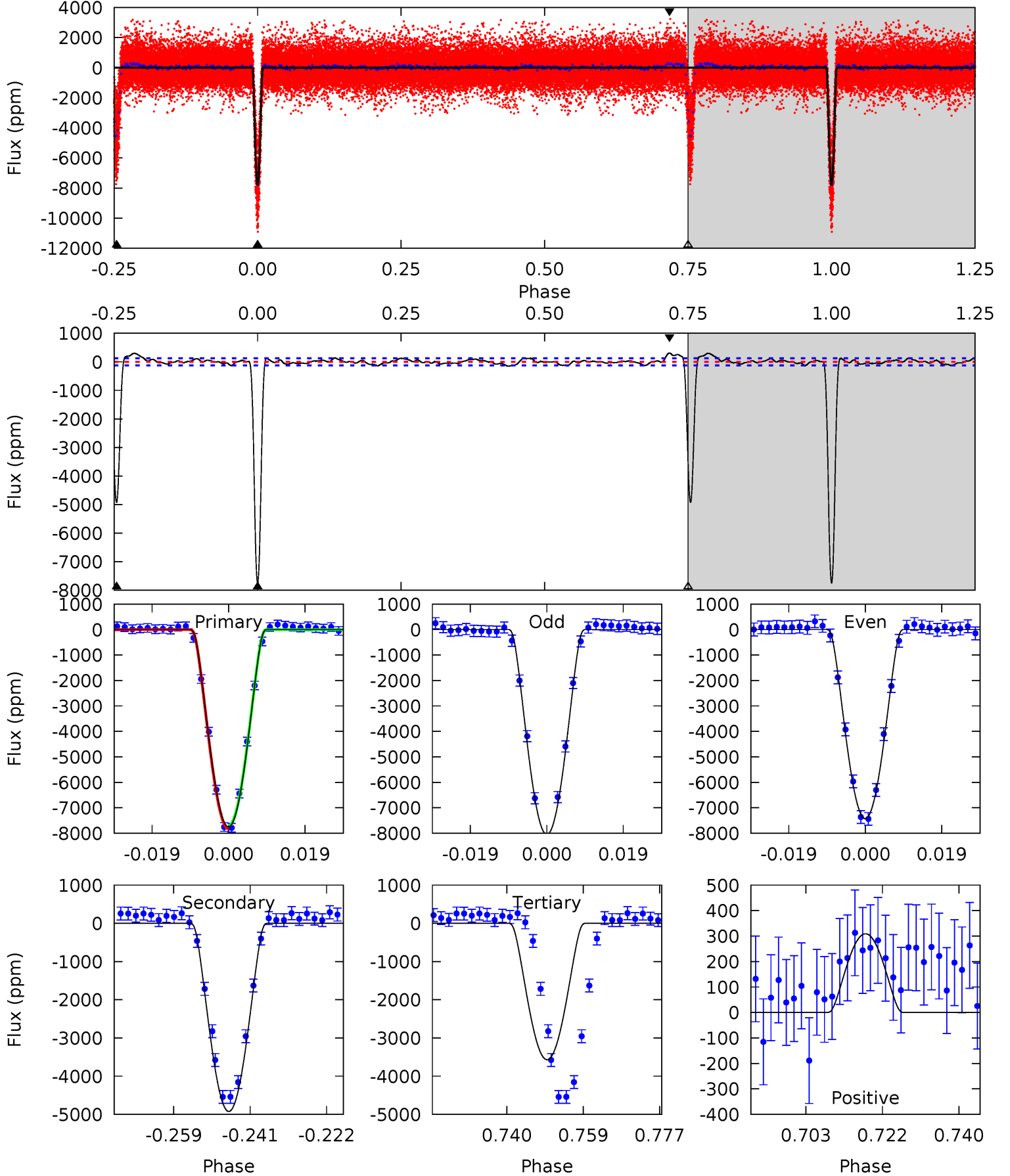
TCE 005818068-01 P= 14.126624 Days $T_0=137.912012$ (BKJD)



DV Model-Shift Uniqueness Test

005818068-01, P = 14.126774 Days, E = 137.903508 Days

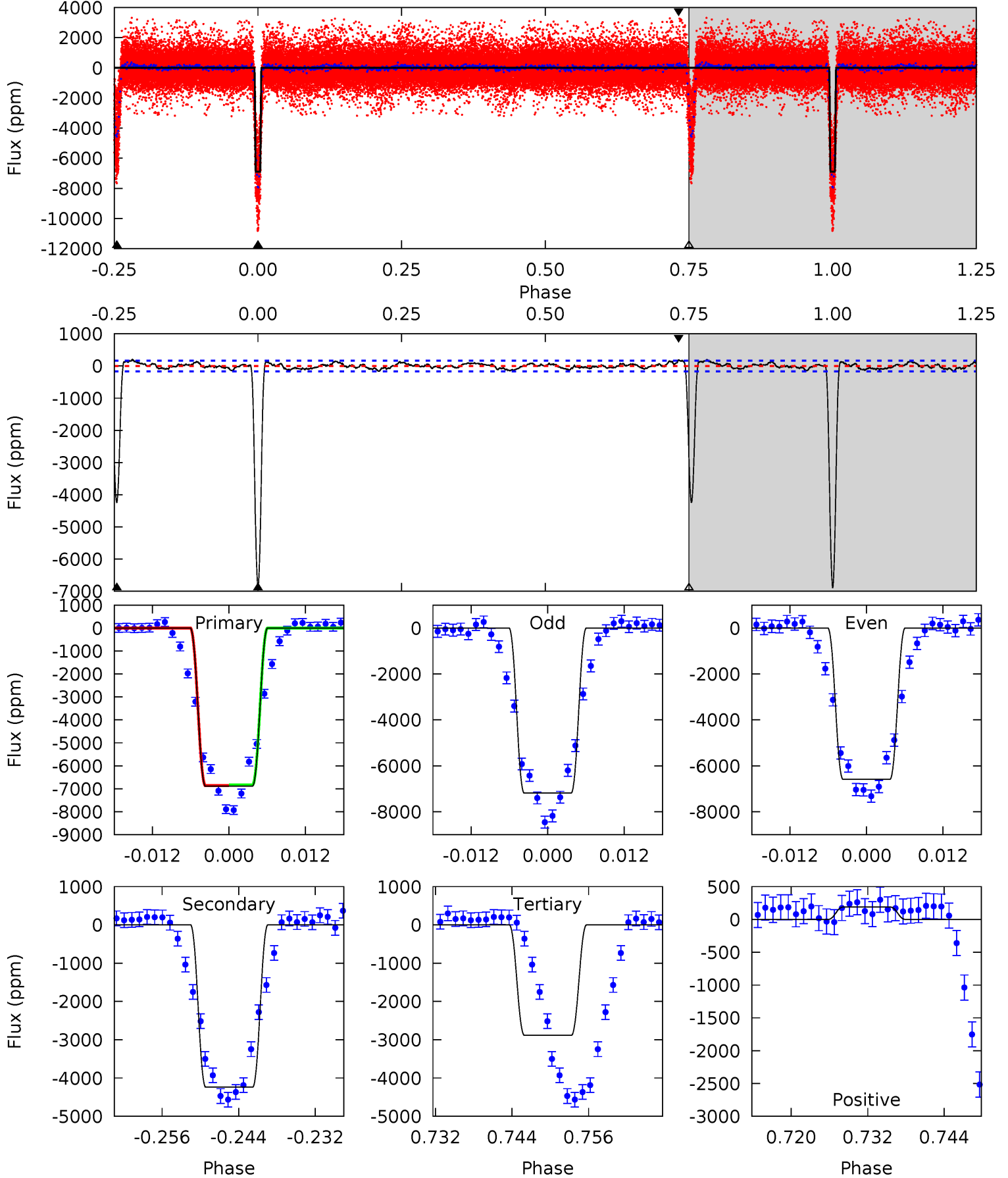
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
305.2	193.9	140.6	12.2	4.91	2.36	7.33	164.6	293.0	53.3	181.8	12.2	0.97	0.04	2.05



Alt Model-Shift Uniqueness Test

005818068-01, P = 14.126624 Days, E = 137.912012 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
205.4	126.5	86.1	5.63	4.99	2.51	4.20	119.4	199.8	40.4	120.8	8.94	0.96	0.03	0.38



Stellar Parameters For KIC 005818068

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5656^{+186}_{-186}	$4.583^{+0.040}_{-0.160}$	$-0.340^{+0.300}_{-0.300}$	$0.784^{+0.207}_{-0.065}$	$0.873^{+0.089}_{-0.106}$	$2.548^{+0.530}_{-1.153}$
	+3%/-3%	+1%/-3%	+88%/-88%	+26%/-8%	+10%/-12%	+21%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005818068-01 / KOI 3332.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4923 ± 25	$12.50^{+3.70}_{-3.18}$	955^{+62}_{-44}	4248^{+496}_{-343}	204^{+165}_{-82}
Alt.	-4238 ± 34	$7.77^{+3.04}_{-2.99}$	957^{+58}_{-46}	4978^{+1288}_{-615}	455^{+726}_{-225}

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 $A_{obs} \gg 1.0$

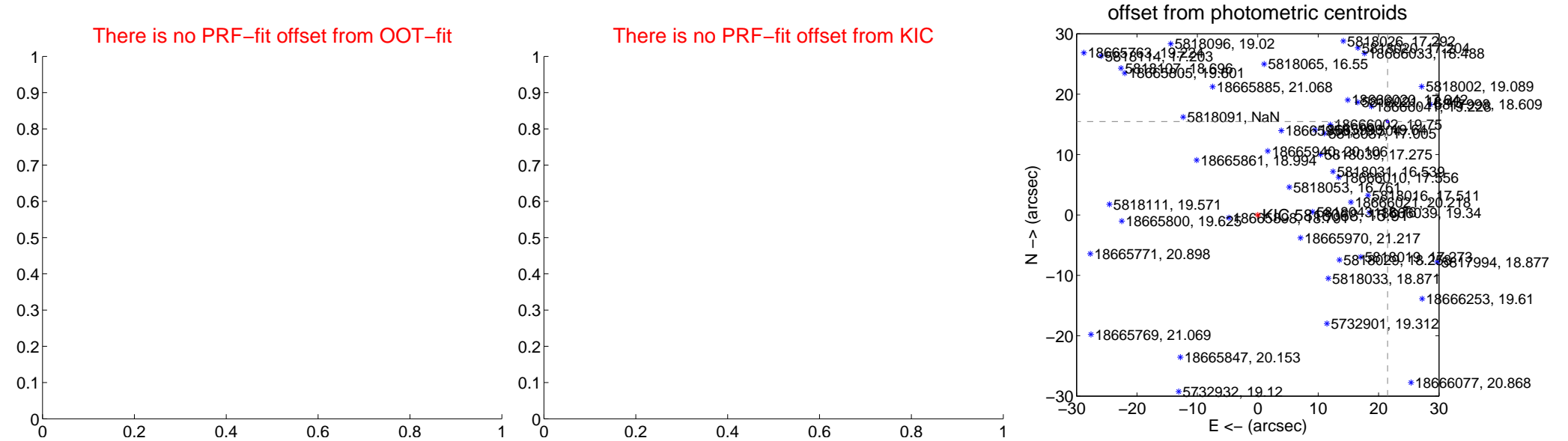
DV Centroid Data

Supplemental centroid analysis for 005818068-01. Kepler magnitude: 15.91. Transit SNR 151.13

There are 0 quarters with good PRF difference image offsets

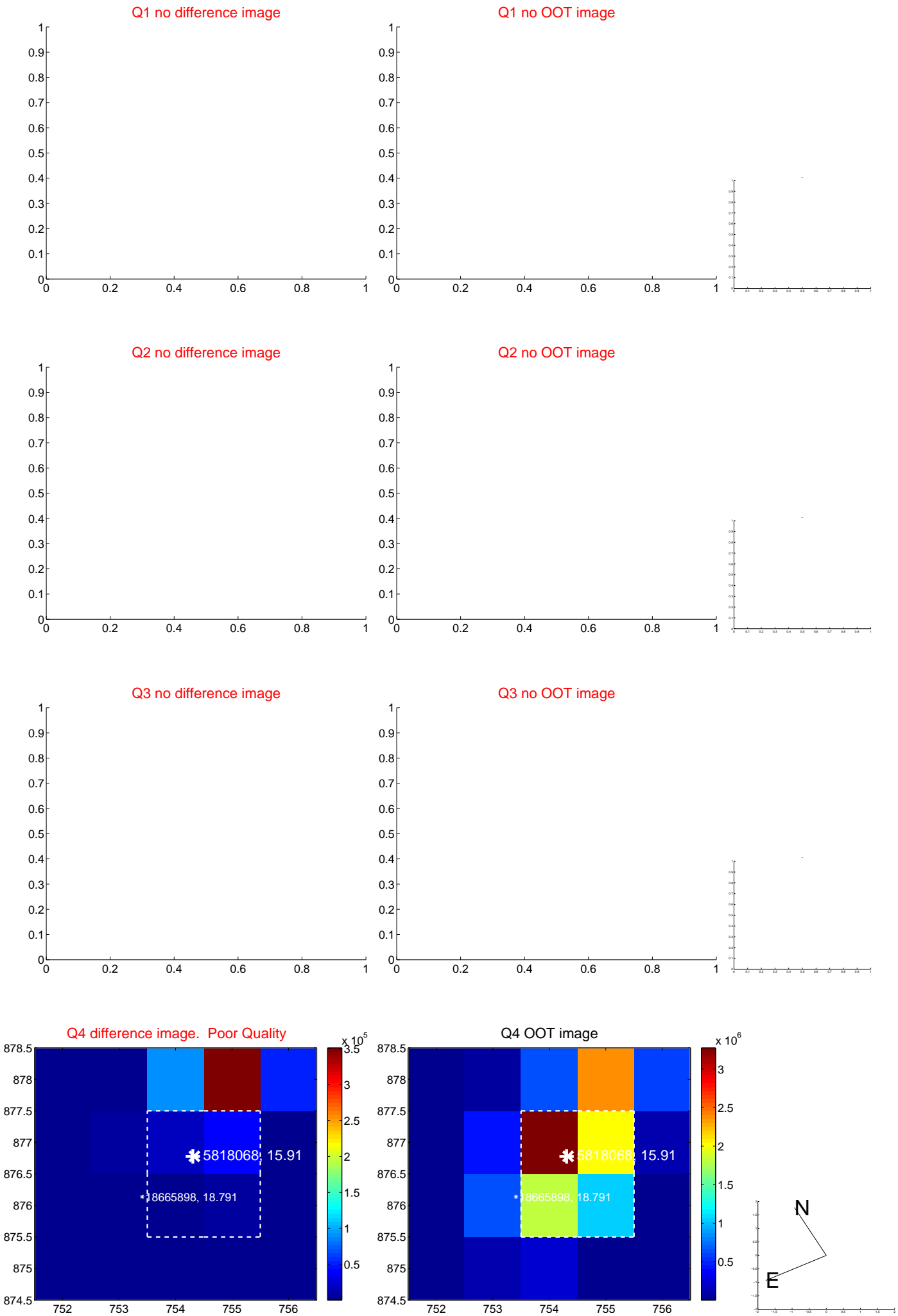
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	26.48 ± 0.07	391.06	-21.49 ± 0.07	15.47 ± 0.06

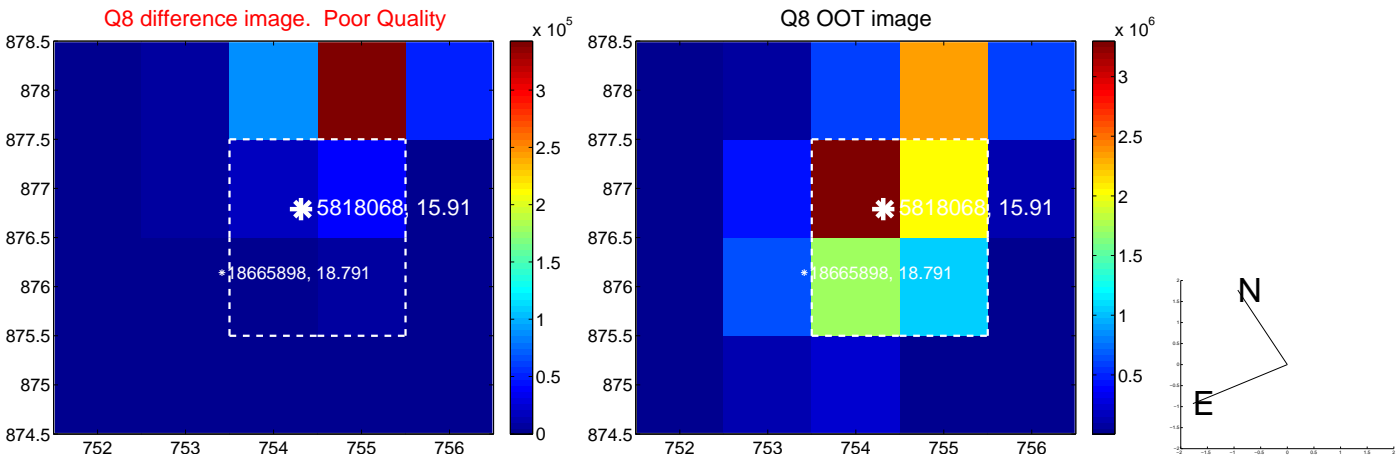
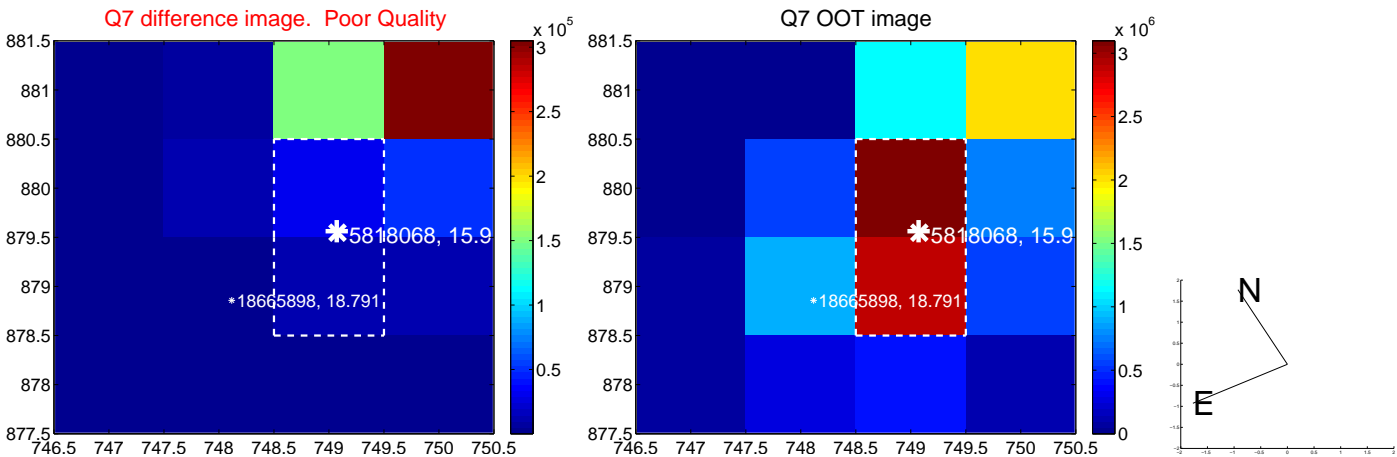
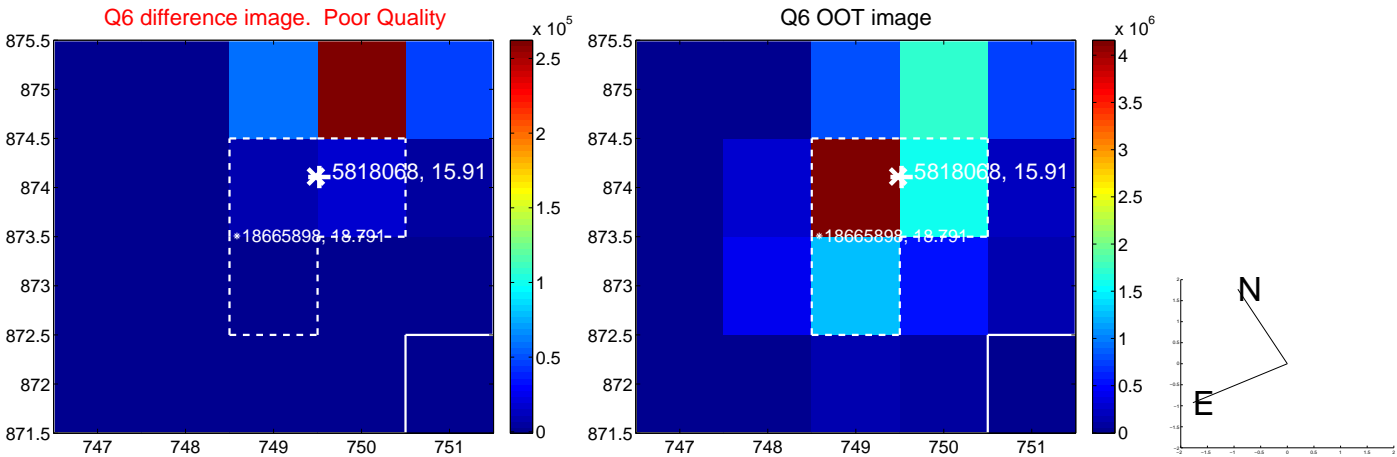
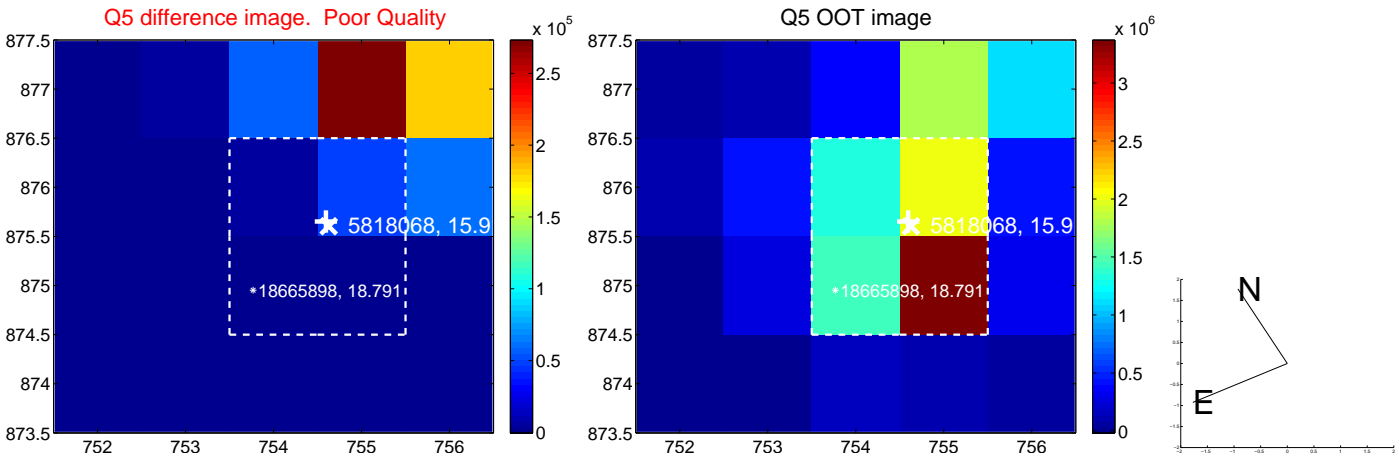


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

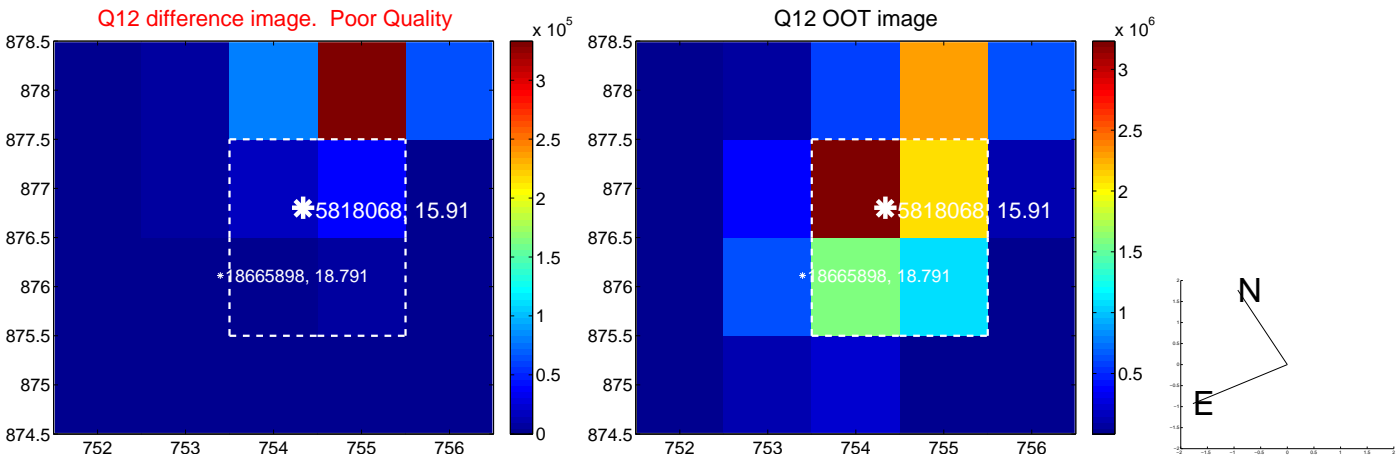
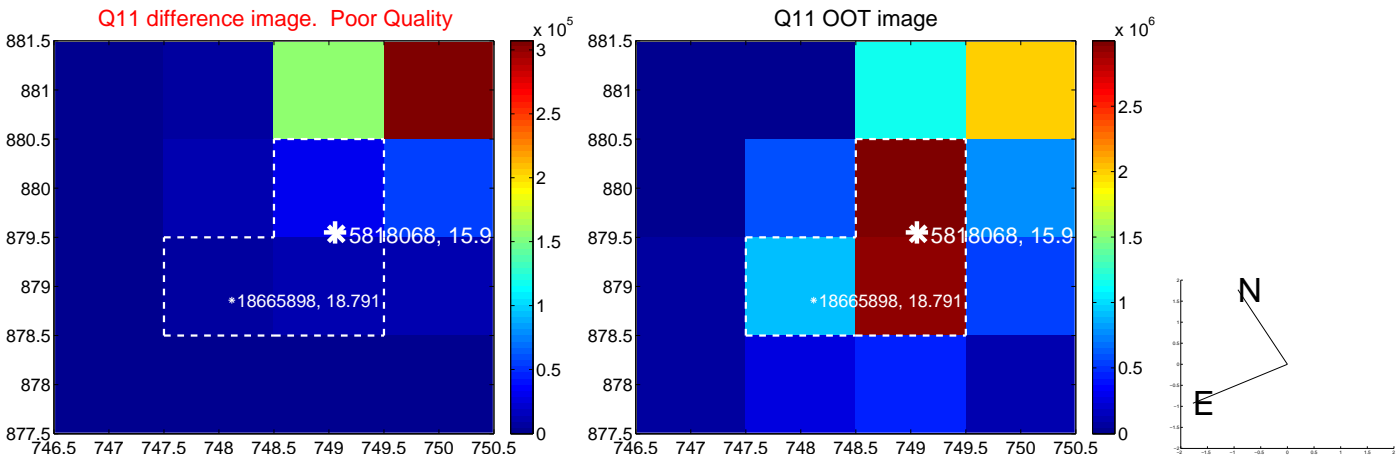
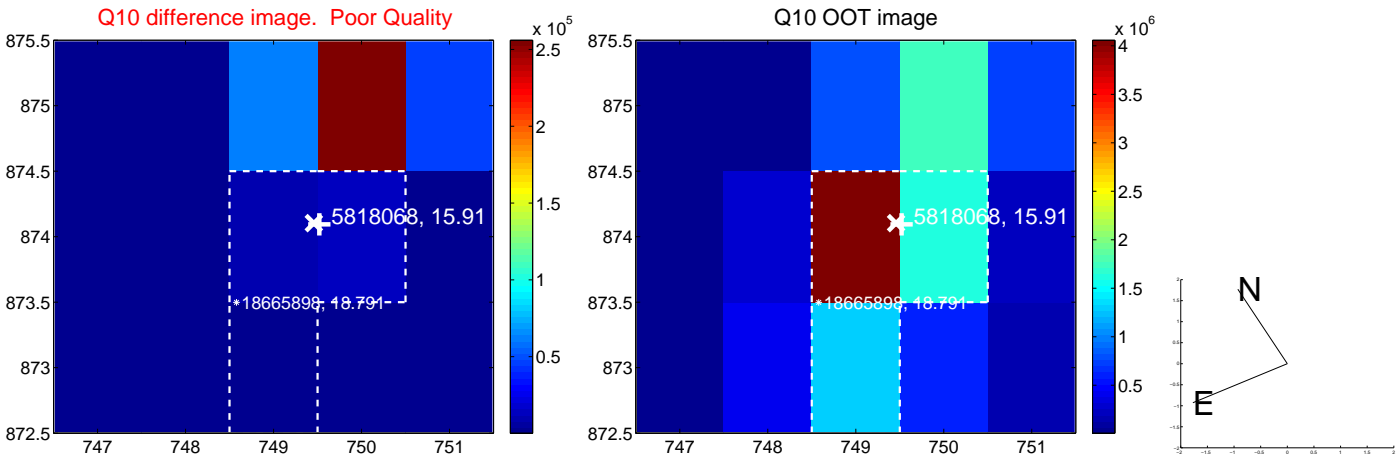
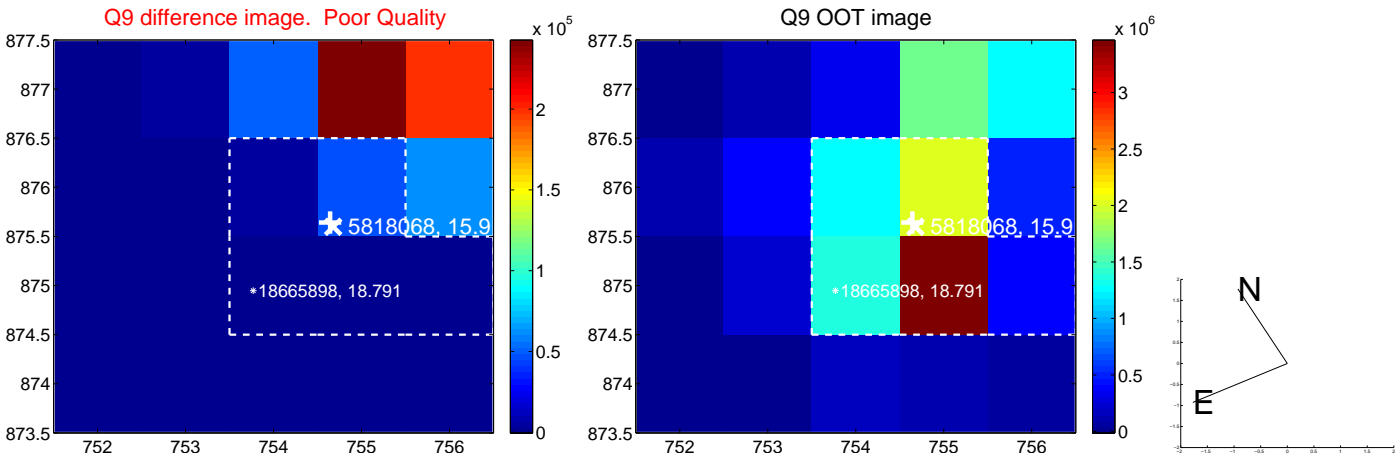
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



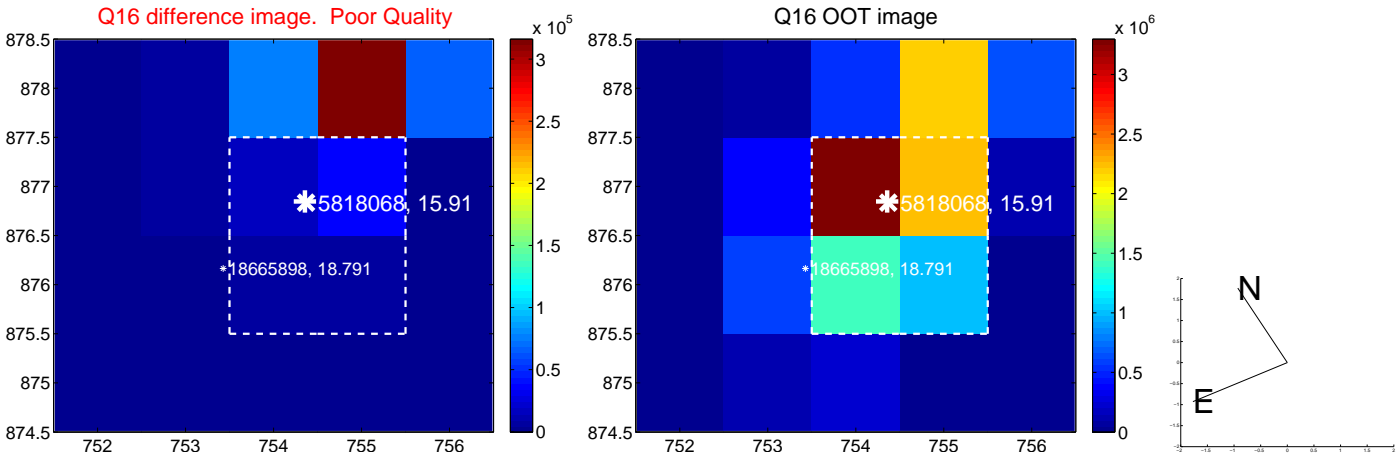
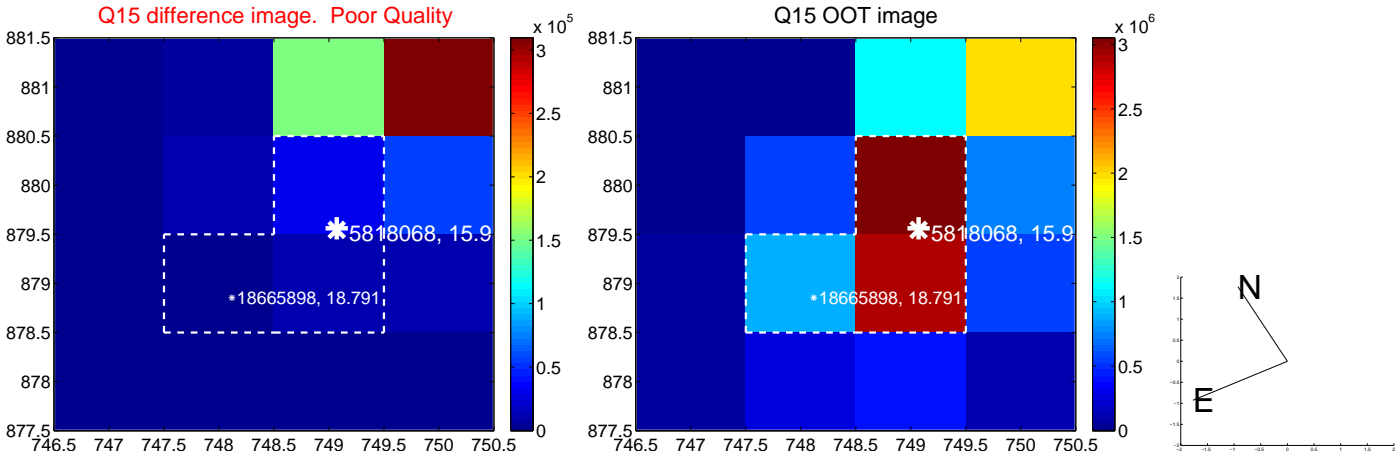
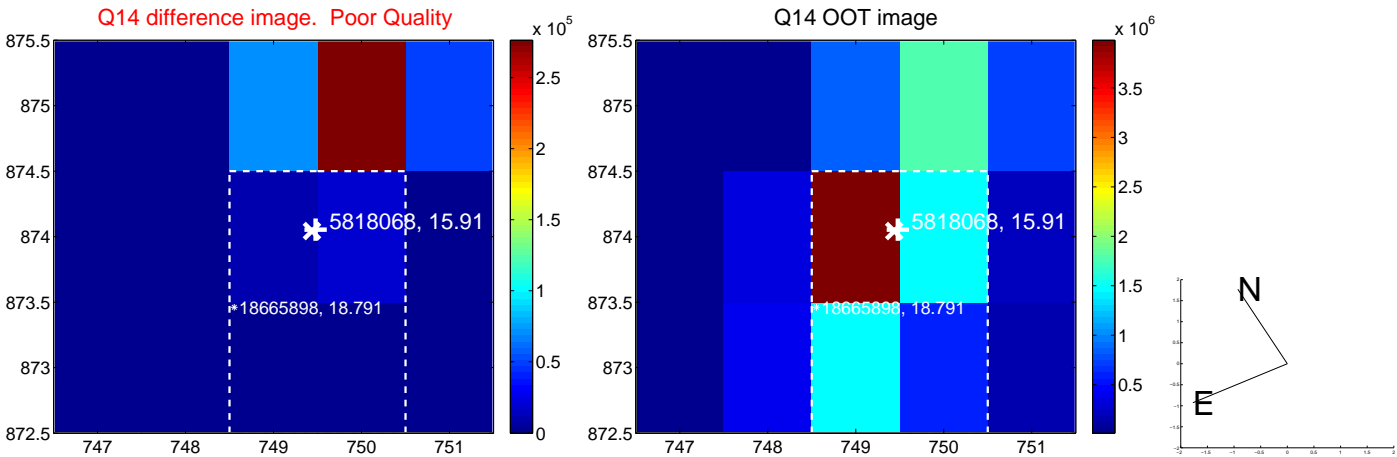
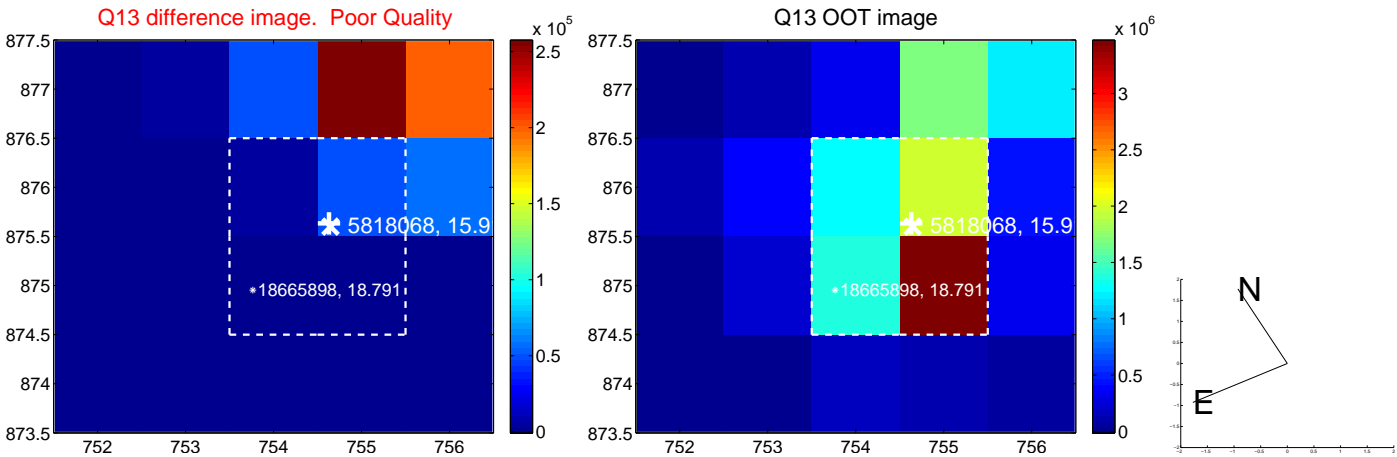
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



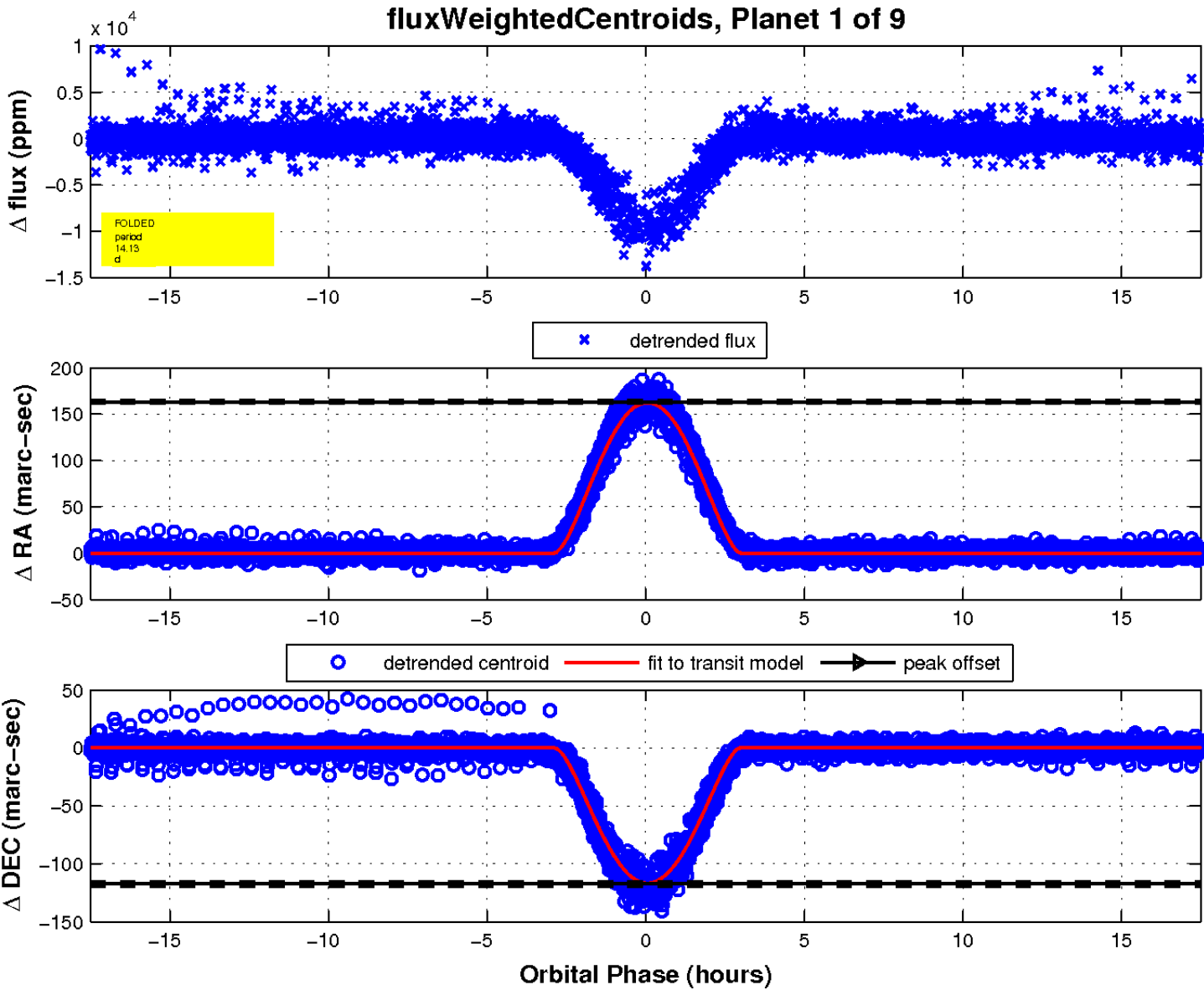
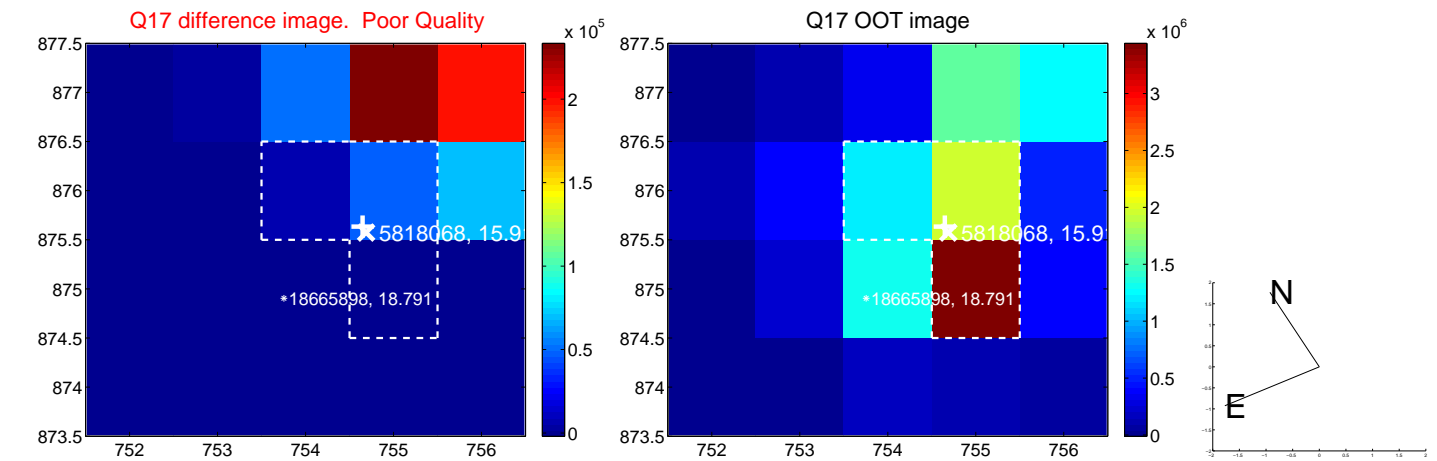
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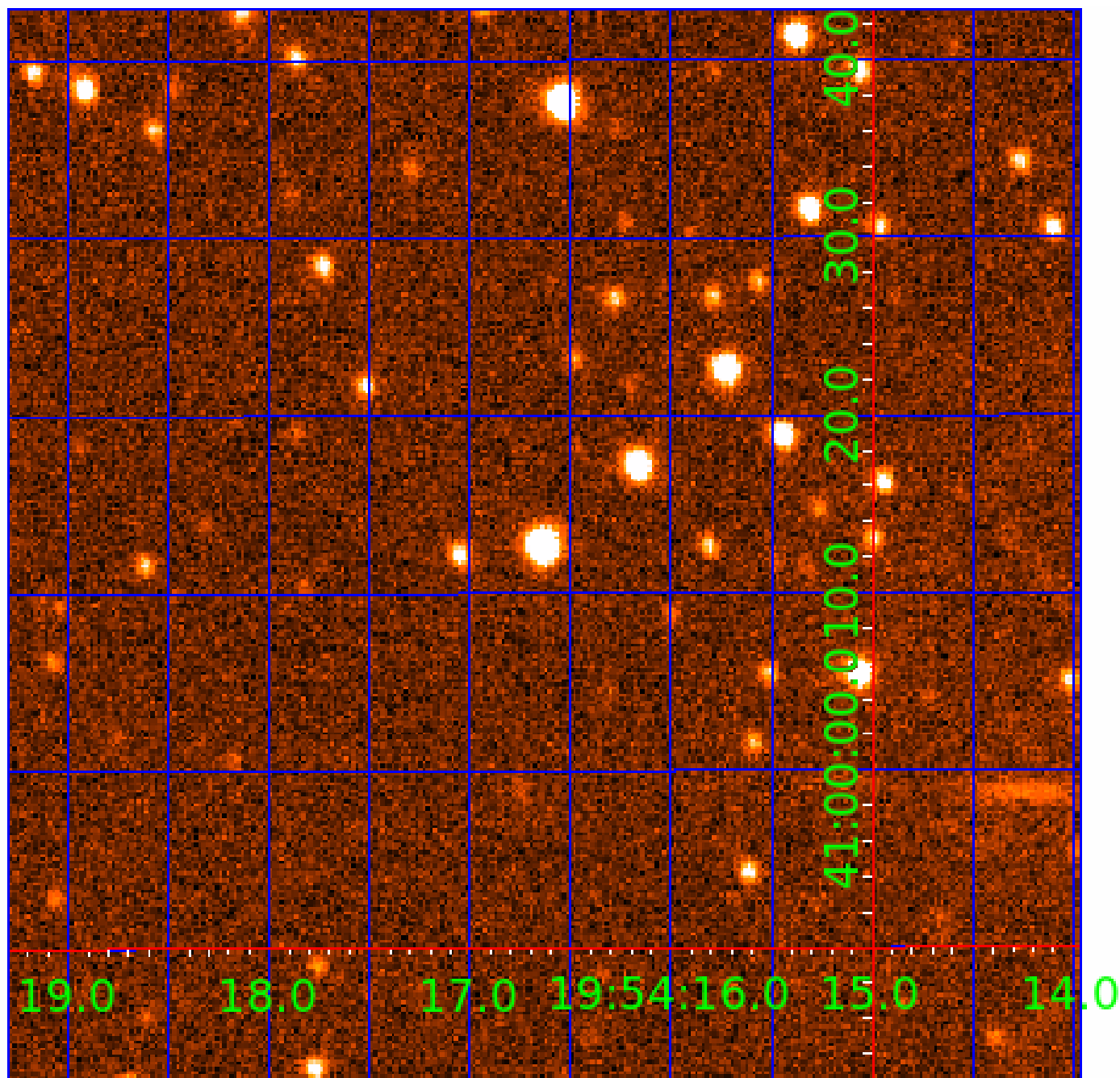


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005818068

Q1-17 DR25 TCE Parameters

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Robovetter Results

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005818068-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-03	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
005818068-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS
005818068-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—SAME_NTL_PERIOD—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.

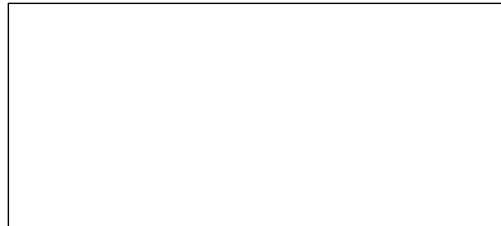
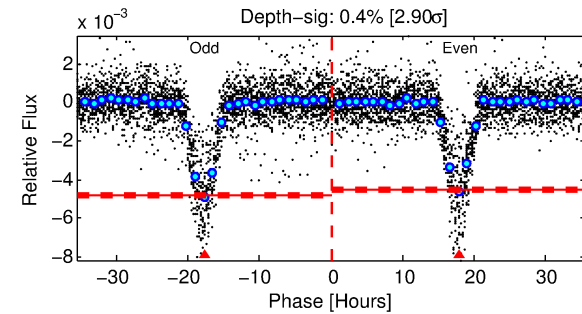
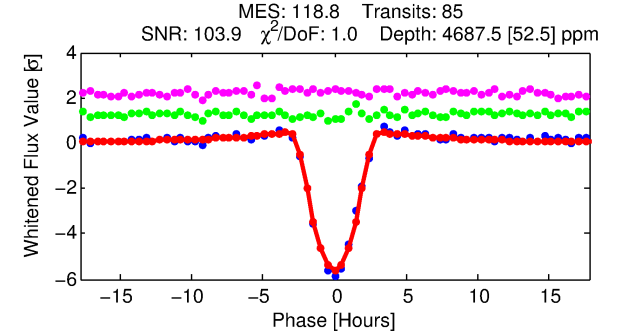
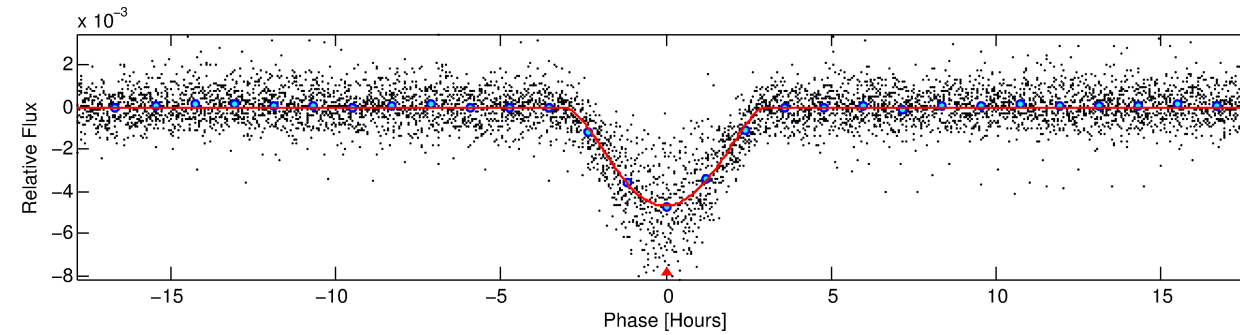
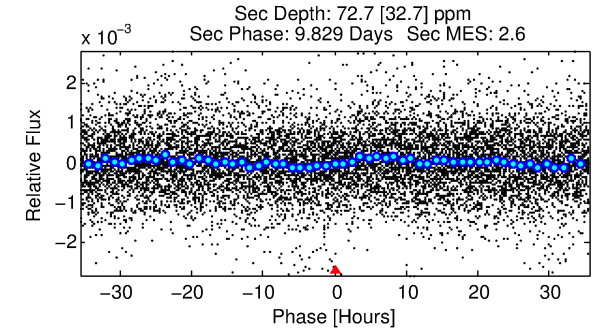
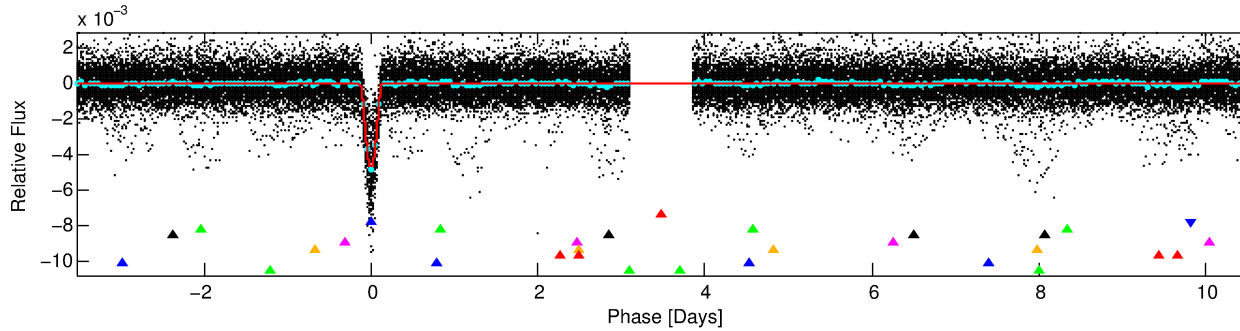
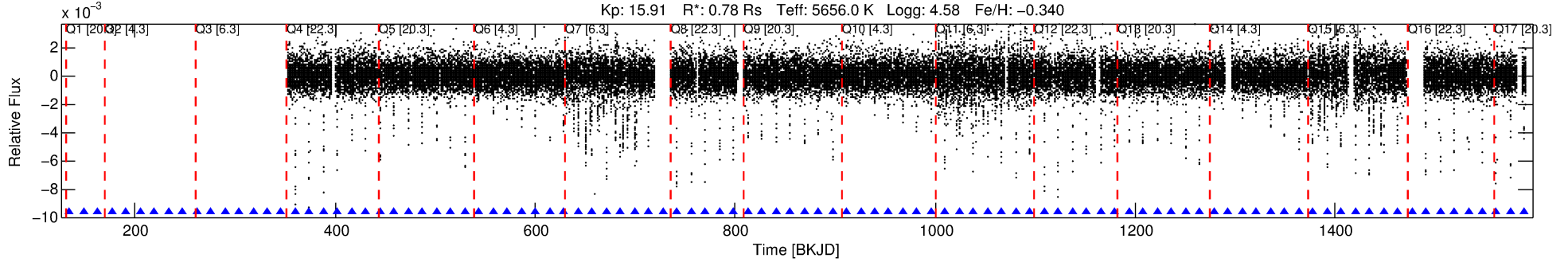
Ephemeris Match Information For 005818068-02

No Significant Match Found

DV One-Page Summary

KIC: 5818068 Candidate: 2 of 9 Period: 14.127 d
KOI: K03332 Corr: No Ephemeris Match

Kp: 15.91 R*: 0.78 Rs Teff: 5656.0 K Logg: 4.58 Fe/H: -0.340



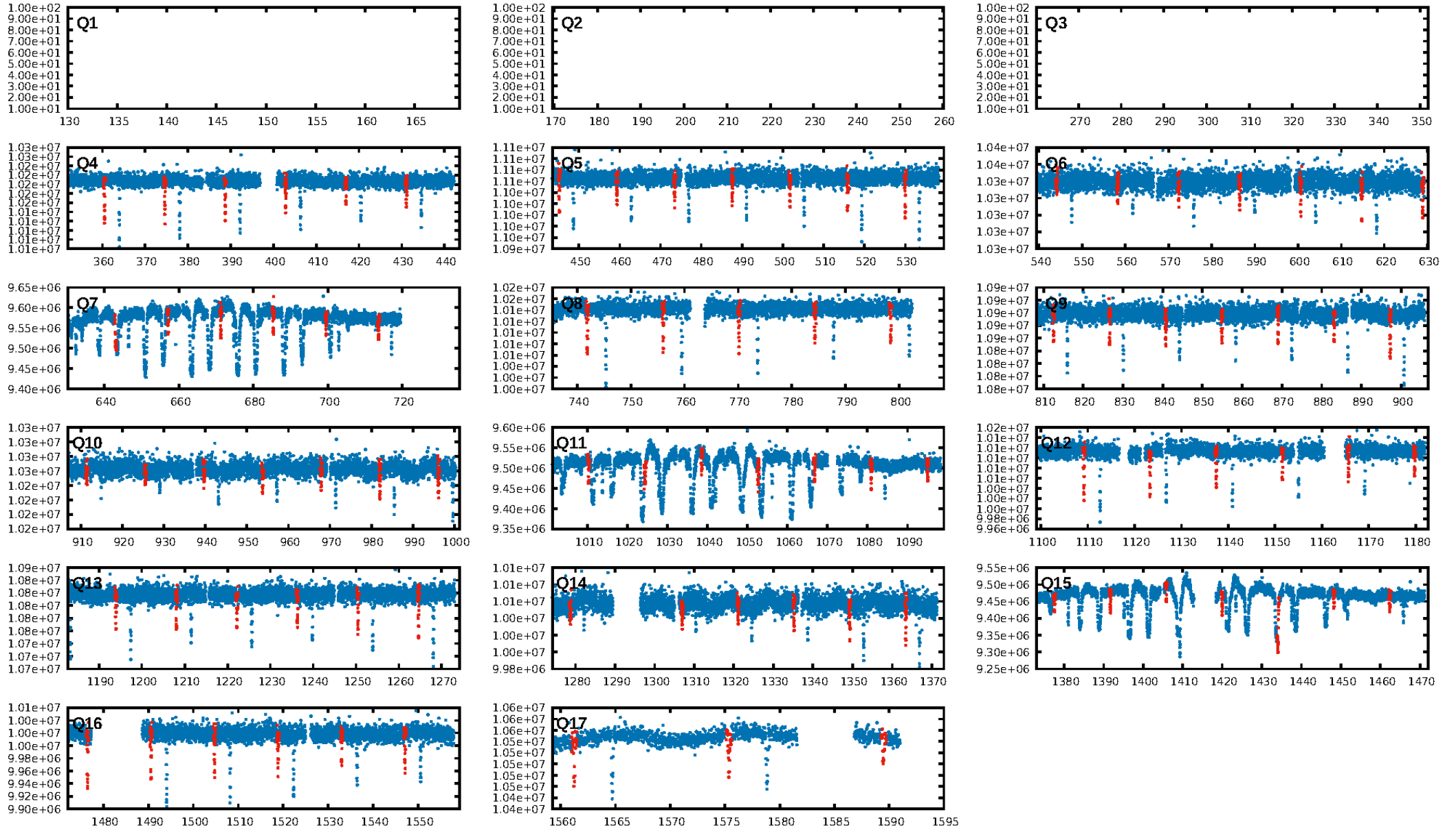
DV Fit Results:

Period = 14.12674 [0.00003] d
Epoch = 134.4341 [0.0016] BKJD
Rp/R* = 0.1082 [0.0354]
a/R* = 9.15 [0.62]
b = 0.99 [0.05]
Seff = 47.69 [15.72]
Teq = 670 [55] K
Rp = 9.25 [3.89] Re
a = 0.1087 [0.0233] AU
Ag = 5.52 [4.69] [0.96σ]
Teffp = 1588 [319] K [2.83σ]

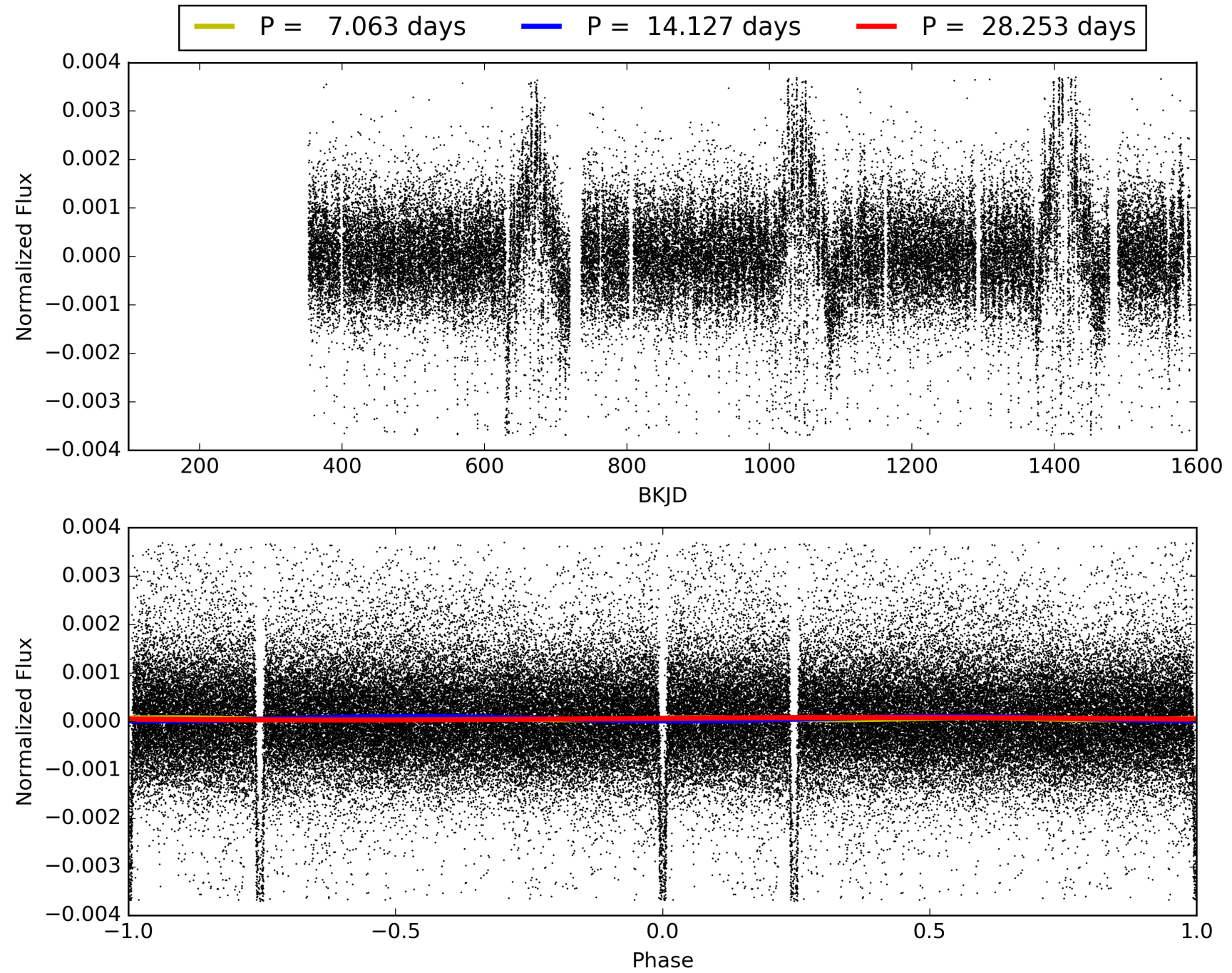
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [82/82]
GhostDiagnostic-chr: -0.4439
Centroid-sig: 0.0%
Centroid-so: 28.540 arcsec [260.77σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005818068-02, PDC Light Curves

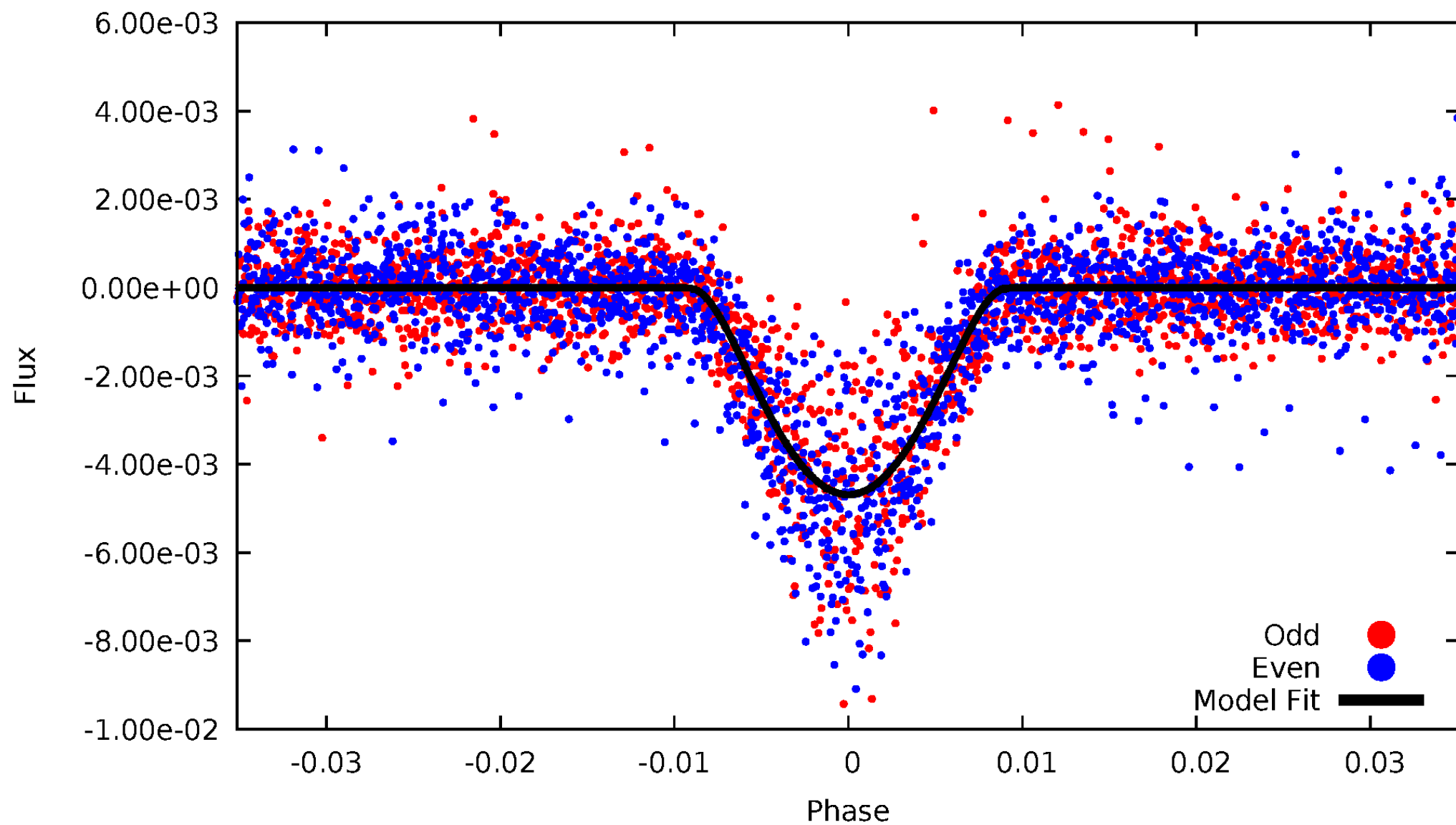


TCE 005818068-02



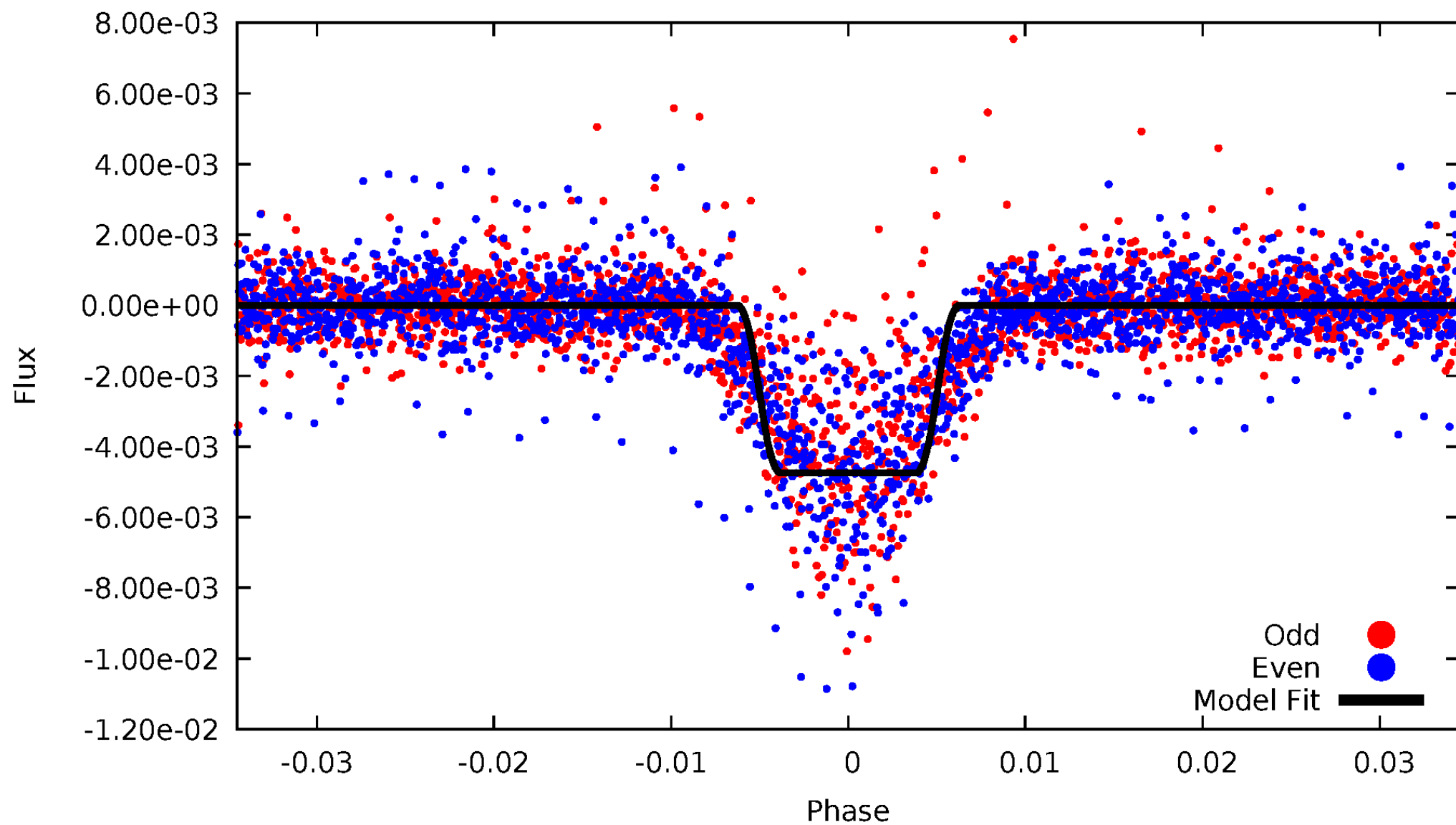
DV Odd/Even

TCE 005818068-02



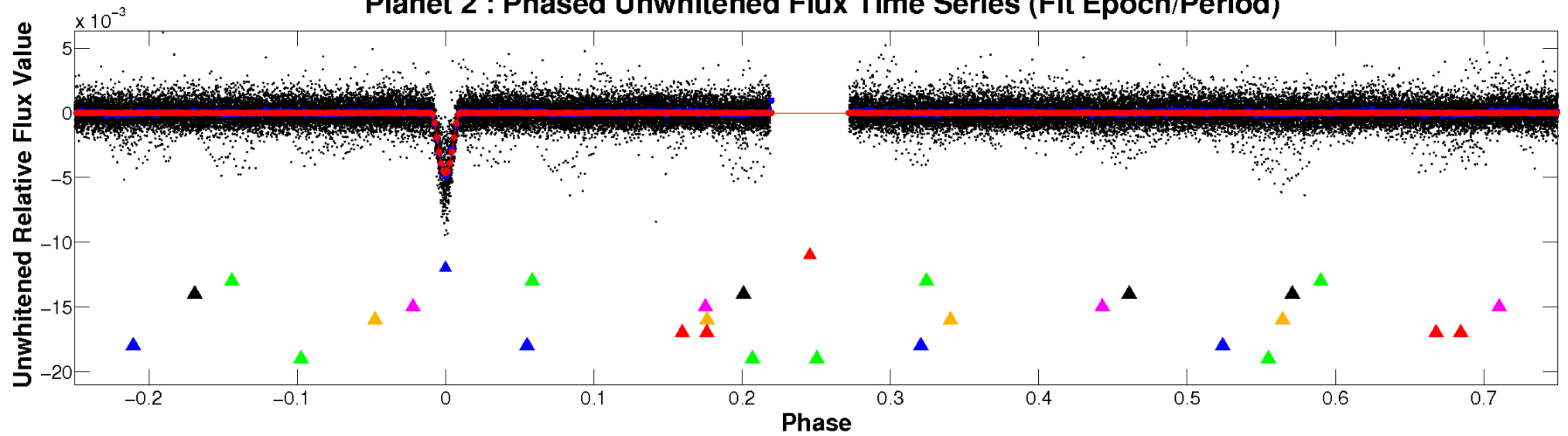
ALT Odd/Even

TCE 005818068-02

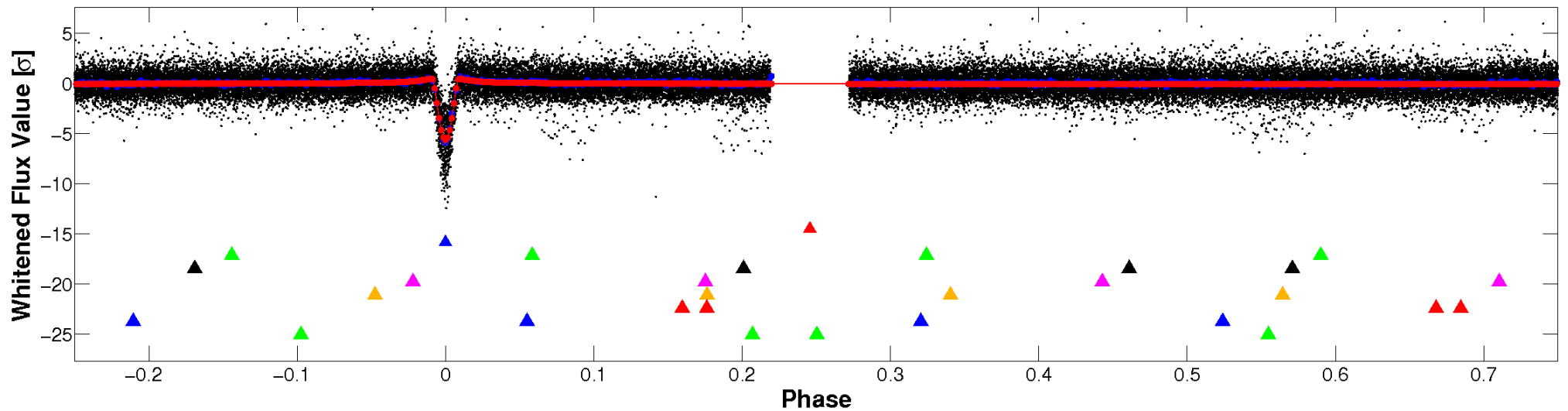


Non-Whitened Vs. Whitened Light Curve

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

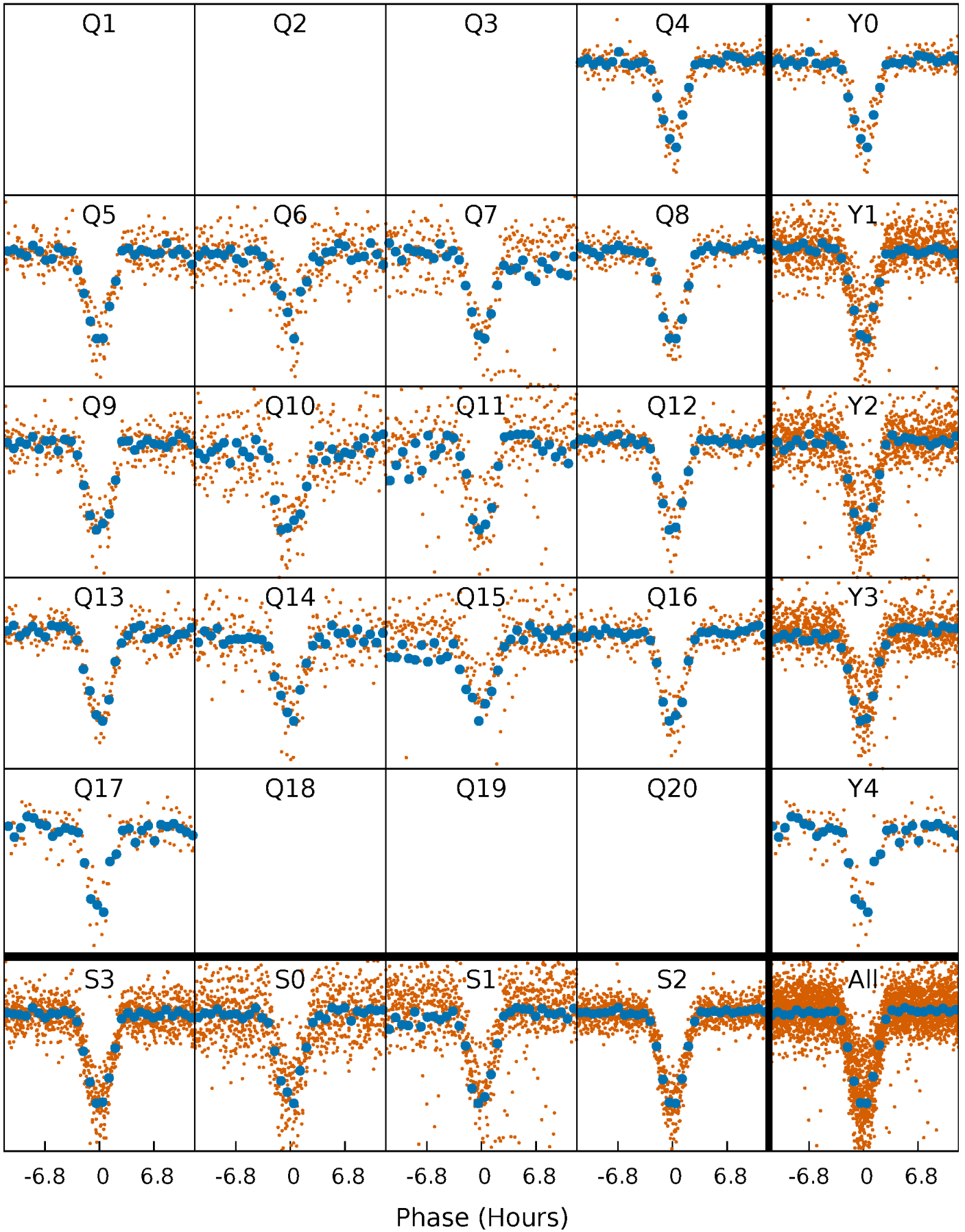


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



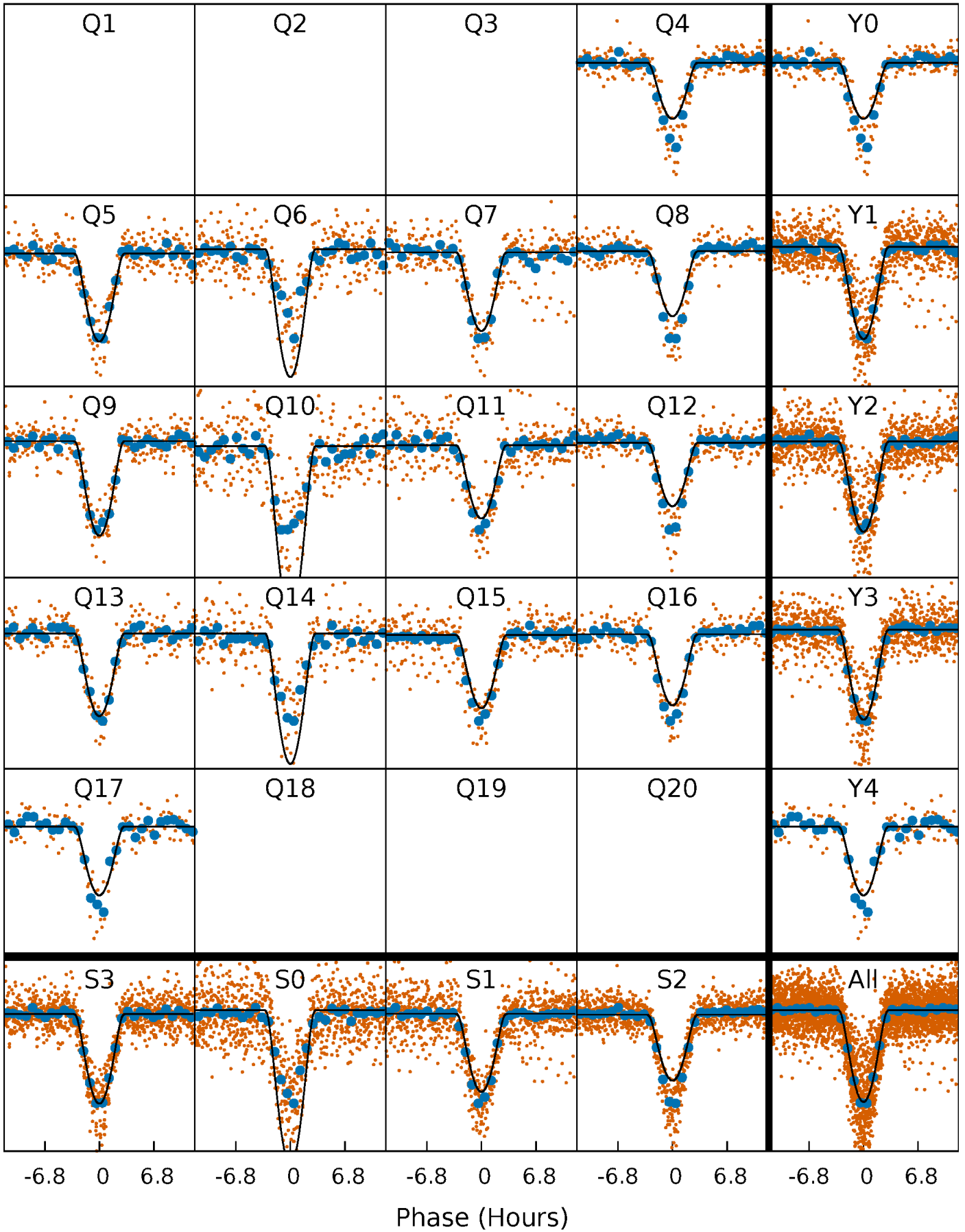
PDC Quarter-Phased Transit Curves

TCE 005818068-02 P= 14.126741 Days $T_0=134.434129$ (BKJD)



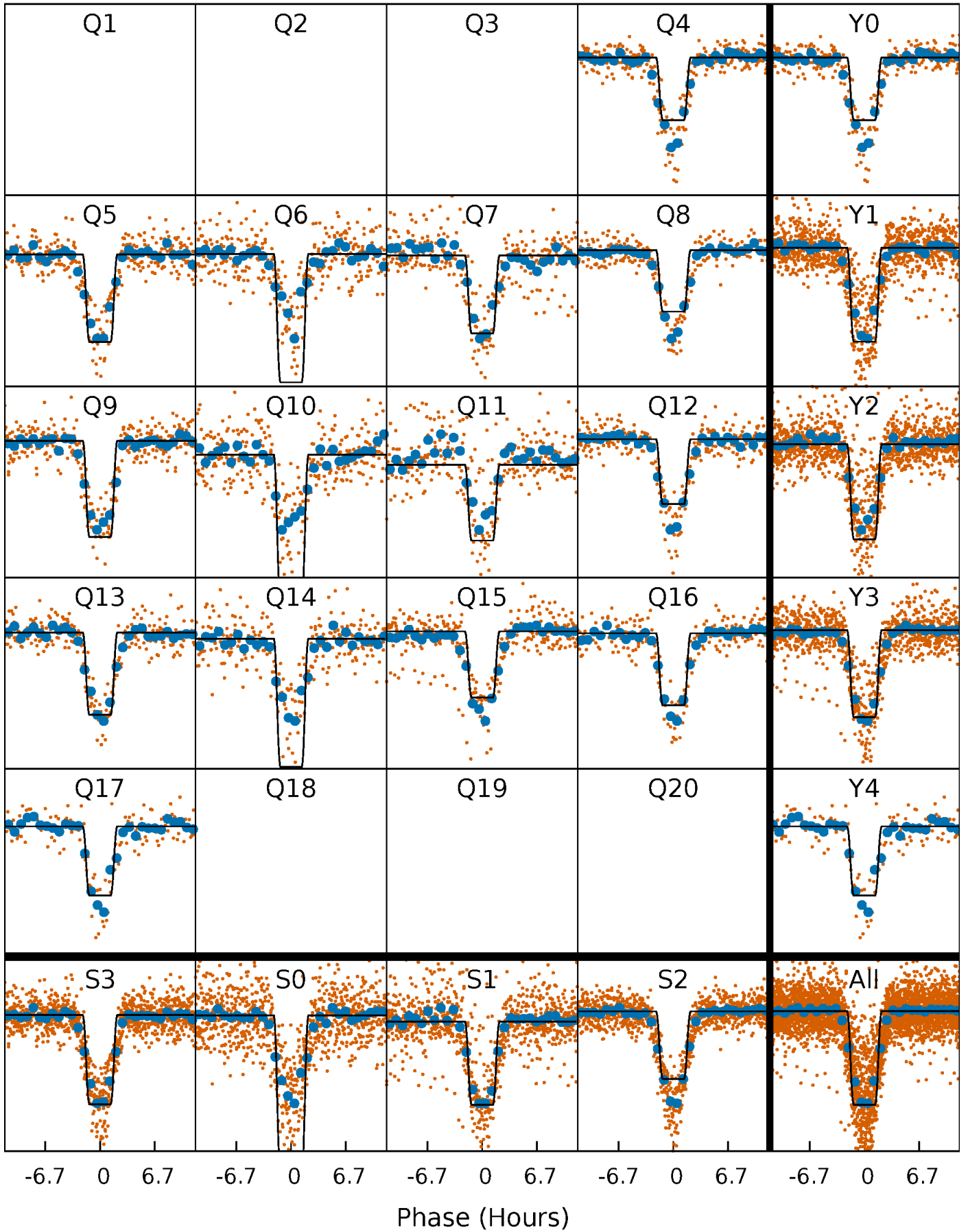
DV Quarter-Phased Transit Curves

TCE 005818068-02 P= 14.126741 Days $T_0=134.434129$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

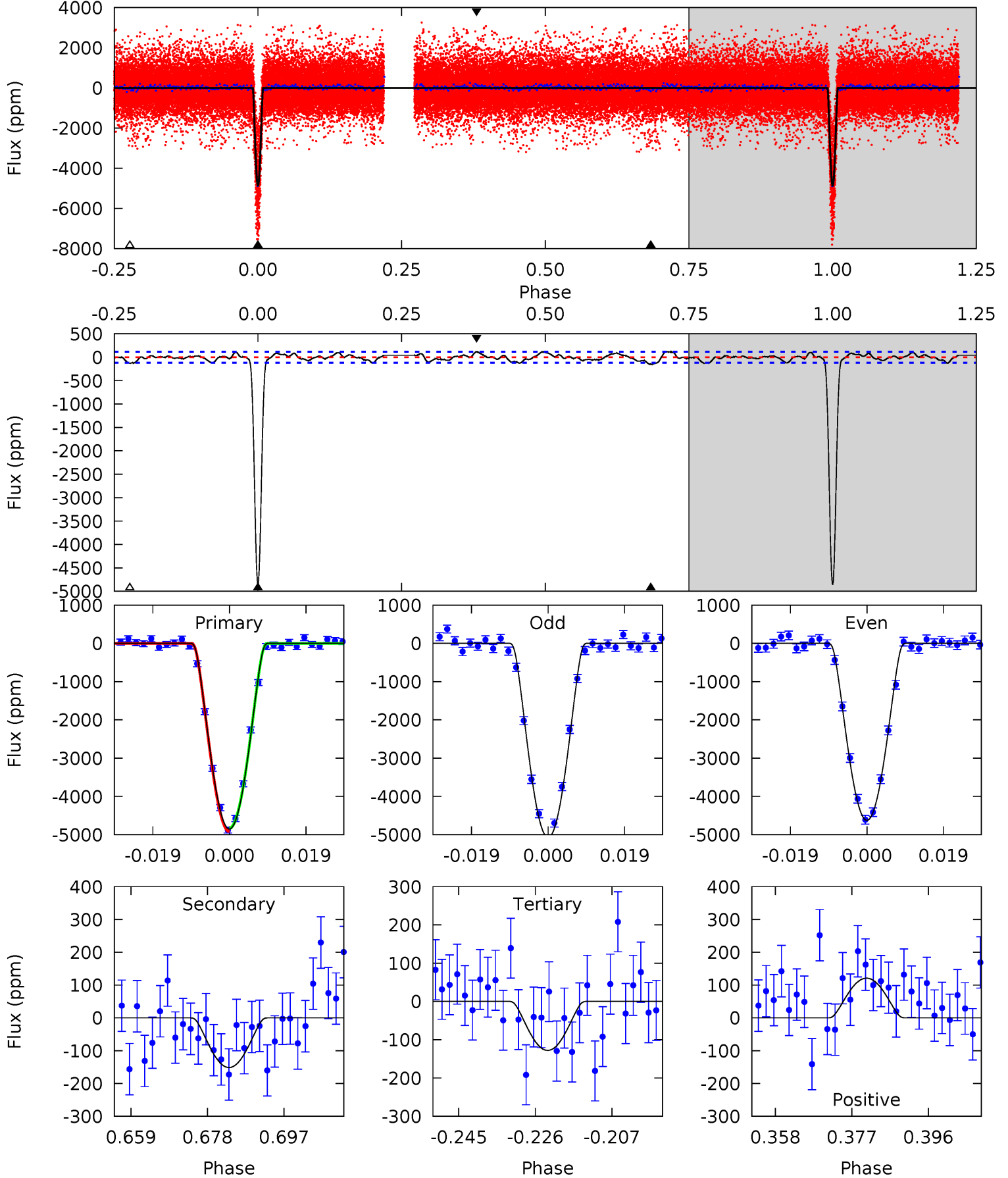
TCE 005818068-02 P= 14.126624 Days $T_0=134.439603$ (BKJD)



DV Model-Shift Uniqueness Test

005818068-02, P = 14.126741 Days, E = 134.434129 Days

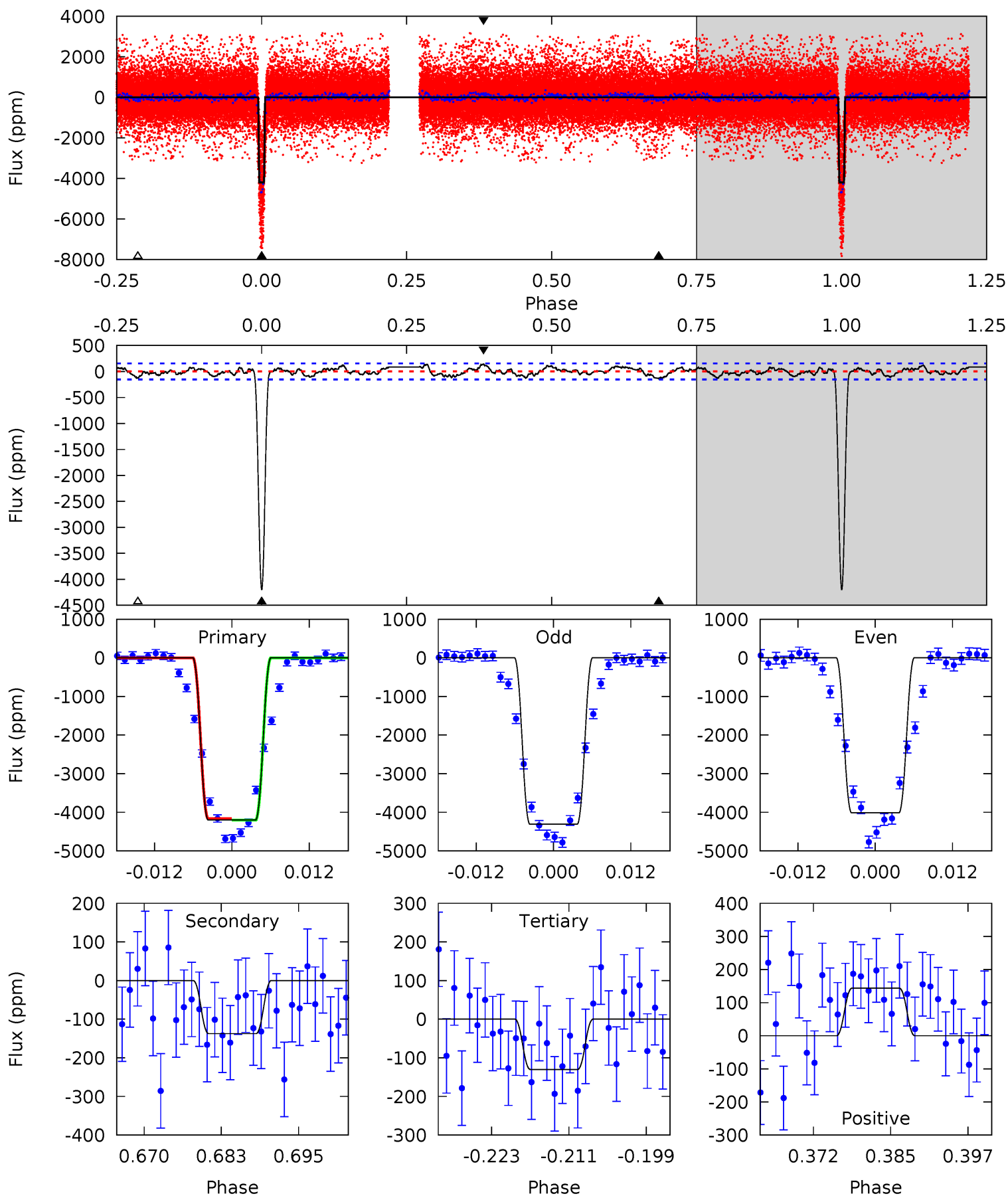
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
203.2	6.34	5.36	5.06	4.90	2.35	2.28	197.8	198.1	0.98	1.28	9.43	0.99	0.02	1.78



Alt Model-Shift Uniqueness Test

005818068-02, P = 14.126624 Days, E = 134.439603 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
135.4	4.43	4.20	4.63	4.98	2.50	1.79	131.2	130.7	0.23	-0.20	4.76	0.97	0.03	0.66



Stellar Parameters For KIC 005818068

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5656^{+186}_{-186}	$4.583^{+0.040}_{-0.160}$	$-0.340^{+0.300}_{-0.300}$	$0.784^{+0.207}_{-0.065}$	$0.873^{+0.089}_{-0.106}$	$2.548^{+0.530}_{-1.153}$
	+3%/-3%	+1%/-3%	+88%/-88%	+26%/-8%	+10%/-12%	+21%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005818068-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-151 ± 24	$9.75^{+3.32}_{-3.28}$	957^{+54}_{-45}	2673^{+292}_{-199}	10^{+12}_{-5}
Alt.	-137 ± 31	$6.13^{+3.28}_{-2.97}$	955^{+53}_{-43}	3004^{+683}_{-339}	23^{+61}_{-13}

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

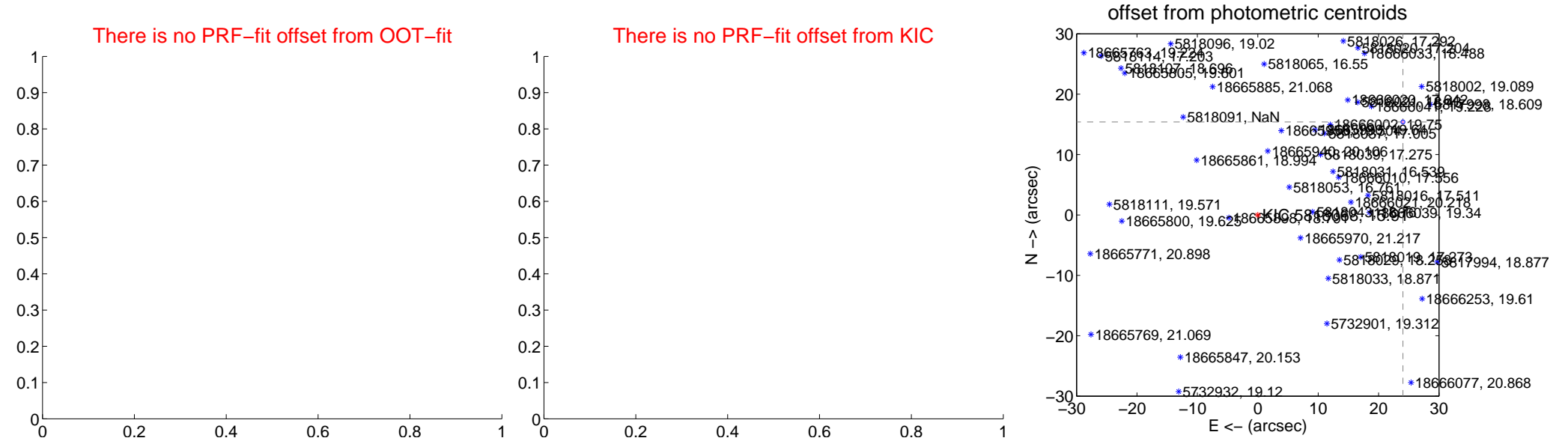
DV Centroid Data

Supplemental centroid analysis for 005818068-02. Kepler magnitude: 15.91. Transit SNR 103.90

There are 0 quarters with good PRF difference image offsets

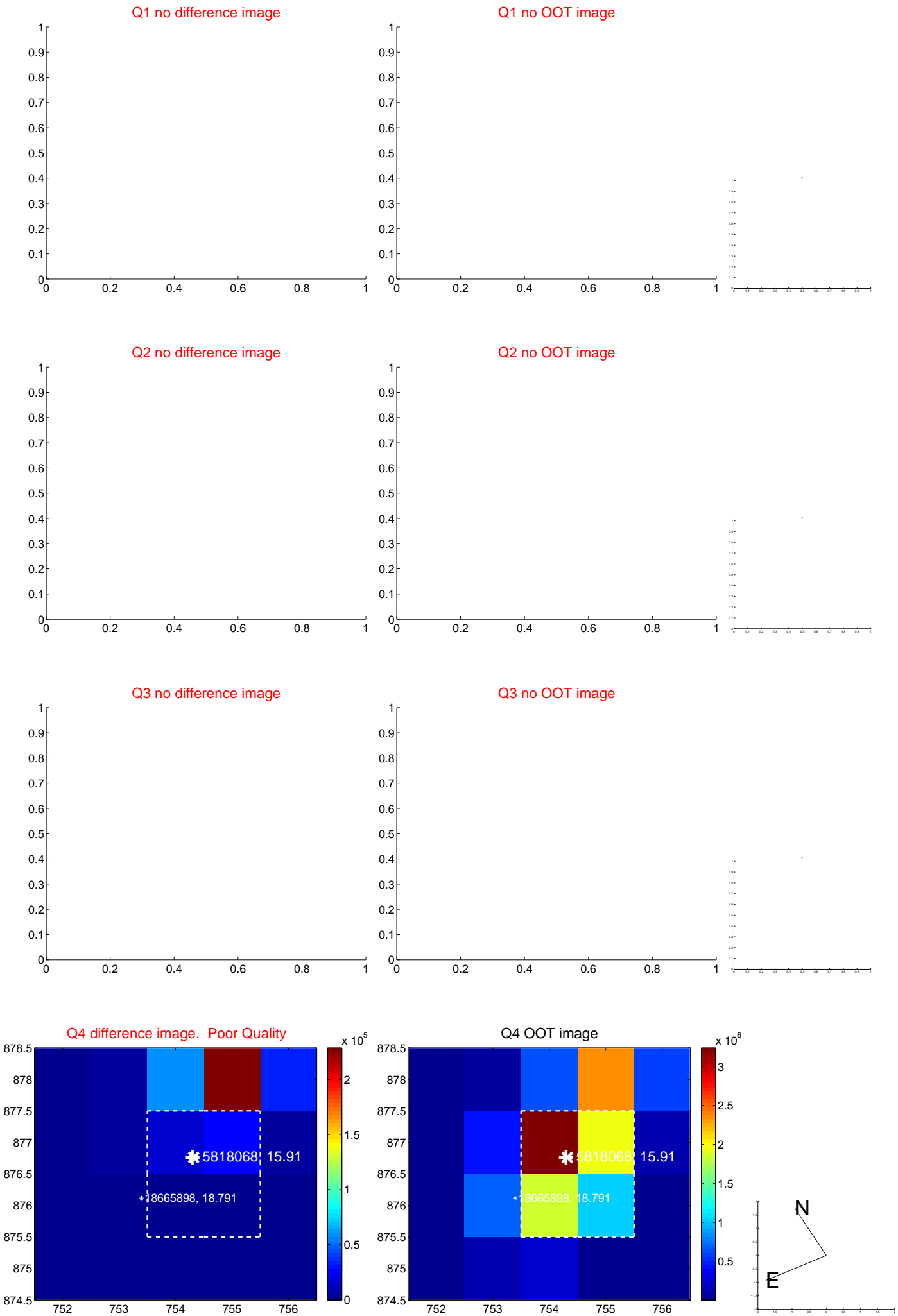
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	28.54 ± 0.11	260.77	-24.03 ± 0.12	15.40 ± 0.09

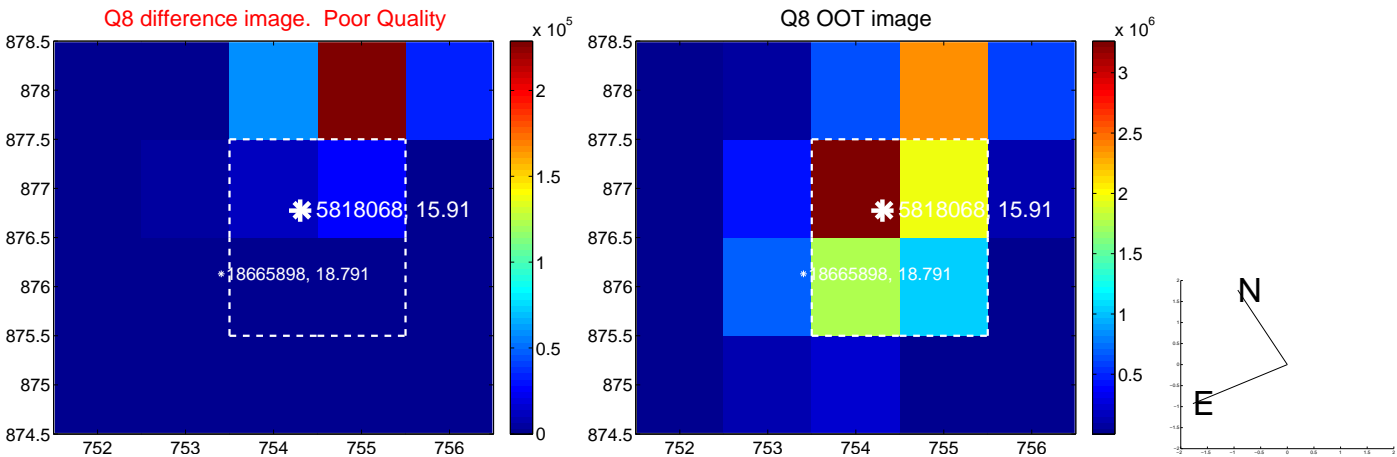
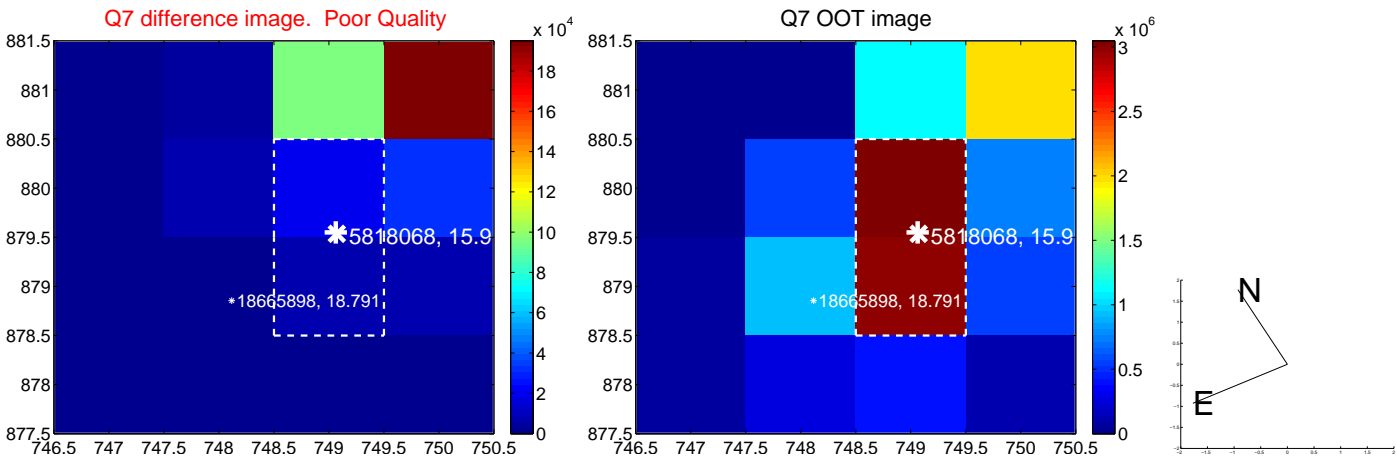
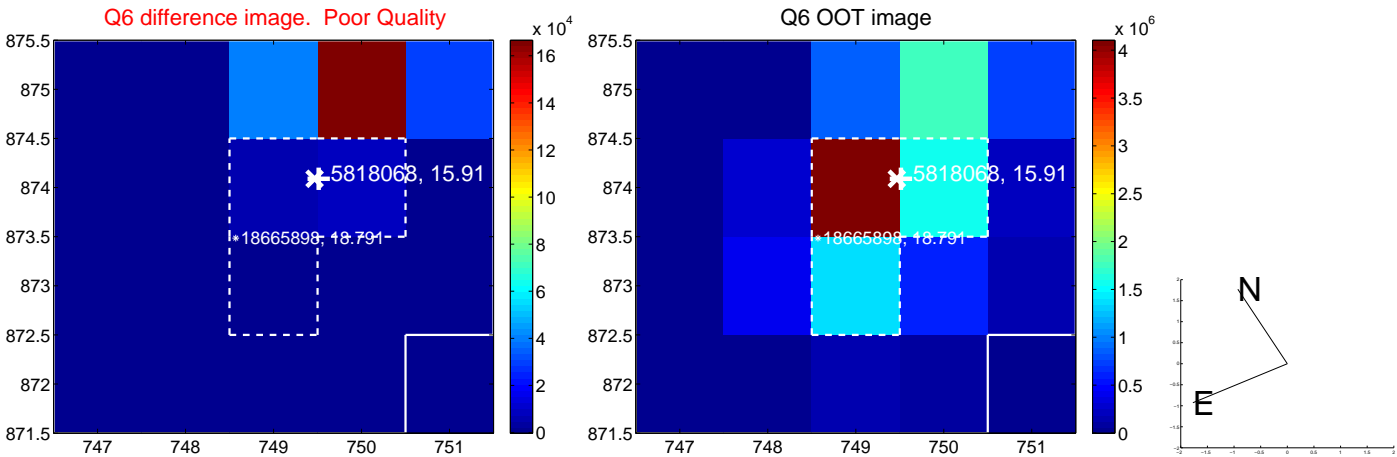
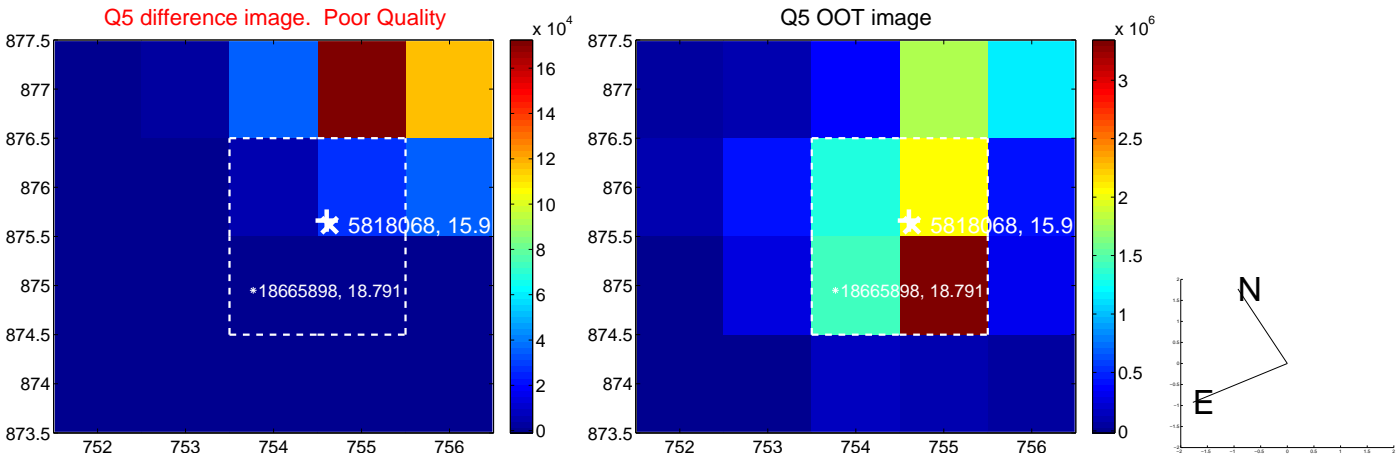


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

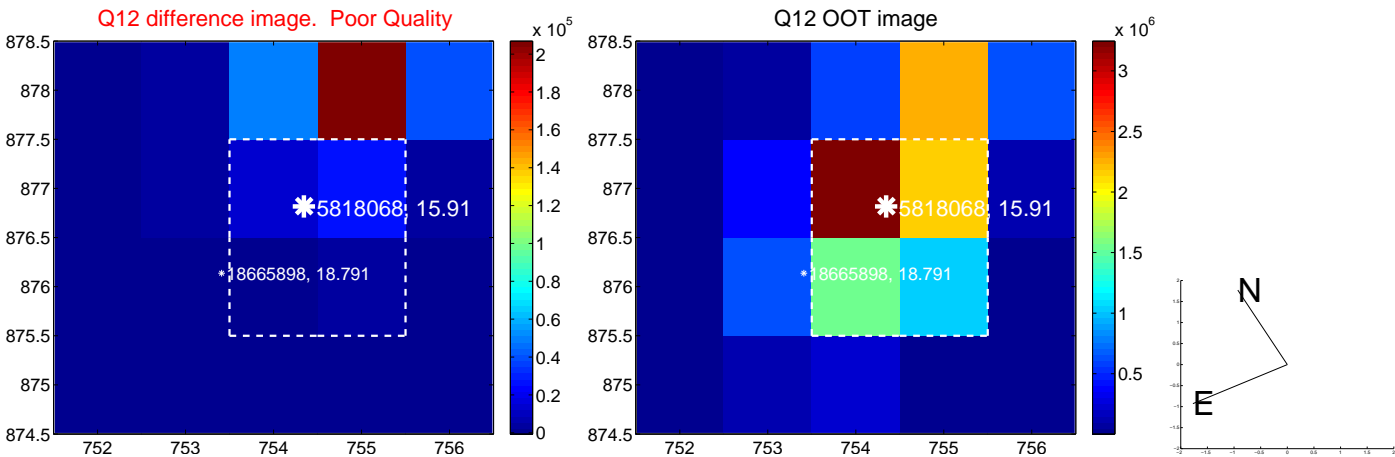
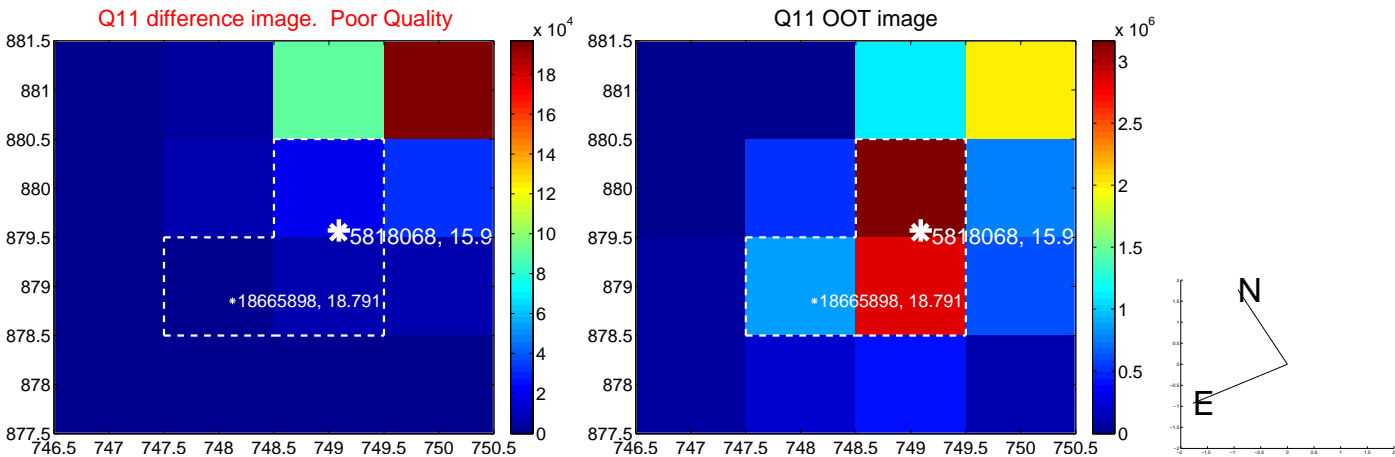
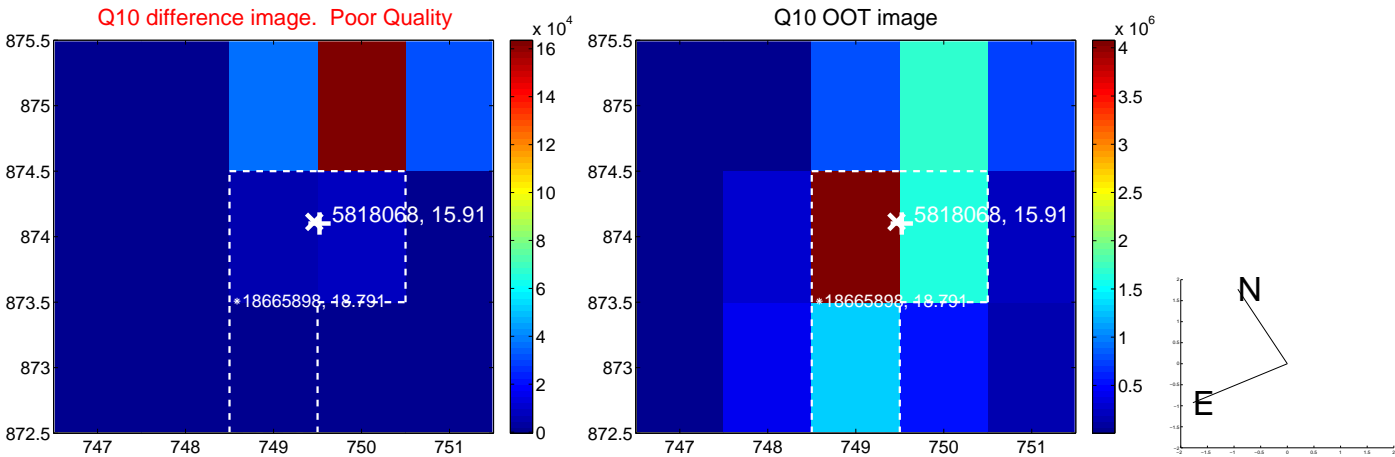
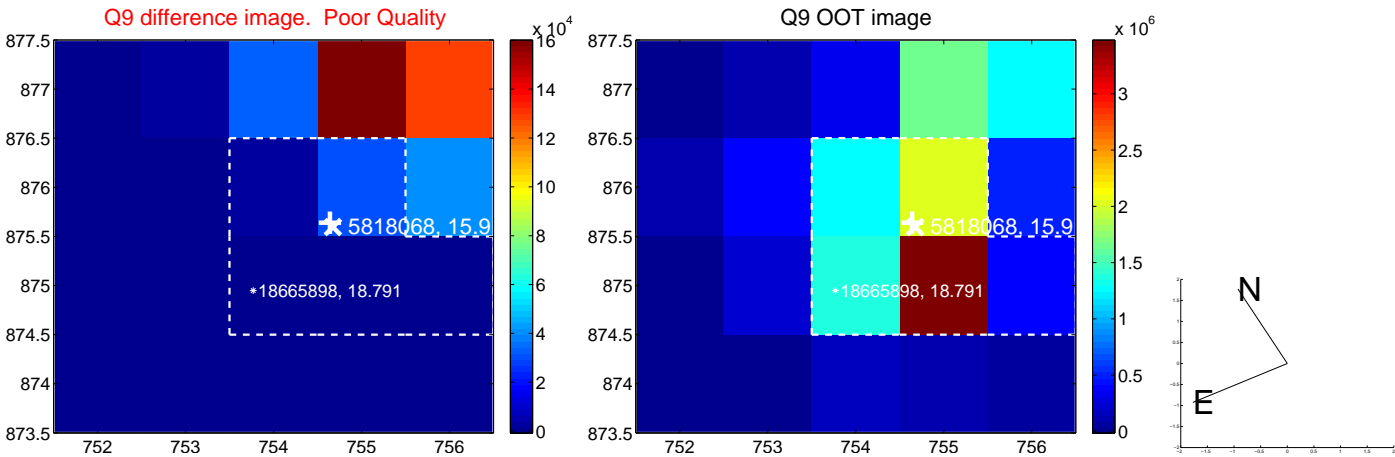
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



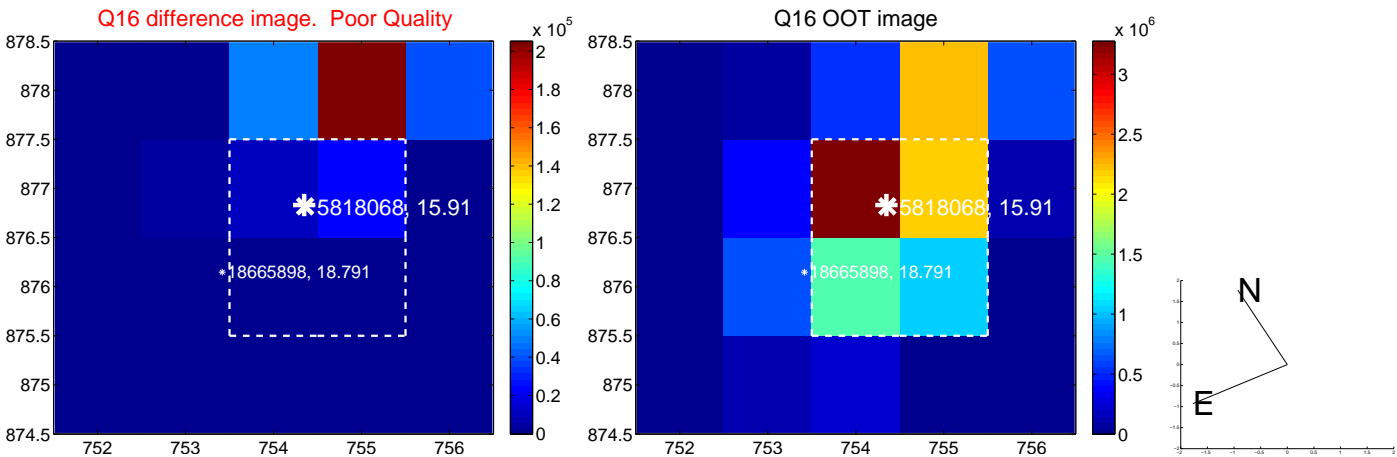
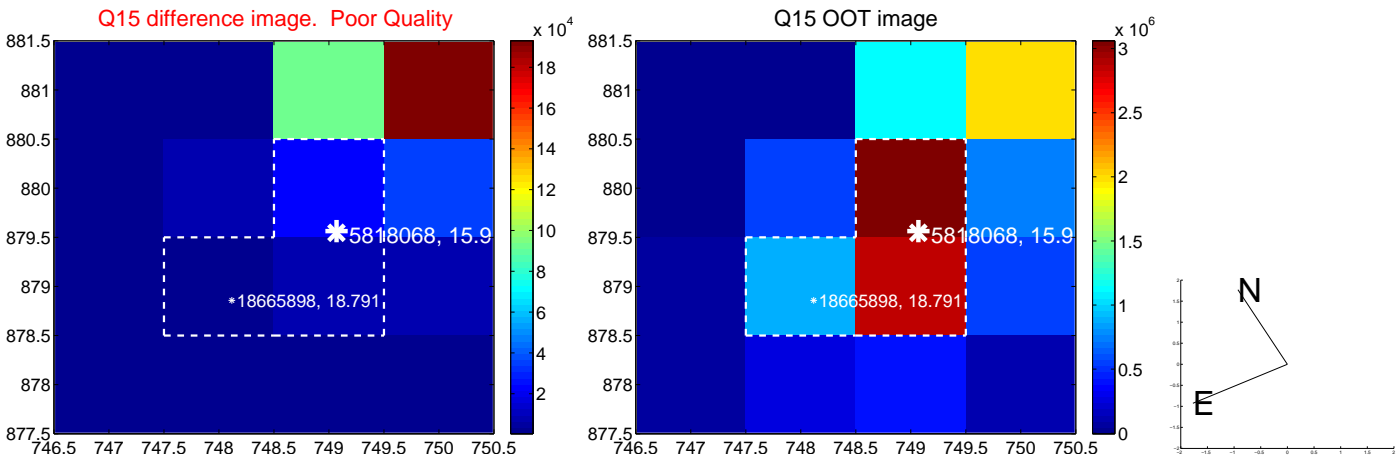
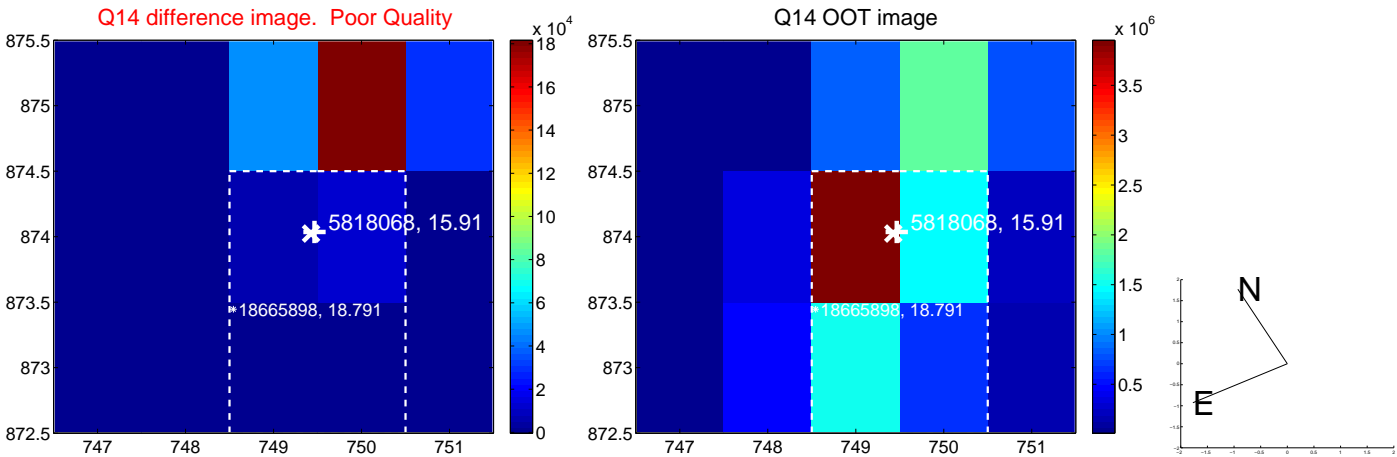
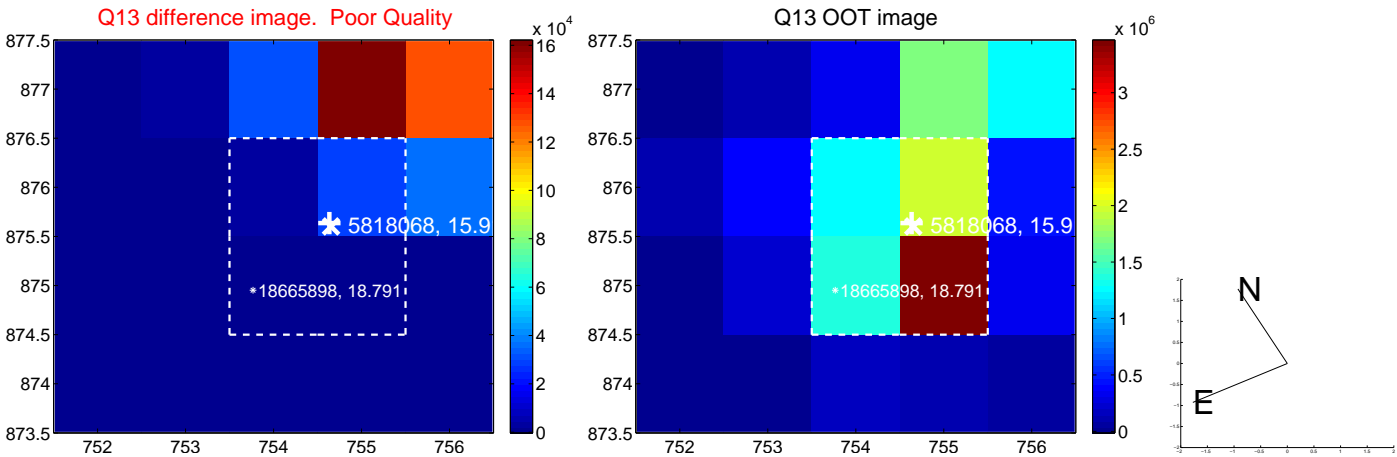
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



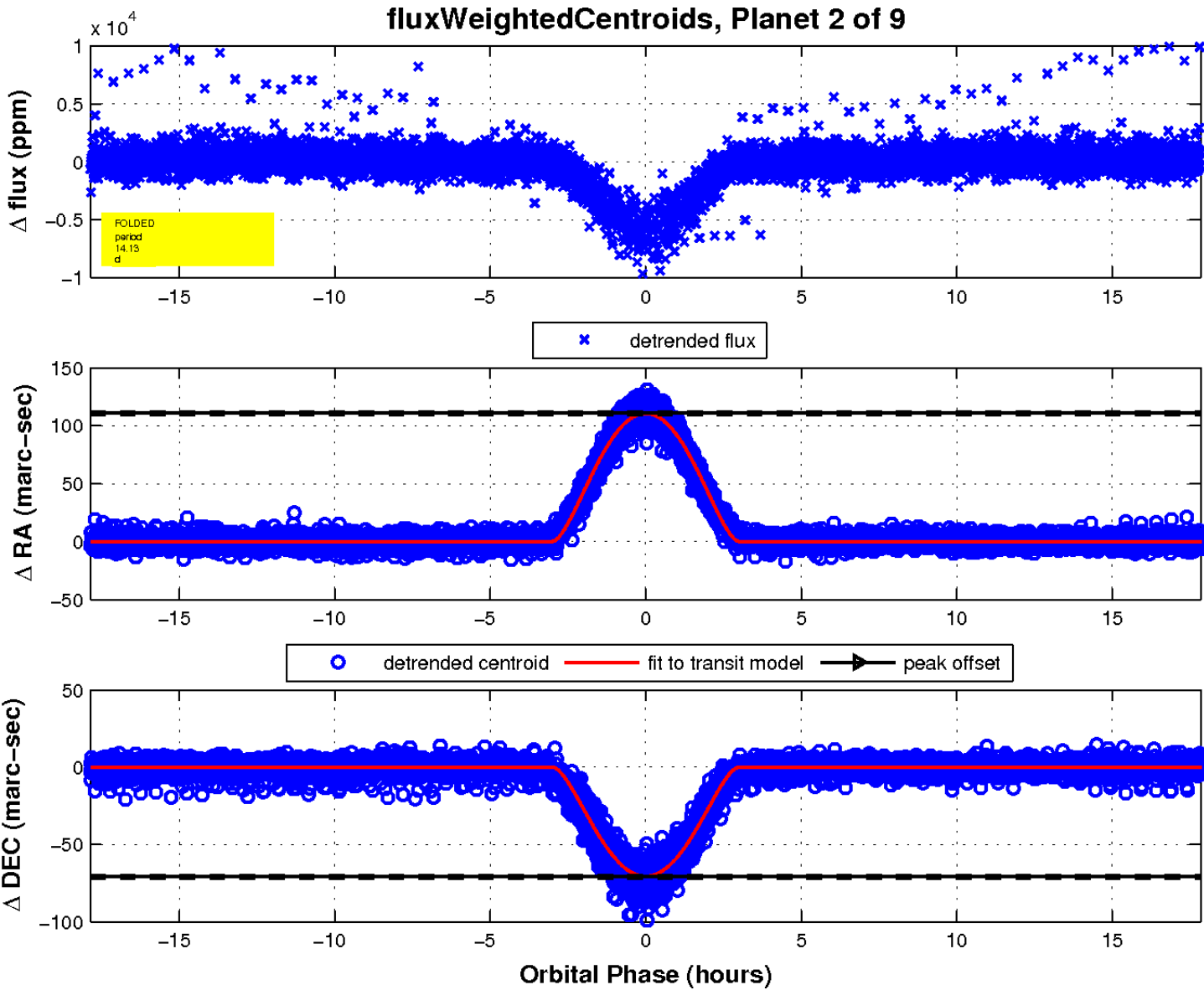
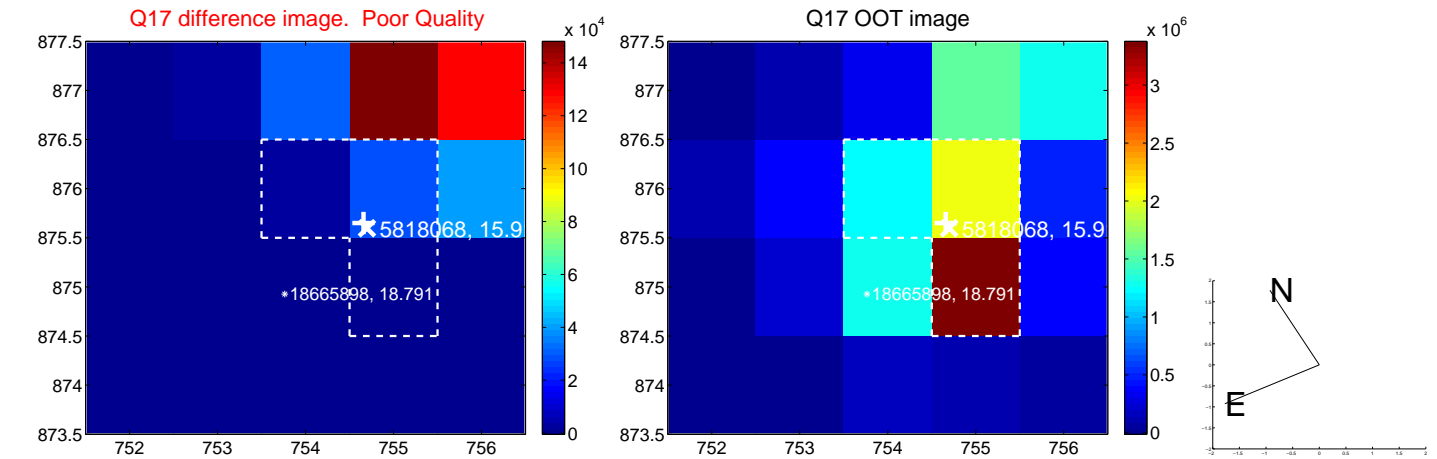
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

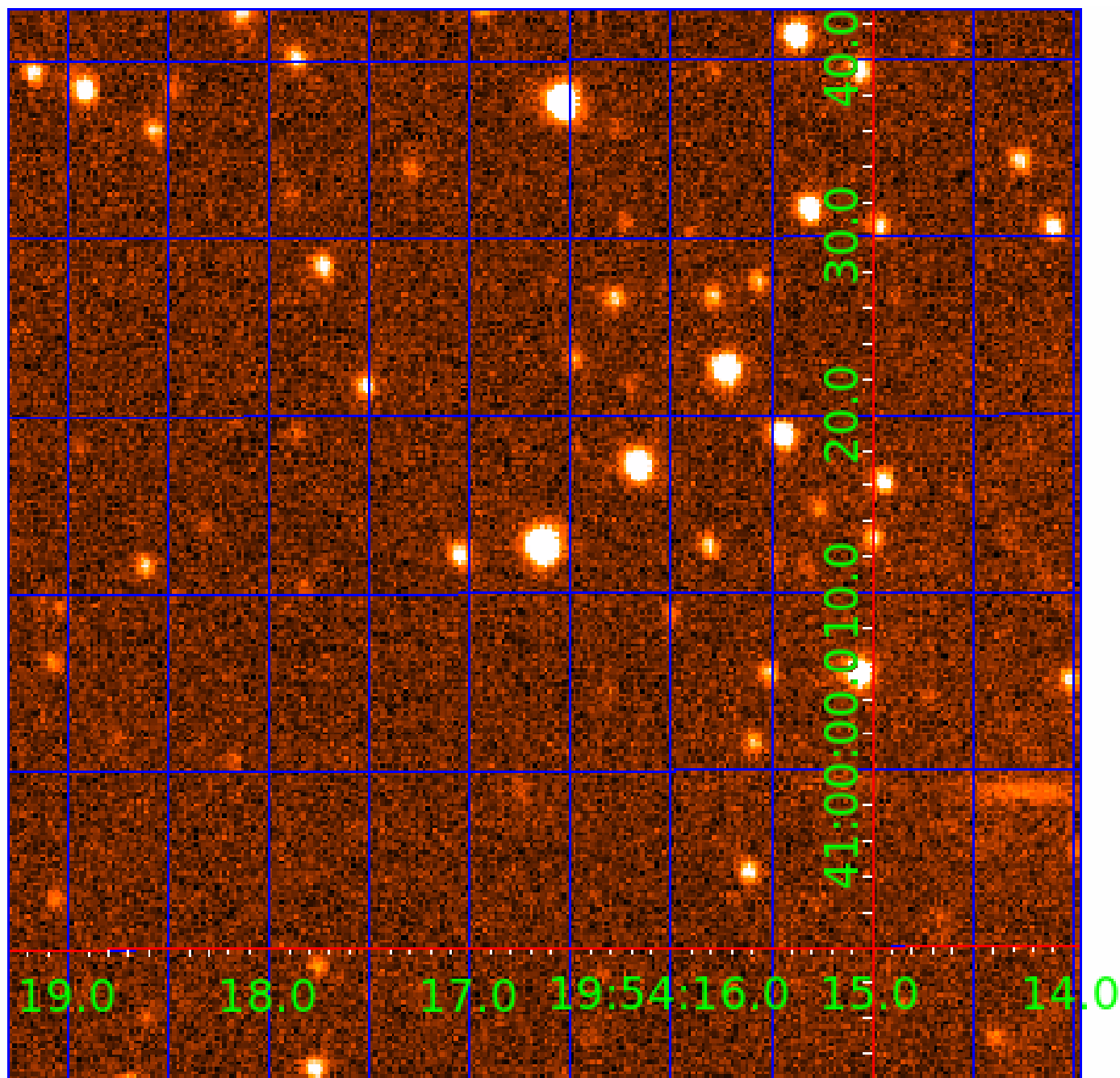


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005818068

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})
005818068-01	OBS	3332.01	14.126774	137.903508	7711.9	5.834	176.8	151.1	0.78	5656	11.96	47.69
005818068-02	OBS	No	14.126741	134.434129	4687.5	5.952	118.8	103.9	0.78	5656	9.25	47.69
005818068-03	OBS	No	385.177244	290.654428	11068.0	25.358	25.8	31.2	0.78	5656	9.19	0.58
005818068-04	OBS	No	347.941645	340.274480	10536.9	23.581	25.9	25.9	0.78	5656	8.95	0.67
005818068-06	OBS	No	372.776819	278.193745	12716.4	25.520	25.0	32.7	0.78	5656	9.82	0.61
005818068-07	OBS	No	360.349029	320.336863	12126.7	29.771	24.6	35.6	0.78	5656	9.79	0.64
005818068-08	OBS	No	385.172458	283.104389	11740.6	31.154	24.9	34.9	0.78	5656	9.82	0.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005818068-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-03	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
005818068-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS
005818068-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—SAME_NTL_PERIOD—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.

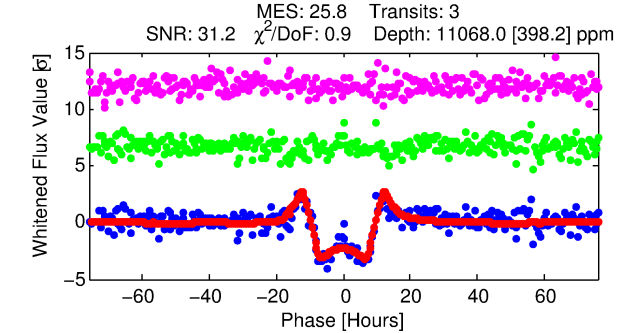
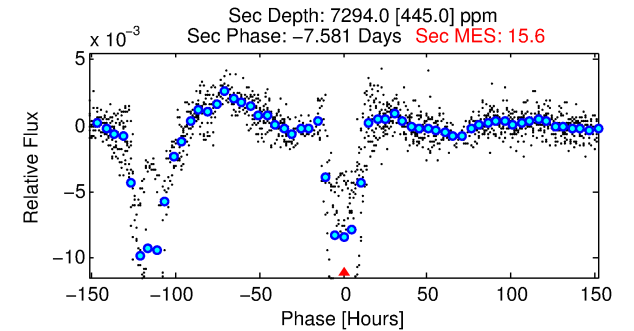
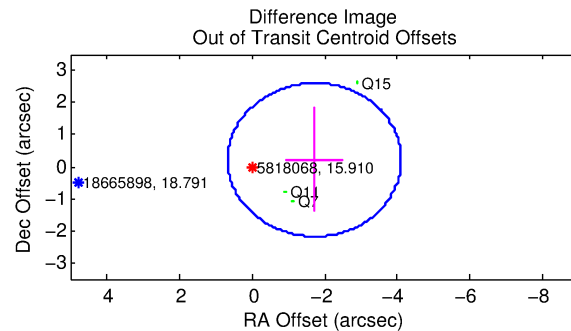
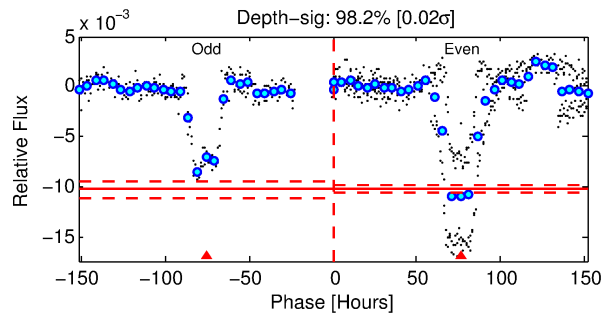
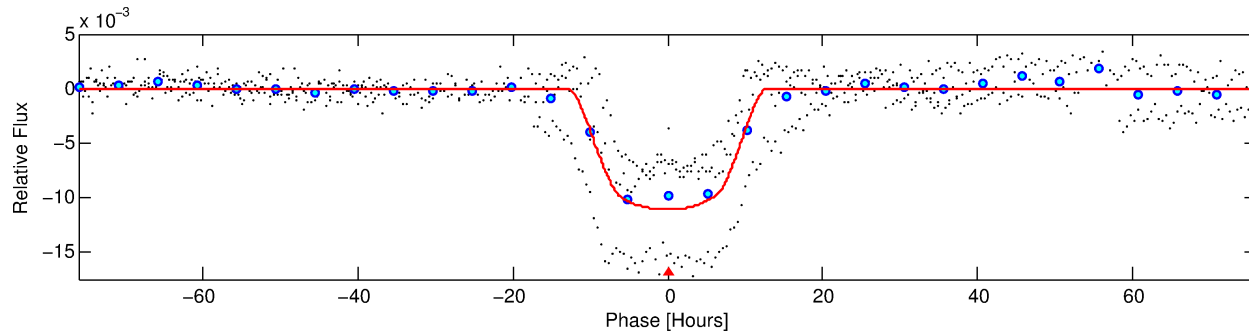
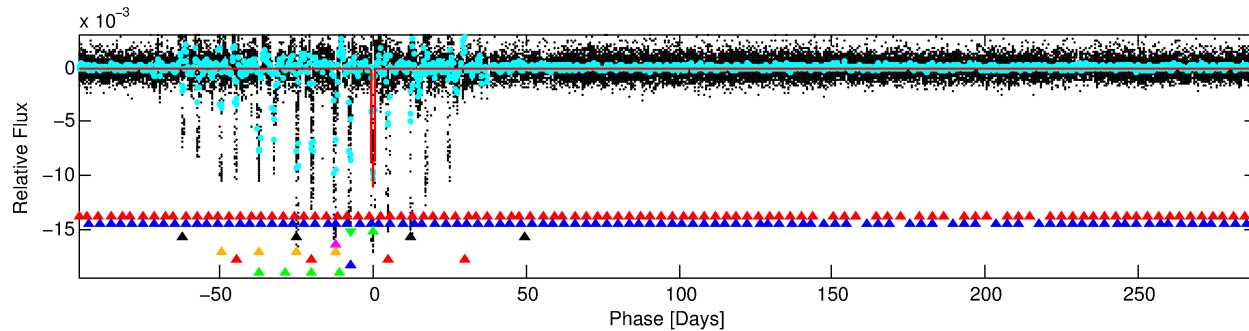
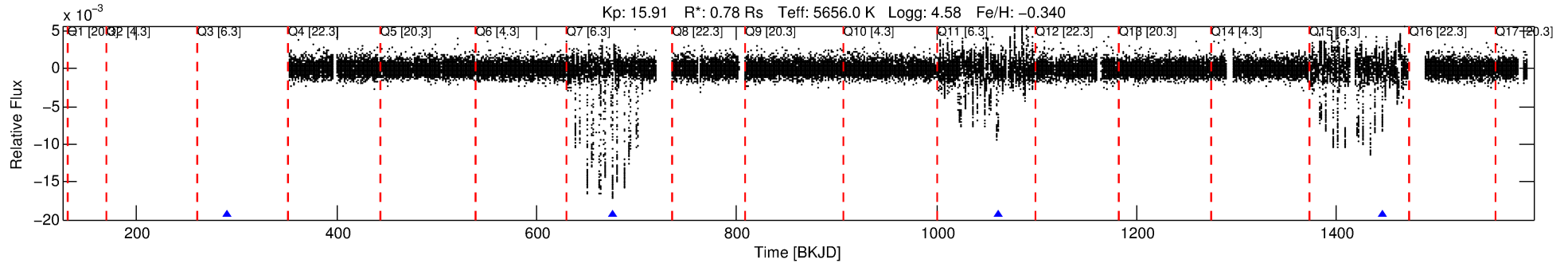
Ephemeris Match Information For 005818068-03

No Significant Match Found

DV One-Page Summary

KIC: 5818068 Candidate: 3 of 9 Period: 385.177 d
KOI: K03332 Corr: No Ephemeris Match

Kp: 15.91 R*: 0.78 Rs Teff: 5656.0 K Logg: 4.58 Fe/H: -0.340



DV Fit Results:

Period = 385.17724 [0.00533] d
Epoch = 290.6544 [0.0117] BKJD
Rp/R* = 0.1075 [0.0022]
a/R* = 88.63 [2.55]
b = 0.80 [0.01]
Seff = 0.58 [0.19]
Teq = 223 [18] K
Rp = 9.19 [2.43] Re
a = 0.9848 [0.2114] AU
Ag = 46047.88 [14320.69] [3.22σ]
Teffp = 5042 [190] K [25.25σ]

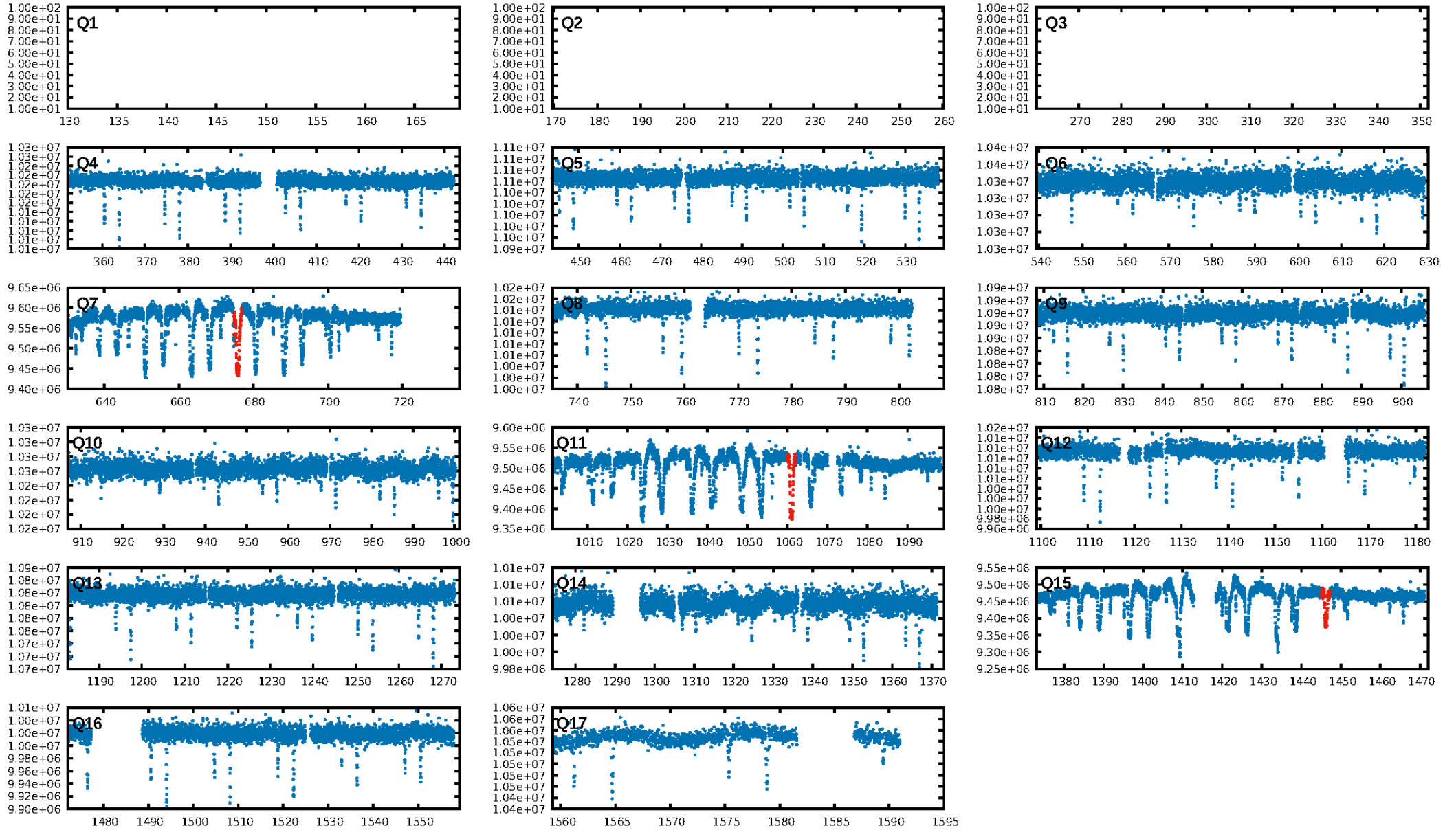
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00σ]
LongPeriod-sig: 1.4% [0.02σ]
ModelChiSquare2-sig: 6.1%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.829
Centroid-sig: 0.0%
Centroid-so: 1.355 arcsec [3.91σ]
OotOffset-rm: 1.732 arcsec [2.18σ]
KicOffset-rm: 1.759 arcsec [2.09σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.67 [2/3]

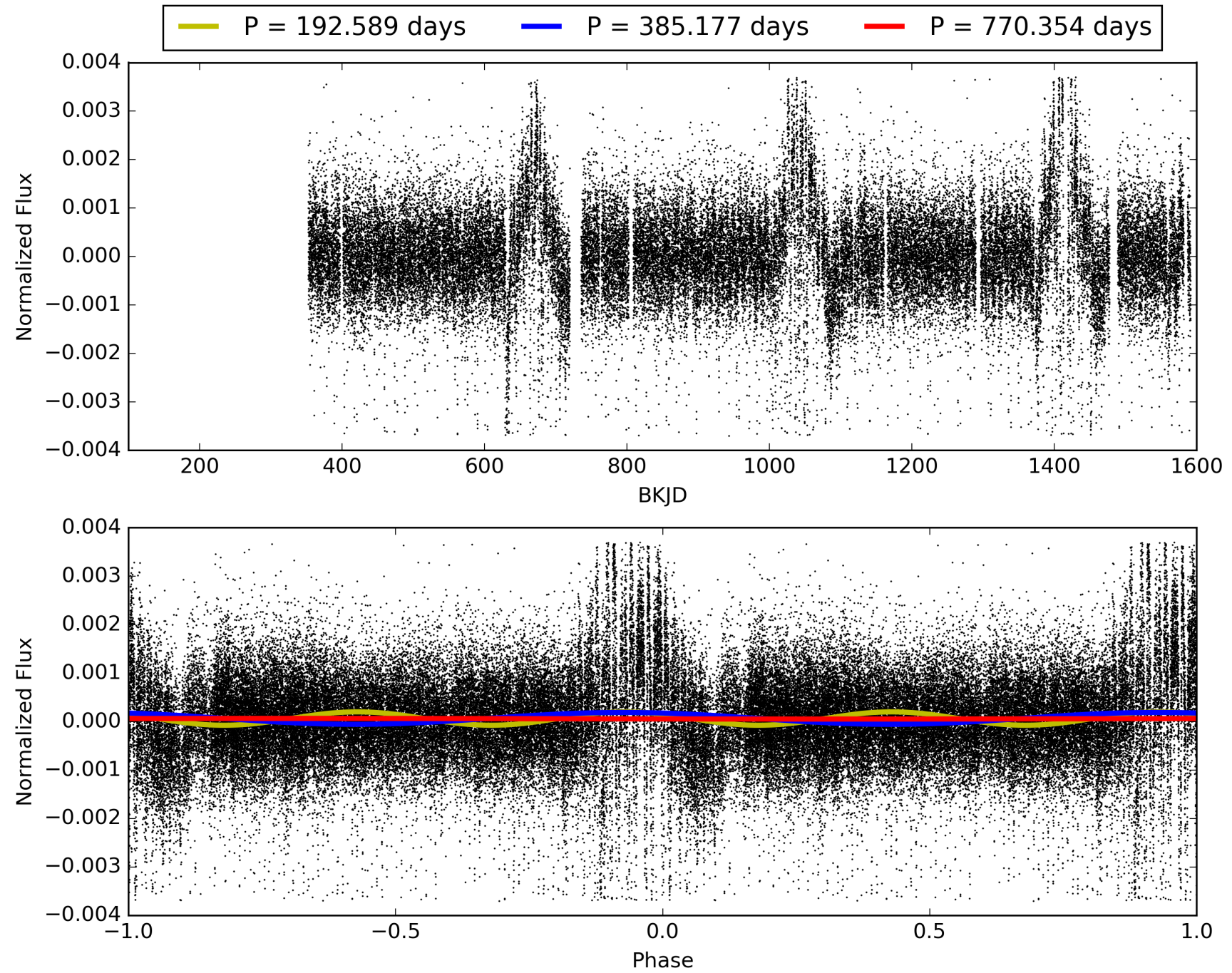
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:34:35 Z

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

TCE 005818068-03, PDC Light Curves

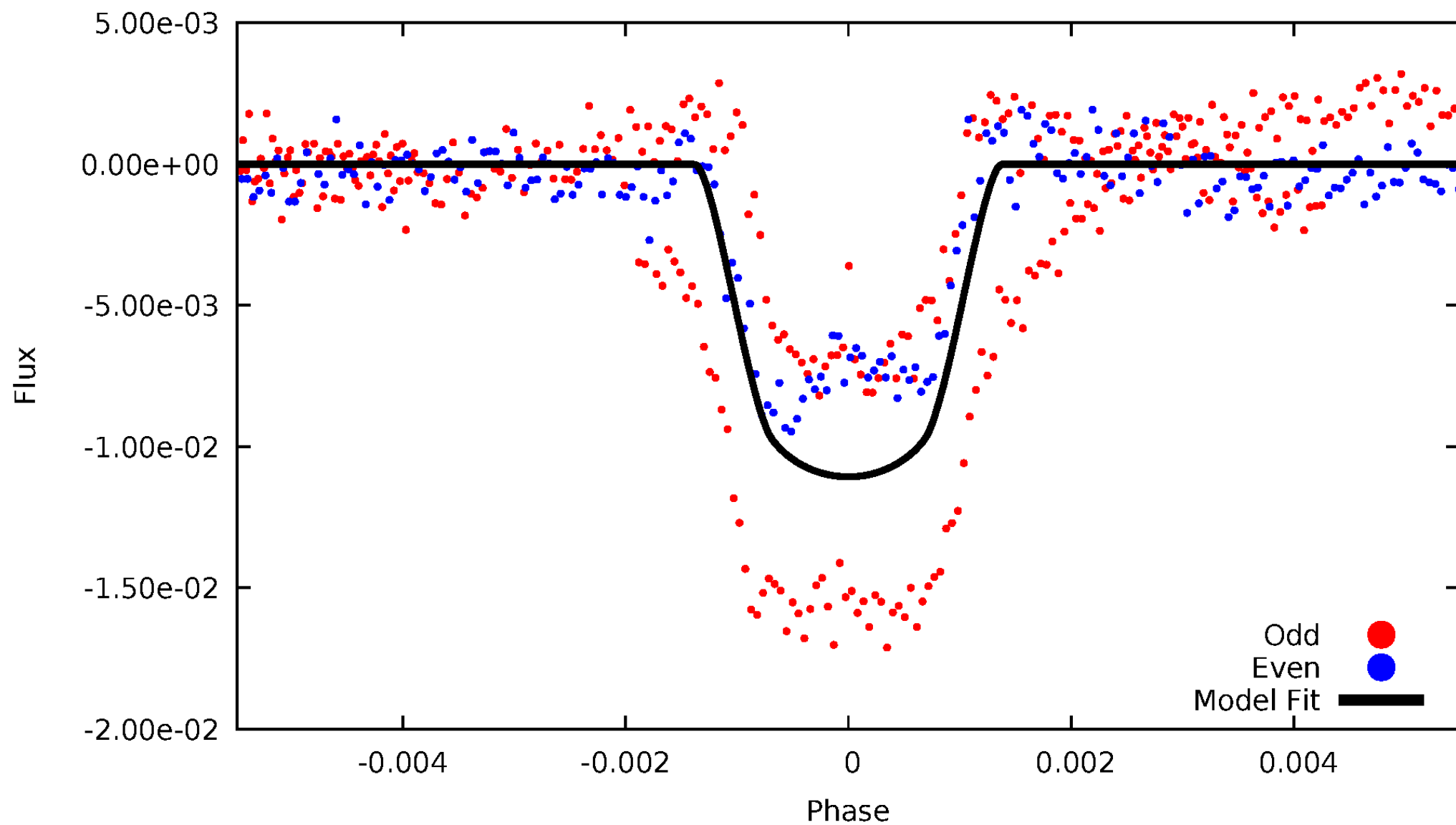


TCE 005818068-03



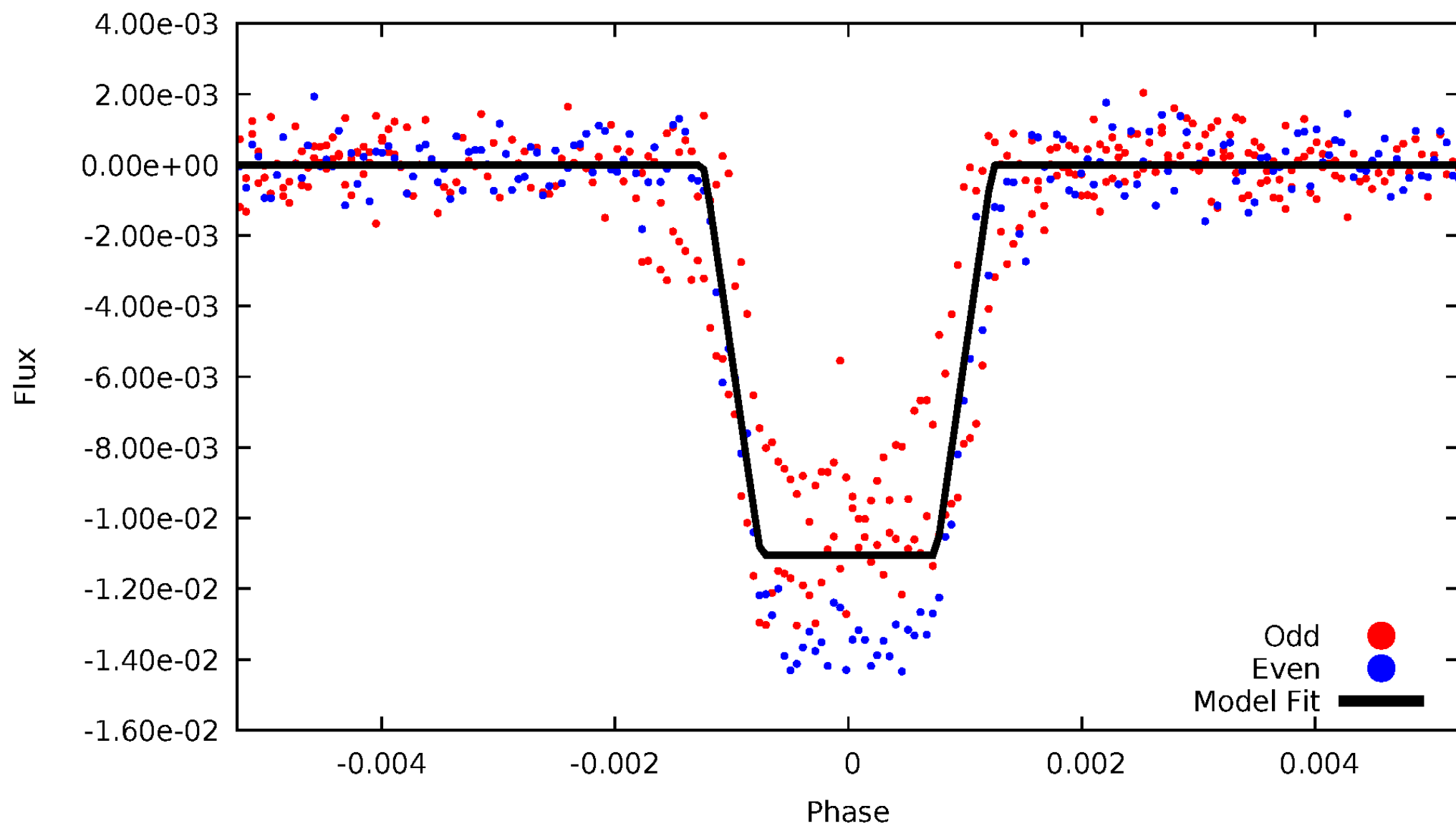
DV Odd/Even

TCE 005818068-03



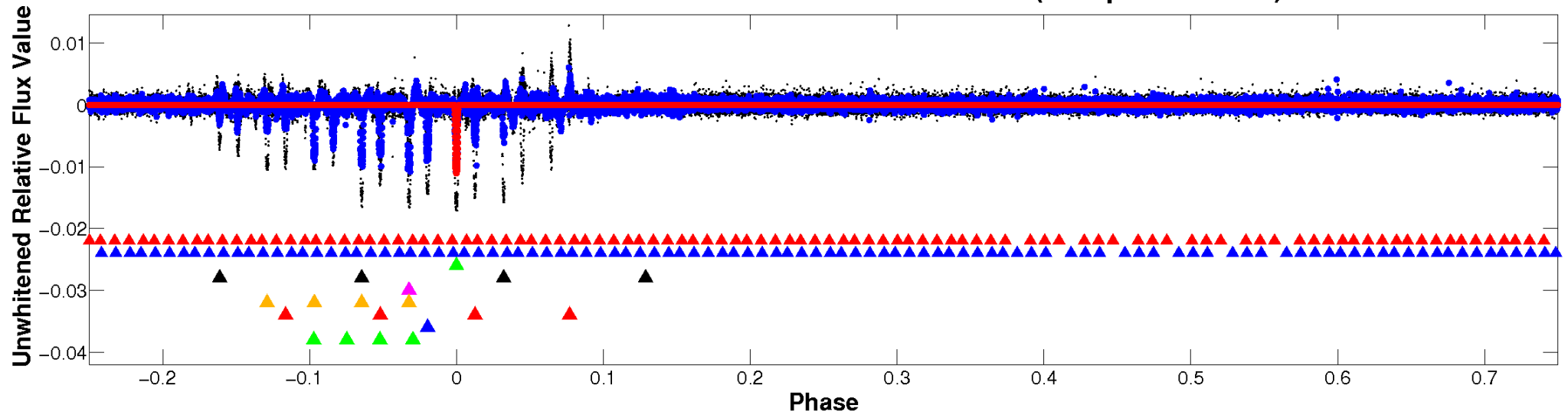
ALT Odd/Even

TCE 005818068-03

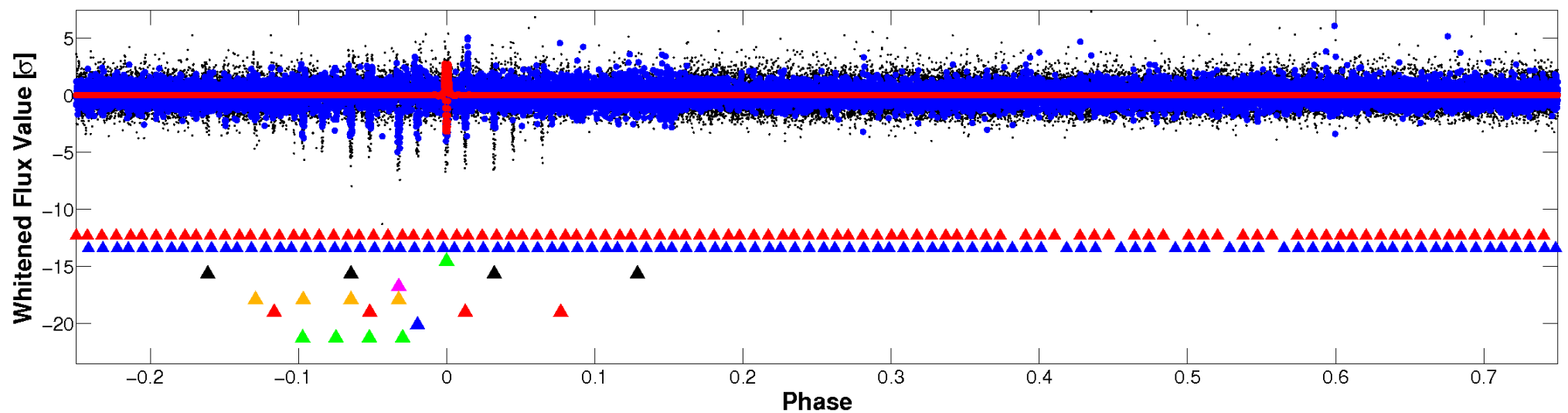


Non-Whitened Vs. Whitened Light Curve

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

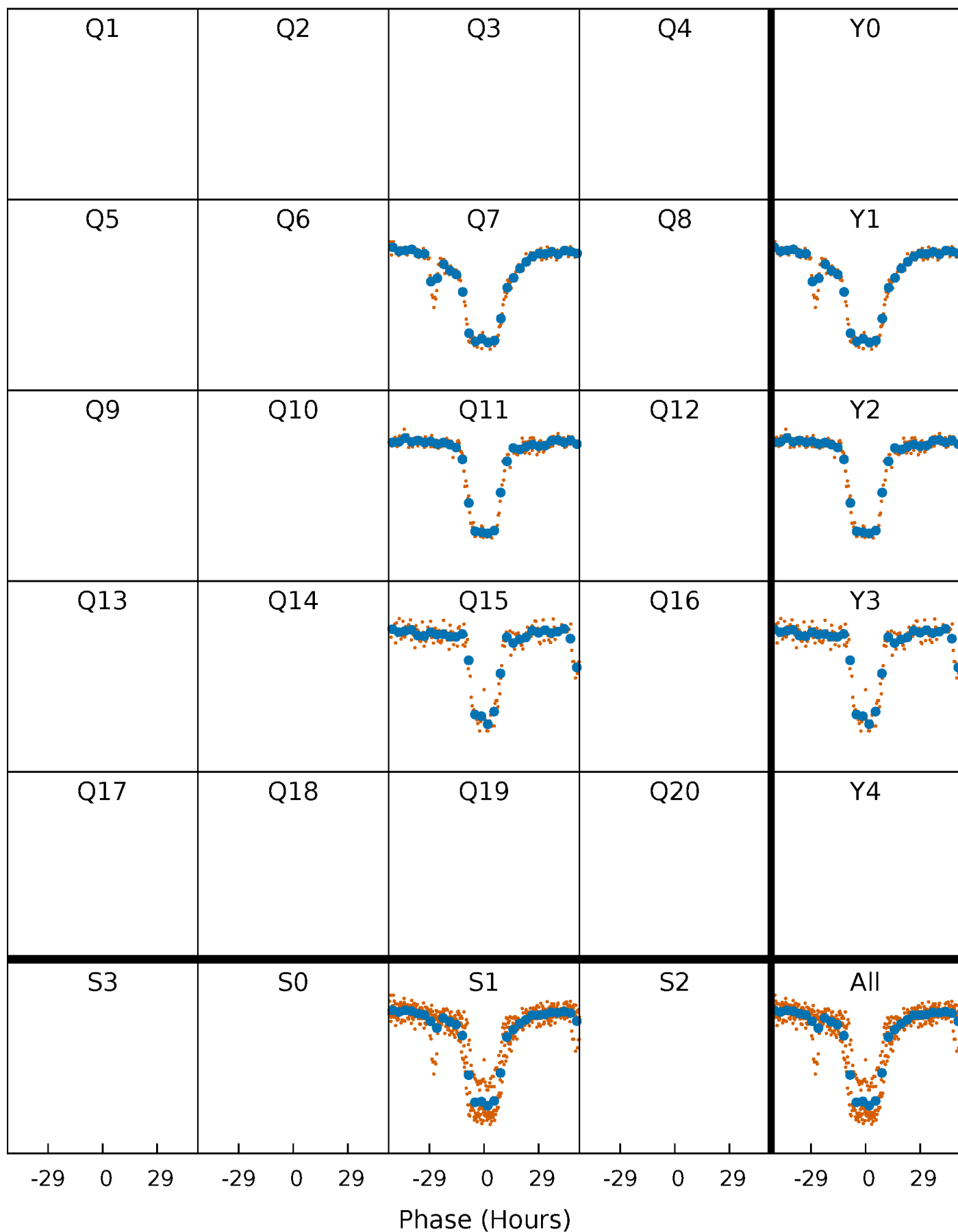


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



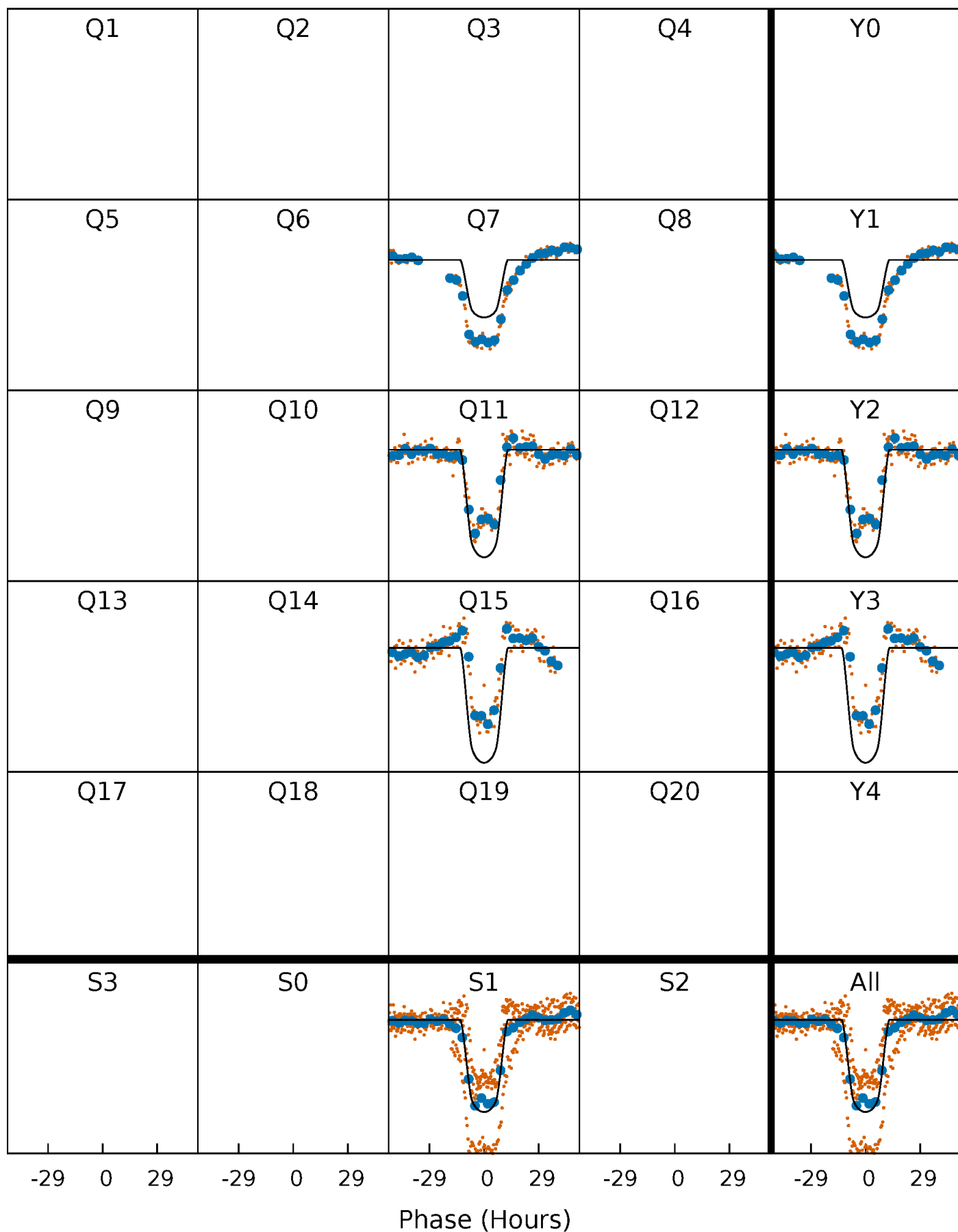
PDC Quarter-Phased Transit Curves

TCE 005818068-03 $P=385.177244$ Days $T_0=290.654428$ (BKJD)



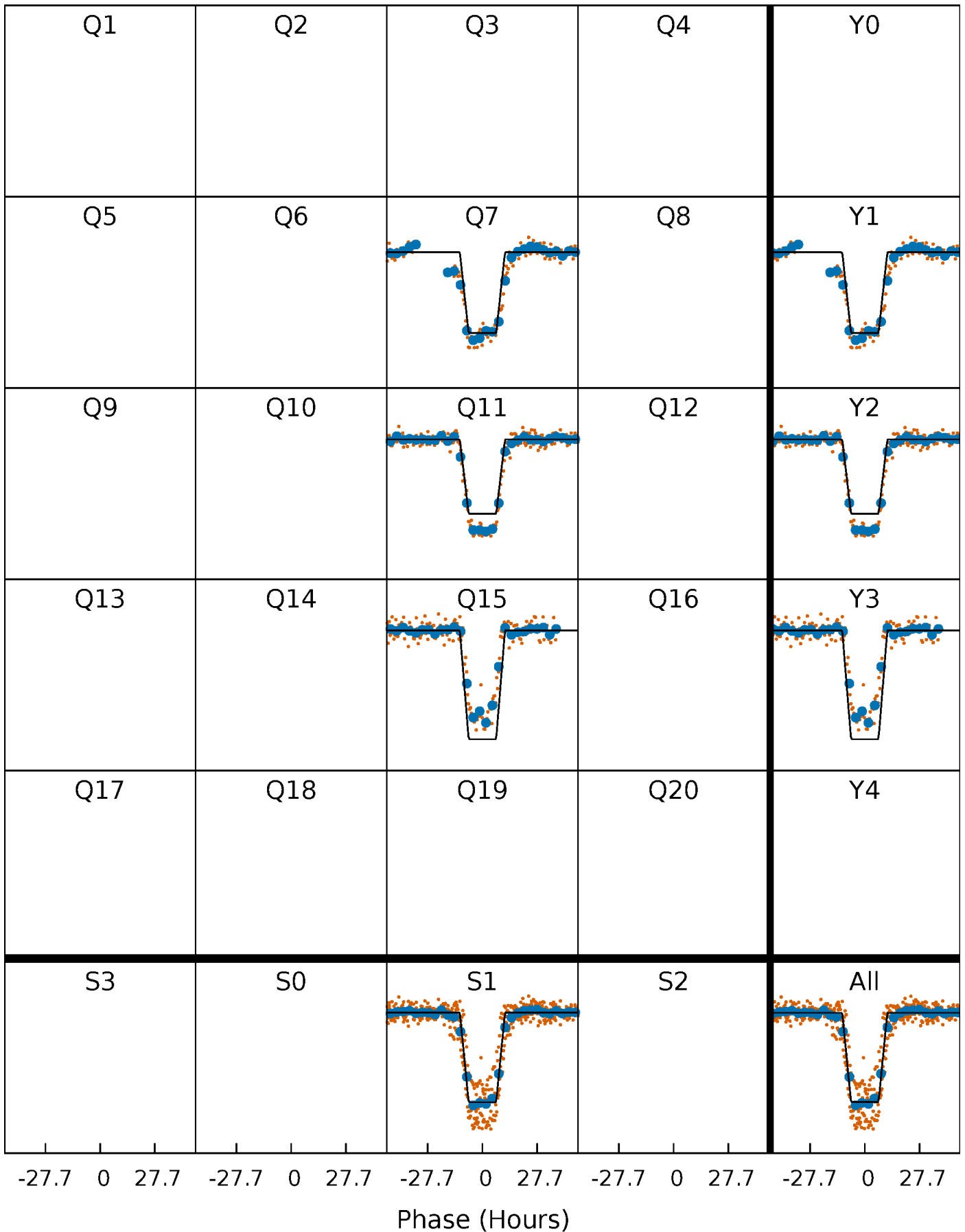
DV Quarter-Phased Transit Curves

TCE 005818068-03 $P=385.177244$ Days $T_0=290.654428$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

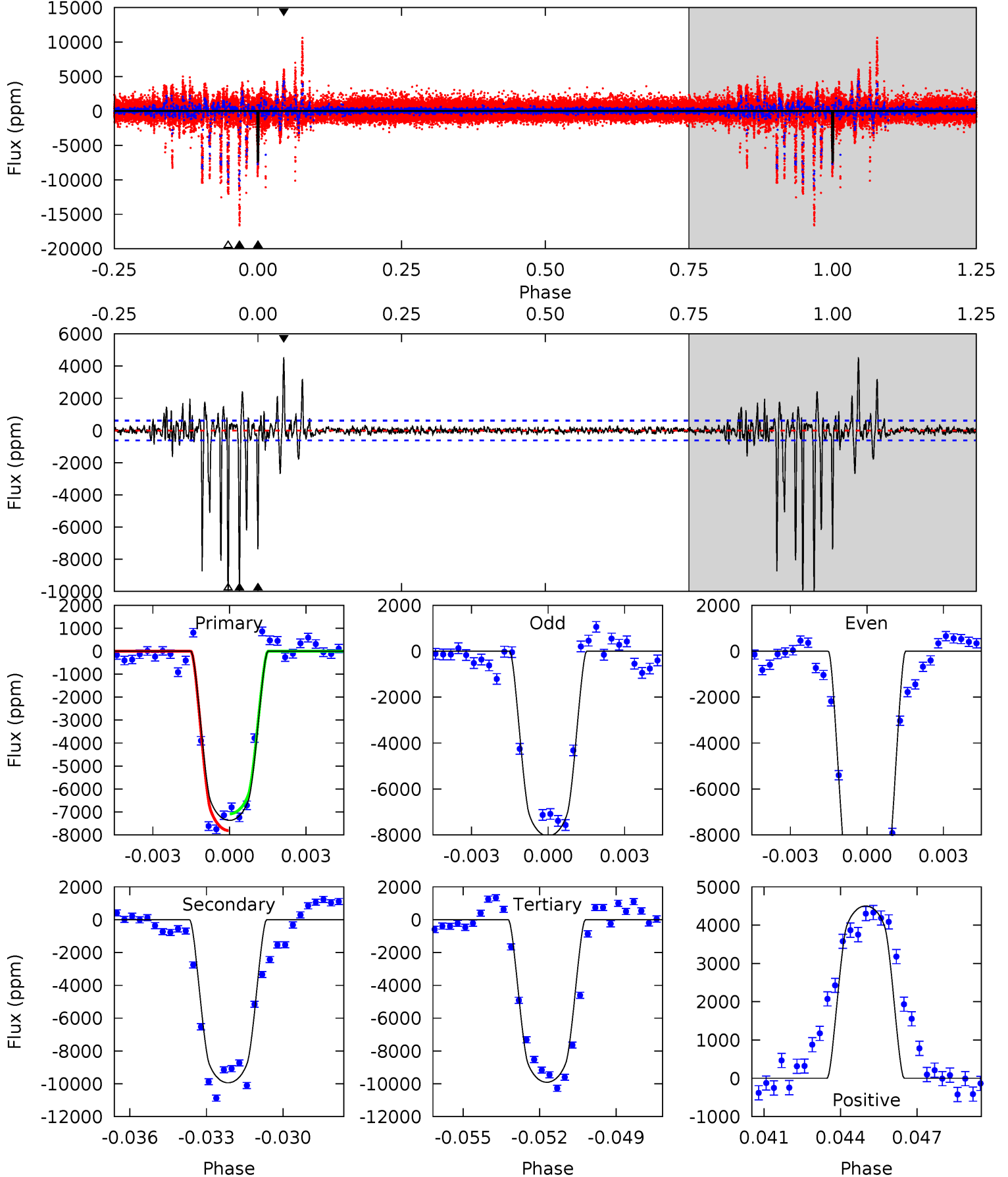
TCE 005818068-03 $P=385.213473$ Days $T_0=290.575061$ (BKJD)



DV Model-Shift Uniqueness Test

005818068-03, P = 385.177244 Days, E = 290.654428 Days

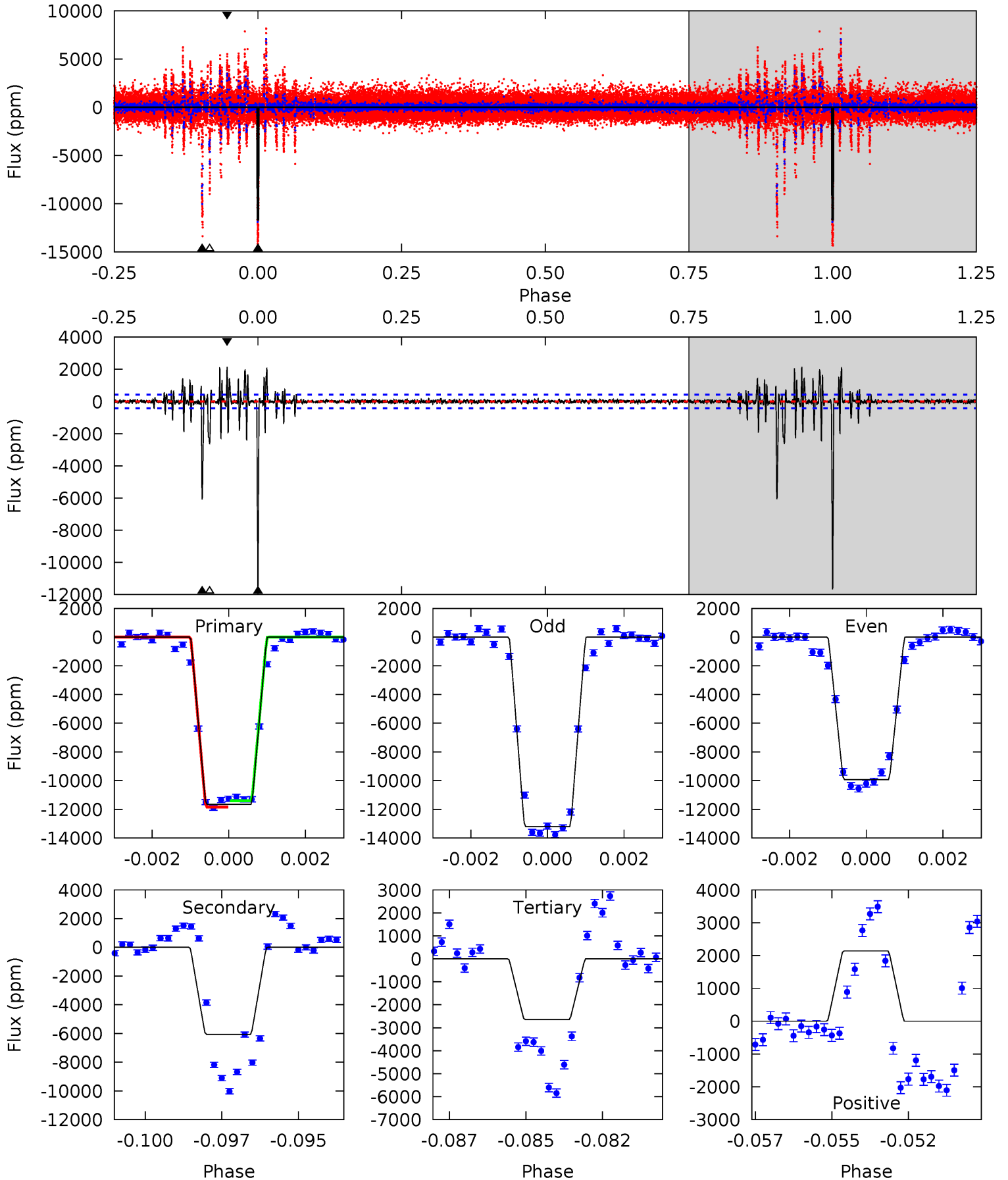
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.3	85.4	85.2	38.7	5.27	2.99	6.46	-21.8	24.6	0.28	46.8	17.4	1.31	0.31	0



Alt Model-Shift Uniqueness Test

005818068-03, P = 385.213473 Days, E = 290.575061 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
146.1	76.0	33.1	26.8	5.29	3.02	3.50	113.0	119.3	42.9	49.1	20.6	0.93	0.16	2.52



Stellar Parameters For KIC 005818068

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5656^{+186}_{-186}	$4.583^{+0.040}_{-0.160}$	$-0.340^{+0.300}_{-0.300}$	$0.784^{+0.207}_{-0.065}$	$0.873^{+0.089}_{-0.106}$	$2.548^{+0.530}_{-1.153}$
	+3%/-3%	+1%/-3%	+88%/-88%	+26%/-8%	+10%/-12%	+21%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005818068-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9941 ± 116	$9.41^{+1.21}_{-0.63}$	318^{+19}_{-15}	5482^{+176}_{-170}	59137^{+8188}_{-11139}
Alt.	-6063 ± 80	$9.19^{+1.21}_{-0.62}$	317^{+18}_{-14}	4959^{+153}_{-148}	38089^{+4537}_{-7348}

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 $A_{obs} \gg 1.0$

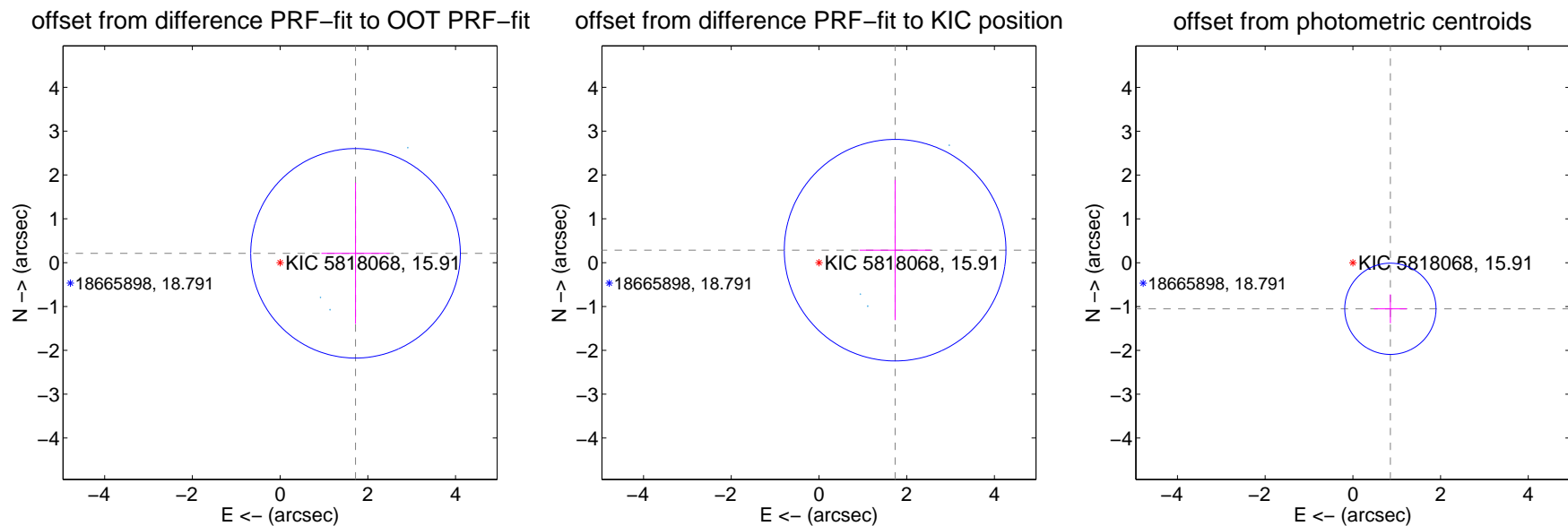
DV Centroid Data

Supplemental centroid analysis for 005818068-03. Kepler magnitude: 15.91. Transit SNR 31.22

There are 3 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.732 ± 0.796	2.18	-1.719 ± 0.777	0.213 ± 1.611
PRF-fit source offset from KIC position	1.759 ± 0.842	2.09	-1.736 ± 0.812	0.284 ± 1.596
photometric centroid source offset	1.36 ± 0.35	3.91	-0.86 ± 0.37	-1.05 ± 0.33

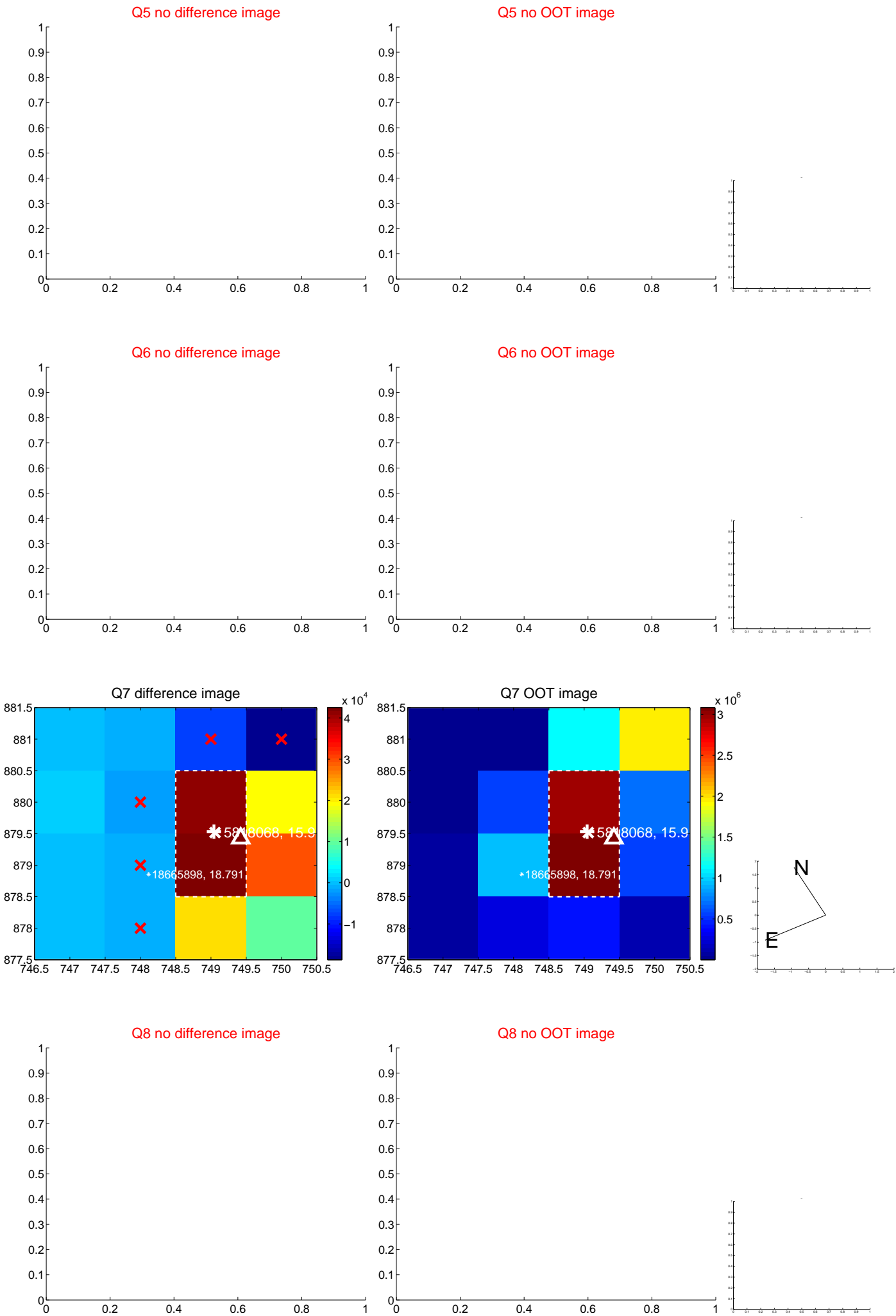


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

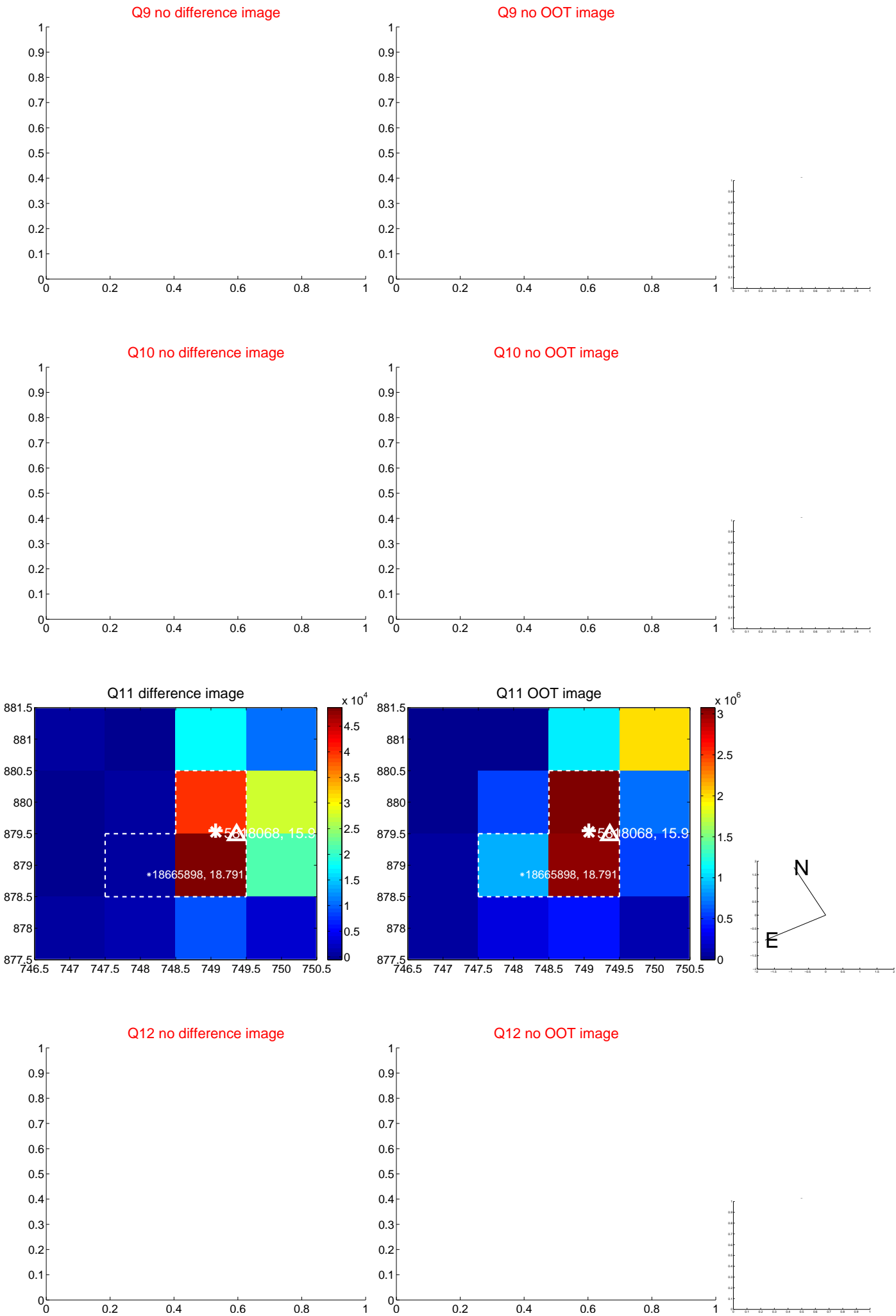
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



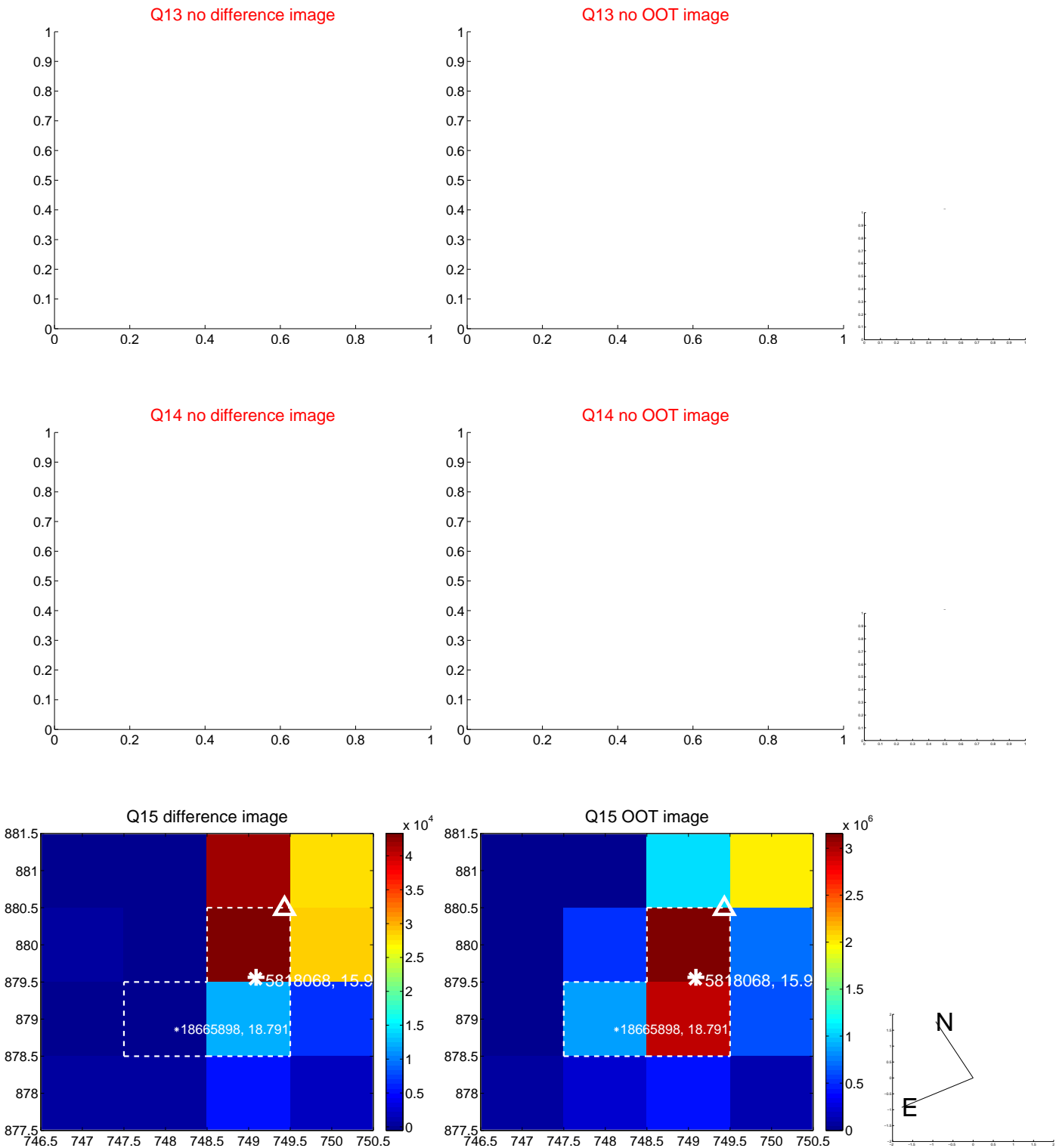
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



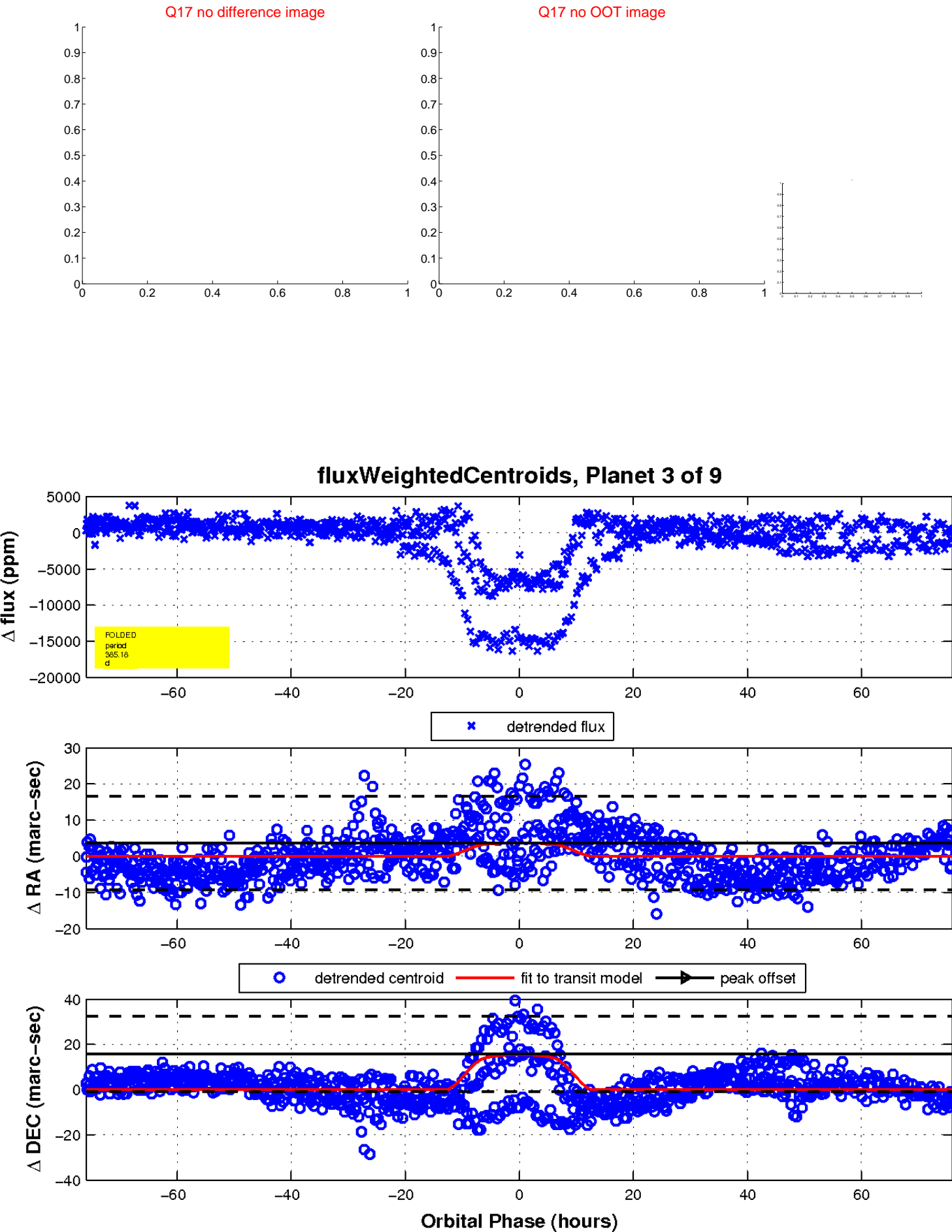
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

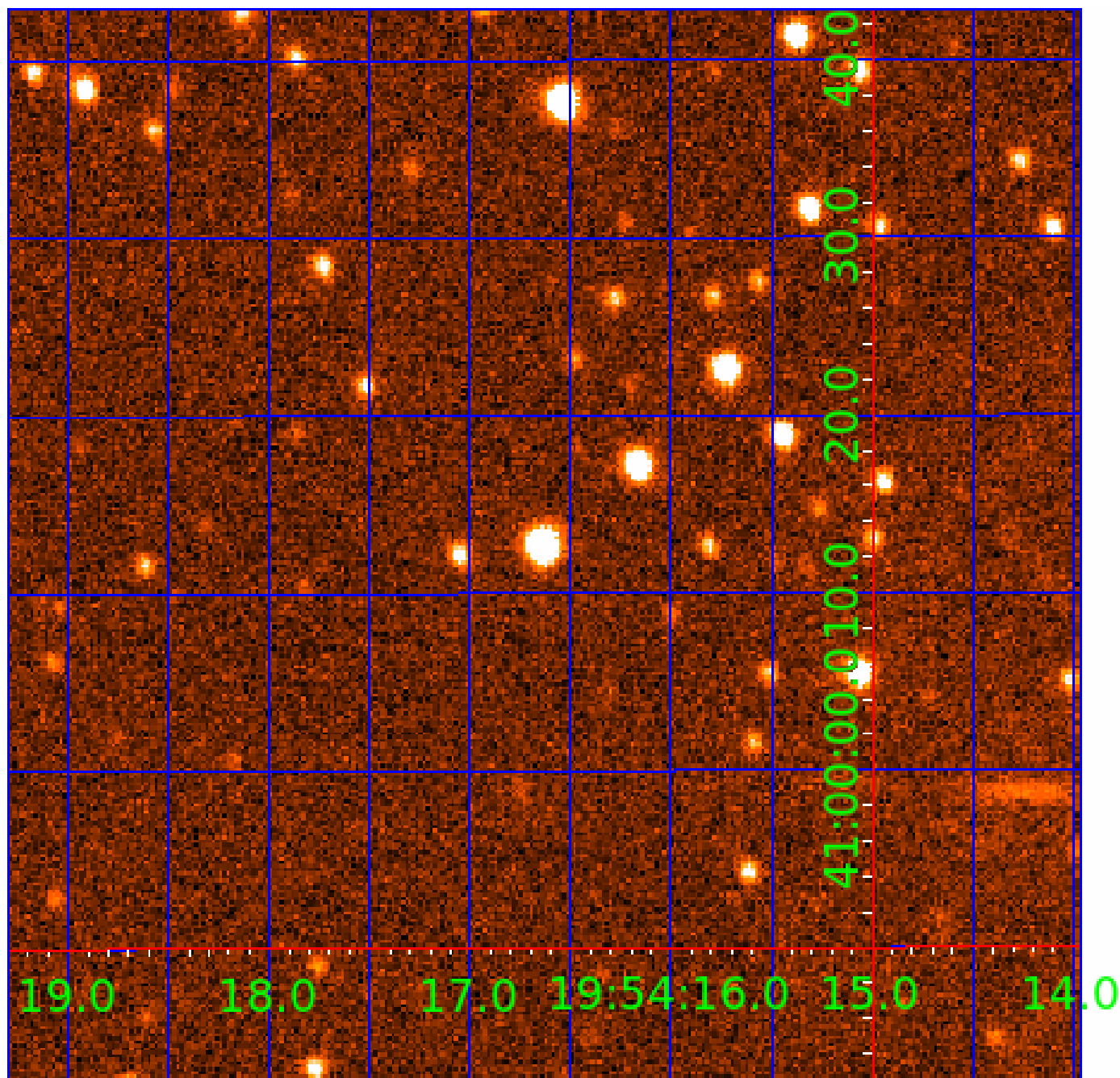


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005818068

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})
005818068-01	OBS	3332.01	14.126774	137.903508	7711.9	5.834	176.8	151.1	0.78	5656	11.96	47.69
005818068-02	OBS	No	14.126741	134.434129	4687.5	5.952	118.8	103.9	0.78	5656	9.25	47.69
005818068-03	OBS	No	385.177244	290.654428	11068.0	25.358	25.8	31.2	0.78	5656	9.19	0.58
005818068-04	OBS	No	347.941645	340.274480	10536.9	23.581	25.9	25.9	0.78	5656	8.95	0.67
005818068-06	OBS	No	372.776819	278.193745	12716.4	25.520	25.0	32.7	0.78	5656	9.82	0.61
005818068-07	OBS	No	360.349029	320.336863	12126.7	29.771	24.6	35.6	0.78	5656	9.79	0.64
005818068-08	OBS	No	385.172458	283.104389	11740.6	31.154	24.9	34.9	0.78	5656	9.82	0.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005818068-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-03	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
005818068-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS
005818068-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—SAME_NTL_PERIOD—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.

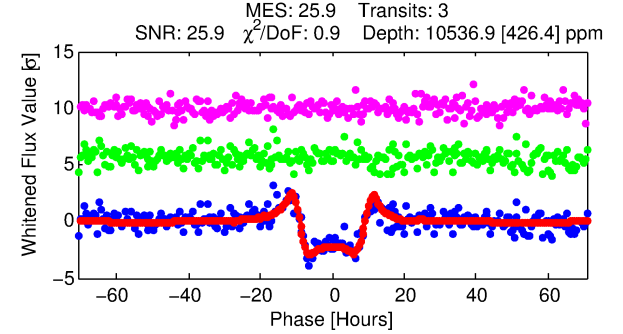
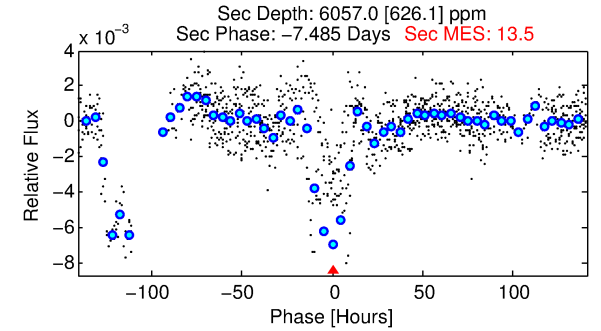
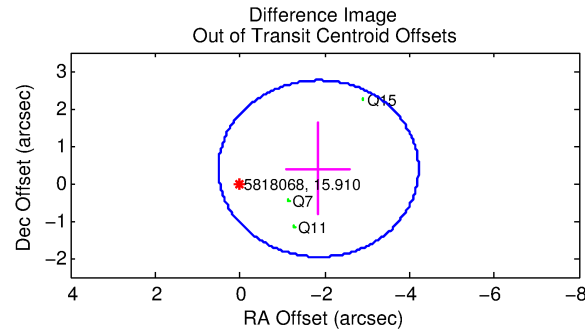
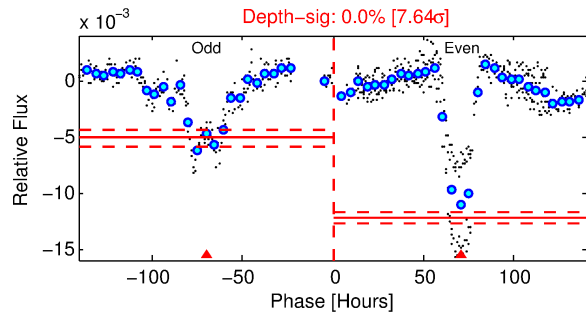
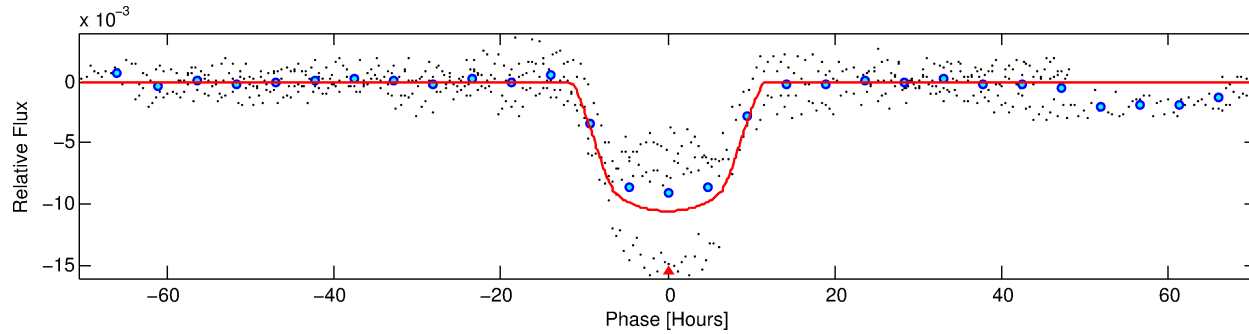
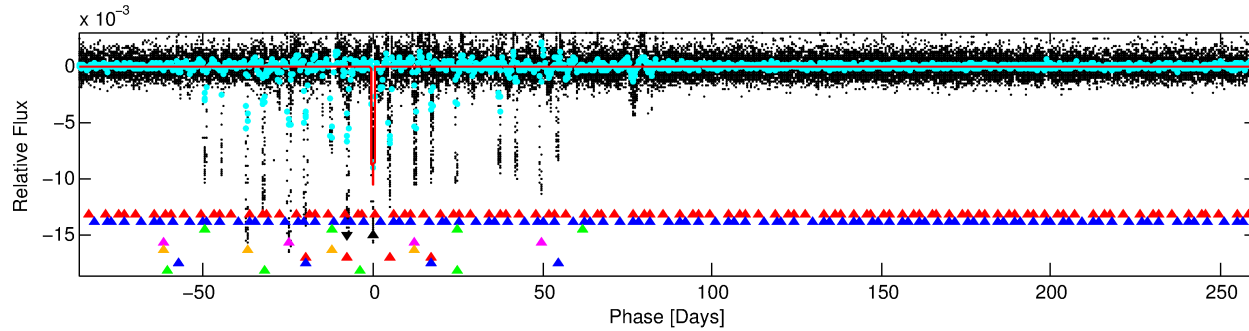
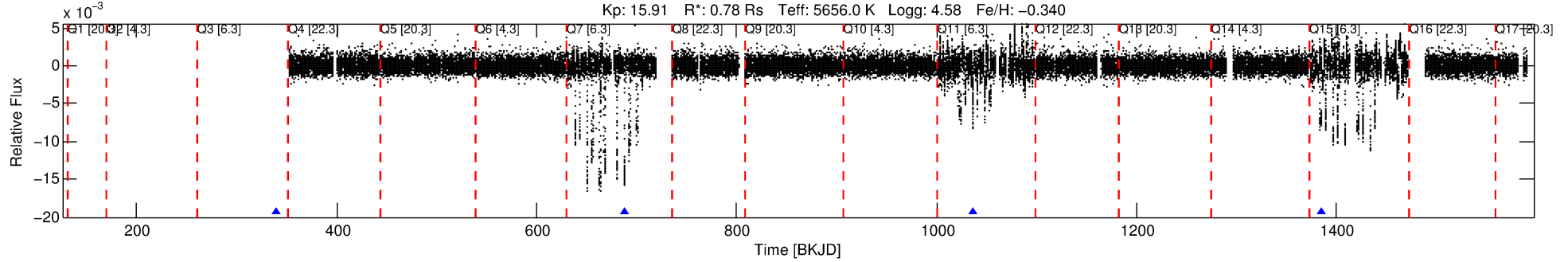
Ephemeris Match Information For 005818068-04

No Significant Match Found

DV One-Page Summary

KIC: 5818068 Candidate: 4 of 9 Period: 347.942 d
KOI: K03332 Corr: No Ephemeris Match

Kp: 15.91 R*: 0.78 Rs Teff: 5656.0 K Logg: 4.58 Fe/H: -0.340



DV Fit Results:

Period = 347.94165 [0.00654] d
Epoch = 340.2745 [0.0156] BKJD
Rp/R* = 0.1046 [0.0023]
a/R* = 86.05 [2.85]
b = 0.80 [0.02]
Seff = 0.67 [0.22]
Teq = 230 [19] K
Rp = 8.95 [2.37] Re
a = 0.9203 [0.1975] AU
Ag = 35213.60 [11356.19] [3.10σ]
Teffp = 4878 [211] K [21.92σ]

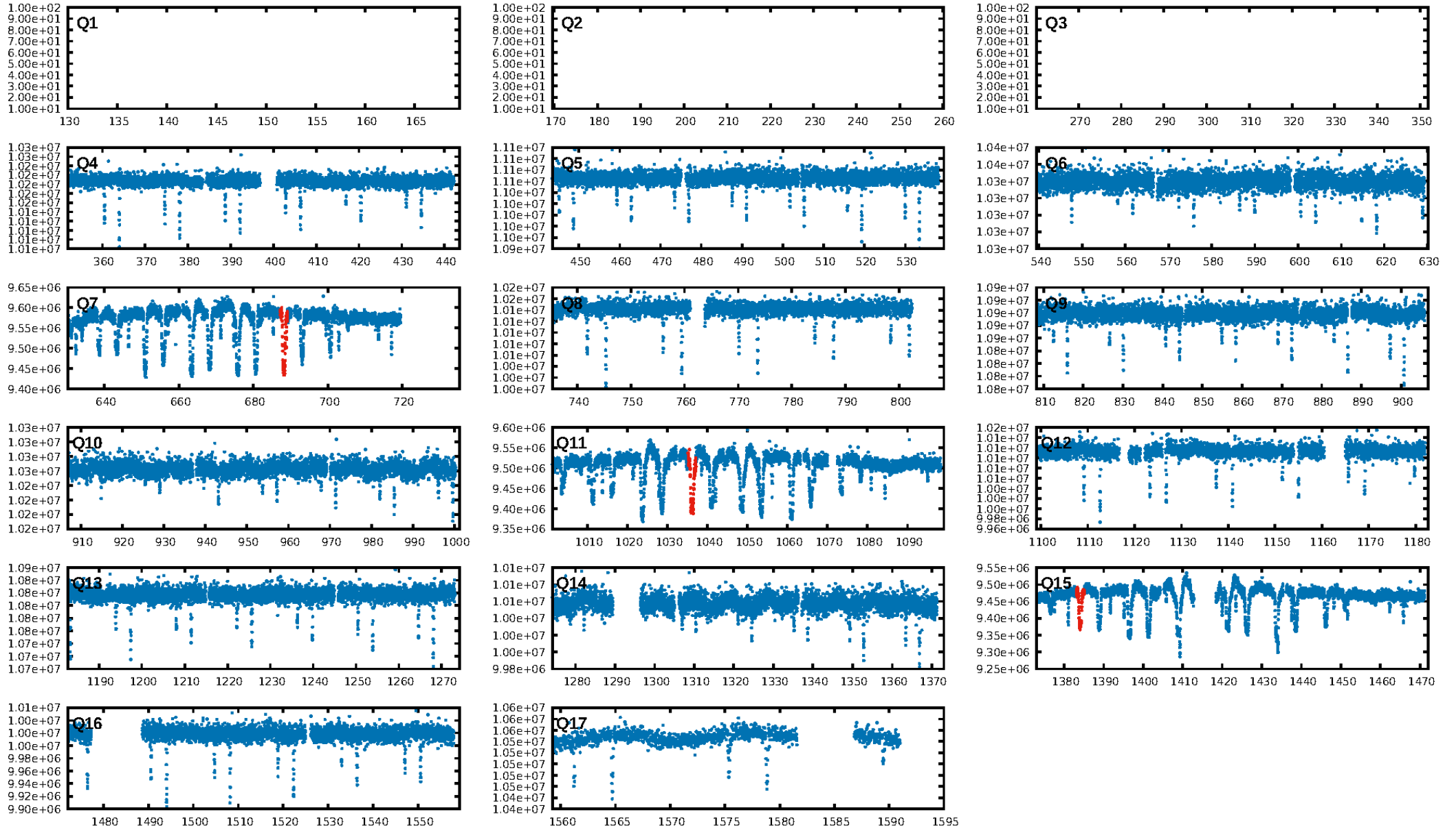
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [329.80σ]
LongPeriod-sig: 100.0% [7.84σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 4.269
Centroid-sig: 0.0%
Centroid-so: 1.973 arcsec [5.74σ]
OotOffset-rm: 1.895 arcsec [2.41σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-rm: 1.857 arcsec [2.43σ]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.67 [2/3]

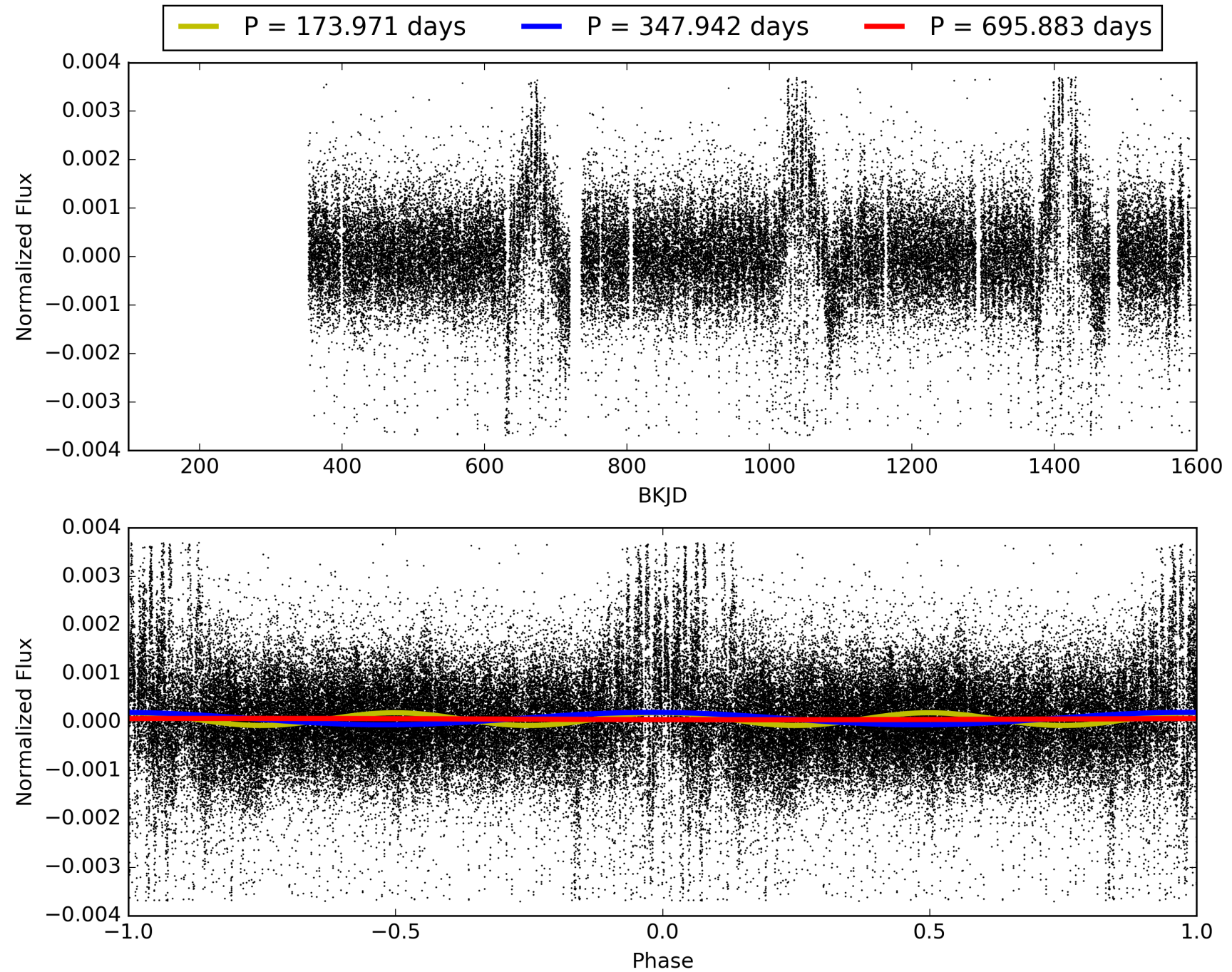
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:34:42 Z

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

TCE 005818068-04, PDC Light Curves

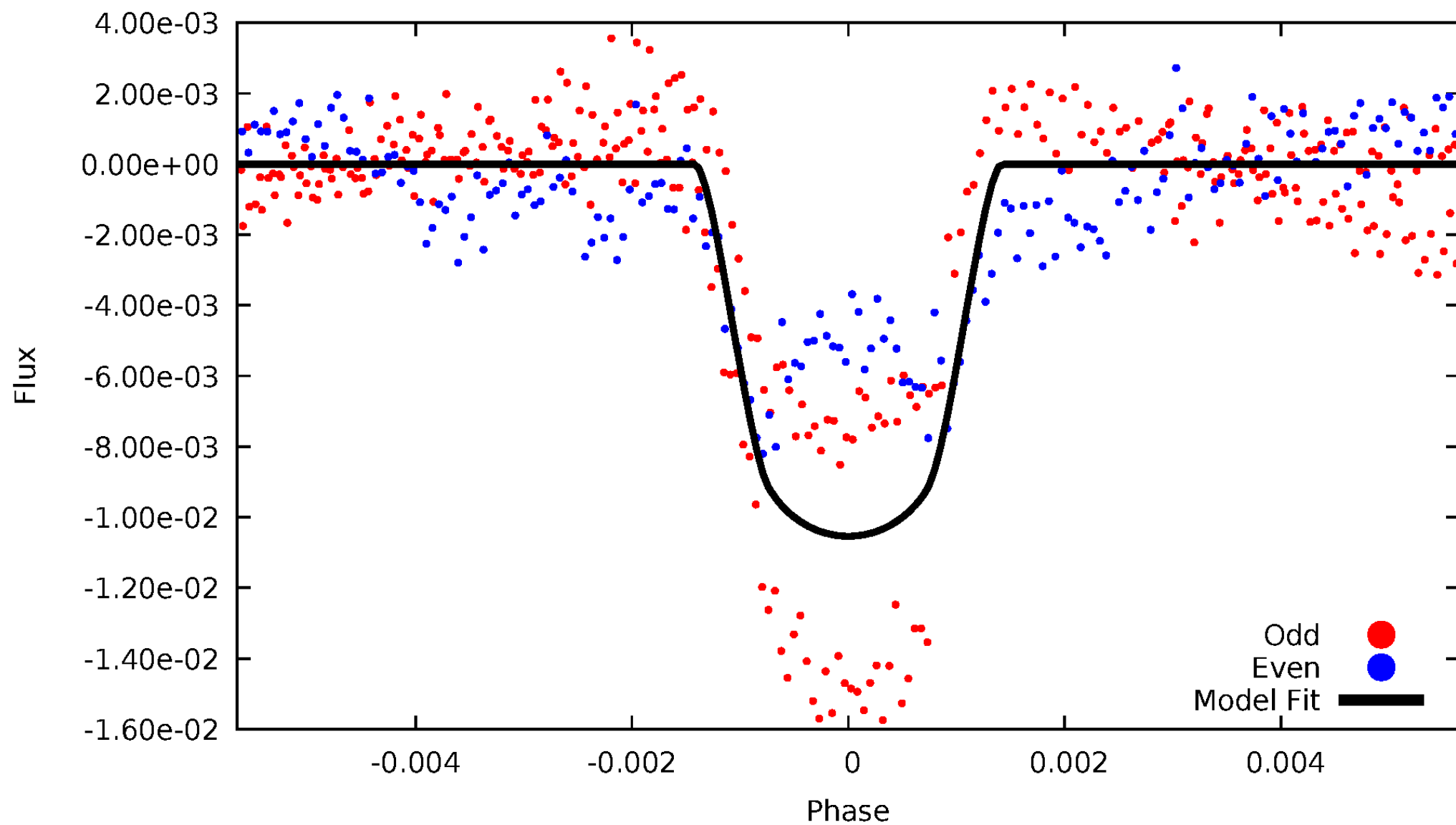


TCE 005818068-04



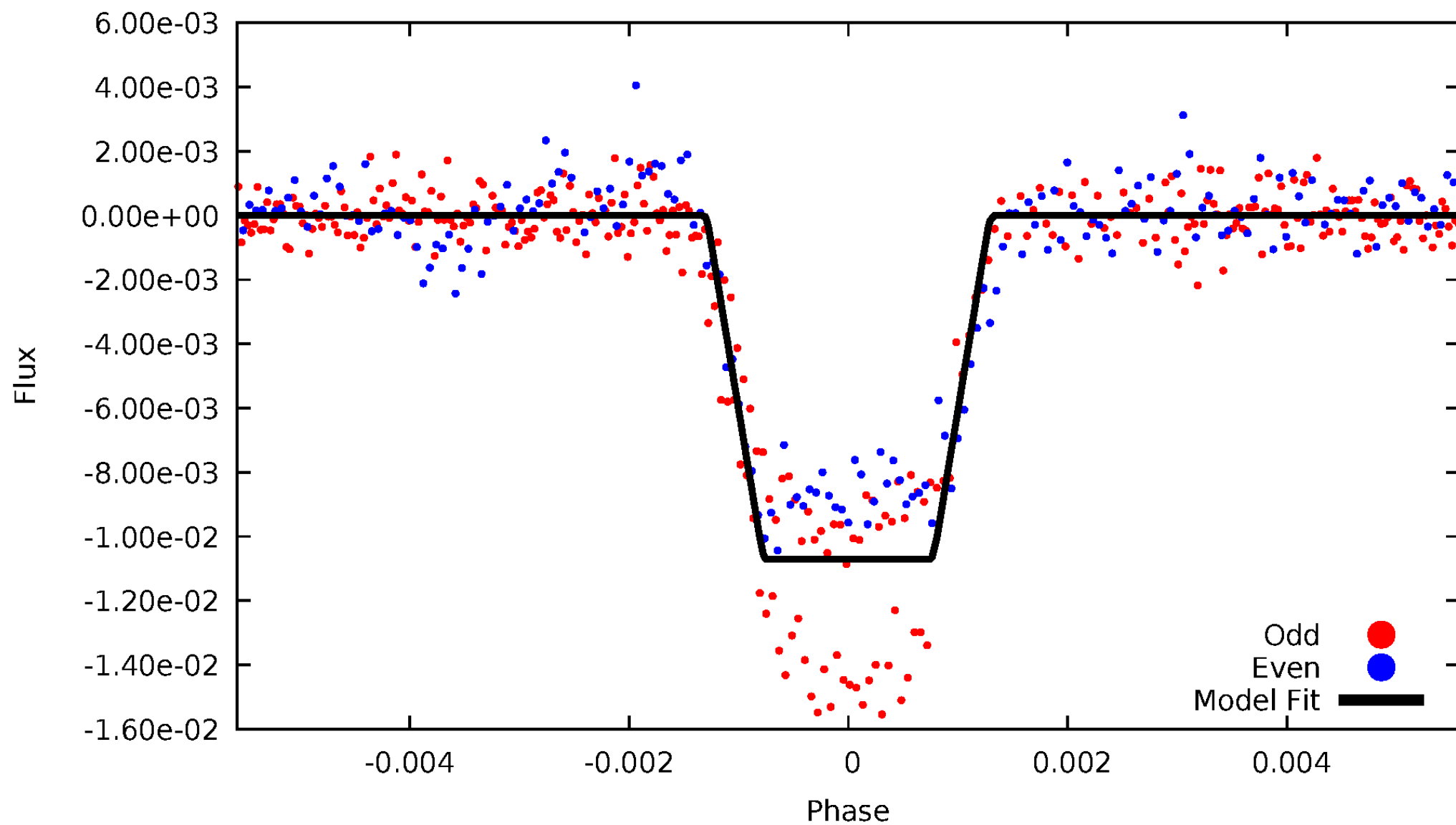
DV Odd/Even

TCE 005818068-04



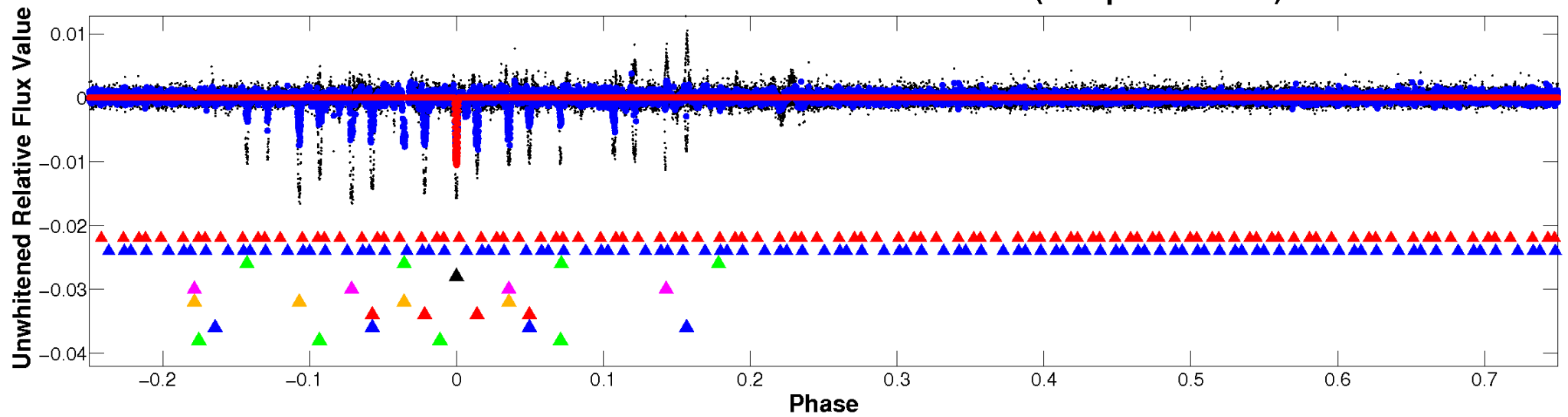
ALT Odd/Even

TCE 005818068-04

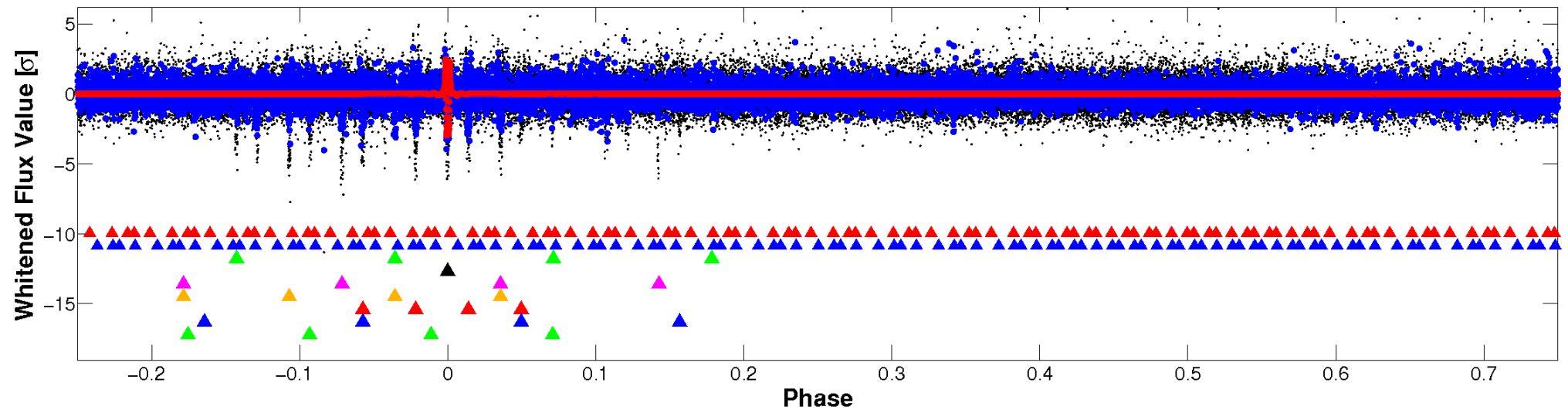


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

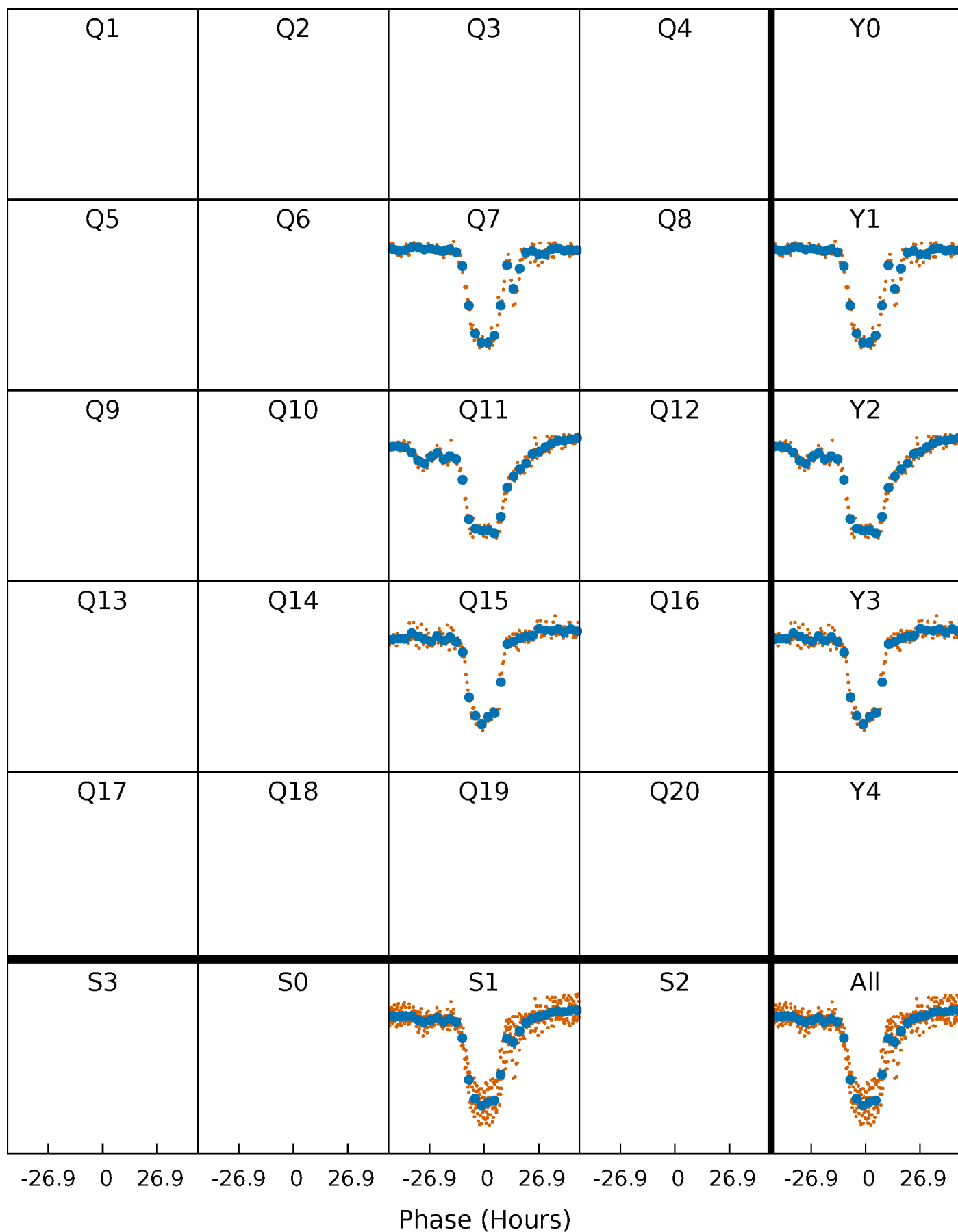


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



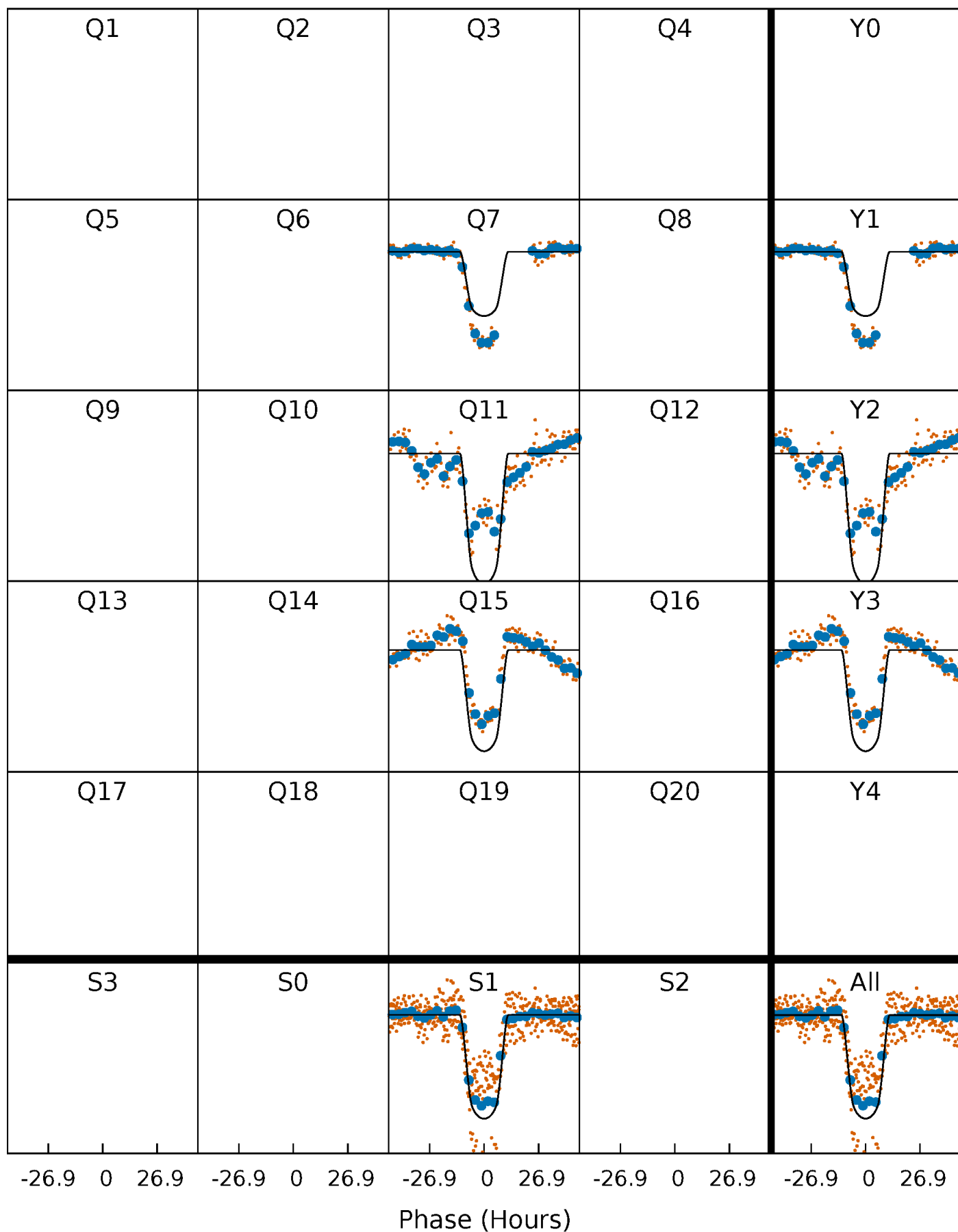
PDC Quarter-Phased Transit Curves

TCE 005818068-04 $P=347.941645$ Days $T_0=340.274479$ (BKJD)



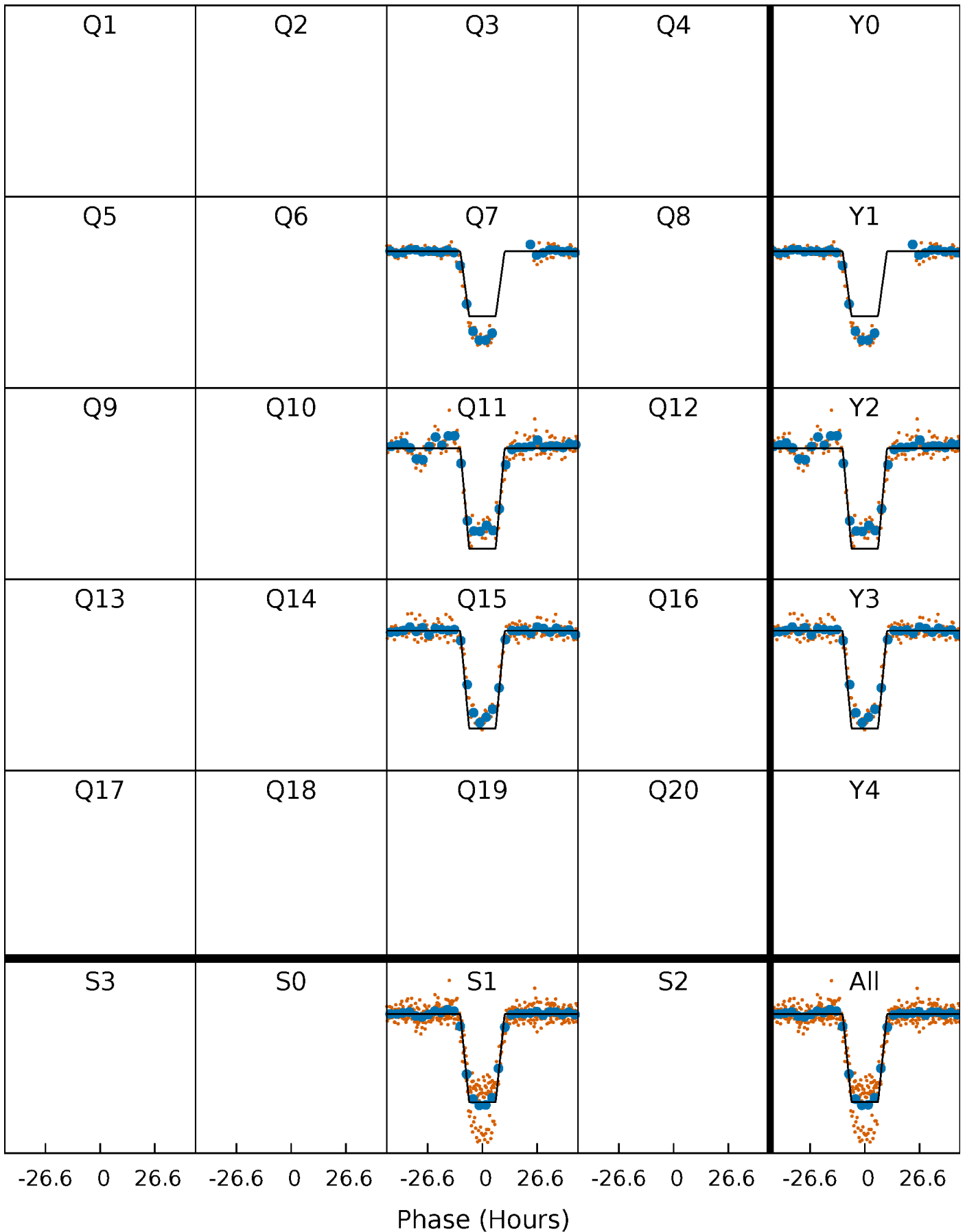
DV Quarter-Phased Transit Curves

TCE 005818068-04 $P=347.941645$ Days $T_0=340.274479$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

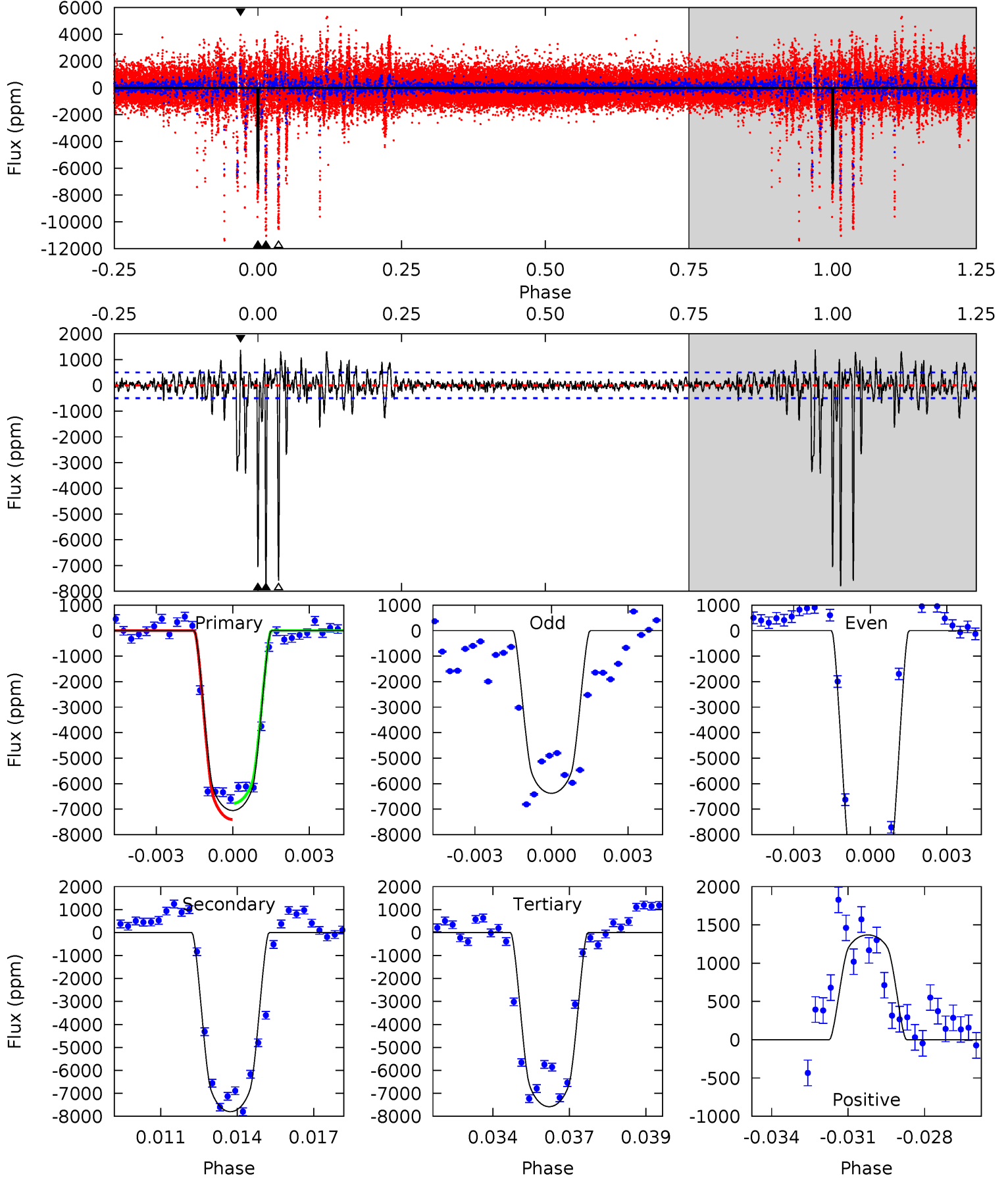
TCE 005818068-04 $P=347.929037$ Days $T_0=340.291131$ (BKJD)



DV Model-Shift Uniqueness Test

005818068-04, P = 347.941645 Days, E = 340.274479 Days

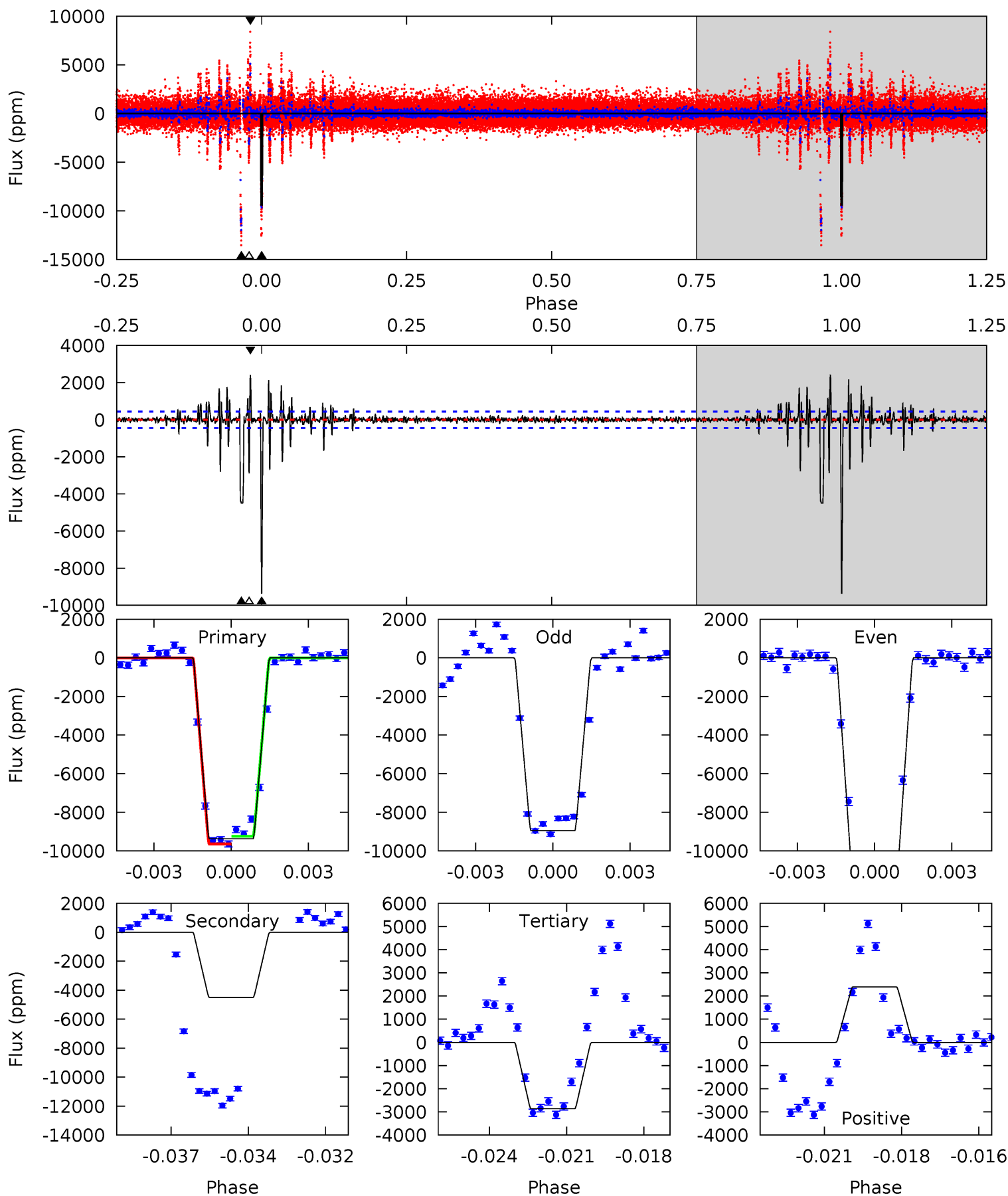
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
74.2	82.1	79.8	14.4	5.26	2.99	5.00	-5.57	59.8	2.28	67.7	18.4	1.33	0.15	3.26



Alt Model-Shift Uniqueness Test

005818068-04, P = 347.929037 Days, E = 340.291131 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
112.0	53.8	34.2	28.6	5.28	3.01	3.58	77.8	83.5	19.6	25.2	14.6	1.16	0.20	2.29



Stellar Parameters For KIC 005818068

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5656^{+186}_{-186}	$4.583^{+0.040}_{-0.160}$	$-0.340^{+0.300}_{-0.300}$	$0.784^{+0.207}_{-0.065}$	$0.873^{+0.089}_{-0.106}$	$2.548^{+0.530}_{-1.153}$
	+3%/-3%	+1%/-3%	+88%/-88%	+26%/-8%	+10%/-12%	+21%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005818068-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7798 ± 95	$9.29^{+1.16}_{-0.70}$	330^{+19}_{-16}	5251^{+163}_{-175}	42360^{+5289}_{-8308}
Alt.	-4498 ± 84	$9.09^{+1.25}_{-0.63}$	329^{+19}_{-16}	4706^{+135}_{-144}	25272^{+3206}_{-4700}

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

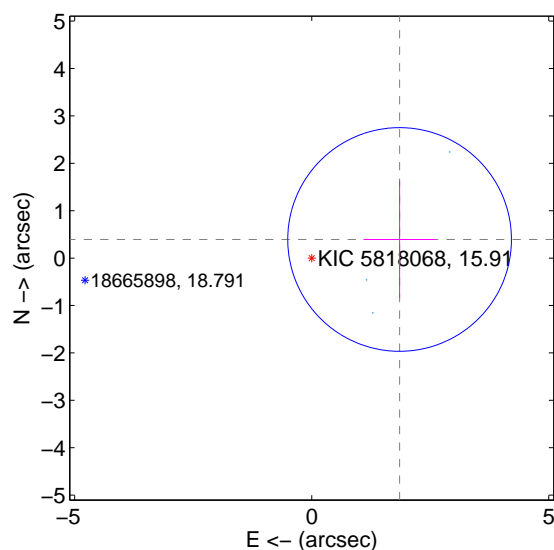
Supplemental centroid analysis for 005818068-04. Kepler magnitude: 15.91. Transit SNR 25.93

There are 3 quarters with good PRF difference image offsets

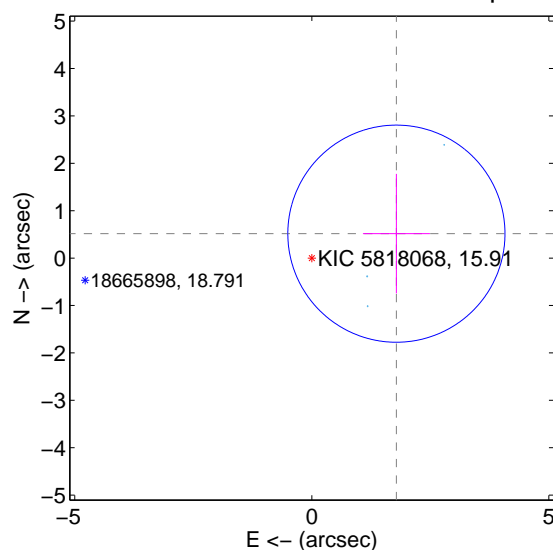
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.895 ± 0.786	2.41	-1.854 ± 0.760	0.393 ± 1.241
PRF-fit source offset from KIC position	1.857 ± 0.763	2.43	-1.785 ± 0.706	0.515 ± 1.261
photometric centroid source offset	1.97 ± 0.34	5.74	-0.64 ± 0.39	-1.87 ± 0.34

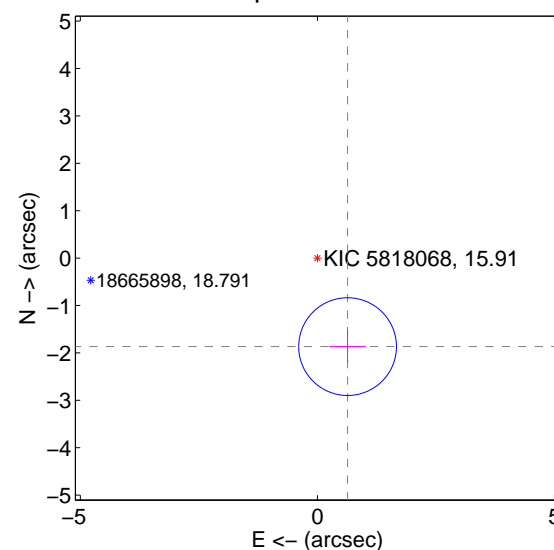
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

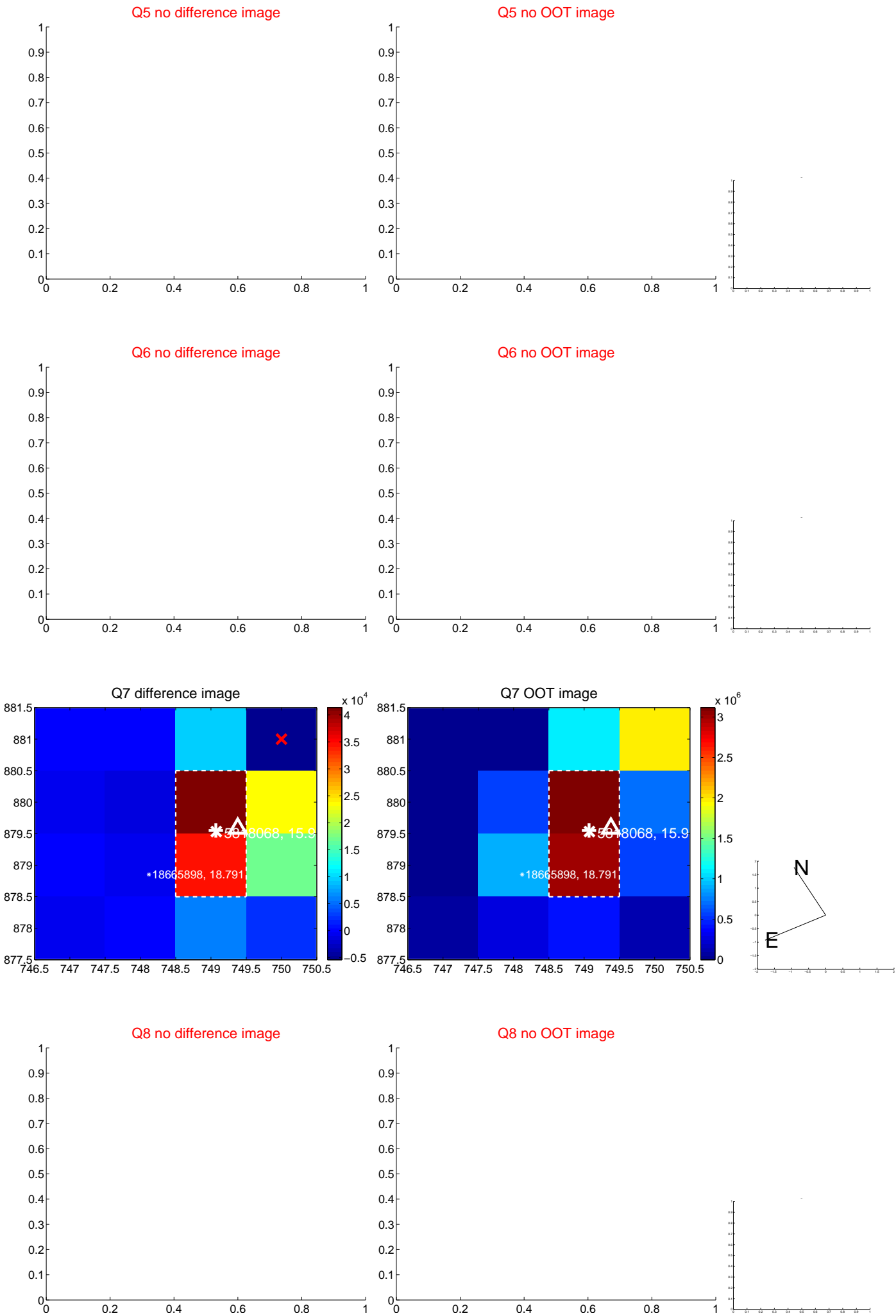


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

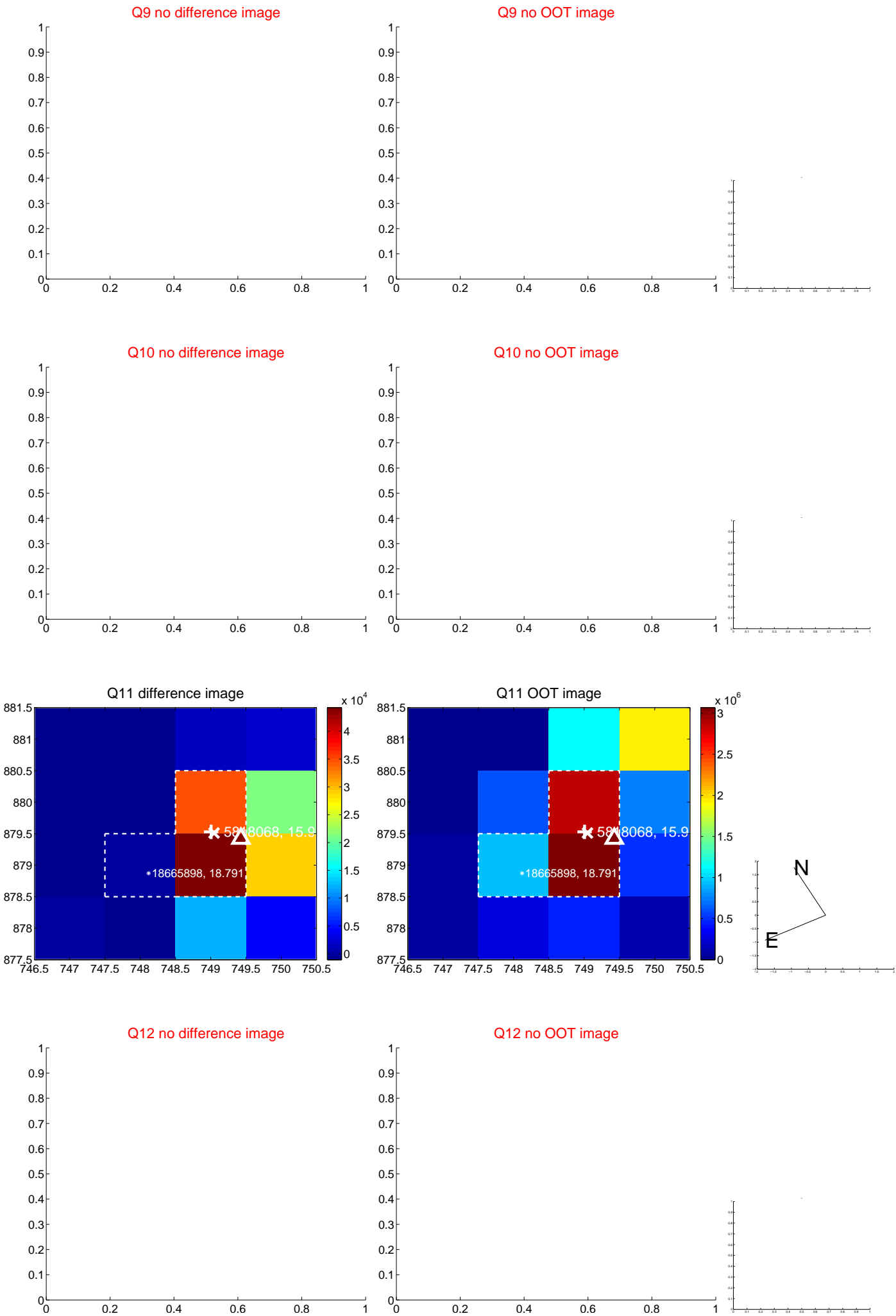
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



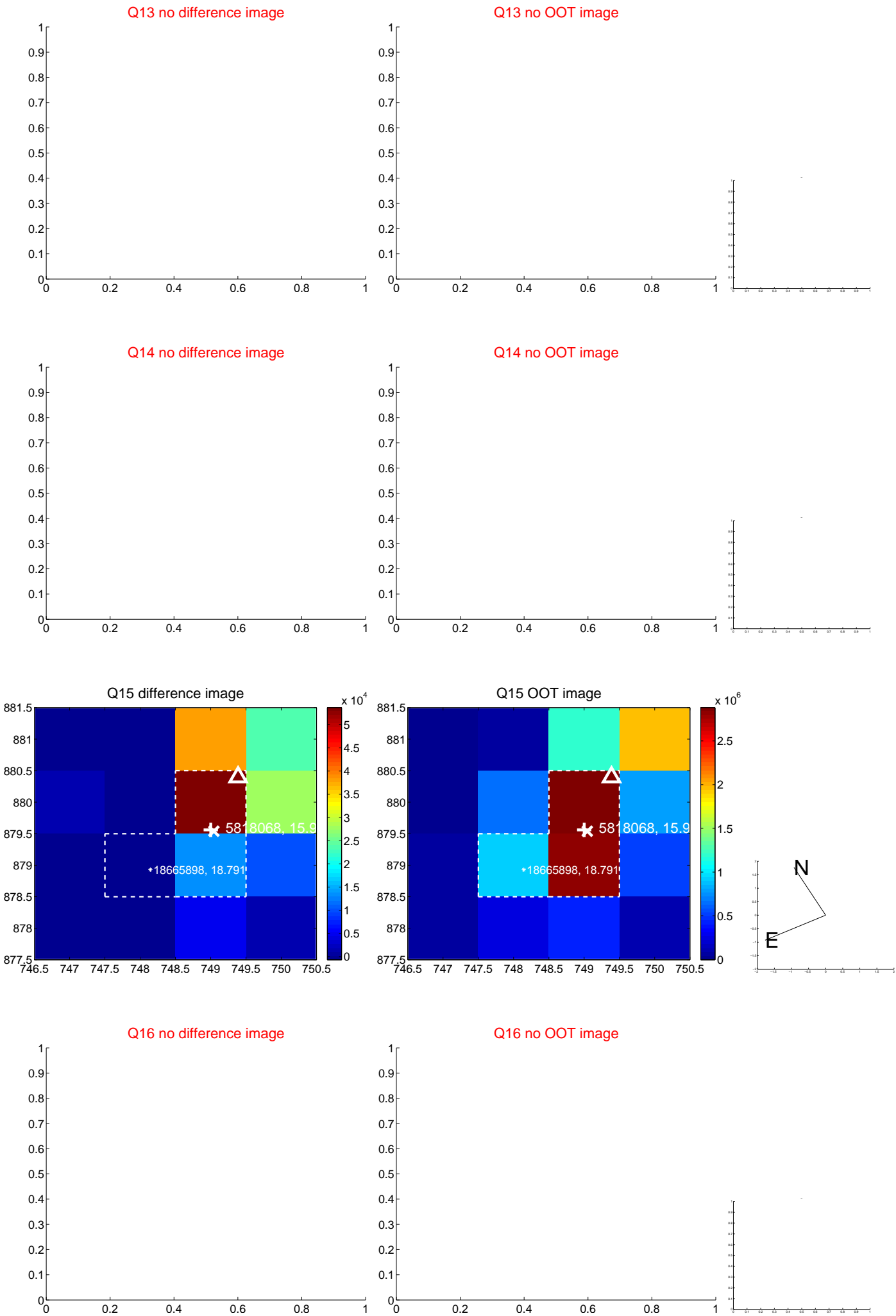
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

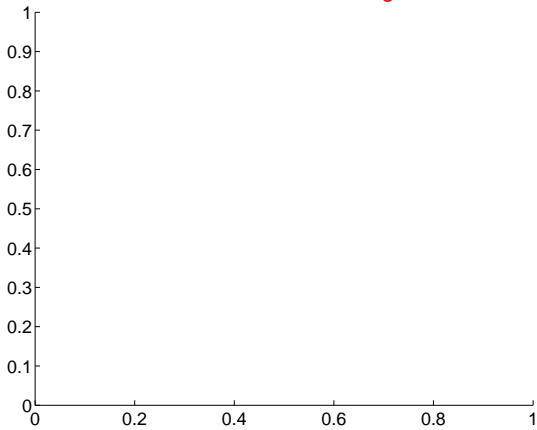


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

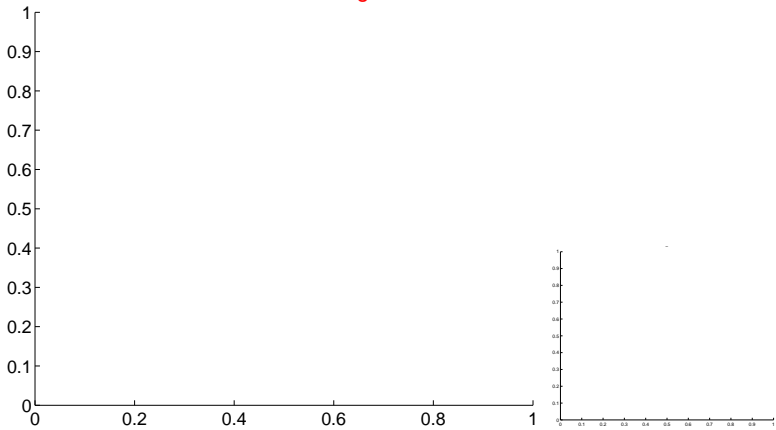


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

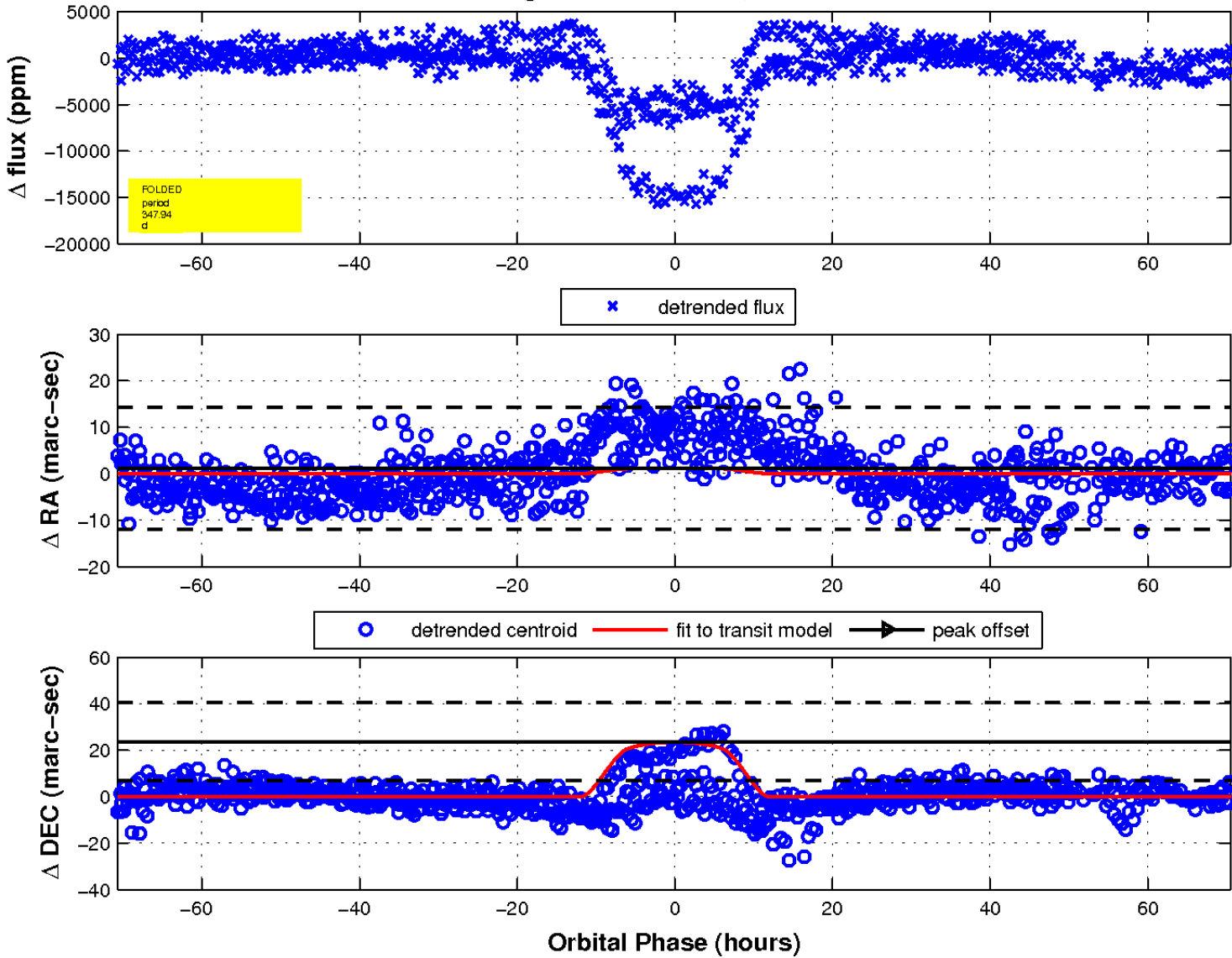
Q17 no difference image



Q17 no OOT image

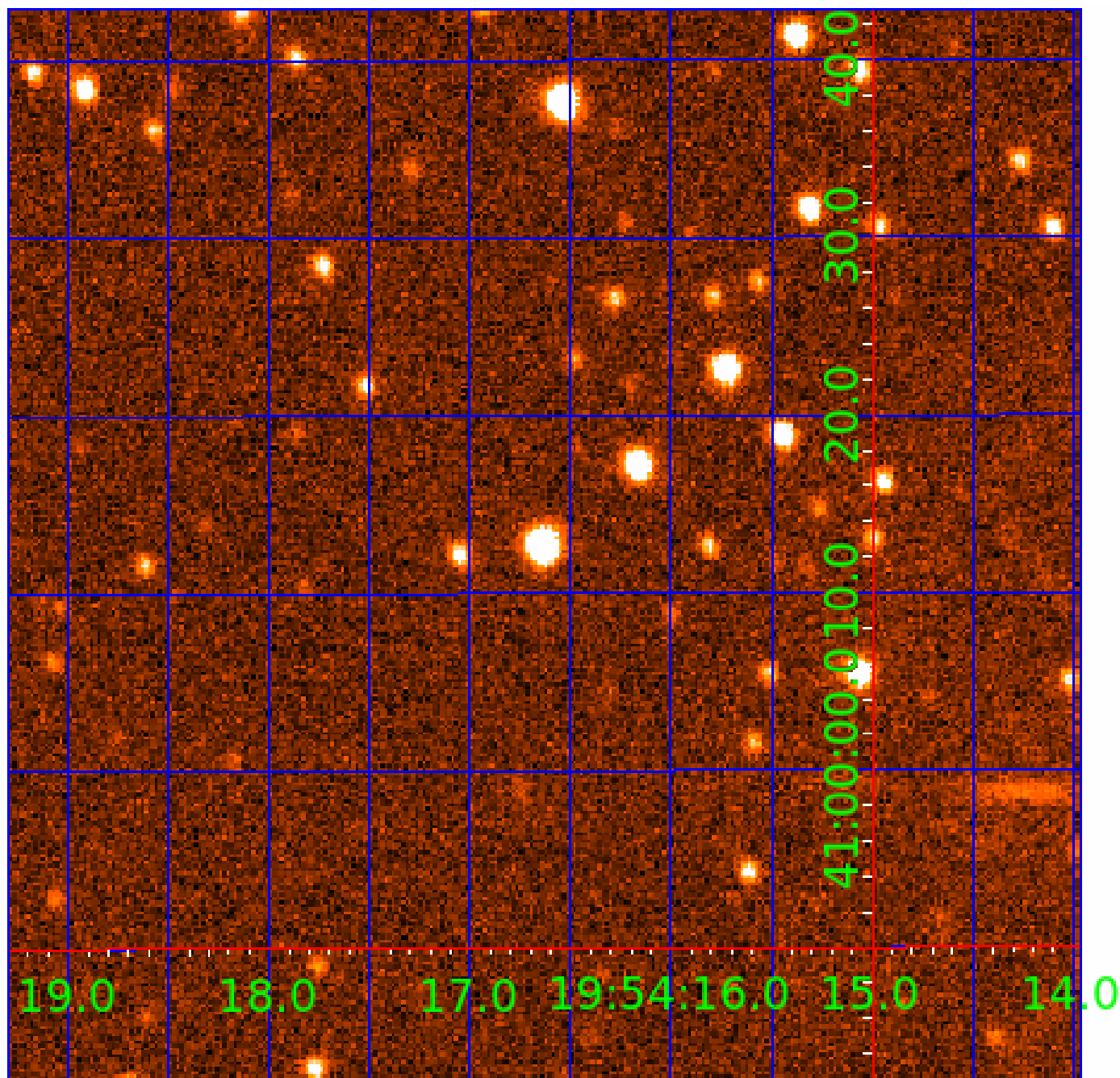


fluxWeightedCentroids, Planet 4 of 9



UKIRT Image

Declination



KIC 005818068

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})
005818068-01	OBS	3332.01	14.126774	137.903508	7711.9	5.834	176.8	151.1	0.78	5656	11.96	47.69
005818068-02	OBS	No	14.126741	134.434129	4687.5	5.952	118.8	103.9	0.78	5656	9.25	47.69
005818068-03	OBS	No	385.177244	290.654428	11068.0	25.358	25.8	31.2	0.78	5656	9.19	0.58
005818068-04	OBS	No	347.941645	340.274480	10536.9	23.581	25.9	25.9	0.78	5656	8.95	0.67
005818068-06	OBS	No	372.776819	278.193745	12716.4	25.520	25.0	32.7	0.78	5656	9.82	0.61
005818068-07	OBS	No	360.349029	320.336863	12126.7	29.771	24.6	35.6	0.78	5656	9.79	0.64
005818068-08	OBS	No	385.172458	283.104389	11740.6	31.154	24.9	34.9	0.78	5656	9.82	0.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005818068-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-03	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
005818068-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS
005818068-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—SAME_NTL_PERIOD—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.

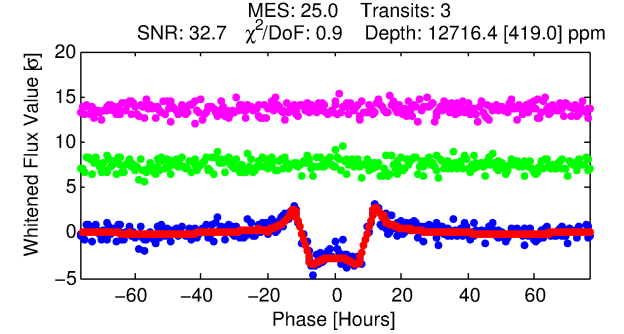
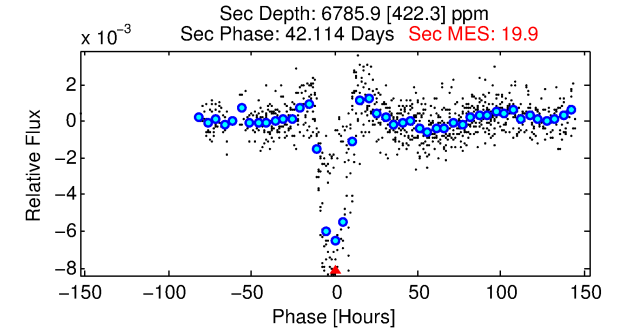
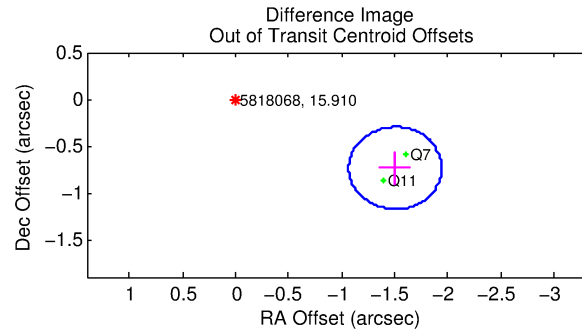
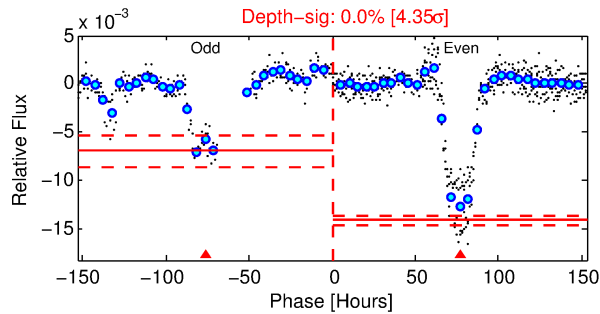
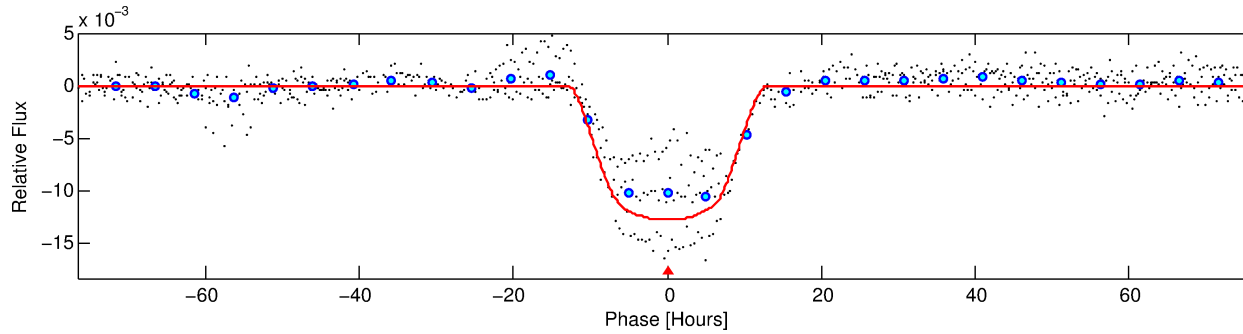
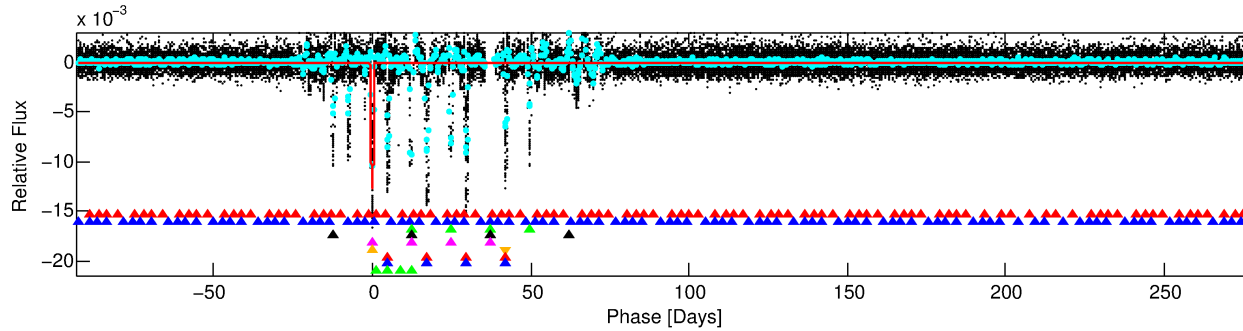
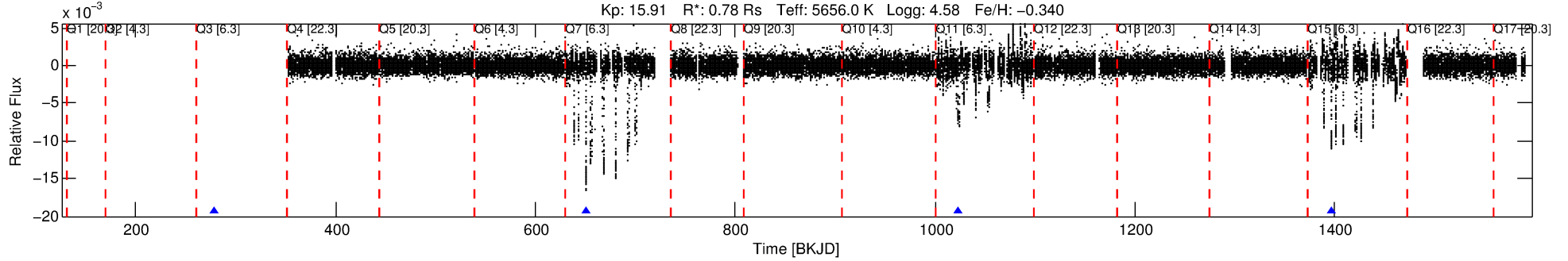
Ephemeris Match Information For 005818068-06

No Significant Match Found

DV One-Page Summary

KIC: 5818068 Candidate: 6 of 9 Period: 372.777 d
KOI: K03332 Corr: No Ephemeris Match

Kp: 15.91 R*: 0.78 Rs Teff: 5656.0 K Logg: 4.58 Fe/H: -0.340



DV Fit Results:

Period = 372.77682 [0.00535] d
Epoch = 278.1937 [0.0109] BKJD
Rp/R* = 0.1148 [0.0021]
a/R* = 87.24 [2.43]
b = 0.79 [0.01]
Seff = 0.61 [0.20]
Teq = 225 [19] K
Rp = 9.82 [2.60] Re
a = 0.9635 [0.2068] AU
Ag = 35913.46 [11160.81] [3.22σ]
Teffp = 4791 [180] K [25.24σ]

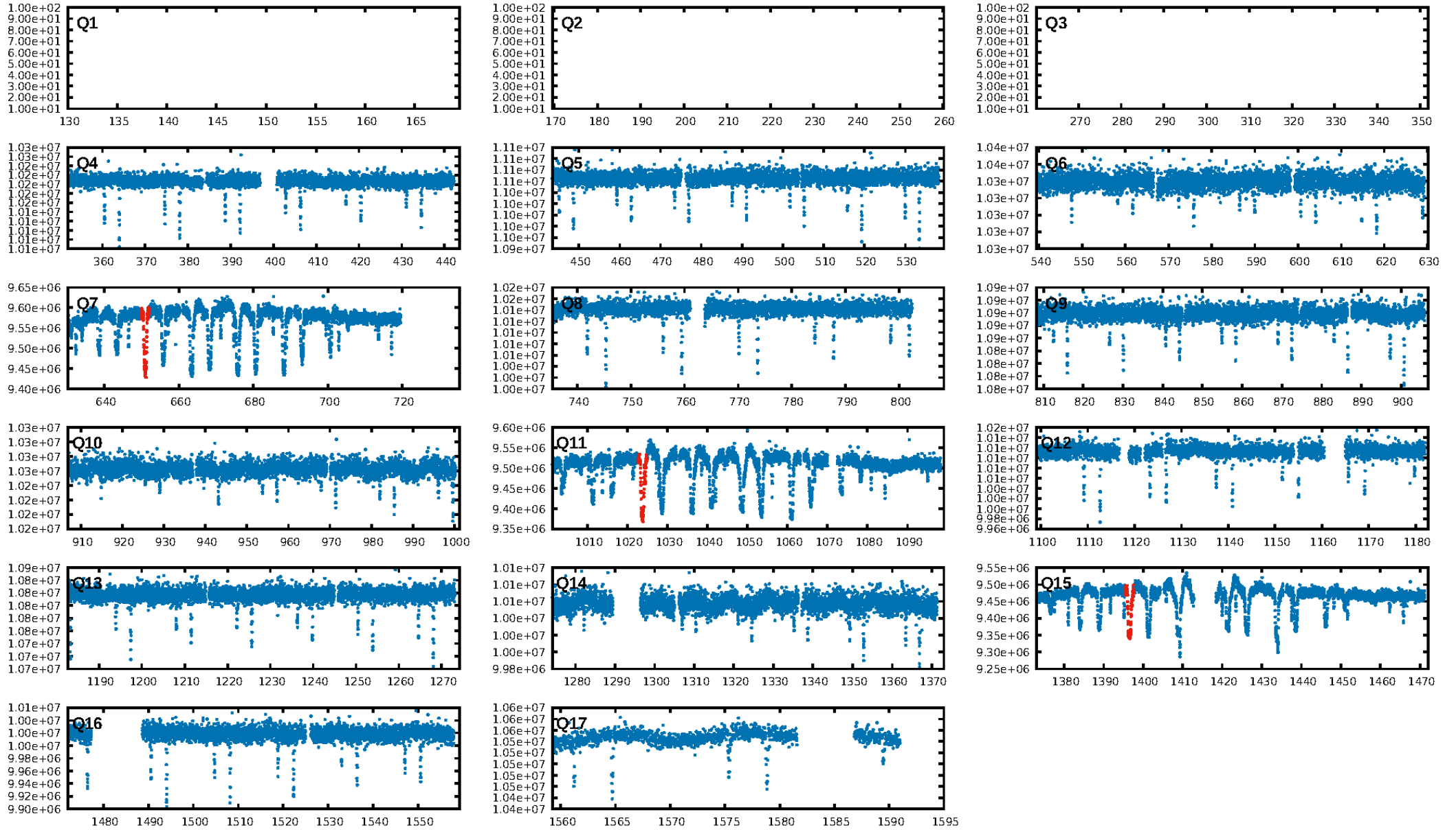
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.61σ]
LongPeriod-sig: 99.8% [3.03σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.409
Centroid-sig: 0.0%
Centroid-so: 1.814 arcsec [5.71σ]
OotOffset-rm: 1.677 arcsec [11.47σ]
KicOffset-rm: 1.494 arcsec [9.72σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.50 [1/2]

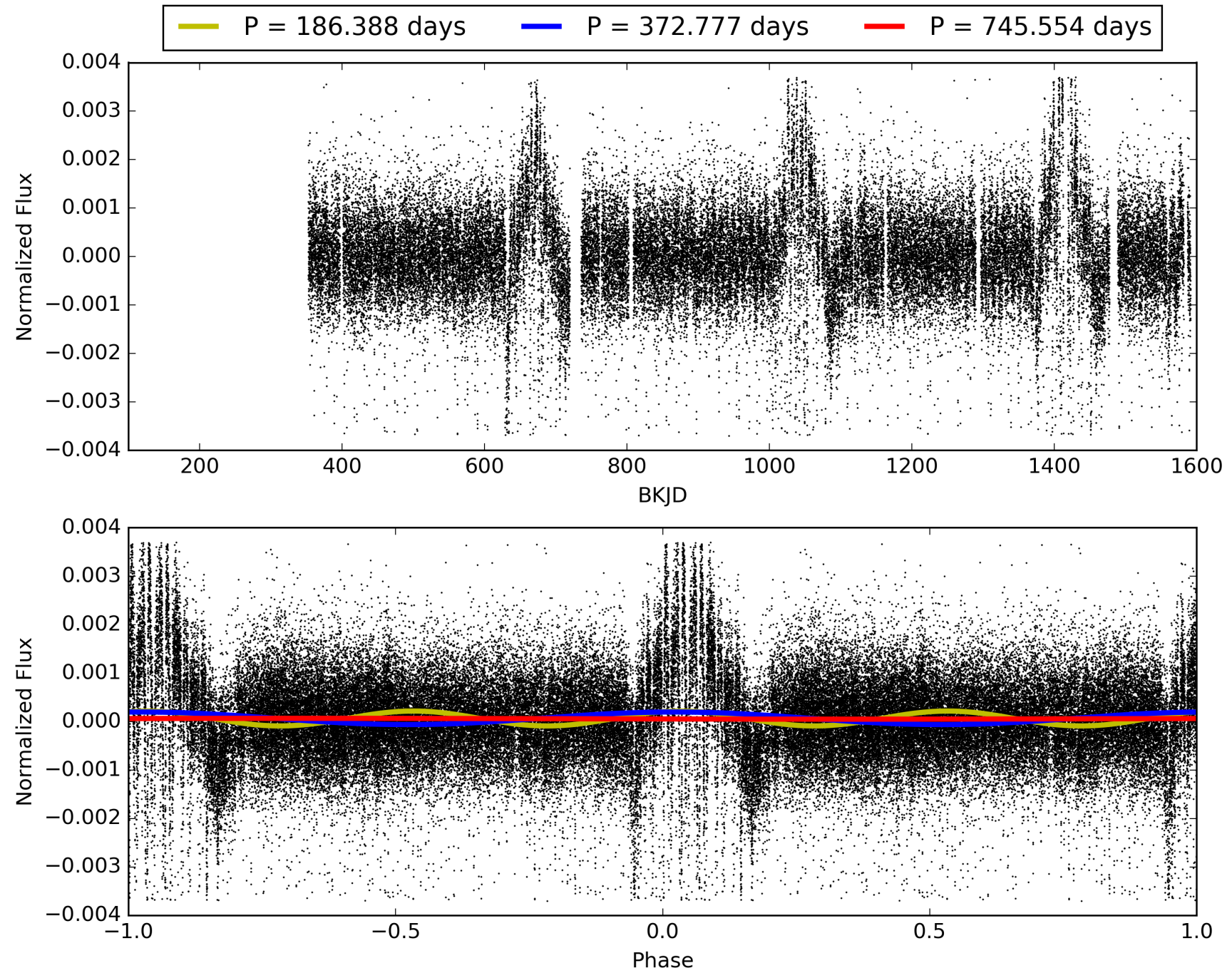
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:34:55 Z

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

TCE 005818068-06, PDC Light Curves

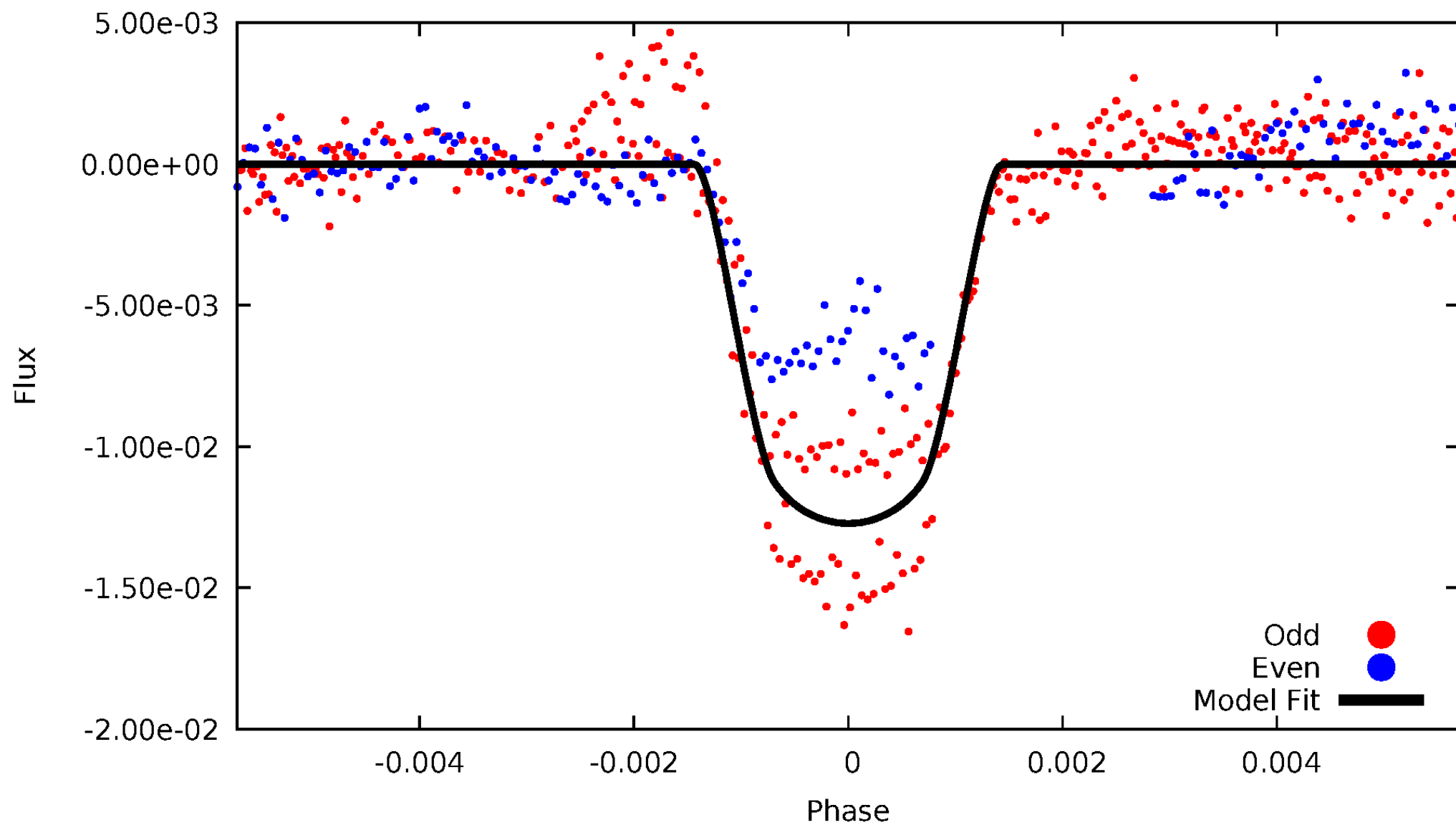


TCE 005818068-06



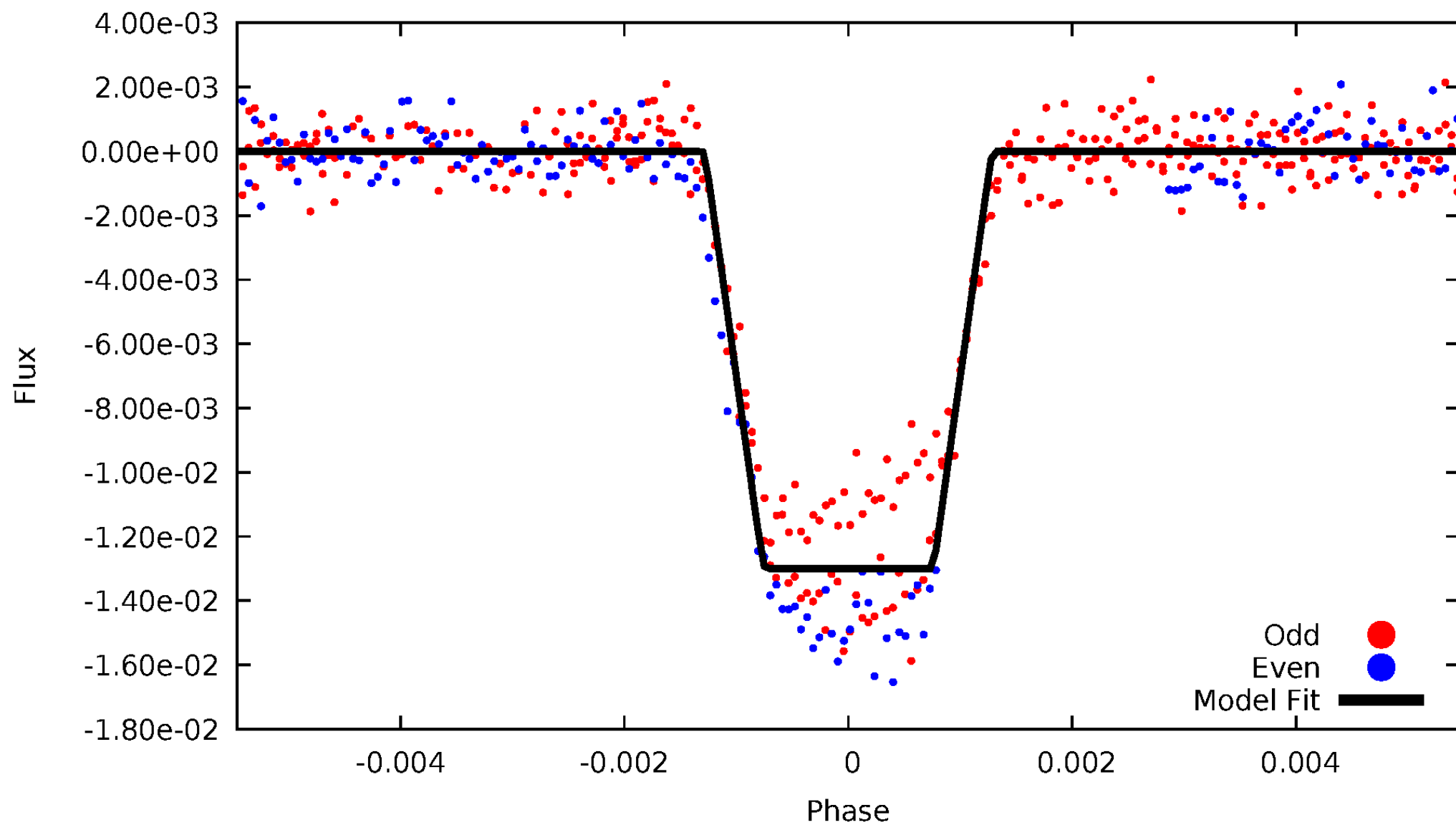
DV Odd/Even

TCE 005818068-06



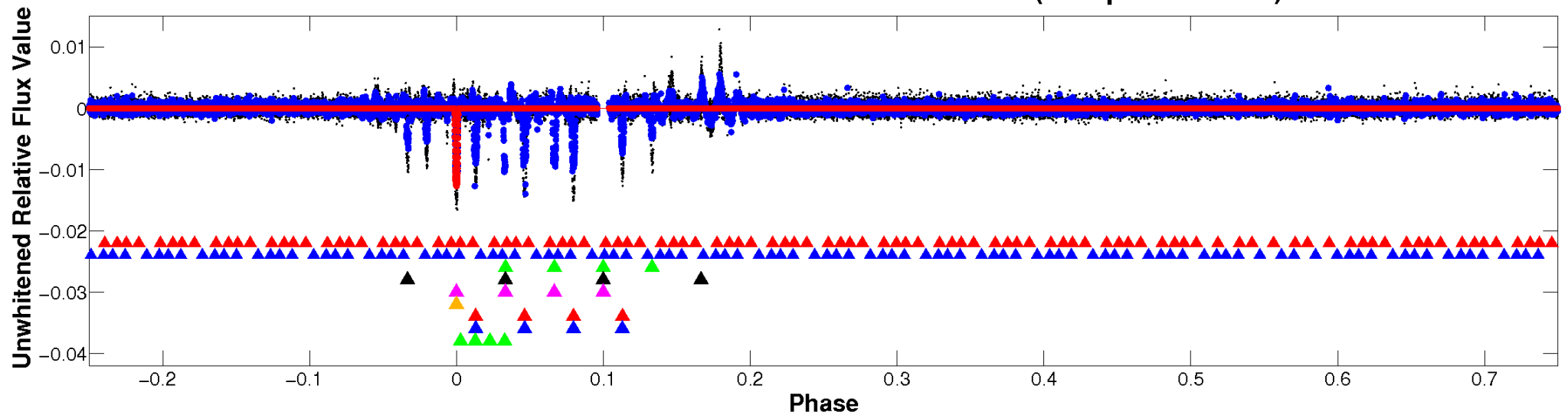
ALT Odd/Even

TCE 005818068-06

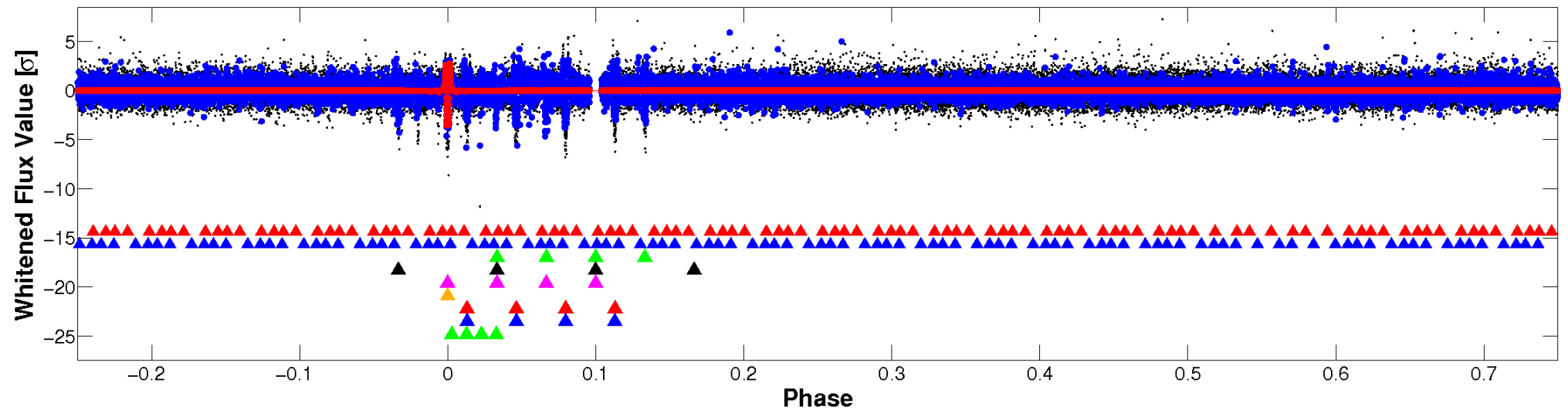


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

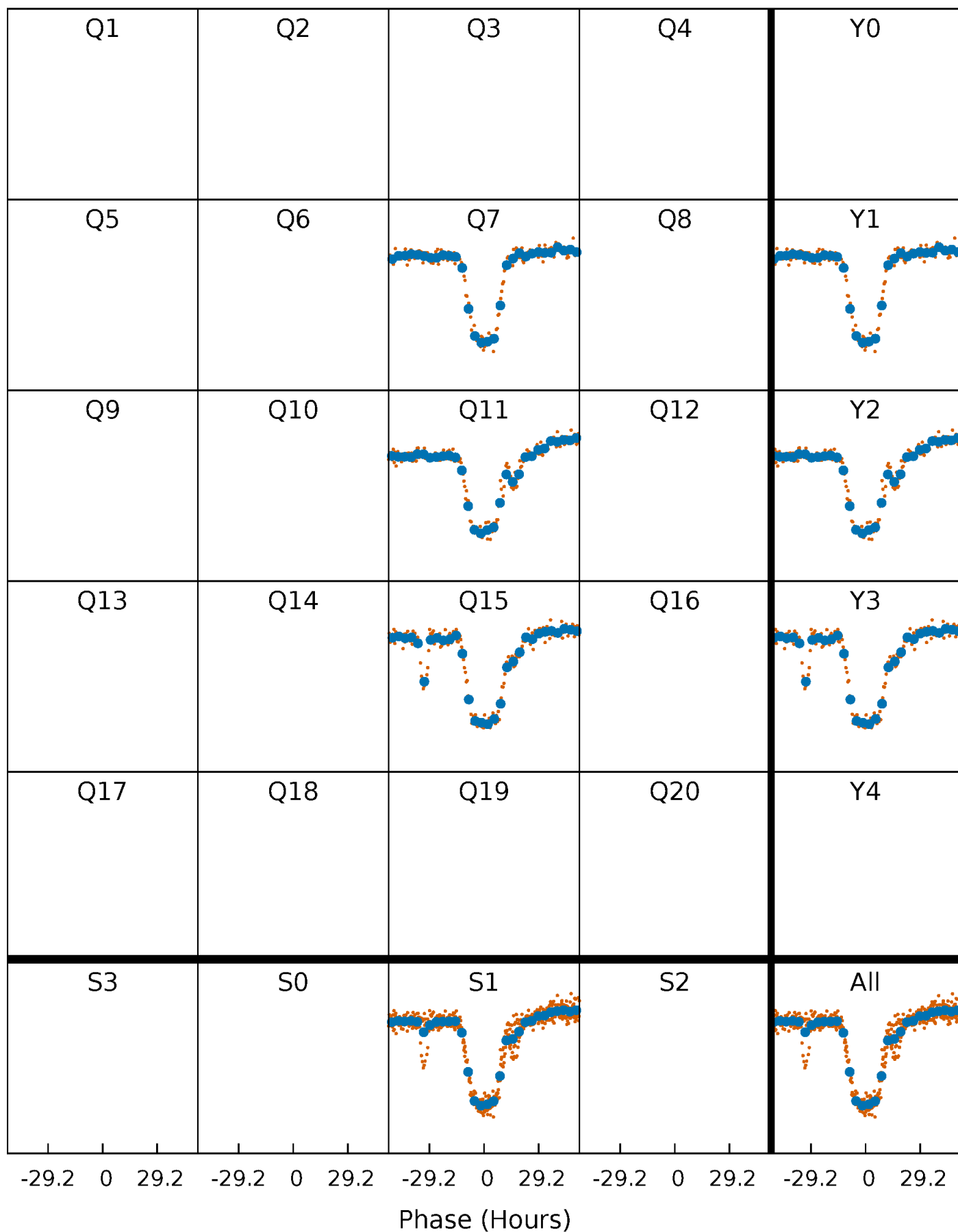


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



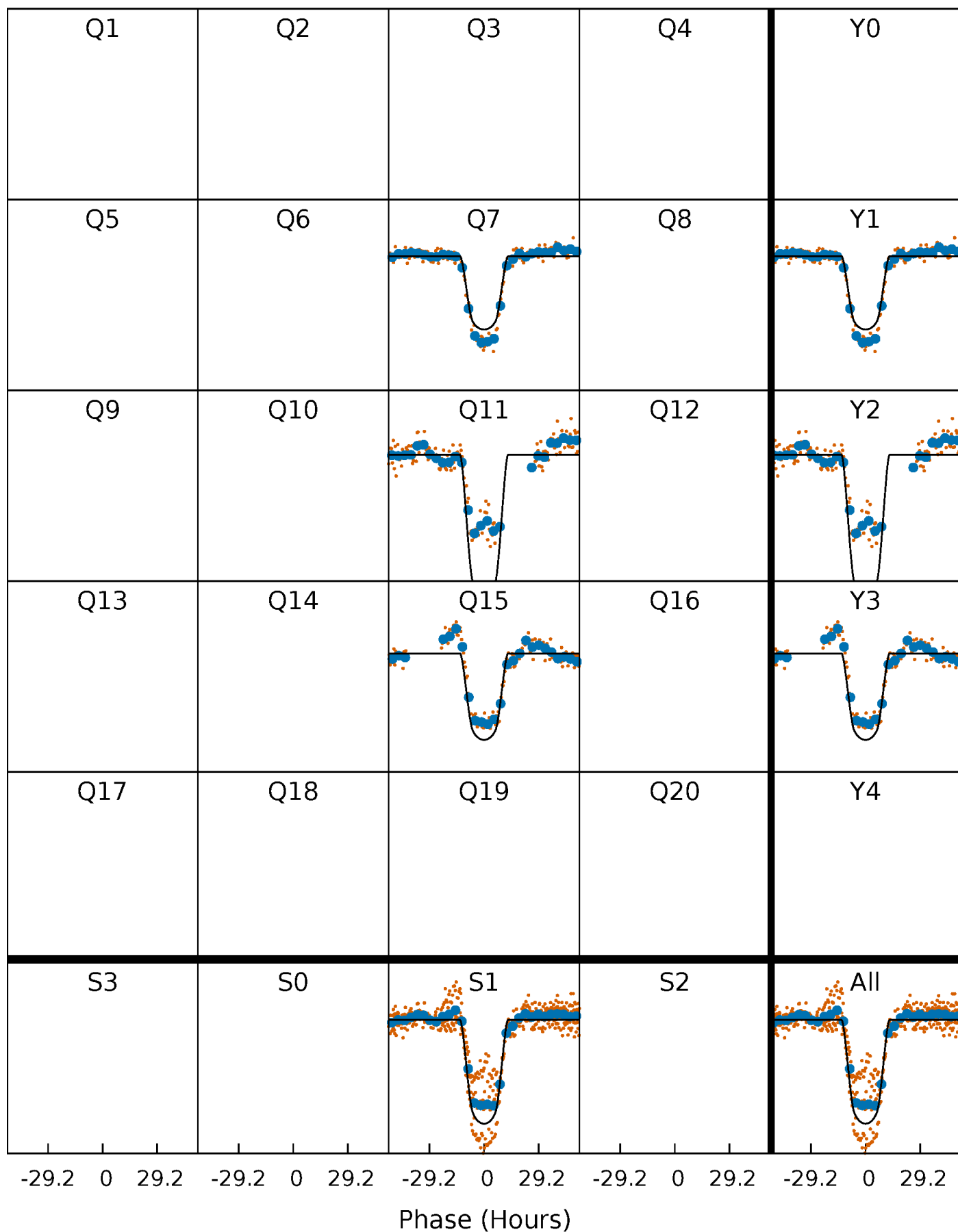
PDC Quarter-Phased Transit Curves

TCE 005818068-06 $P=372.776819$ Days $T_0=278.193745$ (BKJD)



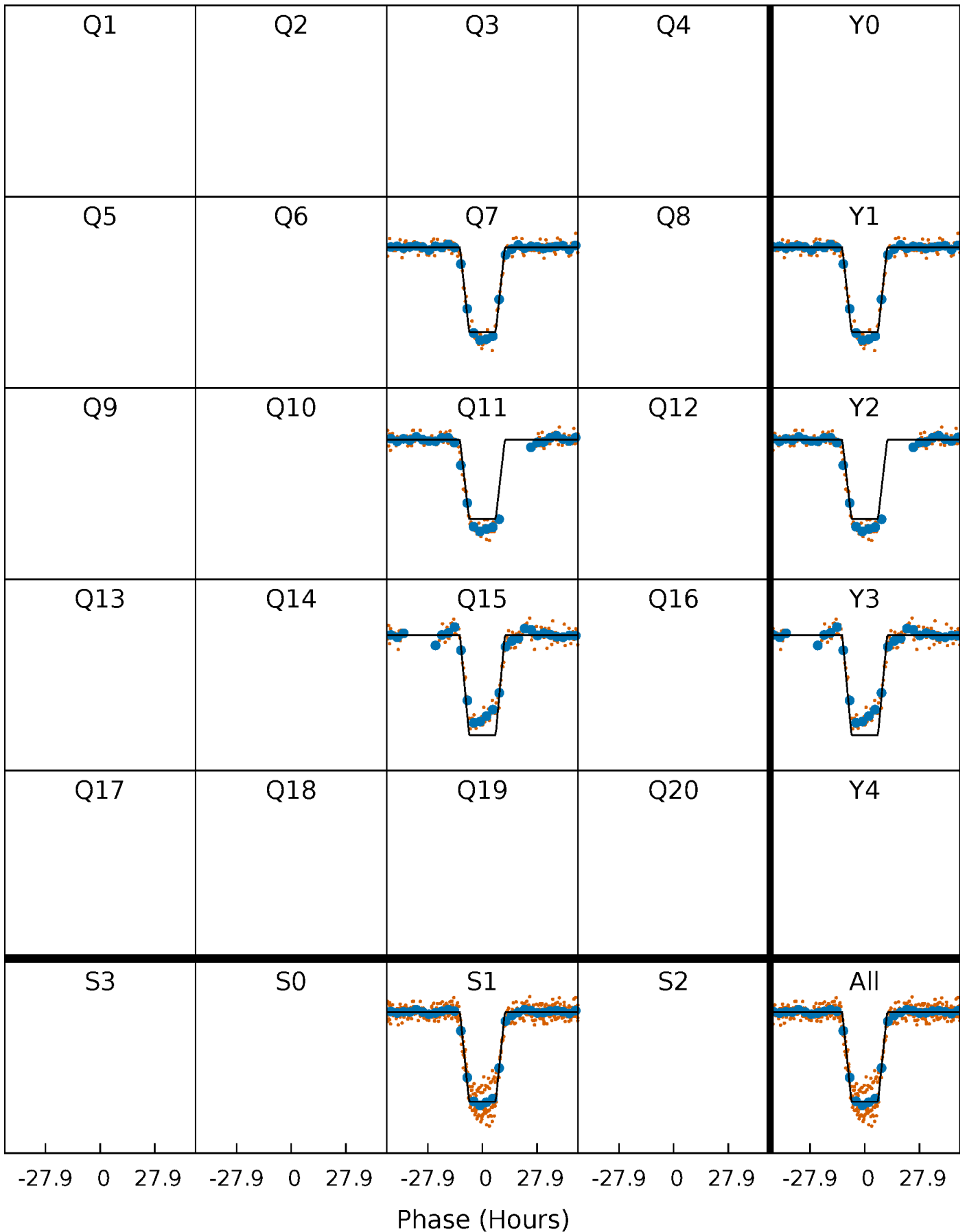
DV Quarter-Phased Transit Curves

TCE 005818068-06 P=372.776819 Days $T_0=278.193745$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

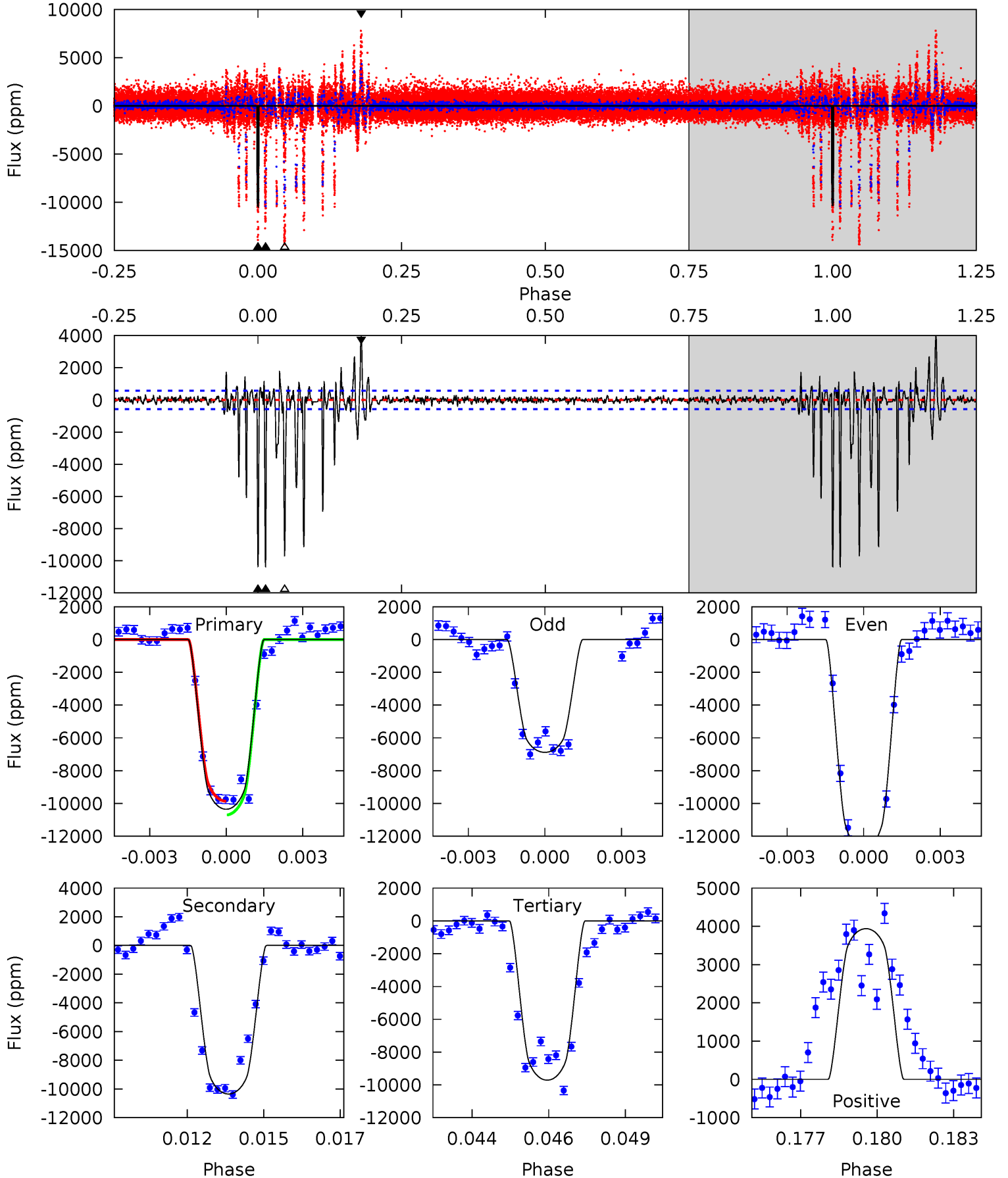
TCE 005818068-06 P=372.769435 Days $T_0=278.201835$ (BKJD)



DV Model-Shift Uniqueness Test

005818068-06, P = 372.776819 Days, E = 278.193745 Days

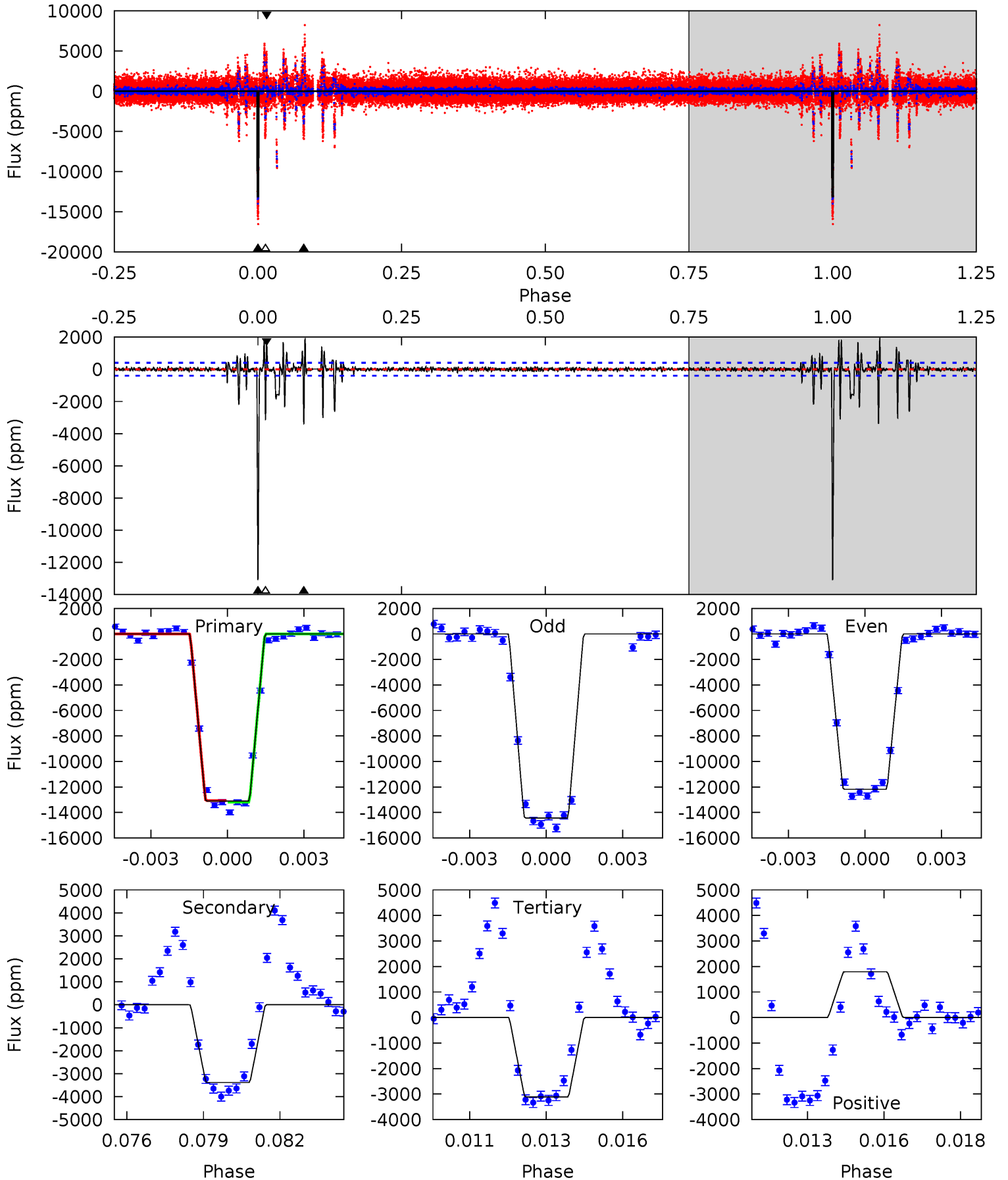
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
95.2	95.2	89.3	36.2	5.26	2.98	6.78	5.90	59.0	5.88	59.0	29.4	1.02	0.28	3.70



Alt Model-Shift Uniqueness Test

005818068-06, P = 372.769435 Days, E = 278.201835 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
172.3	44.5	40.9	23.6	5.28	3.01	3.43	131.5	148.8	3.64	20.9	13.6	0.96	0.13	0



Stellar Parameters For KIC 005818068

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5656^{+186}_{-186}	$4.583^{+0.040}_{-0.160}$	$-0.340^{+0.300}_{-0.300}$	$0.784^{+0.207}_{-0.065}$	$0.873^{+0.089}_{-0.106}$	$2.548^{+0.530}_{-1.153}$
	+3%/-3%	+1%/-3%	+88%/-88%	+26%/-8%	+10%/-12%	+21%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005818068-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10354 ± 109	$10.06^{+1.26}_{-0.69}$	321^{+19}_{-15}	5369^{+177}_{-165}	52071^{+6162}_{-9369}
Alt.	-3385 ± 76	$10.05^{+1.35}_{-0.70}$	320^{+20}_{-14}	4262^{+121}_{-112}	17149^{+2037}_{-3495}

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

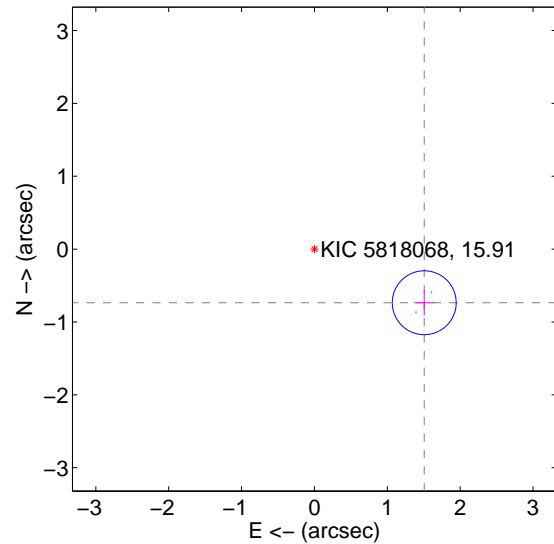
Supplemental centroid analysis for 005818068-06. Kepler magnitude: 15.91. Transit SNR 32.69

There are 2 quarters with good PRF difference image offsets

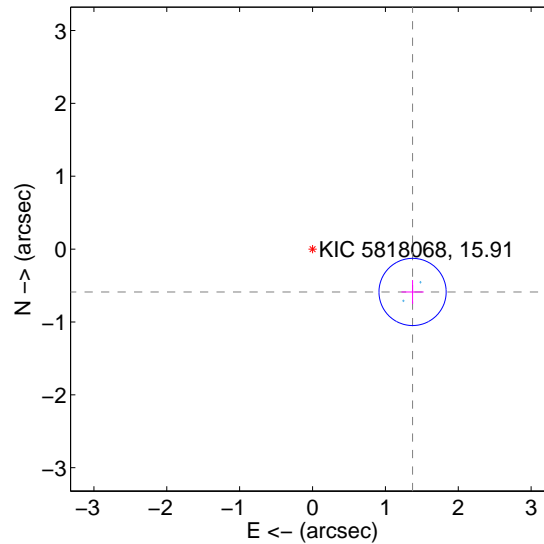
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.677 ± 0.146	11.47	-1.507 ± 0.139	-0.736 ± 0.173
PRF-fit source offset from KIC position	1.494 ± 0.154	9.72	-1.373 ± 0.152	-0.588 ± 0.163
photometric centroid source offset	1.81 ± 0.32	5.71	-1.35 ± 0.34	-1.22 ± 0.30

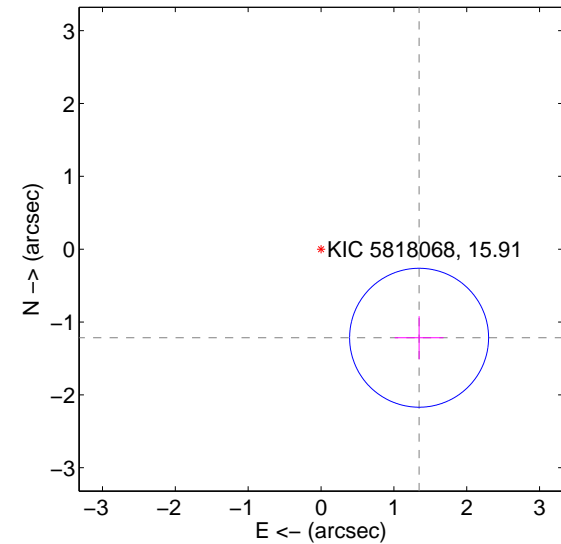
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

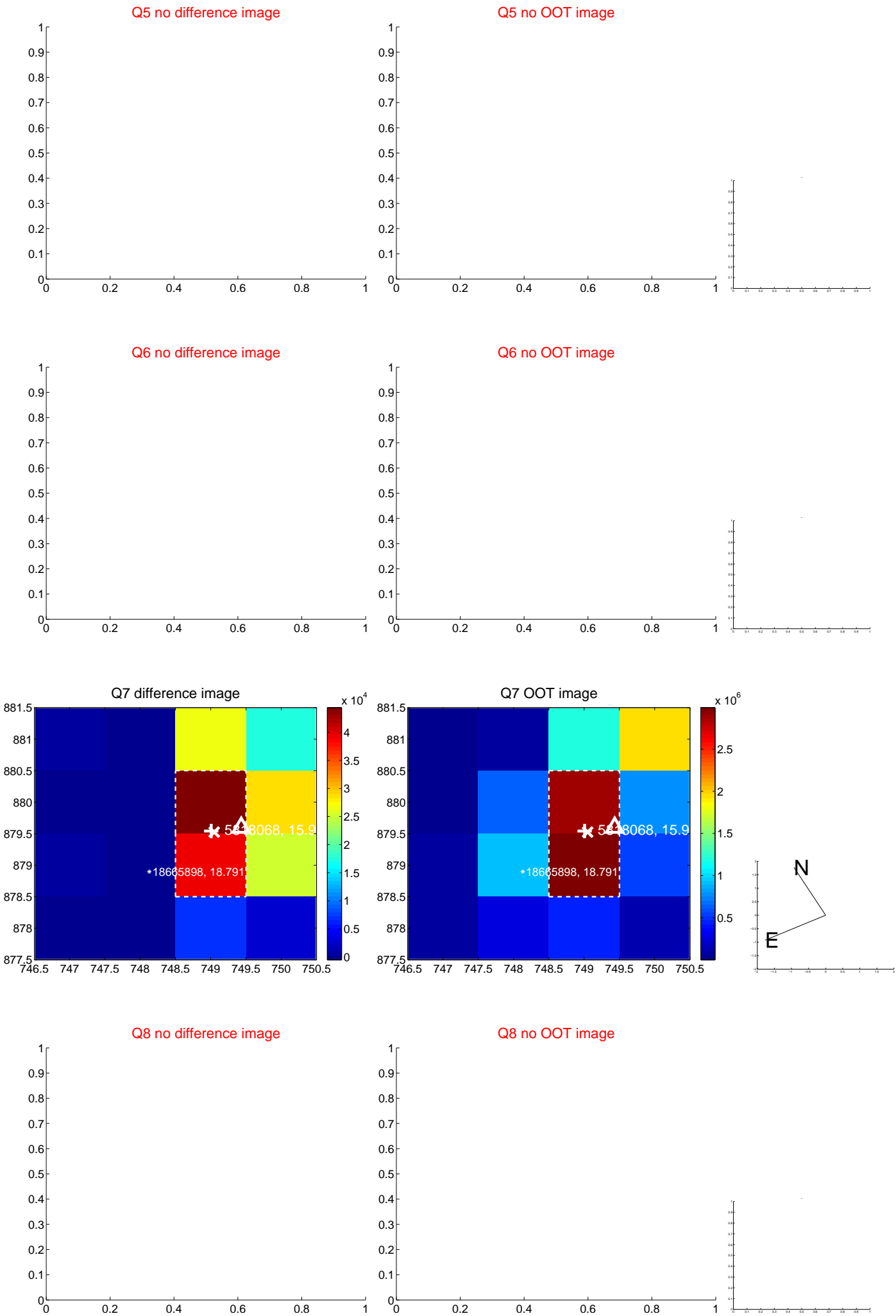


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

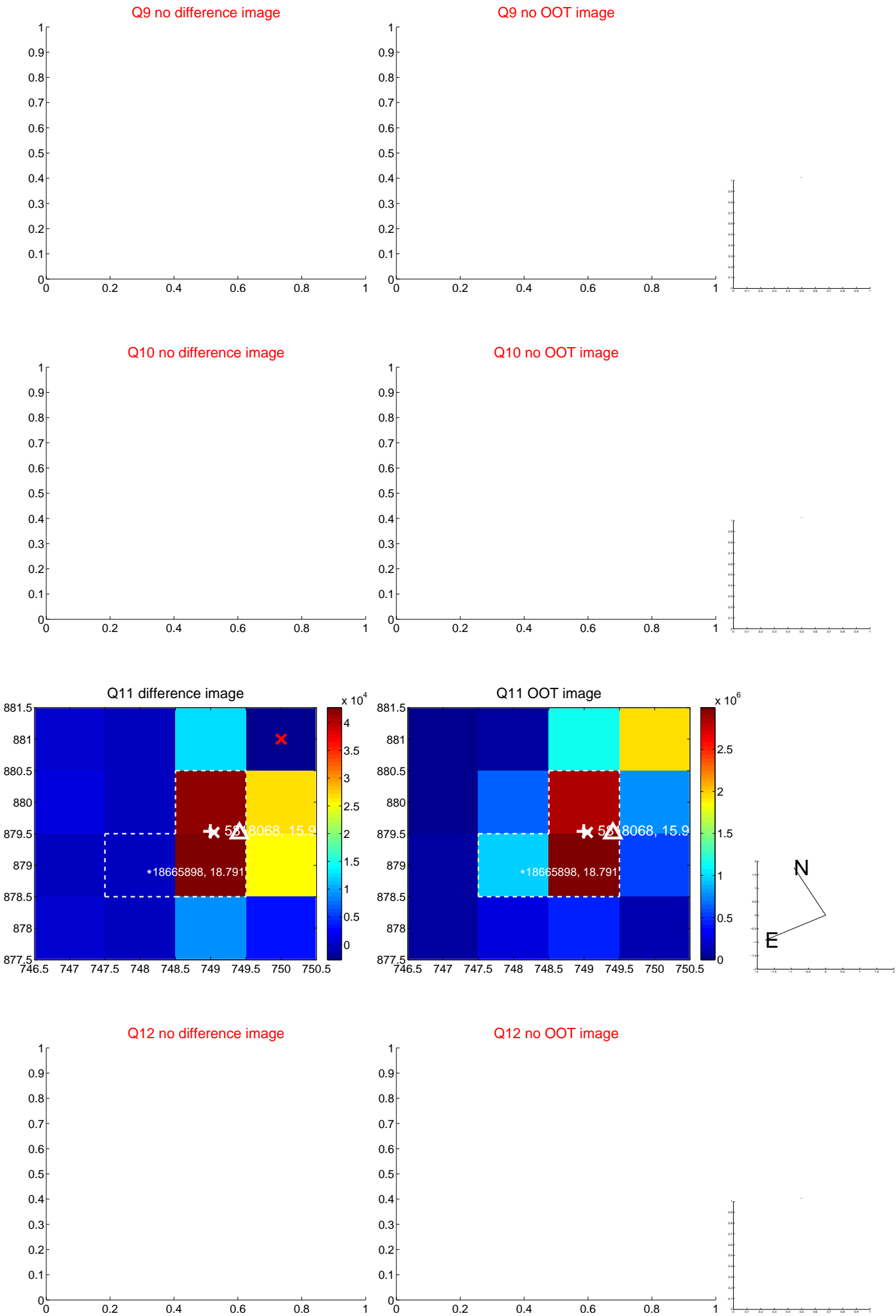
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



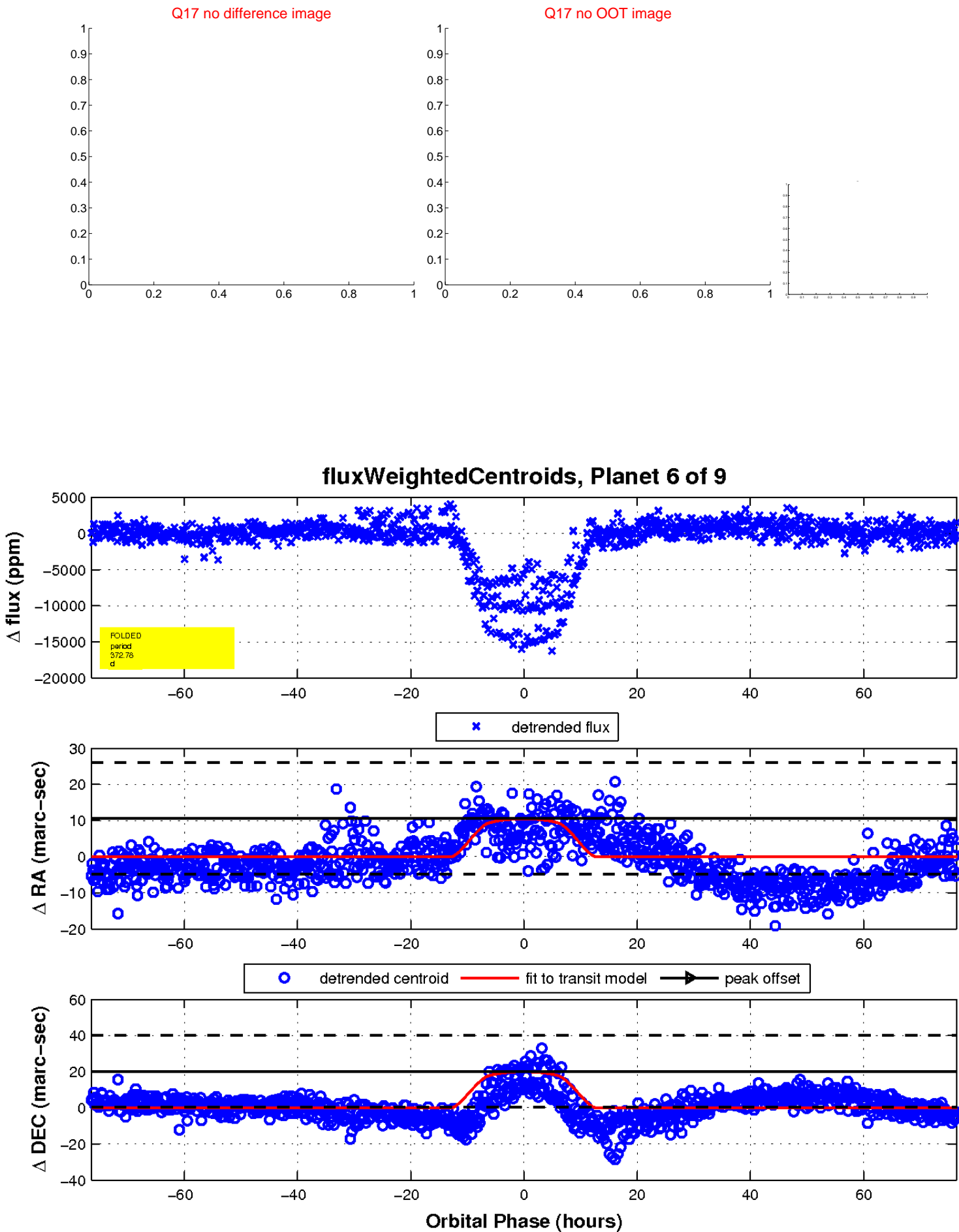
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

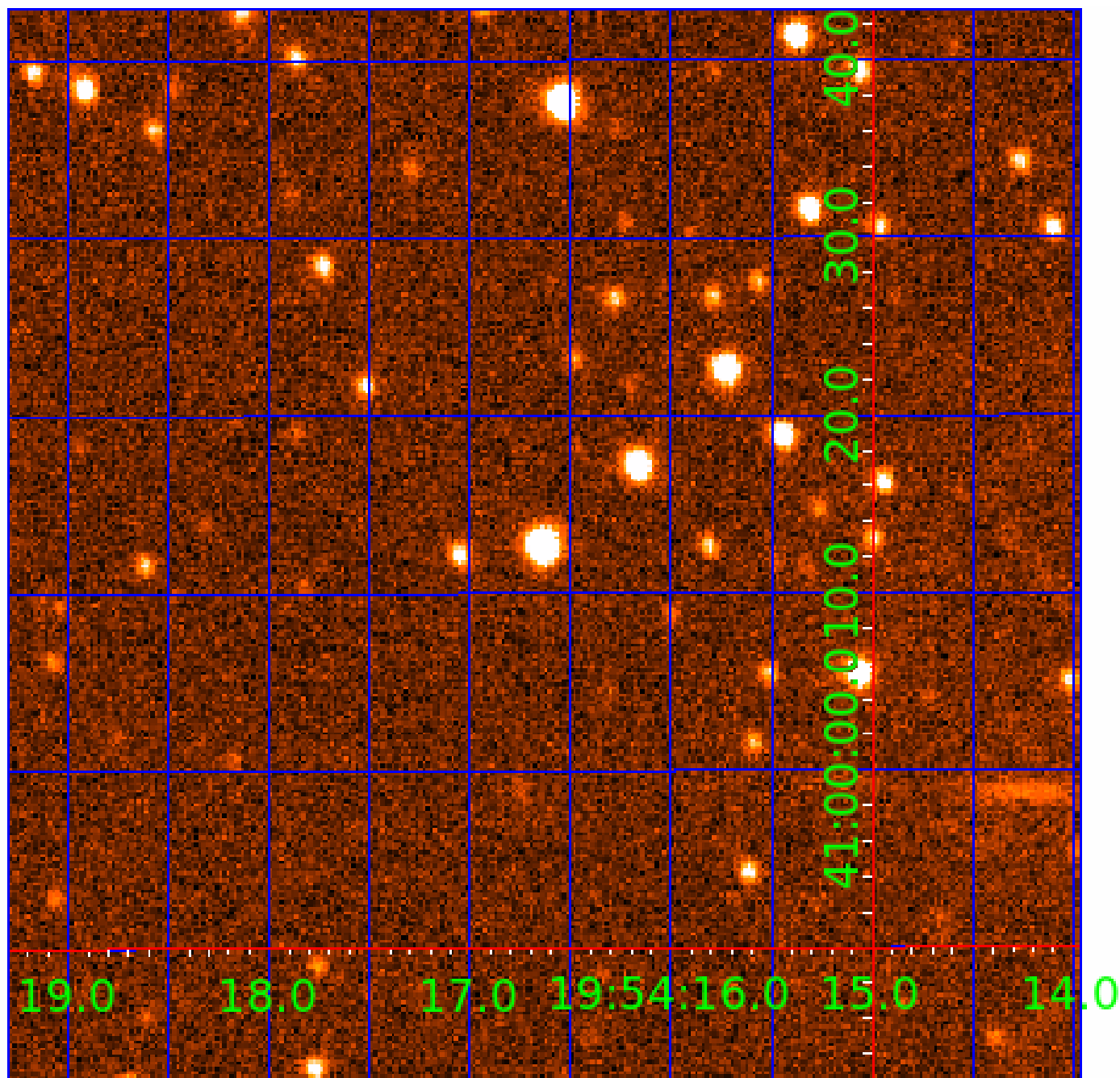


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005818068

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})
005818068-01	OBS	3332.01	14.126774	137.903508	7711.9	5.834	176.8	151.1	0.78	5656	11.96	47.69
005818068-02	OBS	No	14.126741	134.434129	4687.5	5.952	118.8	103.9	0.78	5656	9.25	47.69
005818068-03	OBS	No	385.177244	290.654428	11068.0	25.358	25.8	31.2	0.78	5656	9.19	0.58
005818068-04	OBS	No	347.941645	340.274480	10536.9	23.581	25.9	25.9	0.78	5656	8.95	0.67
005818068-06	OBS	No	372.776819	278.193745	12716.4	25.520	25.0	32.7	0.78	5656	9.82	0.61
005818068-07	OBS	No	360.349029	320.336863	12126.7	29.771	24.6	35.6	0.78	5656	9.79	0.64
005818068-08	OBS	No	385.172458	283.104389	11740.6	31.154	24.9	34.9	0.78	5656	9.82	0.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005818068-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-03	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
005818068-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS
005818068-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—SAME_NTL_PERIOD—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.

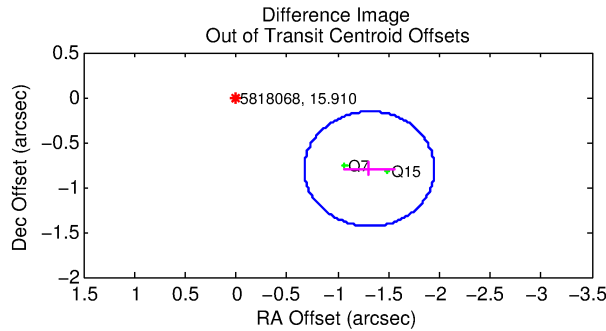
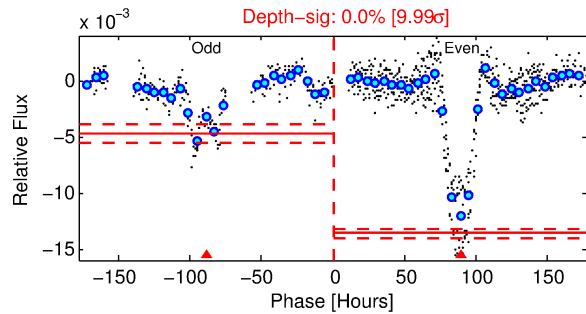
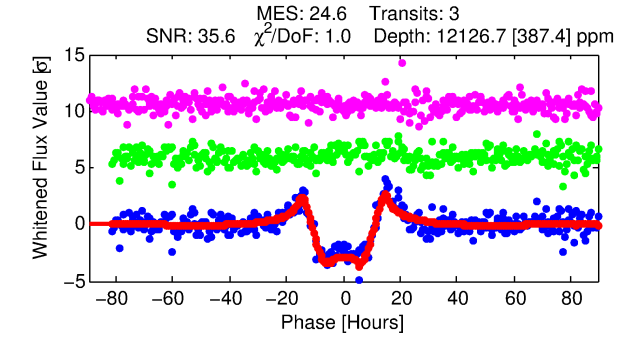
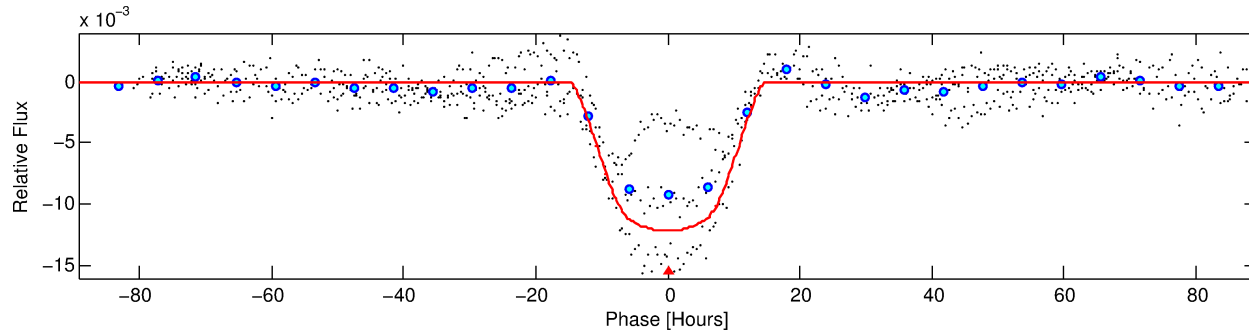
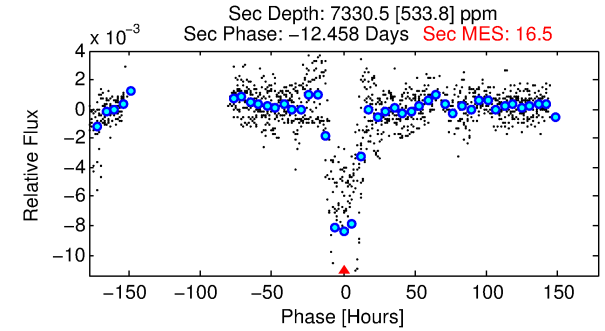
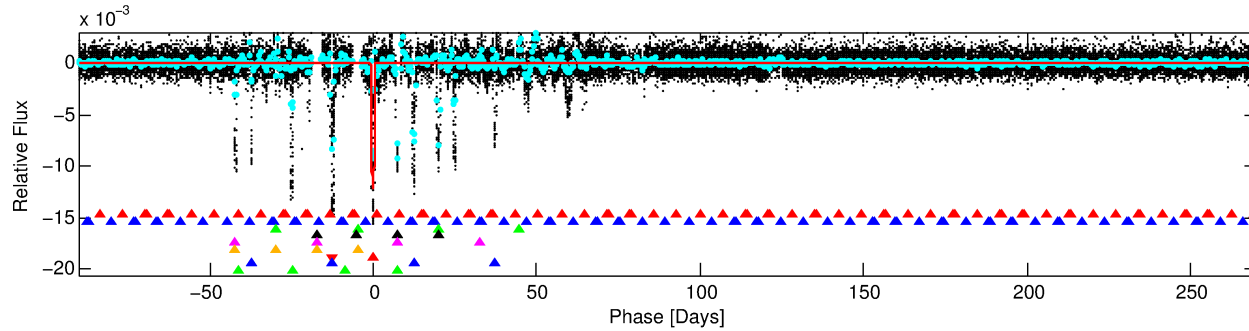
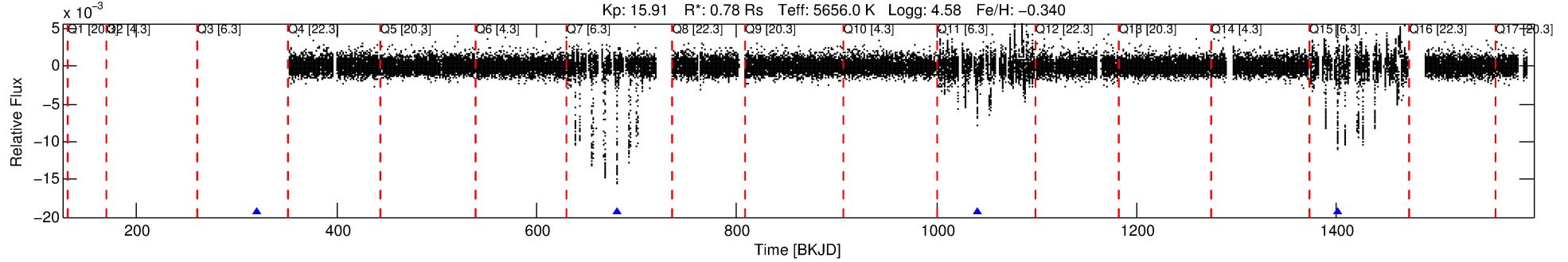
Ephemeris Match Information For 005818068-07

No Significant Match Found

DV One-Page Summary

KIC: 5818068 Candidate: 7 of 9 Period: 360.349 d
KOI: K03332 Corr: No Ephemeris Match

Kp: 15.91 R*: 0.78 Rs Teff: 5656.0 K Logg: 4.58 Fe/H: -0.340



DV Fit Results:

Period = 360.34903 [0.00665] d
Epoch = 320.3369 [0.0130] BKJD
Rp/R* = 0.1144 [0.0021]
a/R* = 68.77 [1.68]
b = 0.83 [0.01]
Seff = 0.64 [0.21]
Teq = 228 [19] K
Rp = 9.79 [2.59] Re
a = 0.9420 [0.2022] AU
Ag = 37368.57 [11695.73] [3.19σ]
Teffp = 4893 [189] K [24.52σ]

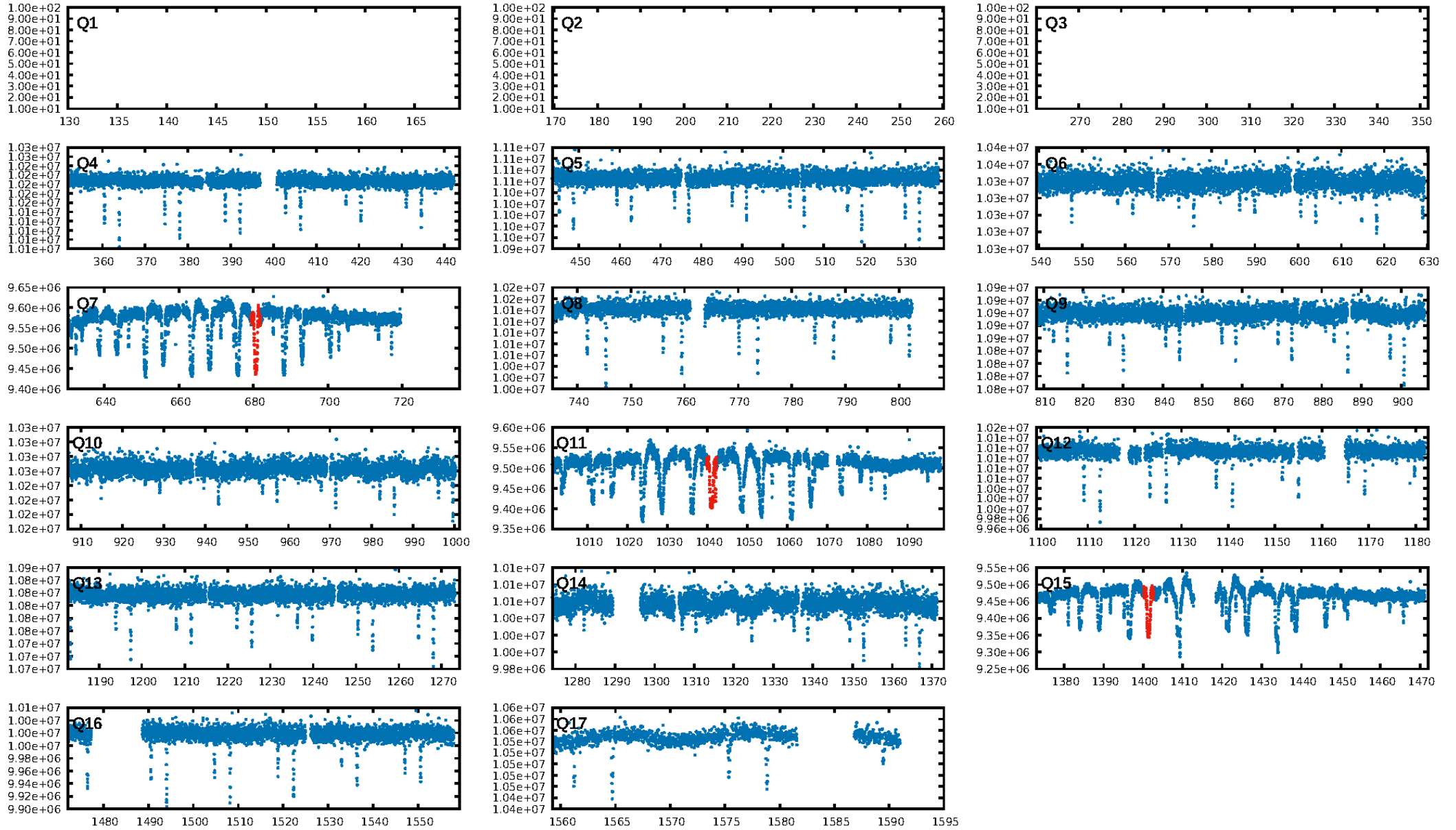
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.84σ]
LongPeriod-sig: 100.0% [7.61σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.276
Centroid-sig: 0.0%
Centroid-so: 1.042 arcsec [2.88σ]
OotOffset-rm: 1.535 arcsec [7.21σ]
KicOffset-rm: 1.408 arcsec [8.82σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

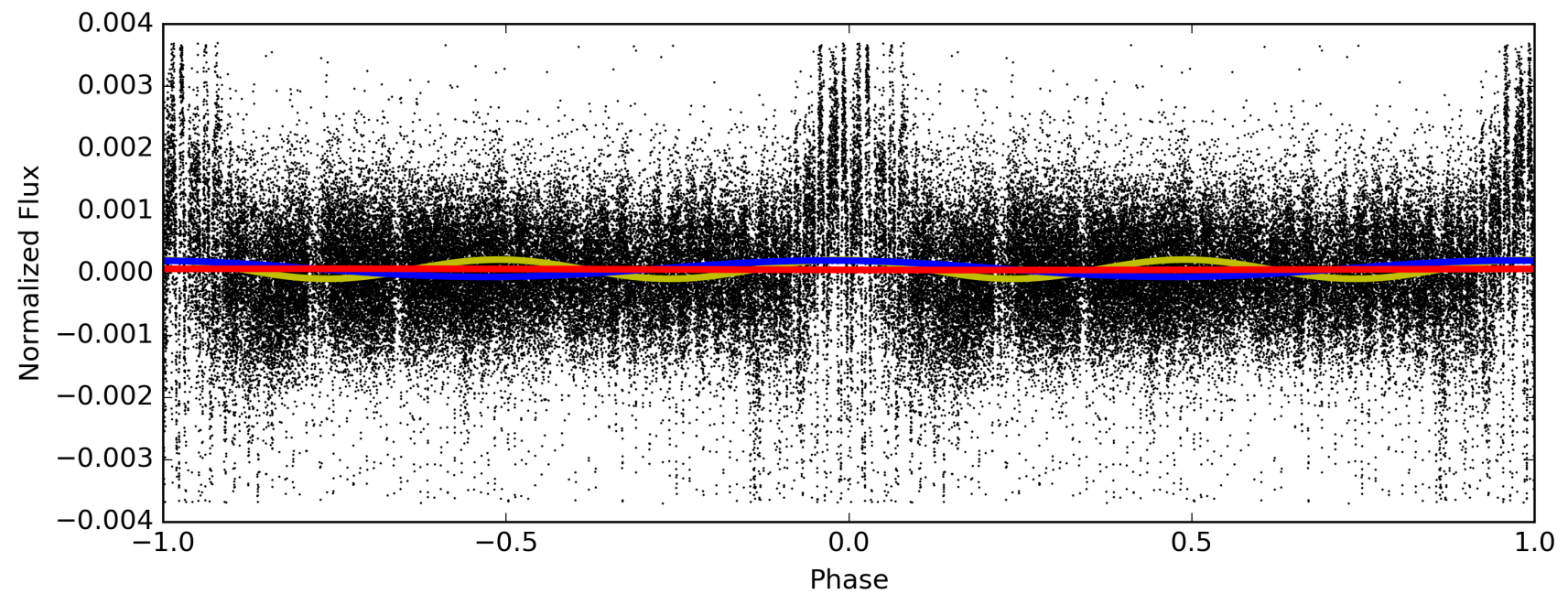
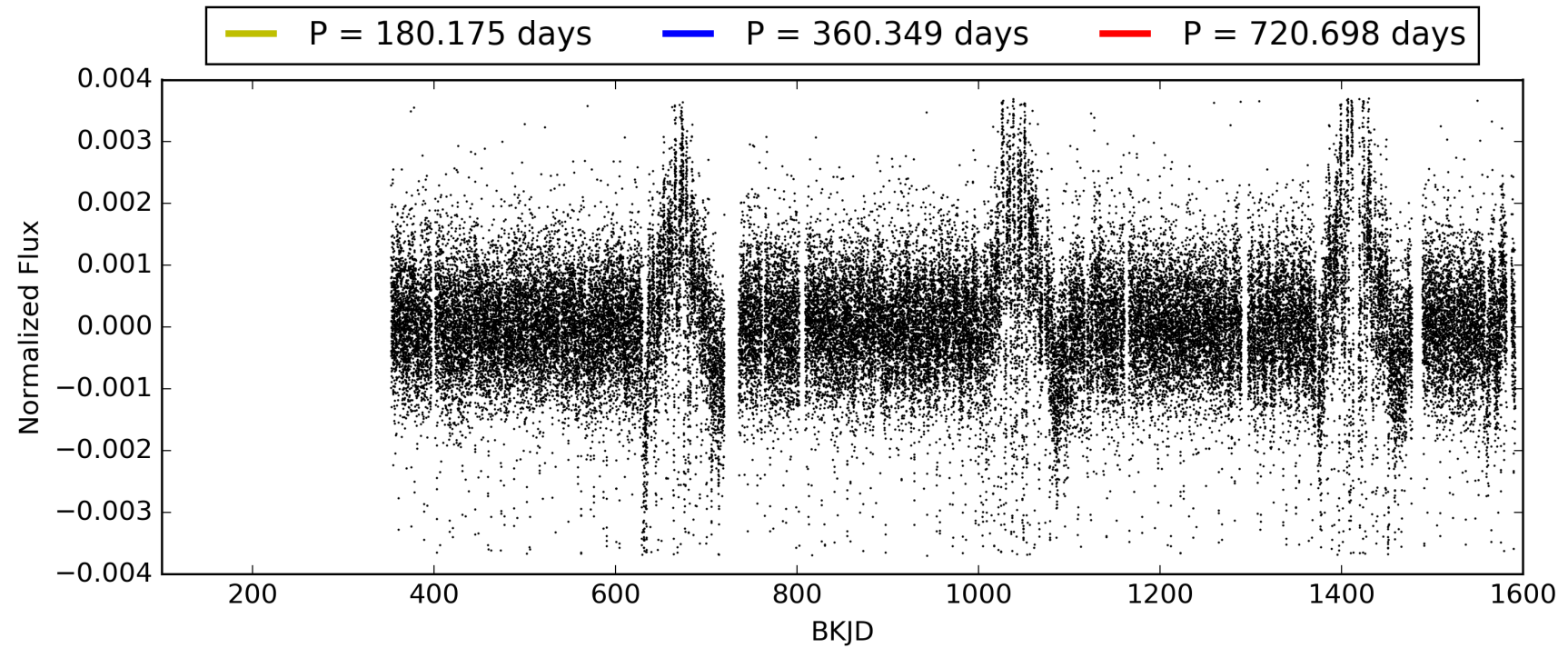
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:35:02 Z

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

TCE 005818068-07, PDC Light Curves

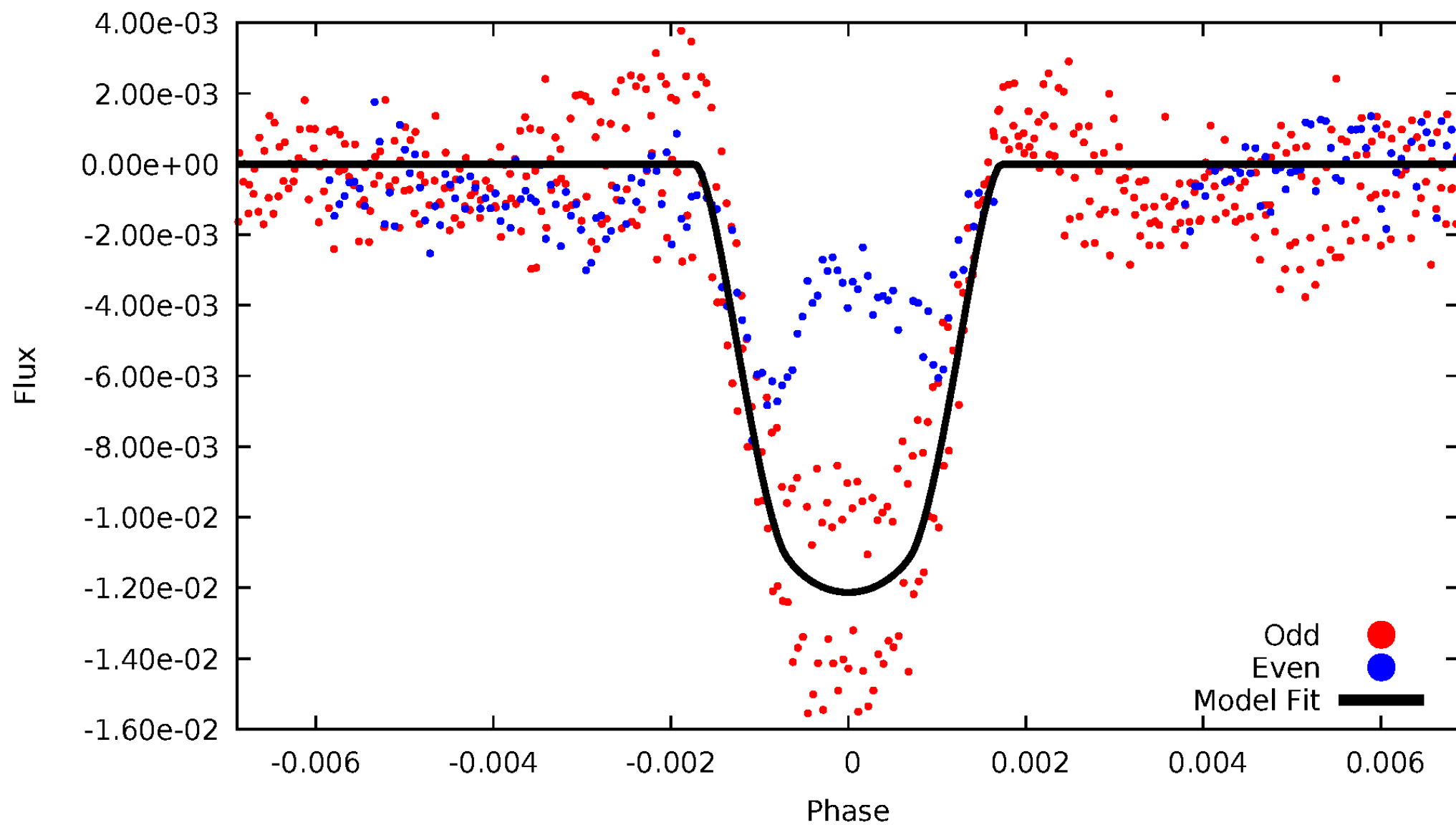


TCE 005818068-07



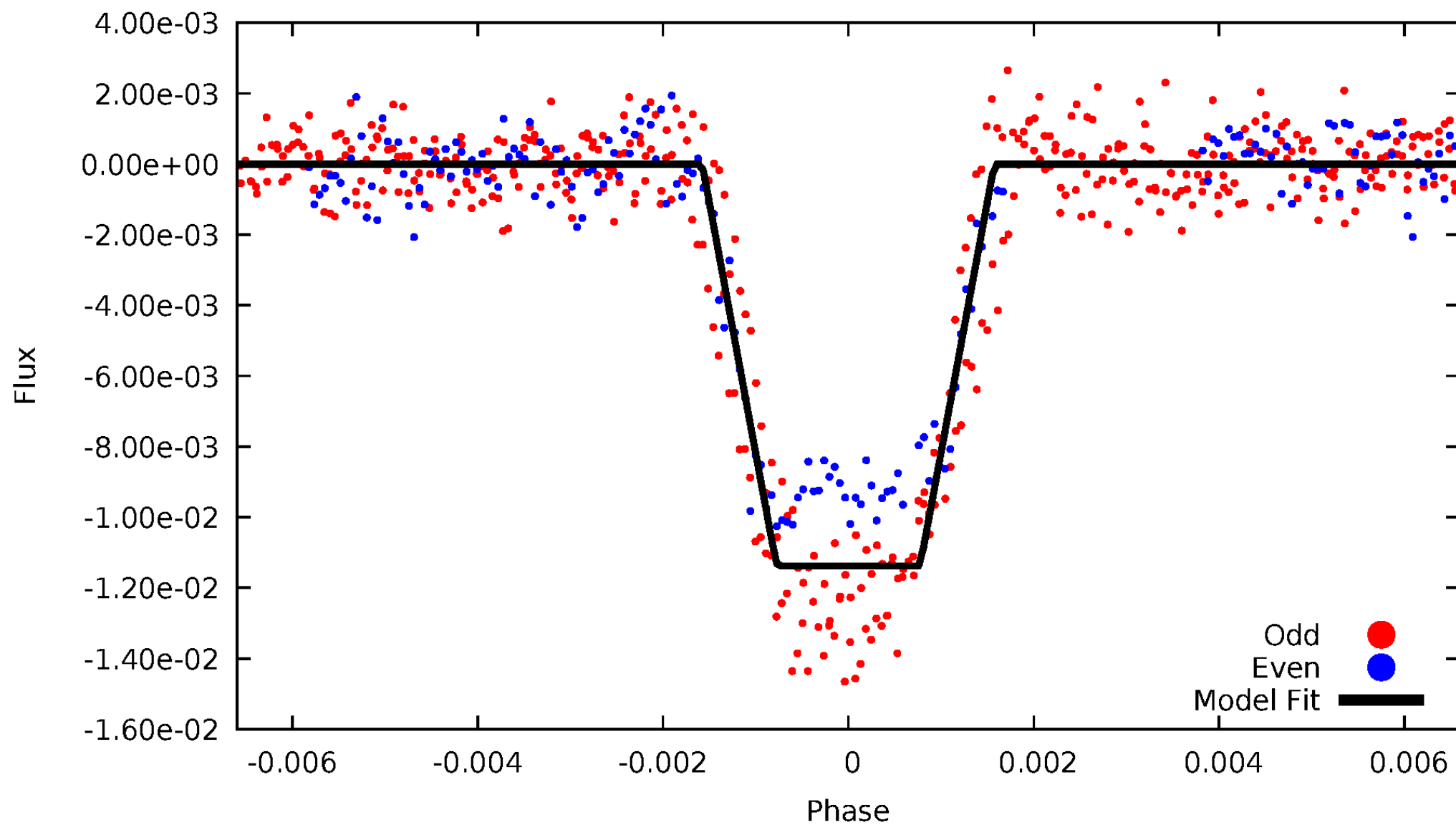
DV Odd/Even

TCE 005818068-07



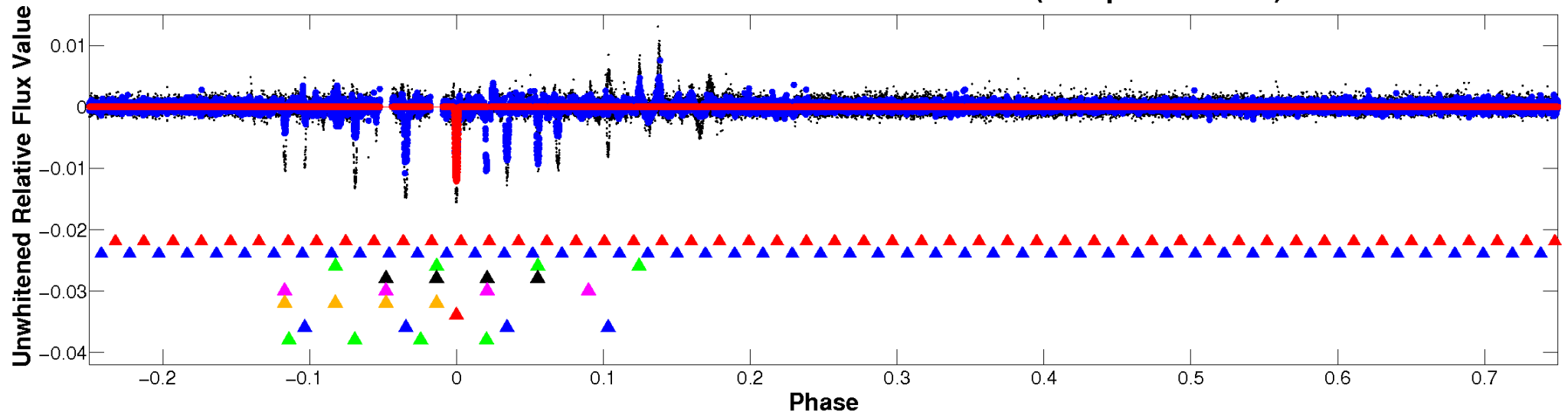
ALT Odd/Even

TCE 005818068-07

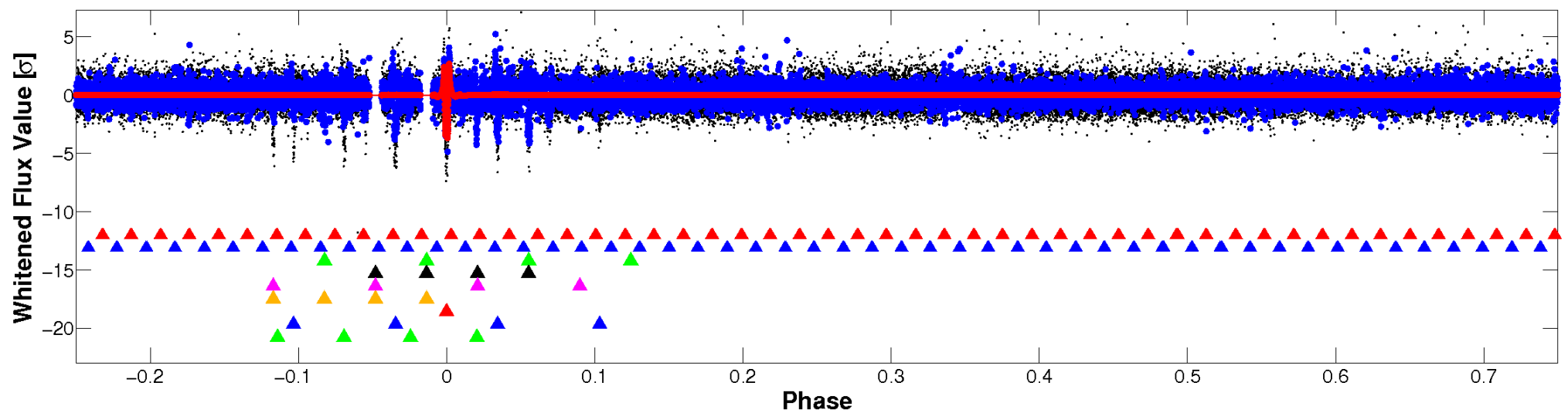


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

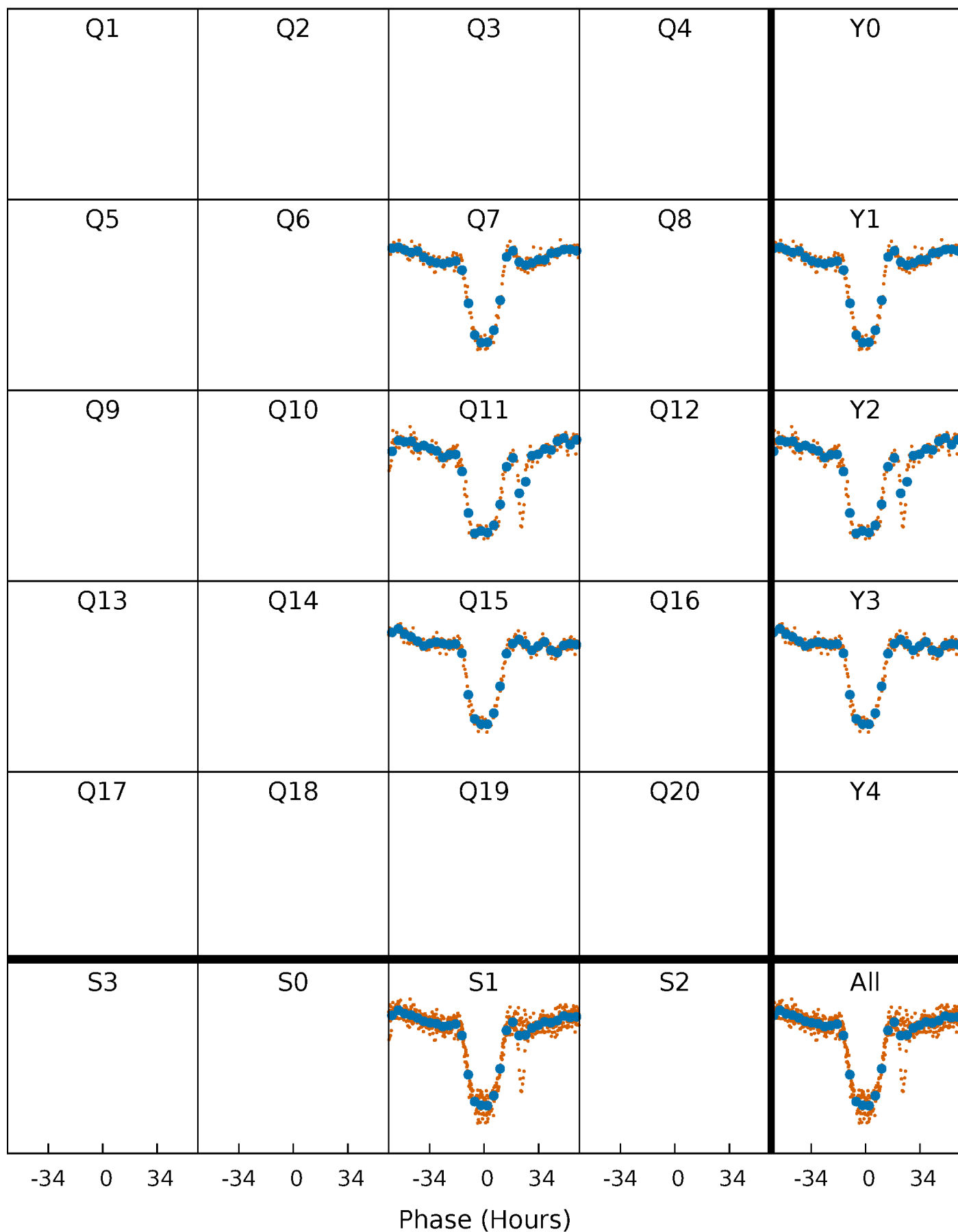


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



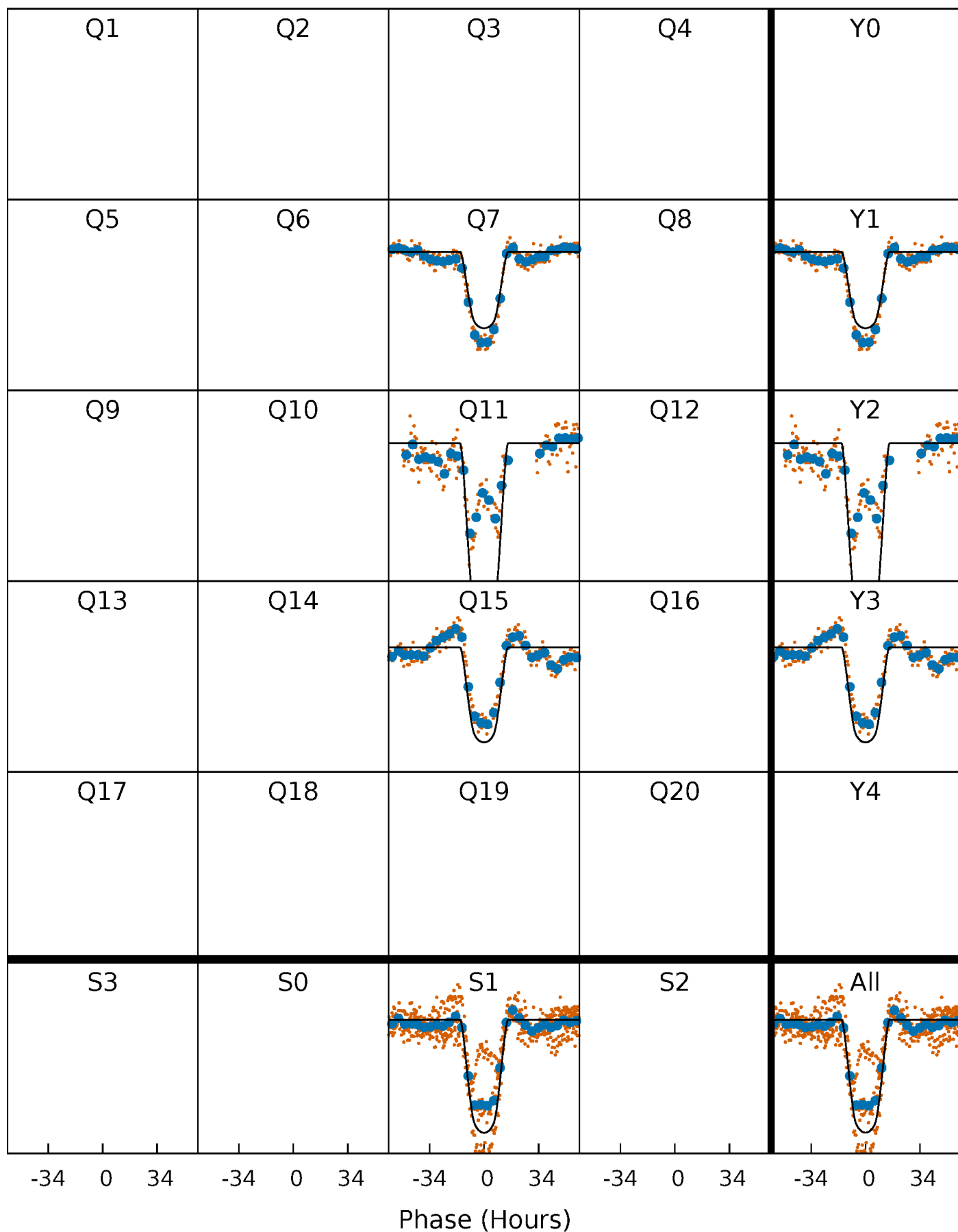
PDC Quarter-Phased Transit Curves

TCE 005818068-07 $P=360.349029$ Days $T_0=320.336863$ (BKJD)



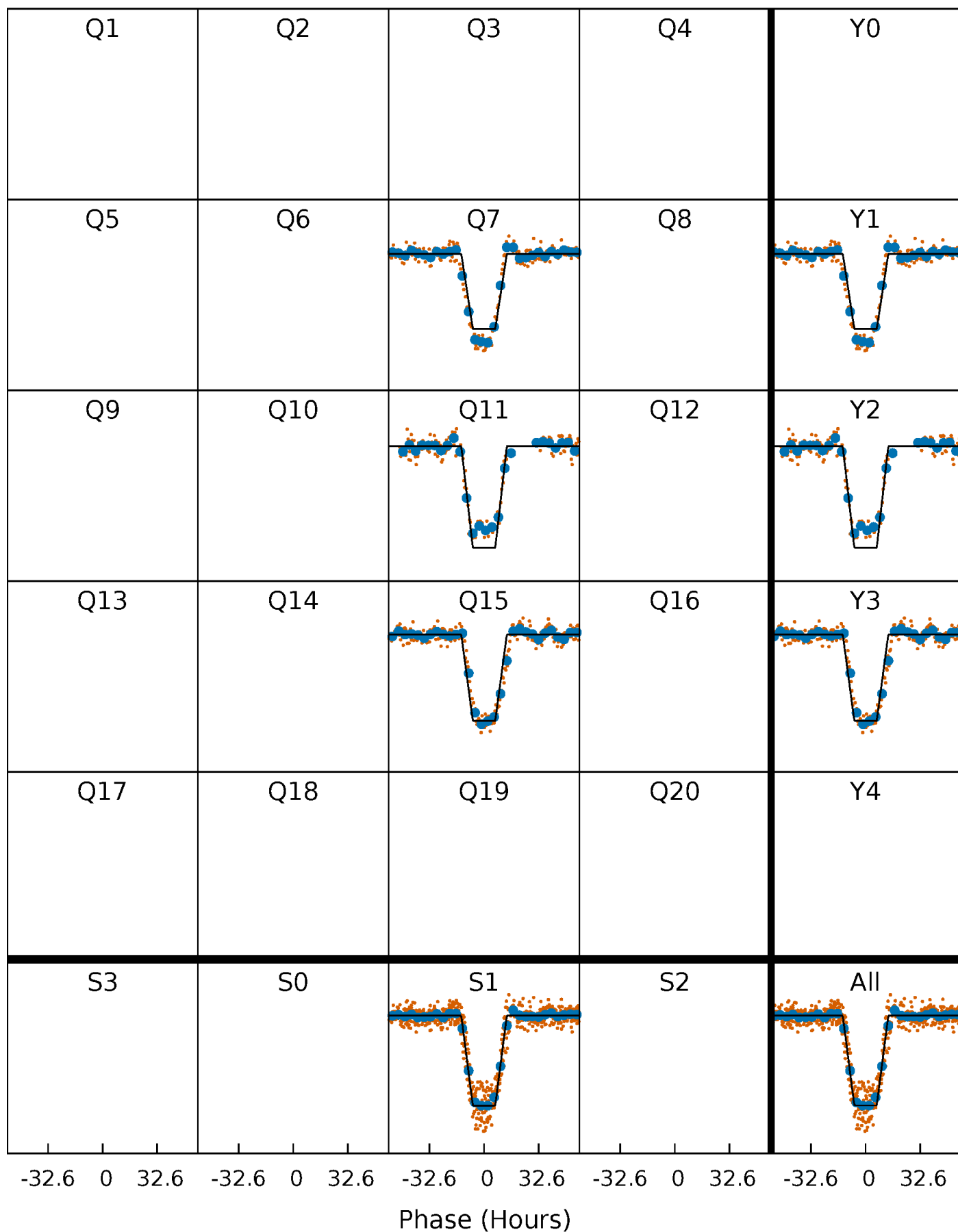
DV Quarter-Phased Transit Curves

TCE 005818068-07 $P=360.349029$ Days $T_0=320.336863$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

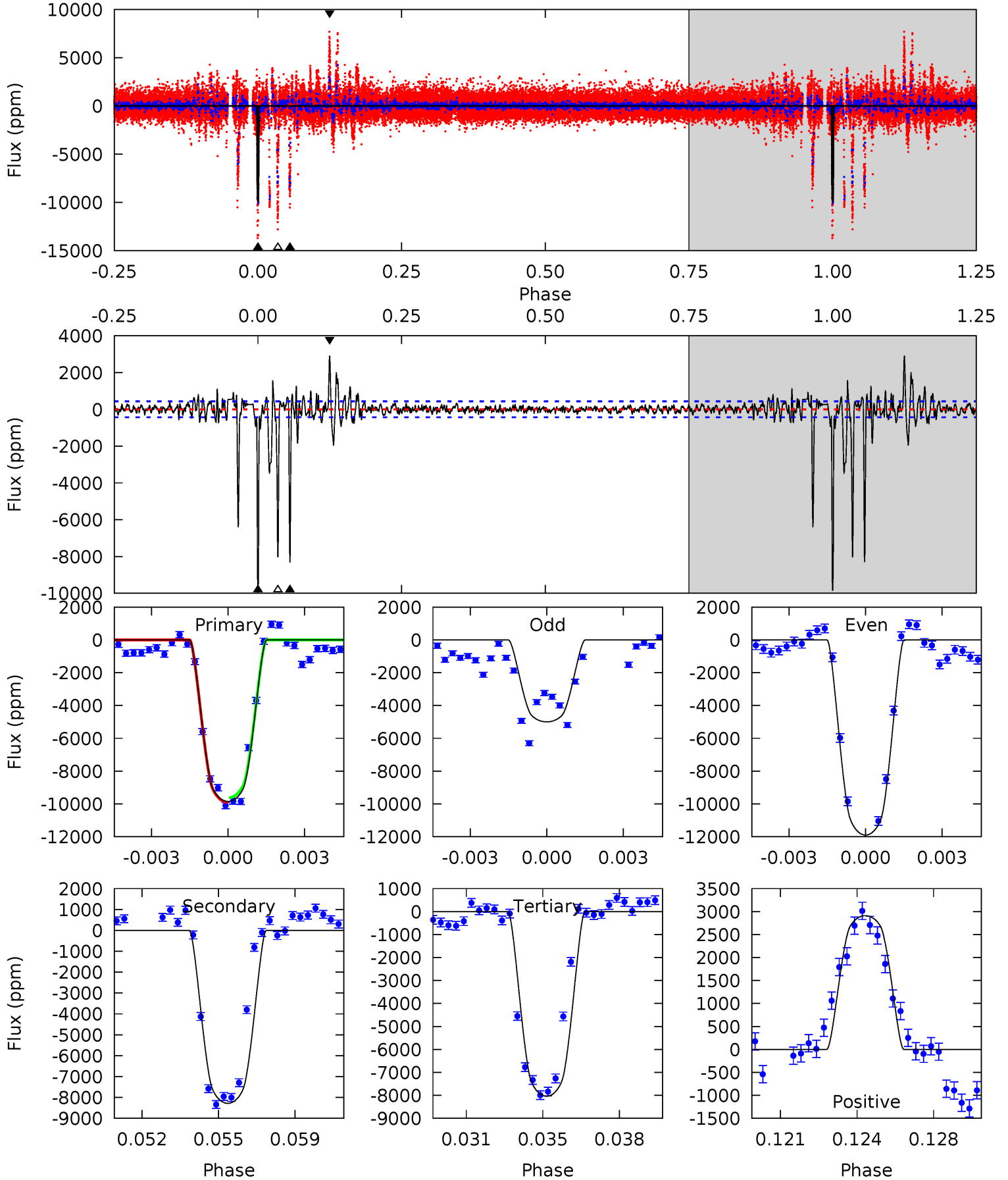
TCE 005818068-07 $P=360.284530$ Days $T_0=320.455586$ (BKJD)



DV Model-Shift Uniqueness Test

005818068-07, P = 360.349029 Days, E = 320.336863 Days

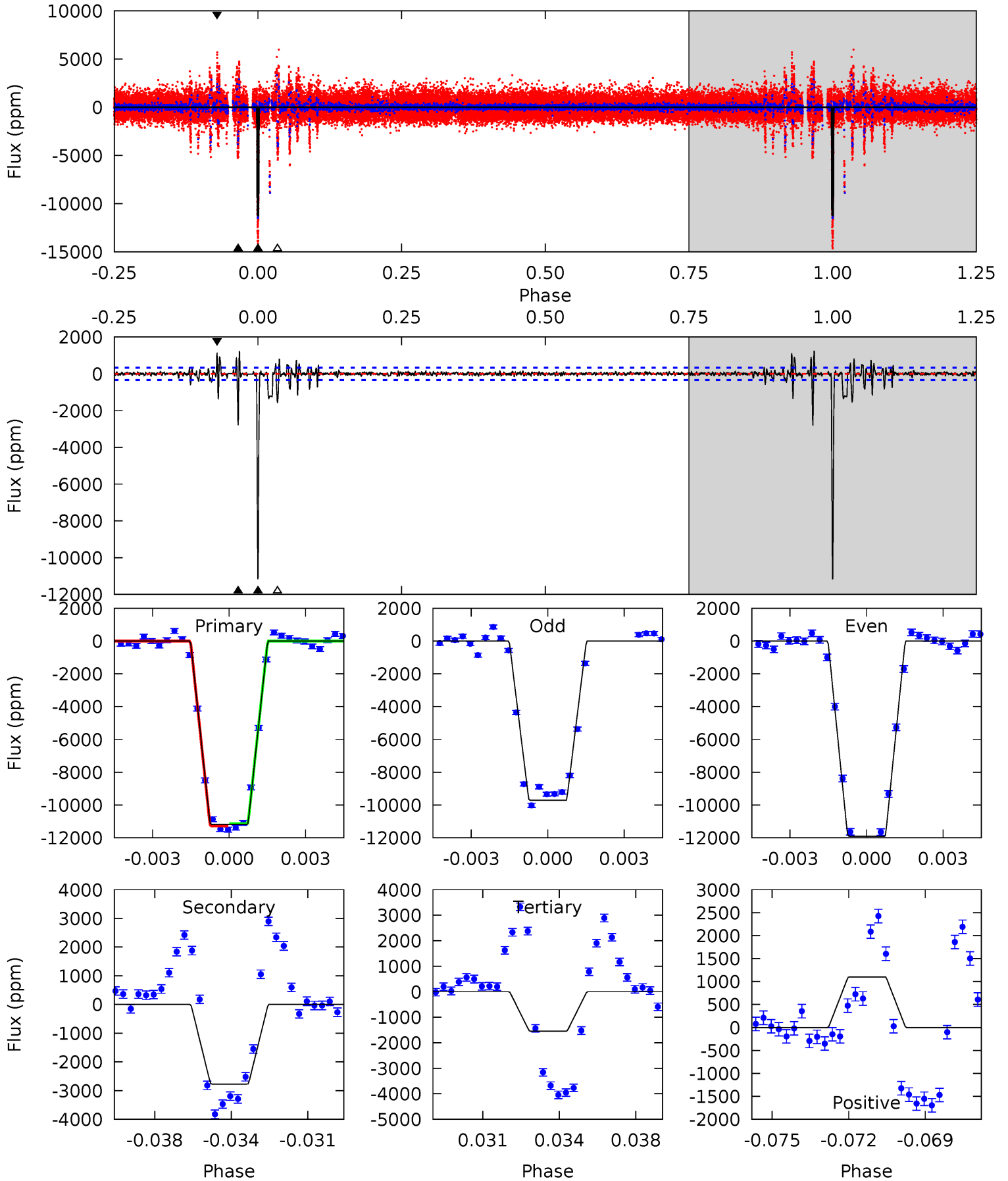
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
118.4	99.6	96.7	35.0	5.23	2.92	6.11	21.8	83.4	2.92	64.6	40.6	1.01	0.23	1.60



Alt Model-Shift Uniqueness Test

005818068-07, P = 360.284530 Days, E = 320.455586 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
176.5	43.8	24.4	17.4	5.24	2.96	2.33	152.1	159.1	19.4	26.4	16.1	1.00	0.10	1.13



Stellar Parameters For KIC 005818068

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5656^{+186}_{-186}	$4.583^{+0.040}_{-0.160}$	$-0.340^{+0.300}_{-0.300}$	$0.784^{+0.207}_{-0.065}$	$0.873^{+0.089}_{-0.106}$	$2.548^{+0.530}_{-1.153}$
	+3%/-3%	+1%/-3%	+88%/-88%	+26%/-8%	+10%/-12%	+21%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005818068-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-8281 ± 83	$10.05^{+1.31}_{-0.72}$	325^{+19}_{-15}	5116^{+155}_{-161}	39917^{+5384}_{-7764}
Alt.	-2771 ± 63	$9.41^{+1.19}_{-0.68}$	326^{+19}_{-16}	4229^{+117}_{-121}	15251^{+1917}_{-2926}

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 $A_{obs} \gg 1.0$

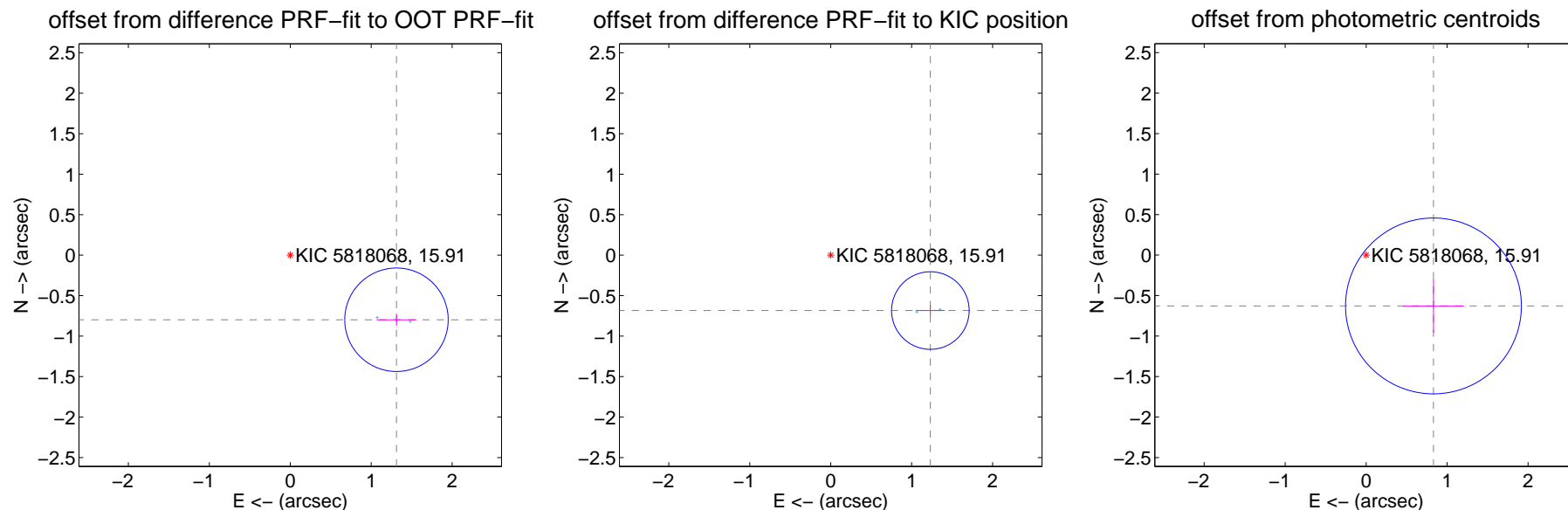
DV Centroid Data

Supplemental centroid analysis for 005818068-07. Kepler magnitude: 15.91. Transit SNR 35.55

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.535 ± 0.213	7.21	-1.312 ± 0.245	-0.798 ± 0.073
PRF-fit source offset from KIC position	1.408 ± 0.160	8.82	-1.231 ± 0.179	-0.684 ± 0.069
photometric centroid source offset	1.04 ± 0.36	2.88	-0.83 ± 0.38	-0.63 ± 0.33



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



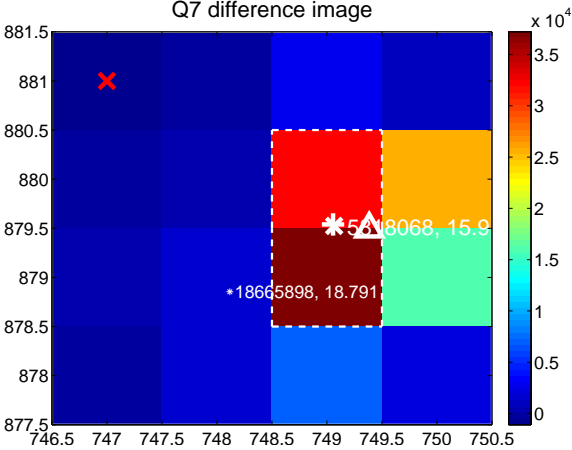
Q6 no difference image



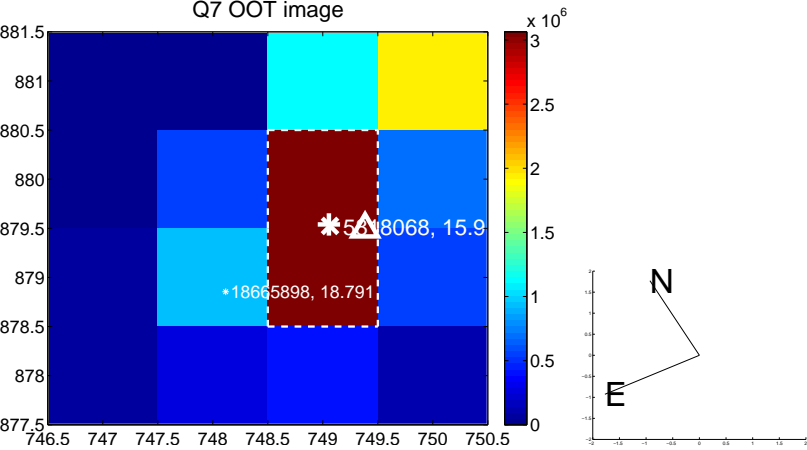
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



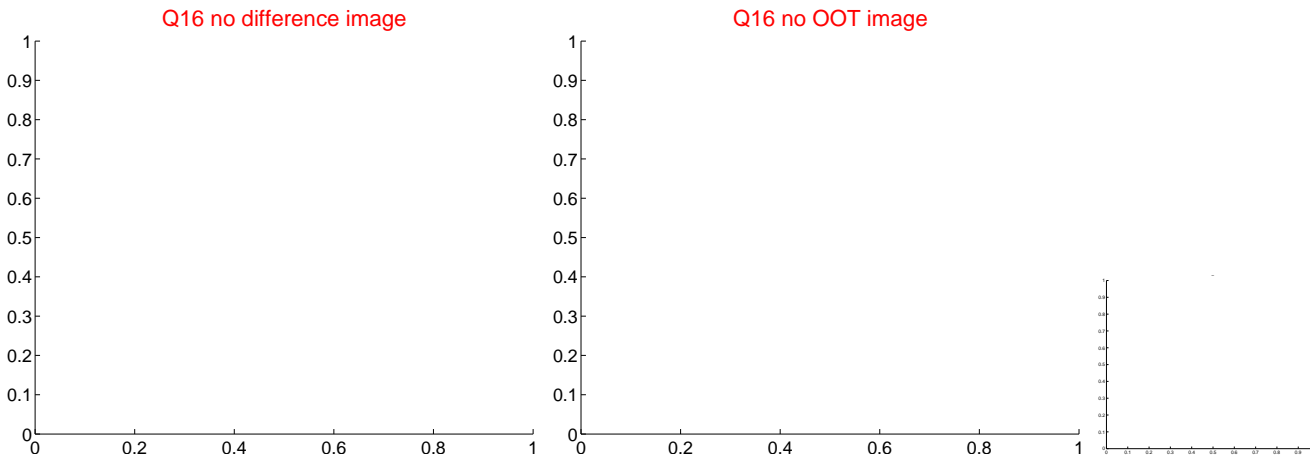
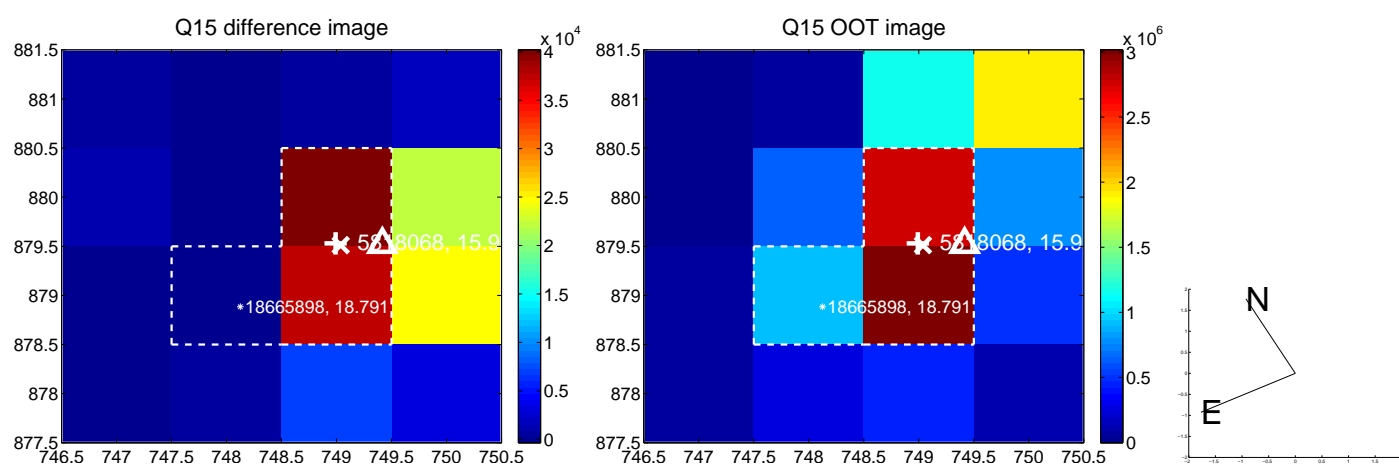
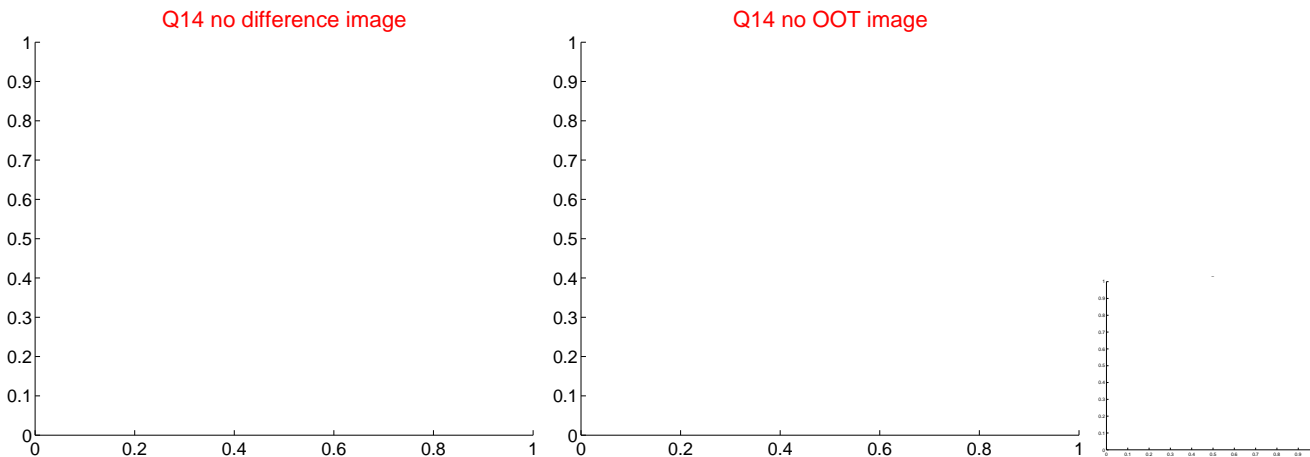
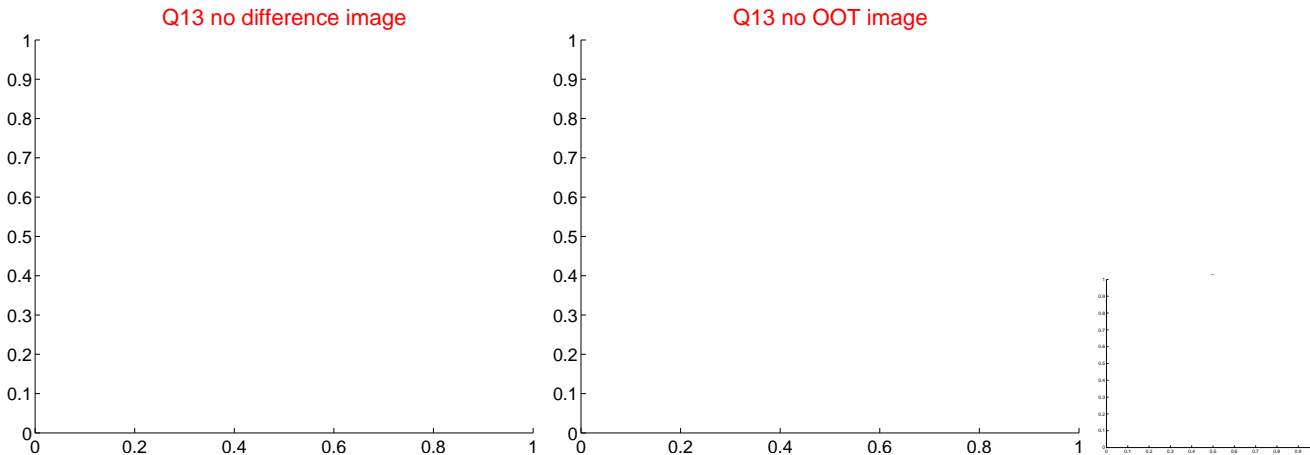
Q8 no OOT image



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



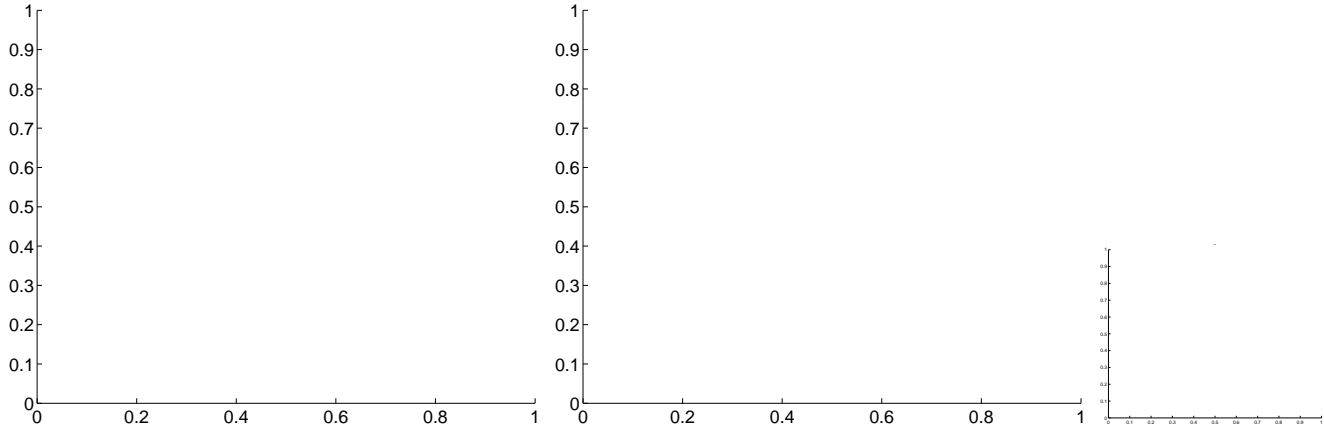
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



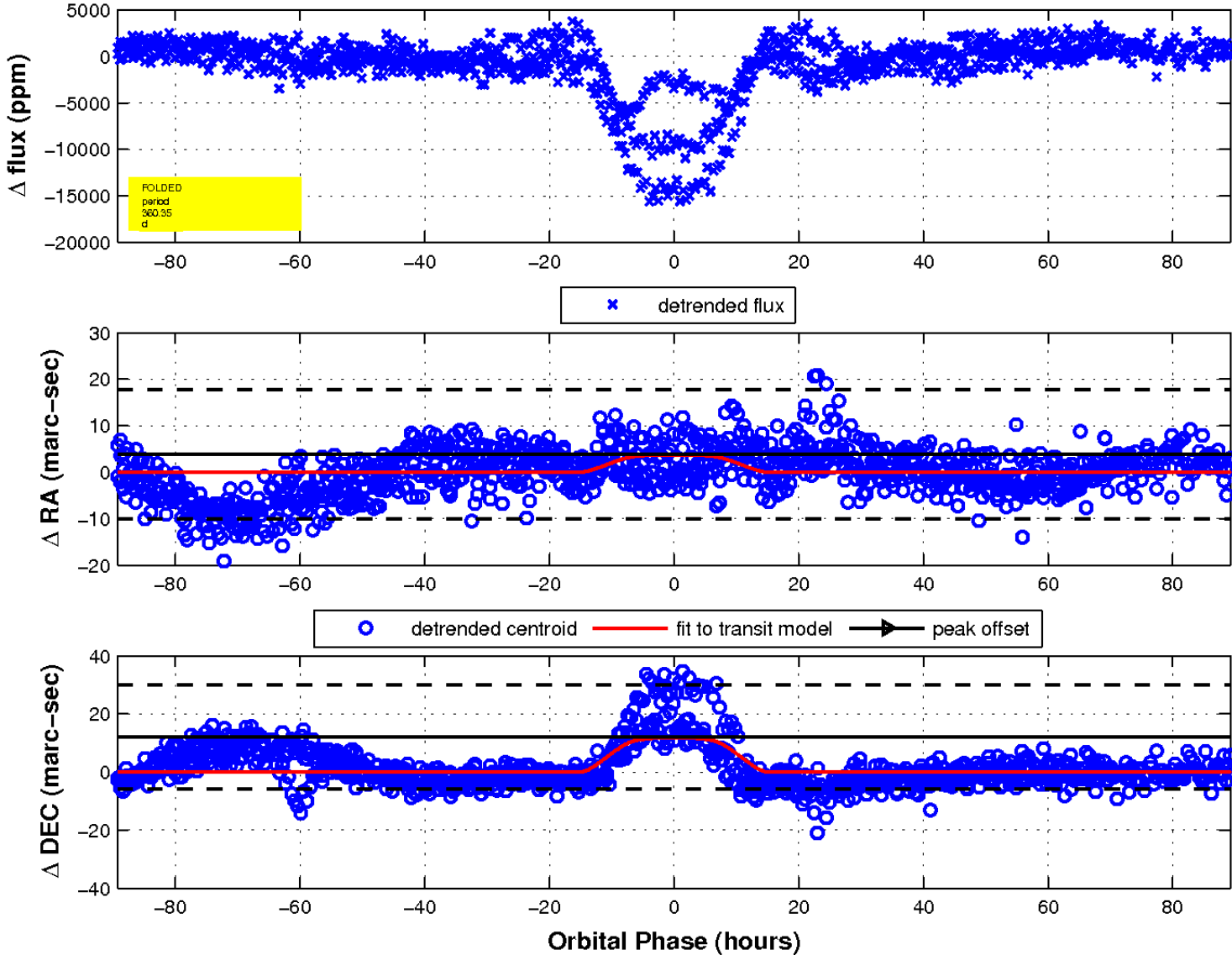
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q17 no difference image

Q17 no OOT image

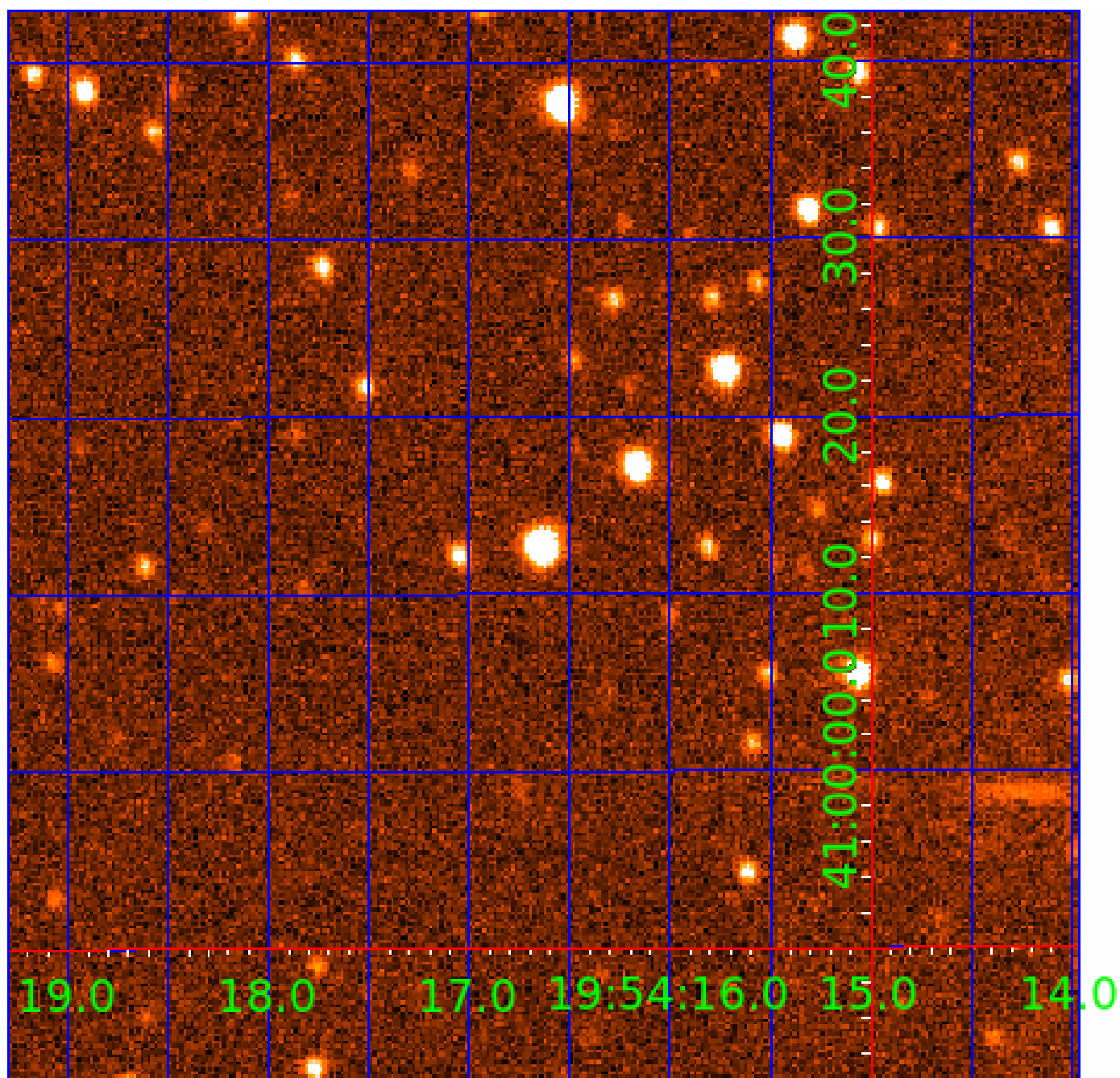


fluxWeightedCentroids, Planet 7 of 9



UKIRT Image

Declination



KIC 005818068

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})
005818068-01	OBS	3332.01	14.126774	137.903508	7711.9	5.834	176.8	151.1	0.78	5656	11.96	47.69
005818068-02	OBS	No	14.126741	134.434129	4687.5	5.952	118.8	103.9	0.78	5656	9.25	47.69
005818068-03	OBS	No	385.177244	290.654428	11068.0	25.358	25.8	31.2	0.78	5656	9.19	0.58
005818068-04	OBS	No	347.941645	340.274480	10536.9	23.581	25.9	25.9	0.78	5656	8.95	0.67
005818068-06	OBS	No	372.776819	278.193745	12716.4	25.520	25.0	32.7	0.78	5656	9.82	0.61
005818068-07	OBS	No	360.349029	320.336863	12126.7	29.771	24.6	35.6	0.78	5656	9.79	0.64
005818068-08	OBS	No	385.172458	283.104389	11740.6	31.154	24.9	34.9	0.78	5656	9.82	0.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005818068-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET
005818068-03	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
005818068-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS
005818068-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005818068-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—SAME_NTL_PERIOD—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 005818068-08

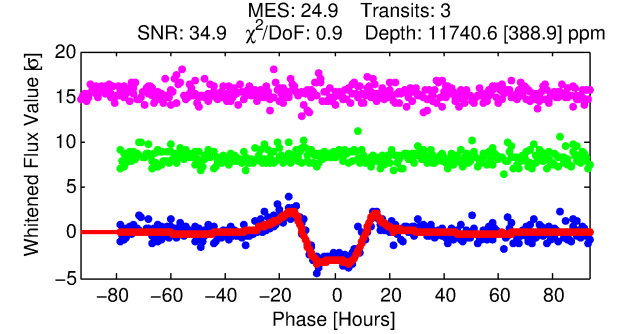
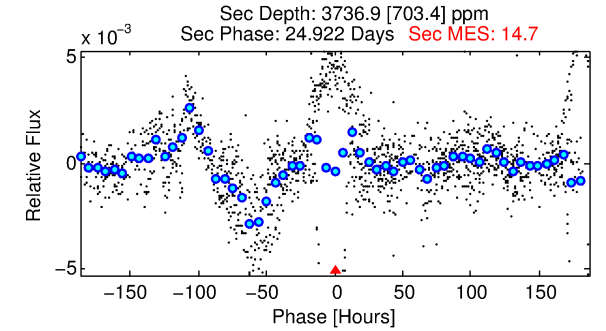
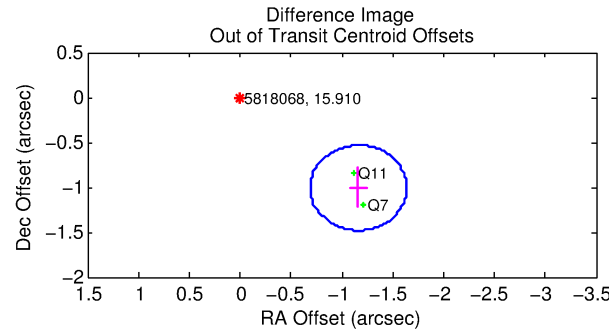
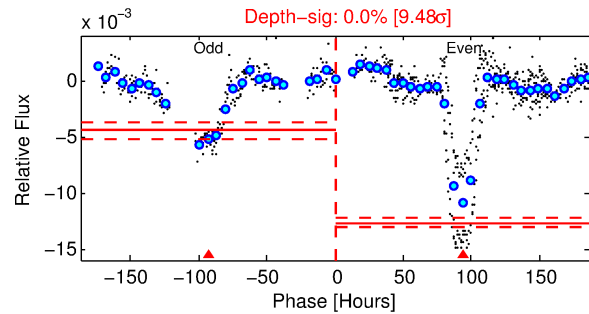
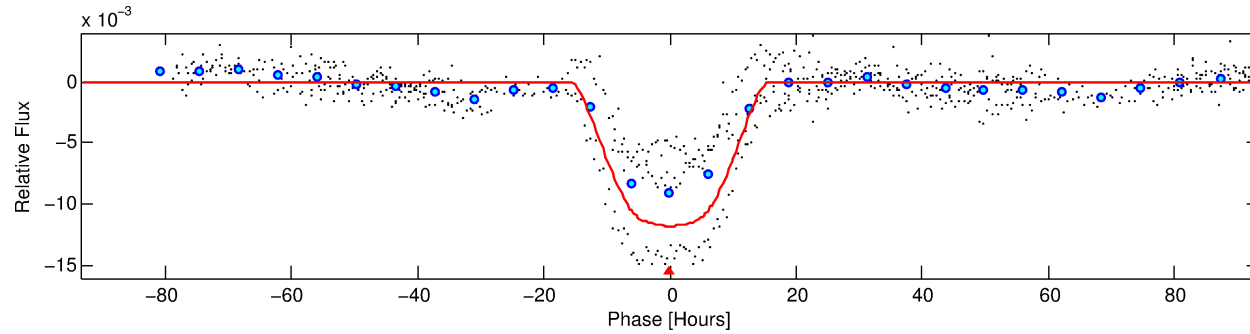
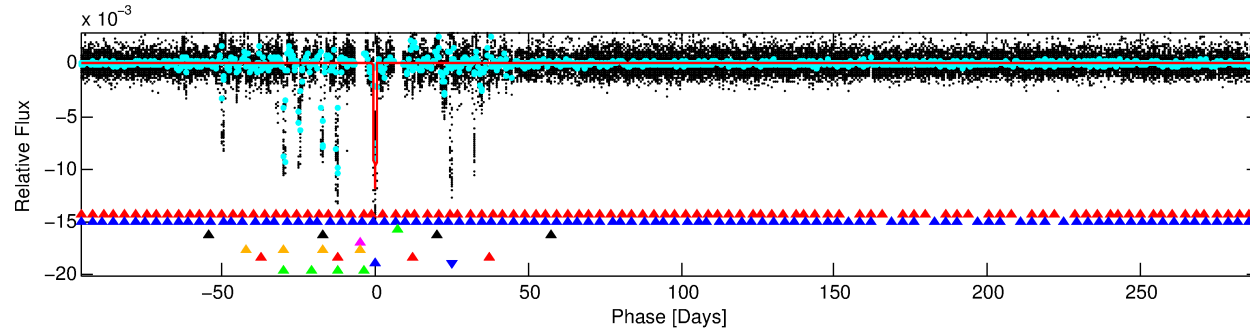
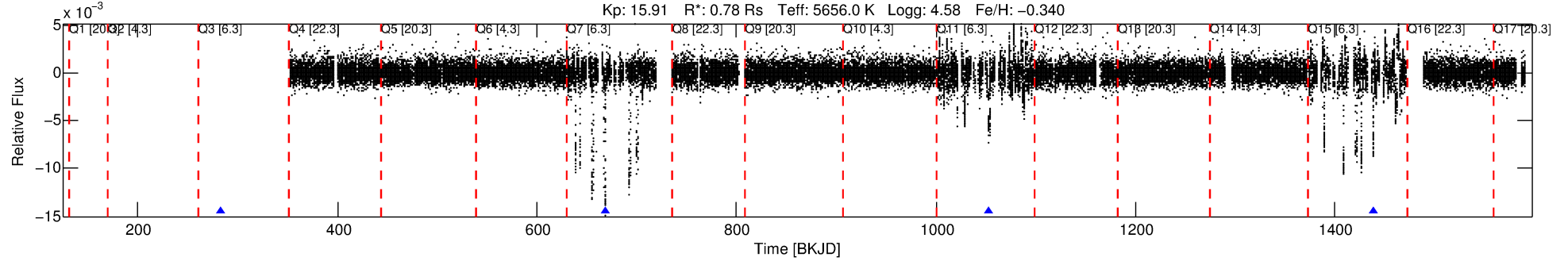
No Significant Match Found

DV One-Page Summary

KIC: 5818068 Candidate: 8 of 9 Period: 385.172 d

KOI: K03332 Corr: No Ephemeris Match

Kp: 15.91 R*: 0.78 Rs Teff: 5656.0 K Logg: 4.58 Fe/H: -0.340



DV Fit Results:

Period = 385.17246 [0.00769] d
Epoch = 283.1044 [0.0149] BKJD
Rp/R* = 0.1148 [0.0022]
a/R* = 67.33 [1.61]
b = 0.86 [0.01]
Seff = 0.58 [0.19]
Teq = 223 [18] K
Rp = 9.82 [2.60] Re
a = 0.9848 [0.2114] AU
Ag = 20685.01 [7406.86] [2.79σ]
Teffp = 4128 [240] K [16.21σ]

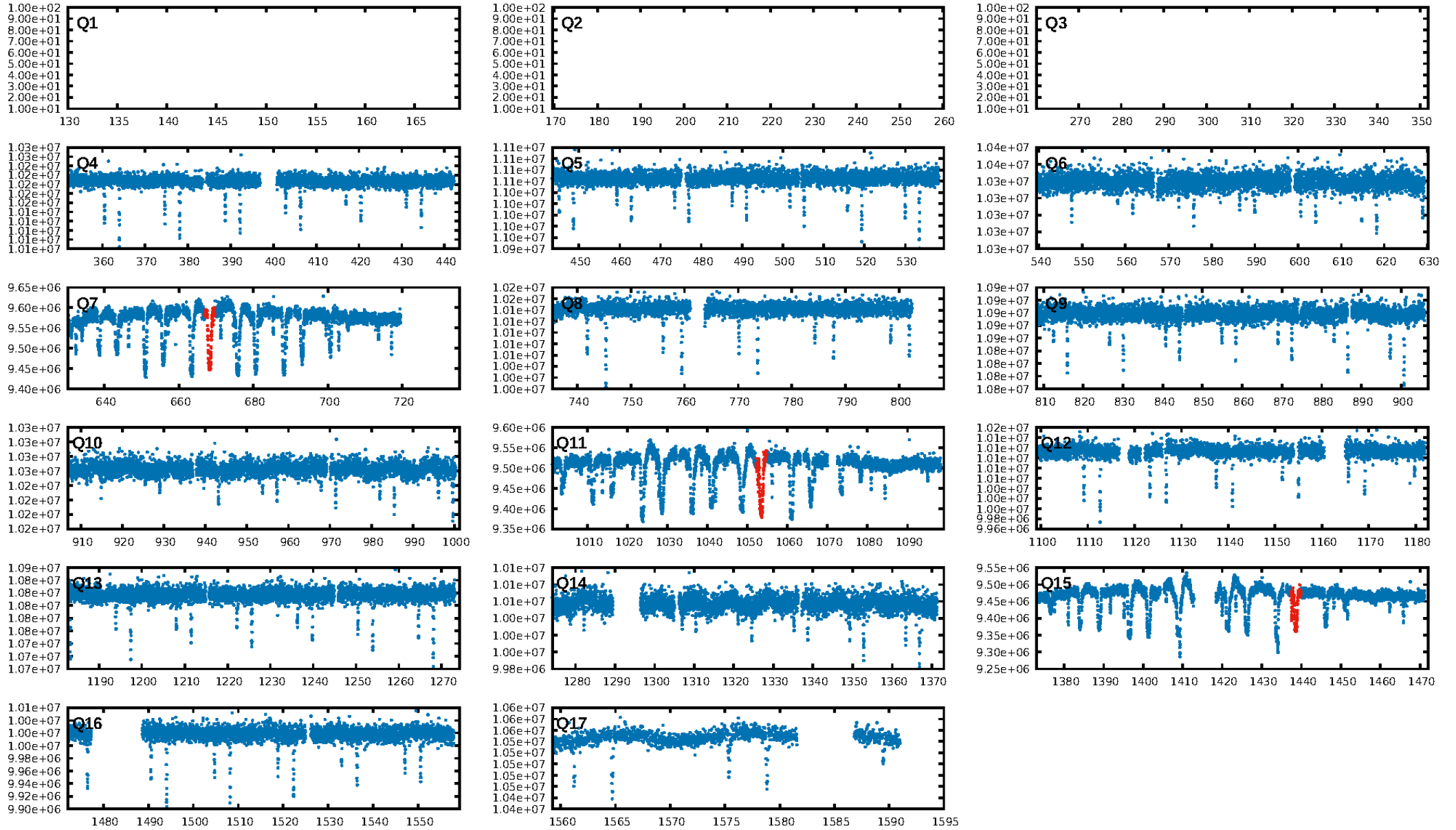
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.01σ]
LongPeriod-sig: 0.2% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.21
Centroid-sig: 0.3%
Centroid-so: 0.687 arcsec [1.78σ]
OotOffset-rm: 1.539 arcsec [9.74σ]
KicOffset-rm: 1.454 arcsec [10.42σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.50 [1/2]

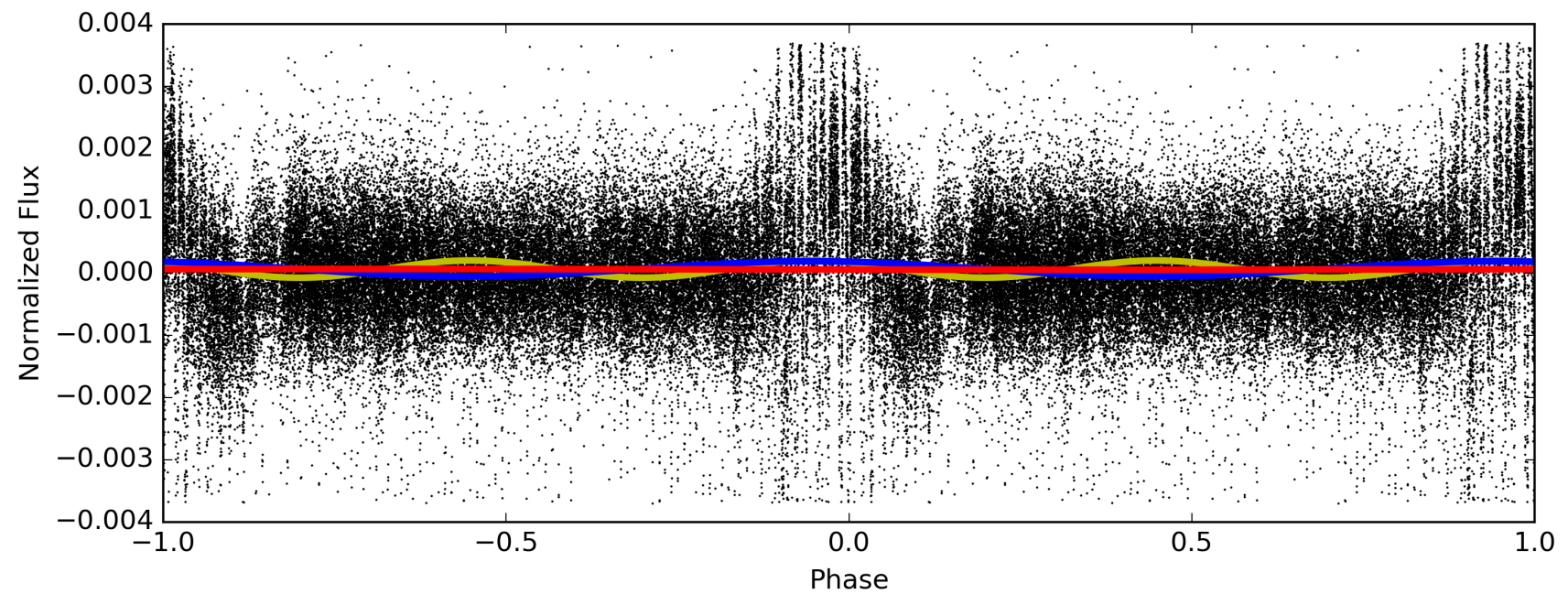
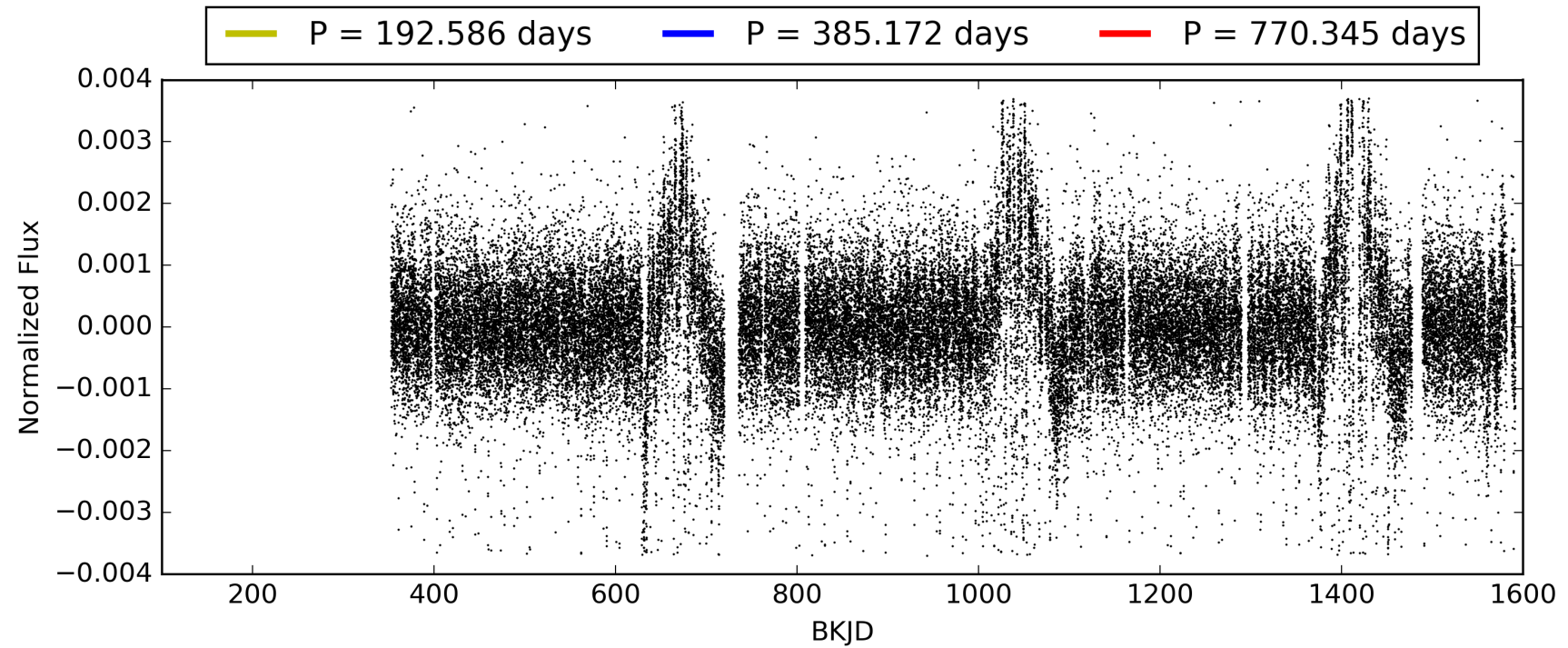
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:35:09 Z

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

TCE 005818068-08, PDC Light Curves

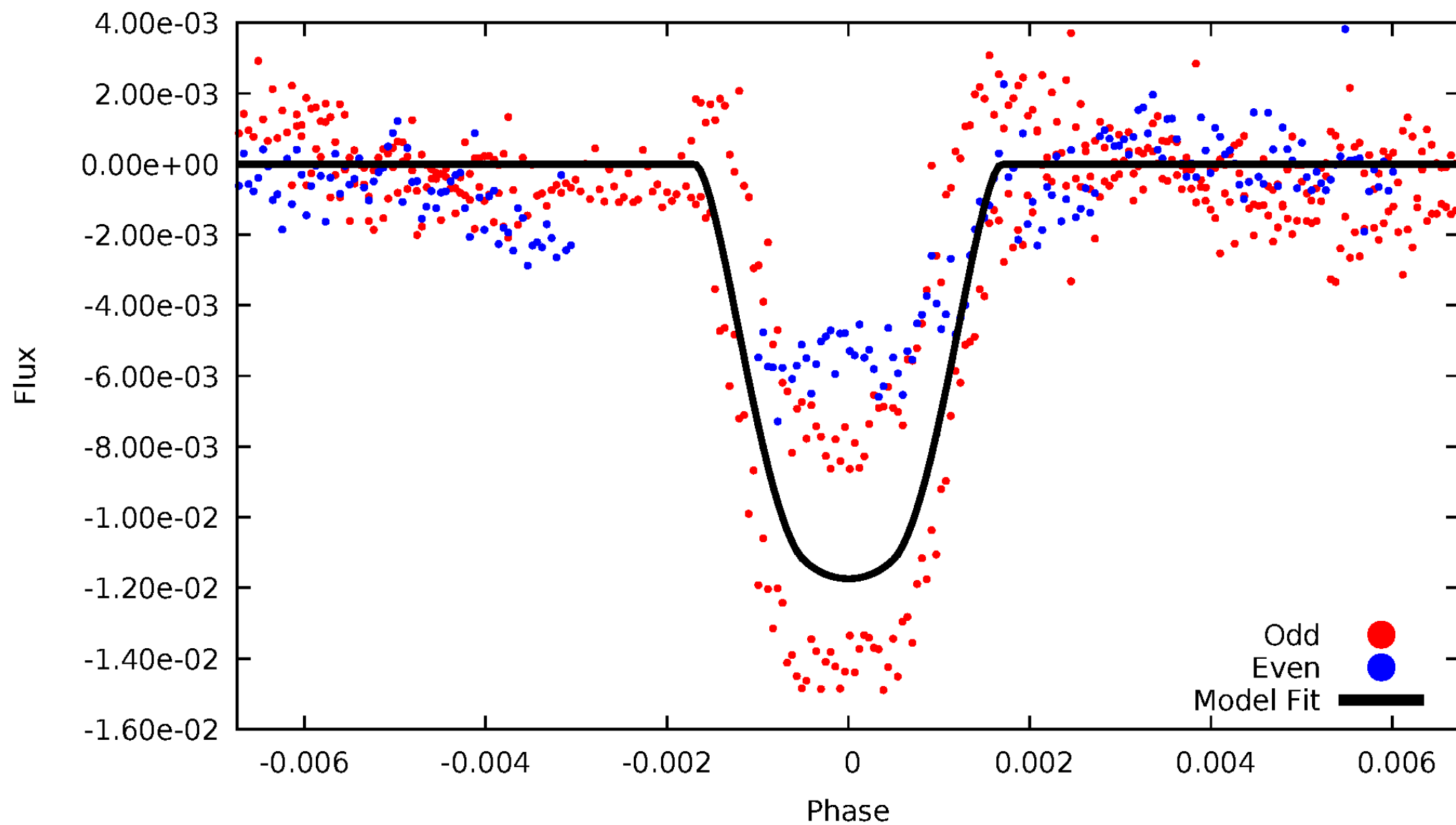


TCE 005818068-08



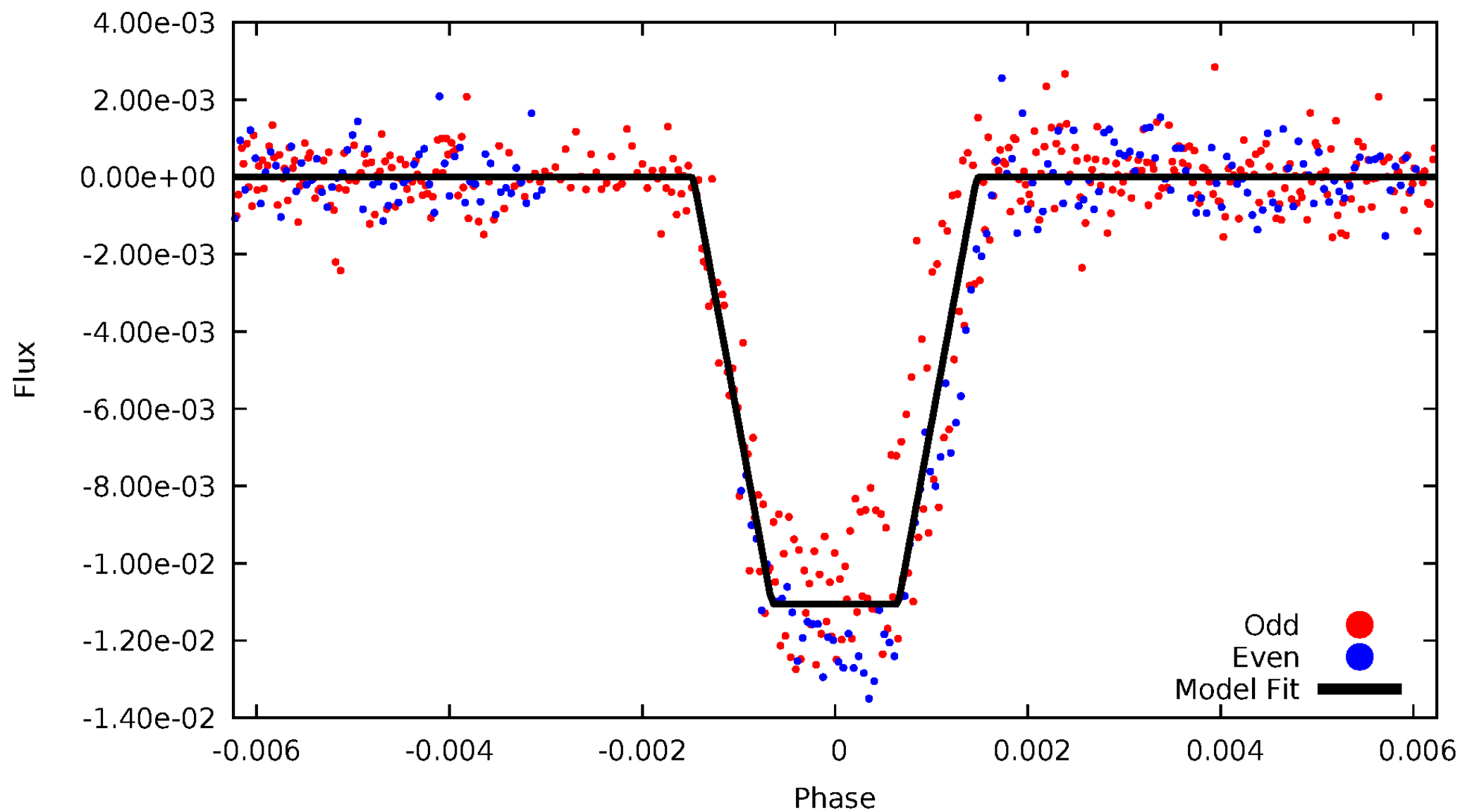
DV Odd/Even

TCE 005818068-08



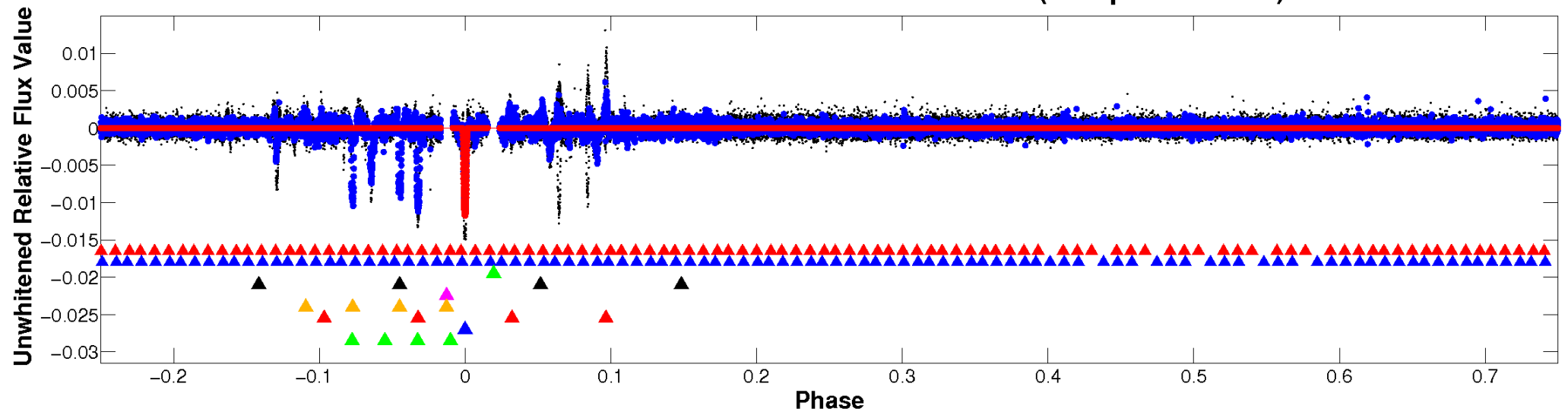
ALT Odd/Even

TCE 005818068-08

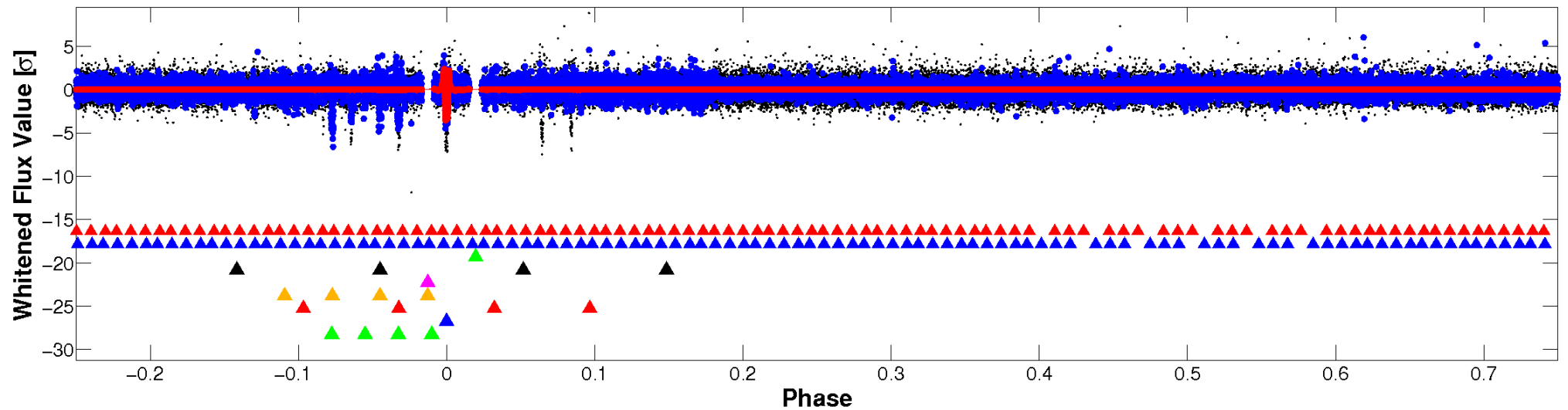


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

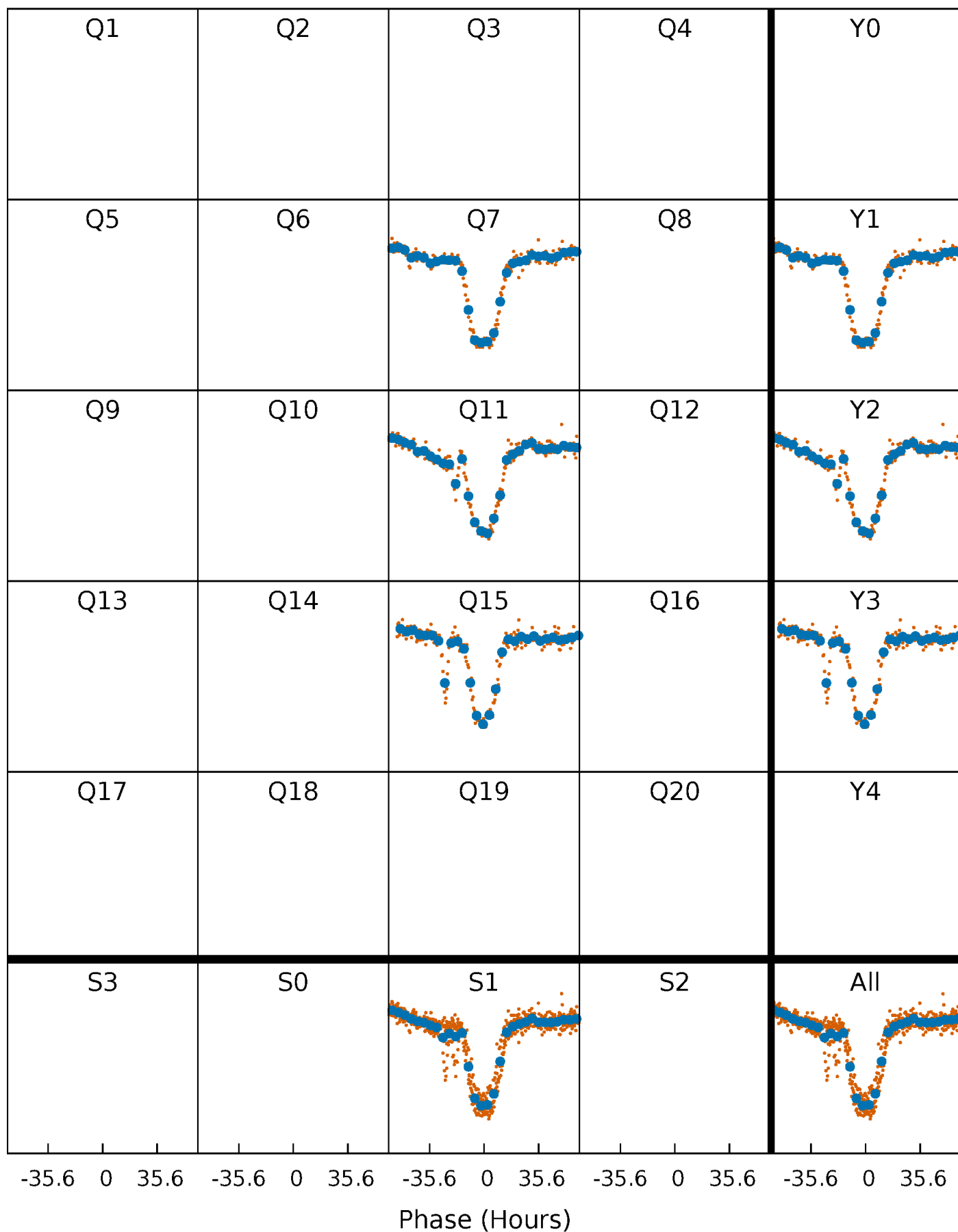


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



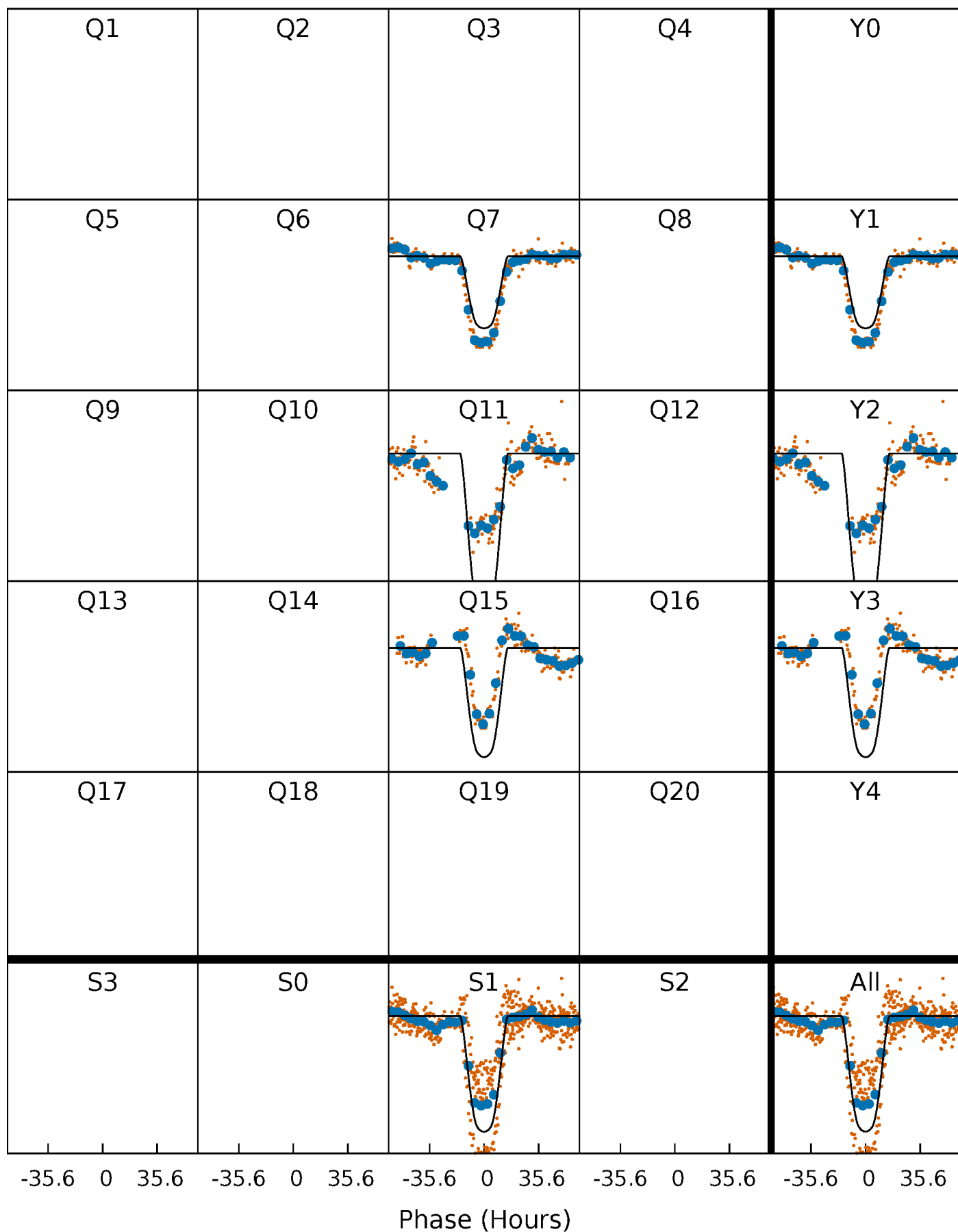
PDC Quarter-Phased Transit Curves

TCE 005818068-08 $P=385.172458$ Days $T_0=283.104389$ (BKJD)



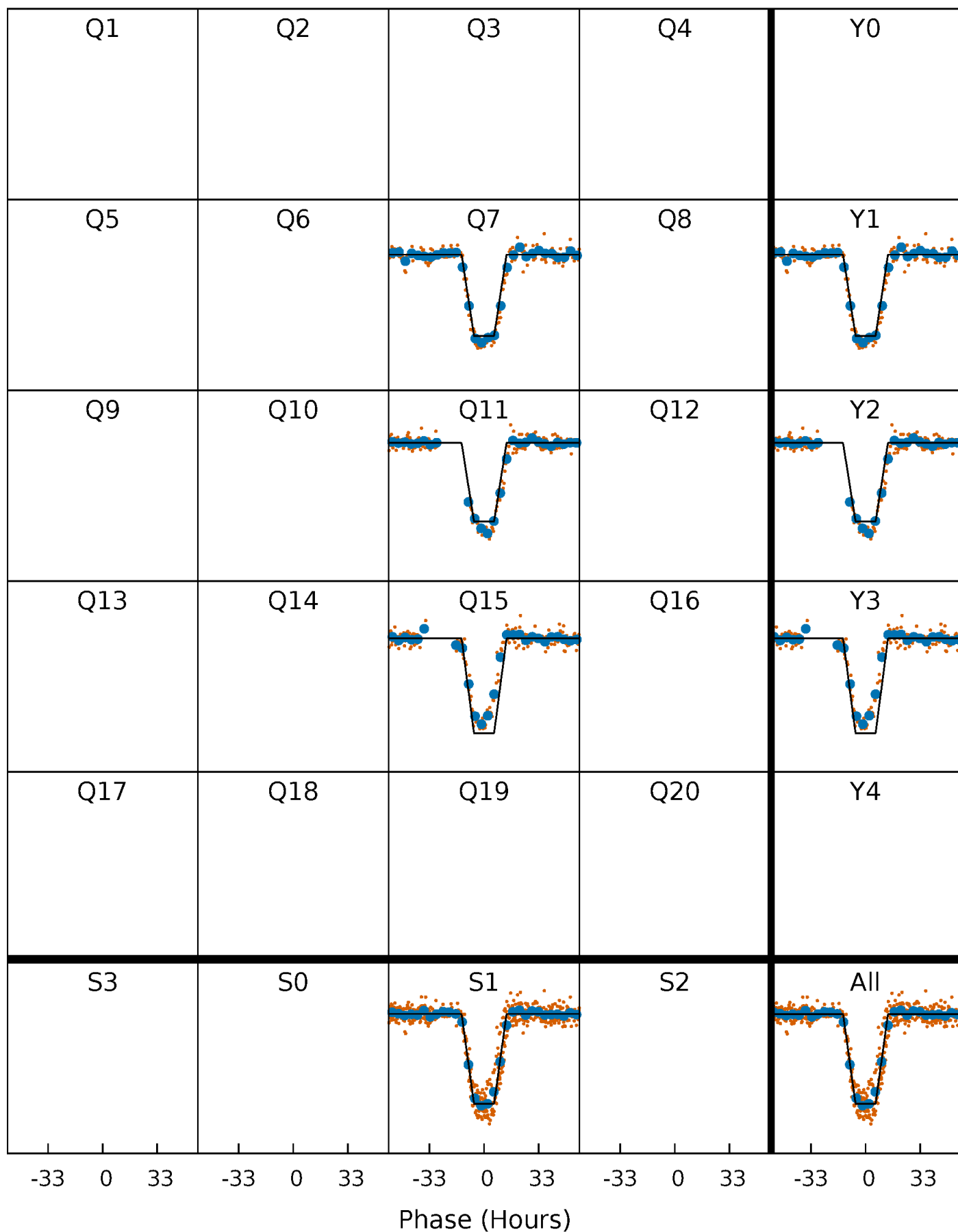
DV Quarter-Phased Transit Curves

TCE 005818068-08 $P=385.172458$ Days $T_0=283.104389$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

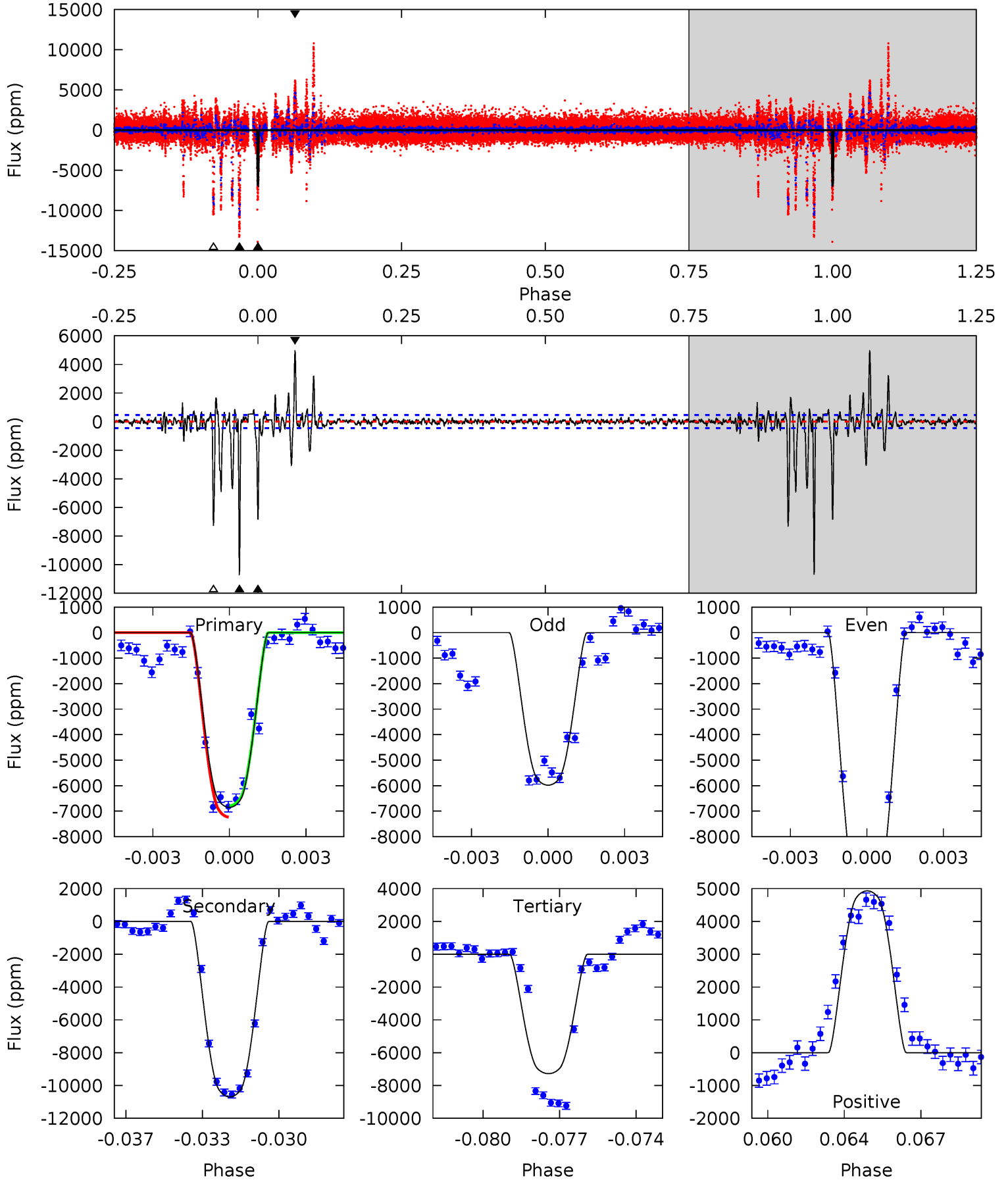
TCE 005818068-08 P=385.206662 Days $T_0=283.029335$ (BKJD)



DV Model-Shift Uniqueness Test

005818068-08, P = 385.172458 Days, E = 283.104389 Days

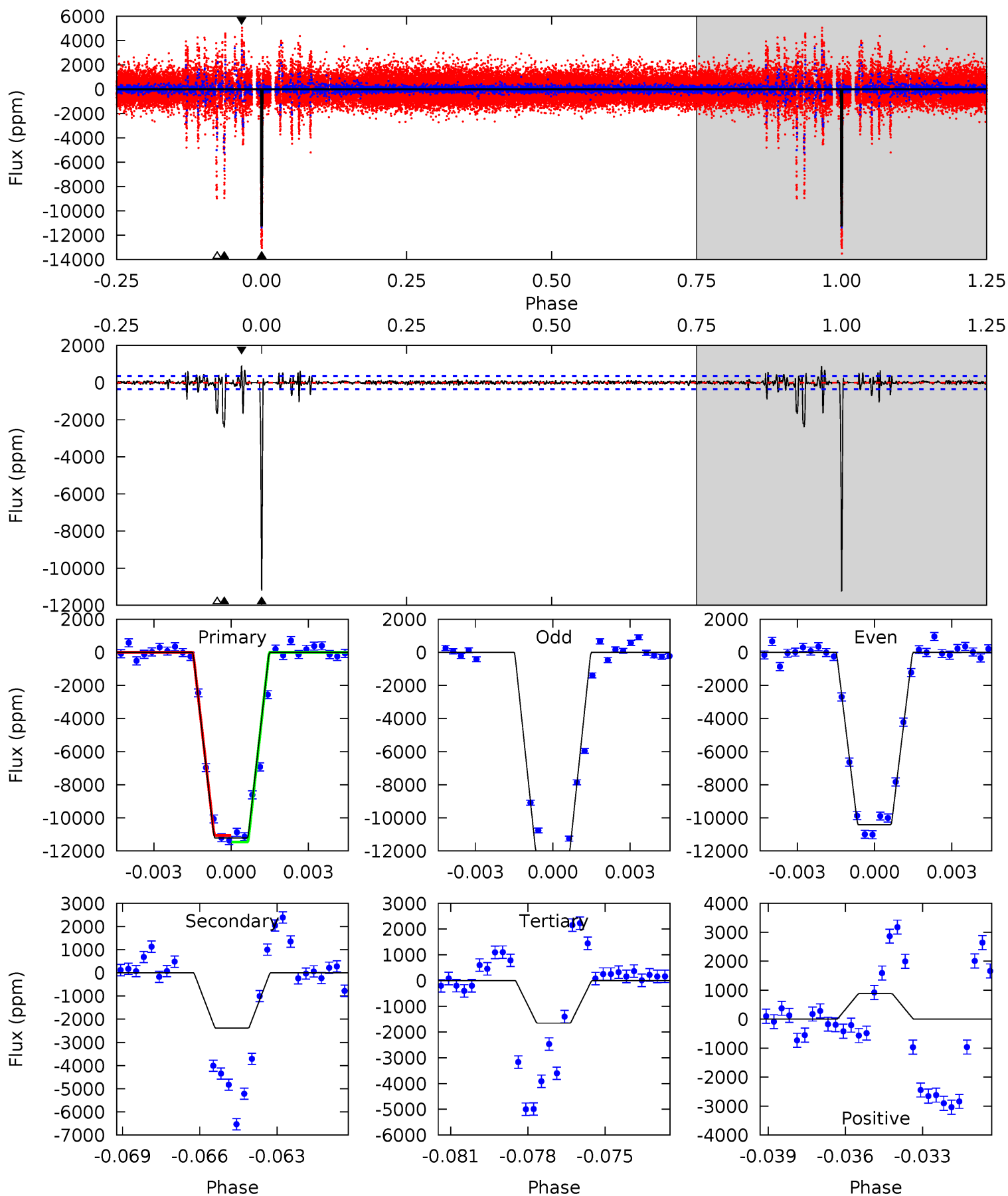
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
78.2	122.1	83.1	56.3	5.23	2.93	6.07	-4.89	21.9	39.0	65.8	28.5	1.39	0.32	2.54



Alt Model-Shift Uniqueness Test

005818068-08, P = 385.206662 Days, E = 283.029335 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
170.3	36.2	25.1	13.4	5.25	2.97	2.01	145.3	156.9	11.1	22.8	12.1	0.91	0.07	2.99



Stellar Parameters For KIC 005818068

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5656^{+186}_{-186}	$4.583^{+0.040}_{-0.160}$	$-0.340^{+0.300}_{-0.300}$	$0.784^{+0.207}_{-0.065}$	$0.873^{+0.089}_{-0.106}$	$2.548^{+0.530}_{-1.153}$
	+3%/-3%	+1%/-3%	+88%/-88%	+26%/-8%	+10%/-12%	+21%/-45%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005818068-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10696 ± 88	$9.98^{+1.44}_{-0.61}$	317^{+20}_{-15}	5410^{+172}_{-172}	56783^{+6872}_{-11321}
Alt.	-2382 ± 66	$9.31^{+1.25}_{-0.70}$	318^{+19}_{-15}	4132^{+115}_{-119}	14529^{+2125}_{-2870}

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

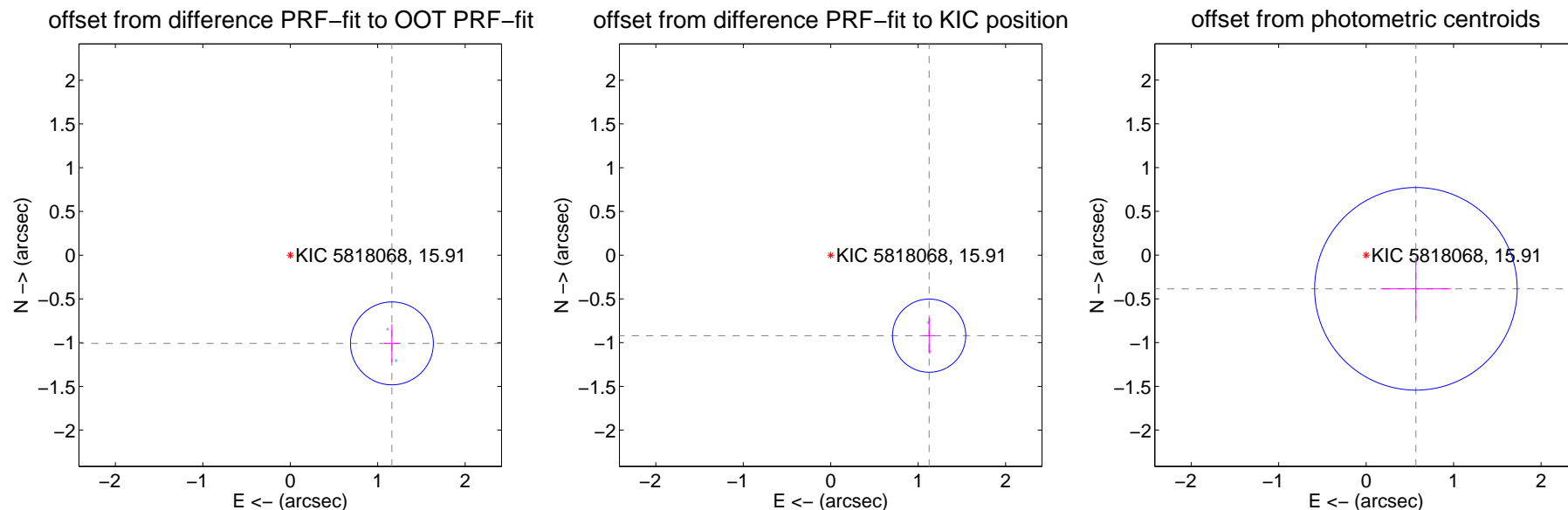
DV Centroid Data

Supplemental centroid analysis for 005818068-08. Kepler magnitude: 15.91. Transit SNR 34.86

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	1.539 ± 0.158	9.74	-1.162 ± 0.088	-1.009 ± 0.219
PRF-fit source offset from KIC position	1.454 ± 0.140	10.42	-1.125 ± 0.068	-0.920 ± 0.204
photometric centroid source offset	0.69 ± 0.39	1.78	-0.57 ± 0.40	-0.39 ± 0.35

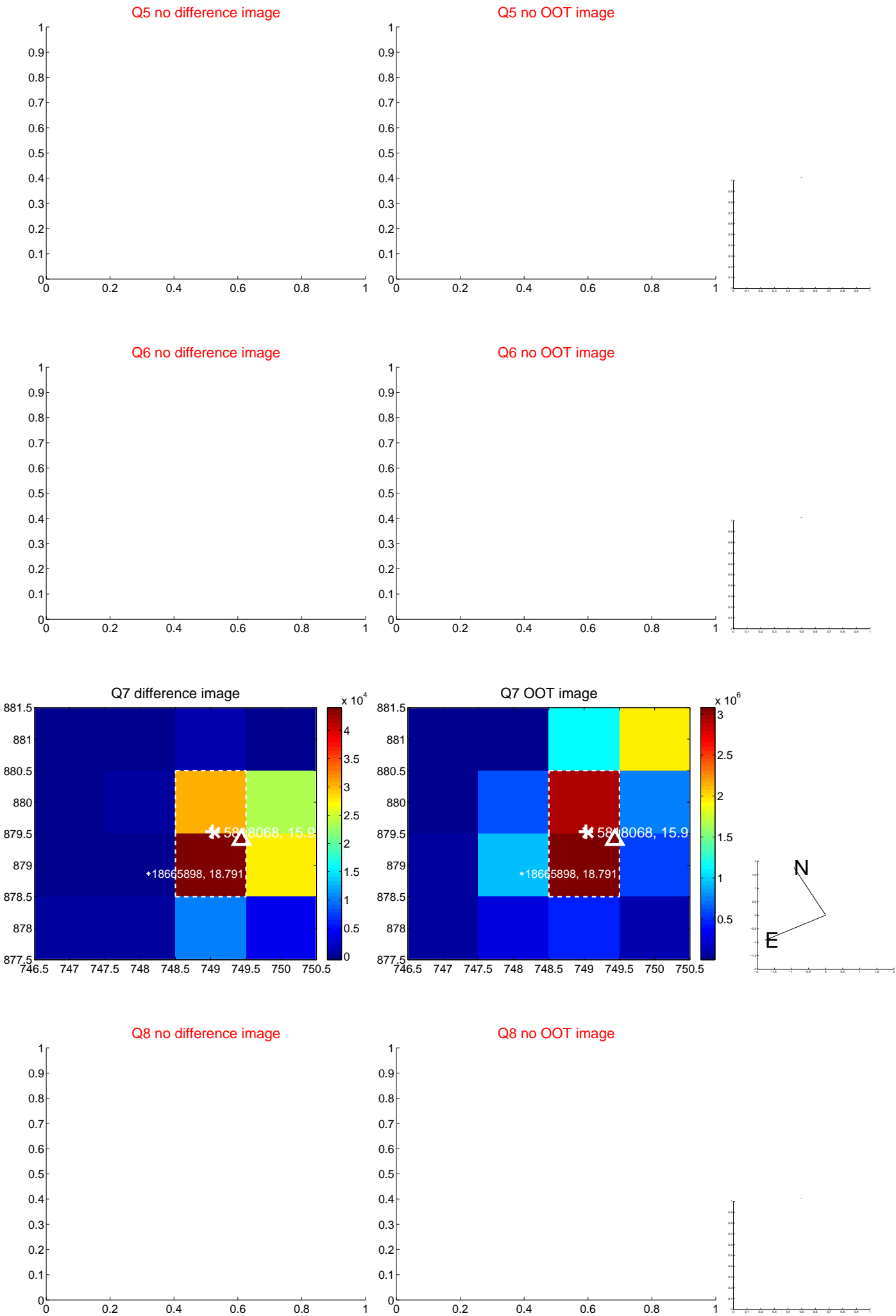


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

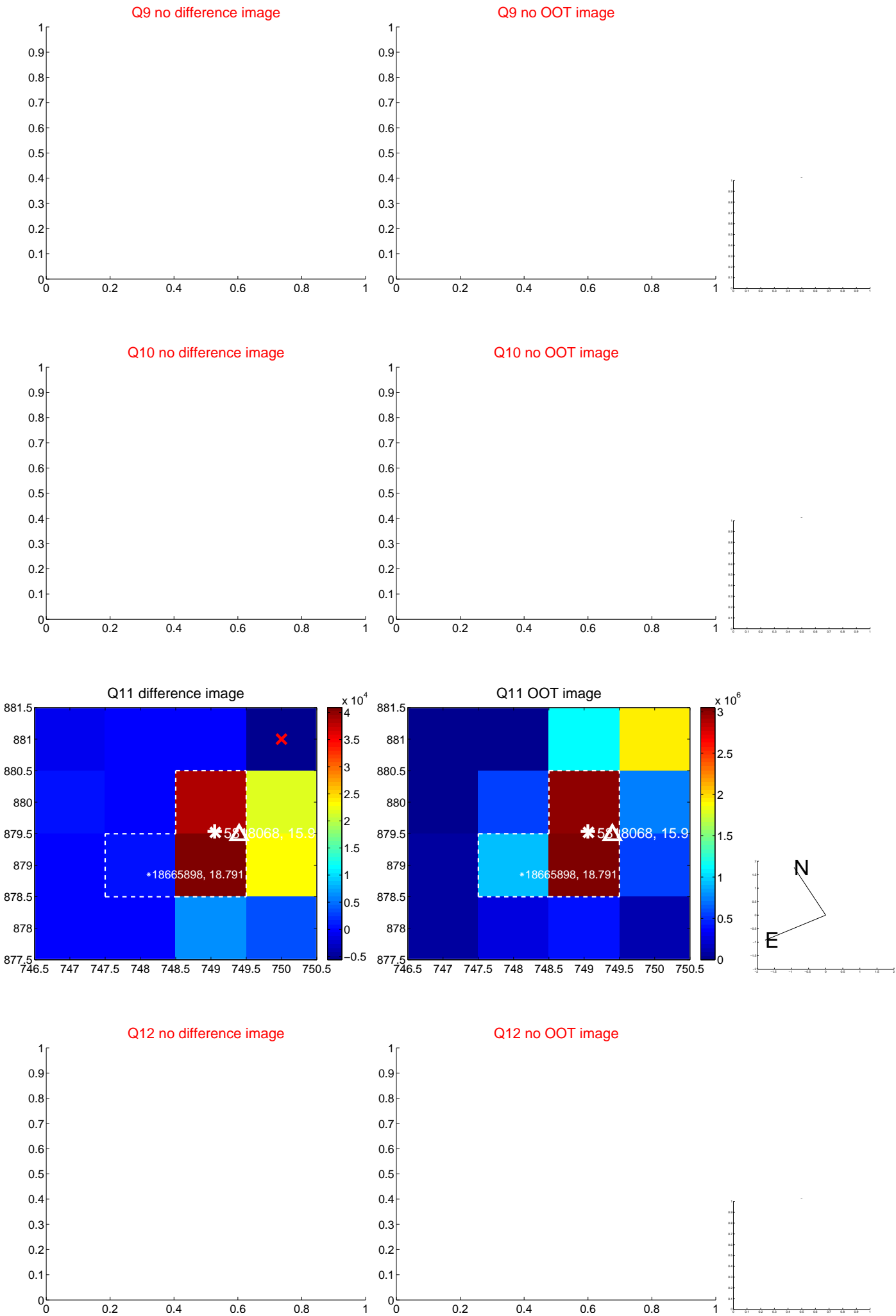
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



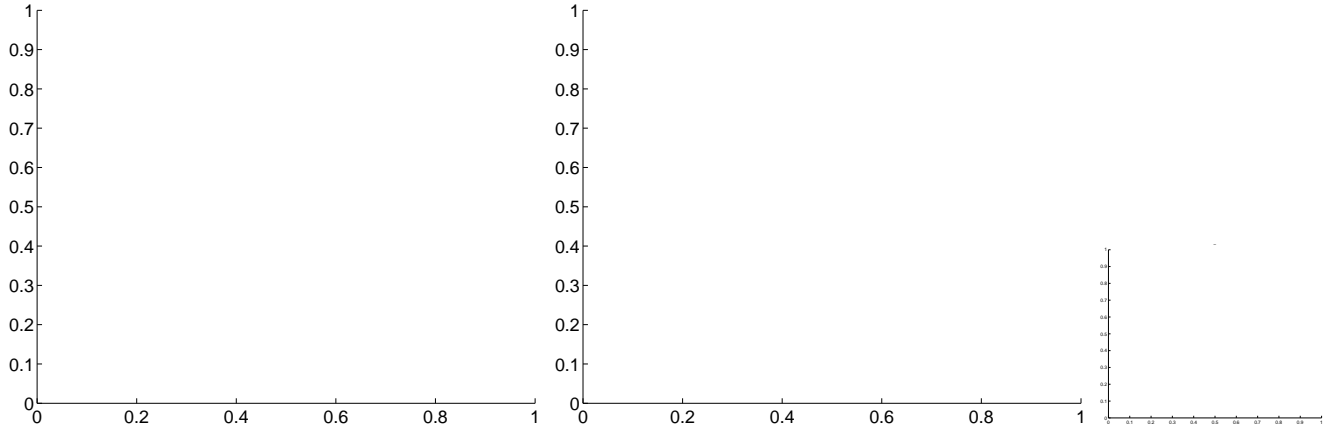
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



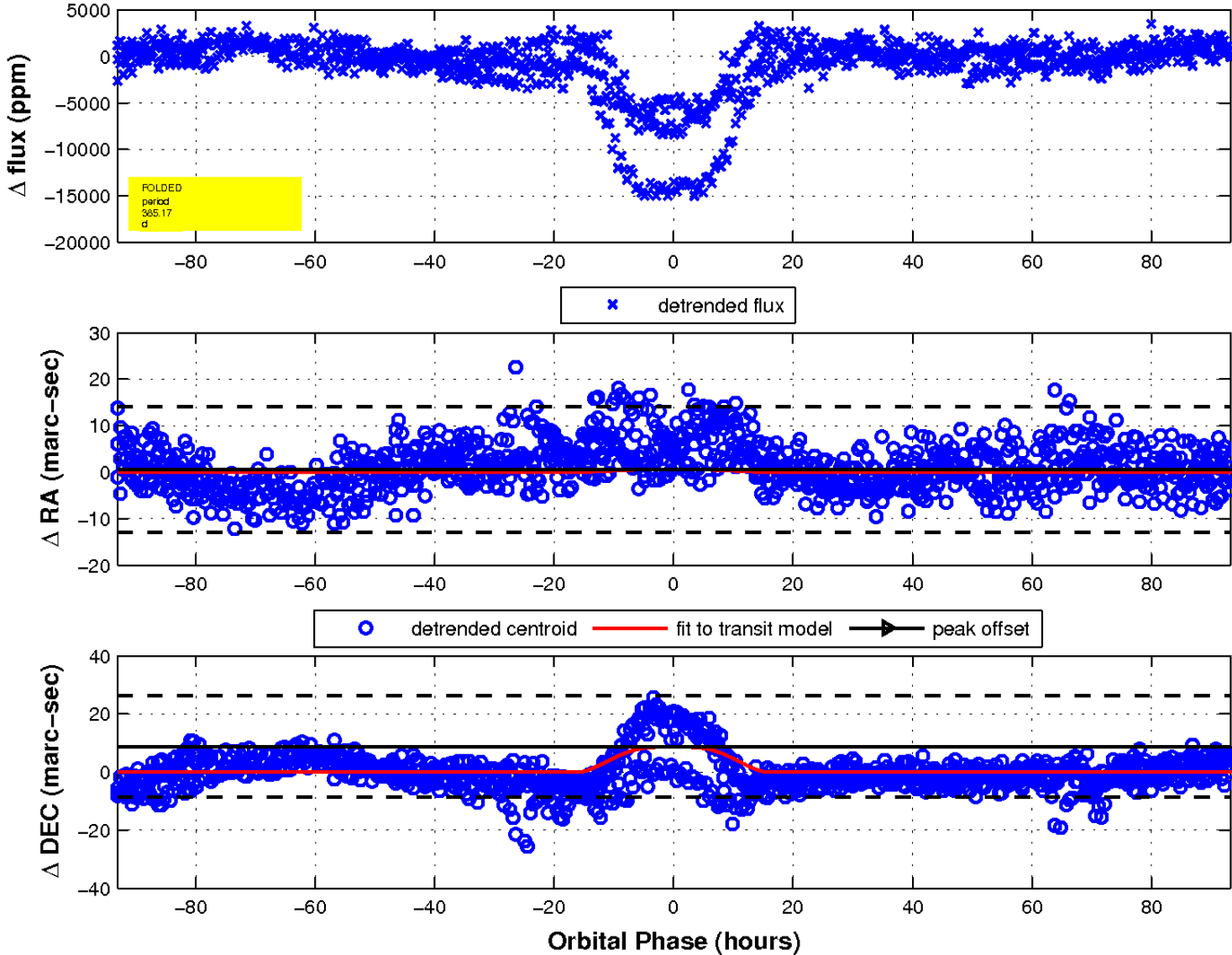
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q17 no difference image

Q17 no OOT image



fluxWeightedCentroids, Planet 8 of 9



UKIRT Image

Declination

