

KIC 001724968

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})
001724968-01	OBS	No	0.620597	131.935669	177.9	2.799	8.0	9.1	1.39	6896	2.38	15353.73
001724968-02	OBS	No	305.116218	350.423599	18454.6	8.605	8.7	9.1	1.39	6896	21.07	3.96
001724968-03	OBS	No	126.318151	179.769394	5567.8	3.556	8.3	4.7	1.39	6896	10.75	12.82
001724968-04	OBS	No	175.482540	169.955704	13520.6	9.758	9.4	9.7	1.39	6896	21.54	8.27
001724968-05	OBS	No	620.022592	198.610140	14492.6	5.262	8.8	8.5	1.39	6896	19.40	1.54
001724968-06	OBS	No	139.783855	214.409947	631.3	4.500	9.3	-1.0	1.39	6896	3.53	11.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001724968-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
001724968-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
001724968-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS—HALO_GHOST
001724968-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
001724968-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_KIC_POS
001724968-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

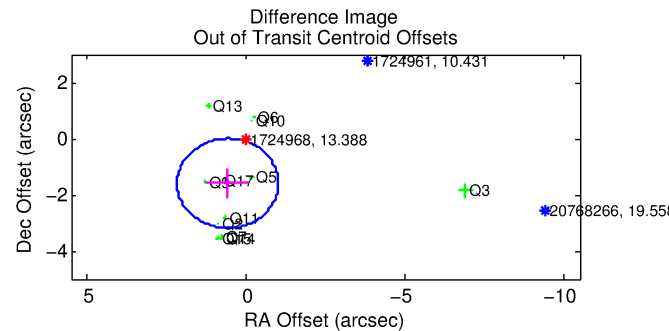
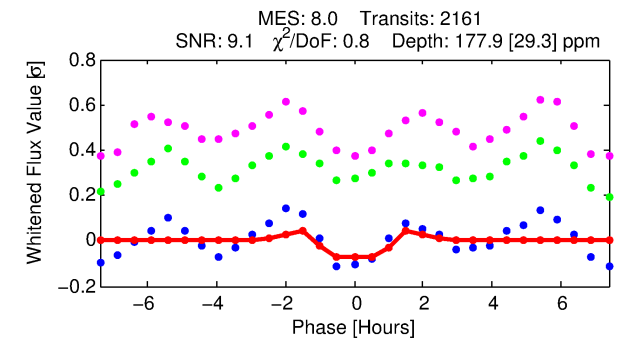
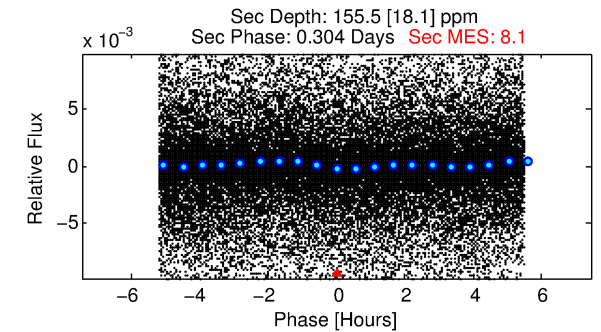
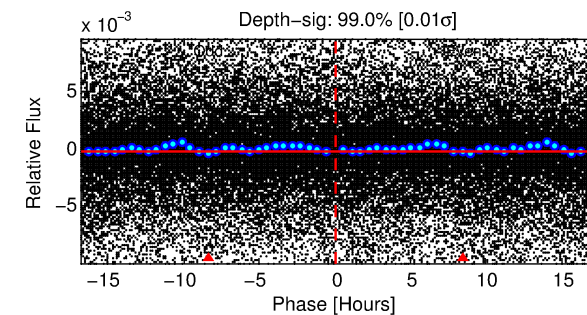
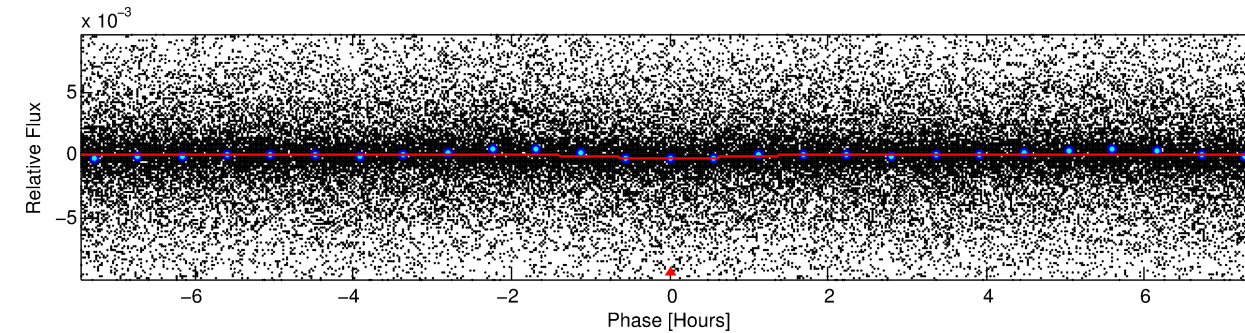
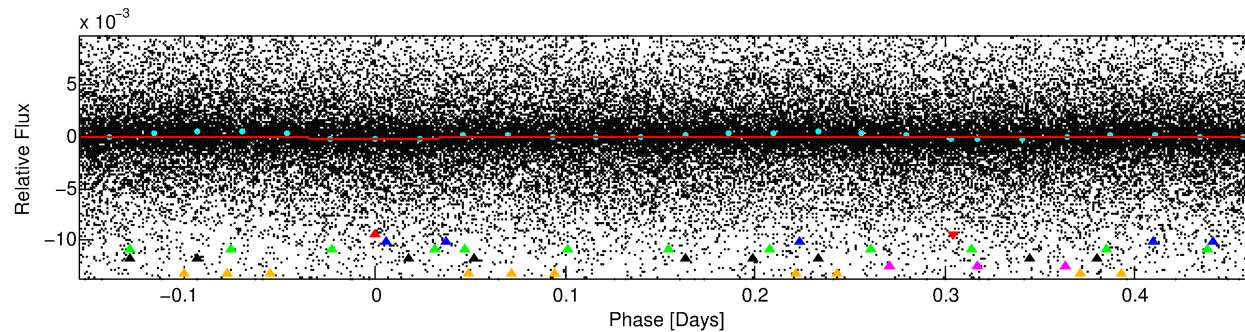
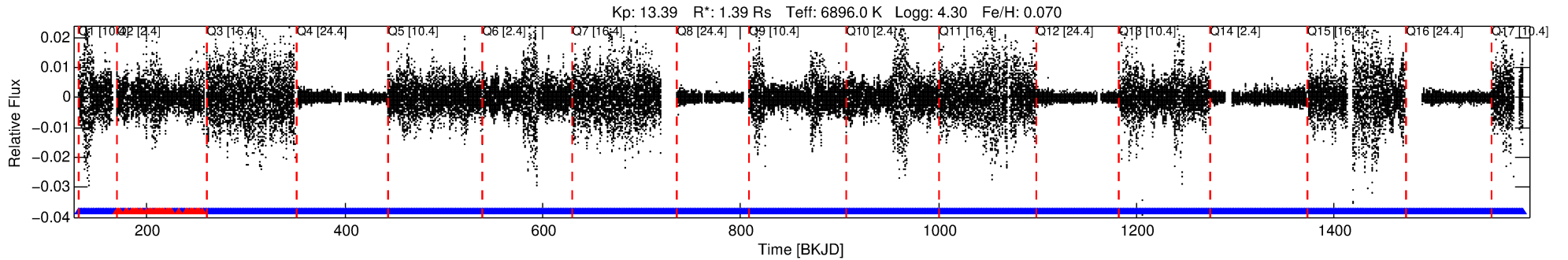
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001724968-01

No Significant Match Found

DV One-Page Summary

KIC: 1724968 Candidate: 1 of 6 Period: 0.621 d



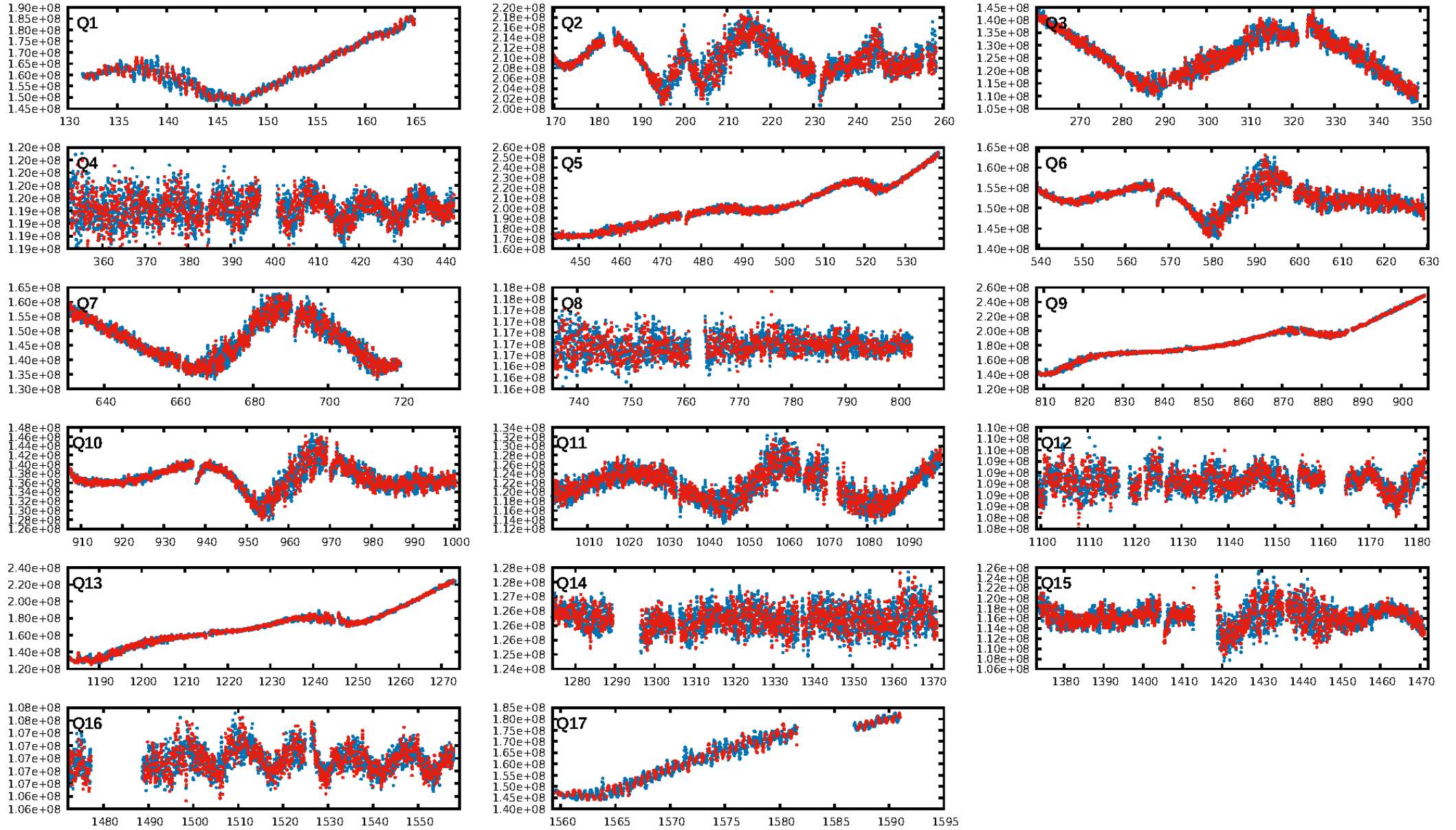
DV Fit Results:

Period = 0.62060 [0.00001] d
Epoch = 131.9357 [0.0024] BKJD
Rp/R* = 0.0157 [0.0016]
a/R* = 1.11 [0.05]
b = 0.97 [0.02]
Seff = 15353.73 [4151.02]
Teq = 2838 [192] K
Rp = 2.38 [0.56] Re
a = 0.0160 [0.0029] AU
Ag = 3.86 [1.36] [2.11 σ]
Teffp = 6152 [364] K [8.05 σ]

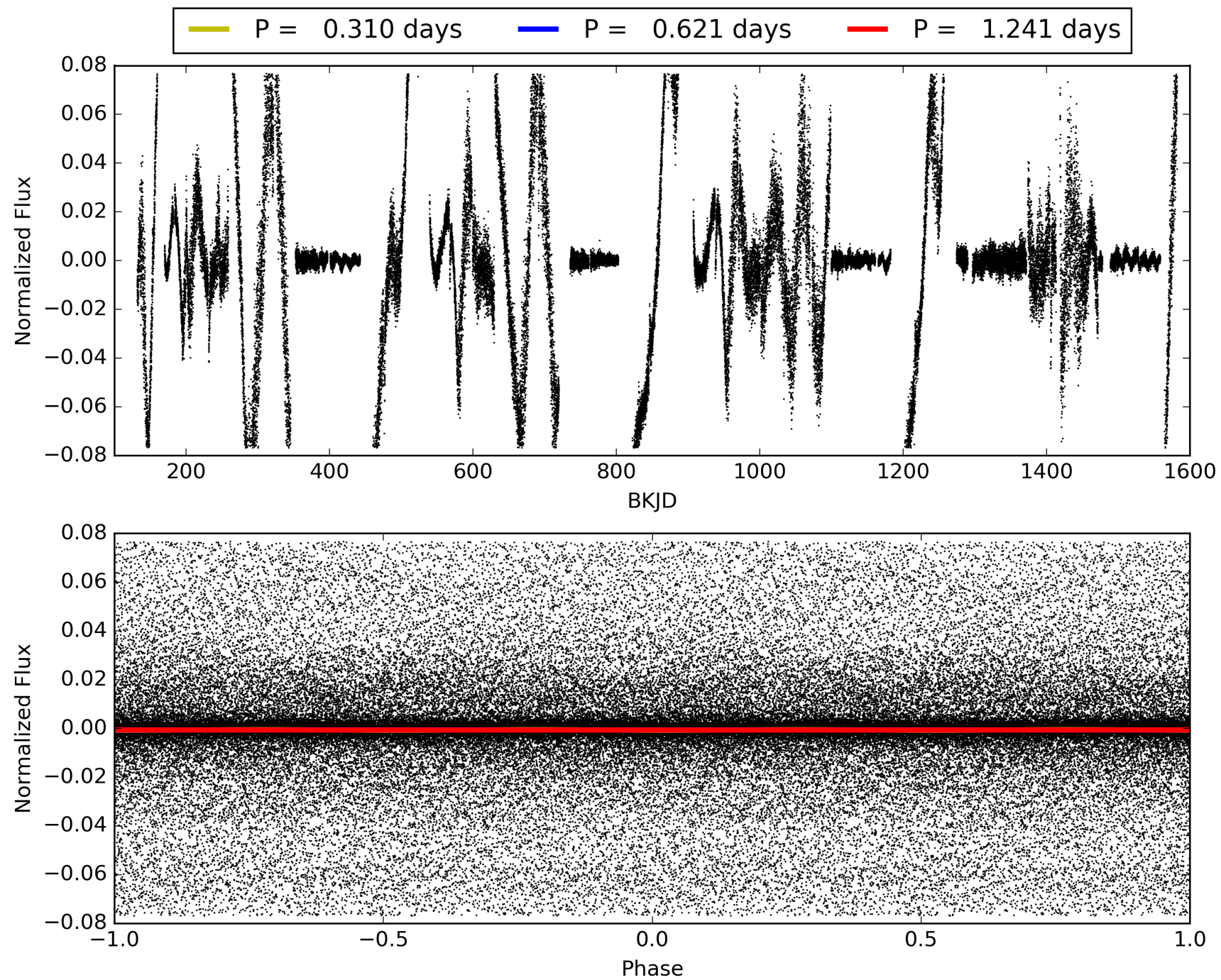
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [666.67 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [2013/2064]
GhostDiagnostic-chr: -0.2395
Centroid-sig: 0.1%
Centroid-so: 1.394 arcsec [9.82 σ]
OotOffset-rm: 1.695 arcsec [3.19 σ]
KicOffset-rm: 2.809 arcsec [4.81 σ]
OotOffset-st: 4/4/0/4 [12]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.69 [11/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 001724968-01, PDC Light Curves

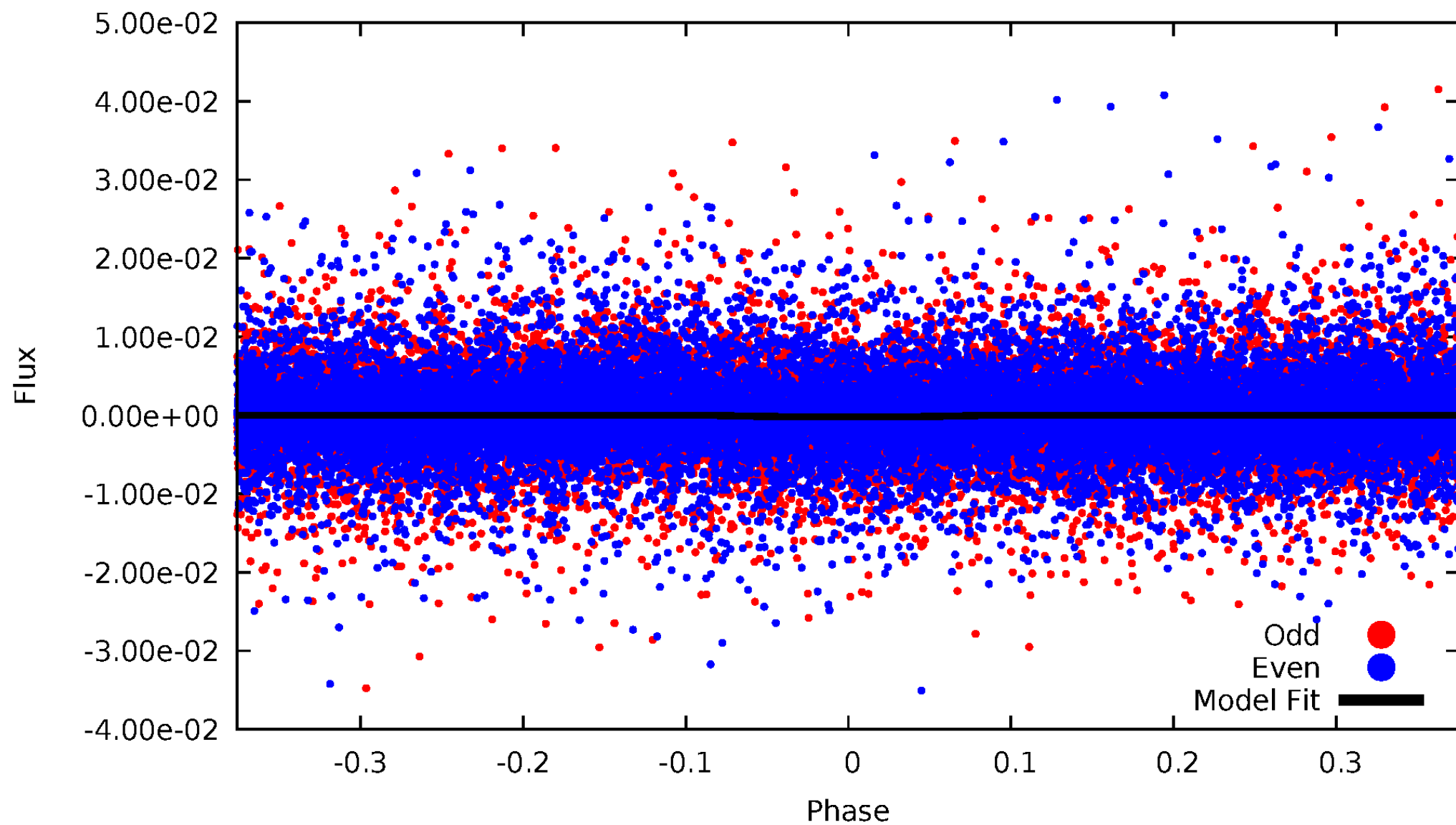


TCE 001724968-01



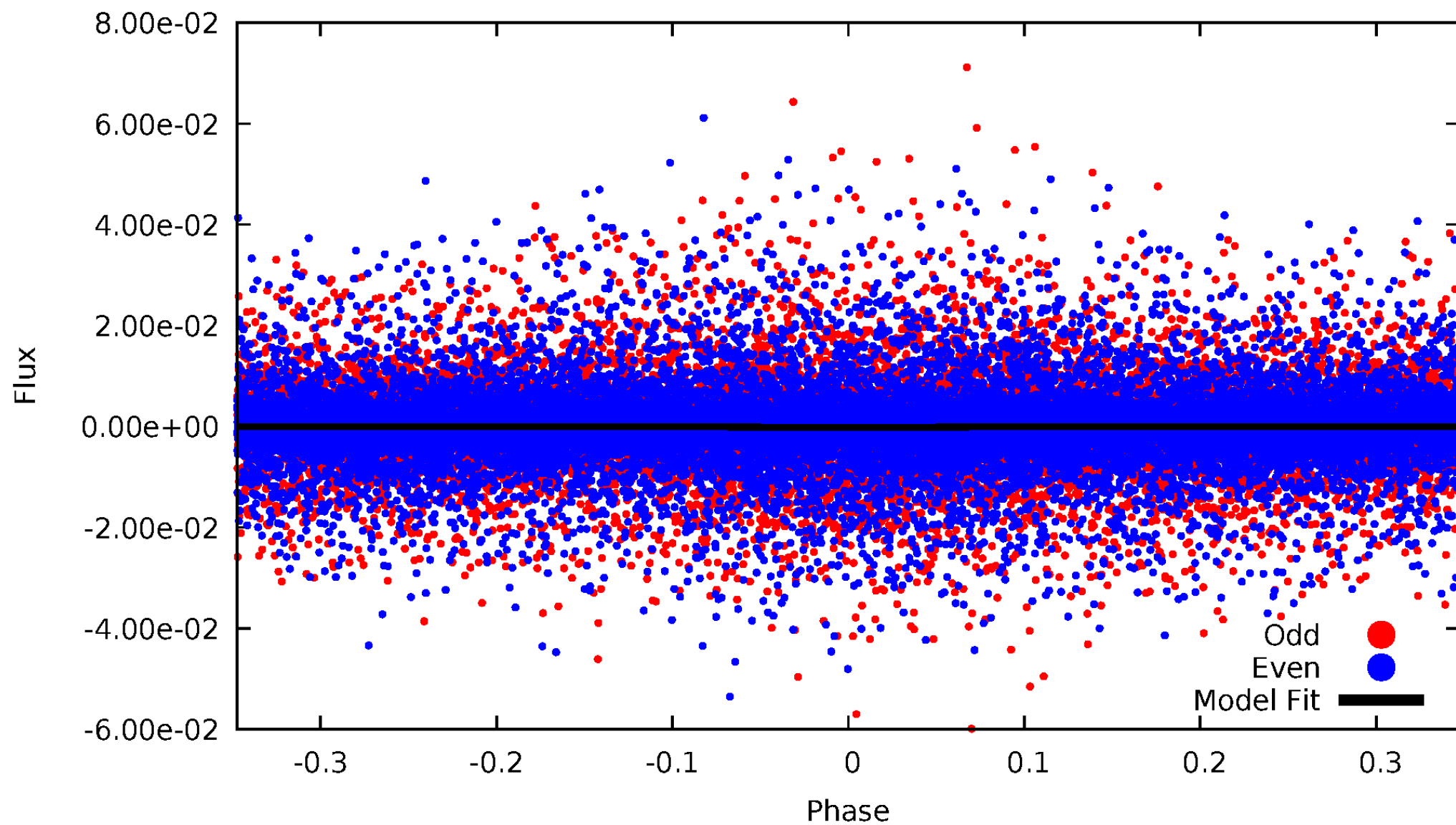
DV Odd/Even

TCE 001724968-01



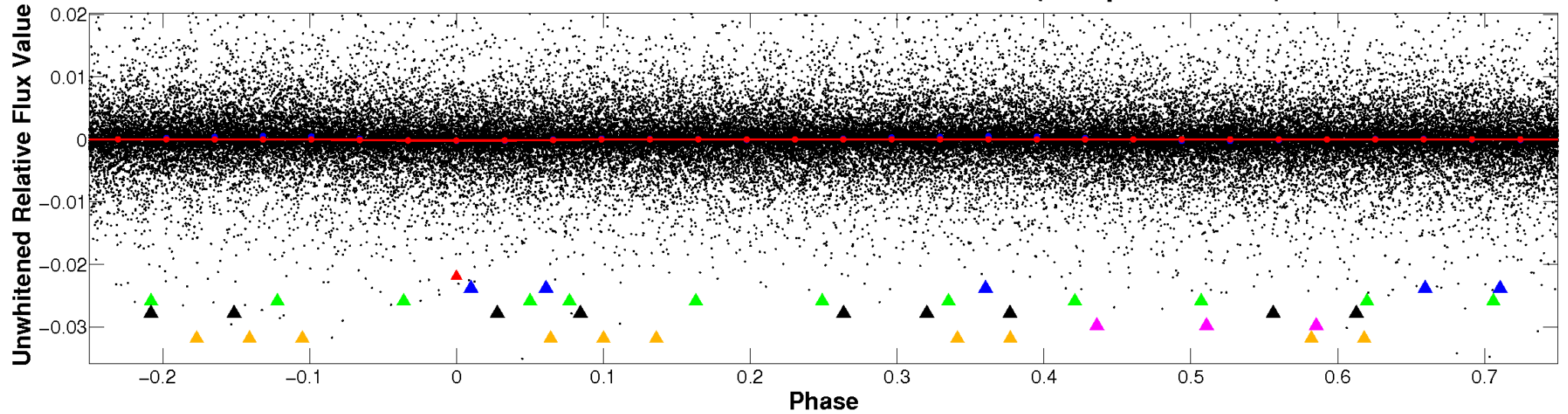
ALT Odd/Even

TCE 001724968-01

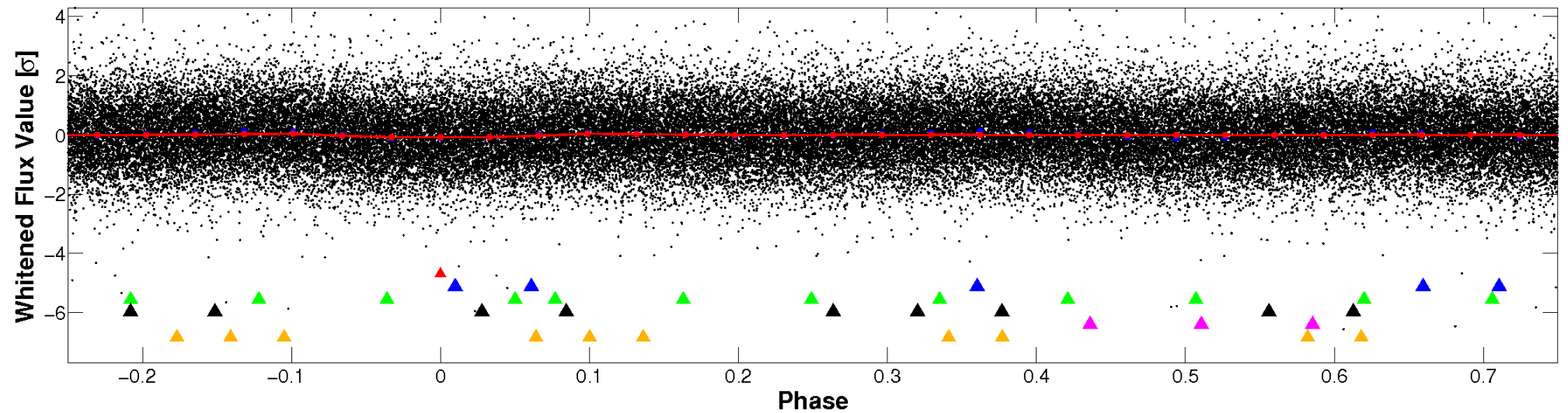


Non-Whitened Vs. Whitened Light Curve

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

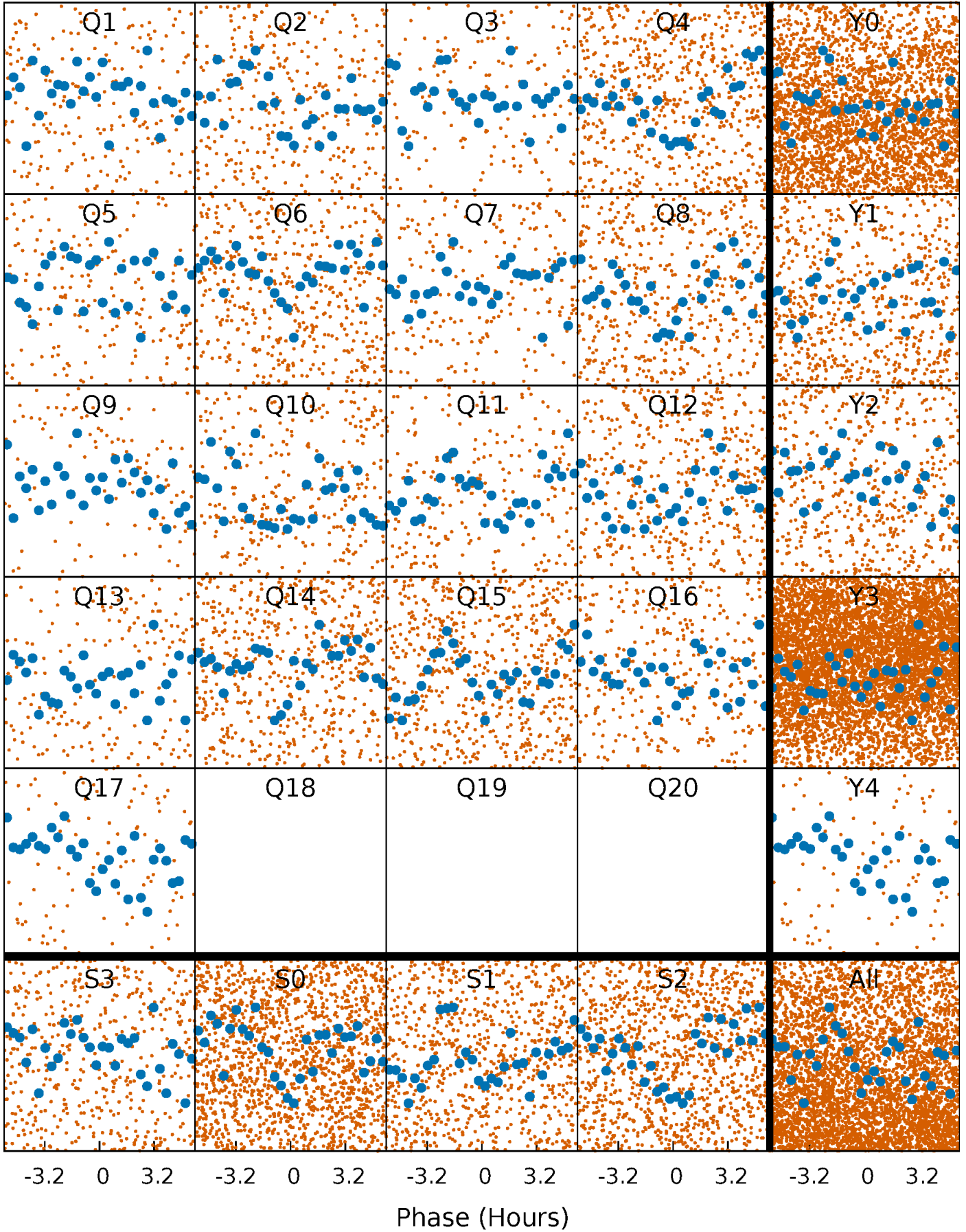


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



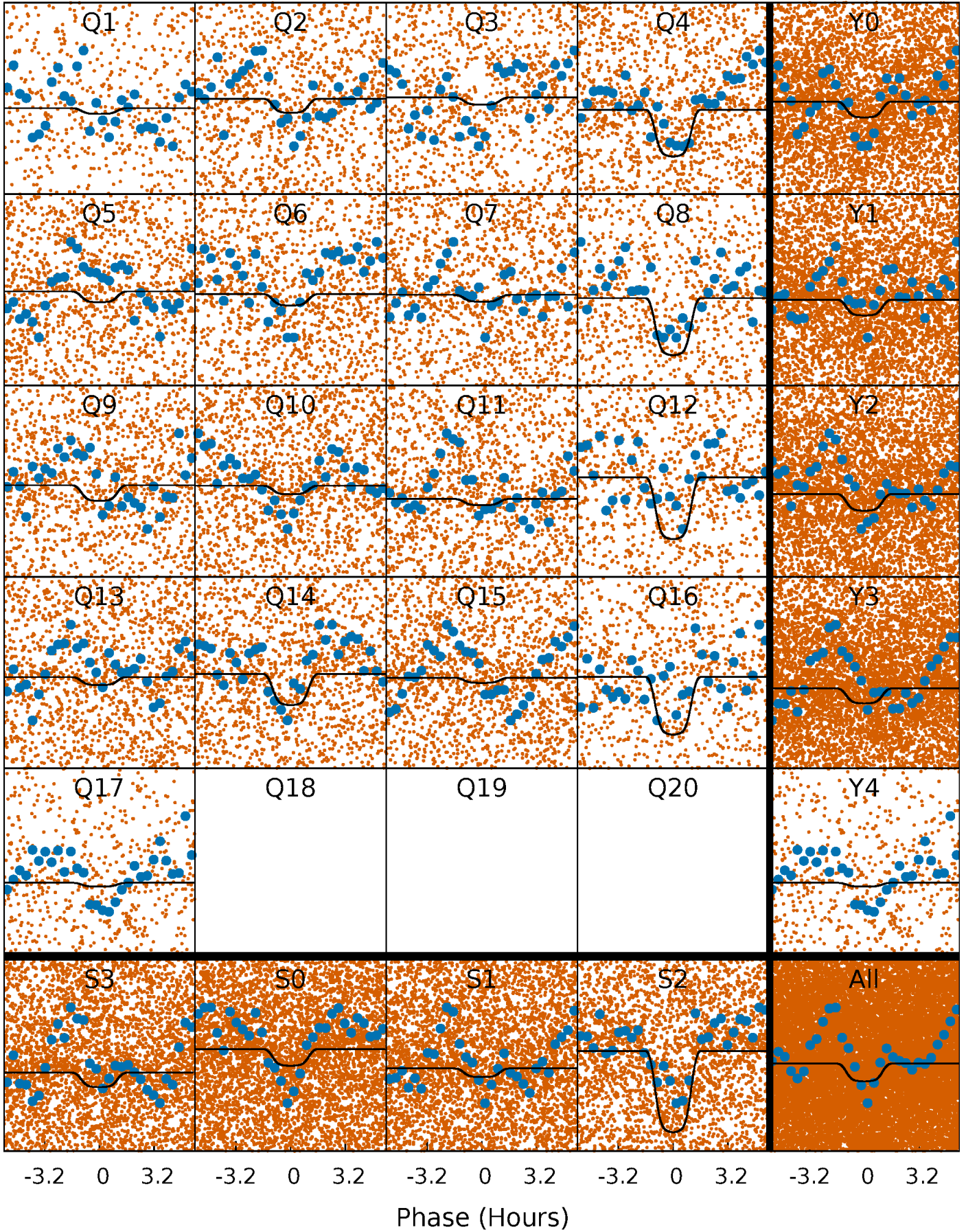
PDC Quarter-Phased Transit Curves

TCE 001724968-01 P= 0.620597 Days $T_0=131.935668$ (BKJD)



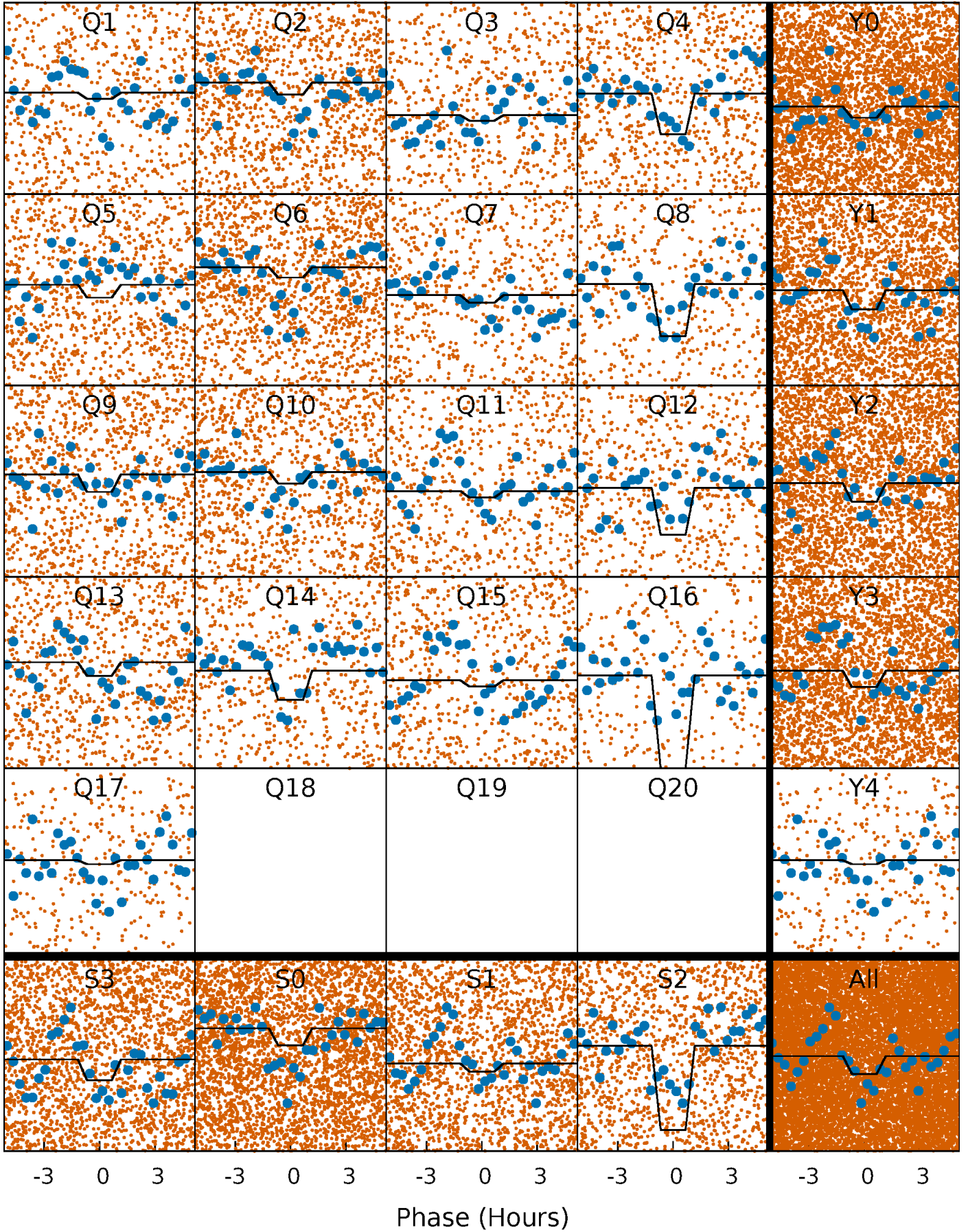
DV Quarter-Phased Transit Curves

TCE 001724968-01 P= 0.620597 Days $T_0=131.935668$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

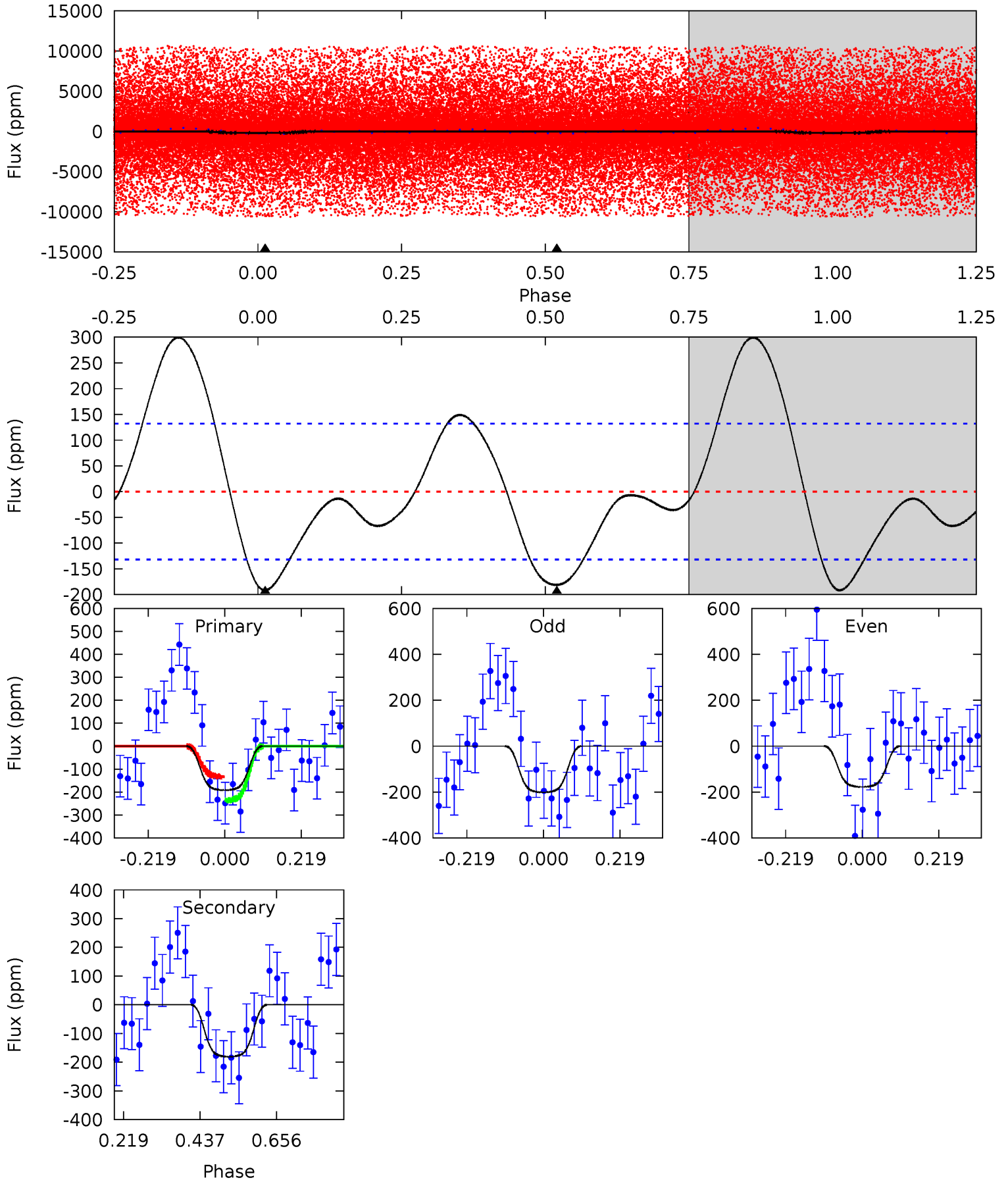
TCE 001724968-01 P= 0.620597 Days $T_0=131.933560$ (BKJD)



DV Model-Shift Uniqueness Test

001724968-01, P = 0.620597 Days, E = 131.315071 Days

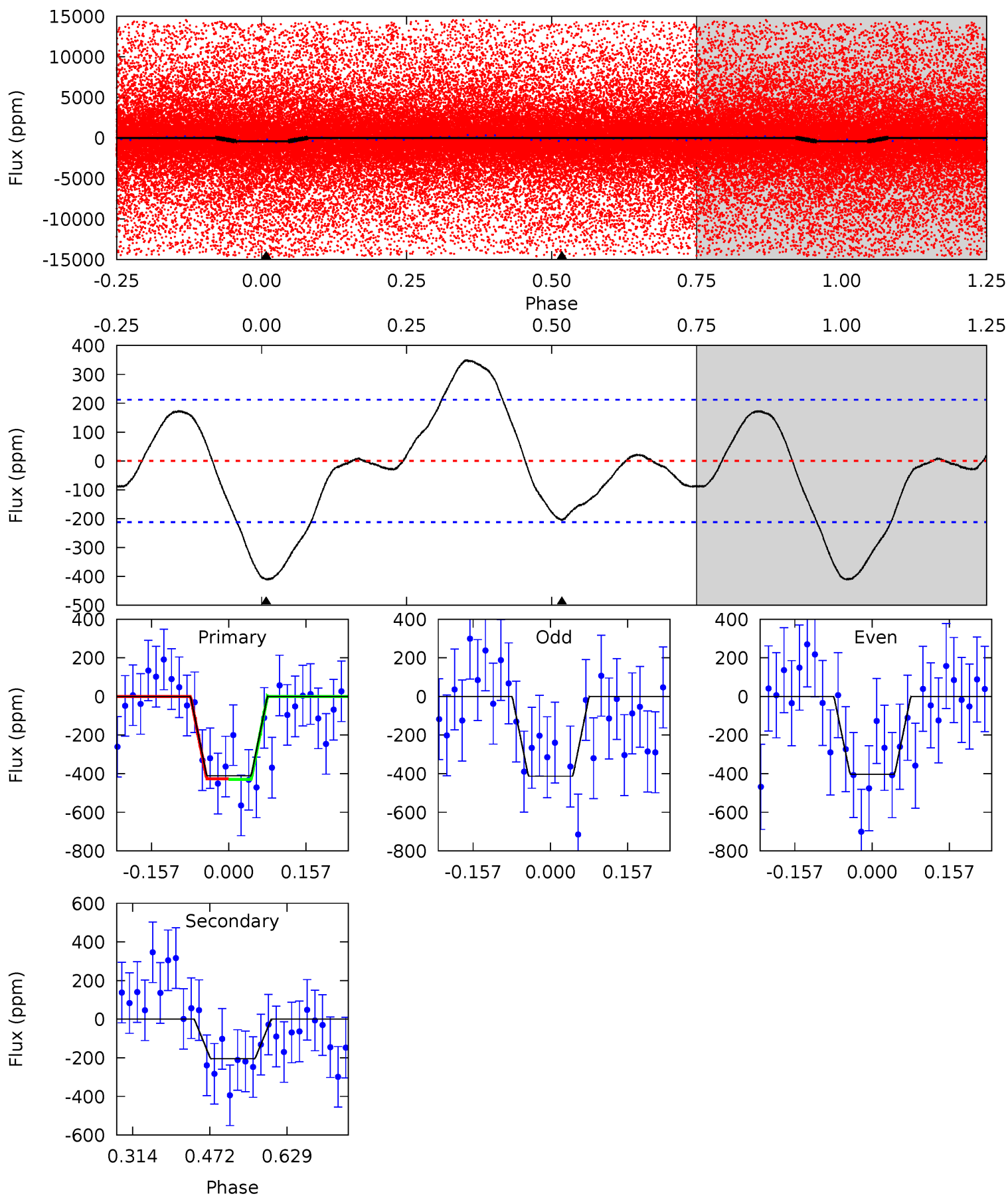
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.40	6.05	0	0	4.40	1.23	1.41	6.40	6.40	6.05	6.05	0.40	1.12	0.61	1.78



Alt Model-Shift Uniqueness Test

001724968-01, P = 0.620597 Days, E = 131.312963 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.68	4.32	0	0	4.47	1.41	2.60	8.68	8.68	4.32	4.32	0.11	1.11	0.46	0.03



Stellar Parameters For KIC 001724968

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6896^{+72}_{-92}	$4.301^{+0.026}_{-0.145}$	$0.070^{+0.150}_{-0.150}$	$1.390^{+0.300}_{-0.075}$	$1.411^{+0.104}_{-0.069}$	$0.740^{+0.101}_{-0.294}$
	+1%/-1%	+1%/-3%	+214%/-214%	+22%/-5%	+7%/-5%	+14%/-40%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 001724968-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-181 ± 30	$2.49^{+0.30}_{-0.29}$	4027^{+187}_{-104}	6180^{+506}_{-433}	$4.004^{+1.445}_{-1.043}$
Alt.	-205 ± 47	$2.18^{+0.32}_{-0.29}$	4022^{+208}_{-100}	6915^{+710}_{-635}	$5.898^{+2.604}_{-1.869}$

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 $A_{obs} \gg 1.0$

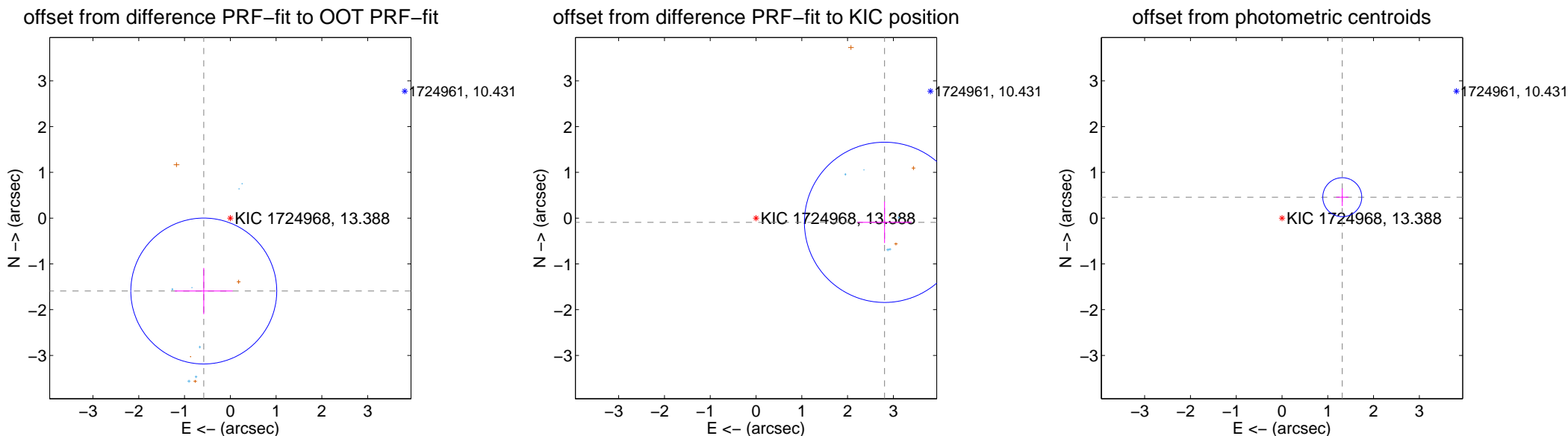
DV Centroid Data

Supplemental centroid analysis for 001724968-01. Kepler magnitude: 13.39. Transit SNR 9.11

There are 11 quarters with good PRF difference image offsets

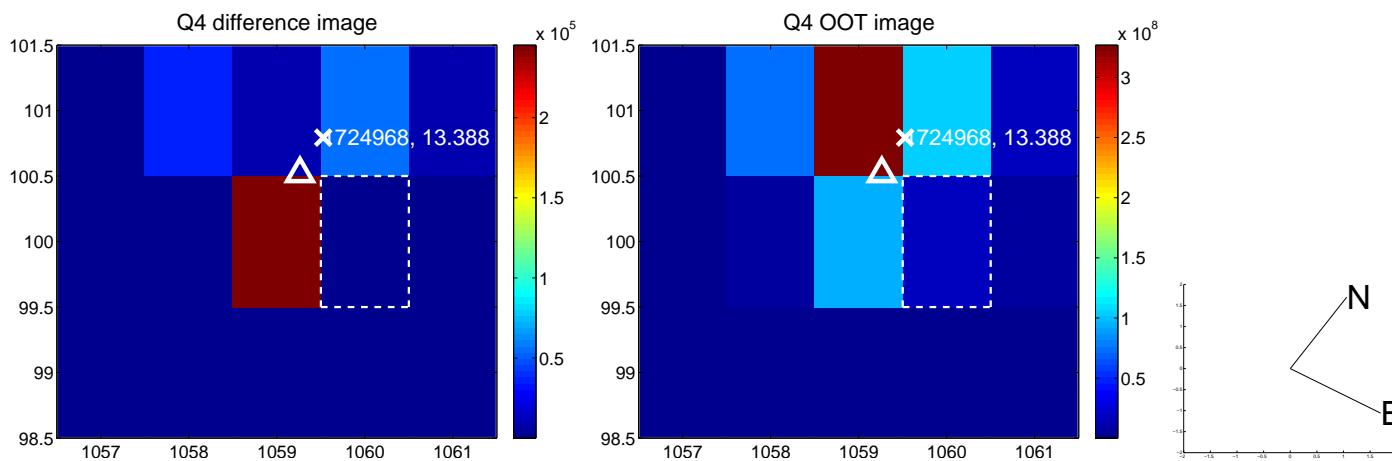
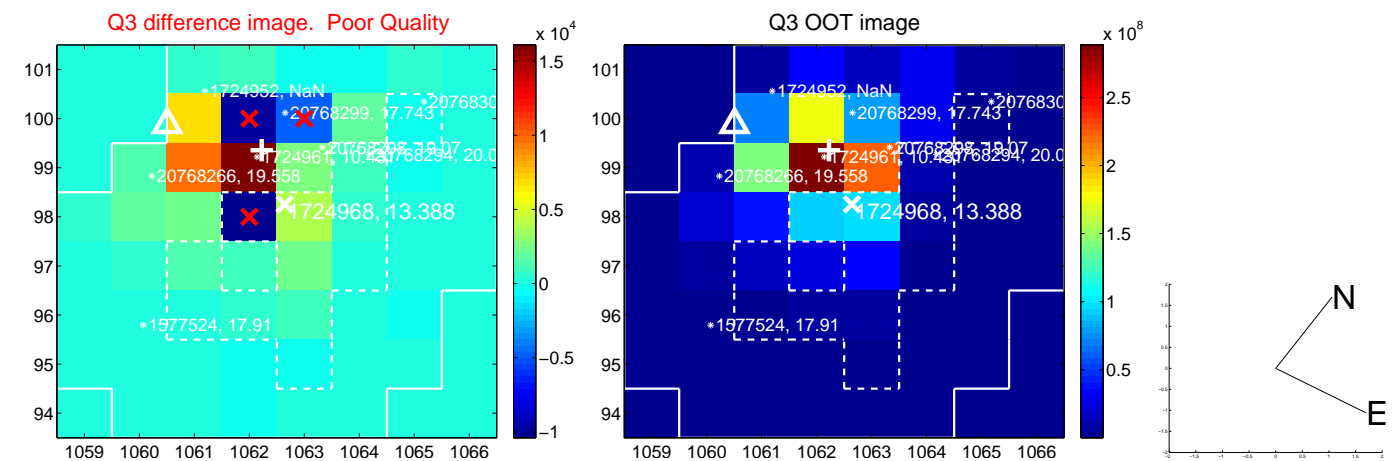
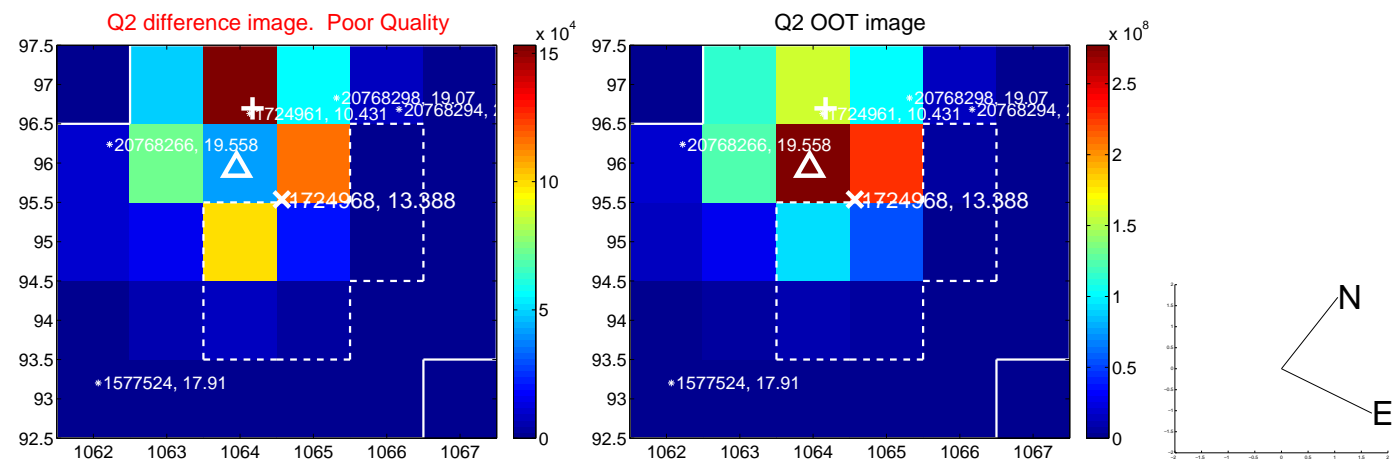
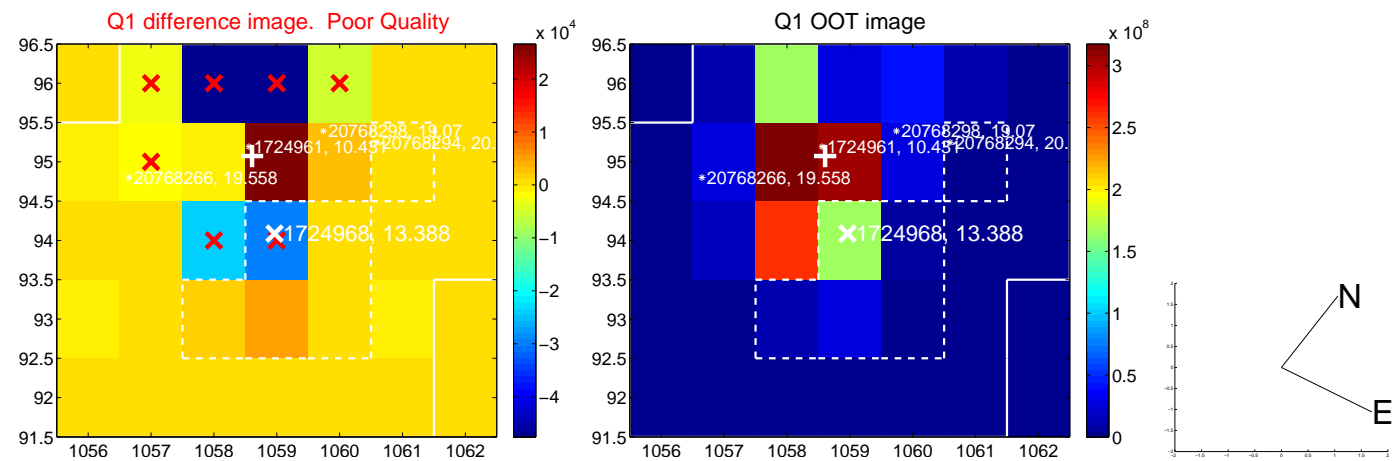
The OOT PRF centroid is offset from the target star catalog position by about 4.10 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.695 ± 0.531	3.19	0.579 ± 0.633	-1.593 ± 0.505
PRF-fit source offset from KIC position	2.809 ± 0.583	4.81	-2.807 ± 0.589	-0.092 ± 0.453
photometric centroid source offset	1.39 ± 0.14	9.82	-1.32 ± 0.13	0.46 ± 0.19

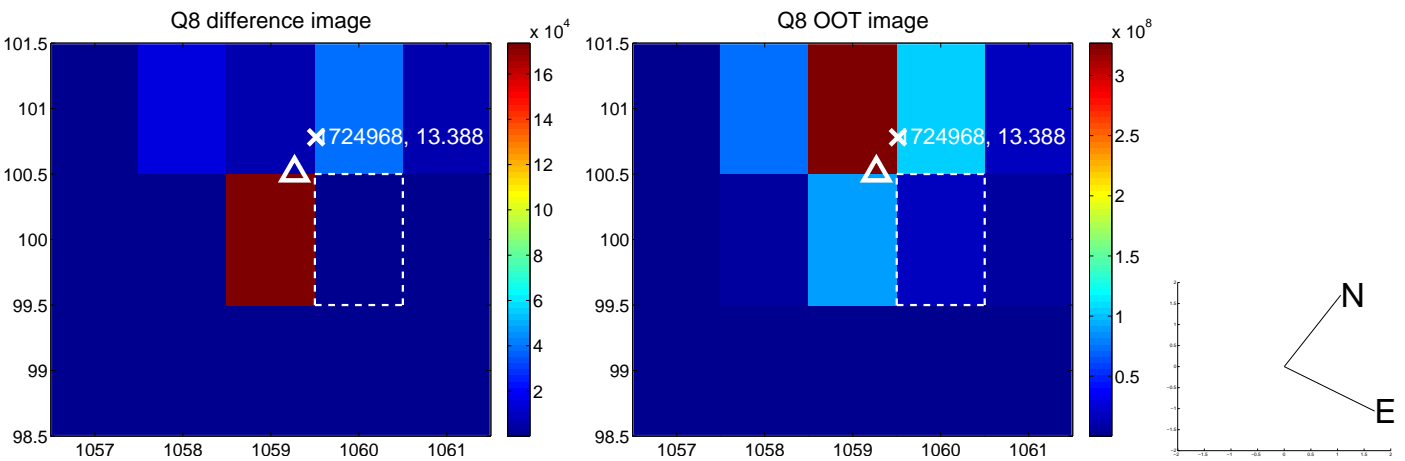
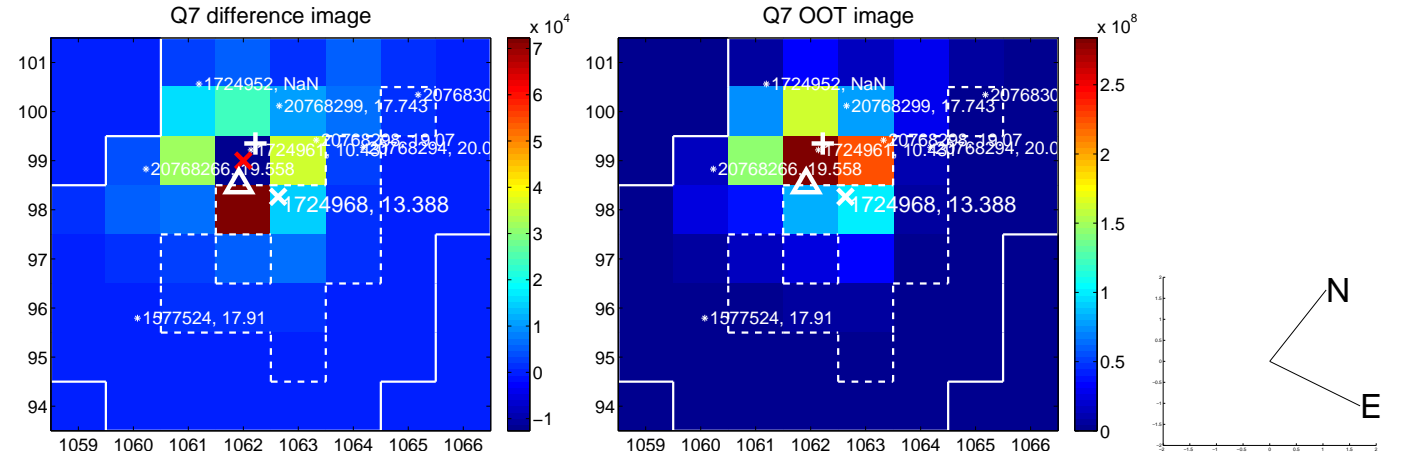
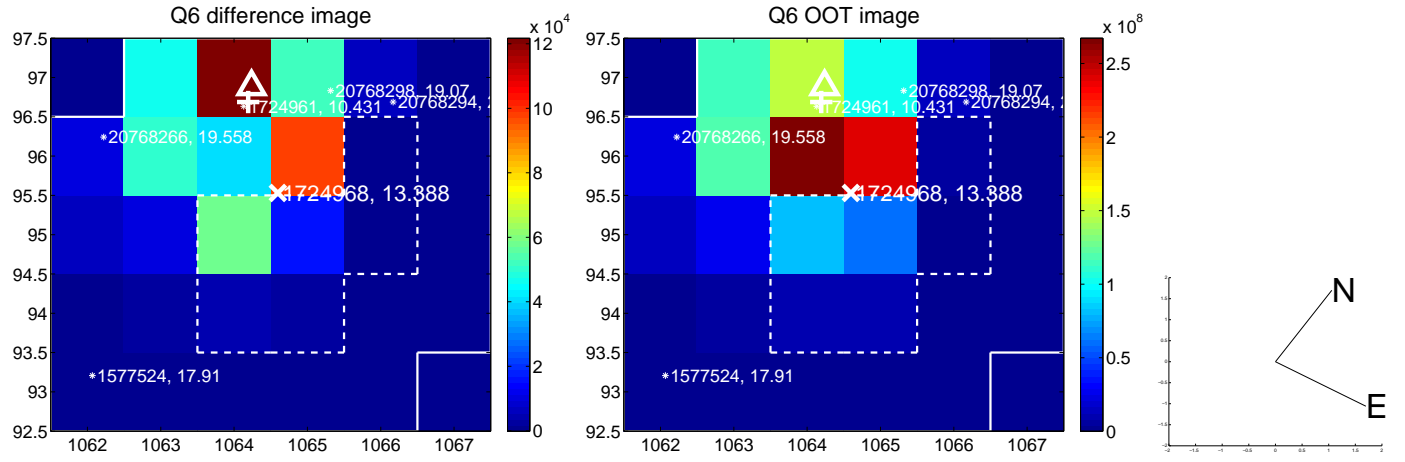
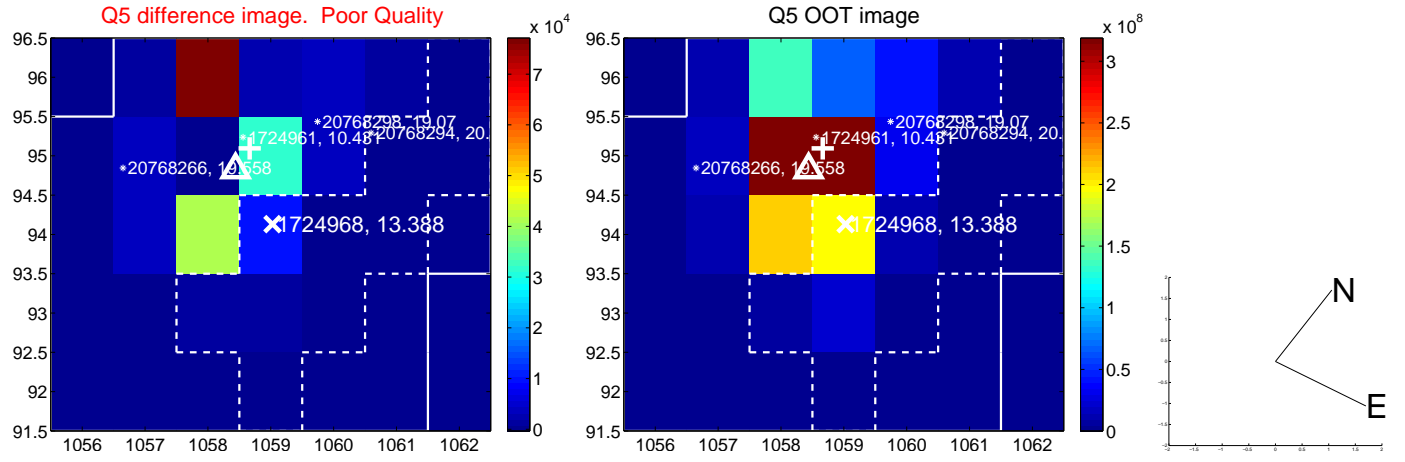


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

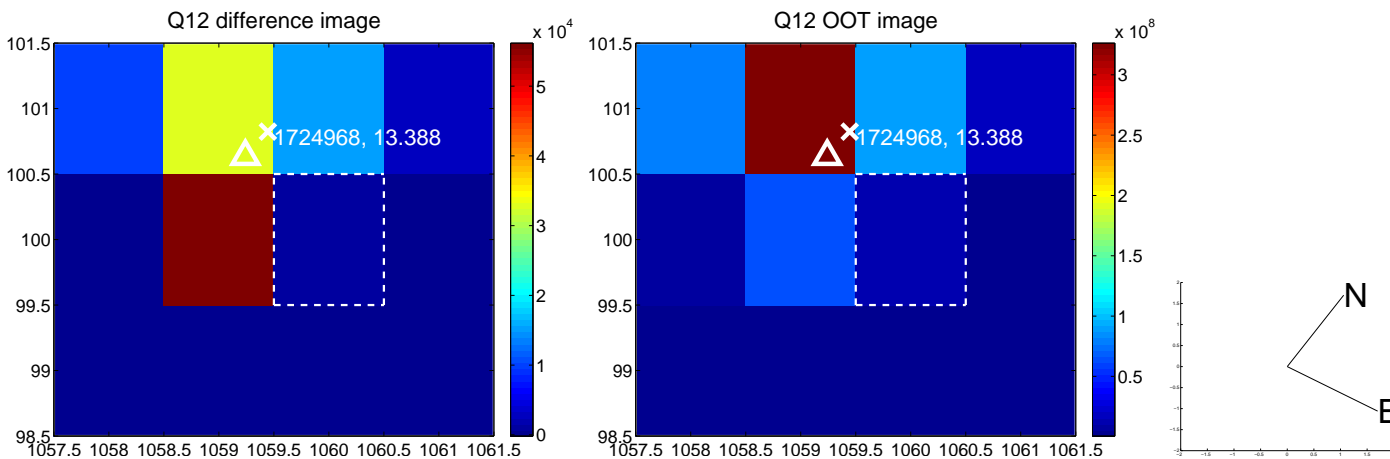
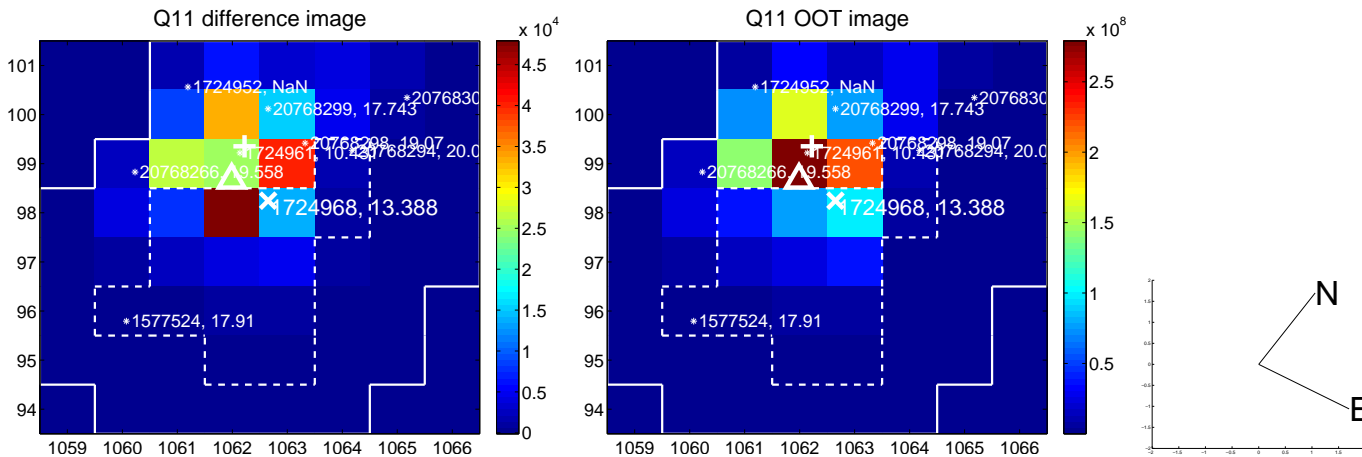
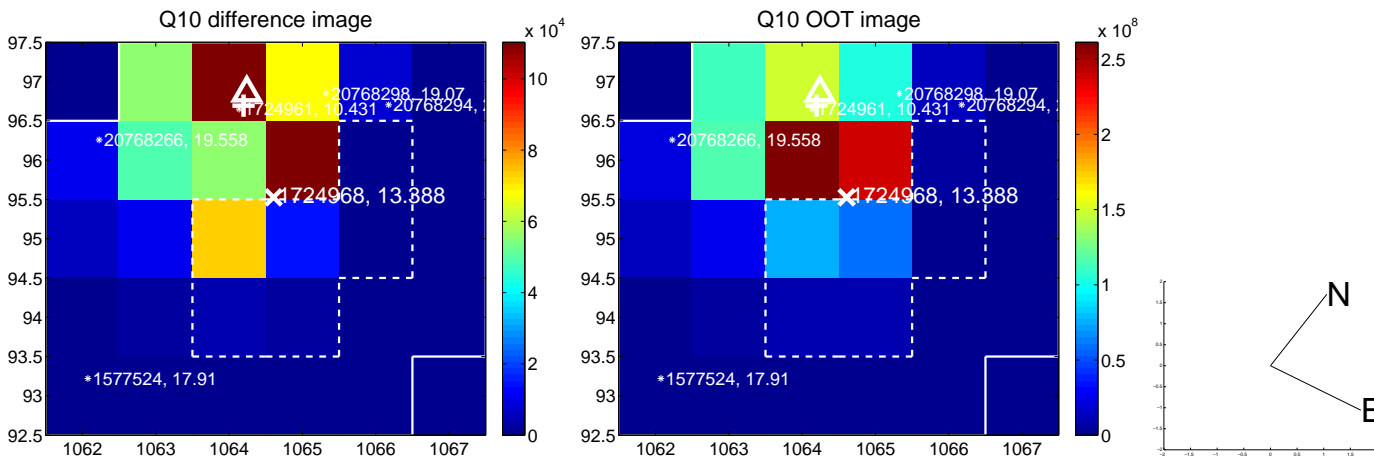
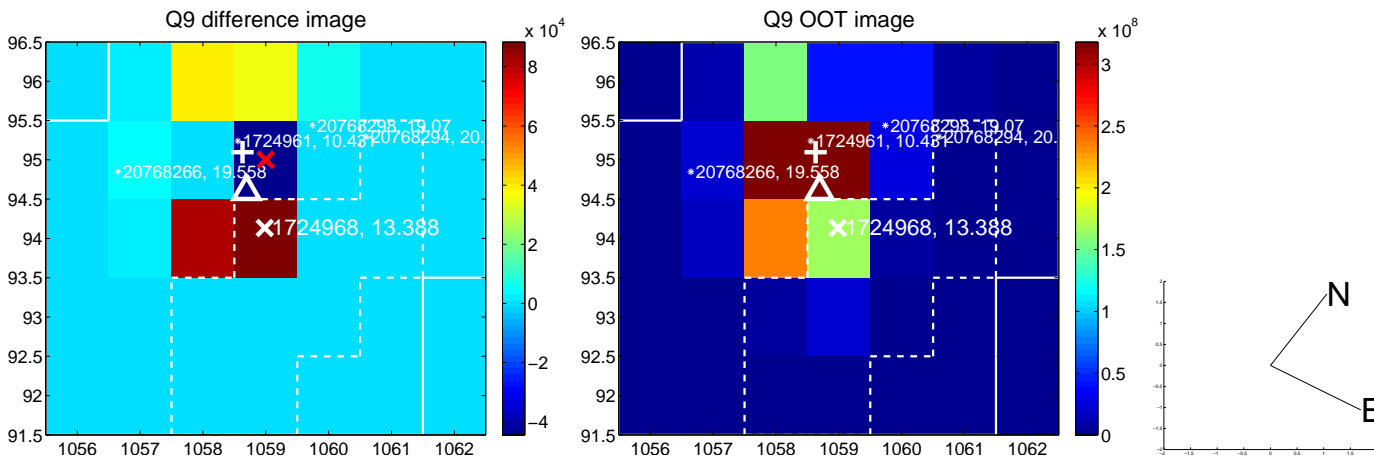
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



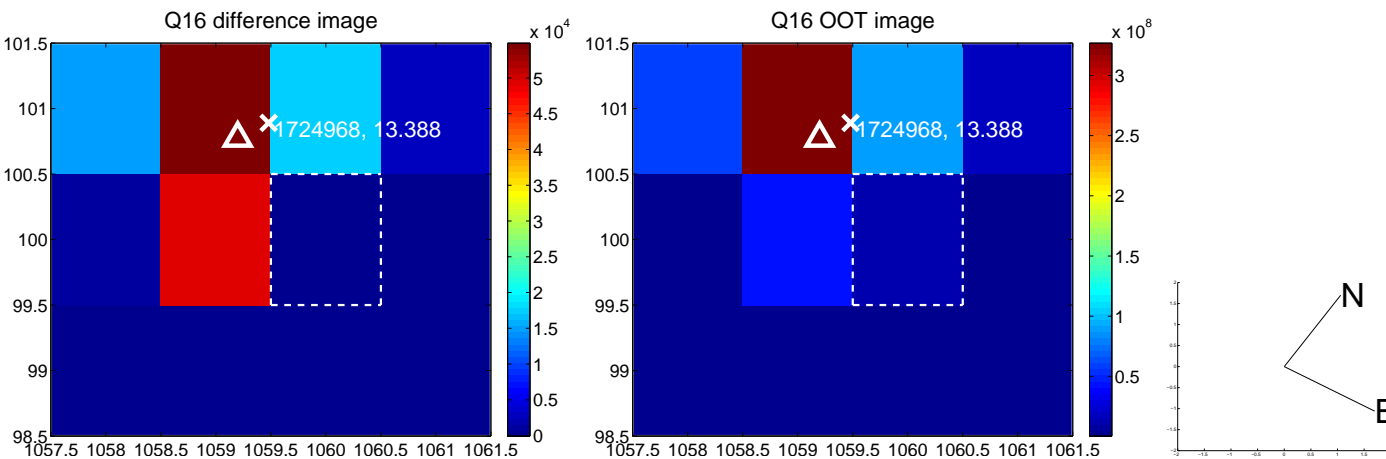
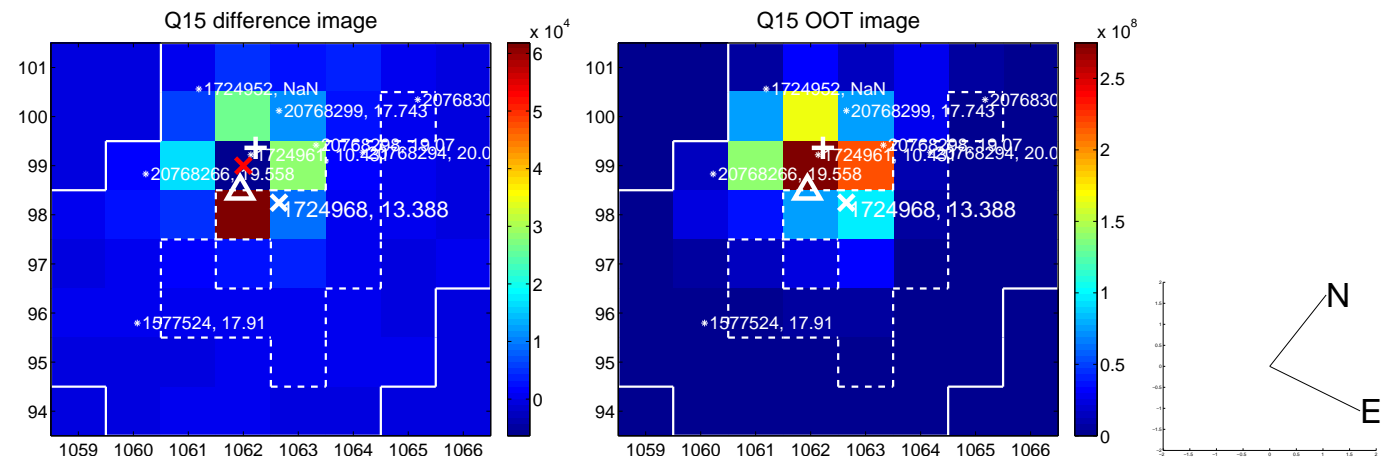
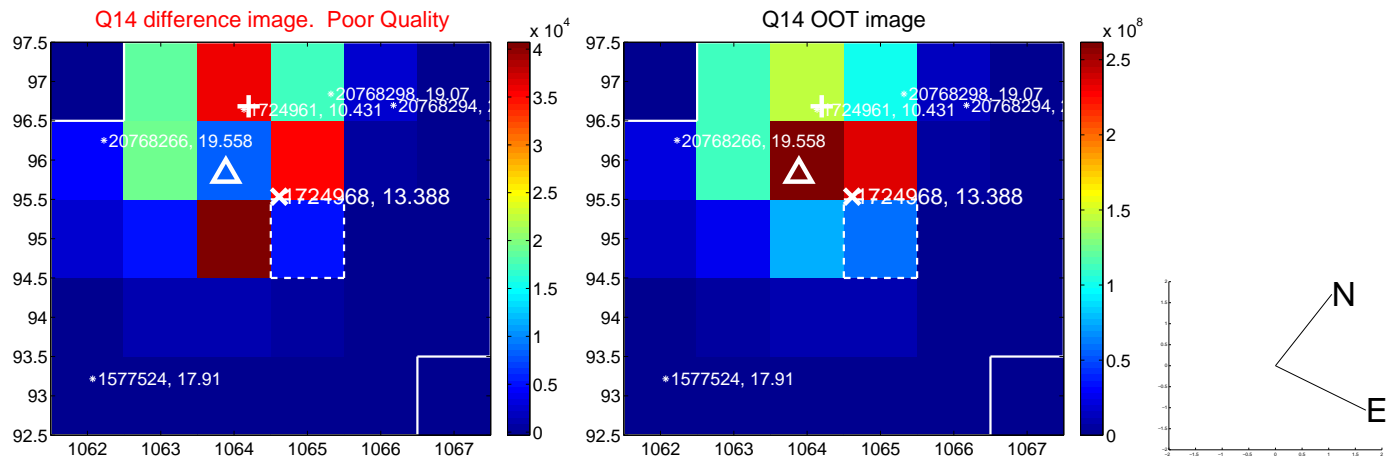
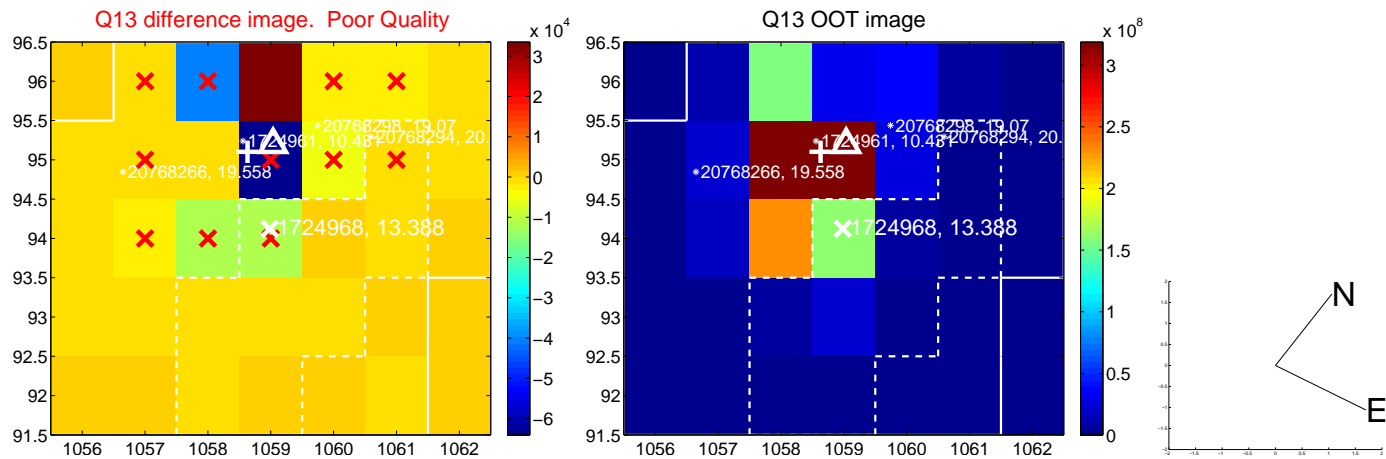
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



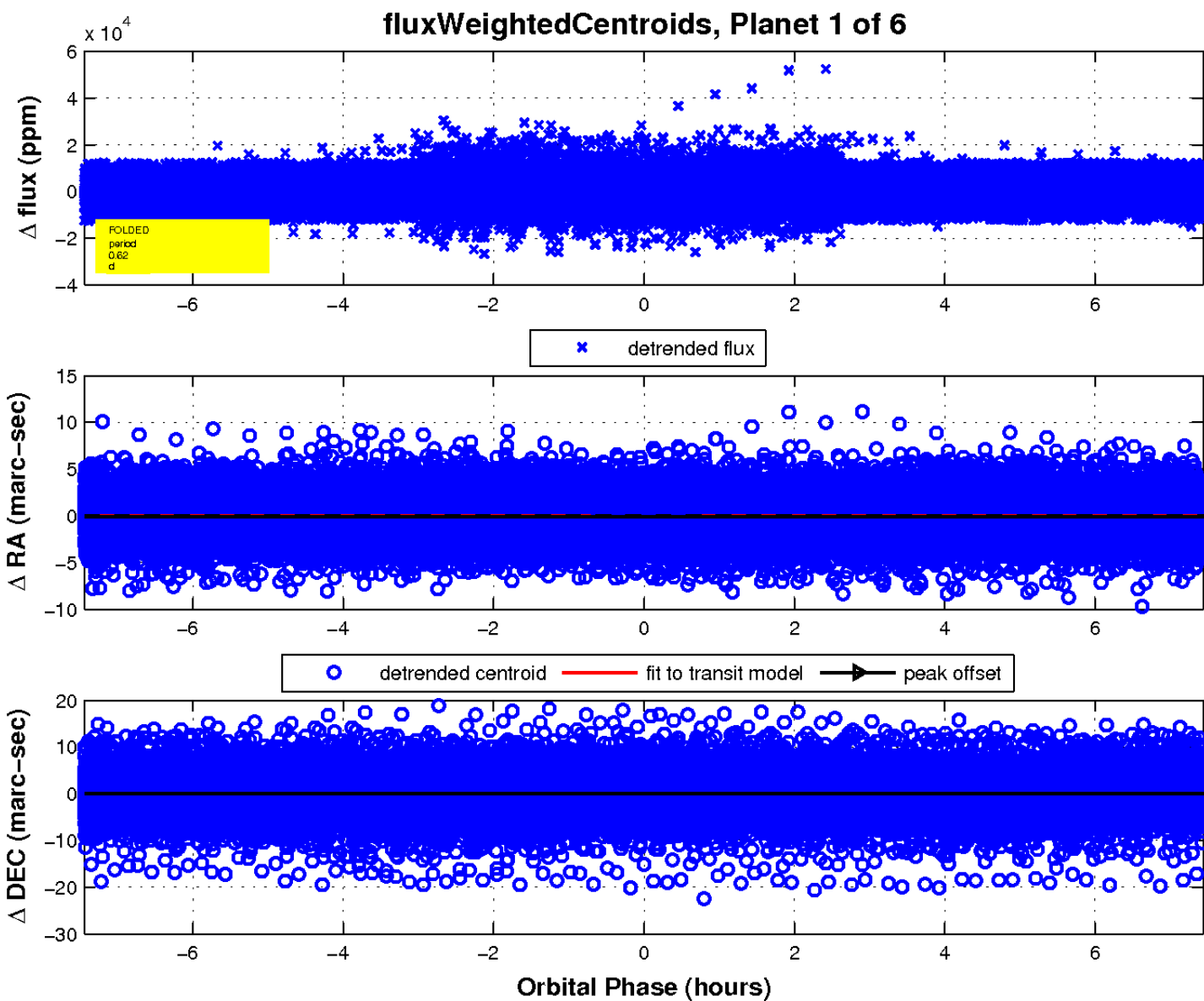
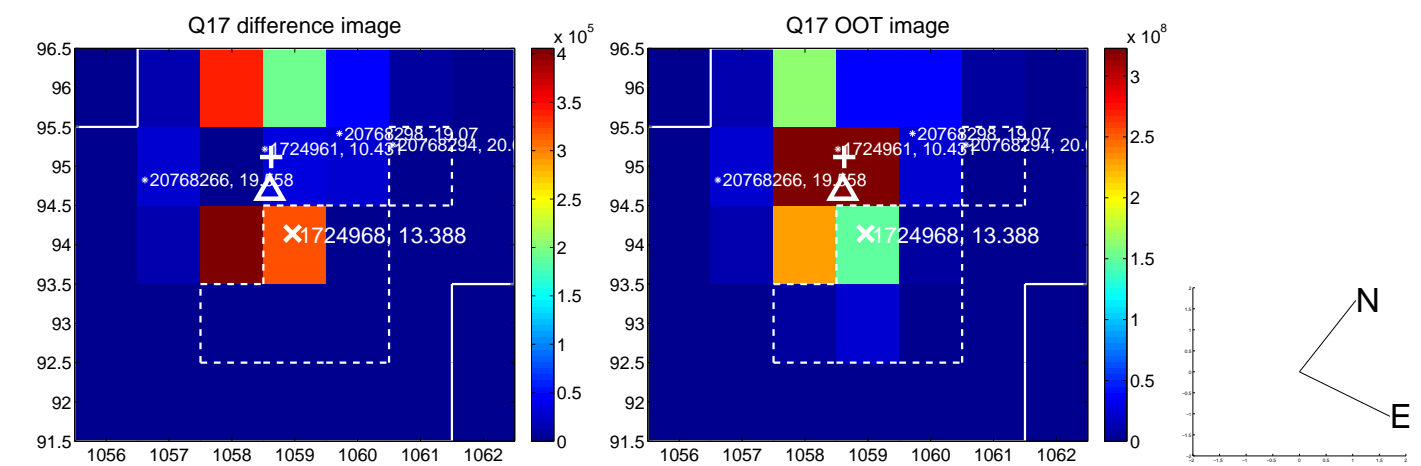
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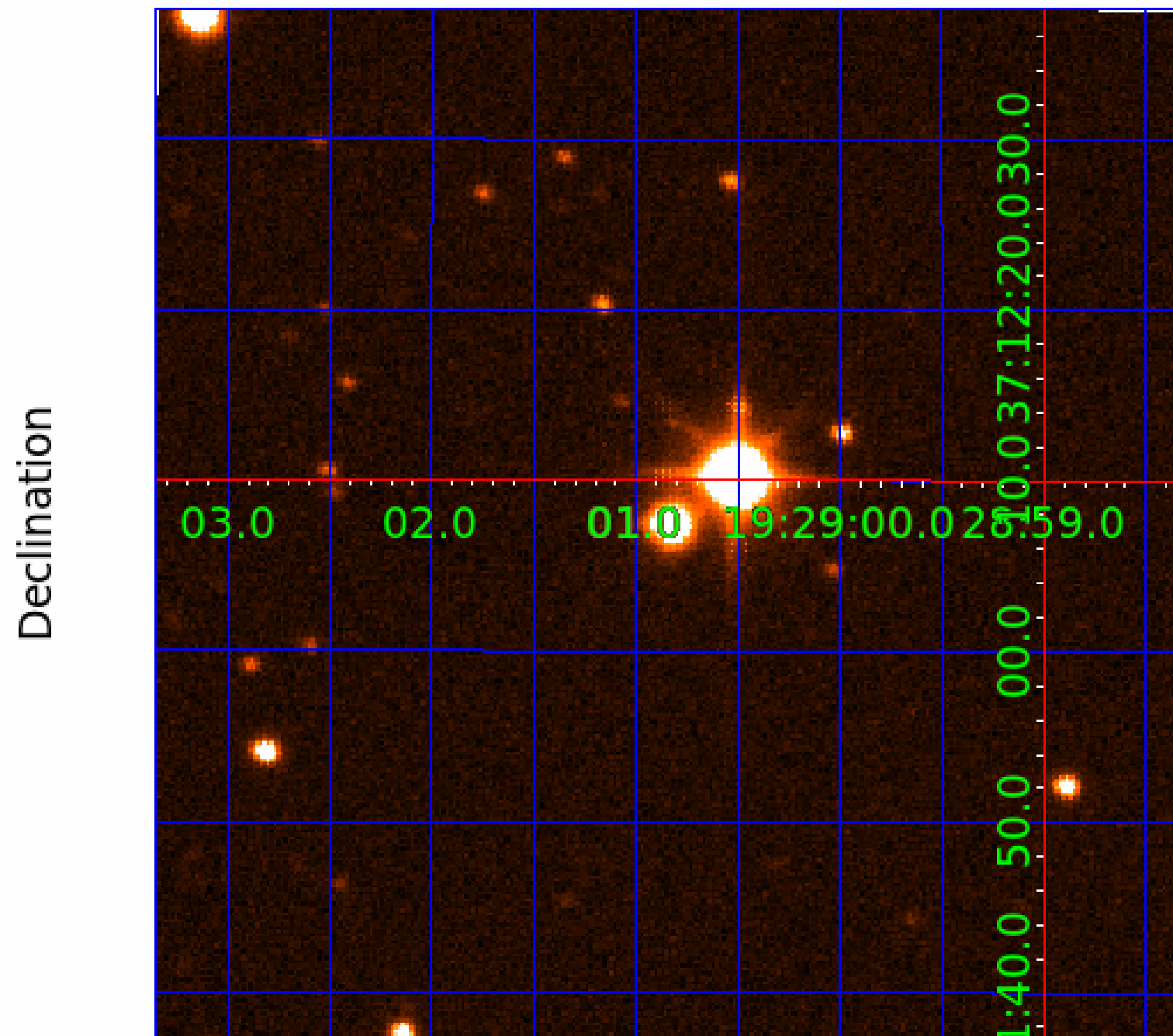
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 001724968

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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001724968-05	OBS	No	620.022592	198.610140	14492.6	5.262	8.8	8.5	1.39	6896	19.40	1.54
001724968-06	OBS	No	139.783855	214.409947	631.3	4.500	9.3	-1.0	1.39	6896	3.53	11.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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001724968-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
001724968-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS—HALO_GHOST
001724968-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
001724968-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_KIC_POS
001724968-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

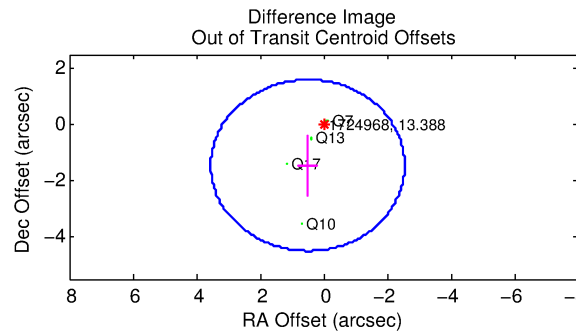
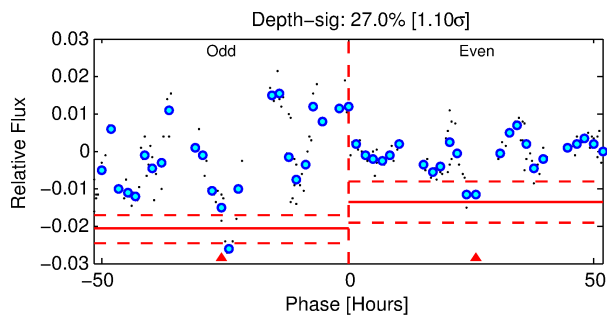
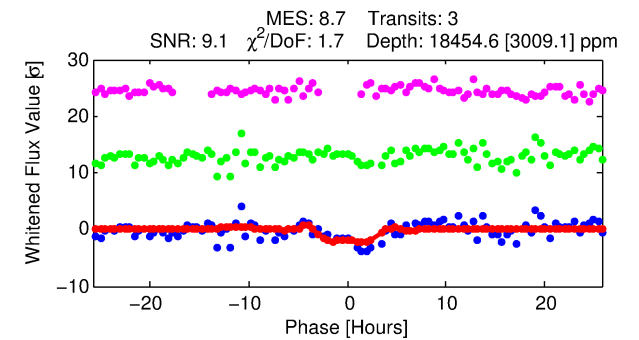
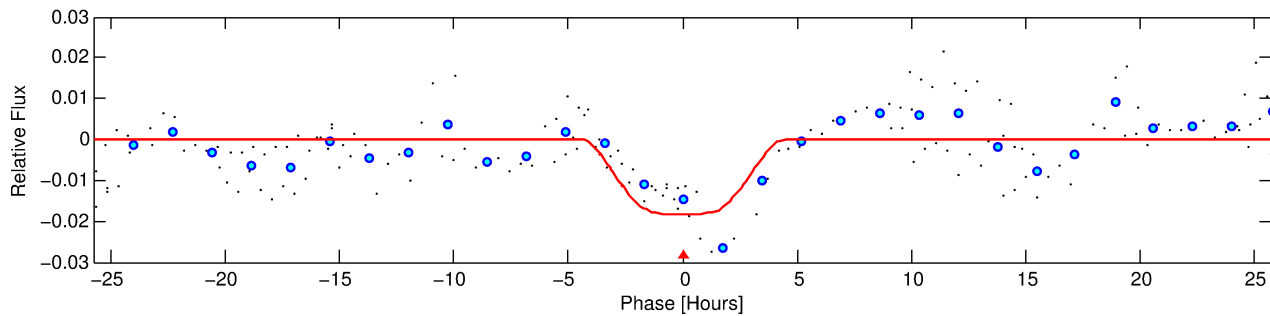
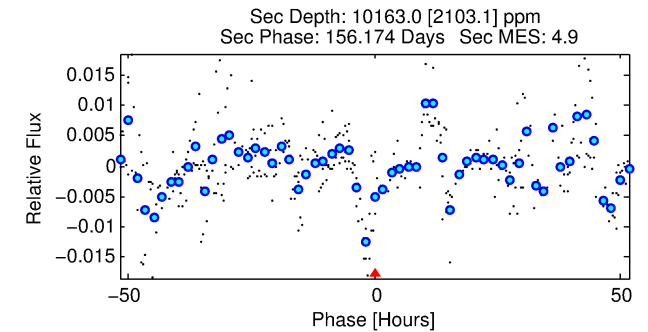
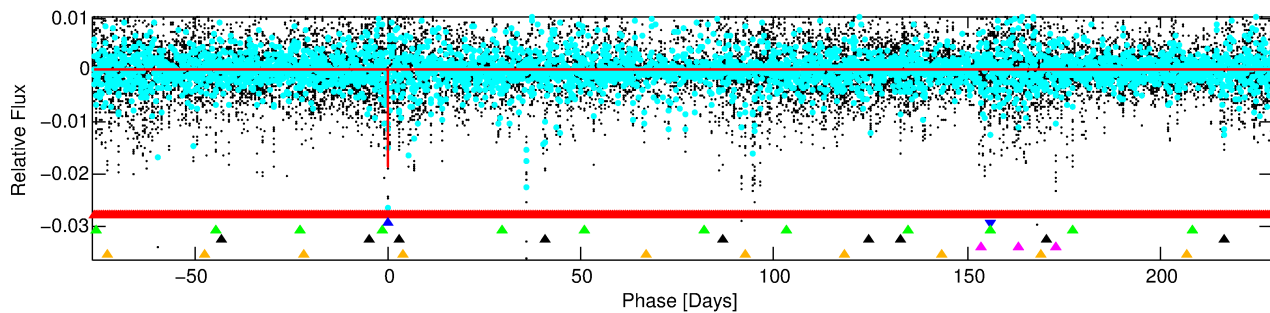
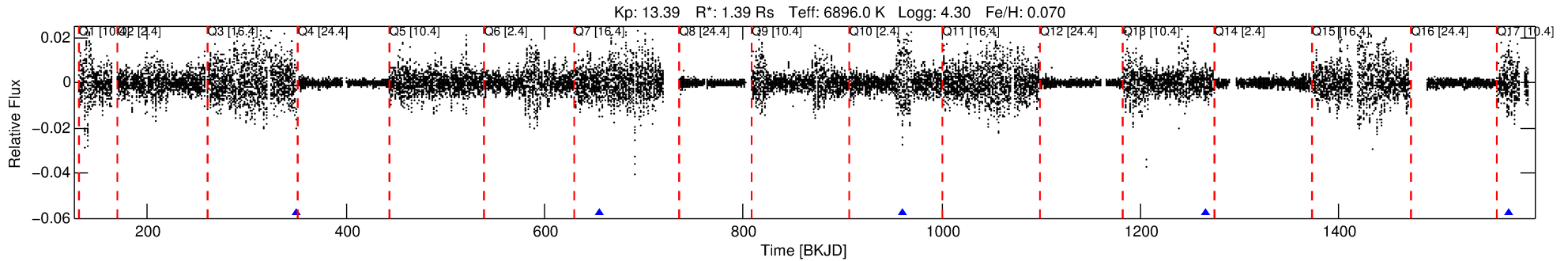
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001724968-02

No Significant Match Found

DV One-Page Summary

KIC: 1724968 Candidate: 2 of 6 Period: 305.116 d



DV Fit Results:

Period = 305.11622 [0.00946] d
Epoch = 350.4236 [0.0267] BKJD
Rp/R* = 0.1389 [0.0132]
a/R* = 216.34 [33.50]
b = 0.81 [0.08]
Seff = 3.96 [1.07]
Teq = 360 [24] K
Rp = 21.07 [4.97] Re
a = 0.9947 [0.1809] AU
Ag = 12455.42 [4811.02] [2.59σ]
Teffp = 5874 [420] K [13.11σ]

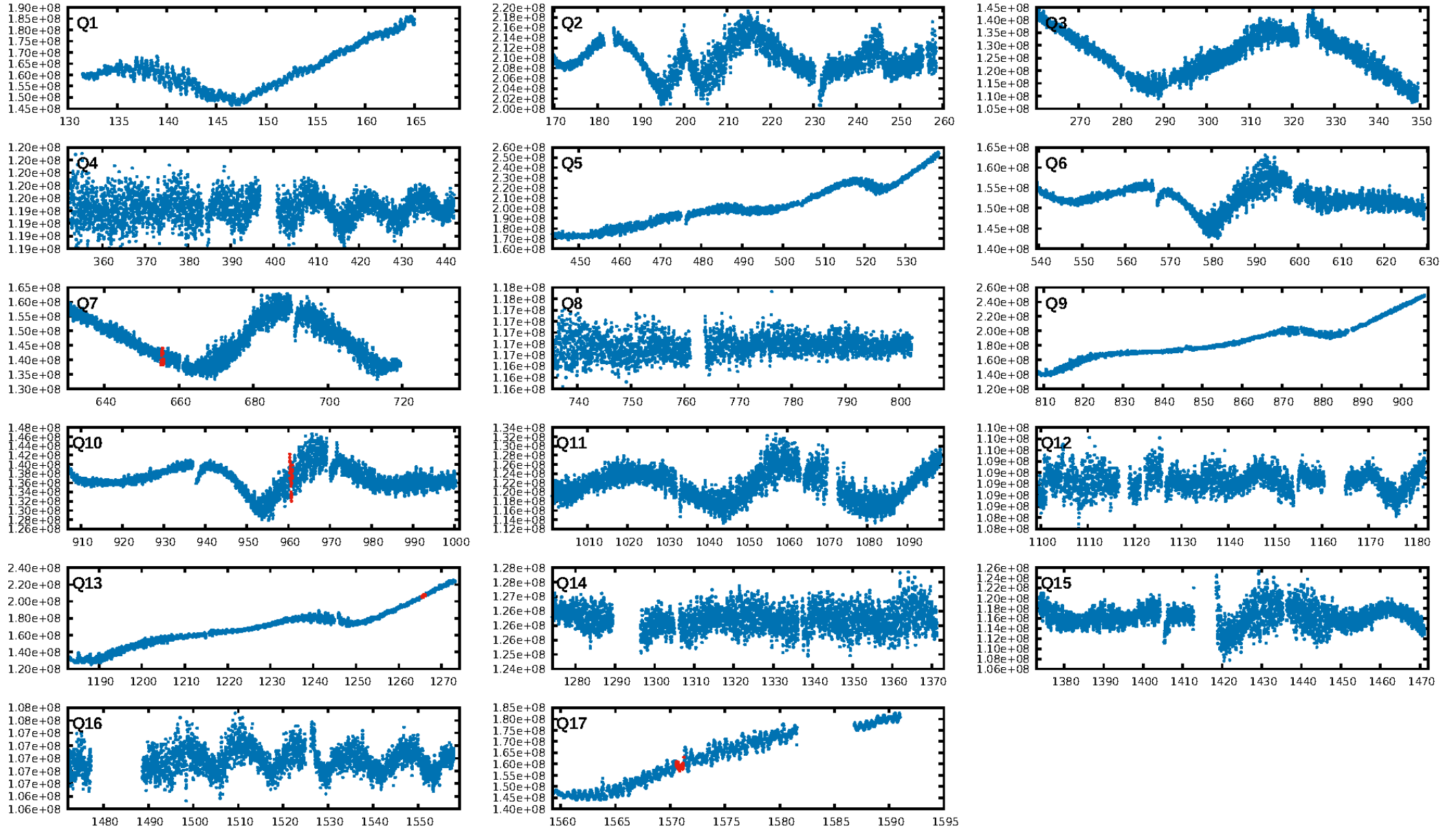
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [239.13σ]
LongPeriod-sig: 100.0% [749.29σ]
ModelChiSquare2-sig: 10.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -7.351
Centroid-sig: 85.4%
Centroid-so: 1.765 arcsec [37.87σ]
OotOffset-rm: 1.536 arcsec [1.51σ]
KicOffset-rm: 3.317 arcsec [5.94σ]
OotOffset-st: 1/1/0/2 [4]
KicOffset-st: 1/1/0/2 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.00 [0/4]

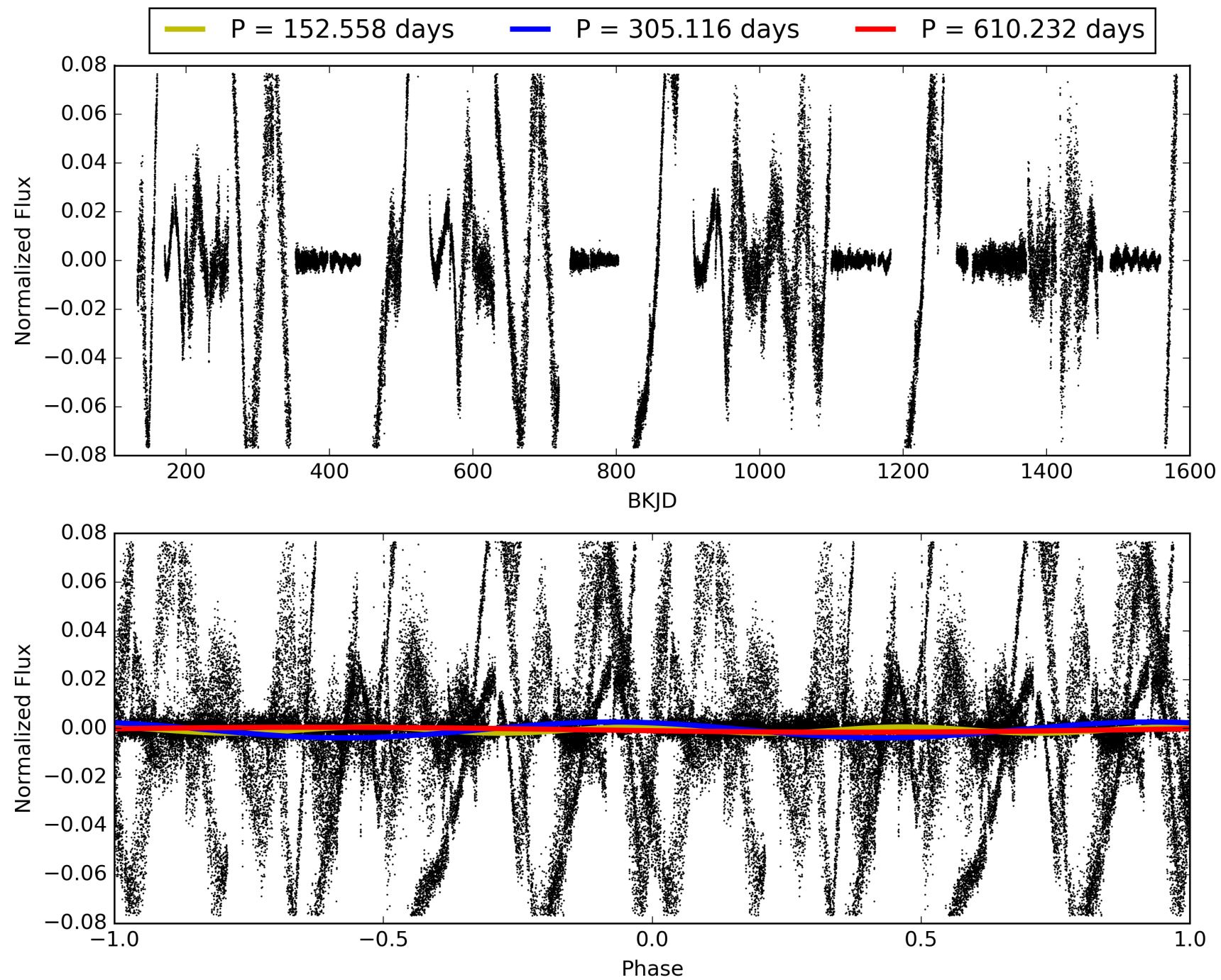
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:01:00 Z

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

TCE 001724968-02, PDC Light Curves

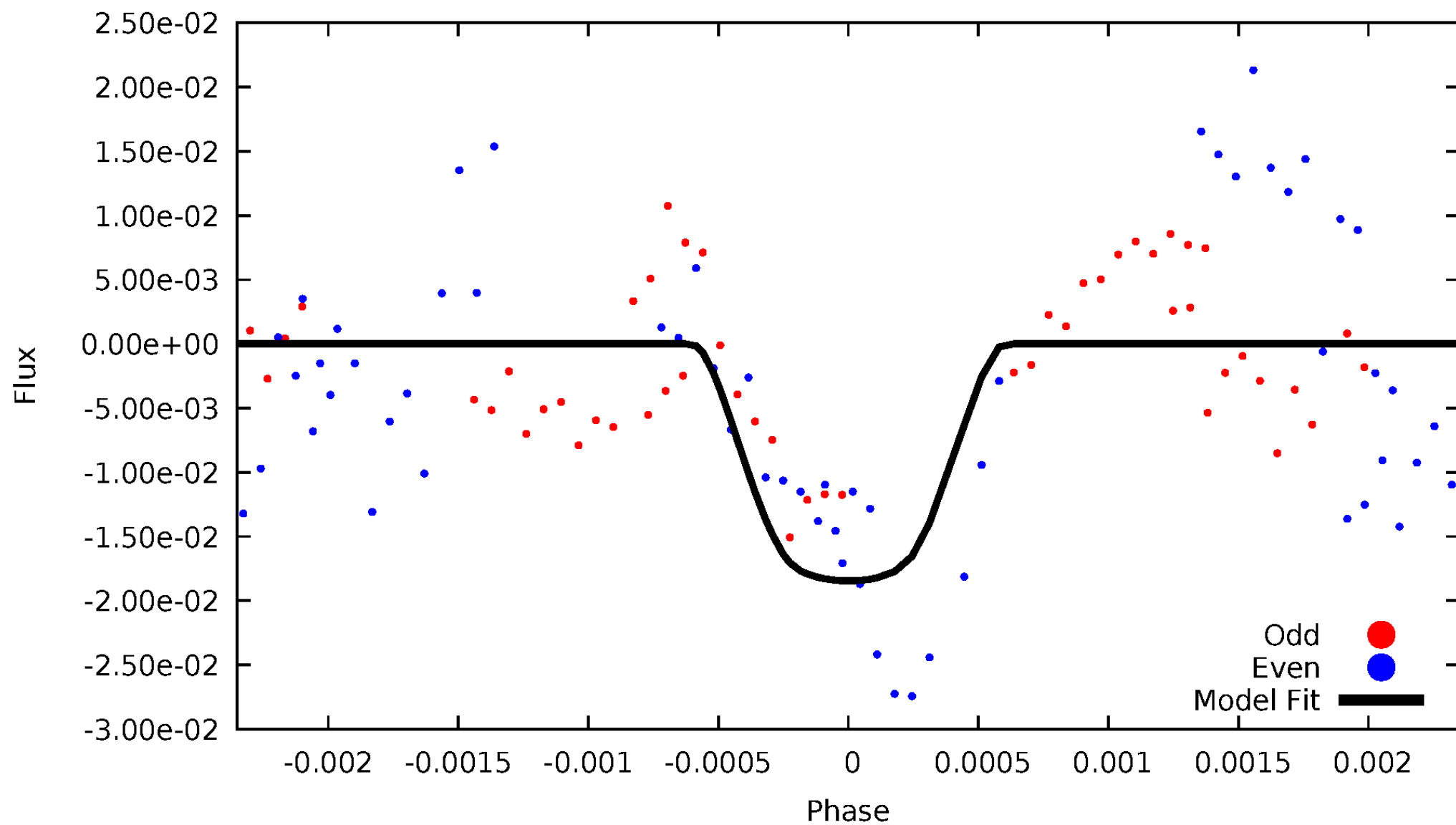


TCE 001724968-02



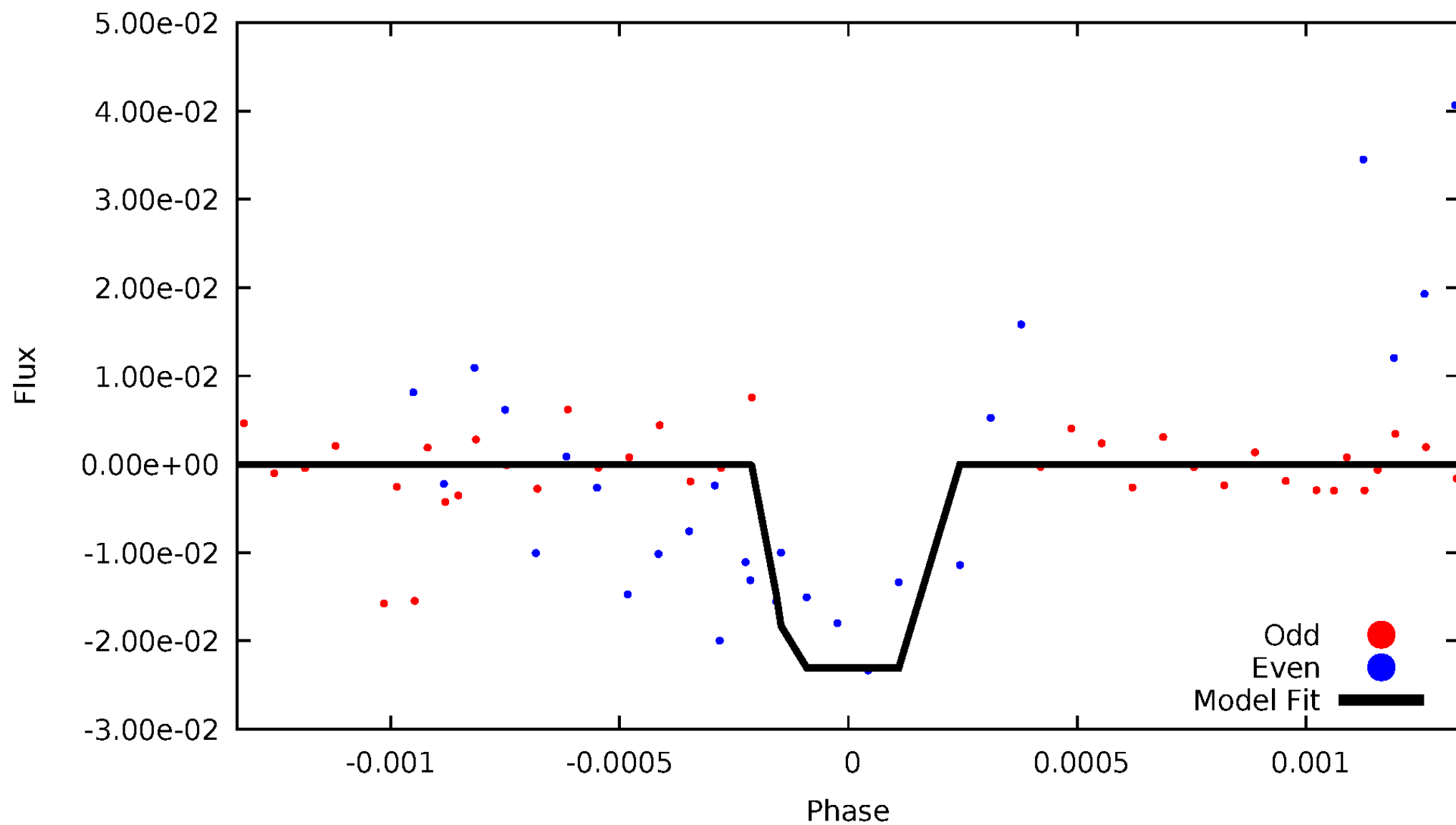
DV Odd/Even

TCE 001724968-02



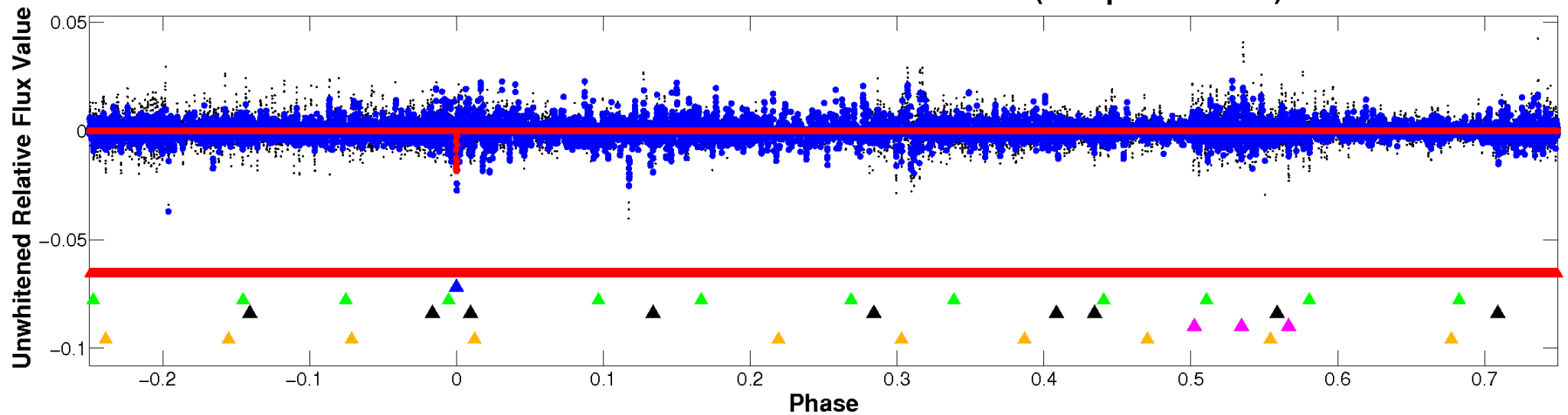
ALT Odd/Even

TCE 001724968-02

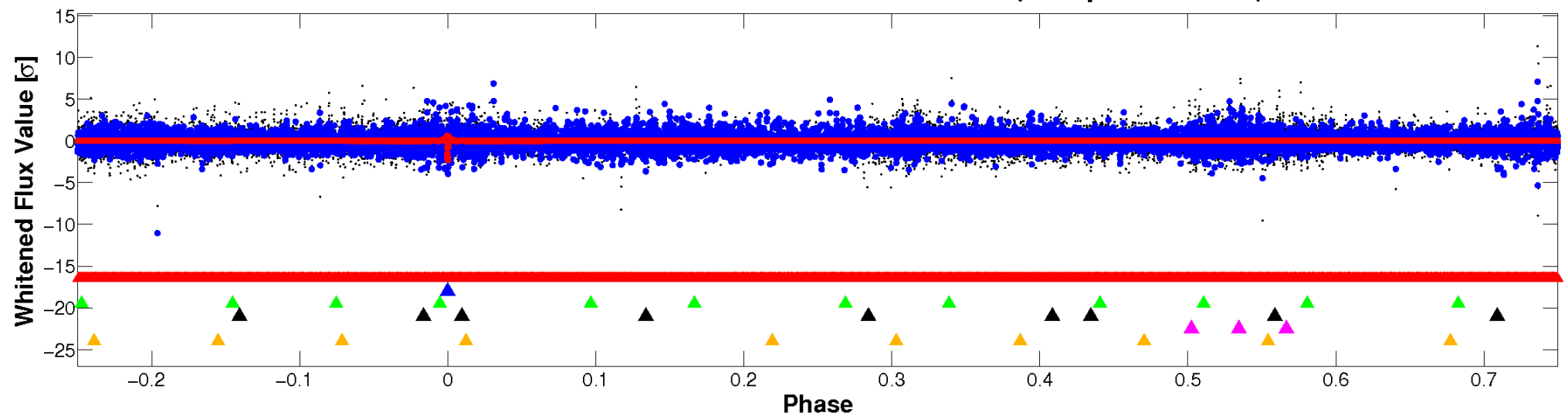


Non-Whitened Vs. Whitened Light Curve

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

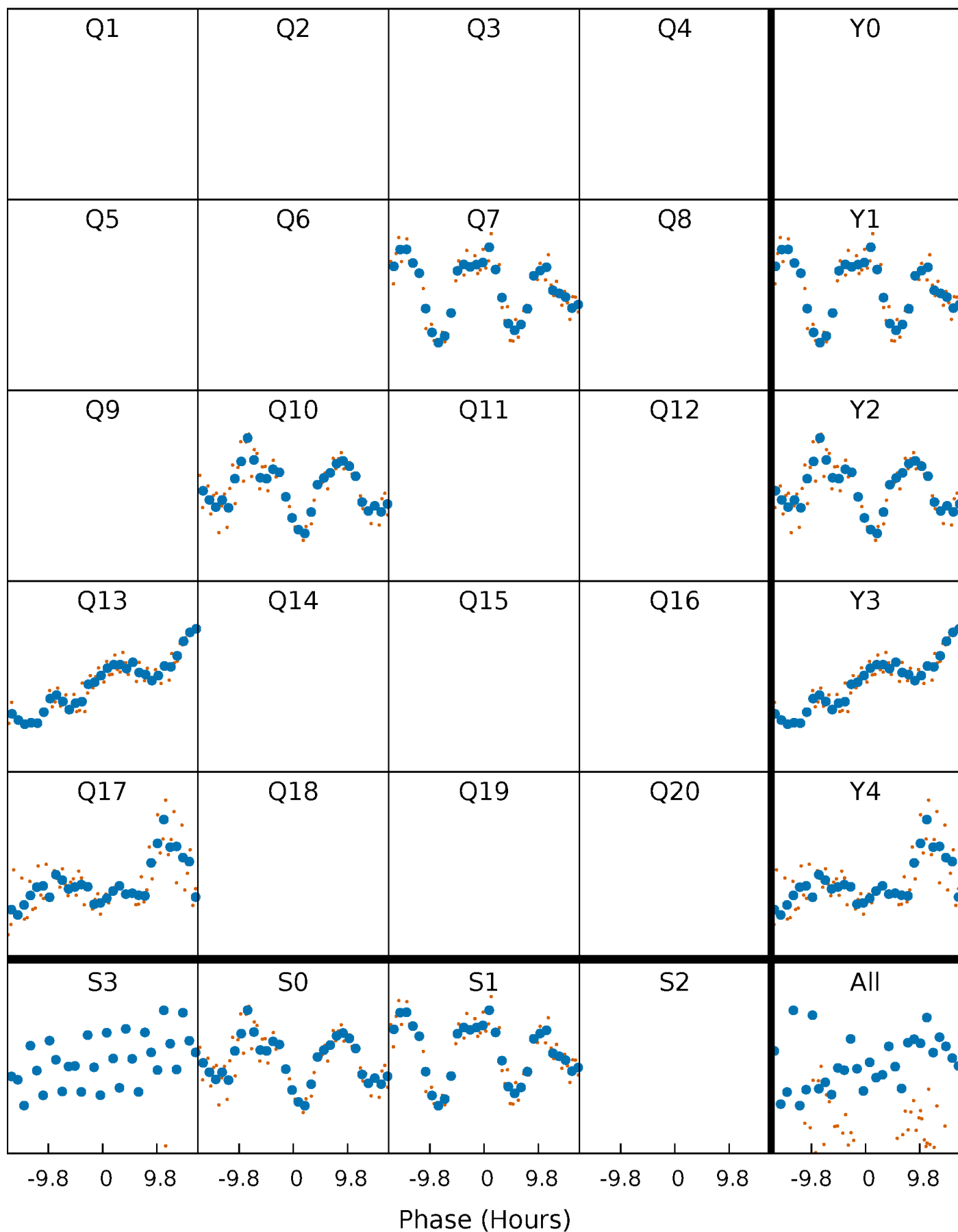


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



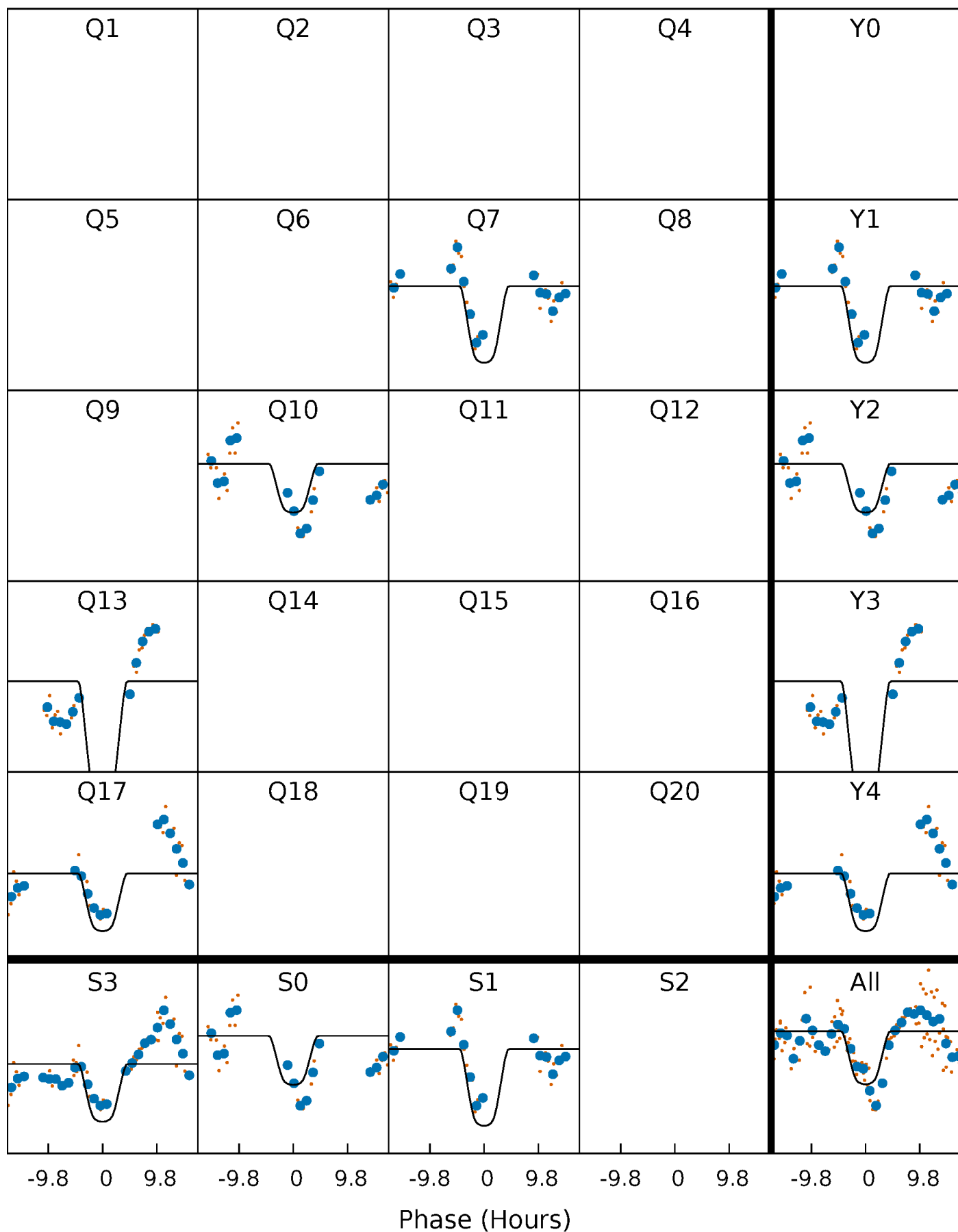
PDC Quarter-Phased Transit Curves

TCE 001724968-02 $P=305.116218$ Days $T_0=350.423599$ (BKJD)



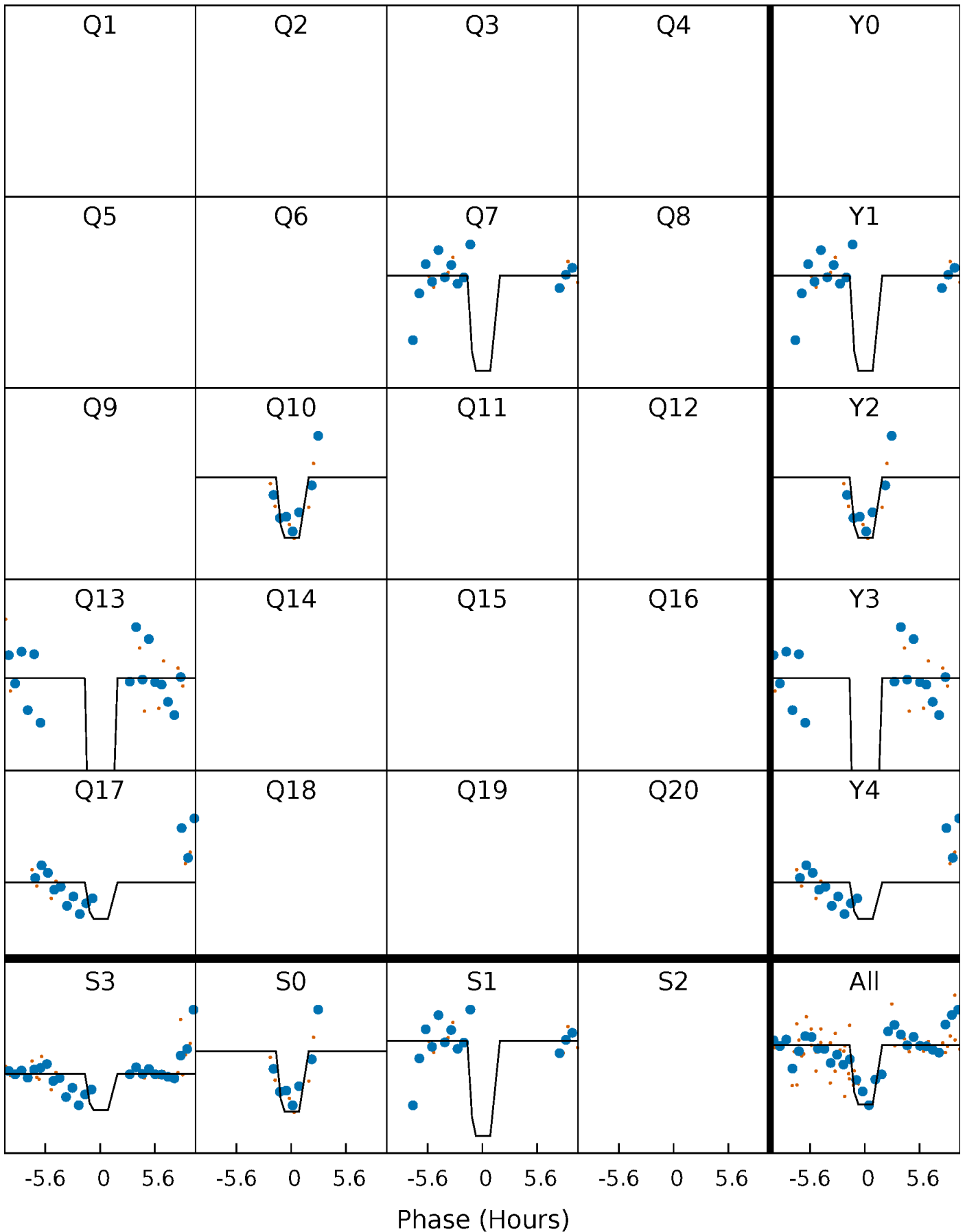
DV Quarter-Phased Transit Curves

TCE 001724968-02 $P=305.116218$ Days $T_0=350.423599$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

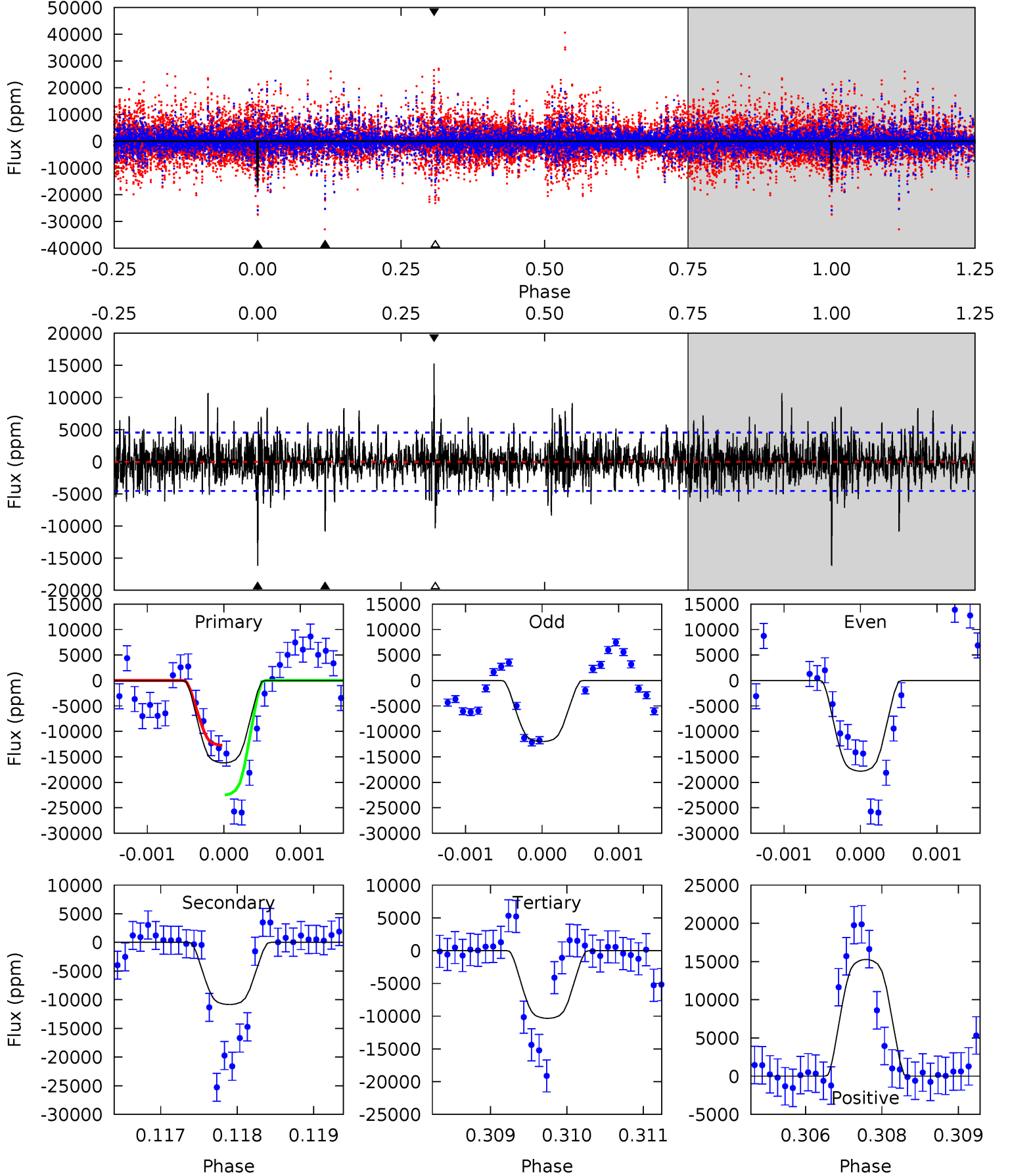
TCE 001724968-02 P=305.120729 Days $T_0=350.476175$ (BKJD)



DV Model-Shift Uniqueness Test

001724968-02, P = 305.116218 Days, E = 45.307381 Days

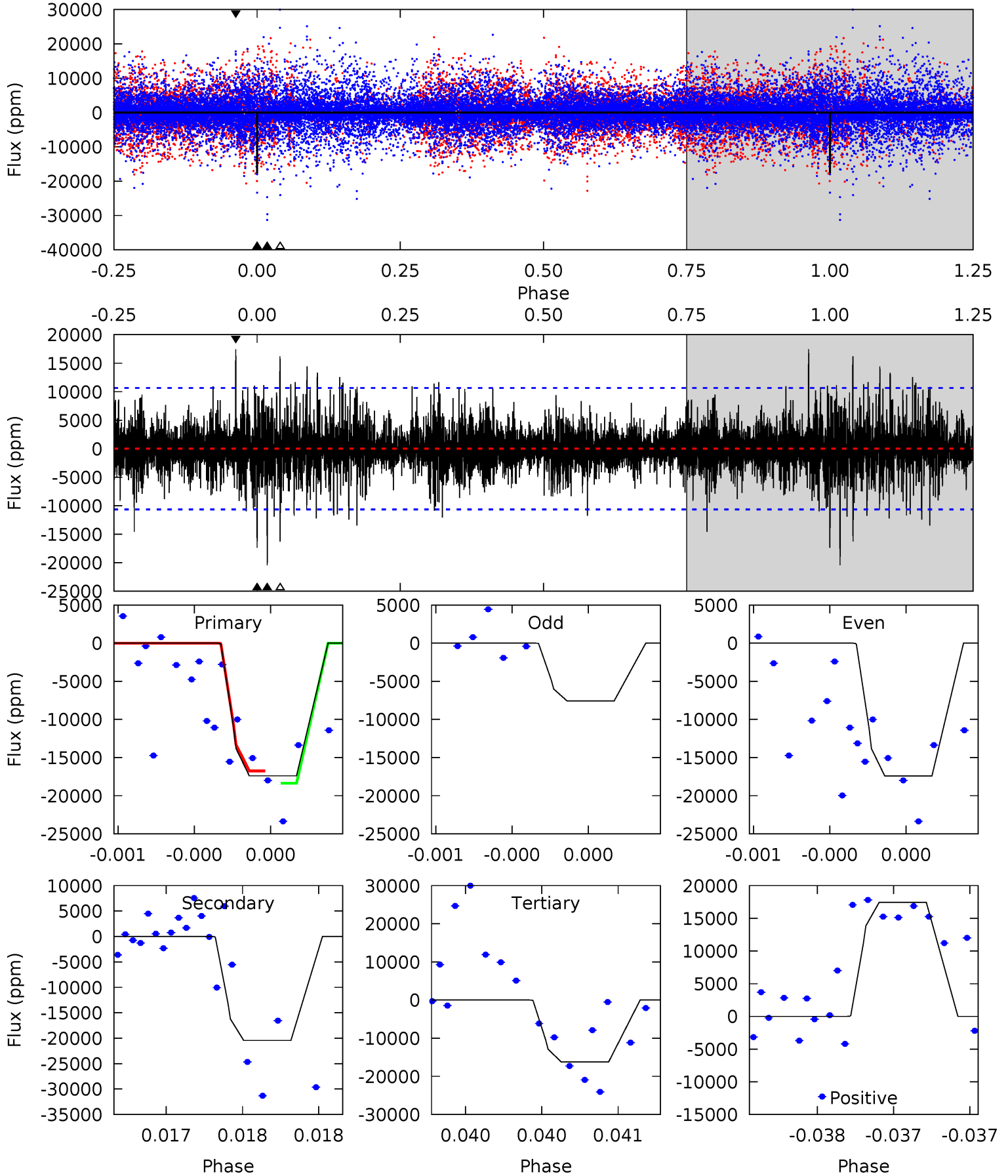
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	13.0	12.4	18.3	5.42	3.25	2.48	7.01	1.09	0.60	-5.32	3.25	1.25	0.49	5.61



Alt Model-Shift Uniqueness Test

001724968-02, P = 305.120729 Days, E = 45.355446 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.22	10.8	8.61	9.23	5.65	3.60	1.39	0.61	-0.02	2.22	1.59	1.94	1.00	0.46	0.32



Stellar Parameters For KIC 001724968

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6896^{+72}_{-92}	$4.301^{+0.026}_{-0.145}$	$0.070^{+0.150}_{-0.150}$	$1.390^{+0.300}_{-0.075}$	$1.411^{+0.104}_{-0.069}$	$0.740^{+0.101}_{-0.294}$
	+1%/-1%	+1%/-3%	+214%/-214%	+22%/-5%	+7%/-5%	+14%/-40%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 001724968-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10831±835	$21.80^{+3.07}_{-2.45}$	509^{+27}_{-13}	5962^{+338}_{-297}	12422^{+3479}_{-2793}
Alt.	-20430±1887	$24.04^{+3.00}_{-2.57}$	509^{+25}_{-13}	6674^{+407}_{-332}	19357^{+5364}_{-4040}

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

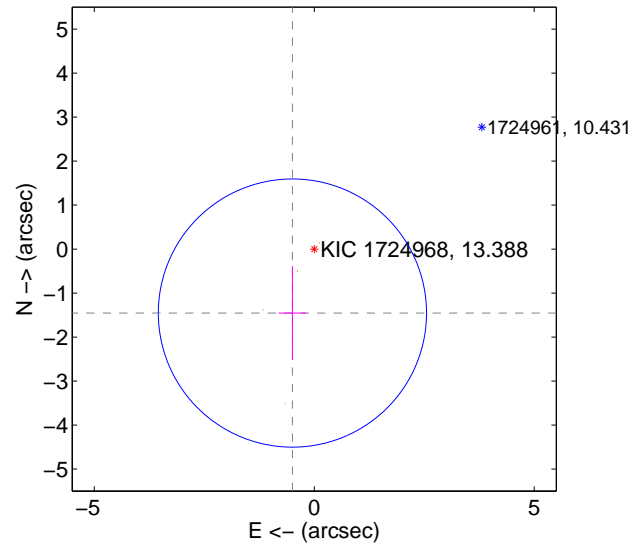
Supplemental centroid analysis for 001724968-02. Kepler magnitude: 13.39. Transit SNR 9.05

There are 2 quarters with good PRF difference image offsets

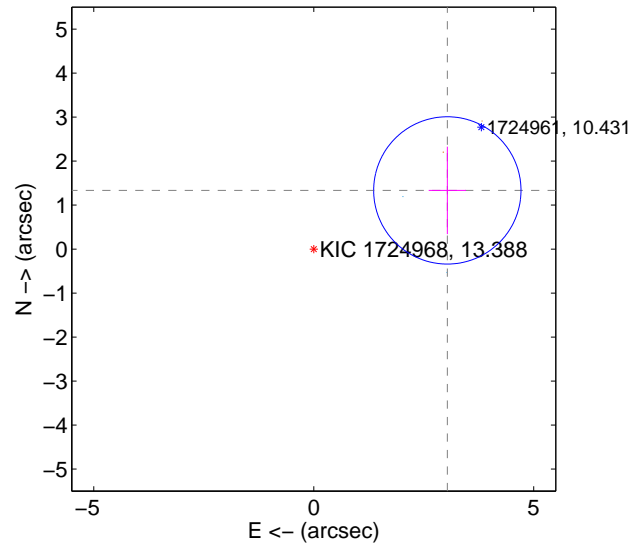
The OOT PRF centroid is offset from the target star catalog position by about 4.10 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.536 ± 1.016	1.51	0.496 ± 0.312	-1.454 ± 1.068
PRF-fit source offset from KIC position	3.317 ± 0.558	5.94	-3.037 ± 0.425	1.334 ± 0.995
photometric centroid source offset	1.76 ± 0.05	37.87	-1.69 ± 0.04	0.49 ± 0.07

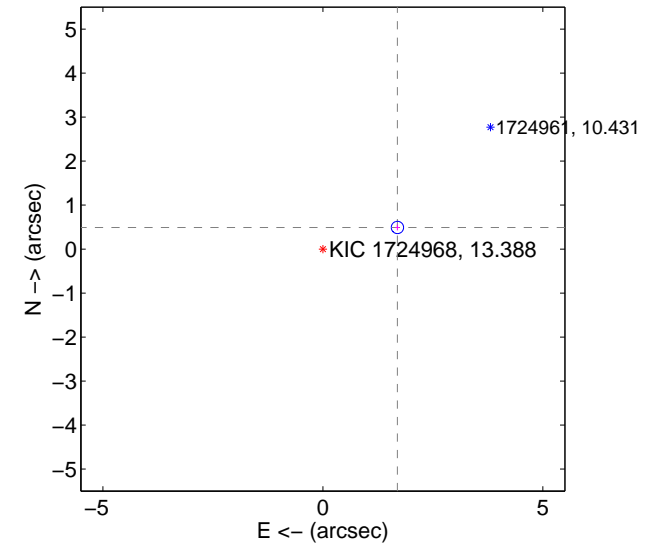
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

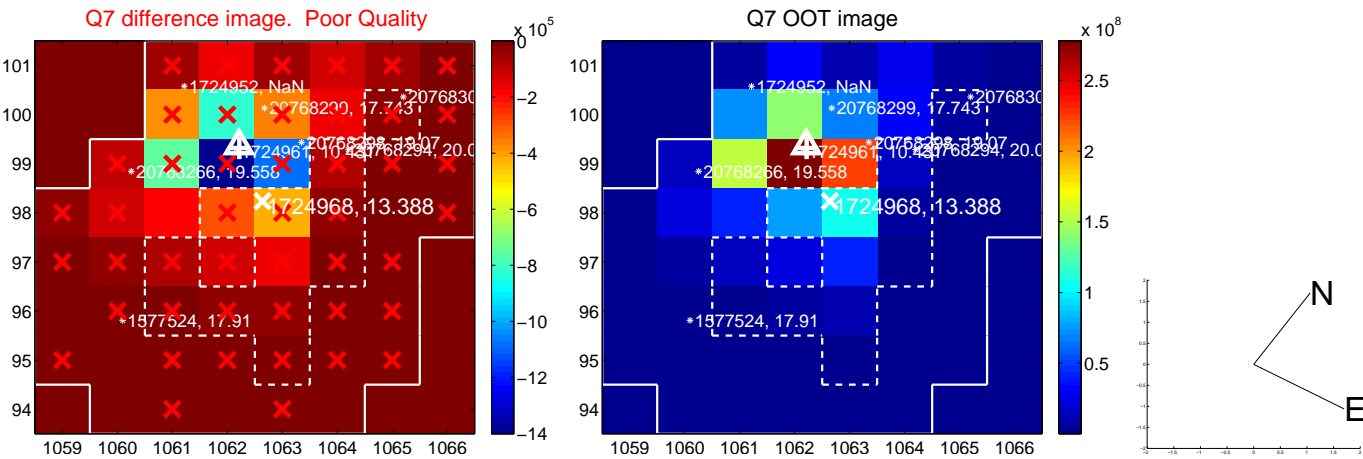


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

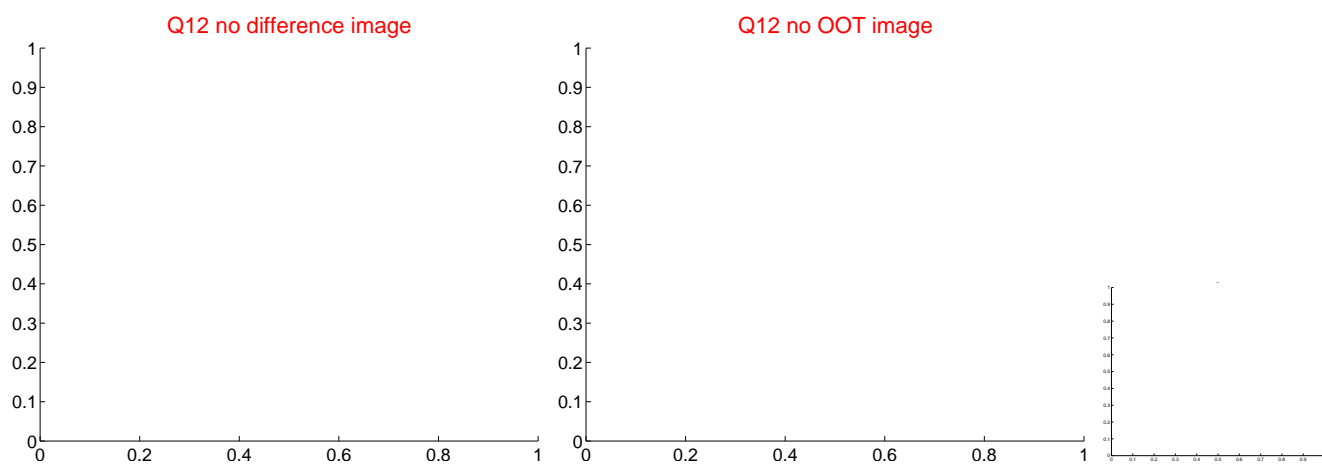
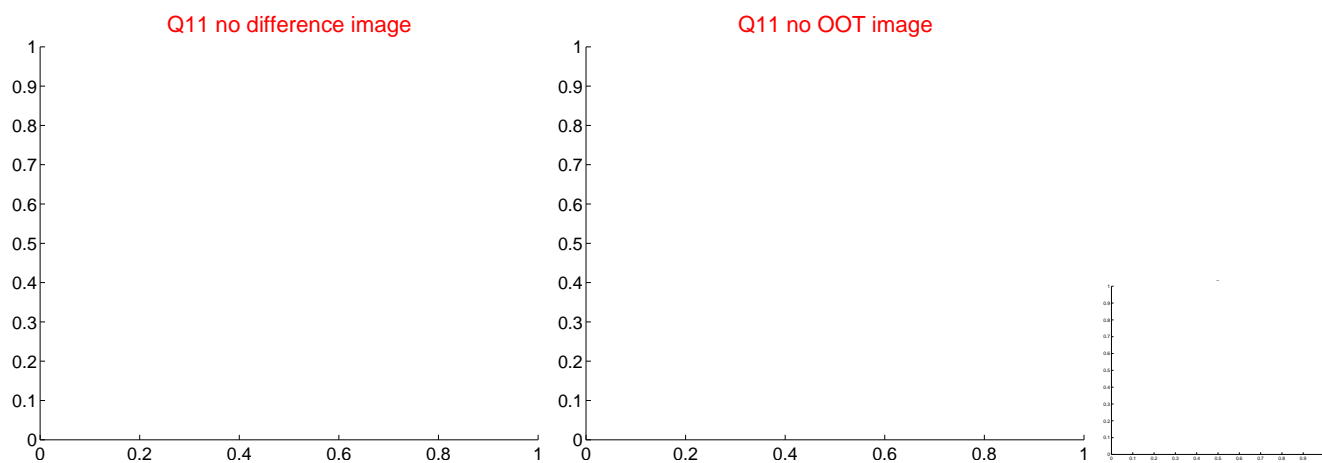
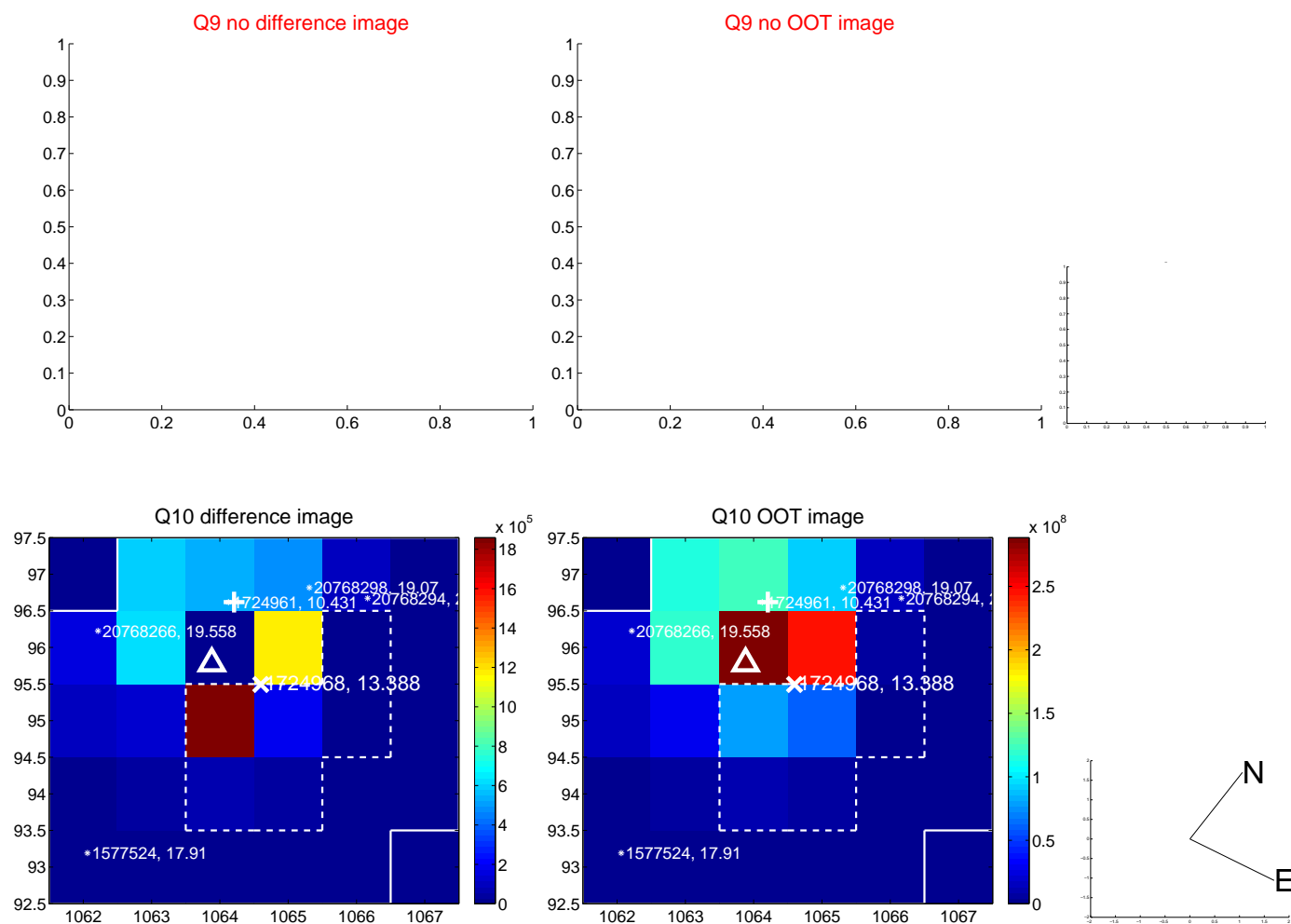
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



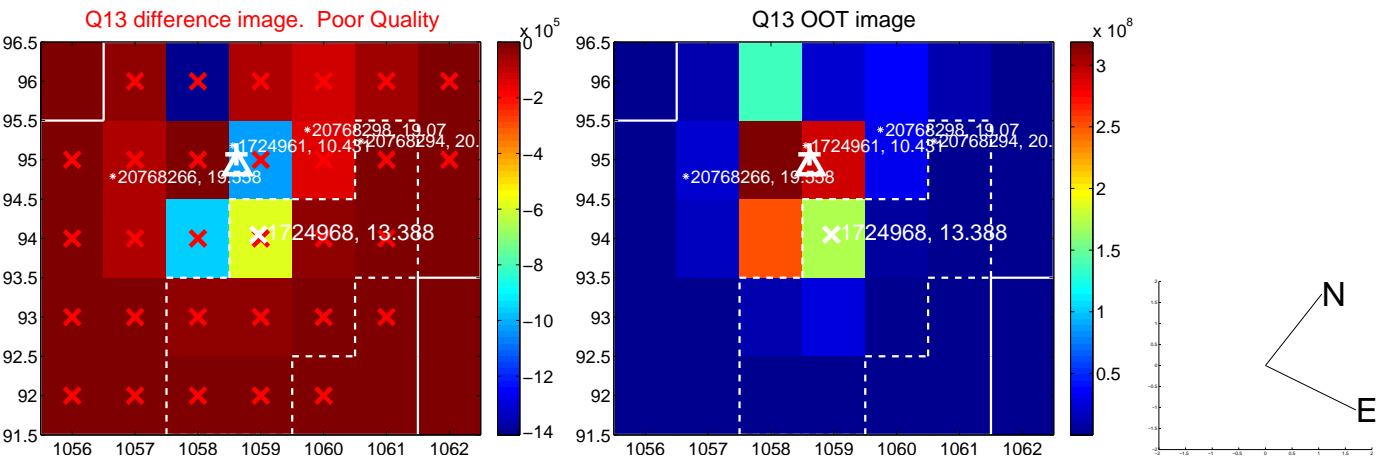
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



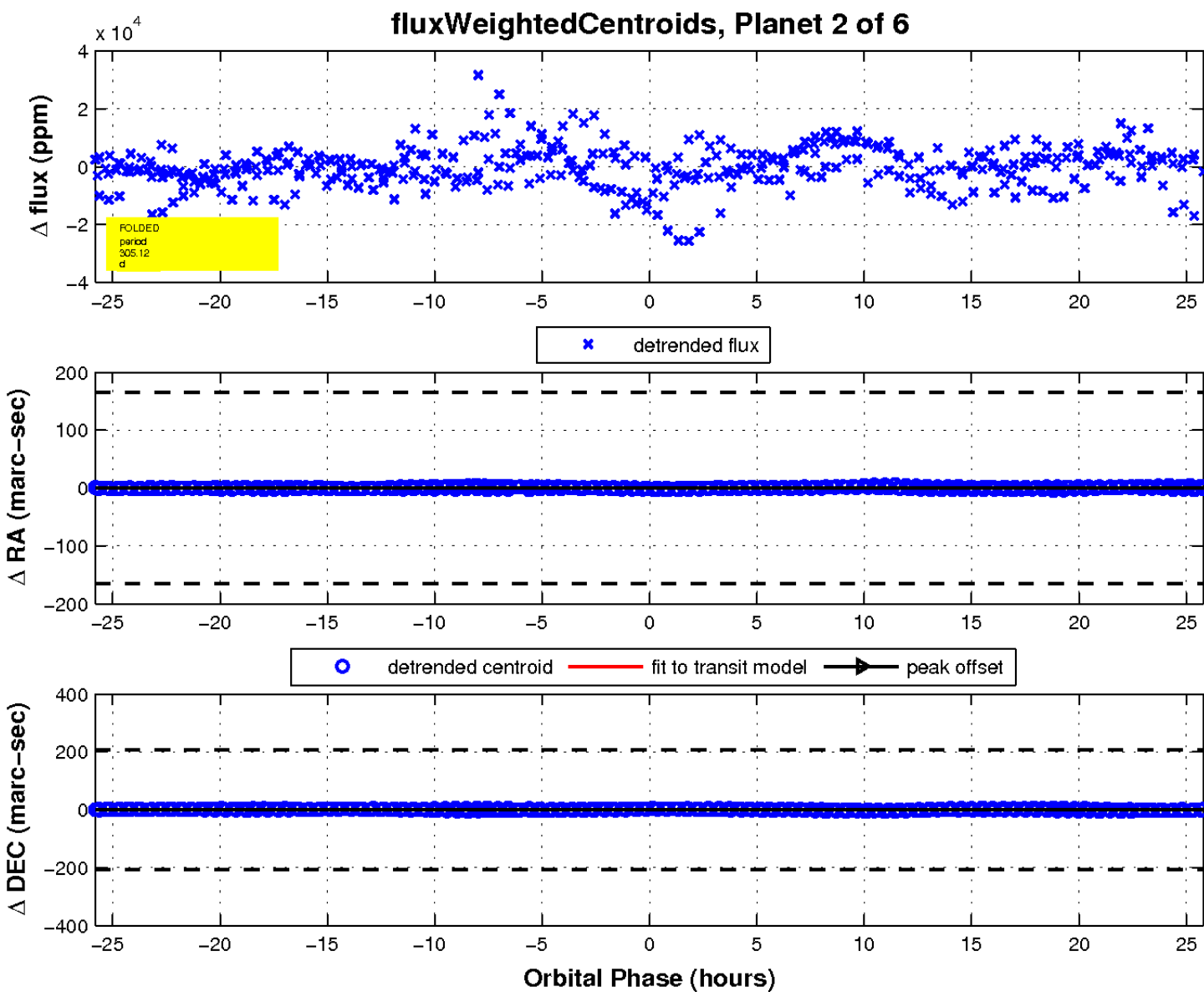
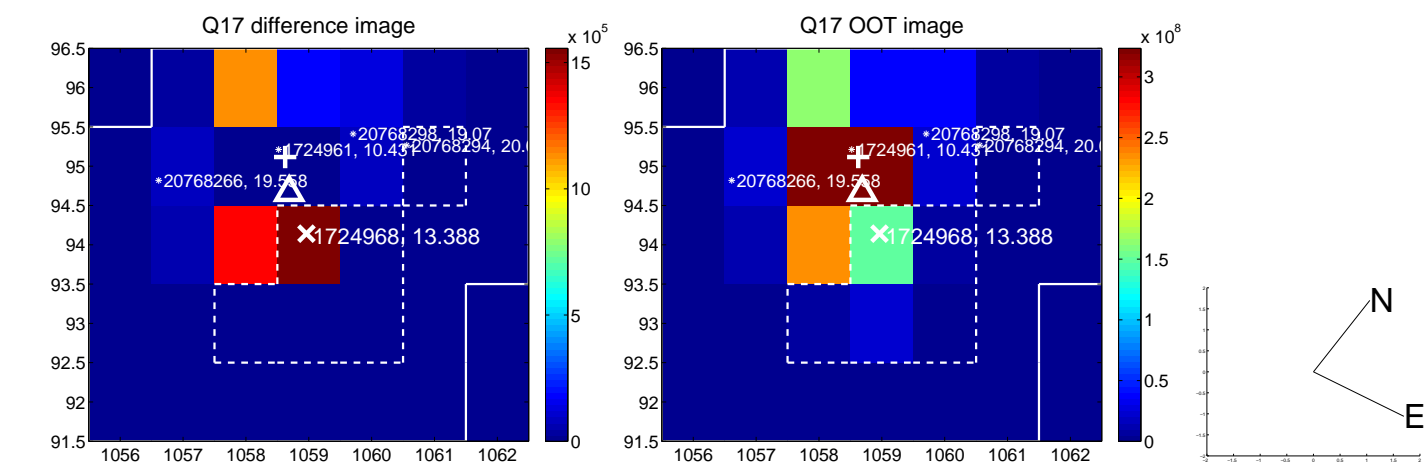
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



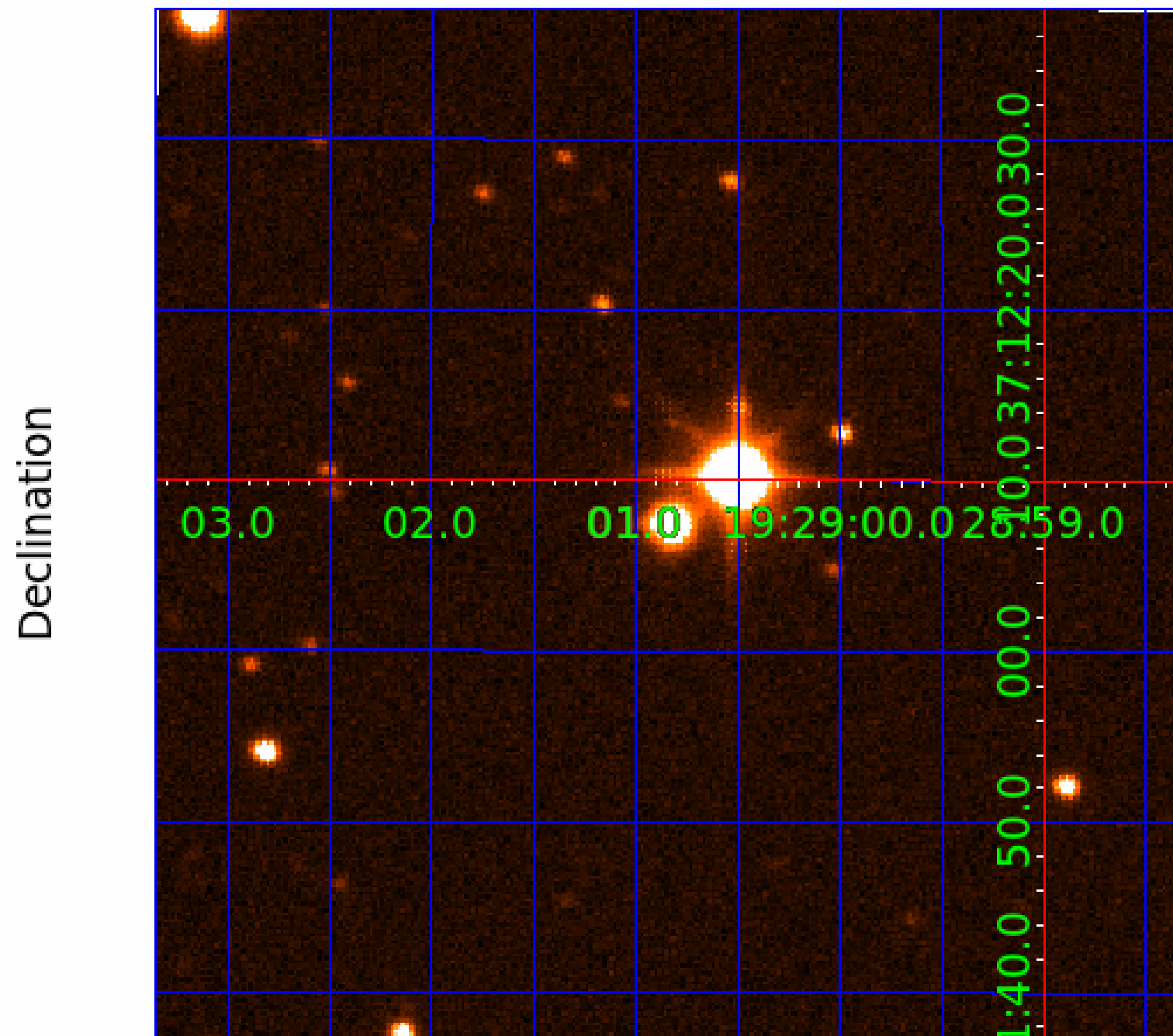
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 001724968

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})
001724968-01	OBS	No	0.620597	131.935669	177.9	2.799	8.0	9.1	1.39	6896	2.38	15353.73
001724968-02	OBS	No	305.116218	350.423599	18454.6	8.605	8.7	9.1	1.39	6896	21.07	3.96
001724968-03	OBS	No	126.318151	179.769394	5567.8	3.556	8.3	4.7	1.39	6896	10.75	12.82
001724968-04	OBS	No	175.482540	169.955704	13520.6	9.758	9.4	9.7	1.39	6896	21.54	8.27
001724968-05	OBS	No	620.022592	198.610140	14492.6	5.262	8.8	8.5	1.39	6896	19.40	1.54
001724968-06	OBS	No	139.783855	214.409947	631.3	4.500	9.3	-1.0	1.39	6896	3.53	11.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001724968-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
001724968-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
001724968-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS—HALO_GHOST
001724968-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
001724968-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_KIC_POS
001724968-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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.

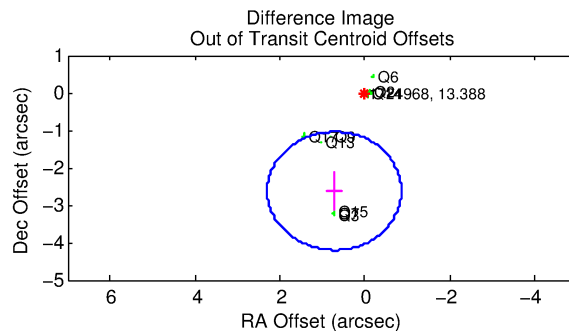
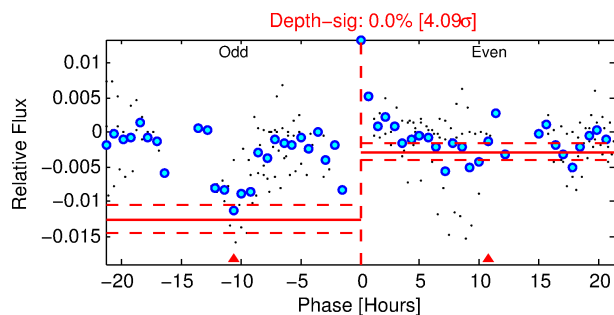
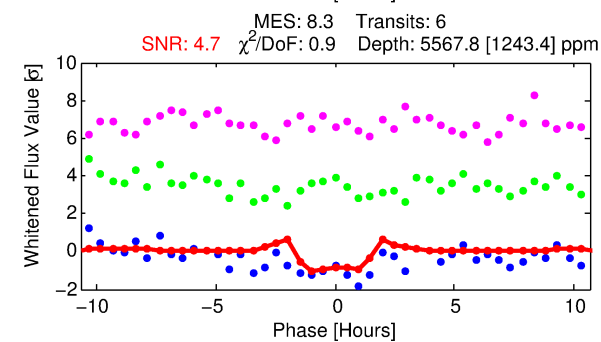
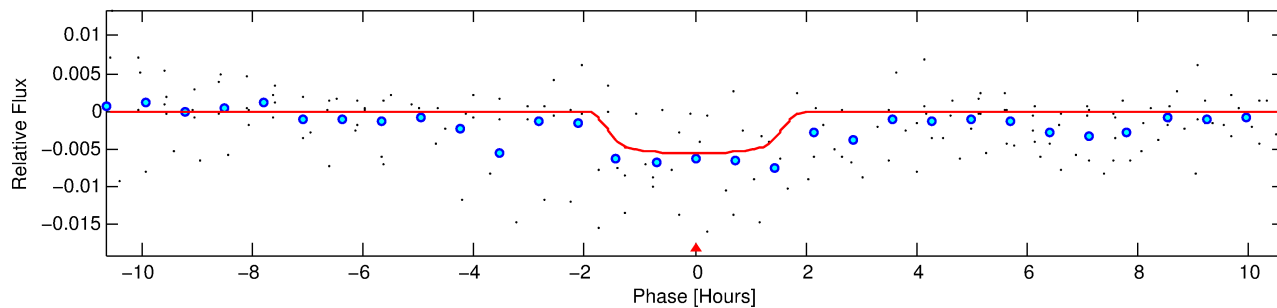
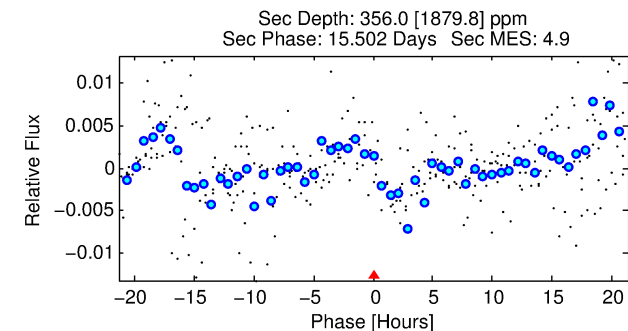
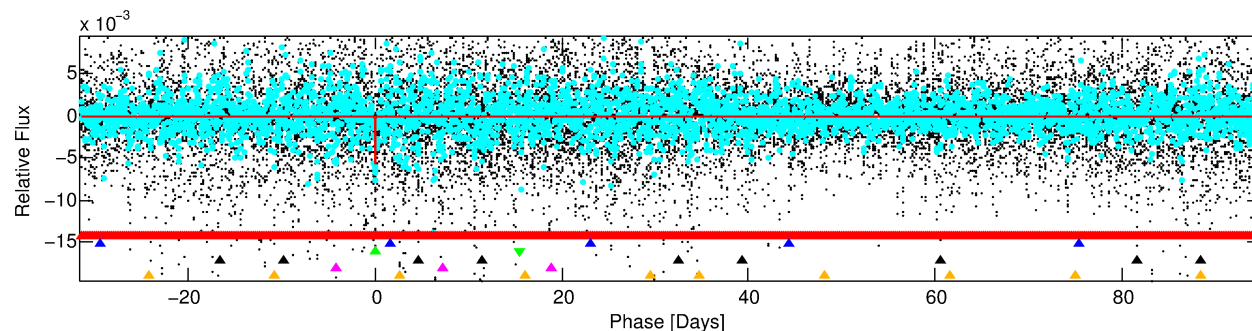
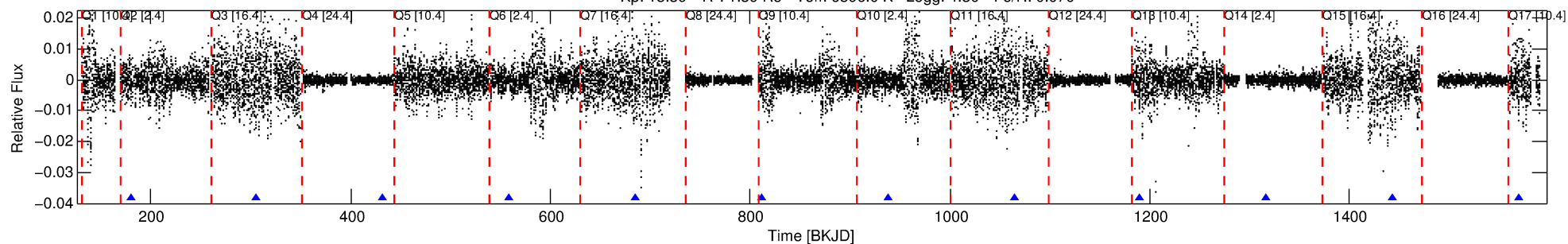
Ephemeris Match Information For 001724968-03

No Significant Match Found

DV One-Page Summary

KIC: 1724968 Candidate: 3 of 6 Period: 126.318 d

Kp: 13.39 R*: 1.39 Rs Teff: 6896.0 K Logg: 4.30 Fe/H: 0.070



DV Fit Results:

Period = 126.31815 [0.00179] d
Epoch = 179.7694 [0.0121] BKJD
Rp/R* = 0.0709 [0.0339]
a/R* = 256.33 [624.16]
b = 0.50 [3.63]
Seff = 12.82 [3.47]
Teq = 483 [33] K
Rp = 10.75 [5.64] Re
a = 0.5525 [0.1005] AU
Ag = 517.32 [2779.44] [0.19σ]
Teff = 3558 [4774] K [0.64σ]

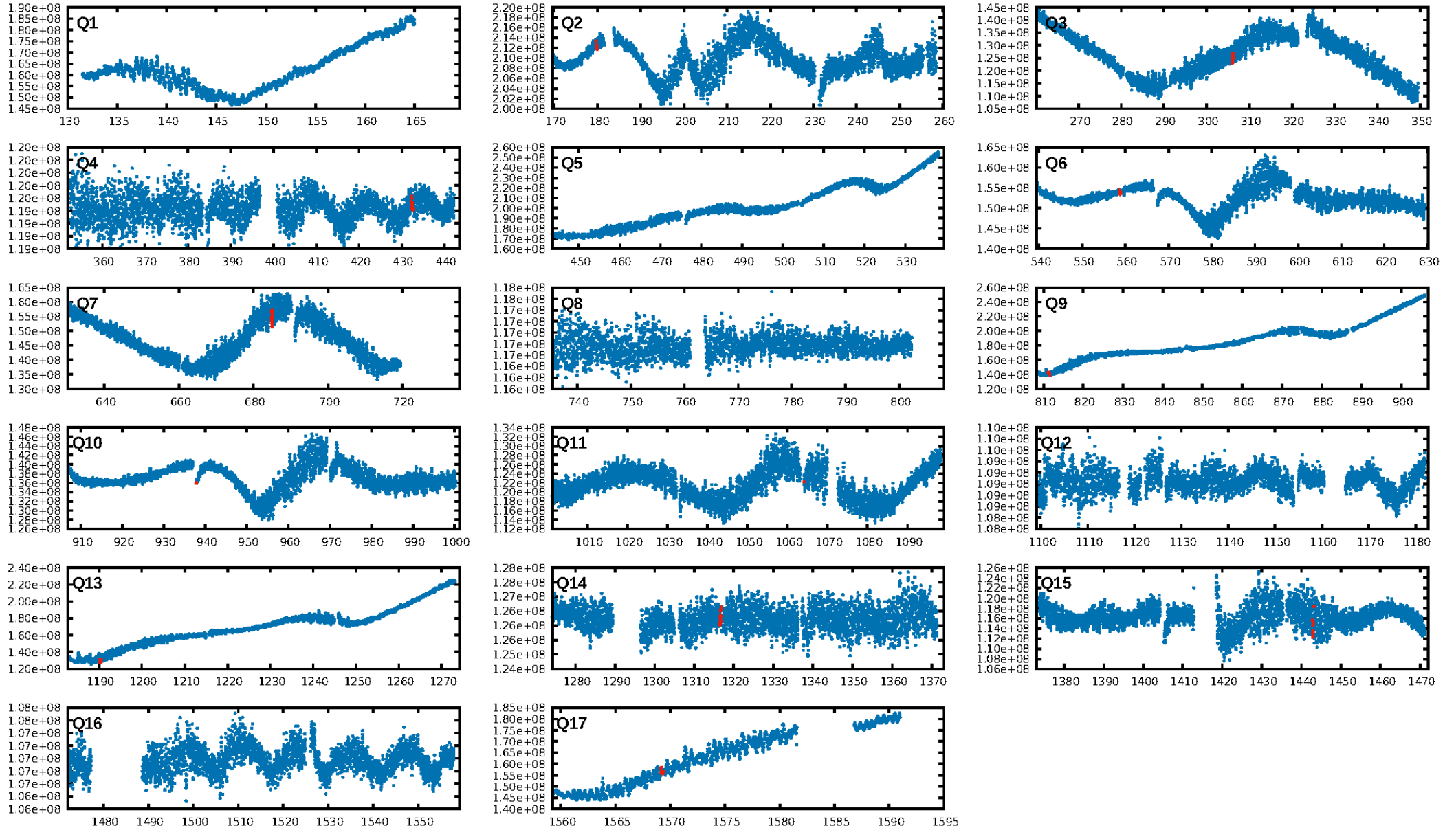
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [666.67σ]
LongPeriod-sig: 100.0% [56.35σ]
ModelChiSquare2-sig: 1.6%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.148
Centroid-sig: 4.1%
Centroid-so: 1.865 arcsec [25.75σ]
OotOffset-rm: 2.719 arcsec [5.16σ]
KicOffset-rm: 2.651 arcsec [7.61σ]
OotOffset-st: 3/3/0/3 [9]
KicOffset-st: 3/3/1/3 [10]
DiffImageQuality-fgm: 0.70 [7/10]
DiffImageOverlap-fno: 0.00 [0/10]

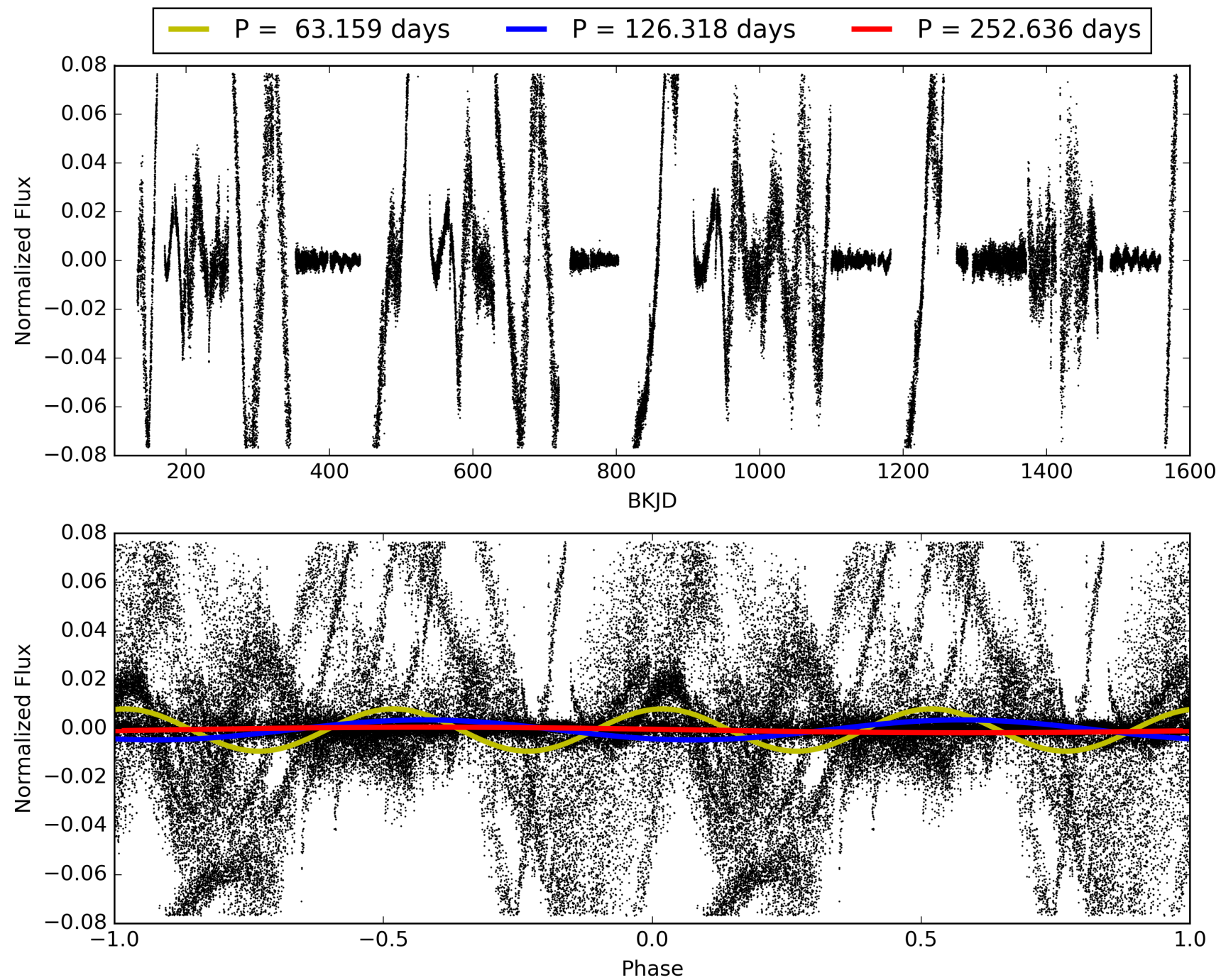
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:01:06 Z

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

TCE 001724968-03, PDC Light Curves

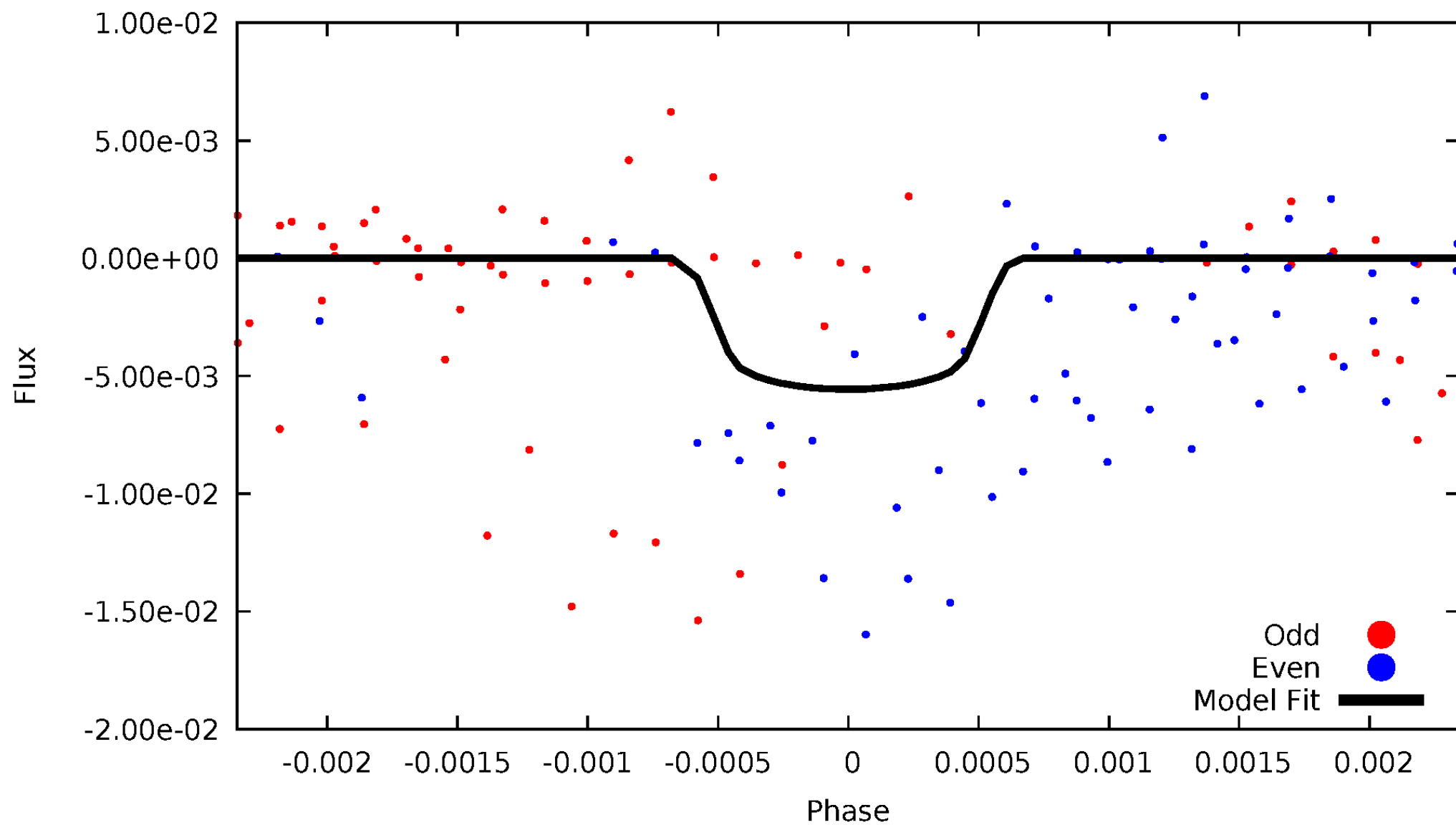


TCE 001724968-03



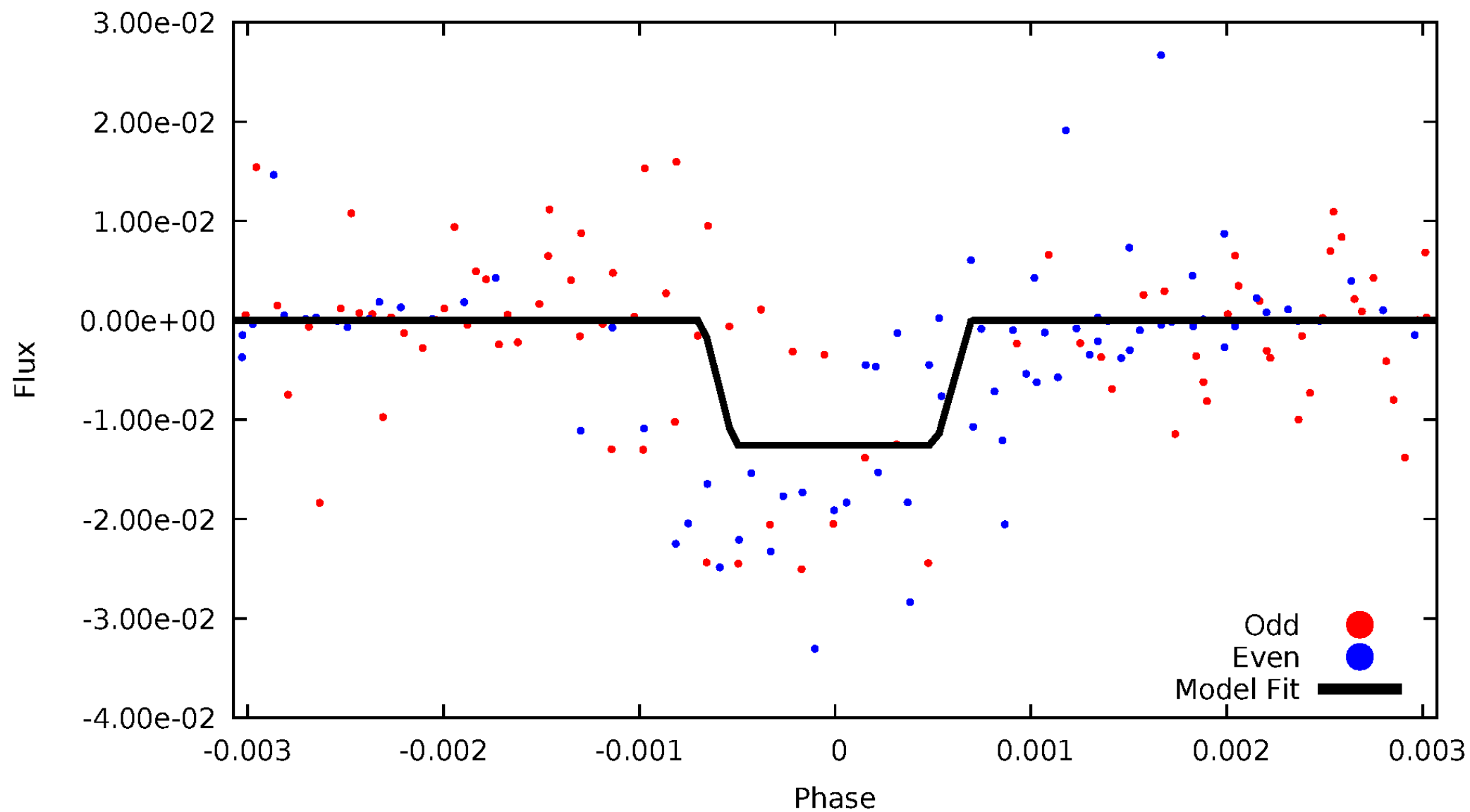
DV Odd/Even

TCE 001724968-03



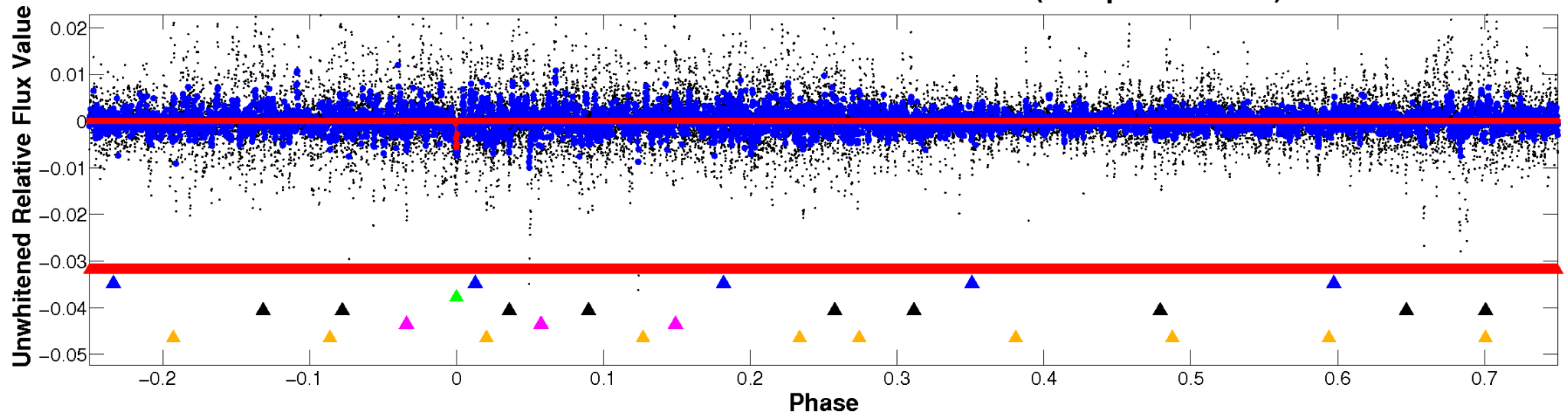
ALT Odd/Even

TCE 001724968-03

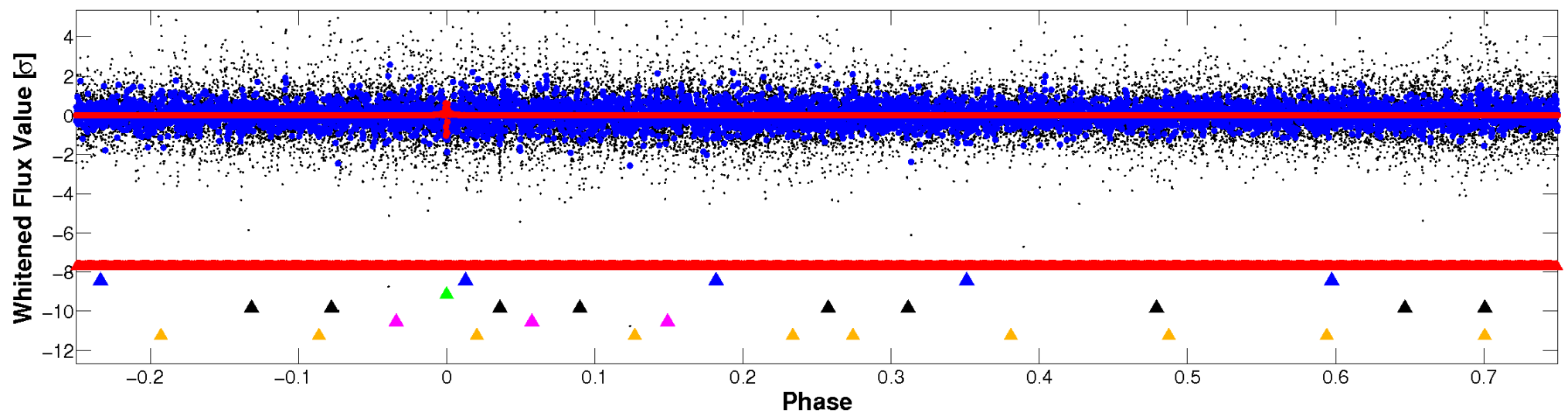


Non-Whitened Vs. Whitened Light Curve

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

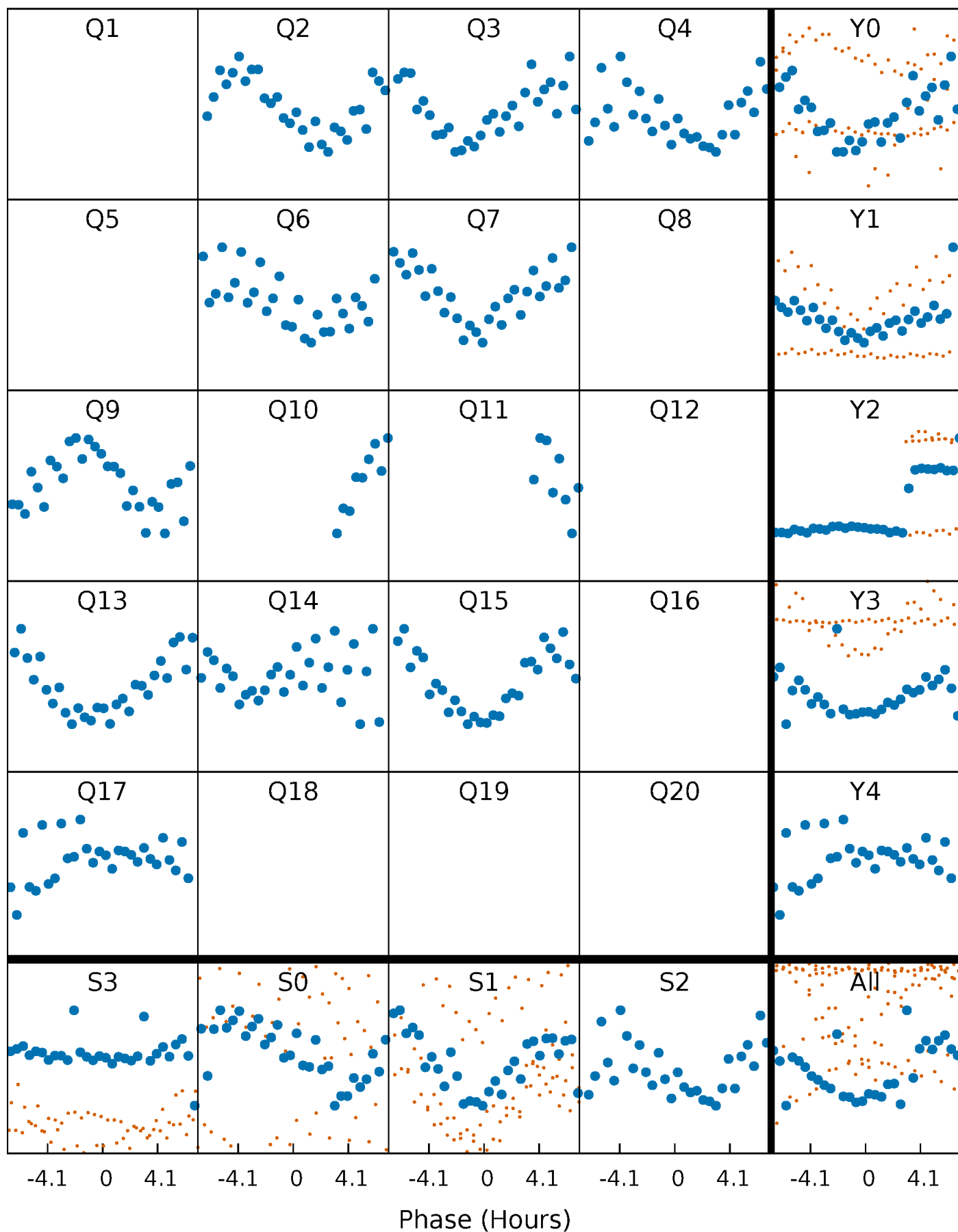


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



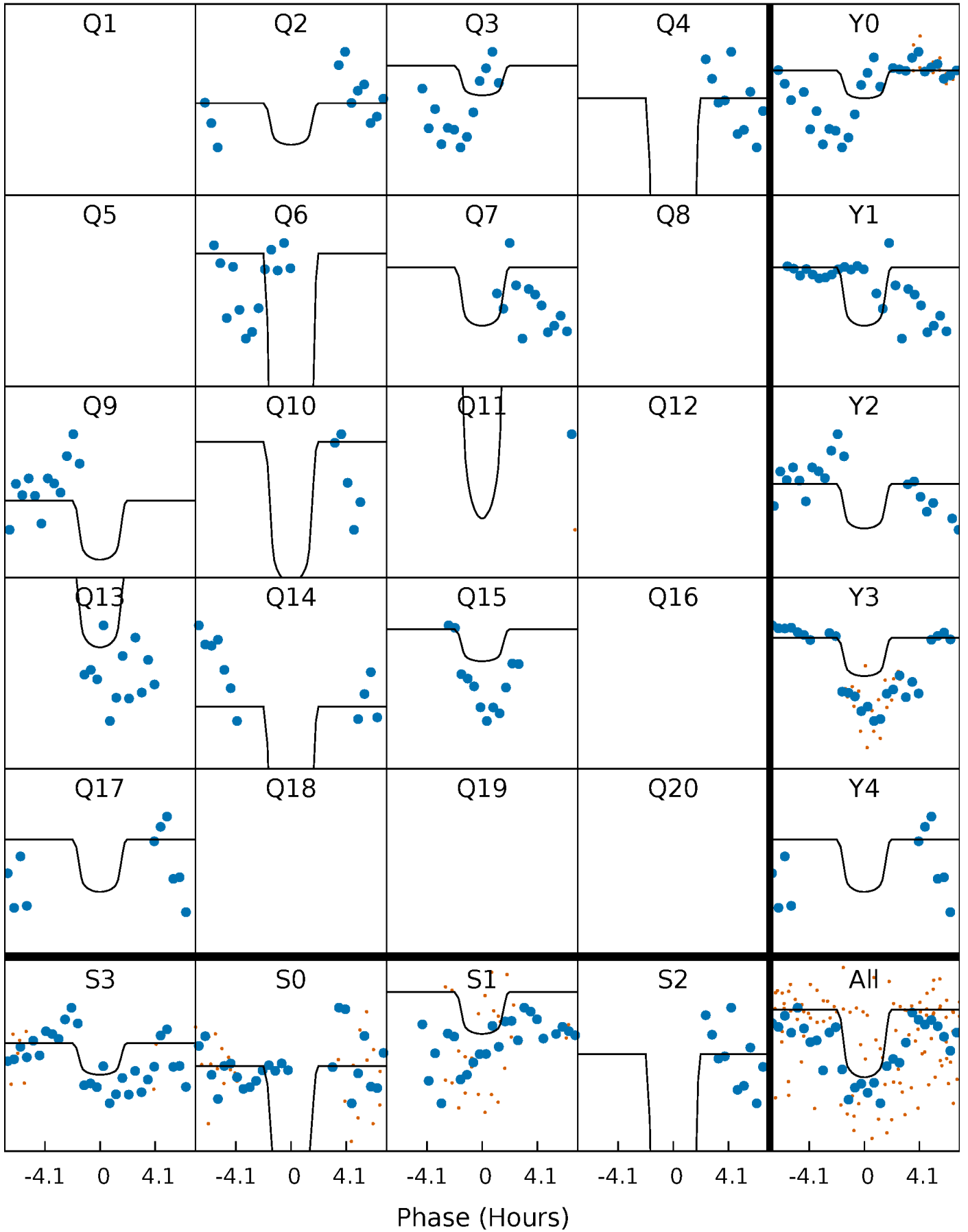
PDC Quarter-Phased Transit Curves

TCE 001724968-03 P=126.318151 Days $T_0=179.769394$ (BKJD)



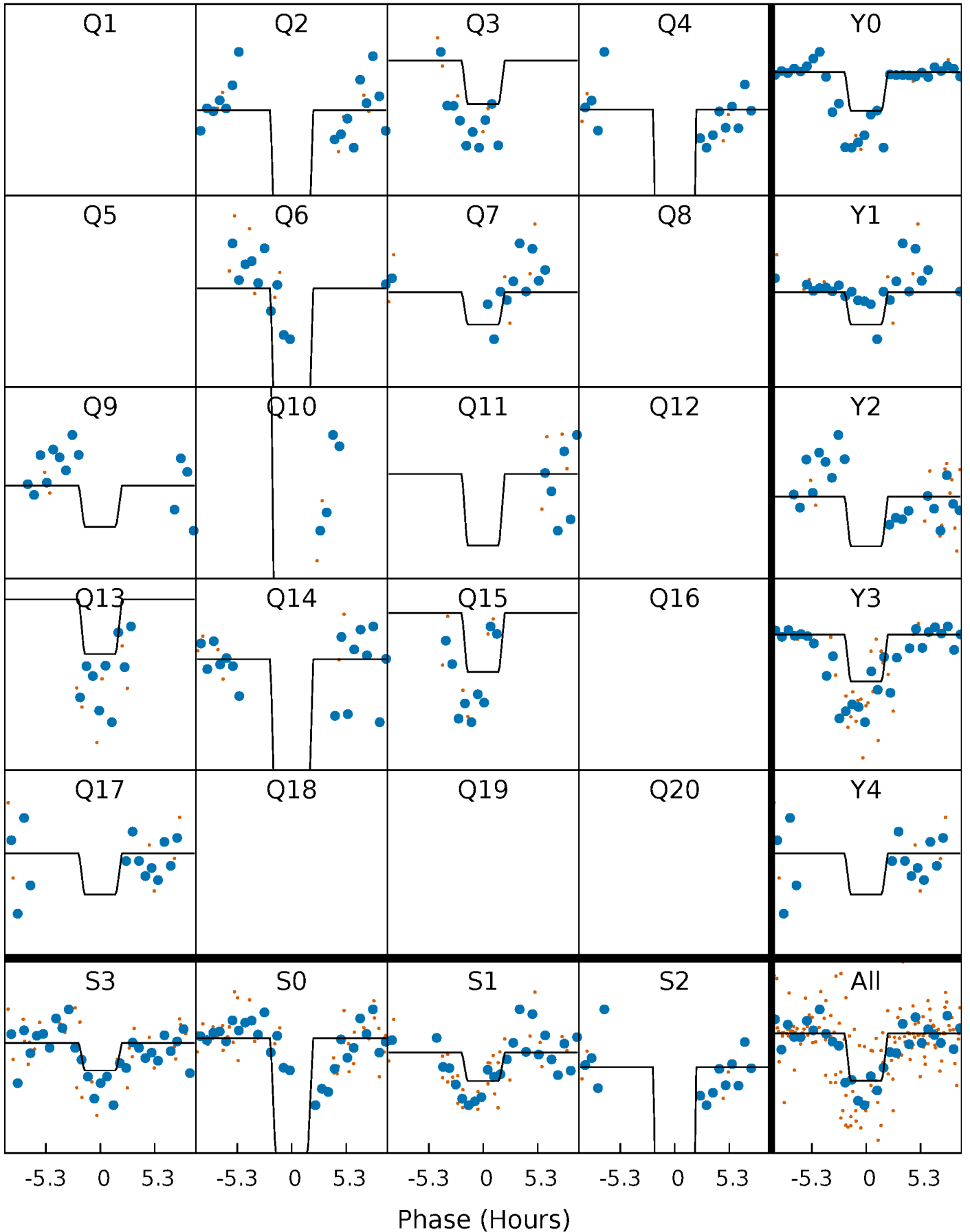
DV Quarter-Phased Transit Curves

TCE 001724968-03 P=126.318151 Days $T_0=179.769394$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

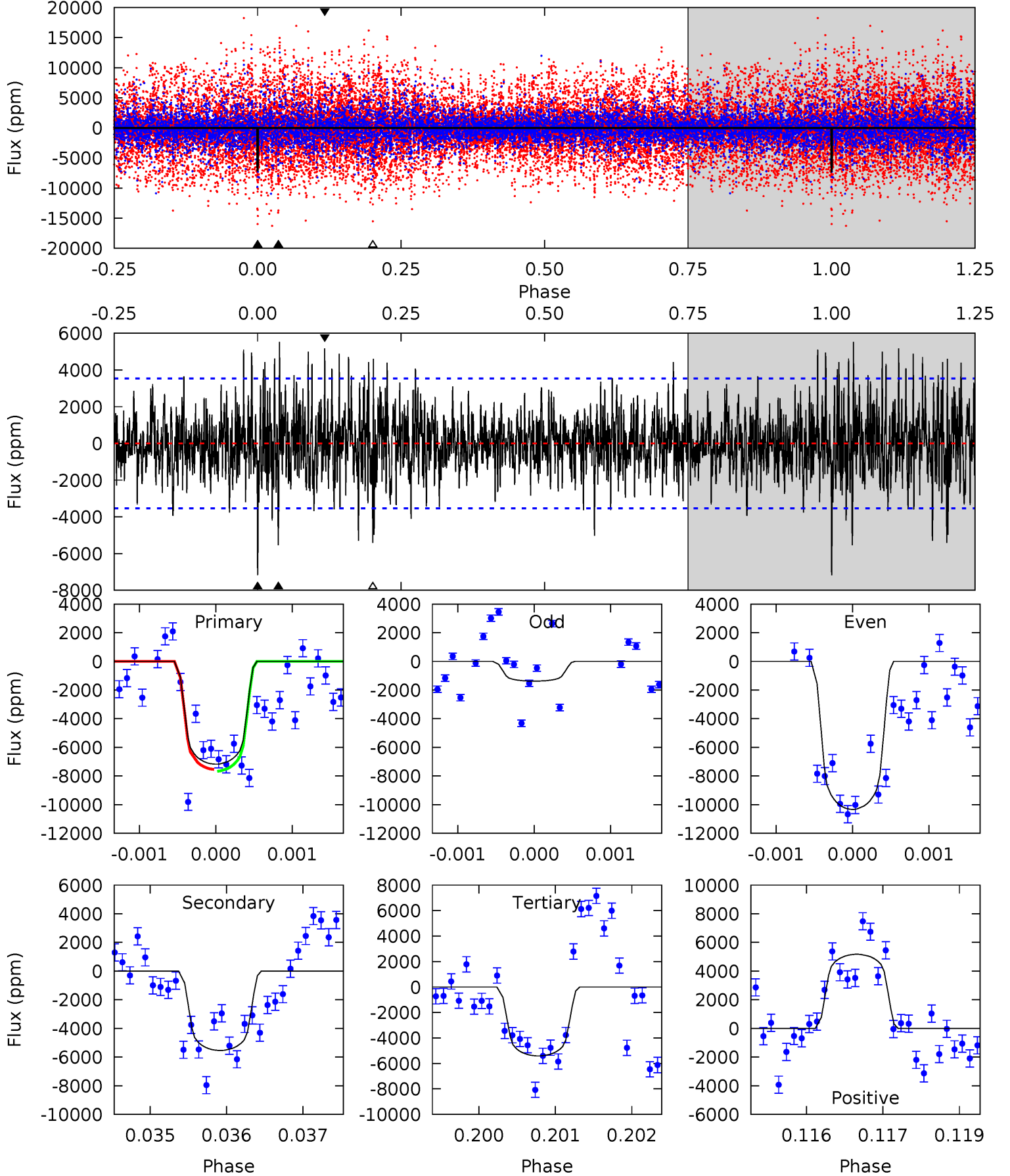
TCE 001724968-03 $P=126.324868$ Days $T_0=179.752220$ (BKJD)



DV Model-Shift Uniqueness Test

001724968-03, P = 126.318151 Days, E = 53.451243 Days

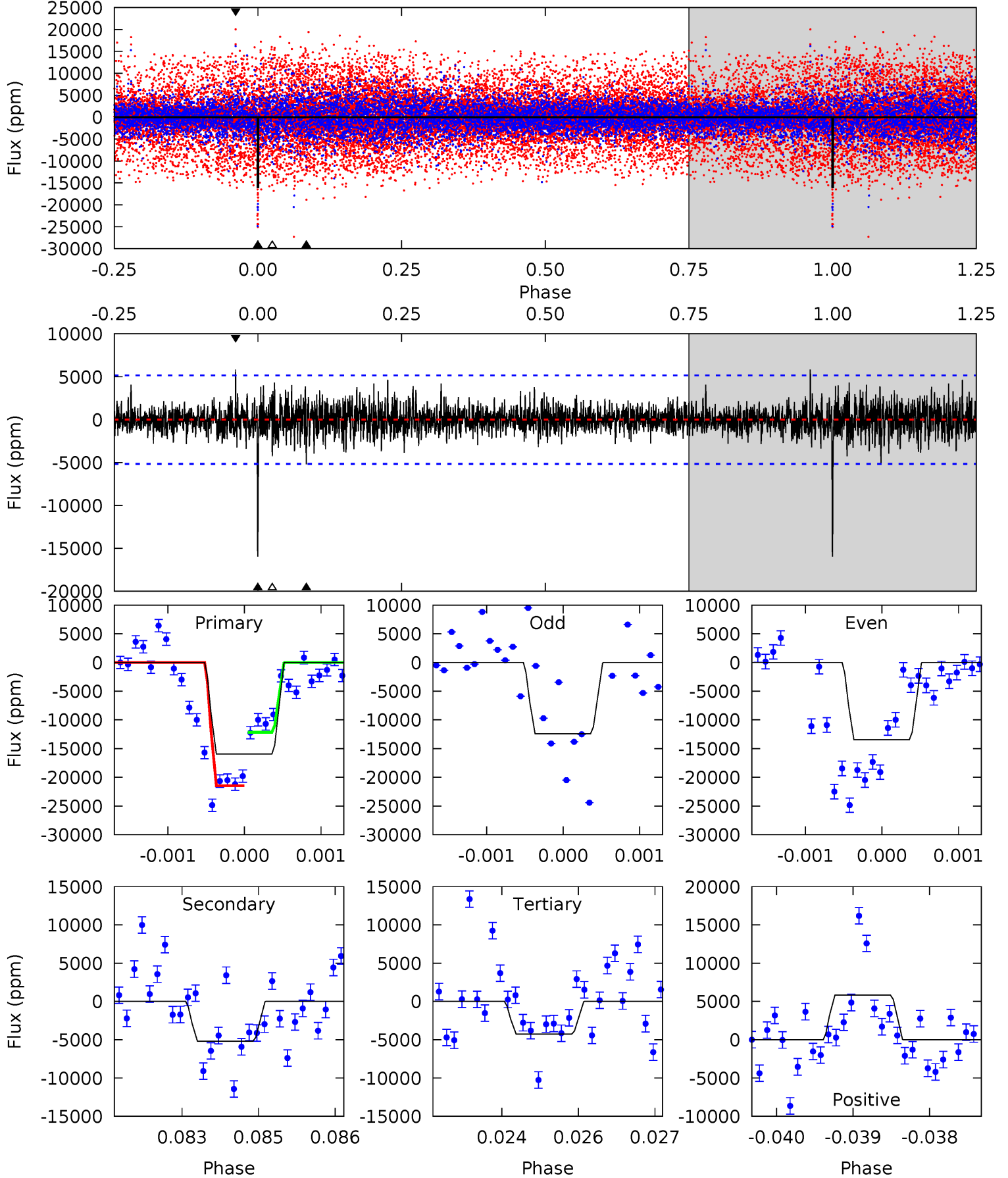
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	8.48	8.28	7.92	5.41	3.23	2.10	2.70	3.07	0.20	0.56	6.20	1.28	0.44	0.10



Alt Model-Shift Uniqueness Test

001724968-03, P = 126.324868 Days, E = 53.427352 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	5.43	4.47	6.10	5.40	3.21	1.16	12.2	10.6	0.96	-0.67	0.54	0.96	0.27	5.06



Stellar Parameters For KIC 001724968

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6896^{+72}_{-92}	$4.301^{+0.026}_{-0.145}$	$0.070^{+0.150}_{-0.150}$	$1.390^{+0.300}_{-0.075}$	$1.411^{+0.104}_{-0.069}$	$0.740^{+0.101}_{-0.294}$
	+1%/-1%	+1%/-3%	+214%/-214%	+22%/-5%	+7%/-5%	+14%/-40%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 001724968-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5539 ± 653	$11.76^{+5.38}_{-5.35}$	682^{+34}_{-16}	6973^{+3215}_{-1272}	6901^{+15387}_{-3836}
Alt.	-5192 ± 955	$18.04^{+5.44}_{-5.25}$	682^{+34}_{-16}	5515^{+933}_{-656}	2713^{+2531}_{-1212}

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

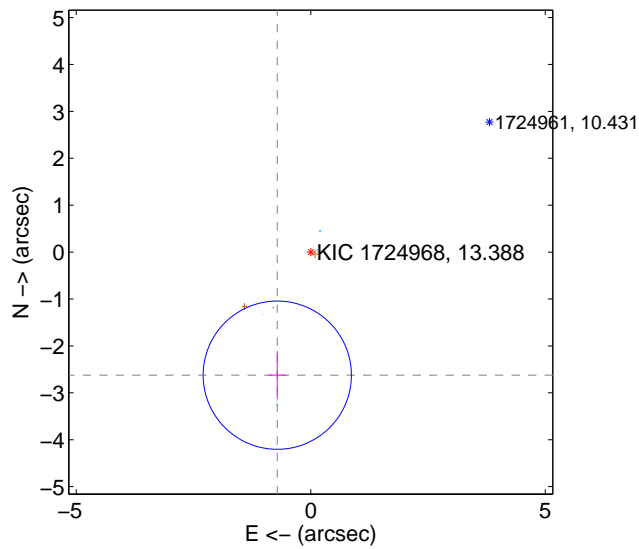
Supplemental centroid analysis for 001724968-03. Kepler magnitude: 13.39. Transit SNR 4.68

There are 7 quarters with good PRF difference image offsets

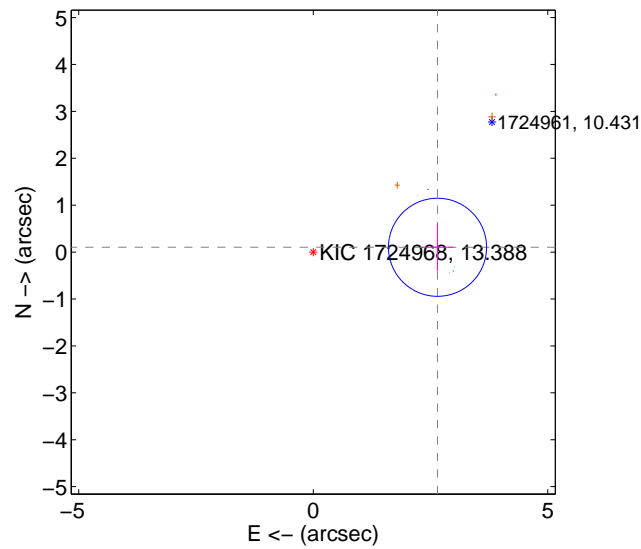
The OOT PRF centroid is offset from the target star catalog position by about 4.12 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.719 ± 0.527	5.16	0.713 ± 0.192	-2.624 ± 0.516
PRF-fit source offset from KIC position	2.651 ± 0.348	7.61	-2.649 ± 0.336	0.103 ± 0.509
photometric centroid source offset	1.87 ± 0.07	25.75	-1.81 ± 0.07	0.44 ± 0.10

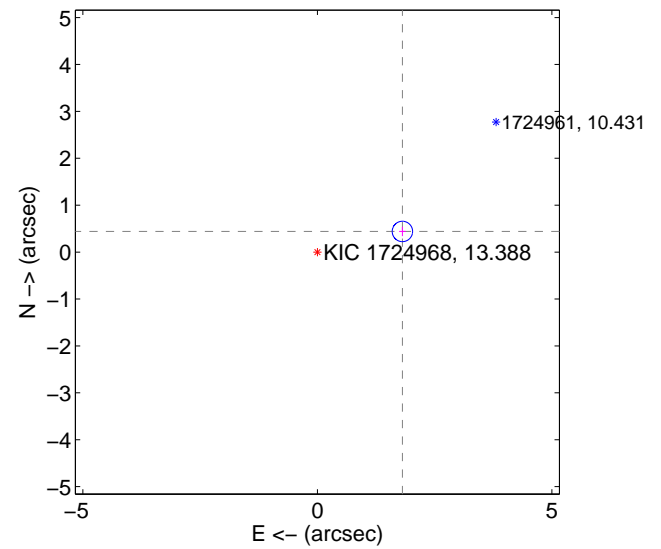
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

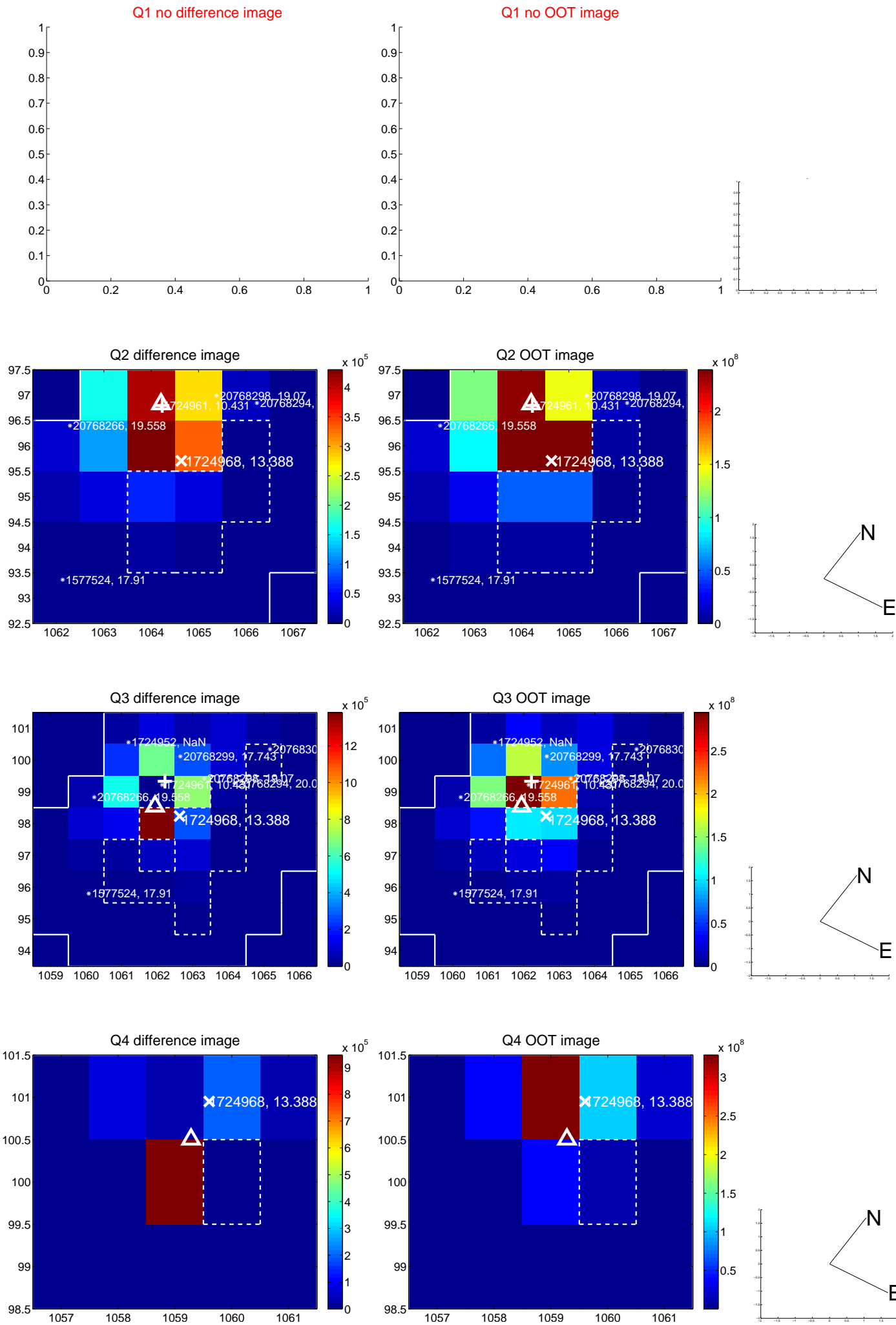


offset from photometric centroids



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.

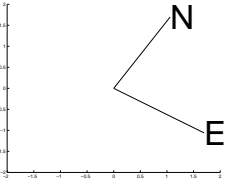
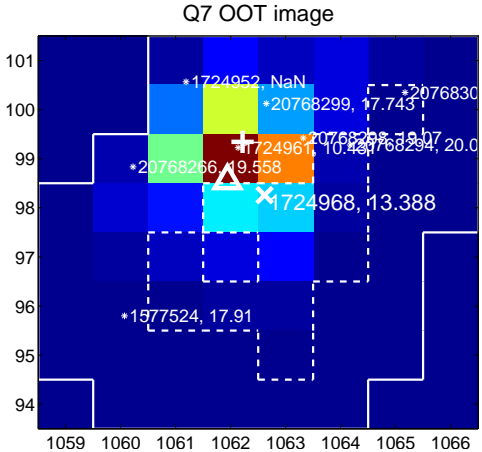
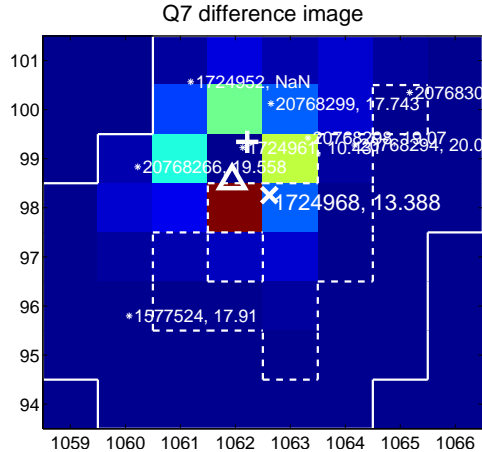
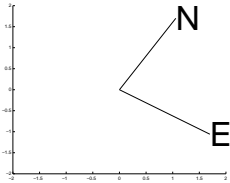
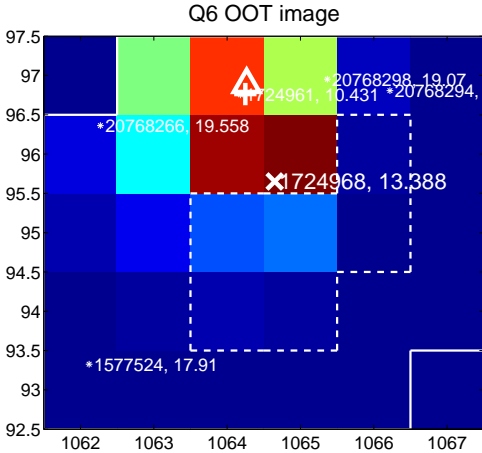
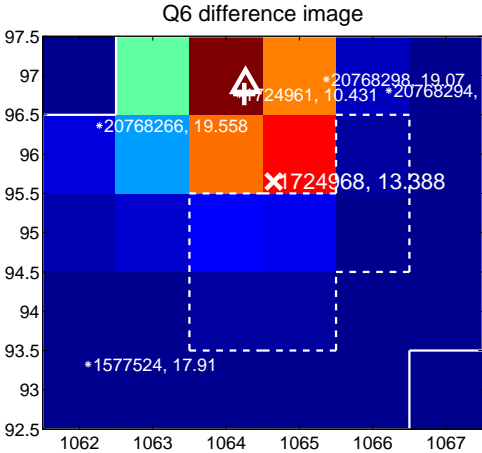


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

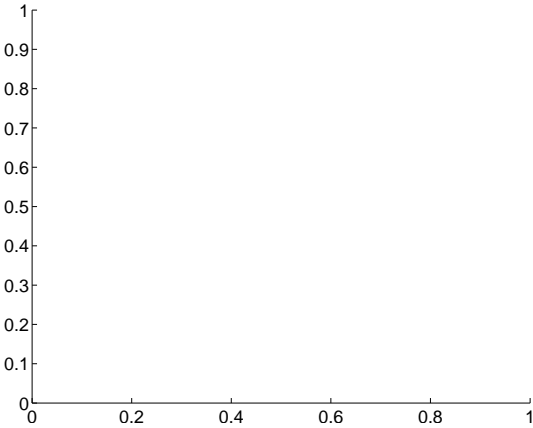
Q5 no difference image



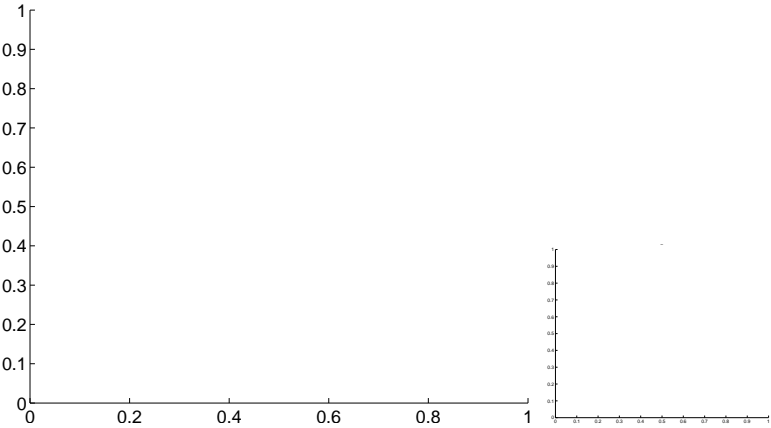
Q5 no OOT image



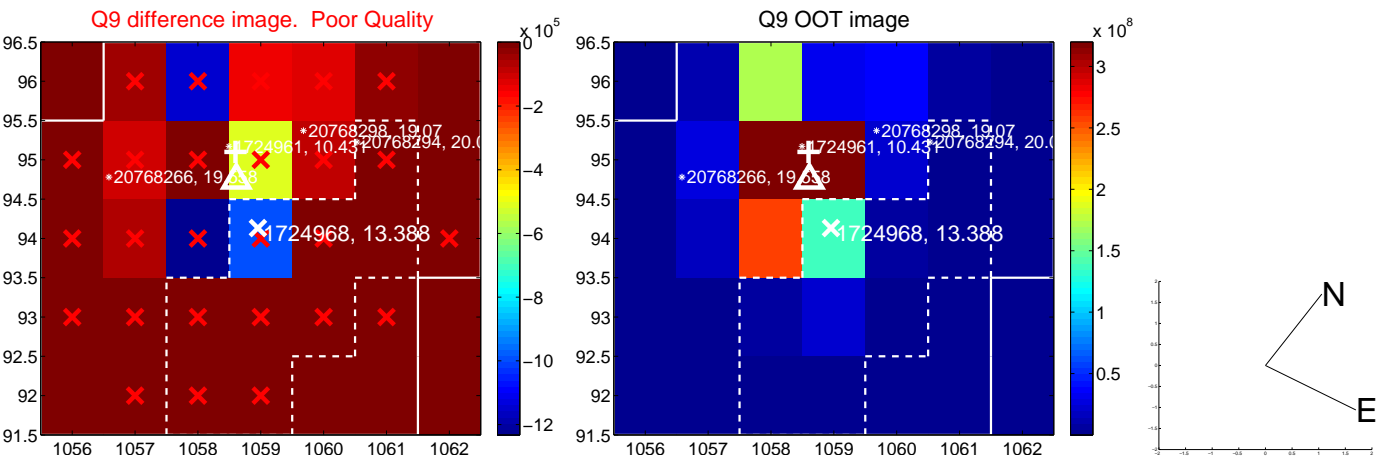
Q8 no difference image



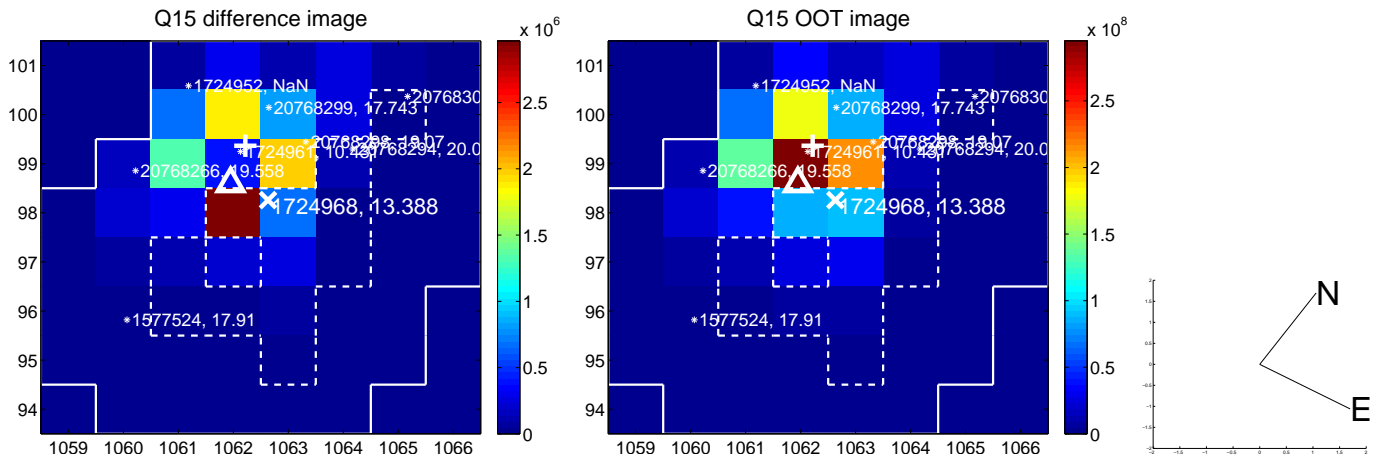
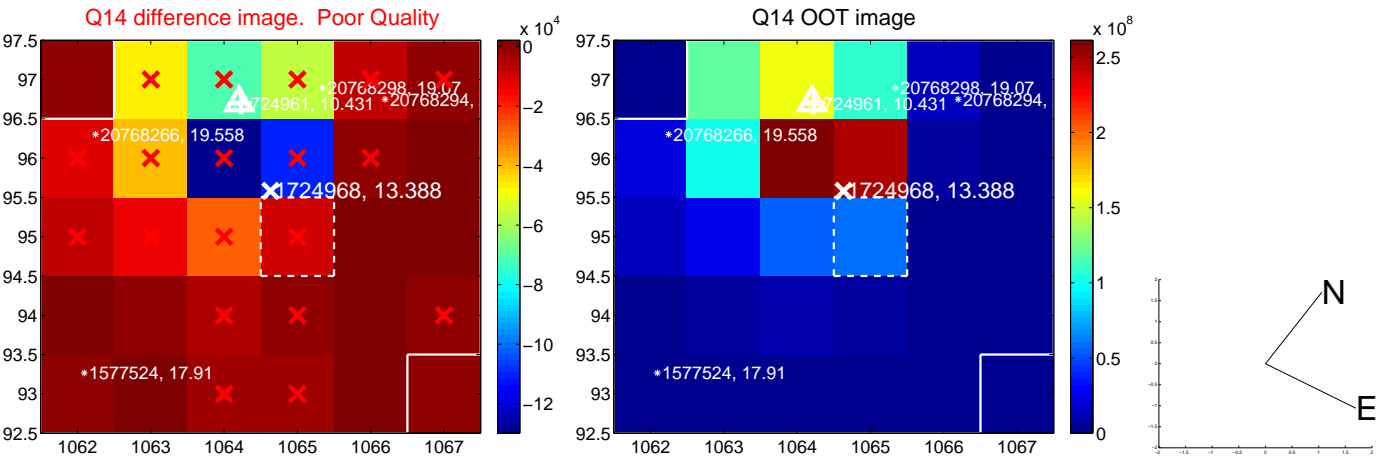
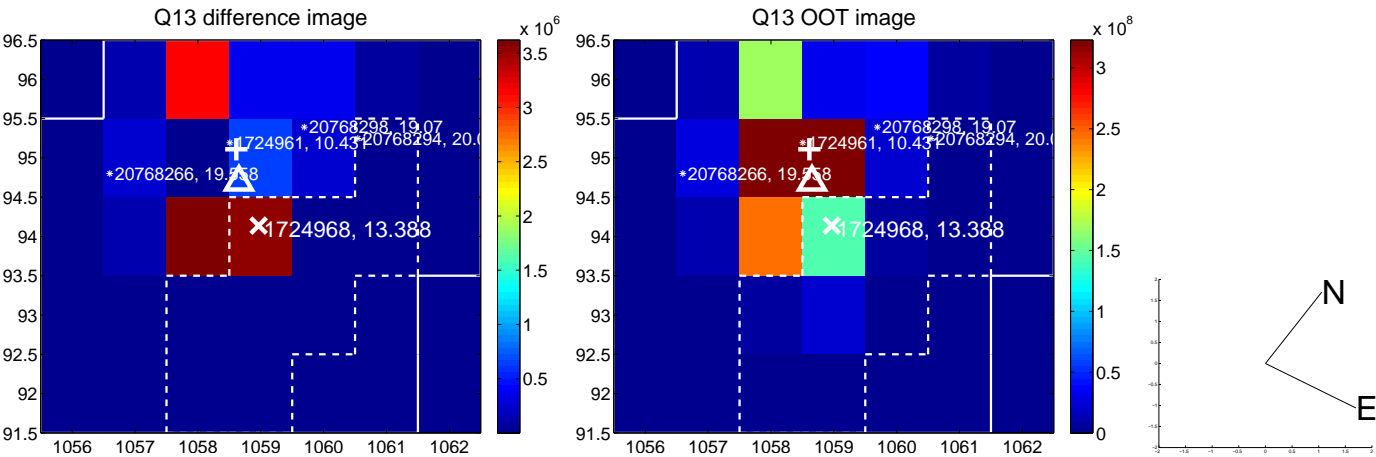
Q8 no OOT image



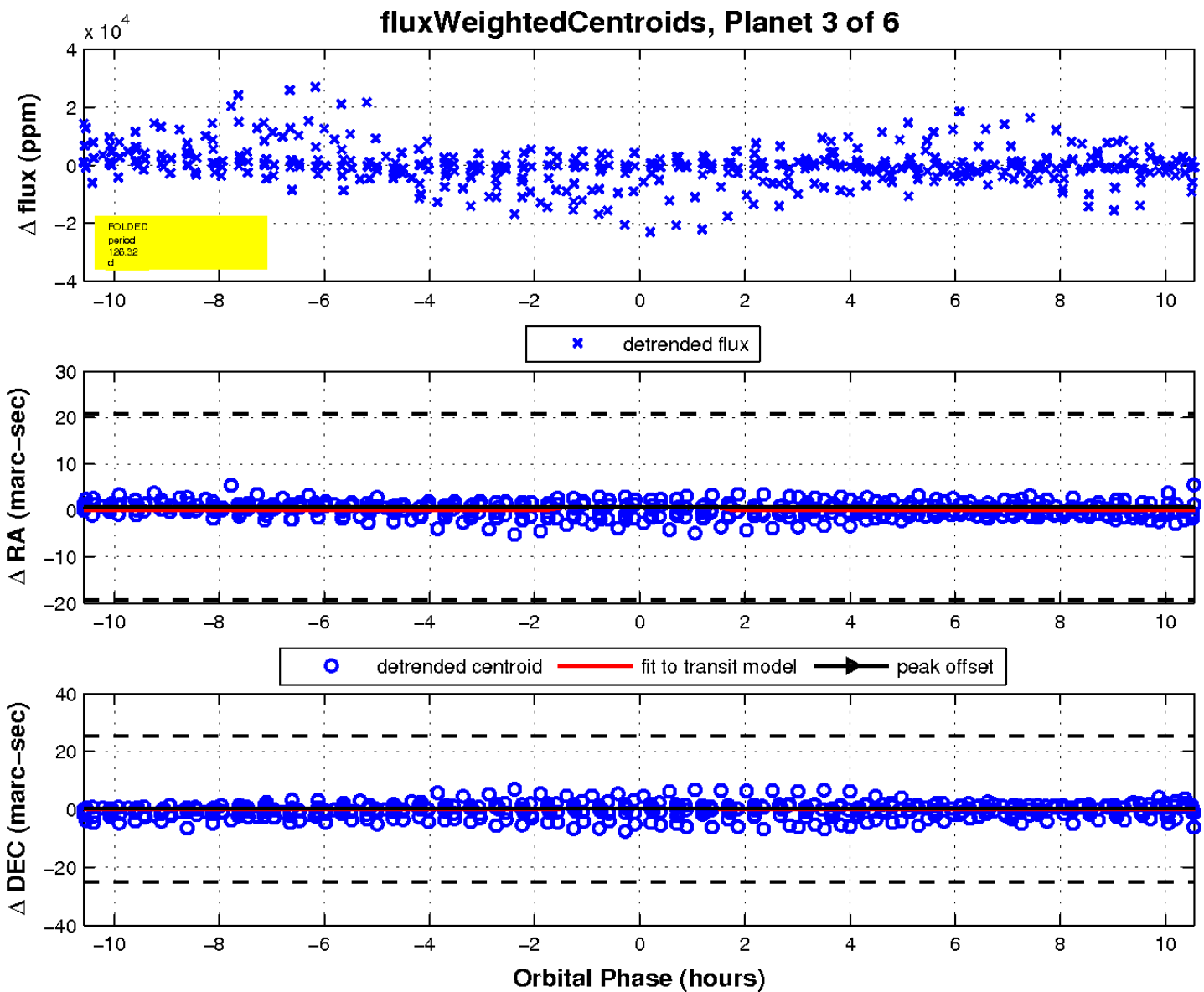
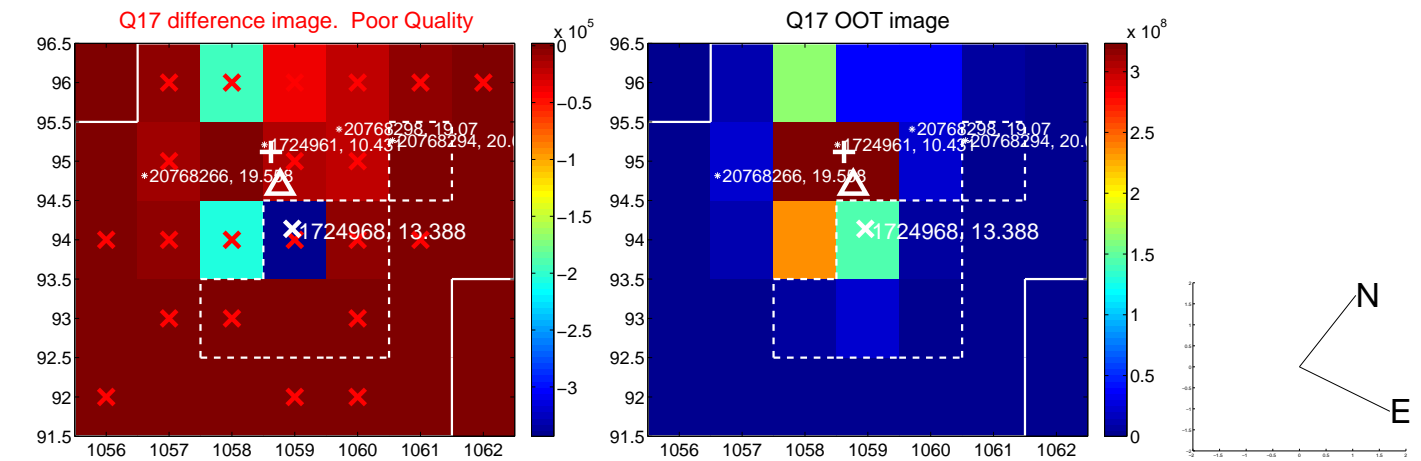
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



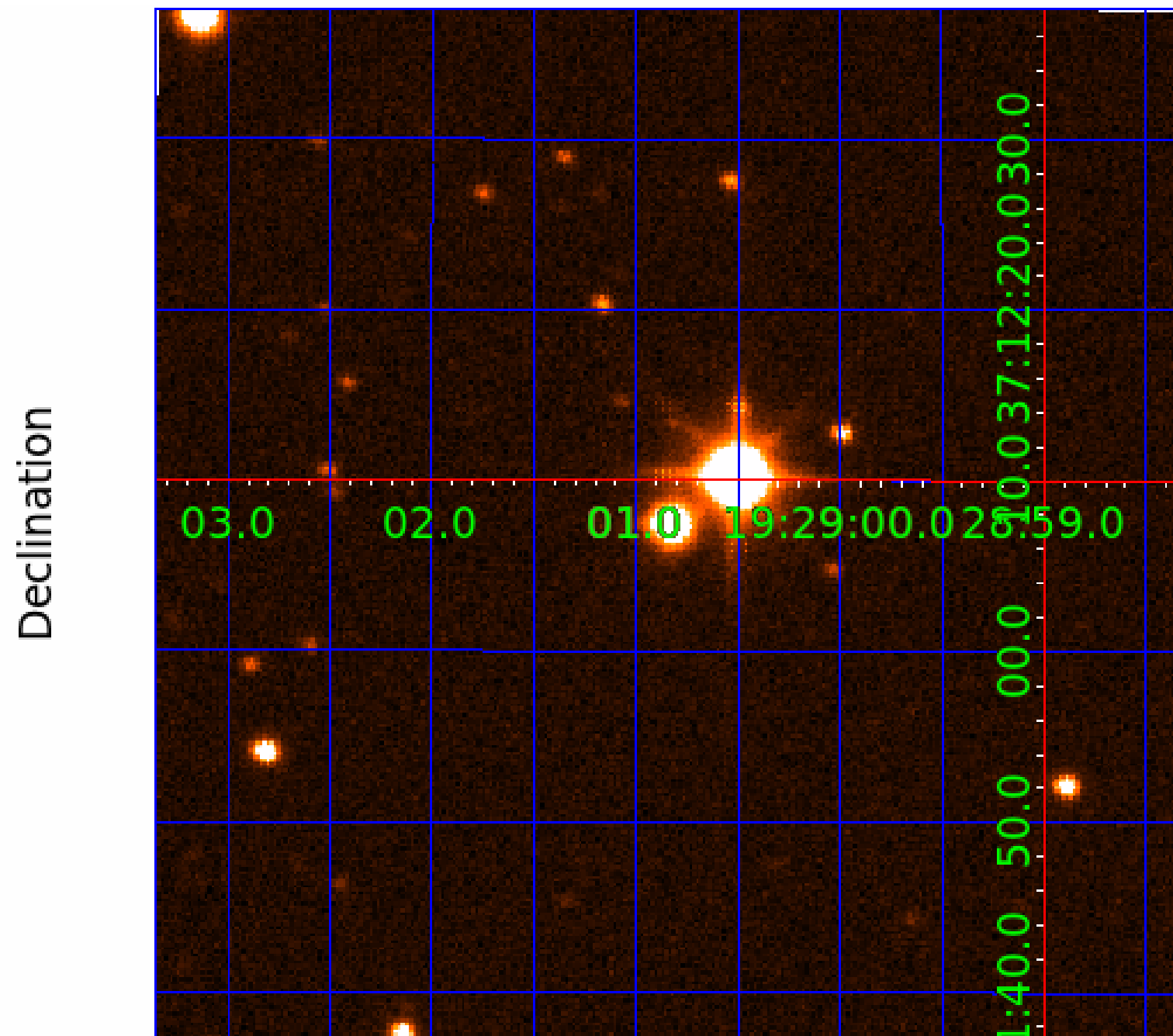
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 001724968

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})
001724968-01	OBS	No	0.620597	131.935669	177.9	2.799	8.0	9.1	1.39	6896	2.38	15353.73
001724968-02	OBS	No	305.116218	350.423599	18454.6	8.605	8.7	9.1	1.39	6896	21.07	3.96
001724968-03	OBS	No	126.318151	179.769394	5567.8	3.556	8.3	4.7	1.39	6896	10.75	12.82
001724968-04	OBS	No	175.482540	169.955704	13520.6	9.758	9.4	9.7	1.39	6896	21.54	8.27
001724968-05	OBS	No	620.022592	198.610140	14492.6	5.262	8.8	8.5	1.39	6896	19.40	1.54
001724968-06	OBS	No	139.783855	214.409947	631.3	4.500	9.3	-1.0	1.39	6896	3.53	11.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001724968-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
001724968-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
001724968-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS—HALO_GHOST
001724968-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
001724968-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_KIC_POS
001724968-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

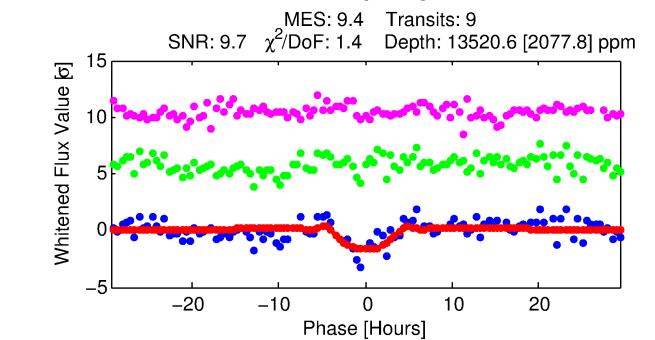
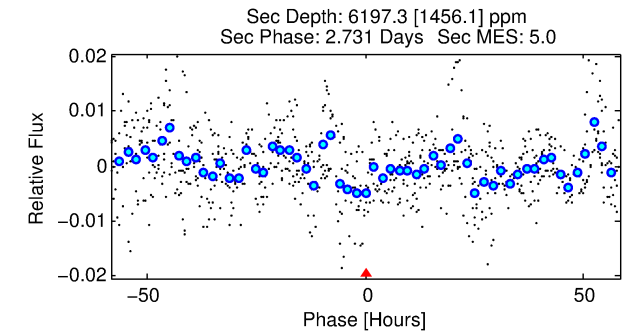
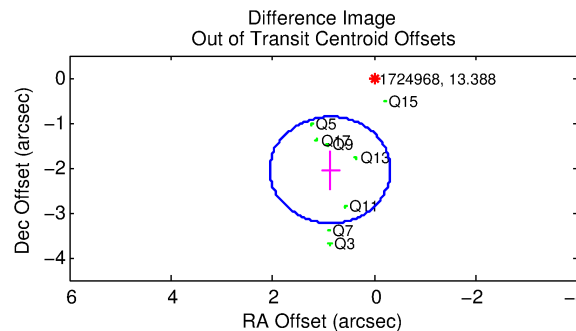
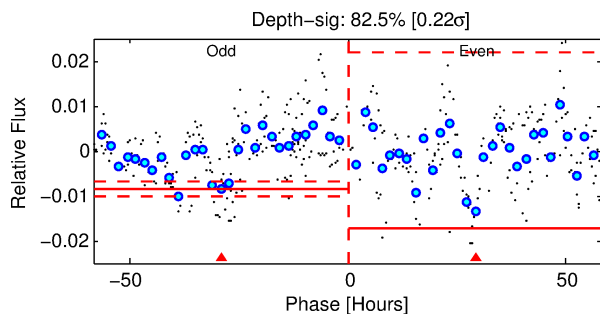
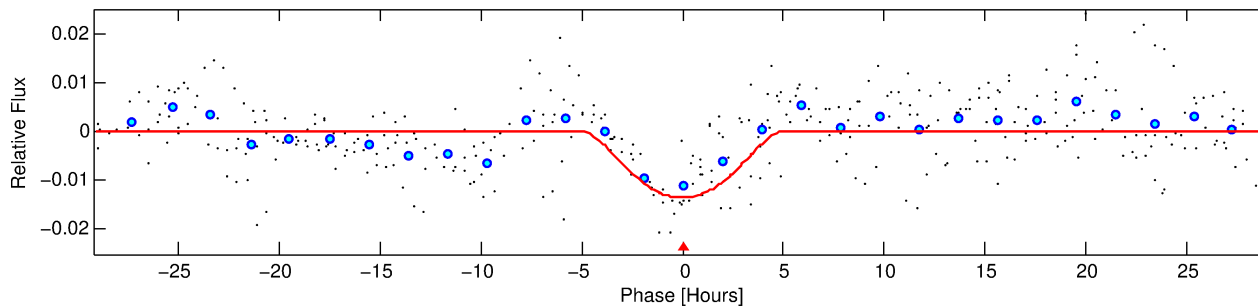
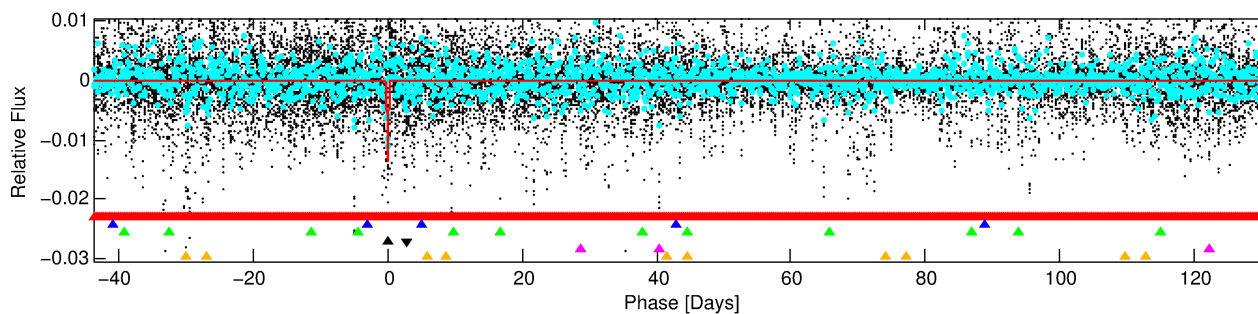
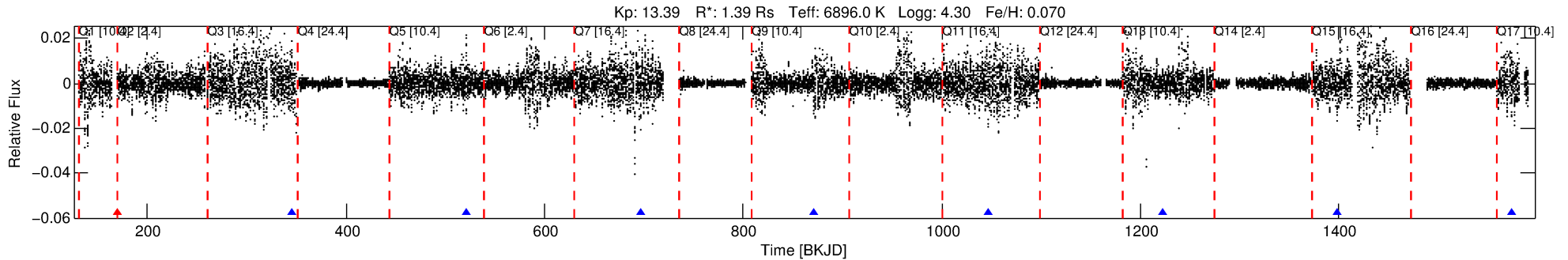
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001724968-04

No Significant Match Found

DV One-Page Summary

KIC: 1724968 Candidate: 4 of 6 Period: 175.483 d



DV Fit Results:

Period = 175.48254 [0.00448] d
Epoch = 169.9557 [0.0212] BKJD
Rp/R* = 0.1420 [0.1114]
a/R* = 91.37 [21.73]
b = 0.93 [0.21]
Seff = 8.27 [2.24]
Teq = 432 [29] K
Rp = 21.54 [17.53] Re
a = 0.6879 [0.1251] AU
Ag = 3477.79 [5596.36] [0.62 σ]
Teffp = 5135 [2039] K [2.31 σ]

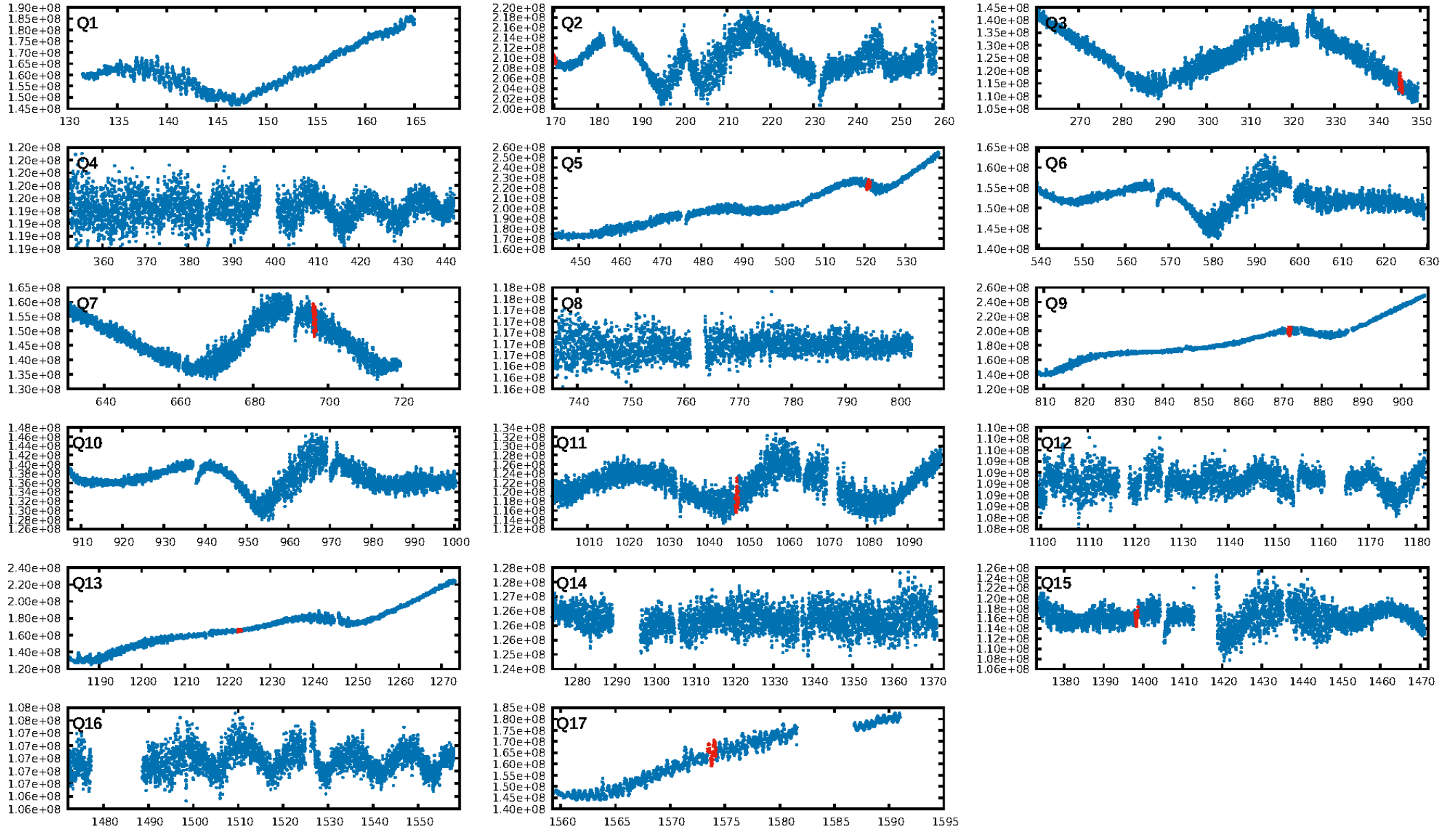
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [79.73 σ]
LongPeriod-sig: 100.0% [239.13 σ]
ModelChiSquare2-sig: 19.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.88 [7/8]
GhostDiagnostic-chr: -0.1724
Centroid-sig: 1.1%
Centroid-so: 1.736 arcsec [40.09 σ]
OotOffset-rm: 2.230 arcsec [5.64 σ]
KicOffset-rm: 2.605 arcsec [9.17 σ]
OotOffset-st: 0/4/0/4 [8]
KicOffset-st: 0/4/0/4 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.00 [0/8]

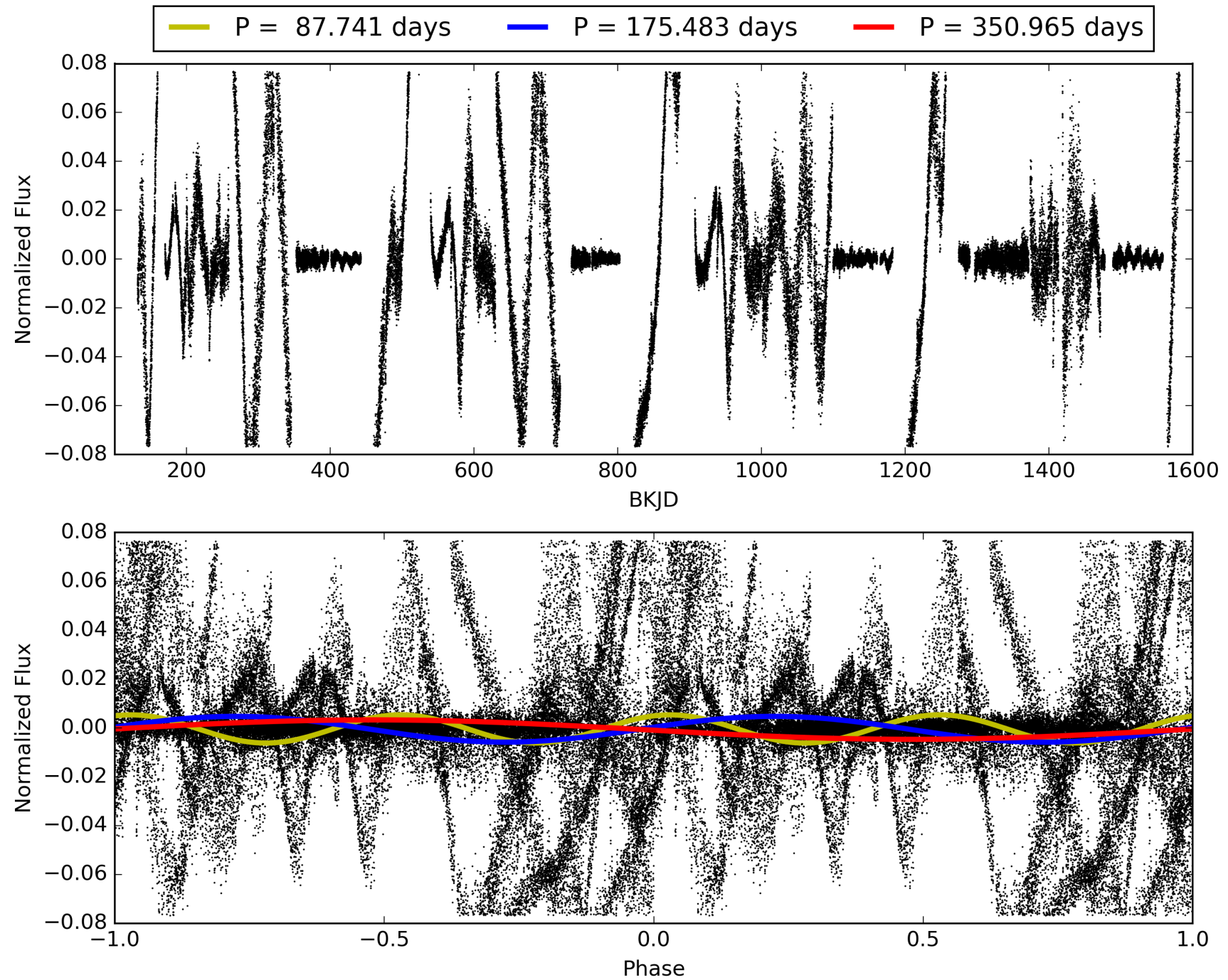
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:01:11 Z

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

TCE 001724968-04, PDC Light Curves

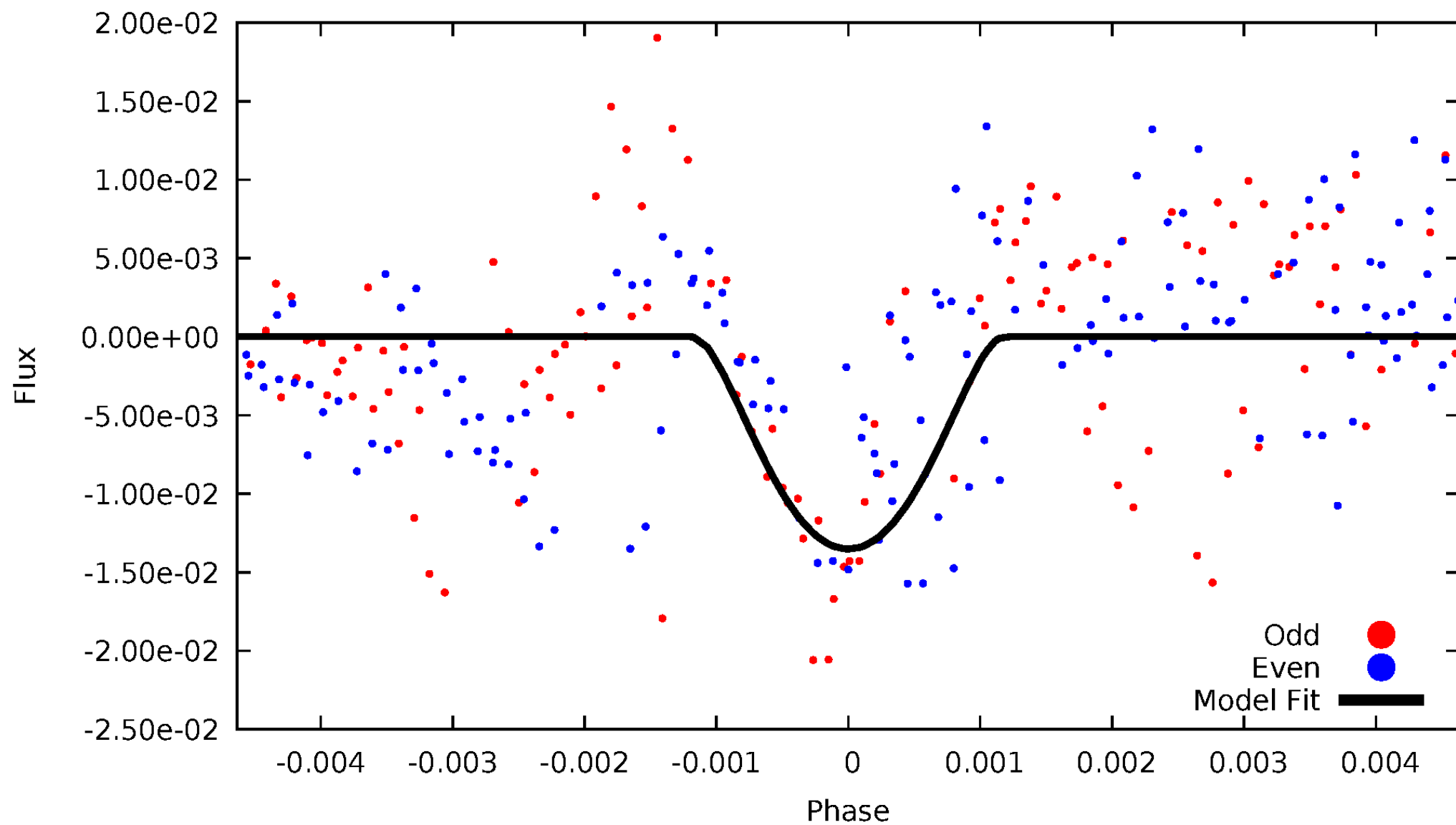


TCE 001724968-04



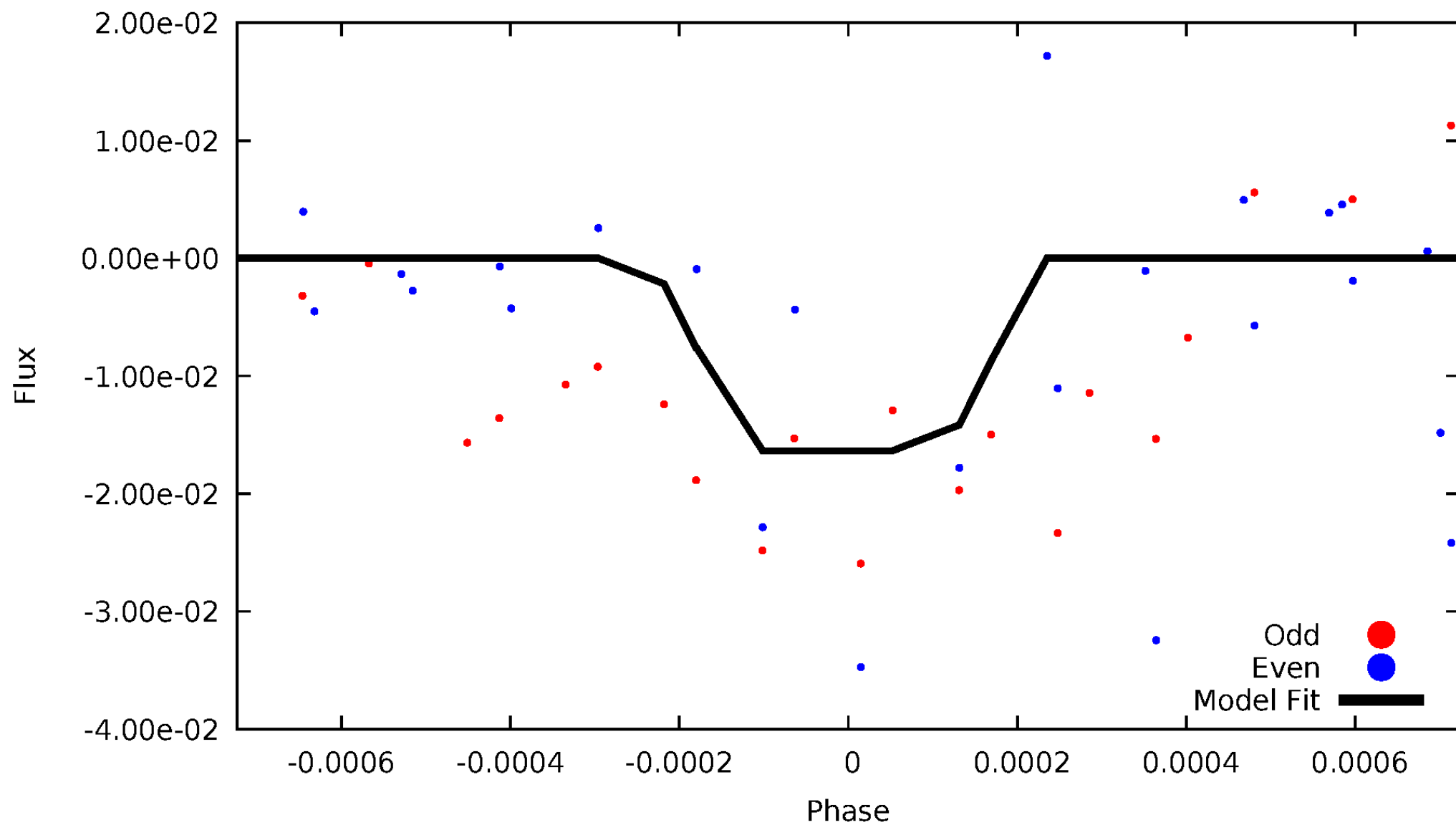
DV Odd/Even

TCE 001724968-04



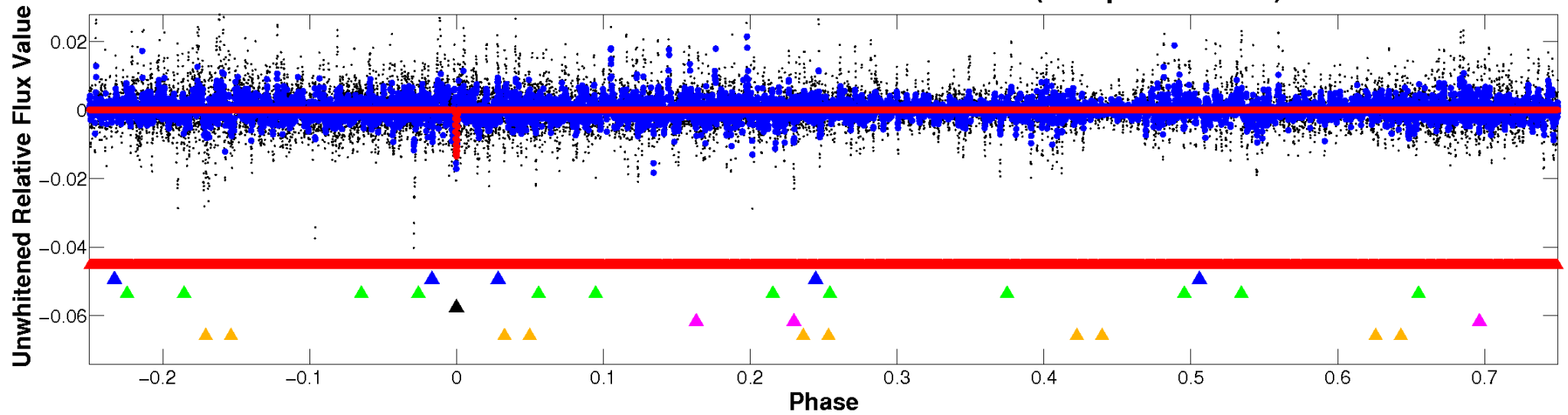
ALT Odd/Even

TCE 001724968-04

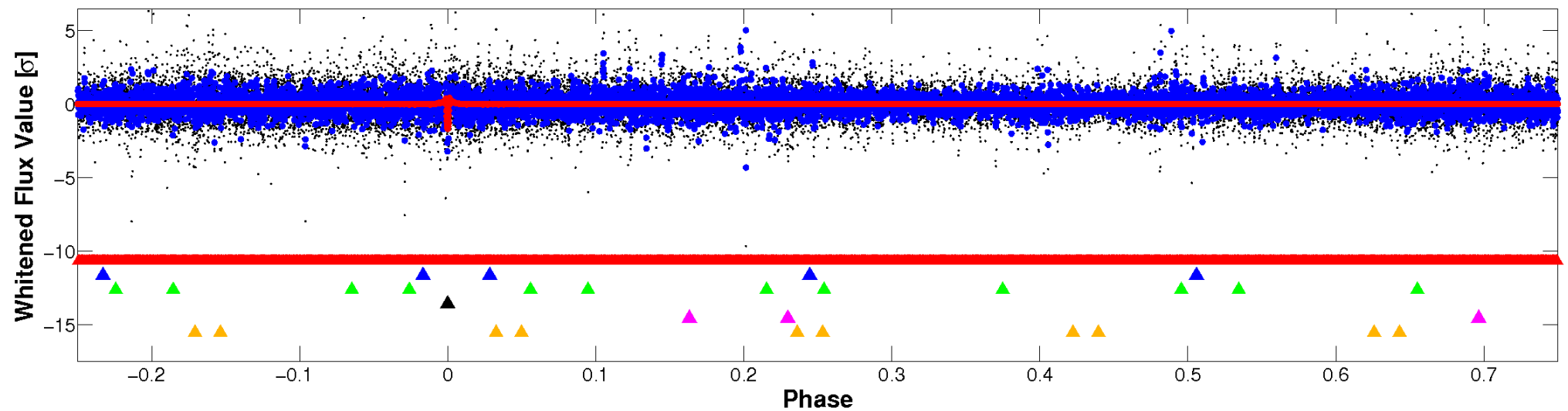


Non-Whitened Vs. Whitened Light Curve

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

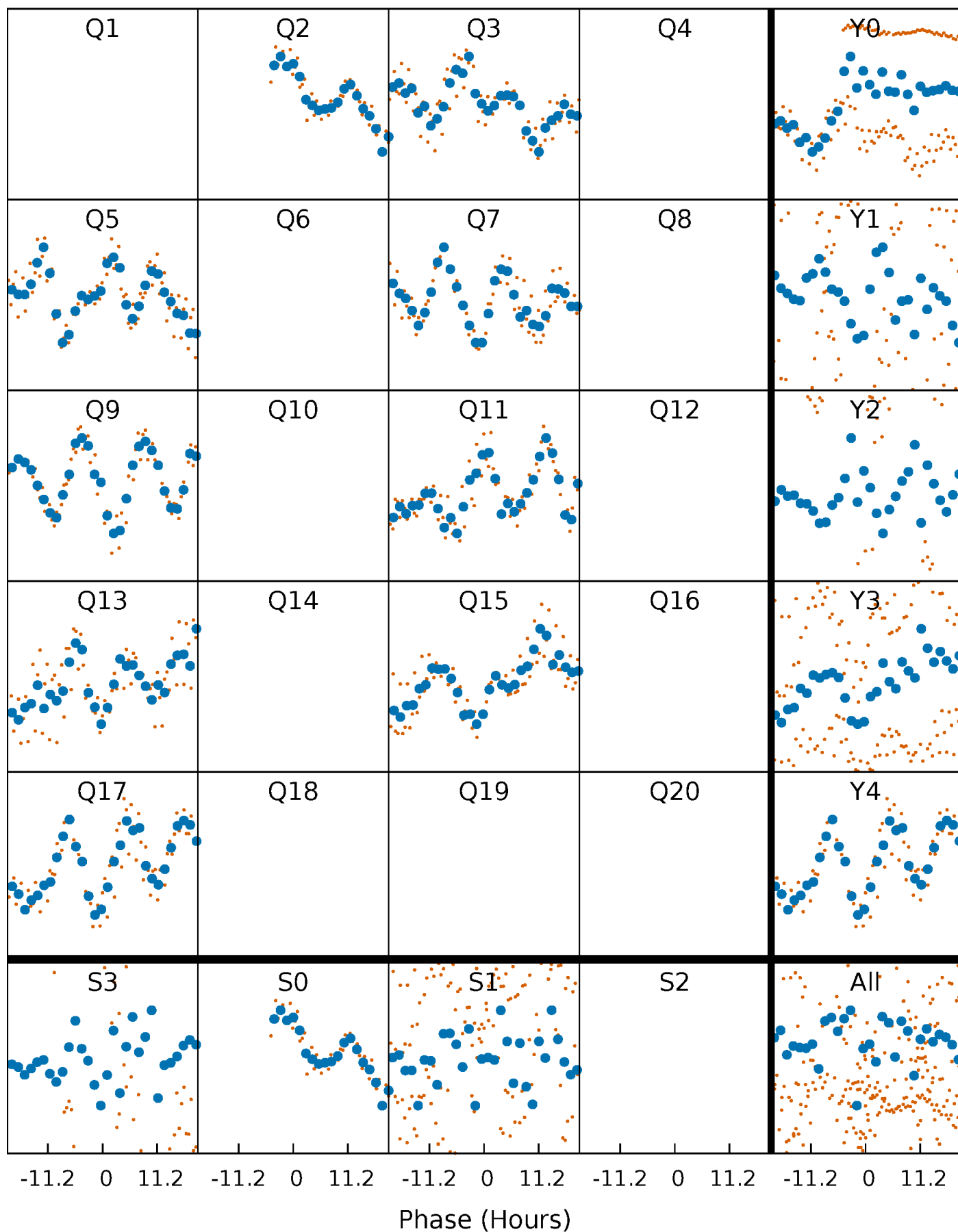


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



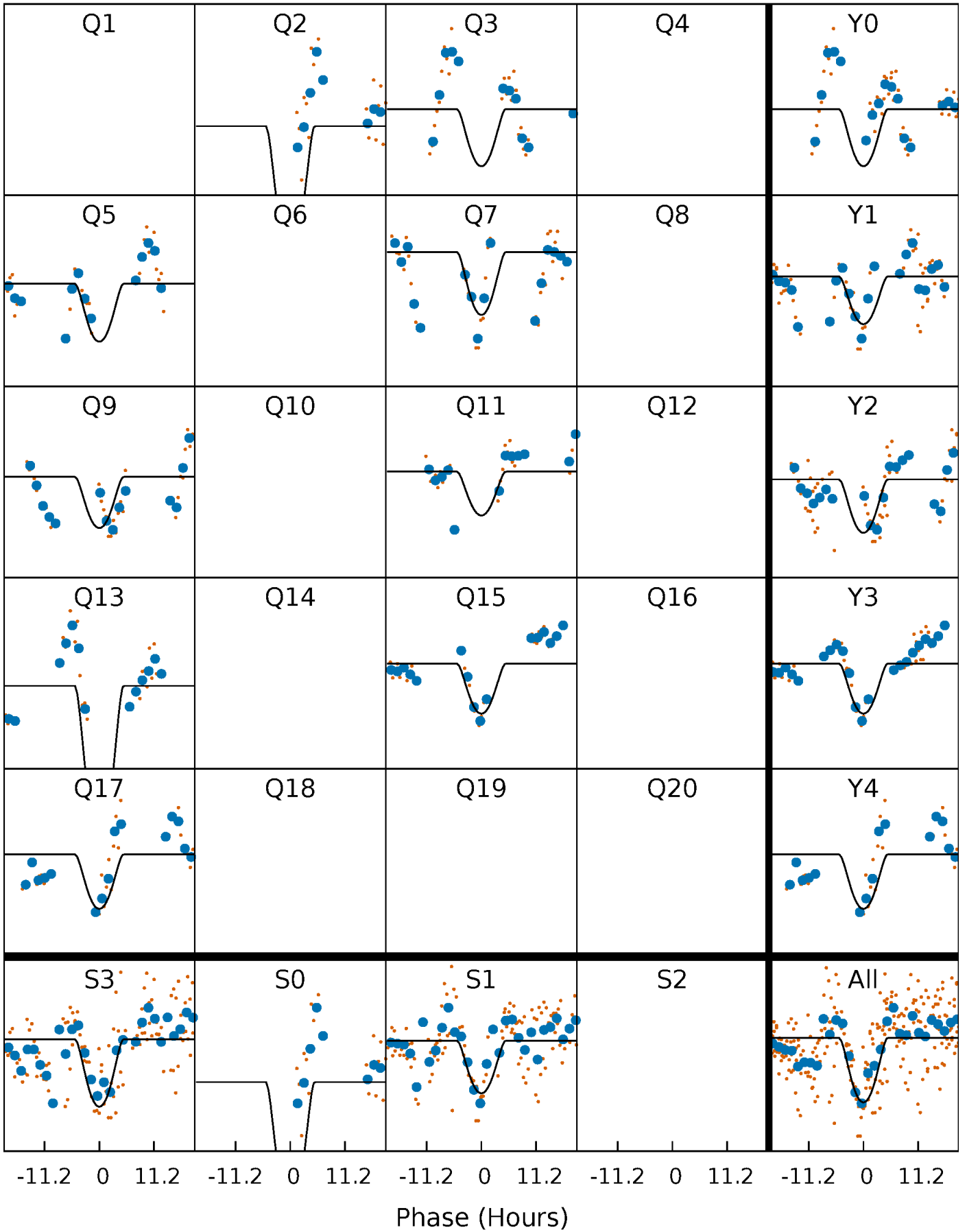
PDC Quarter-Phased Transit Curves

TCE 001724968-04 P=175.482540 Days $T_0=169.955704$ (BKJD)



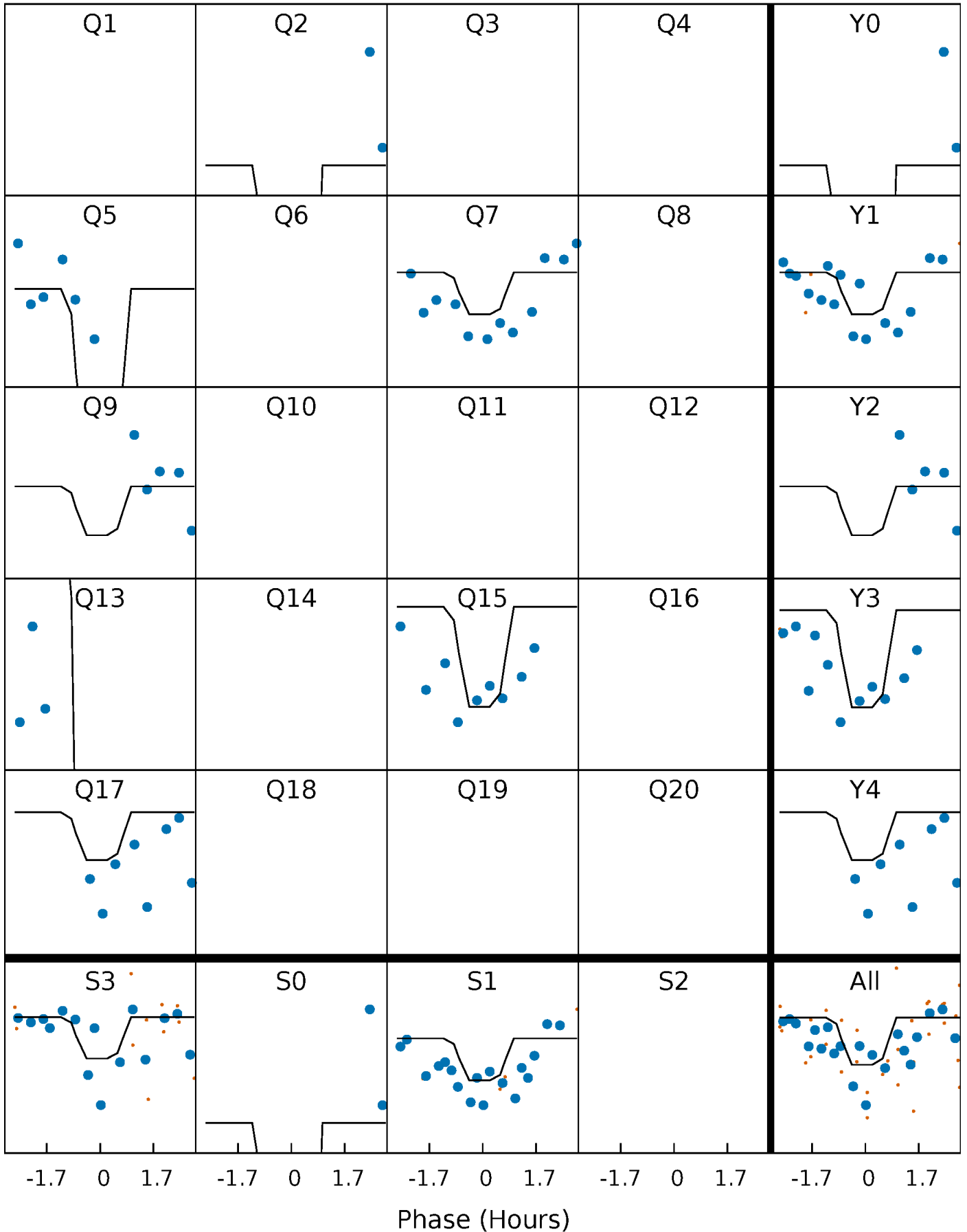
DV Quarter-Phased Transit Curves

TCE 001724968-04 $P=175.482540$ Days $T_0=169.955704$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

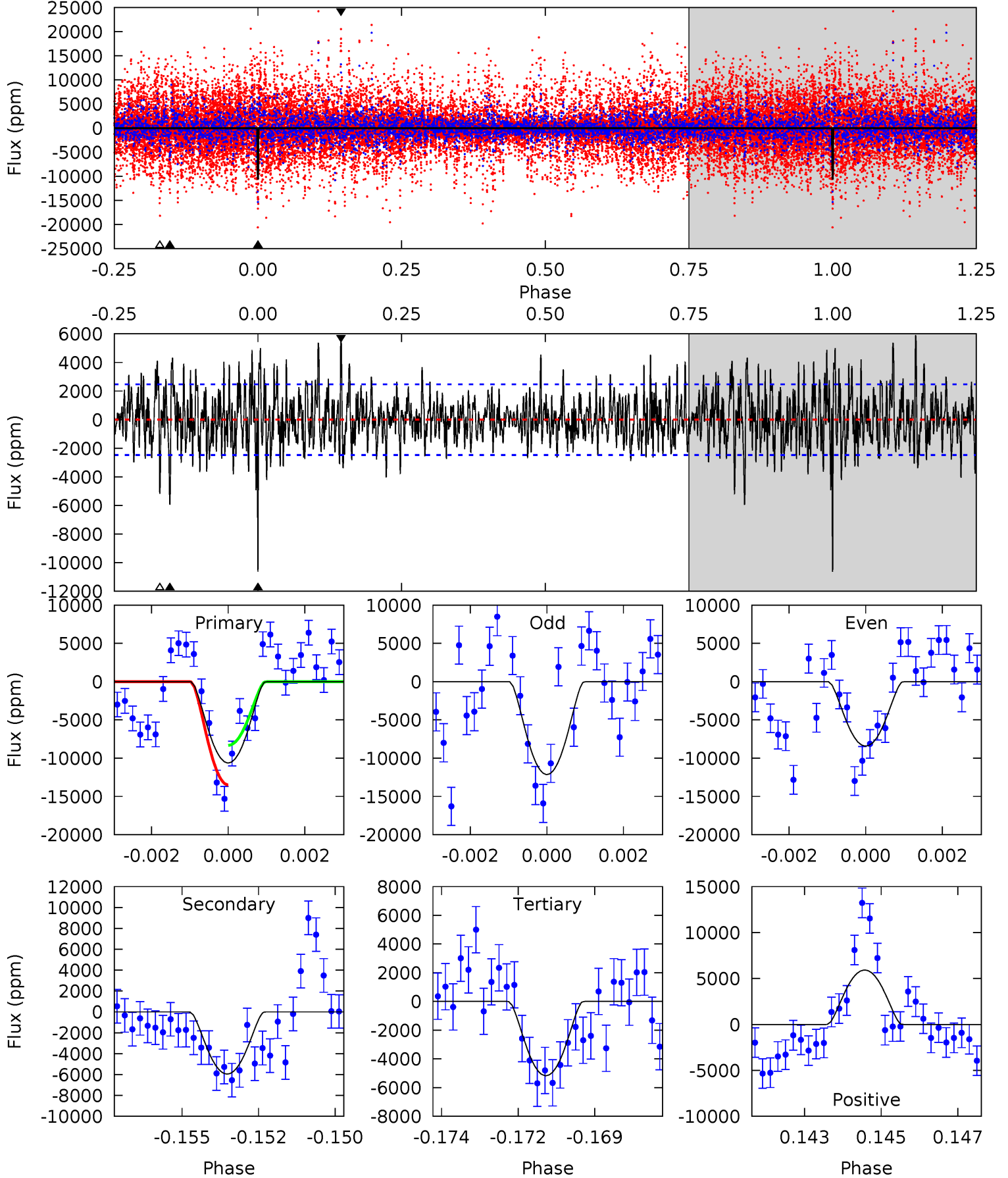
TCE 001724968-04 $P=175.487750$ Days $T_0=169.890834$ (BKJD)



DV Model-Shift Uniqueness Test

001724968-04, P = 175.482540 Days, E = 169.955704 Days

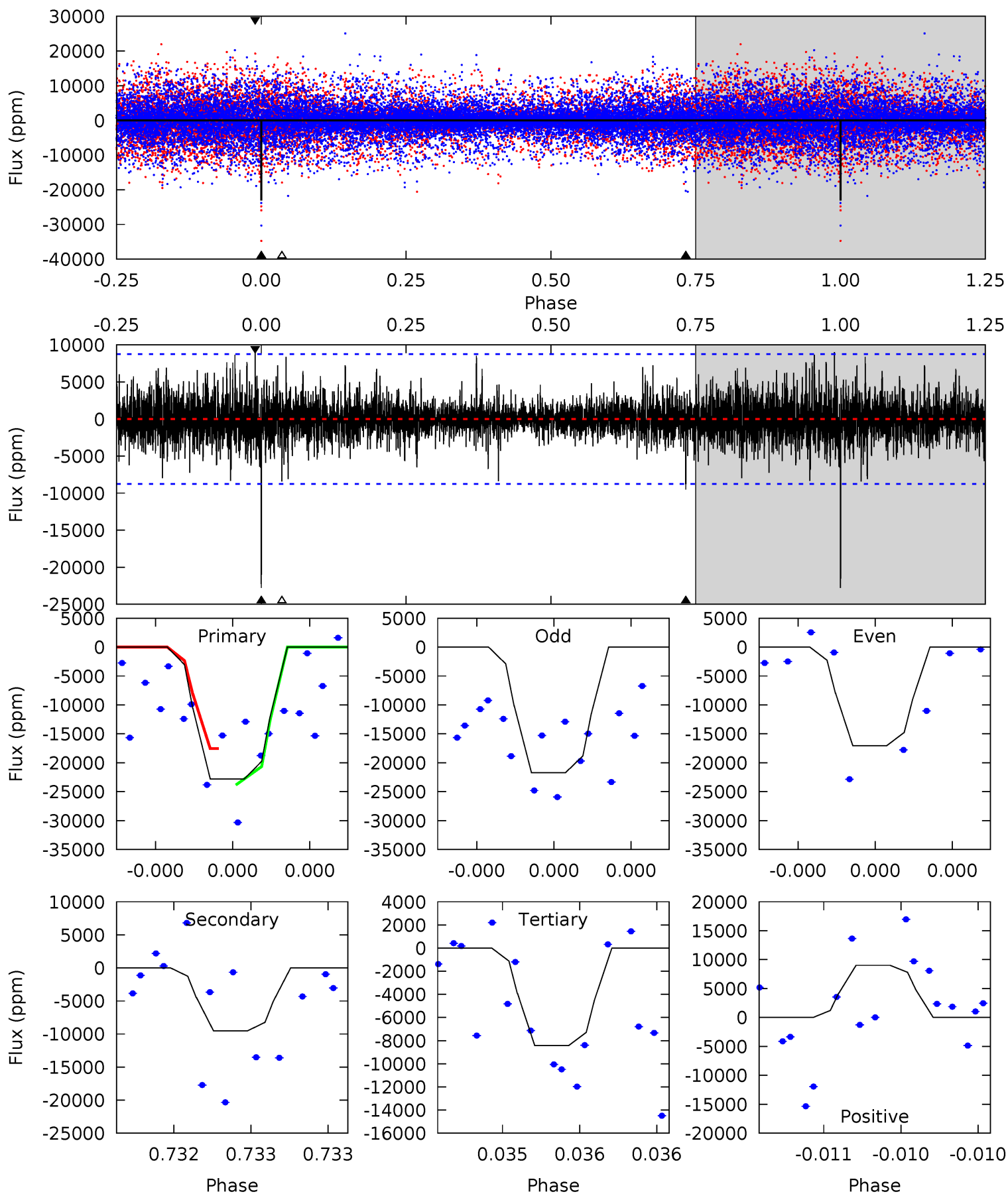
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	12.7	11.1	12.7	5.29	3.03	3.12	11.7	10.1	1.67	0.07	3.31	0.58	0.36	5.55



Alt Model-Shift Uniqueness Test

001724968-04, P = 175.487750 Days, E = 169.890834 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	6.12	5.41	5.80	5.64	3.58	1.17	9.25	8.86	0.70	0.32	1.28	0.85	0.28	1.94



Stellar Parameters For KIC 001724968

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6896^{+72}_{-92}	$4.301^{+0.026}_{-0.145}$	$0.070^{+0.150}_{-0.150}$	$1.390^{+0.300}_{-0.075}$	$1.411^{+0.104}_{-0.069}$	$0.740^{+0.101}_{-0.294}$
	+1%/-1%	+1%/-3%	+214%/-214%	+22%/-5%	+7%/-5%	+14%/-40%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 001724968-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5950 ± 467	$24.41^{+18.05}_{-15.09}$	613^{+29}_{-15}	4922^{+3148}_{-880}	2589^{+15168}_{-1708}
Alt.	-9511 ± 1555	$23.55^{+16.41}_{-14.24}$	613^{+30}_{-16}	5606^{+3928}_{-1207}	4532^{+23481}_{-3110}

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 $A_{obs} \gg 1.0$

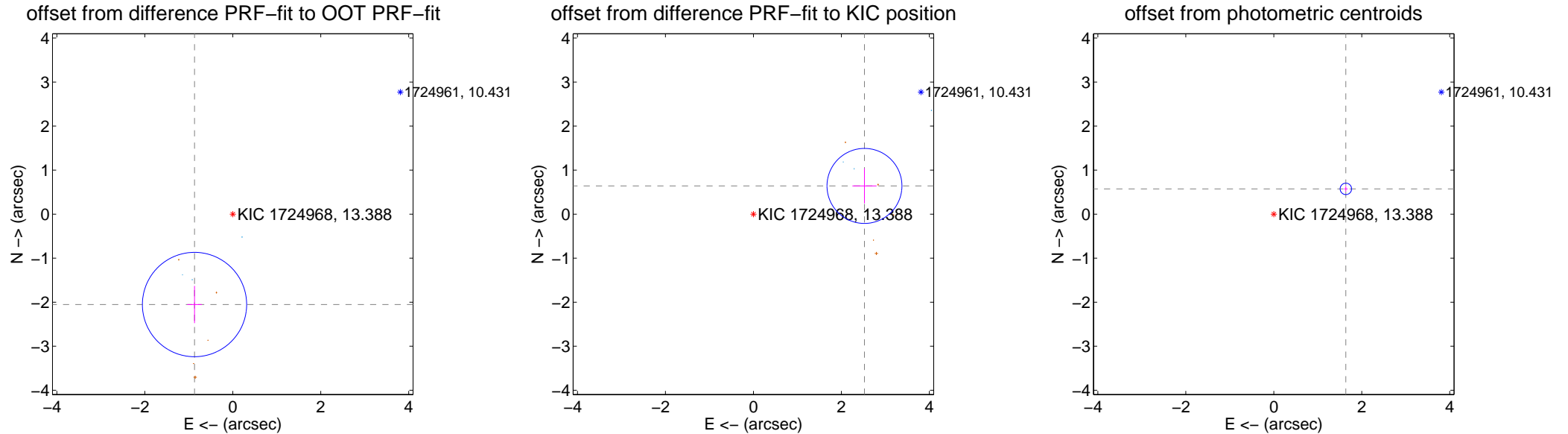
DV Centroid Data

Supplemental centroid analysis for 001724968-04. Kepler magnitude: 13.39. Transit SNR 9.73

There are 3 quarters with good PRF difference image offsets

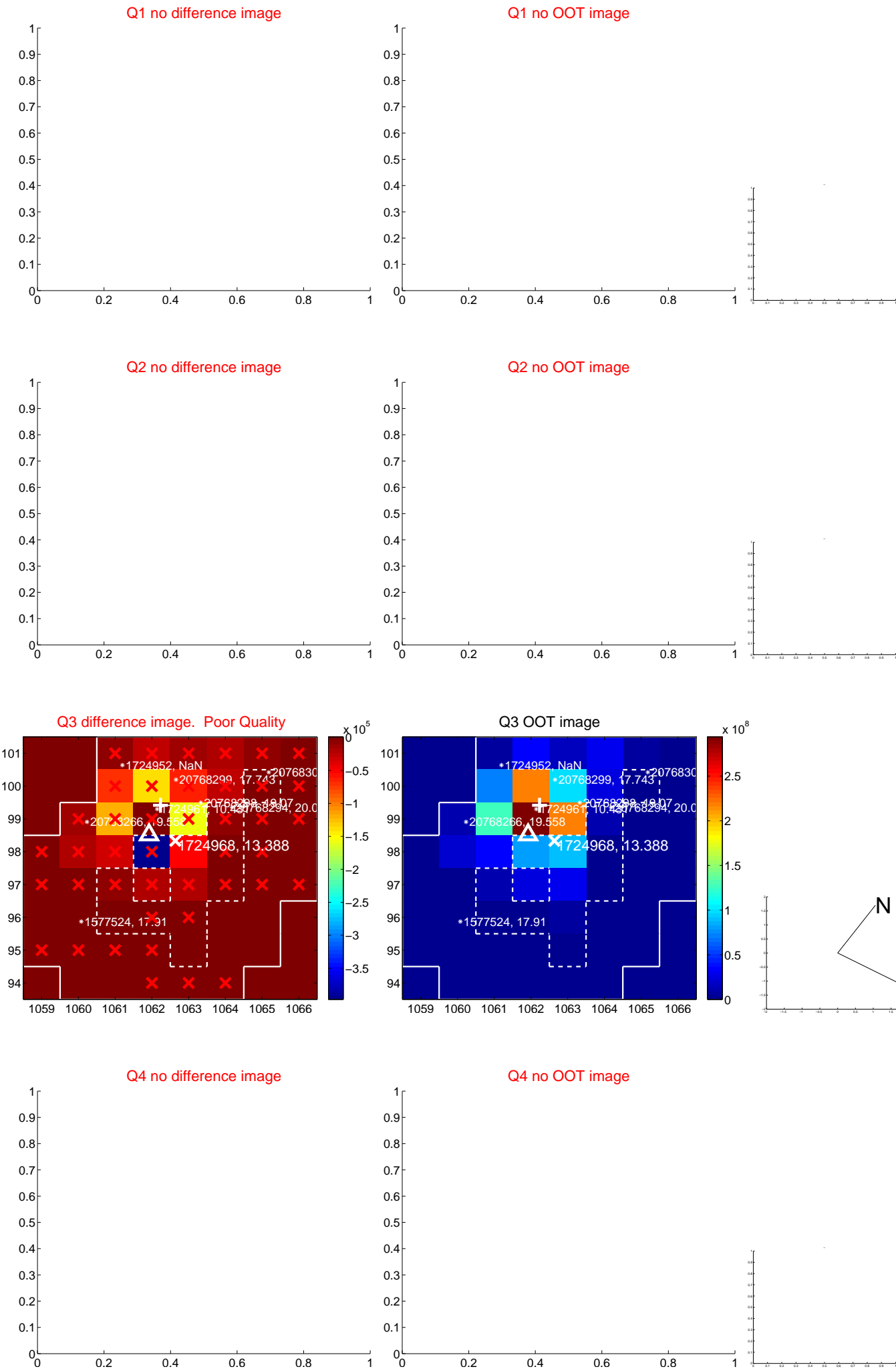
The OOT PRF centroid is offset from the target star catalog position by about 4.09 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.230 ± 0.395	5.64	0.870 ± 0.165	-2.053 ± 0.423
PRF-fit source offset from KIC position	2.605 ± 0.284	9.17	-2.525 ± 0.275	0.641 ± 0.398
photometric centroid source offset	1.74 ± 0.04	40.09	-1.64 ± 0.04	0.57 ± 0.06

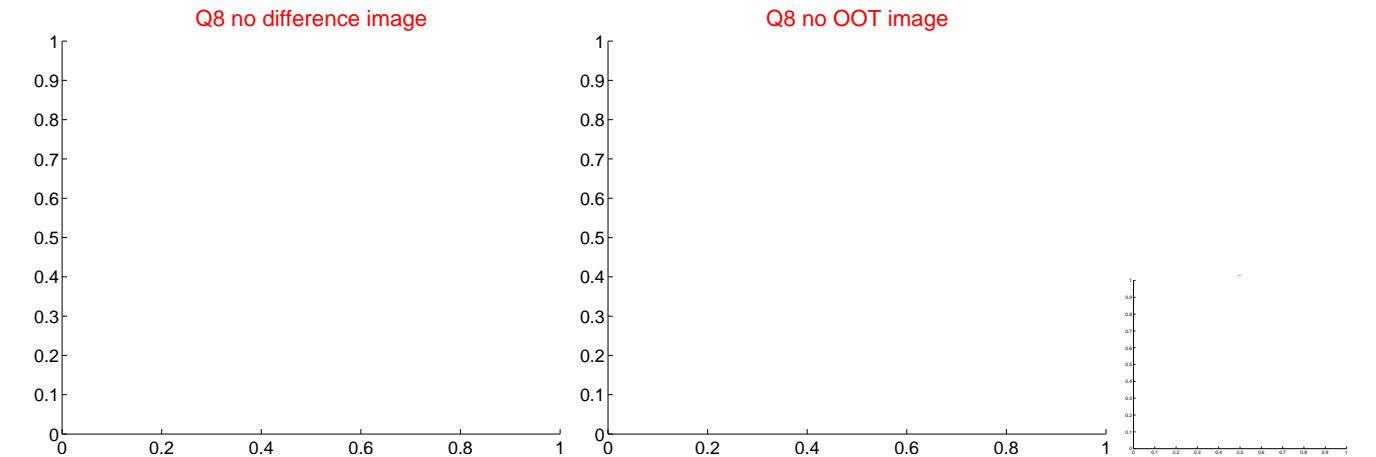
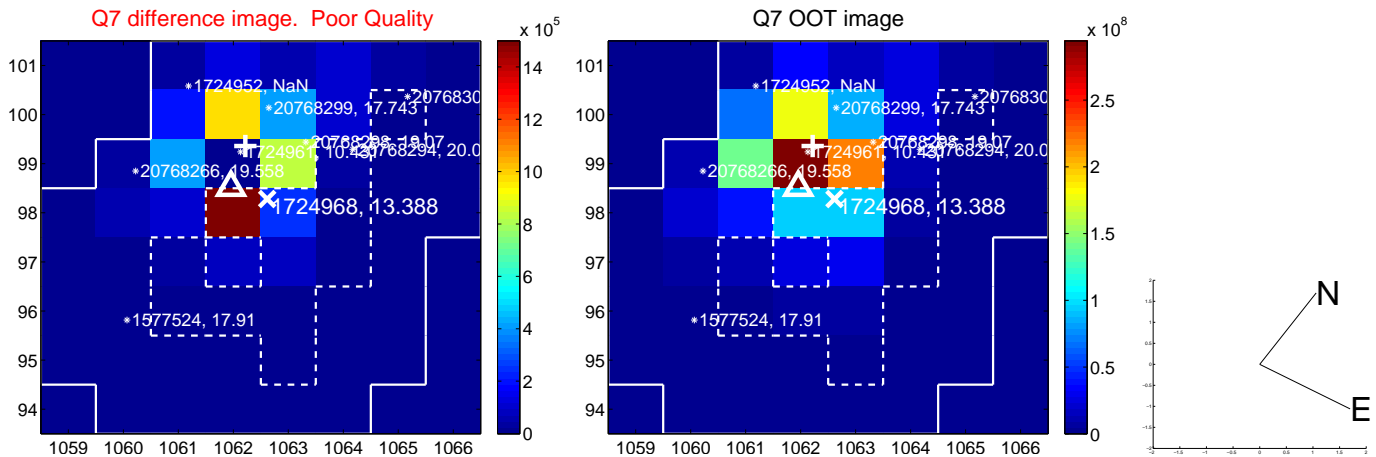
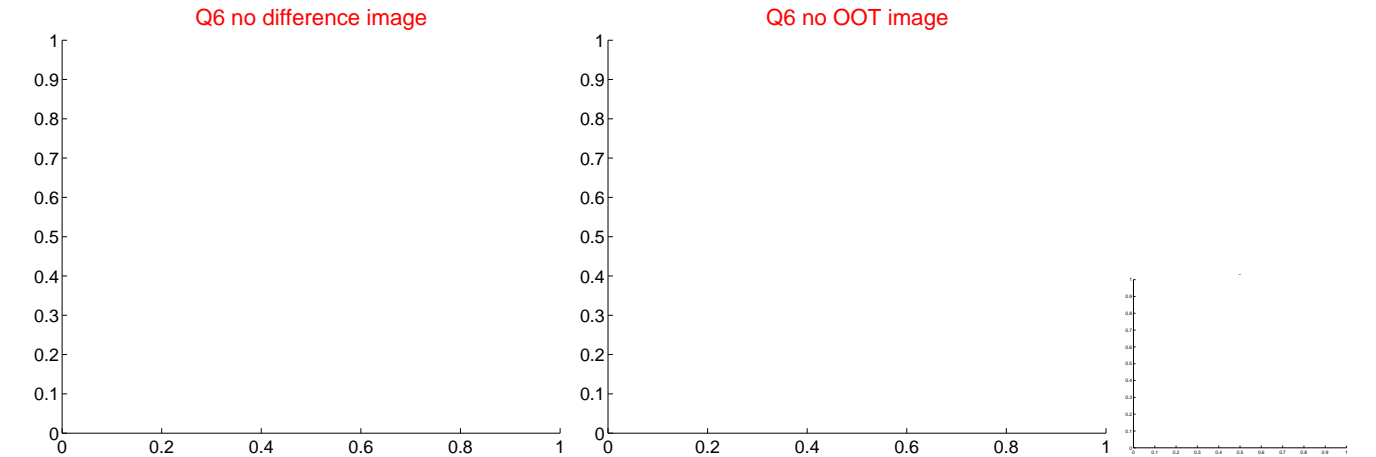
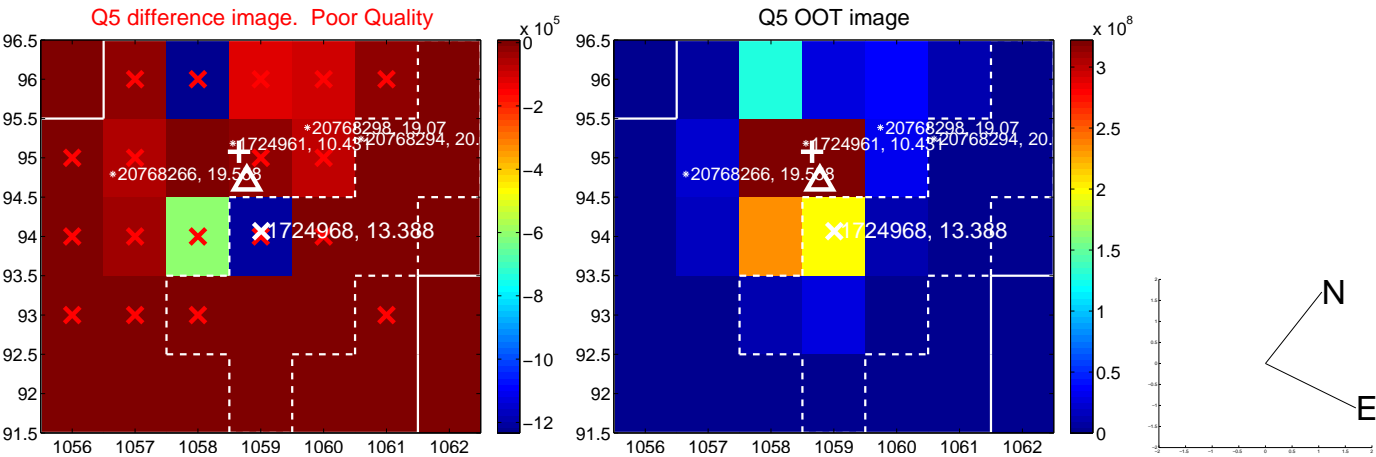


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

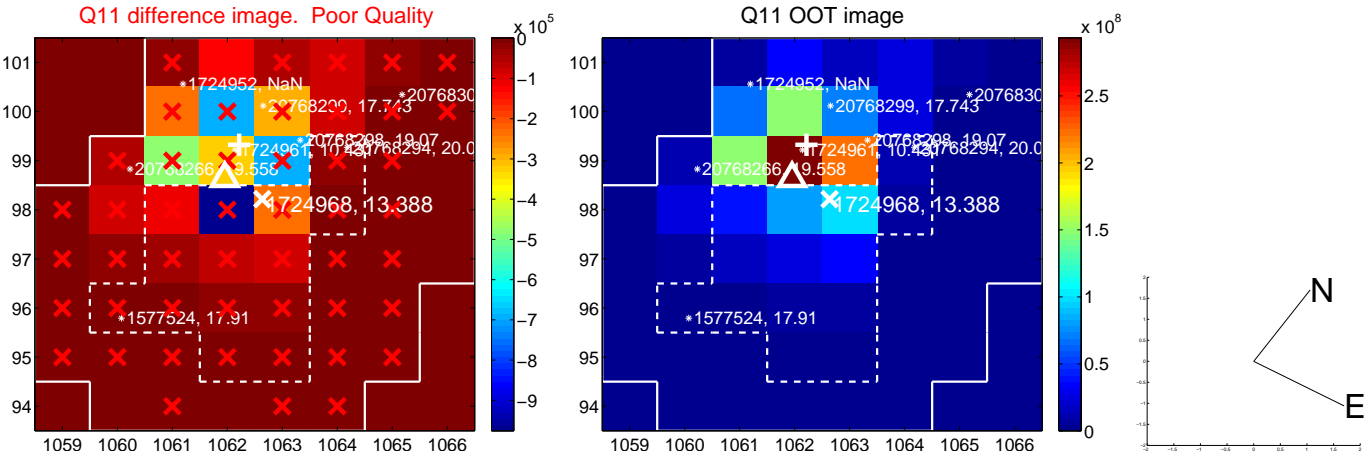
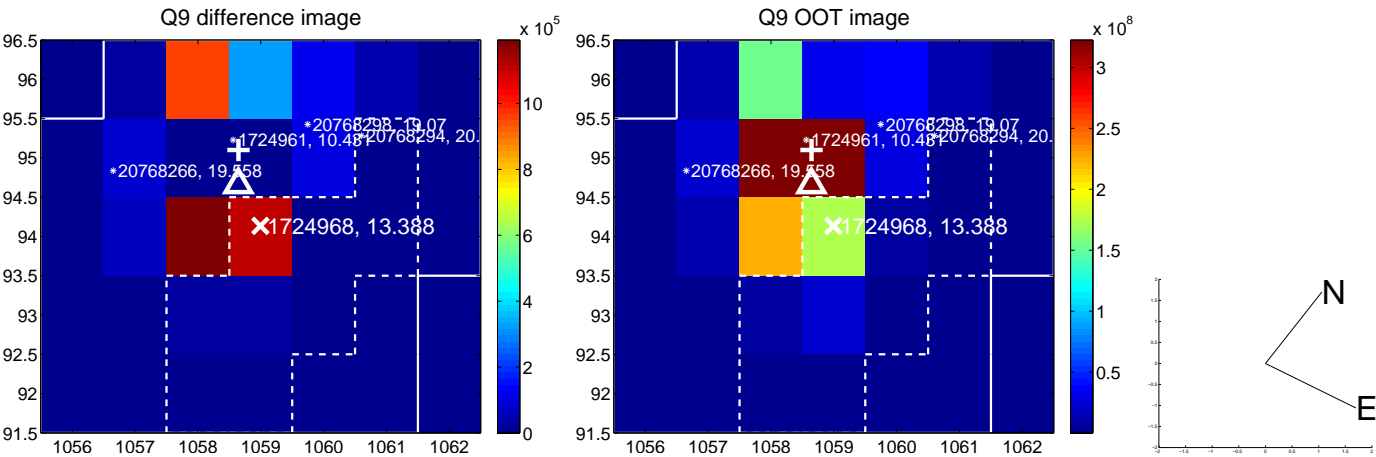
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



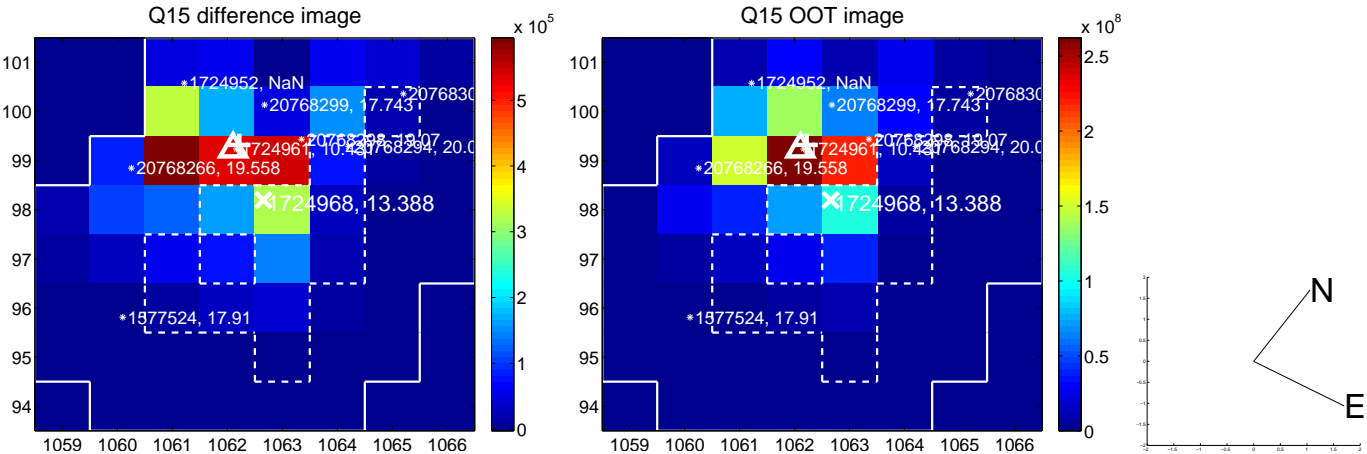
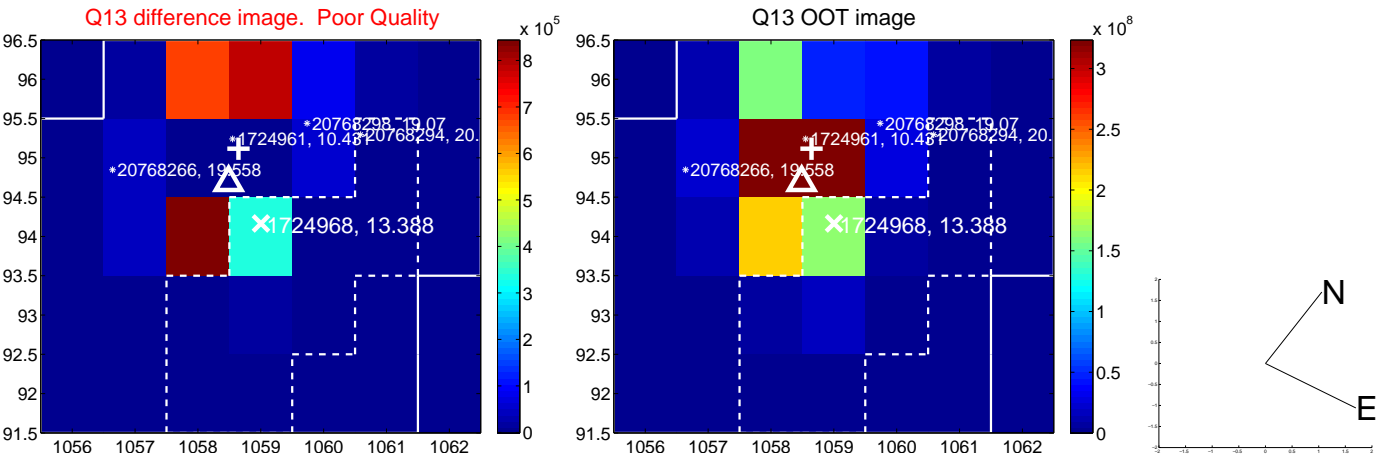
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



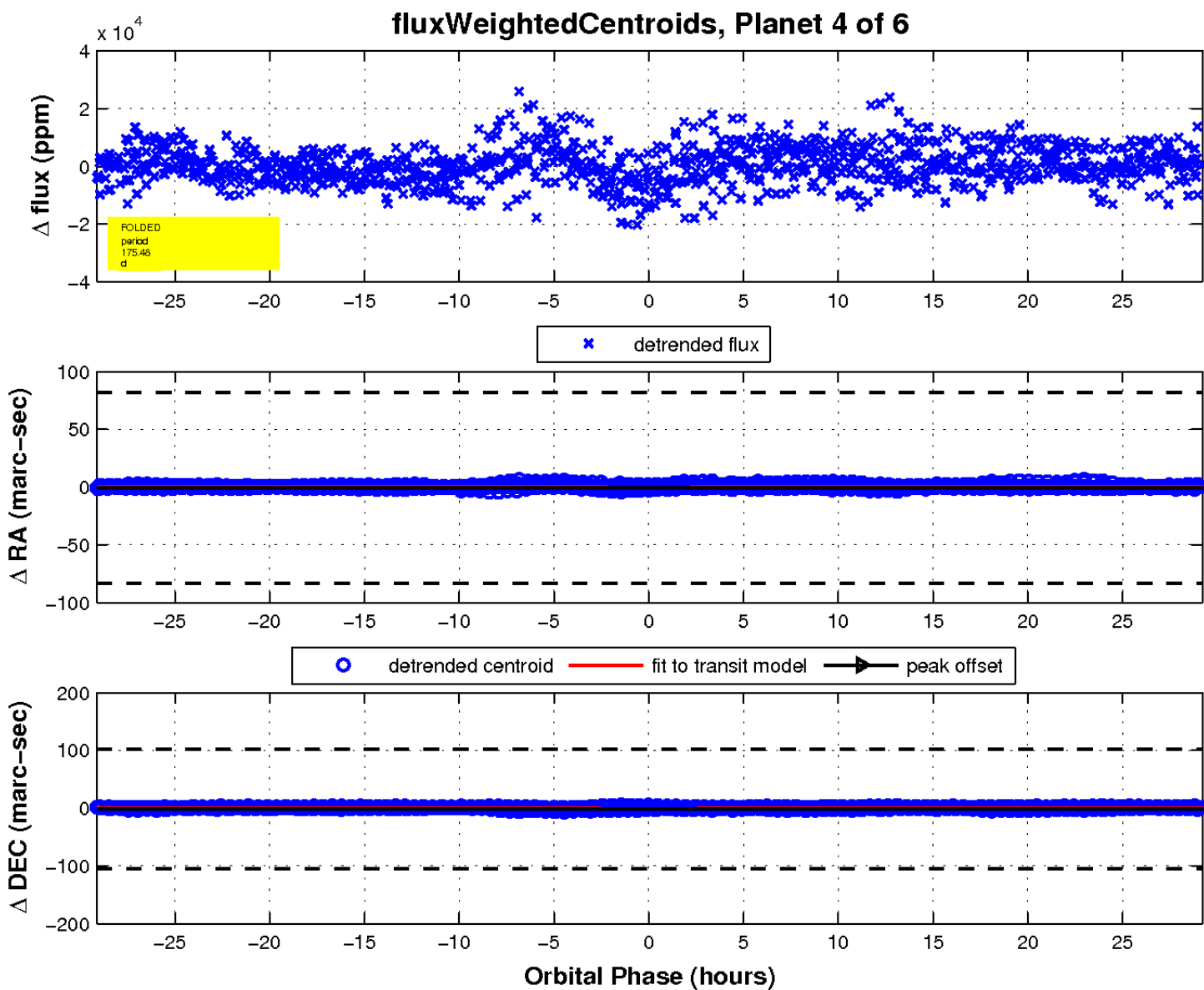
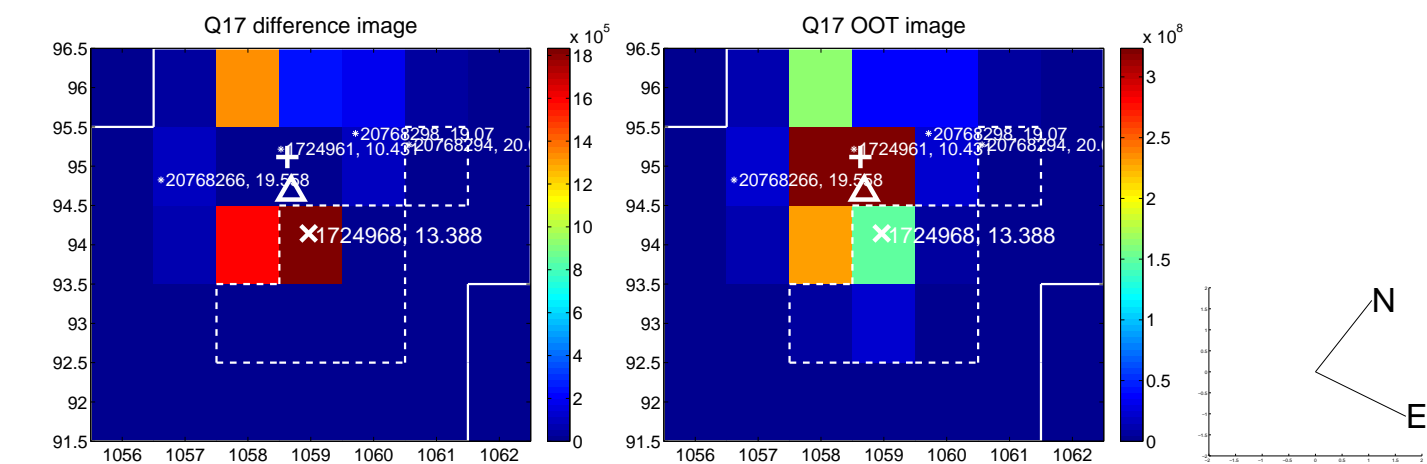
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



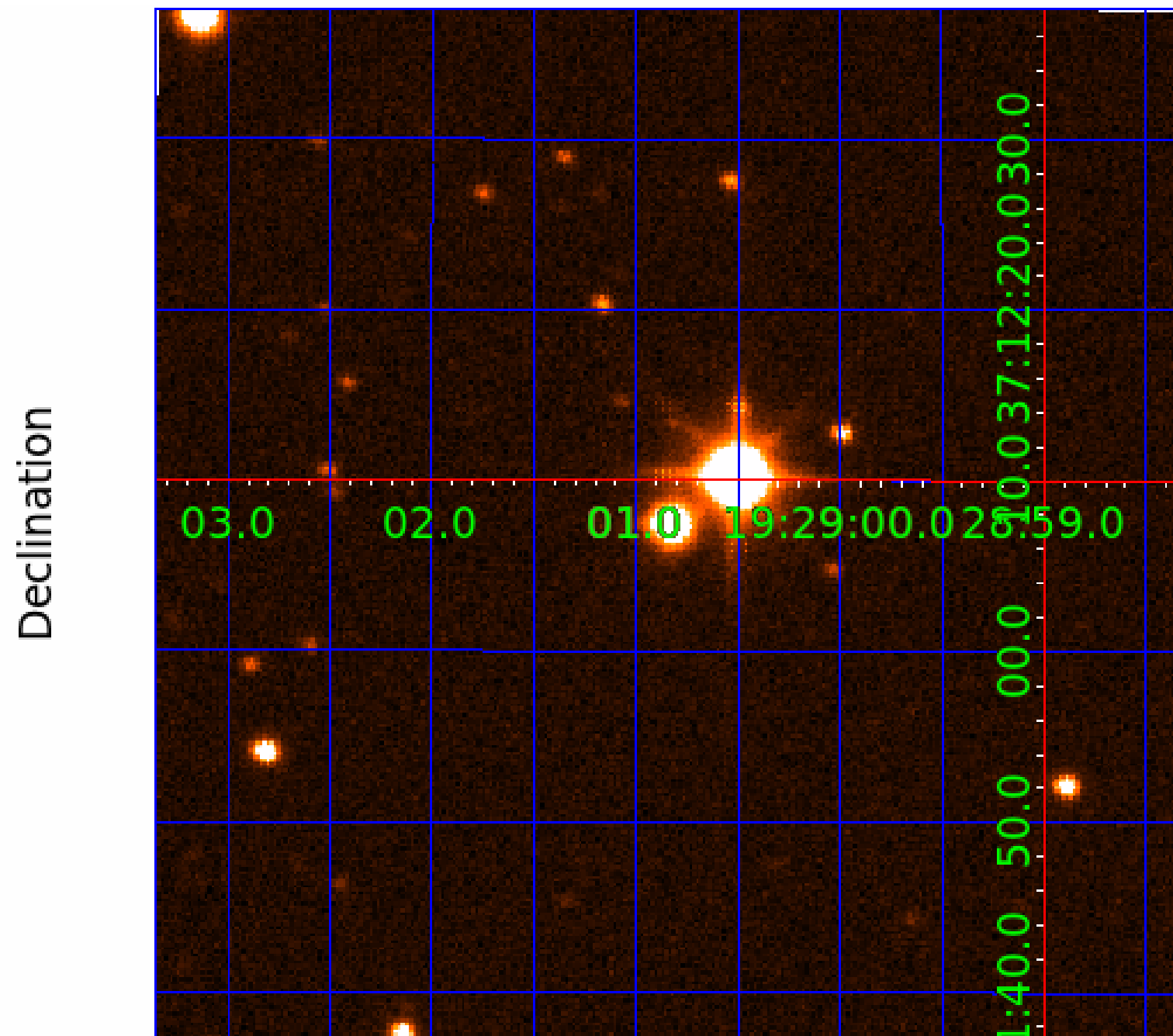
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 001724968

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})
001724968-01	OBS	No	0.620597	131.935669	177.9	2.799	8.0	9.1	1.39	6896	2.38	15353.73
001724968-02	OBS	No	305.116218	350.423599	18454.6	8.605	8.7	9.1	1.39	6896	21.07	3.96
001724968-03	OBS	No	126.318151	179.769394	5567.8	3.556	8.3	4.7	1.39	6896	10.75	12.82
001724968-04	OBS	No	175.482540	169.955704	13520.6	9.758	9.4	9.7	1.39	6896	21.54	8.27
001724968-05	OBS	No	620.022592	198.610140	14492.6	5.262	8.8	8.5	1.39	6896	19.40	1.54
001724968-06	OBS	No	139.783855	214.409947	631.3	4.500	9.3	-1.0	1.39	6896	3.53	11.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001724968-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
001724968-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
001724968-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS—HALO_GHOST
001724968-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
001724968-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_KIC_POS
001724968-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

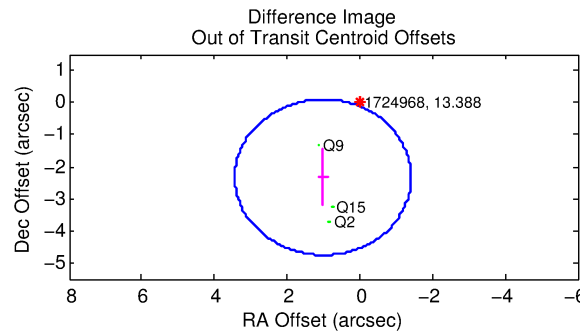
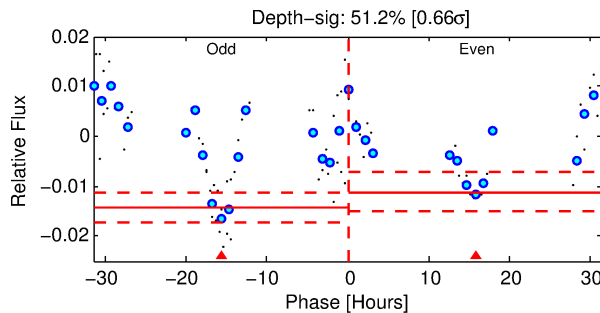
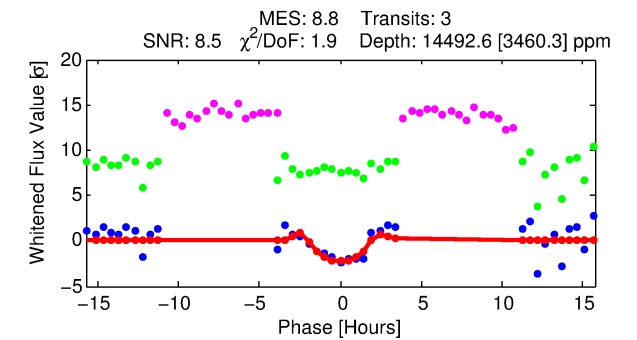
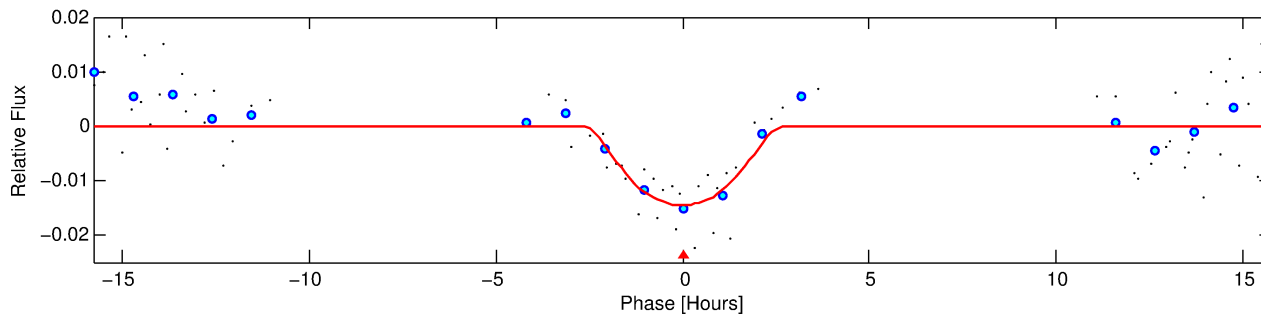
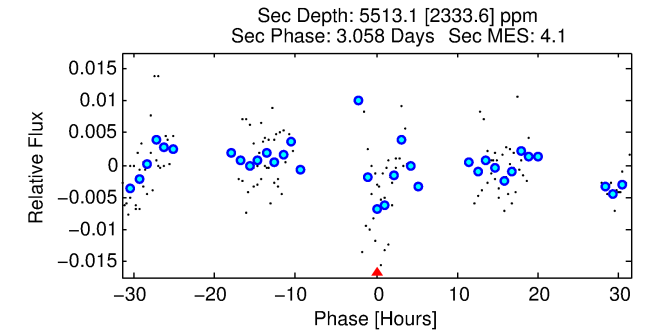
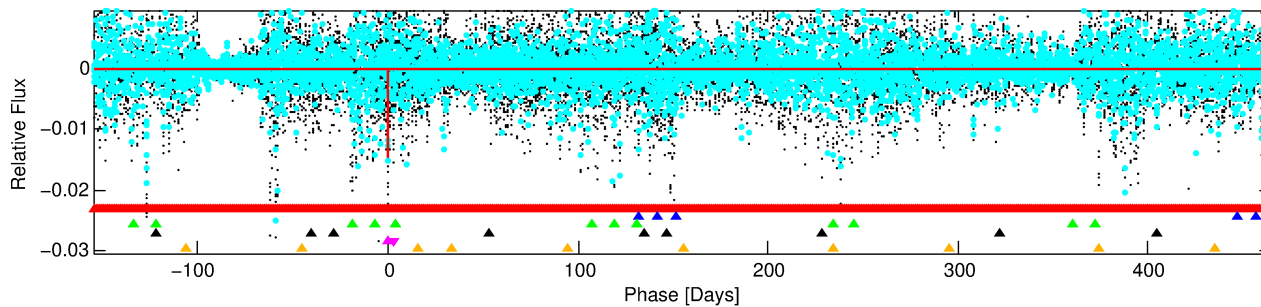
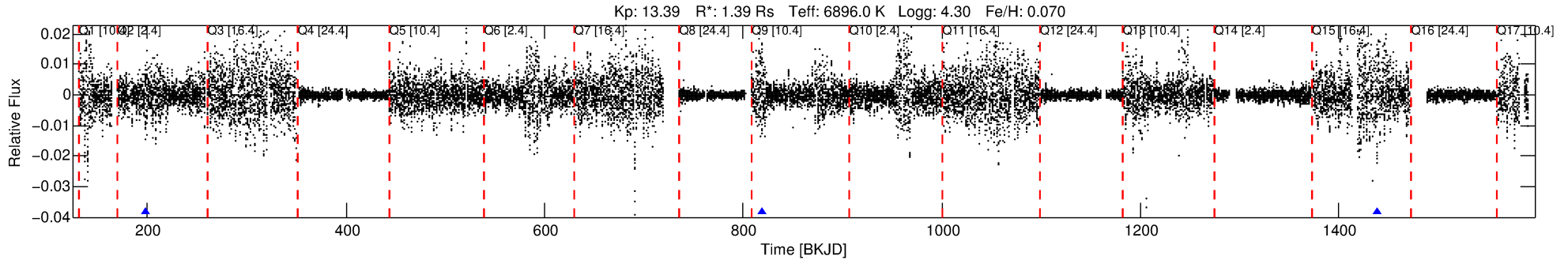
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001724968-05

No Significant Match Found

DV One-Page Summary

KIC: 1724968 Candidate: 5 of 6 Period: 620.023 d



DV Fit Results:

Period = 620.02259 [0.01201] d
Epoch = 198.6101 [0.0133] BKJD
Rp/R* = 0.1279 [0.0242]
a/R* = 642.43 [138.54]
b = 0.87 [0.08]
Seff = 1.54 [0.42]
Teq = 284 [19] K
Rp = 19.40 [5.57] Re
a = 1.5958 [0.2903] AU
Ag = 20512.90 [12850.91] [1.60σ]
Teffp = 5254 [749] K [6.63σ]

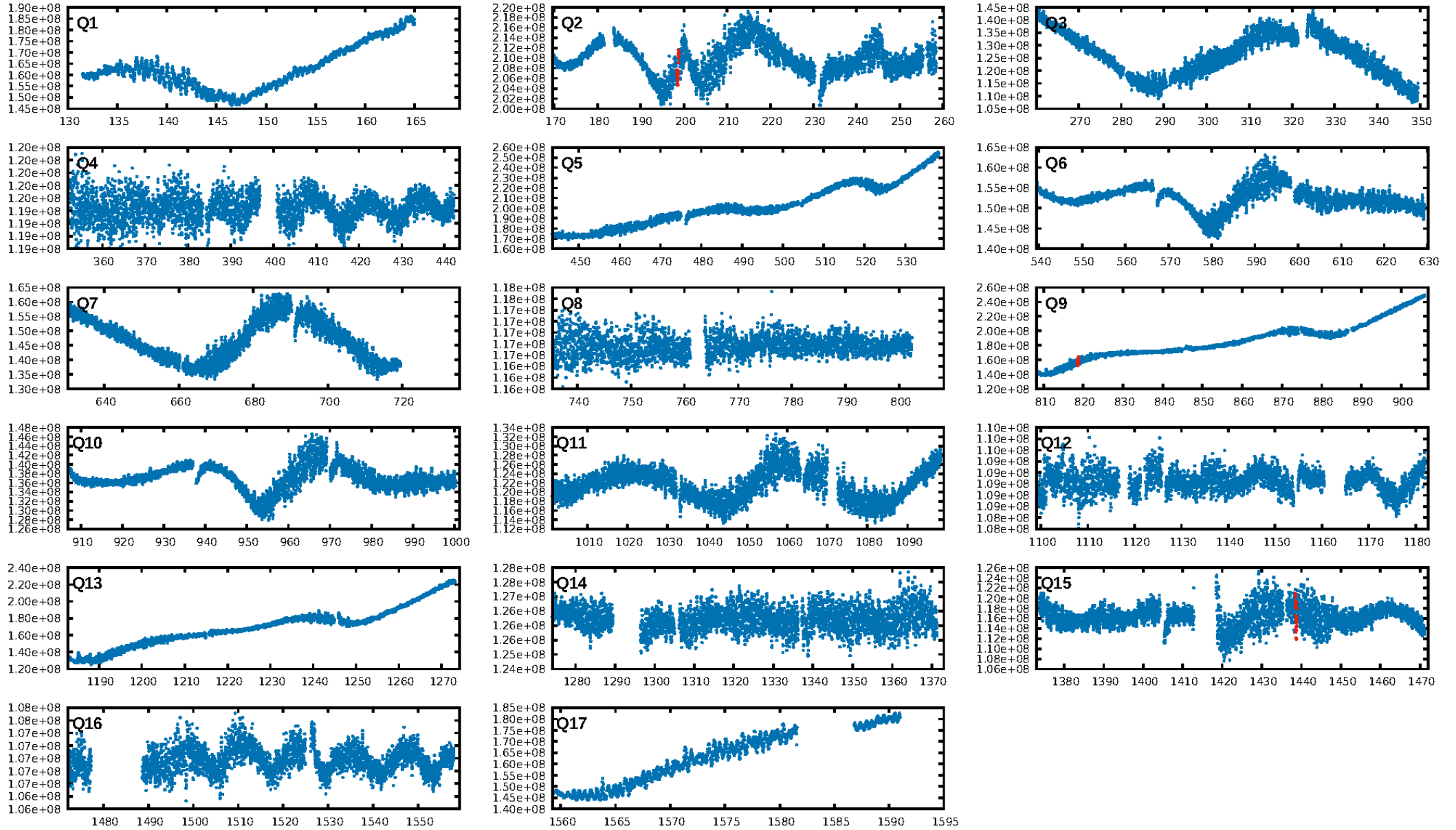
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [749.29σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.2%
ModelChiSquareGof-sig: 98.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.045
Centroid-sig: 0.0%
Centroid-so: 1.583 arcsec [21.57σ]
OotOffset-rm: 2.541 arcsec [3.14σ]
KicOffset-rm: 2.348 arcsec [7.08σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

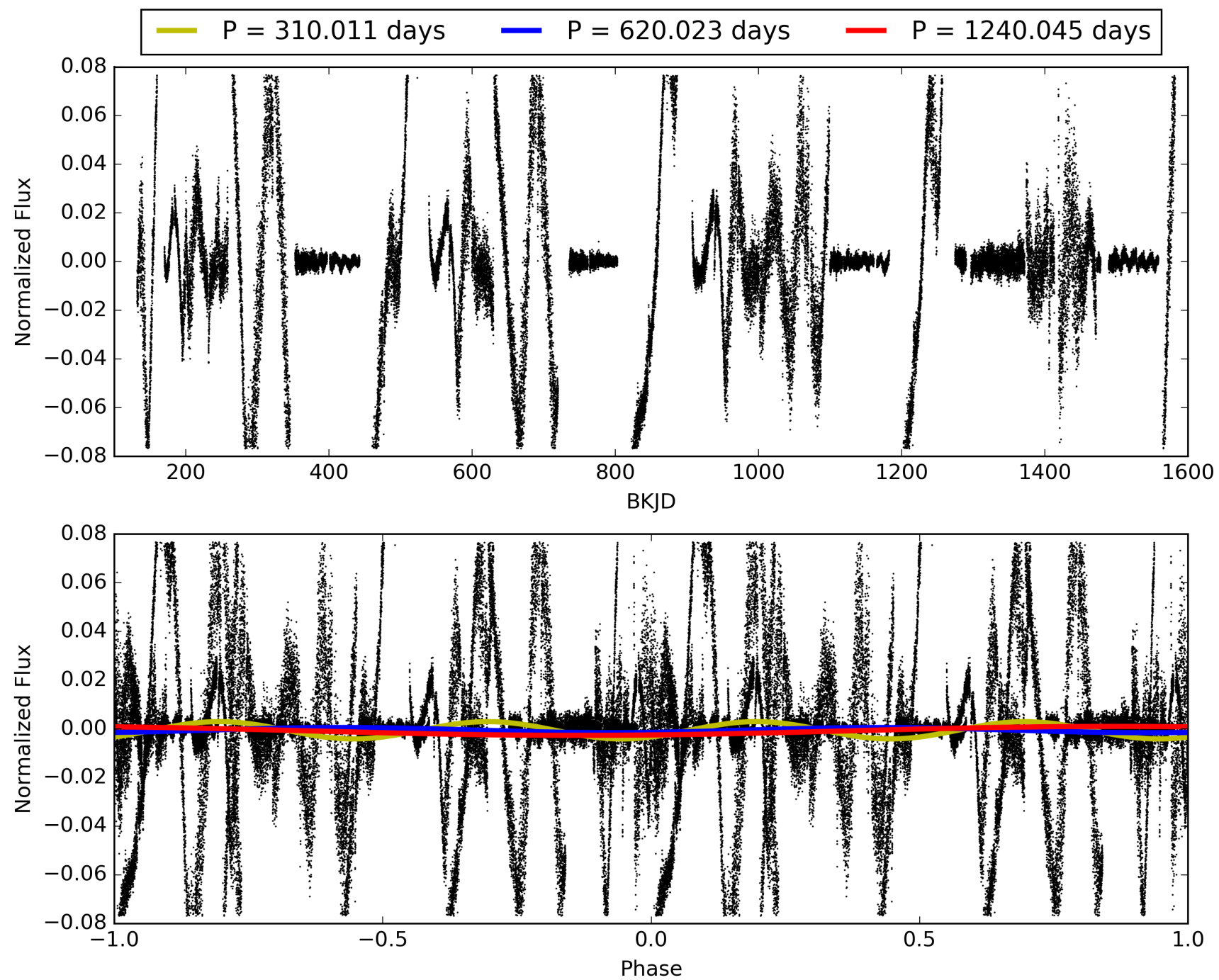
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:01:20 Z

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

TCE 001724968-05, PDC Light Curves

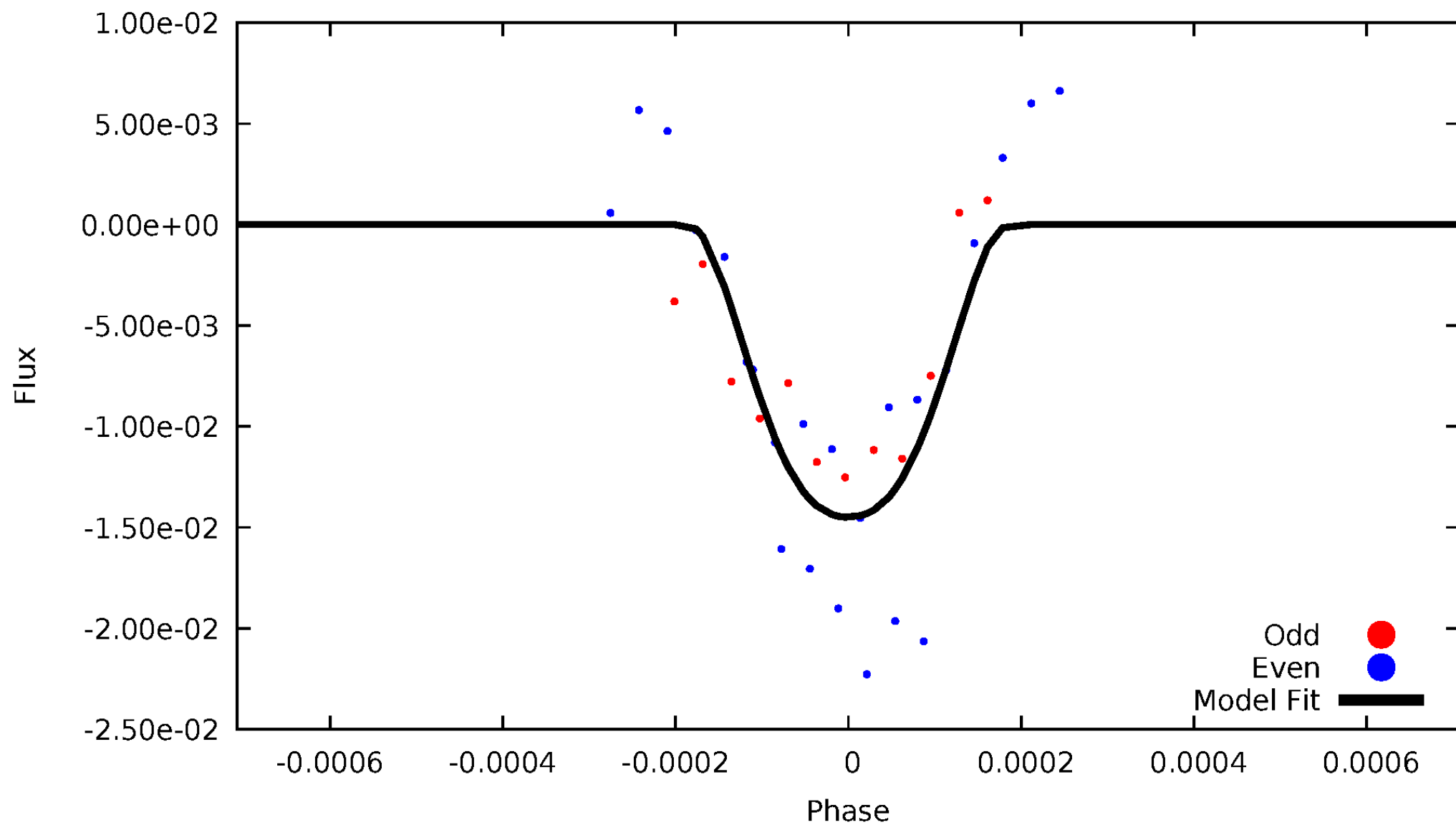


TCE 001724968-05



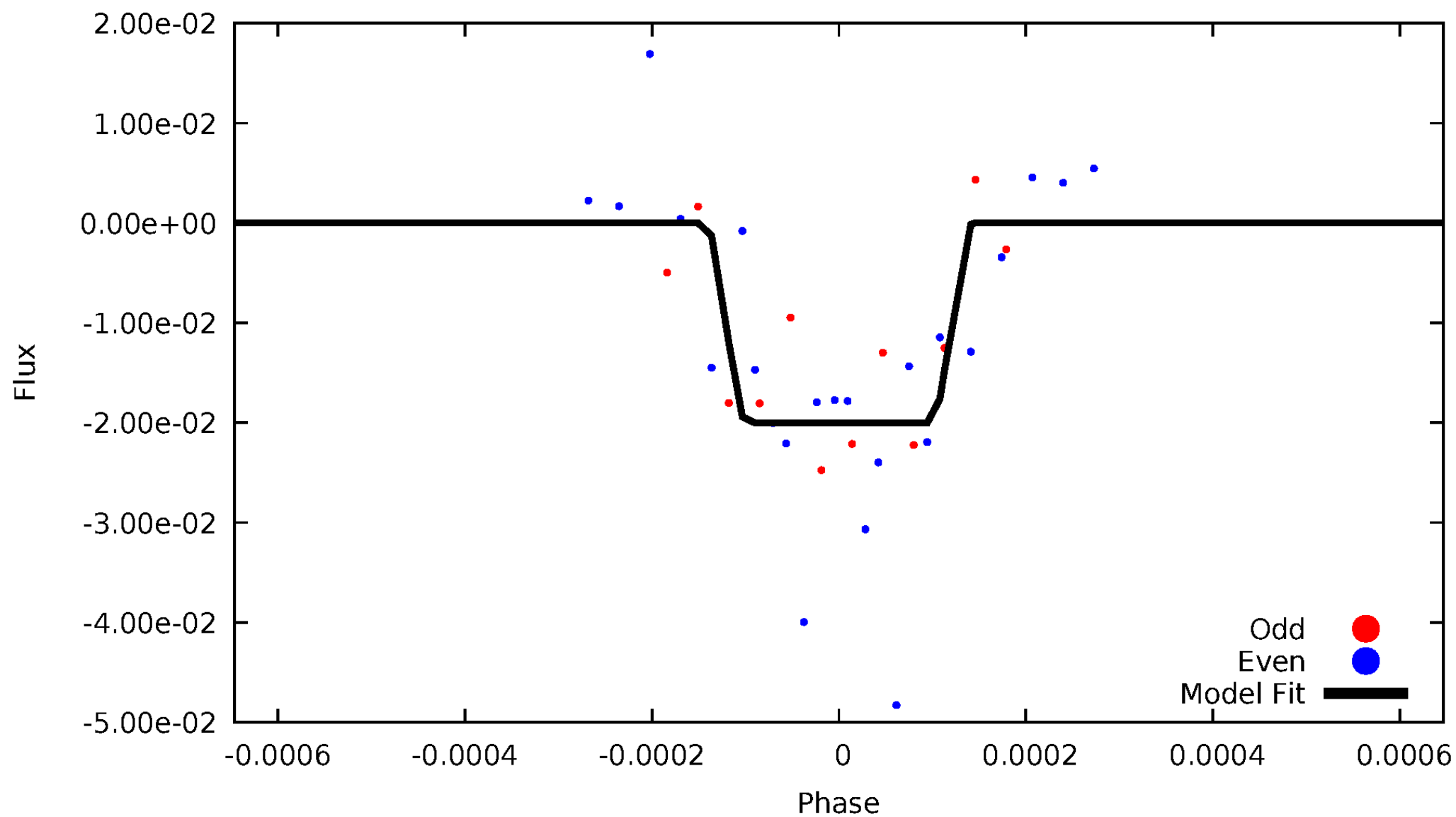
DV Odd/Even

TCE 001724968-05



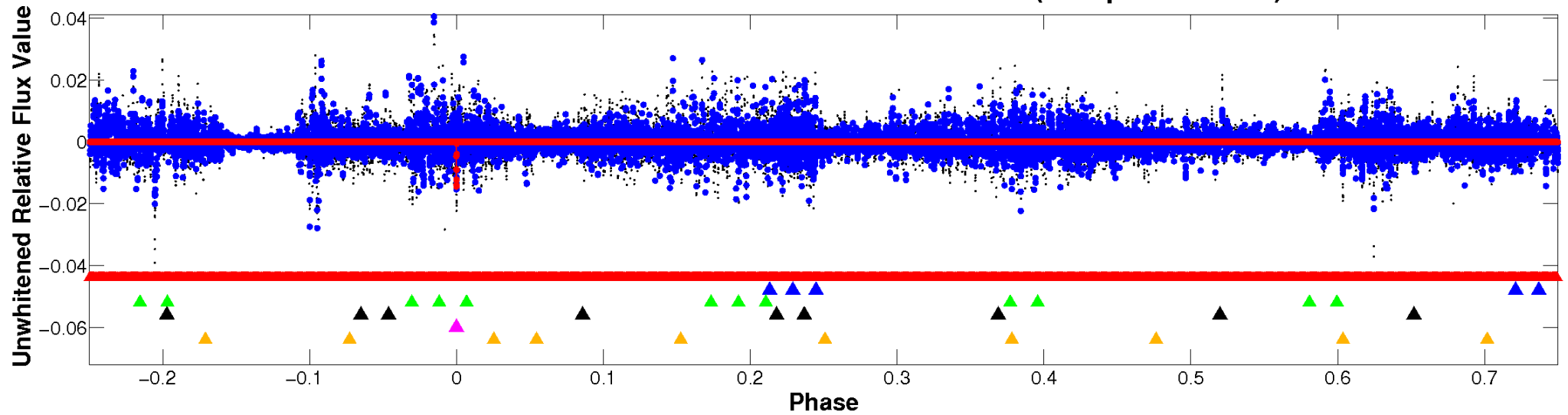
ALT Odd/Even

TCE 001724968-05

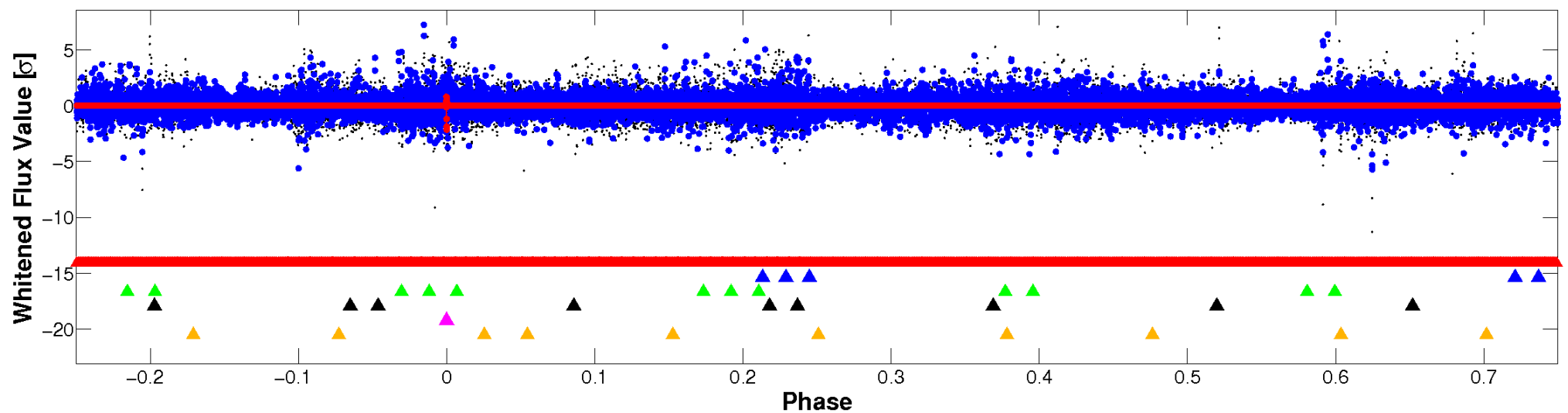


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

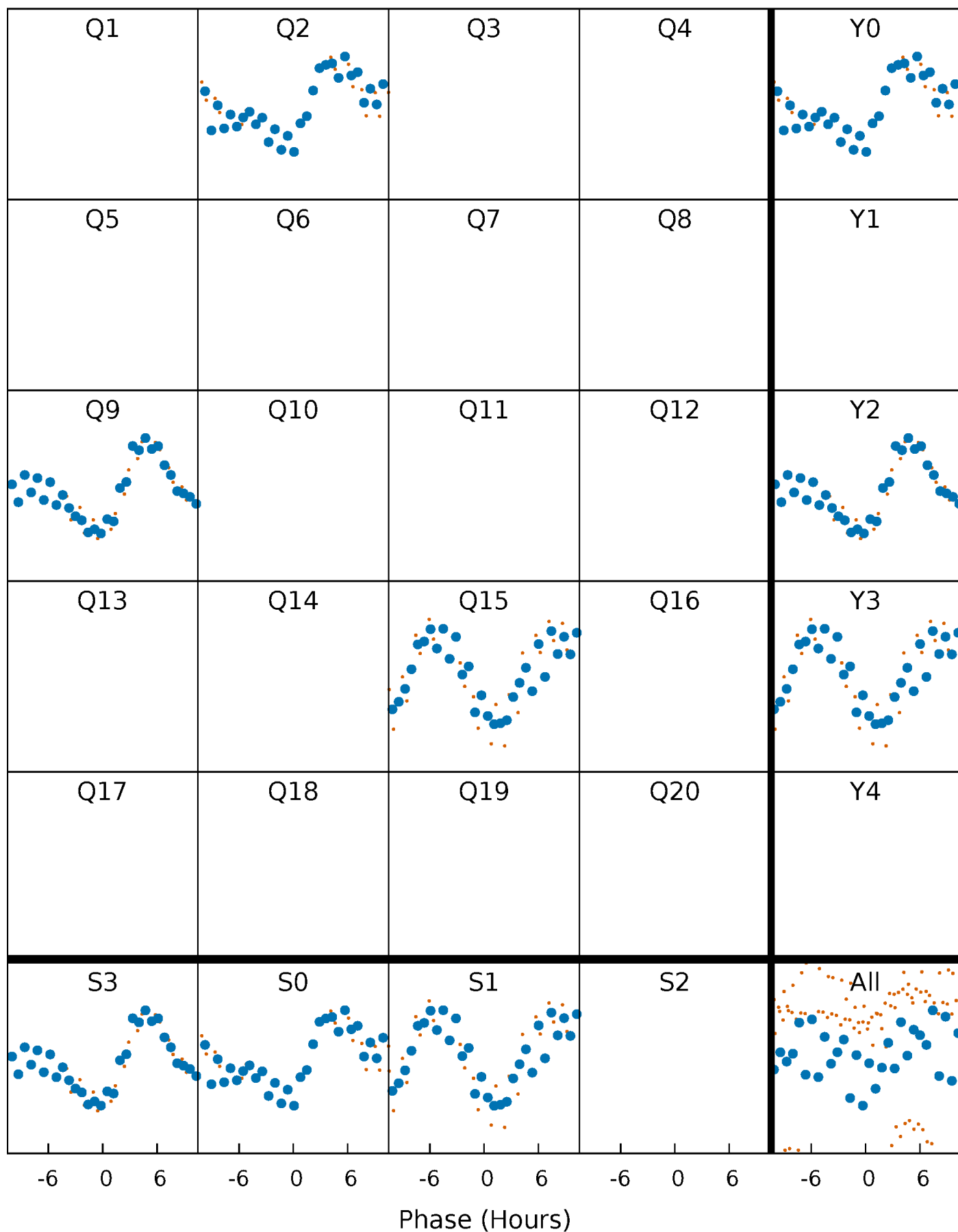


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



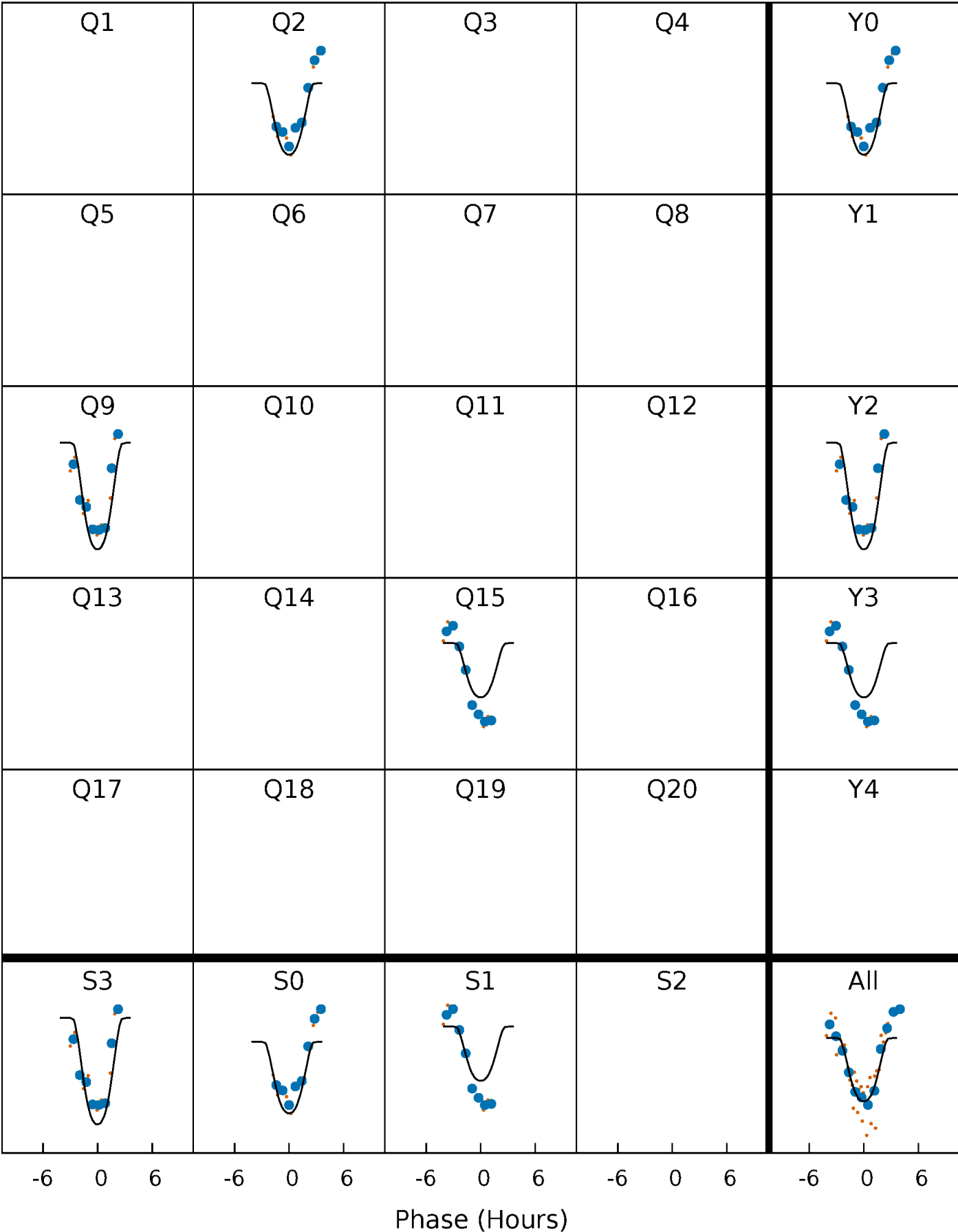
PDC Quarter-Phased Transit Curves

TCE 001724968-05 $P=620.022592$ Days $T_0=198.610140$ (BKJD)



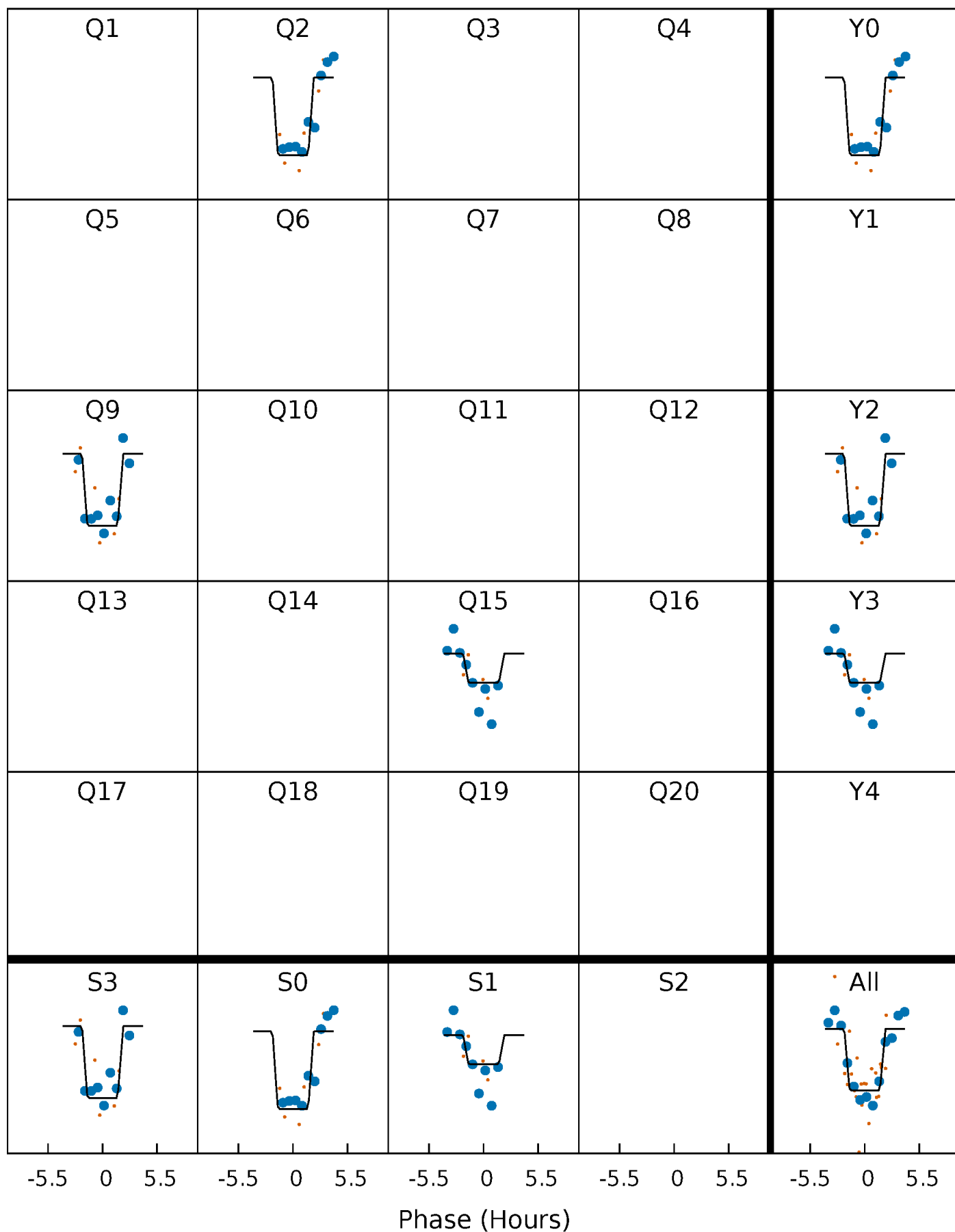
DV Quarter-Phased Transit Curves

TCE 001724968-05 P=620.022592 Days $T_0=198.610140$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

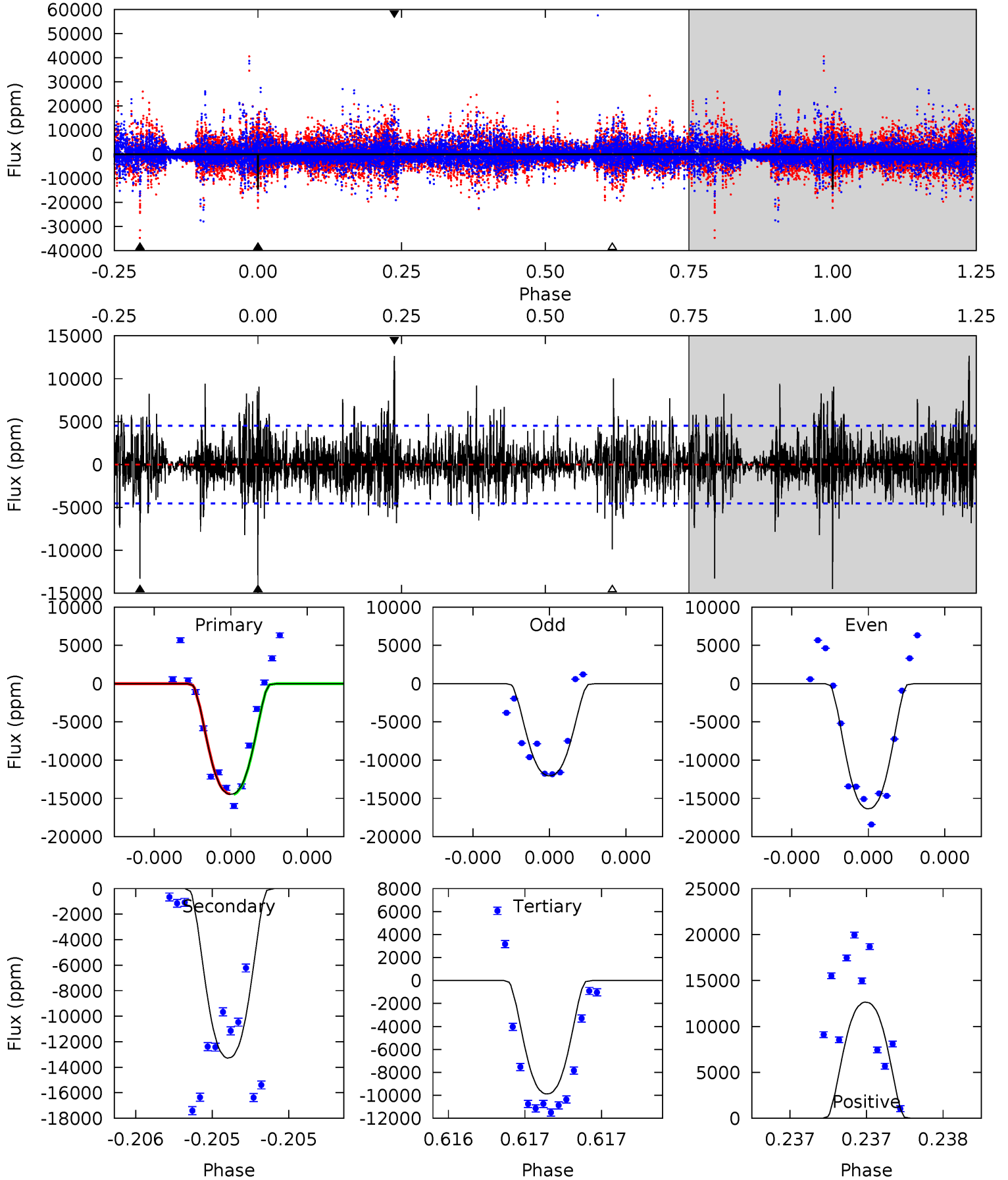
TCE 001724968-05 P=620.029133 Days $T_0=198.592576$ (BKJD)



DV Model-Shift Uniqueness Test

001724968-05, P = 620.022592 Days, E = 198.610140 Days

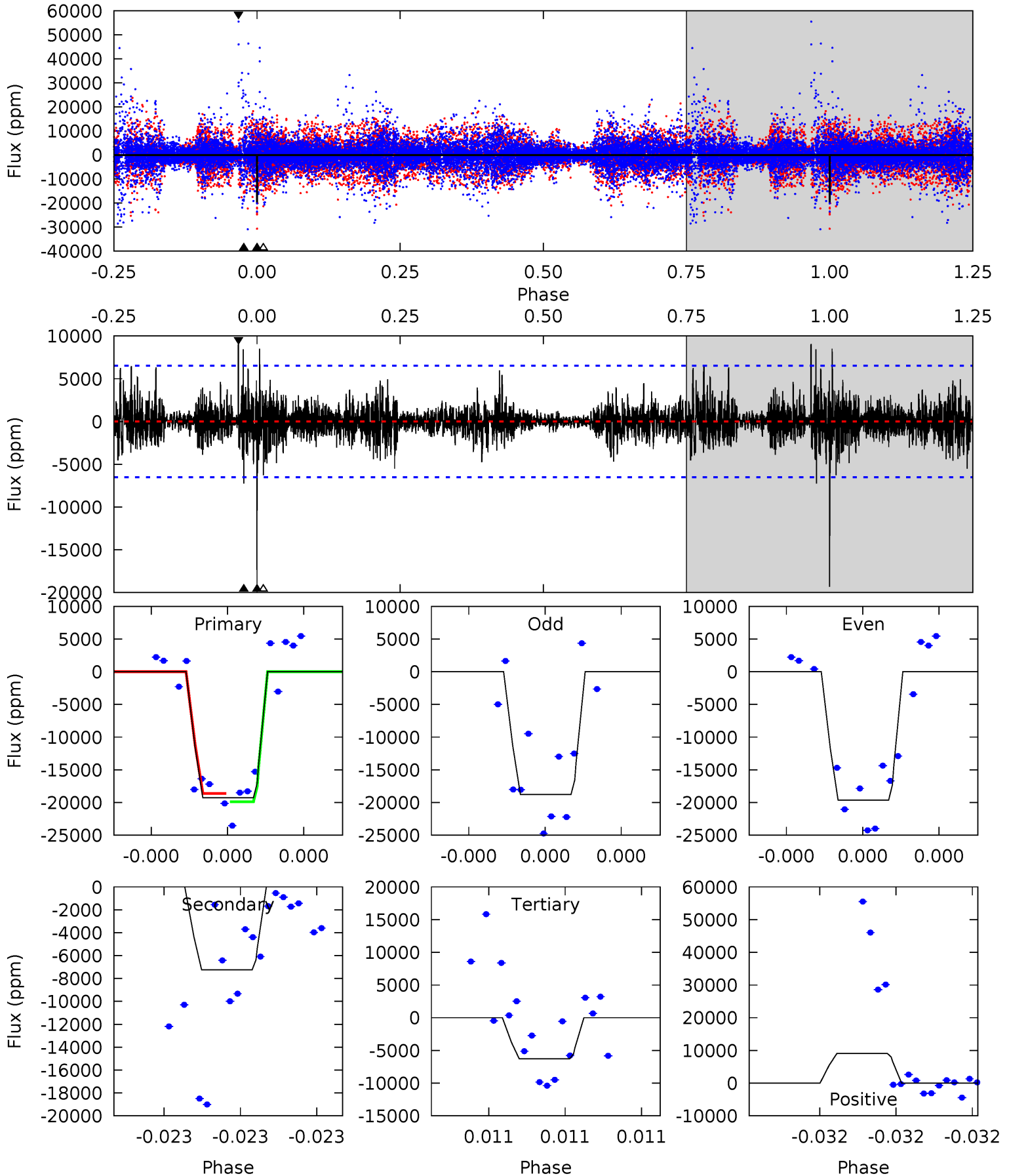
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	16.5	12.3	15.7	5.63	3.57	2.59	5.70	2.27	4.23	0.80	2.57	1.23	0.47	0.05



Alt Model-Shift Uniqueness Test

001724968-05, P = 620.029133 Days, E = 198.592576 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	6.30	5.46	7.88	5.68	3.64	1.13	11.3	8.91	0.84	-1.58	0.34	1.11	0.32	0.56



Stellar Parameters For KIC 001724968

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6896^{+72}_{-92}	$4.301^{+0.026}_{-0.145}$	$0.070^{+0.150}_{-0.150}$	$1.390^{+0.300}_{-0.075}$	$1.411^{+0.104}_{-0.069}$	$0.740^{+0.101}_{-0.294}$
	+1%/-1%	+1%/-3%	+214%/-214%	+22%/-5%	+7%/-5%	+14%/-40%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 001724968-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-13283 ± 804	$20.35^{+4.26}_{-3.90}$	402^{+19}_{-11}	6528^{+759}_{-561}	45625^{+23979}_{-14795}
Alt.	-7238 ± 1149	$22.36^{+4.44}_{-3.97}$	401^{+21}_{-10}	5359^{+540}_{-413}	20246^{+10633}_{-6537}

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

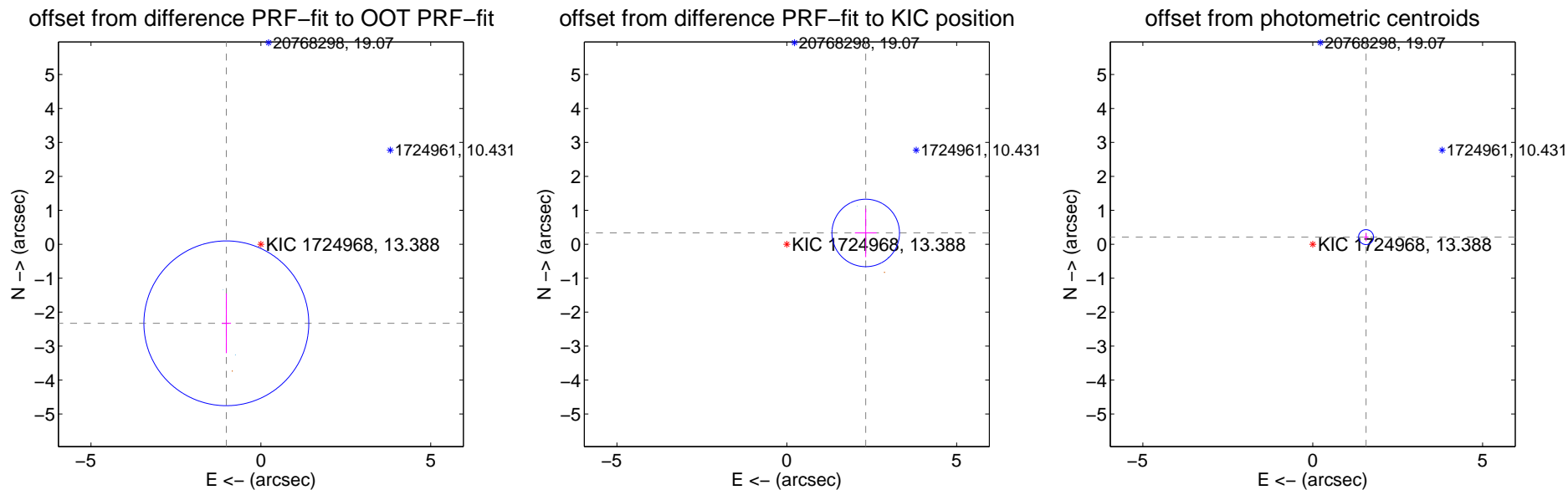
DV Centroid Data

Supplemental centroid analysis for 001724968-05. Kepler magnitude: 13.39. Transit SNR 8.50

There are 2 quarters with good PRF difference image offsets

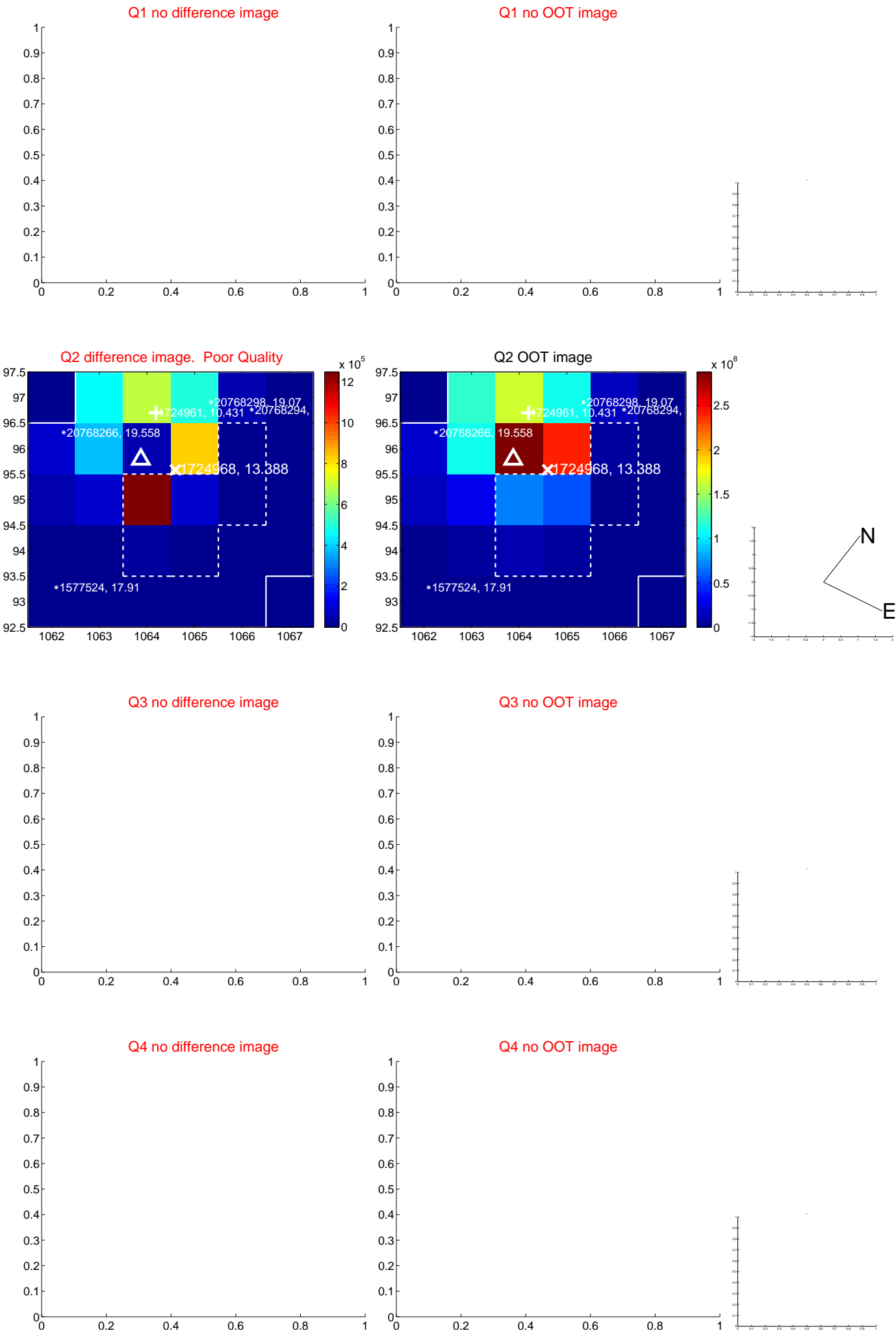
The OOT PRF centroid is offset from the target star catalog position by about 4.71 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.541 ± 0.809	3.14	1.016 ± 0.137	-2.329 ± 0.881
PRF-fit source offset from KIC position	2.348 ± 0.331	7.08	-2.324 ± 0.319	0.333 ± 0.712
photometric centroid source offset	1.58 ± 0.07	21.57	-1.57 ± 0.07	0.21 ± 0.12



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

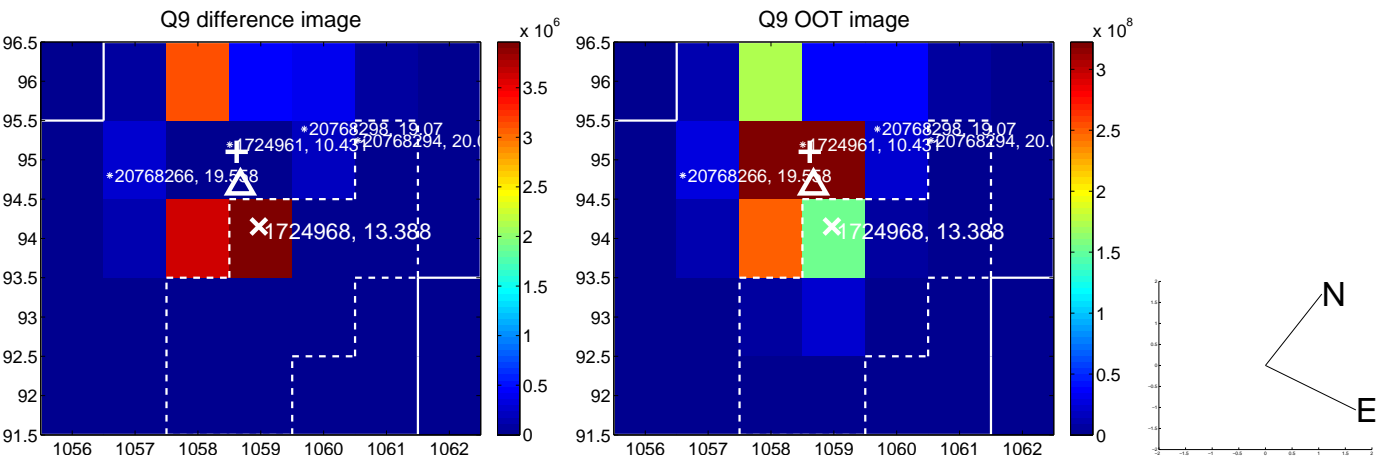
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



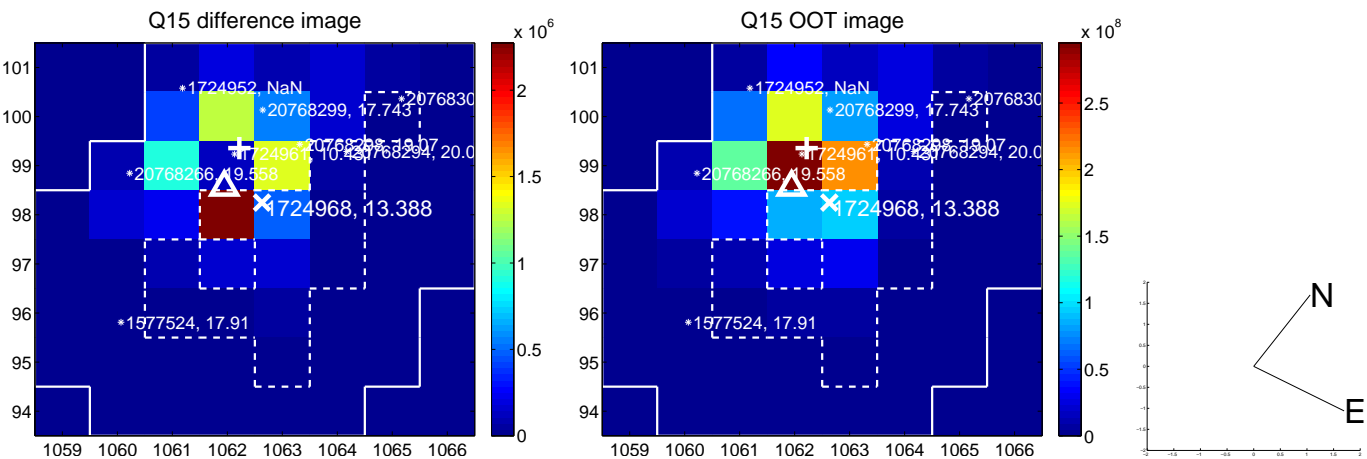
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



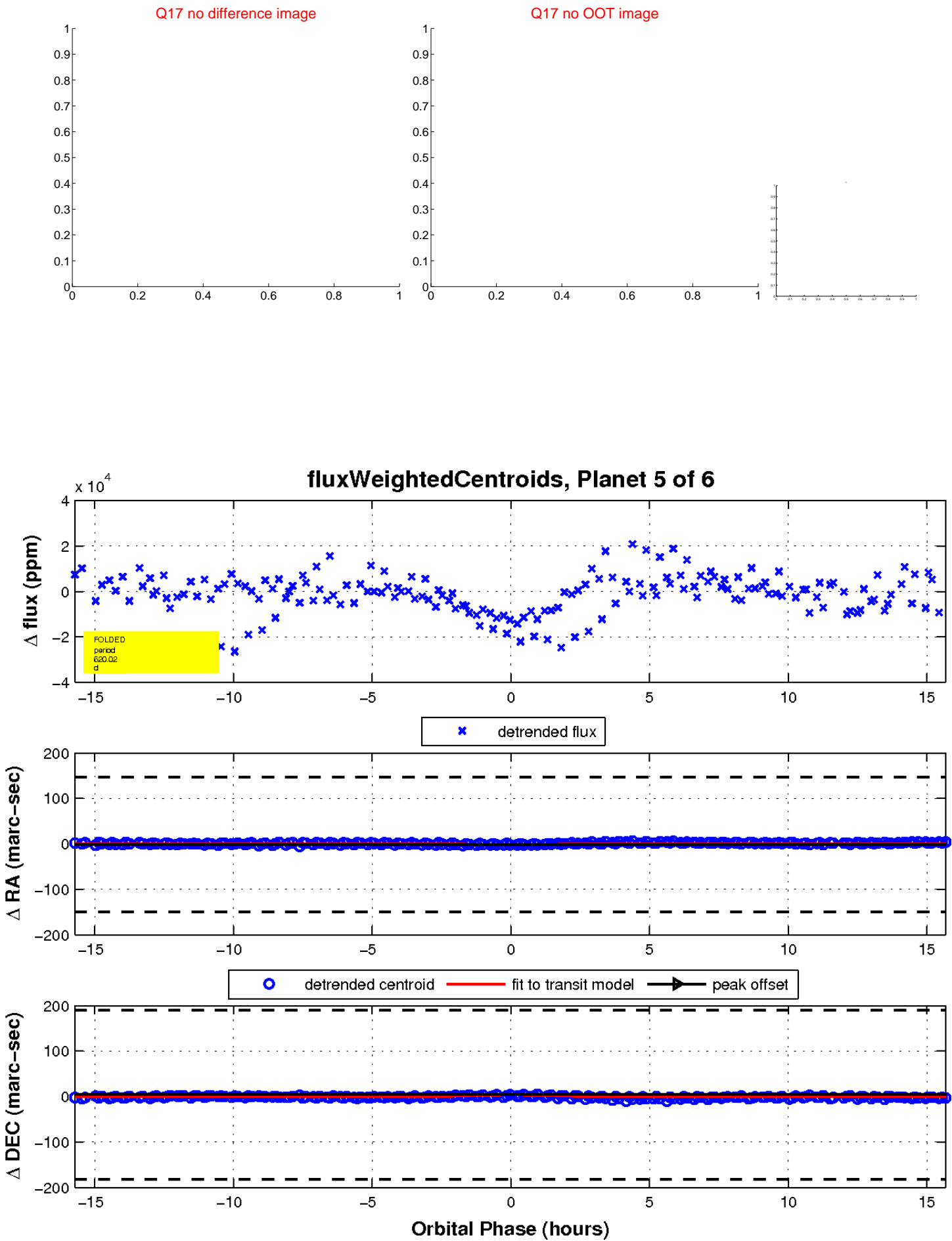
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



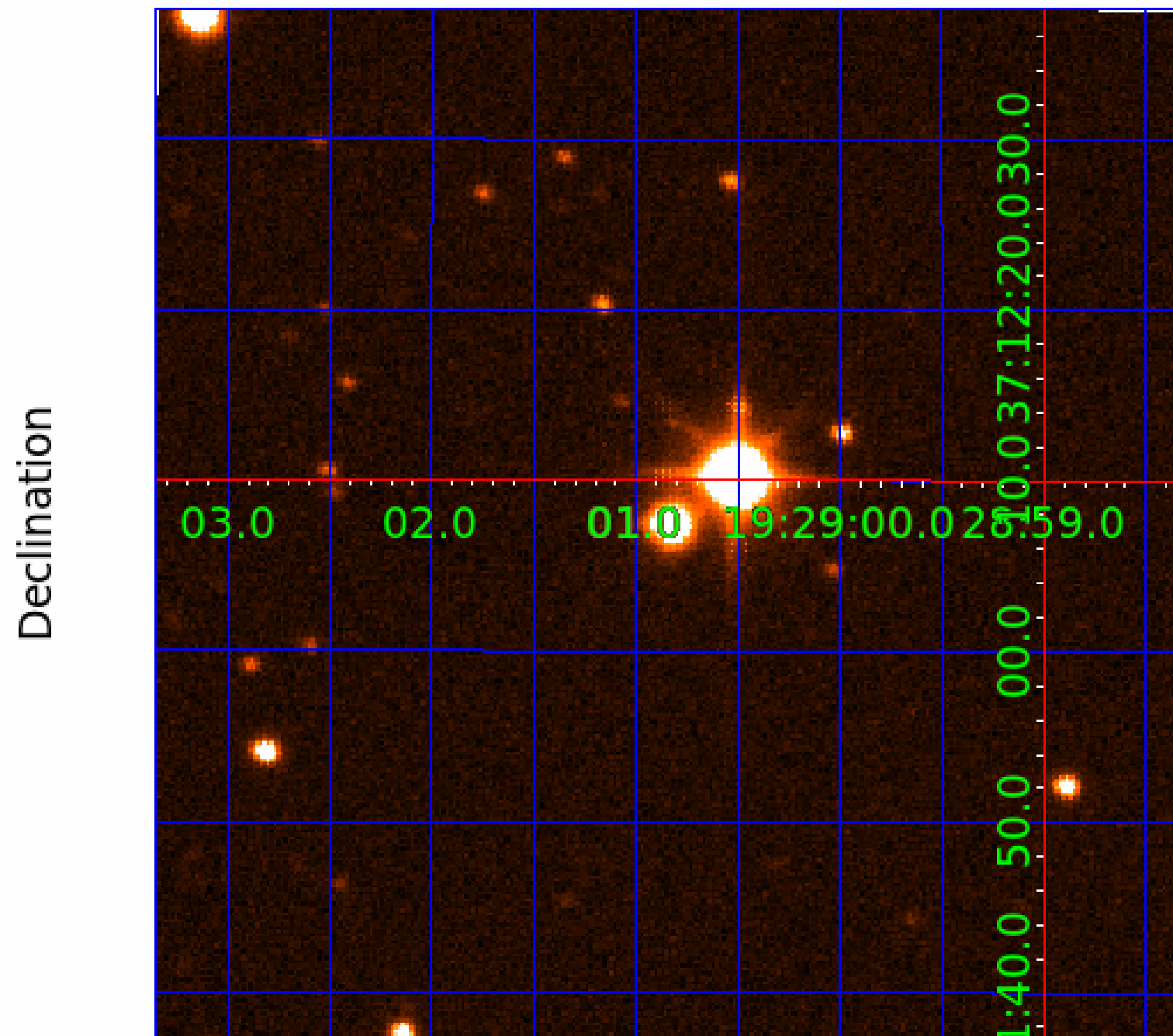
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 001724968

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})
001724968-01	OBS	No	0.620597	131.935669	177.9	2.799	8.0	9.1	1.39	6896	2.38	15353.73
001724968-02	OBS	No	305.116218	350.423599	18454.6	8.605	8.7	9.1	1.39	6896	21.07	3.96
001724968-03	OBS	No	126.318151	179.769394	5567.8	3.556	8.3	4.7	1.39	6896	10.75	12.82
001724968-04	OBS	No	175.482540	169.955704	13520.6	9.758	9.4	9.7	1.39	6896	21.54	8.27
001724968-05	OBS	No	620.022592	198.610140	14492.6	5.262	8.8	8.5	1.39	6896	19.40	1.54
001724968-06	OBS	No	139.783855	214.409947	631.3	4.500	9.3	-1.0	1.39	6896	3.53	11.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001724968-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
001724968-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
001724968-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS—HALO_GHOST
001724968-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
001724968-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_KIC_POS
001724968-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

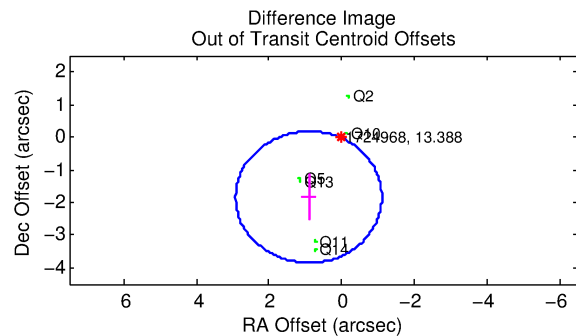
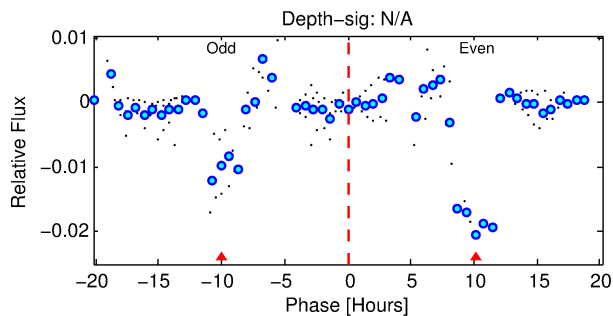
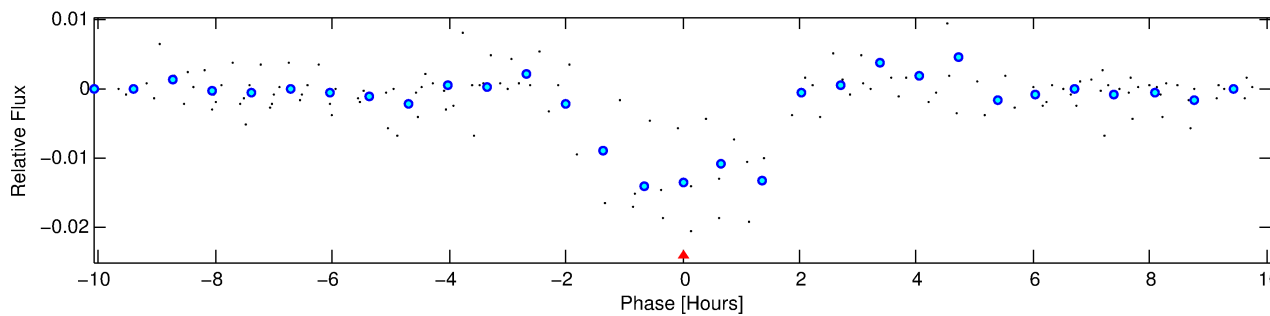
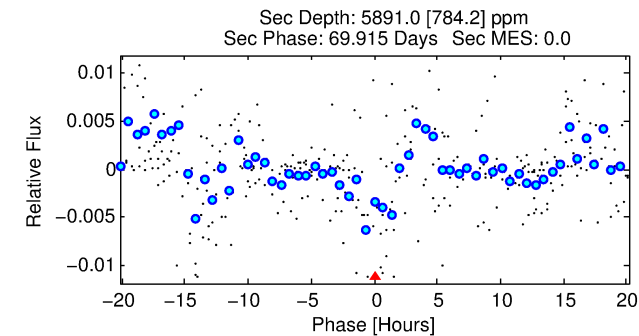
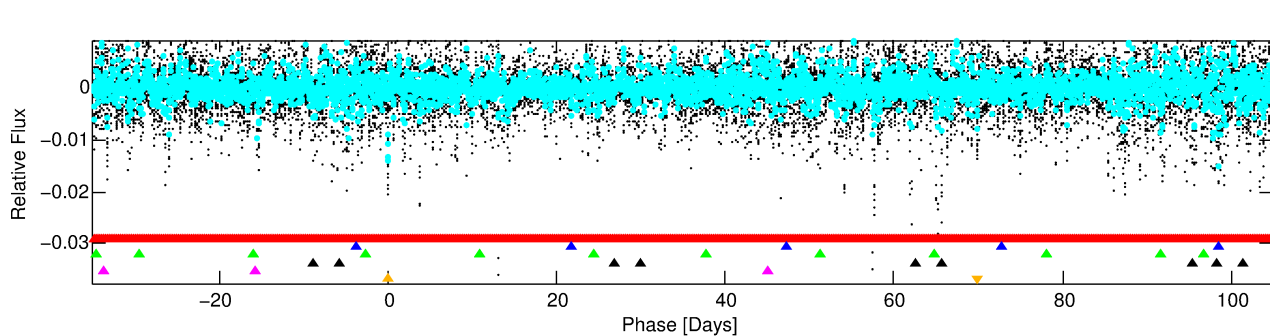
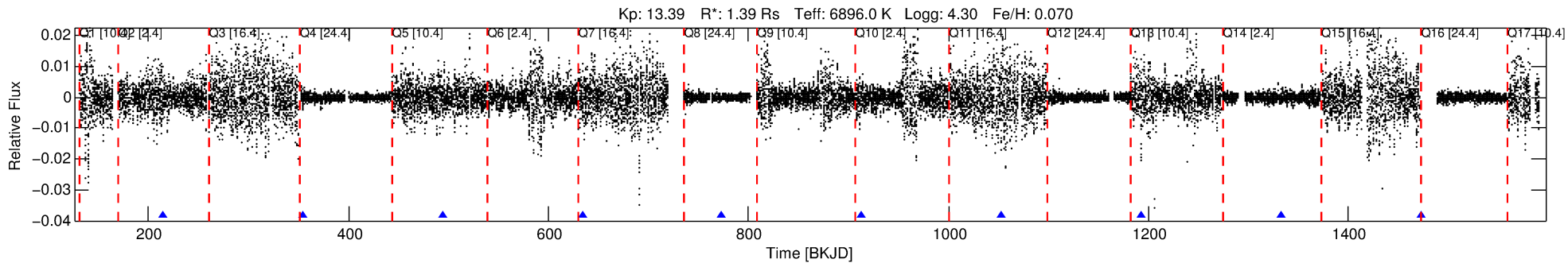
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001724968-06

No Significant Match Found

DV One-Page Summary

KIC: 1724968 Candidate: 6 of 6 Period: 139.784 d



TPS TCE Results:

Period = 139.78385 d
Epoch = 214.4099 BKJD

DV fit results are unavailable

DV Diagnostic Results:

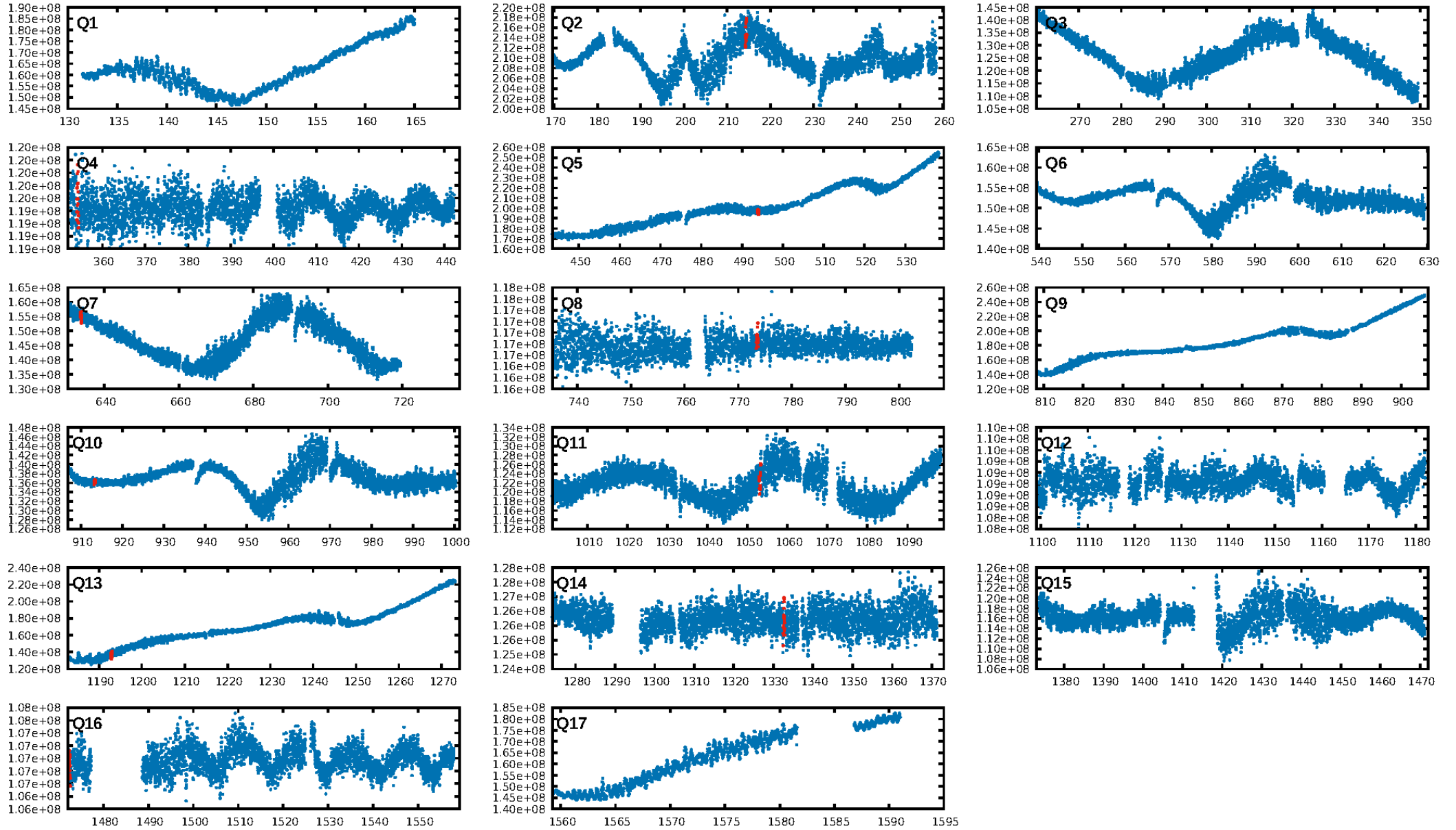
ShortPeriod-sig: 100.0% [56.35σ]
LongPeriod-sig: 100.0% [79.73σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.067

Centroid-sig: 23.6%
Centroid-so: 1.771 arcsec [80.18σ]
OotOffset-rm: 2.053 arcsec [3.06σ]
KicOffset-rm: 2.275 arcsec [4.26σ]
OotOffset-st: 3/1/0/2 [6]
KicOffset-st: 3/1/2/2 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.00 [0/8]

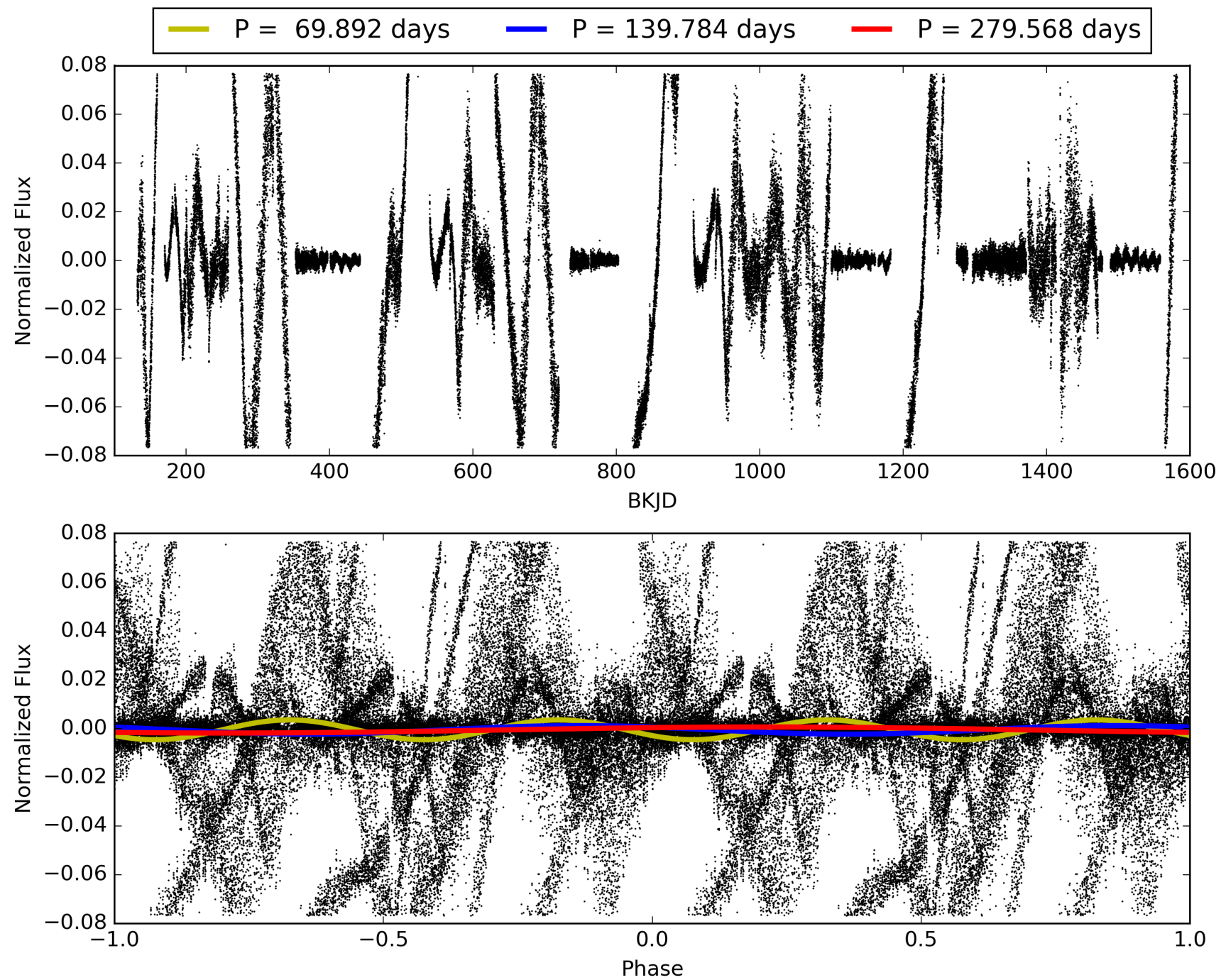
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:01:26 Z

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

TCE 001724968-06, PDC Light Curves

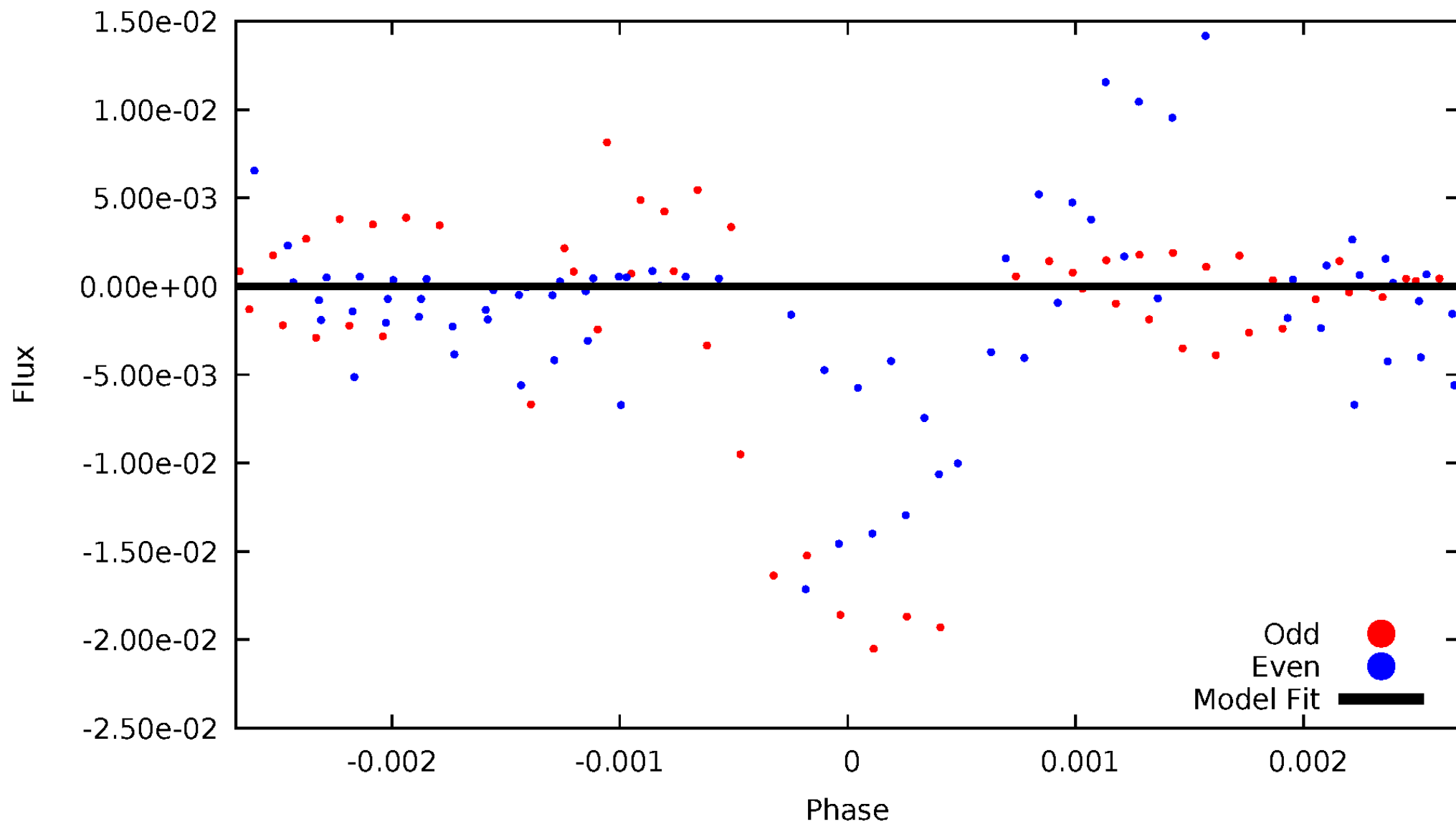


TCE 001724968-06



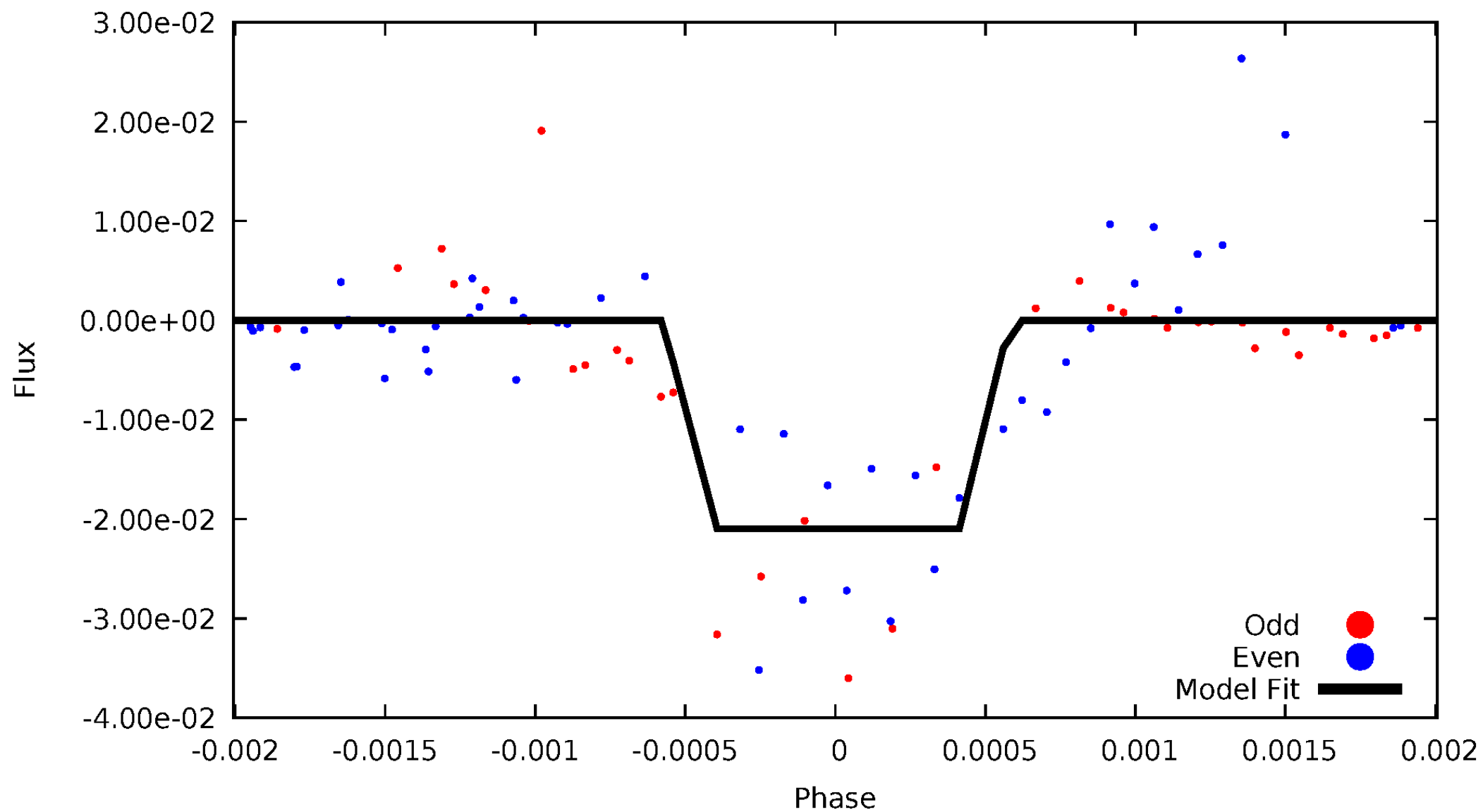
DV Odd/Even

TCE 001724968-06



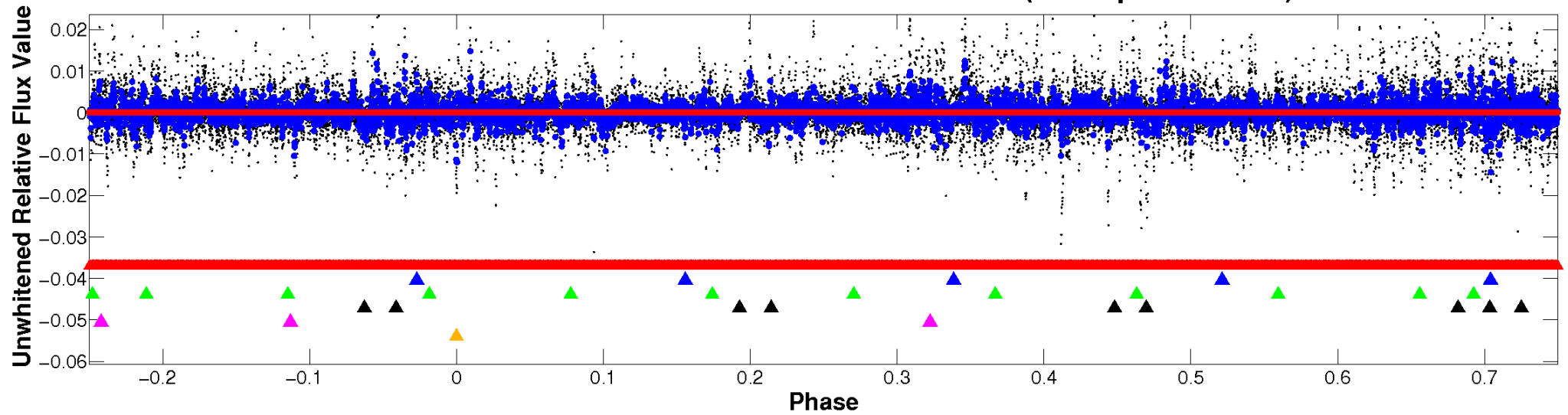
ALT Odd/Even

TCE 001724968-06



Non-Whitened Vs. Whitened Light Curve

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

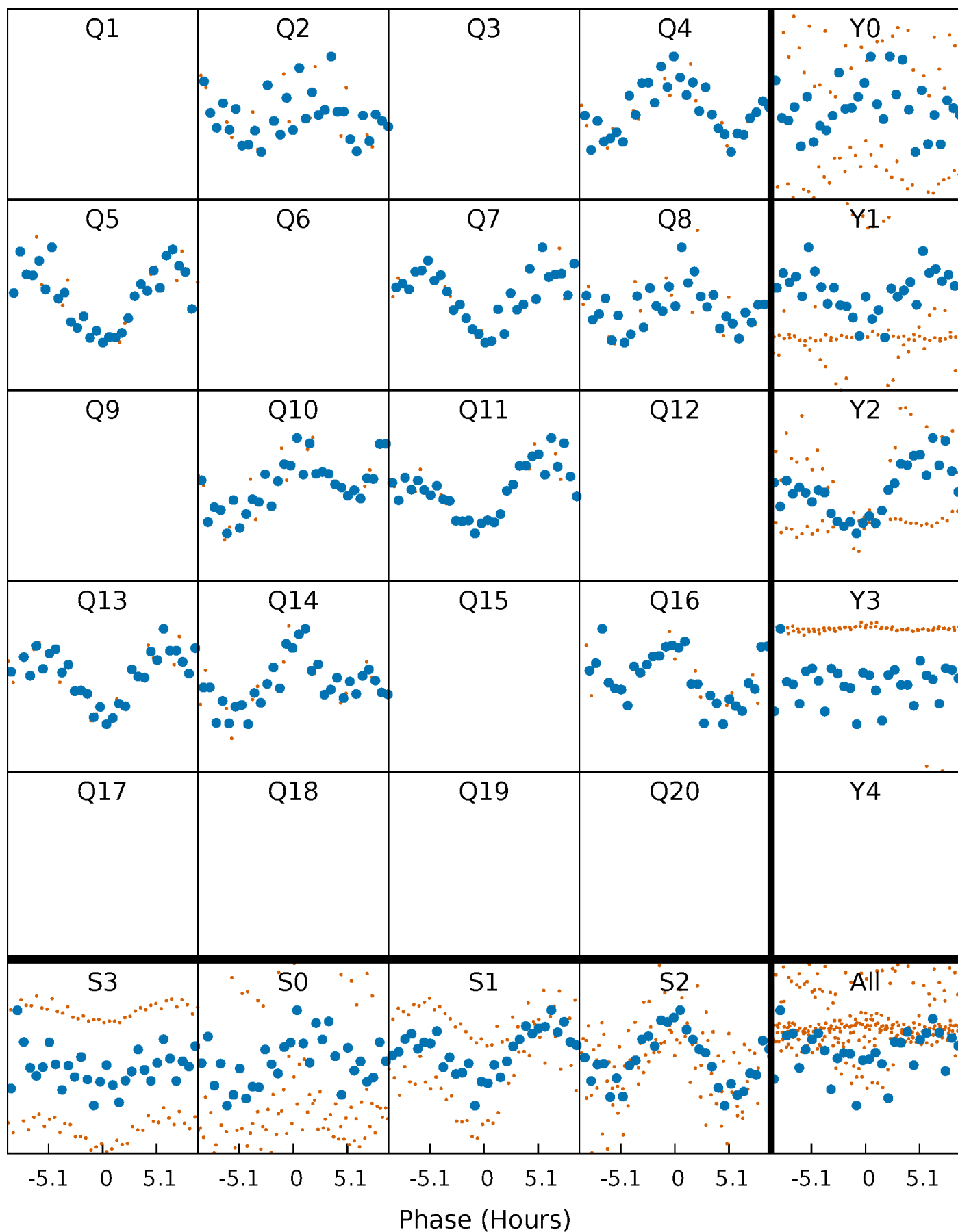


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 001724968-06 P=139.783855 Days $T_0=214.409947$ (BKJD)



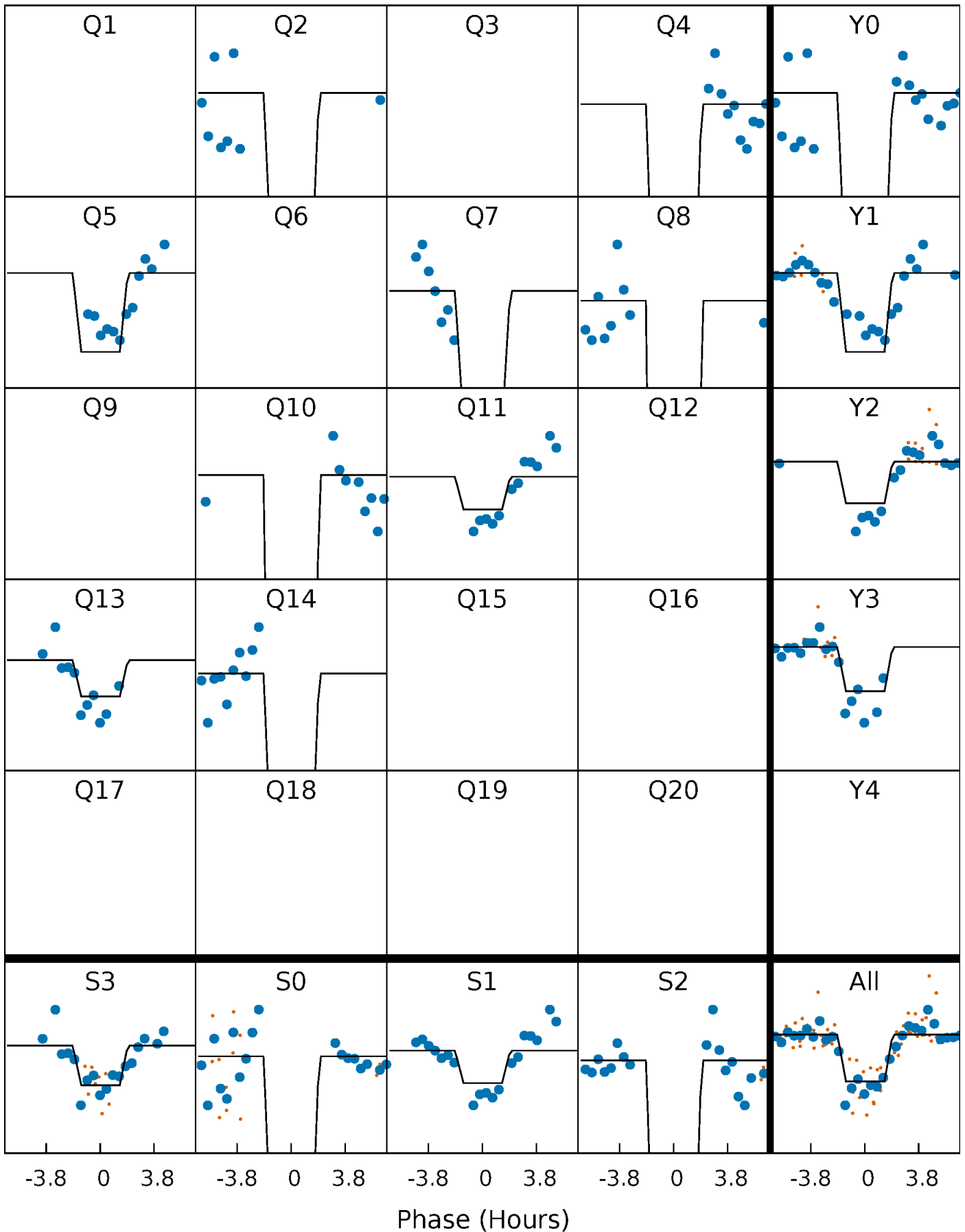
DV Quarter-Phased Transit Curves

TCE 001724968-06 P=139.783855 Days $T_0=214.409947$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

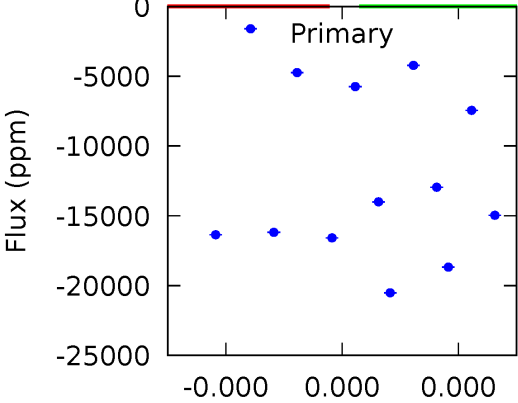
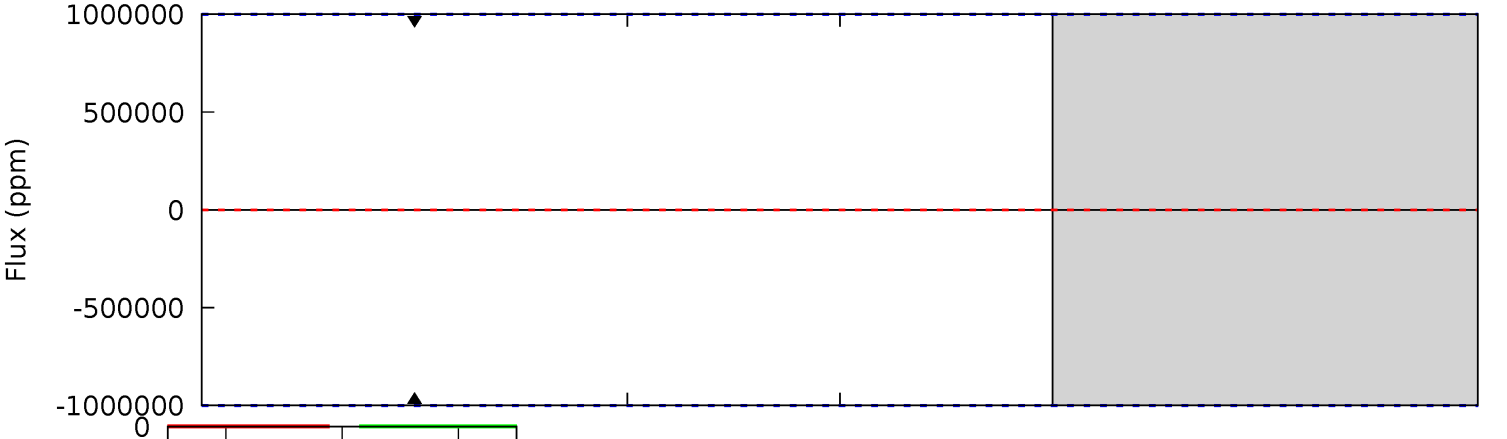
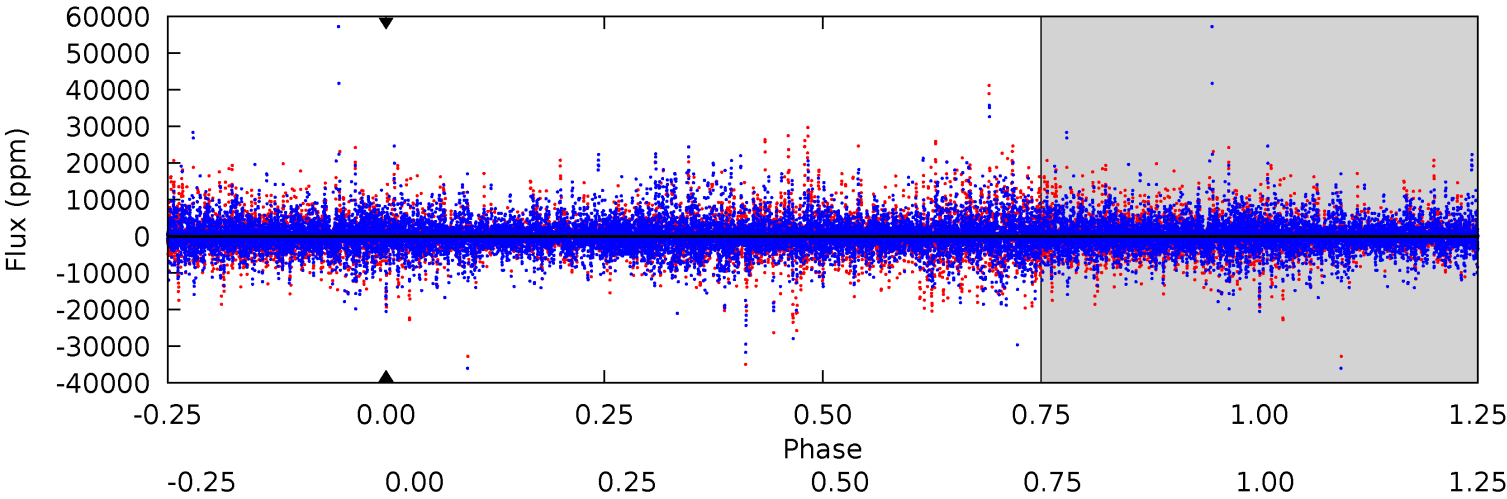
TCE 001724968-06 P=139.783855 Days $T_0=214.419636$ (BKJD)



DV Model-Shift Uniqueness Test

001724968-06, P = 139.783855 Days, E = 74.626092 Days

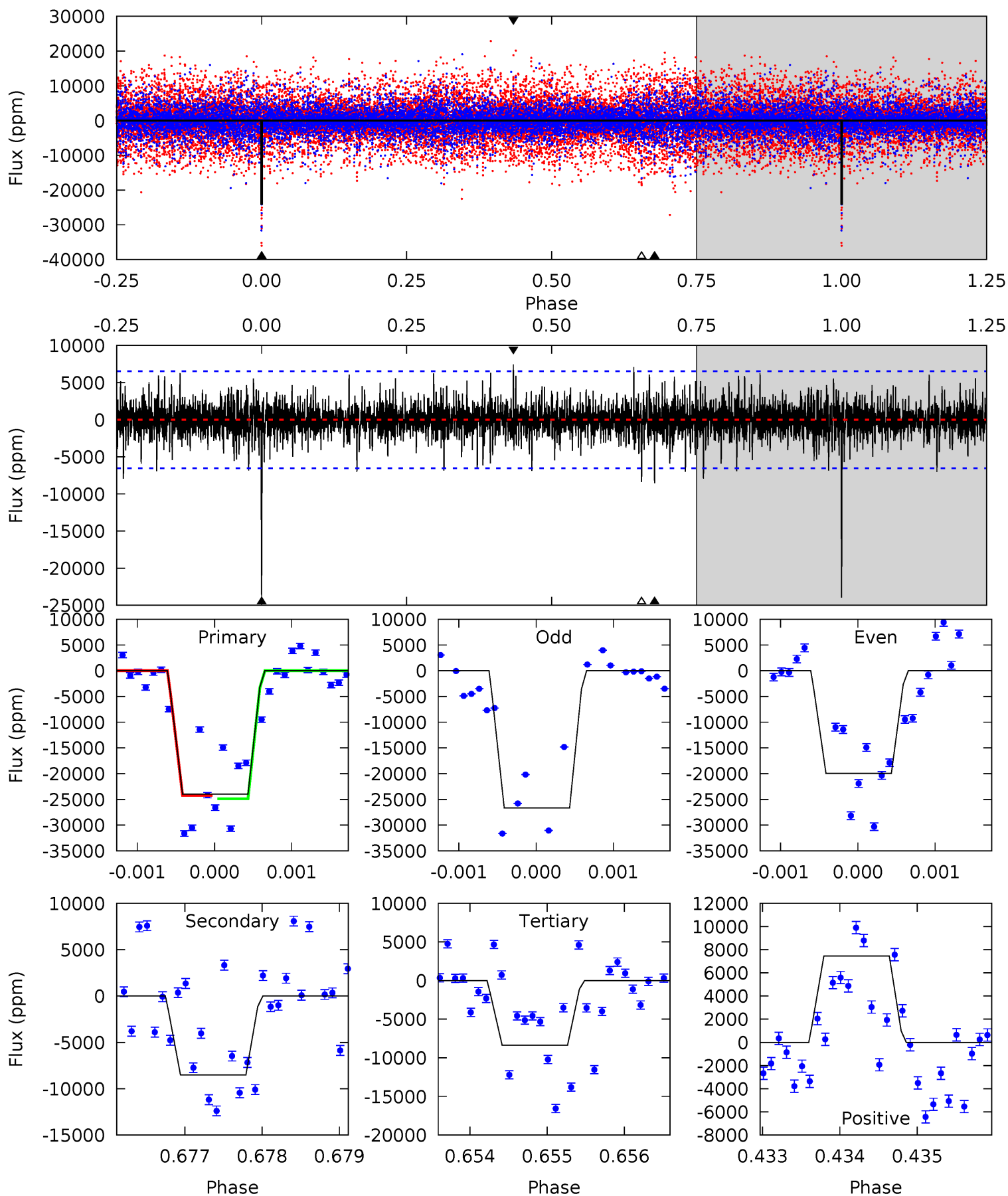
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

001724968-06, P = 139.783855 Days, E = 74.635781 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	7.11	6.99	6.22	5.46	3.30	1.41	13.0	13.8	0.12	0.89	2.31	0.88	0.24	0.26



Stellar Parameters For KIC 001724968

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6896^{+72}_{-92}	$4.301^{+0.026}_{-0.145}$	$0.070^{+0.150}_{-0.150}$	$1.390^{+0.300}_{-0.075}$	$1.411^{+0.104}_{-0.069}$	$0.740^{+0.101}_{-0.294}$
	+1%/-1%	+1%/-3%	+214%/-214%	+22%/-5%	+7%/-5%	+14%/-40%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 001724968-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$12.69^{+12.14}_{-8.83}$	660^{+36}_{-17}	5008^{+27172}_{-36365}	$1985^{+227691}_{-243893}$
Alt.	-8518 ± 1197	$24.43^{+15.19}_{-13.20}$	661^{+31}_{-17}	5307^{+2604}_{-925}	2690^{+9580}_{-1668}

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

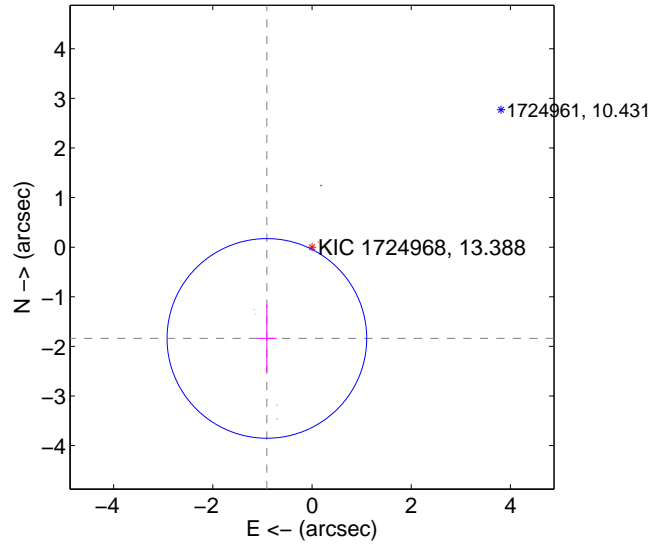
Supplemental centroid analysis for 001724968-06. Kepler magnitude: 13.39. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

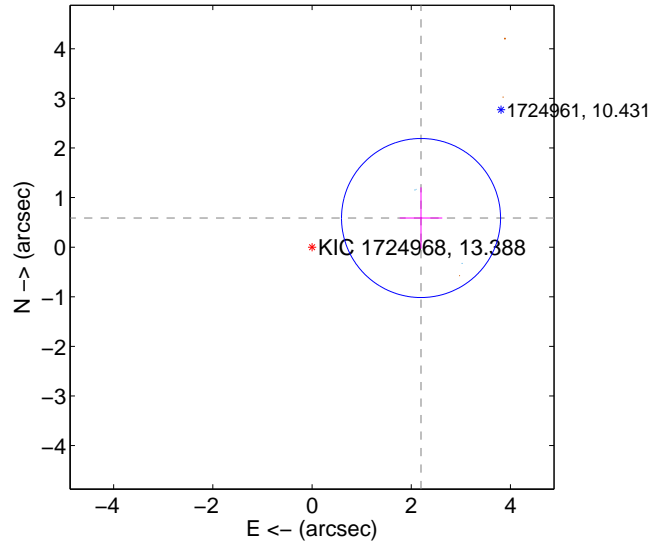
The OOT PRF centroid is offset from the target star catalog position by about 4.68 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.053 ± 0.671	3.06	0.910 ± 0.197	-1.840 ± 0.684
PRF-fit source offset from KIC position	2.275 ± 0.534	4.26	-2.198 ± 0.429	0.588 ± 0.618
photometric centroid source offset	1.77 ± 0.02	80.18	-1.71 ± 0.02	0.47 ± 0.04

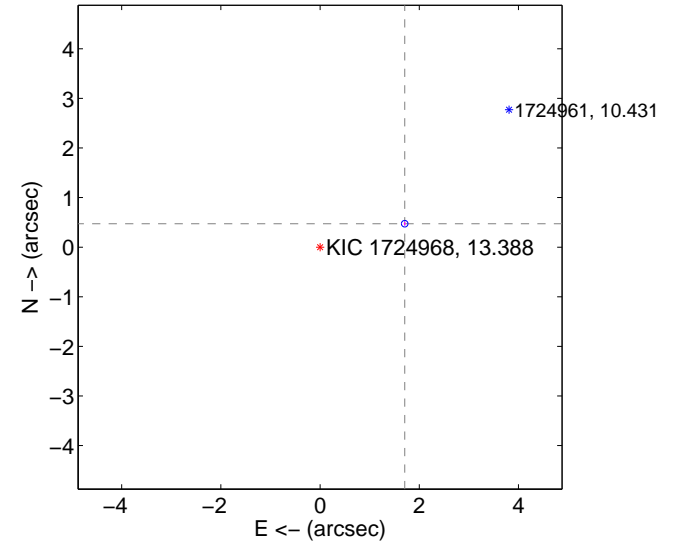
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



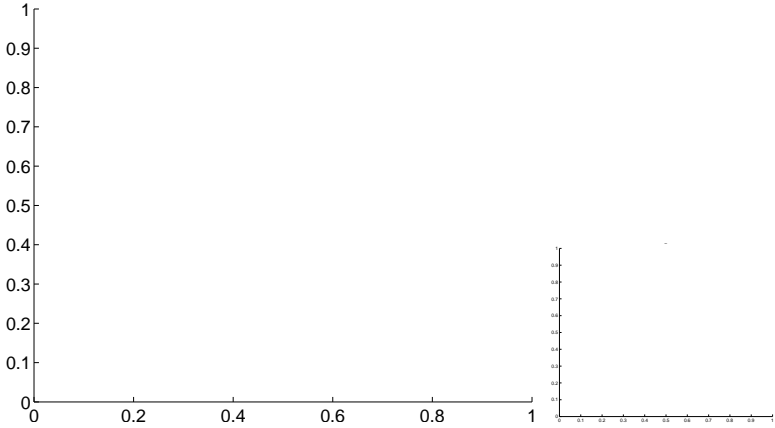
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

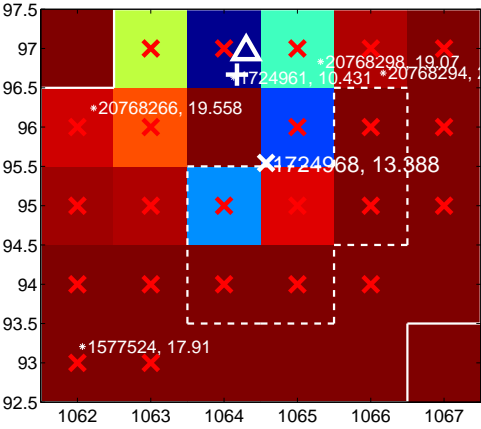
Q1 no difference image



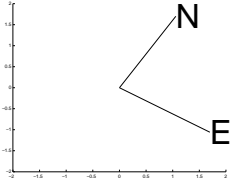
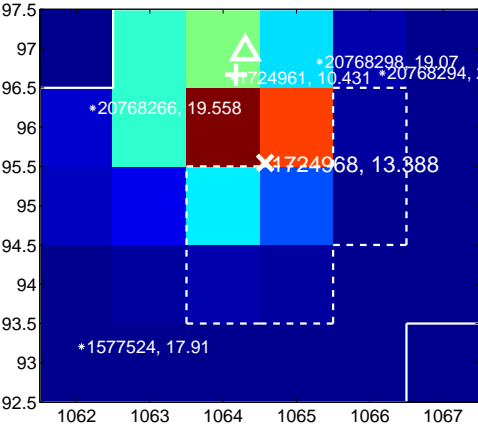
Q1 no OOT image



Q2 difference image. Poor Quality



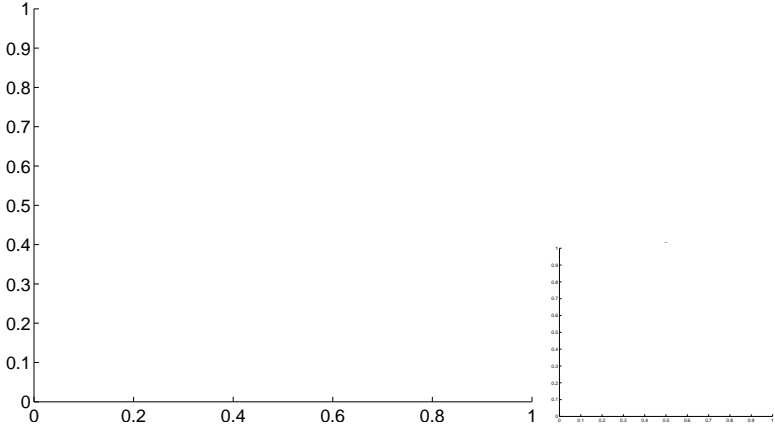
Q2 OOT image



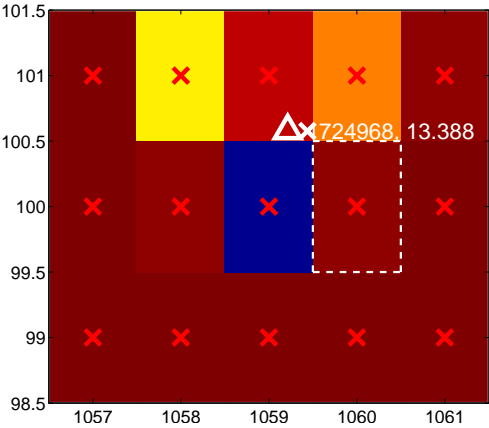
Q3 no difference image



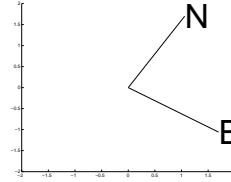
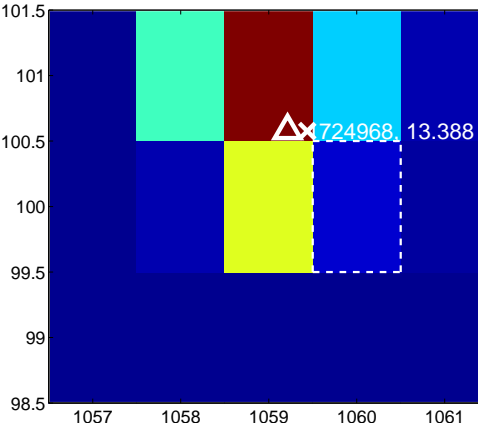
Q3 no OOT image



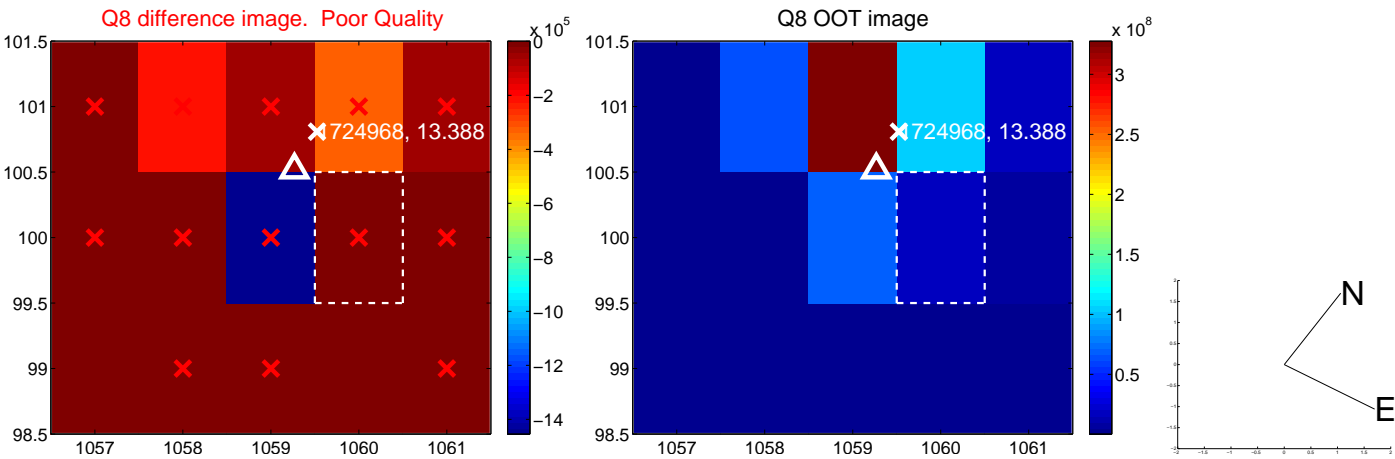
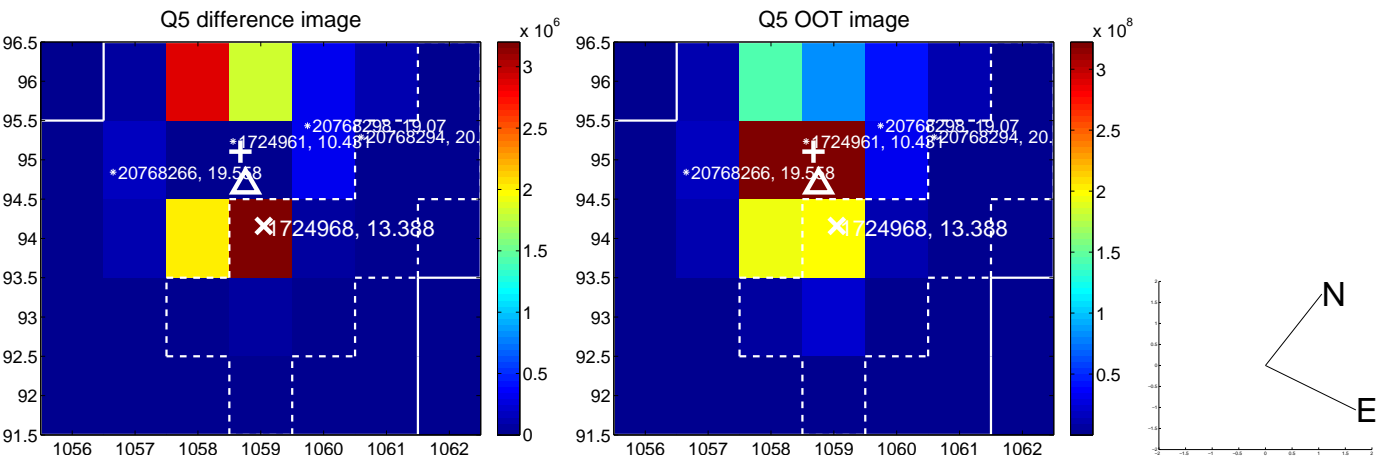
Q4 difference image. Poor Quality



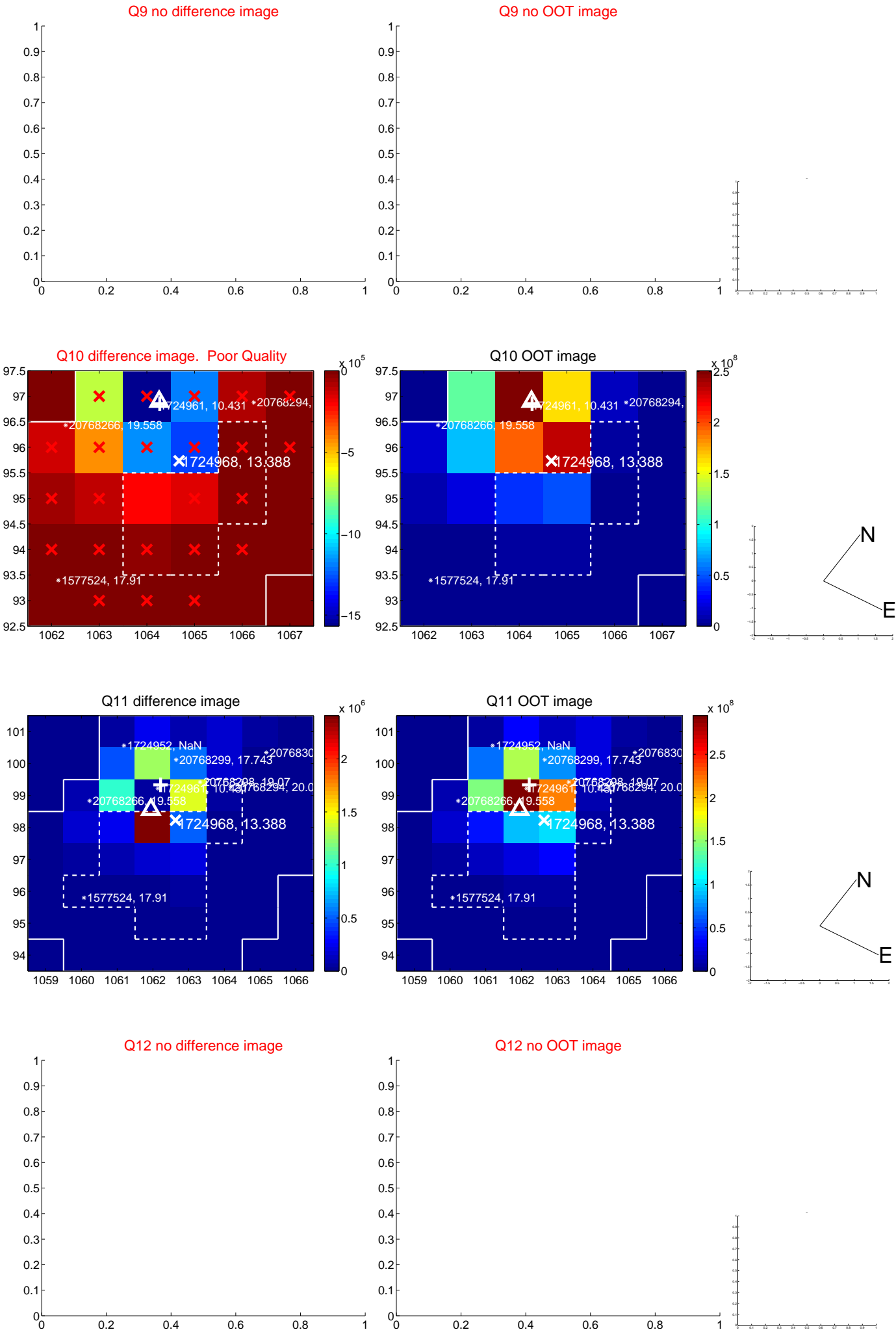
Q4 OOT image



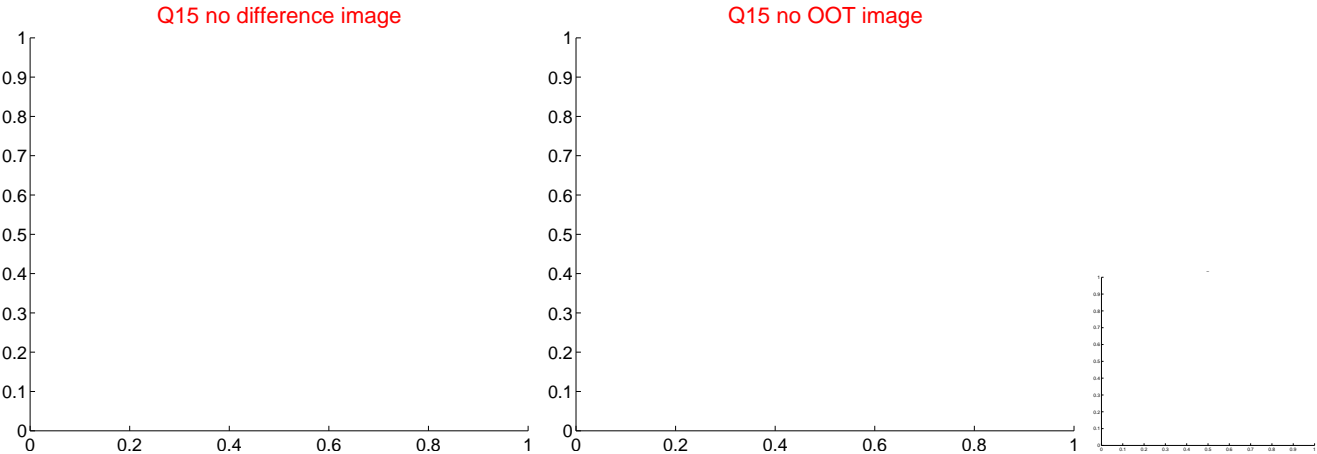
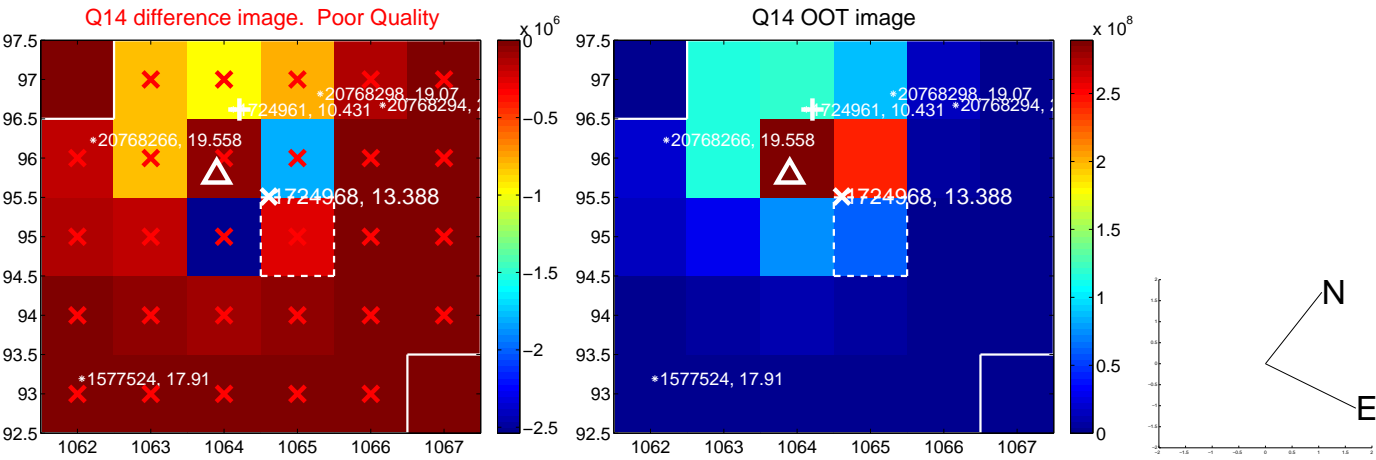
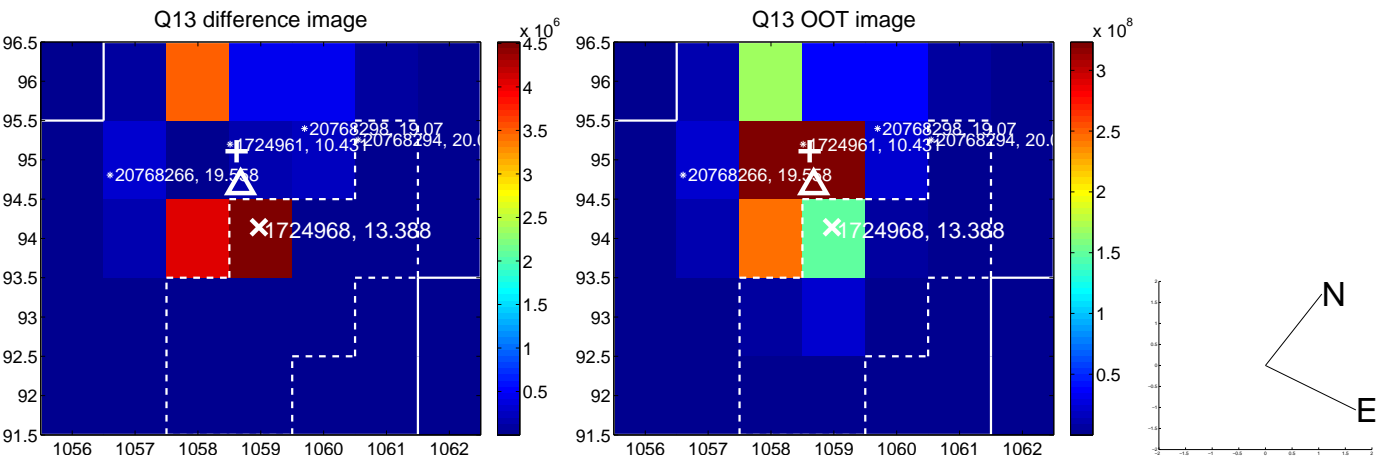
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



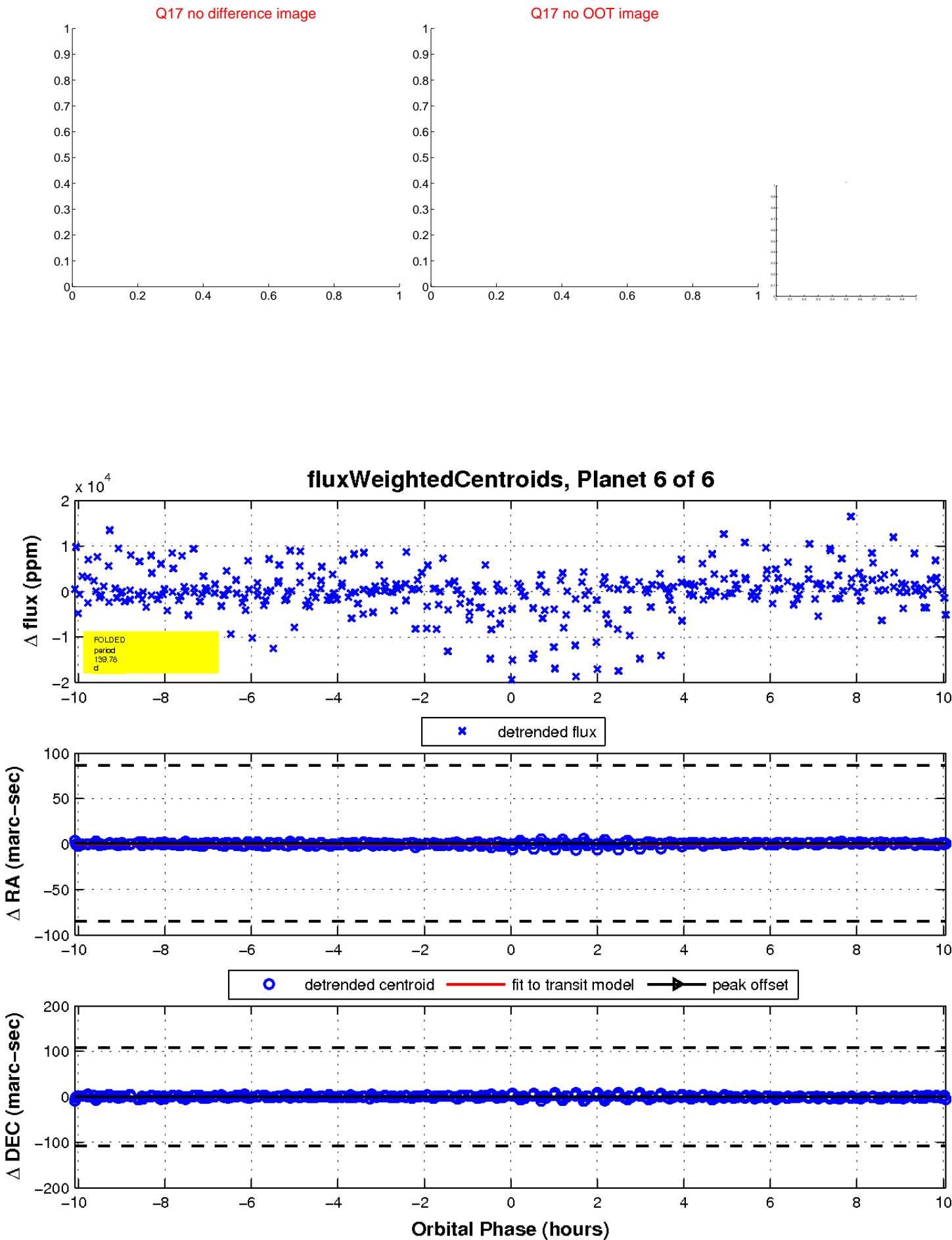
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

