

KIC 005093168

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})
005093168-01	OBS	No	505.358344	248.247161	3857.3	4.605	12.3	5.1	4.40	4820	26.74	6.53
005093168-02	OBS	No	425.283864	372.037134	3723.9	4.807	11.4	6.4	4.40	4820	47.69	8.22
005093168-03	OBS	No	0.574287	131.580849	190.8	1.322	11.4	11.3	4.40	4820	6.04	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005093168-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005093168-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005093168-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

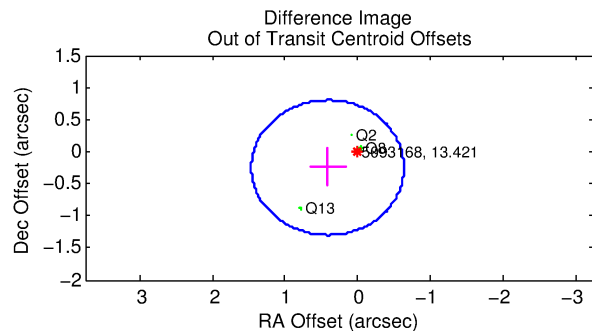
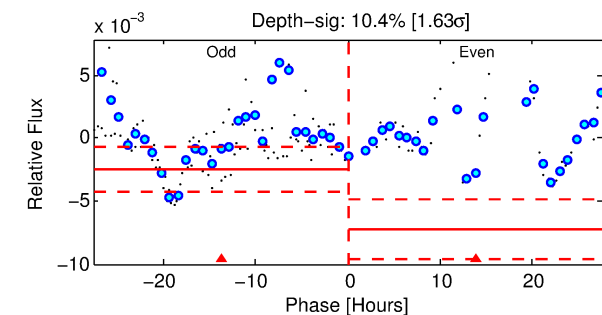
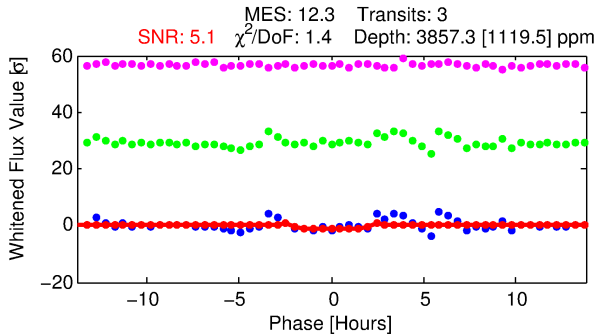
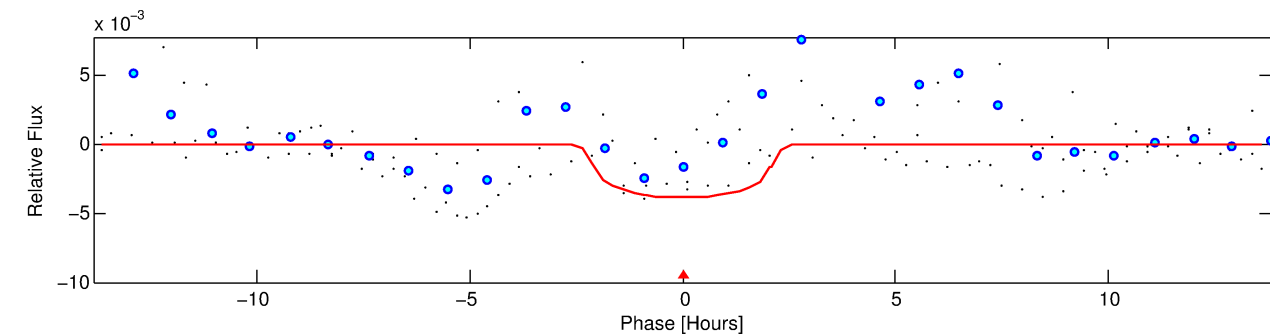
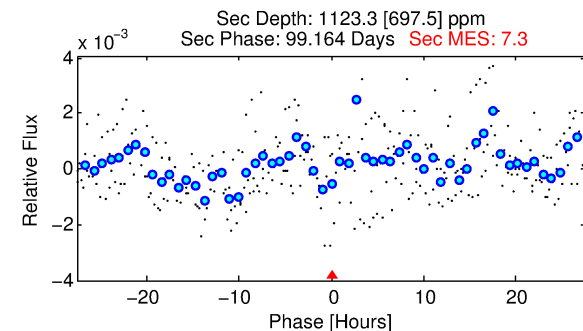
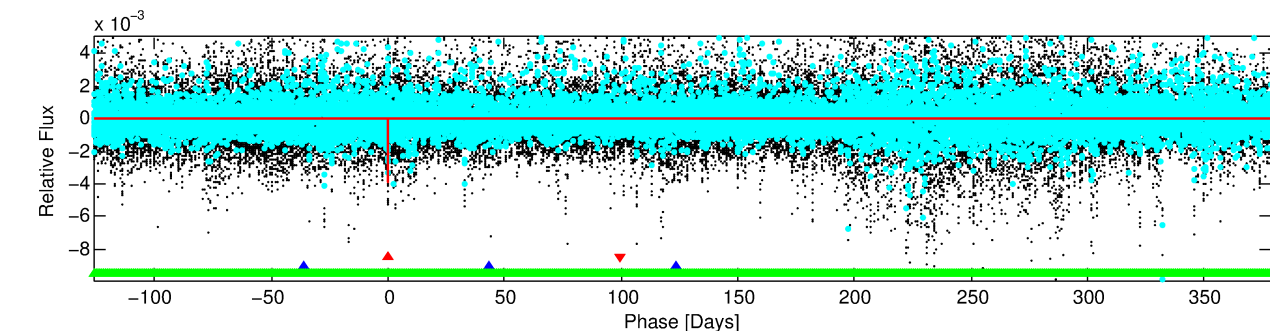
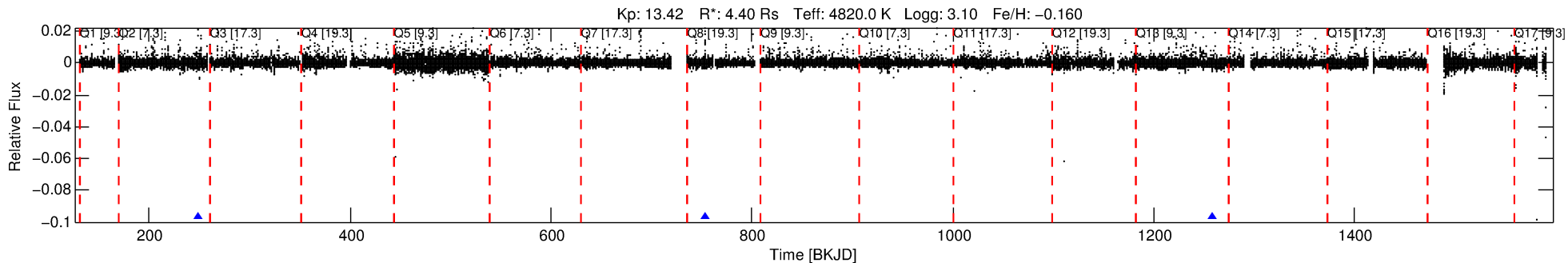
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005093168-01

No Significant Match Found

DV One-Page Summary

KIC: 5093168 Candidate: 1 of 3 Period: 505.358 d



DV Fit Results:

Period = 505.35834 [0.00774] d
Epoch = 248.2472 [0.0116] BKJD
Rp/R* = 0.0556 [0.1061]
a/R* = 850.83 [5176.84]
b = 0.29 [19.58]
Seff = 6.53 [5.03]
Teq = 408 [79] K
Rp = 26.74 [53.72] Re
a = 1.1986 [0.6331] AU
Ag = 1241.53 [4887.64] [0.25σ]
Teffp = 3741 [3614] K [0.92σ]

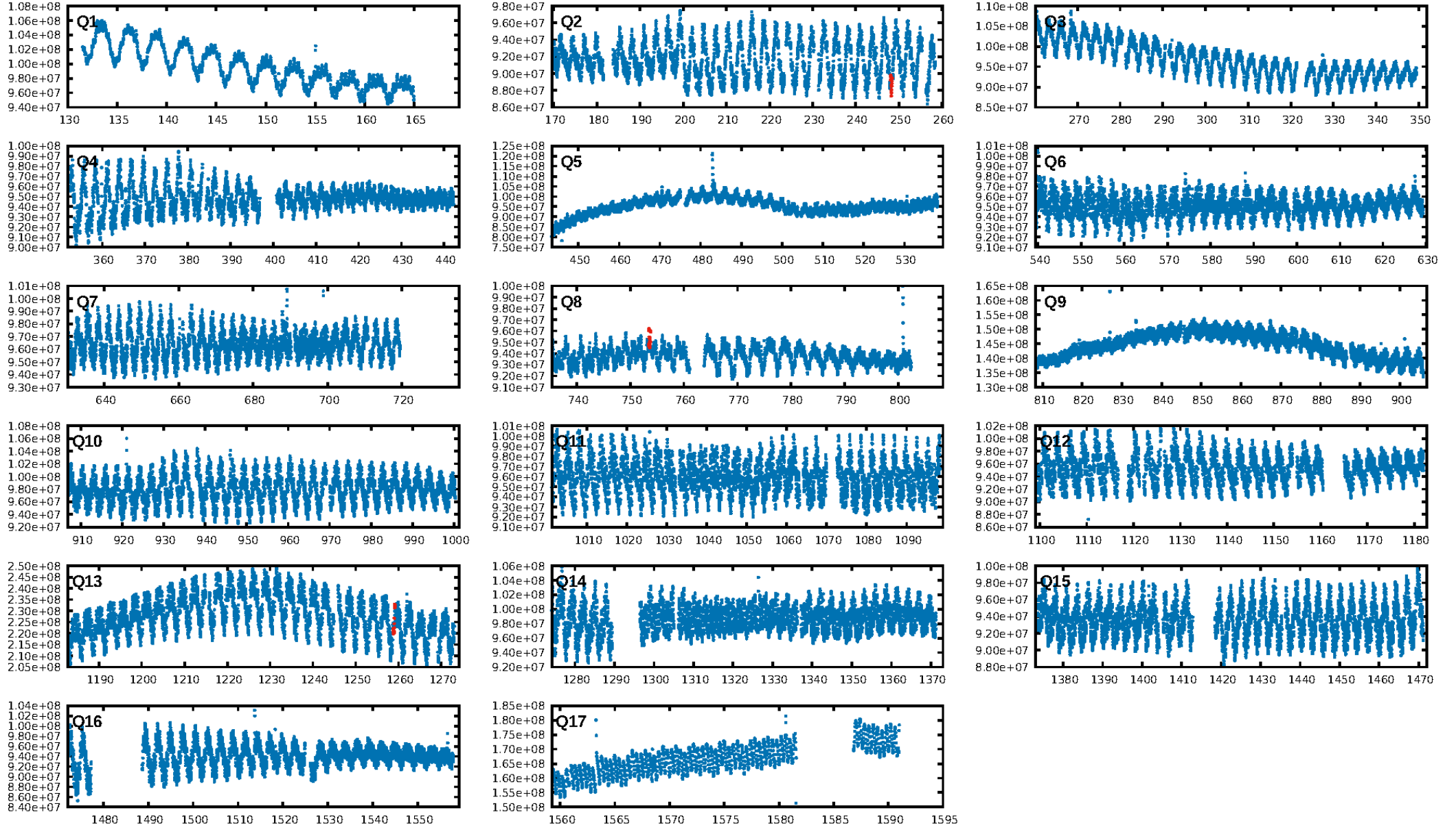
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [288.67σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 11.3%
ModelChiSquareGof-sig: 43.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.6291
Centroid-sig: 0.0%
Centroid-so: 1.979 arcsec [3.05σ]
OotOffset-rm: 0.484 arcsec [1.38σ]
KicOffset-rm: 1.329 arcsec [1.79σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

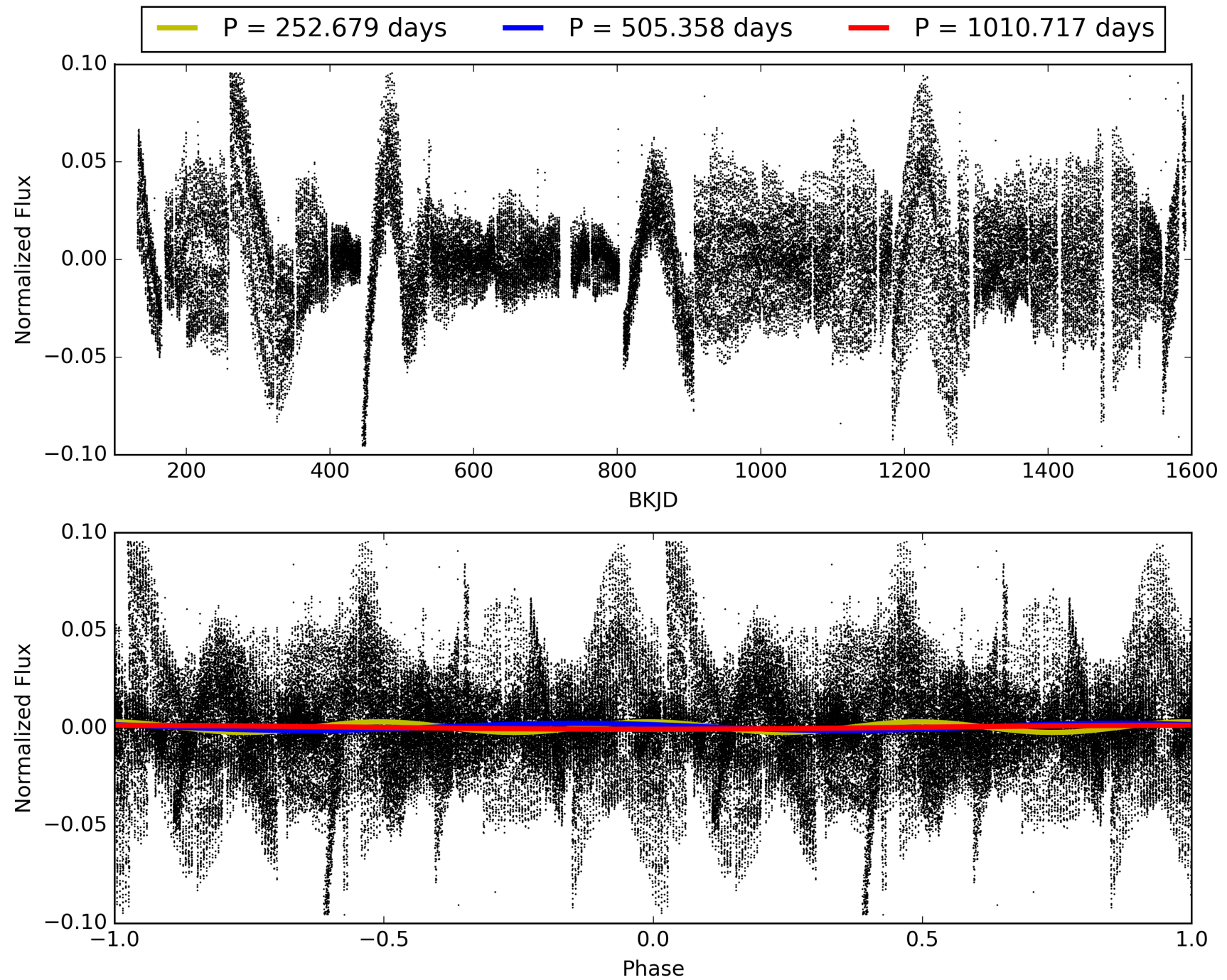
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 15:54:10 Z

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

TCE 005093168-01, PDC Light Curves

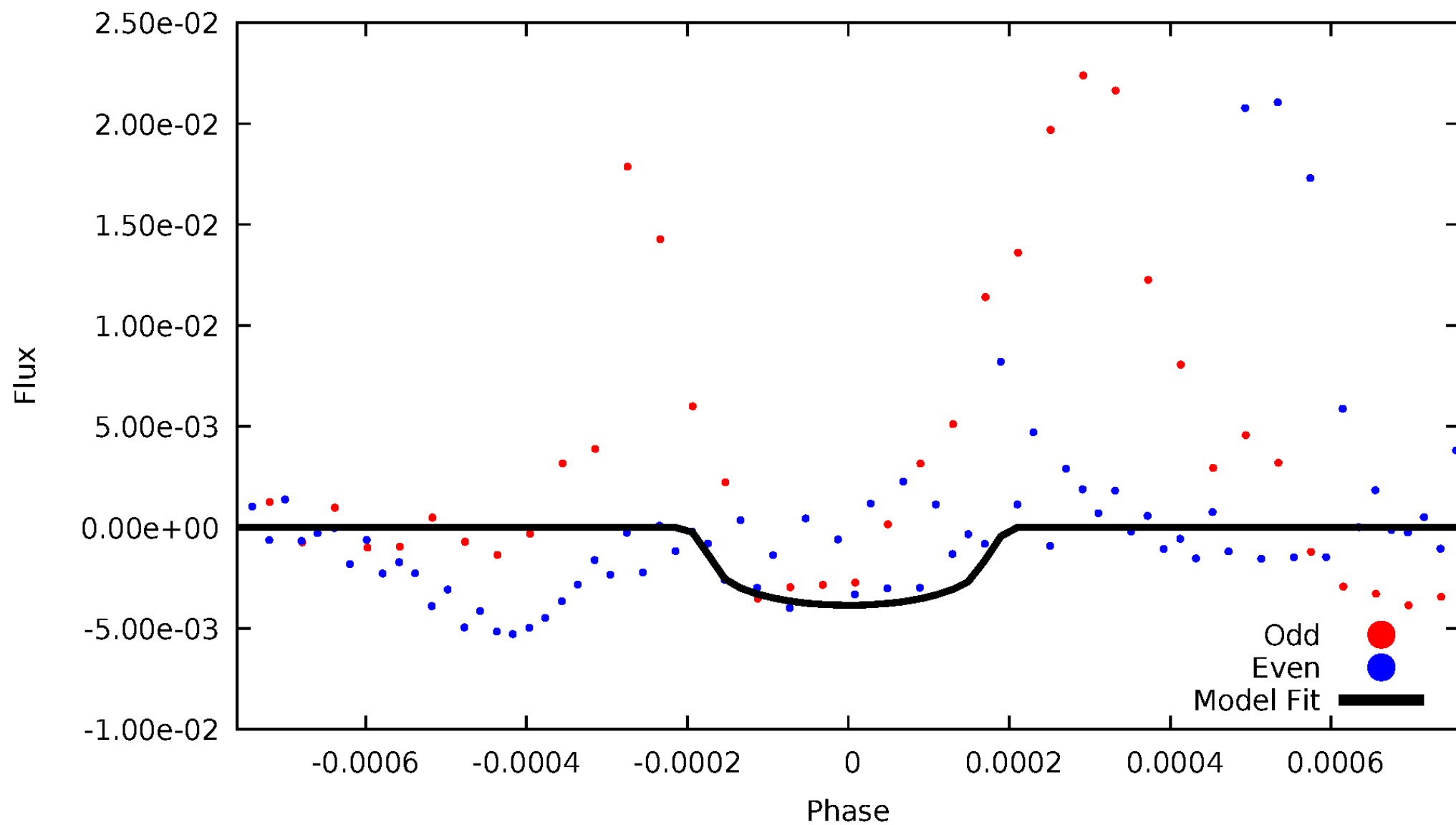


TCE 005093168-01



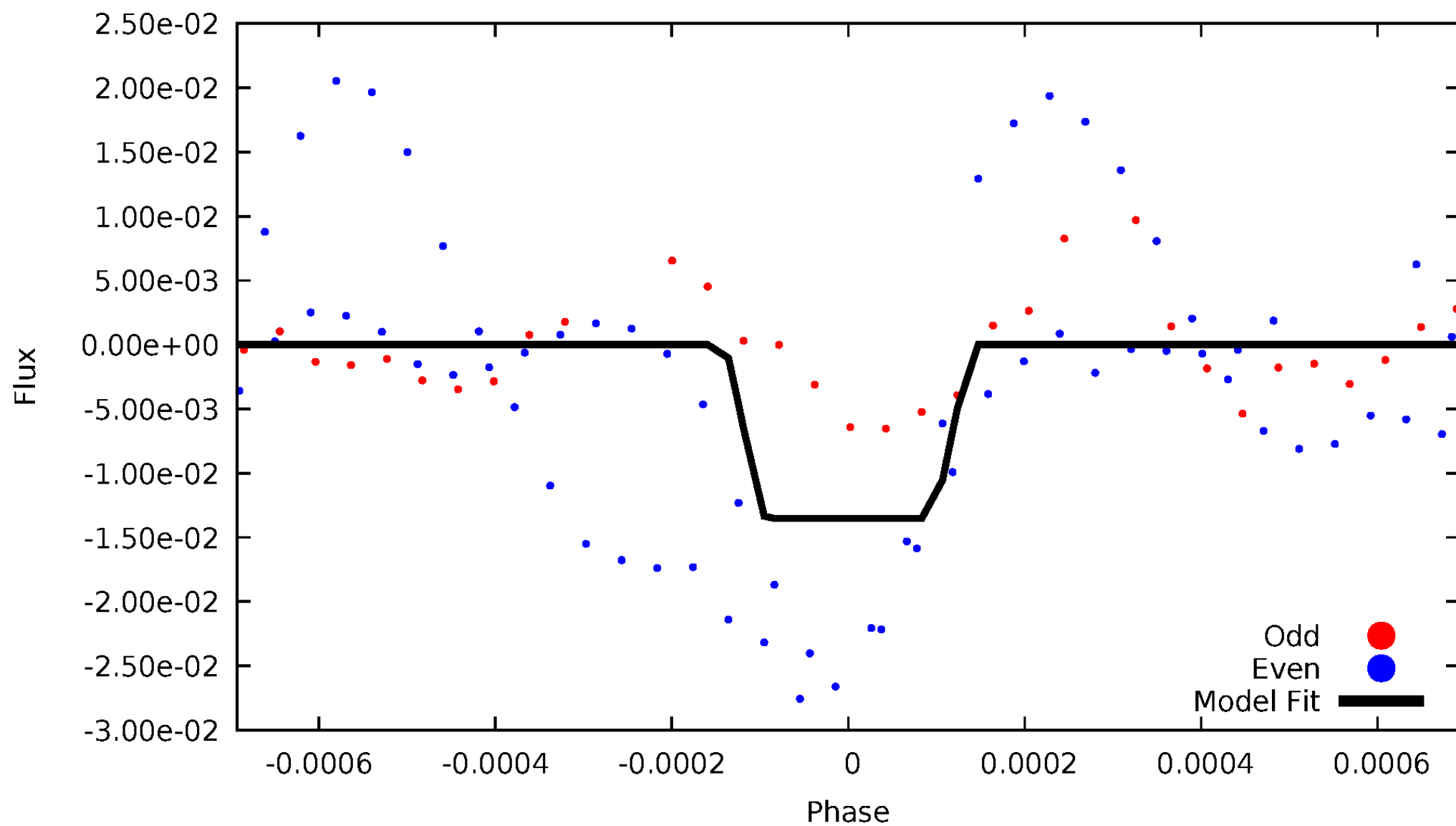
DV Odd/Even

TCE 005093168-01



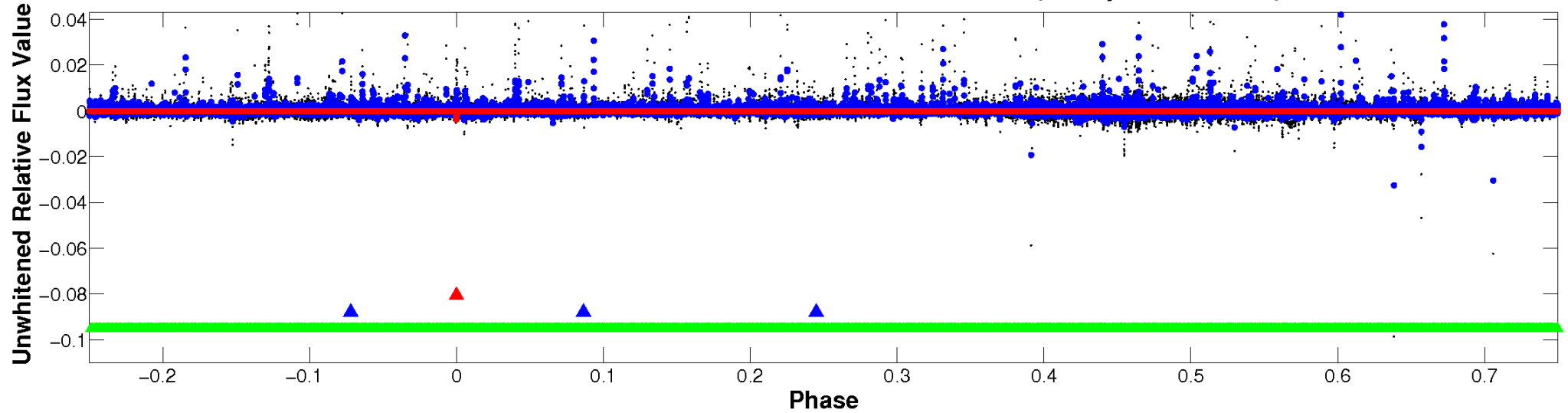
ALT Odd/Even

TCE 005093168-01

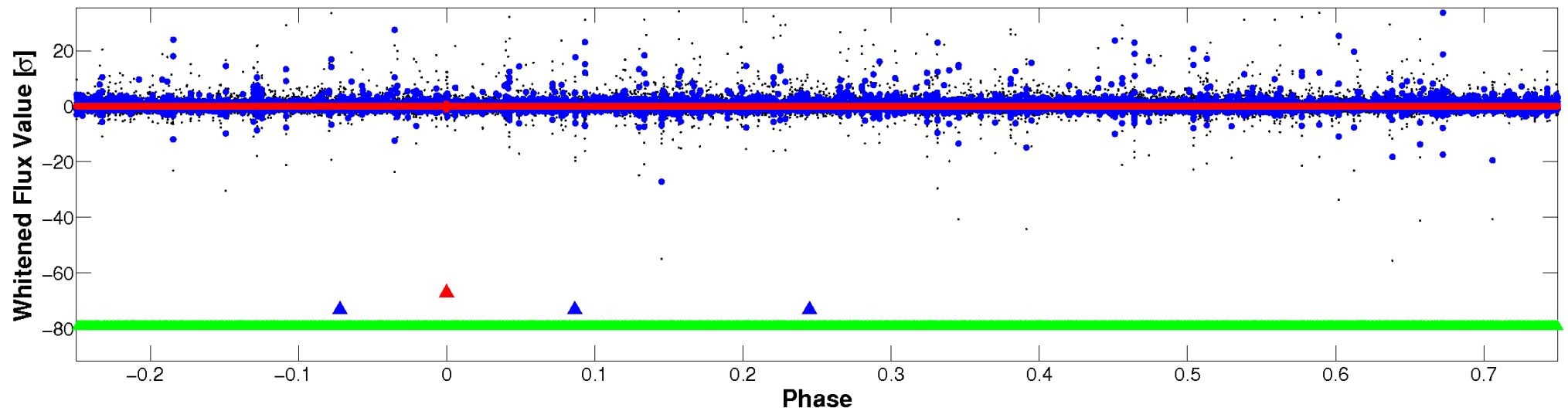


Non-Whitened Vs. Whitened Light Curve

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

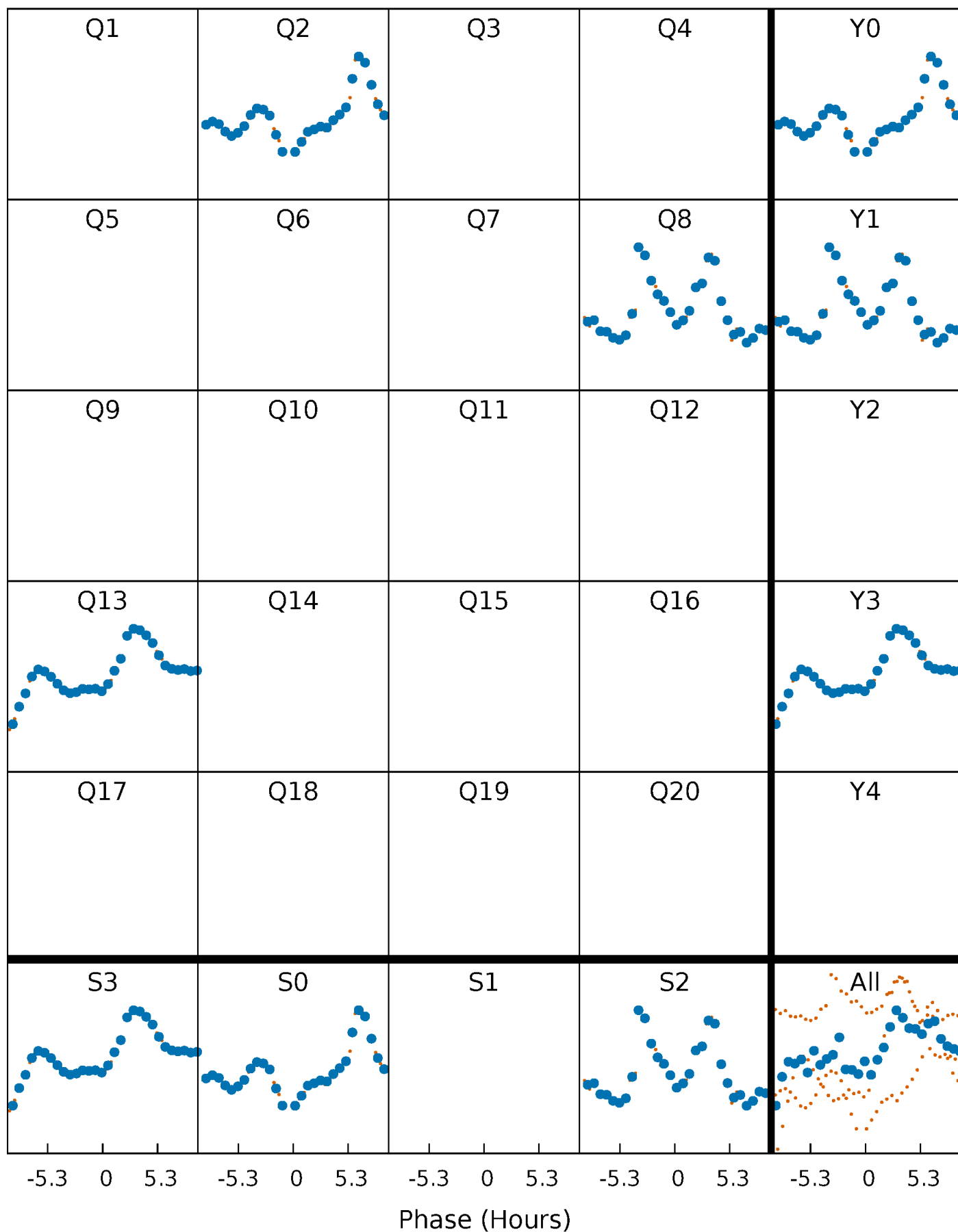


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



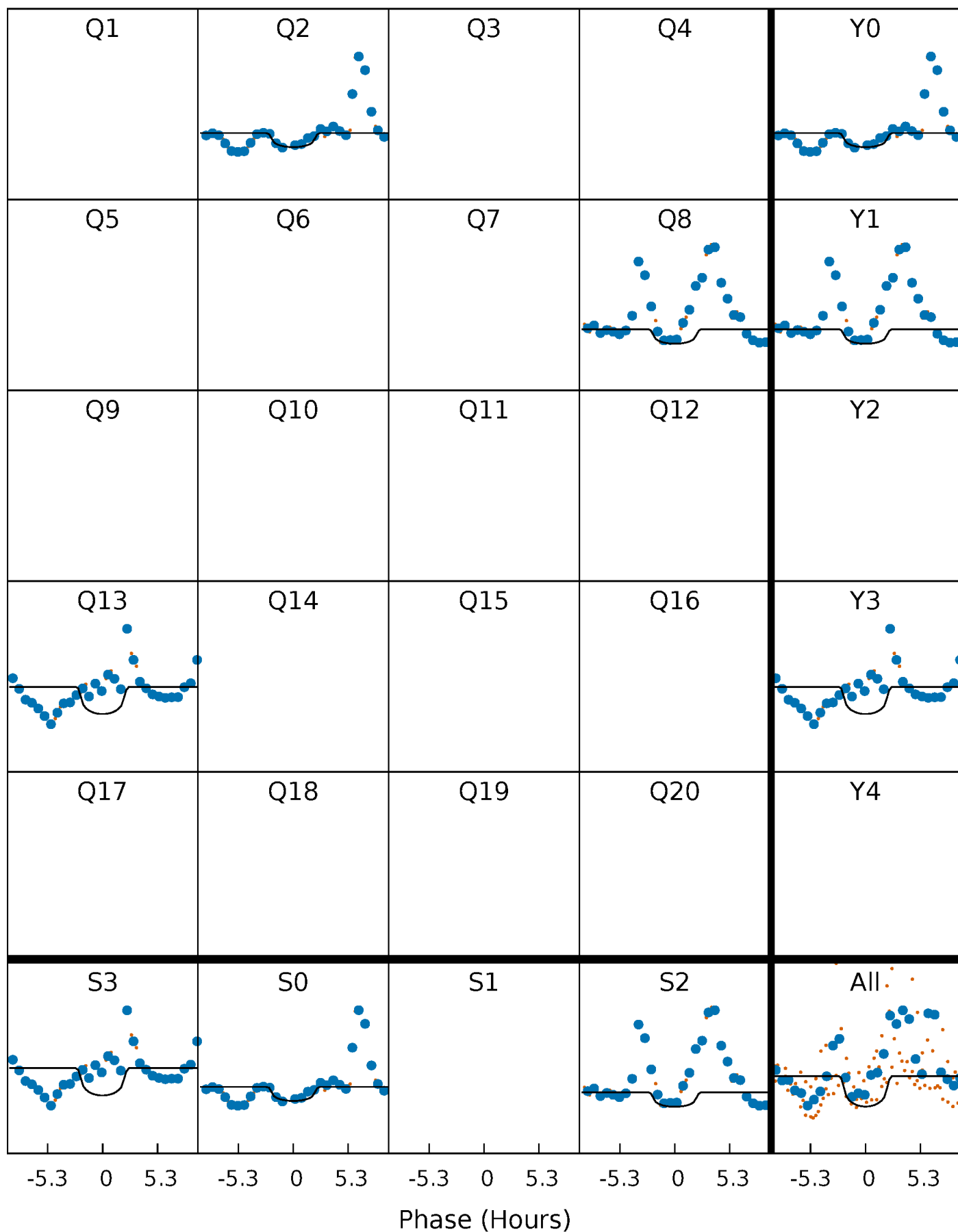
PDC Quarter-Phased Transit Curves

TCE 005093168-01 P=505.358344 Days $T_0=248.247161$ (BKJD)



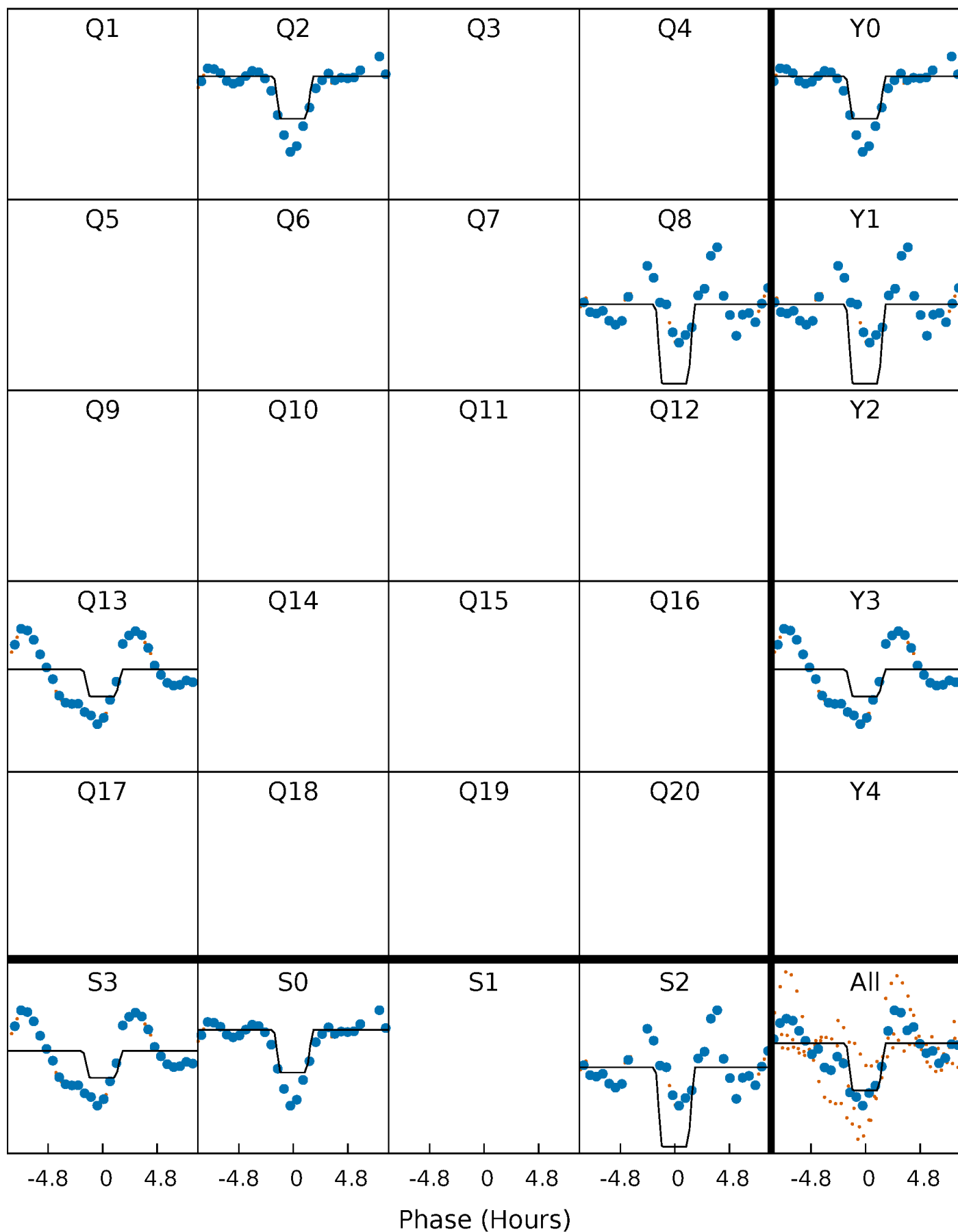
DV Quarter-Phased Transit Curves

TCE 005093168-01 P=505.358344 Days $T_0=248.247161$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

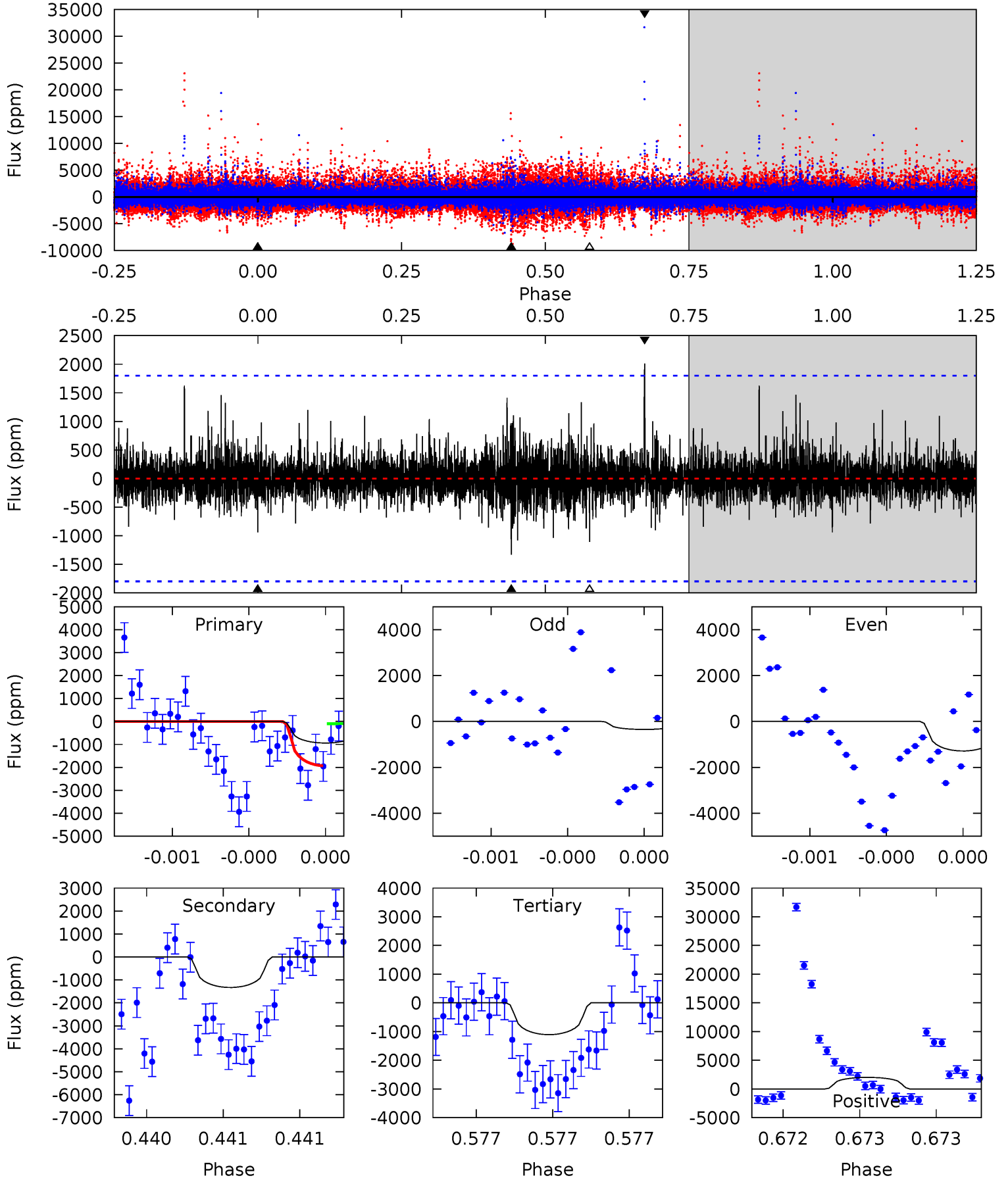
TCE 005093168-01 P=505.376428 Days $T_0=248.232325$ (BKJD)



DV Model-Shift Uniqueness Test

005093168-01, P = 505.358344 Days, E = 248.247161 Days

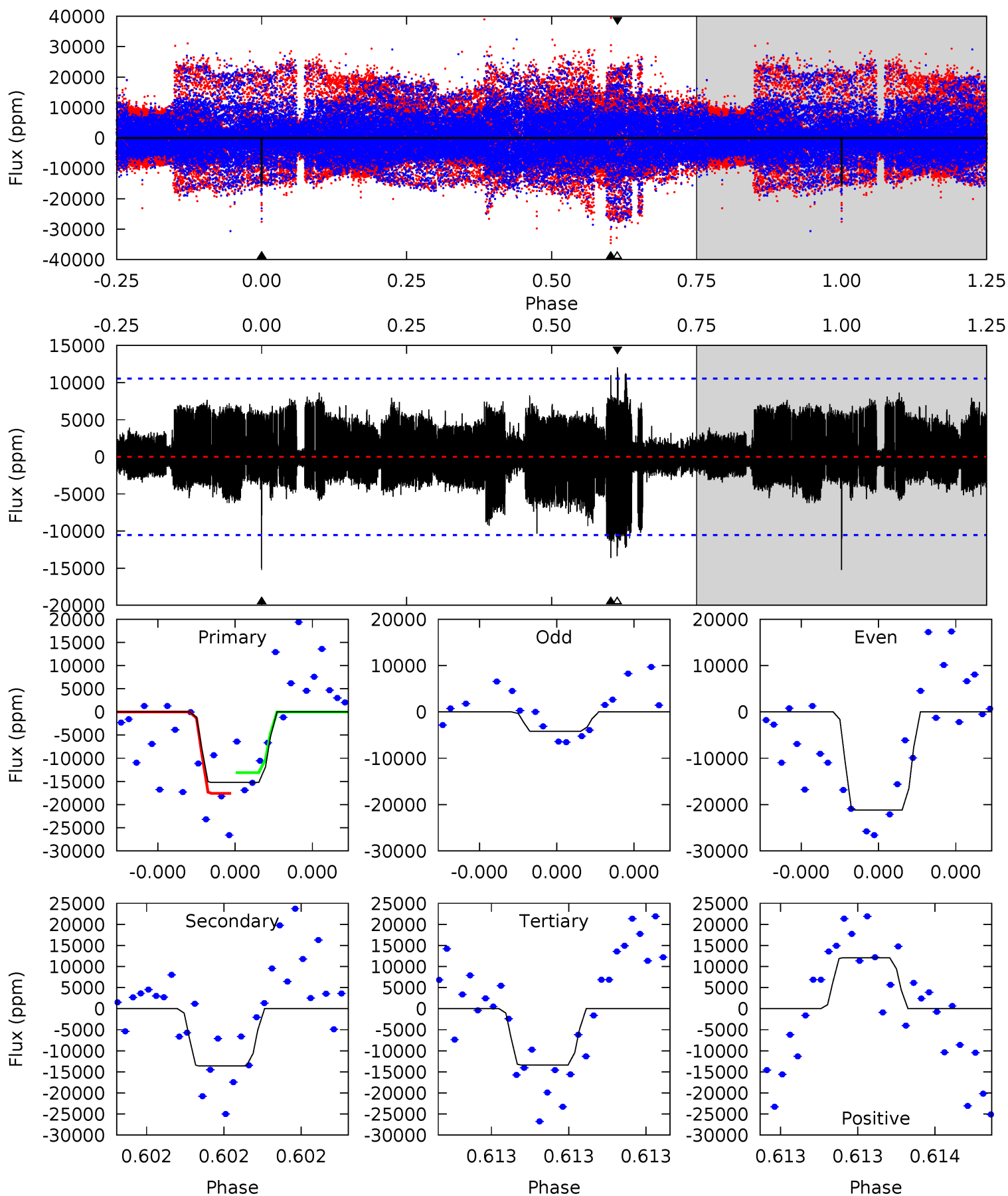
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.93	4.15	3.45	6.28	5.62	3.55	0.84	-0.52	-3.35	0.70	-2.13	1.15	-2.28	0.60	2.88



Alt Model-Shift Uniqueness Test

005093168-01, P = 505.376428 Days, E = 248.232325 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.21	7.33	7.21	6.50	5.68	3.64	1.64	1.00	1.71	0.12	0.83	4.39	0.75	0.44	1.19



Stellar Parameters For KIC 005093168

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4820^{+145}_{-109}	$3.104^{+0.412}_{-0.337}$	$-0.160^{+0.300}_{-0.200}$	$4.404^{+2.795}_{-1.720}$	$0.900^{+0.312}_{-0.144}$	$0.015^{+0.046}_{-0.010}$
	+3%/-2%	+13%/-11%	+188%/-125%	+63%/-39%	+35%/-16%	+308%/-70%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005093168-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1329 ± 320	$46.19^{+47.58}_{-31.43}$	562^{+88}_{-64}	3430^{+1676}_{-631}	514^{+4340}_{-400}
Alt.	-13597 ± 1856	$62.74^{+54.60}_{-39.54}$	564^{+80}_{-63}	4591^{+2279}_{-847}	2862^{+15033}_{-2016}

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

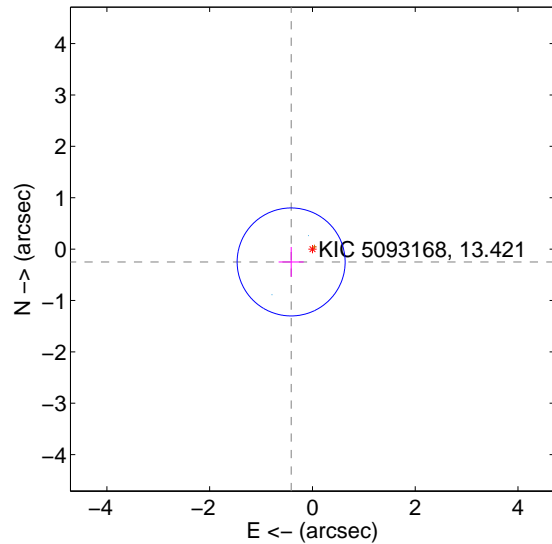
Supplemental centroid analysis for 005093168-01. Kepler magnitude: 13.42. Transit SNR 5.06

There are 2 quarters with good PRF difference image offsets

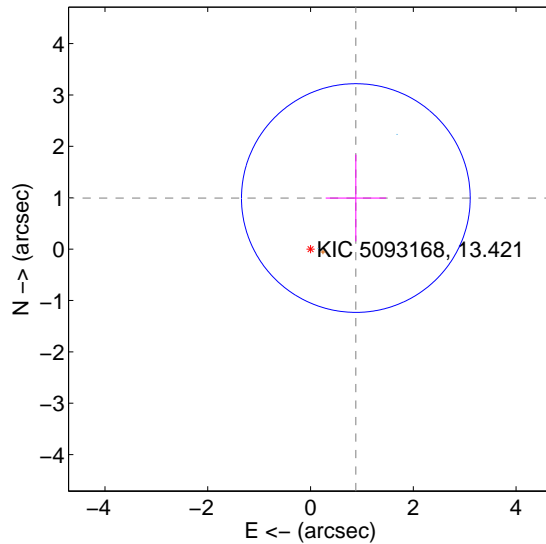
The OOT PRF centroid is offset from the target star catalog position by about 3.98 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.484 ± 0.350	1.38	0.415 ± 0.244	-0.250 ± 0.292
PRF-fit source offset from KIC position	1.329 ± 0.742	1.79	-0.882 ± 0.588	0.994 ± 0.844
photometric centroid source offset	1.98 ± 0.65	3.05	-0.39 ± 0.47	1.94 ± 0.65

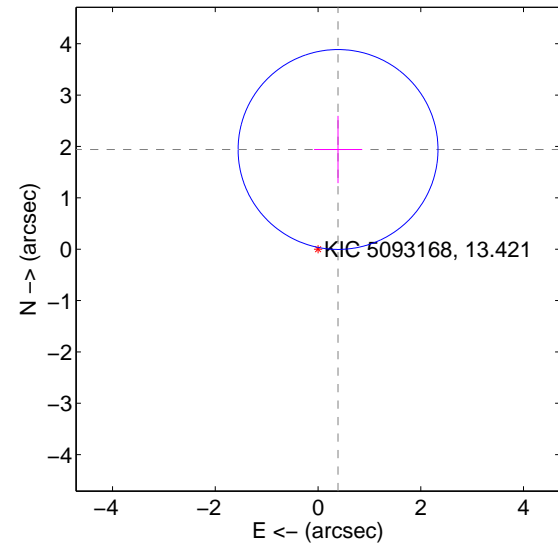
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

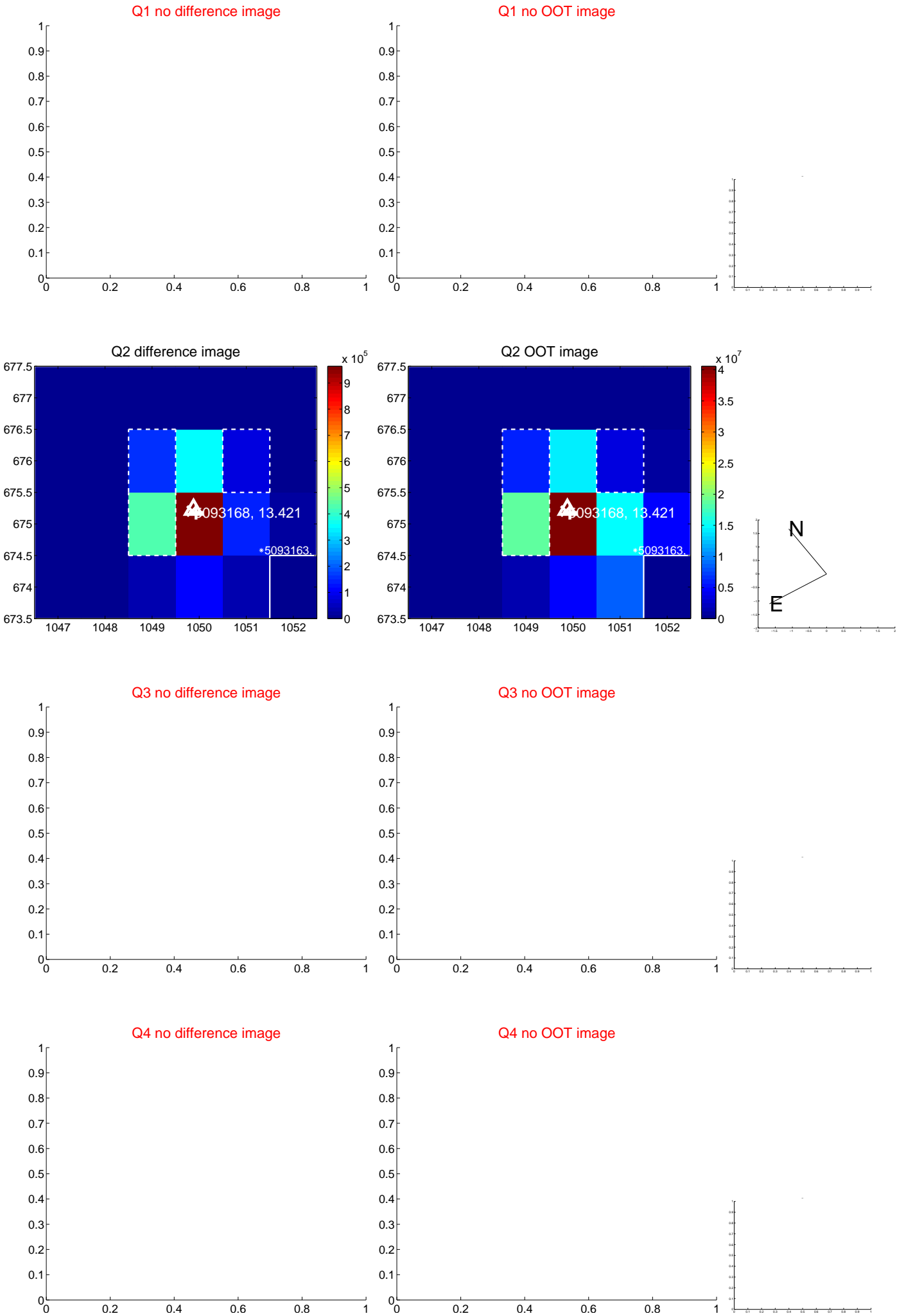


offset from photometric centroids

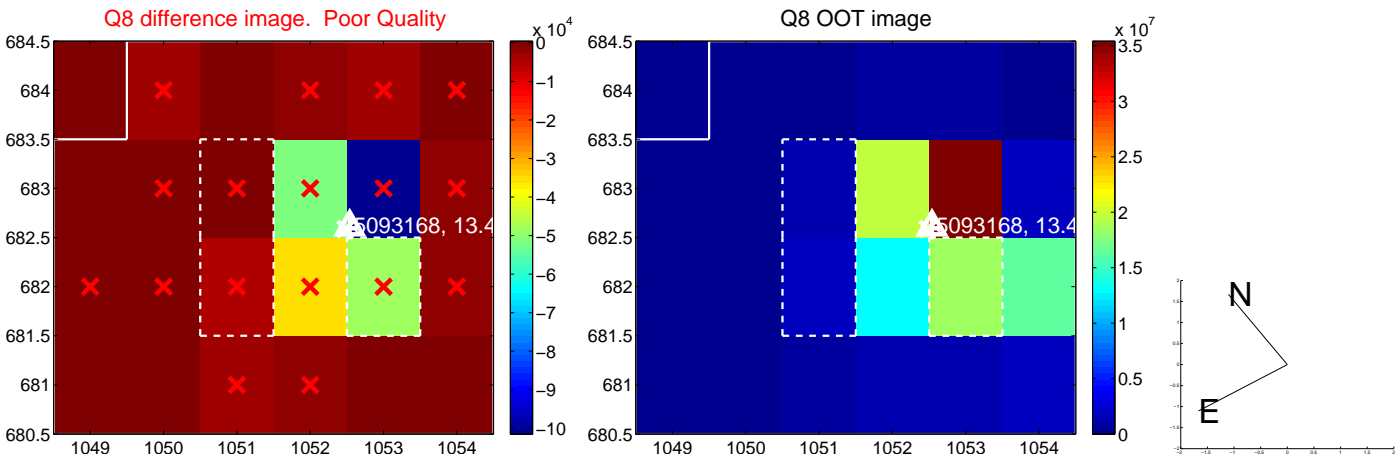


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



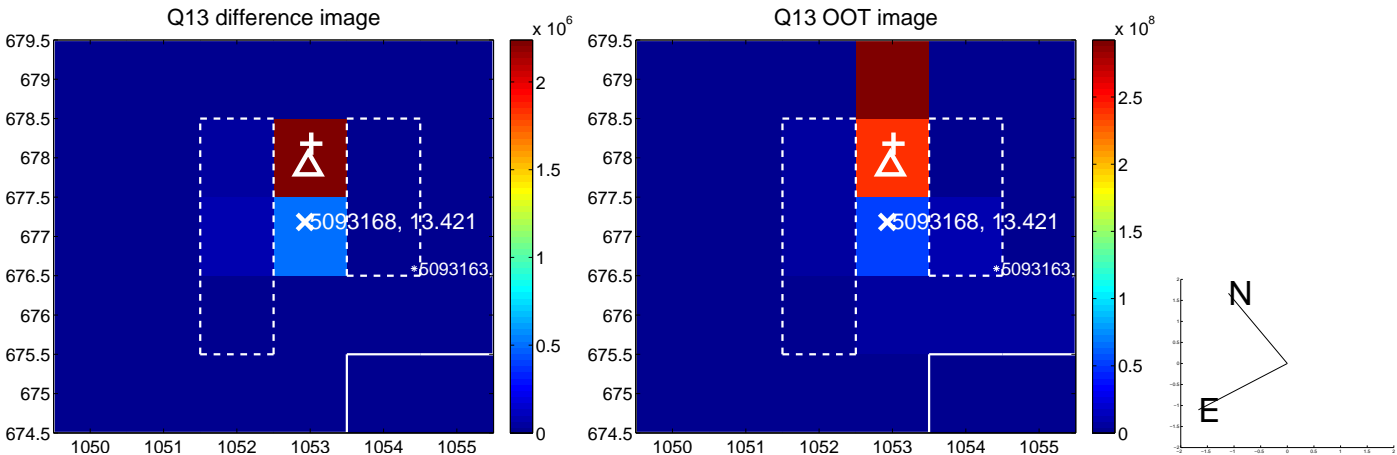
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



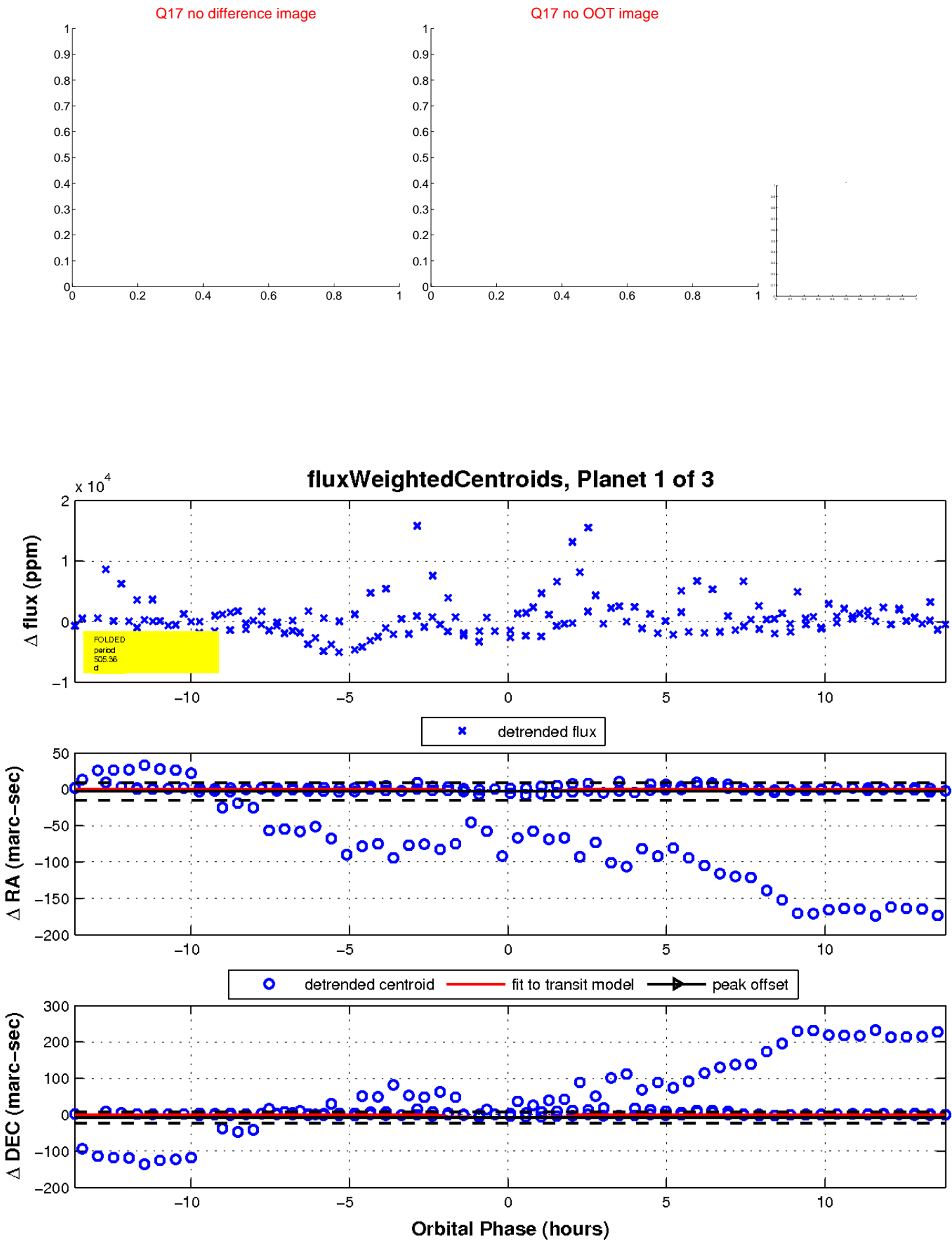
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

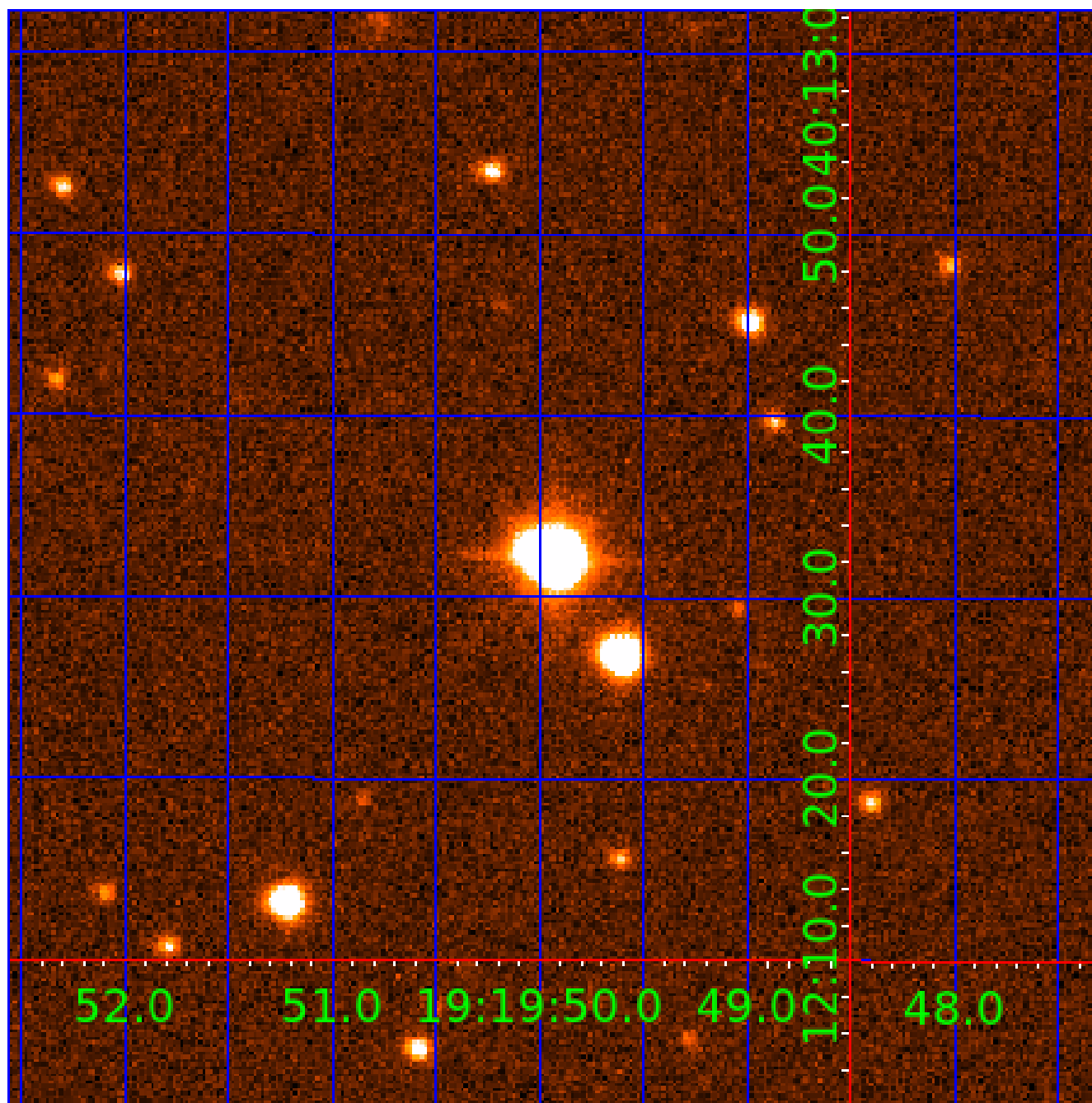


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005093168

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})
005093168-01	OBS	No	505.358344	248.247161	3857.3	4.605	12.3	5.1	4.40	4820	26.74	6.53
005093168-02	OBS	No	425.283864	372.037134	3723.9	4.807	11.4	6.4	4.40	4820	47.69	8.22
005093168-03	OBS	No	0.574287	131.580849	190.8	1.322	11.4	11.3	4.40	4820	6.04	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005093168-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005093168-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005093168-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

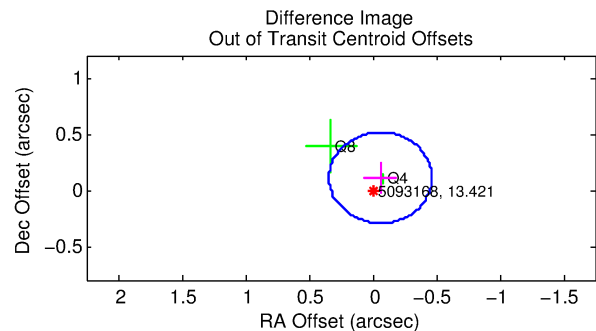
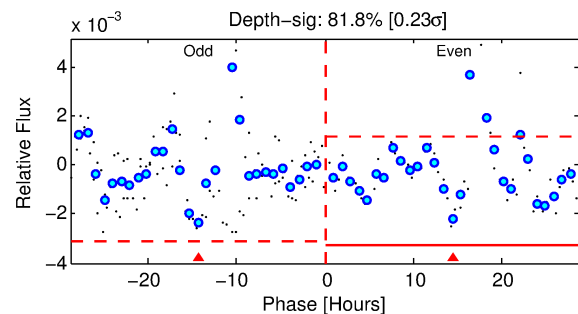
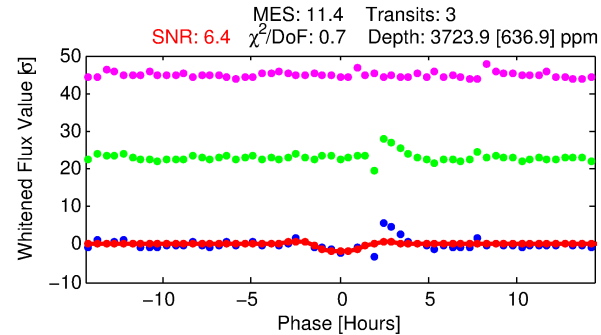
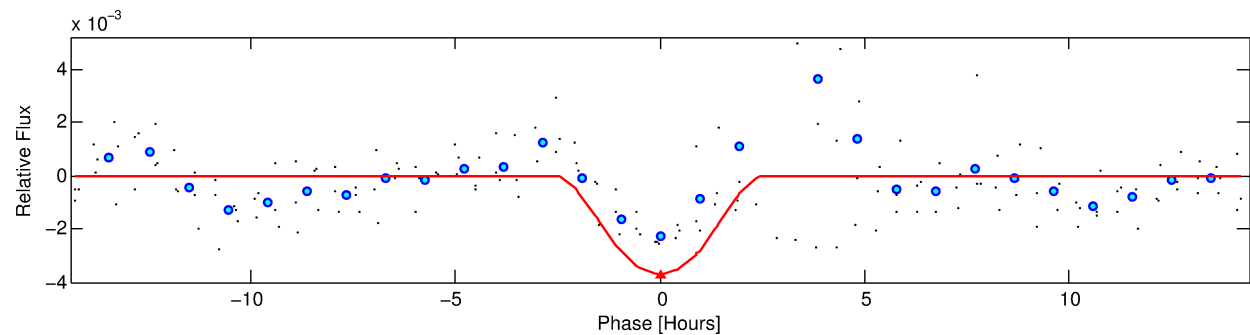
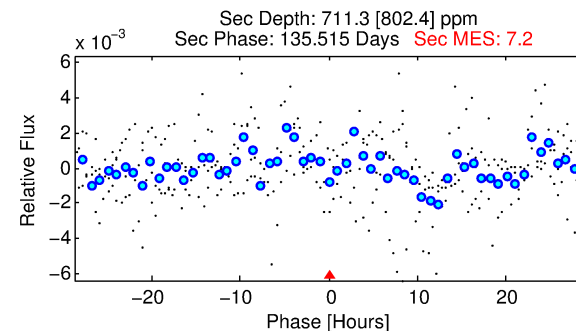
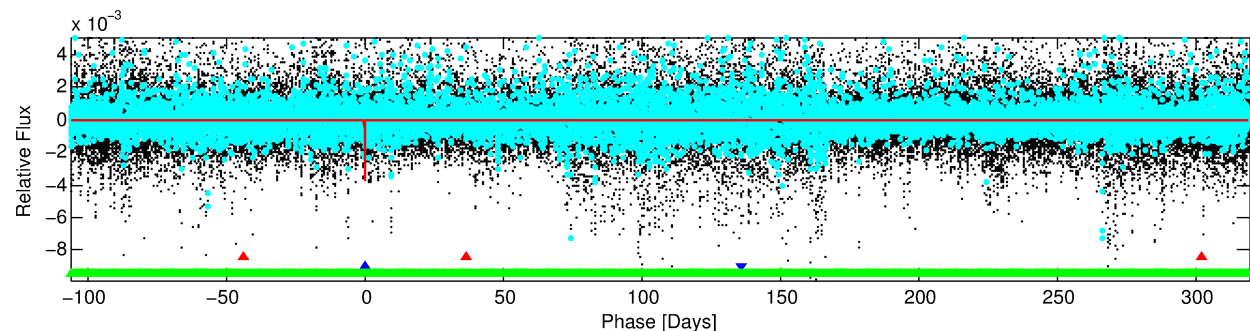
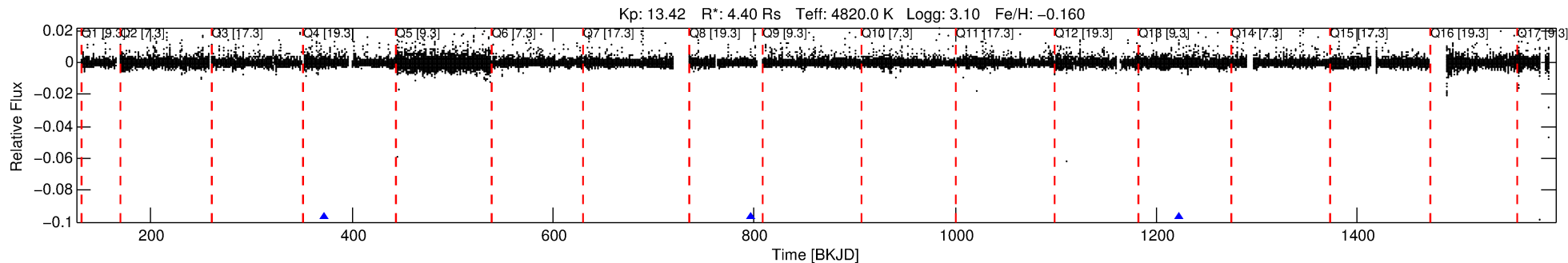
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005093168-02

No Significant Match Found

DV One-Page Summary

KIC: 5093168 Candidate: 2 of 3 Period: 425.284 d



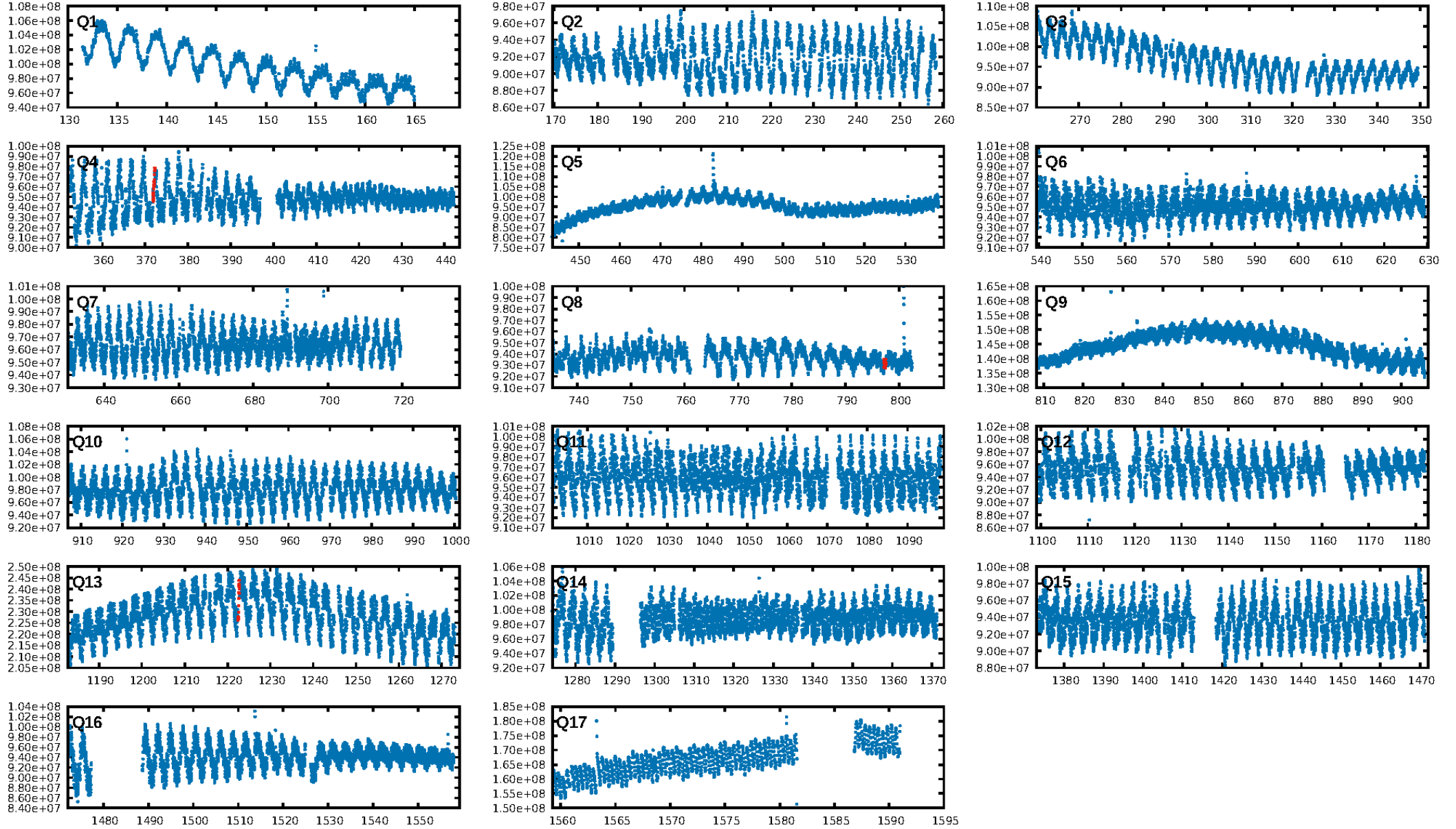
DV Fit Results:

Period = 425.28386 [0.00975] d
Epoch = 372.0371 [0.0125] BKJD
Rp/R* = 0.0992 [0.2632]
a/R* = 328.57 [189.56]
b = 0.99 [0.40]
Seff = 8.22 [6.33]
Teq = 432 [83] K
Rp = 47.69 [130.08] Re
a = 1.0684 [0.5643] AU
Ag = 196.35 [1075.42] [0.18σ]
Teffp = 2499 [3389] K [0.61σ]

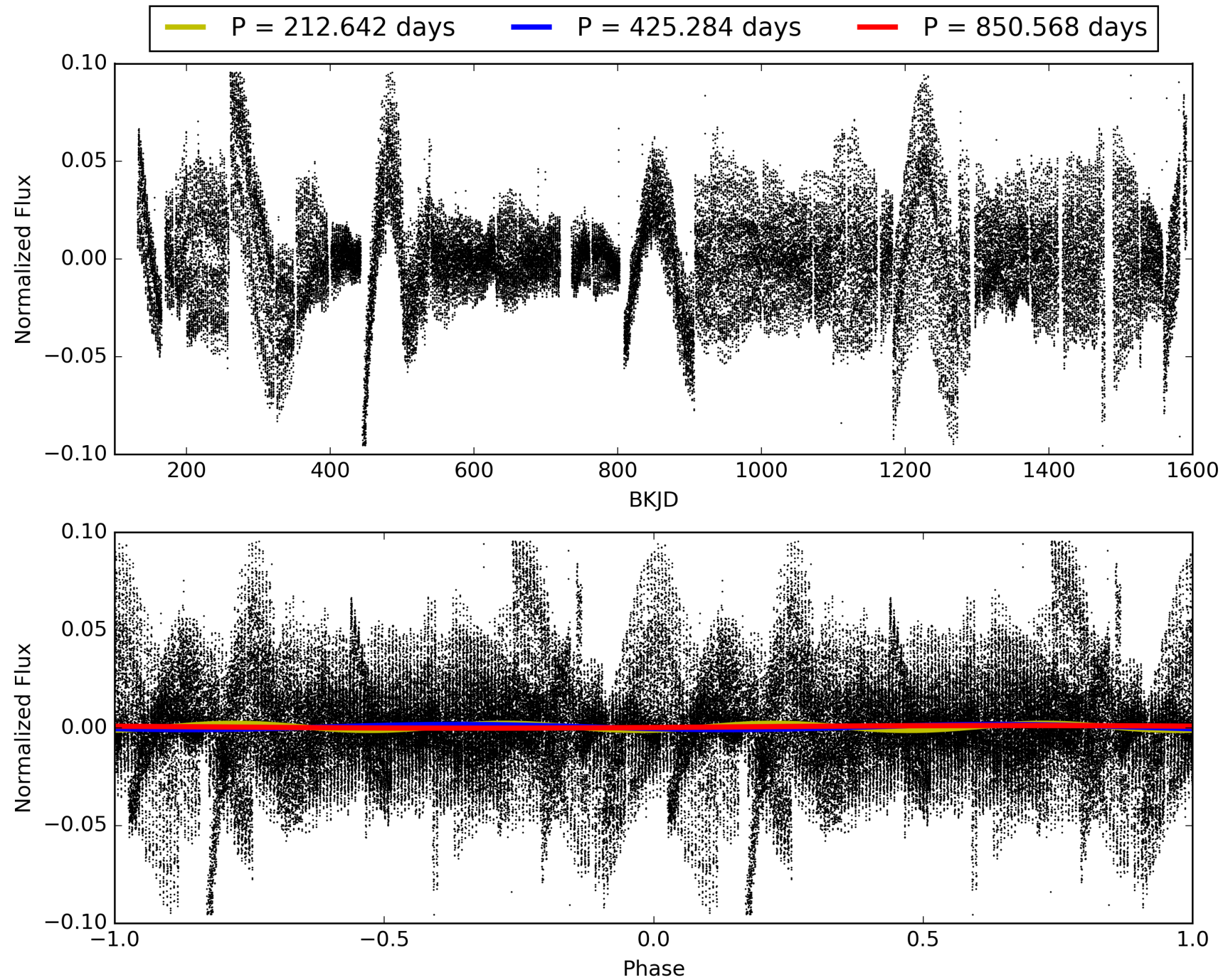
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [2044.38σ]
LongPeriod-sig: 100.0% [288.67σ]
ModelChiSquare2-sig: 31.3%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.4888
Centroid-sig: 71.4%
Centroid-so: 1.154 arcsec [2.16σ]
OotOffset-rm: 0.126 arcsec [0.93σ]
KicOffset-rm: 0.283 arcsec [2.31σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.00 [0/3]

TCE 005093168-02, PDC Light Curves

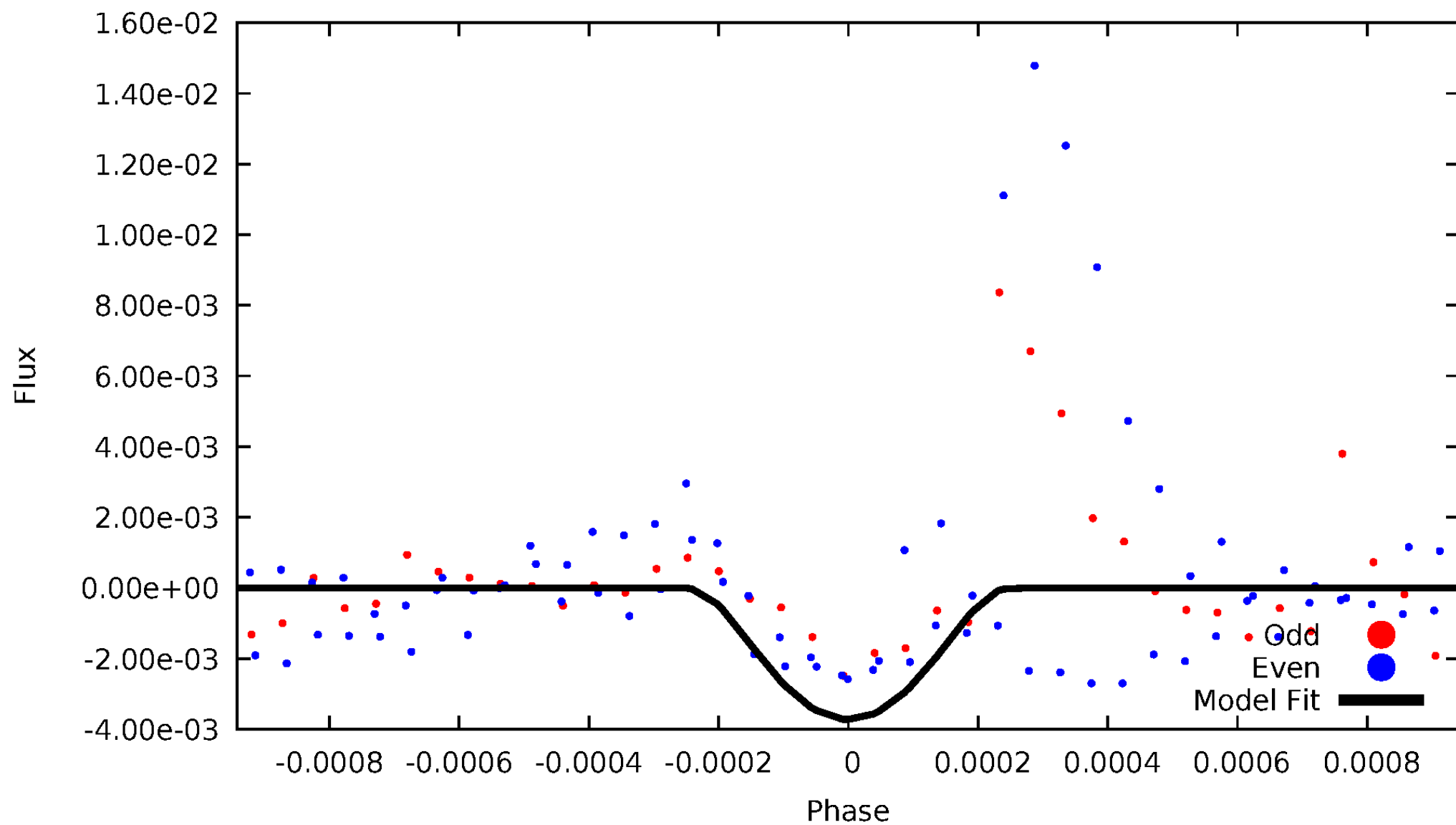


TCE 005093168-02



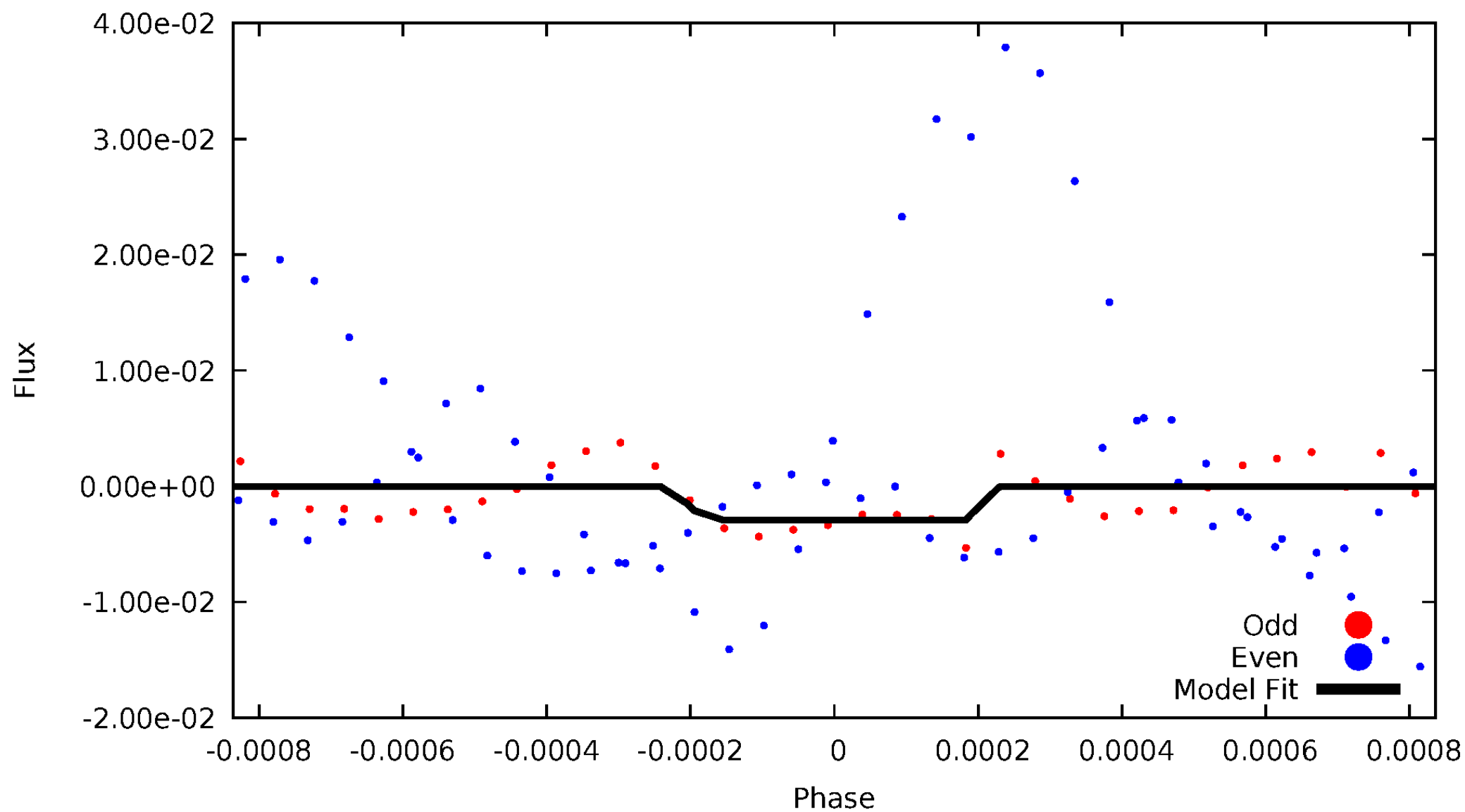
DV Odd/Even

TCE 005093168-02



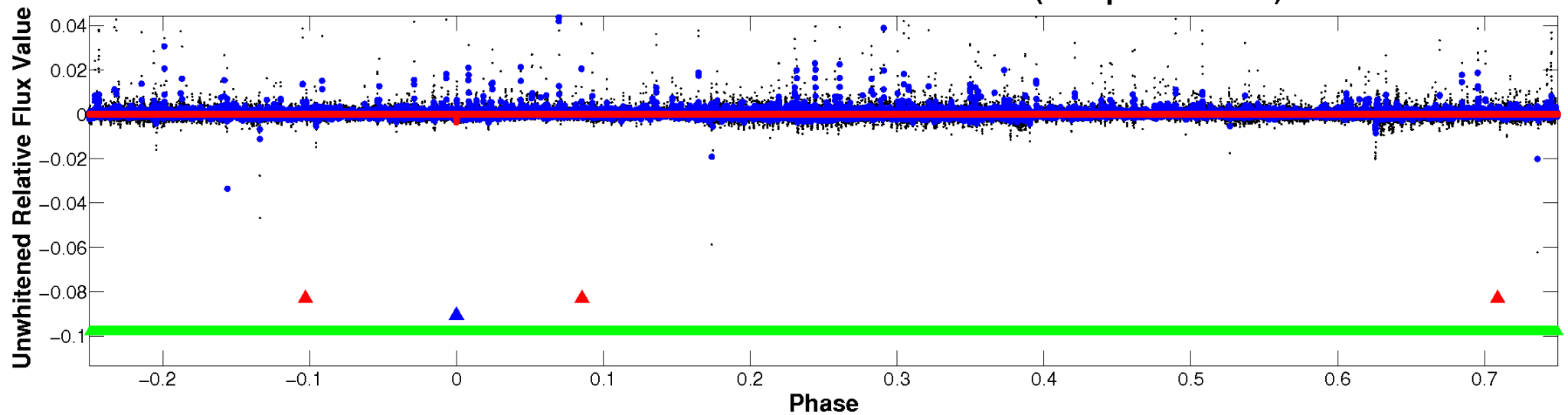
ALT Odd/Even

TCE 005093168-02

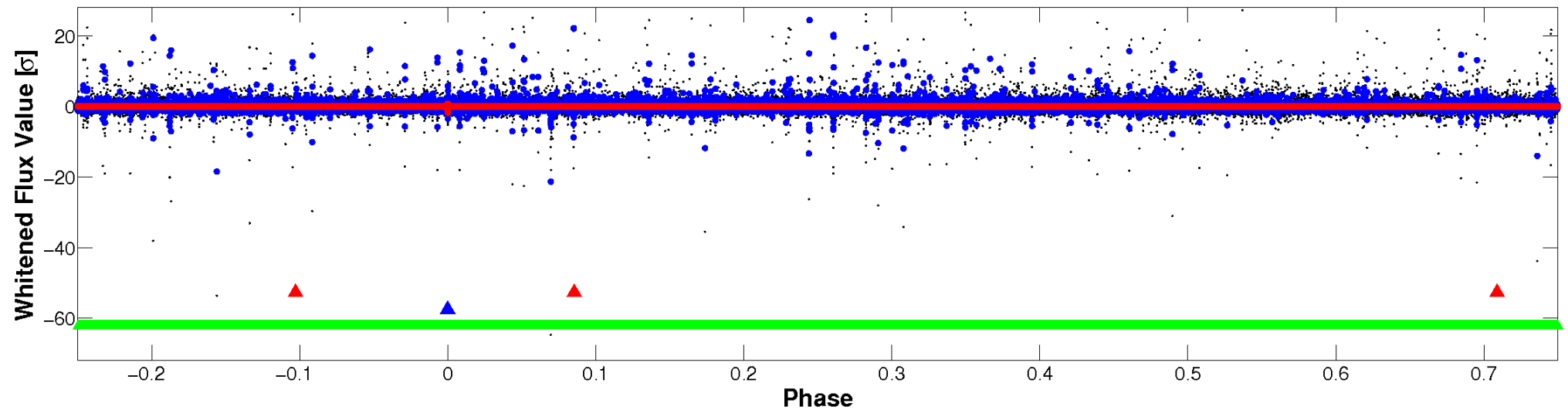


Non-Whitened Vs. Whitened Light Curve

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

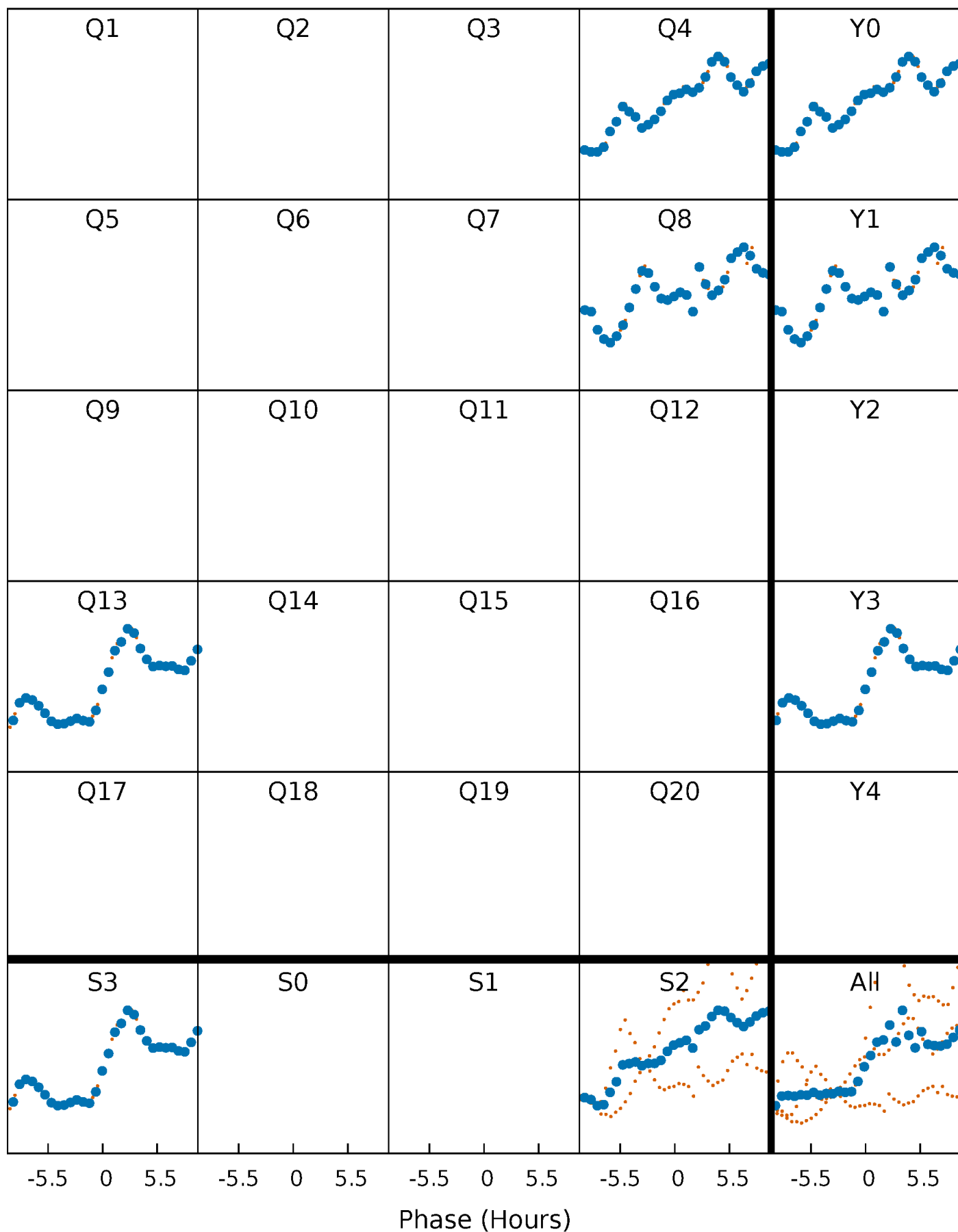


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



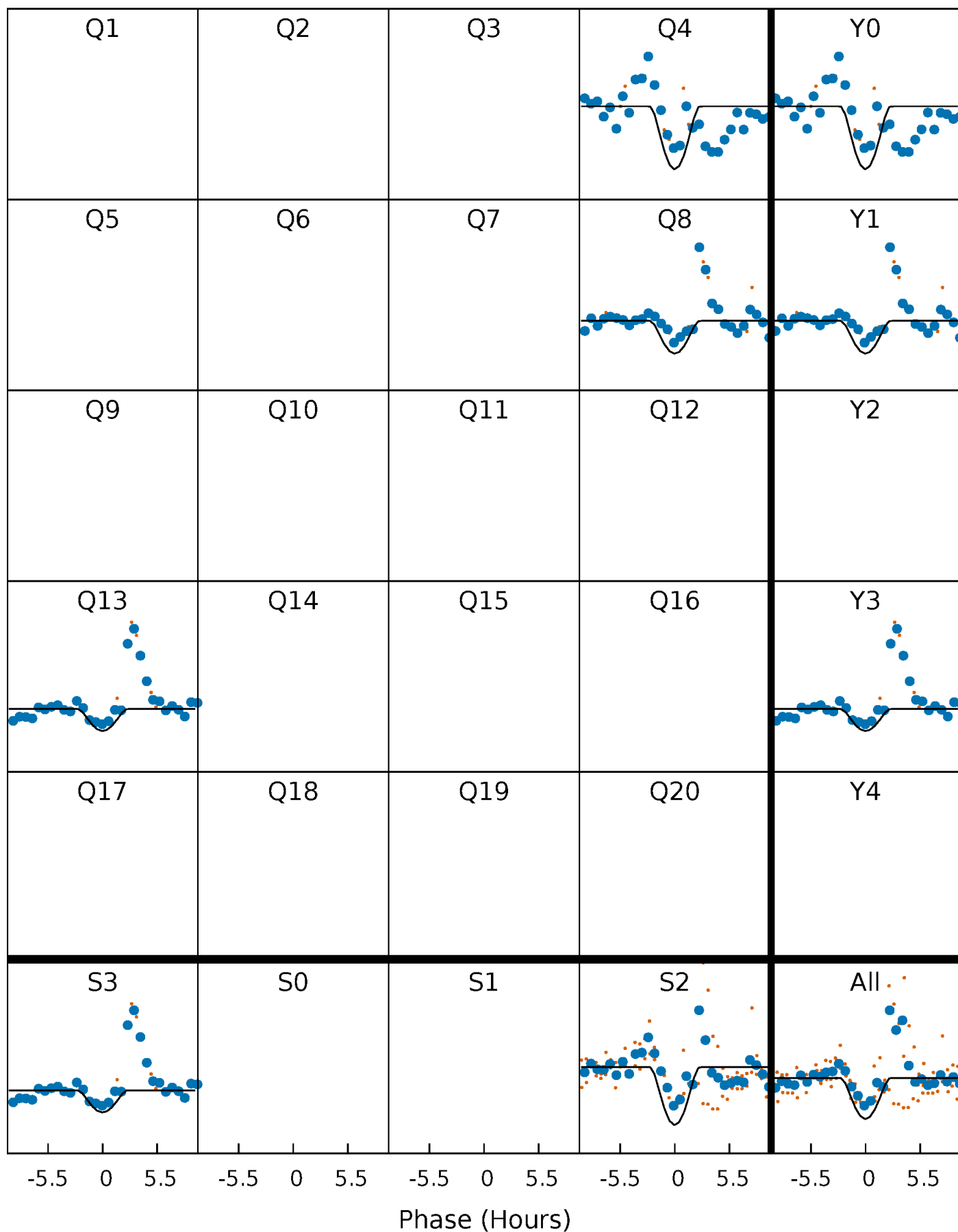
PDC Quarter-Phased Transit Curves

TCE 005093168-02 $P=425.283864$ Days $T_0=372.037134$ (BKJD)



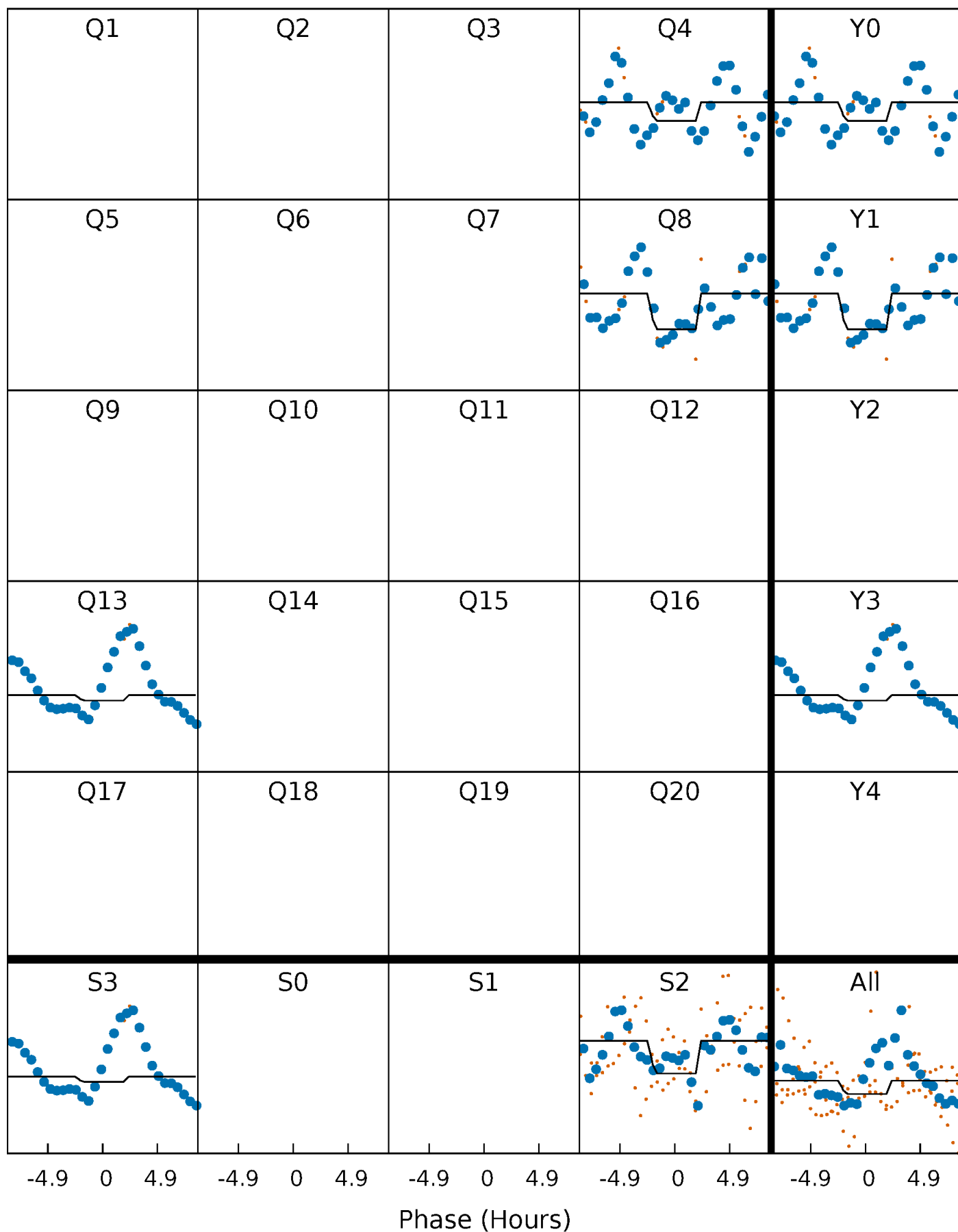
DV Quarter-Phased Transit Curves

TCE 005093168-02 $P=425.283864$ Days $T_0=372.037134$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

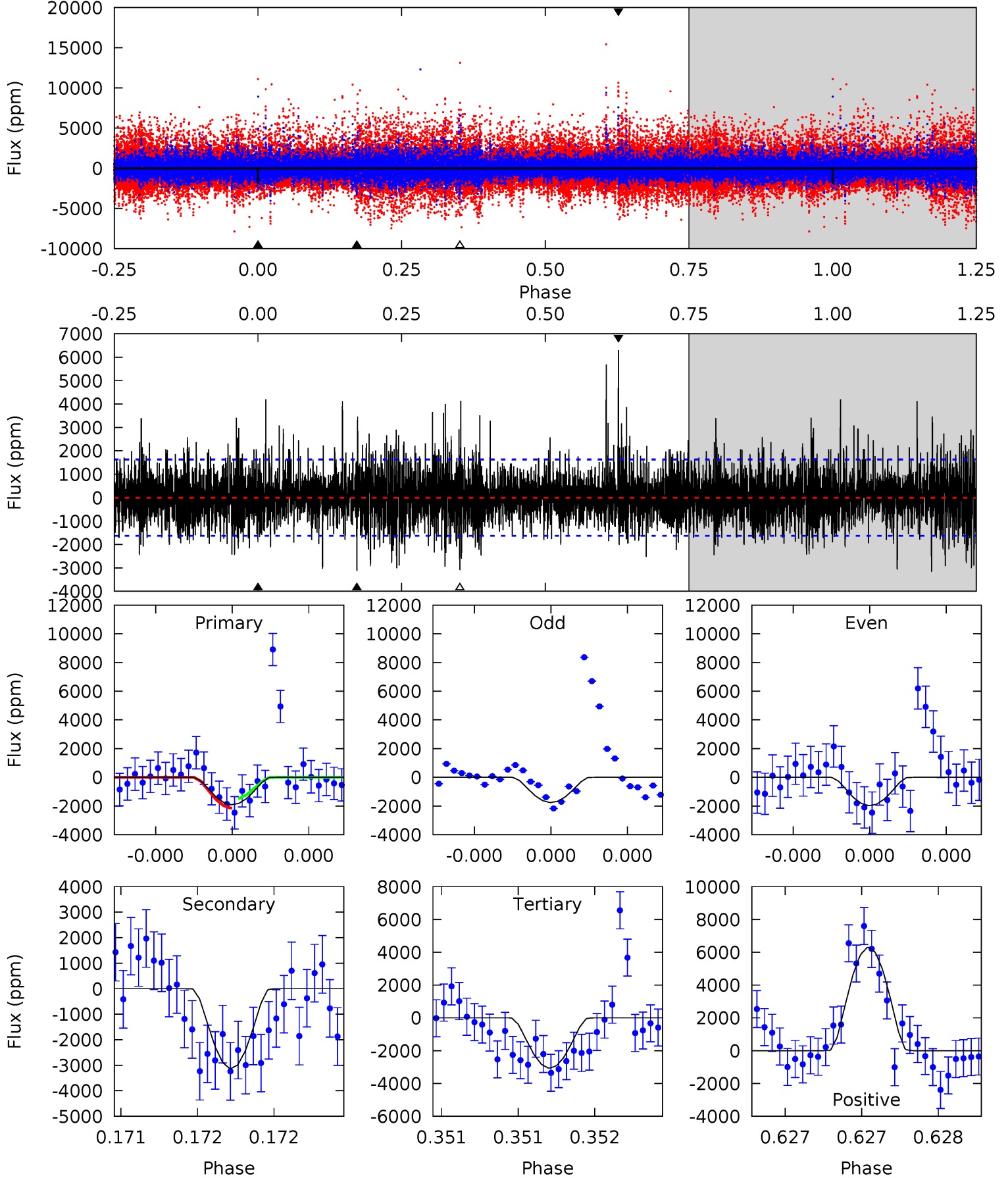
TCE 005093168-02 $P=425.283684$ Days $T_0=372.037922$ (BKJD)



DV Model-Shift Uniqueness Test

005093168-02, P = 425.283864 Days, E = 372.037134 Days

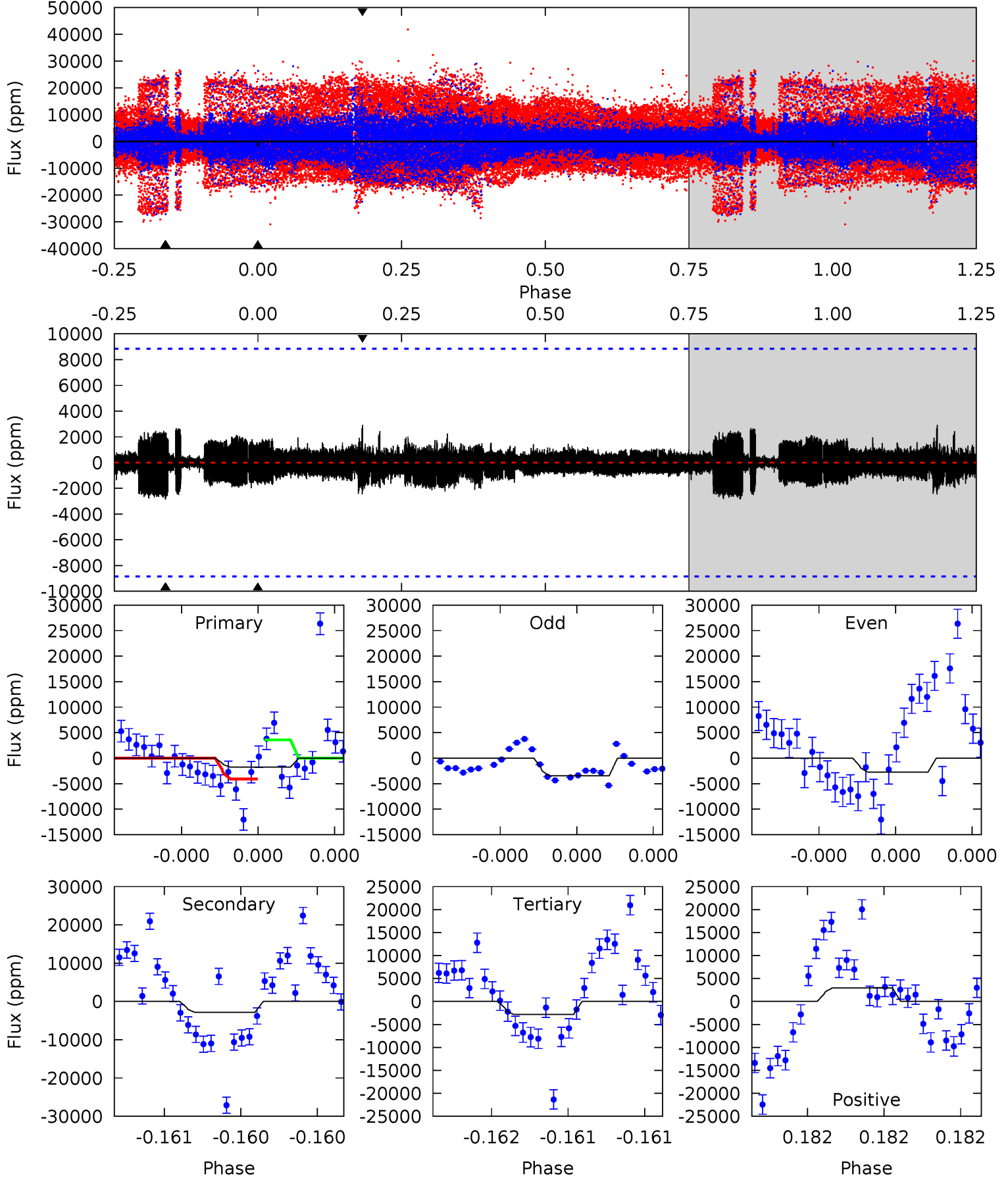
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.52	10.7	10.5	21.5	5.58	3.49	2.79	-3.96	-15.0	0.22	-10.8	0.26	1.08	0.67	1.12



Alt Model-Shift Uniqueness Test

005093168-02, P = 425.283684 Days, E = 372.037922 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.11	1.81	1.79	1.85	5.60	3.52	0.47	-0.68	-0.74	0.02	-0.05	0.23	-0.39	0.51	0.15



Stellar Parameters For KIC 005093168

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4820^{+145}_{-109}	$3.104^{+0.412}_{-0.337}$	$-0.160^{+0.300}_{-0.200}$	$4.404^{+2.795}_{-1.720}$	$0.900^{+0.312}_{-0.144}$	$0.015^{+0.046}_{-0.010}$
	+3%/-2%	+13%/-11%	+188%/-125%	+63%/-39%	+35%/-16%	+308%/-70%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005093168-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3129 ± 292	$98.92^{+122.99}_{-68.75}$	600^{+88}_{-67}	3065^{+1590}_{-549}	202^{+1987}_{-160}
Alt.	-2855 ± 1579	$92.58^{+104.37}_{-64.32}$	599^{+93}_{-74}	3019^{+1560}_{-575}	187^{+1982}_{-155}

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

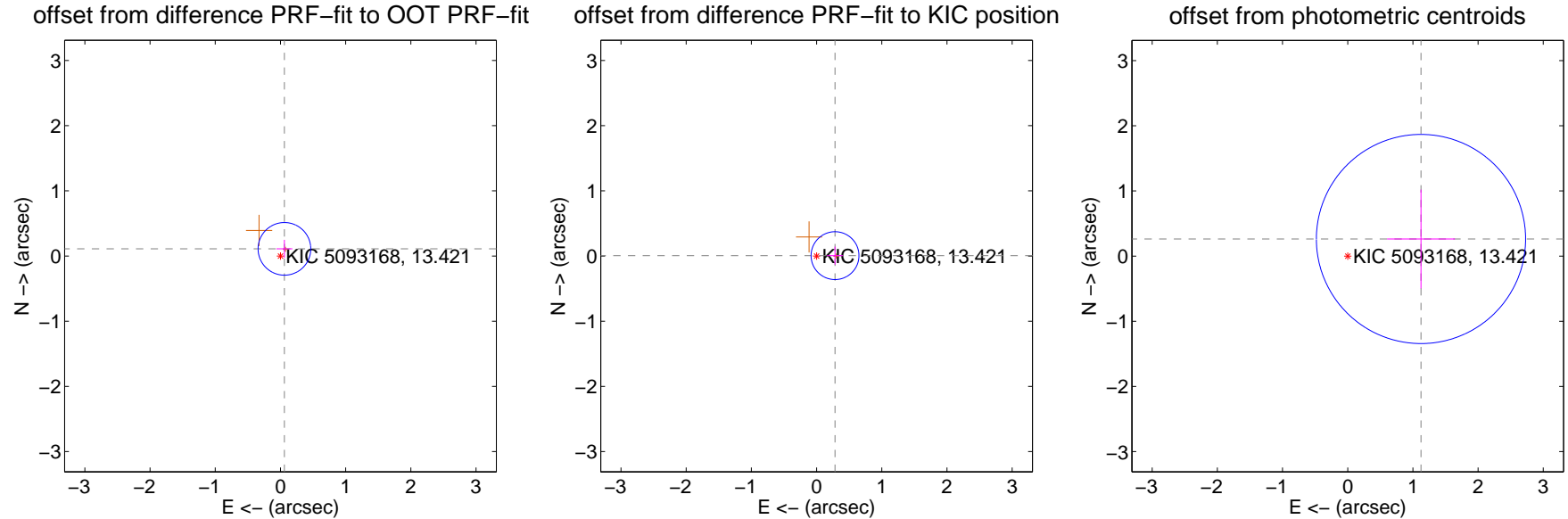
DV Centroid Data

Supplemental centroid analysis for 005093168-02. Kepler magnitude: 13.42. Transit SNR 6.40

There are 0 quarters with good PRF difference image offsets

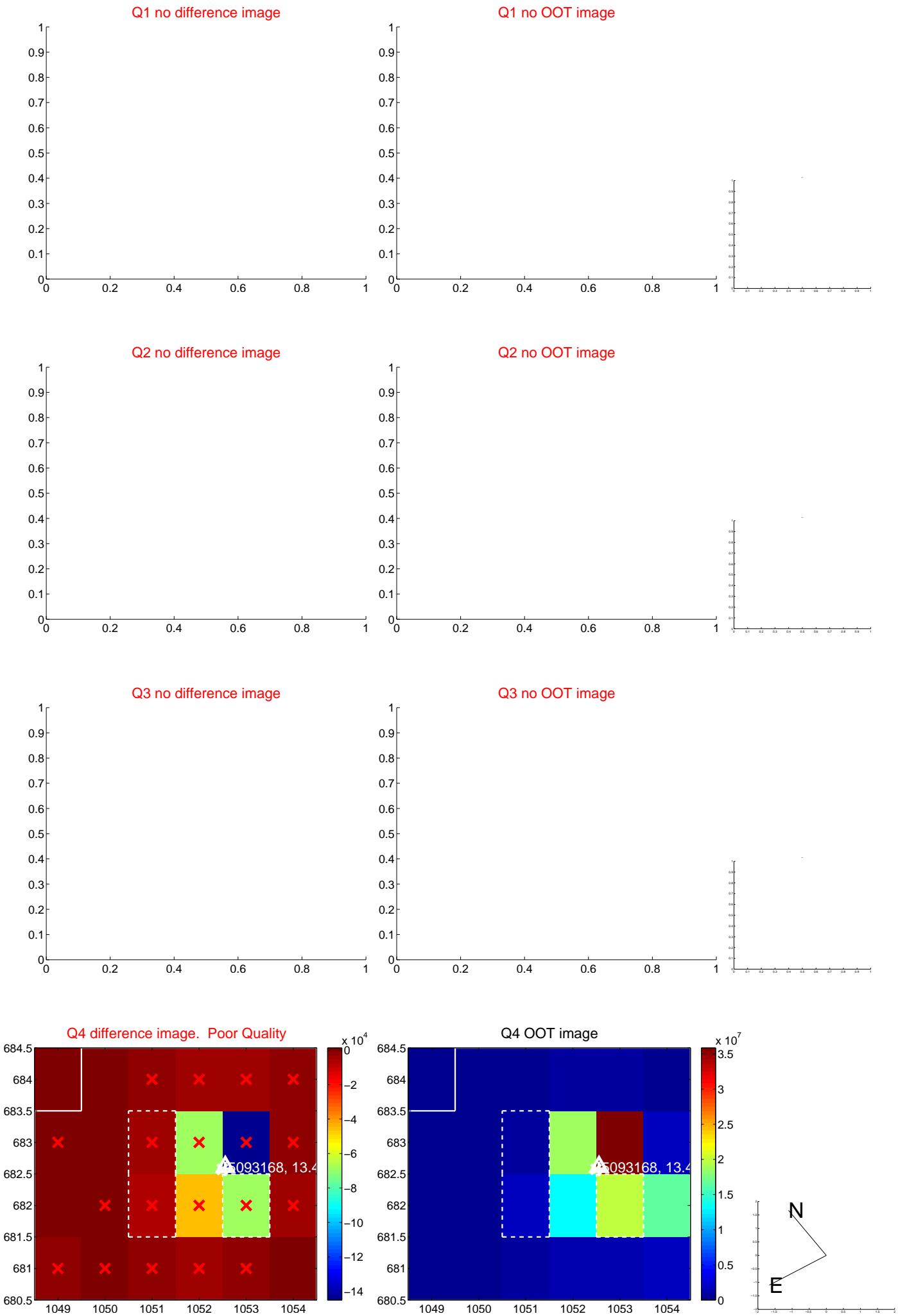
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.126 ± 0.135	0.93	-0.061 ± 0.122	0.110 ± 0.138
PRF-fit source offset from KIC position	0.283 ± 0.122	2.31	-0.283 ± 0.122	0.006 ± 0.138
photometric centroid source offset	1.15 ± 0.53	2.16	-1.12 ± 0.52	0.26 ± 0.76



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



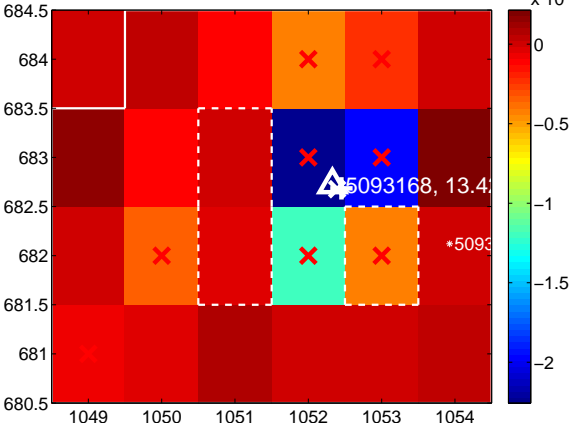
Q7 no difference image



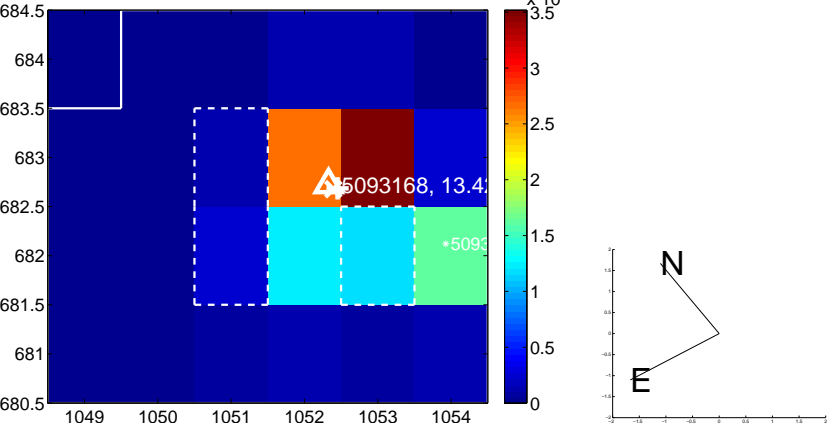
Q7 no OOT image



Q8 difference image. Poor Quality



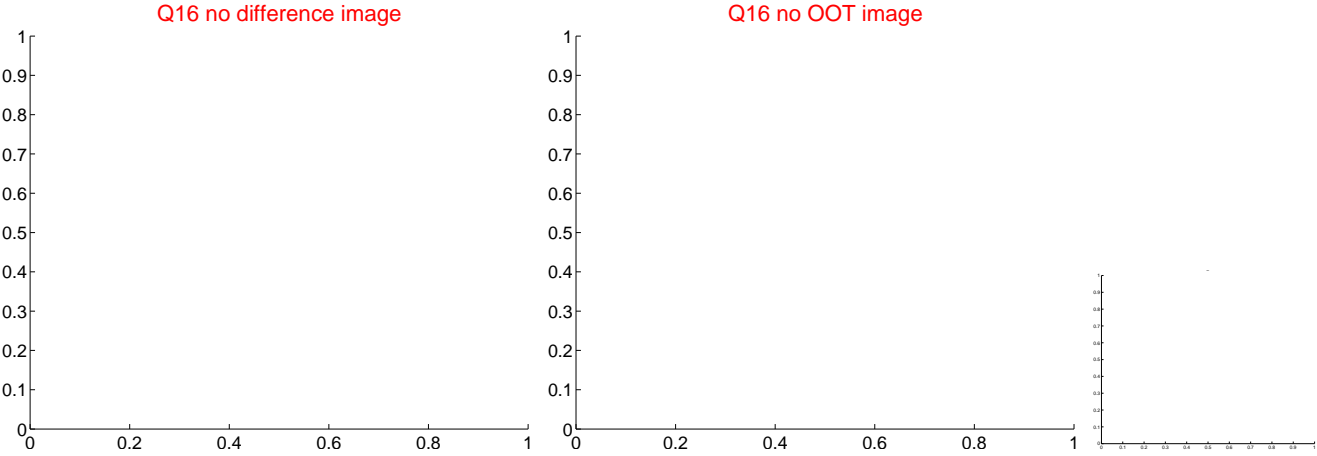
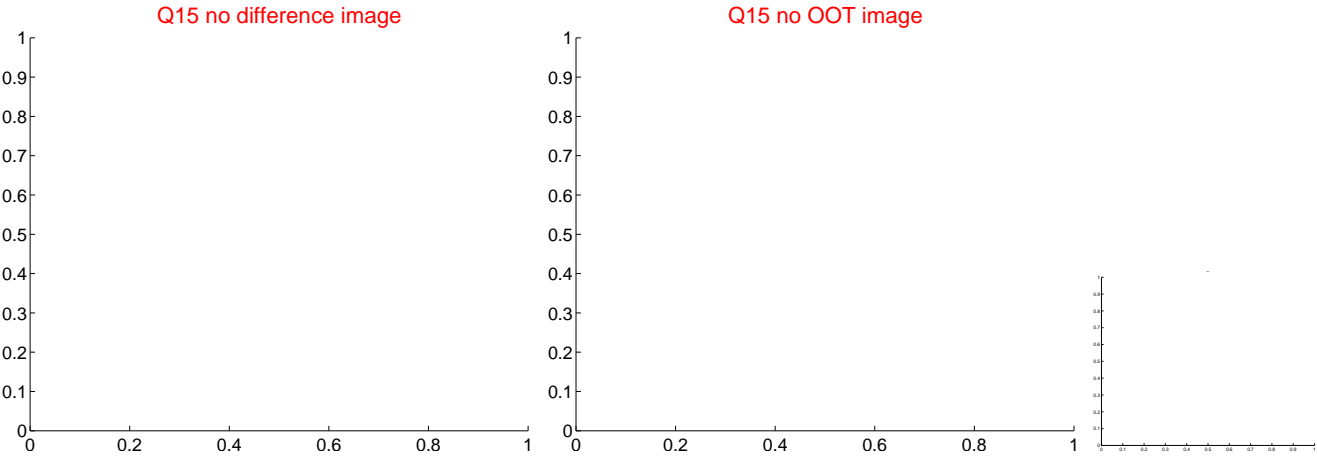
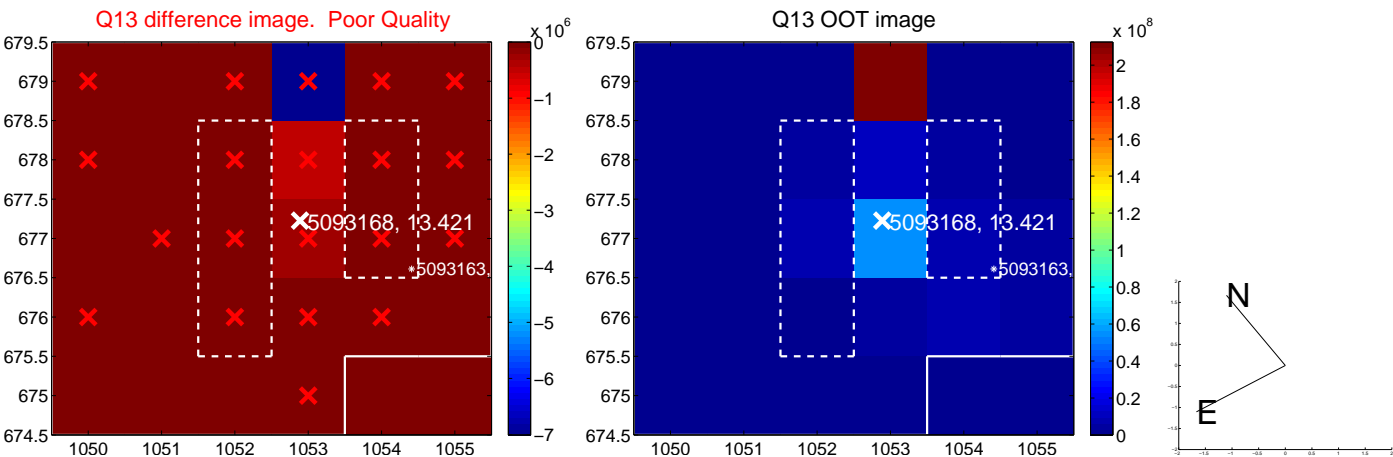
Q8 OOT image



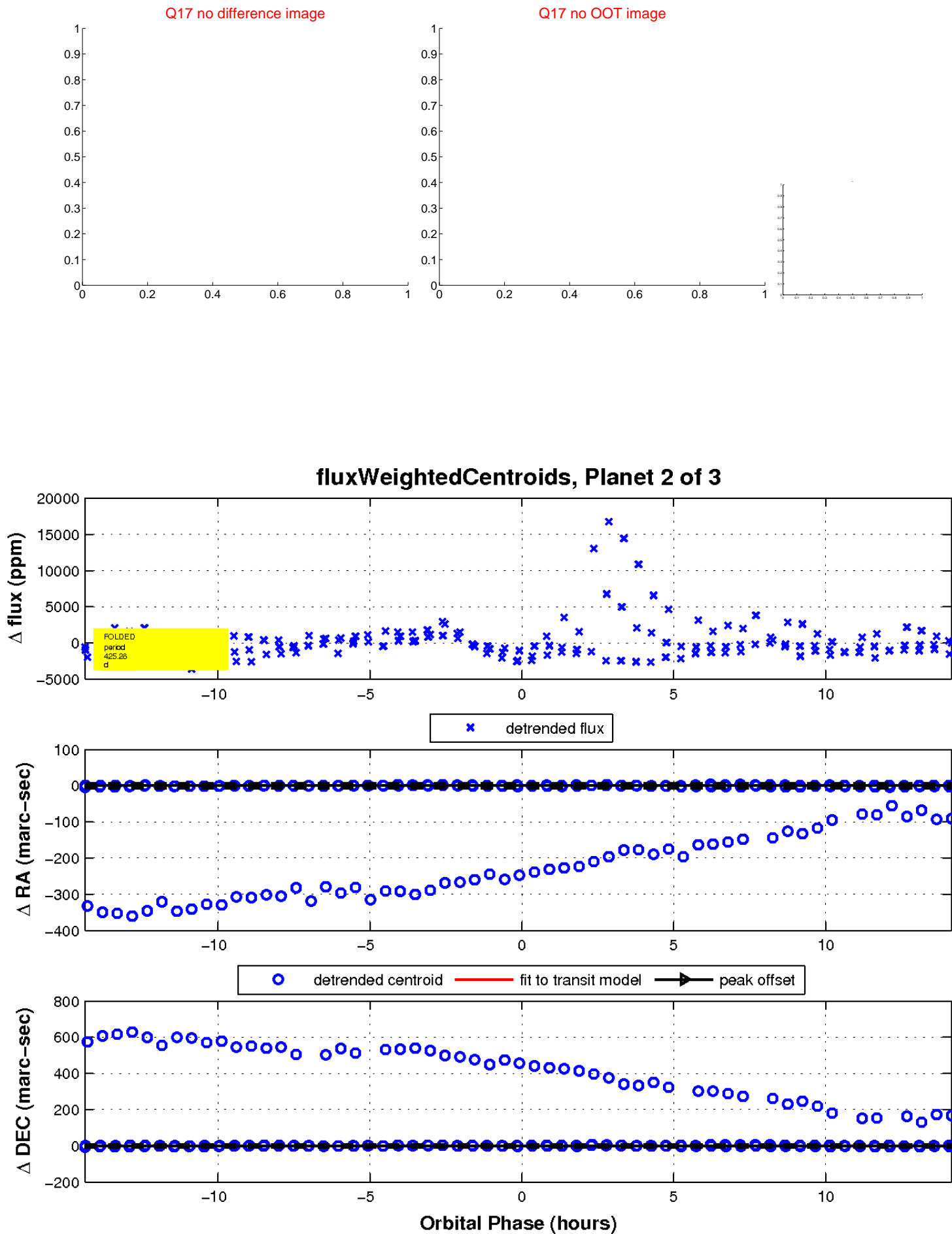
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

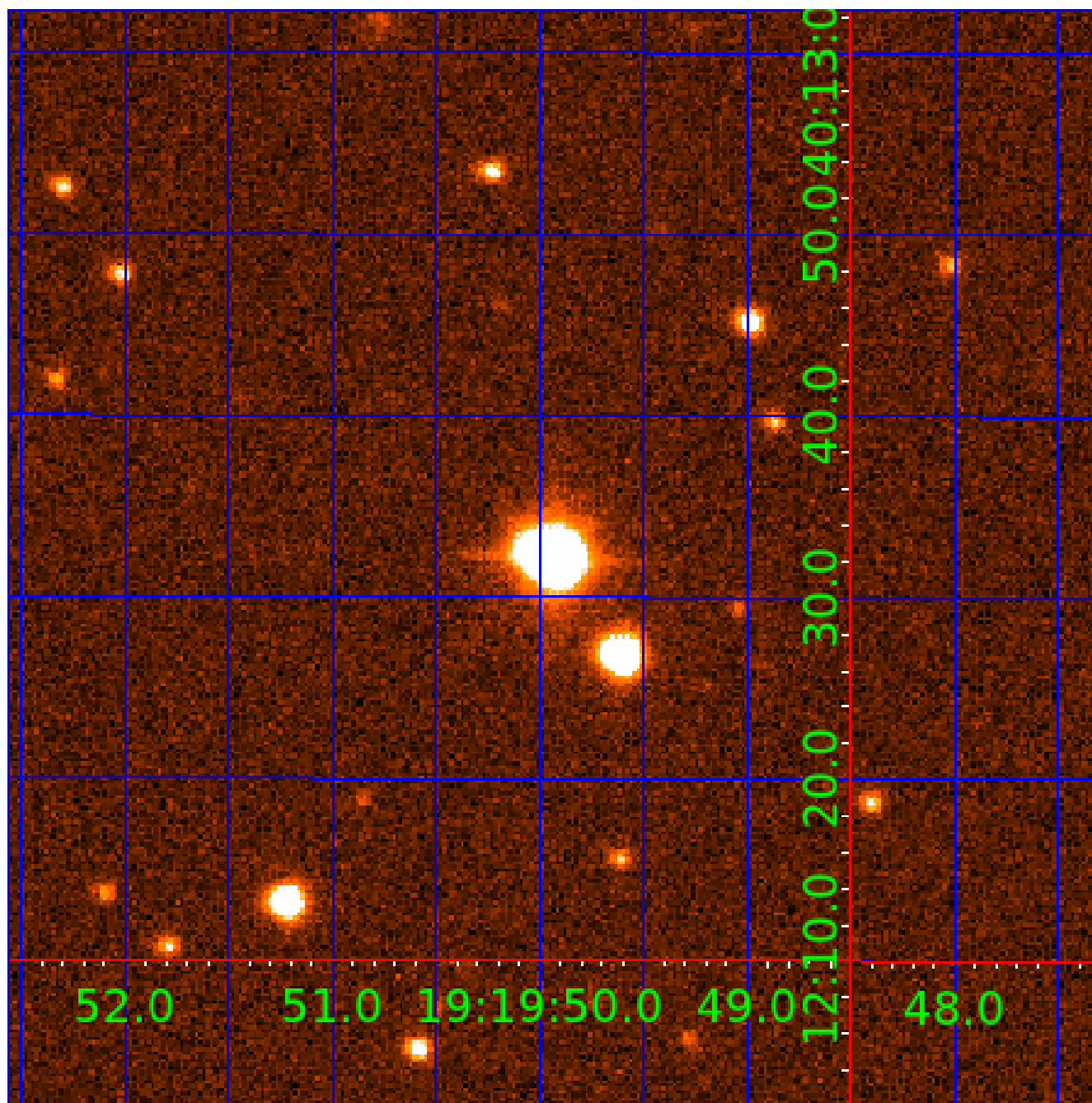


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005093168

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})
005093168-01	OBS	No	505.358344	248.247161	3857.3	4.605	12.3	5.1	4.40	4820	26.74	6.53
005093168-02	OBS	No	425.283864	372.037134	3723.9	4.807	11.4	6.4	4.40	4820	47.69	8.22
005093168-03	OBS	No	0.574287	131.580849	190.8	1.322	11.4	11.3	4.40	4820	6.04	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005093168-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005093168-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005093168-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

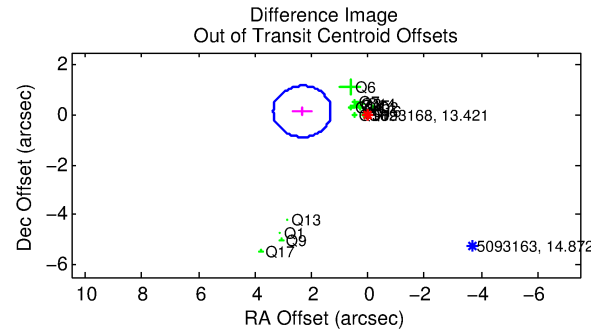
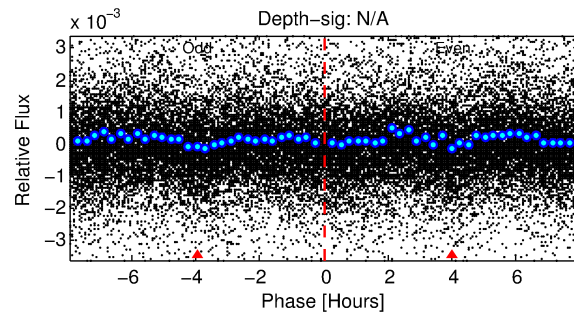
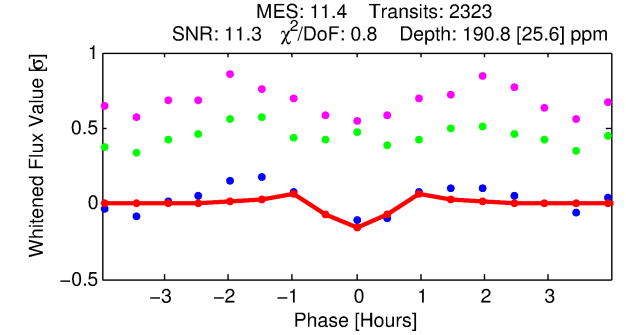
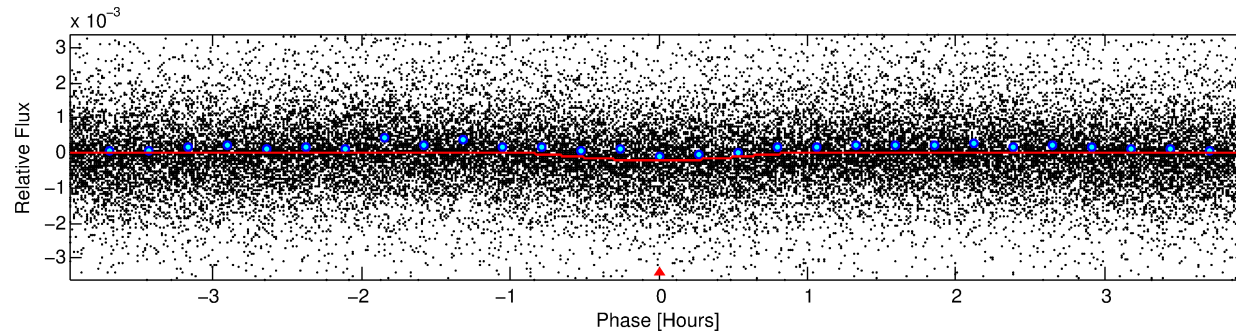
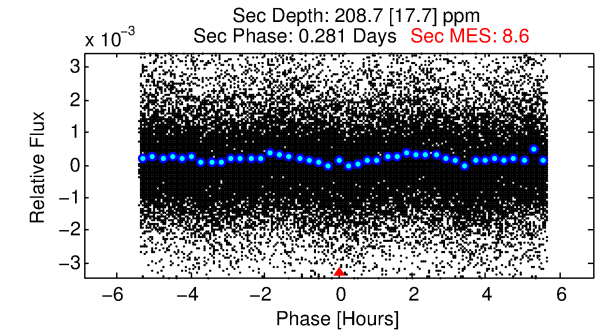
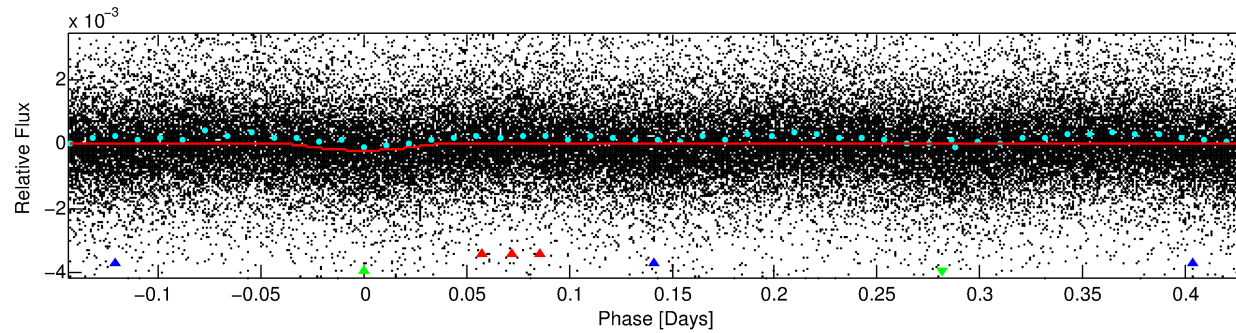
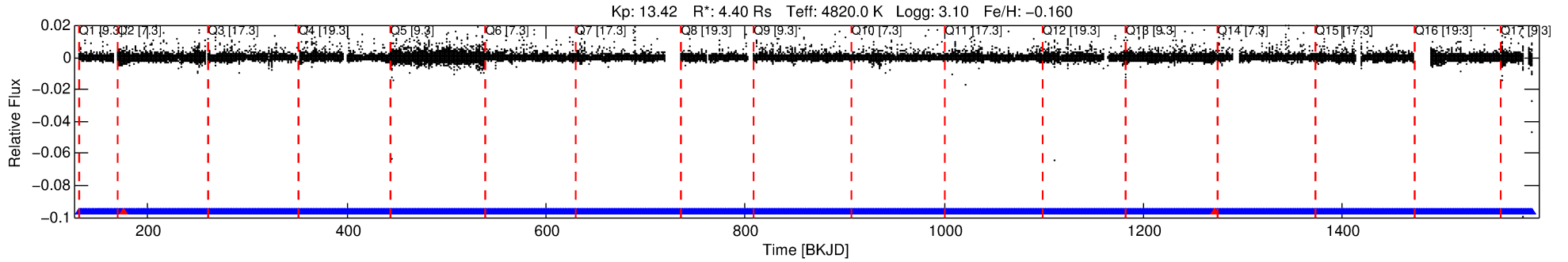
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005093168-03

No Significant Match Found

DV One-Page Summary

KIC: 5093168 Candidate: 3 of 3 Period: 0.574 d



DV Fit Results:

Period = 0.57429 [0.00001] d
Epoch = 131.5808 [0.0013] BKJD
Rp/R* = 0.0126 [0.0099]
a/R* = 3.19 [7.37]
b = 0.38 [5.95]
Seff = N/A
Teq = N/A
Rp = 6.04 [6.10] Re
a = N/A
Ag = N/A
Teffp = N/A

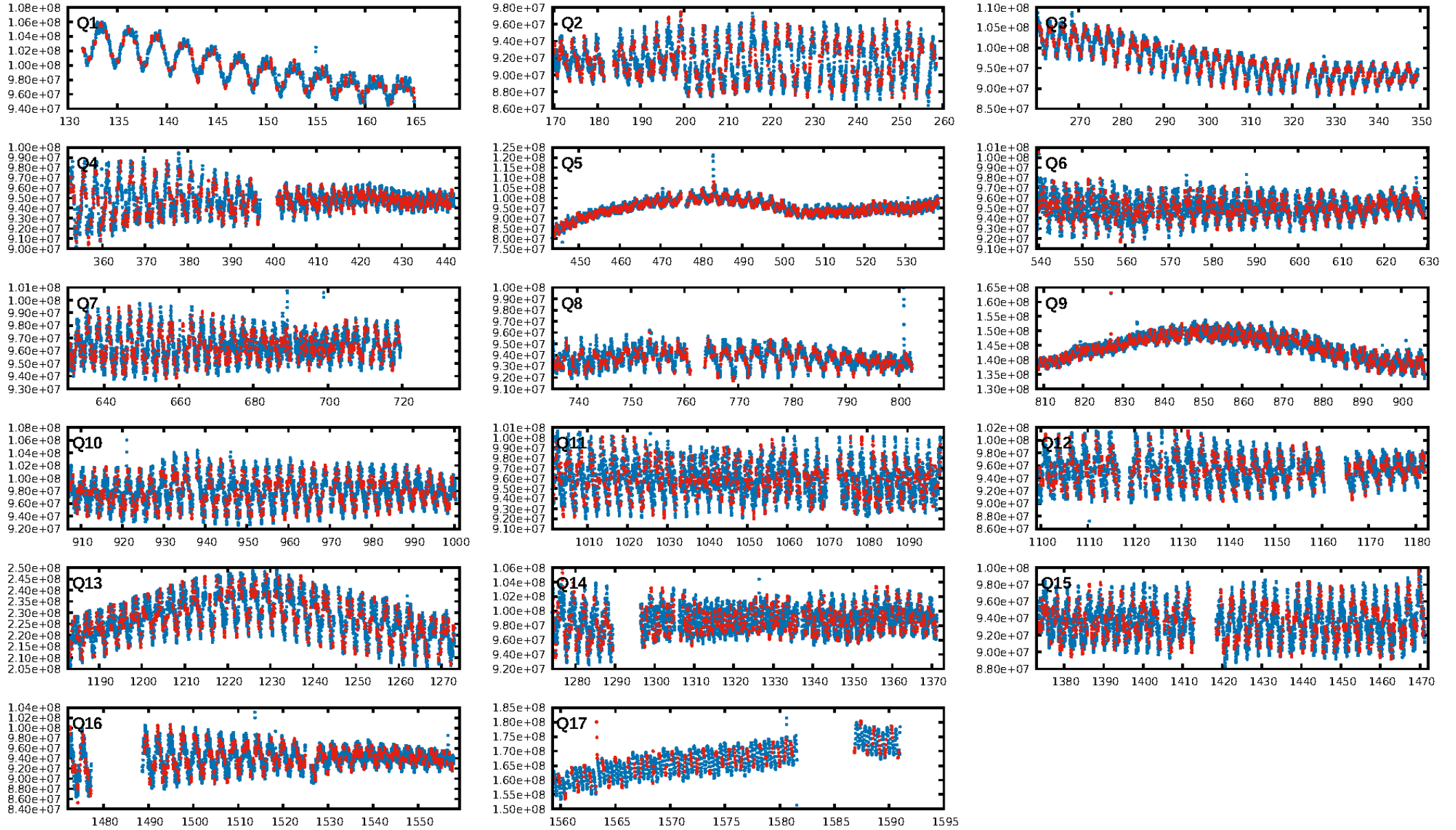
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [2044.38σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2215/2217]
GhostDiagnostic-chr: 0.389
Centroid-sig: 0.0%
Centroid-so: 0.678 arcsec [1.67σ]
OotOffset-rm: 2.335 arcsec [6.83σ]
KicOffset-rm: 0.134 arcsec [0.62σ]
OotOffset-st: 4/4/4 [16]
KicOffset-st: 4/4/4 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 1.00 [17/17]

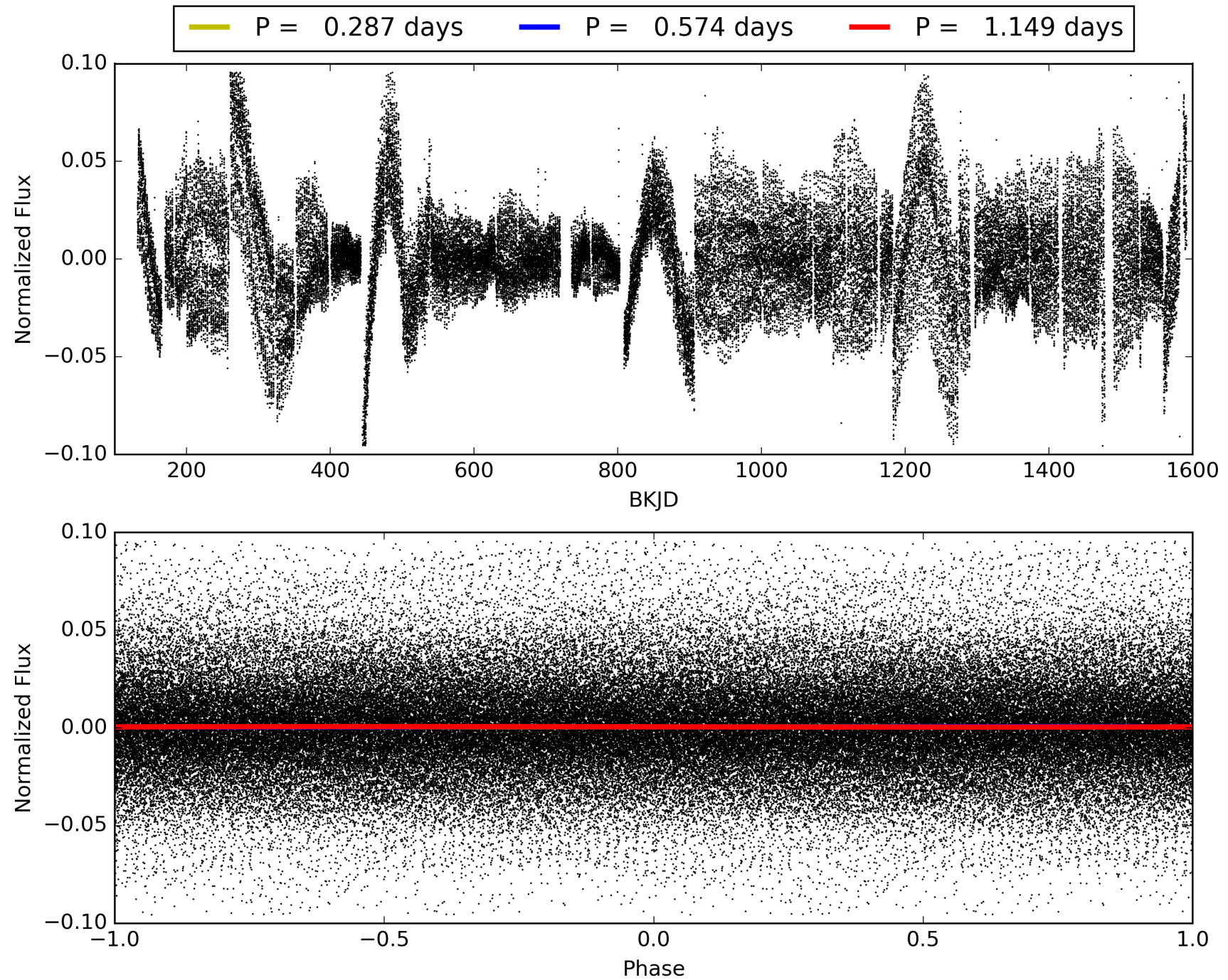
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 15:54:32 Z

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

TCE 005093168-03, PDC Light Curves

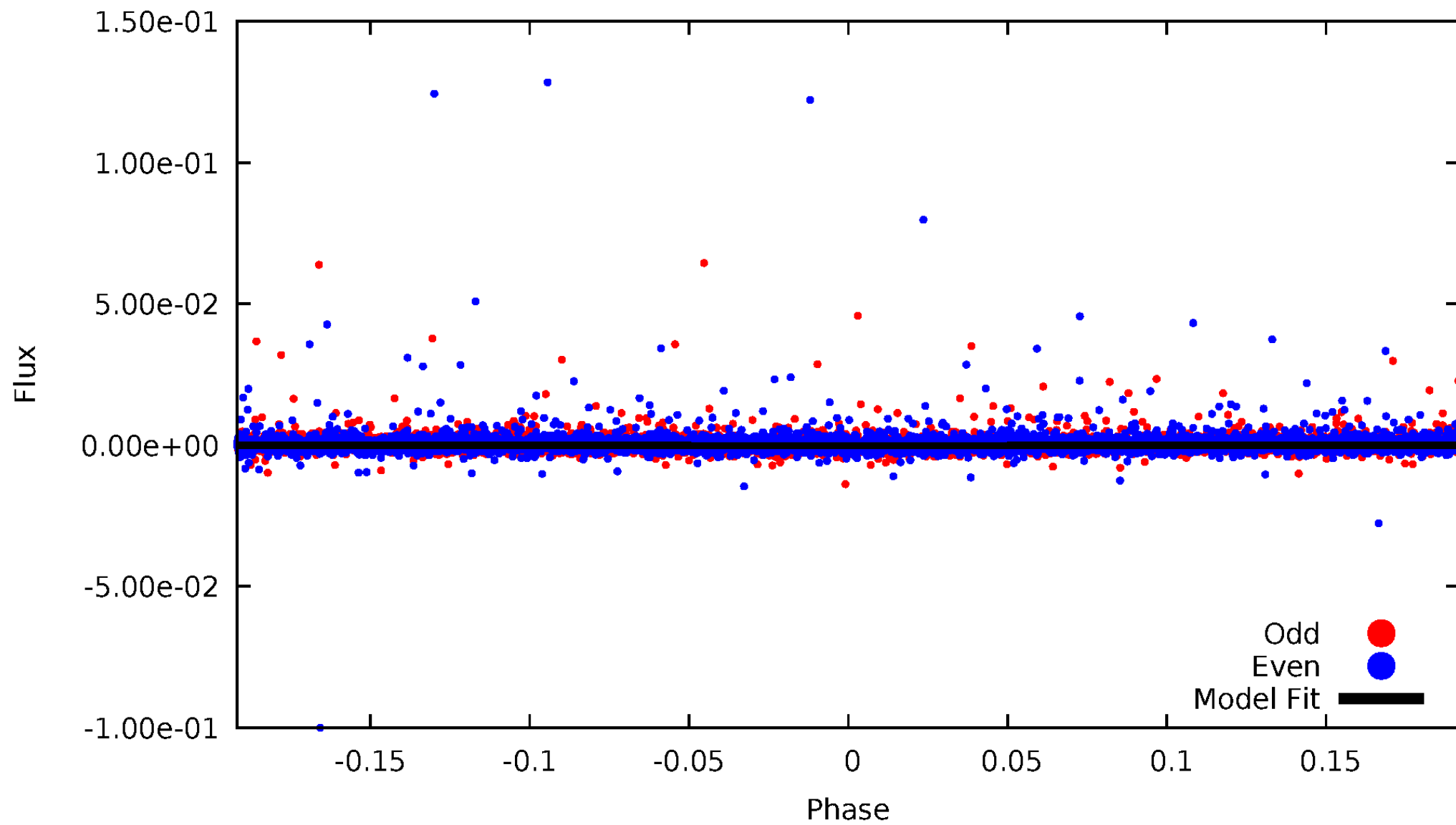


TCE 005093168-03



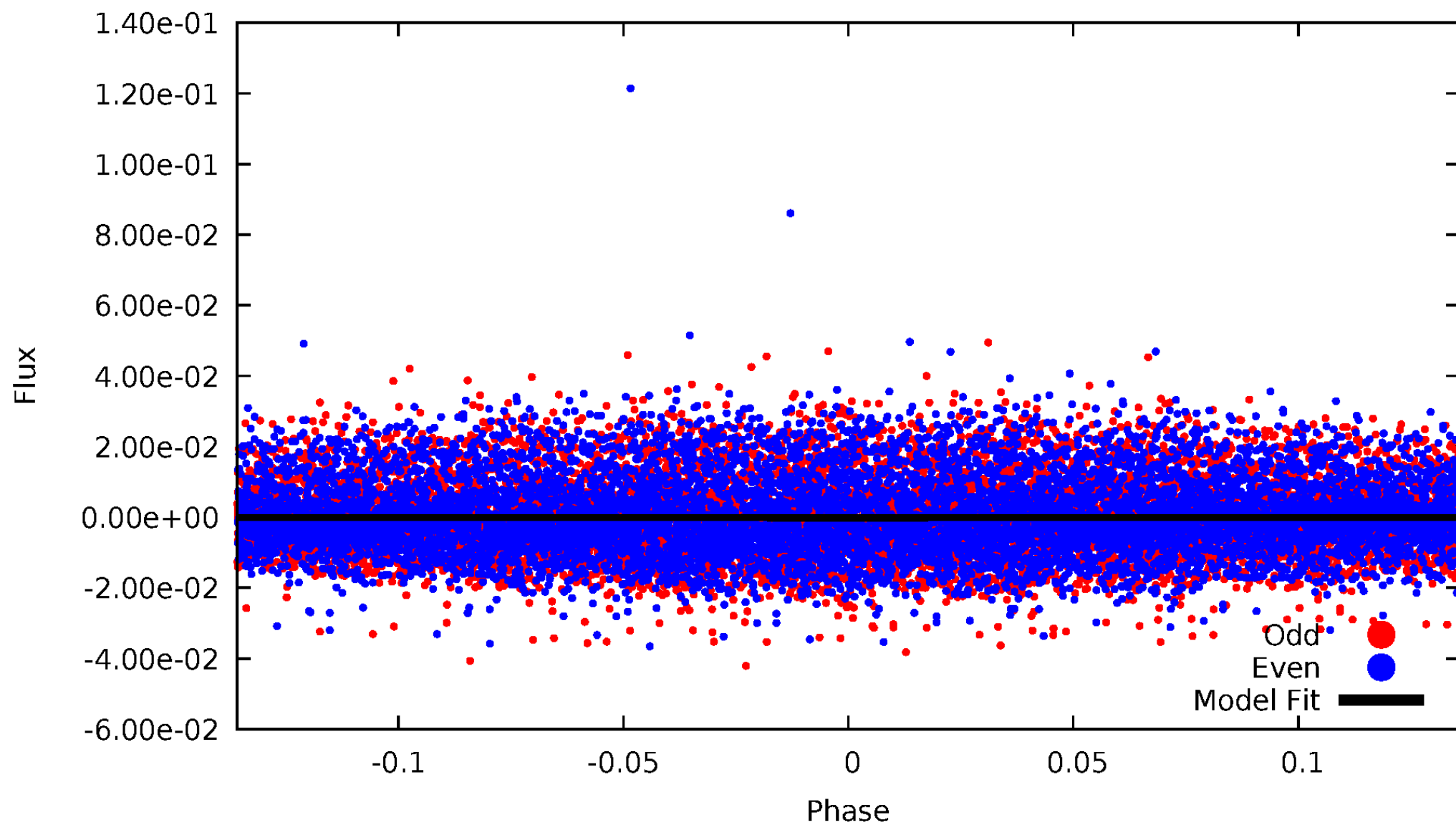
DV Odd/Even

TCE 005093168-03



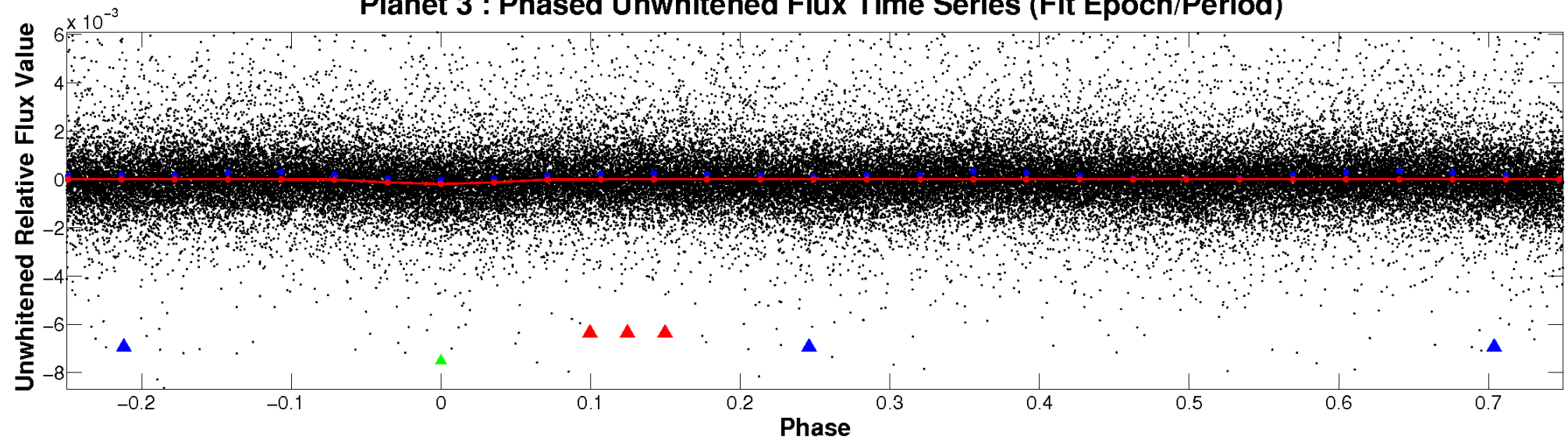
ALT Odd/Even

TCE 005093168-03

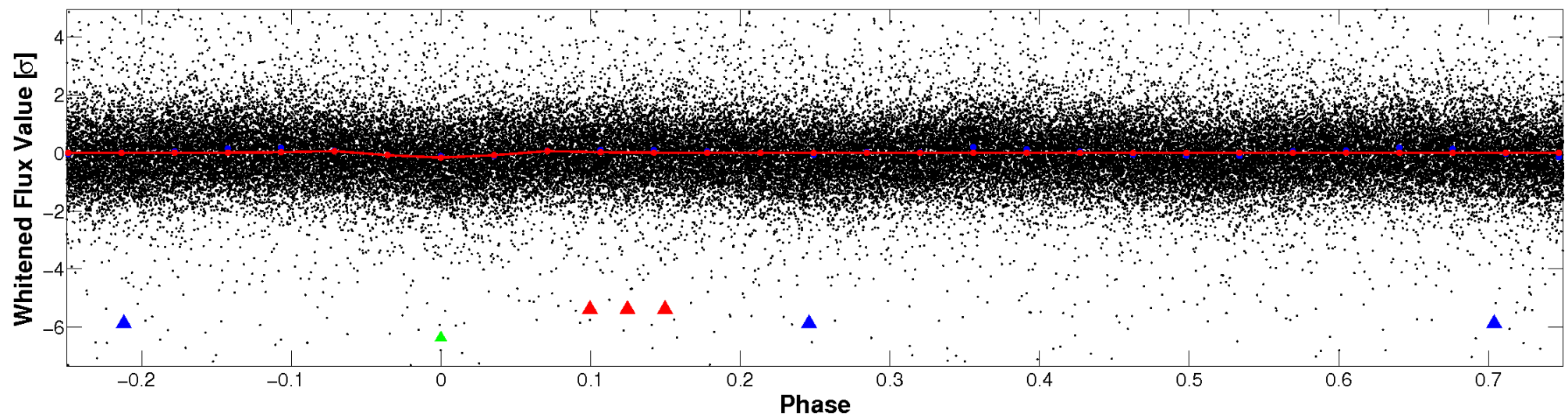


Non-Whitened Vs. Whitened Light Curve

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

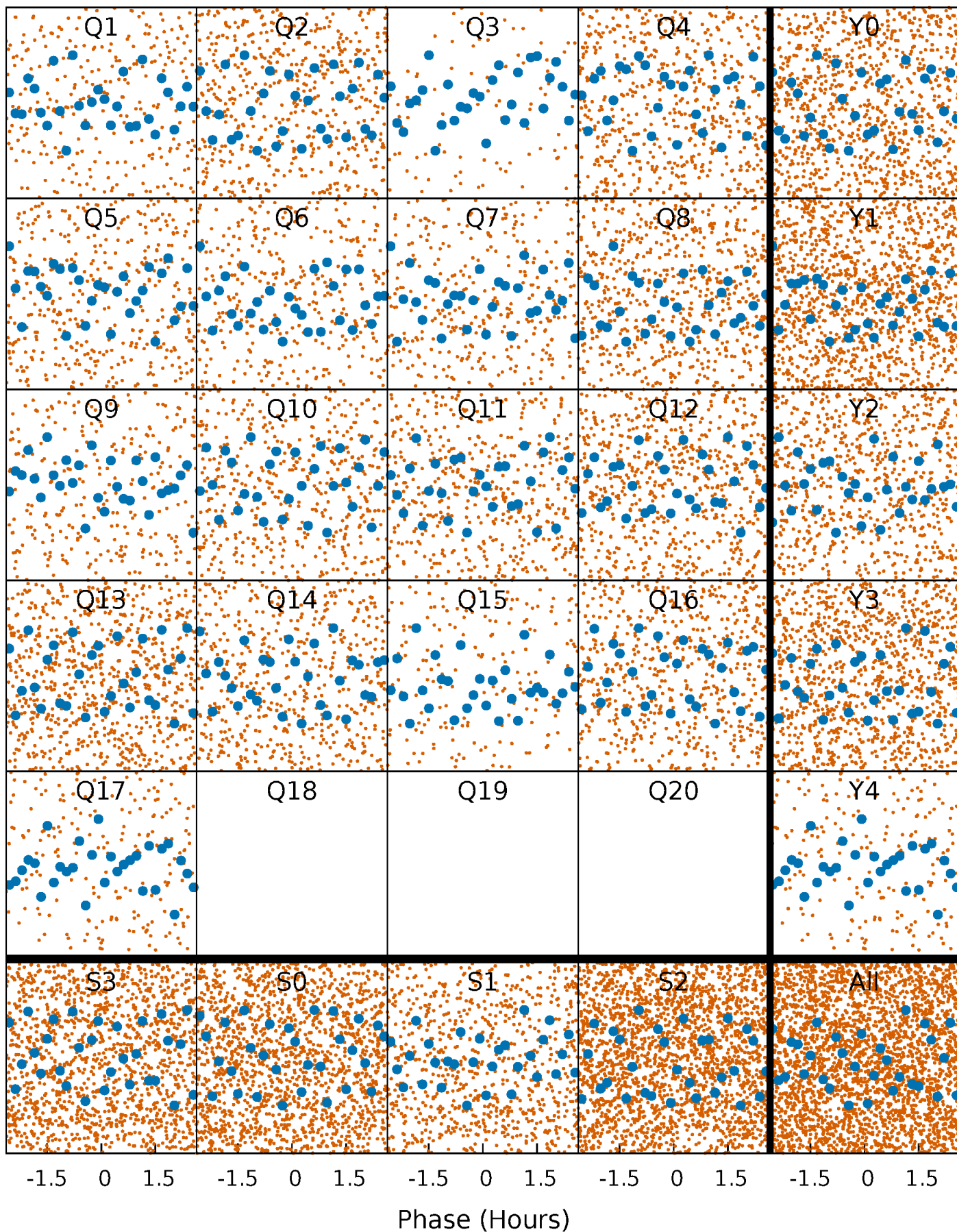


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



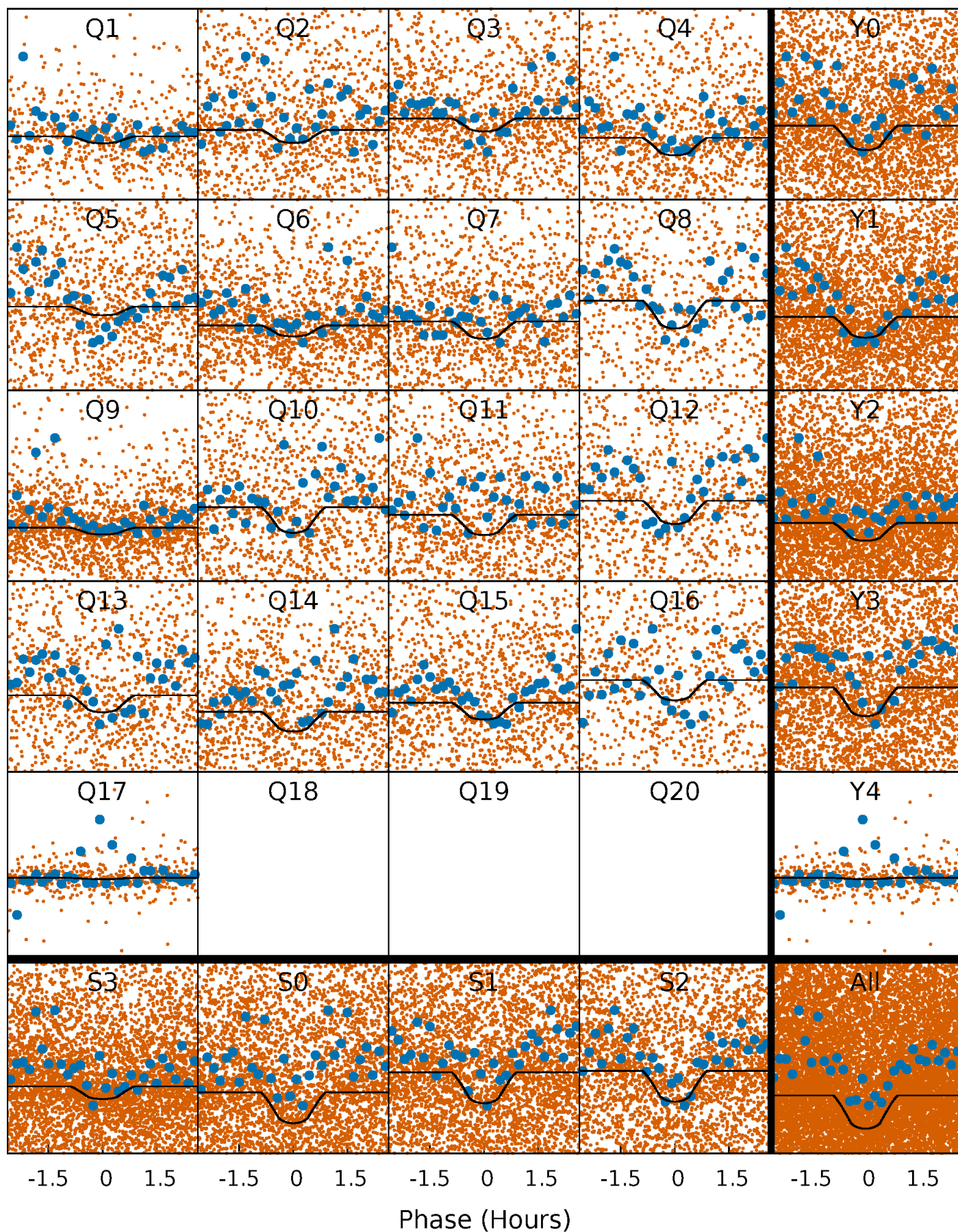
PDC Quarter-Phased Transit Curves

TCE 005093168-03 P= 0.574287 Days $T_0=131.580849$ (BKJD)



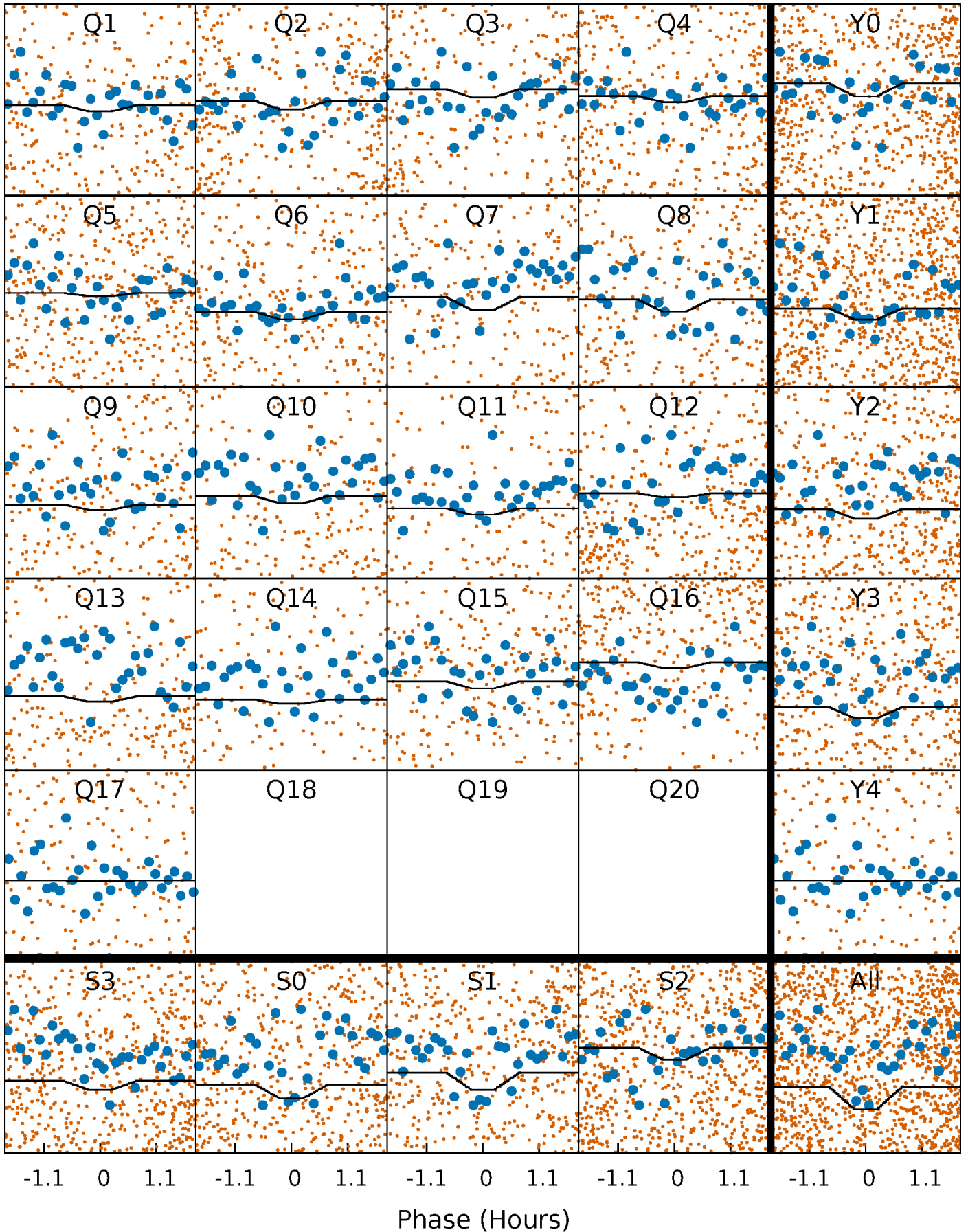
DV Quarter-Phased Transit Curves

TCE 005093168-03 P= 0.574287 Days $T_0=131.580849$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

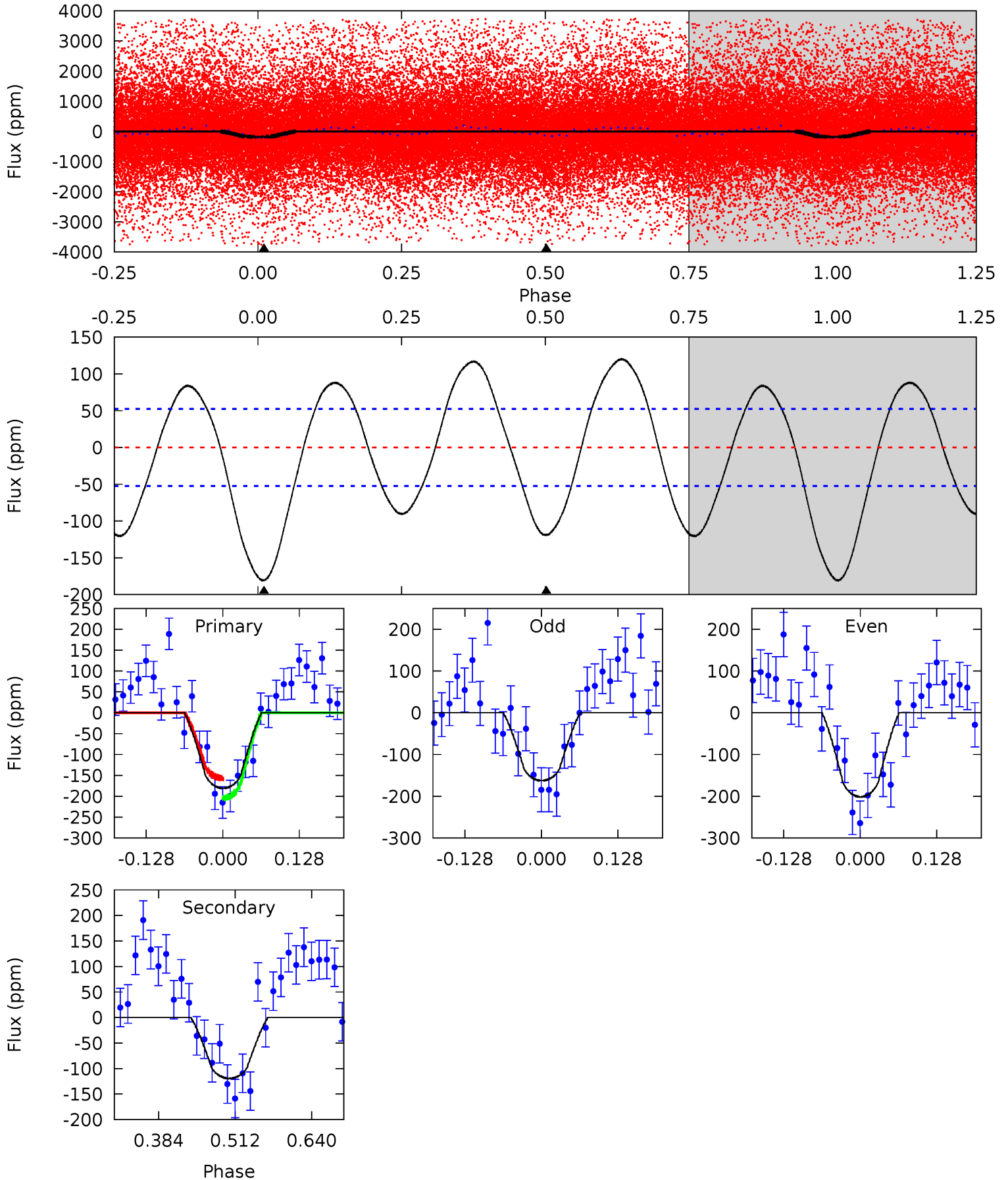
TCE 005093168-03 P= 0.574298 Days $T_0=131.575985$ (BKJD)



DV Model-Shift Uniqueness Test

005093168-03, P = 0.574287 Days, E = 131.006562 Days

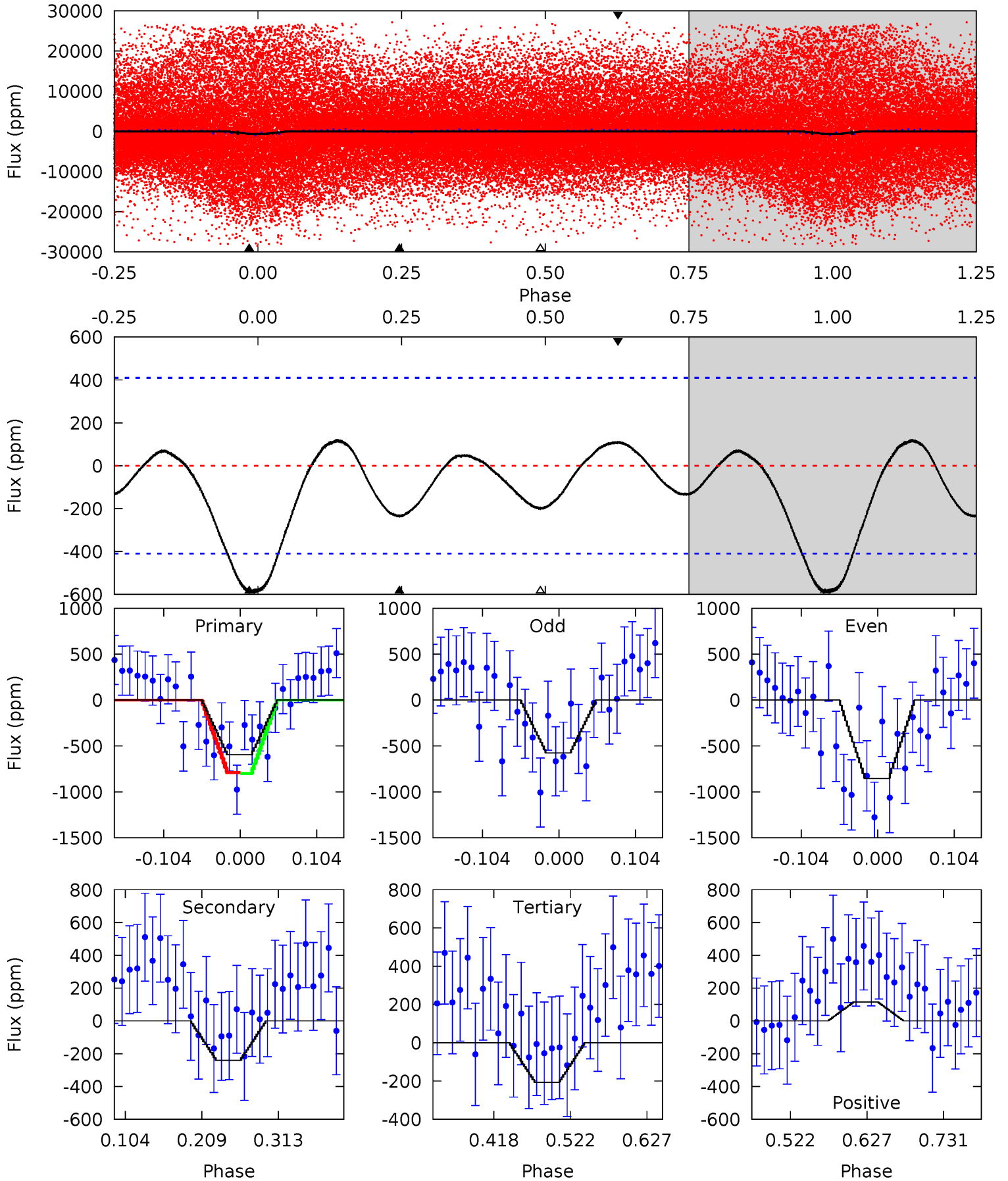
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	10.3	0	0	4.51	1.52	6.48	15.6	15.6	10.3	10.3	1.69	-0.10	0.40	2.07



Alt Model-Shift Uniqueness Test

005093168-03, P = 0.574298 Days, E = 131.001687 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.63	2.68	2.30	1.29	4.56	1.62	1.02	4.33	5.34	0.38	1.39	1.56	-0.07	0.17	0.06



Stellar Parameters For KIC 005093168

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4820^{+145}_{-109}	$3.104^{+0.412}_{-0.337}$	$-0.160^{+0.300}_{-0.200}$	$4.404^{+2.795}_{-1.720}$	$0.900^{+0.312}_{-0.144}$	$0.015^{+0.046}_{-0.010}$
	+3%/-2%	+13%/-11%	+188%/-125%	+63%/-39%	+35%/-16%	+308%/-70%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005093168-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-119 ± 12	$6.39^{+5.12}_{-3.87}$	5428^{+804}_{-618}	-2487^{+8788}_{-2005}	$0.292^{+1.502}_{-0.207}$
Alt.	-241 ± 90	$6.61^{+5.17}_{-3.69}$	5431^{+805}_{-650}	4075^{+3070}_{-8163}	$0.484^{+2.279}_{-0.335}$

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

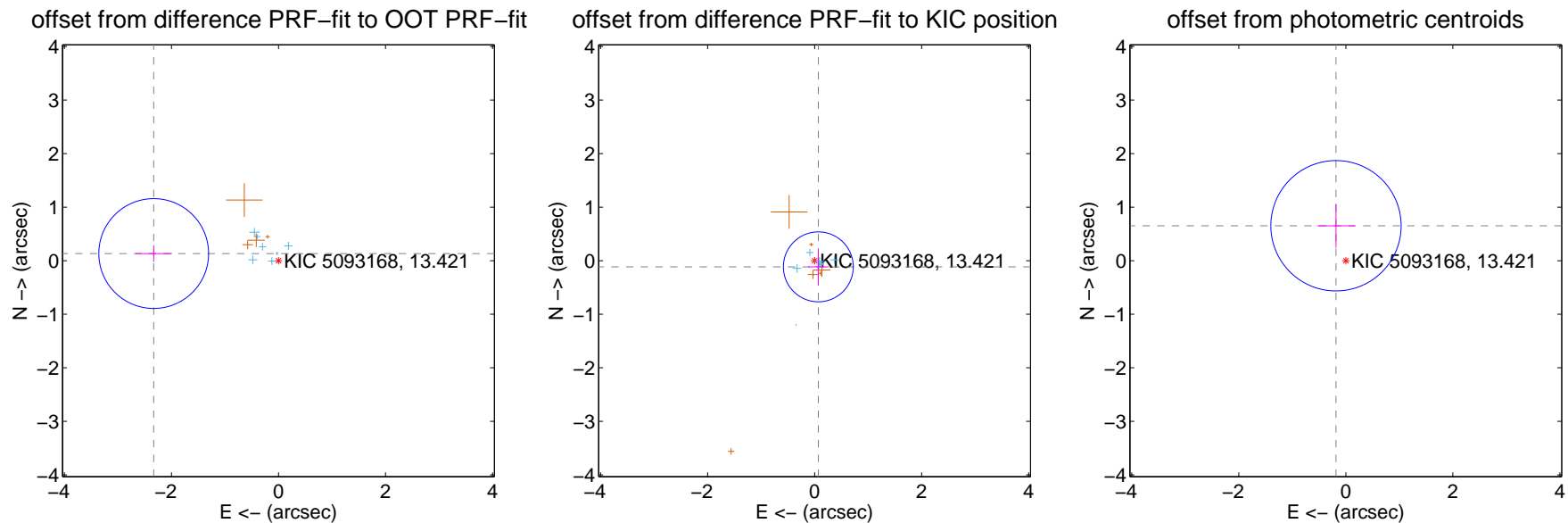
DV Centroid Data

Supplemental centroid analysis for 005093168-03. Kepler magnitude: 13.42. Transit SNR 11.26

There are 9 quarters with good PRF difference image offsets

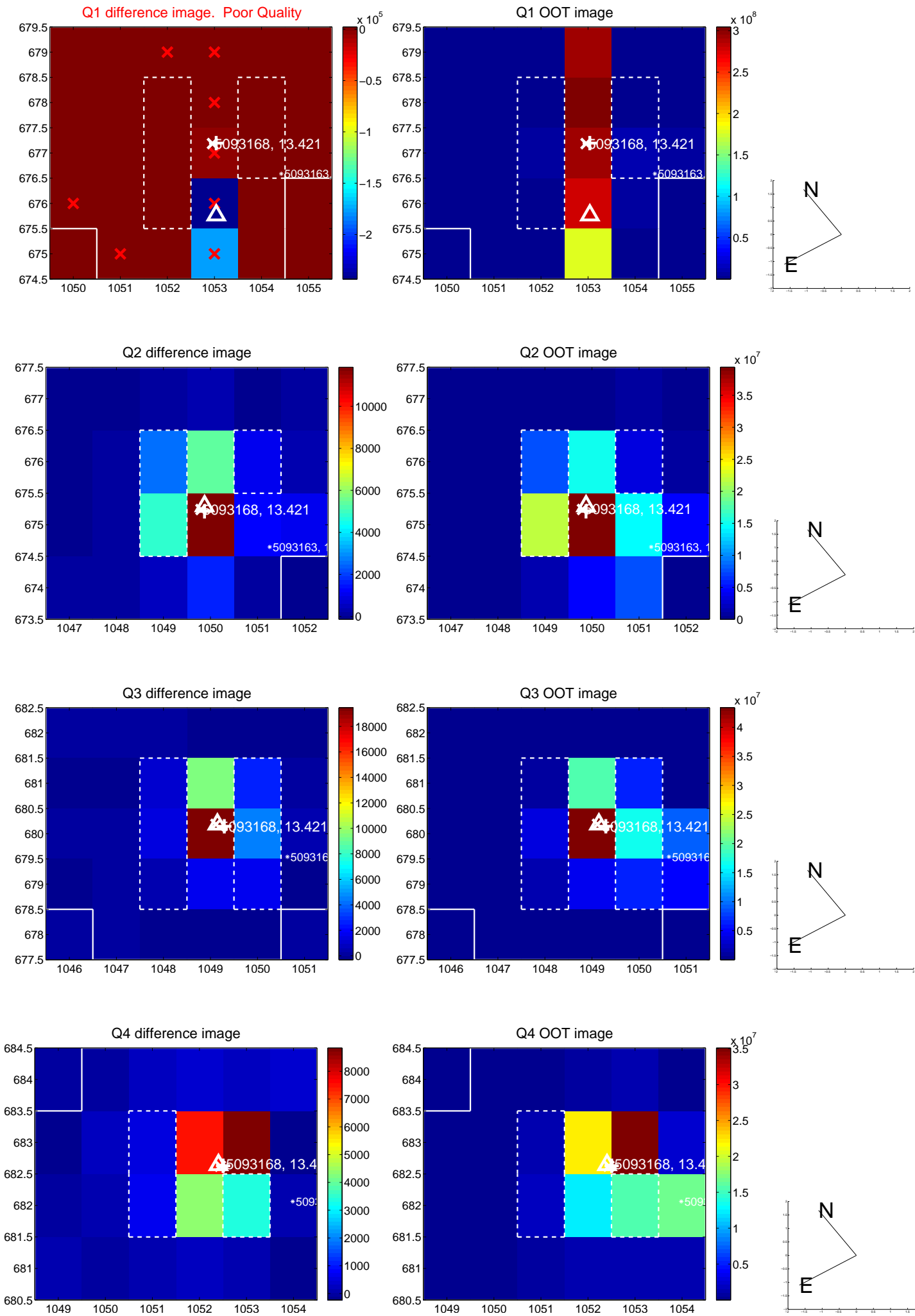
The OOT PRF centroid is offset from the target star catalog position by about 6.52 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.335 ± 0.342	6.83	2.332 ± 0.342	0.133 ± 0.155
PRF-fit source offset from KIC position	0.134 ± 0.218	0.62	-0.069 ± 0.195	-0.115 ± 0.343
photometric centroid source offset	0.68 ± 0.41	1.67	0.18 ± 0.35	0.65 ± 0.41

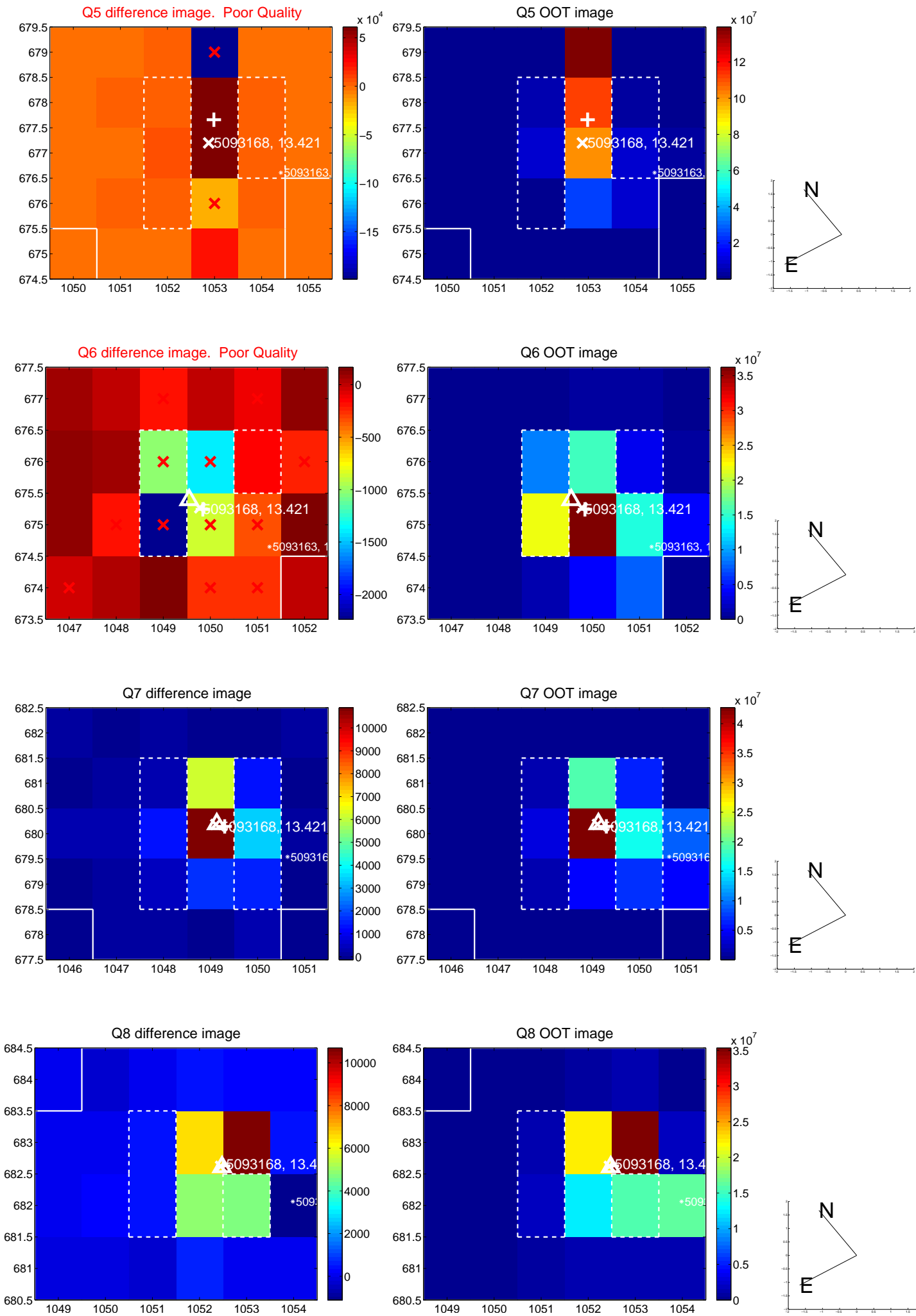


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

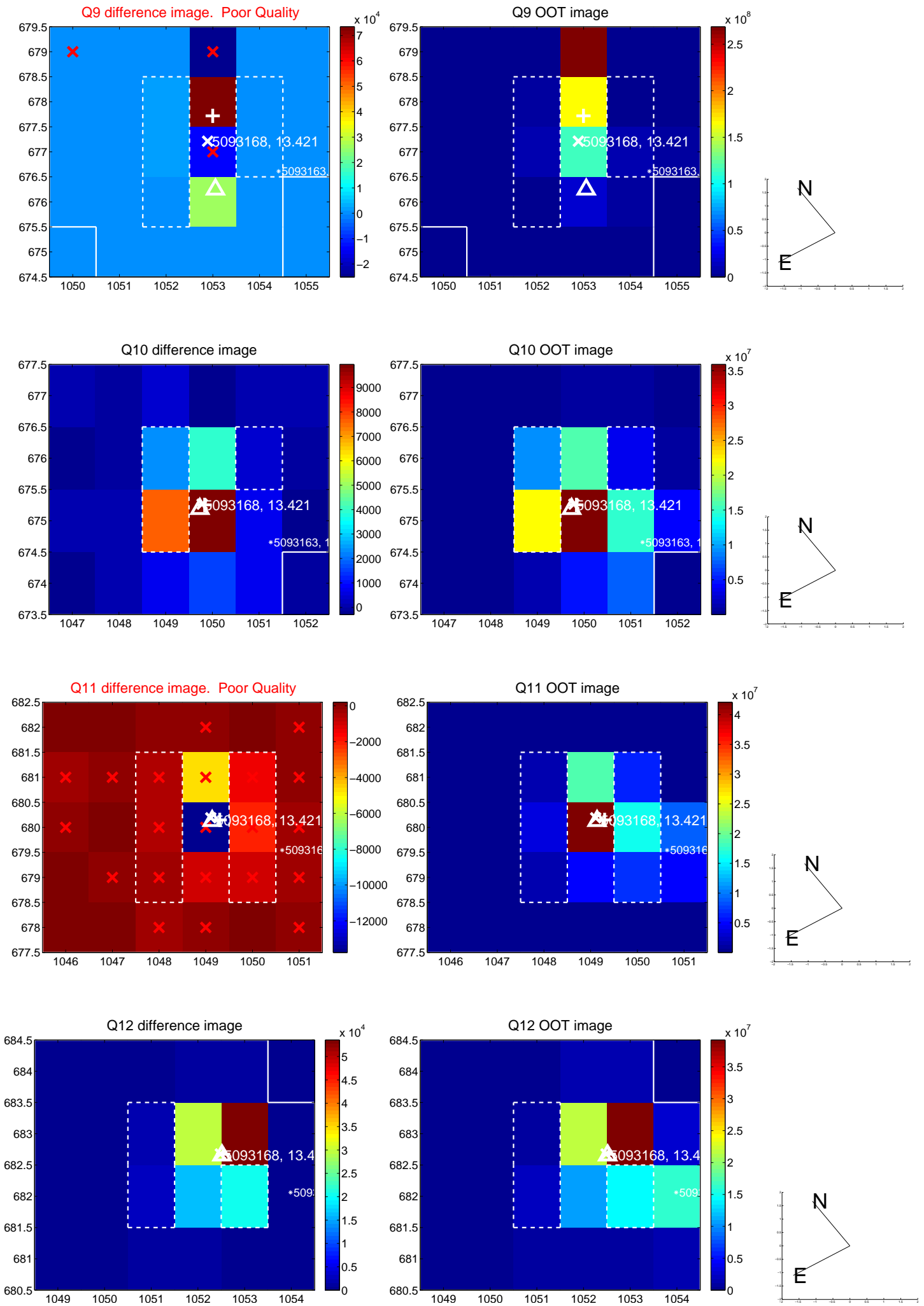
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



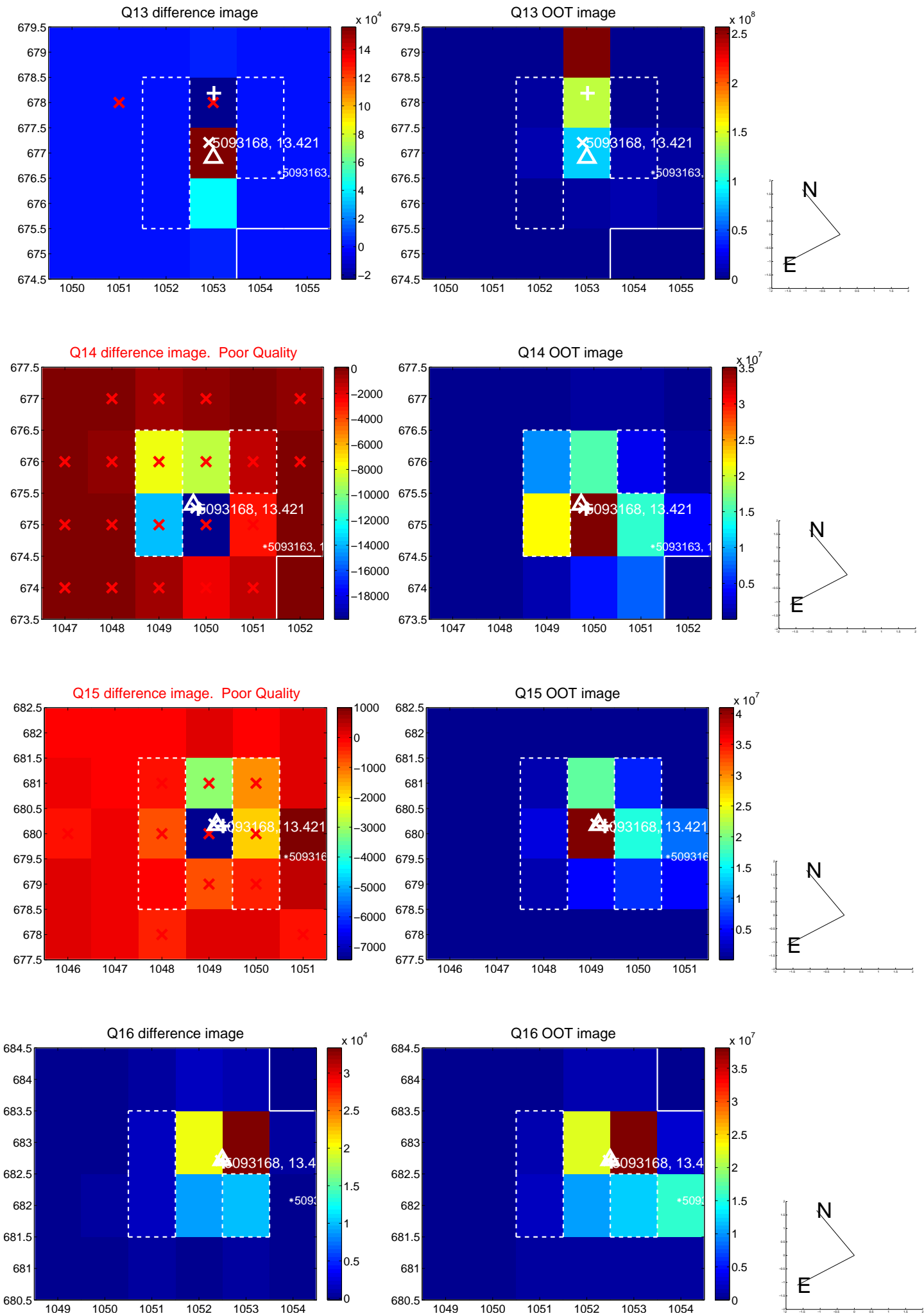
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



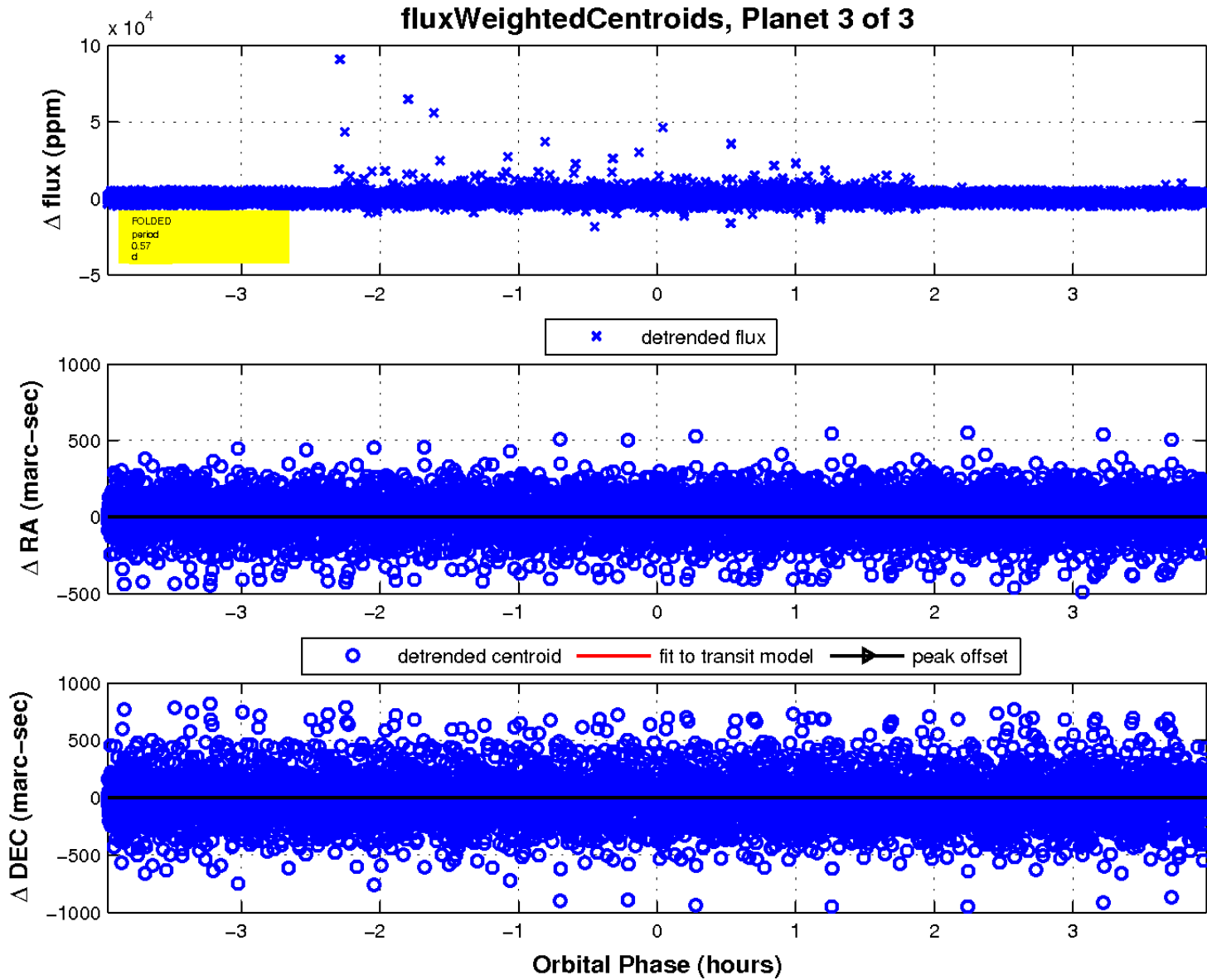
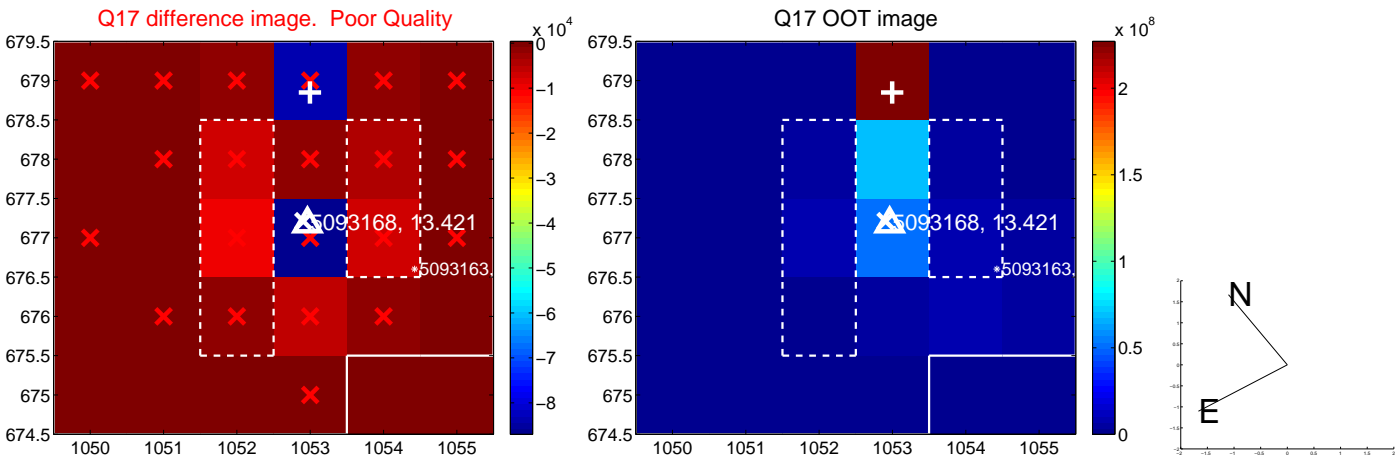
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

