

KIC 009306095

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})
009306095-01	OBS	No	2.123206	133.161640	323.0	2.175	9.3	9.7	1.19	6571	2.28	1999.62
009306095-02	OBS	No	528.336619	466.289831	4073.5	3.307	12.3	8.9	1.19	6571	8.13	1.28
009306095-03	OBS	No	0.530709	132.000888	24.5	3.483	8.3	1.7	1.19	6571	0.60	12699.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009306095-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
009306095-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009306095-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

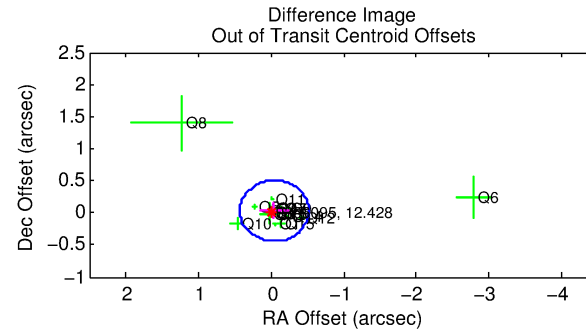
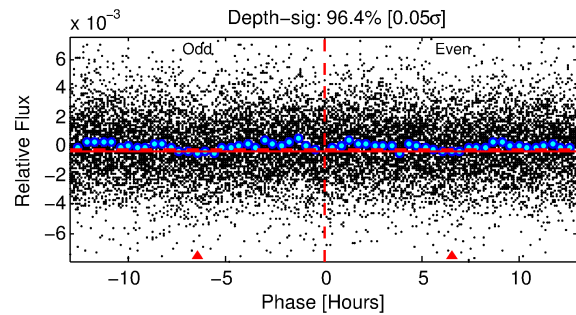
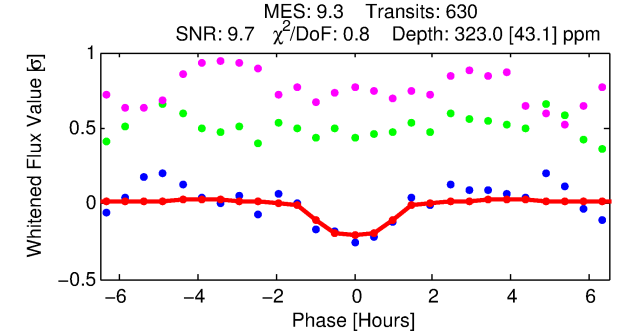
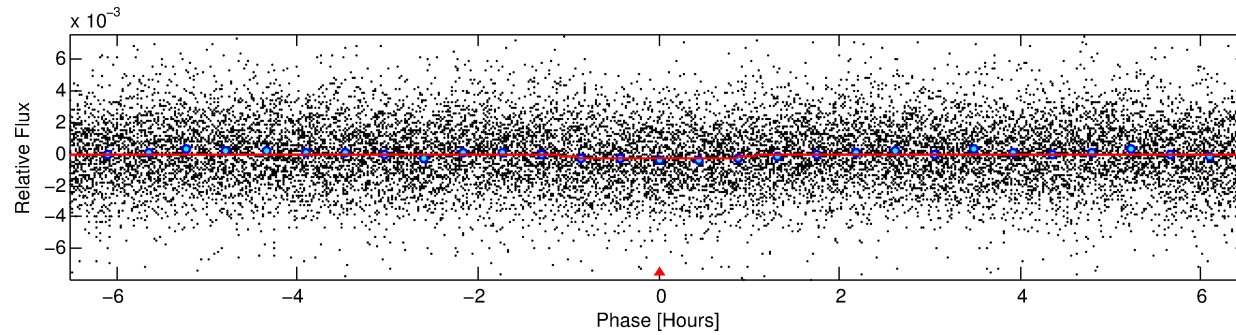
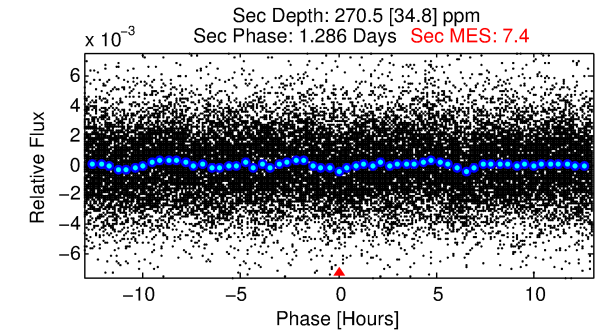
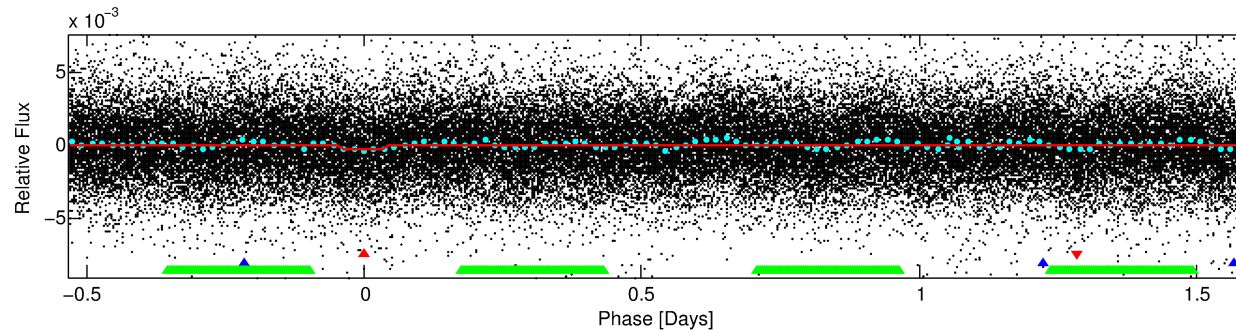
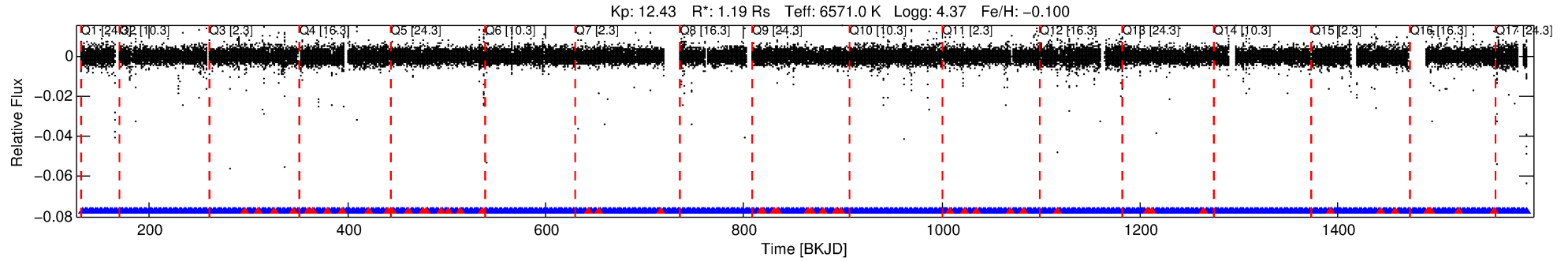
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009306095-01

No Significant Match Found

DV One-Page Summary

KIC: 9306095 Candidate: 1 of 3 Period: 2.123 d



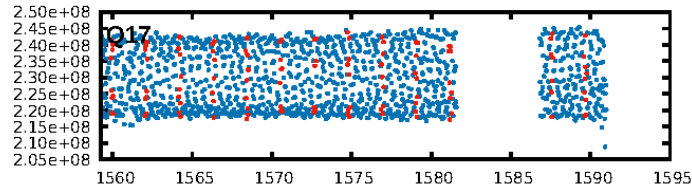
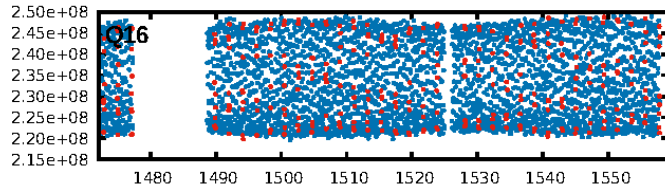
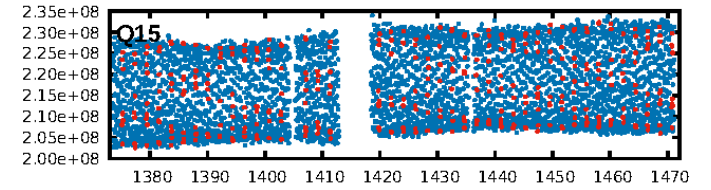
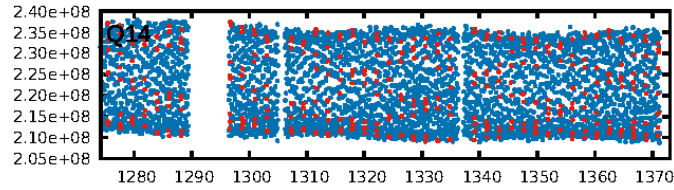
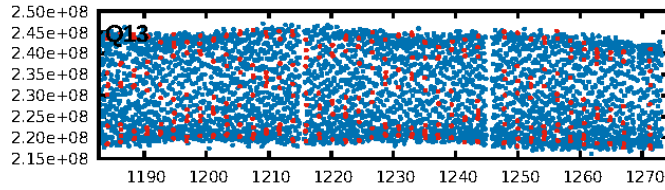
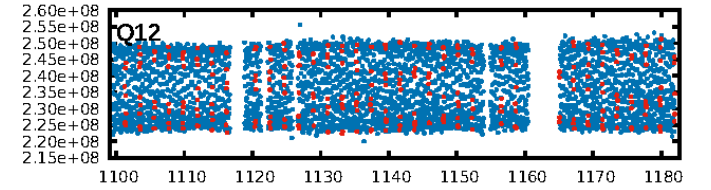
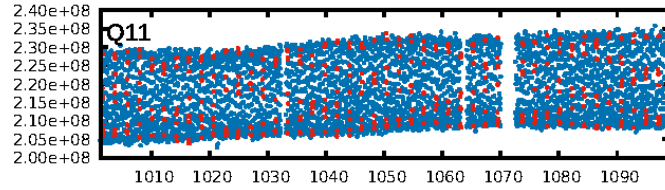
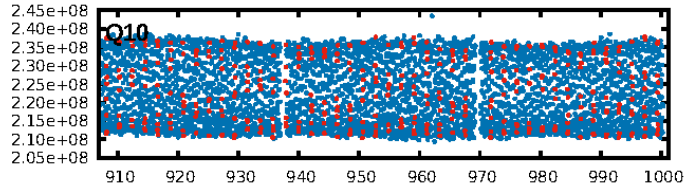
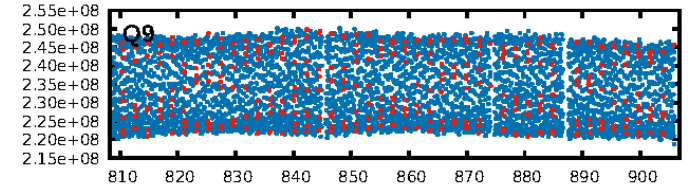
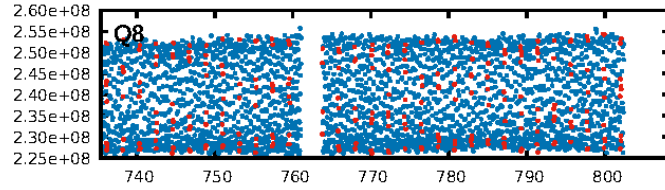
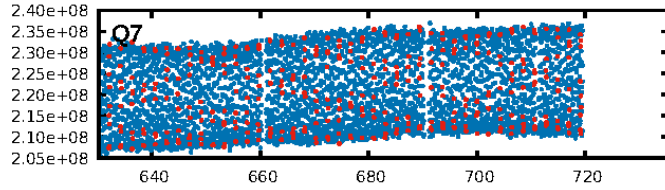
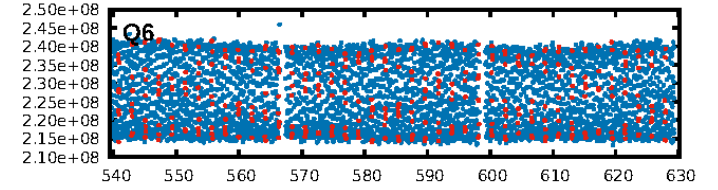
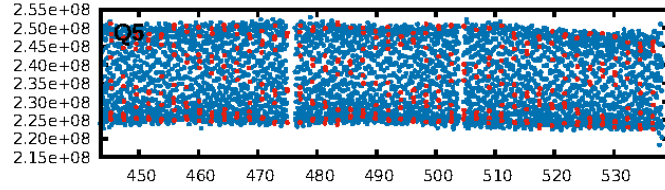
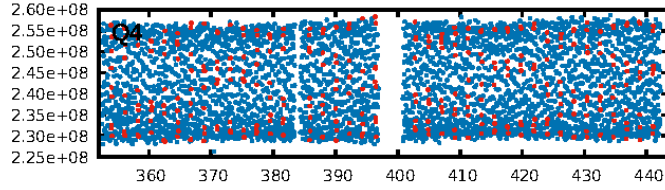
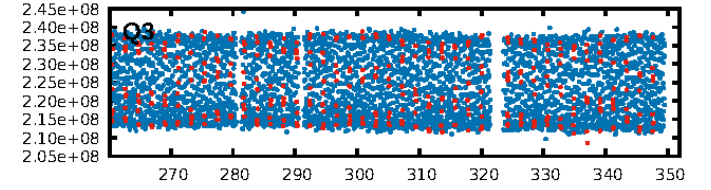
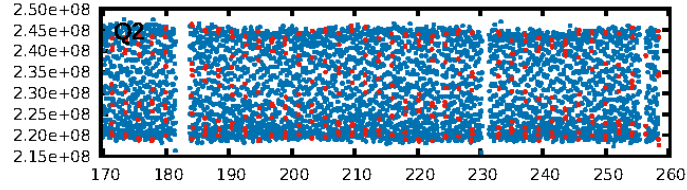
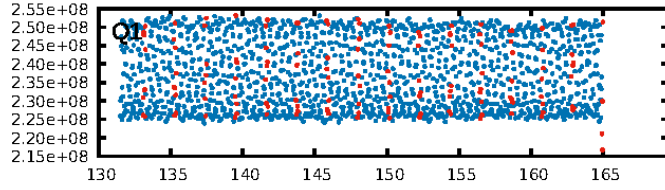
DV Fit Results:

Period = 2.12321 [0.00002] d
Epoch = 133.1616 [0.0046] BKJD
Rp/R* = 0.0175 [0.0296]
a/R* = 5.79 [51.73]
b = 0.67 [7.75]
Seff = 1999.62 [717.93]
Teff = 1705 [153] K
Rp = 2.28 [3.90] Re
a = 0.0345 [0.0082] AU
Ag = 34.02 [115.50] [0.29σ]
Teffp = 6367 [5380] K [0.87σ]

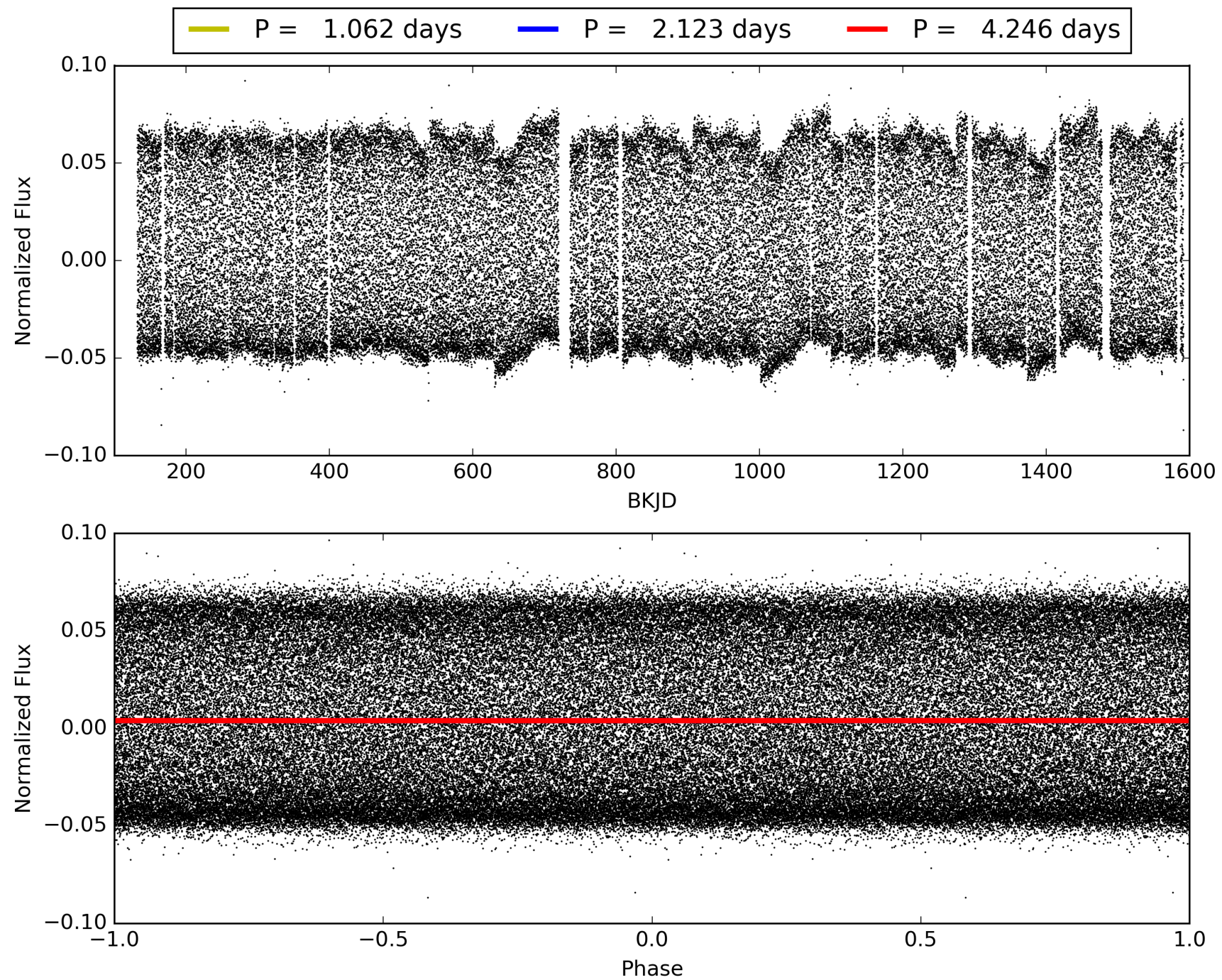
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.31σ]
LongPeriod-sig: 100.0% [3190.84σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [555/601]
GhostDiagnostic-chr: 0.5307
Centroid-sig: 39.9%
Centroid-so: 0.357 arcsec [2.33σ]
OotOffset-rm: 0.054 arcsec [0.34σ]
KicOffset-rm: 0.115 arcsec [0.66σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.71 [12/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 009306095-01, PDC Light Curves

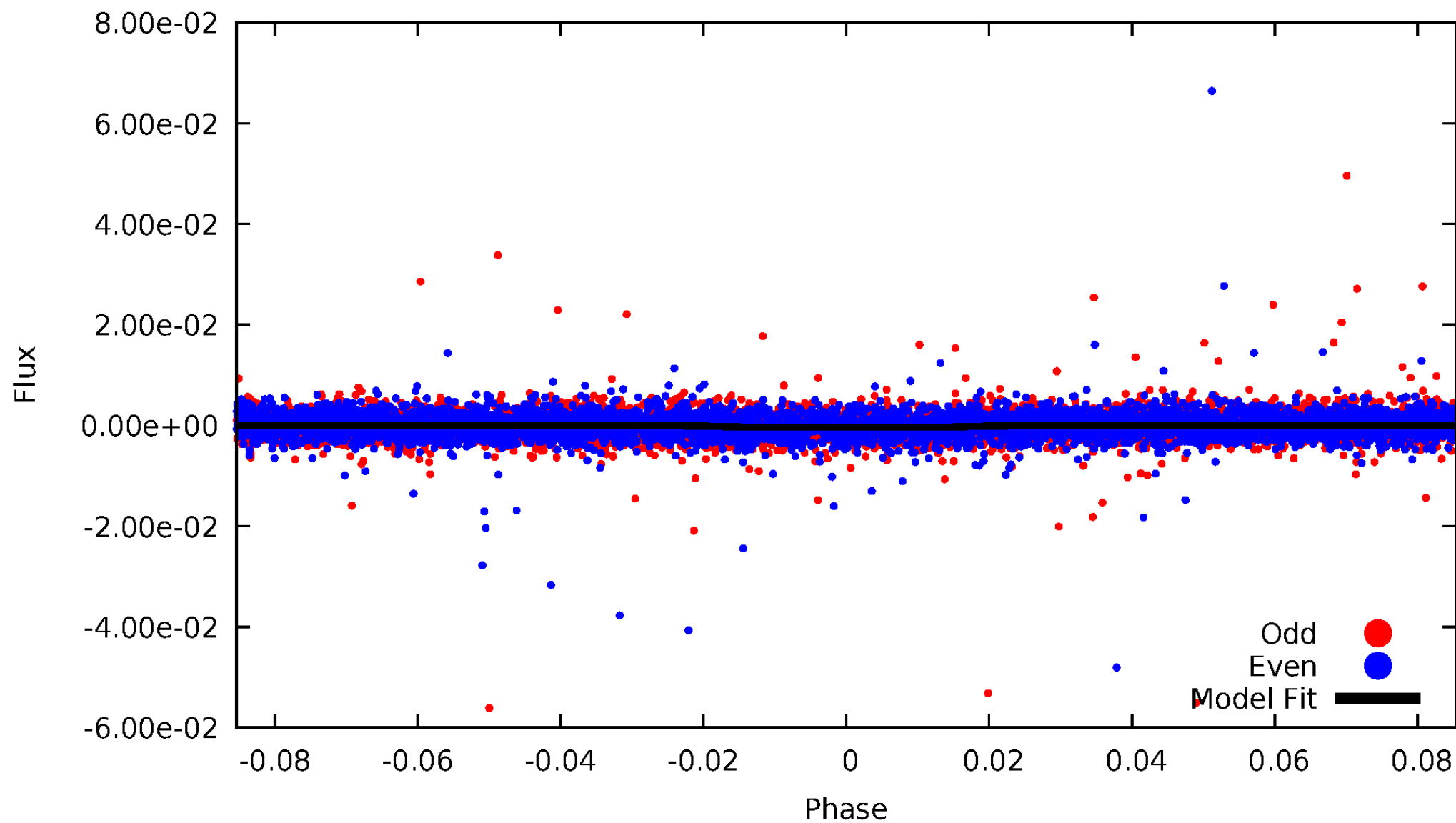


TCE 009306095-01



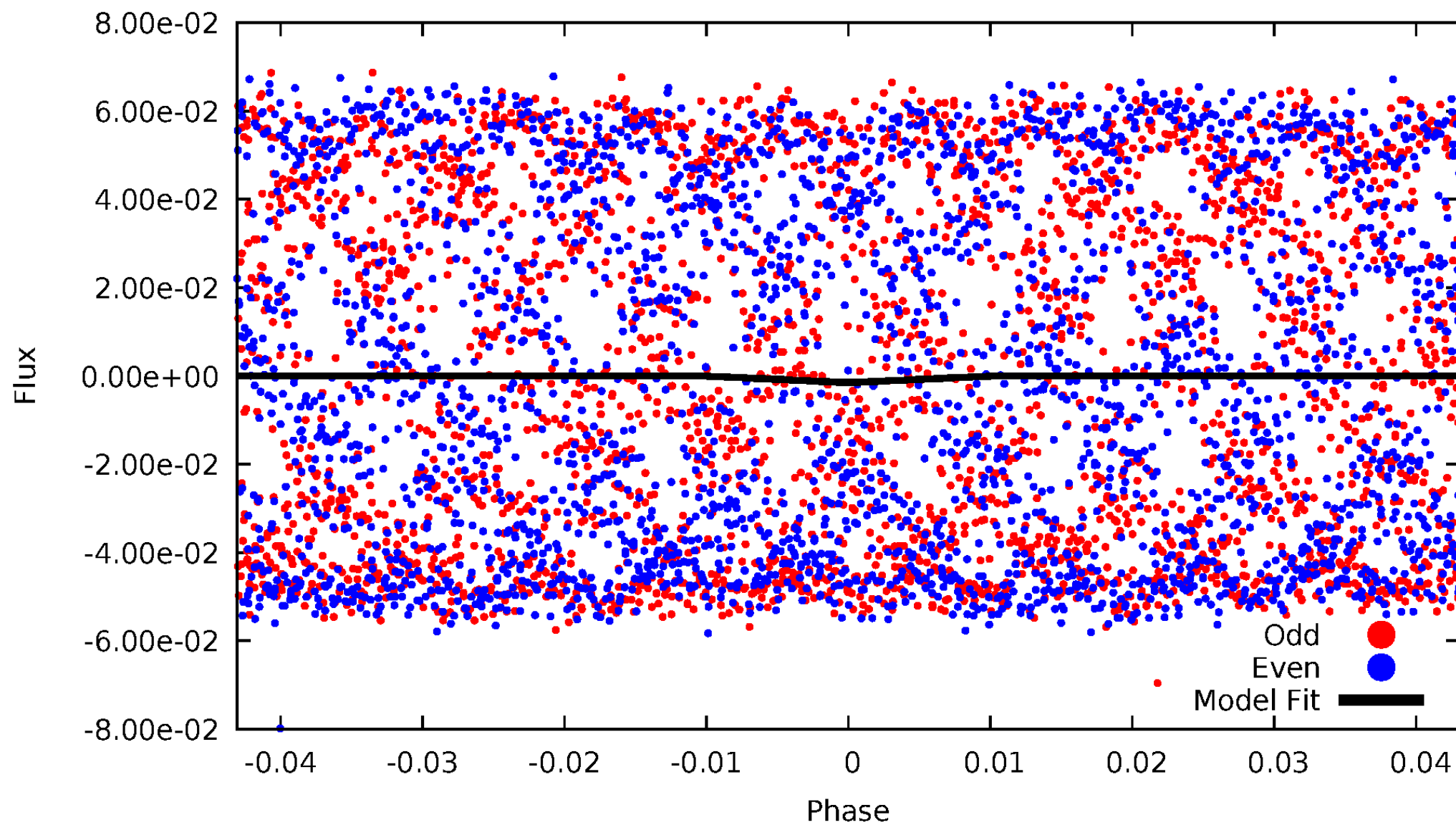
DV Odd/Even

TCE 009306095-01

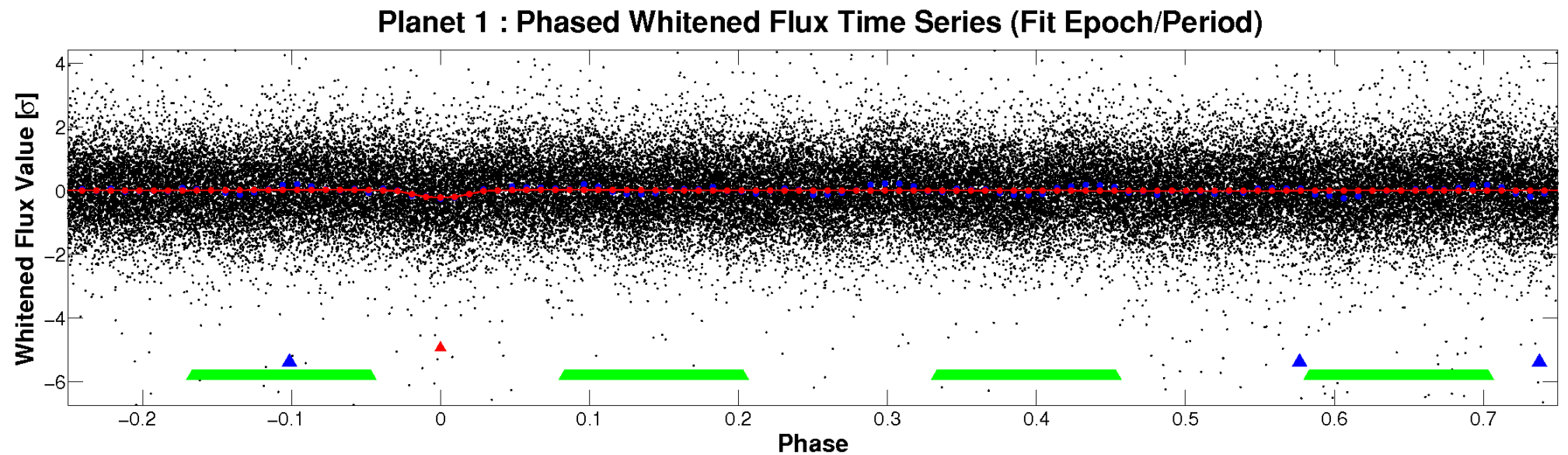
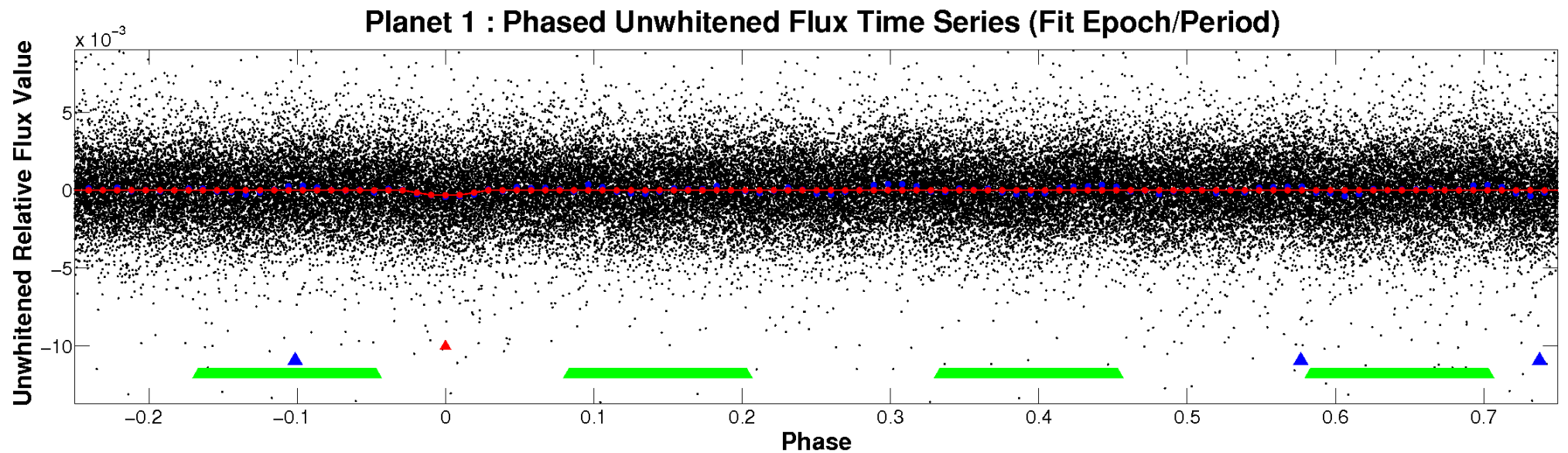


ALT Odd/Even

TCE 009306095-01

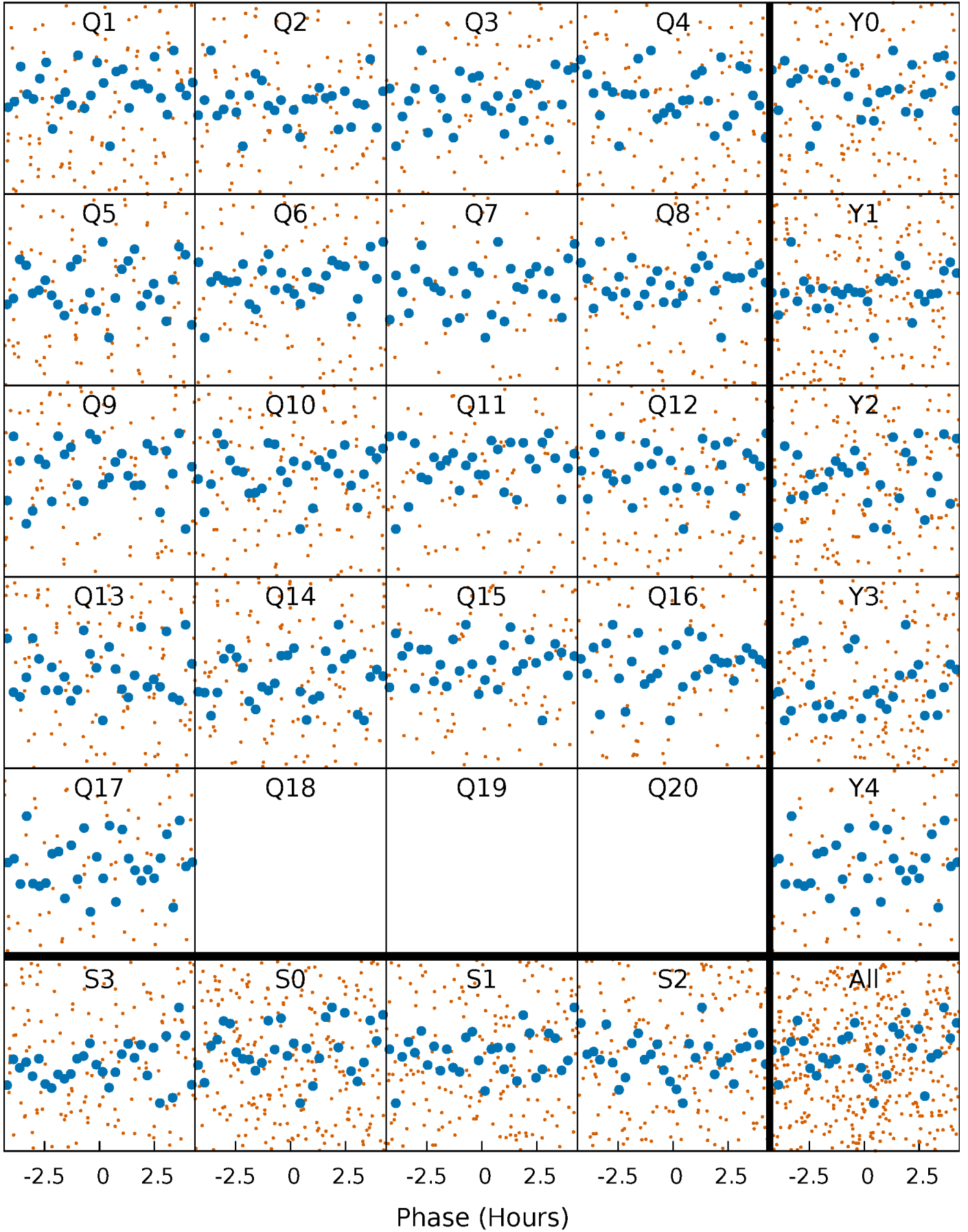


Non-Whitened Vs. Whitened Light Curve



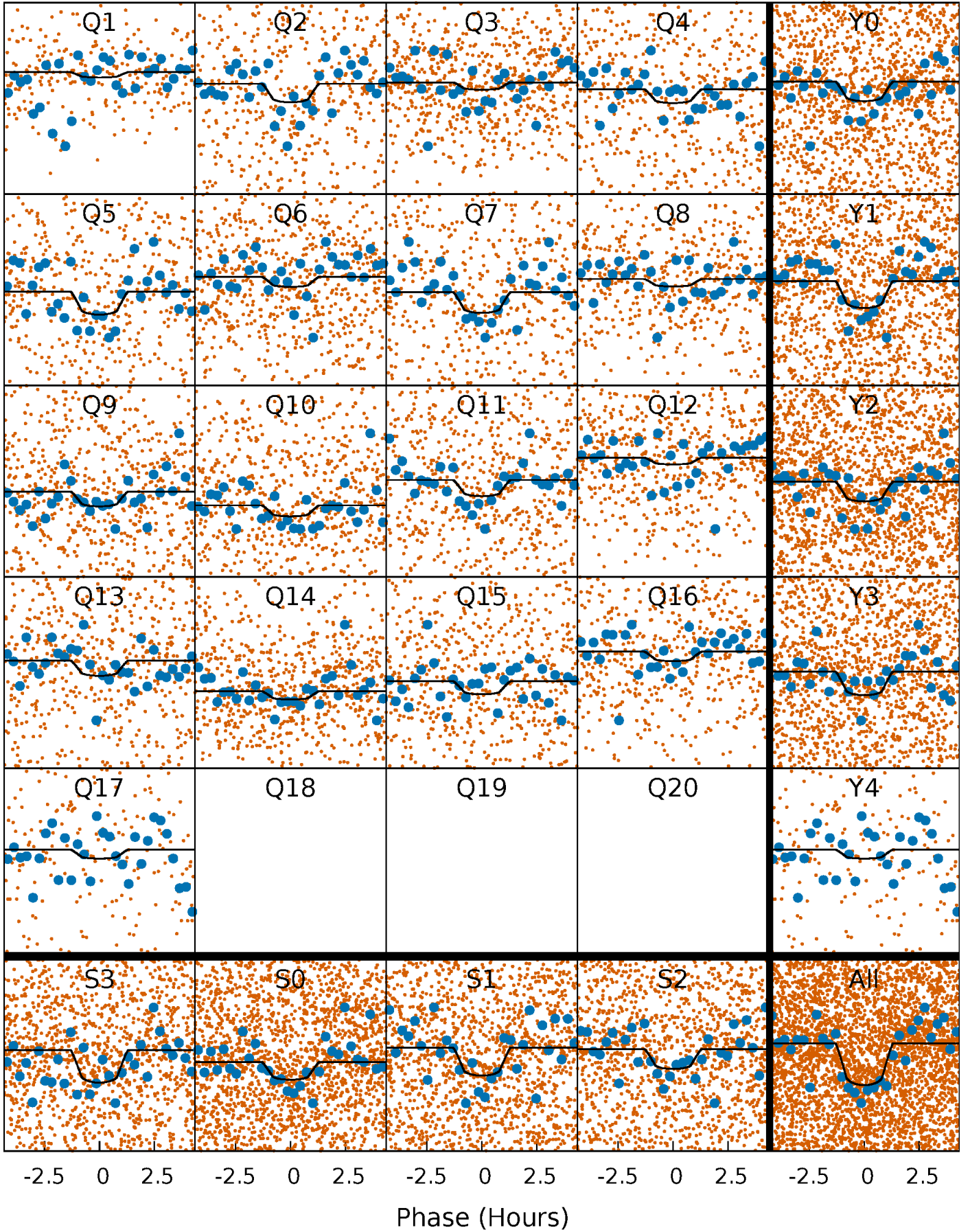
PDC Quarter-Phased Transit Curves

TCE 009306095-01 P= 2.123206 Days $T_0=133.161640$ (BKJD)



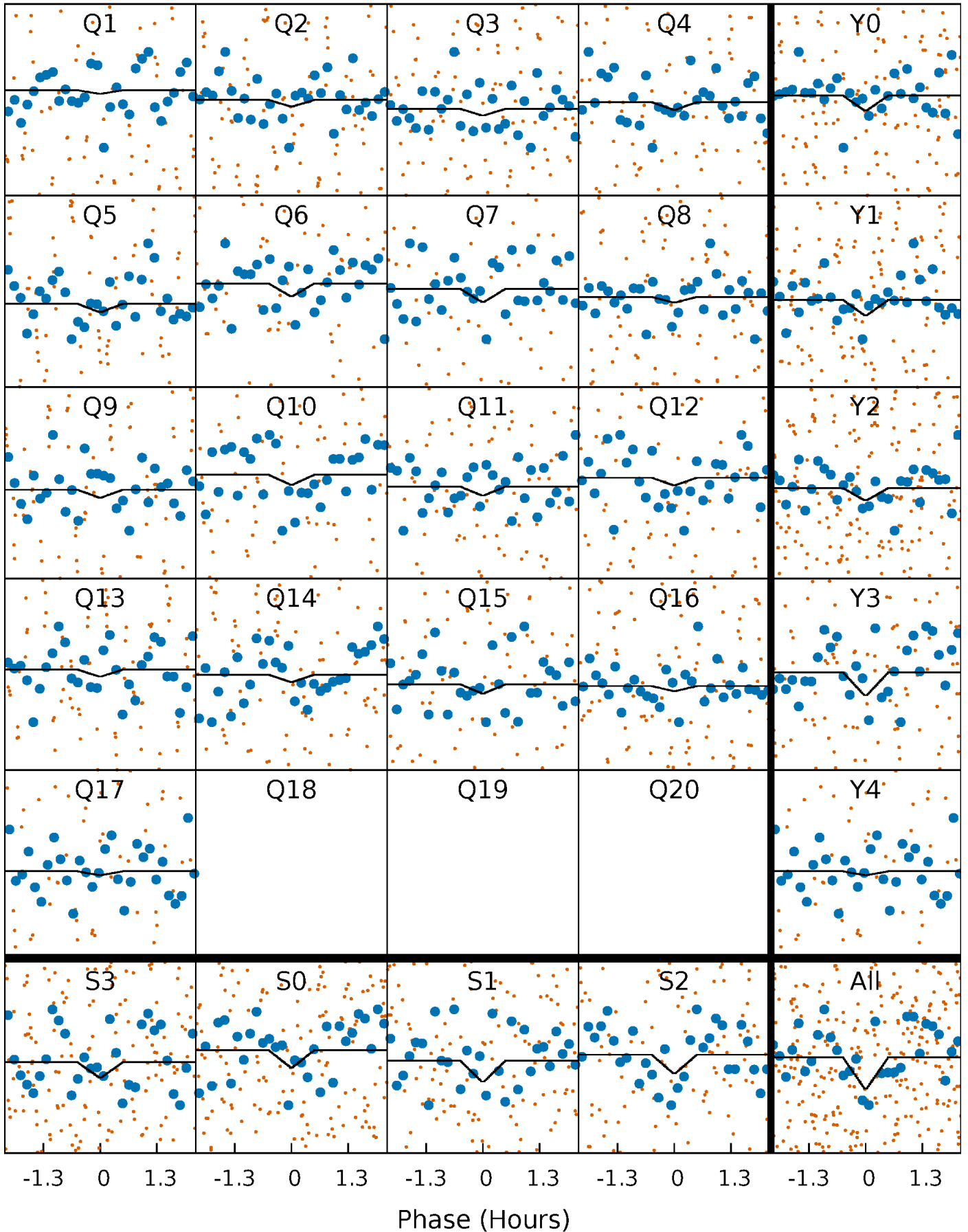
DV Quarter-Phased Transit Curves

TCE 009306095-01 P= 2.123206 Days $T_0=133.161640$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

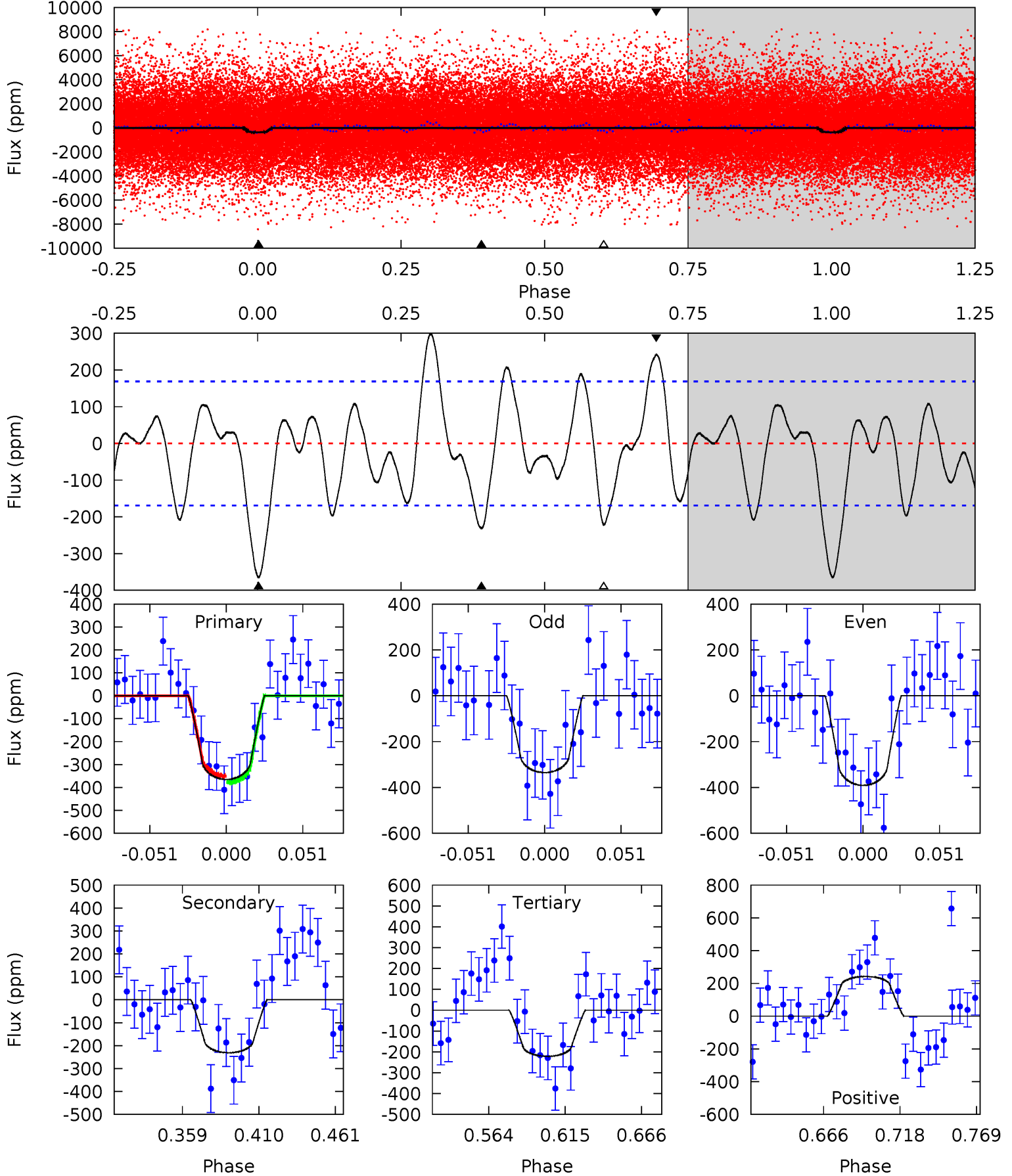
TCE 009306095-01 P= 2.123198 Days $T_0=133.179428$ (BKJD)



DV Model-Shift Uniqueness Test

009306095-01, P = 2.123206 Days, E = 131.038434 Days

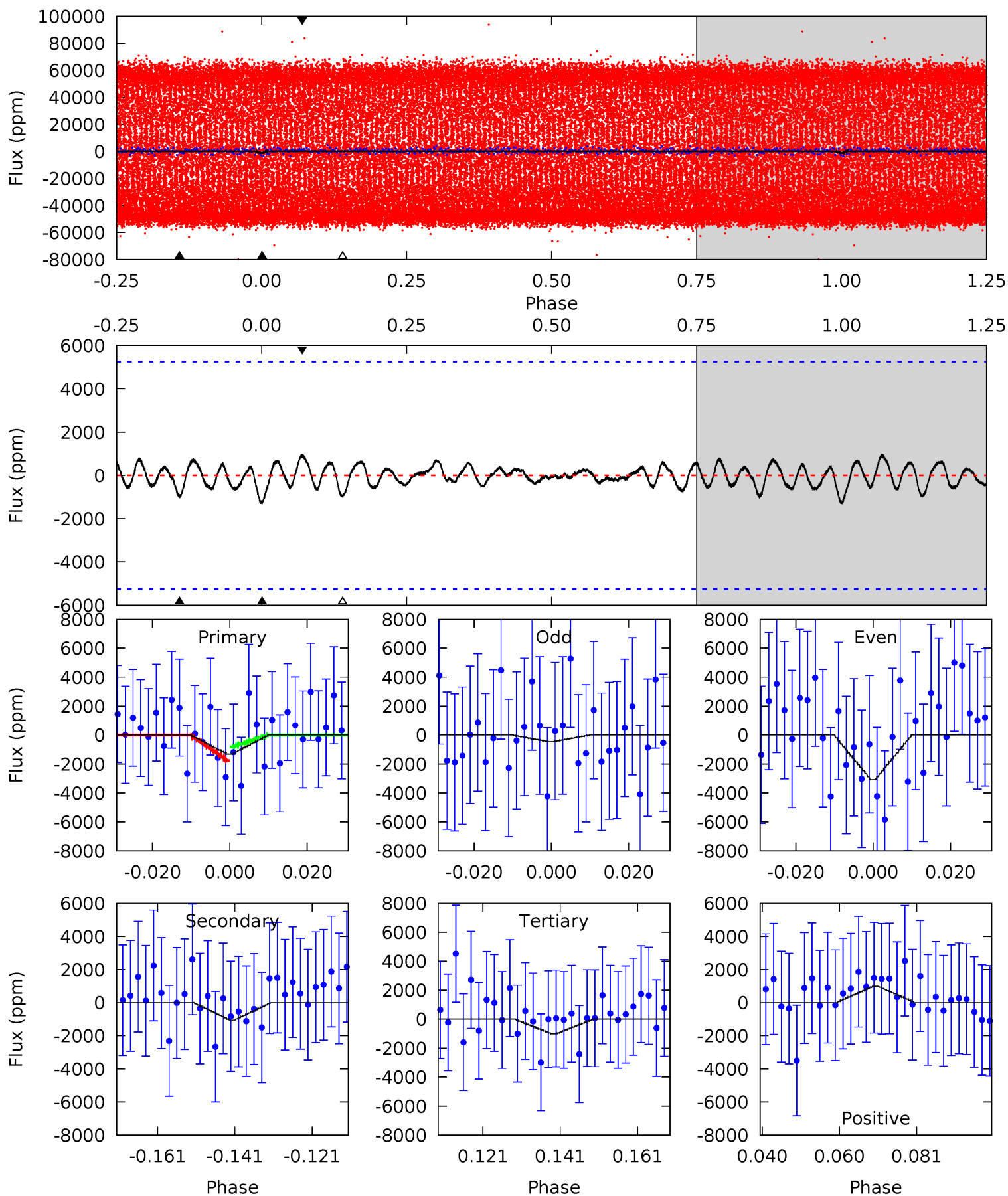
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	6.43	6.17	6.74	4.70	1.95	3.06	3.99	3.42	0.26	-0.31	0.78	1.35	0.45	0.38



Alt Model-Shift Uniqueness Test

009306095-01, P = 2.123198 Days, E = 131.056230 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.23	0.98	0.94	0.92	4.89	2.32	0.34	0.29	0.31	0.04	0.06	1.22	0.10	0.43	0.43



Stellar Parameters For KIC 009306095

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6571^{+159}_{-199}	$4.368^{+0.060}_{-0.180}$	$-0.100^{+0.250}_{-0.300}$	$1.192^{+0.348}_{-0.149}$	$1.213^{+0.170}_{-0.153}$	$1.008^{+0.326}_{-0.481}$
	+2%/-3%	+1%/-4%	+250%/-300%	+29%/-12%	+14%/-13%	+32%/-48%
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 009306095-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-231 ± 36	$3.85^{+3.41}_{-2.60}$	2428^{+157}_{-111}	4872^{+3821}_{-1113}	$9.858^{+84.227}_{-7.112}$
Alt.	-1053 ± 1075	$5.54^{+3.54}_{-3.39}$	2418^{+165}_{-110}	5549^{+3727}_{-8027}	18^{+101}_{-18}

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 $A_{obs} \gg 1.0$

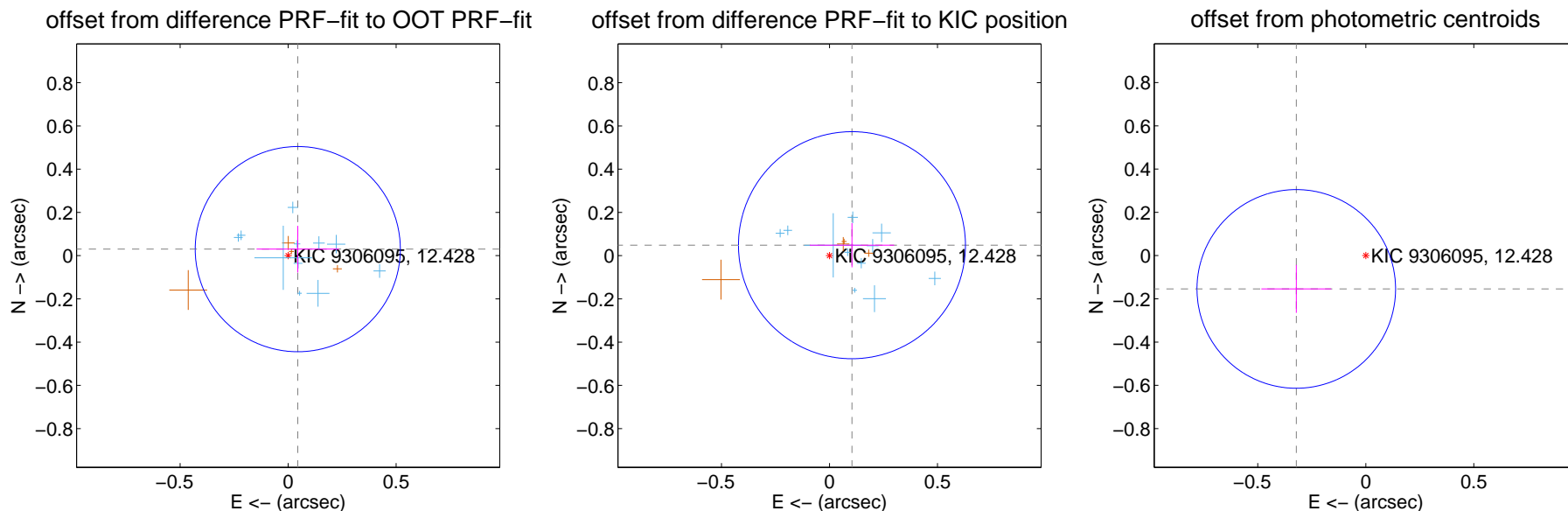
DV Centroid Data

Supplemental centroid analysis for 009306095-01. Kepler magnitude: 12.43. Transit SNR 9.66

There are 12 quarters with good PRF difference image offsets

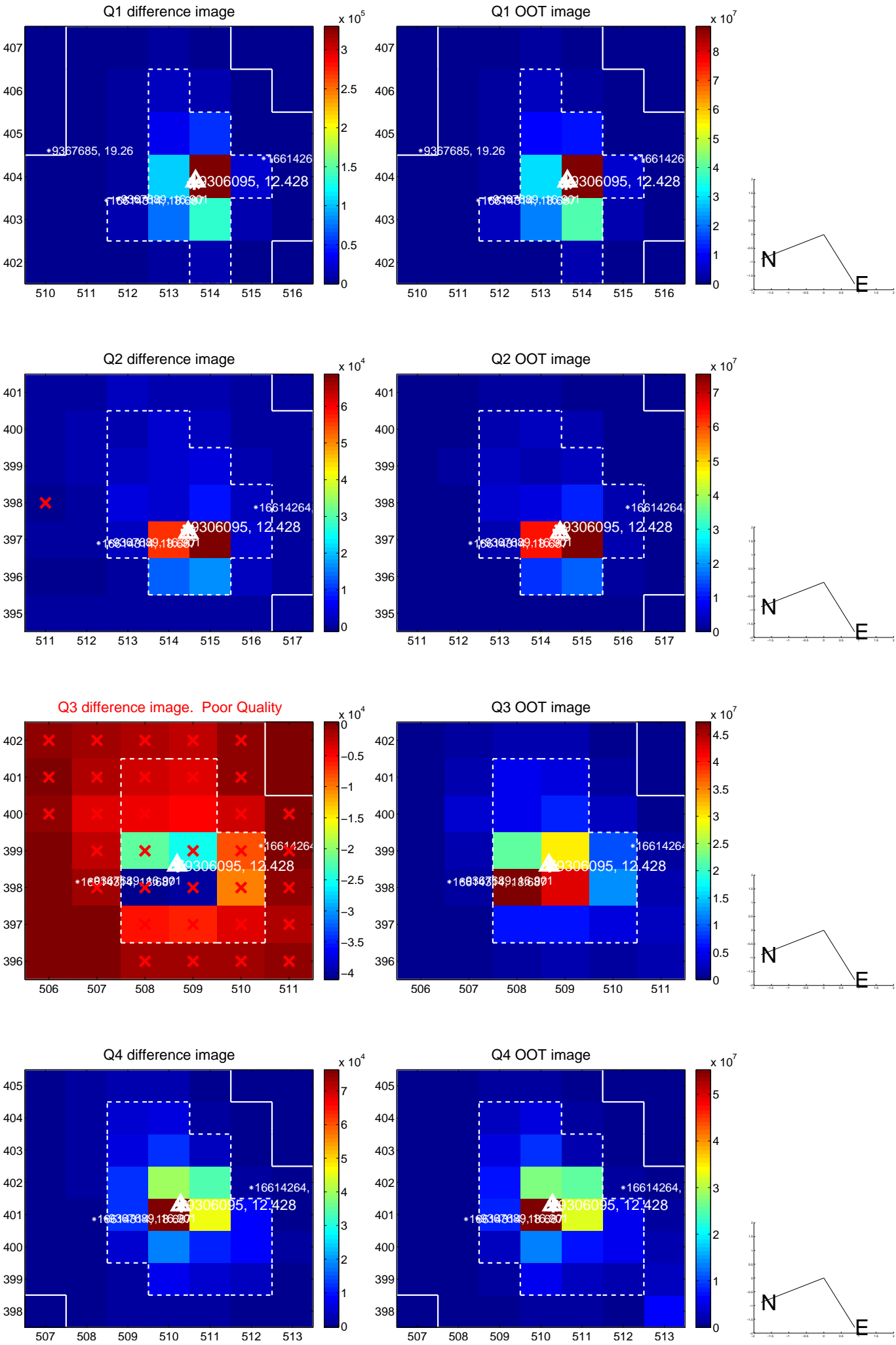
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.054 ± 0.158	0.34	-0.045 ± 0.191	0.030 ± 0.108
PRF-fit source offset from KIC position	0.115 ± 0.175	0.66	-0.104 ± 0.195	0.048 ± 0.102
photometric centroid source offset	0.36 ± 0.15	2.33	0.32 ± 0.16	-0.15 ± 0.11

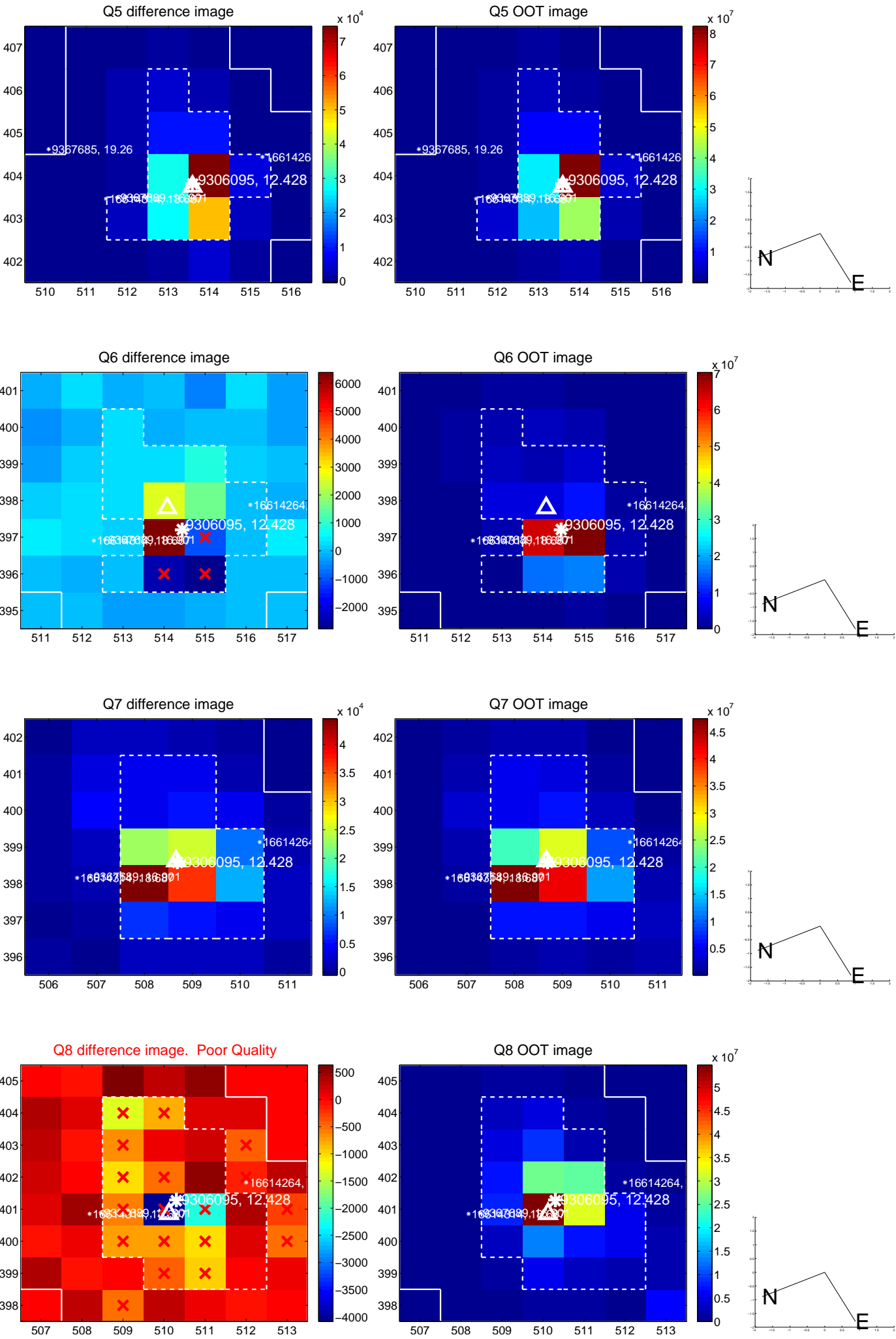


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

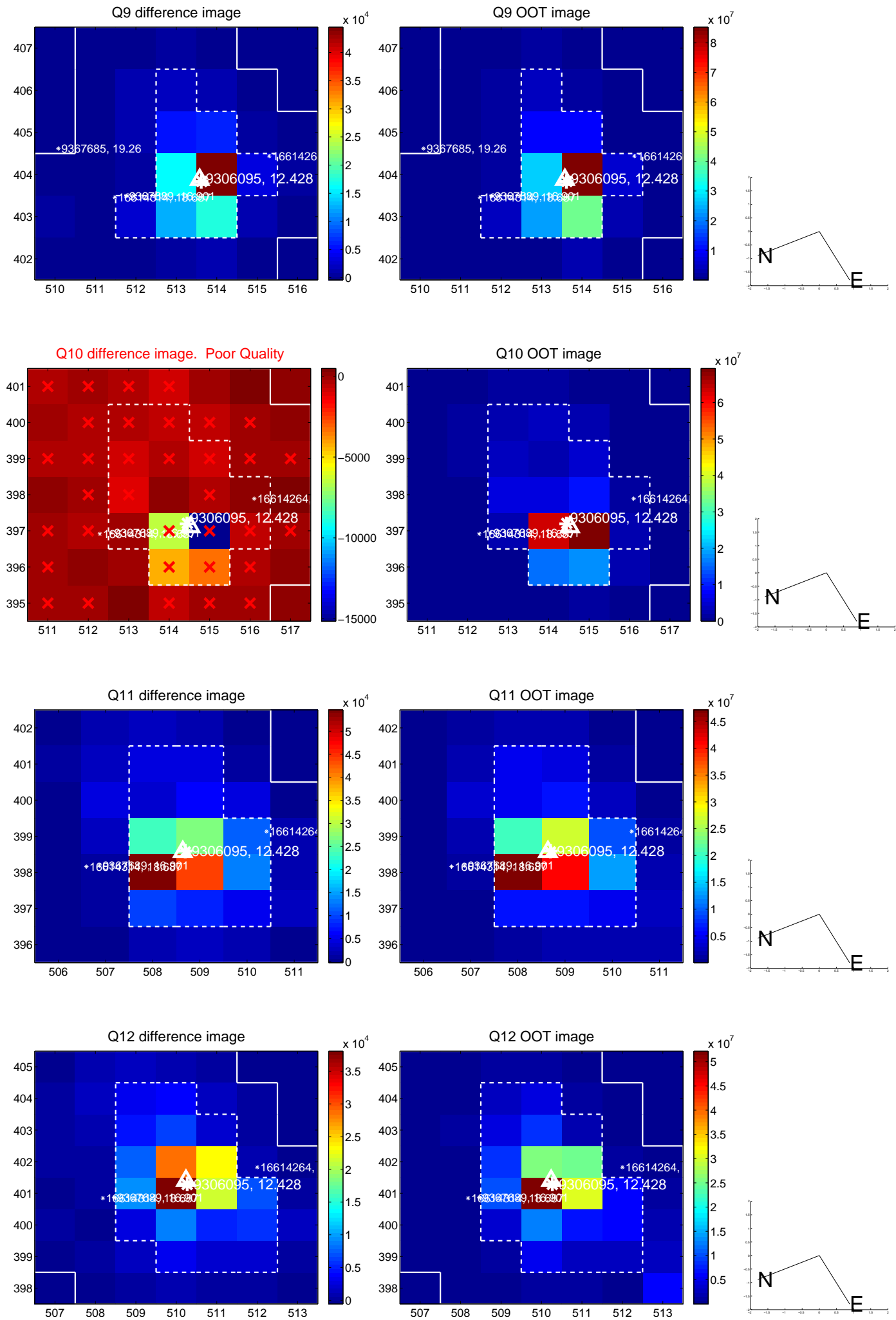
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



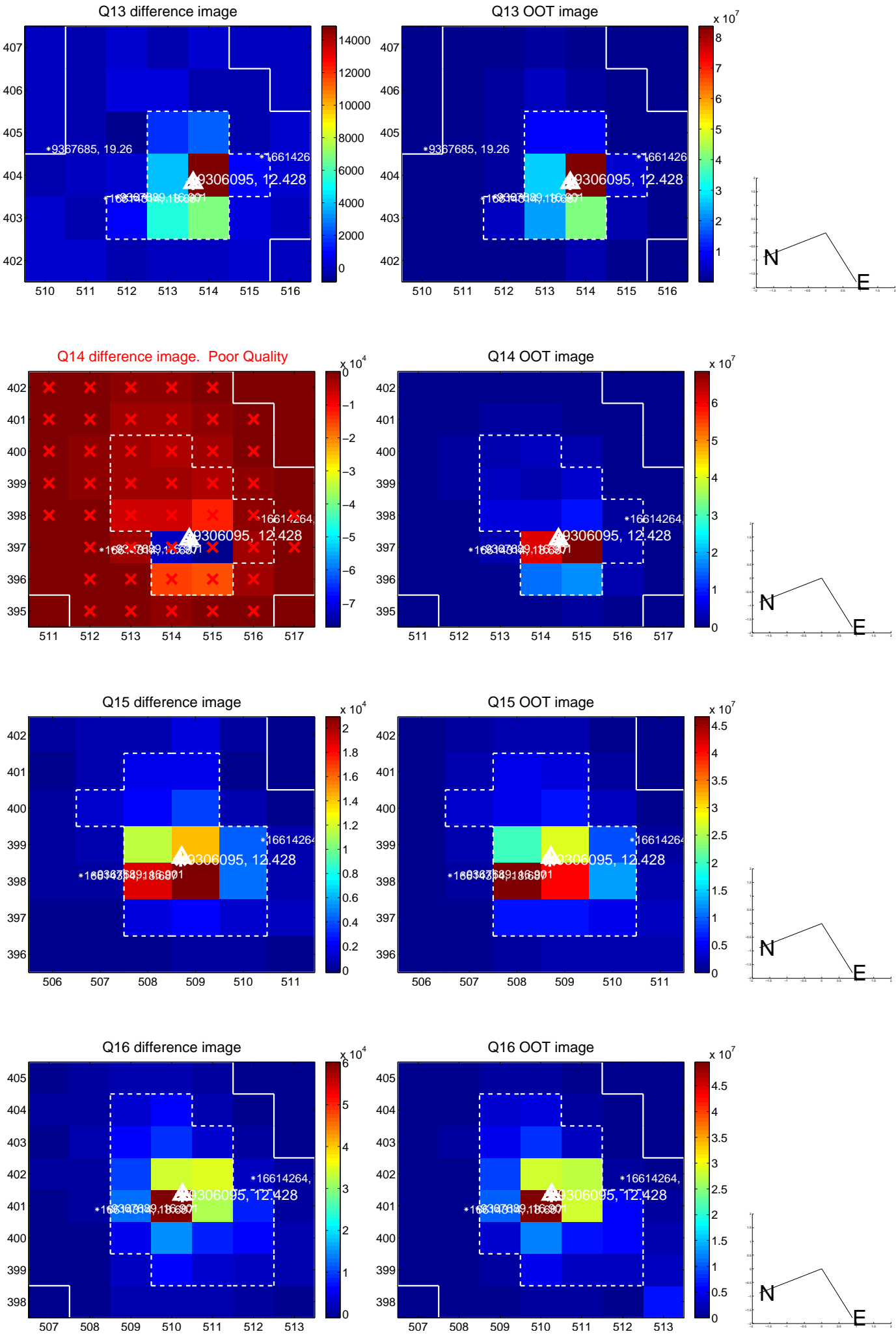
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



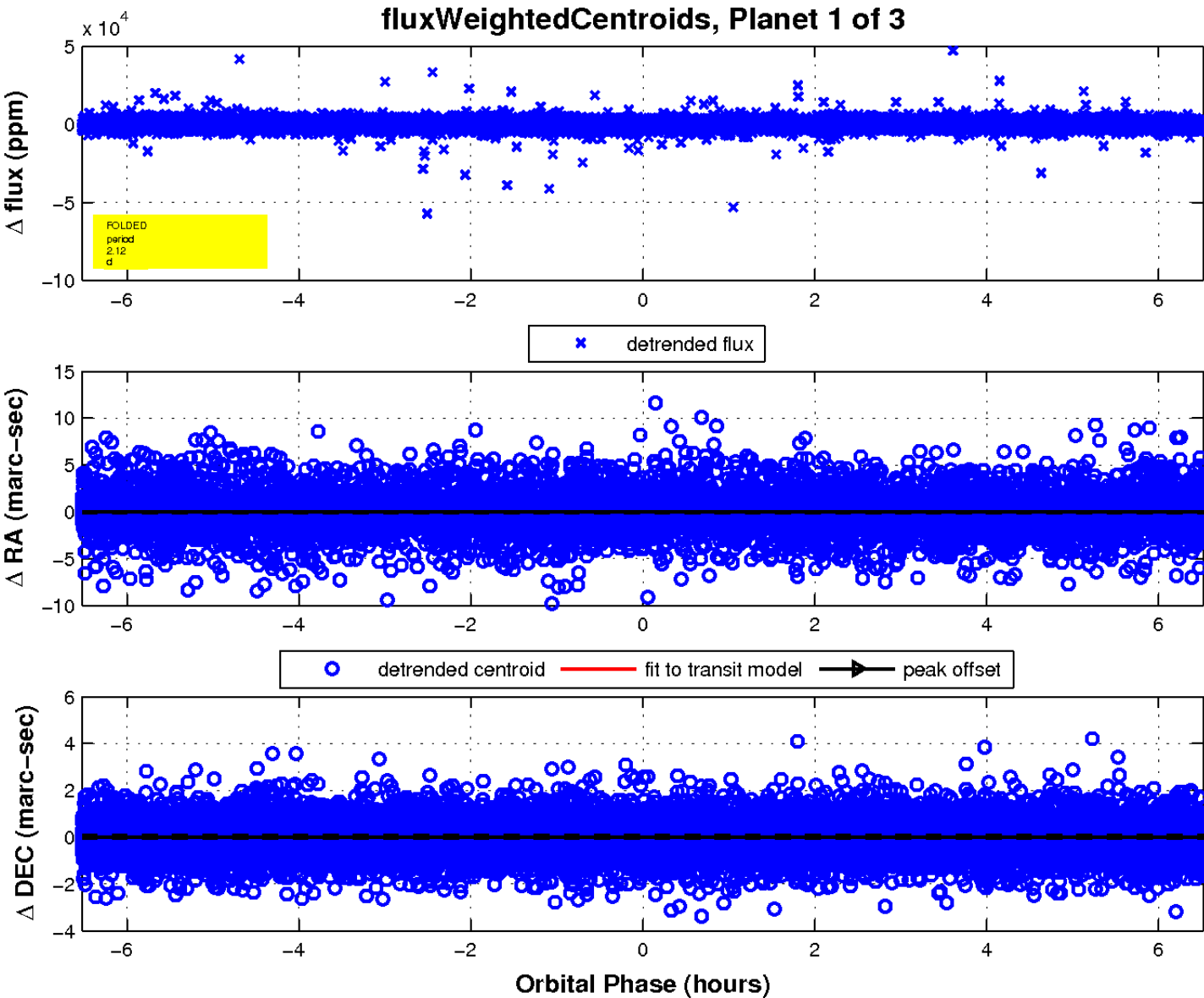
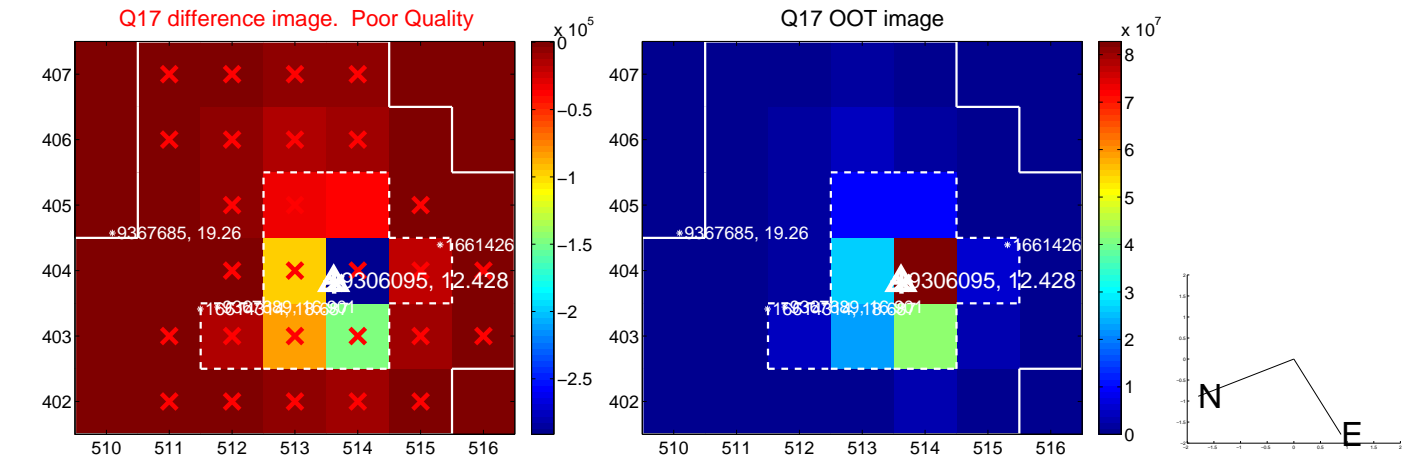
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

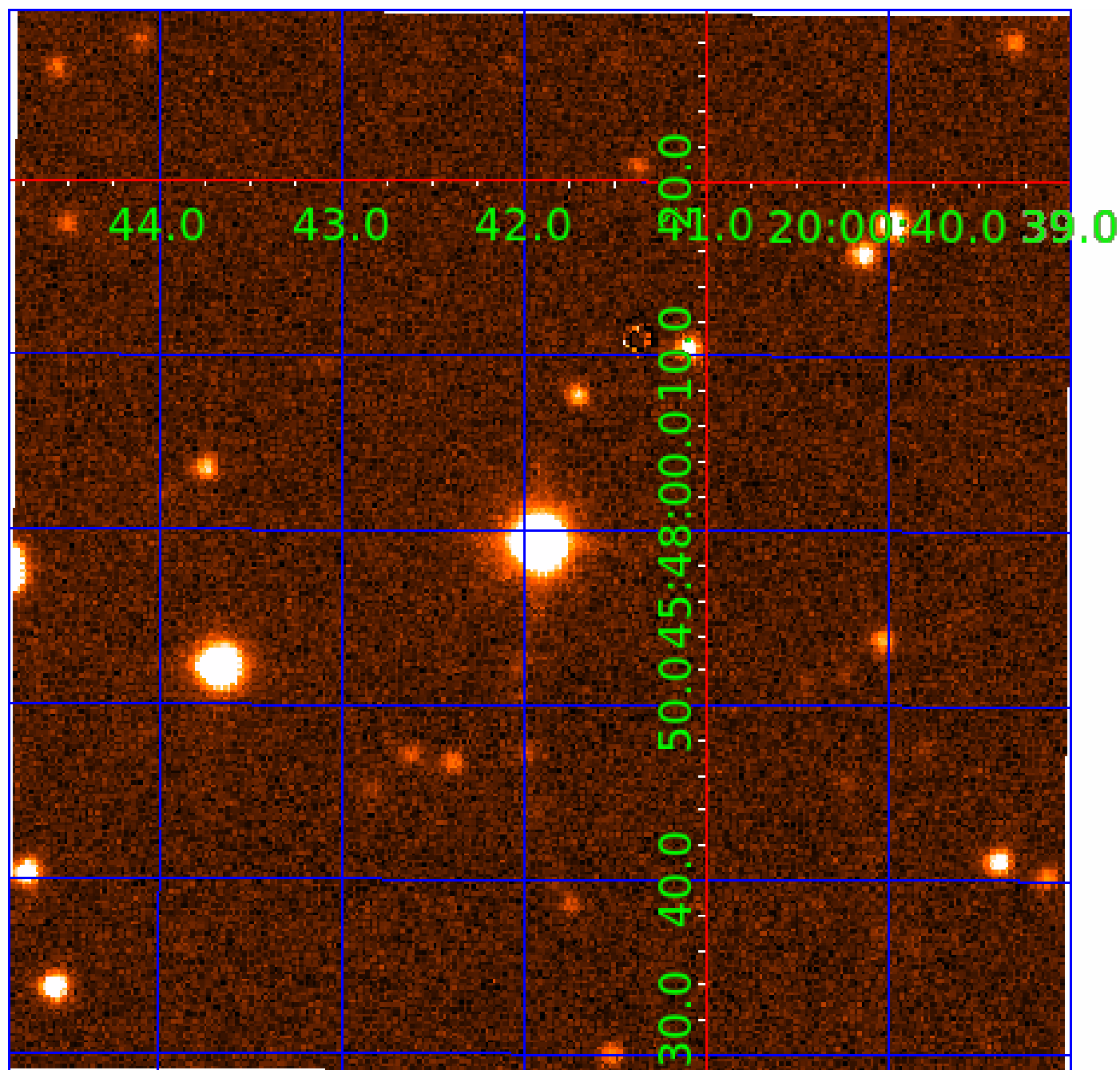


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009306095

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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Robovetter Results

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009306095-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009306095-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

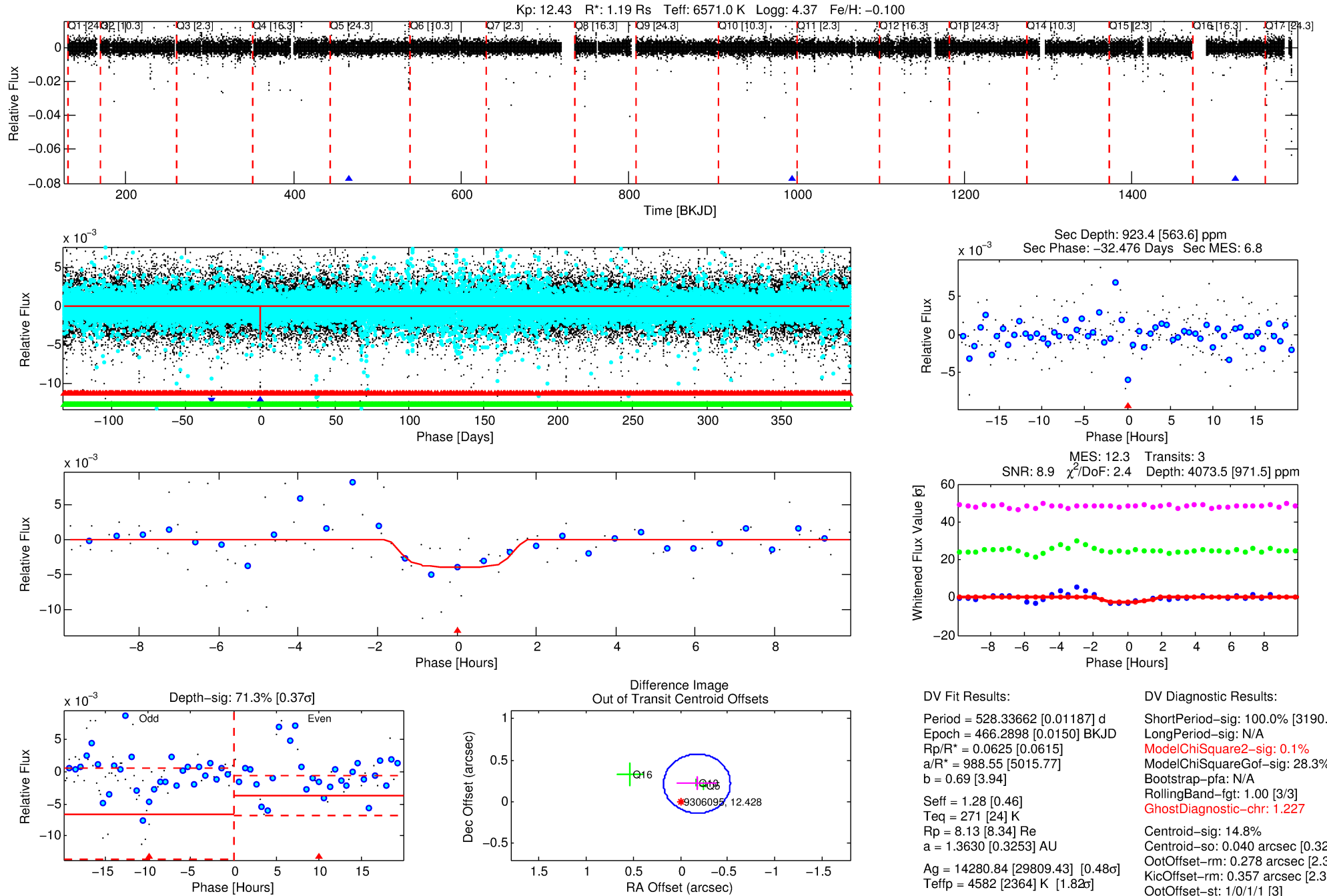
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009306095-02

No Significant Match Found

DV One-Page Summary

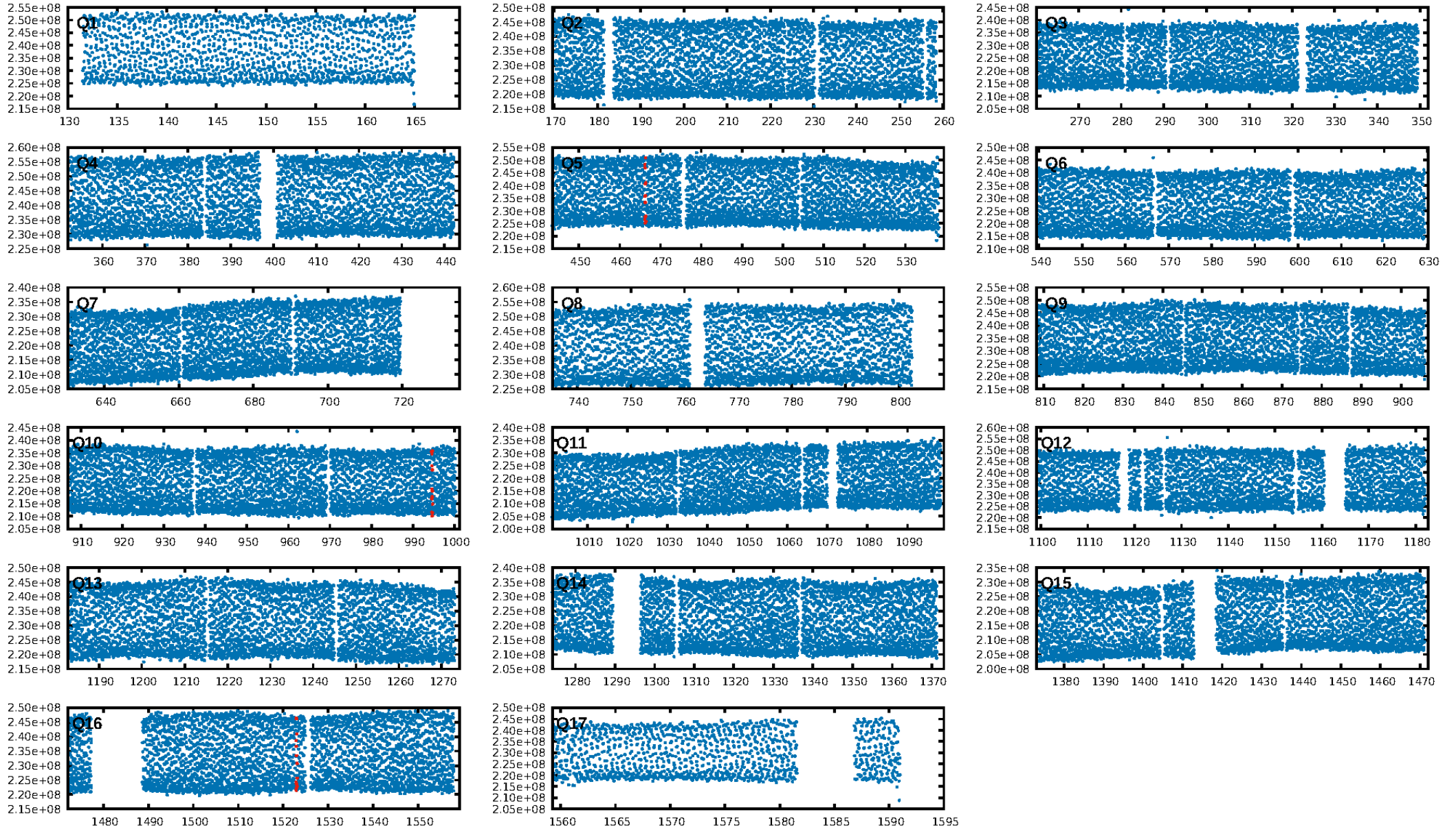
KIC: 9306095 Candidate: 2 of 3 Period: 528.337 d



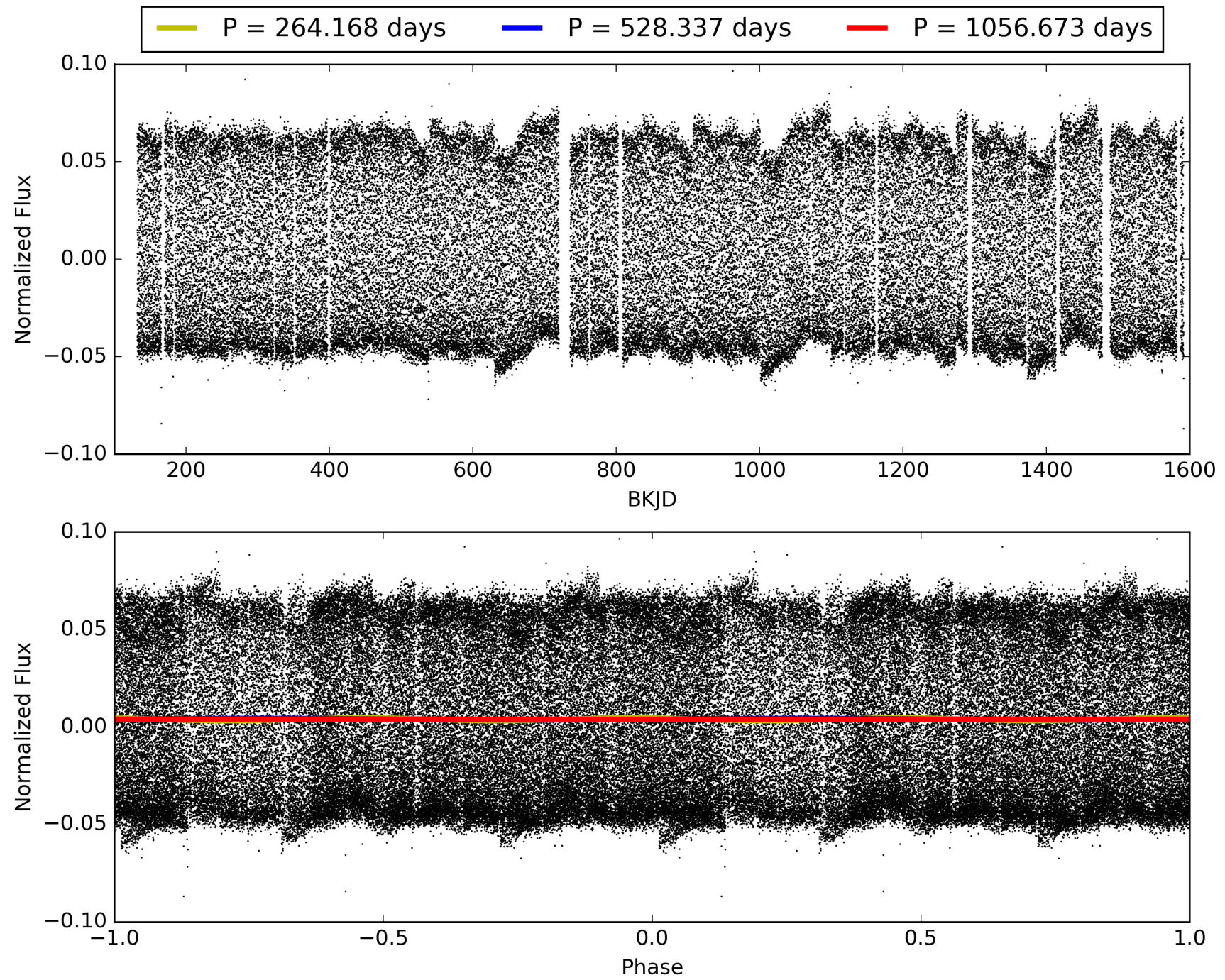
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 13:54:59 Z

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

TCE 009306095-02, PDC Light Curves

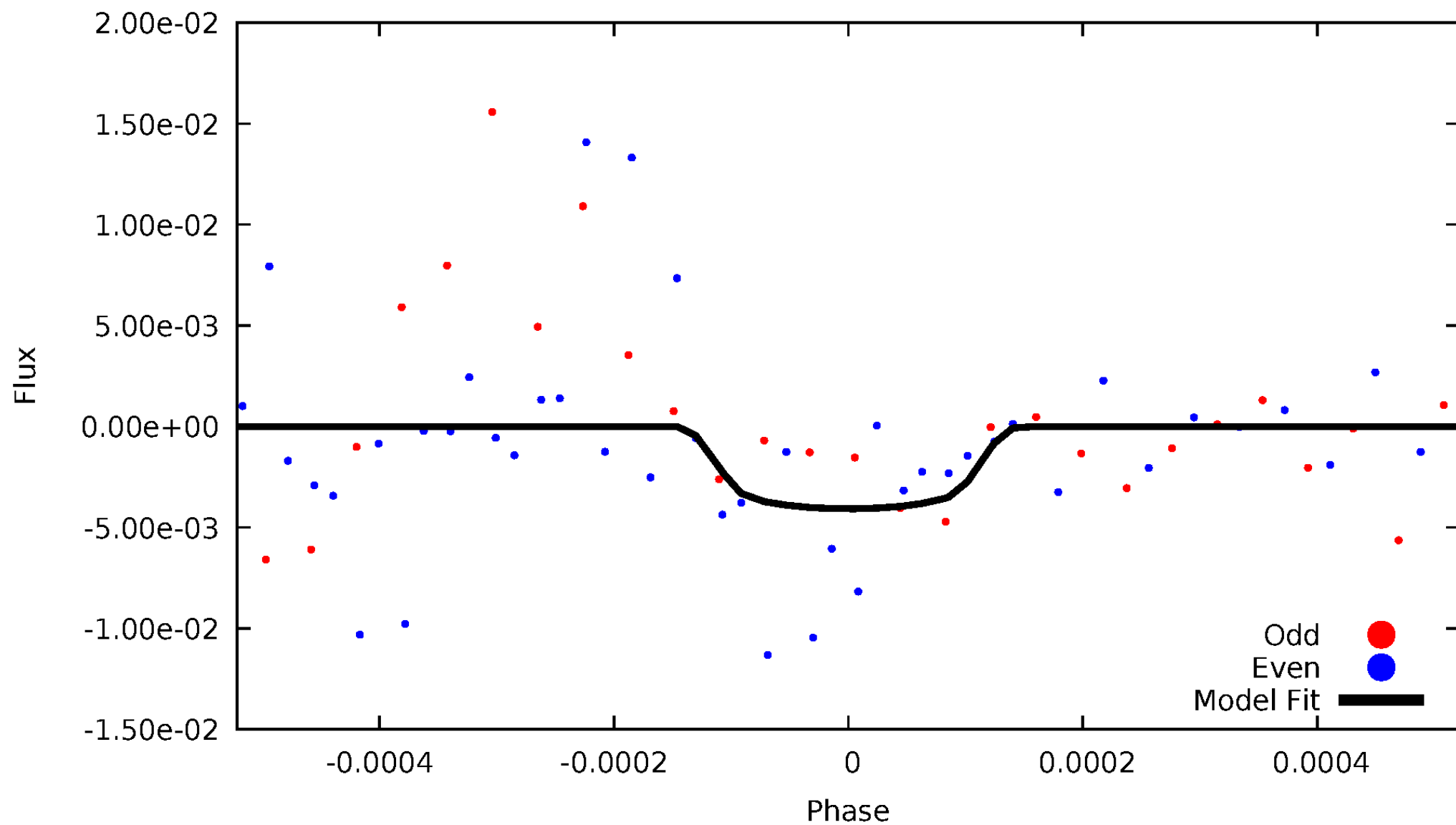


TCE 009306095-02



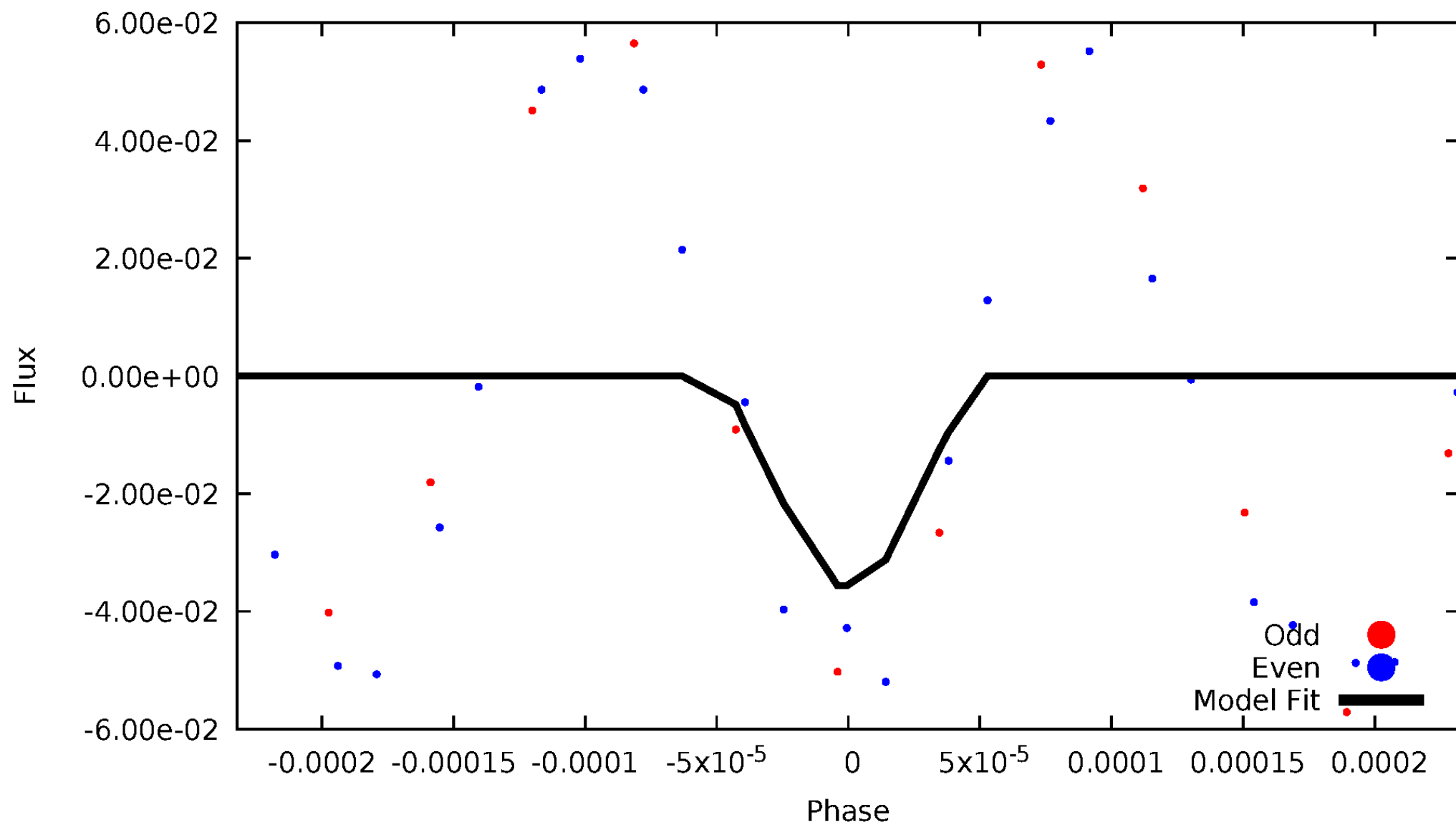
DV Odd/Even

TCE 009306095-02



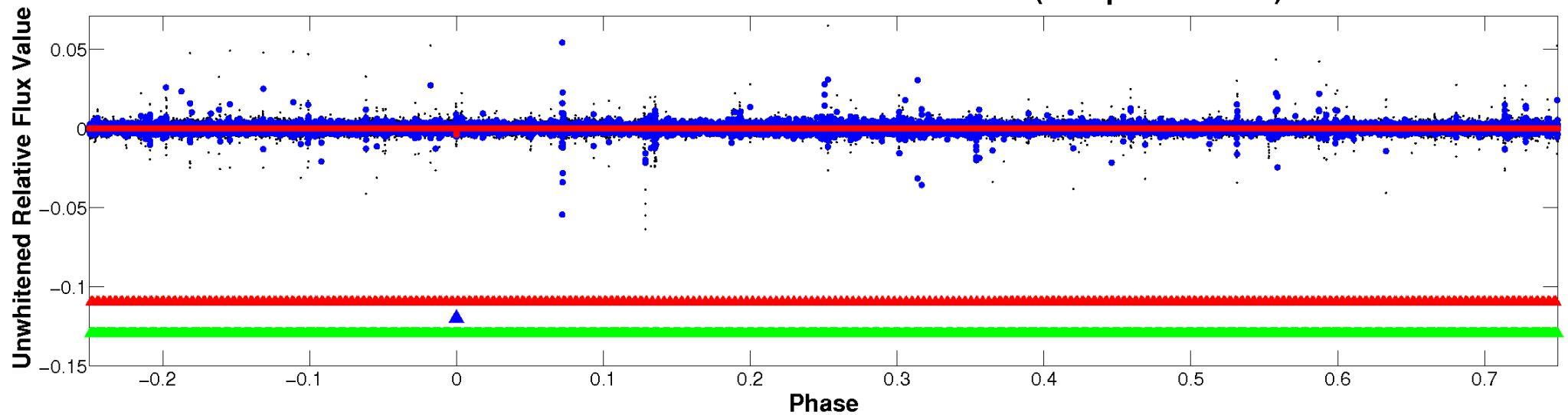
ALT Odd/Even

TCE 009306095-02

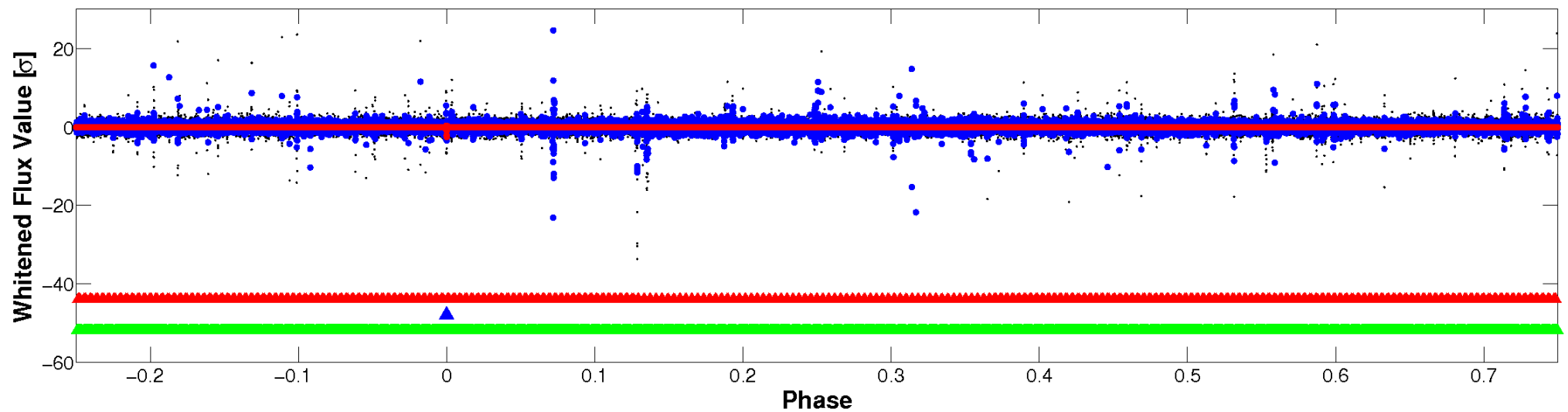


Non-Whitened Vs. Whitened Light Curve

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

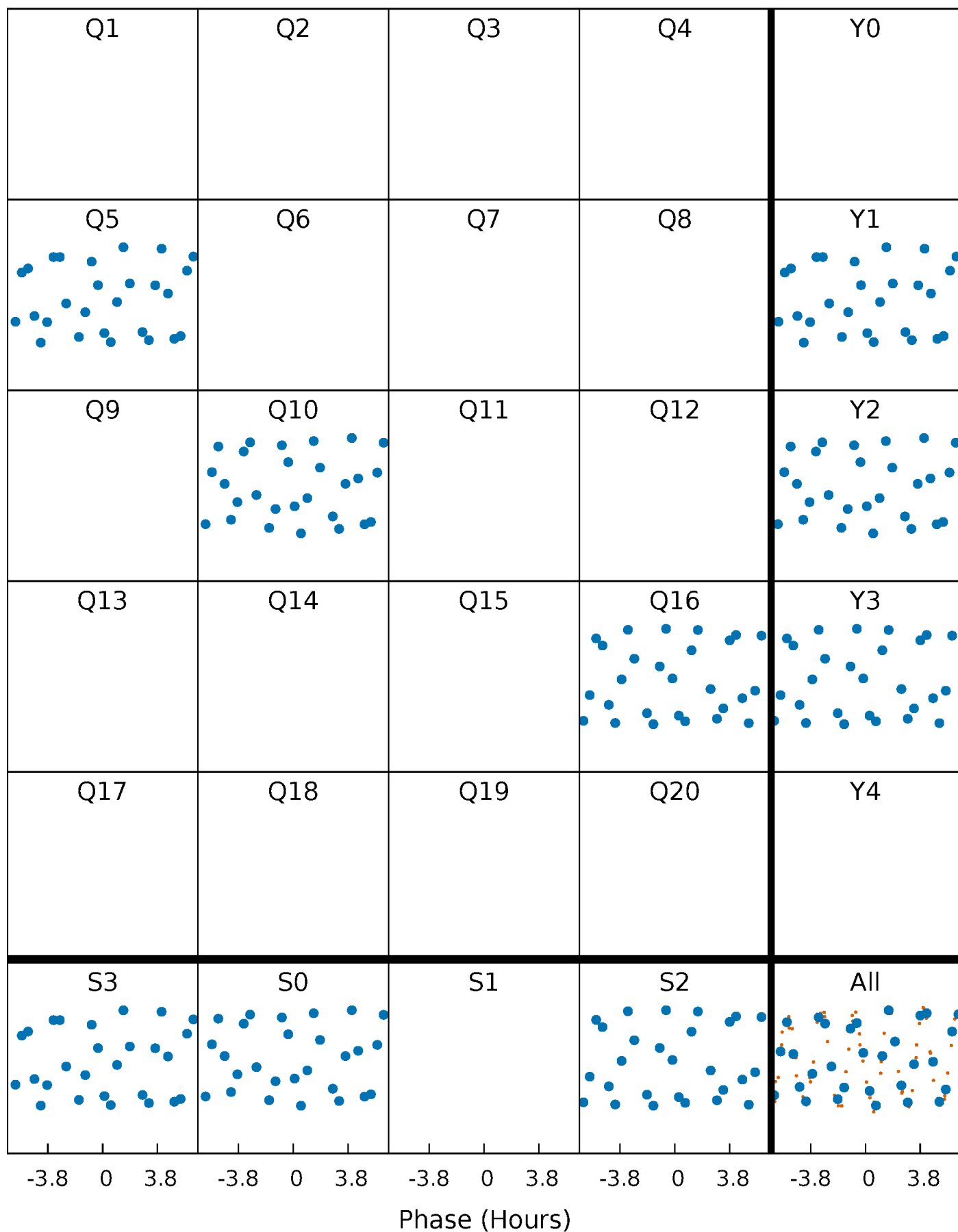


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



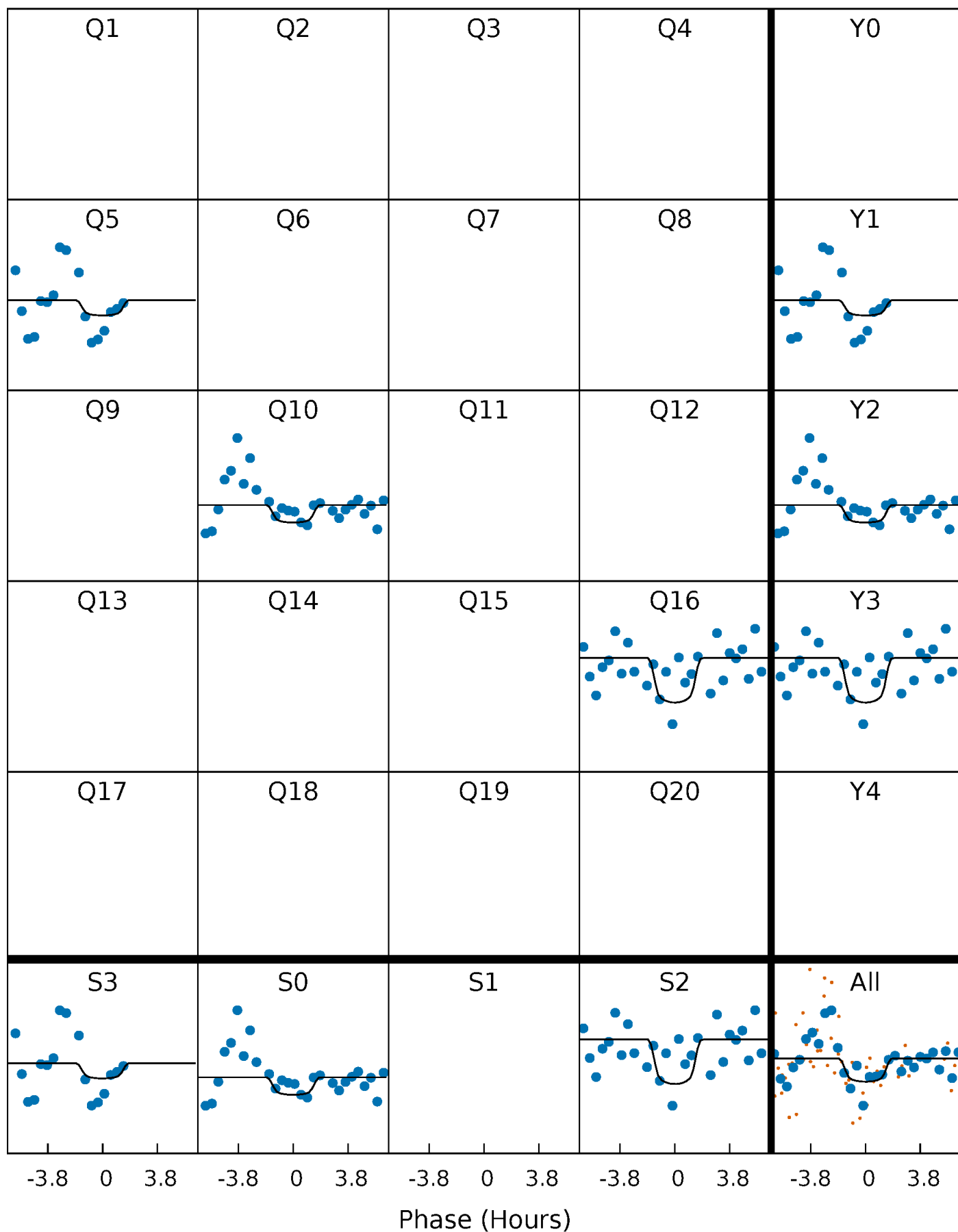
PDC Quarter-Phased Transit Curves

TCE 009306095-02 $P=528.336619$ Days $T_0=466.289831$ (BKJD)



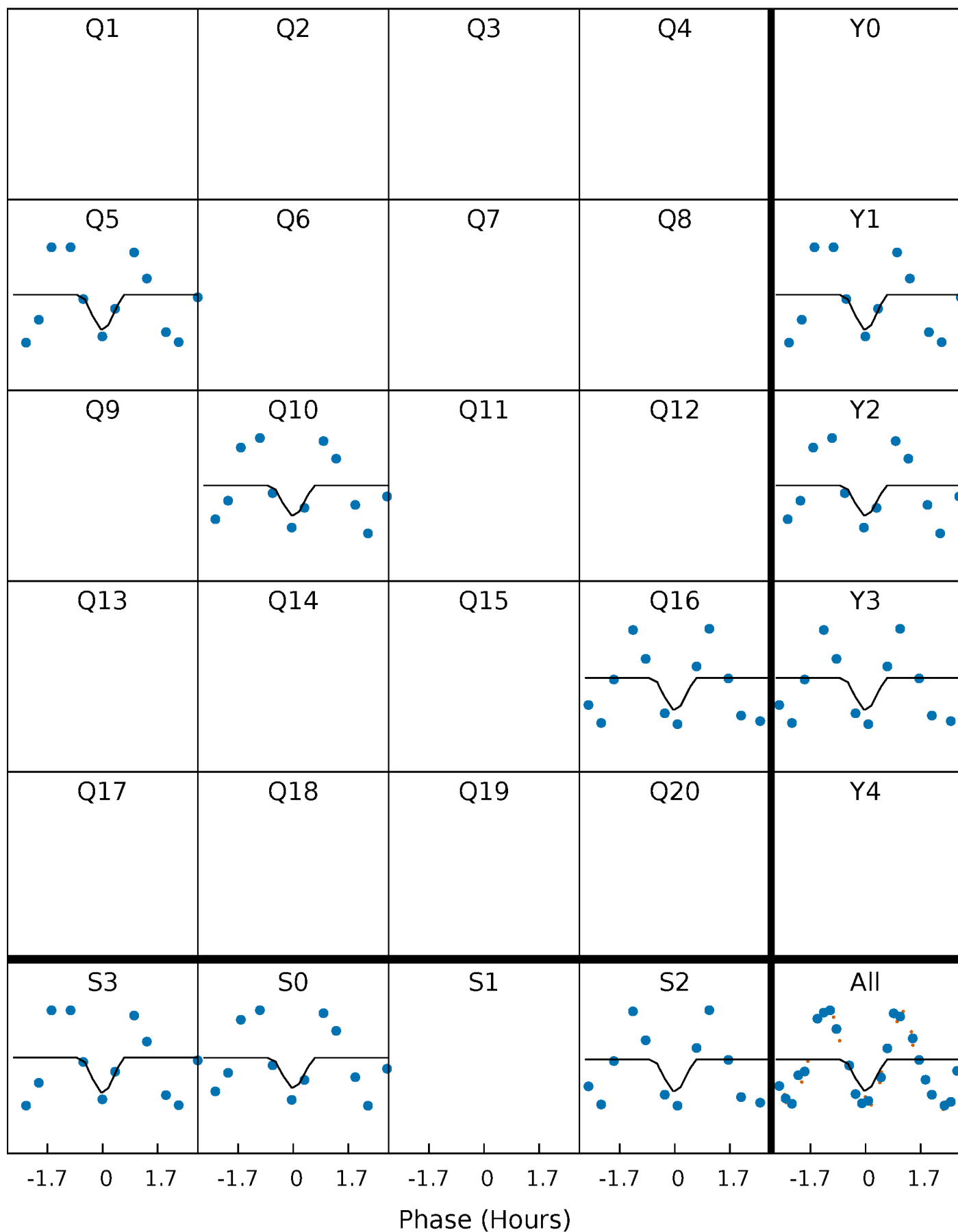
DV Quarter-Phased Transit Curves

TCE 009306095-02 $P=528.336619$ Days $T_0=466.289831$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

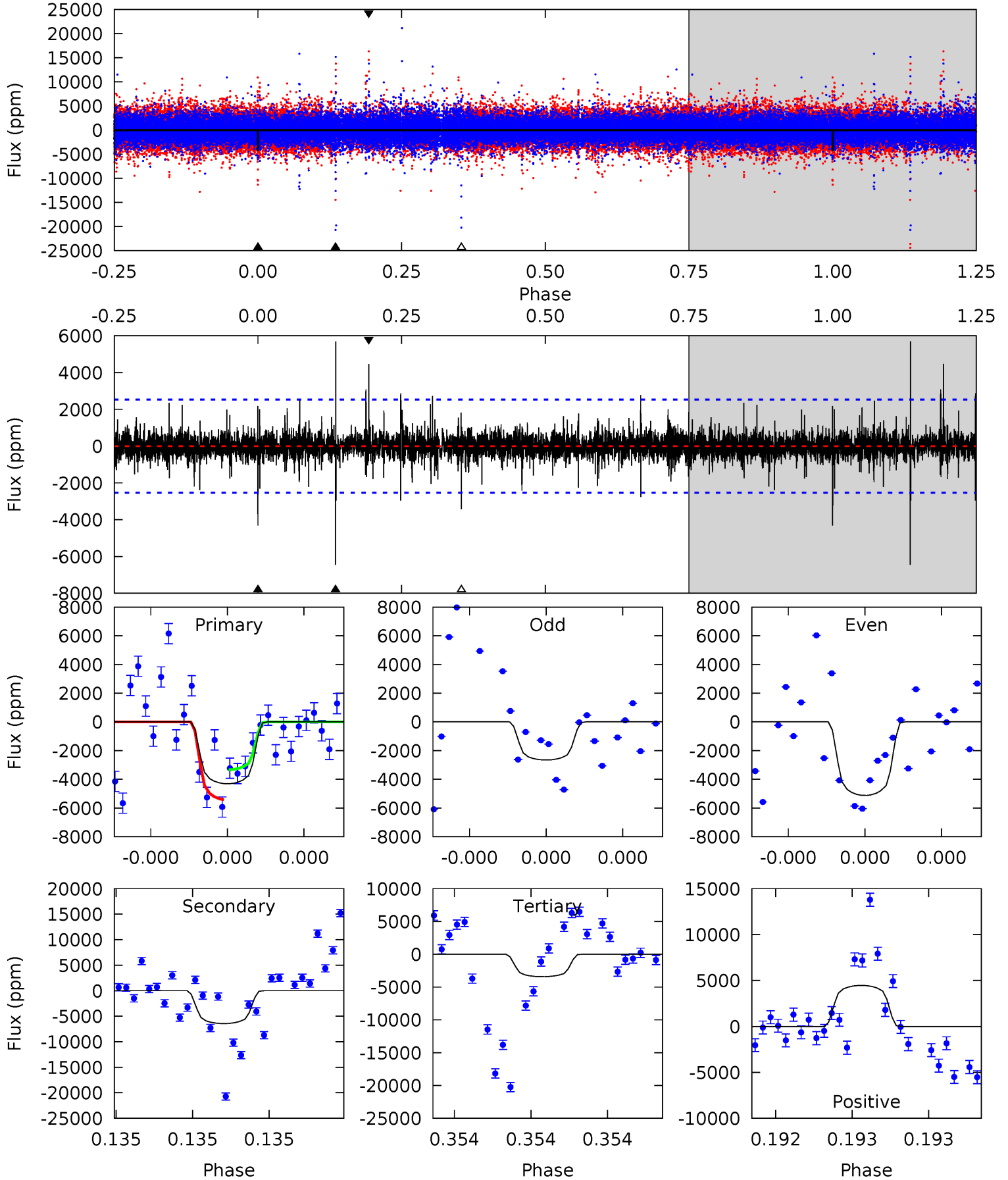
TCE 009306095-02 P=528.336938 Days $T_0=466.212862$ (BKJD)



DV Model-Shift Uniqueness Test

009306095-02, P = 528.336619 Days, E = 466.289831 Days

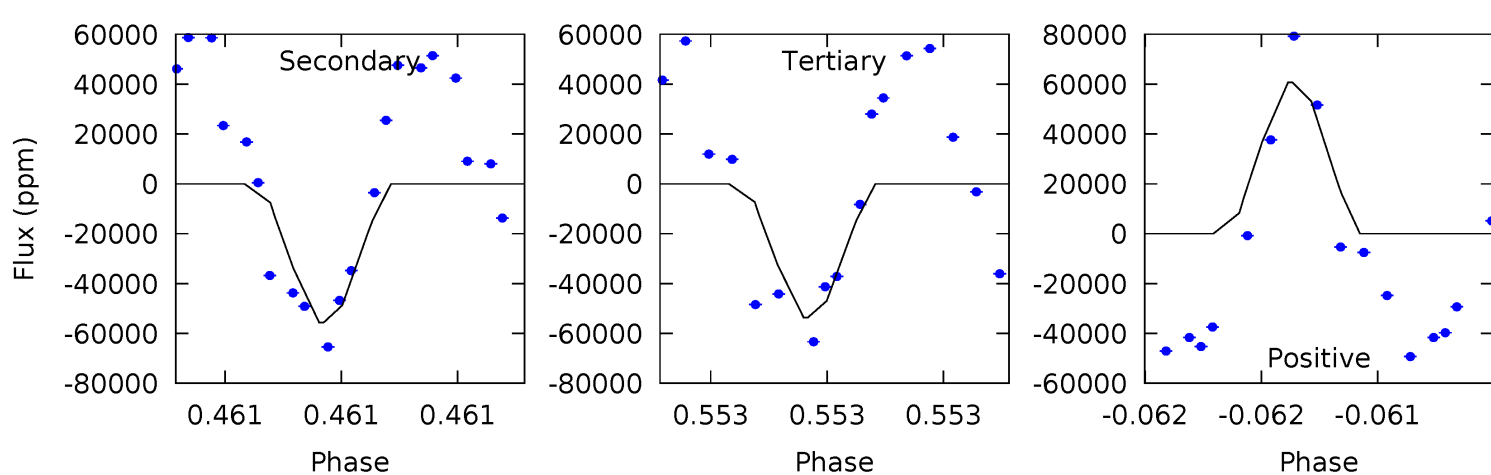
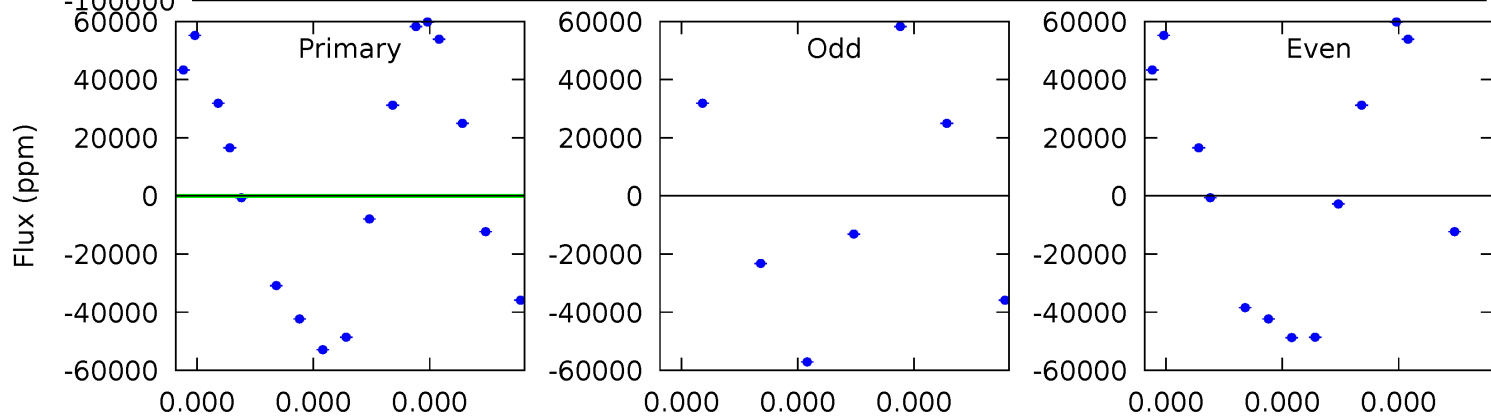
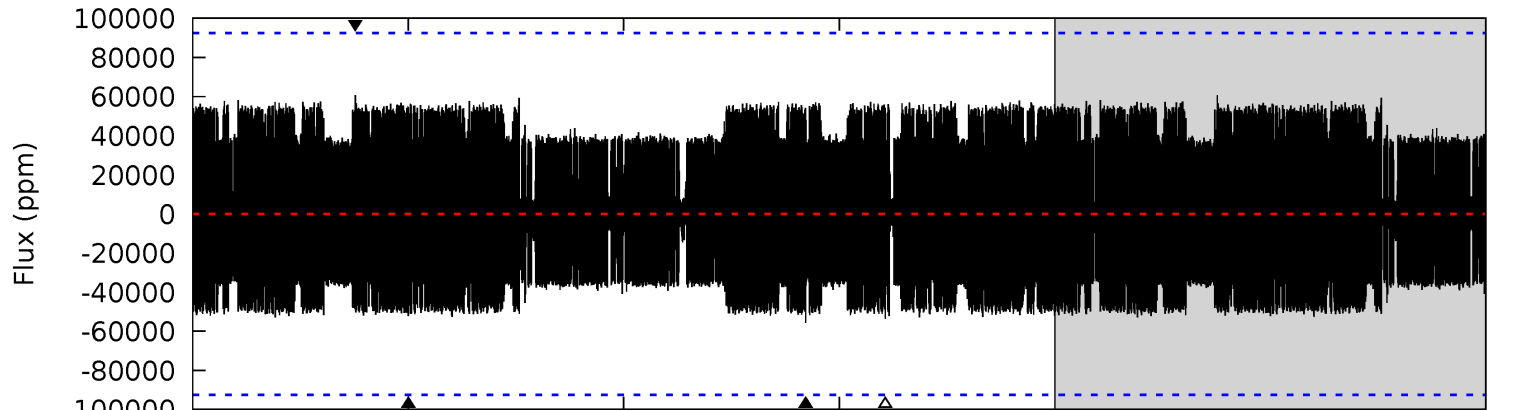
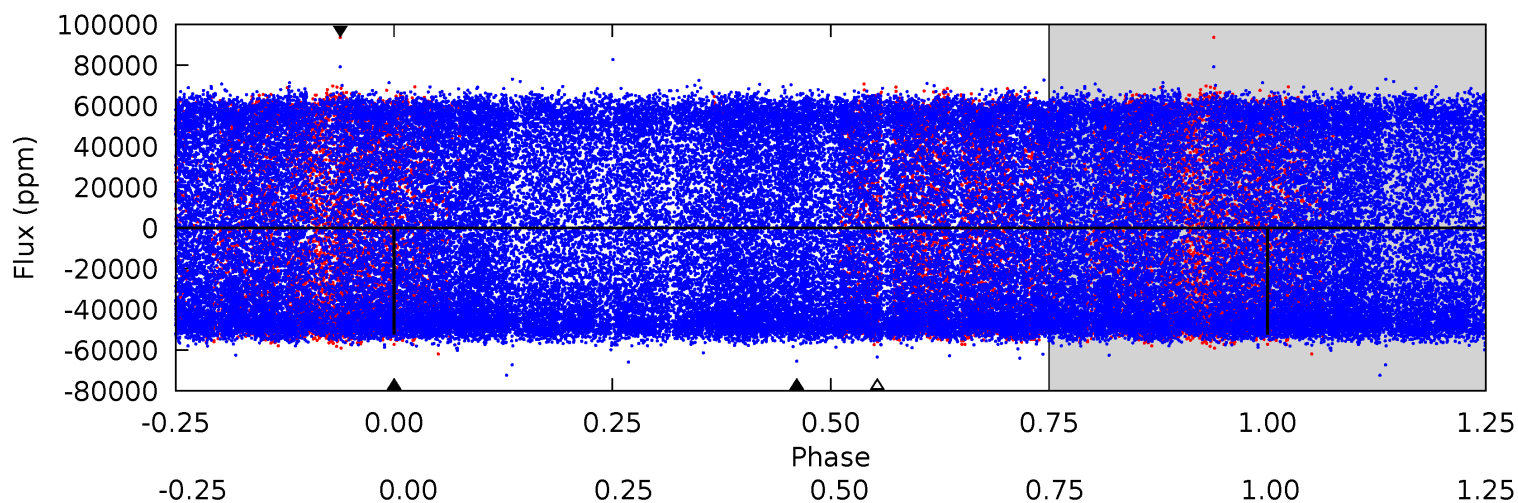
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.63	14.4	7.64	9.97	5.66	3.61	1.00	1.99	-0.34	6.75	4.42	2.51	1.57	0.47	2.32



Alt Model-Shift Uniqueness Test

009306095-02, P = 528.336938 Days, E = 466.212862 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.31	3.53	3.40	3.85	5.86	3.91	1.89	-0.08	-0.53	0.13	-0.32	0.05	0.98	0.52	0.15



Stellar Parameters For KIC 009306095

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6571^{+159}_{-199}	$4.368^{+0.060}_{-0.180}$	$-0.100^{+0.250}_{-0.300}$	$1.192^{+0.348}_{-0.149}$	$1.213^{+0.170}_{-0.153}$	$1.008^{+0.326}_{-0.481}$
	+2%/-3%	+1%/-4%	+250%/-300%	+29%/-12%	+14%/-13%	+32%/-48%
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 009306095-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6443 ± 448	$10.48^{+7.75}_{-6.57}$	387^{+26}_{-18}	6791^{+6385}_{-1600}	$61837^{+365091}_{-41733}$
Alt.	-55635 ± 15776	$25.17^{+9.18}_{-8.47}$	386^{+25}_{-18}	7579^{+2364}_{-1329}	$90544^{+130384}_{-45834}$

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 $A_{obs} \gg 1.0$

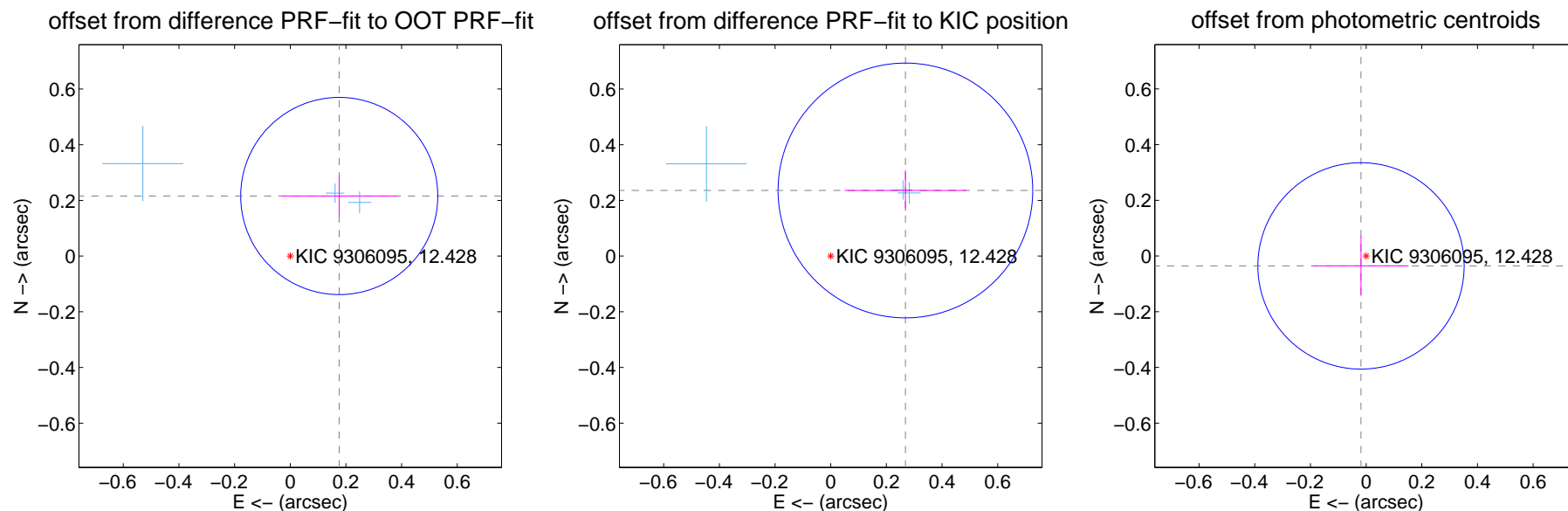
DV Centroid Data

Supplemental centroid analysis for 009306095-02. Kepler magnitude: 12.43. Transit SNR 8.91

There are 3 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.278 ± 0.118	2.36	-0.176 ± 0.206	0.216 ± 0.075
PRF-fit source offset from KIC position	0.357 ± 0.153	2.34	-0.268 ± 0.219	0.236 ± 0.073
photometric centroid source offset	0.04 ± 0.12	0.32	0.02 ± 0.17	-0.04 ± 0.11

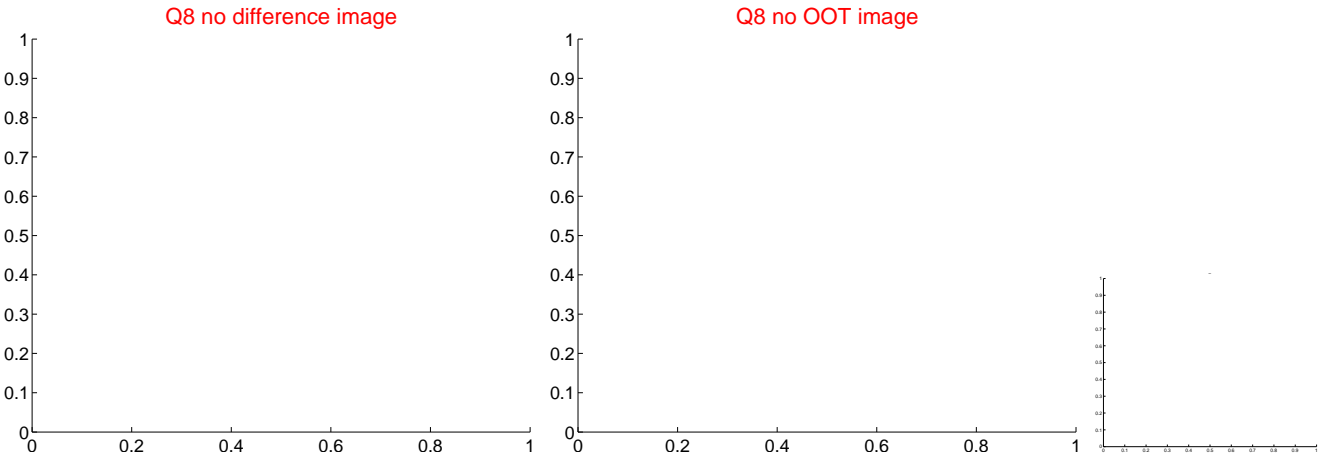
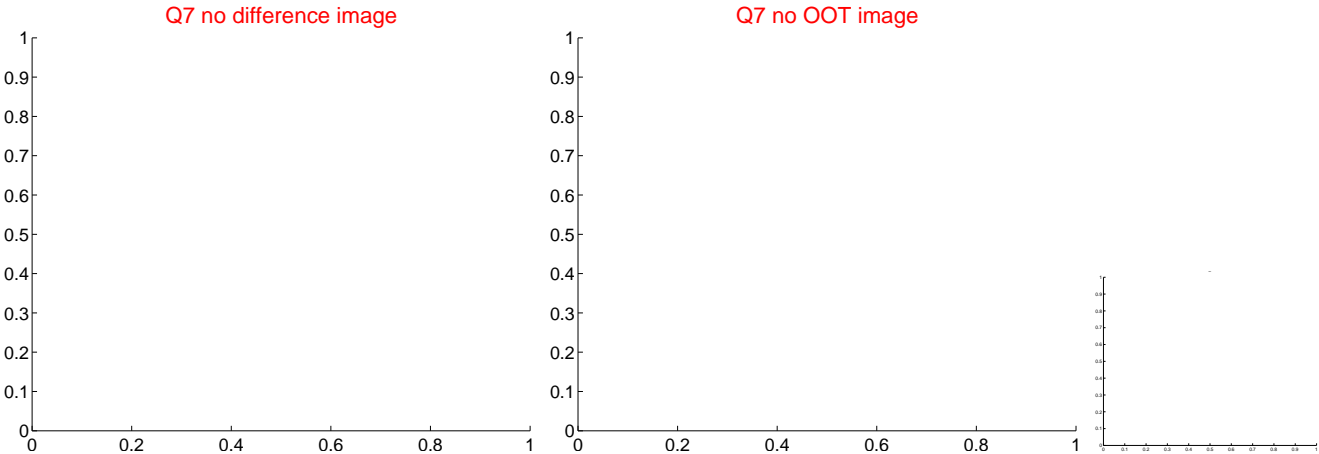
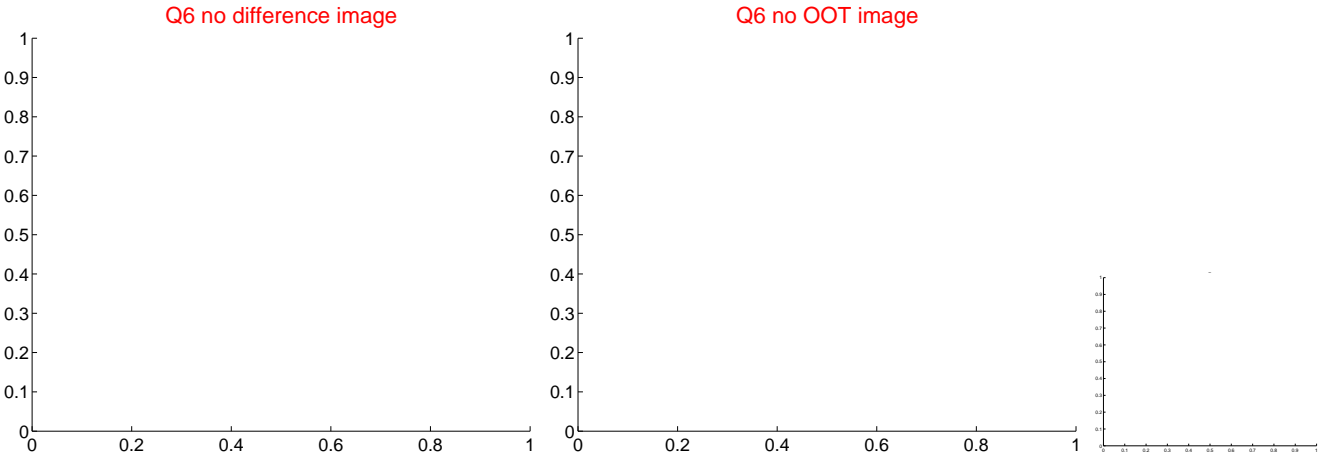
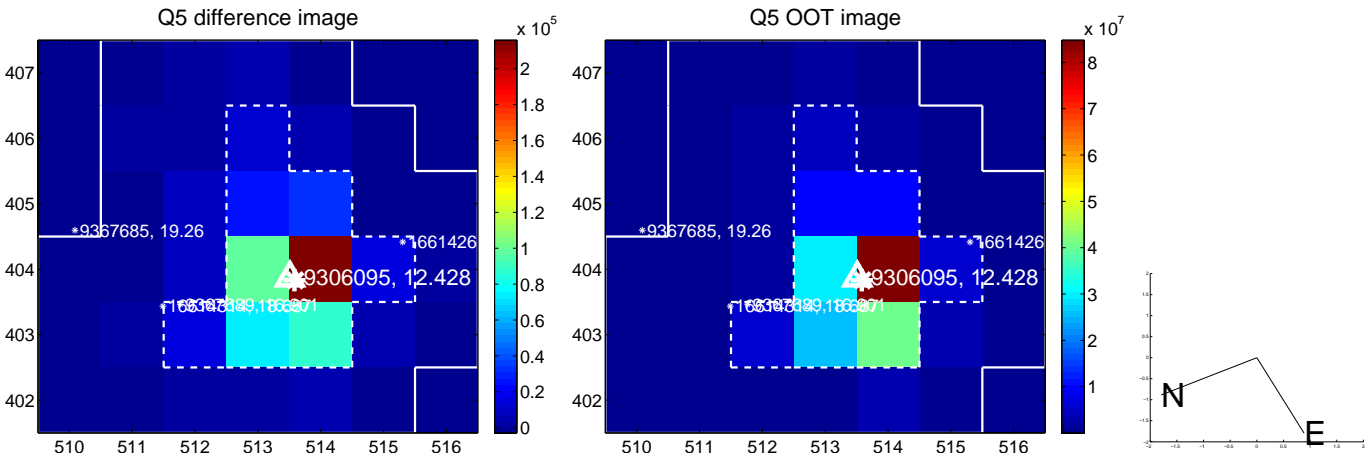


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

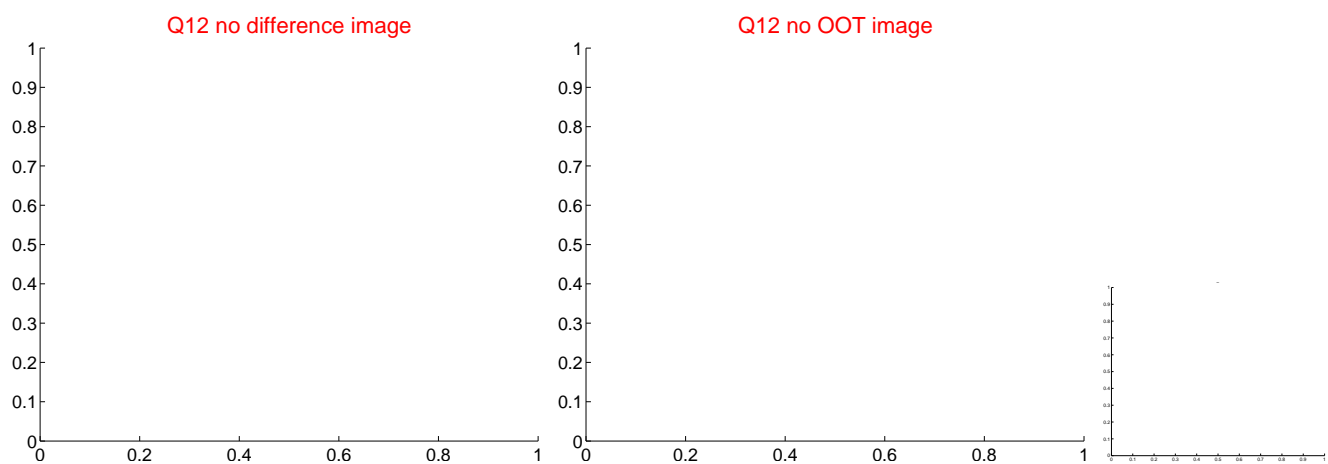
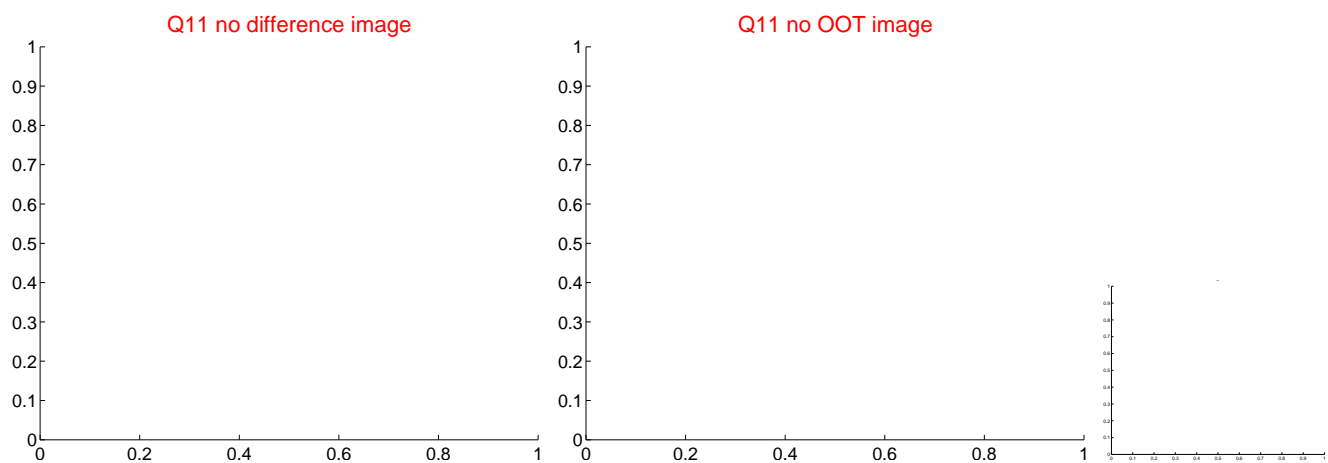
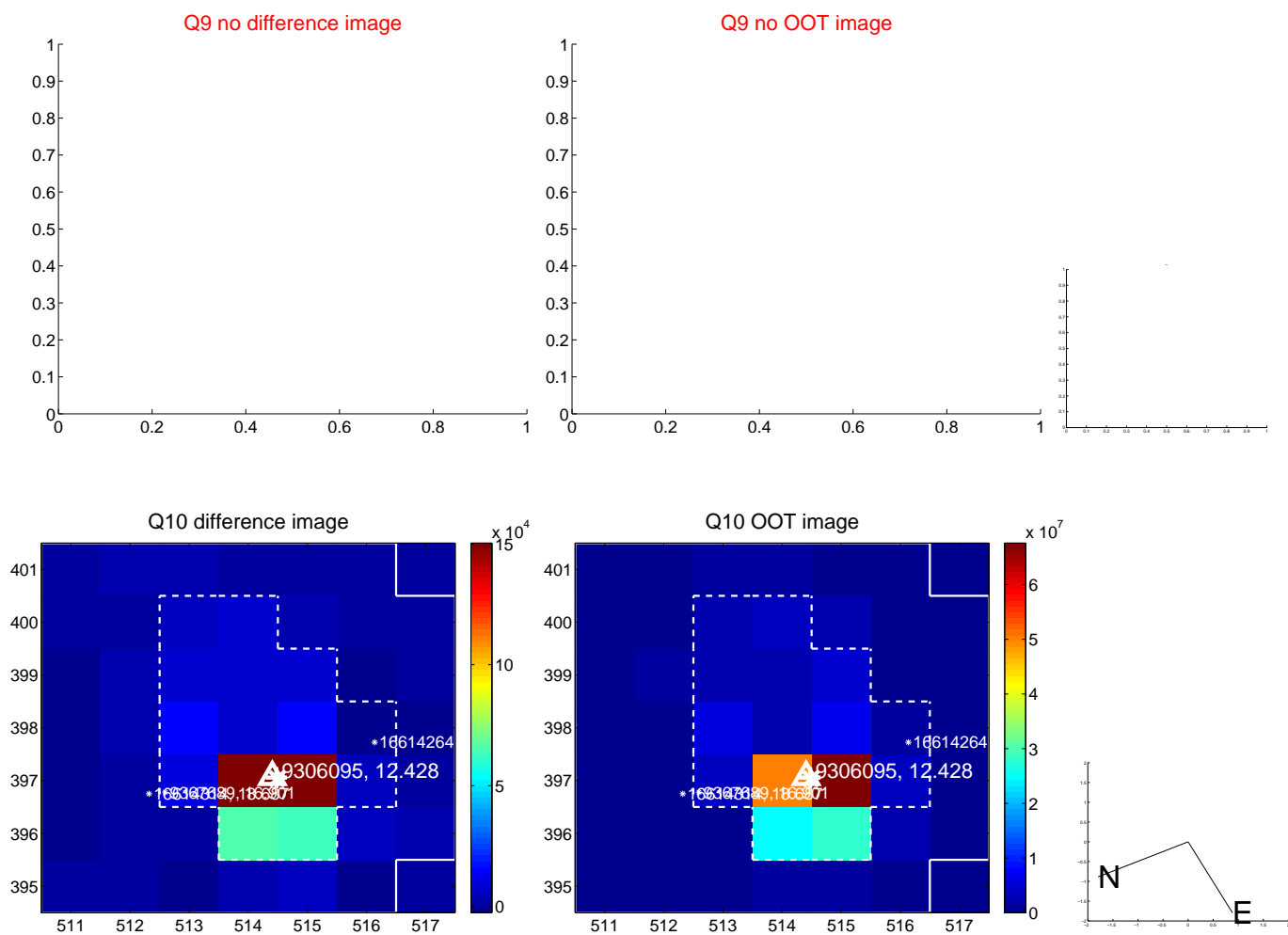
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



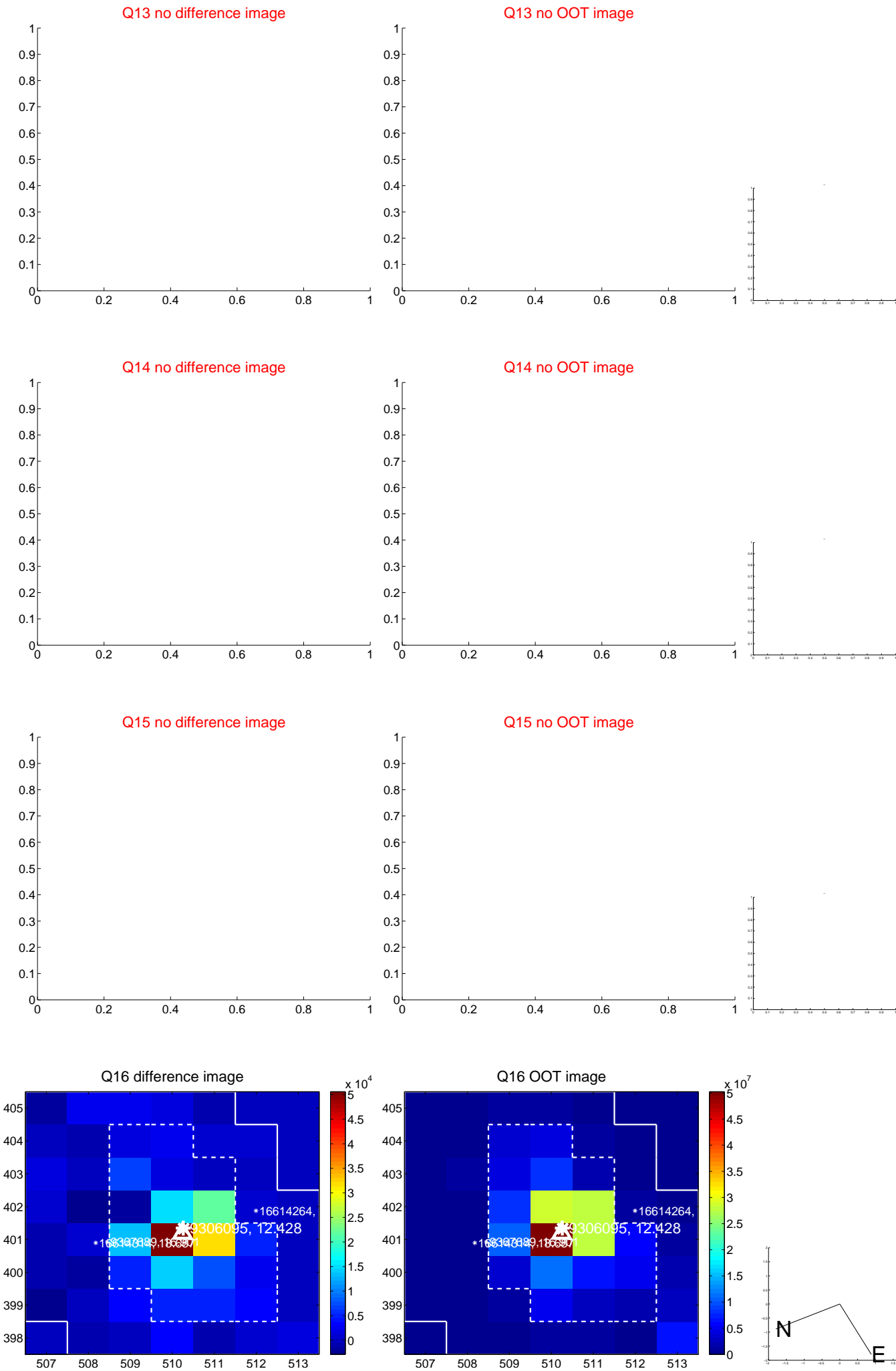
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



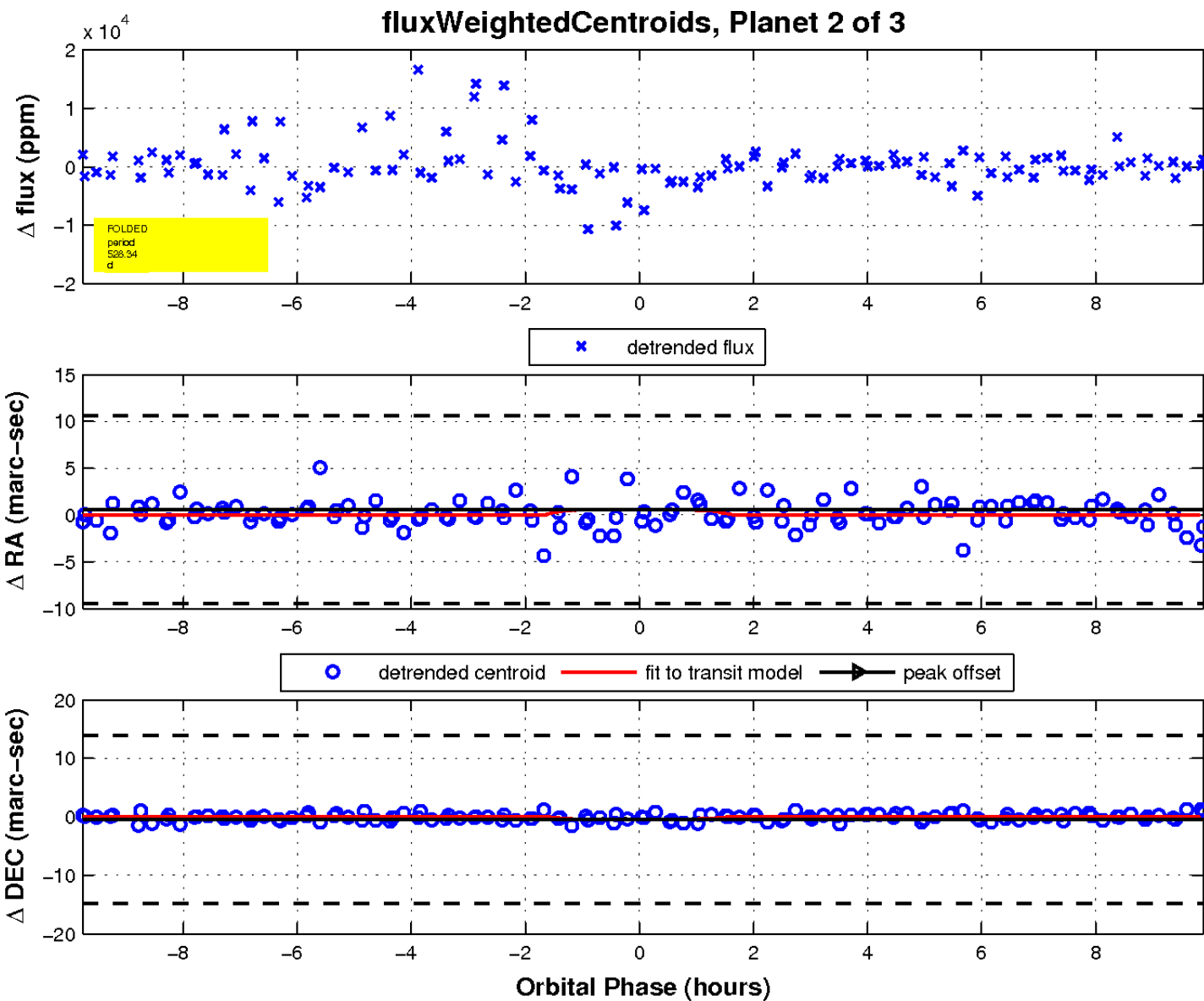
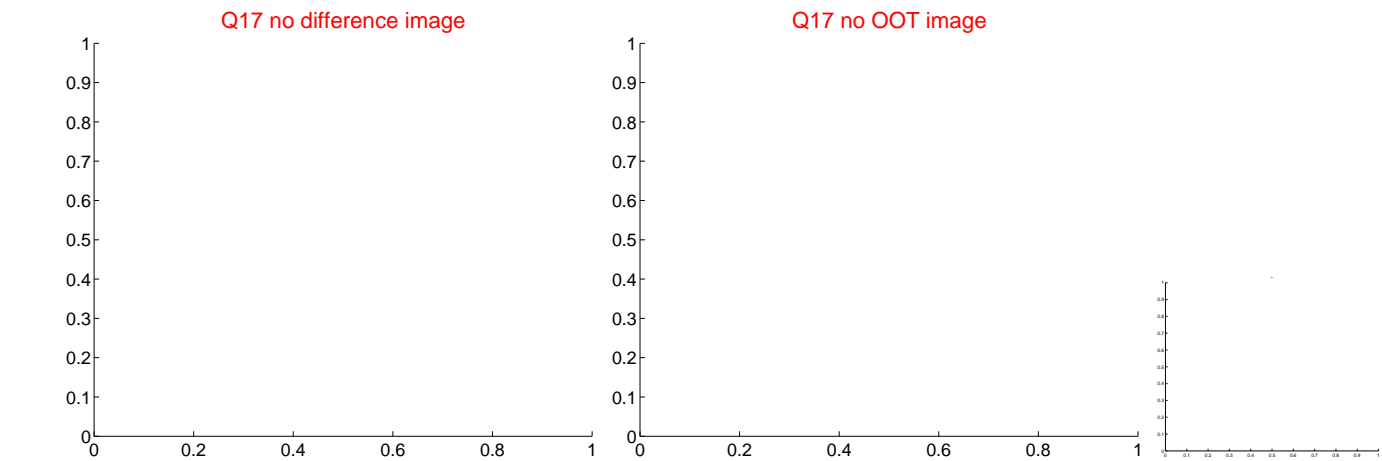
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

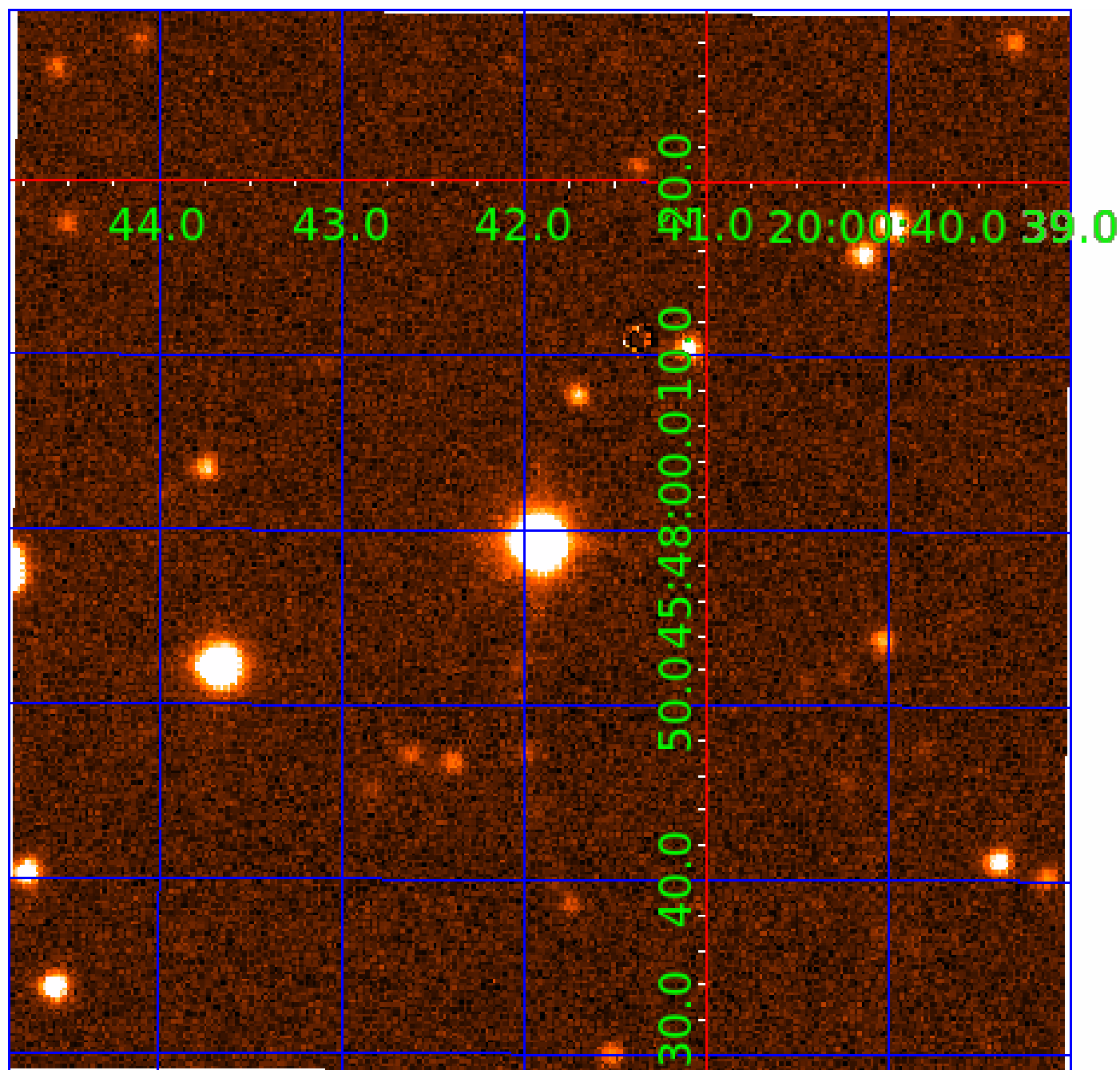


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009306095

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})
009306095-01	OBS	No	2.123206	133.161640	323.0	2.175	9.3	9.7	1.19	6571	2.28	1999.62
009306095-02	OBS	No	528.336619	466.289831	4073.5	3.307	12.3	8.9	1.19	6571	8.13	1.28
009306095-03	OBS	No	0.530709	132.000888	24.5	3.483	8.3	1.7	1.19	6571	0.60	12699.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009306095-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
009306095-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009306095-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

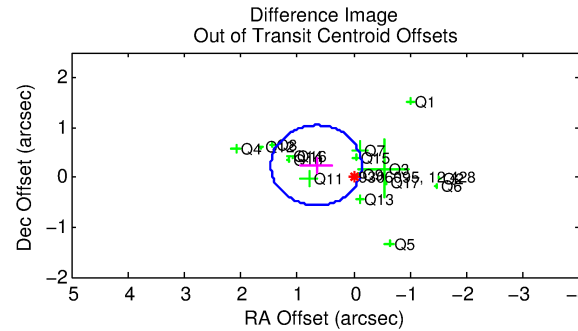
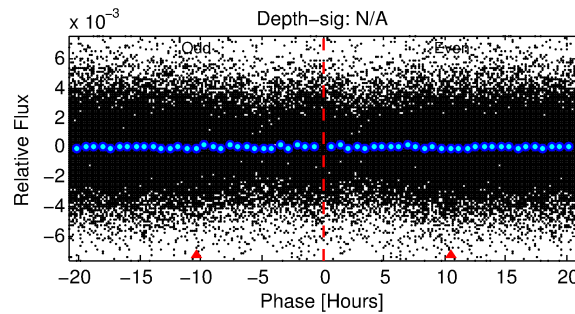
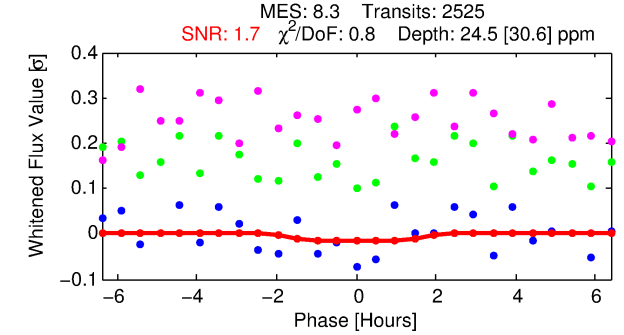
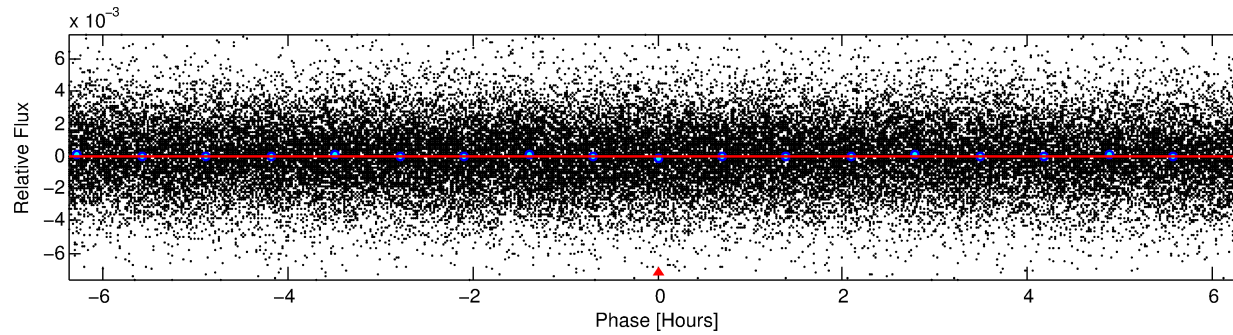
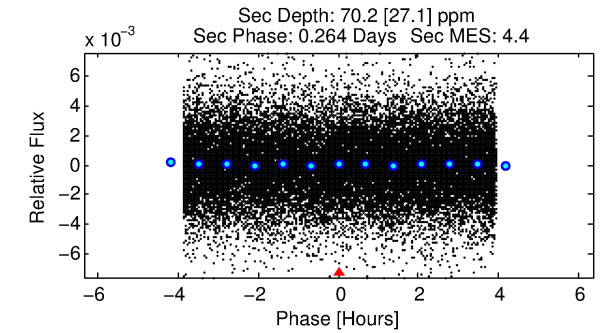
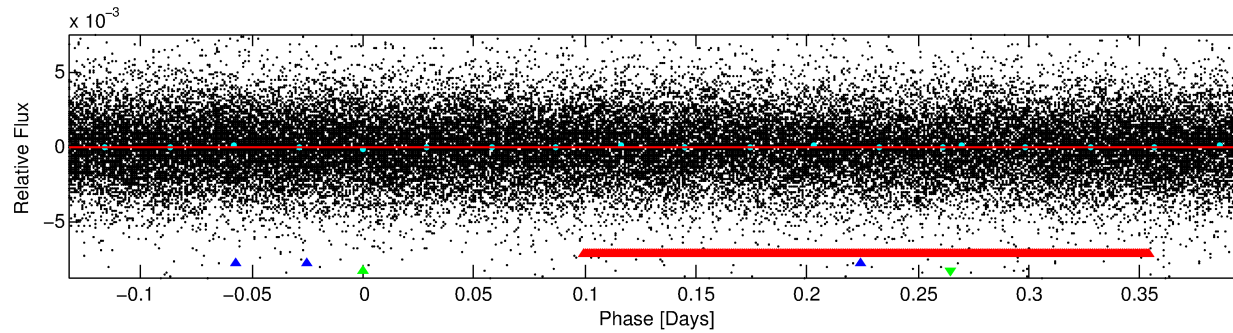
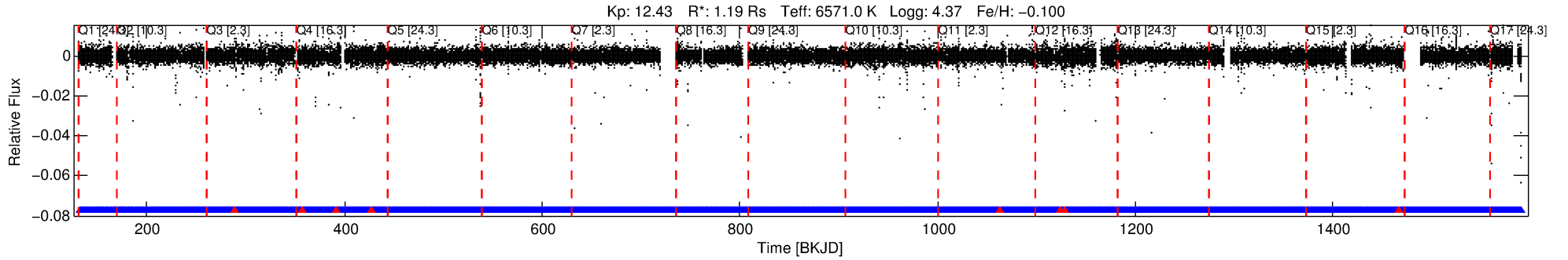
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009306095-03

No Significant Match Found

DV One-Page Summary

KIC: 9306095 Candidate: 3 of 3 Period: 0.531 d



DV Fit Results:

Period = 0.53071 [0.00012] d
Epoch = 132.0009 [0.0299] BKJD
Rp/R* = 0.0047 [0.0309]
a/R* = 1.27 [17.23]
b = 0.44 [66.36]
Seff = 12699.78 [4559.61]
Teq = 2707 [243] K
Rp = 0.61 [4.02] Re
a = 0.0137 [0.0033] AU
Ag = 19.71 [261.61] [0.07 σ]
Teffp = 8819 [29250] K [0.21 σ]

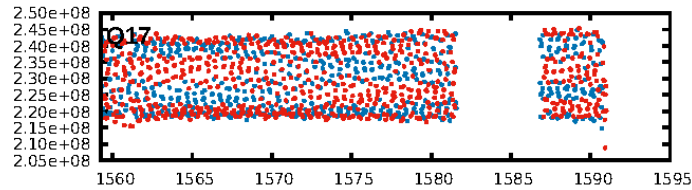
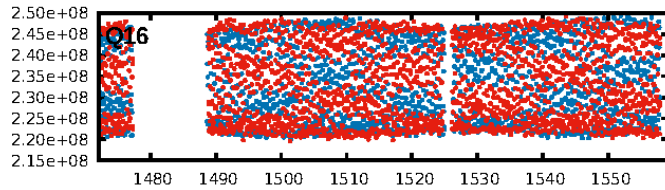
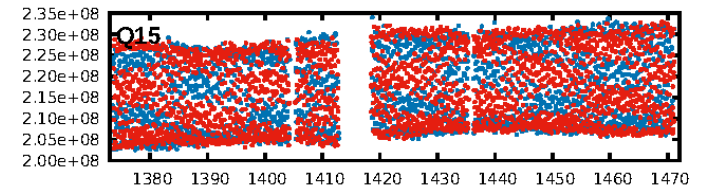
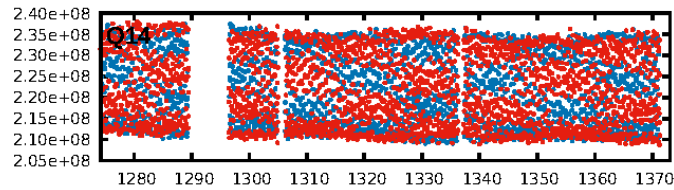
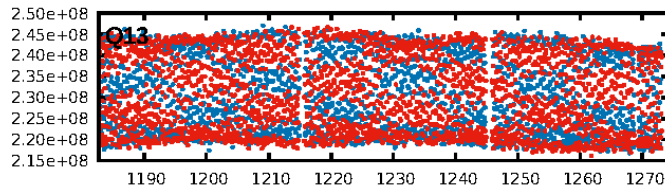
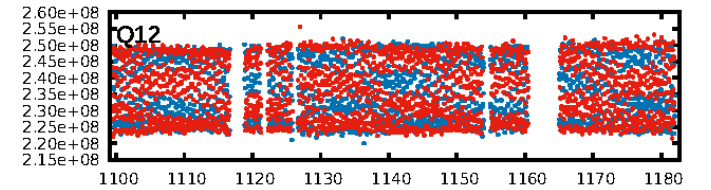
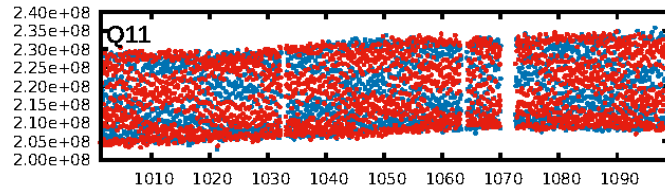
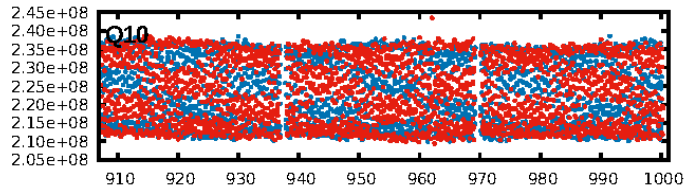
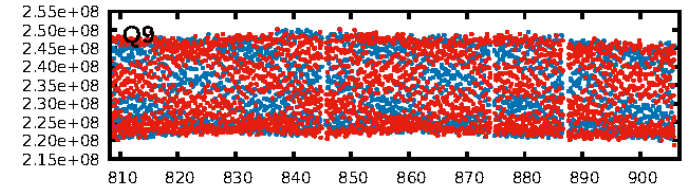
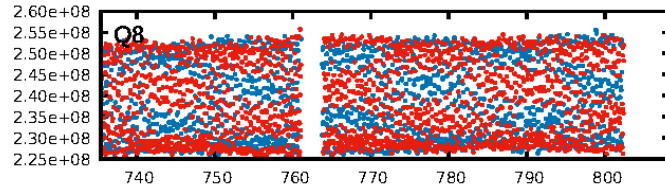
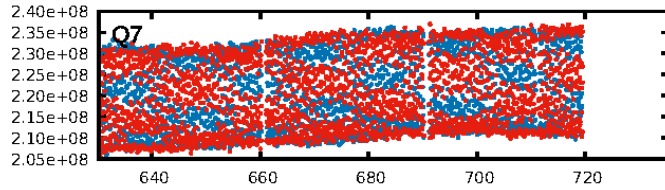
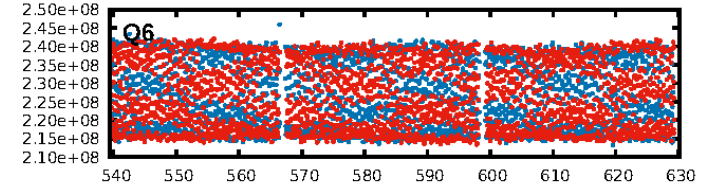
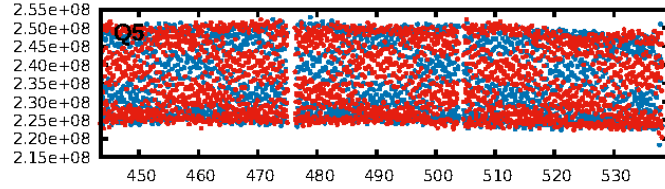
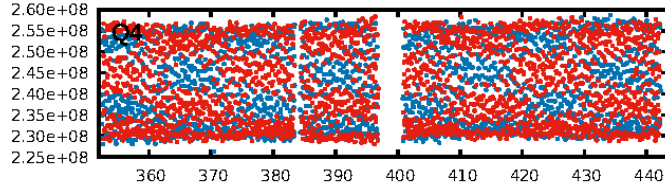
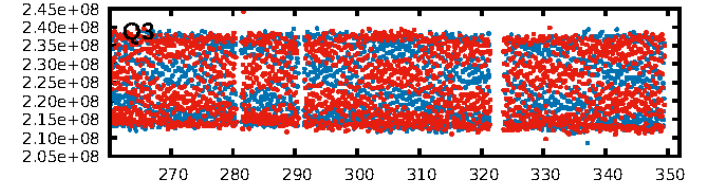
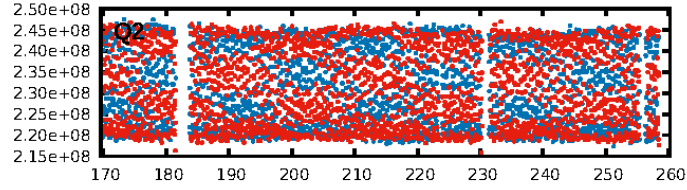
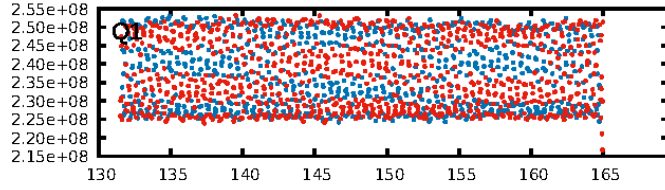
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [9.31 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2403/2411]
GhostDiagnostic-chr: 0.6219
Centroid-sig: 24.6%
Centroid-so: 1.020 arcsec [1.25 σ]
OotOffset-rm: 0.705 arcsec [2.63 σ]
KicOffset-rm: 0.688 arcsec [2.64 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 1.00 [17/17]

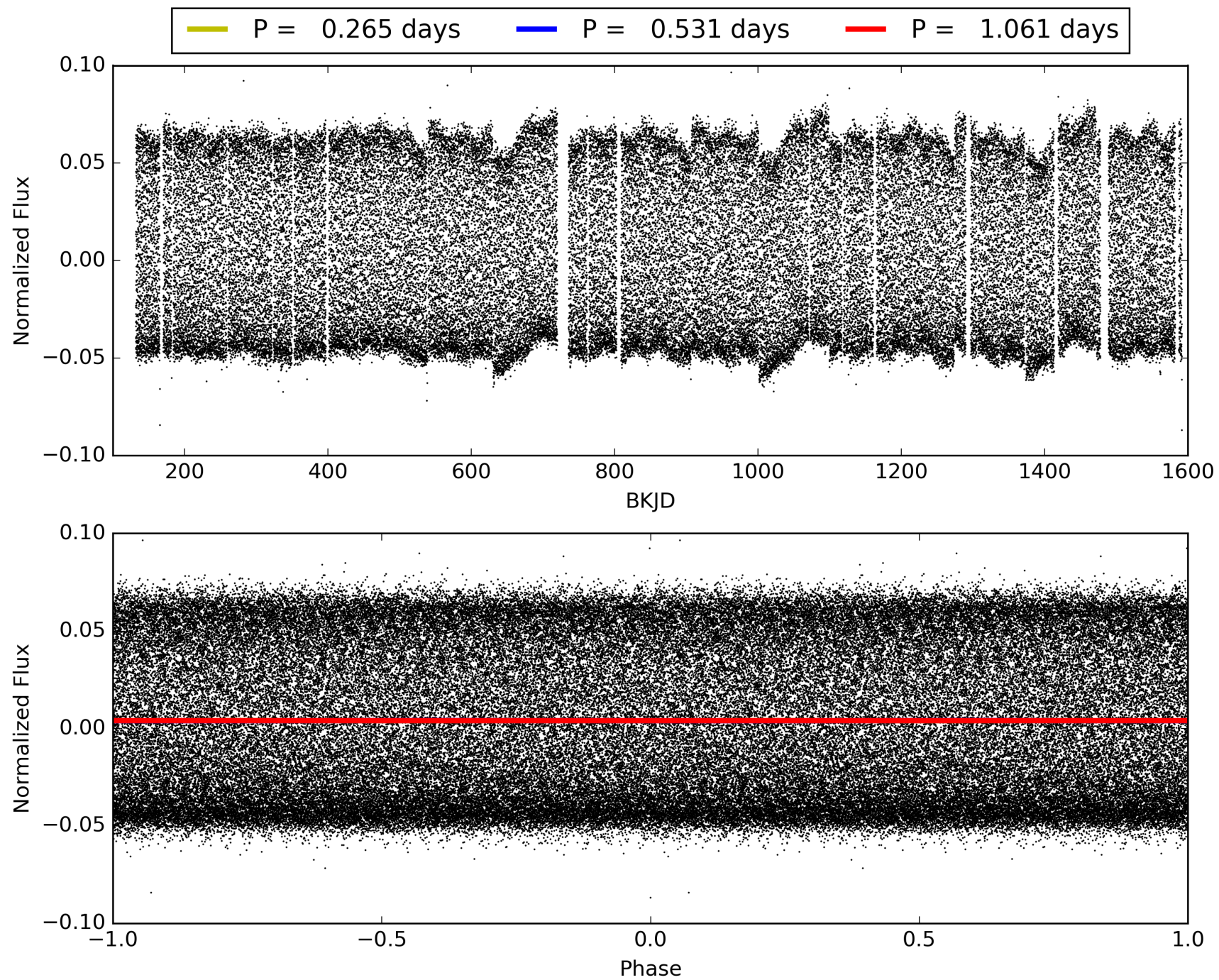
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 13:55:10 Z

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

TCE 009306095-03, PDC Light Curves

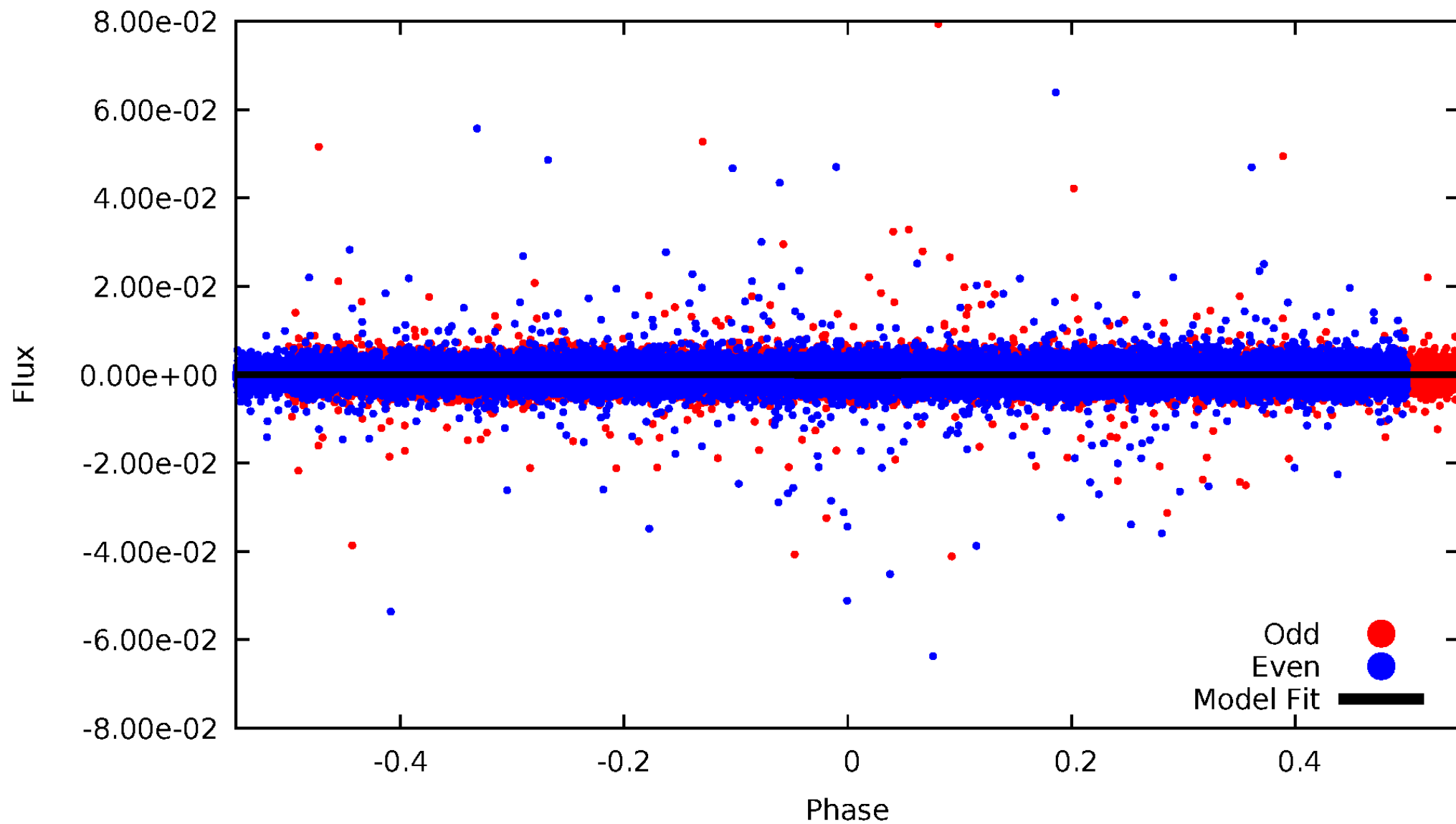


TCE 009306095-03



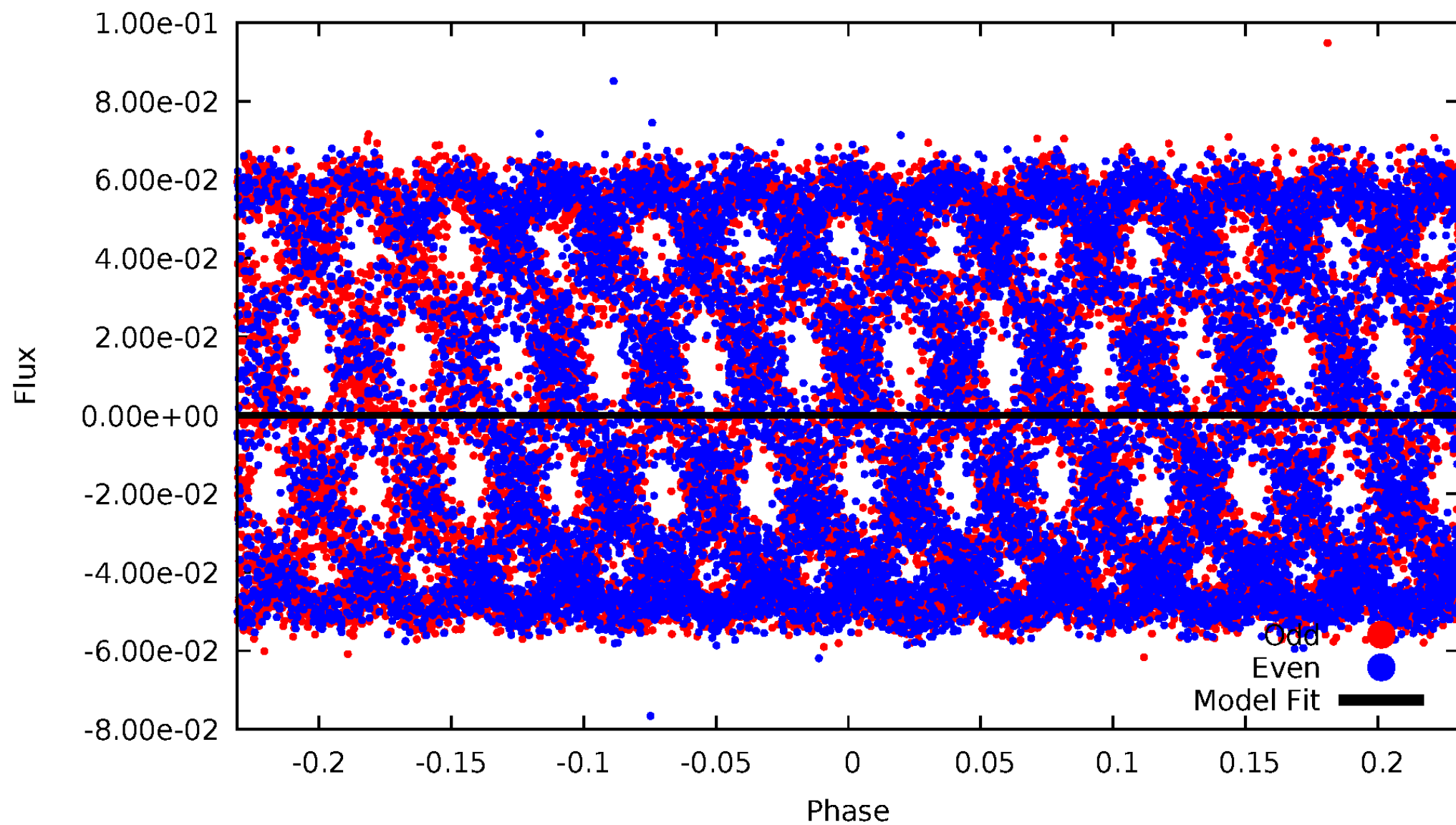
DV Odd/Even

TCE 009306095-03

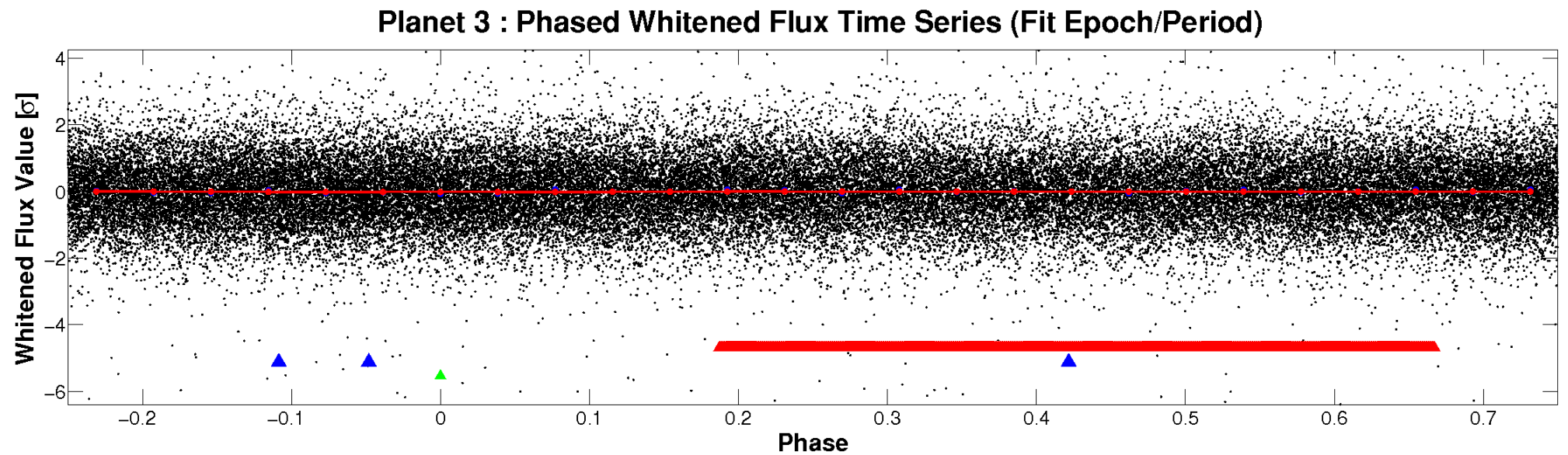
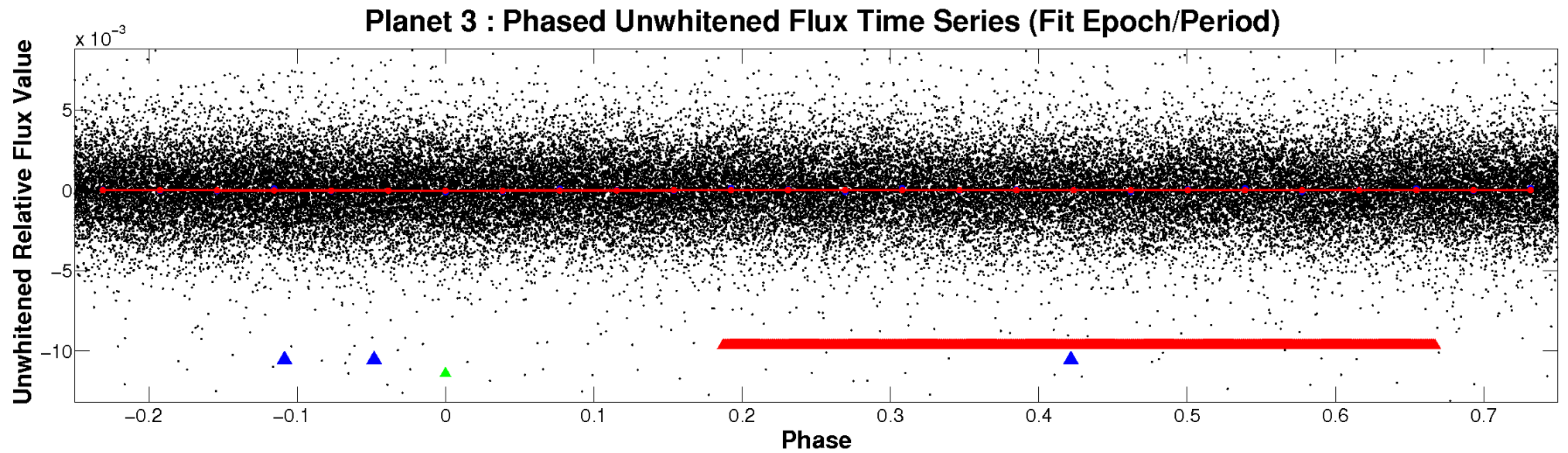


ALT Odd/Even

TCE 009306095-03

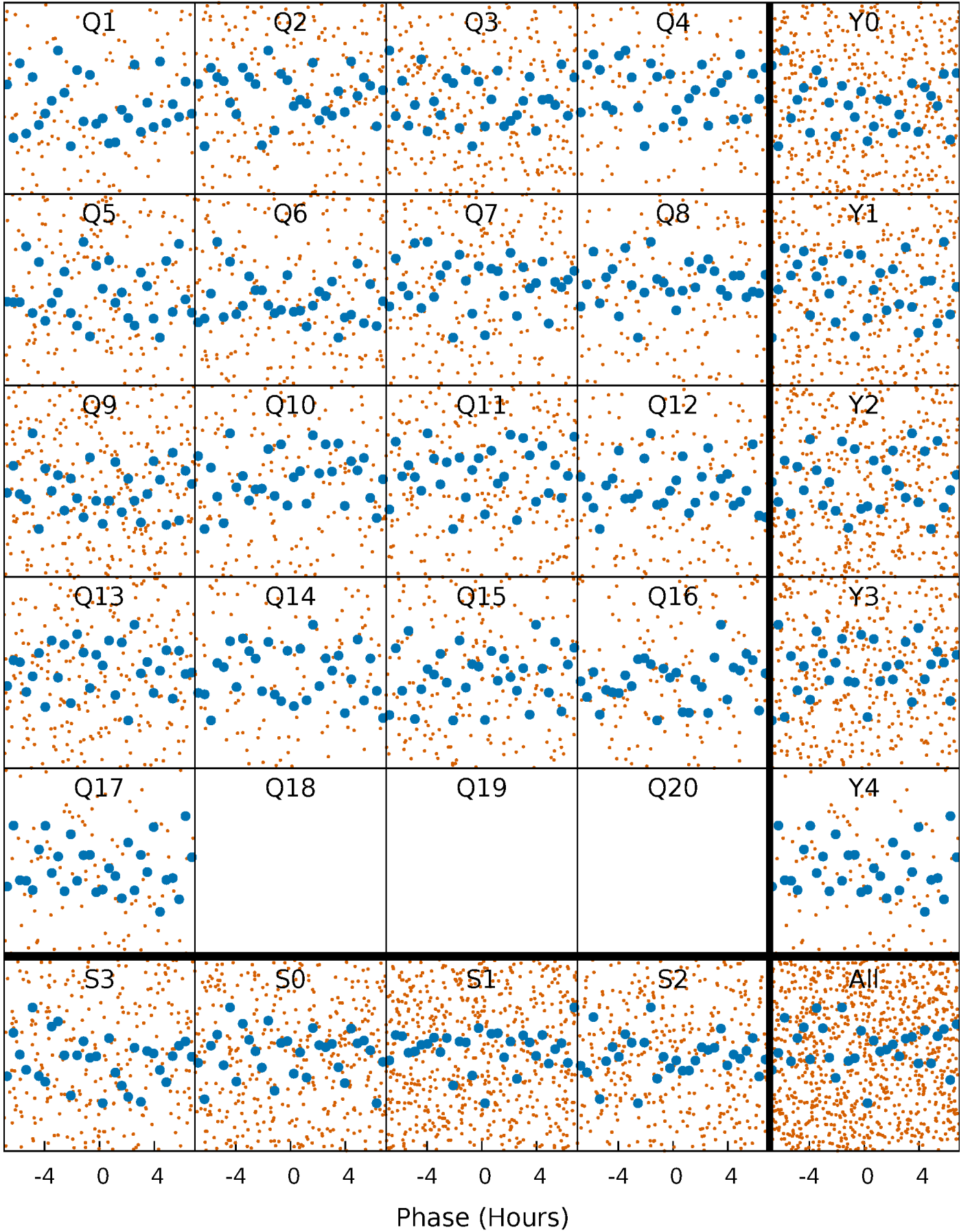


Non-Whitened Vs. Whitened Light Curve



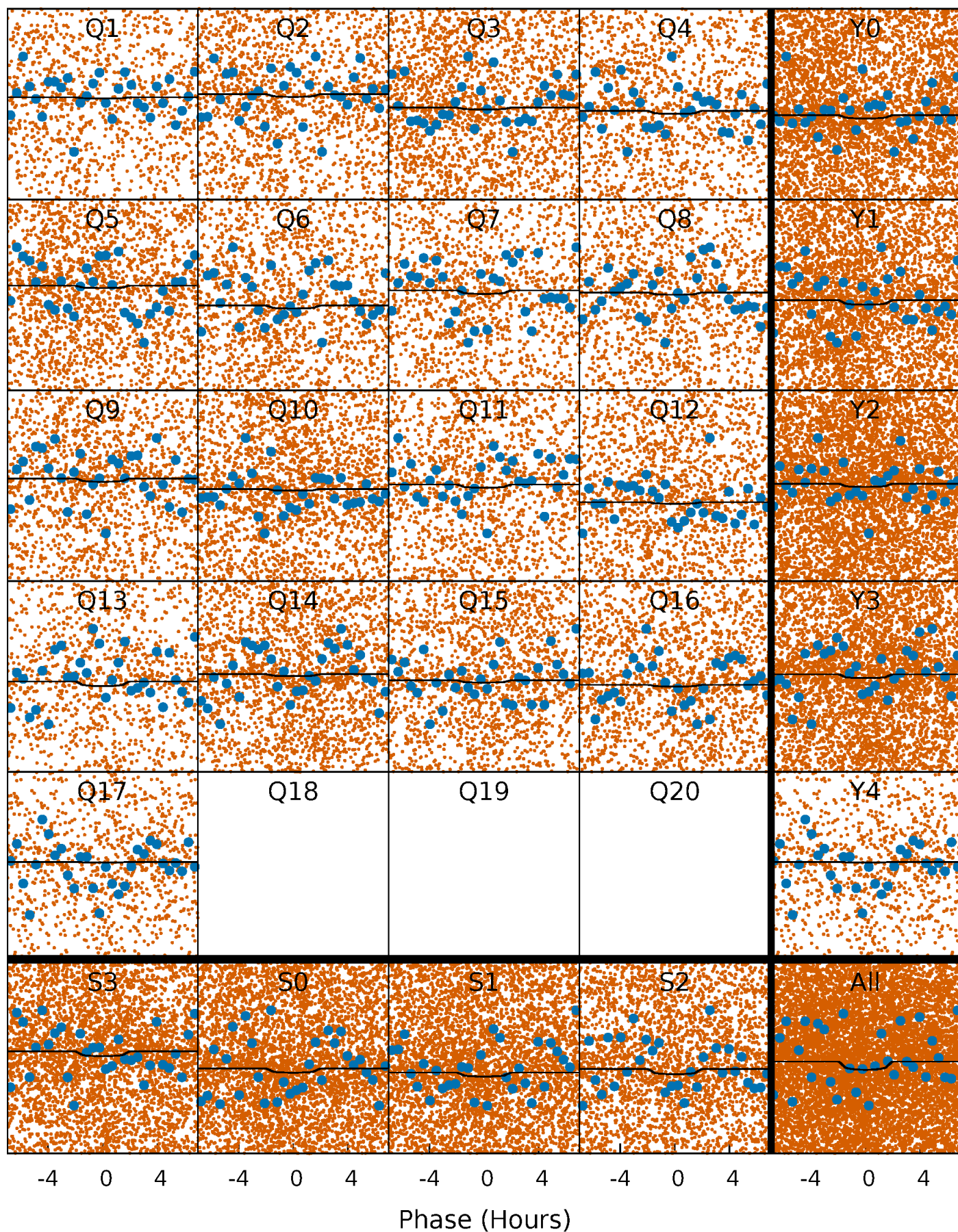
PDC Quarter-Phased Transit Curves

TCE 009306095-03 P= 0.530709 Days $T_0=132.000888$ (BKJD)



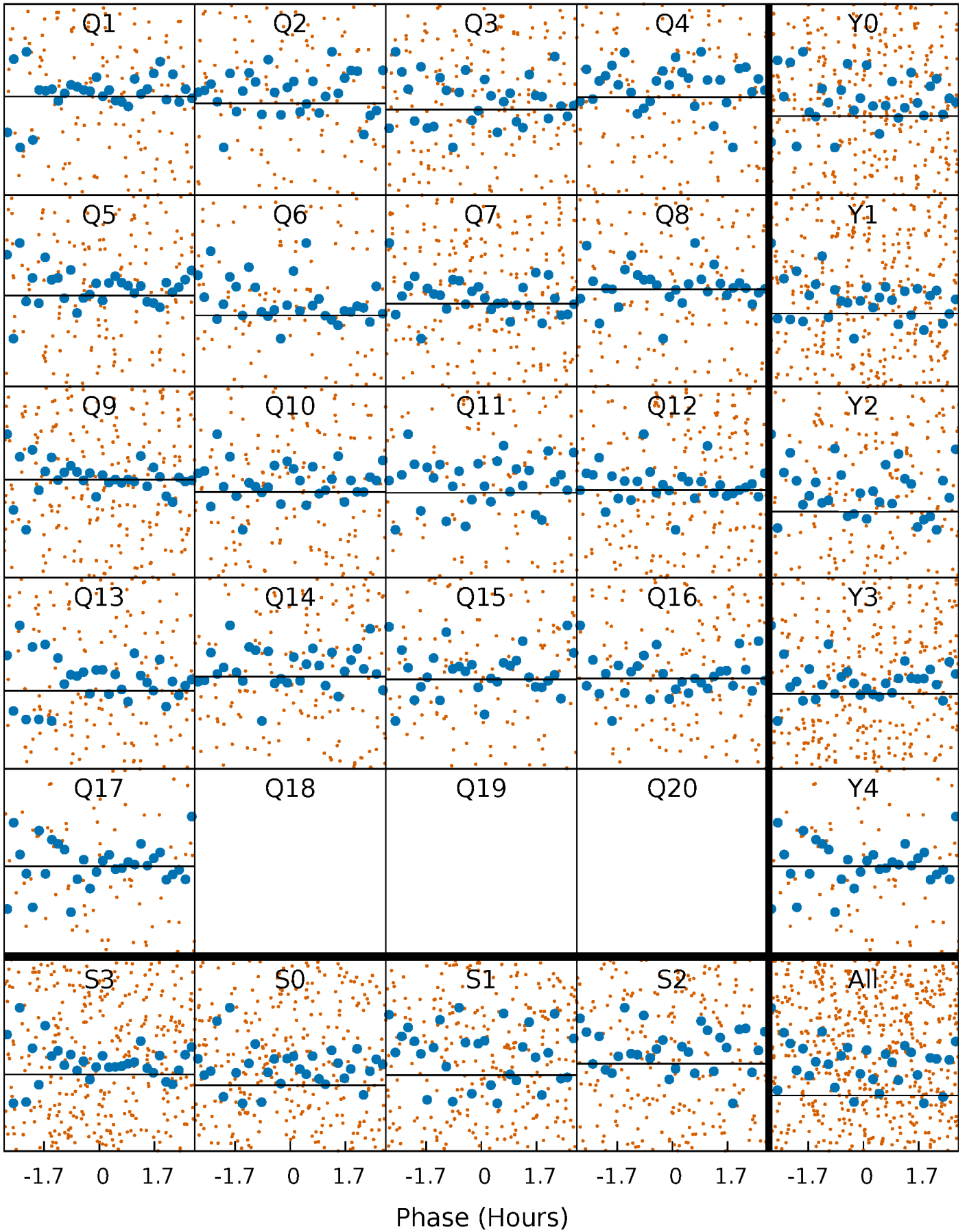
DV Quarter-Phased Transit Curves

TCE 009306095-03 P= 0.530709 Days $T_0=132.000888$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

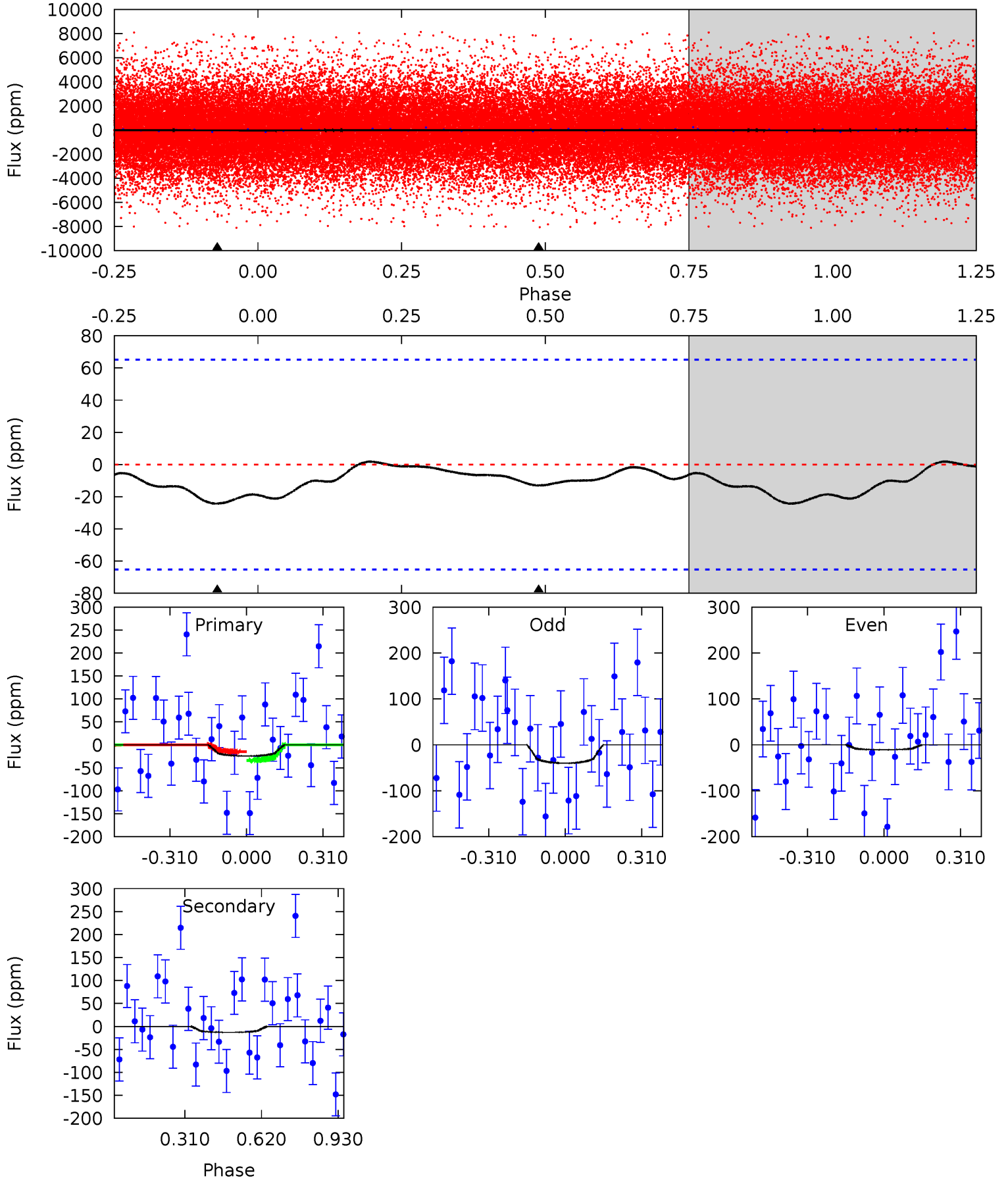
TCE 009306095-03 P= 0.530799 Days $T_0=131.793158$ (BKJD)



DV Model-Shift Uniqueness Test

009306095-03, P = 0.530709 Days, E = 131.470179 Days

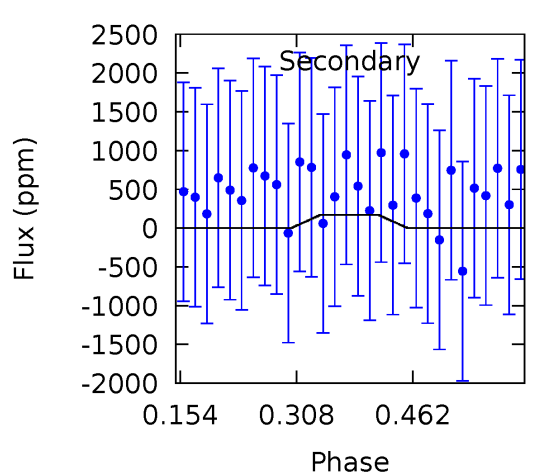
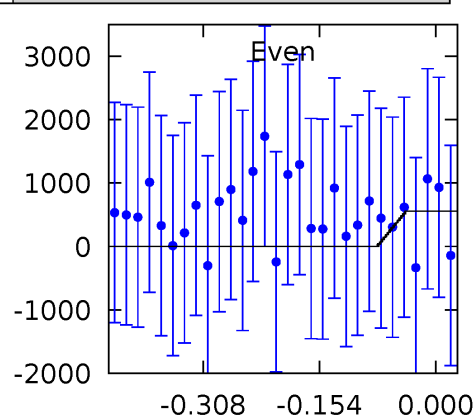
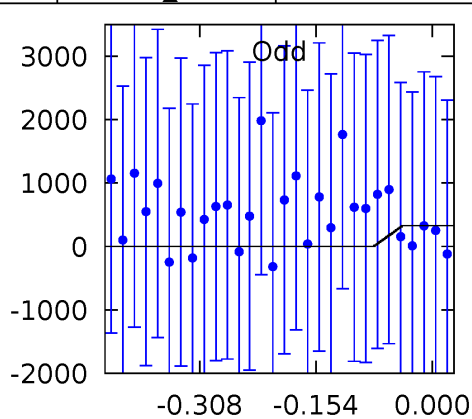
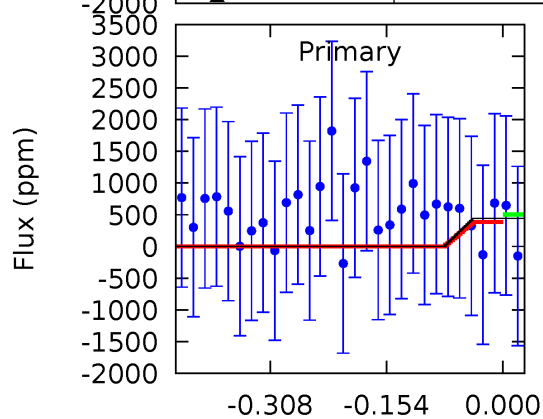
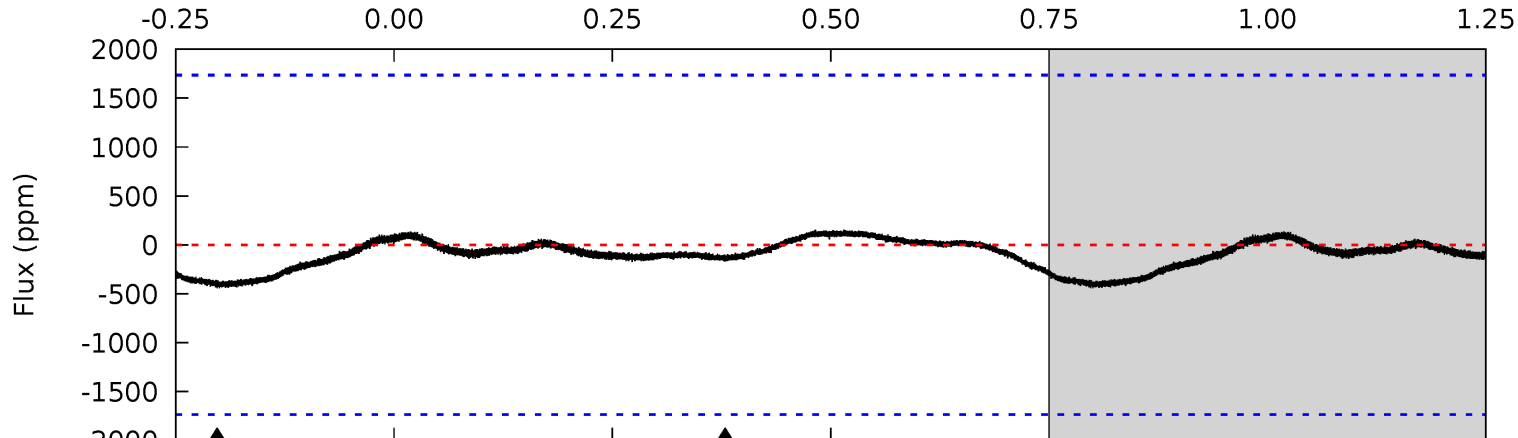
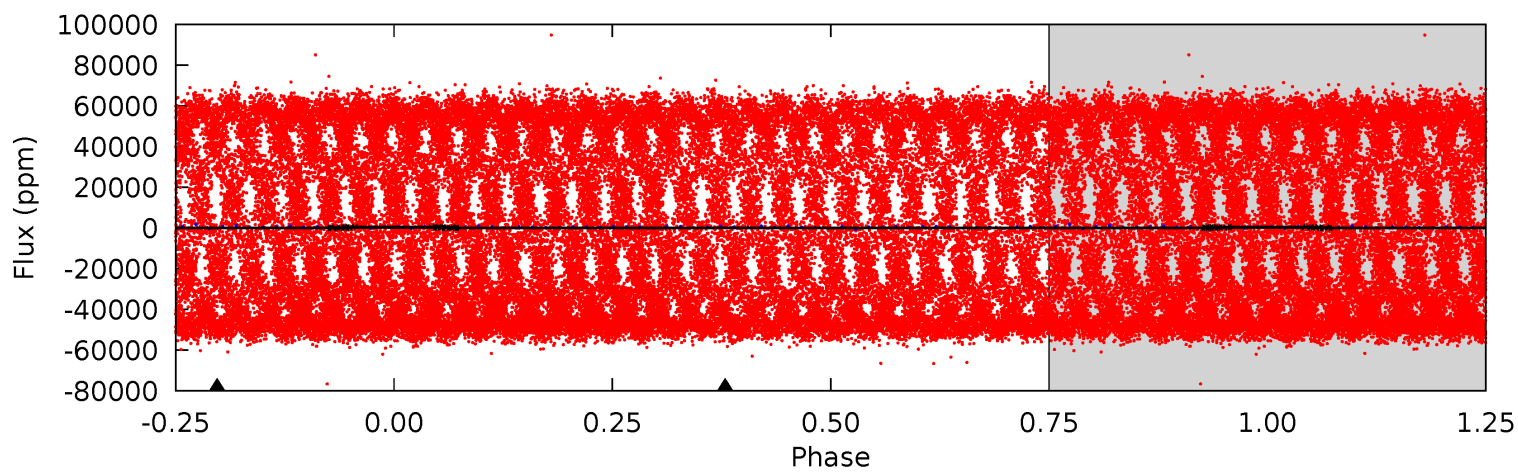
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.61	0.86	0	0	4.32	1.02	0.09	1.61	1.61	0.86	0.86	0.97	0.67	0.07	0.63



Alt Model-Shift Uniqueness Test

009306095-03, P = 0.530799 Days, E = 131.262359 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.14	0.44	0	0	4.47	1.43	0.15	1.14	1.14	0.44	0.44	0.29	0.11	0.26	0.15



Stellar Parameters For KIC 009306095

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6571^{+159}_{-199}	$4.368^{+0.060}_{-0.180}$	$-0.100^{+0.250}_{-0.300}$	$1.192^{+0.348}_{-0.149}$	$1.213^{+0.170}_{-0.153}$	$1.008^{+0.326}_{-0.481}$
	+2%/-3%	+1%/-4%	+250%/-300%	+29%/-12%	+14%/-13%	+32%/-48%
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 009306095-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-13 ± 15	$3.12^{+3.26}_{-2.12}$	3845^{+285}_{-166}	-3374^{+7706}_{-338}	$0.089^{+1.046}_{-0.099}$
Alt.	-170 ± 388	$2.73^{+3.16}_{-1.93}$	3845^{+250}_{-176}	4448^{+5979}_{-9979}	$1.320^{+23.852}_{-3.949}$

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 $A_{obs} \gg 1.0$

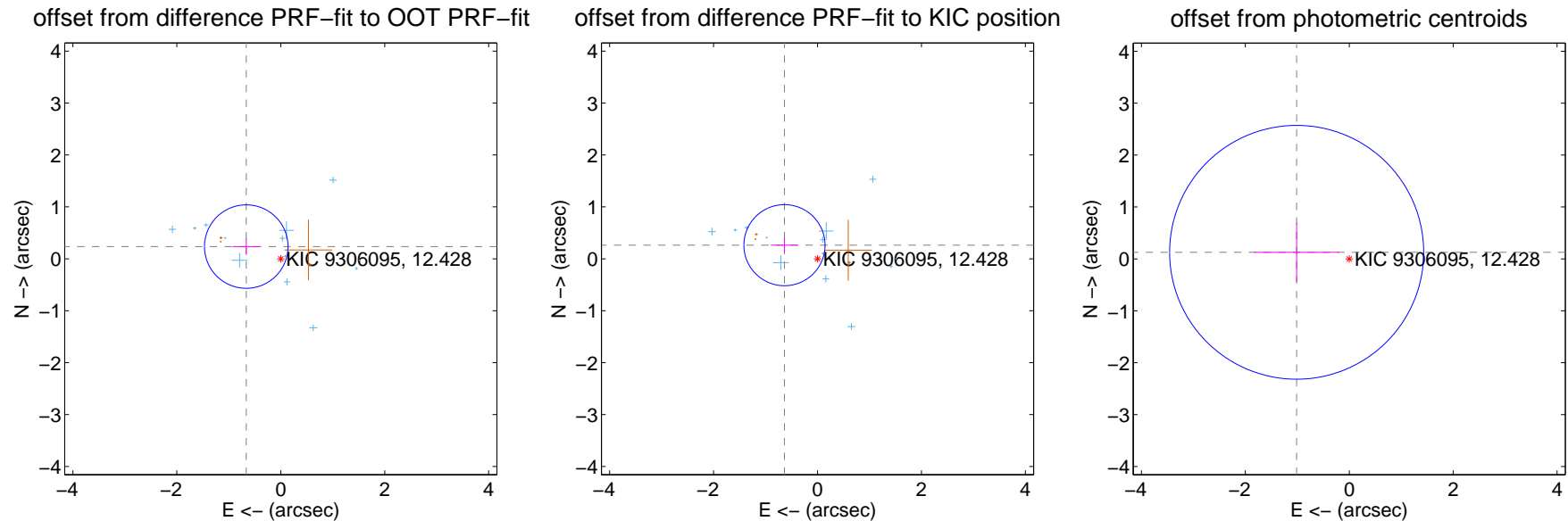
DV Centroid Data

Supplemental centroid analysis for 009306095-03. Kepler magnitude: 12.43. Transit SNR 1.71

There are 13 quarters with good PRF difference image offsets

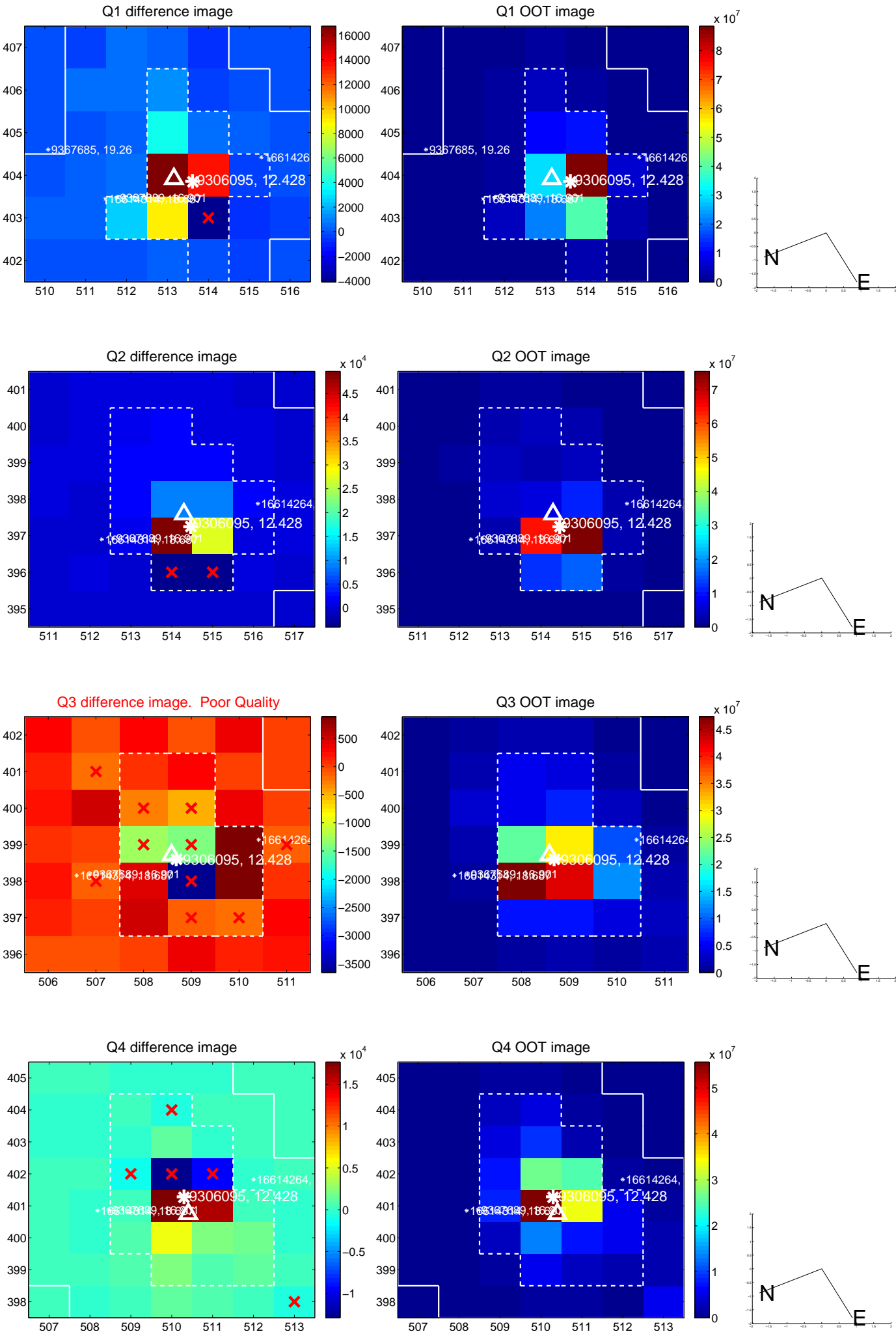
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.705 ± 0.268	2.63	0.664 ± 0.266	0.235 ± 0.160
PRF-fit source offset from KIC position	0.688 ± 0.260	2.64	0.636 ± 0.264	0.262 ± 0.149
photometric centroid source offset	1.02 ± 0.81	1.25	1.01 ± 0.82	0.13 ± 0.57

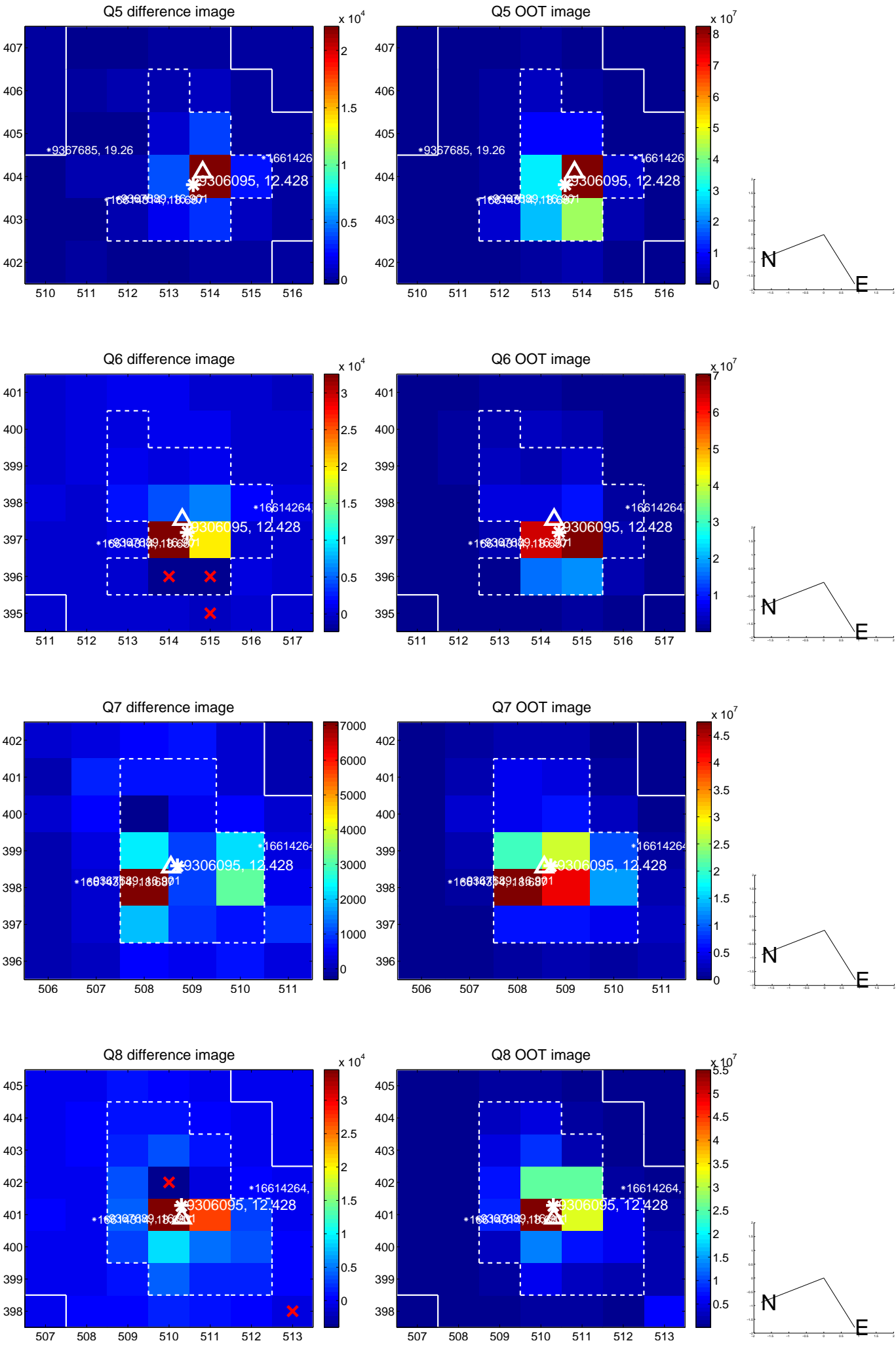


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

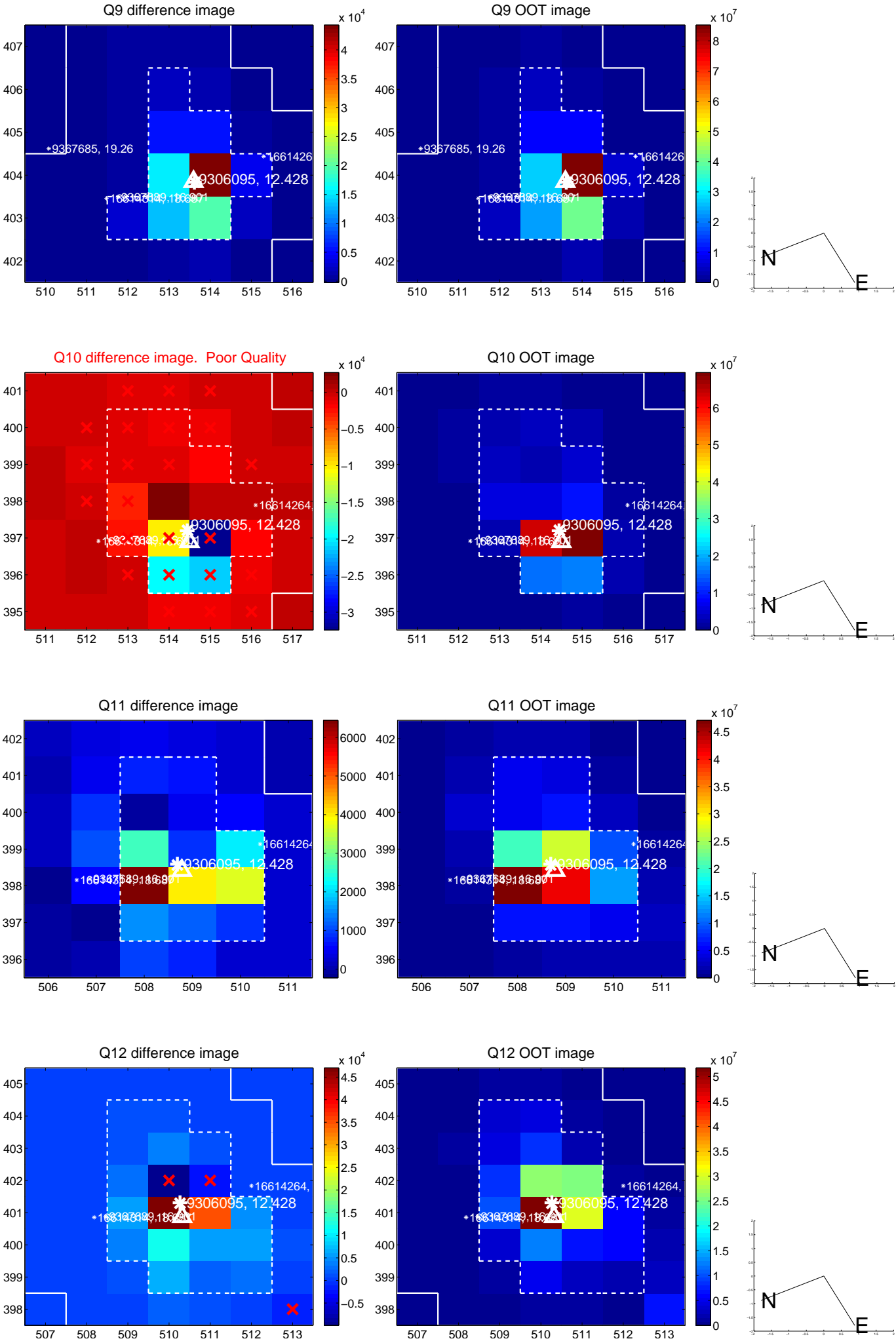
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



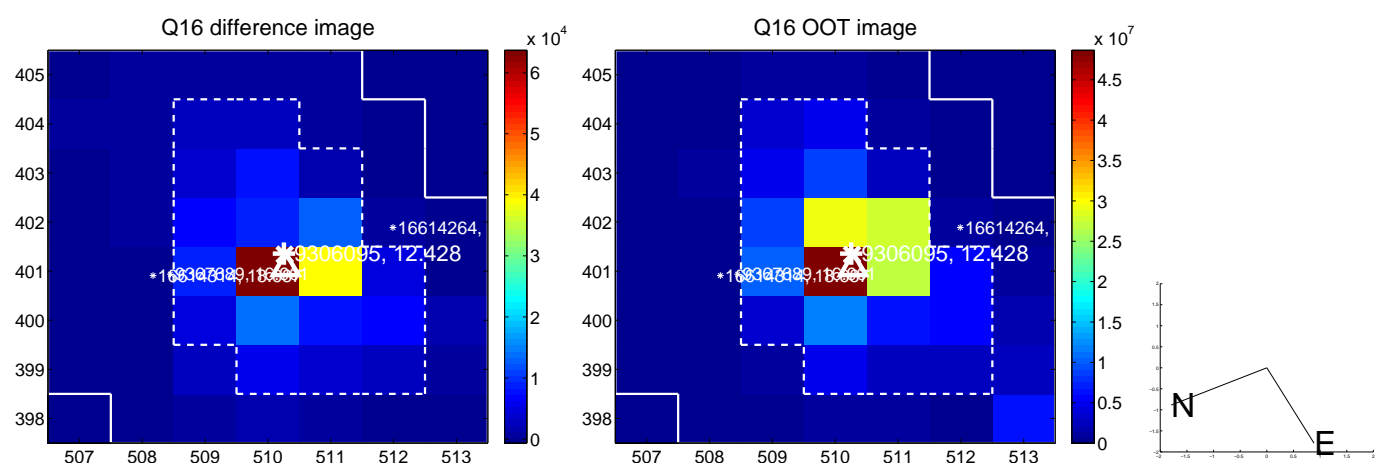
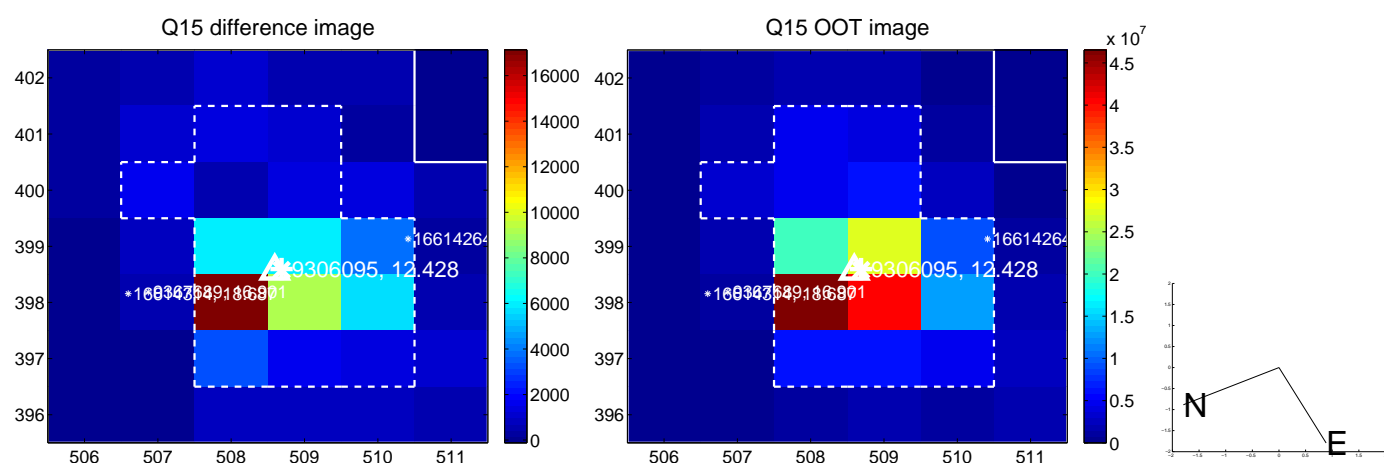
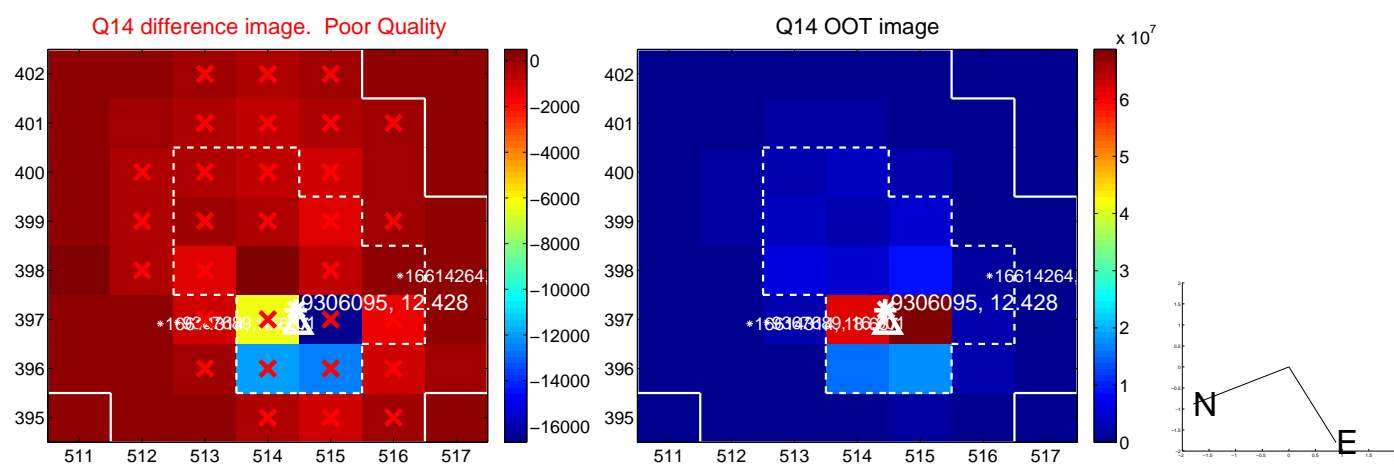
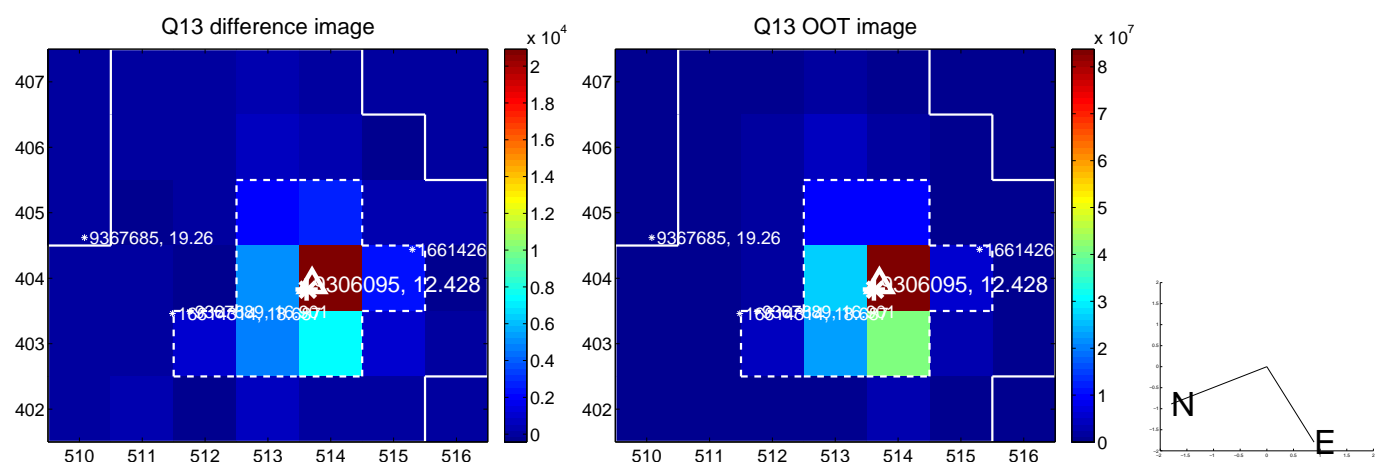
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



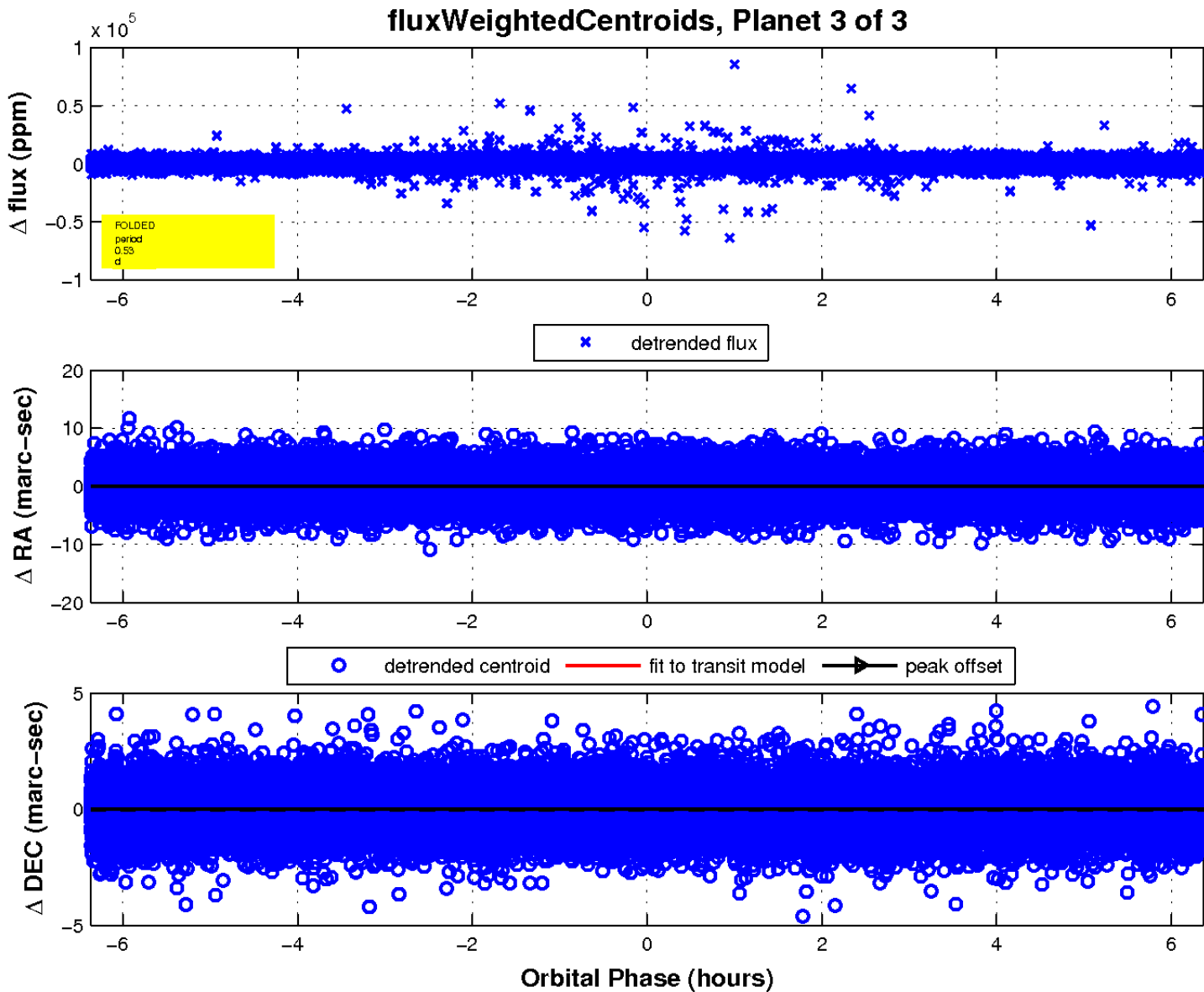
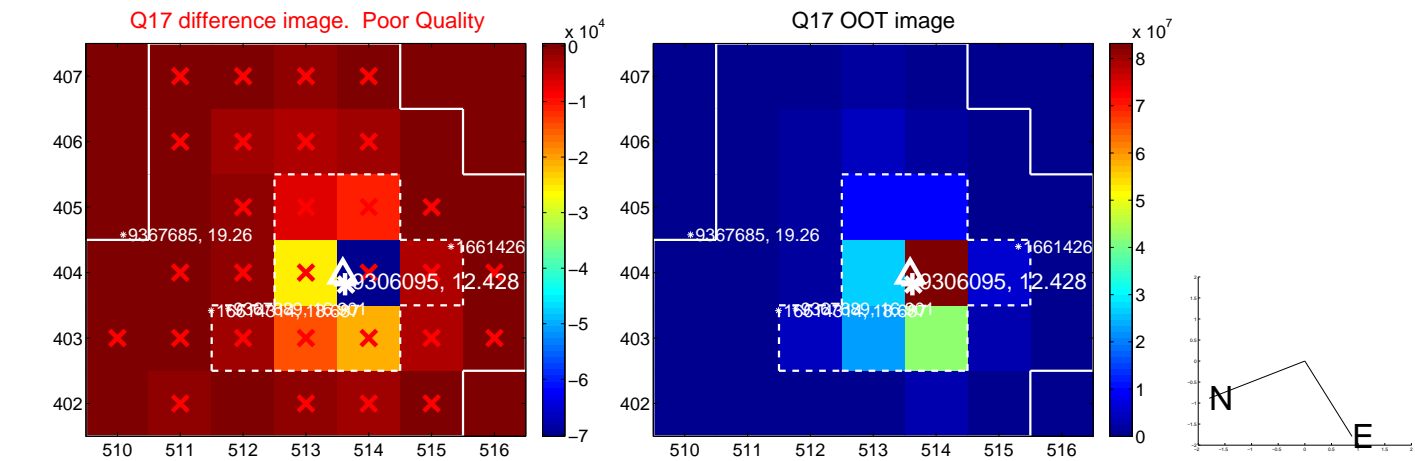
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

