

KIC 004659094

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})
004659094-01	OBS	No	0.669726	132.215337	38.9	4.541	9.2	6.8	0.76	5323	0.49	2200.80
004659094-02	OBS	No	39.497952	150.300397	709.1	1.407	8.4	7.2	0.76	5323	2.40	9.59
004659094-03	OBS	No	40.746330	159.643353	656.1	2.348	8.8	8.4	0.76	5323	2.22	9.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004659094-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
004659094-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
004659094-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

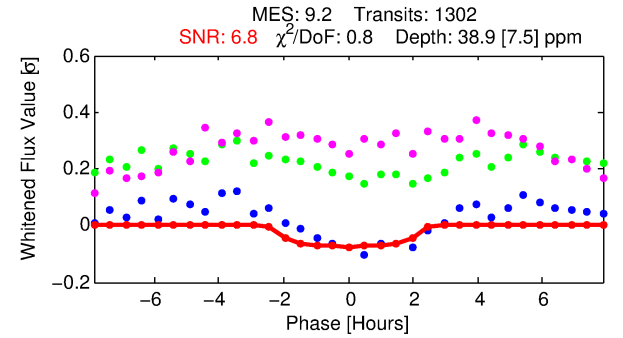
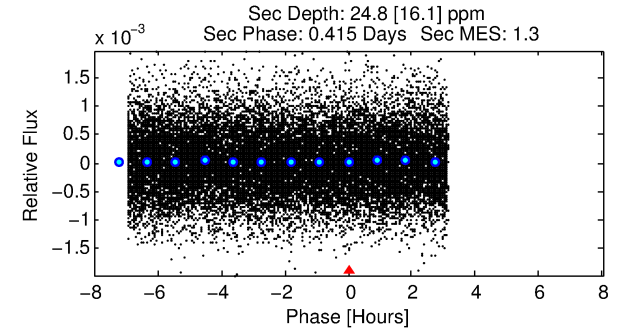
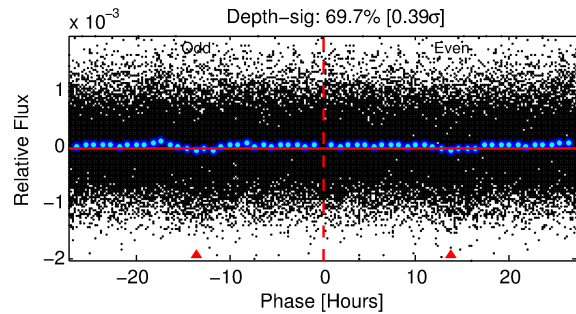
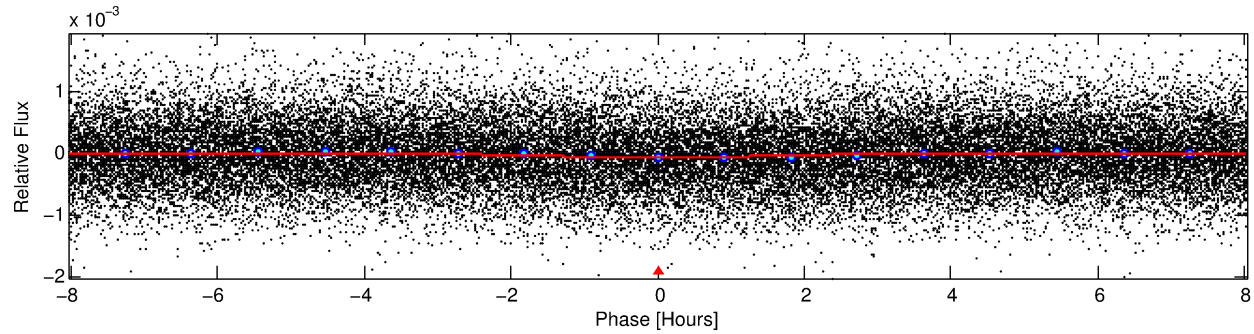
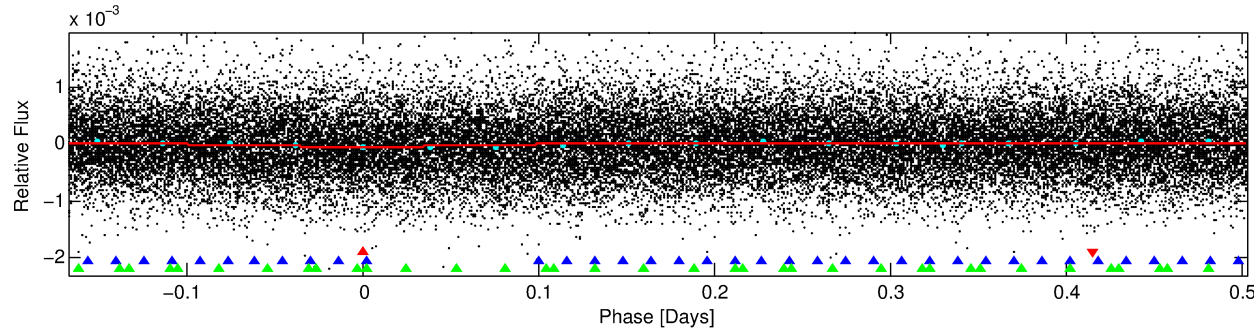
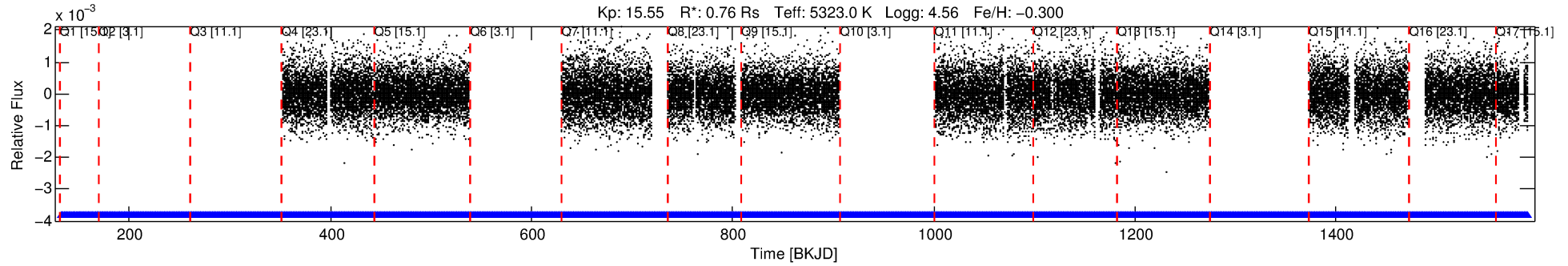
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004659094-01

No Significant Match Found

DV One-Page Summary

KIC: 4659094 Candidate: 1 of 3 Period: 0.670 d



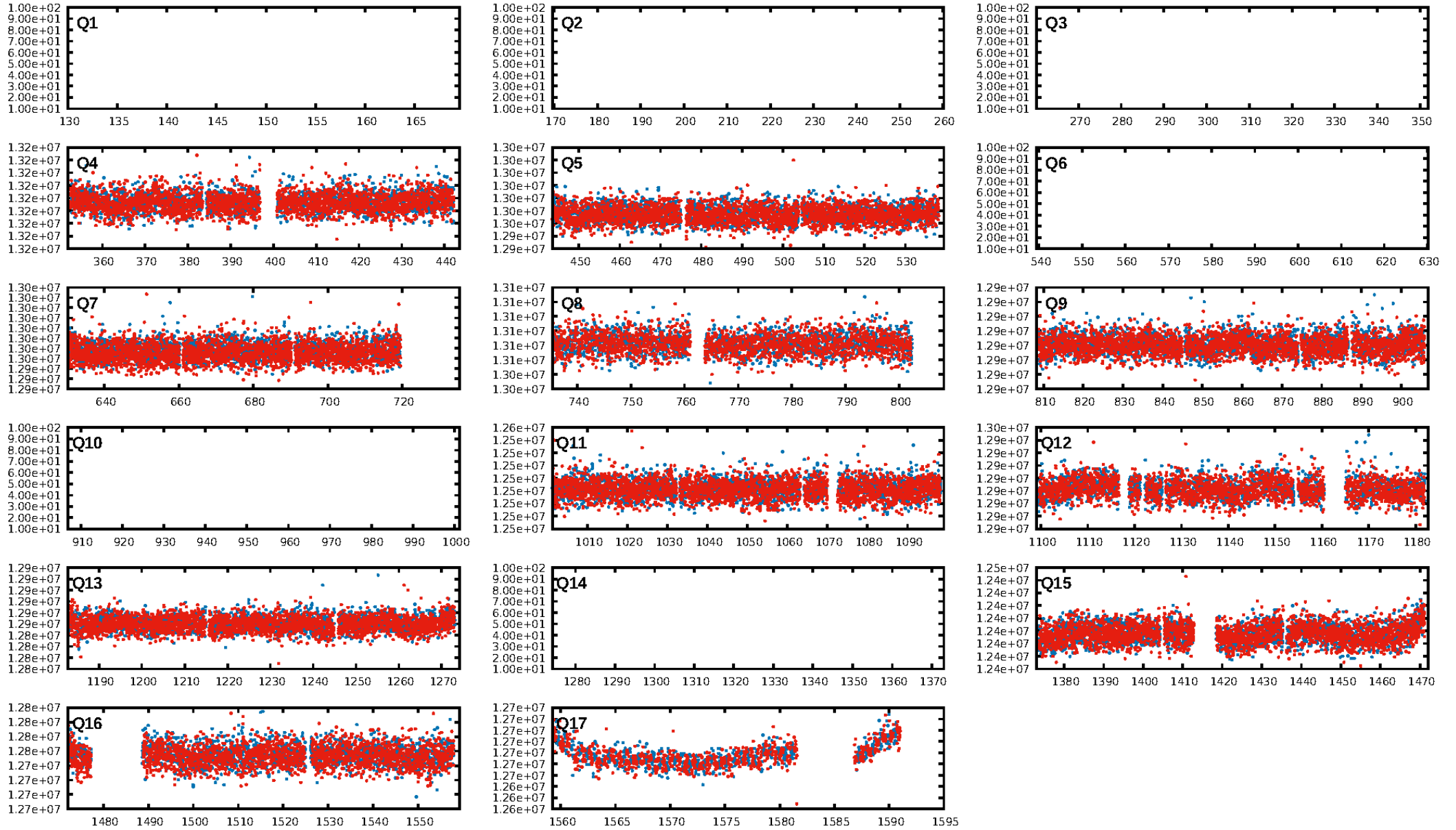
DV Fit Results:

Period = 0.66973 [0.00002] d
Epoch = 132.2153 [0.0082] BKJD
Rp/R* = 0.0059 [0.0108]
a/R* = 1.20 [2.64]
b = 0.60 [7.83]
Seff = 2200.80 [511.46]
Teq = 1747 [101] K
Rp = 0.49 [0.90] Re
a = 0.0138 [0.0018] AU
Ag = 10.66 [39.30] [0.25 σ]
Teffp = 4879 [4496] K [0.70 σ]

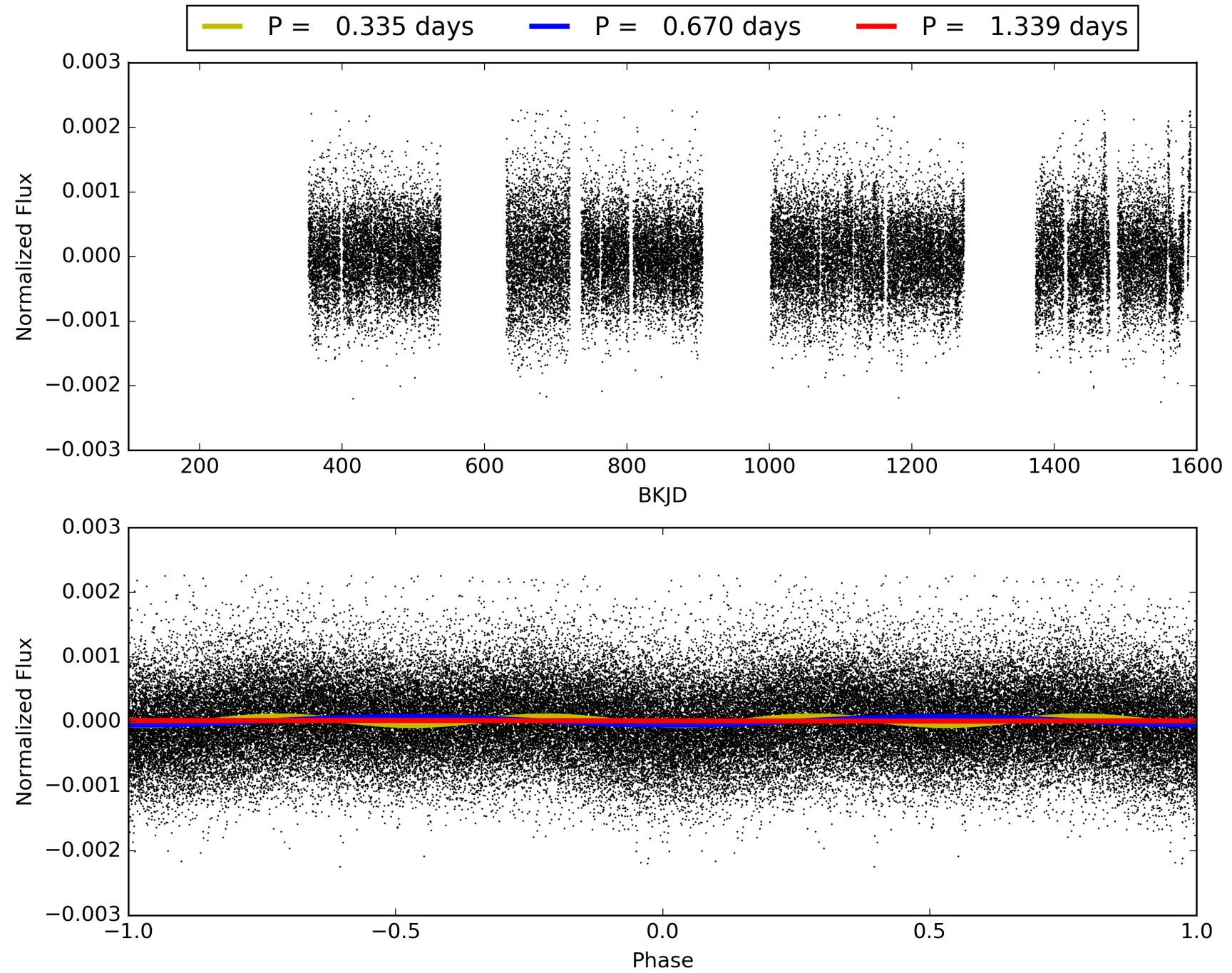
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [196.02 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.80e-11
RollingBand-fgt: 1.00 [1261/1261]
GhostDiagnostic-chr: -0.6301
Centroid-sig: N/A
Centroid-so: 16.714 arcsec [8.37 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [11/11]

TCE 004659094-01, PDC Light Curves

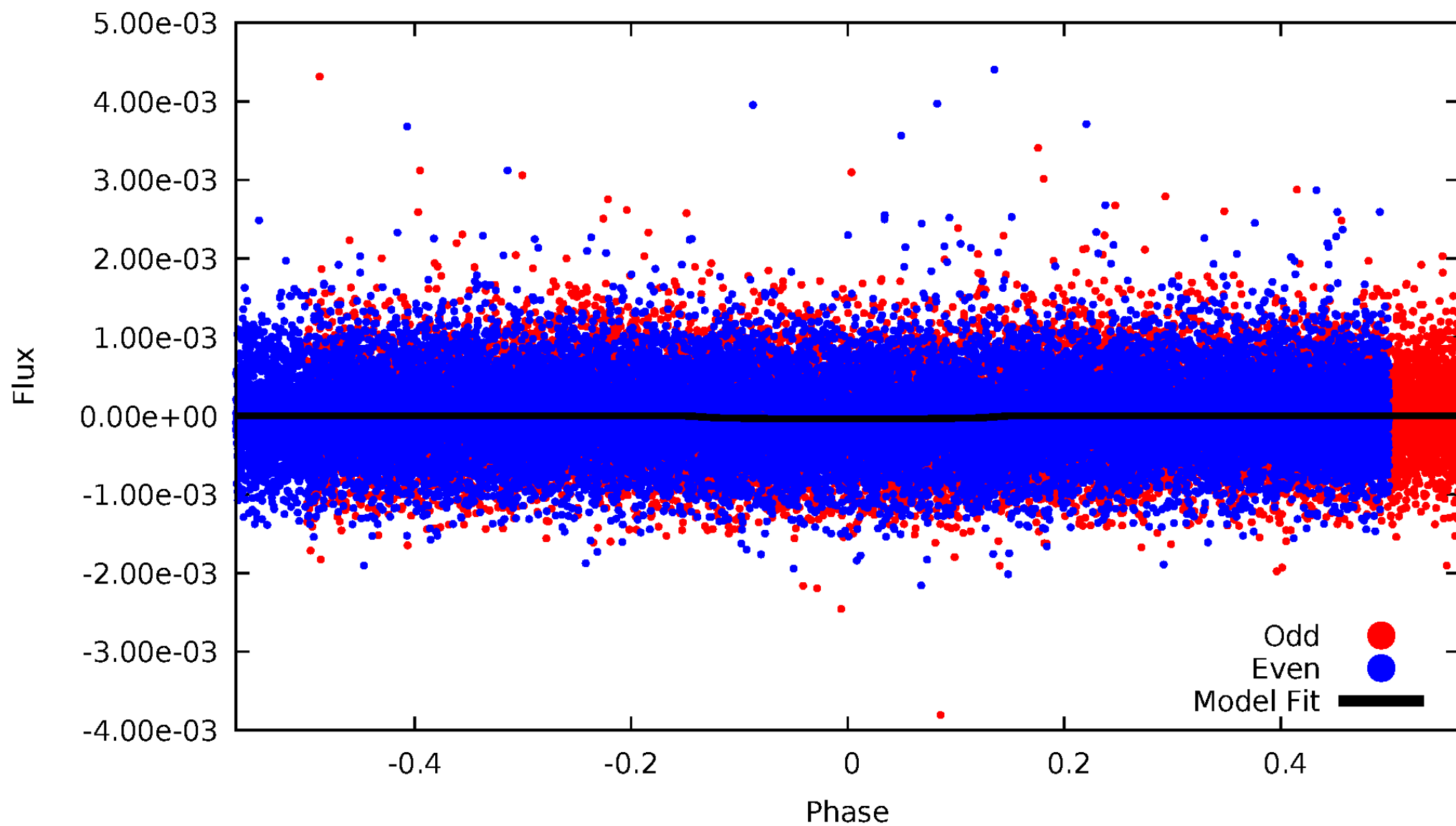


TCE 004659094-01



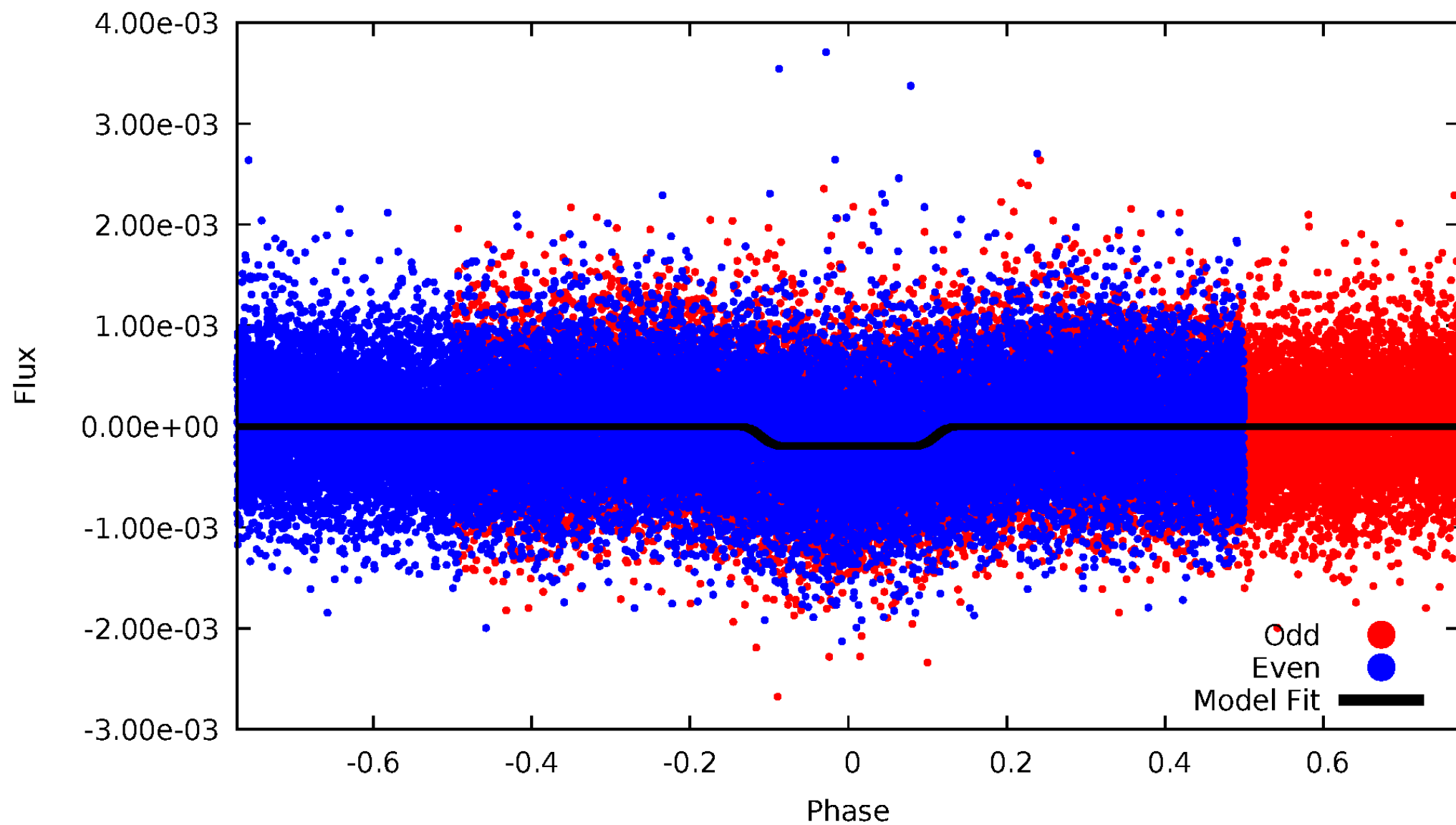
DV Odd/Even

TCE 004659094-01



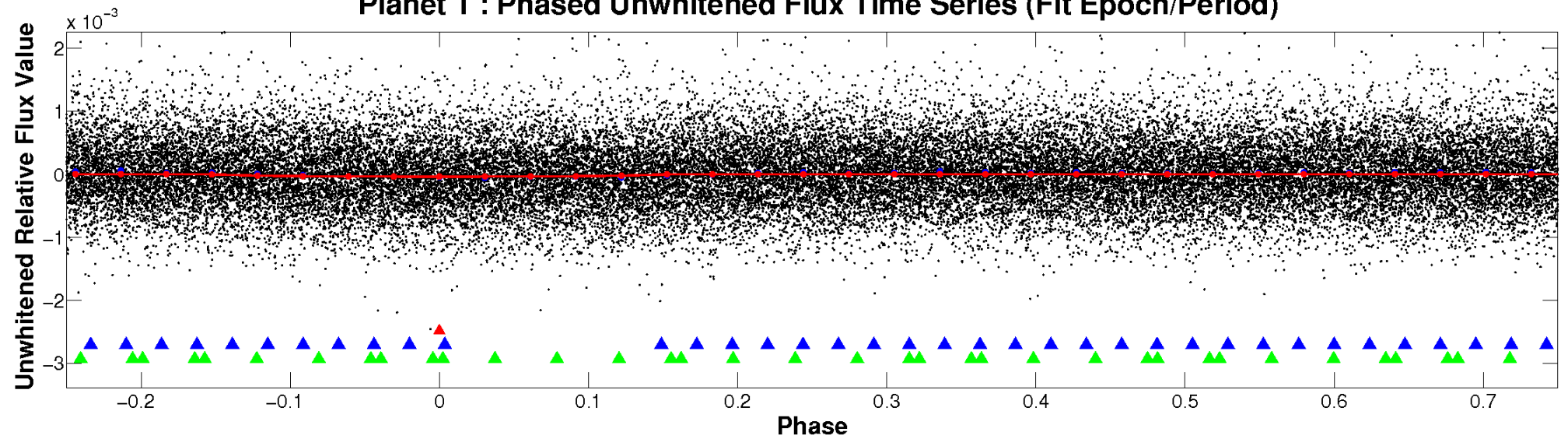
ALT Odd/Even

TCE 004659094-01

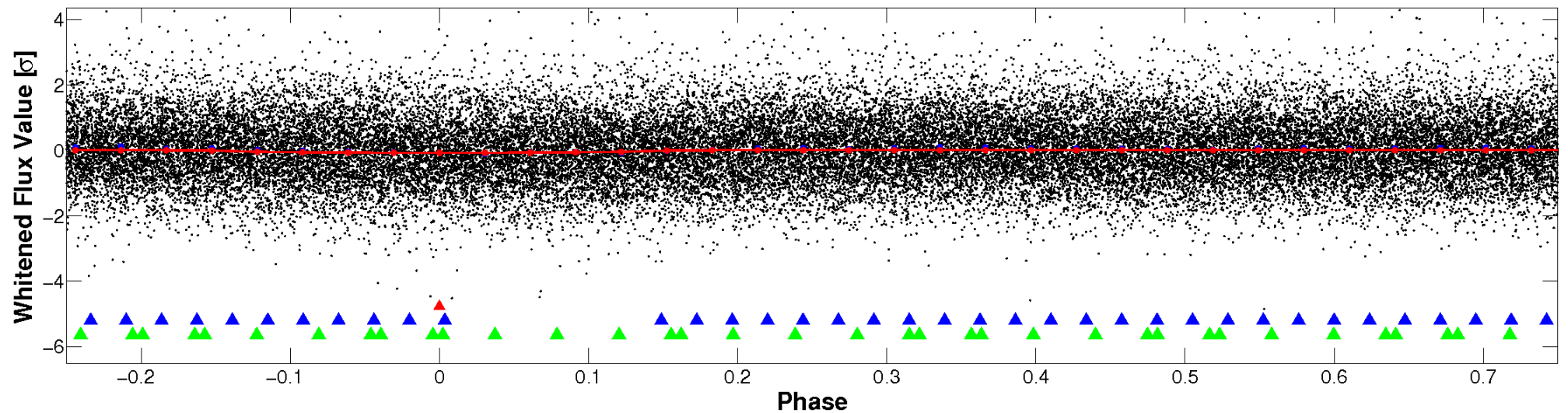


Non-Whitened Vs. Whitened Light Curve

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

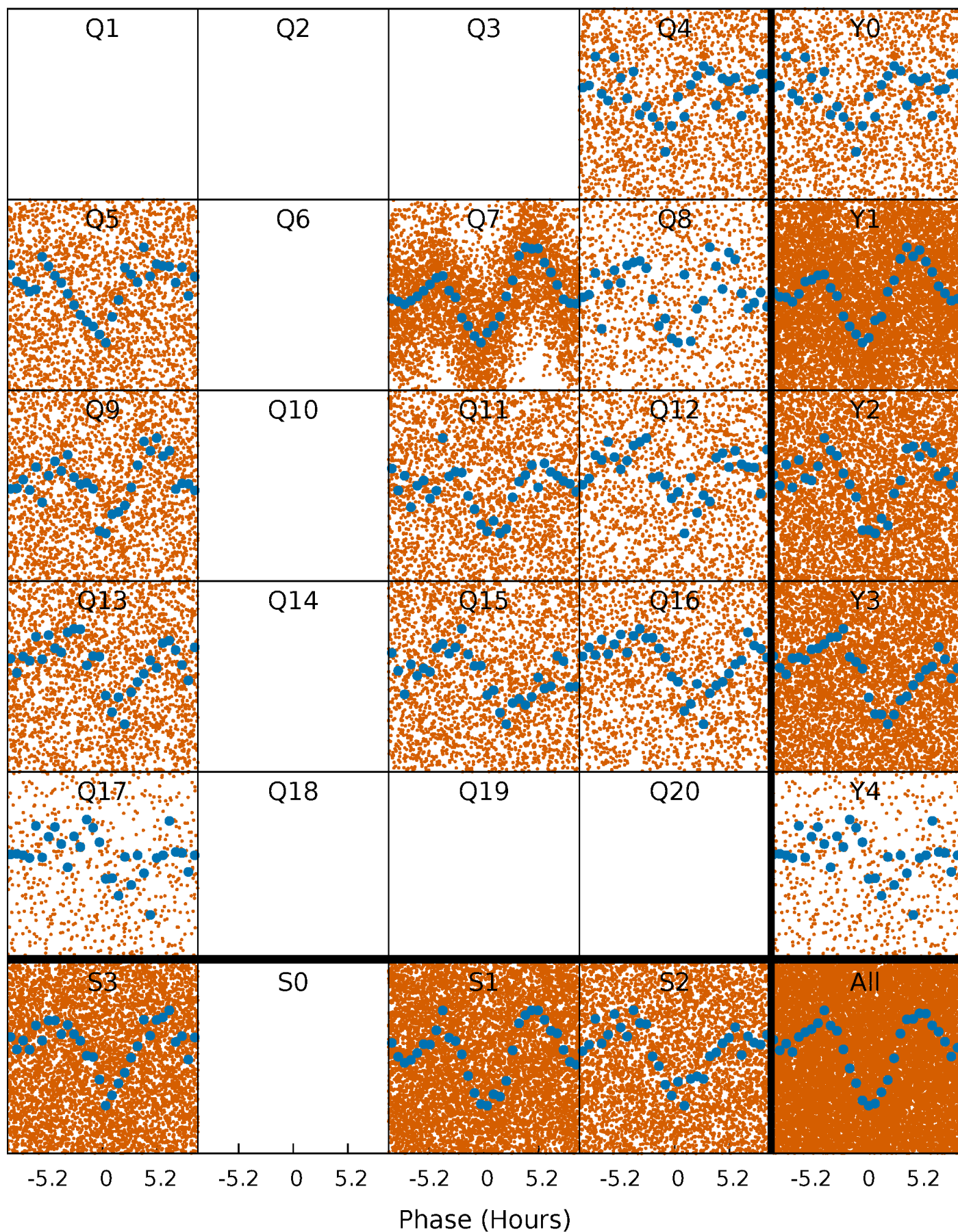


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



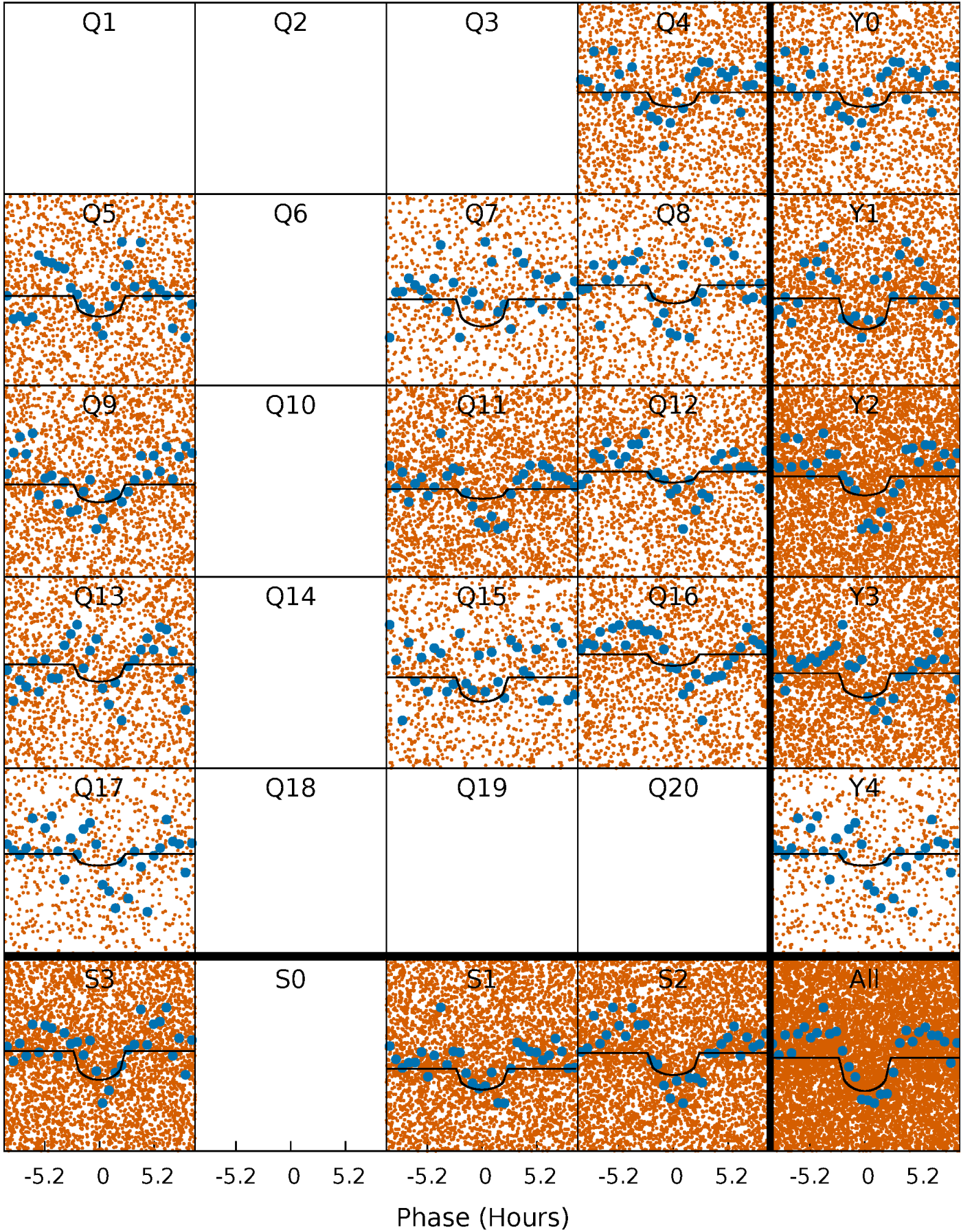
PDC Quarter-Phased Transit Curves

TCE 004659094-01 P= 0.669726 Days $T_0=132.215337$ (BKJD)



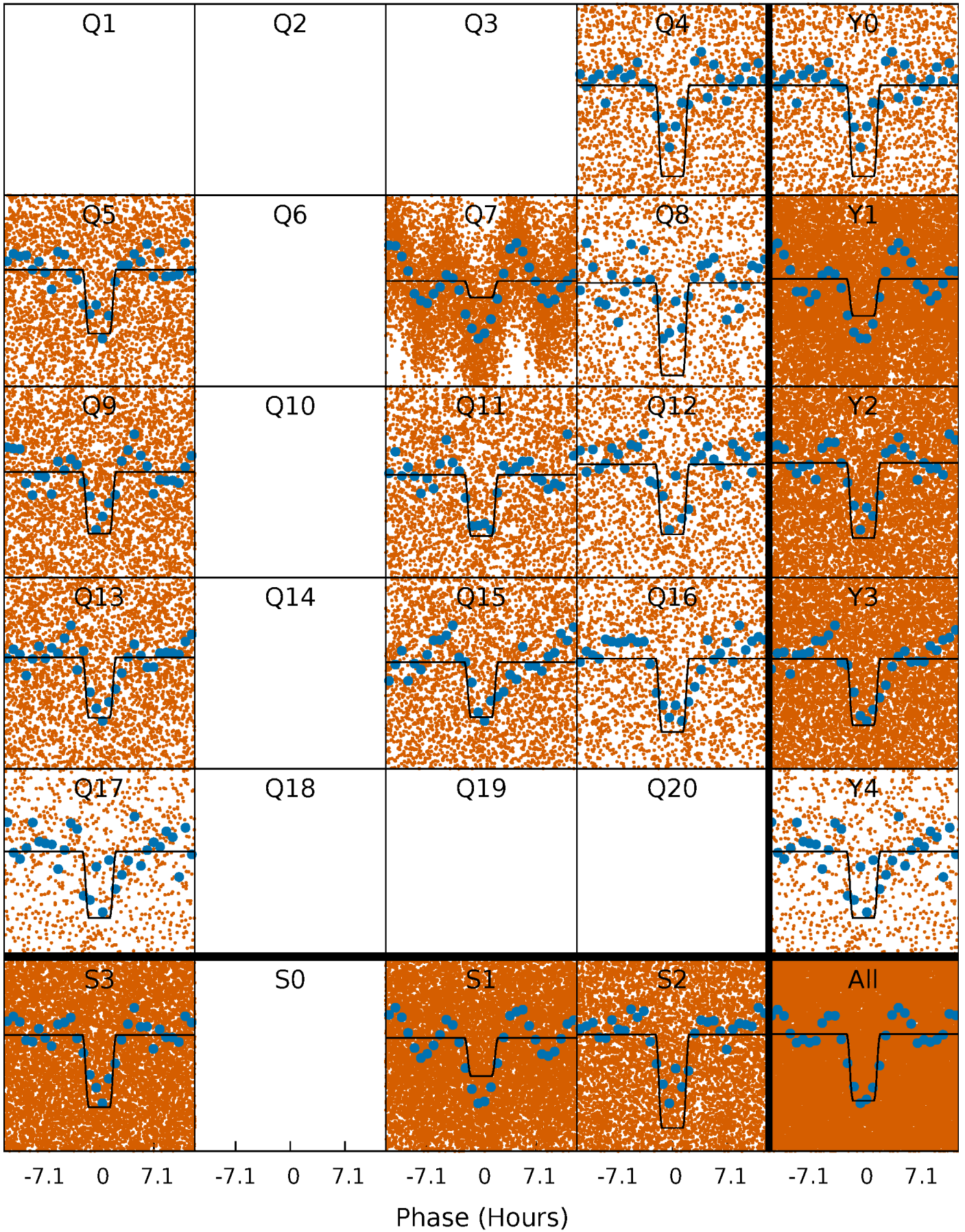
DV Quarter-Phased Transit Curves

TCE 004659094-01 P= 0.669726 Days $T_0=132.215337$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

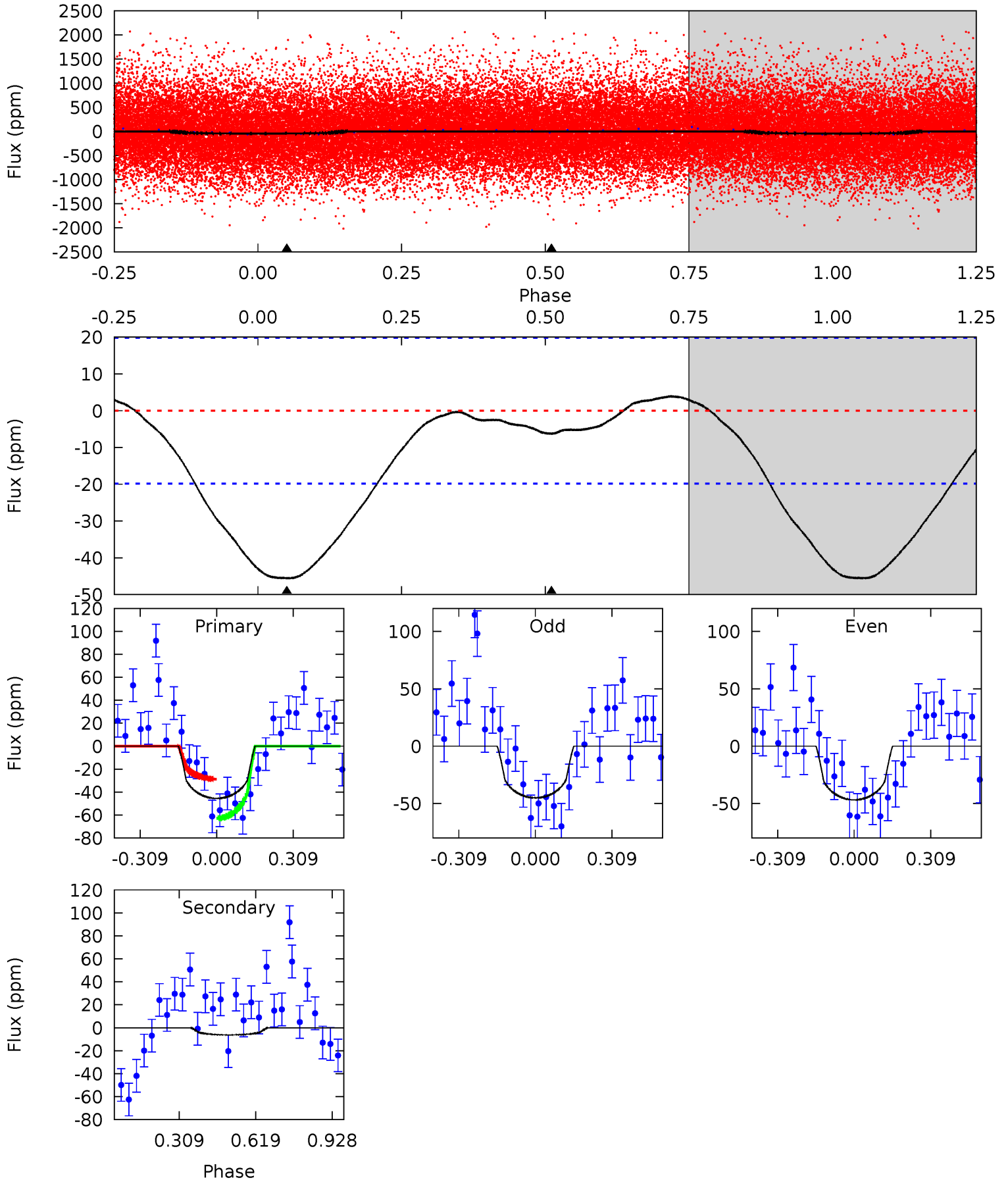
TCE 004659094-01 P= 0.669796 Days $T_0=132.157093$ (BKJD)



DV Model-Shift Uniqueness Test

004659094-01, P = 0.669726 Days, E = 132.215337 Days

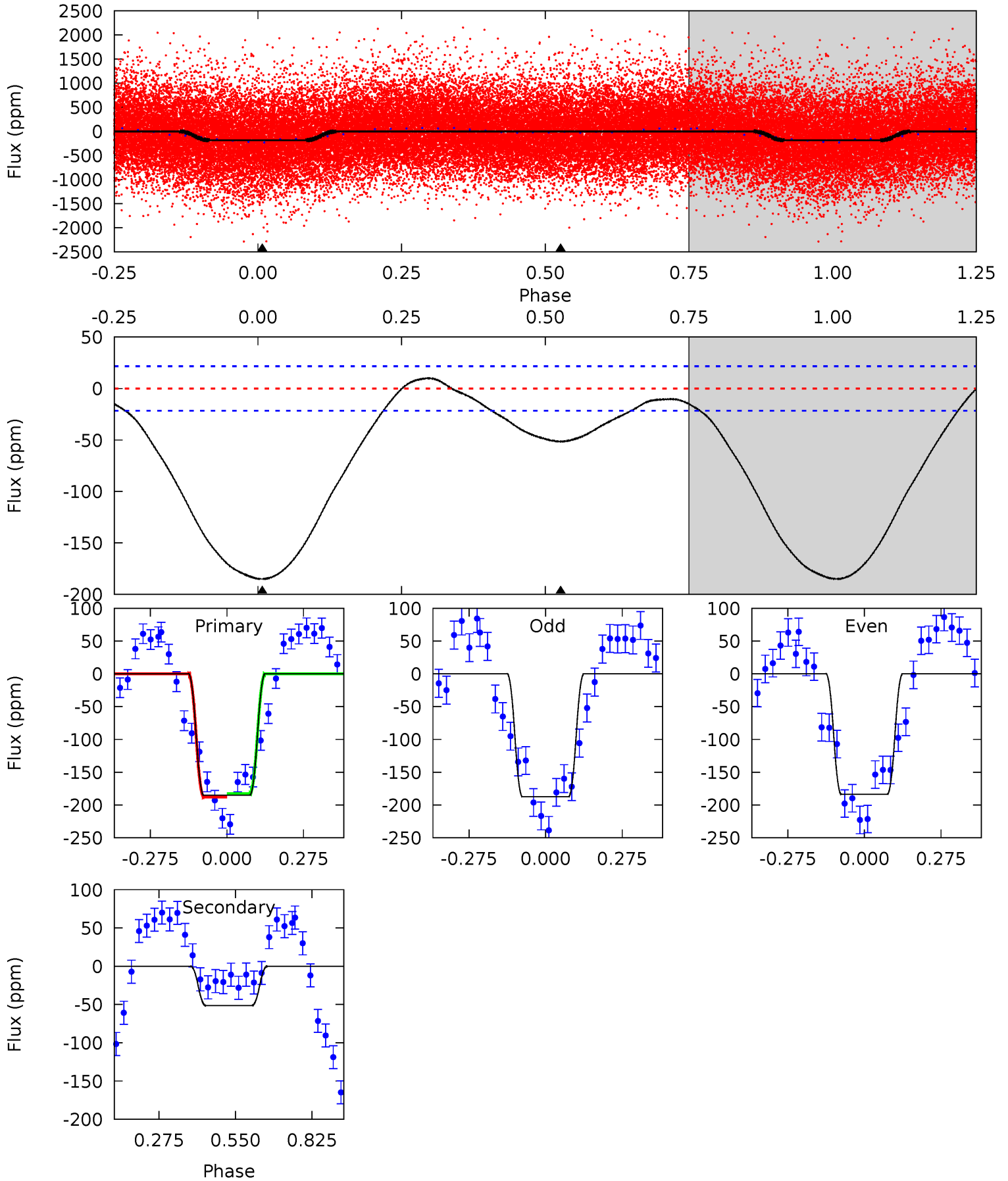
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.93	1.36	0	0	4.32	1.02	0.67	9.93	9.93	1.36	1.36	0.19	1.04	0.08	3.72



Alt Model-Shift Uniqueness Test

004659094-01, P = 0.669796 Days, E = 132.157093 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.3	10.4	0	0	4.35	1.09	2.59	37.3	37.3	10.4	10.4	0.40	1.09	0.05	0.52



Stellar Parameters For KIC 004659094

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5323^{+204}_{-185}	$4.564^{+0.052}_{-0.090}$	$-0.300^{+0.300}_{-0.300}$	$0.761^{+0.122}_{-0.075}$	$0.775^{+0.096}_{-0.070}$	$2.475^{+0.647}_{-0.730}$
	+4%/-3%	+1%/-2%	+100%/-100%	+16%/-10%	+12%/-9%	+26%/-30%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004659094-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 5	$0.84^{+0.80}_{-0.53}$	2453^{+113}_{-104}	2820^{+1505}_{-5464}	$0.663^{+4.892}_{-0.589}$
Alt.	-52 ± 5	$1.28^{+0.94}_{-0.74}$	2456^{+118}_{-106}	3874^{+1707}_{-711}	$3.264^{+15.322}_{-2.166}$

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 004659094-01. Kepler magnitude: 15.55. Transit SNR 6.77

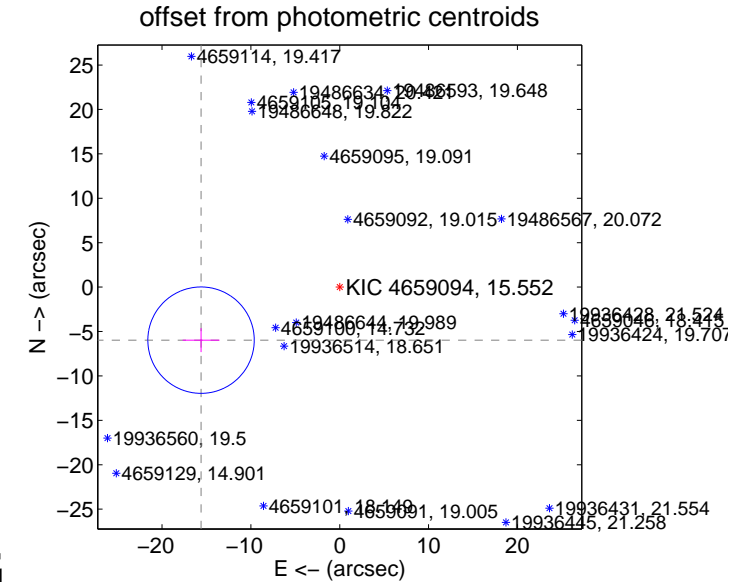
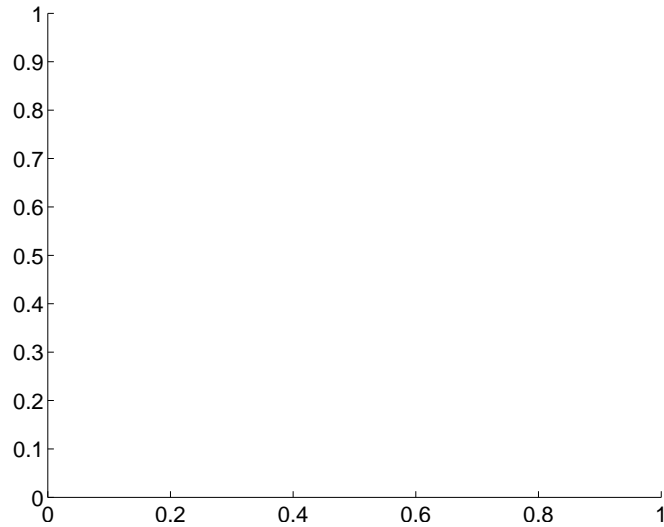
There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	16.71 ± 2.00	8.37	15.61 ± 2.07	-5.97 ± 1.35

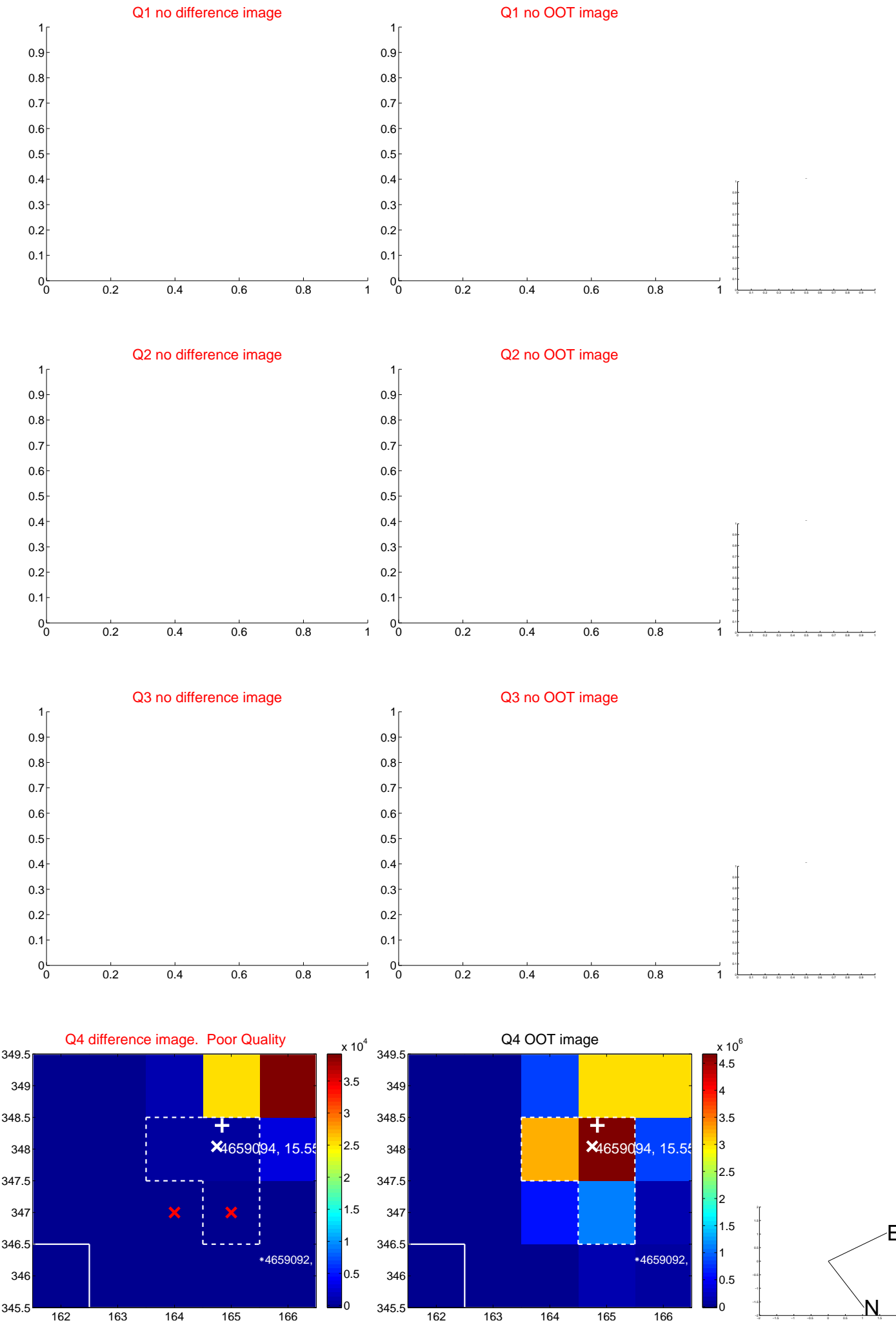
There is no PRF-fit offset from OOT-fit

There is no PRF-fit offset from KIC

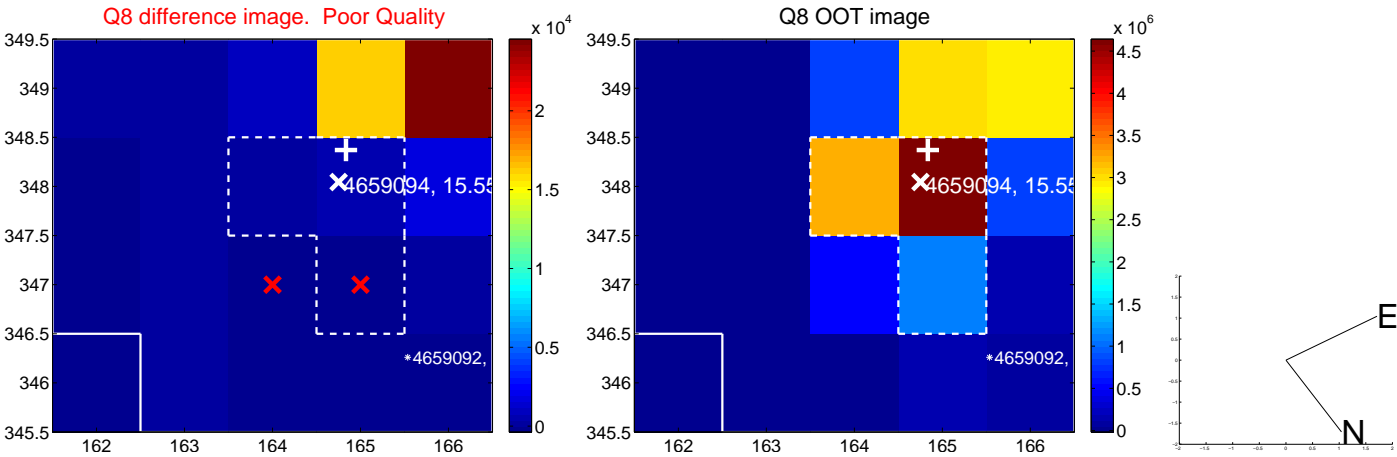
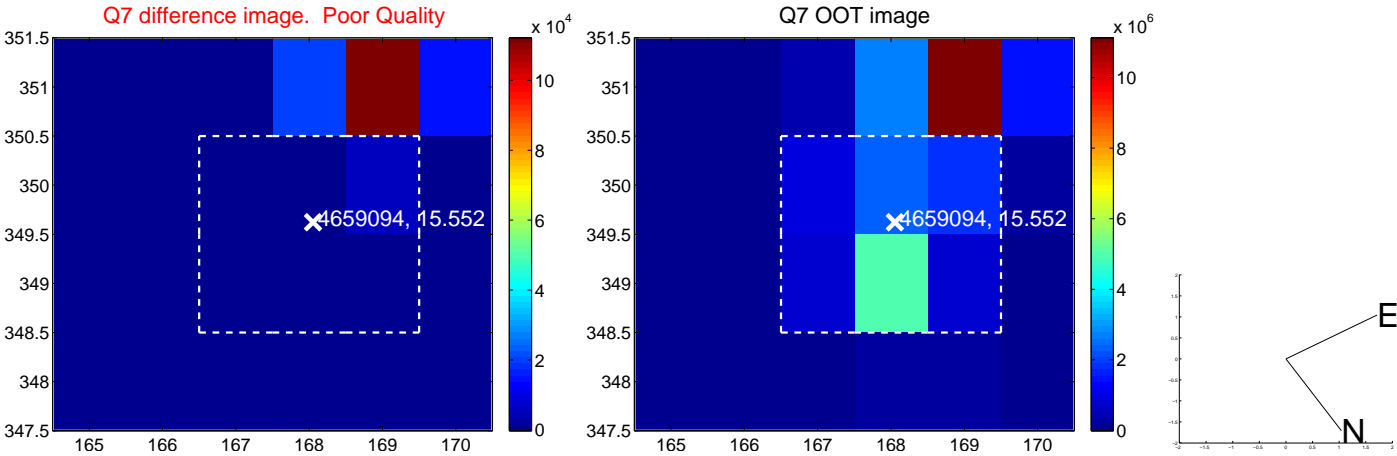
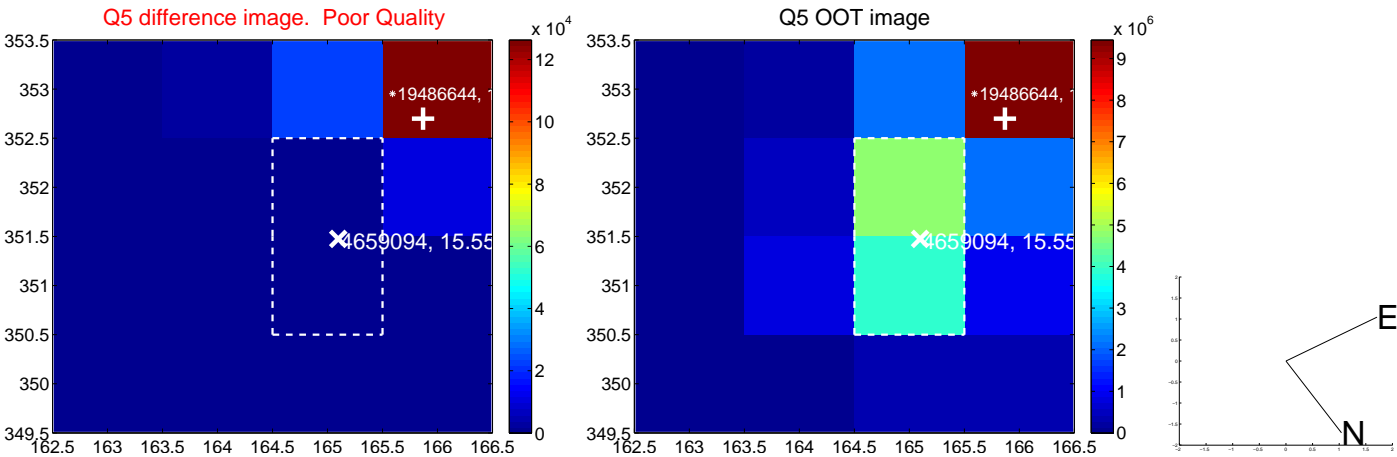


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

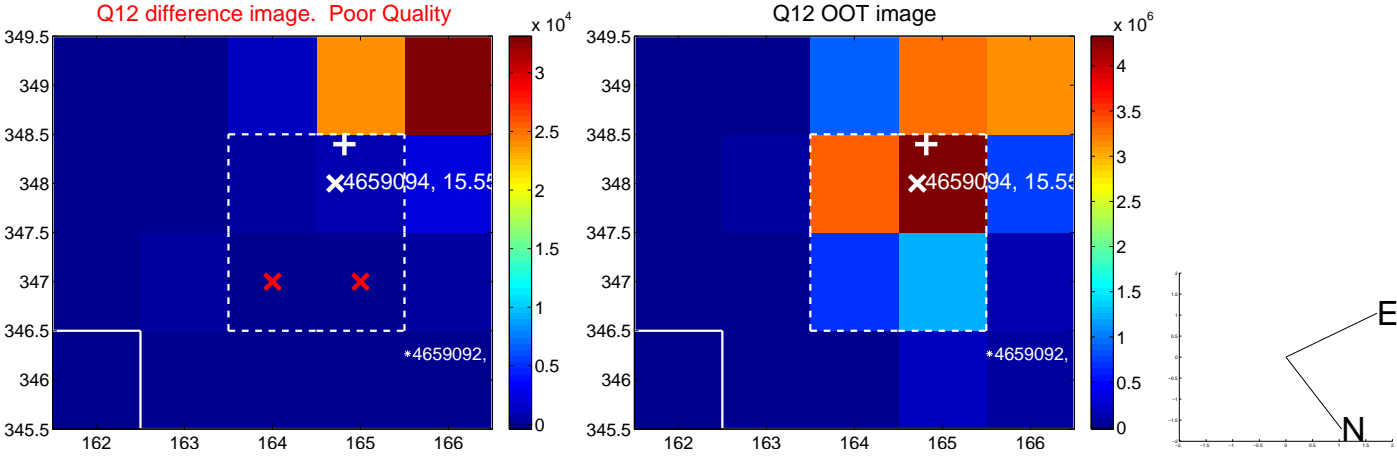
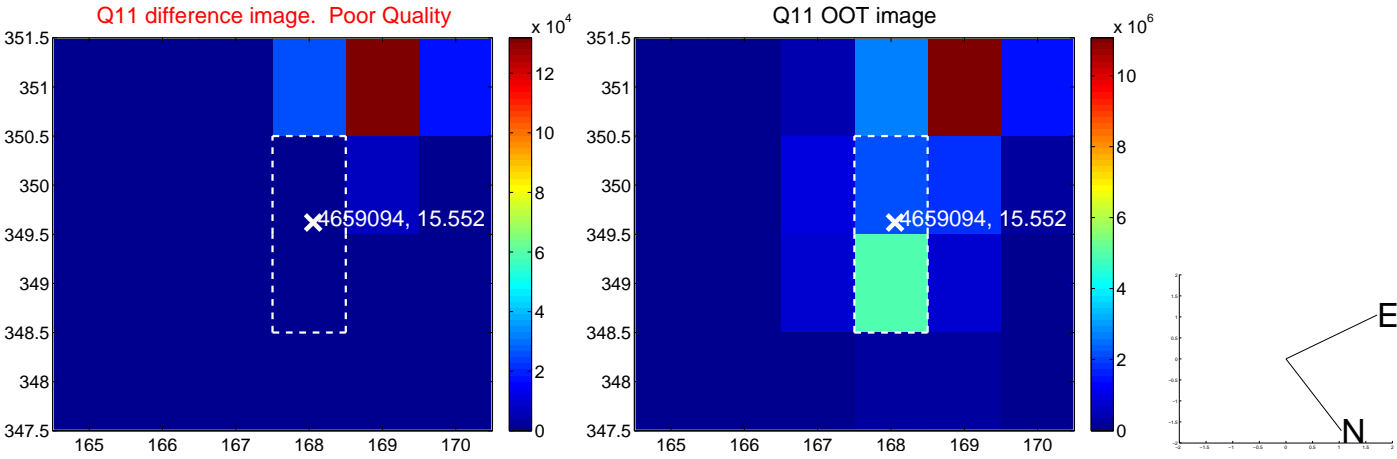
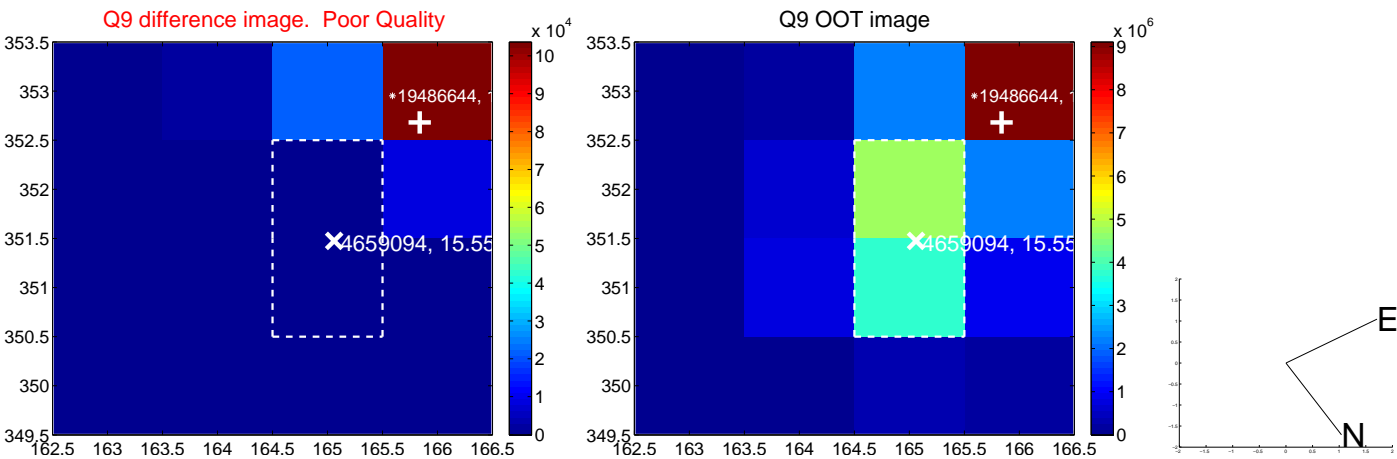
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



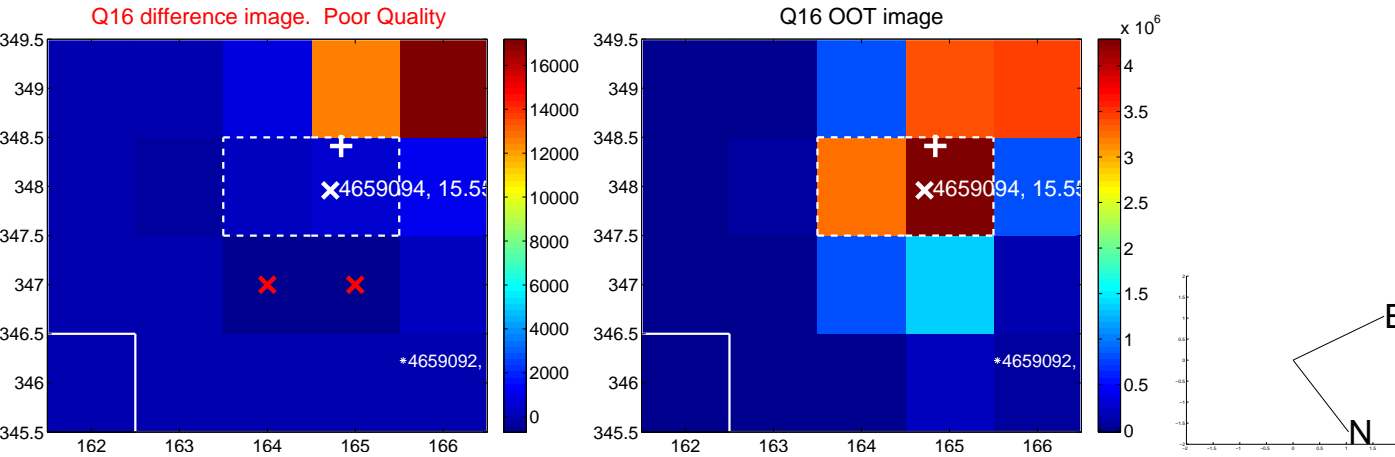
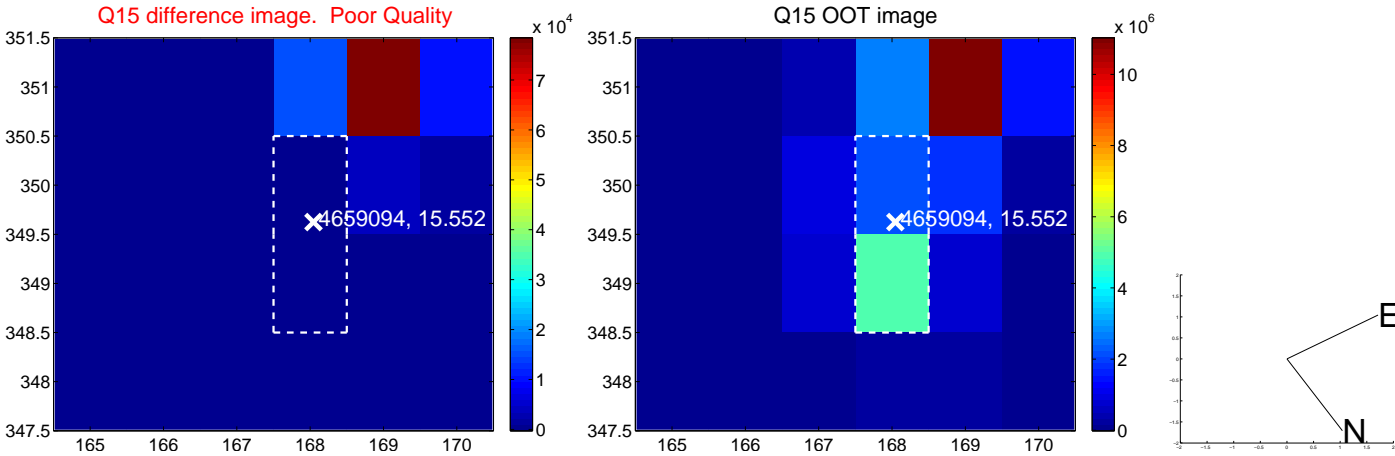
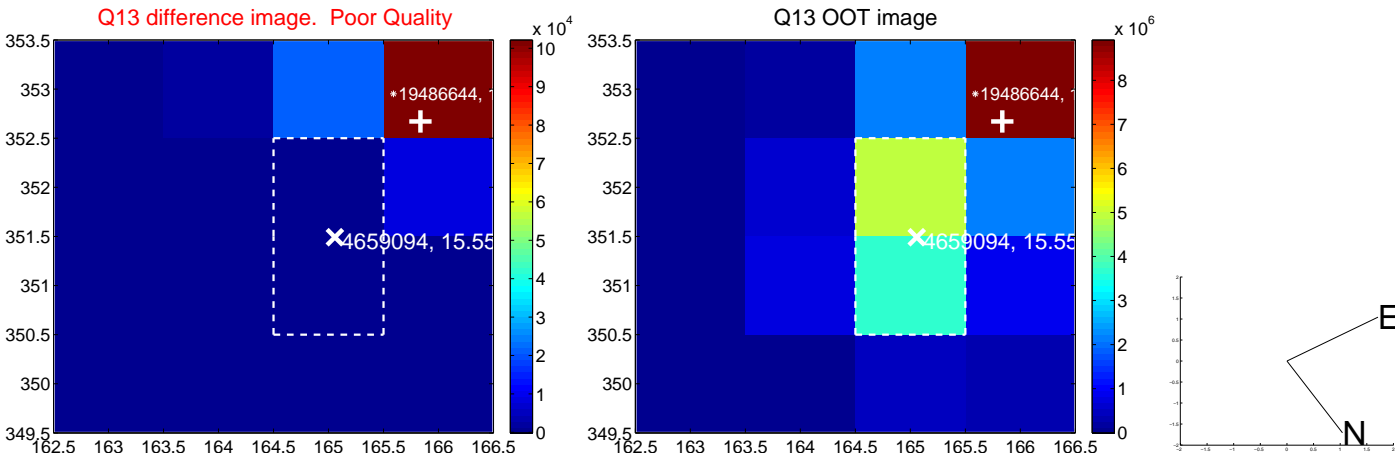
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



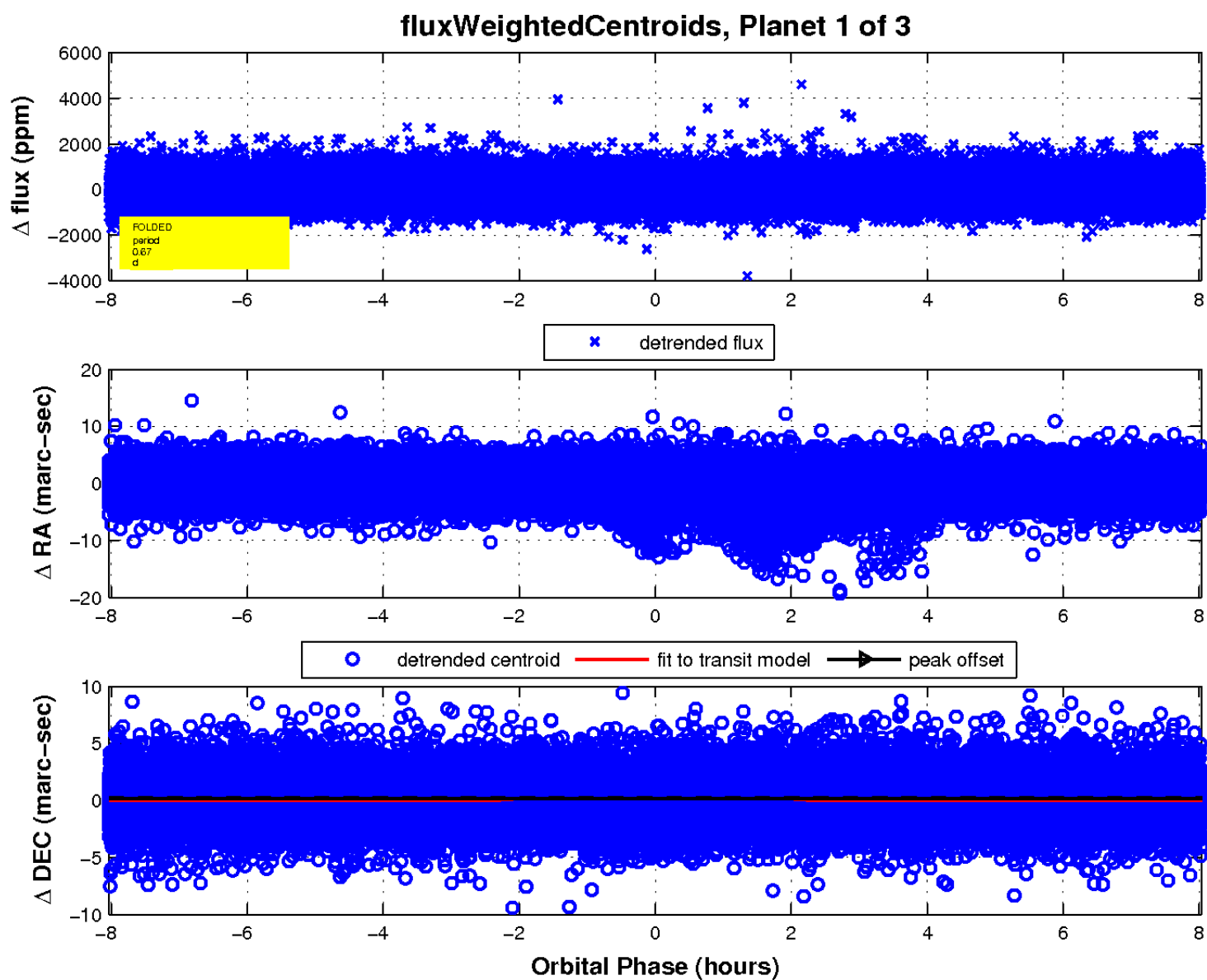
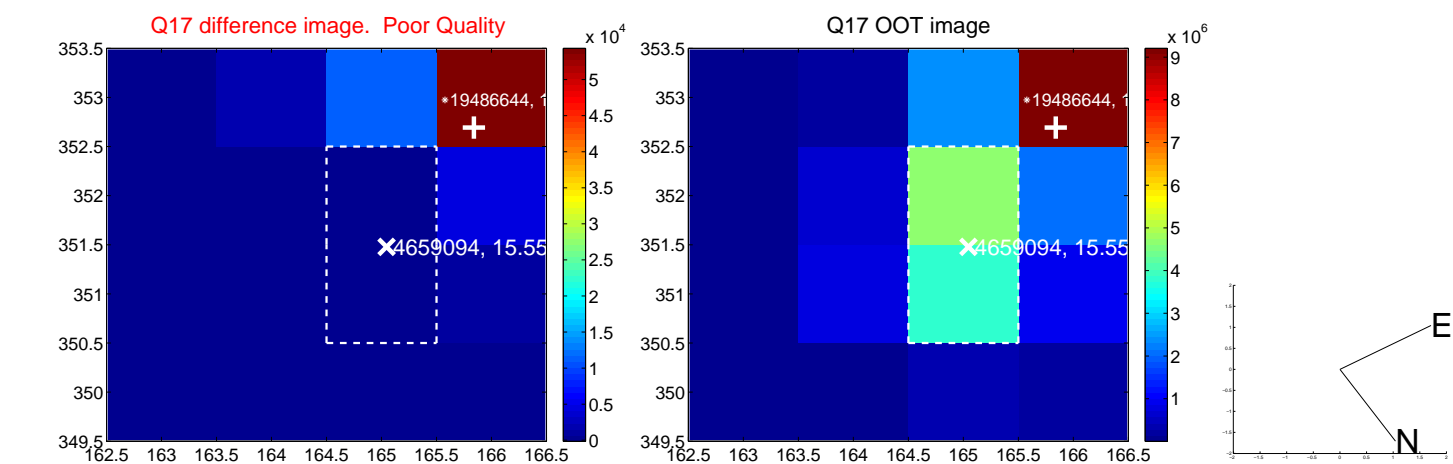
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



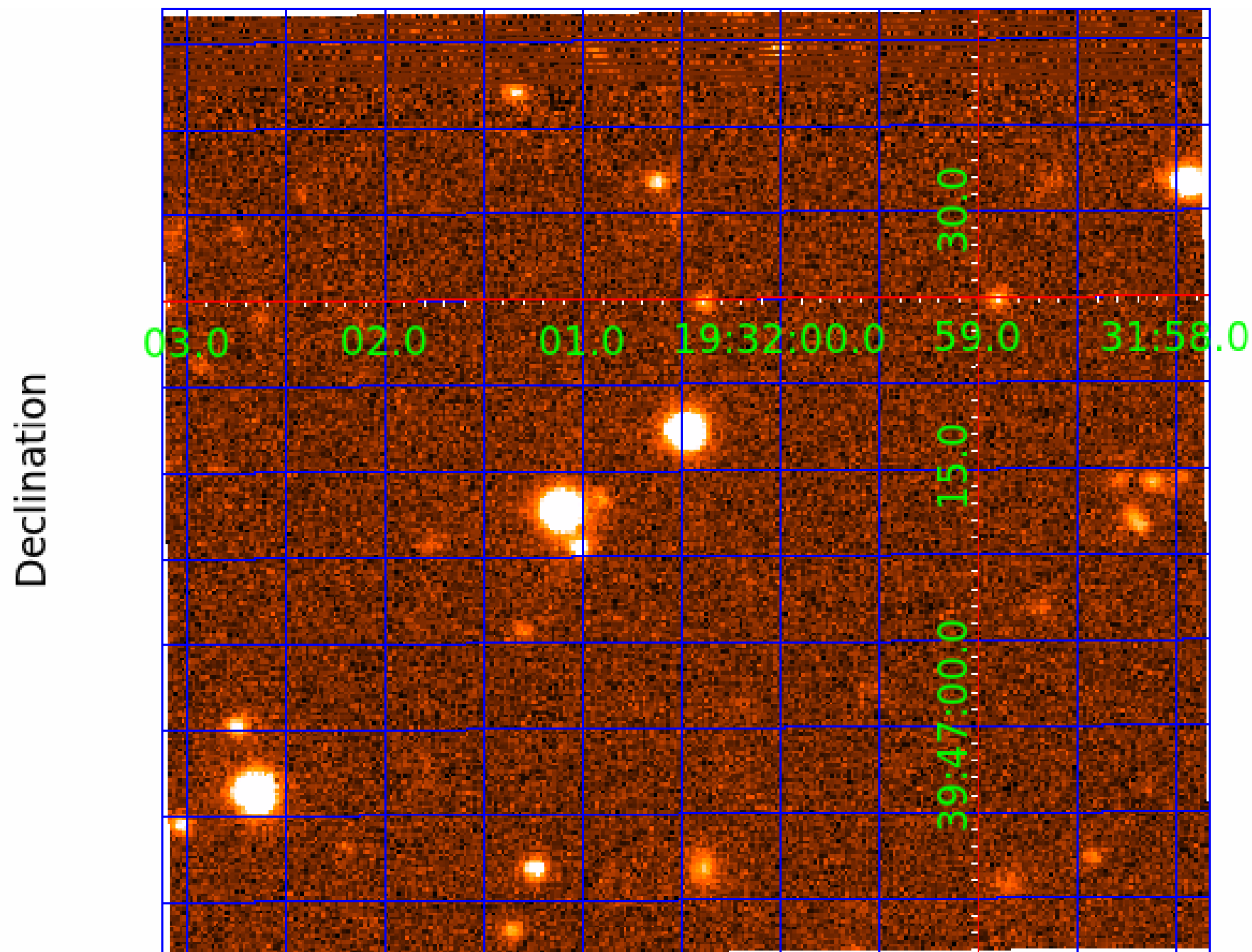
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004659094

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})
004659094-01	OBS	No	0.669726	132.215337	38.9	4.541	9.2	6.8	0.76	5323	0.49	2200.80
004659094-02	OBS	No	39.497952	150.300397	709.1	1.407	8.4	7.2	0.76	5323	2.40	9.59
004659094-03	OBS	No	40.746330	159.643353	656.1	2.348	8.8	8.4	0.76	5323	2.22	9.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004659094-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
004659094-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
004659094-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

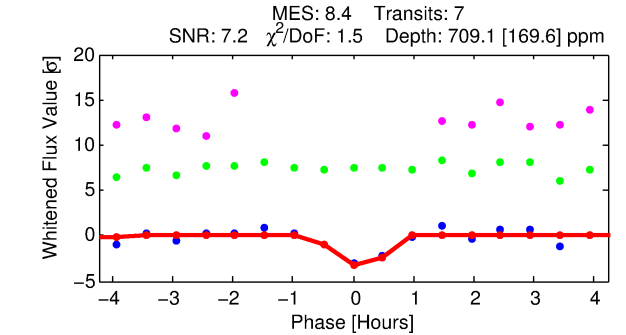
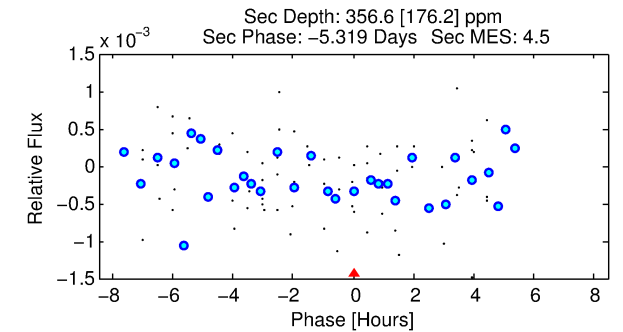
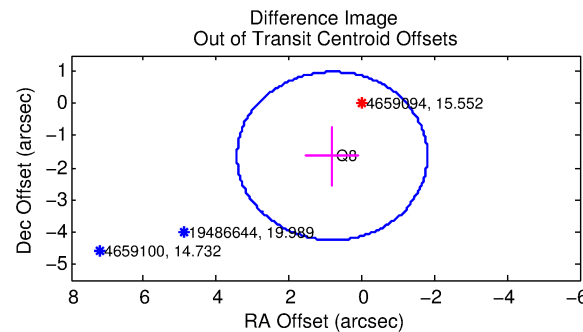
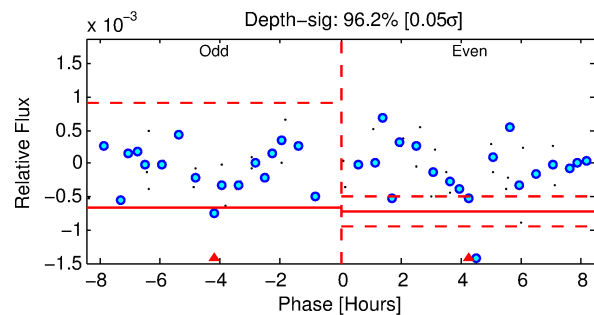
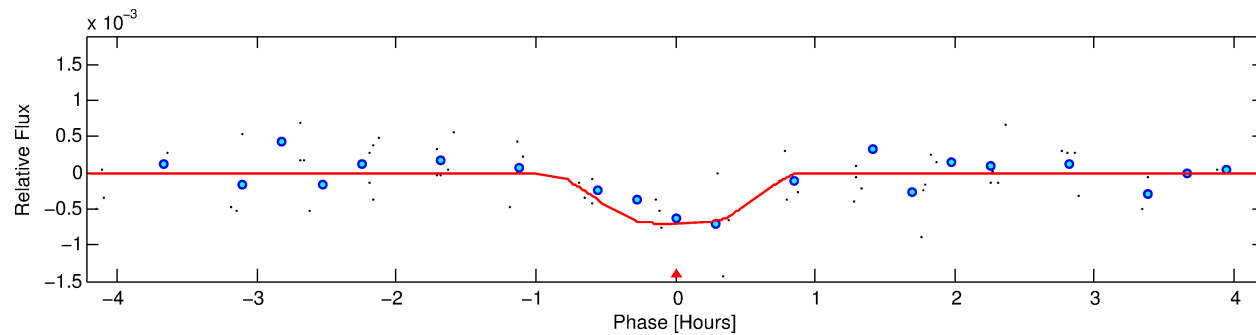
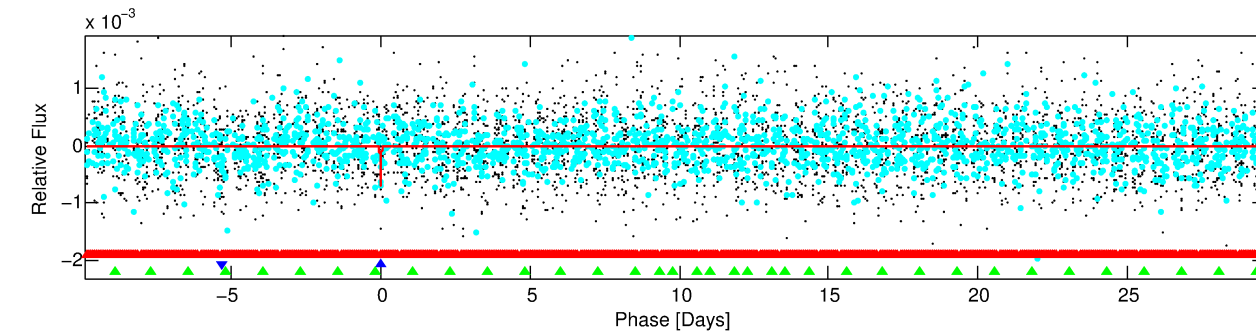
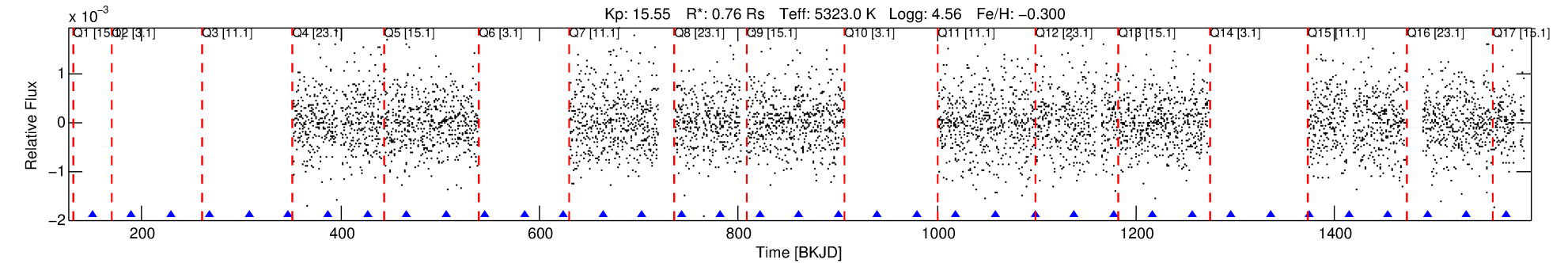
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004659094-02

No Significant Match Found

DV One-Page Summary

KIC: 4659094 Candidate: 2 of 3 Period: 39.498 d



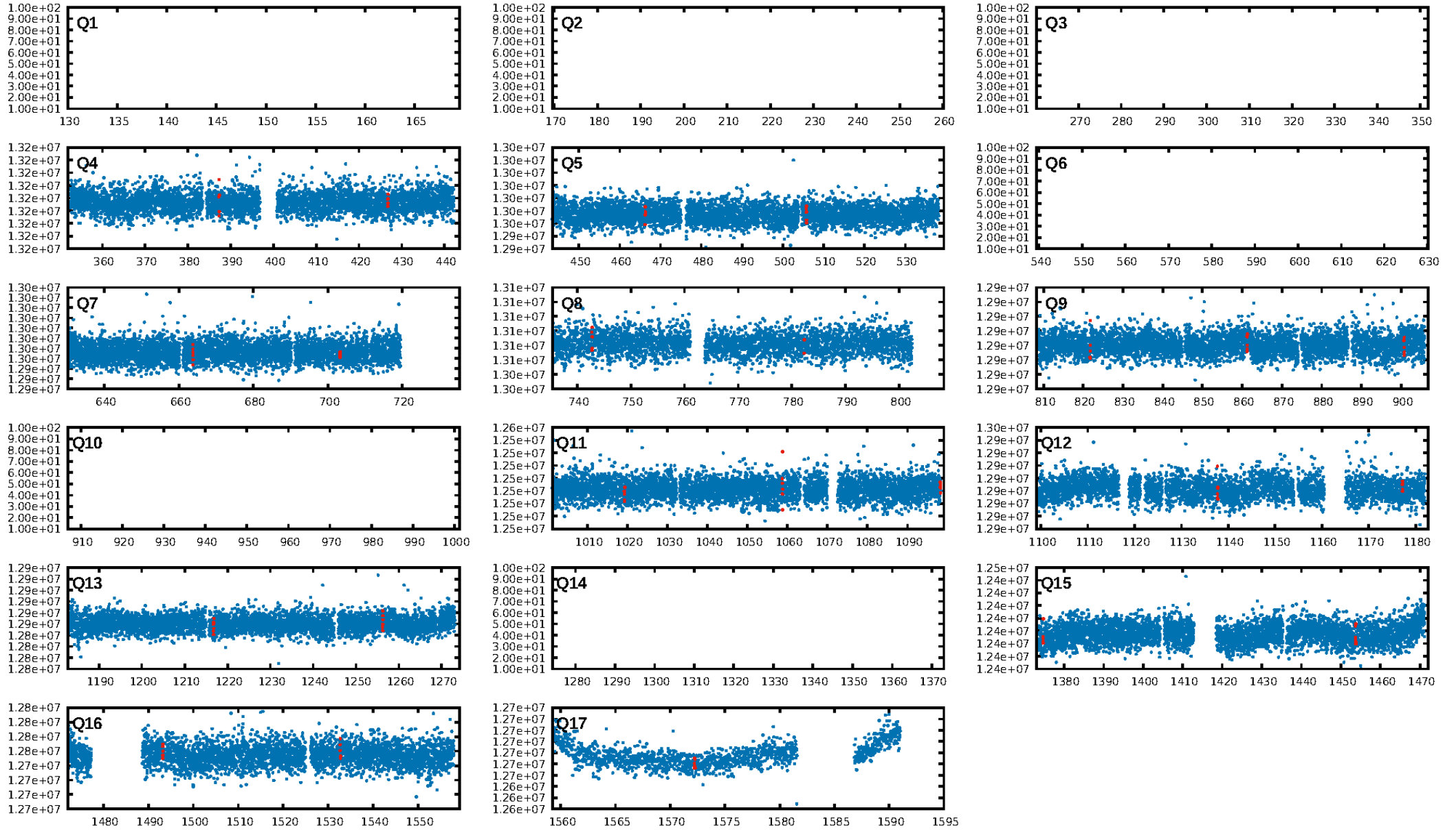
DV Fit Results:

Period = 39.49795 [0.00231] d
Epoch = 150.3004 [0.0508] BKJD
Rp/R* = 0.0289 [0.0429]
a/R* = 114.25 [703.64]
b = 0.88 [1.65]
Seff = 9.59 [2.23]
Teq = 449 [26] K
Rp = 2.40 [3.58] Re
a = 0.2085 [0.0265] AU
Ag = 1479.21 [4457.26] [0.33 σ]
Teffp = 4302 [3240] K [1.19 σ]

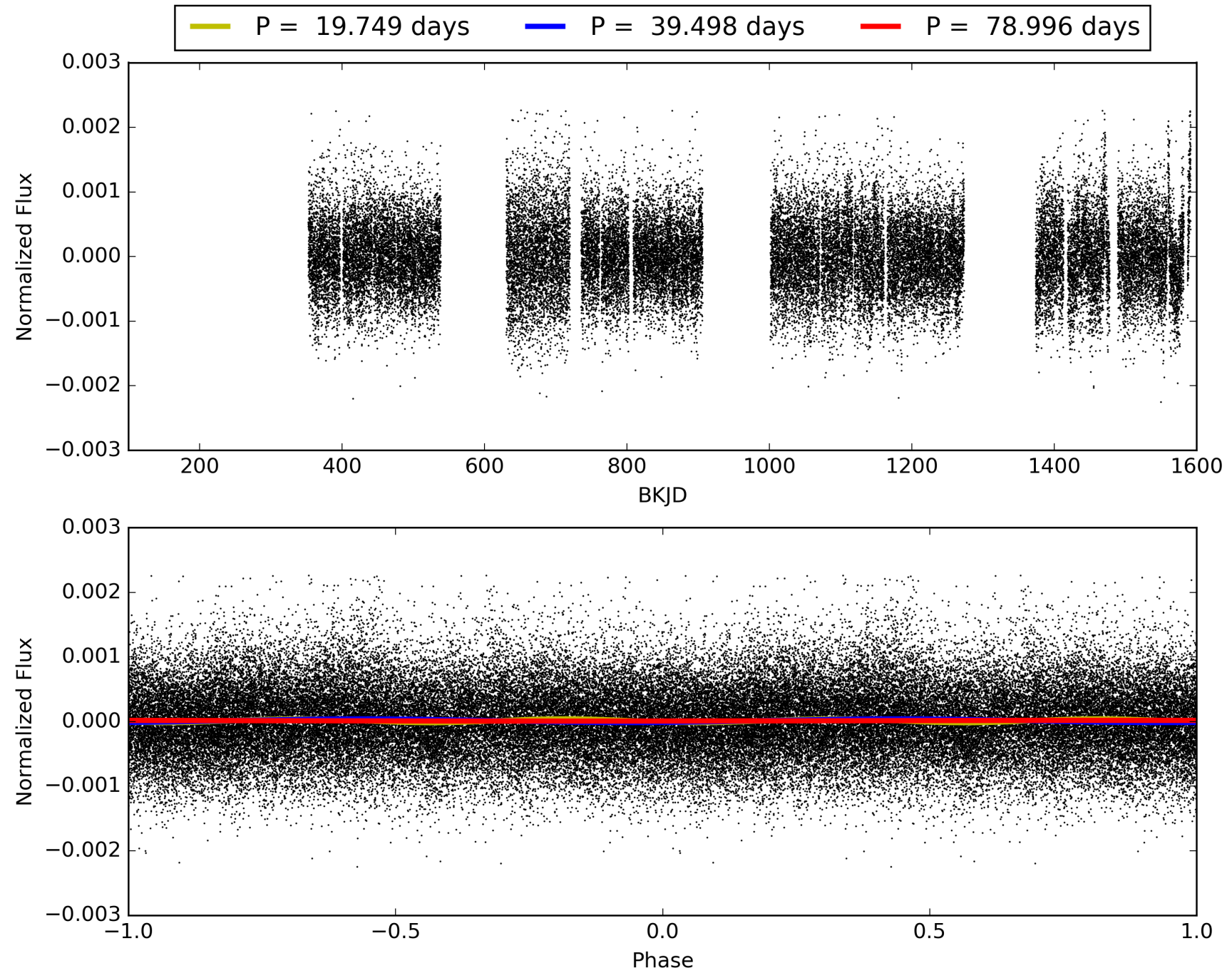
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [196.02 σ]
LongPeriod-sig: 100.0% [10.94 σ]
ModelChiSquare2-sig: 65.9%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 6.45e-08
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 3.141
Centroid-sig: N/A
Centroid-so: 2.839 arcsec [2.42 σ]
OotOffset-rm: 1.827 arcsec [2.09 σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-rm: **2.902 arcsec [3.40 σ]**
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.09 [1/11]

TCE 004659094-02, PDC Light Curves

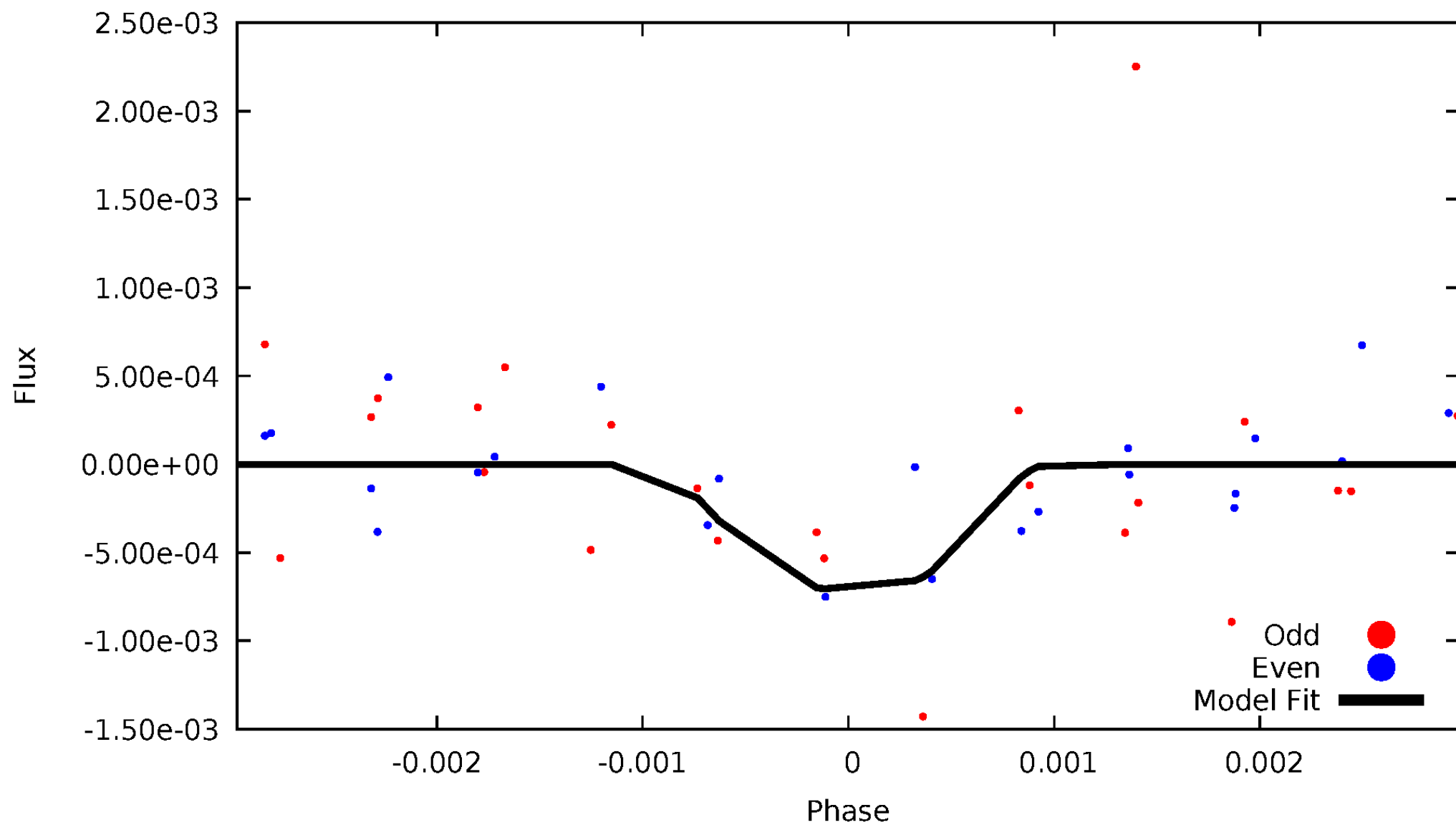


TCE 004659094-02



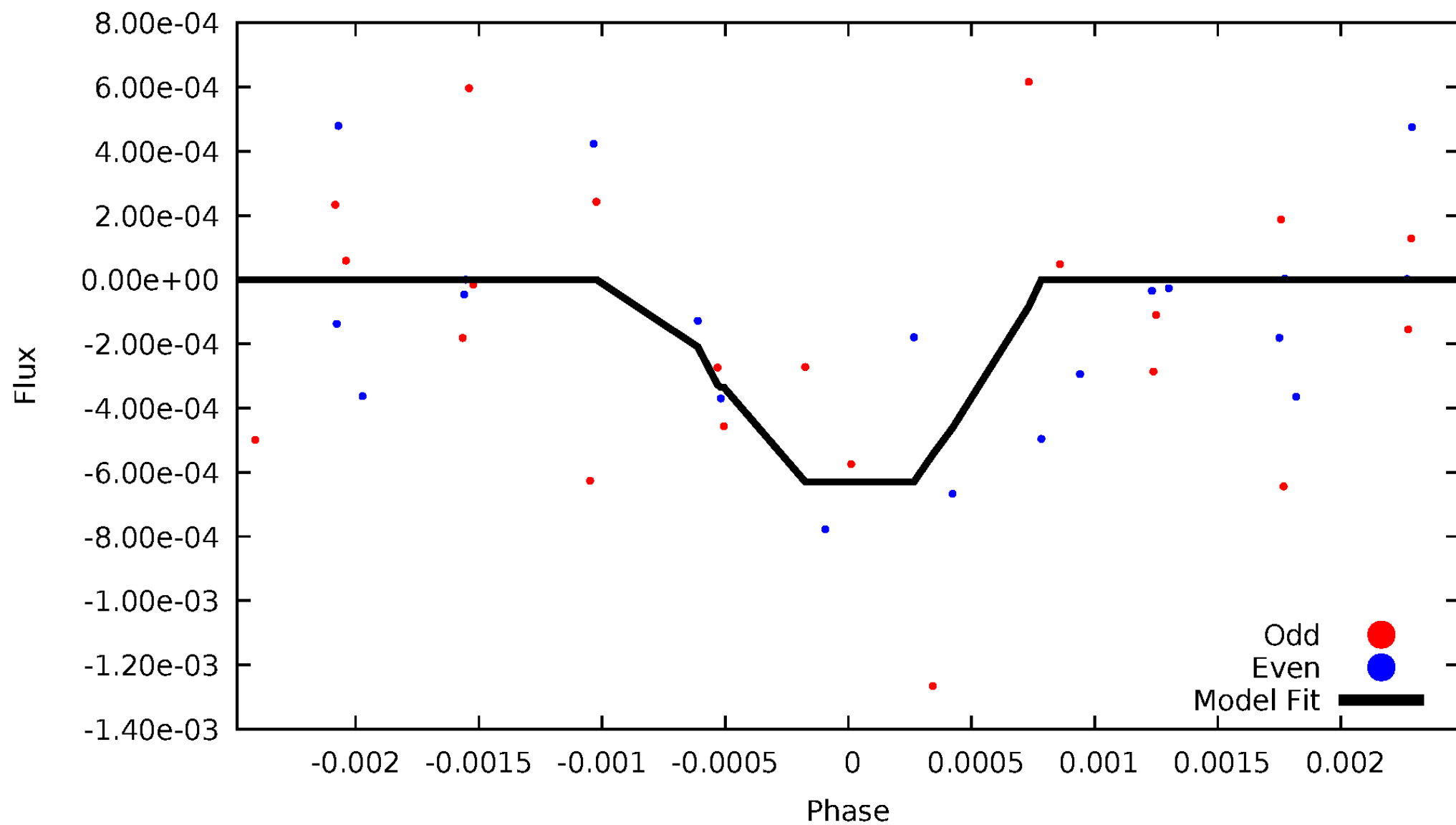
DV Odd/Even

TCE 004659094-02



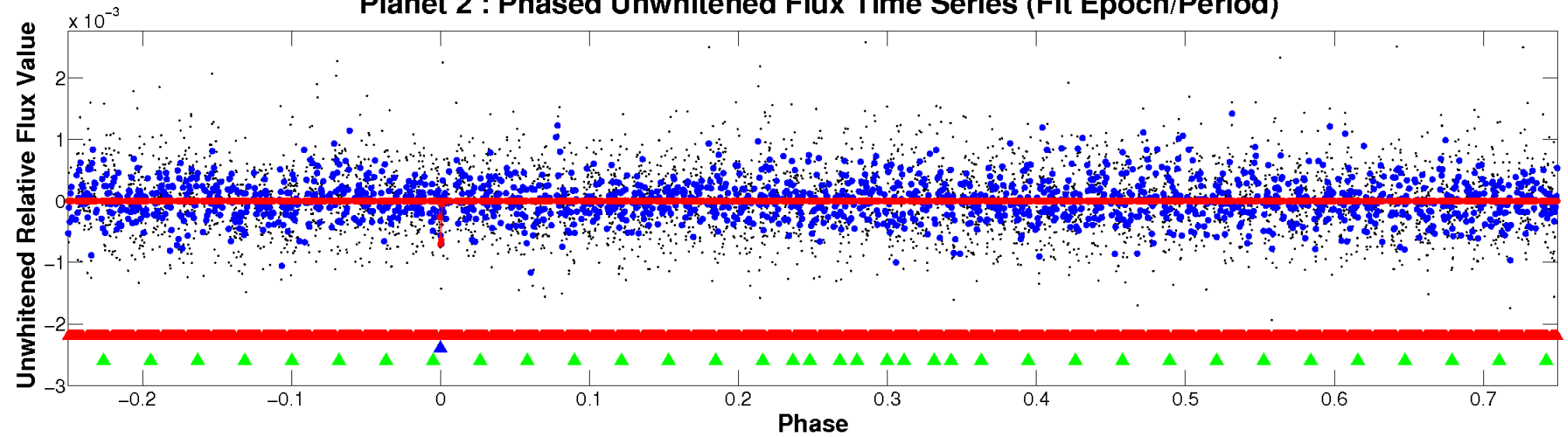
ALT Odd/Even

TCE 004659094-02

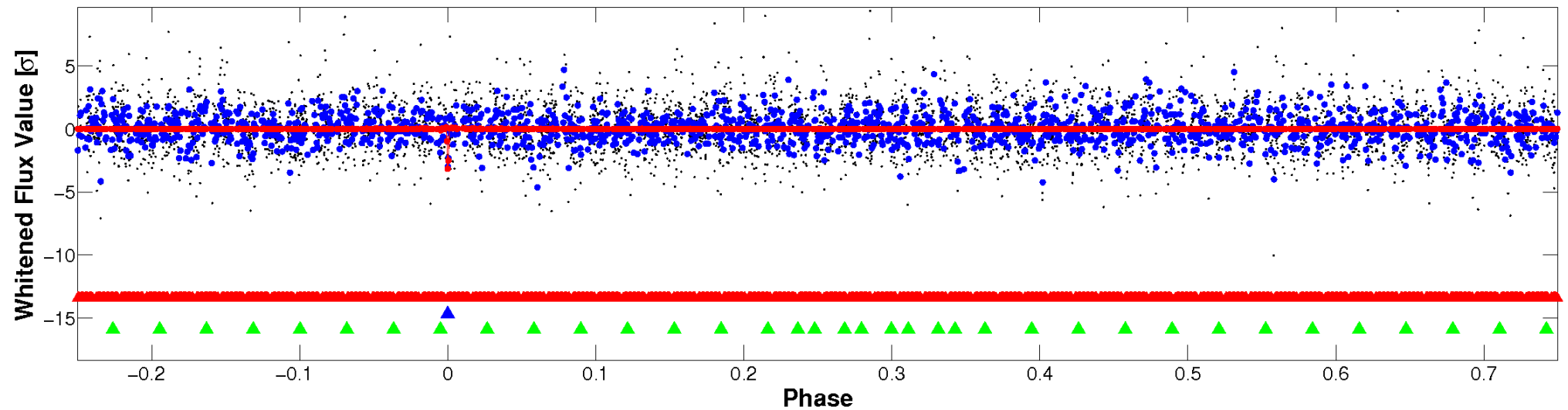


Non-Whitened Vs. Whitened Light Curve

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

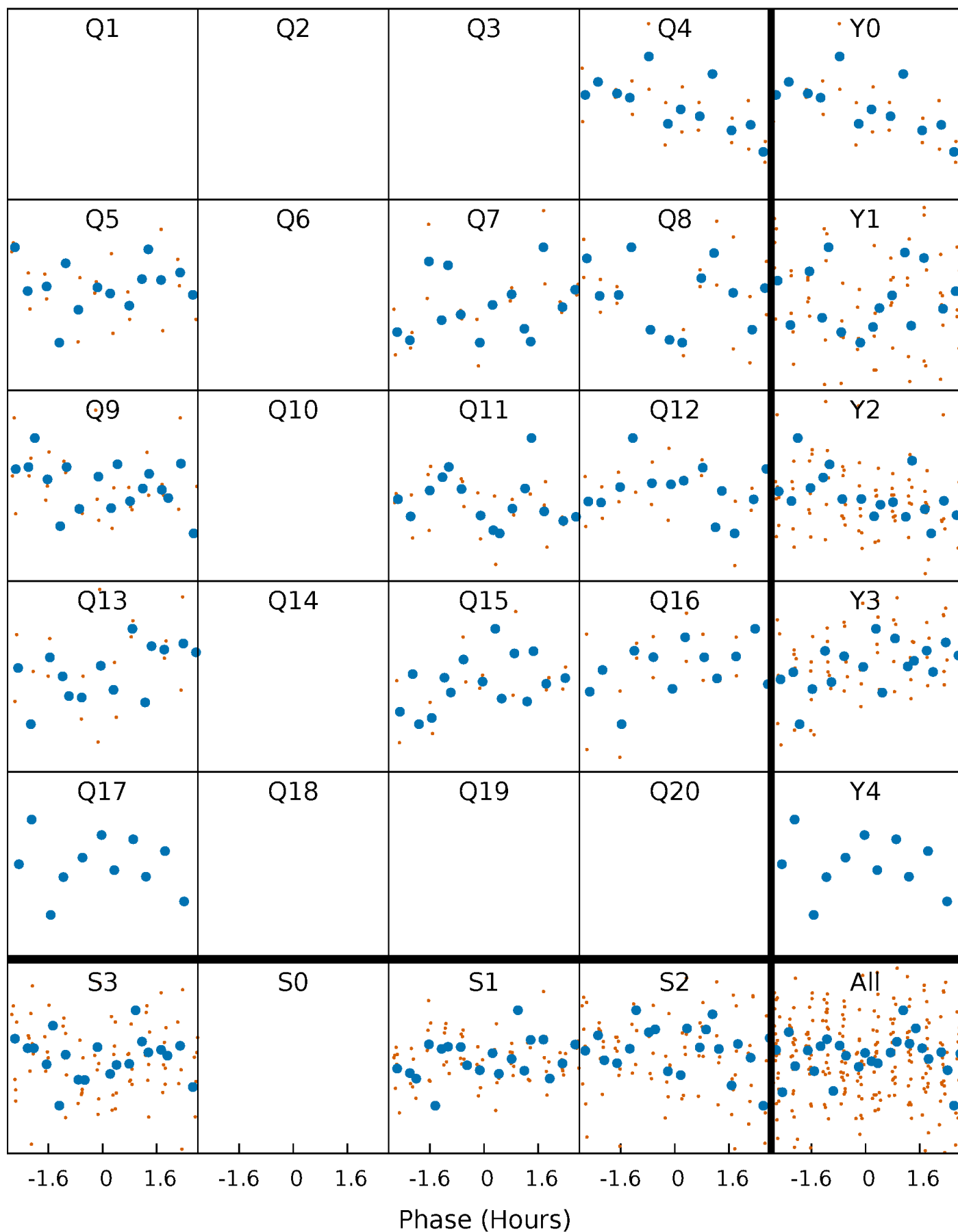


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



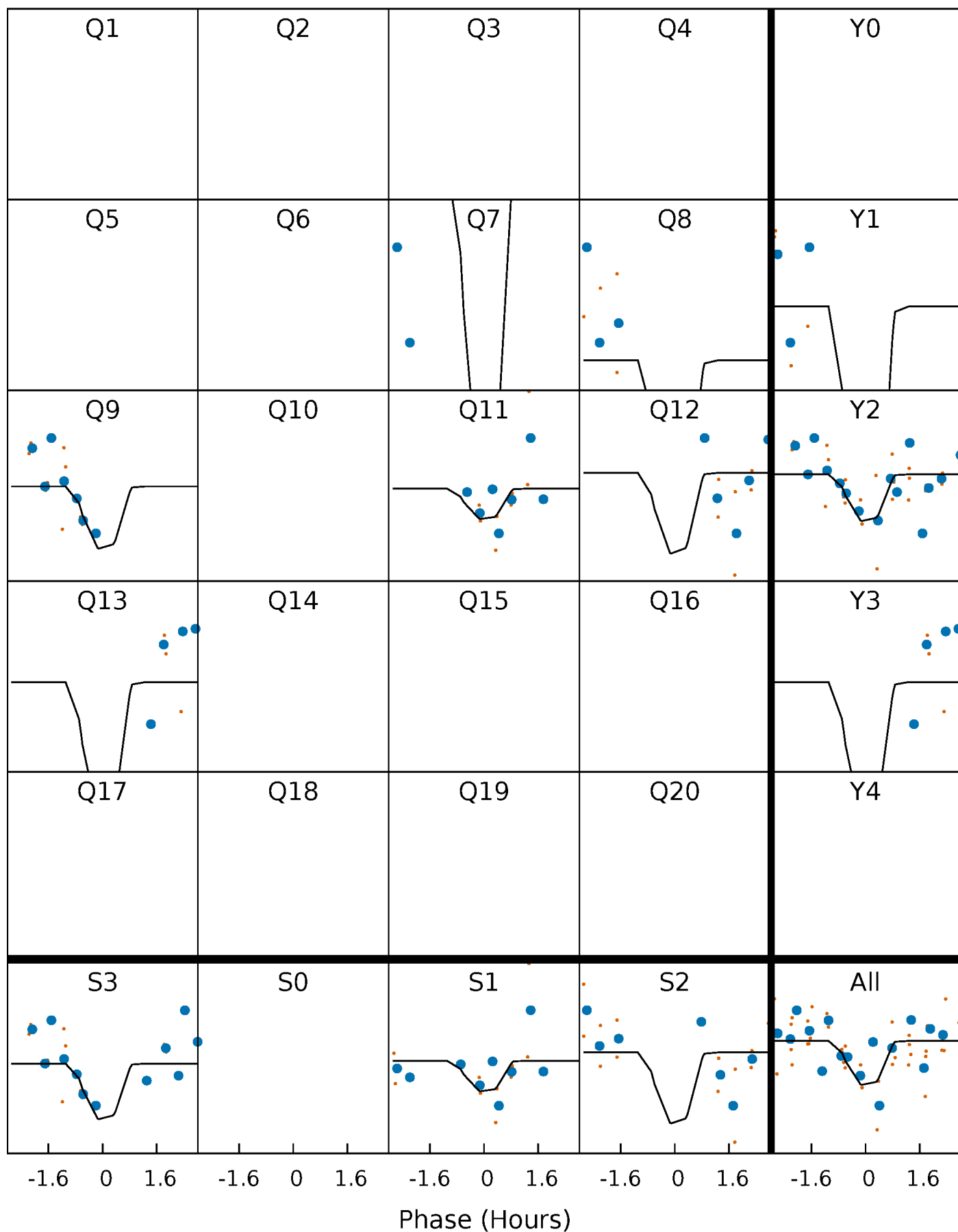
PDC Quarter-Phased Transit Curves

TCE 004659094-02 P= 39.497952 Days $T_0=150.300397$ (BKJD)



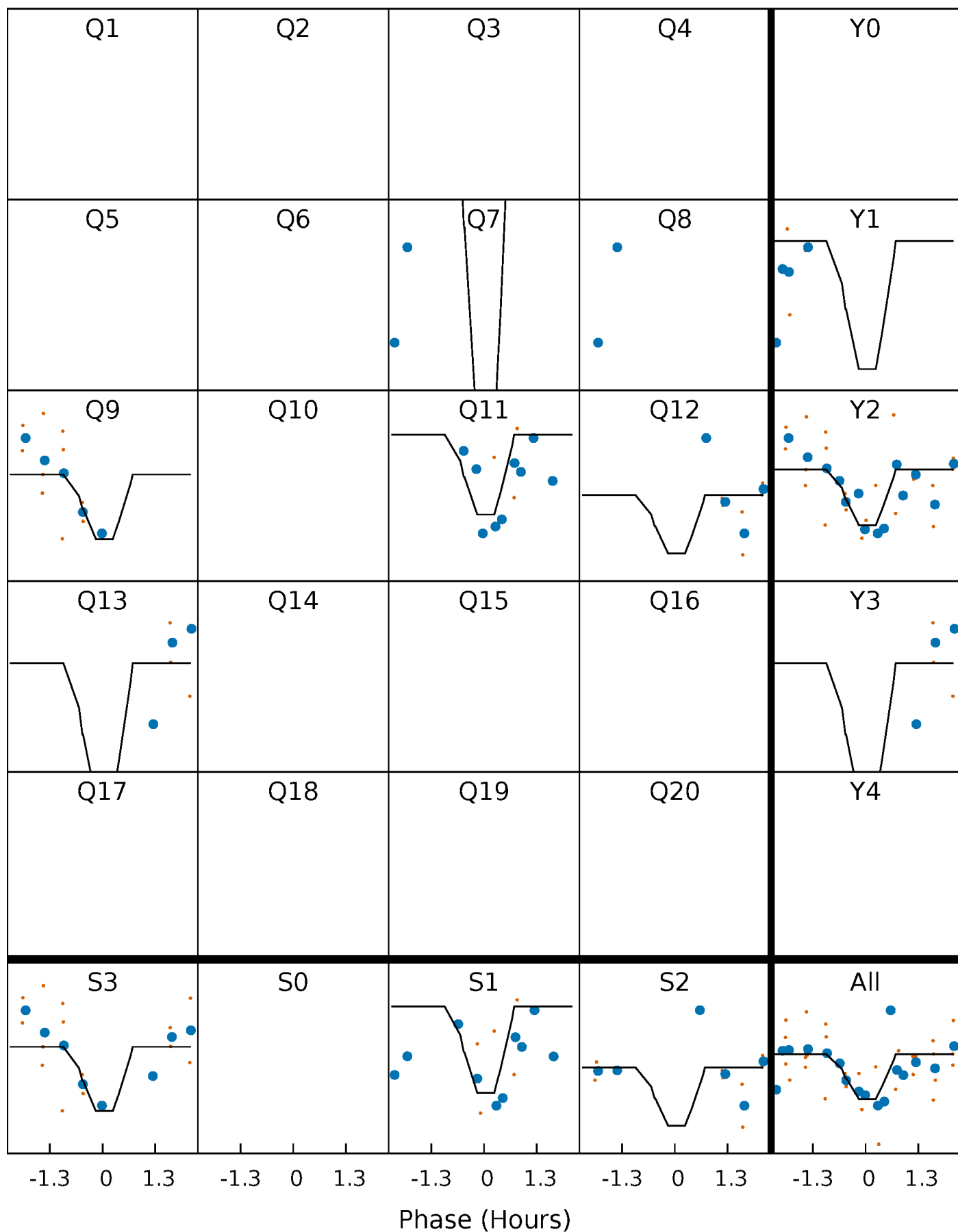
DV Quarter-Phased Transit Curves

TCE 004659094-02 P= 39.497952 Days $T_0=150.300397$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

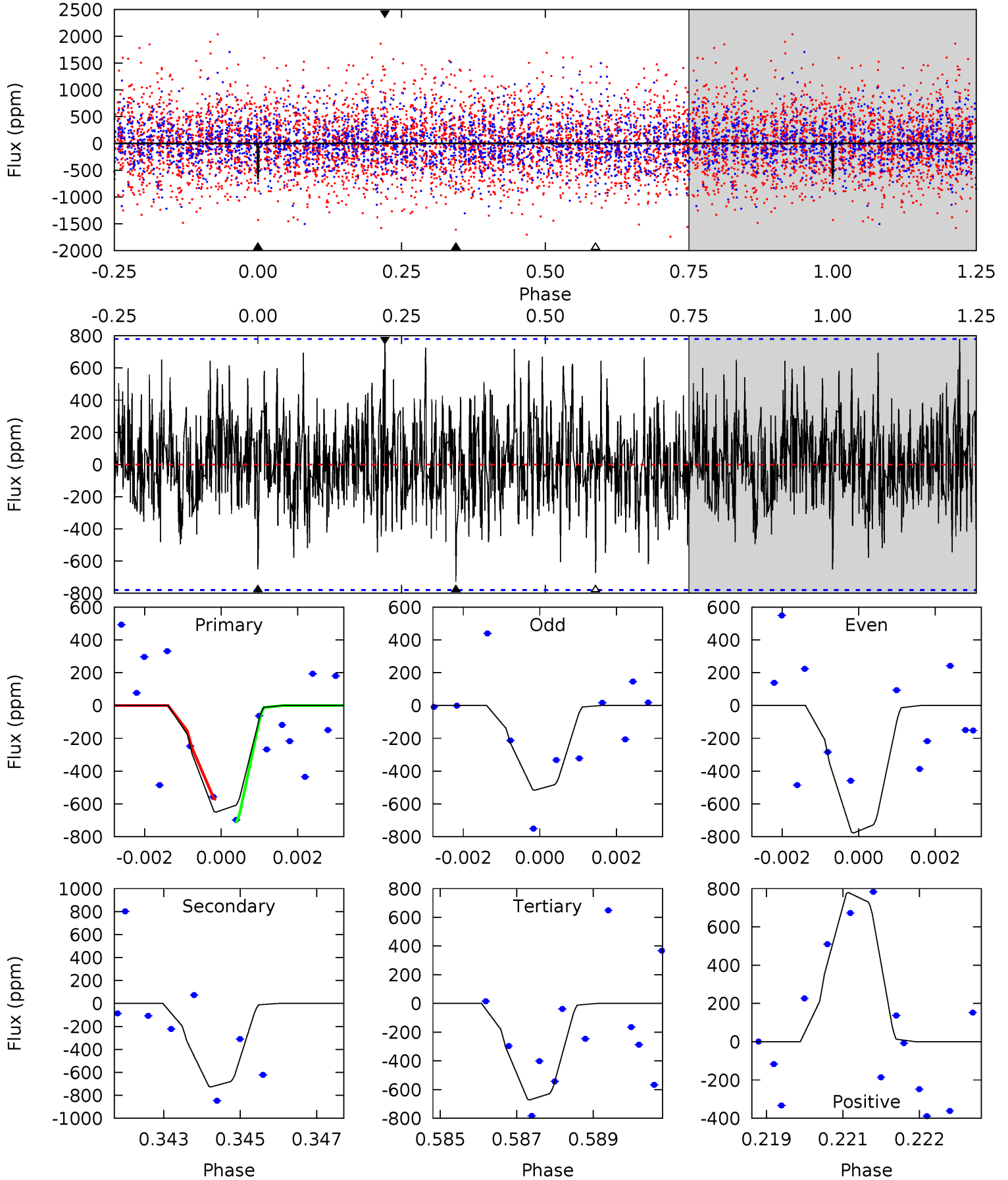
TCE 004659094-02 $P = 39.499430$ Days $T_0 = 150.267225$ (BKJD)



DV Model-Shift Uniqueness Test

004659094-02, P = 39.497952 Days, E = 150.300397 Days

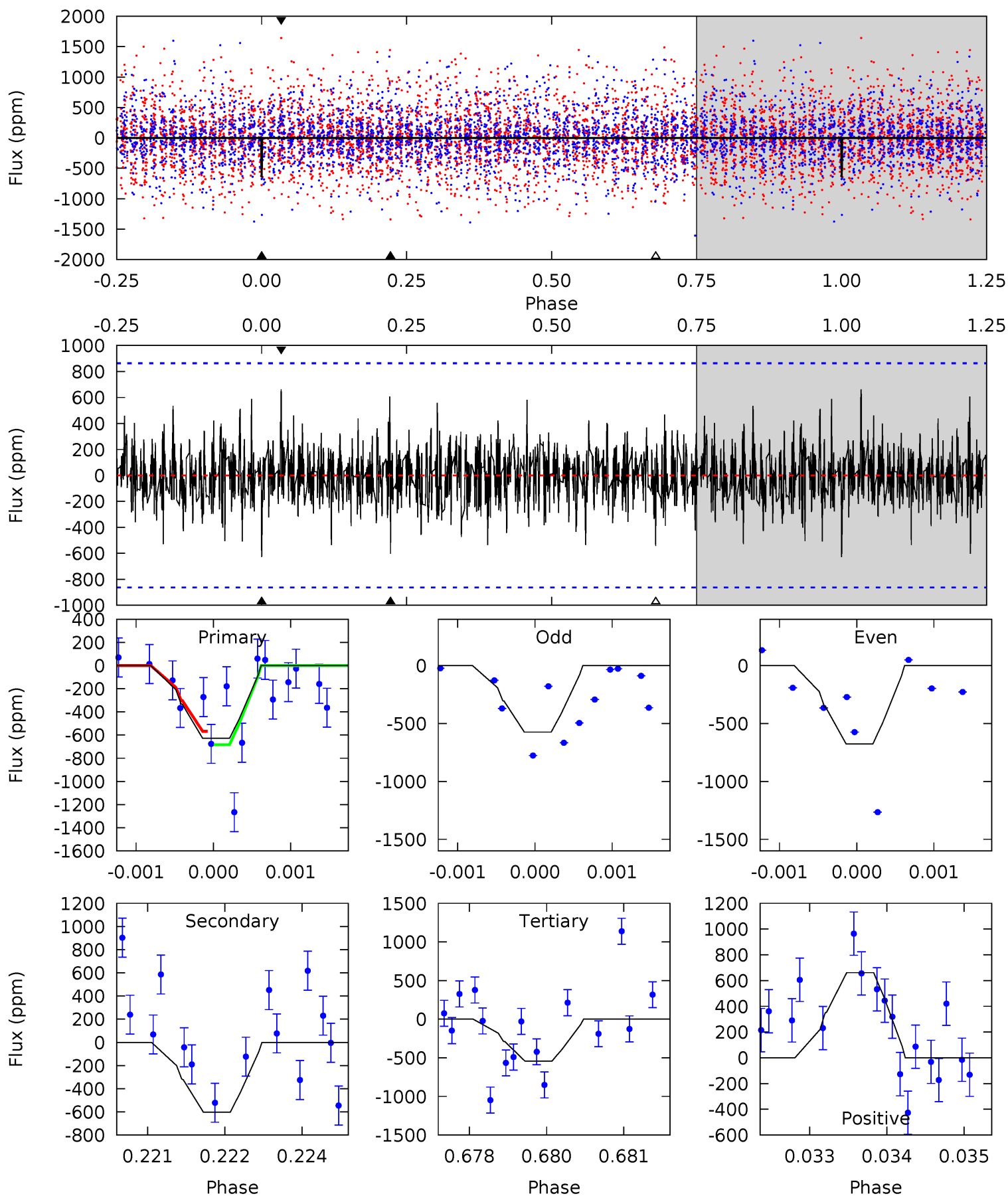
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.47	5.00	4.62	5.36	5.36	3.15	1.45	-0.15	-0.89	0.38	-0.36	0.90	0.88	0.52	0.49



Alt Model-Shift Uniqueness Test

004659094-02, P = 39.499430 Days, E = 150.267225 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.94	3.77	3.40	4.15	5.41	3.22	1.01	0.54	-0.21	0.37	-0.37	0.33	0.94	0.51	0.36



Stellar Parameters For KIC 004659094

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5323^{+204}_{-185}	$4.564^{+0.052}_{-0.090}$	$-0.300^{+0.300}_{-0.300}$	$0.761^{+0.122}_{-0.075}$	$0.775^{+0.096}_{-0.070}$	$2.475^{+0.647}_{-0.730}$
	+4%/-3%	+1%/-2%	+100%/-100%	+16%/-10%	+12%/-9%	+26%/-30%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004659094-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-727 ± 145	$3.68^{+3.17}_{-2.35}$	633^{+31}_{-29}	4405^{+2629}_{-889}	1297^{+8453}_{-929}
Alt.	-602 ± 160	$3.38^{+2.98}_{-2.25}$	631^{+31}_{-26}	4323^{+2959}_{-874}	1234^{+9833}_{-909}

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

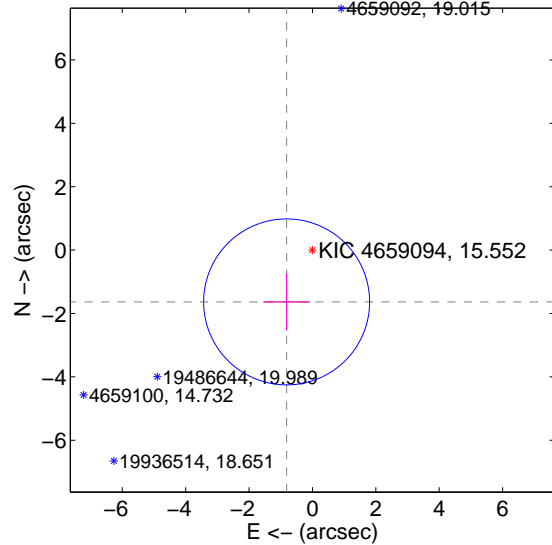
Supplemental centroid analysis for 004659094-02. Kepler magnitude: 15.55. Transit SNR 7.19

There are 0 quarters with good PRF difference image offsets

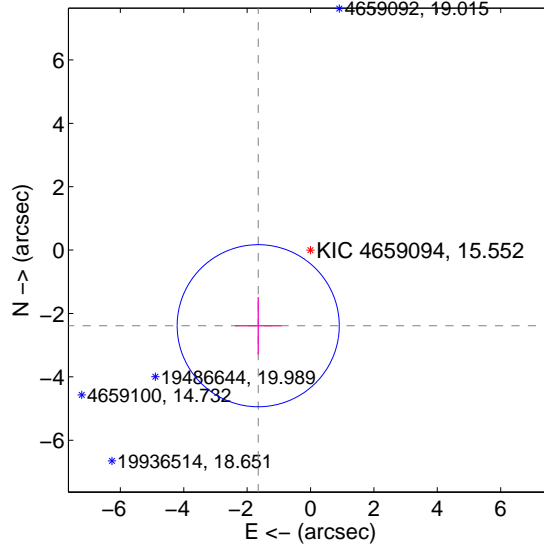
The direct PRF centroid is offset from the target star catalog position by about 1.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.827 ± 0.873	2.09	0.815 ± 0.732	-1.635 ± 0.905
PRF-fit source offset from KIC position	2.902 ± 0.853	3.40	1.651 ± 0.732	-2.387 ± 0.905
photometric centroid source offset	2.84 ± 1.18	2.42	2.17 ± 1.30	-1.83 ± 0.96

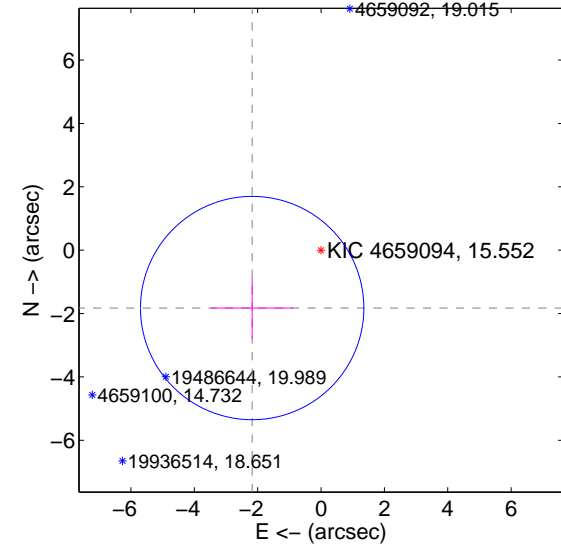
offset from difference PRF-fit to OOT PRF-fit



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 no difference image



Q2 no OOT image



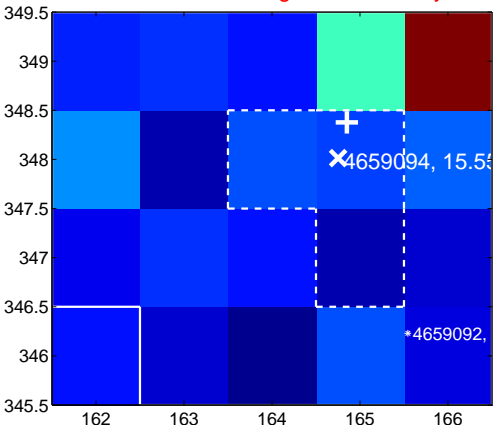
Q3 no difference image



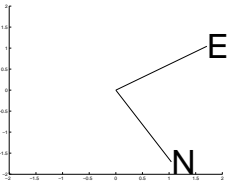
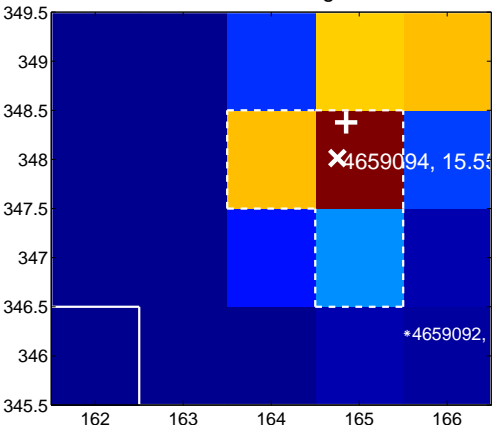
Q3 no OOT image



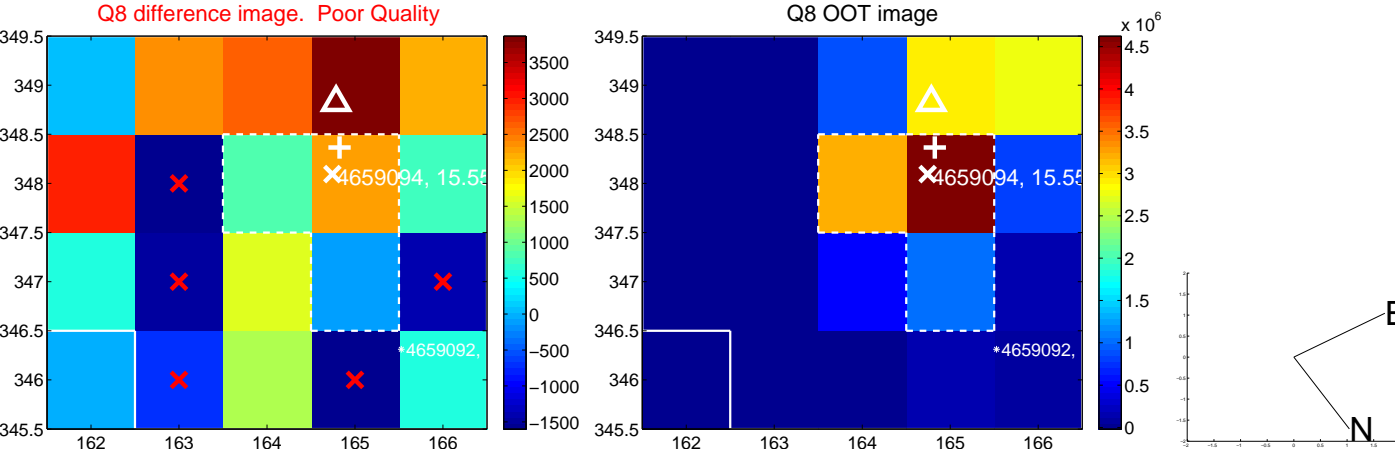
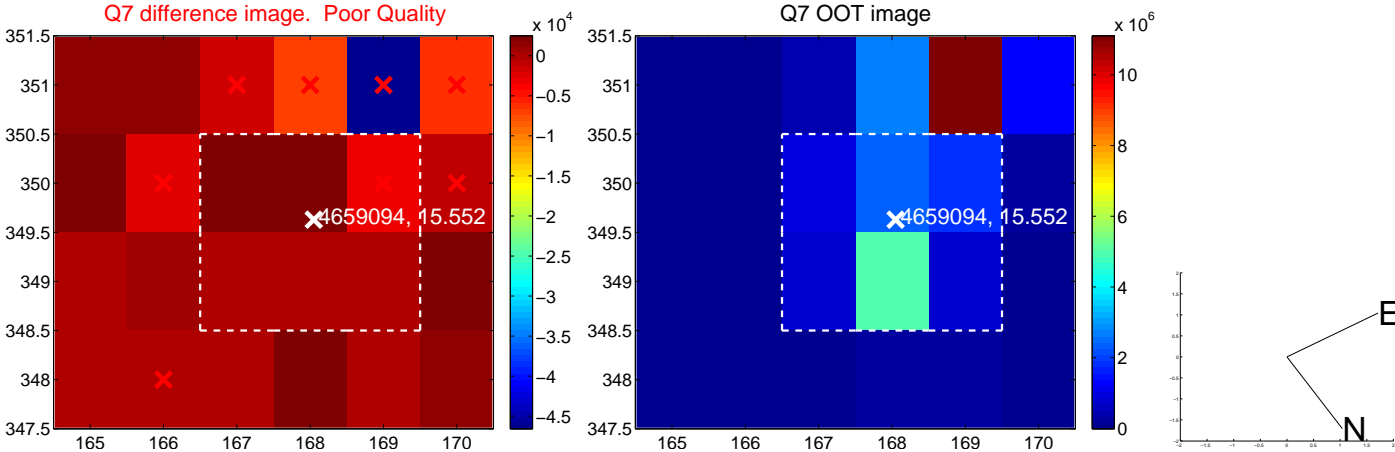
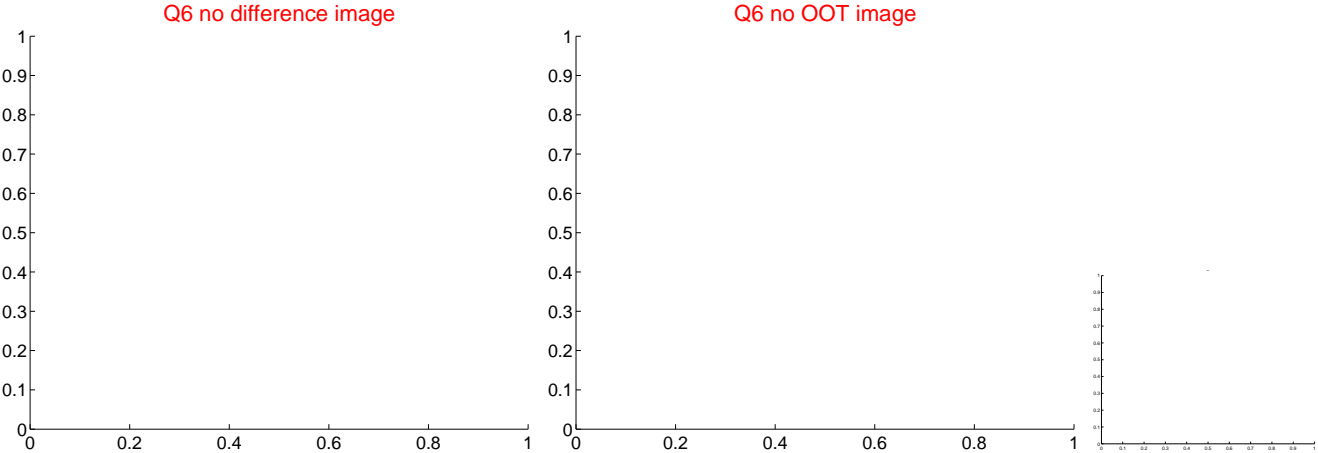
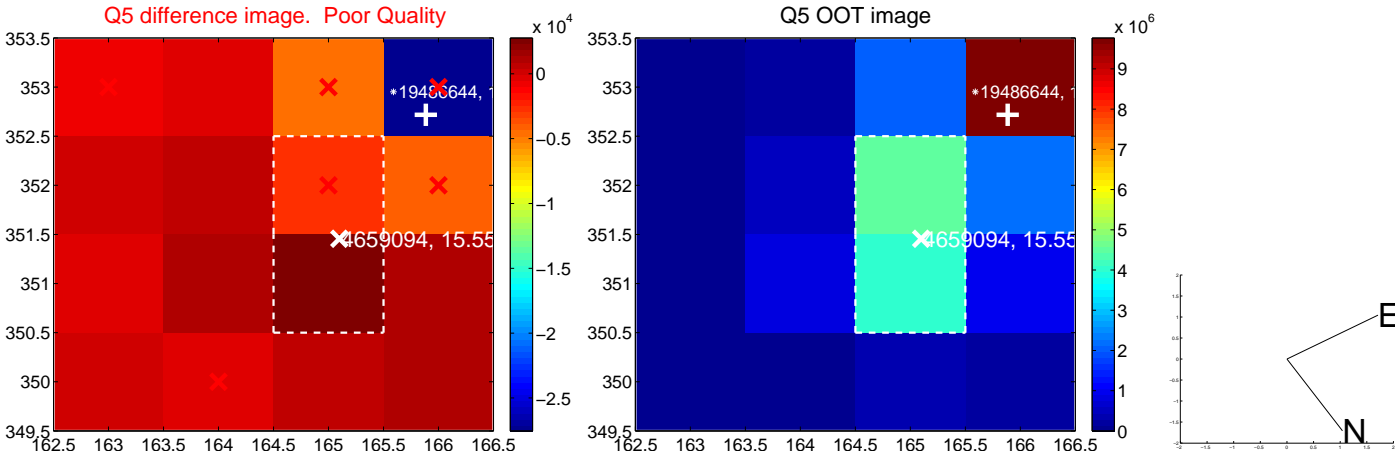
Q4 difference image. Poor Quality



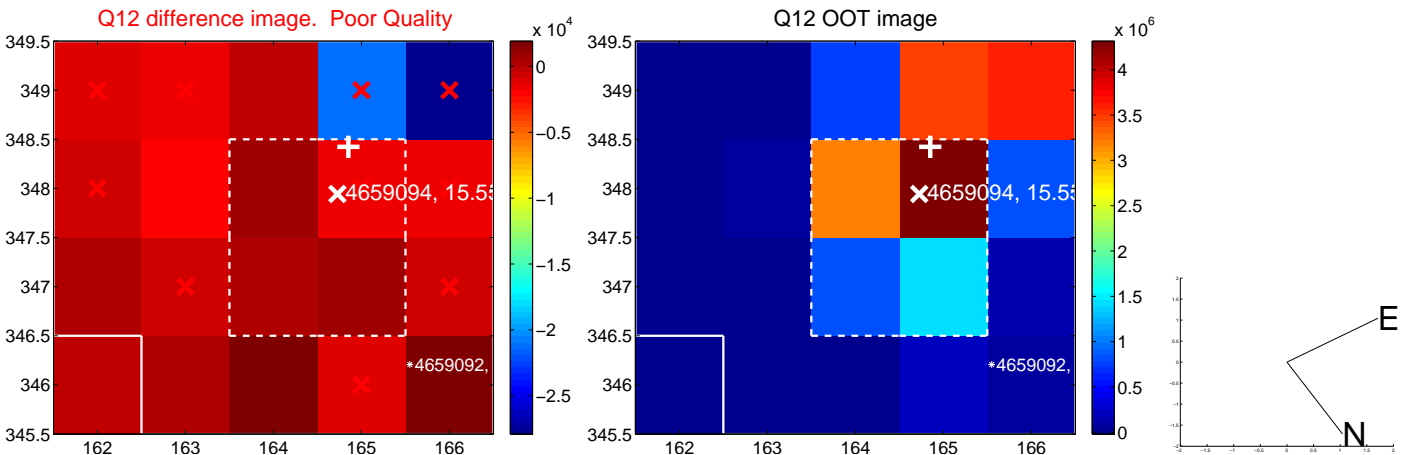
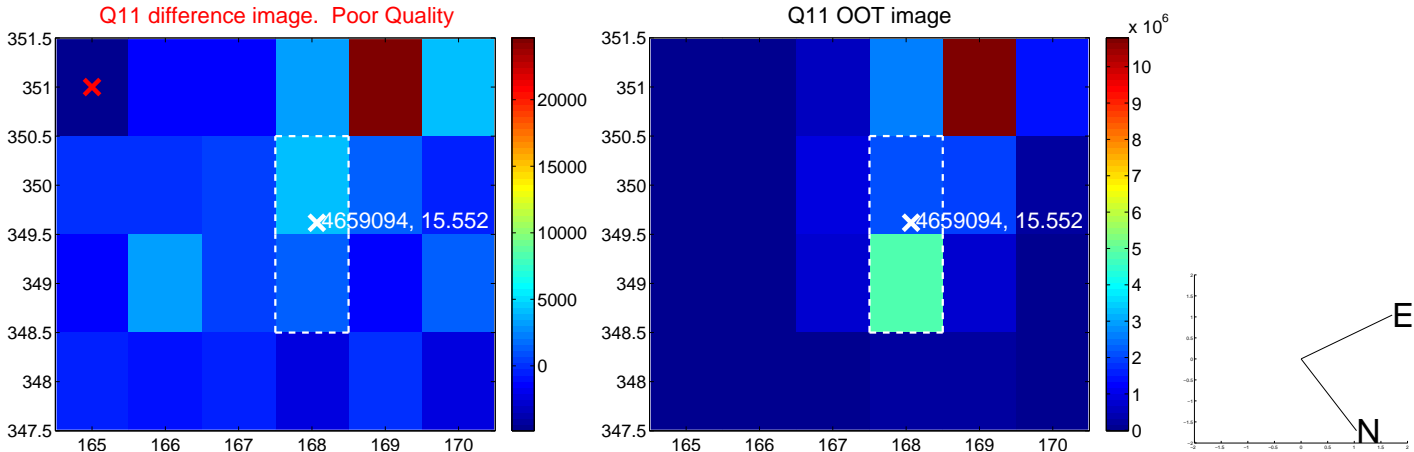
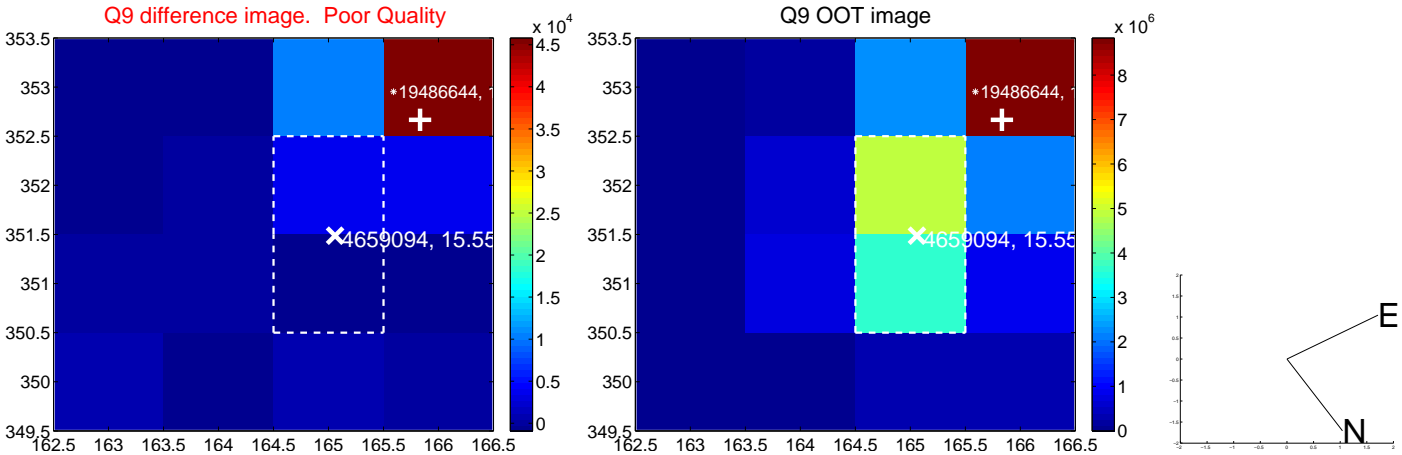
Q4 OOT image



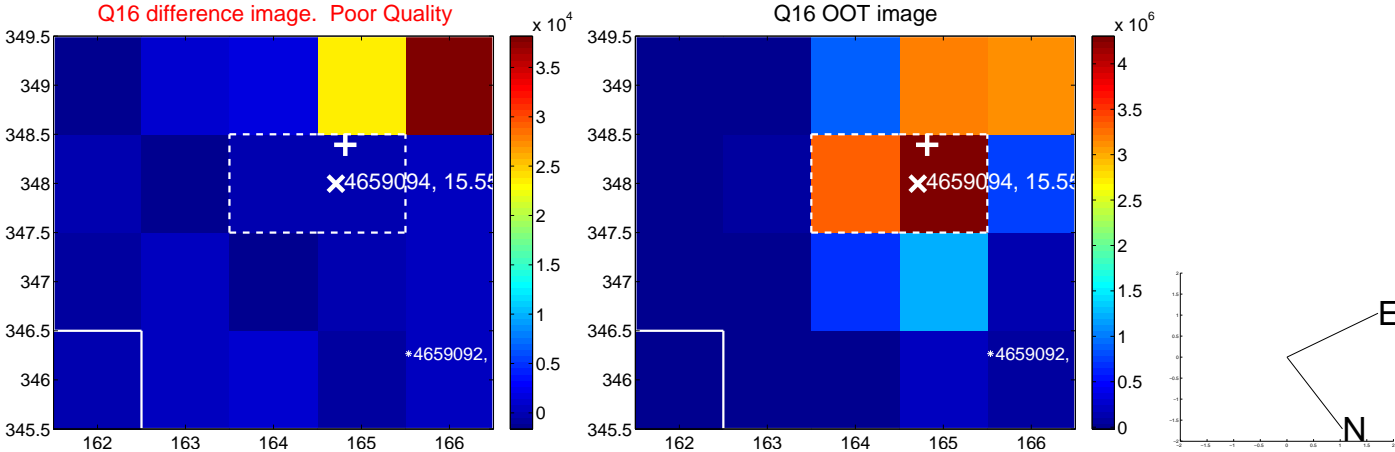
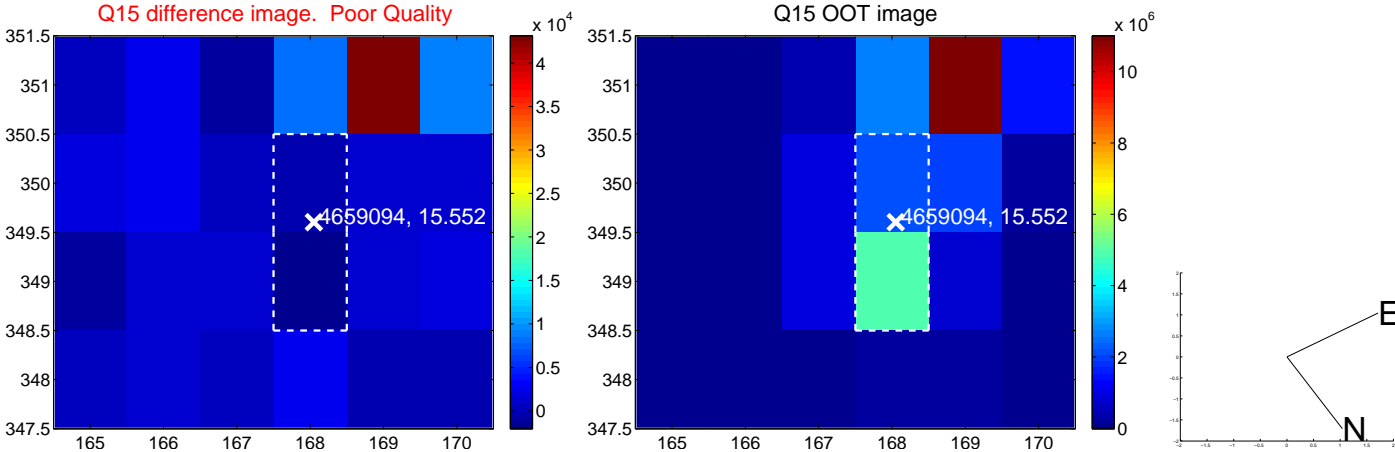
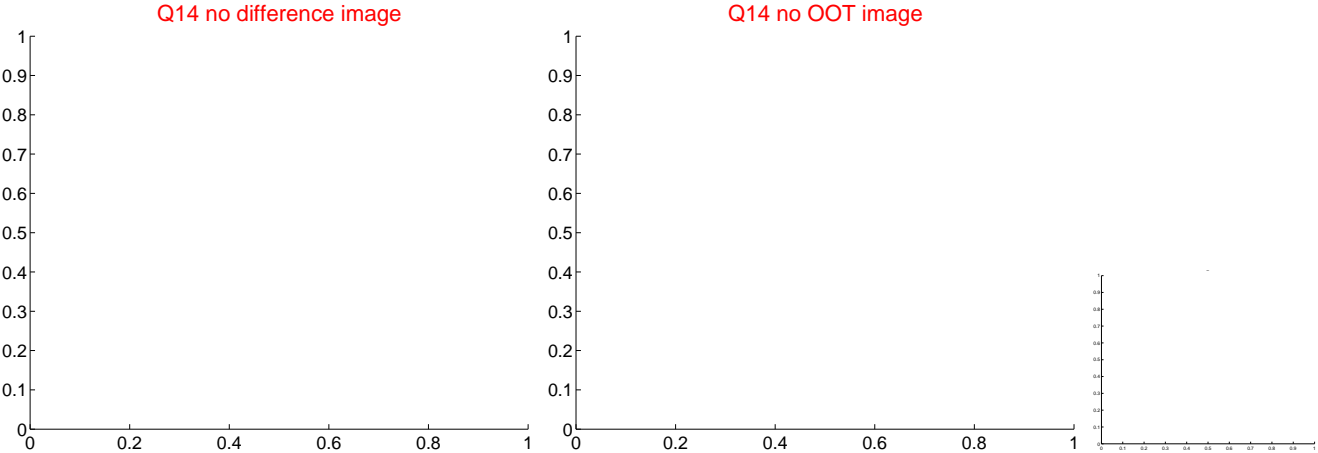
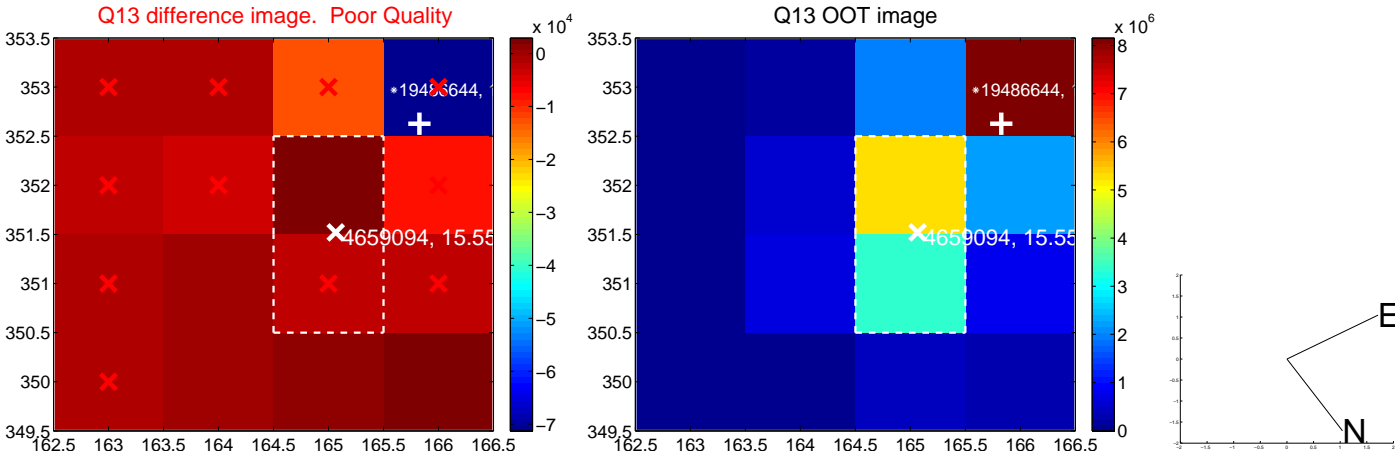
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



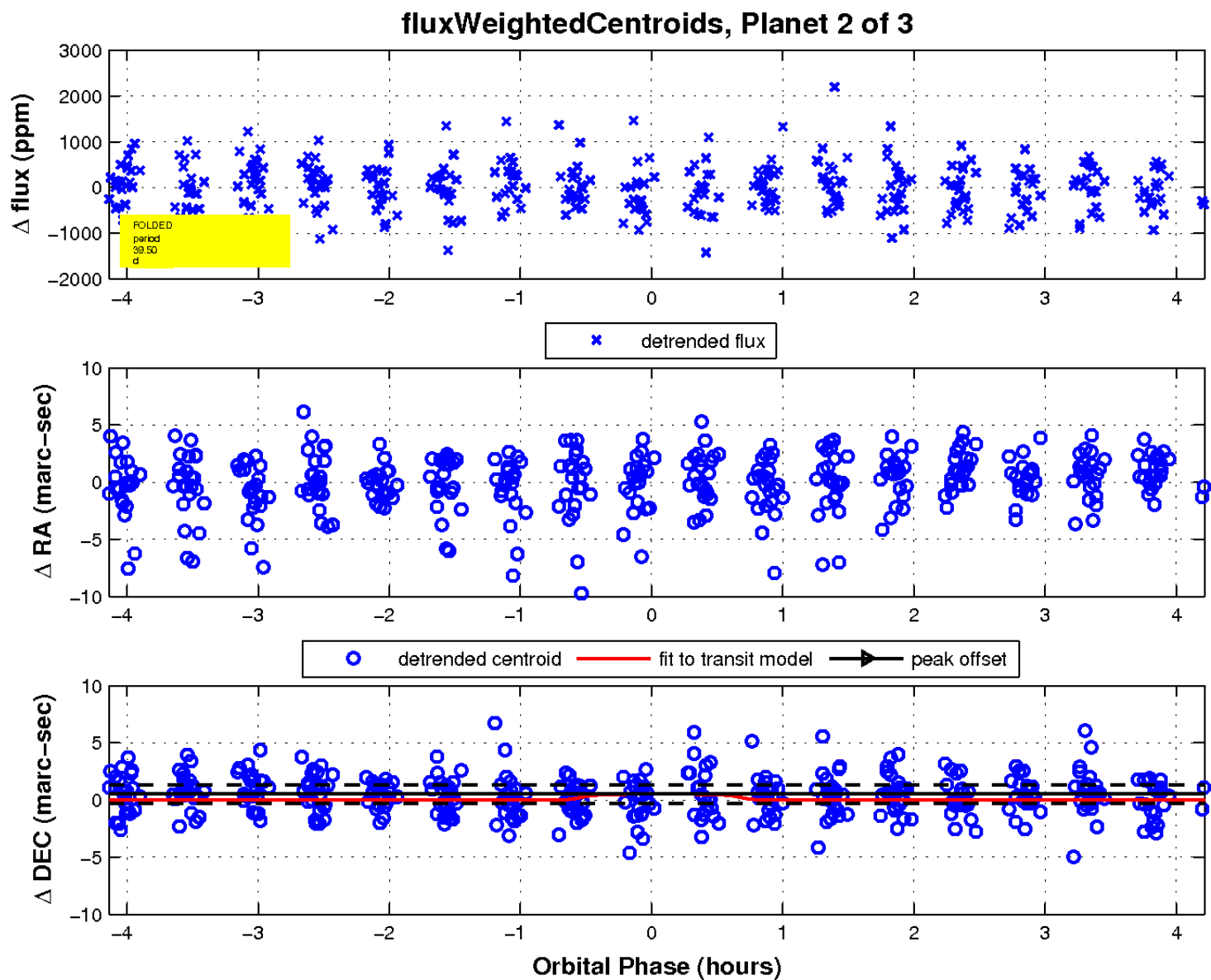
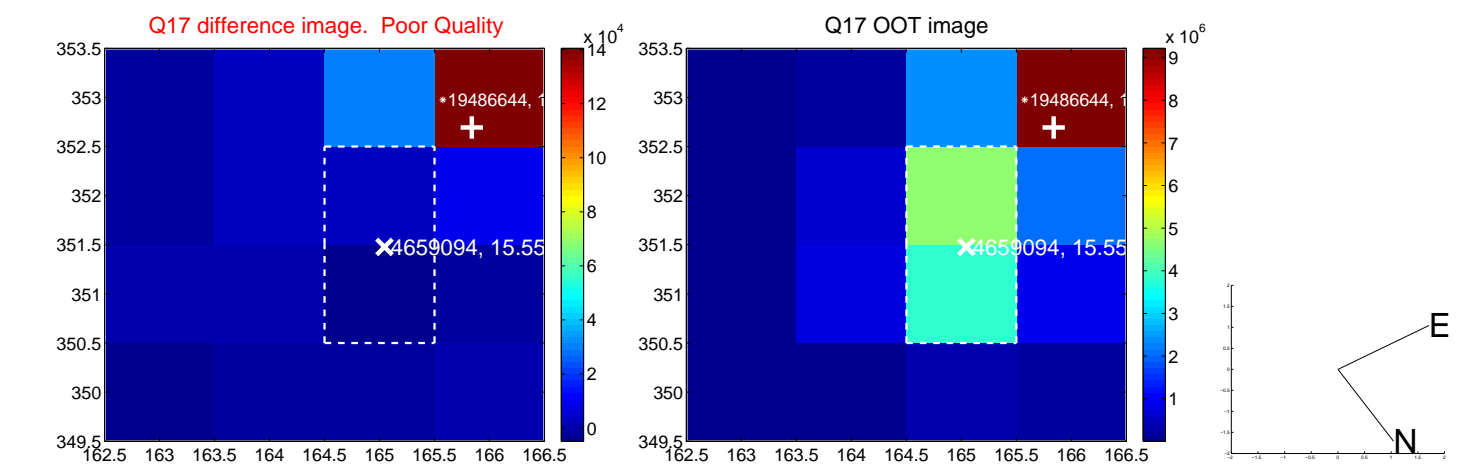
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



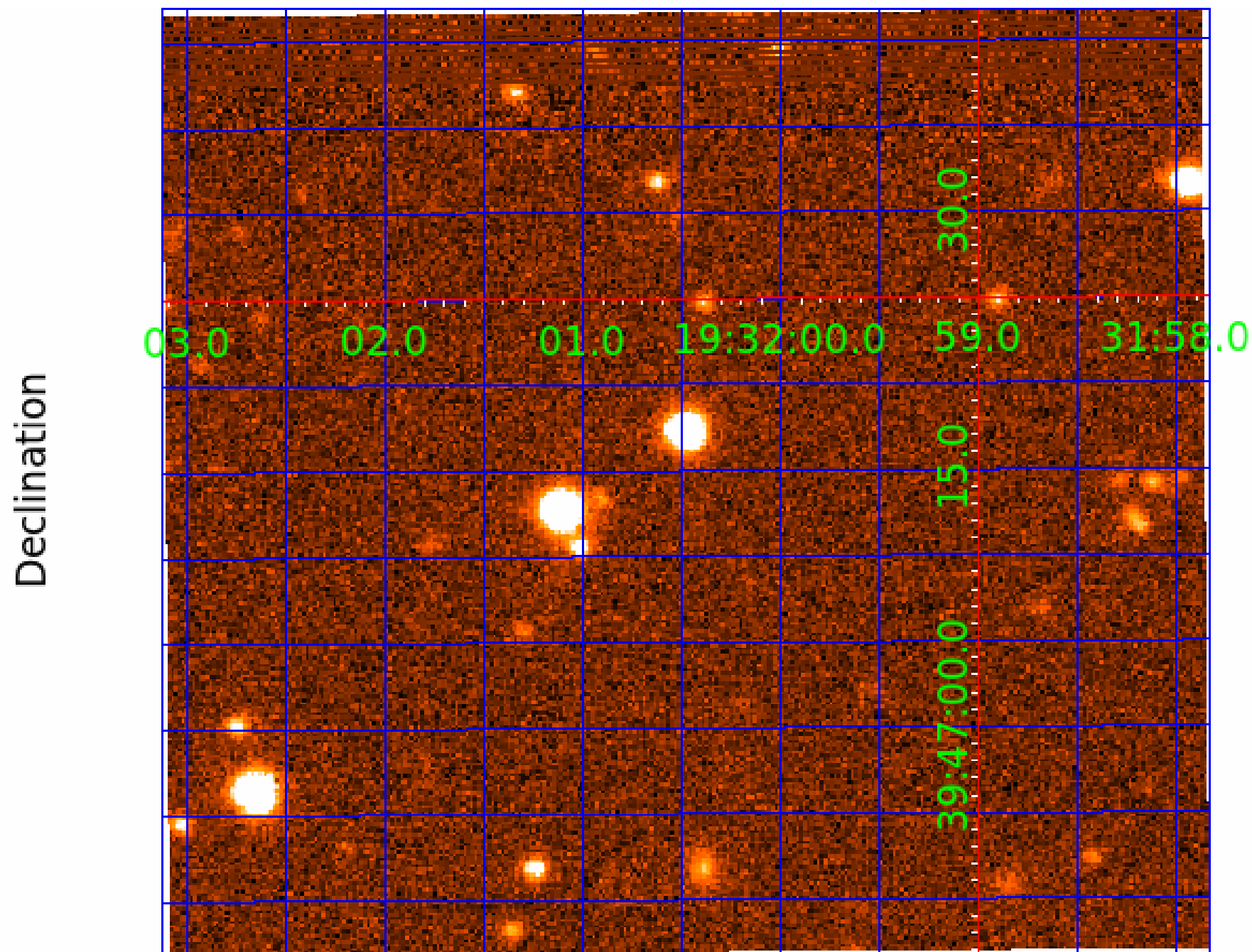
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004659094

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})
004659094-01	OBS	No	0.669726	132.215337	38.9	4.541	9.2	6.8	0.76	5323	0.49	2200.80
004659094-02	OBS	No	39.497952	150.300397	709.1	1.407	8.4	7.2	0.76	5323	2.40	9.59
004659094-03	OBS	No	40.746330	159.643353	656.1	2.348	8.8	8.4	0.76	5323	2.22	9.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004659094-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
004659094-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
004659094-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

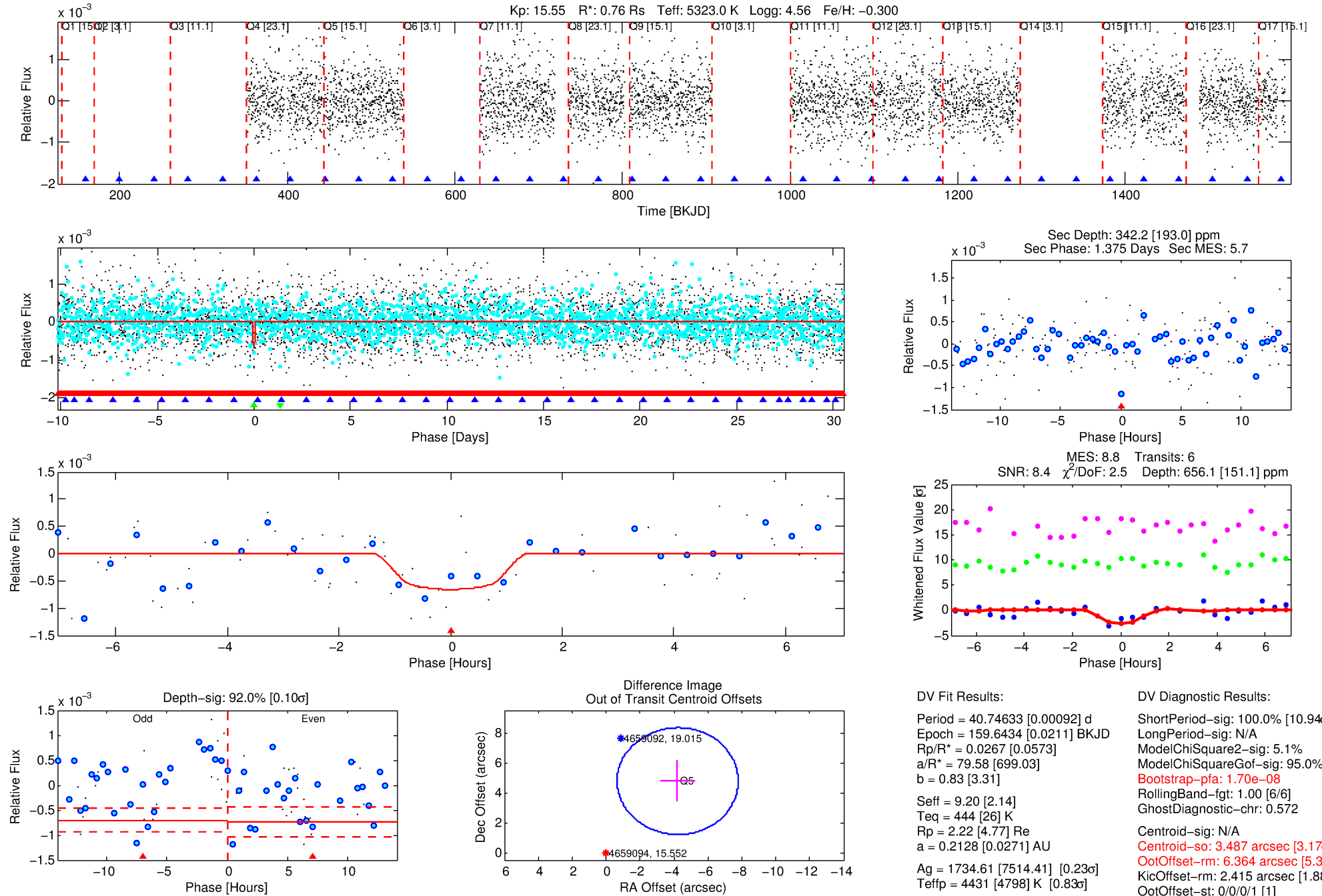
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004659094-03

No Significant Match Found

DV One-Page Summary

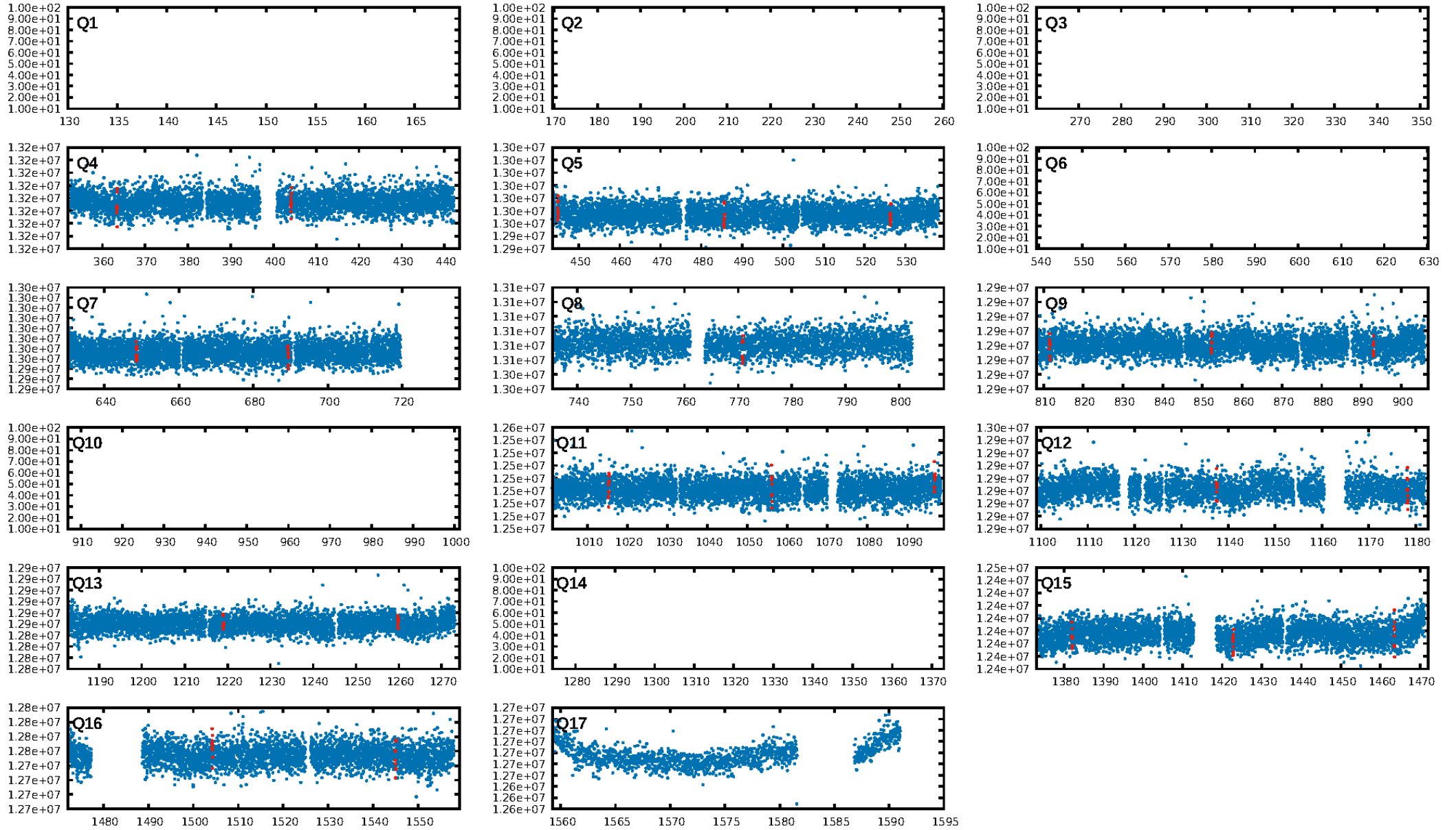
KIC: 4659094 Candidate: 3 of 3 Period: 40.746 d



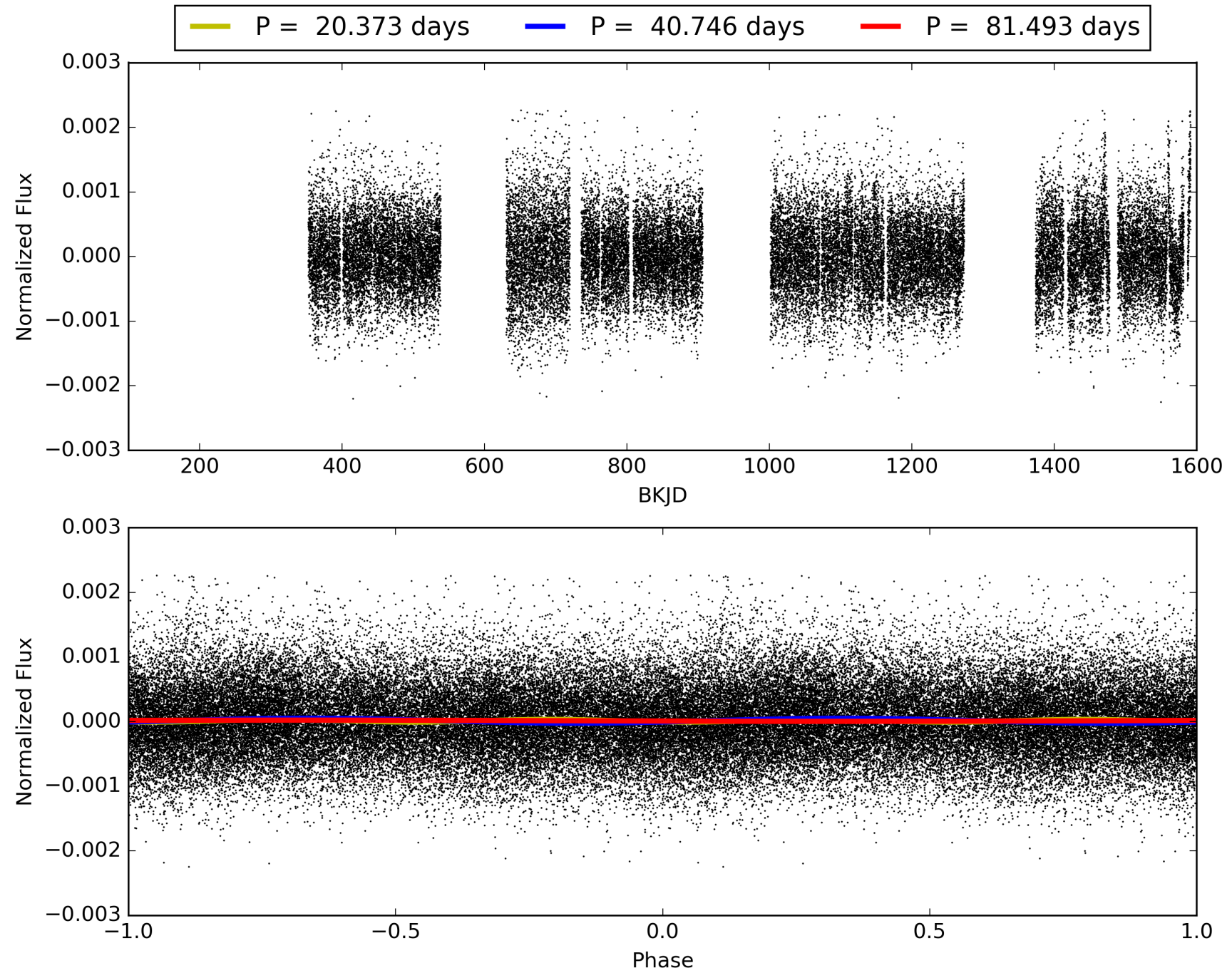
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:35:32 Z

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

TCE 004659094-03, PDC Light Curves

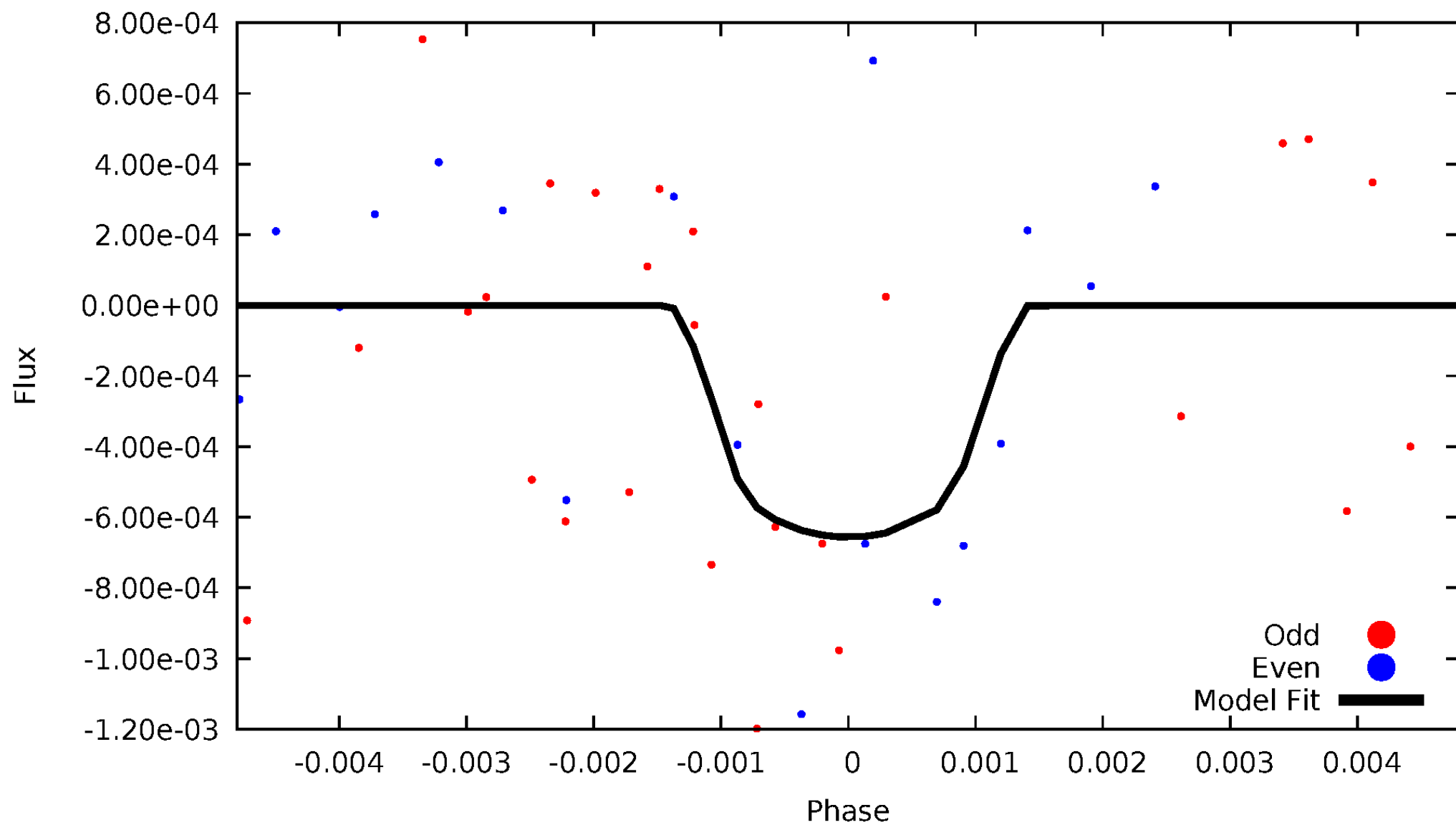


TCE 004659094-03



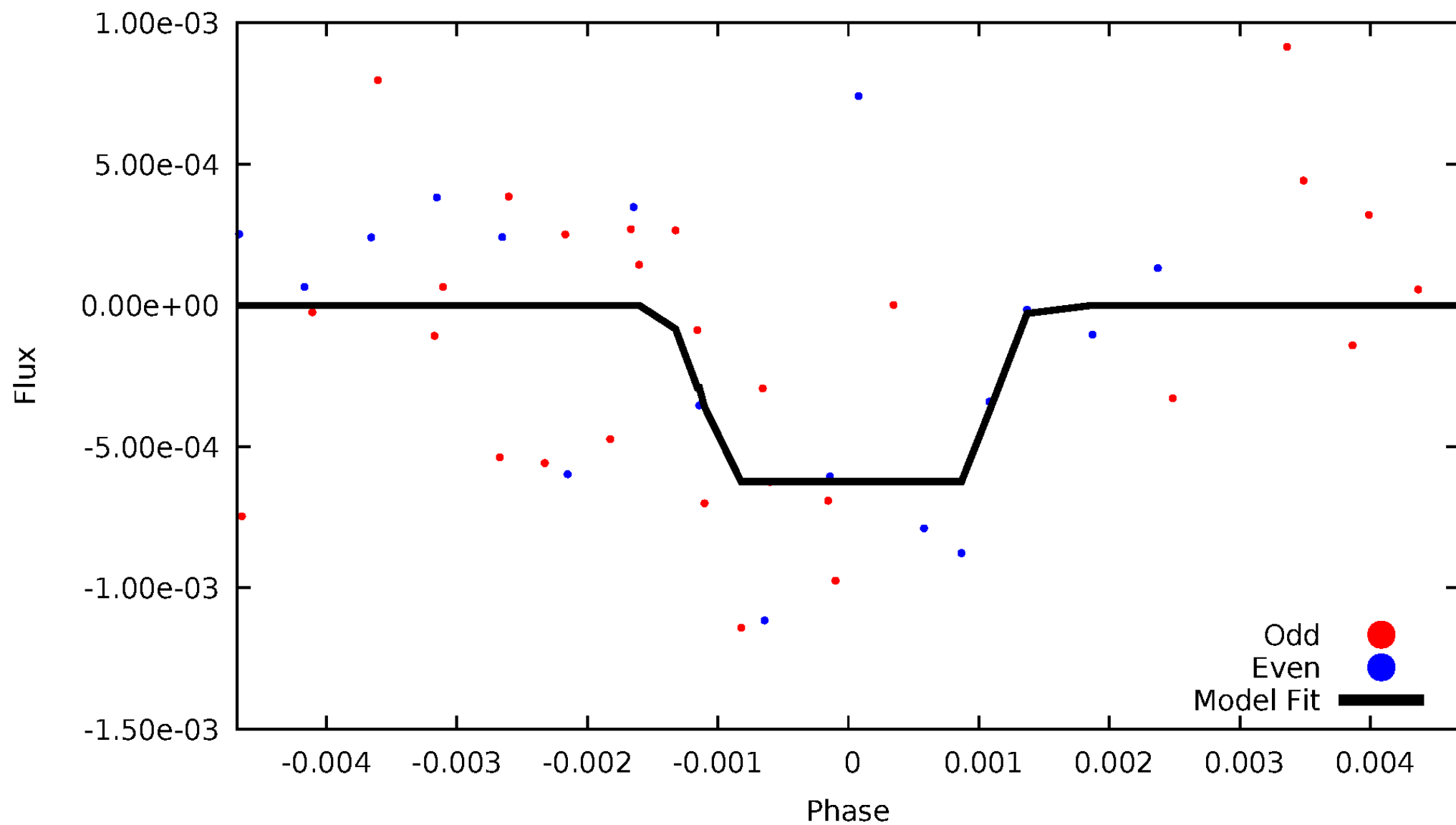
DV Odd/Even

TCE 004659094-03



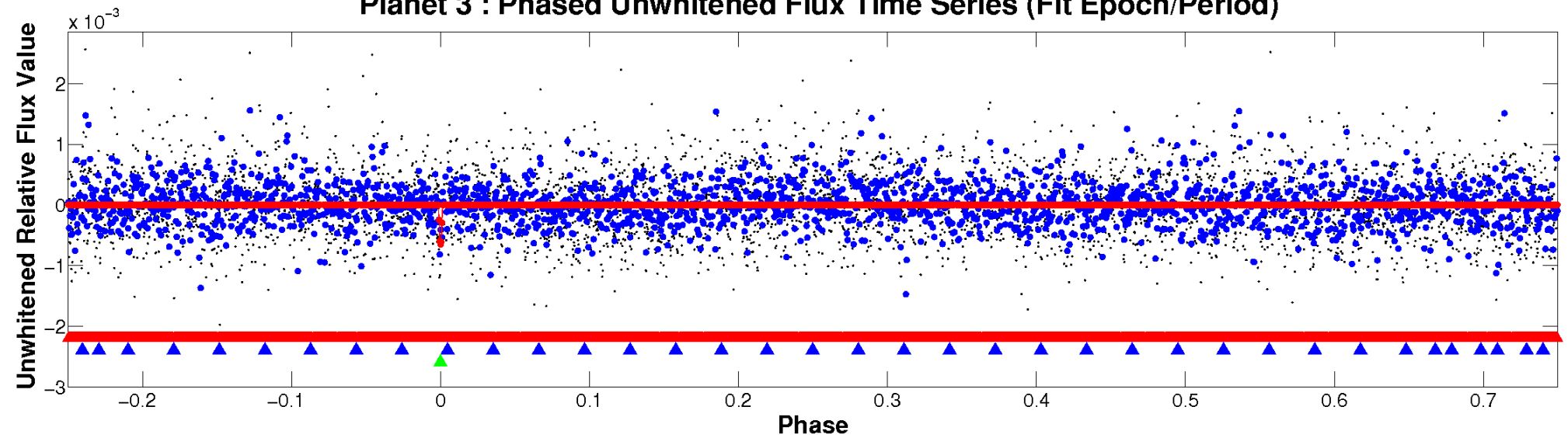
ALT Odd/Even

TCE 004659094-03

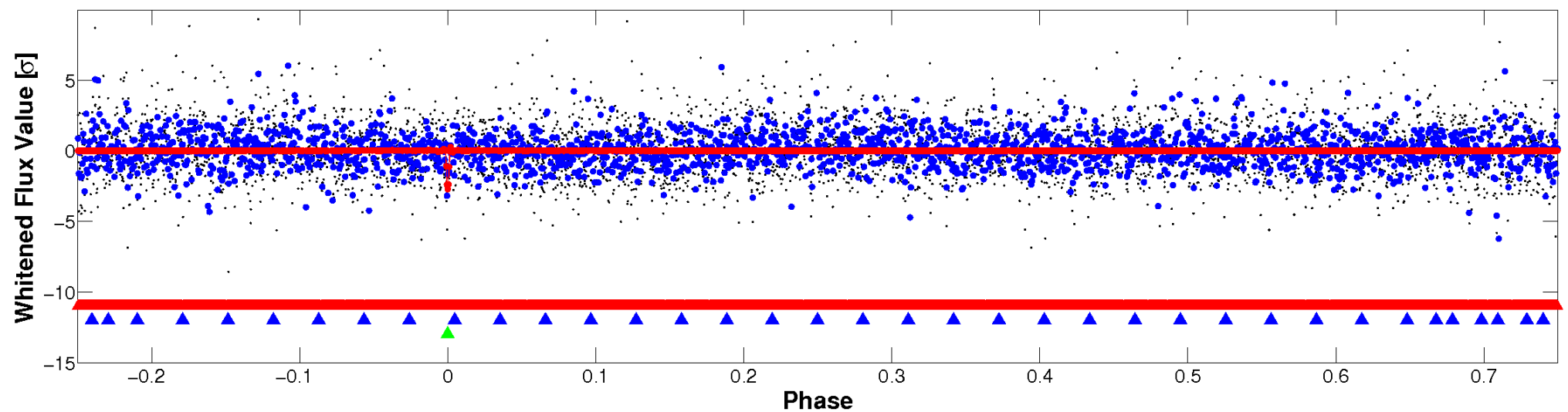


Non-Whitened Vs. Whitened Light Curve

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

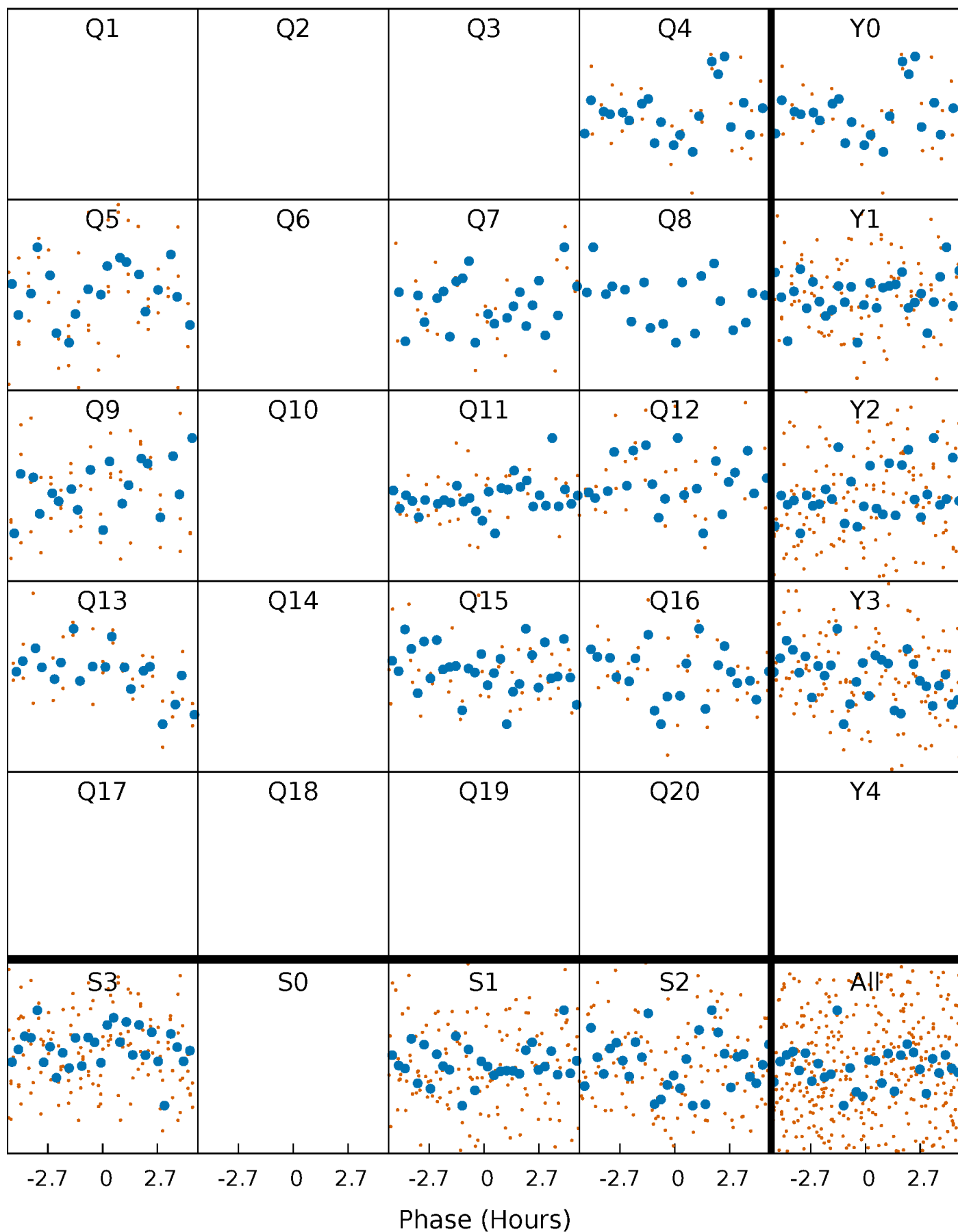


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



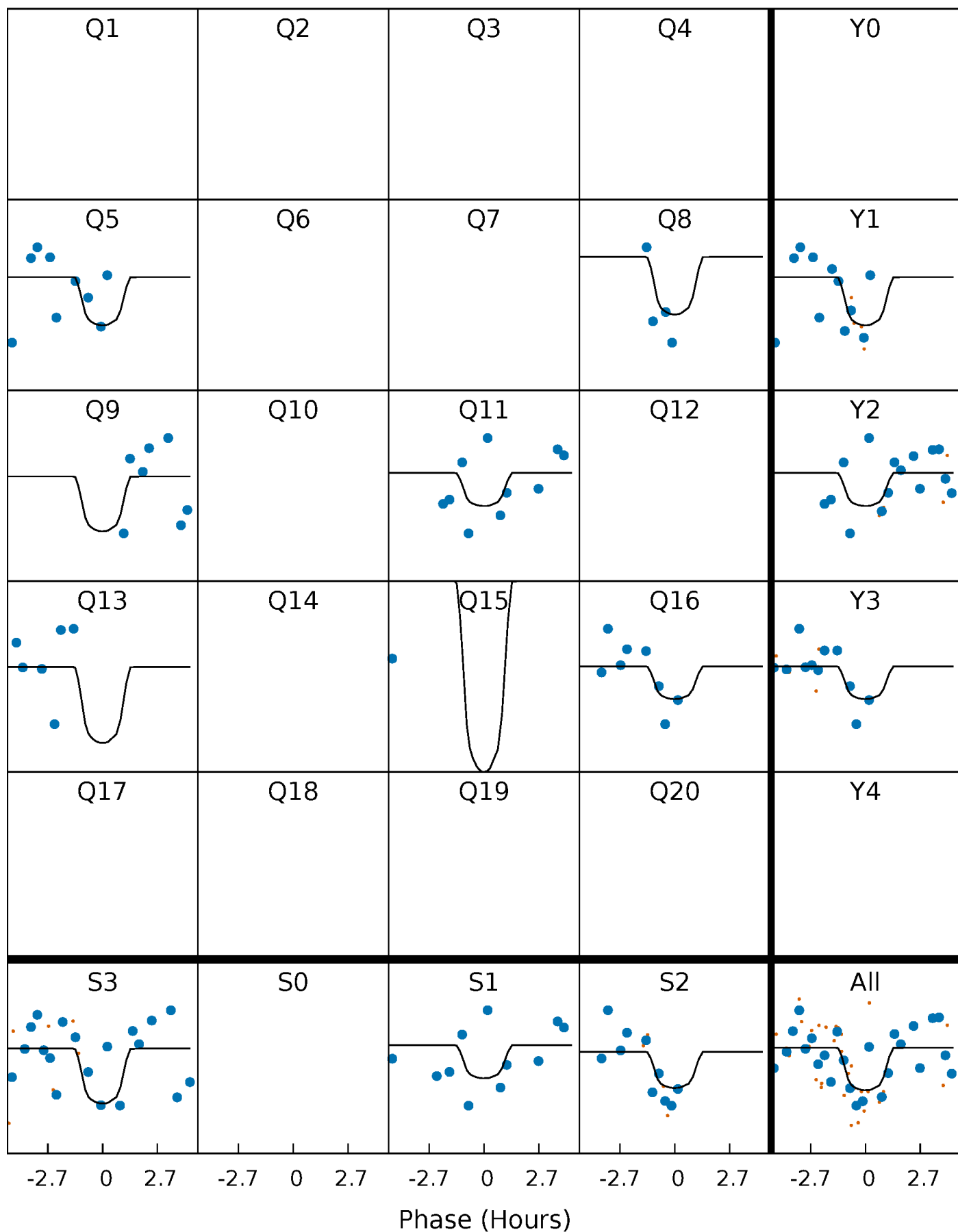
PDC Quarter-Phased Transit Curves

TCE 004659094-03 P= 40.746330 Days $T_0=159.643353$ (BKJD)



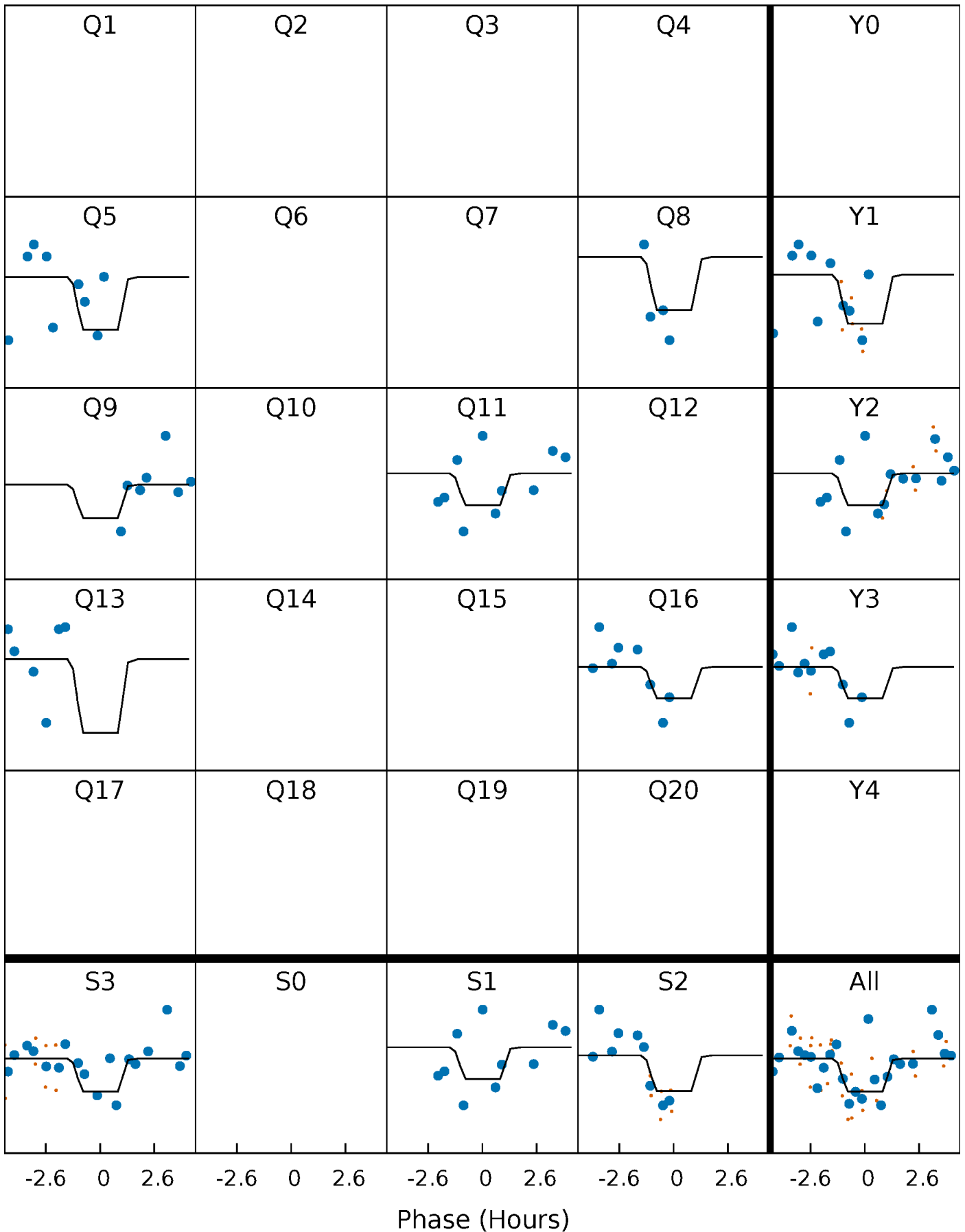
DV Quarter-Phased Transit Curves

TCE 004659094-03 $P = 40.746330$ Days $T_0 = 159.643353$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

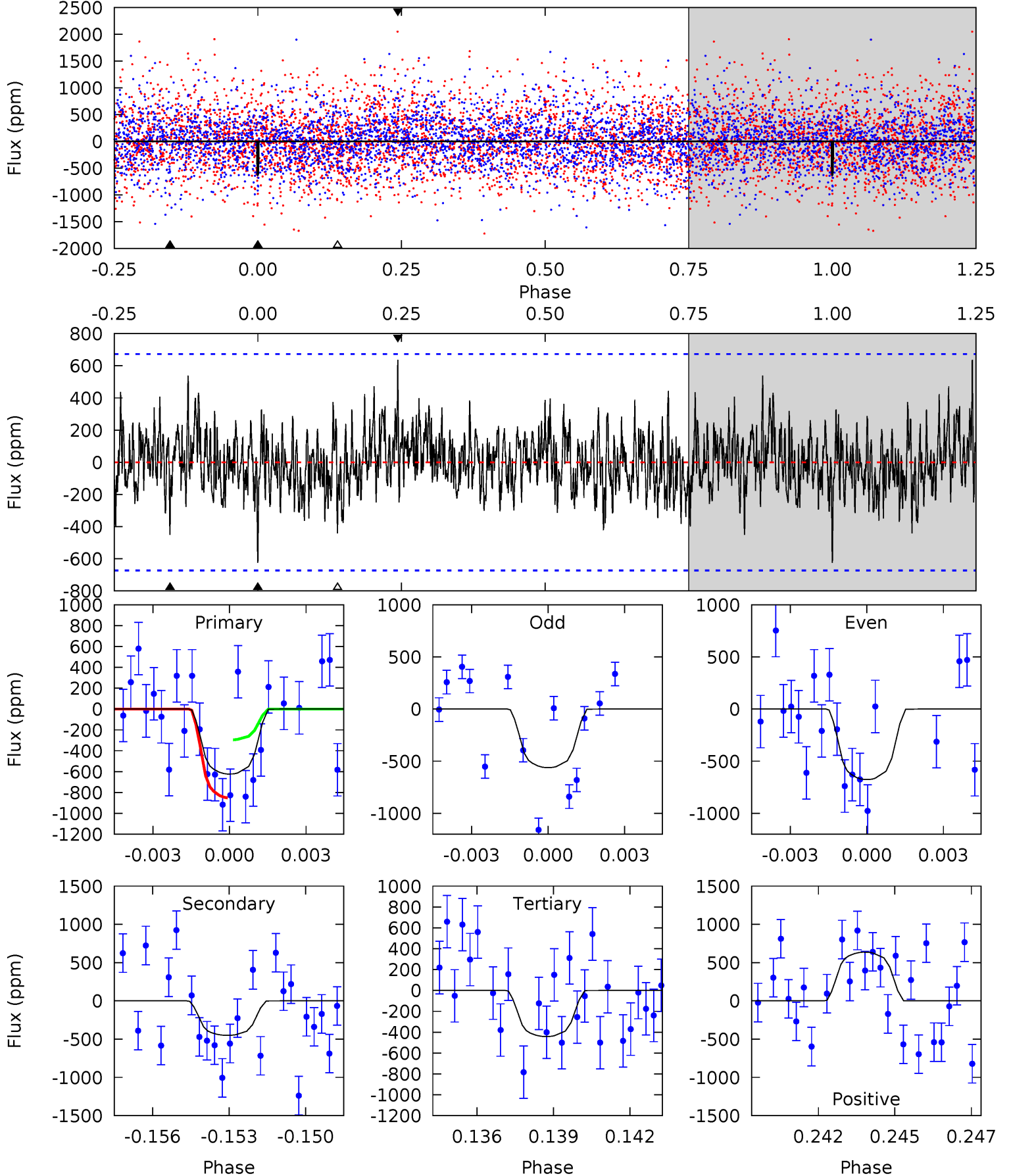
TCE 004659094-03 $P = 40.746859$ Days $T_0 = 159.636475$ (BKJD)



DV Model-Shift Uniqueness Test

004659094-03, P = 40.746330 Days, E = 159.643353 Days

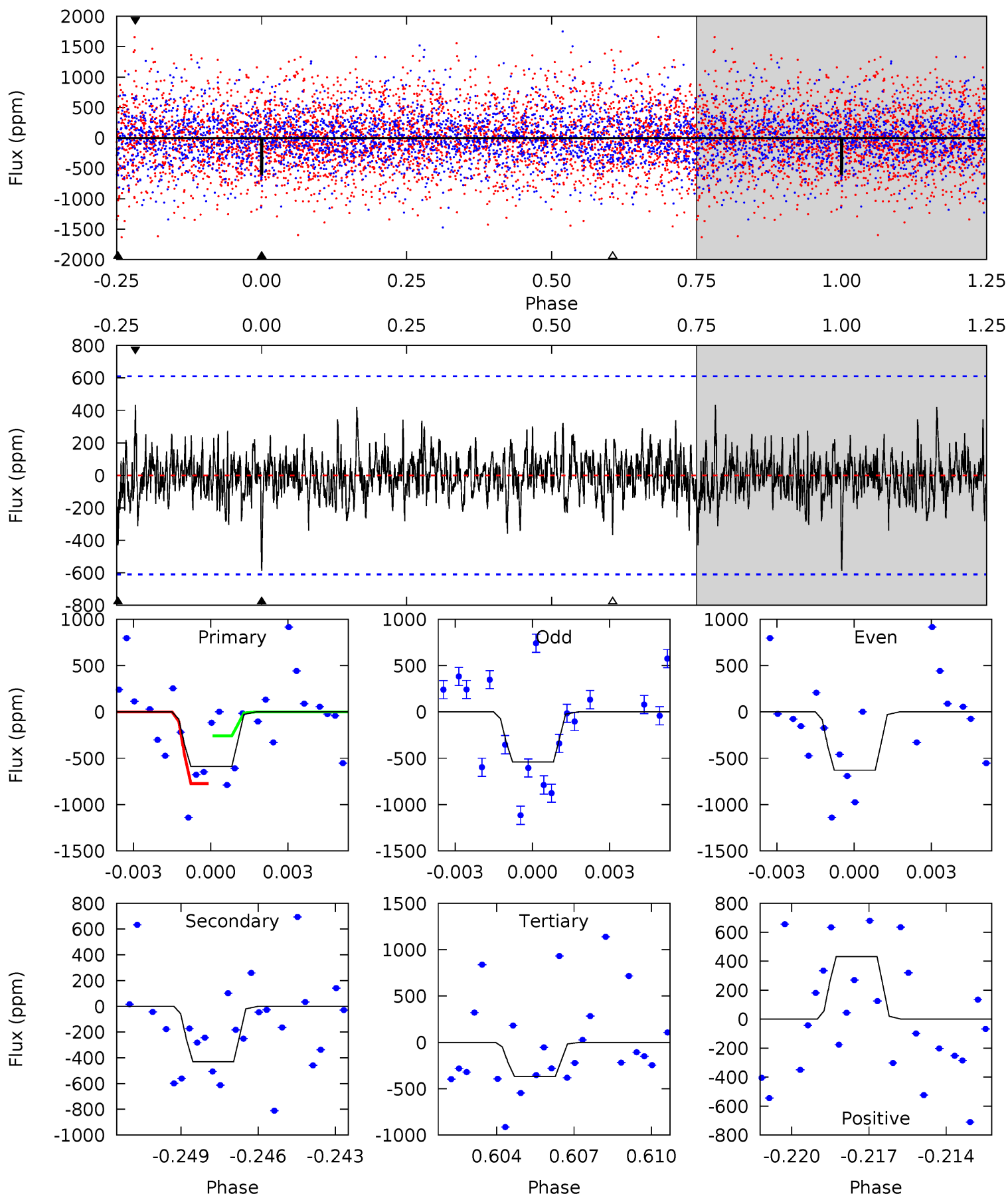
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.88	3.53	3.46	4.98	5.27	2.99	1.22	1.42	-0.10	0.07	-1.46	0.44	0.84	0.51	2.12



Alt Model-Shift Uniqueness Test

004659094-03, P = 40.746859 Days, E = 159.636475 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.06	3.70	3.16	3.72	5.24	2.95	0.95	1.90	1.34	0.53	-0.02	0.38	0.80	0.42	2.16



Stellar Parameters For KIC 004659094

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5323^{+204}_{-185}	$4.564^{+0.052}_{-0.090}$	$-0.300^{+0.300}_{-0.300}$	$0.761^{+0.122}_{-0.075}$	$0.775^{+0.096}_{-0.070}$	$2.475^{+0.647}_{-0.730}$
	+4%/-3%	+1%/-2%	+100%/-100%	+16%/-10%	+12%/-9%	+26%/-30%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004659094-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-451 ± 128	$4.32^{+4.17}_{-2.91}$	625^{+33}_{-27}	3780^{+2306}_{-731}	598^{+5151}_{-455}
Alt.	-430 ± 116	$4.11^{+3.93}_{-2.88}$	626^{+29}_{-27}	3816^{+2395}_{-713}	610^{+6031}_{-449}

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

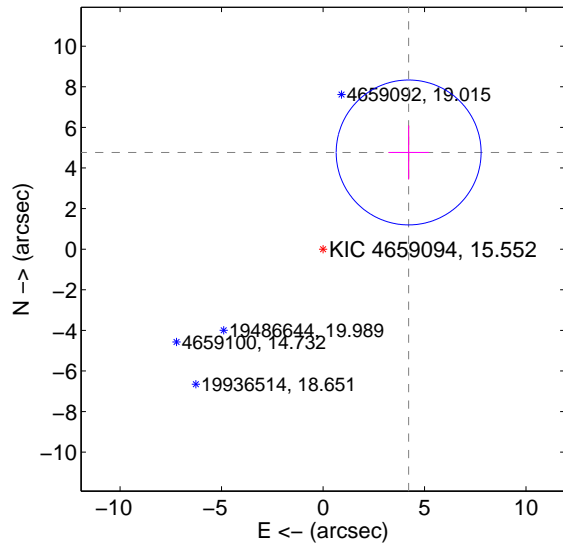
Supplemental centroid analysis for 004659094-03. Kepler magnitude: 15.55. Transit SNR 8.36

There are 0 quarters with good PRF difference image offsets

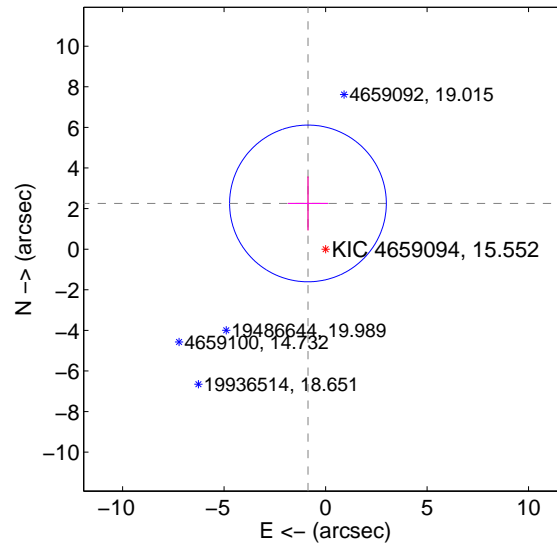
The OOT PRF centroid is offset from the target star catalog position by about 5.67 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.364 \pm 1.190	5.35	-4.218 \pm 0.991	4.766 \pm 1.325
PRF-fit source offset from KIC position	2.415 \pm 1.287	1.88	0.868 \pm 0.990	2.253 \pm 1.325
photometric centroid source offset	3.49 \pm 1.10	3.17	3.01 \pm 1.17	-1.76 \pm 0.84

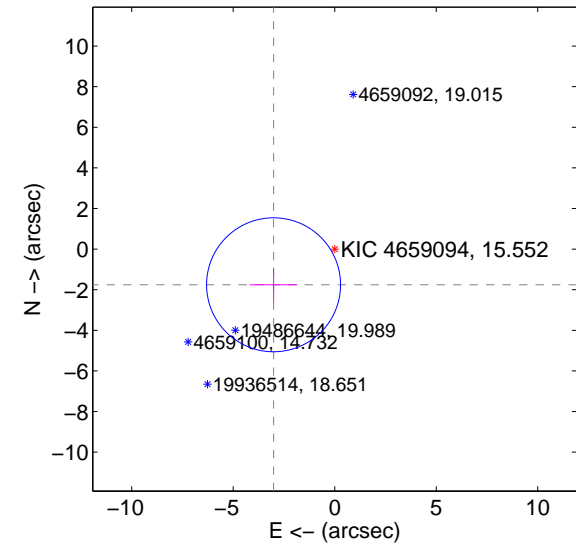
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

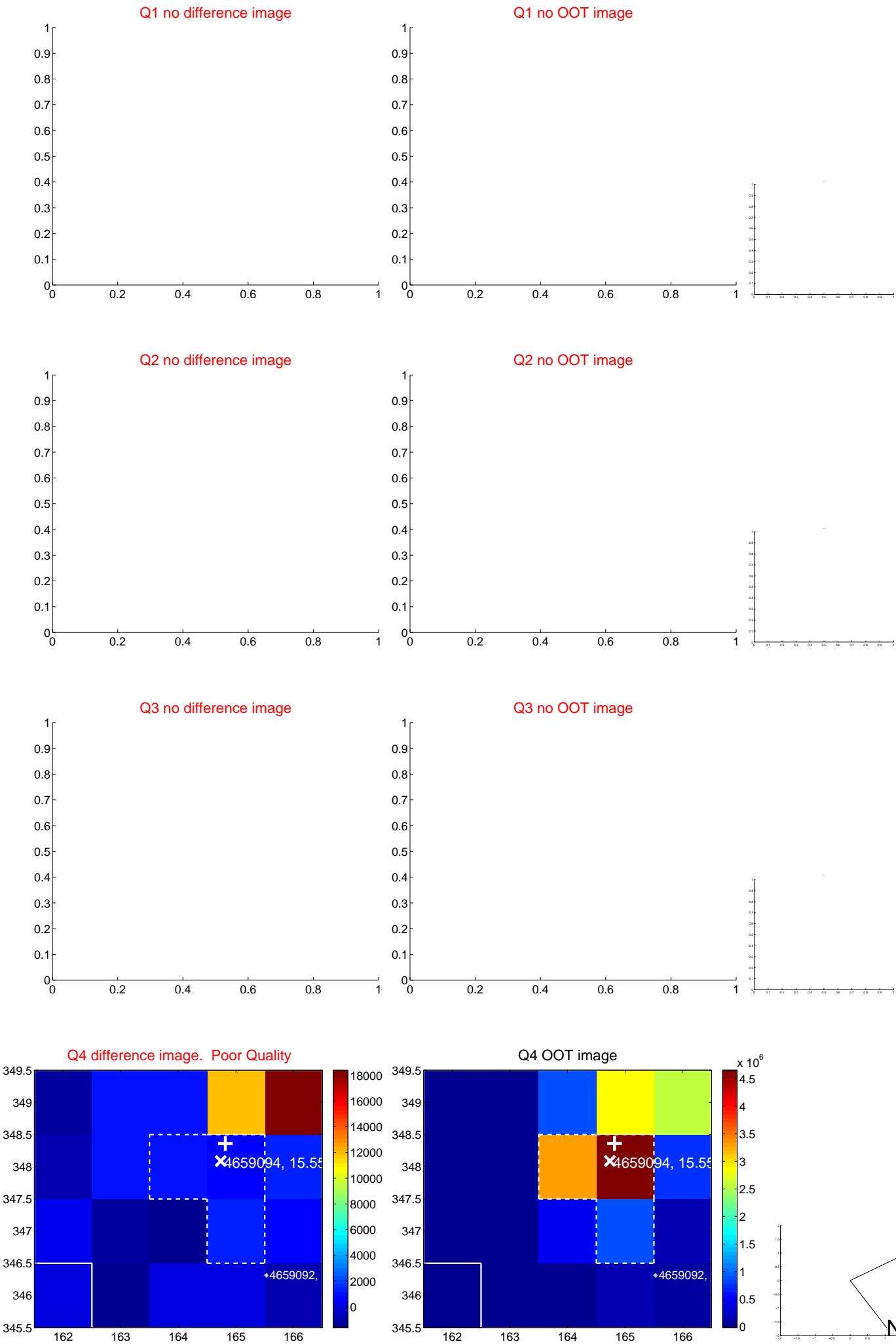


offset from photometric centroids

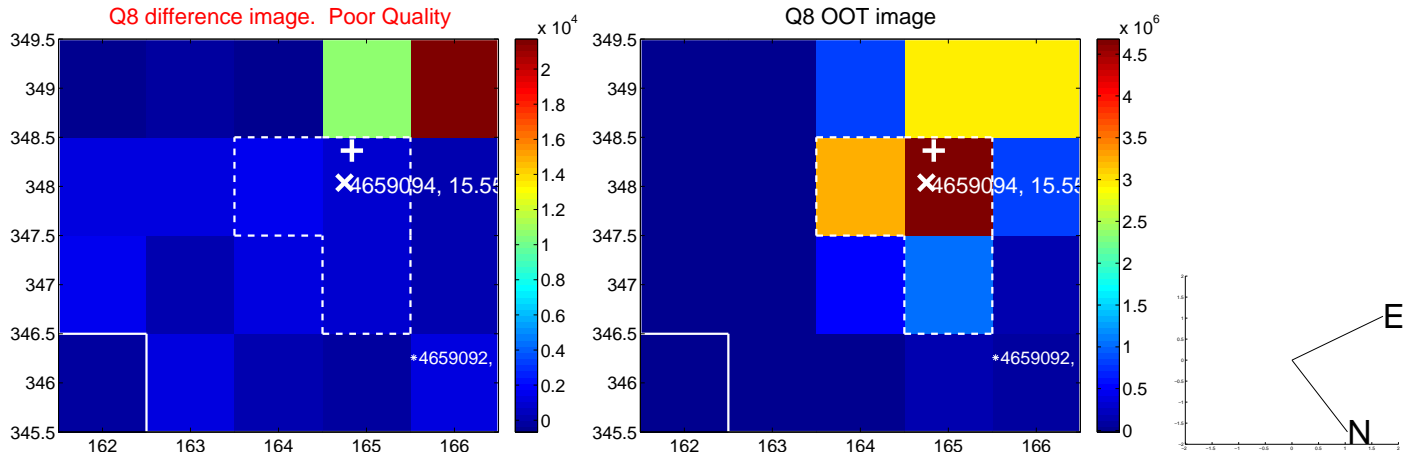
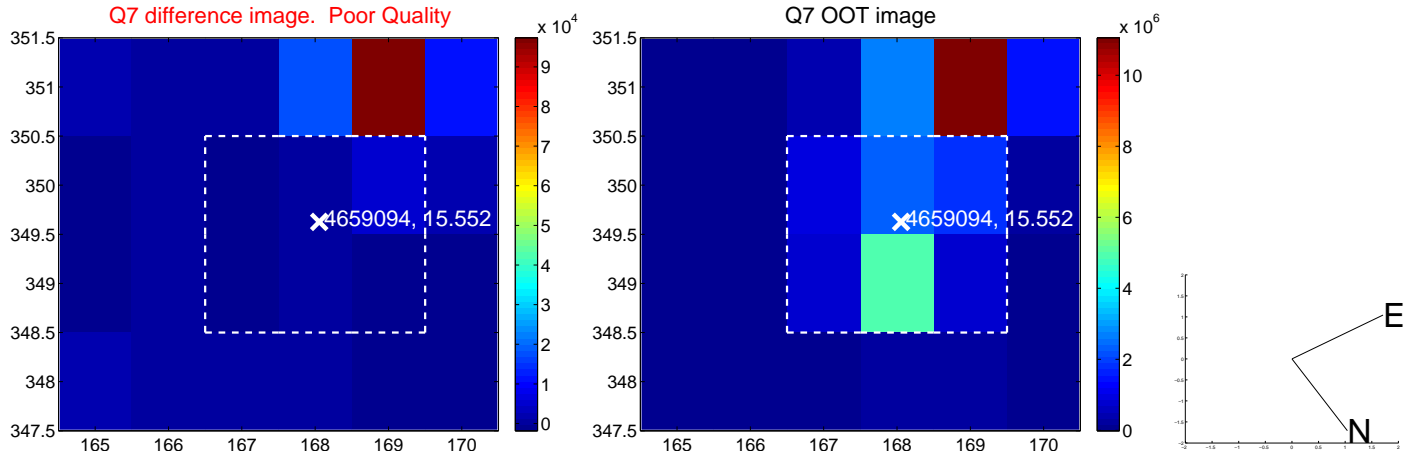
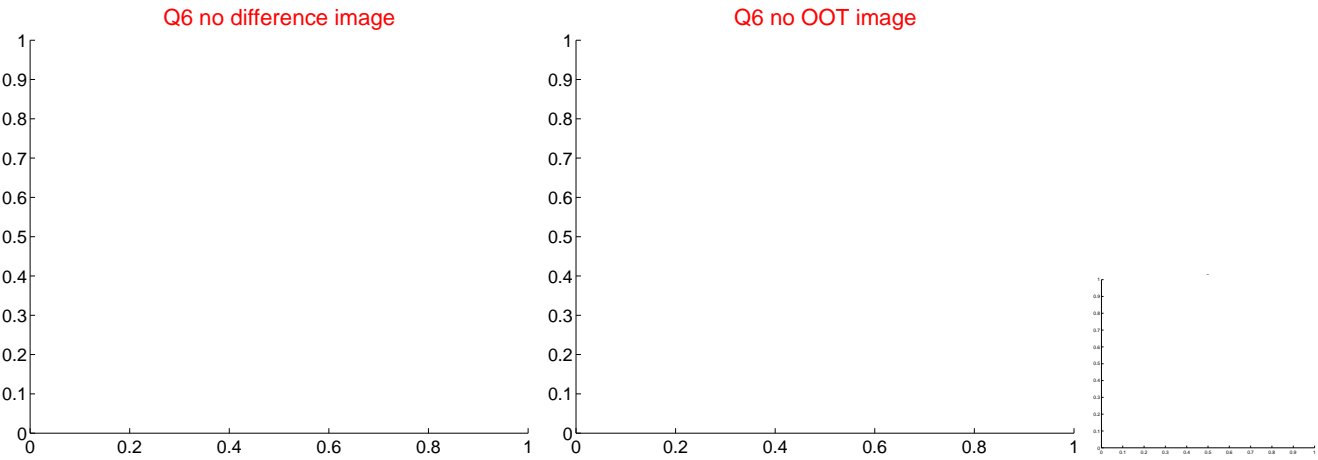
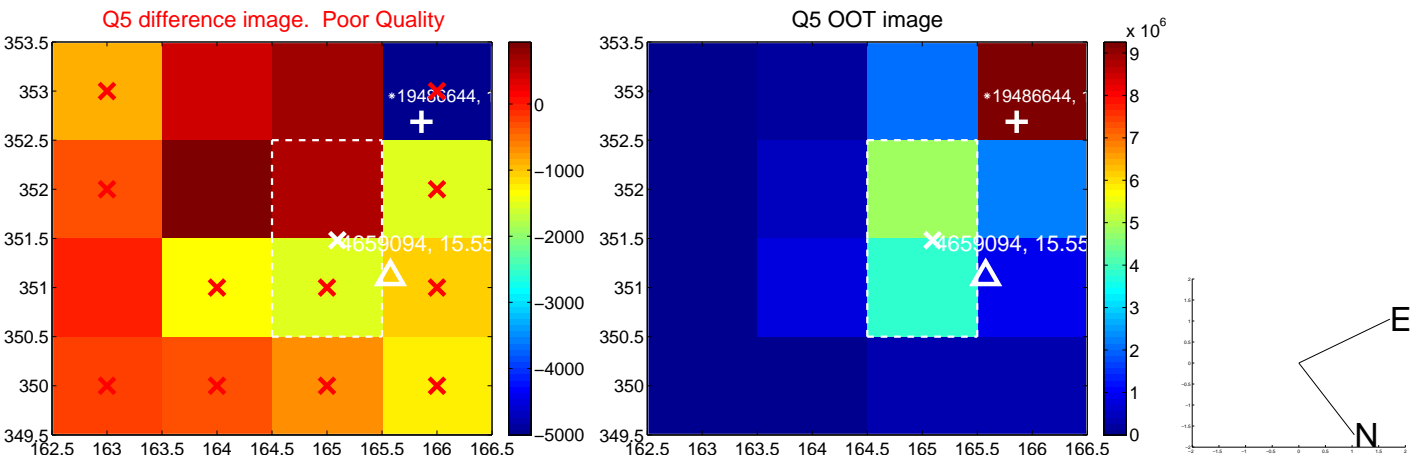


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

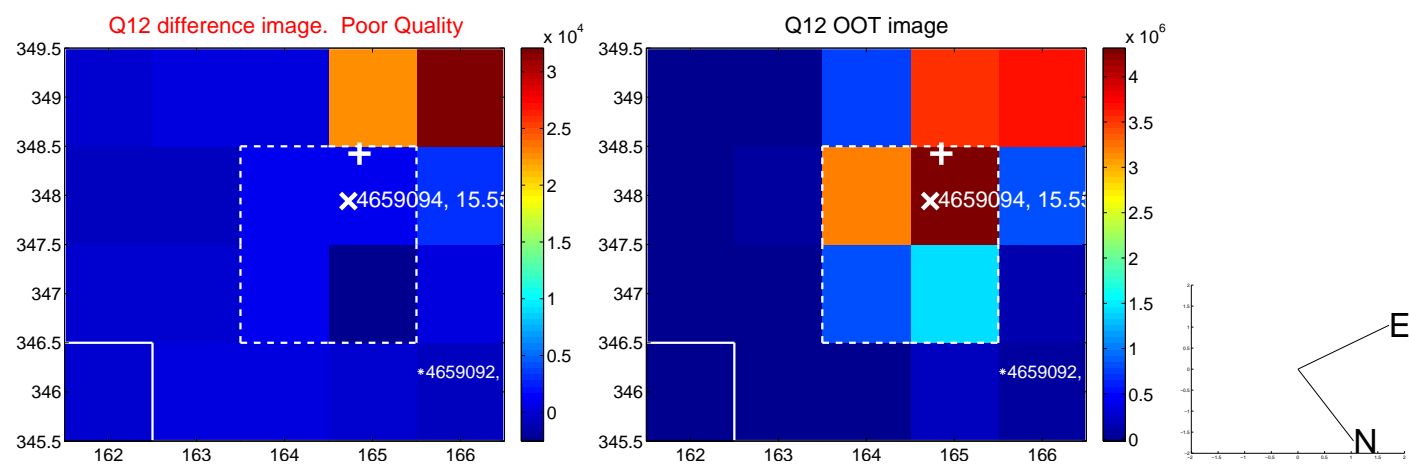
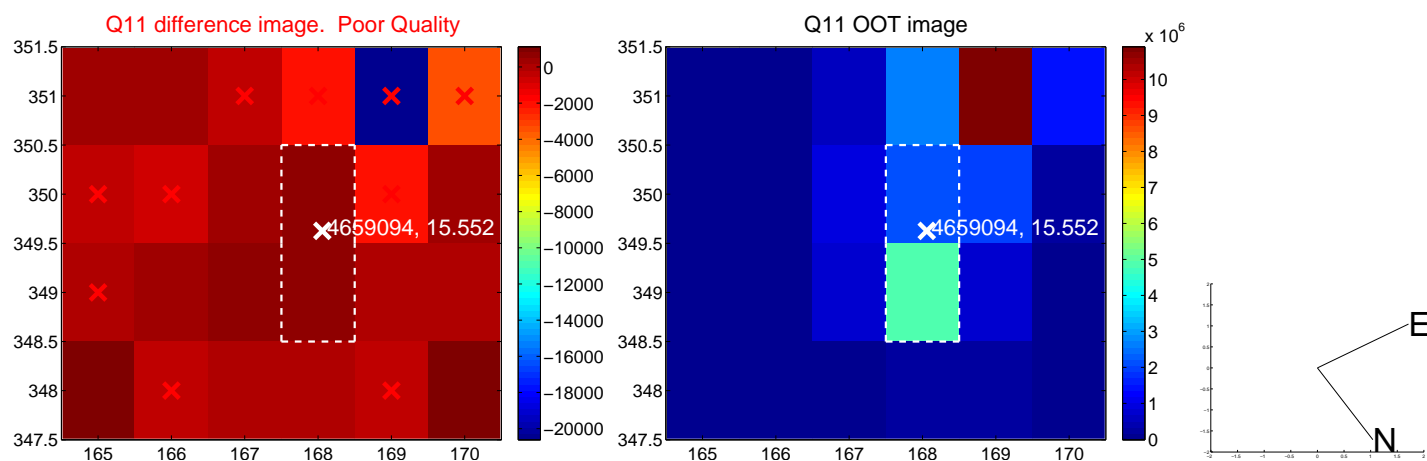
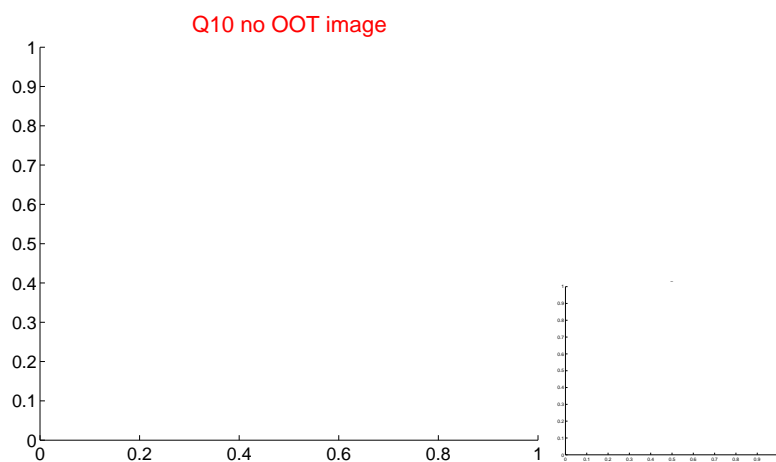
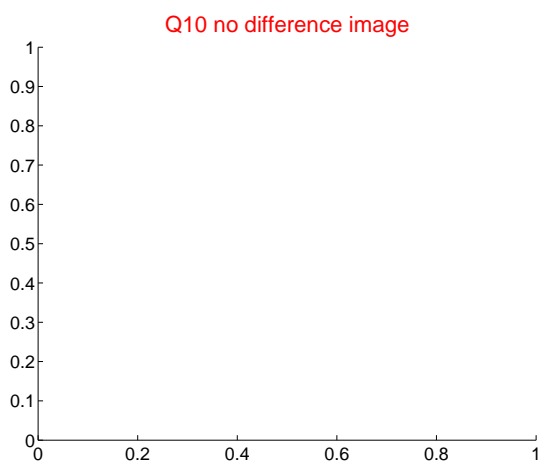
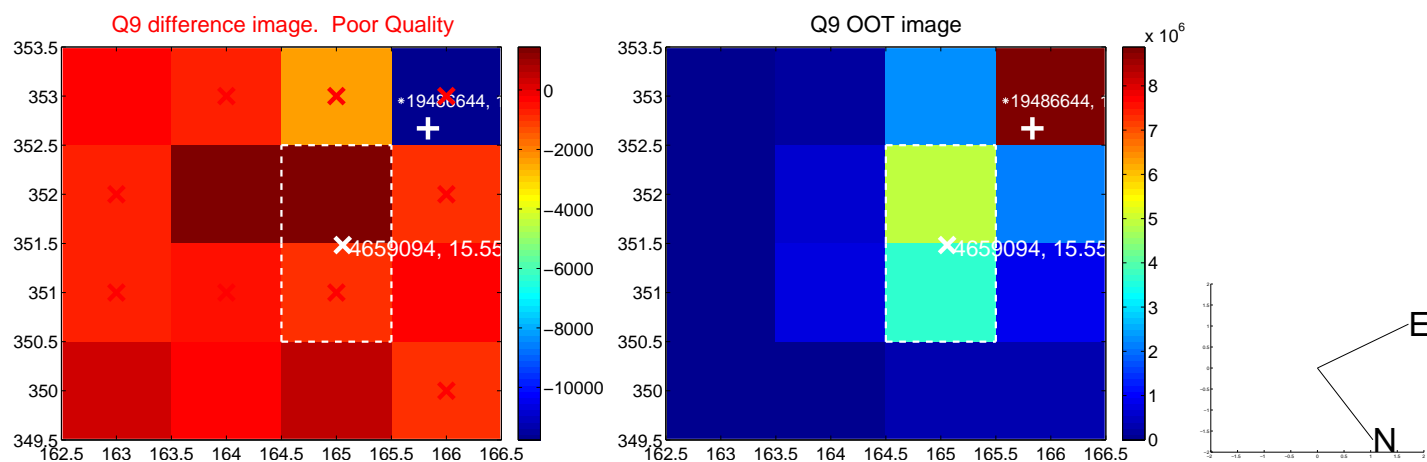
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



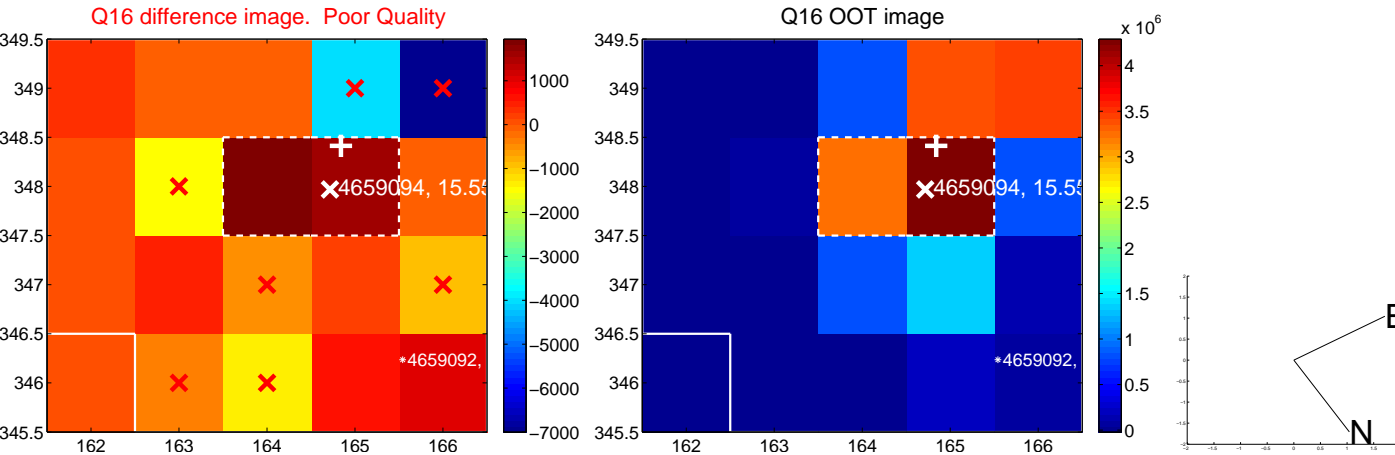
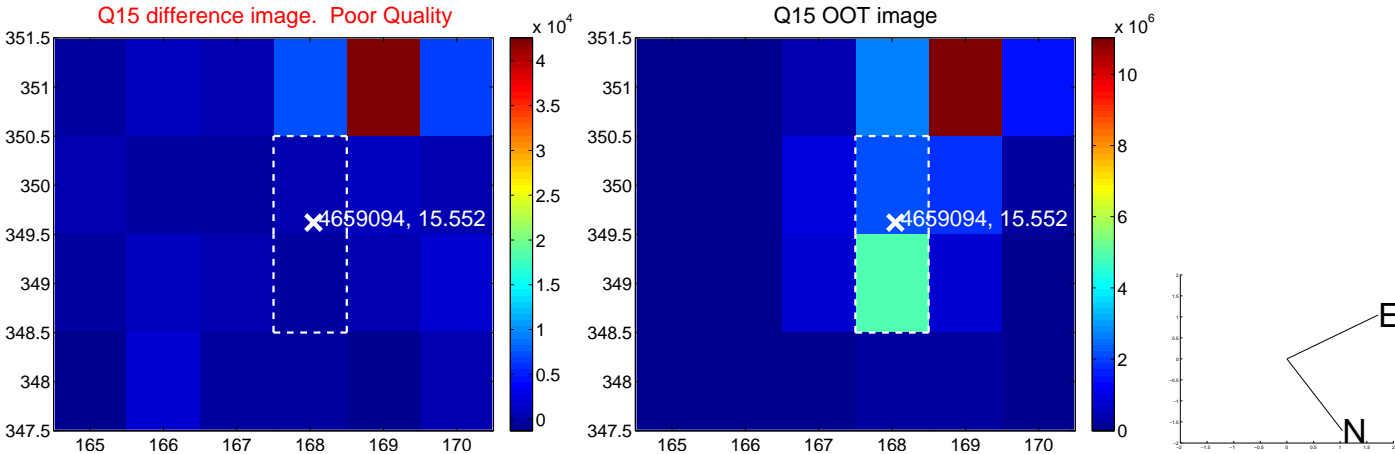
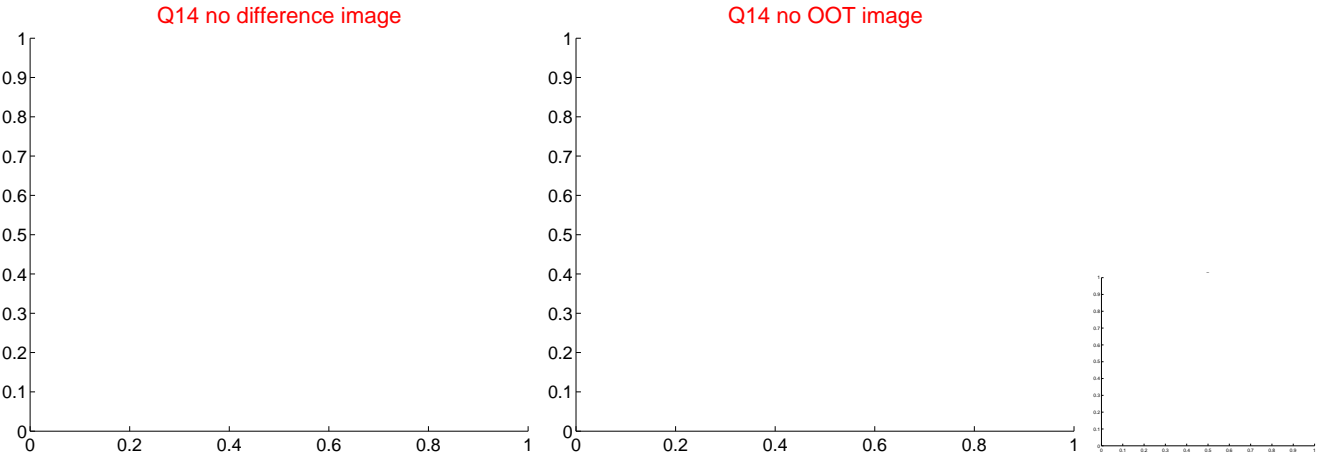
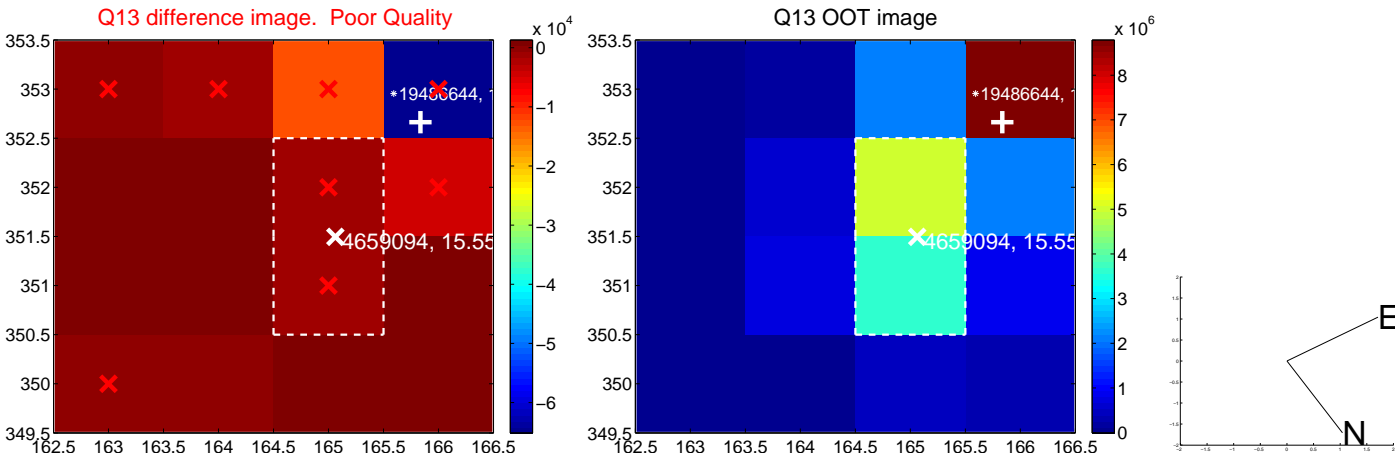
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



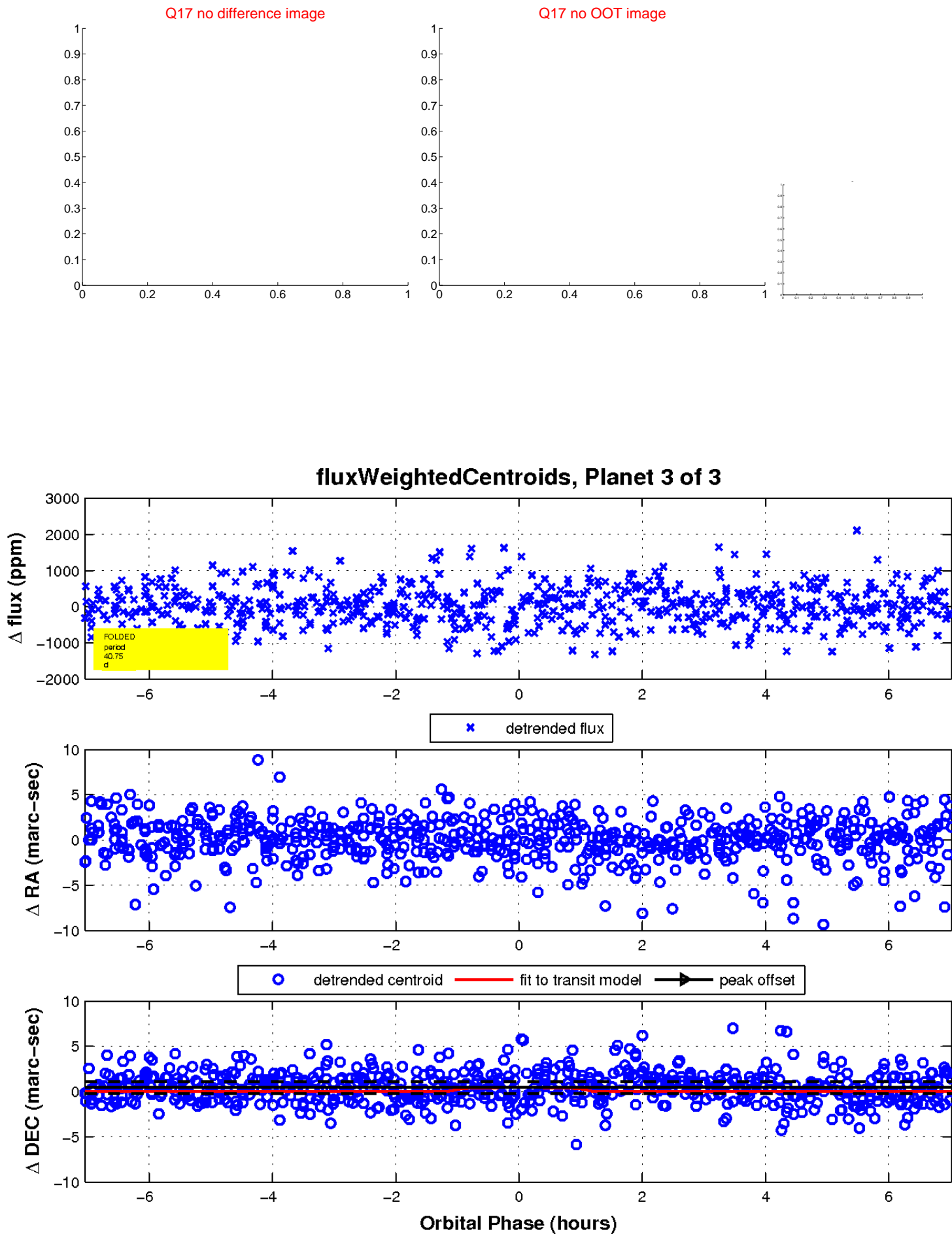
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

