

KIC 004774321

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})
004774321-01	OBS	No	17.024142	144.256089	174.5	12.770	8.4	8.5	1.20	6293	3.14	116.39
004774321-02	OBS	No	170.313723	143.273913	516.2	12.500	11.4	-1.0	1.20	6293	2.73	5.40
004774321-03	OBS	No	5.007367	135.114227	70.3	10.729	8.1	7.9	1.20	6293	1.19	595.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004774321-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
004774321-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
004774321-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS

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

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

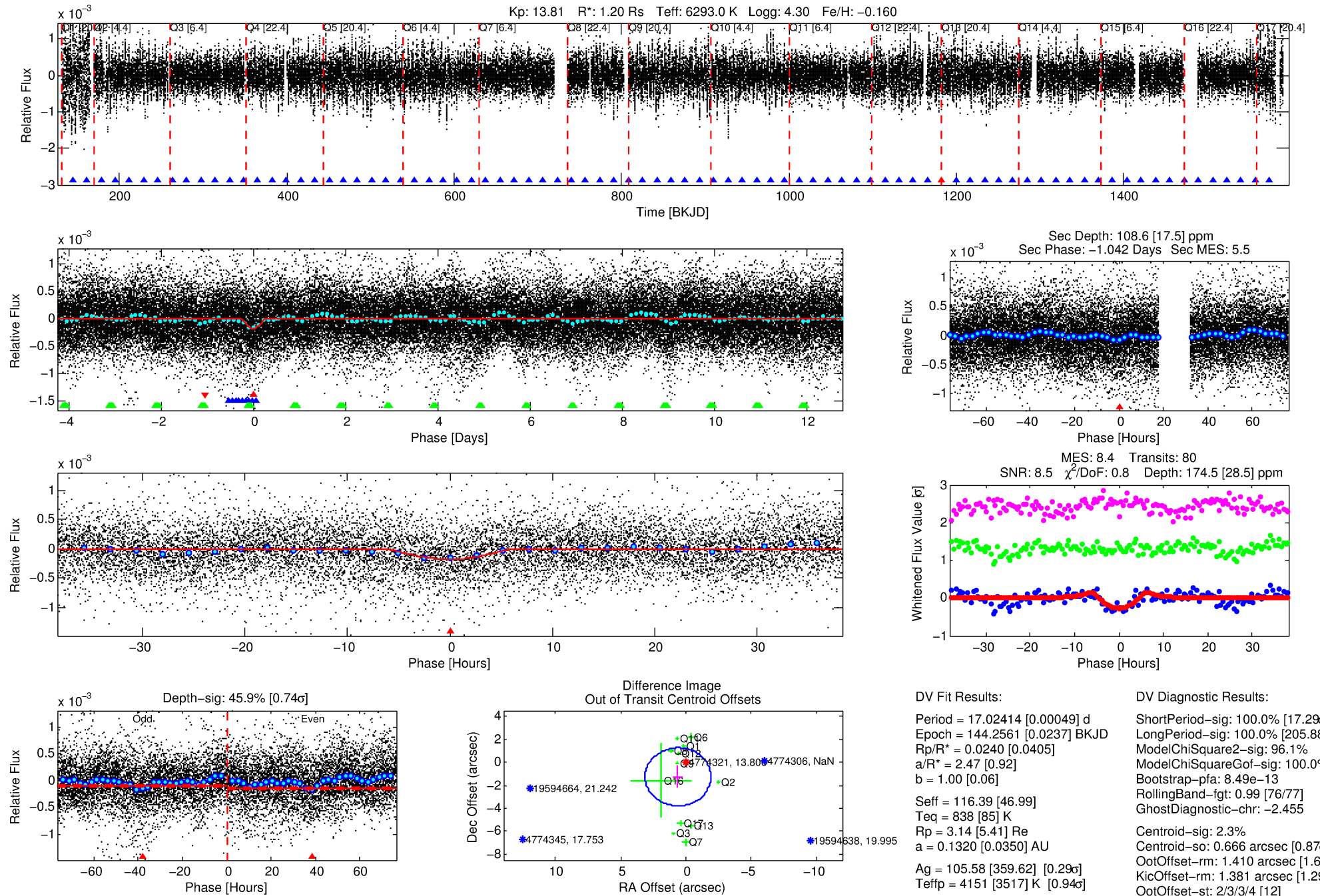
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004774321-01

No Significant Match Found

DV One-Page Summary

KIC: 4774321 Candidate: 1 of 3 Period: 17.024 d



DV Fit Results:

Period = 17.02414 [0.00049] d
Epoch = 144.2561 [0.0237] BKJD
Rp/R* = 0.0240 [0.0405]
a/R* = 2.47 [0.92]
b = 1.00 [0.06]
Seff = 116.39 [46.99]
Teff = 838 [85] K
Rp = 3.14 [5.41] Re
a = 0.1320 [0.0350] AU
Ag = 105.58 [359.62] [0.29 σ]
Teffp = 4151 [3517] K [0.94 σ]

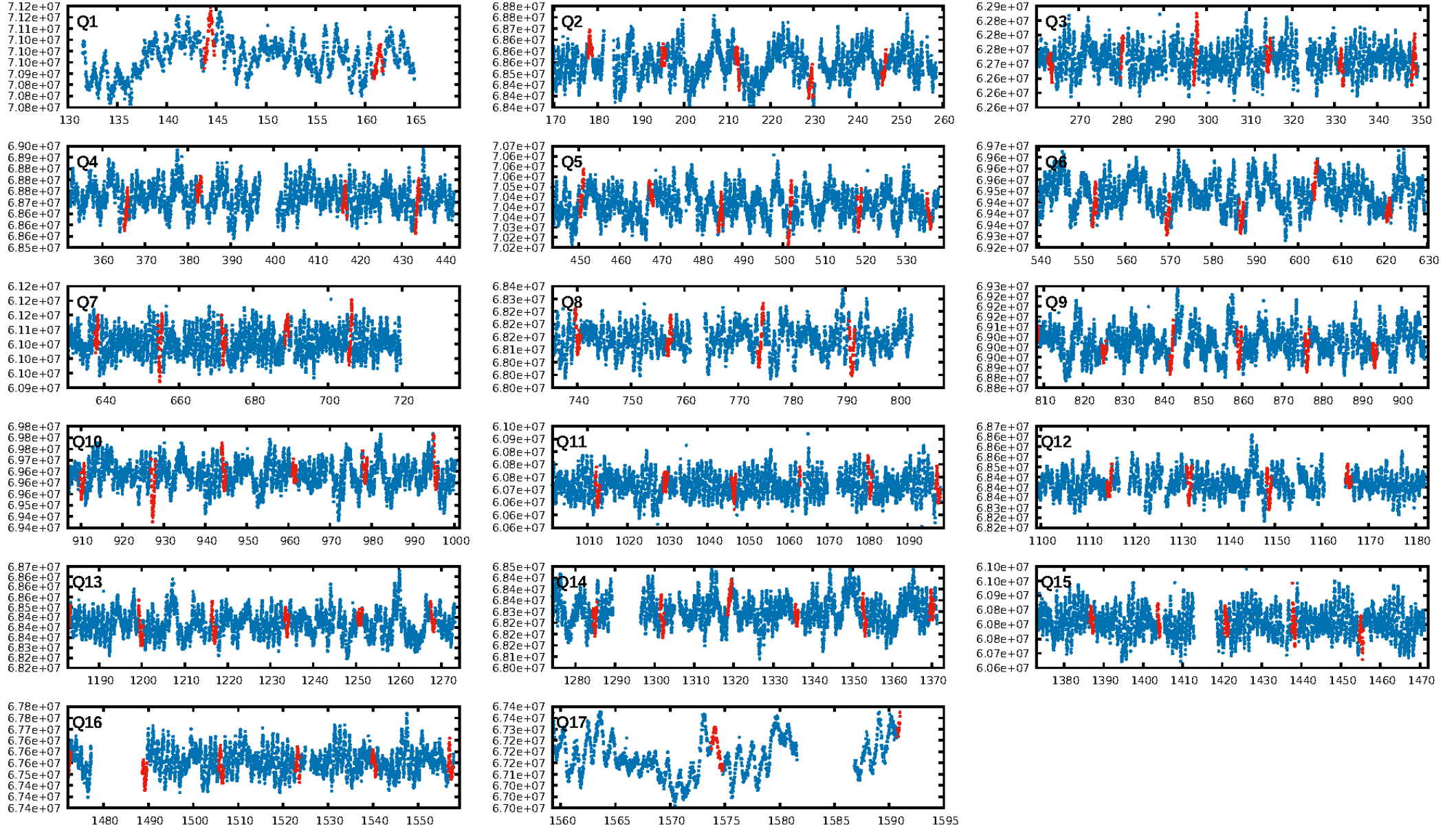
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.29 σ]
LongPeriod-sig: 100.0% [205.88 σ]
ModelChiSquare2-sig: 96.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.49e-13
RollingBand-fgt: 0.99 [76/77]
GhostDiagnostic-chr: -2.455
Centroid-sig: 2.3%
Centroid-so: 0.666 arcsec [0.87 σ]
OotOffset-rm: 1.410 arcsec [1.68 σ]
KicOffset-rm: 1.381 arcsec [1.29 σ]
OotOffset-st: 2/3/3/4 [12]
KicOffset-st: 2/3/3/4 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 0.88 [15/17]

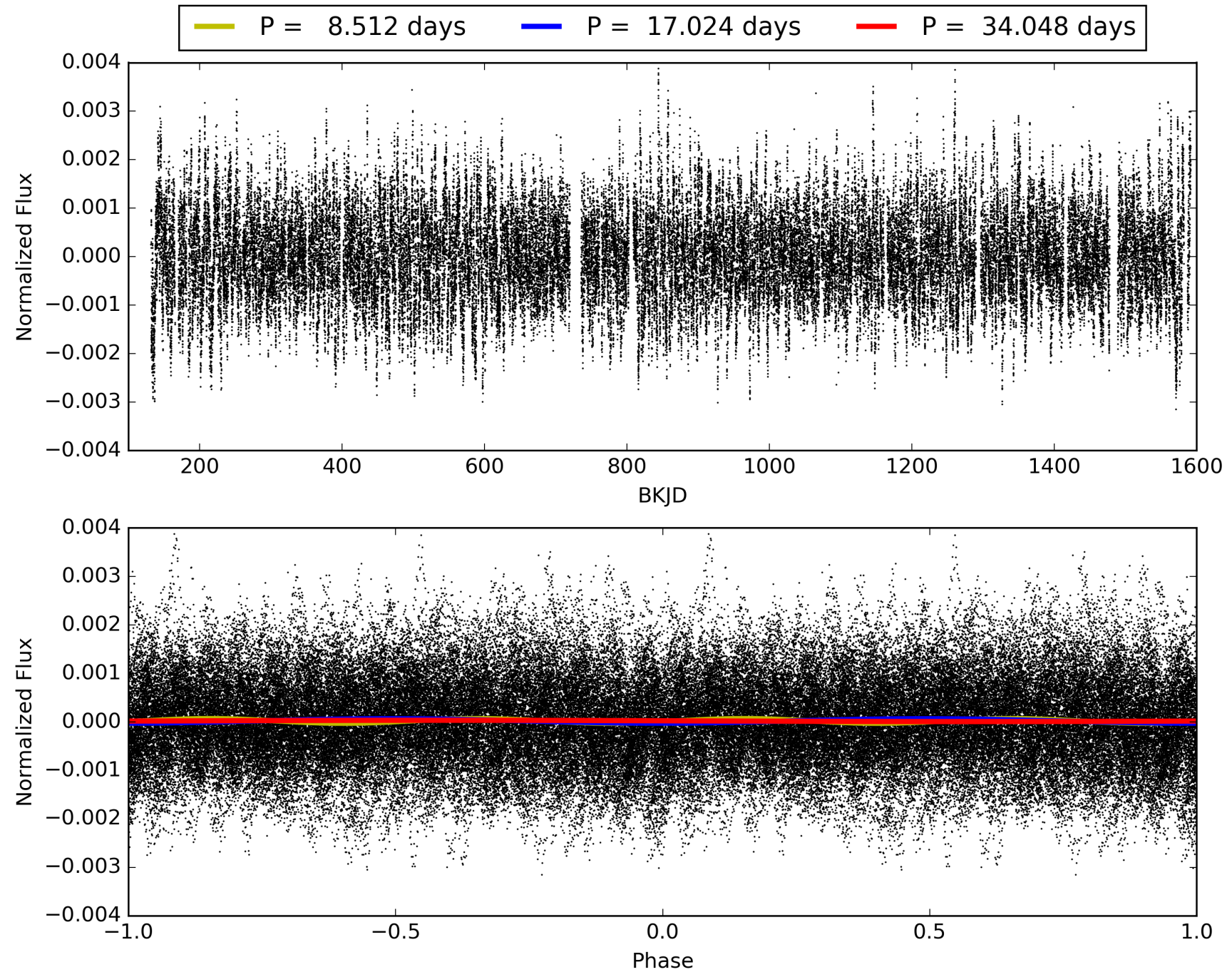
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:05:13 Z

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

TCE 004774321-01, PDC Light Curves

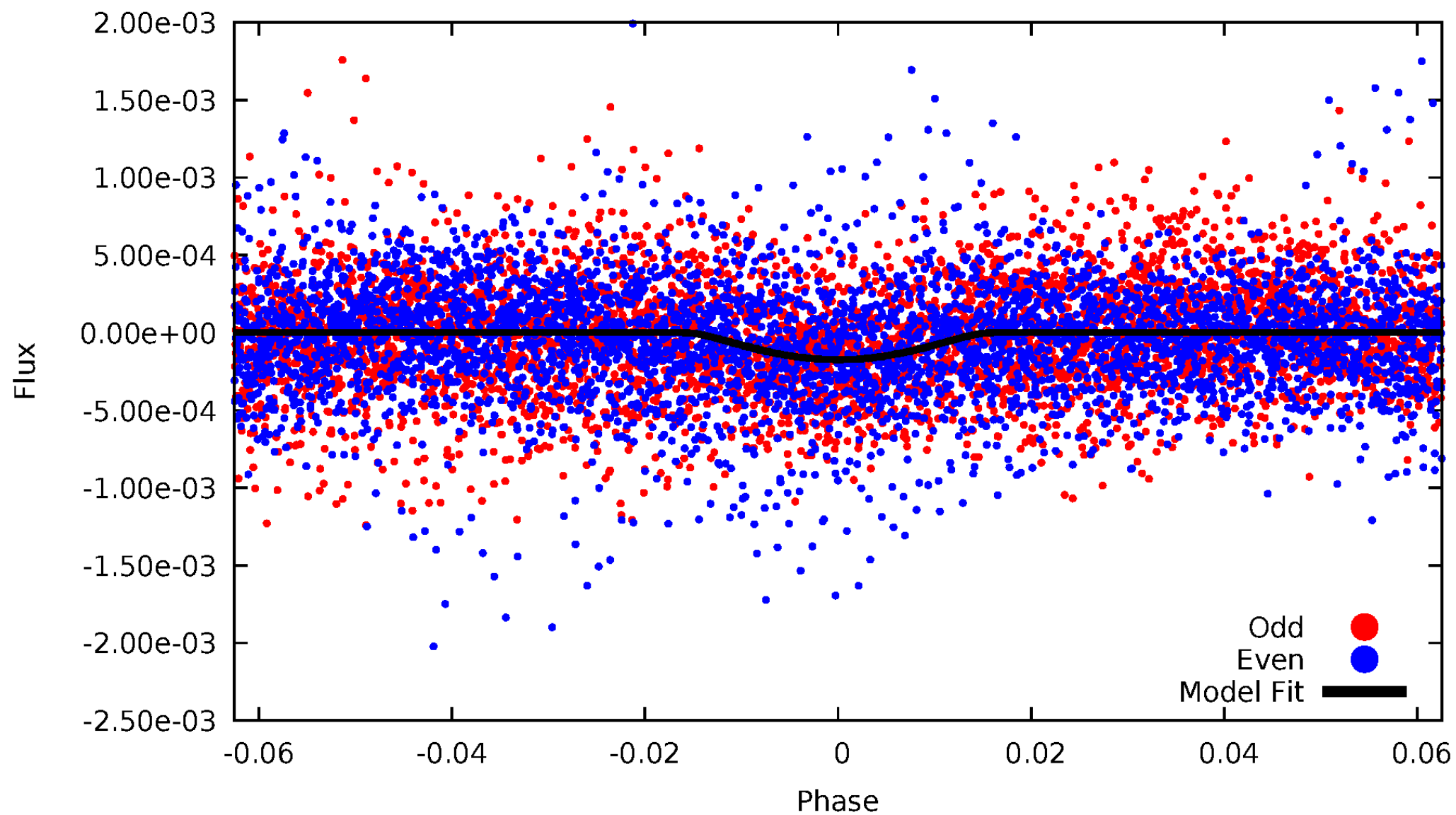


TCE 004774321-01



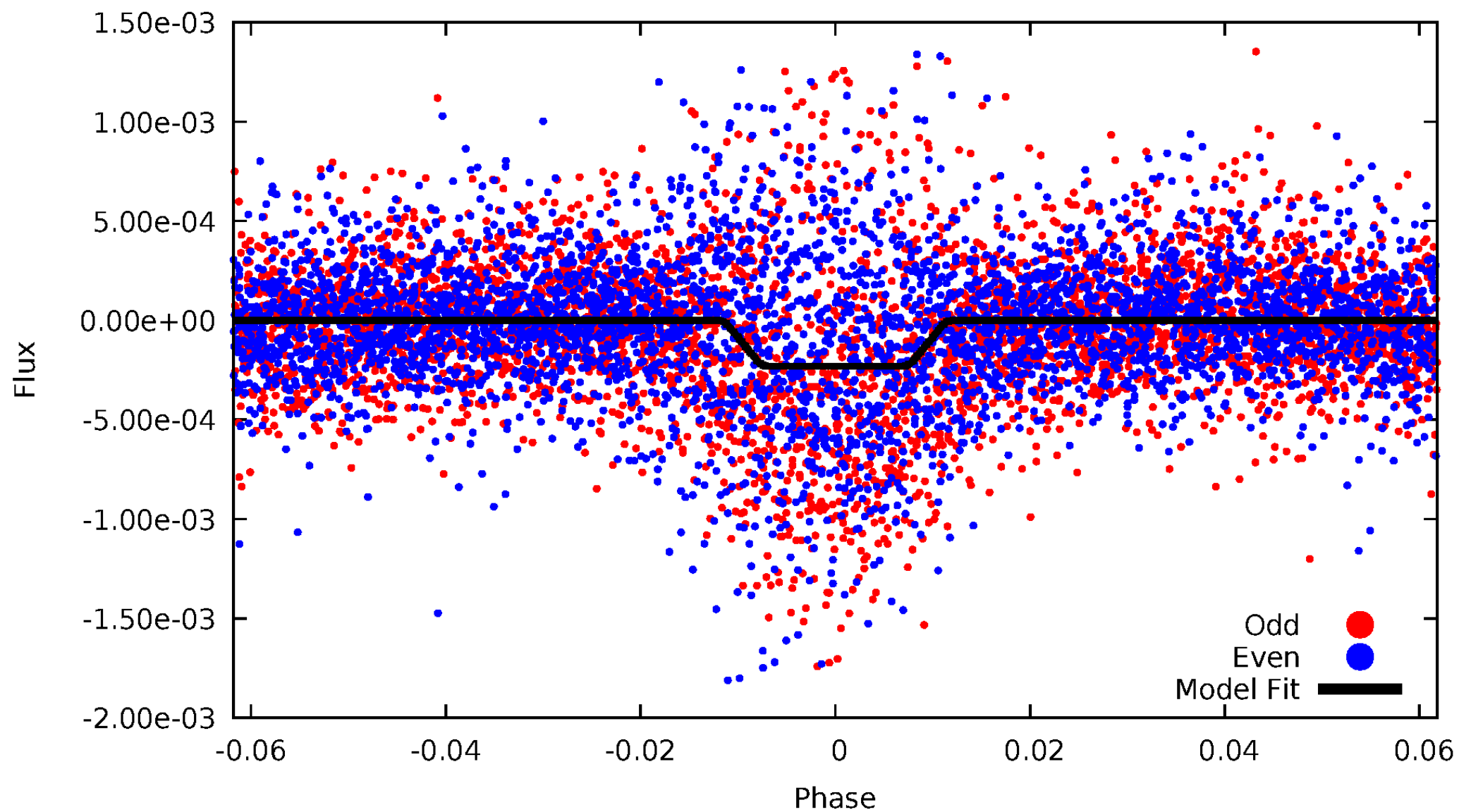
DV Odd/Even

TCE 004774321-01



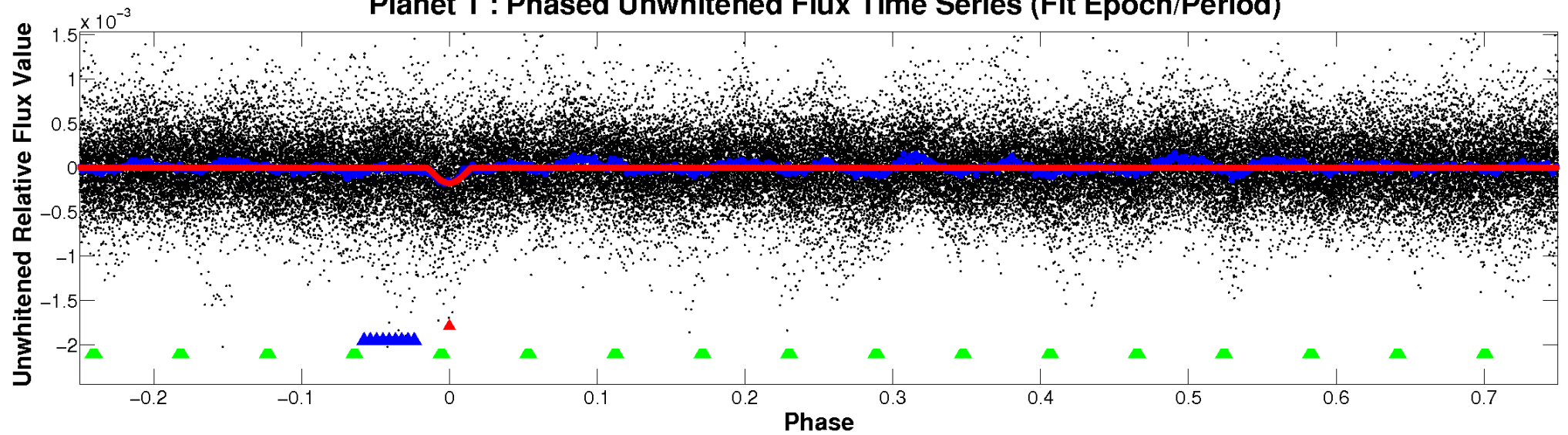
ALT Odd/Even

TCE 004774321-01

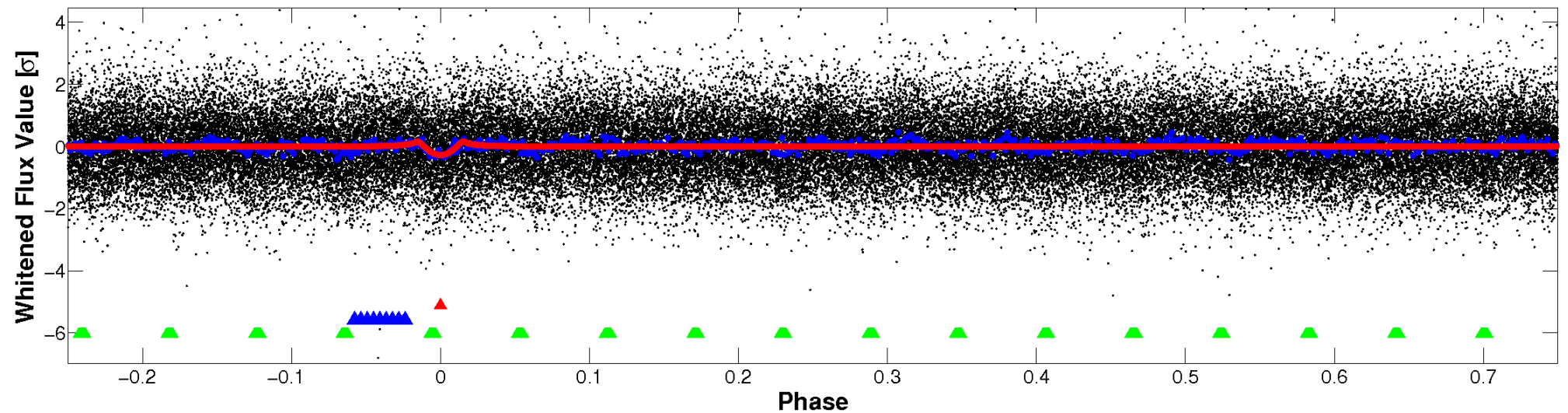


Non-Whitened Vs. Whitened Light Curve

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

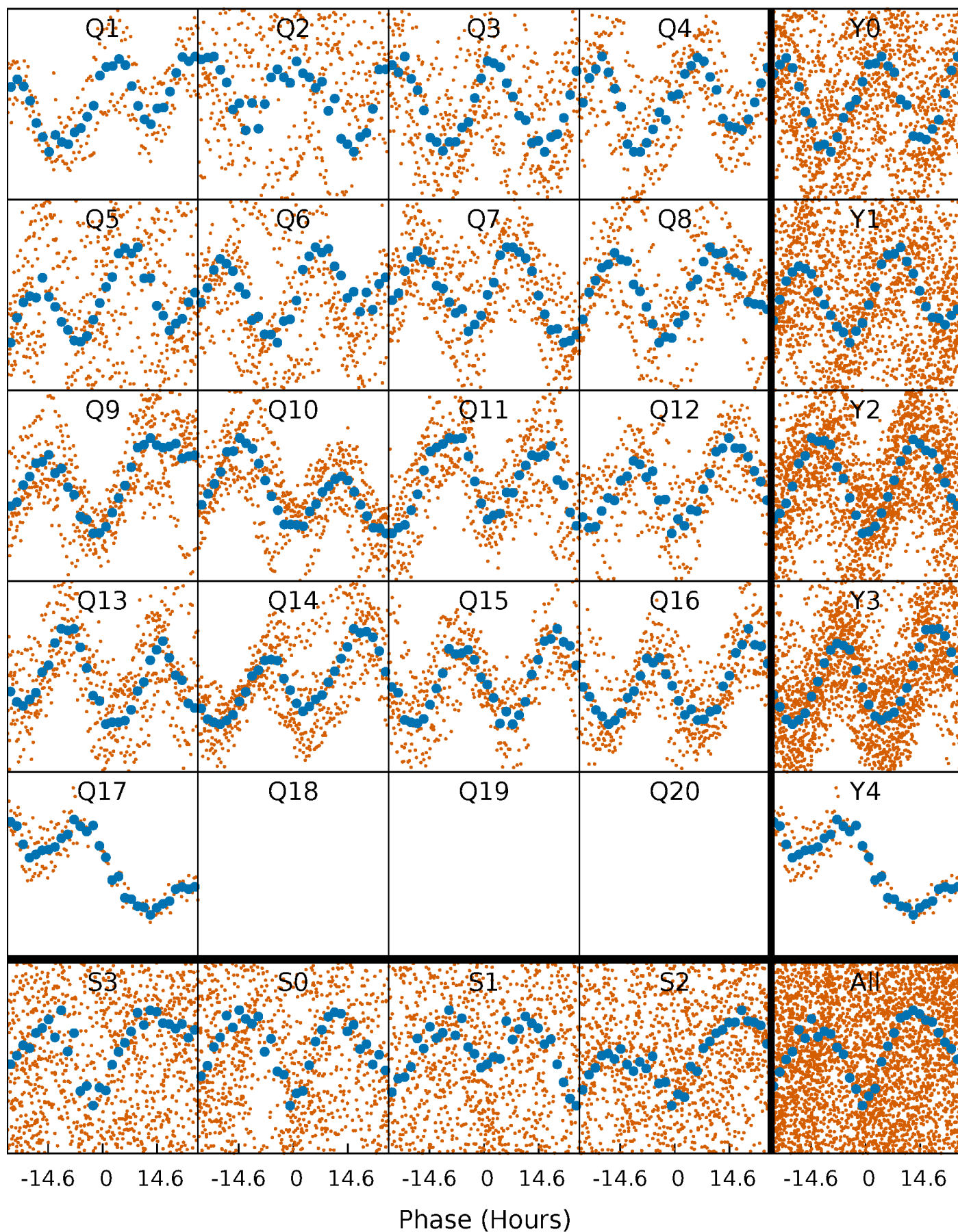


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



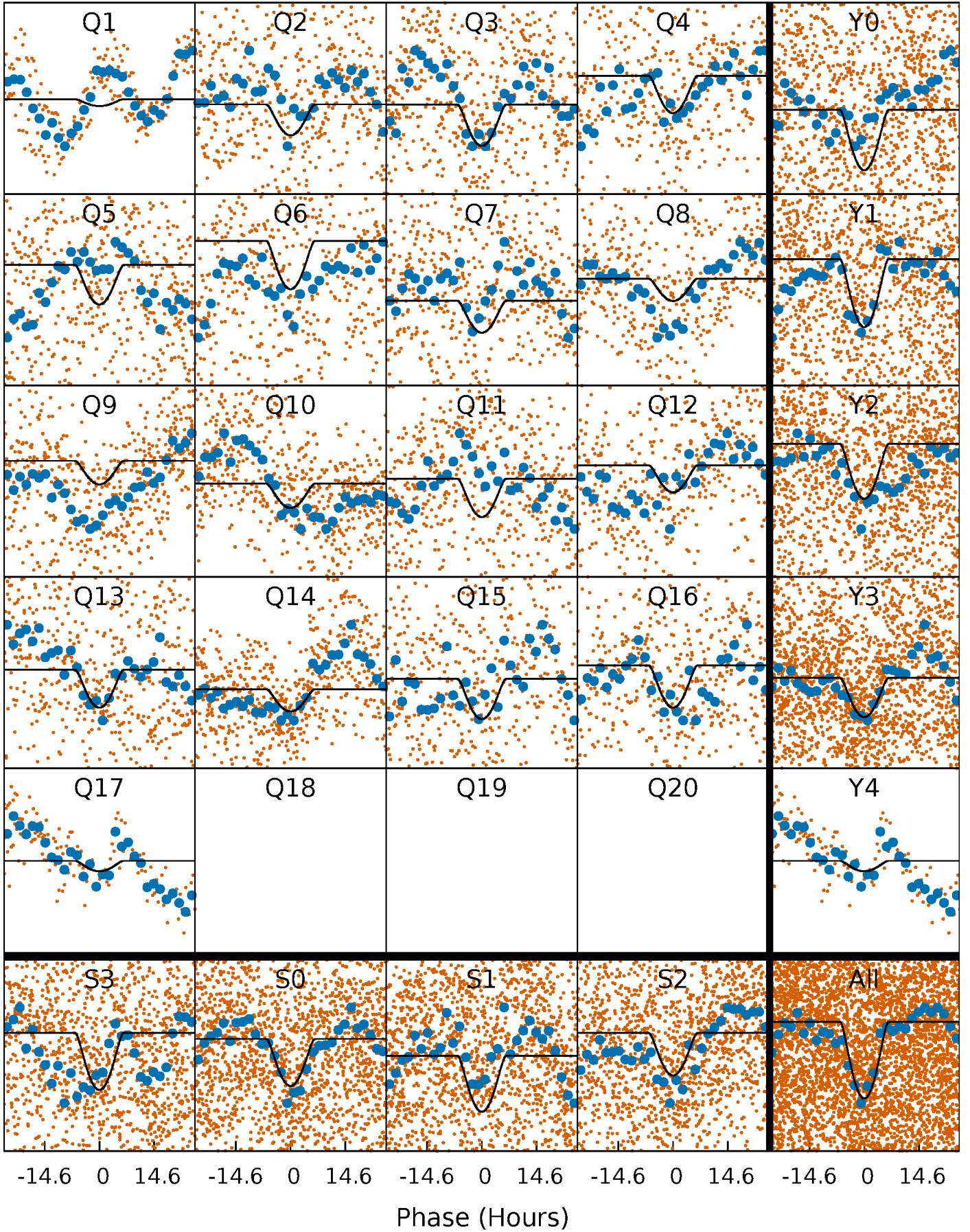
PDC Quarter-Phased Transit Curves

TCE 004774321-01 P= 17.024142 Days $T_0=144.256089$ (BKJD)



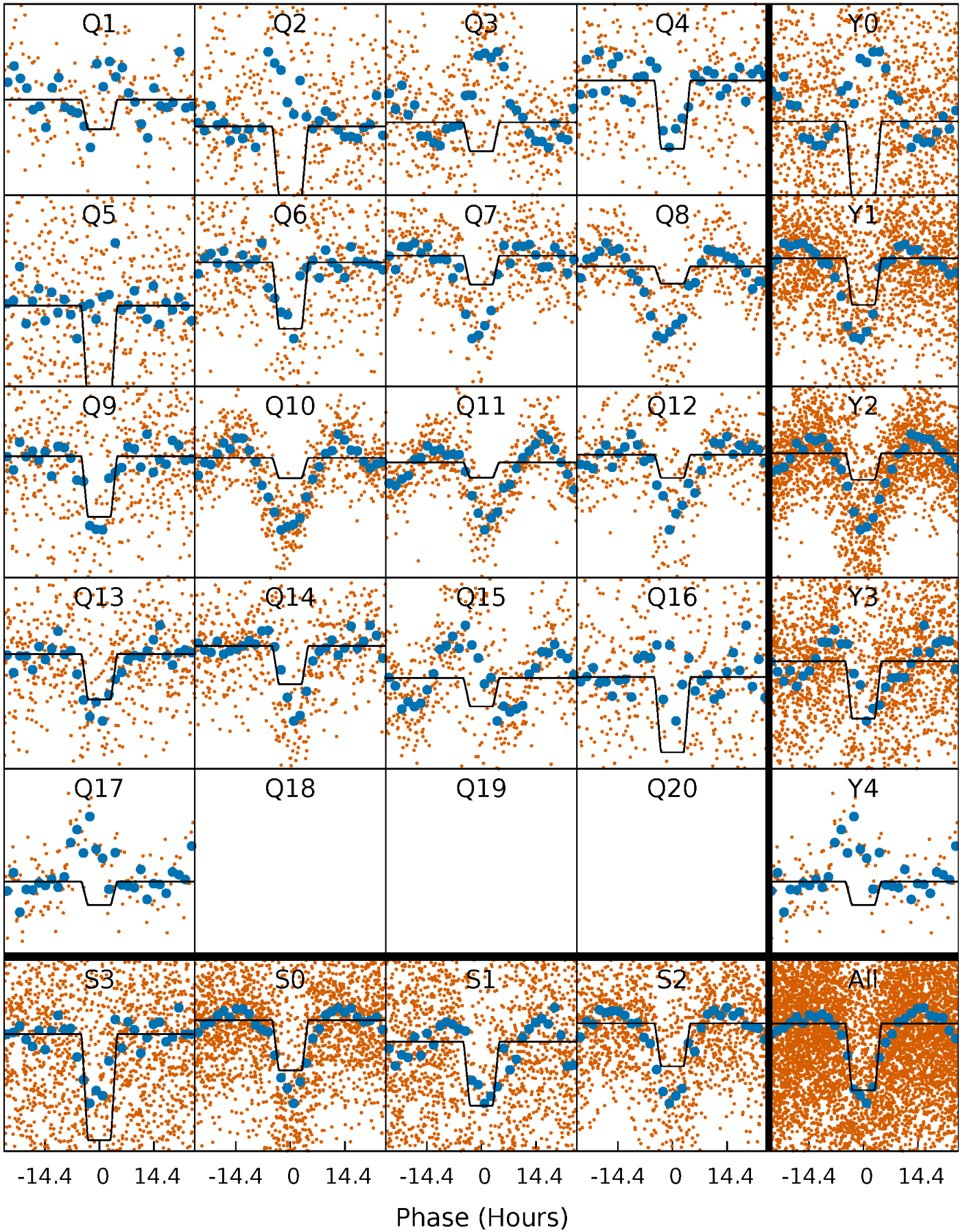
DV Quarter-Phased Transit Curves

TCE 004774321-01 P= 17.024142 Days $T_0=144.256089$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

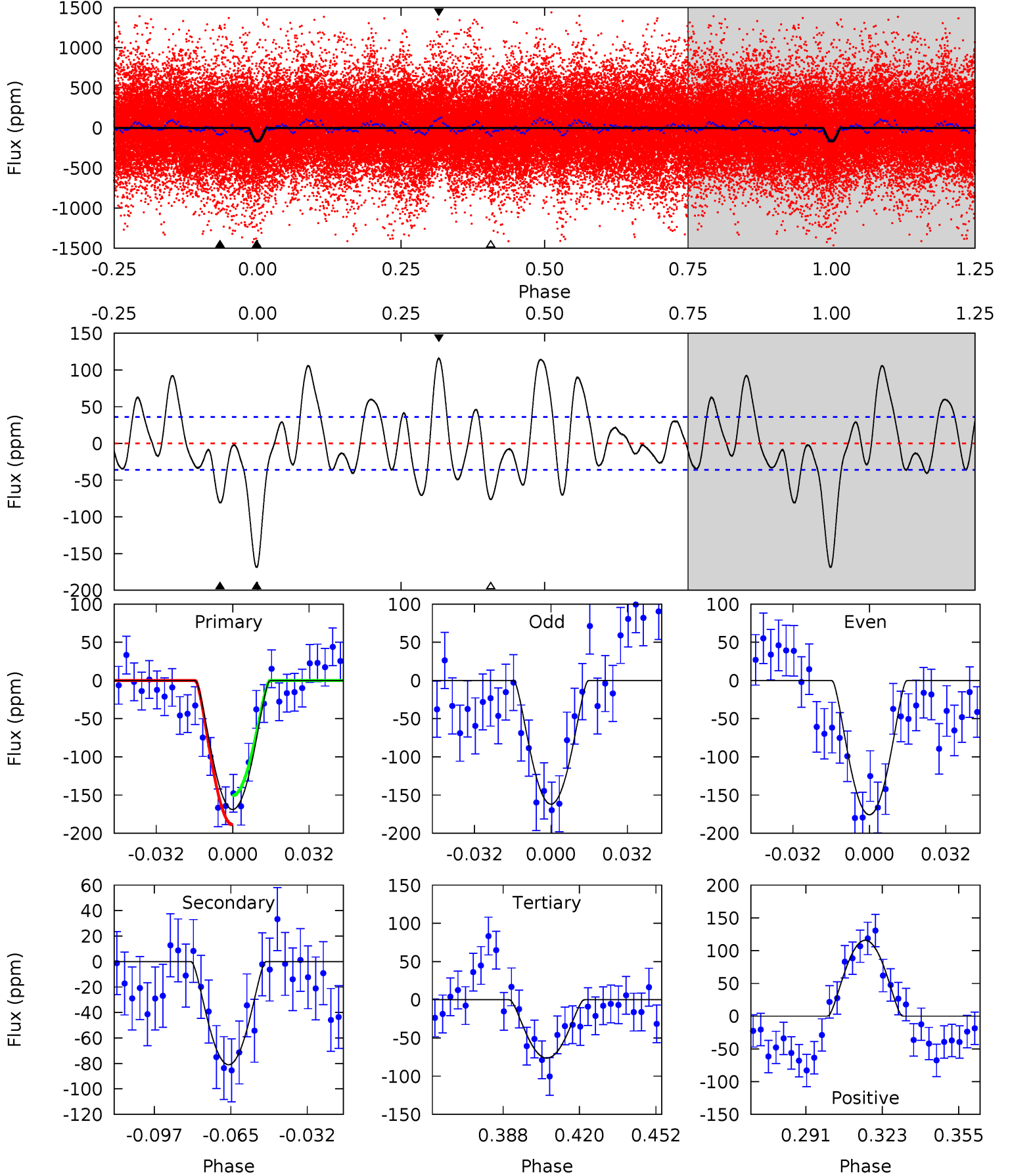
TCE 004774321-01 P= 17.024424 Days $T_0=144.242531$ (BKJD)



DV Model-Shift Uniqueness Test

004774321-01, P = 17.024142 Days, E = 127.231947 Days

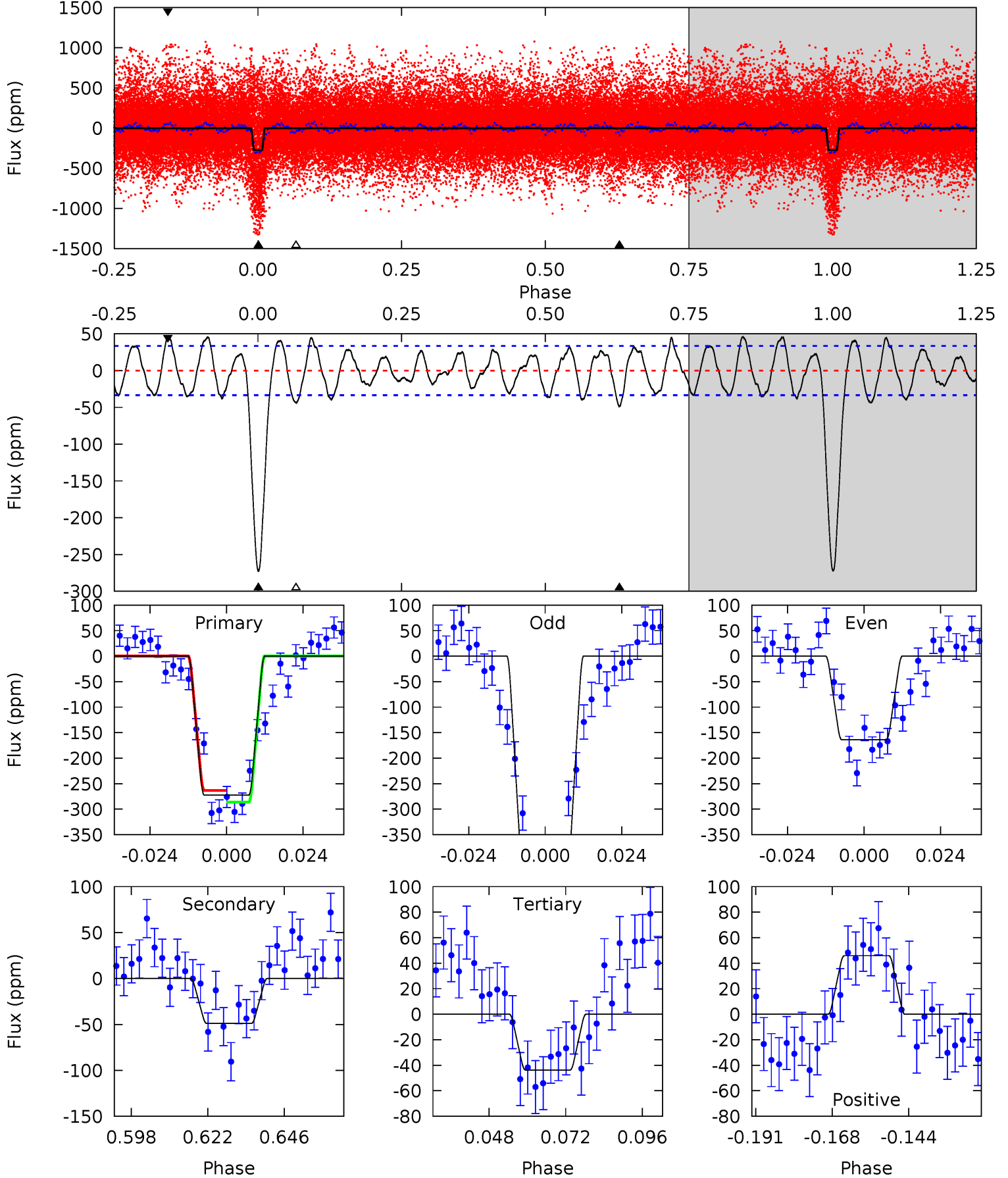
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.5	10.8	10.2	15.4	4.80	2.14	5.90	12.3	7.07	0.61	-4.63	0.93	0.97	0.41	2.54



Alt Model-Shift Uniqueness Test

004774321-01, P = 17.024424 Days, E = 127.218107 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.6	7.11	6.36	6.66	4.86	2.26	3.23	33.2	32.9	0.75	0.45	17.5	1.00	0.14	1.66



Stellar Parameters For KIC 004774321

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6293^{+175}_{-241}	$4.303^{+0.132}_{-0.198}$	$-0.160^{+0.250}_{-0.300}$	$1.201^{+0.391}_{-0.210}$	$1.055^{+0.185}_{-0.123}$	$0.857^{+0.537}_{-0.448}$
	+3%/-4%	+3%/-5%	+156%/-188%	+33%/-17%	+18%/-12%	+63%/-52%
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 004774321-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-81 ± 8	$5.09^{+4.79}_{-3.37}$	1174^{+94}_{-73}	3537^{+1711}_{-649}	30^{+226}_{-22}
Alt.	-49 ± 7	$4.48^{+4.97}_{-2.92}$	1175^{+92}_{-71}	3380^{+1666}_{-653}	24^{+169}_{-19}

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 $A_{obs} \gg 1.0$

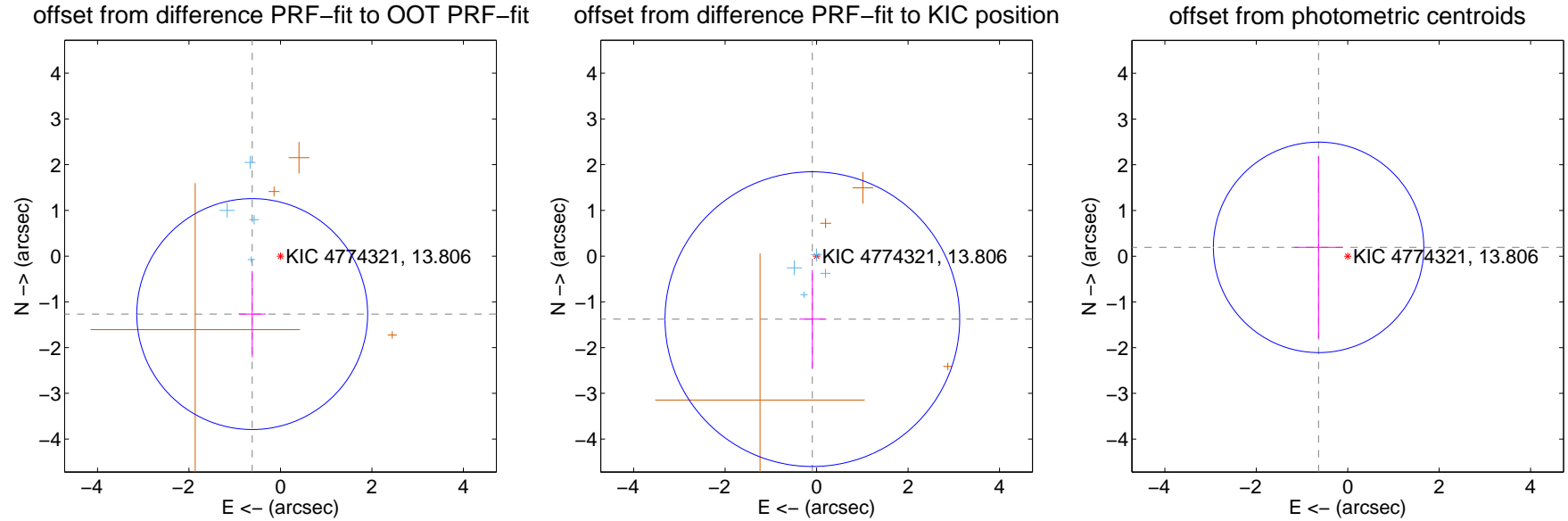
DV Centroid Data

Supplemental centroid analysis for 004774321-01. Kepler magnitude: 13.81. Transit SNR 8.49

There are 5 quarters with good PRF difference image offsets

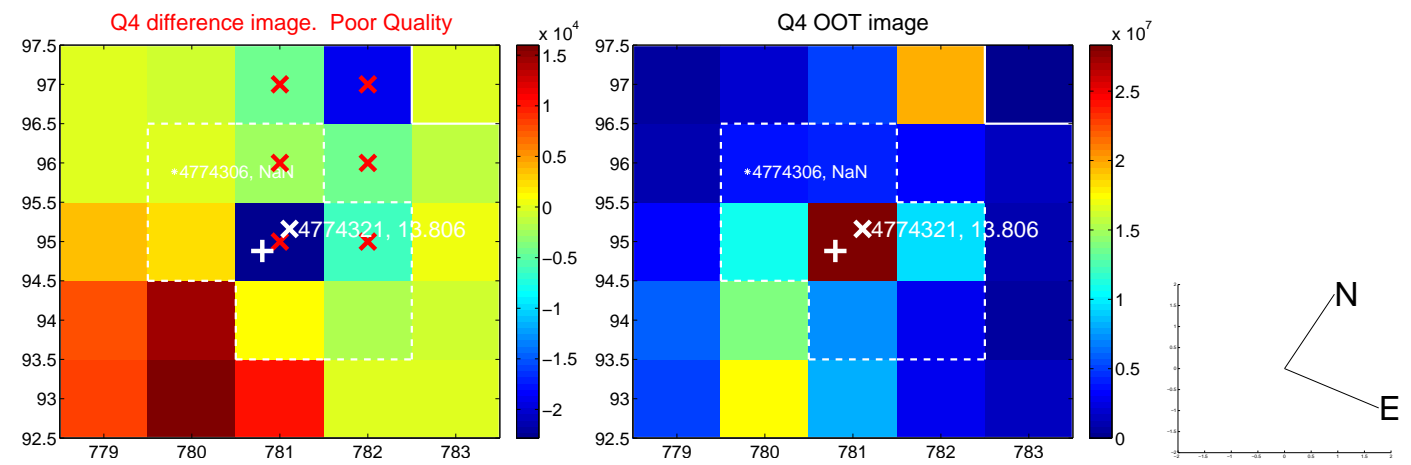
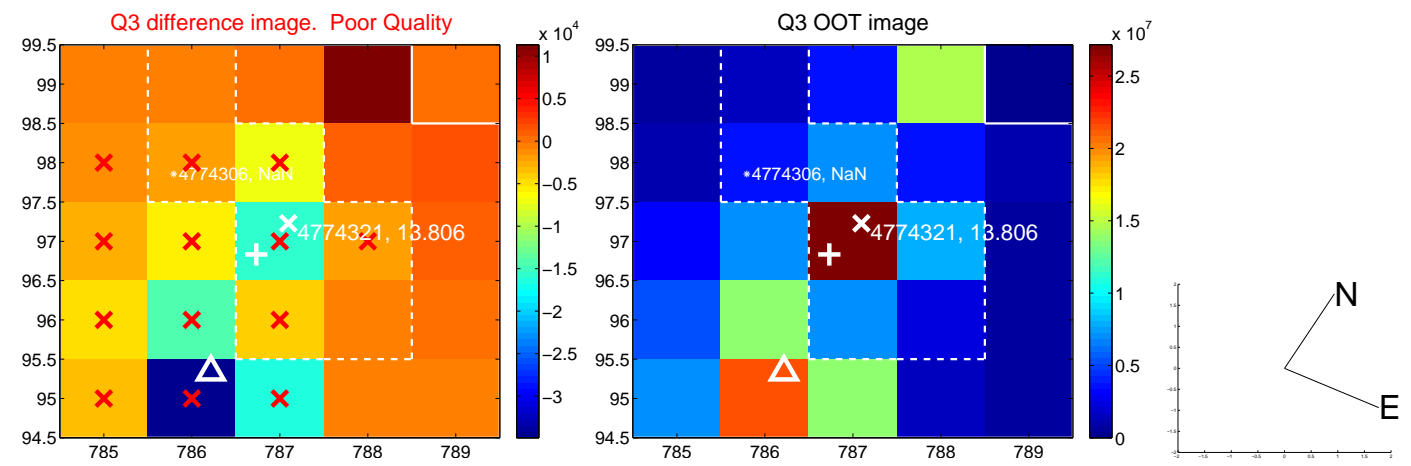
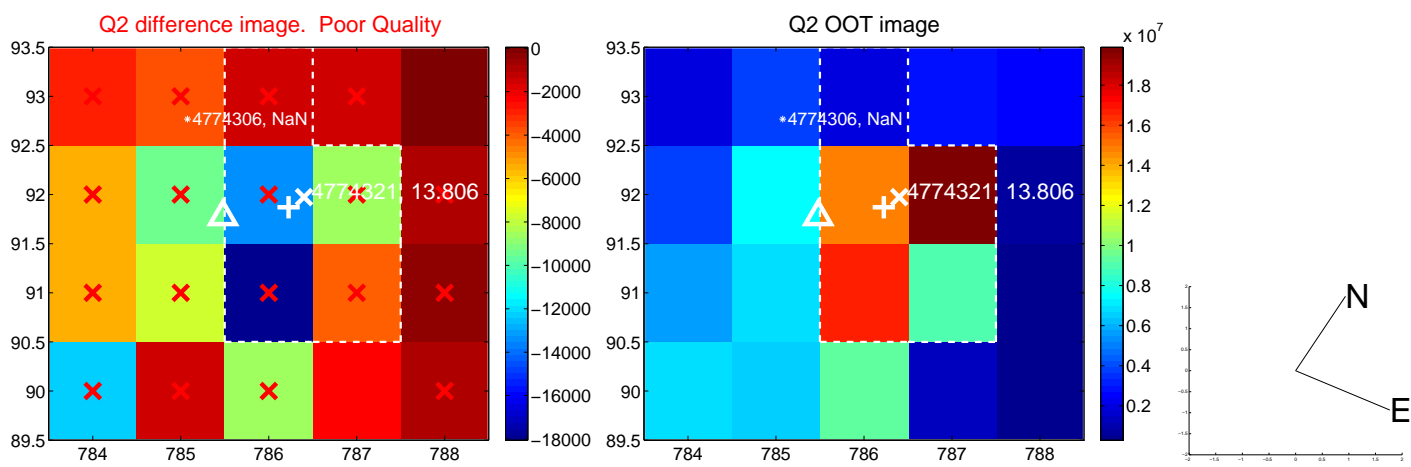
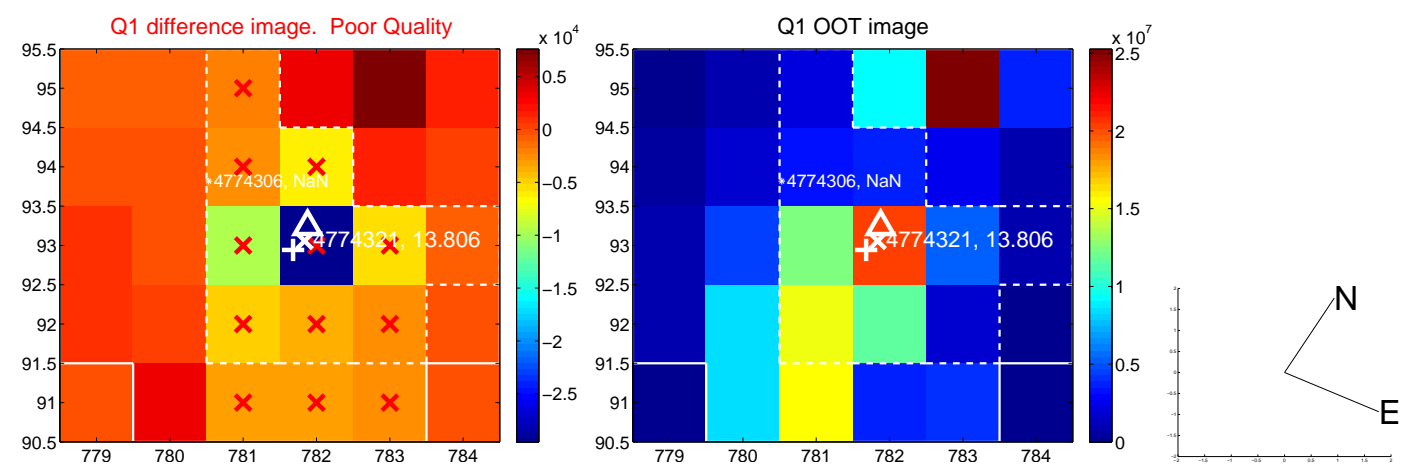
The direct PRF centroid is offset from the target star catalog position by about 0.82 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.410 ± 0.841	1.68	0.618 ± 0.295	-1.267 ± 0.942
PRF-fit source offset from KIC position	1.381 ± 1.074	1.29	0.093 ± 0.284	-1.378 ± 1.073
photometric centroid source offset	0.67 ± 0.77	0.87	0.64 ± 0.53	0.19 ± 1.99

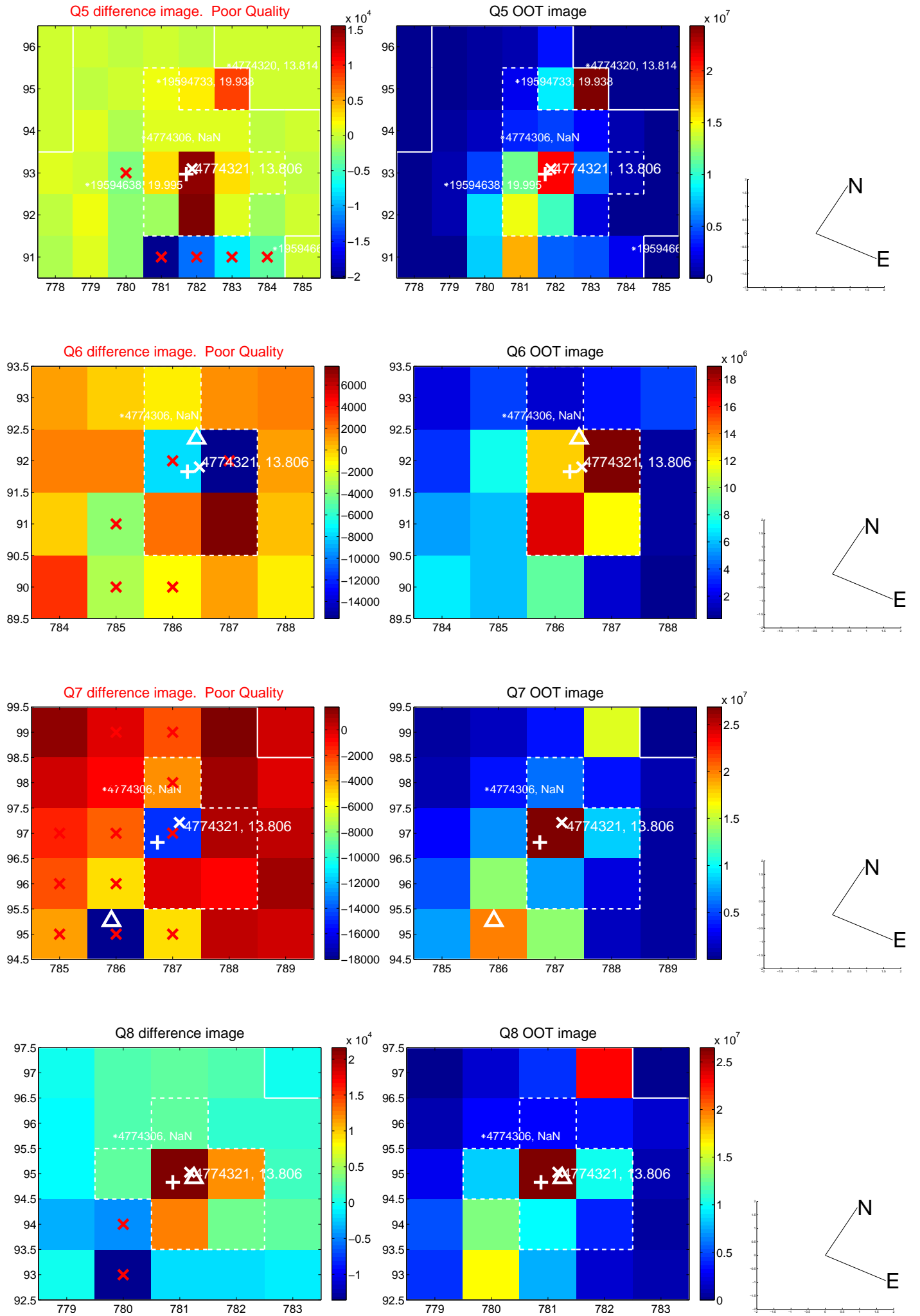


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

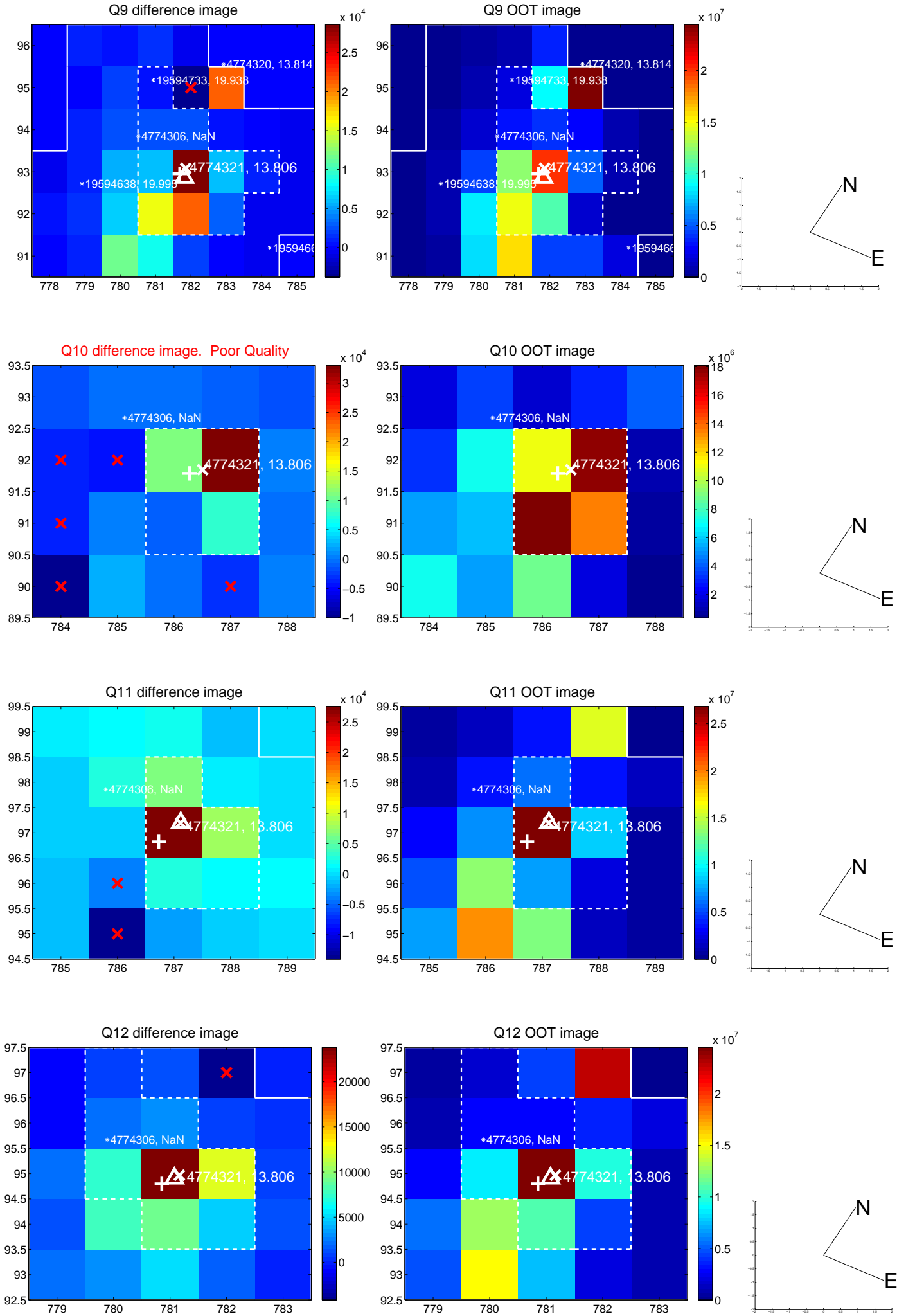
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



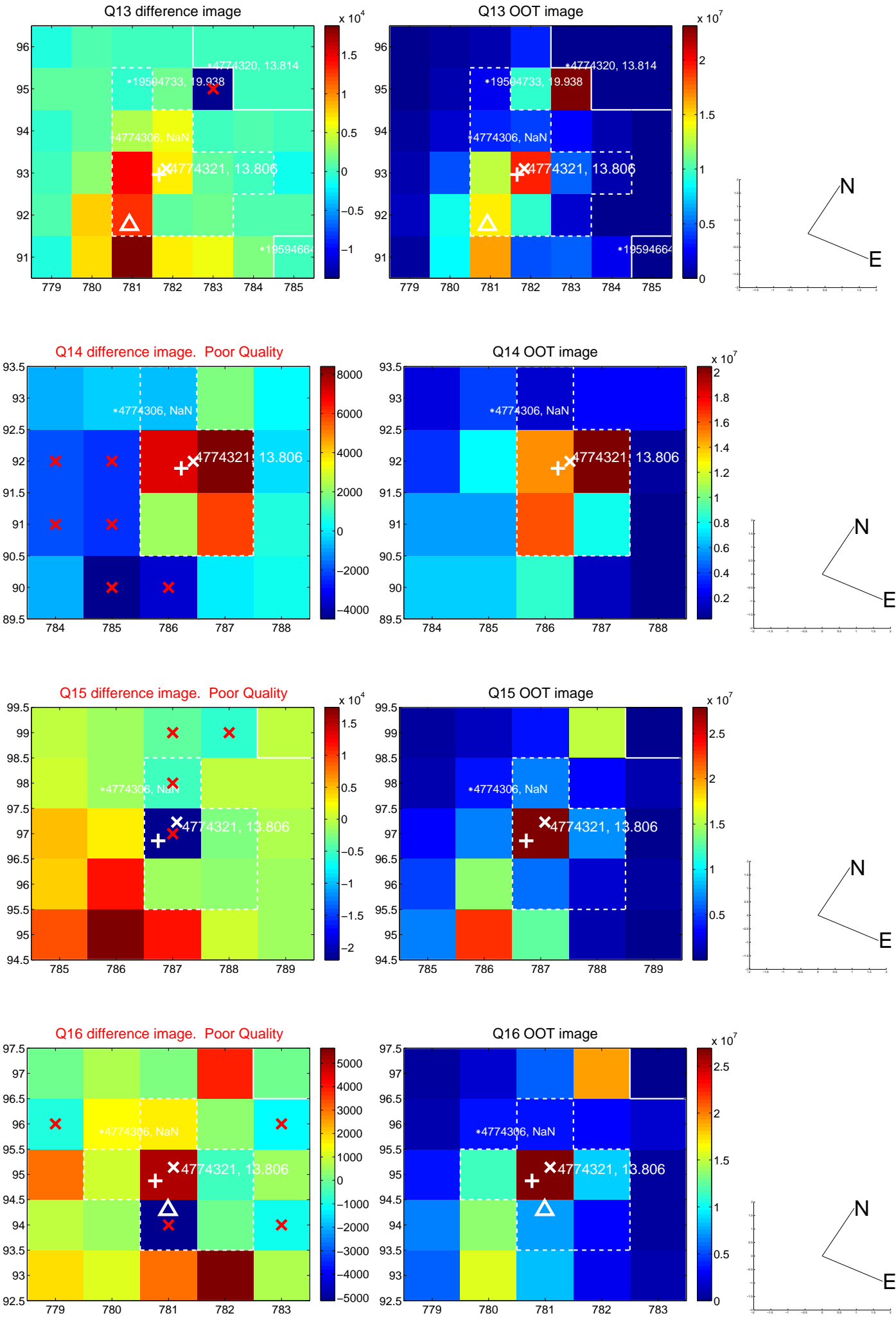
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

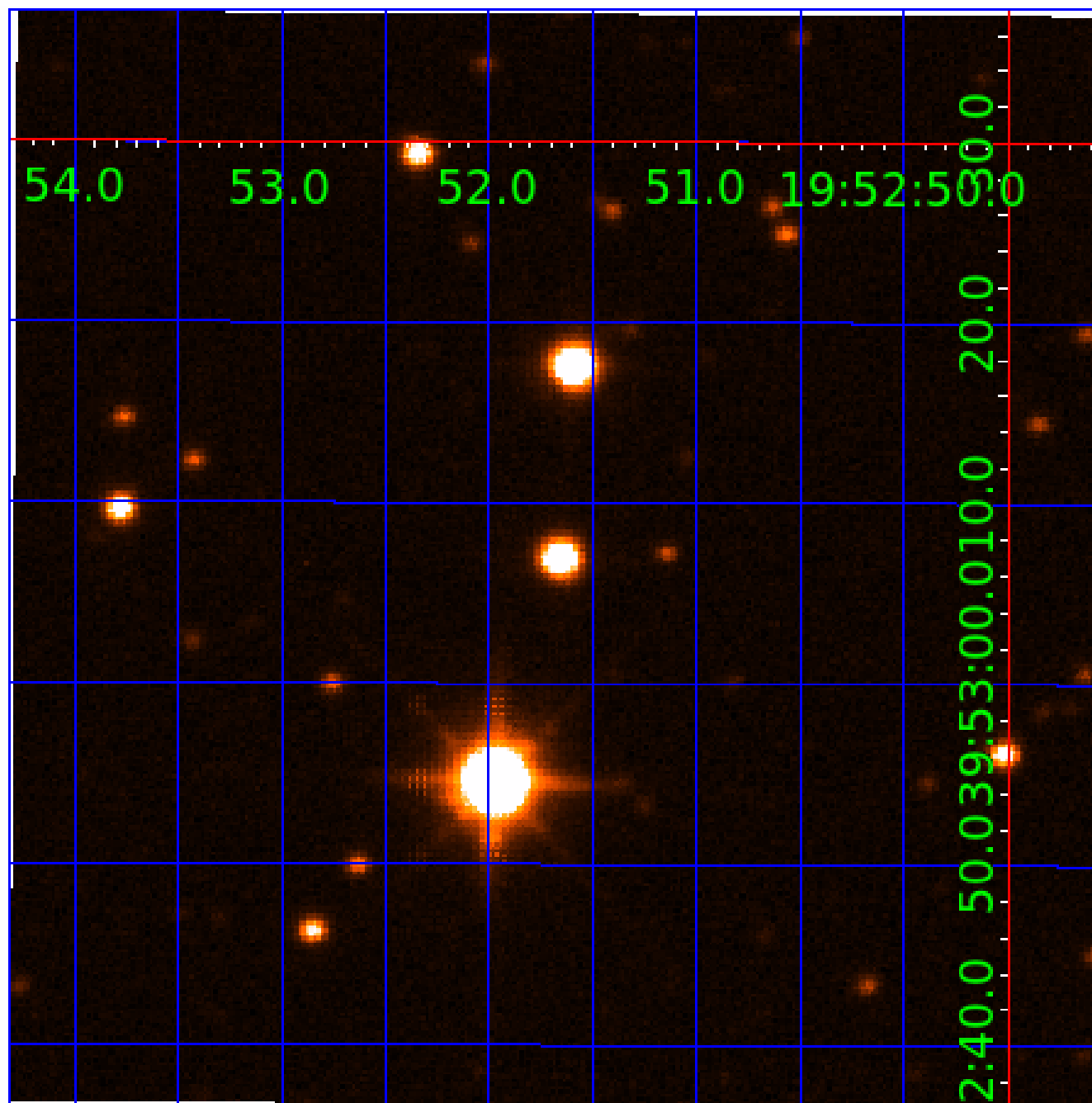


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004774321

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})
004774321-01	OBS	No	17.024142	144.256089	174.5	12.770	8.4	8.5	1.20	6293	3.14	116.39
004774321-02	OBS	No	170.313723	143.273913	516.2	12.500	11.4	-1.0	1.20	6293	2.73	5.40
004774321-03	OBS	No	5.007367	135.114227	70.3	10.729	8.1	7.9	1.20	6293	1.19	595.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004774321-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
004774321-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
004774321-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS

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

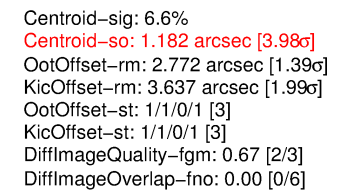
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

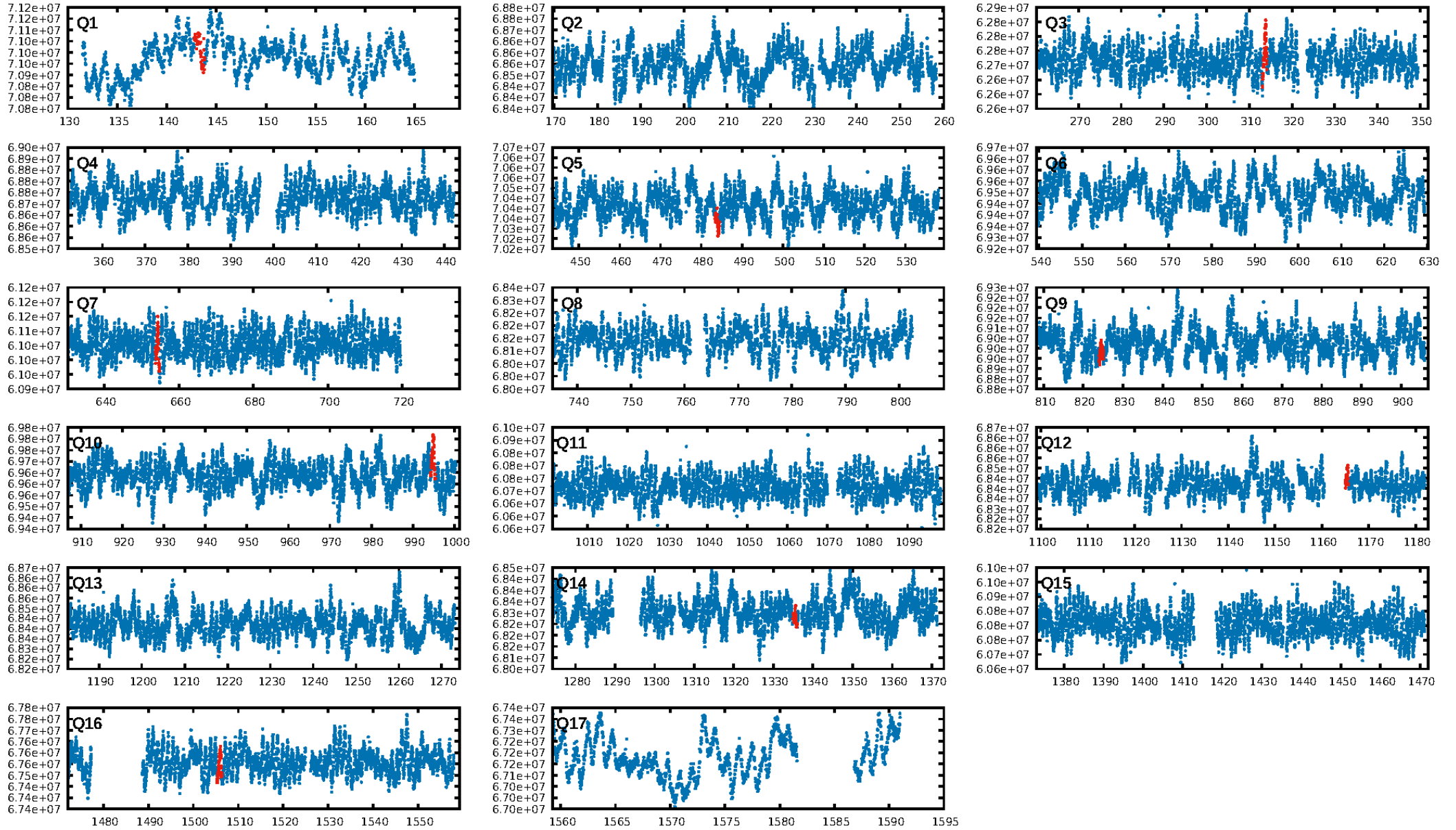
Ephemeris Match Information For 004774321-02

No Significant Match Found

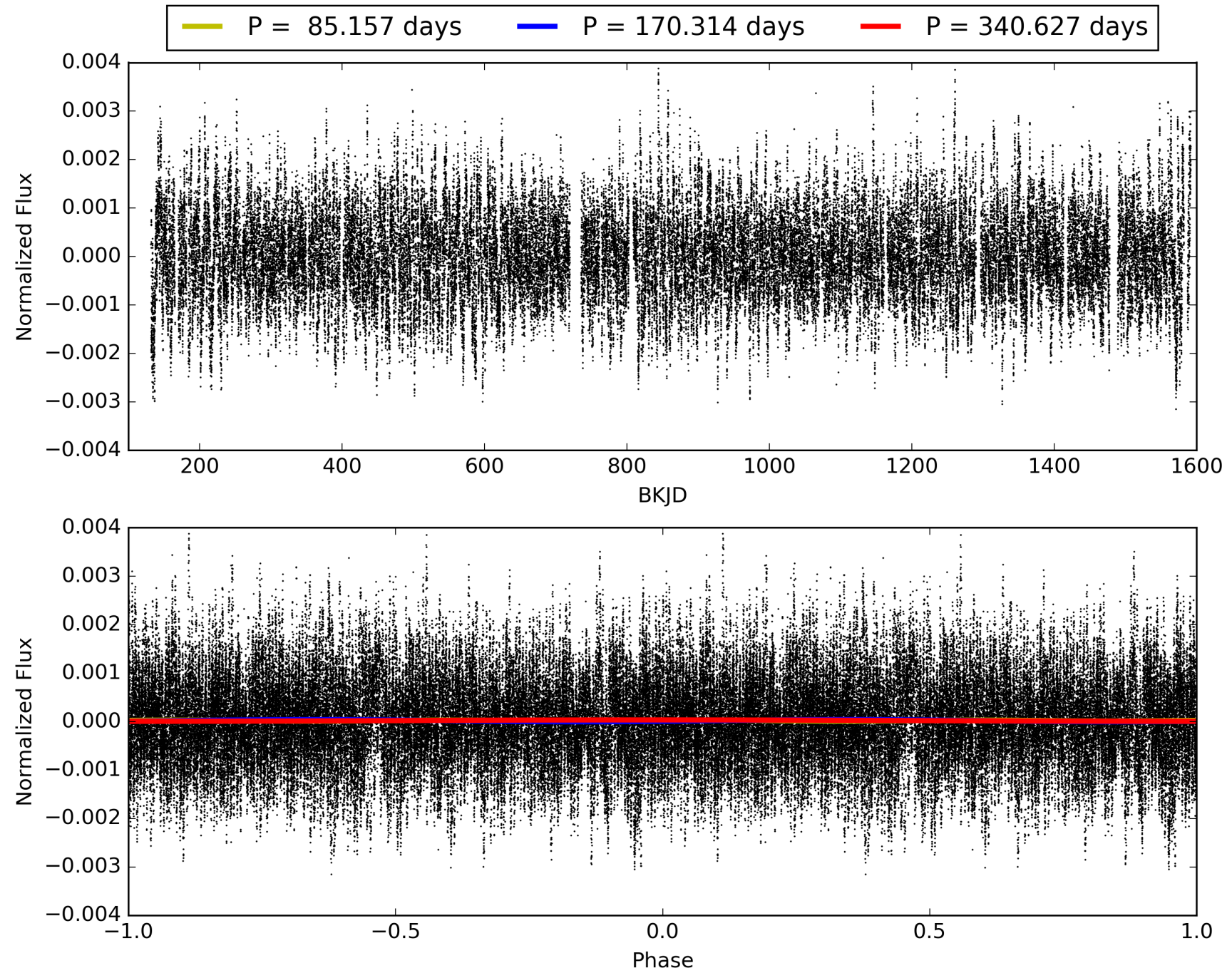
KIC: 4774321 Candidate: 2 of 3 Period: 170.314 d



TCE 004774321-02, PDC Light Curves

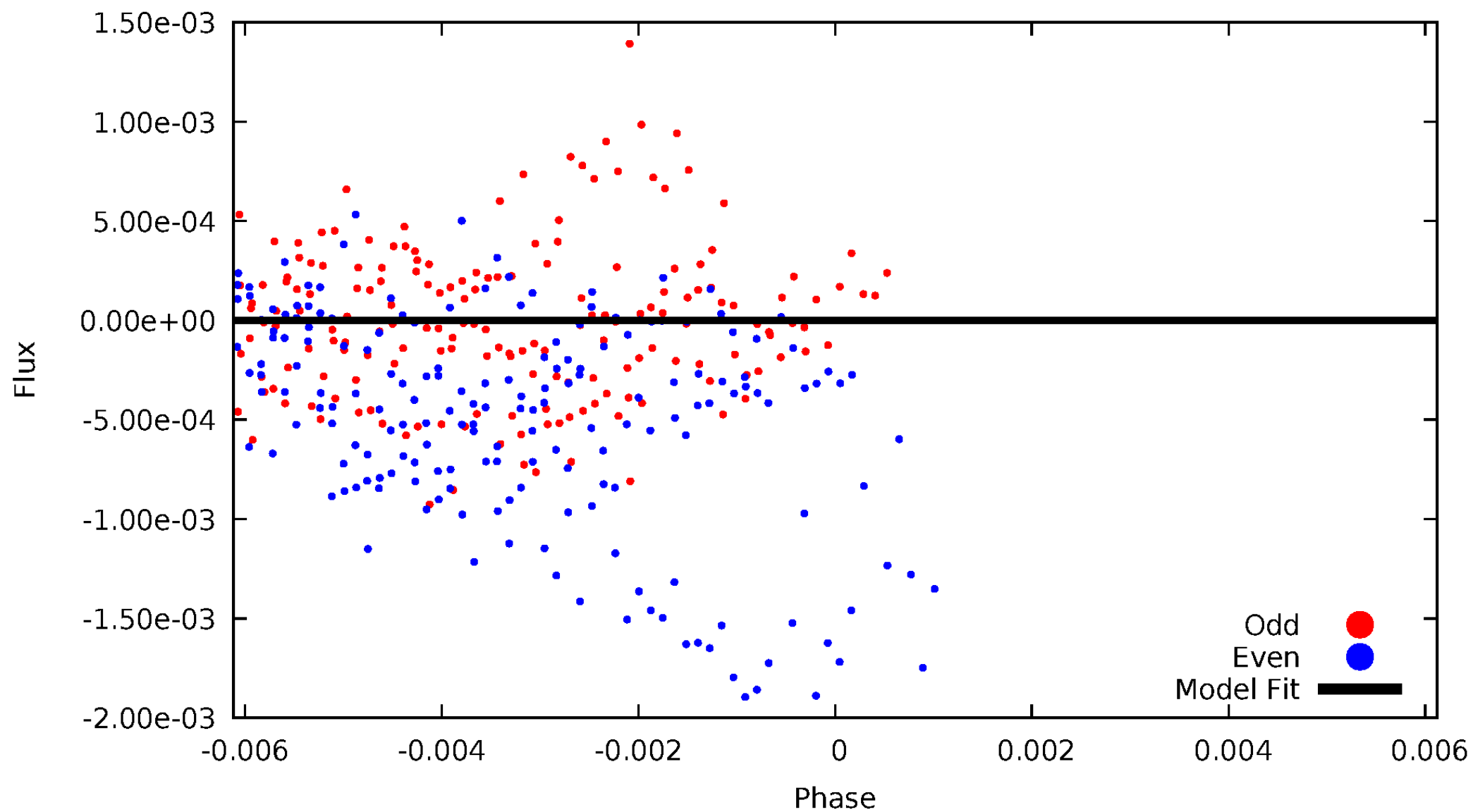


TCE 004774321-02



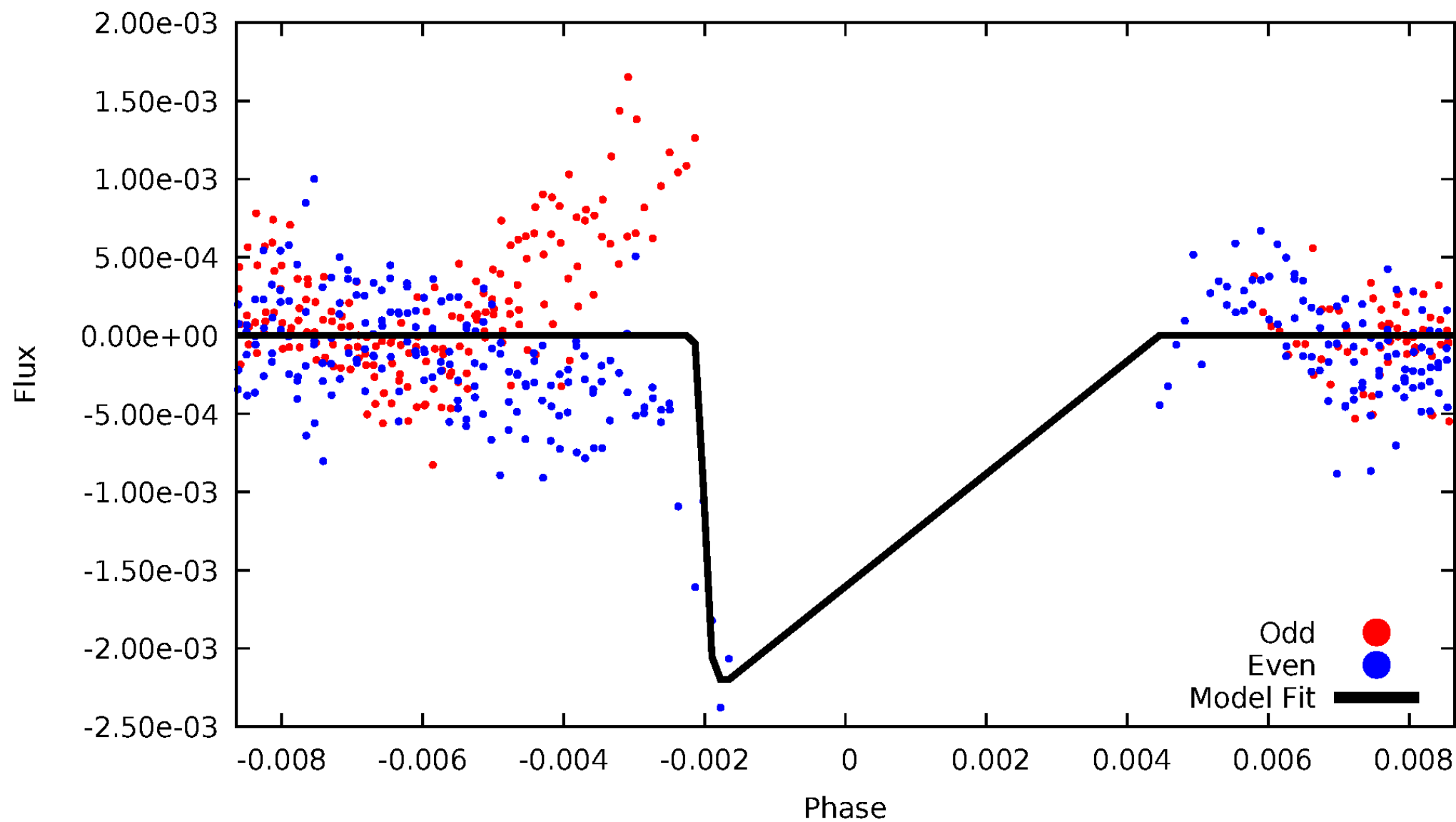
DV Odd/Even

TCE 004774321-02



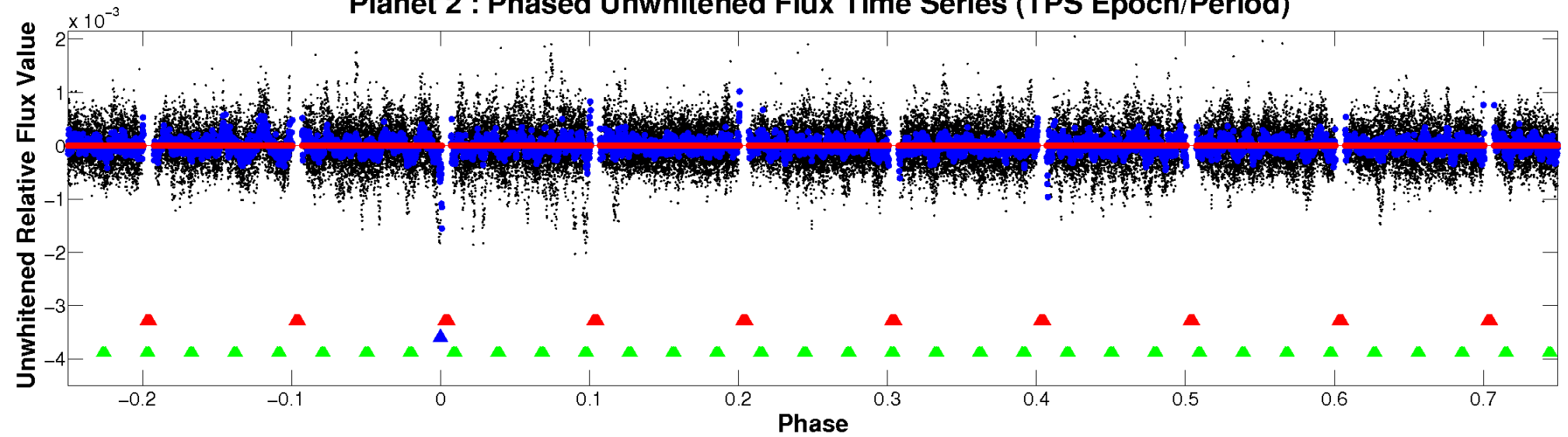
ALT Odd/Even

TCE 004774321-02

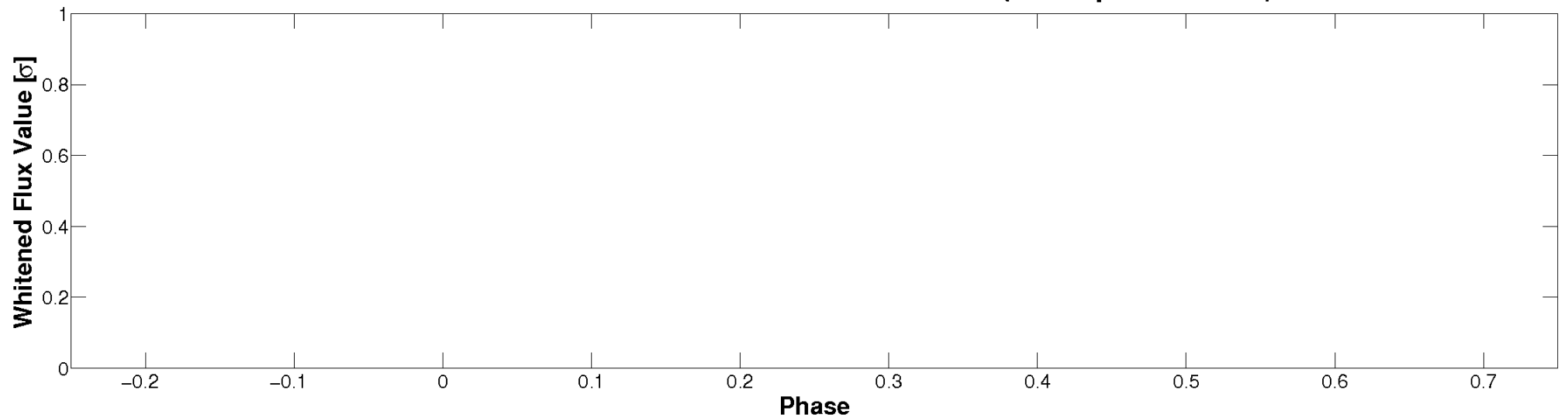


Non-Whitened Vs. Whitened Light Curve

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

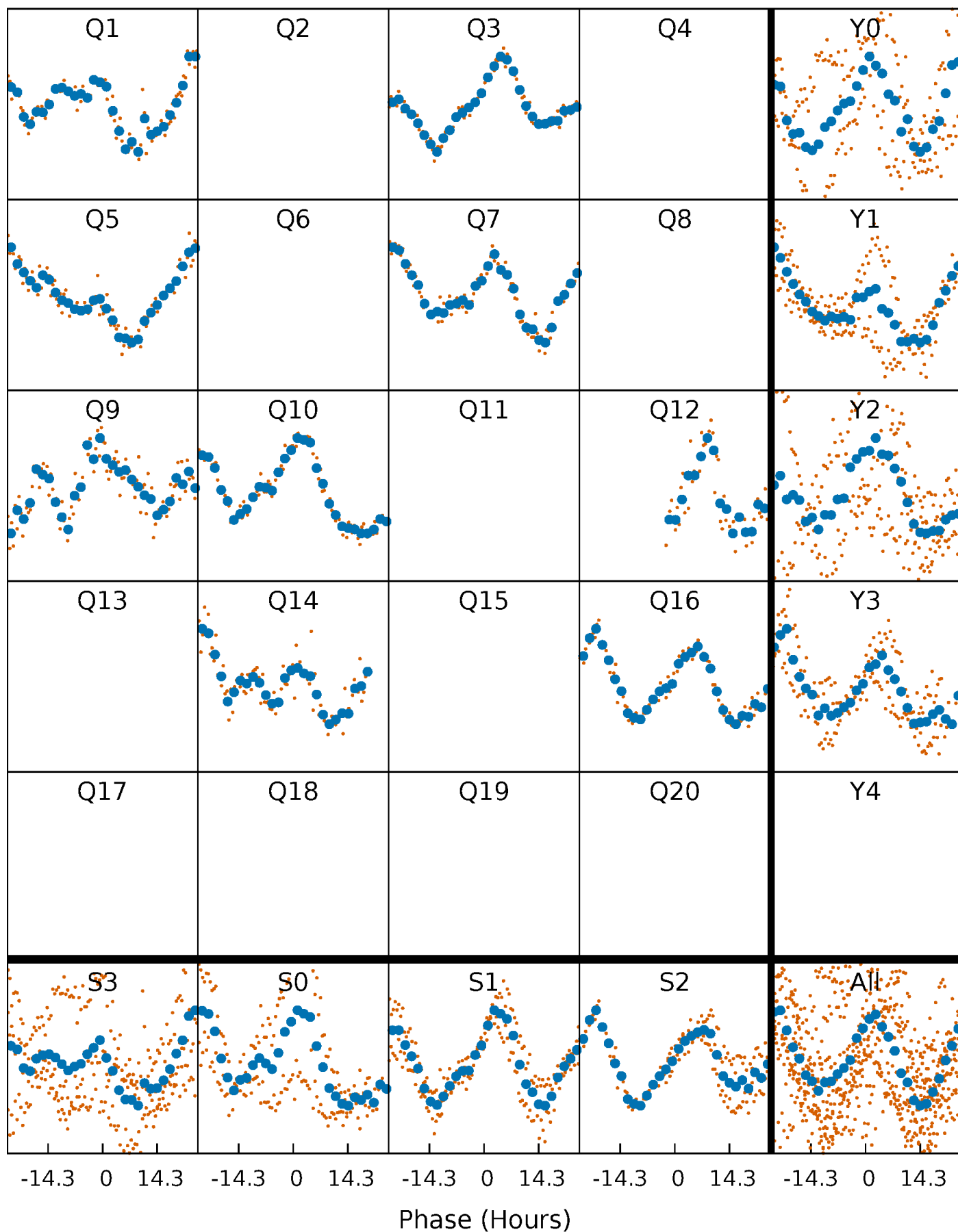


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 004774321-02 P=170.313723 Days $T_0=143.273913$ (BKJD)



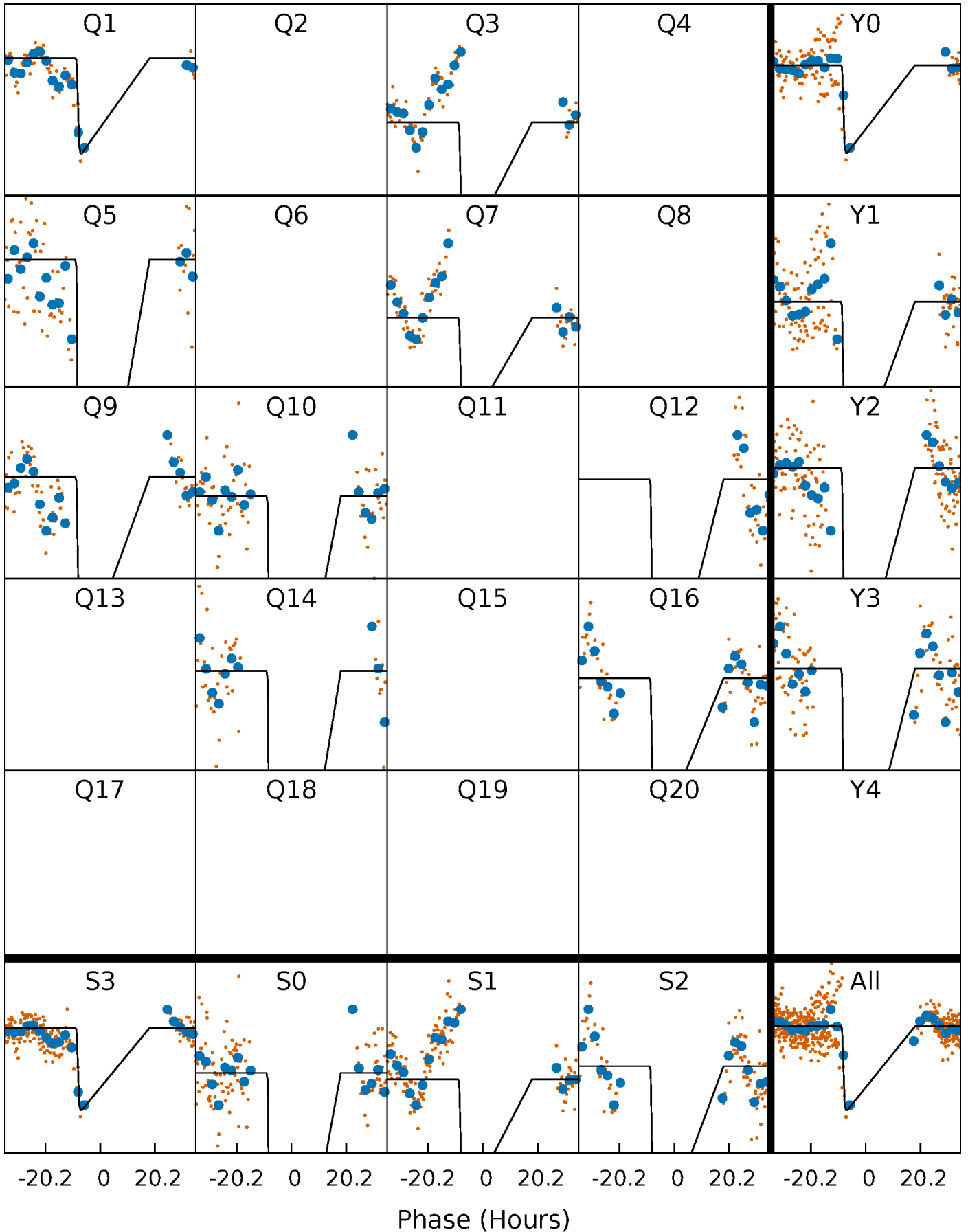
DV Quarter-Phased Transit Curves

TCE 004774321-02 $P=170.313723$ Days $T_0=143.273913$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

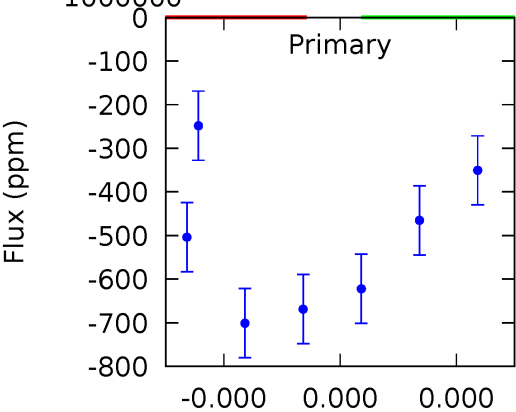
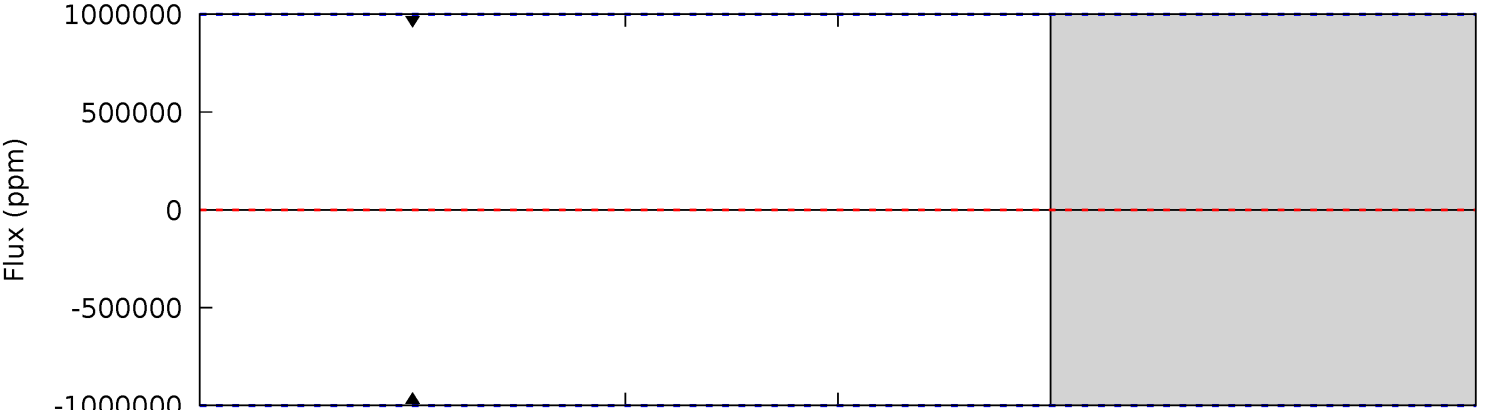
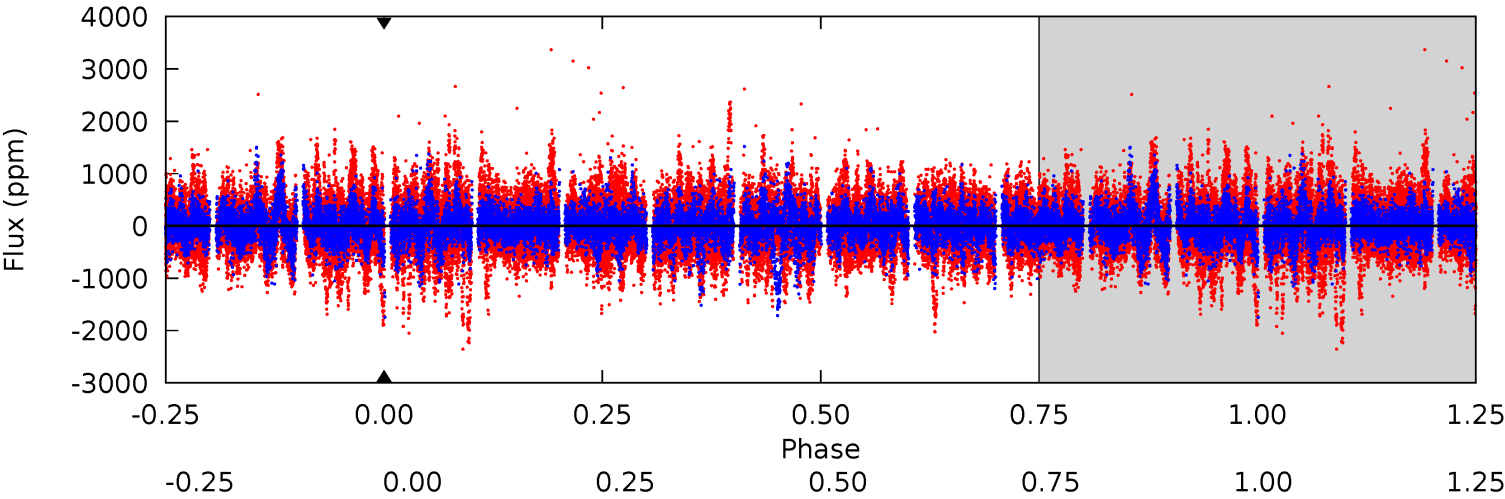
TCE 004774321-02 P=170.313723 Days $T_0=143.727546$ (BKJD)



DV Model-Shift Uniqueness Test

004774321-02, P = 170.313723 Days, E = 143.273913 Days

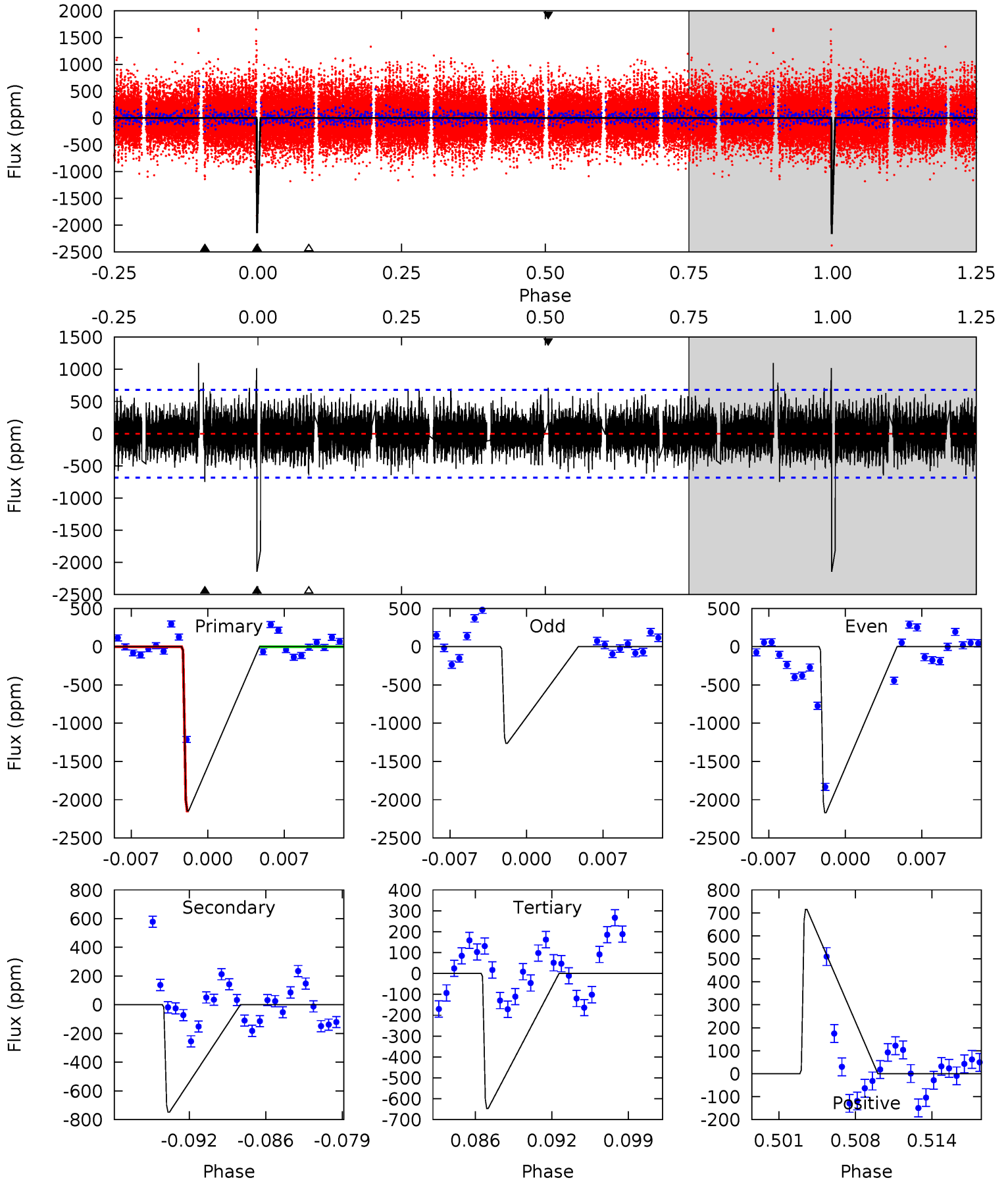
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004774321-02, P = 170.313723 Days, E = 143.727546 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	5.61	4.84	5.36	5.11	2.72	1.23	11.2	10.7	0.76	0.25	5.19	0	0.34	0



Stellar Parameters For KIC 004774321

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6293^{+175}_{-241}	$4.303^{+0.132}_{-0.198}$	$-0.160^{+0.250}_{-0.300}$	$1.201^{+0.391}_{-0.210}$	$1.055^{+0.185}_{-0.123}$	$0.857^{+0.537}_{-0.448}$
	+3%/-4%	+3%/-5%	+156%/-188%	+33%/-17%	+18%/-12%	+63%/-52%
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 004774321-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$9.99^{+10.03}_{-6.83}$	546^{+45}_{-37}	-3447^{+32610}_{-19582}	$-637.655^{+480151.235}_{-334751.348}$
Alt.	-749 ± 134	$12.36^{+11.67}_{-8.19}$	543^{+44}_{-34}	3800^{+1950}_{-728}	1024^{+7530}_{-761}

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

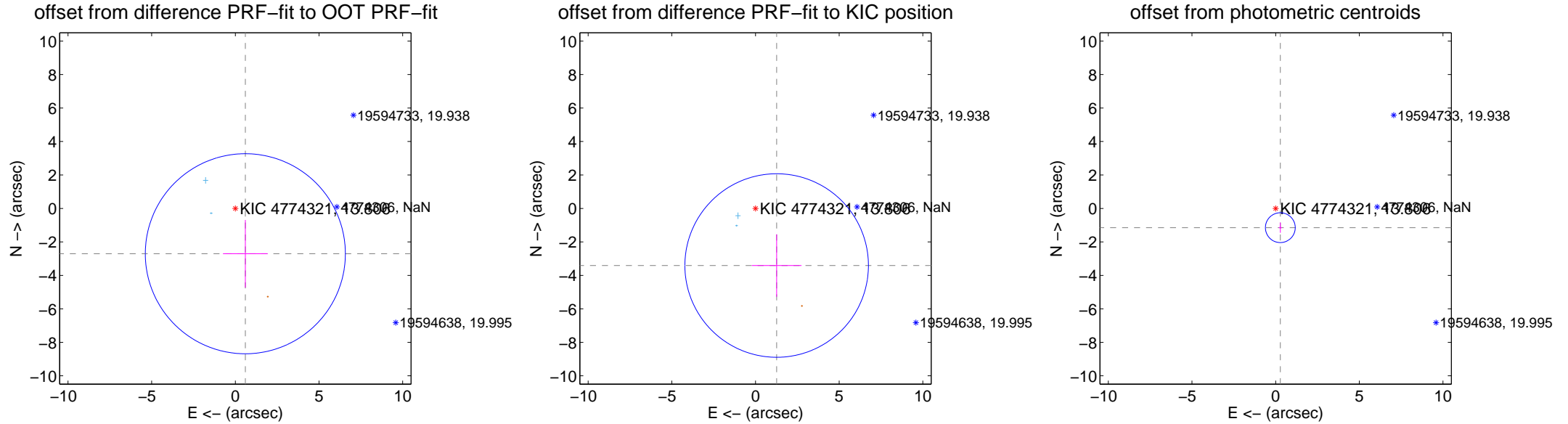
DV Centroid Data

Supplemental centroid analysis for 004774321-02. Kepler magnitude: 13.81. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

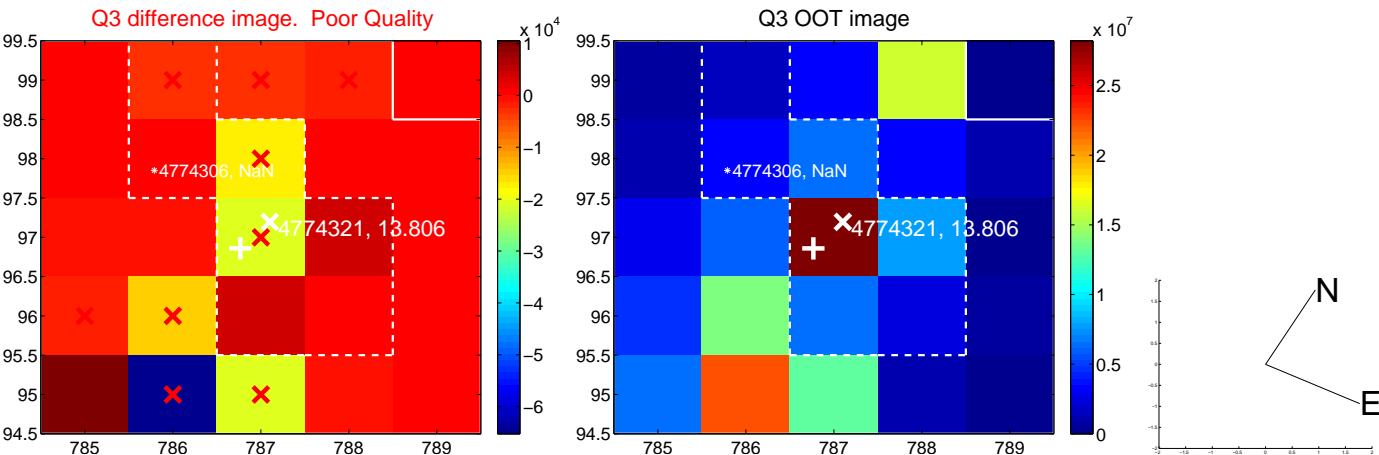
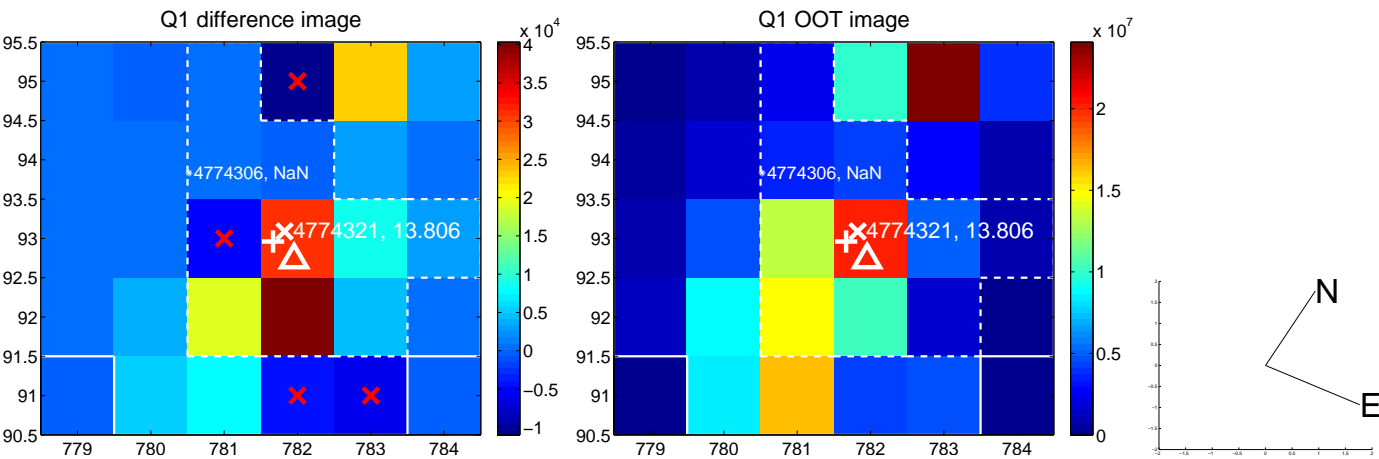
The direct PRF centroid is offset from the target star catalog position by about 1.00 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.772 ± 1.992	1.39	-0.597 ± 1.336	-2.707 ± 2.019
PRF-fit source offset from KIC position	3.637 ± 1.828	1.99	-1.265 ± 1.487	-3.410 ± 1.870
photometric centroid source offset	1.18 ± 0.30	3.98	-0.28 ± 0.09	-1.15 ± 0.30

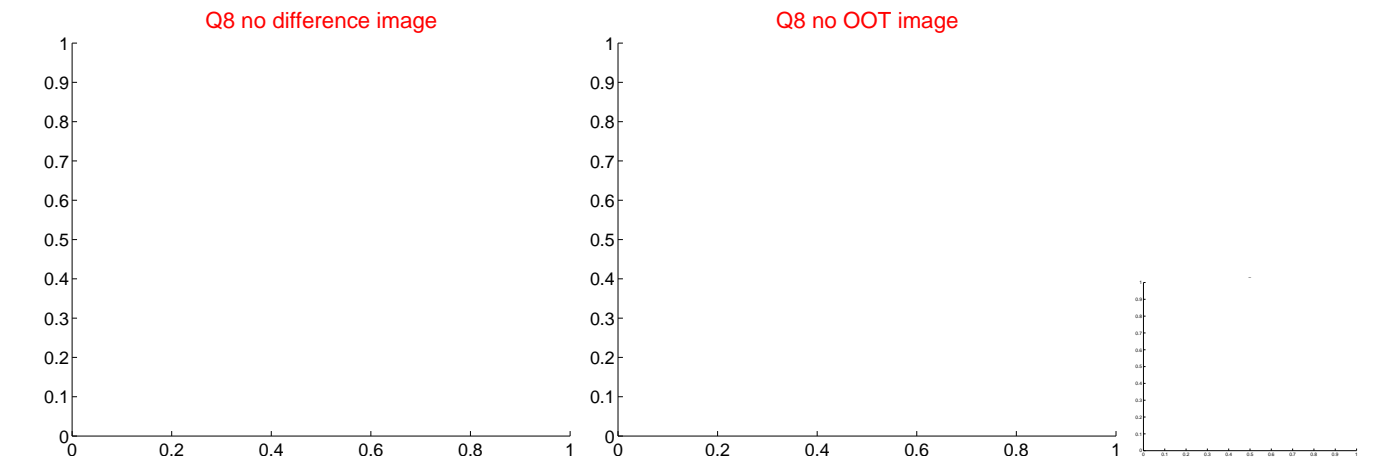
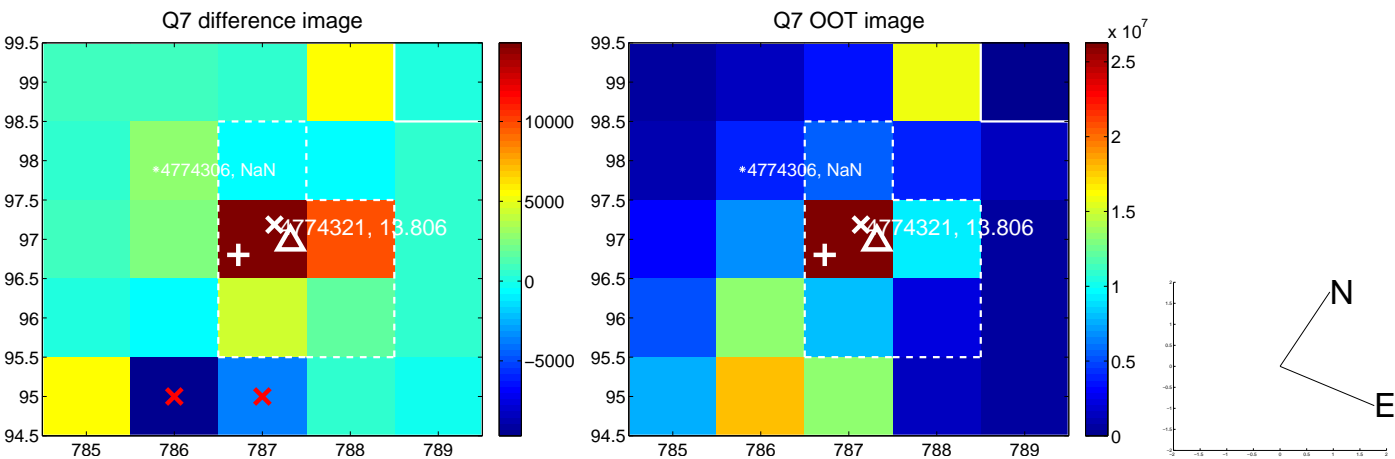
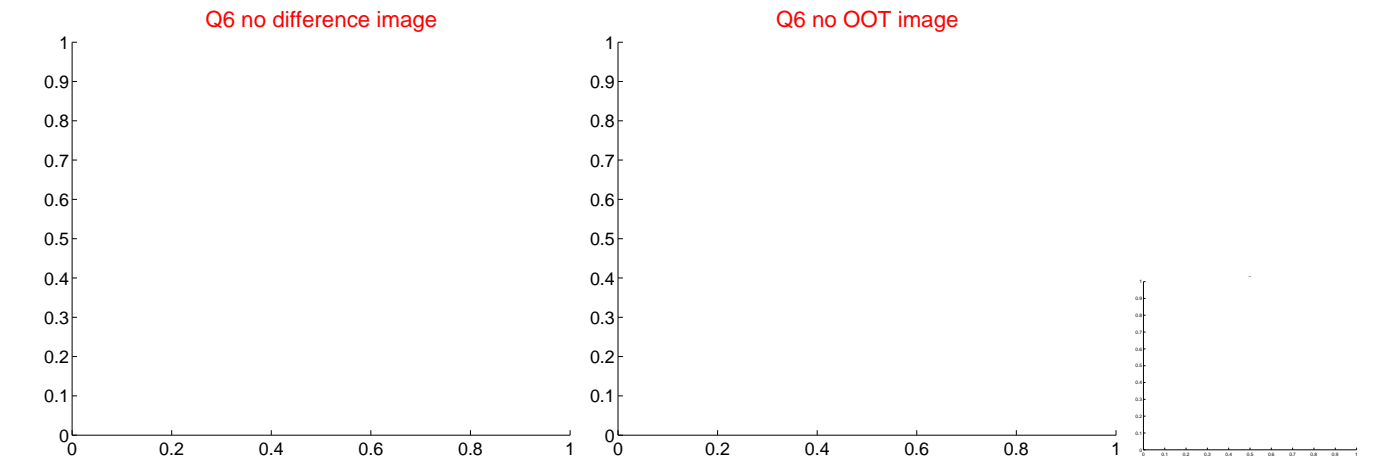
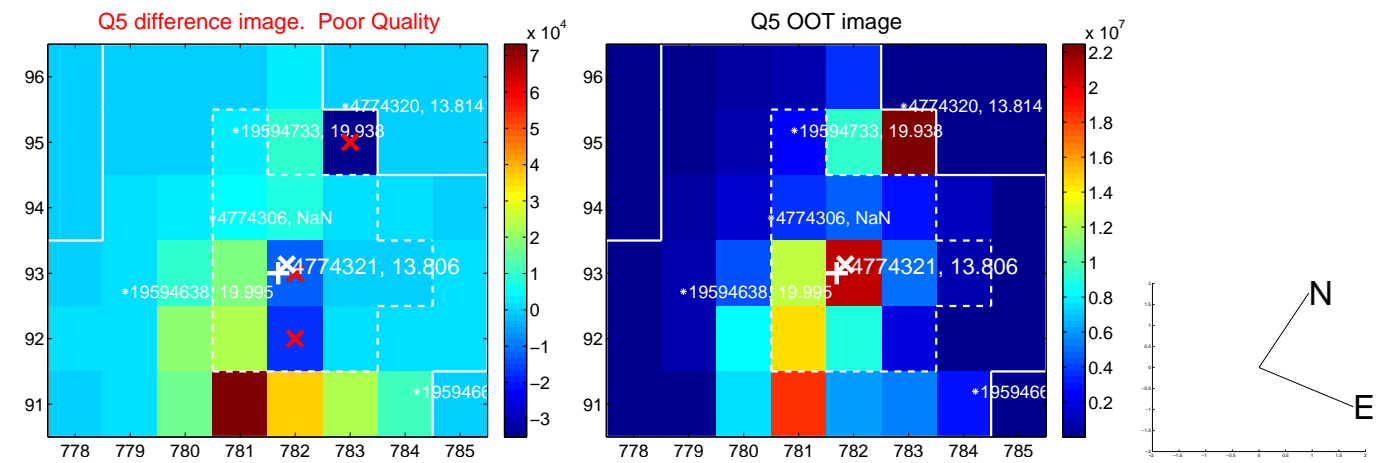


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

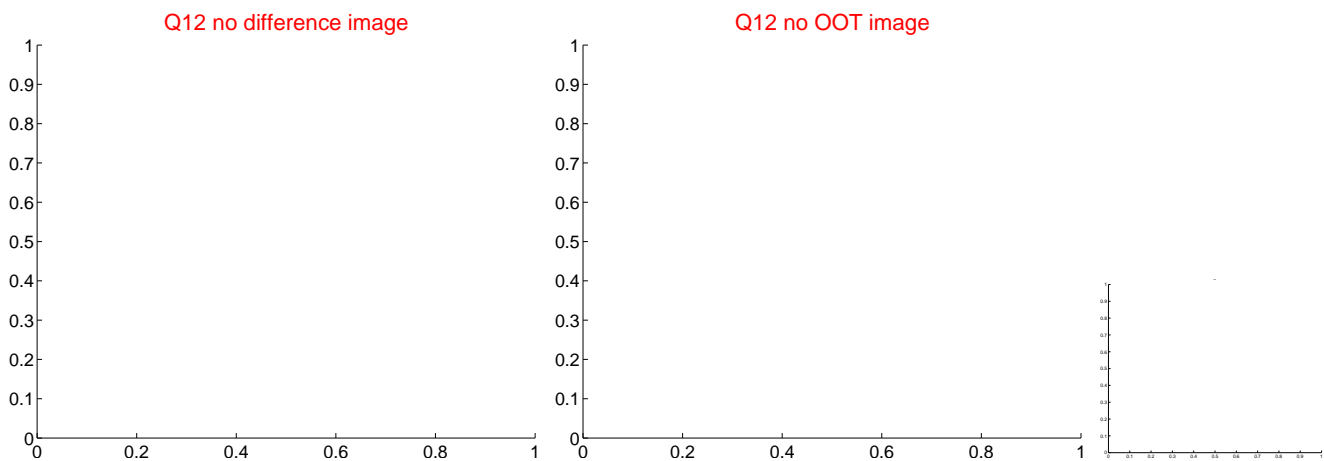
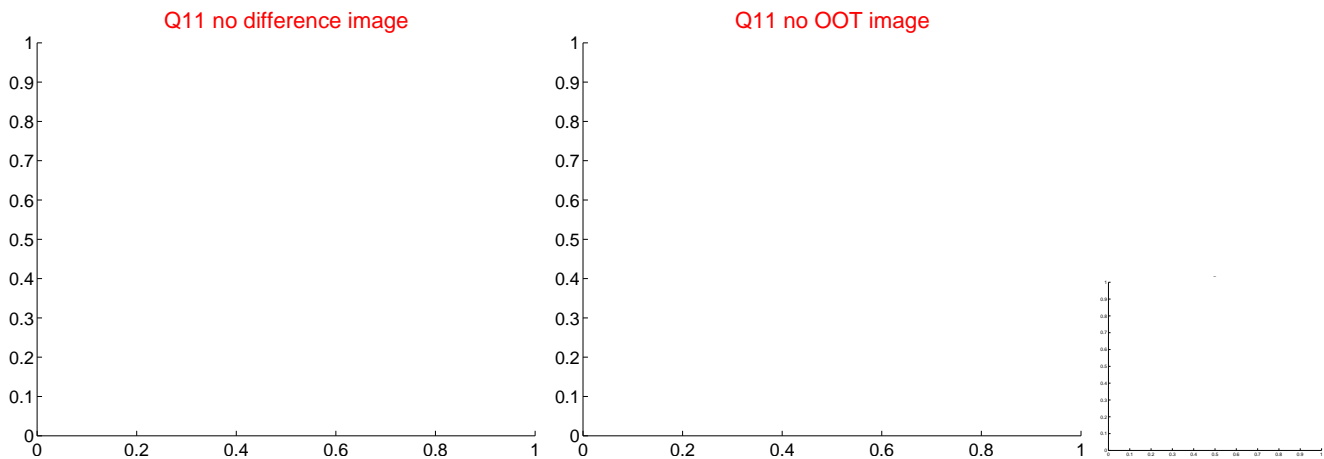
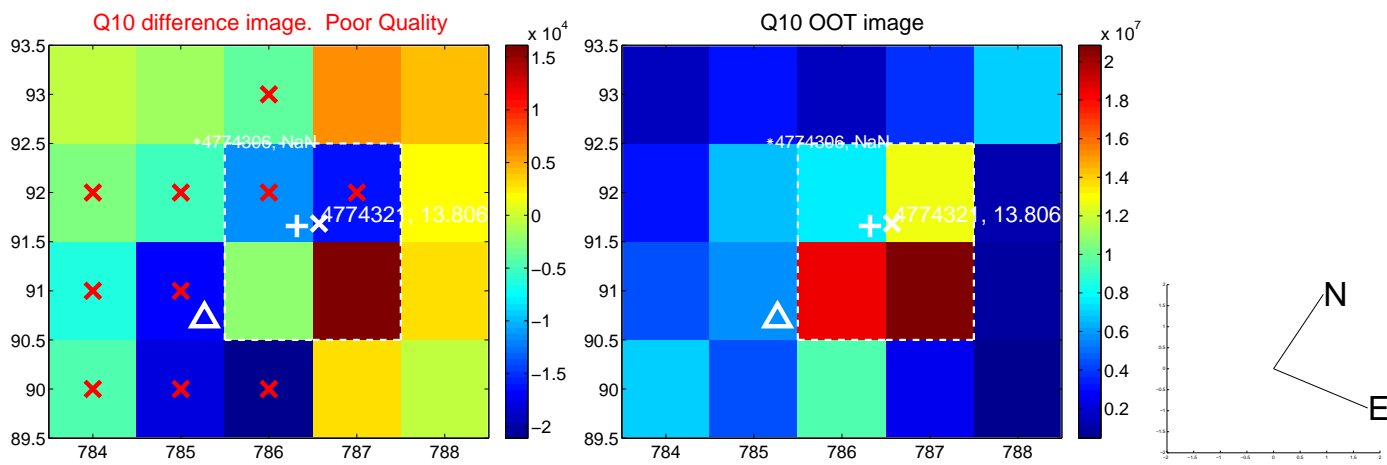
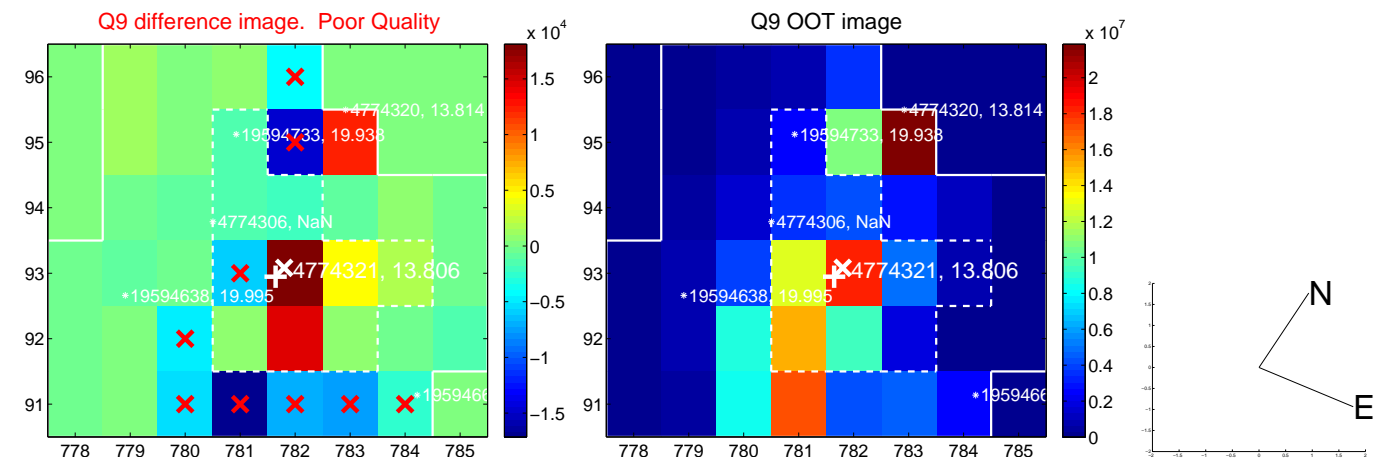
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



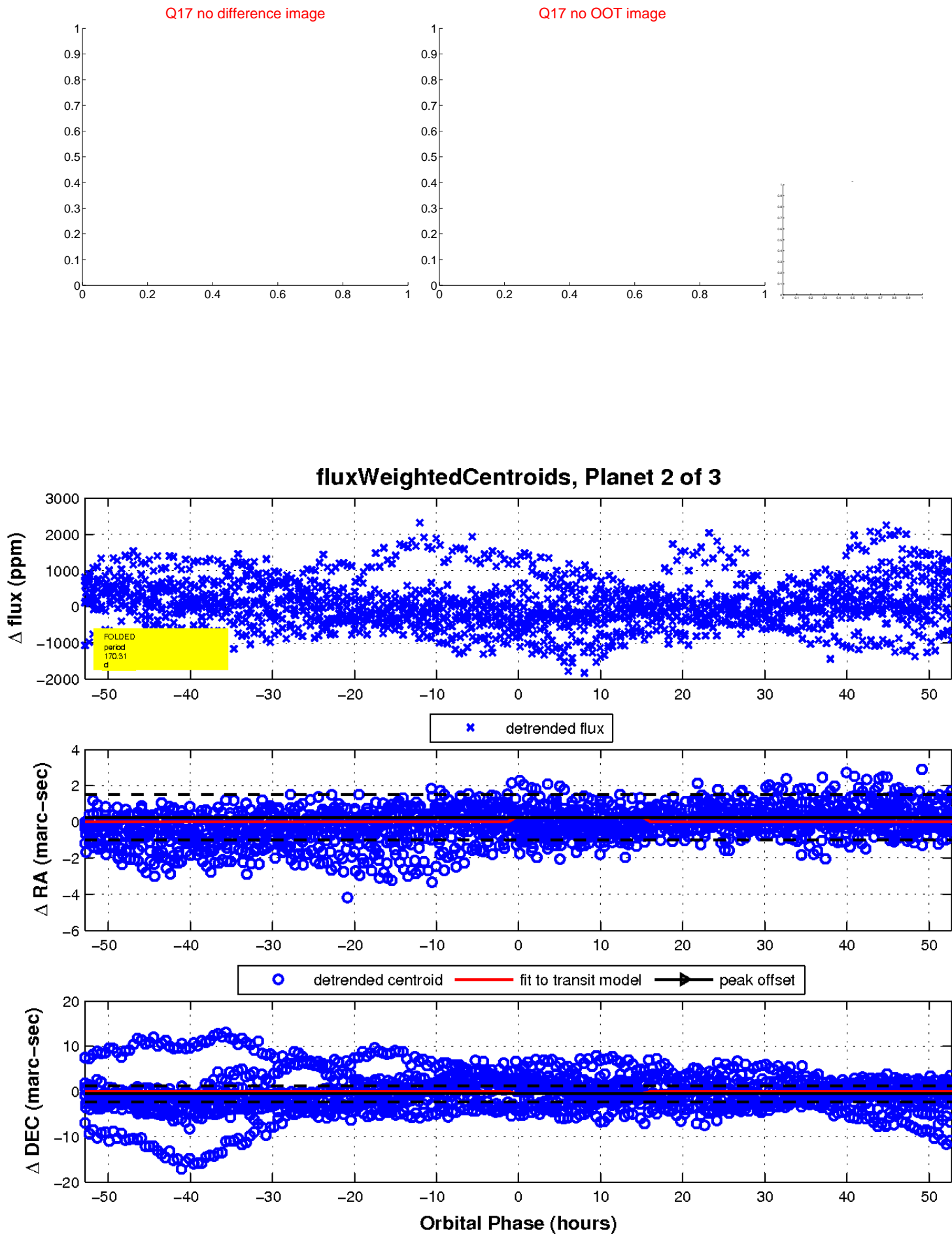
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

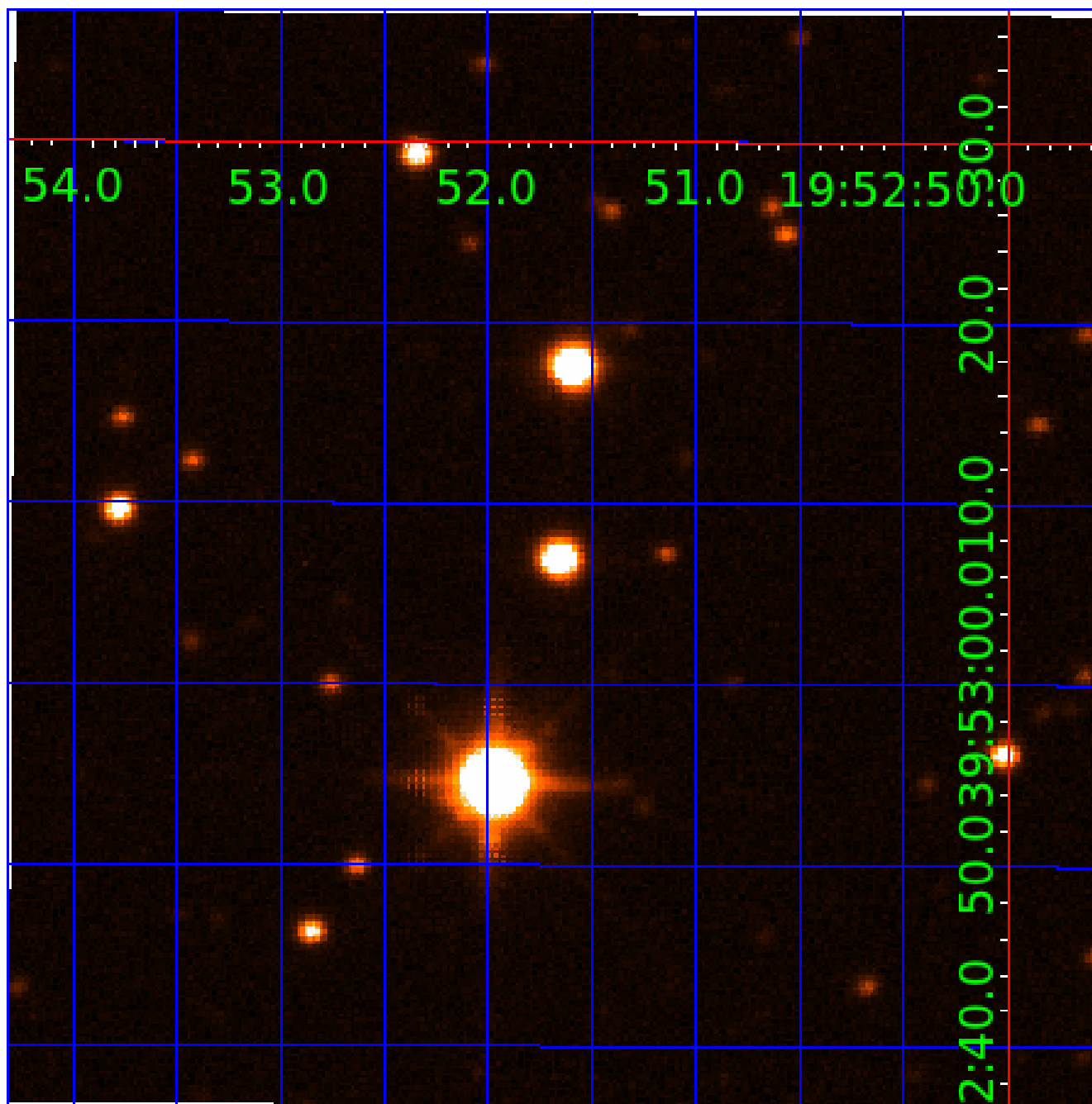


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004774321

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})
004774321-01	OBS	No	17.024142	144.256089	174.5	12.770	8.4	8.5	1.20	6293	3.14	116.39
004774321-02	OBS	No	170.313723	143.273913	516.2	12.500	11.4	-1.0	1.20	6293	2.73	5.40
004774321-03	OBS	No	5.007367	135.114227	70.3	10.729	8.1	7.9	1.20	6293	1.19	595.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004774321-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
004774321-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
004774321-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS

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

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

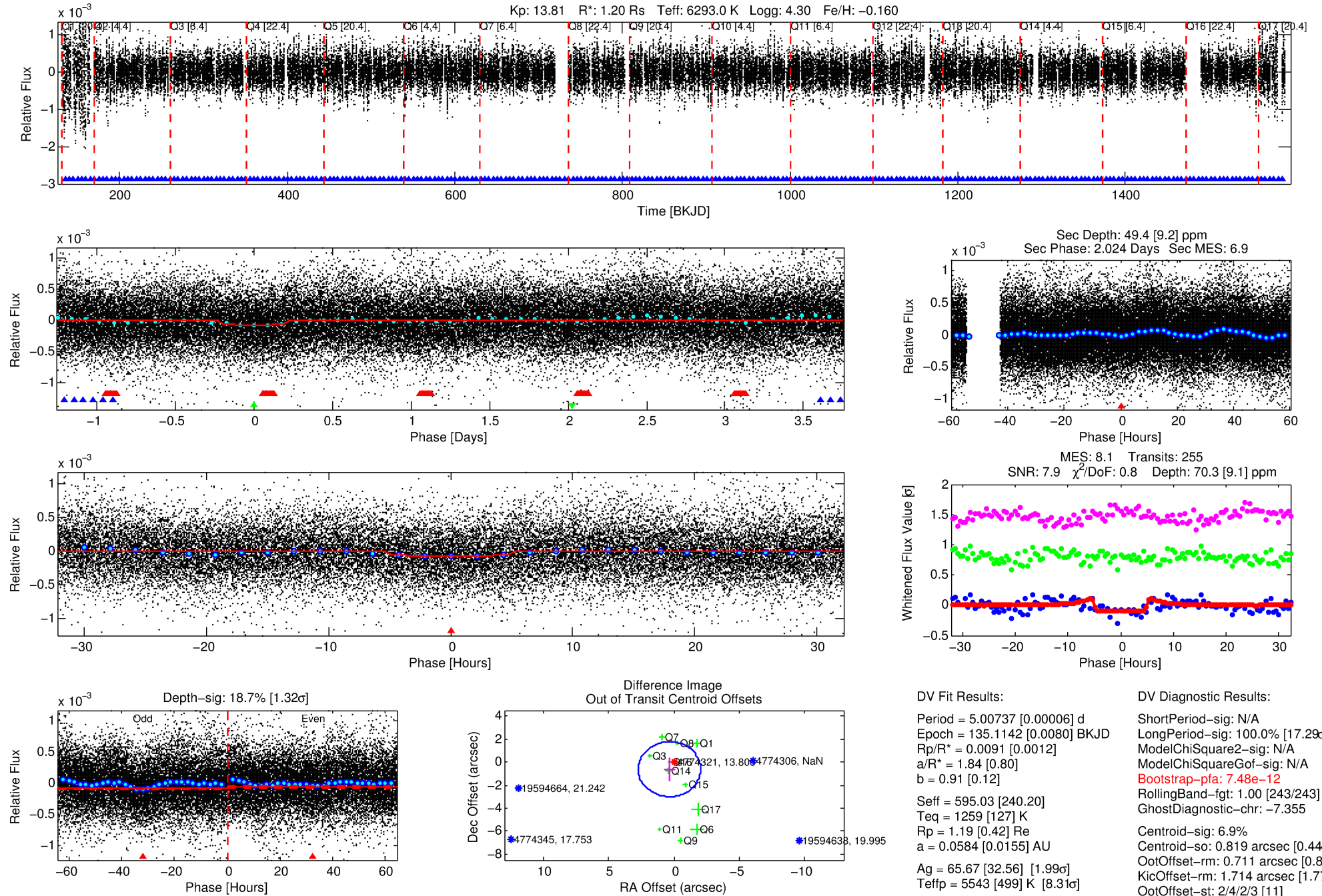
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004774321-03

No Significant Match Found

DV One-Page Summary

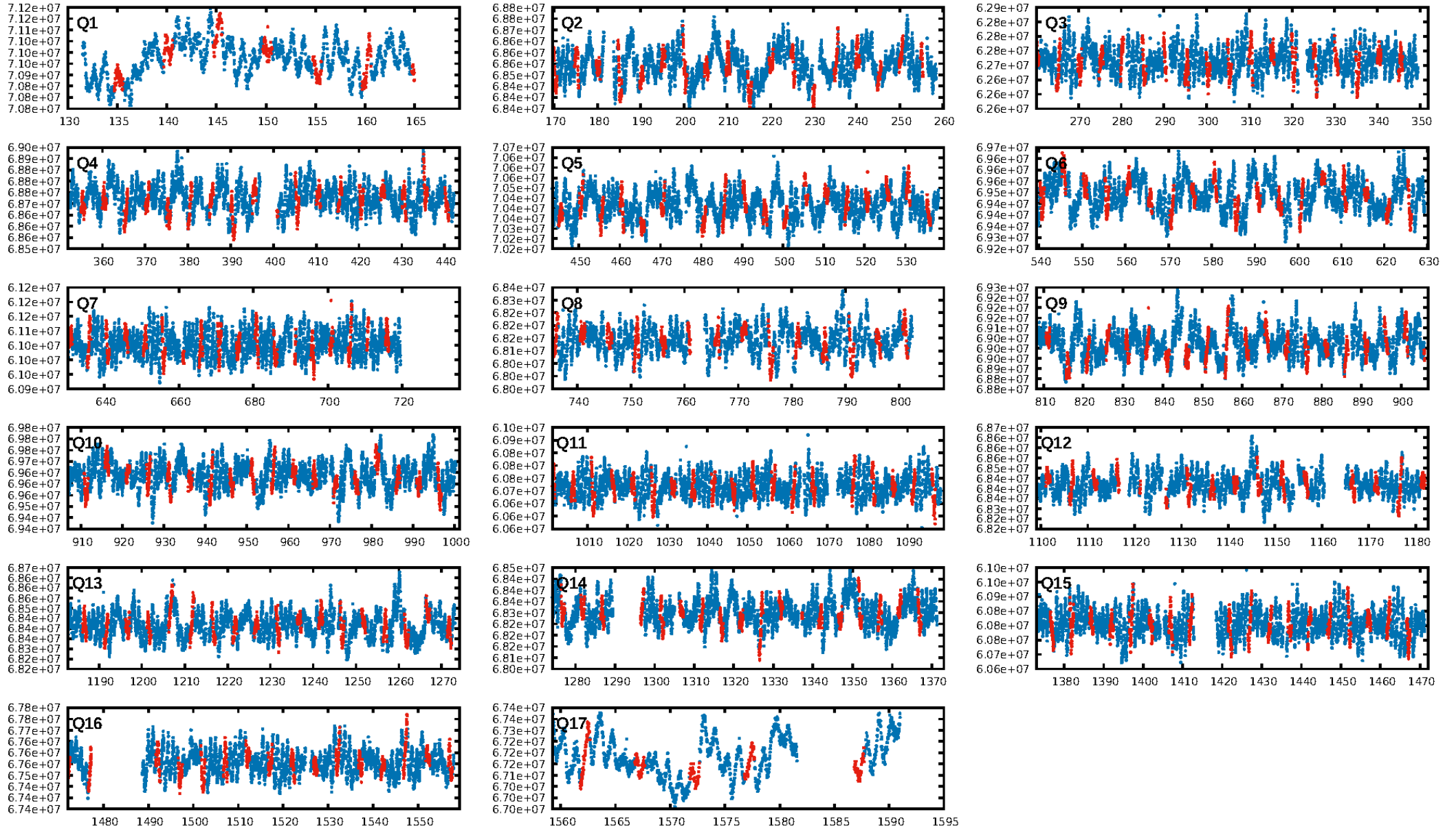
KIC: 4774321 Candidate: 3 of 3 Period: 5.007 d



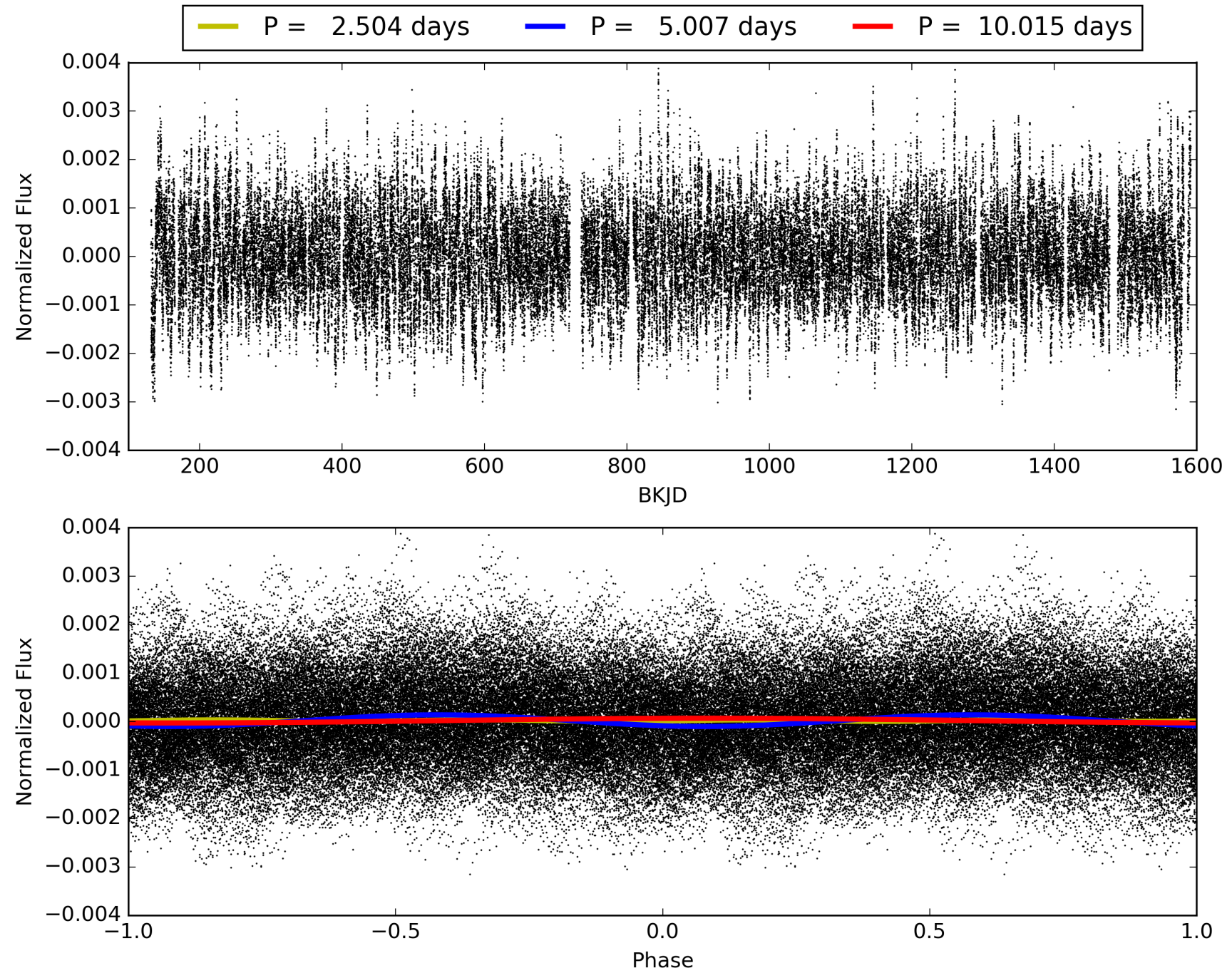
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:05:28 Z

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

TCE 004774321-03, PDC Light Curves

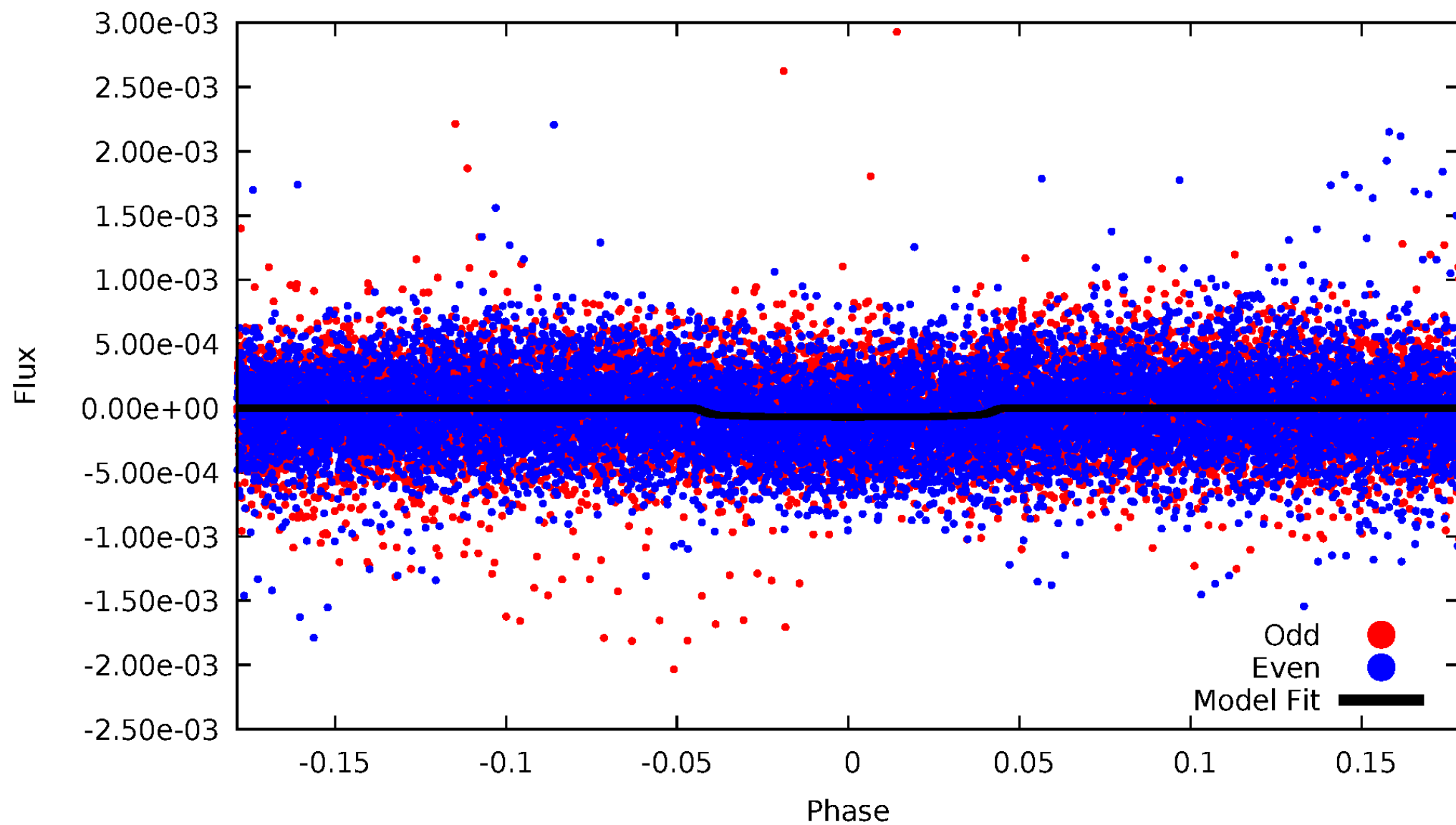


TCE 004774321-03



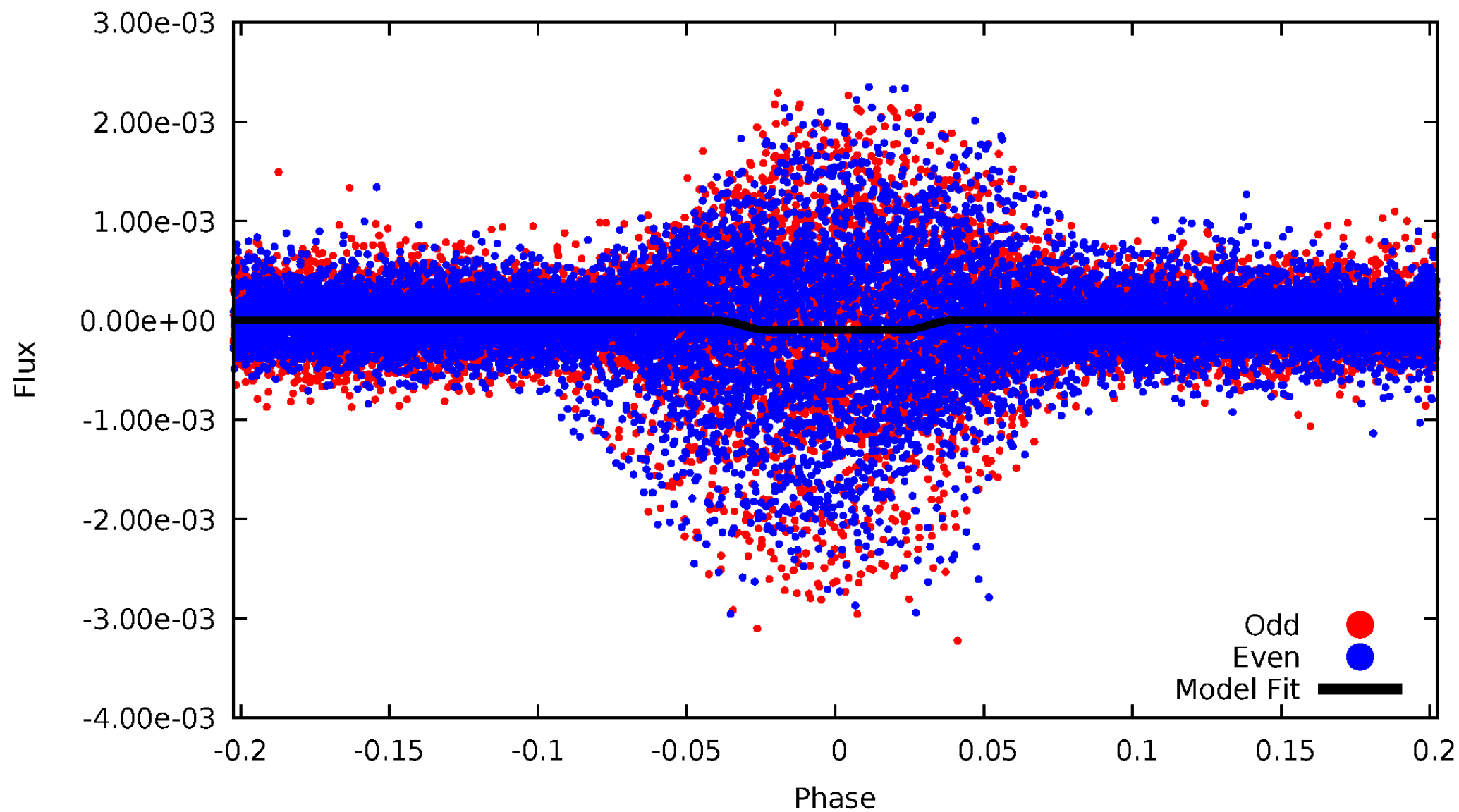
DV Odd/Even

TCE 004774321-03

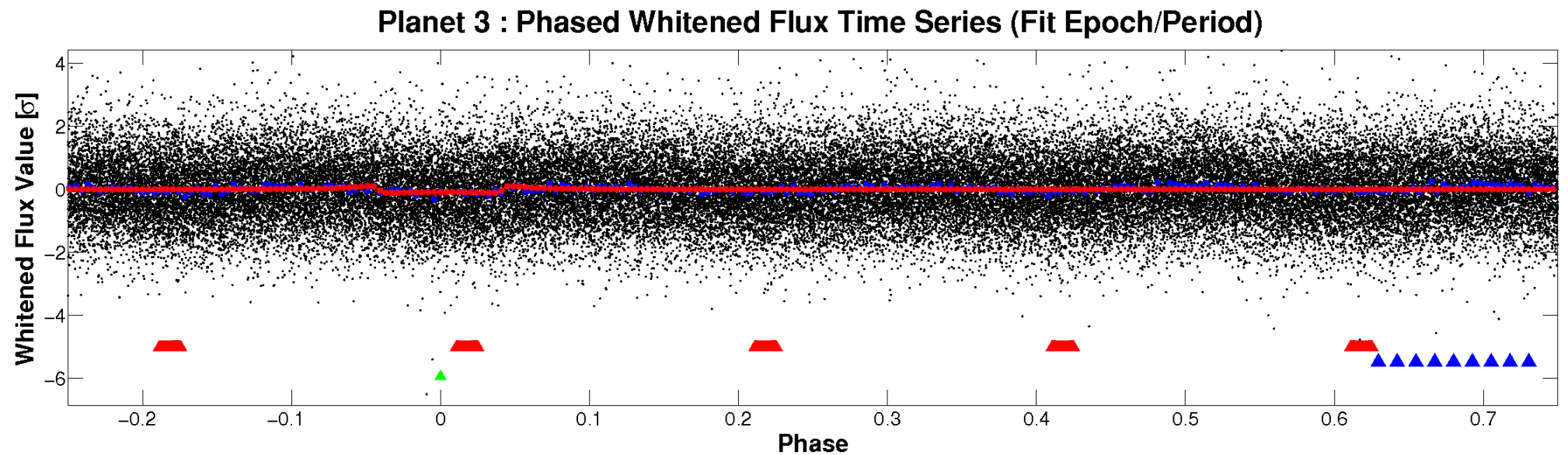
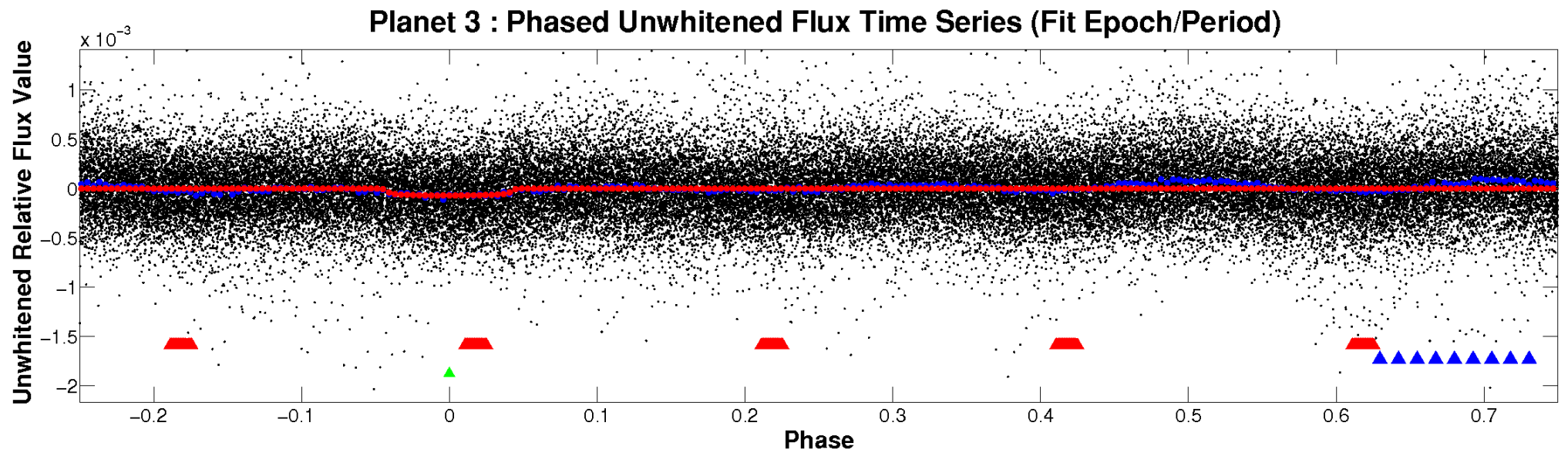


ALT Odd/Even

TCE 004774321-03

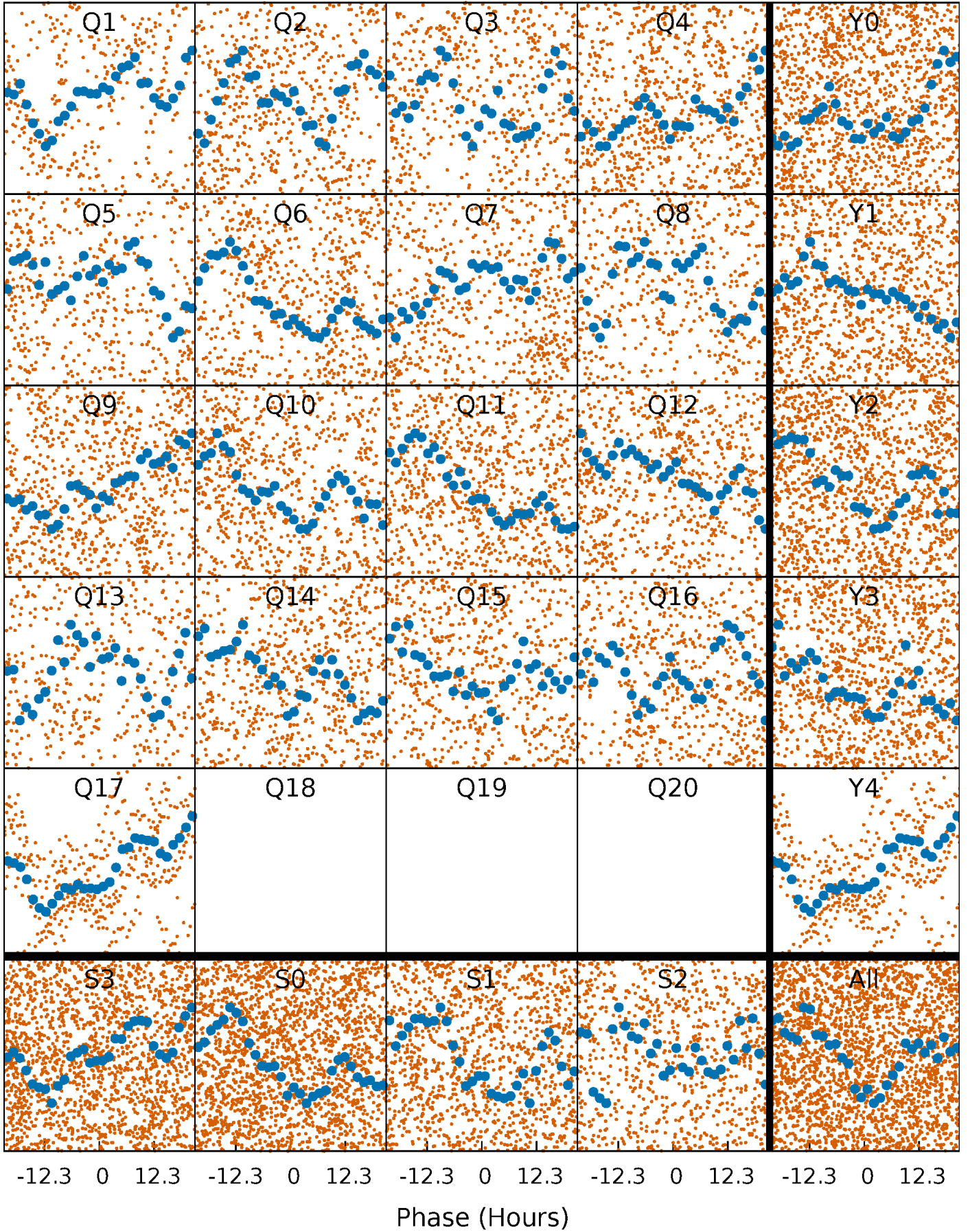


Non-Whitened Vs. Whitened Light Curve



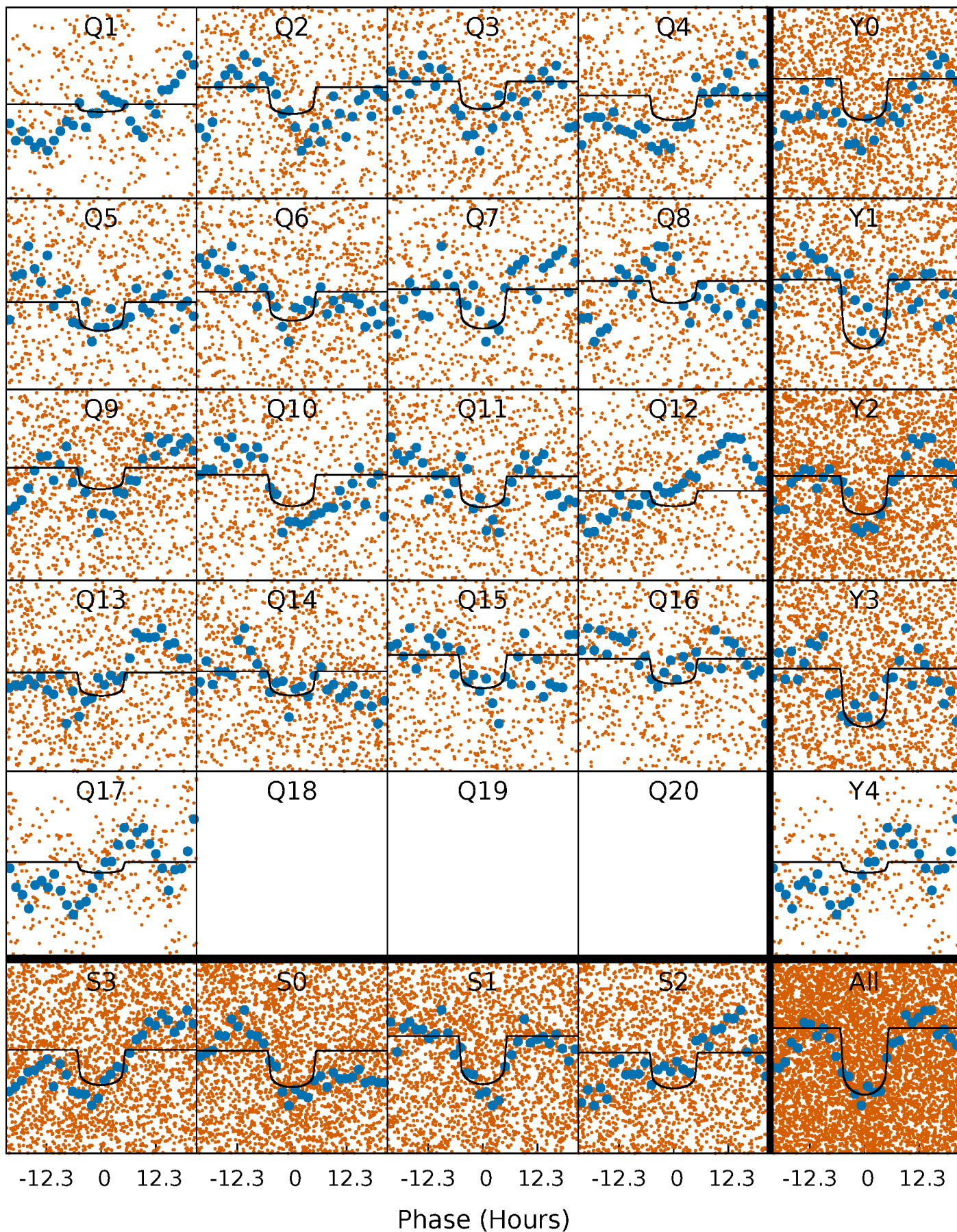
PDC Quarter-Phased Transit Curves

TCE 004774321-03 P= 5.007367 Days $T_0=135.114227$ (BKJD)



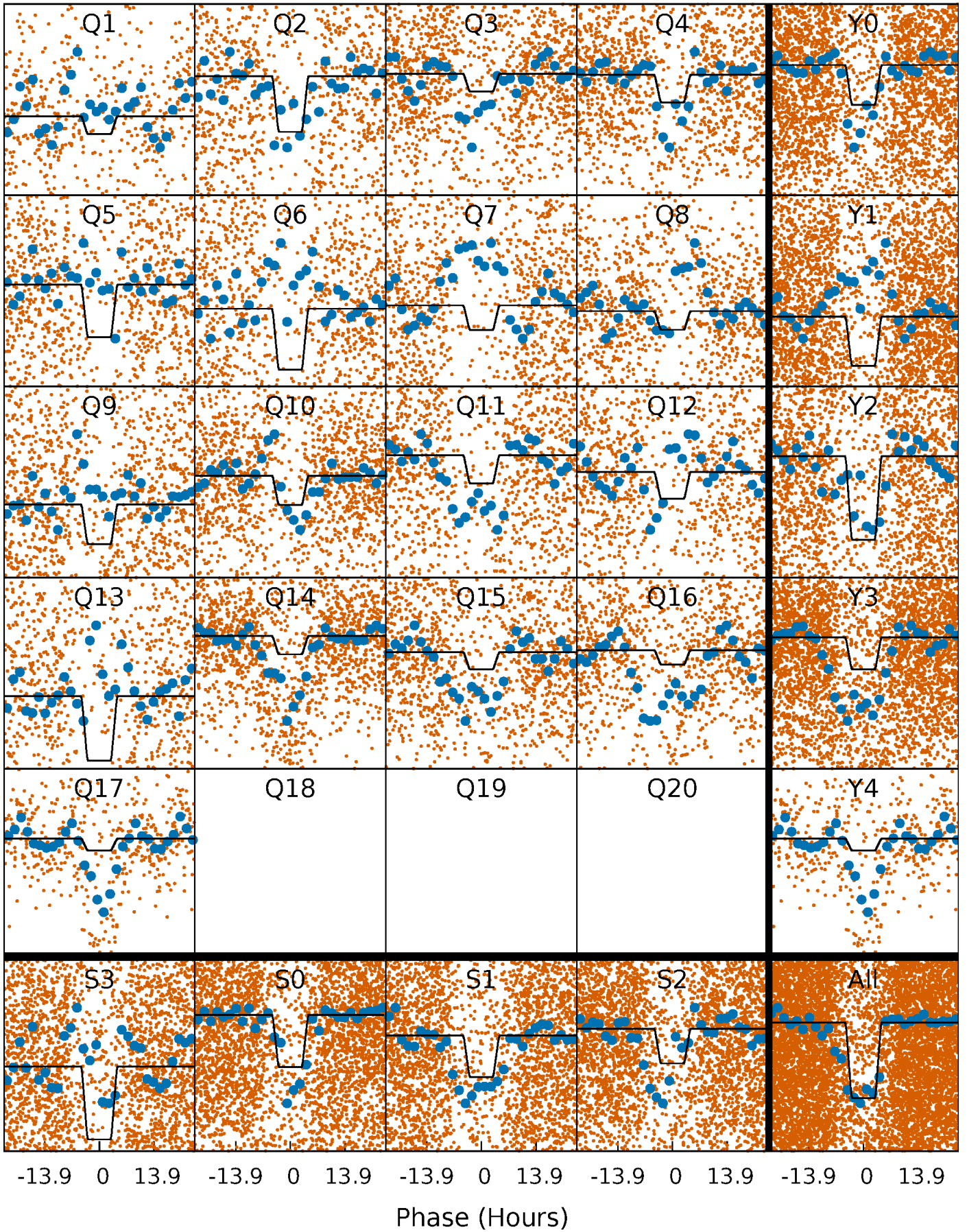
DV Quarter-Phased Transit Curves

TCE 004774321-03 P= 5.007367 Days $T_0=135.114227$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

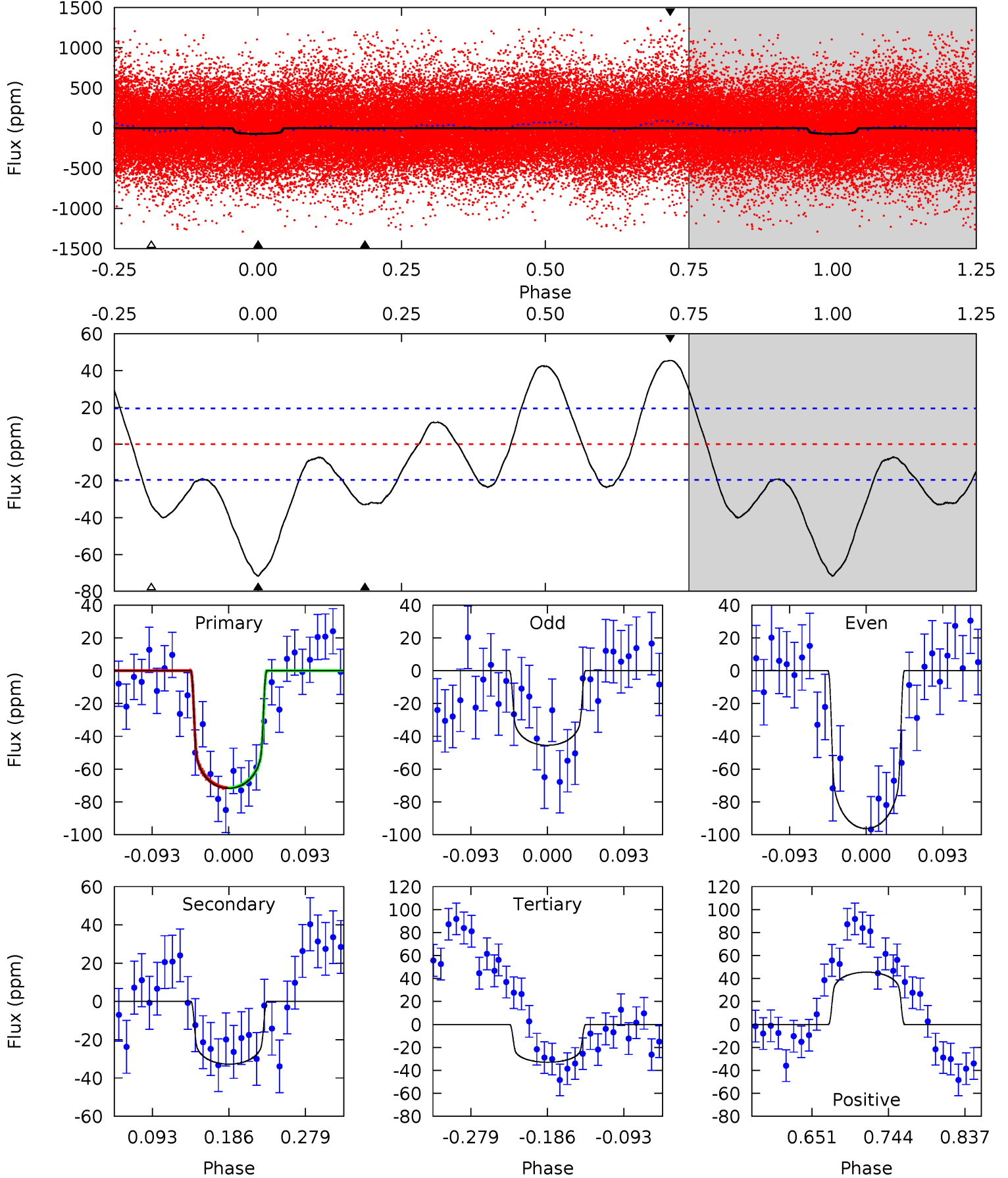
TCE 004774321-03 P= 5.007410 Days $T_0=135.111770$ (BKJD)



DV Model-Shift Uniqueness Test

004774321-03, P = 5.007367 Days, E = 130.106860 Days

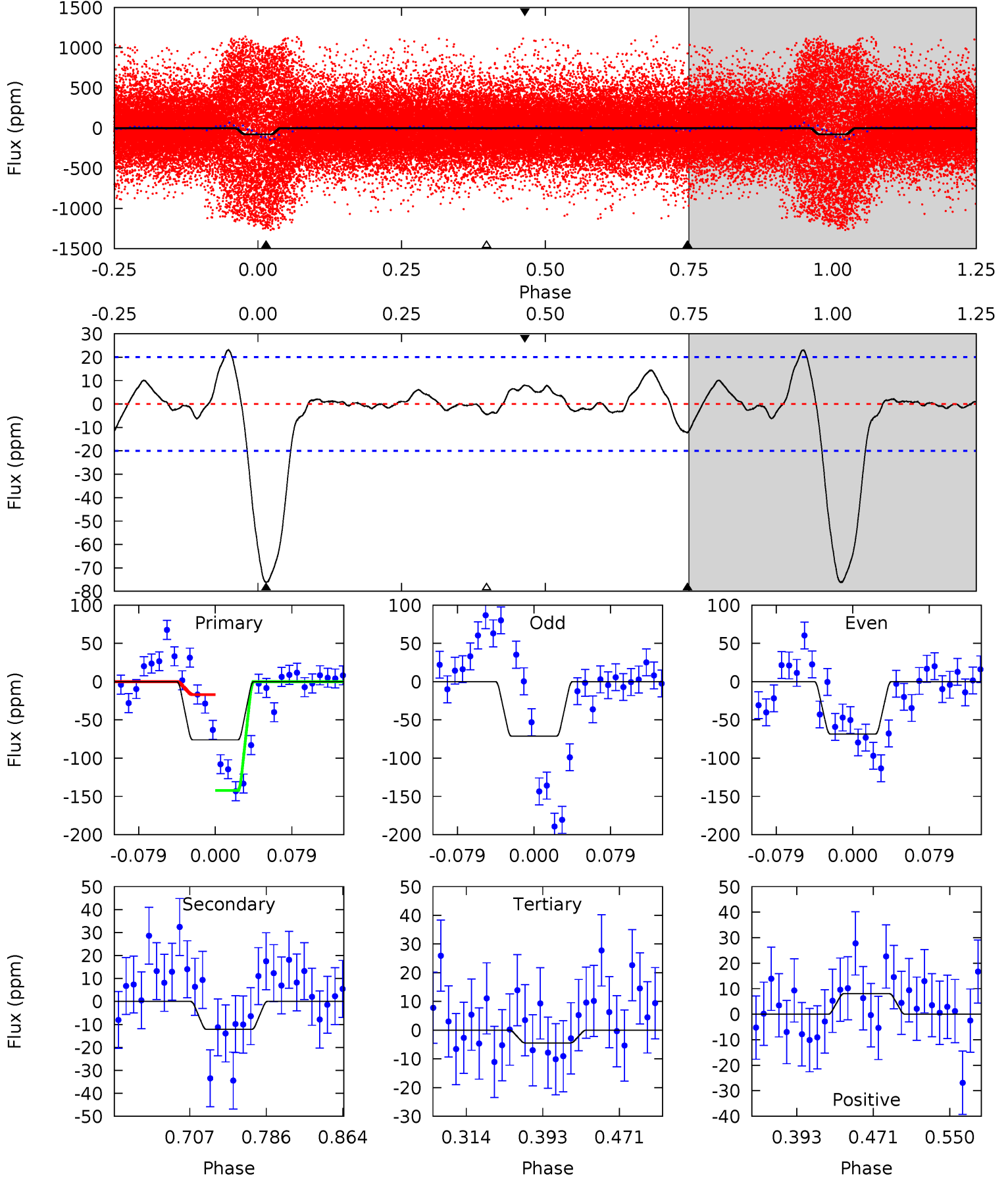
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	7.73	7.77	10.7	4.58	1.68	5.92	9.14	6.17	-0.05	-3.01	6.01	1.03	0.39	0.02



Alt Model-Shift Uniqueness Test

004774321-03, P = 5.007410 Days, E = 130.104360 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	2.80	1.02	1.85	4.62	1.76	0.82	16.5	15.7	1.78	0.95	0.31	1.17	0.23	14.3



Stellar Parameters For KIC 004774321

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6293^{+175}_{-241}	$4.303^{+0.132}_{-0.198}$	$-0.160^{+0.250}_{-0.300}$	$1.201^{+0.391}_{-0.210}$	$1.055^{+0.185}_{-0.123}$	$0.857^{+0.537}_{-0.448}$
	+3%/-4%	+3%/-5%	+156%/-188%	+33%/-17%	+18%/-12%	+63%/-52%
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 004774321-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-33 ± 4	$1.21^{+0.26}_{-0.20}$	1766^{+142}_{-119}	5037^{+363}_{-290}	41^{+19}_{-13}
Alt.	-12 ± 4	$1.32^{+0.28}_{-0.21}$	1766^{+131}_{-114}	3998^{+314}_{-324}	13^{+8}_{-6}

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

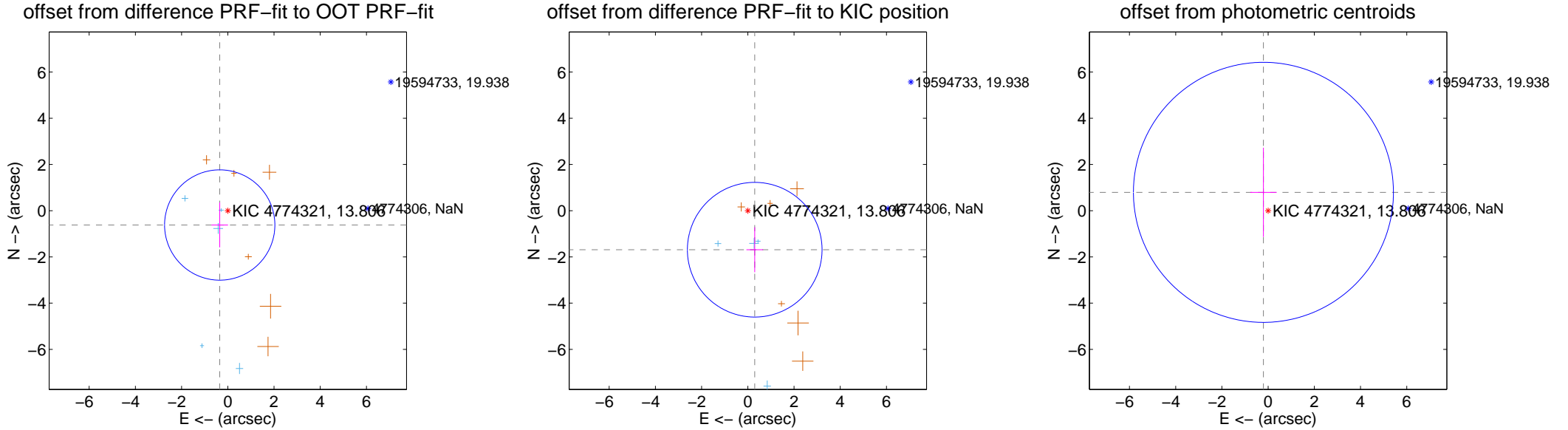
DV Centroid Data

Supplemental centroid analysis for 004774321-03. Kepler magnitude: 13.81. Transit SNR 7.85

There are 5 quarters with good PRF difference image offsets

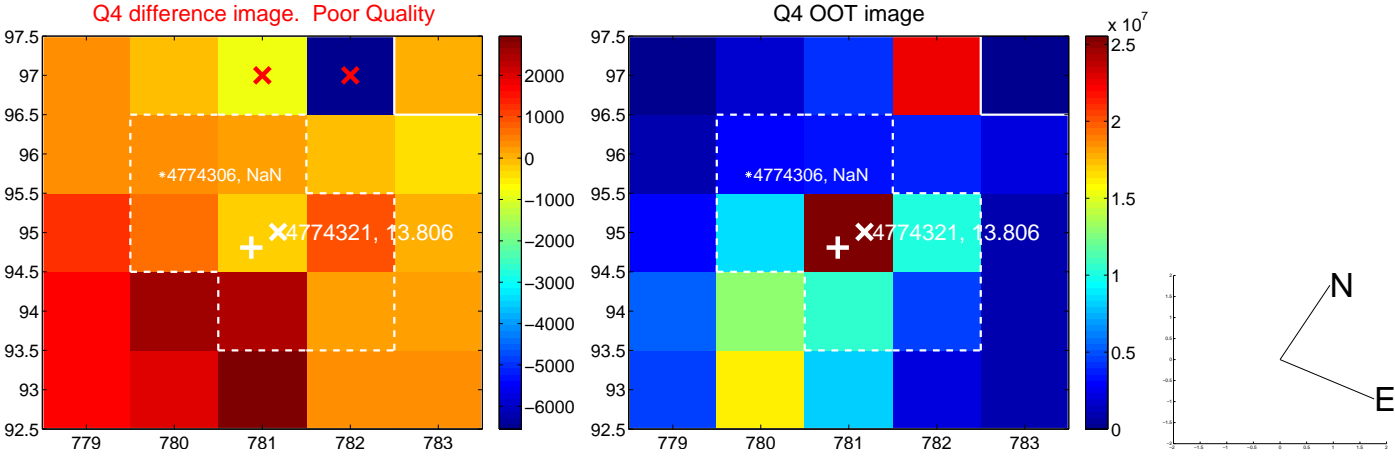
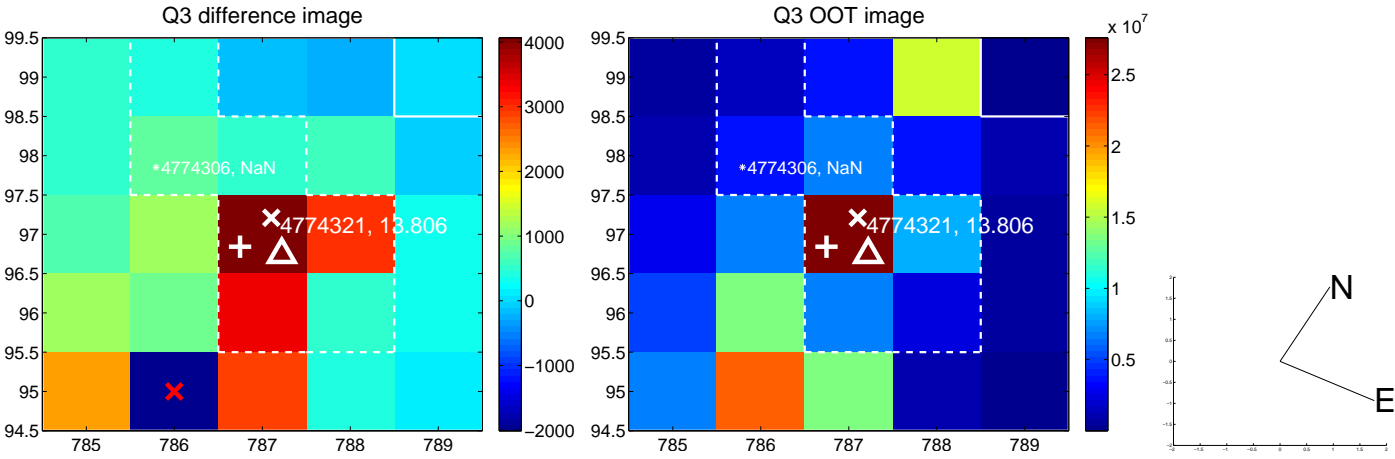
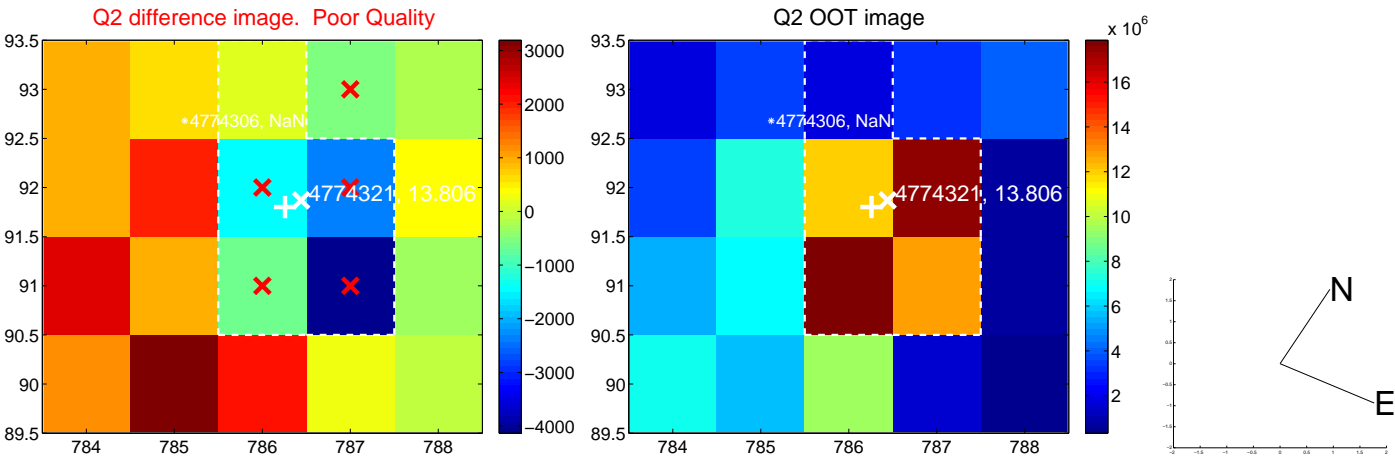
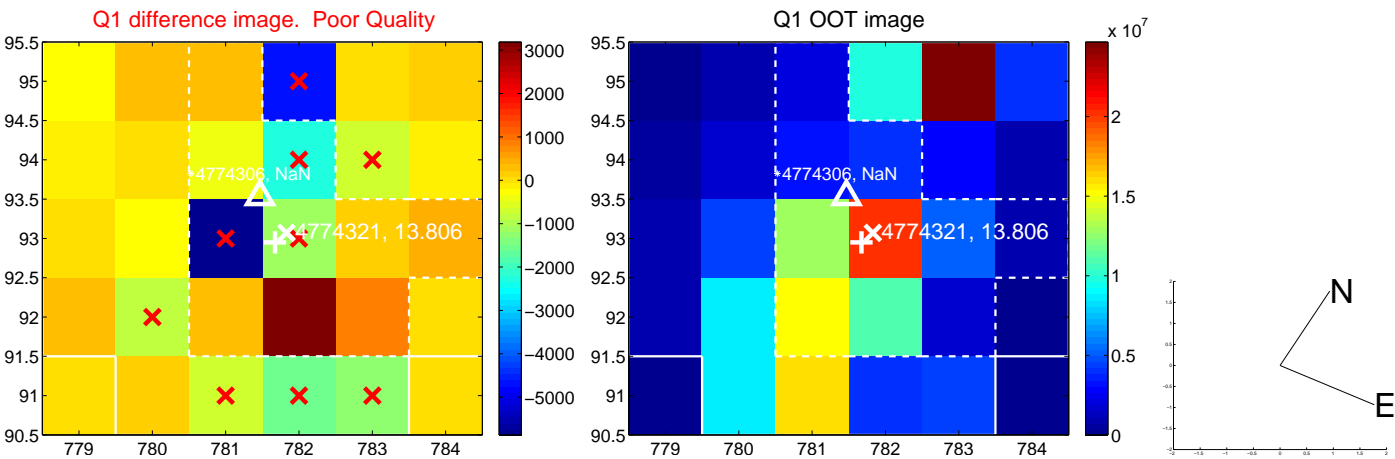
The direct PRF centroid is offset from the target star catalog position by about 0.80 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.711 ± 0.795	0.89	0.350 ± 0.358	-0.619 ± 0.967
PRF-fit source offset from KIC position	1.714 ± 0.971	1.77	-0.298 ± 0.361	-1.688 ± 0.973
photometric centroid source offset	0.82 ± 1.88	0.44	0.20 ± 0.57	0.79 ± 1.93

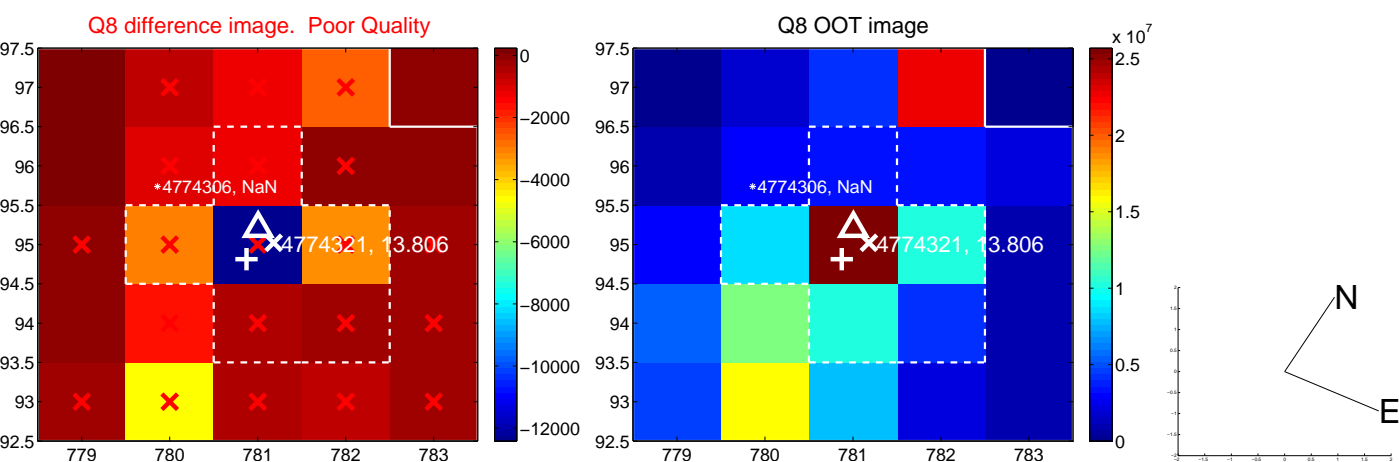
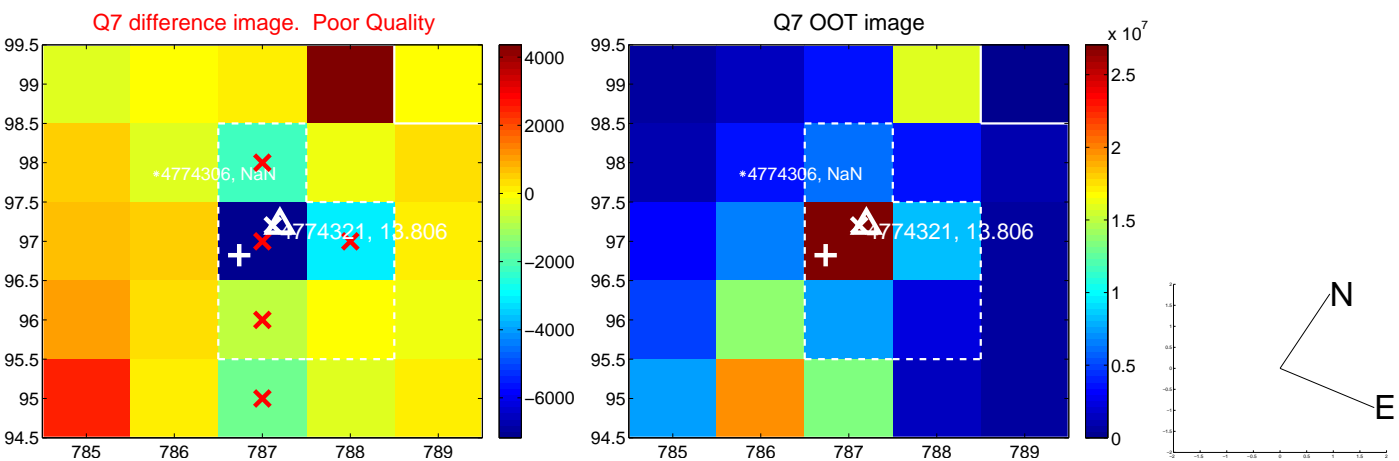
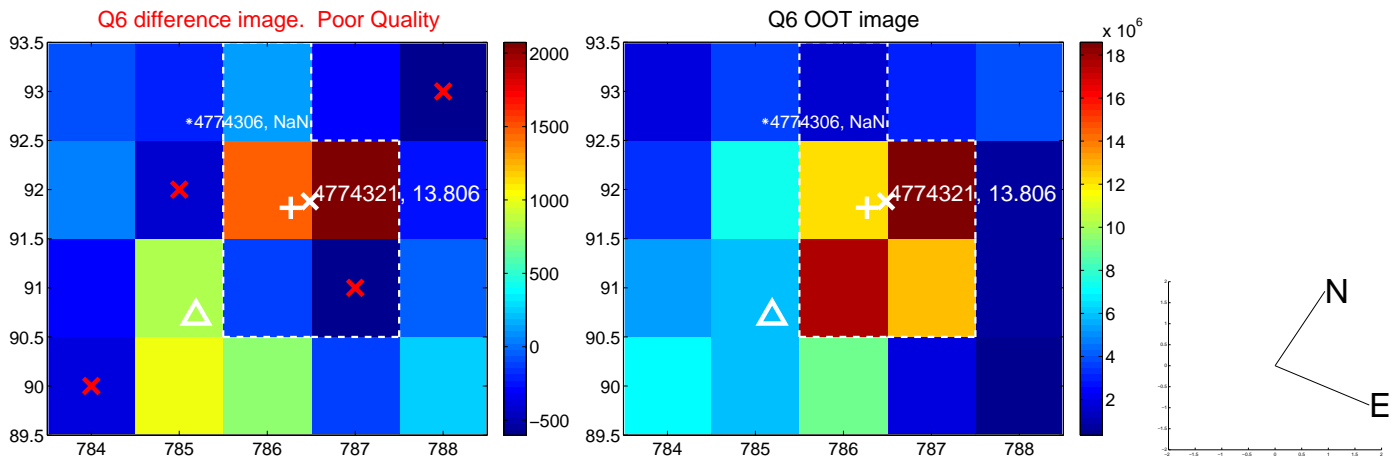
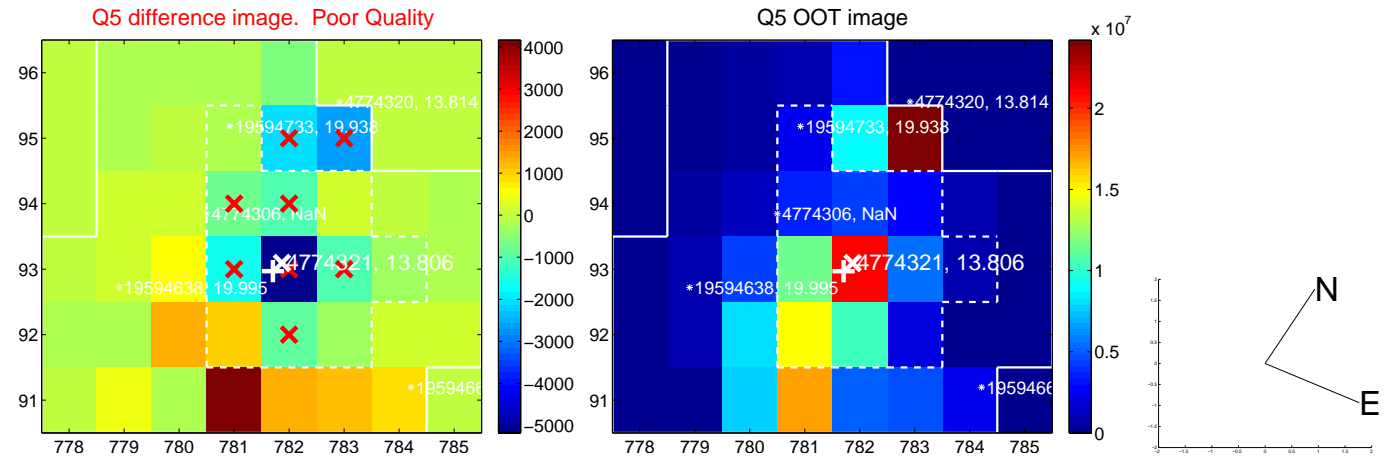


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

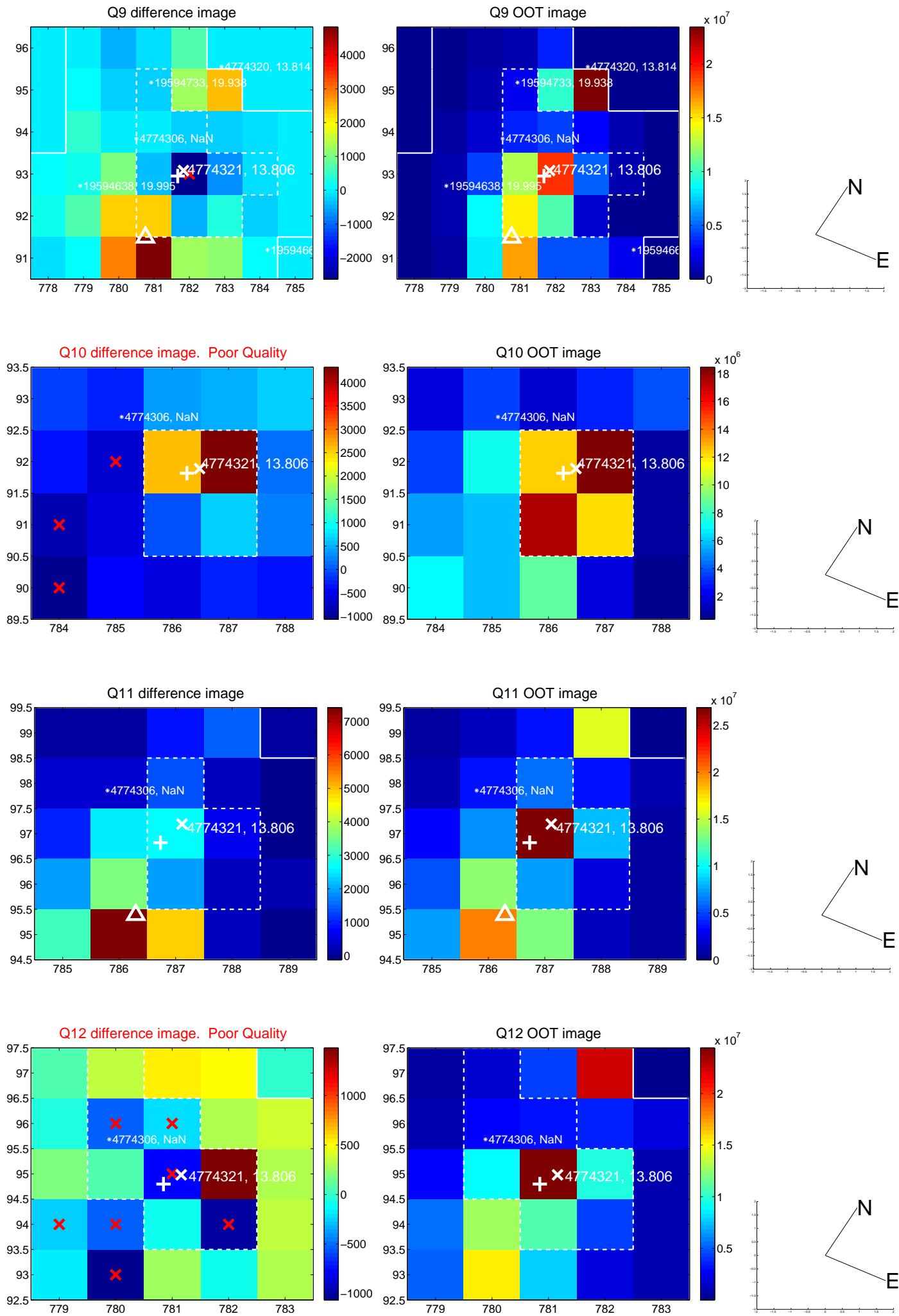
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



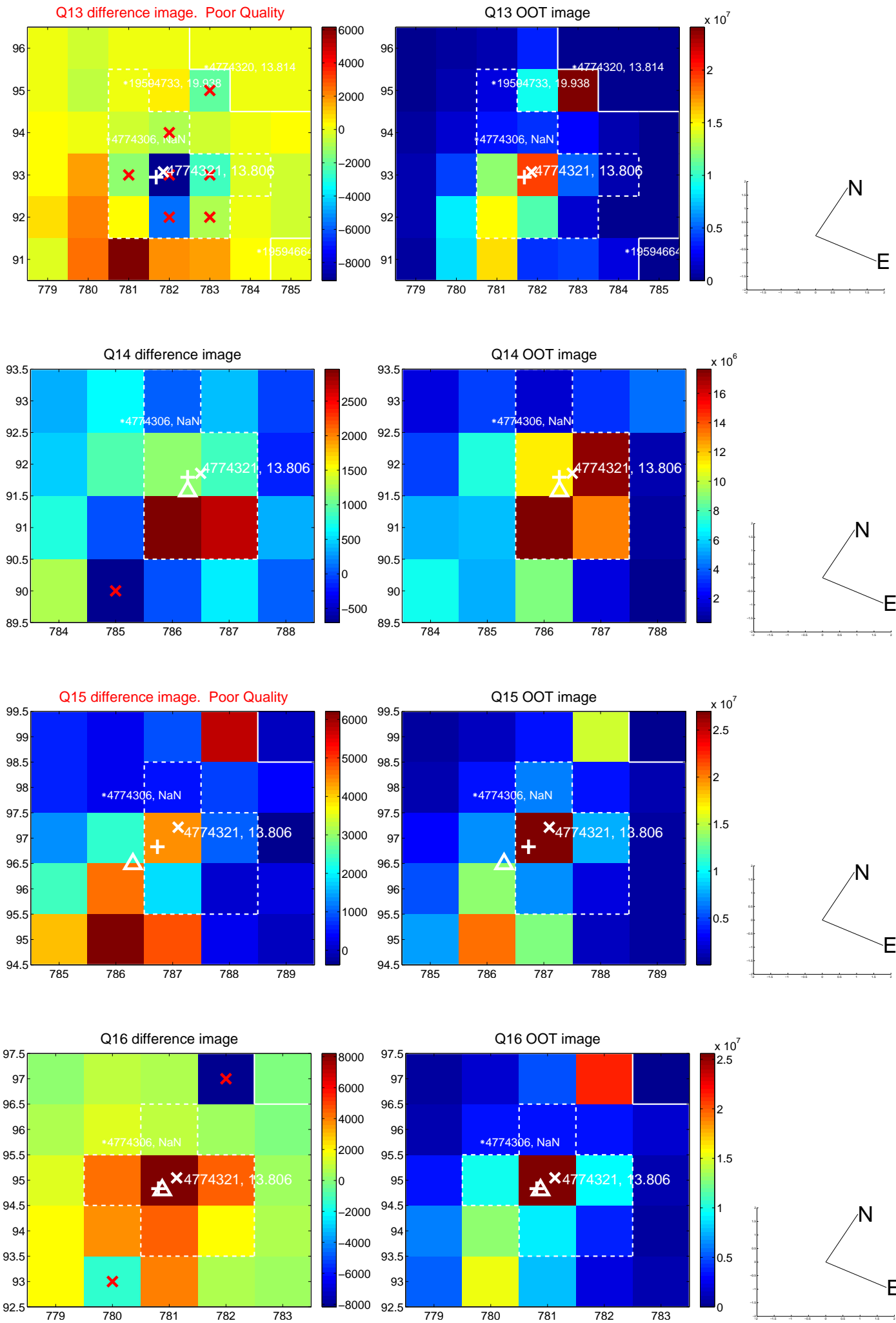
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



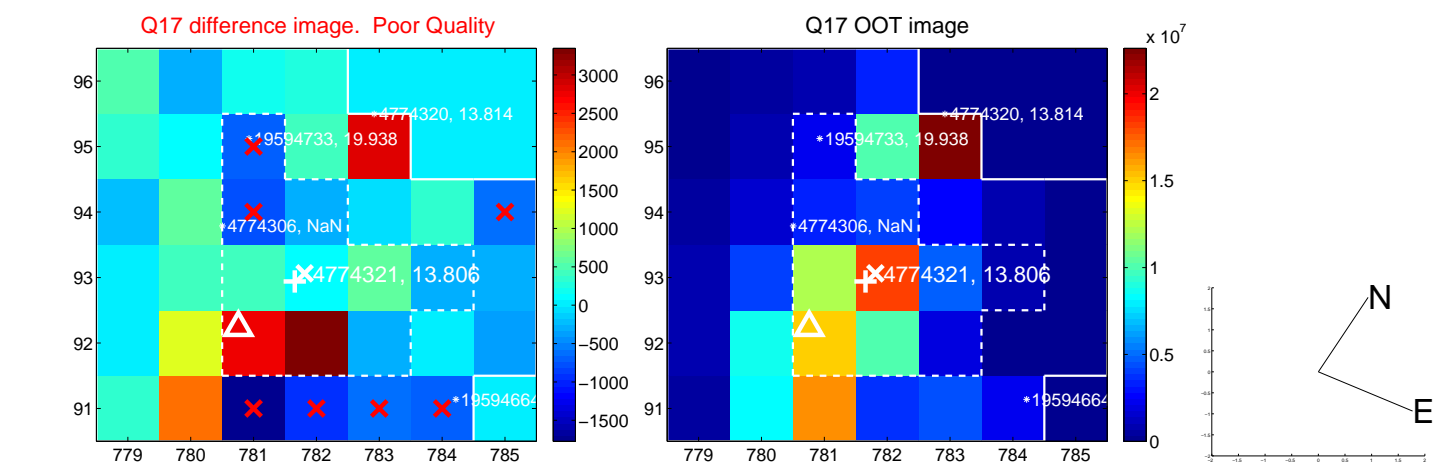
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



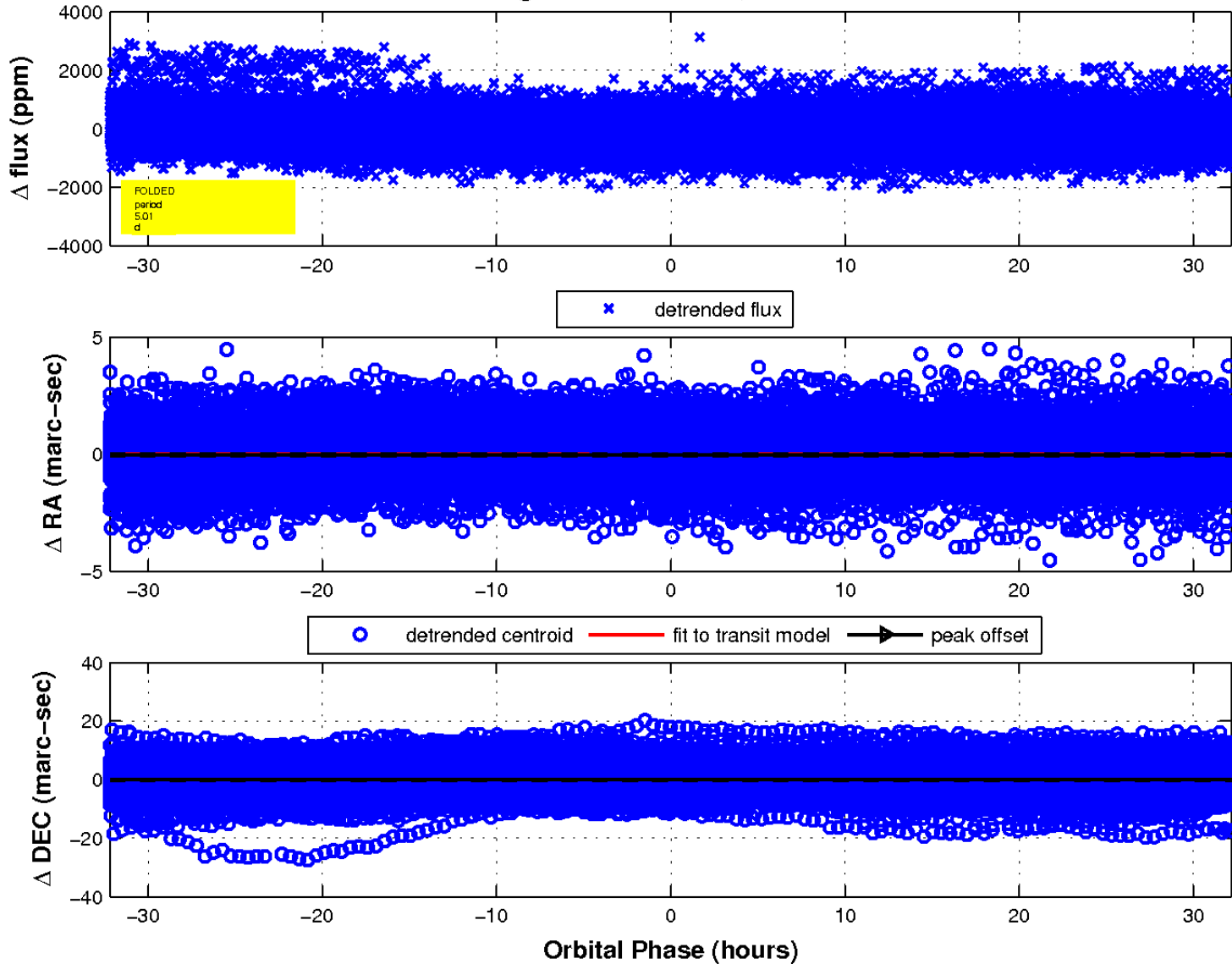
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

