

KIC 003440710

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})
003440710-01	OBS	No	0.799827	131.907880	3.4	3.743	9.4	1.5	1.40	6946	0.30	12331.16
003440710-02	OBS	No	328.430527	453.774468	225.8	13.540	9.5	7.1	1.40	6946	2.29	4.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003440710-01	OBS	FP	0.00	1	0	0	0	LPP_DV
003440710-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

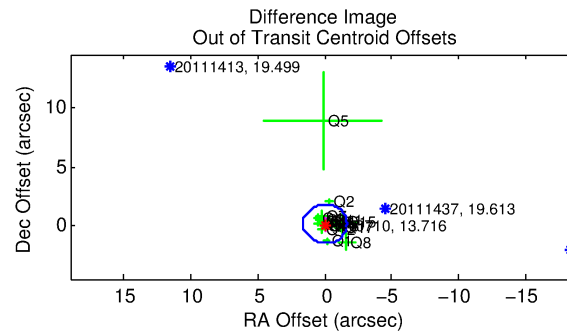
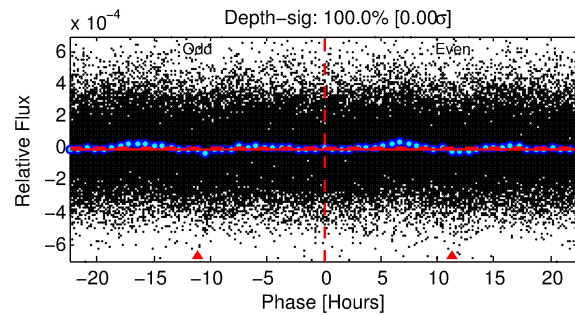
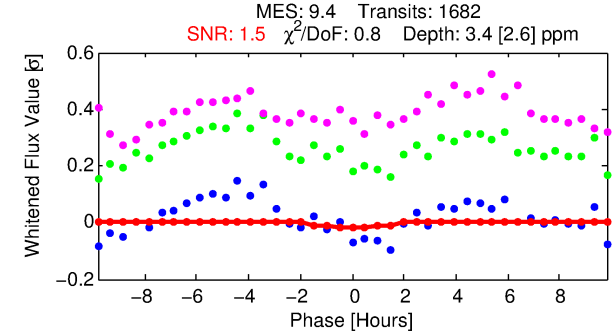
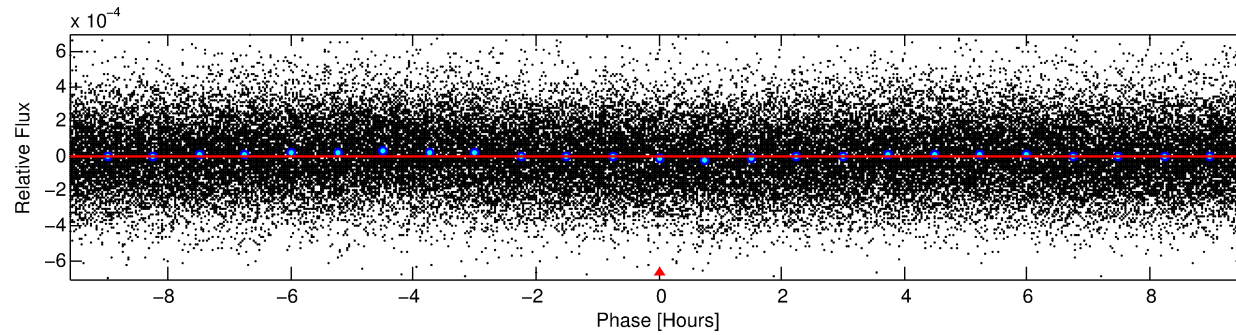
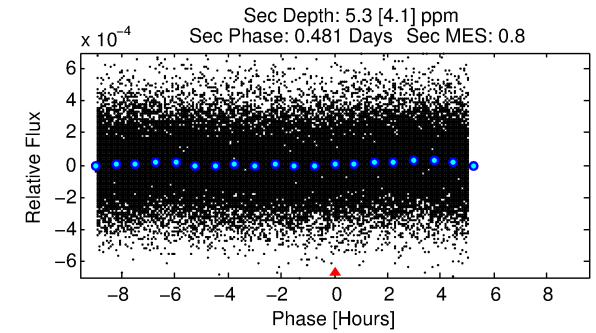
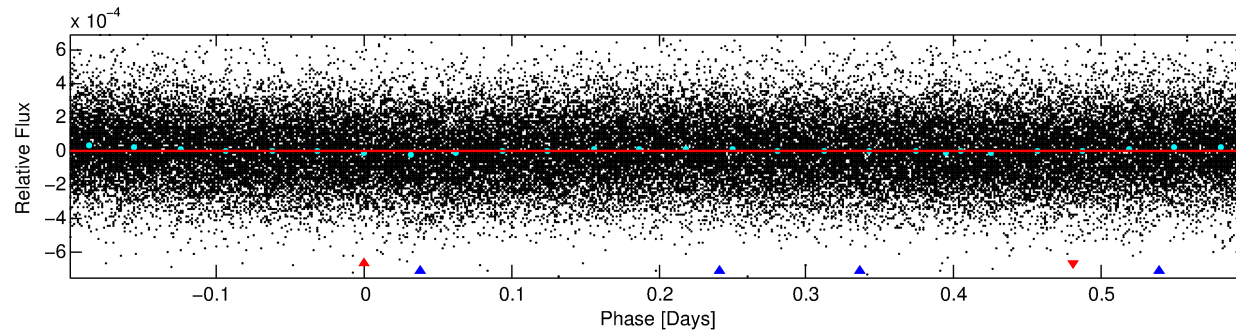
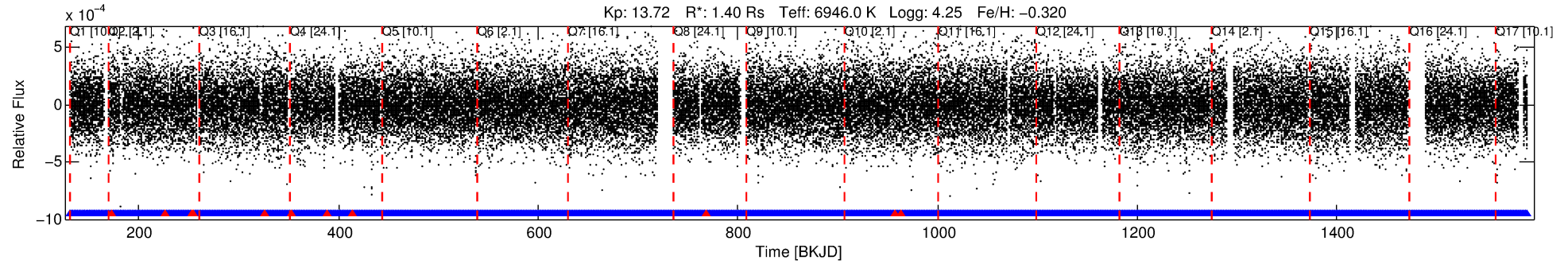
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003440710-01

No Significant Match Found

DV One-Page Summary

KIC: 3440710 Candidate: 1 of 2 Period: 0.800 d



DV Fit Results:

Period = 0.79983 [0.00007] d
Epoch = 131.9079 [0.0241] BKJD
Rp/R* = 0.0020 [0.0015]
a/R* = 1.18 [1.45]
b = 0.90 [0.93]
Seff = 12331.16 [4740.93]
Teq = 2687 [258] K
Rp = 0.30 [0.25] Re
a = 0.0182 [0.0046] AU
Ag = 10.72 [19.21] [0.51σ]
Teffp = 7517 [3315] K [1.45σ]

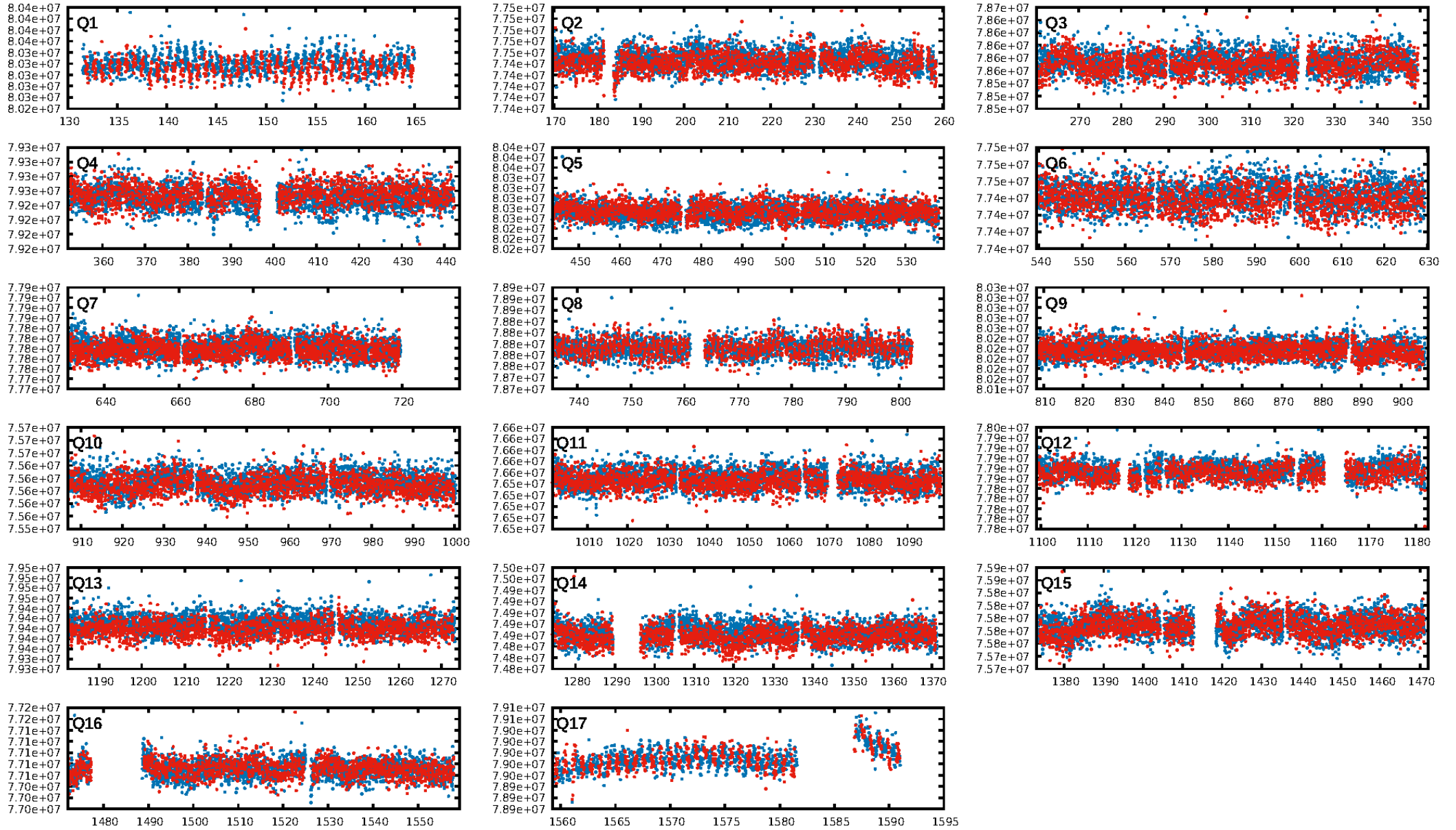
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [559.74σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.94e-15
RollingBand-fgt: 0.99 [1595/1606]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.156 arcsec [0.29σ]
KicOffset-rm: 0.105 arcsec [0.22σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 1.00 [17/17]

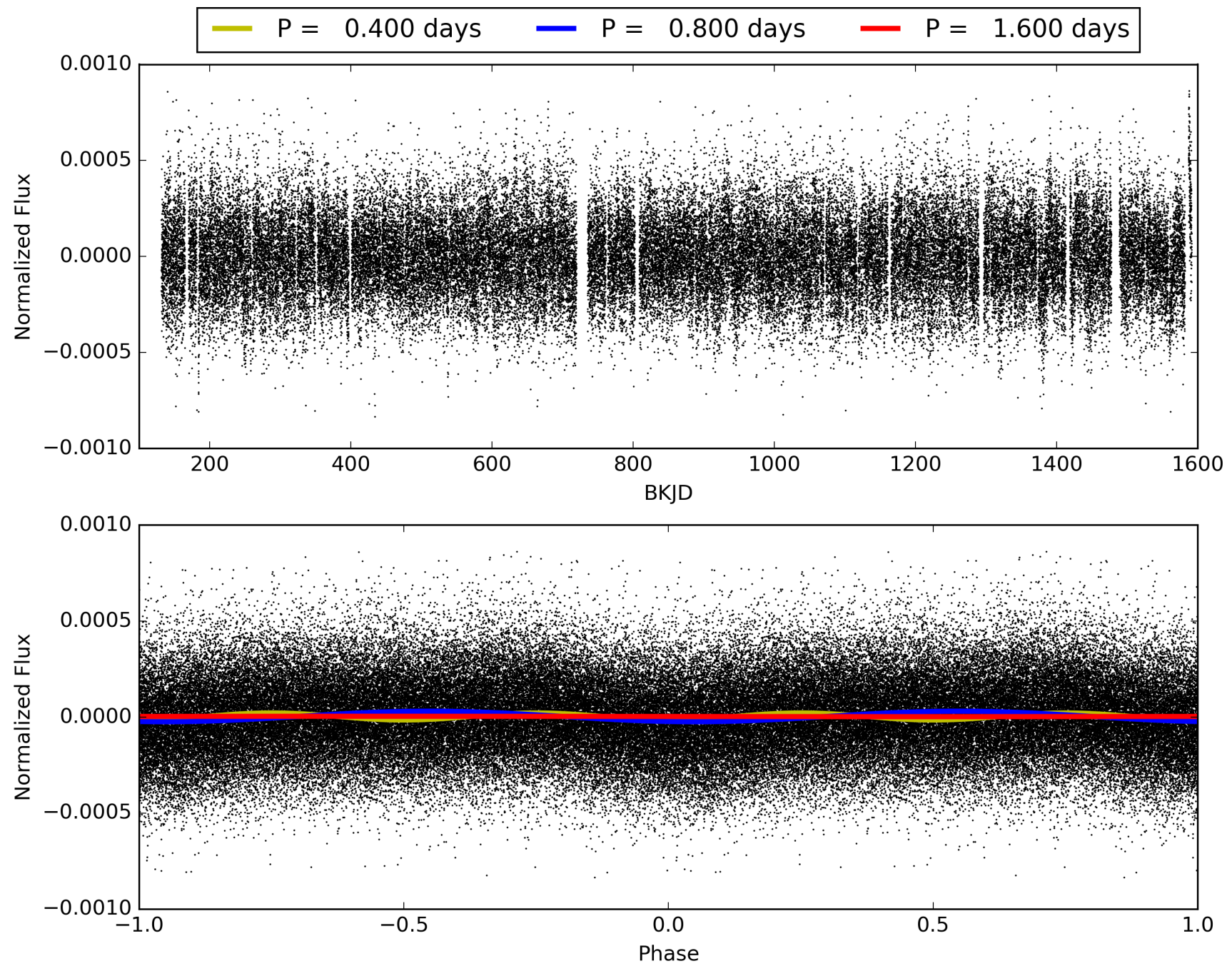
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:21:57 Z

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

TCE 003440710-01, PDC Light Curves

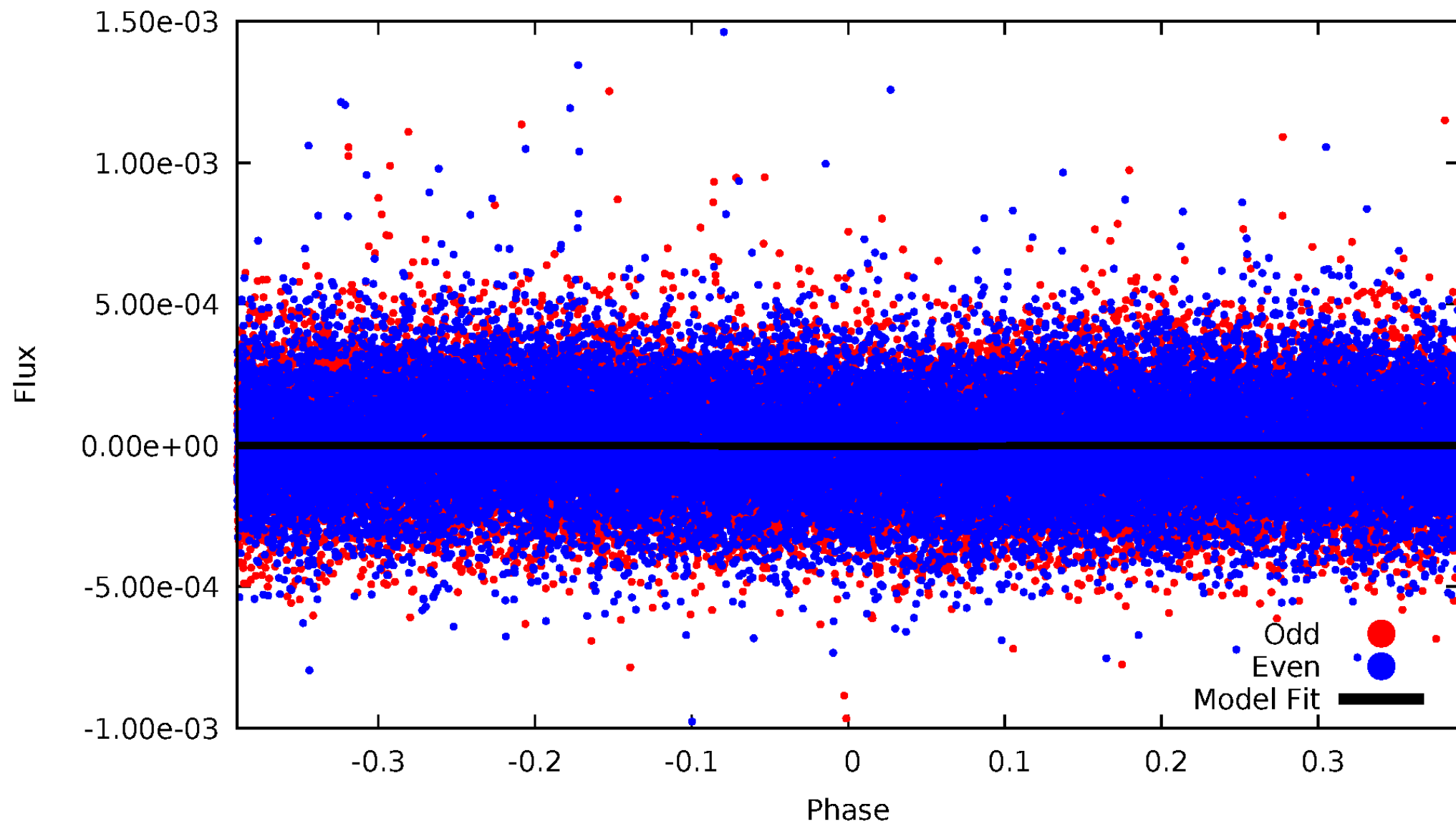


TCE 003440710-01



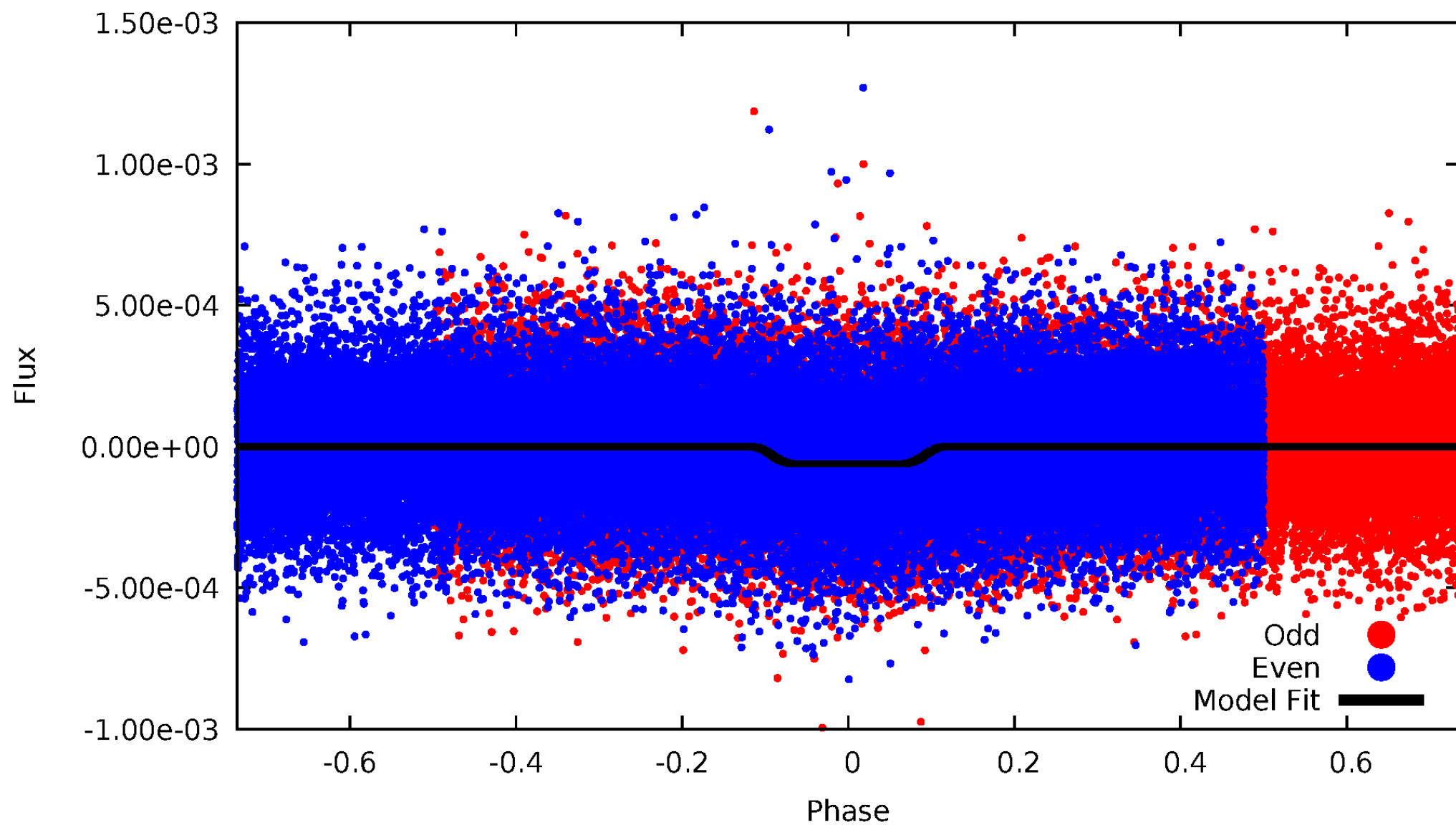
DV Odd/Even

TCE 003440710-01



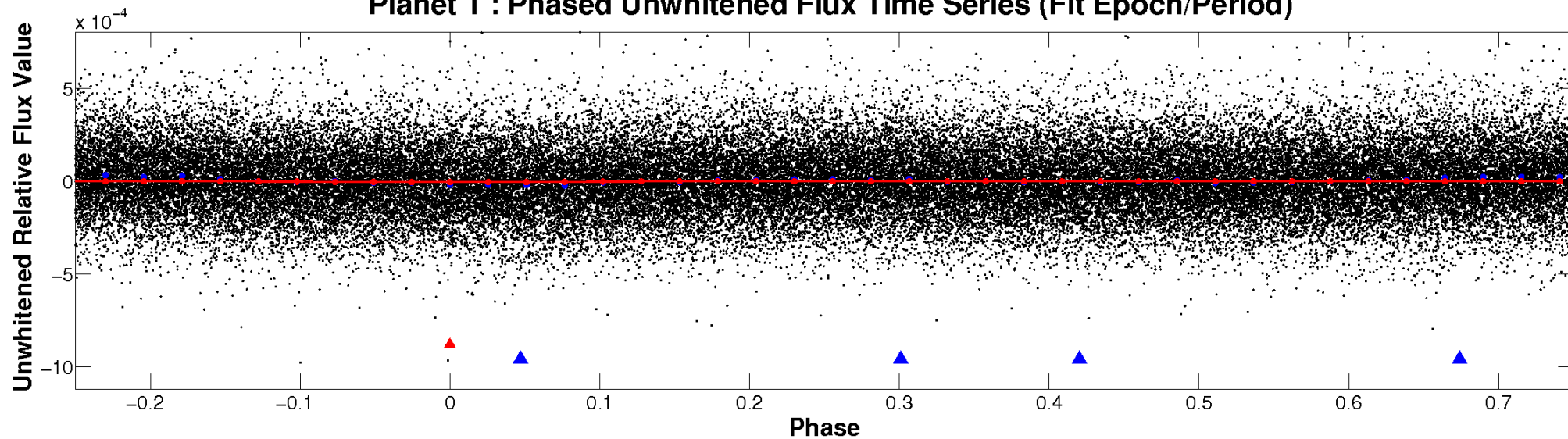
ALT Odd/Even

TCE 003440710-01

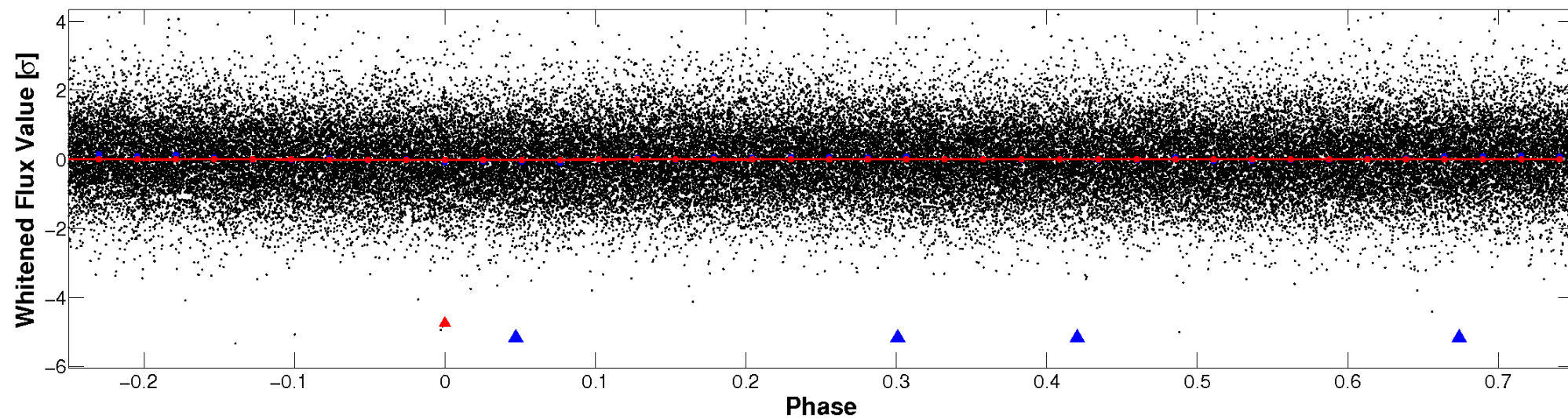


Non-Whitened Vs. Whitened Light Curve

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

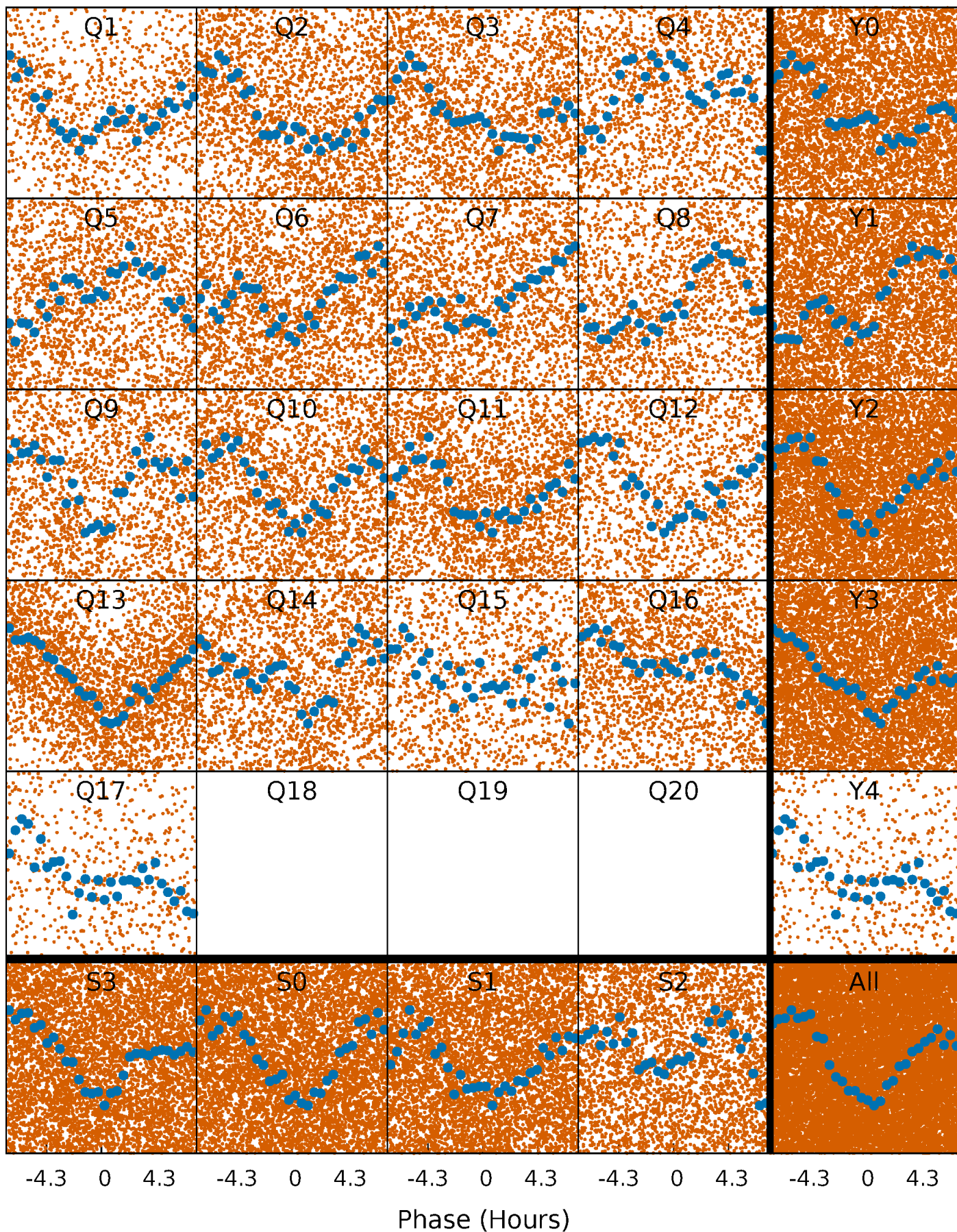


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



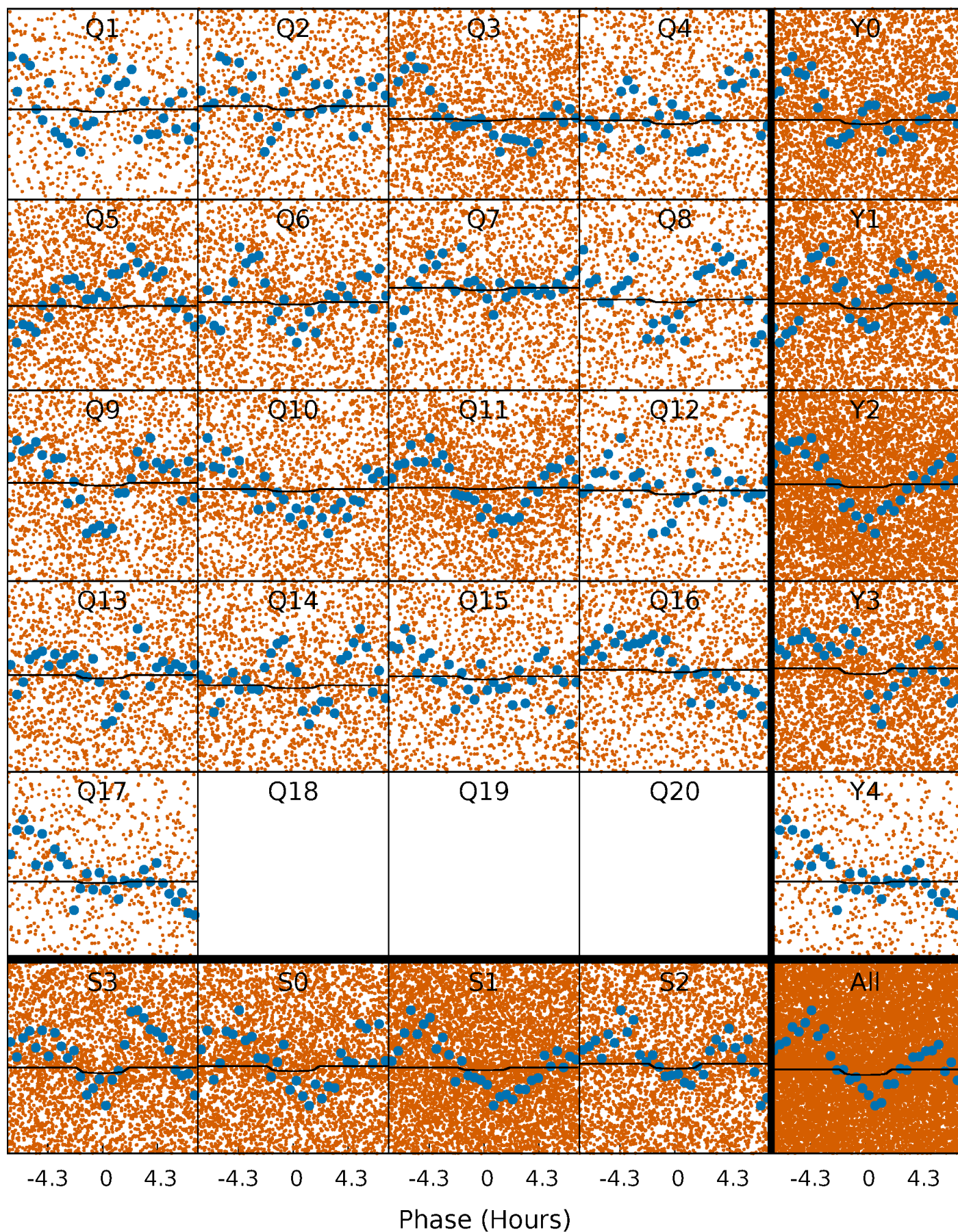
PDC Quarter-Phased Transit Curves

TCE 003440710-01 P= 0.799827 Days $T_0=131.907880$ (BKJD)



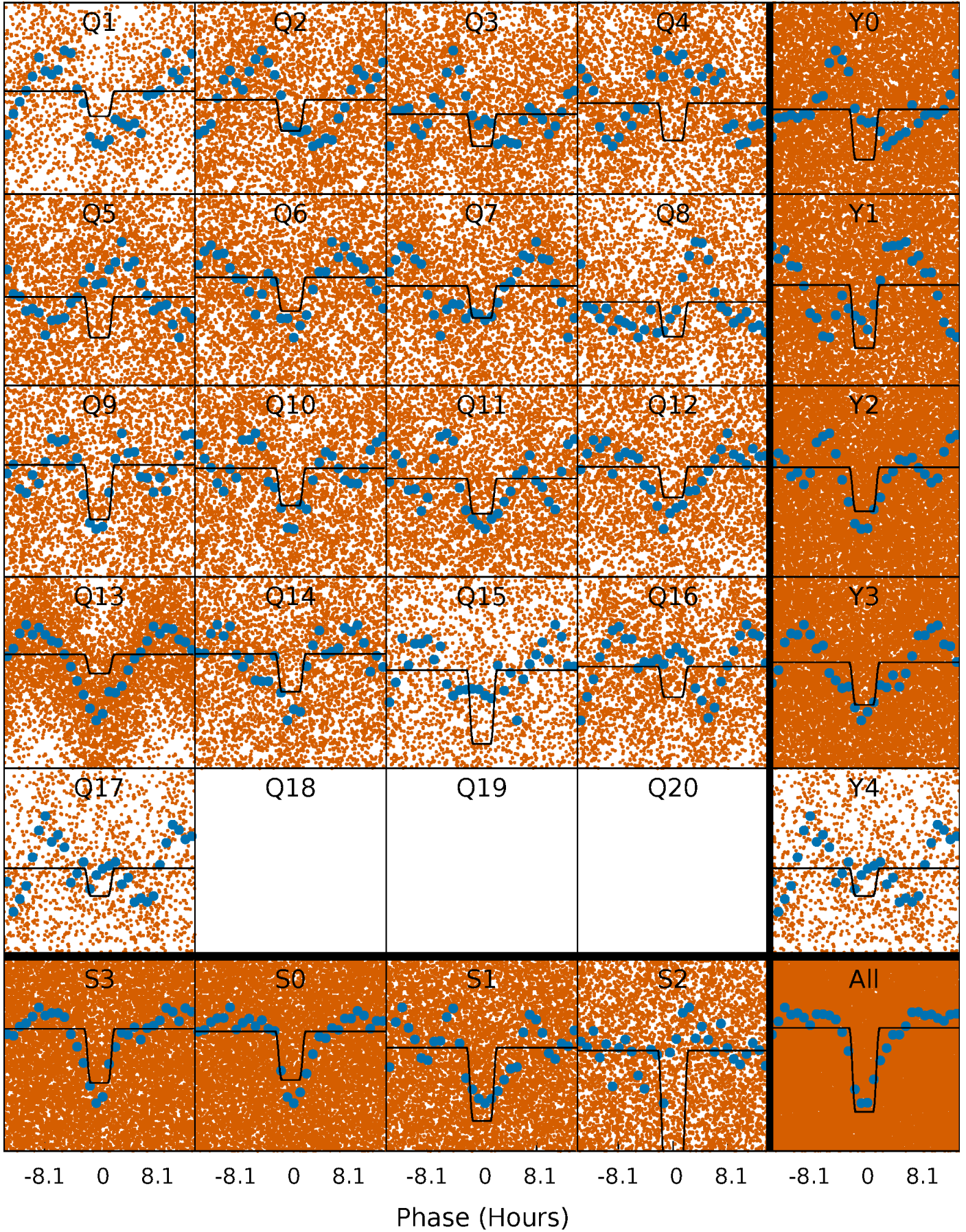
DV Quarter-Phased Transit Curves

TCE 003440710-01 P= 0.799827 Days $T_0=131.907880$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

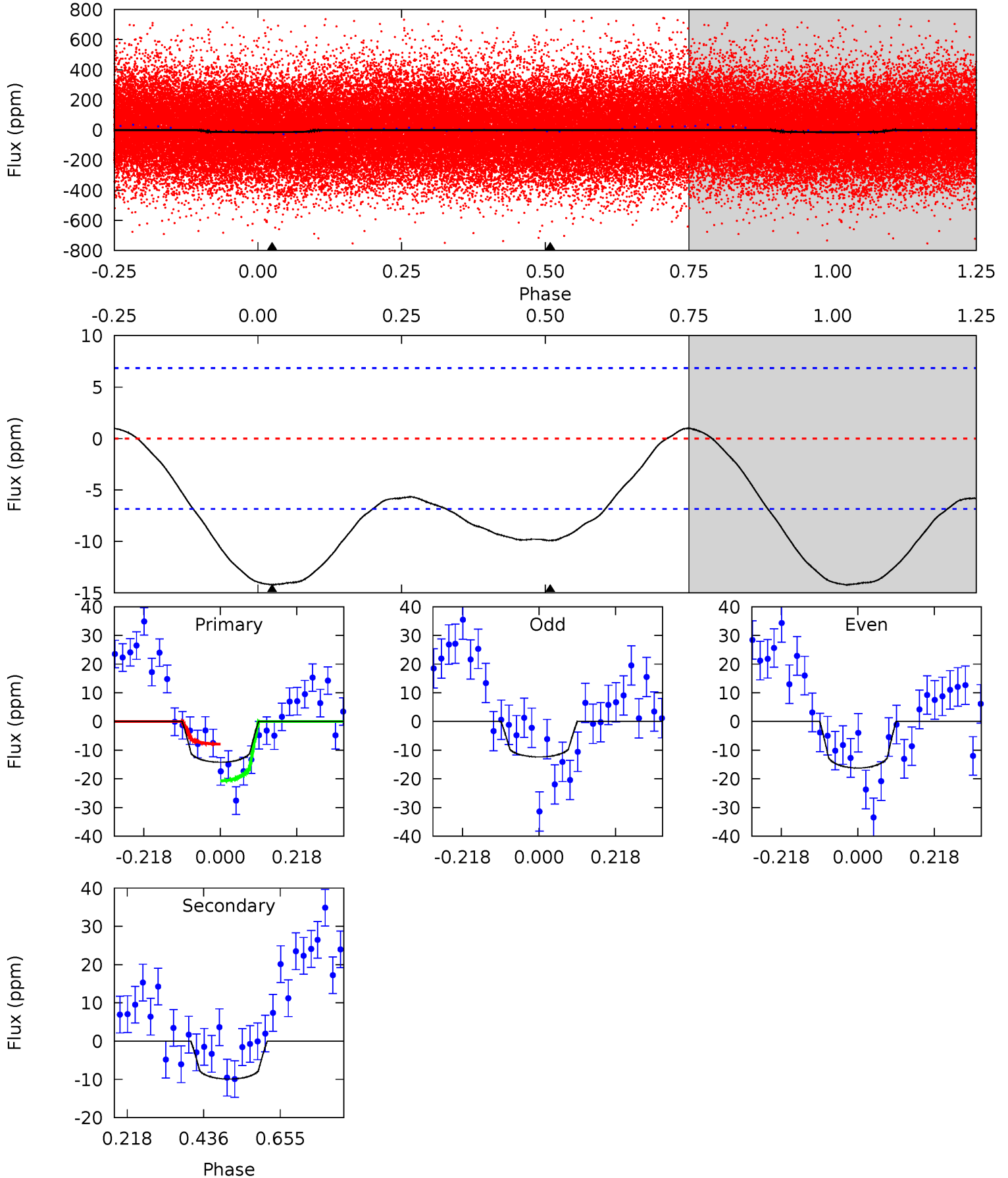
TCE 003440710-01 P= 0.799918 Days $T_0=131.830246$ (BKJD)



DV Model-Shift Uniqueness Test

003440710-01, P = 0.799827 Days, E = 131.108053 Days

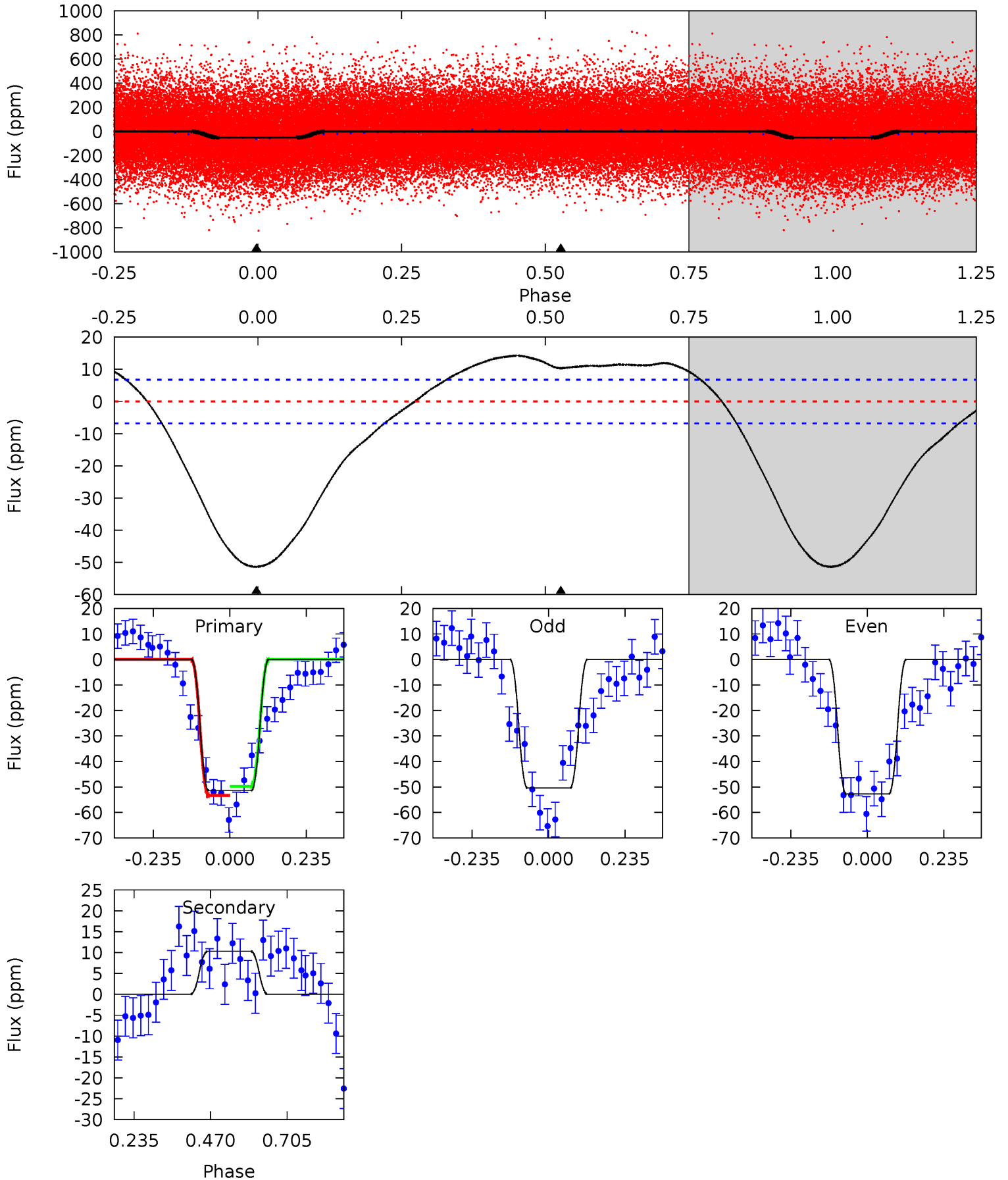
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.13	6.37	0	0	4.40	1.23	1.96	9.13	9.13	6.37	6.37	1.26	1.04	0.07	4.18



Alt Model-Shift Uniqueness Test

003440710-01, P = 0.799918 Days, E = 131.030328 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.3	-6.70	0	0	4.38	1.19	2.98	33.3	33.3	-6.70	-6.70	0.73	1.05	0.22	1.13



Stellar Parameters For KIC 003440710

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6946^{+192}_{-264}	$4.246^{+0.108}_{-0.186}$	$-0.320^{+0.250}_{-0.350}$	$1.402^{+0.437}_{-0.235}$	$1.274^{+0.185}_{-0.185}$	$0.650^{+0.386}_{-0.325}$
	+3%/-4%	+3%/-4%	+78%/-109%	+31%/-17%	+15%/-15%	+59%/-50%
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 003440710-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 2	$0.33^{+0.23}_{-0.20}$	3769^{+292}_{-231}	8573^{+11960}_{-2238}	16^{+89}_{-10}
Alt.	10 ± 2	$1.20^{+0.30}_{-0.28}$	3777^{+290}_{-214}	-4835^{+327}_{-441}	$-1.341^{+0.522}_{-0.889}$

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 $A_{obs} \gg 1.0$

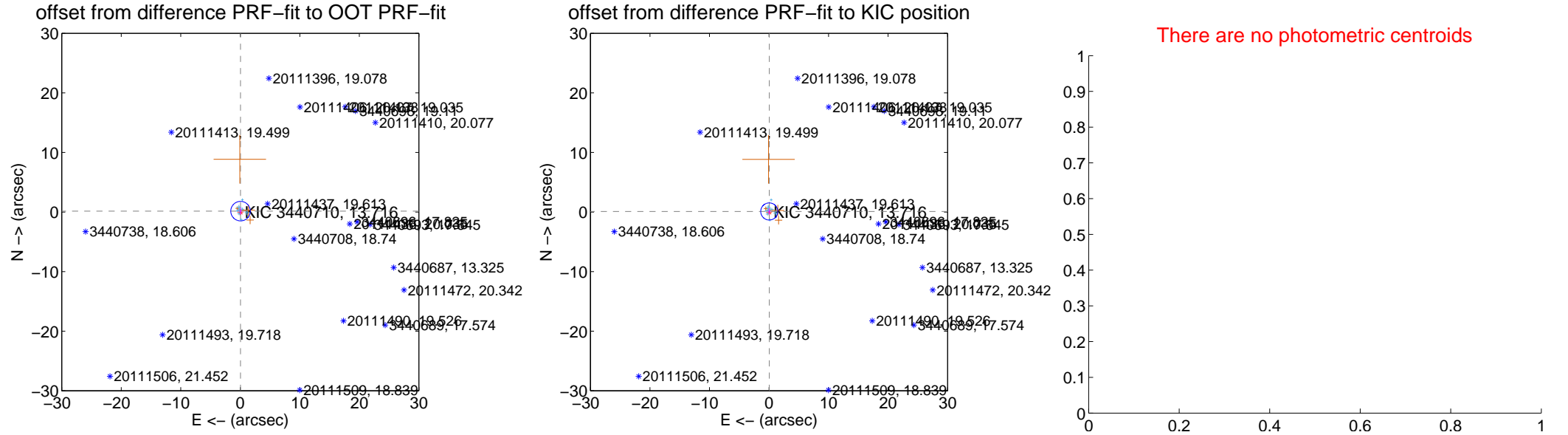
DV Centroid Data

Supplemental centroid analysis for 003440710-01. Kepler magnitude: 13.72. Transit SNR 1.52

There are 12 quarters with good PRF difference image offsets

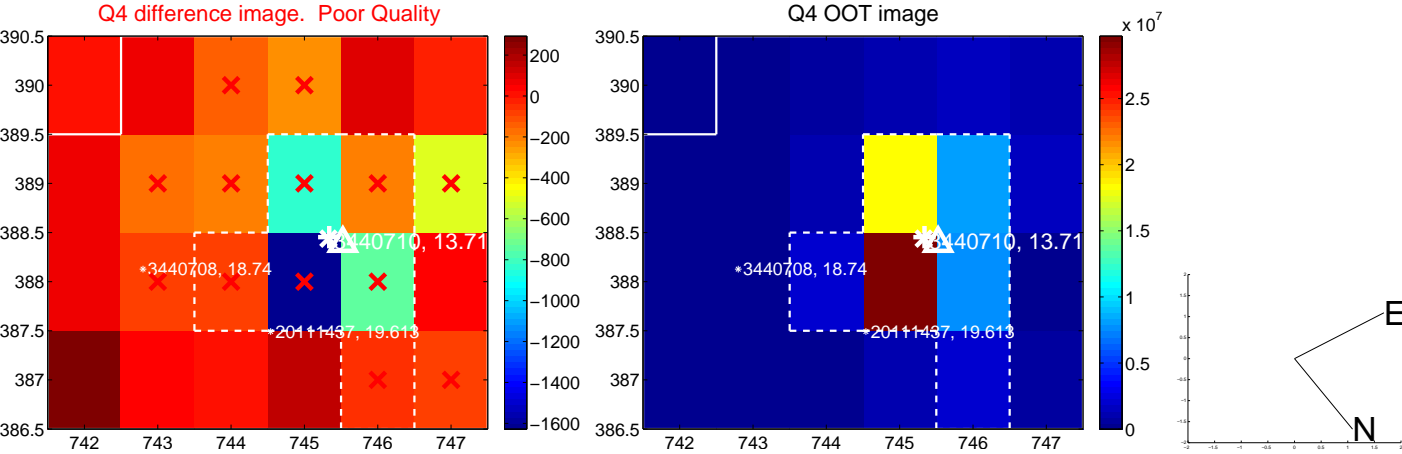
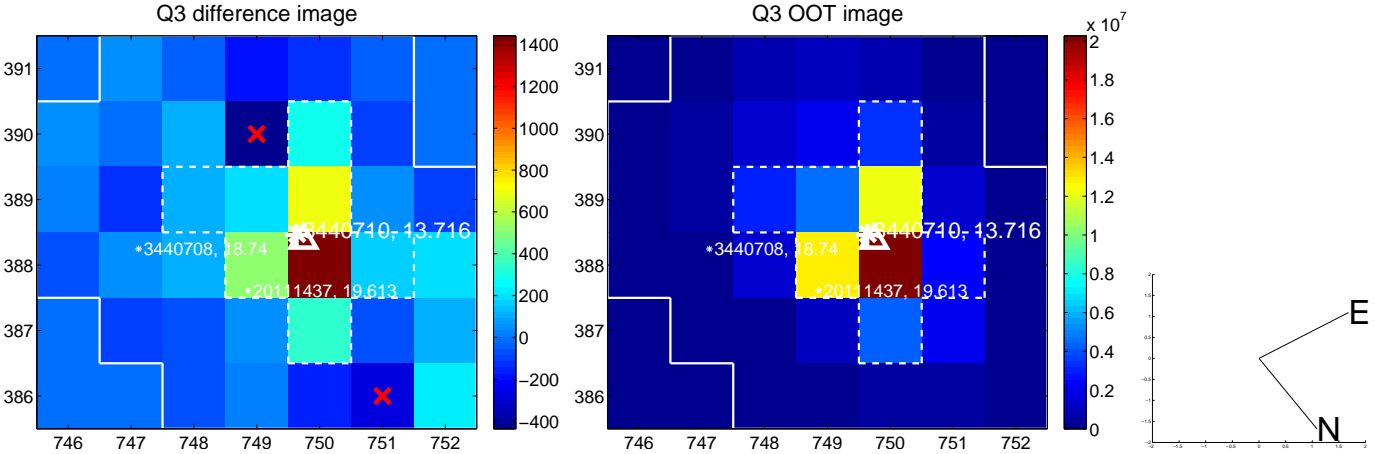
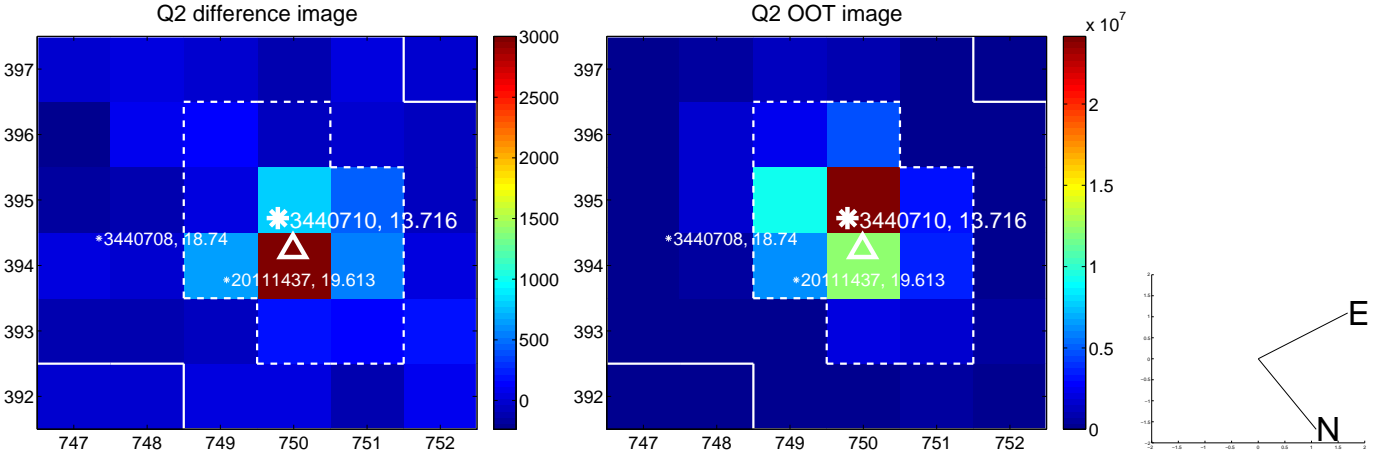
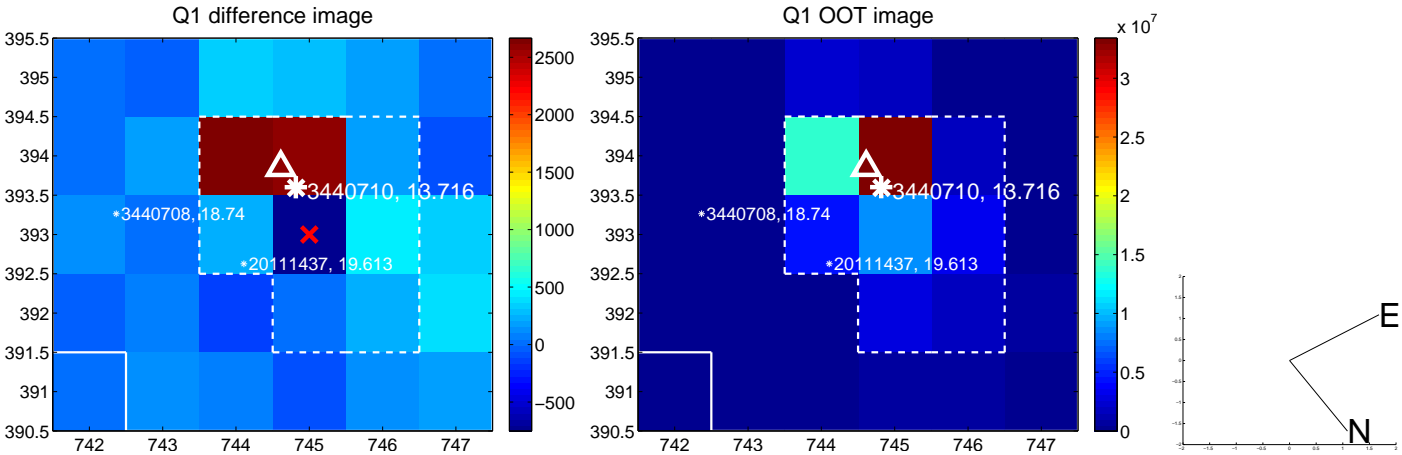
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.156 ± 0.546	0.29	-0.041 ± 0.171	0.151 ± 0.574
PRF-fit source offset from KIC position	0.105 ± 0.478	0.22	-0.044 ± 0.175	0.095 ± 0.533
photometric centroid source offset	—	—	—	—

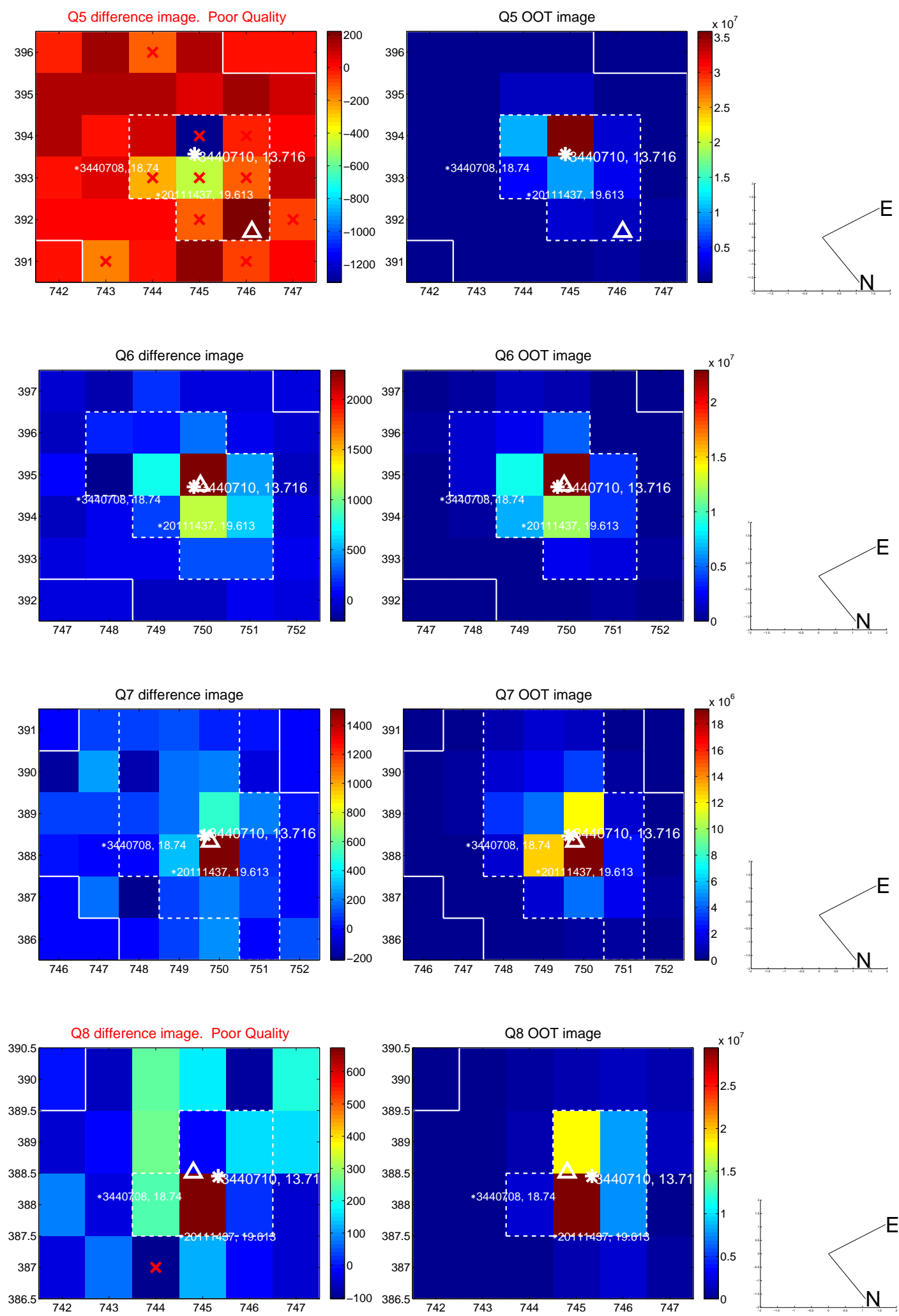


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

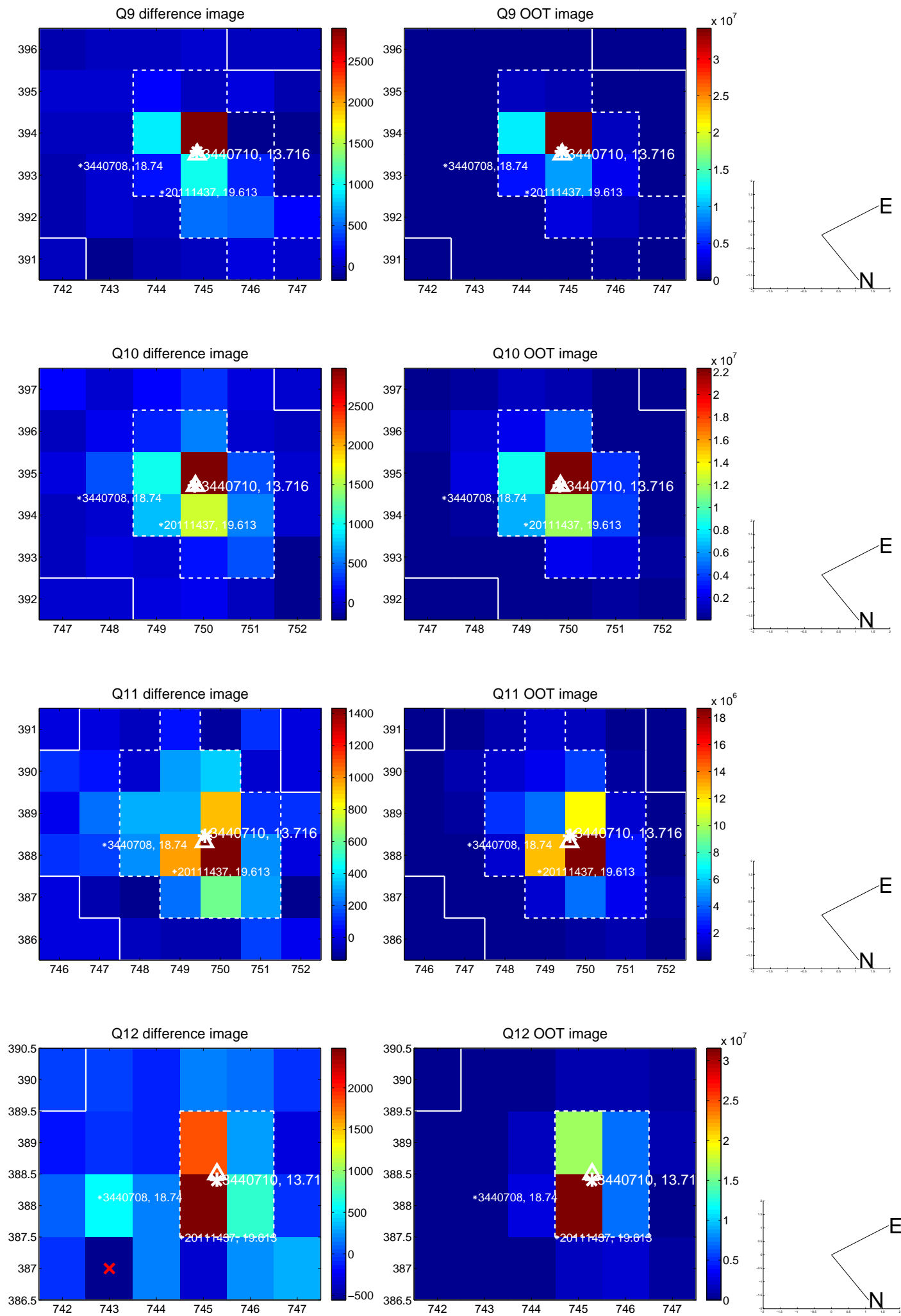
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



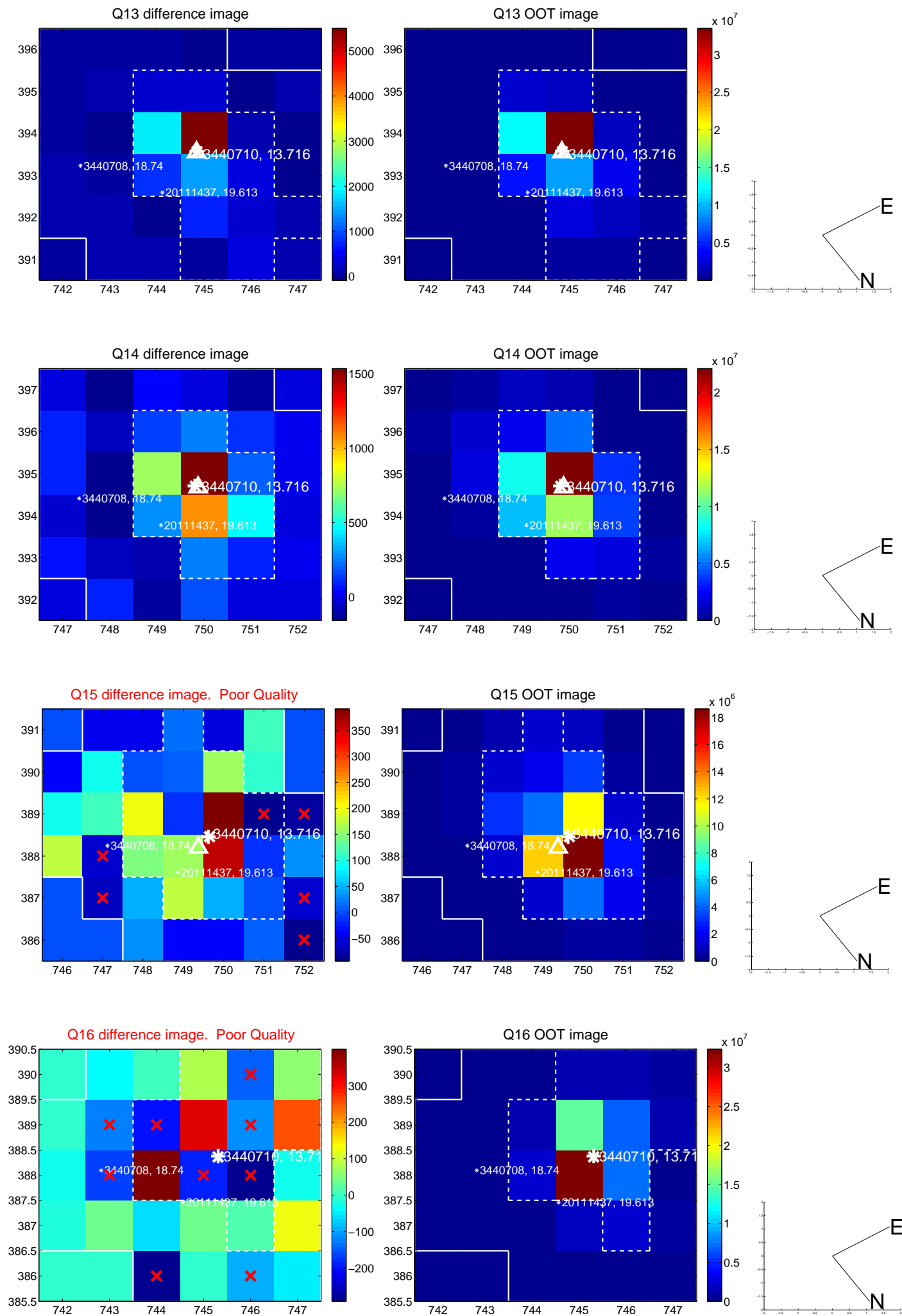
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



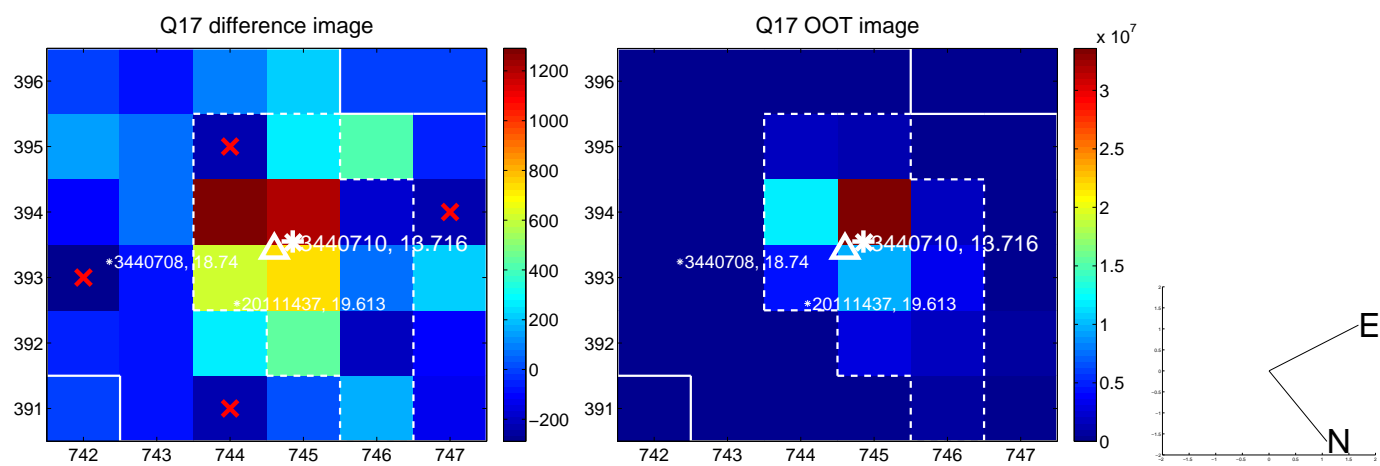
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



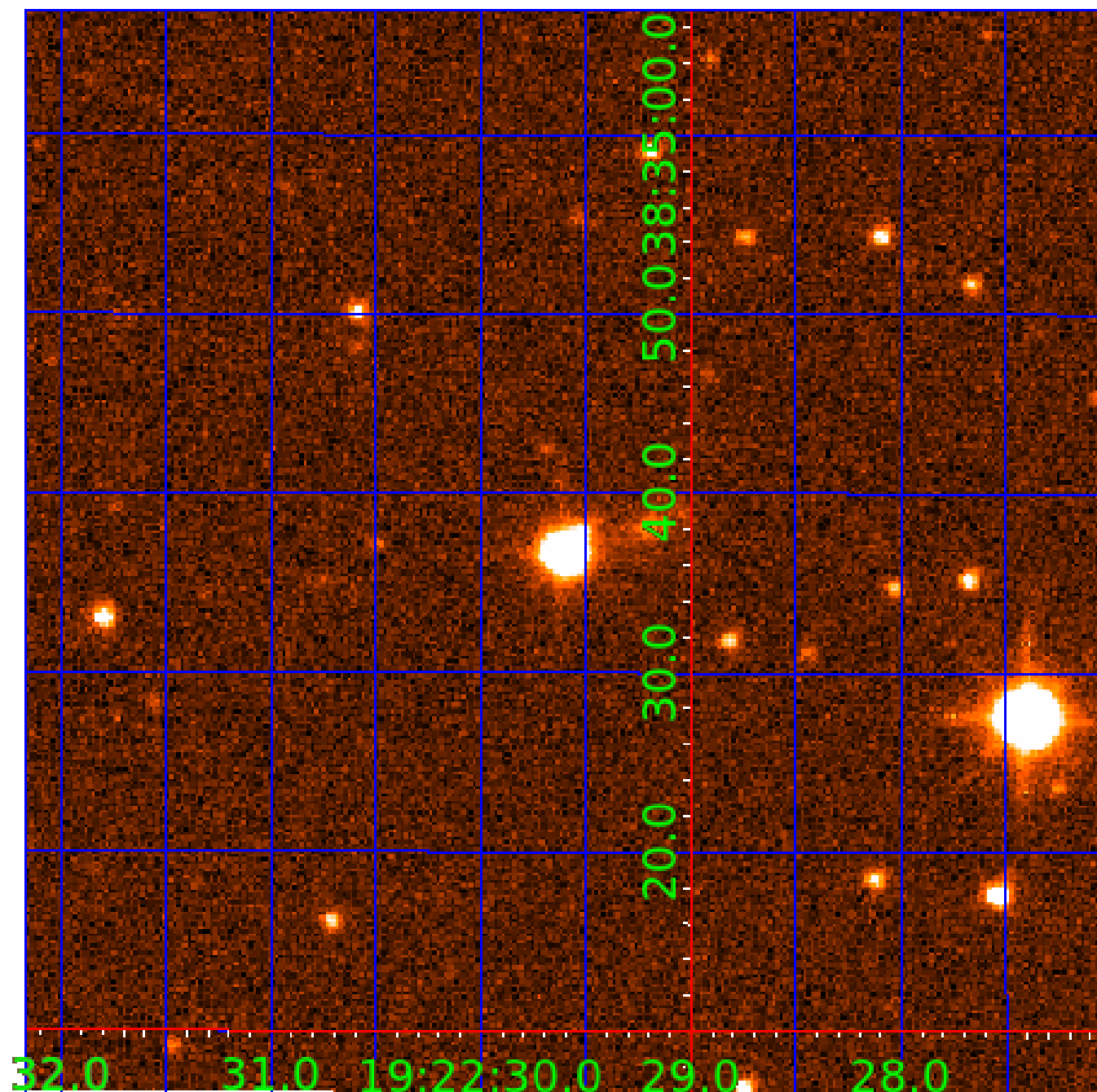
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 003440710

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})
003440710-01	OBS	No	0.799827	131.907880	3.4	3.743	9.4	1.5	1.40	6946	0.30	12331.16
003440710-02	OBS	No	328.430527	453.774468	225.8	13.540	9.5	7.1	1.40	6946	2.29	4.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003440710-01	OBS	FP	0.00	1	0	0	0	LPP_DV
003440710-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

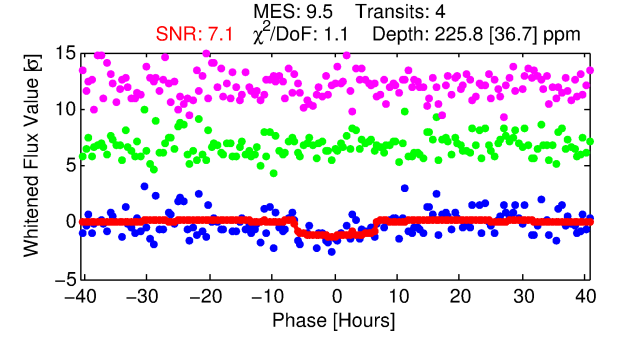
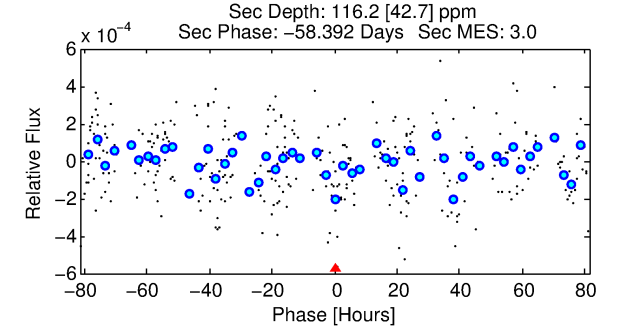
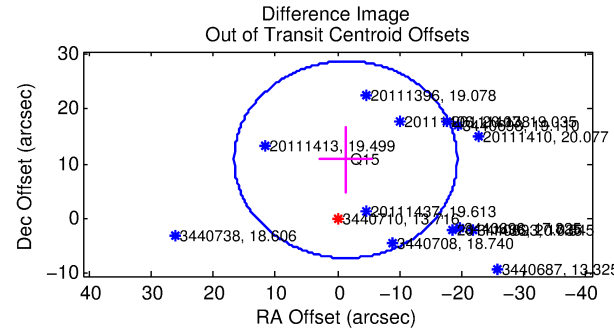
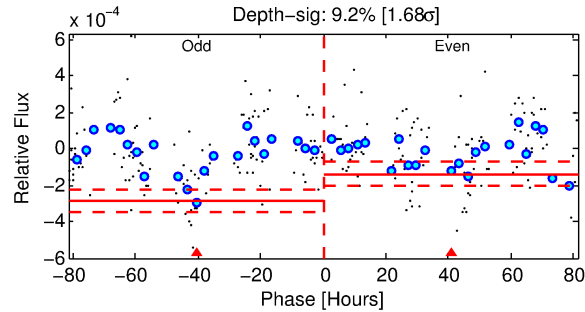
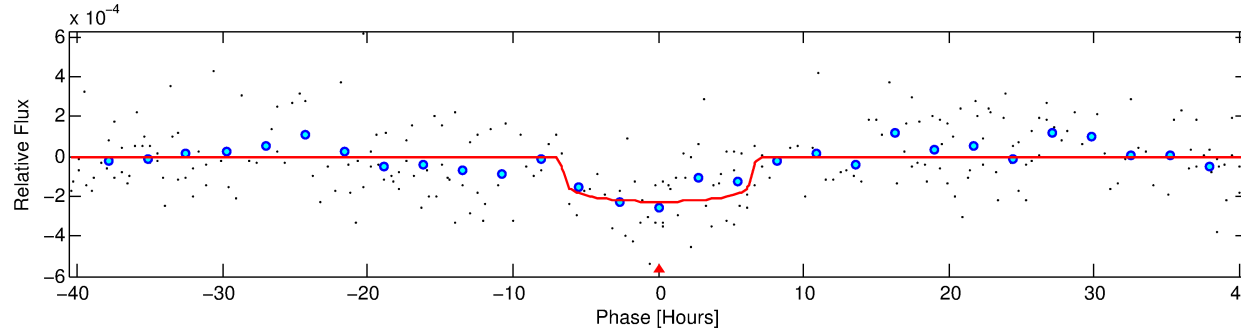
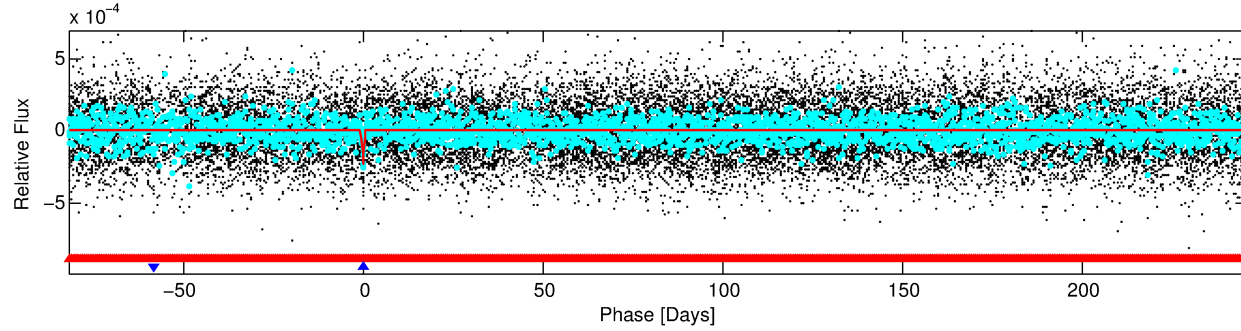
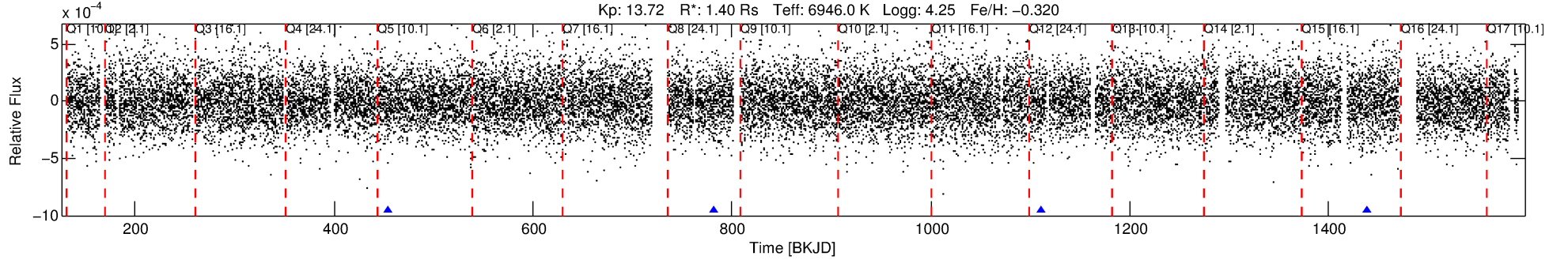
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003440710-02

No Significant Match Found

DV One-Page Summary

KIC: 3440710 Candidate: 2 of 2 Period: 328.431 d



DV Fit Results:

Period = 328.43053 [0.02023] d
Epoch = 453.7745 [0.0430] BKJD
Rp/R* = 0.0150 [0.0077]
a/R* = 124.00 [365.65]
b = 0.76 [1.63]
Seff = 4.04 [1.55]
Teq = 362 [35] K
Rp = 2.29 [1.38] Re
a = 1.0073 [0.2540] AU
Ag = 12320.76 [14089.24] [0.87 σ]
Teffp = 5889 [1617] K [3.42 σ]

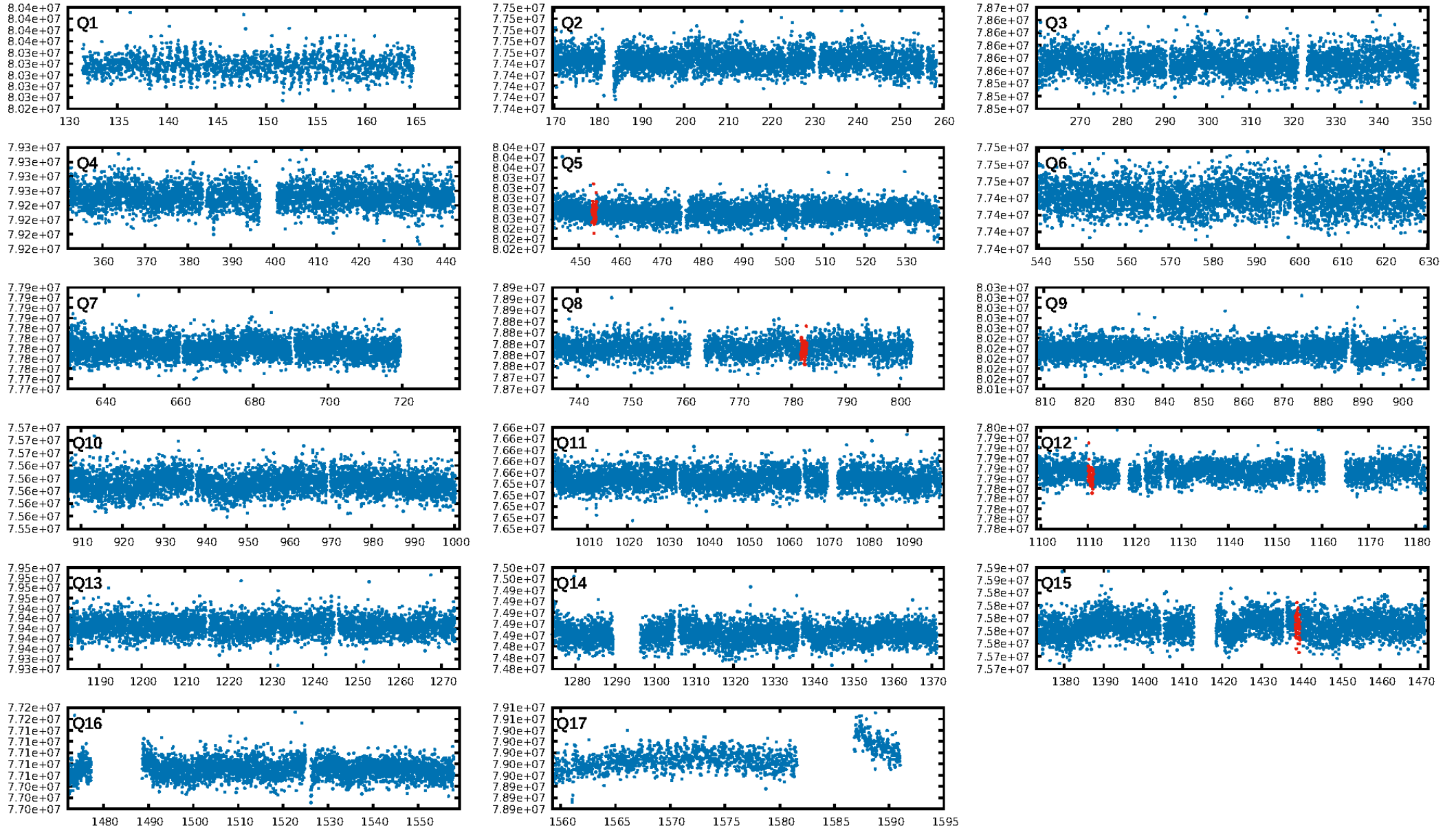
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [559.74 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 20.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.40e-18
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 20.71
Centroid-sig: 91.3%
Centroid-so: 0.362 arcsec [0.29 σ]
OotOffset-rm: 10.821 arcsec [1.81 σ]
KicOffset-rm: 10.829 arcsec [1.81 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/3]

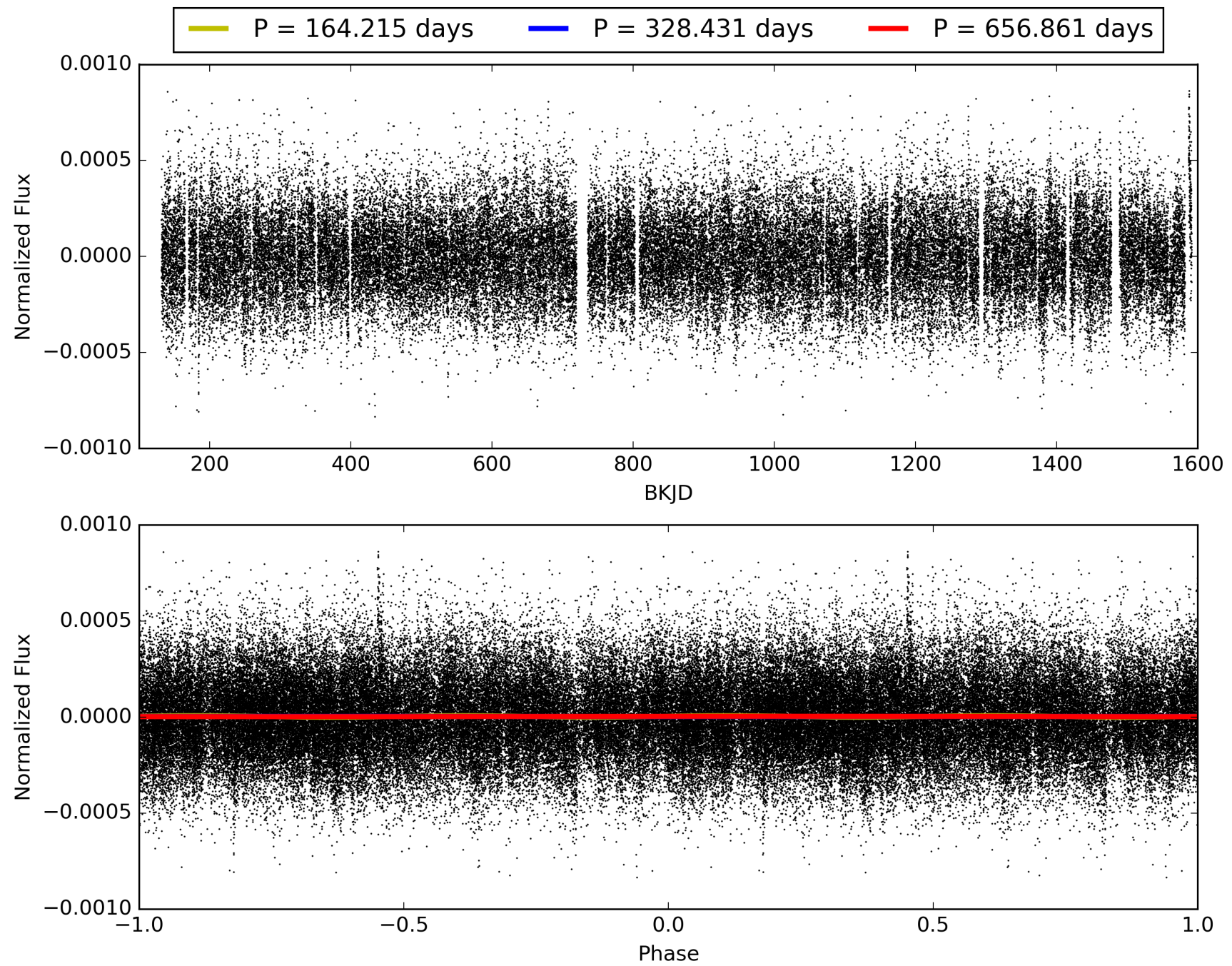
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:22:08 Z

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

TCE 003440710-02, PDC Light Curves

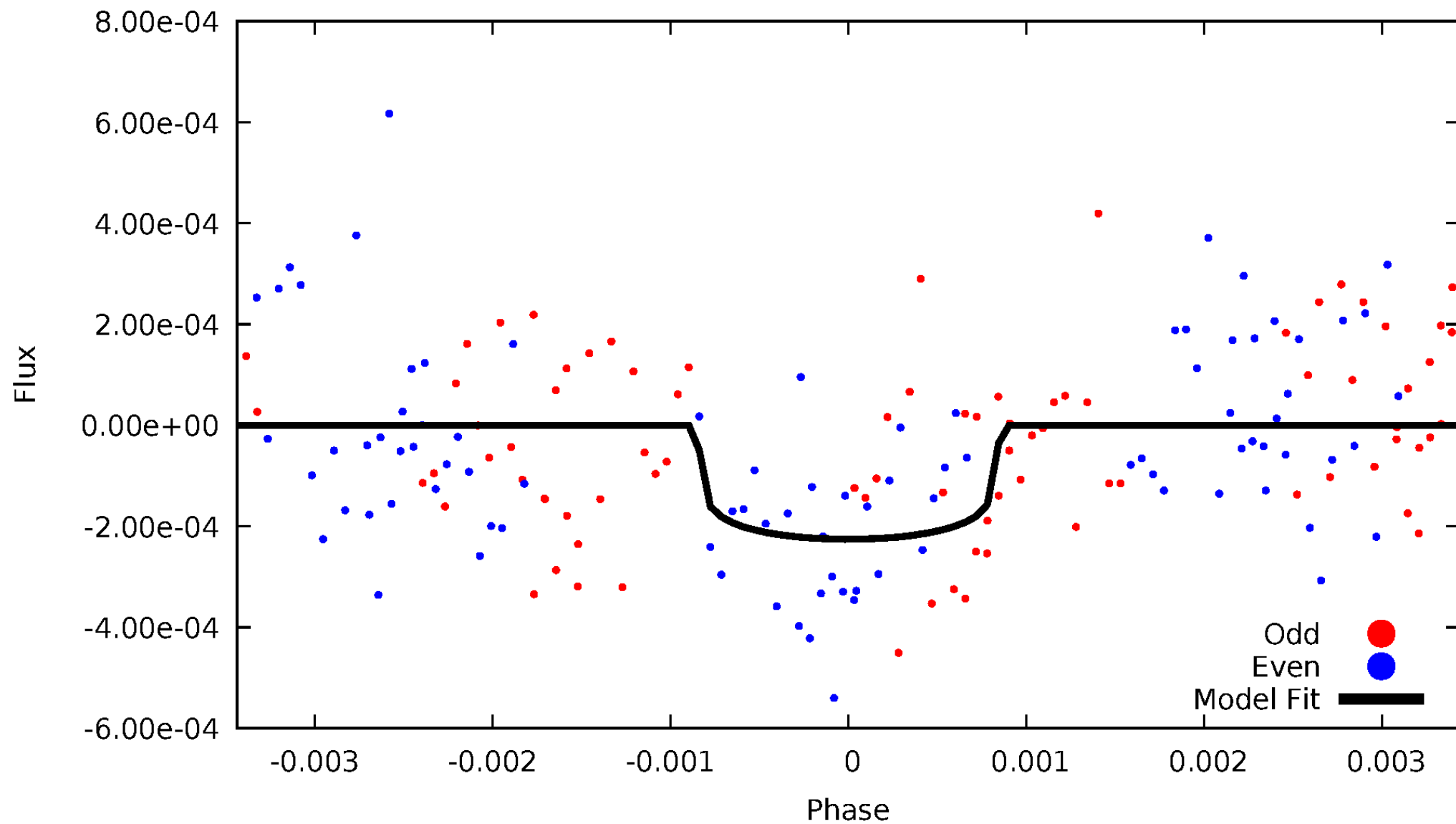


TCE 003440710-02



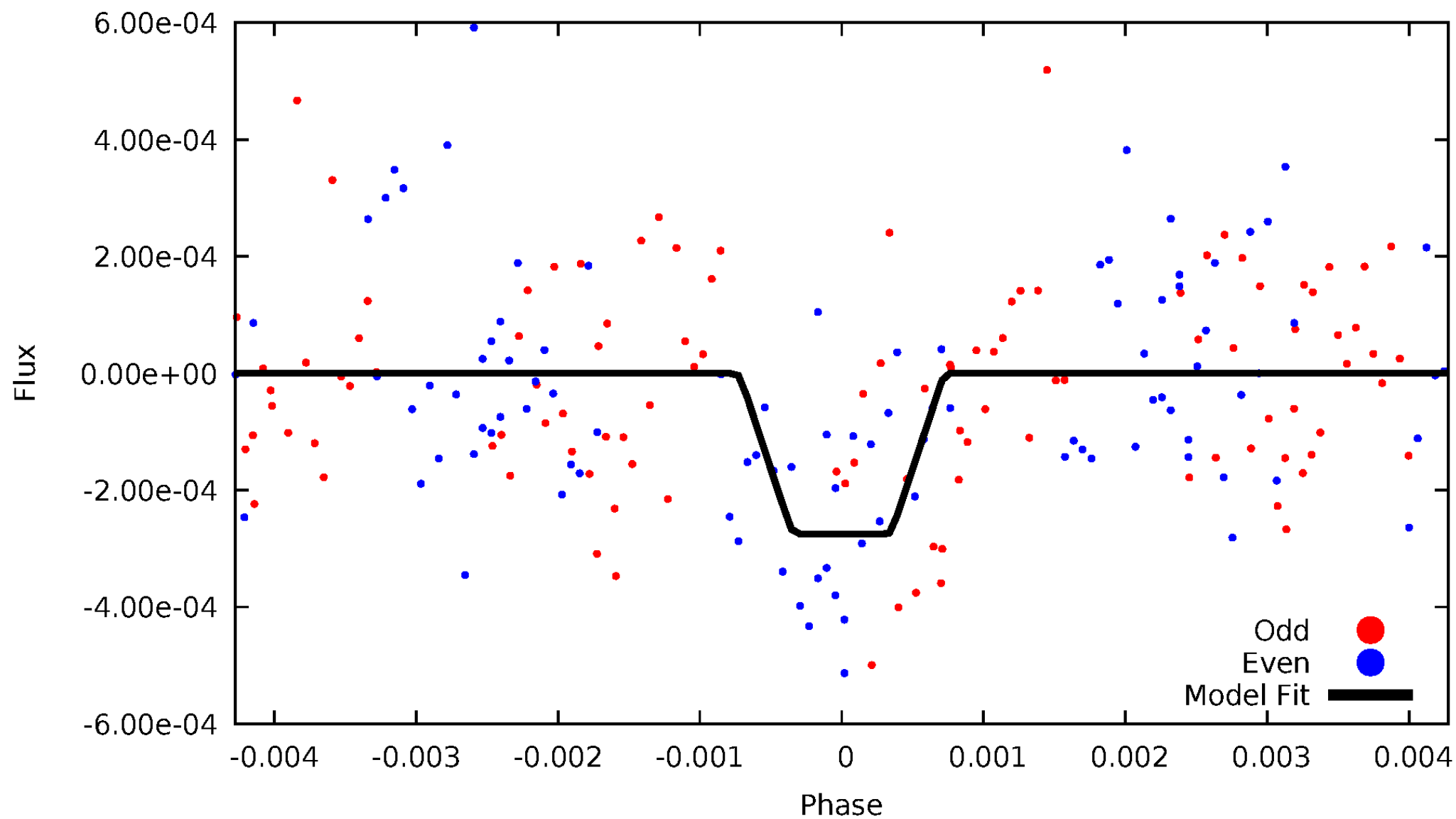
DV Odd/Even

TCE 003440710-02



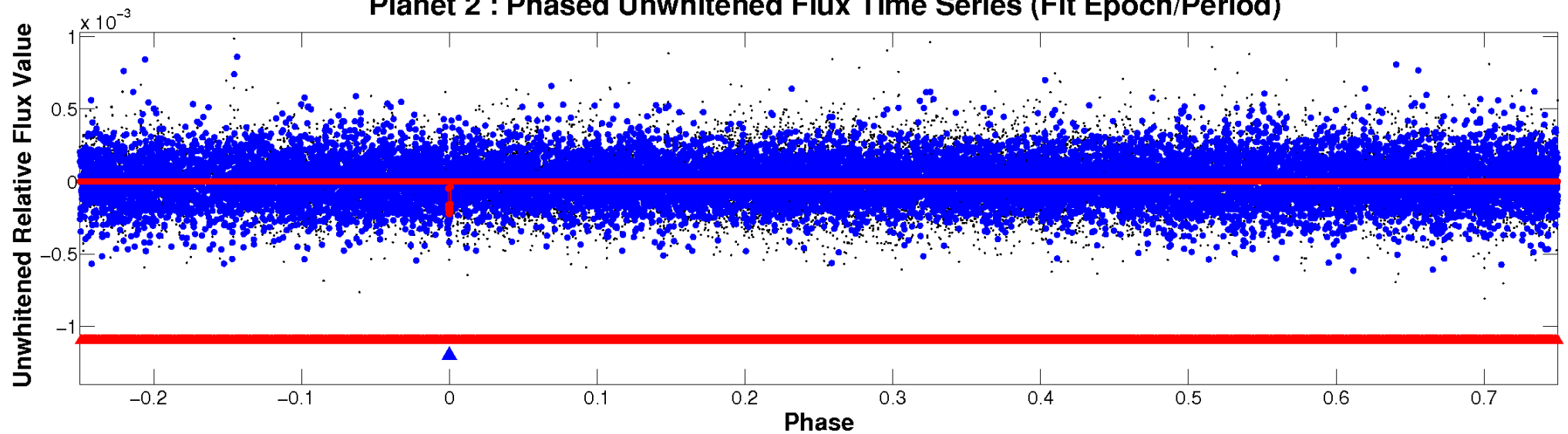
ALT Odd/Even

TCE 003440710-02

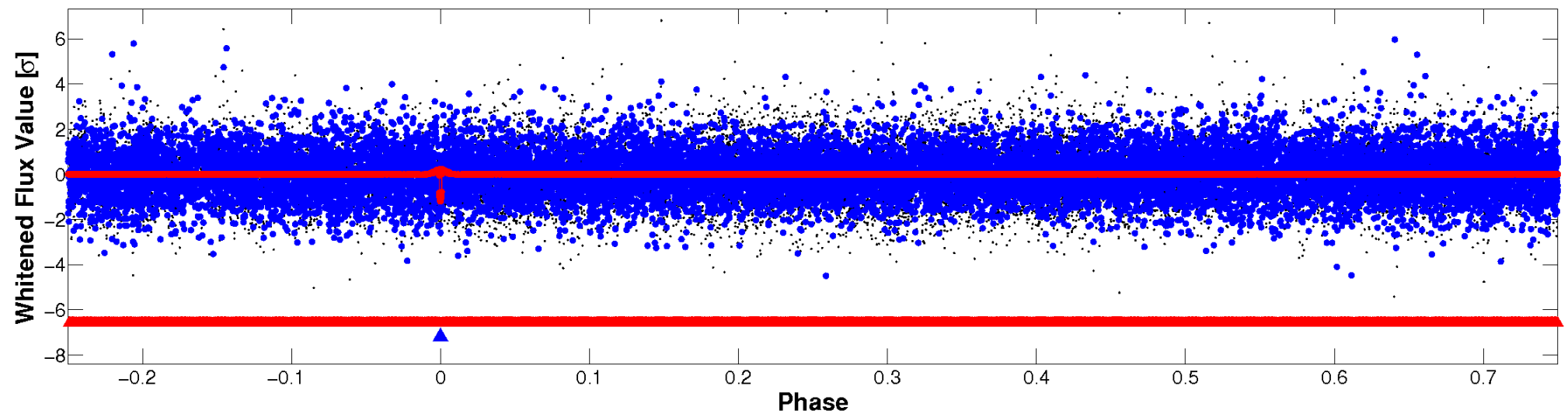


Non-Whitened Vs. Whitened Light Curve

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 003440710-02 P=328.430527 Days $T_0=453.774468$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003440710-02 $P=328.430527$ Days $T_0=453.774468$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

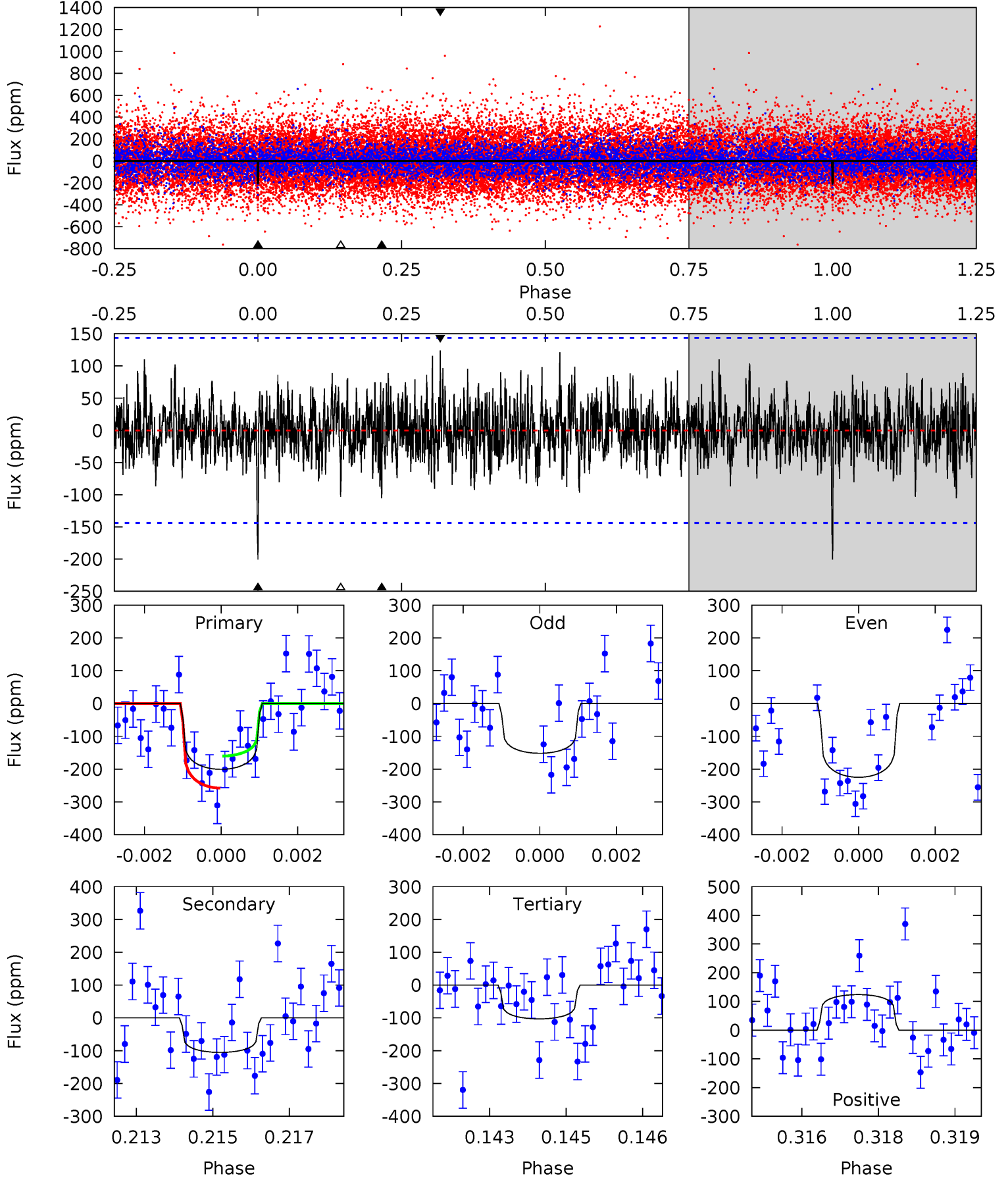
TCE 003440710-02 $P=328.449043$ Days $T_0=453.742055$ (BKJD)



DV Model-Shift Uniqueness Test

003440710-02, $P = 328.430527$ Days, $E = 125.343941$ Days

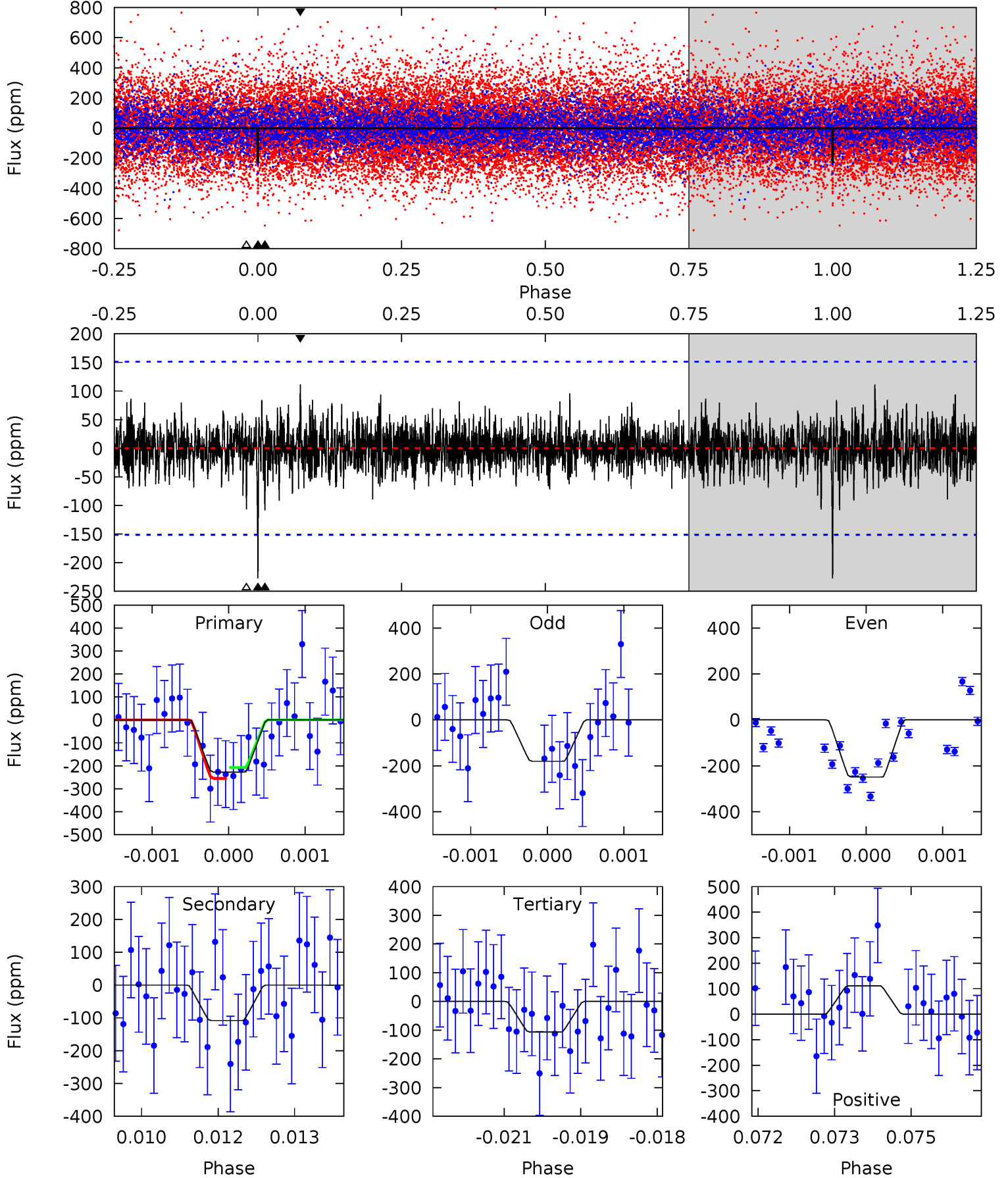
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.48	3.92	3.84	4.62	5.36	3.14	1.23	3.64	2.86	0.08	-0.70	1.33	1.04	0.38	1.75



Alt Model-Shift Uniqueness Test

003440710-02, P = 328.449043 Days, E = 125.293012 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.08	3.85	3.79	3.96	5.38	3.18	0.94	4.29	4.13	0.06	-0.11	1.16	1.30	0.33	0.81



Stellar Parameters For KIC 003440710

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6946^{+192}_{-264}	$4.246^{+0.108}_{-0.186}$	$-0.320^{+0.250}_{-0.350}$	$1.402^{+0.437}_{-0.235}$	$1.274^{+0.185}_{-0.185}$	$0.650^{+0.386}_{-0.325}$
	+3%/-4%	+3%/-4%	+78%/-109%	+31%/-17%	+15%/-15%	+59%/-50%
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 003440710-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-105 ± 27	$2.50^{+1.25}_{-1.23}$	509^{+34}_{-30}	5488^{+2333}_{-824}	9100^{+27971}_{-5137}
Alt.	-108 ± 28	$2.61^{+1.30}_{-1.18}$	509^{+36}_{-32}	5466^{+2049}_{-913}	8803^{+22366}_{-5186}

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 $A_{obs} \gg 1.0$

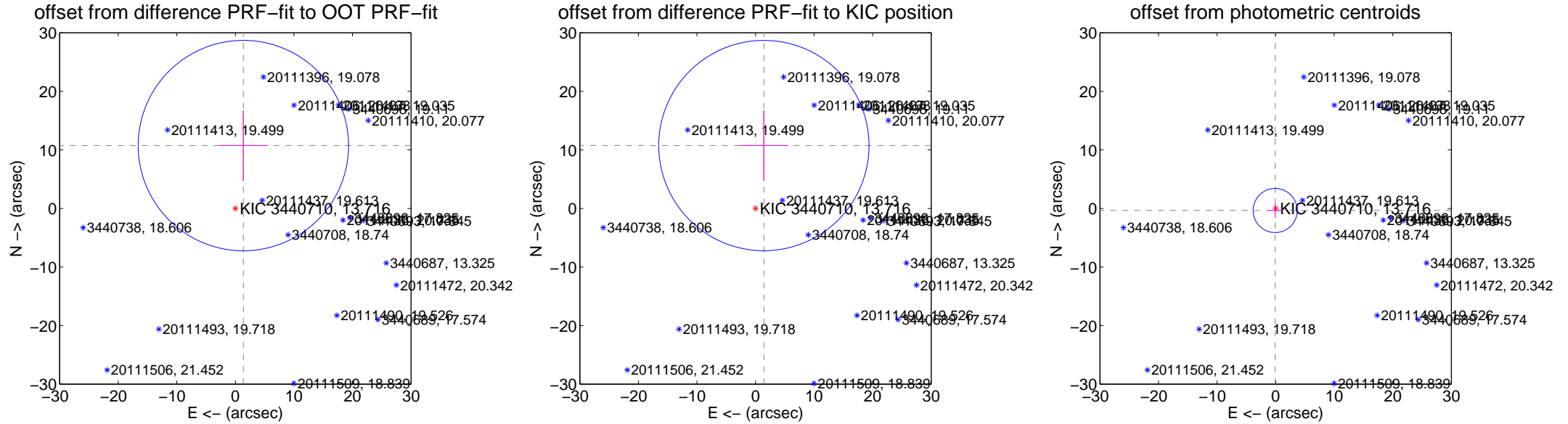
DV Centroid Data

Supplemental centroid analysis for 003440710-02. Kepler magnitude: 13.72. Transit SNR 7.08

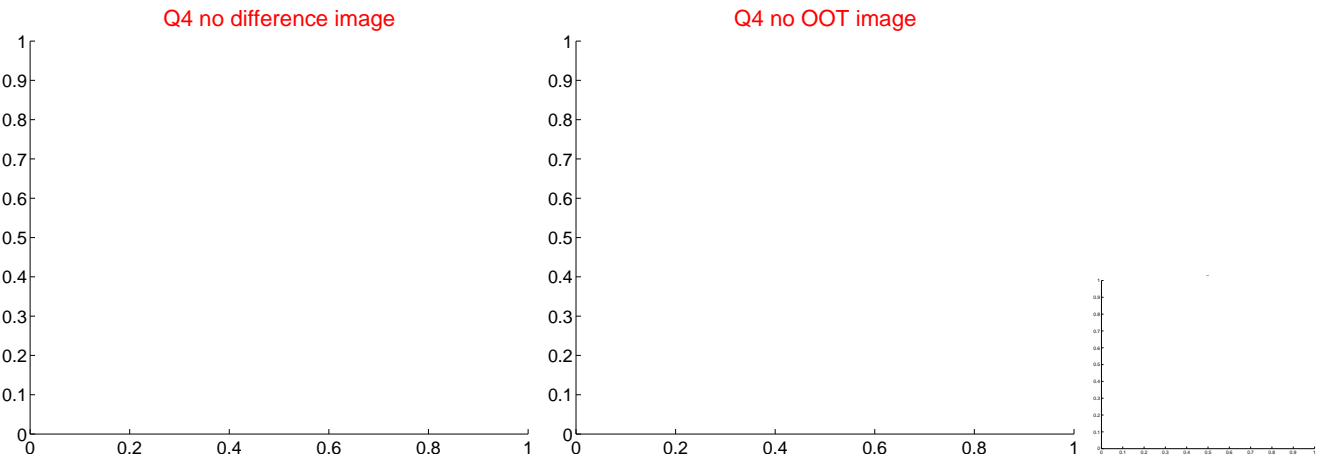
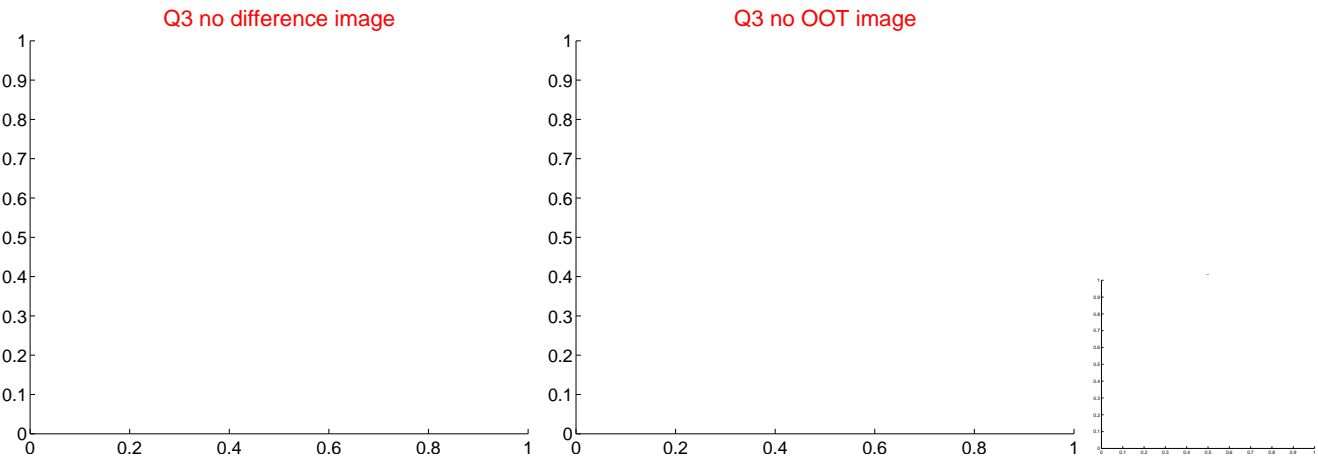
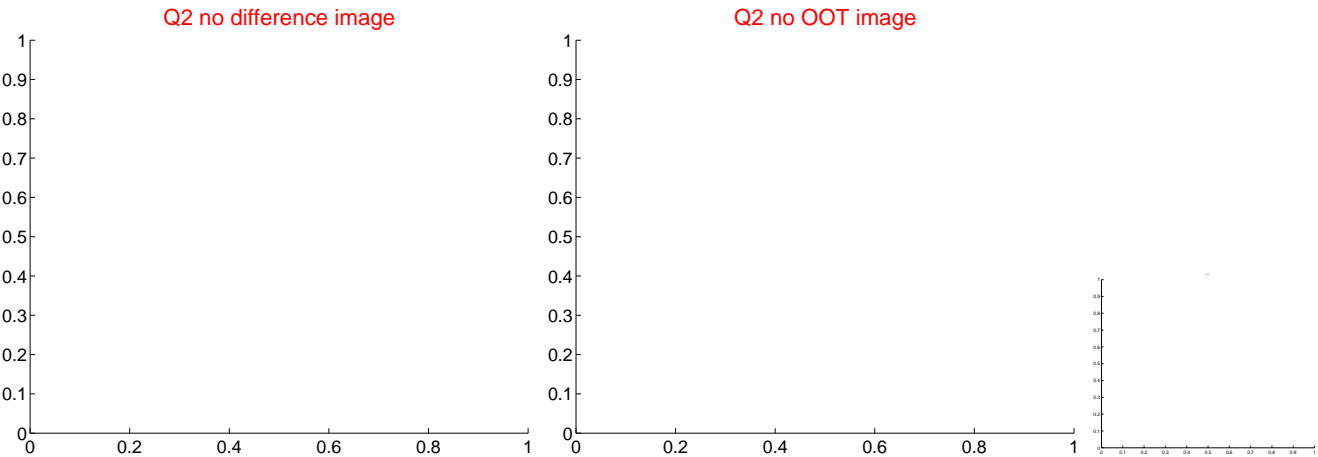
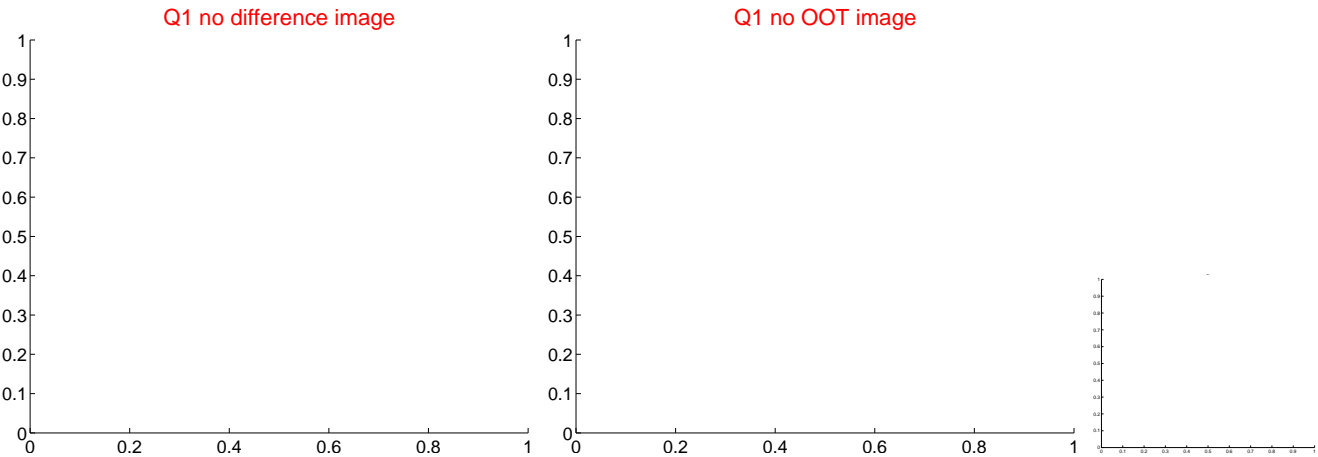
There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

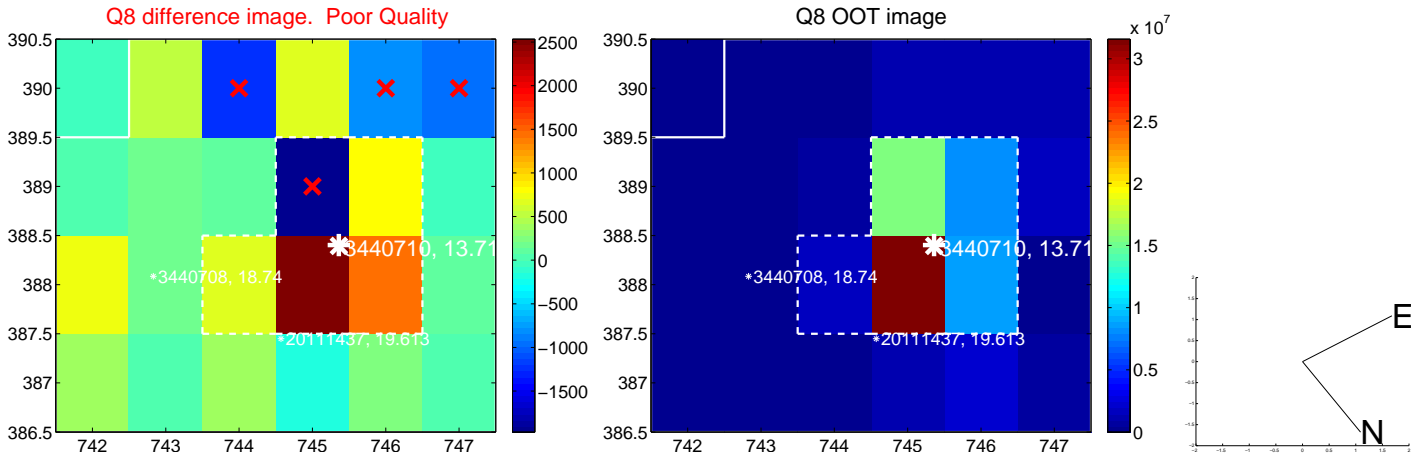
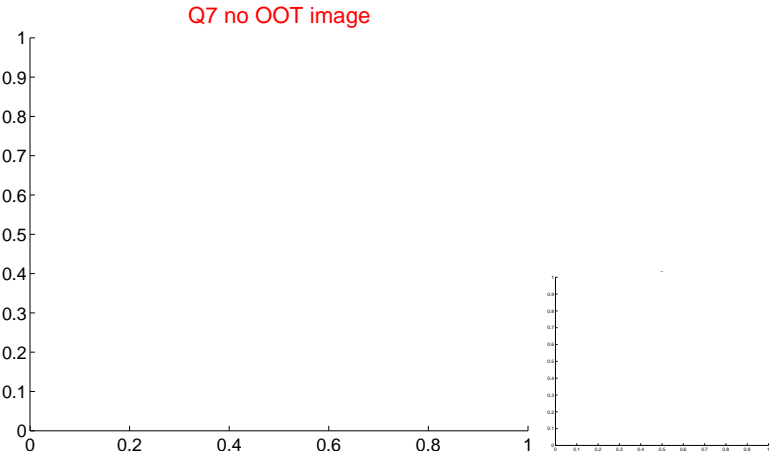
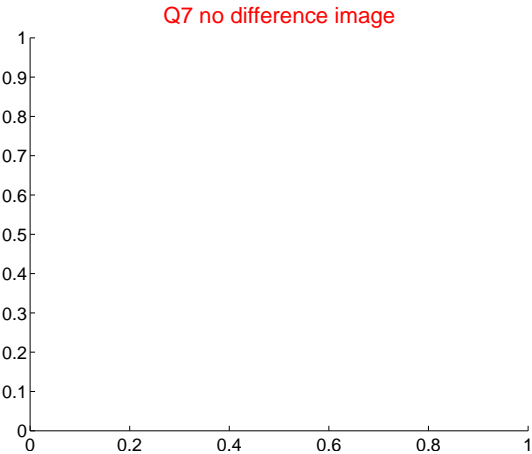
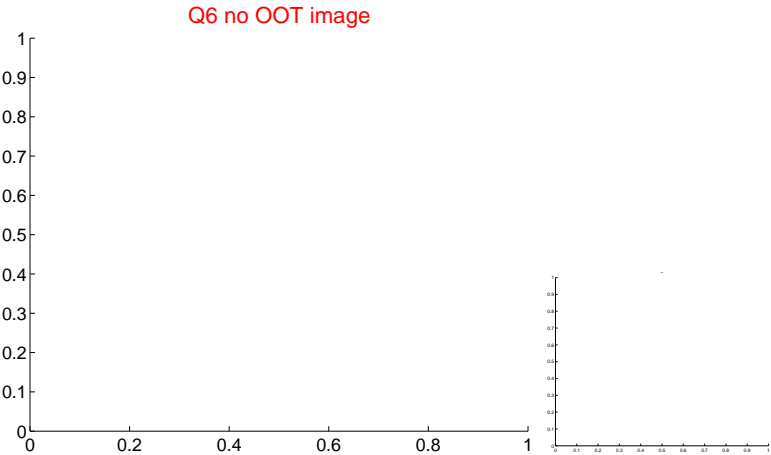
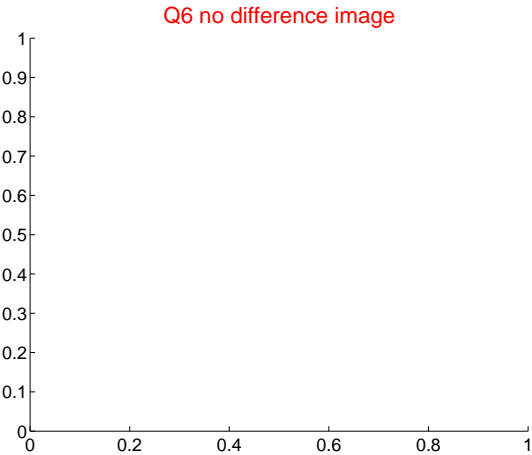
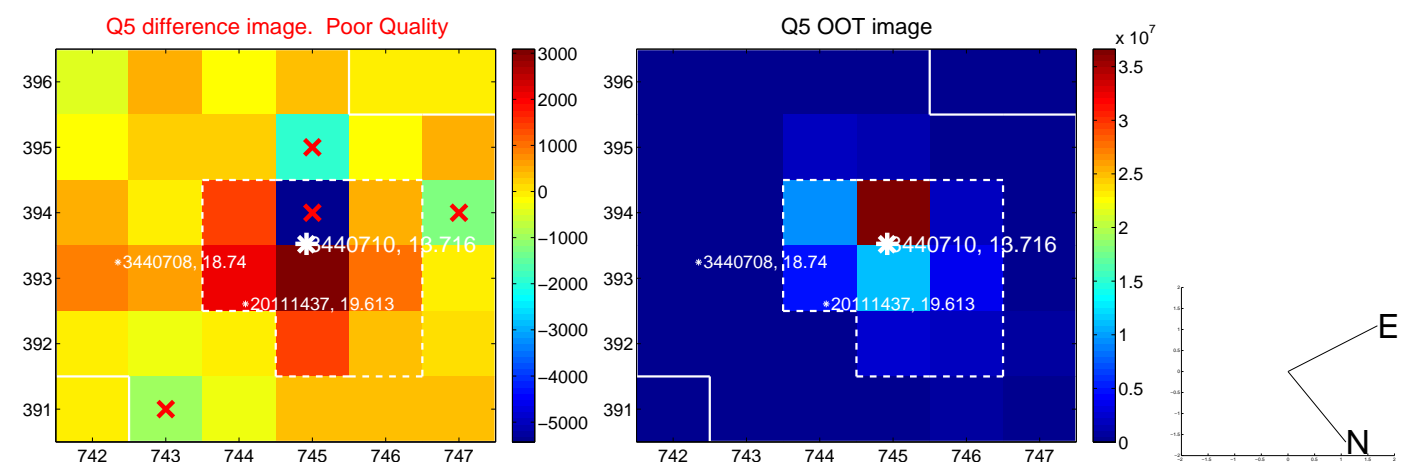
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.821 ± 5.987	1.81	-1.369 ± 4.128	10.734 ± 6.012
PRF-fit source offset from KIC position	10.829 ± 5.985	1.81	-1.433 ± 4.128	10.734 ± 6.012
photometric centroid source offset	0.36 ± 1.25	0.29	0.08 ± 1.19	-0.35 ± 1.26



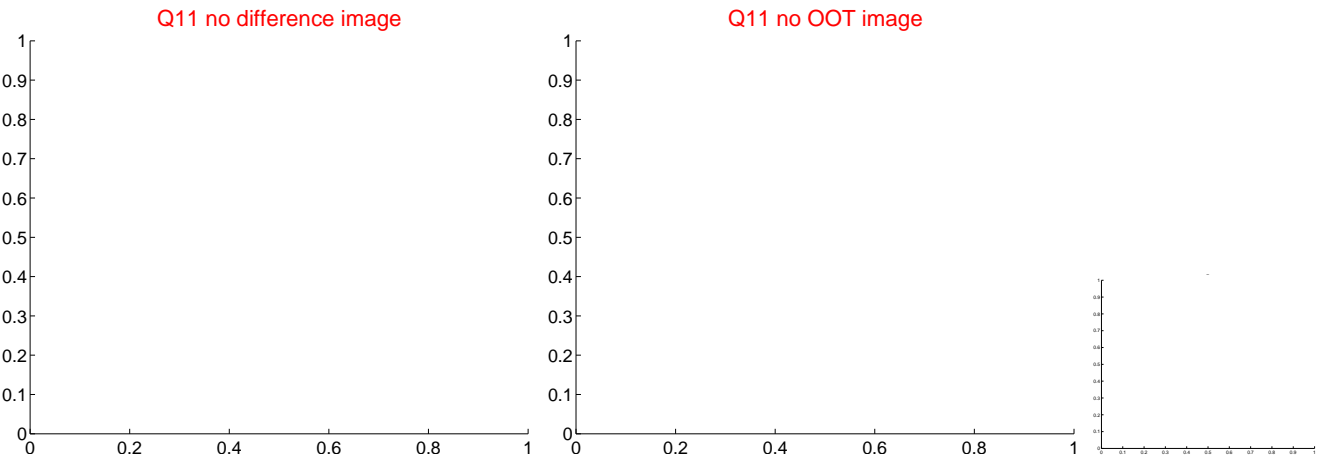
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



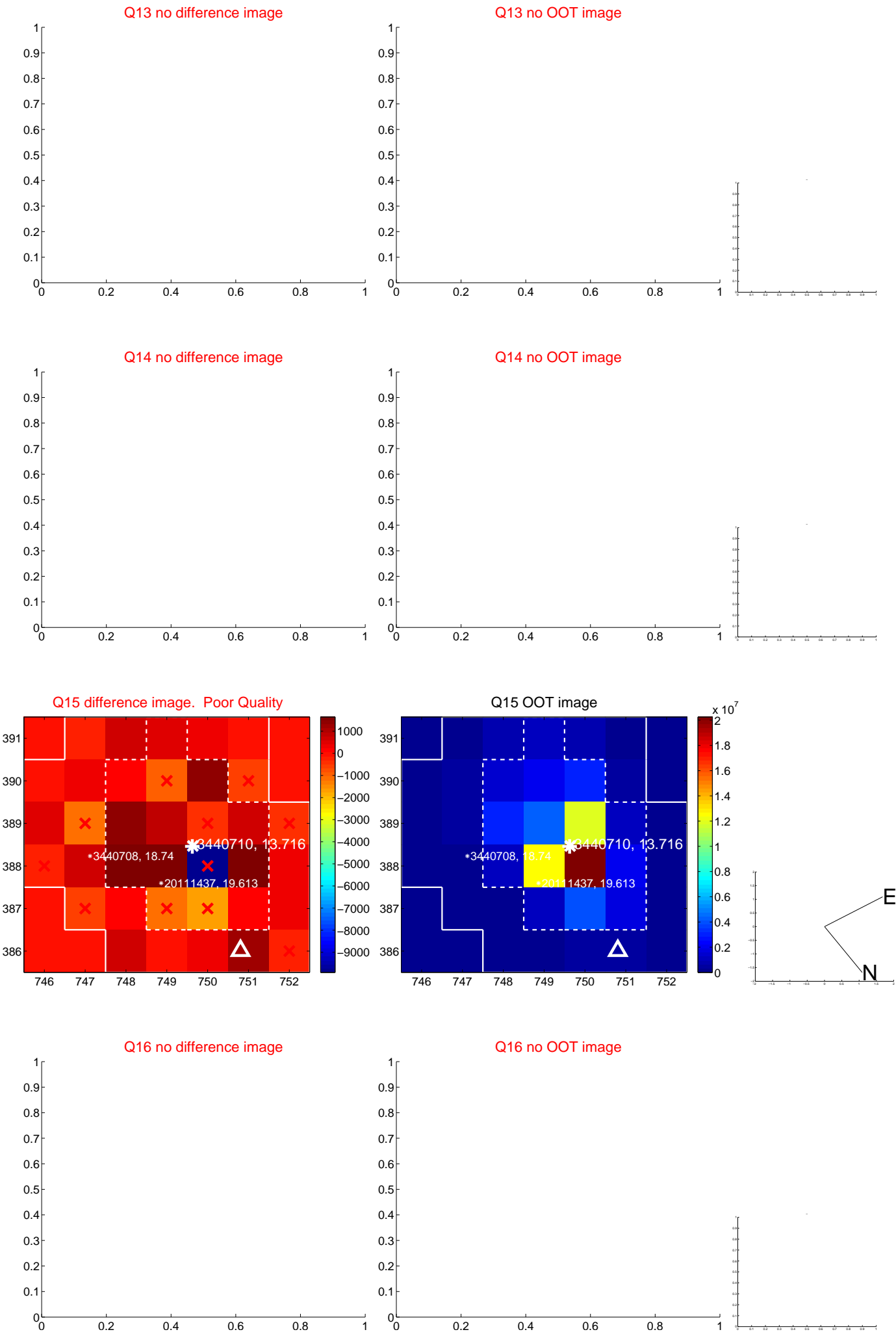
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



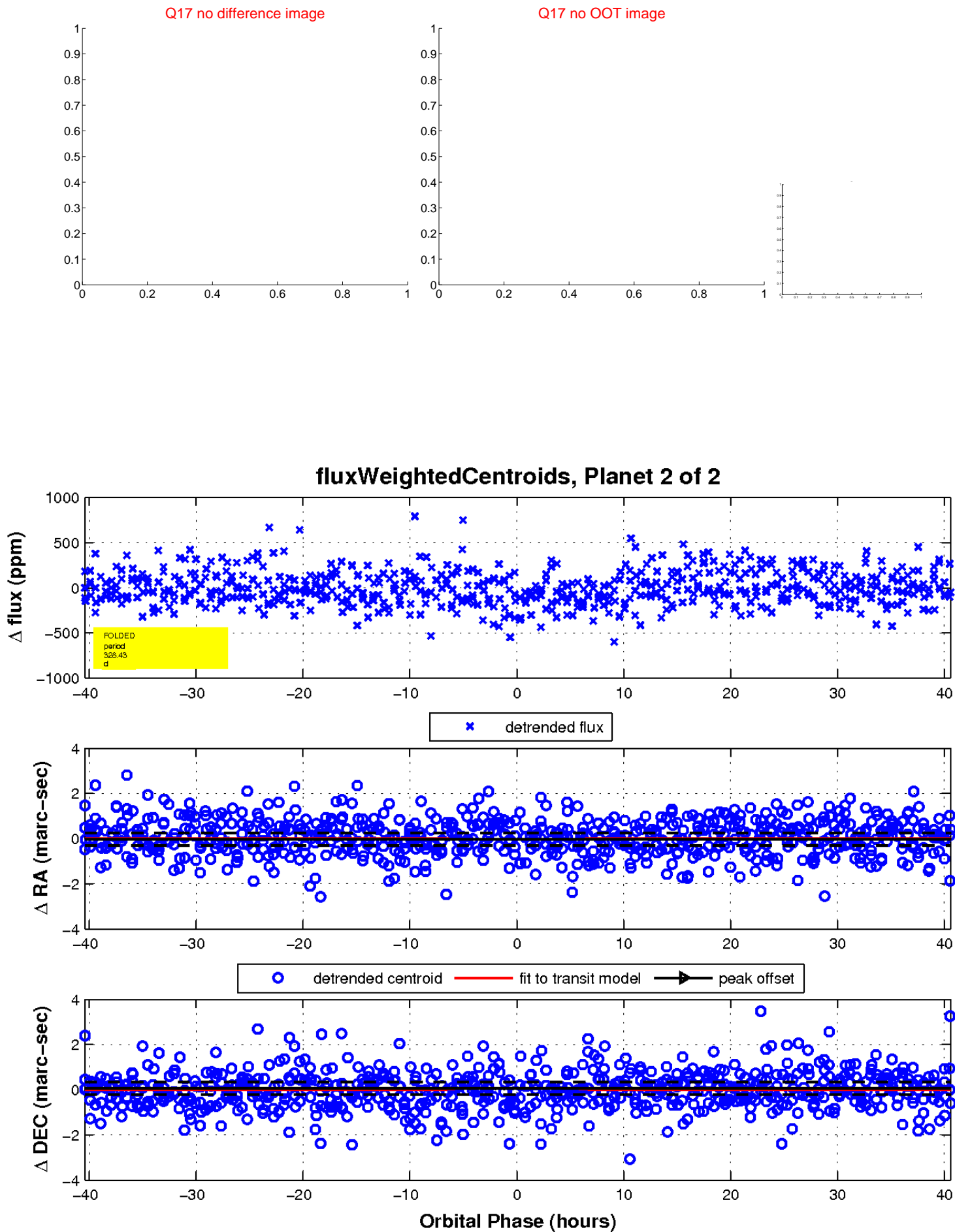
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

