

KIC 007200050

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})
007200050-01	OBS	No	0.566779	131.839401	0.9	3.691	11.3	0.3	1.08	6214	0.10	7757.16
007200050-02	OBS	No	78.537786	169.793019	714.9	1.621	8.1	8.8	1.08	6214	2.96	10.82
007200050-03	OBS	No	47.473192	134.922751	574.4	1.453	8.4	9.2	1.08	6214	2.77	21.17
007200050-04	OBS	No	37.769805	150.461073	415.6	2.461	7.4	7.8	1.08	6214	2.49	28.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007200050-01	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_ALT—EPHEM_MATCH
007200050-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007200050-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
007200050-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

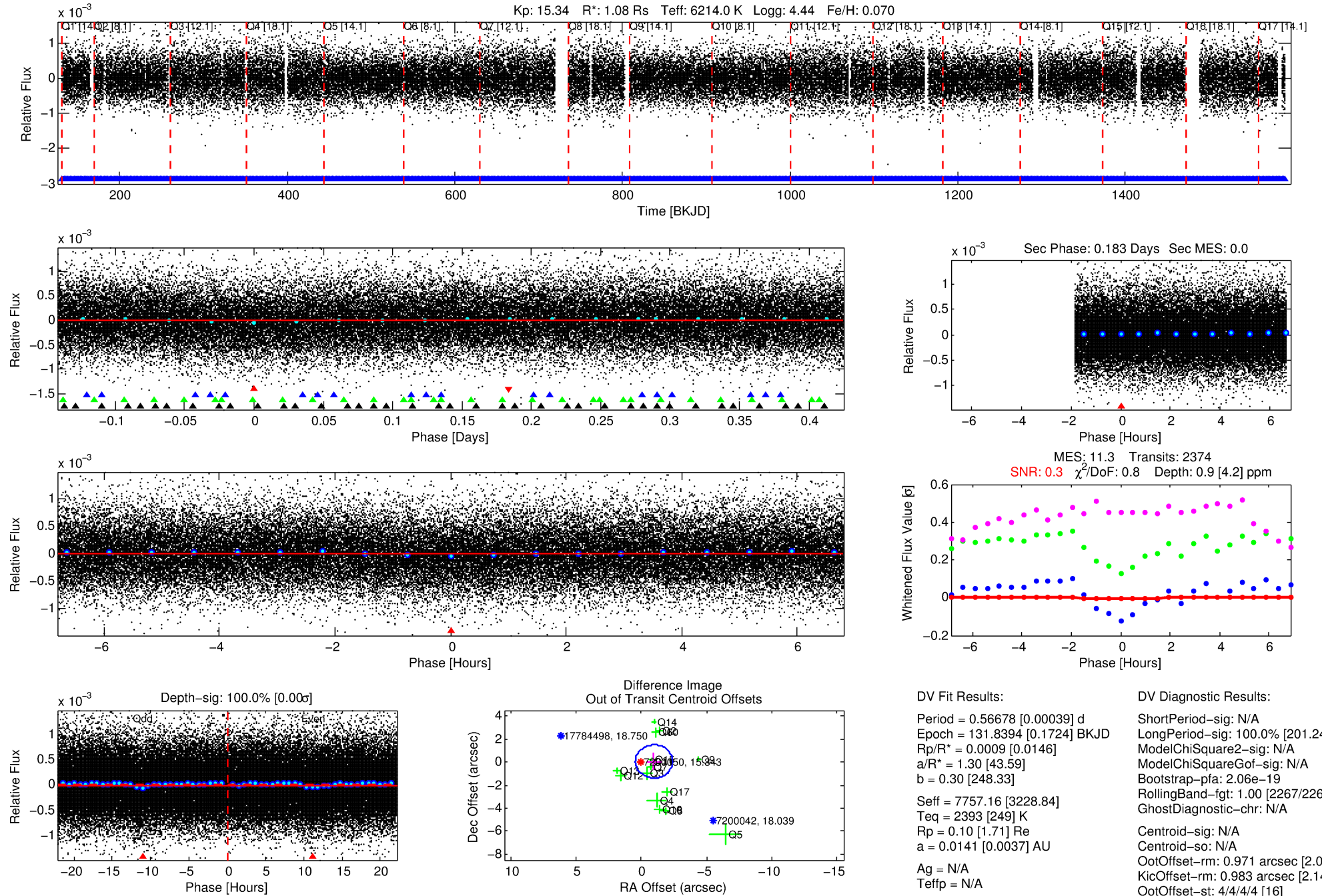
Ephemeris Match Information For 007200050-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007200050-01	7200050	RR-Lyr-pri	7198959	1:1	868.0	145	163	7.86	15.34	623300.00	Direct-PRF	0	3.83	17.64

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

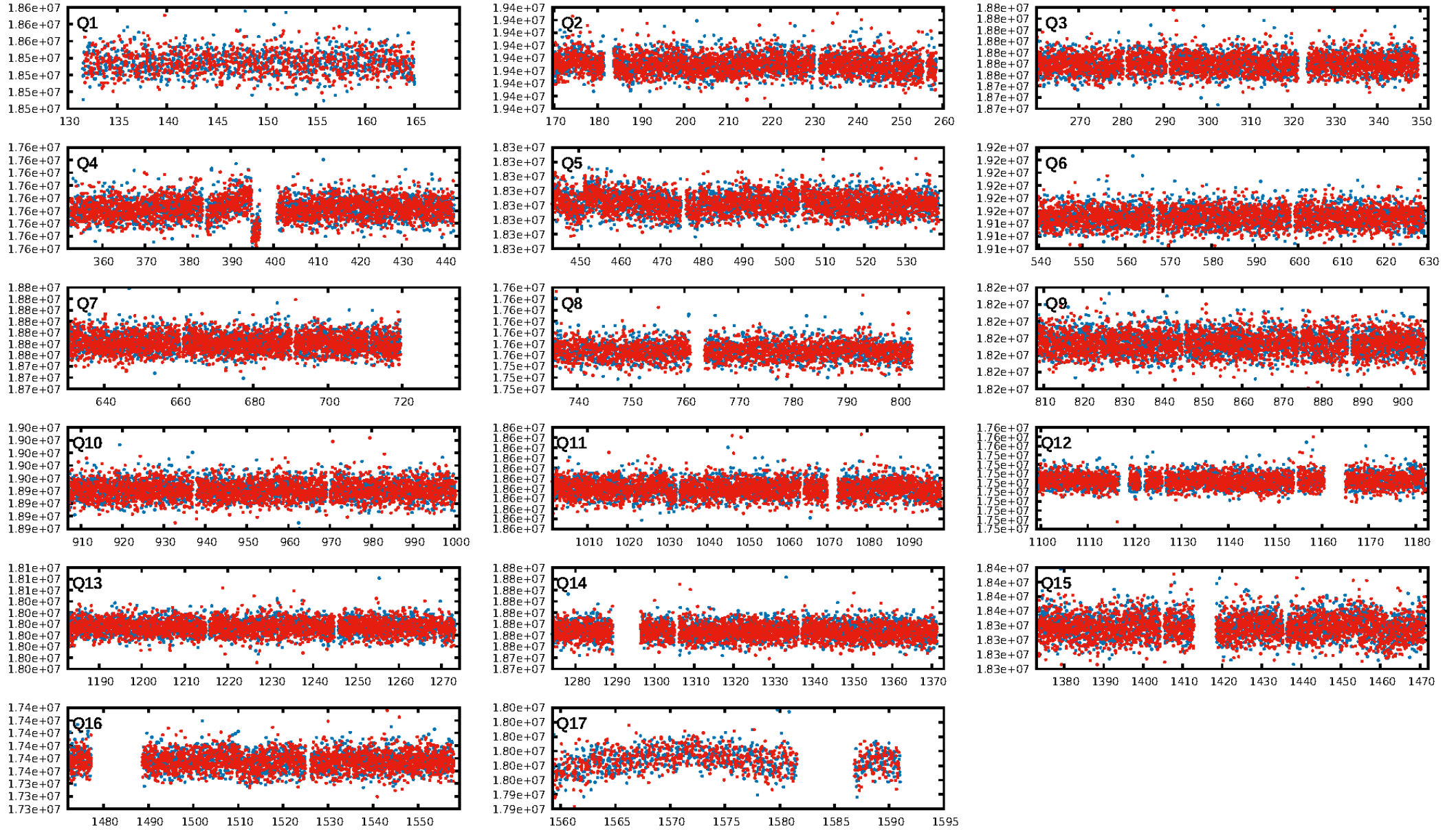
KIC: 7200050 Candidate: 1 of 4 Period: 0.567 d



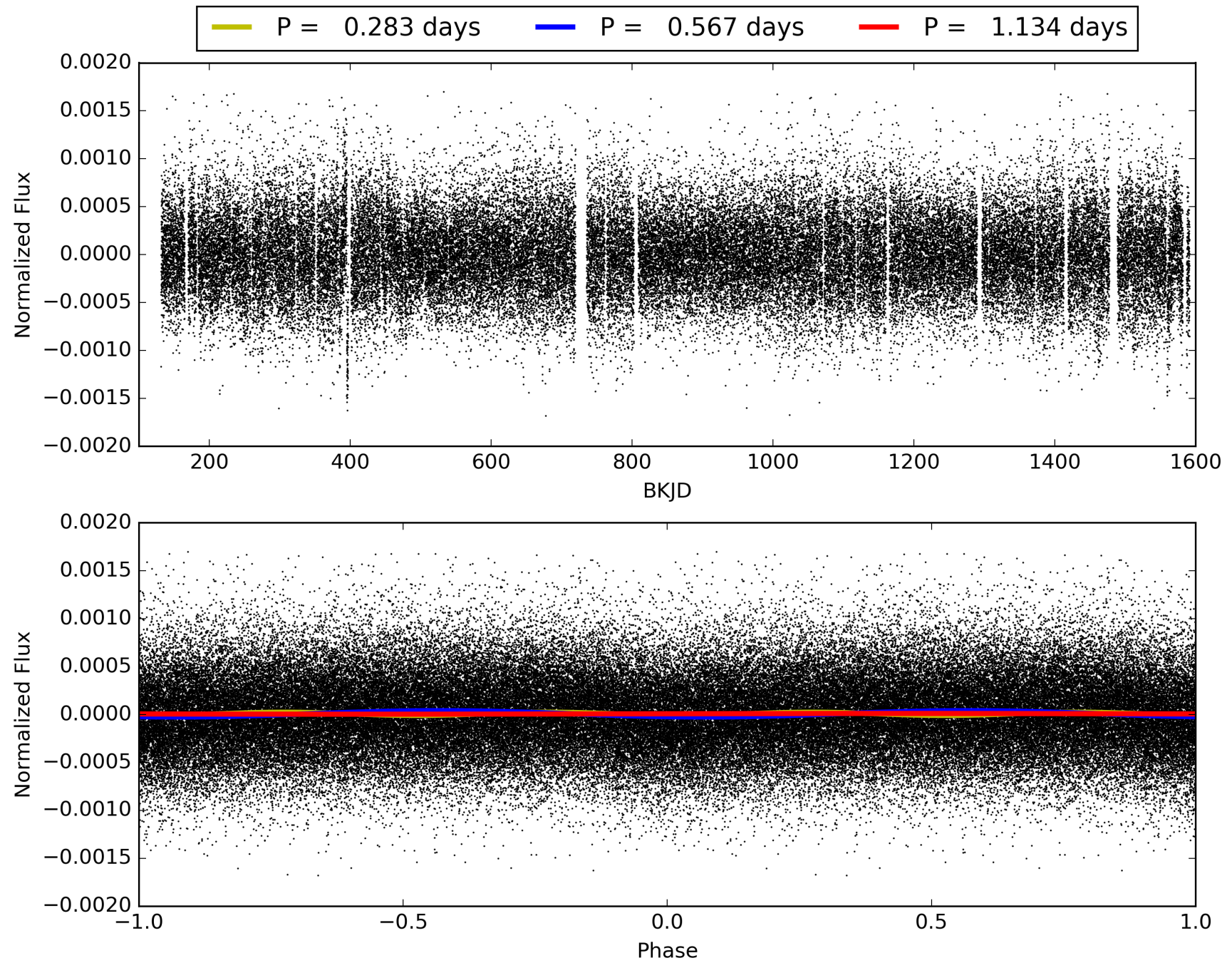
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:11:37 Z

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

TCE 007200050-01, PDC Light Curves

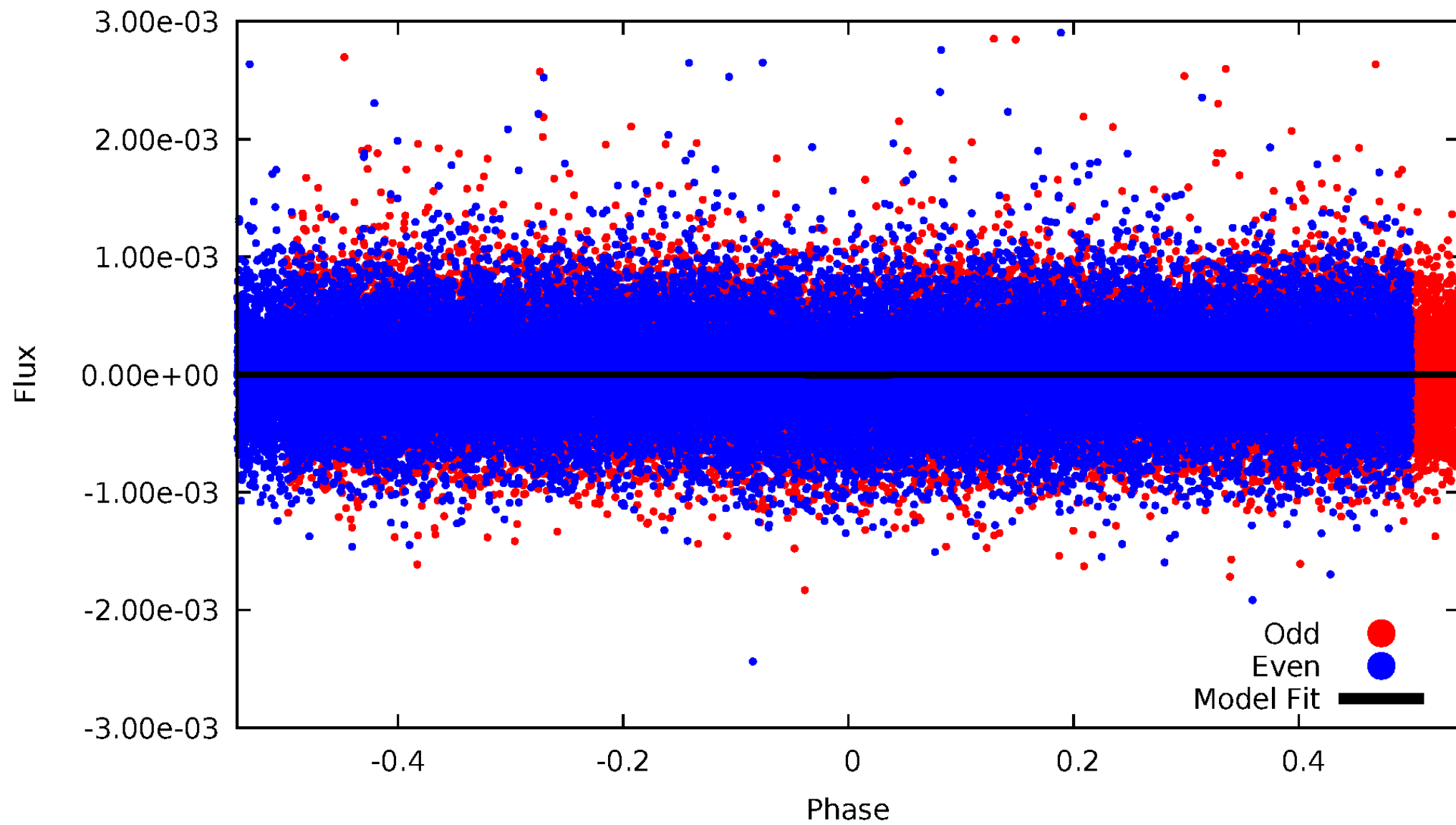


TCE 007200050-01



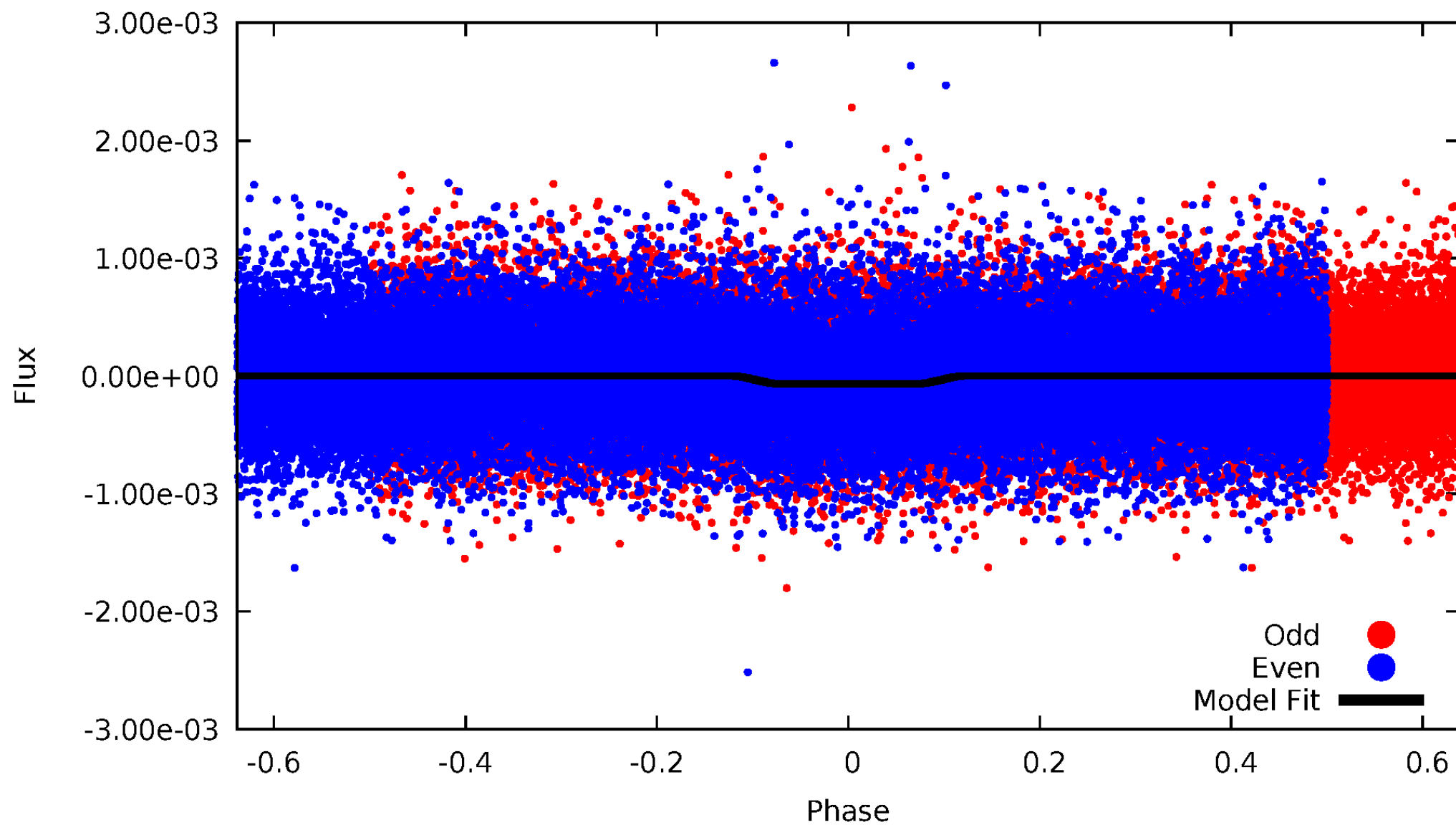
DV Odd/Even

TCE 007200050-01



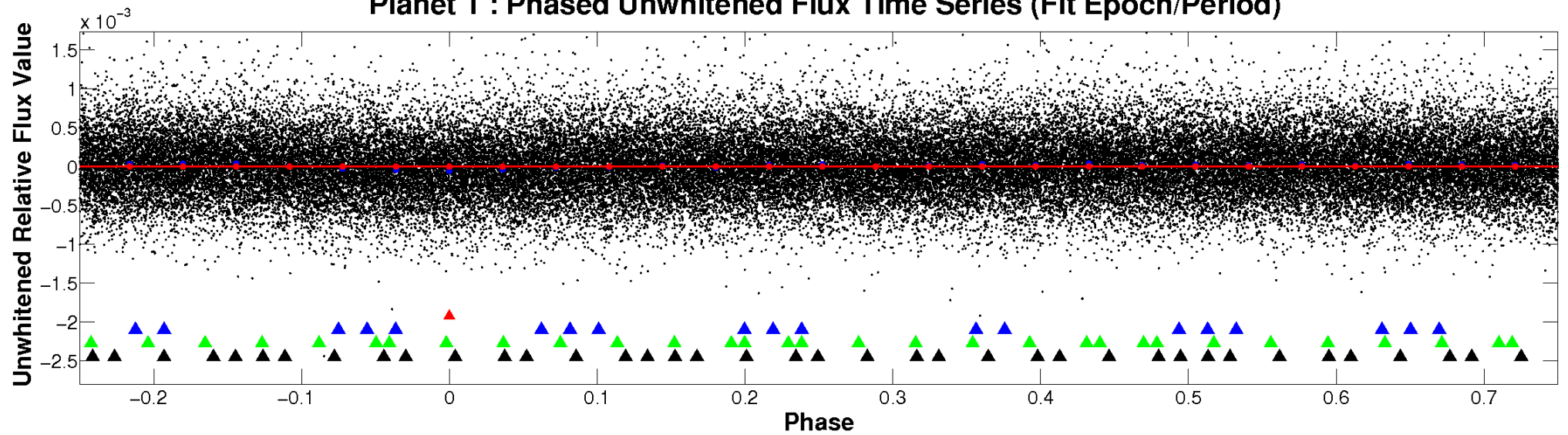
ALT Odd/Even

TCE 007200050-01

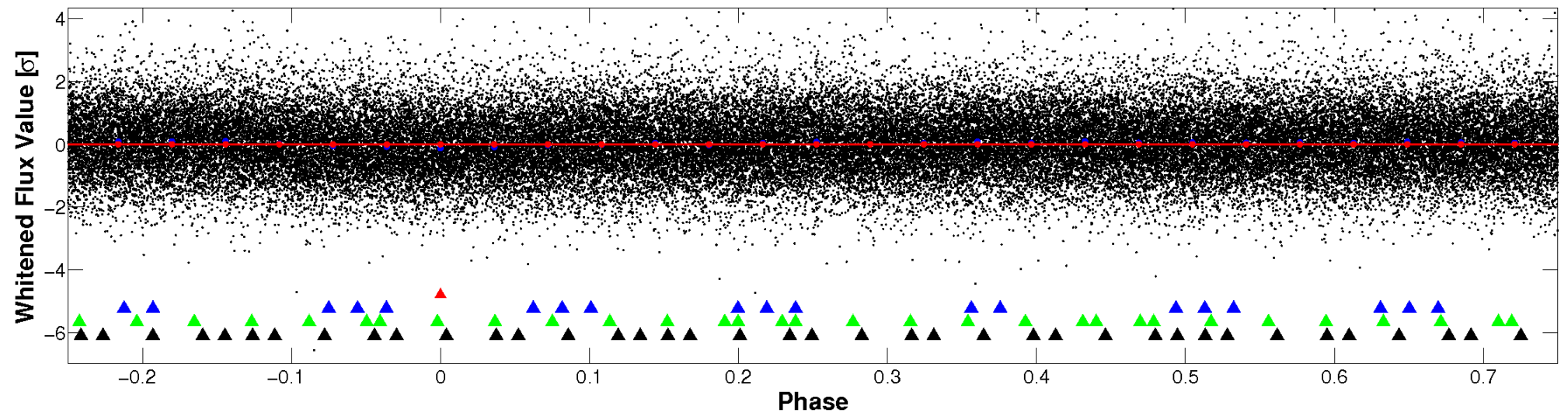


Non-Whitened Vs. Whitened Light Curve

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

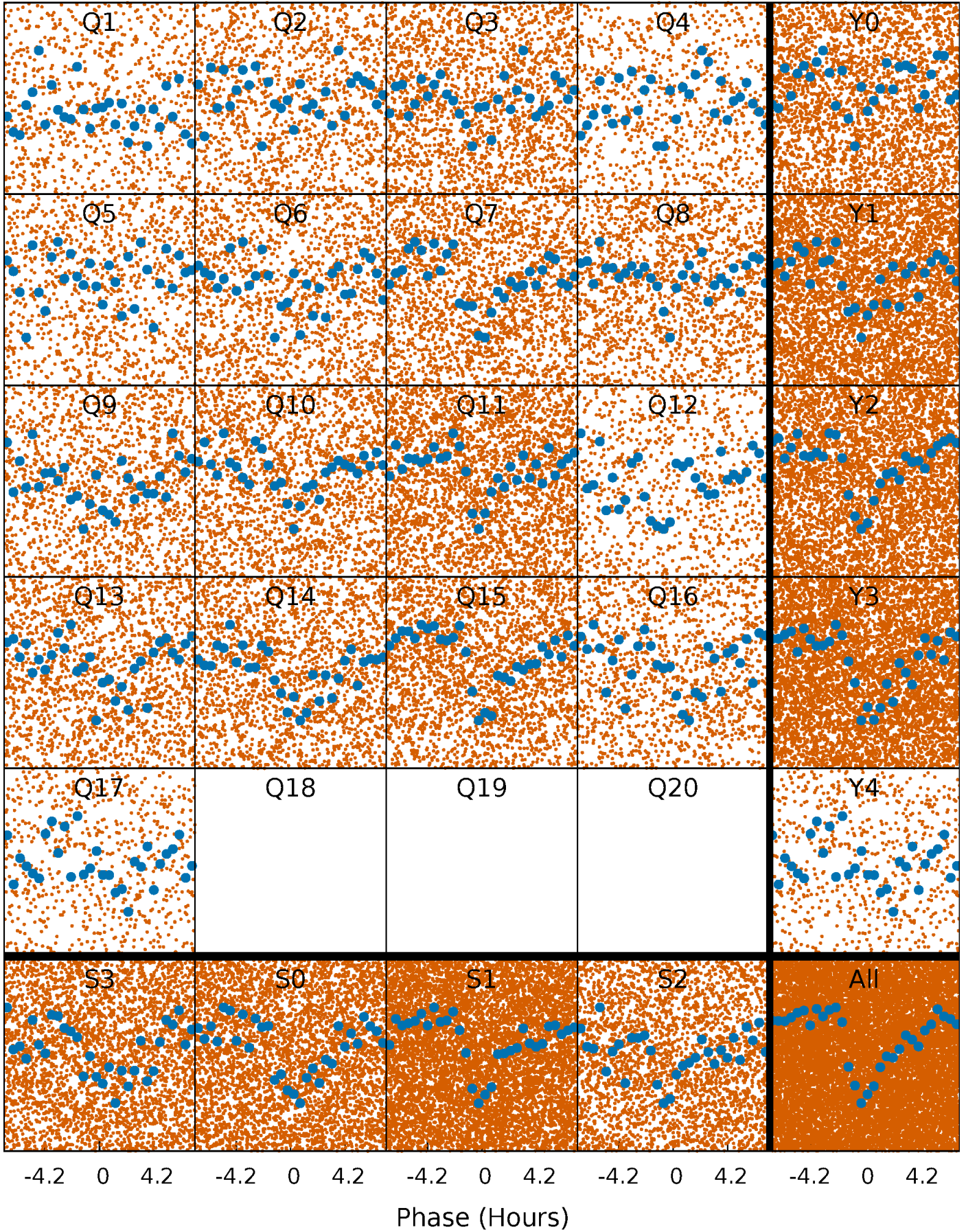


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



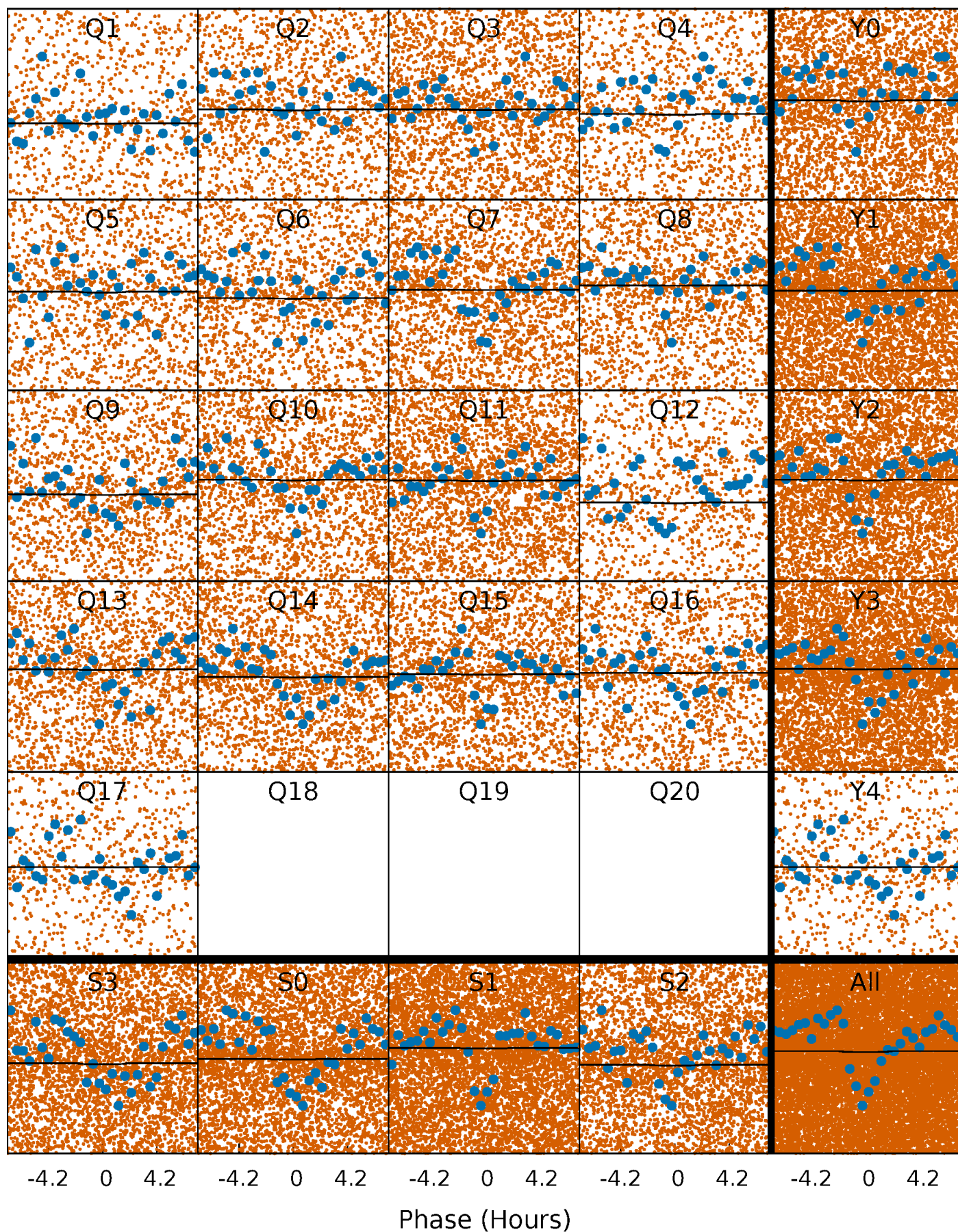
PDC Quarter-Phased Transit Curves

TCE 007200050-01 P= 0.566779 Days $T_0=131.839401$ (BKJD)



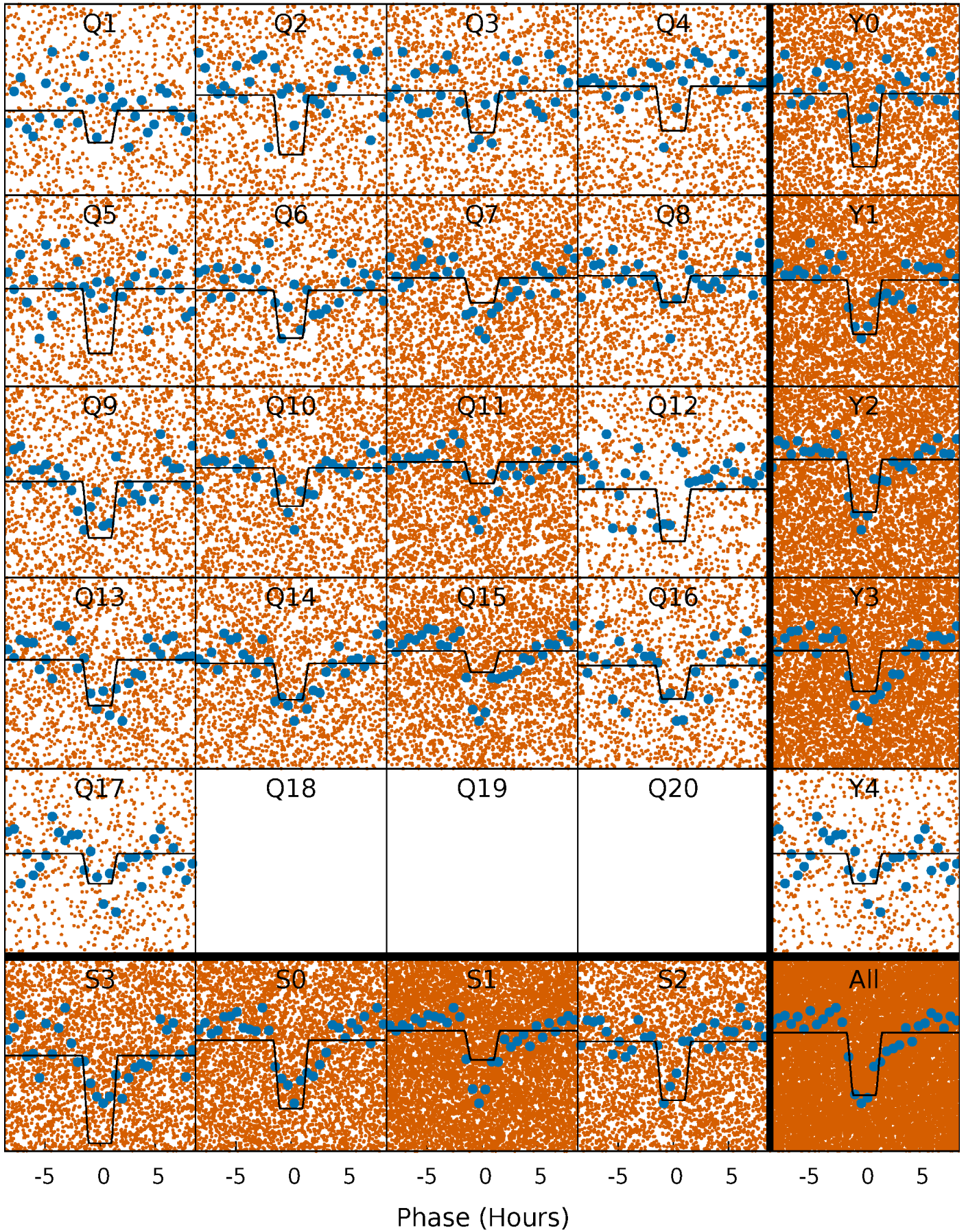
DV Quarter-Phased Transit Curves

TCE 007200050-01 P= 0.566779 Days $T_0=131.839401$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

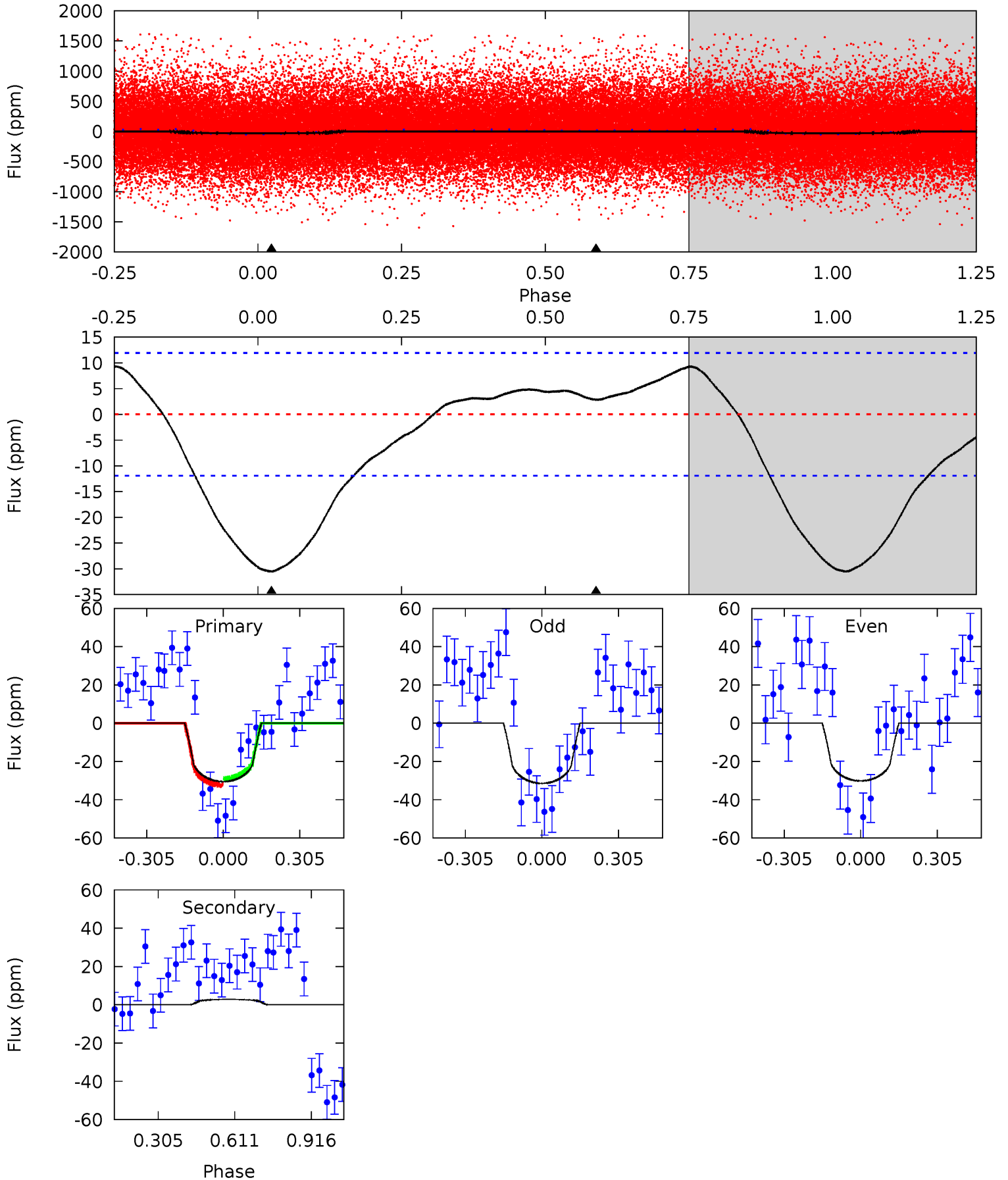
TCE 007200050-01 P= 0.566795 Days $T_0=131.823292$ (BKJD)



DV Model-Shift Uniqueness Test

007200050-01, P = 0.566779 Days, E = 131.272622 Days

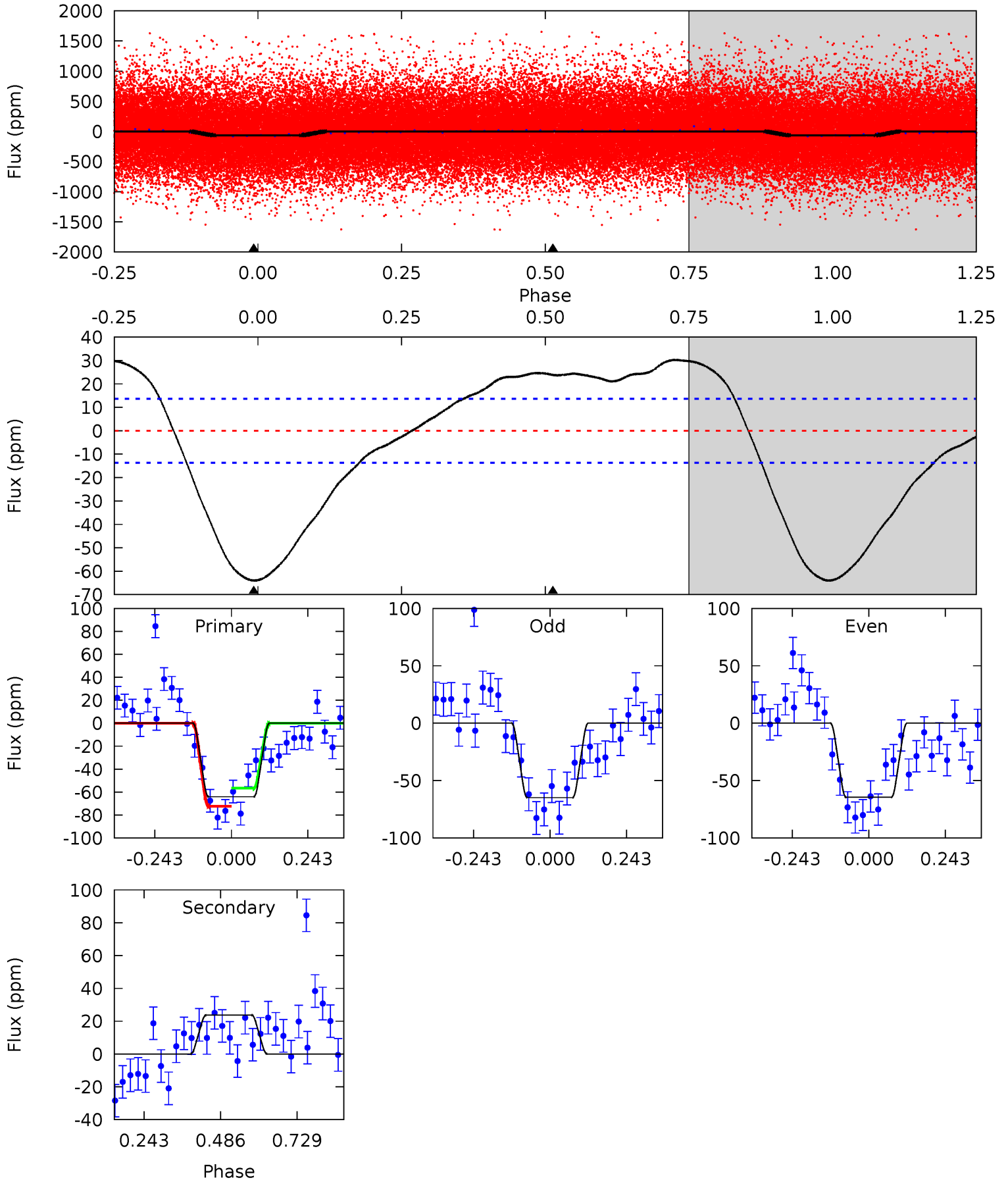
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	-1.02	0	0	4.32	1.02	0.83	11.1	11.1	-1.02	-1.02	0.23	0.93	0.23	0.54



Alt Model-Shift Uniqueness Test

007200050-01, P = 0.566795 Days, E = 131.256497 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	-7.59	0	0	4.37	1.17	4.68	20.5	20.5	-7.59	-7.59	0.07	0.92	0.32	2.54



Stellar Parameters For KIC 007200050

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6214^{+174}_{-261}	$4.442^{+0.052}_{-0.208}$	$0.070^{+0.250}_{-0.300}$	$1.076^{+0.335}_{-0.112}$	$1.169^{+0.141}_{-0.173}$	$1.321^{+0.354}_{-0.667}$
	+3%/-4%	+1%/-5%	+357%/-429%	+31%/-10%	+12%/-15%	+27%/-51%
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 007200050-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	3 ± 3	$1.24^{+1.40}_{-0.84}$	3406^{+237}_{-187}	-3581^{+299}_{-1071}	$-0.127^{+0.124}_{-1.513}$
Alt.	24 ± 3	$1.70^{+1.48}_{-1.13}$	3400^{+240}_{-172}	-4212^{+523}_{-1992}	$-0.897^{+0.652}_{-6.496}$

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 $A_{obs} \gg 1.0$

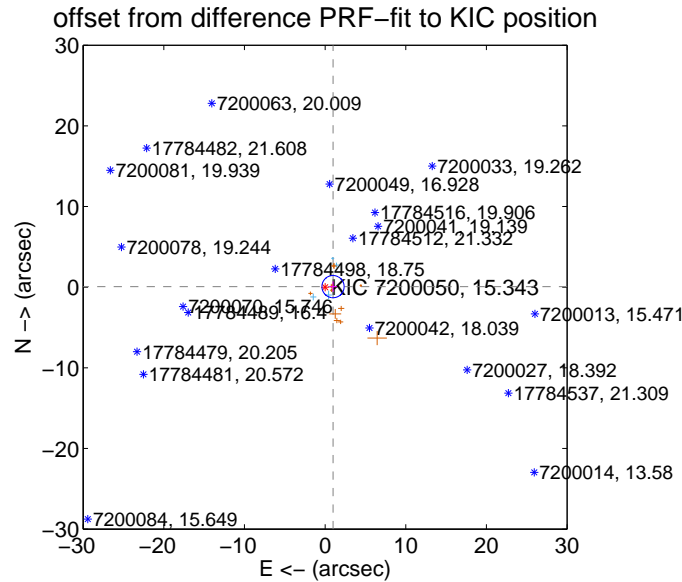
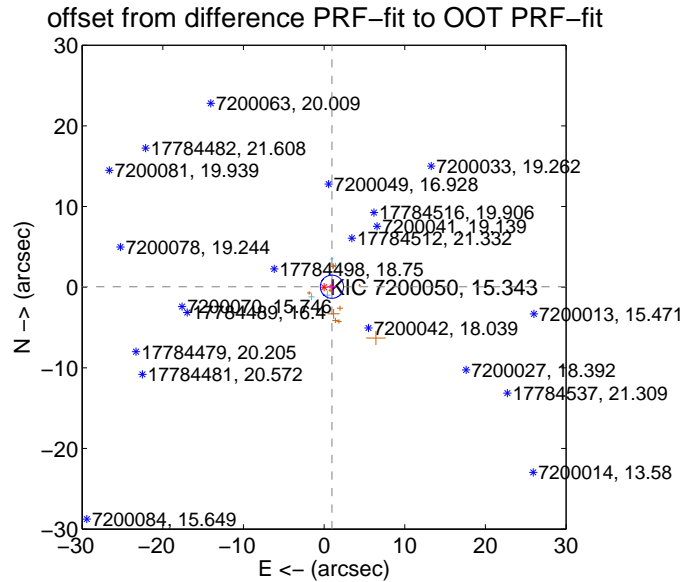
DV Centroid Data

Supplemental centroid analysis for 007200050-01. Kepler magnitude: 15.34. Transit SNR 0.26

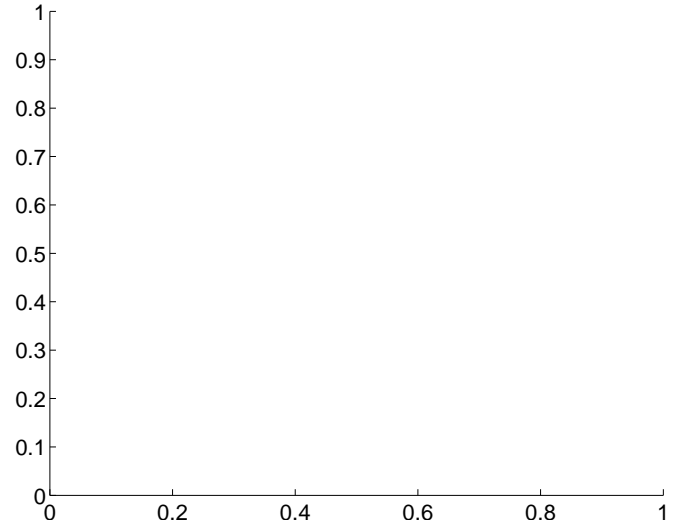
There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.971 ± 0.479	2.03	-0.969 ± 0.495	0.056 ± 0.720
PRF-fit source offset from KIC position	0.983 ± 0.459	2.14	-0.981 ± 0.472	0.067 ± 0.642
photometric centroid source offset	—	—	—	—

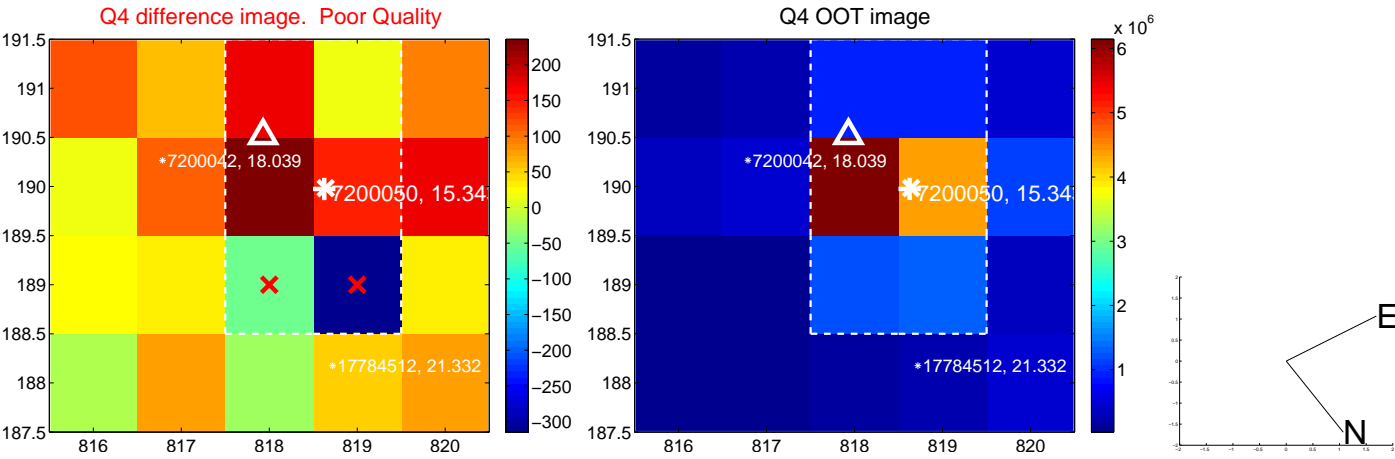
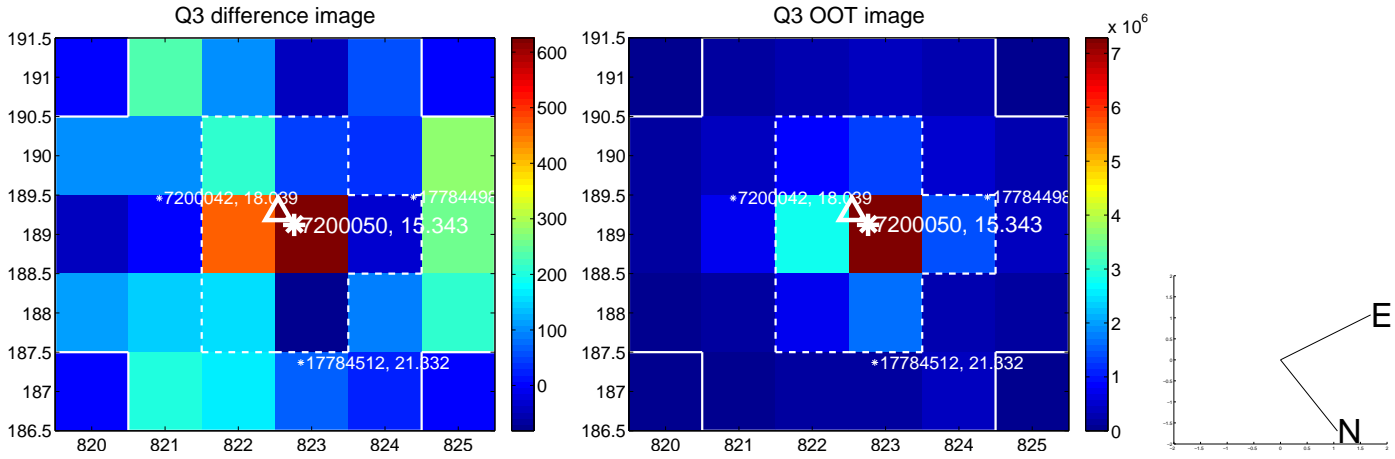
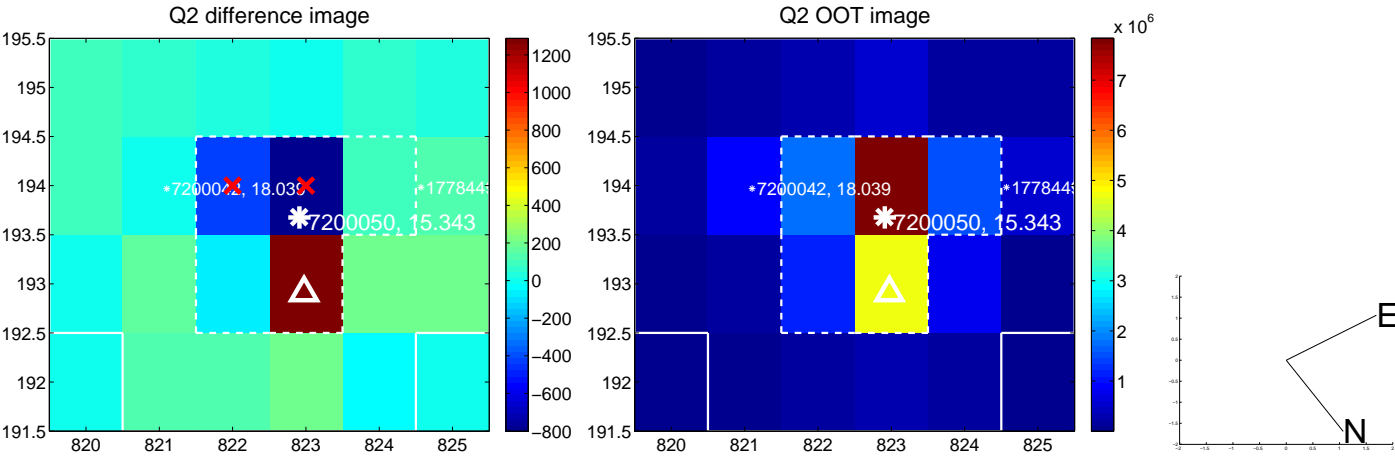
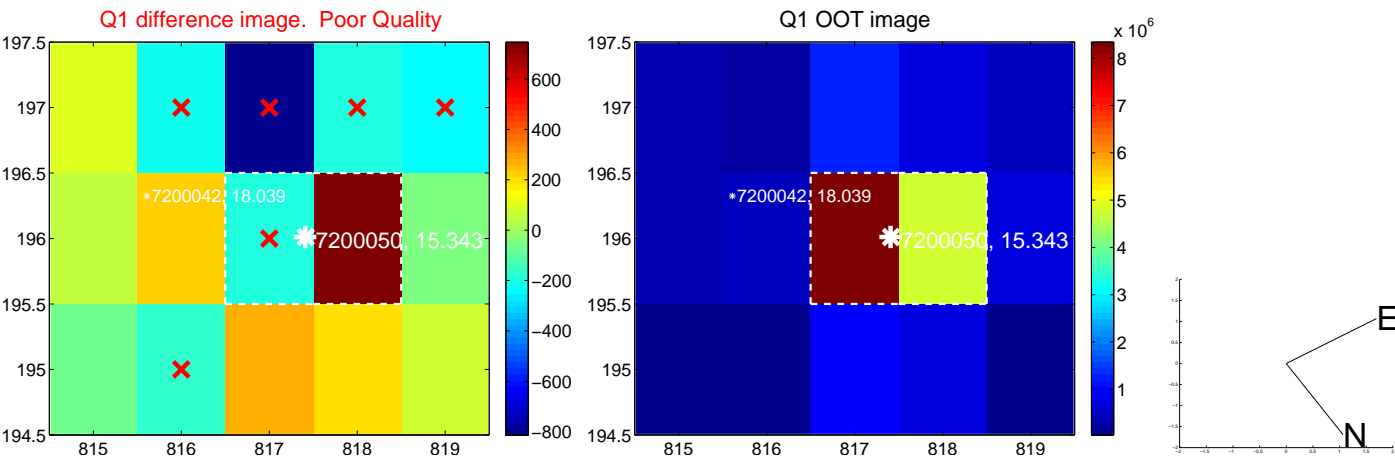


There are no photometric centroids

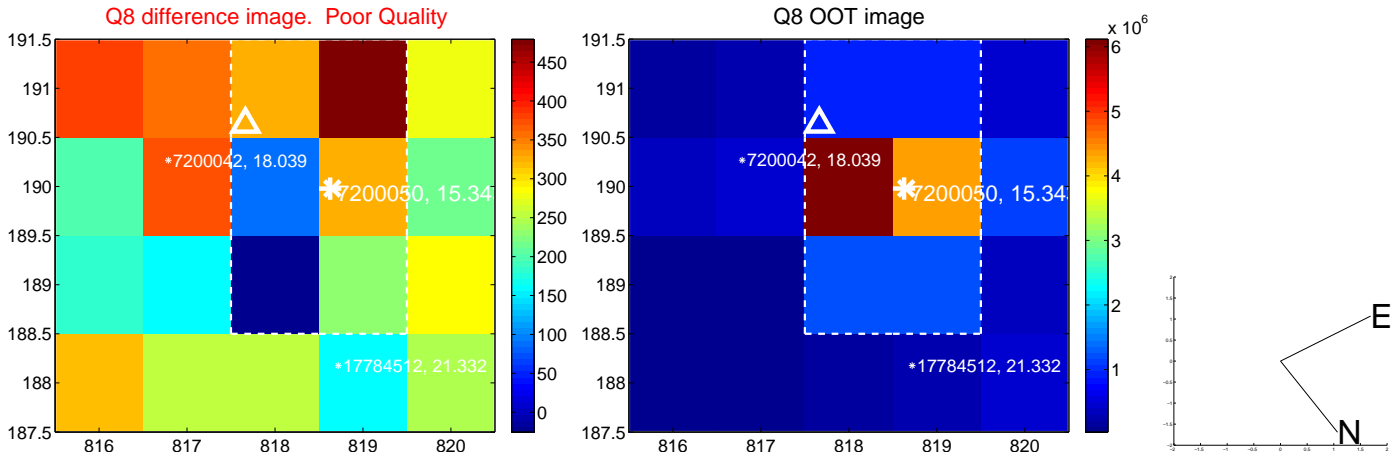
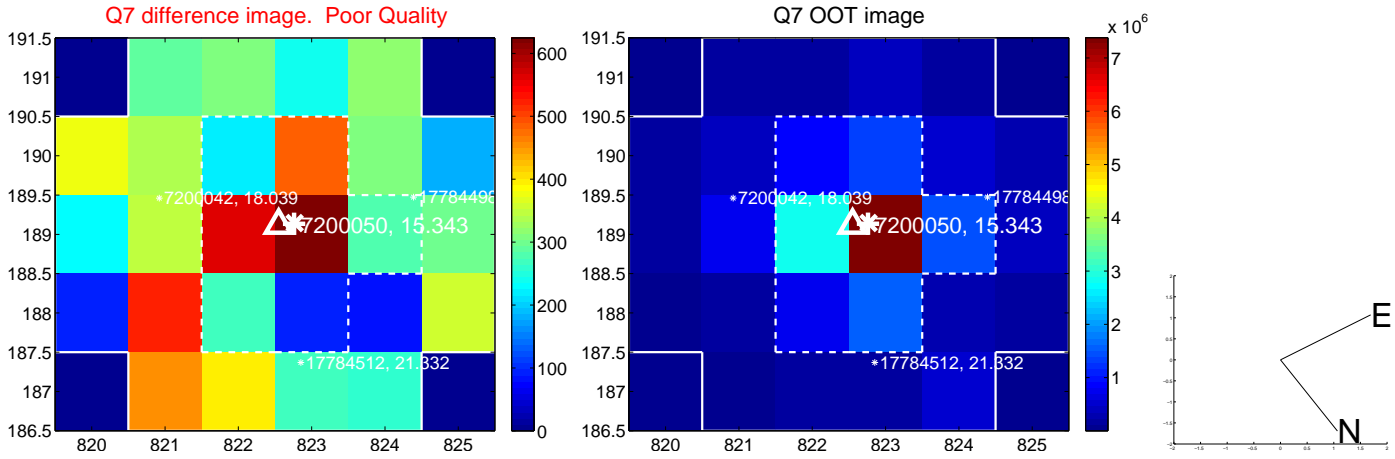
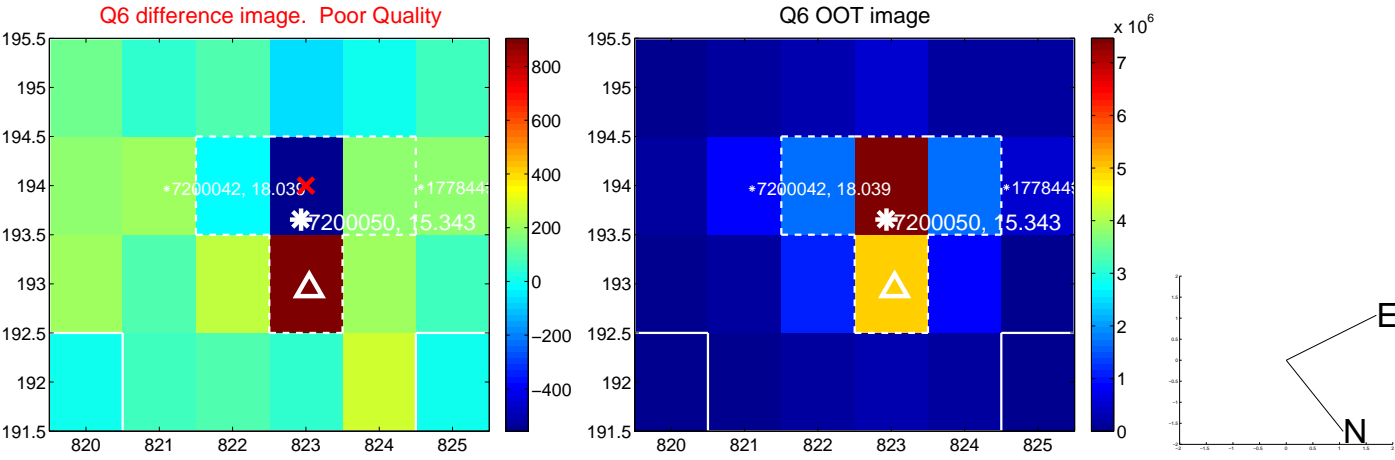
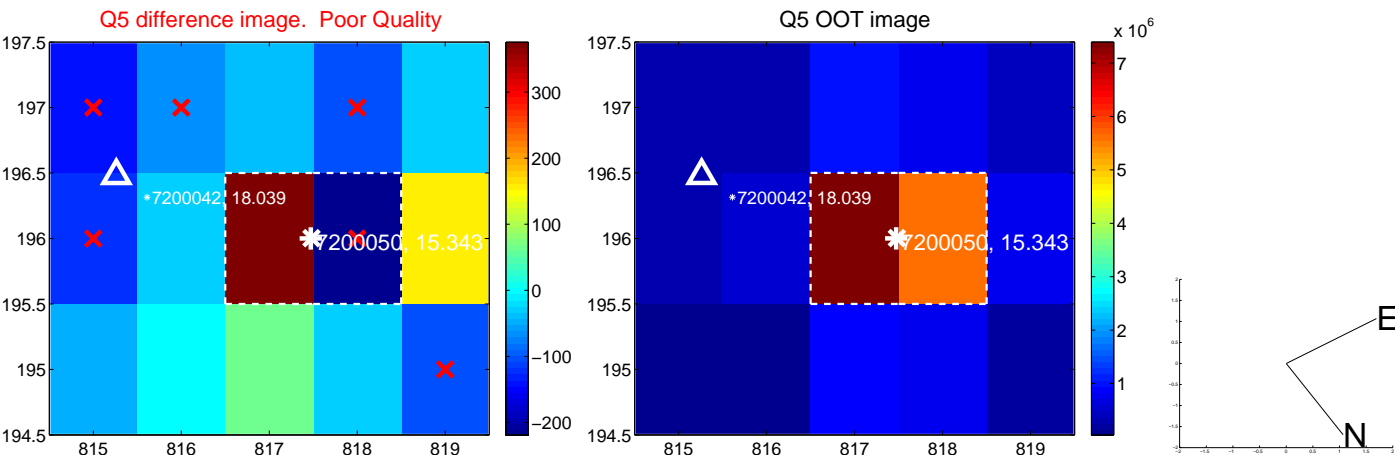


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

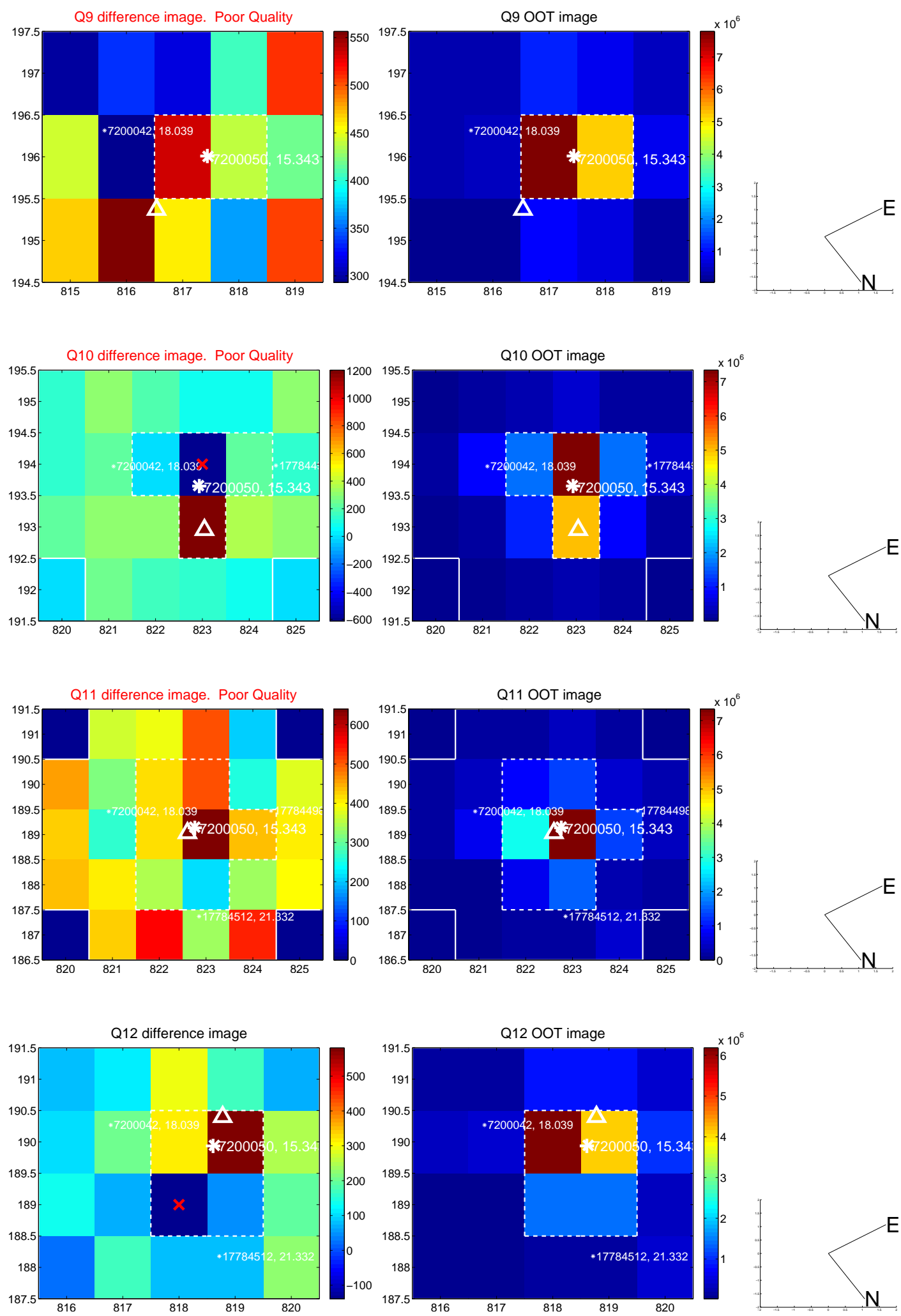
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



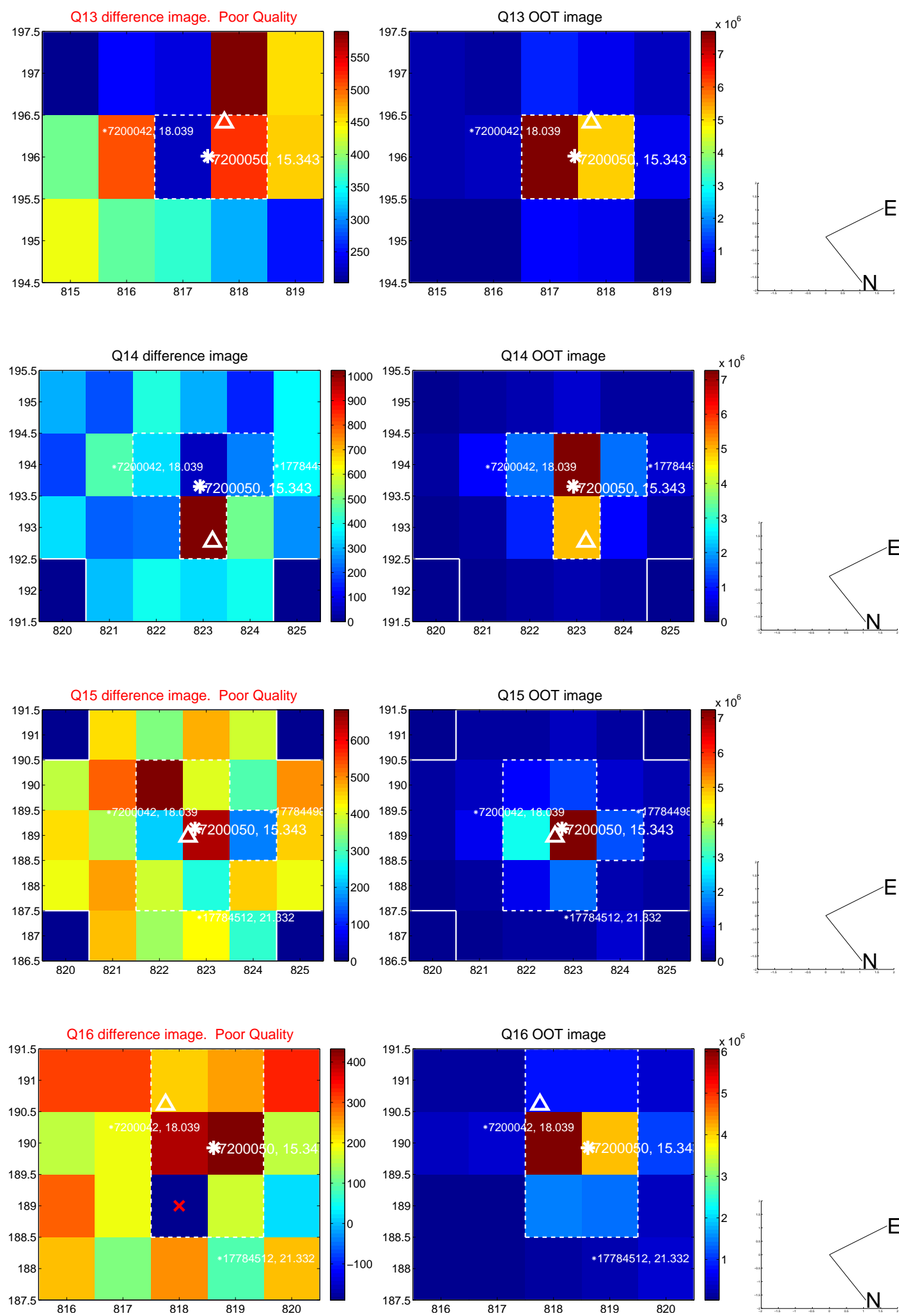
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



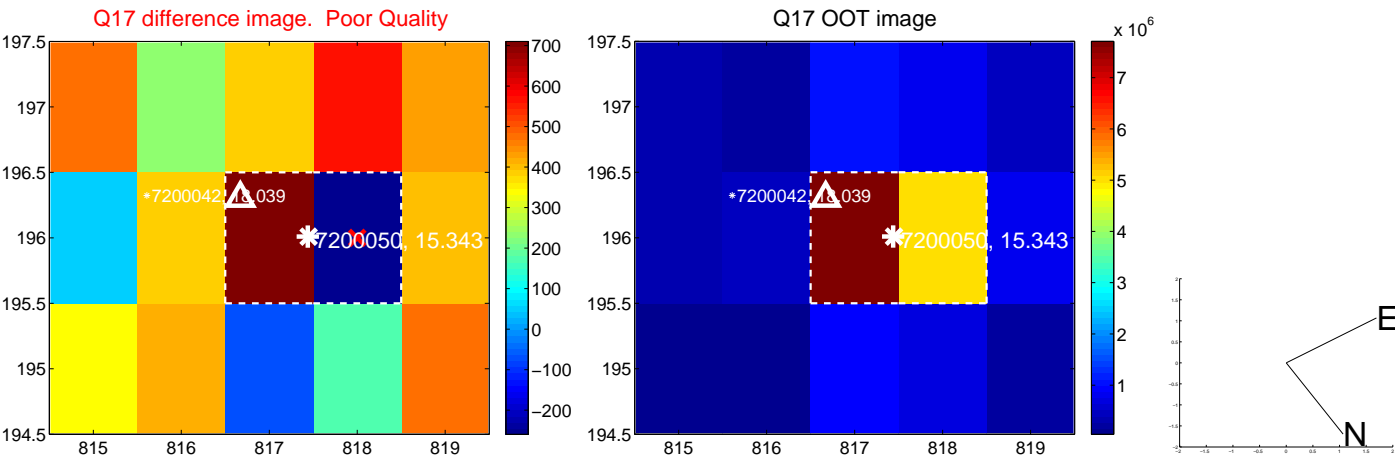
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



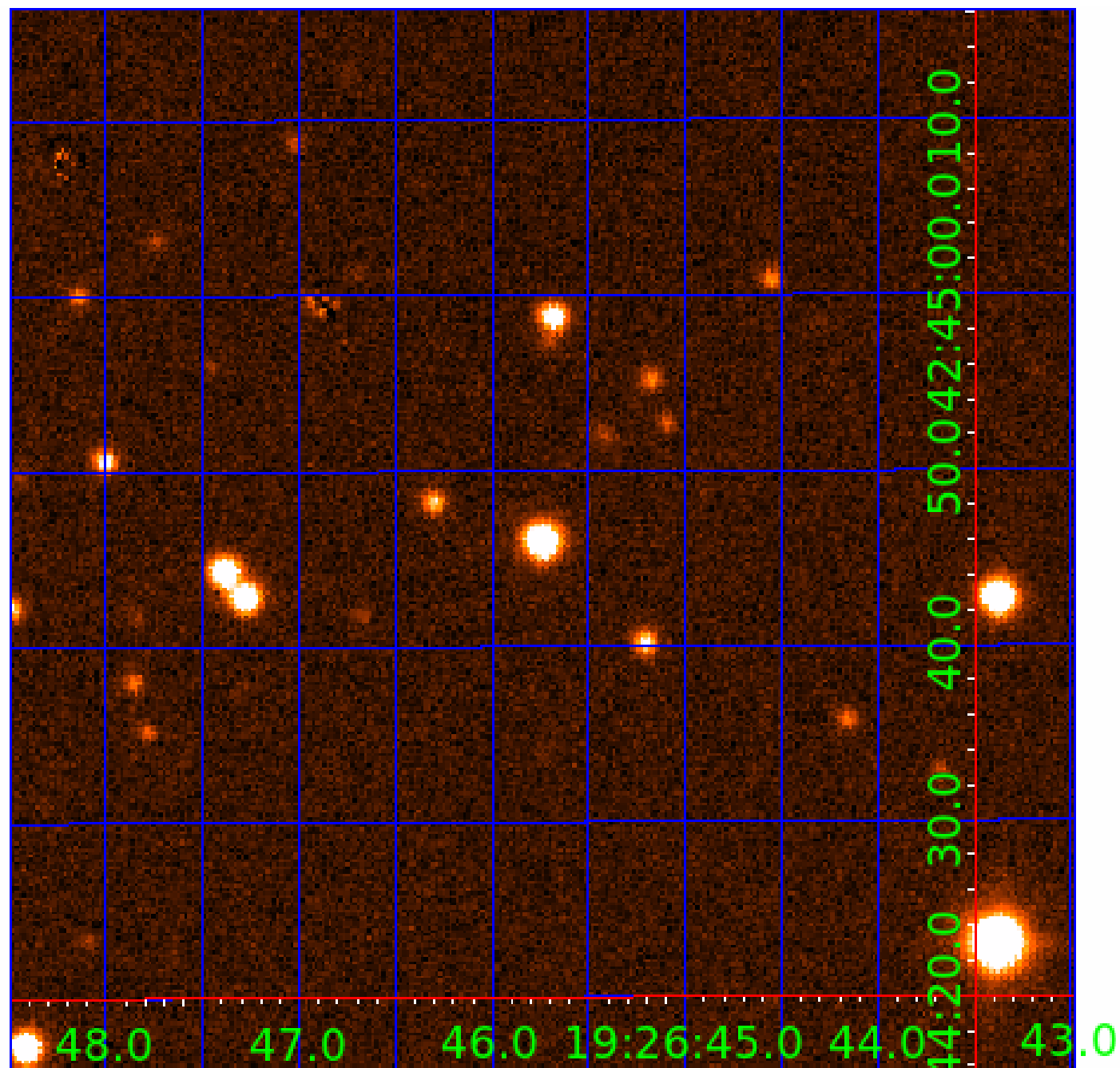
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 007200050

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})
007200050-01	OBS	No	0.566779	131.839401	0.9	3.691	11.3	0.3	1.08	6214	0.10	7757.16
007200050-02	OBS	No	78.537786	169.793019	714.9	1.621	8.1	8.8	1.08	6214	2.96	10.82
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007200050-04	OBS	No	37.769805	150.461073	415.6	2.461	7.4	7.8	1.08	6214	2.49	28.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007200050-01	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_ALT—EPHEM_MATCH
007200050-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007200050-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
007200050-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

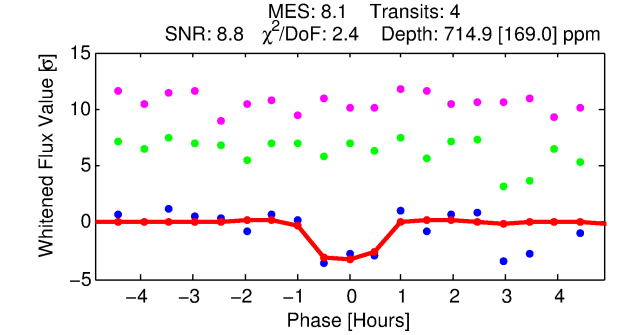
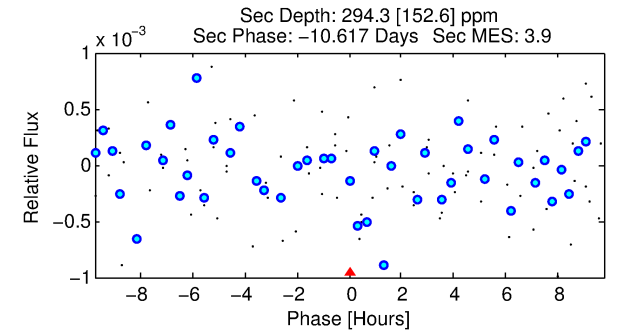
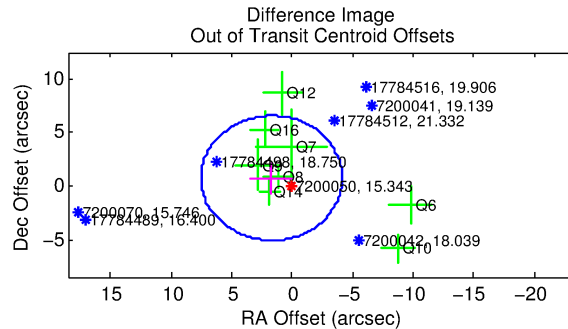
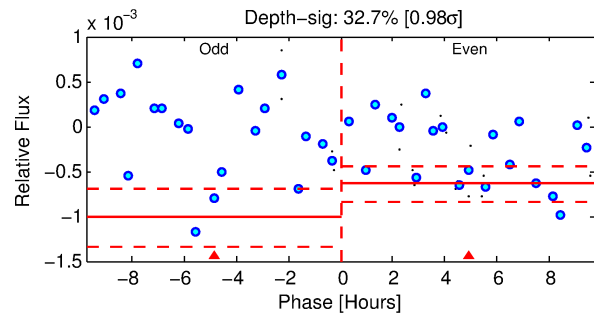
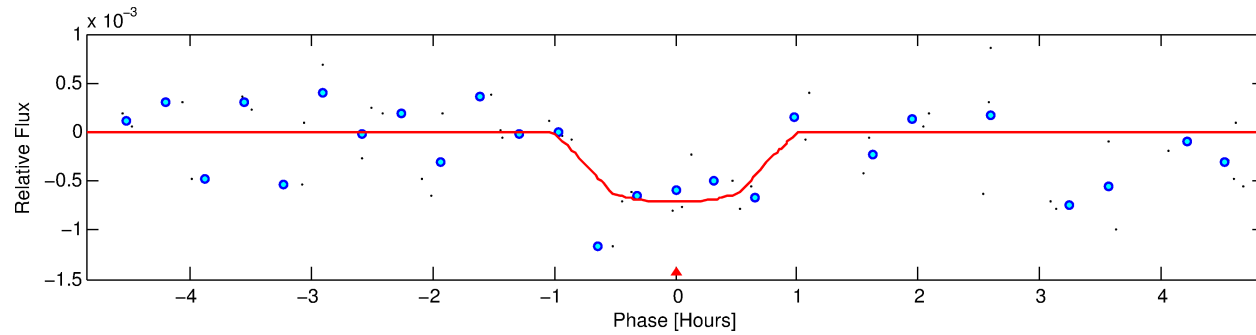
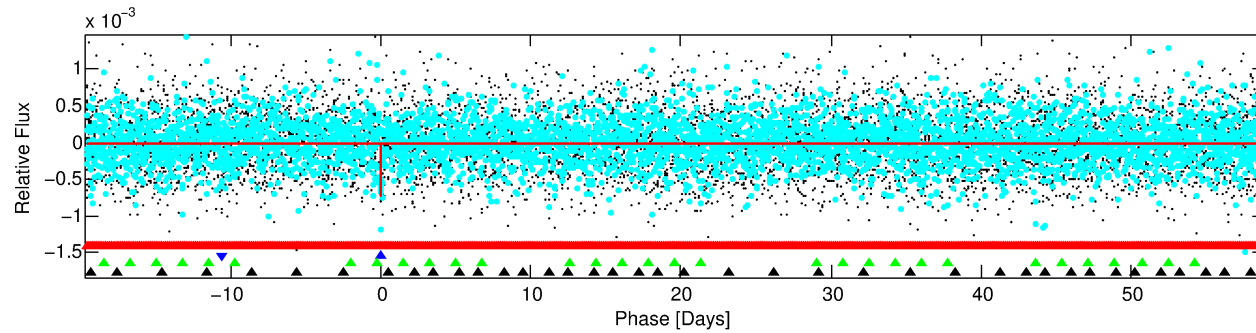
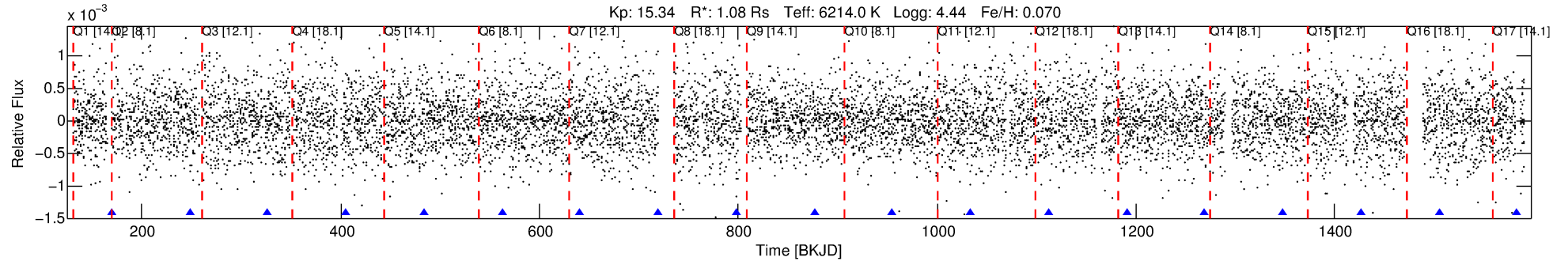
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007200050-02

No Significant Match Found

DV One-Page Summary

KIC: 7200050 Candidate: 2 of 4 Period: 78.538 d



DV Fit Results:

Period = 78.53779 [0.00155] d
Epoch = 169.7930 [0.0160] BKJD
Rp/R* = 0.0253 [0.0819]
a/R* = 332.11 [5167.35]
b = 0.50 [23.87]
Seff = 10.82 [4.50]
Teq = 462 [48] K
Rp = 2.97 [9.66] Re
a = 0.3781 [0.0990] AU
Ag = 2632.59 [17152.28] [0.15σ]
Teff = 5122 [8331] K [0.56σ]

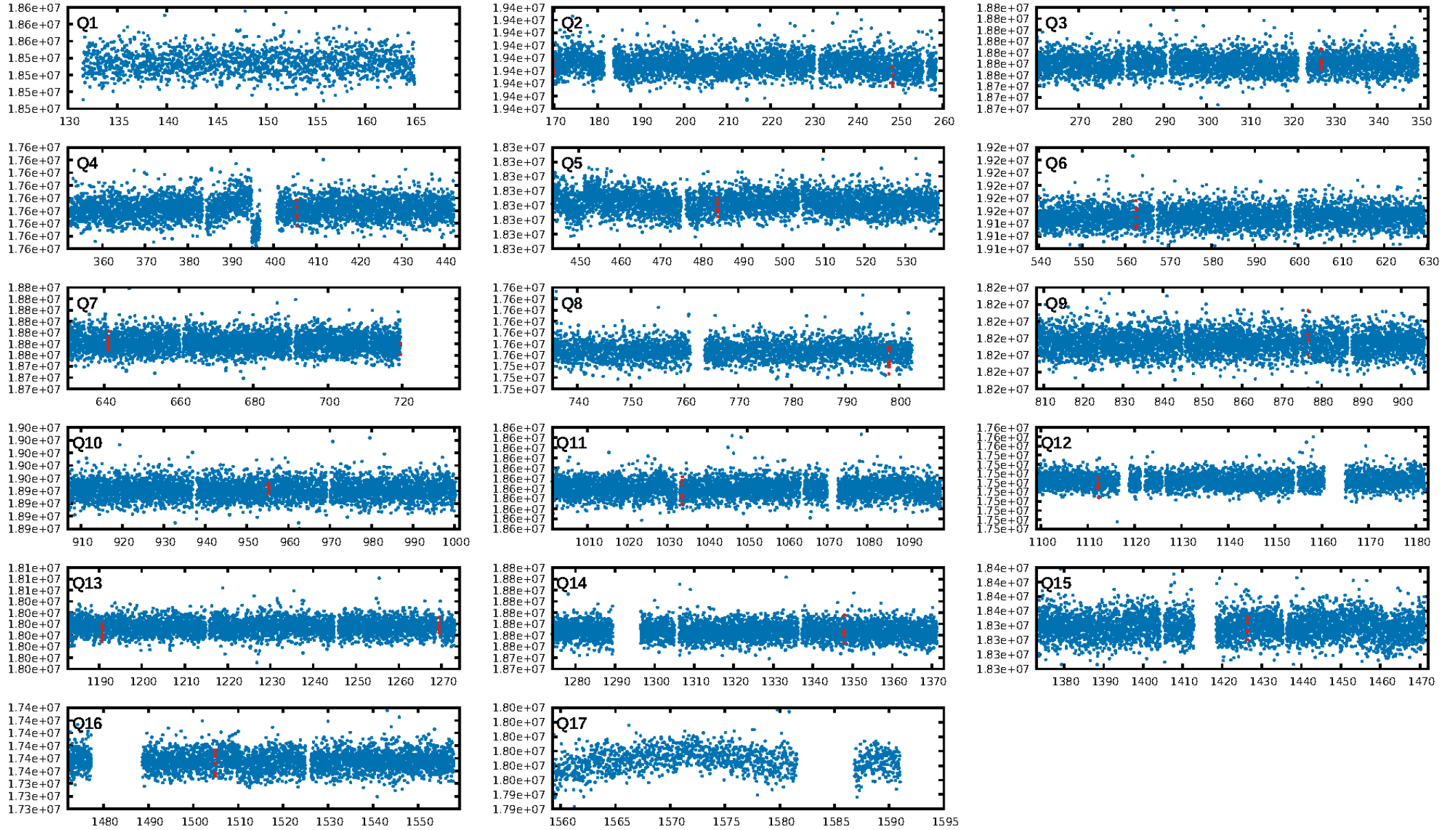
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [342.51σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 13.2%
ModelChiSquareGof-sig: 80.9%
Bootstrap-pfa: 5.90e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 4.101
Centroid-sig: 59.4%
Centroid-so: 0.776 arcsec [0.64σ]
OotOffset-rm: 1.857 arcsec [0.96σ]
OotOffset-st: 3/1/3/1 [8]
KicOffset-rm: 1.839 arcsec [1.01σ]
KicOffset-st: 3/1/3/1 [8]
DiffImageQuality-fgm: 0.00 [0/8]
DiffImageOverlap-fno: 0.00 [0/14]

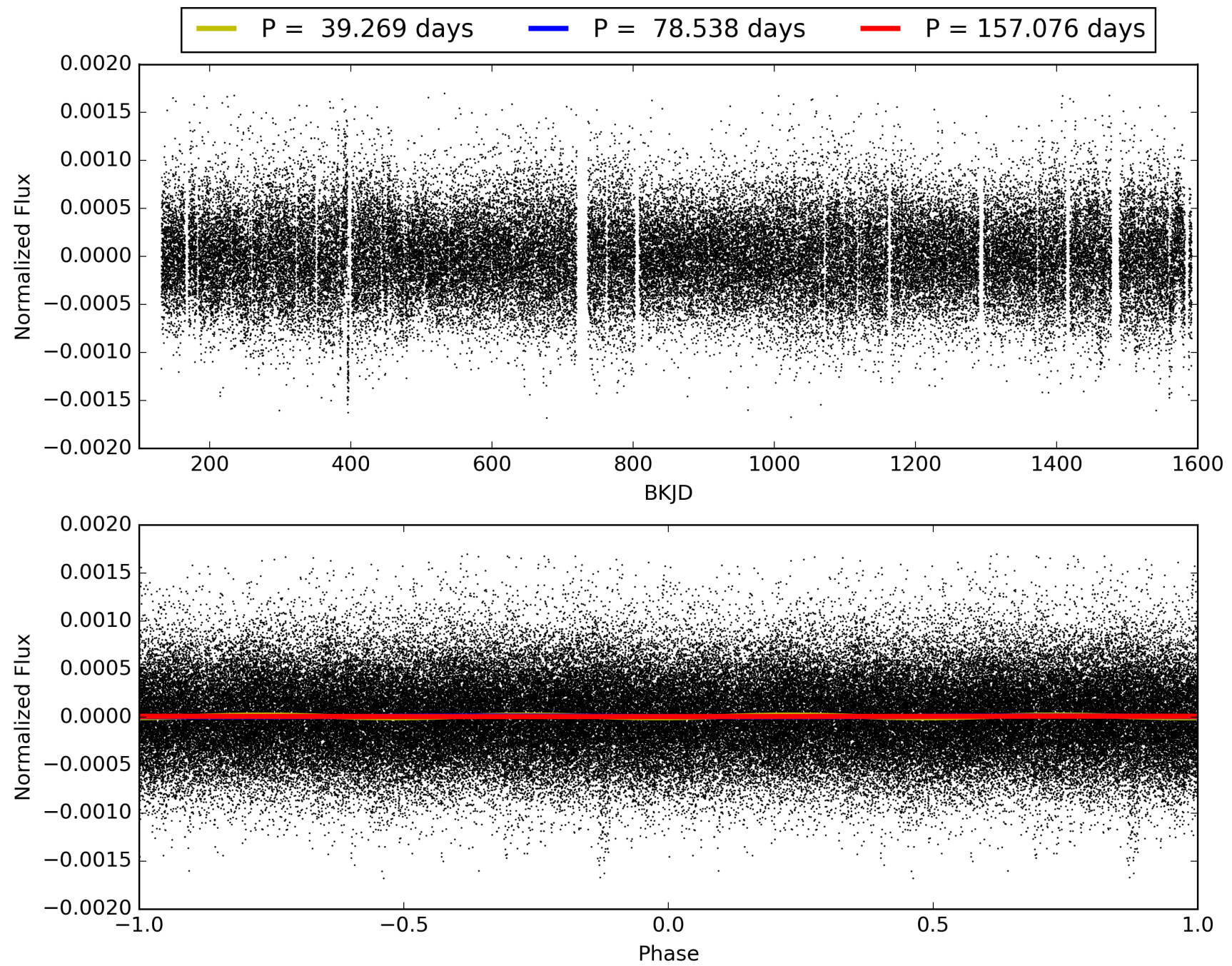
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:11:48 Z

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

TCE 007200050-02, PDC Light Curves

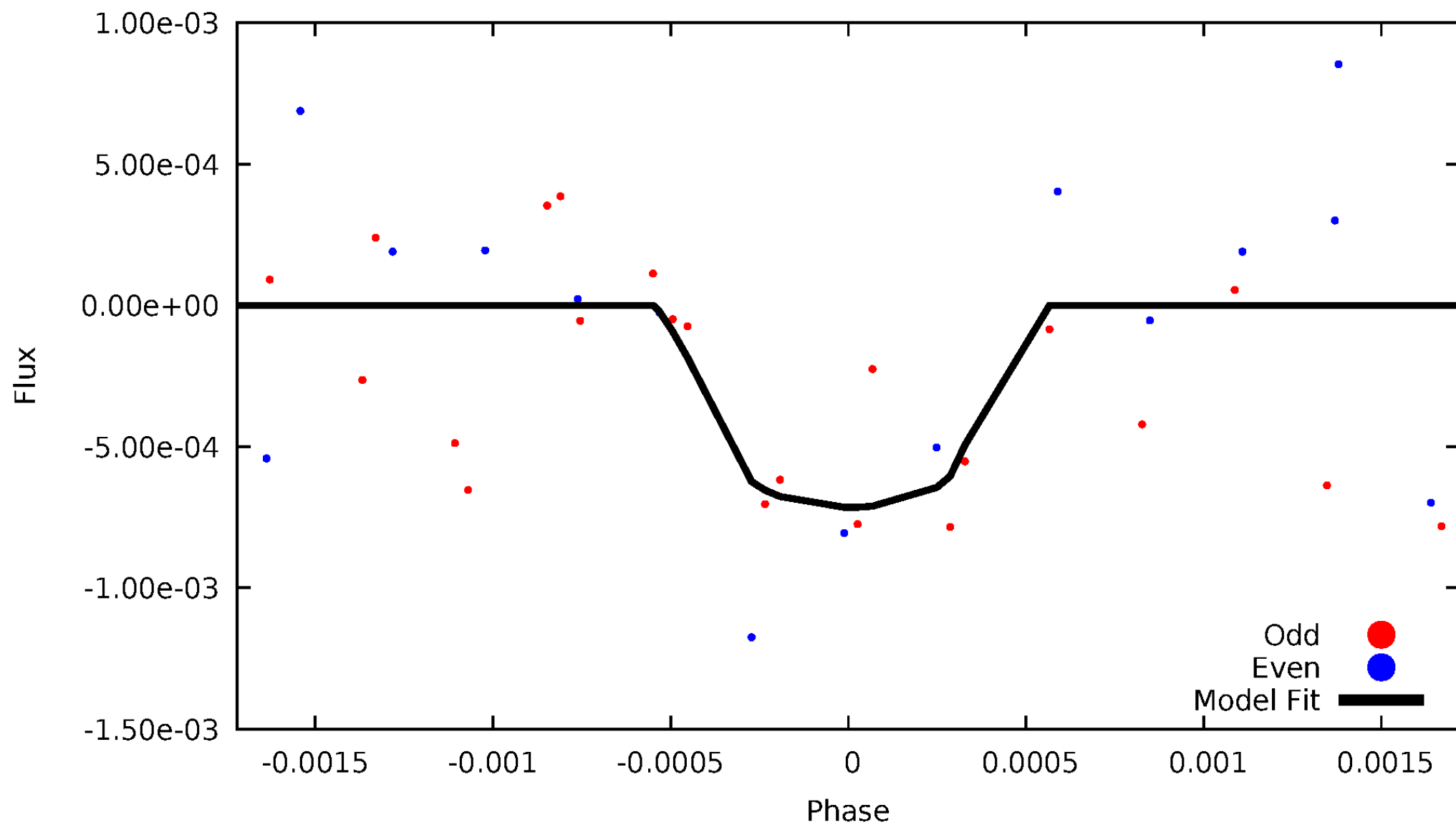


TCE 007200050-02



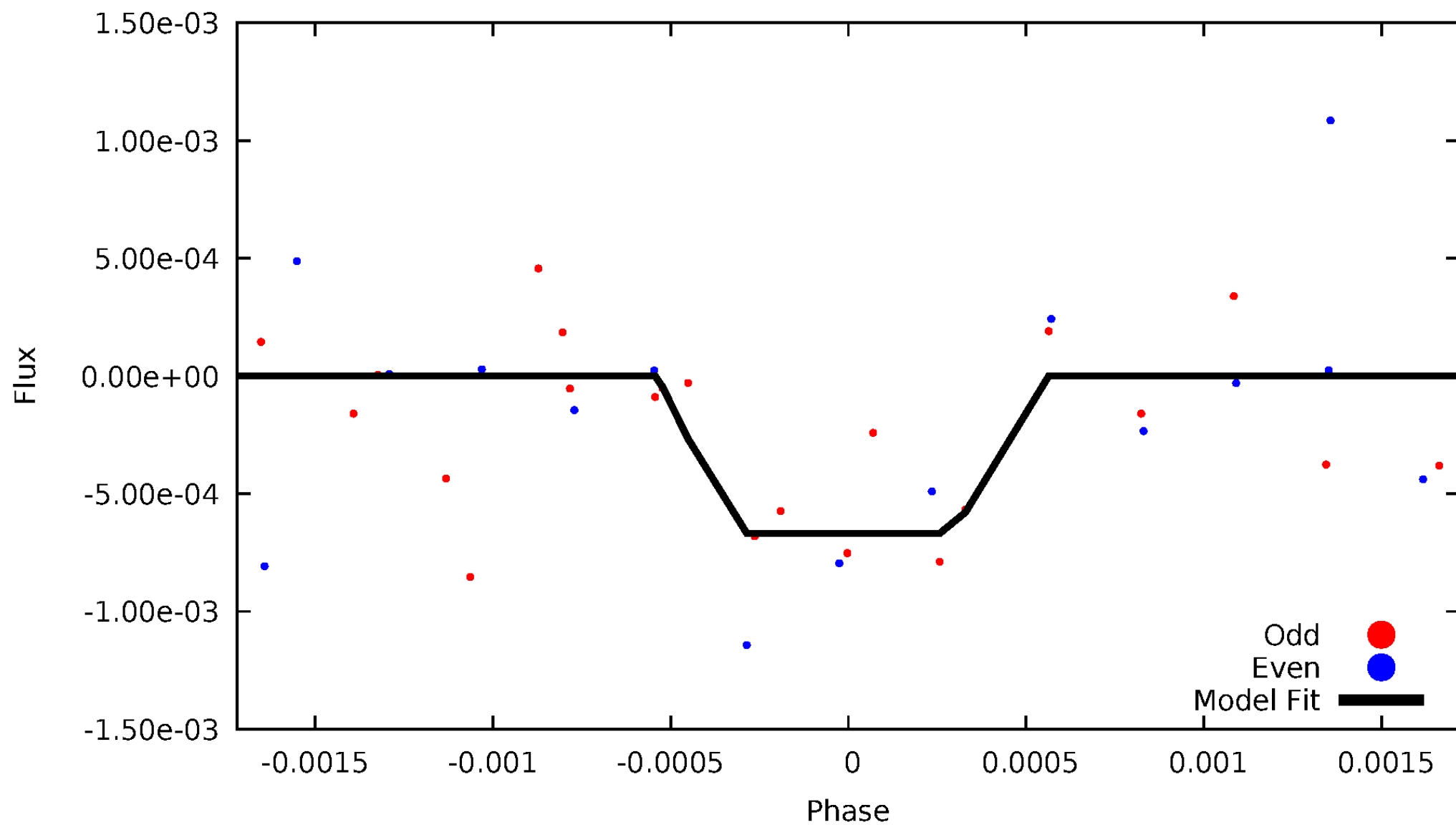
DV Odd/Even

TCE 007200050-02



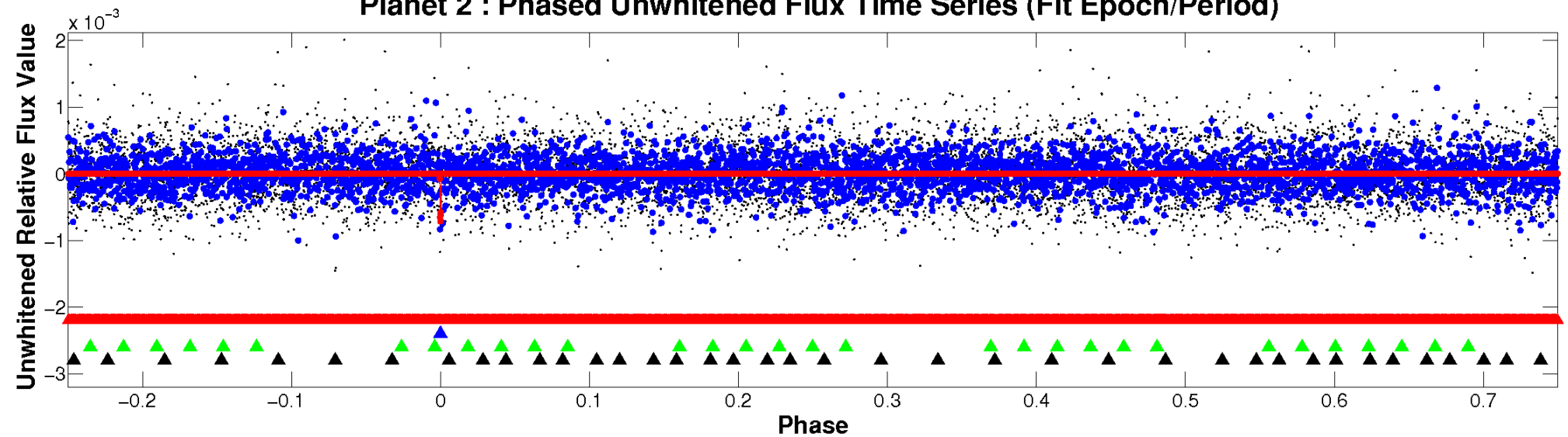
ALT Odd/Even

TCE 007200050-02

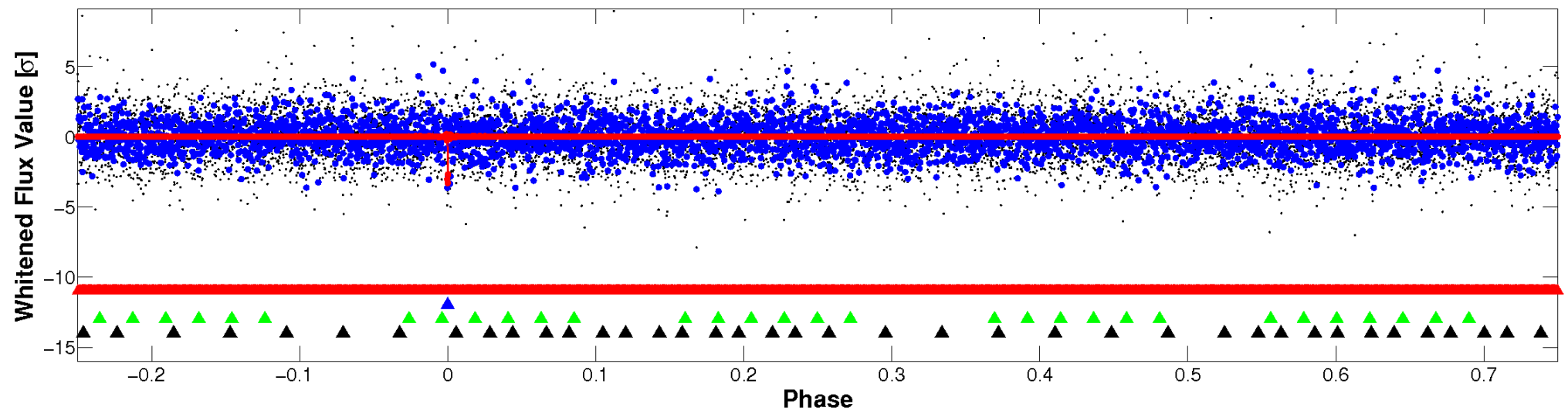


Non-Whitened Vs. Whitened Light Curve

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

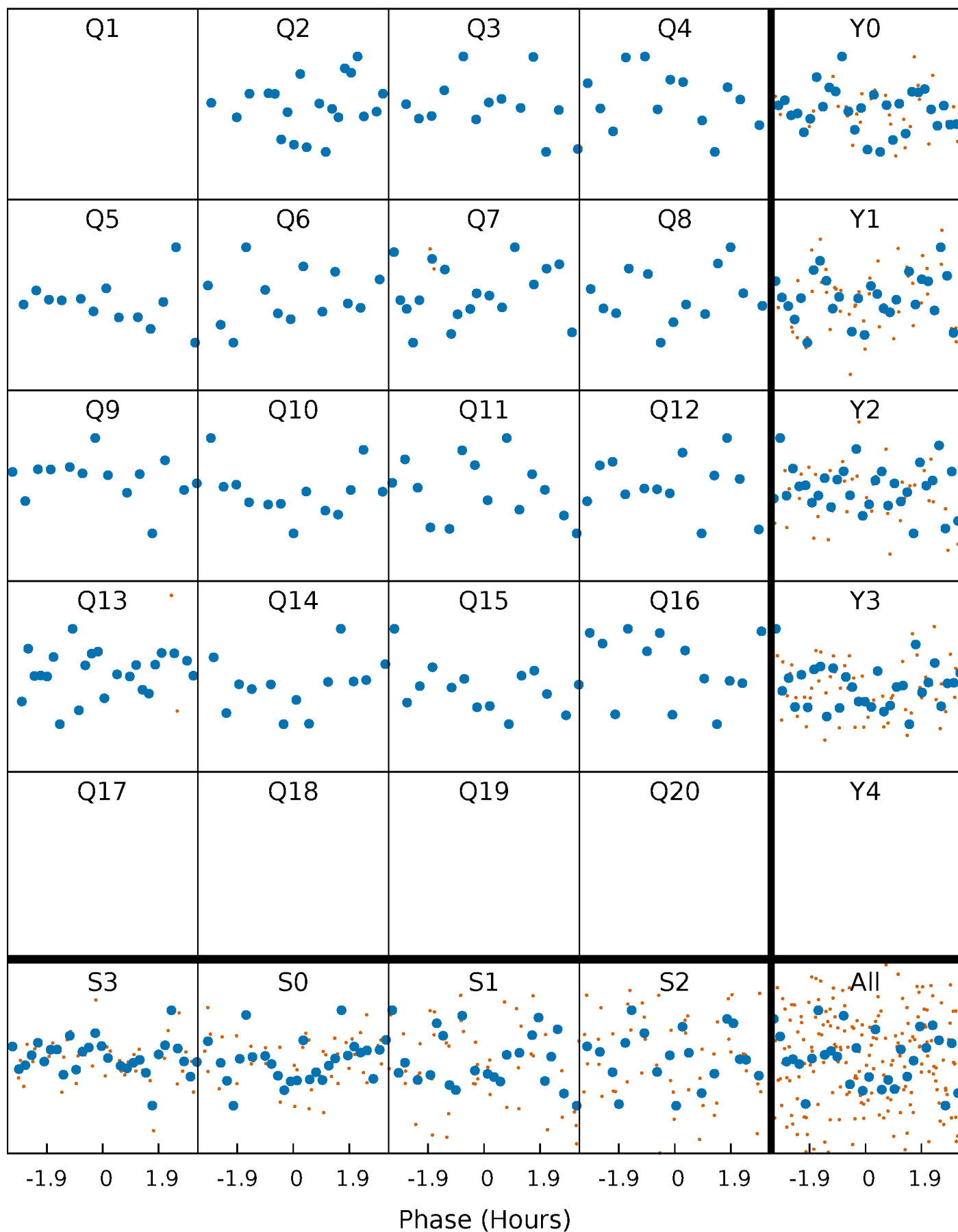


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



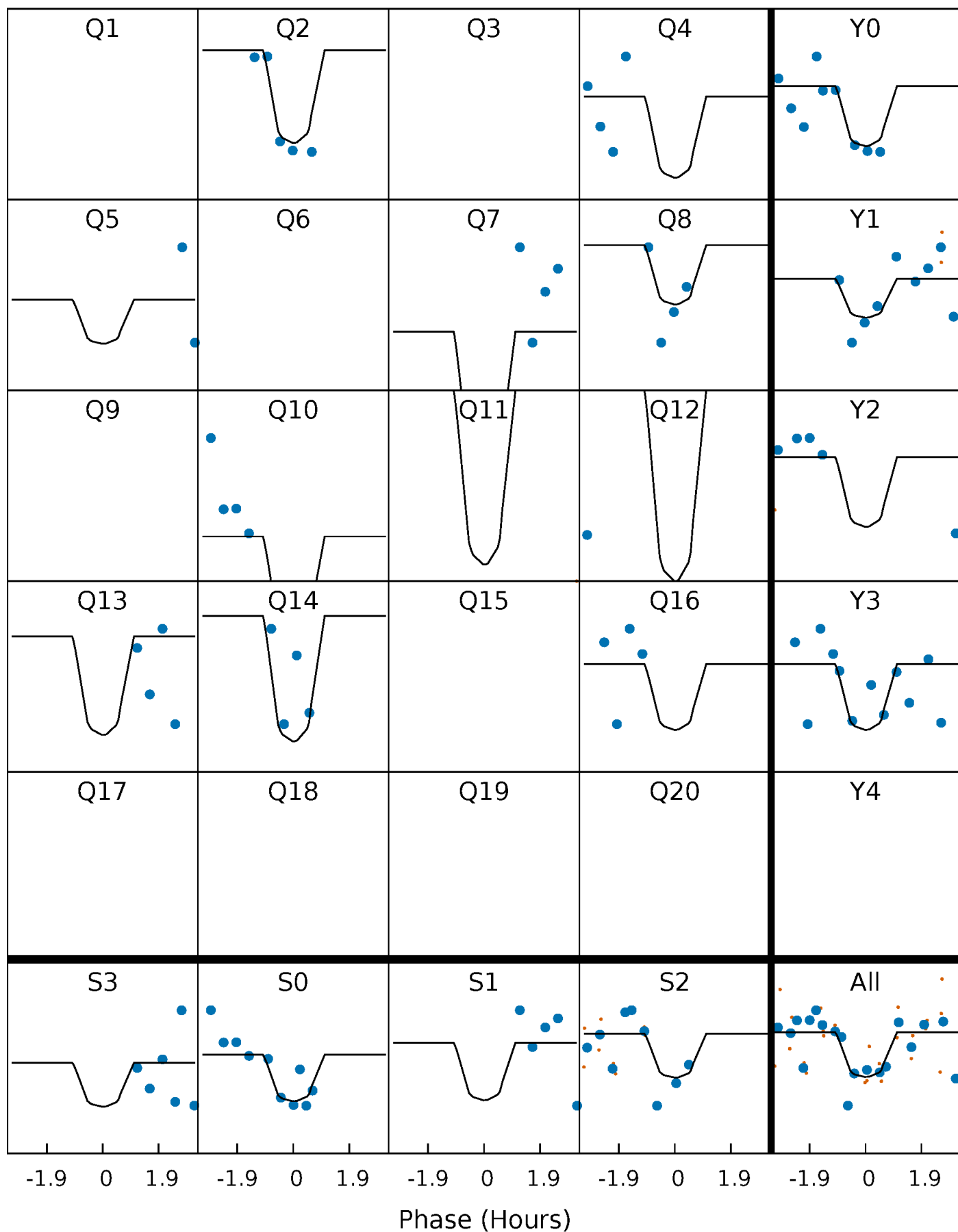
PDC Quarter-Phased Transit Curves

TCE 007200050-02 P= 78.537786 Days $T_0=169.793019$ (BKJD)



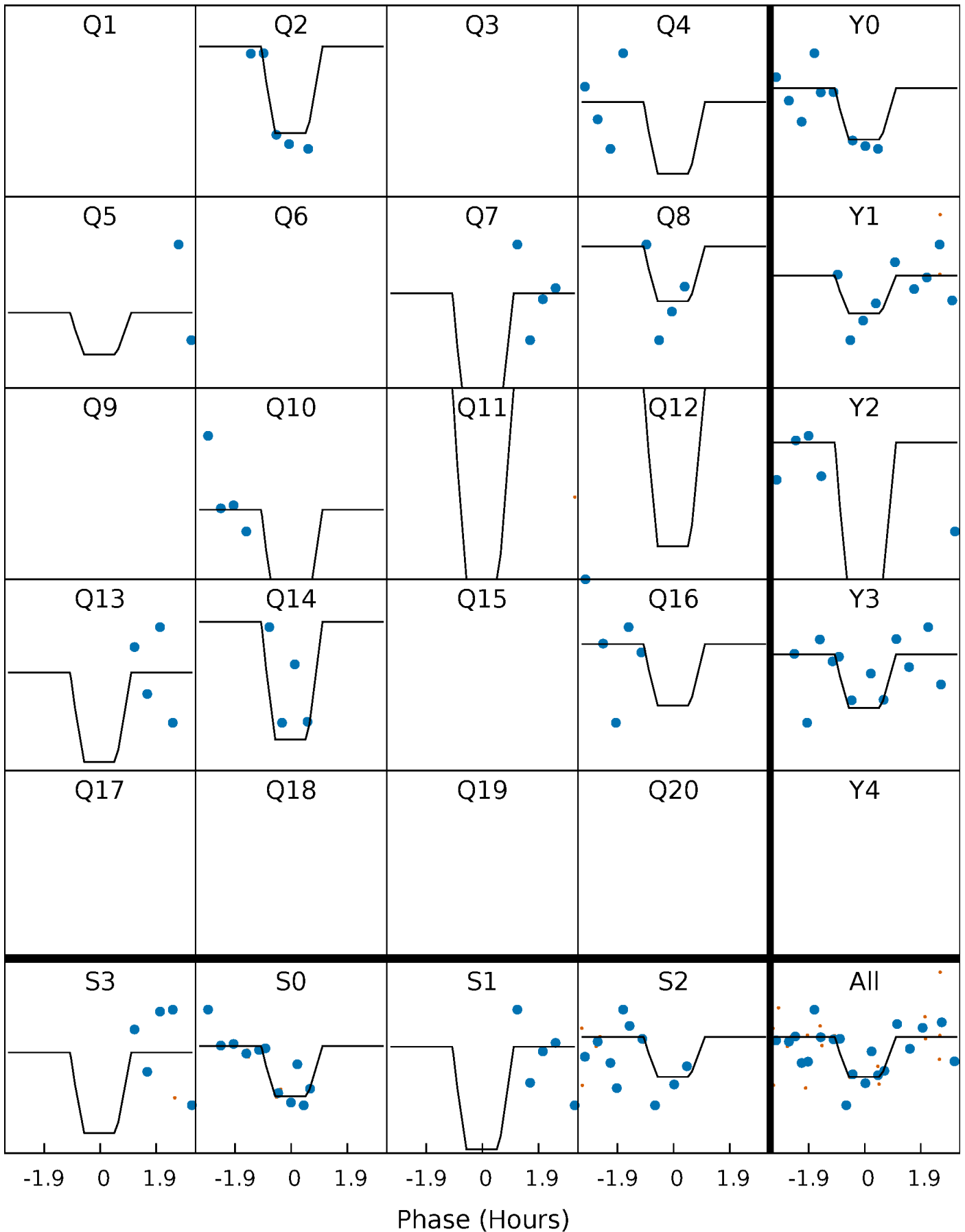
DV Quarter-Phased Transit Curves

TCE 007200050-02 P= 78.537786 Days $T_0=169.793019$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

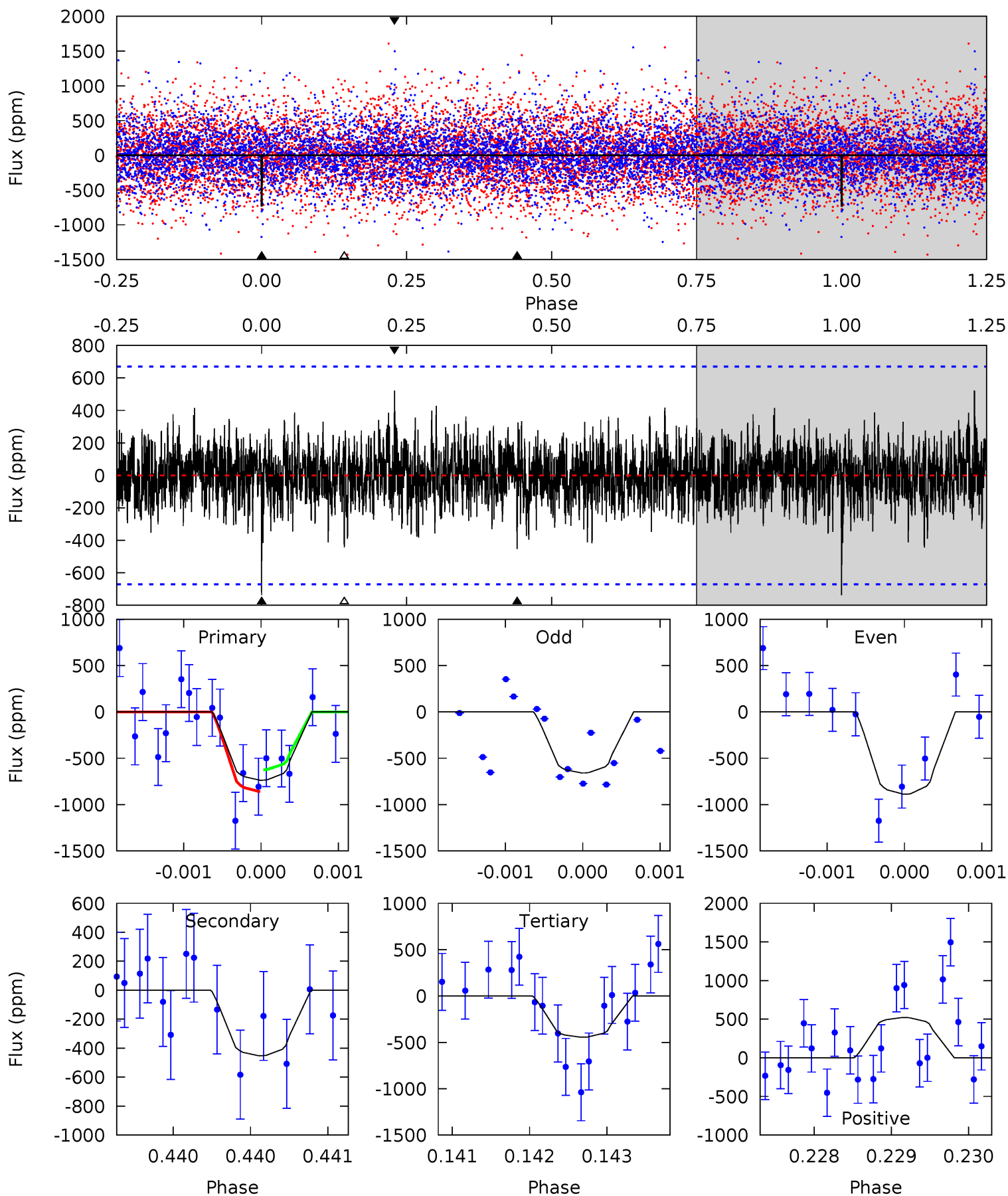
TCE 007200050-02 P= 78.537613 Days $T_0=169.795469$ (BKJD)



DV Model-Shift Uniqueness Test

007200050-02, P = 78.537786 Days, E = 91.255233 Days

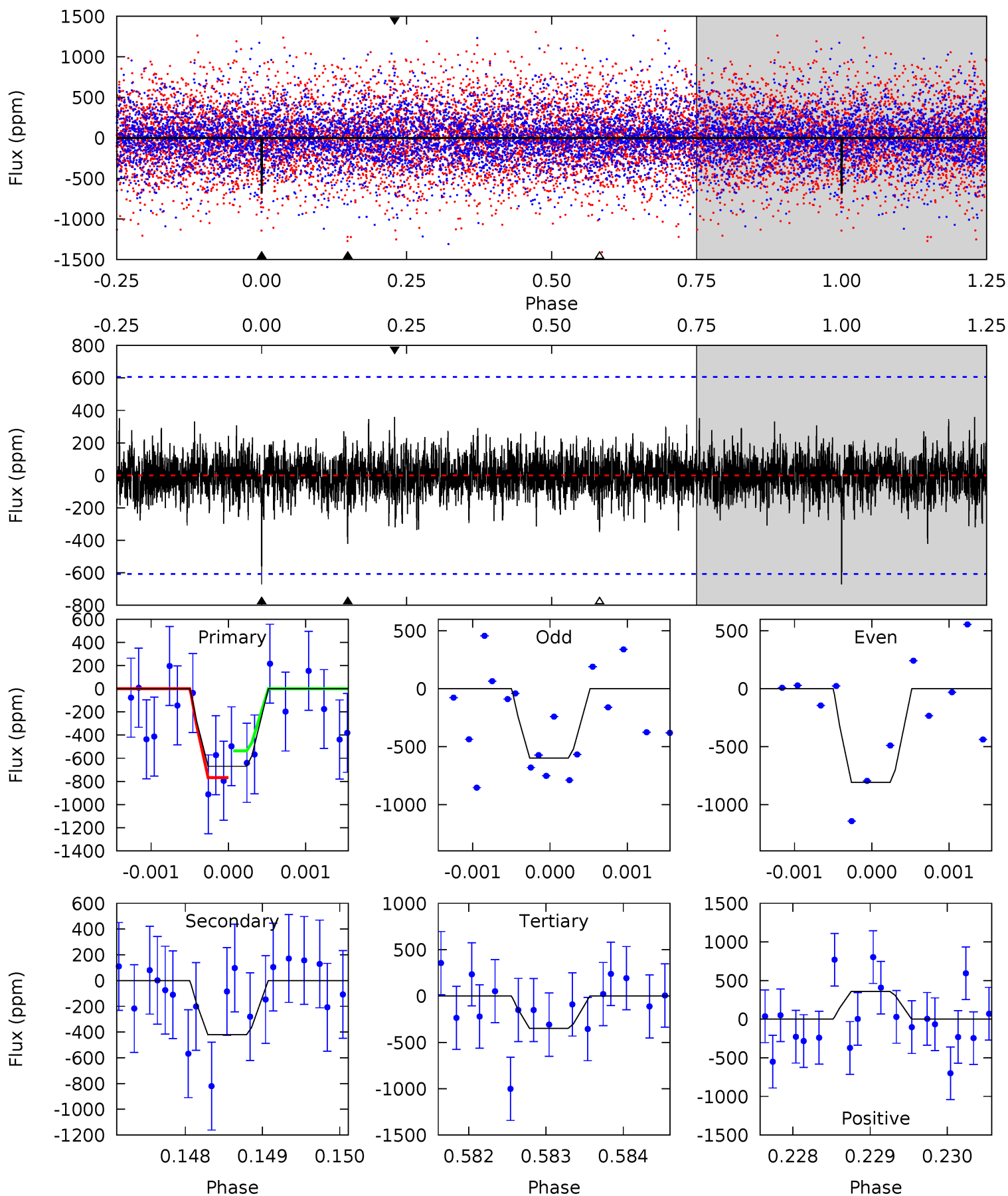
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.02	3.70	3.63	4.26	5.48	3.33	1.07	2.39	1.76	0.07	-0.56	0.86	0.90	0.41	0.95



Alt Model-Shift Uniqueness Test

007200050-02, P = 78.537613 Days, E = 91.257856 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.00	3.77	3.13	3.22	5.44	3.27	0.84	2.87	2.78	0.64	0.55	0.87	0.90	0.35	1.01



Stellar Parameters For KIC 007200050

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6214^{+174}_{-261}	$4.442^{+0.052}_{-0.208}$	$0.070^{+0.250}_{-0.300}$	$1.076^{+0.335}_{-0.112}$	$1.169^{+0.141}_{-0.173}$	$1.321^{+0.354}_{-0.667}$
	+3%/-4%	+1%/-5%	+357%/-429%	+31%/-10%	+12%/-15%	+27%/-51%
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 007200050-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-453 ± 122	$7.73^{+8.93}_{-5.17}$	661^{+46}_{-34}	3919^{+2267}_{-859}	572^{+4401}_{-451}
Alt.	-421 ± 112	$7.95^{+8.69}_{-5.47}$	658^{+51}_{-34}	3786^{+2616}_{-743}	487^{+5217}_{-378}

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

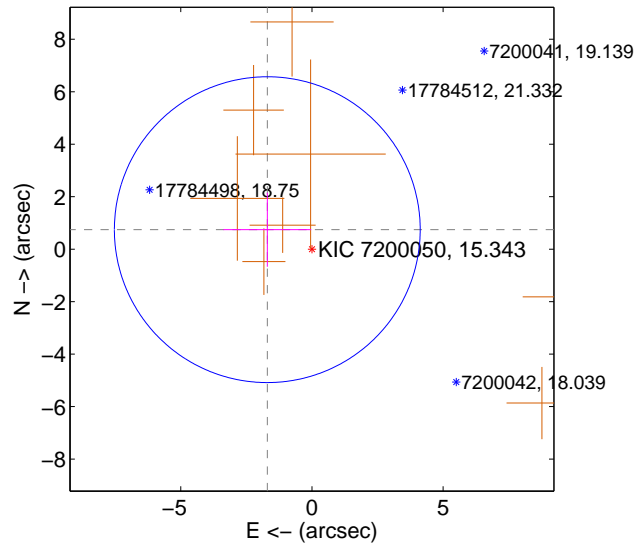
Supplemental centroid analysis for 007200050-02. Kepler magnitude: 15.34. Transit SNR 8.82

There are 0 quarters with good PRF difference image offsets

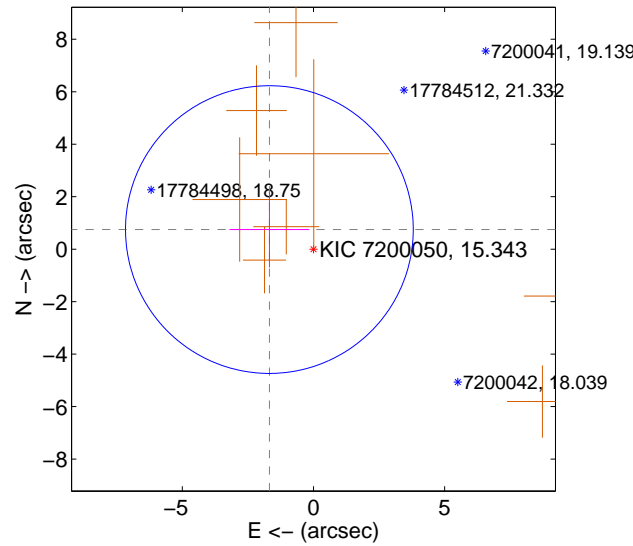
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.857 ± 1.943	0.96	1.701 ± 1.675	0.743 ± 1.412
PRF-fit source offset from KIC position	1.839 ± 1.828	1.01	1.680 ± 1.521	0.747 ± 1.442
photometric centroid source offset	0.78 ± 1.20	0.64	-0.76 ± 1.21	-0.14 ± 1.07

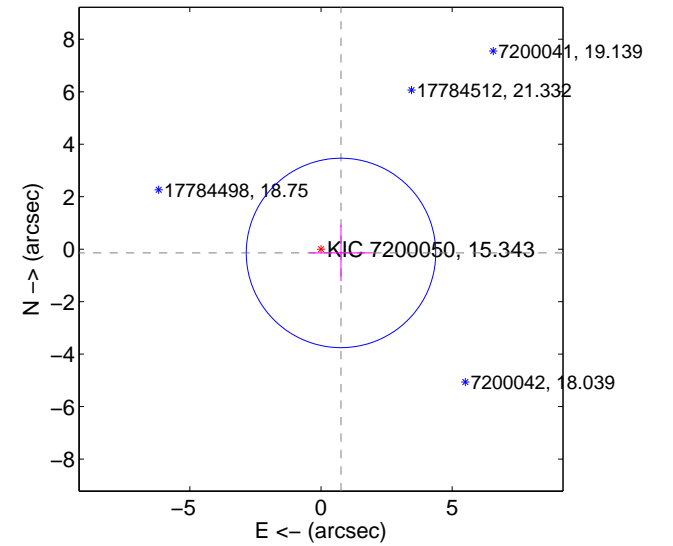
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

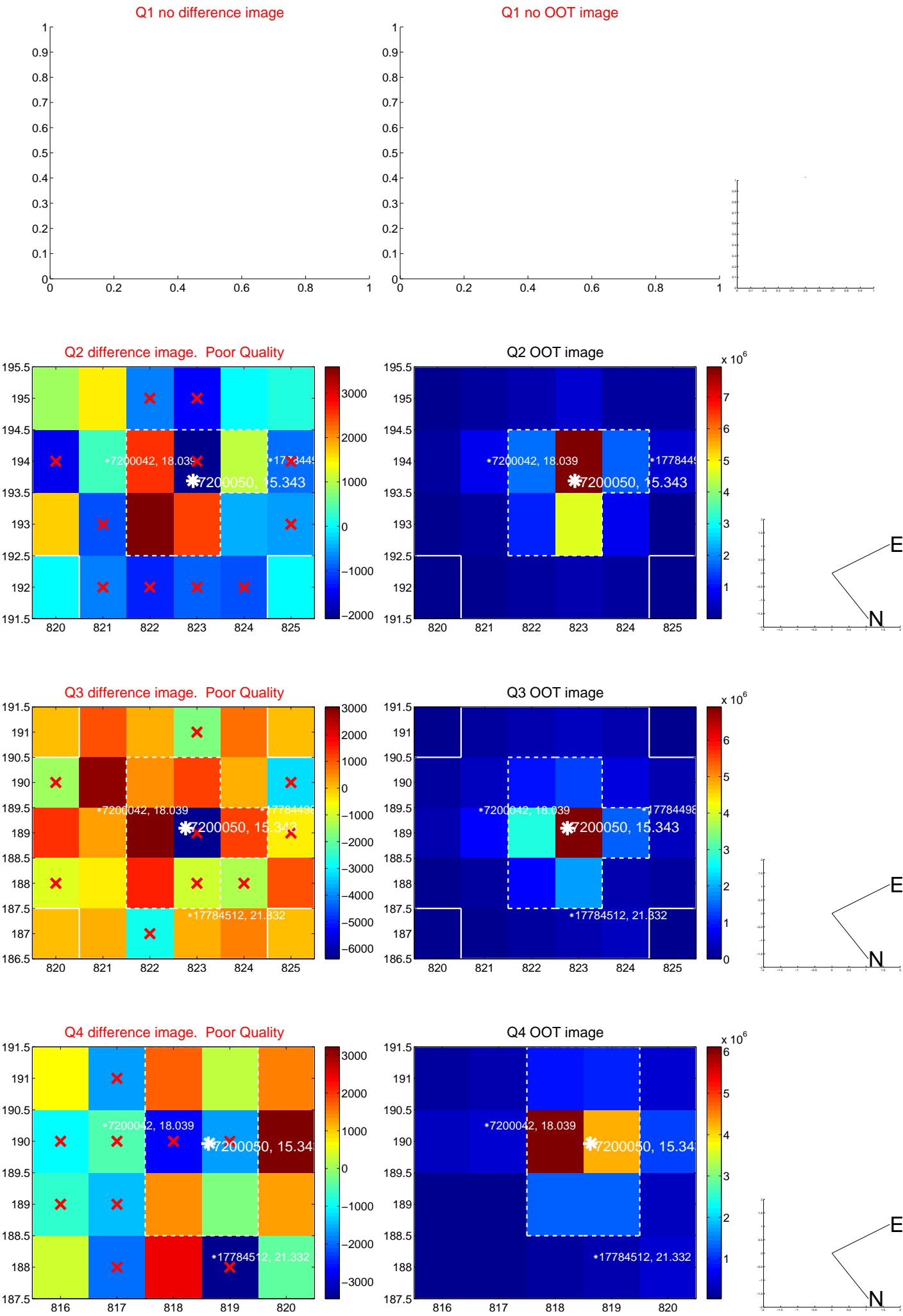


offset from photometric centroids

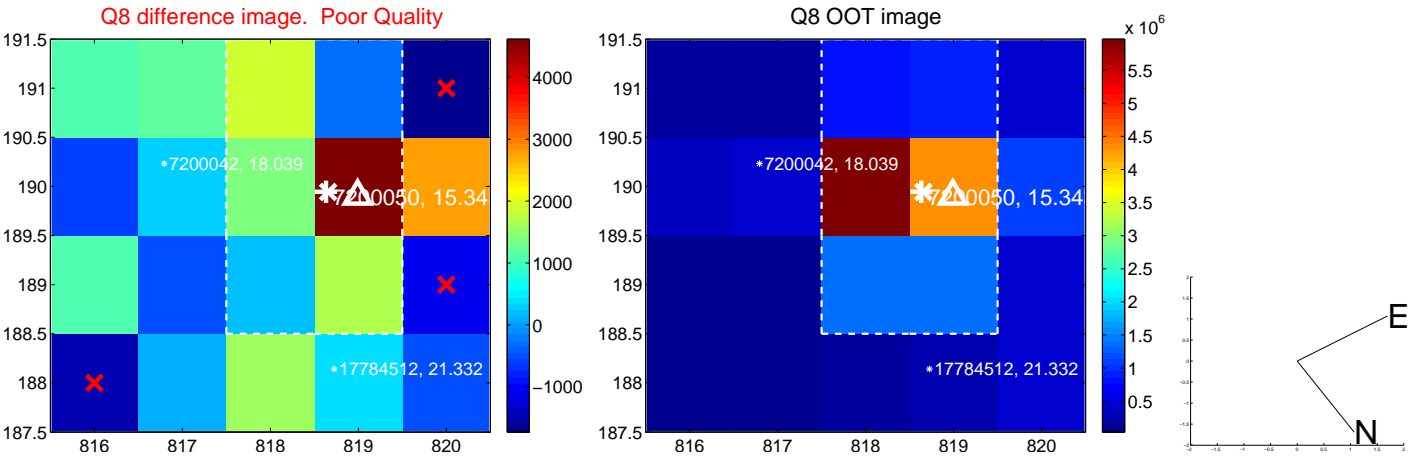
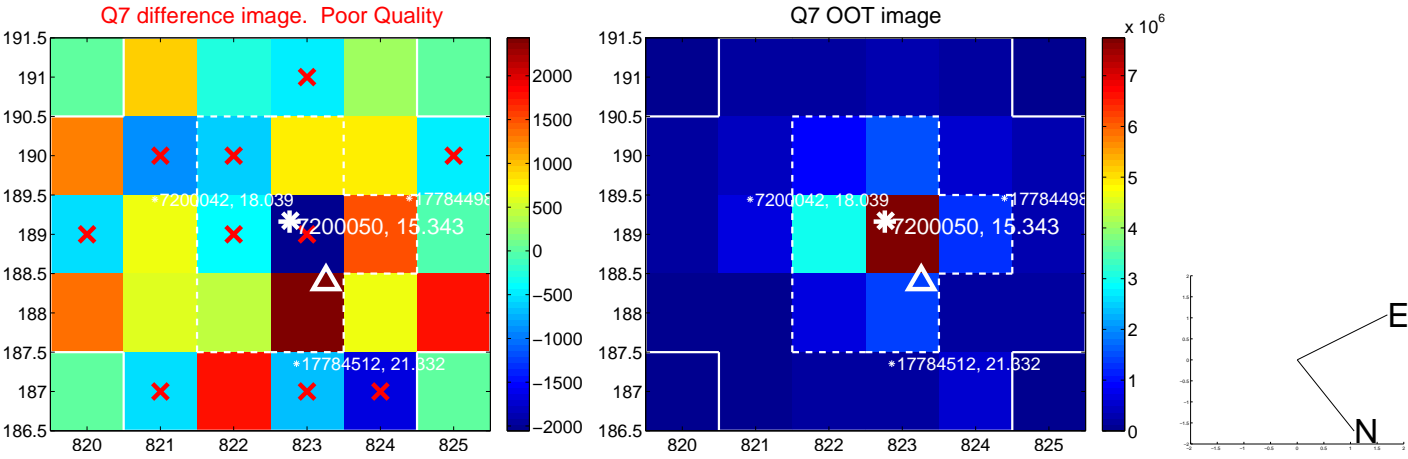
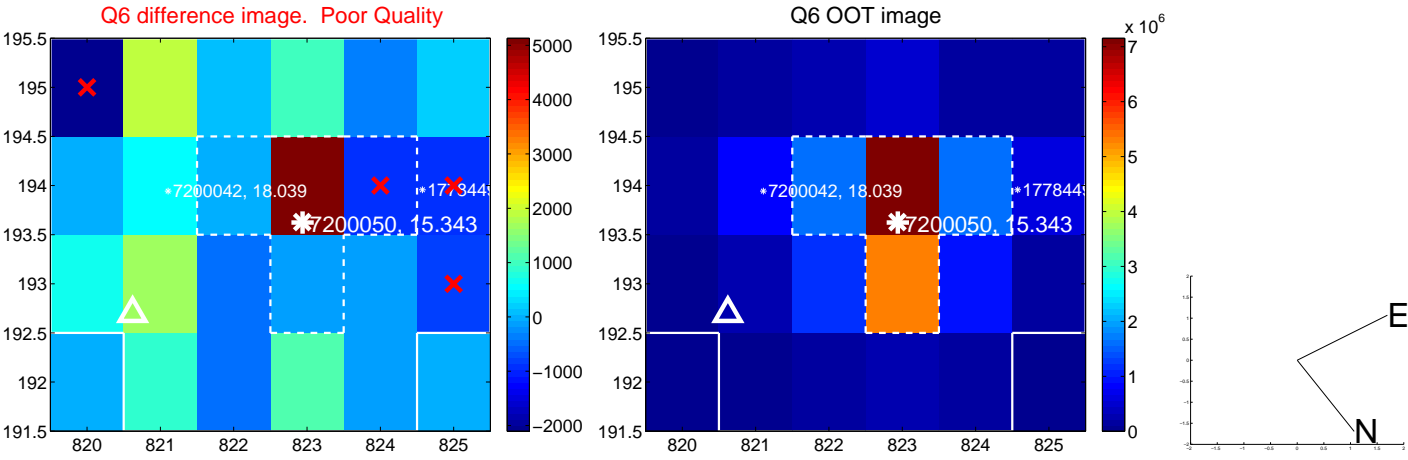
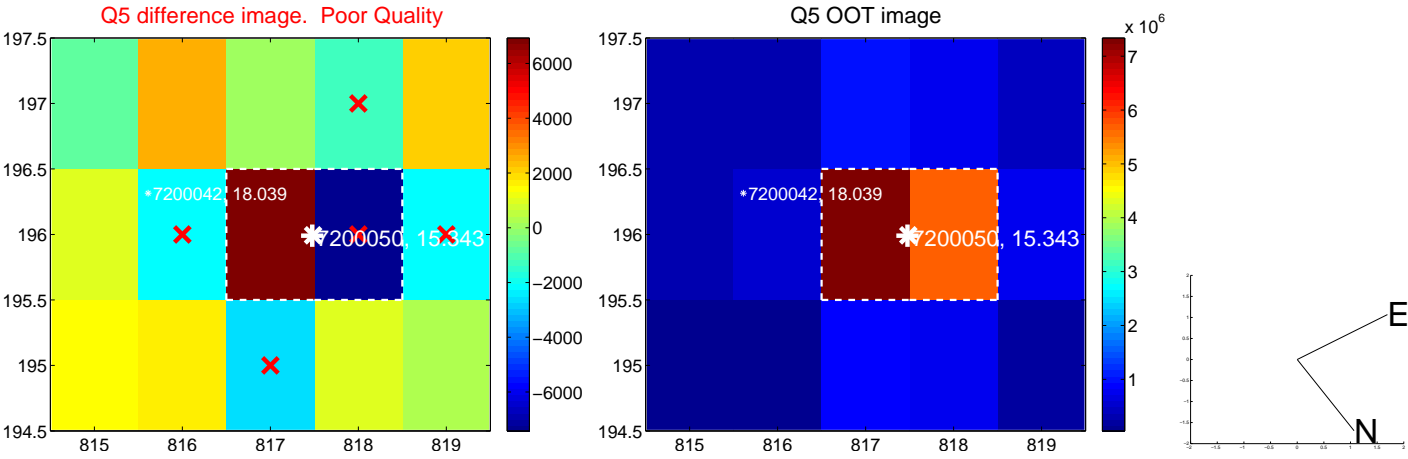


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

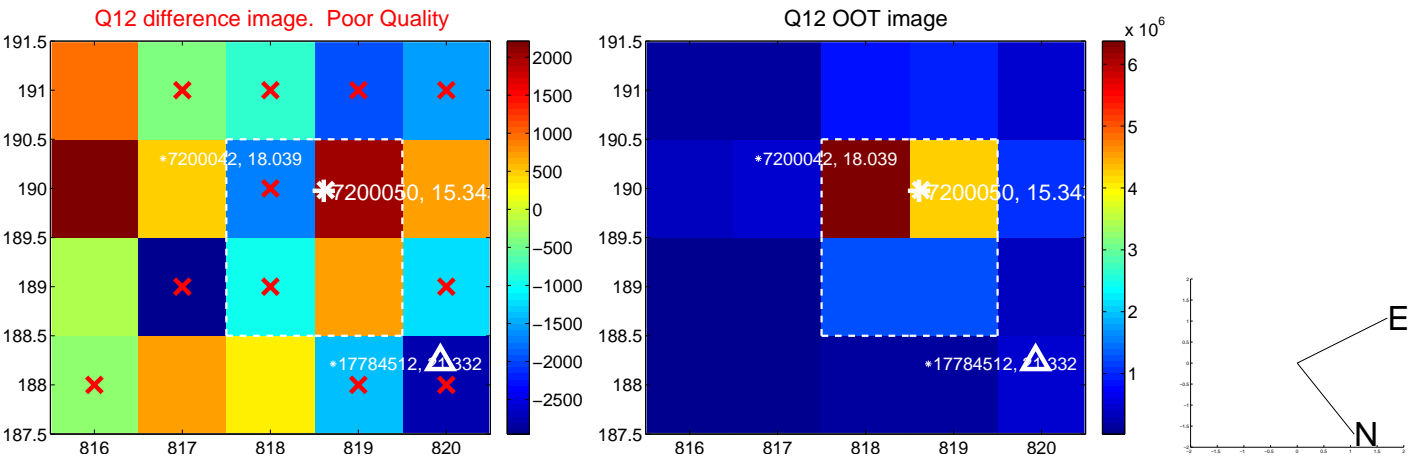
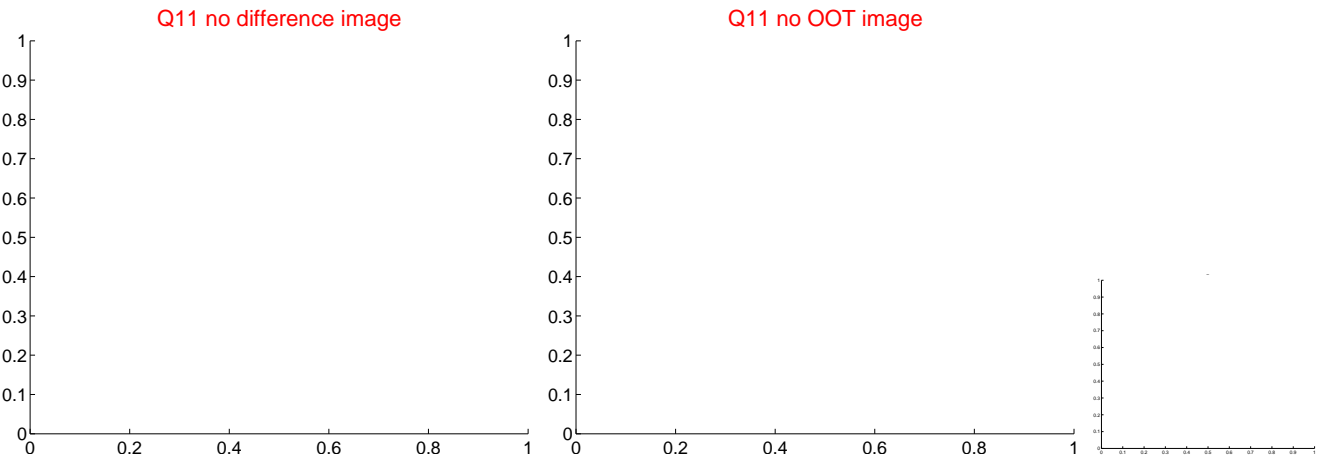
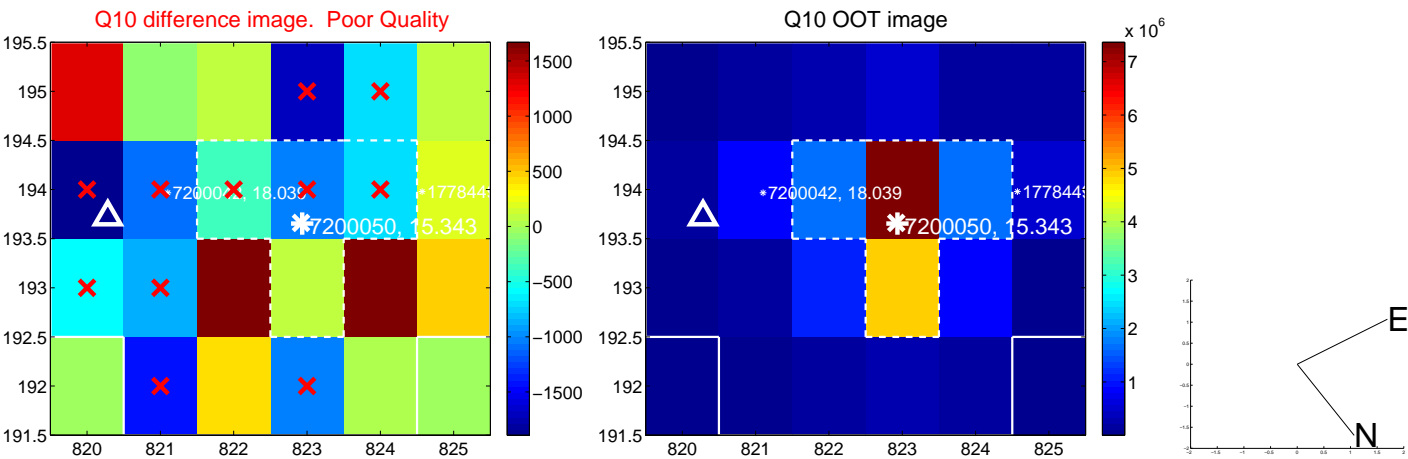
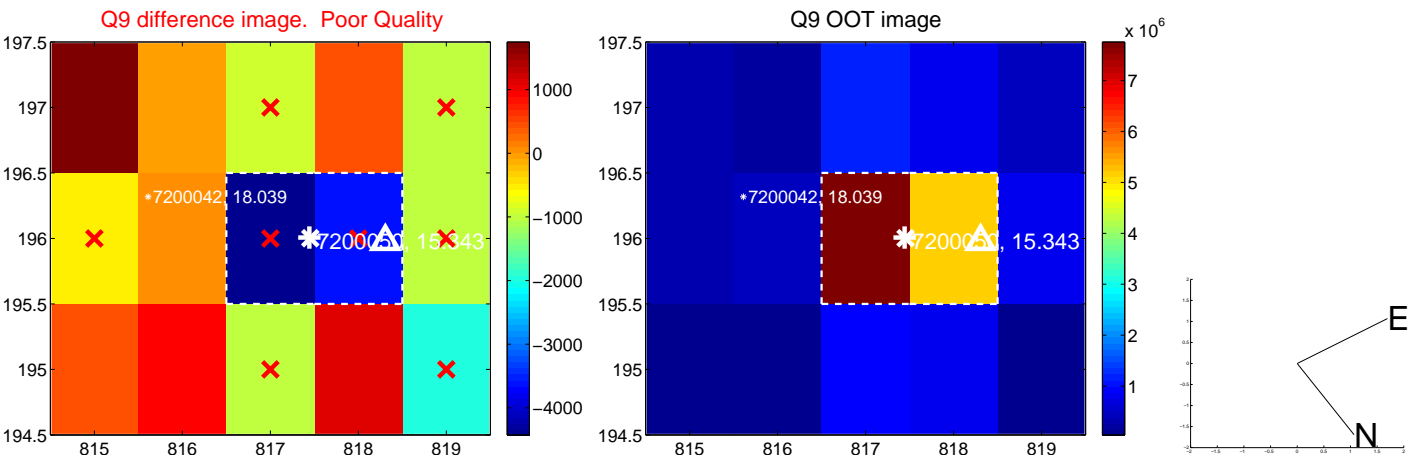
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



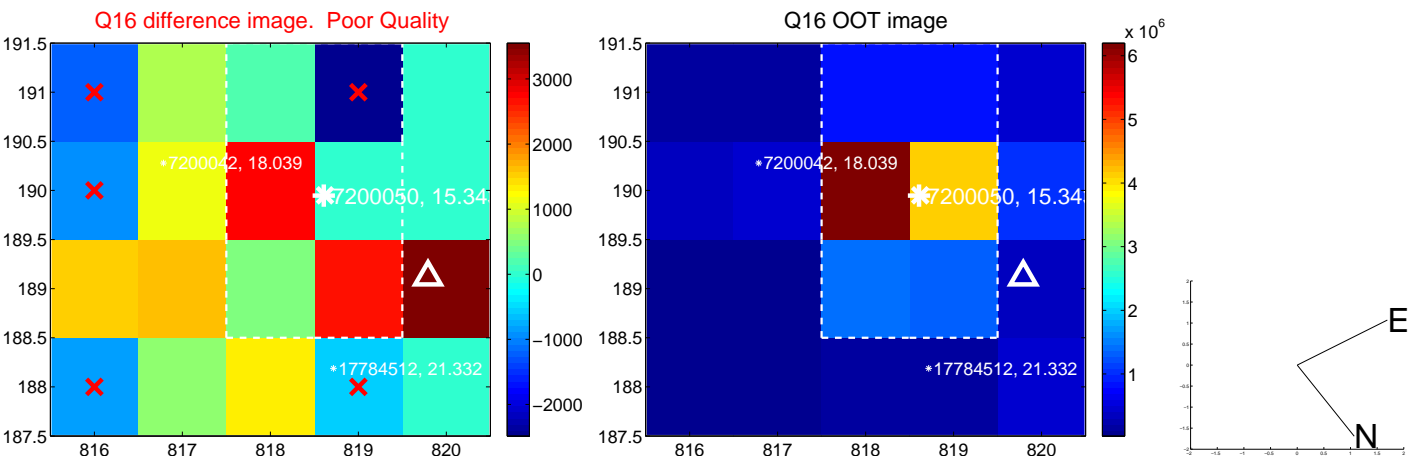
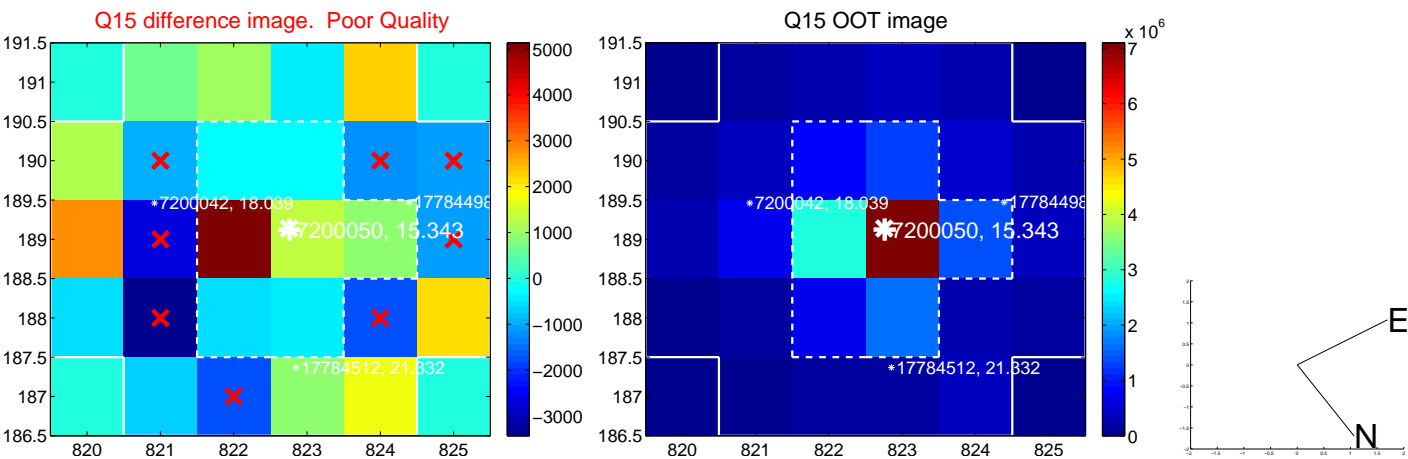
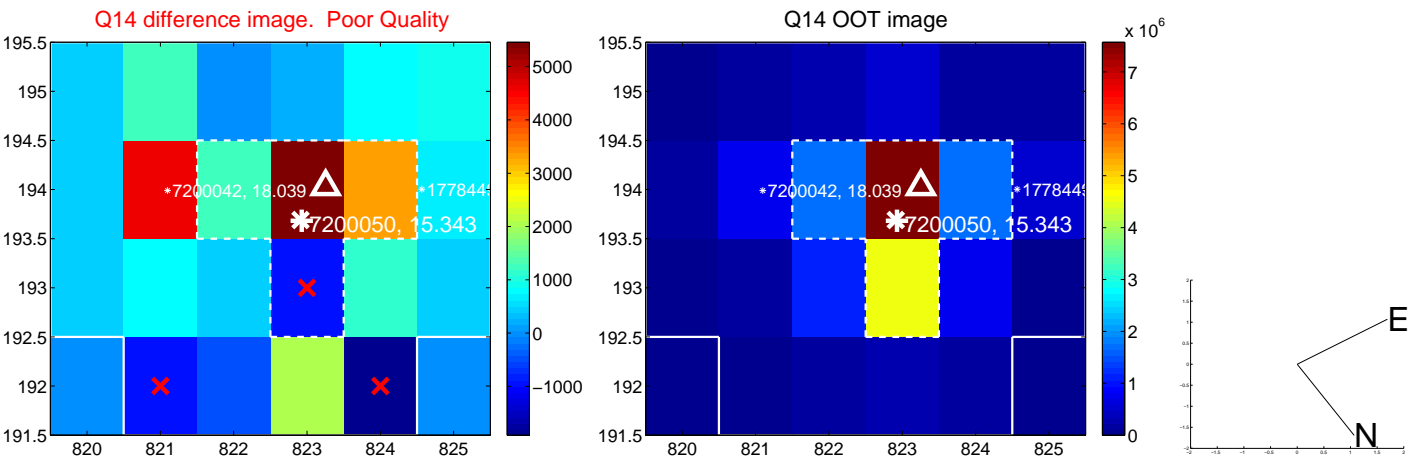
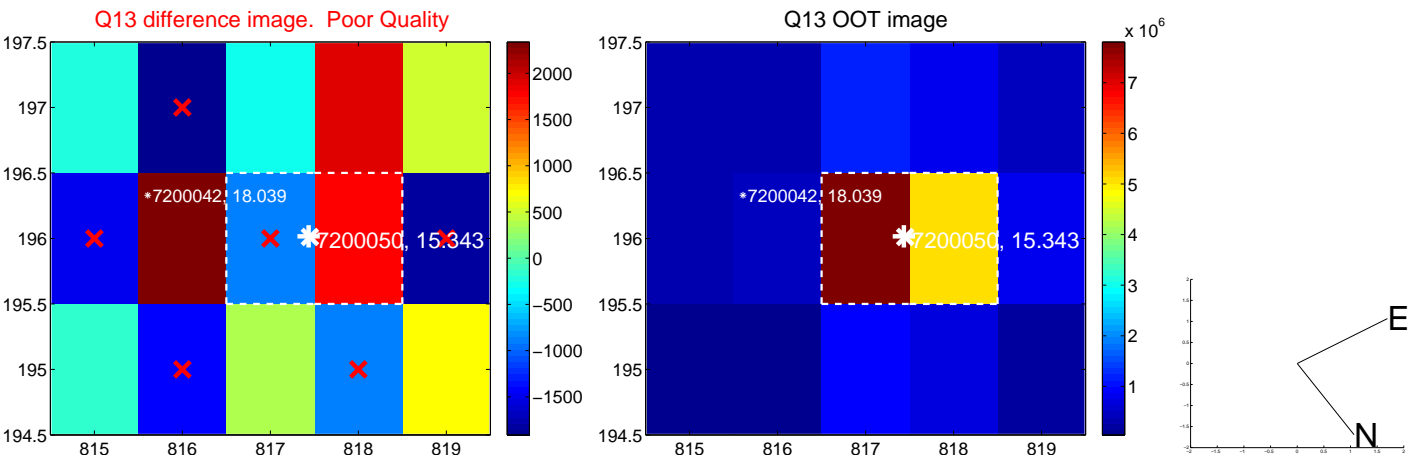
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



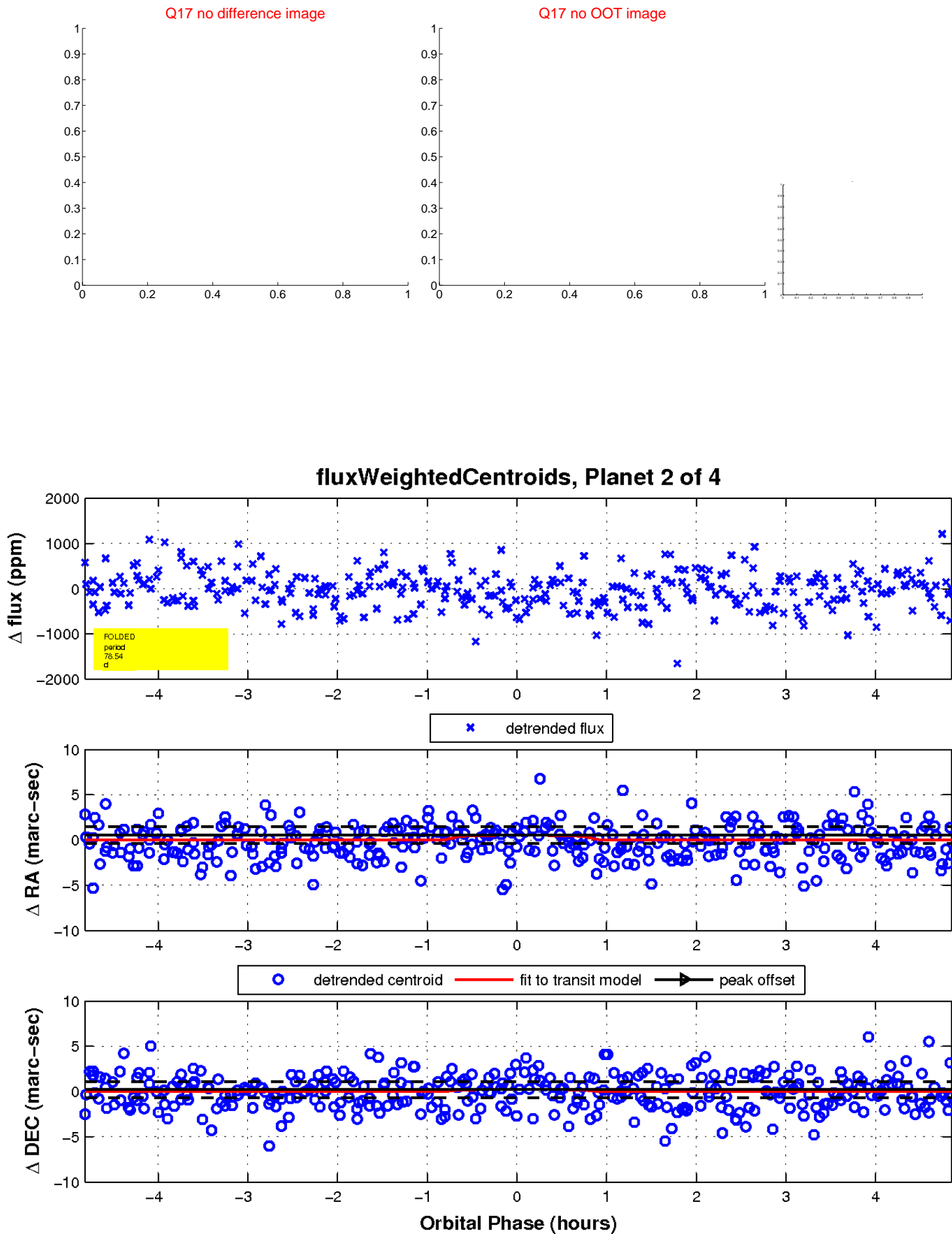
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

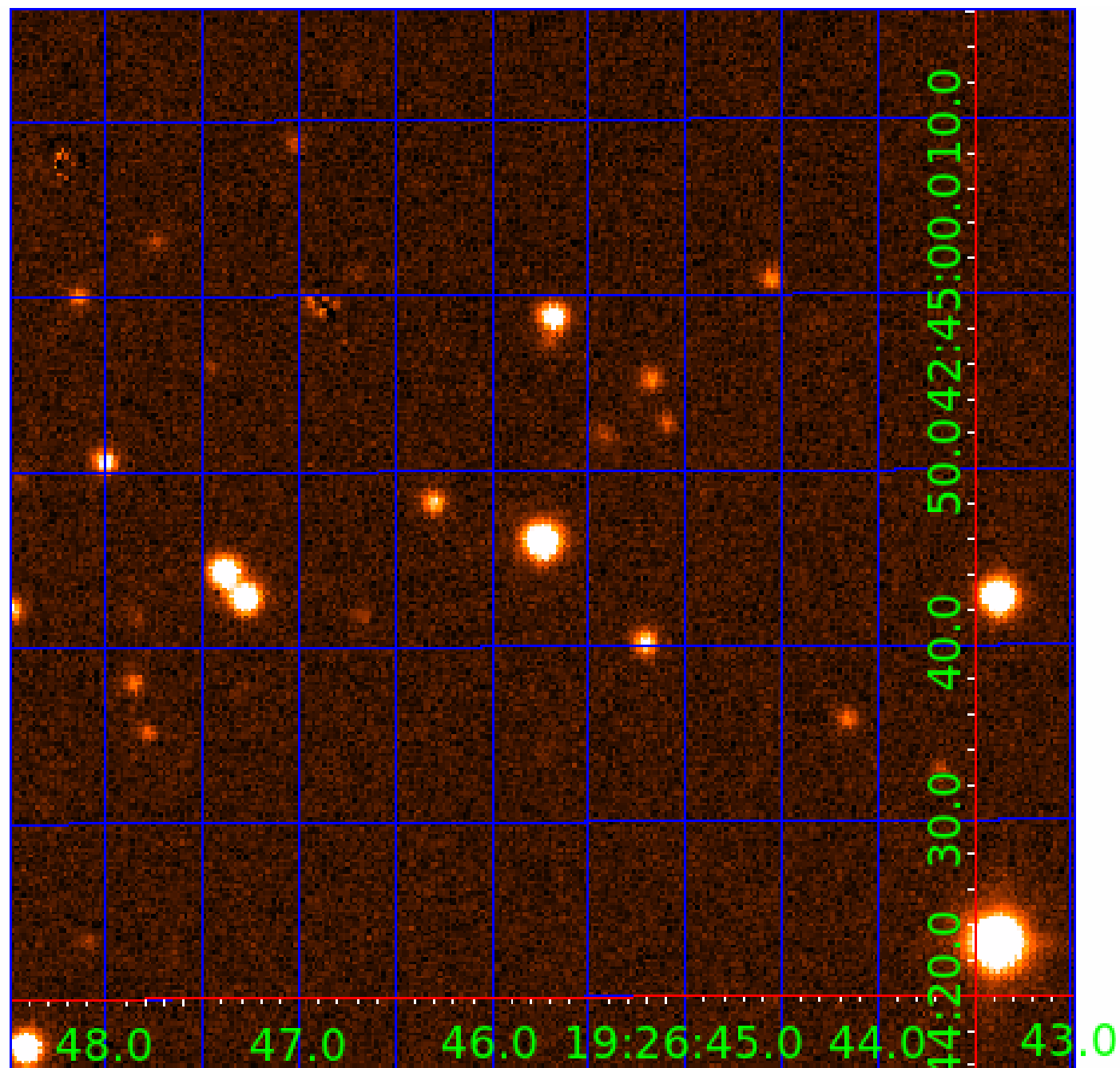


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007200050

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})
007200050-01	OBS	No	0.566779	131.839401	0.9	3.691	11.3	0.3	1.08	6214	0.10	7757.16
007200050-02	OBS	No	78.537786	169.793019	714.9	1.621	8.1	8.8	1.08	6214	2.96	10.82
007200050-03	OBS	No	47.473192	134.922751	574.4	1.453	8.4	9.2	1.08	6214	2.77	21.17
007200050-04	OBS	No	37.769805	150.461073	415.6	2.461	7.4	7.8	1.08	6214	2.49	28.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007200050-01	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_ALT—EPHEM_MATCH
007200050-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007200050-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
007200050-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

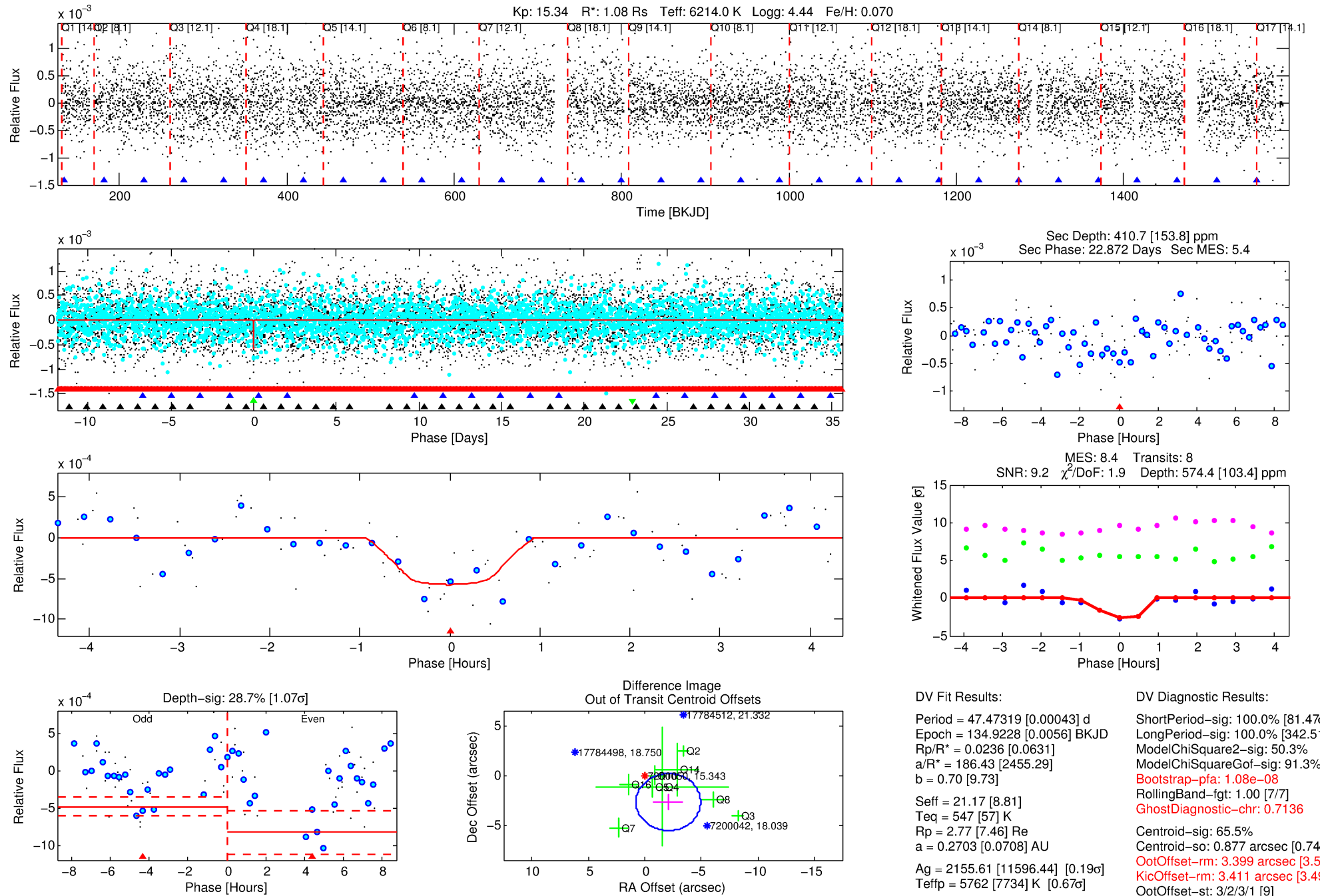
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007200050-03

No Significant Match Found

DV One-Page Summary

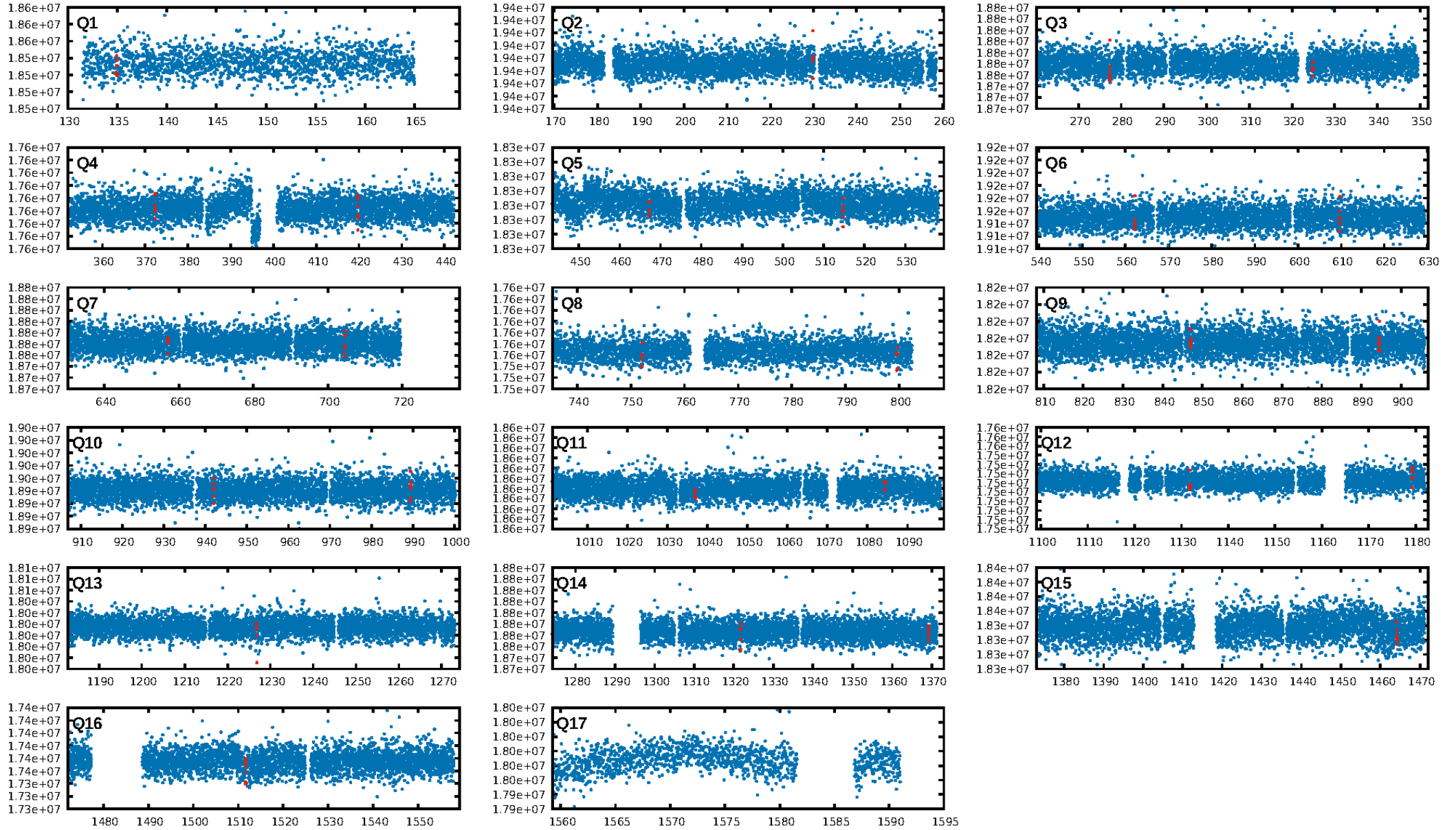
KIC: 7200050 Candidate: 3 of 4 Period: 47.473 d



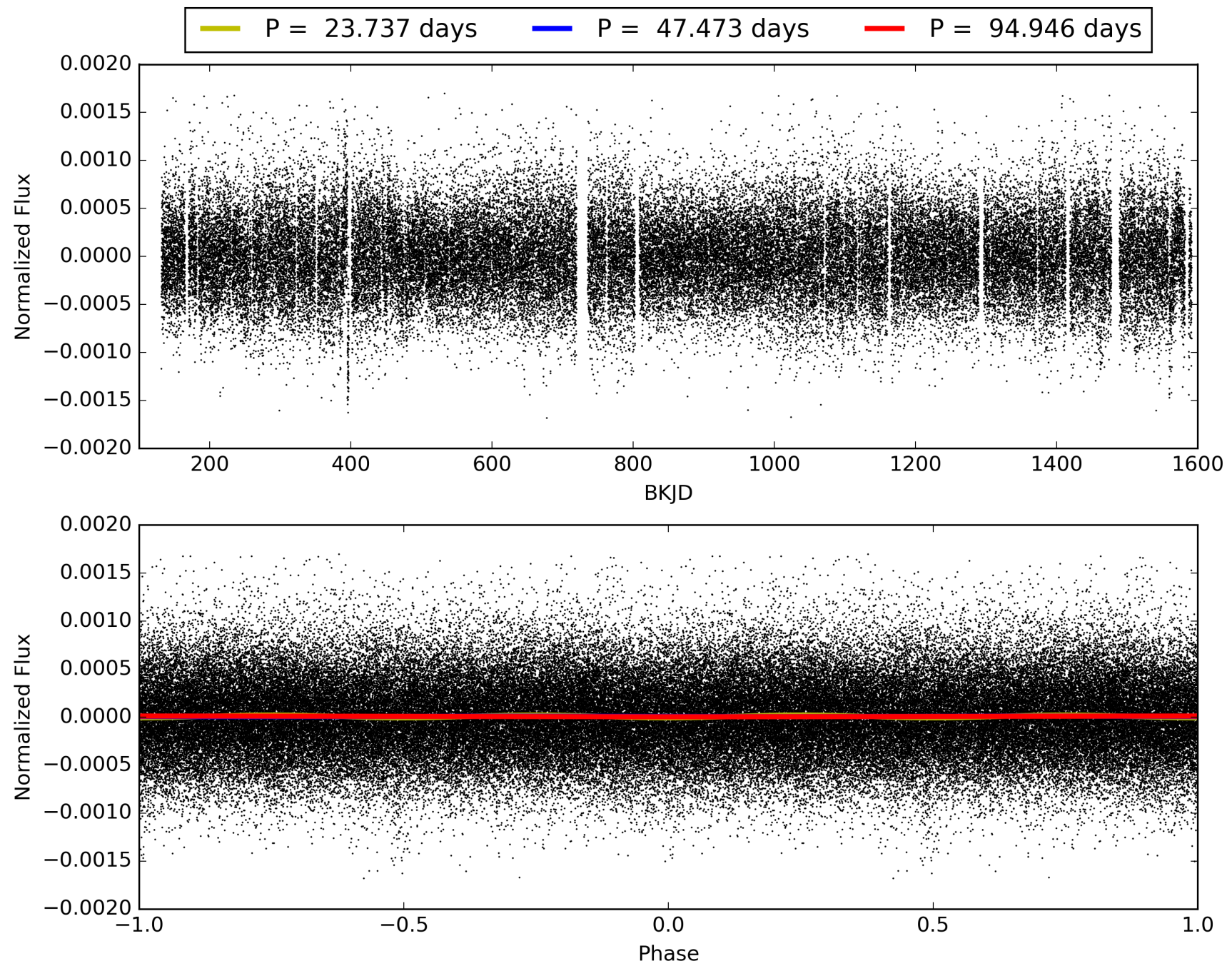
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:11:52 Z

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

TCE 007200050-03, PDC Light Curves

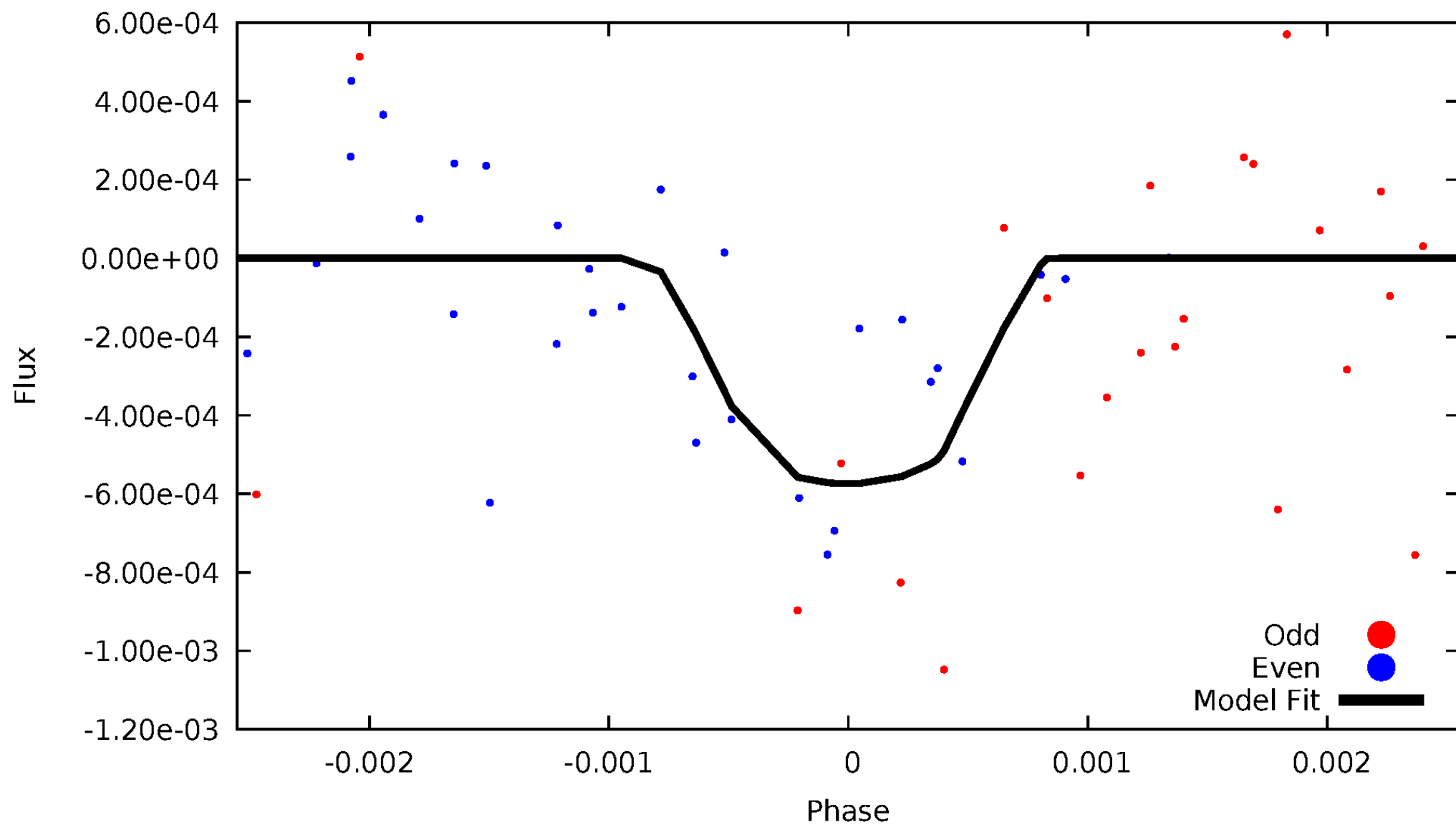


TCE 007200050-03



DV Odd/Even

TCE 007200050-03

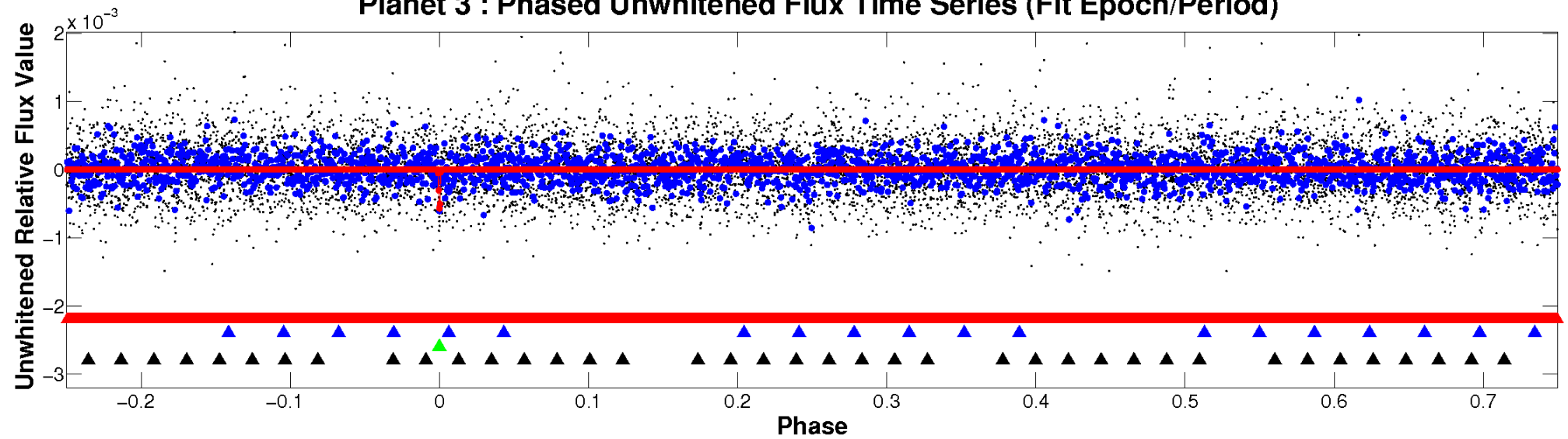


ALT Odd/Even

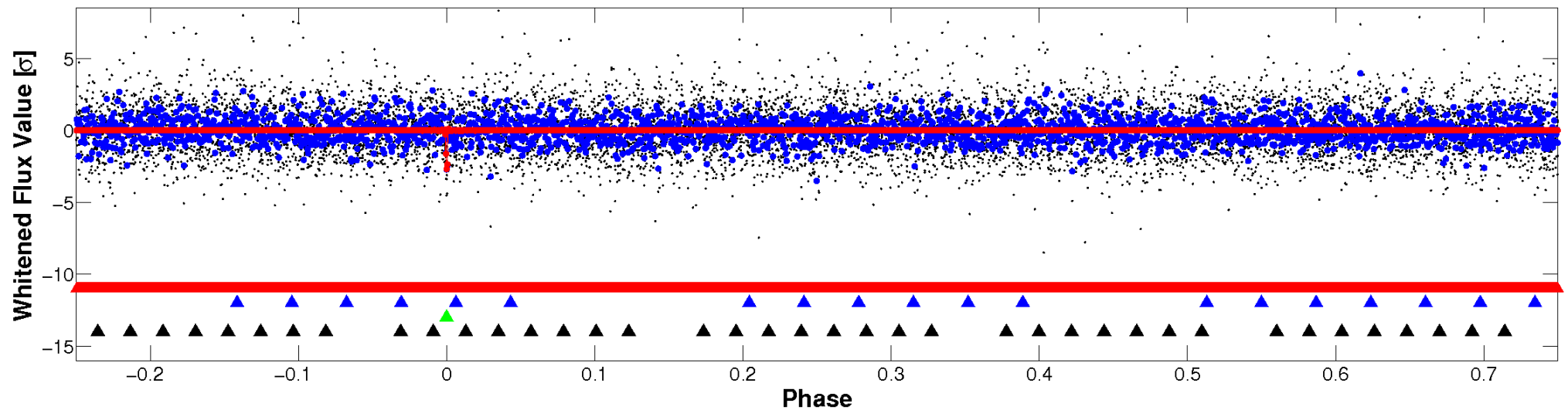
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

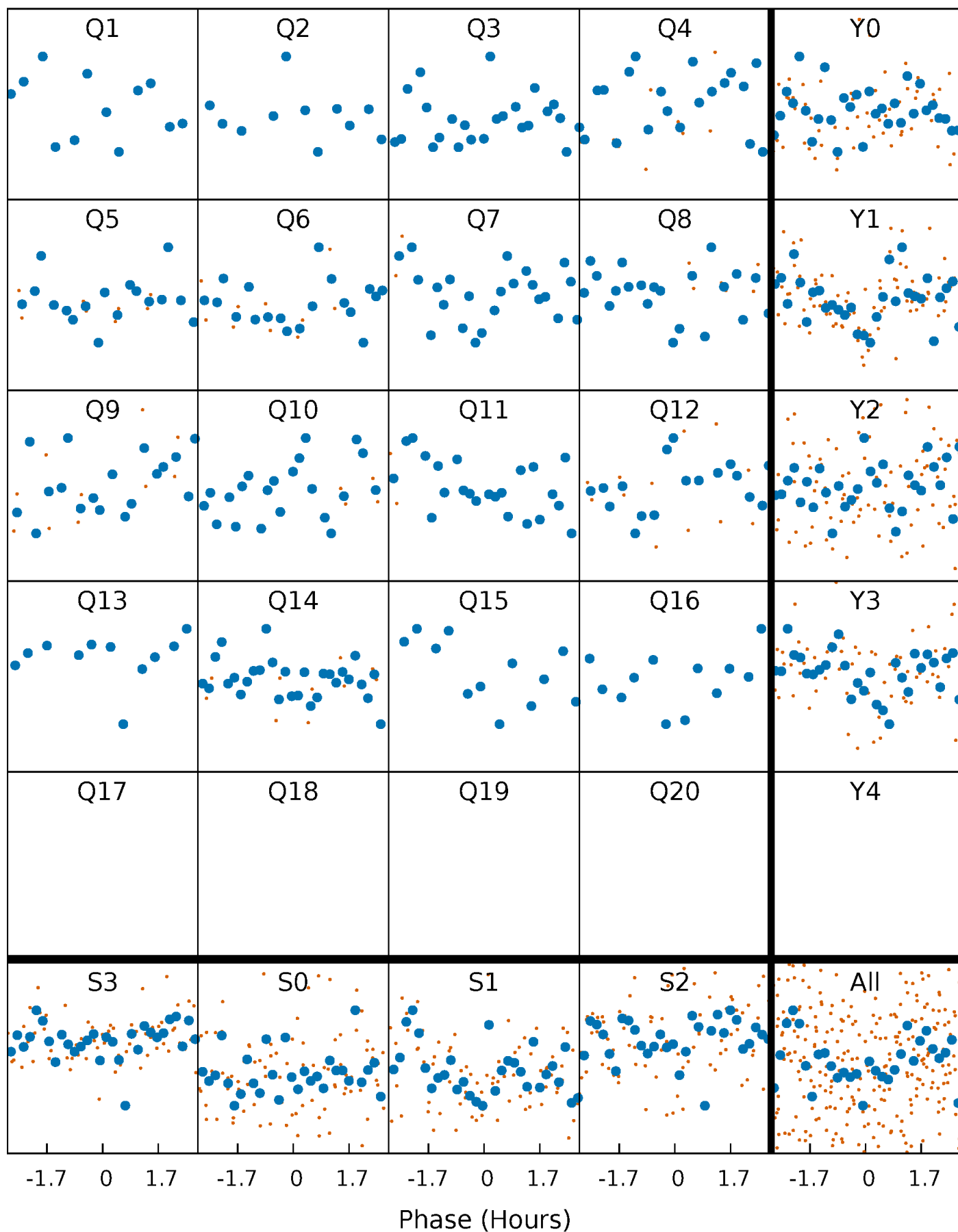


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



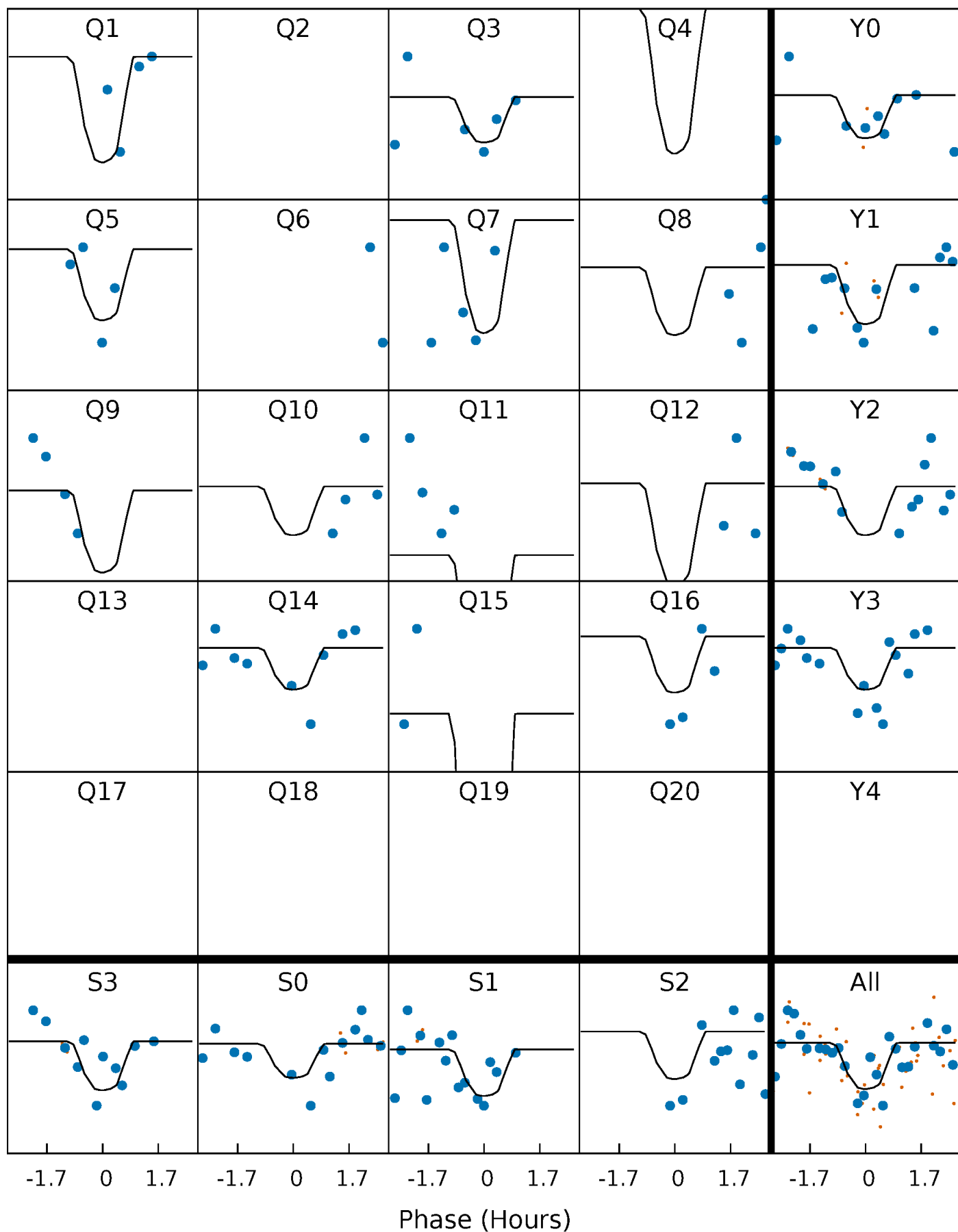
PDC Quarter-Phased Transit Curves

TCE 007200050-03 P= 47.473192 Days $T_0=134.922751$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007200050-03 P= 47.473192 Days $T_0=134.922751$ (BKJD)

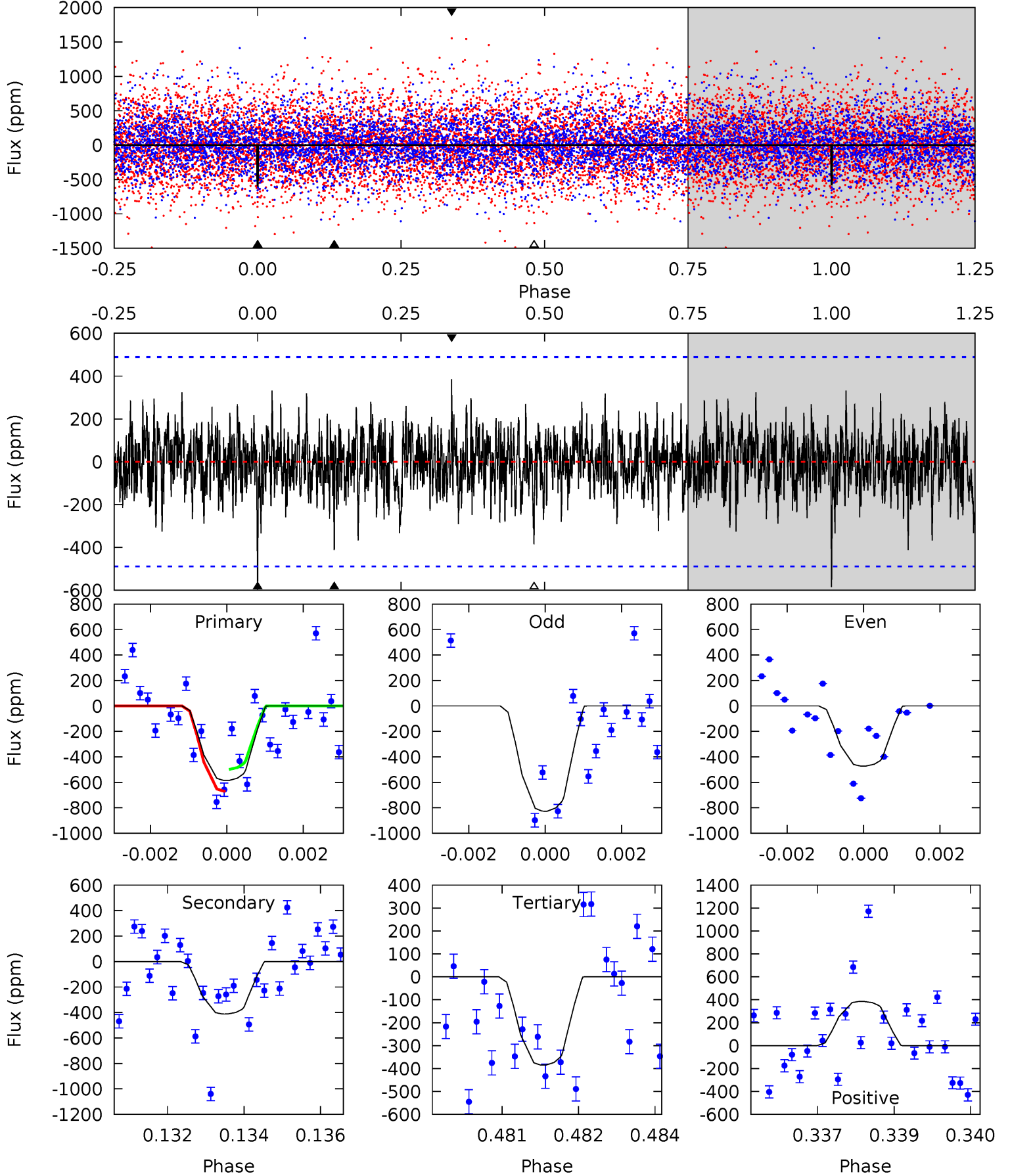


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007200050-03, P = 47.473192 Days, E = 87.449559 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.43	4.53	4.23	4.23	5.37	3.15	1.21	2.20	2.20	0.30	0.29	1.74	1.14	0.40	0.95



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007200050

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6214^{+174}_{-261}	$4.442^{+0.052}_{-0.208}$	$0.070^{+0.250}_{-0.300}$	$1.076^{+0.335}_{-0.112}$	$1.169^{+0.141}_{-0.173}$	$1.321^{+0.354}_{-0.667}$
	+3%/-4%	+1%/-5%	+357%/-429%	+31%/-10%	+12%/-15%	+27%/-51%
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 007200050-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-412 ± 91	$6.44^{+5.99}_{-4.38}$	779^{+56}_{-40}	4138^{+2689}_{-848}	385^{+3562}_{-279}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

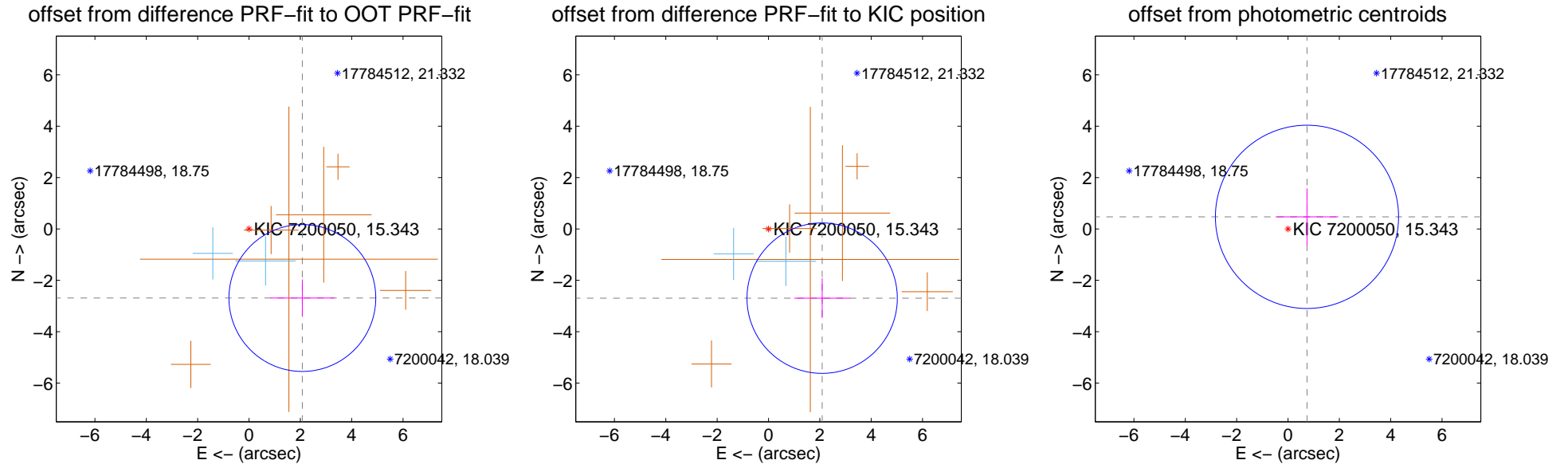
DV Centroid Data

Supplemental centroid analysis for 007200050-03. Kepler magnitude: 15.34. Transit SNR 9.22

There are 2 quarters with good PRF difference image offsets

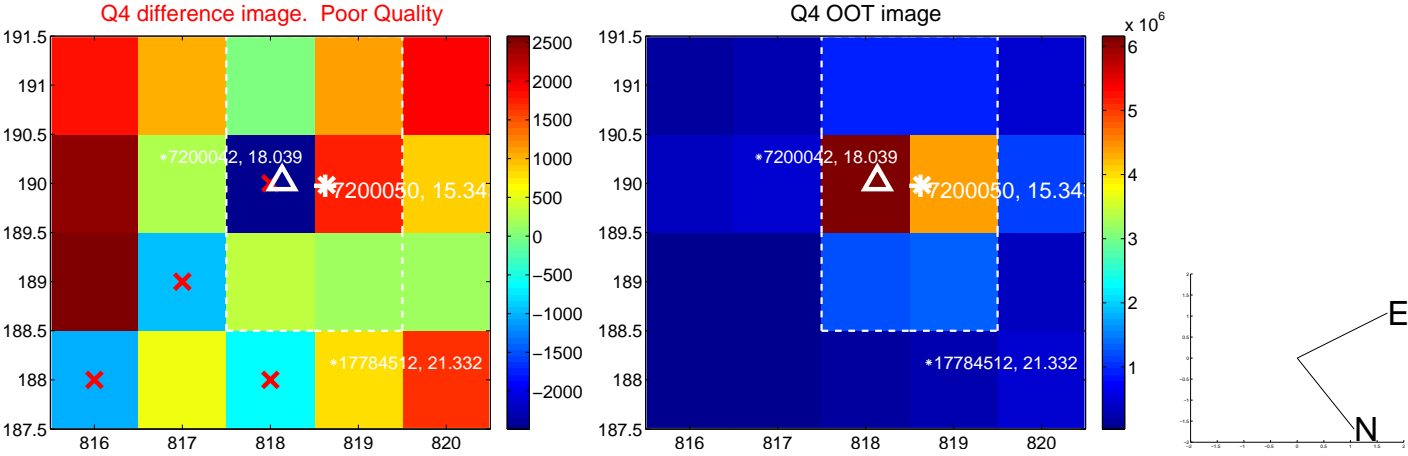
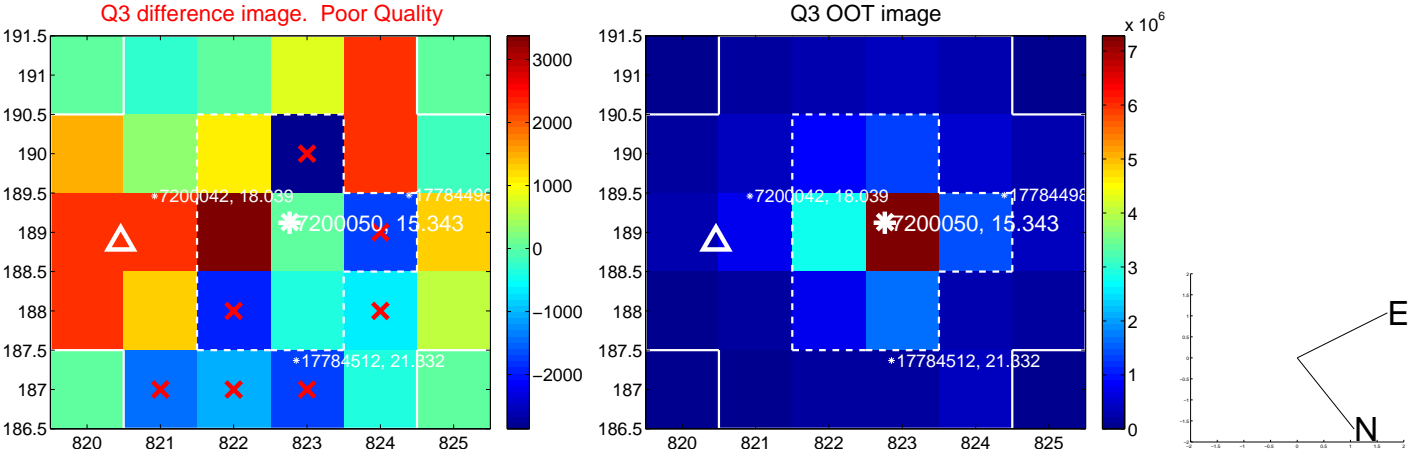
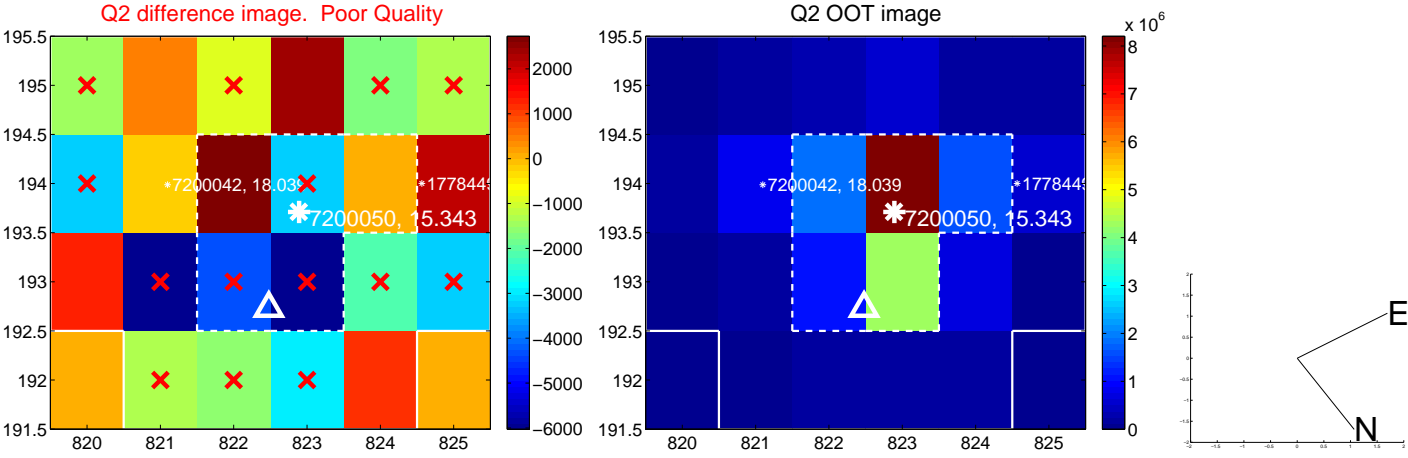
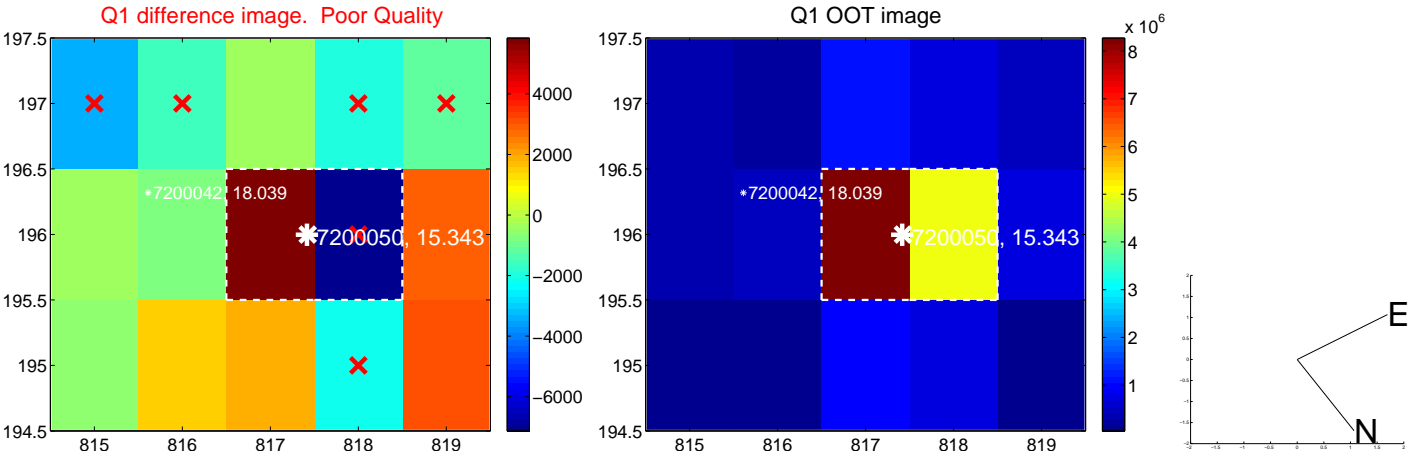
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.399 ± 0.953	3.57	-2.079 ± 1.249	-2.689 ± 0.720
PRF-fit source offset from KIC position	3.411 ± 0.976	3.49	-2.091 ± 1.092	-2.695 ± 0.773
photometric centroid source offset	0.88 ± 1.19	0.74	-0.74 ± 1.22	0.47 ± 1.11

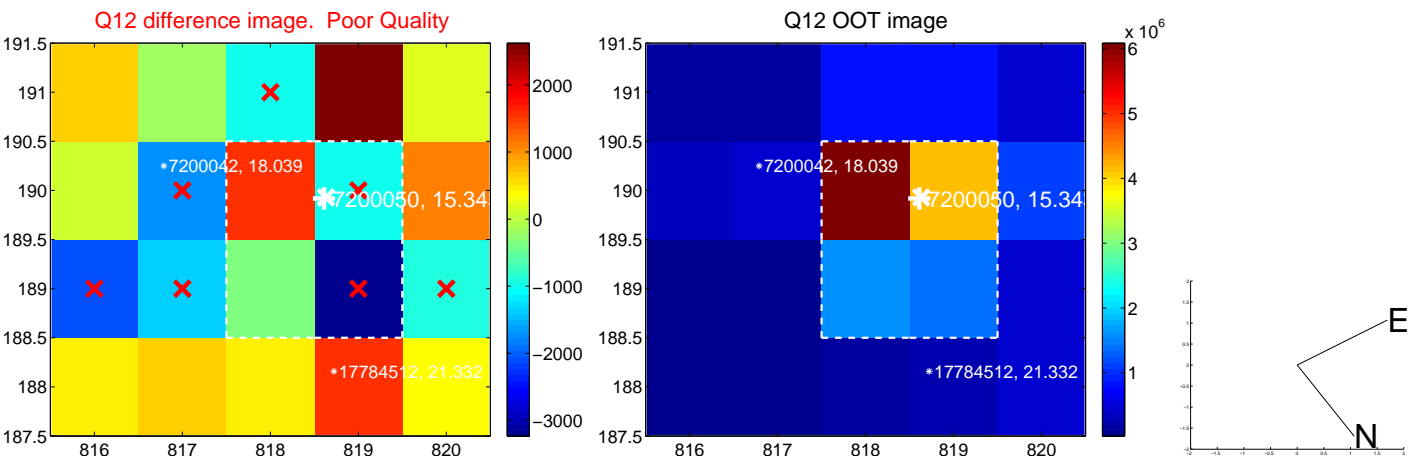
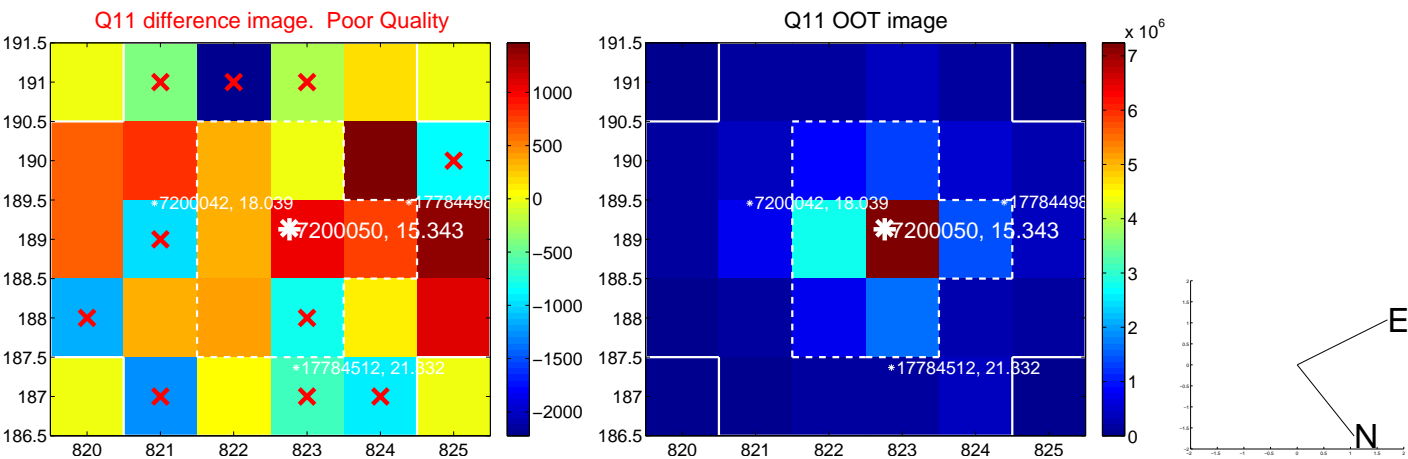
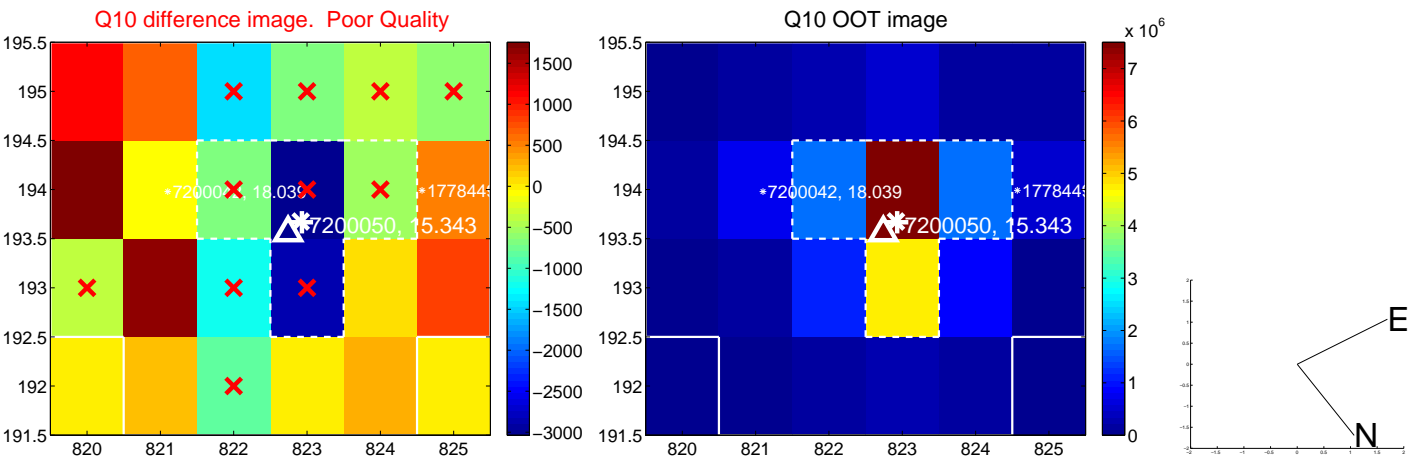
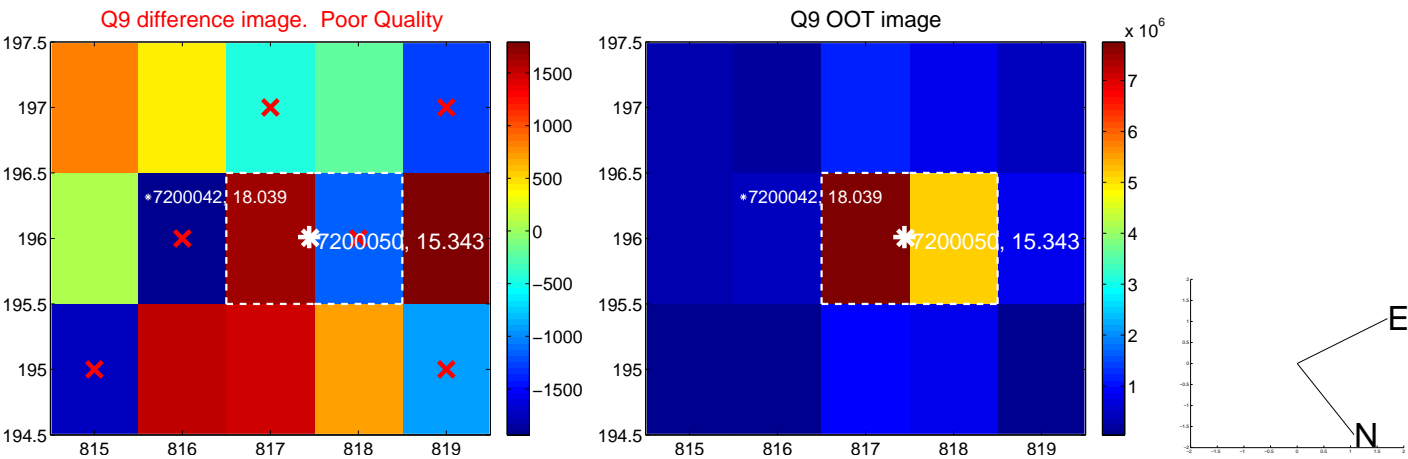


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

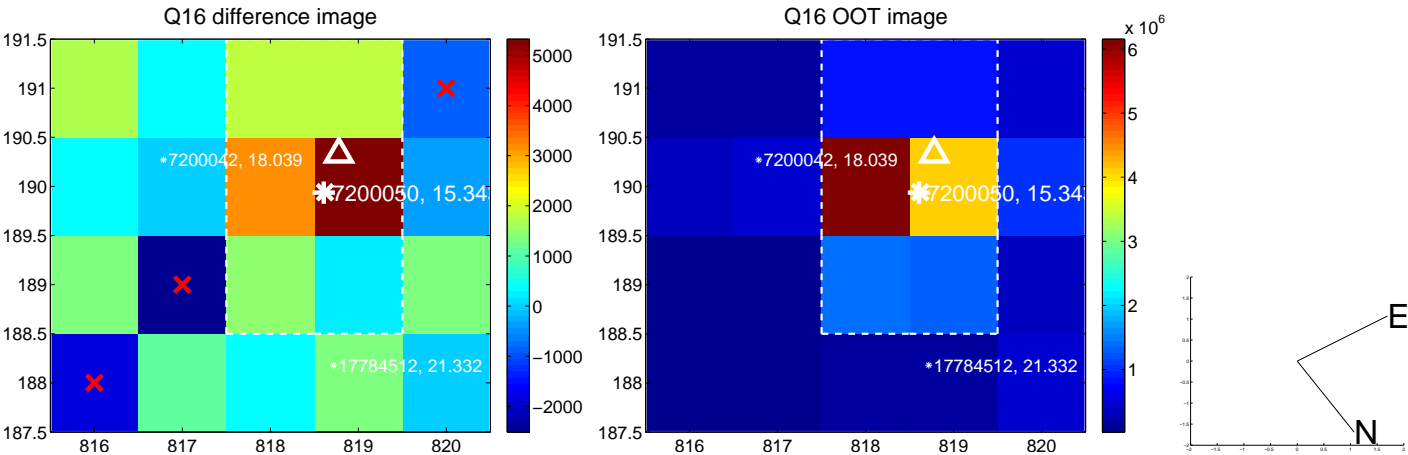
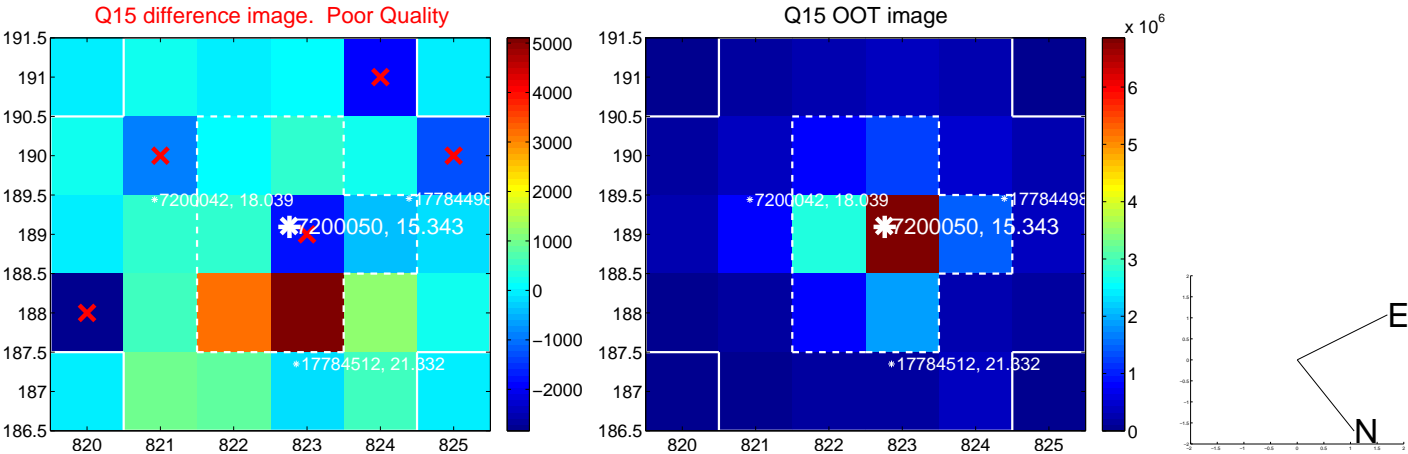
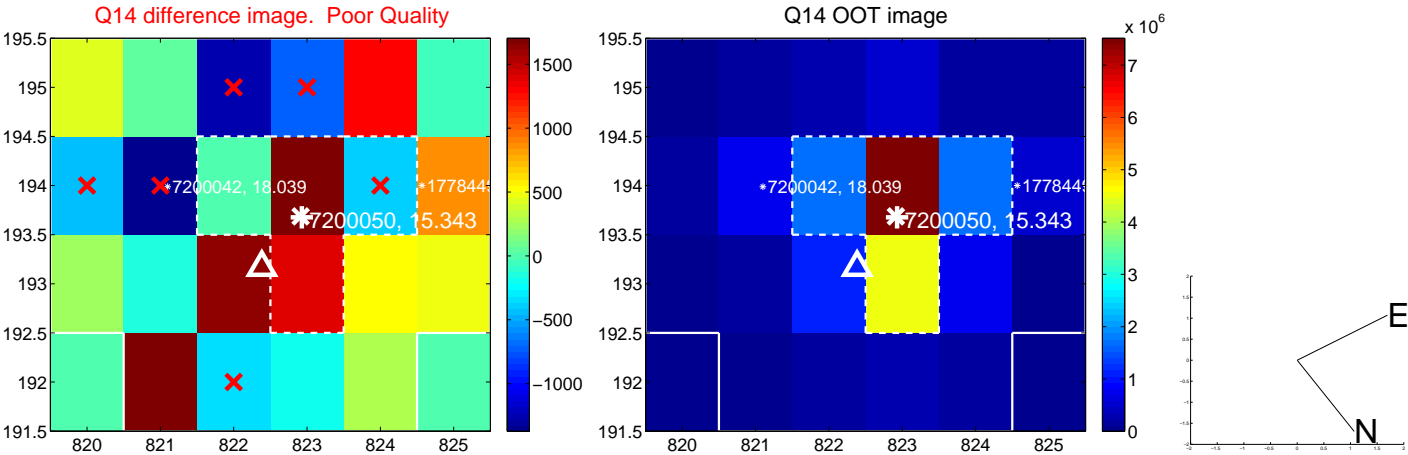
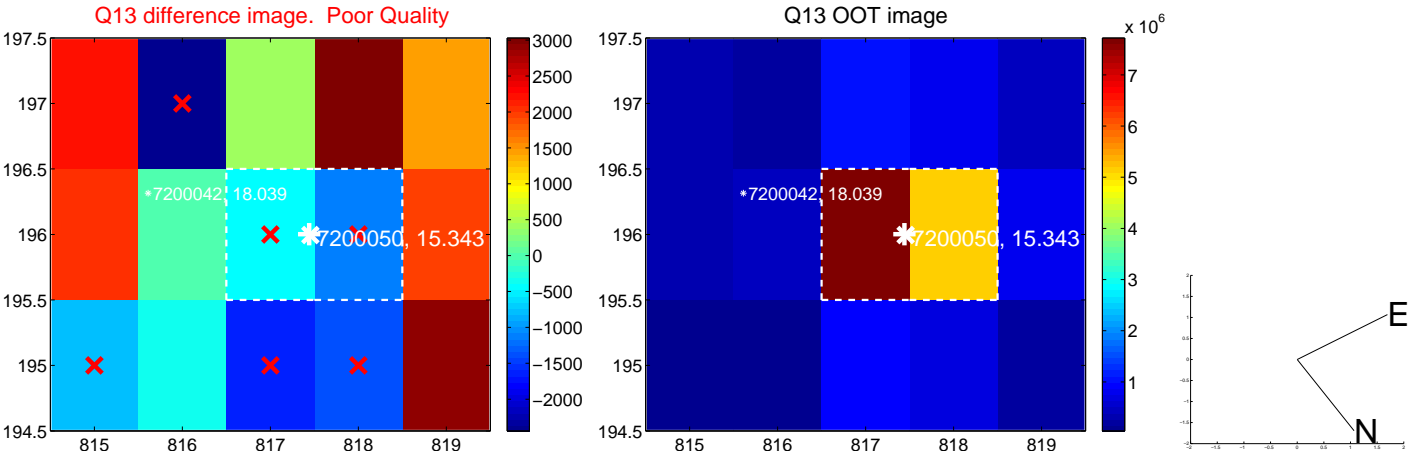
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



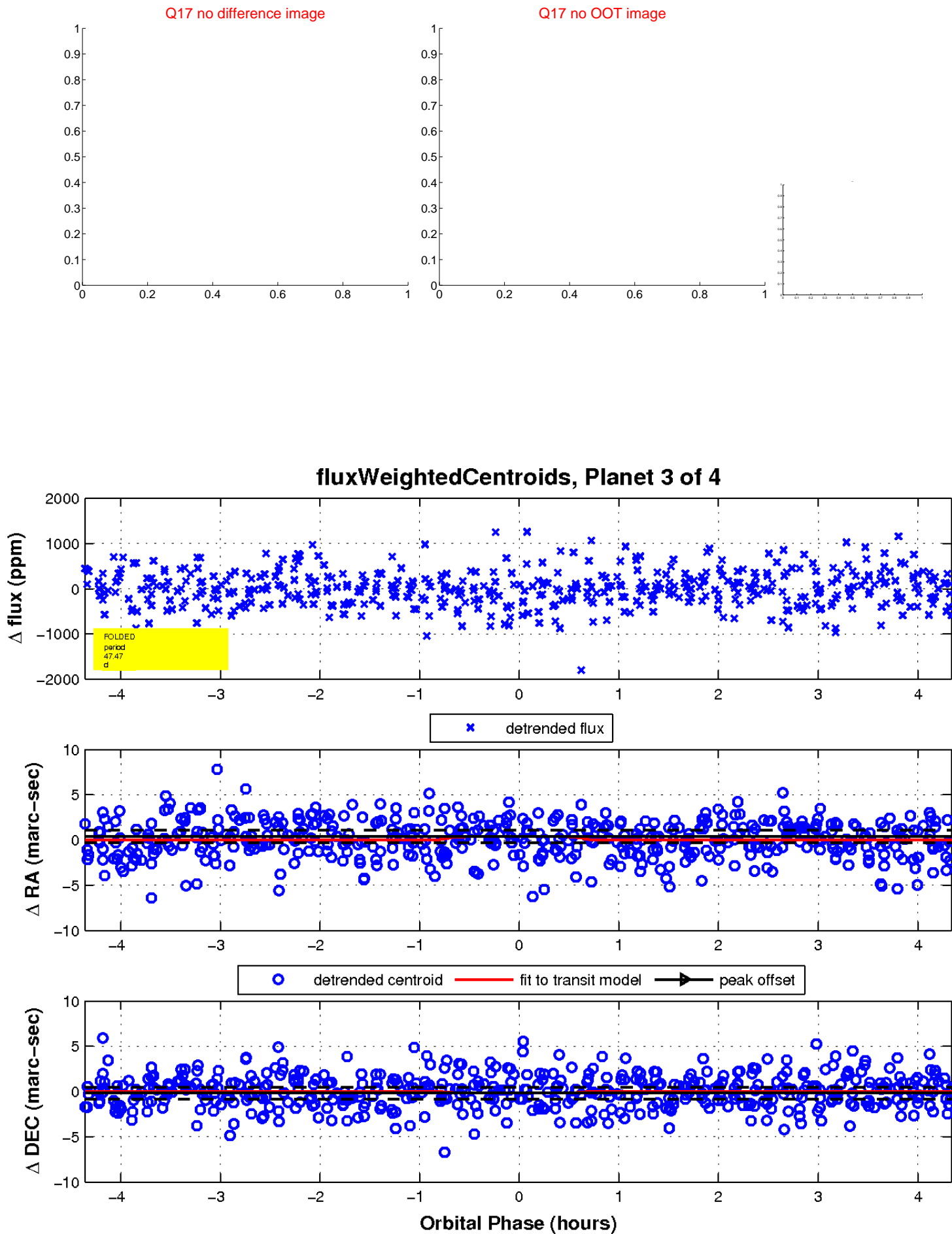
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

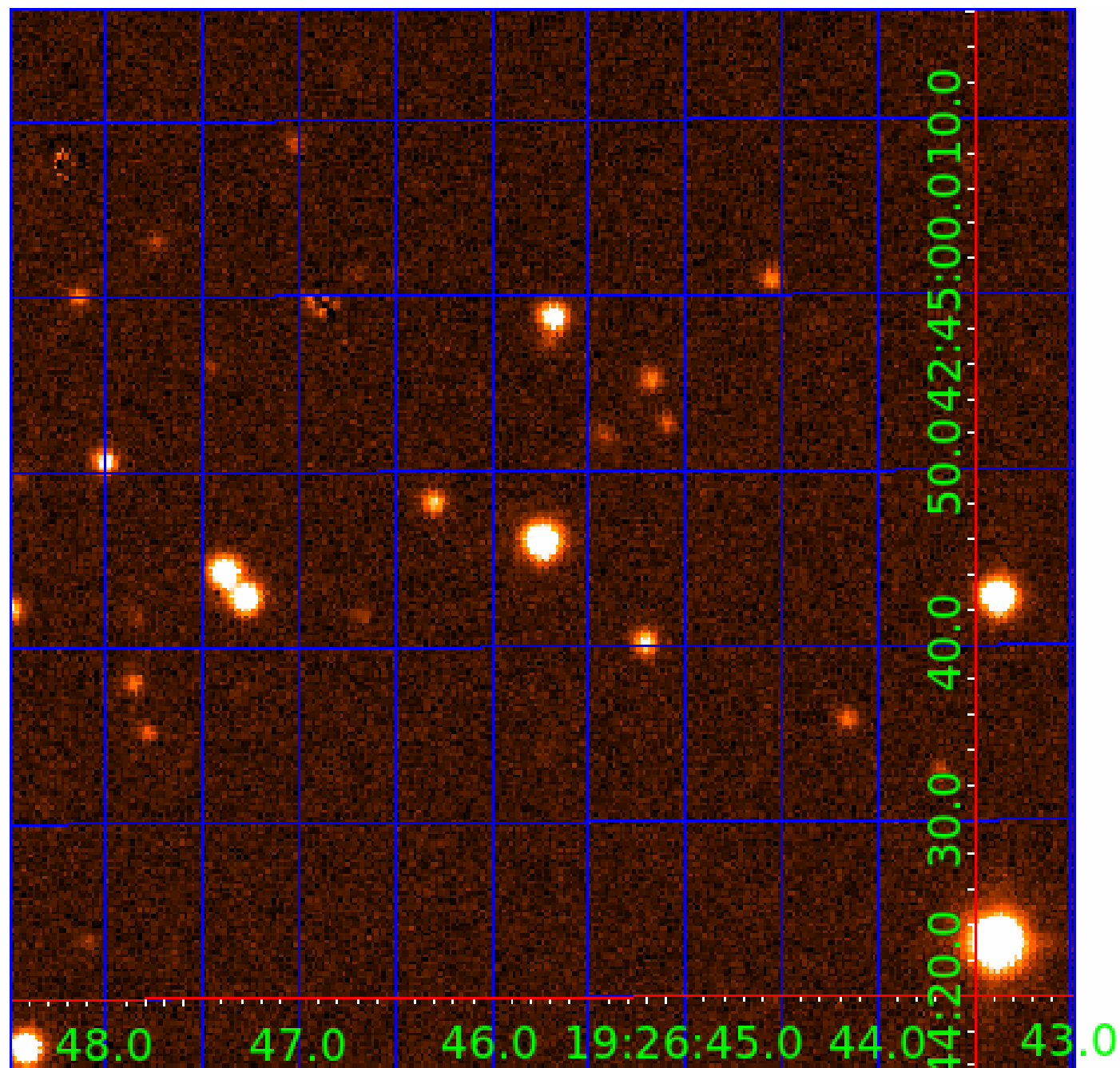


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007200050

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})
007200050-01	OBS	No	0.566779	131.839401	0.9	3.691	11.3	0.3	1.08	6214	0.10	7757.16
007200050-02	OBS	No	78.537786	169.793019	714.9	1.621	8.1	8.8	1.08	6214	2.96	10.82
007200050-03	OBS	No	47.473192	134.922751	574.4	1.453	8.4	9.2	1.08	6214	2.77	21.17
007200050-04	OBS	No	37.769805	150.461073	415.6	2.461	7.4	7.8	1.08	6214	2.49	28.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007200050-01	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_ALT—EPHEM_MATCH
007200050-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007200050-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
007200050-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

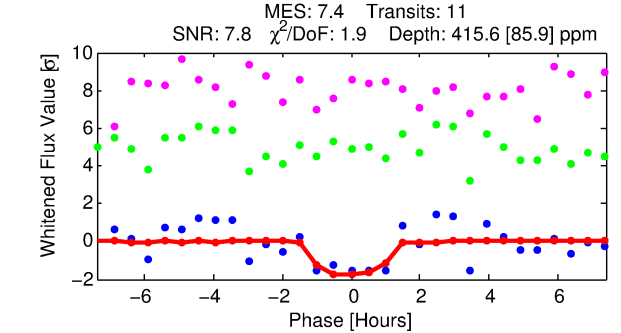
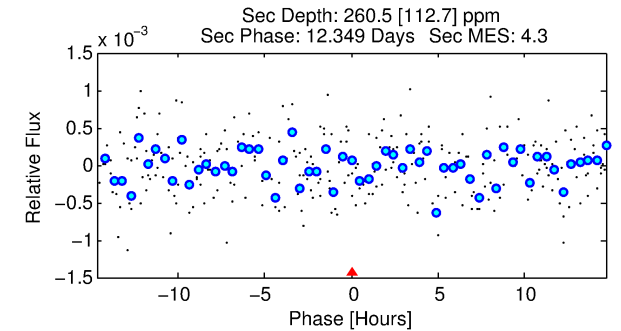
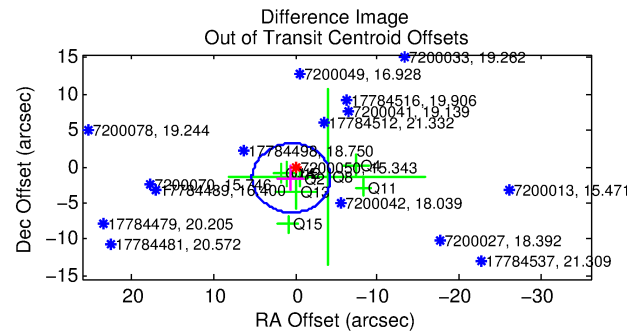
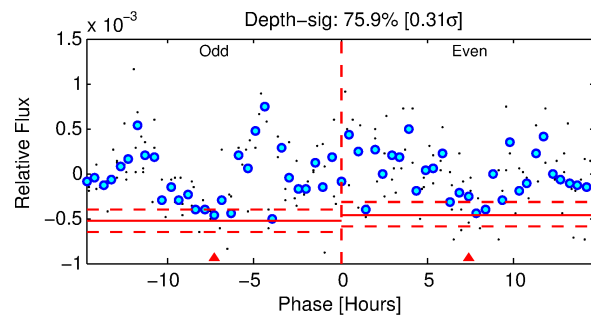
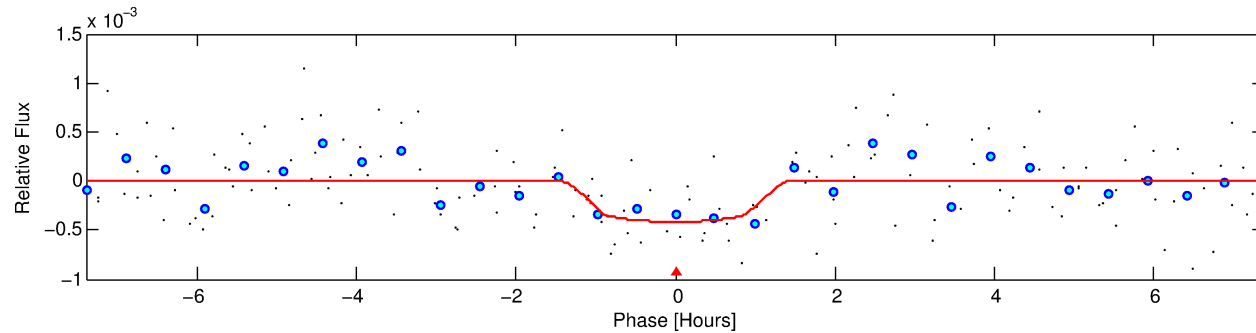
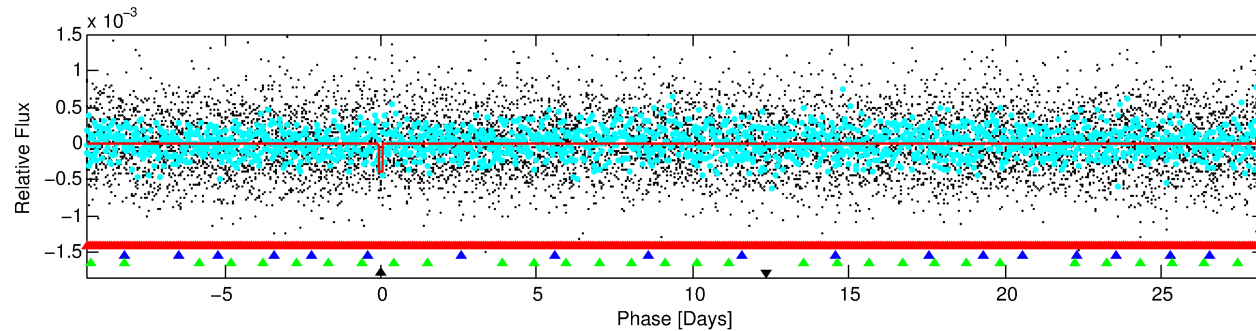
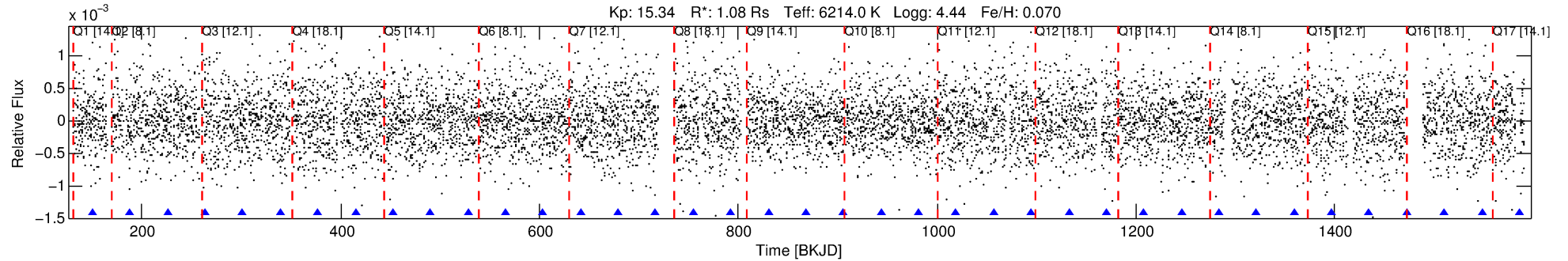
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007200050-04

No Significant Match Found

DV One-Page Summary

KIC: 7200050 Candidate: 4 of 4 Period: 37.770 d



DV Fit Results:

Period = 37.76981 [0.00078] d
Epoch = 150.4611 [0.0134] BKJD
Rp/R* = 0.0212 [0.0467]
a/R* = 66.33 [750.36]
b = 0.85 [3.73]
Seff = 28.71 [11.95]
Teq = 590 [61] K
Rp = 2.49 [5.54] Re
a = 0.2321 [0.0608] AU
Ag = 1241.41 [5507.62] [0.23σ]
Teff = 5417 [5990] K [0.81σ]

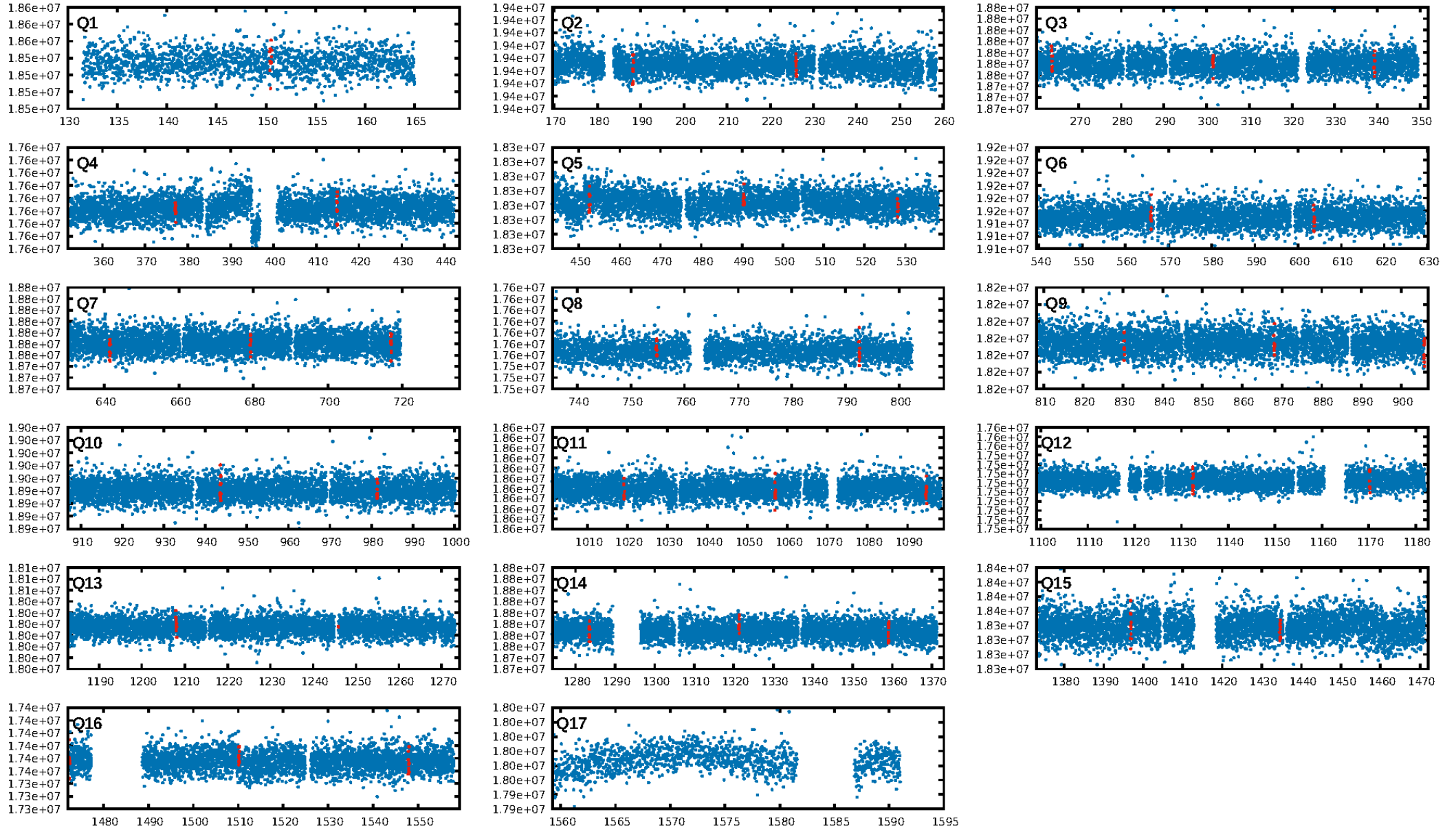
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [201.24σ]
LongPeriod-sig: 100.0% [81.47σ]
ModelChiSquare2-sig: 1.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.33e-09
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: -1.571
Centroid-sig: 40.8%
Centroid-so: 1.138 arcsec [1.02σ]
OotOffset-rm: 1.642 arcsec [1.03σ]
KicOffset-rm: 1.642 arcsec [1.03σ]
OotOffset-st: 2/2/3/1 [8]
KicOffset-st: 2/2/3/1 [8]
DiffImageQuality-fgm: 0.00 [0/8]
DiffImageOverlap-fno: 0.00 [0/16]

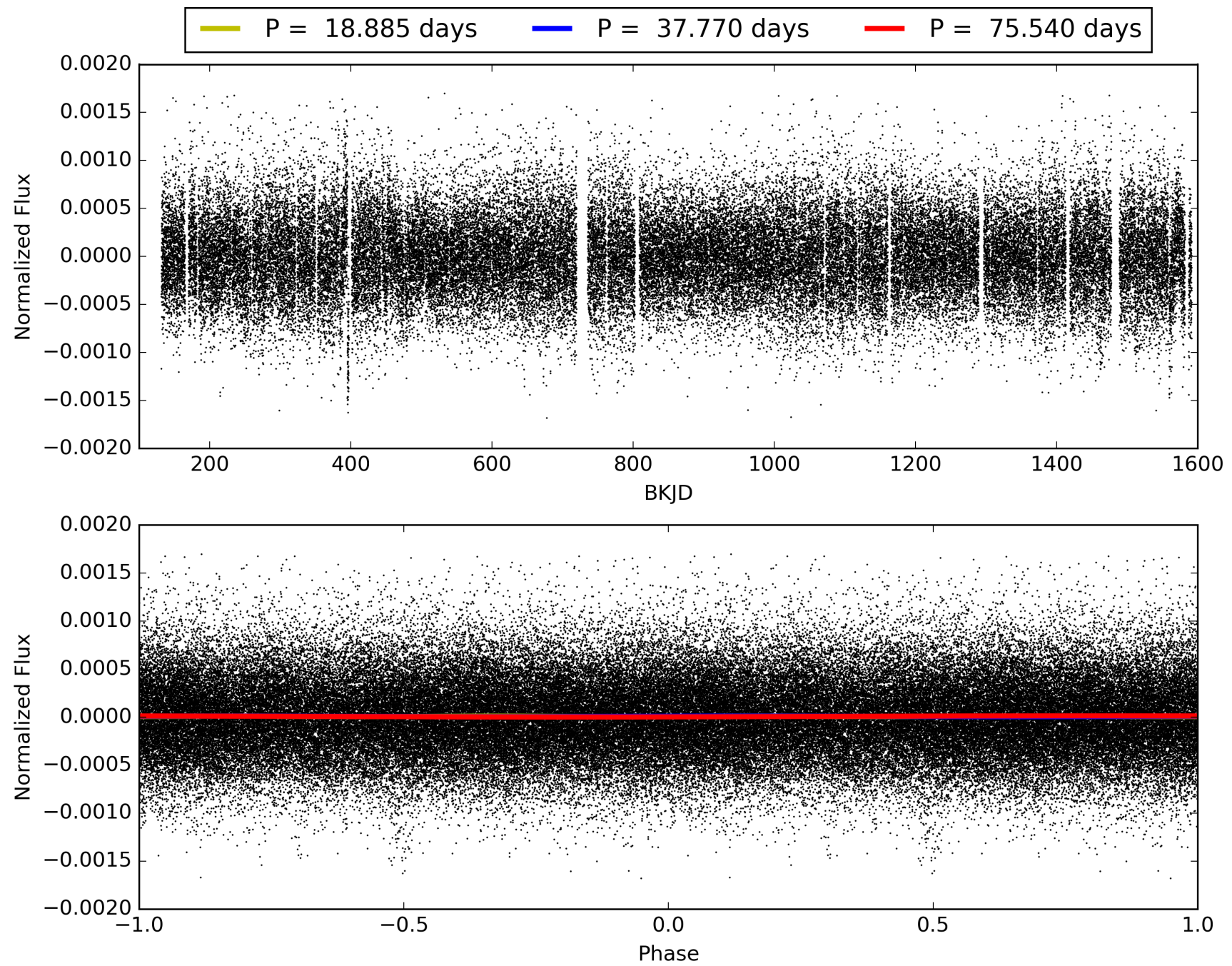
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:11:55 Z

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

TCE 007200050-04, PDC Light Curves

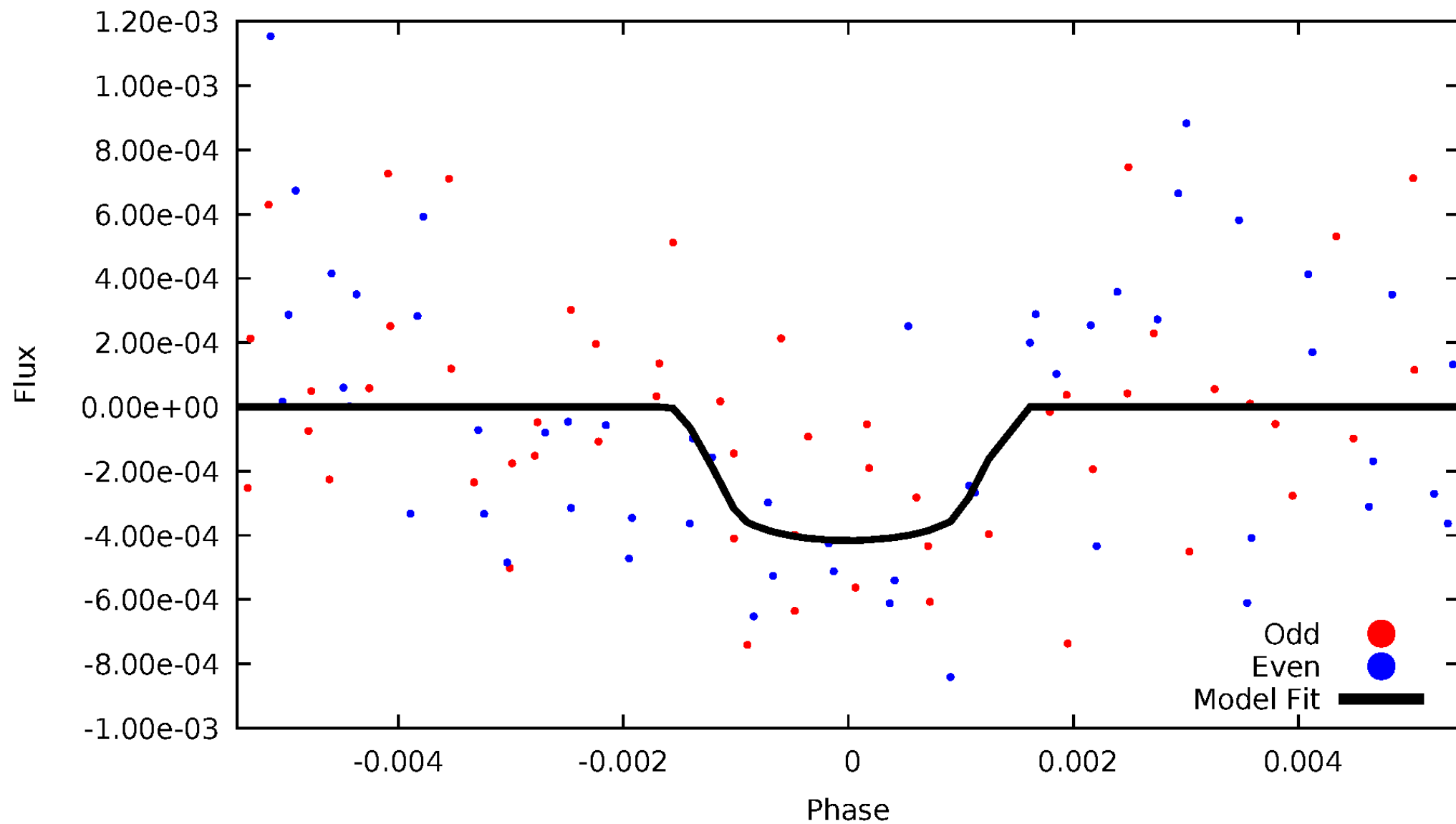


TCE 007200050-04



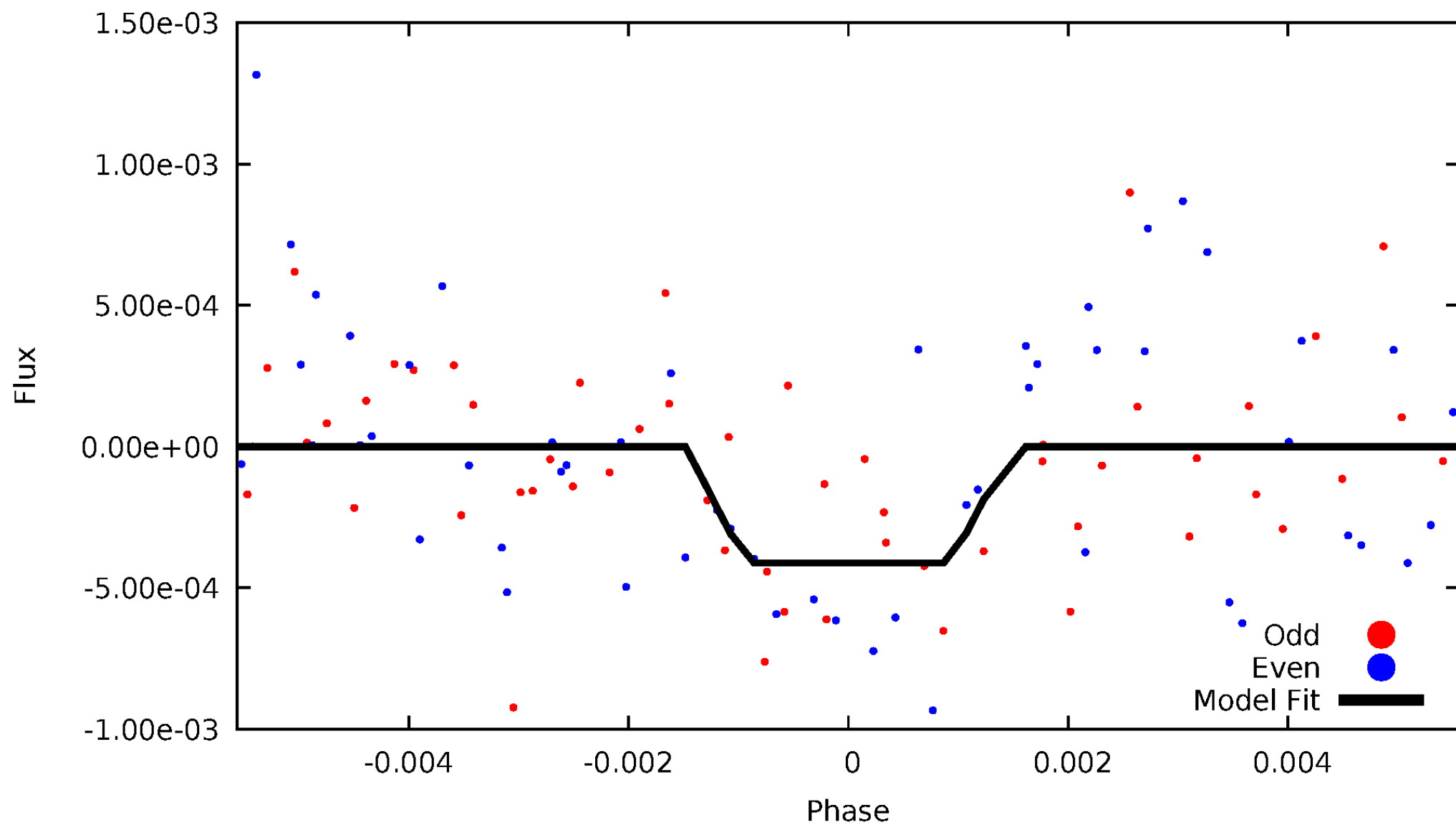
DV Odd/Even

TCE 007200050-04



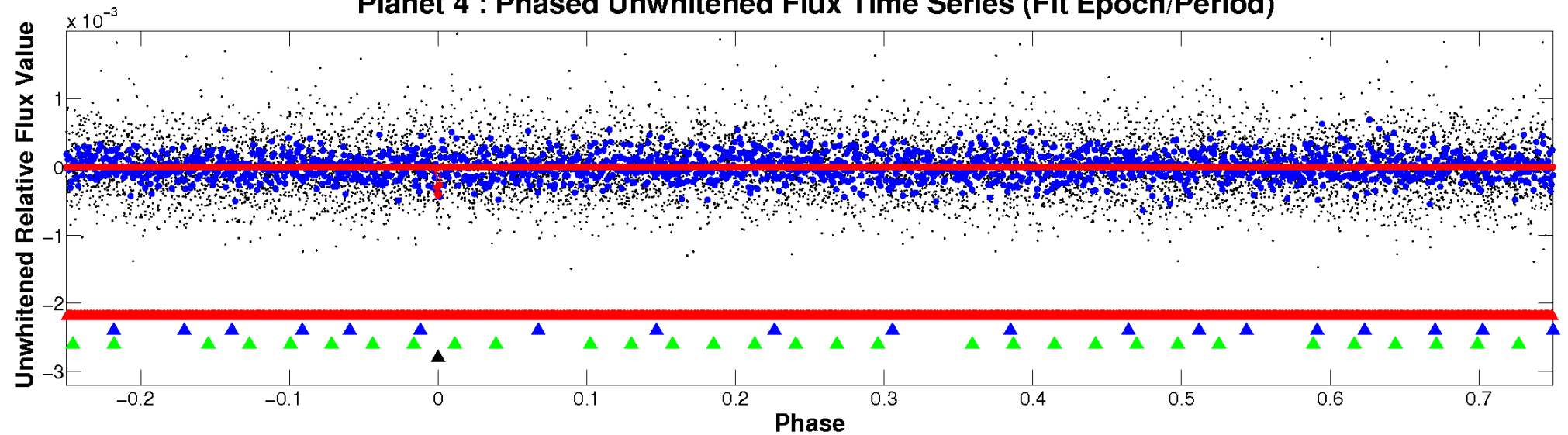
ALT Odd/Even

TCE 007200050-04

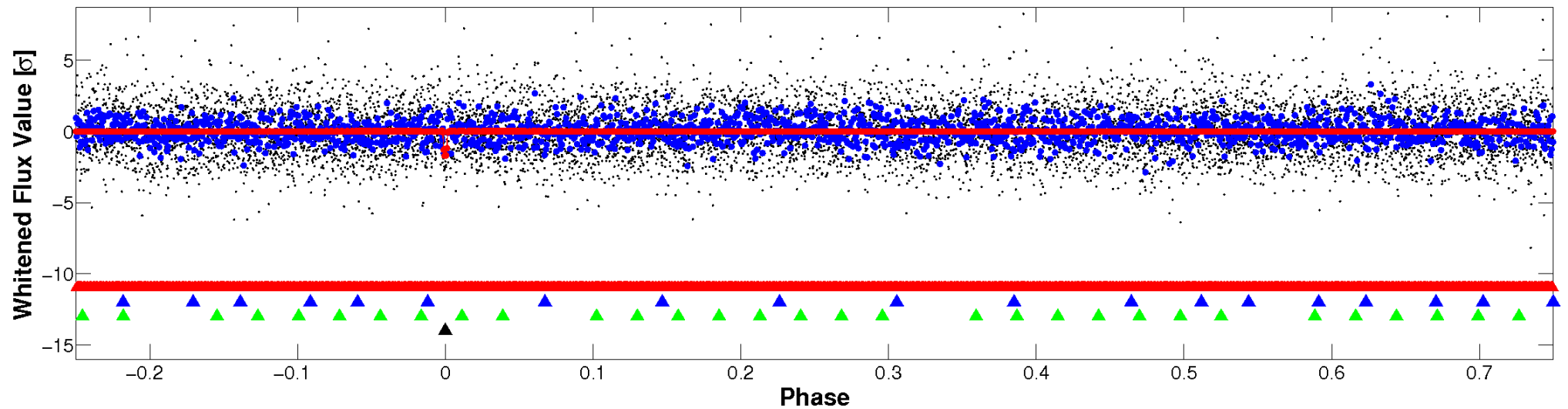


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

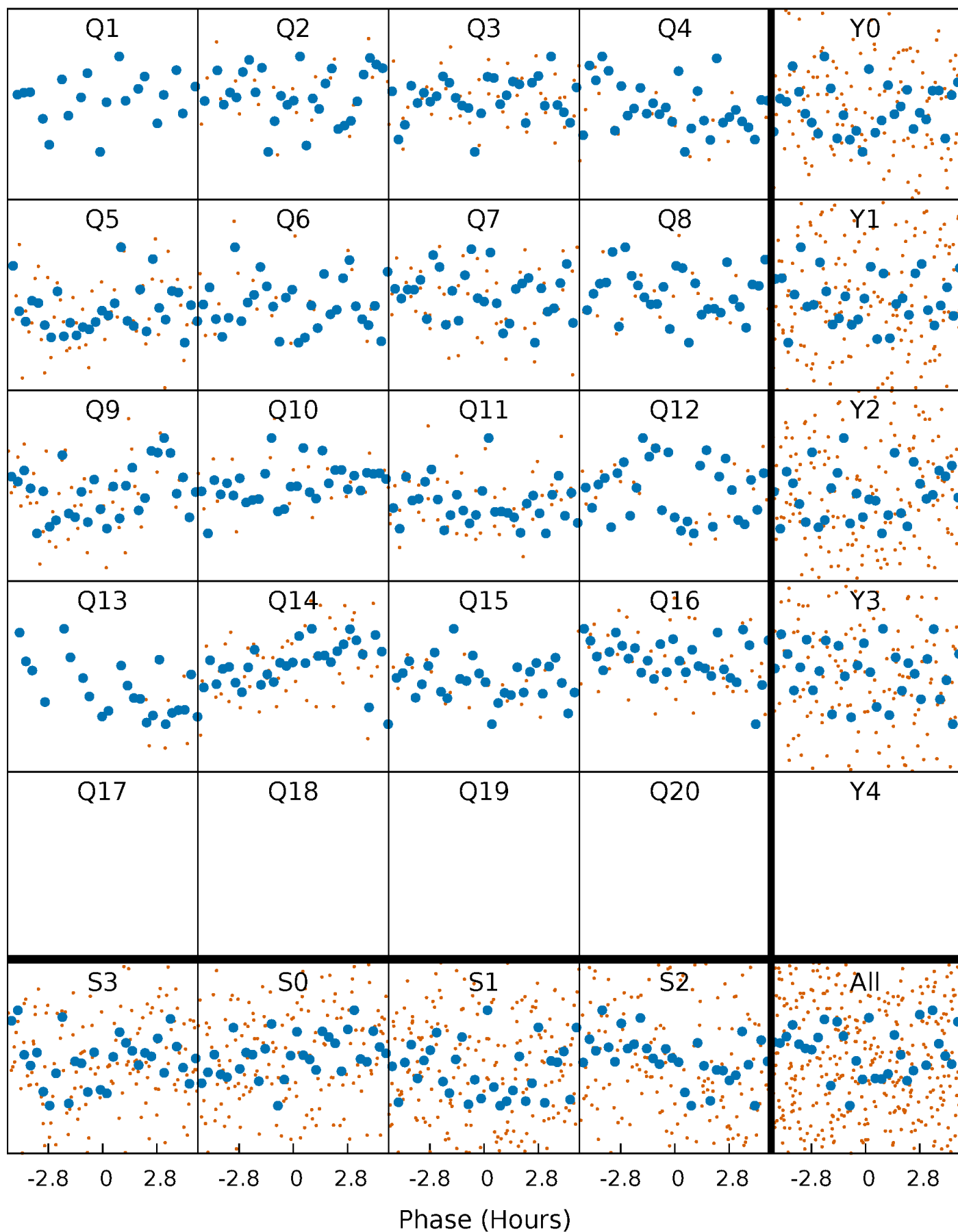


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



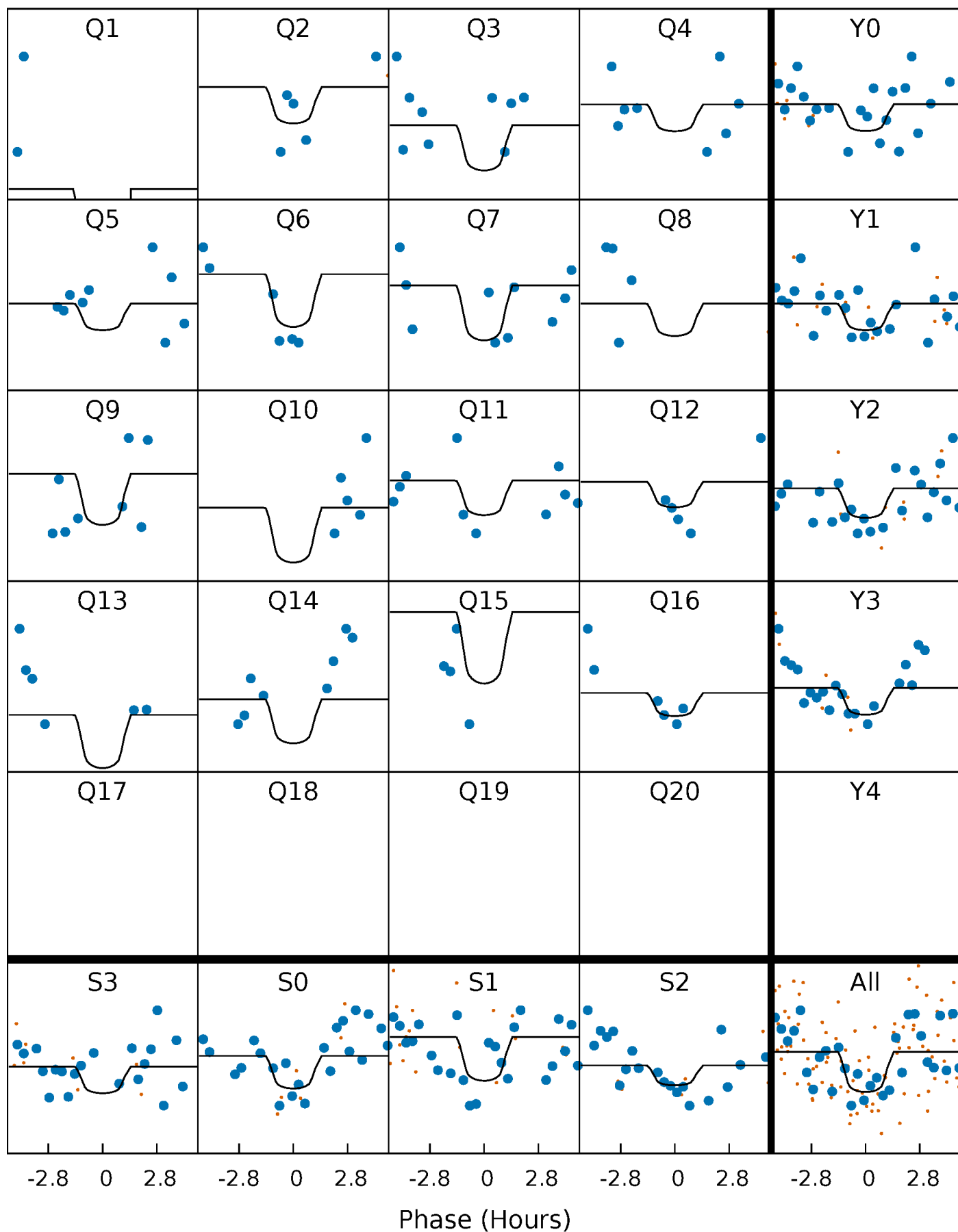
PDC Quarter-Phased Transit Curves

TCE 007200050-04 P= 37.769805 Days $T_0=150.461073$ (BKJD)



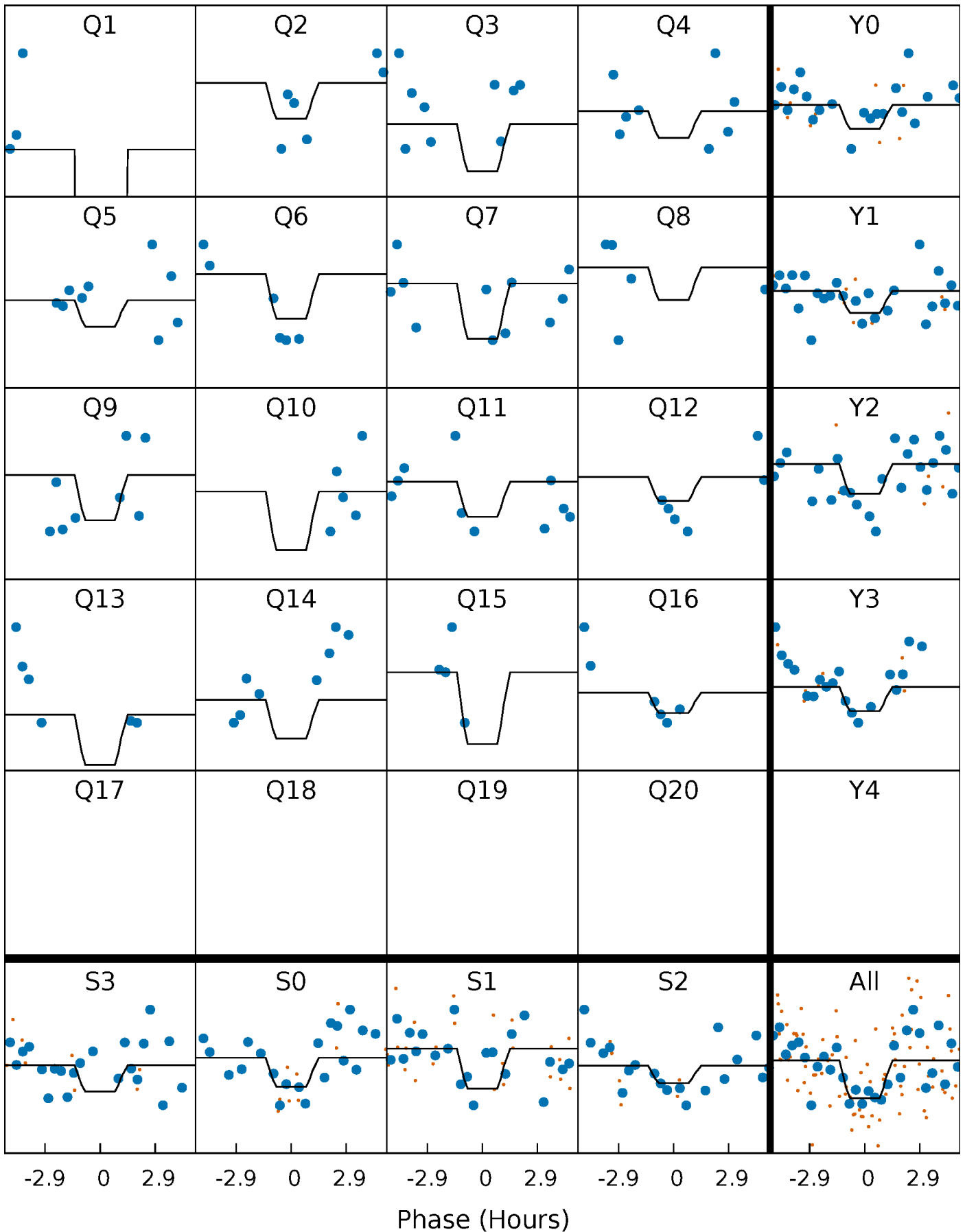
DV Quarter-Phased Transit Curves

TCE 007200050-04 P= 37.769805 Days $T_0=150.461073$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

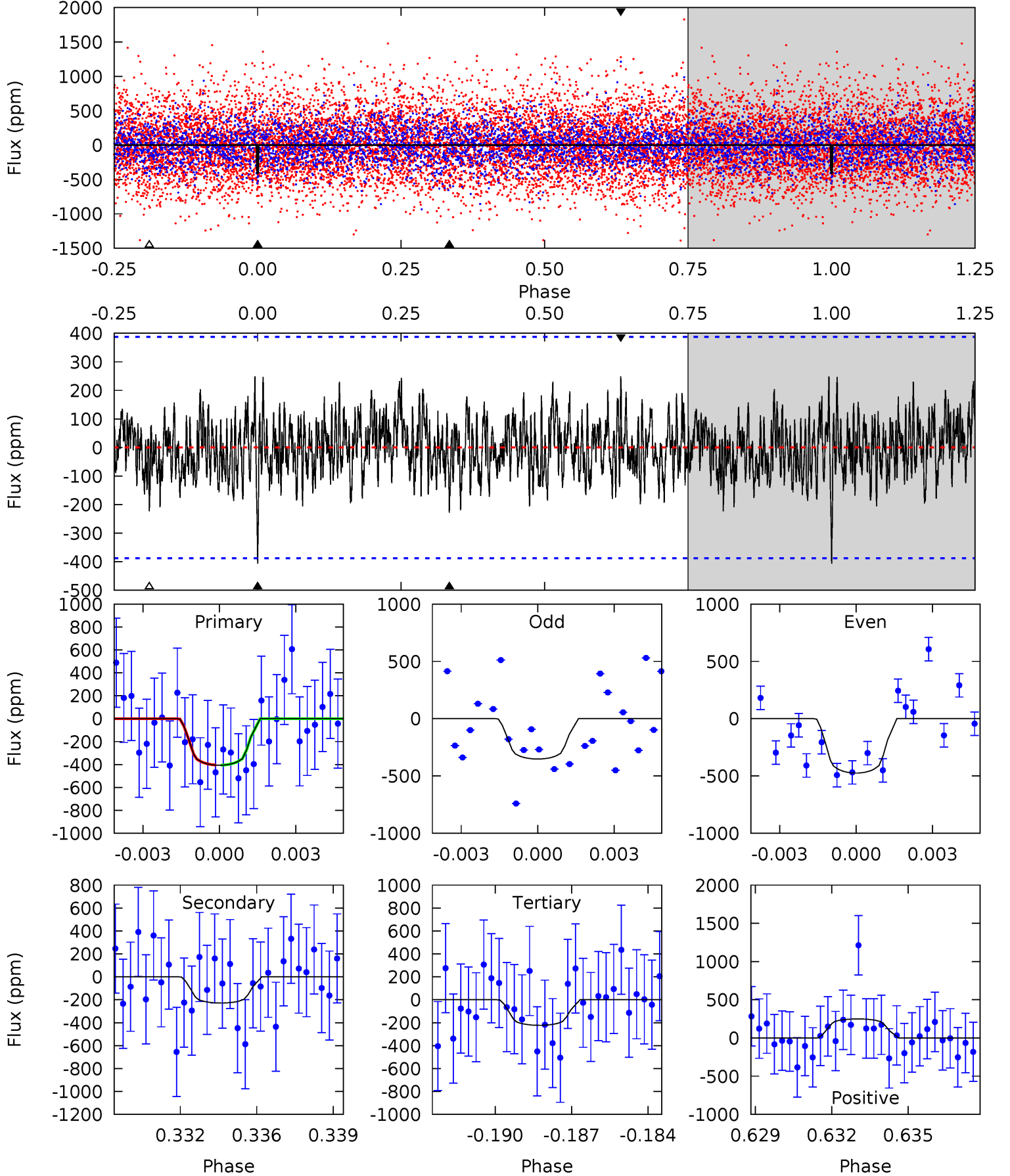
TCE 007200050-04 $P = 37.770226$ Days $T_0 = 150.455406$ (BKJD)



DV Model-Shift Uniqueness Test

007200050-04, P = 37.769805 Days, E = 112.691268 Days

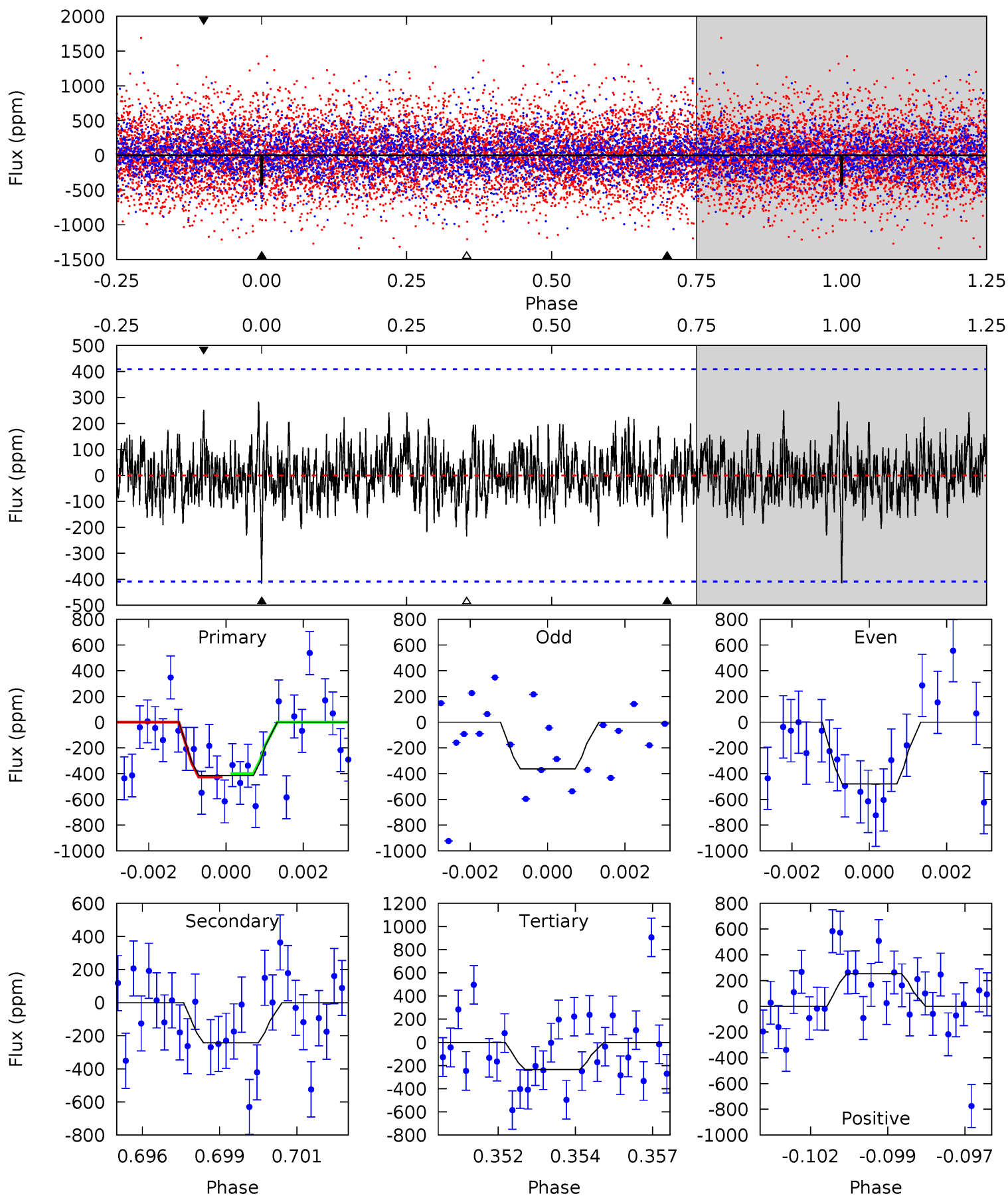
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.51	3.10	3.02	3.38	5.25	2.97	1.14	2.48	2.13	0.08	-0.28	0.83	0.88	0.38	0.01



Alt Model-Shift Uniqueness Test

007200050-04, P = 37.770226 Days, E = 112.685180 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.36	3.14	3.03	3.26	5.29	3.03	1.01	2.33	2.10	0.11	-0.12	0.76	0.73	0.41	0.18



Stellar Parameters For KIC 007200050

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6214^{+174}_{-261}	$4.442^{+0.052}_{-0.208}$	$0.070^{+0.250}_{-0.300}$	$1.076^{+0.335}_{-0.112}$	$1.169^{+0.141}_{-0.173}$	$1.321^{+0.354}_{-0.667}$
	+3%/-4%	+1%/-5%	+357%/-429%	+31%/-10%	+12%/-15%	+27%/-51%
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 007200050-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-229 ± 74	$4.94^{+5.26}_{-3.23}$	839^{+63}_{-45}	4059^{+2590}_{-840}	267^{+2046}_{-205}
Alt.	-243 ± 77	$4.94^{+4.71}_{-3.39}$	841^{+67}_{-42}	4119^{+2710}_{-859}	285^{+2585}_{-216}

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 $A_{obs} \gg 1.0$

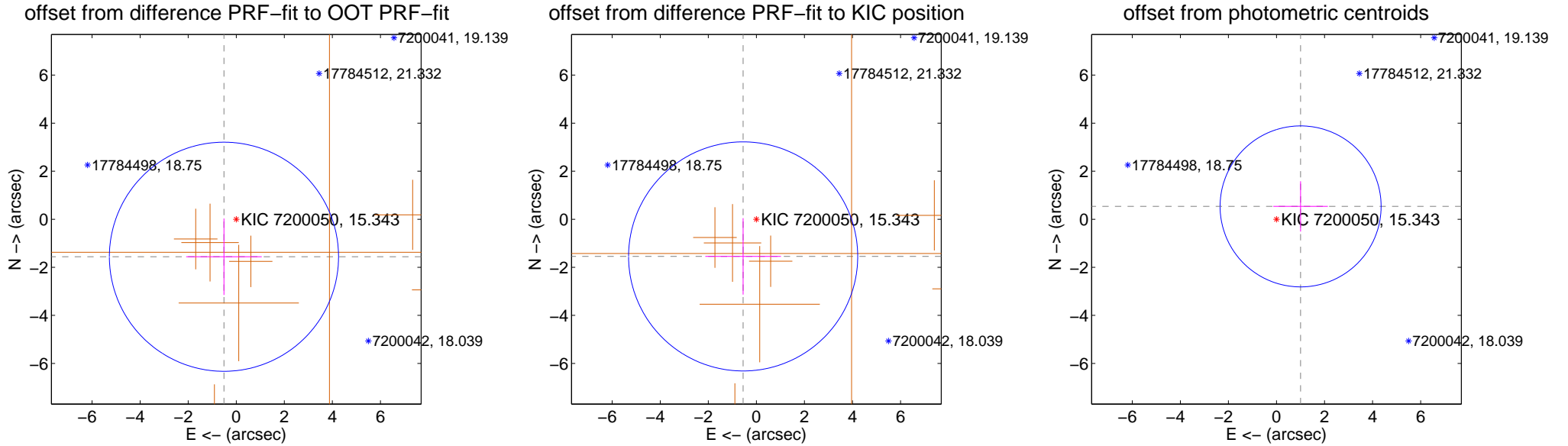
DV Centroid Data

Supplemental centroid analysis for 007200050-04. Kepler magnitude: 15.34. Transit SNR 7.84

There are 0 quarters with good PRF difference image offsets

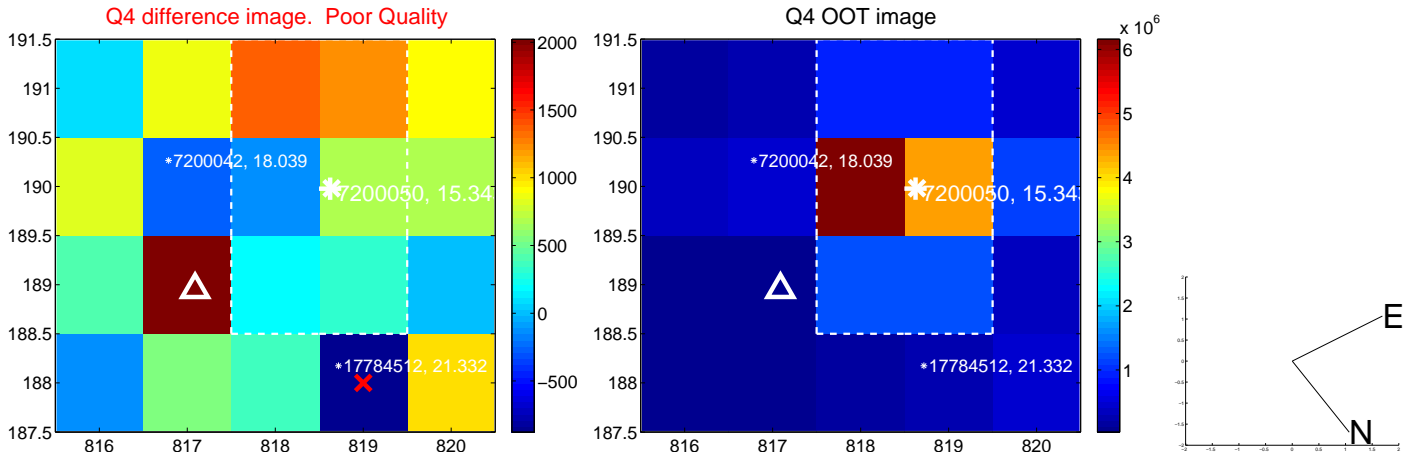
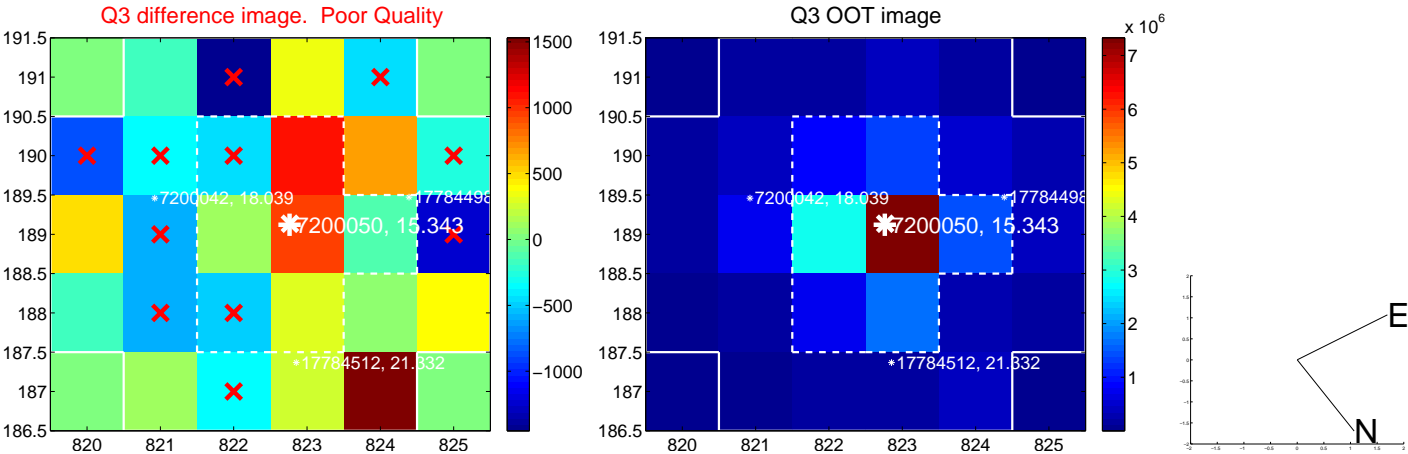
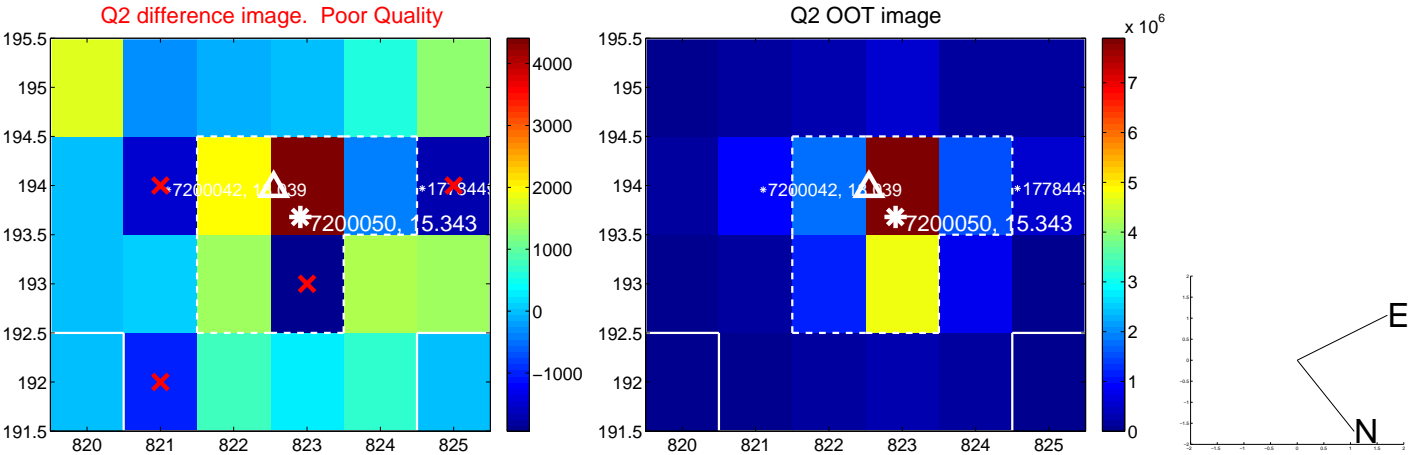
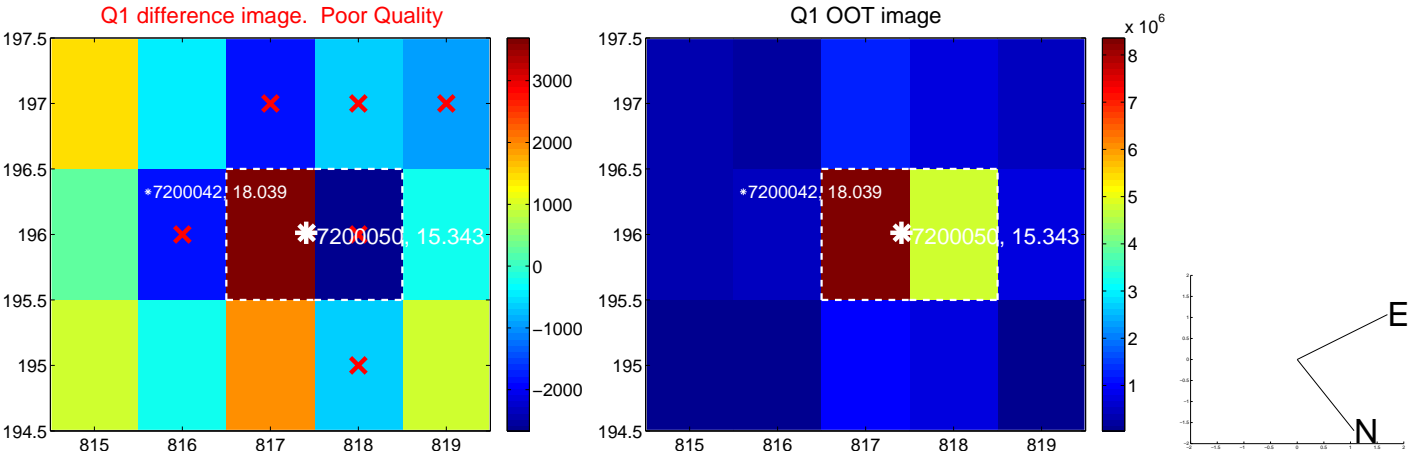
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.642 ± 1.589	1.03	0.512 ± 1.574	-1.560 ± 1.591
PRF-fit source offset from KIC position	1.642 ± 1.589	1.03	0.550 ± 1.574	-1.547 ± 1.591
photometric centroid source offset	1.14 ± 1.12	1.02	-1.00 ± 1.14	0.54 ± 1.05

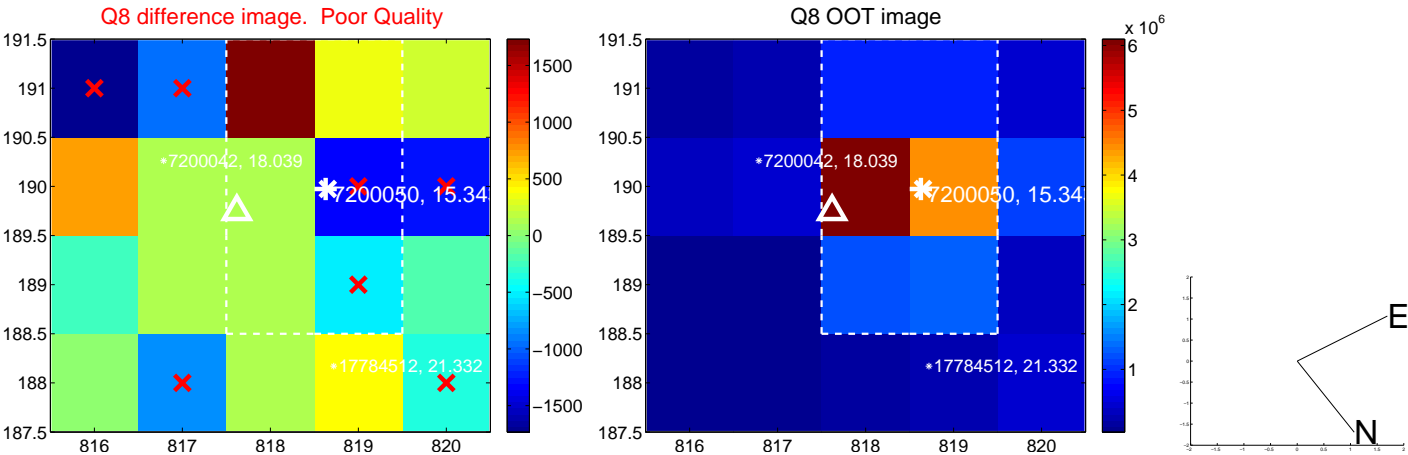
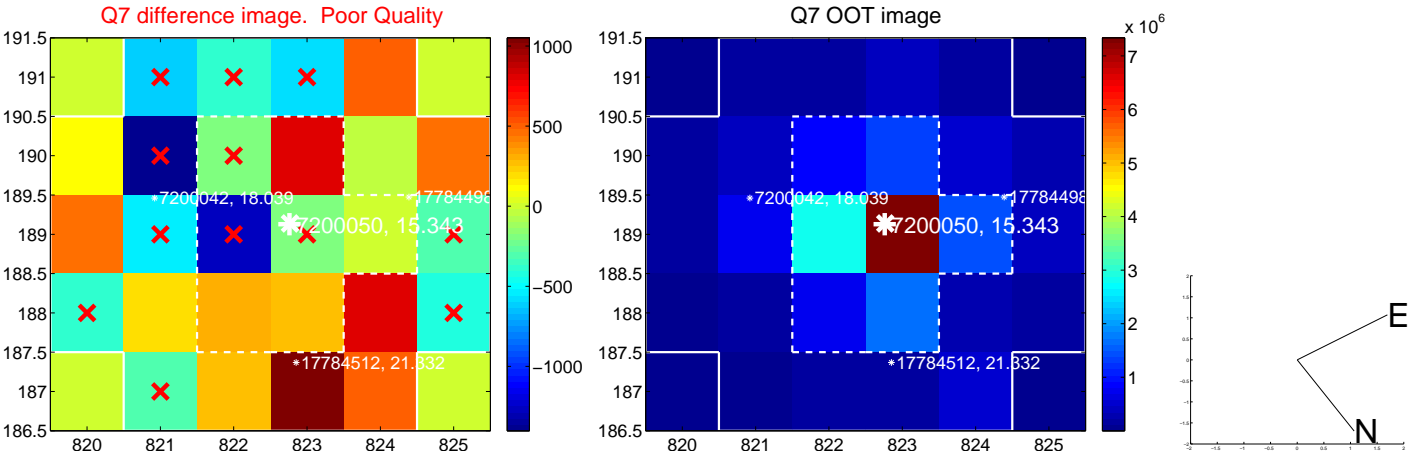
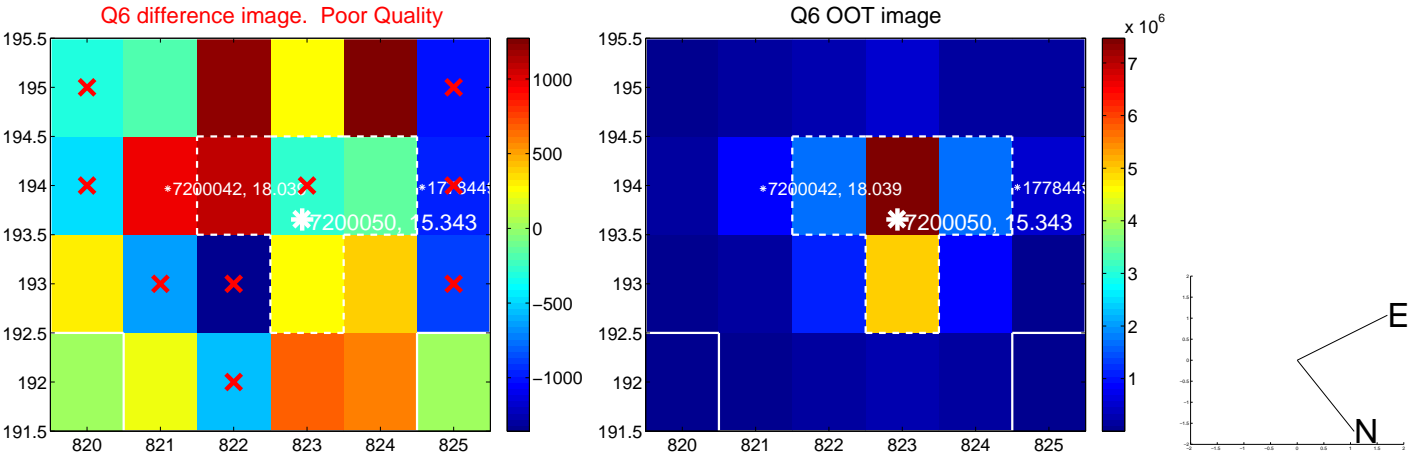
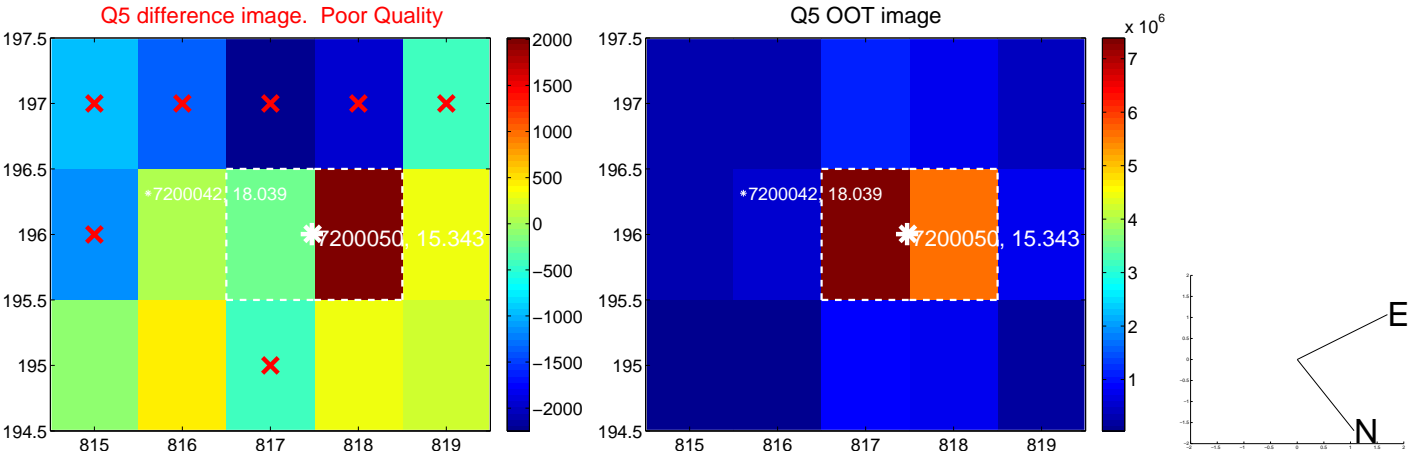


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

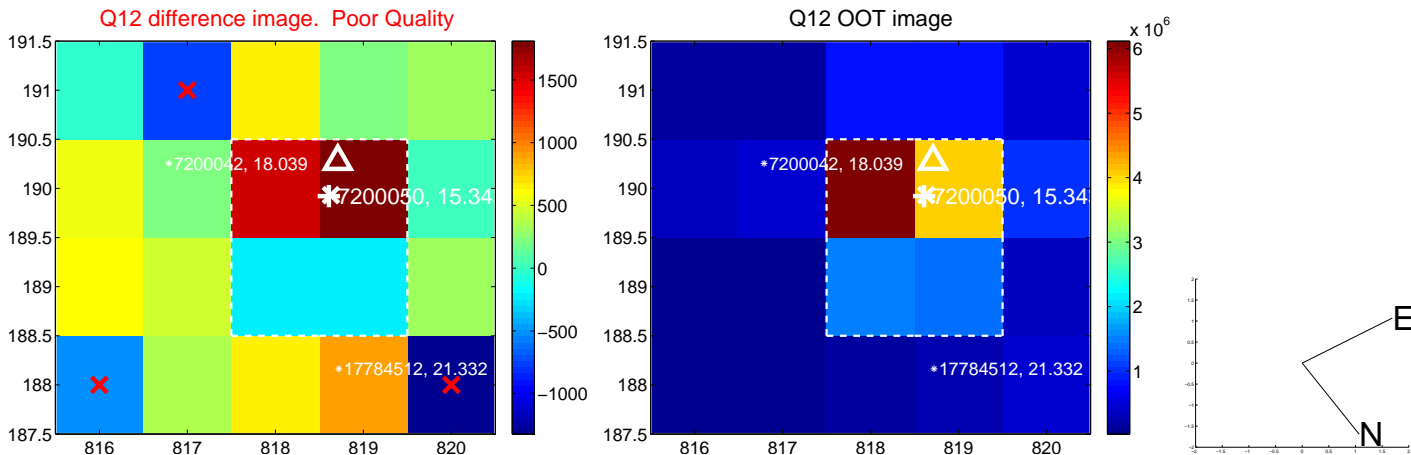
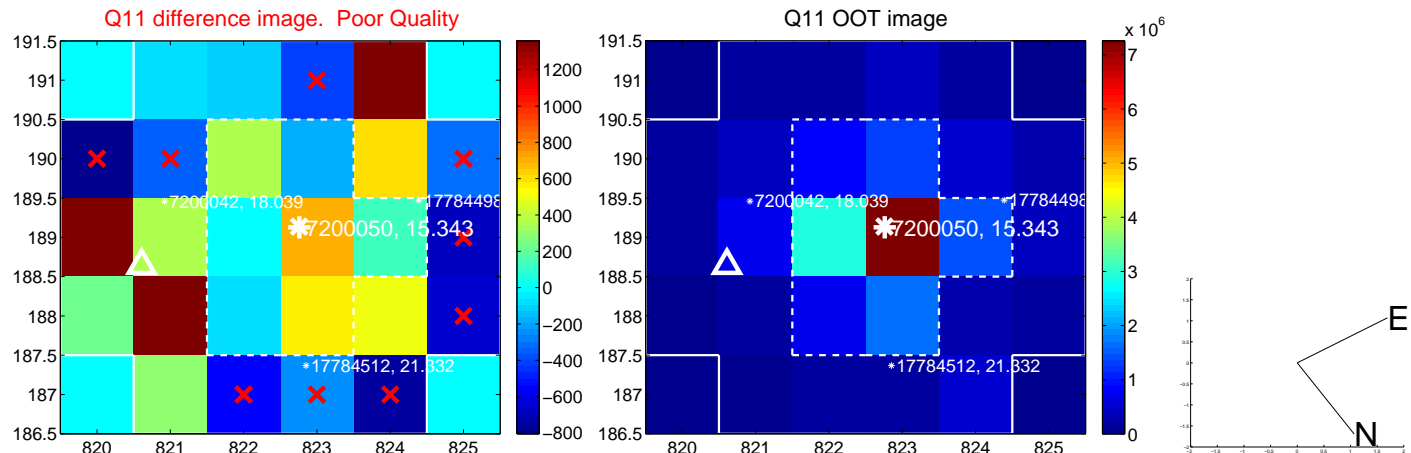
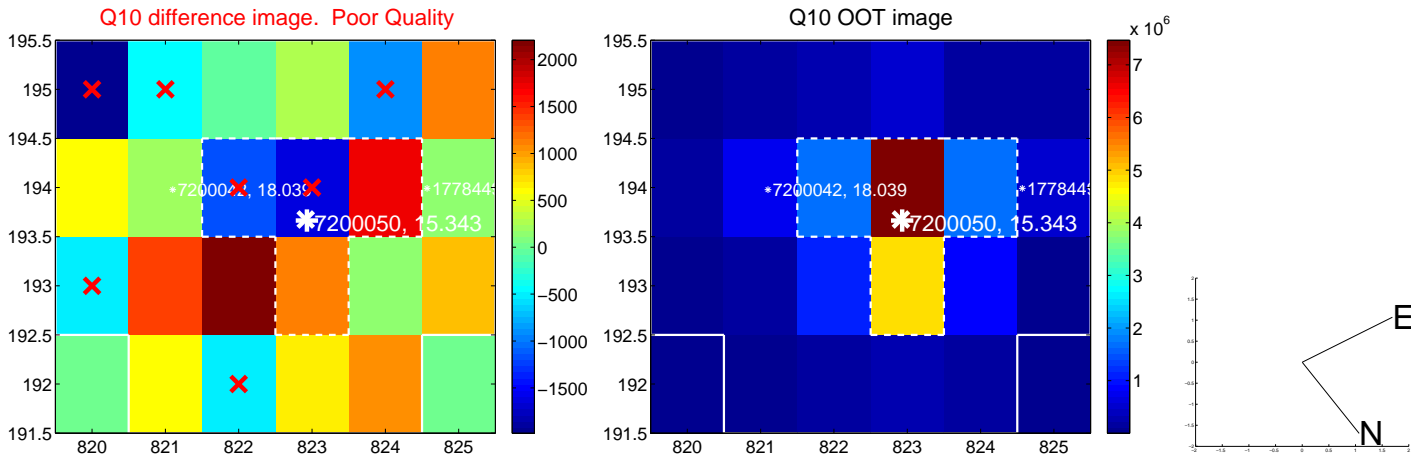
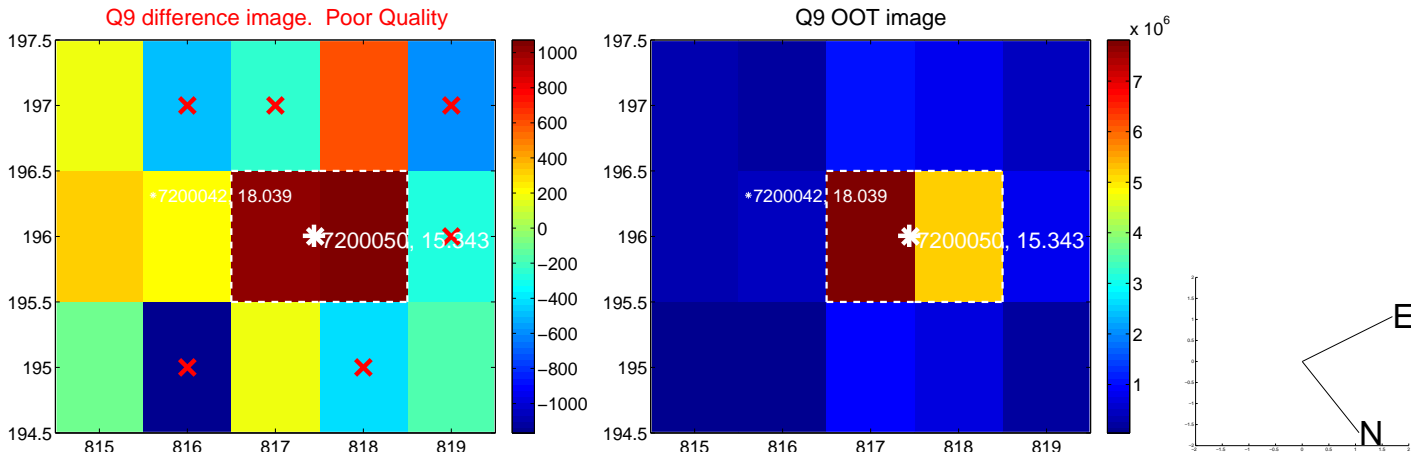
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



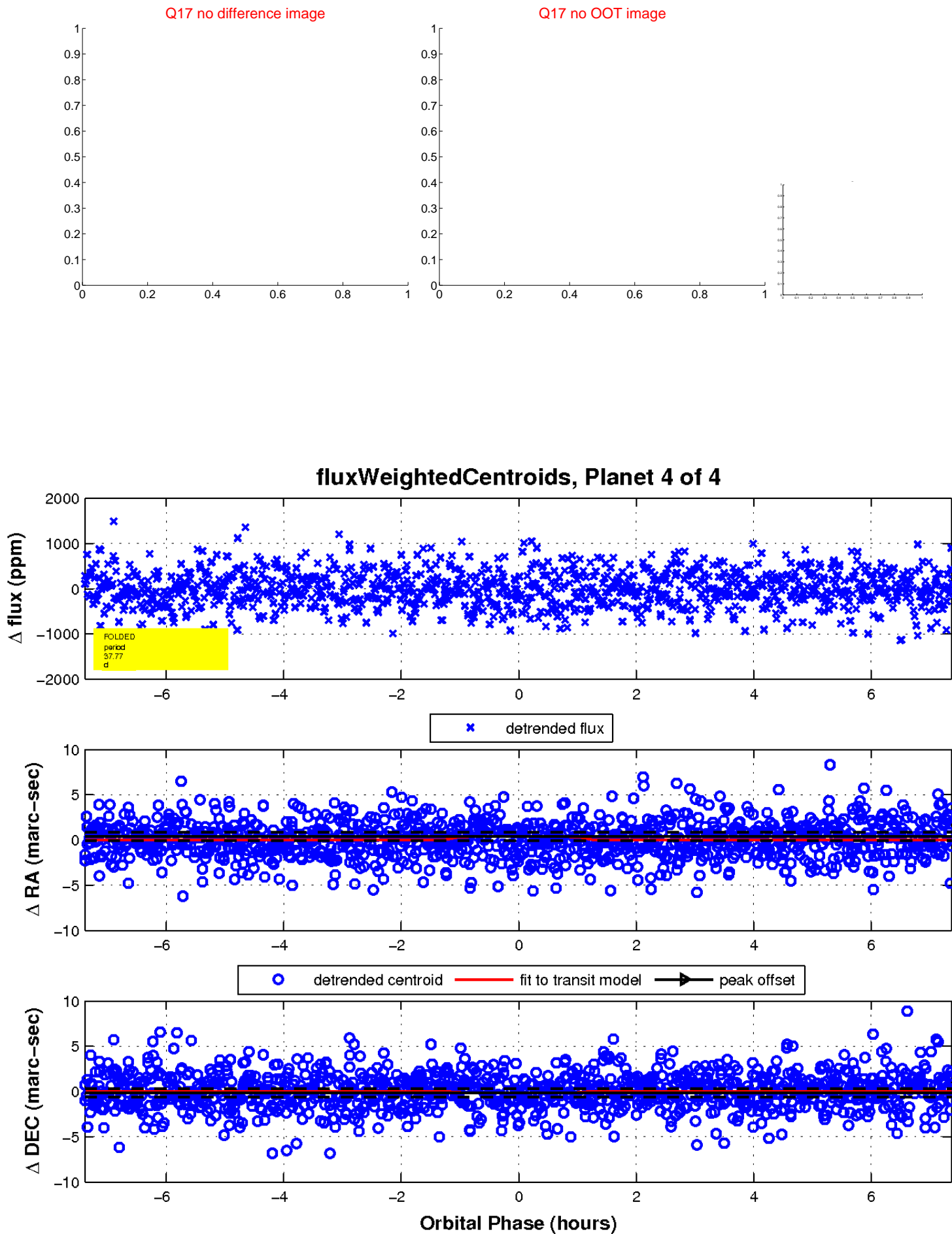
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

