

KIC 010405482

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})
010405482-01	OBS	8009.01	0.933731	132.456883	20.1	4.928	7.7	5.3	1.01	6223	0.45	3735.34
010405482-02	OBS	No	79.628301	175.418352	501.7	2.188	7.9	8.1	1.01	6223	2.65	9.95
010405482-03	OBS	No	171.268589	186.172482	573.7	14.114	7.8	8.8	1.01	6223	2.48	3.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010405482-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
010405482-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQU_ALT—CENT_FEW_DIFFS
010405482-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—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.

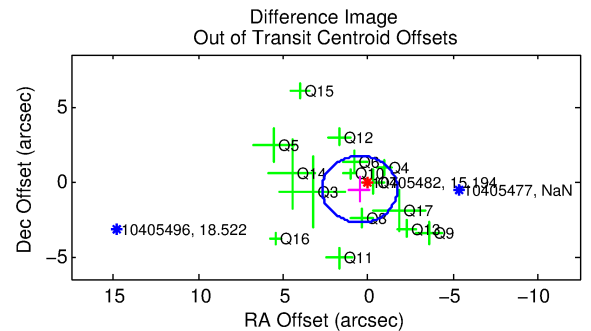
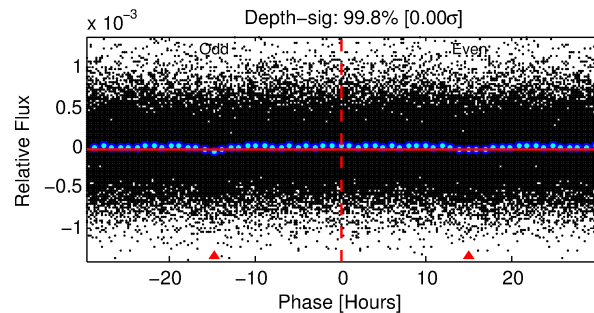
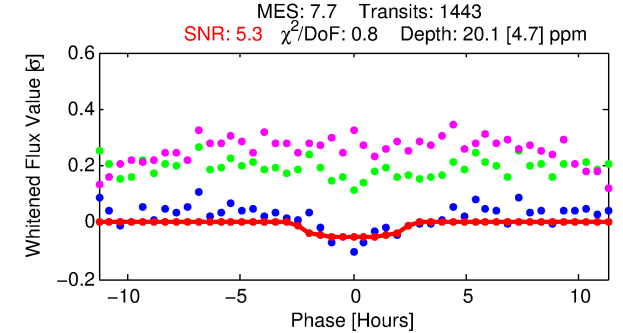
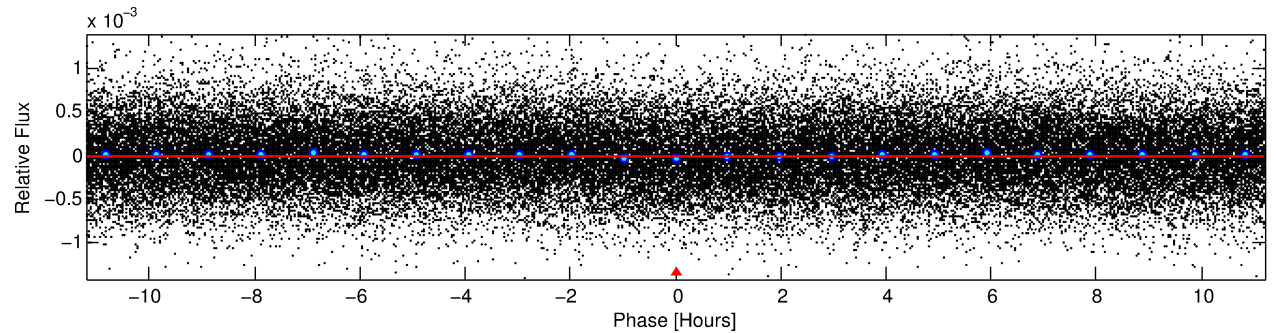
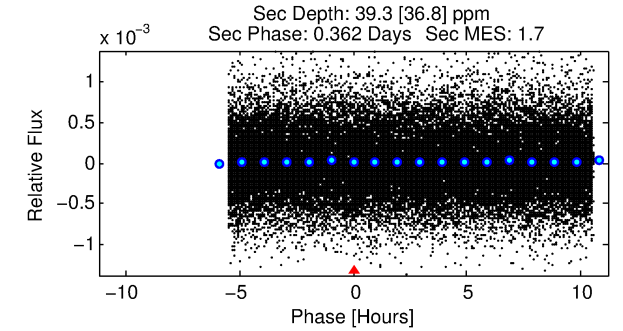
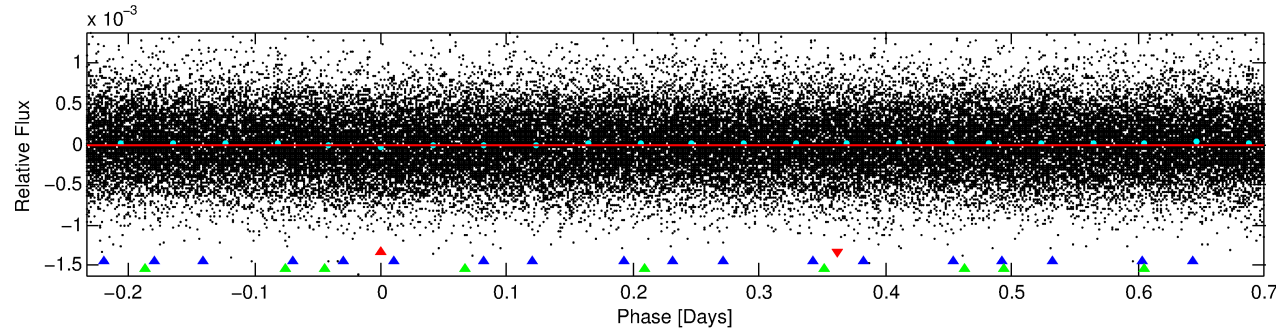
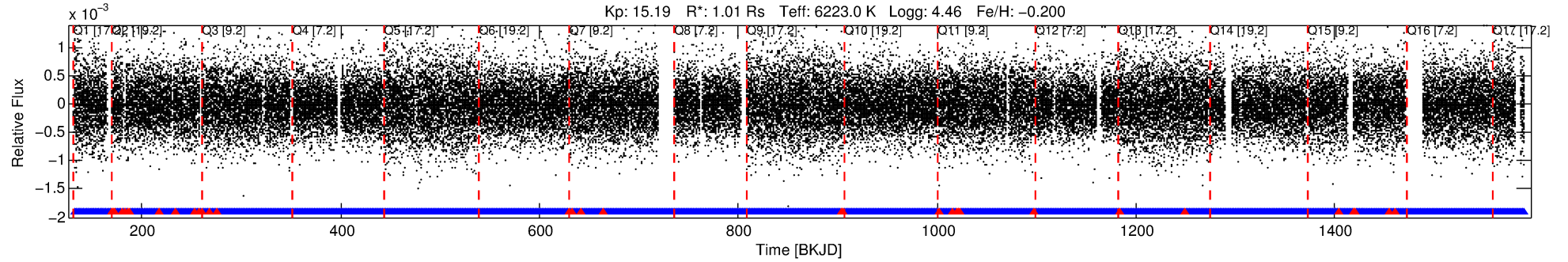
Ephemeris Match Information For 010405482-01

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
010405482-01	10405482	V2083-Cyg-pri	10342012	1:2	1694.7	284	-318	6.90	15.19	9916.10	Direct-PRF	0	3.15	0.44

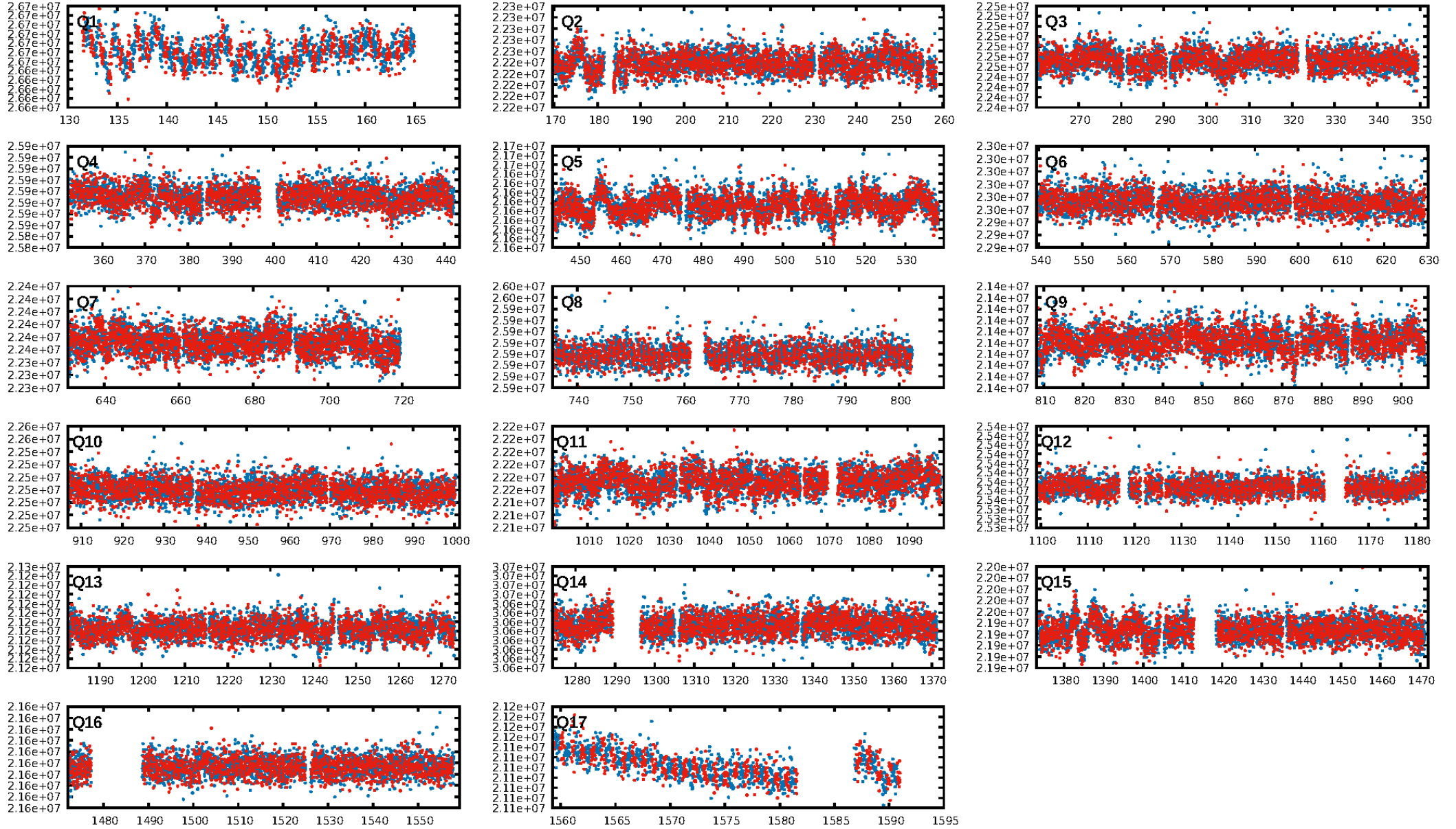
Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period 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

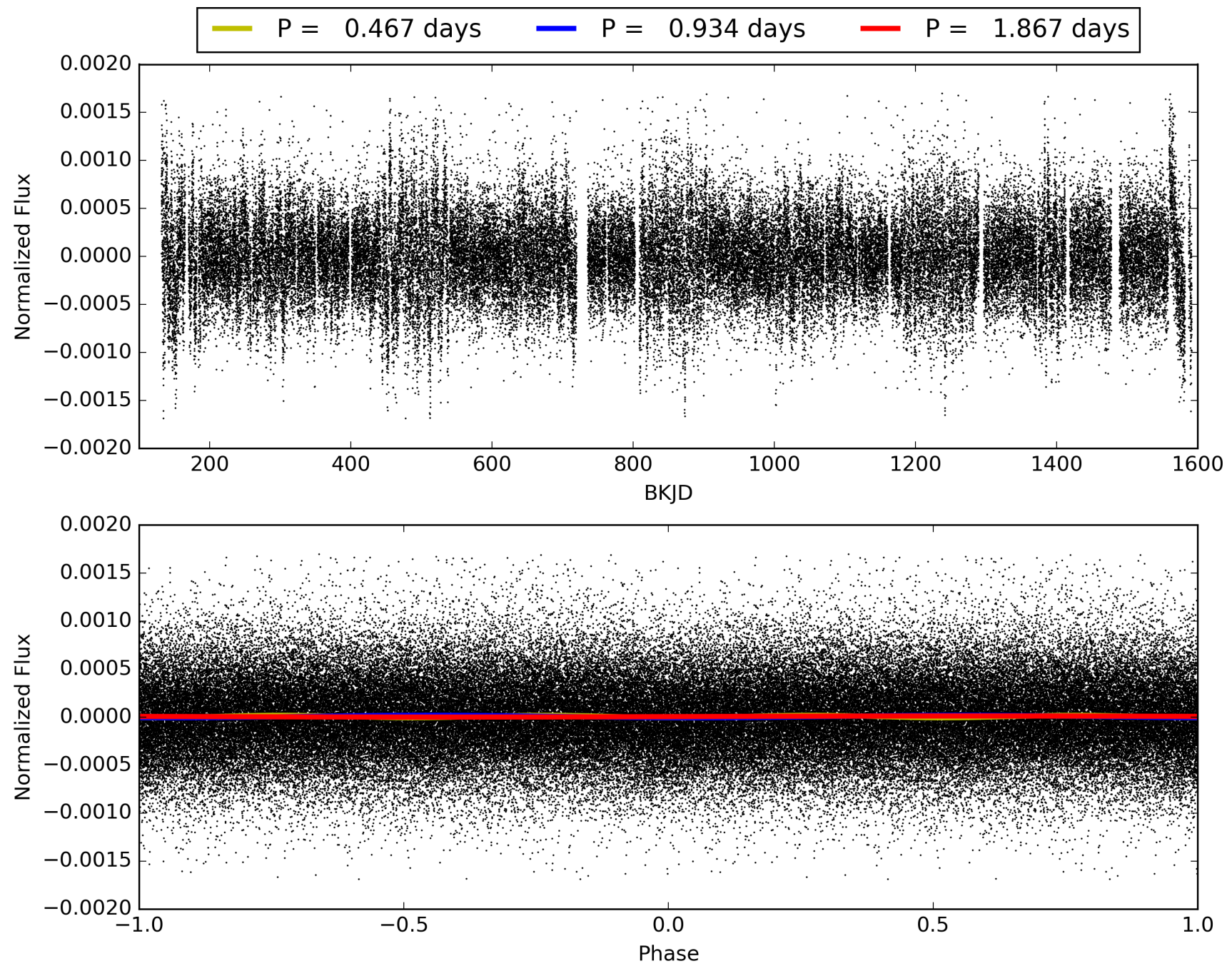
KIC: 10405482 Candidate: 1 of 3 Period: 0.934 d



TCE 010405482-01, PDC Light Curves

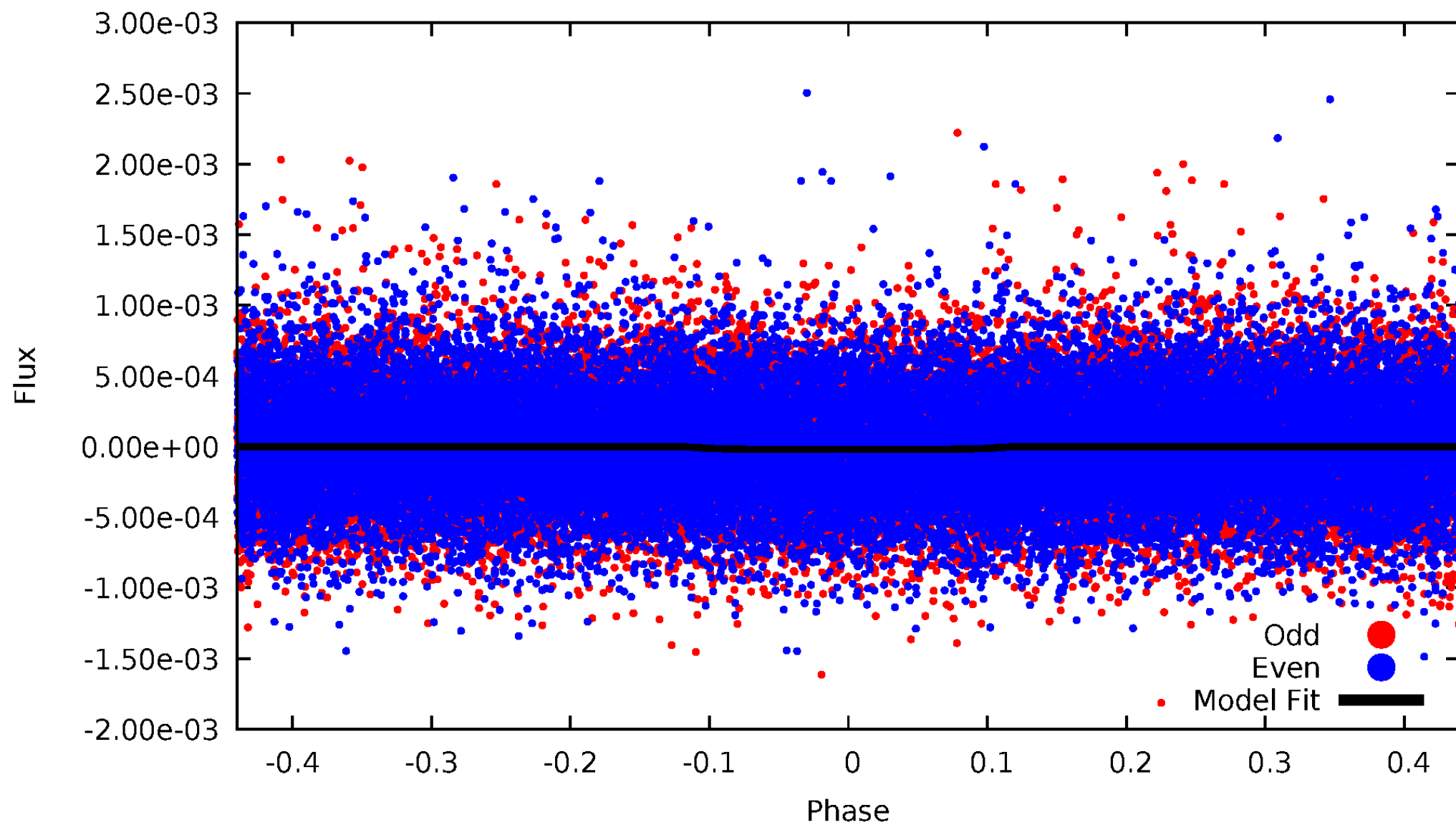


TCE 010405482-01



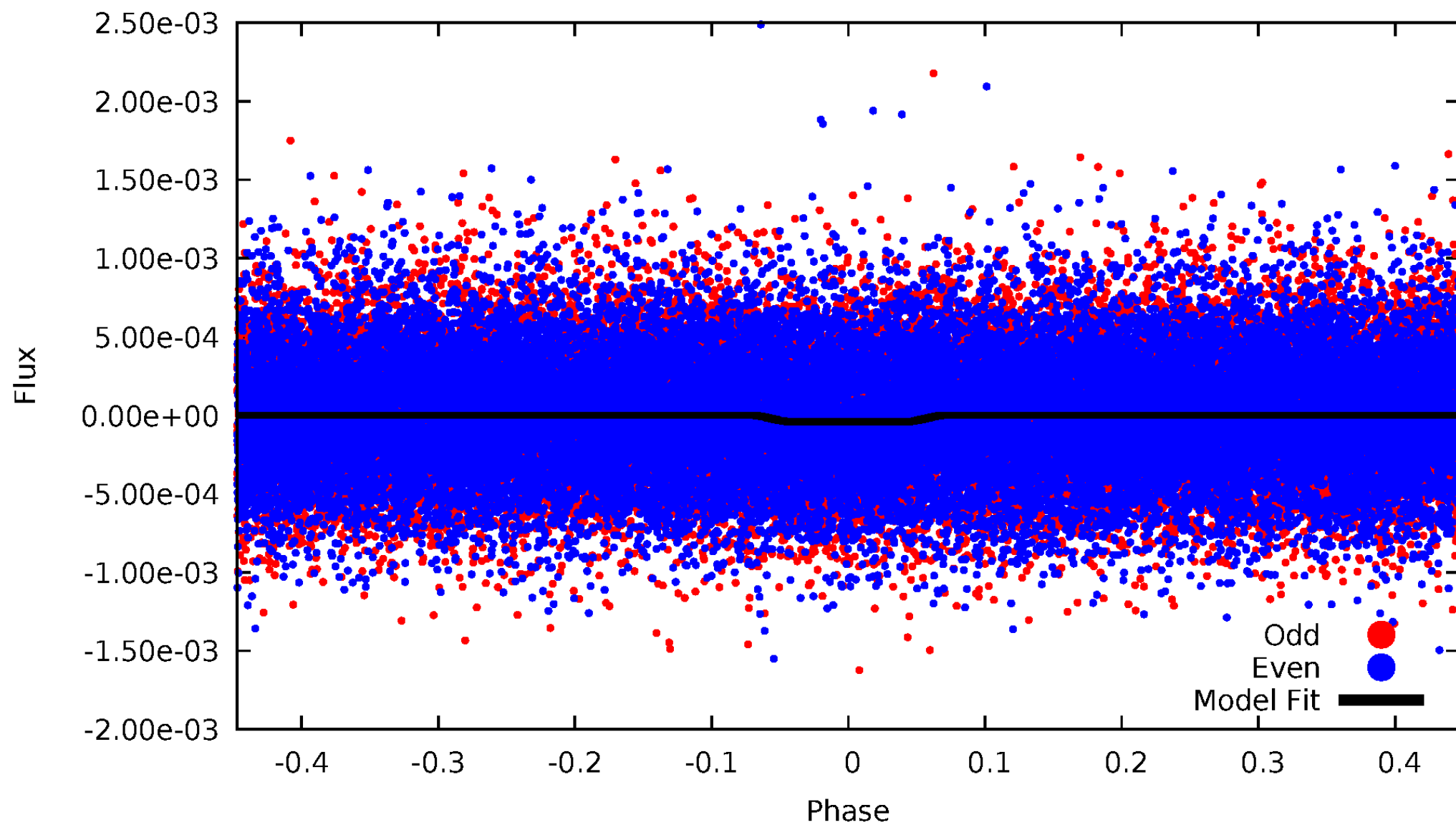
DV Odd/Even

TCE 010405482-01



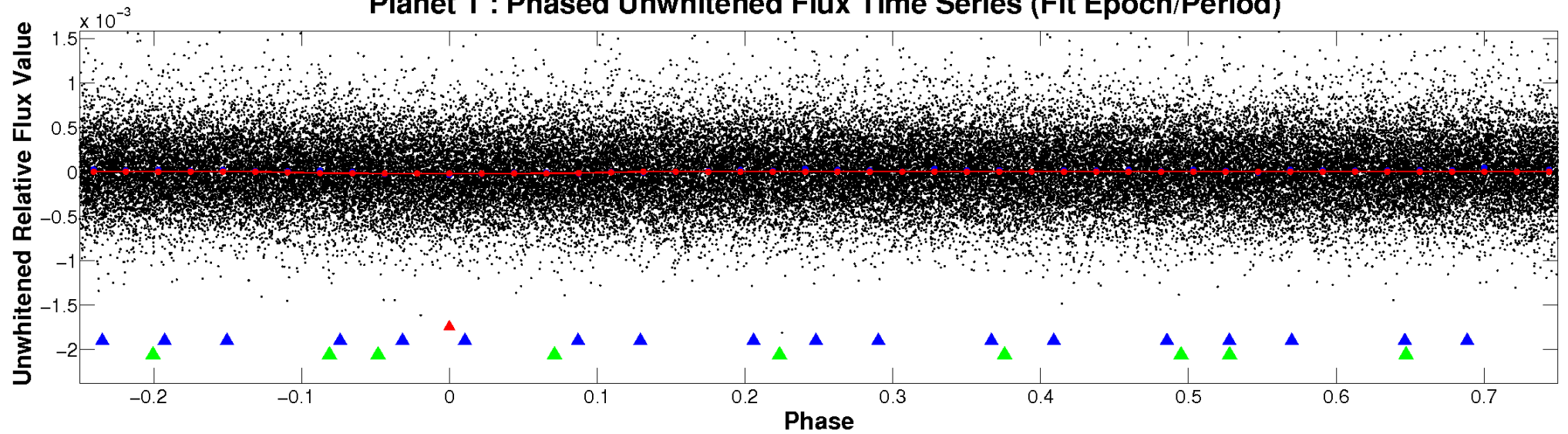
ALT Odd/Even

TCE 010405482-01

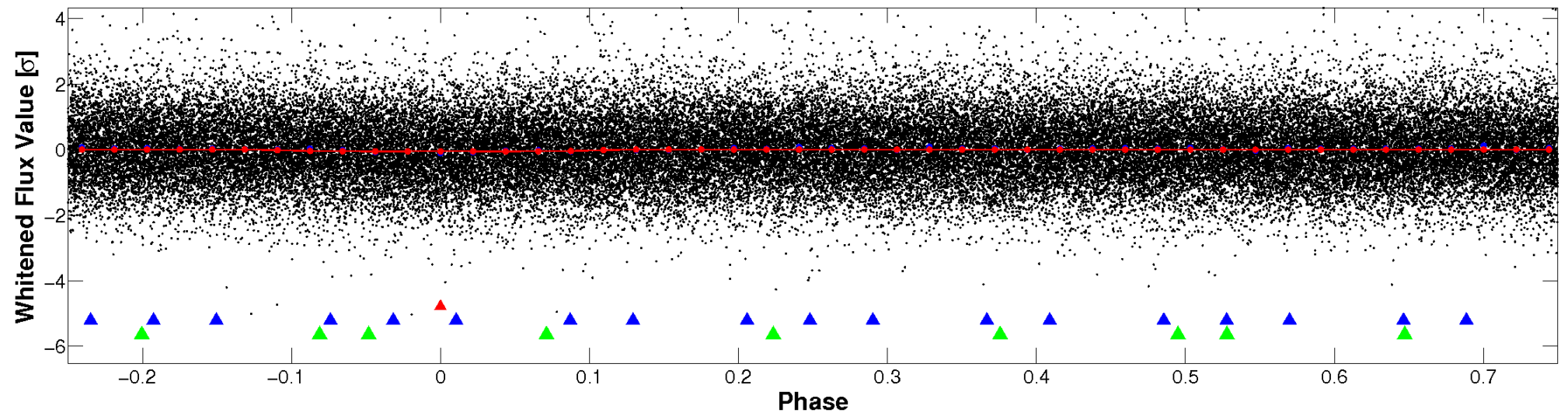


Non-Whitened Vs. Whitened Light Curve

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

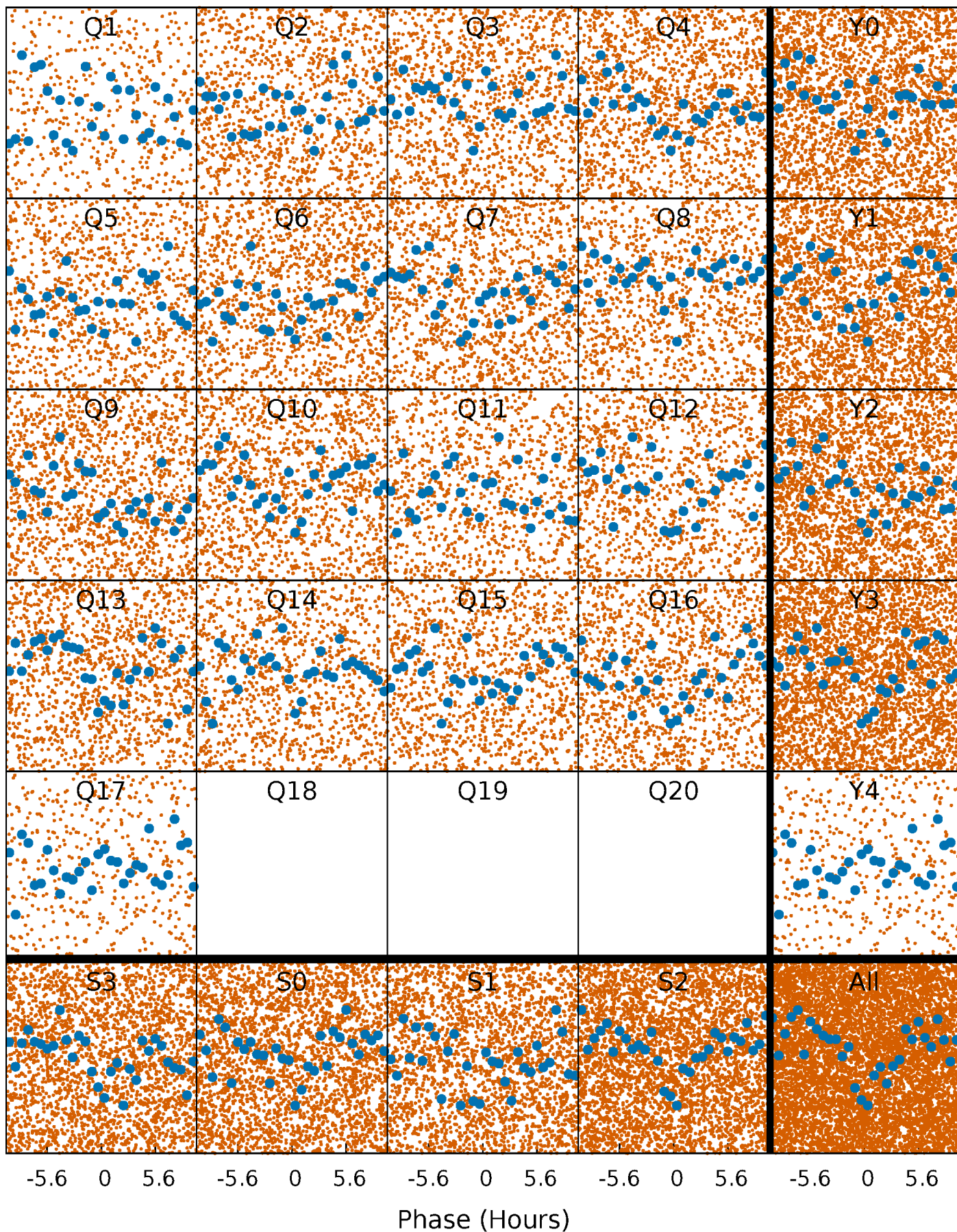


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



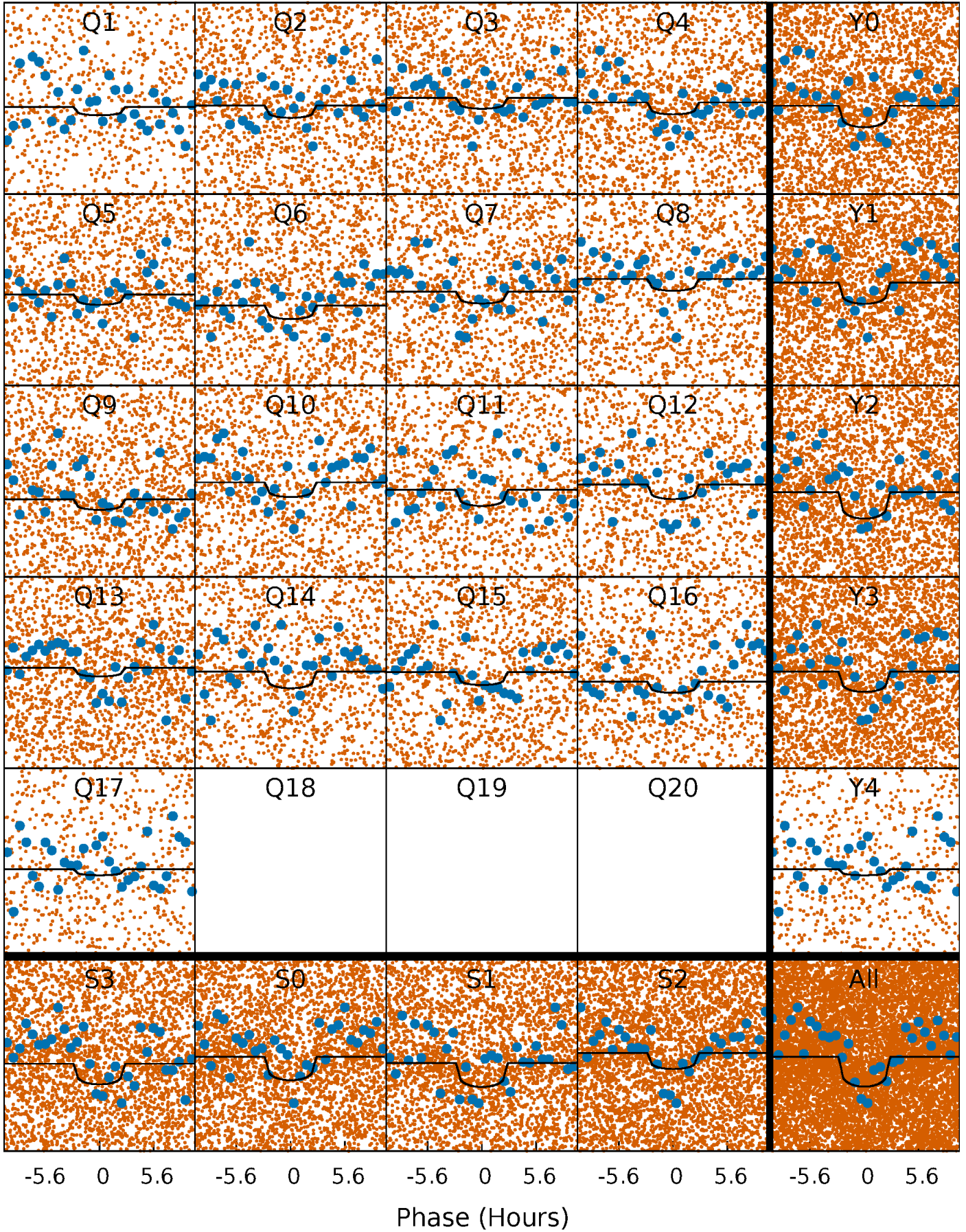
PDC Quarter-Phased Transit Curves

TCE 010405482-01 P= 0.933731 Days $T_0=132.456883$ (BKJD)



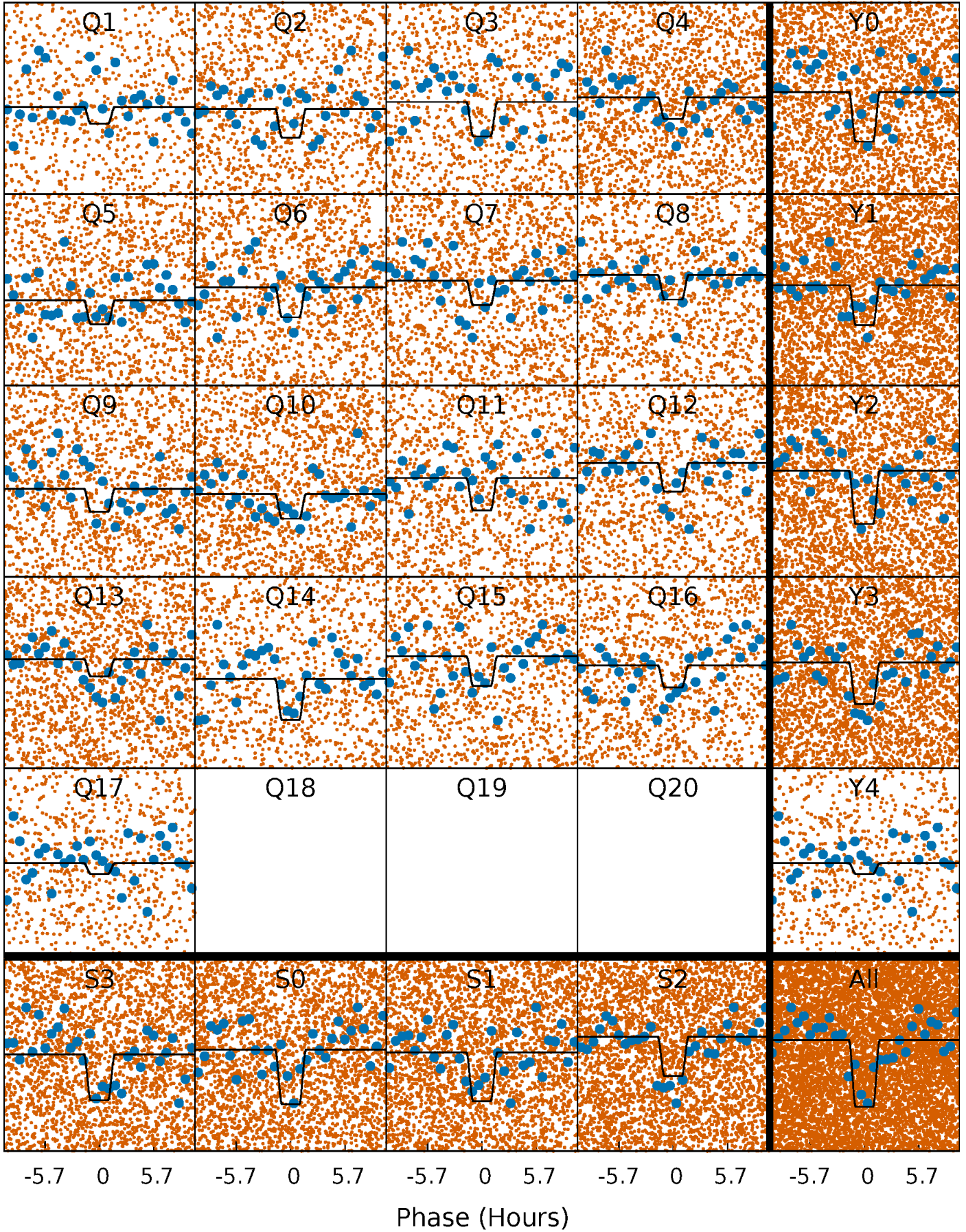
DV Quarter-Phased Transit Curves

TCE 010405482-01 P= 0.933731 Days $T_0=132.456883$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

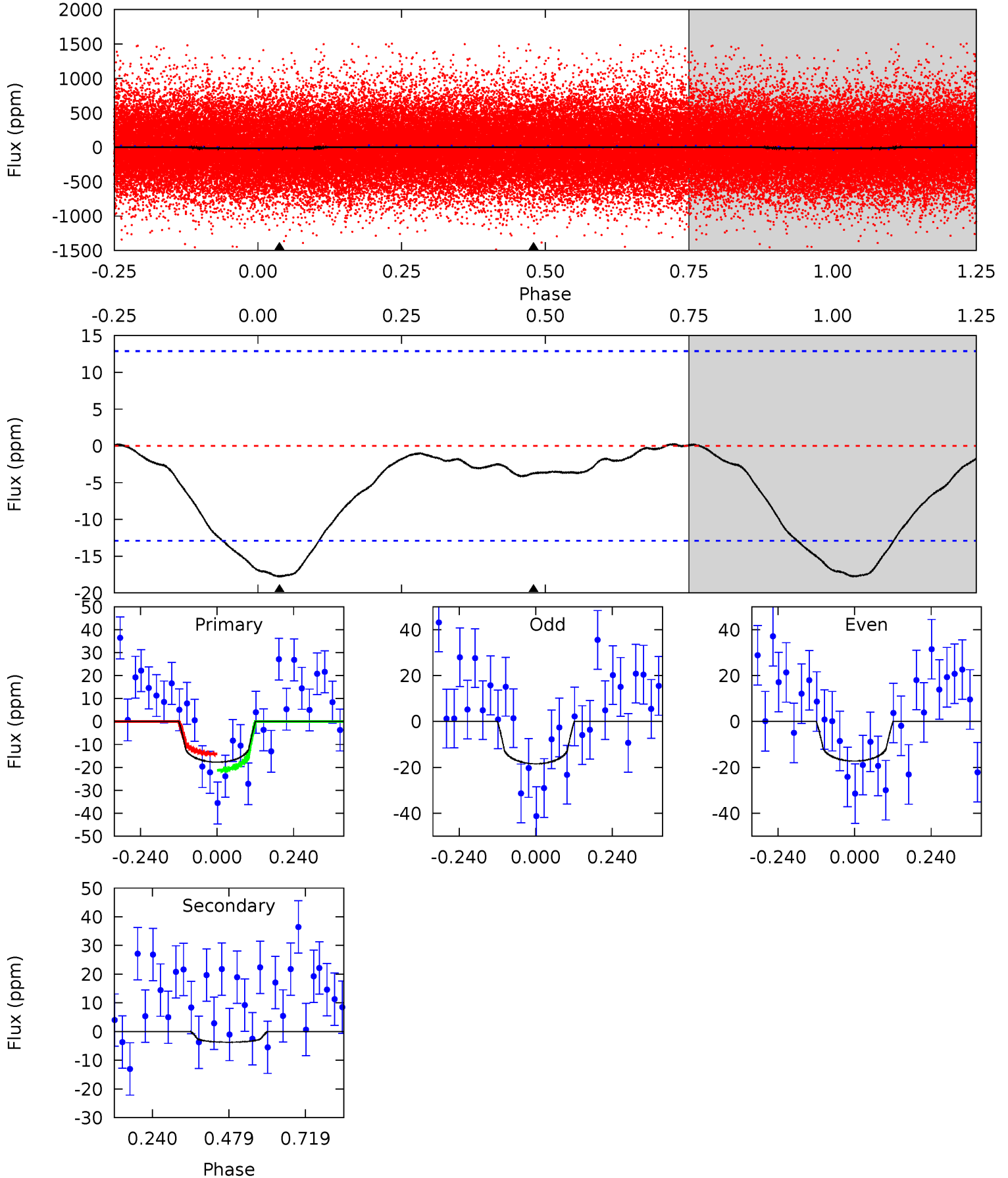
TCE 010405482-01 P= 0.933778 Days $T_0=132.422856$ (BKJD)



DV Model-Shift Uniqueness Test

010405482-01, P = 0.933731 Days, E = 130.589421 Days

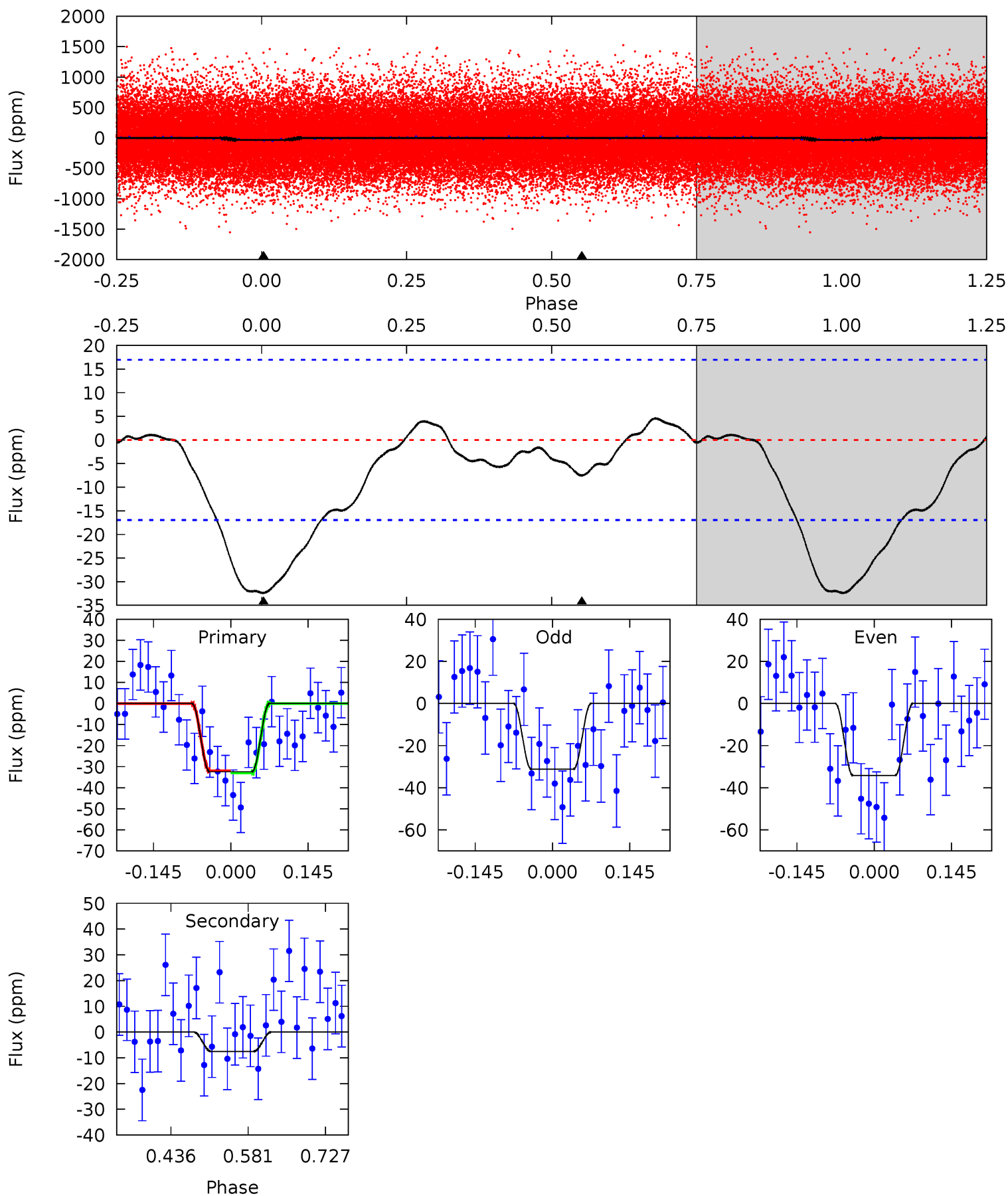
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.02	1.27	0	0	4.38	1.18	0.21	6.02	6.02	1.27	1.27	0.20	0.91	0.01	1.20



Alt Model-Shift Uniqueness Test

010405482-01, P = 0.933778 Days, E = 131.489078 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.57	1.99	0	0	4.49	1.46	1.10	8.57	8.57	1.99	1.99	0.40	0.96	0.12	0.14



Stellar Parameters For KIC 010405482

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6223^{+188}_{-206}	$4.459^{+0.056}_{-0.224}$	$-0.200^{+0.250}_{-0.300}$	$1.006^{+0.335}_{-0.112}$	$1.063^{+0.144}_{-0.144}$	$1.472^{+0.430}_{-0.787}$
	+3%/-3%	+1%/-5%	+125%/-150%	+33%/-11%	+14%/-14%	+29%/-53%
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 010405482-01 / KOI 8009.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 3	$1.08^{+1.17}_{-0.75}$	2848^{+219}_{-145}	2859^{+2032}_{-5811}	$0.497^{+4.902}_{-0.438}$
Alt.	-8 ± 4	$1.24^{+1.20}_{-0.83}$	2859^{+220}_{-135}	3374^{+2110}_{-6088}	$0.919^{+7.952}_{-0.749}$

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 $A_{obs} \gg 1.0$

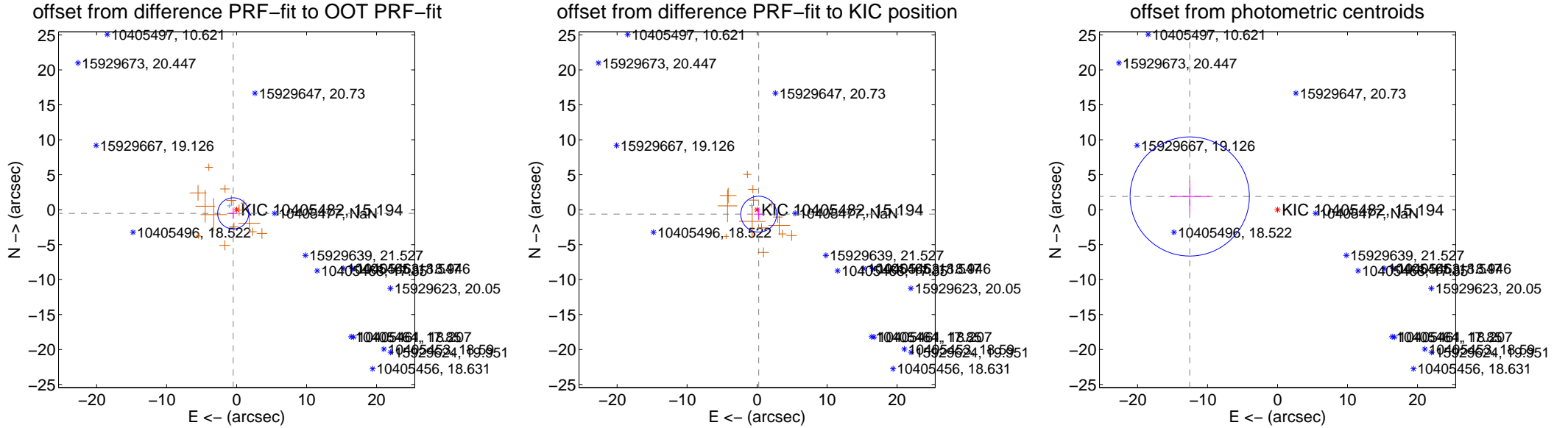
DV Centroid Data

Supplemental centroid analysis for 010405482-01. Kepler magnitude: 15.19. Transit SNR 5.28

There are 1 quarters with good PRF difference image offsets

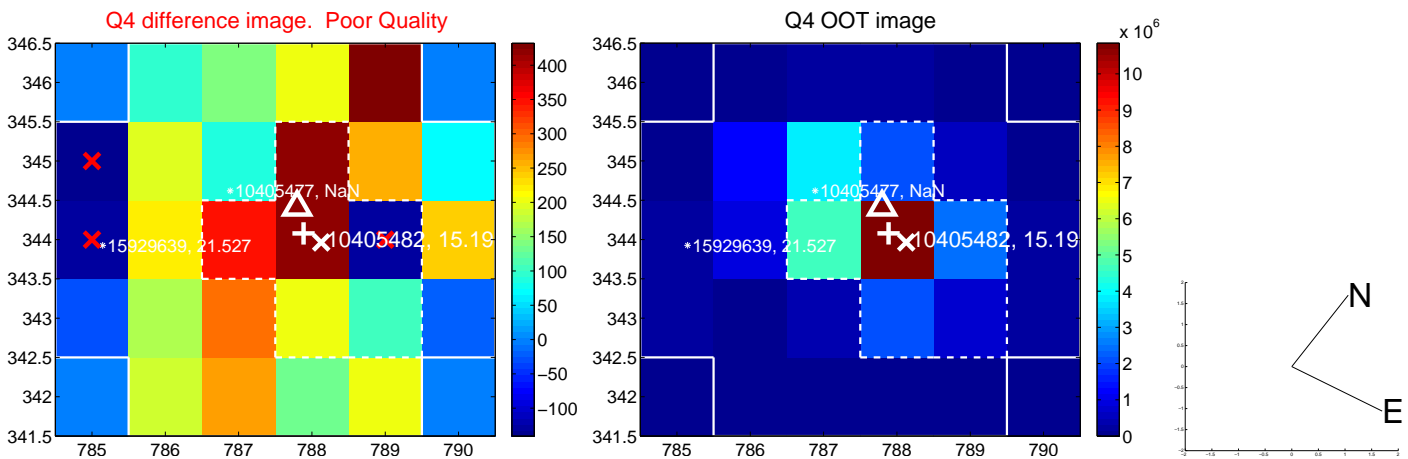
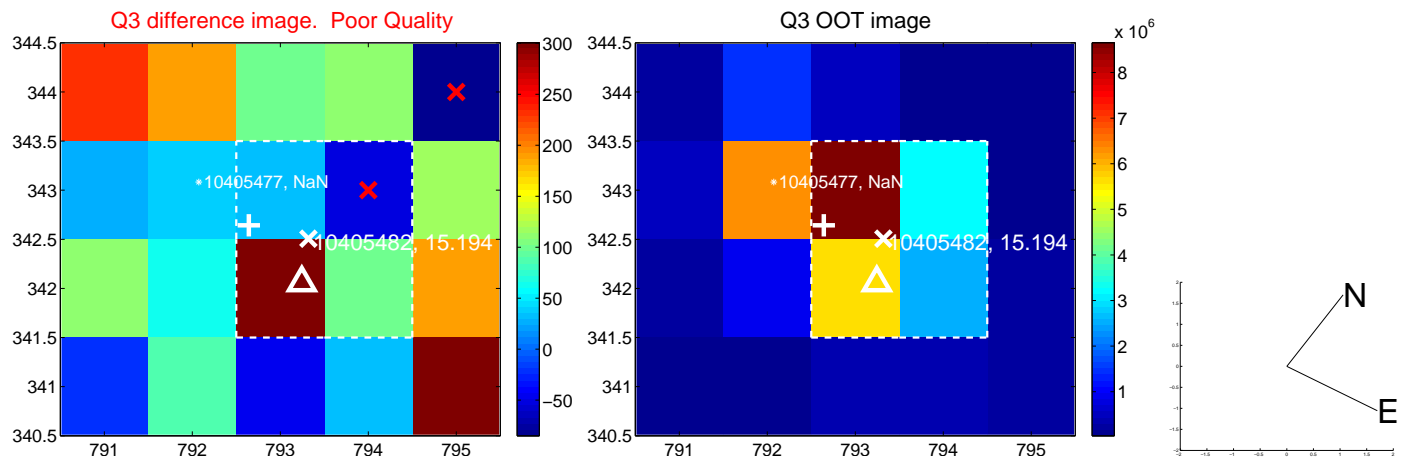
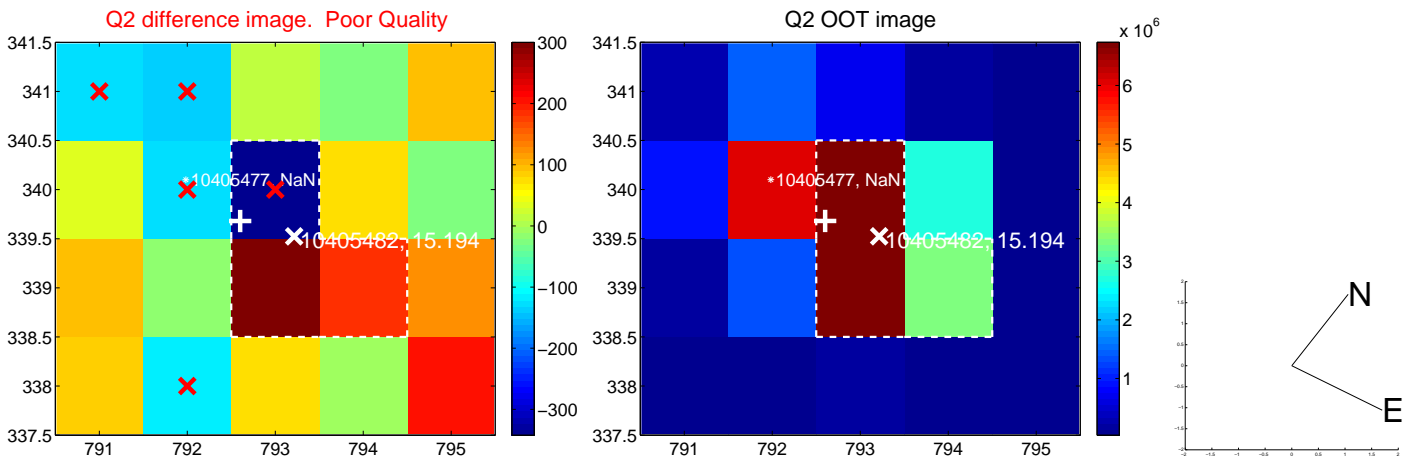
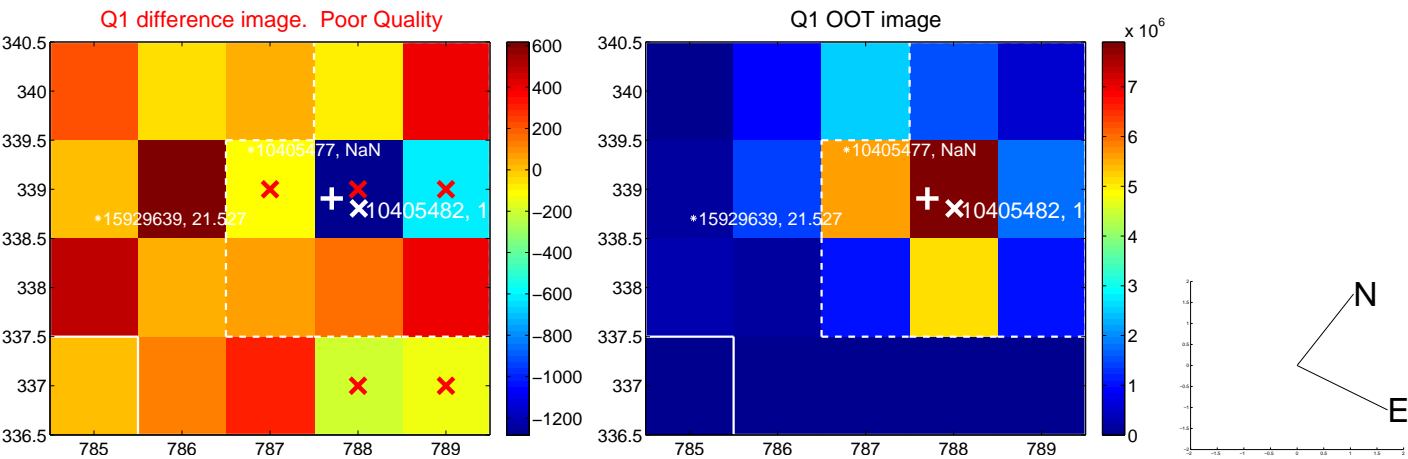
The direct PRF centroid is offset from the target star catalog position by about 1.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.711 ± 0.741	0.96	0.488 ± 0.629	-0.518 ± 0.827
PRF-fit source offset from KIC position	0.681 ± 0.855	0.80	-0.238 ± 0.685	-0.638 ± 0.876
photometric centroid source offset	12.69 ± 2.84	4.47	12.55 ± 2.85	1.89 ± 2.26

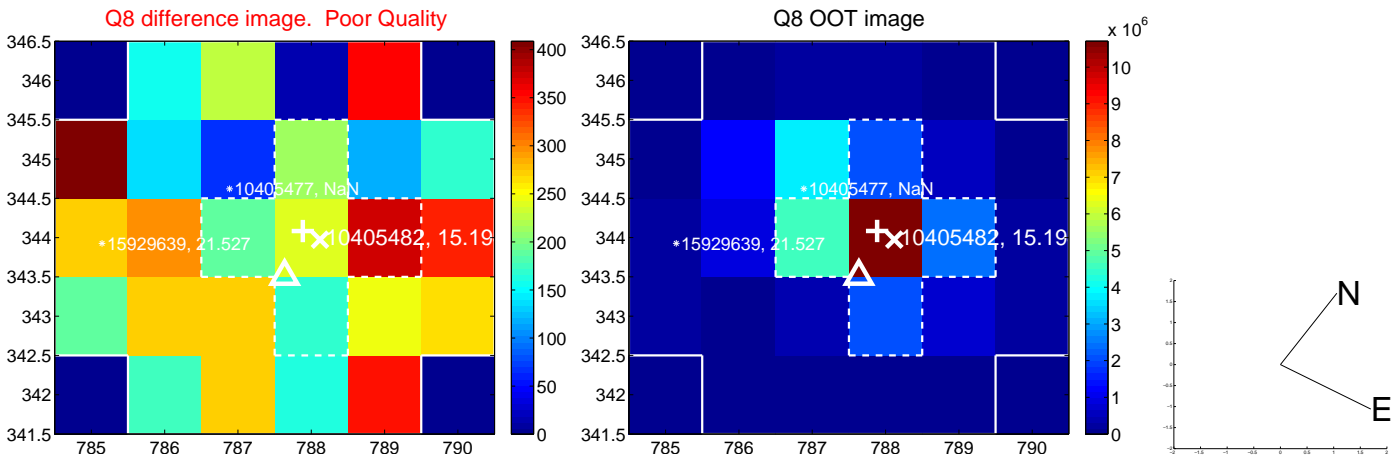
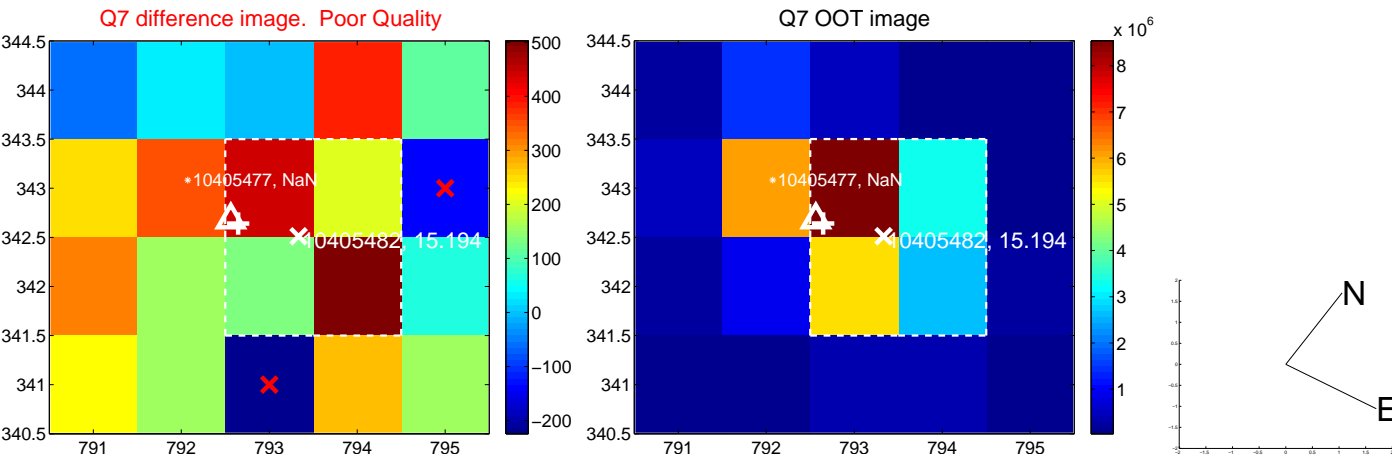
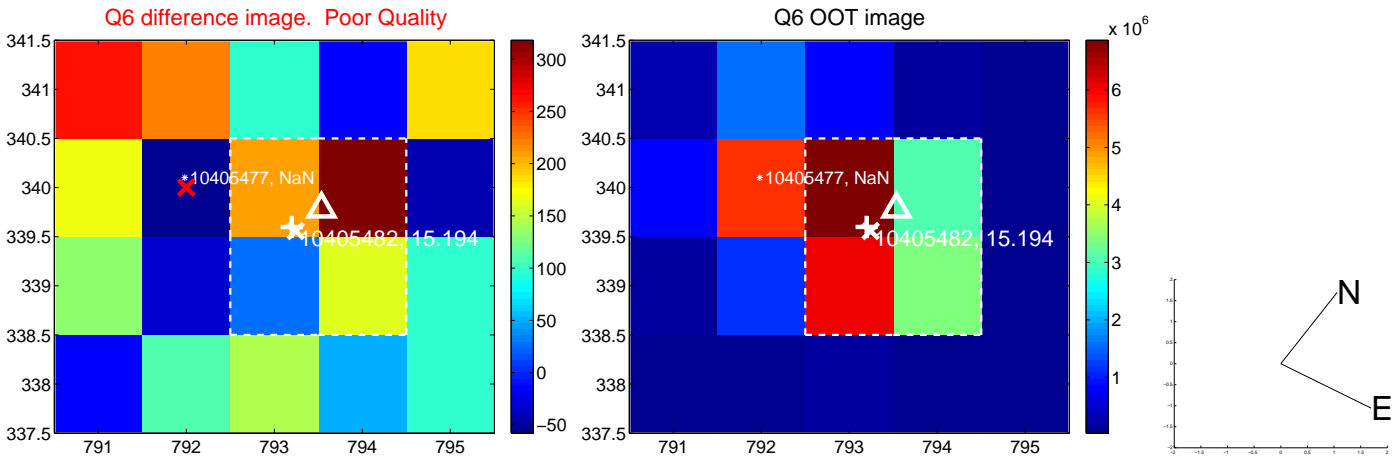
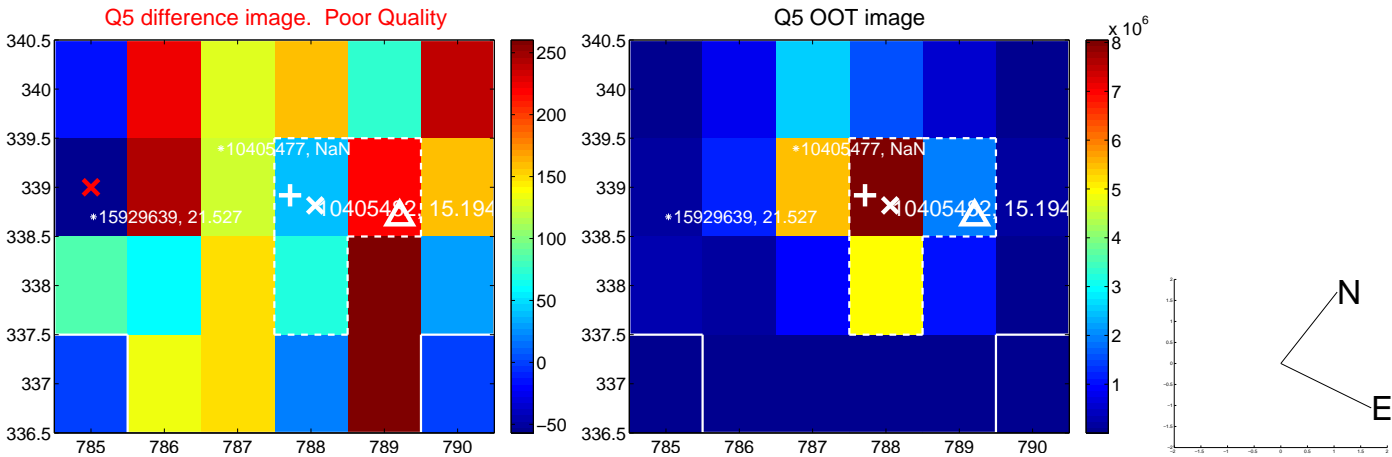


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

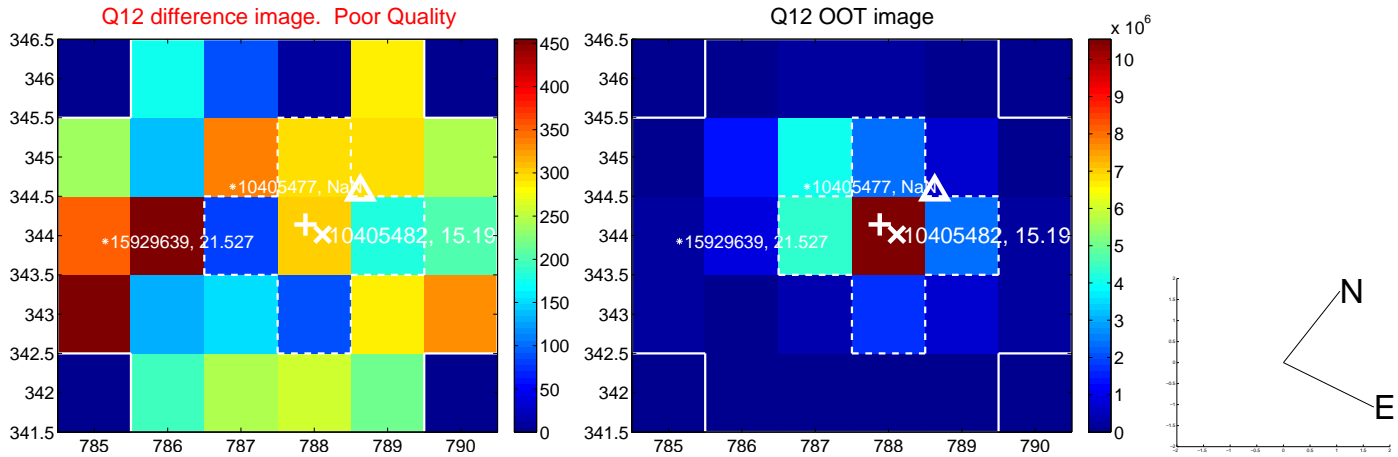
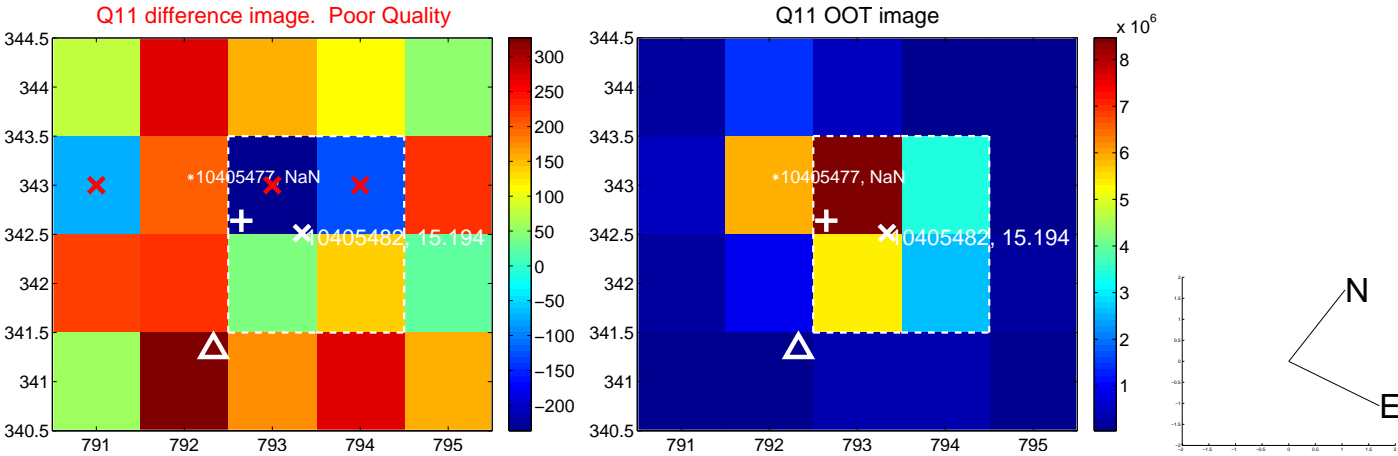
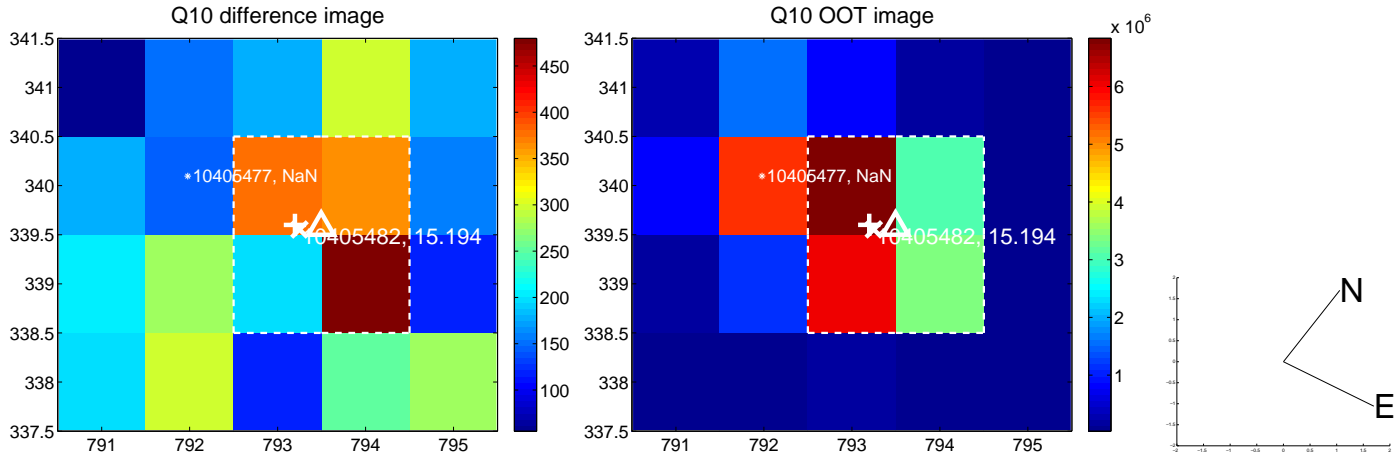
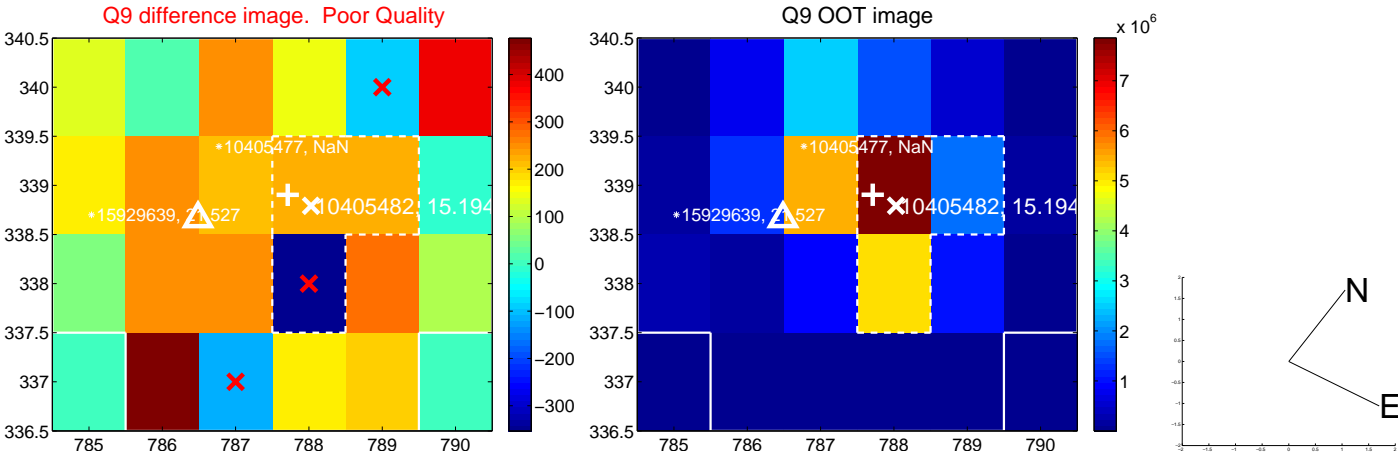
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



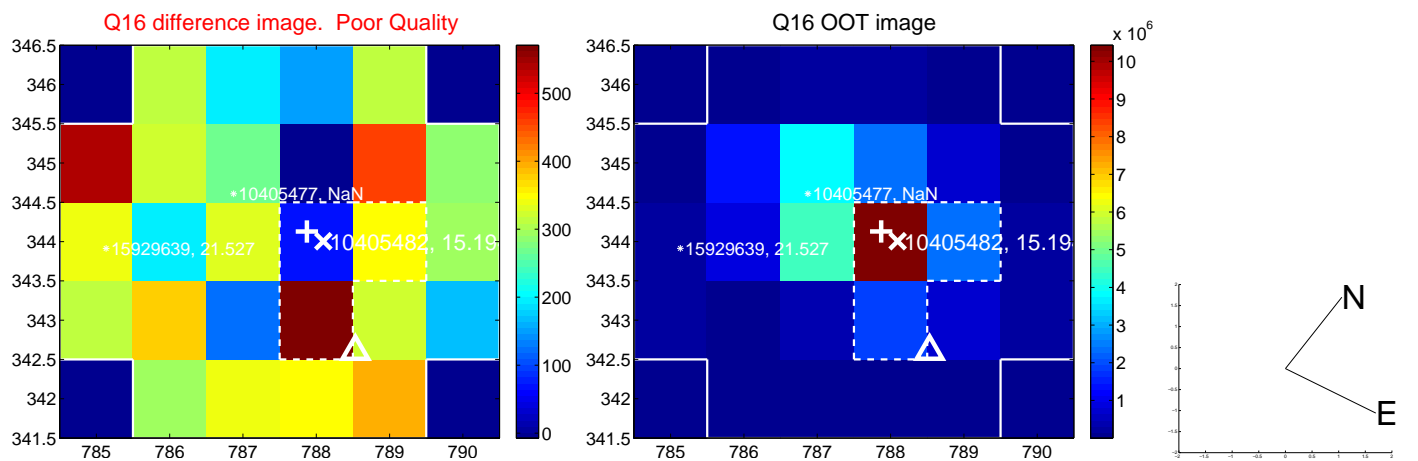
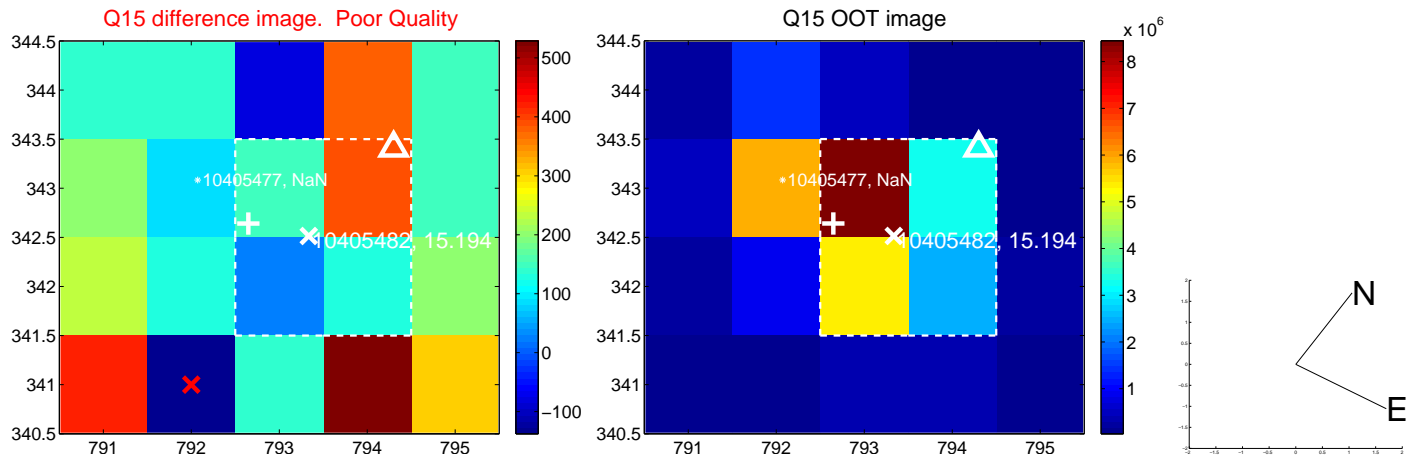
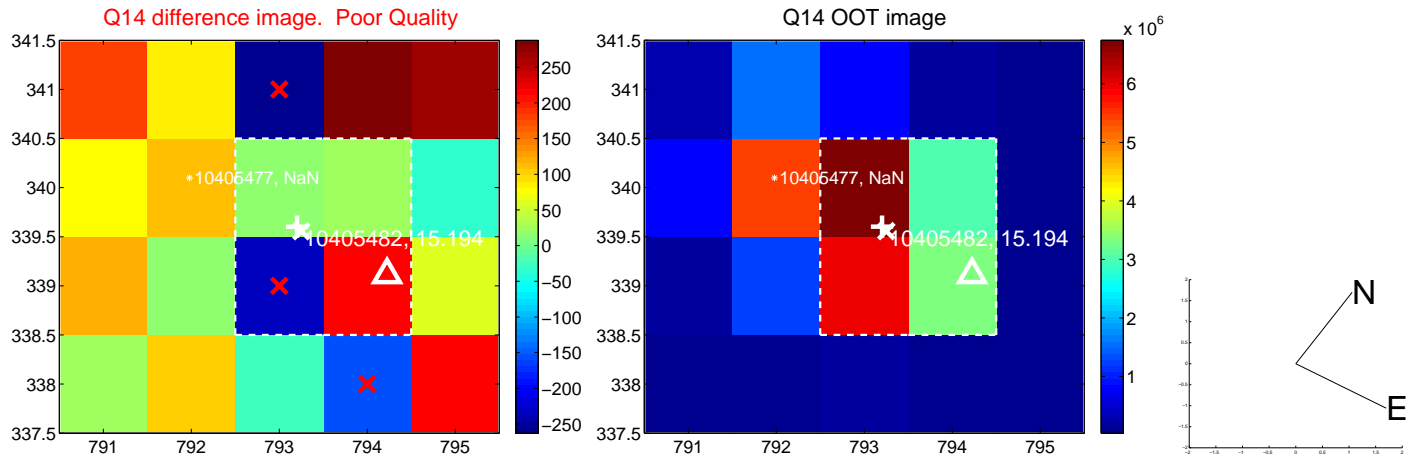
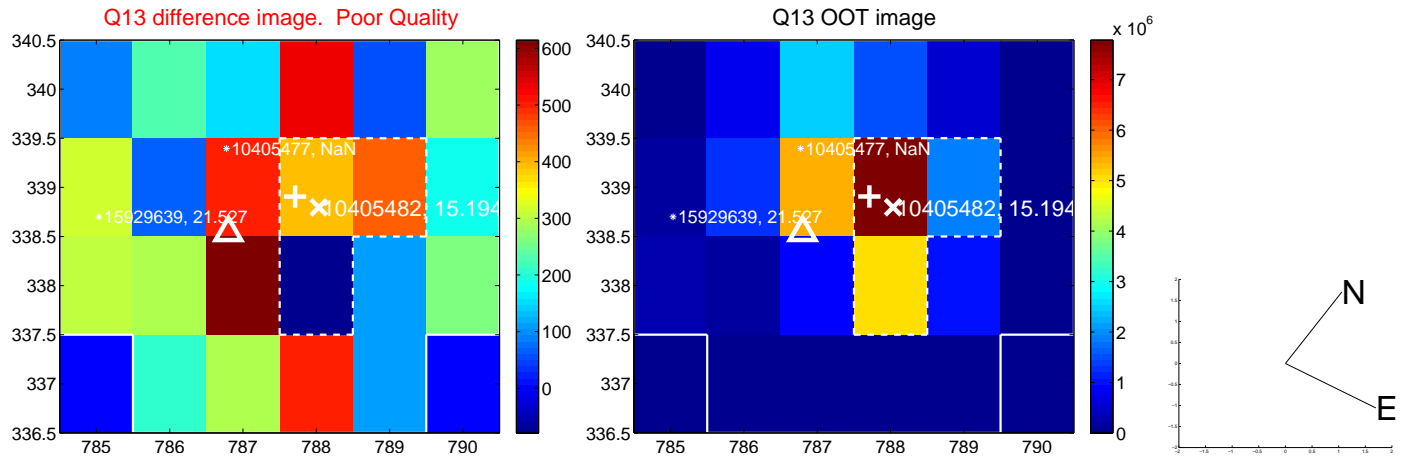
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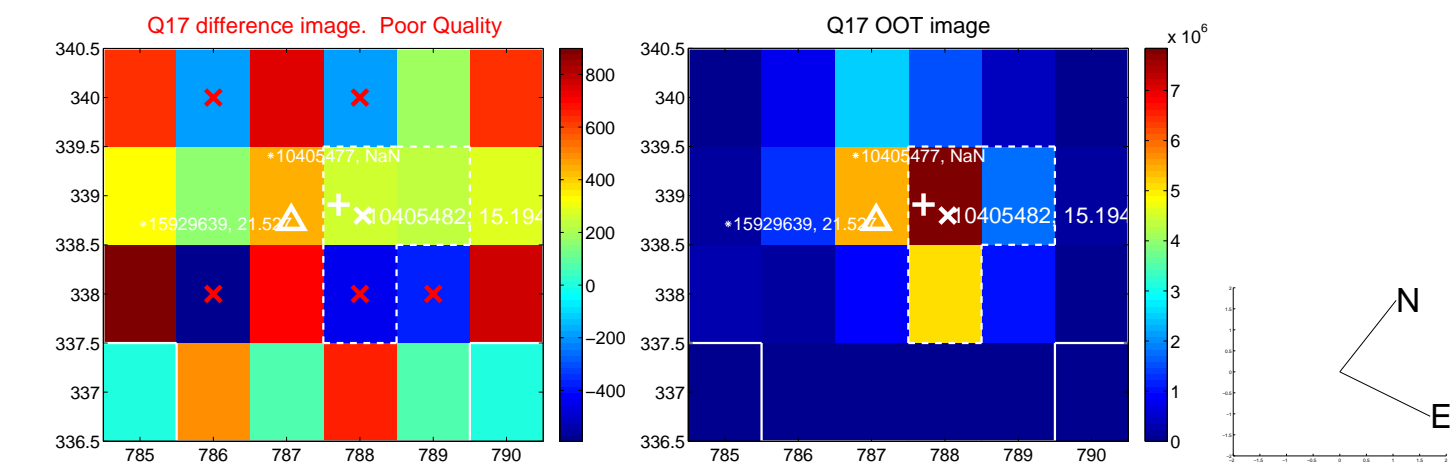
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



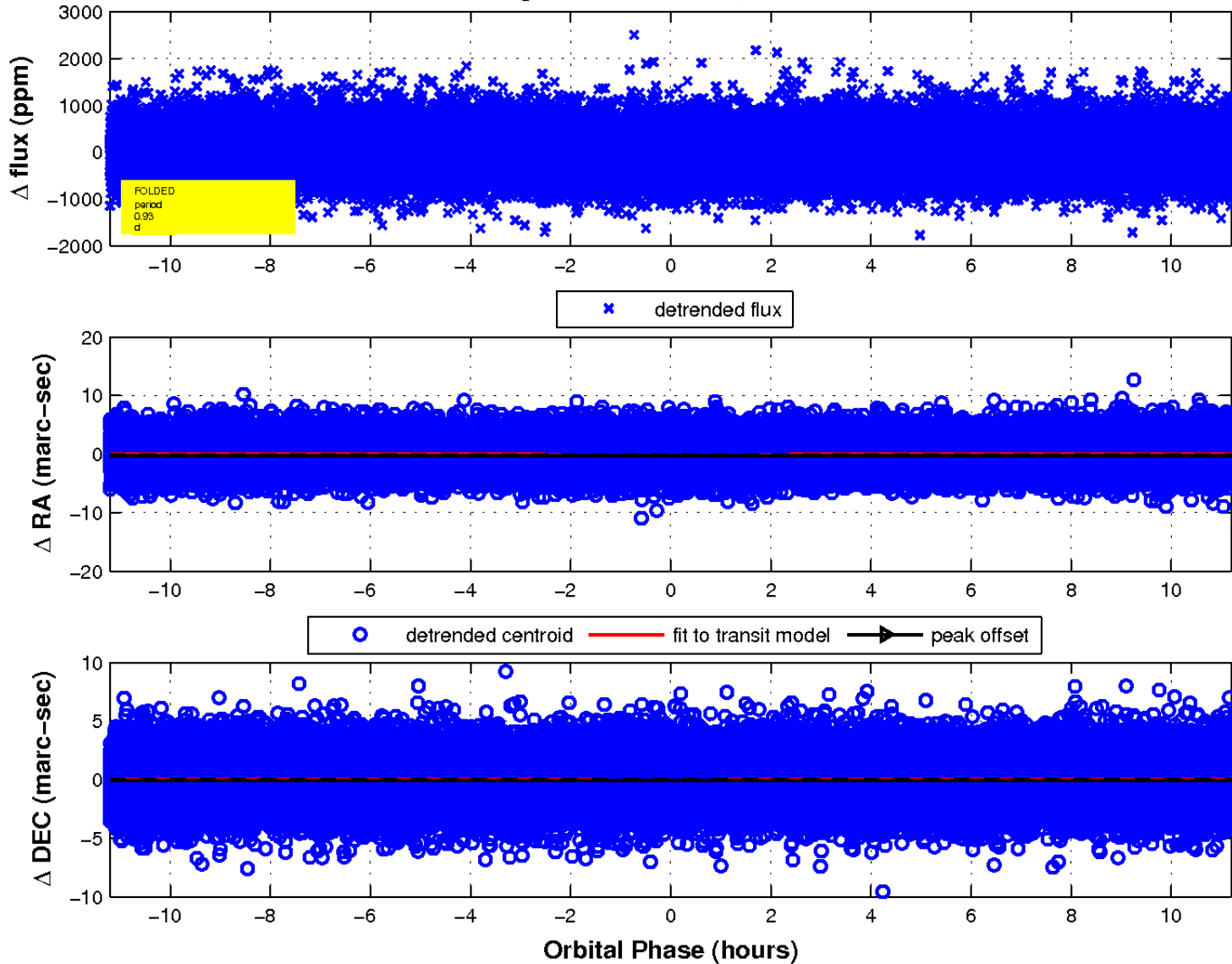
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



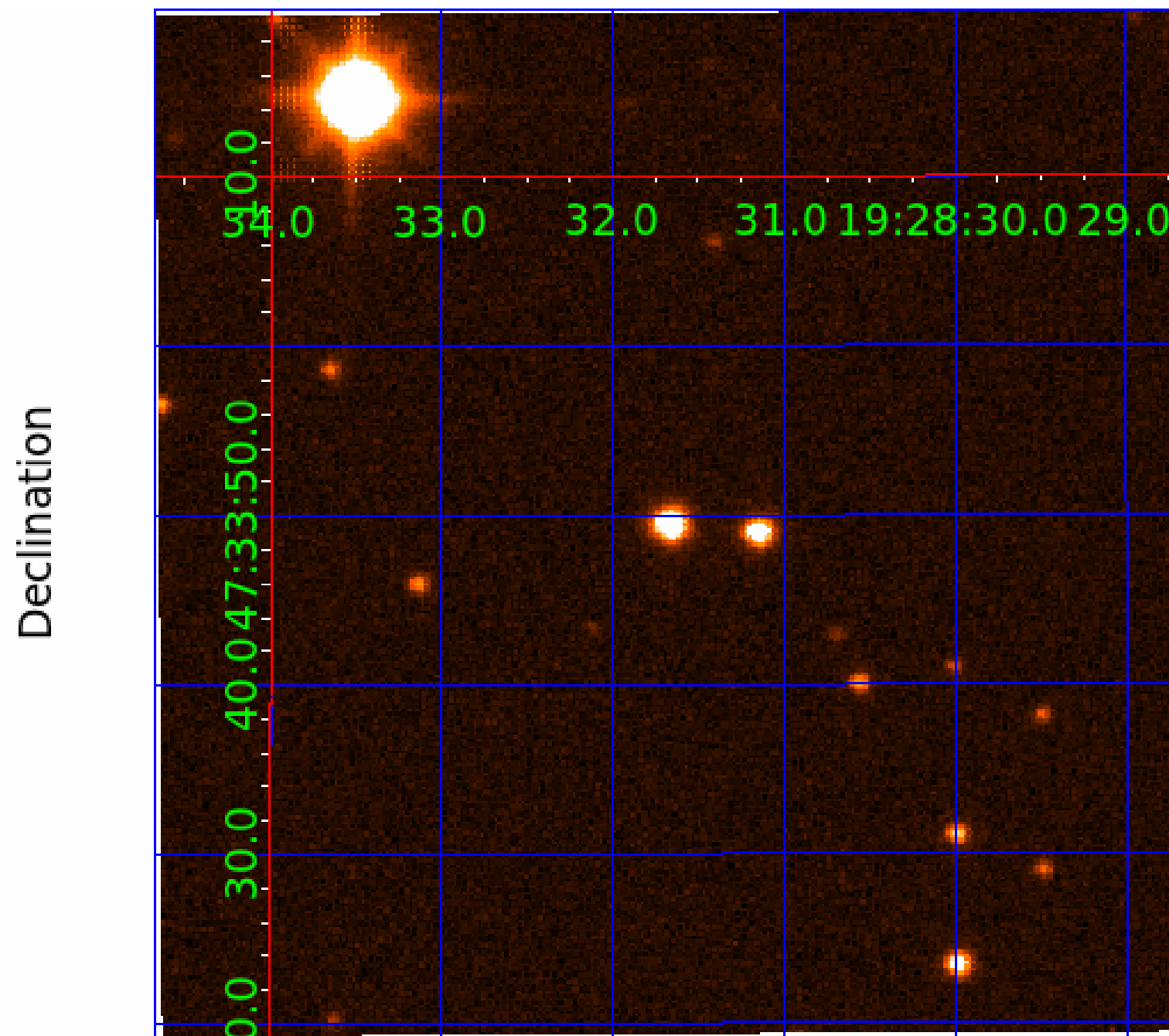
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 3



UKIRT Image



KIC 010405482

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

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010405482-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—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.

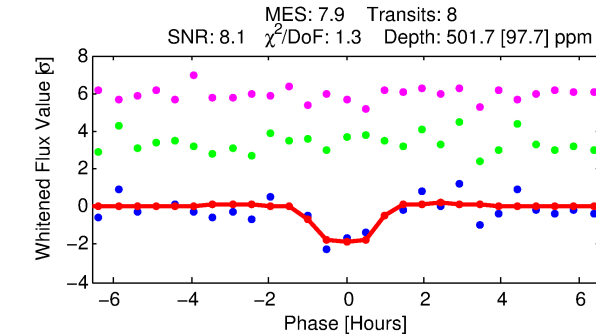
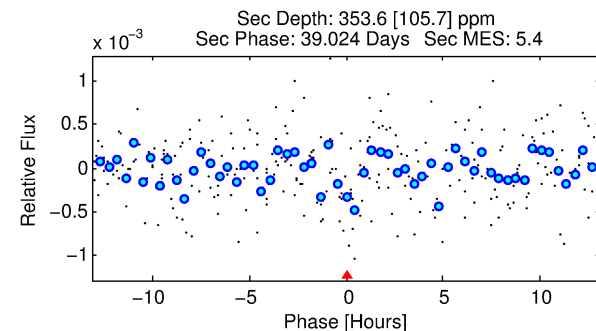
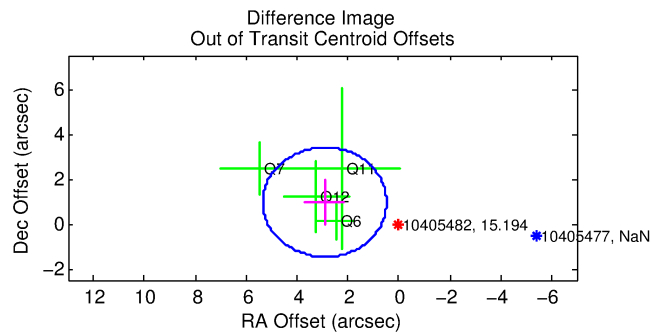
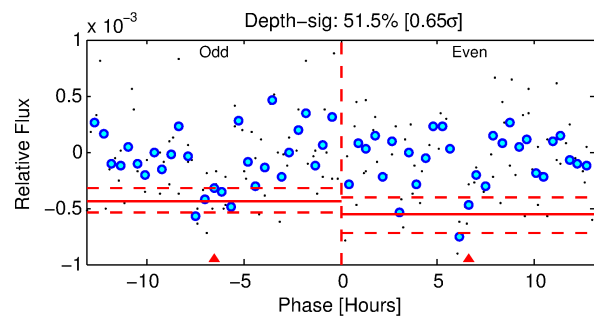
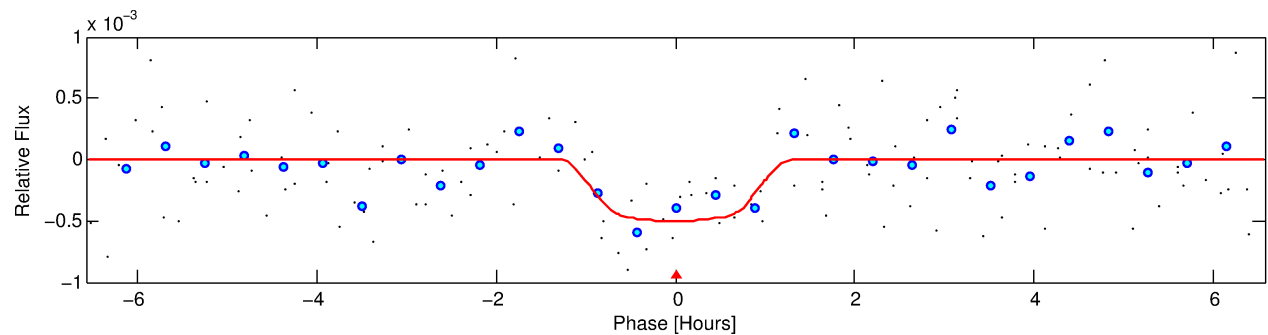
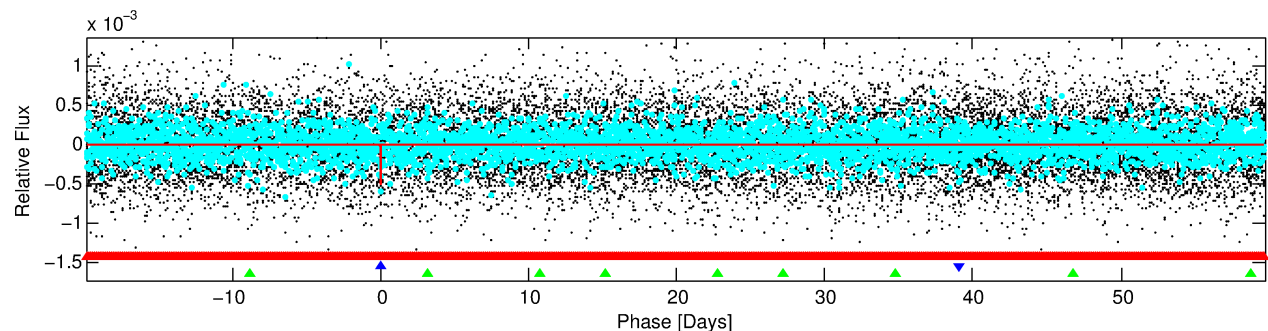
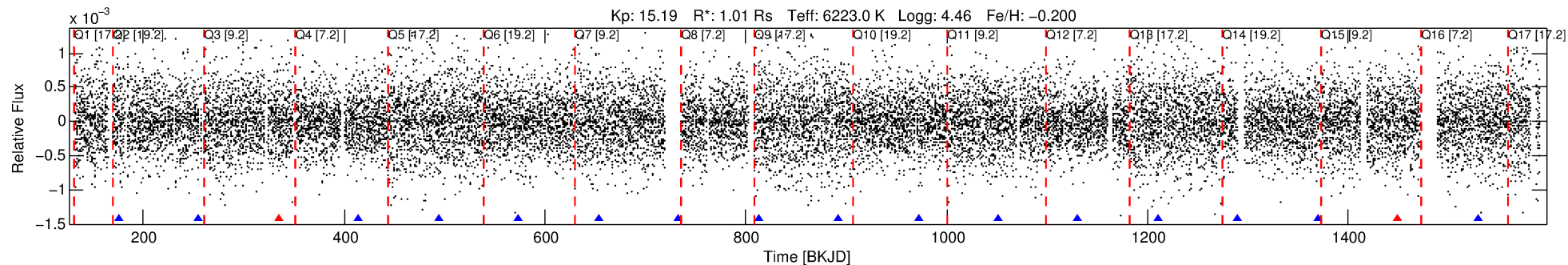
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010405482-02

No Significant Match Found

DV One-Page Summary

KIC: 10405482 Candidate: 2 of 3 Period: 79.628 d



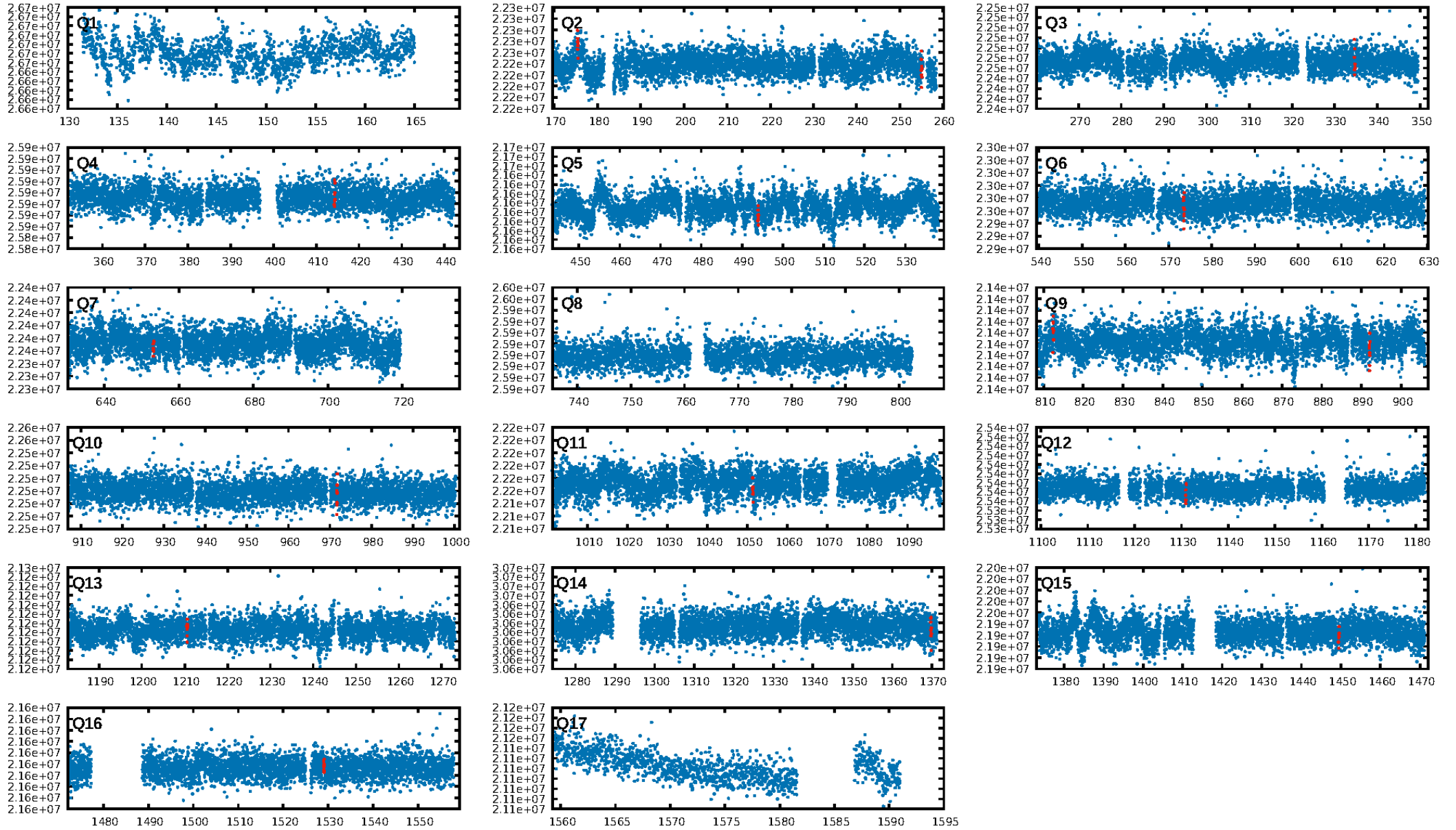
DV Fit Results:

Period = 79.62830 [0.00100] d
Epoch = 175.4184 [0.0111] BKJD
Rp/R* = 0.0241 [0.0238]
a/R* = 136.36 [703.78]
b = 0.90 [1.13]
Seff = 9.95 [4.28]
Teff = 453 [49] K
Rp = 2.65 [2.76] Re
a = 0.3697 [0.1038] AU
Ag = 3794.56 [7738.78] [0.49 σ]
Teffp = 5496 [2751] K [1.83 σ]

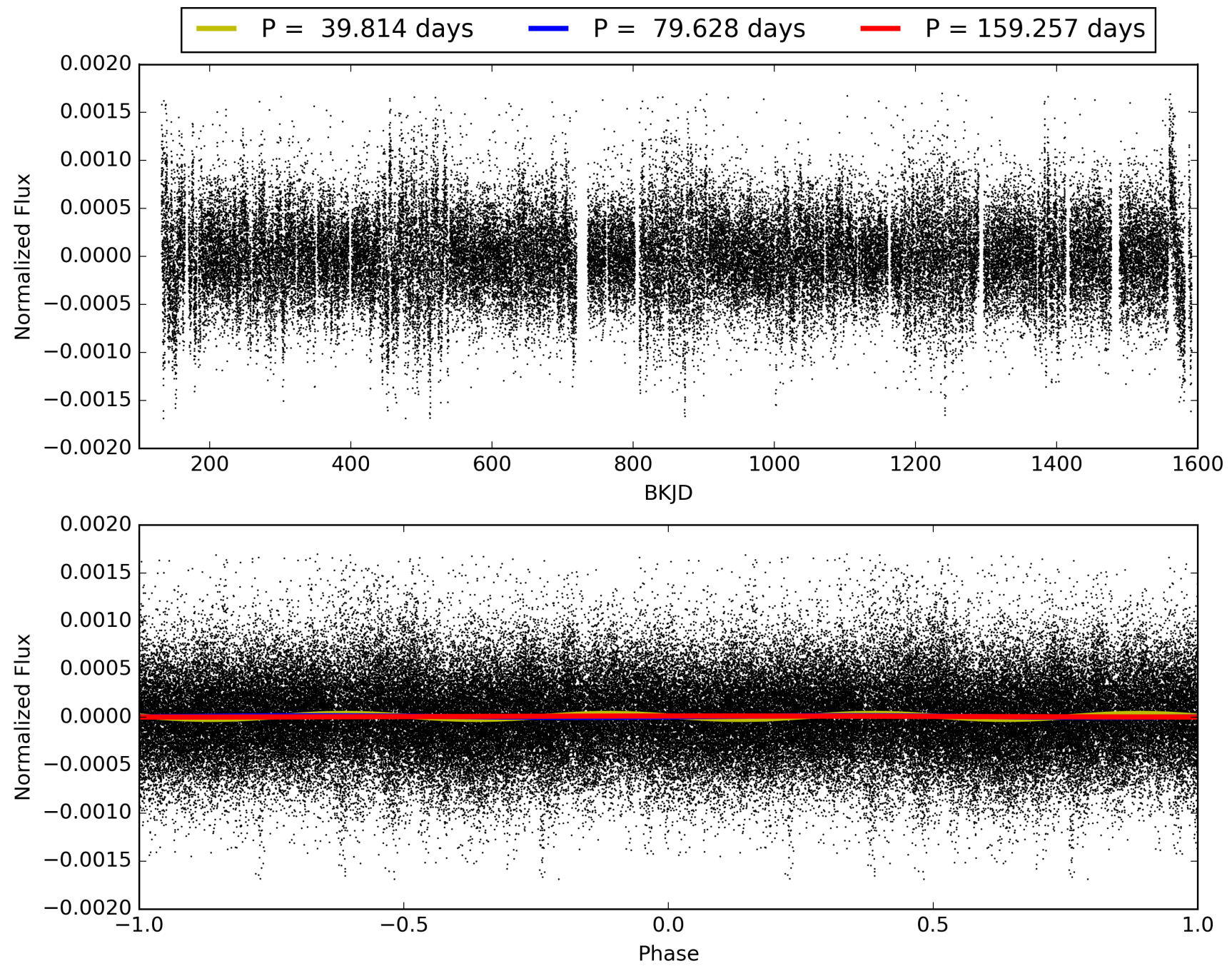
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [350.30 σ]
LongPeriod-sig: 100.0% [153.99 σ]
ModelChiSquare2-sig: 94.6%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.02e-10
RollingBand-fgt: 0.75 [6/8]
GhostDiagnostic-chr: -31.06
Centroid-sig: 17.5%
Centroid-so: 3.634 arcsec [2.18 σ]
OotOffset-rm: 3.070 arcsec [3.78 σ]
OotOffset-st: 1/2/1/0 [4]
KicOffset-rm: 0.790 arcsec [0.98 σ]
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.29 [4/14]

TCE 010405482-02, PDC Light Curves

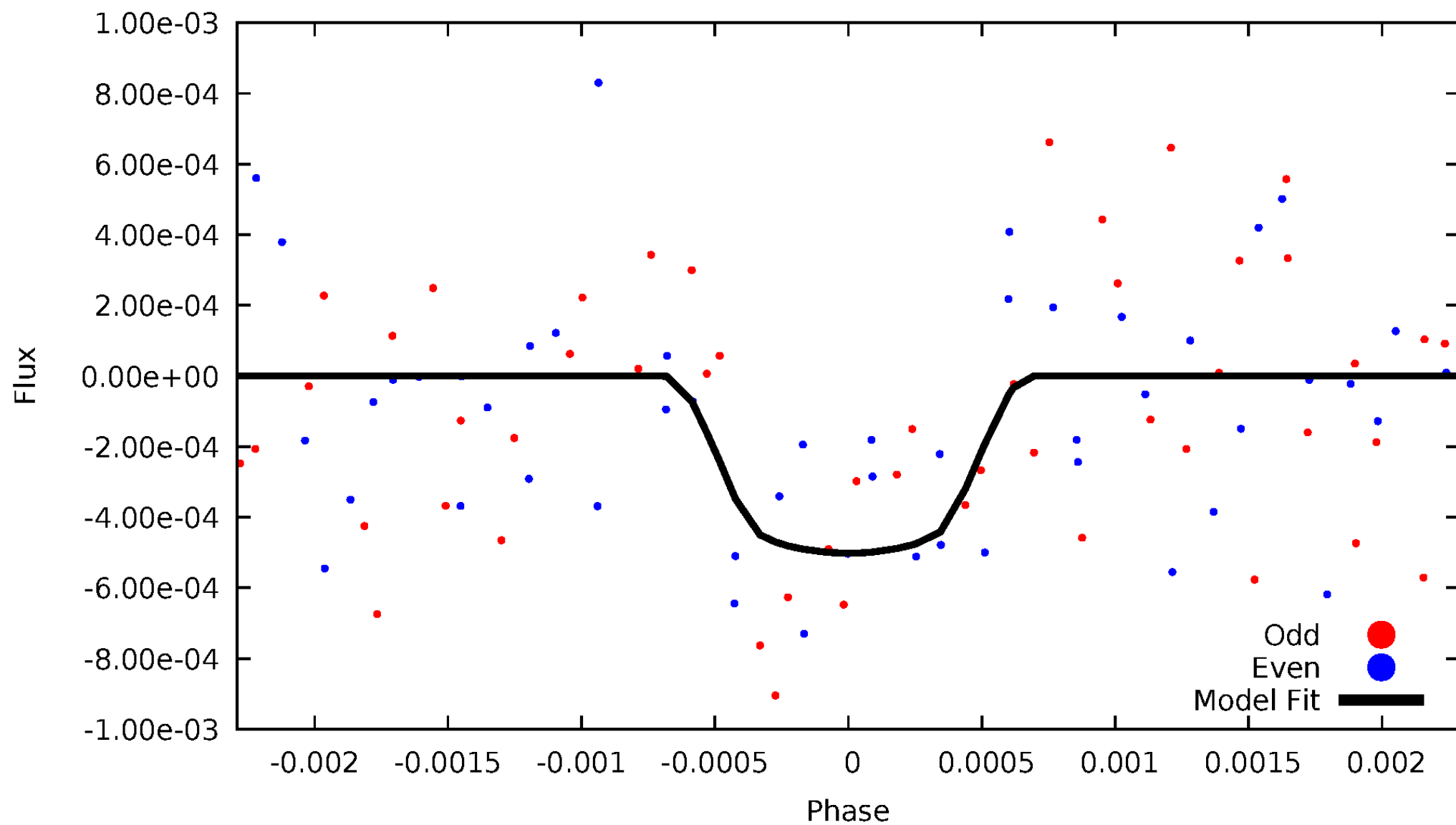


TCE 010405482-02



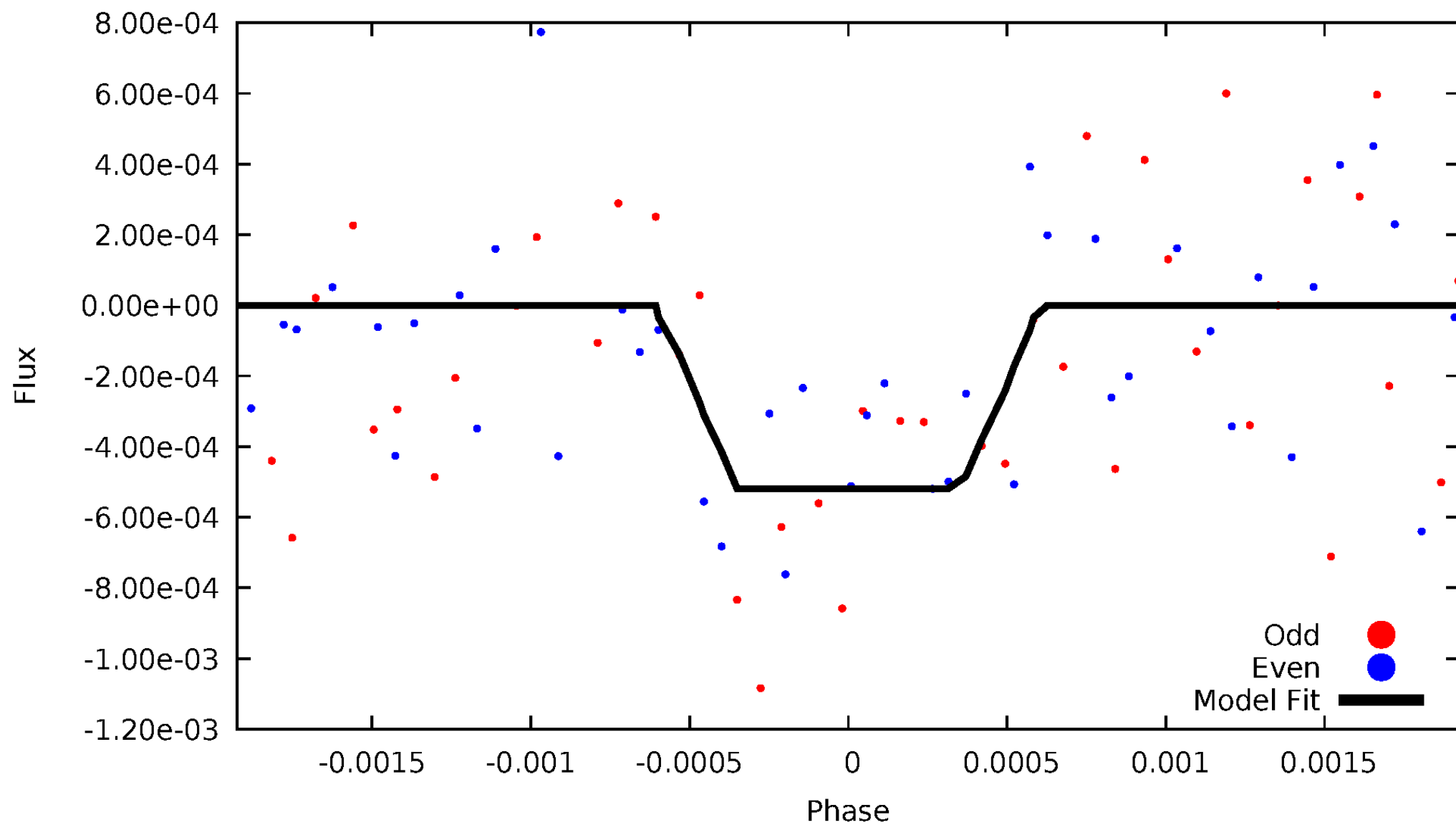
DV Odd/Even

TCE 010405482-02



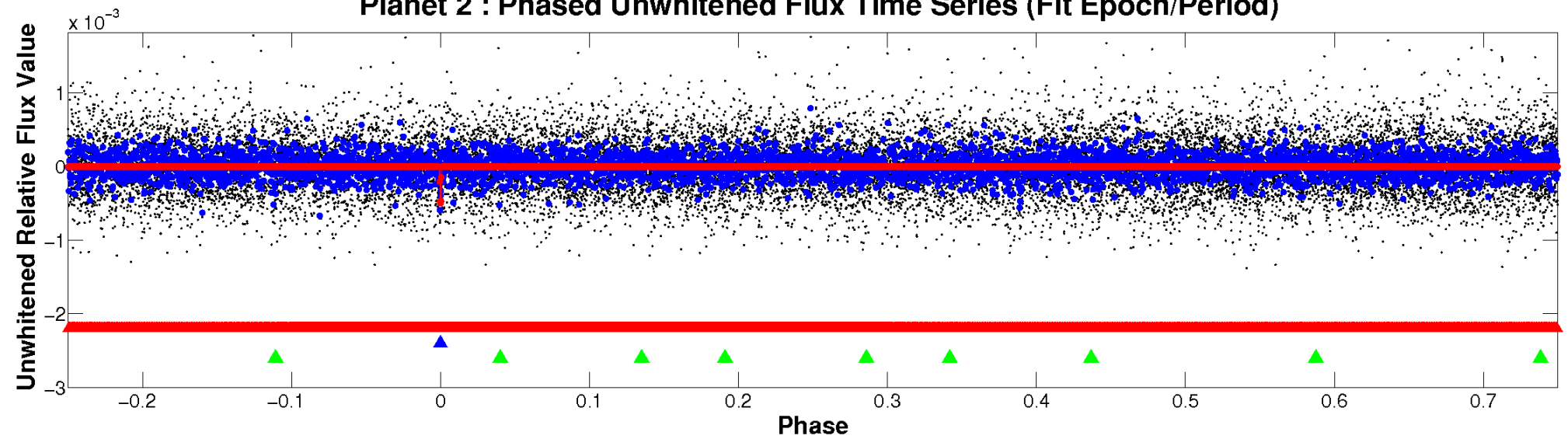
ALT Odd/Even

TCE 010405482-02

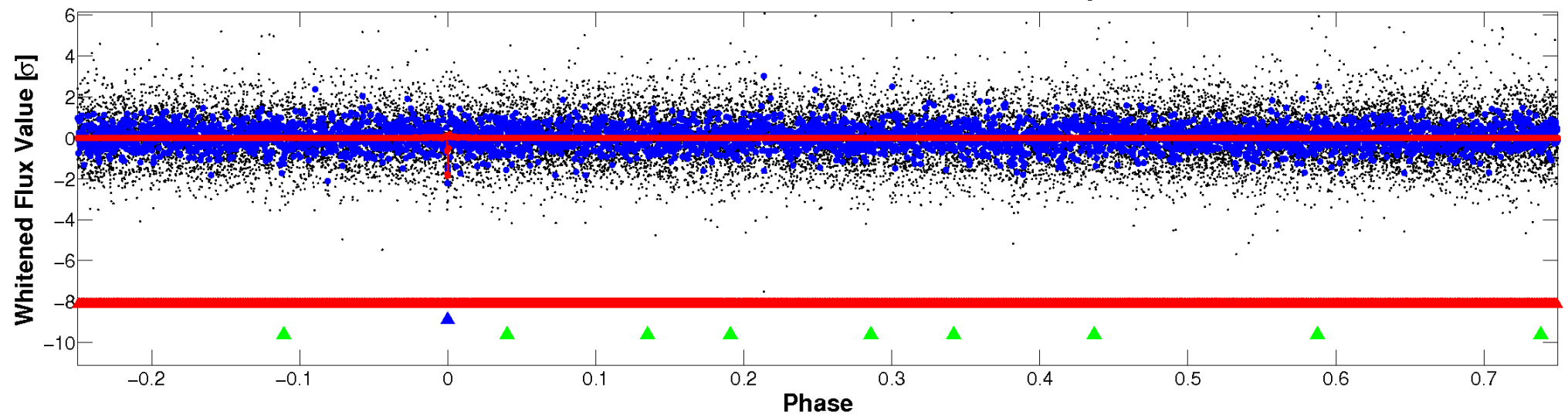


Non-Whitened Vs. Whitened Light Curve

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

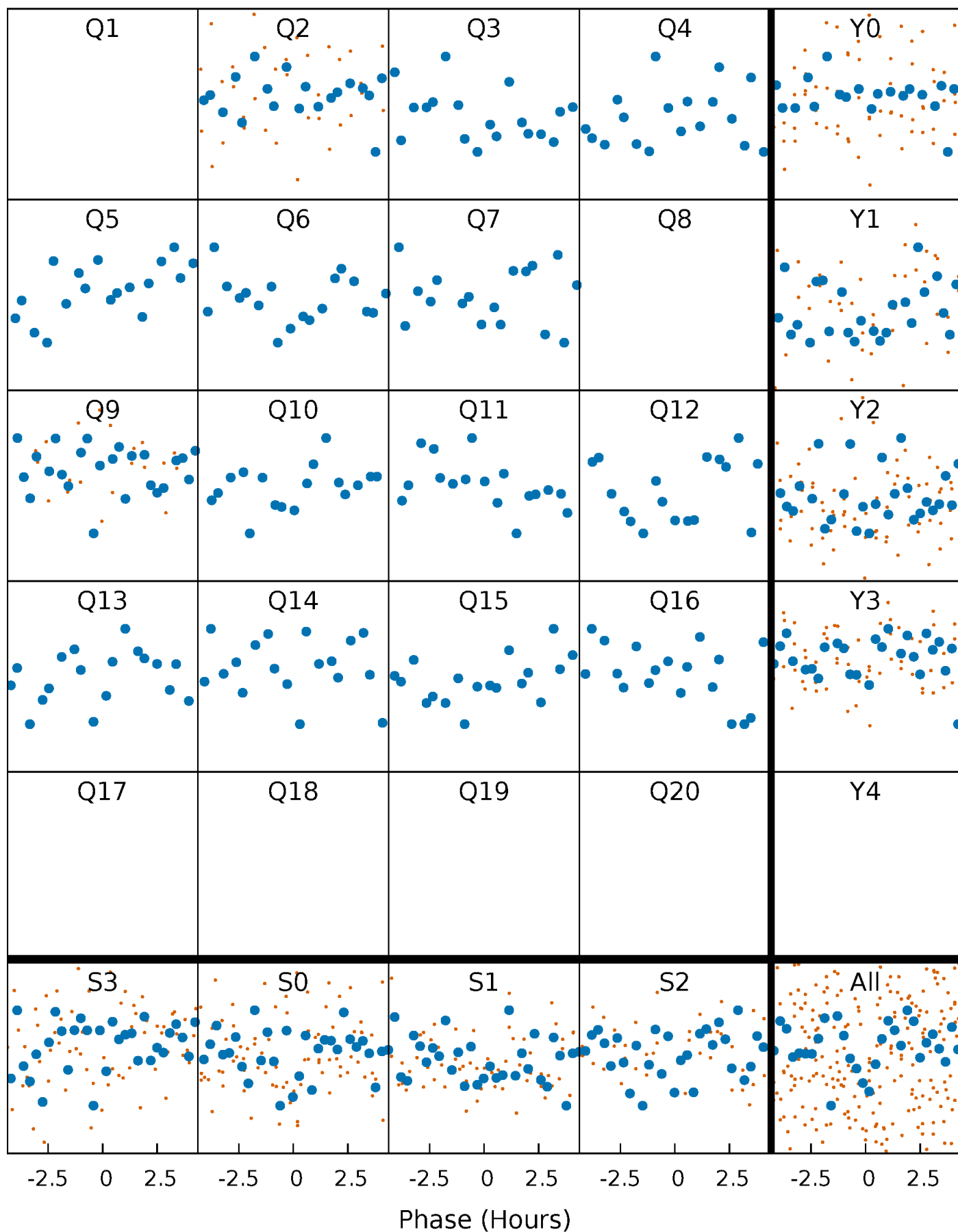


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



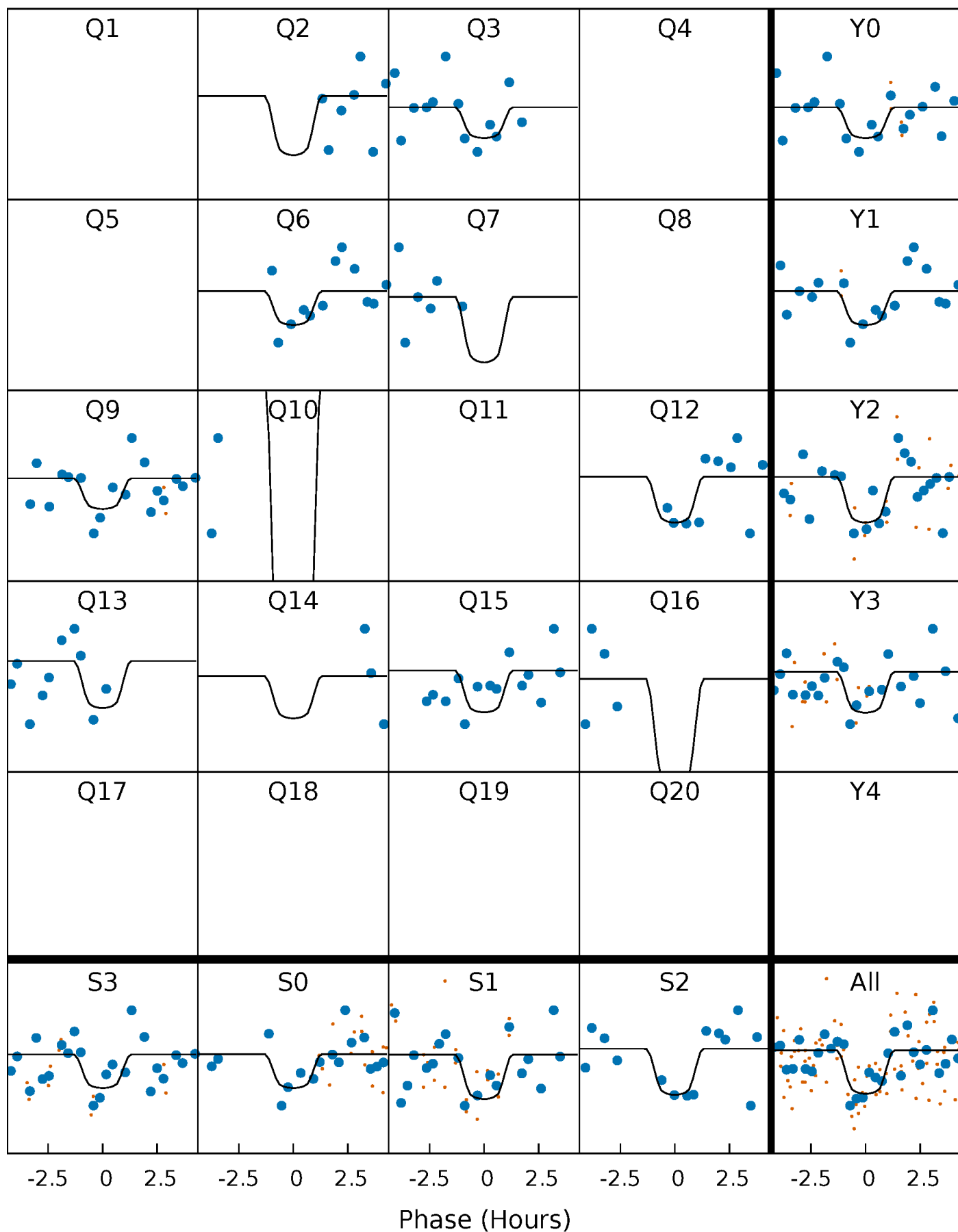
PDC Quarter-Phased Transit Curves

TCE 010405482-02 P= 79.628301 Days $T_0=175.418352$ (BKJD)



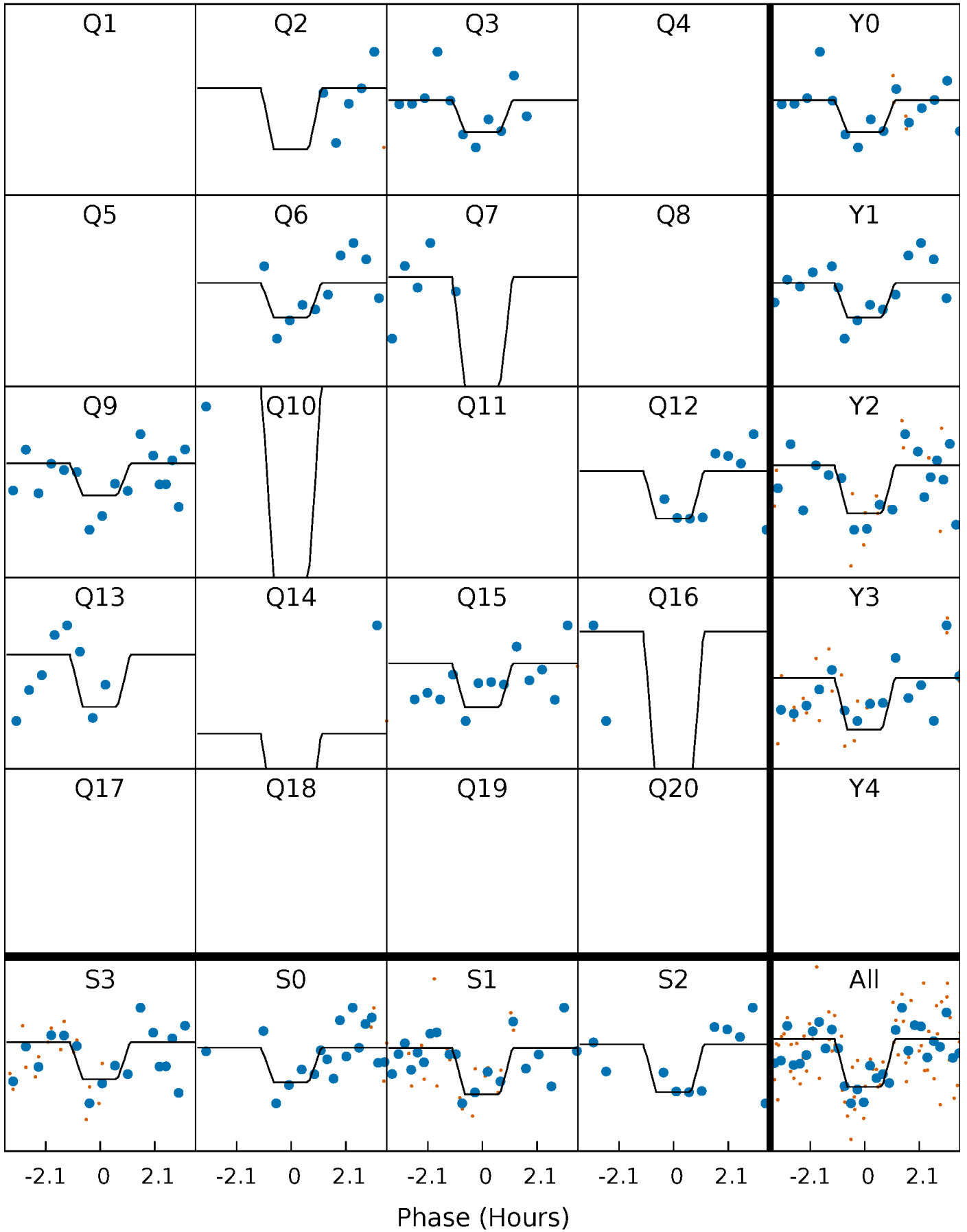
DV Quarter-Phased Transit Curves

TCE 010405482-02 P= 79.628301 Days $T_0=175.418352$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

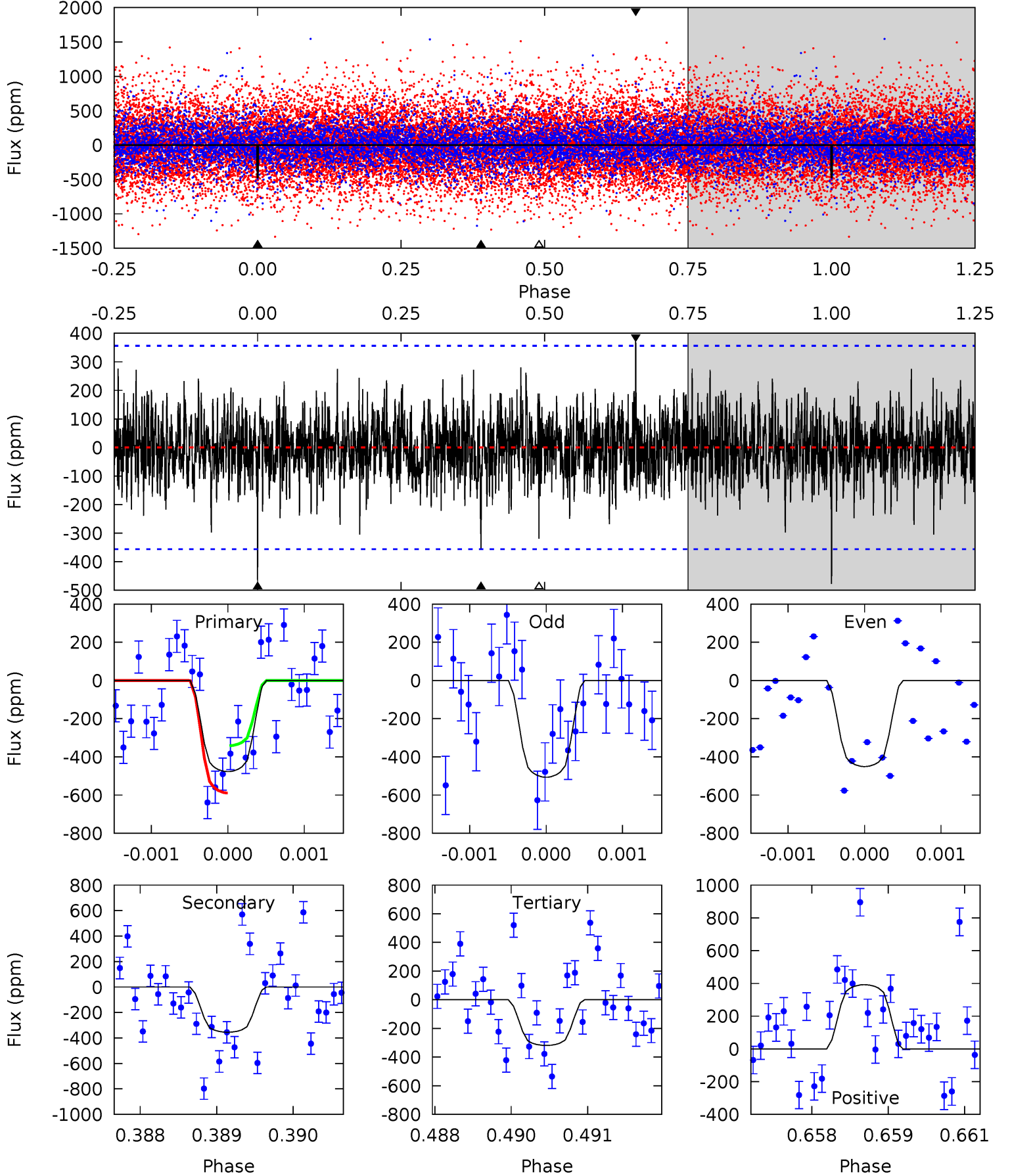
TCE 010405482-02 $P = 79.627964$ Days $T_0 = 175.421561$ (BKJD)



DV Model-Shift Uniqueness Test

010405482-02, P = 79.628301 Days, E = 95.790051 Days

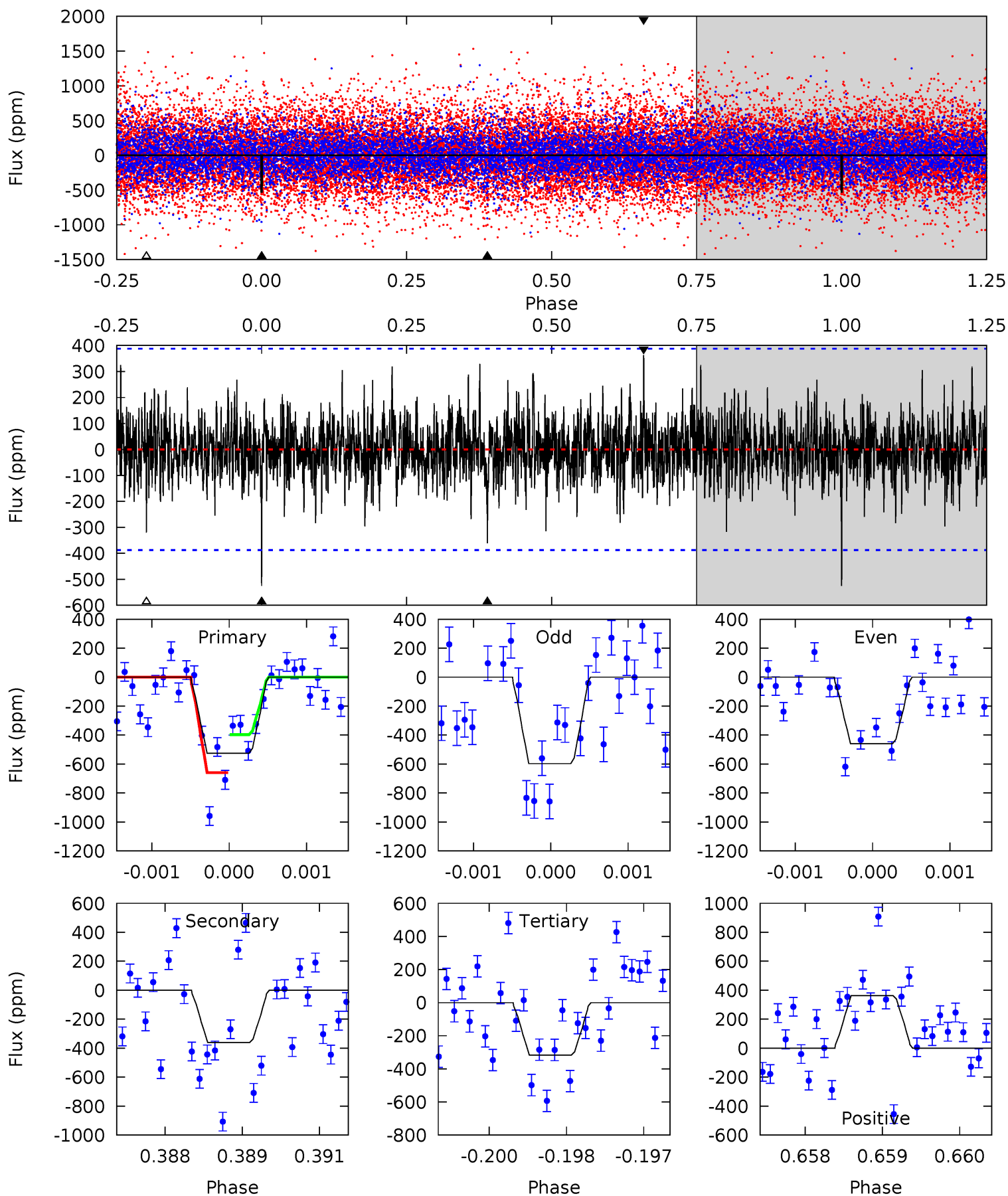
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.23	5.38	4.83	5.94	5.39	3.20	1.29	2.40	1.29	0.55	-0.56	0.42	0.92	0.45	1.88



Alt Model-Shift Uniqueness Test

010405482-02, P = 79.627964 Days, E = 95.793597 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.34	5.05	4.43	5.06	5.42	3.23	1.20	2.91	2.27	0.62	-0.01	0.96	1.01	0.41	1.83



Stellar Parameters For KIC 010405482

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6223^{+188}_{-206}	$4.459^{+0.056}_{-0.224}$	$-0.200^{+0.250}_{-0.300}$	$1.006^{+0.335}_{-0.112}$	$1.063^{+0.144}_{-0.144}$	$1.472^{+0.430}_{-0.787}$
	+3%/-3%	+1%/-5%	+125%/-150%	+33%/-11%	+14%/-14%	+29%/-53%
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 010405482-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-355 ± 66	$3.31^{+2.56}_{-2.08}$	651^{+47}_{-35}	5102^{+3537}_{-1001}	2313^{+14441}_{-1558}
Alt.	-361 ± 72	$3.28^{+2.59}_{-2.17}$	649^{+50}_{-32}	5130^{+4049}_{-1081}	2497^{+18363}_{-1780}

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 $A_{obs} \gg 1.0$

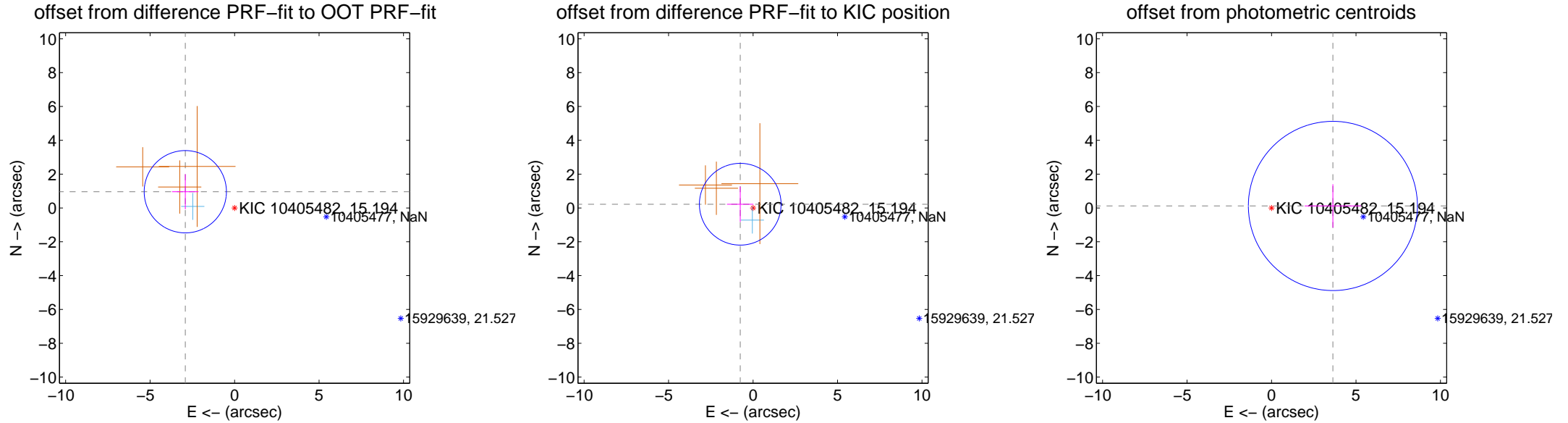
DV Centroid Data

Supplemental centroid analysis for 010405482-02. Kepler magnitude: 15.19. Transit SNR 8.14

There are 1 quarters with good PRF difference image offsets

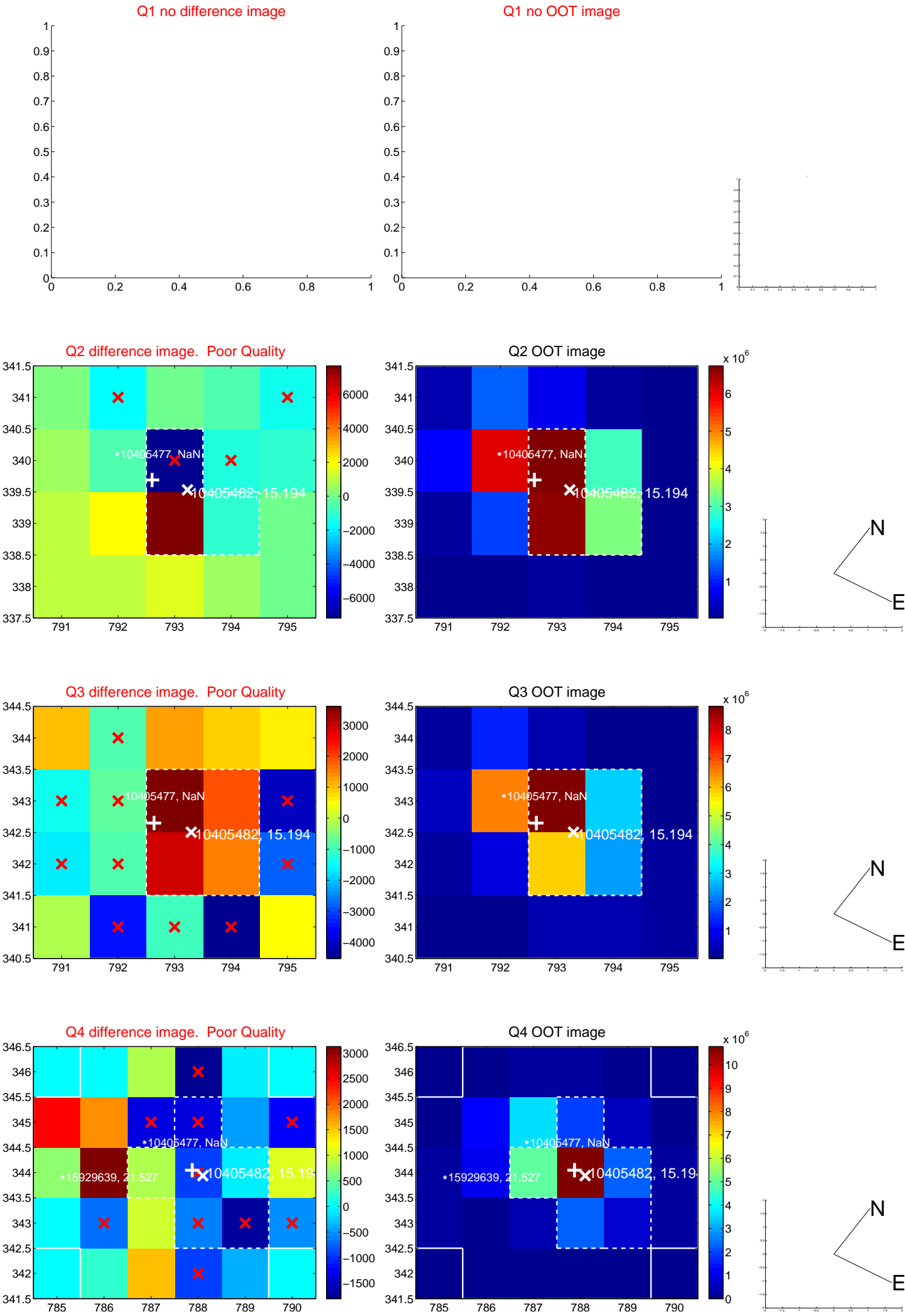
The direct PRF centroid is offset from the target star catalog position by about 1.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.070 ± 0.811	3.78	2.916 ± 0.783	0.959 ± 1.040
PRF-fit source offset from KIC position	0.790 ± 0.806	0.98	0.758 ± 0.782	0.221 ± 1.040
photometric centroid source offset	3.63 ± 1.67	2.18	-3.63 ± 1.67	0.12 ± 1.28

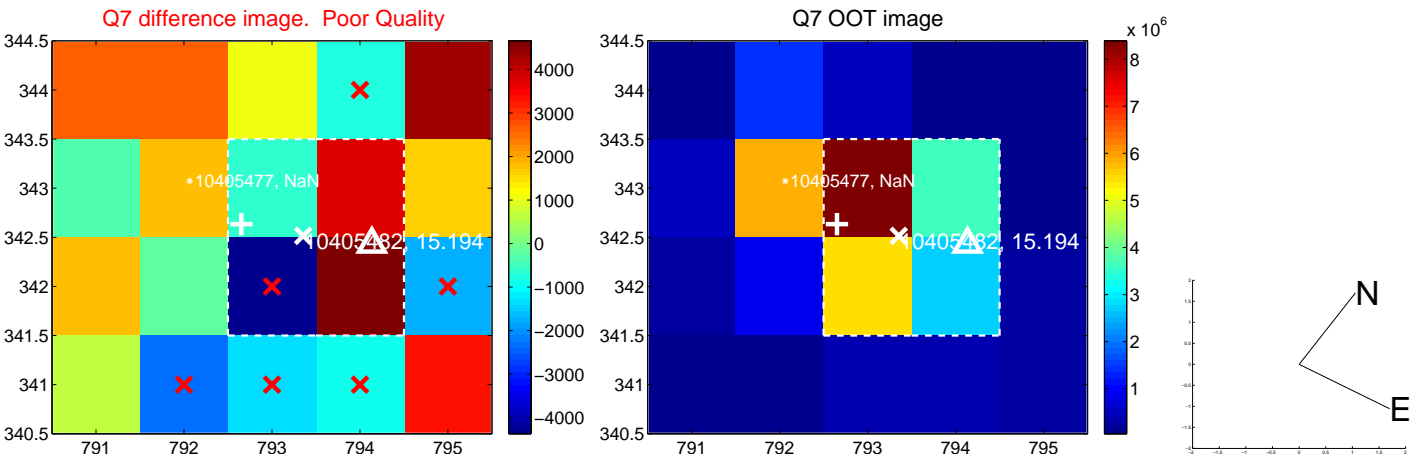
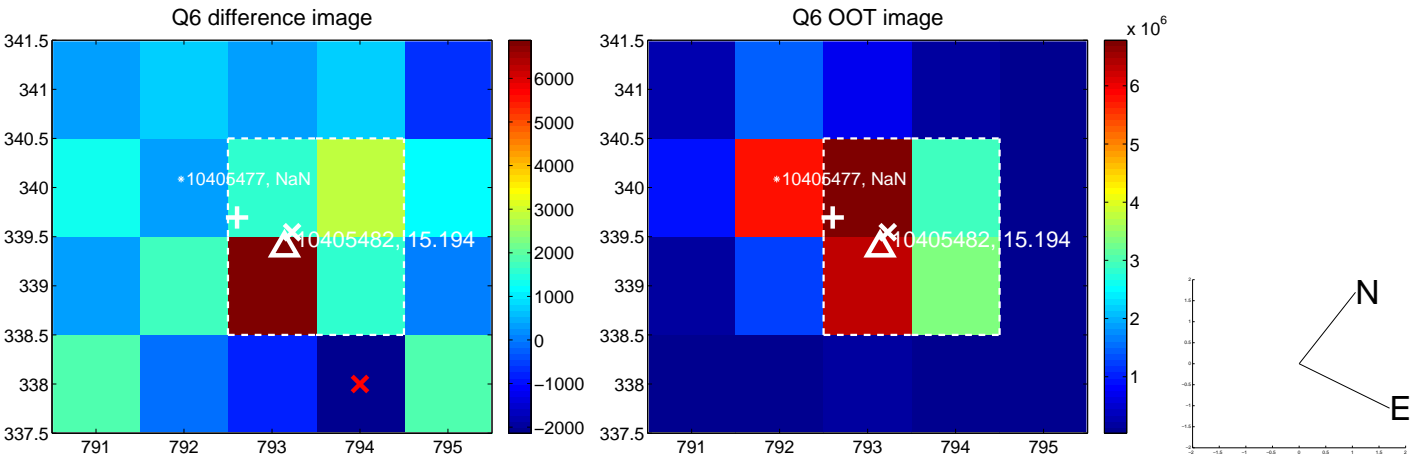
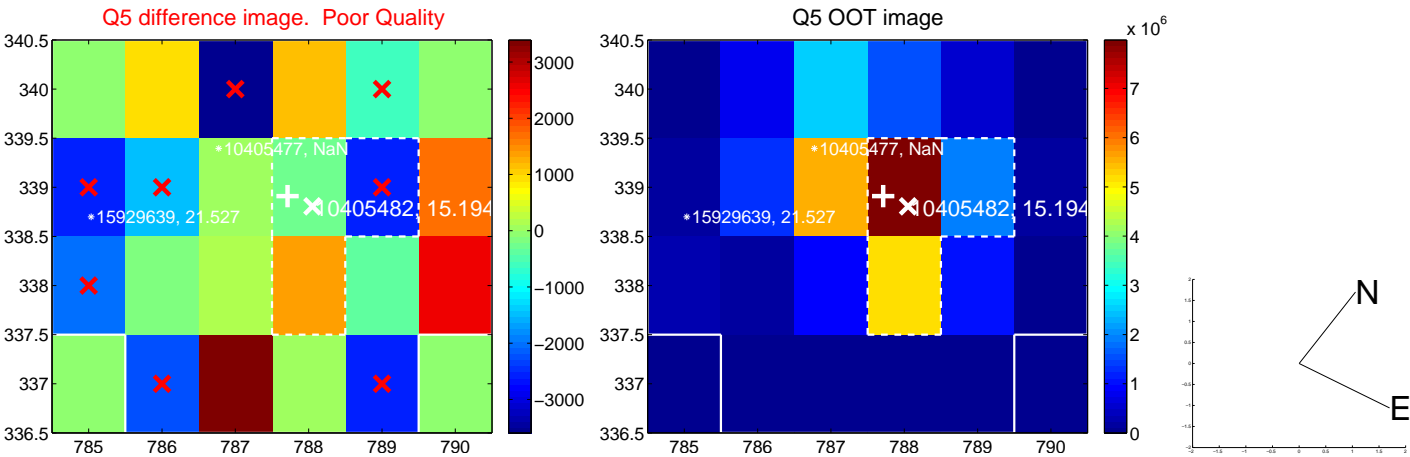


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

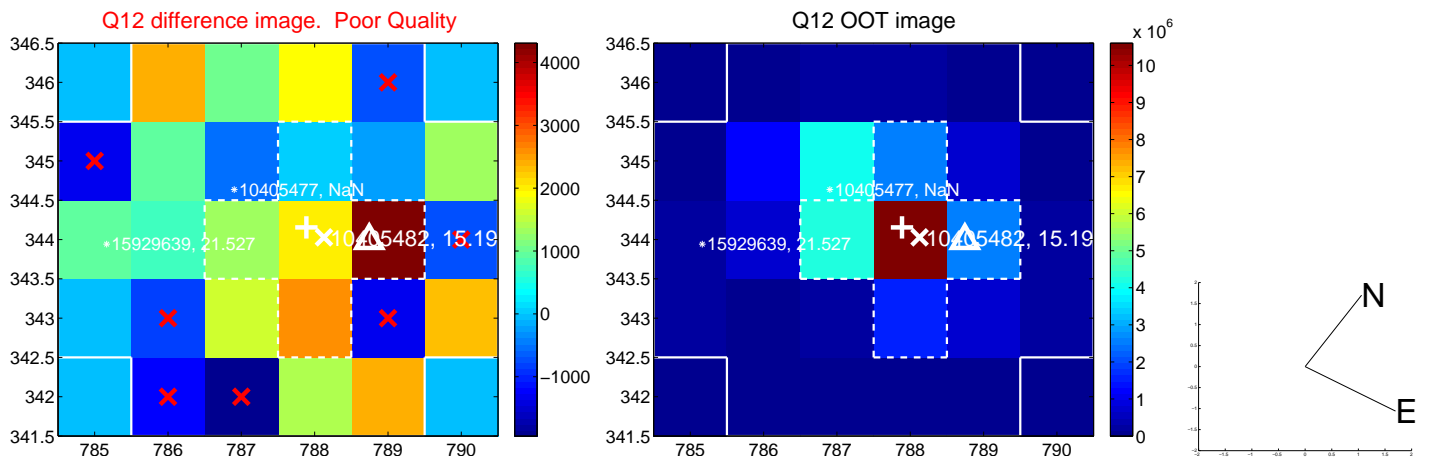
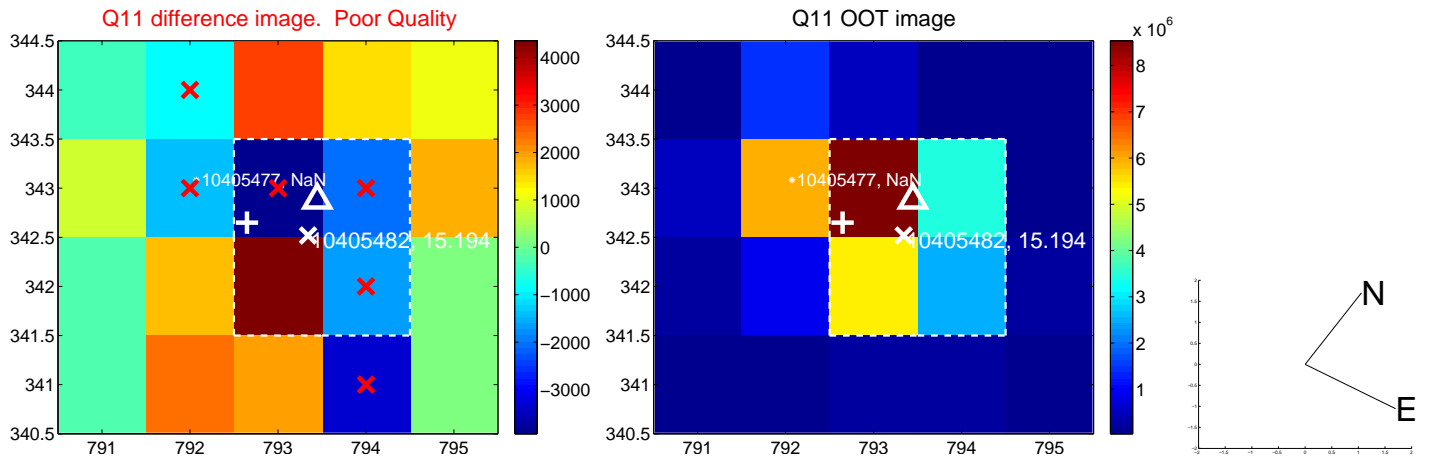
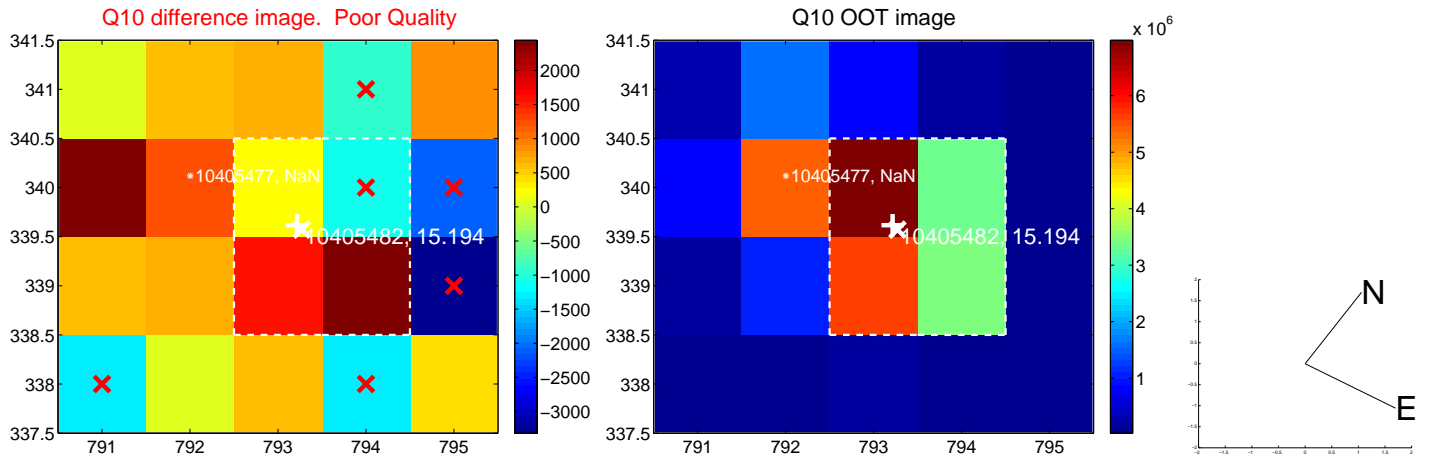
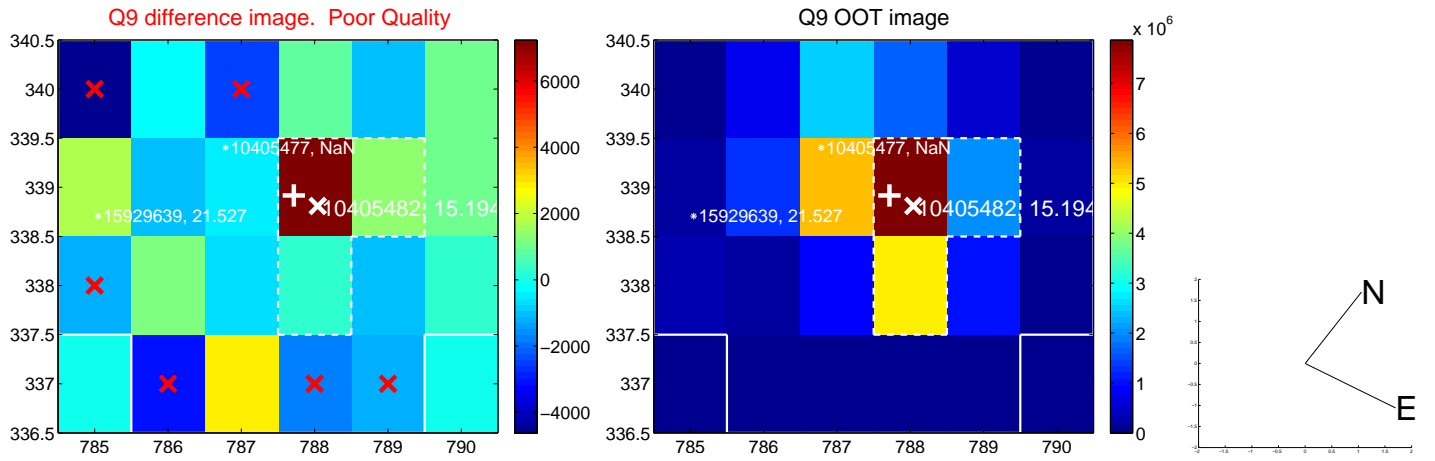
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



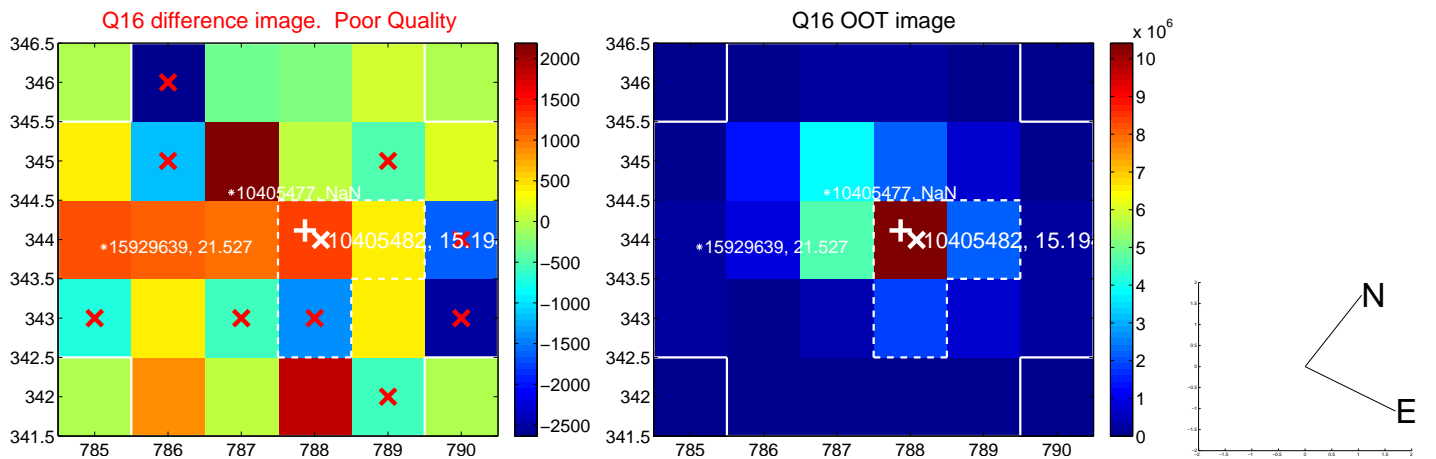
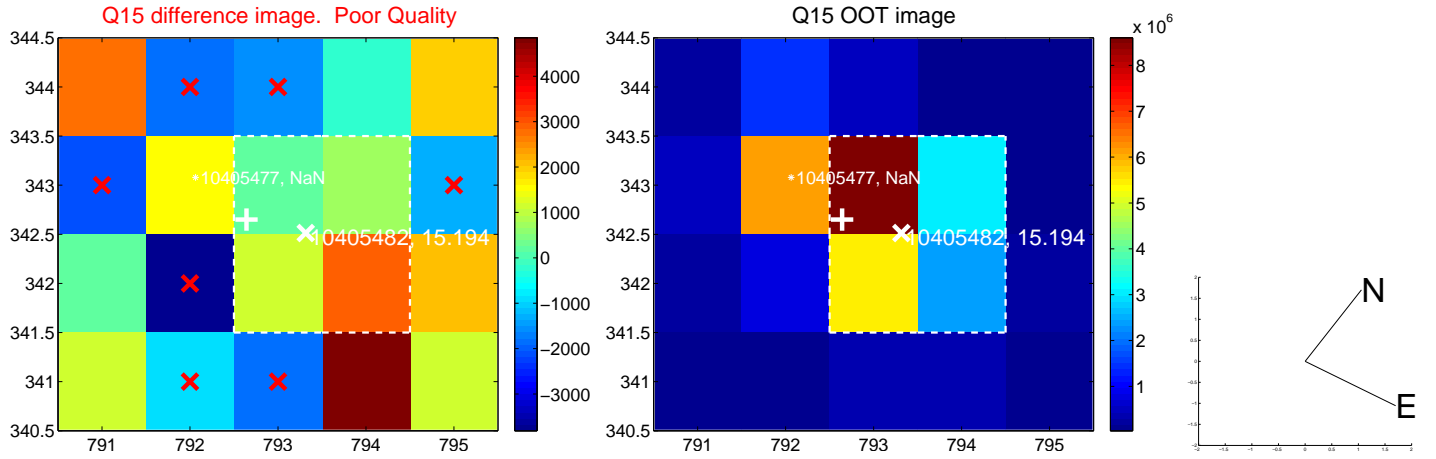
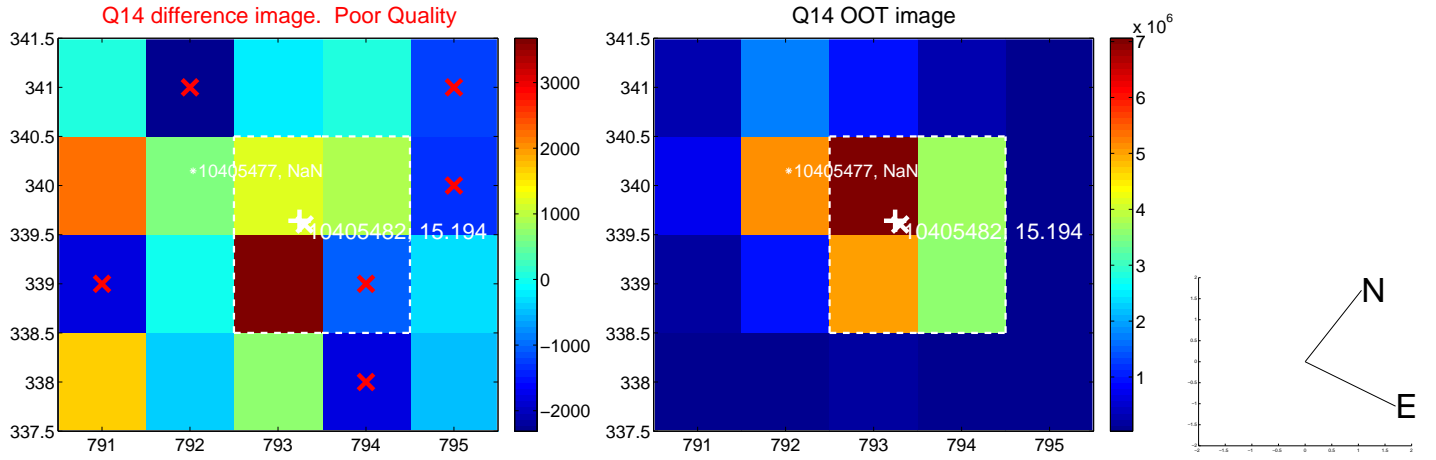
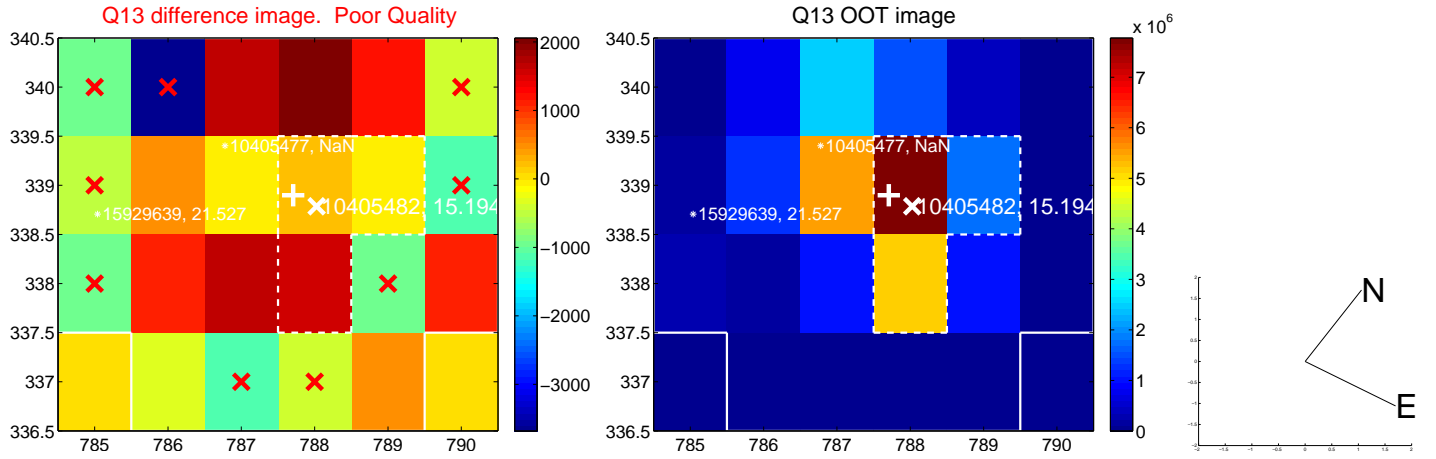
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



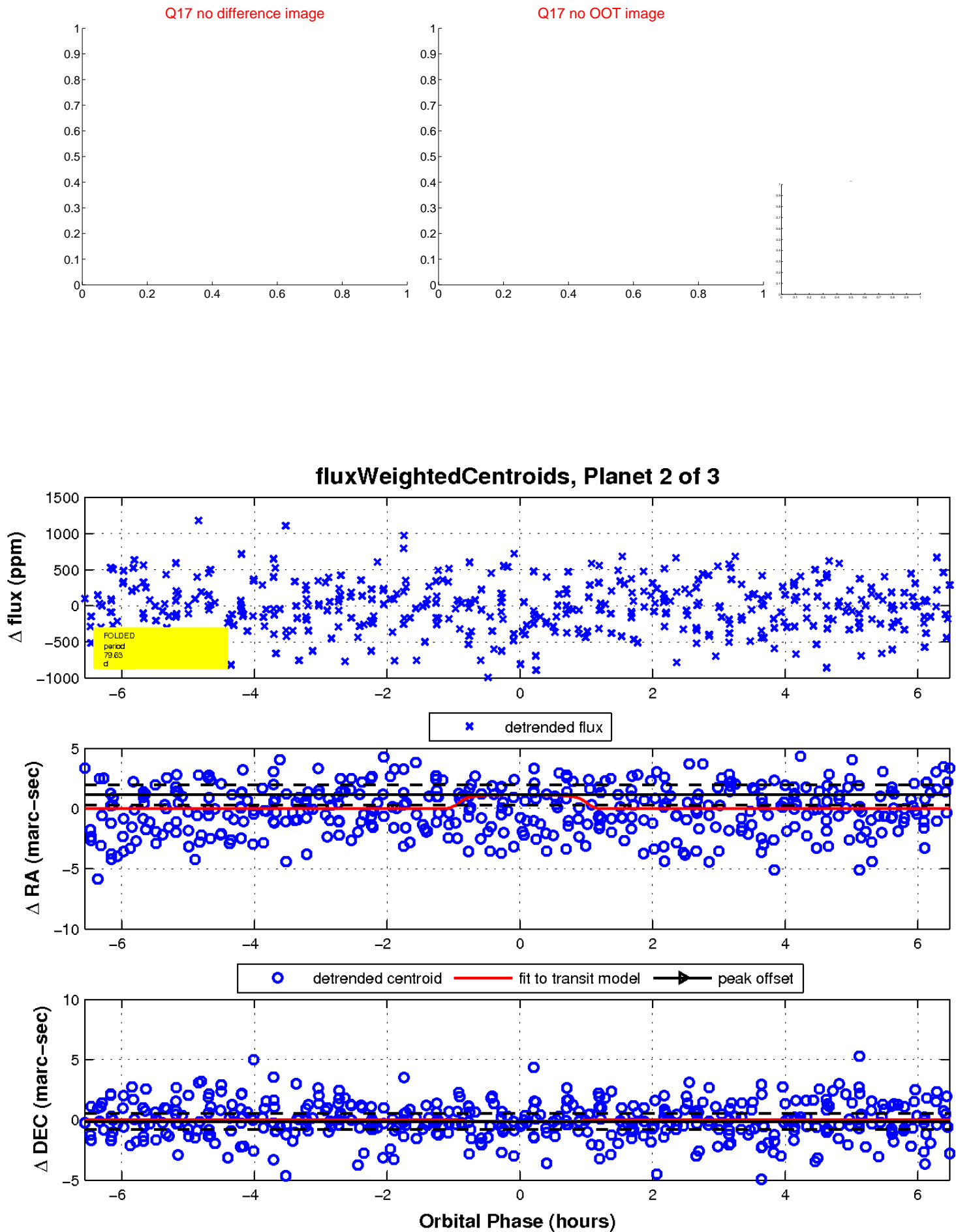
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



This astronomical image shows a field of stars against a dark background. A grid of blue lines is overlaid on the image, with green numerical labels indicating coordinates. The horizontal axis (top) is labeled with values 34.0, 33.0, 32.0, 31.0, 19:28:30.0, and 29.0. The vertical axis (left) is labeled with values 40.0, 47:33:50.0, 30.0, and 0.0. A prominent, bright star is located in the upper left corner, near the intersection of the 34.0 and 40.0 grid lines. Several other stars of varying brightness are scattered across the field, including a notable pair near the 32.0 and 47:33:50.0 coordinates. A red horizontal line is visible across the top of the image, and a white horizontal line is at the bottom.

Declination

KIC 010405482

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})
010405482-01	OBS	8009.01	0.933731	132.456883	20.1	4.928	7.7	5.3	1.01	6223	0.45	3735.34
010405482-02	OBS	No	79.628301	175.418352	501.7	2.188	7.9	8.1	1.01	6223	2.65	9.95
010405482-03	OBS	No	171.268589	186.172482	573.7	14.114	7.8	8.8	1.01	6223	2.48	3.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010405482-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
010405482-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
010405482-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—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.

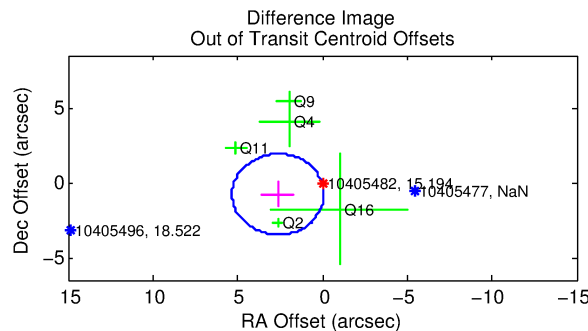
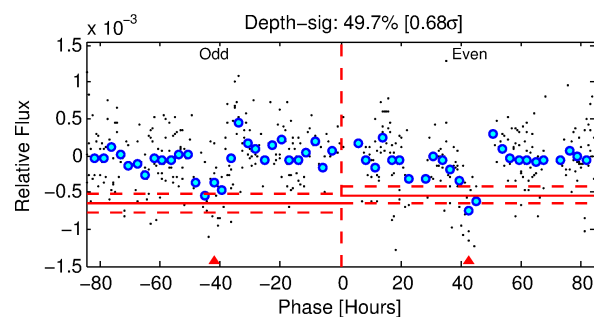
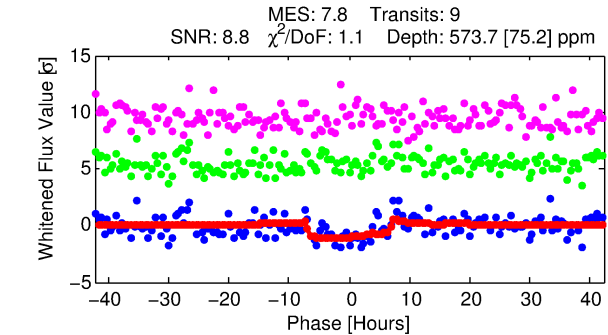
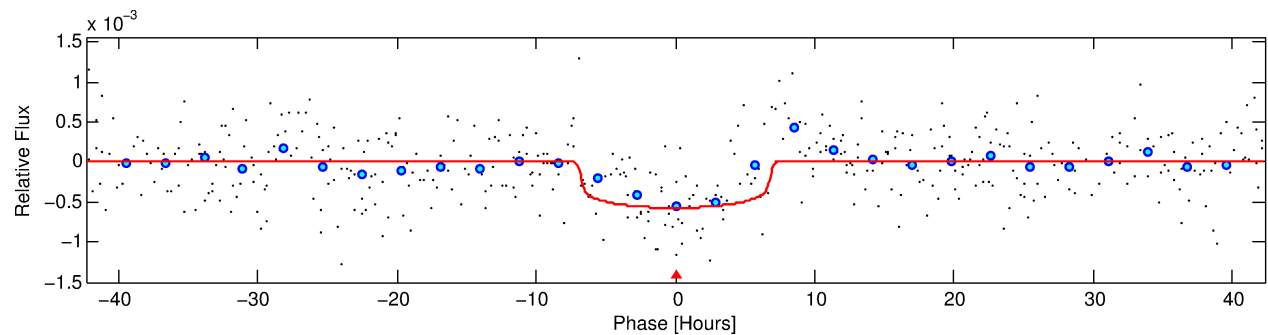
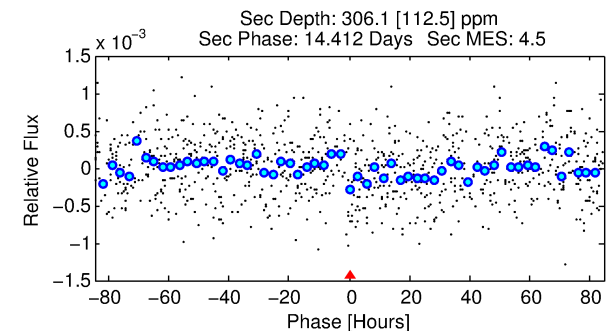
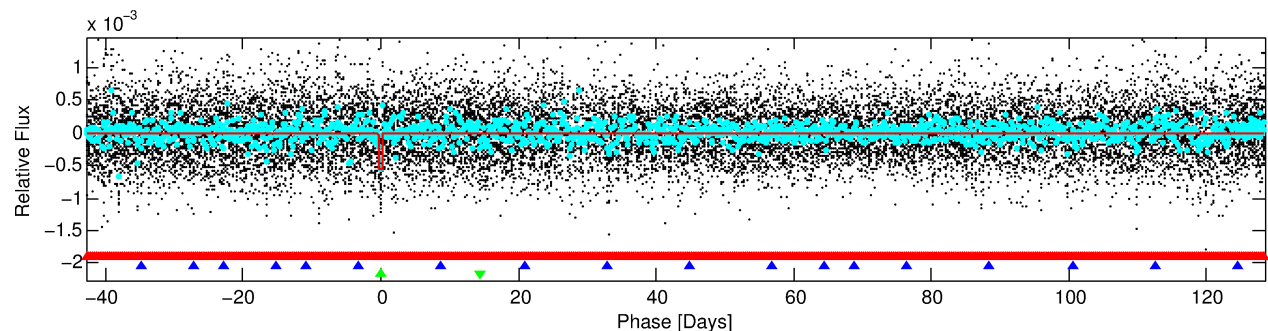
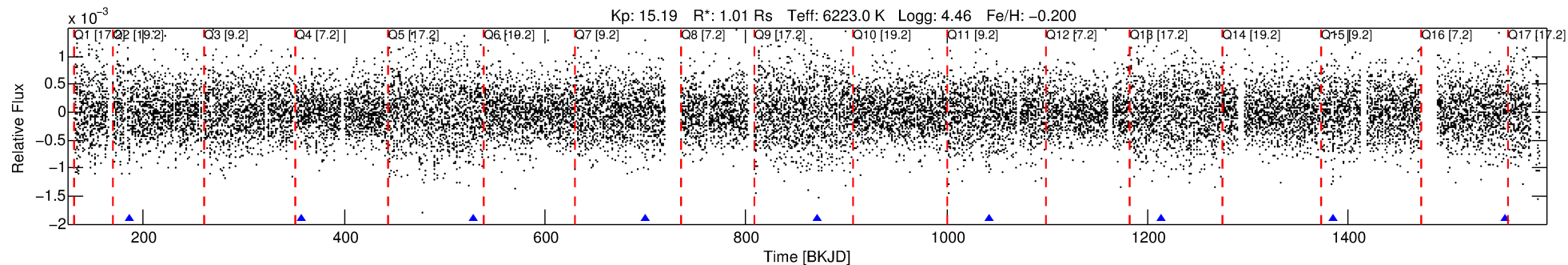
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010405482-03

No Significant Match Found

DV One-Page Summary

KIC: 10405482 Candidate: 3 of 3 Period: 171.269 d



DV Fit Results:

Period = 171.26859 [0.00365] d
Epoch = 186.1725 [0.0201] BKJD
Rp/R* = 0.0226 [0.0167]
a/R* = 83.32 [311.92]
b = 0.49 [5.88]
Seff = 3.58 [1.54]
Teff = 351 [38] K
Rp = 2.48 [2.01] Re
a = 0.6160 [0.1730] AU
Ag = 10414.34 [16481.90] [0.63 σ]
Teffp = 5480 [2102] K [2.44 σ]

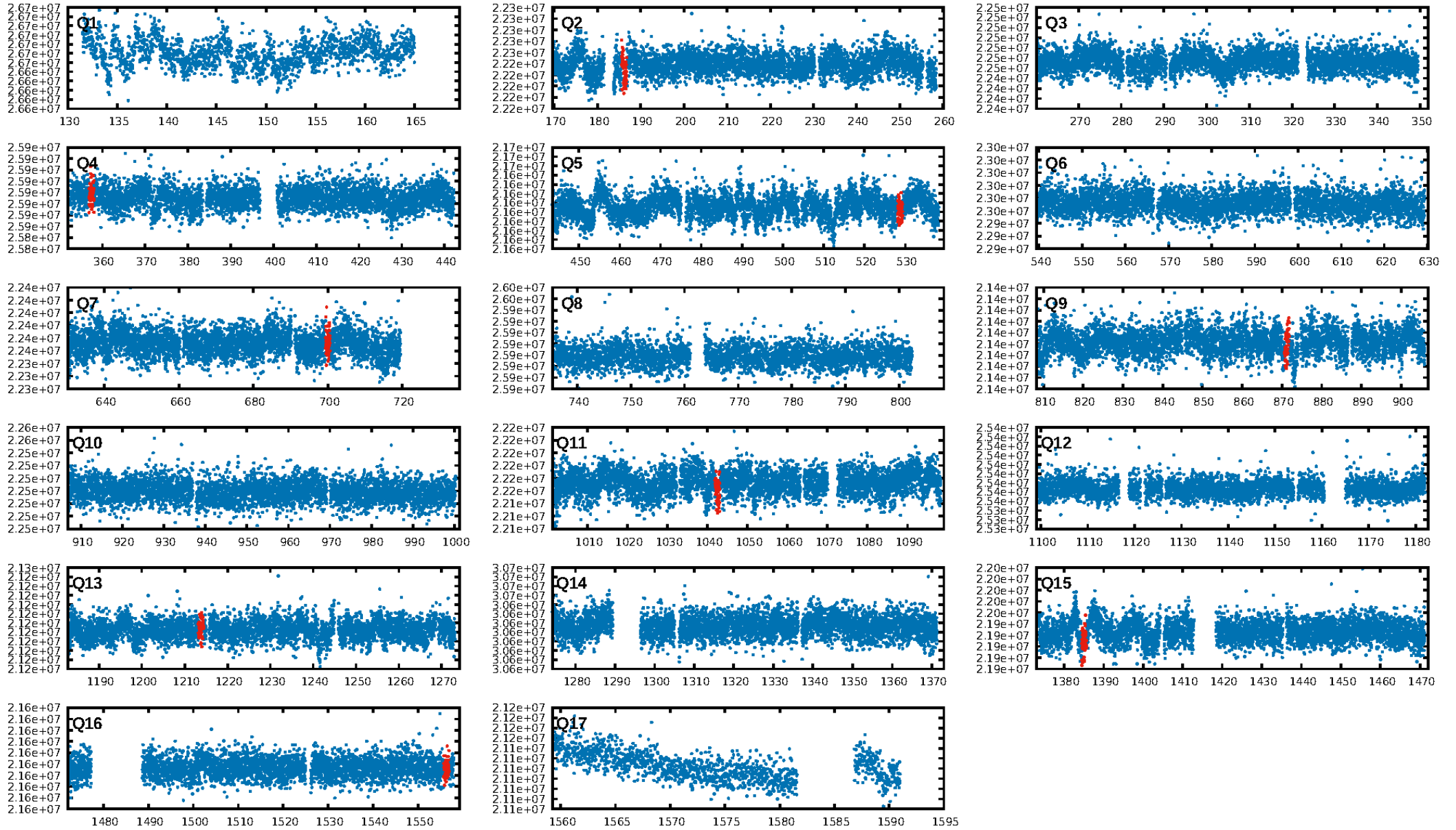
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [153.99 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 12.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.17e-09
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -1.235
Centroid-sig: 0.0%
Centroid-so: 2.375 arcsec [2.80 σ]
OutOffset-rm: 2.744 arcsec [3.05 σ]
KicOffset-rm: 1.499 arcsec [0.94 σ]
OutOffset-st: 1/1/2/1 [5]
KicOffset-st: 1/1/2/1 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 0.00 [0/9]

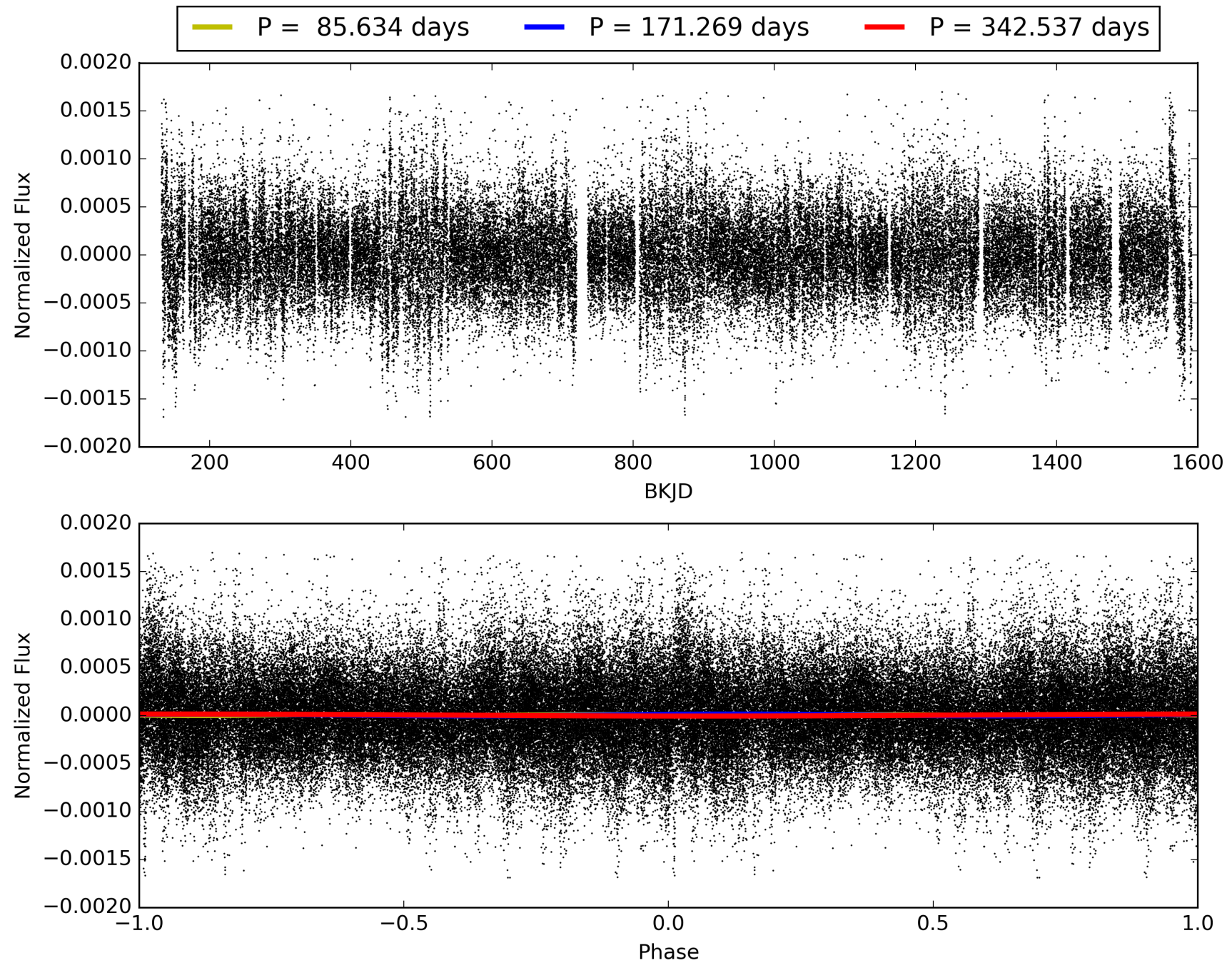
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:28:36 Z

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

TCE 010405482-03, PDC Light Curves

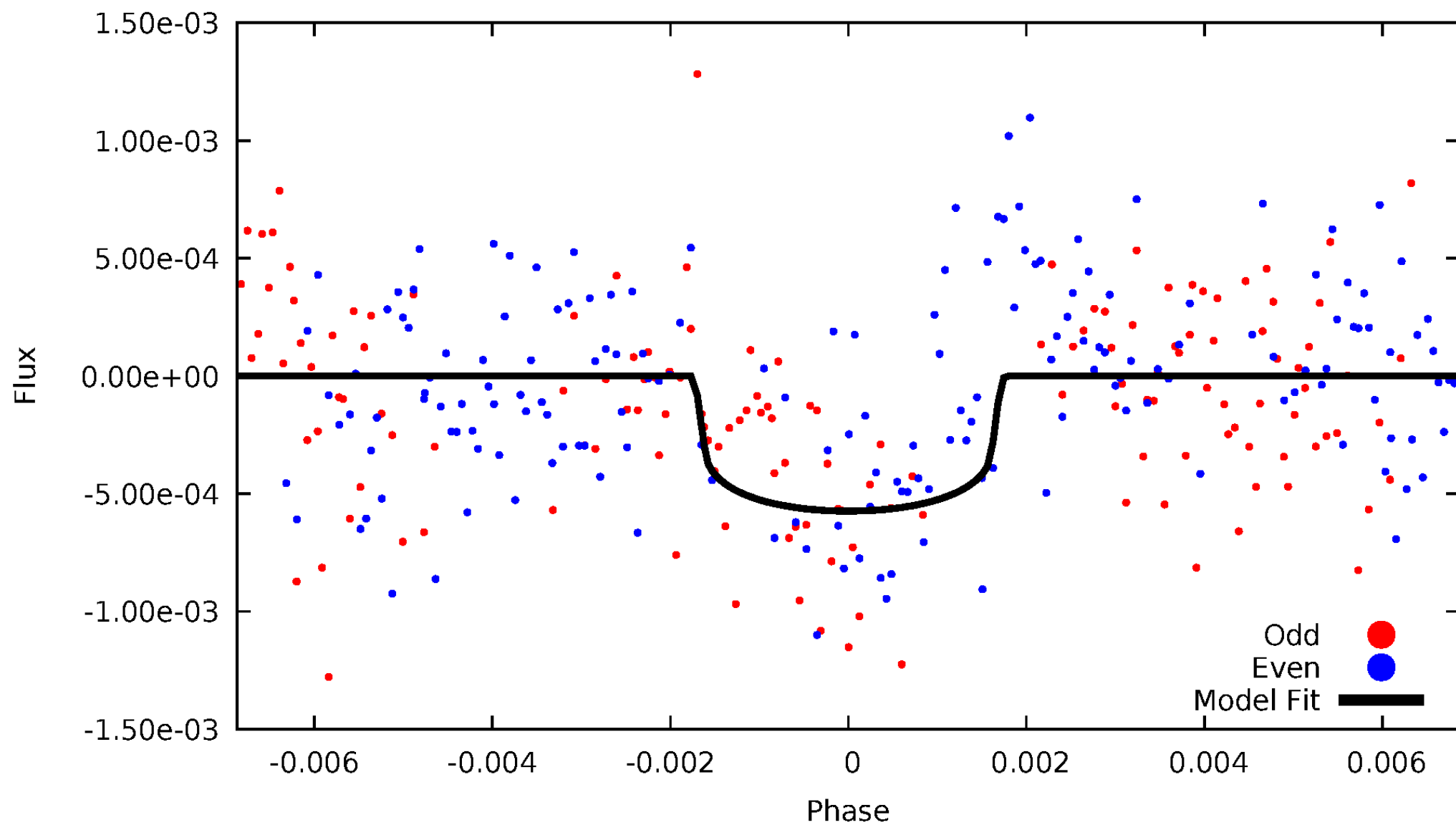


TCE 010405482-03



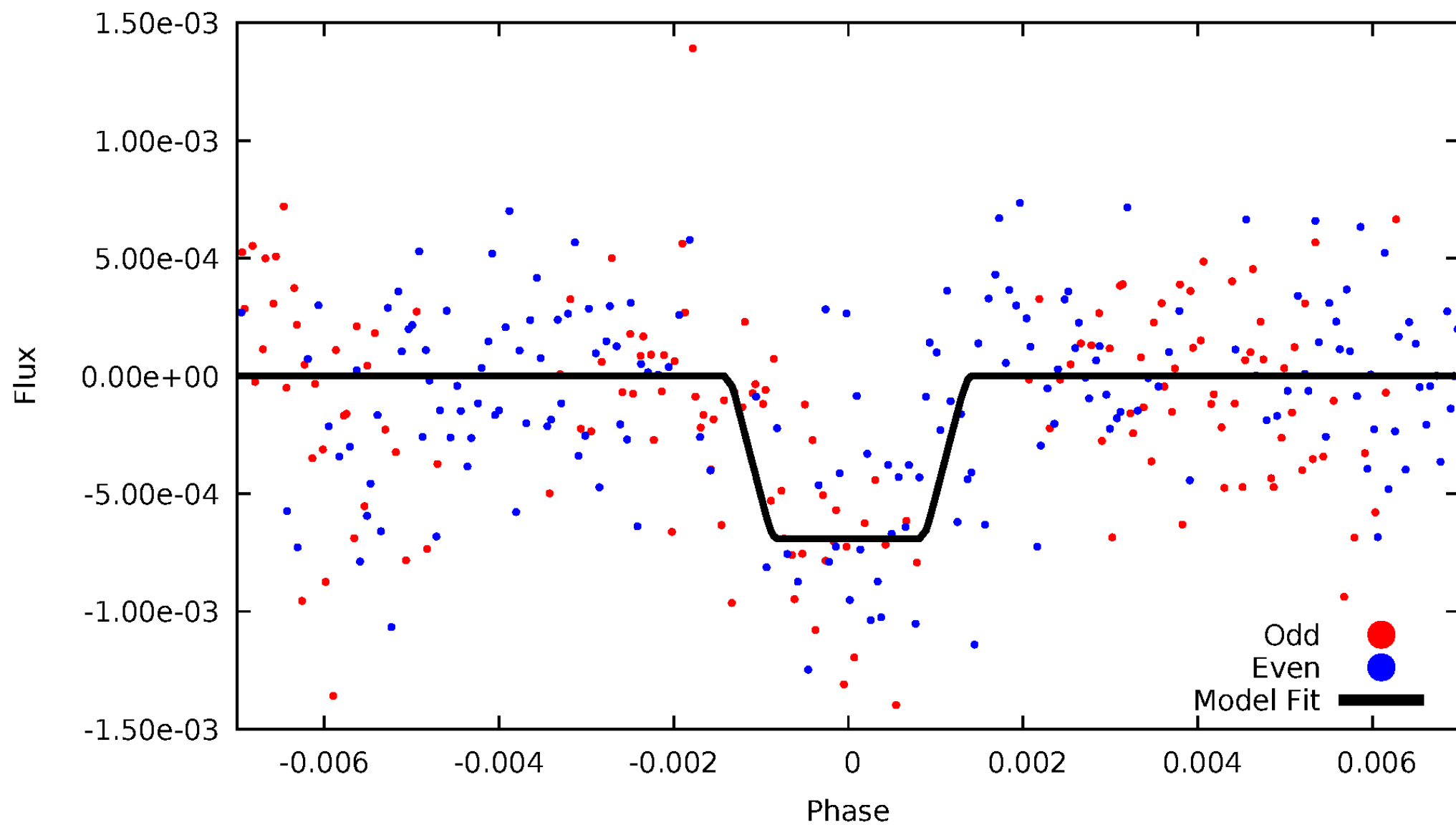
DV Odd/Even

TCE 010405482-03



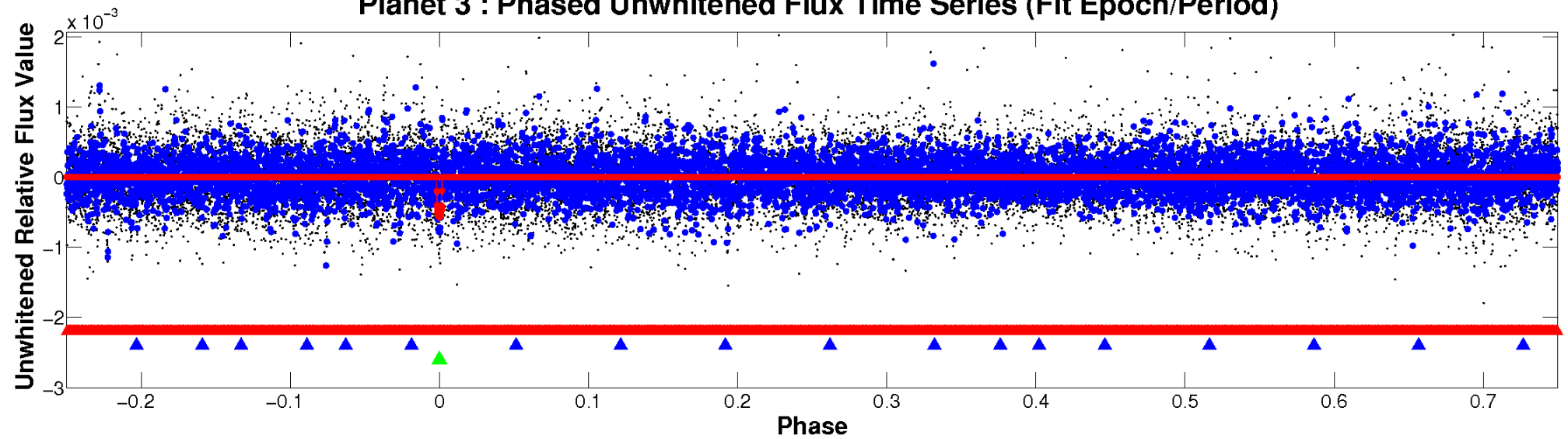
ALT Odd/Even

TCE 010405482-03

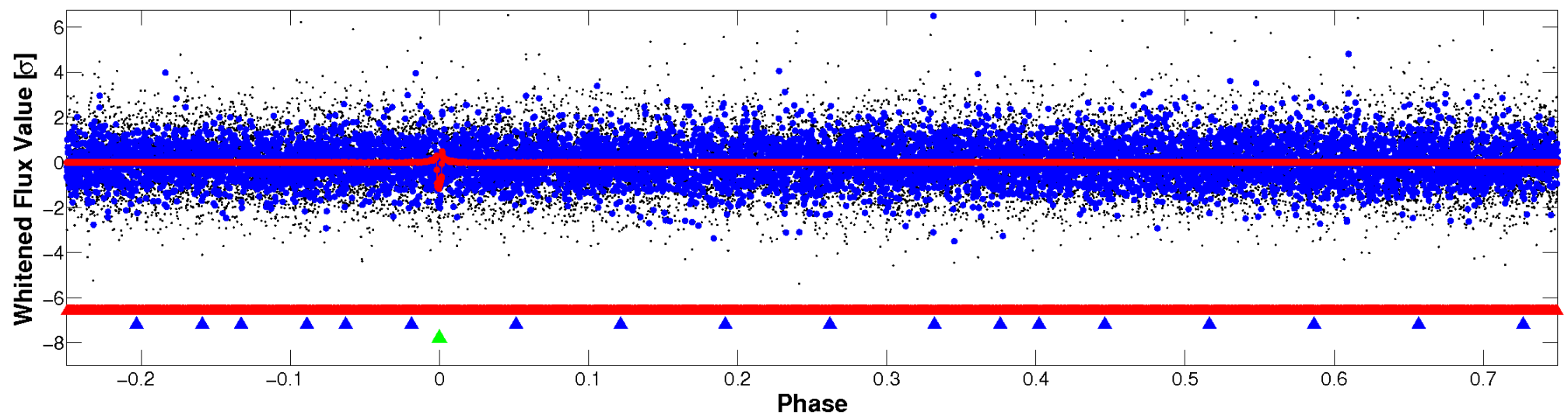


Non-Whitened Vs. Whitened Light Curve

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

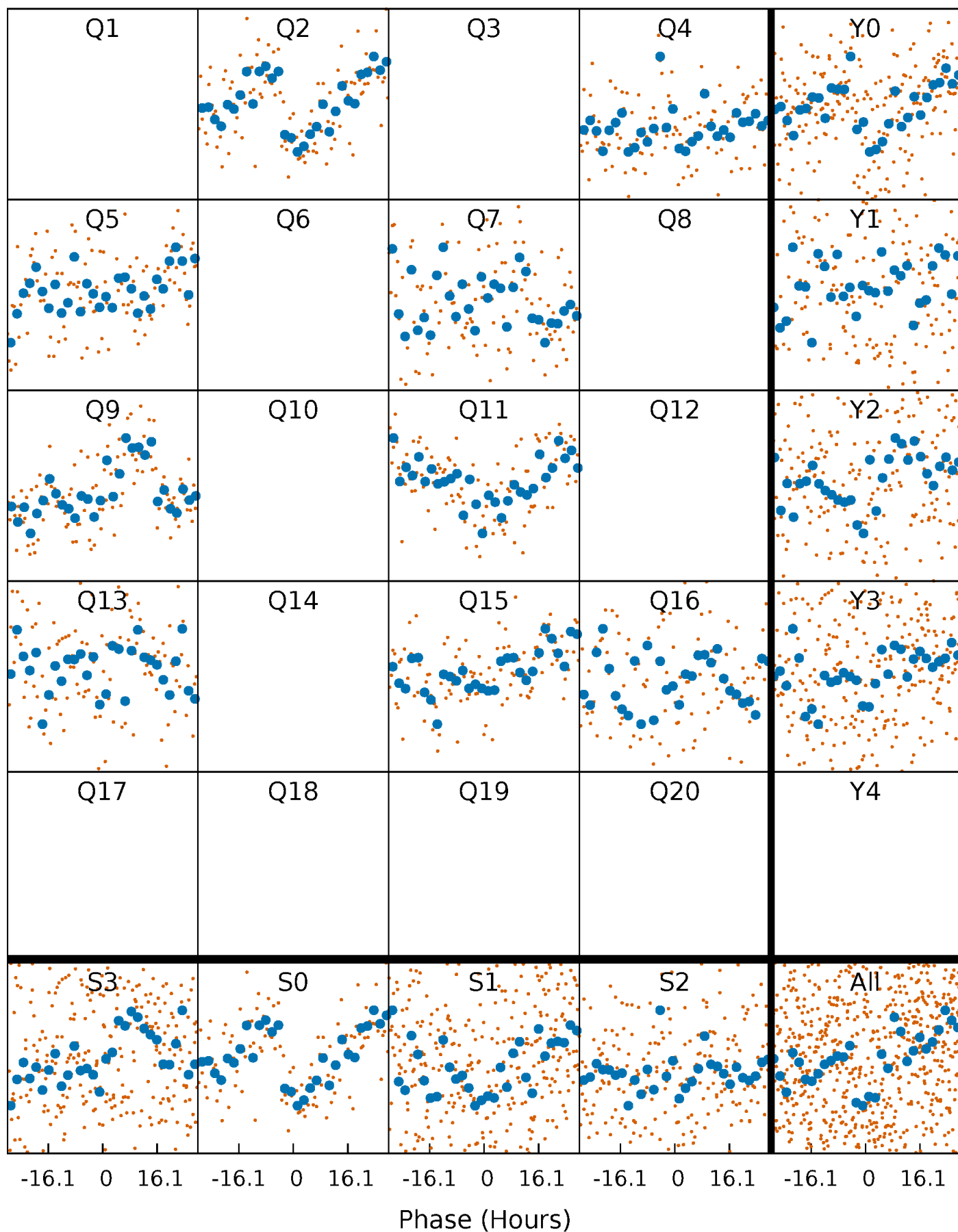


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



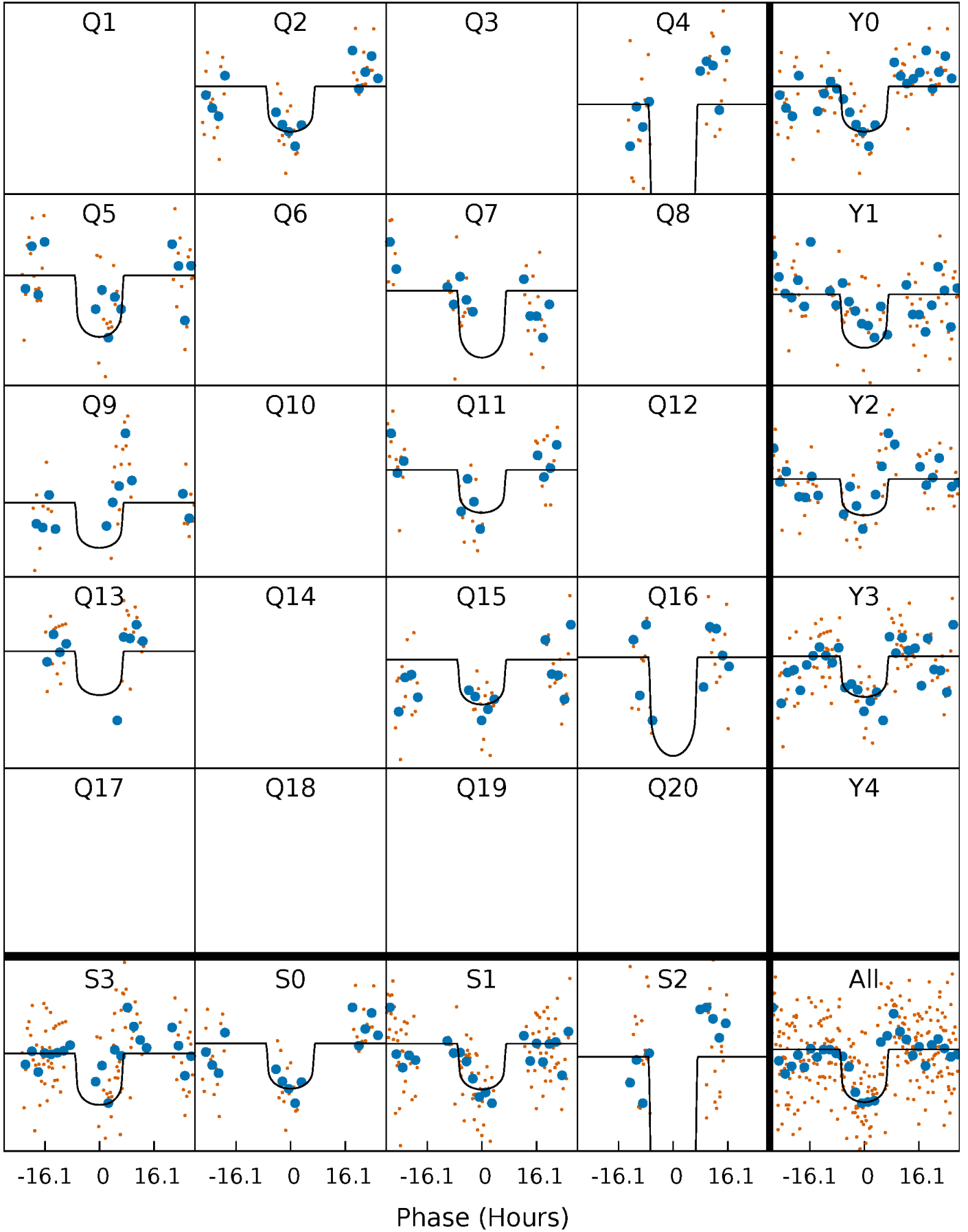
PDC Quarter-Phased Transit Curves

TCE 010405482-03 P=171.268589 Days $T_0=186.172482$ (BKJD)



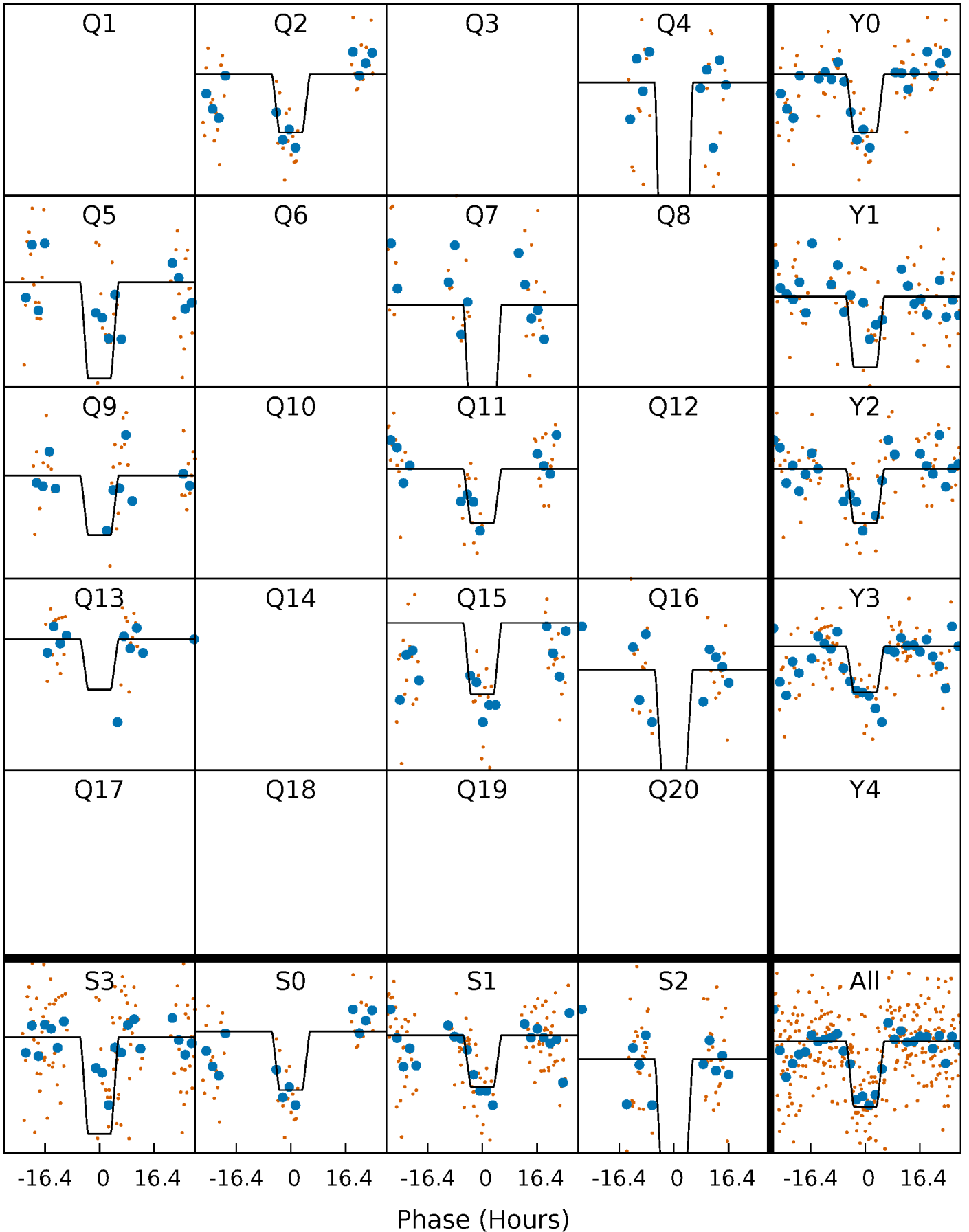
DV Quarter-Phased Transit Curves

TCE 010405482-03 $P=171.268589$ Days $T_0=186.172482$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

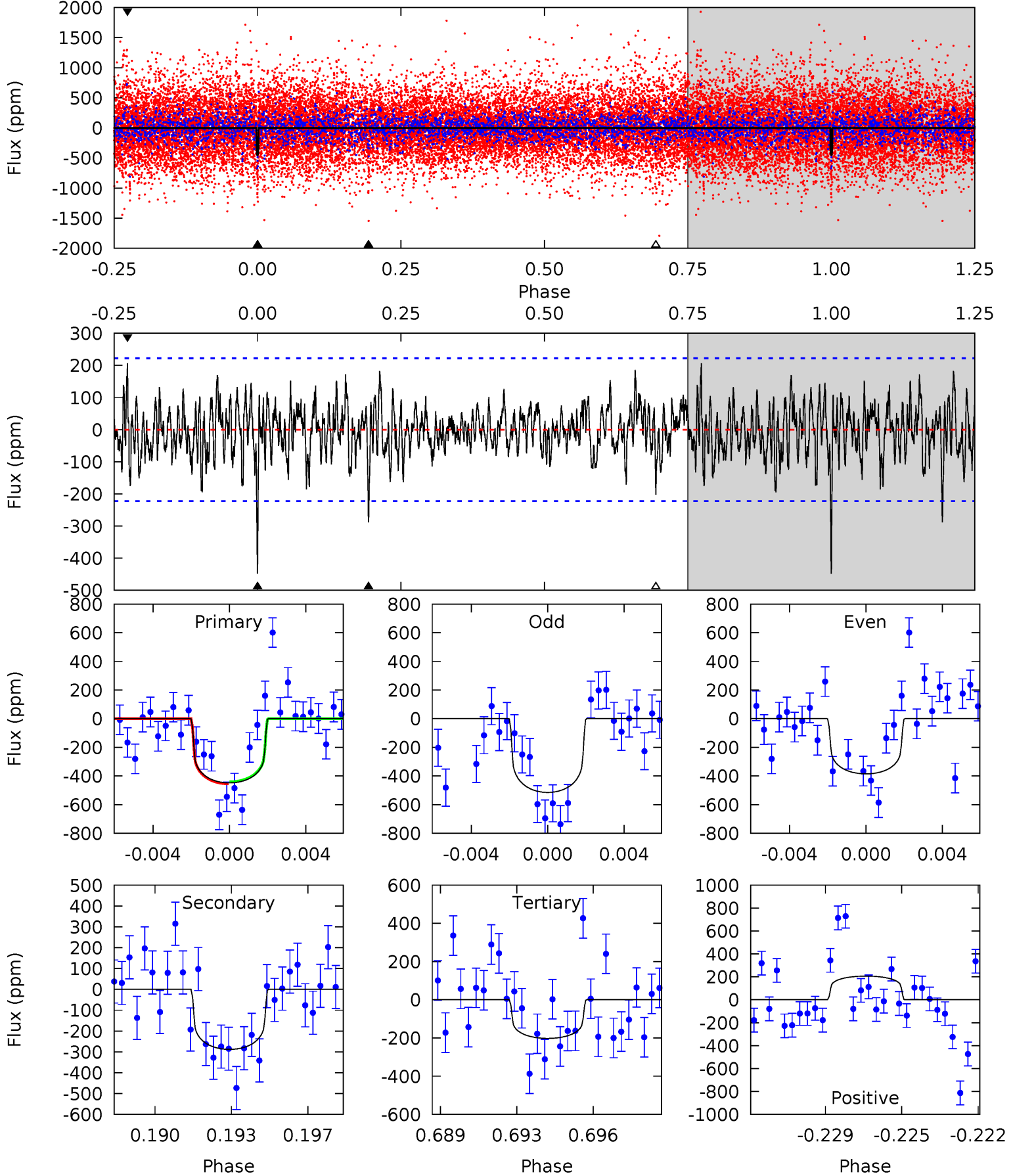
TCE 010405482-03 P=171.267289 Days $T_0=186.190911$ (BKJD)



DV Model-Shift Uniqueness Test

010405482-03, P = 171.268589 Days, E = 14.903893 Days

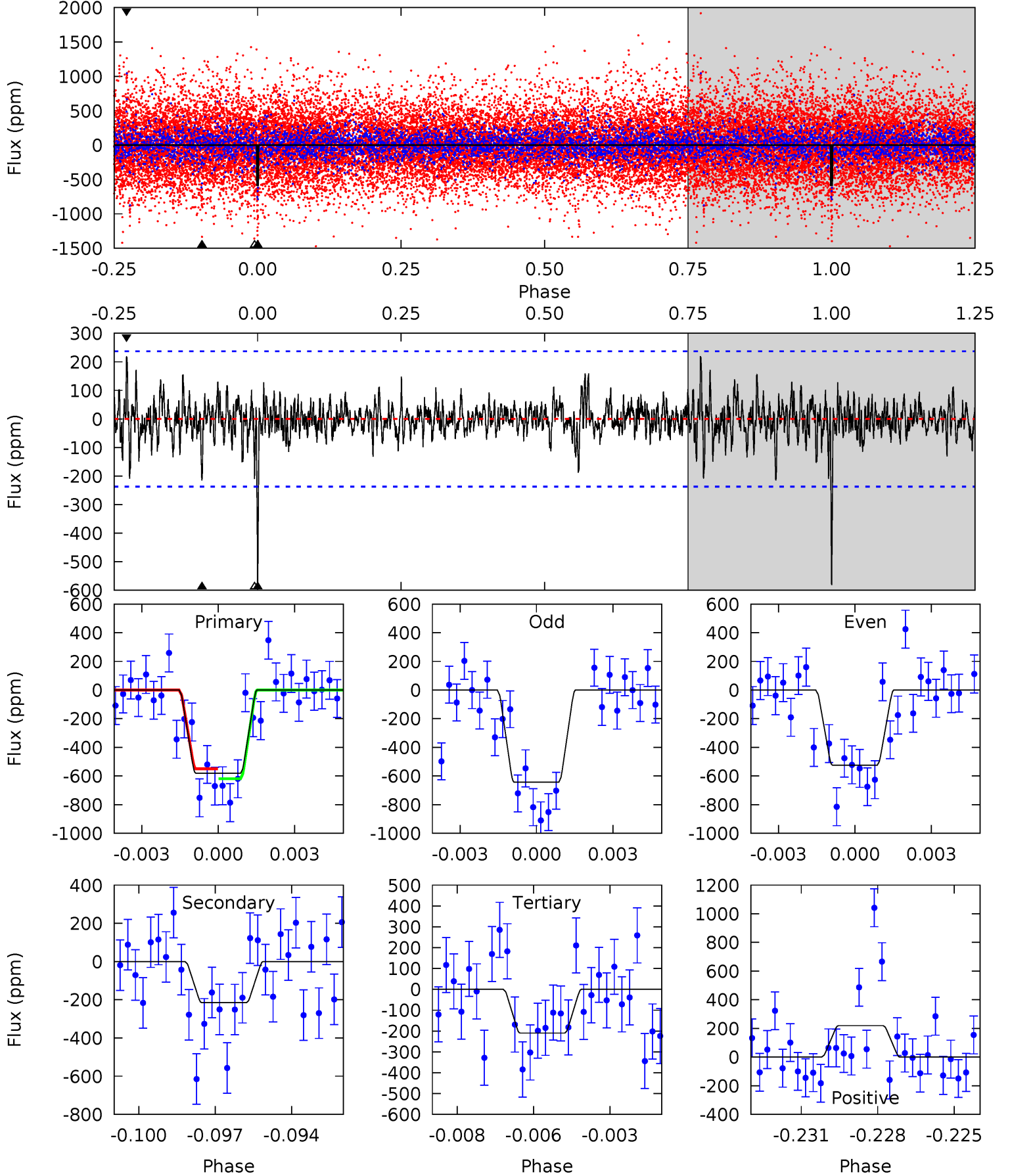
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	6.77	4.75	4.84	5.22	2.92	1.48	5.78	5.68	2.02	1.93	1.54	0.87	0.32	0.16



Alt Model-Shift Uniqueness Test

010405482-03, P = 171.267289 Days, E = 14.923622 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	4.78	4.66	4.87	5.27	2.99	1.07	8.24	8.03	0.12	-0.09	1.31	0.91	0.27	0.78



Stellar Parameters For KIC 010405482

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6223^{+188}_{-206}	$4.459^{+0.056}_{-0.224}$	$-0.200^{+0.250}_{-0.300}$	$1.006^{+0.335}_{-0.112}$	$1.063^{+0.144}_{-0.144}$	$1.472^{+0.430}_{-0.787}$
	+3%/-3%	+1%/-5%	+125%/-150%	+33%/-11%	+14%/-14%	+29%/-53%
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 010405482-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-288 ± 43	$2.81^{+1.82}_{-1.58}$	502^{+37}_{-27}	5205^{+2910}_{-925}	7171^{+32077}_{-4538}
Alt.	-215 ± 45	$3.22^{+1.92}_{-1.66}$	502^{+41}_{-24}	4677^{+1827}_{-798}	4185^{+13905}_{-2583}

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 $A_{obs} \gg 1.0$

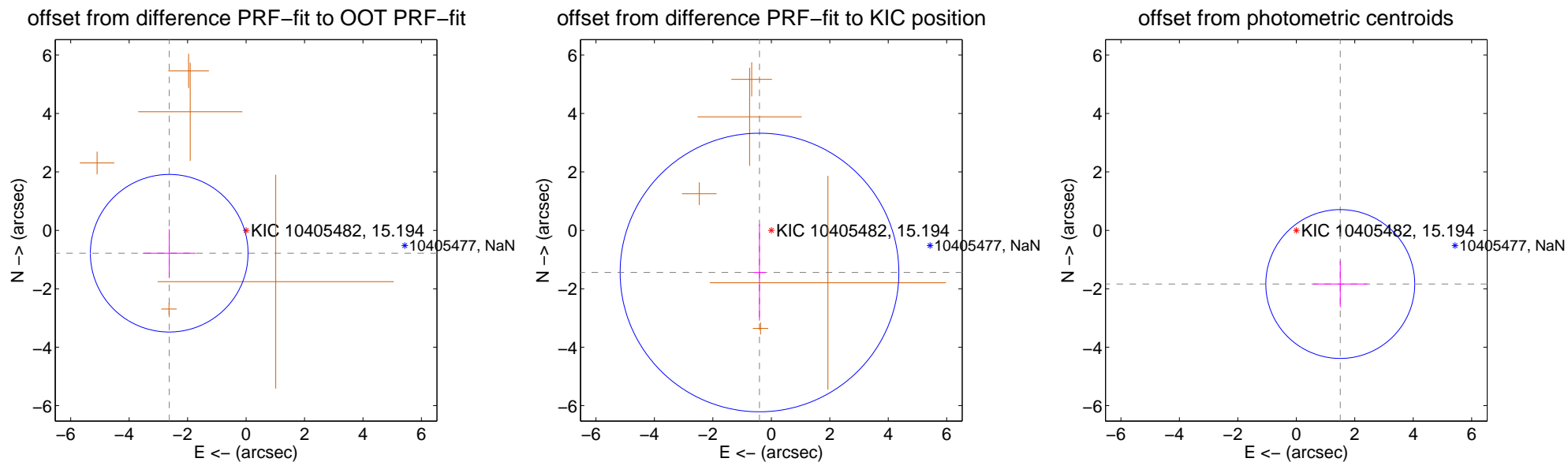
DV Centroid Data

Supplemental centroid analysis for 010405482-03. Kepler magnitude: 15.19. Transit SNR 8.77

There are 0 quarters with good PRF difference image offsets

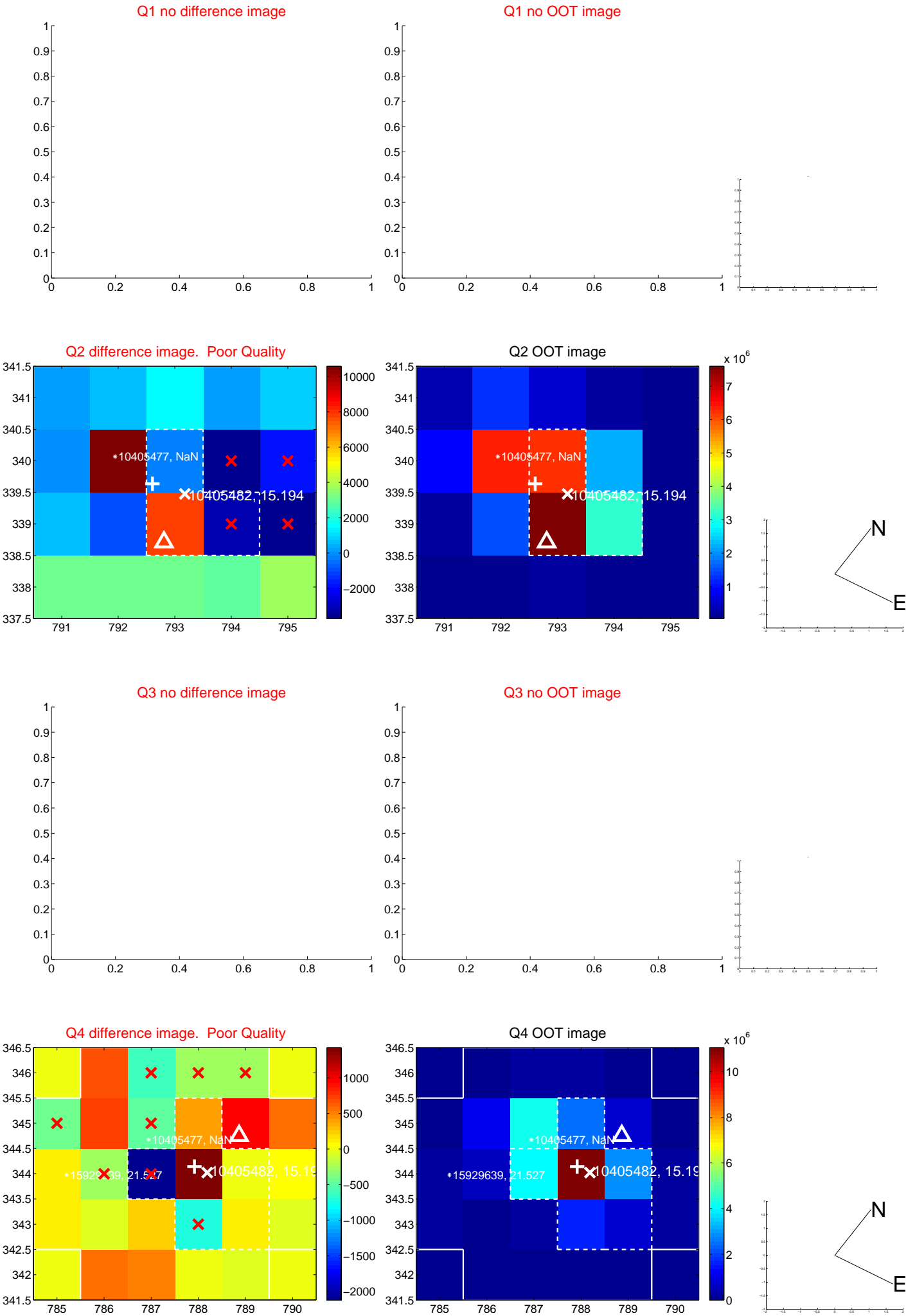
The direct PRF centroid is offset from the target star catalog position by about 0.92 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.744 ± 0.899	3.05	2.630 ± 0.906	-0.784 ± 0.821
PRF-fit source offset from KIC position	1.499 ± 1.590	0.94	0.405 ± 0.197	-1.443 ± 1.650
photometric centroid source offset	2.38 ± 0.85	2.80	-1.50 ± 0.93	-1.84 ± 0.79

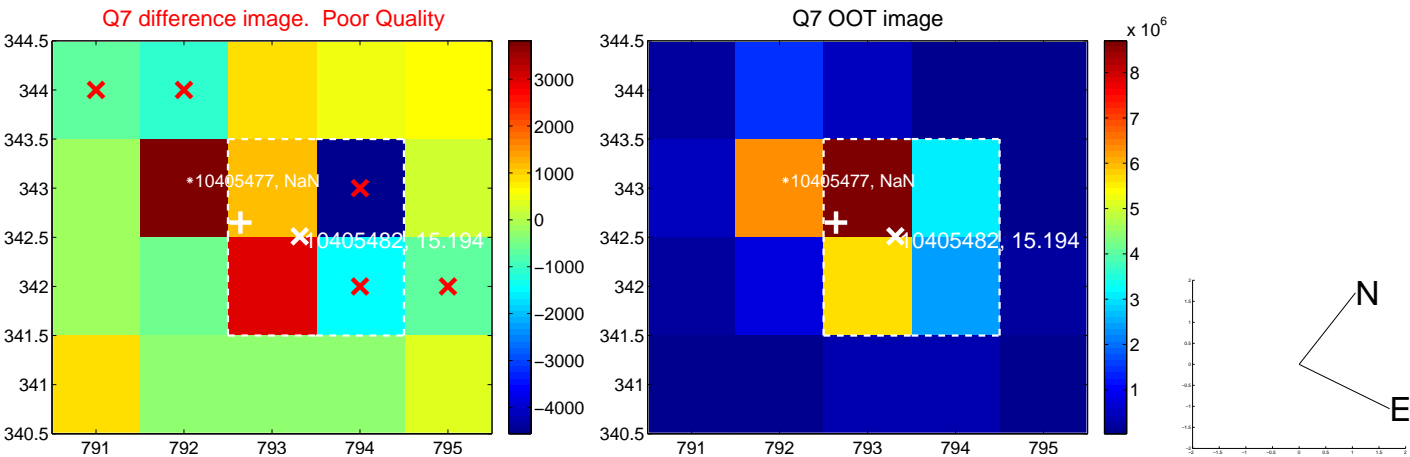
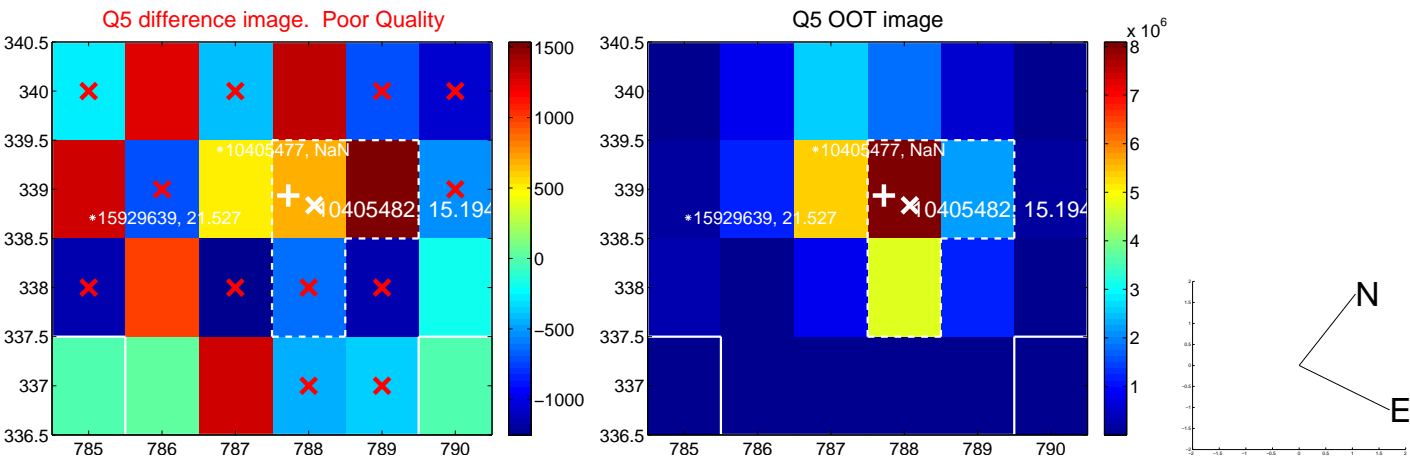


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

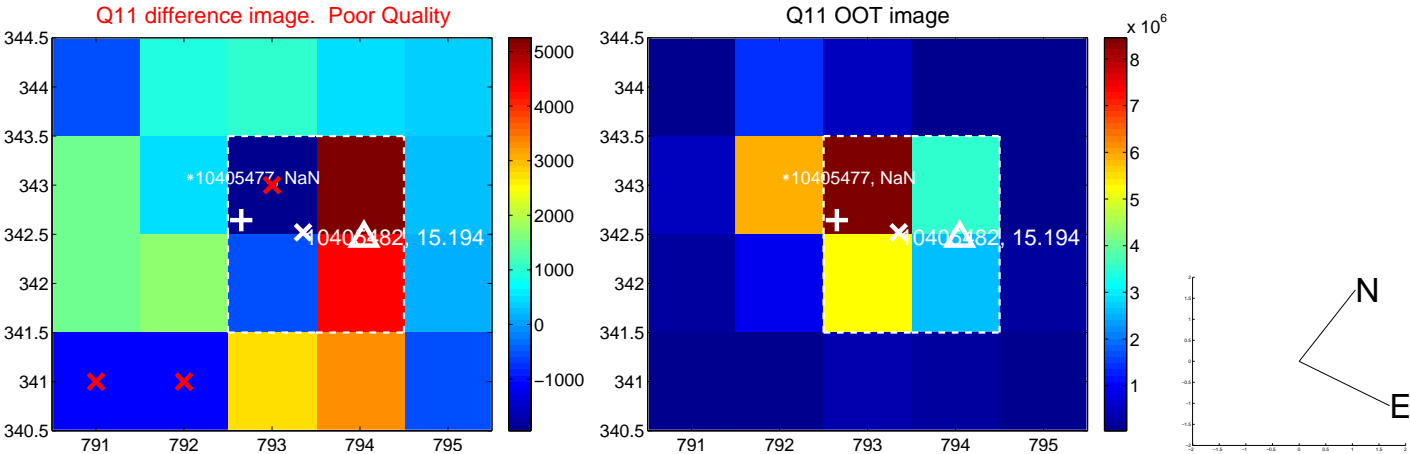
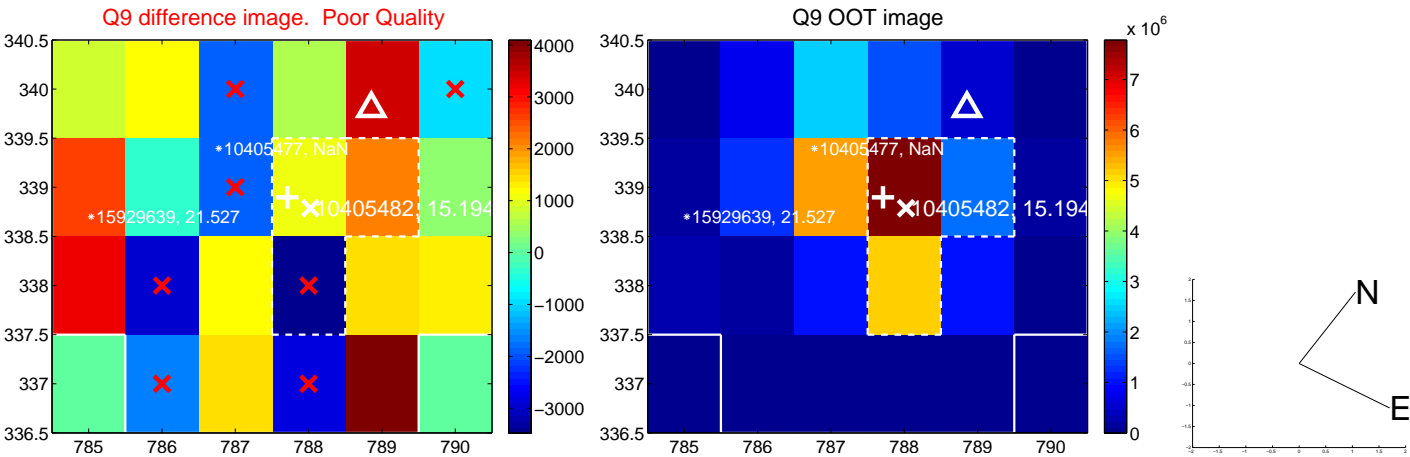
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



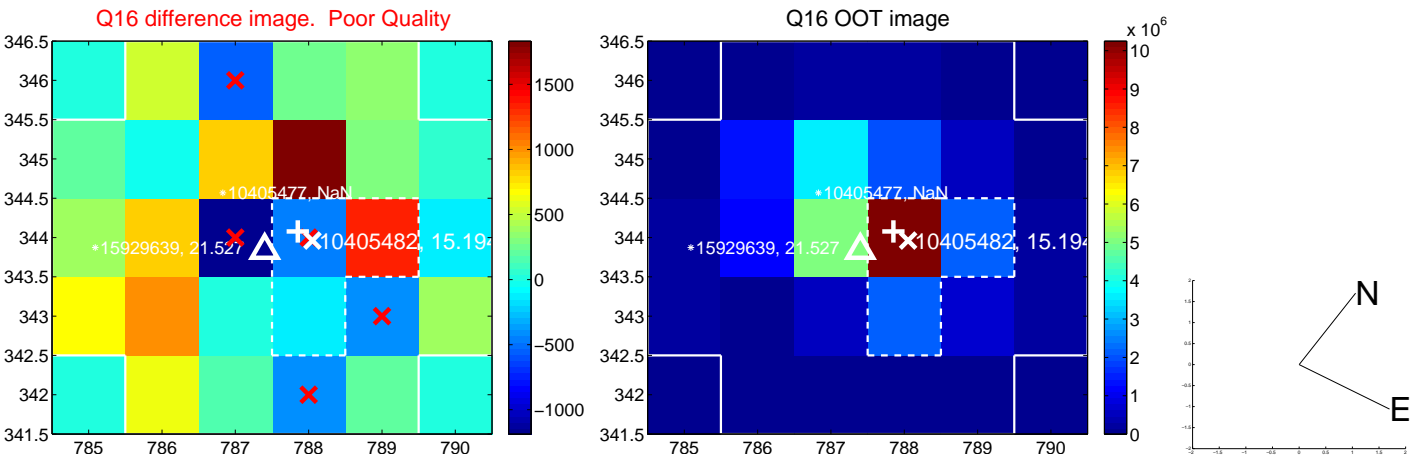
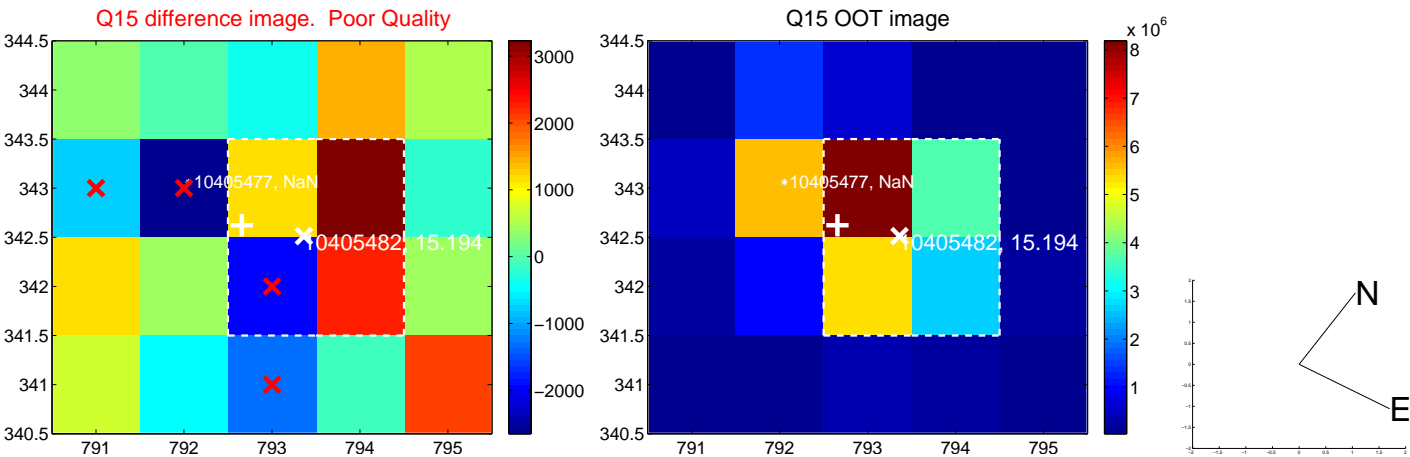
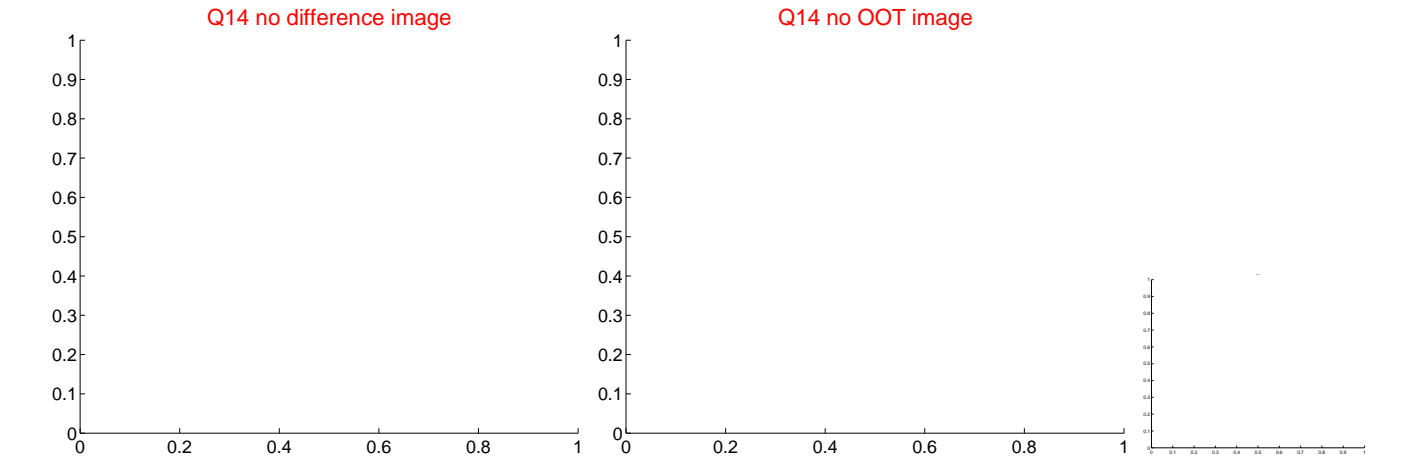
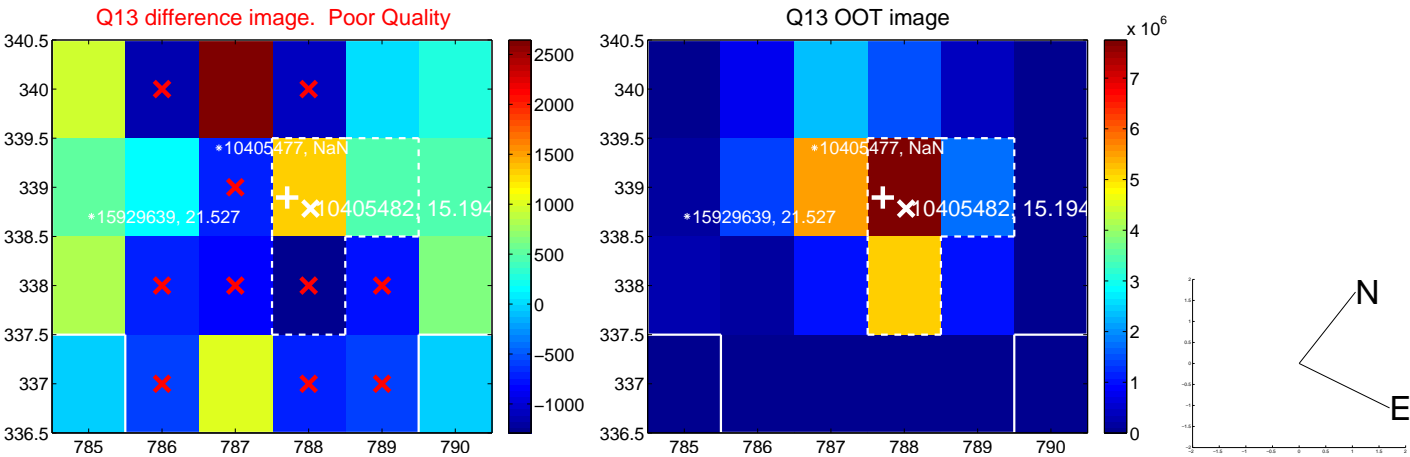
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



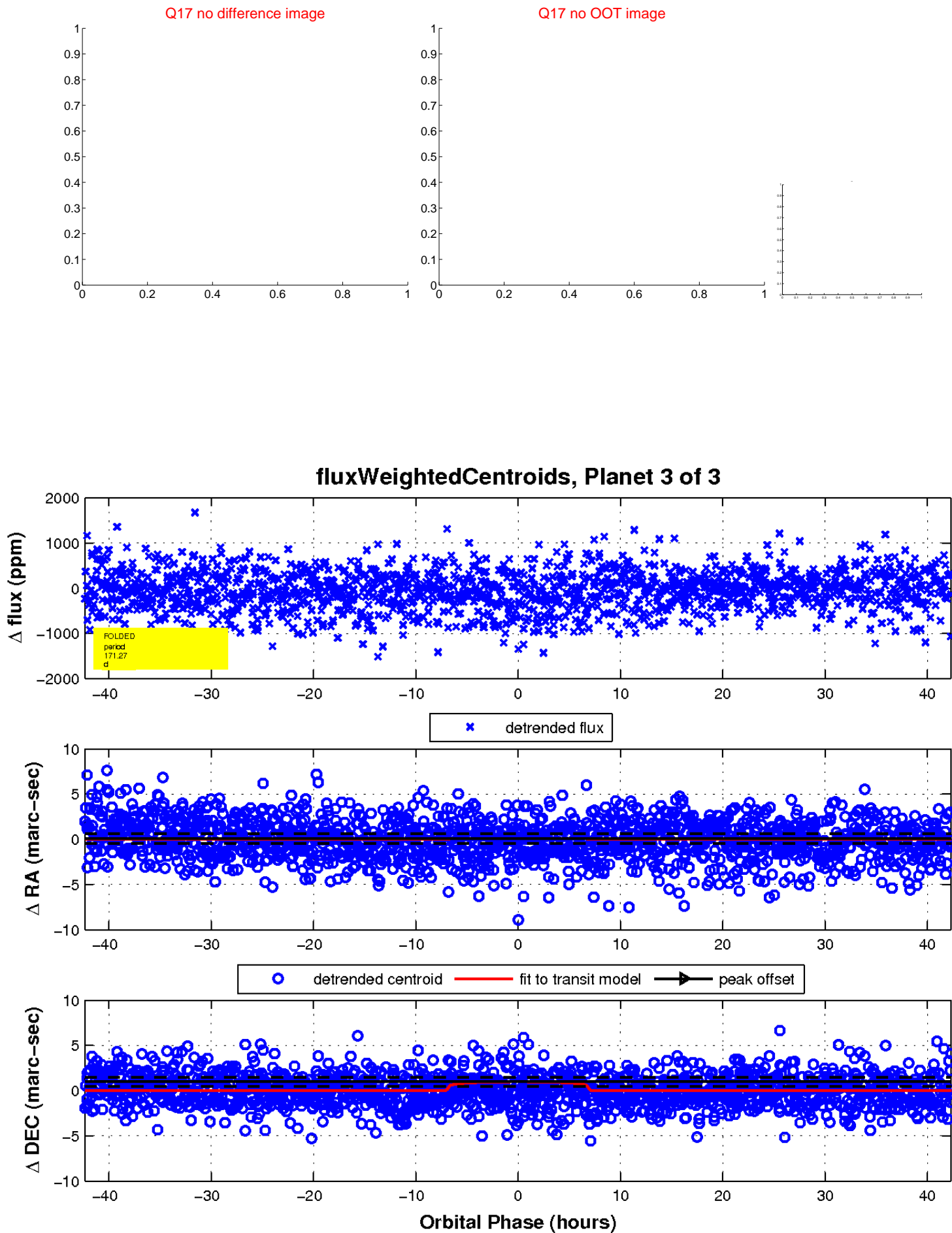
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

