

KIC 007117178

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})
007117178-01	OBS	No	0.566755	131.849040	5.5	4.150	9.3	4.6	0.95	5826	0.24	5544.36
007117178-02	OBS	No	8.419233	131.560994	635.6	1.500	13.1	-1.0	0.95	5826	2.40	151.83
007117178-03	OBS	No	29.022291	157.085271	171.0	3.488	11.0	12.6	0.95	5826	1.33	29.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007117178-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST—EPHEM_MATCH
007117178-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
007117178-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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.

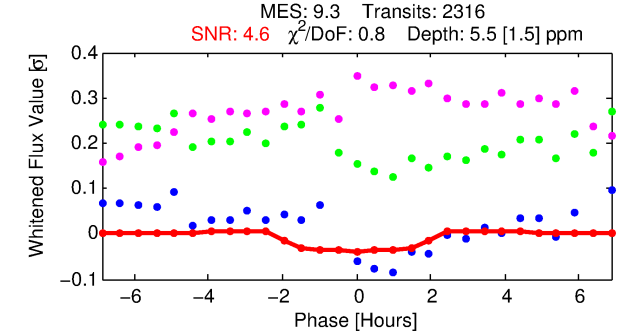
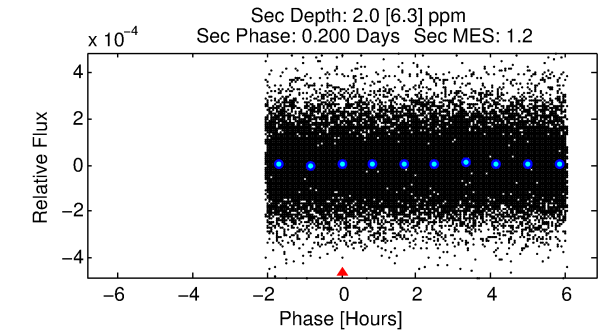
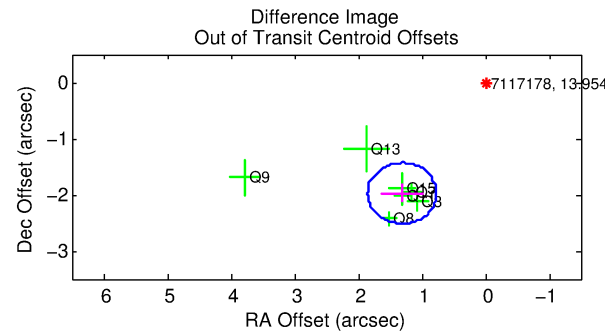
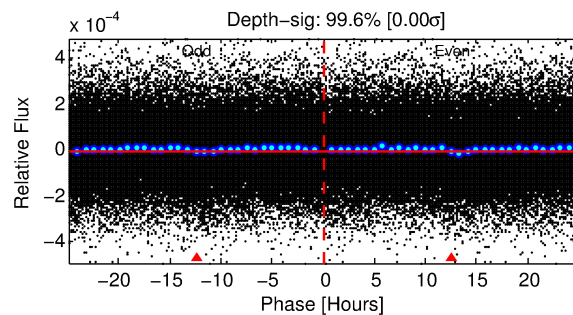
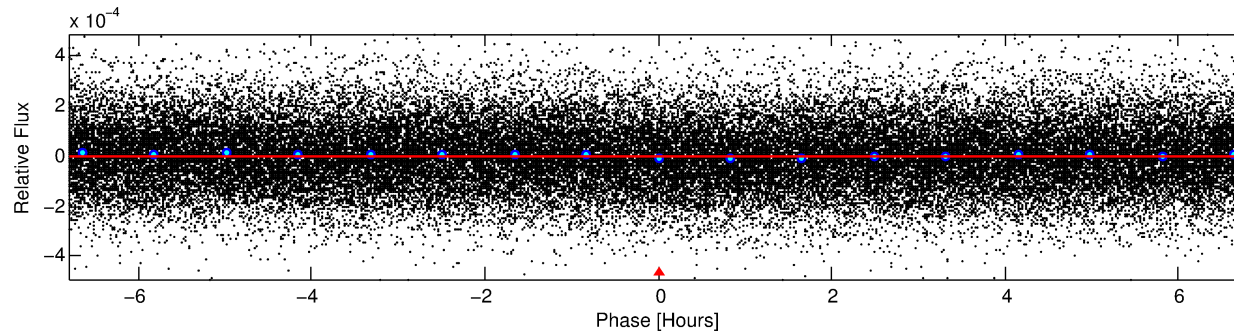
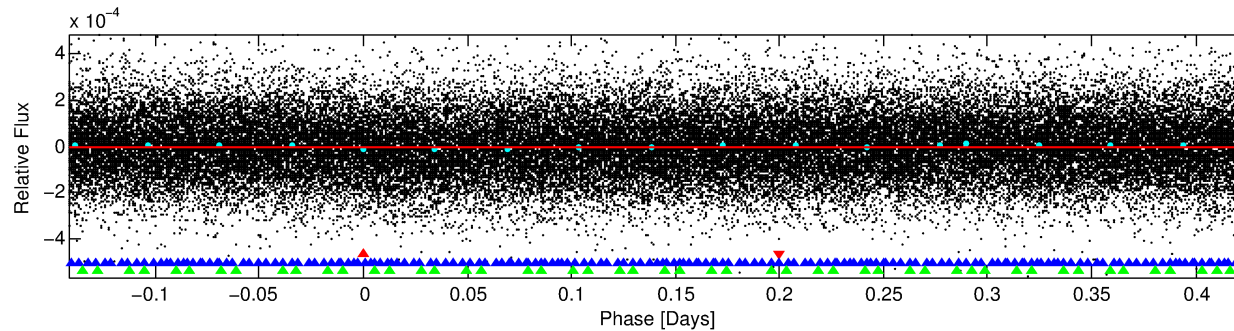
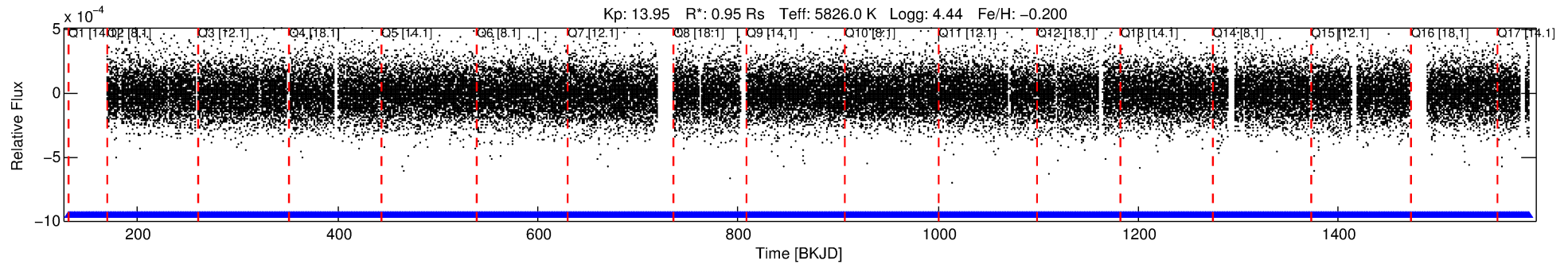
Ephemeris Match Information For 007117178-01

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
007117178-01	7117178	RR-Lyr-pri	7198959	1:1	802.9	191	64	7.86	13.95	124660.00	Direct-PRF	0	1.46	23.36

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: 7117178 Candidate: 1 of 3 Period: 0.567 d



DV Fit Results:

Period = 0.56675 [0.00002] d
Epoch = 131.8490 [0.0099] BKJD
 R_p/R^* = 0.0023 [0.0023]
 a/R^* = 1.11 [0.91]
 b = 0.75 [2.71]
 S_{eff} = 5544.36 [1989.04]
 T_{eq} = 2200 [197] K
 R_p = 0.24 [0.25] R_e
 a = 0.0130 [0.0030] AU
 A_g = 3.22 [11.86] [0.19 σ]
 T_{eff} = 4559 [4177] K [0.56 σ]

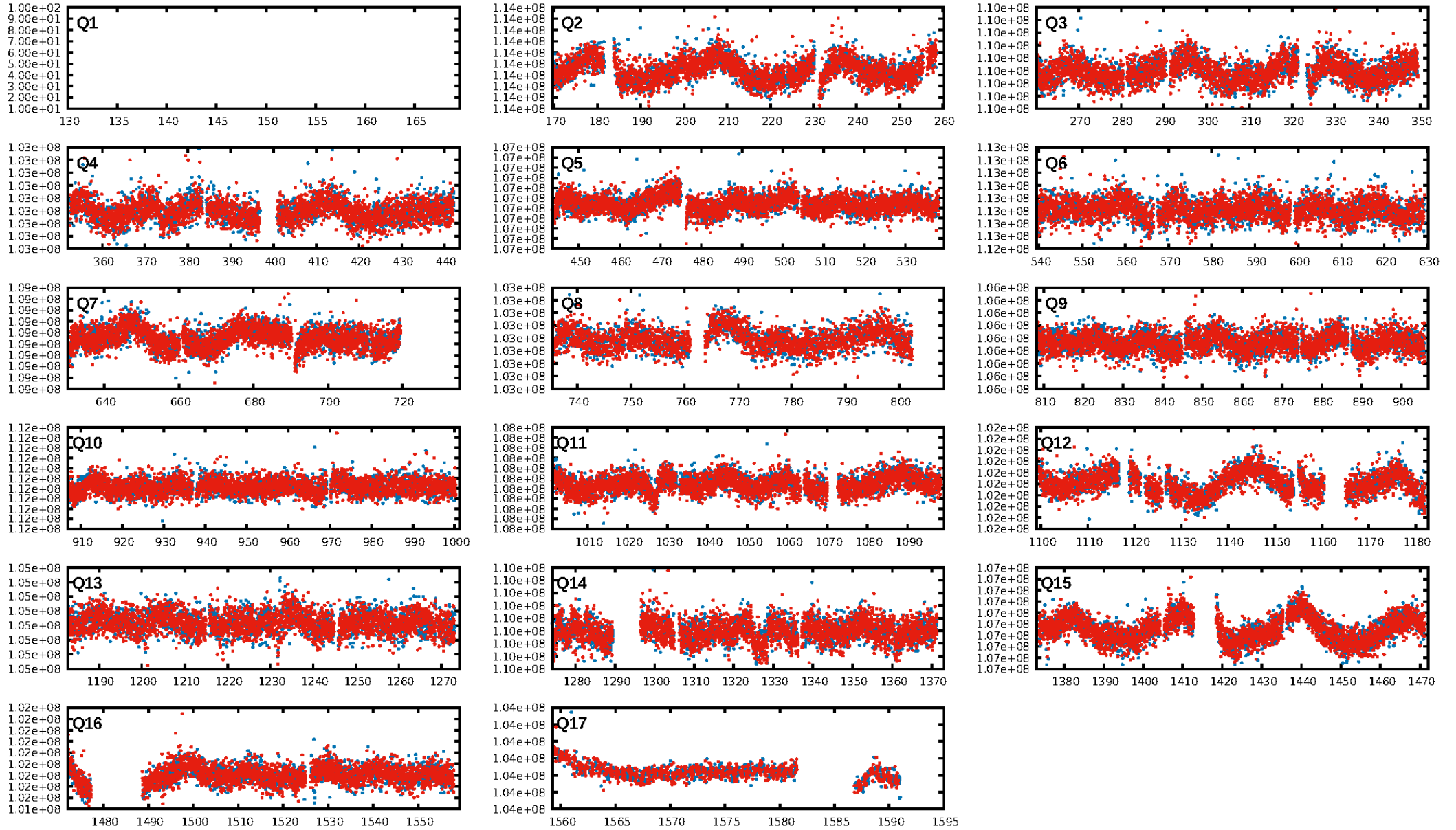
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [42.71 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.74e-10
RollingBand-fgt: 1.00 [2269/2269]
GhostDiagnostic-chr: -0.05817
Centroid-sig: 2.4%
Centroid-so: 5.025 arcsec [2.06 σ]
OotOffset-rm: 2.370 arcsec [13.13 σ]
KicOffset-rm: 2.320 arcsec [13.43 σ]
OotOffset-st: 0/4/1/2 [7]
KicOffset-st: 0/4/1/2 [7]
DiffImageQuality-fgm: 0.86 [6/7]
DiffImageOverlap-fno: 1.00 [16/16]

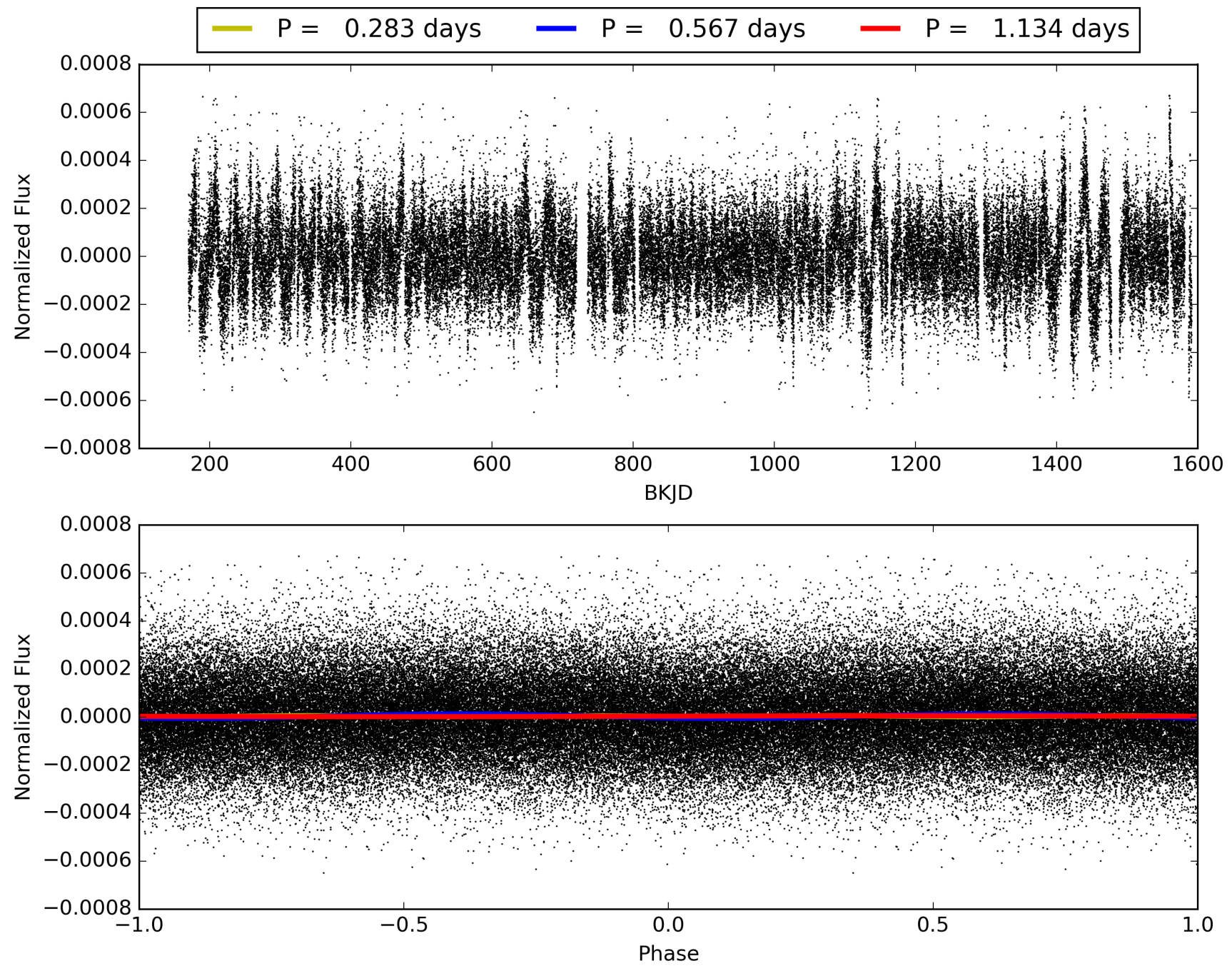
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:35:17 Z

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

TCE 007117178-01, PDC Light Curves

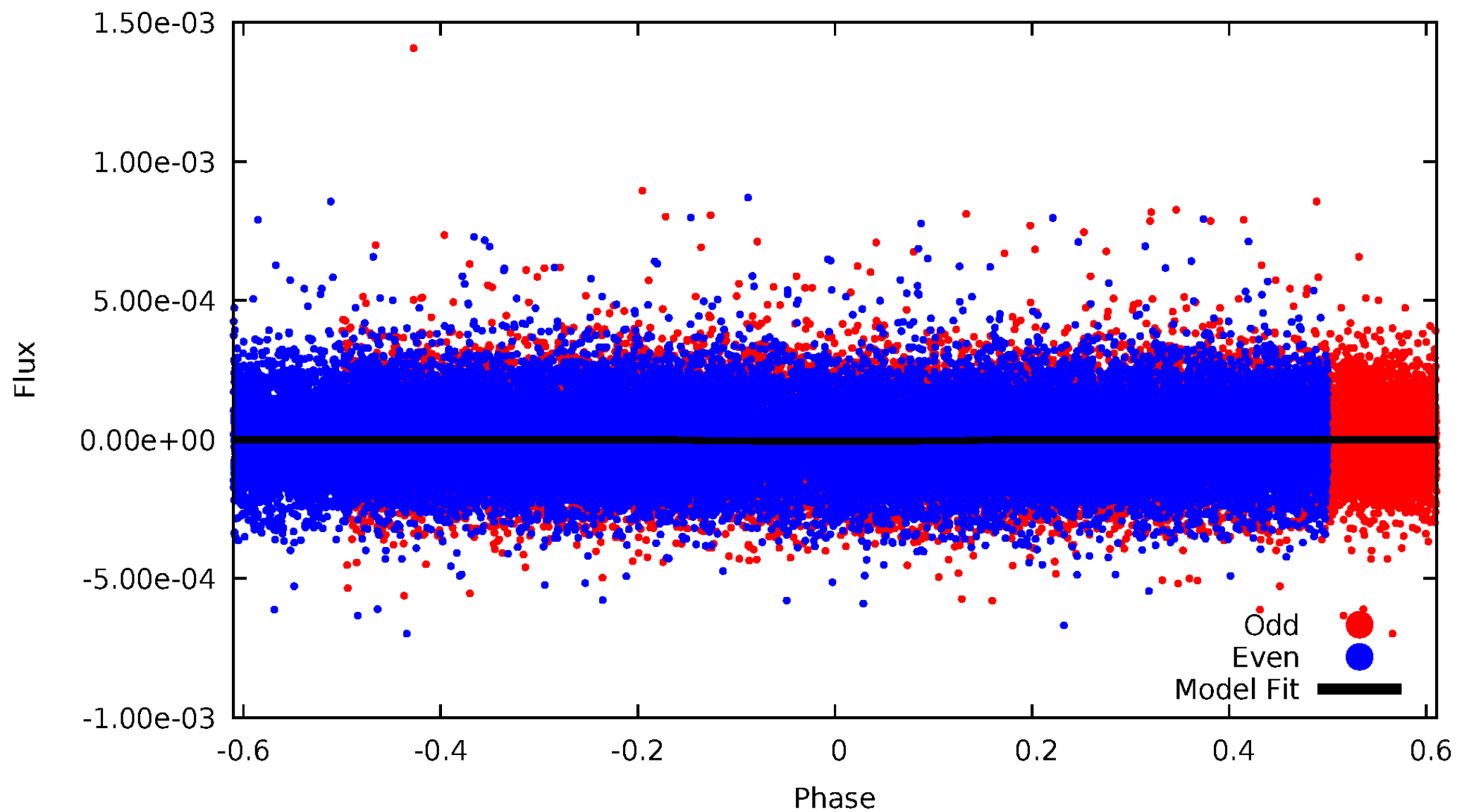


TCE 007117178-01



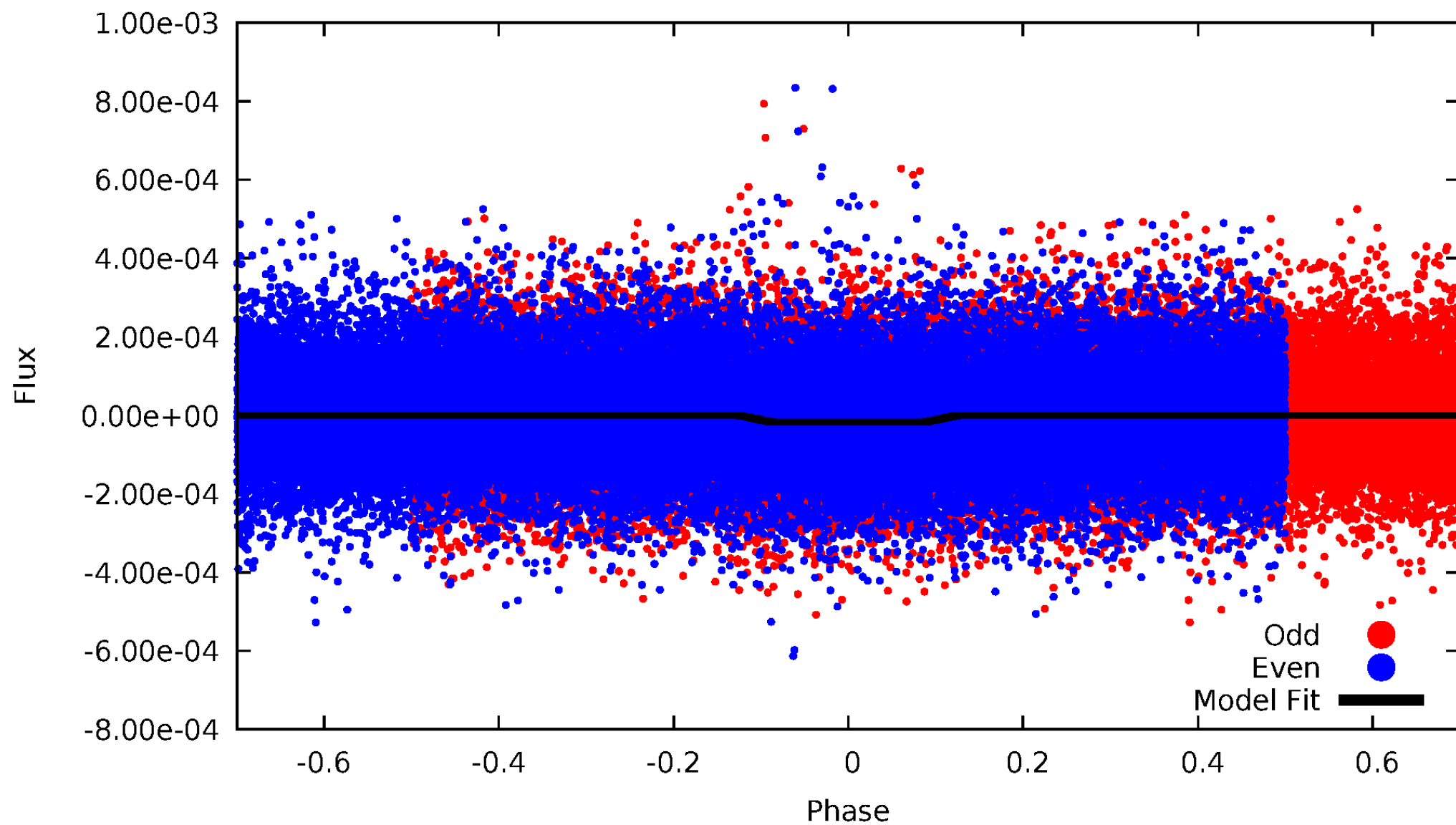
DV Odd/Even

TCE 007117178-01

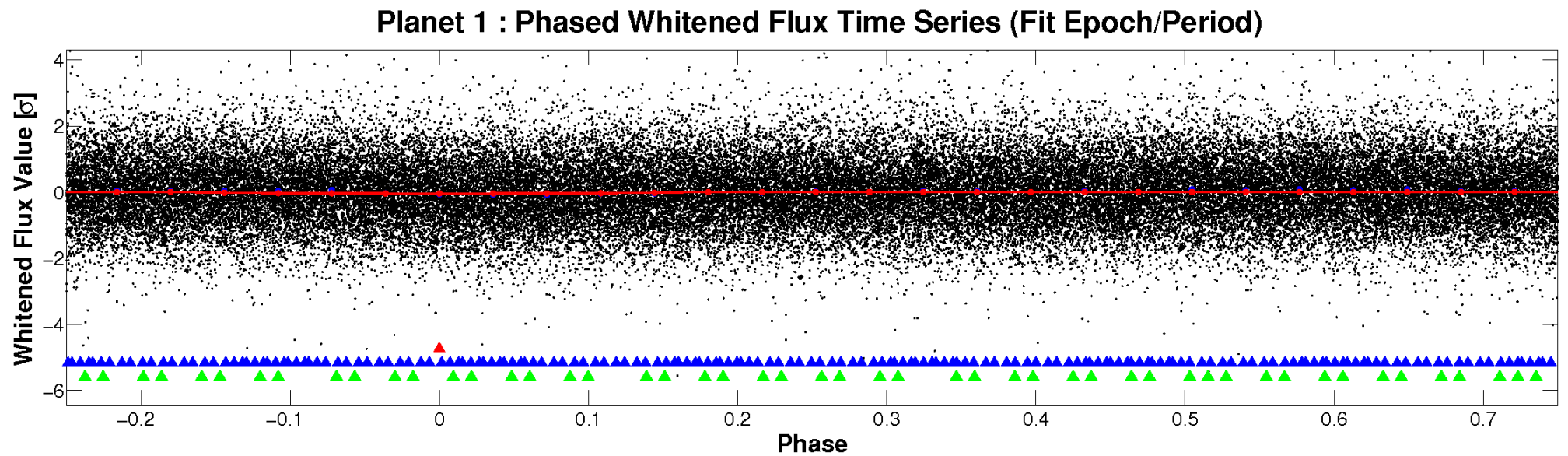
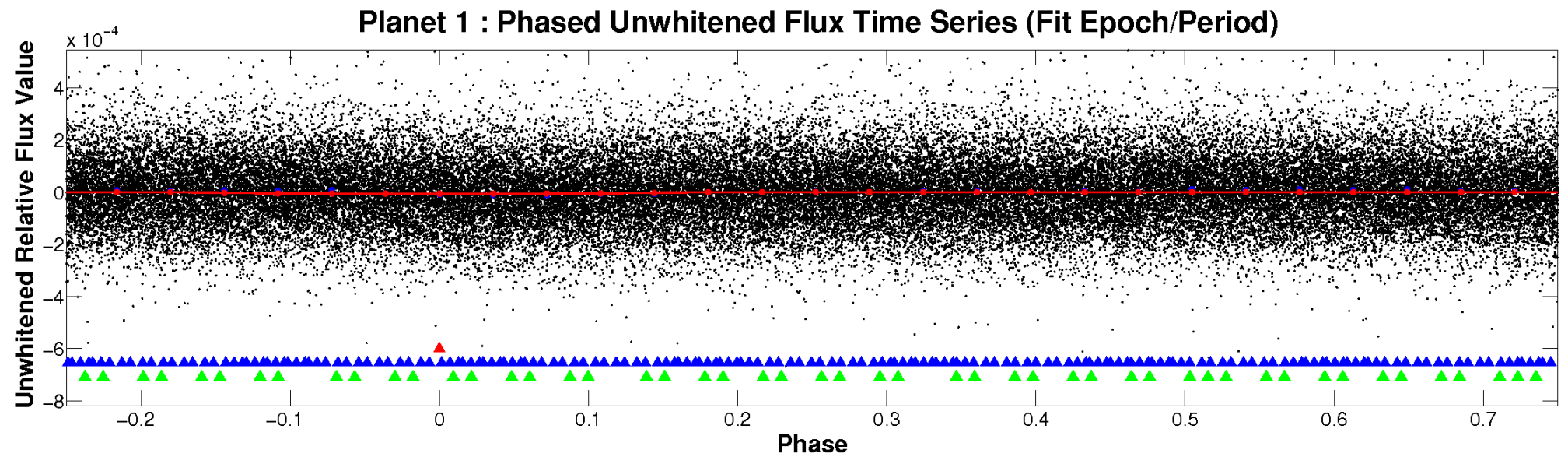


ALT Odd/Even

TCE 007117178-01

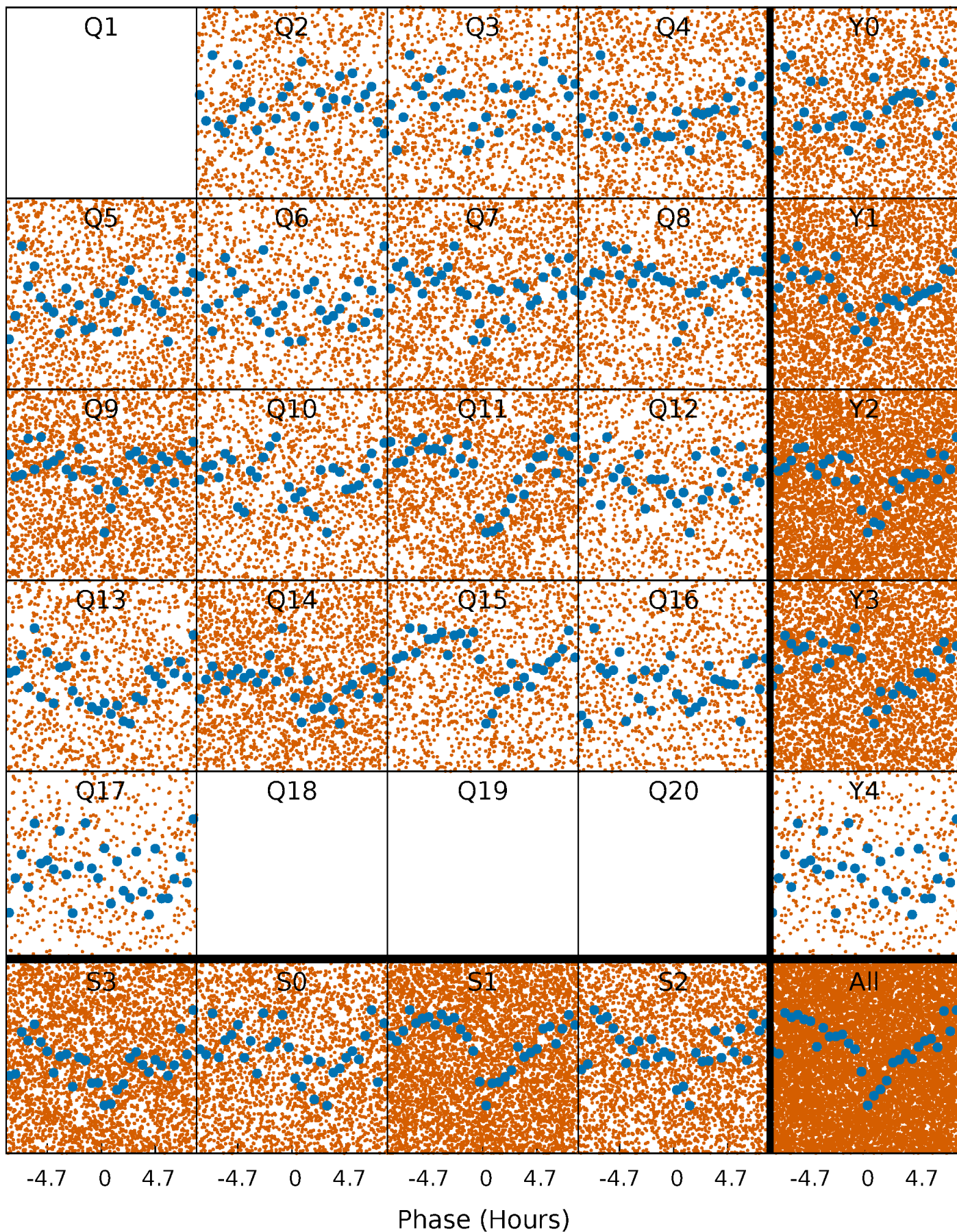


Non-Whitened Vs. Whitened Light Curve



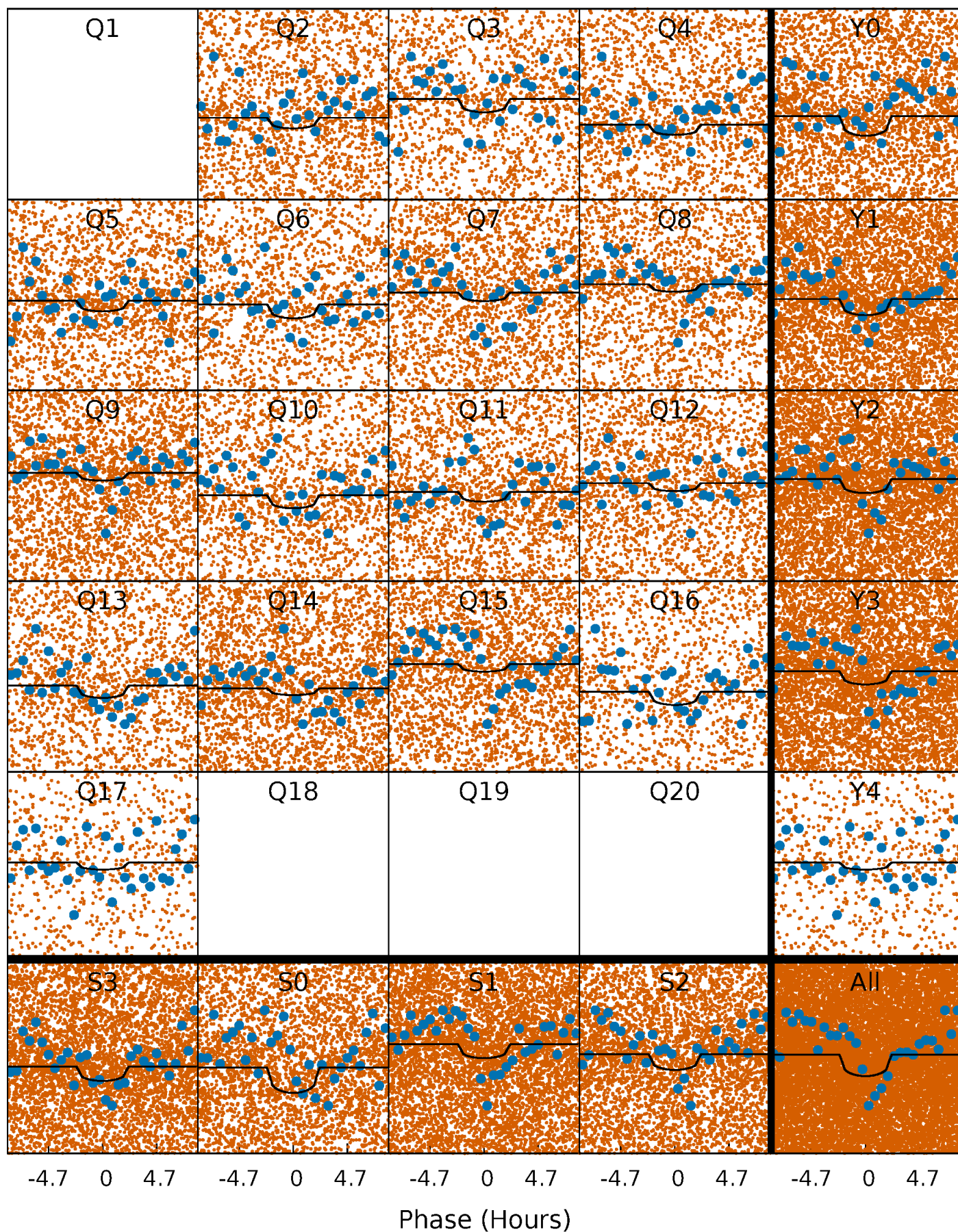
PDC Quarter-Phased Transit Curves

TCE 007117178-01 P= 0.566755 Days $T_0=131.849040$ (BKJD)



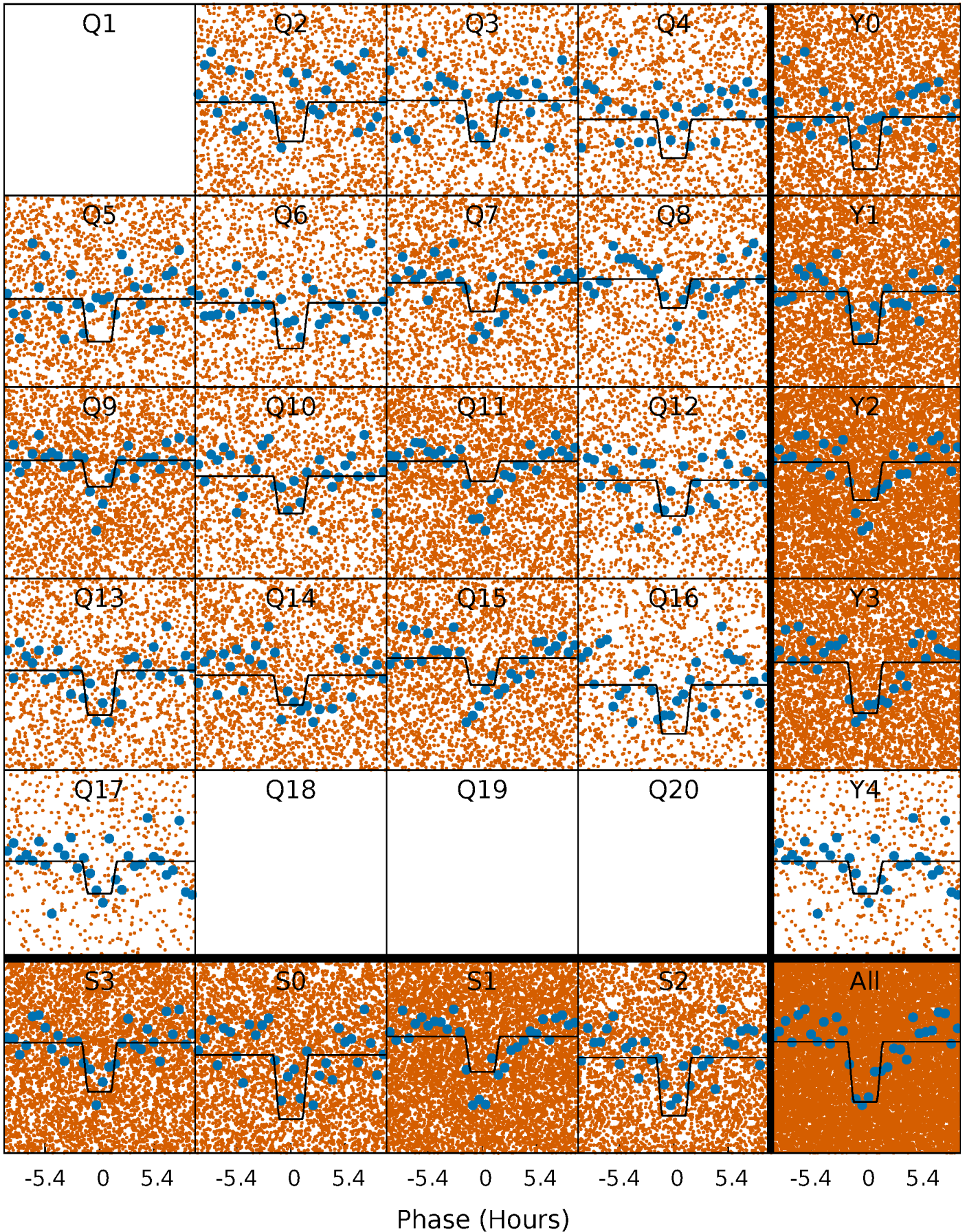
DV Quarter-Phased Transit Curves

TCE 007117178-01 P= 0.566755 Days $T_0=131.849040$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

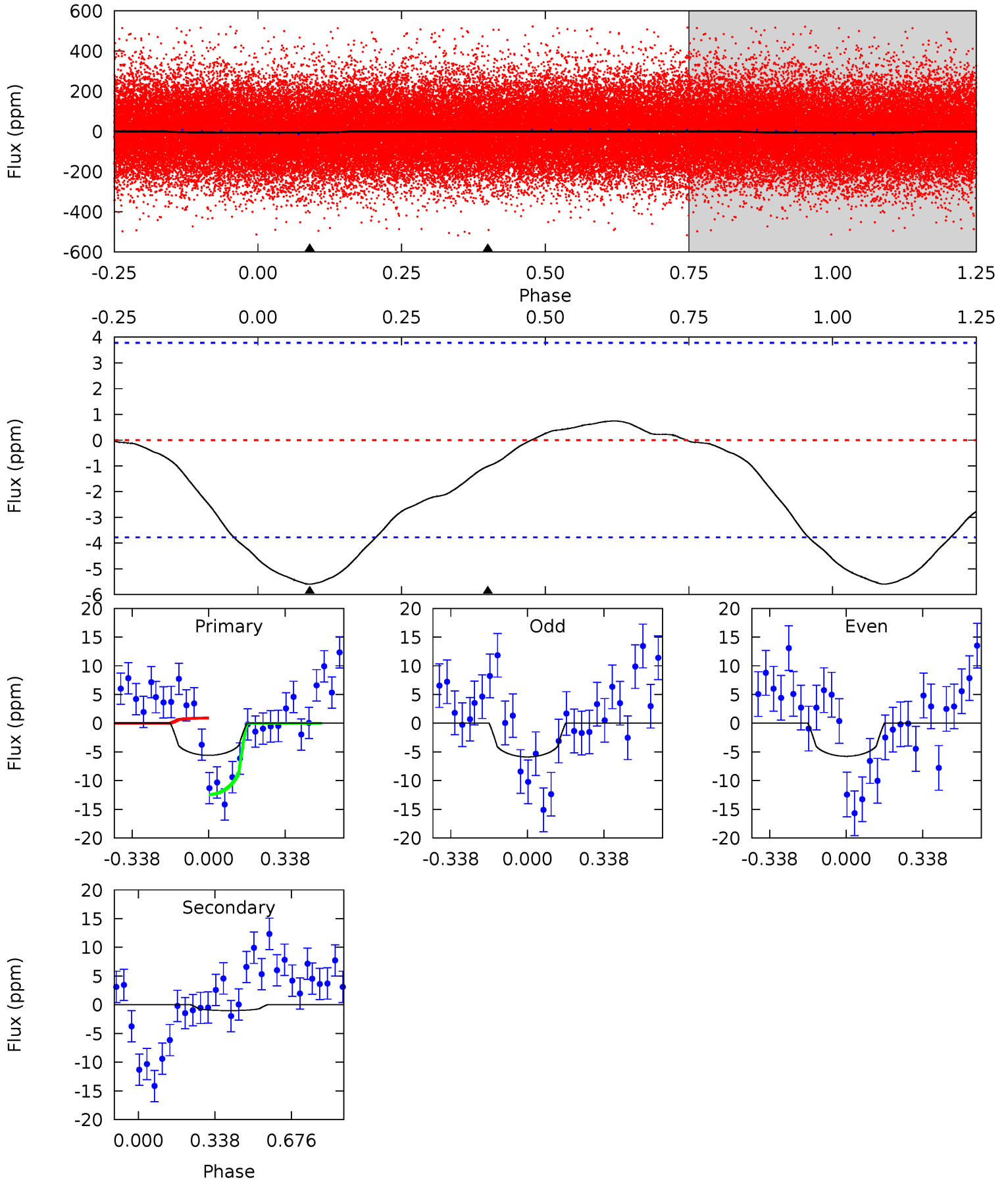
TCE 007117178-01 P= 0.566801 Days $T_0=131.813229$ (BKJD)



DV Model-Shift Uniqueness Test

007117178-01, P = 0.566755 Days, E = 131.849040 Days

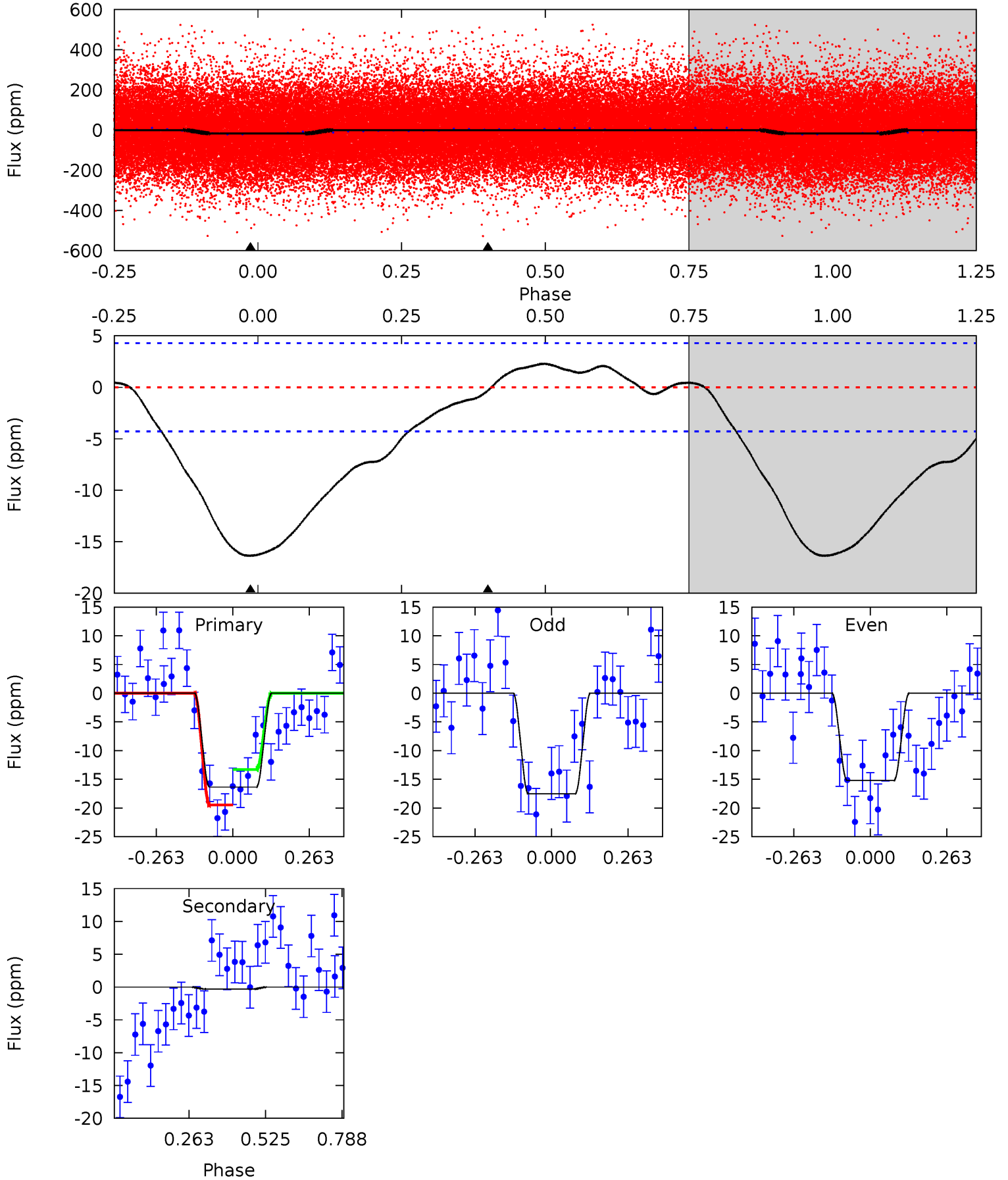
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.38	1.16	0	0	4.30	0.96	0.17	6.38	6.38	1.16	1.16	0.06	0.95	0.12	6.68



Alt Model-Shift Uniqueness Test

007117178-01, P = 0.566801 Days, E = 131.813229 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	0.32	0	0	4.36	1.12	0.43	16.6	16.6	0.32	0.32	1.17	1.04	0.12	3.10



Stellar Parameters For KIC 007117178

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5826^{+174}_{-191}	$4.441^{+0.098}_{-0.182}$	$-0.200^{+0.300}_{-0.300}$	$0.955^{+0.262}_{-0.141}$	$0.917^{+0.121}_{-0.099}$	$1.484^{+0.662}_{-0.742}$
	+3%/-3%	+2%/-4%	+150%/-150%	+27%/-15%	+13%/-11%	+45%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007117178-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1 ± 1	$0.30^{+0.21}_{-0.18}$	3114^{+204}_{-169}	3499^{+1994}_{-6490}	$0.876^{+5.212}_{-0.777}$
Alt.	-0 ± 1	$0.45^{+0.26}_{-0.23}$	3105^{+222}_{-166}	-2961^{+6488}_{-607}	$0.110^{+0.782}_{-0.462}$

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 $A_{obs} \gg 1.0$

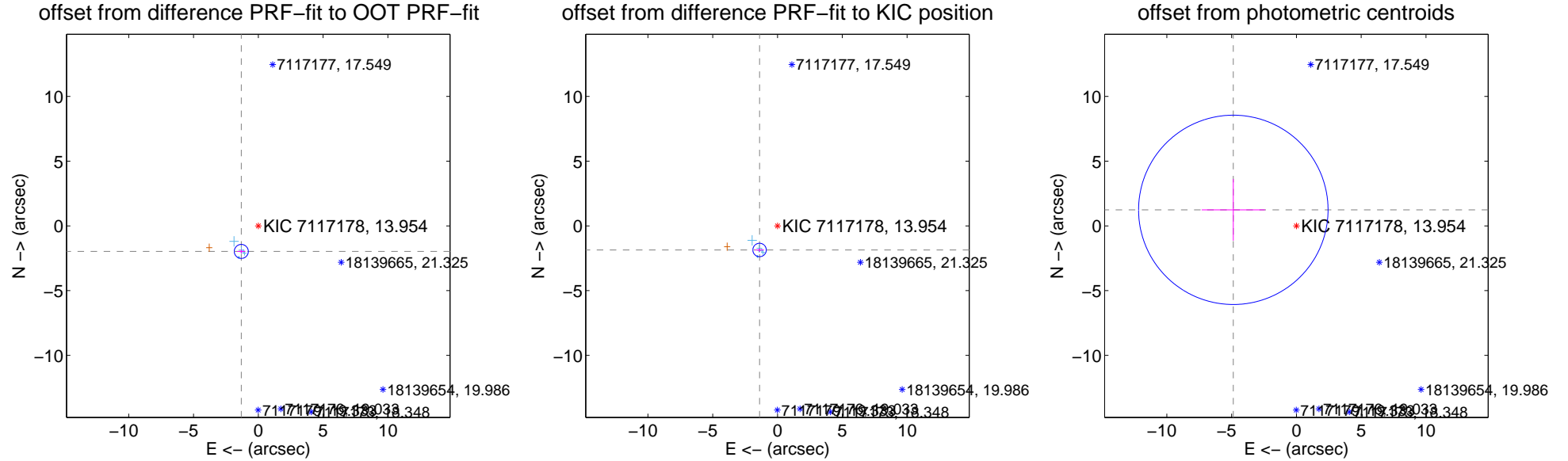
DV Centroid Data

Supplemental centroid analysis for 007117178-01. Kepler magnitude: 13.95. Transit SNR 4.61

There are 6 quarters with good PRF difference image offsets

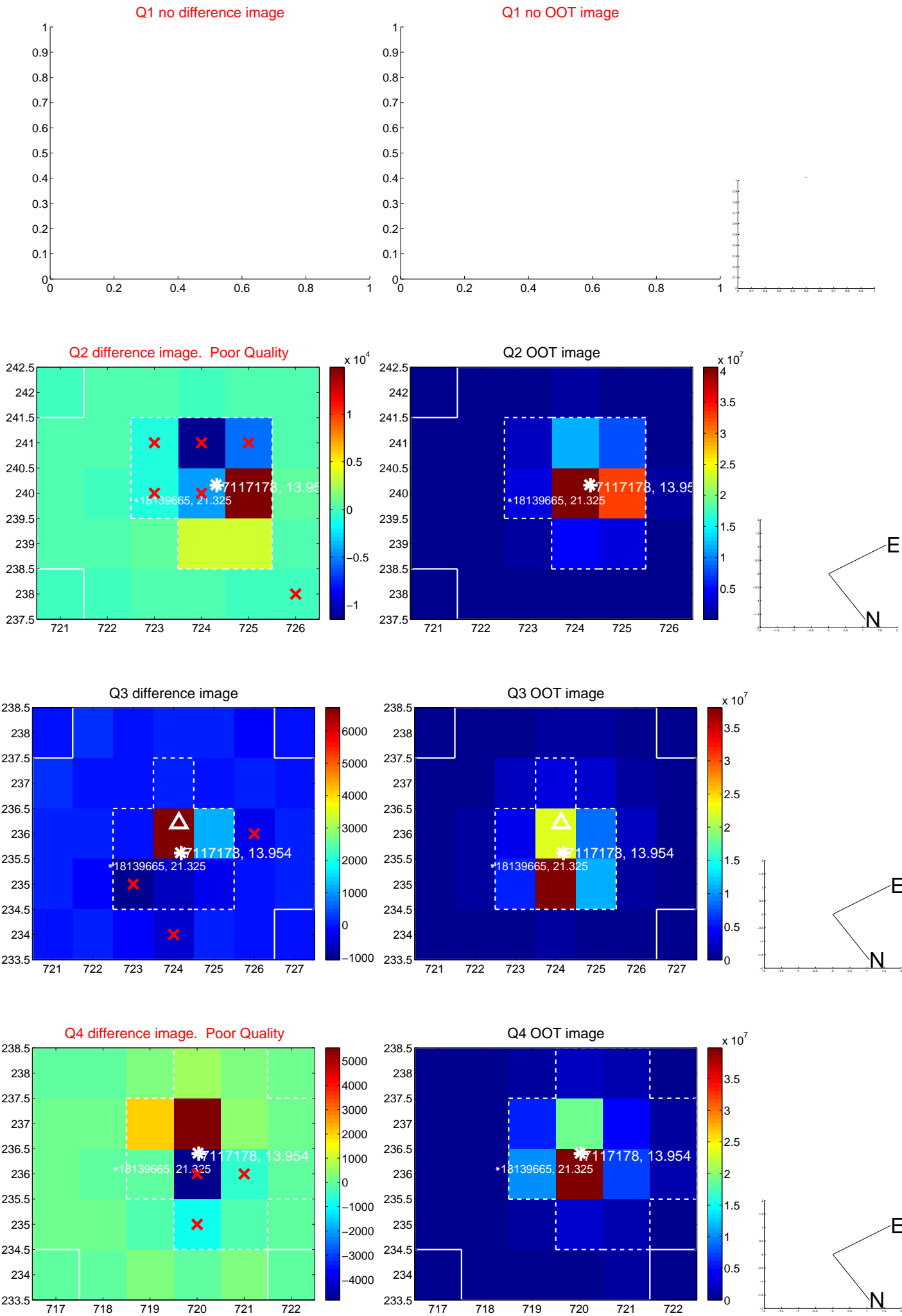
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.370 ± 0.180	13.13	1.313 ± 0.316	-1.974 ± 0.157
PRF-fit source offset from KIC position	2.320 ± 0.173	13.43	1.385 ± 0.336	-1.862 ± 0.150
photometric centroid source offset	5.03 ± 2.44	2.06	4.87 ± 2.44	1.24 ± 2.39

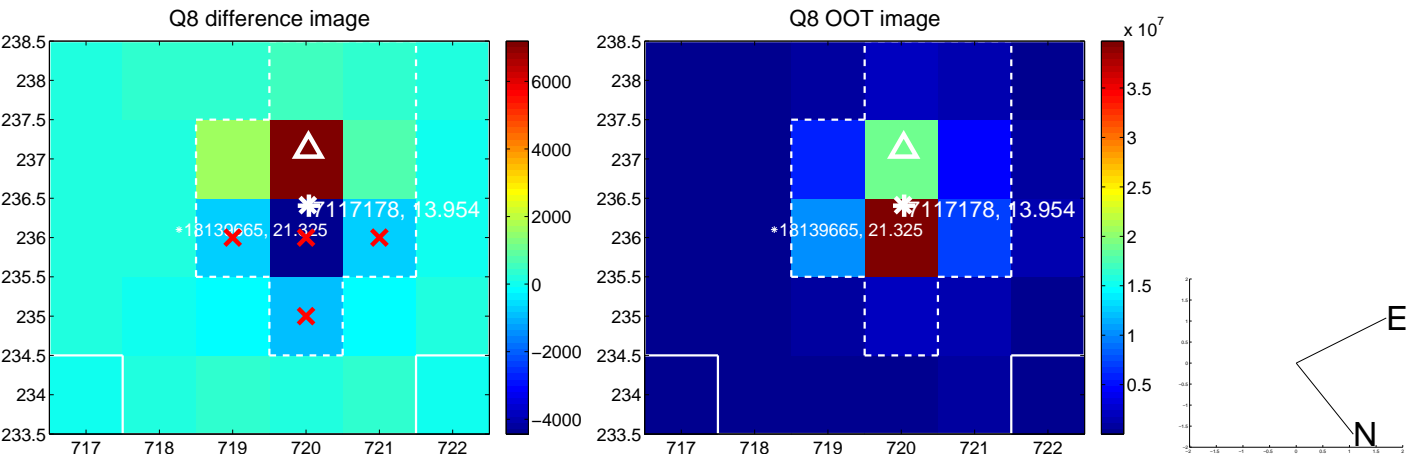
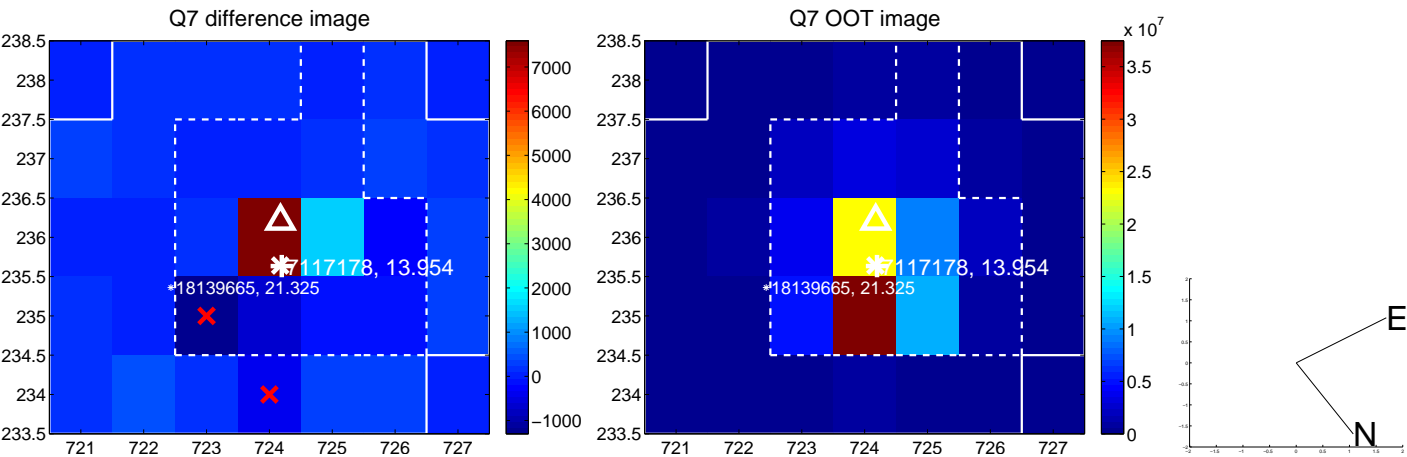
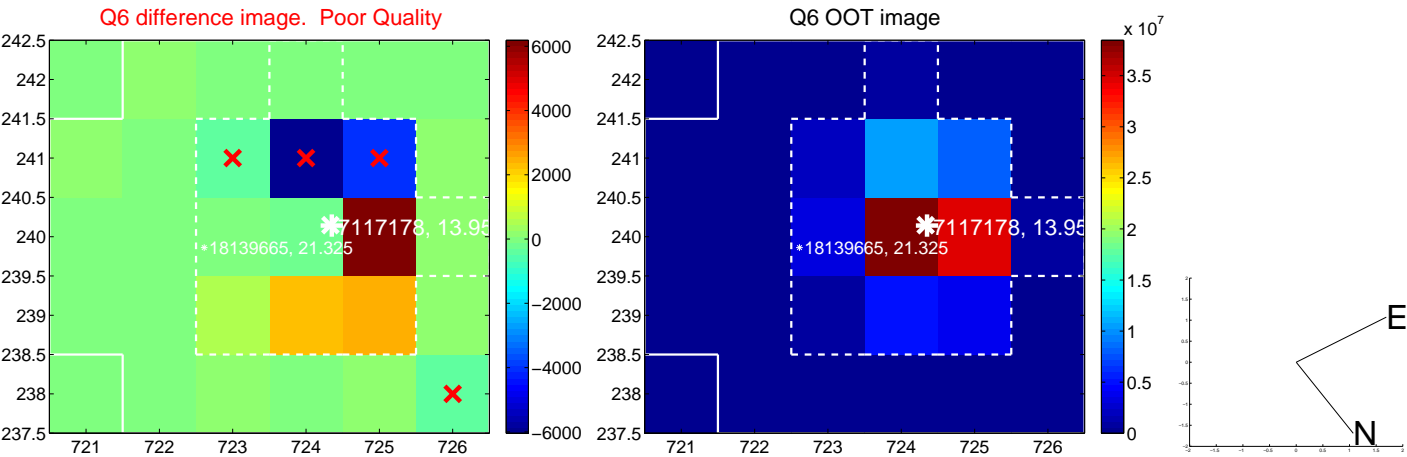
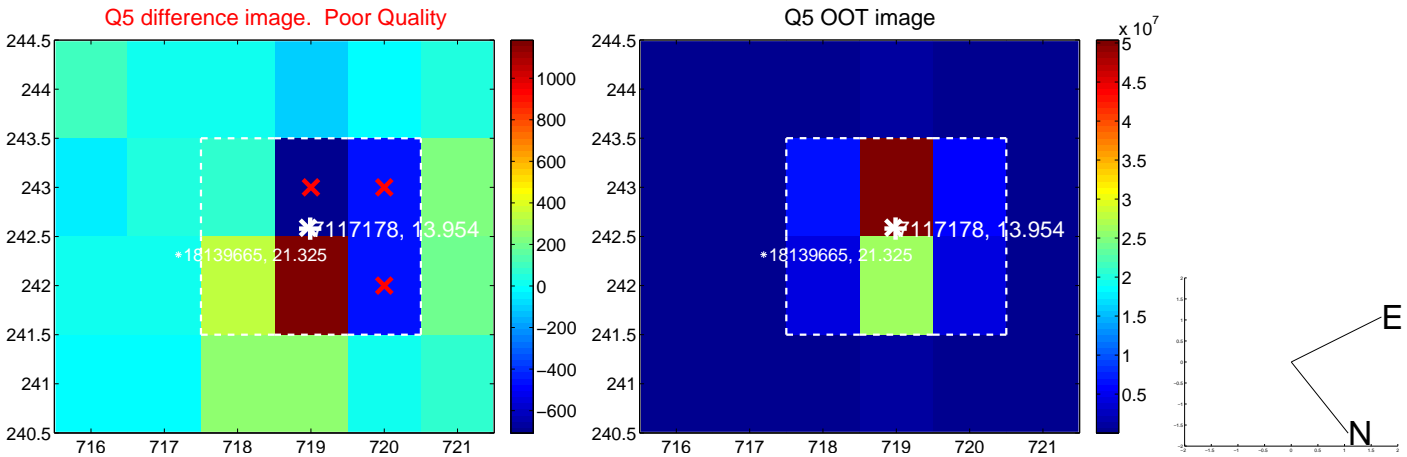


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

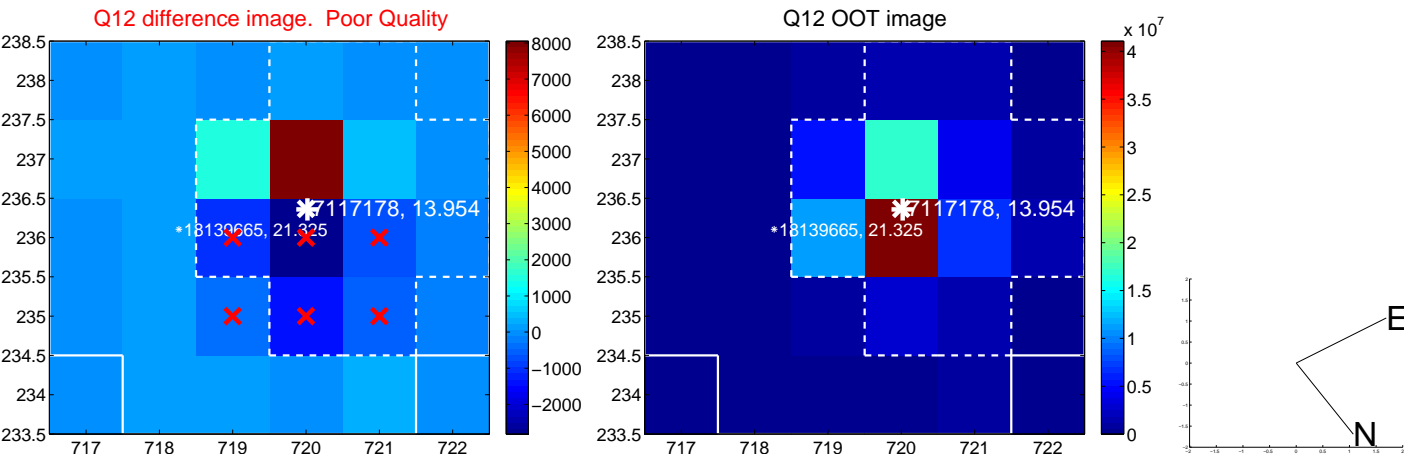
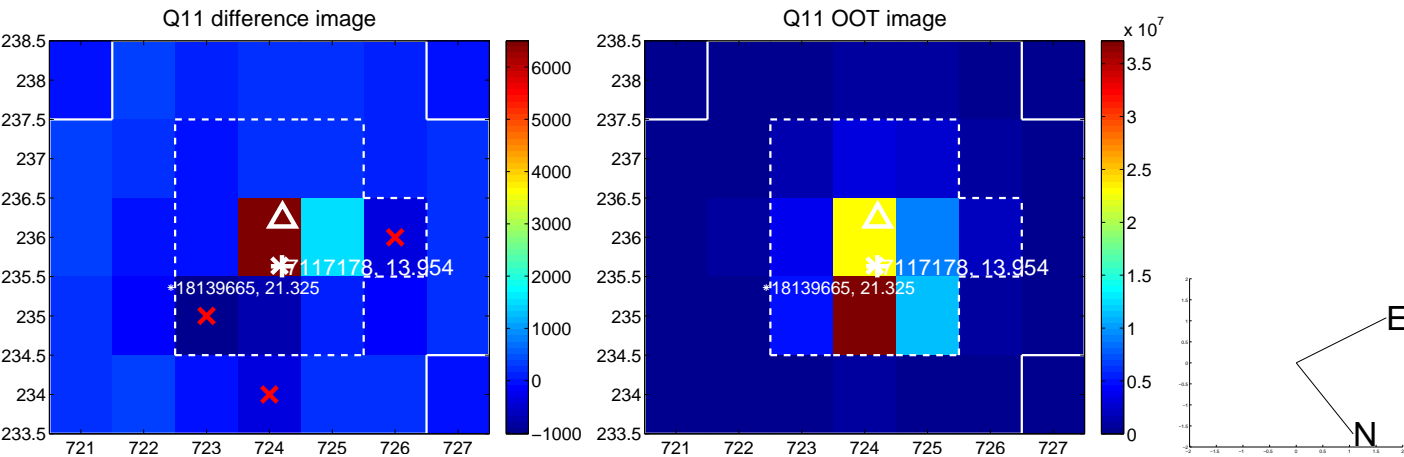
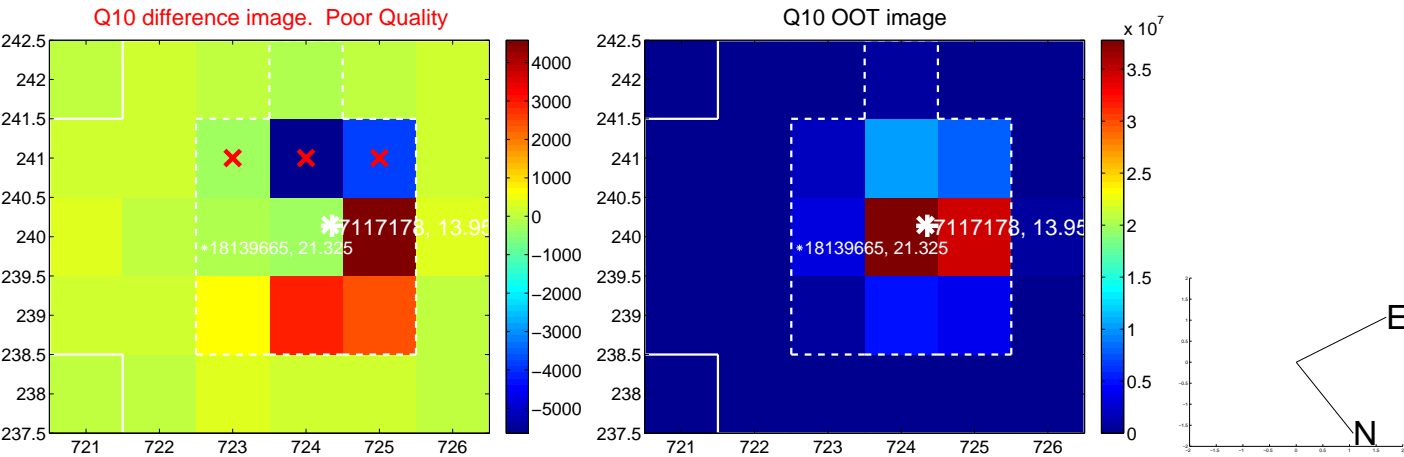
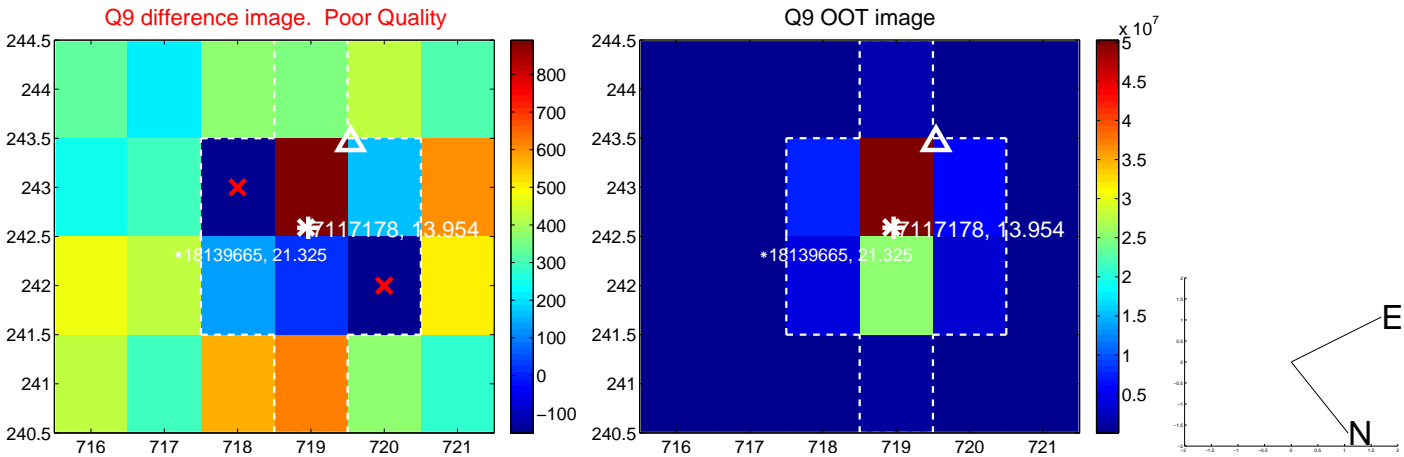
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



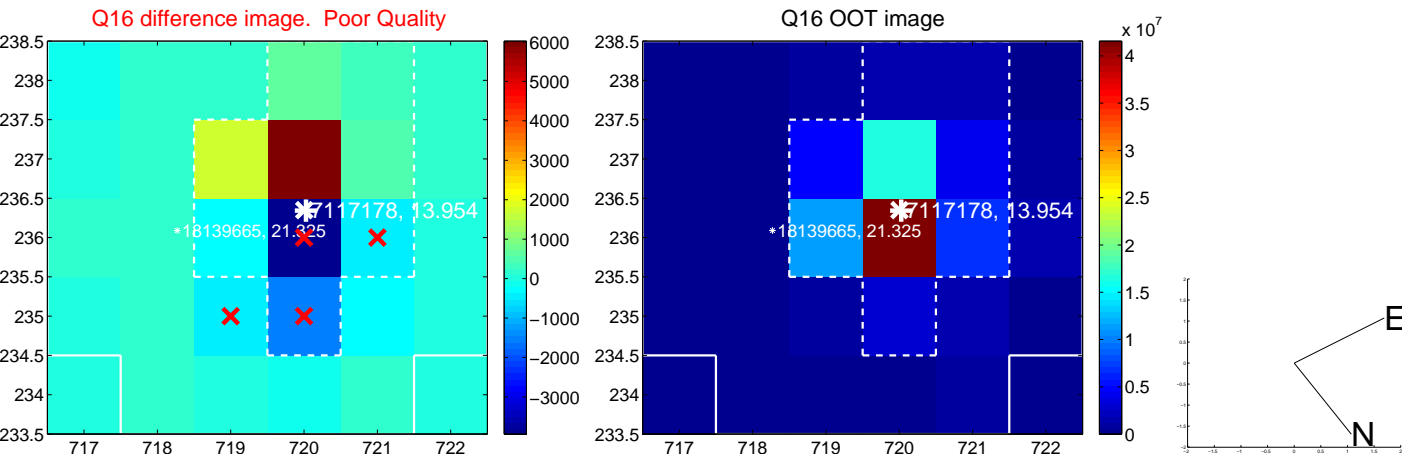
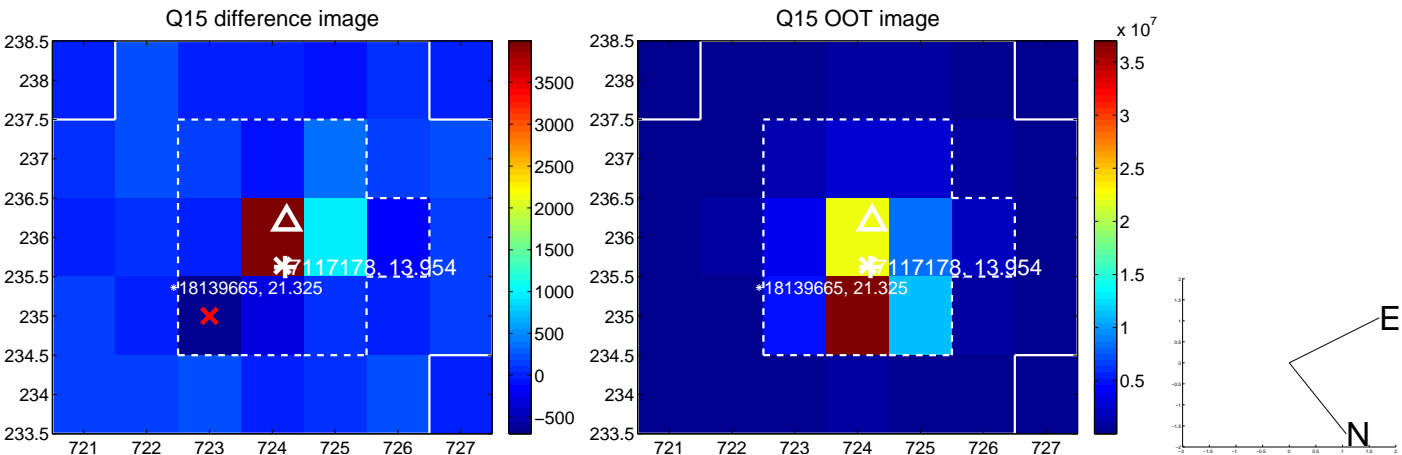
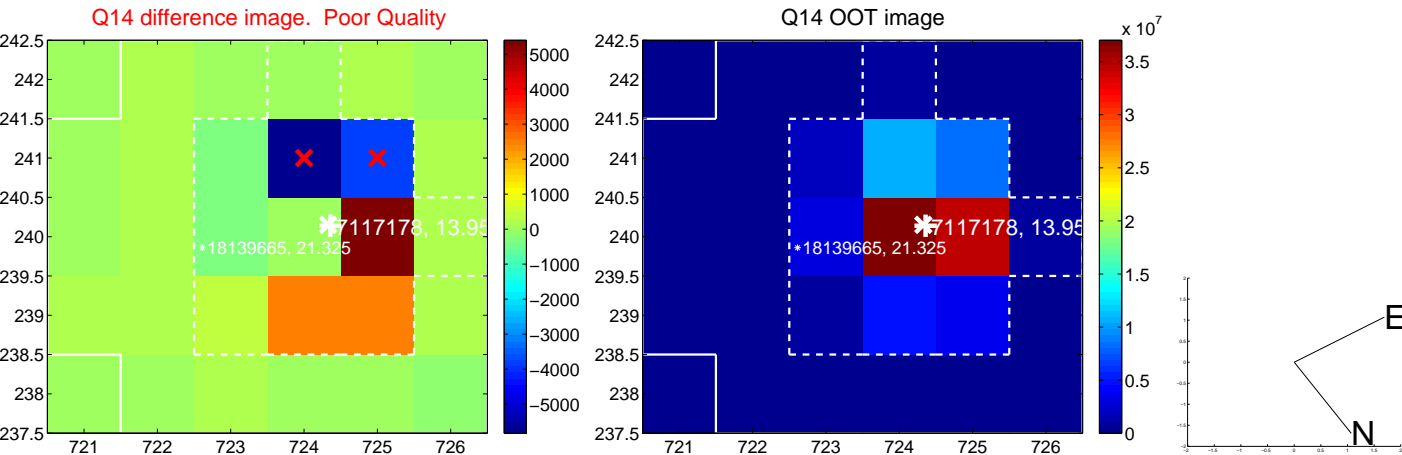
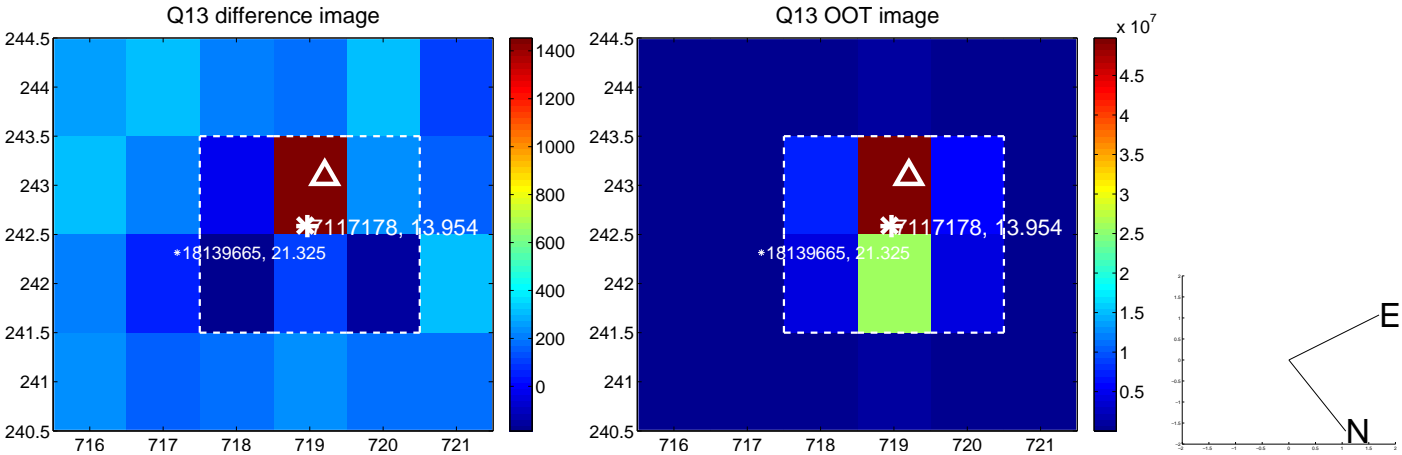
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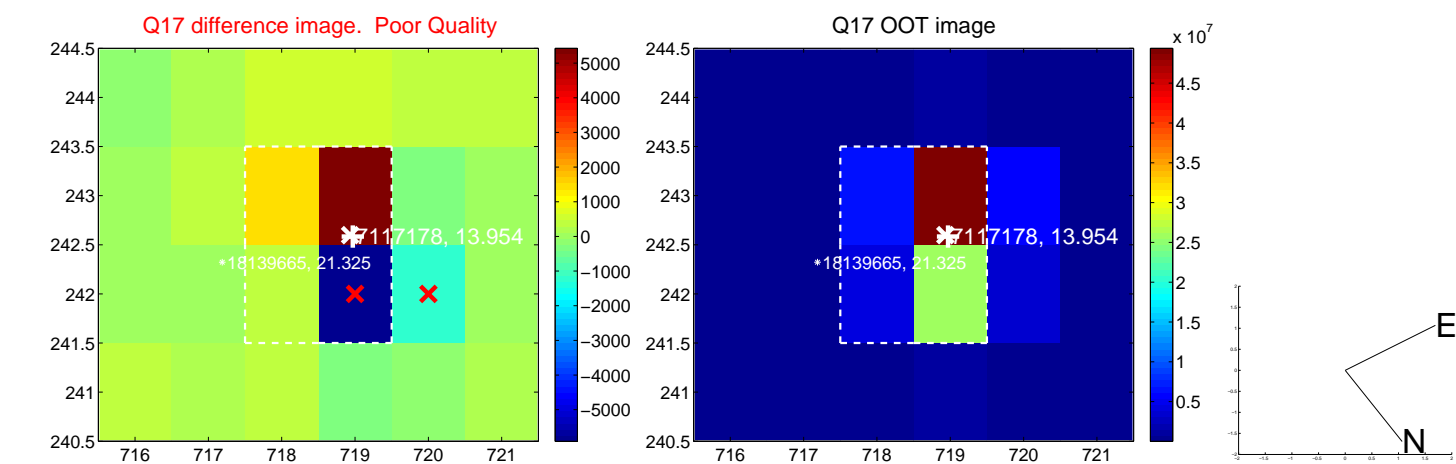
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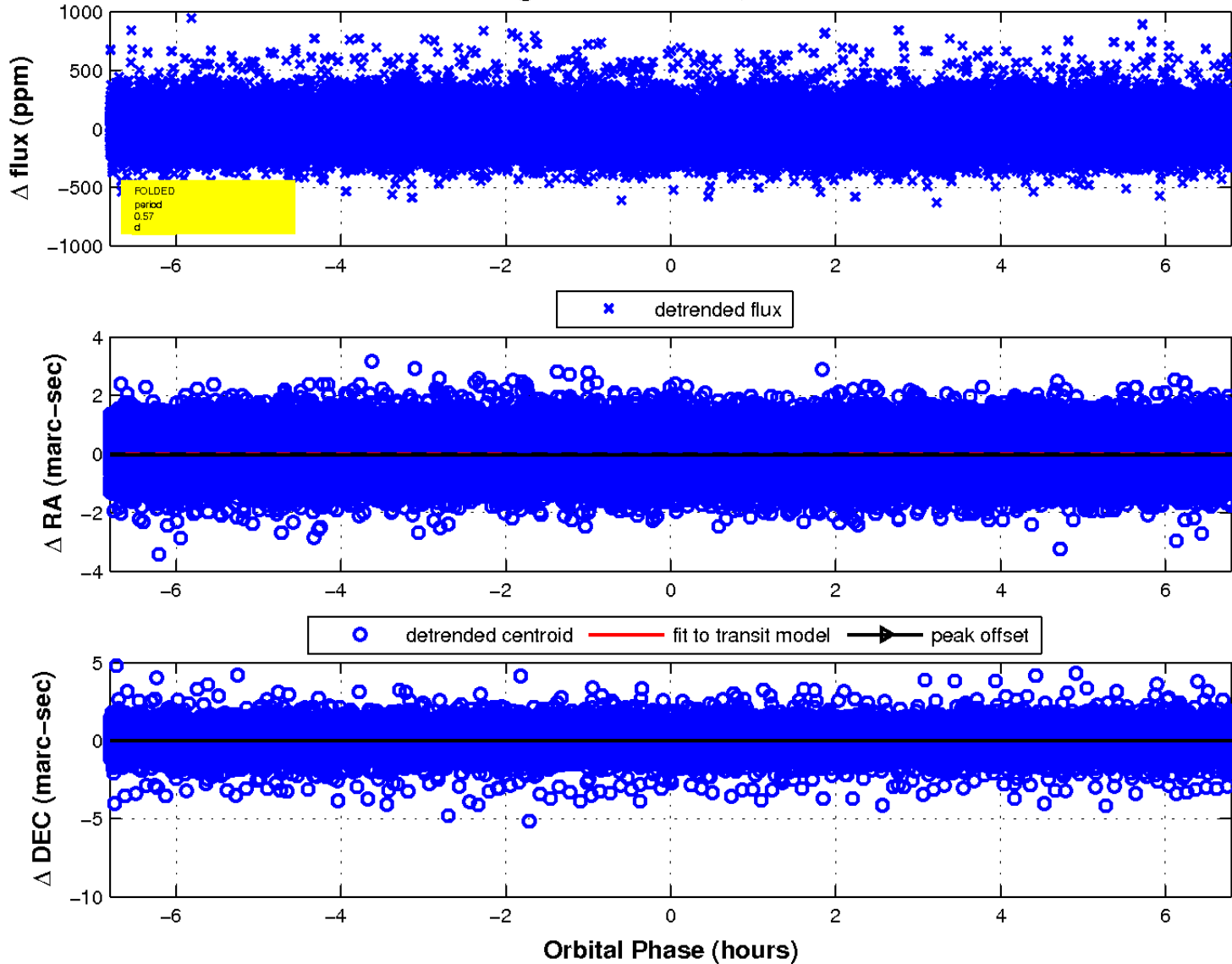
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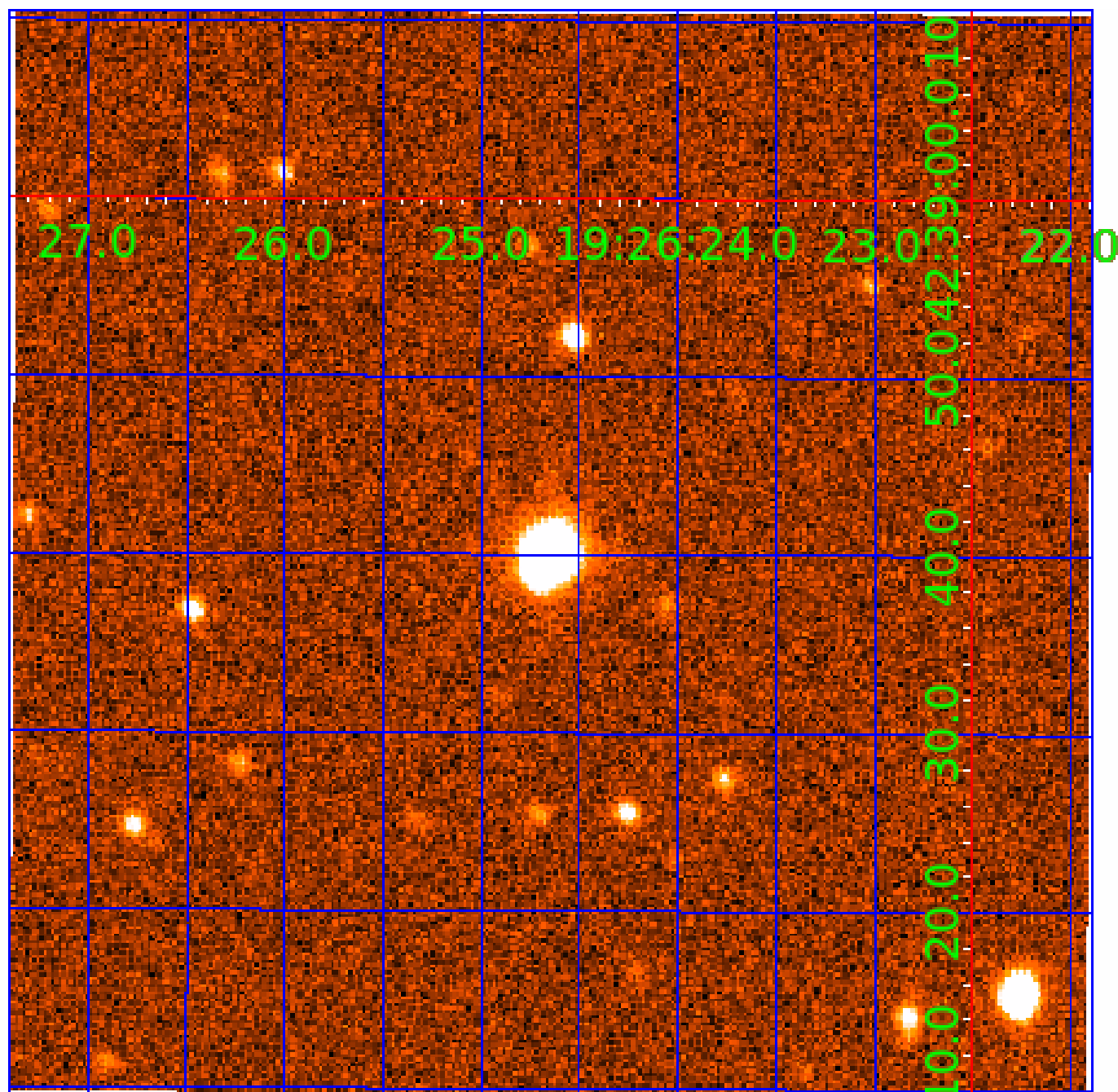


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 007117178

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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007117178-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
007117178-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

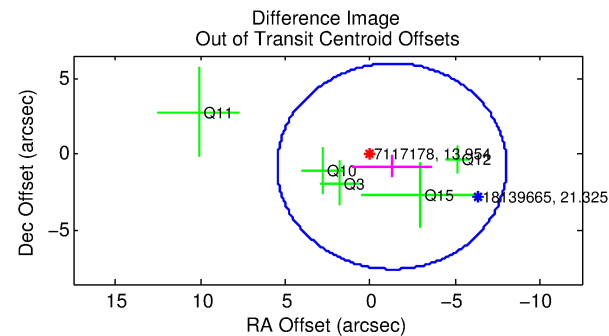
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 007117178-02

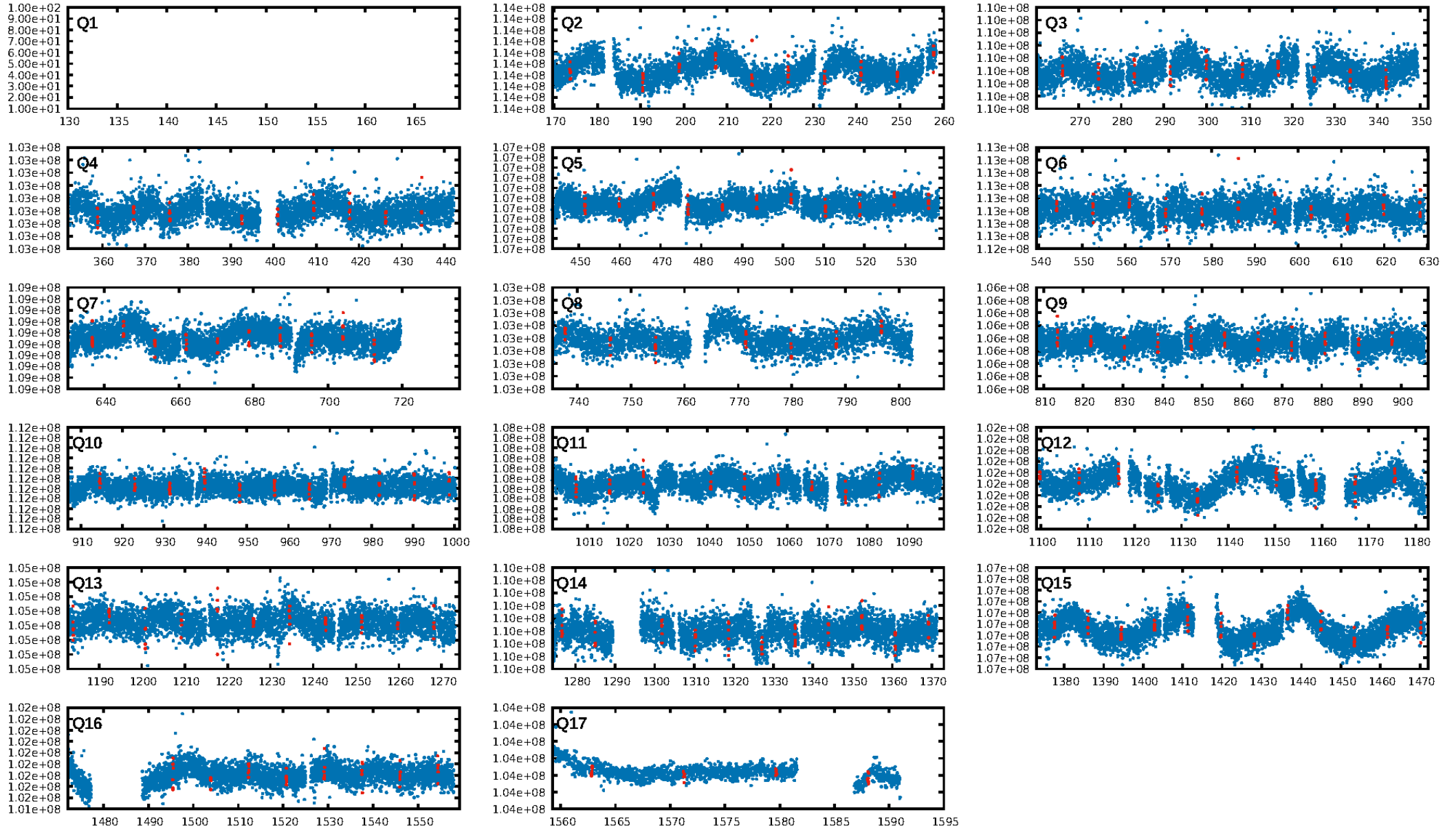
No Significant Match Found

KIC: 7117178 Candidate: 2 of 3 Period: 8.419 d

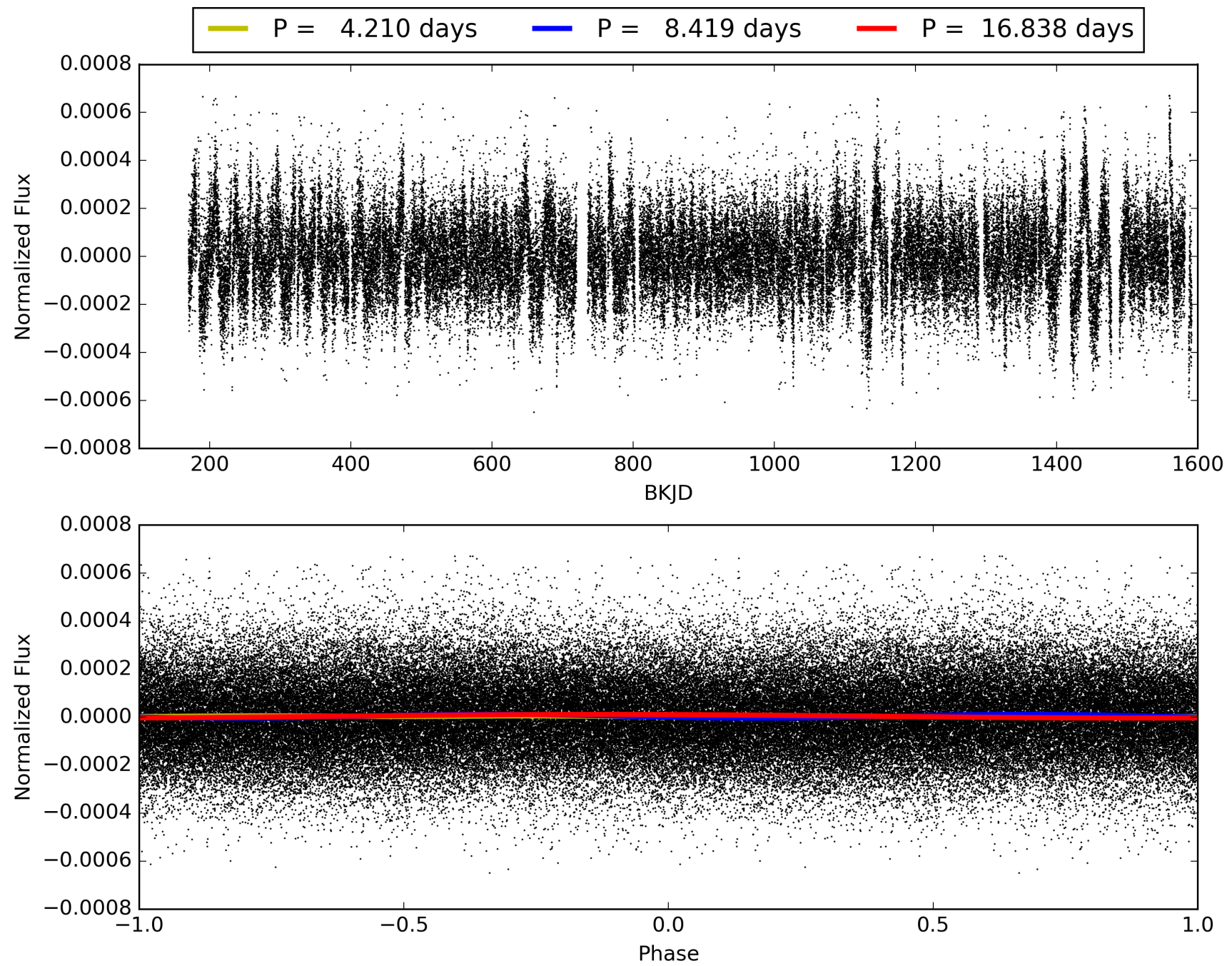


Centroid-sig: 96.9%
Centroid-so: 0.142 arcsec [0.69σ]
OotOffset-rm: 1.506 arcsec [0.67σ]
KicOffset-rm: 1.420 arcsec [0.61σ]
OotOffset-st: 1/3/1/0 [5]
KicOffset-st: 1/3/1/0 [5]
DiffImageQuality-figm: 0.40 [2/5]
DiffImageOverlap-fno: 0.00 [0/12]

TCE 007117178-02, PDC Light Curves

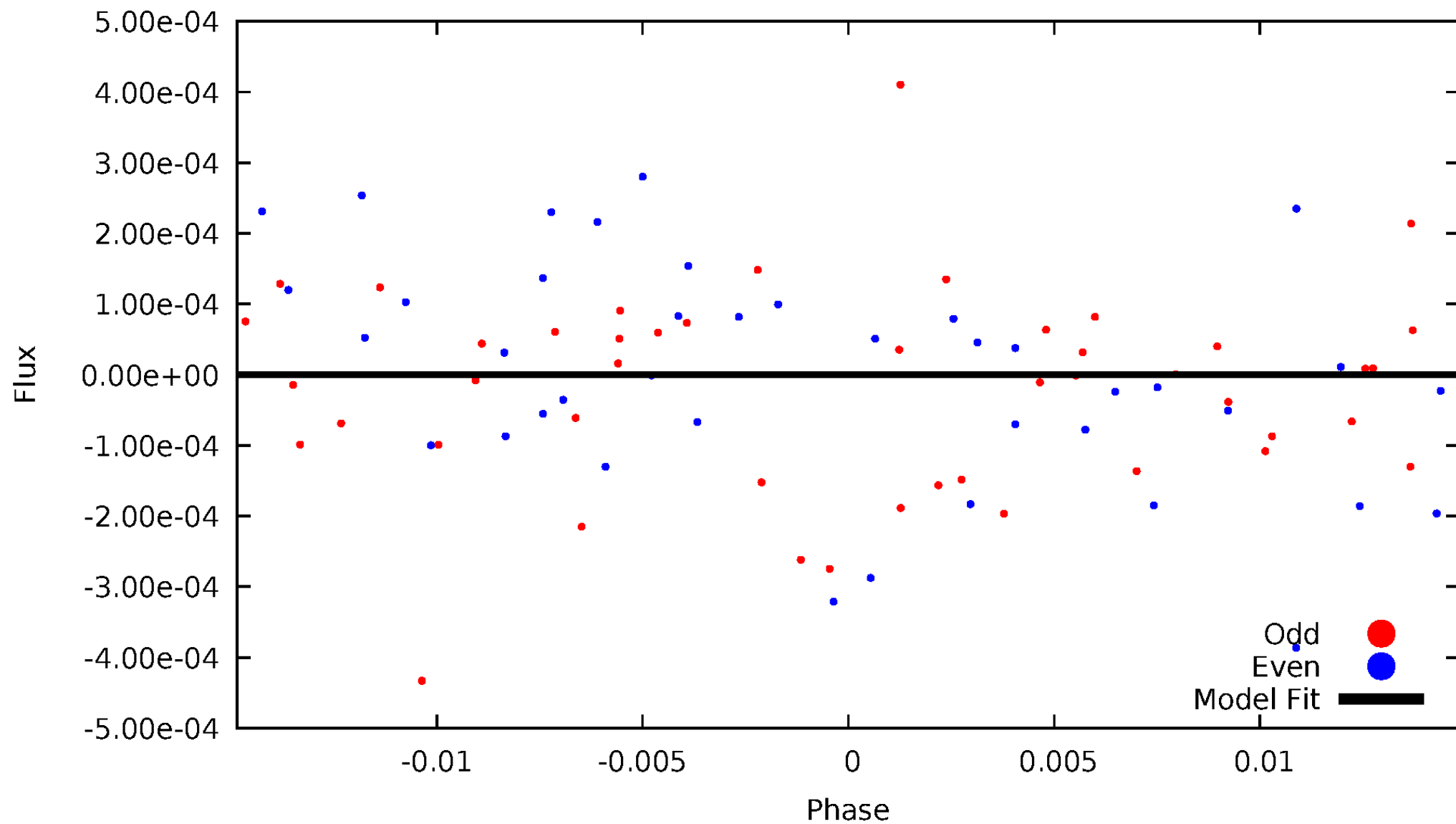


TCE 007117178-02



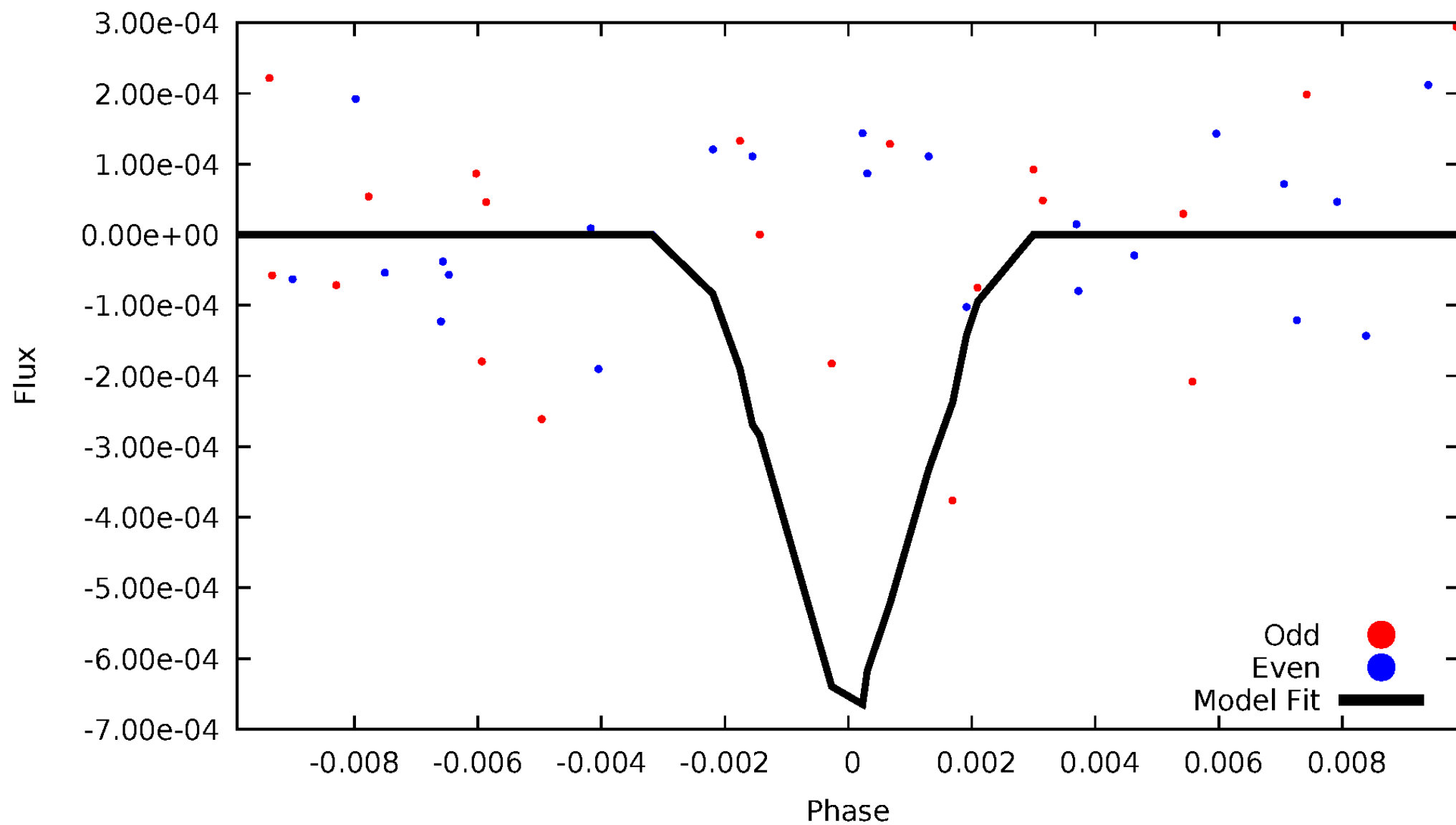
DV Odd/Even

TCE 007117178-02



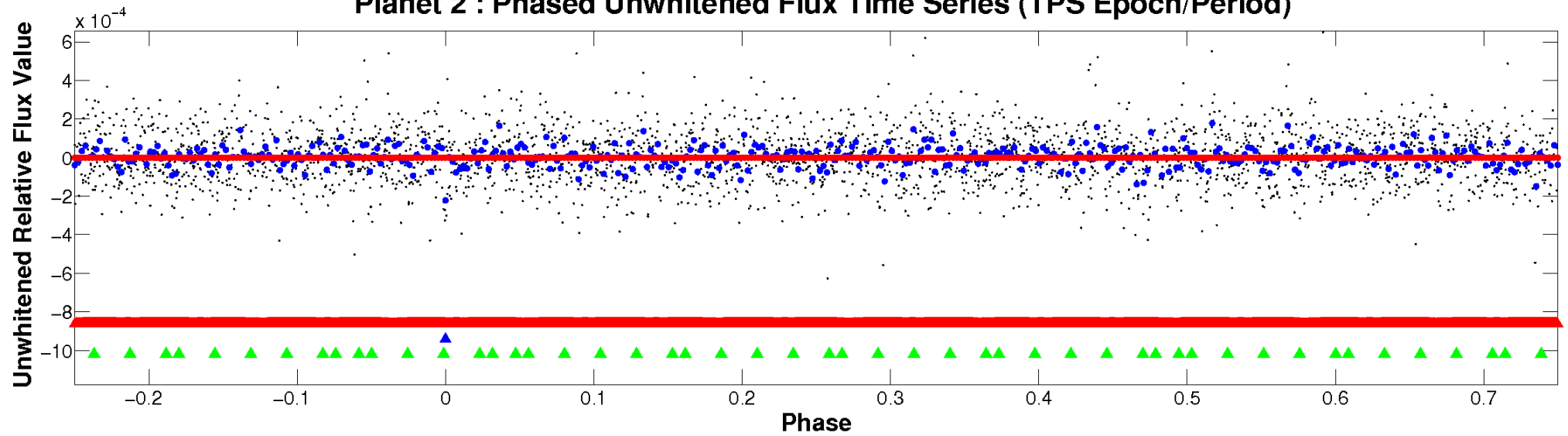
ALT Odd/Even

TCE 007117178-02

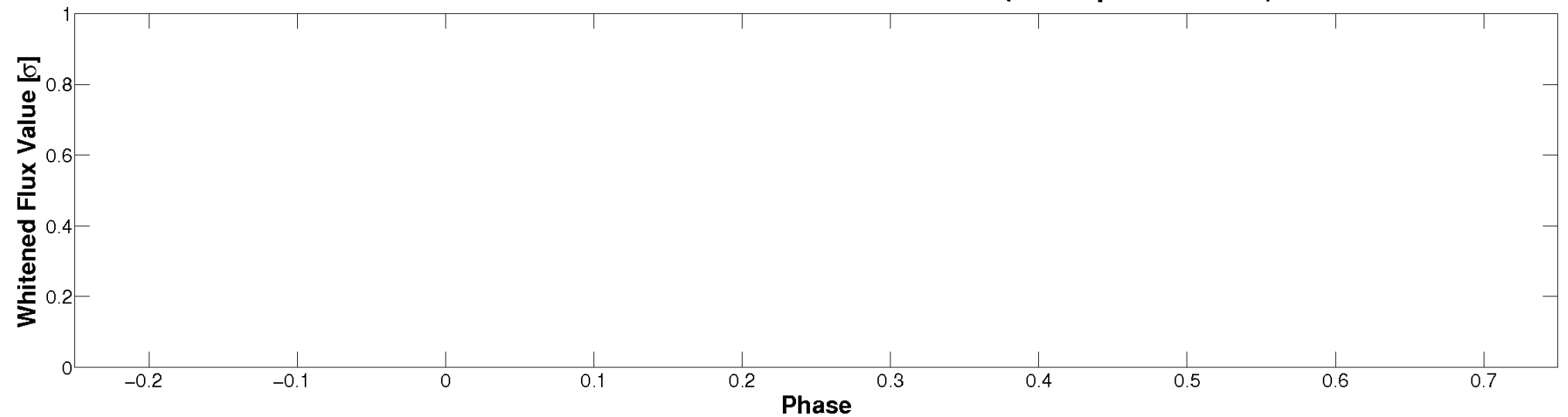


Non-Whitened Vs. Whitened Light Curve

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

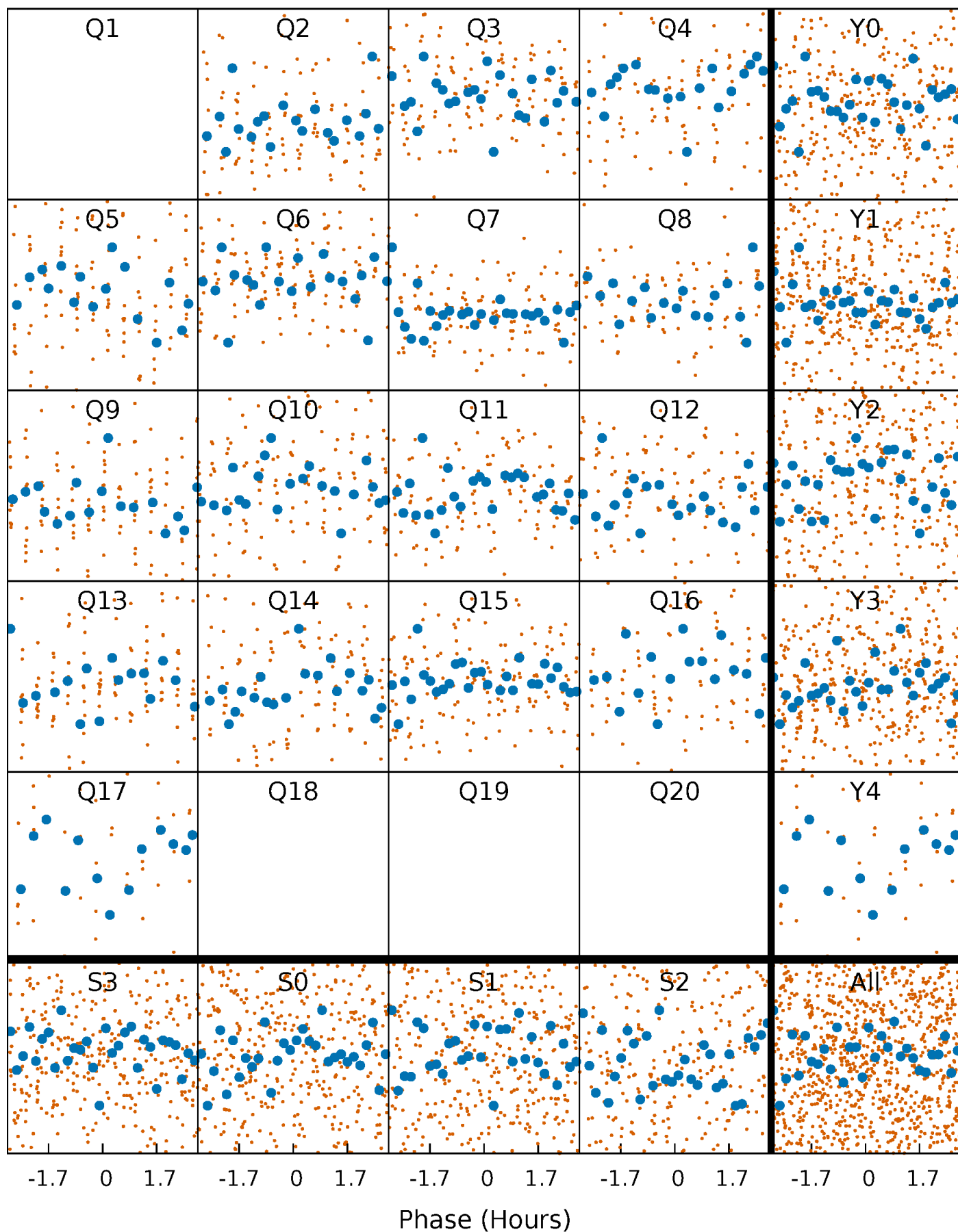


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



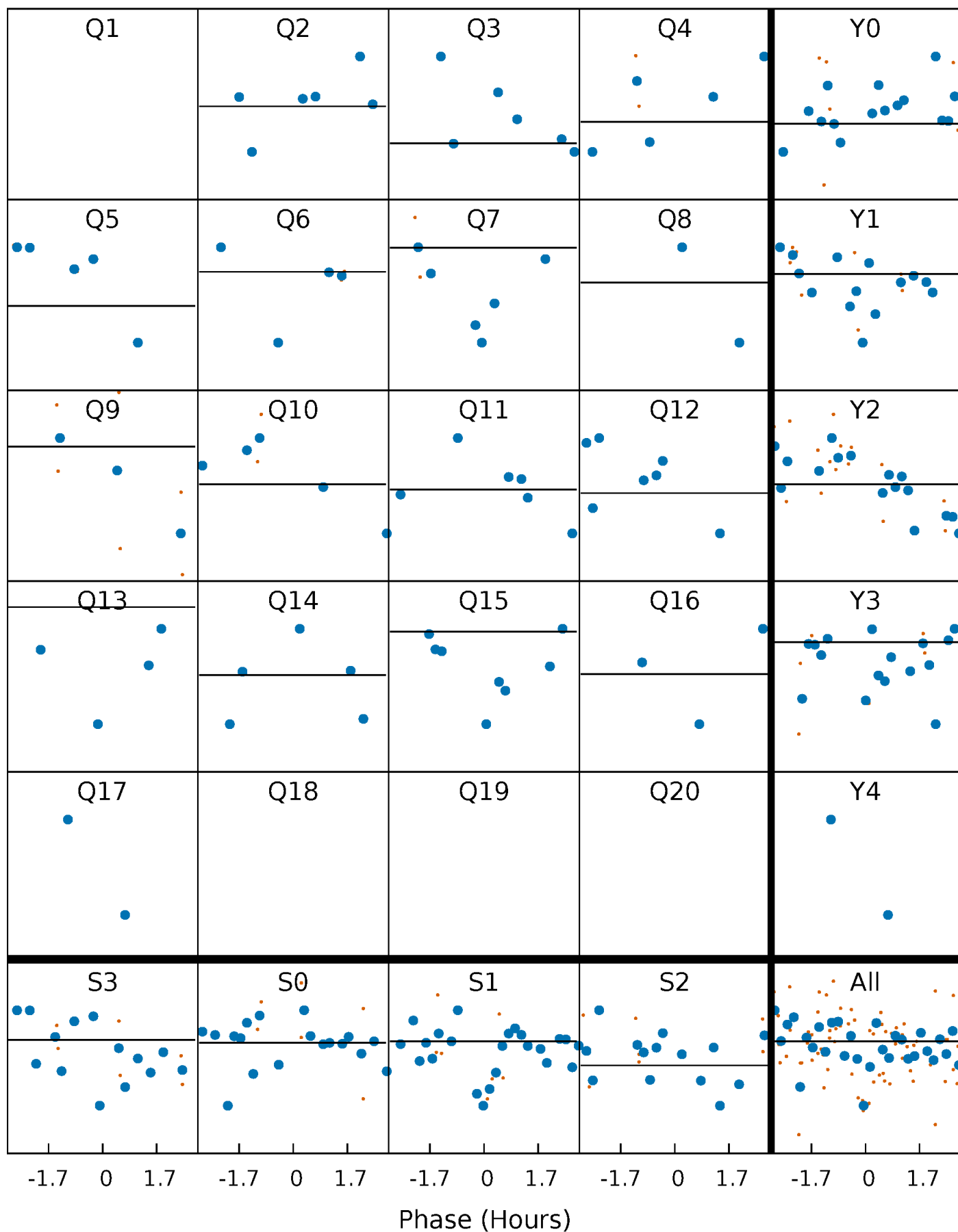
PDC Quarter-Phased Transit Curves

TCE 007117178-02 P= 8.419233 Days $T_0=131.560994$ (BKJD)



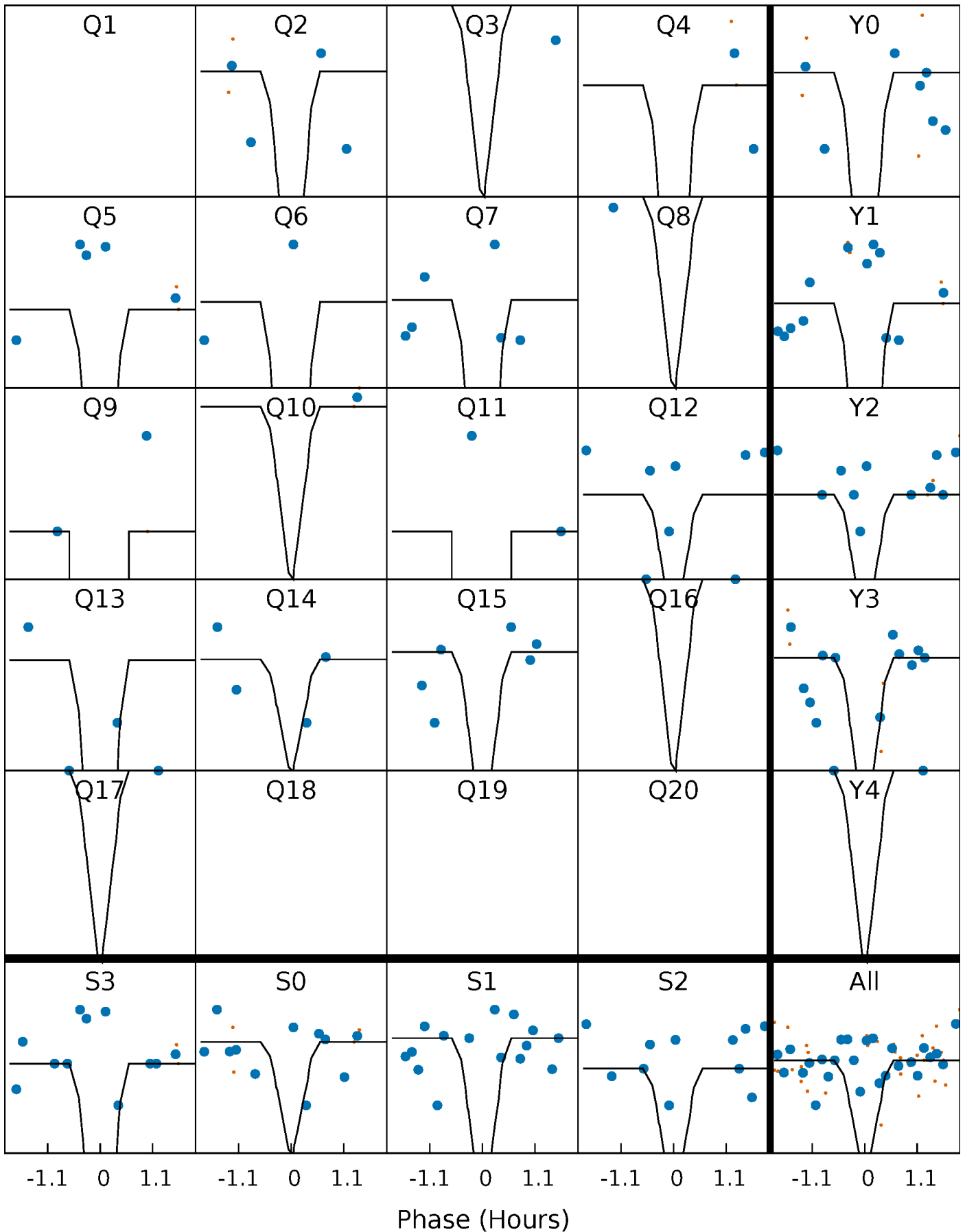
DV Quarter-Phased Transit Curves

TCE 007117178-02 P= 8.419233 Days $T_0=131.560994$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

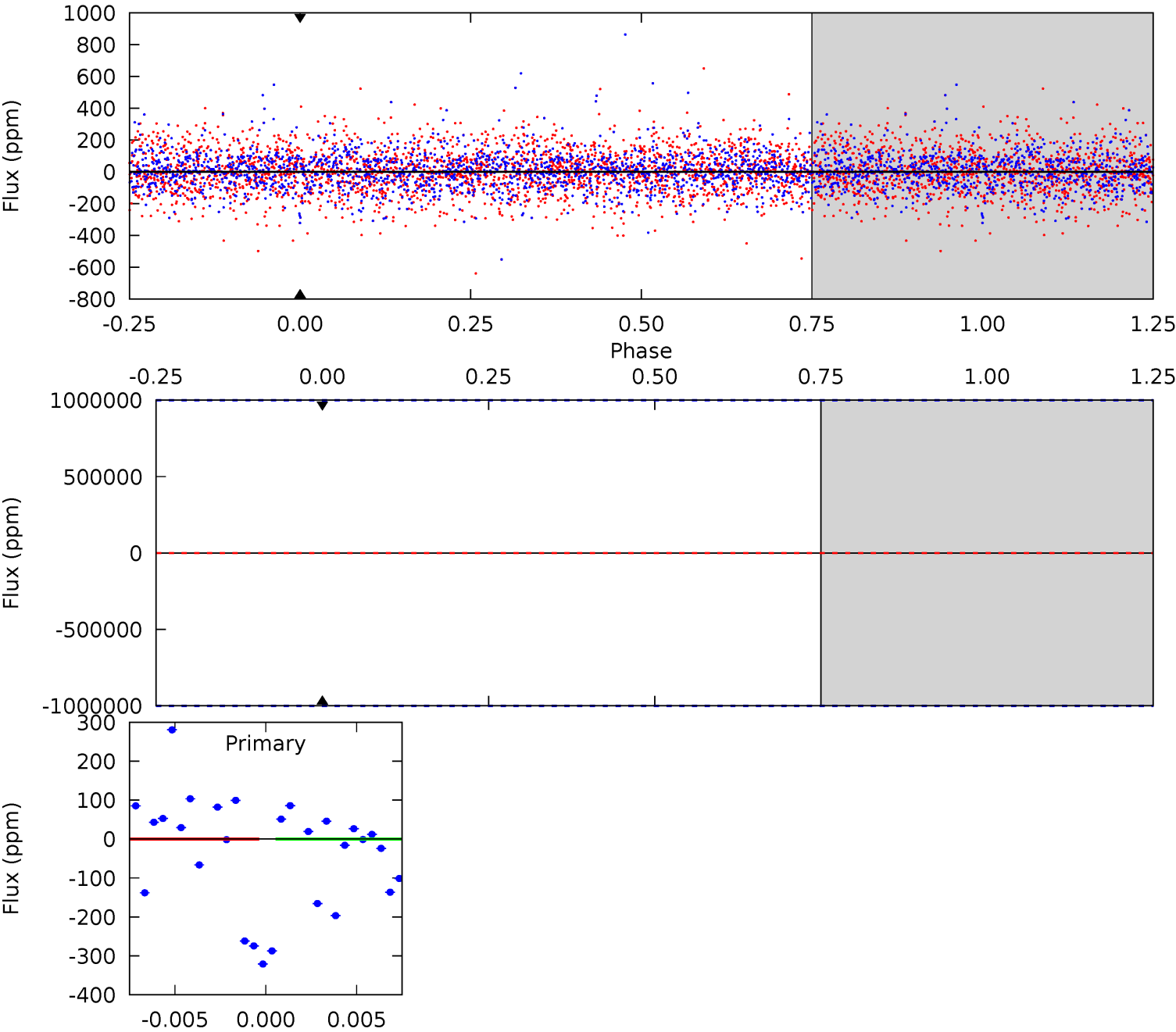
TCE 007117178-02 P= 8.419233 Days $T_0=139.878748$ (BKJD)



DV Model-Shift Uniqueness Test

007117178-02, P = 8.419233 Days, E = 131.560994 Days

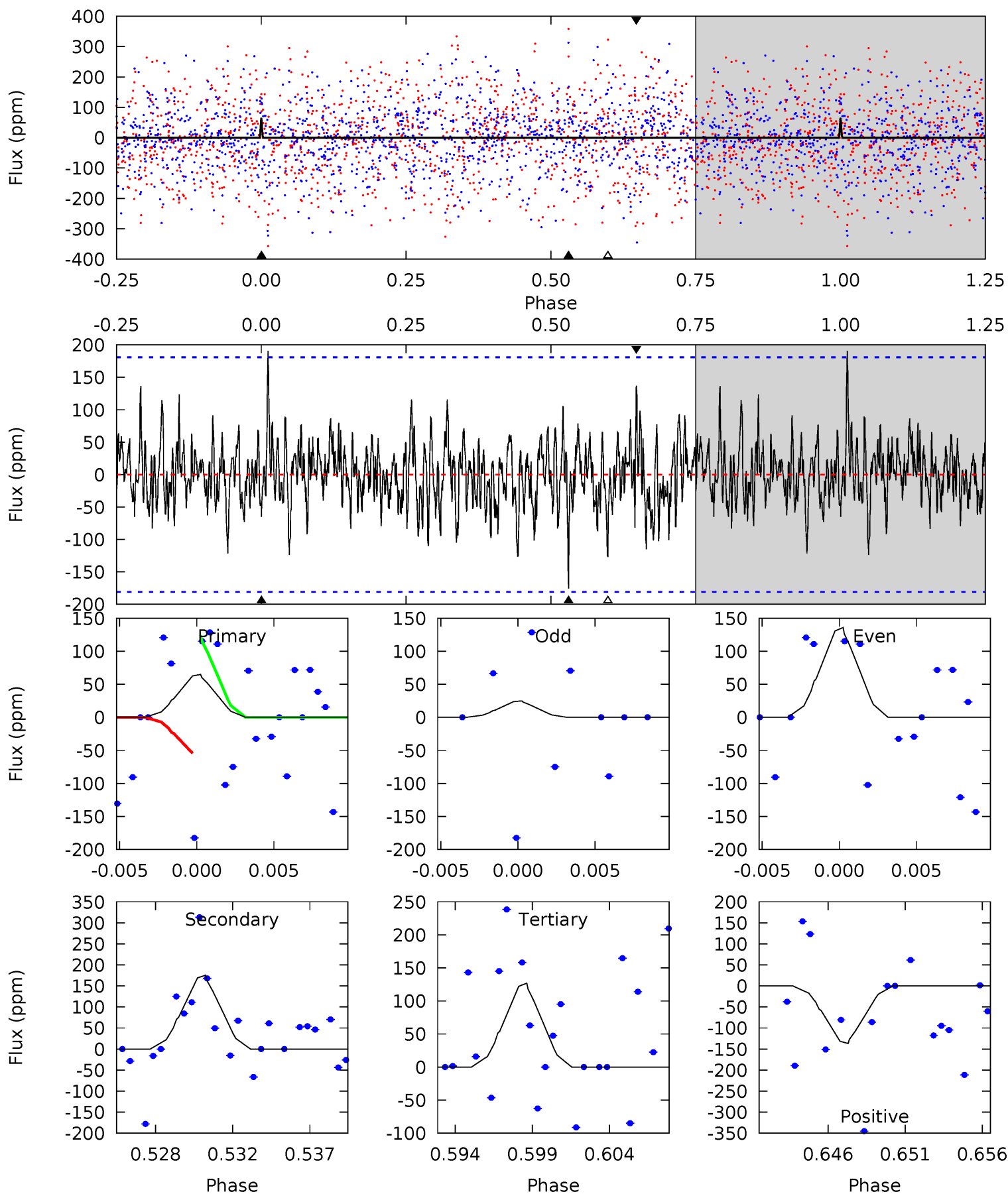
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007117178-02, P = 8.419233 Days, E = 139.878748 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.85	5.01	3.62	3.91	5.17	2.82	1.23	-1.77	-2.05	1.39	1.11	1.58	1.00	0.52	0.97



Stellar Parameters For KIC 007117178

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5826^{+174}_{-191}	$4.441^{+0.098}_{-0.182}$	$-0.200^{+0.300}_{-0.300}$	$0.955^{+0.262}_{-0.141}$	$0.917^{+0.121}_{-0.099}$	$1.484^{+0.662}_{-0.742}$
	+3%/-3%	+2%/-4%	+150%/-150%	+27%/-15%	+13%/-11%	+45%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007117178-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$8.45^{+8.10}_{-5.86}$	1264^{+82}_{-74}	3845^{+18114}_{-21401}	36^{+10264}_{-6231}
Alt.	-176 ± 35	$8.44^{+8.92}_{-6.36}$	1262^{+88}_{-72}	3021^{+1906}_{-580}	$8.629^{+144.506}_{-6.753}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

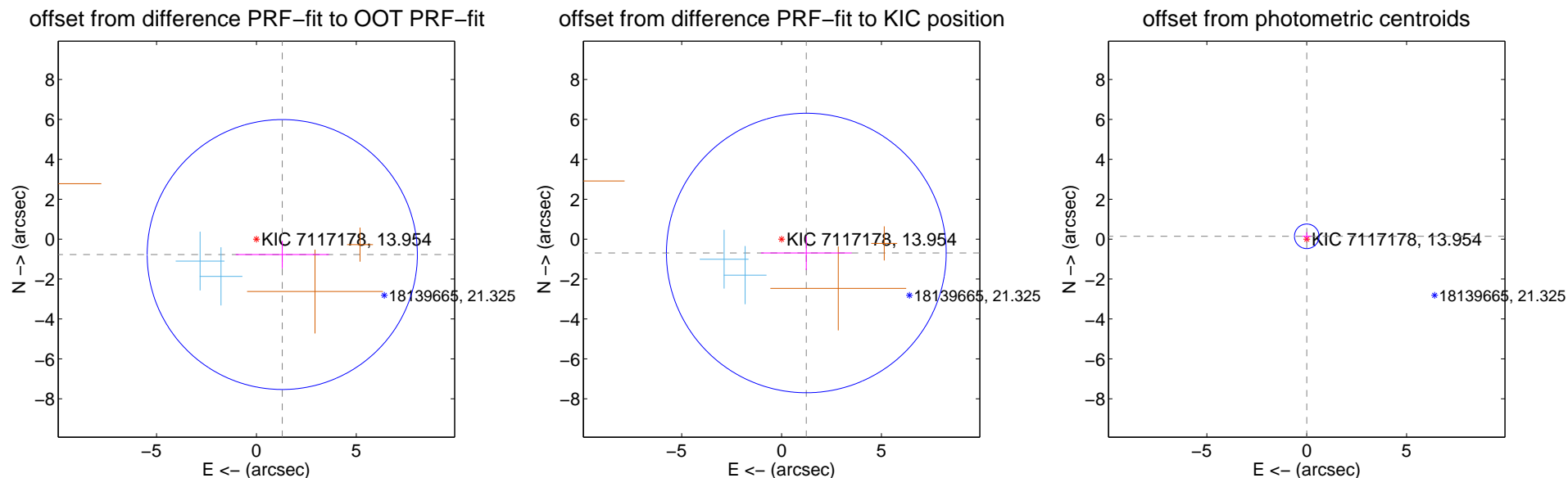
DV Centroid Data

Supplemental centroid analysis for 007117178-02. Kepler magnitude: 13.95. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

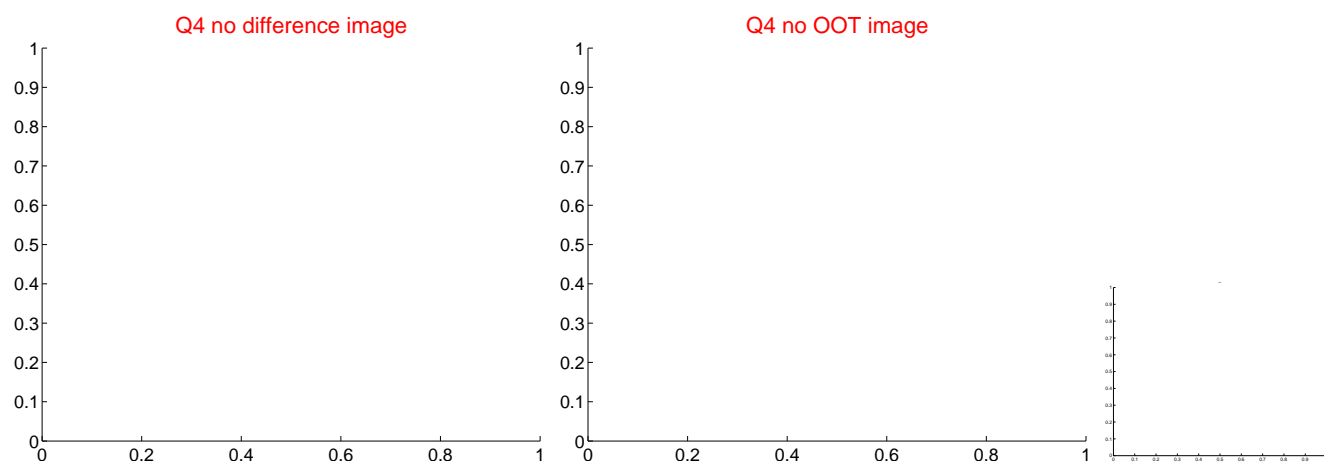
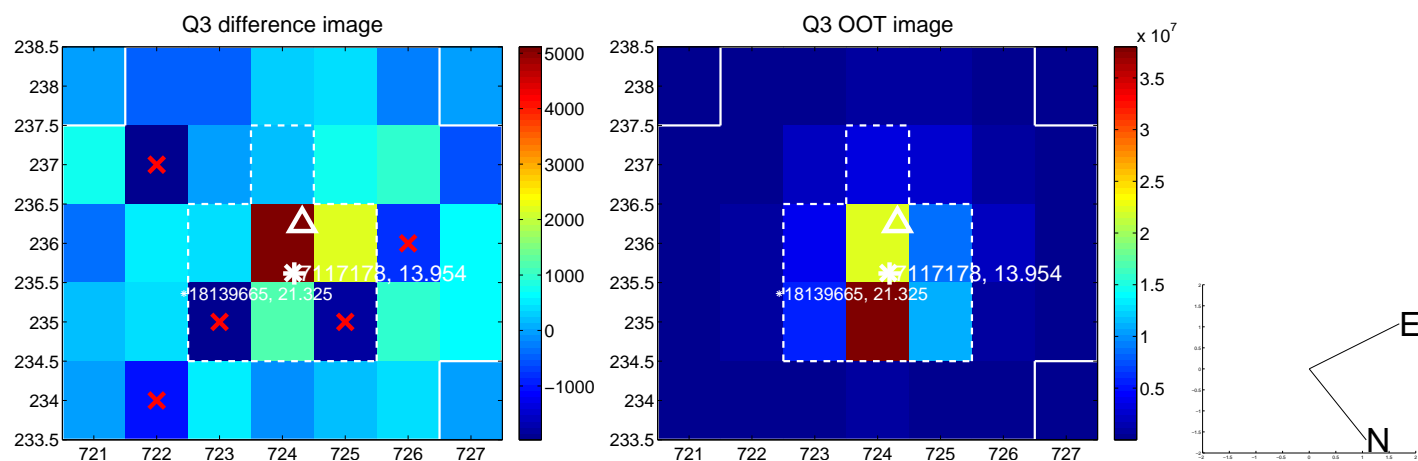
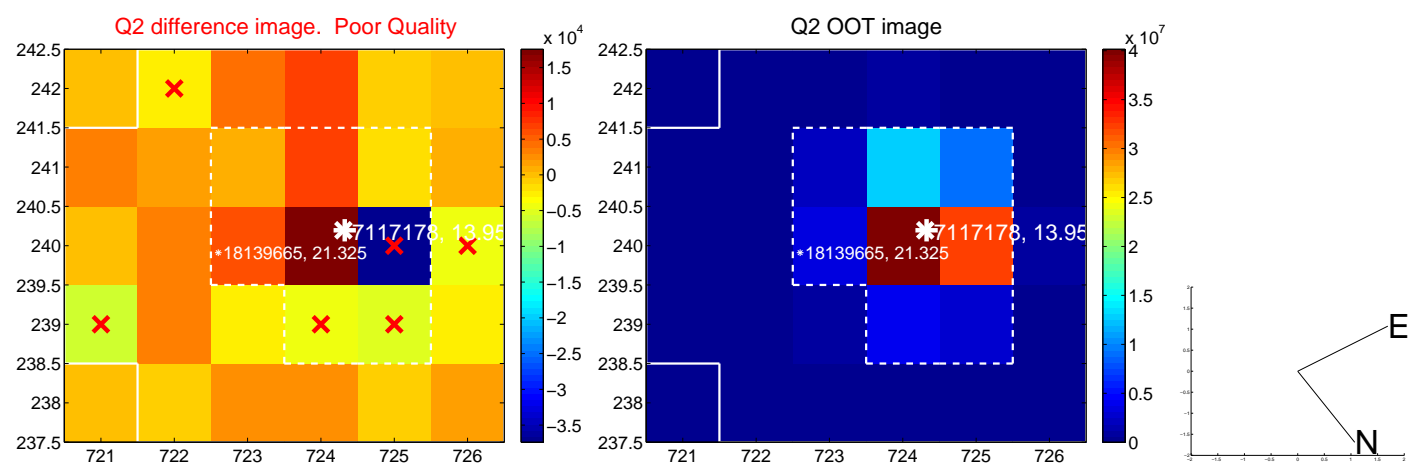
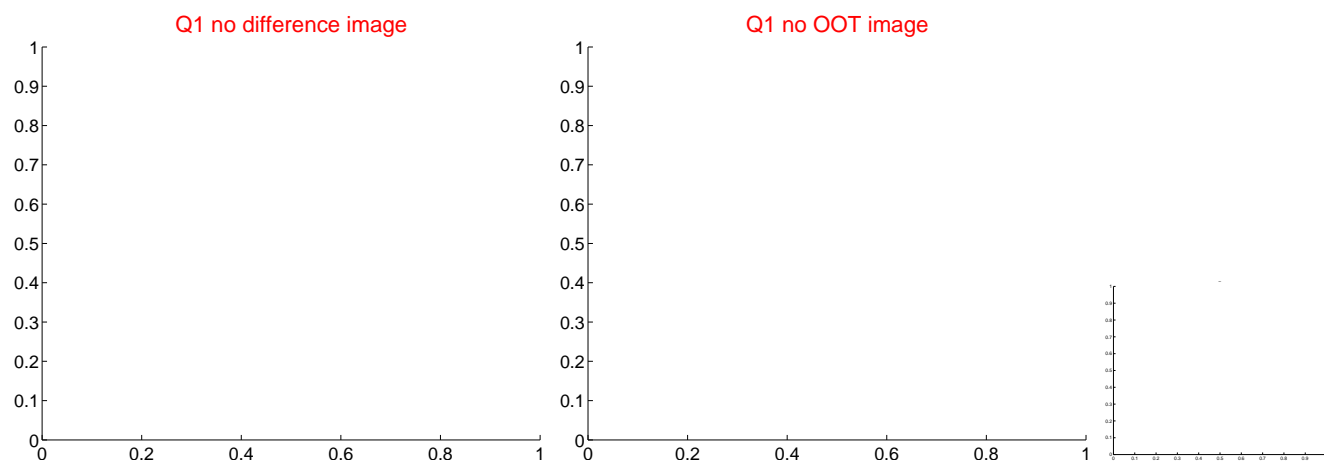
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.506 ± 2.254	0.67	-1.294 ± 2.331	-0.771 ± 0.691
PRF-fit source offset from KIC position	1.420 ± 2.334	0.61	-1.239 ± 2.270	-0.694 ± 0.852
photometric centroid source offset	0.14 ± 0.21	0.69	-0.00 ± 0.21	0.14 ± 0.21

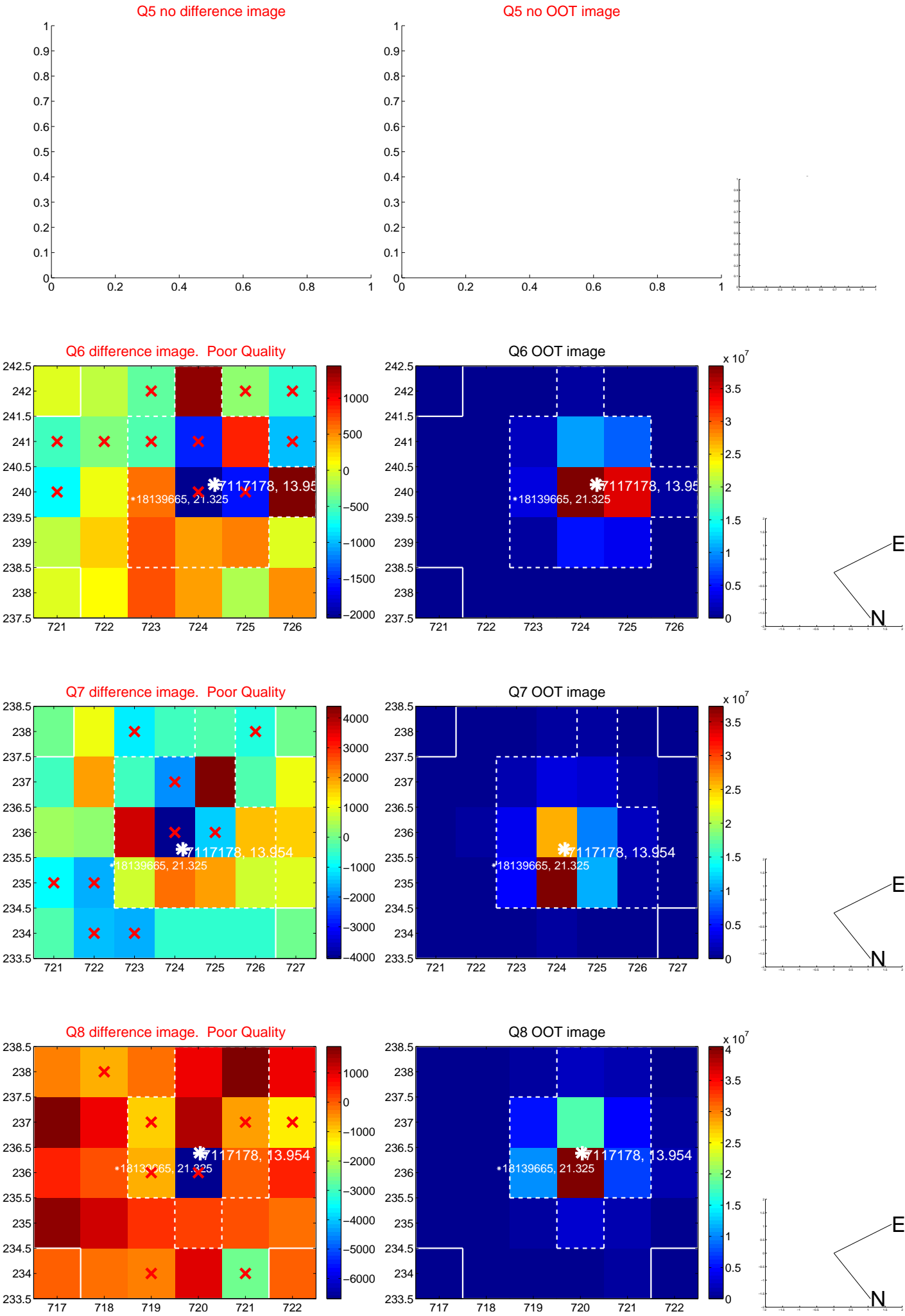


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

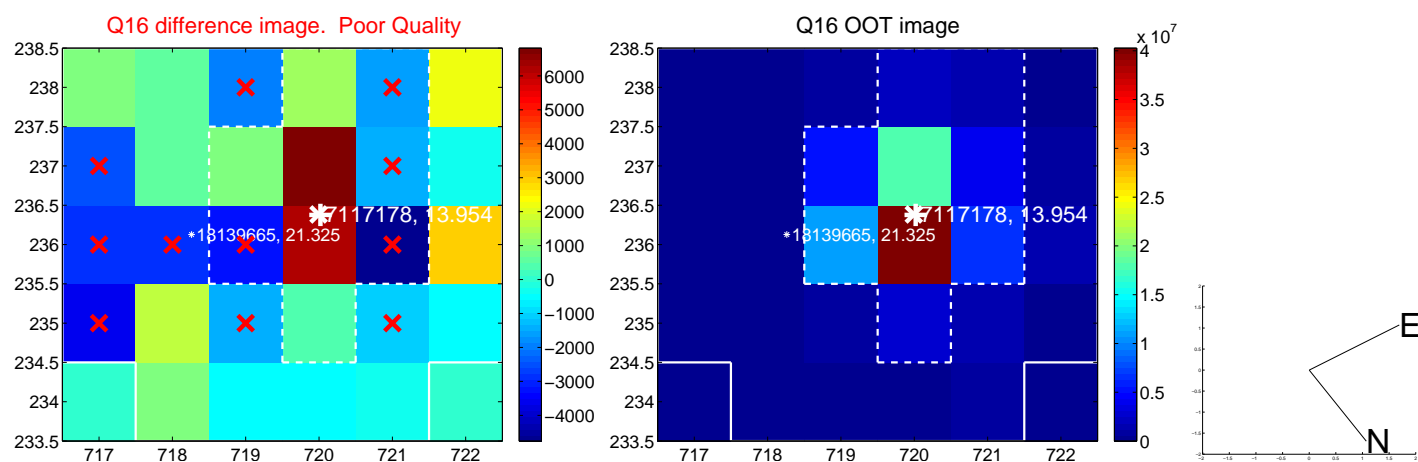
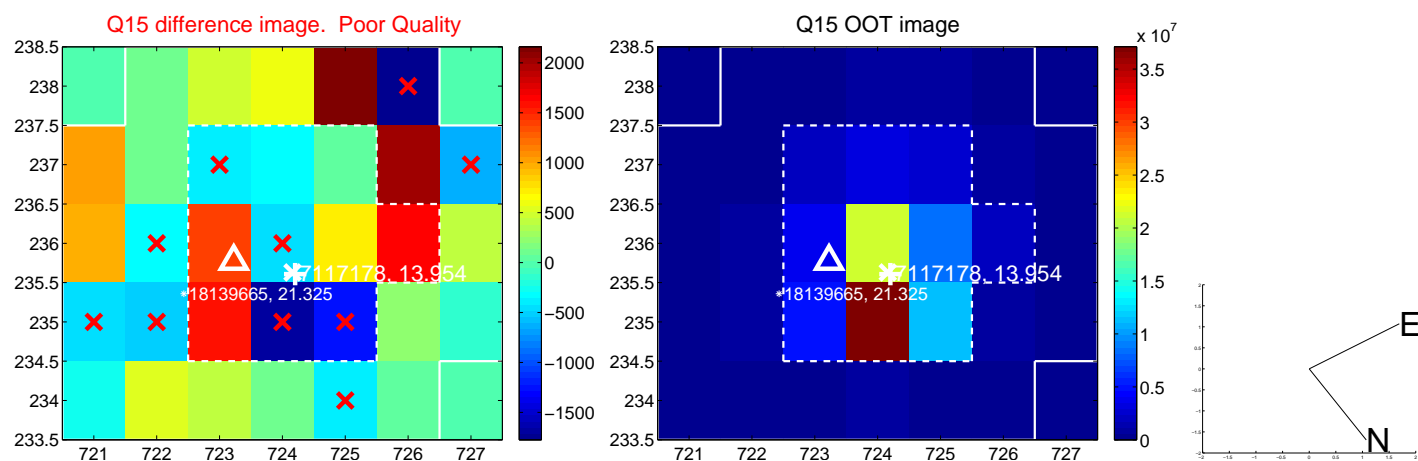
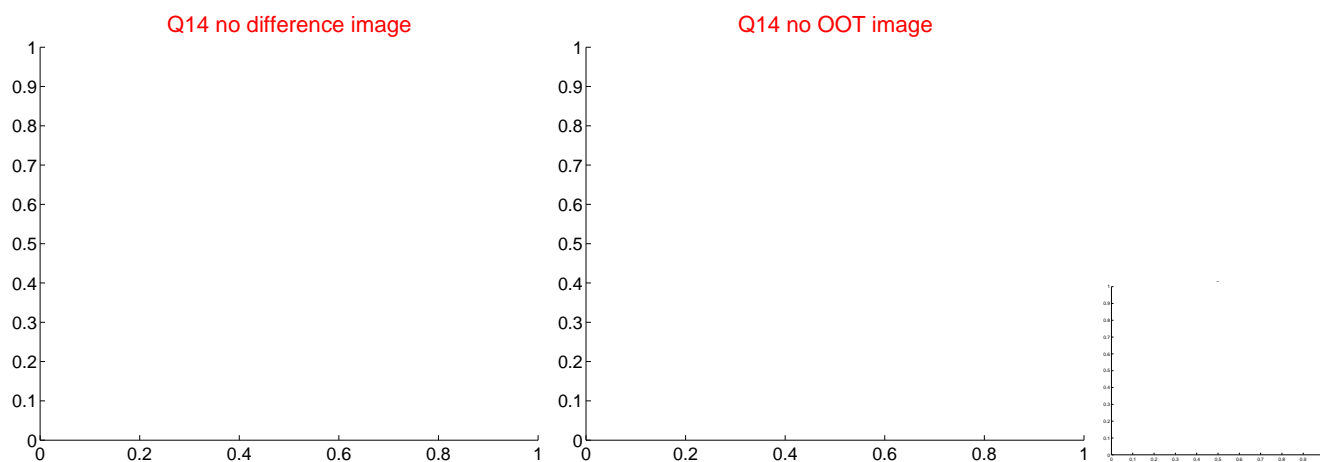
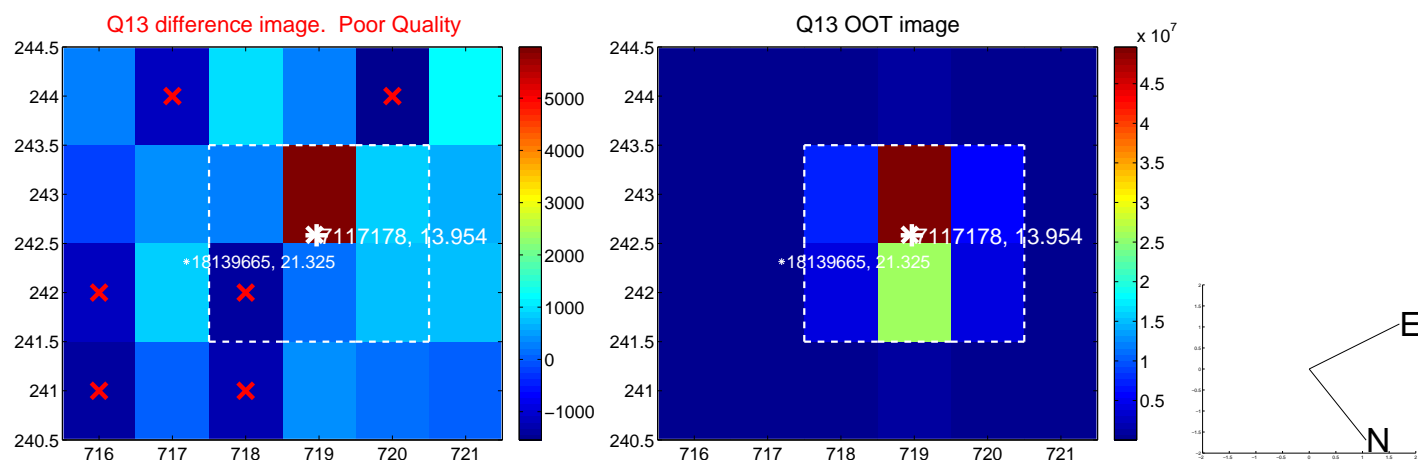
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



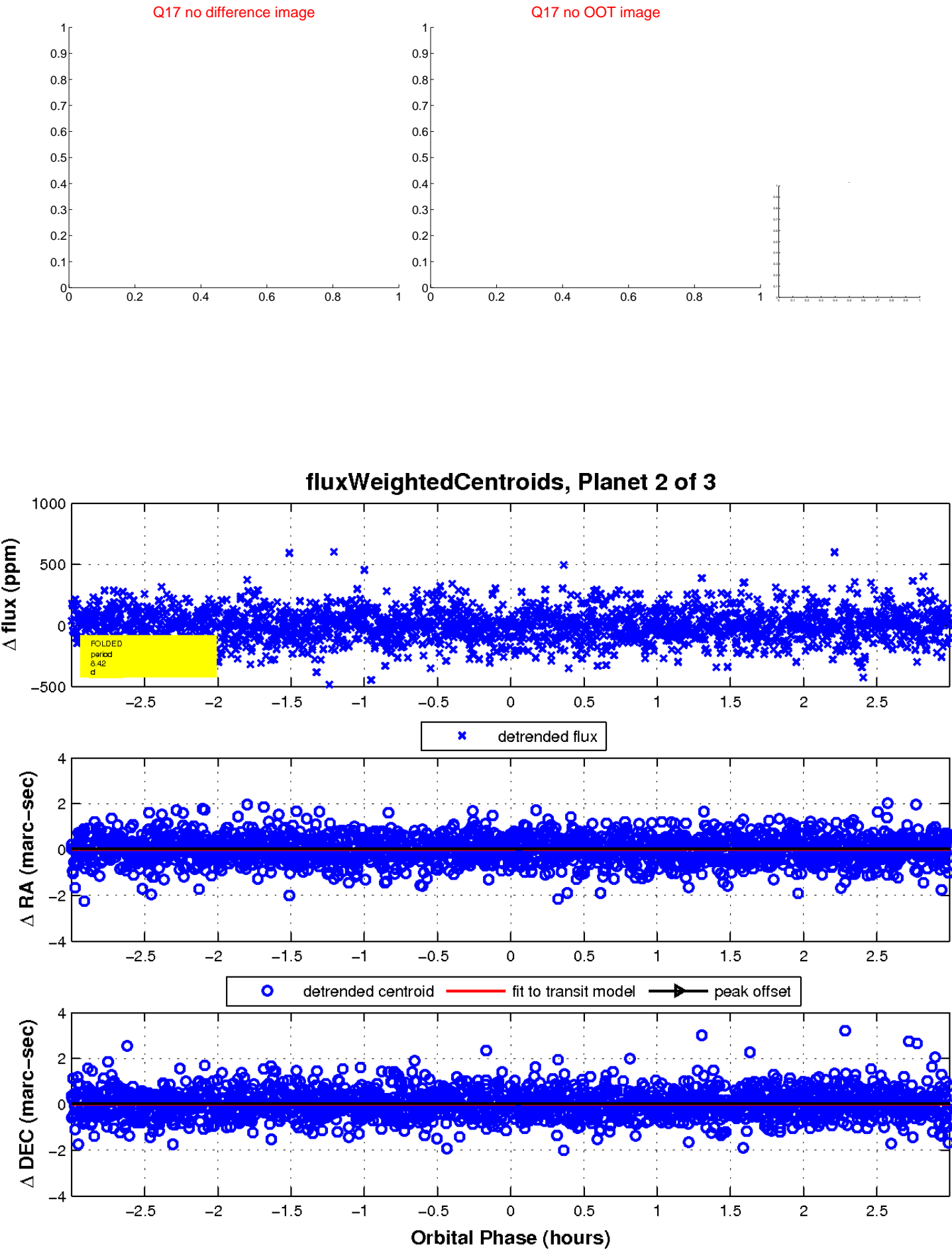
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

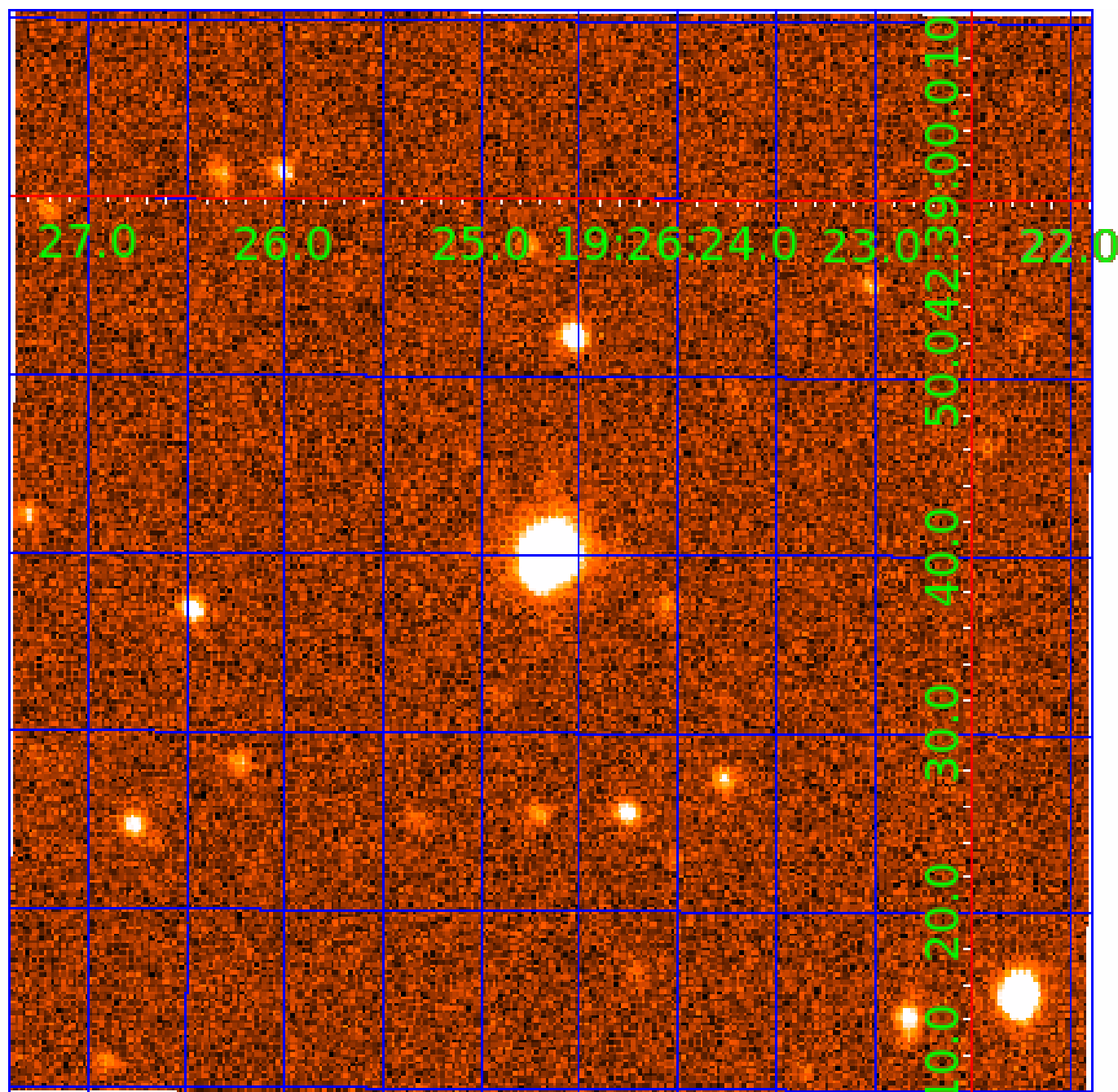


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007117178

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})
007117178-01	OBS	No	0.566755	131.849040	5.5	4.150	9.3	4.6	0.95	5826	0.24	5544.36
007117178-02	OBS	No	8.419233	131.560994	635.6	1.500	13.1	-1.0	0.95	5826	2.40	151.83
007117178-03	OBS	No	29.022291	157.085271	171.0	3.488	11.0	12.6	0.95	5826	1.33	29.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007117178-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST—EPHEM_MATCH
007117178-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
007117178-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

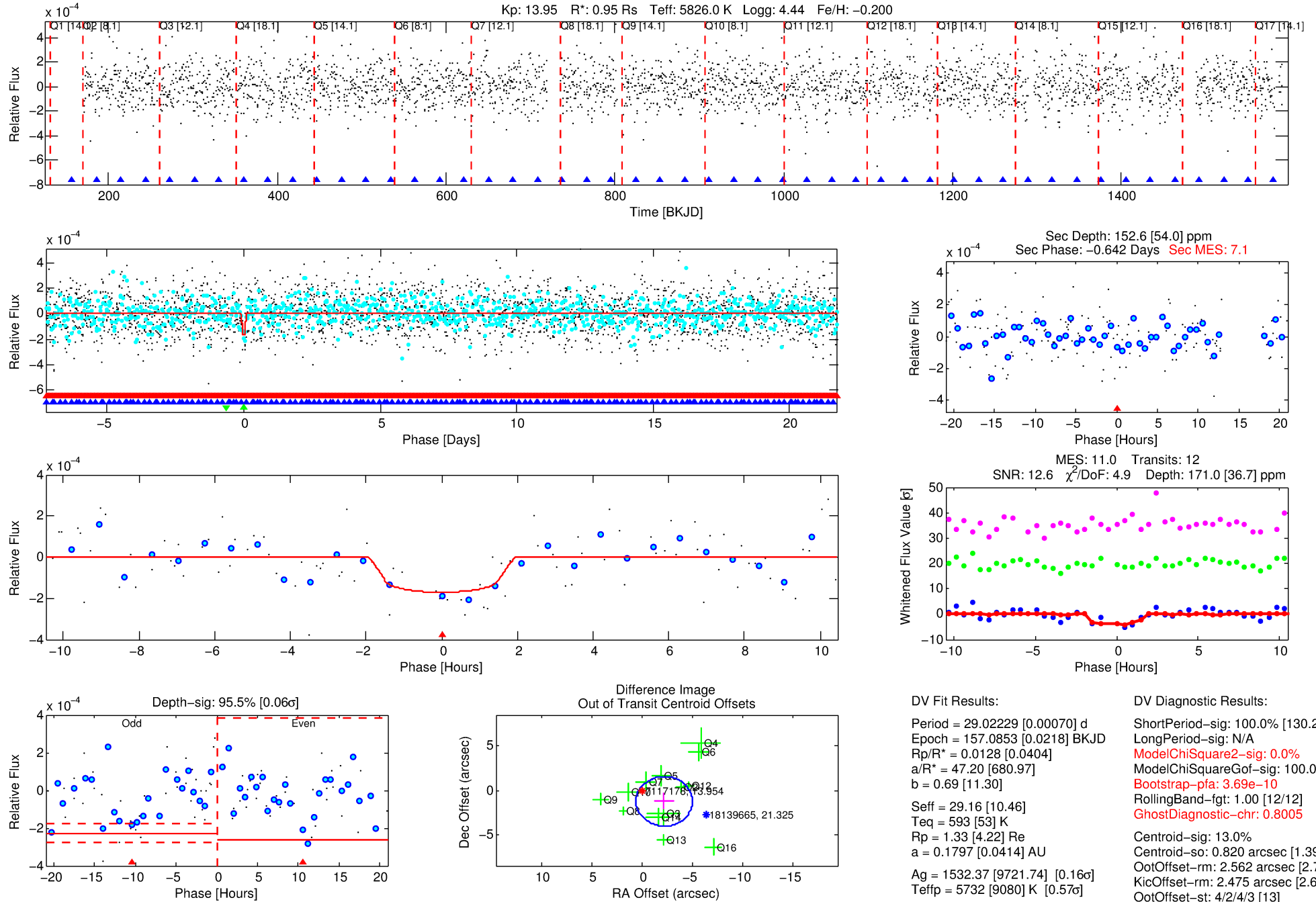
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007117178-03

No Significant Match Found

DV One-Page Summary

KIC: 7117178 Candidate: 3 of 3 Period: 29.022 d



DV Fit Results:

Period = 29.02229 [0.00070] d
Epoch = 157.0853 [0.0218] BKJD
Rp/R* = 0.0128 [0.0404]
a/R* = 47.20 [680.97]
b = 0.69 [11.30]
Seff = 29.16 [10.46]
Teq = 593 [53] K
Rp = 1.33 [4.22] Re
a = 0.1797 [0.0414] AU
Ag = 1532.37 [9721.74] [0.16 σ]
Teff = 5732 [9080] K [0.57 σ]

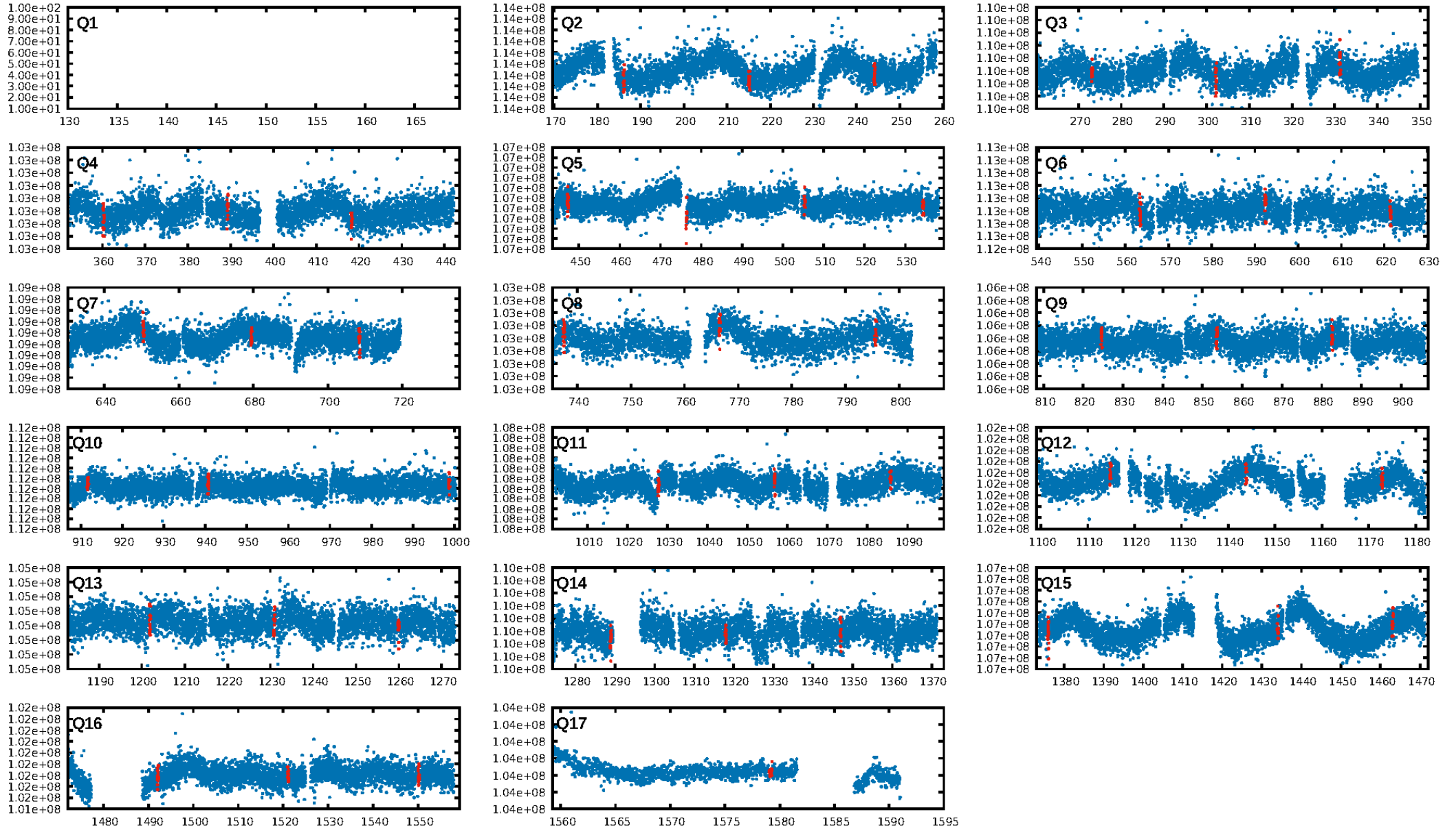
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [130.23 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.69e-10
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: 0.8005
Centroid-sig: 13.0%
Centroid-so: 0.820 arcsec [1.39 σ]
OotOffset-rm: 2.562 arcsec [2.74 σ]
KicOffset-rm: 2.475 arcsec [2.64 σ]
OotOffset-st: 4/2/4/3 [13]
KicOffset-st: 4/2/4/3 [13]
DiffImageQuality-fgm: 0.23 [3/13]
DiffImageOverlap-fno: 0.00 [0/16]

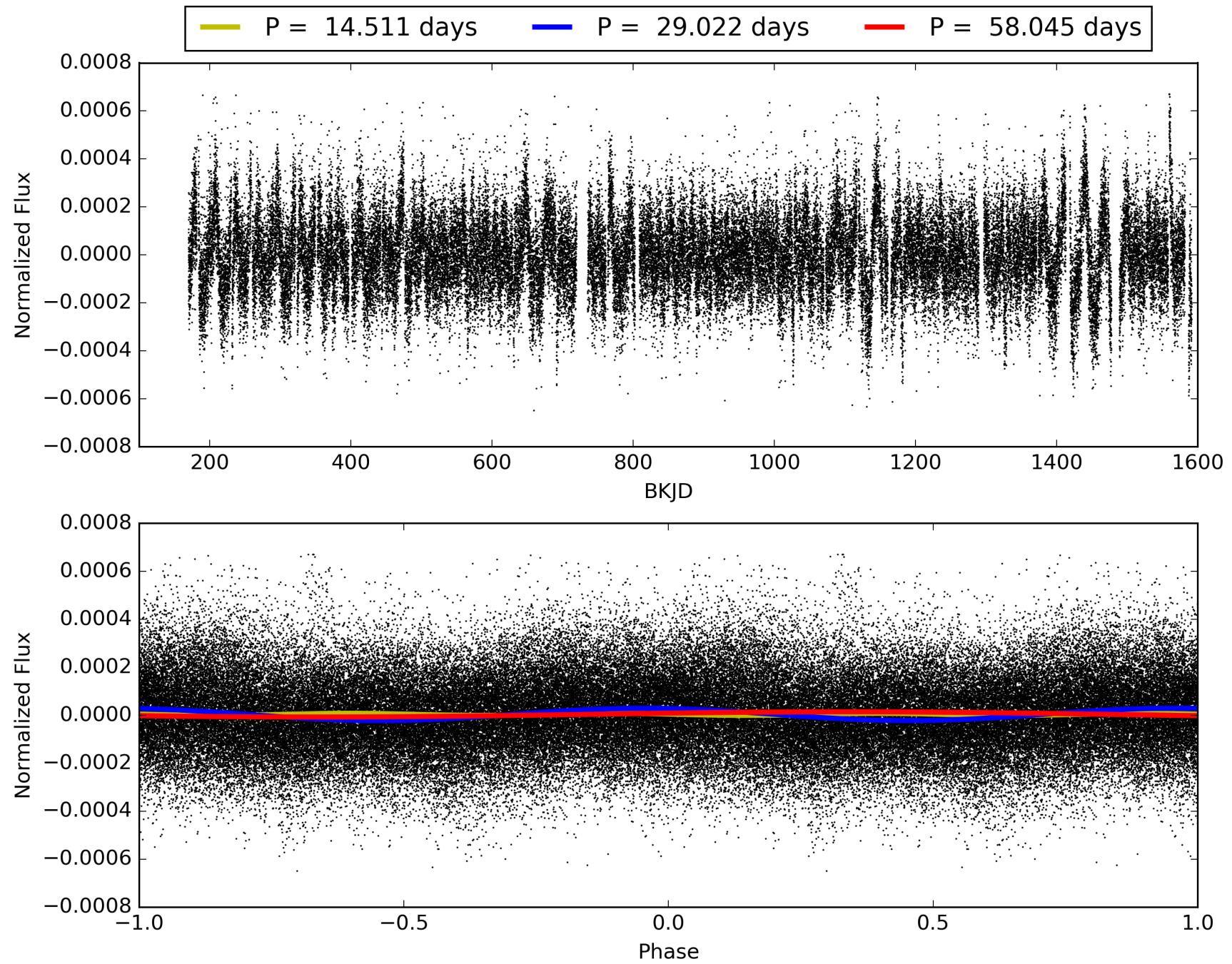
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:35:30 Z

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

TCE 007117178-03, PDC Light Curves

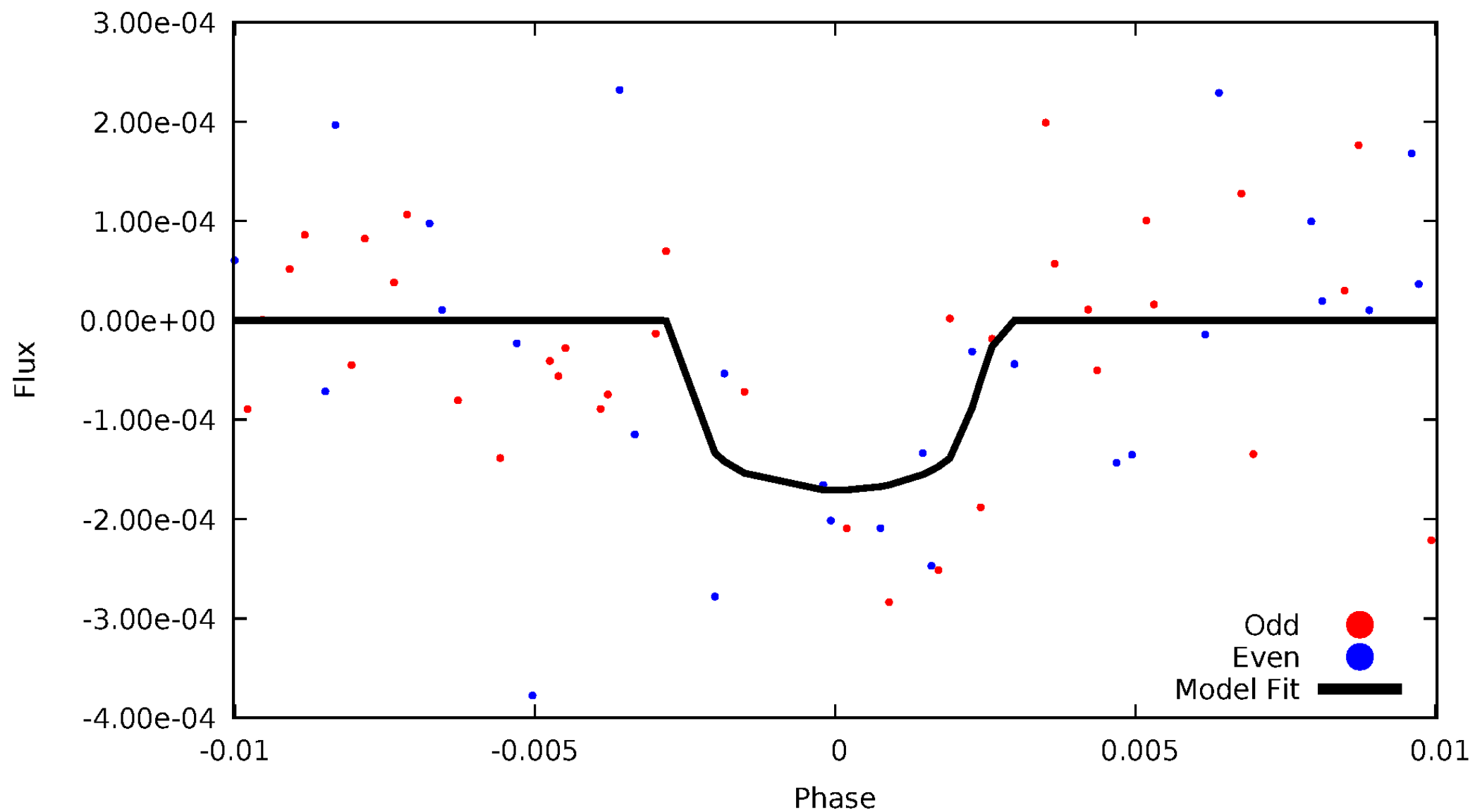


TCE 007117178-03



DV Odd/Even

TCE 007117178-03

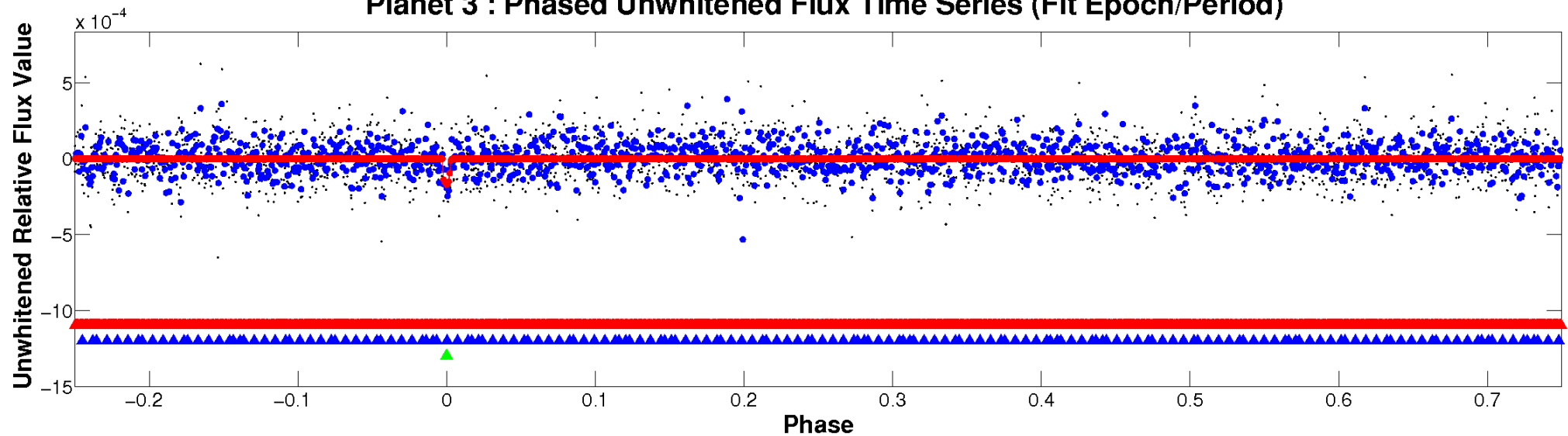


ALT Odd/Even

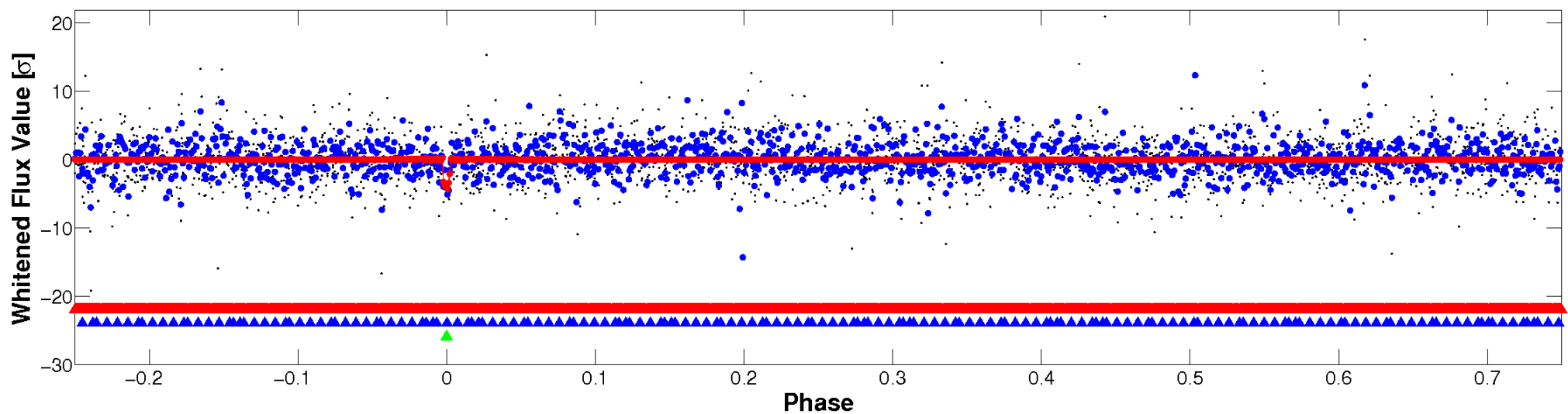
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

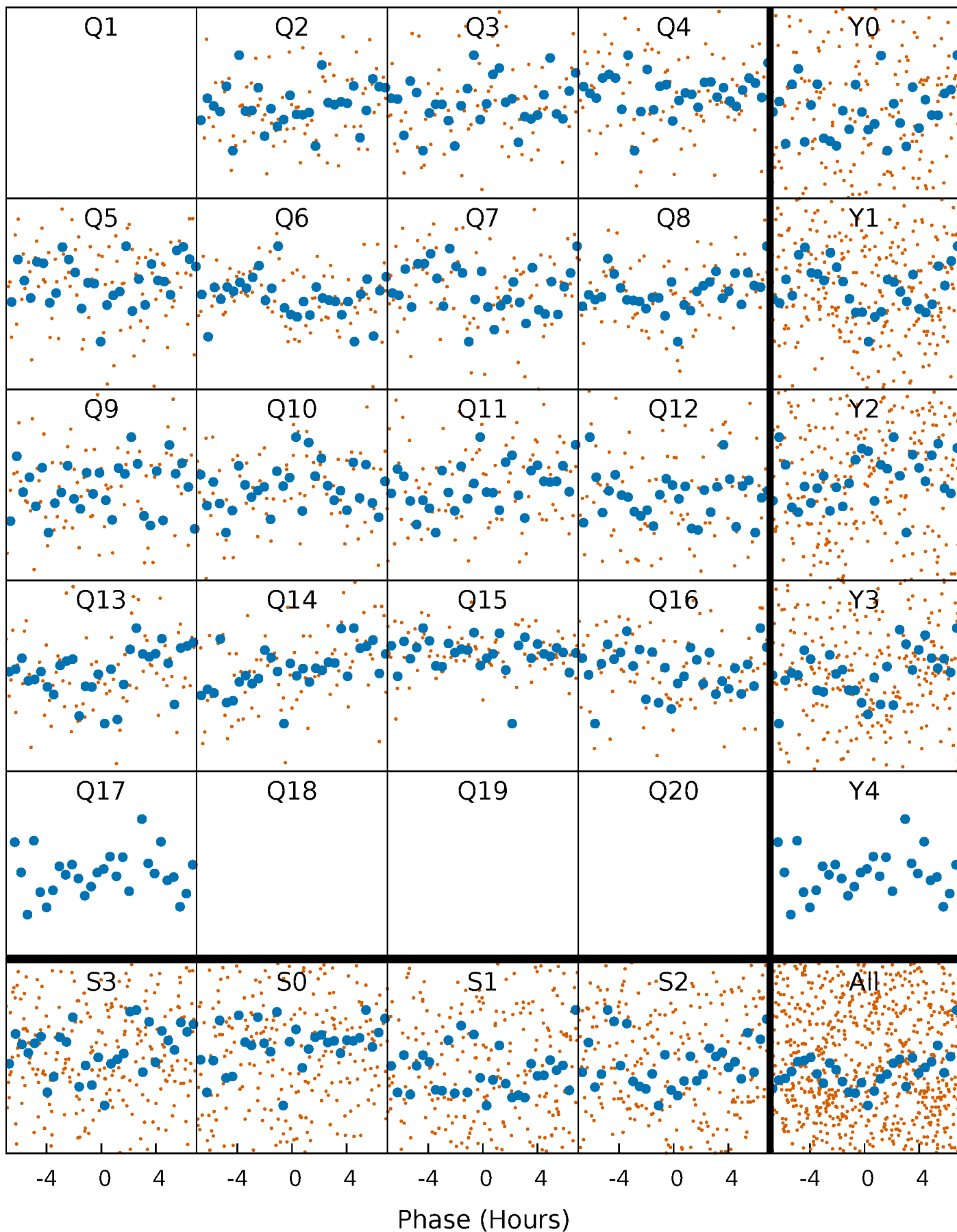


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



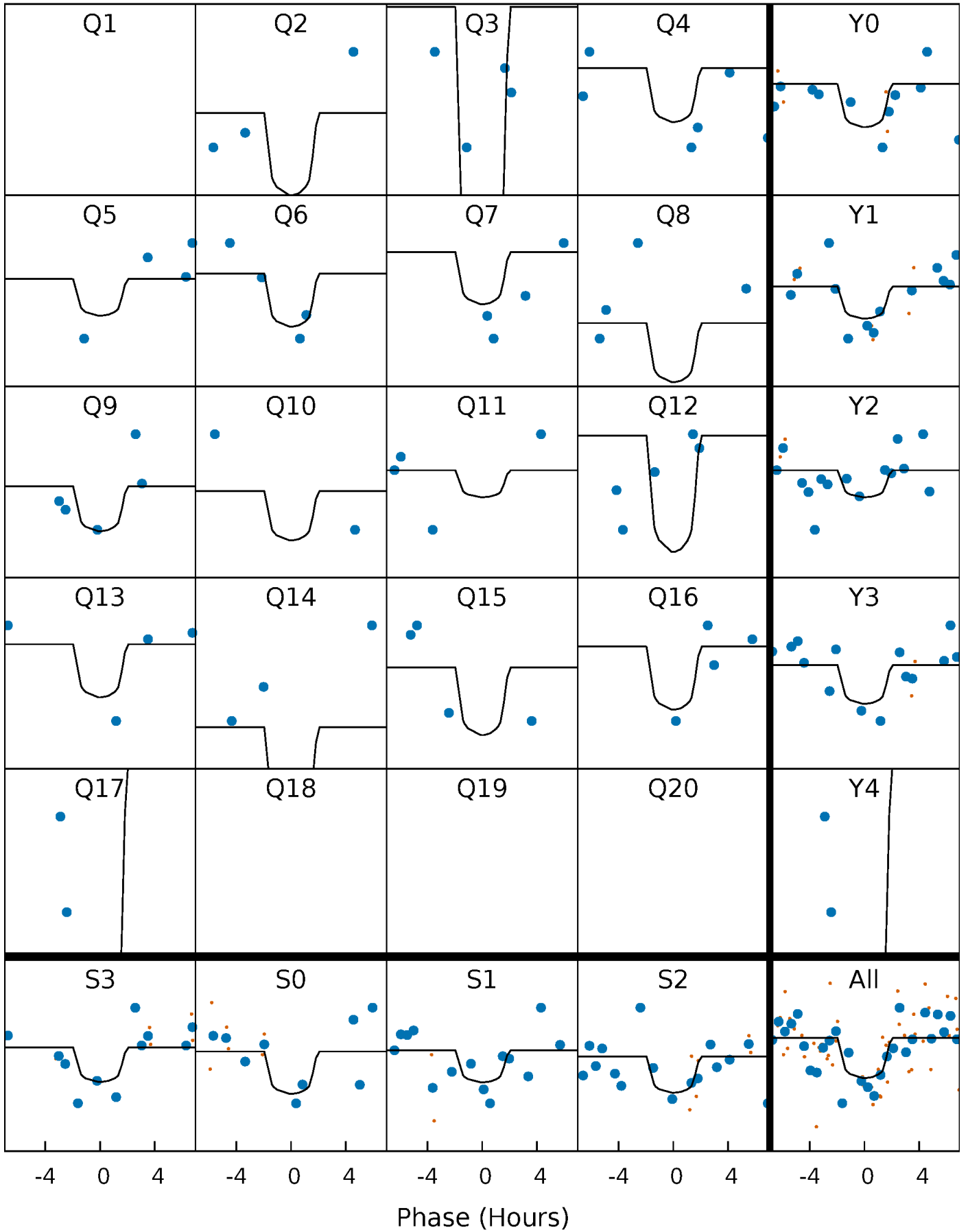
PDC Quarter-Phased Transit Curves

TCE 007117178-03 P= 29.022291 Days $T_0=157.085271$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007117178-03 P= 29.022291 Days $T_0=157.085271$ (BKJD)

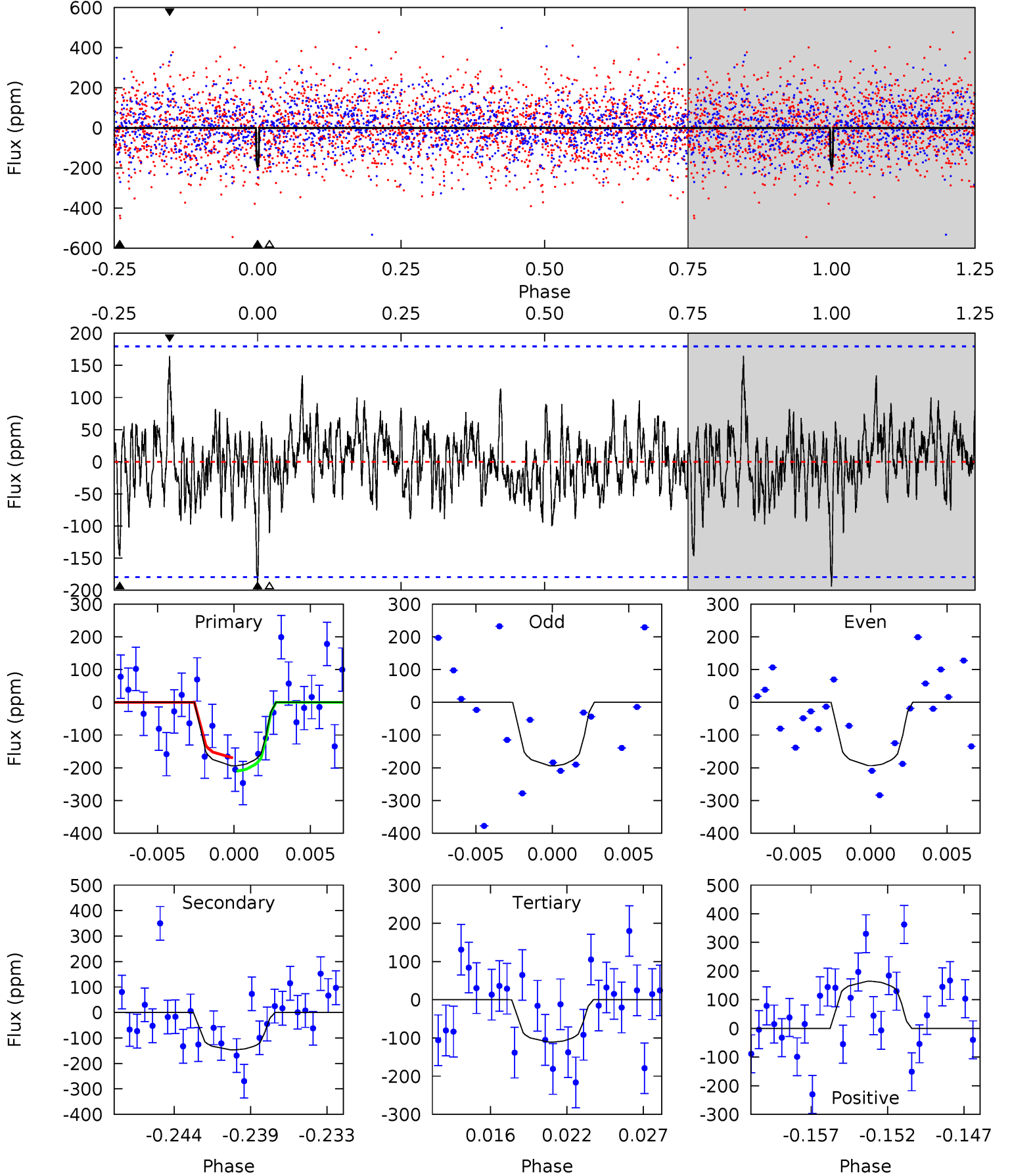


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007117178-03, P = 29.022291 Days, E = 157.085271 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.56	4.20	3.17	4.71	5.14	2.78	1.14	2.39	0.85	1.03	-0.51	0.01	0.88	0.46	0.57



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007117178

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5826^{+174}_{-191}	$4.441^{+0.098}_{-0.182}$	$-0.200^{+0.300}_{-0.300}$	$0.955^{+0.262}_{-0.141}$	$0.917^{+0.121}_{-0.099}$	$1.484^{+0.662}_{-0.742}$
	+3%/-3%	+2%/-4%	+150%/-150%	+27%/-15%	+13%/-11%	+45%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007117178-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-147 ± 35	$3.67^{+3.49}_{-2.57}$	838^{+58}_{-44}	3822^{+2490}_{-736}	185^{+1927}_{-137}
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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

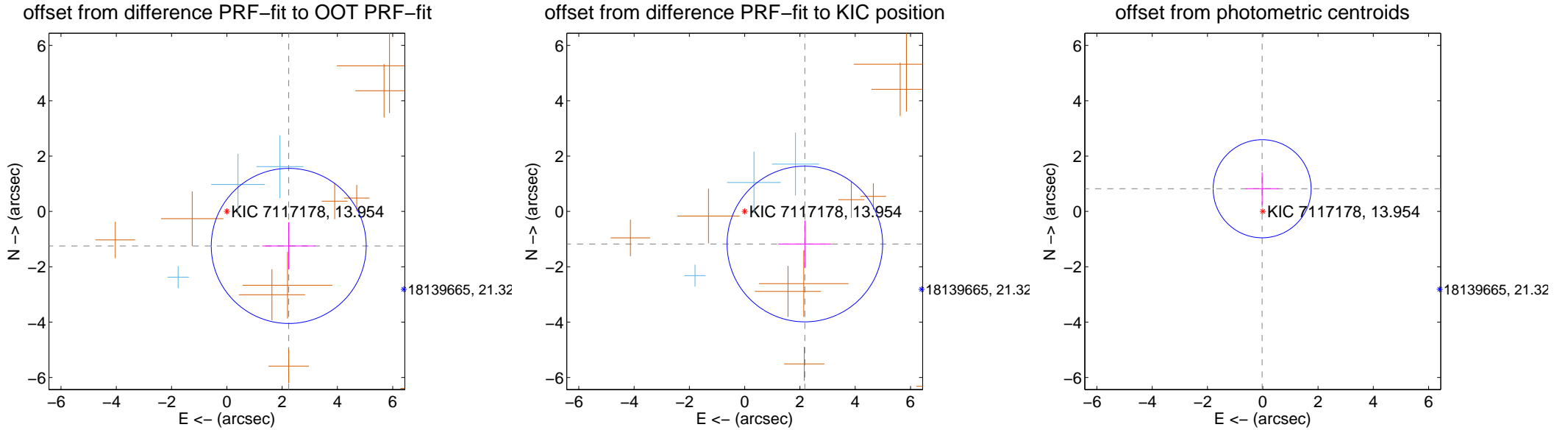
DV Centroid Data

Supplemental centroid analysis for 007117178-03. Kepler magnitude: 13.95. Transit SNR 12.63

There are 3 quarters with good PRF difference image offsets

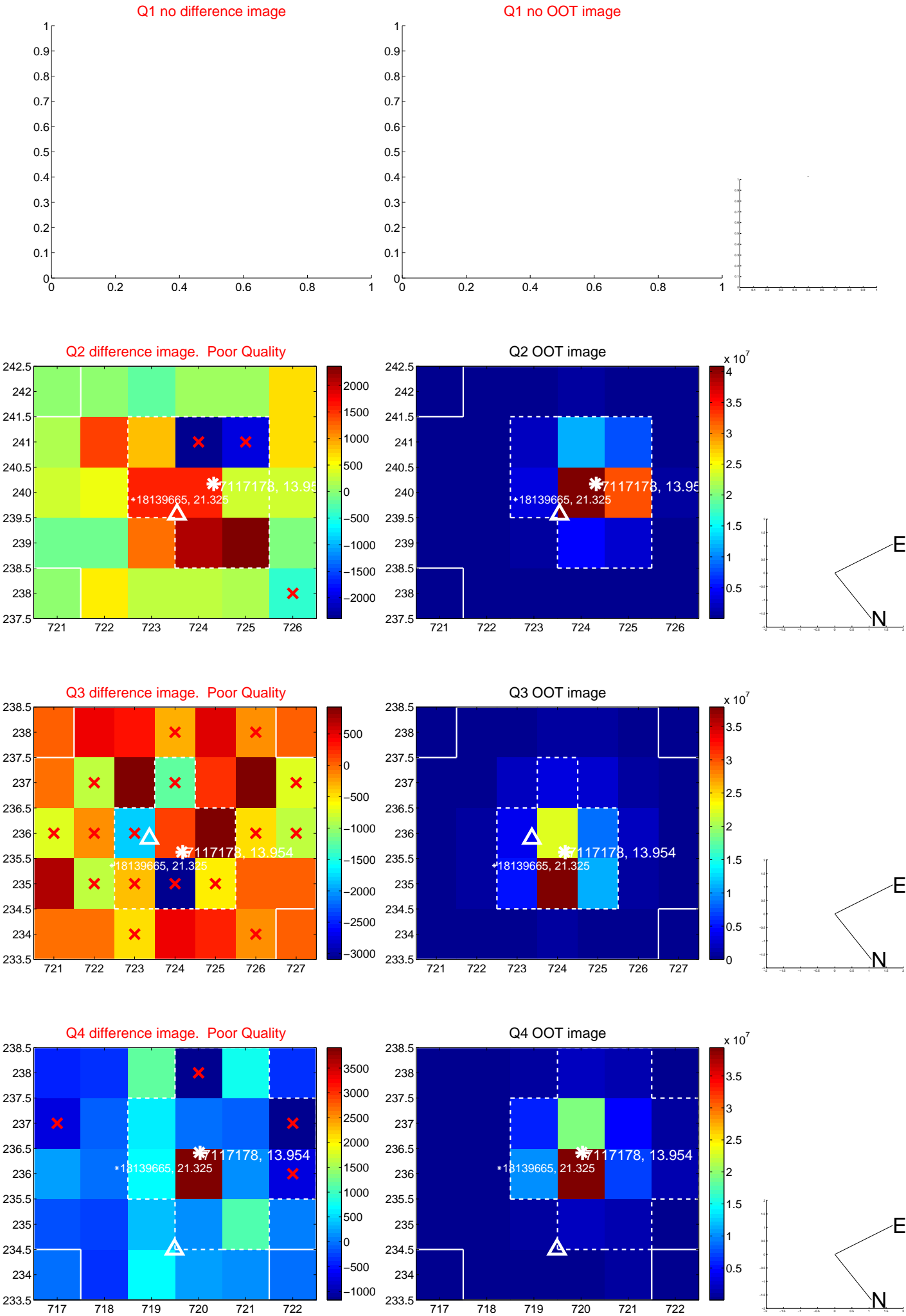
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.562 ± 0.934	2.74	-2.239 ± 0.958	-1.246 ± 0.853
PRF-fit source offset from KIC position	2.475 ± 0.938	2.64	-2.178 ± 0.961	-1.177 ± 0.853
photometric centroid source offset	0.82 ± 0.59	1.39	0.02 ± 0.60	0.82 ± 0.59

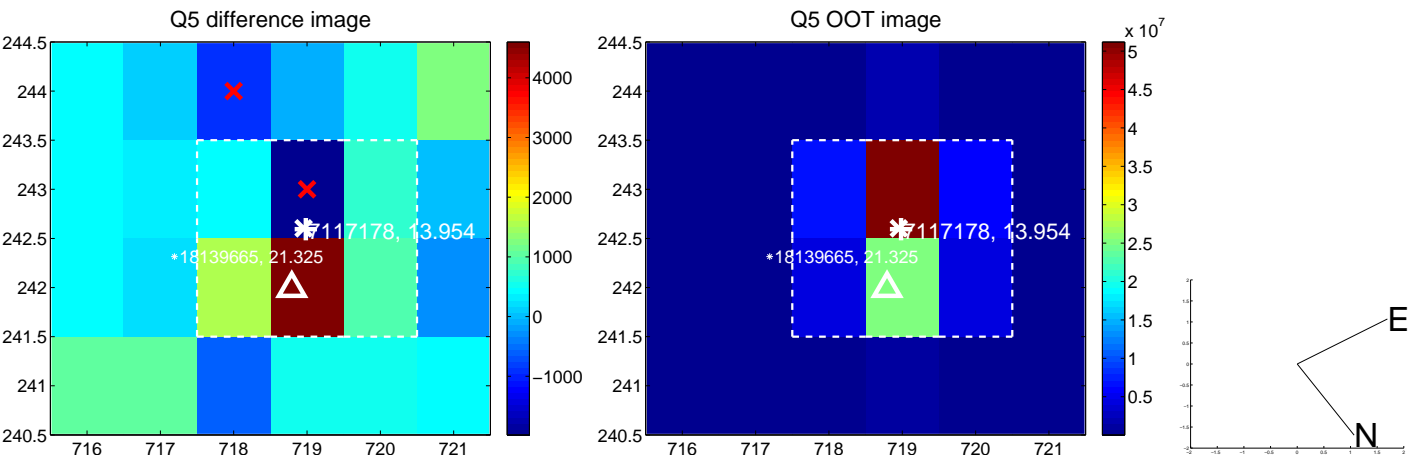


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

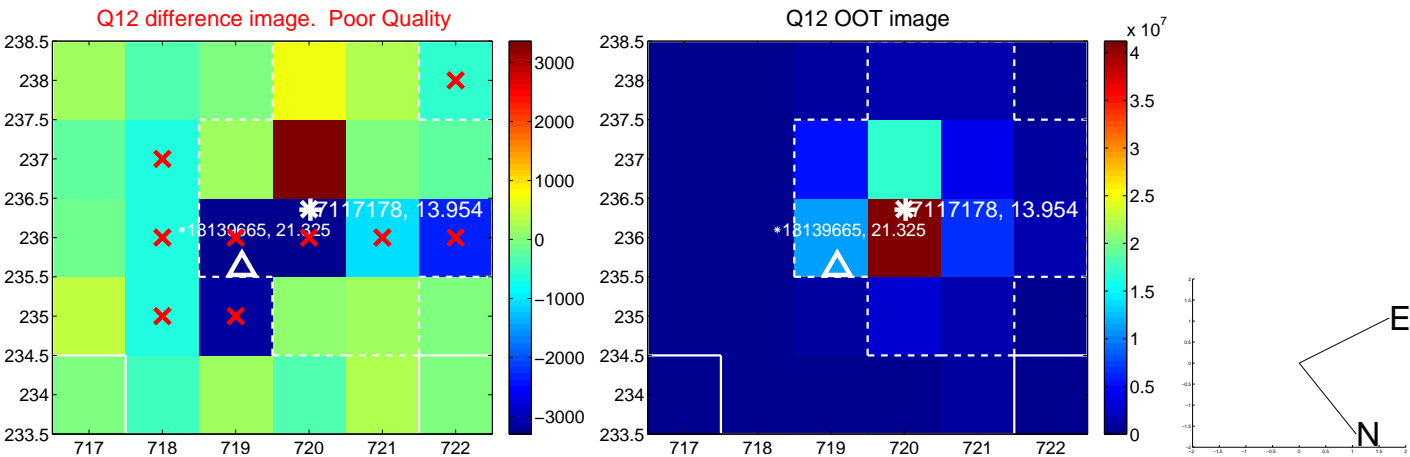
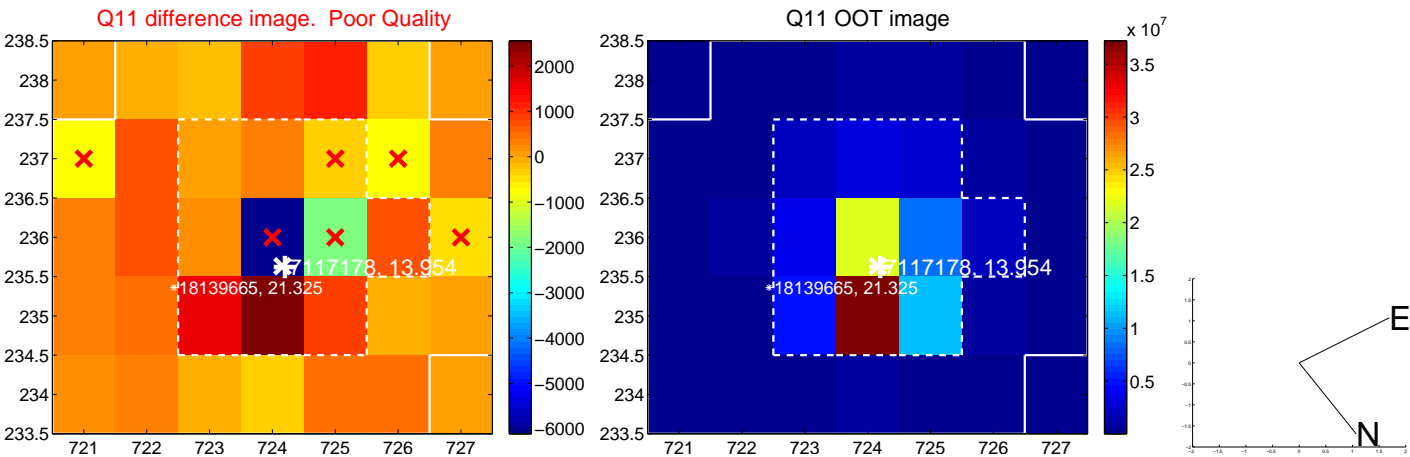
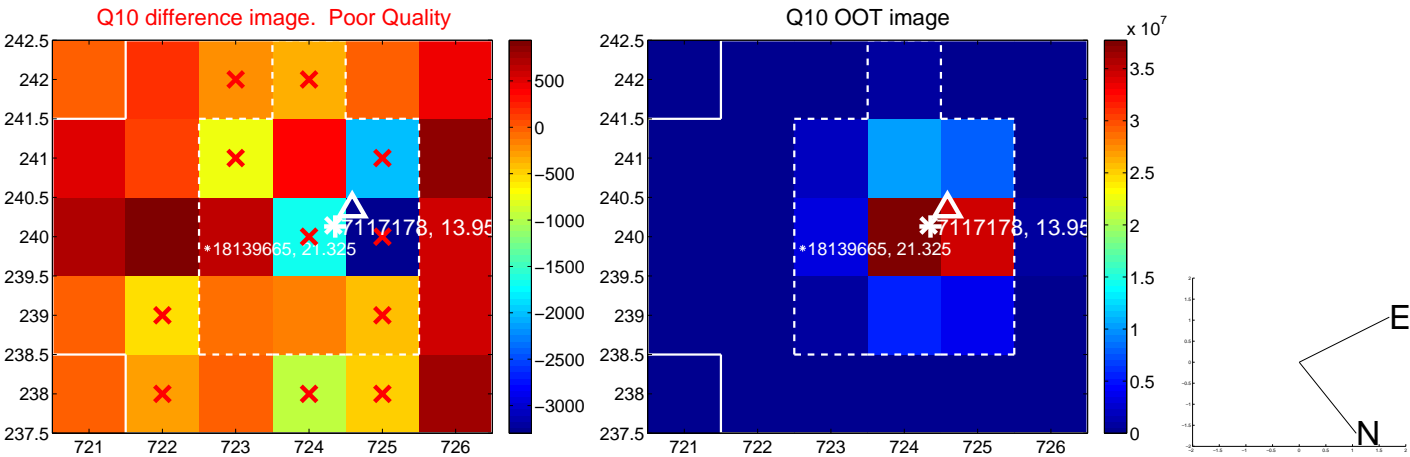
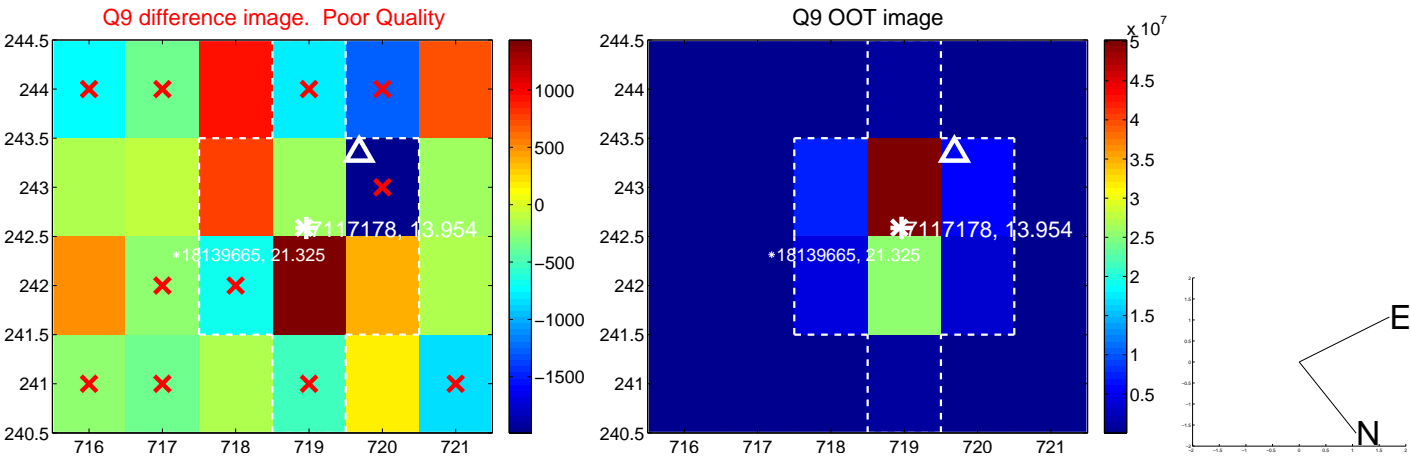
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



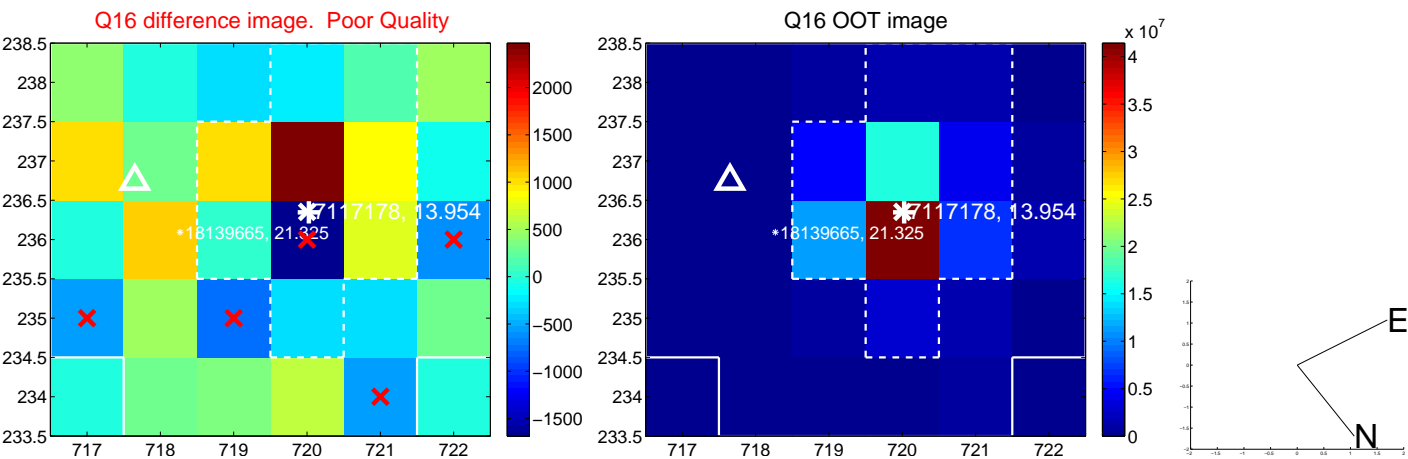
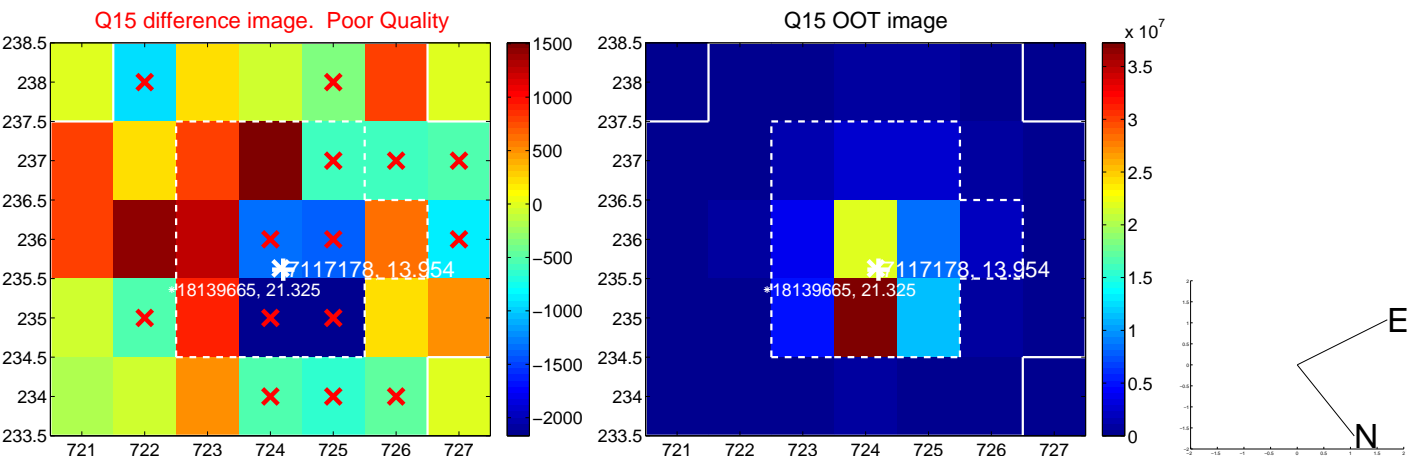
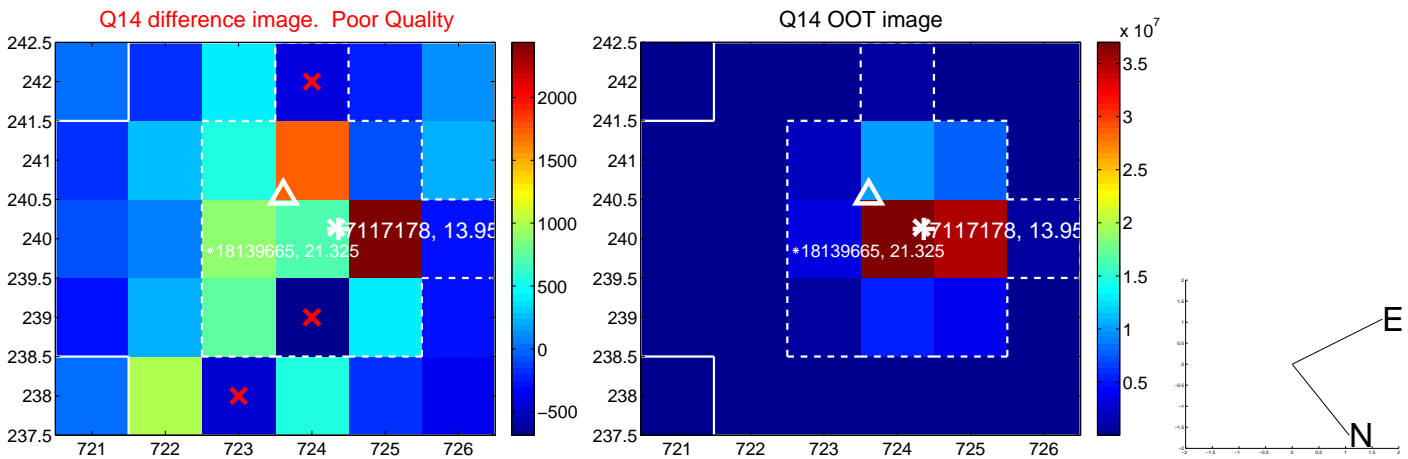
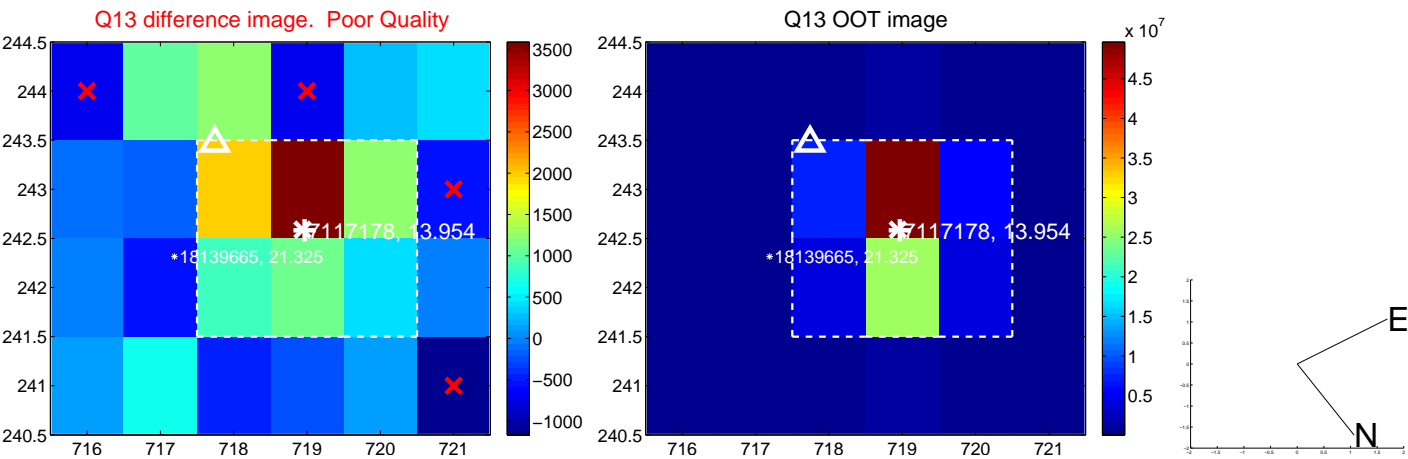
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



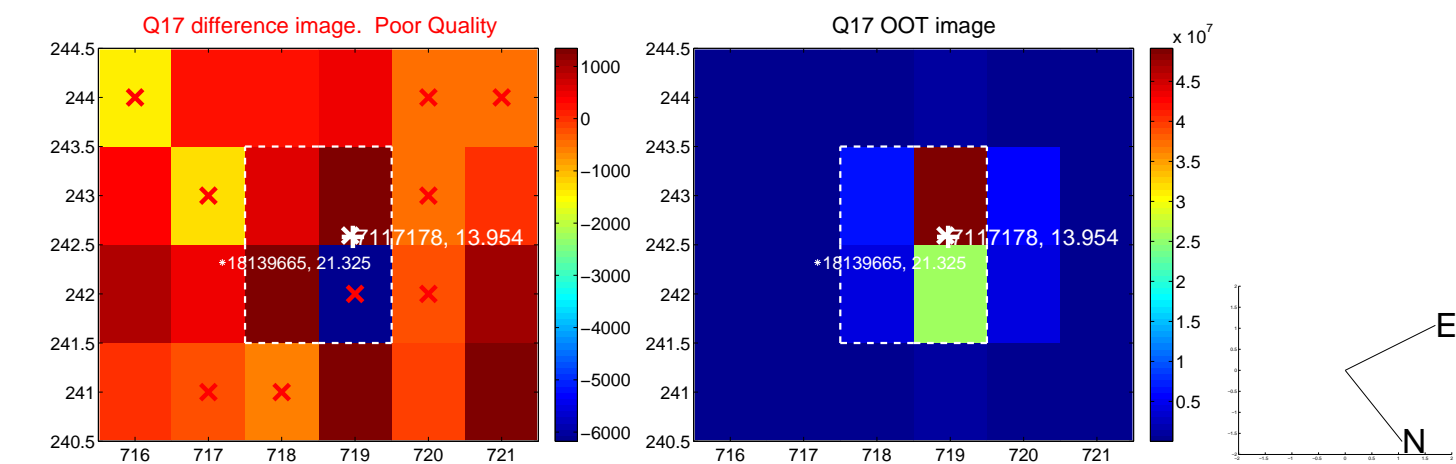
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



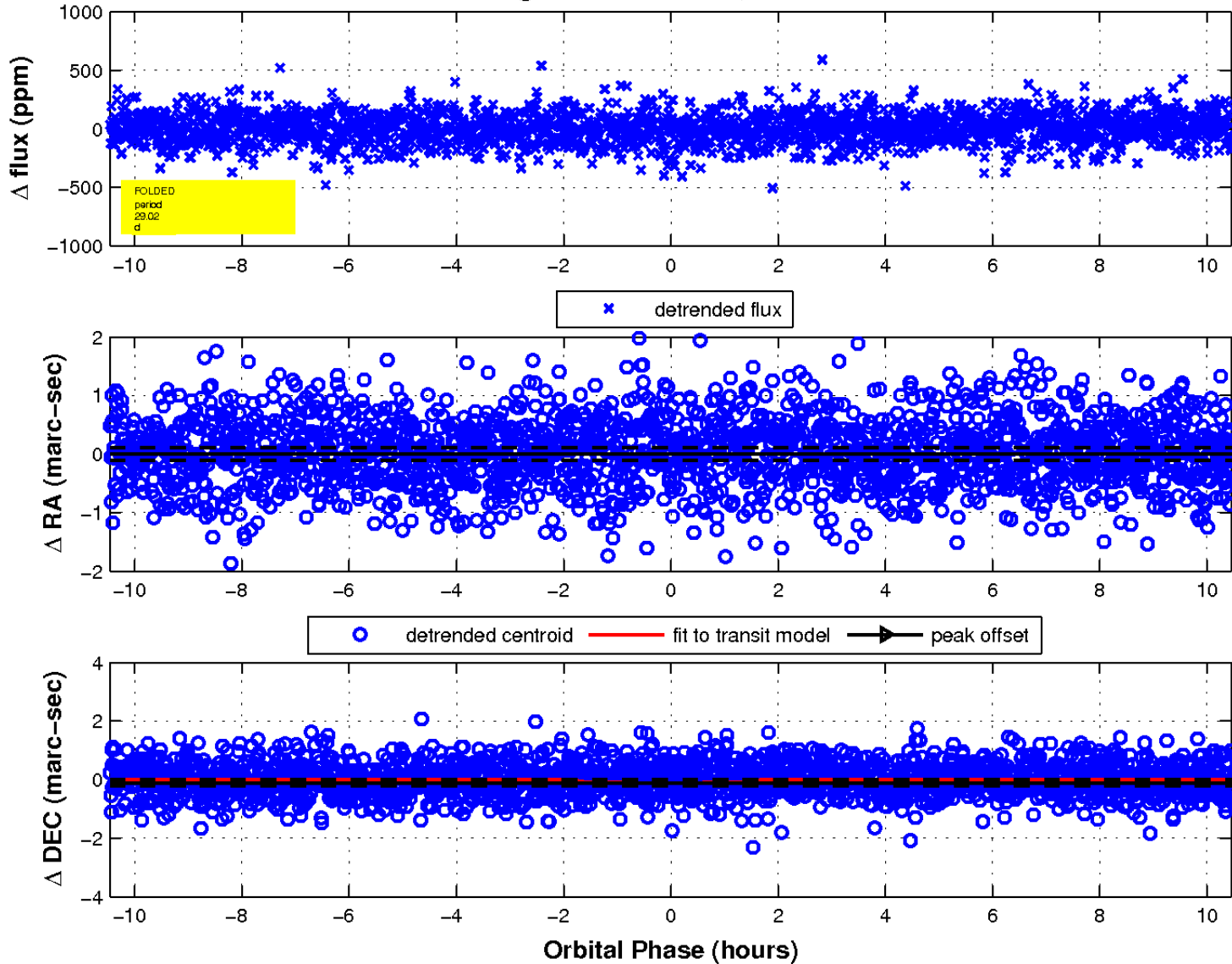
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

