

KIC 007031515

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})
007031515-01	OBS	No	0.566704	131.933728	16.3	4.063	9.2	3.3	0.87	5853	0.36	4524.95
007031515-02	OBS	No	19.427466	148.599223	589.5	2.003	9.2	10.3	0.87	5853	2.29	40.63
007031515-03	OBS	No	16.924699	133.843780	1163.0	0.523	9.3	8.8	0.87	5853	3.09	48.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031515-01	OBS	FP	0.00	1	0	1	1	LPP_DV—LPP_ALT—HALO_GHOST—EPHEM_MATCH
007031515-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031515-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

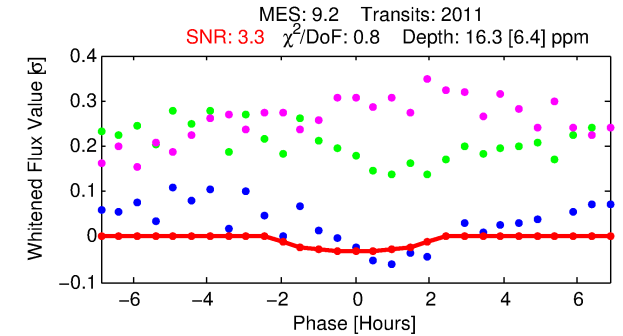
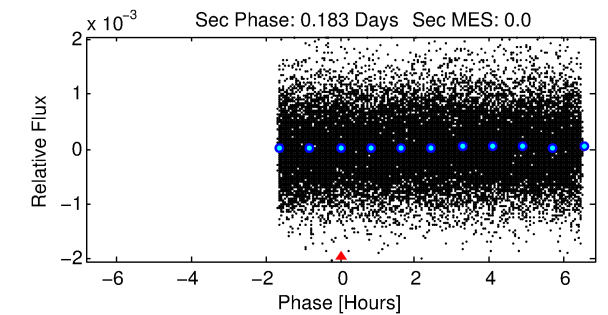
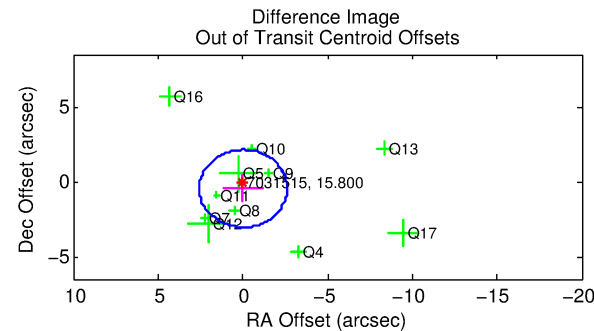
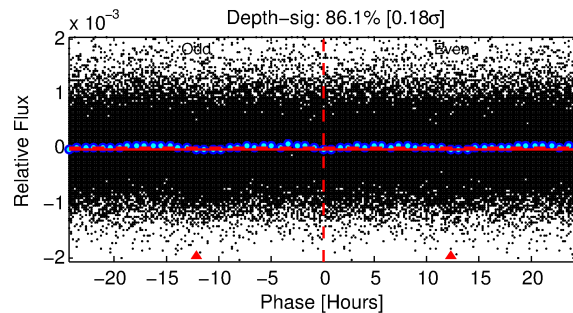
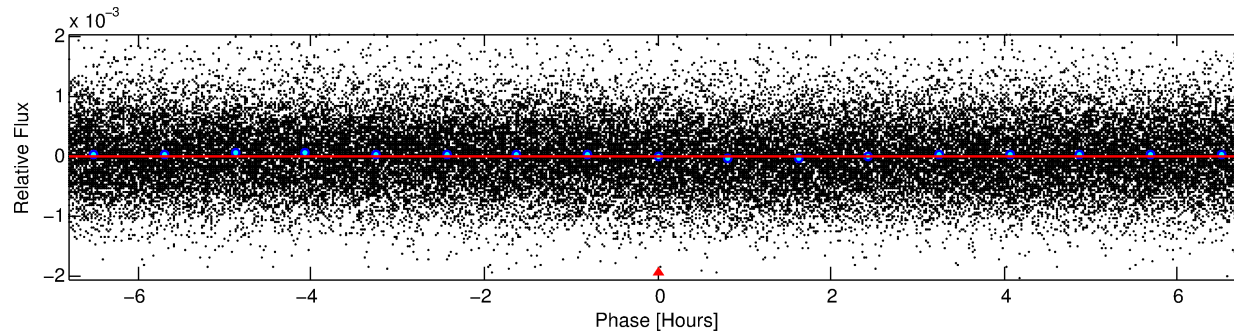
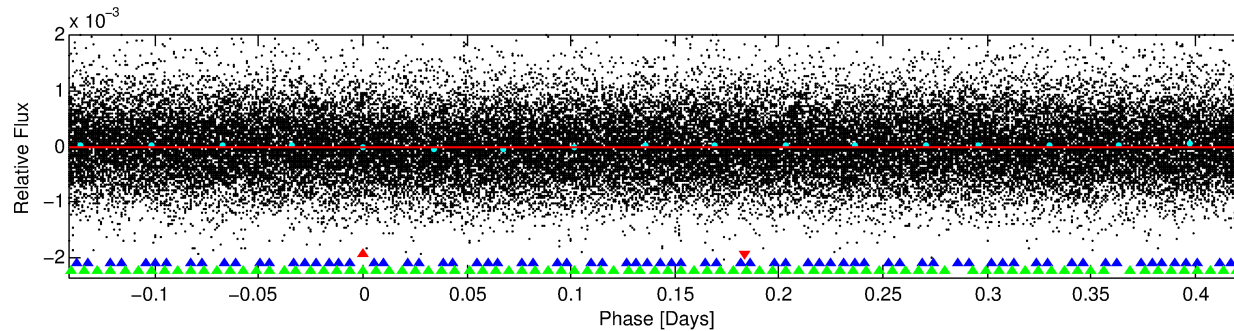
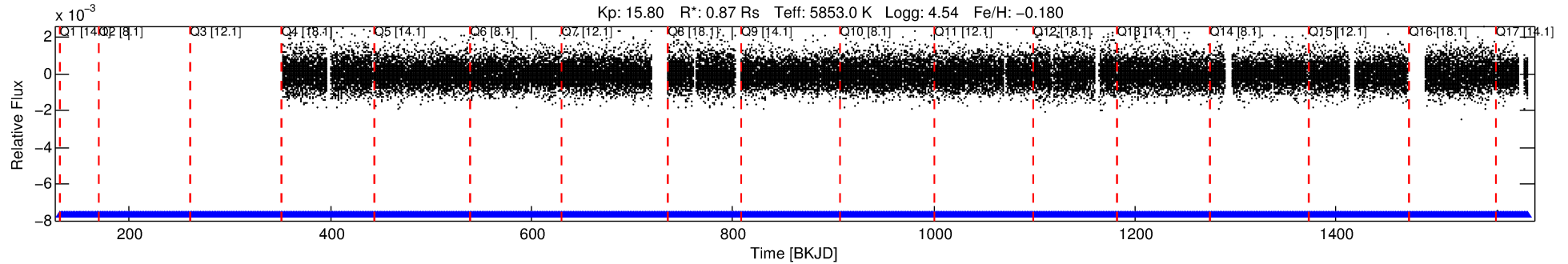
Ephemeris Match Information For 007031515-01

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
007031515-01	7031515	RR-Lyr-pri	7198959	1:1	1068.2	90	-254	7.86	15.80	38956.00	Direct-PRF	0	2.88	9.29

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: 7031515 Candidate: 1 of 3 Period: 0.567 d



DV Fit Results:

Period = 0.56670 [0.00003] d
Epoch = 131.9337 [0.0149] BKJD
Rp/R* = 0.0038 [0.0108]
a/R* = 1.19 [4.49]
b = 0.51 [19.17]
Seff = 4524.95 [1802.53]
Teq = 2091 [208] K
Rp = 0.36 [1.03] Re
a = 0.0132 [0.0034] AU
Ag = N/A
Teffp = N/A

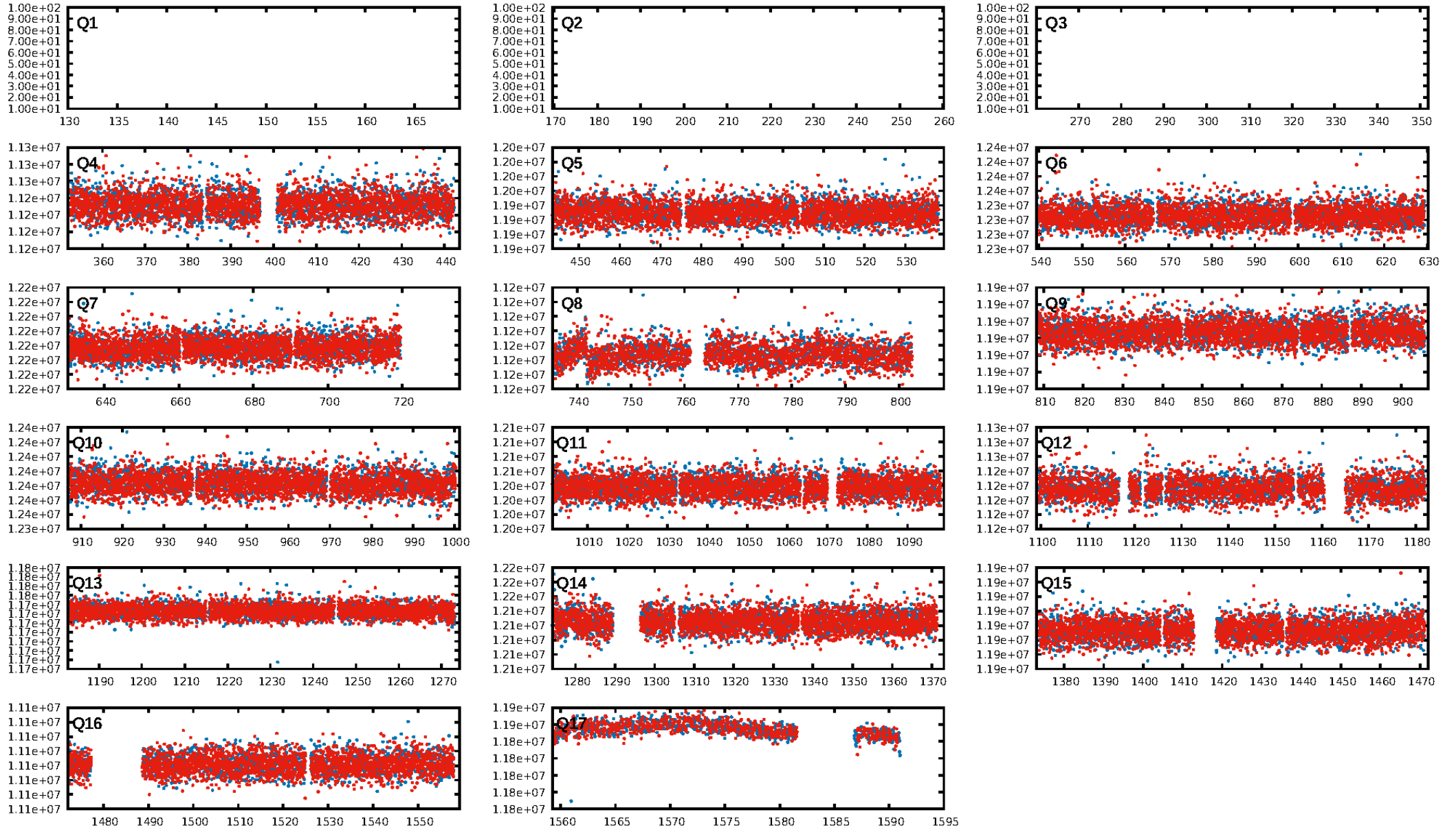
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [95.83 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.65e-16
RollingBand-fgt: 1.00 [1964/1964]
GhostDiagnostic-chr: 0.0027
Centroid-sig: 8.4%
Centroid-so: 6.369 arcsec [1.59 σ]
OotOffset-rm: 0.463 arcsec [0.54 σ]
KicOffset-rm: 0.657 arcsec [0.75 σ]
OotOffset-st: 1/2/4/4 [11]
KicOffset-st: 1/2/4/4 [11]
DiffImageQuality-fgm: 0.36 [4/11]
DiffImageOverlap-fno: 1.00 [14/14]

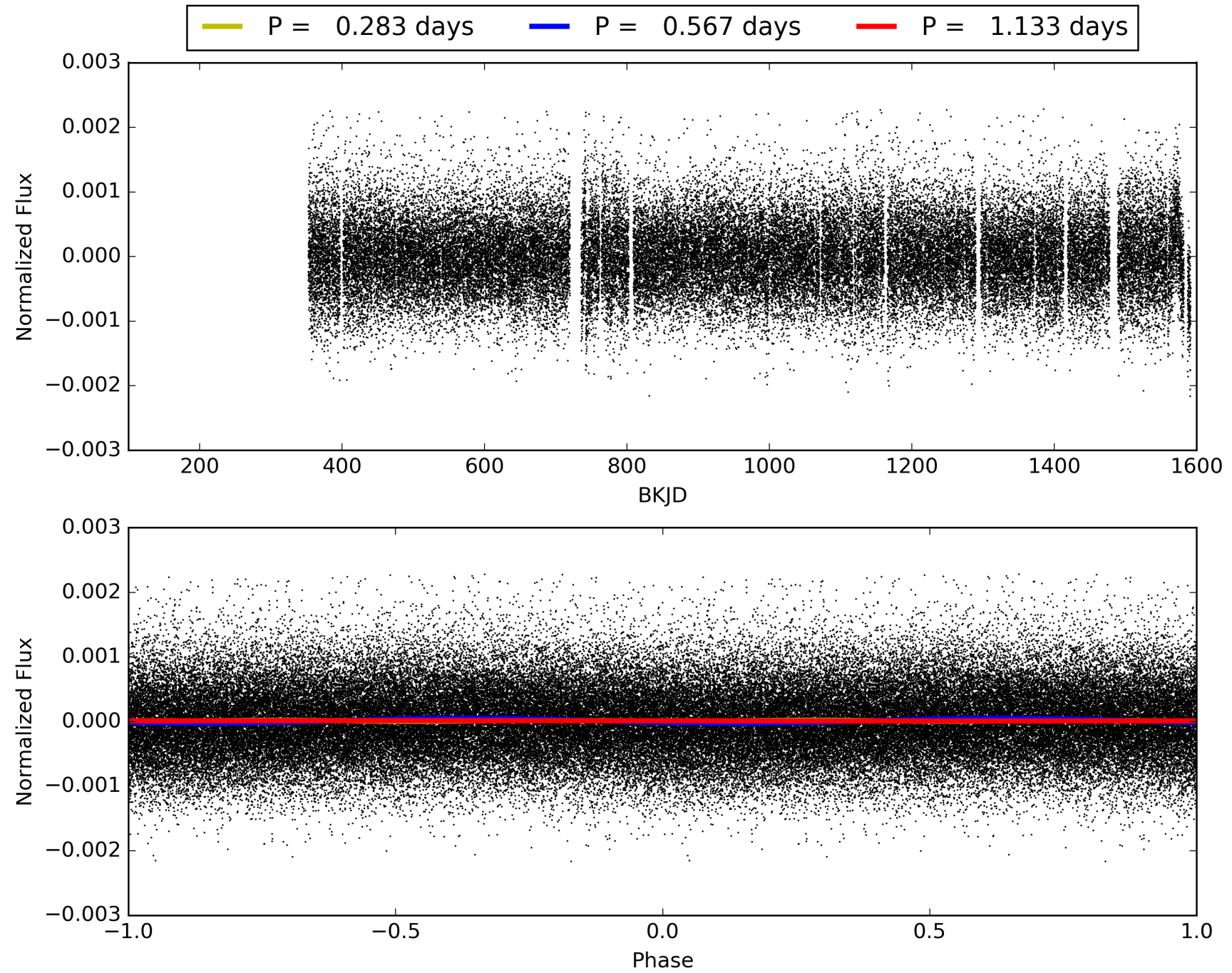
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:46:58 Z

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

TCE 007031515-01, PDC Light Curves

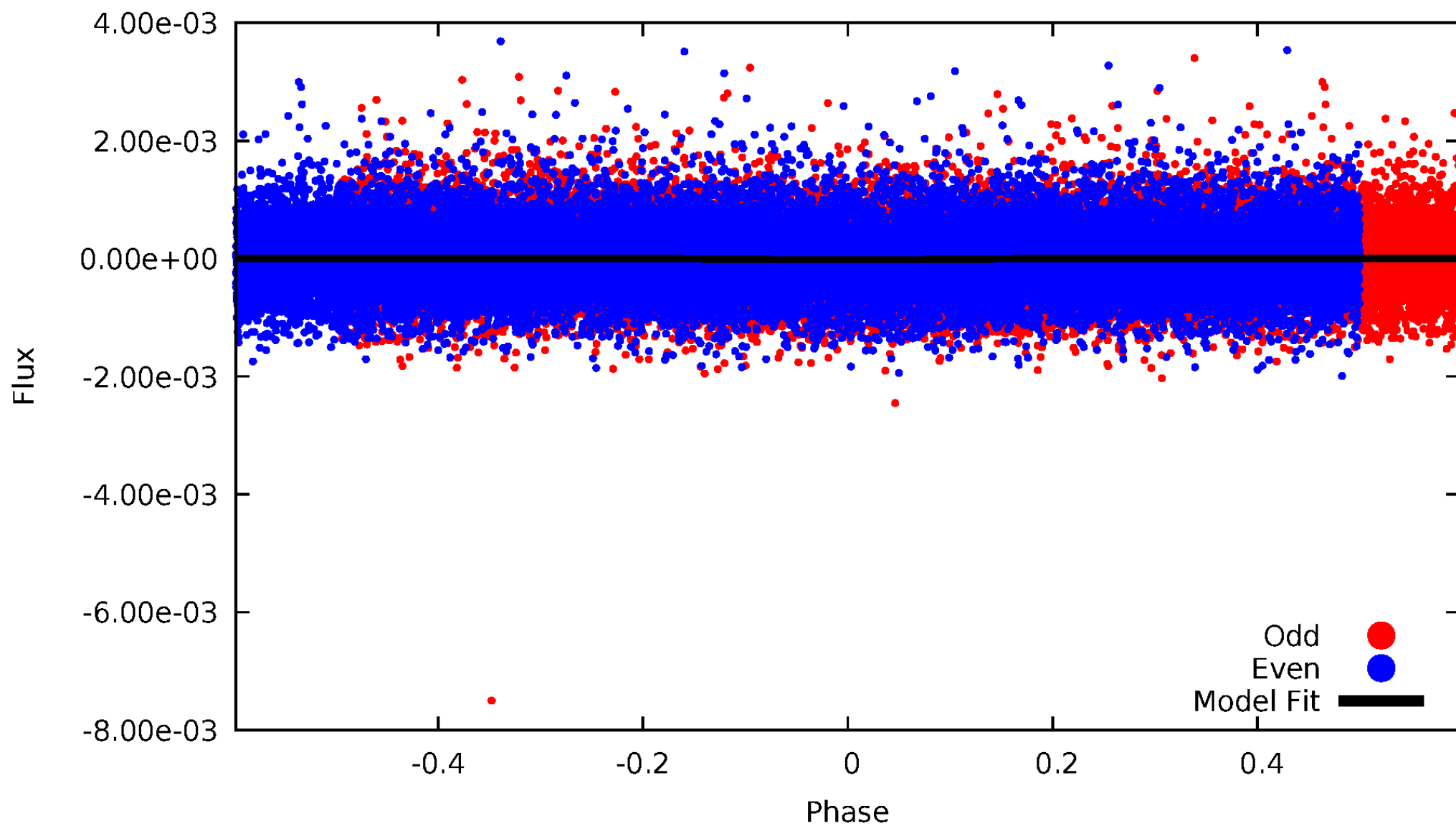


TCE 007031515-01



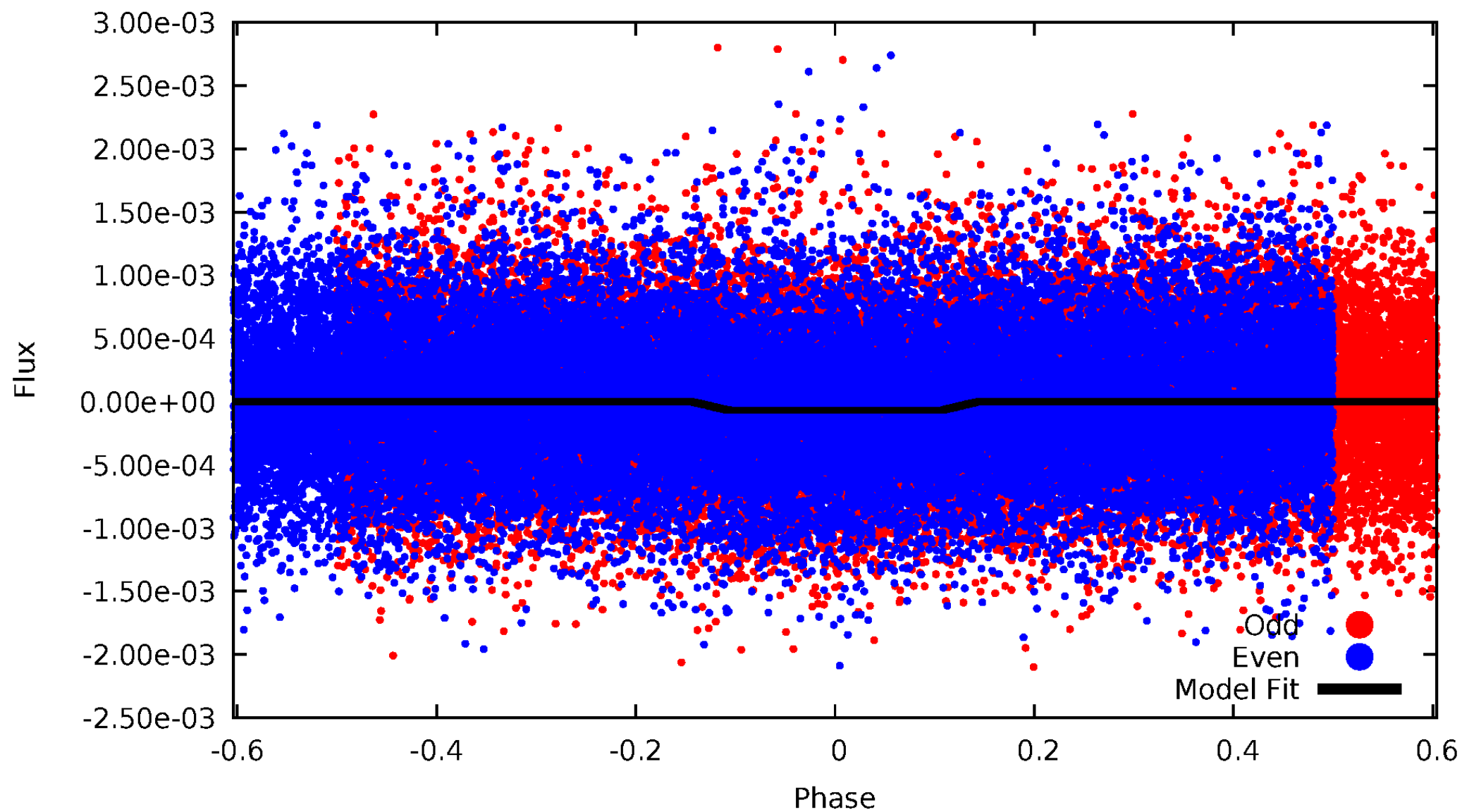
DV Odd/Even

TCE 007031515-01



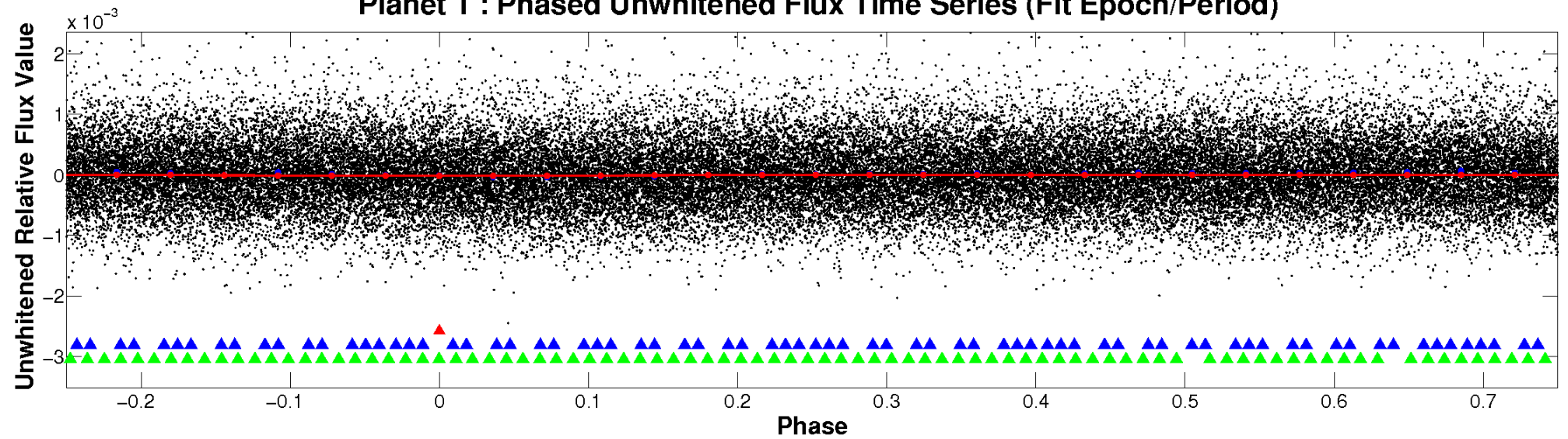
ALT Odd/Even

TCE 007031515-01

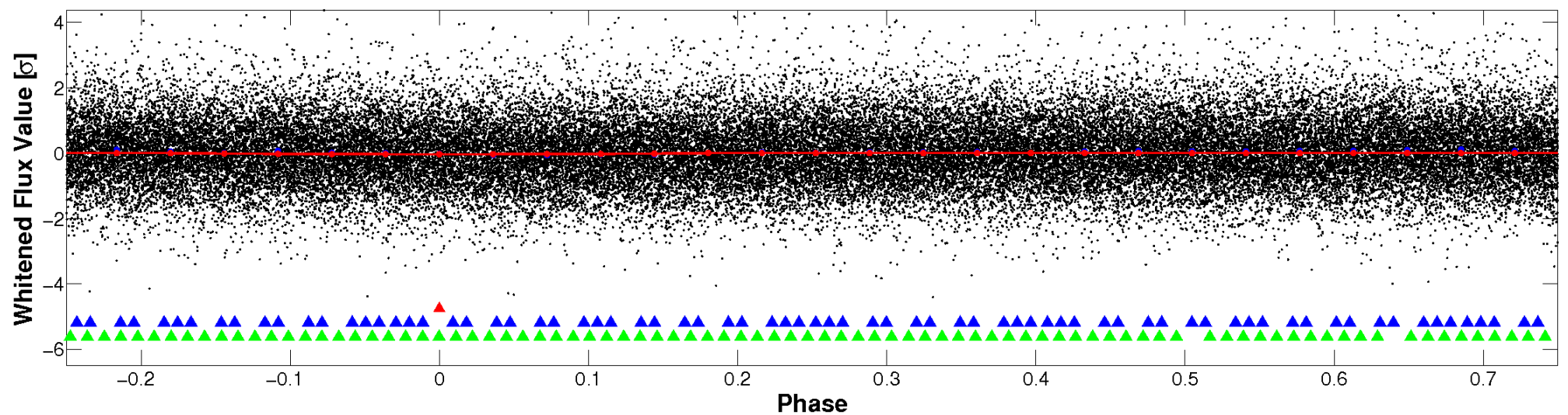


Non-Whitened Vs. Whitened Light Curve

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

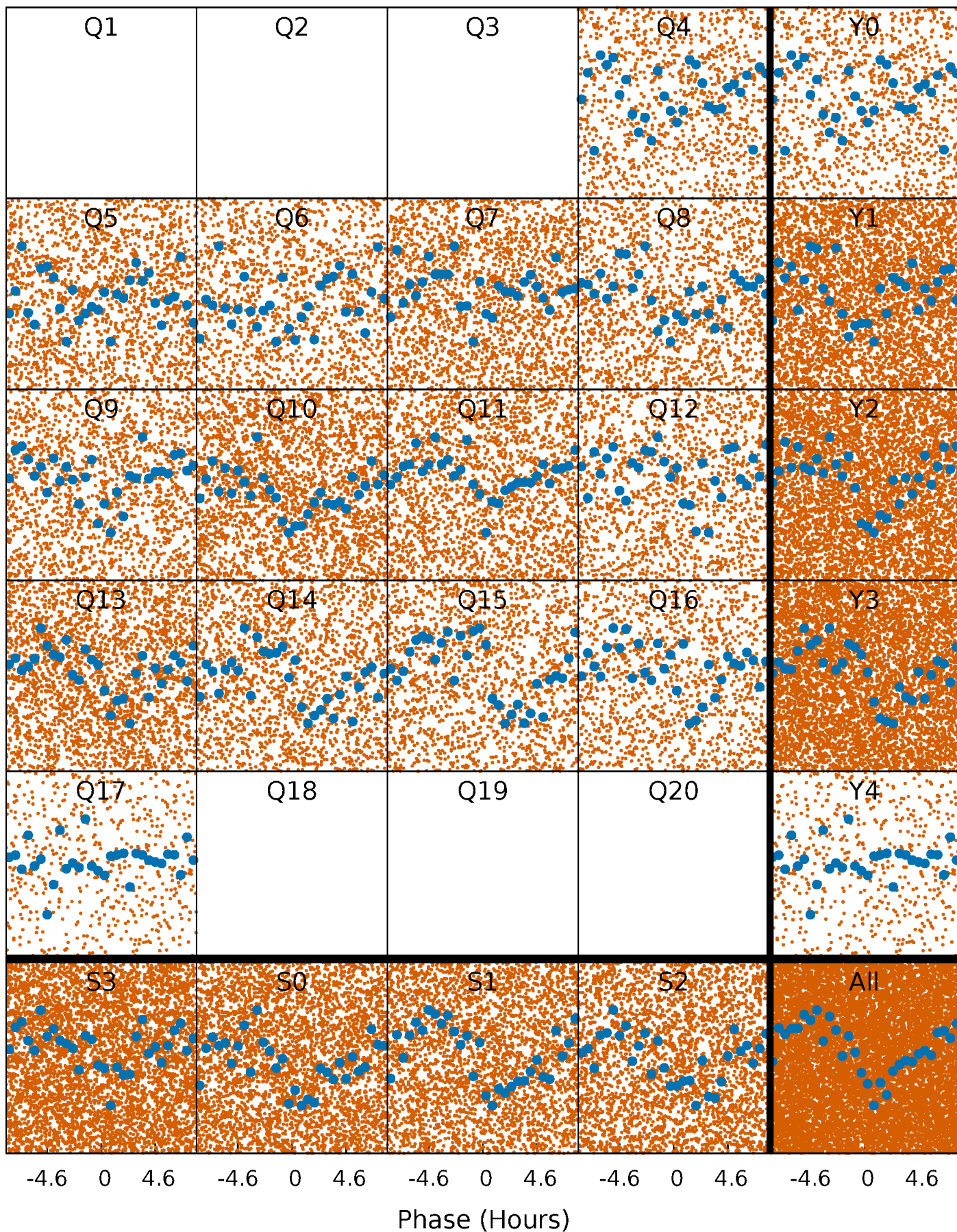


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



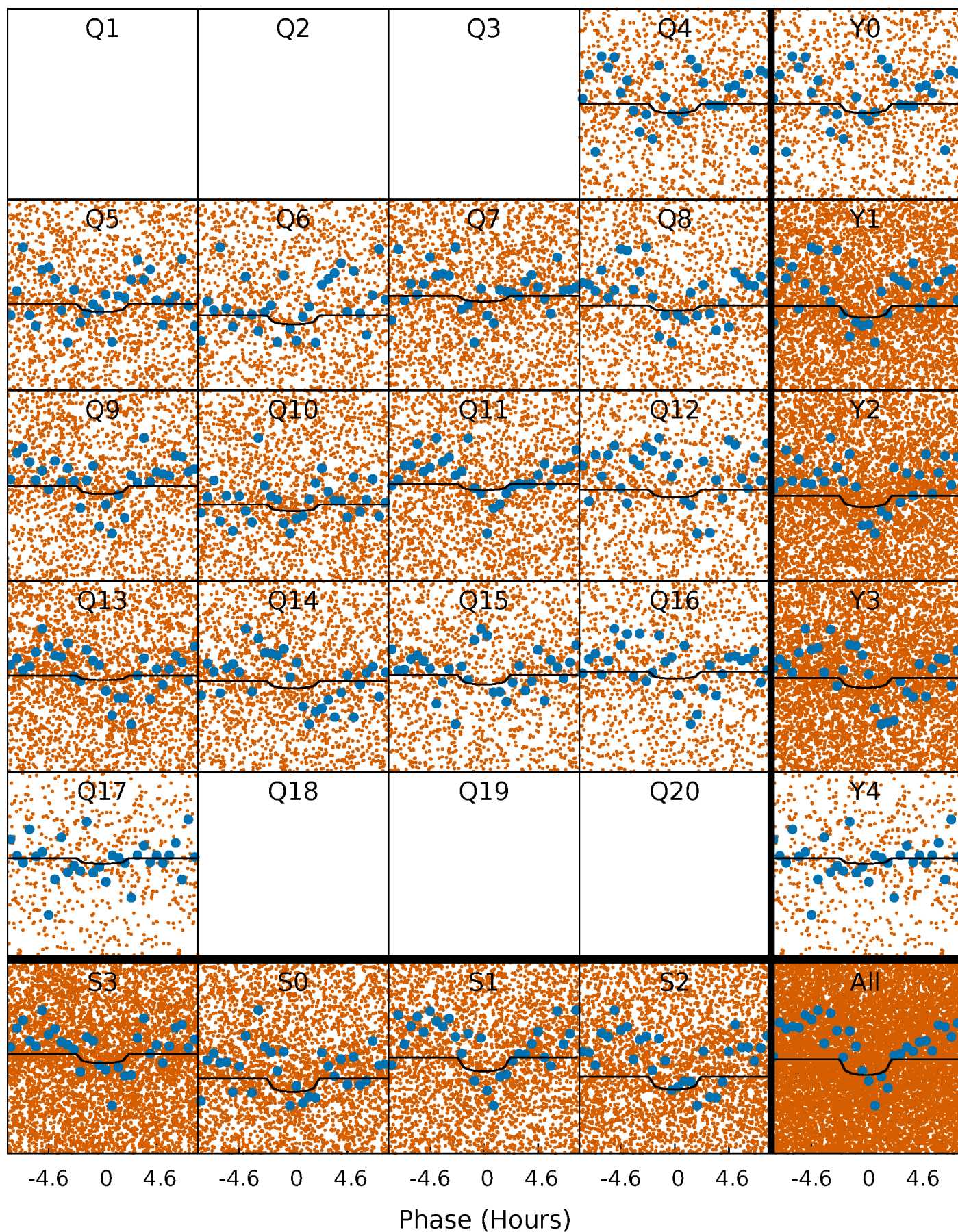
PDC Quarter-Phased Transit Curves

TCE 007031515-01 P= 0.566704 Days $T_0=131.933728$ (BKJD)



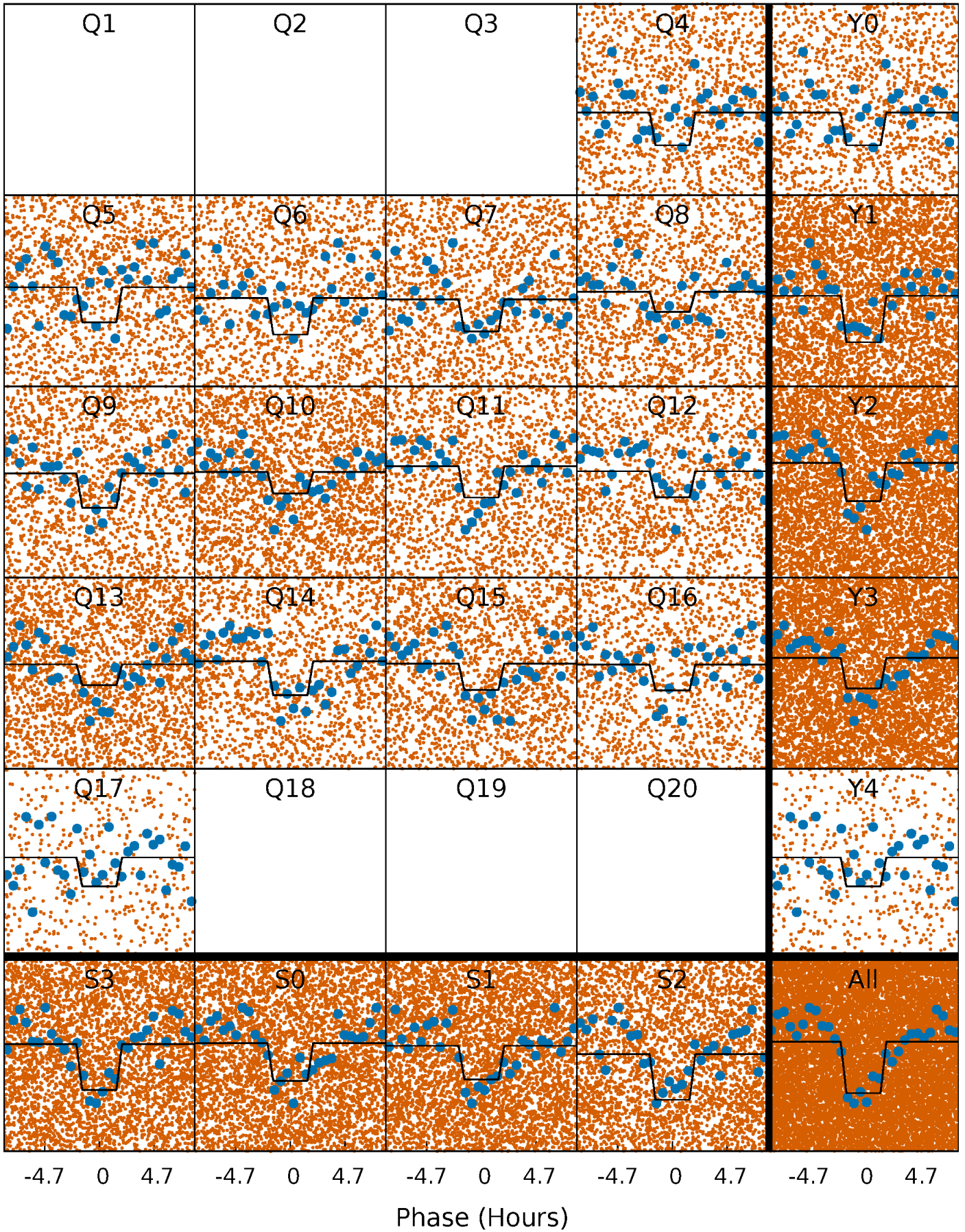
DV Quarter-Phased Transit Curves

TCE 007031515-01 P= 0.566704 Days $T_0=131.933728$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

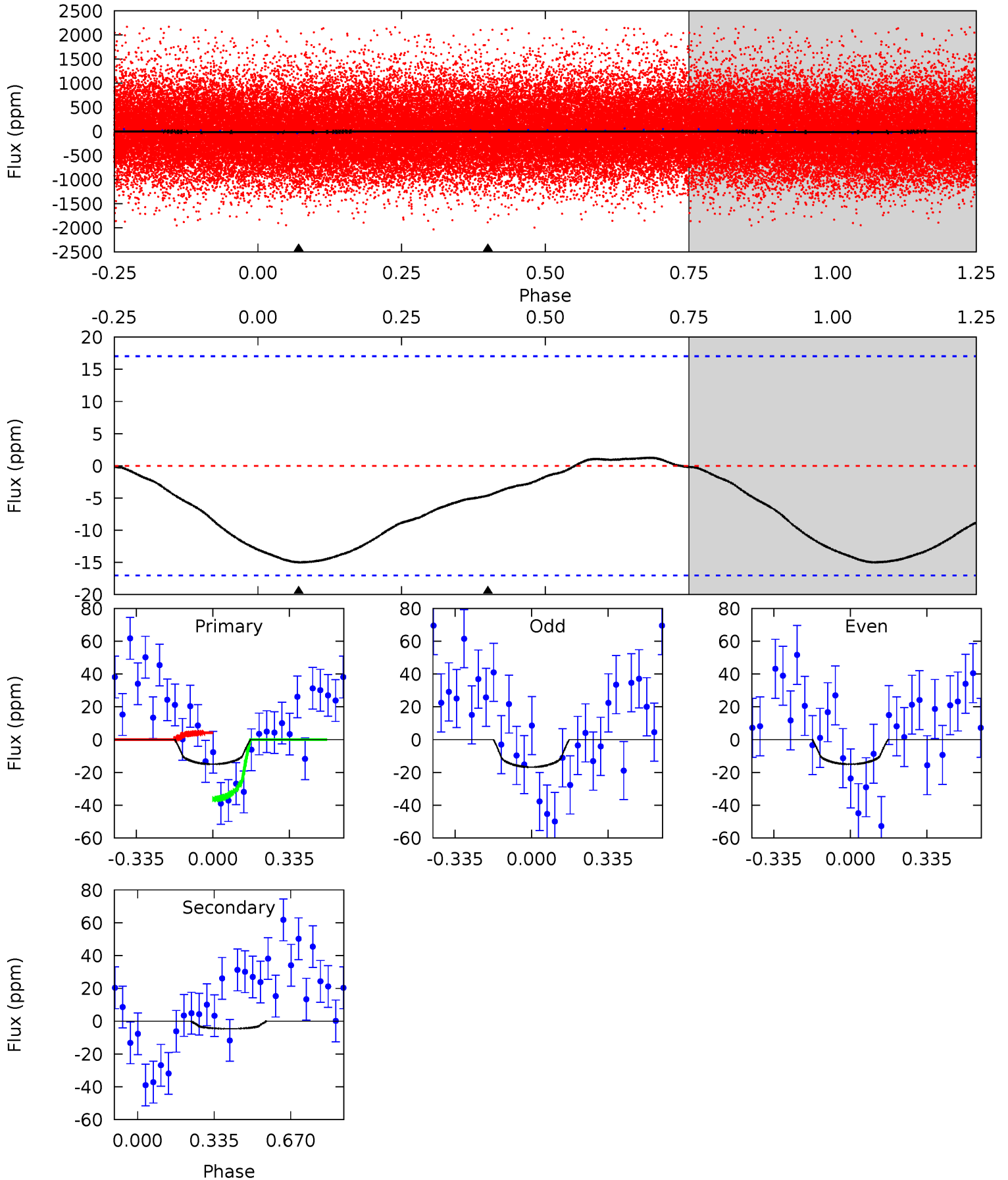
TCE 007031515-01 P= 0.566775 Days $T_0=131.870827$ (BKJD)



DV Model-Shift Uniqueness Test

007031515-01, P = 0.566704 Days, E = 131.933728 Days

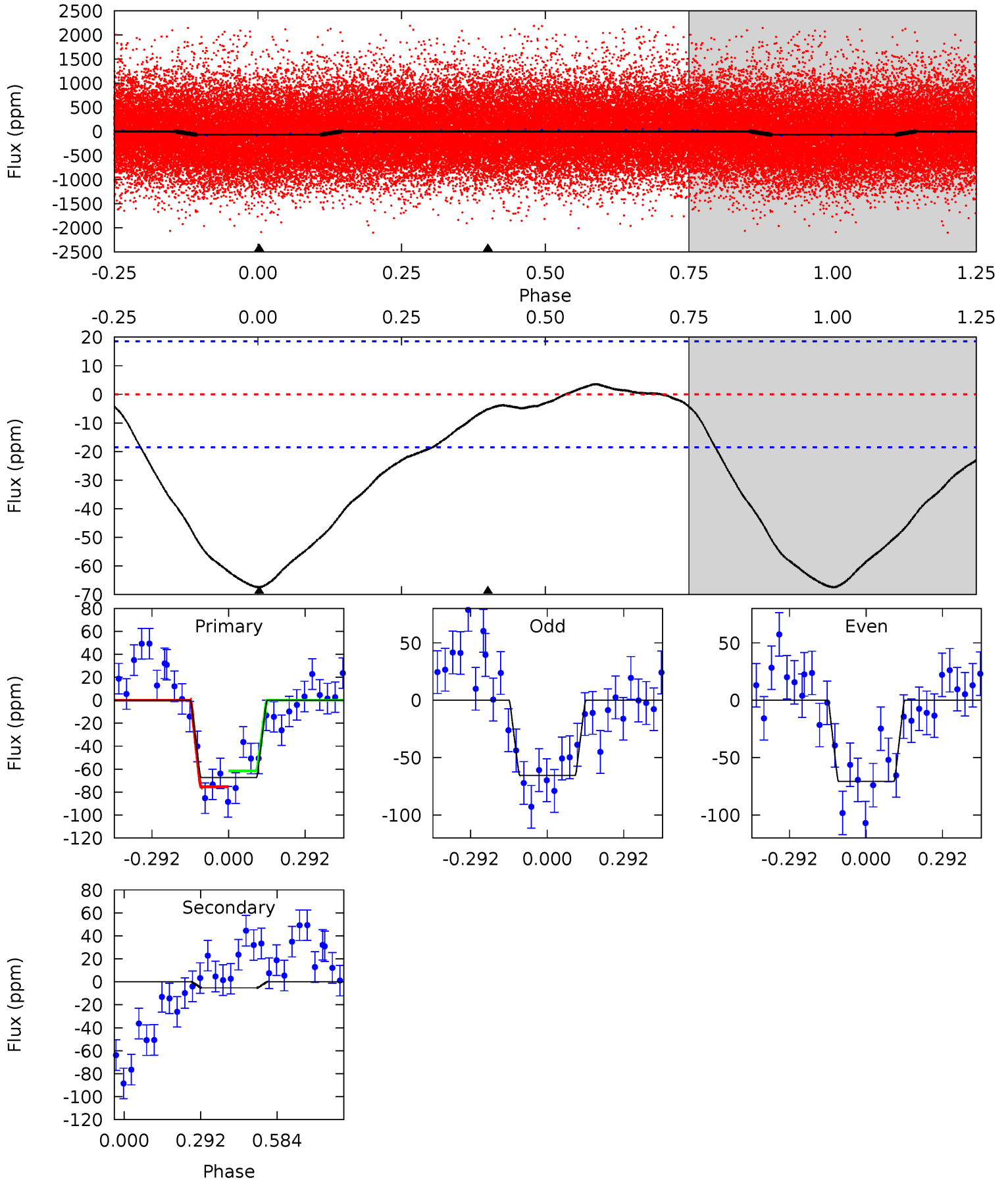
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.79	1.17	0	0	4.30	0.96	0.16	3.79	3.79	1.17	1.17	0.22	0.60	0.08	4.07



Alt Model-Shift Uniqueness Test

007031515-01, P = 0.566775 Days, E = 131.870827 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	1.22	0	0	4.33	1.05	0.33	15.8	15.8	1.22	1.22	0.63	0.87	0.05	1.62



Stellar Parameters For KIC 007031515

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5853^{+185}_{-206}	$4.544^{+0.036}_{-0.204}$	$-0.180^{+0.300}_{-0.300}$	$0.868^{+0.263}_{-0.082}$	$0.961^{+0.108}_{-0.120}$	$2.069^{+0.401}_{-1.045}$
	+3%/-4%	+1%/-4%	+167%/-167%	+30%/-9%	+11%/-12%	+19%/-51%
Source	KIC0	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 007031515-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5 ± 4	$0.89^{+0.87}_{-0.60}$	2991^{+208}_{-148}	2720^{+1982}_{-5782}	$0.423^{+3.566}_{-0.382}$
Alt.	-5 ± 4	$1.12^{+1.01}_{-0.68}$	2996^{+199}_{-154}	2092^{+2292}_{-5148}	$0.311^{+2.172}_{-0.273}$

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 $A_{obs} \gg 1.0$

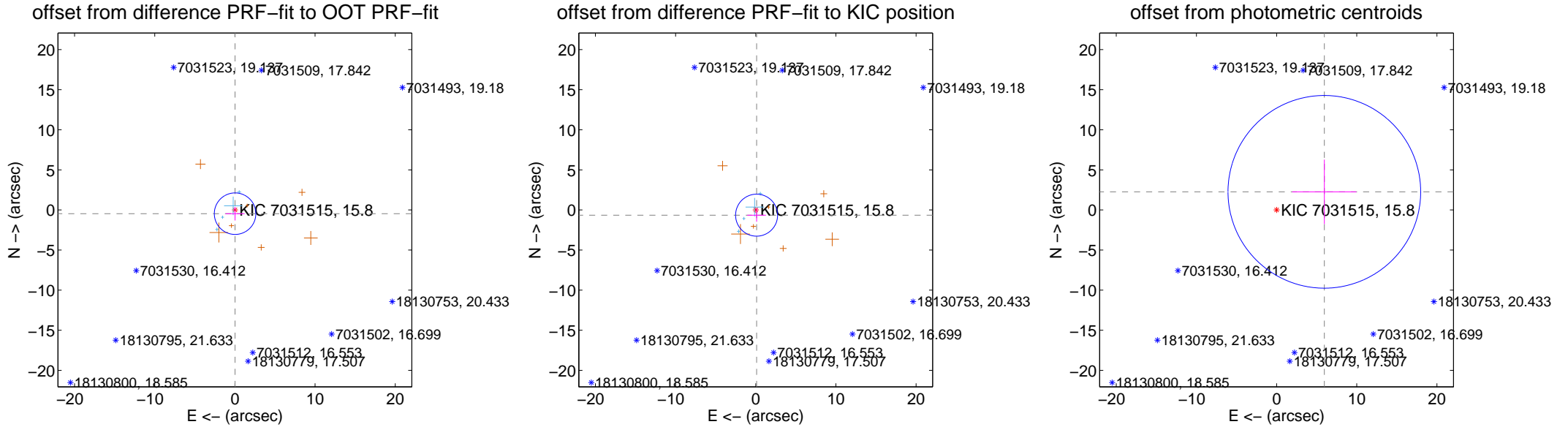
DV Centroid Data

Supplemental centroid analysis for 007031515-01. Kepler magnitude: 15.80. Transit SNR 3.34

There are 4 quarters with good PRF difference image offsets

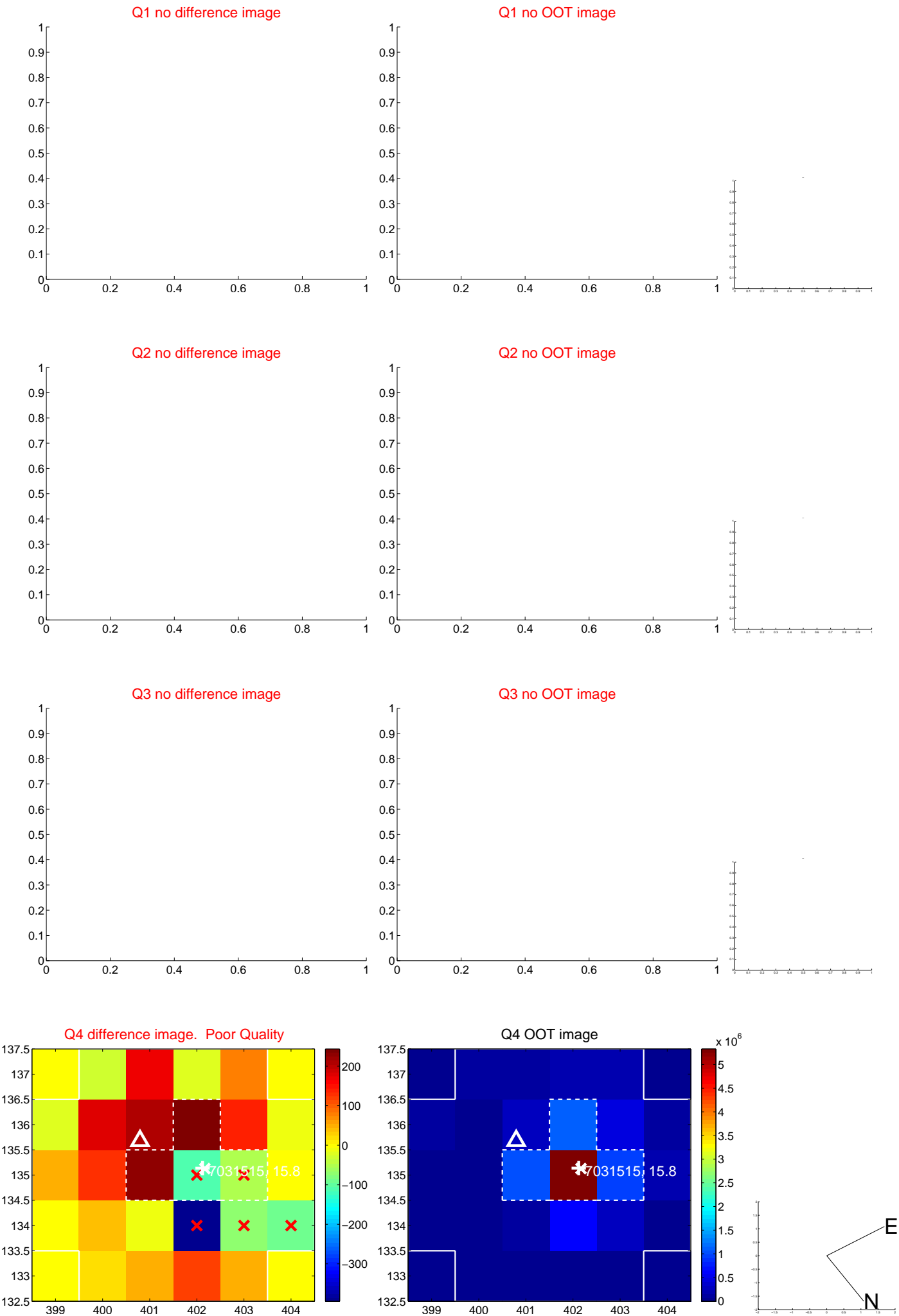
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.463 ± 0.863	0.54	-0.021 ± 1.192	-0.463 ± 0.848
PRF-fit source offset from KIC position	0.657 ± 0.873	0.75	-0.105 ± 1.168	-0.649 ± 0.817
photometric centroid source offset	6.37 ± 4.01	1.59	-5.95 ± 4.00	2.26 ± 4.02

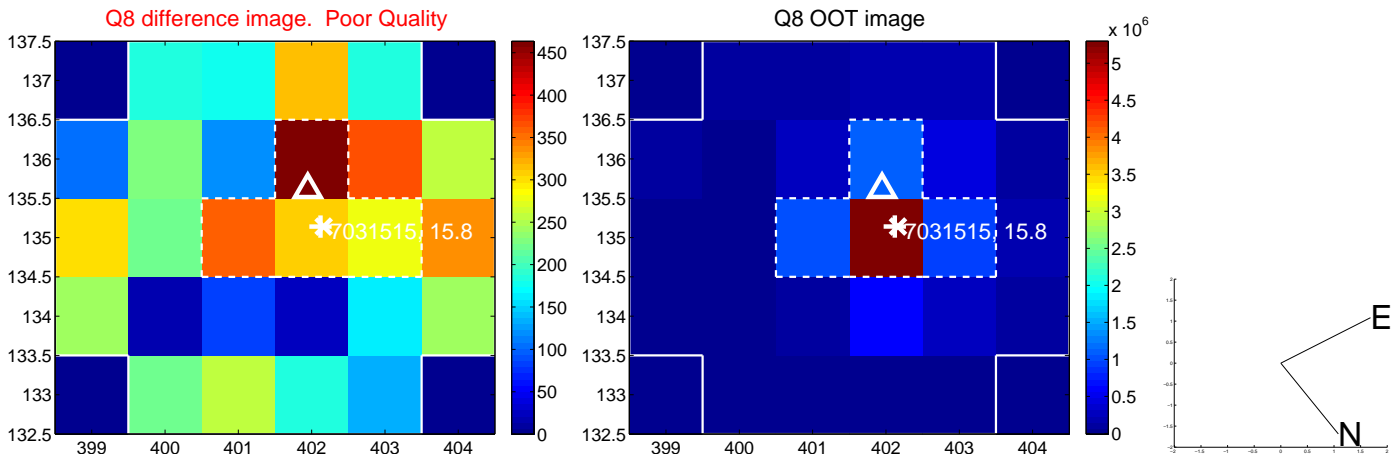
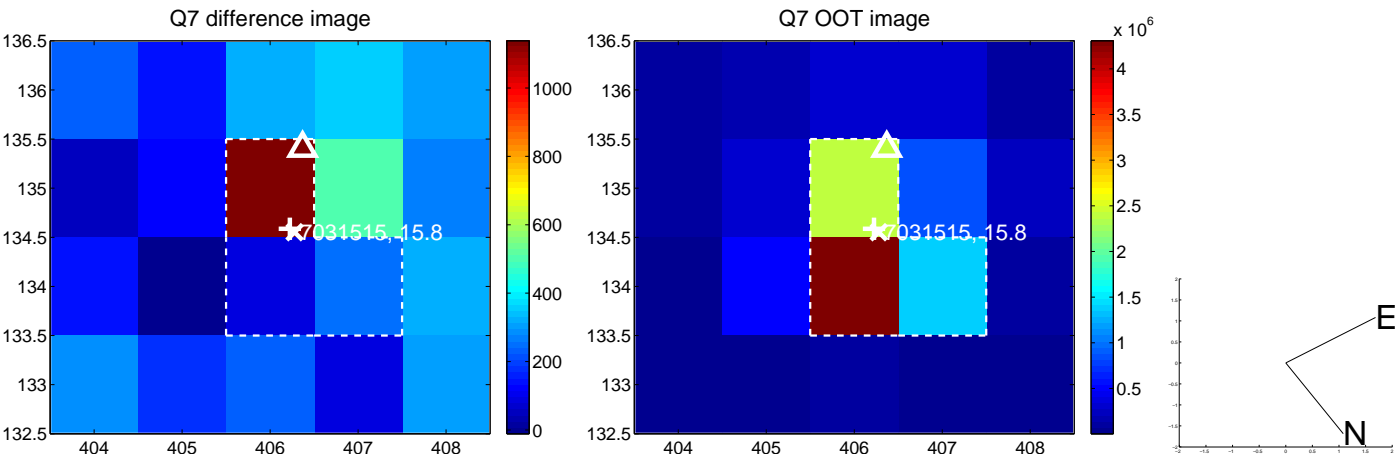
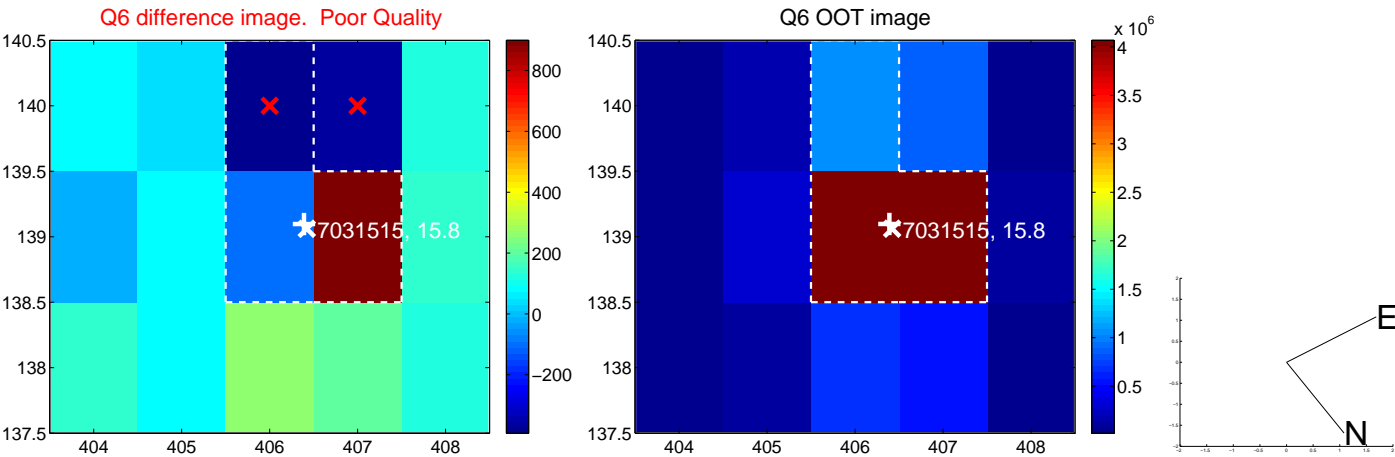
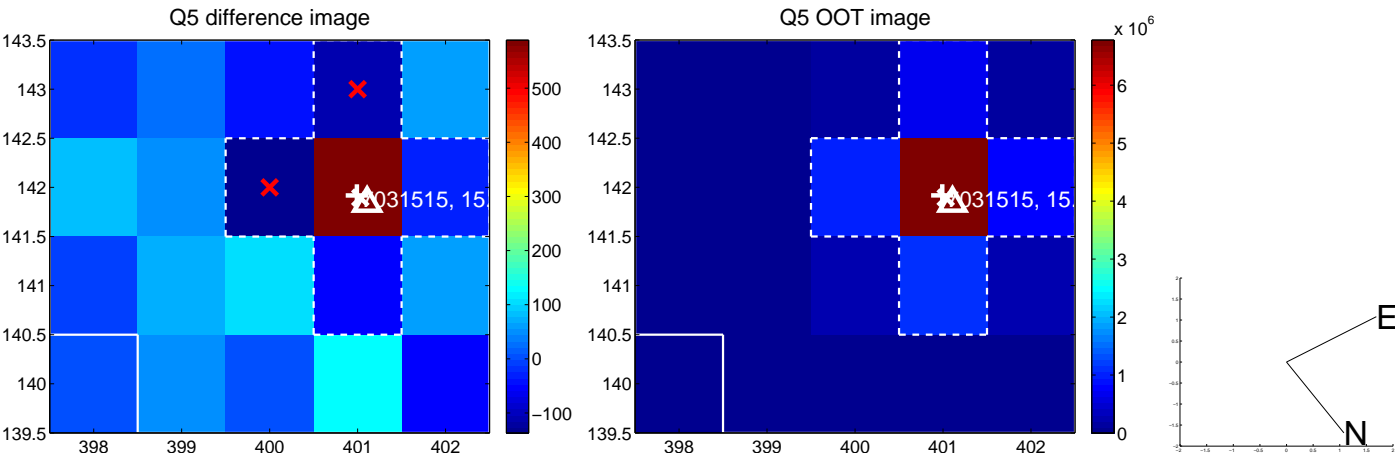


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

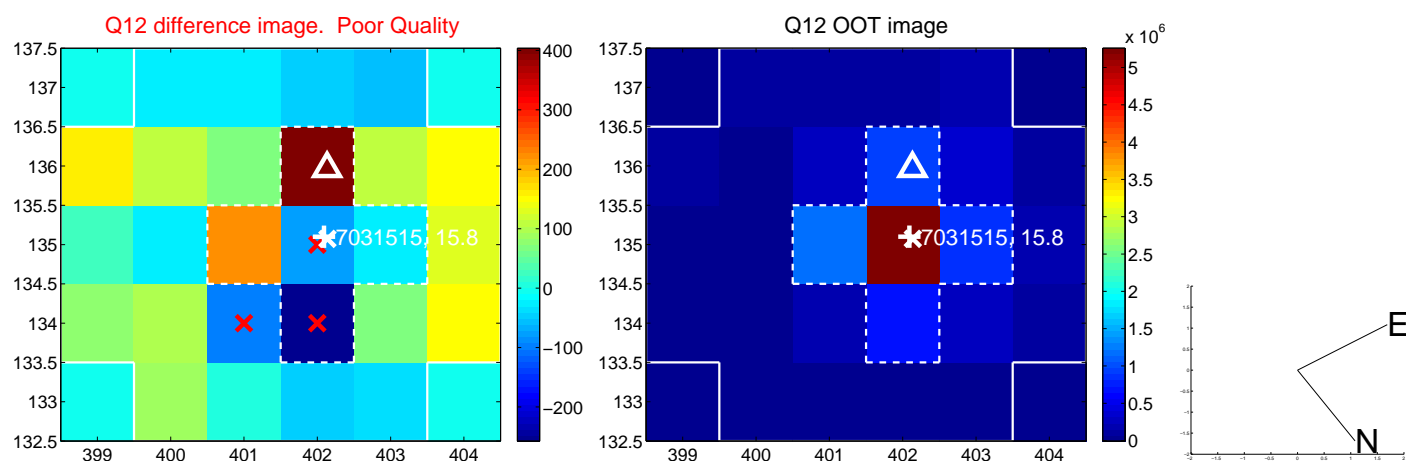
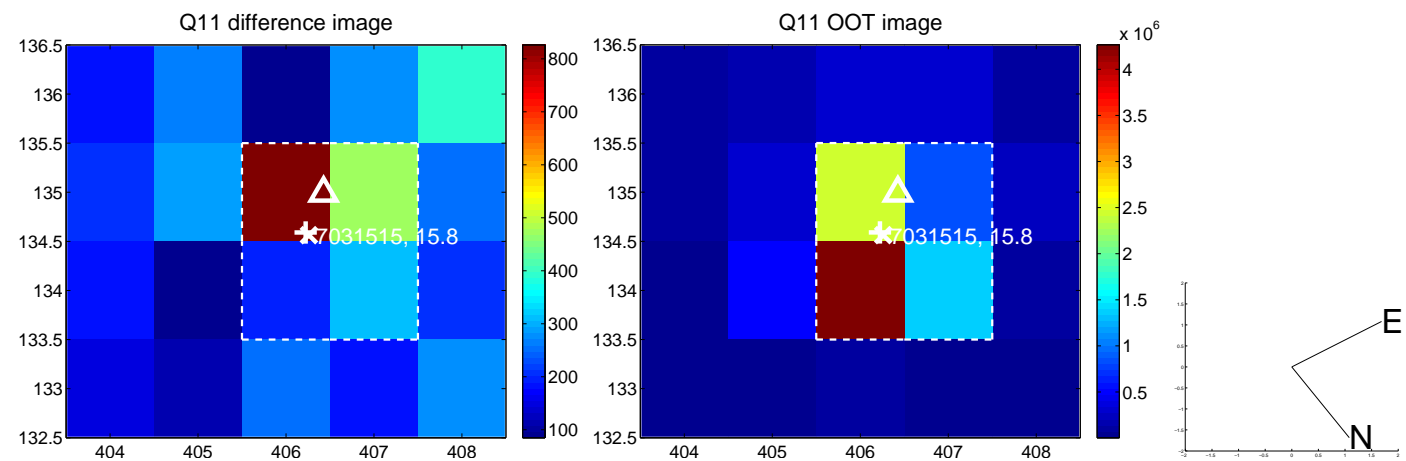
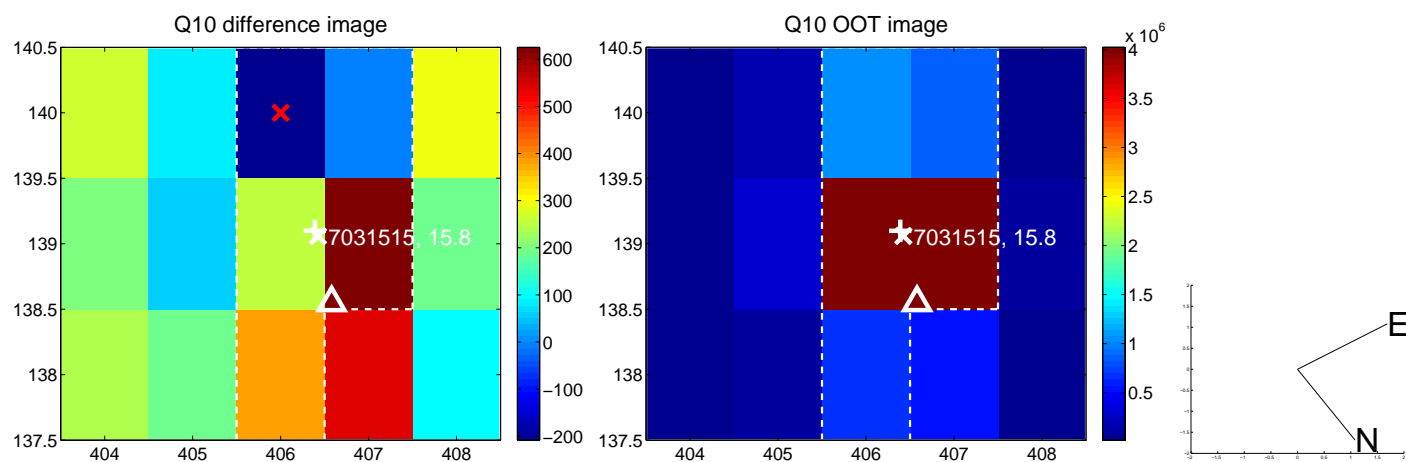
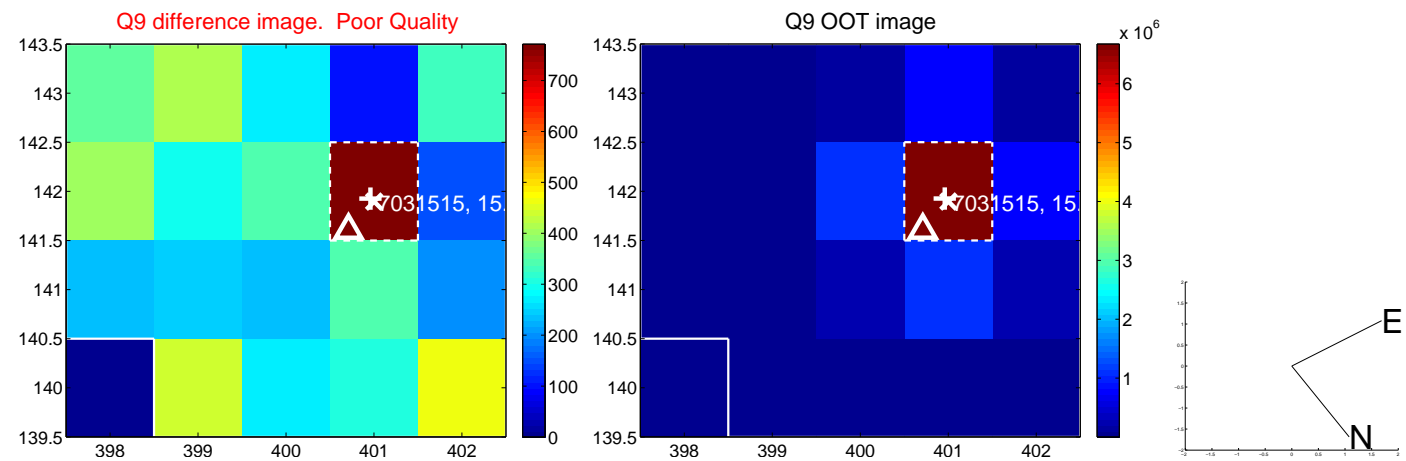
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



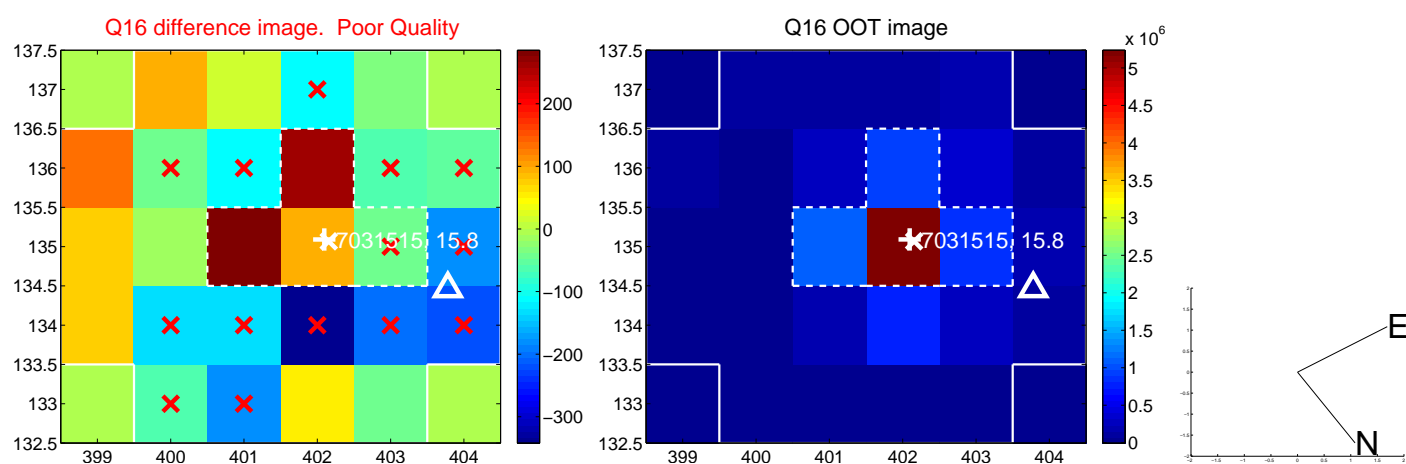
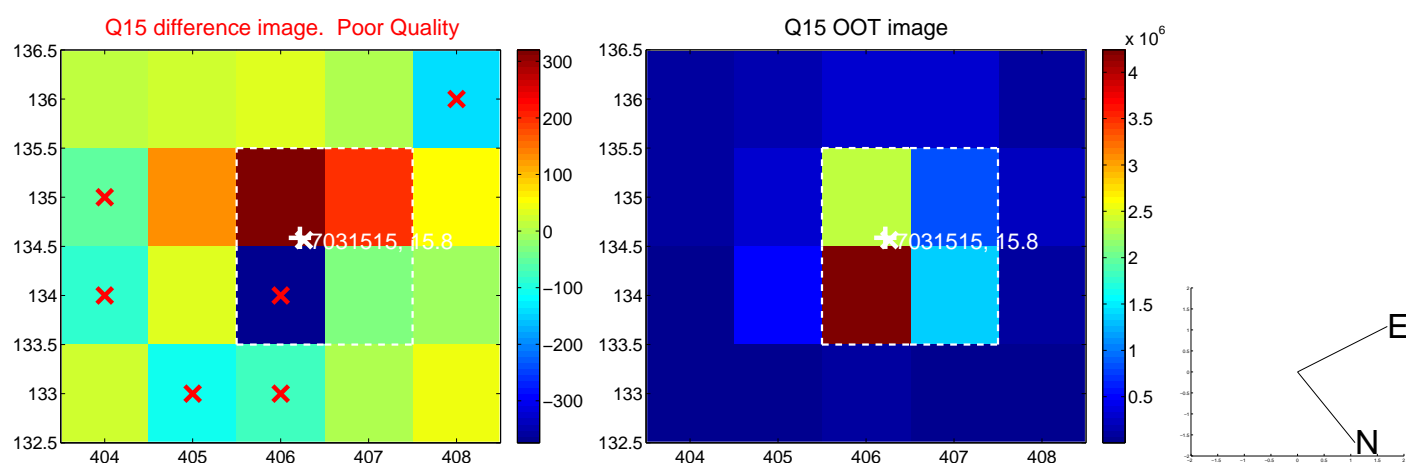
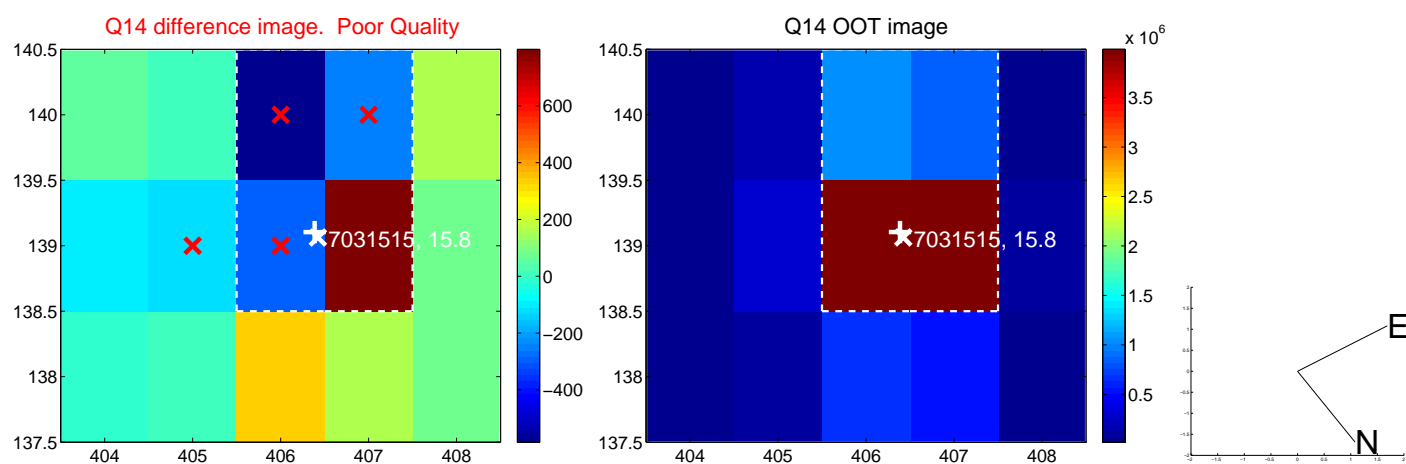
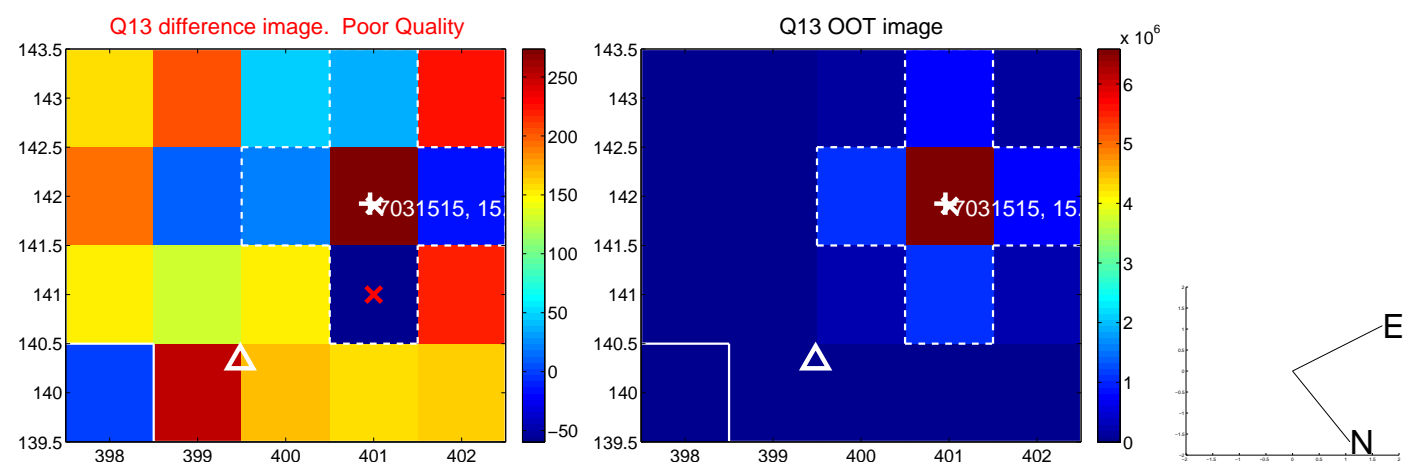
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



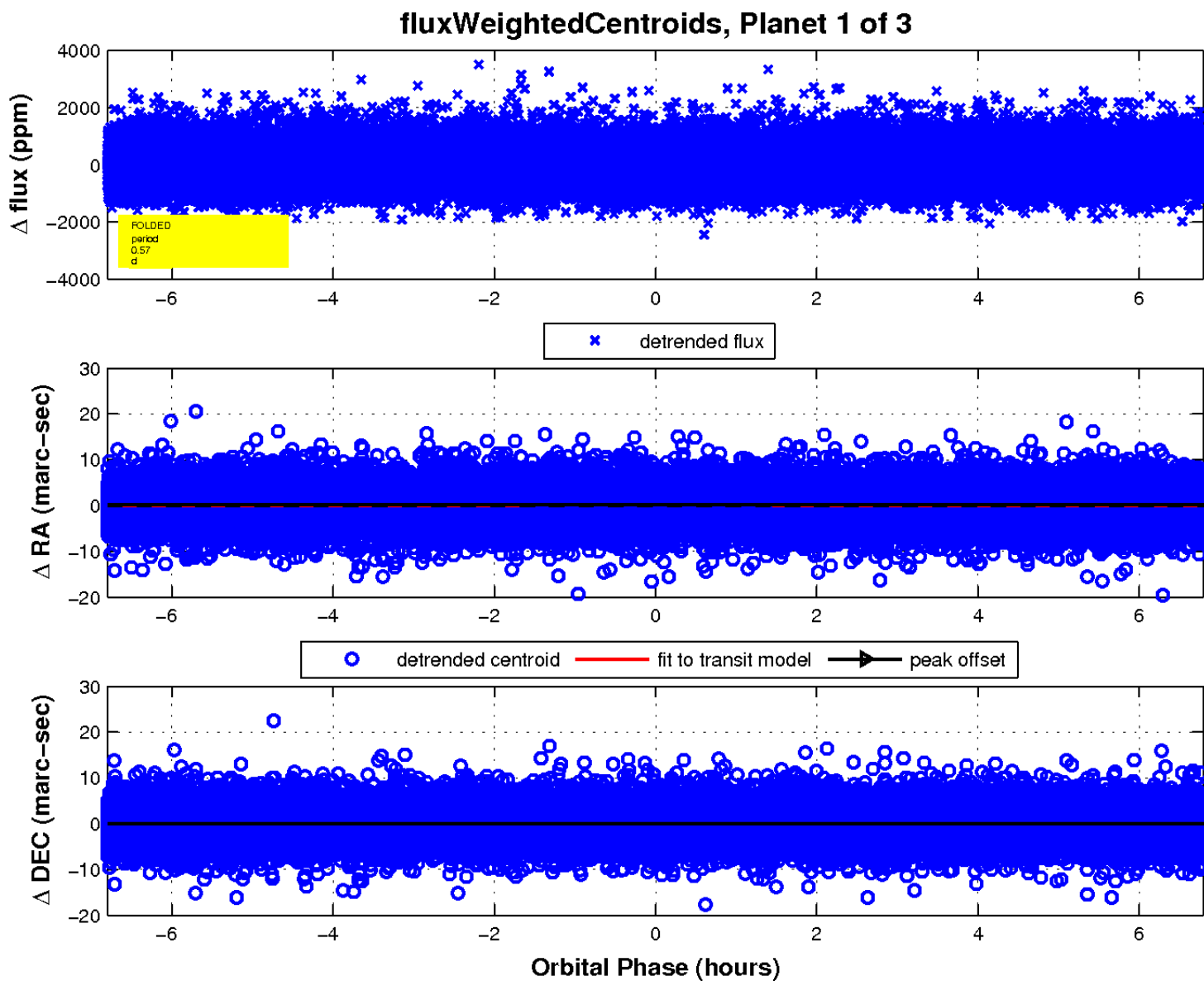
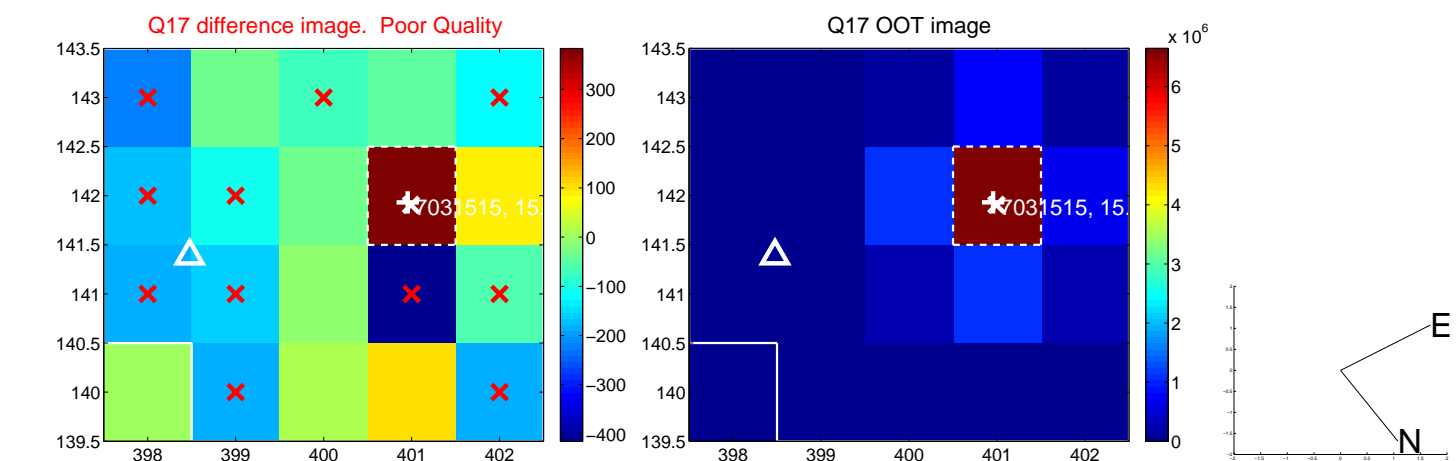
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

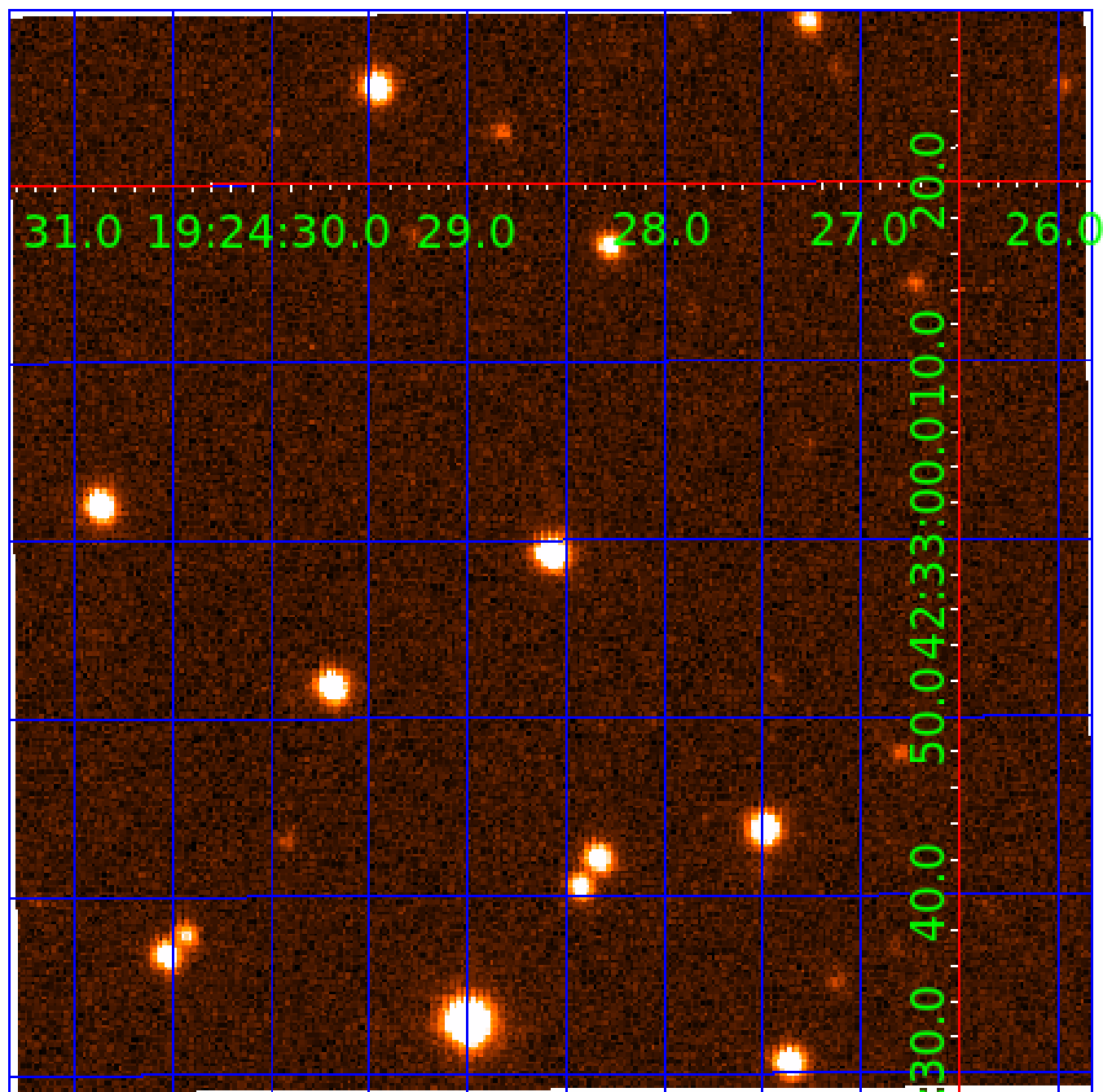


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007031515

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})
007031515-01	OBS	No	0.566704	131.933728	16.3	4.063	9.2	3.3	0.87	5853	0.36	4524.95
007031515-02	OBS	No	19.427466	148.599223	589.5	2.003	9.2	10.3	0.87	5853	2.29	40.63
007031515-03	OBS	No	16.924699	133.843780	1163.0	0.523	9.3	8.8	0.87	5853	3.09	48.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031515-01	OBS	FP	0.00	1	0	1	1	LPP_DV—LPP_ALT—HALO_GHOST—EPHEM_MATCH
007031515-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031515-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

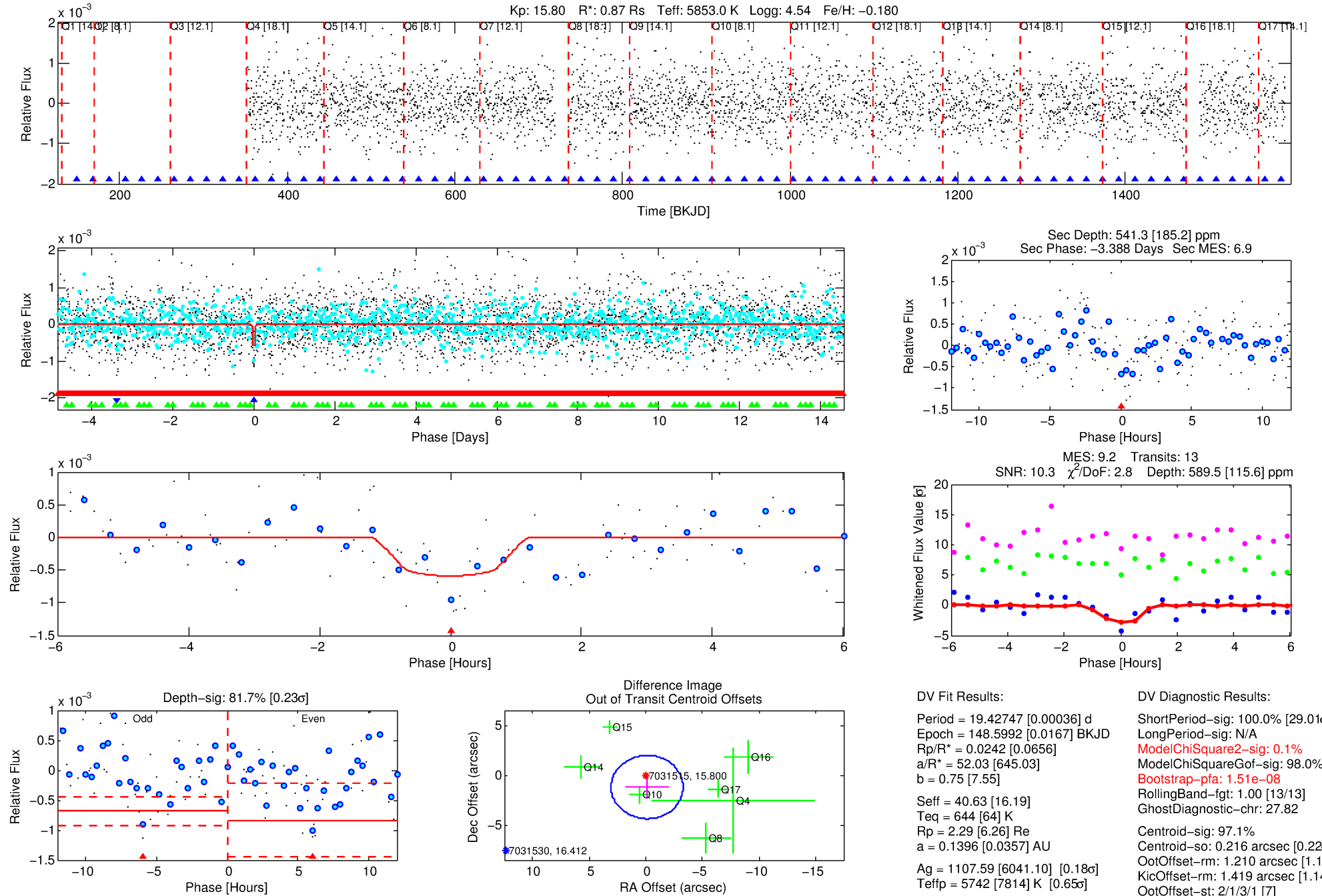
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007031515-02

No Significant Match Found

DV One-Page Summary

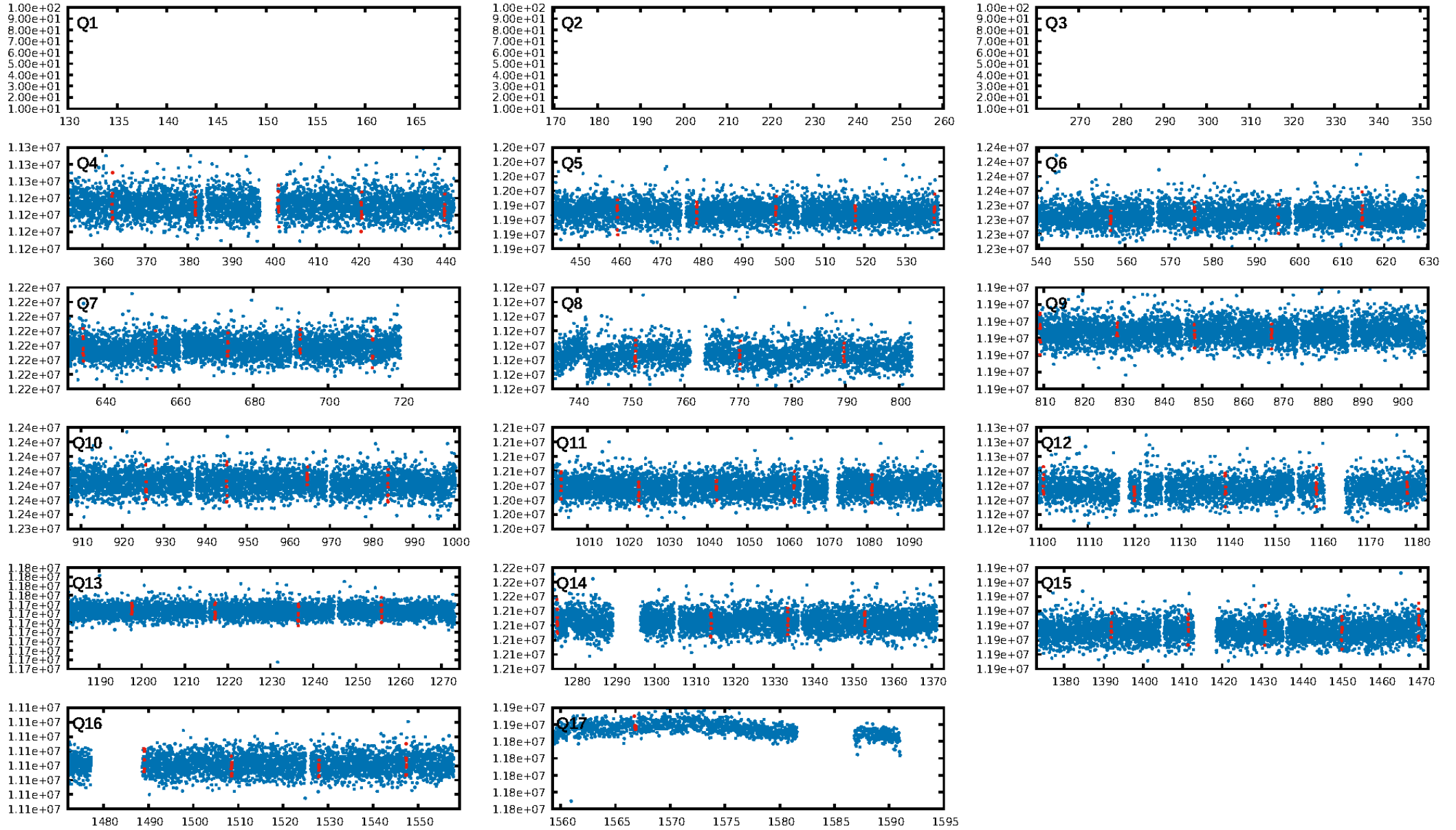
KIC: 7031515 Candidate: 2 of 3 Period: 19.427 d



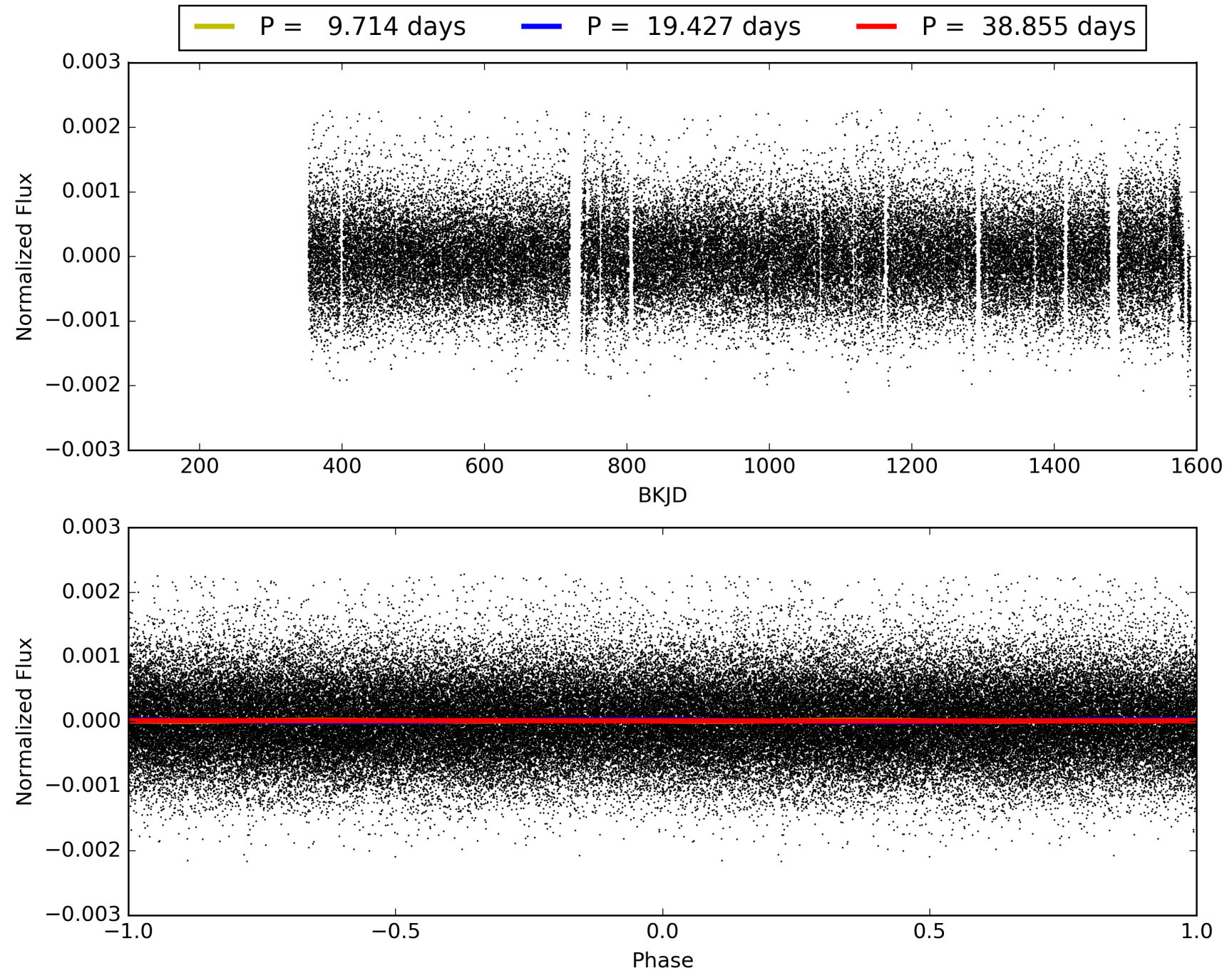
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:47:08 Z

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

TCE 007031515-02, PDC Light Curves

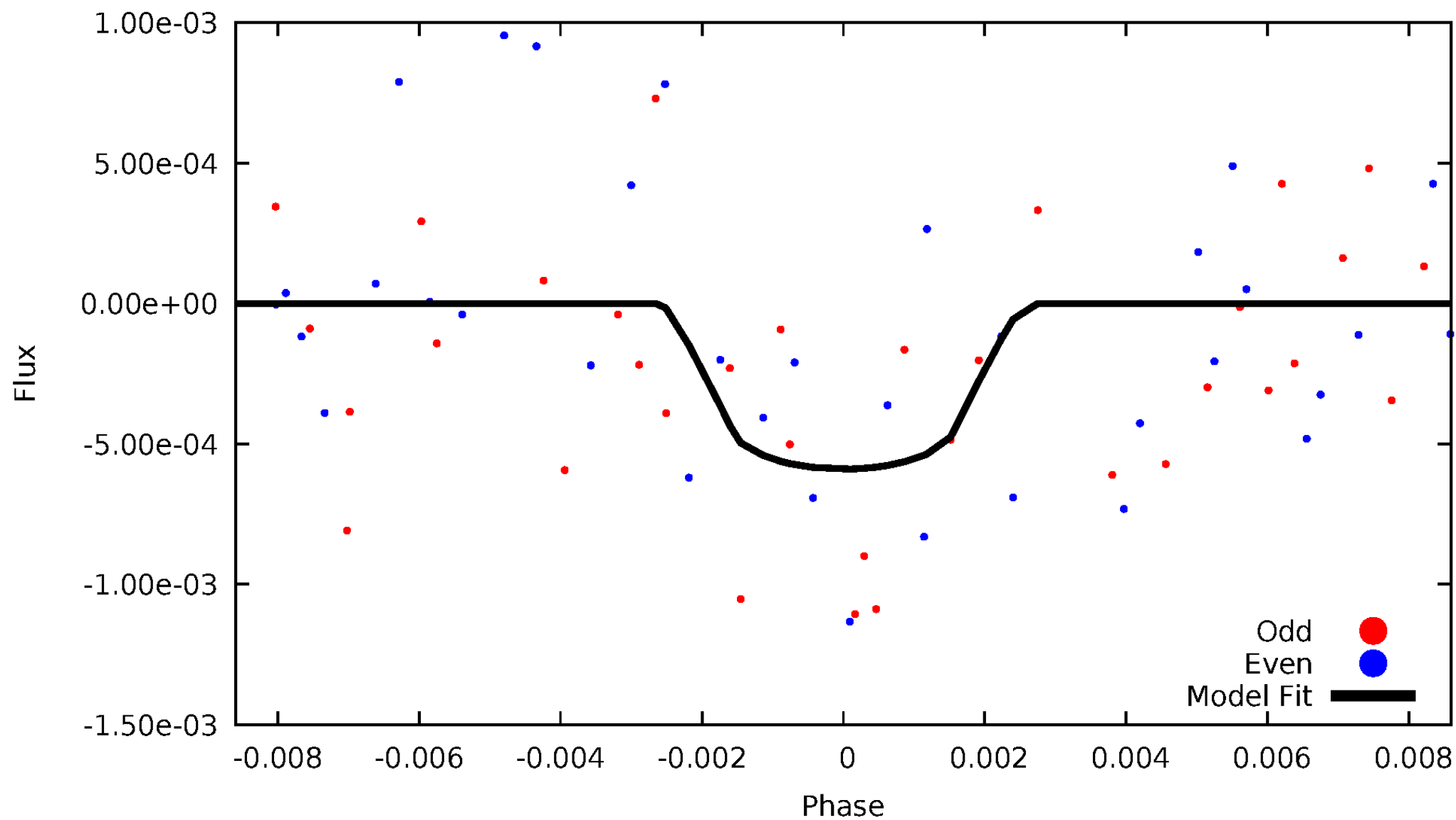


TCE 007031515-02



DV Odd/Even

TCE 007031515-02

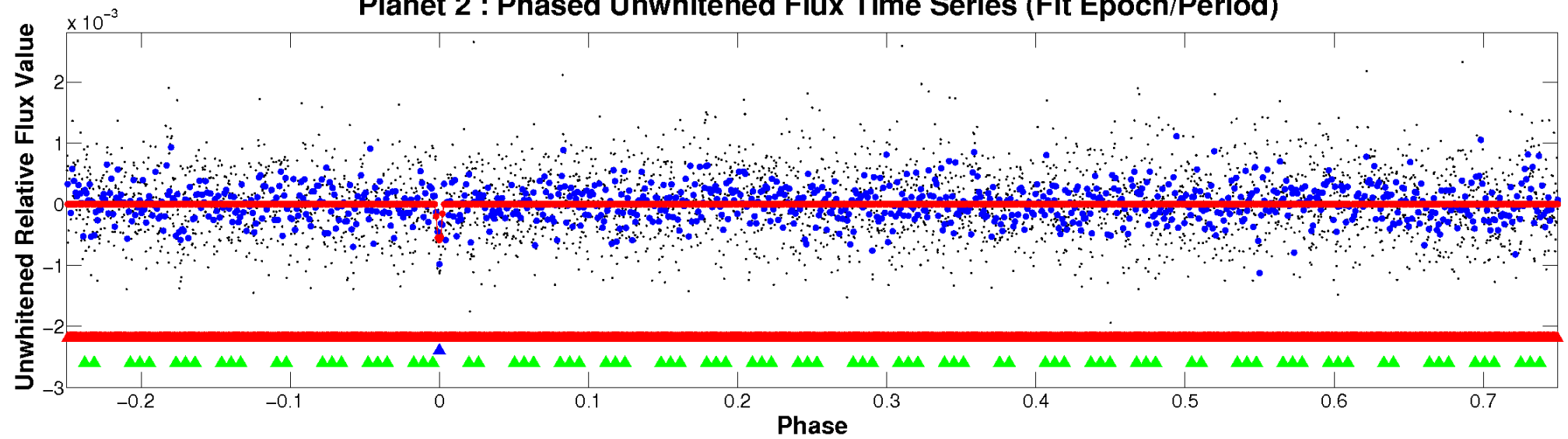


ALT Odd/Even

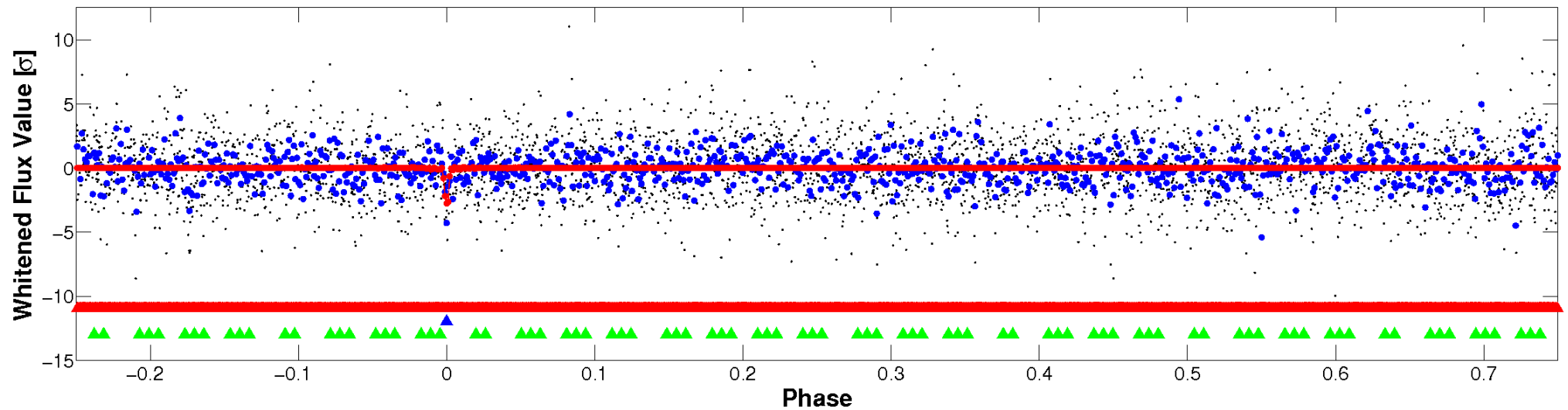
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

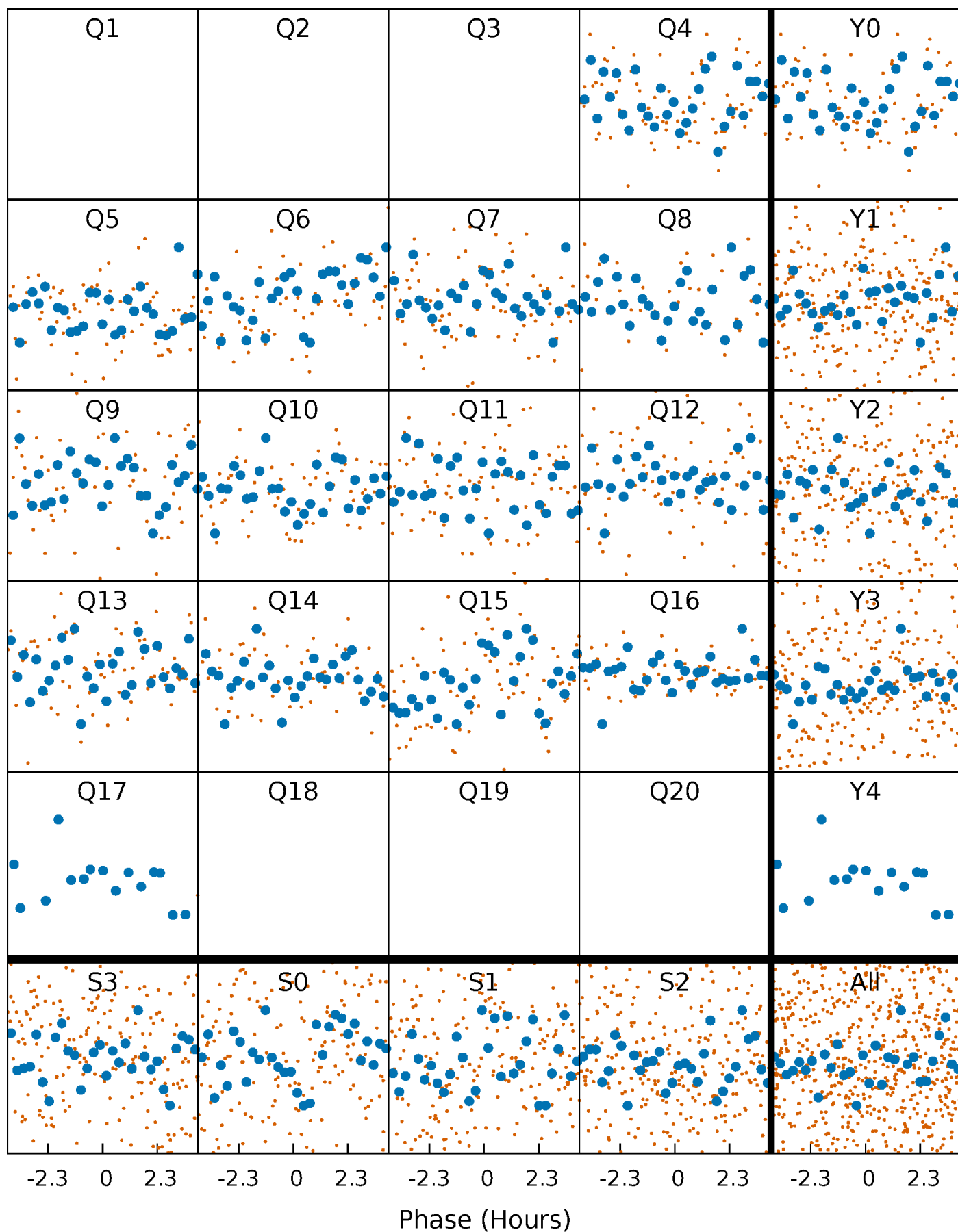


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



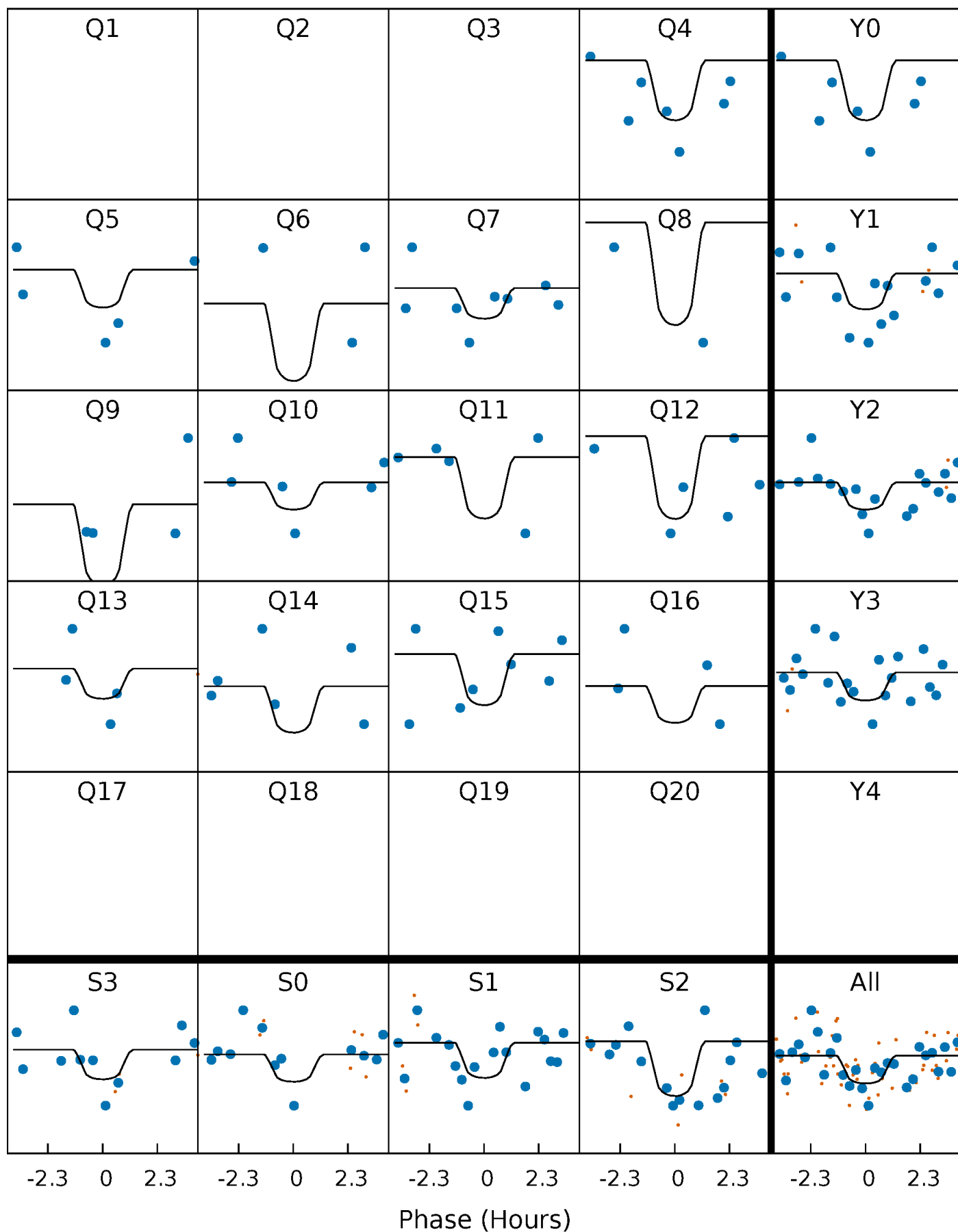
PDC Quarter-Phased Transit Curves

TCE 007031515-02 P= 19.427466 Days $T_0=148.599223$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007031515-02 P= 19.427466 Days $T_0=148.599223$ (BKJD)

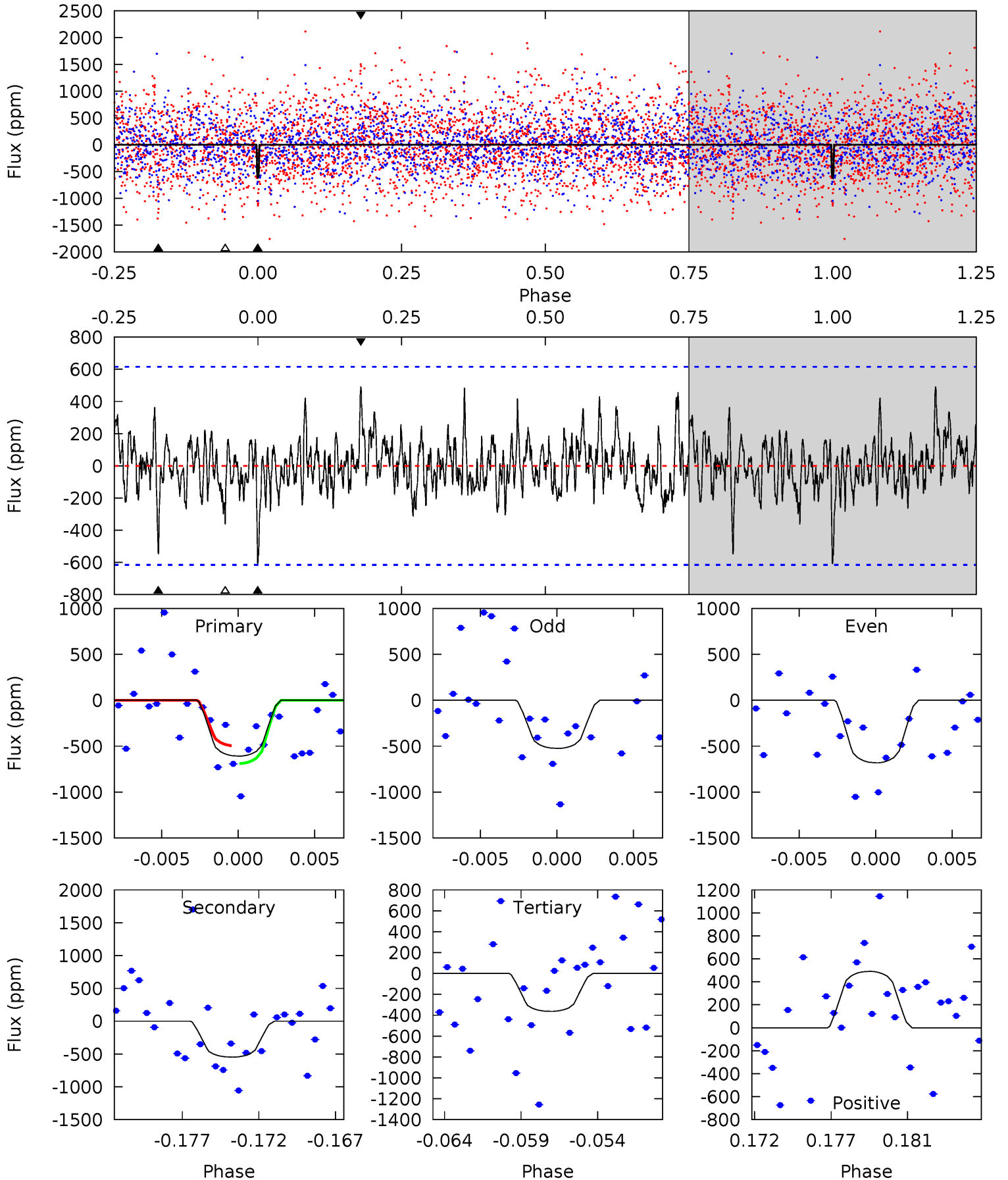


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007031515-02, $P = 19.427466$ Days, $E = 148.599223$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.11	4.60	3.05	4.12	5.16	2.81	1.15	2.06	0.98	1.55	0.48	0.66	0.97	0.45	0.81



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007031515

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5853^{+185}_{-206}	$4.544^{+0.036}_{-0.204}$	$-0.180^{+0.300}_{-0.300}$	$0.868^{+0.263}_{-0.082}$	$0.961^{+0.108}_{-0.120}$	$2.069^{+0.401}_{-1.045}$
	+3%/-4%	+1%/-4%	+167%/-167%	+30%/-9%	+11%/-12%	+19%/-51%
Source	KIC0	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 007031515-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-548 ± 119	$5.42^{+5.65}_{-3.60}$	924^{+59}_{-47}	4123^{+2461}_{-865}	193^{+1528}_{-148}
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 $A_{obs} \gg 1.0$

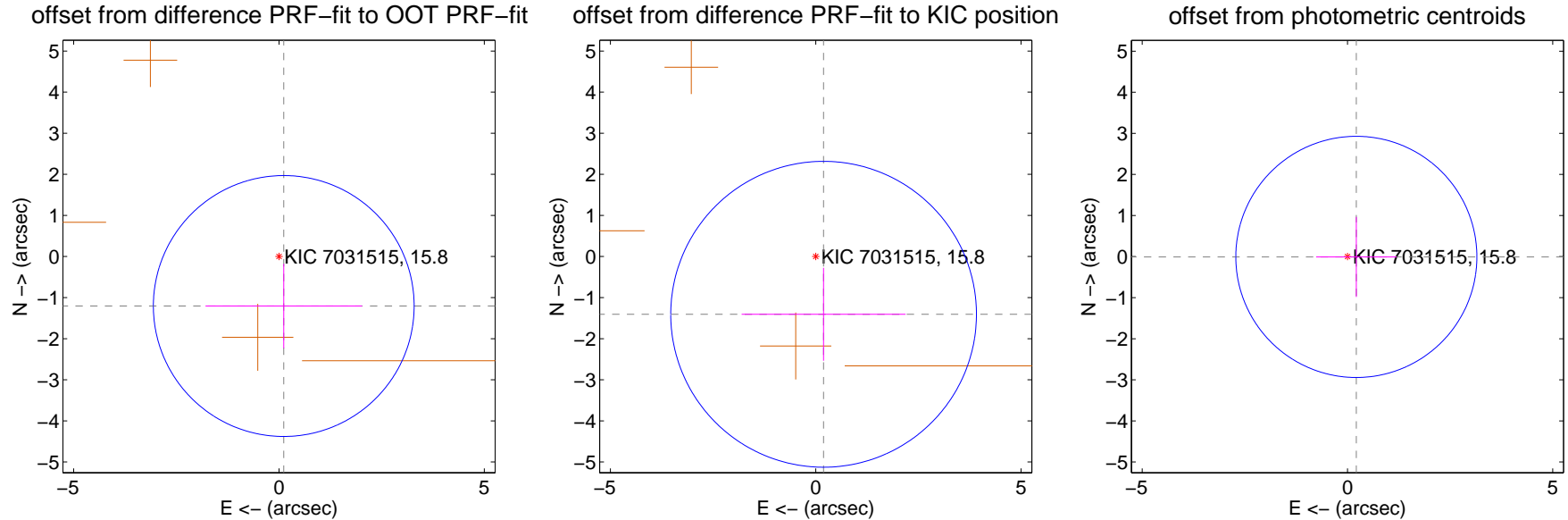
DV Centroid Data

Supplemental centroid analysis for 007031515-02. Kepler magnitude: 15.80. Transit SNR 10.33

There are 0 quarters with good PRF difference image offsets

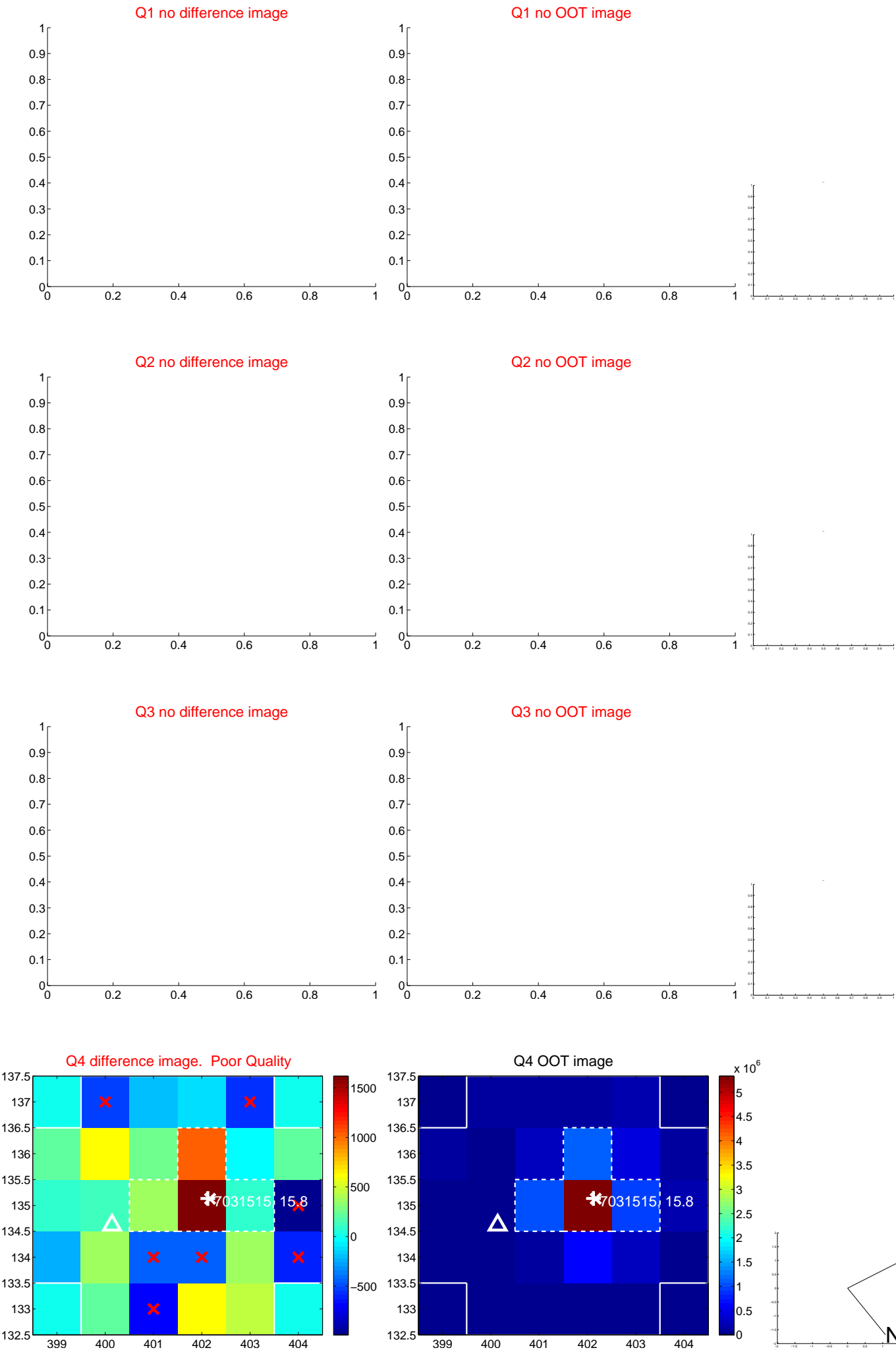
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.210 ± 1.058	1.14	-0.116 ± 1.906	-1.205 ± 1.028
PRF-fit source offset from KIC position	1.419 ± 1.241	1.14	-0.192 ± 1.997	-1.406 ± 1.131
photometric centroid source offset	0.22 ± 0.98	0.22	-0.22 ± 0.98	-0.01 ± 0.97

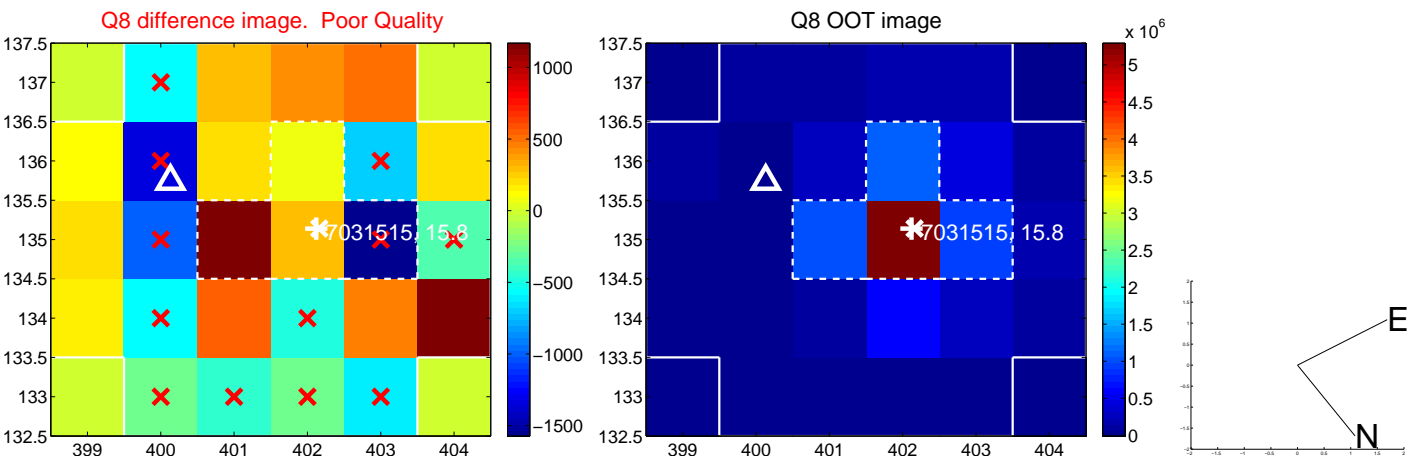
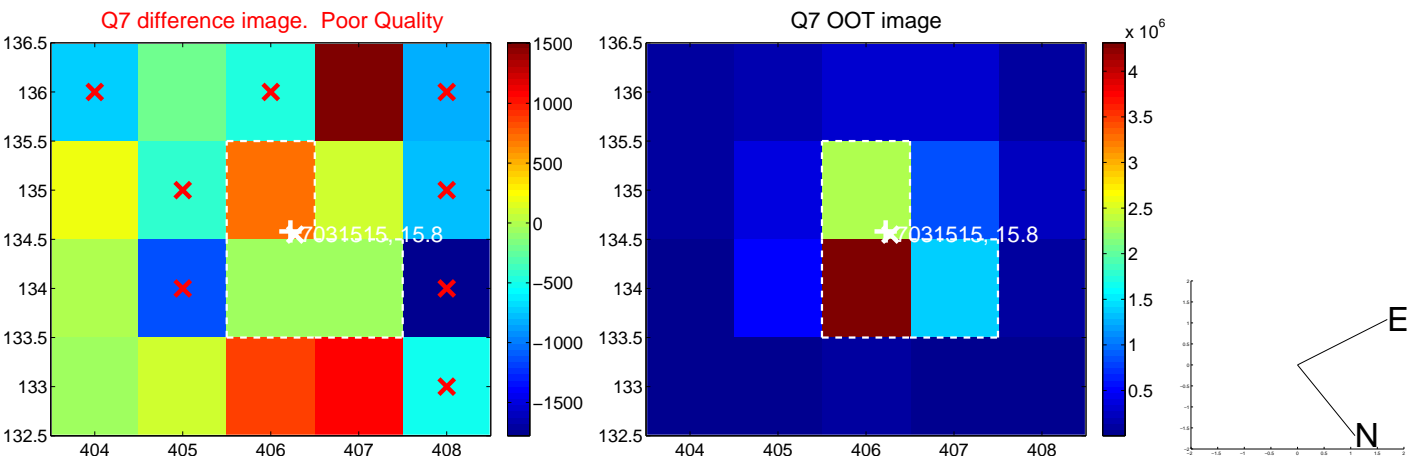
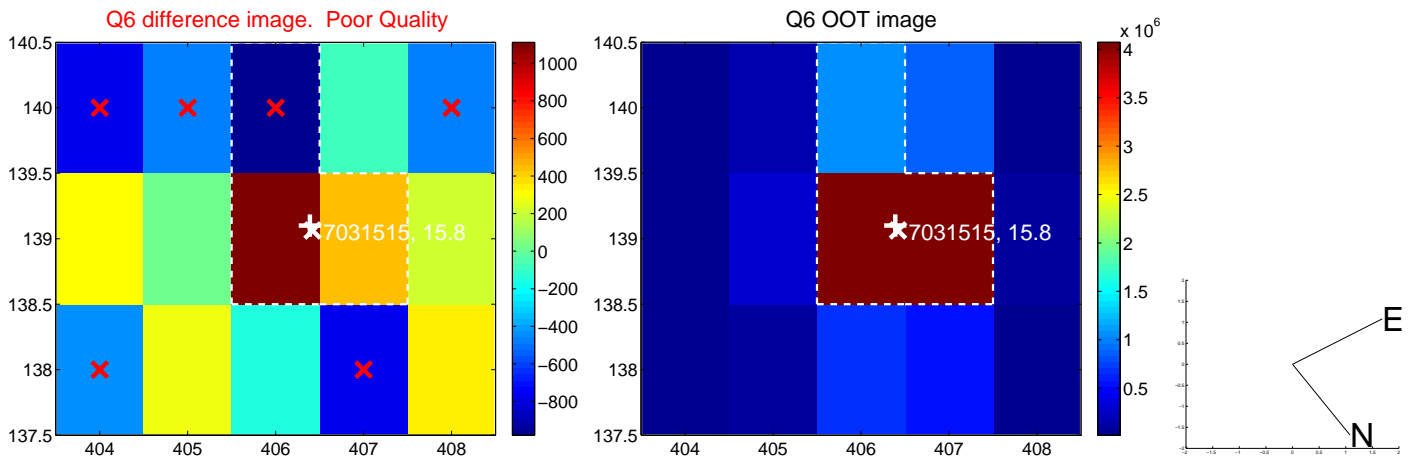
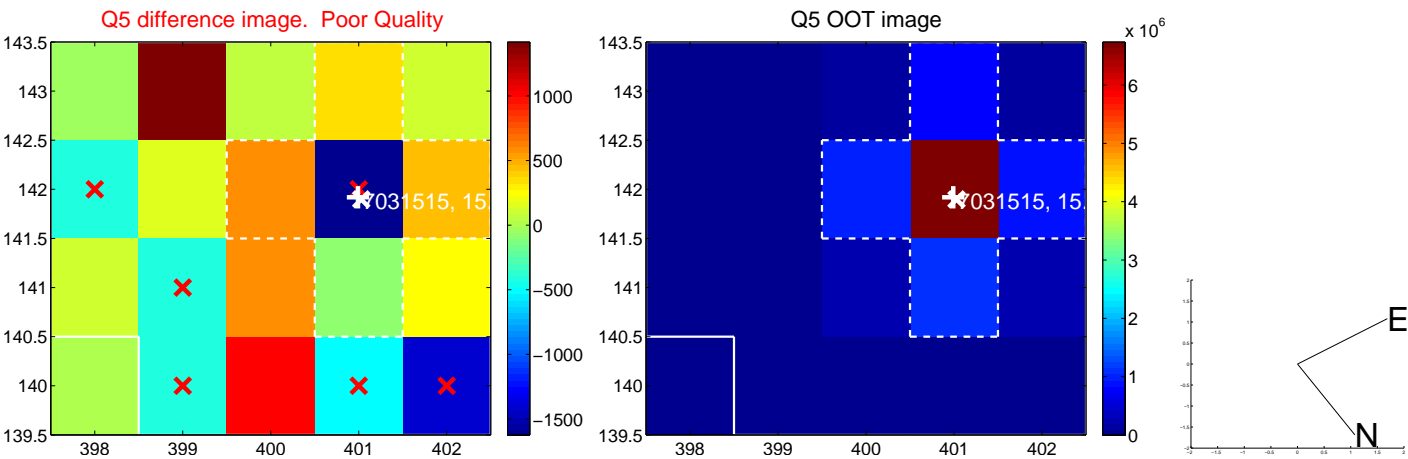


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

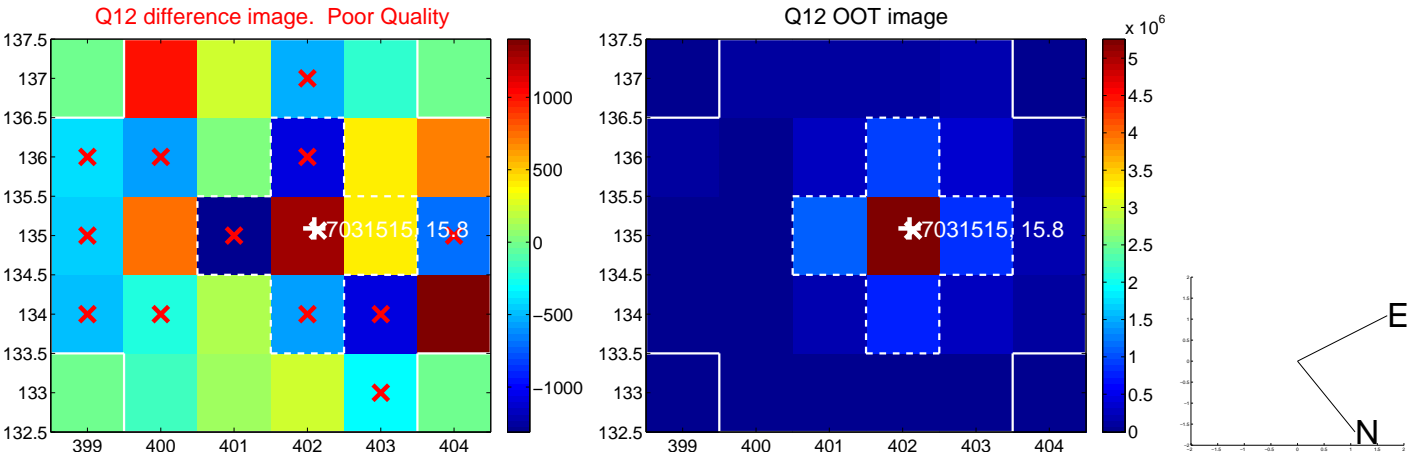
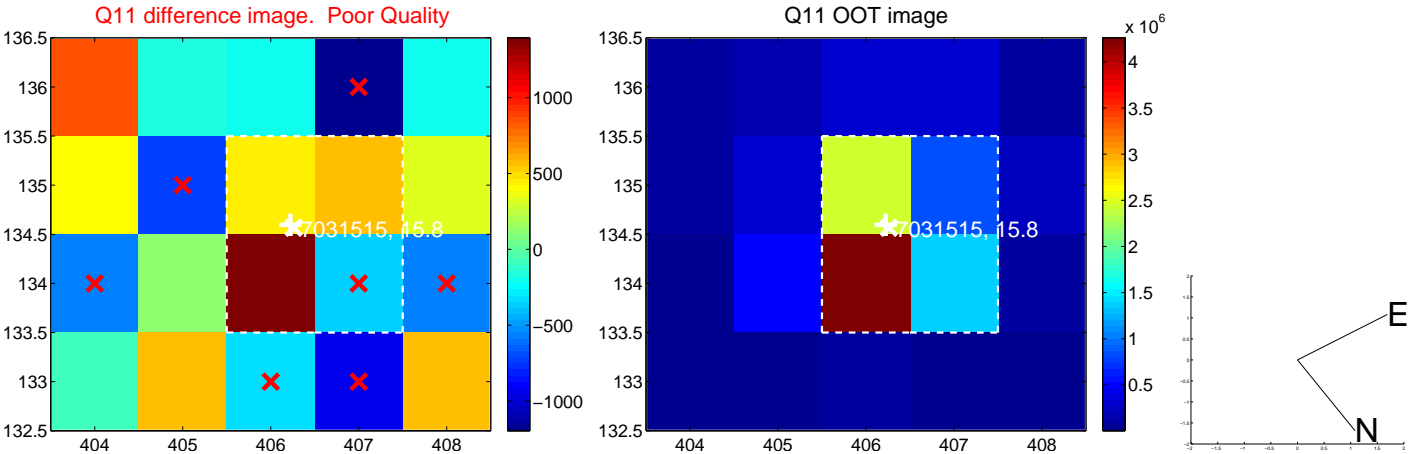
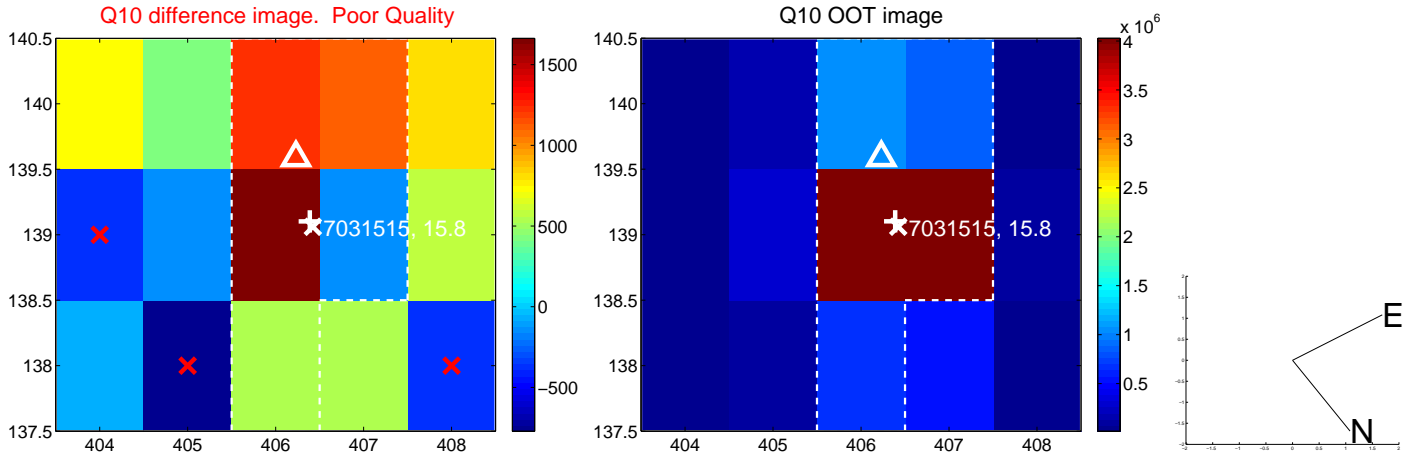
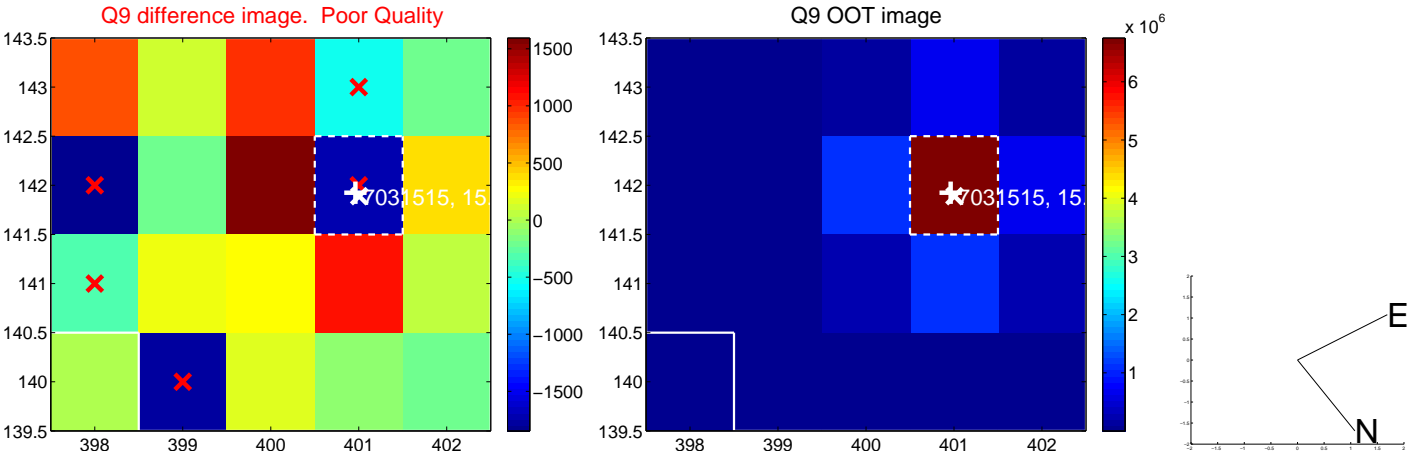
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



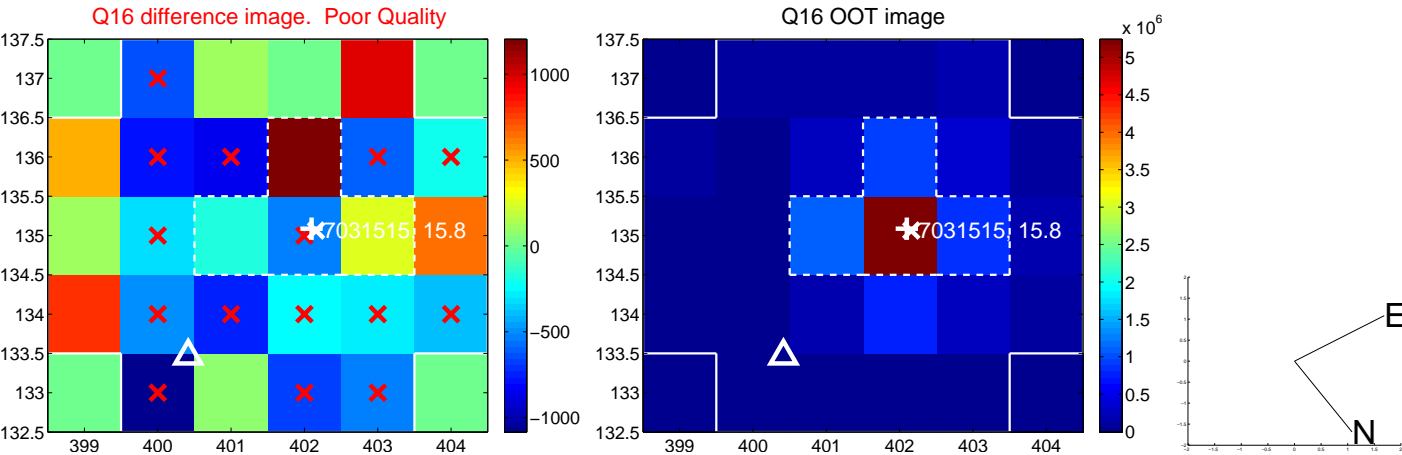
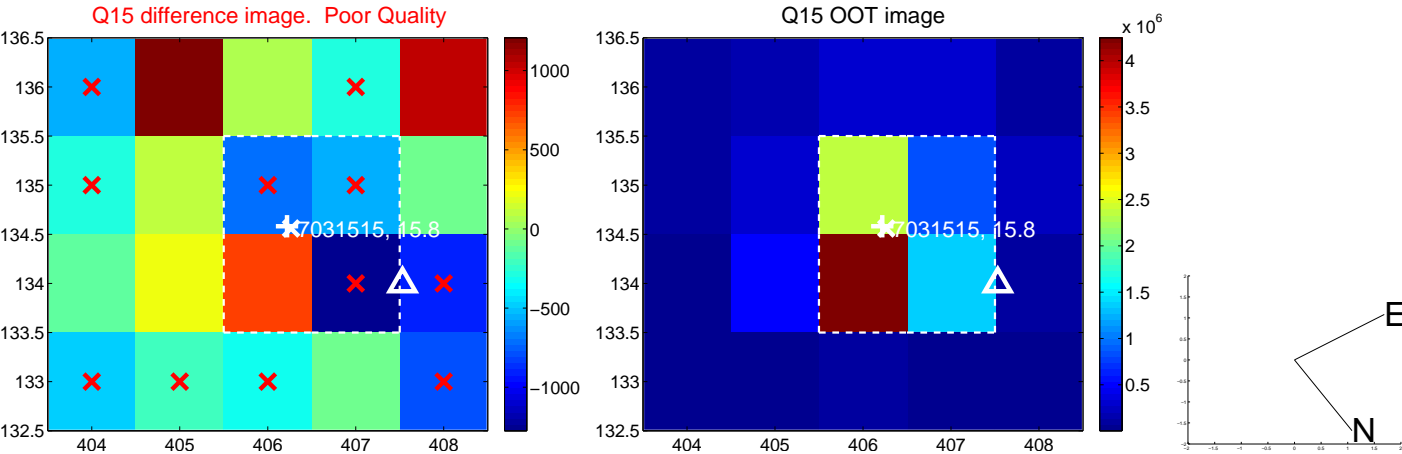
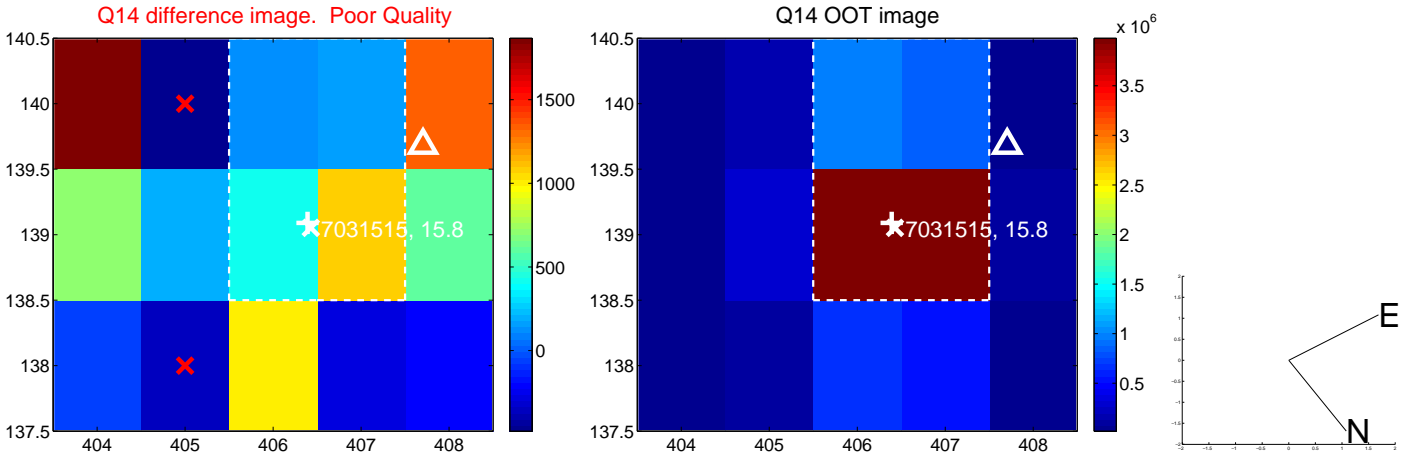
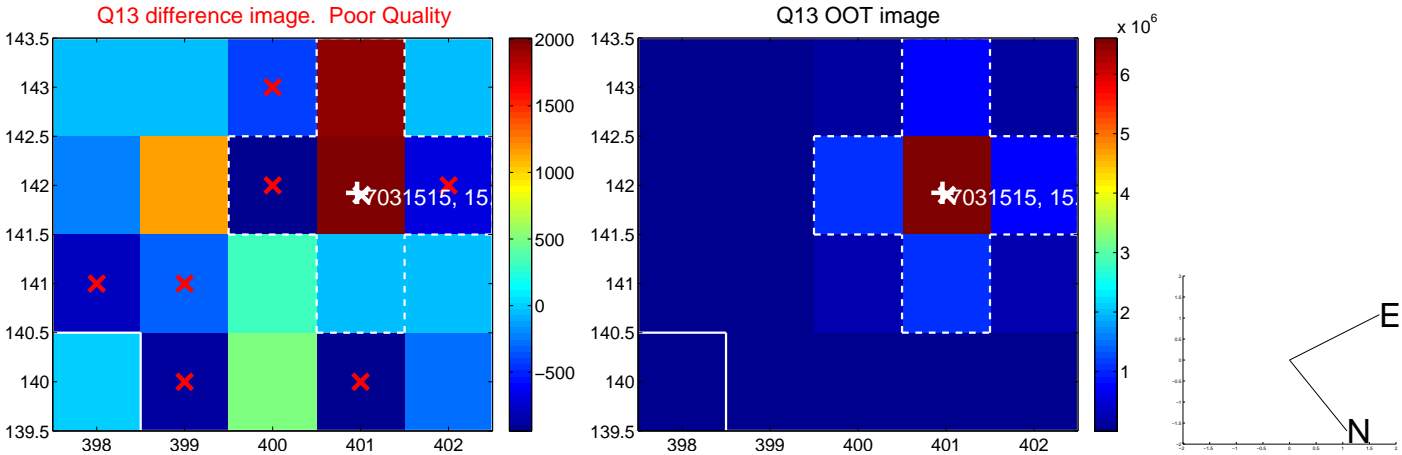
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



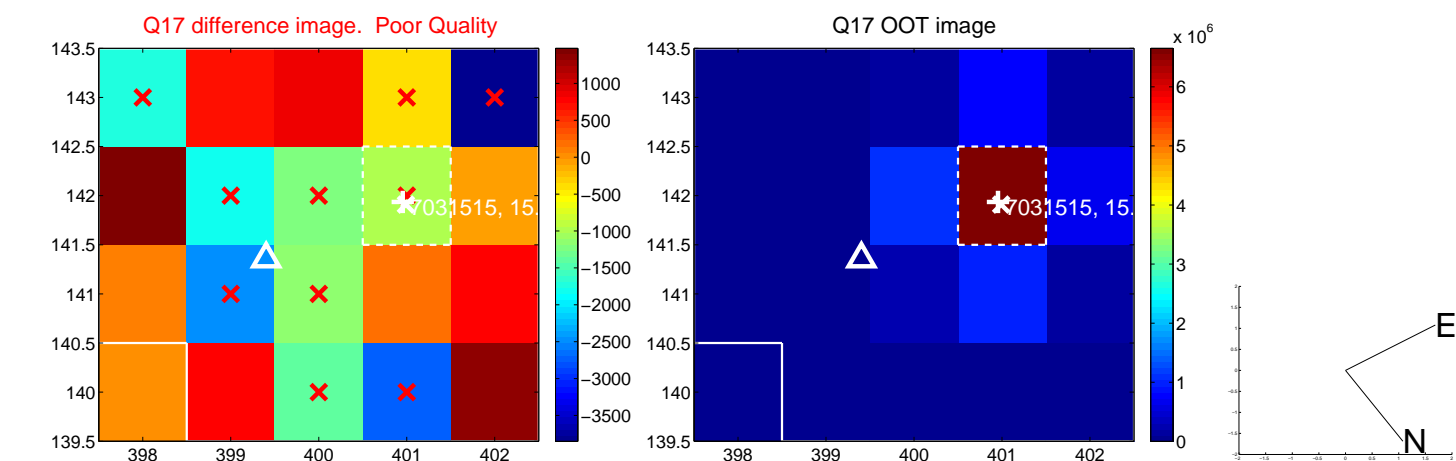
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



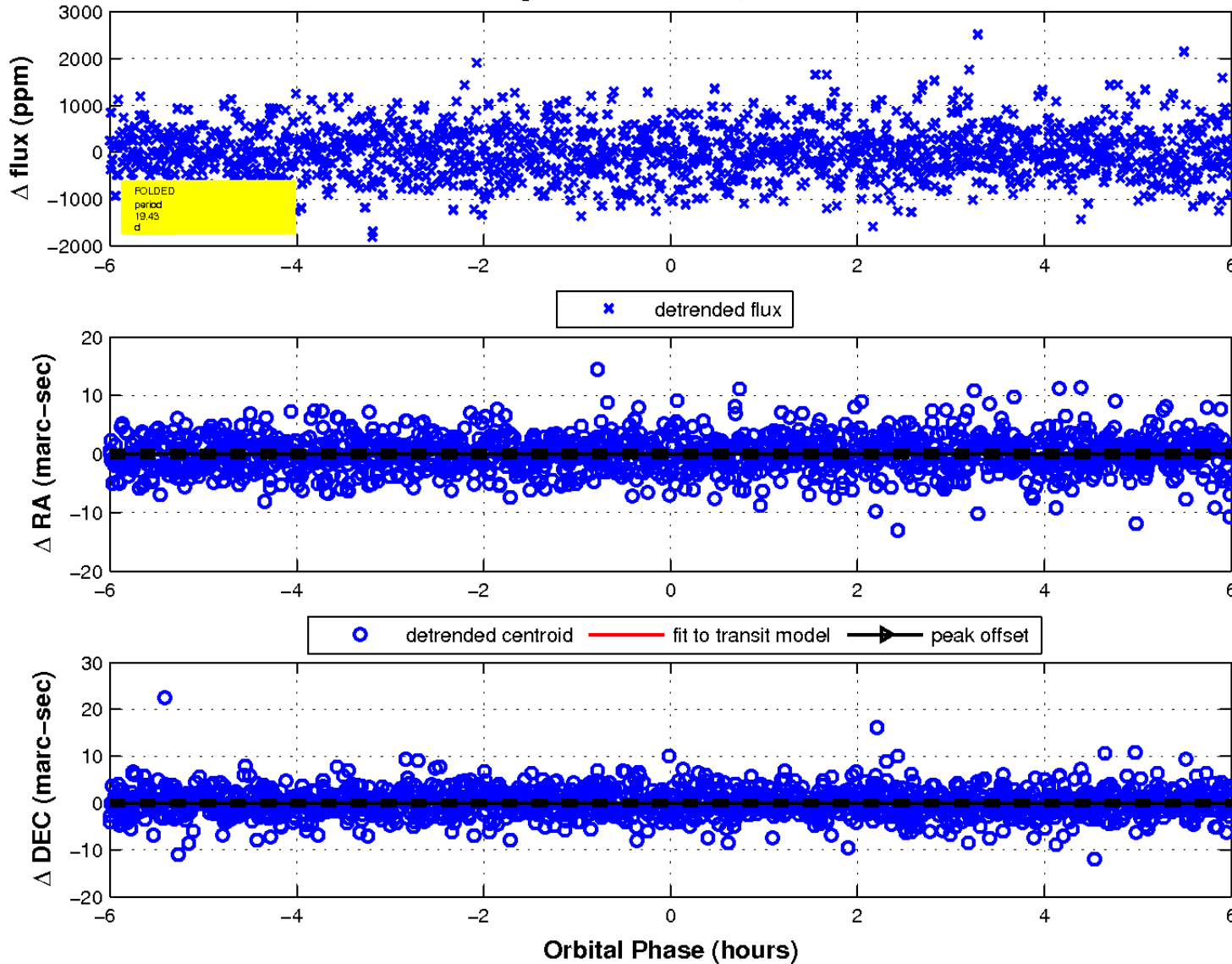
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

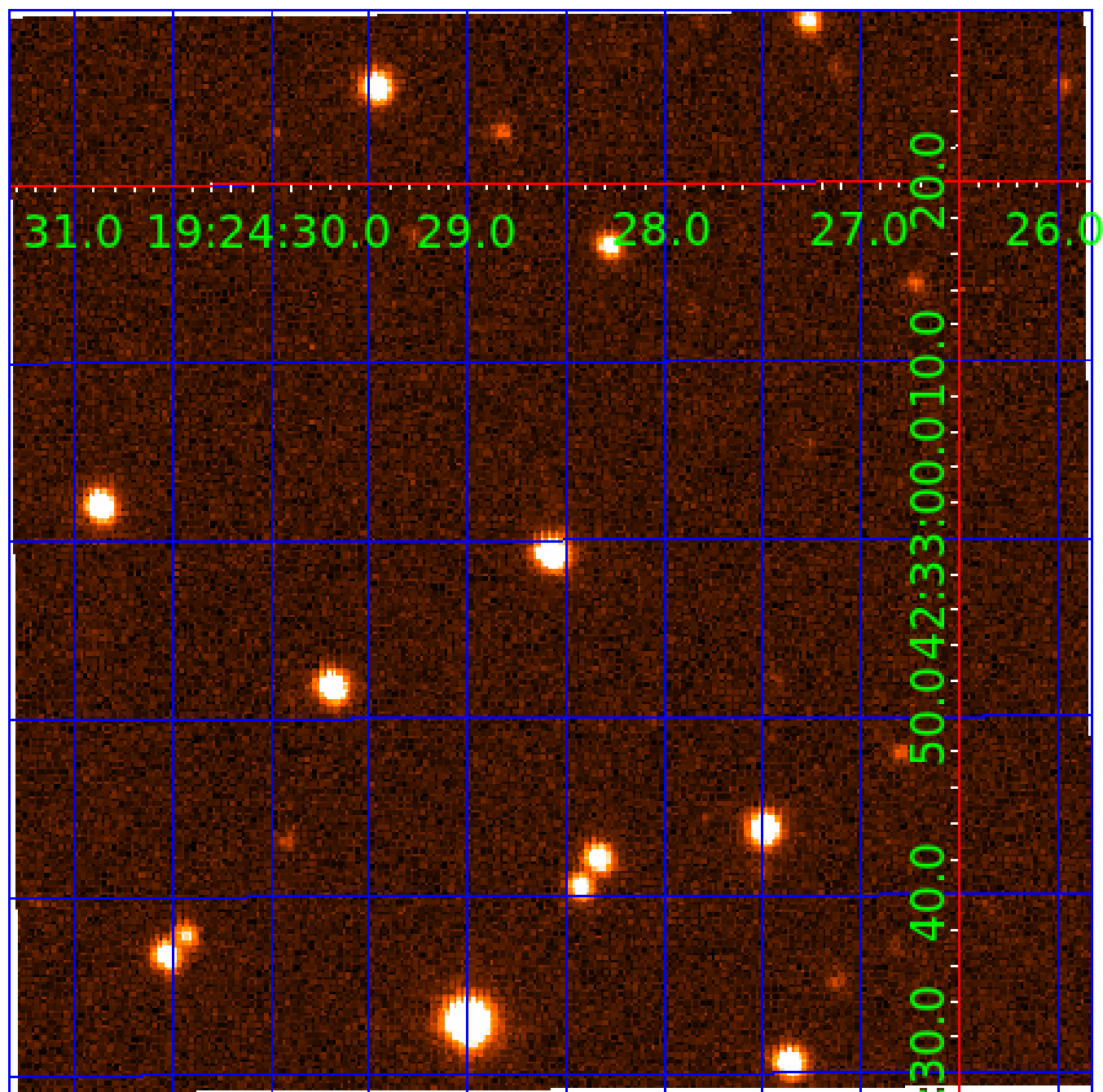


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 007031515

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})
007031515-01	OBS	No	0.566704	131.933728	16.3	4.063	9.2	3.3	0.87	5853	0.36	4524.95
007031515-02	OBS	No	19.427466	148.599223	589.5	2.003	9.2	10.3	0.87	5853	2.29	40.63
007031515-03	OBS	No	16.924699	133.843780	1163.0	0.523	9.3	8.8	0.87	5853	3.09	48.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031515-01	OBS	FP	0.00	1	0	1	1	LPP_DV—LPP_ALT—HALO_GHOST—EPHEM_MATCH
007031515-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031515-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

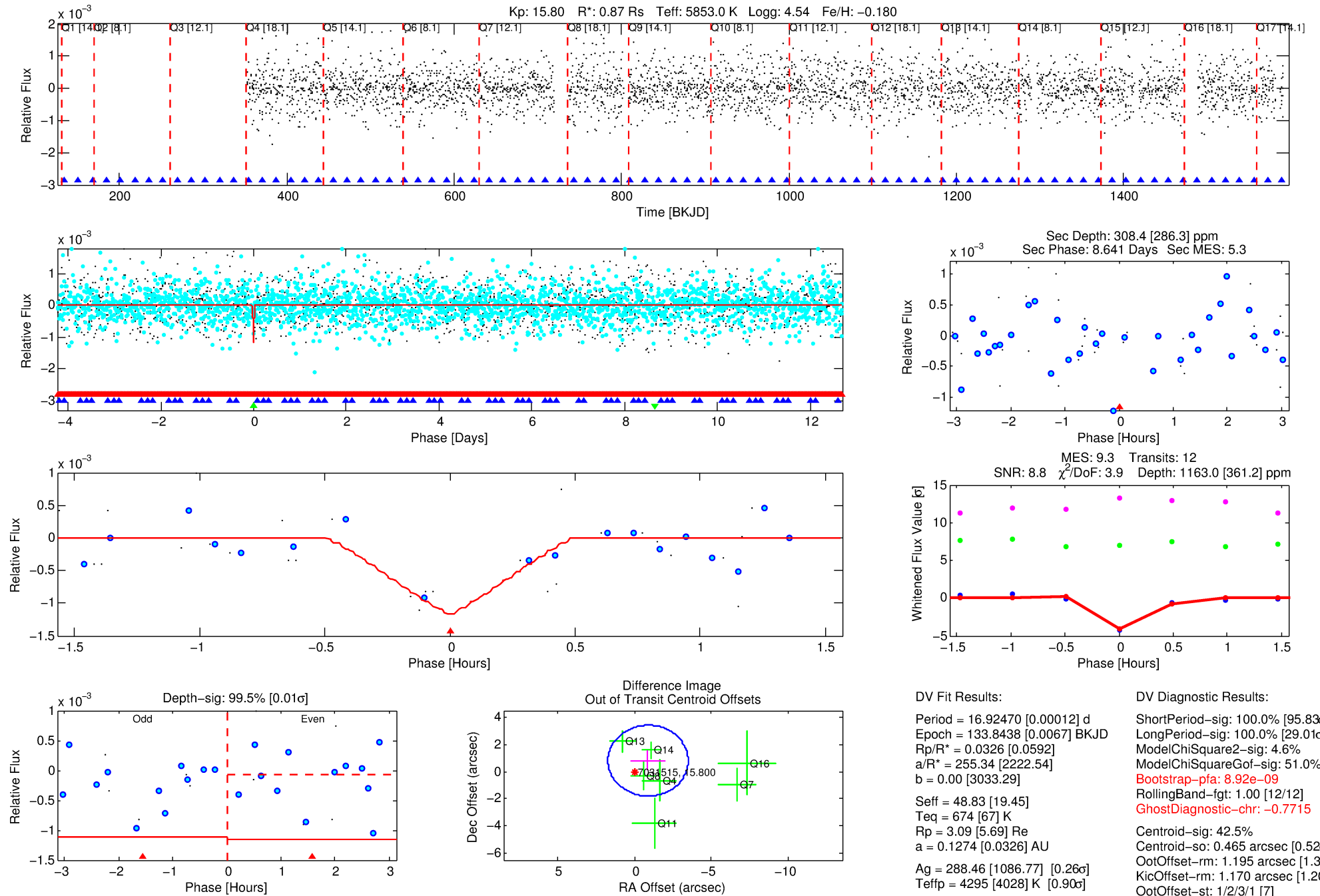
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007031515-03

No Significant Match Found

DV One-Page Summary

KIC: 7031515 Candidate: 3 of 3 Period: 16.925 d



DV Fit Results:

Period = 16.92470 [0.00012] d
Epoch = 133.8438 [0.0067] BKJD
Rp/R* = 0.0326 [0.0592]
a/R* = 255.34 [2222.54]
b = 0.00 [3033.29]
Seff = 48.83 [19.45]
Teq = 674 [67] K
Rp = 3.09 [5.69] Re
a = 0.1274 [0.0326] AU
Ag = 288.46 [1086.77] [0.26 σ]
Teffp = 4295 [4028] K [0.90 σ]

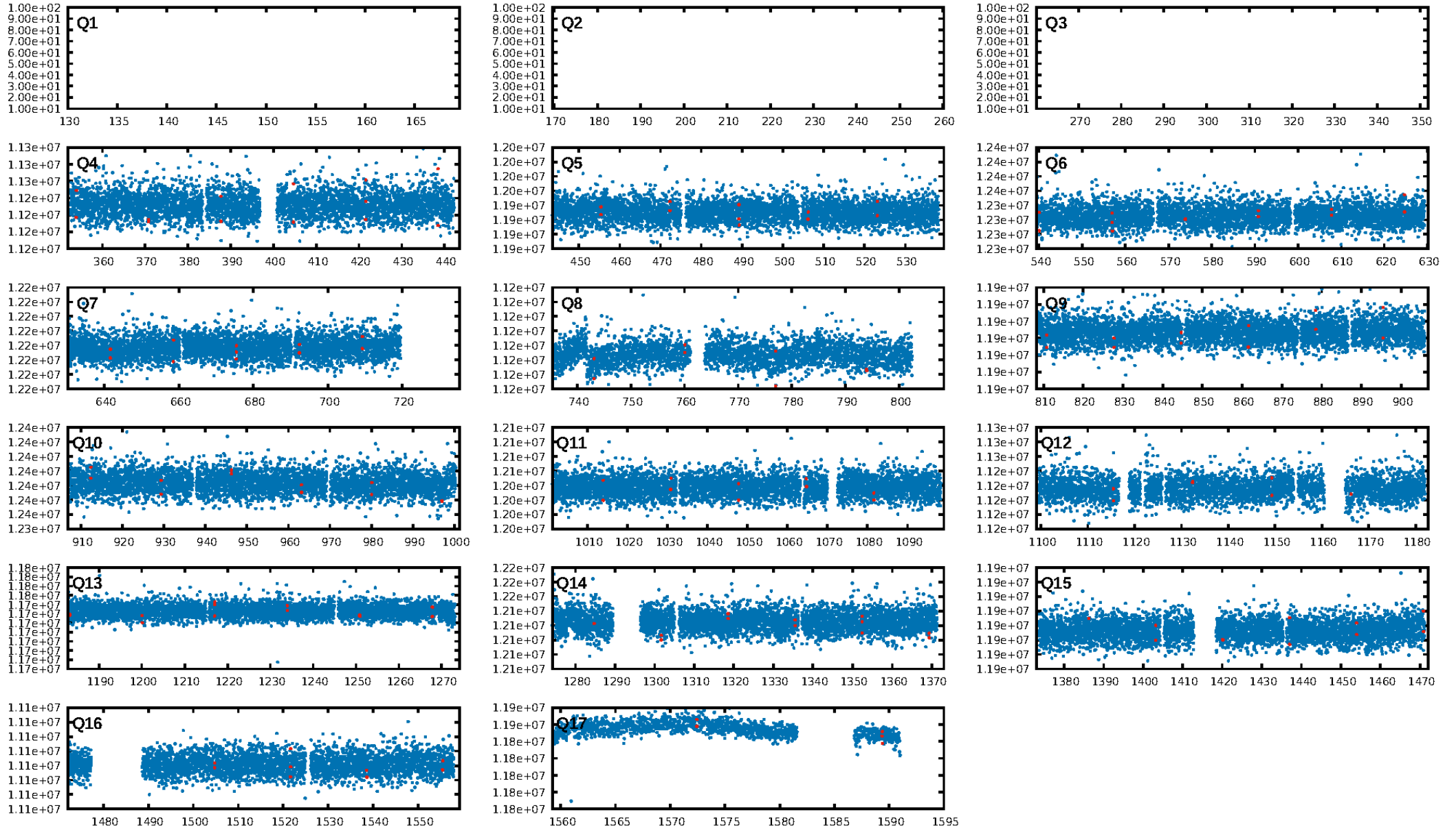
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [95.83 σ]
LongPeriod-sig: 100.0% [29.01 σ]
ModelChiSquare2-sig: 4.6%
ModelChiSquareGof-sig: 51.0%
Bootstrap-pfa: 8.92e-09
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: -0.7715
Centroid-sig: 42.5%
Centroid-so: 0.465 arcsec [0.52 σ]
OotOffset-rm: 1.195 arcsec [1.38 σ]
KicOffset-rm: 1.170 arcsec [1.20 σ]
OotOffset-st: 1/2/3/1 [7]
KicOffset-st: 1/2/3/1 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 0.00 [0/14]

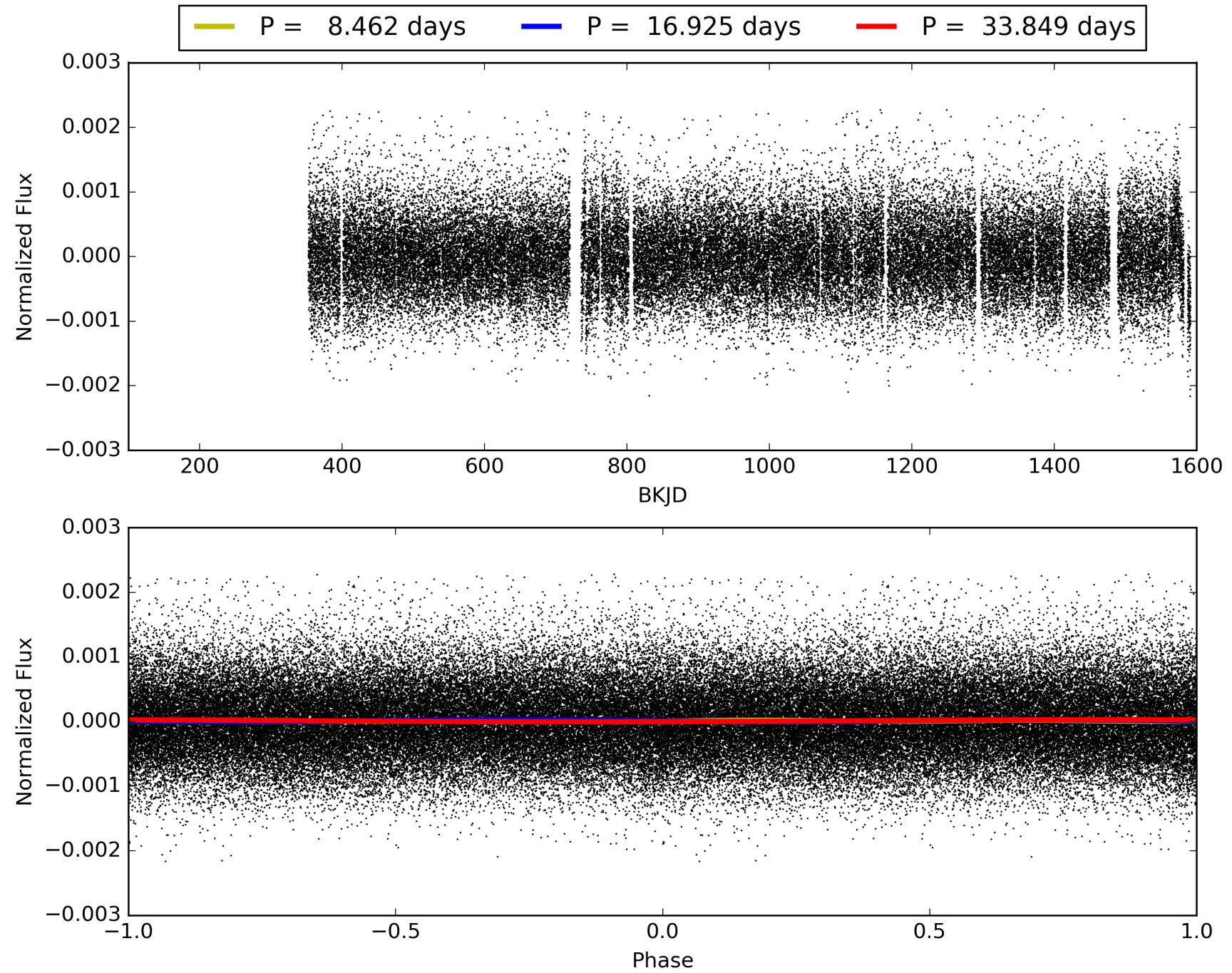
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:47:11 Z

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

TCE 007031515-03, PDC Light Curves

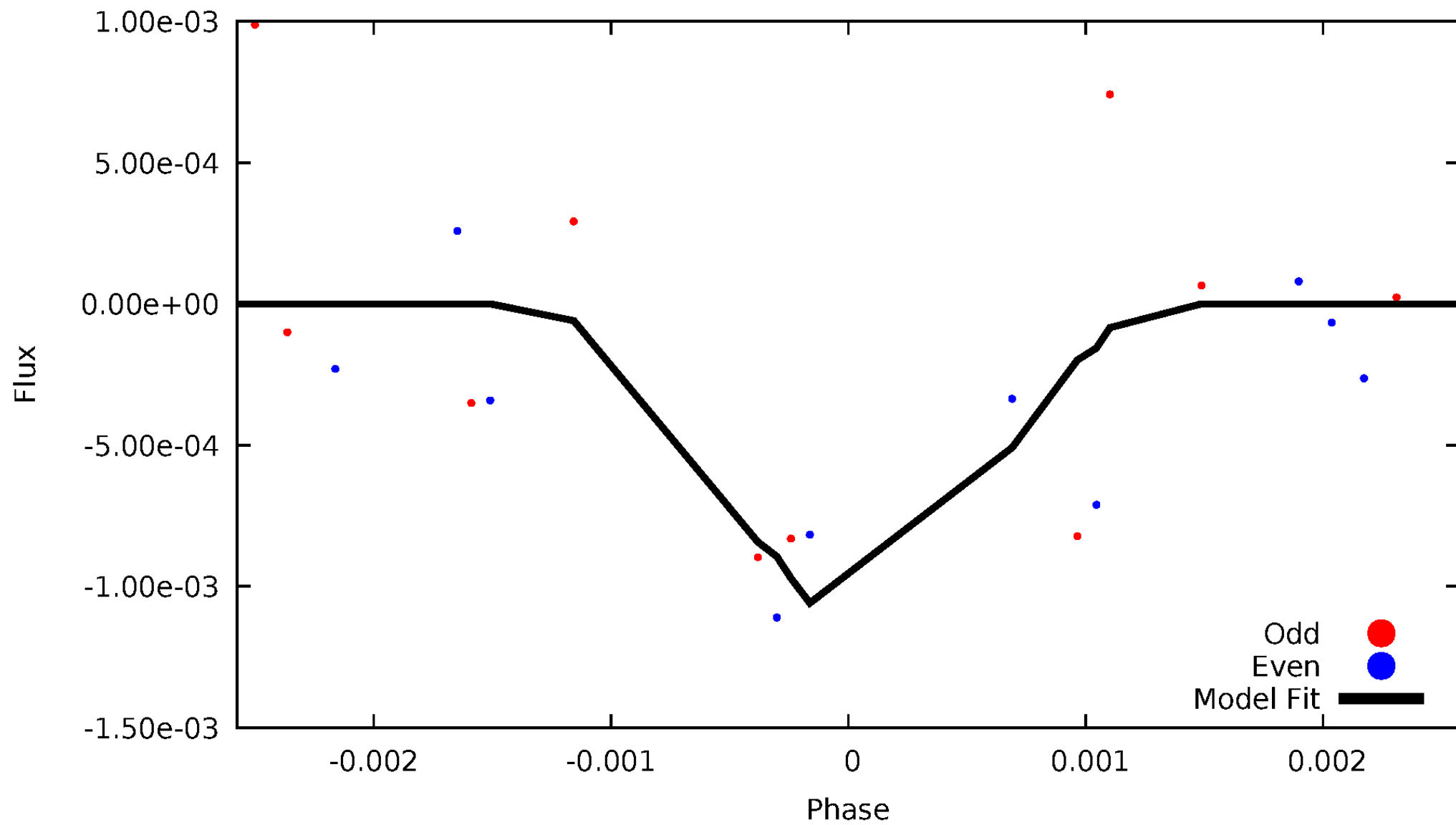


TCE 007031515-03



DV Odd/Even

TCE 007031515-03

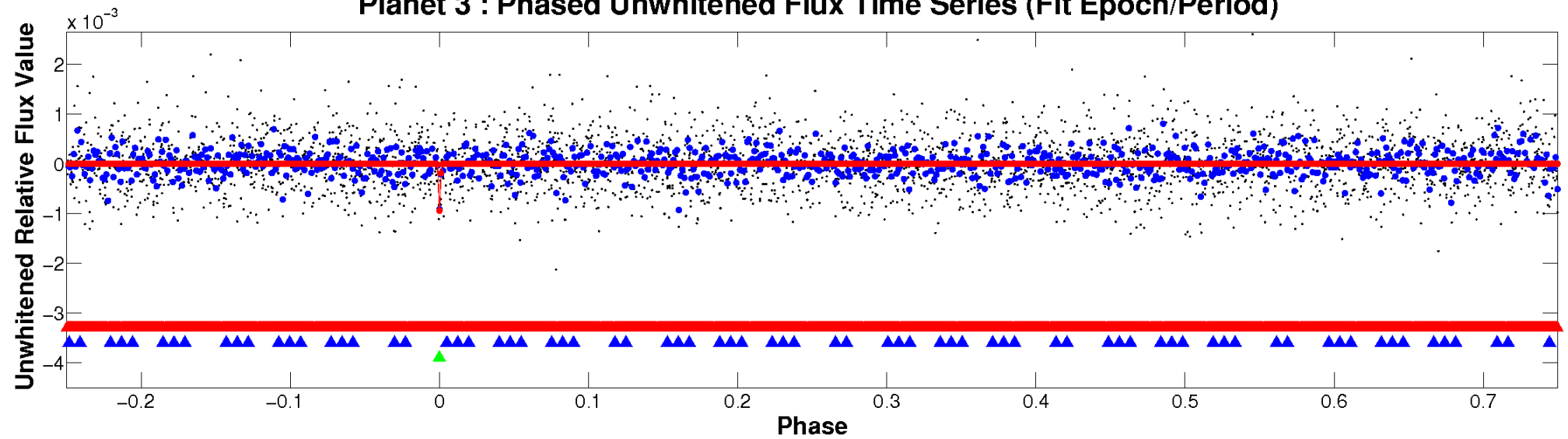


ALT Odd/Even

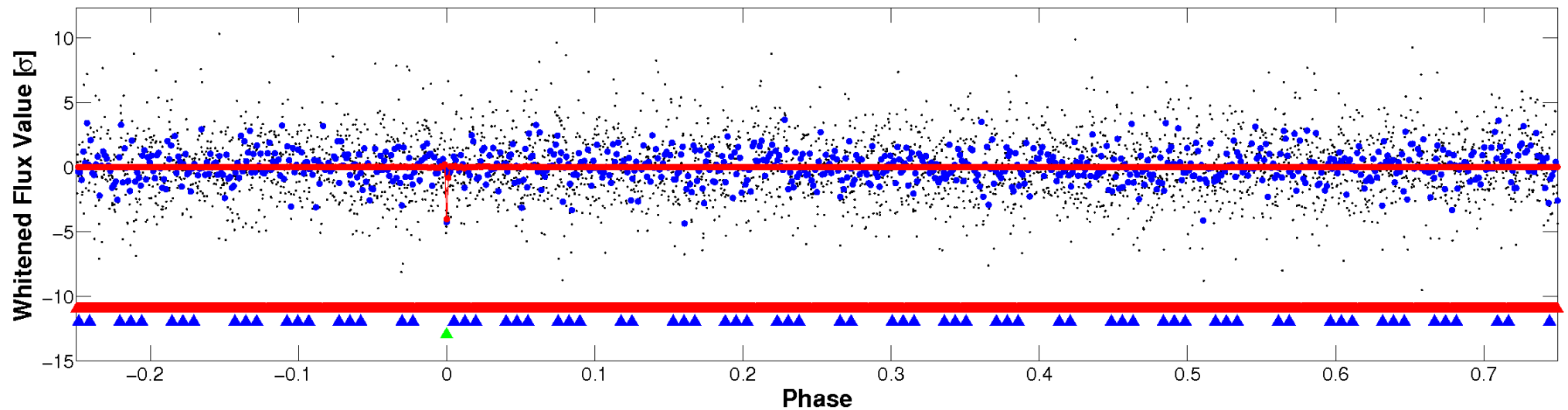
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

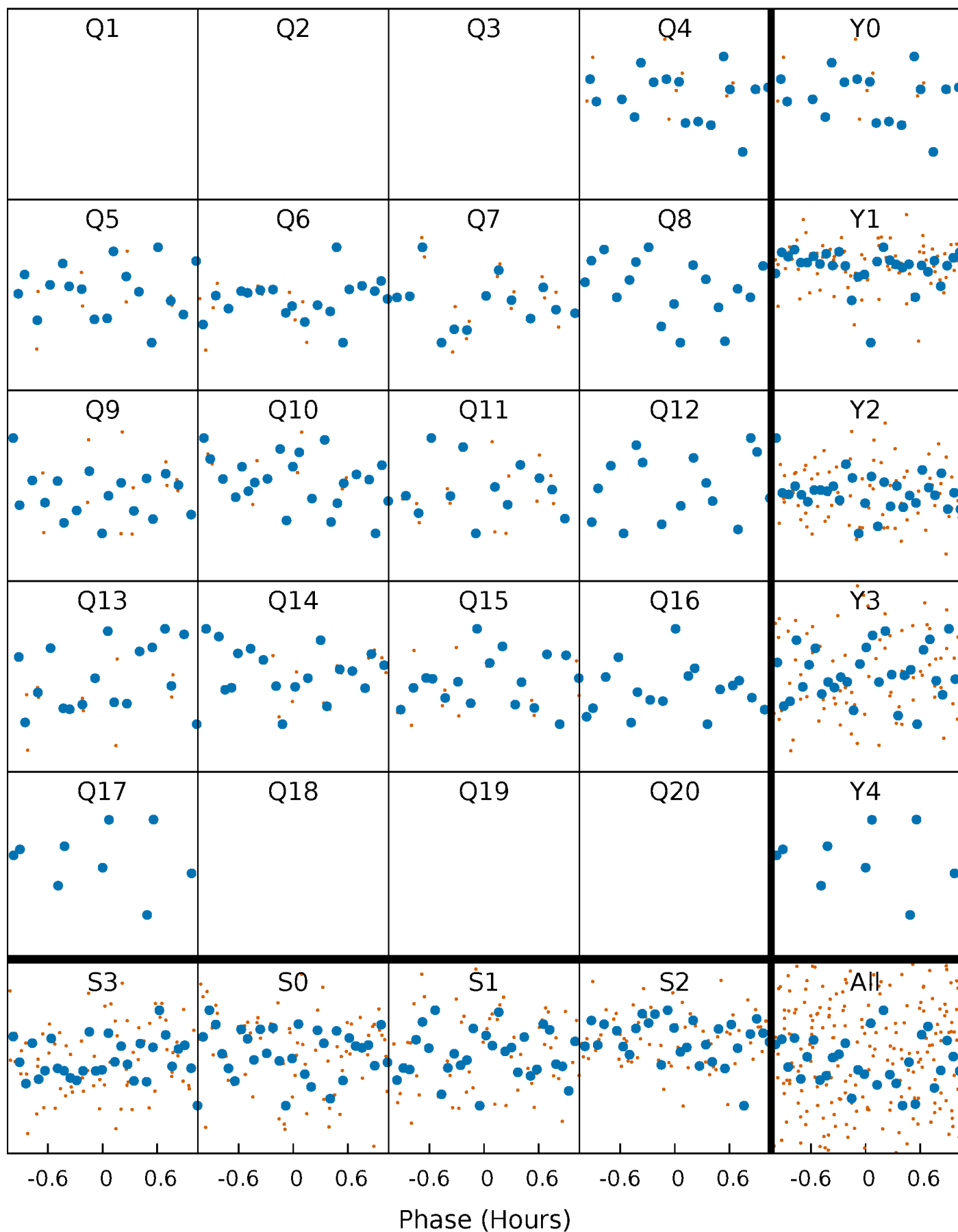


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



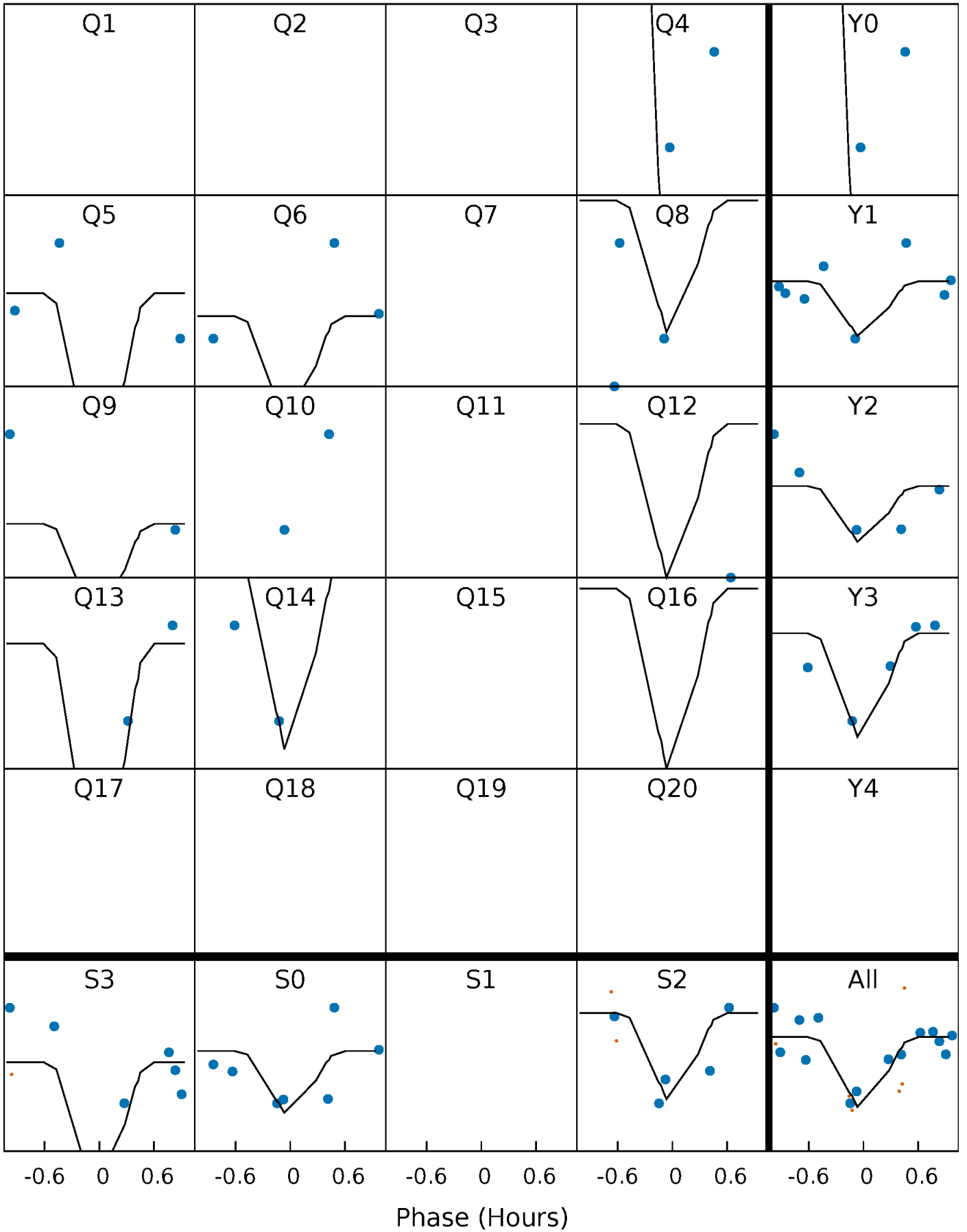
PDC Quarter-Phased Transit Curves

TCE 007031515-03 P= 16.924699 Days $T_0=133.843780$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007031515-03 P= 16.924699 Days $T_0=133.843780$ (BKJD)

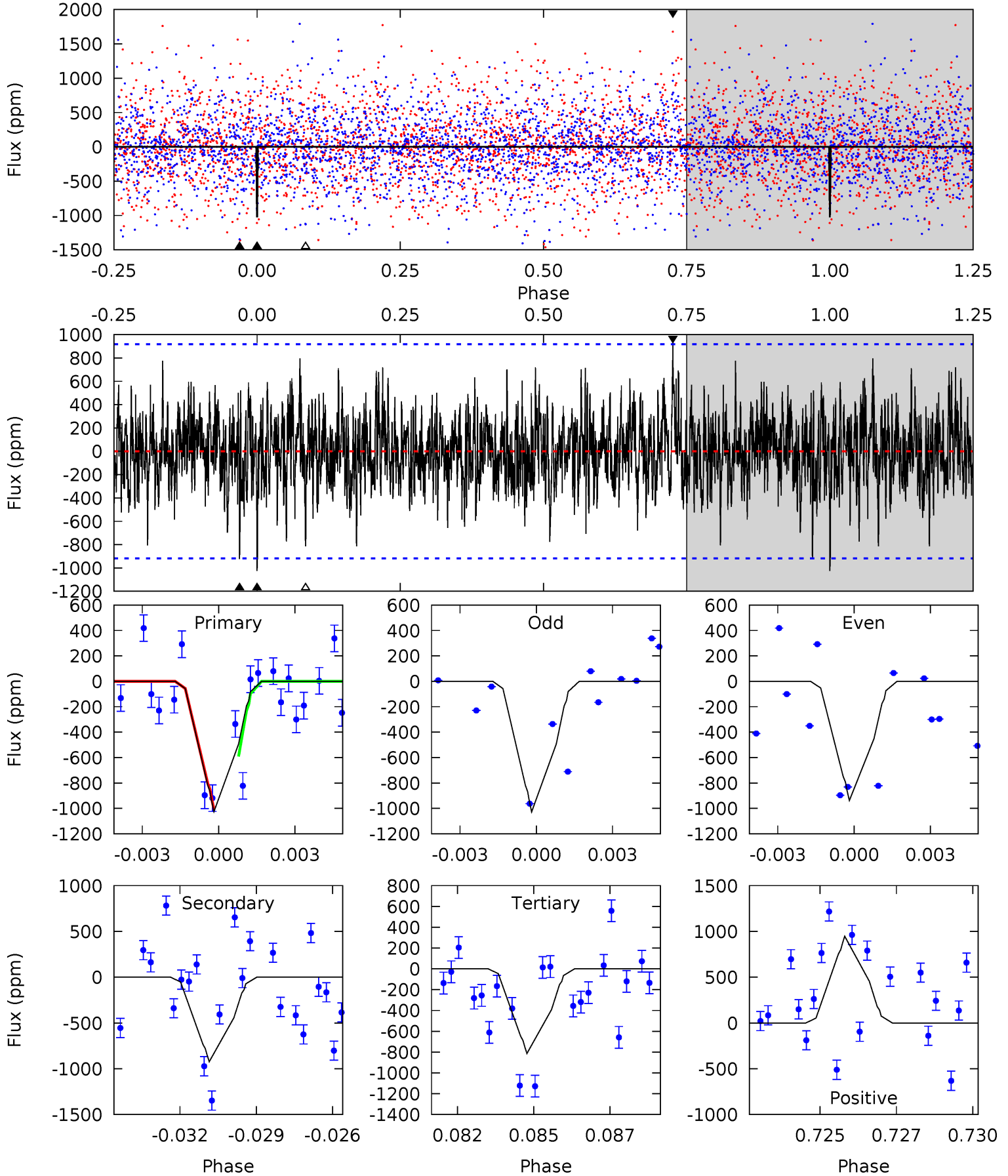


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007031515-03, $P = 16.924699$ Days, $E = 133.843780$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.90	5.31	4.68	5.44	5.28	3.01	1.47	1.21	0.45	0.63	-0.14	0.26	1.00	0.48	1.21



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007031515

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5853^{+185}_{-206}	$4.544^{+0.036}_{-0.204}$	$-0.180^{+0.300}_{-0.300}$	$0.868^{+0.263}_{-0.082}$	$0.961^{+0.108}_{-0.120}$	$2.069^{+0.401}_{-1.045}$
	+3%/-4%	+1%/-4%	+167%/-167%	+30%/-9%	+11%/-12%	+19%/-51%
Source	KIC0	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 007031515-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-923 ± 174	$5.35^{+4.80}_{-3.47}$	967^{+70}_{-49}	4566^{+2841}_{-918}	277^{+1855}_{-199}
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 $A_{obs} \gg 1.0$

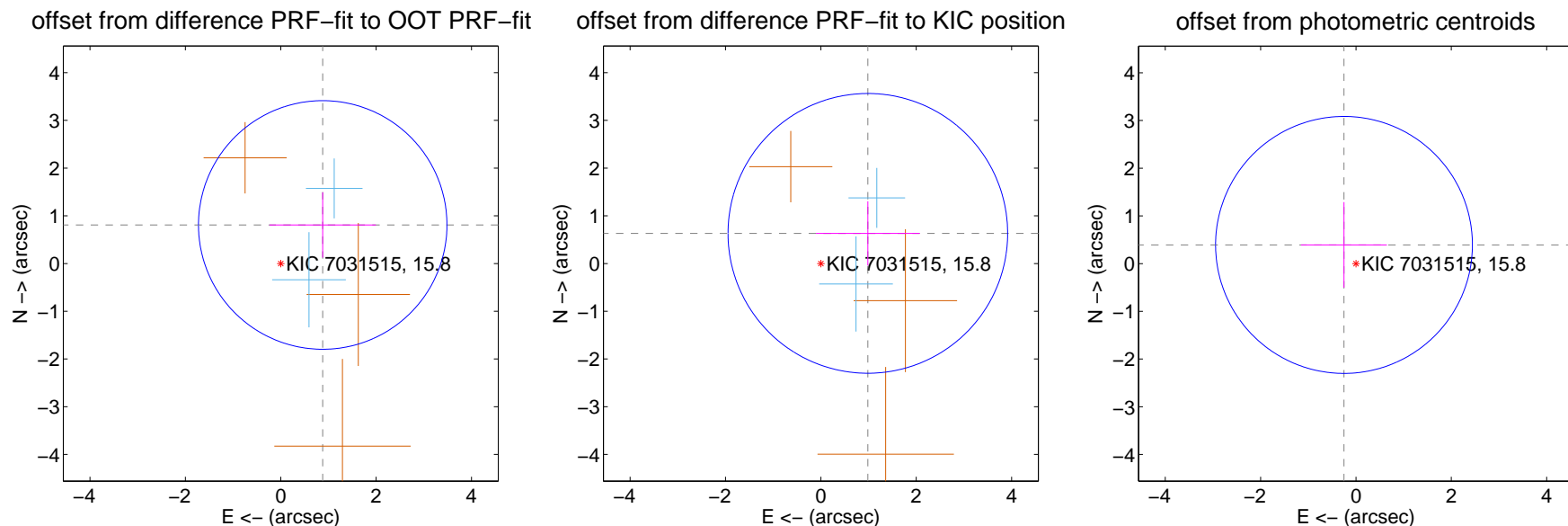
DV Centroid Data

Supplemental centroid analysis for 007031515-03. Kepler magnitude: 15.80. Transit SNR 8.81

There are 2 quarters with good PRF difference image offsets

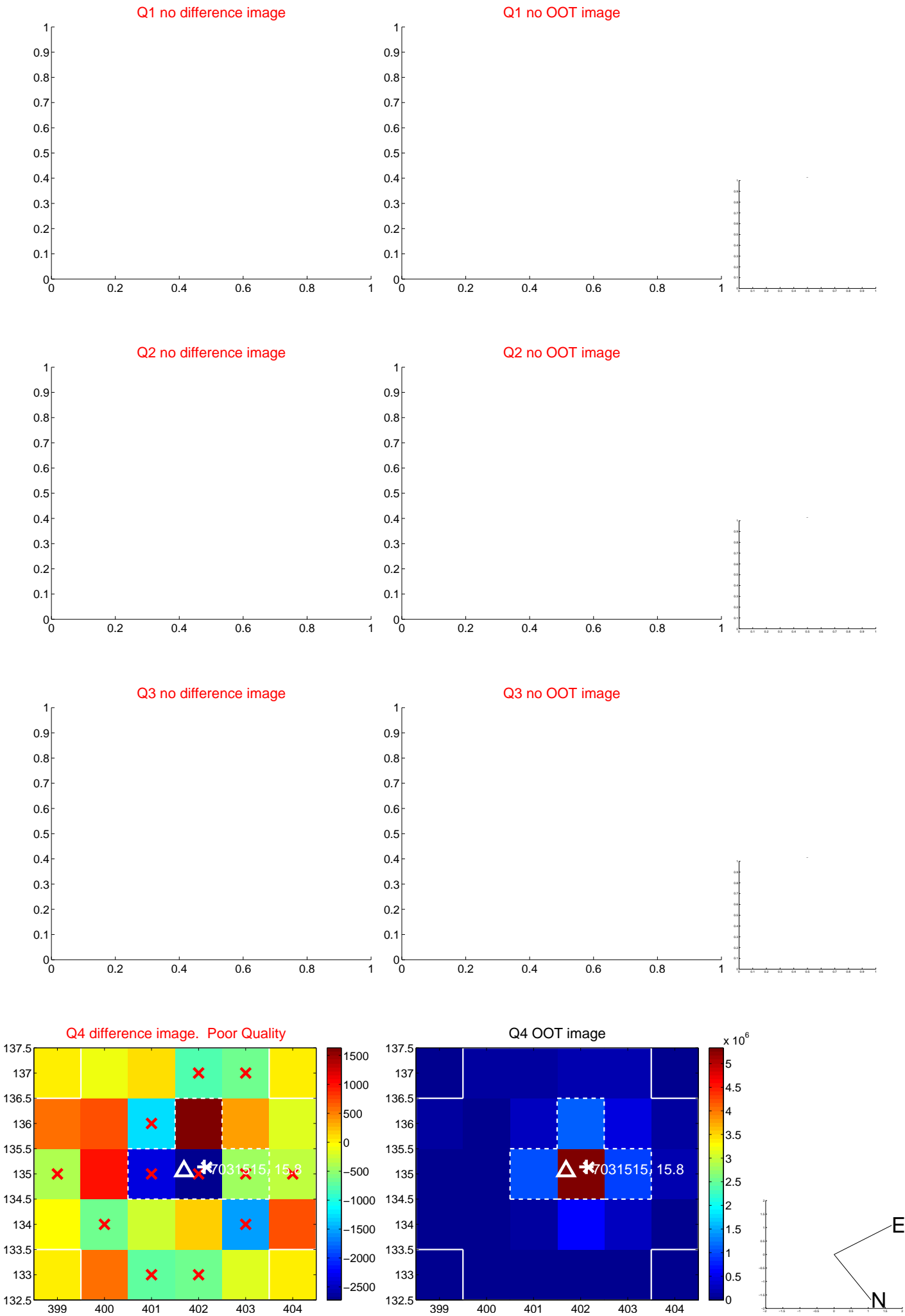
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.195 ± 0.868	1.38	-0.880 ± 1.115	0.808 ± 0.685
PRF-fit source offset from KIC position	1.170 ± 0.977	1.20	-0.985 ± 1.087	0.632 ± 0.673
photometric centroid source offset	0.47 ± 0.90	0.52	0.25 ± 0.90	0.39 ± 0.90

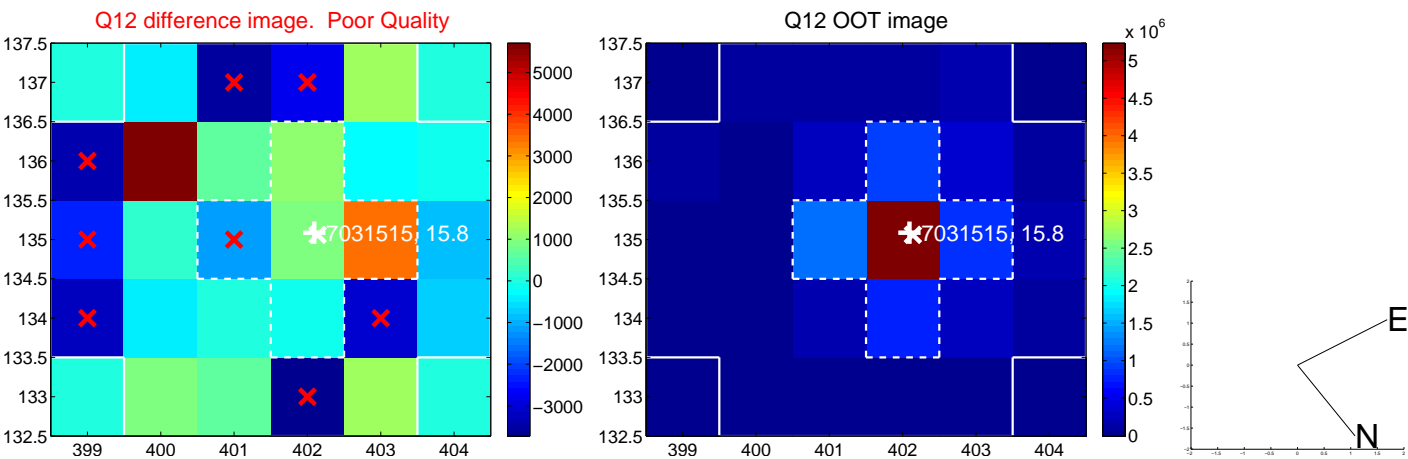
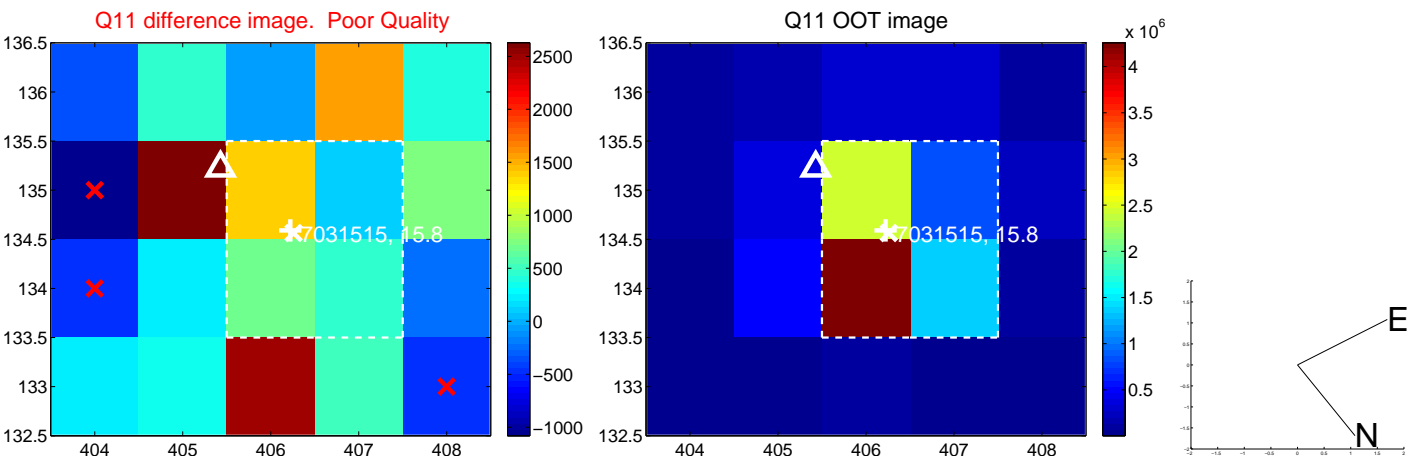
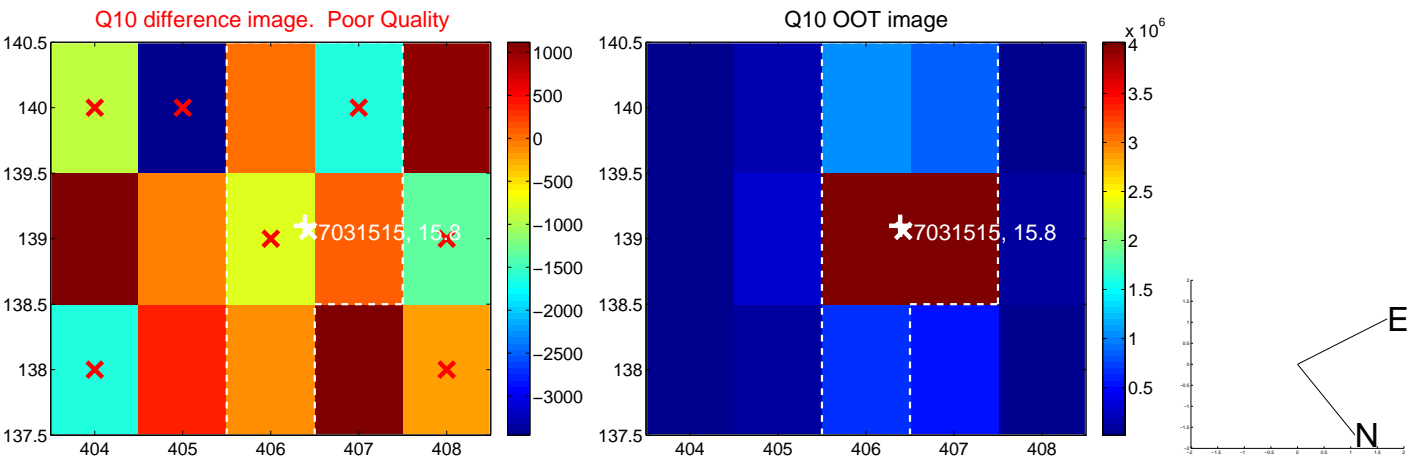
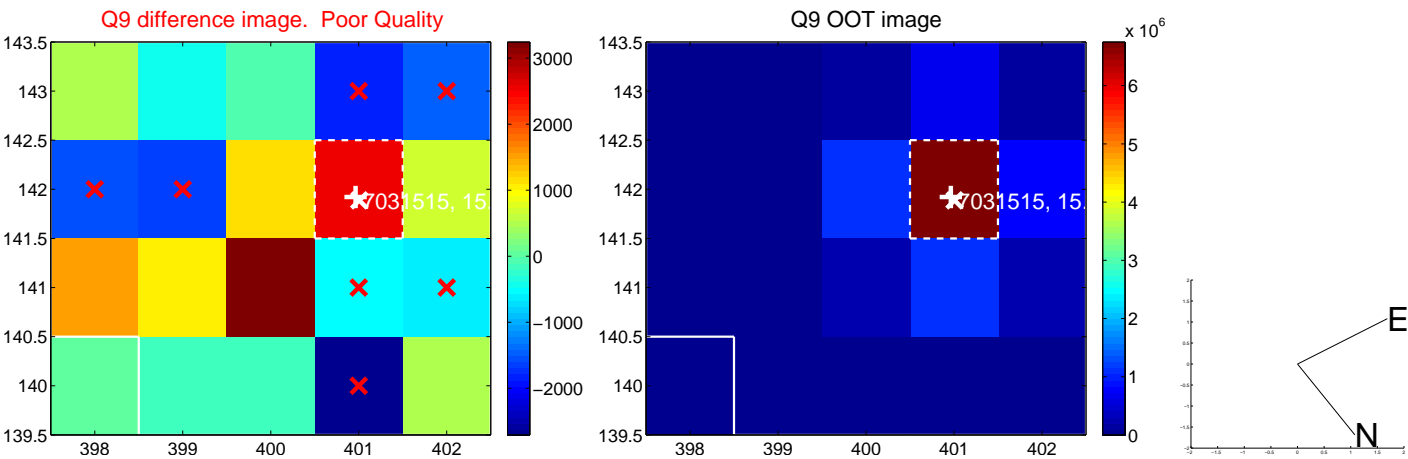


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

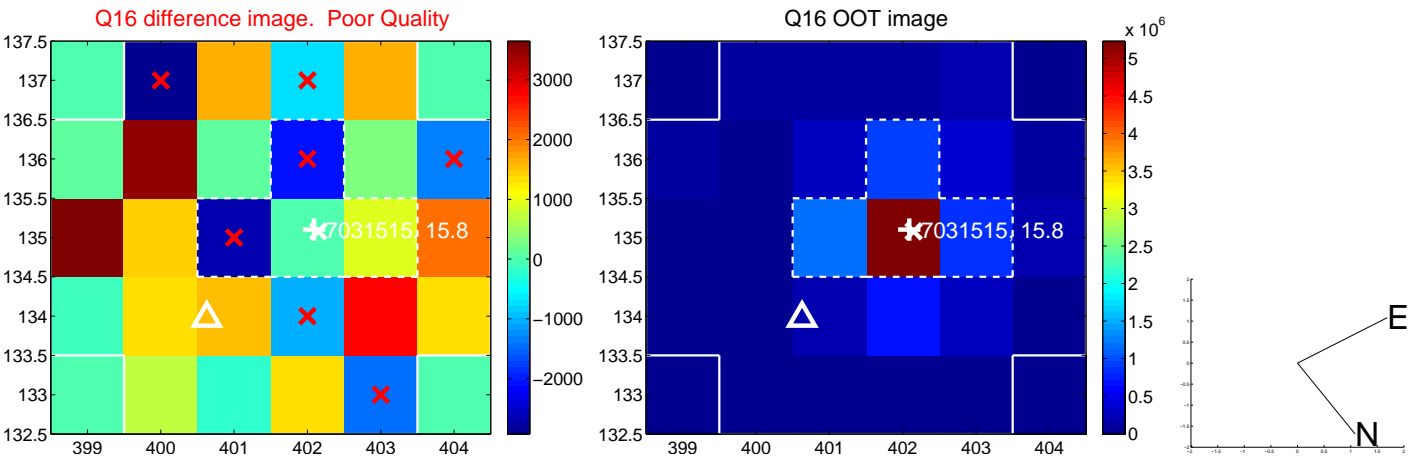
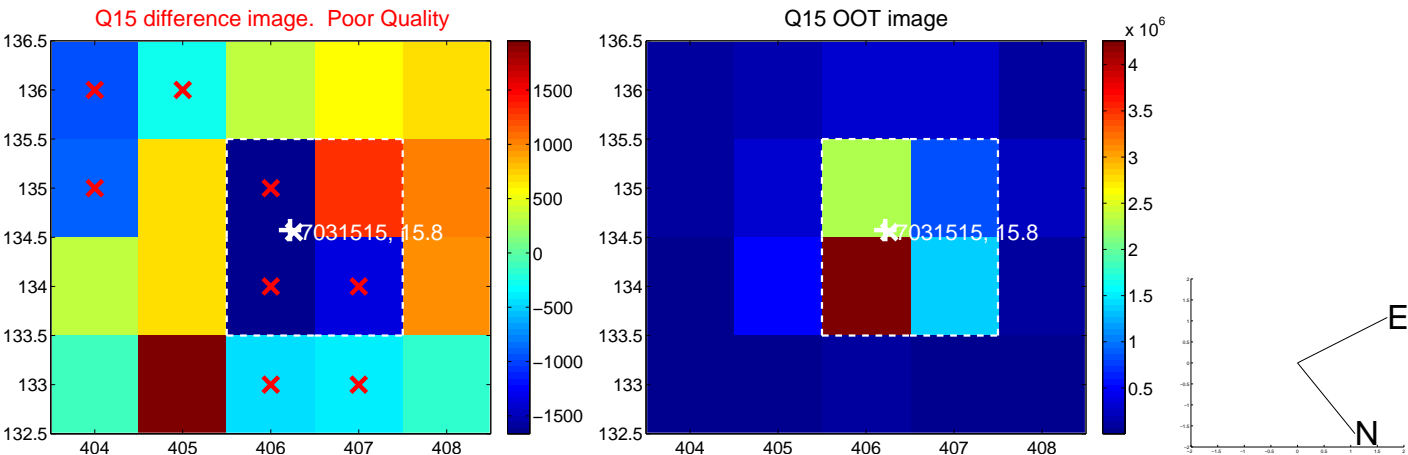
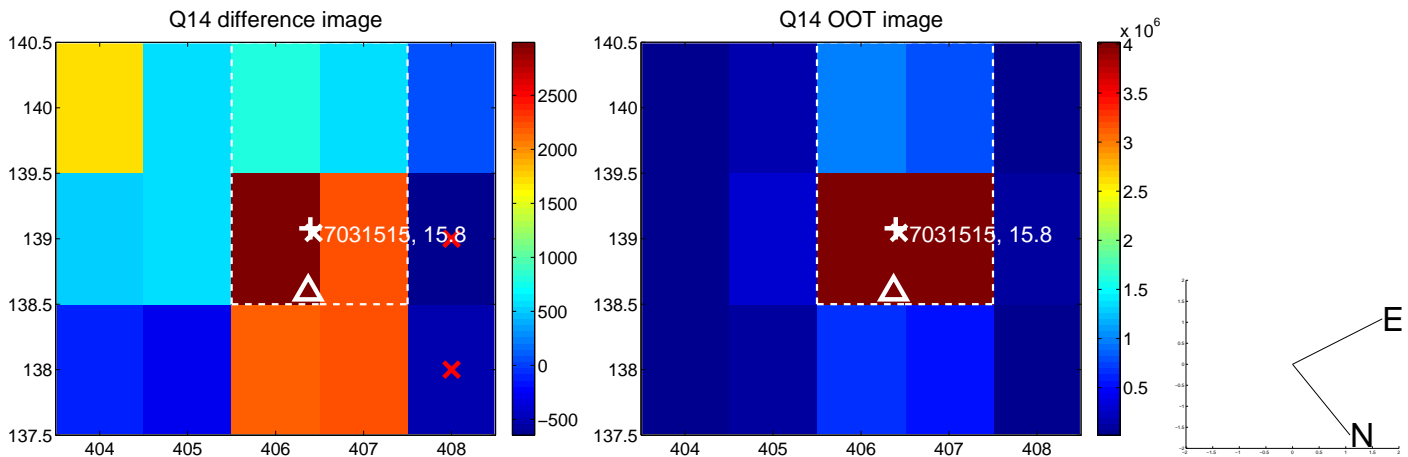
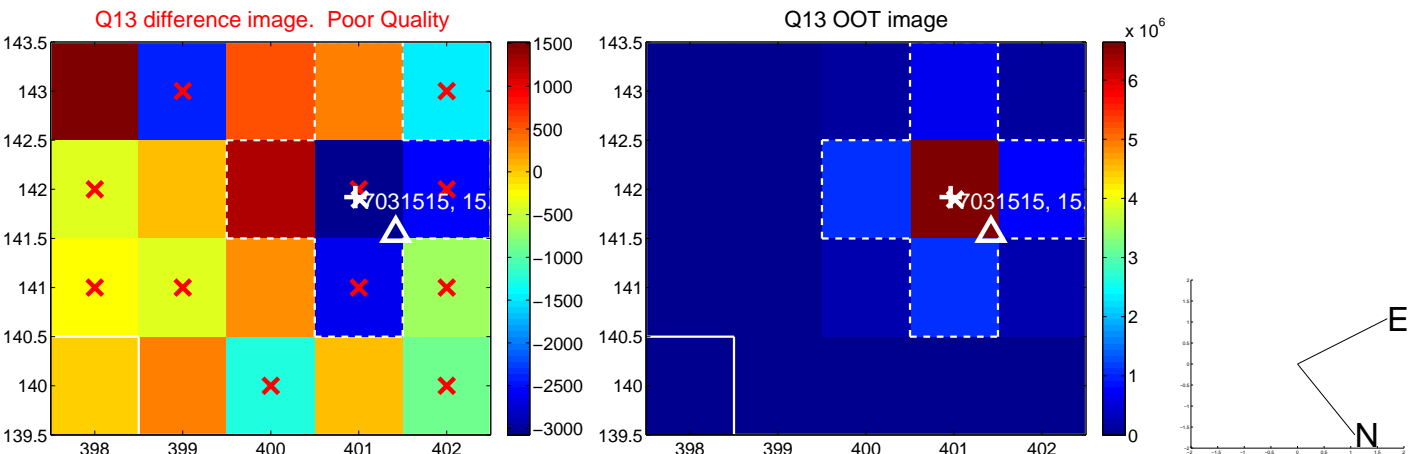
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



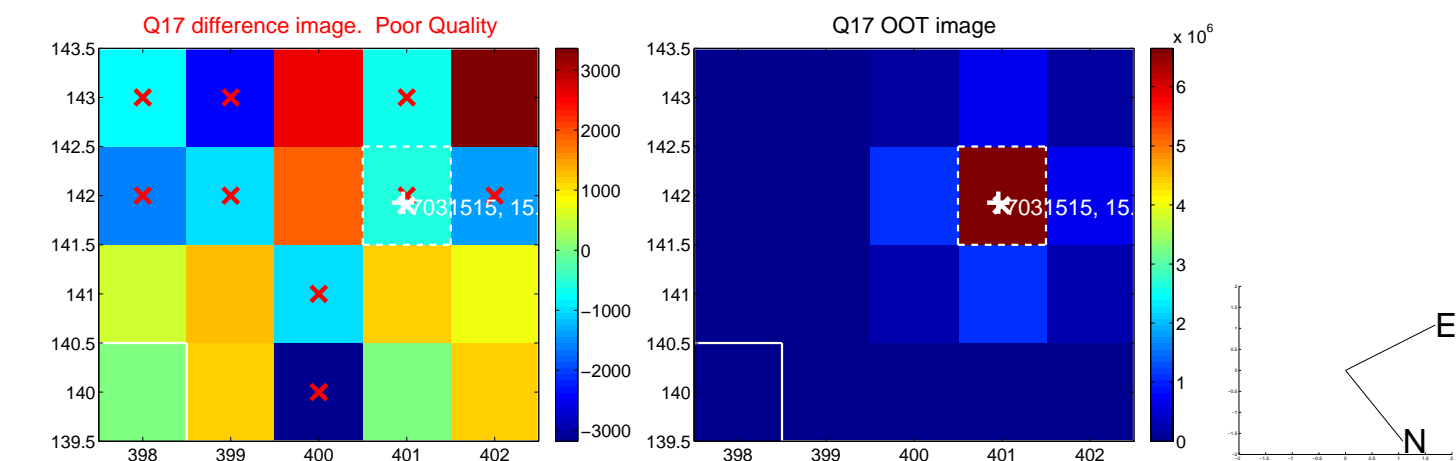
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



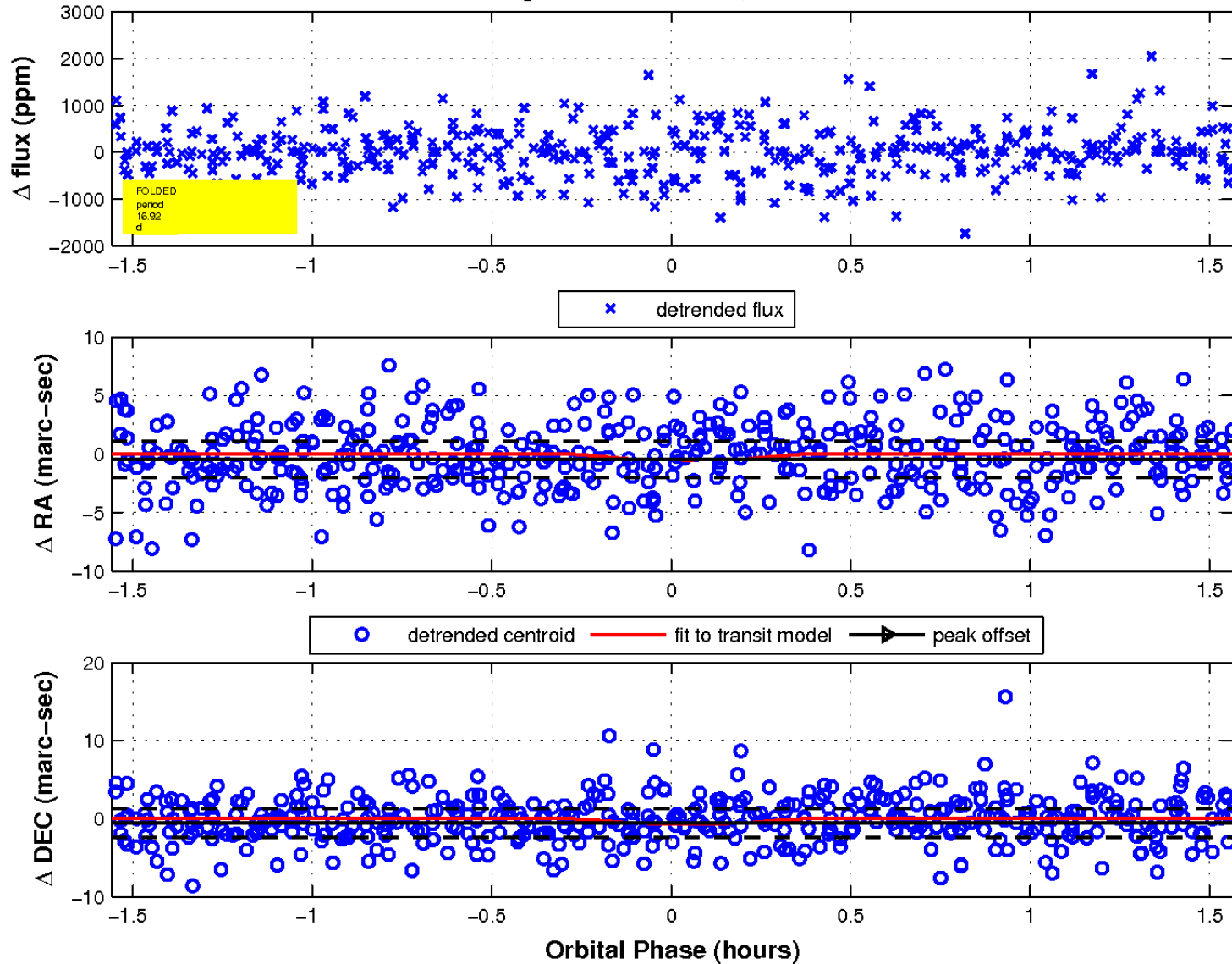
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

