

KIC 010155321

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})
010155321-01	OBS	No	2.086718	131.524308	78.6	3.241	8.7	8.5	1.85	7454	1.91	6788.14
010155321-02	OBS	No	2.086657	132.969598	117.3	4.317	8.4	10.5	1.85	7454	3.07	6788.40
010155321-03	OBS	No	251.240329	265.758135	878.7	3.173	8.7	8.0	1.85	7454	6.08	11.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010155321-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010155321-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
010155321-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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 010155321-01

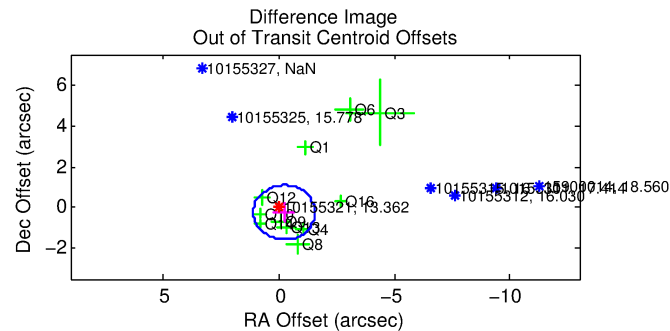
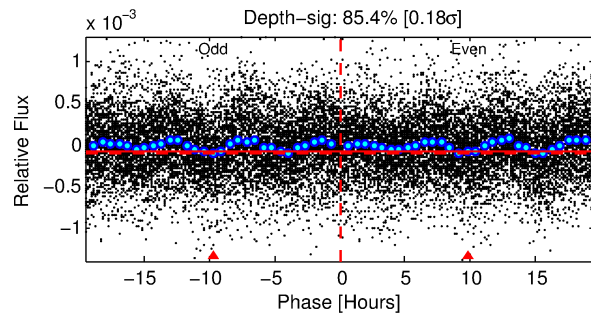
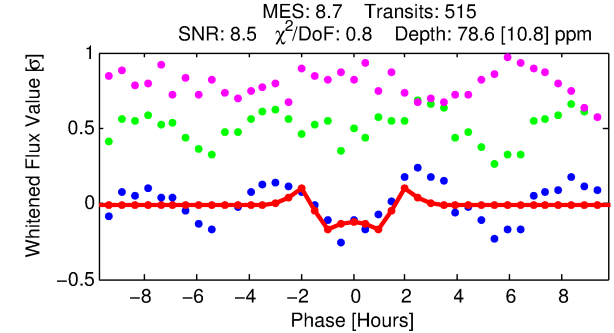
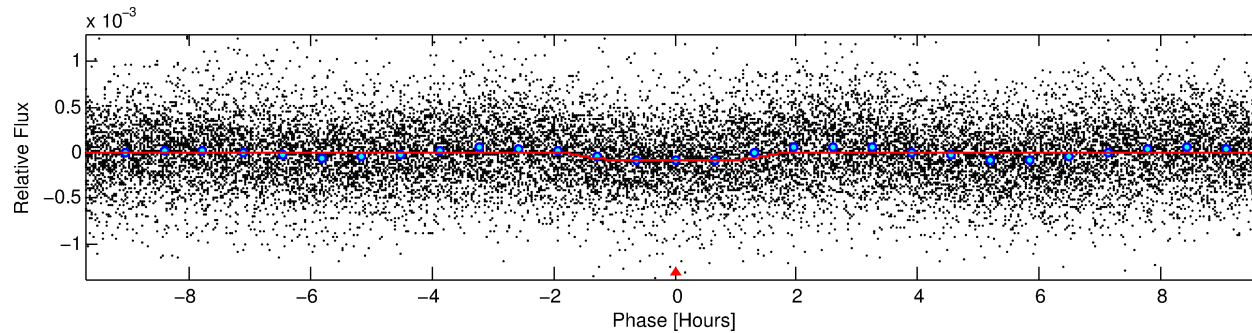
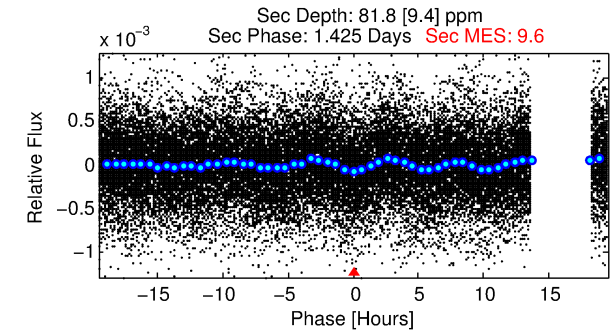
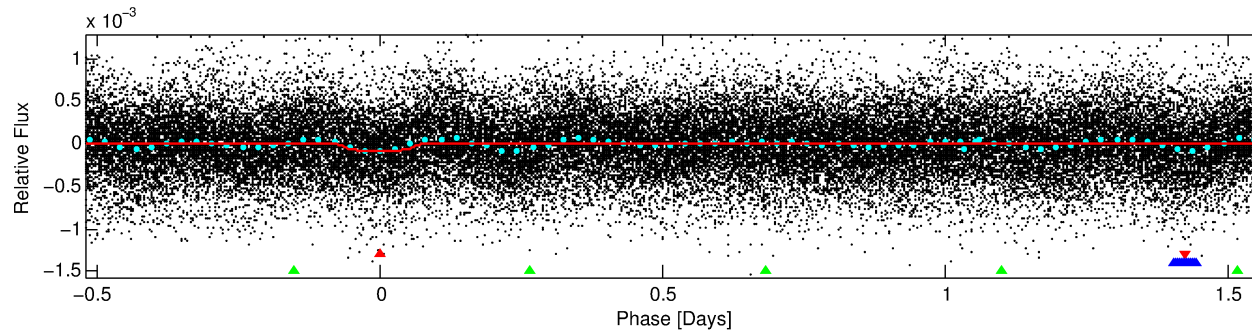
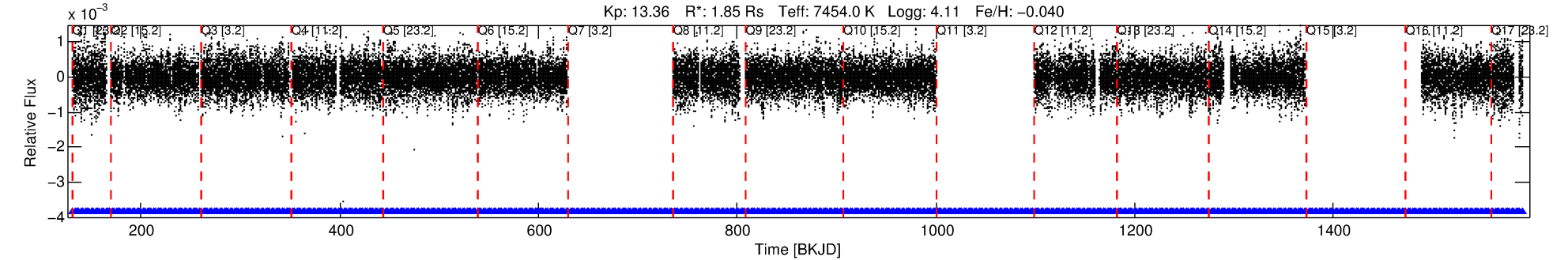
No Significant Match Found

DV One-Page Summary

KIC: 10155321 Candidate: 1 of 3 Period: 2.087 d

KOI: K04422 Corr: No Ephemeris Match

Kp: 13.36 R*: 1.85 Rs Teff: 7454.0 K Logg: 4.11 Fe/H: -0.040



DV Fit Results:

Period = 2.08672 [0.00001] d
Epoch = 131.5243 [0.0021] BKJD
Rp/R* = 0.0094 [0.0020]
a/R* = 2.39 [2.48]
b = 0.91 [0.25]
Seff = 6788.14 [2537.30]
Teq = 2315 [216] K
Rp = 1.91 [0.69] Re
a = 0.0374 [0.0089] AU
Ag = 17.30 [9.53] [1.71σ]
Teffp = 7299 [855] K [5.65σ]

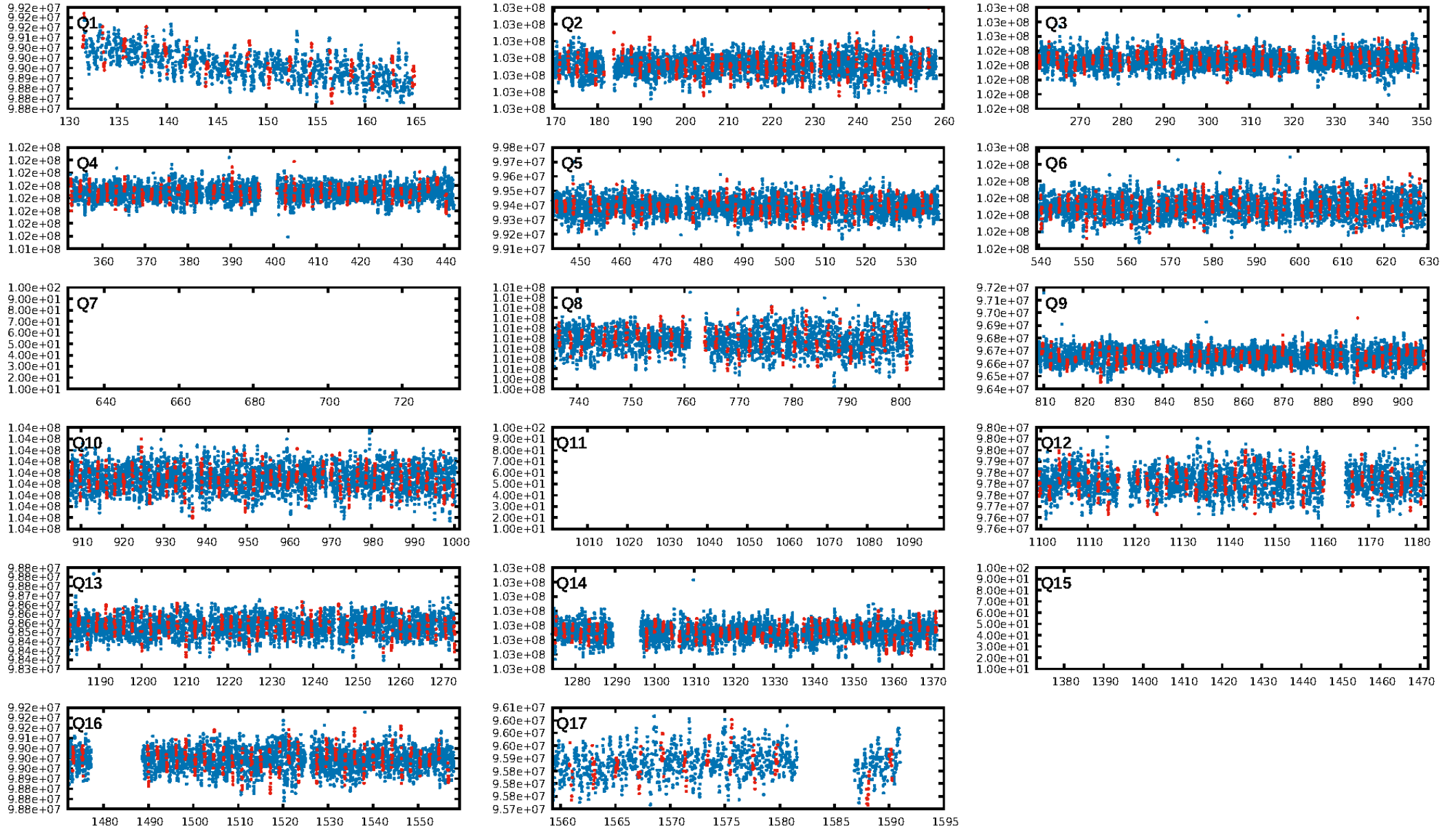
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [1318.33σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.86e-13
RollingBand-fgt: 1.00 [486/486]
GhostDiagnostic-chr: 2.875
Centroid-sig: 24.6%
Centroid-so: 0.343 arcsec [0.75σ]
OotOffset-rm: 0.337 arcsec [0.76σ]
KicOffset-rm: 0.416 arcsec [0.96σ]
OotOffset-st: 3/1/4/3 [11]
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DiffImageQuality-fgm: 0.73 [8/11]
DiffImageOverlap-fno: 1.00 [14/14]

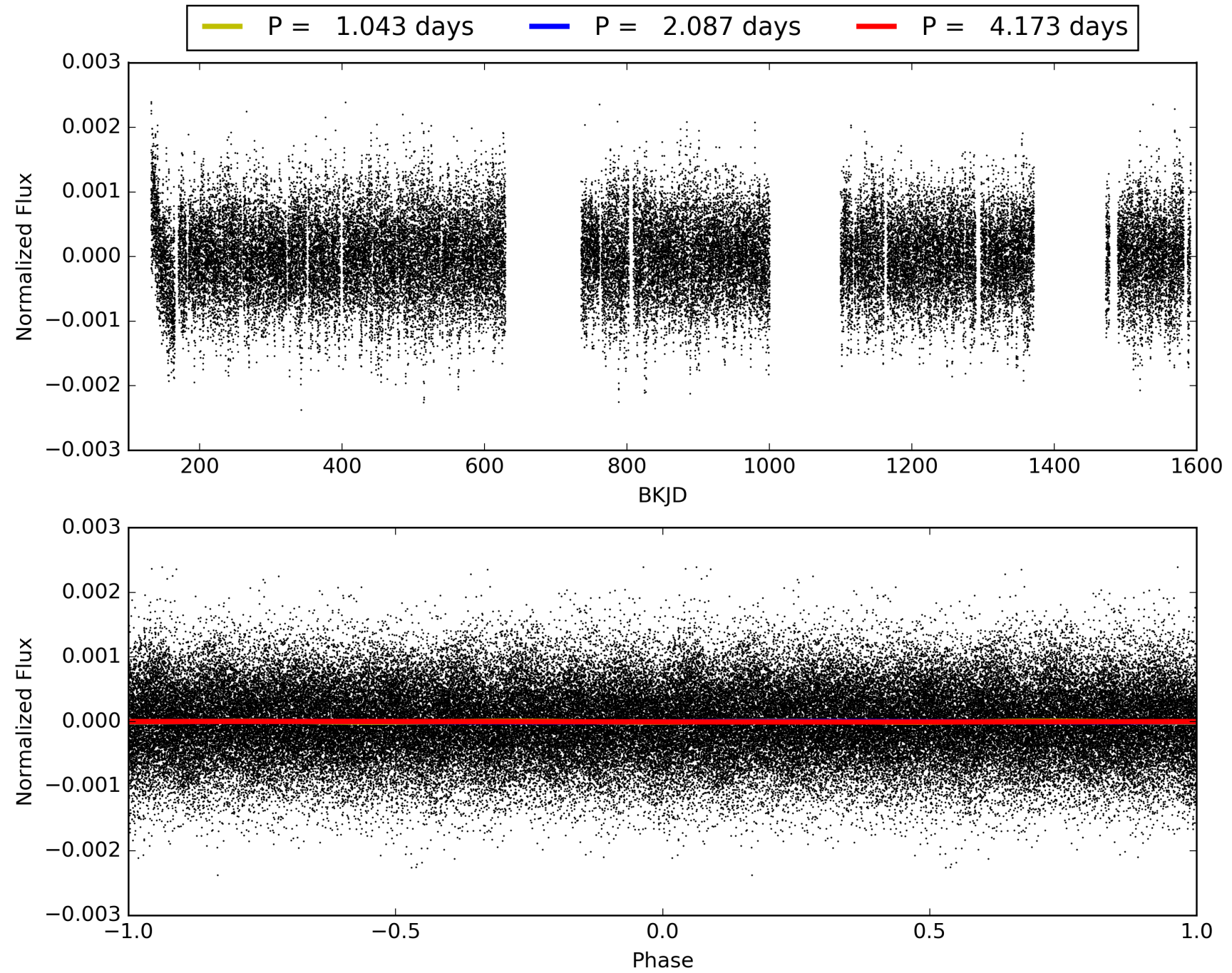
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010155321-01, PDC Light Curves

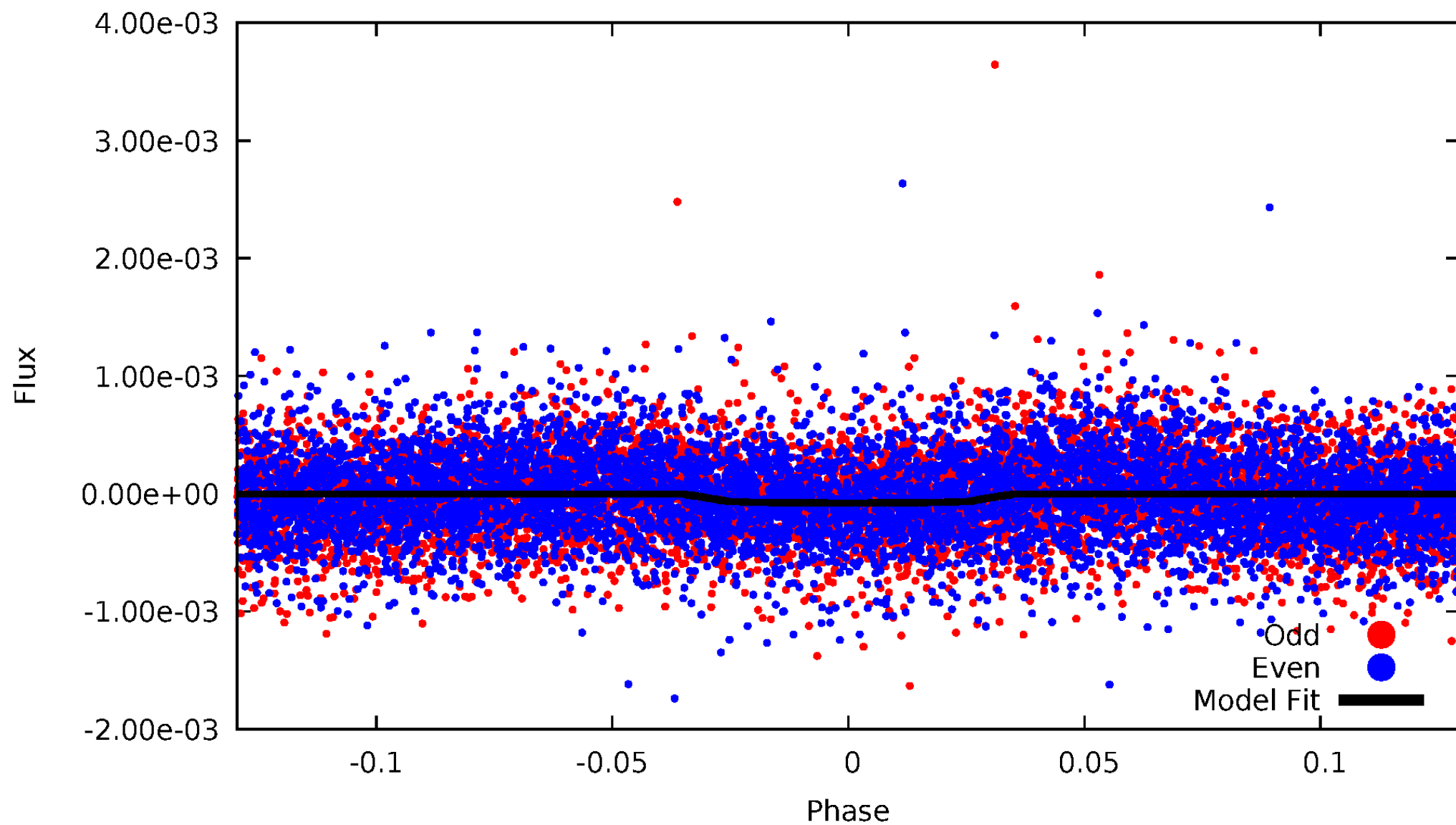


TCE 010155321-01



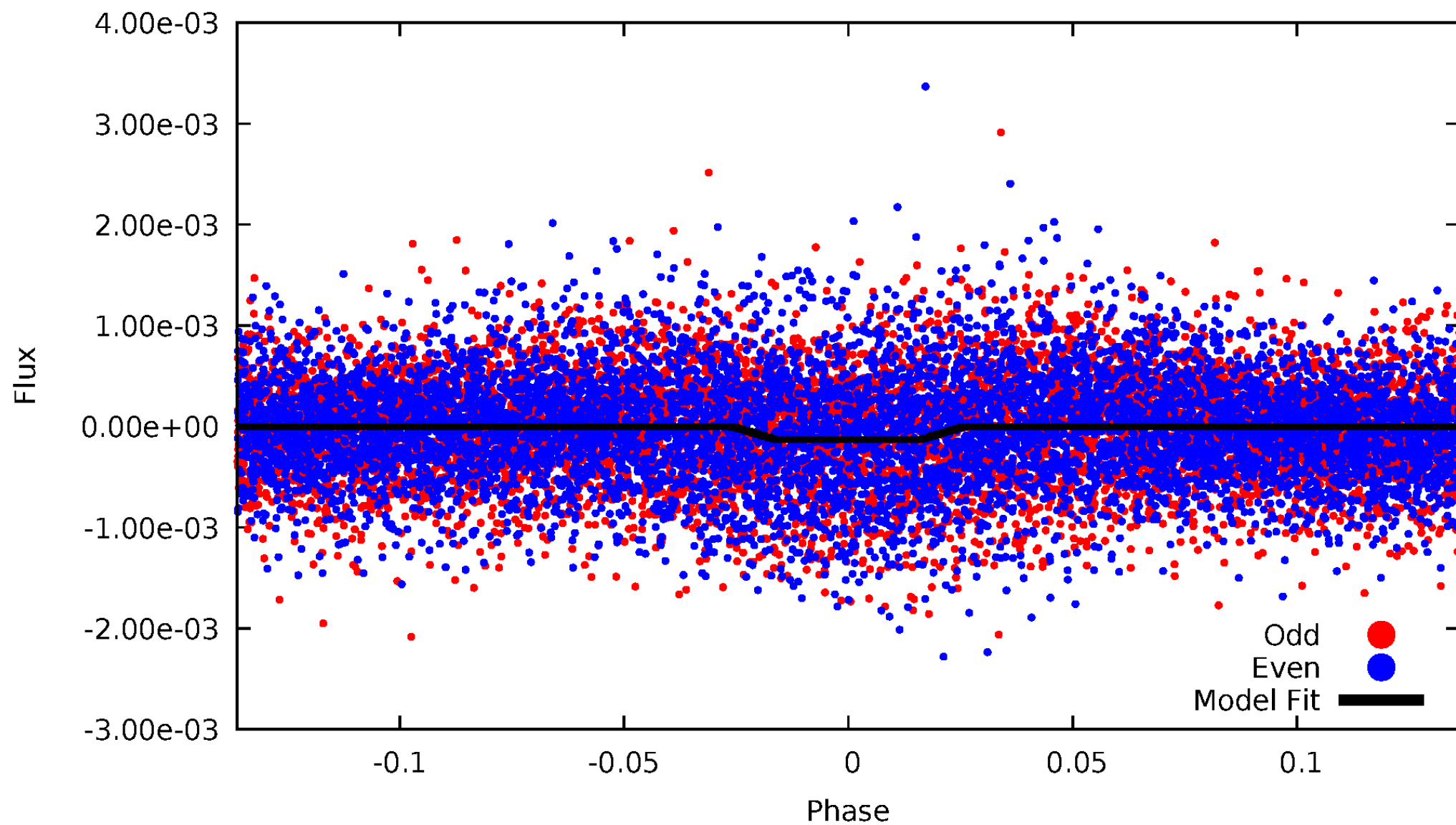
DV Odd/Even

TCE 010155321-01

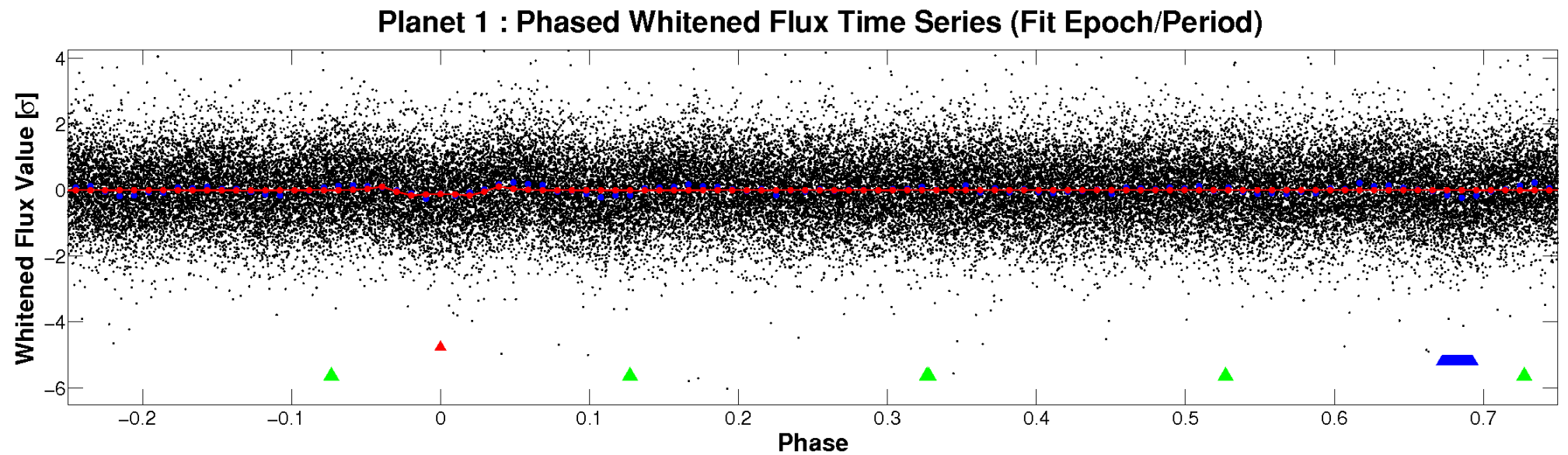
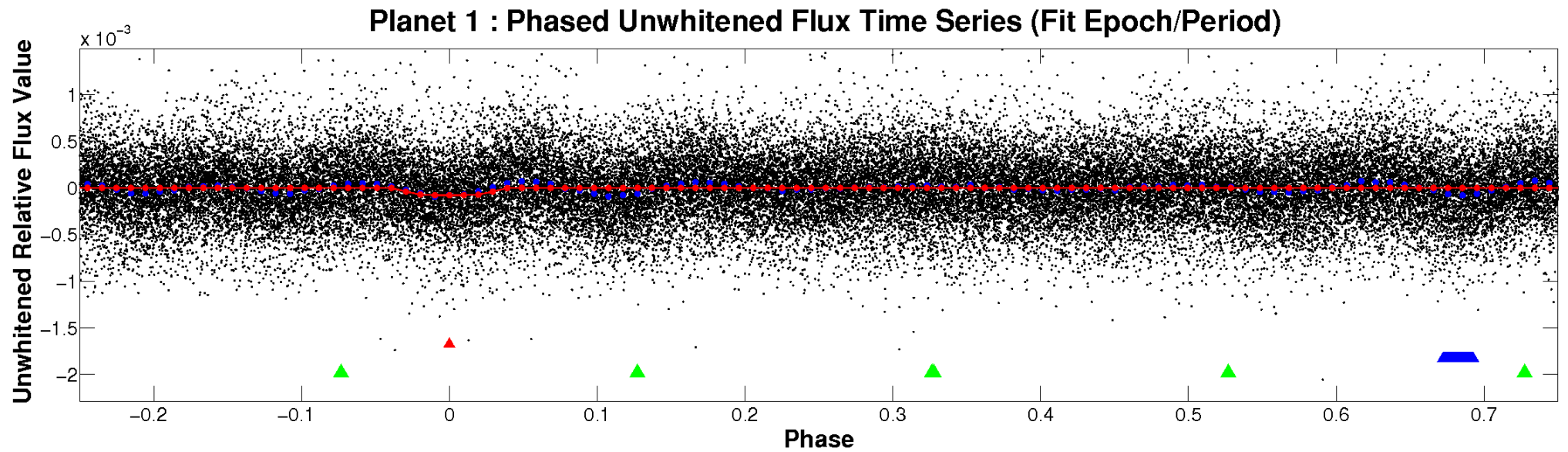


ALT Odd/Even

TCE 010155321-01

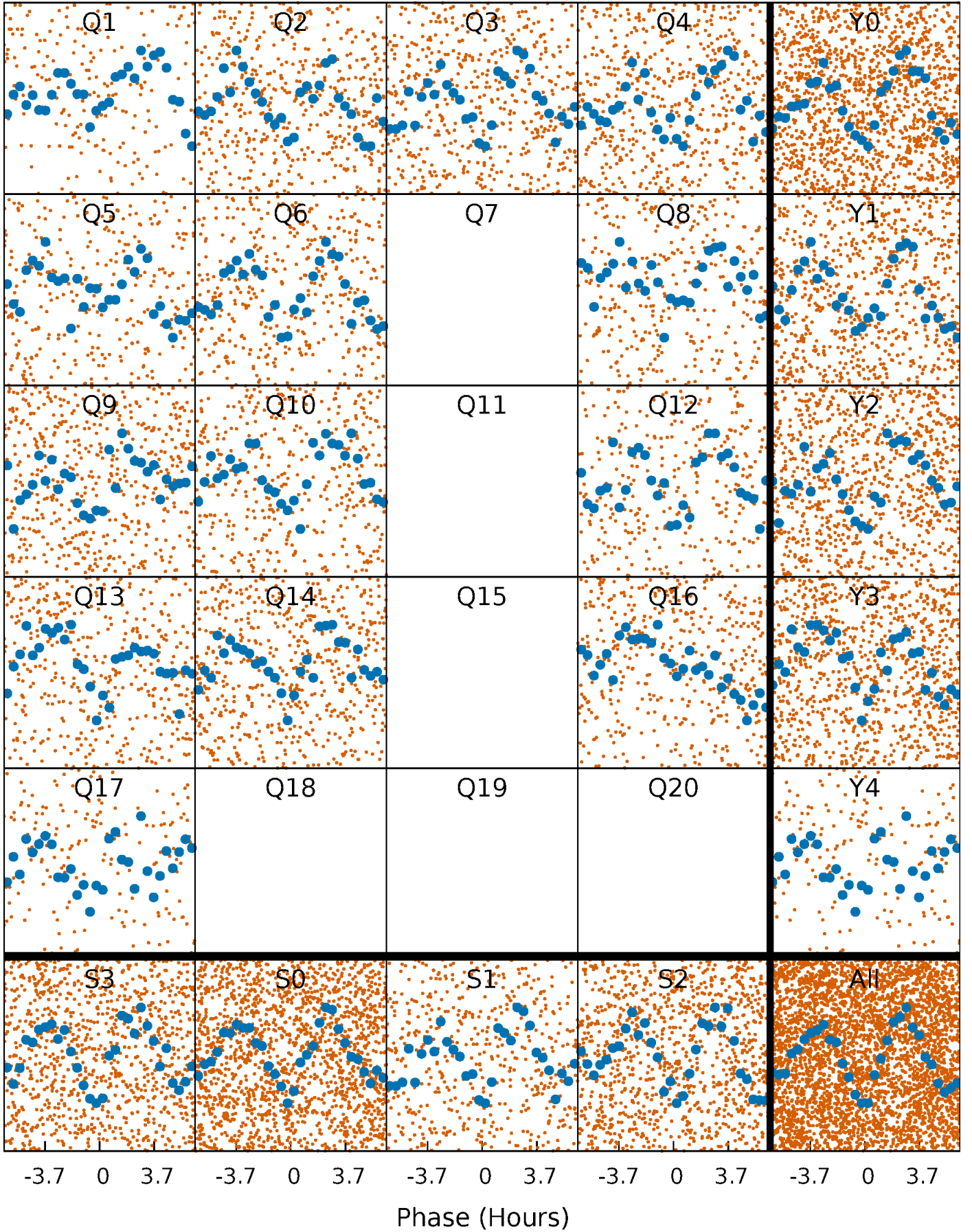


Non-Whitened Vs. Whitened Light Curve



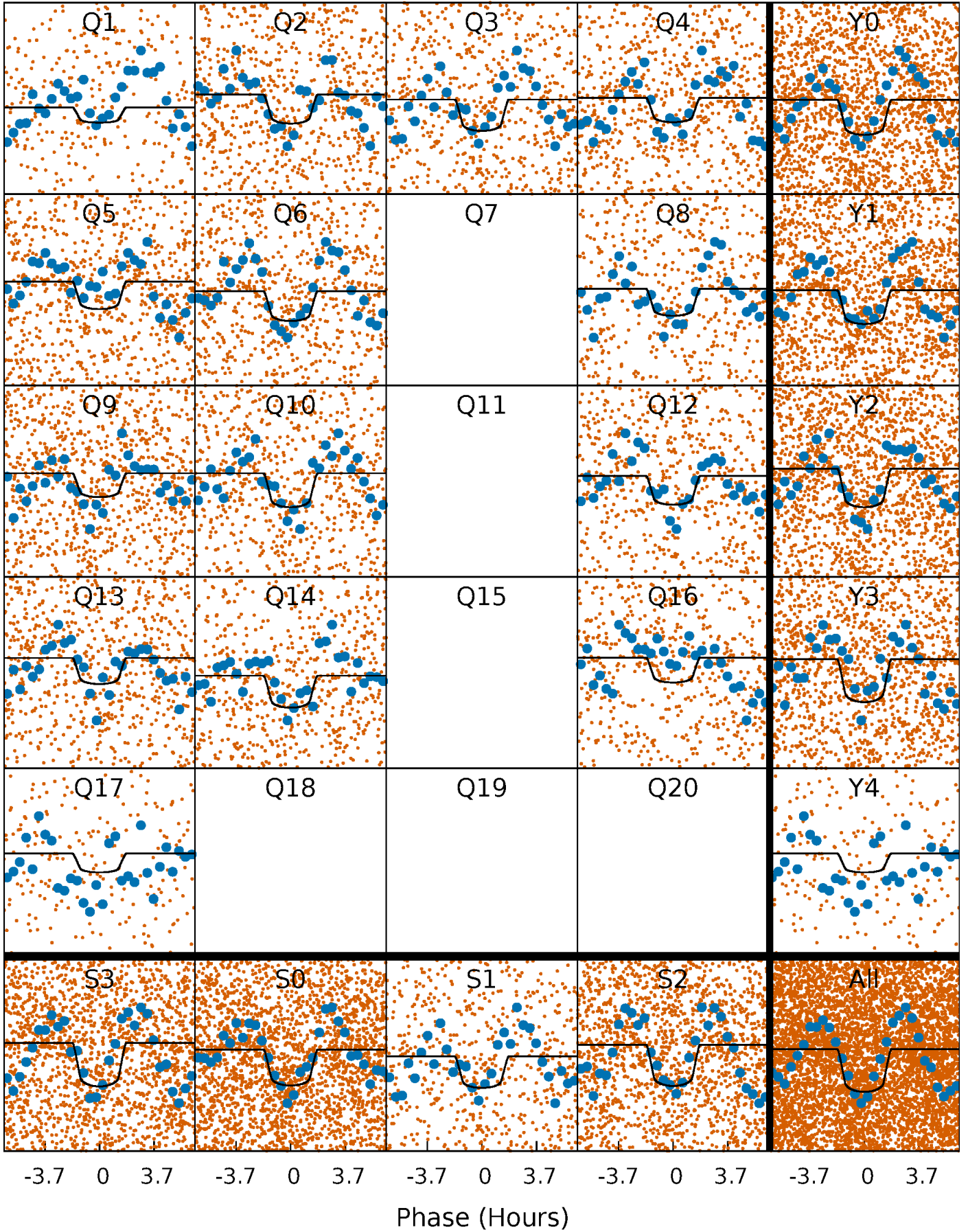
PDC Quarter-Phased Transit Curves

TCE 010155321-01 P= 2.086718 Days $T_0=131.524308$ (BKJD)



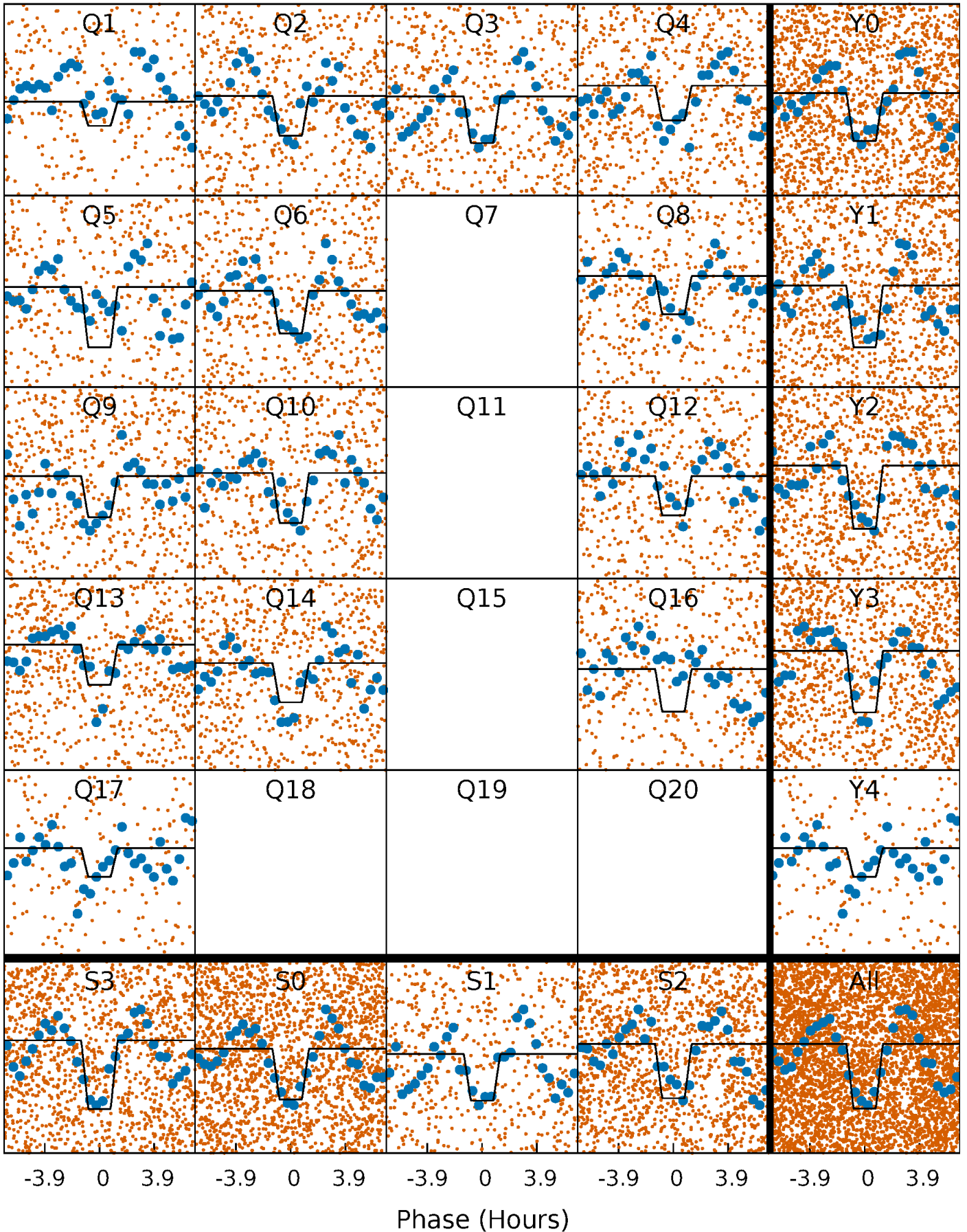
DV Quarter-Phased Transit Curves

TCE 010155321-01 P= 2.086718 Days $T_0=131.524308$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

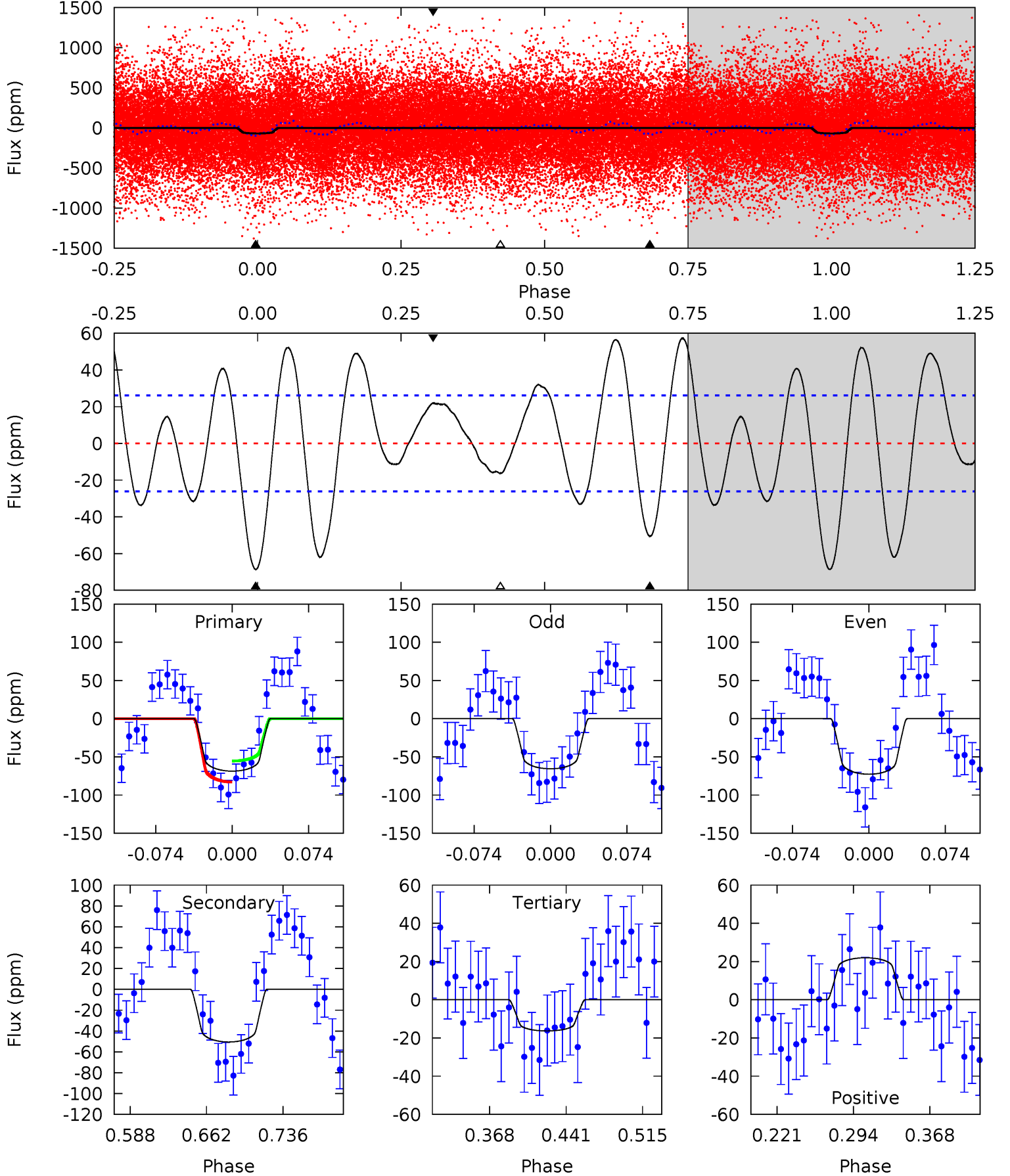
TCE 010155321-01 P= 2.086737 Days $T_0=131.511246$ (BKJD)



DV Model-Shift Uniqueness Test

010155321-01, P = 2.086718 Days, E = 129.437590 Days

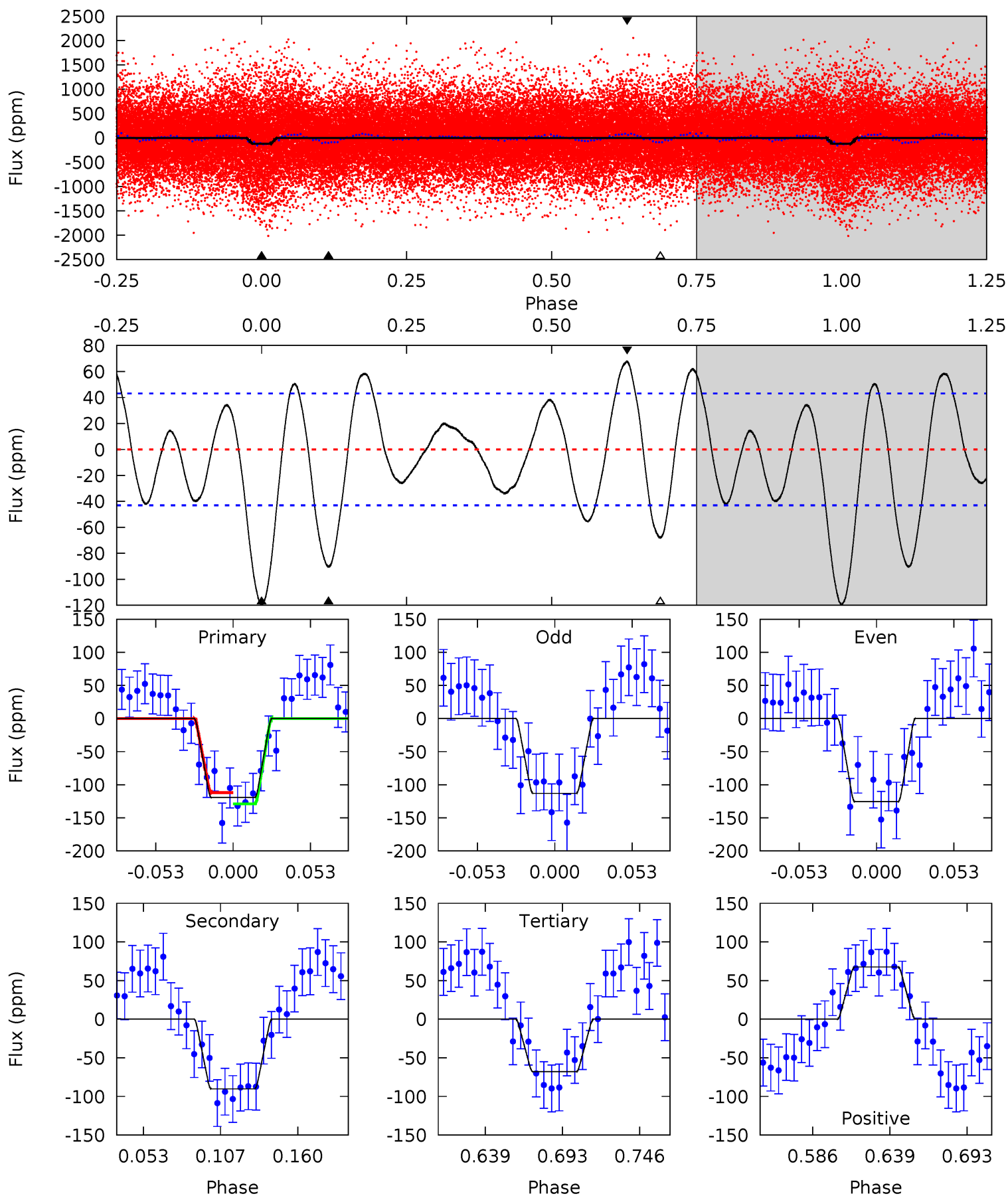
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	8.95	2.89	3.89	4.63	1.79	4.22	9.26	8.26	6.06	5.05	0.63	1.12	0.45	2.43



Alt Model-Shift Uniqueness Test

010155321-01, P = 2.086737 Days, E = 131.511246 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	9.84	7.41	7.36	4.70	1.93	3.55	5.60	5.65	2.44	2.48	0.69	1.99	0.36	0.93



Stellar Parameters For KIC 010155321

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7454^{+233}_{-311}	$4.107^{+0.144}_{-0.176}$	$-0.040^{+0.200}_{-0.350}$	$1.853^{+0.548}_{-0.365}$	$1.602^{+0.200}_{-0.244}$	$0.354^{+0.261}_{-0.174}$
	+3%/-4%	+4%/-4%	+500%/-875%	+30%/-20%	+12%/-15%	+74%/-49%
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 010155321-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-51 ± 6	$1.90^{+0.52}_{-0.44}$	3245^{+247}_{-214}	6336^{+970}_{-706}	11^{+7}_{-4}
Alt.	-90 ± 9	$2.32^{+0.54}_{-0.46}$	3239^{+252}_{-187}	6657^{+810}_{-556}	13^{+7}_{-4}

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 $A_{\text{obs}} \gg 1.0$

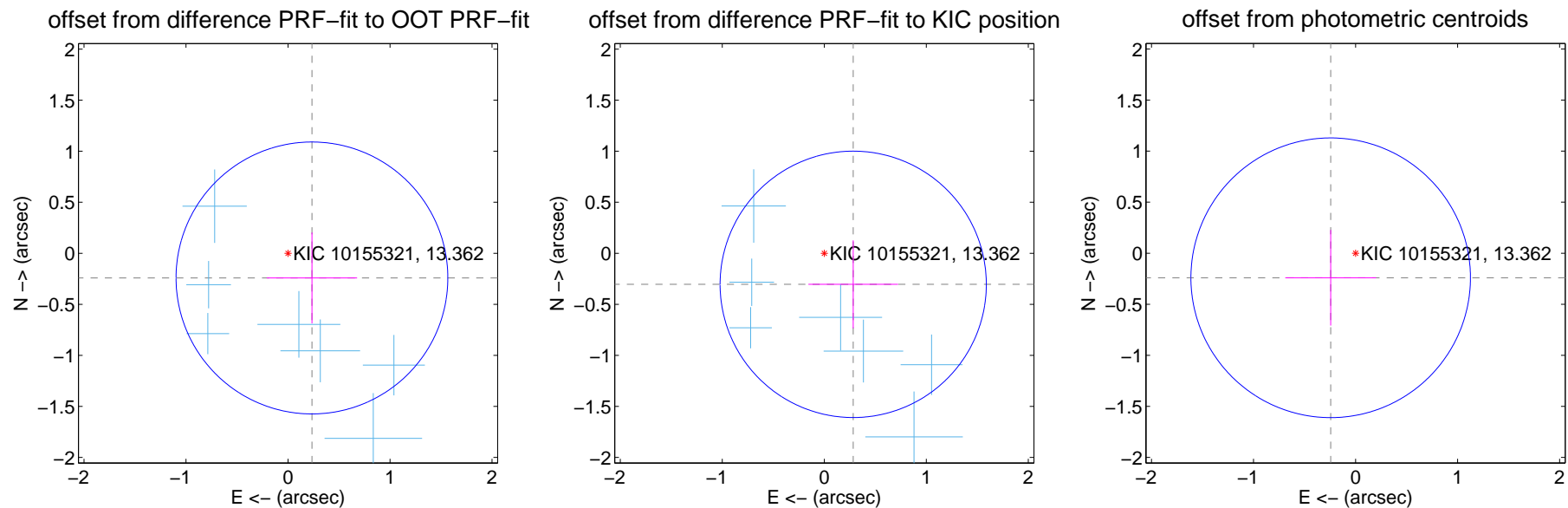
DV Centroid Data

Supplemental centroid analysis for 010155321-01. Kepler magnitude: 13.36. Transit SNR 8.53

There are 8 quarters with good PRF difference image offsets

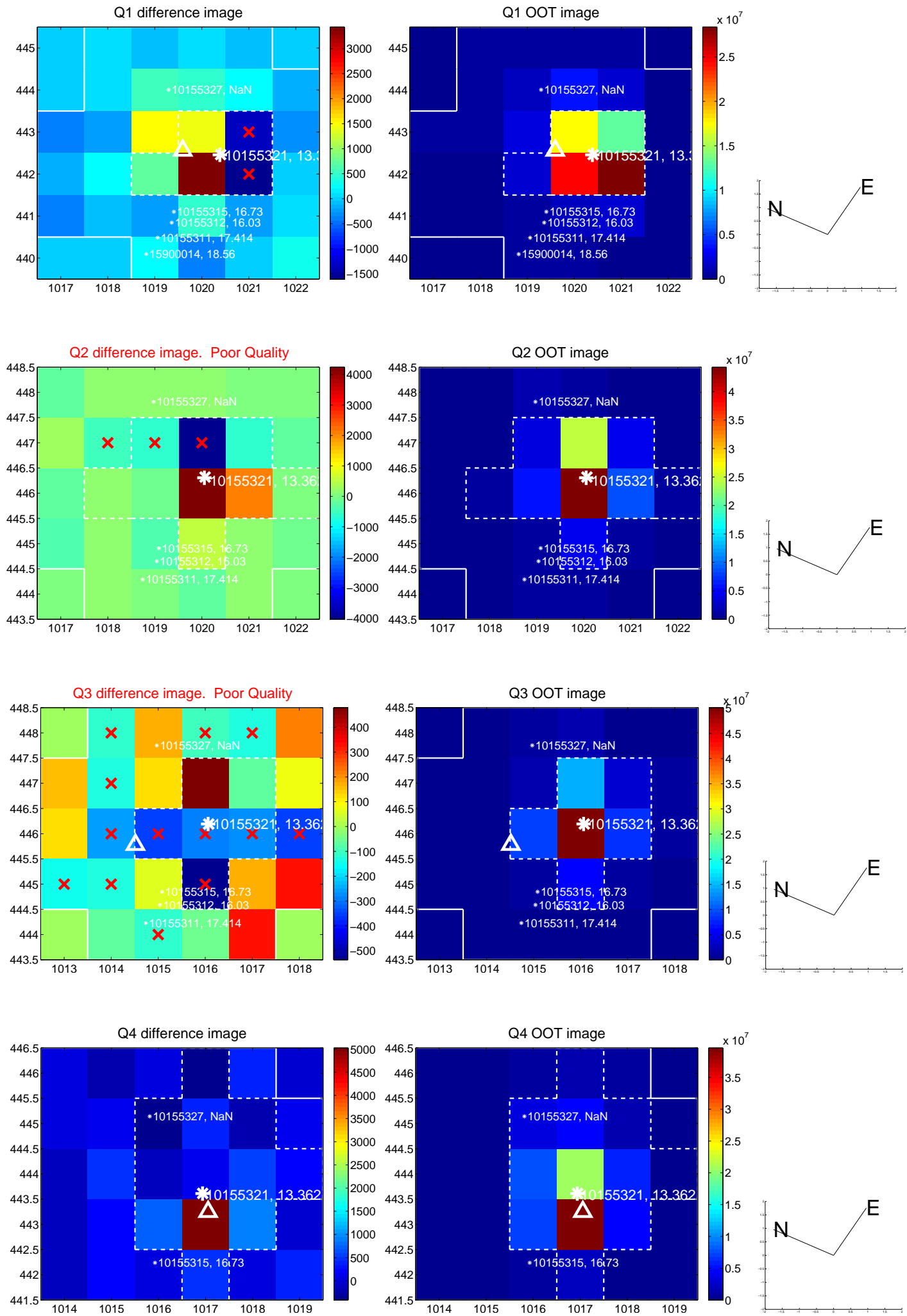
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.337 ± 0.444	0.76	-0.234 ± 0.443	-0.242 ± 0.445
PRF-fit source offset from KIC position	0.416 ± 0.435	0.96	-0.283 ± 0.440	-0.304 ± 0.431
photometric centroid source offset	0.34 ± 0.46	0.75	0.24 ± 0.44	-0.24 ± 0.47

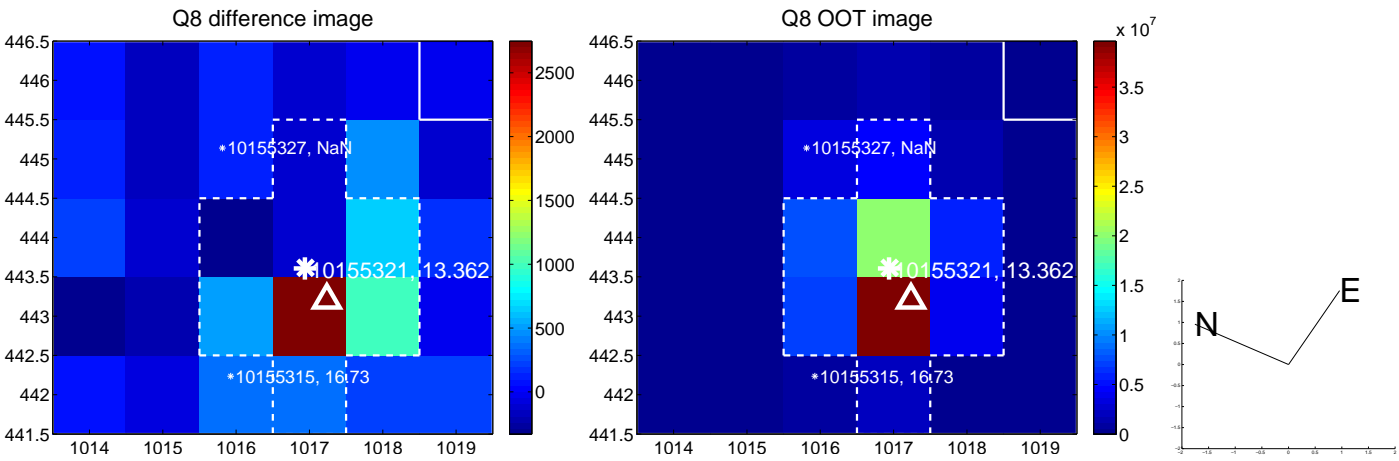
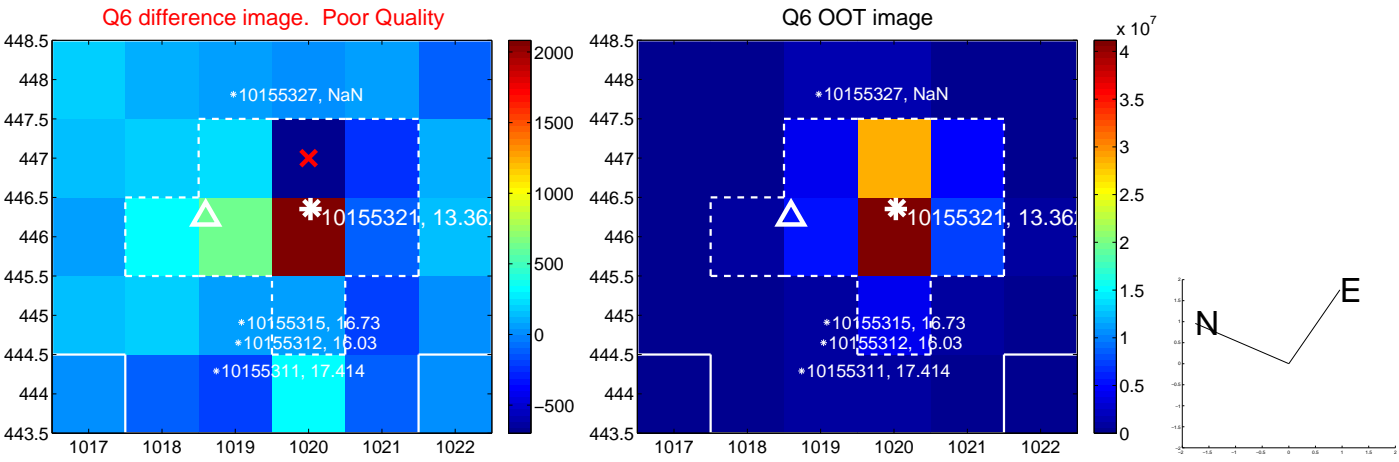
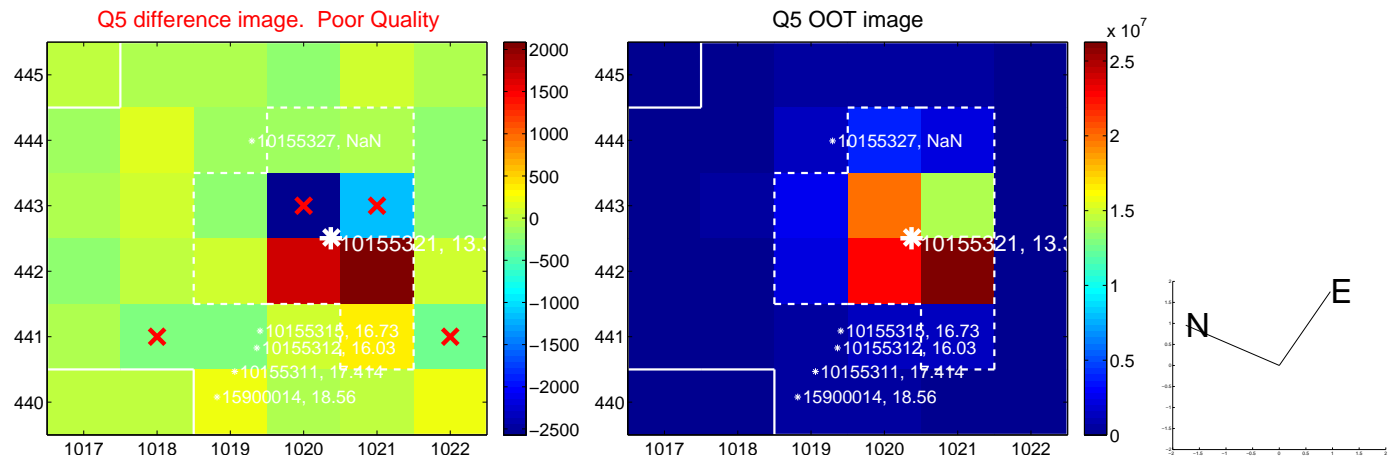


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

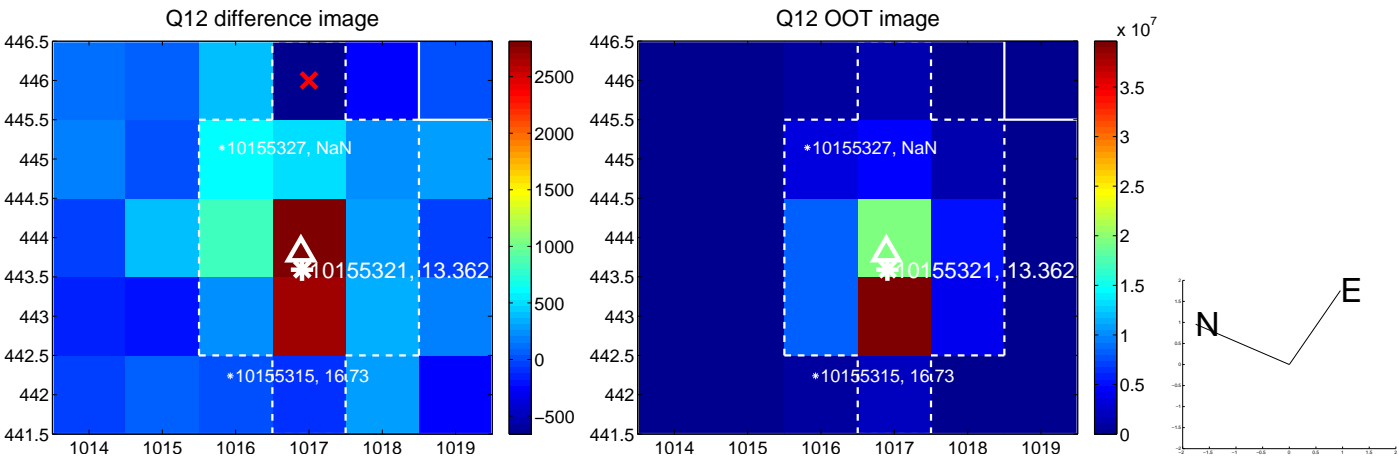
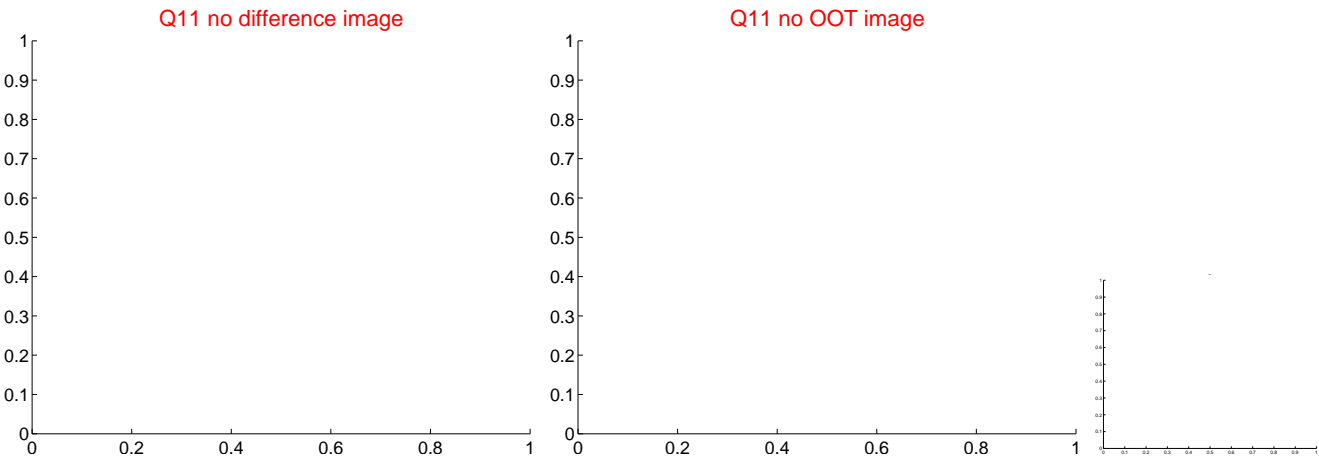
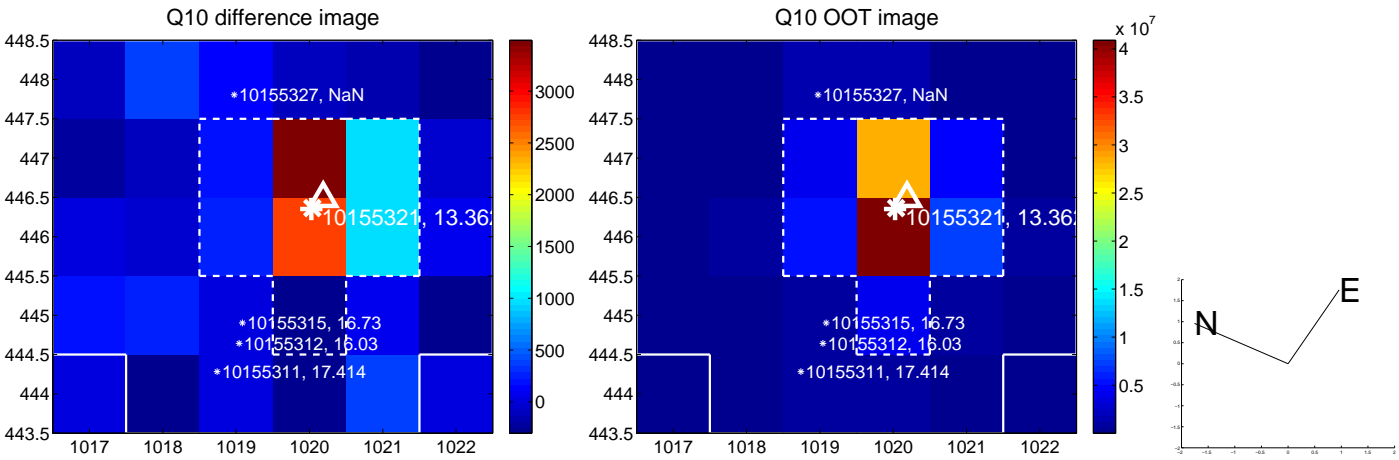
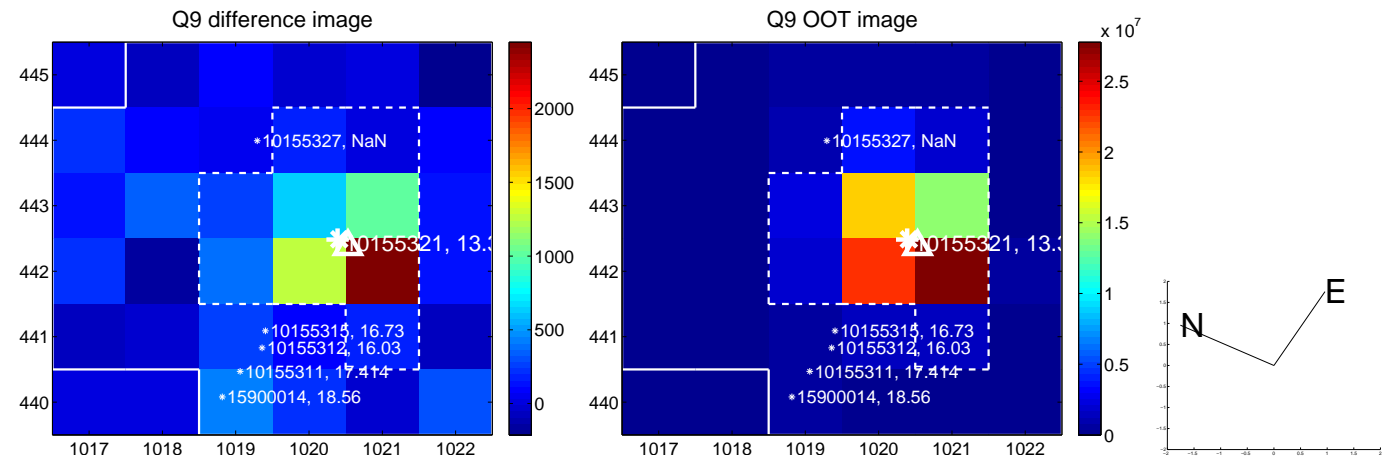
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



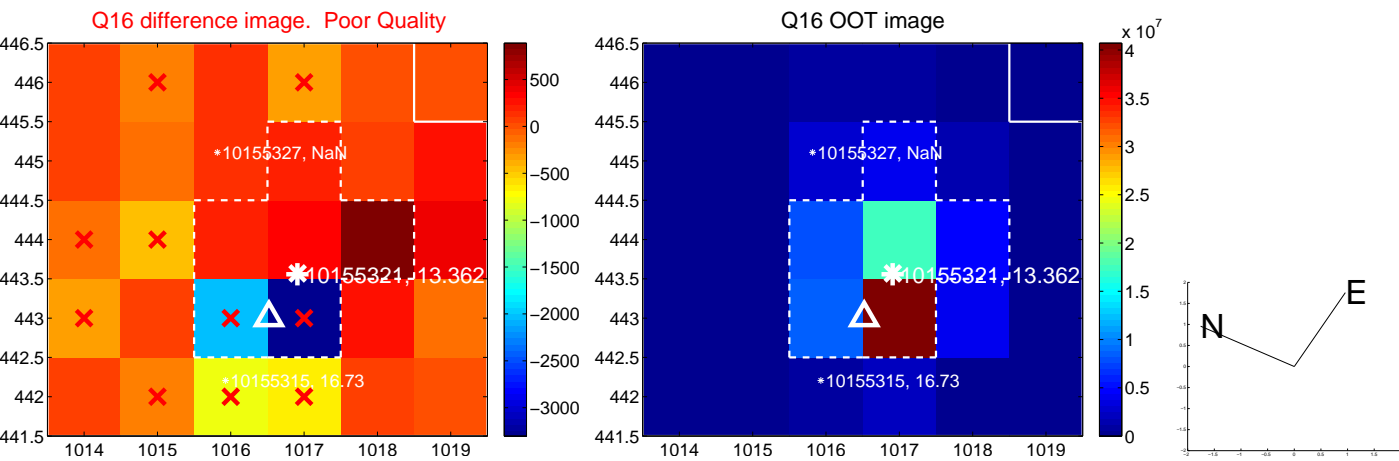
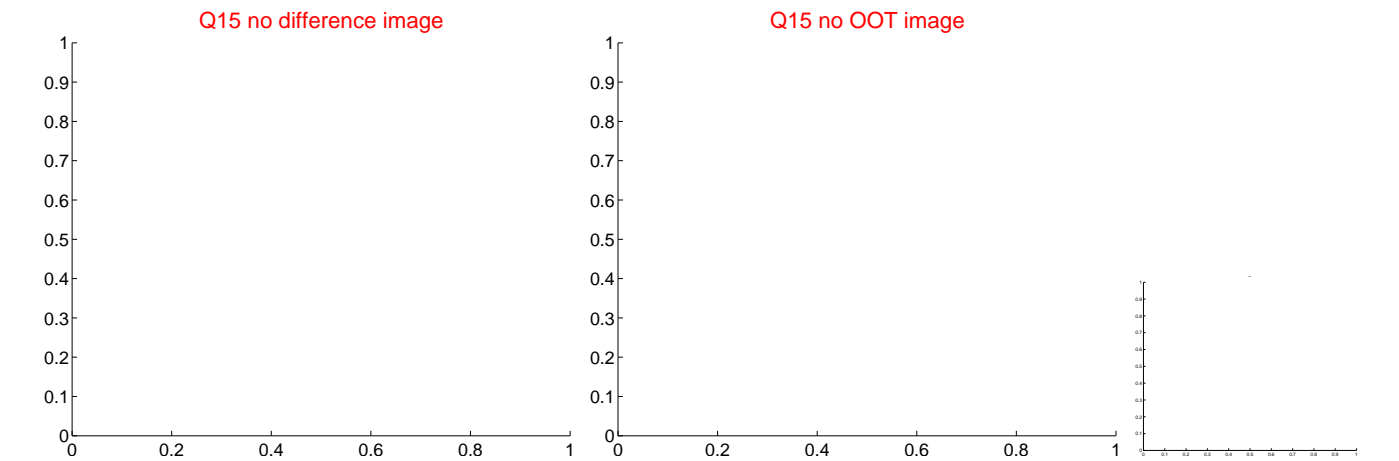
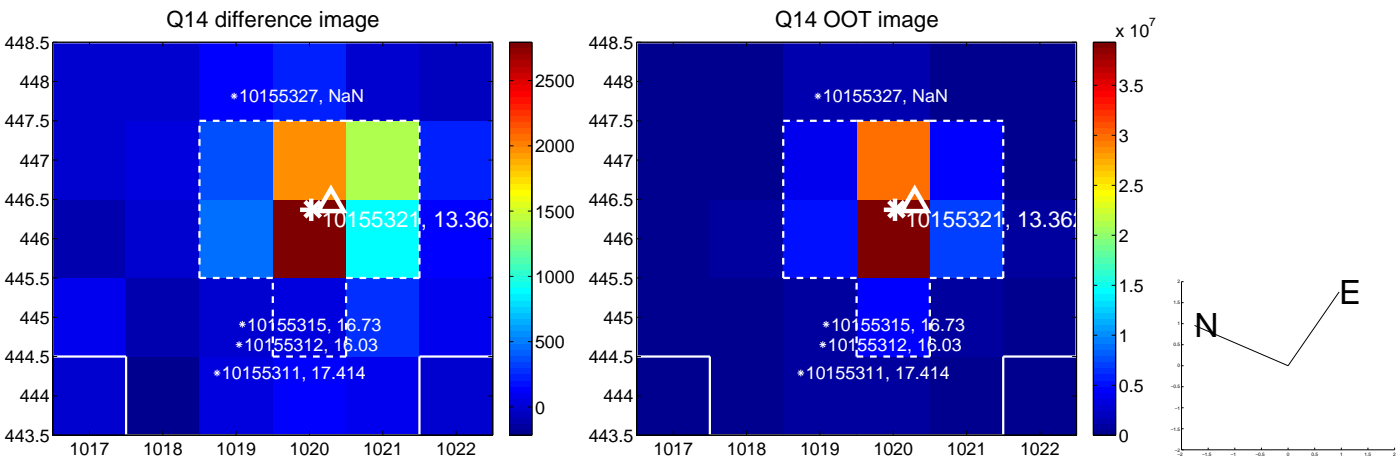
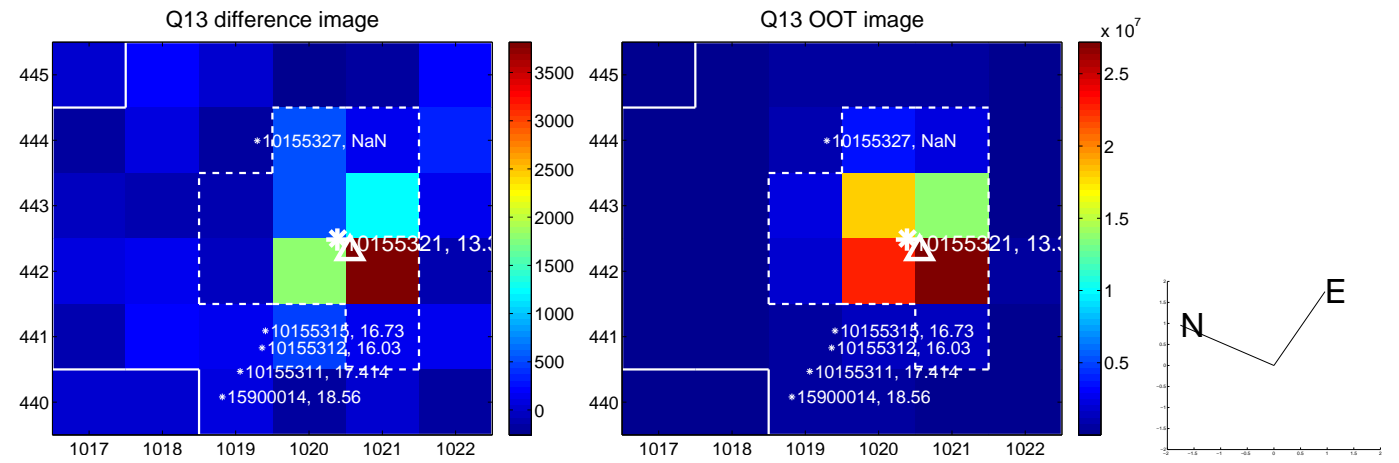
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



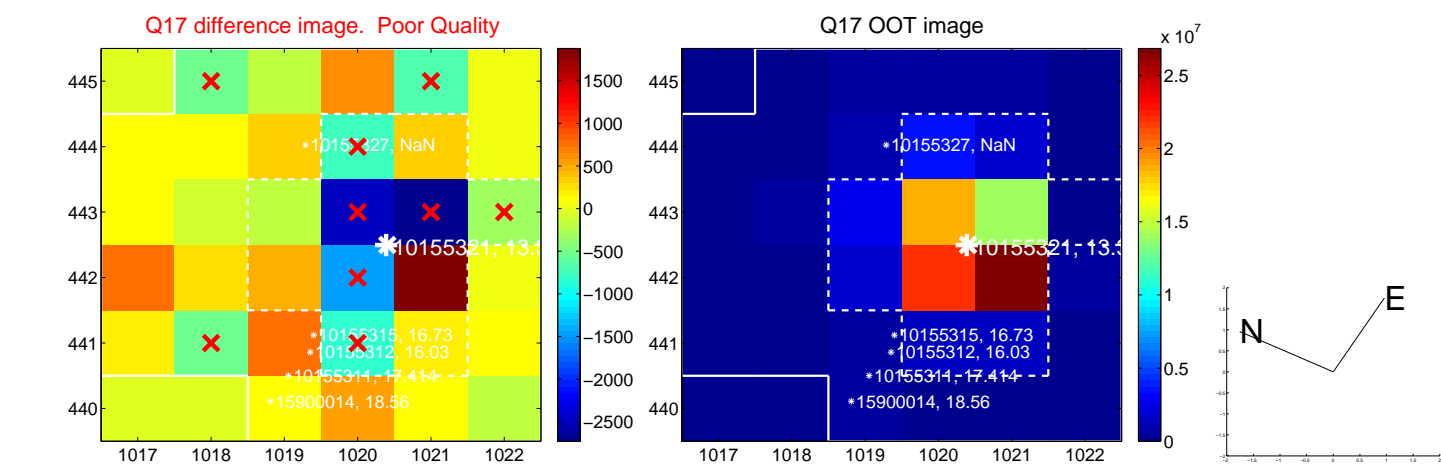
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



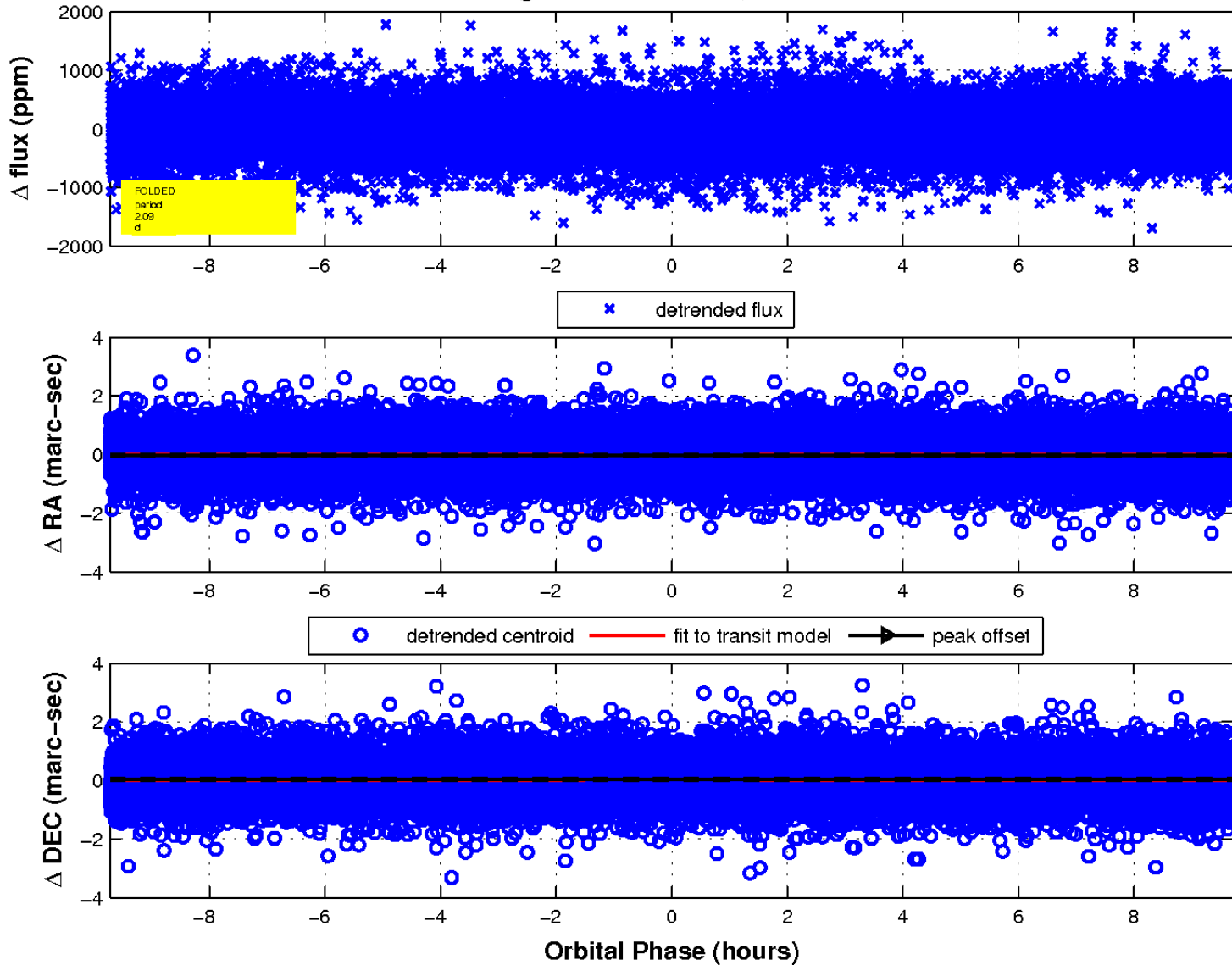
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

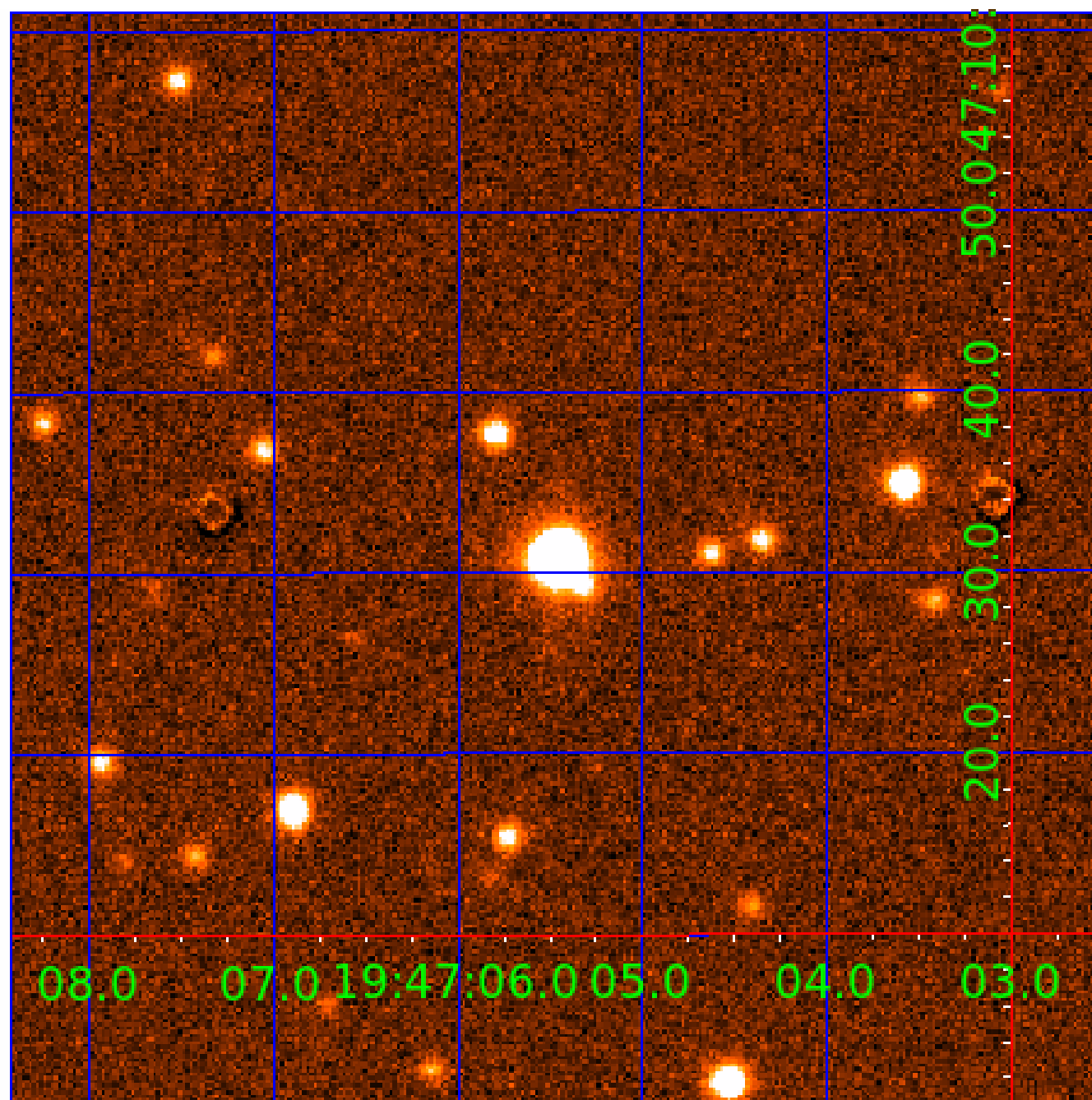


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 010155321

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})
010155321-01	OBS	No	2.086718	131.524308	78.6	3.241	8.7	8.5	1.85	7454	1.91	6788.14
010155321-02	OBS	No	2.086657	132.969598	117.3	4.317	8.4	10.5	1.85	7454	3.07	6788.40
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010155321-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010155321-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
010155321-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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 010155321-02

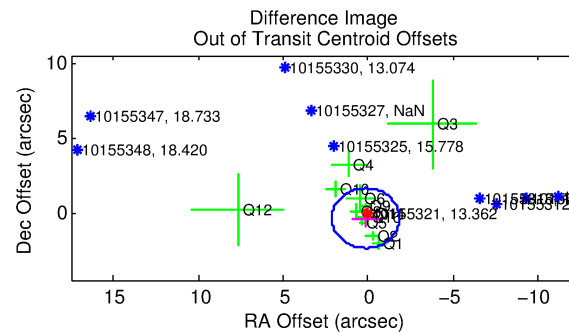
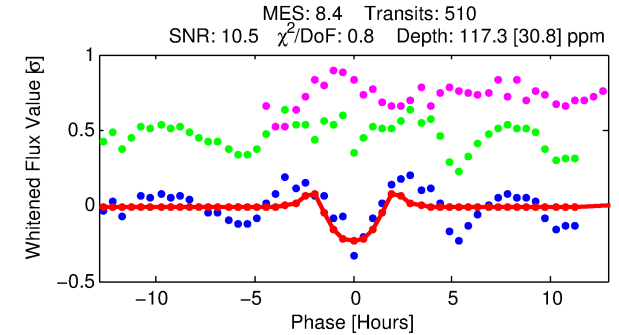
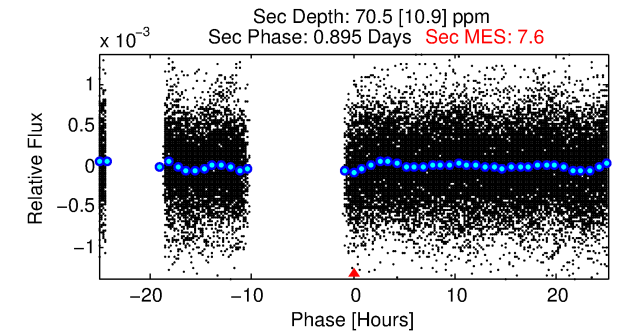
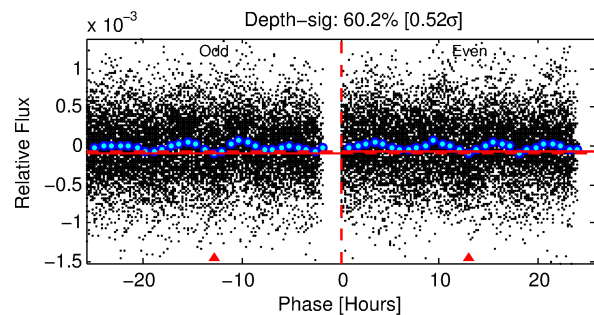
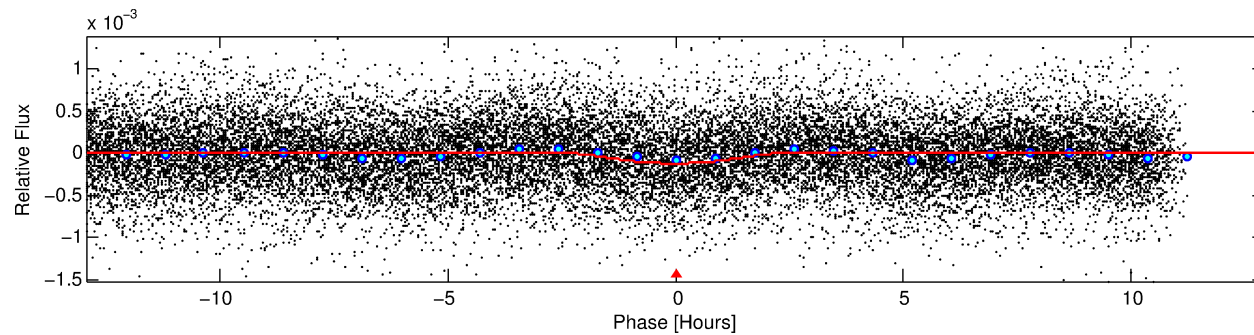
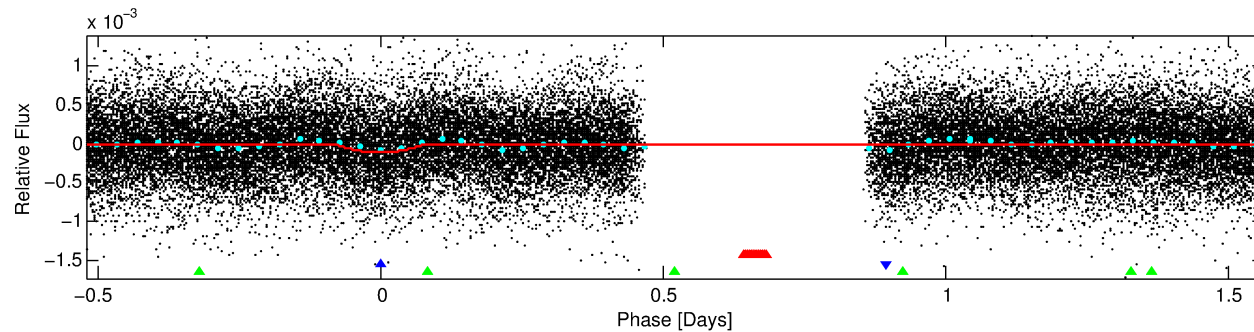
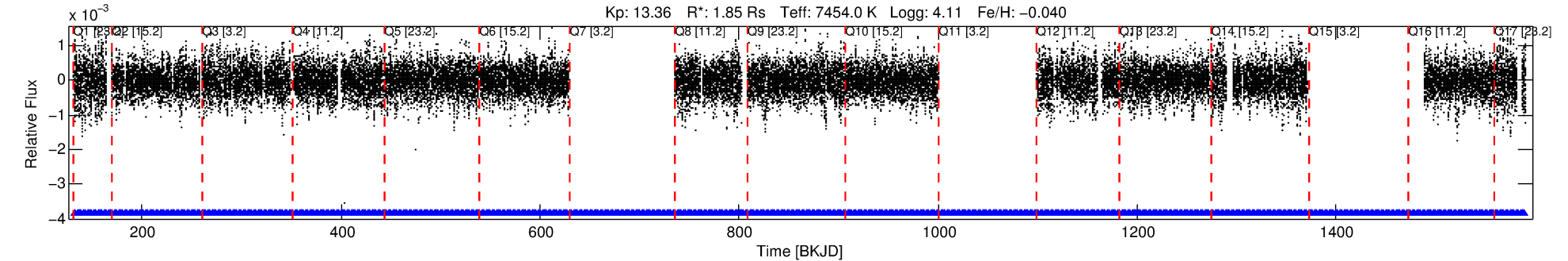
No Significant Match Found

DV One-Page Summary

KIC: 10155321 Candidate: 2 of 3 Period: 2.087 d

KOI: K04422 Corr: No Ephemeris Match

Kp: 13.36 R*: 1.85 Rs Teff: 7454.0 K Logg: 4.11 Fe/H: -0.040



DV Fit Results:

Period = 2.08666 [0.00002] d
Epoch = 132.9696 [0.0042] BKJD
Rp/R* = 0.0152 [0.0063]
a/R* = 1.27 [0.09]
b = 0.99 [0.01]
Seff = 6788.40 [2537.40]
Teff = 2315 [216] K
Rp = 3.07 [1.56] Re
a = 0.0374 [0.0089] AU
Ag = 5.76 [5.23] [0.91σ]
Teffp = 5543 [1193] K [2.66σ]

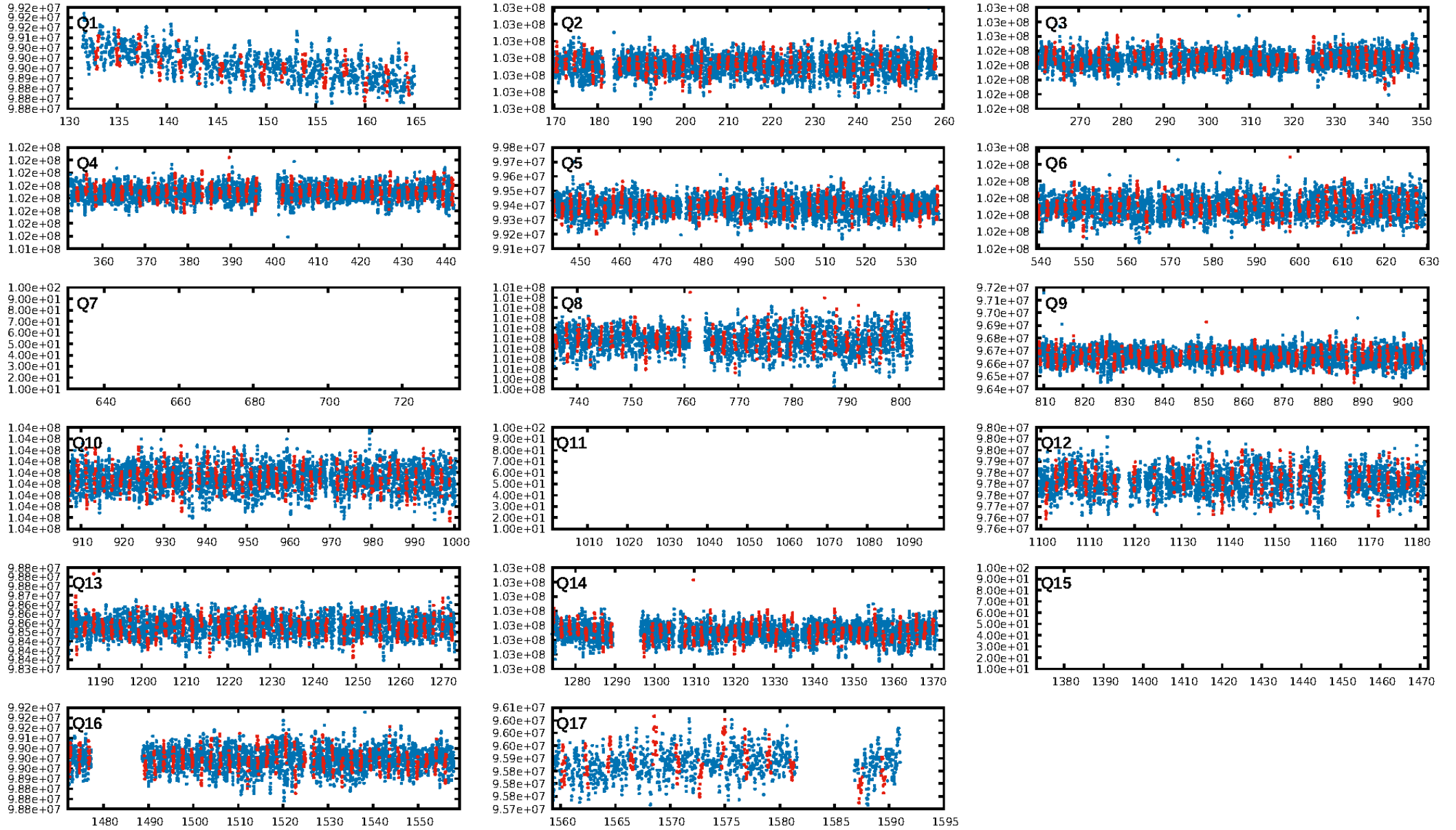
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.30e-12
RollingBand-fgt: 1.00 [481/481]
GhostDiagnostic-chr: 11.69
Centroid-sig: 11.4%
Centroid-so: 0.542 arcsec [1.56σ]
OotOffset-rm: 0.405 arcsec [0.61σ]
KicOffset-rm: 0.362 arcsec [0.62σ]
OotOffset-st: 4/1/4/3 [12]
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DiffImageQuality-fgm: 0.67 [8/12]
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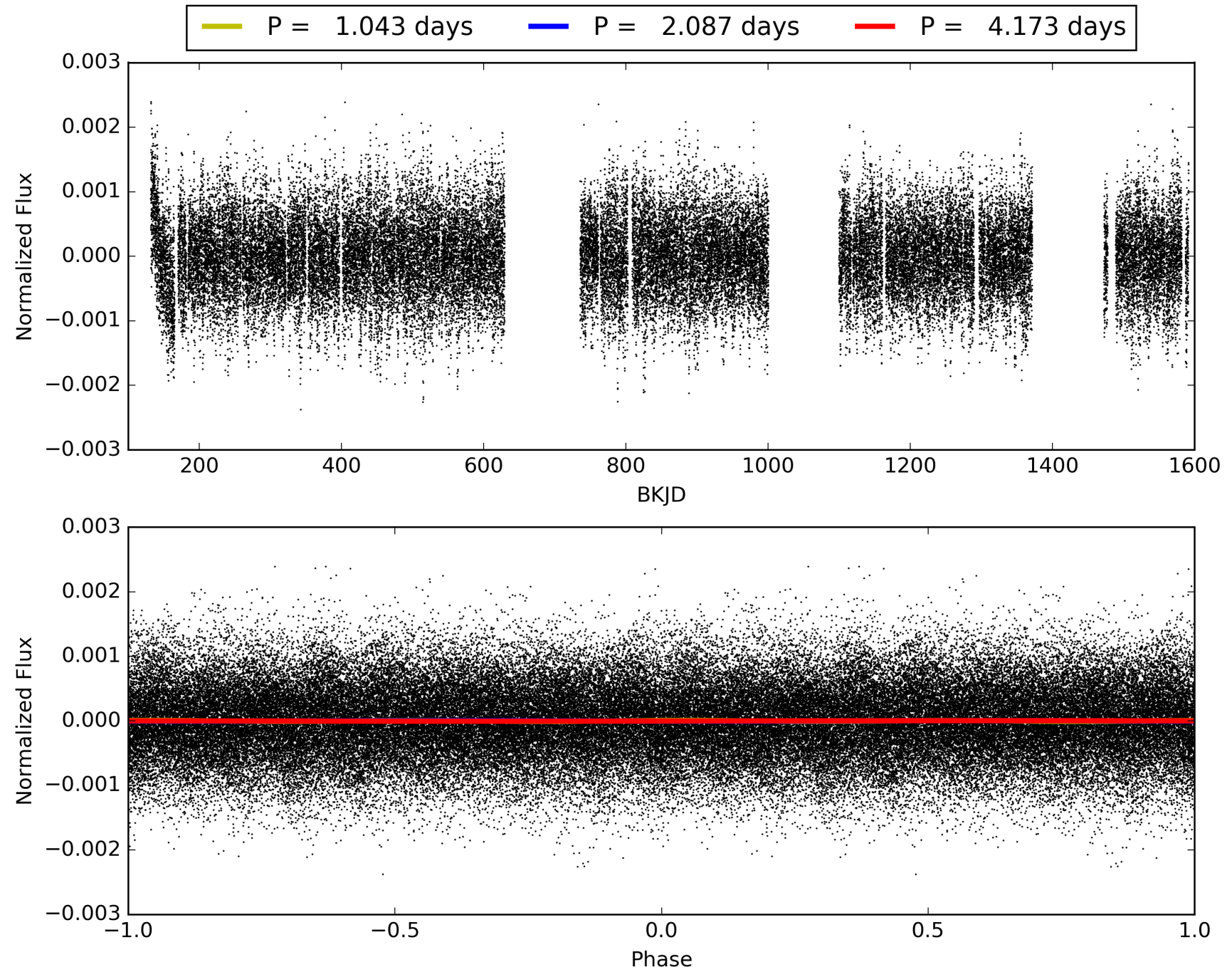
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:49:19 Z

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

TCE 010155321-02, PDC Light Curves

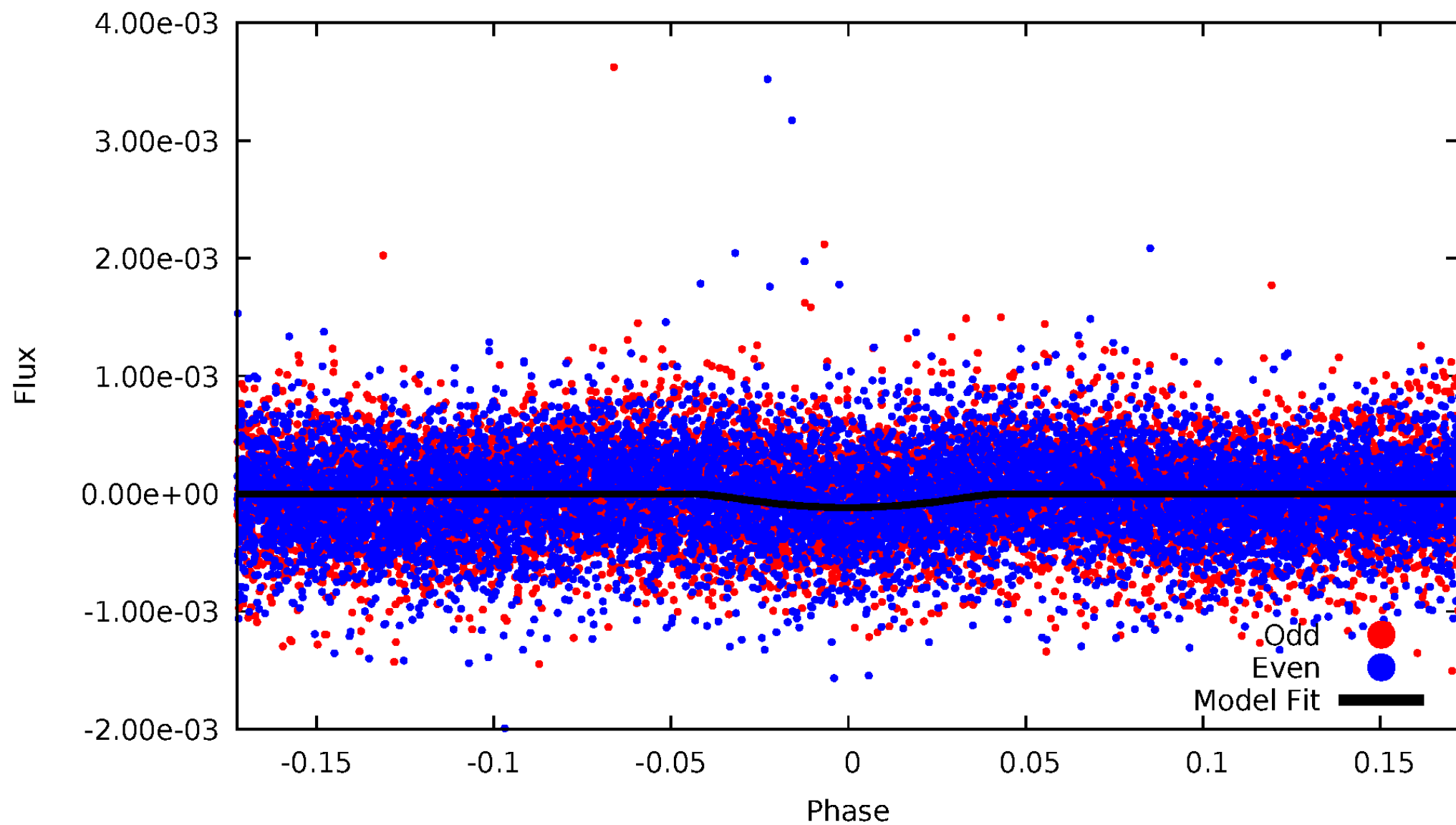


TCE 010155321-02



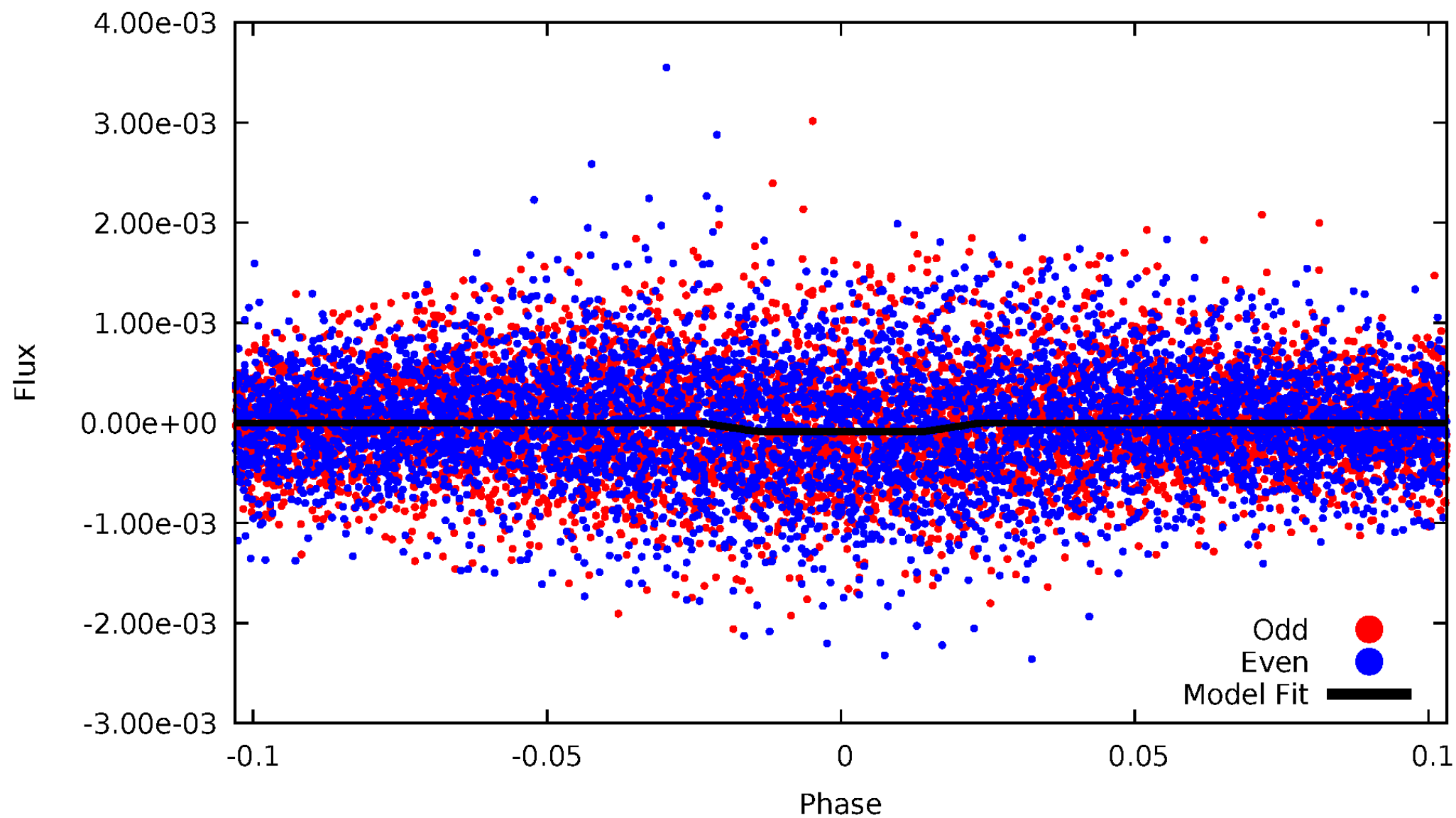
DV Odd/Even

TCE 010155321-02



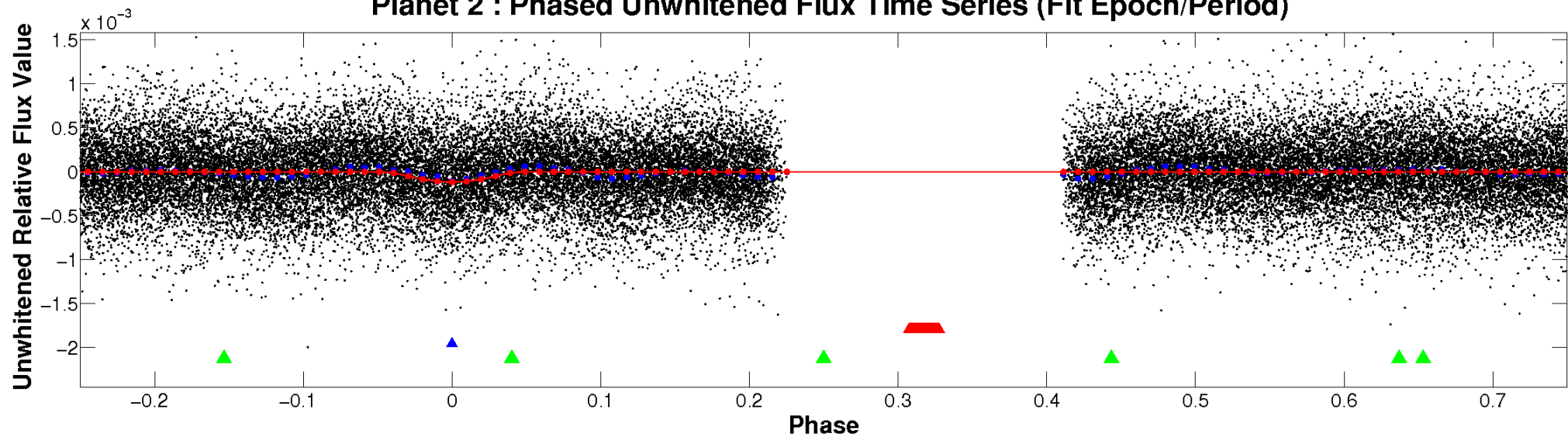
ALT Odd/Even

TCE 010155321-02

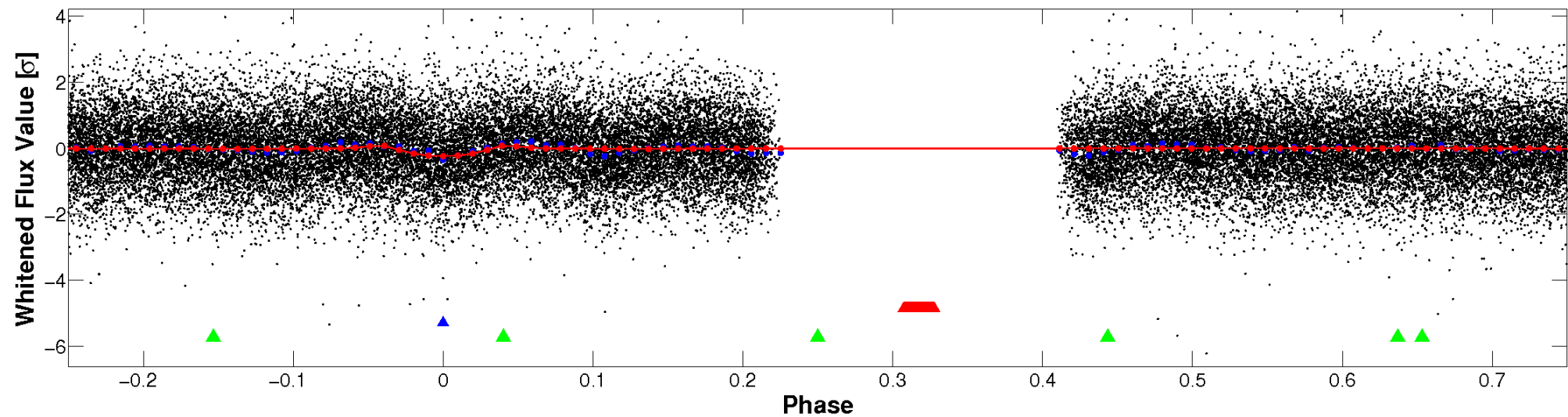


Non-Whitened Vs. Whitened Light Curve

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

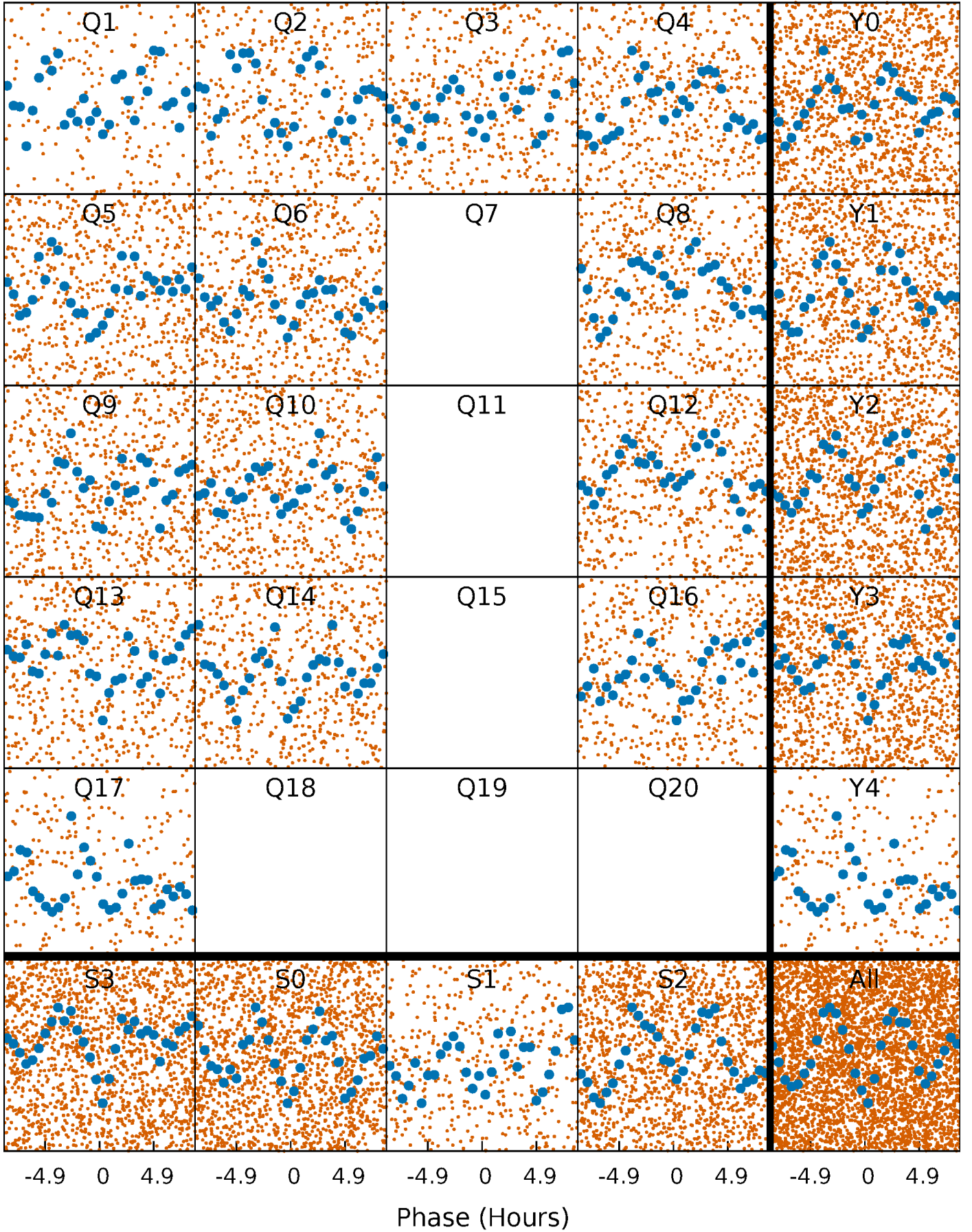


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



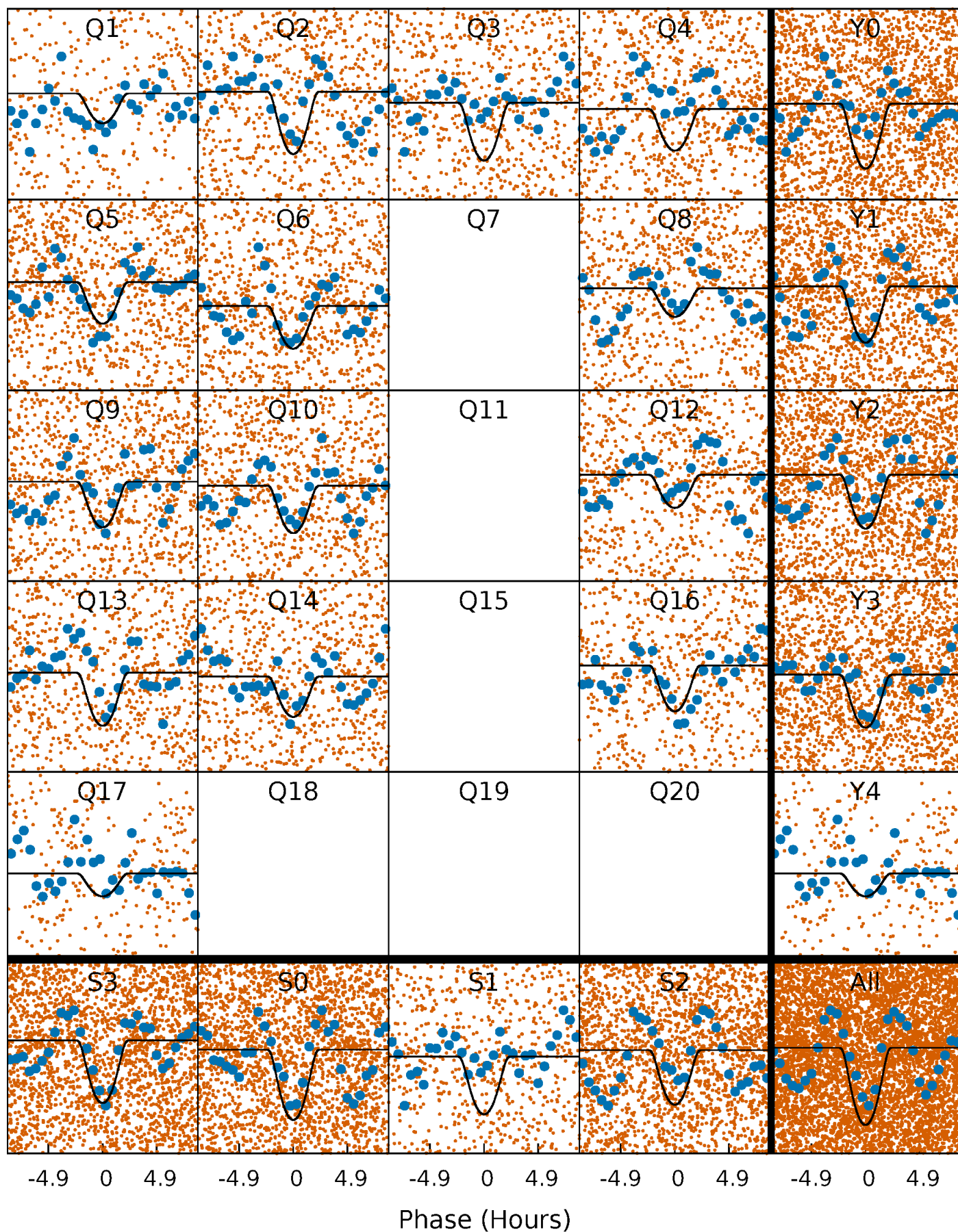
PDC Quarter-Phased Transit Curves

TCE 010155321-02 P= 2.086657 Days $T_0=132.969598$ (BKJD)



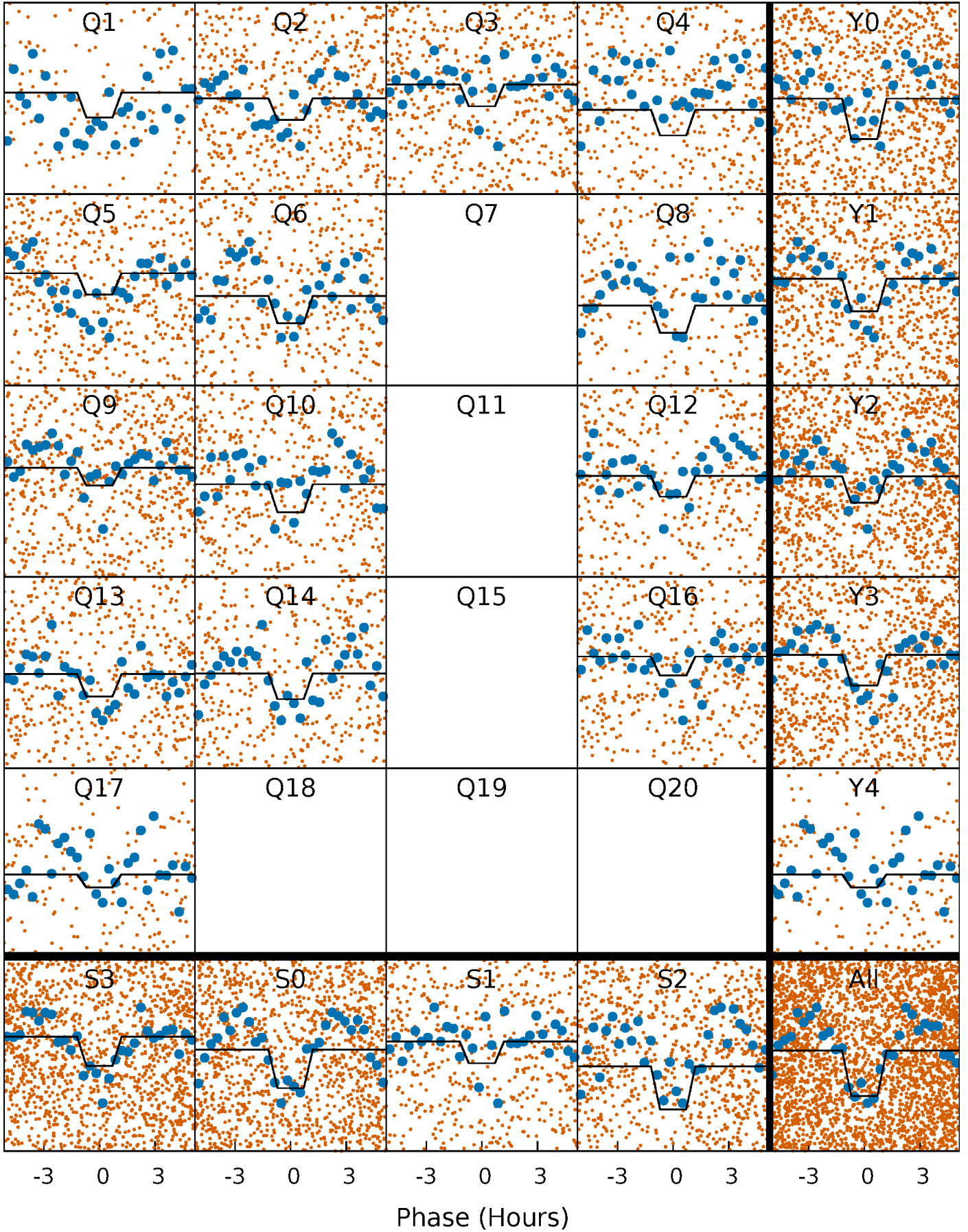
DV Quarter-Phased Transit Curves

TCE 010155321-02 P= 2.086657 Days $T_0=132.969598$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

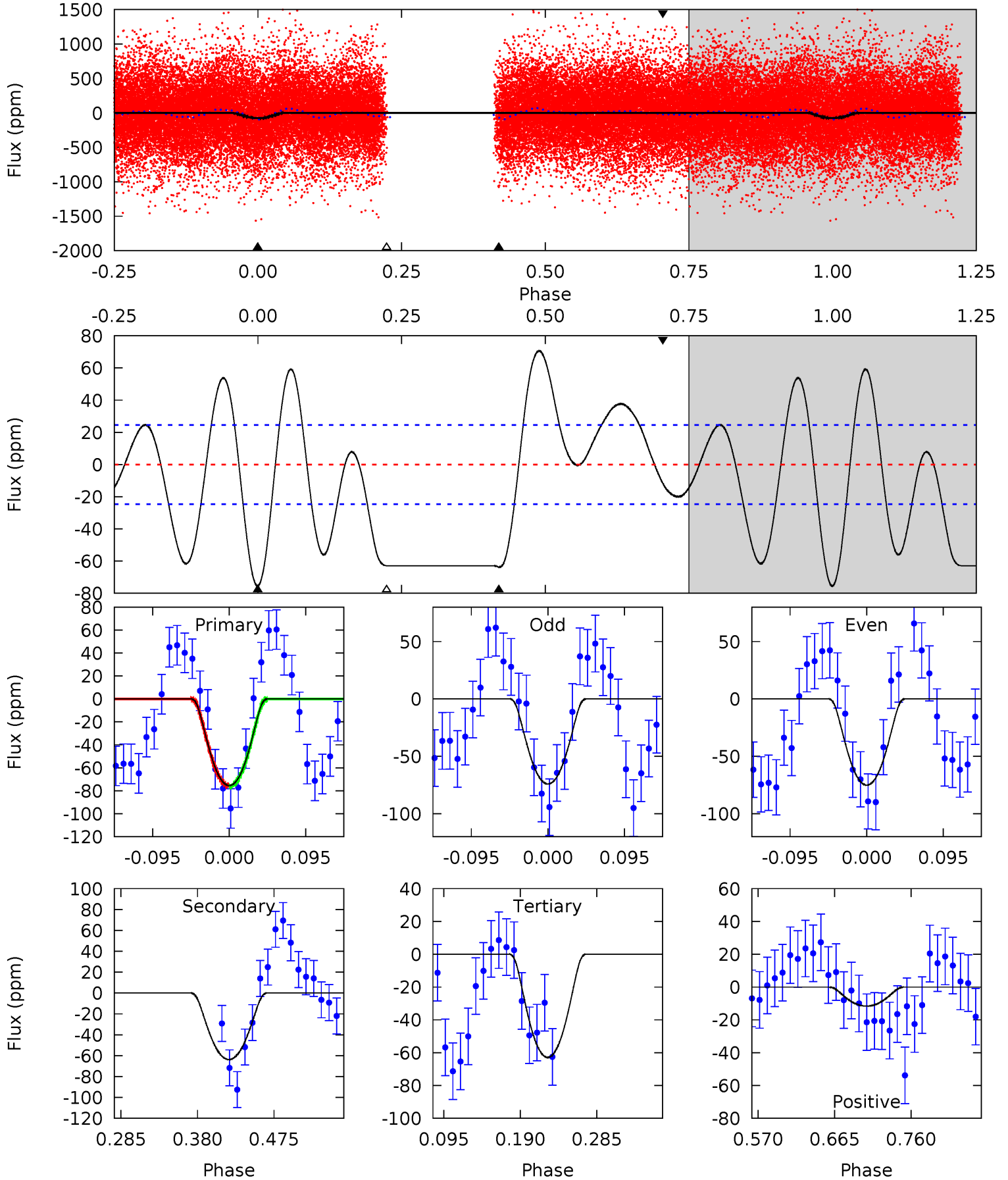
TCE 010155321-02 P= 2.086718 Days $T_0=132.950021$ (BKJD)



DV Model-Shift Uniqueness Test

010155321-02, P = 2.086657 Days, E = 130.882941 Days

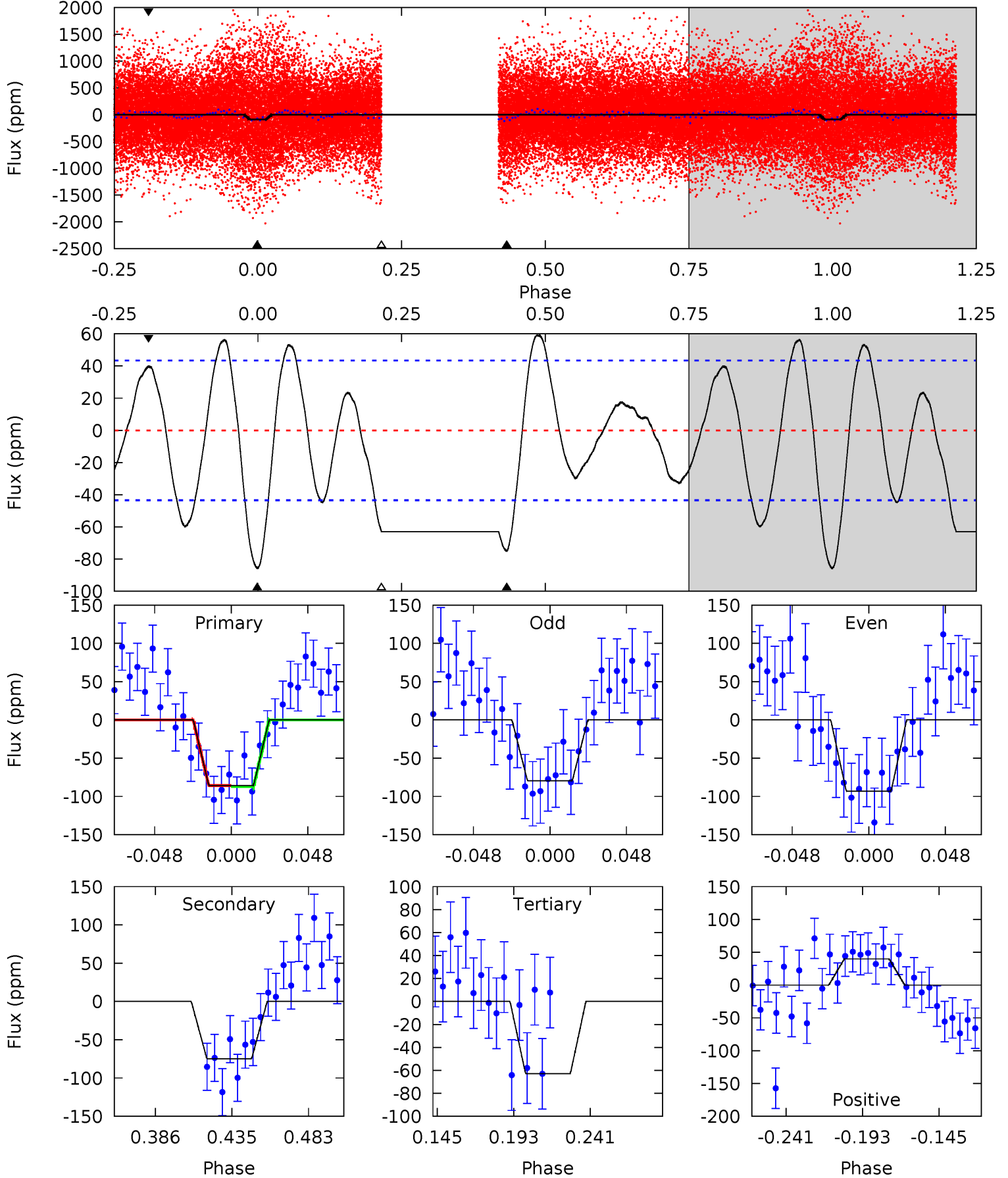
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	11.9	11.7	-2.17	4.58	1.67	5.33	2.34	16.2	0.15	14.0	0.09	1.01	0.48	0.03



Alt Model-Shift Uniqueness Test

010155321-02, P = 2.086718 Days, E = 130.863303 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.30	8.12	6.83	4.31	4.72	1.97	3.28	2.47	4.98	1.29	3.81	0.74	0.94	0.41	0.07



Stellar Parameters For KIC 010155321

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7454^{+233}_{-311}	$4.107^{+0.144}_{-0.176}$	$-0.040^{+0.200}_{-0.350}$	$1.853^{+0.548}_{-0.365}$	$1.602^{+0.200}_{-0.244}$	$0.354^{+0.261}_{-0.174}$
	+3%/-4%	+4%/-4%	+500%/-875%	+30%/-20%	+12%/-15%	+74%/-49%
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 010155321-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-64 ± 5	$3.10^{+1.42}_{-1.21}$	3244^{+233}_{-214}	5304^{+1441}_{-826}	$5.197^{+8.628}_{-2.818}$
Alt.	-75 ± 9	$1.92^{+1.35}_{-1.12}$	3235^{+246}_{-228}	6983^{+5630}_{-1641}	15^{+83}_{-10}

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 $A_{\text{obs}} \gg 1.0$

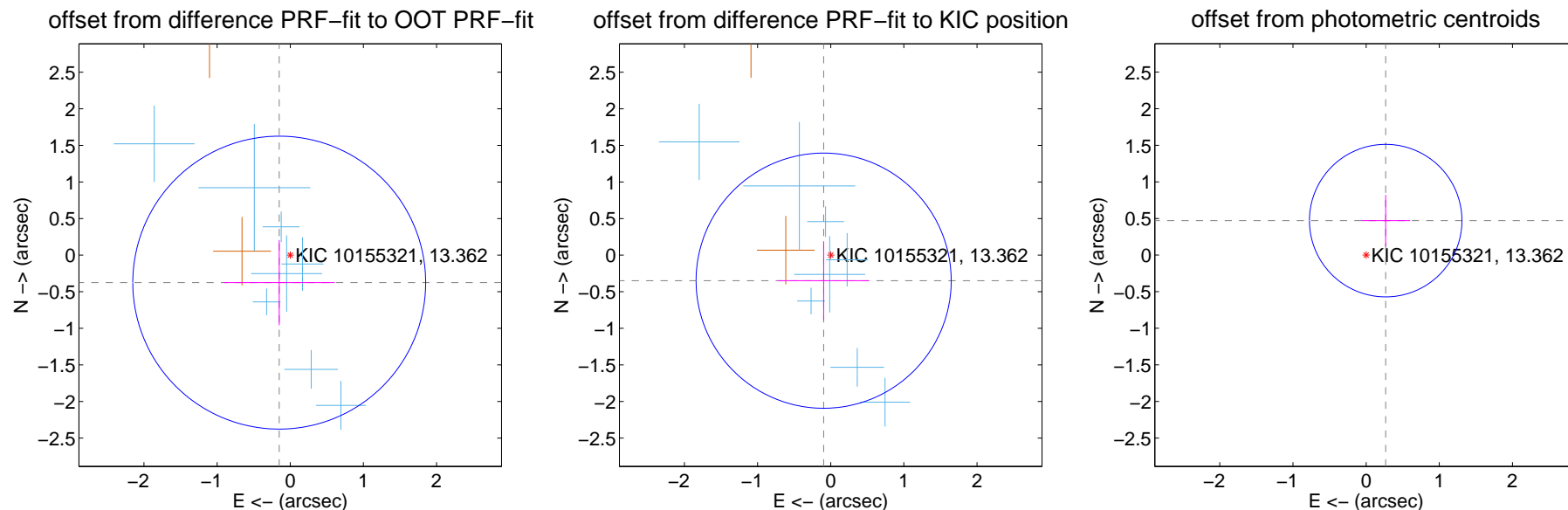
DV Centroid Data

Supplemental centroid analysis for 010155321-02. Kepler magnitude: 13.36. Transit SNR 10.46

There are 8 quarters with good PRF difference image offsets

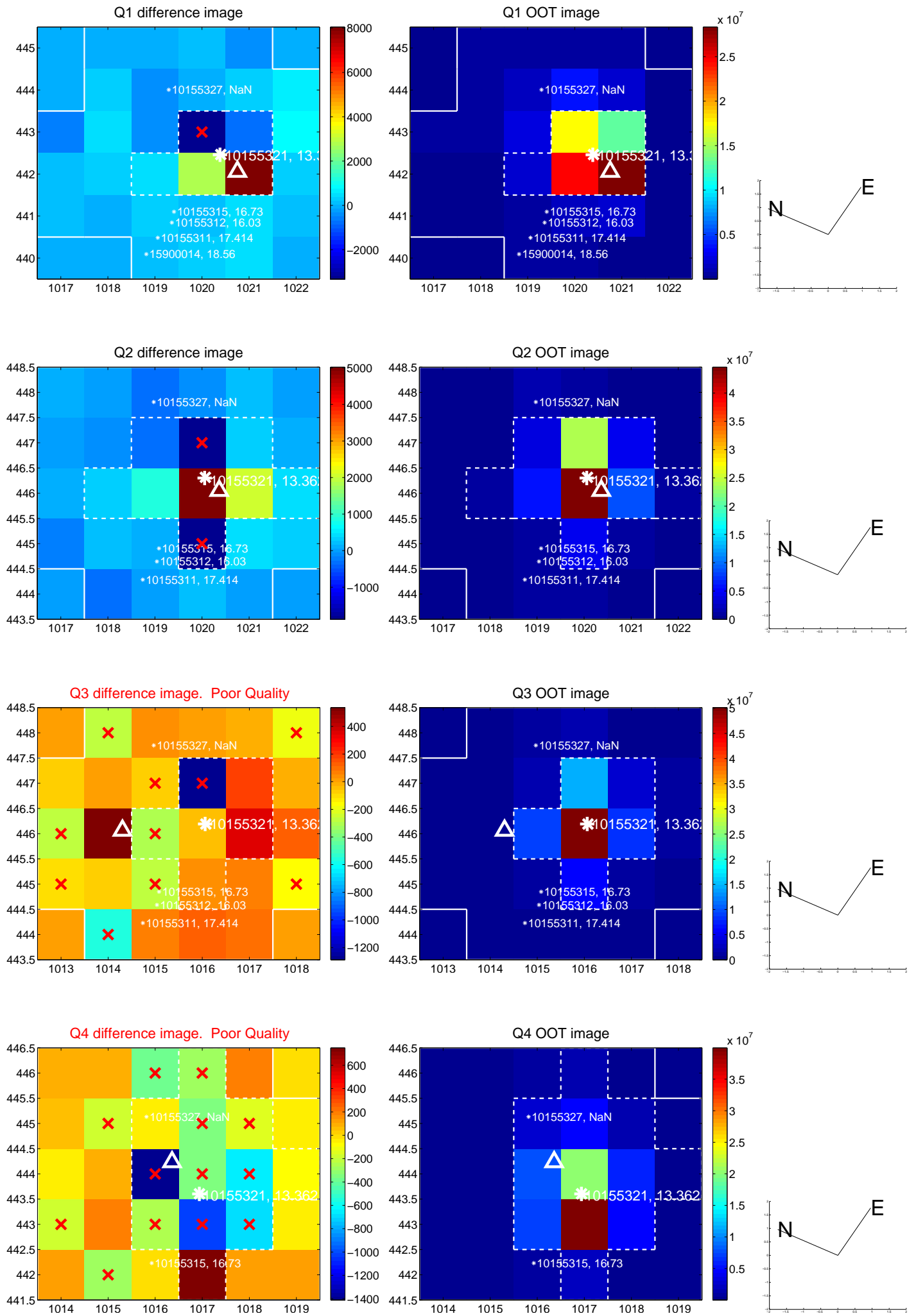
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.405 ± 0.667	0.61	0.151 ± 0.757	-0.376 ± 0.583
PRF-fit source offset from KIC position	0.362 ± 0.581	0.62	0.097 ± 0.624	-0.349 ± 0.538
photometric centroid source offset	0.54 ± 0.35	1.56	-0.27 ± 0.33	0.47 ± 0.35

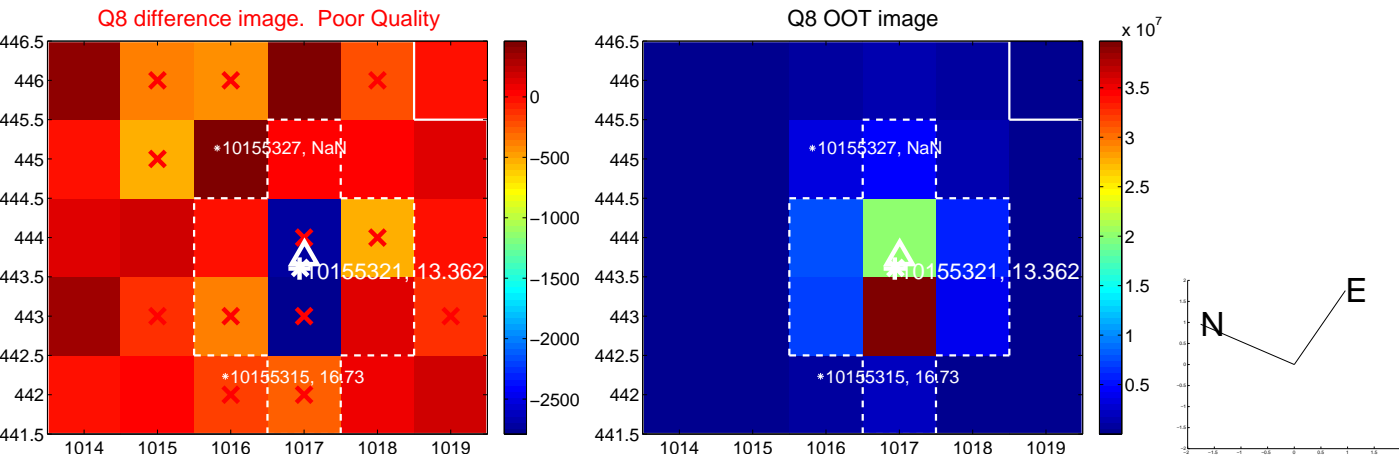
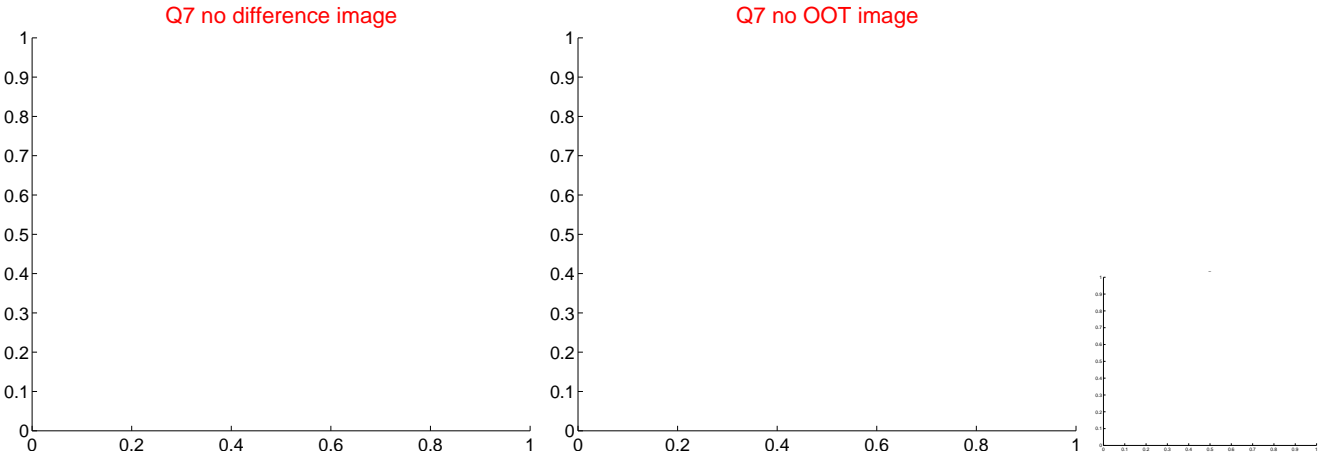
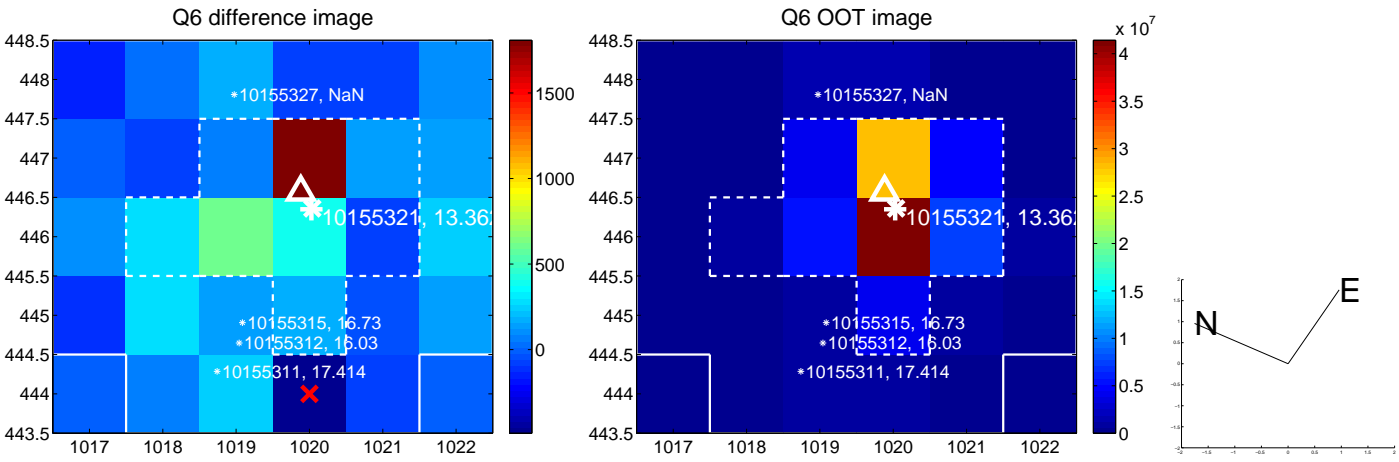
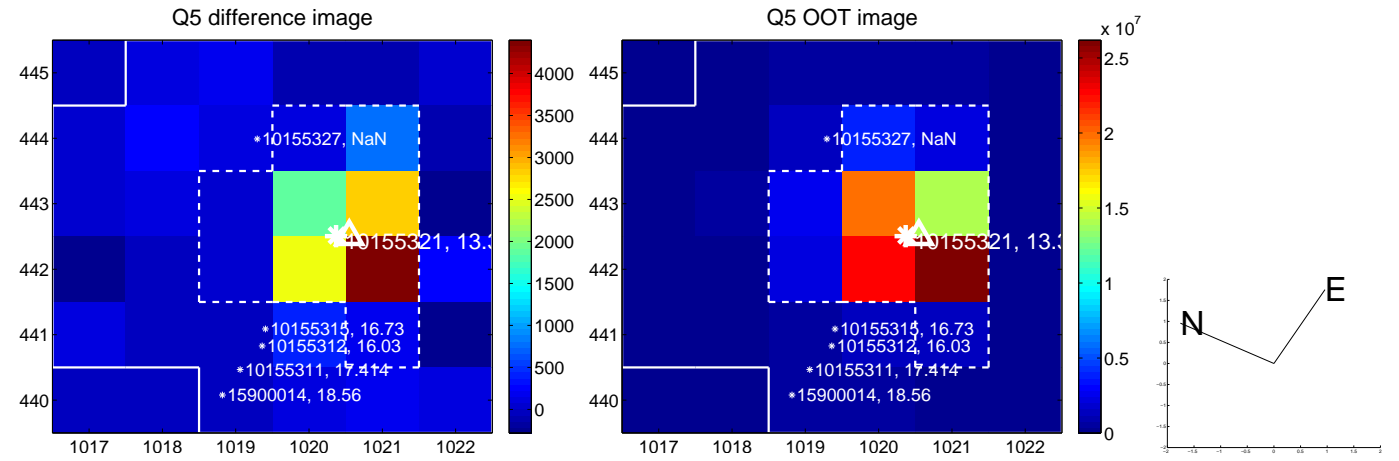


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

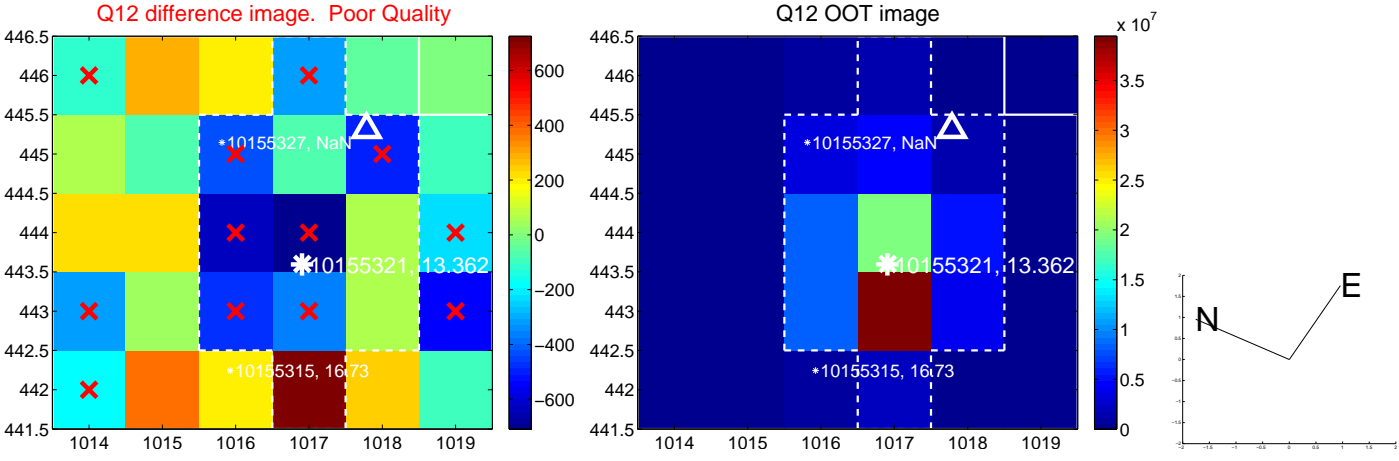
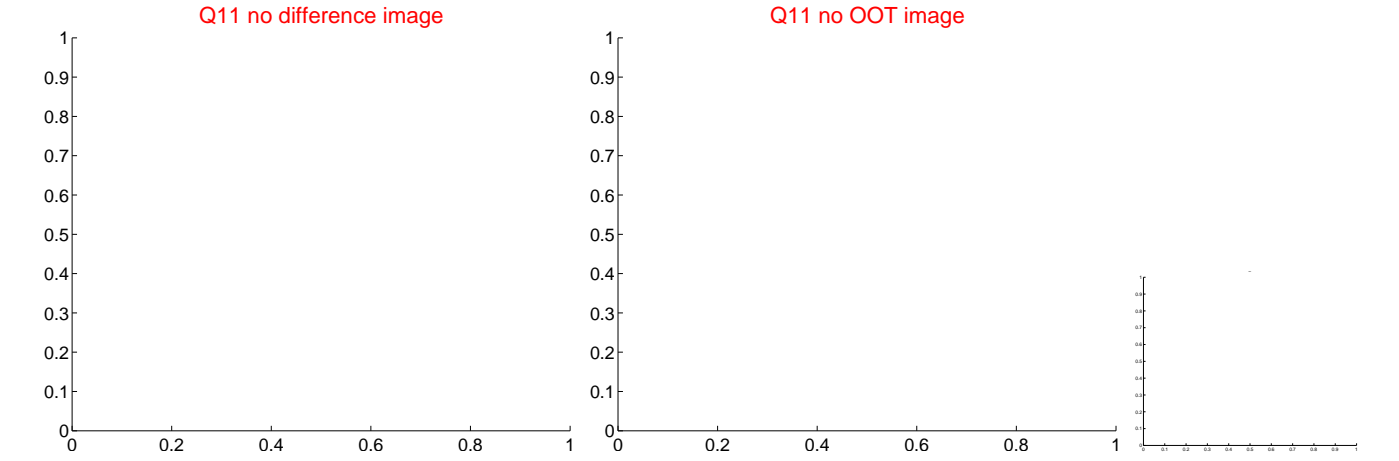
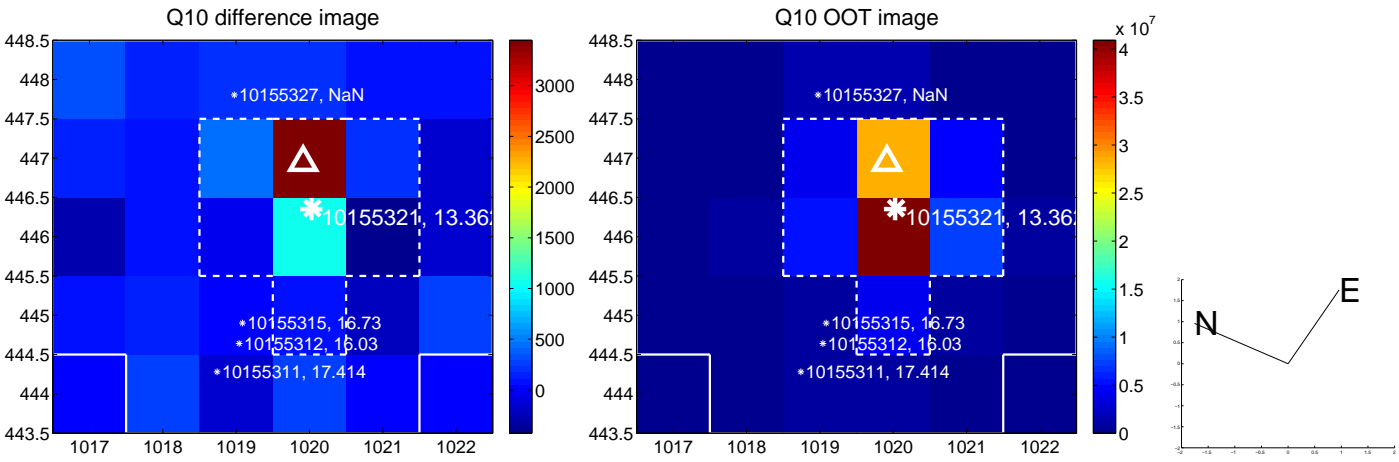
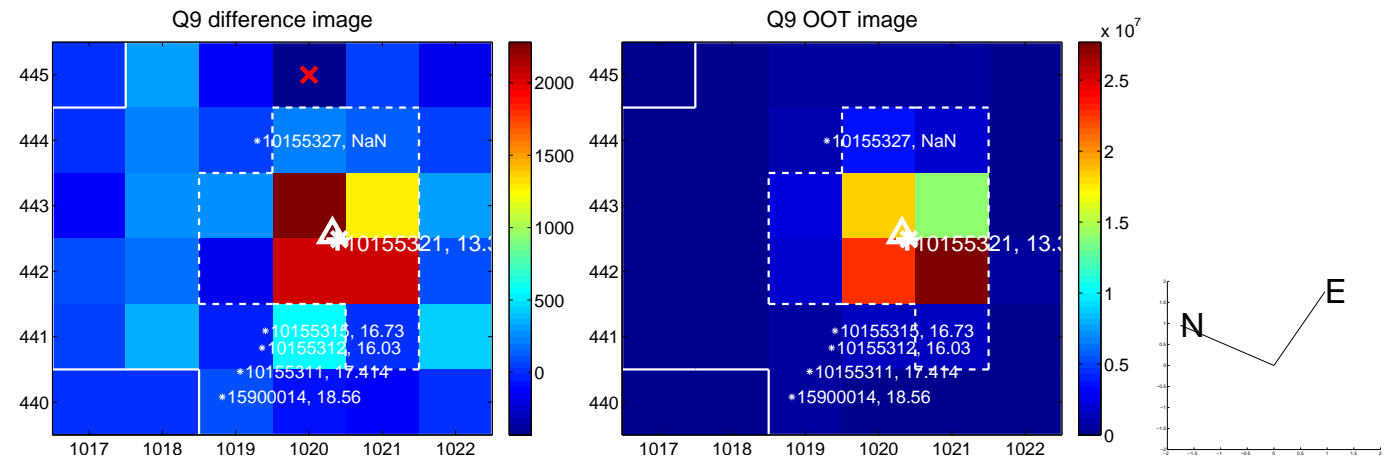
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



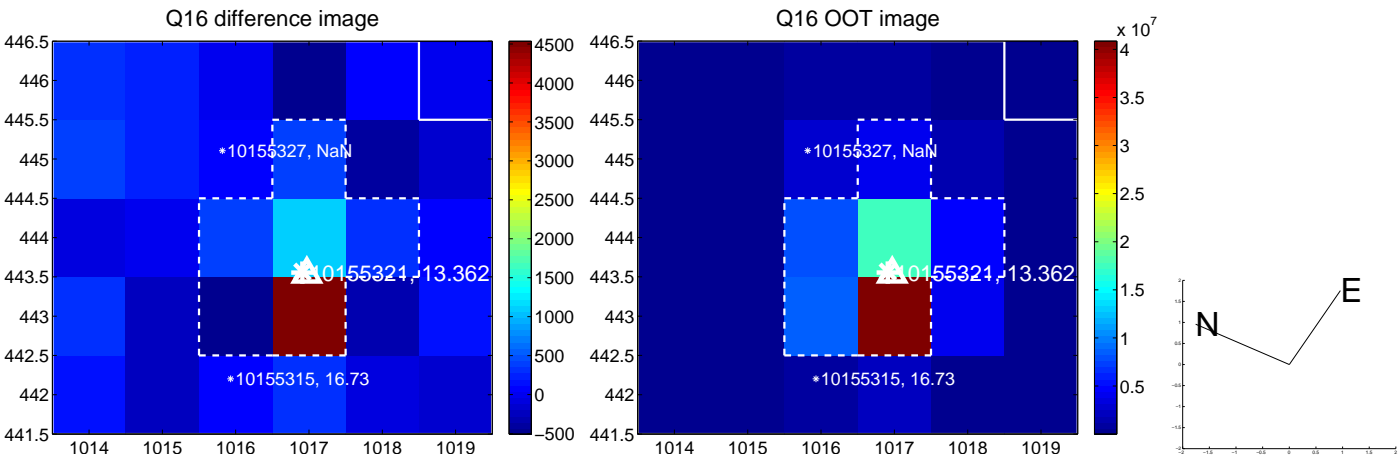
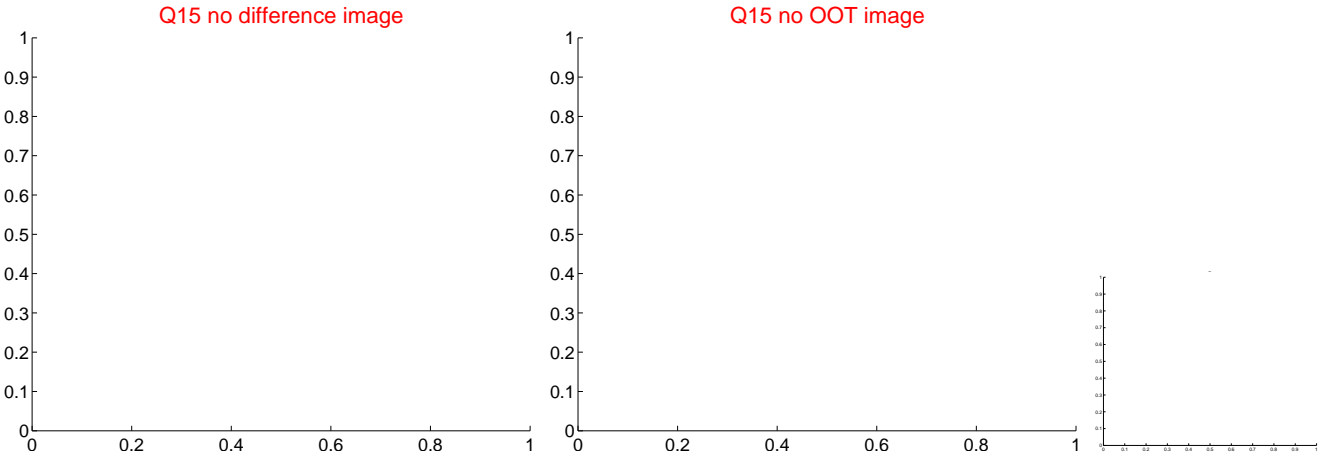
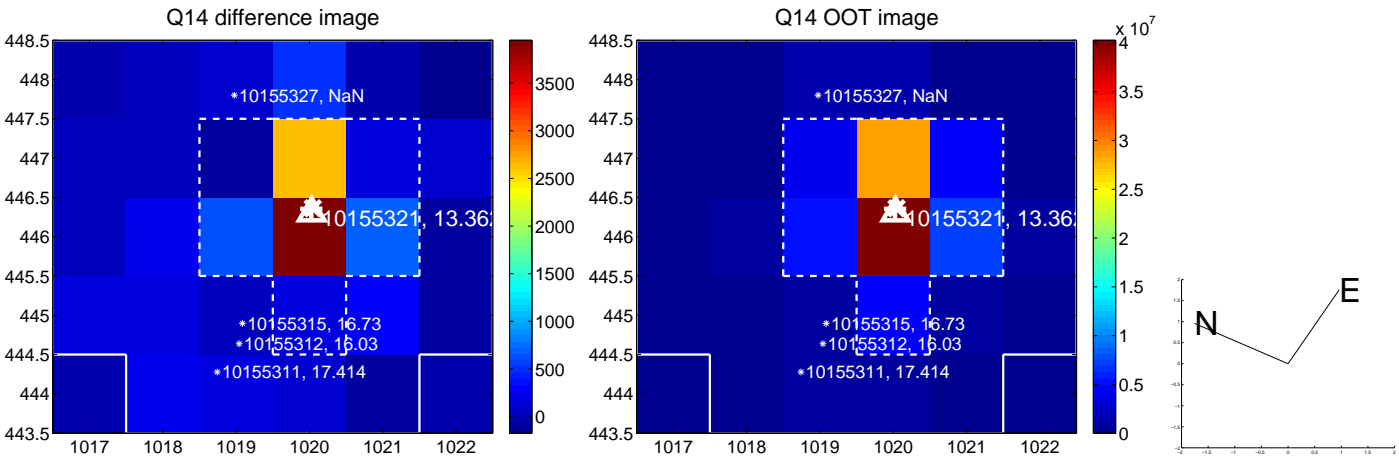
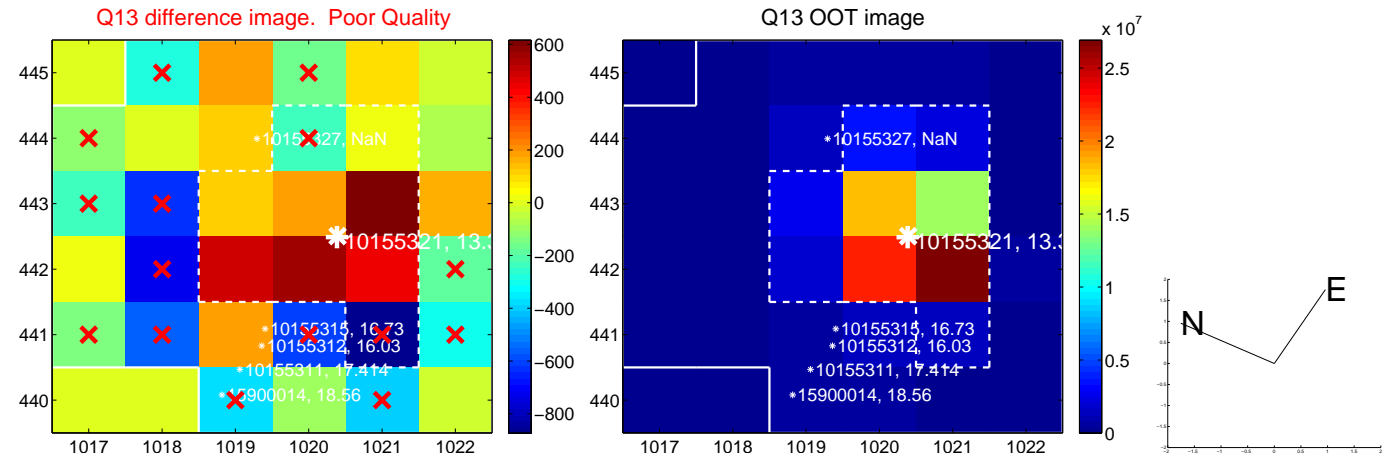
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



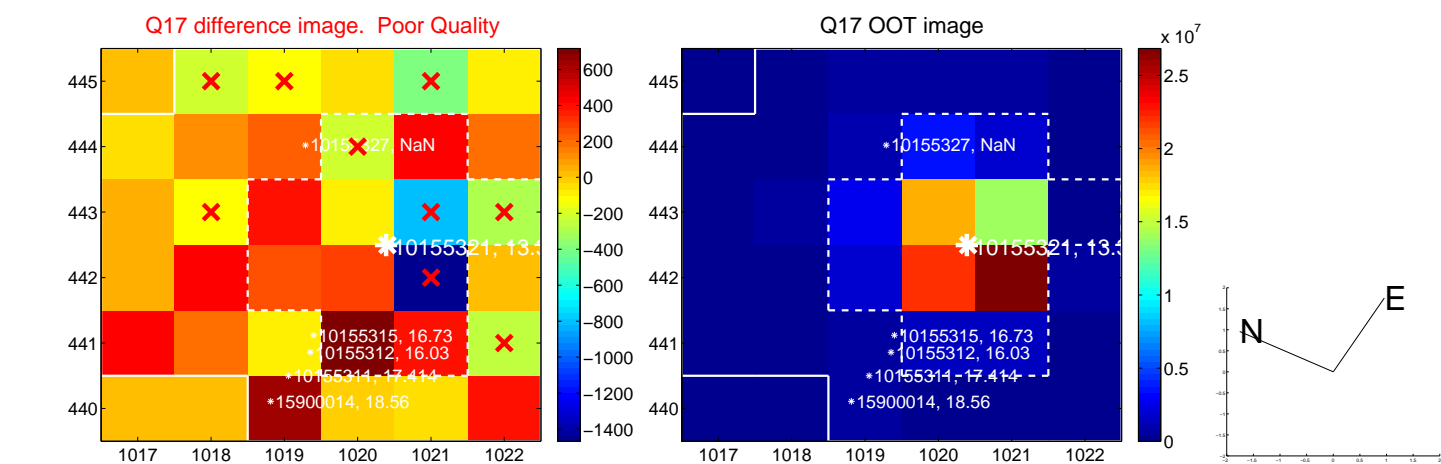
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



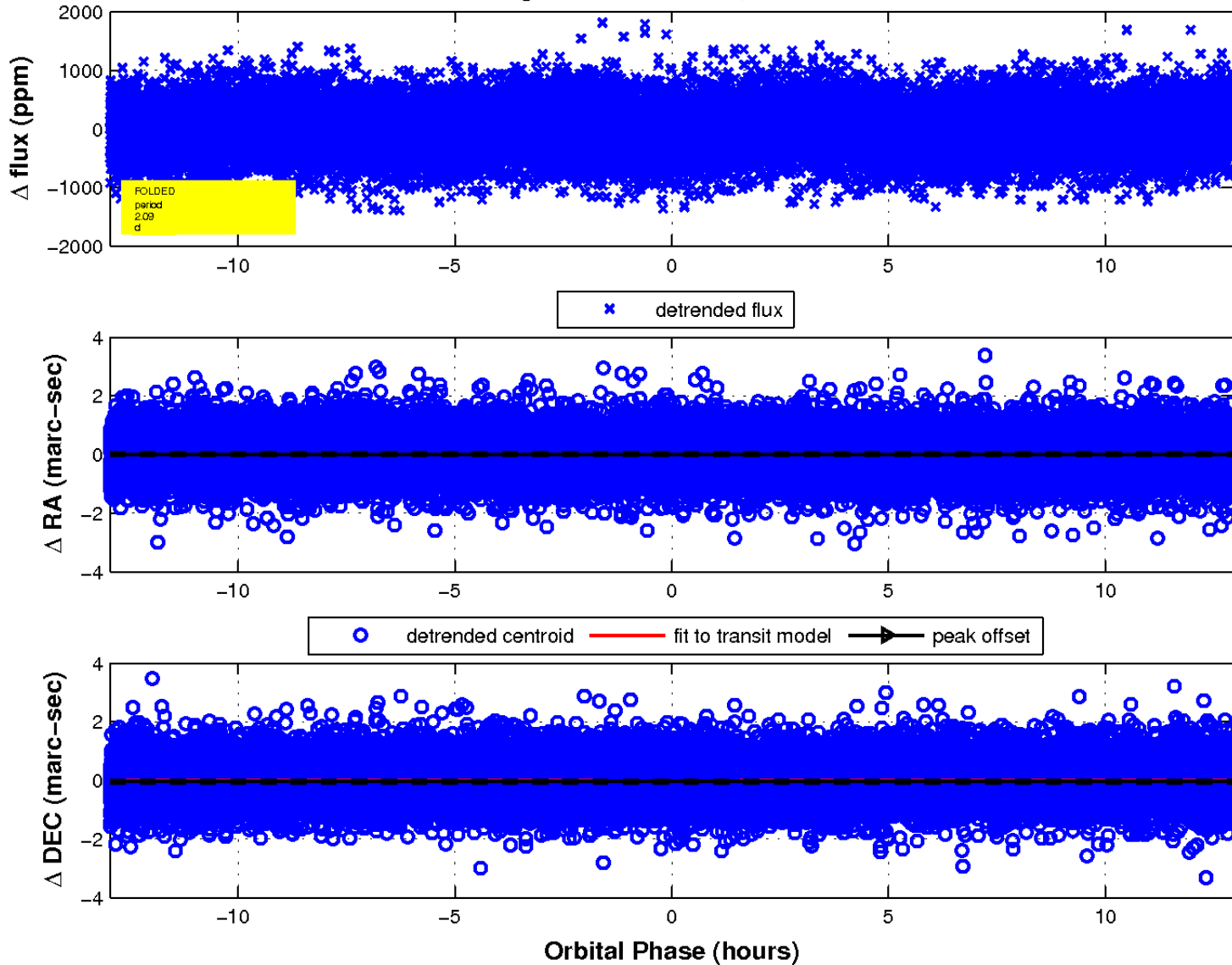
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

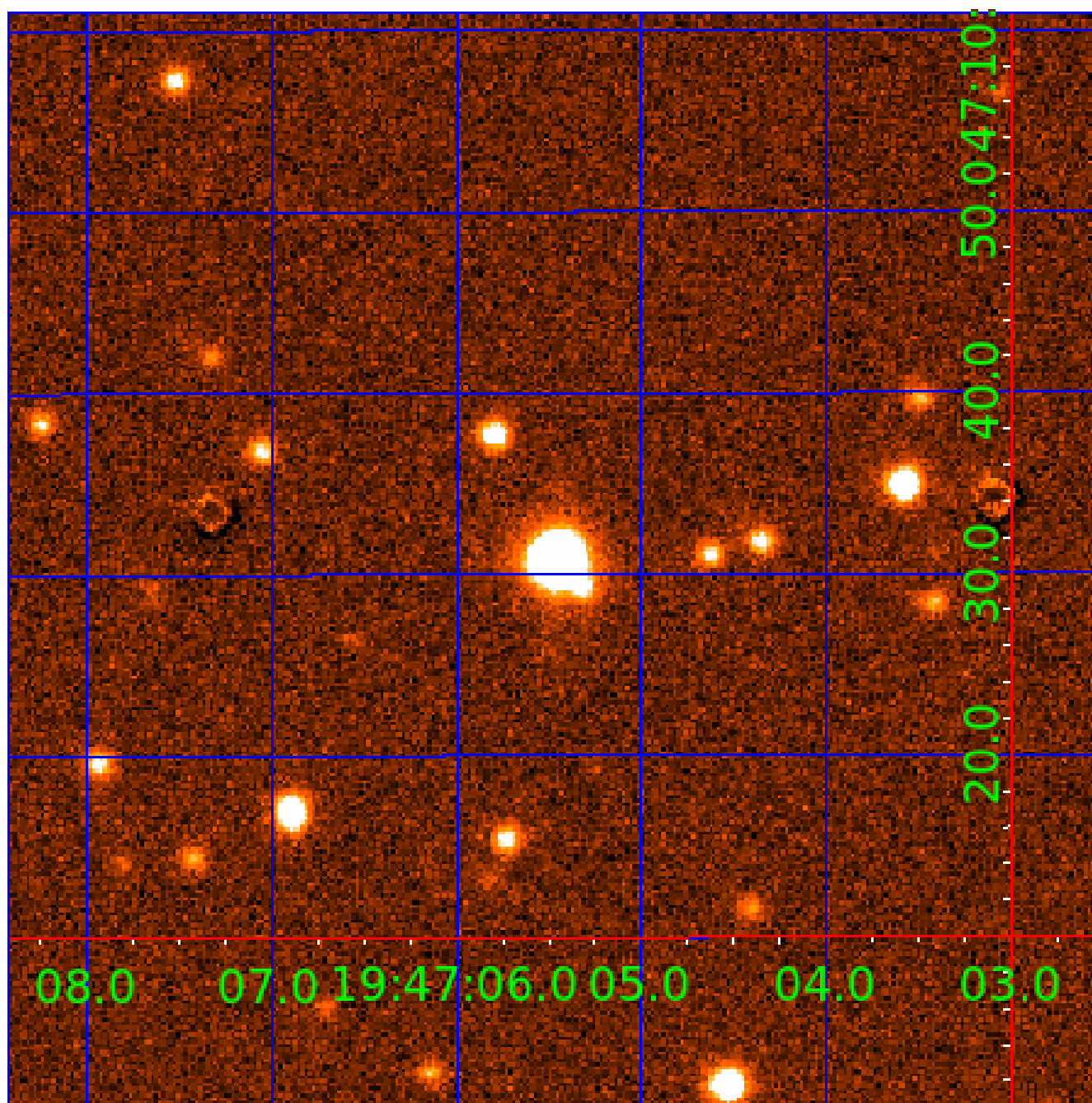


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 010155321

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})
010155321-01	OBS	No	2.086718	131.524308	78.6	3.241	8.7	8.5	1.85	7454	1.91	6788.14
010155321-02	OBS	No	2.086657	132.969598	117.3	4.317	8.4	10.5	1.85	7454	3.07	6788.40
010155321-03	OBS	No	251.240329	265.758135	878.7	3.173	8.7	8.0	1.85	7454	6.08	11.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010155321-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010155321-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
010155321-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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.

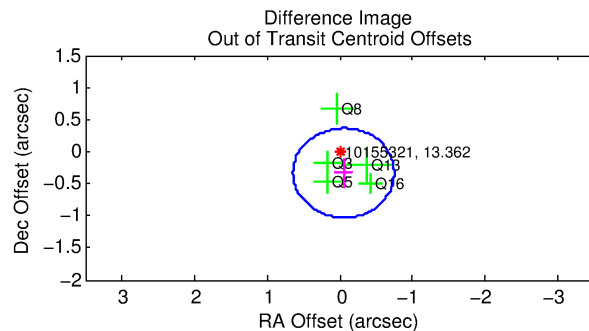
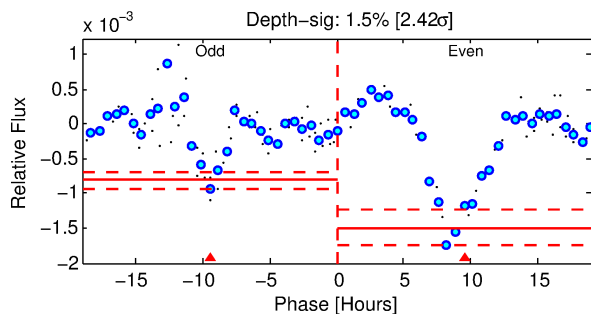
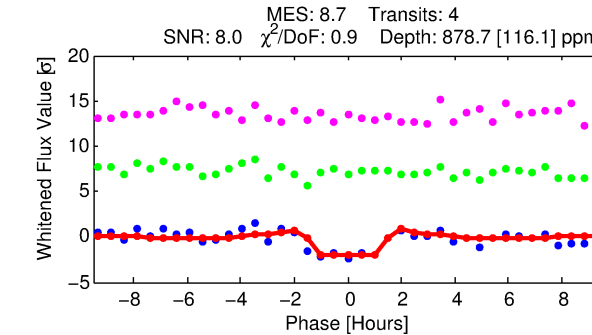
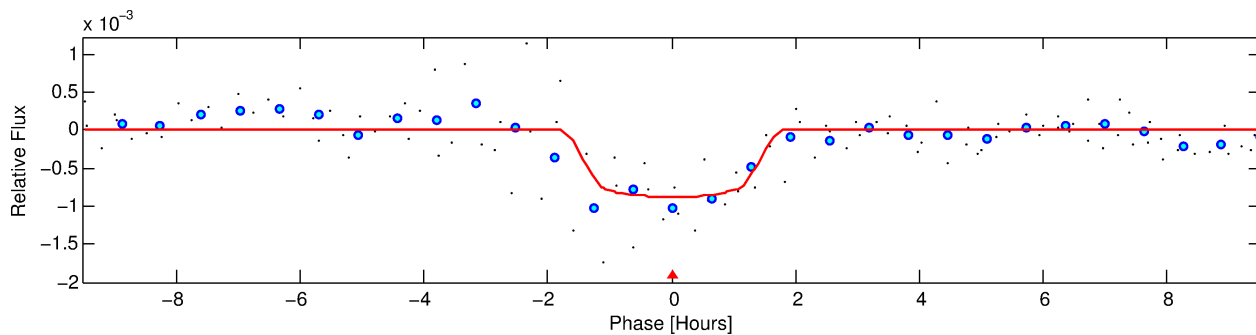
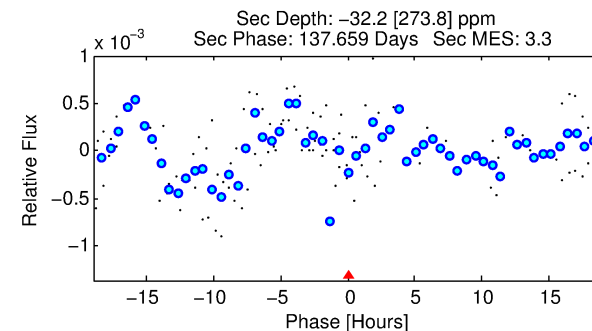
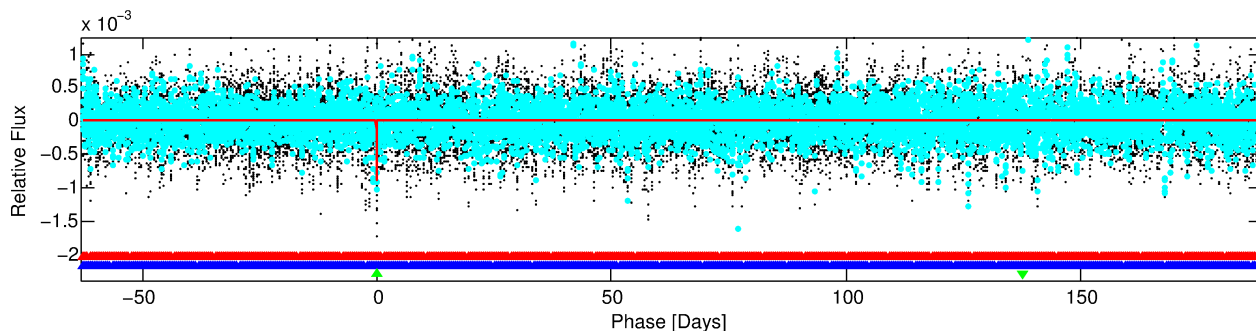
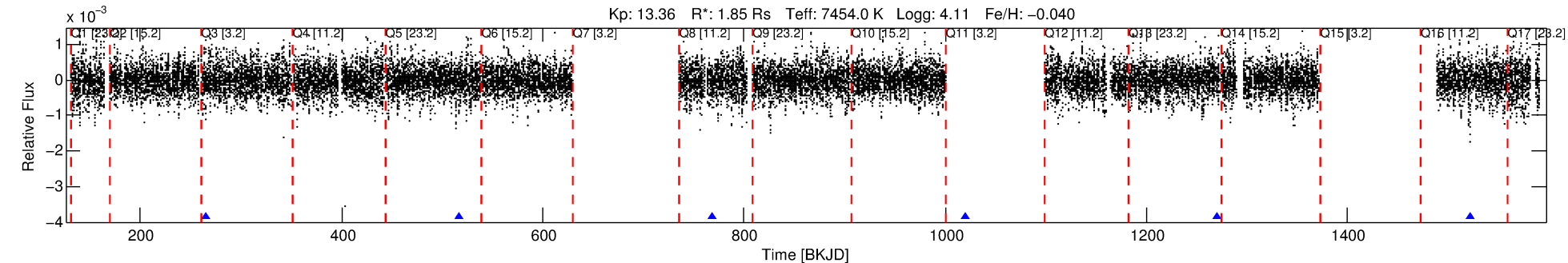
Ephemeris Match Information For 010155321-03

No Significant Match Found

DV One-Page Summary

KIC: 10155321 Candidate: 3 of 3 Period: 251.240 d
KOI: K04422 Corr: No Ephemeris Match

Kp: 13.36 R*: 1.85 Rs Teff: 7454.0 K Logg: 4.11 Fe/H: -0.040



DV Fit Results:

Period = 251.24033 [0.00136] d
Epoch = 265.7581 [0.0043] BKJD
Rp/R* = 0.0301 [0.0223]
a/R* = 383.62 [1787.64]
b = 0.81 [1.98]
Seff = 11.42 [4.27]
Teq = 469 [44] K
Rp = 6.08 [4.86] Re
a = 0.9120 [0.2180] AU
Ag = N/A
Teffp = N/A

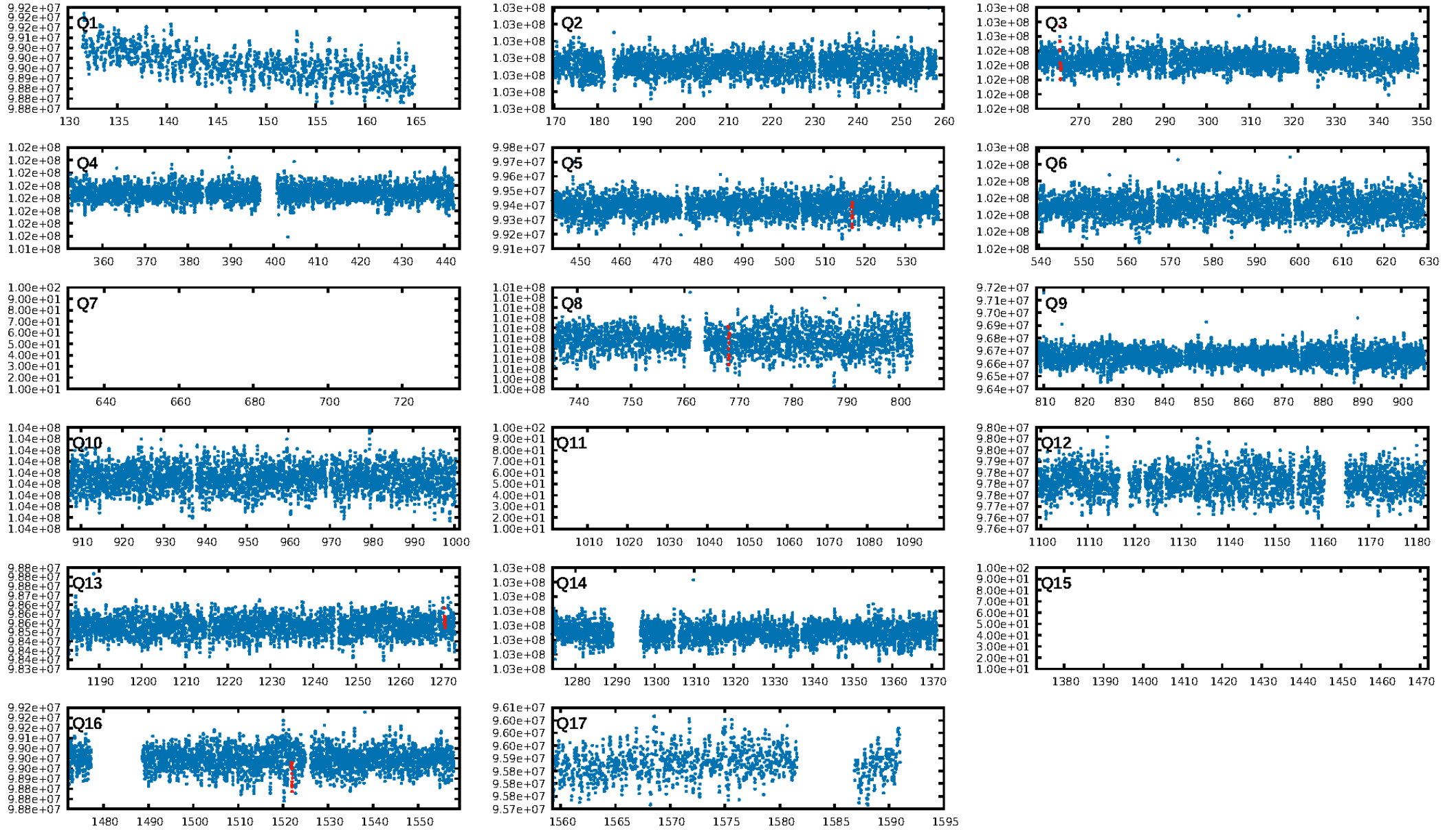
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1318.33σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 8.4%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 1.02e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.8049
Centroid-sig: 54.1%
Centroid-so: 0.480 arcsec [1.14σ]
OotOffset-rm: 0.338 arcsec [1.45σ]
OotOffset-st: 0/1/2/2 [5]
KicOffset-rm: 0.291 arcsec [1.28σ]
KicOffset-st: 0/1/2/2 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 0.40 [2/5]

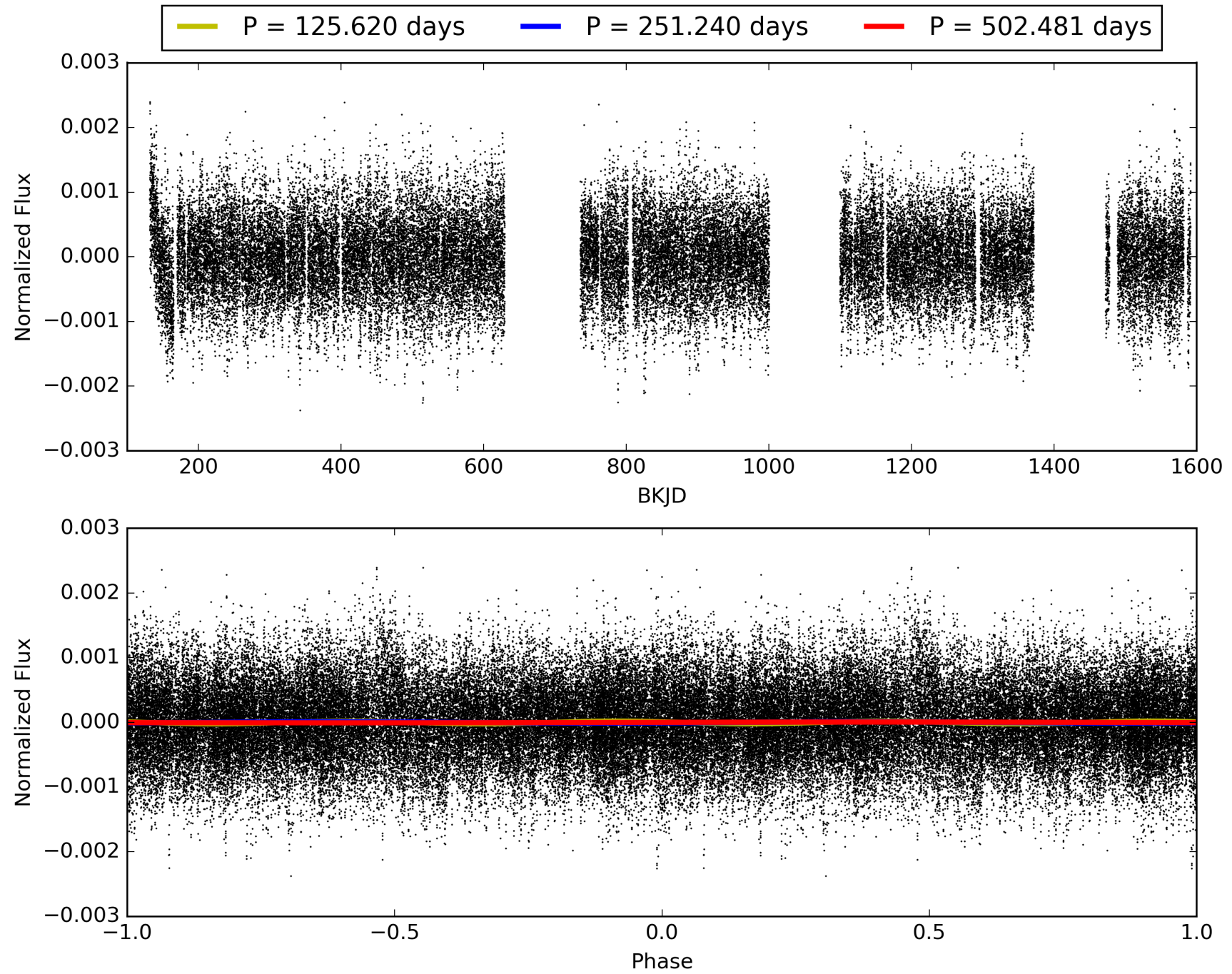
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:49:32 Z

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

TCE 010155321-03, PDC Light Curves

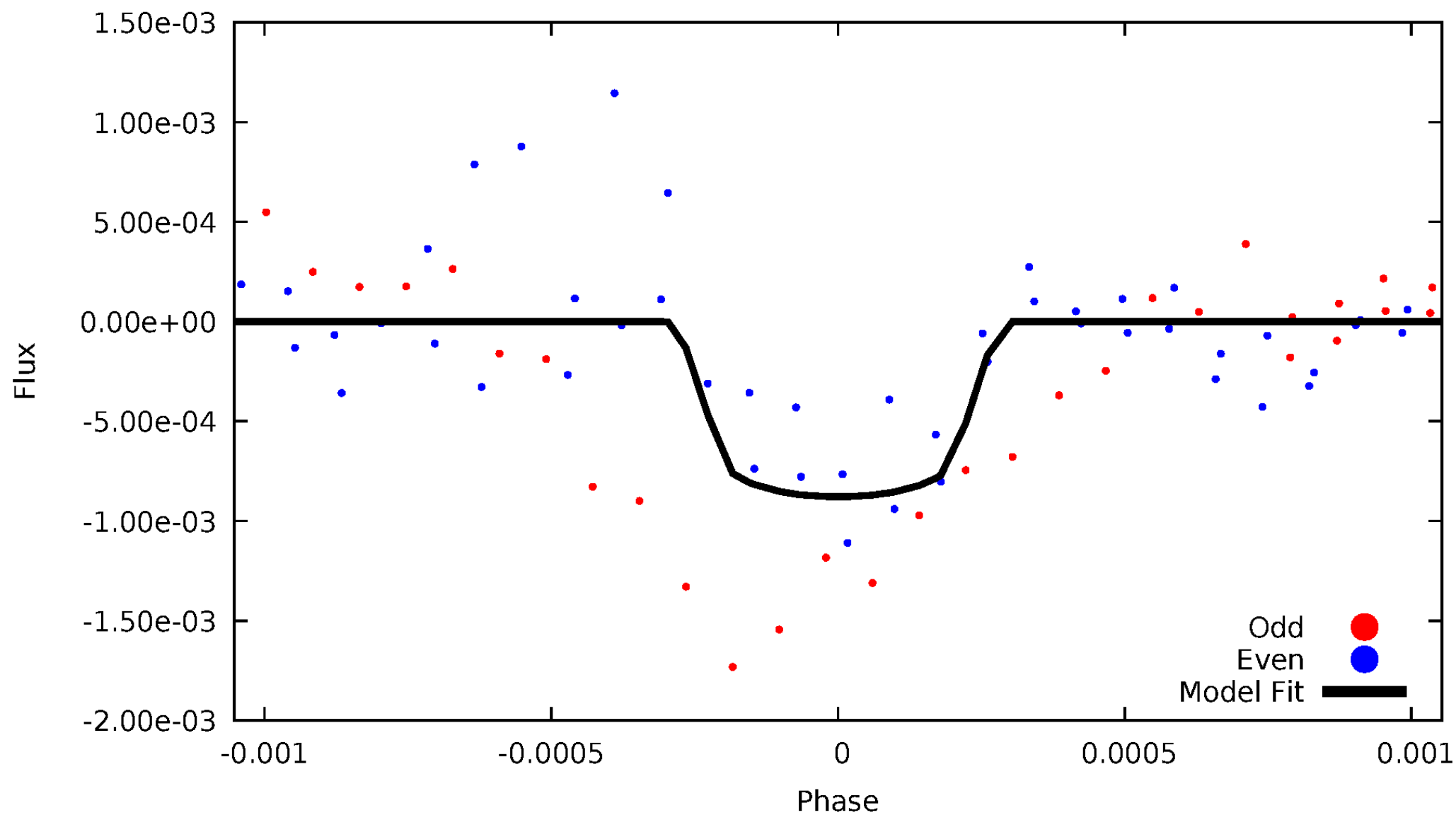


TCE 010155321-03



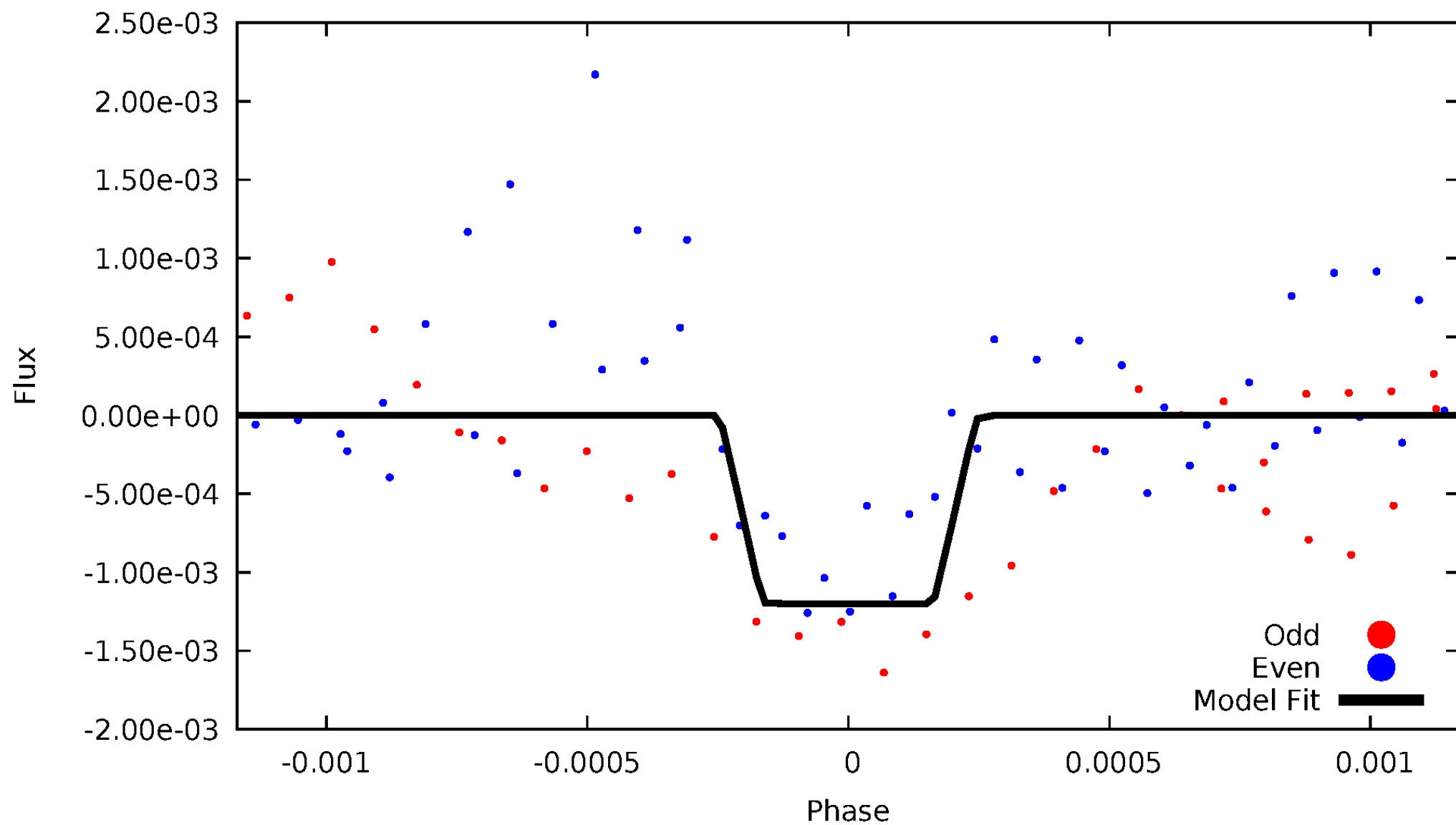
DV Odd/Even

TCE 010155321-03



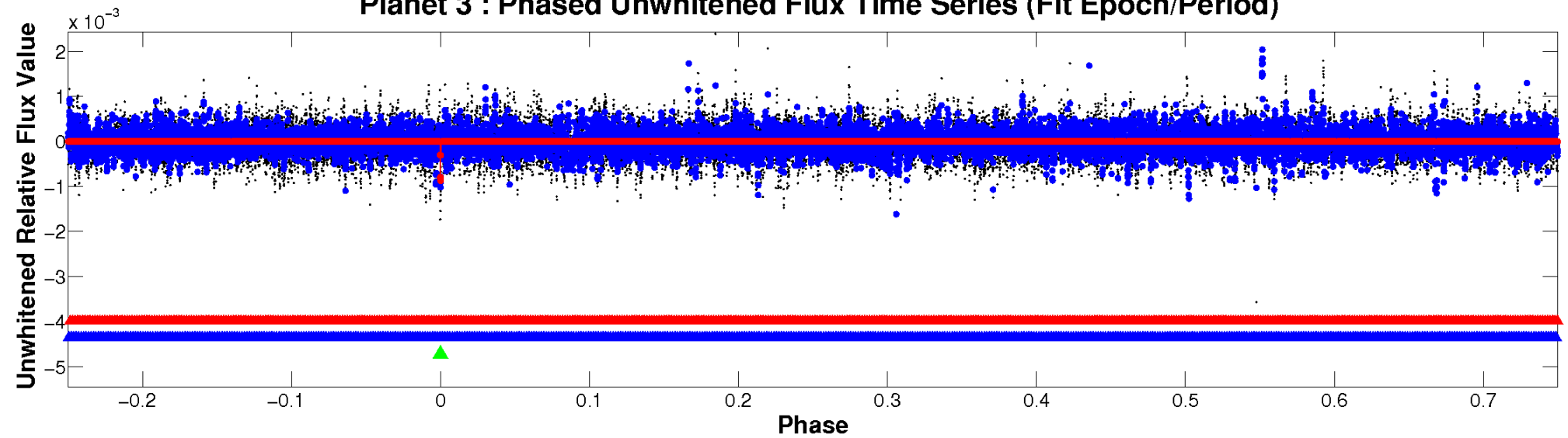
ALT Odd/Even

TCE 010155321-03

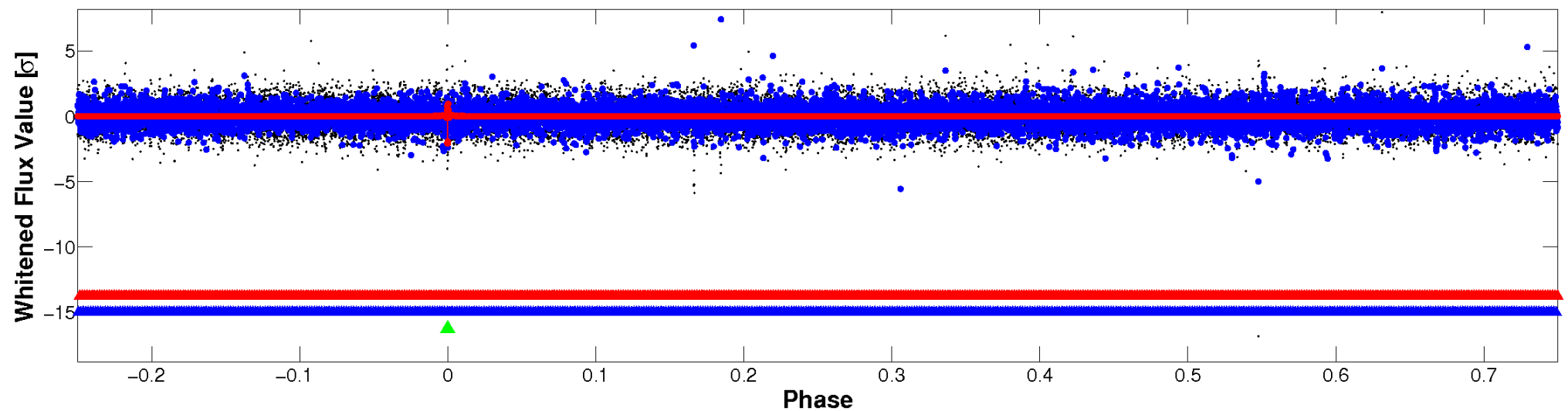


Non-Whitened Vs. Whitened Light Curve

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

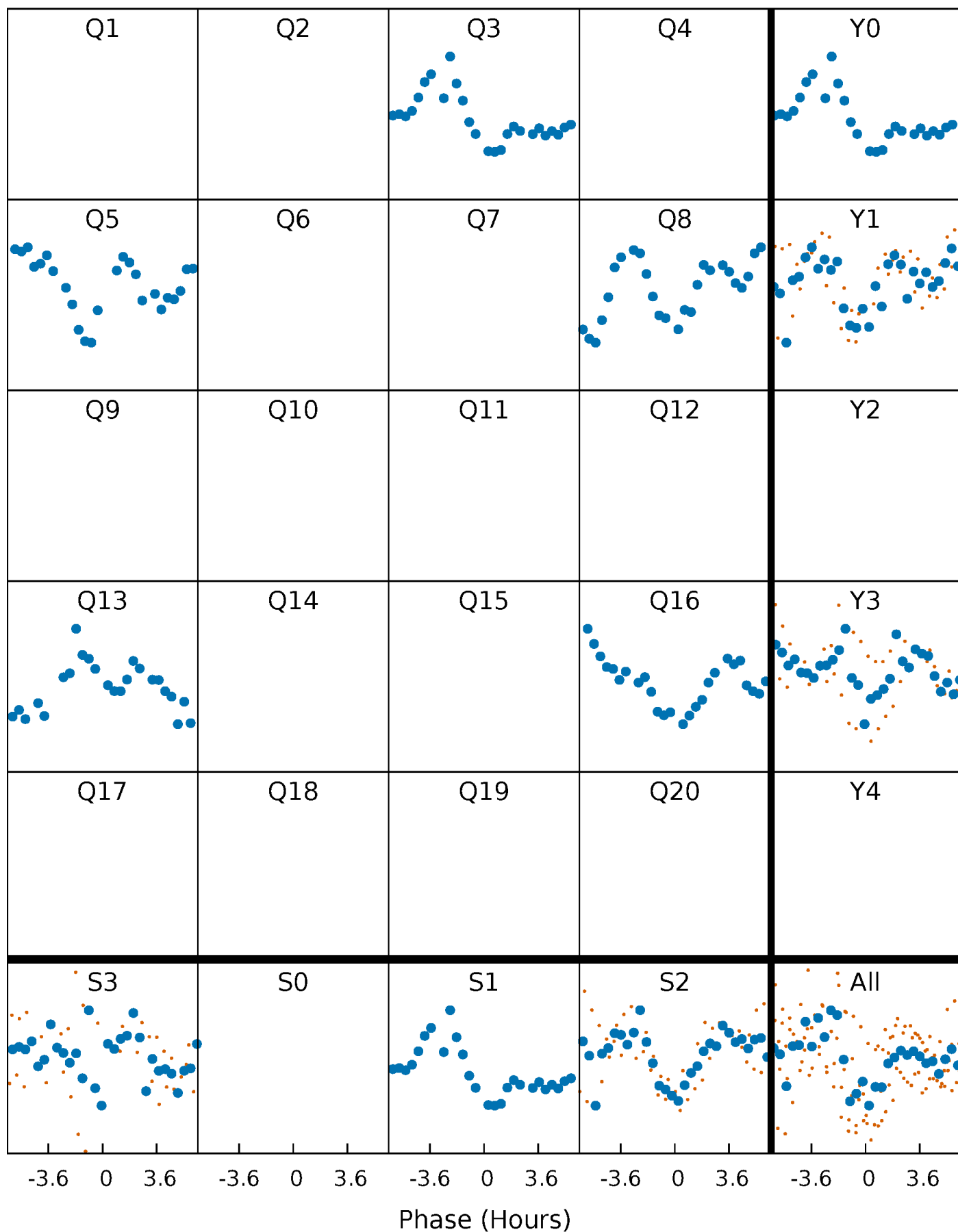


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



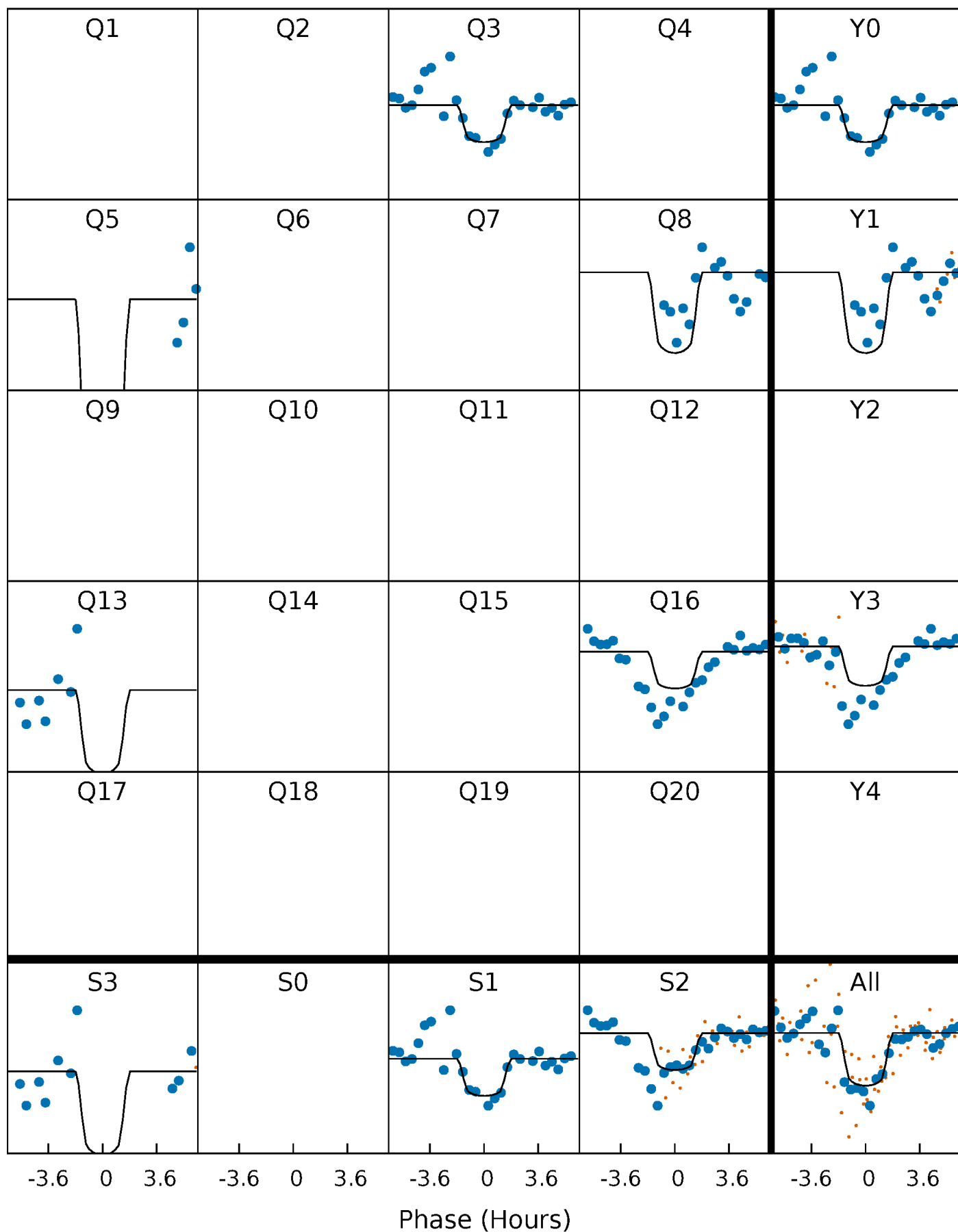
PDC Quarter-Phased Transit Curves

TCE 010155321-03 P=251.240329 Days $T_0=265.758135$ (BKJD)



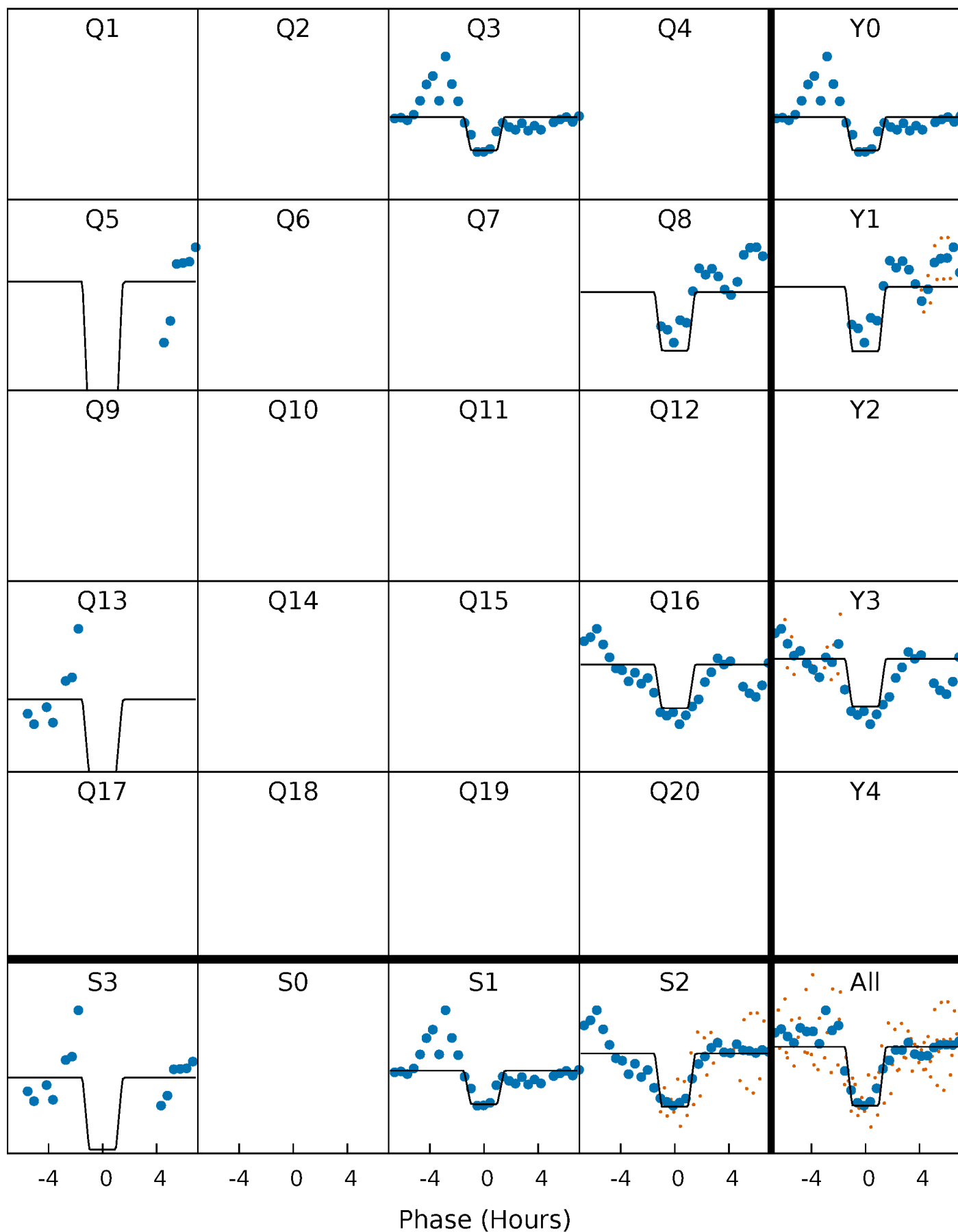
DV Quarter-Phased Transit Curves

TCE 010155321-03 P=251.240329 Days $T_0=265.758135$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

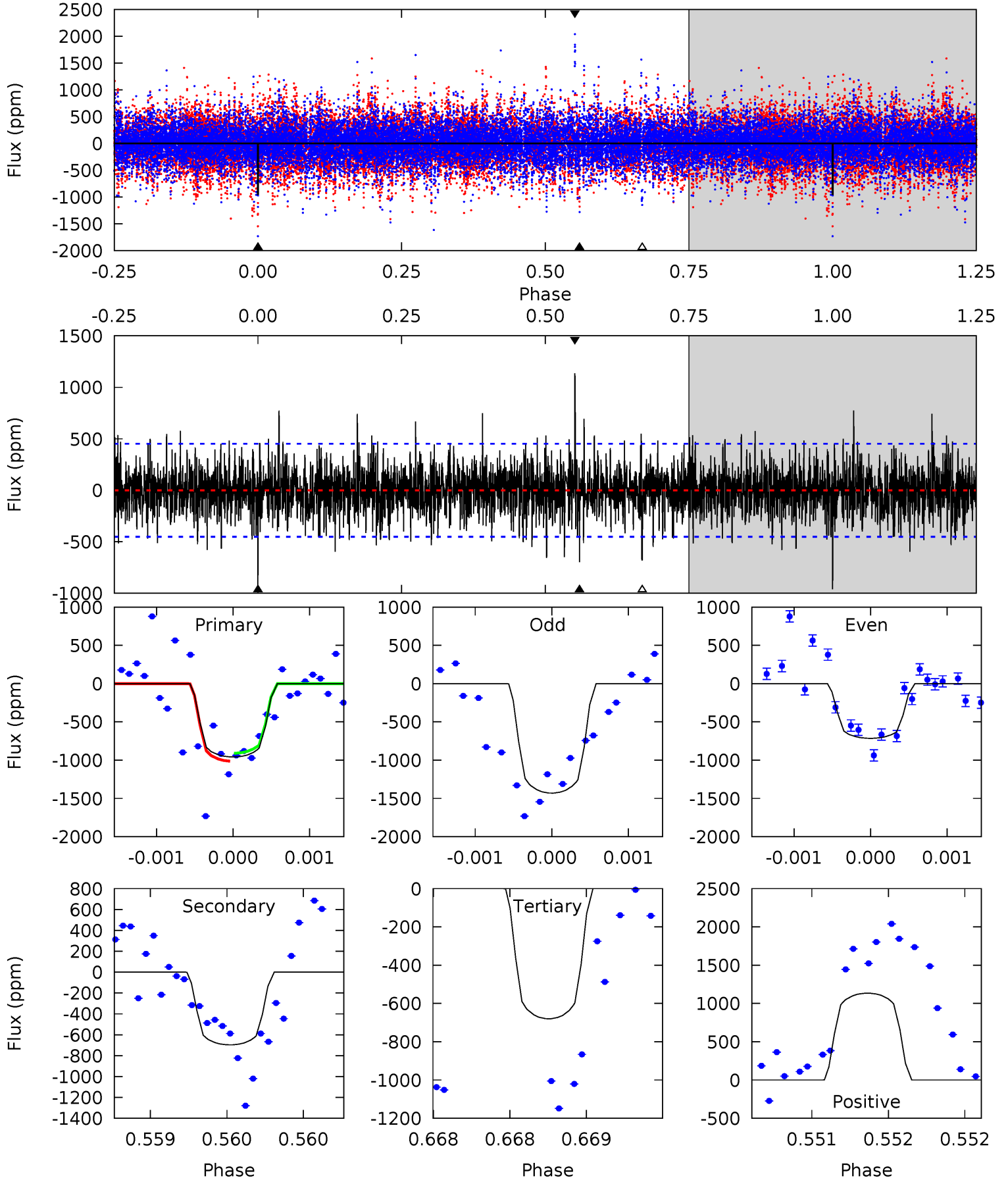
TCE 010155321-03 $P=251.235164$ Days $T_0=265.781964$ (BKJD)



DV Model-Shift Uniqueness Test

010155321-03, P = 251.240329 Days, E = 14.517806 Days

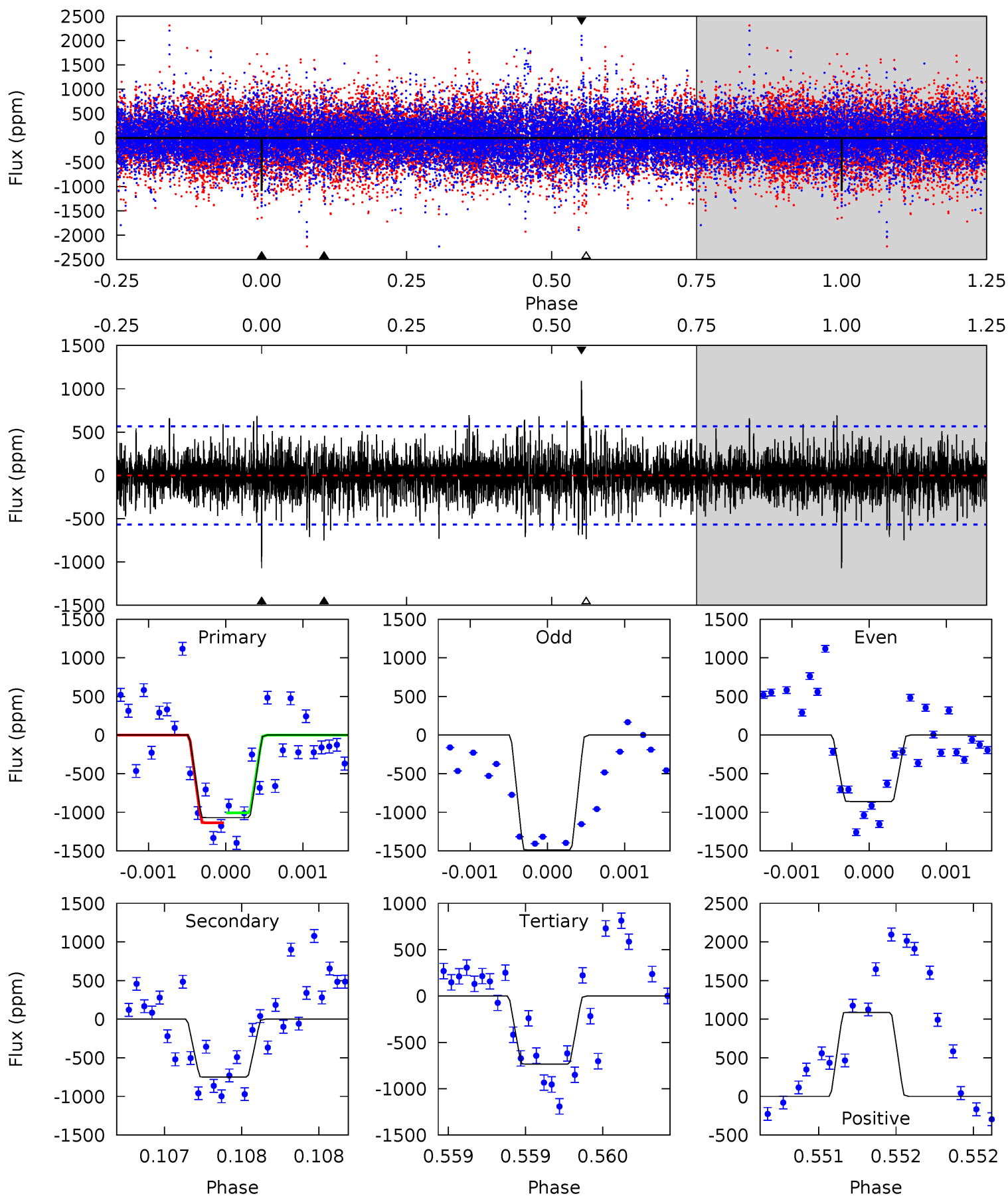
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	8.60	8.39	14.0	5.56	3.47	2.22	3.44	-2.17	0.20	-5.40	4.22	1.06	0.54	0.64



Alt Model-Shift Uniqueness Test

010155321-03, P = 251.235164 Days, E = 14.546800 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	7.34	7.21	10.7	5.57	3.47	1.79	3.29	-0.18	0.14	-3.33	2.89	1.09	0.50	0.63



Stellar Parameters For KIC 010155321

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7454^{+233}_{-311}	$4.107^{+0.144}_{-0.176}$	$-0.040^{+0.200}_{-0.350}$	$1.853^{+0.548}_{-0.365}$	$1.602^{+0.200}_{-0.244}$	$0.354^{+0.261}_{-0.174}$
	+3%/-4%	+4%/-4%	+500%/-875%	+30%/-20%	+12%/-15%	+74%/-49%
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 010155321-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-697 ± 81	$6.57^{+4.57}_{-3.46}$	657^{+47}_{-45}	6509^{+4360}_{-1371}	7159^{+26475}_{-4607}
Alt.	-749 ± 102	$7.45^{+4.51}_{-4.07}$	655^{+50}_{-42}	6311^{+3987}_{-1248}	6034^{+23373}_{-3668}

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 $A_{obs} \gg 1.0$

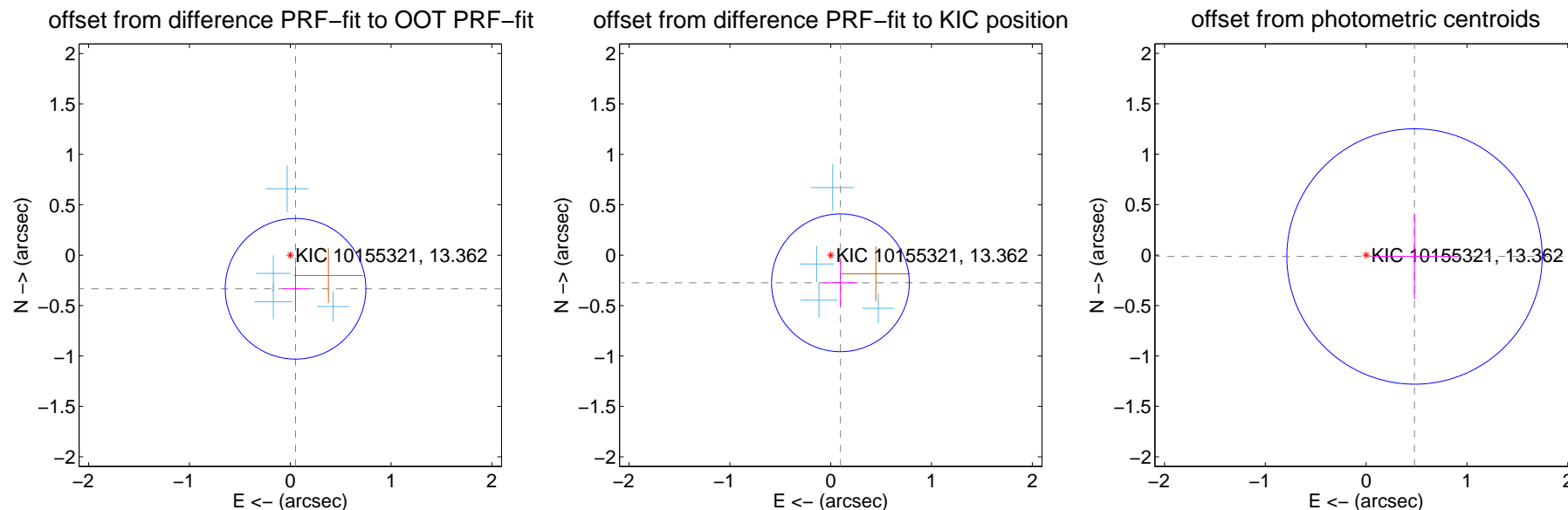
DV Centroid Data

Supplemental centroid analysis for 010155321-03. Kepler magnitude: 13.36. Transit SNR 7.95

There are 4 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.338 ± 0.233	1.45	-0.052 ± 0.126	-0.334 ± 0.228
PRF-fit source offset from KIC position	0.291 ± 0.228	1.28	-0.096 ± 0.169	-0.274 ± 0.234
photometric centroid source offset	0.48 ± 0.42	1.14	-0.48 ± 0.42	-0.01 ± 0.43



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.

Q1 no difference image



Q1 no OOT image



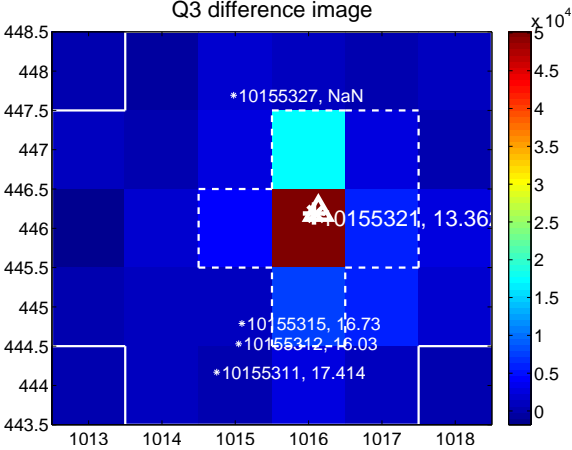
Q2 no difference image



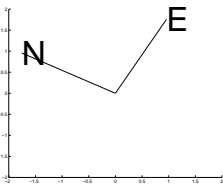
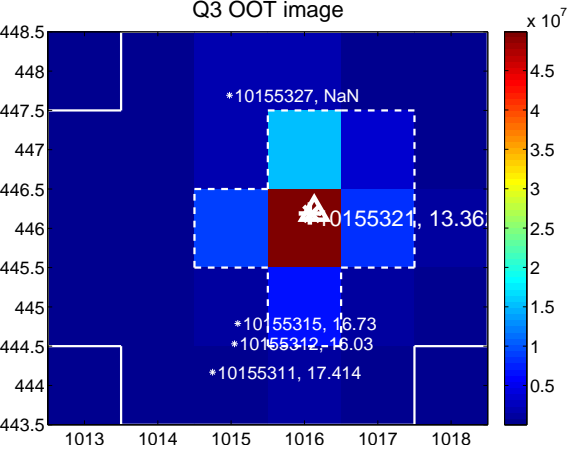
Q2 no OOT image



Q3 difference image



Q3 OOT image



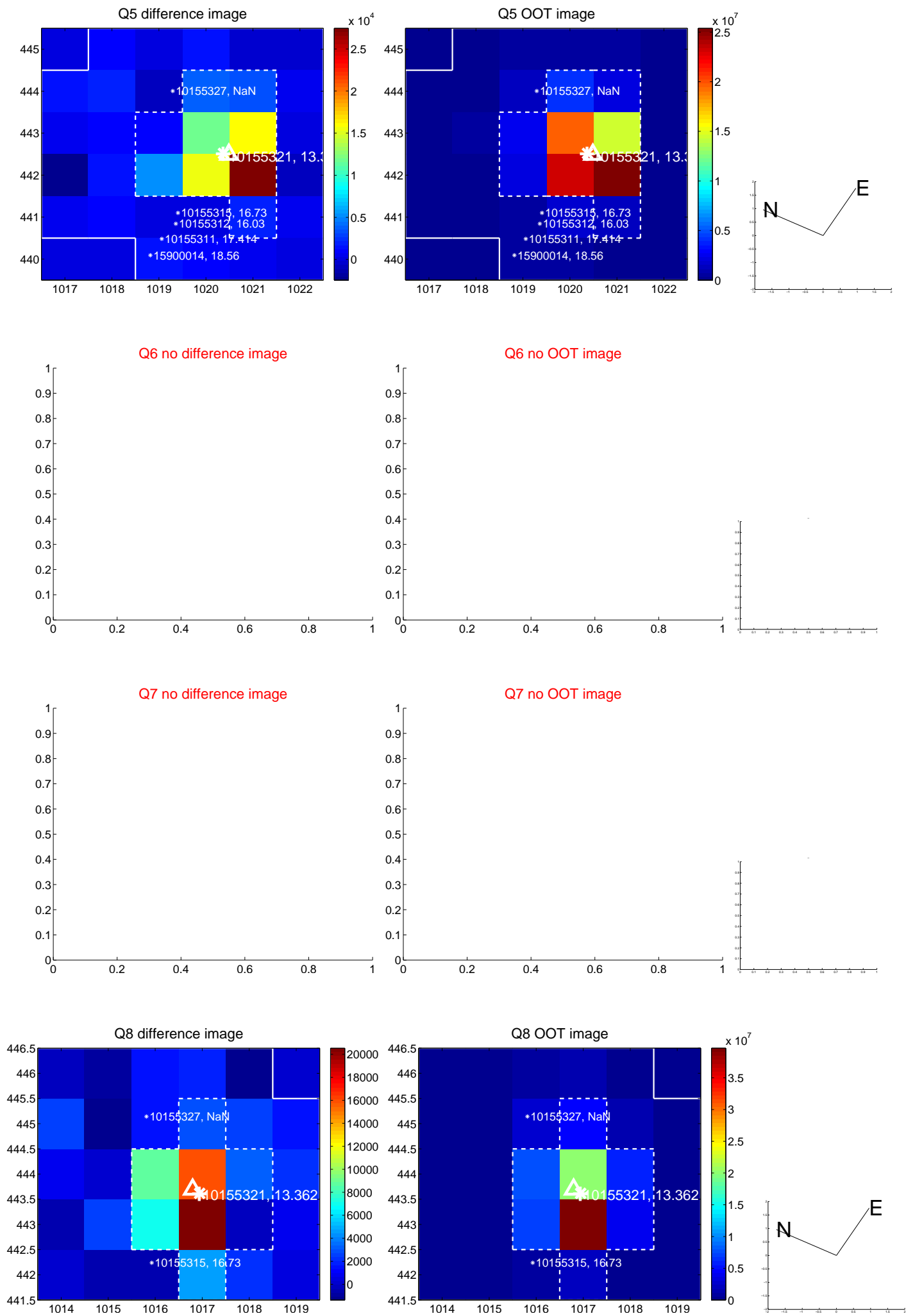
Q4 no difference image



Q4 no OOT image



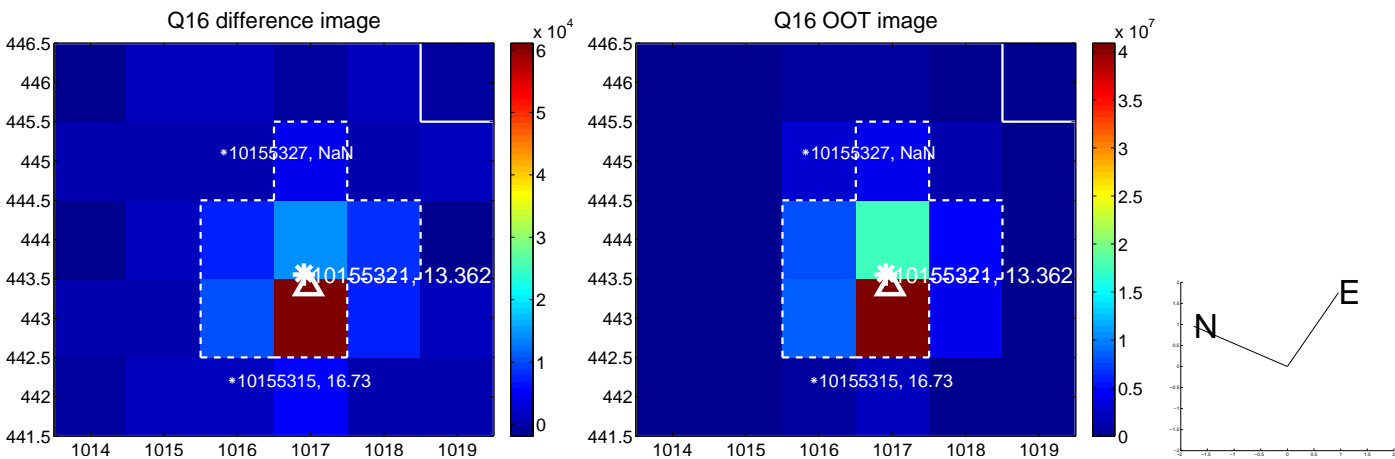
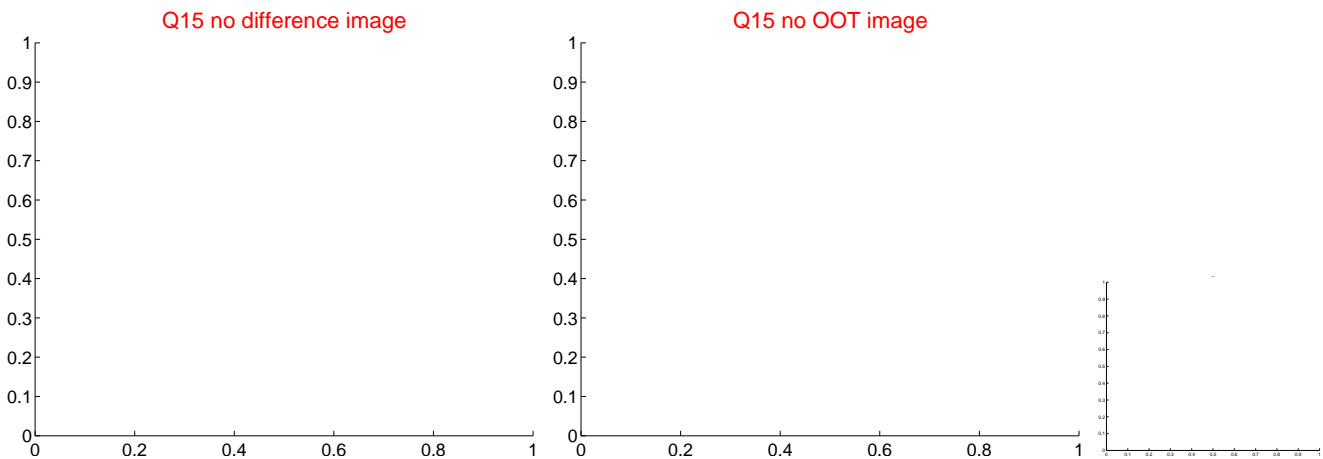
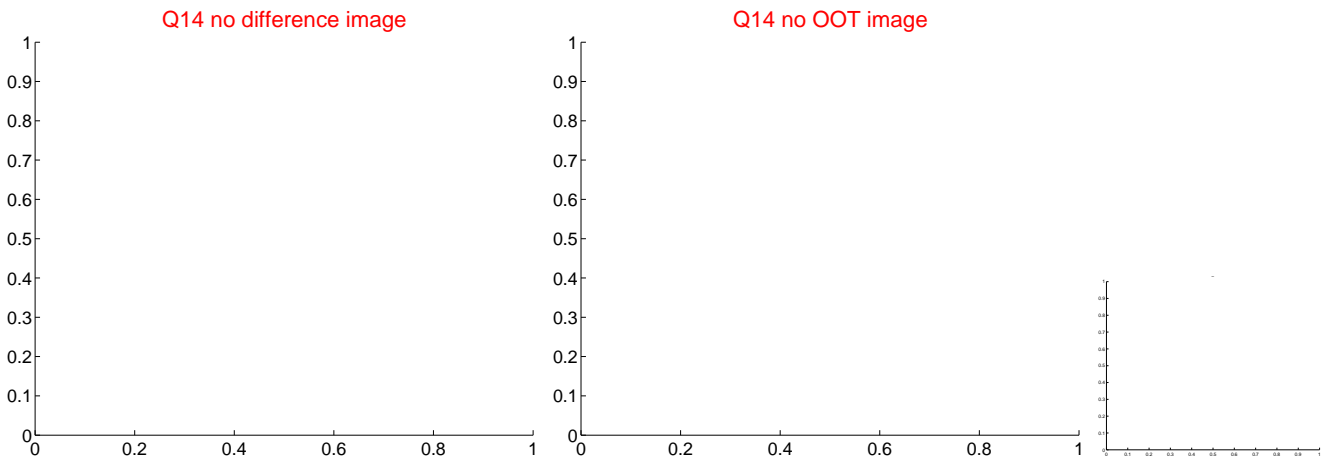
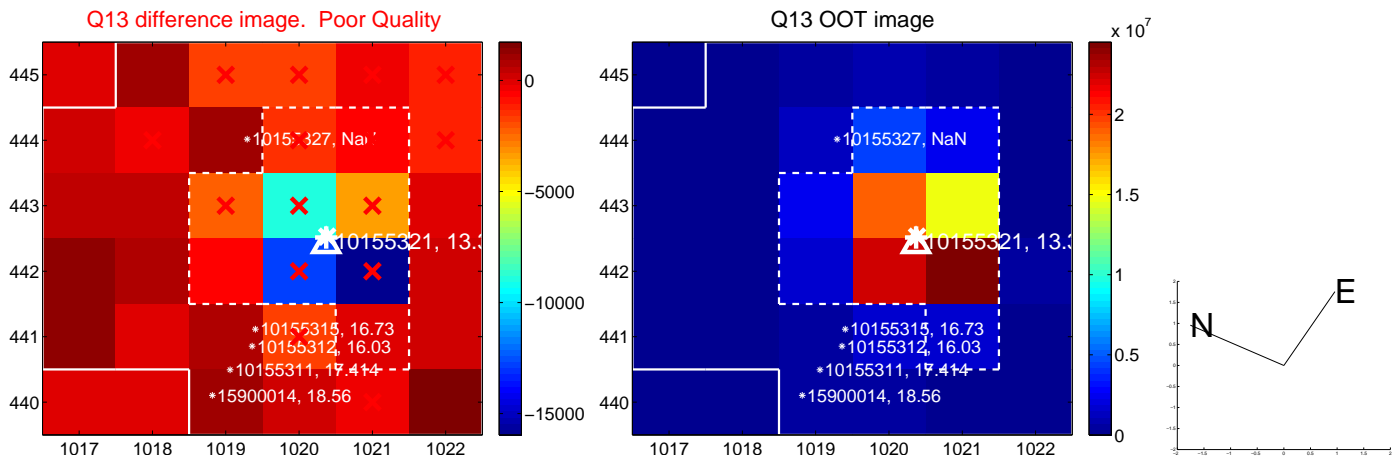
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



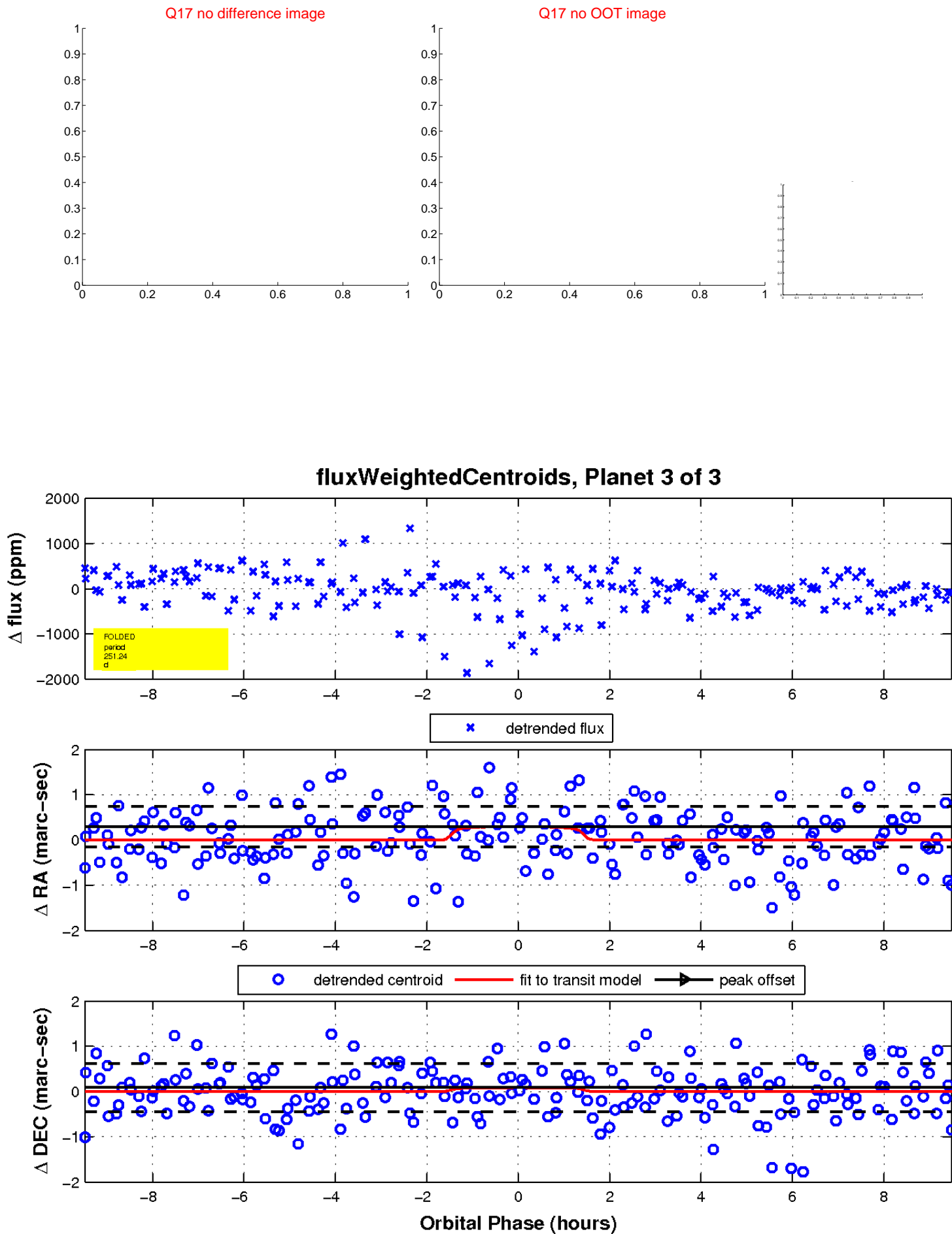
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

