

KIC 010215038

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})
010215038-01	OBS	No	0.711371	131.866095	8.7	4.608	8.1	10.6	3.12	8245	0.94	103439.59
010215038-02	OBS	No	53.219004	155.379274	101.2	2.256	12.2	5.8	3.12	8245	3.23	328.14
010215038-03	OBS	No	202.779942	142.862107	221.4	2.209	11.6	9.4	3.12	8245	5.34	55.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010215038-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_KIC_POS
010215038-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010215038-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

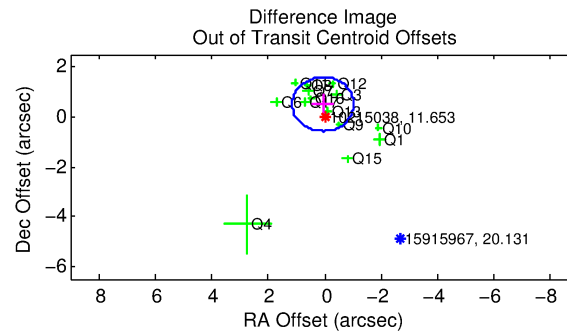
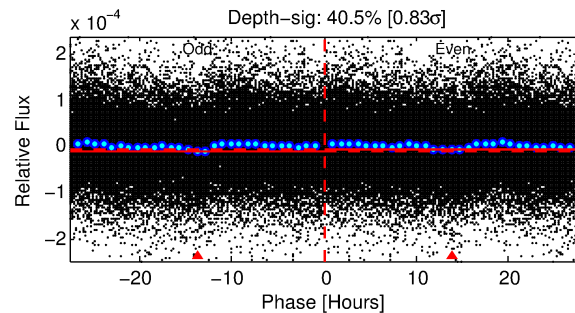
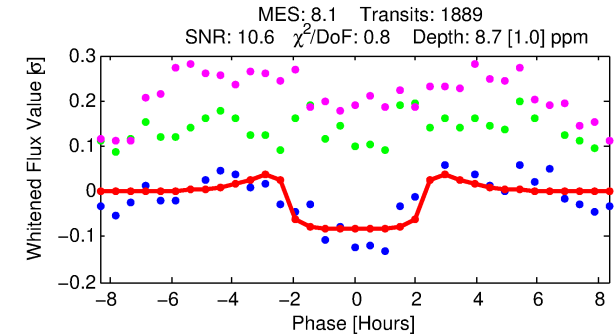
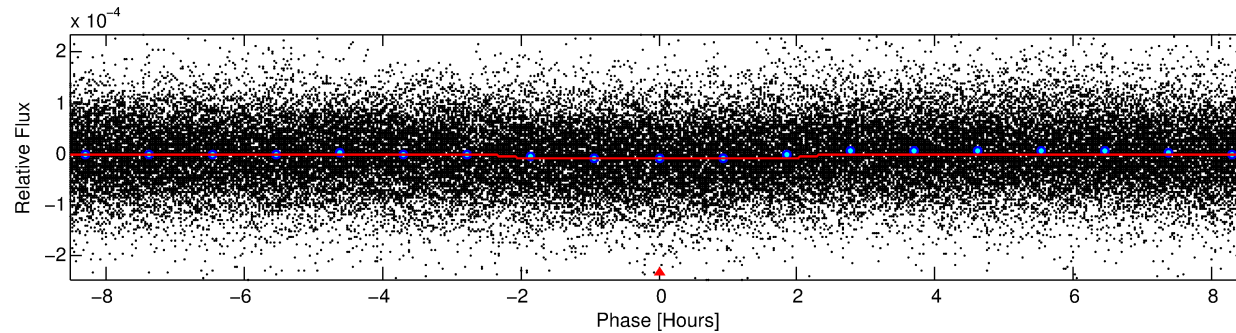
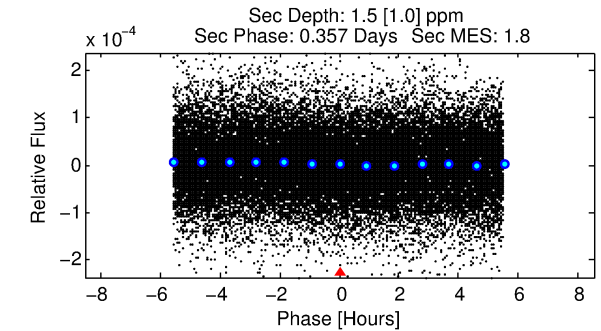
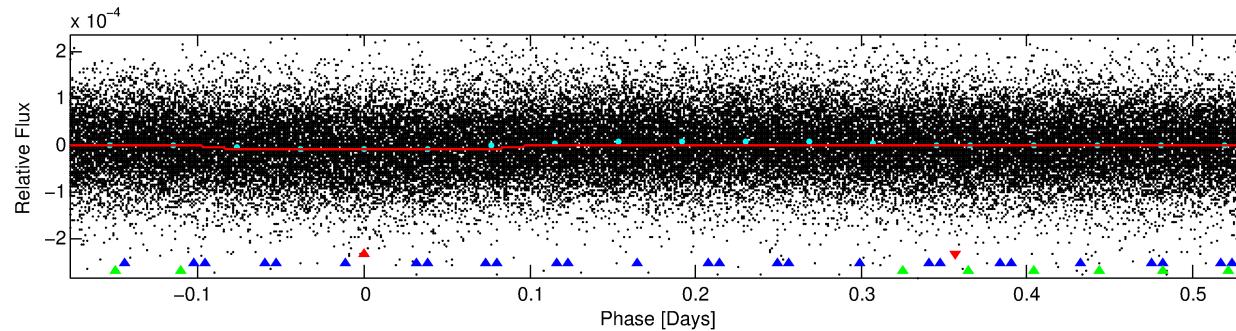
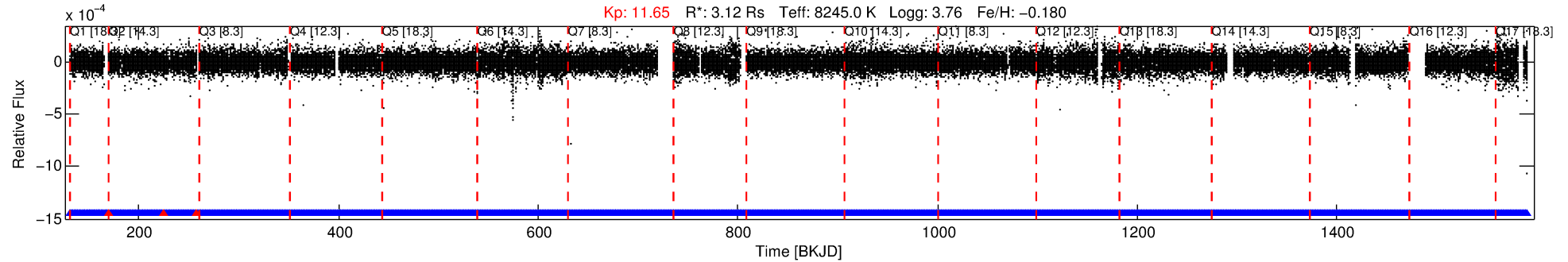
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010215038-01

No Significant Match Found

DV One-Page Summary

KIC: 10215038 Candidate: 1 of 3 Period: 0.711 d



DV Fit Results:

Period = 0.71137 [0.00001] d
Epoch = 131.8661 [0.0030] BKJD
Rp/R* = 0.0028 [0.0011]
a/R* = 1.30 [1.17]
b = 0.35 [5.59]
Seff = 103439.59 [49088.18]
Teq = 4573 [543] K
Rp = 0.94 [0.48] Re
a = 0.0197 [0.0060] AU
Ag = 0.35 [0.40] [-1.63σ]
Teffp = 5452 [1390] K [0.59σ]

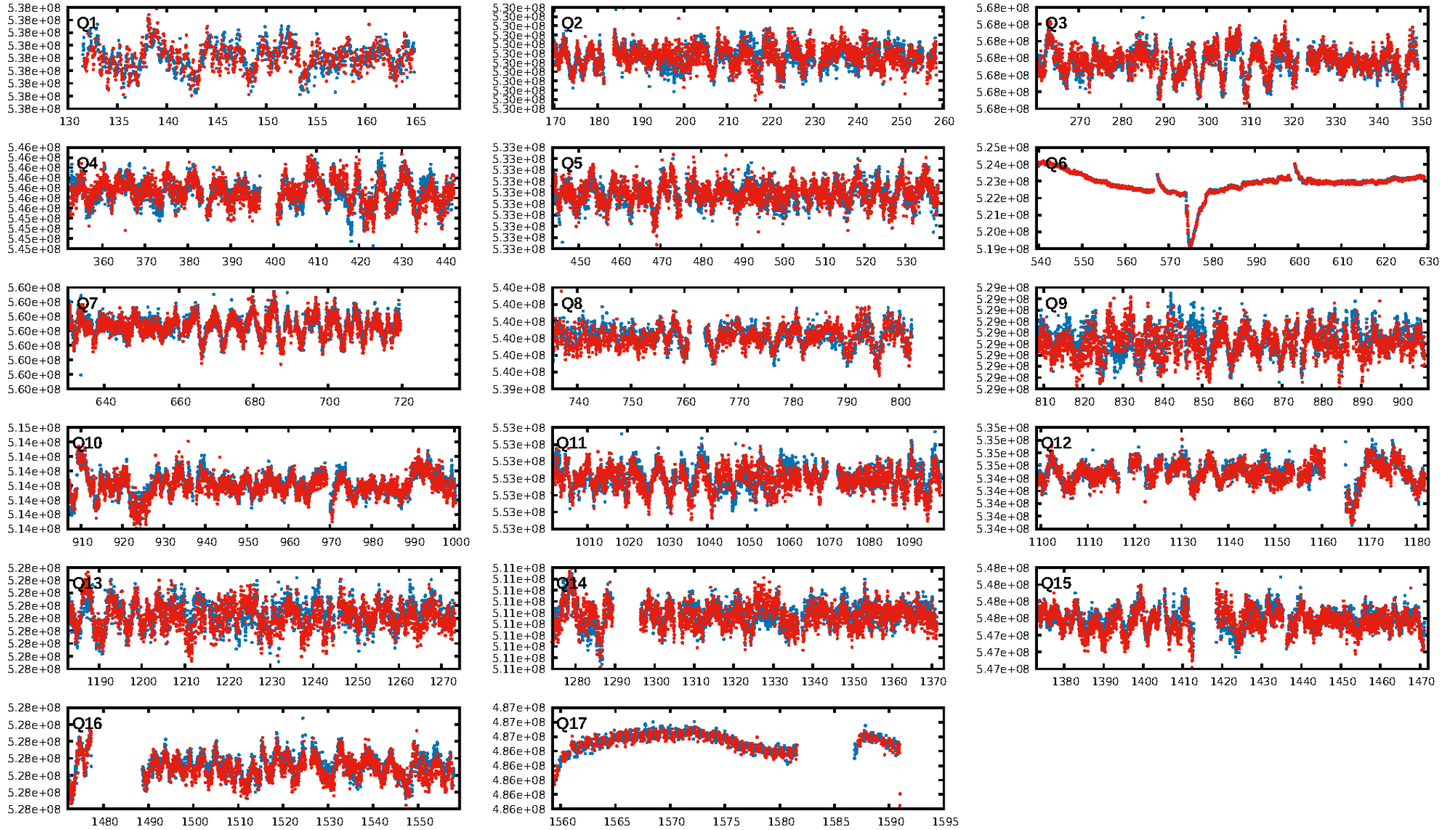
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [245.62σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.24e-10
RollingBand-fgt: 1.00 [1801/1804]
GhostDiagnostic-chr: 1.126
Centroid-sig: 0.4%
Centroid-so: 1.341 arcsec [1.83σ]
OotOffset-rm: 0.509 arcsec [1.41σ]
KicOffset-rm: 0.733 arcsec [2.02σ]
OotOffset-st: 2/4/4/4 [14]
KicOffset-st: 2/4/4/4 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [17/17]

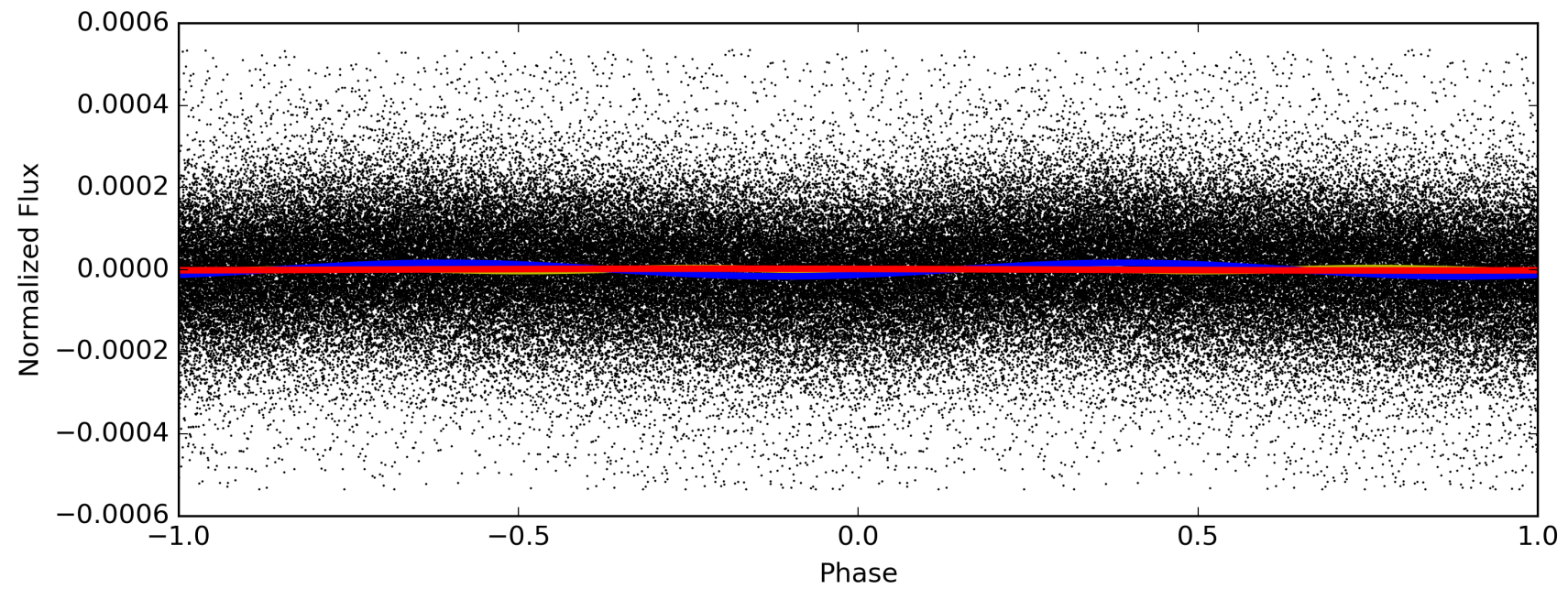
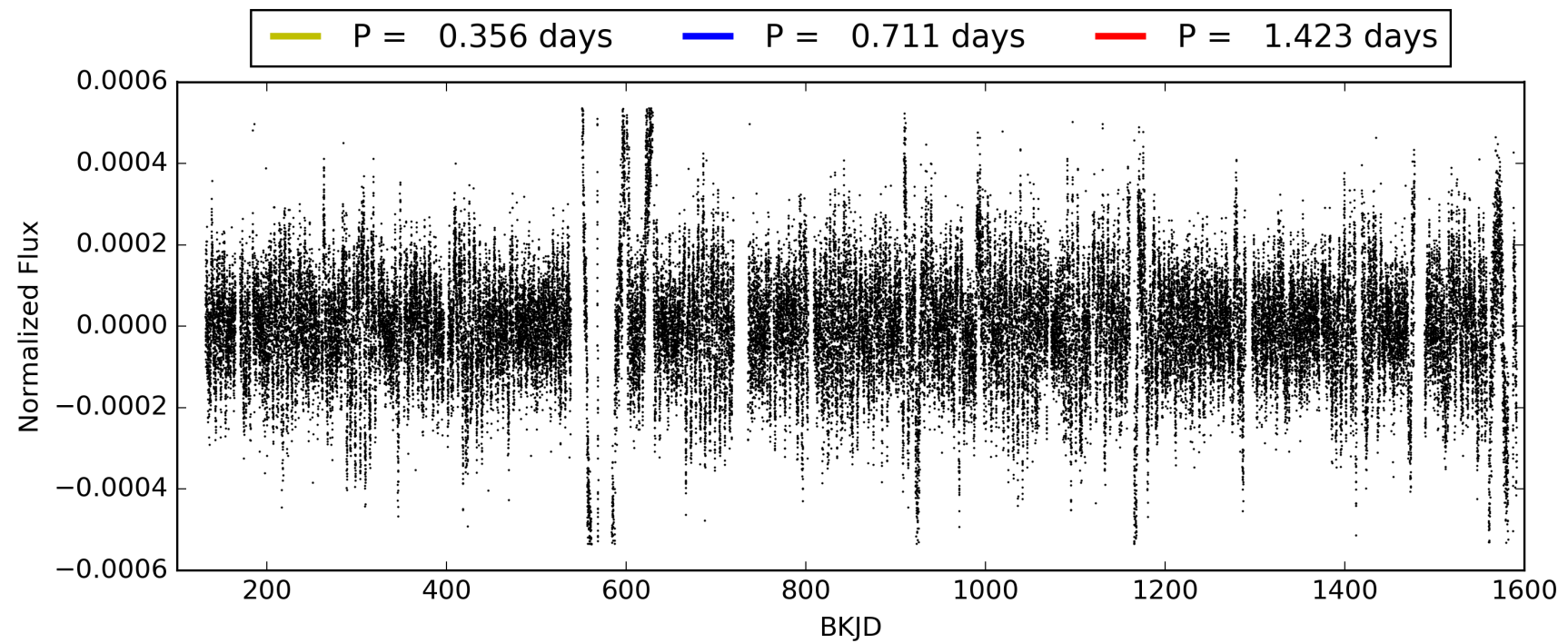
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010215038-01, PDC Light Curves

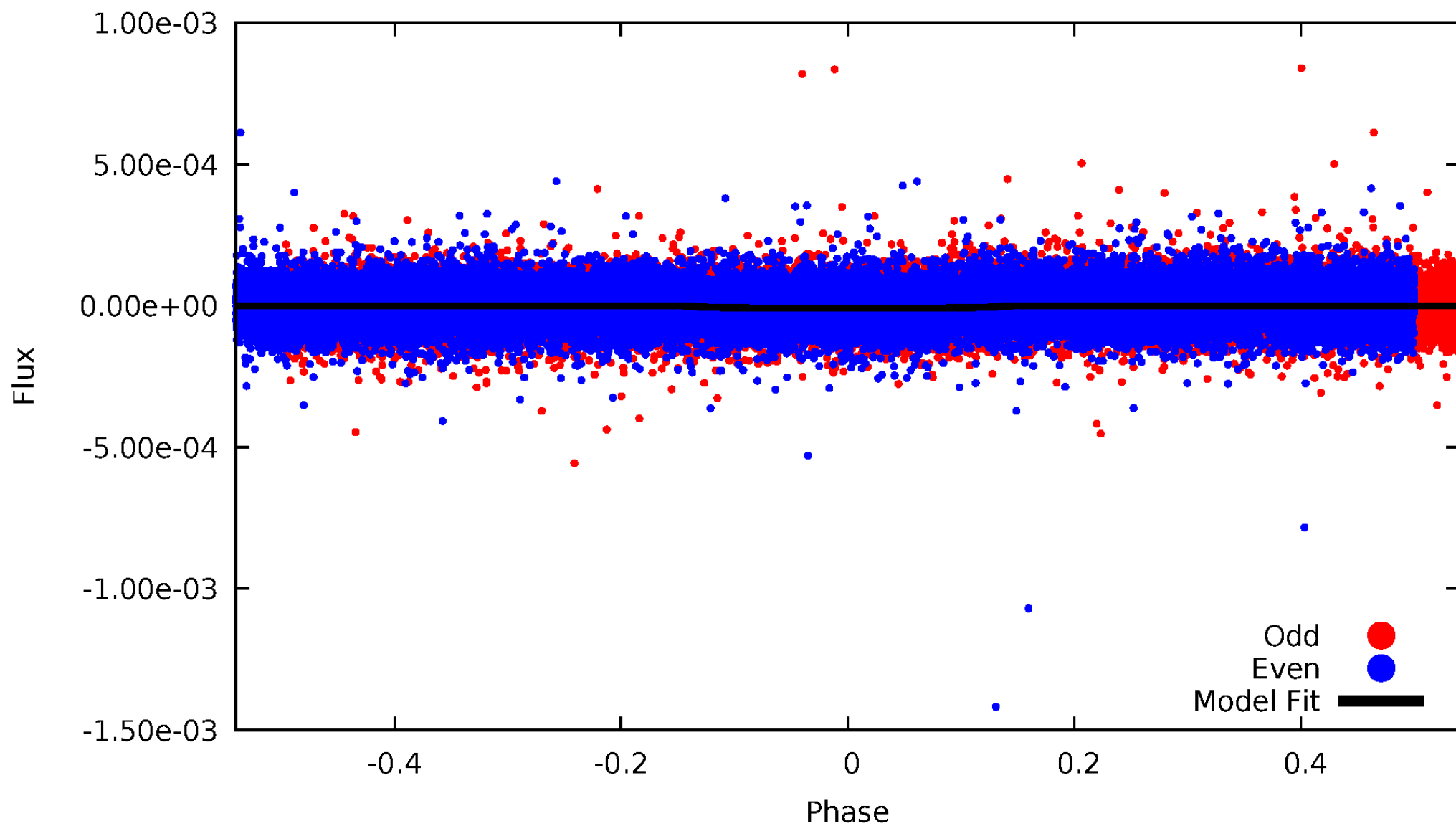


TCE 010215038-01



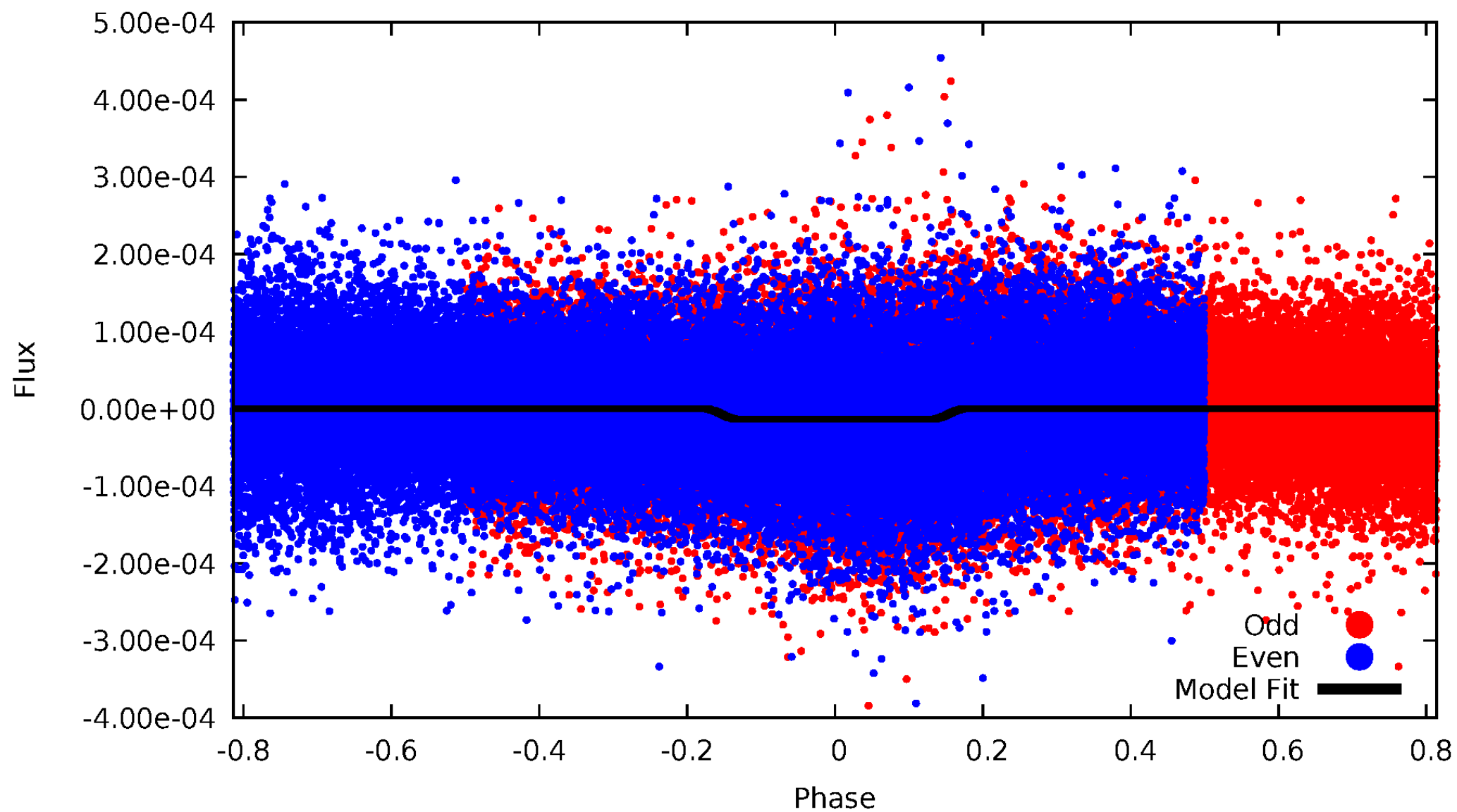
DV Odd/Even

TCE 010215038-01

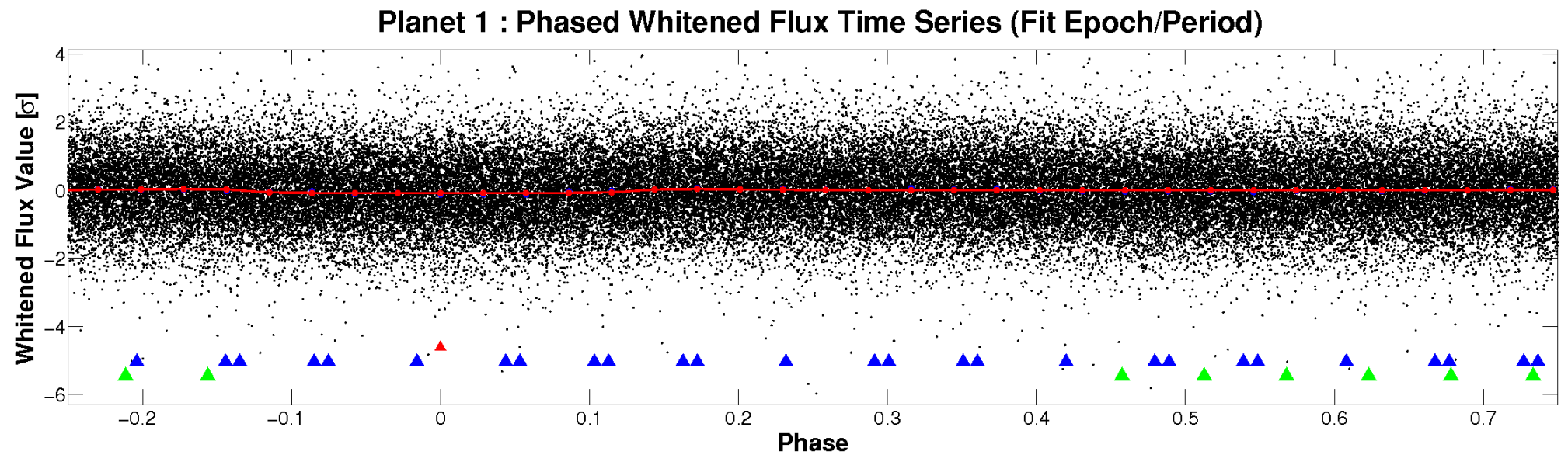
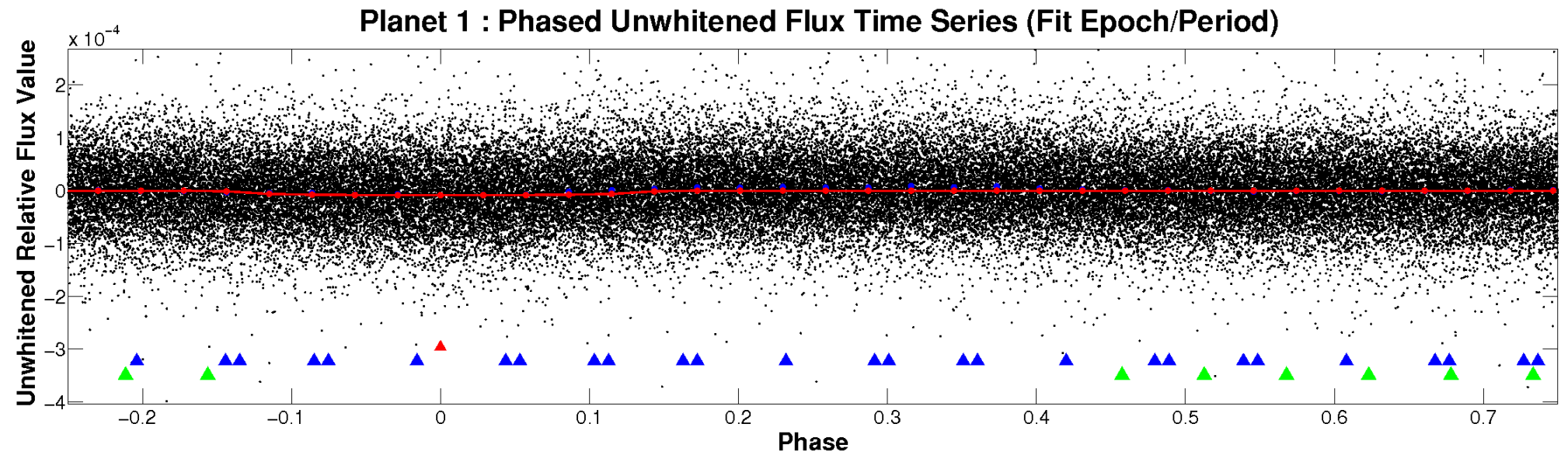


ALT Odd/Even

TCE 010215038-01

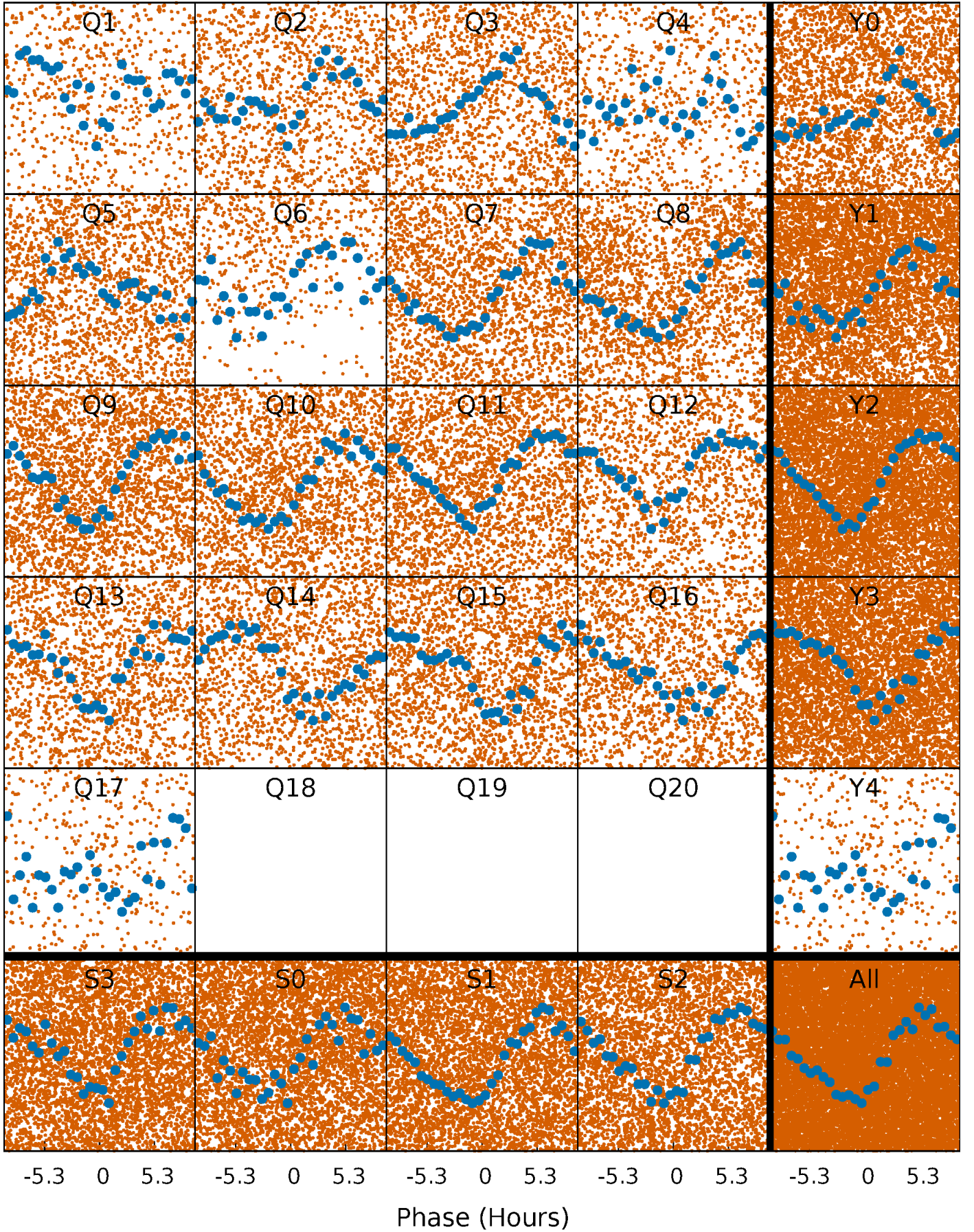


Non-Whitened Vs. Whitened Light Curve



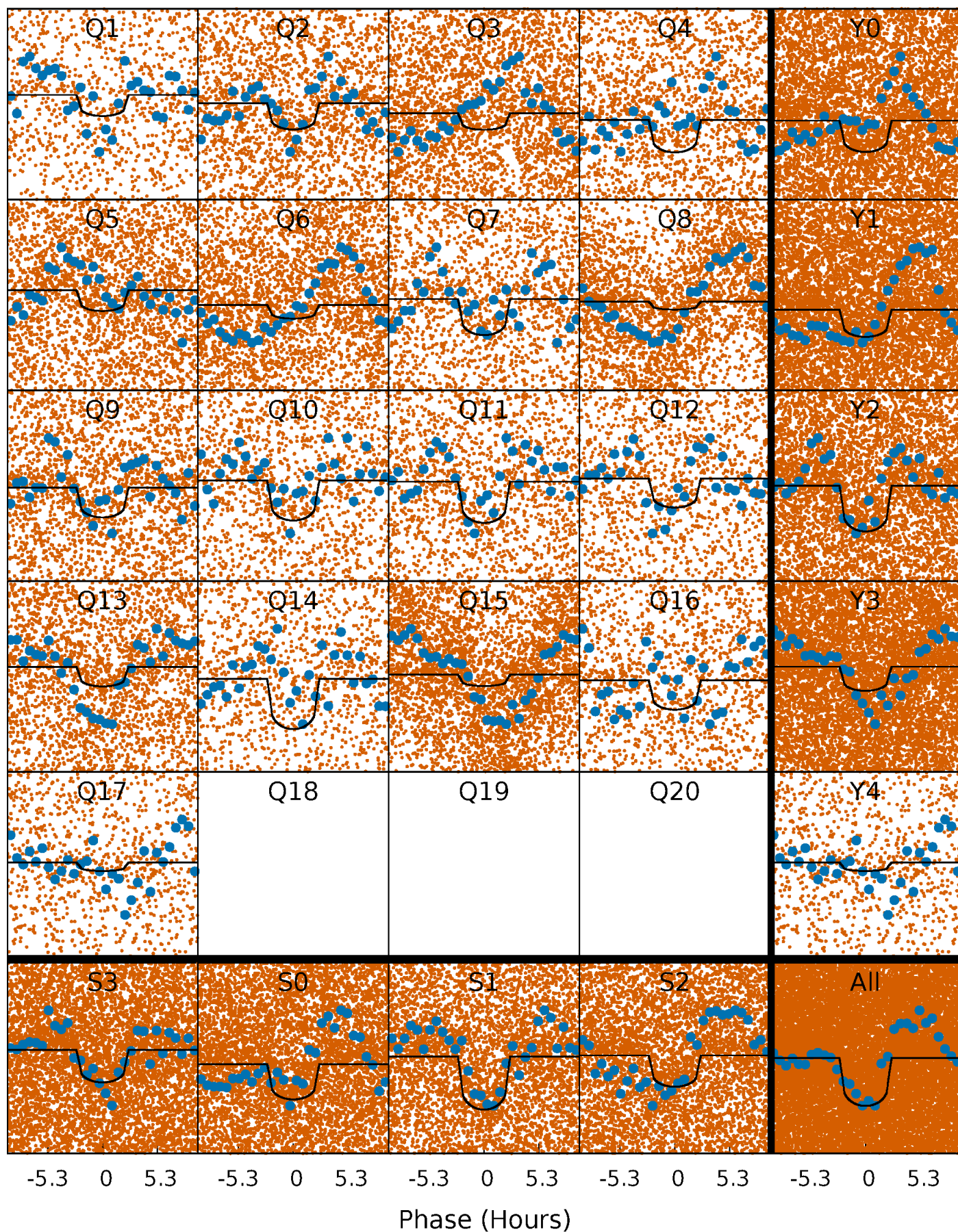
PDC Quarter-Phased Transit Curves

TCE 010215038-01 P= 0.711371 Days $T_0=131.866095$ (BKJD)



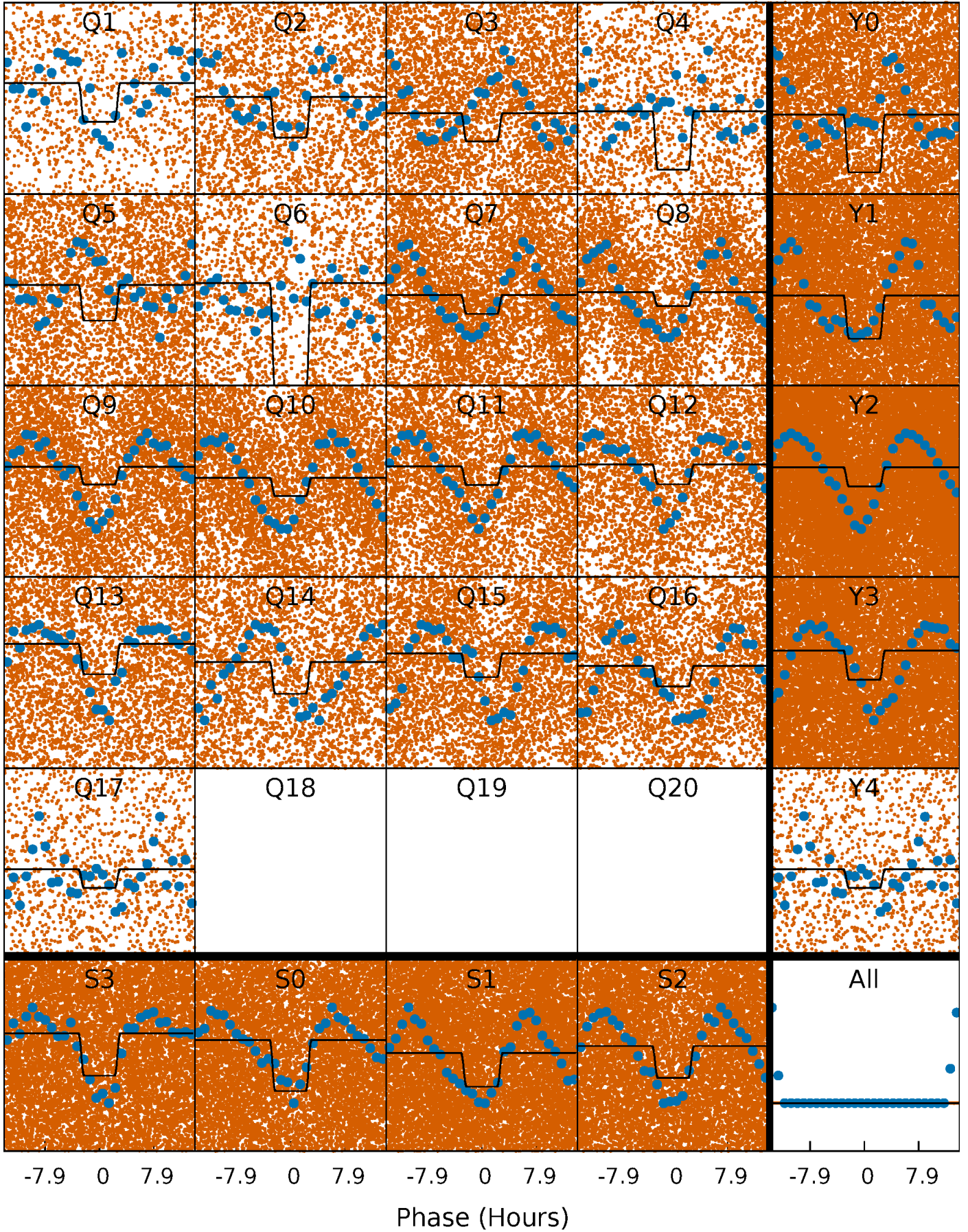
DV Quarter-Phased Transit Curves

TCE 010215038-01 P= 0.711371 Days $T_0=131.866095$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

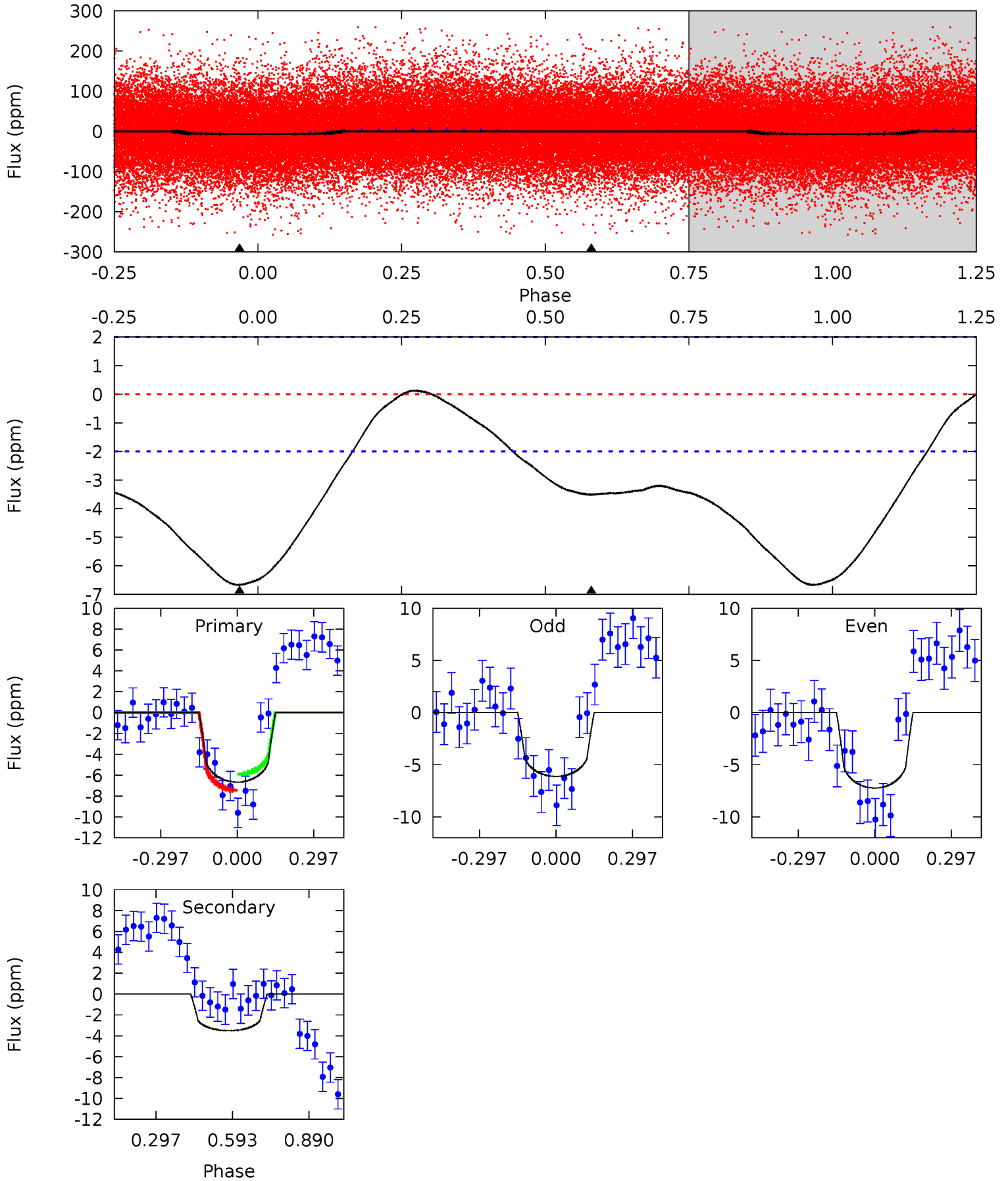
TCE 010215038-01 P= 0.711372 Days $T_0=131.827365$ (BKJD)



DV Model-Shift Uniqueness Test

010215038-01, P = 0.711371 Days, E = 131.154724 Days

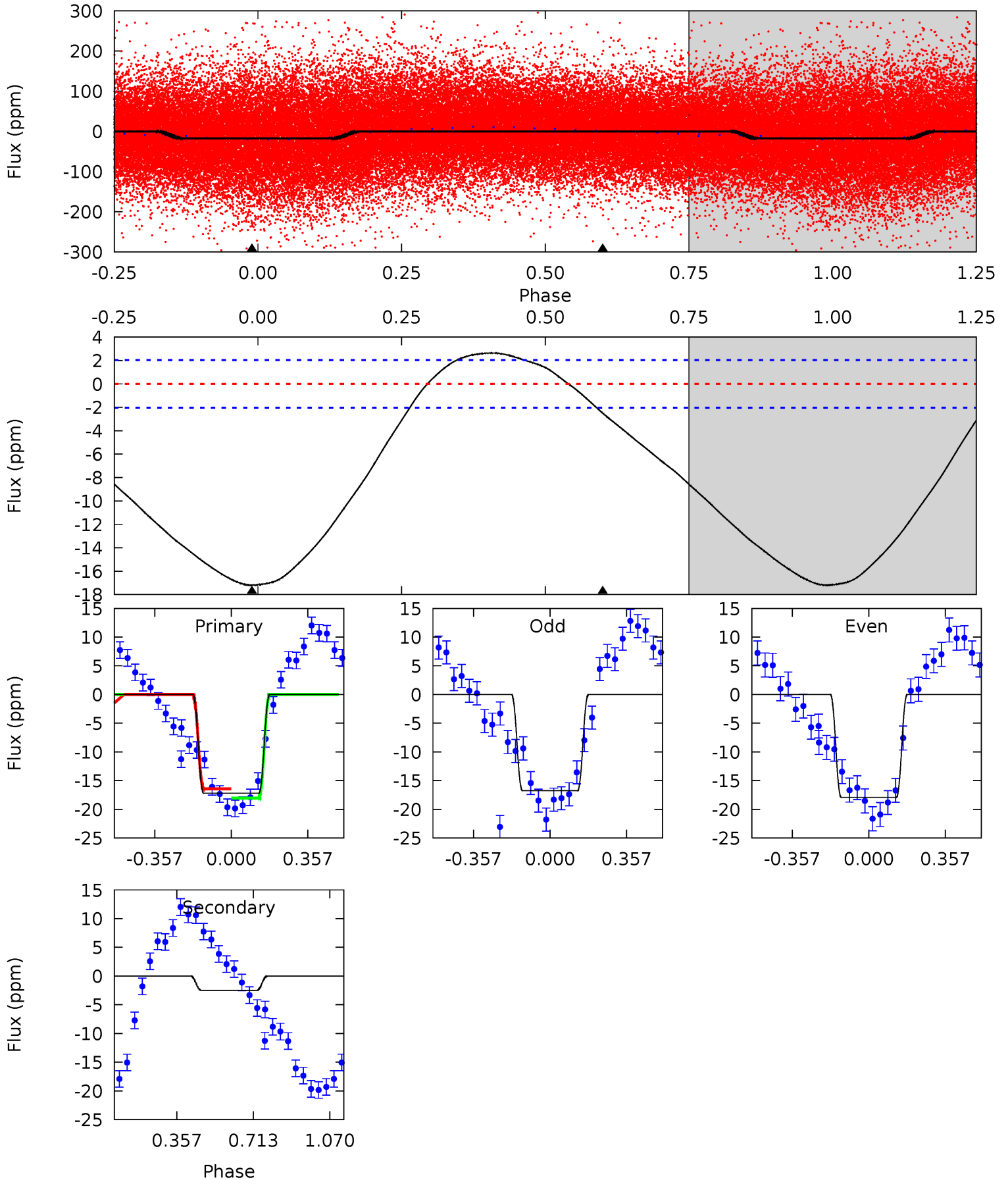
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	7.62	0	0	4.33	1.04	0.31	14.5	14.5	7.62	7.62	1.21	1.09	0.02	1.72



Alt Model-Shift Uniqueness Test

010215038-01, P = 0.711372 Days, E = 131.115993 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.3	5.28	0	0	4.29	0.92	3.43	36.3	36.3	5.28	5.28	1.24	1.06	0.13	1.64



Stellar Parameters For KIC 010215038

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8245^{+74}_{-82}	$3.756^{+0.272}_{-0.032}$	$-0.180^{+0.200}_{-0.200}$	$3.117^{+0.259}_{-1.038}$	$2.017^{+0.258}_{-0.258}$	$0.094^{+0.164}_{-0.015}$
	+1%/-1%	+7%/-1%	+111%/-111%	+8%/-33%	+13%/-13%	+175%/-16%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 010215038-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 0	$0.86^{+0.36}_{-0.35}$	6229^{+209}_{-512}	5953^{+2443}_{-1320}	$1.029^{+1.874}_{-0.524}$
Alt.	-3 ± 0	$1.16^{+0.42}_{-0.34}$	6262^{+197}_{-466}	3995^{+1593}_{-7936}	$0.404^{+0.416}_{-0.188}$

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 $A_{obs} \gg 1.0$

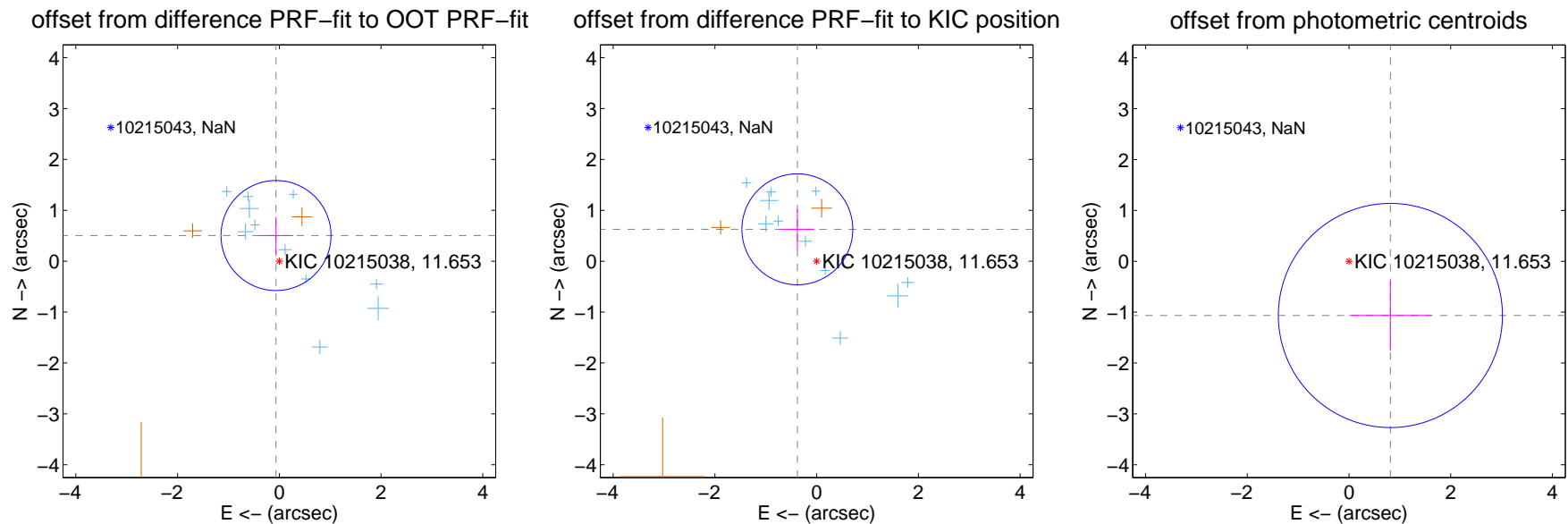
DV Centroid Data

Supplemental centroid analysis for 010215038-01. **Kepler magnitude: 11.65.** Transit SNR 10.60

There are 11 quarters with good PRF difference image offsets

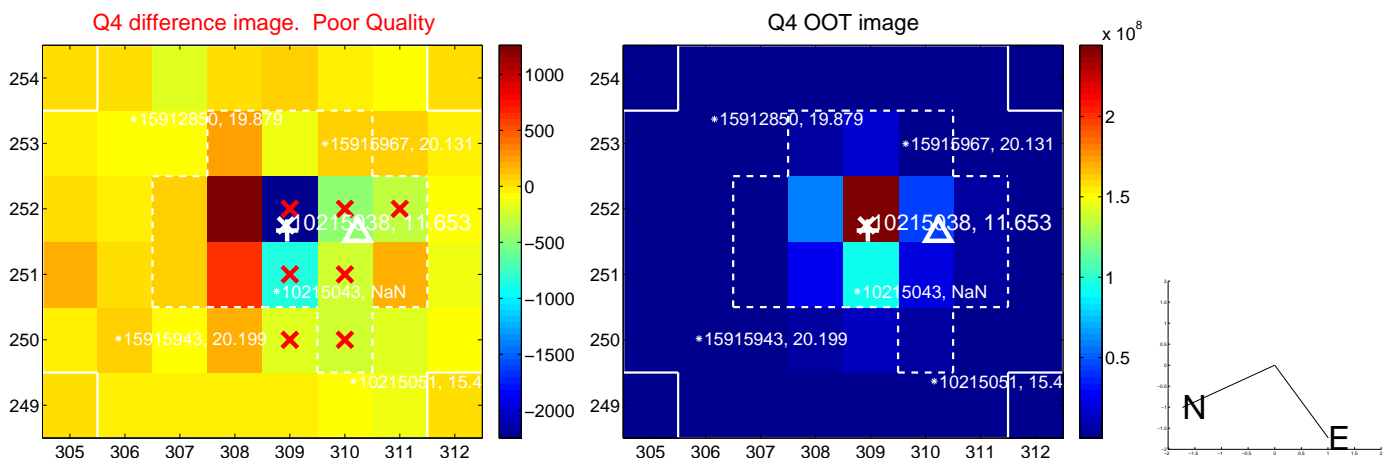
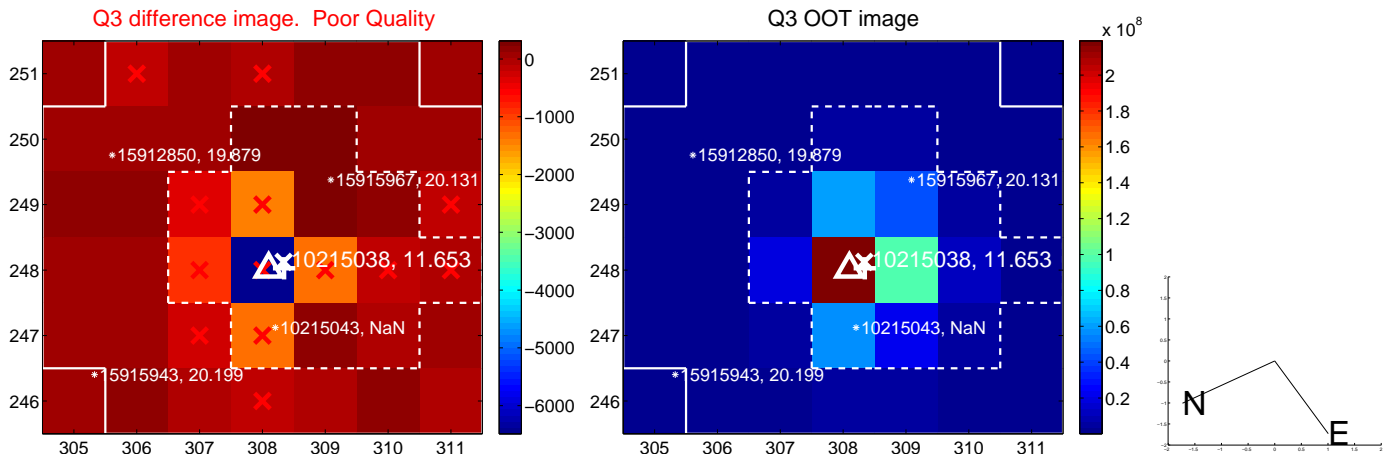
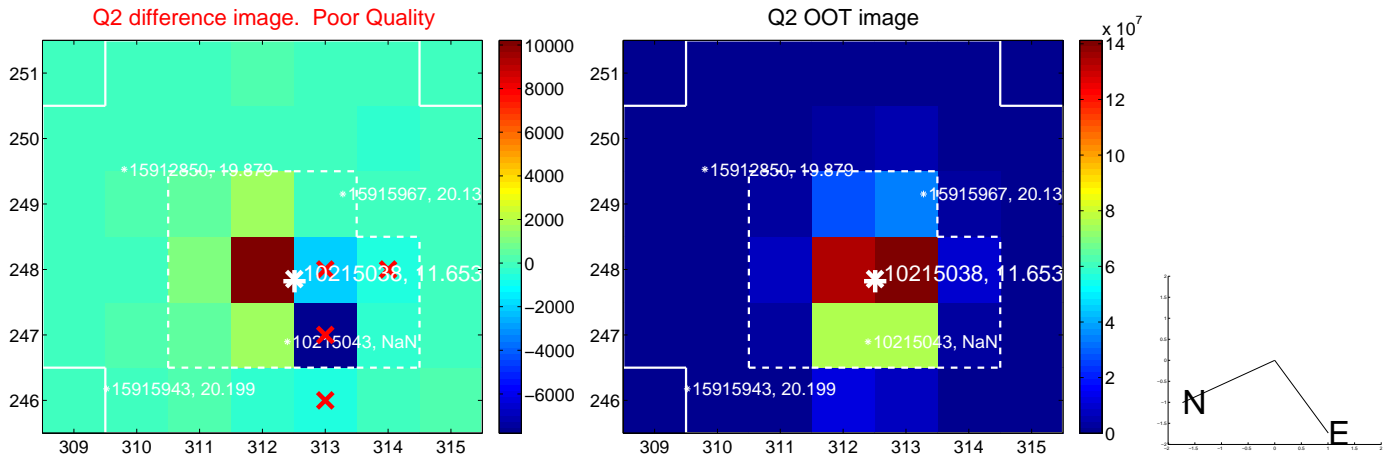
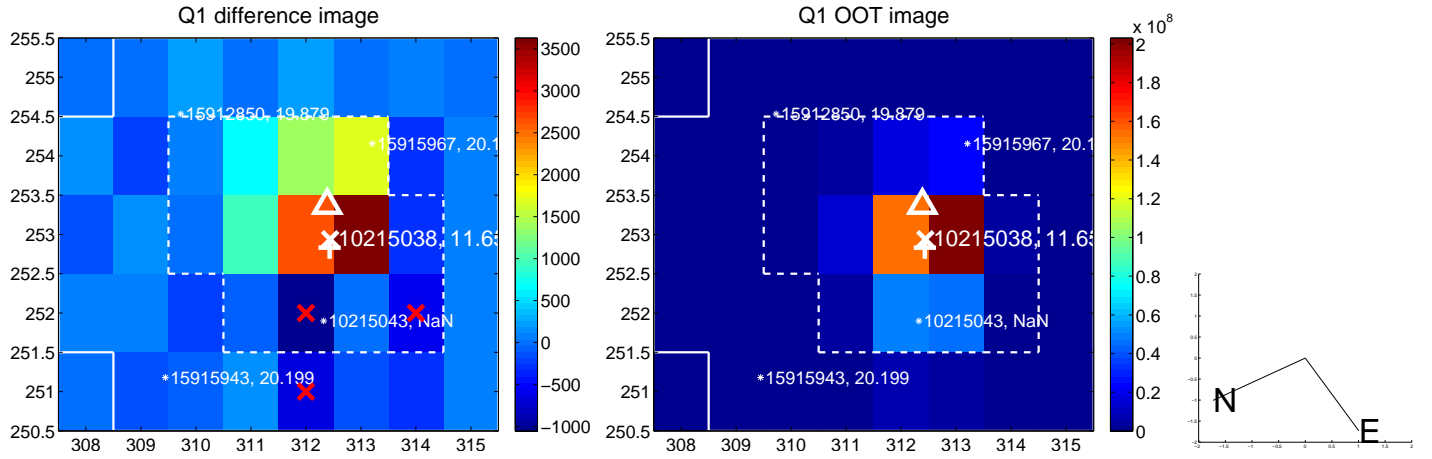
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.509 ± 0.360	1.41	0.065 ± 0.339	0.505 ± 0.365
PRF-fit source offset from KIC position	0.733 ± 0.363	2.02	0.380 ± 0.333	0.627 ± 0.395
photometric centroid source offset	1.34 ± 0.73	1.83	-0.81 ± 0.80	-1.07 ± 0.69

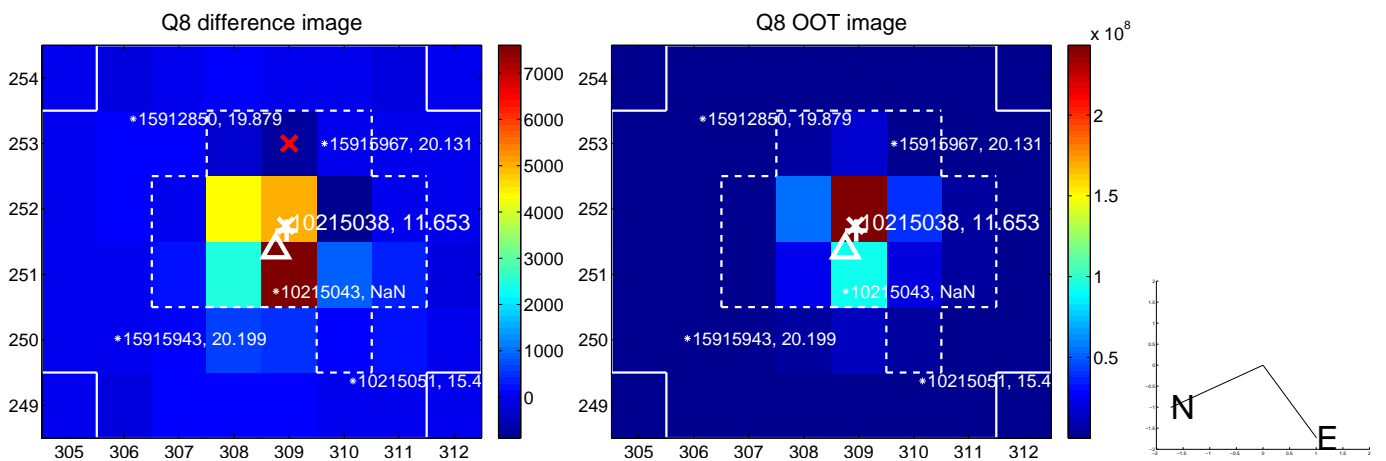
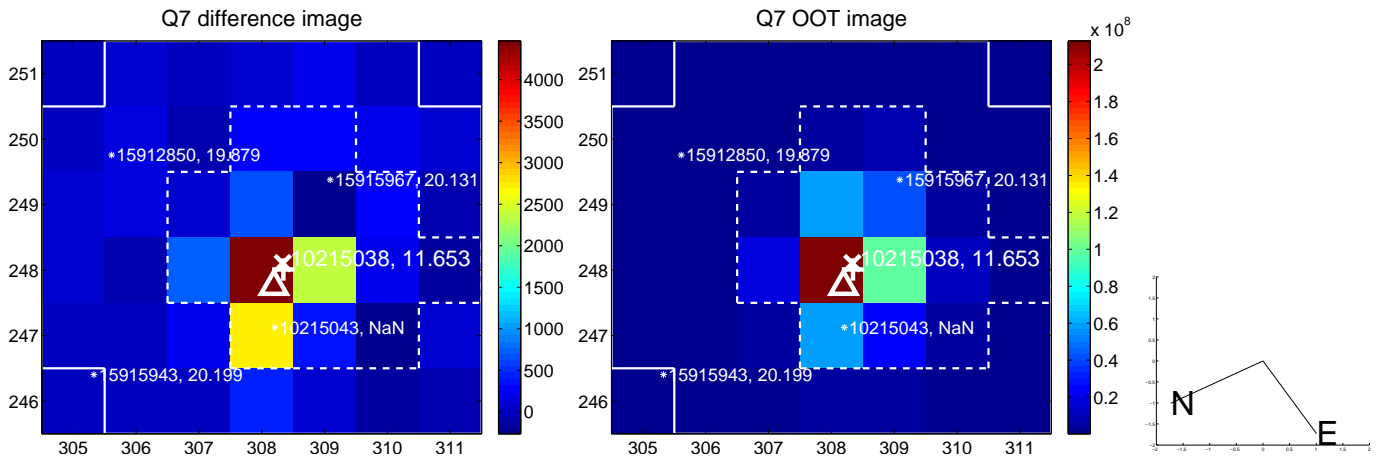
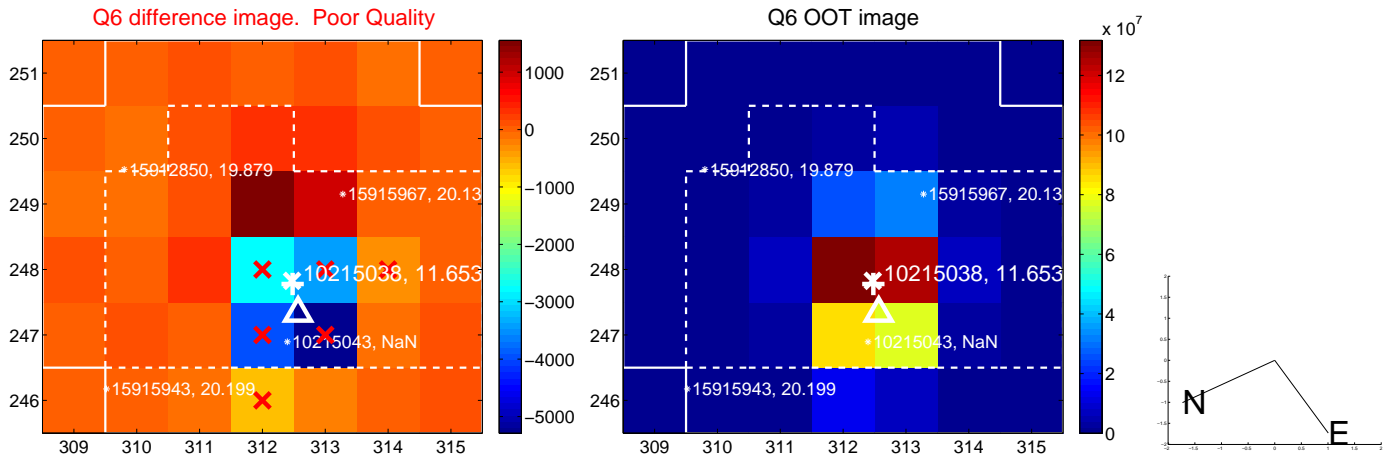
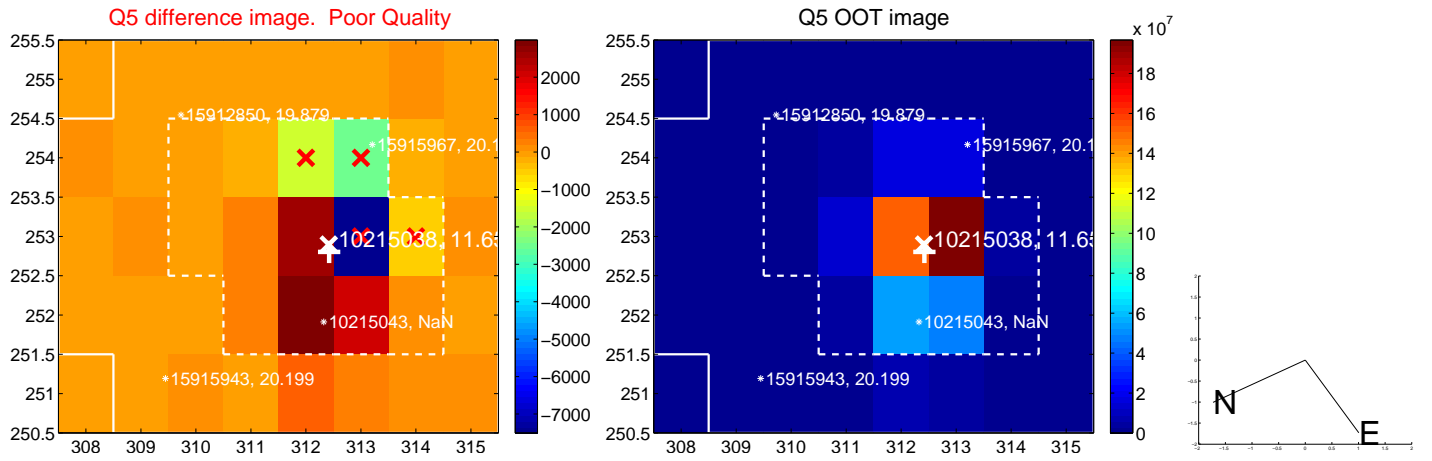


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

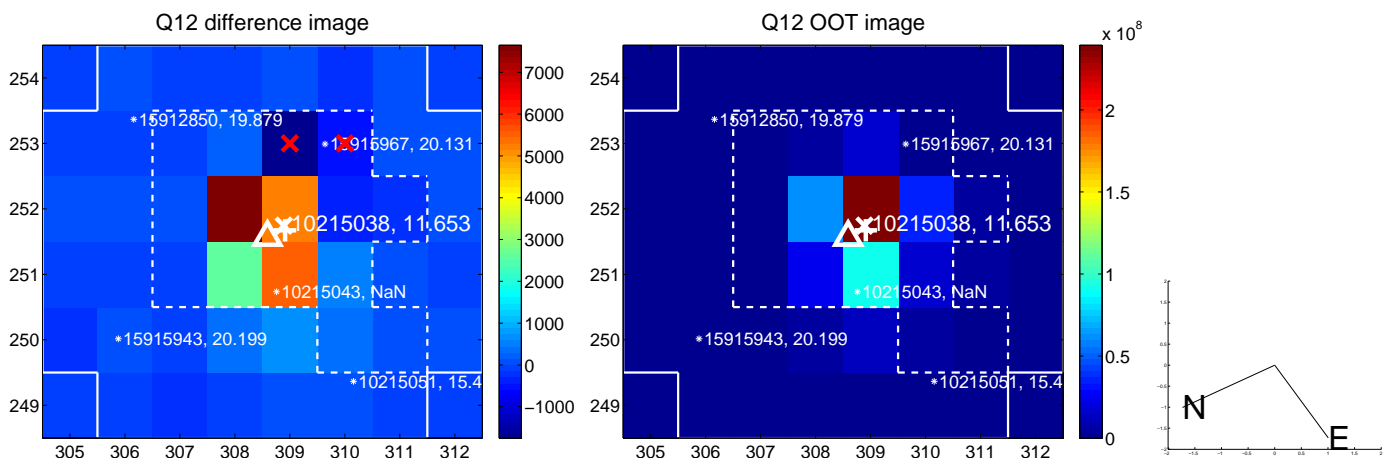
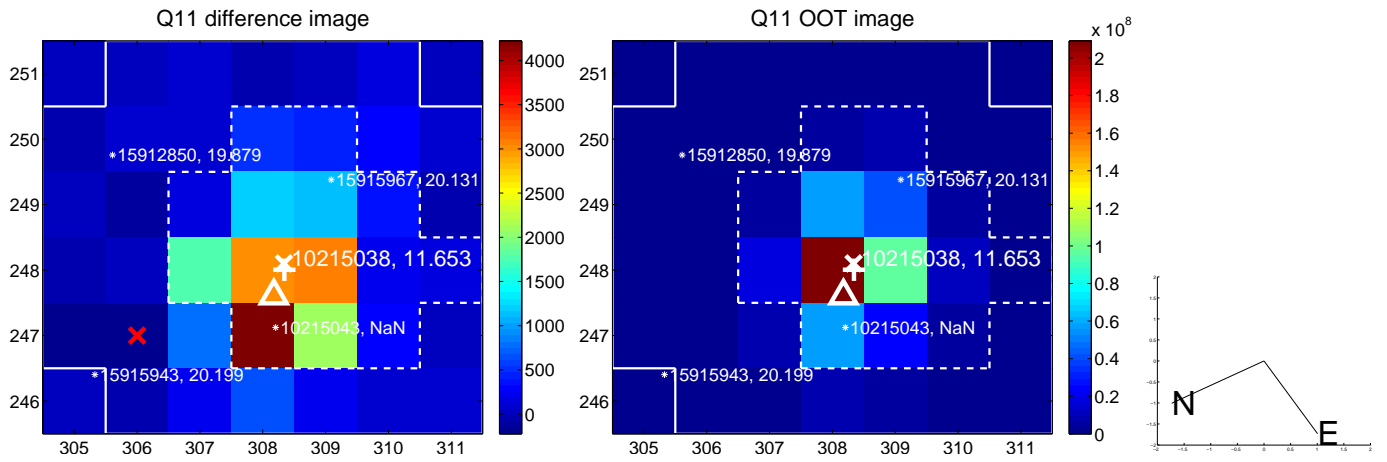
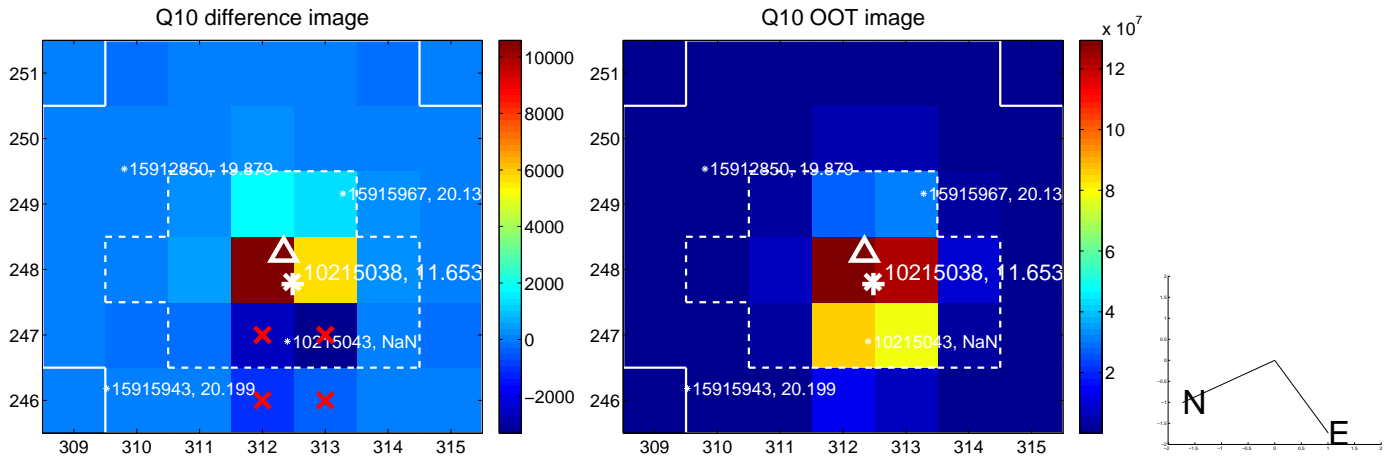
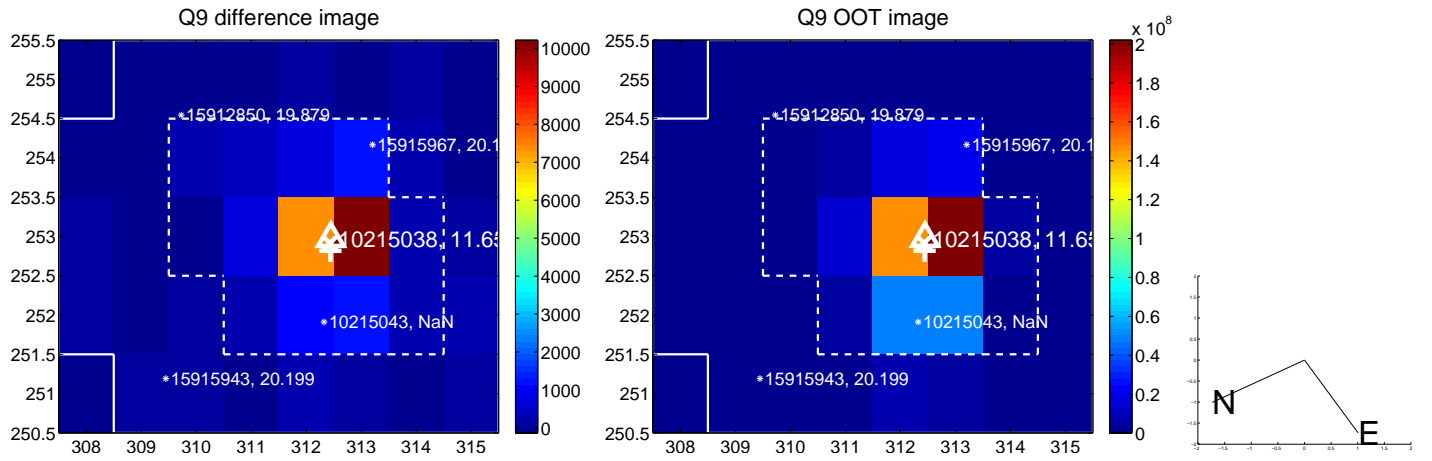
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



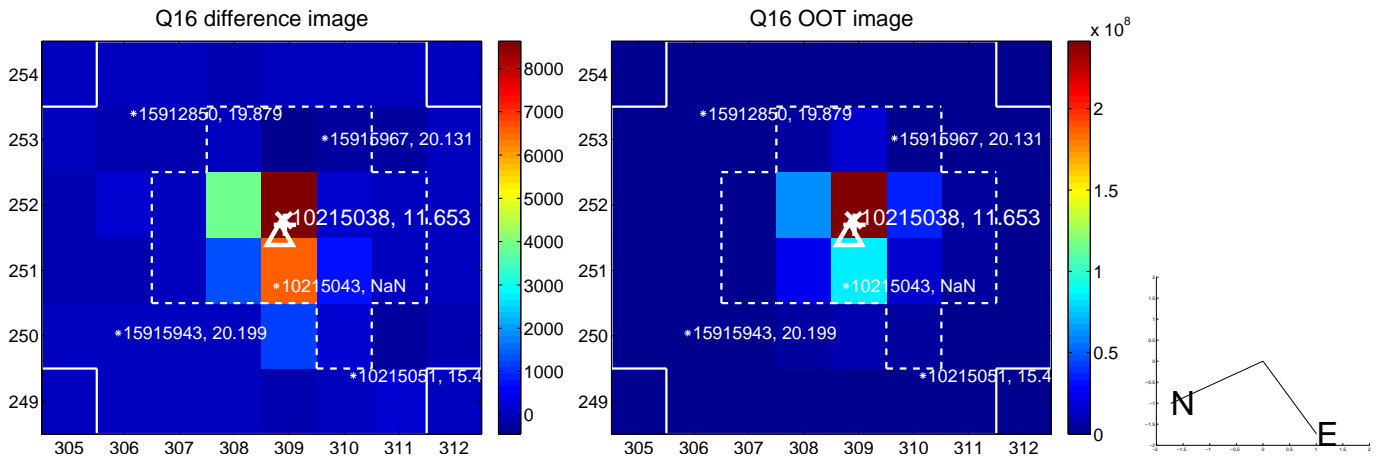
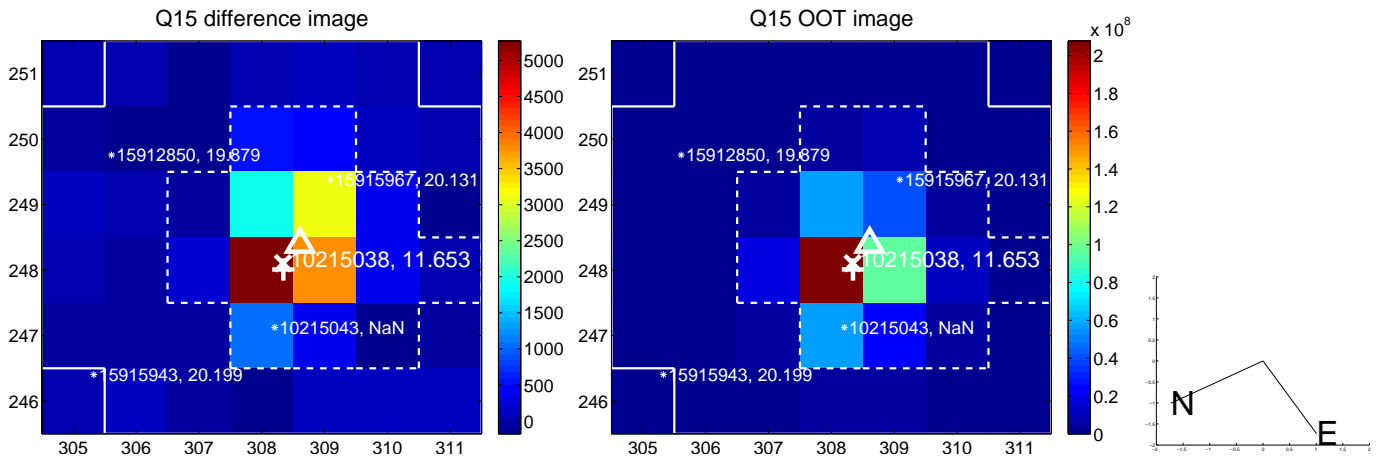
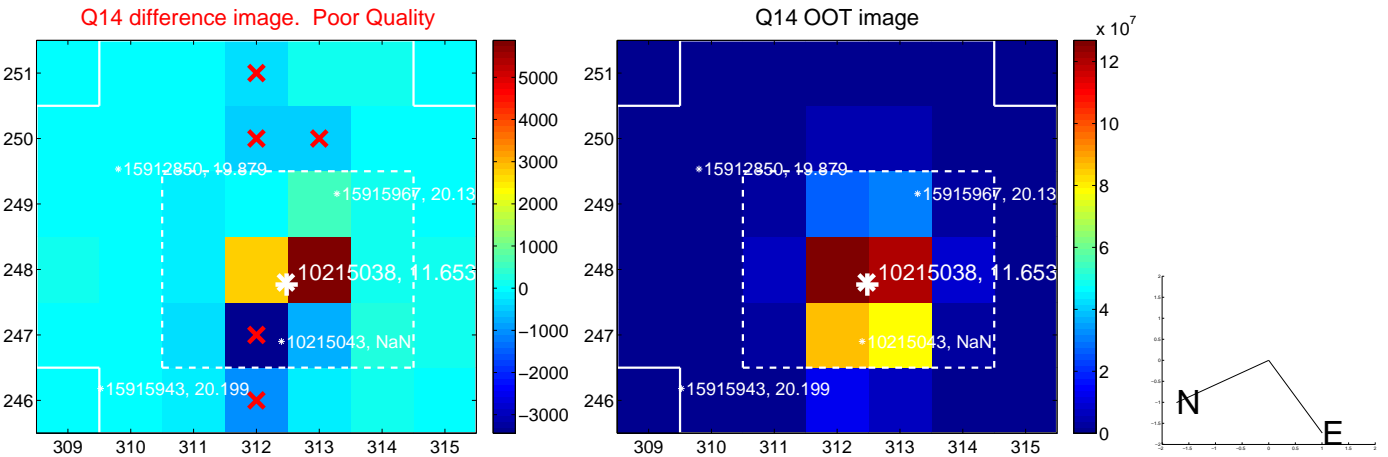
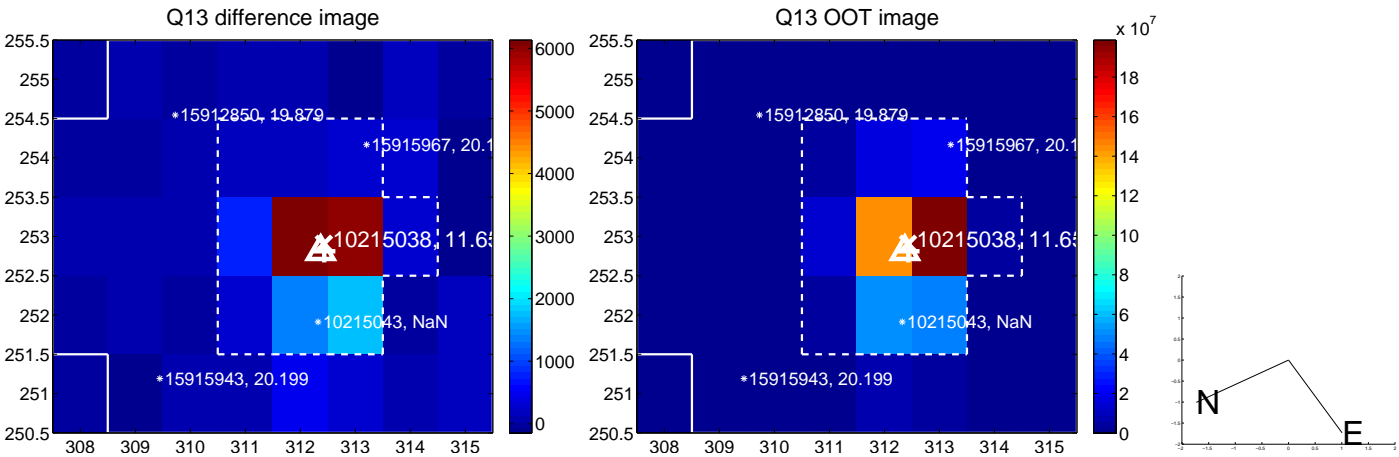
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



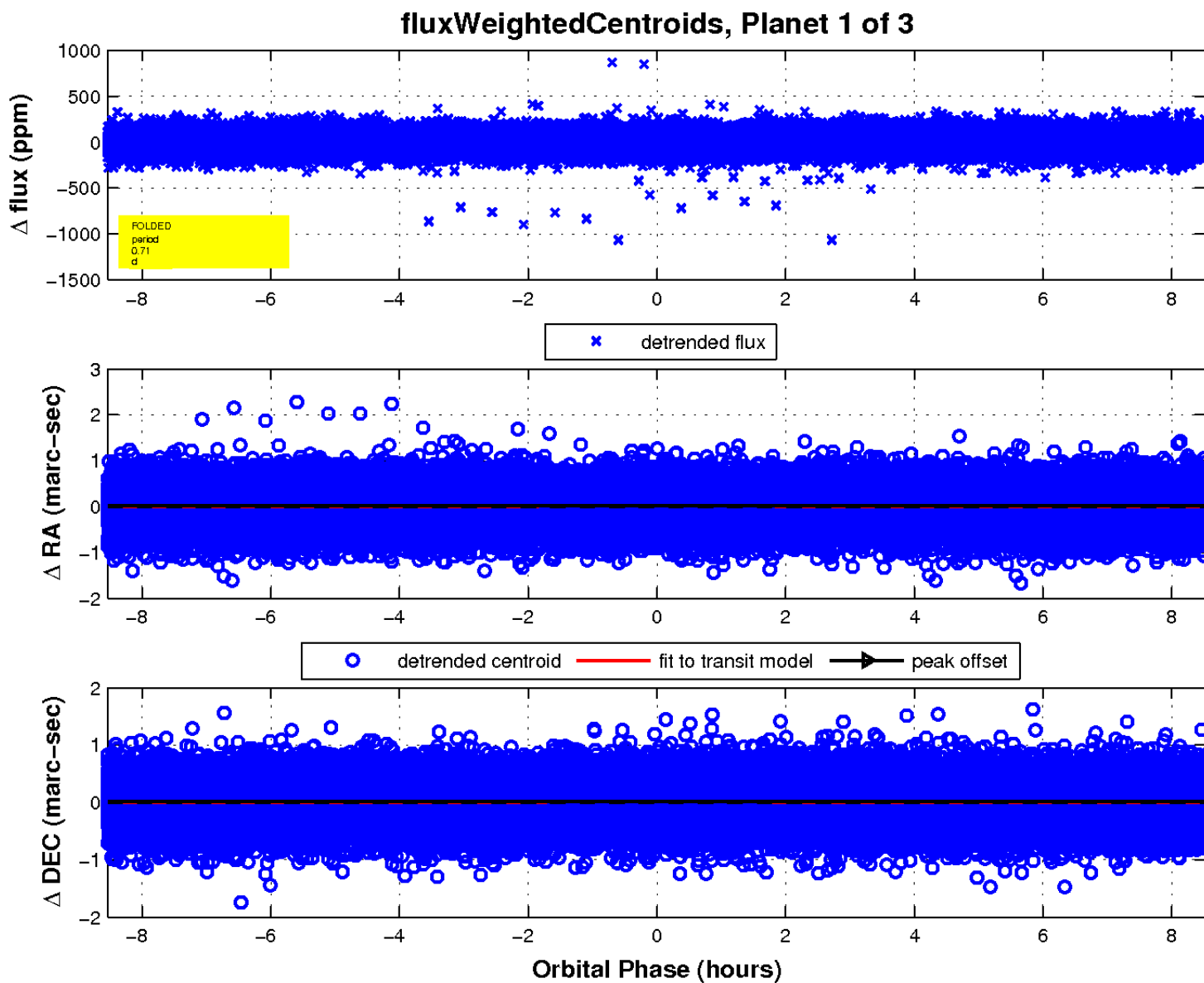
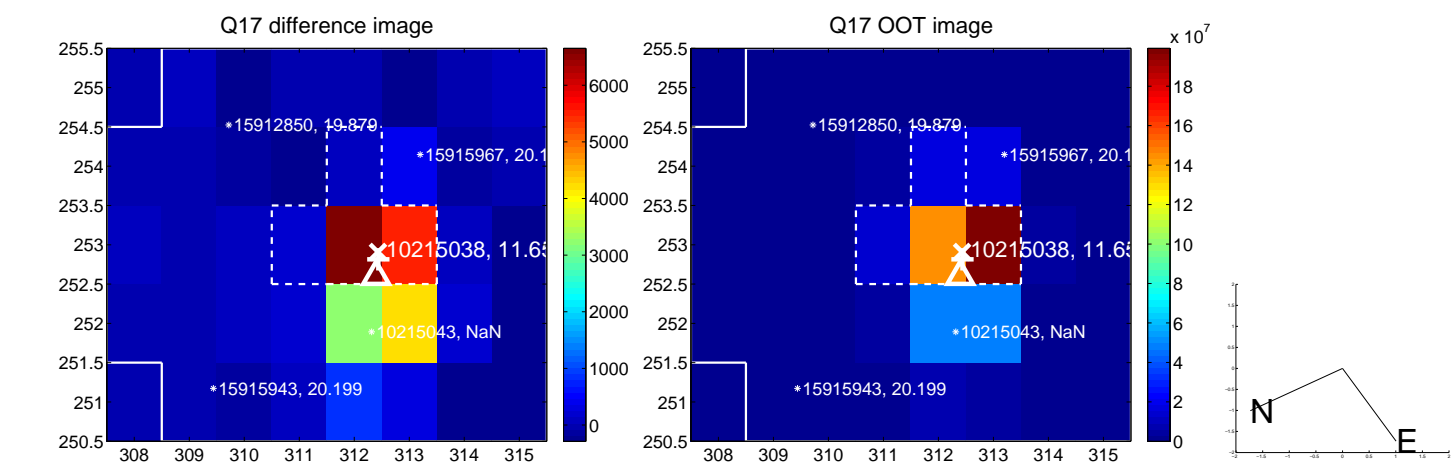
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

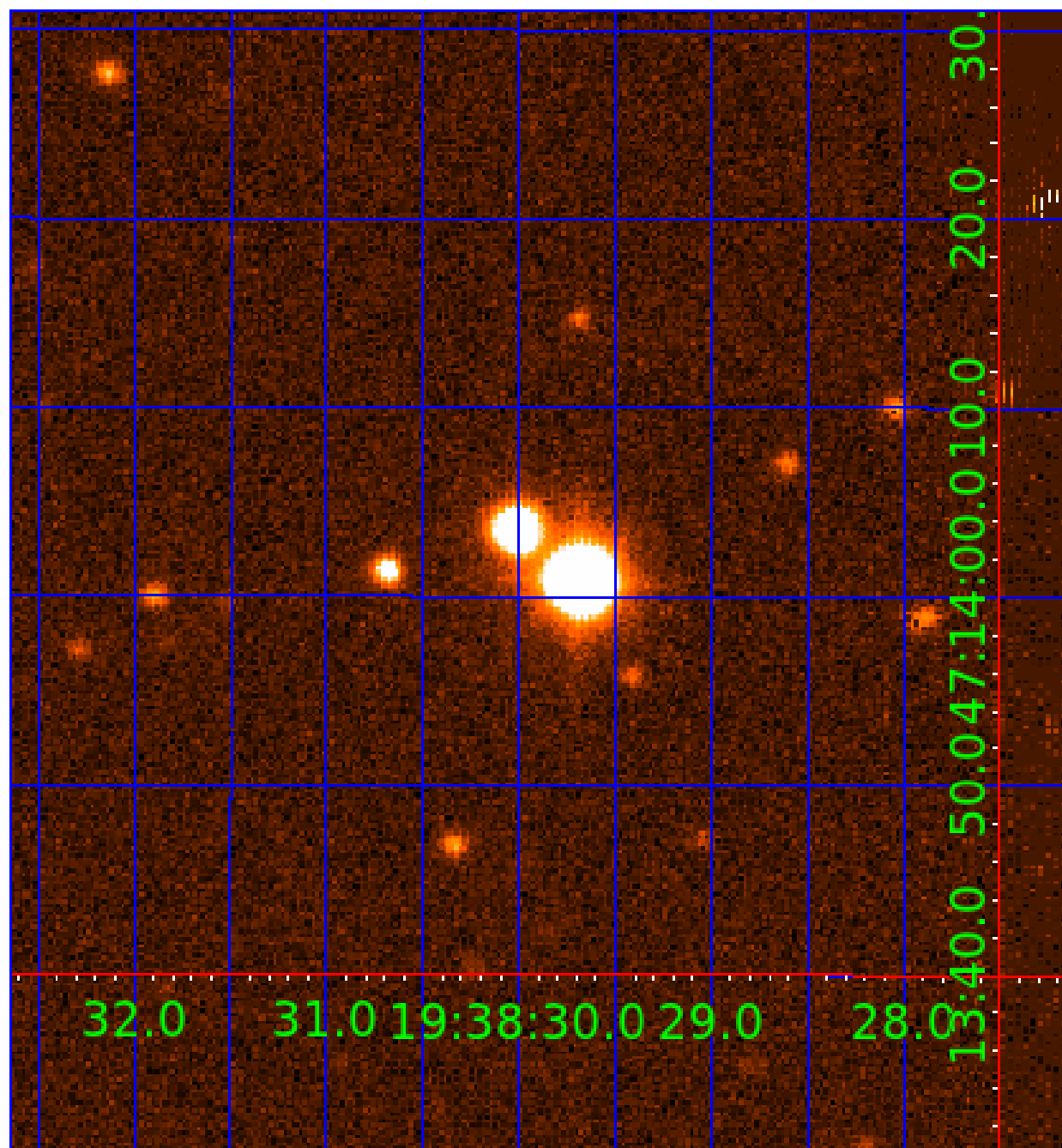


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010215038

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})
010215038-01	OBS	No	0.711371	131.866095	8.7	4.608	8.1	10.6	3.12	8245	0.94	103439.59
010215038-02	OBS	No	53.219004	155.379274	101.2	2.256	12.2	5.8	3.12	8245	3.23	328.14
010215038-03	OBS	No	202.779942	142.862107	221.4	2.209	11.6	9.4	3.12	8245	5.34	55.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010215038-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_KIC_POS
010215038-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010215038-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

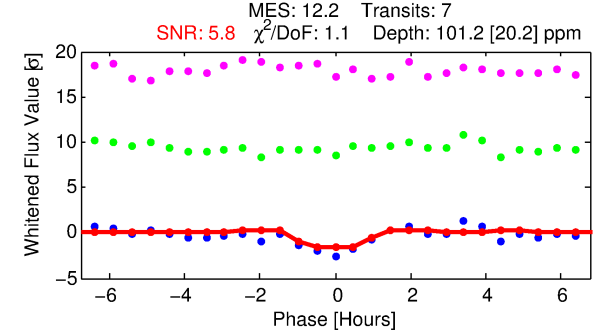
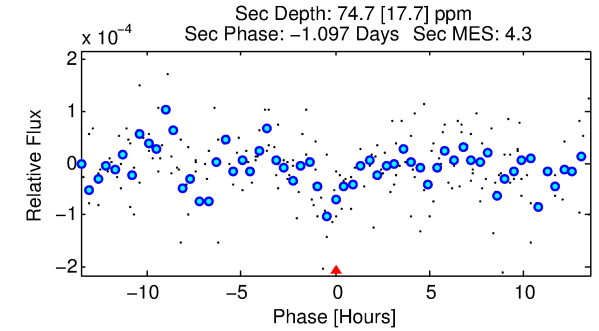
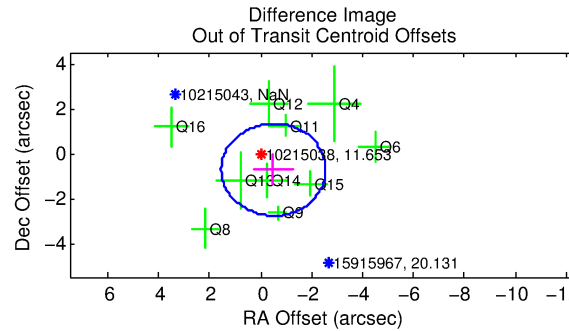
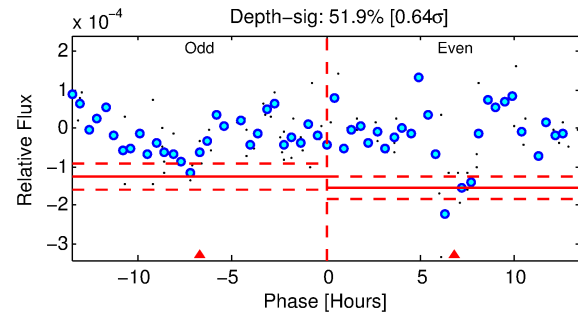
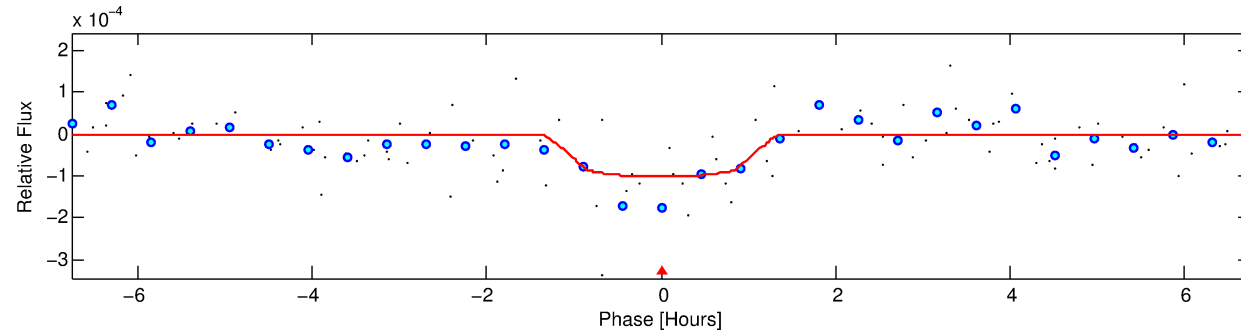
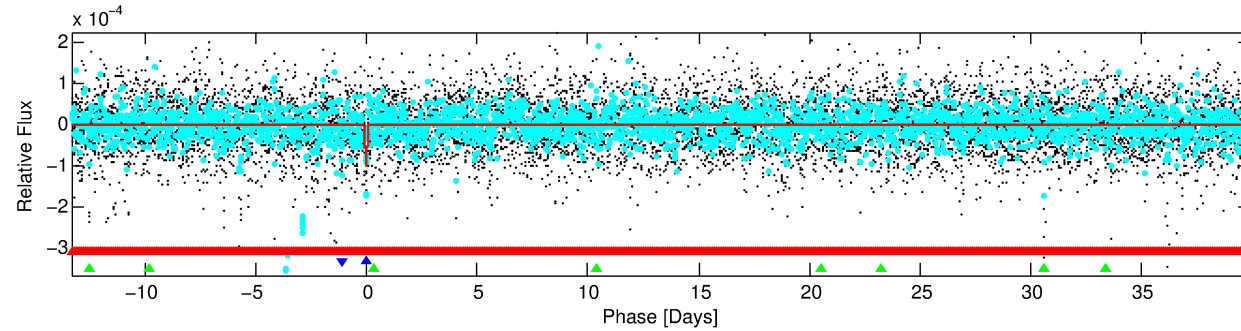
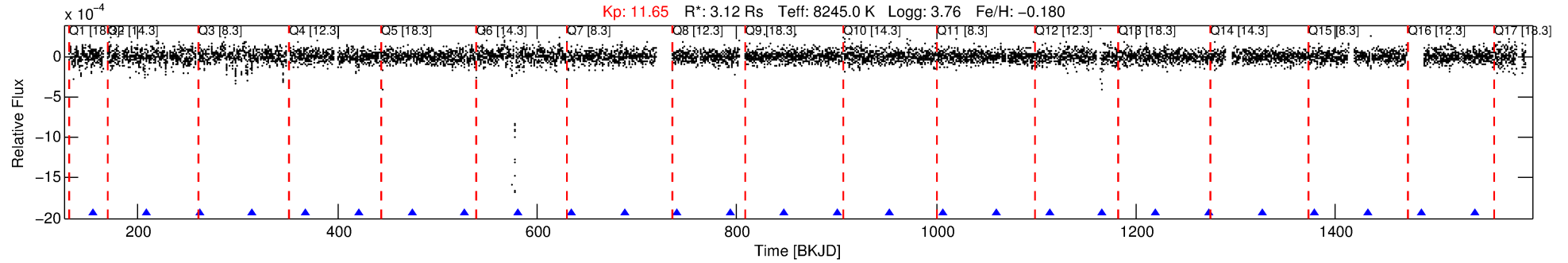
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010215038-02

No Significant Match Found

DV One-Page Summary

KIC: 10215038 Candidate: 2 of 3 Period: 53.219 d



DV Fit Results:

Period = 53.21900 [0.00076] d
Epoch = 155.3793 [0.0116] BKJD
Rp/R* = 0.0095 [0.0173]
a/R* = 163.41 [1688.76]
b = 0.44 [18.74]
Seff = 328.14 [155.72]
Teq = 1085 [129] K
Rp = 3.23 [5.97] Re
a = 0.3501 [0.1067] AU
Ag = 482.37 [1771.18] [0.27σ]
Teffp = 7864 [7159] K [0.95σ]

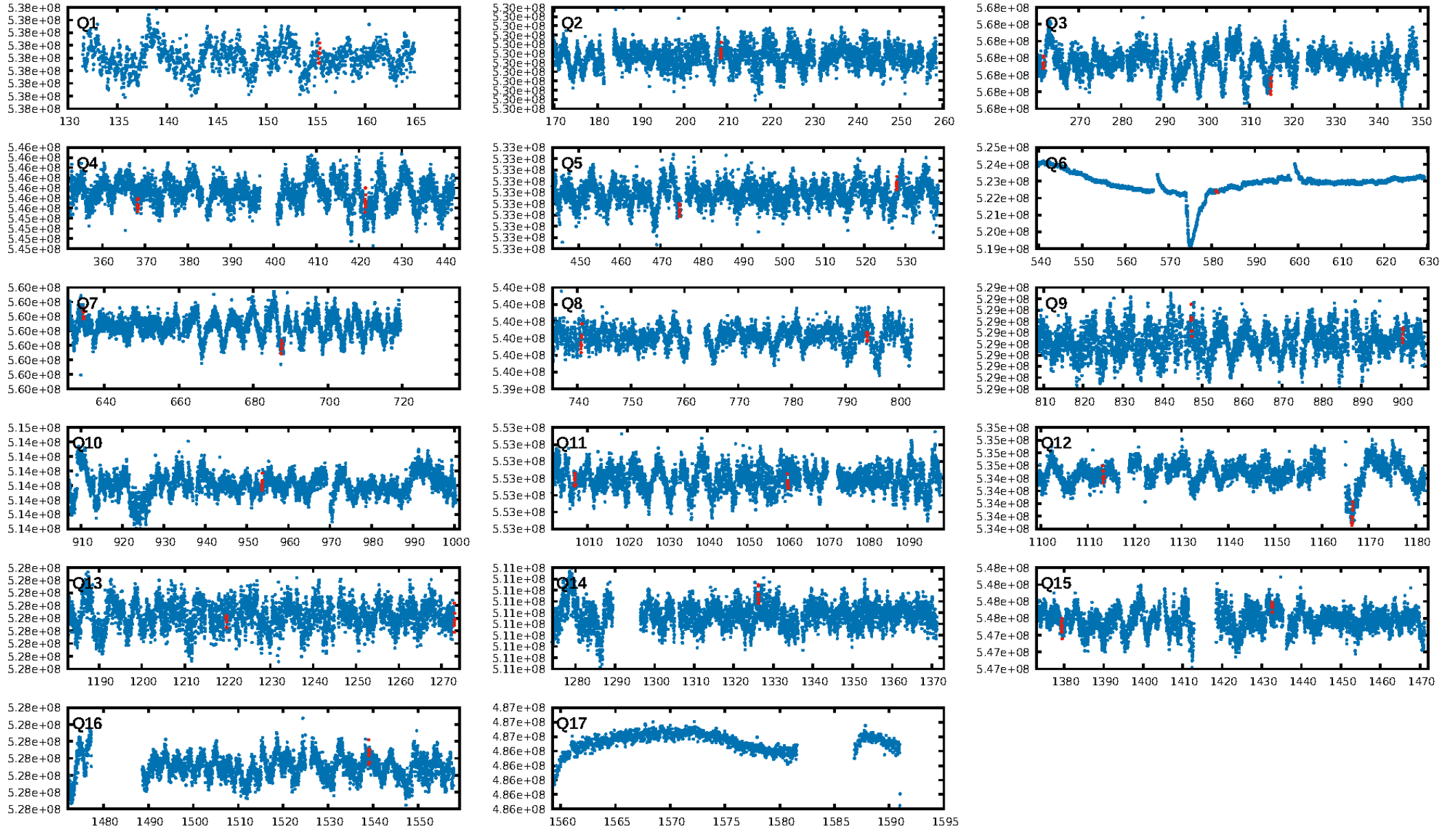
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [245.62σ]
LongPeriod-sig: 100.0% [1136.76σ]
ModelChiSquare2-sig: 7.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.27e-23
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -0.4571
Centroid-sig: 87.9%
Centroid-so: 0.554 arcsec [0.74σ]
OotOffset-rm: 0.884 arcsec [1.29σ]
OotOffset-st: 2/2/4/2 [10]
KicOffset-rm: 0.668 arcsec [1.02σ]
KicOffset-st: 2/2/4/2 [10]
DiffImageQuality-fgm: 0.20 [2/10]
DiffImageOverlap-fno: 0.00 [0/16]

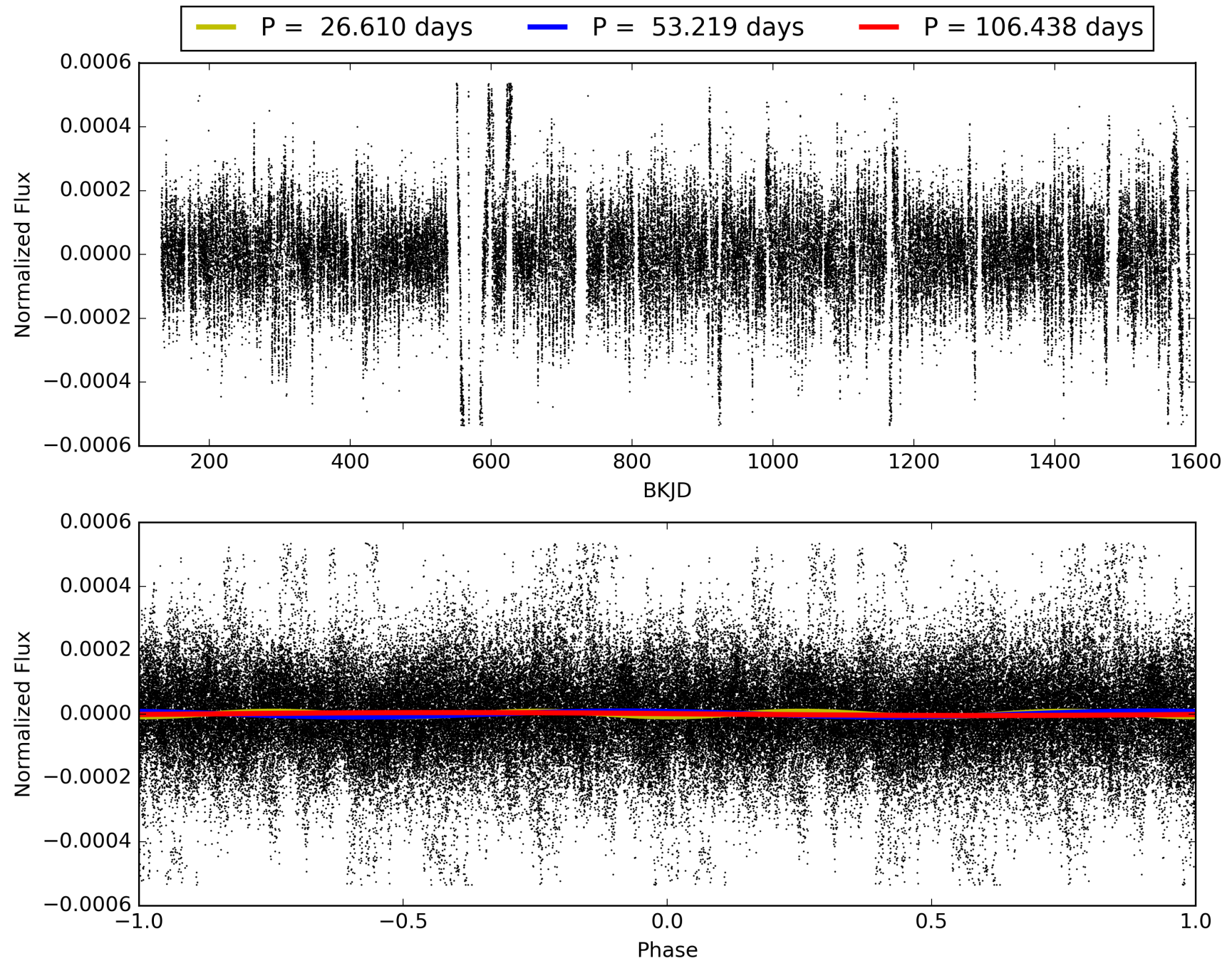
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:45:09 Z

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

TCE 010215038-02, PDC Light Curves

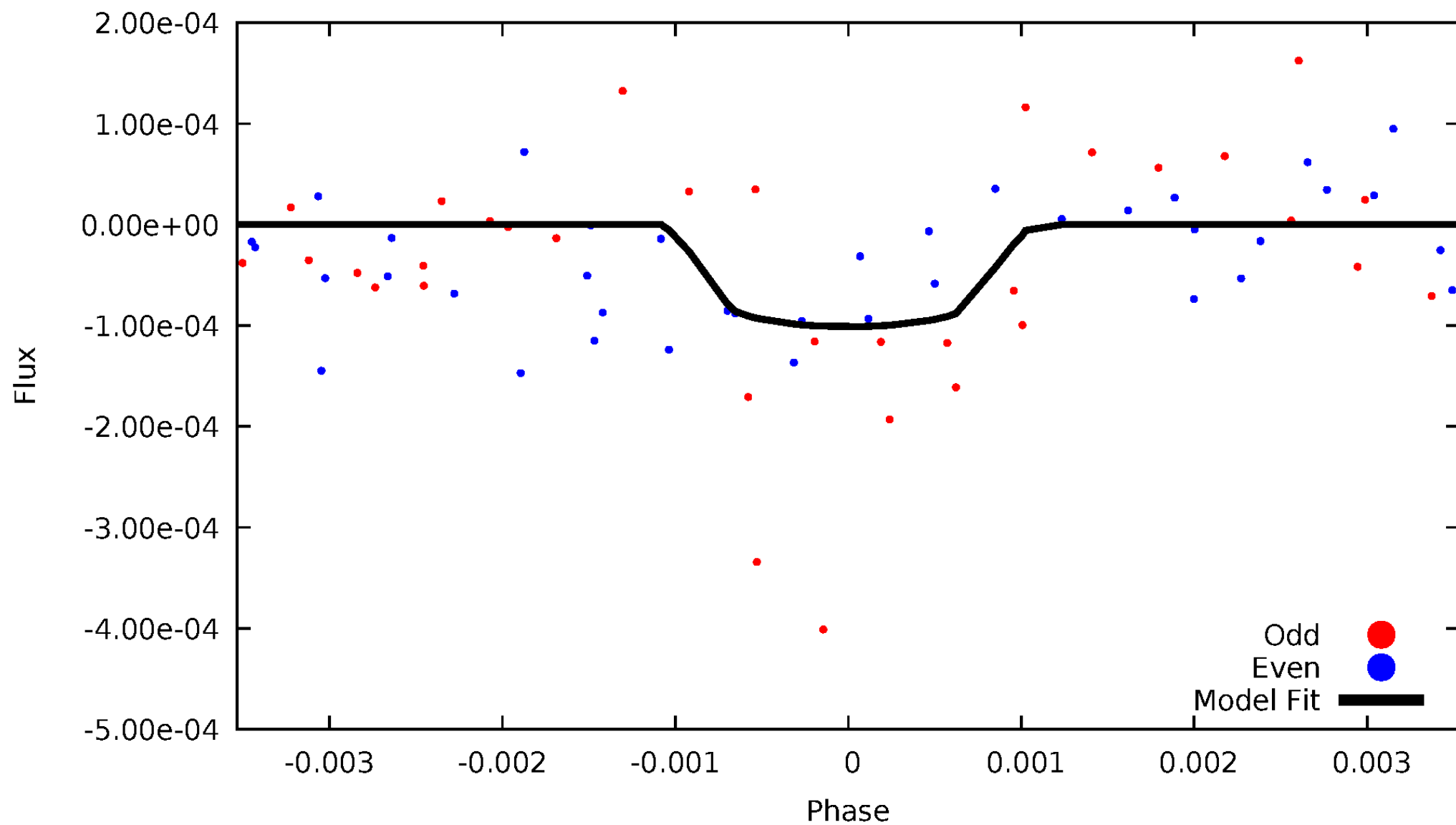


TCE 010215038-02



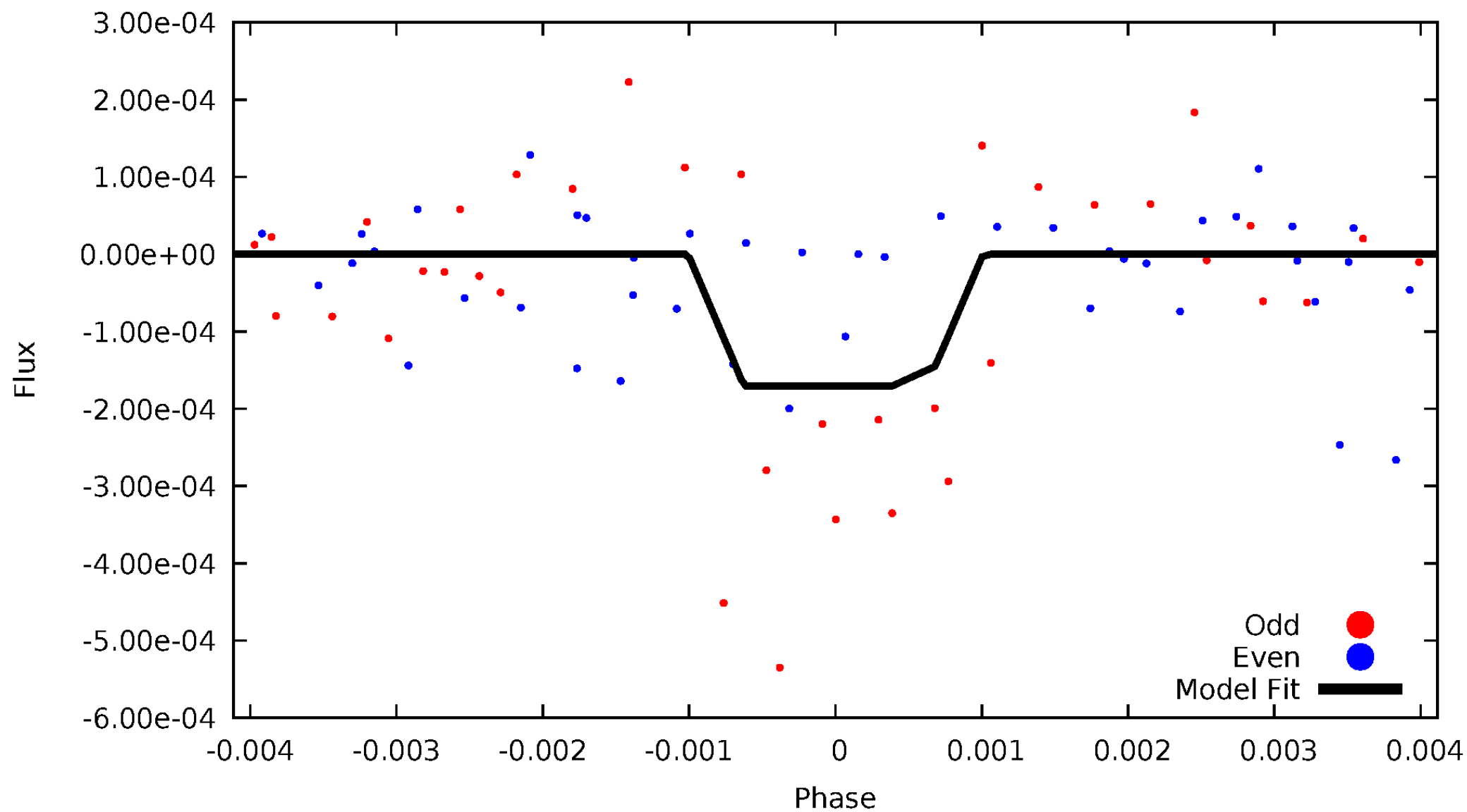
DV Odd/Even

TCE 010215038-02



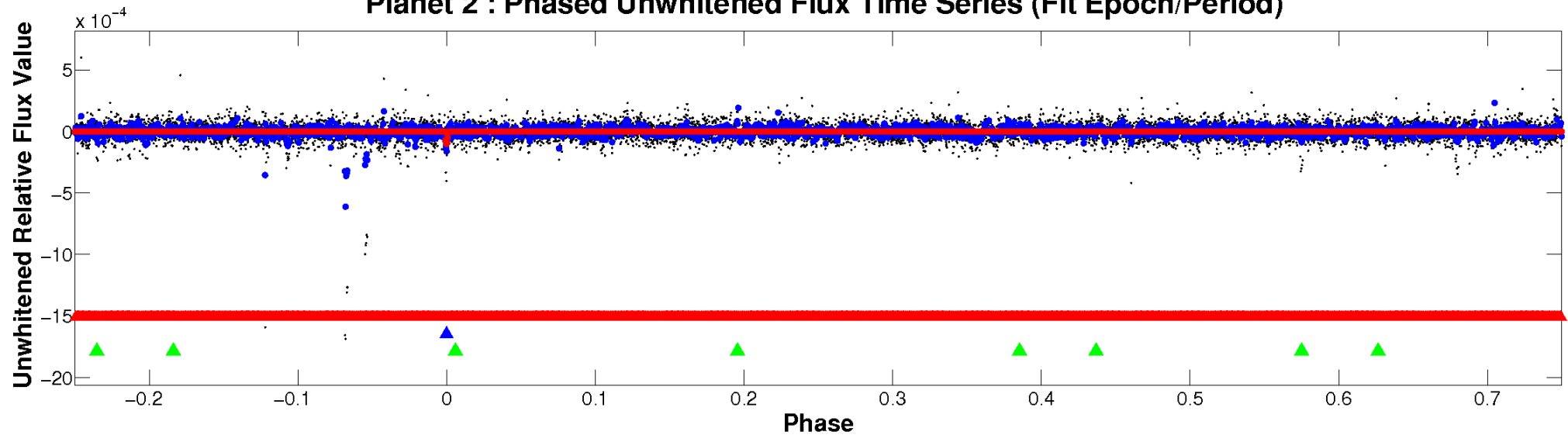
ALT Odd/Even

TCE 010215038-02

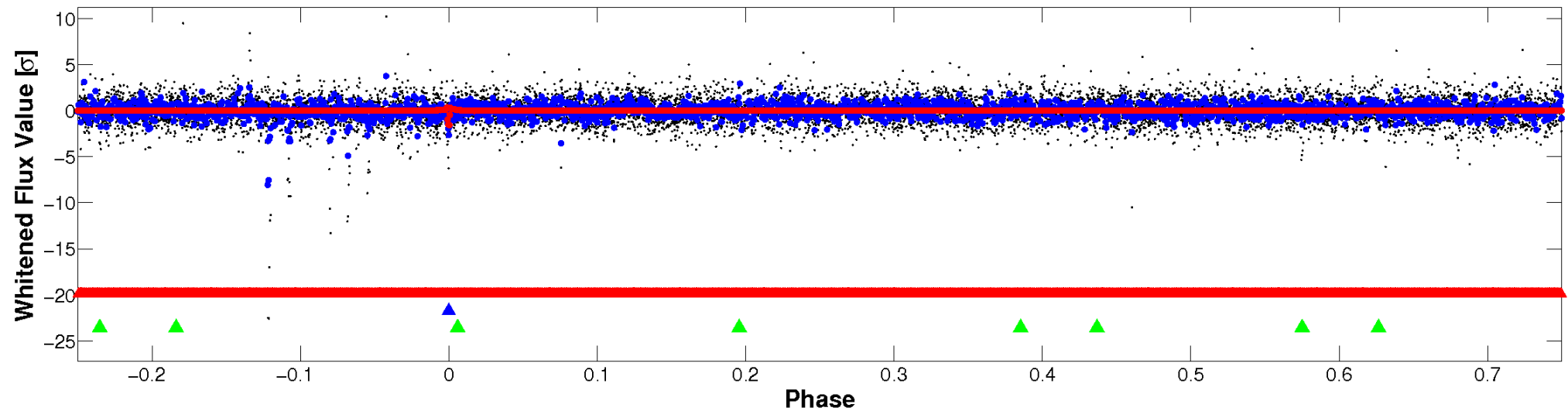


Non-Whitened Vs. Whitened Light Curve

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

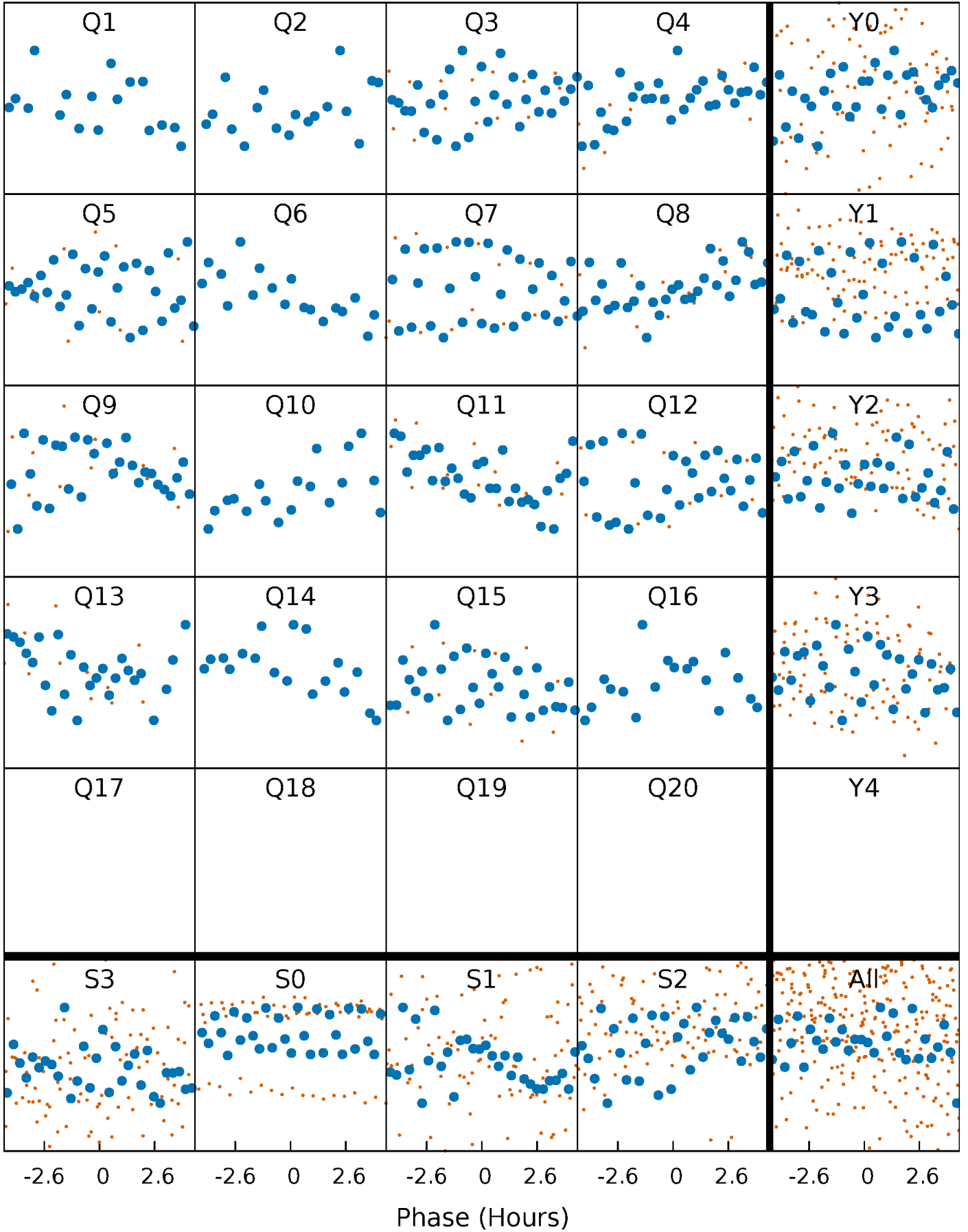


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



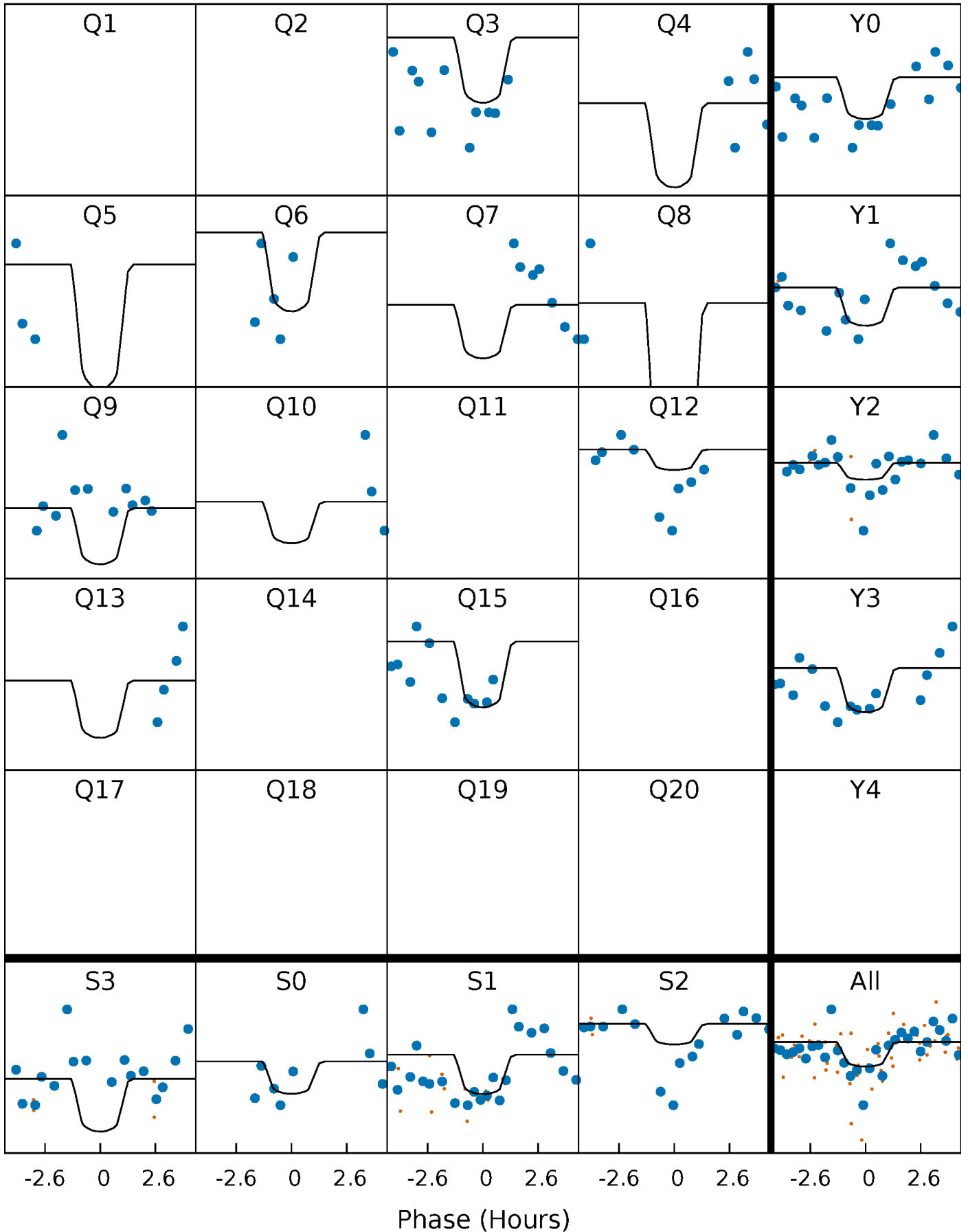
PDC Quarter-Phased Transit Curves

TCE 010215038-02 P= 53.219004 Days $T_0=155.379274$ (BKJD)



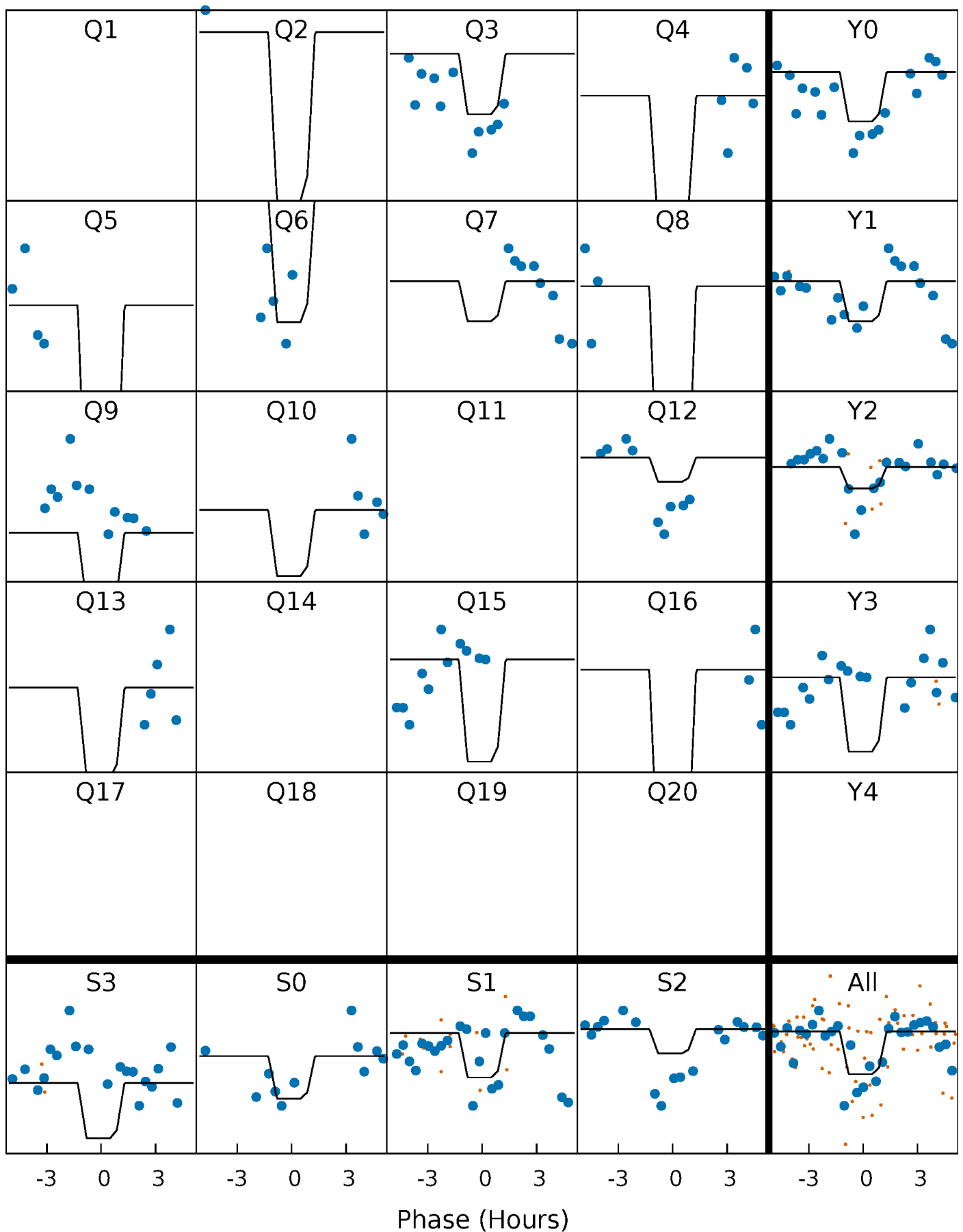
DV Quarter-Phased Transit Curves

TCE 010215038-02 P= 53.219004 Days $T_0=155.379274$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

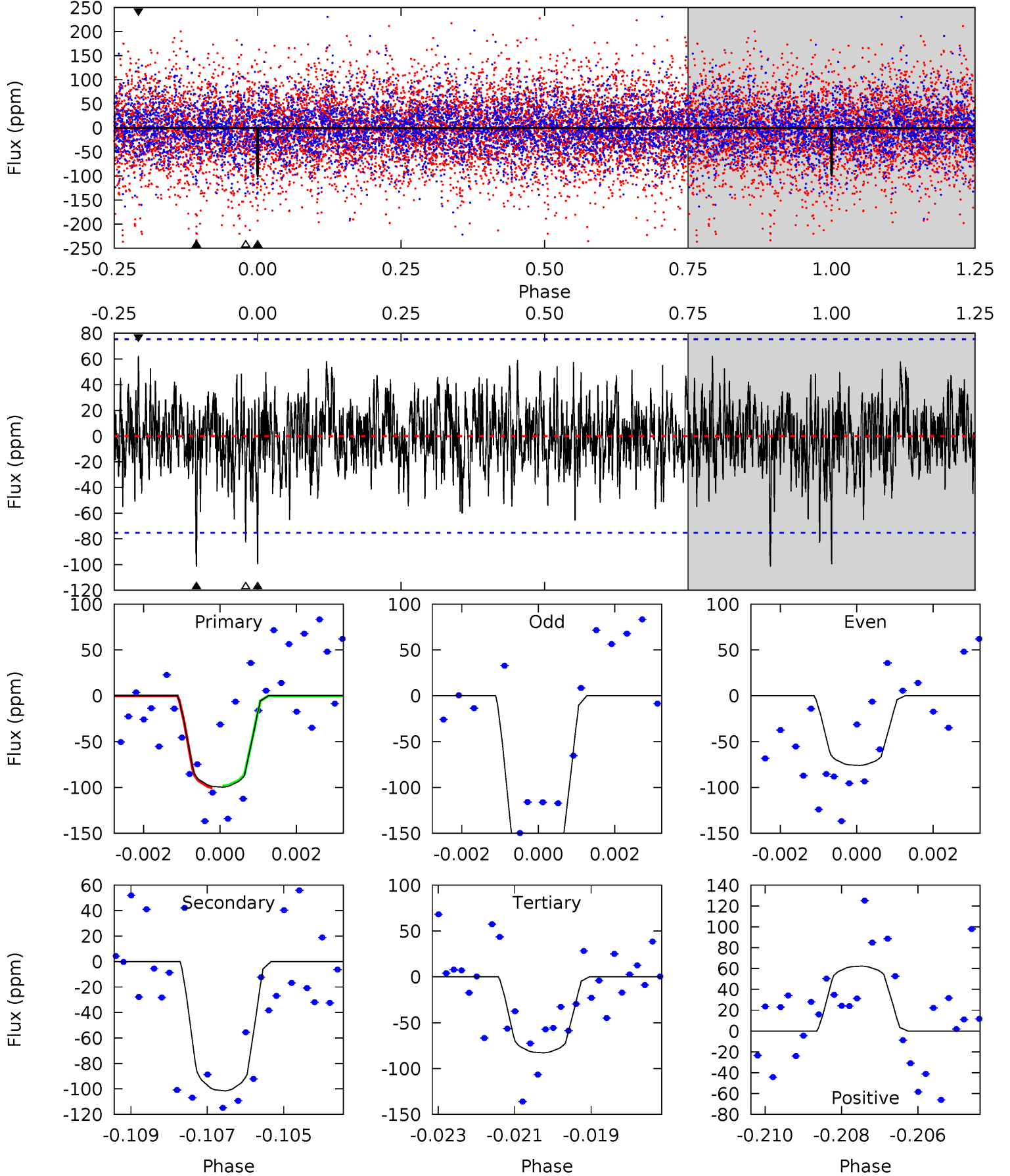
TCE 010215038-02 $P = 53.220141$ Days $T_0 = 155.370212$ (BKJD)



DV Model-Shift Uniqueness Test

010215038-02, P = 53.219004 Days, E = 102.160270 Days

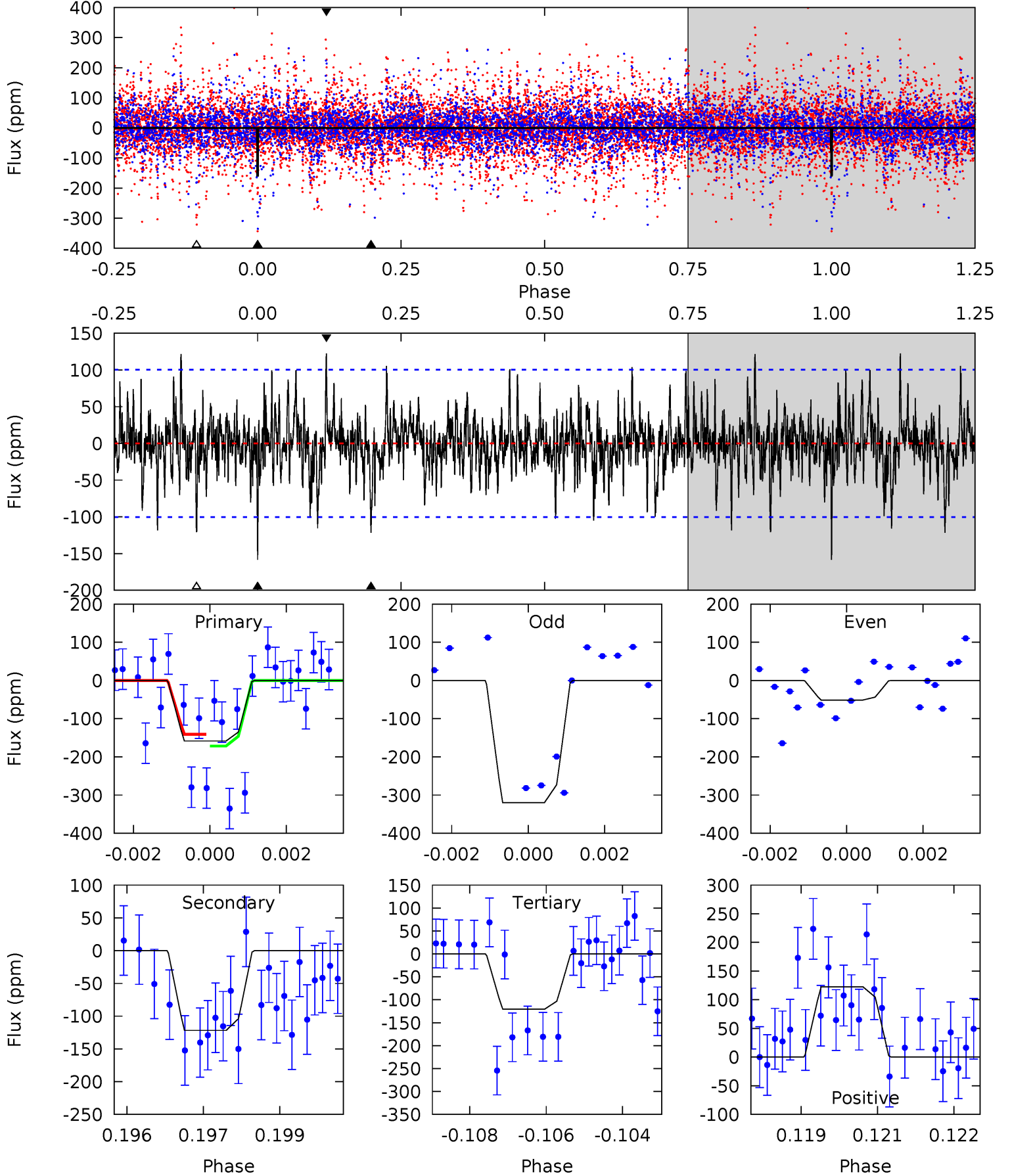
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.06	7.19	5.87	4.41	5.33	3.10	1.47	1.19	2.65	1.32	2.78	3.86	1.03	0.38	0



Alt Model-Shift Uniqueness Test

010215038-02, P = 53.220141 Days, E = 102.150071 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.44	6.48	6.43	6.53	5.34	3.12	1.64	2.01	1.91	0.05	-0.05	7.11	1.02	0.44	0.79



Stellar Parameters For KIC 010215038

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8245^{+74}_{-82}	$3.756^{+0.272}_{-0.032}$	$-0.180^{+0.200}_{-0.200}$	$3.117^{+0.259}_{-1.038}$	$2.017^{+0.258}_{-0.258}$	$0.094^{+0.164}_{-0.015}$
	+1%/-1%	+7%/-1%	+111%/-111%	+8%/-33%	+13%/-13%	+175%/-16%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 010215038-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-102 ± 14	$4.97^{+4.42}_{-3.40}$	1488^{+44}_{-104}	6401^{+7636}_{-1601}	280^{+2469}_{-201}
Alt.	-122 ± 19	$5.63^{+5.04}_{-3.46}$	1481^{+49}_{-125}	6239^{+5390}_{-1524}	262^{+1493}_{-189}

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 $A_{obs} \gg 1.0$

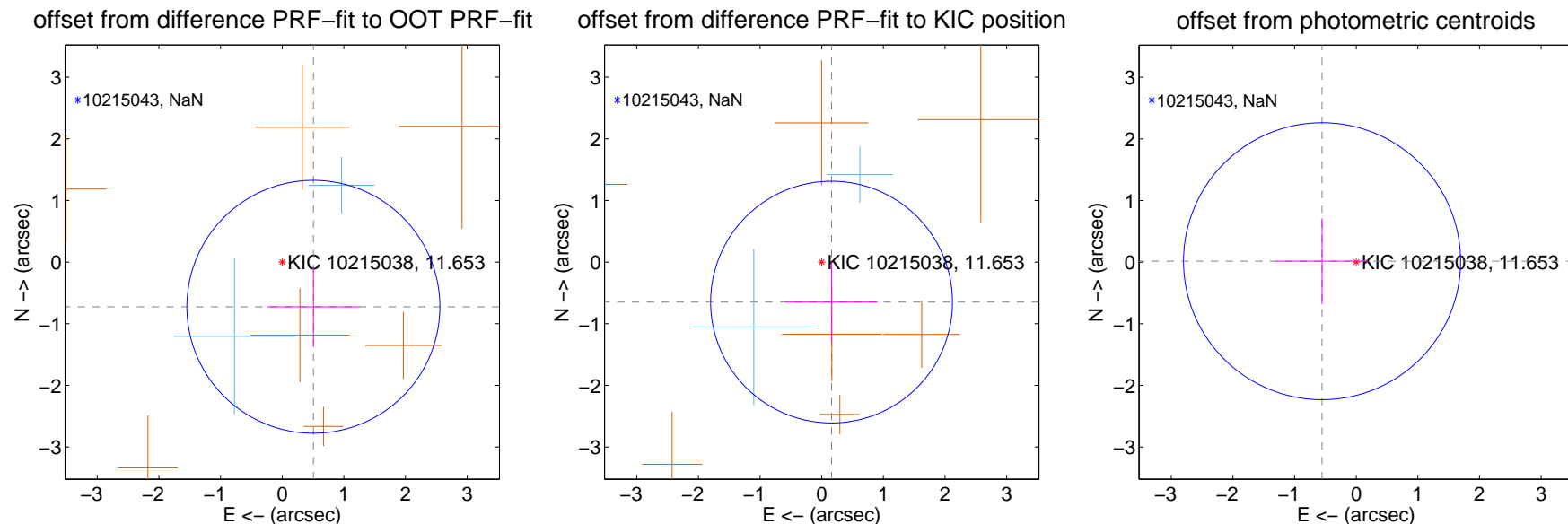
DV Centroid Data

Supplemental centroid analysis for 010215038-02. **Kepler magnitude: 11.65.** Transit SNR 5.76

There are 2 quarters with good PRF difference image offsets

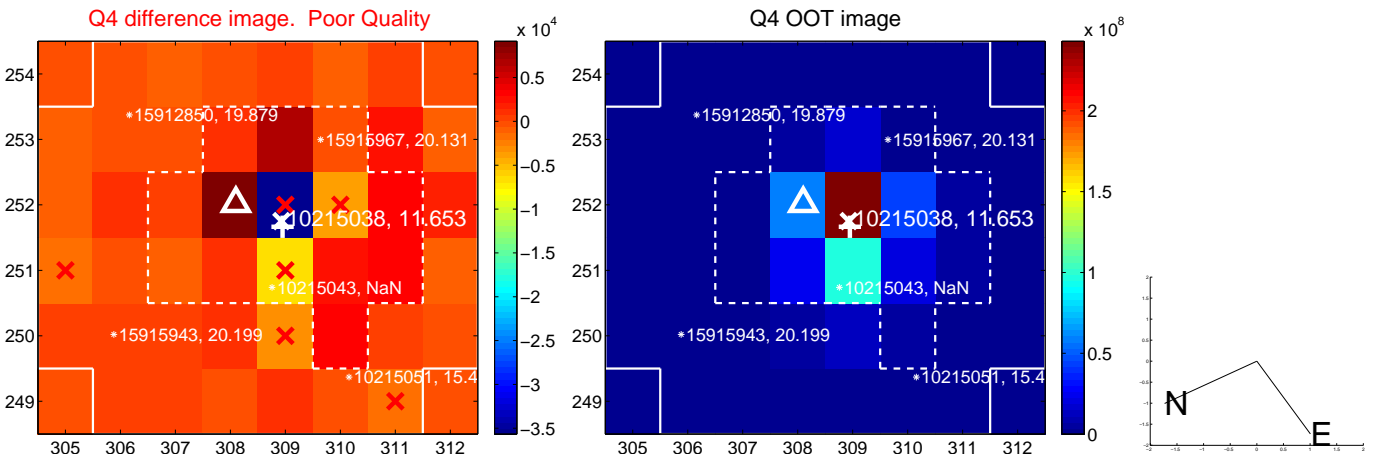
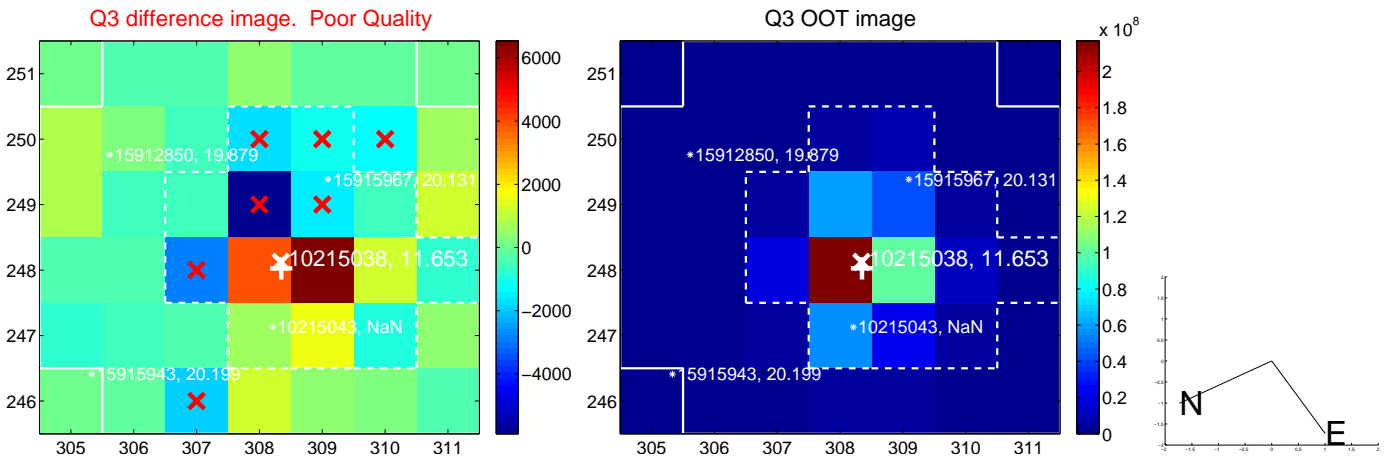
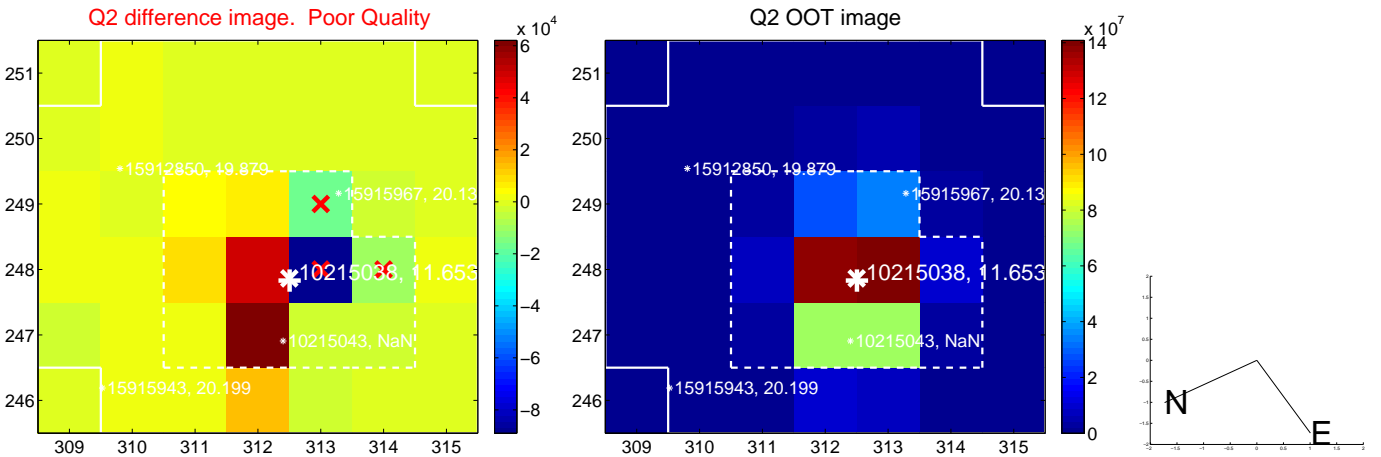
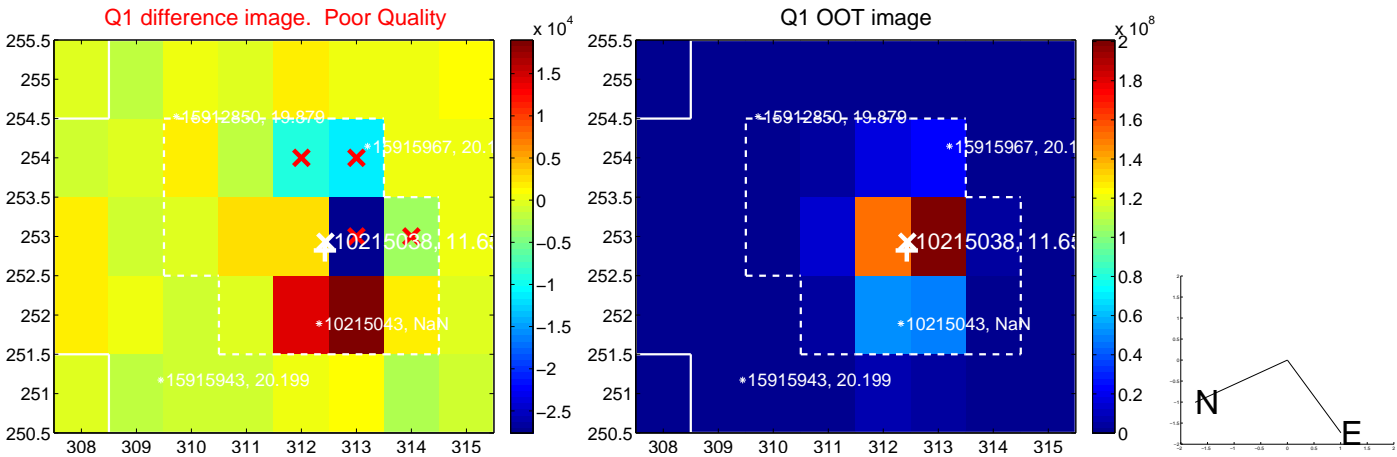
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.884 ± 0.684	1.29	-0.505 ± 0.751	-0.725 ± 0.649
PRF-fit source offset from KIC position	0.668 ± 0.654	1.02	-0.159 ± 0.744	-0.649 ± 0.648
photometric centroid source offset	0.55 ± 0.75	0.74	0.55 ± 0.75	0.02 ± 0.70

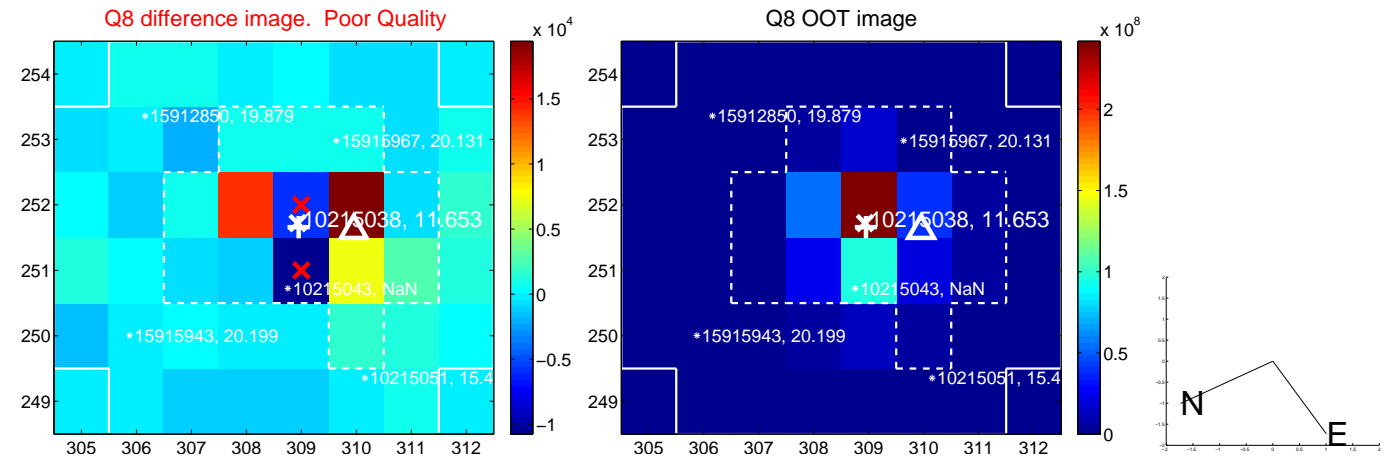
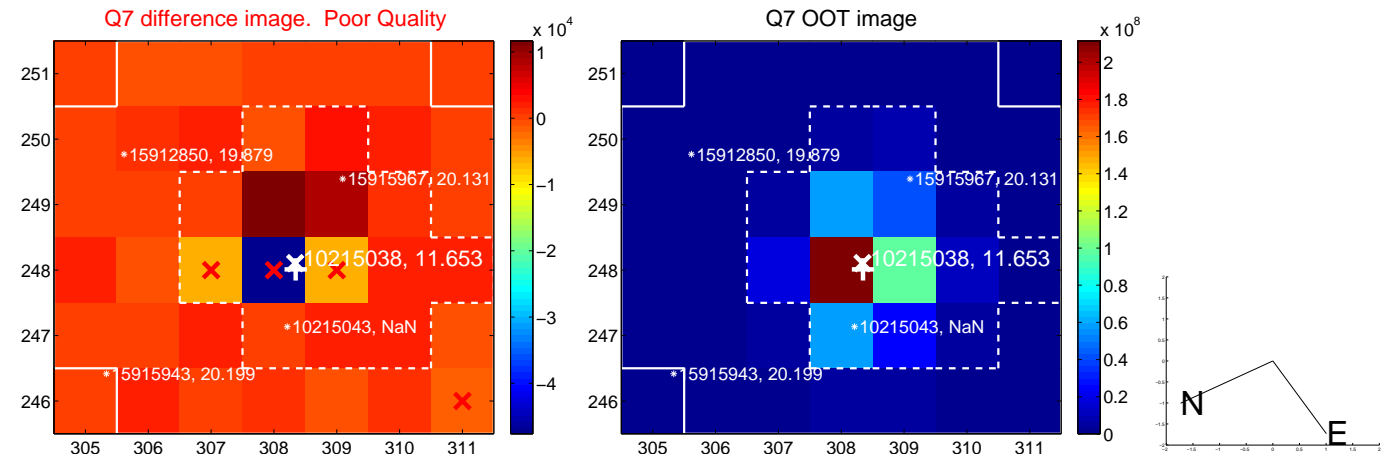
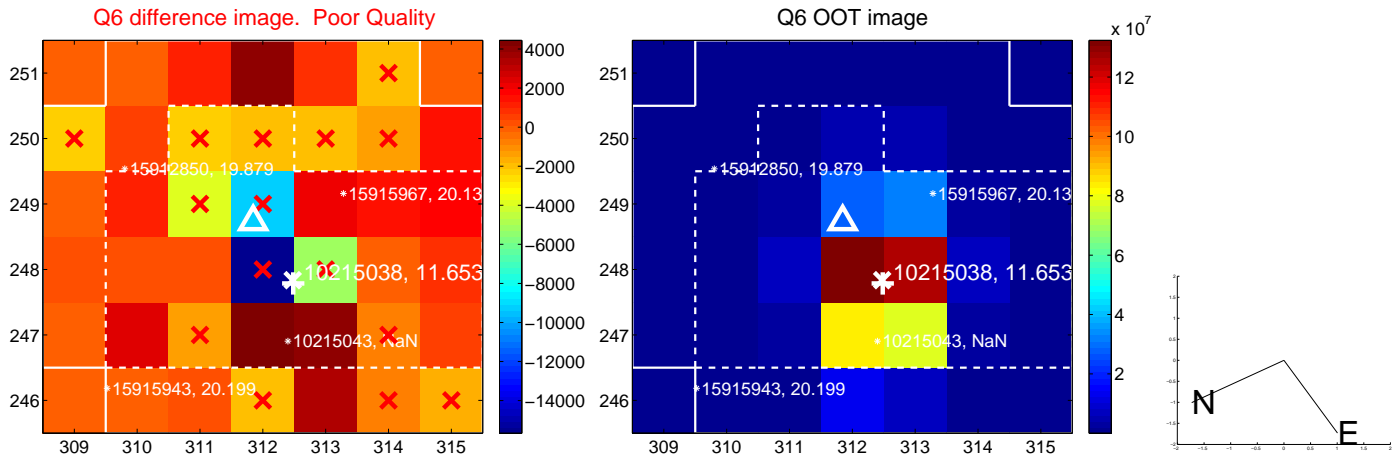
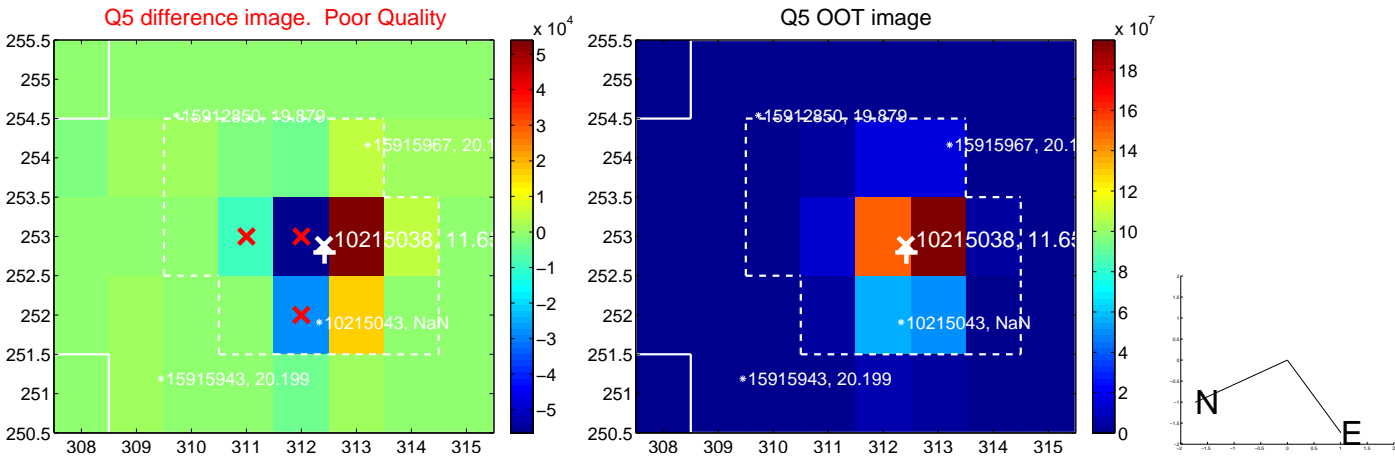


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

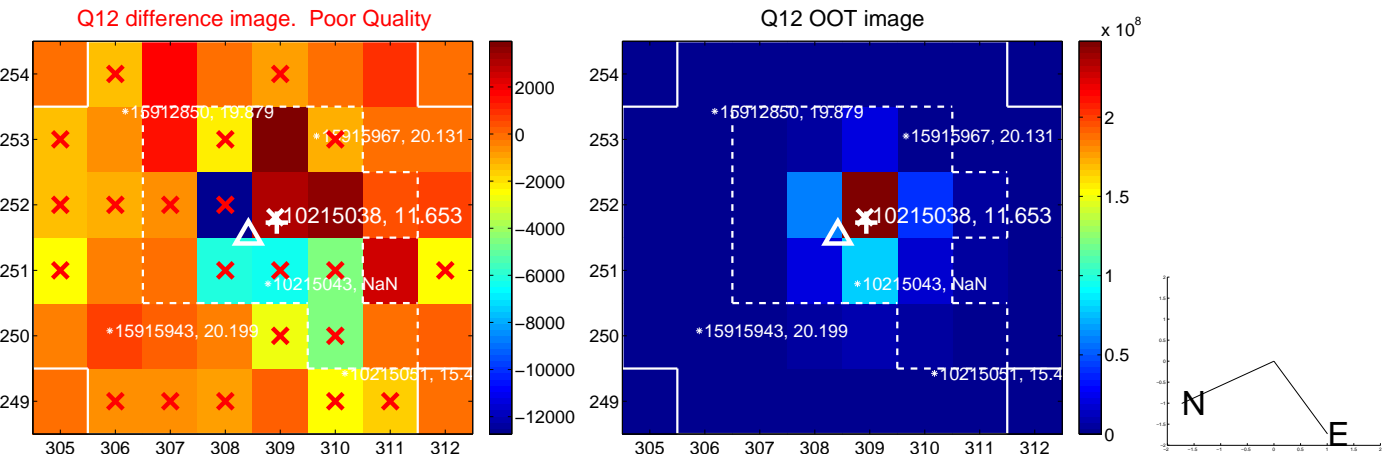
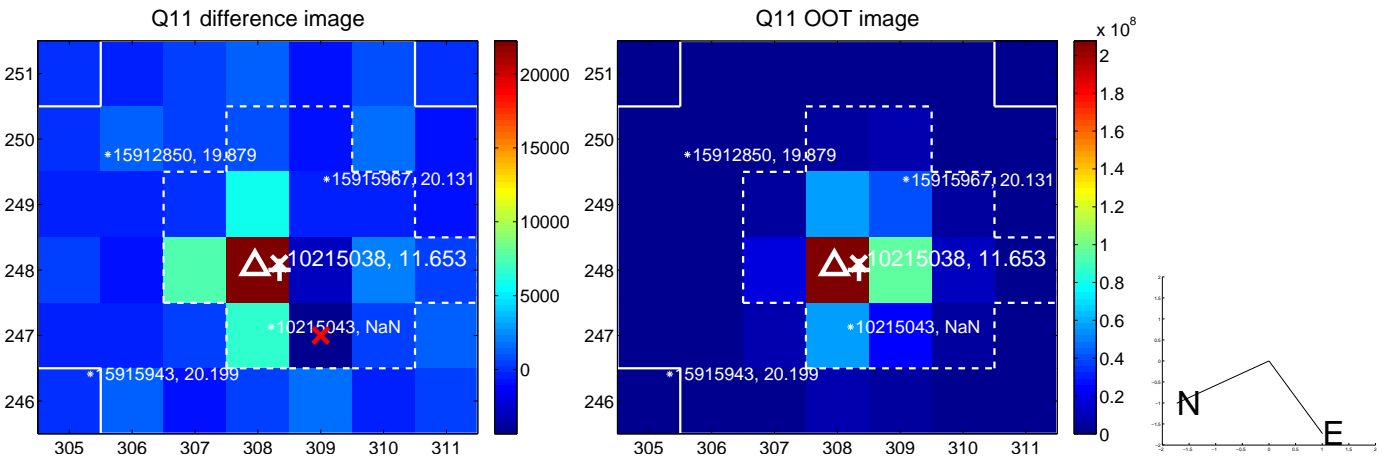
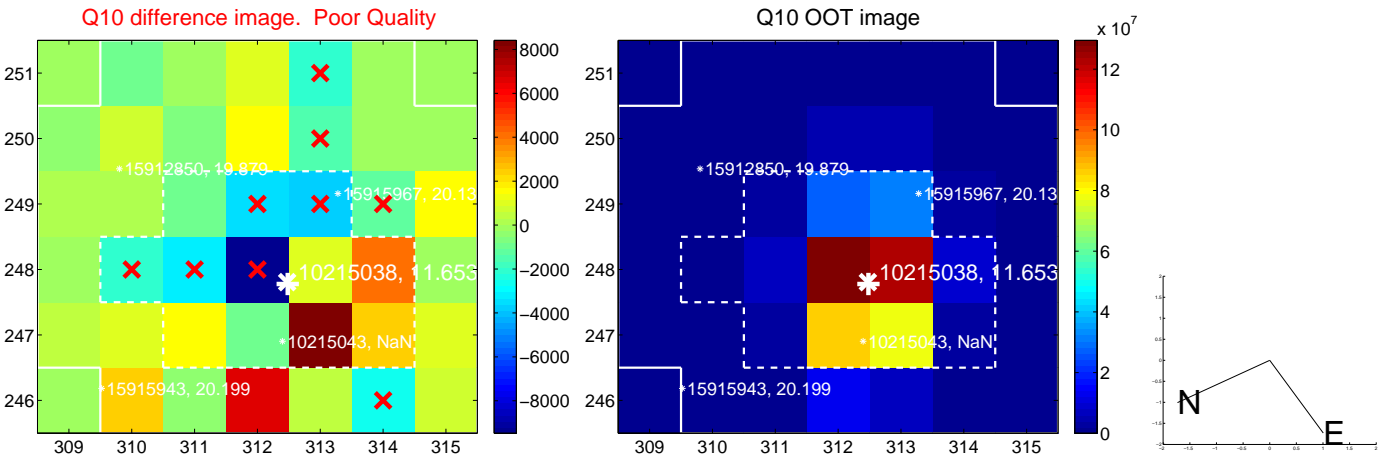
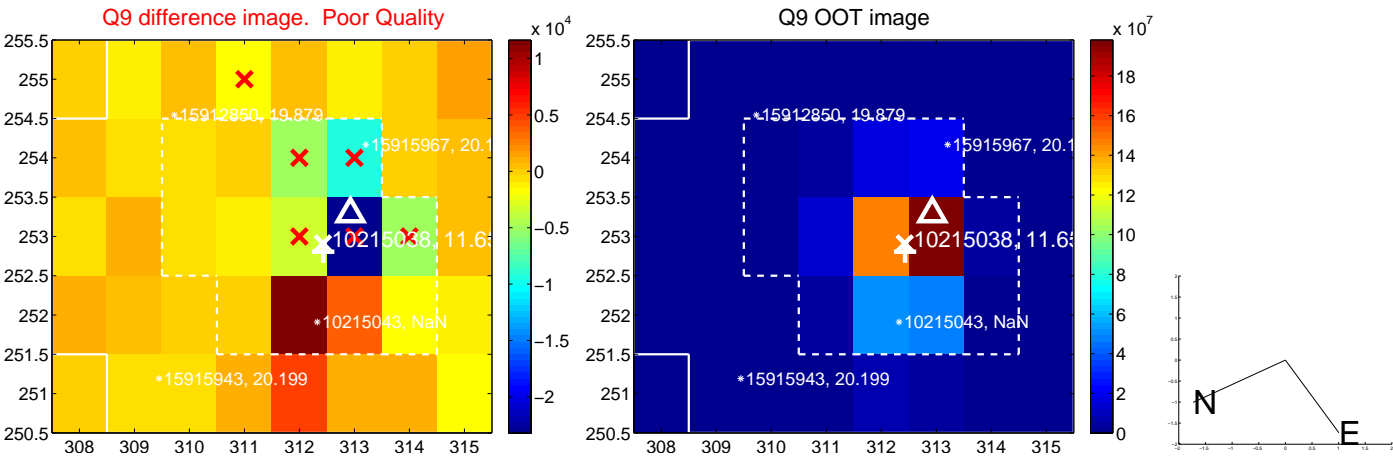
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



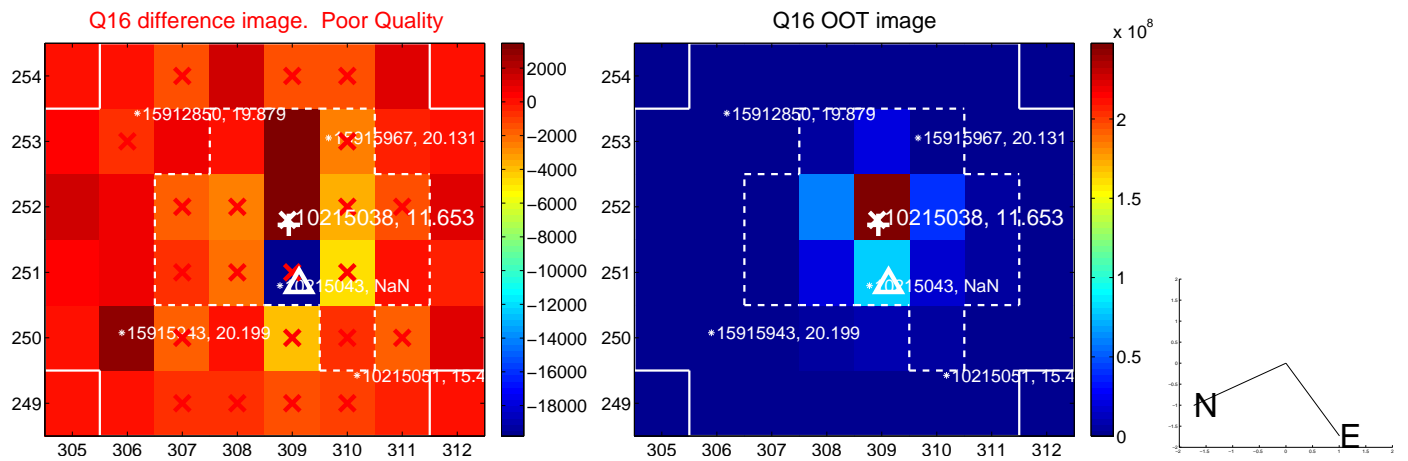
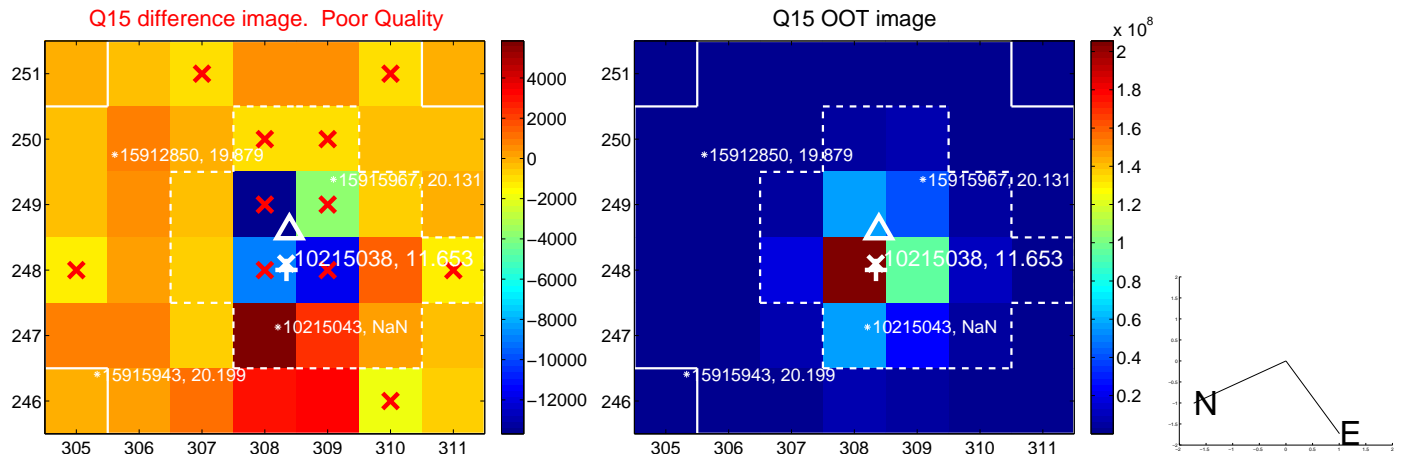
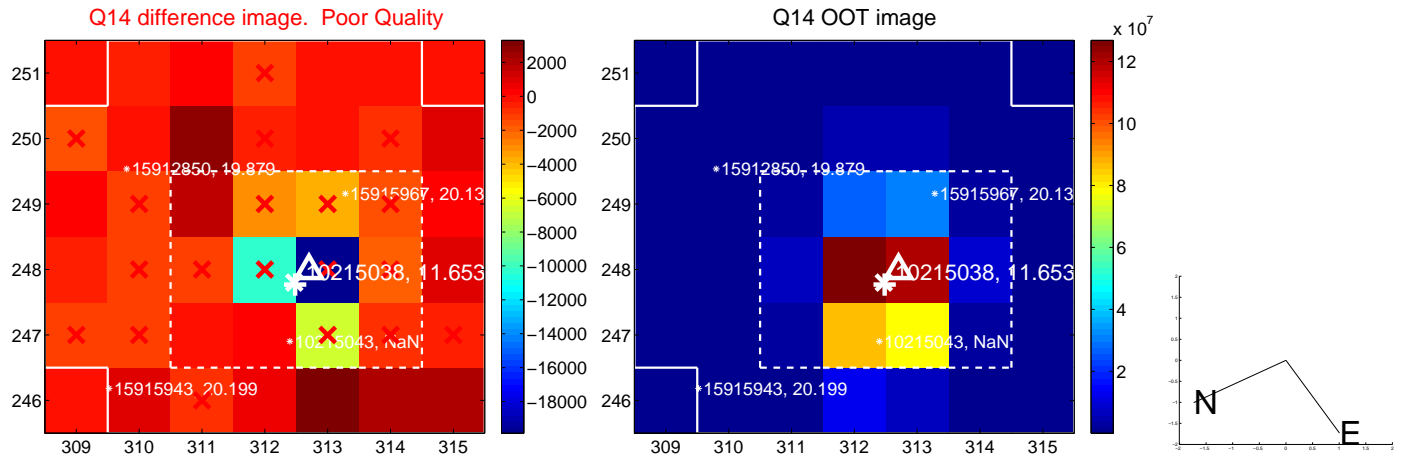
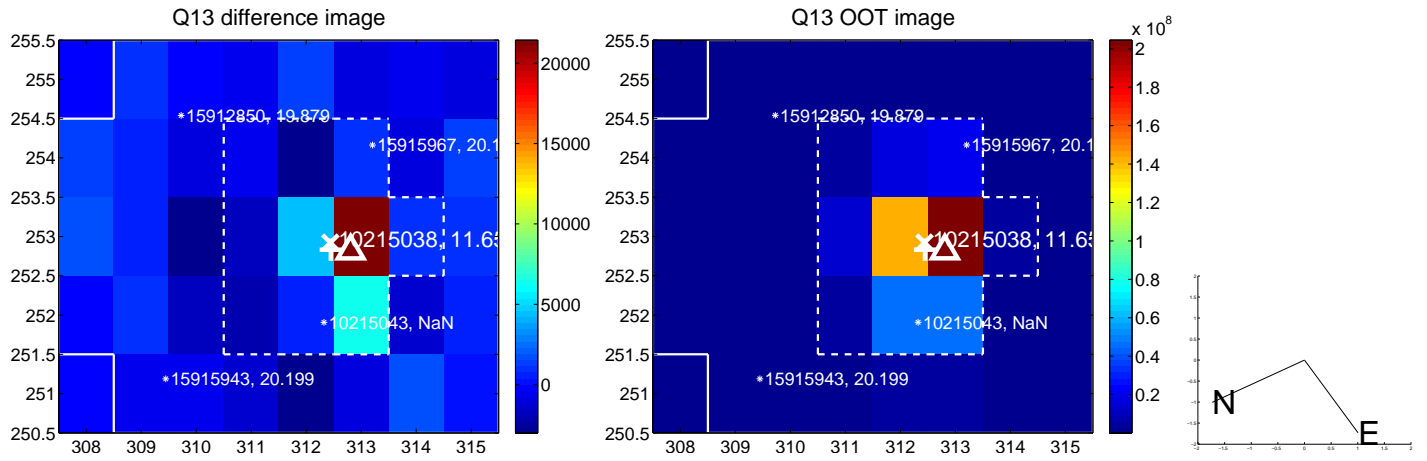
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



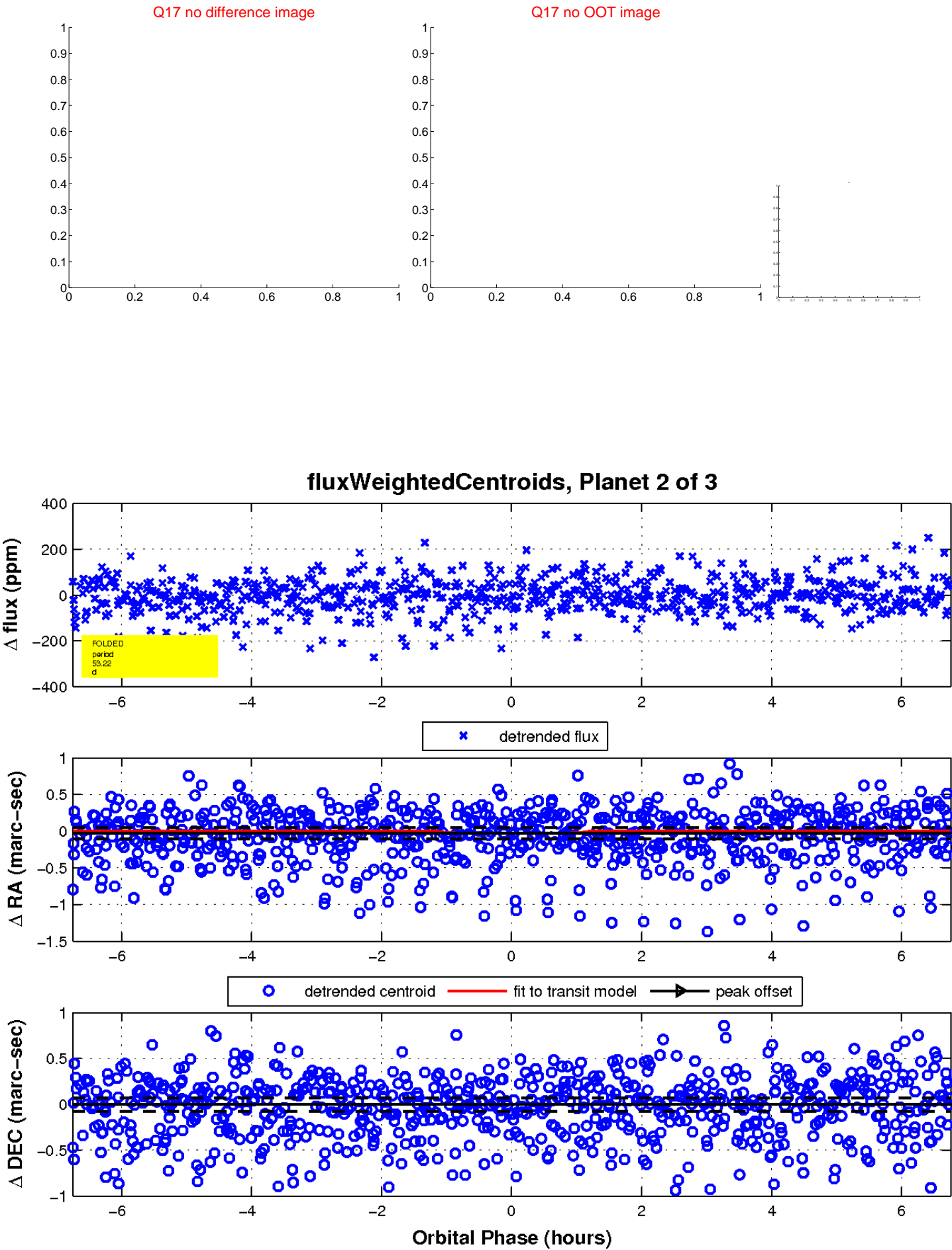
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

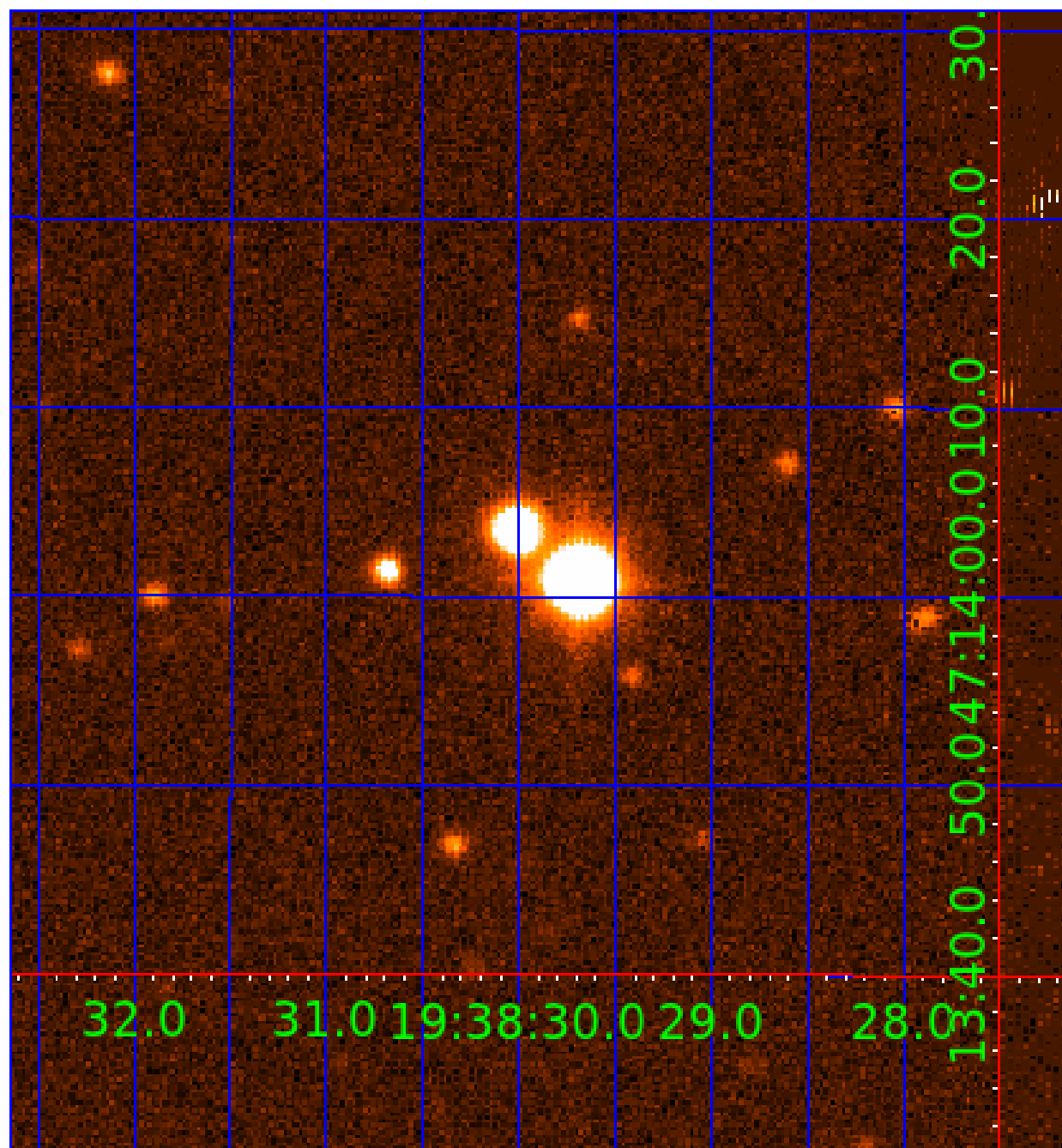


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010215038

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})
010215038-01	OBS	No	0.711371	131.866095	8.7	4.608	8.1	10.6	3.12	8245	0.94	103439.59
010215038-02	OBS	No	53.219004	155.379274	101.2	2.256	12.2	5.8	3.12	8245	3.23	328.14
010215038-03	OBS	No	202.779942	142.862107	221.4	2.209	11.6	9.4	3.12	8245	5.34	55.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010215038-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_KIC_POS
010215038-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010215038-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

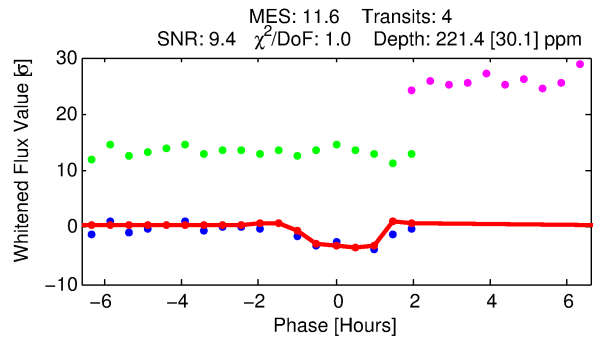
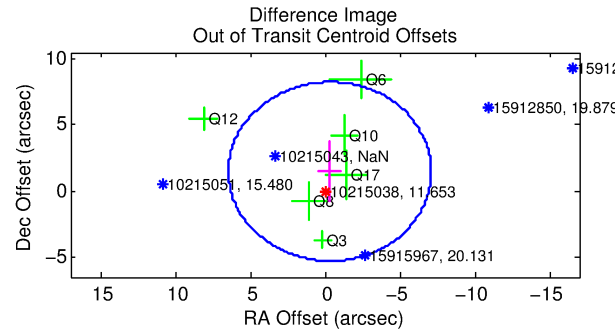
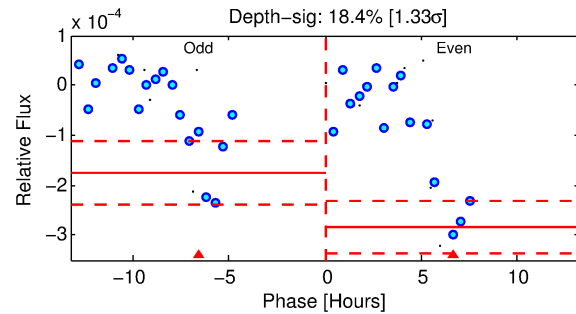
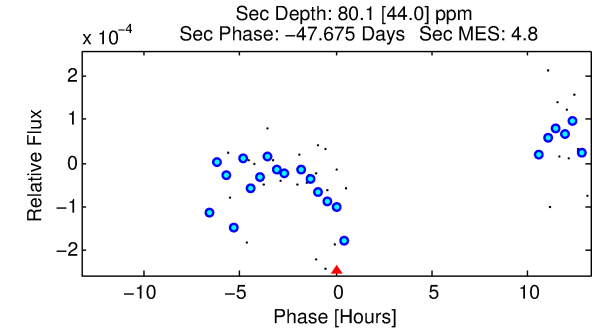
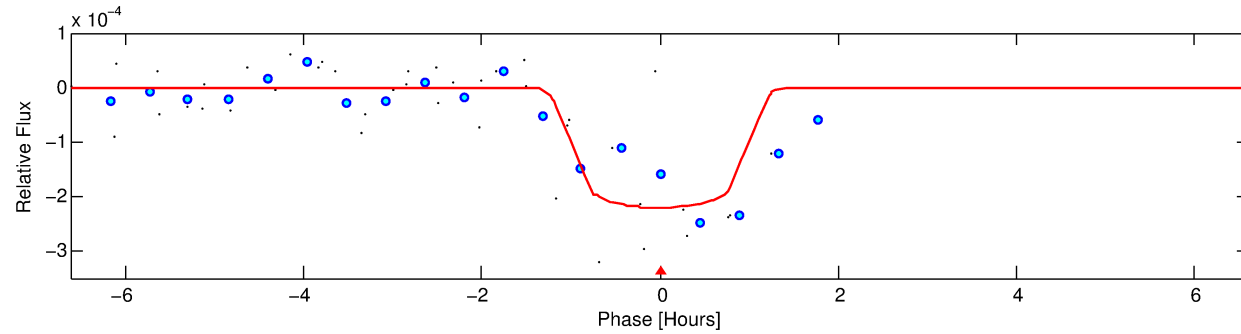
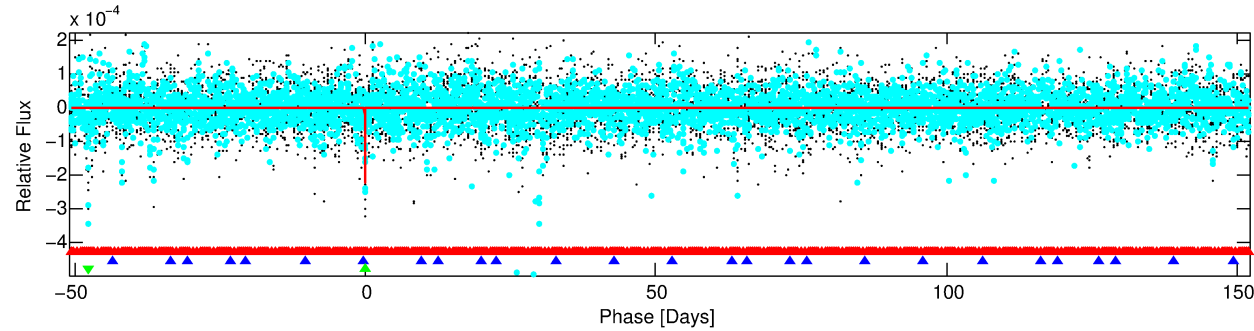
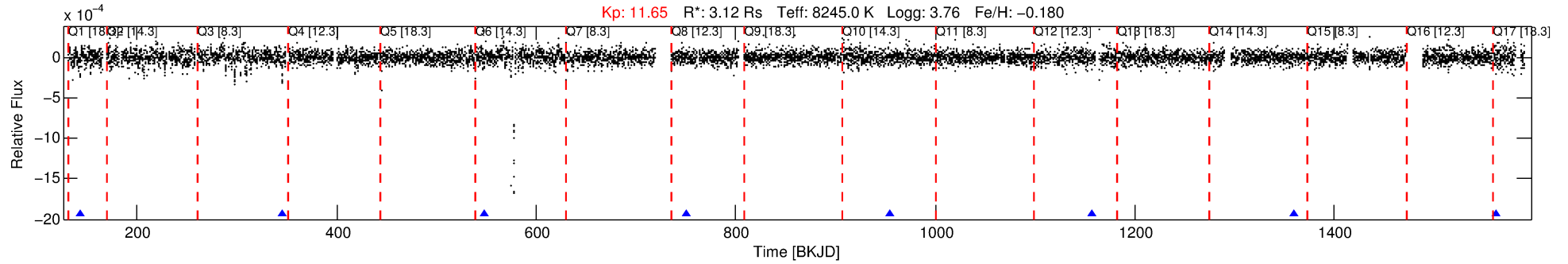
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010215038-03

No Significant Match Found

DV One-Page Summary

KIC: 10215038 Candidate: 3 of 3 Period: 202.780 d



DV Fit Results:

Period = 202.77994 [0.00442] d
Epoch = 142.8621 [0.0066] BKJD
Rp/R* = 0.0157 [0.0092]
a/R* = 353.30 [1239.92]
b = 0.88 [0.88]
Seff = 55.14 [26.17]
Teq = 695 [82] K
Rp = 5.34 [3.59] Re
a = 0.8542 [0.2603] AU
Ag = 1128.64 [1553.78] [0.73 σ]
Teffp = 6227 [2014] K [2.74 σ]

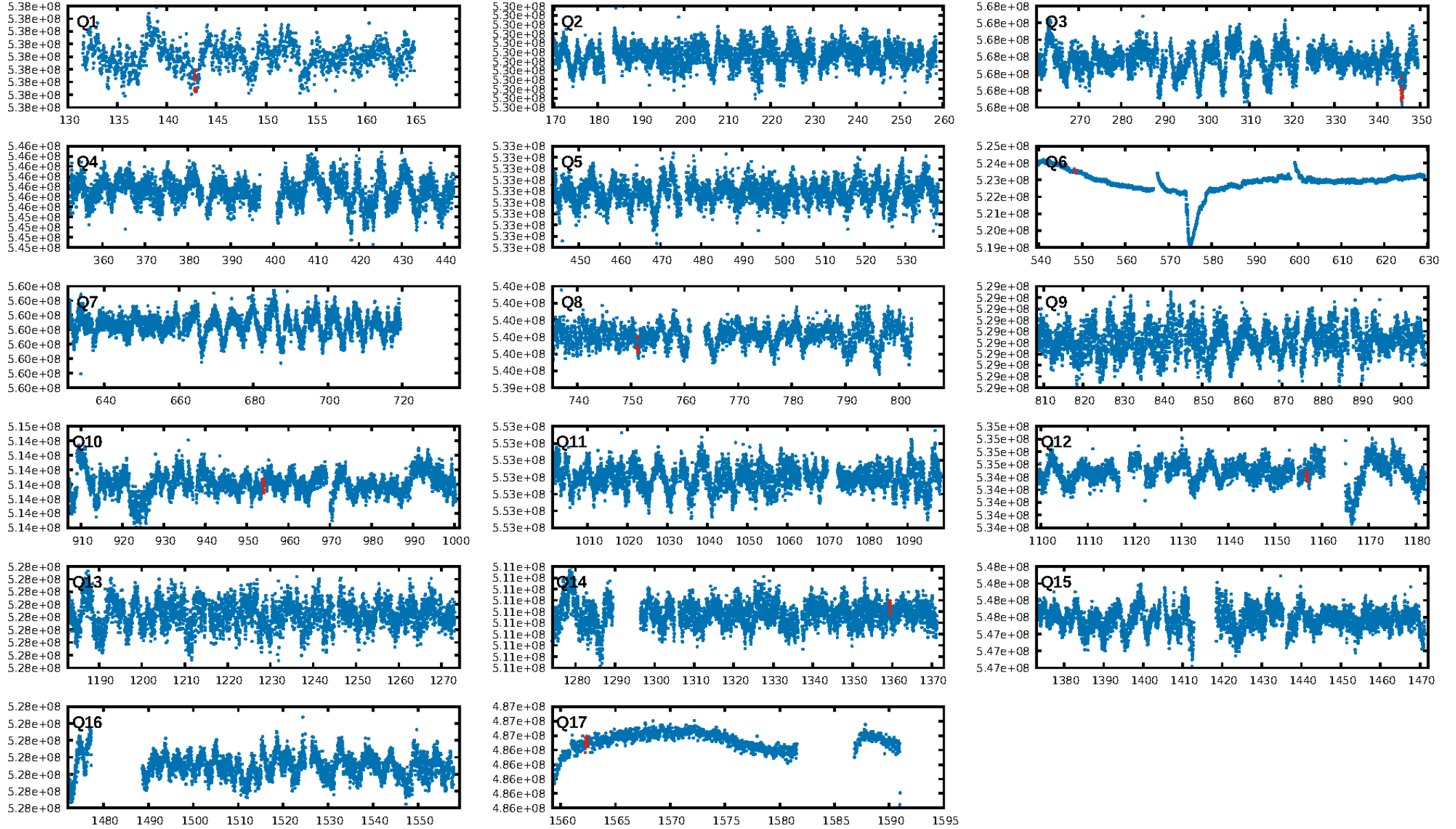
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1136.76 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 4.23e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.7388
Centroid-sig: 3.2%
Centroid-so: 0.873 arcsec [1.49 σ]
OotOffset-rm: 1.517 arcsec [0.67 σ]
OotOffset-st: 2/1/2/1 [6]
KicOffset-rm: 1.576 arcsec [0.69 σ]
KicOffset-st: 2/1/2/1 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 0.00 [0/8]

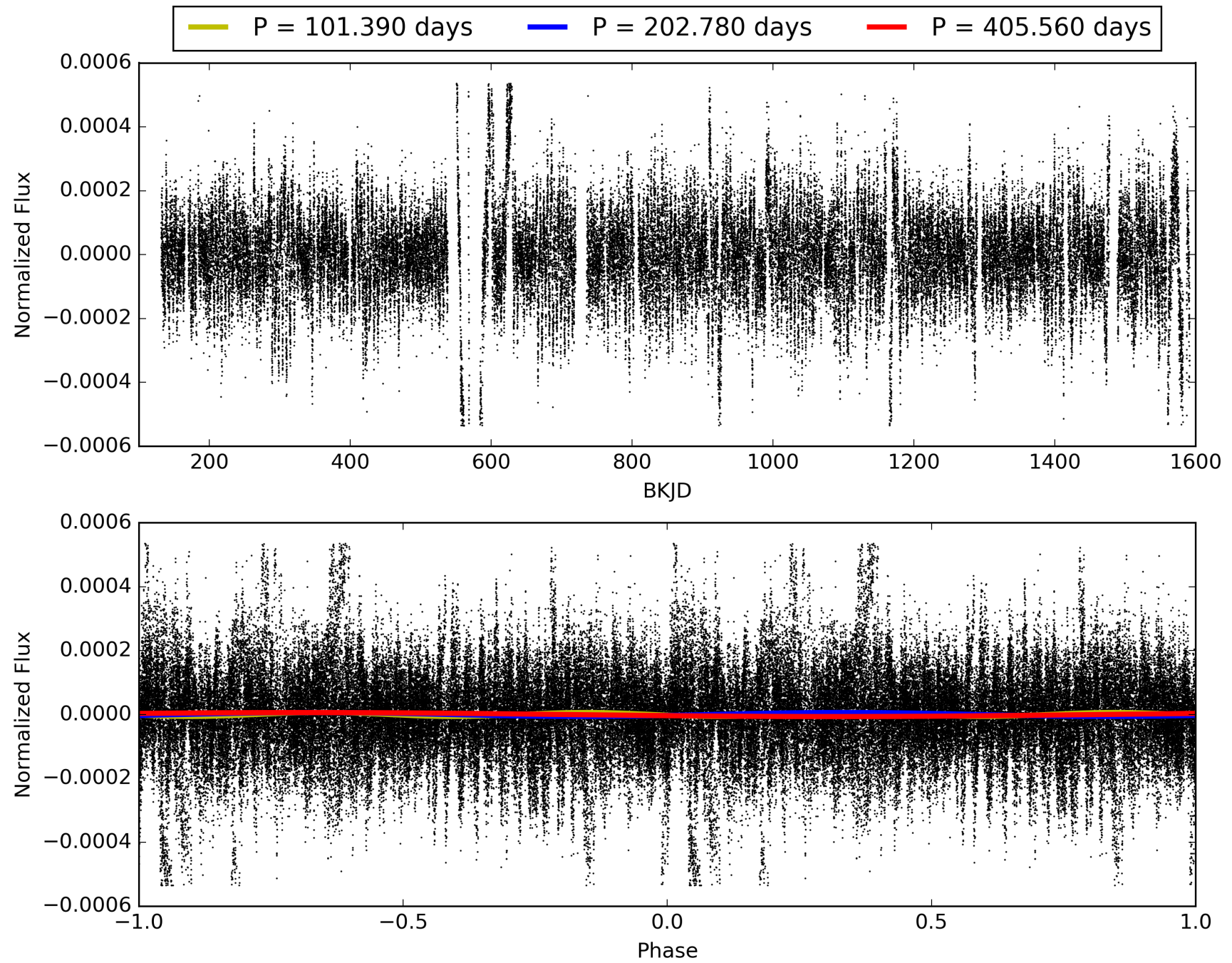
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:45:14 Z

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

TCE 010215038-03, PDC Light Curves

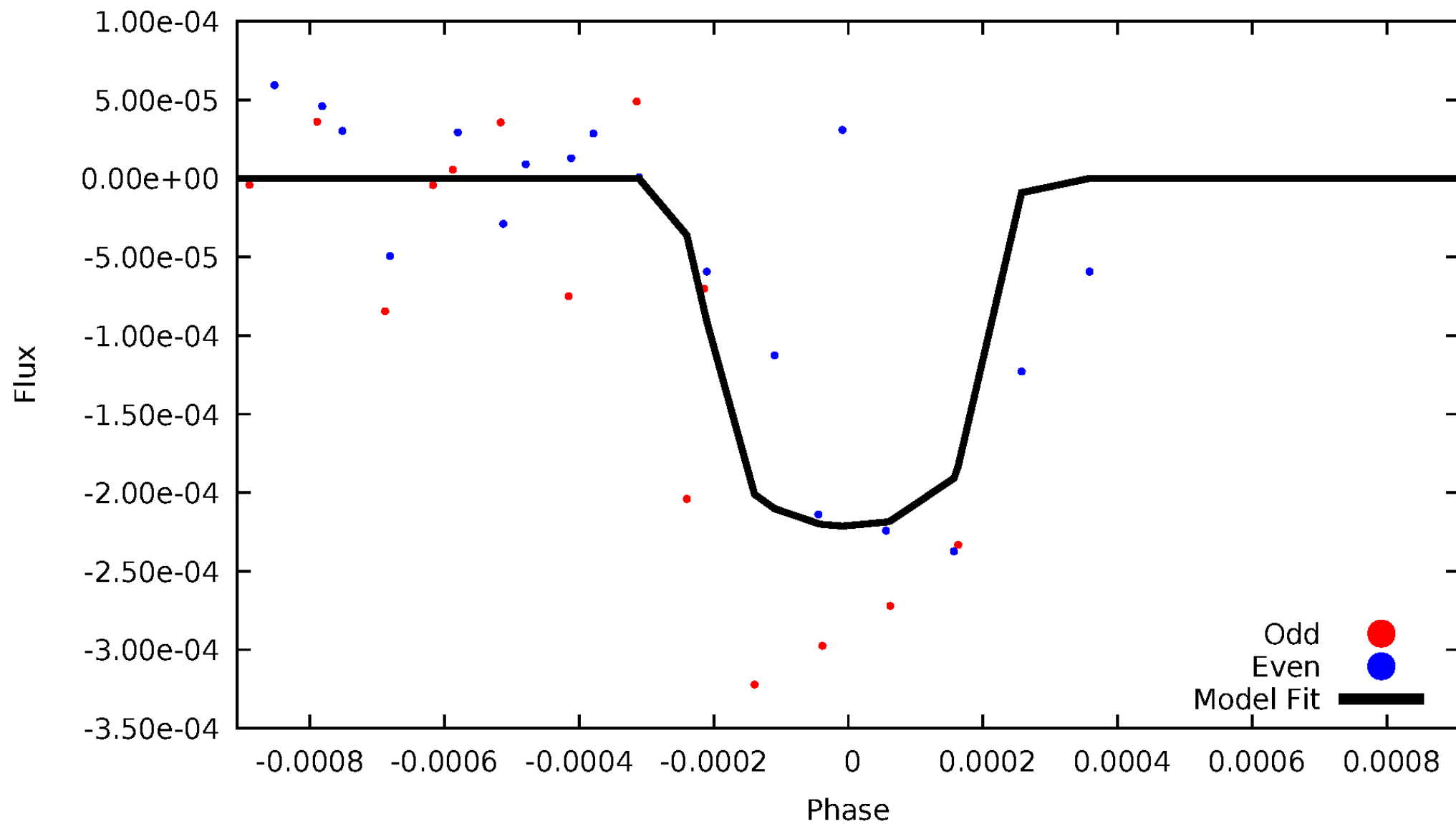


TCE 010215038-03



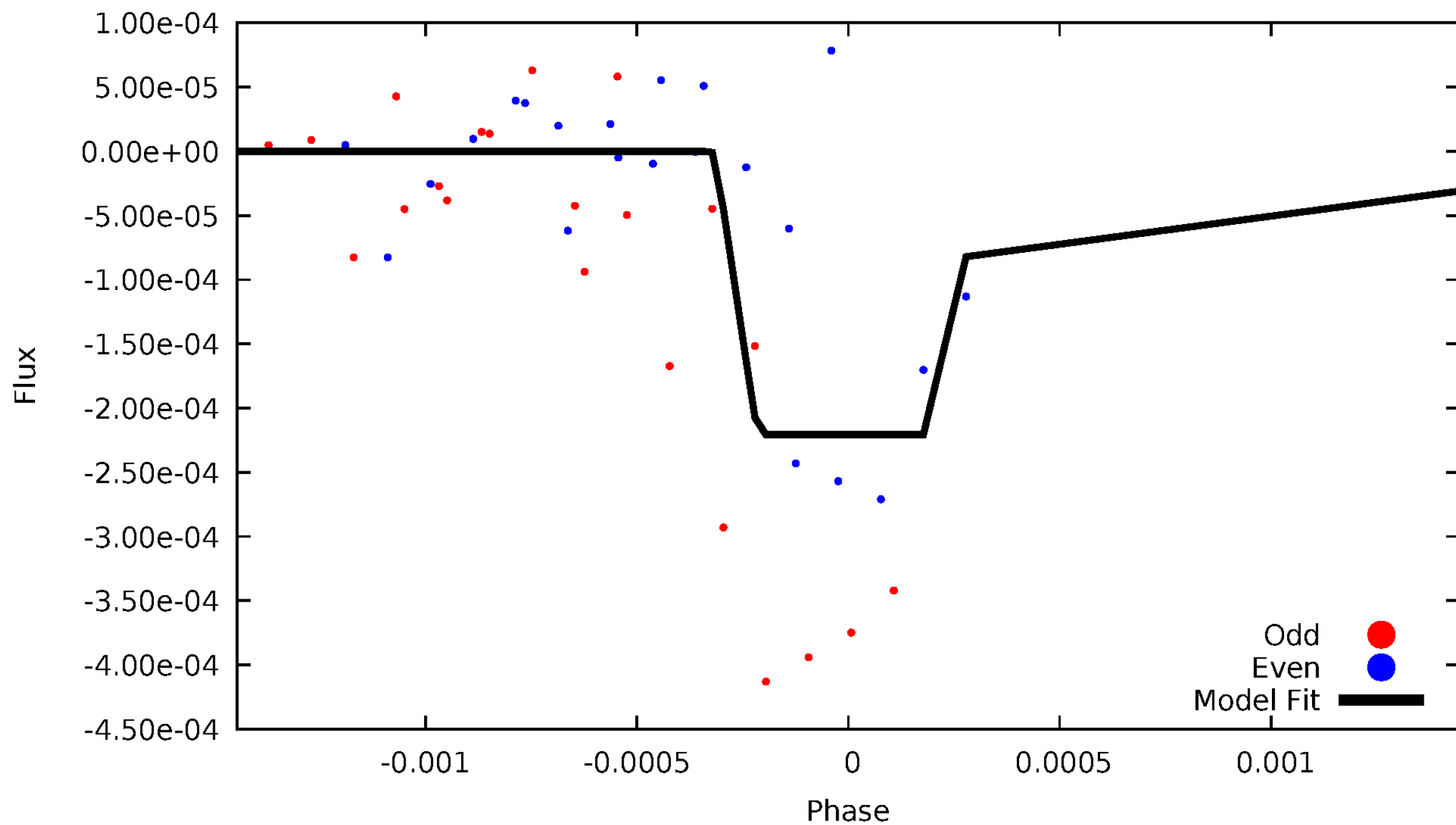
DV Odd/Even

TCE 010215038-03



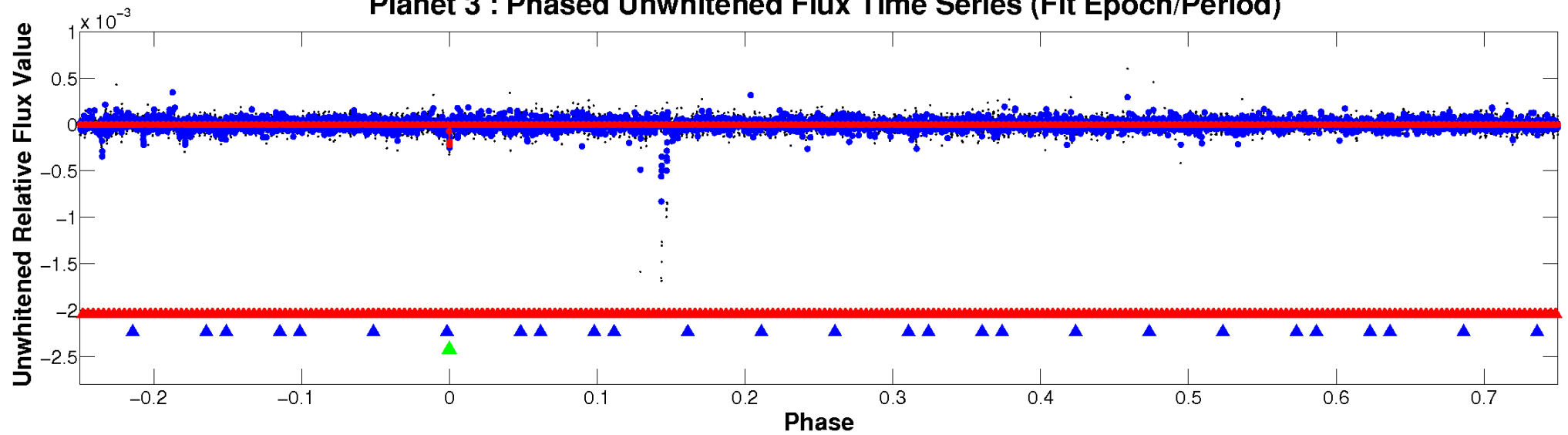
ALT Odd/Even

TCE 010215038-03

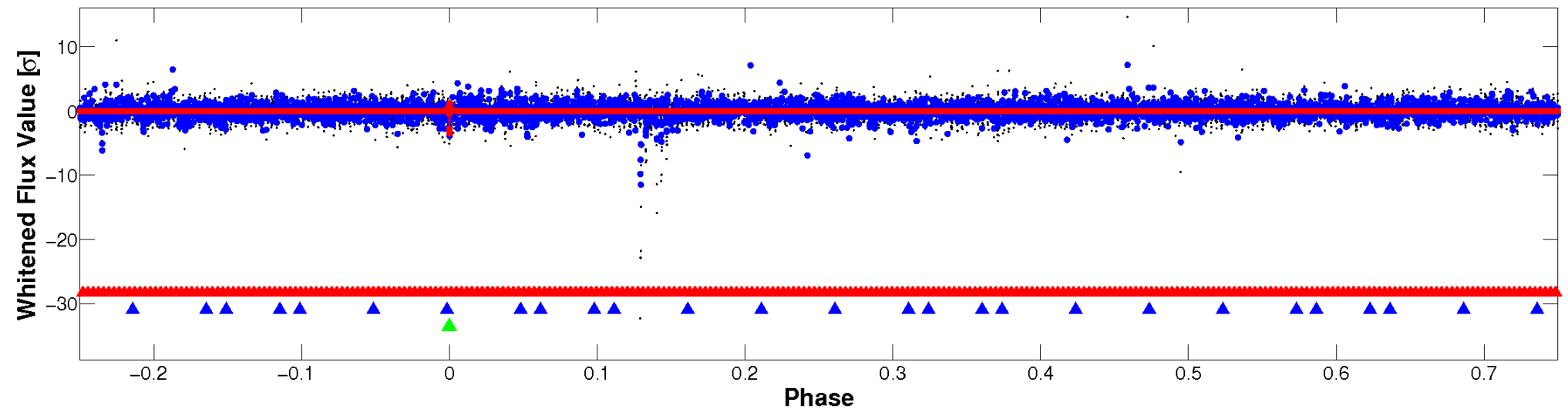


Non-Whitened Vs. Whitened Light Curve

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

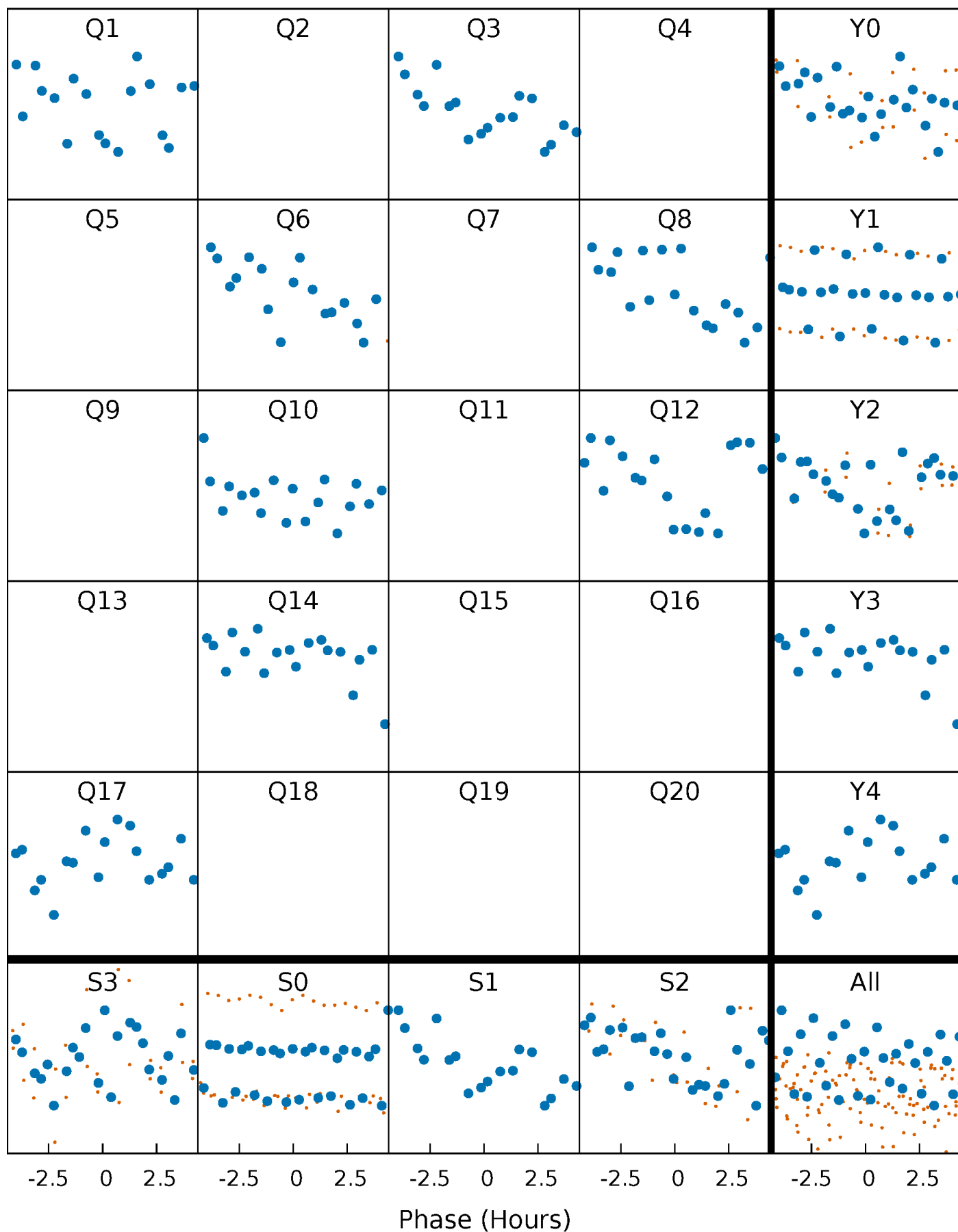


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



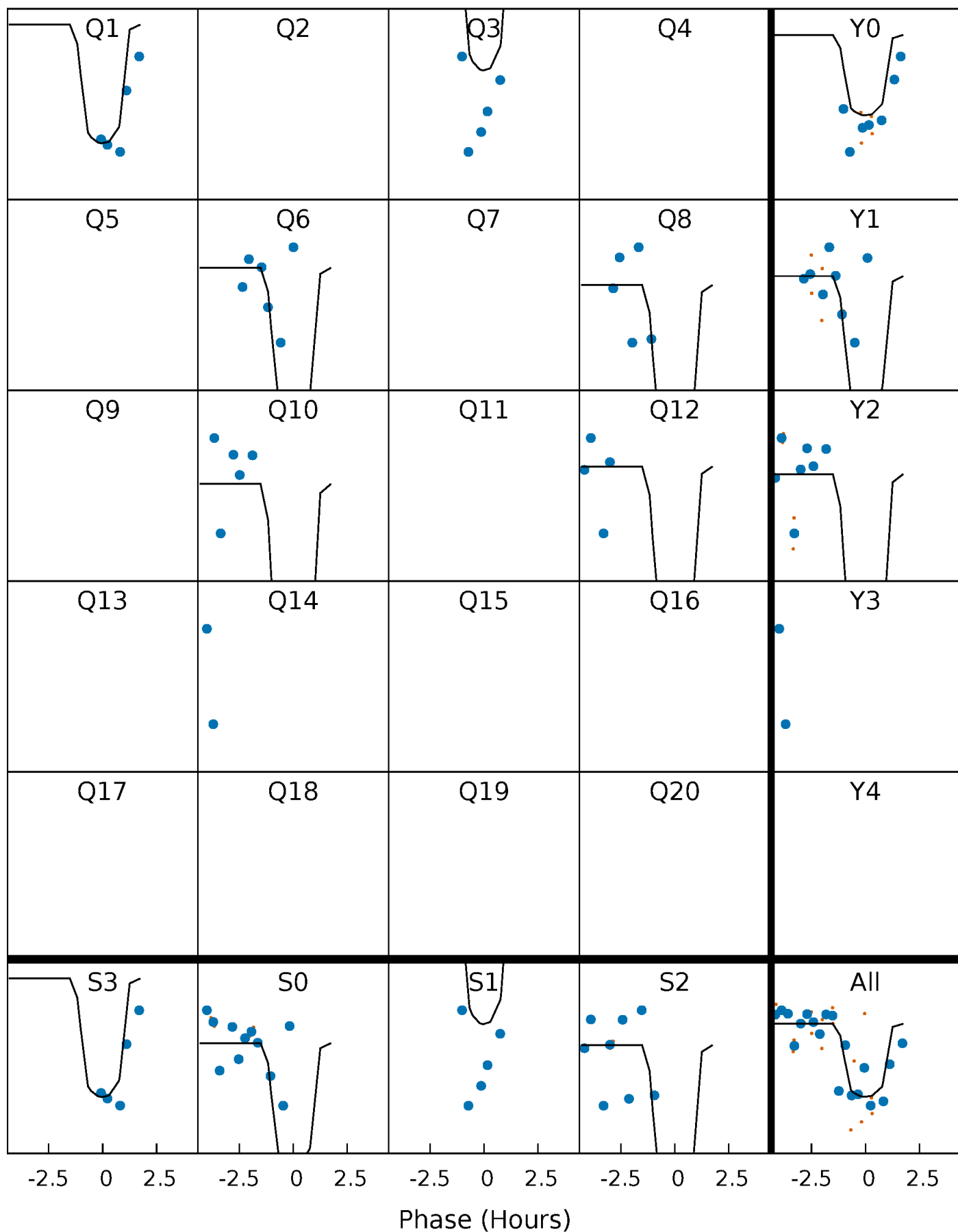
PDC Quarter-Phased Transit Curves

TCE 010215038-03 $P=202.779942$ Days $T_0=142.862107$ (BKJD)



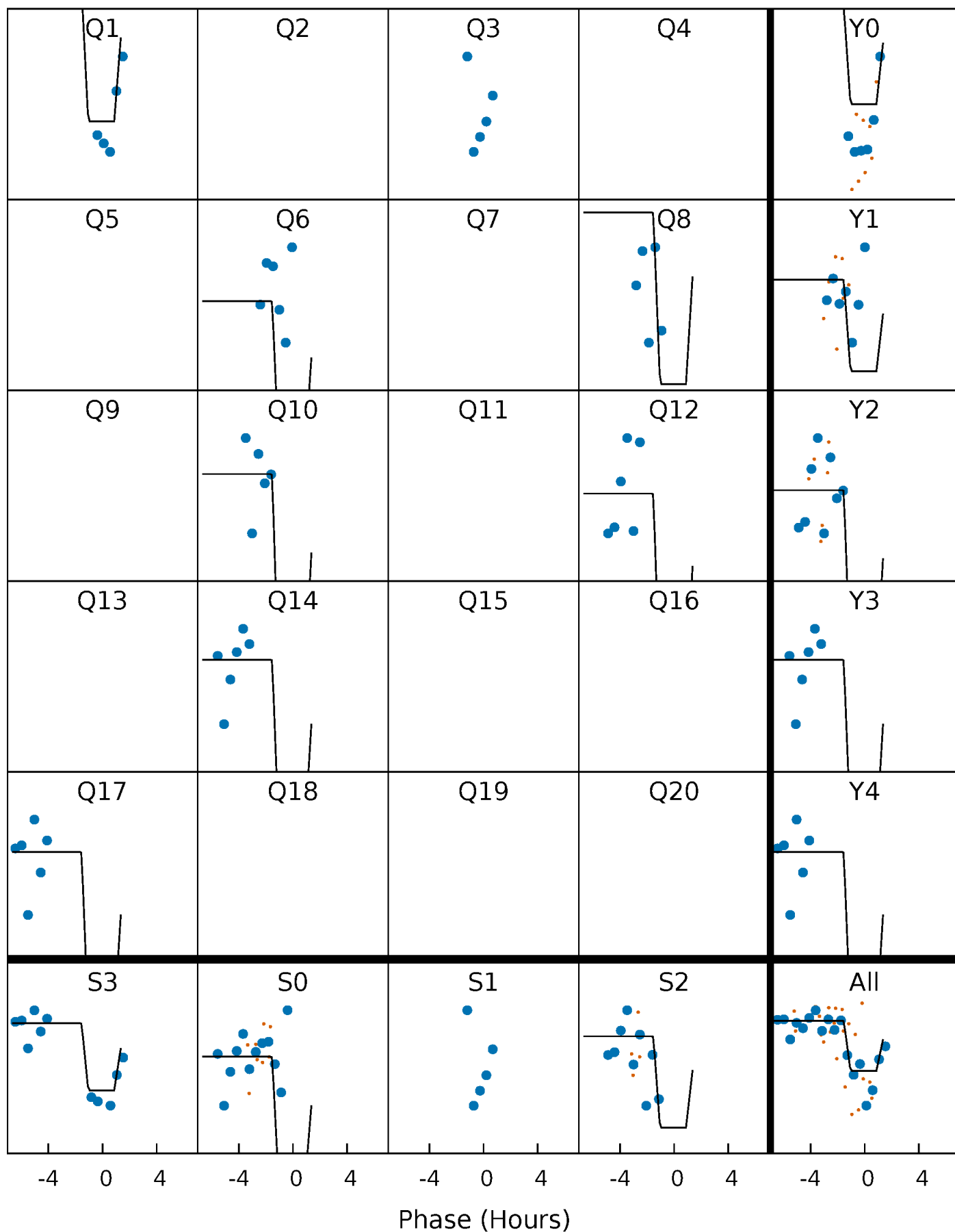
DV Quarter-Phased Transit Curves

TCE 010215038-03 $P=202.779942$ Days $T_0=142.862107$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

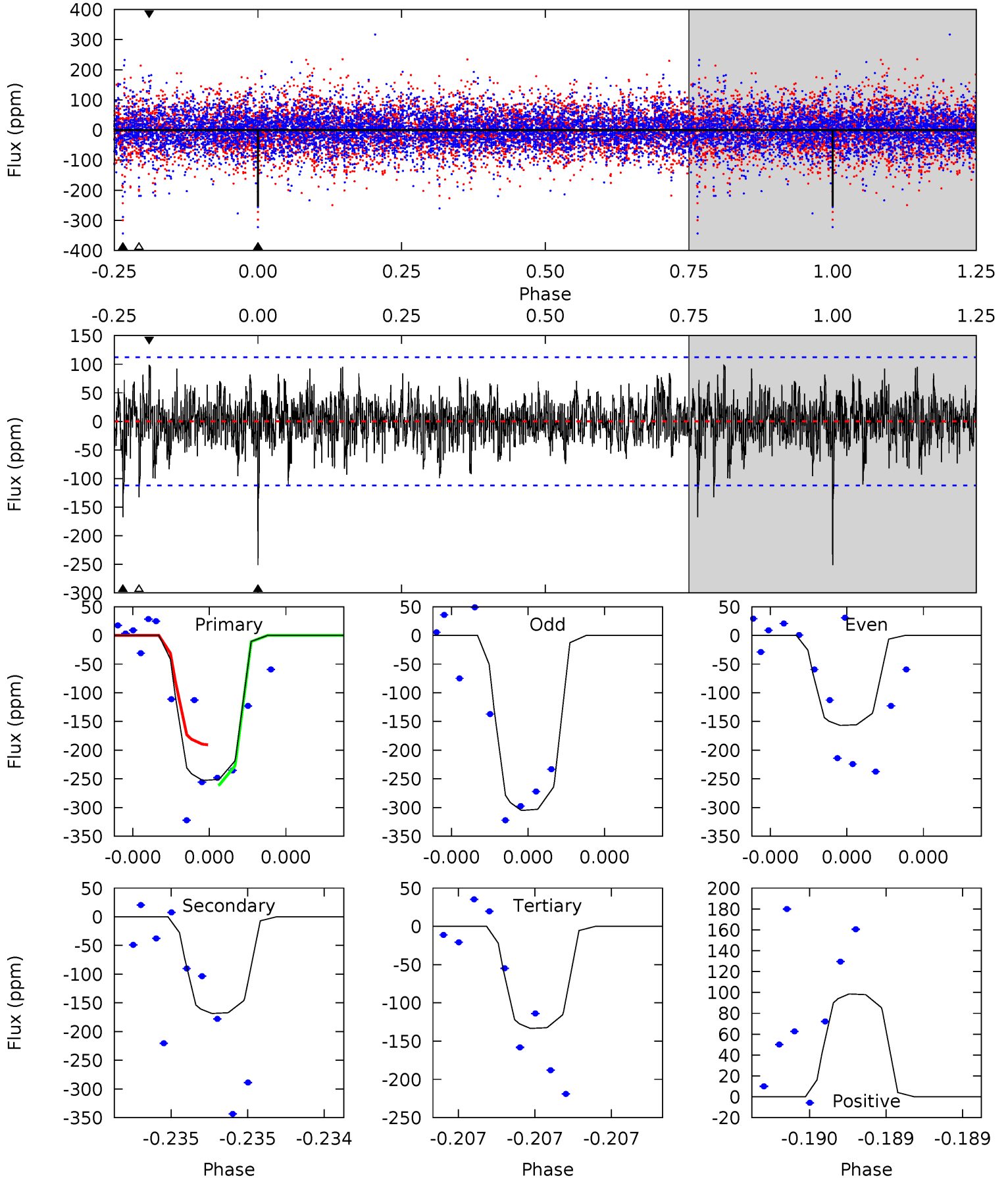
TCE 010215038-03 P=202.775023 Days $T_0=142.878289$ (BKJD)



DV Model-Shift Uniqueness Test

010215038-03, P = 202.779942 Days, E = 142.862107 Days

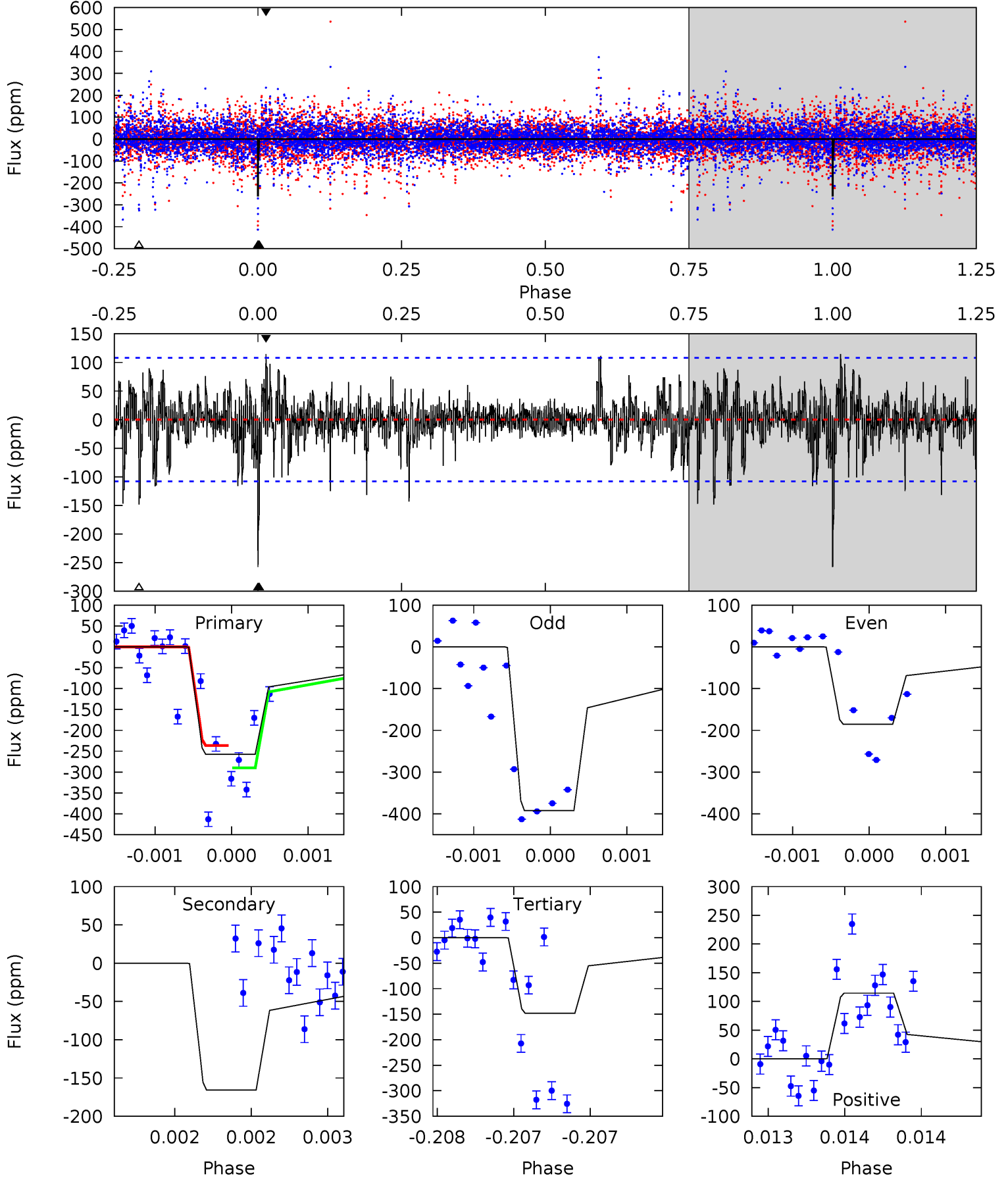
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	8.33	6.60	4.88	5.58	3.50	1.33	5.90	7.63	1.73	3.45	3.79	0.84	0.28	1.81



Alt Model-Shift Uniqueness Test

010215038-03, P = 202.775023 Days, E = 142.878289 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	8.52	7.63	5.88	5.55	3.44	1.34	5.60	7.35	0.89	2.64	2.89	0.99	0.31	1.34



Stellar Parameters For KIC 010215038

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8245^{+74}_{-82}	$3.756^{+0.272}_{-0.032}$	$-0.180^{+0.200}_{-0.200}$	$3.117^{+0.259}_{-1.038}$	$2.017^{+0.258}_{-0.258}$	$0.094^{+0.164}_{-0.015}$
	+1%/-1%	+7%/-1%	+111%/-111%	+8%/-33%	+13%/-13%	+175%/-16%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 010215038-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-167 ± 20	$5.11^{+2.88}_{-2.76}$	948^{+31}_{-71}	7217^{+4715}_{-1478}	2651^{+9424}_{-1583}
Alt.	-166 ± 19	$4.89^{+2.88}_{-2.68}$	949^{+31}_{-77}	7320^{+5251}_{-1491}	2740^{+10206}_{-1602}

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 $A_{obs} \gg 1.0$

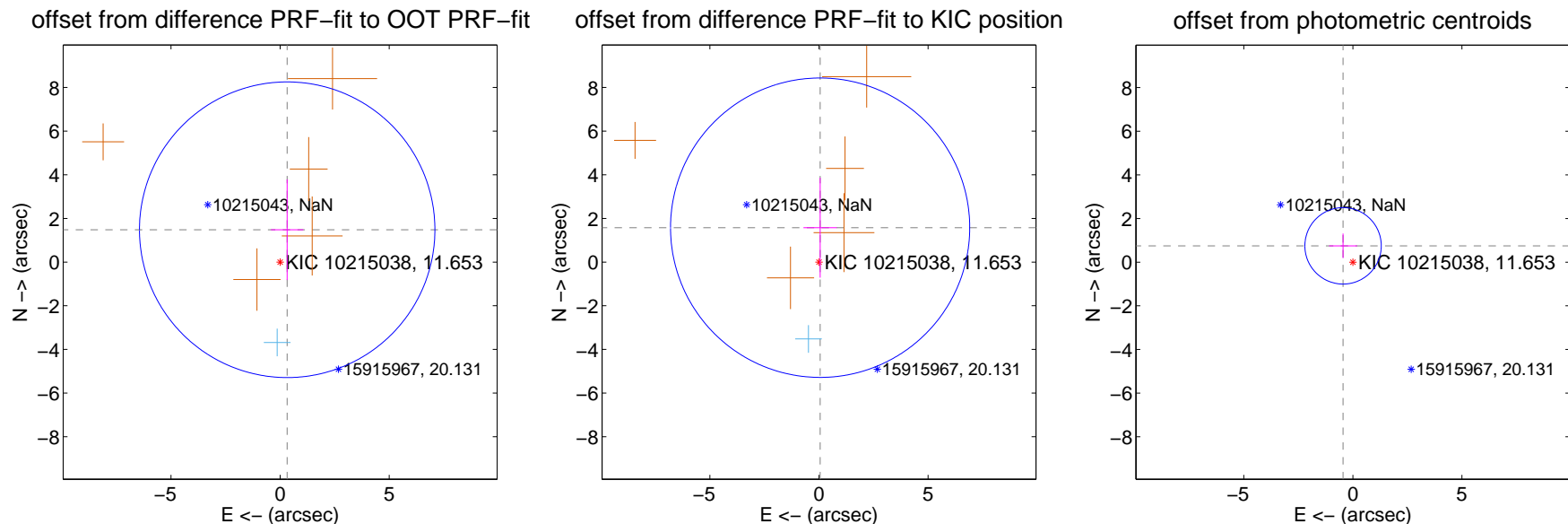
DV Centroid Data

Supplemental centroid analysis for 010215038-03. **Kepler magnitude: 11.65.** Transit SNR 9.37

There are 1 quarters with good PRF difference image offsets

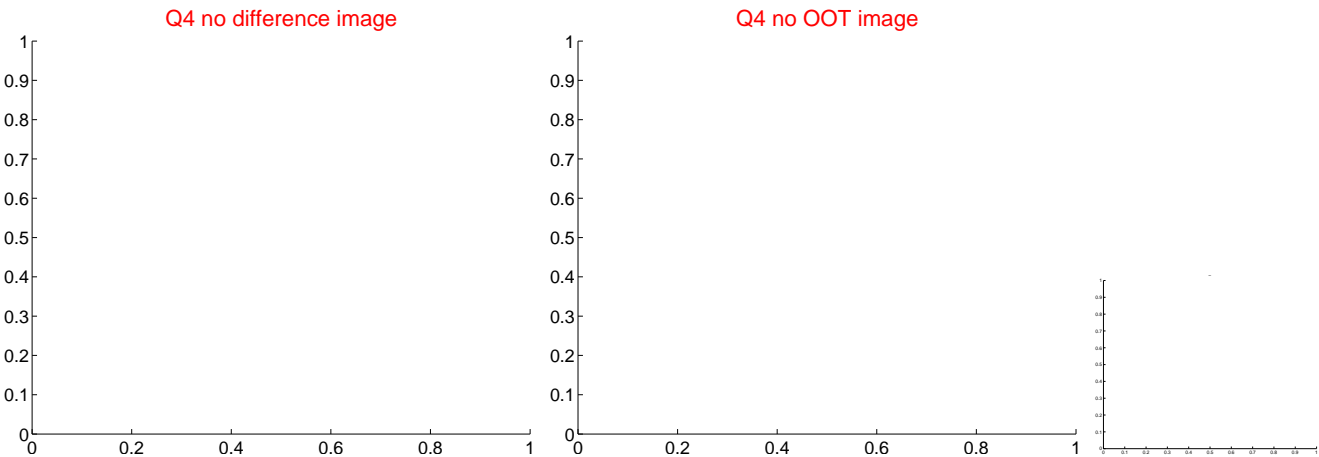
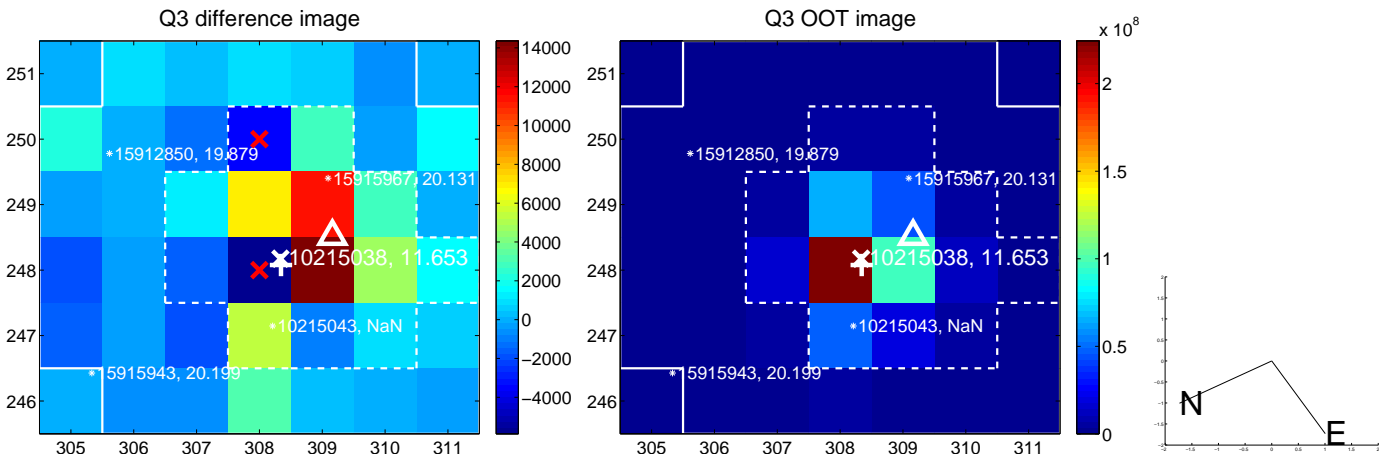
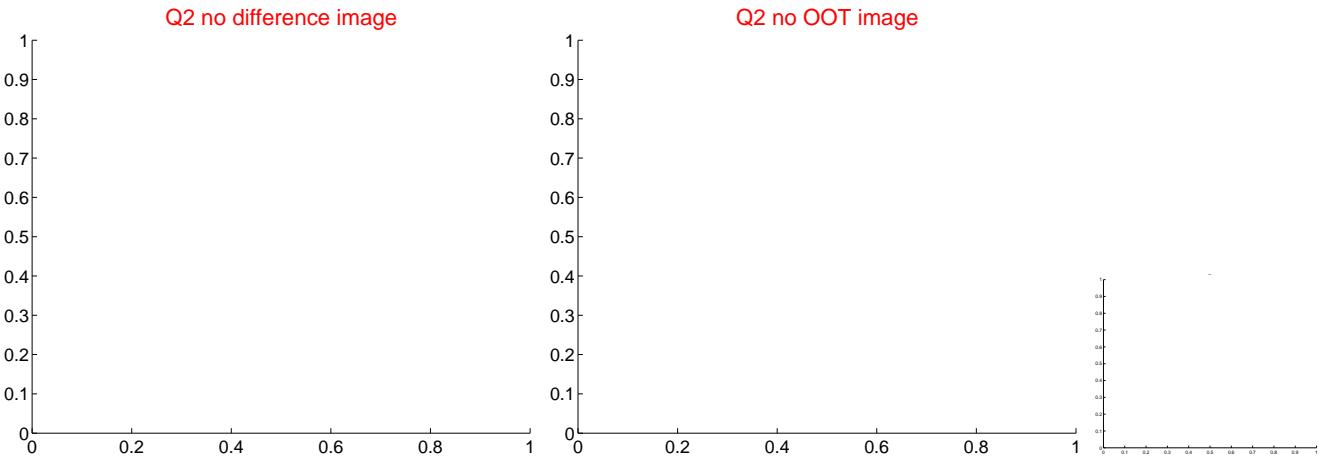
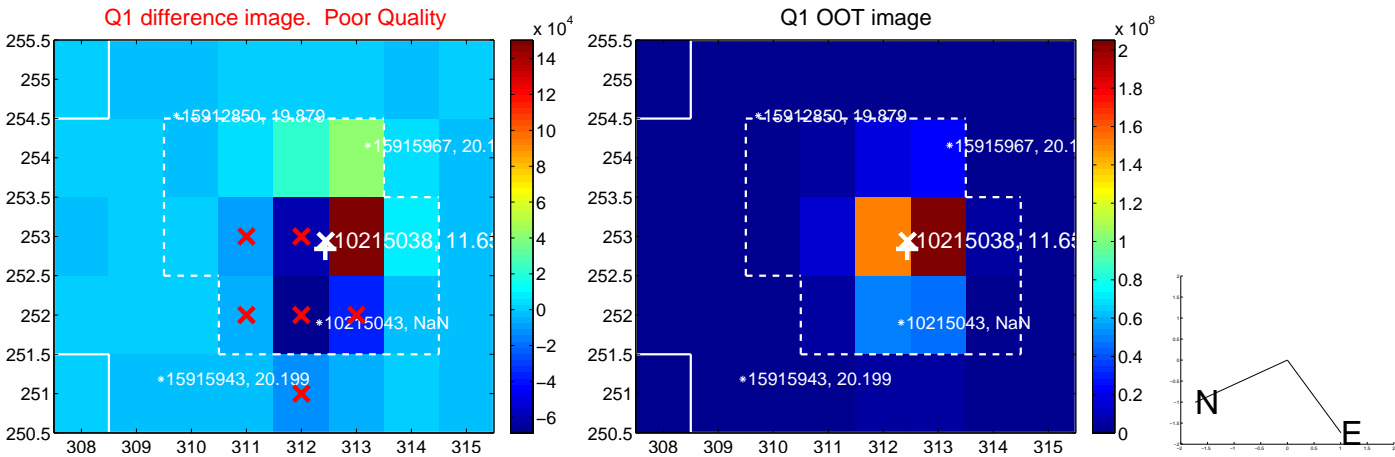
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.517 ± 2.258	0.67	-0.325 ± 0.744	1.482 ± 2.305
PRF-fit source offset from KIC position	1.576 ± 2.286	0.69	-0.052 ± 0.765	1.576 ± 2.287
photometric centroid source offset	0.87 ± 0.58	1.49	0.45 ± 0.64	0.75 ± 0.56

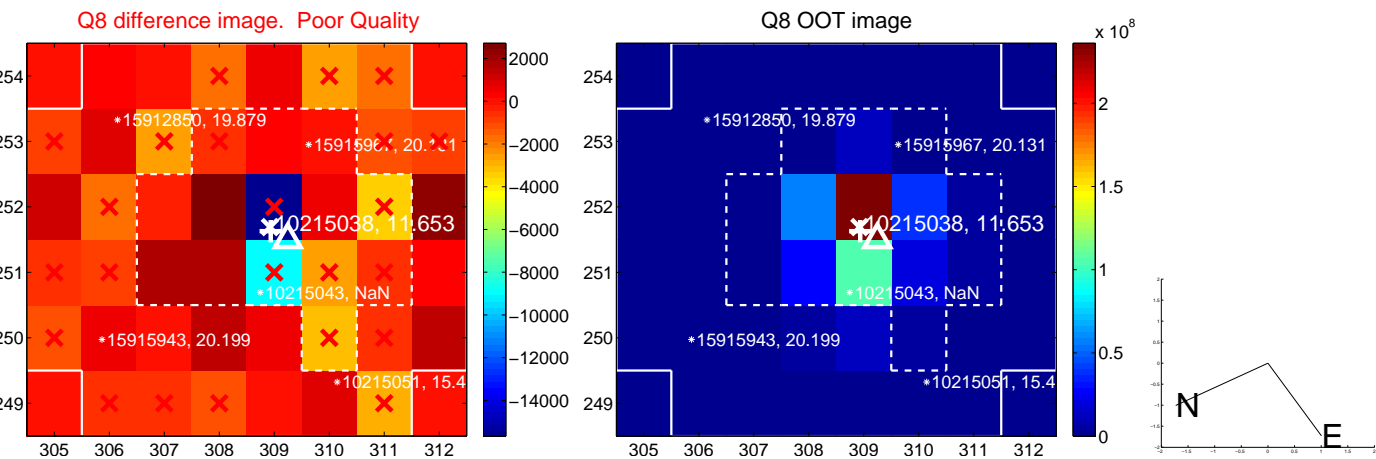
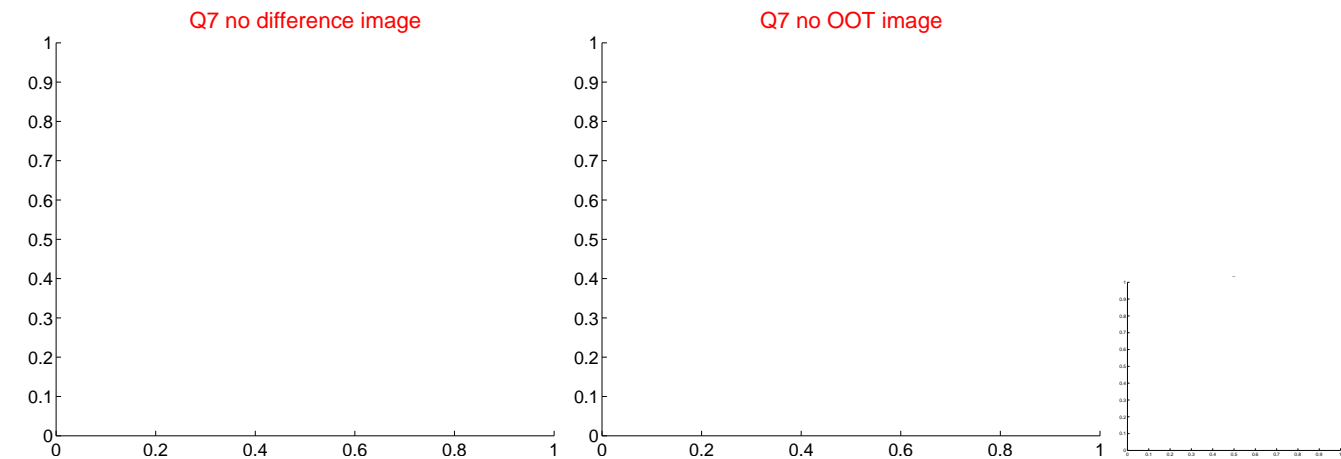
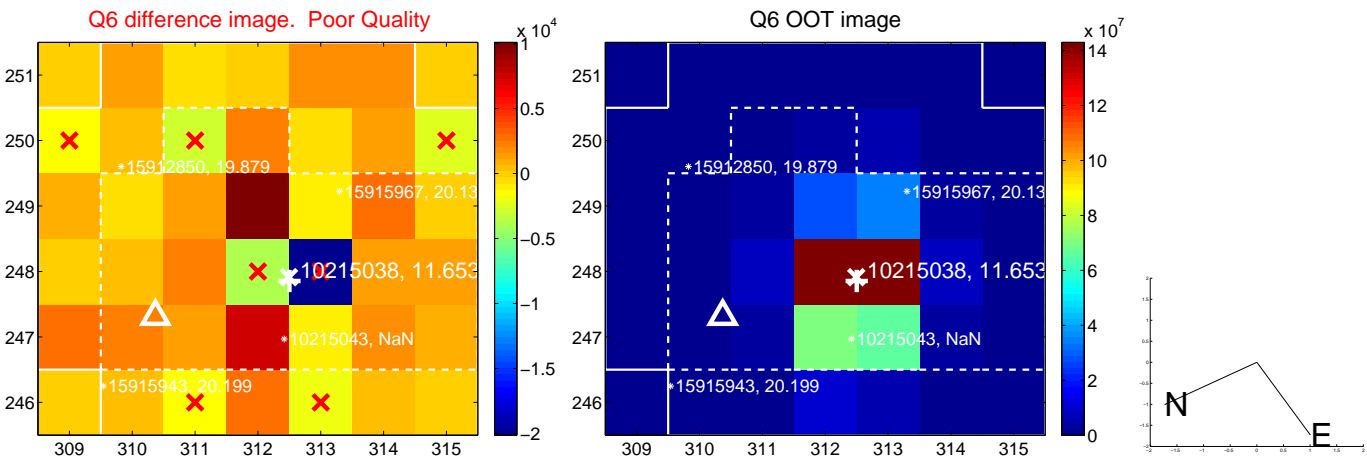
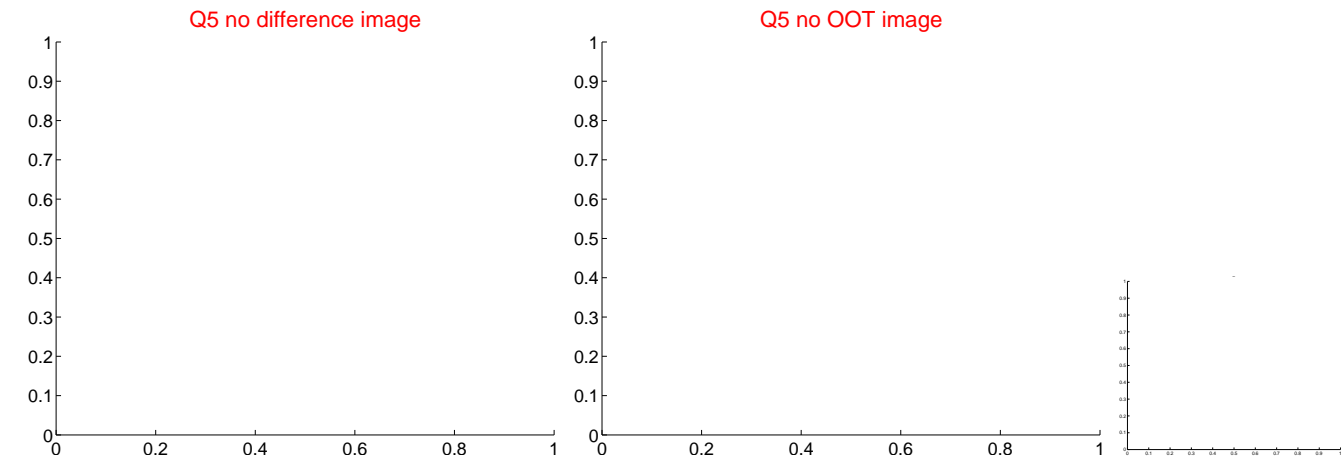


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

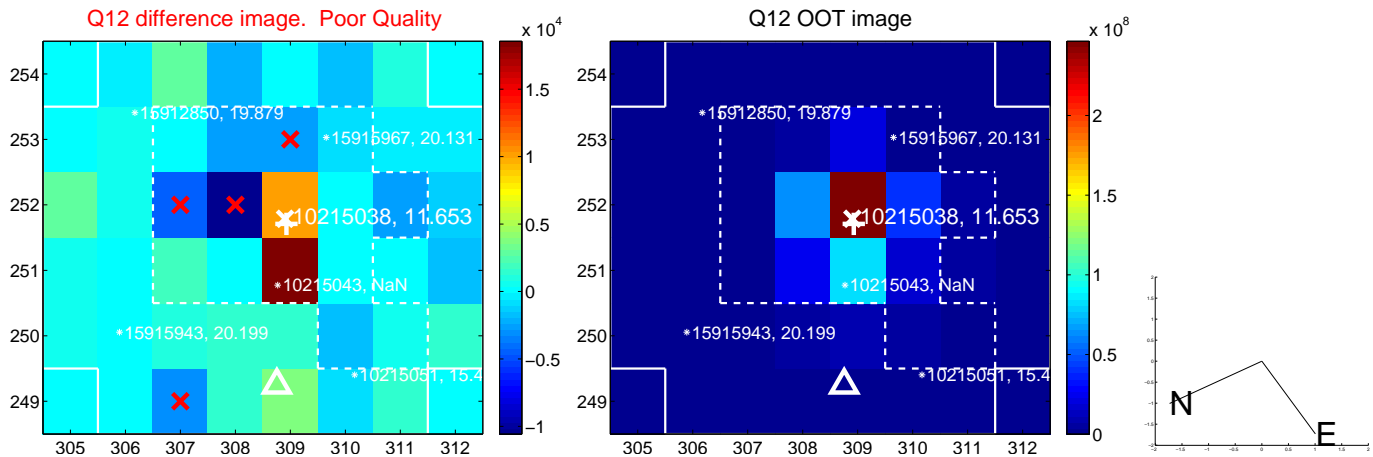
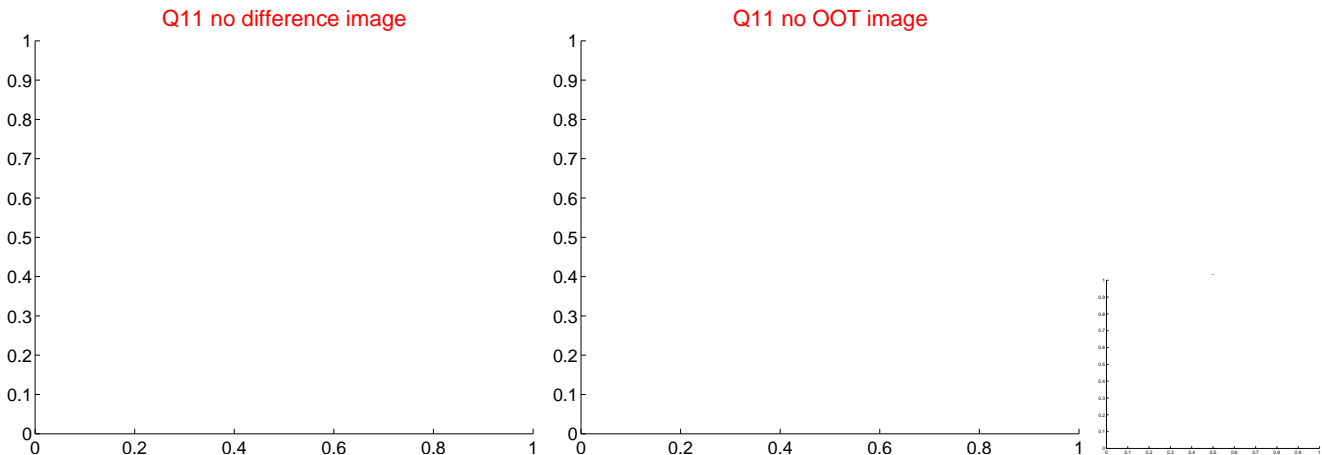
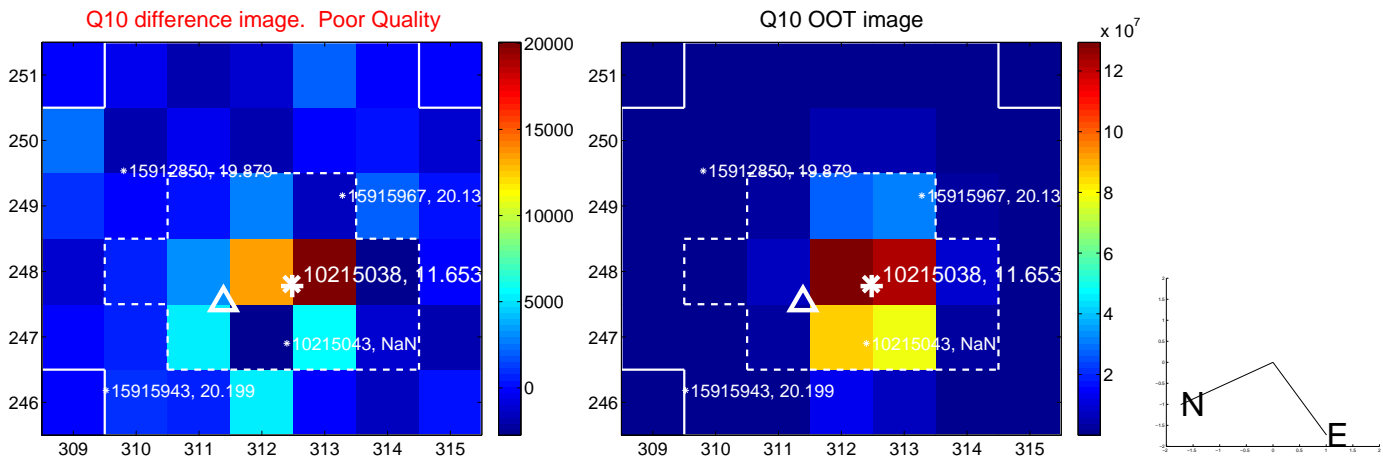
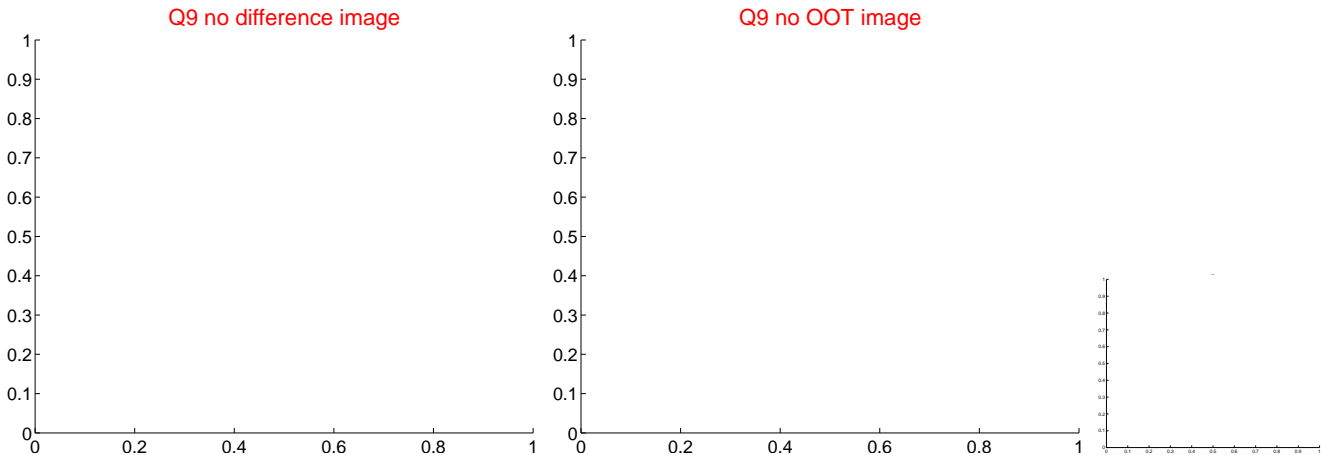
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



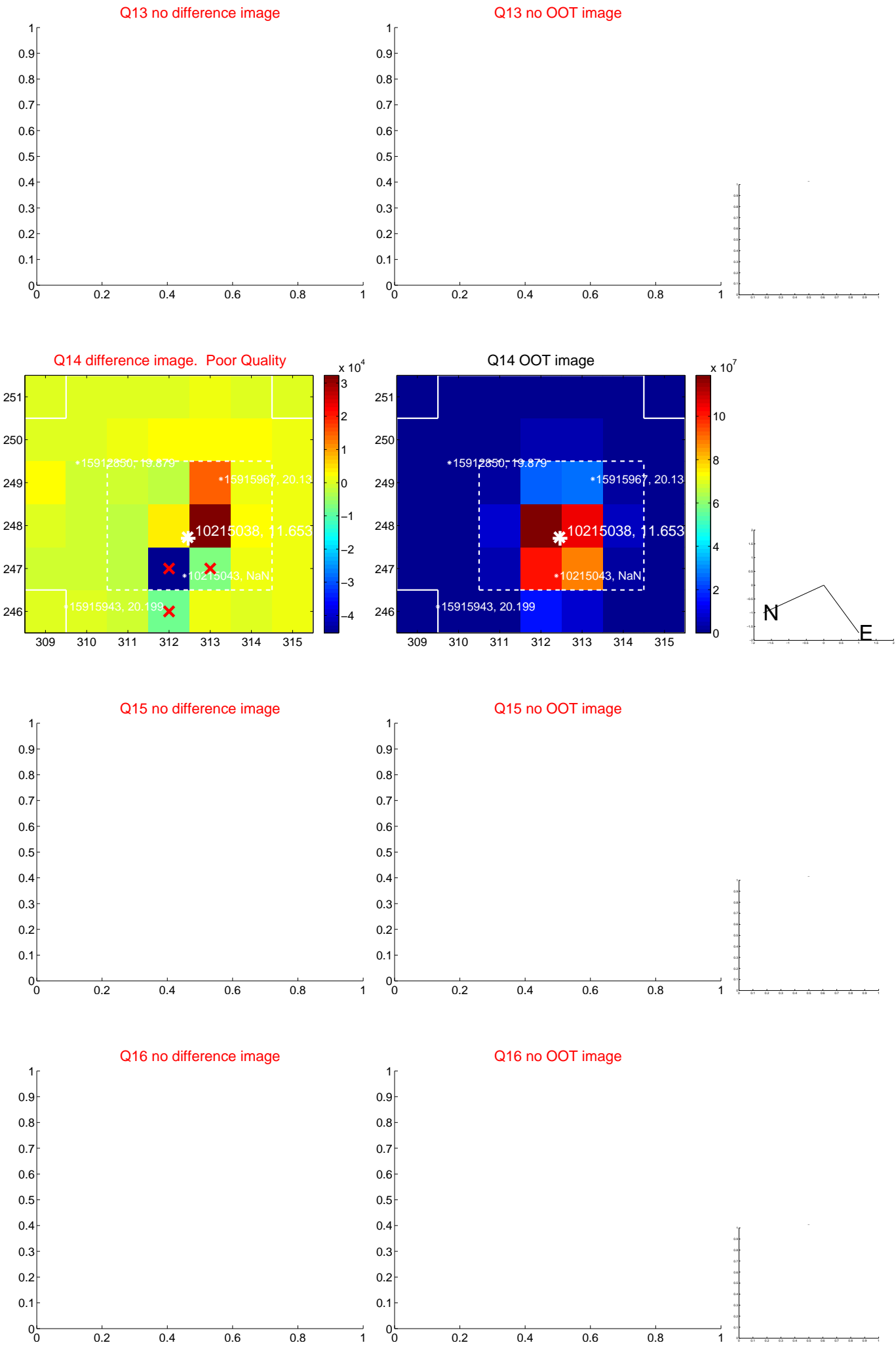
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



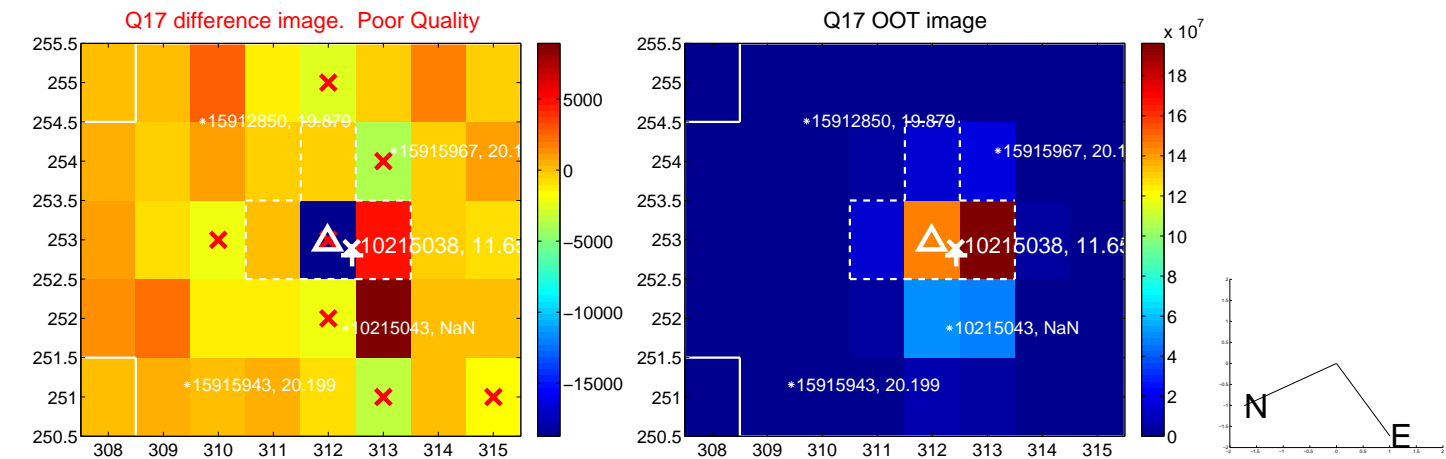
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



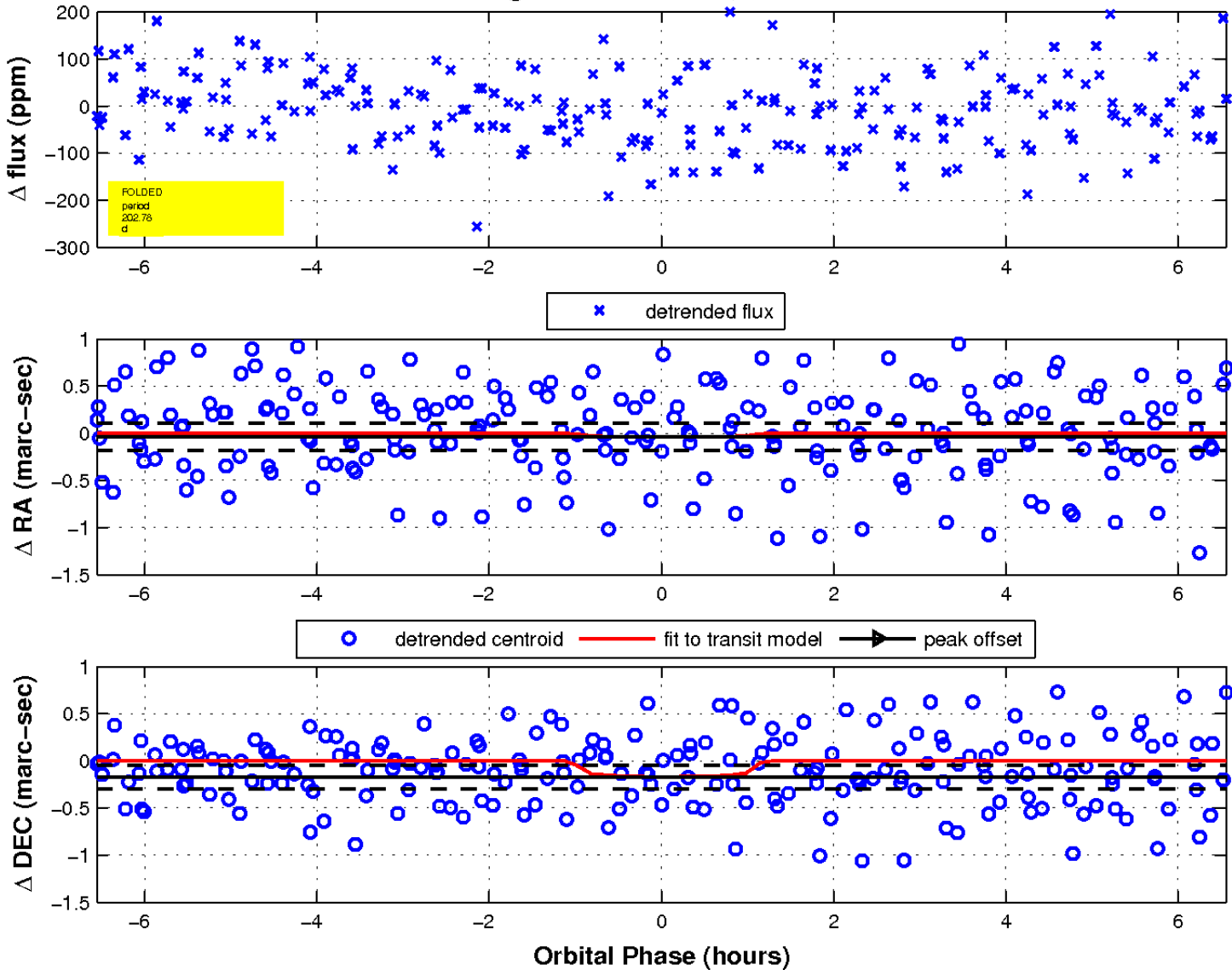
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

