

KIC 010975238

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})
010975238-01	OBS	No	328.113997	255.833338	1182.4	5.332	14.8	4.9	0.49	3794	1.90	0.08
010975238-02	OBS	No	687.090596	203.493676	3563.7	8.450	18.3	8.8	0.49	3794	5.48	0.03
010975238-03	OBS	No	582.994076	188.225536	757.8	2.224	12.5	3.1	0.49	3794	1.50	0.04
010975238-04	OBS	No	437.904554	189.728910	1480.5	3.597	15.1	7.6	0.49	3794	1.87	0.06
010975238-05	OBS	No	642.819364	254.820717	1188.4	4.500	11.9	-1.0	0.49	3794	1.68	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010975238-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS
010975238-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010975238-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
010975238-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010975238-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

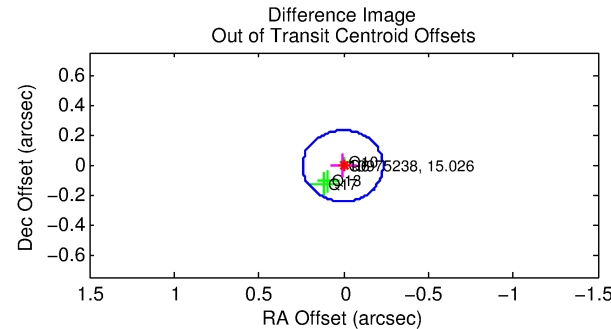
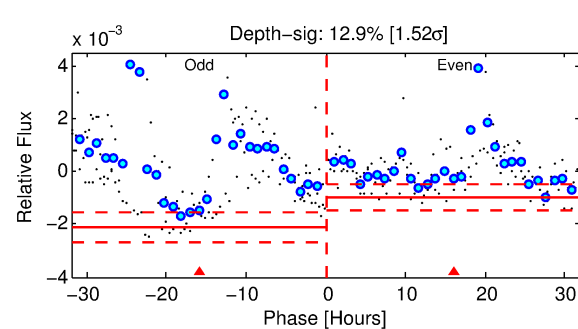
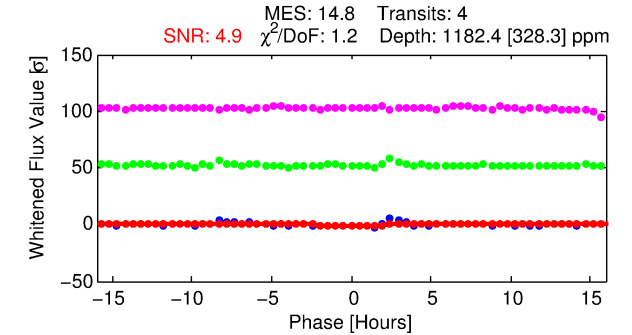
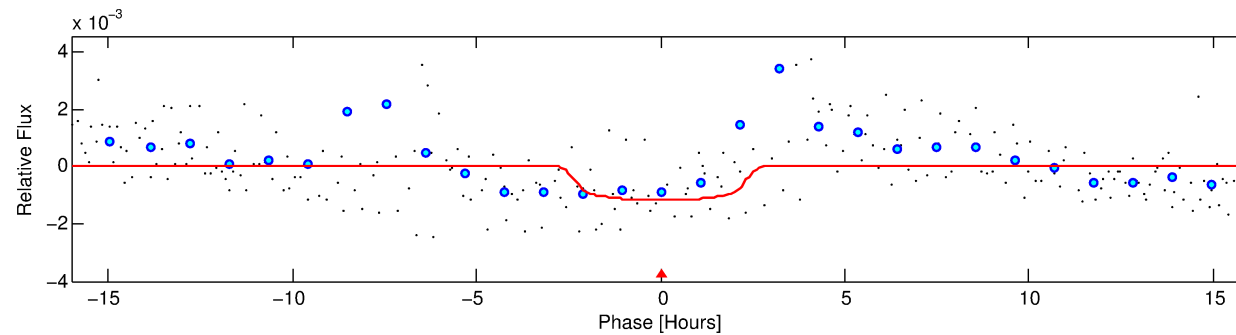
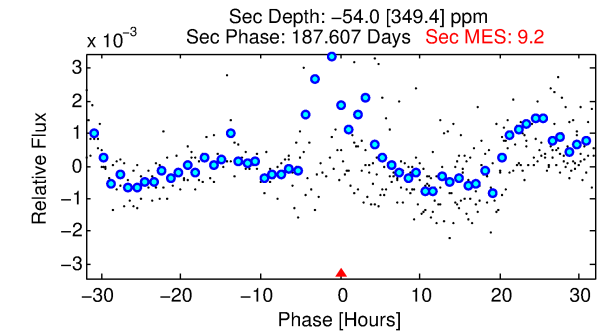
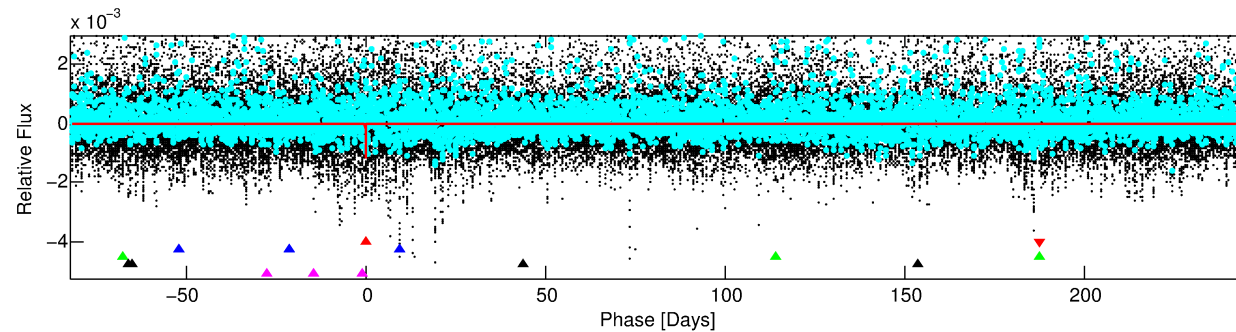
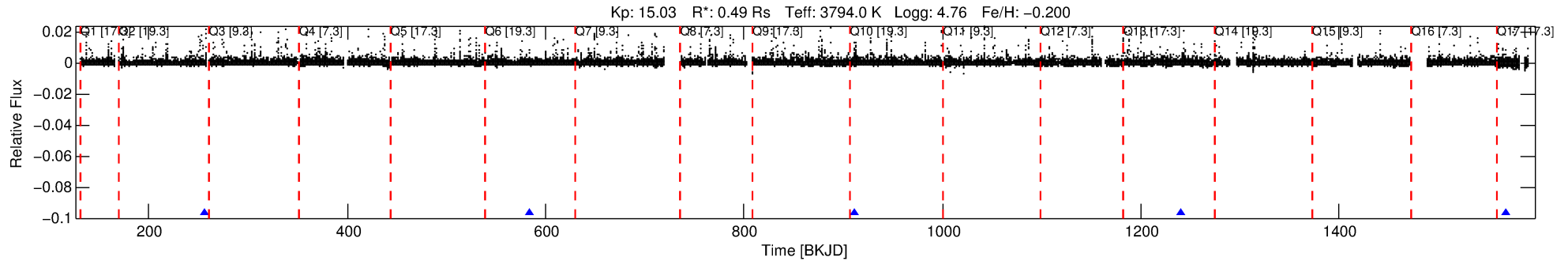
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010975238-01

No Significant Match Found

DV One-Page Summary

KIC: 10975238 Candidate: 1 of 5 Period: 328.114 d



DV Fit Results:

Period = 328.11400 [0.00587] d
Epoch = 255.8333 [0.0151] BKJD
Rp/R* = 0.0356 [0.0101]
a/R* = 286.41 [281.41]
b = 0.84 [0.35]
Seff = 0.08 [0.01]
Teq = 136 [4] K
Rp = 1.90 [0.56] Re
a = 0.7383 [0.0442] AU
Ag = N/A
Teffp = N/A

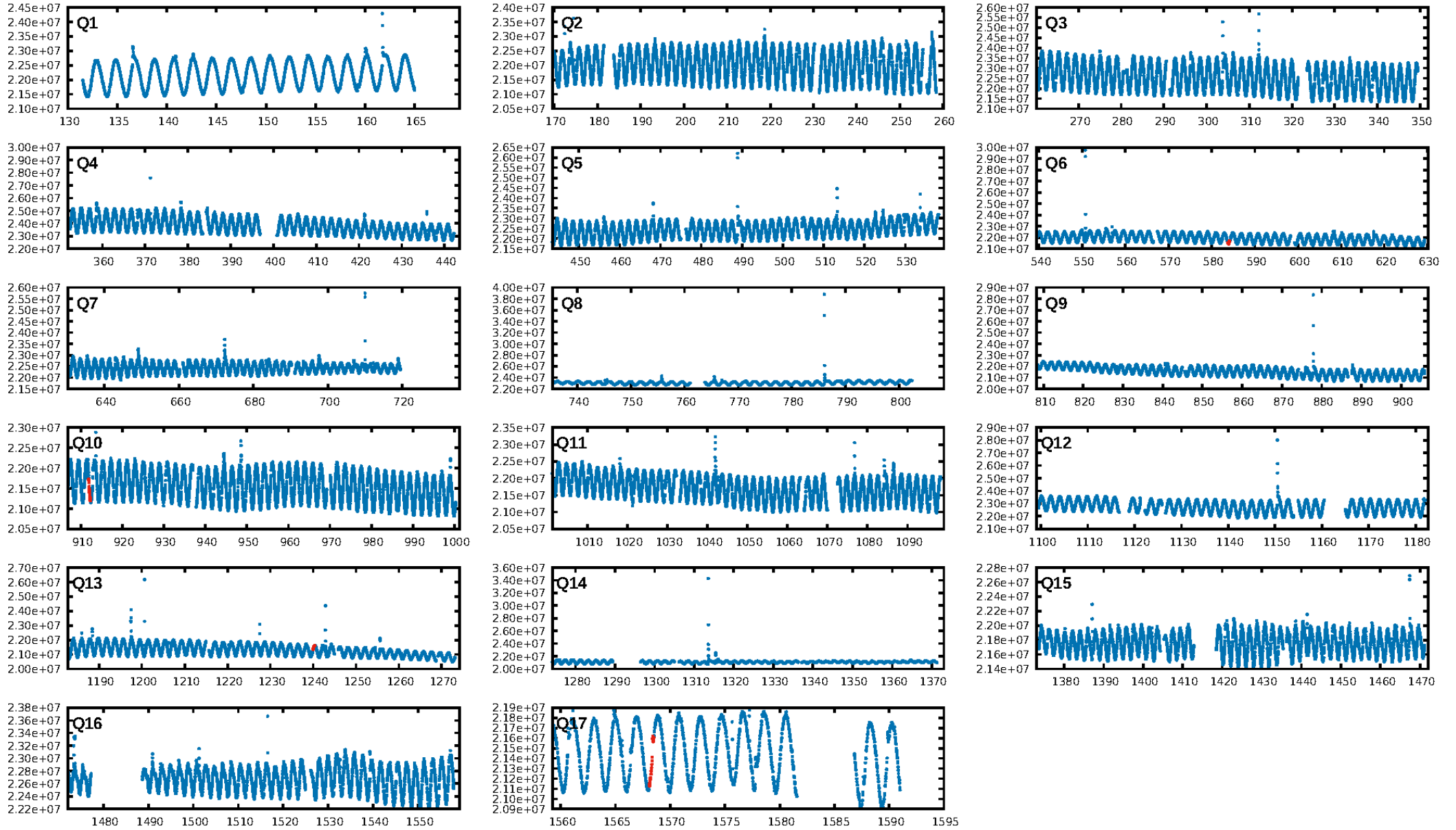
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [409.68σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 76.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.603
Centroid-sig: 56.2%
Centroid-so: 0.448 arcsec [0.63σ]
OotOffset-rm: 0.009 arcsec [0.12σ]
OotOffset-st: 2/0/0/2 [4]
KicOffset-rm: 0.254 arcsec [3.51σ]
KicOffset-st: 2/0/0/2 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

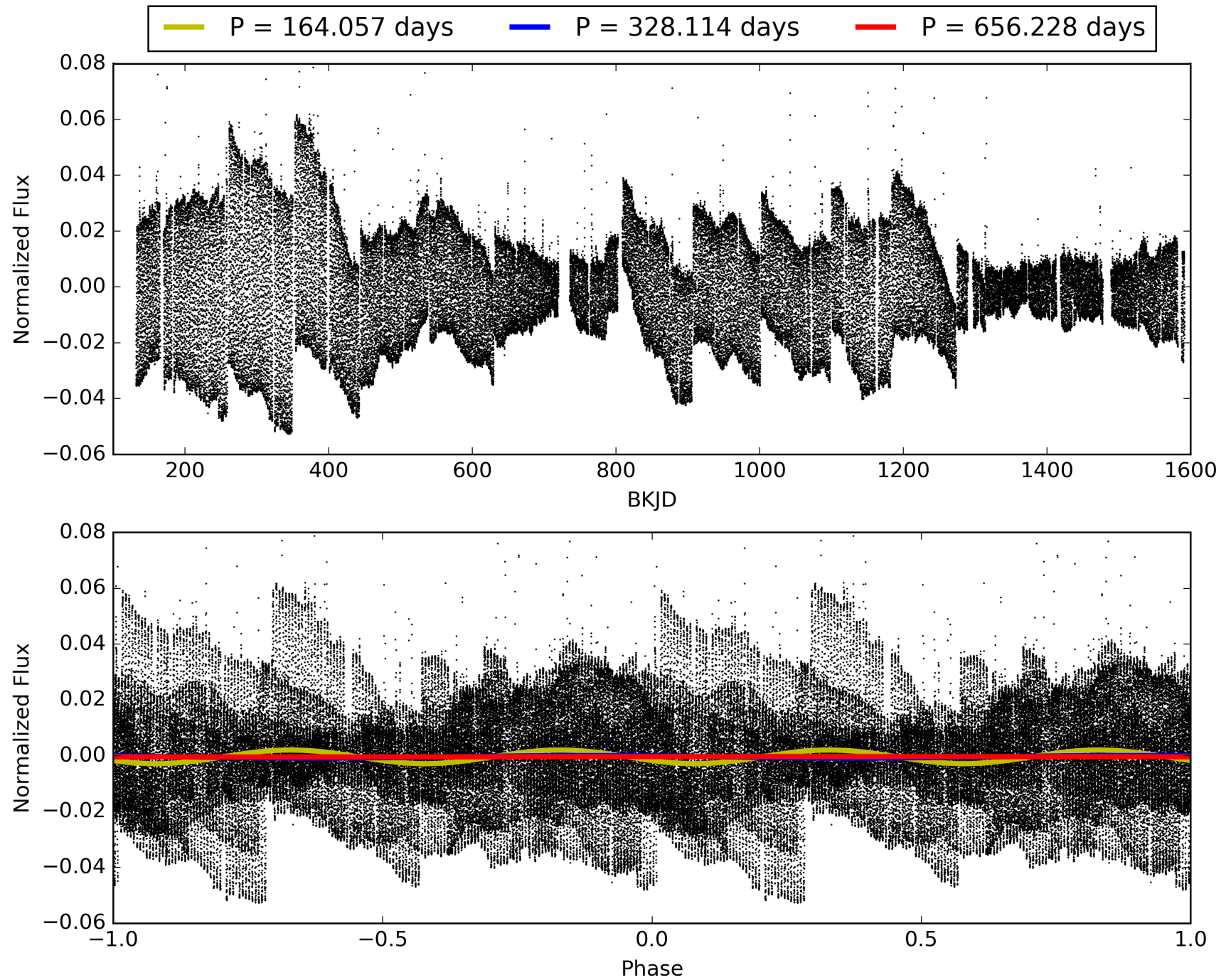
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:10:07 Z

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

TCE 010975238-01, PDC Light Curves

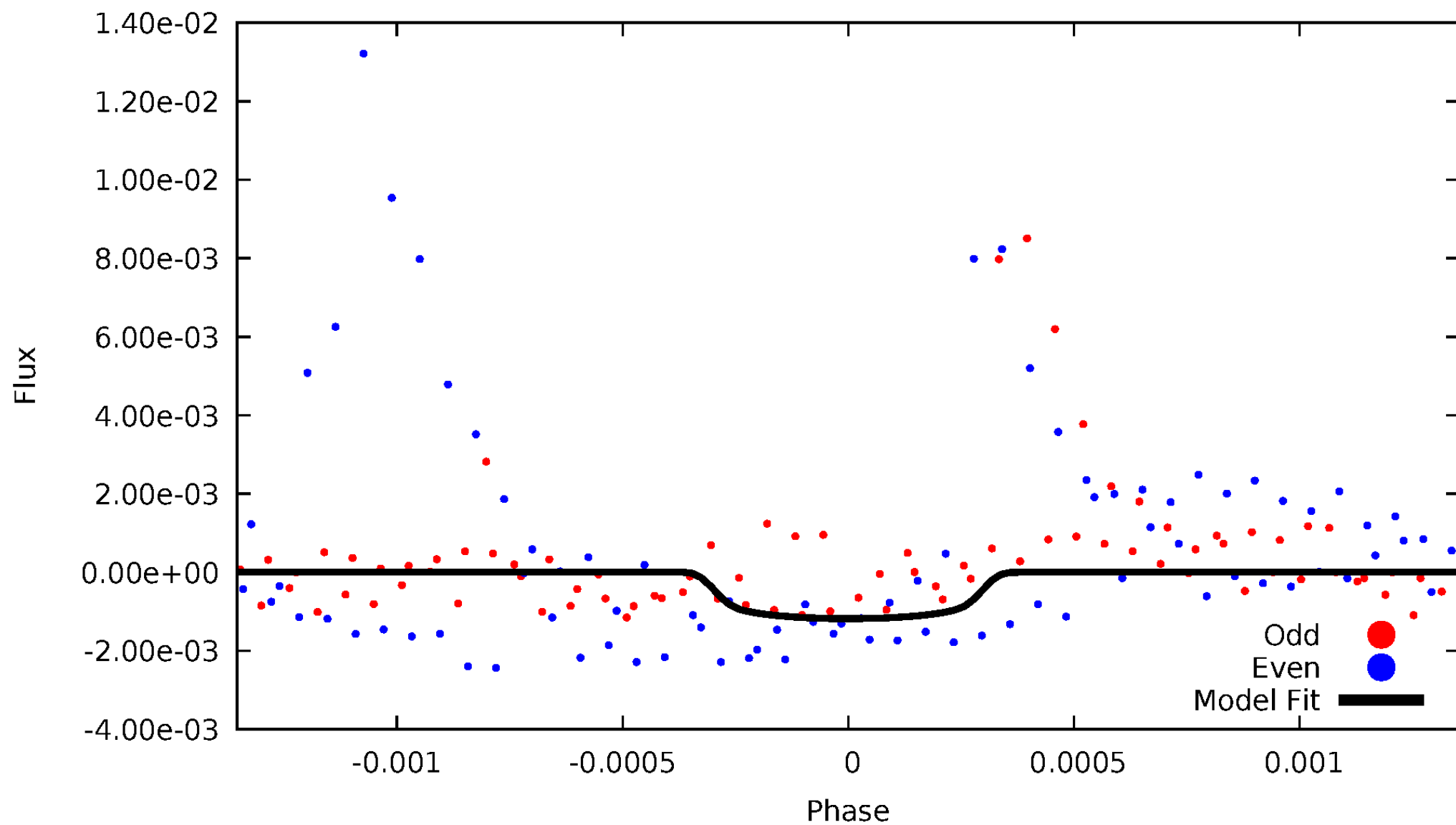


TCE 010975238-01



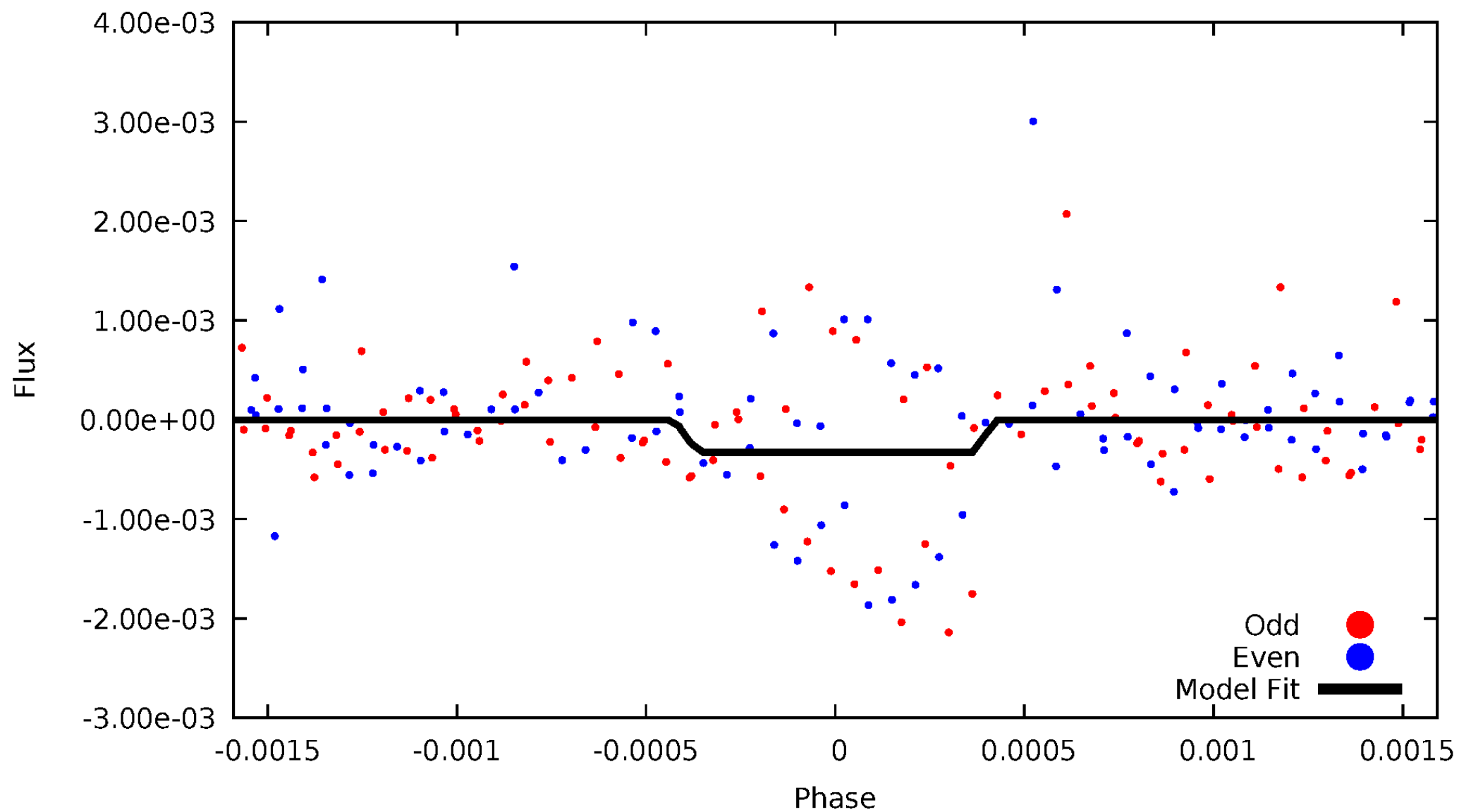
DV Odd/Even

TCE 010975238-01



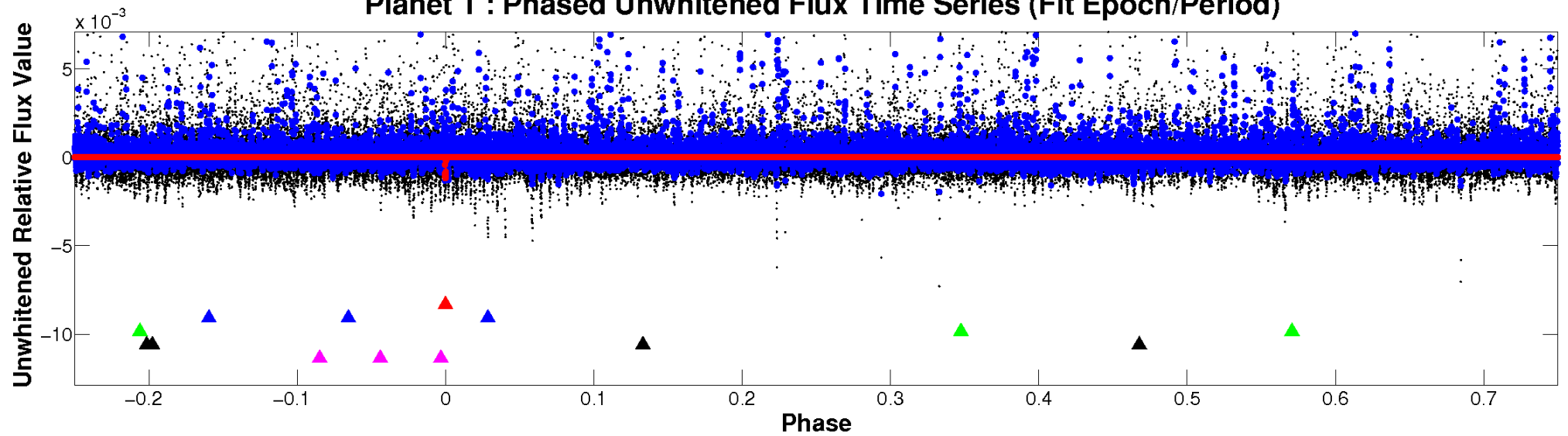
ALT Odd/Even

TCE 010975238-01

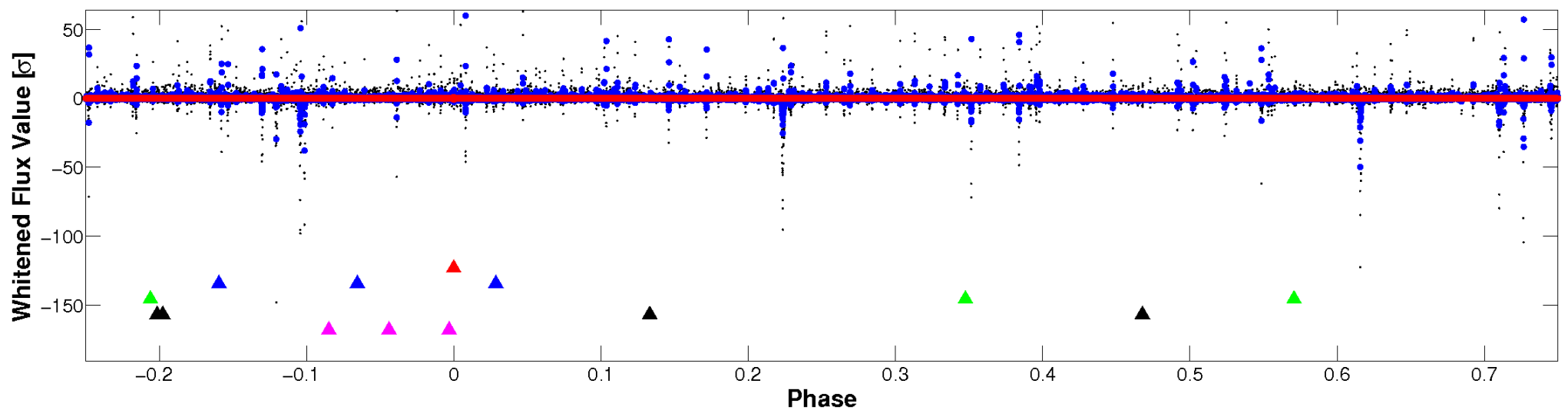


Non-Whitened Vs. Whitened Light Curve

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

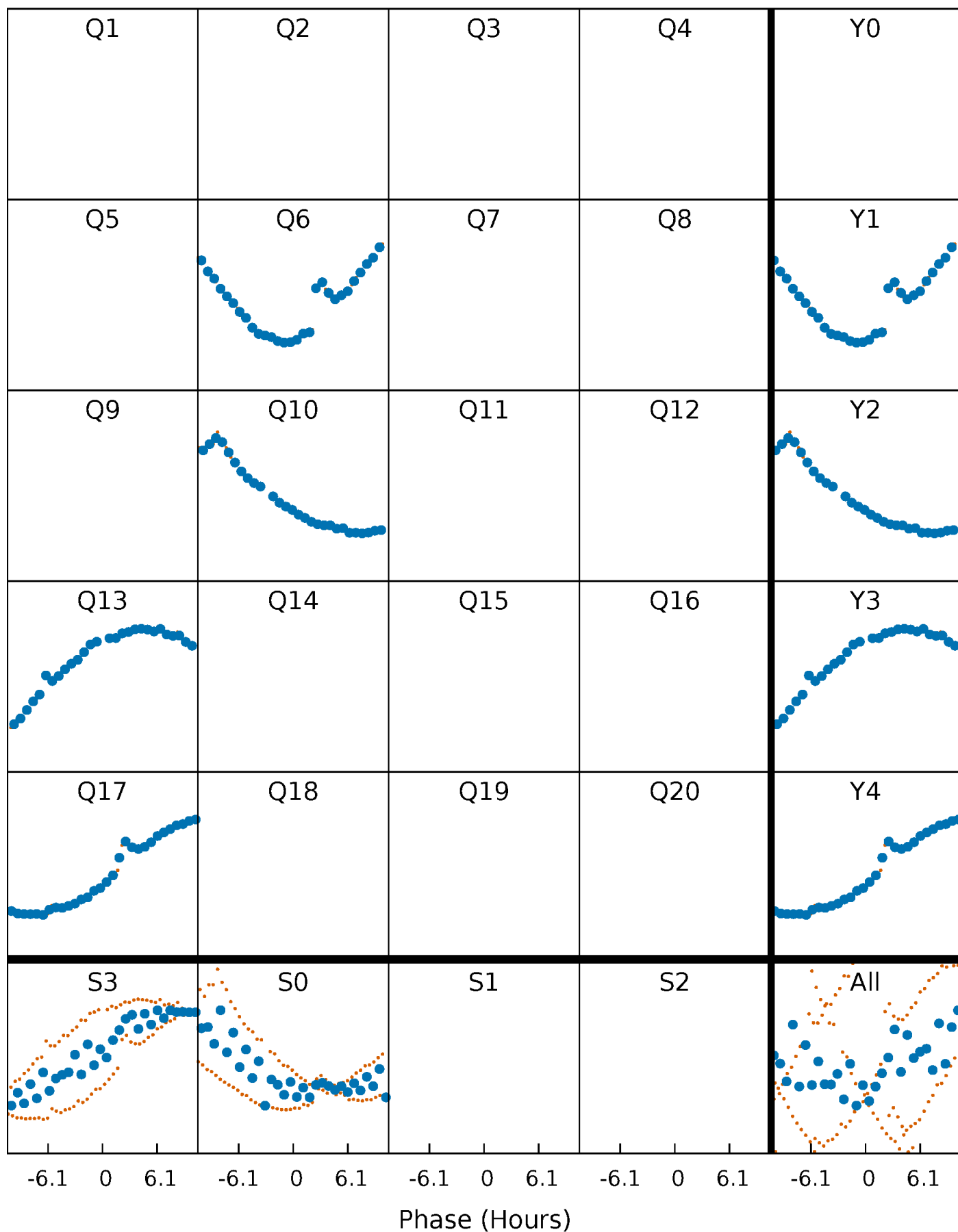


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



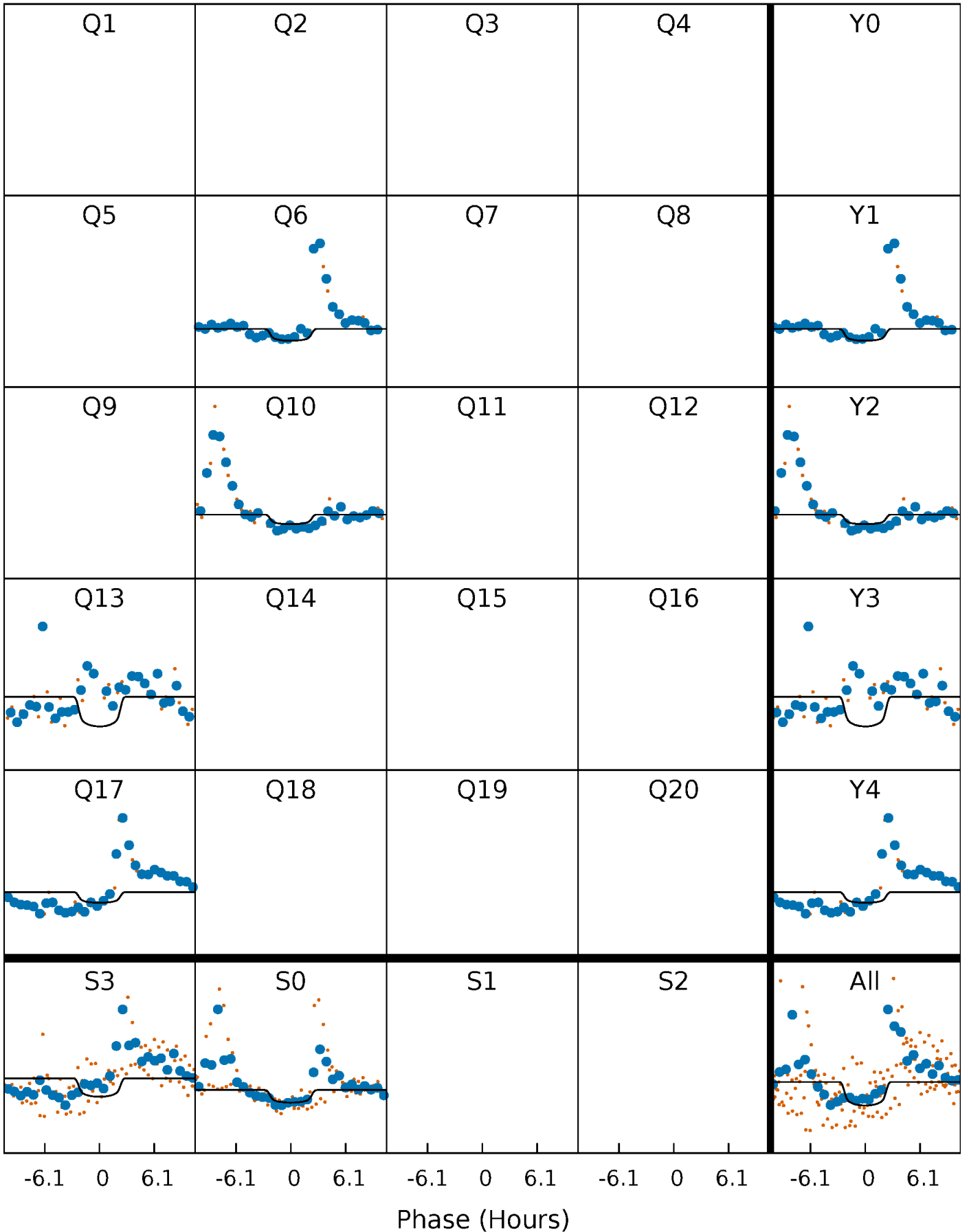
PDC Quarter-Phased Transit Curves

TCE 010975238-01 P=328.113997 Days $T_0=255.833338$ (BKJD)



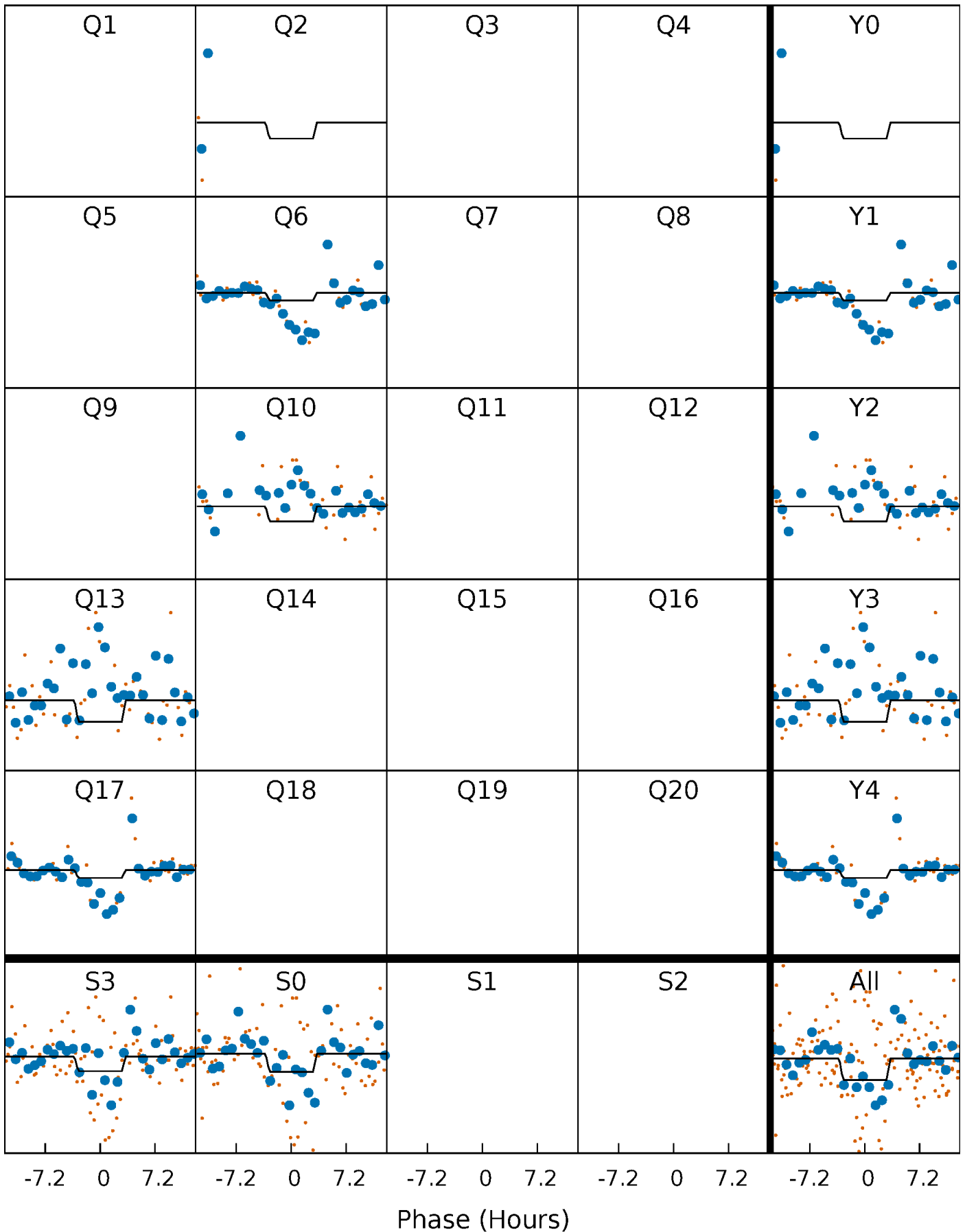
DV Quarter-Phased Transit Curves

TCE 010975238-01 P=328.113997 Days $T_0=255.833338$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

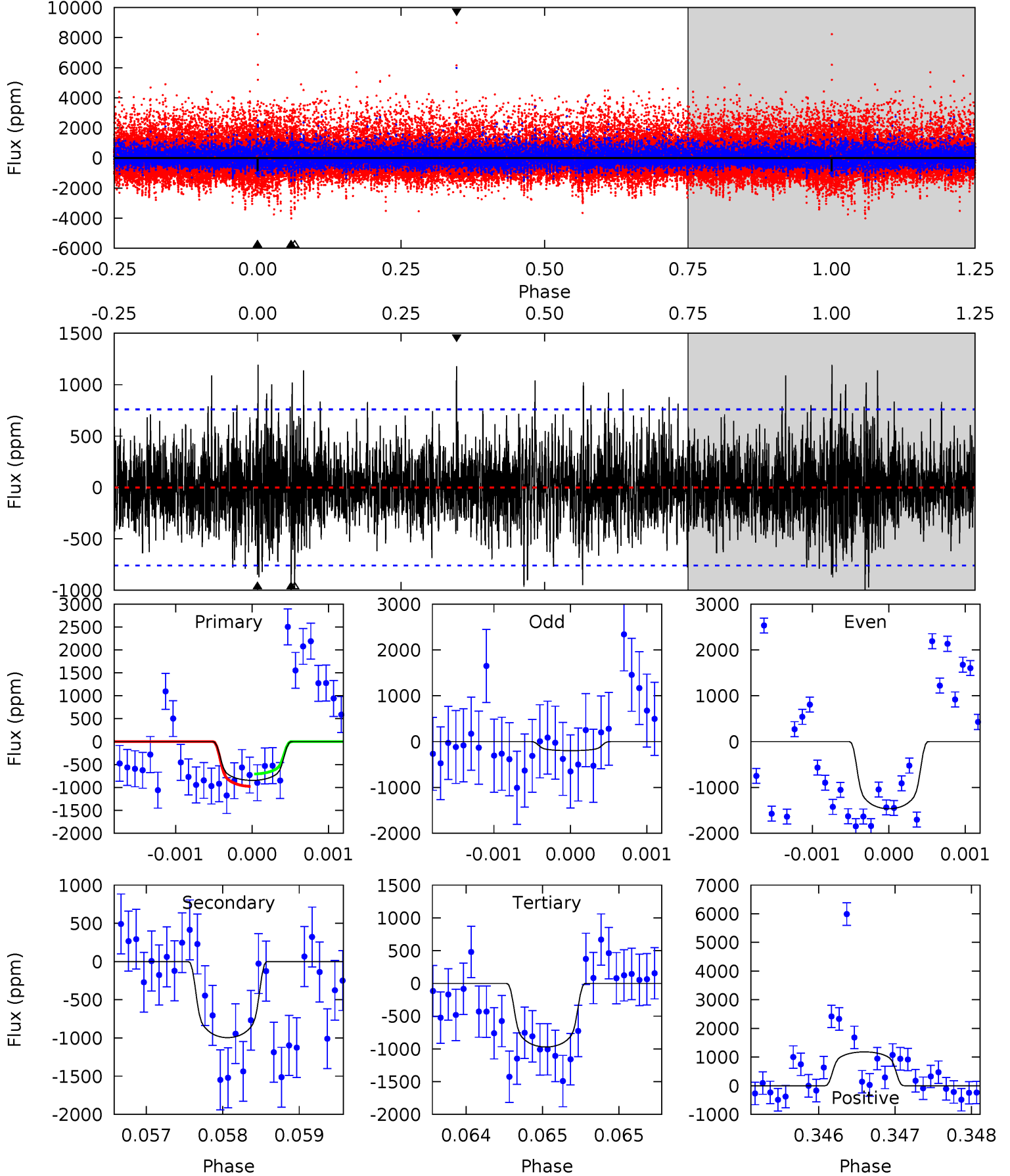
TCE 010975238-01 P=328.110738 Days $T_0=255.806778$ (BKJD)



DV Model-Shift Uniqueness Test

010975238-01, P = 328.113997 Days, E = 255.833338 Days

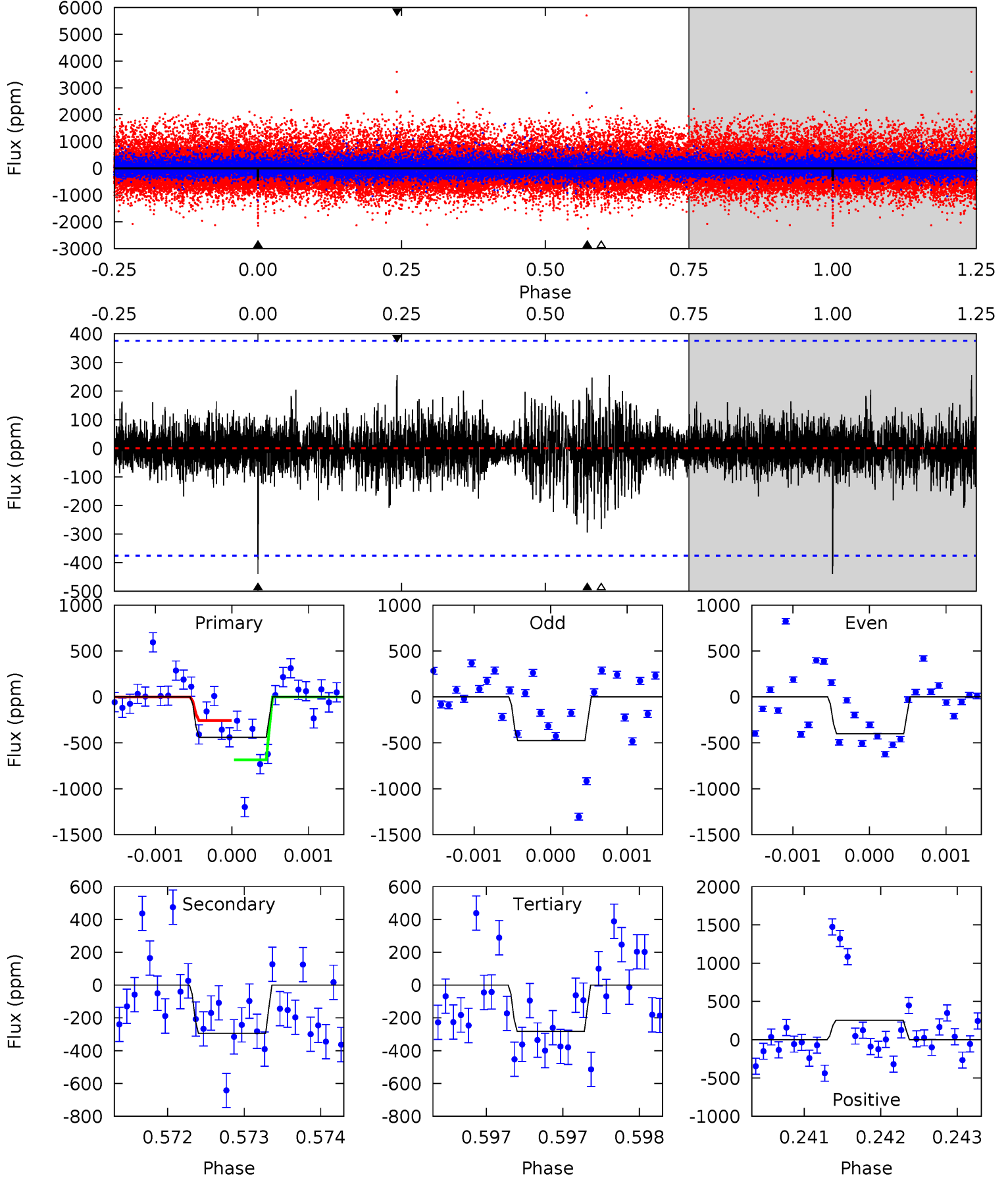
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.14	7.23	7.05	8.57	5.51	3.39	2.04	-0.91	-2.43	0.18	-1.34	3.50	1.04	0.55	0.99



Alt Model-Shift Uniqueness Test

010975238-01, P = 328.110738 Days, E = 255.806778 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.43	4.31	4.13	3.74	5.49	3.35	0.82	2.30	2.69	0.18	0.57	0.52	1.06	0.37	3.11



Stellar Parameters For KIC 010975238

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3794^{+68}_{-76}	$4.757^{+0.039}_{-0.024}$	$-0.200^{+0.100}_{-0.100}$	$0.489^{+0.027}_{-0.038}$	$0.498^{+0.031}_{-0.031}$	$6.001^{+1.077}_{-0.625}$
	+2%/-2%	+1%/-1%	+50%/-50%	+6%/-8%	+6%/-6%	+18%/-10%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 010975238-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-995 ± 138	$1.89^{+0.56}_{-0.52}$	190^{+4}_{-5}	3641^{+434}_{-299}	82123^{+79643}_{-32344}
Alt.	-294 ± 68	$0.98^{+0.54}_{-0.50}$	190^{+4}_{-5}	3683^{+1160}_{-469}	$88556^{+305892}_{-51047}$

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

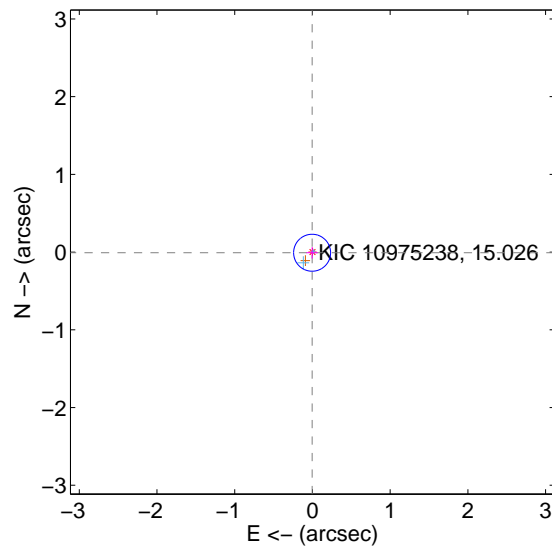
Supplemental centroid analysis for 010975238-01. Kepler magnitude: 15.03. Transit SNR 4.90

There are 3 quarters with good PRF difference image offsets

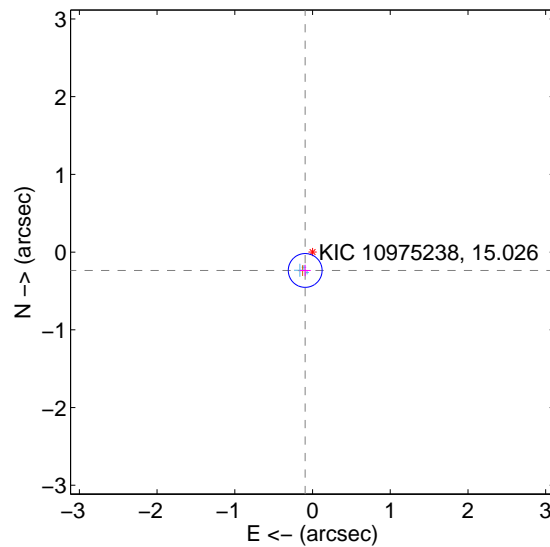
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.079	0.12	0.004 ± 0.073	-0.008 ± 0.075
PRF-fit source offset from KIC position	0.254 ± 0.072	3.51	0.094 ± 0.072	-0.236 ± 0.073
photometric centroid source offset	0.45 ± 0.72	0.63	-0.36 ± 0.68	0.27 ± 0.77

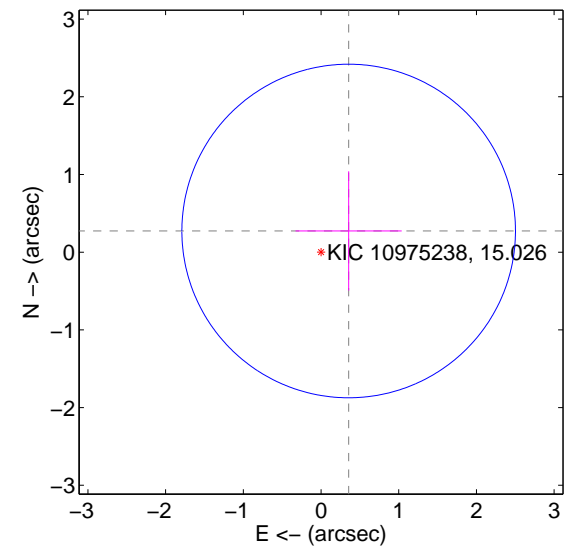
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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

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



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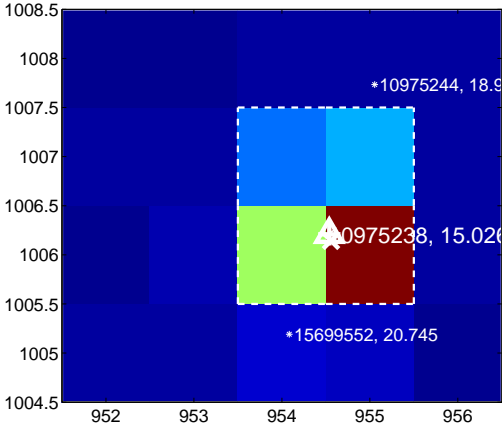
Q5 no difference image



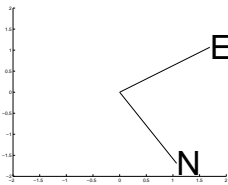
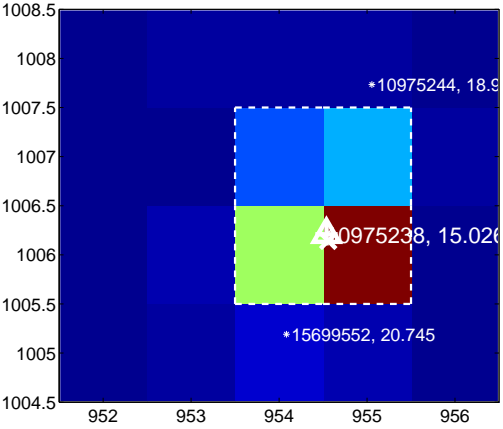
Q5 no OOT image



Q6 difference image



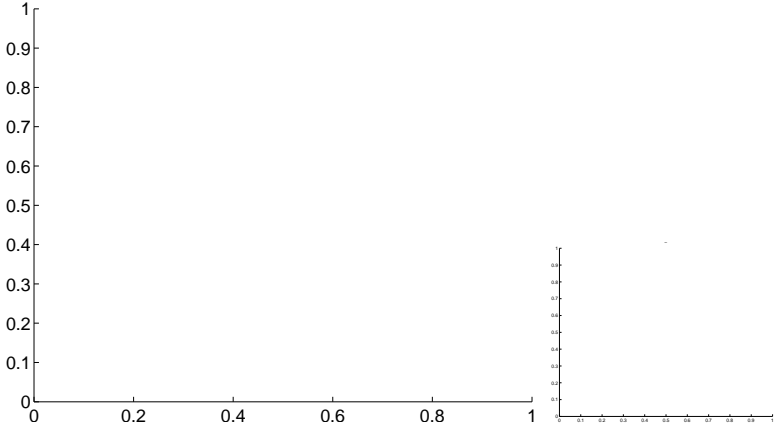
Q6 OOT image



Q7 no difference image



Q7 no OOT image



Q8 no difference image



Q8 no OOT image

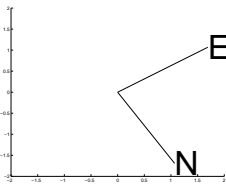
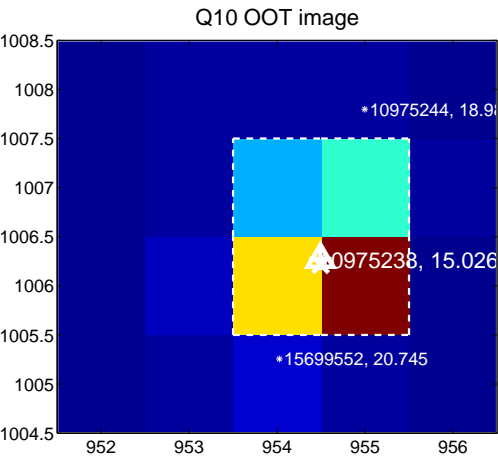
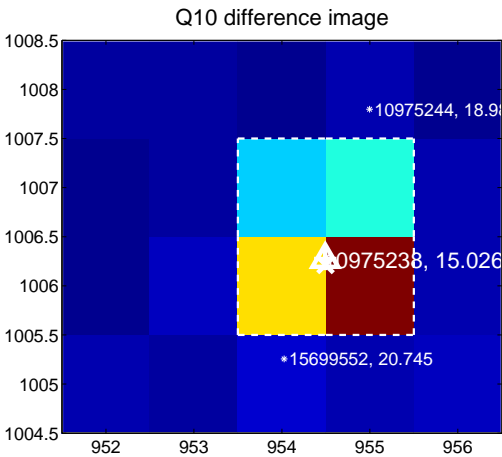


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

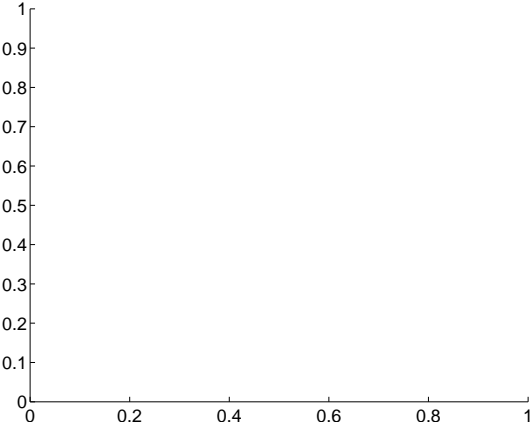
Q9 no difference image



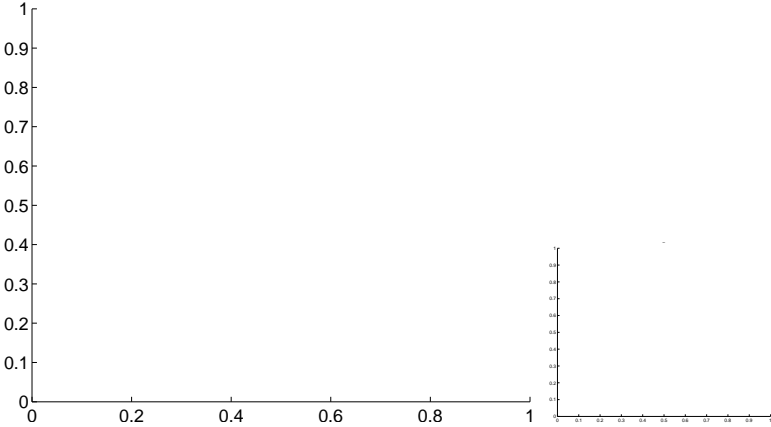
Q9 no OOT image



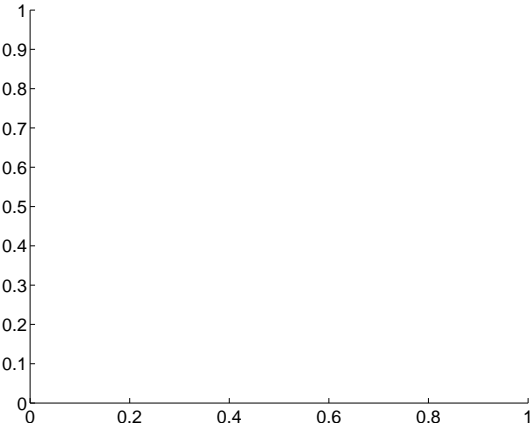
Q11 no difference image



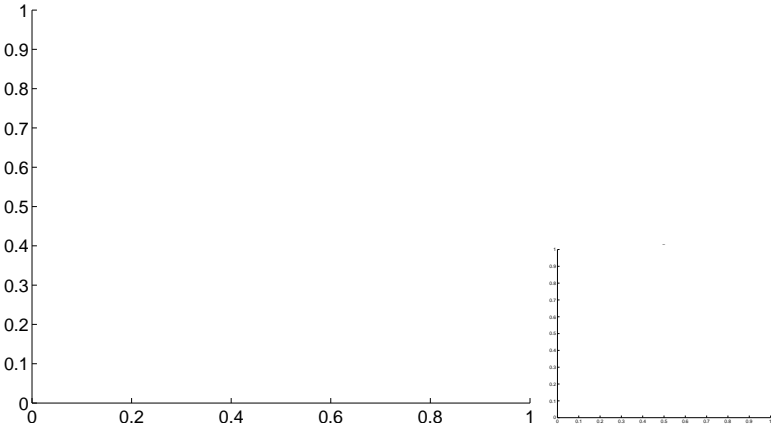
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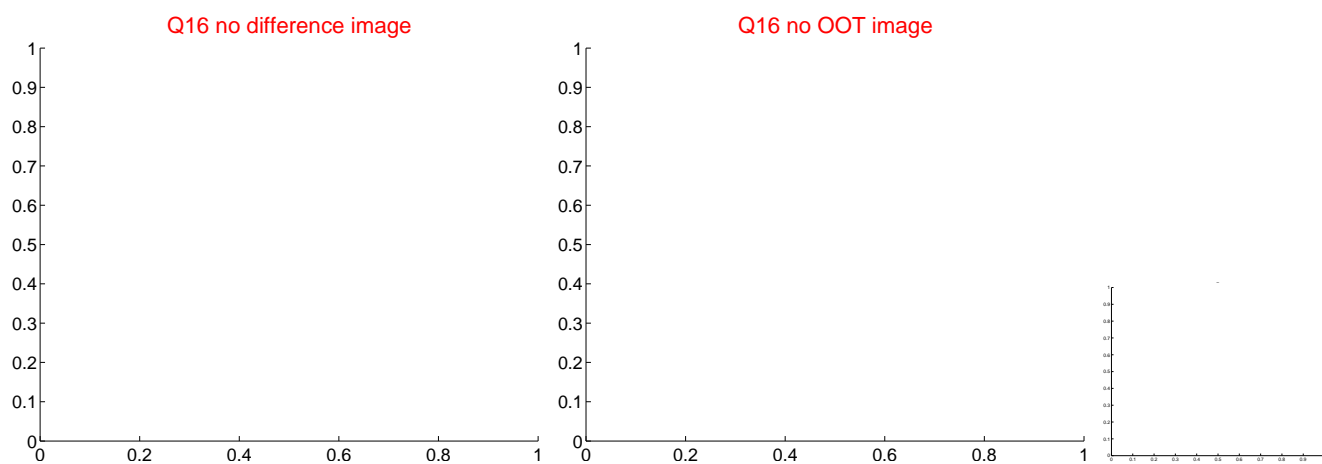
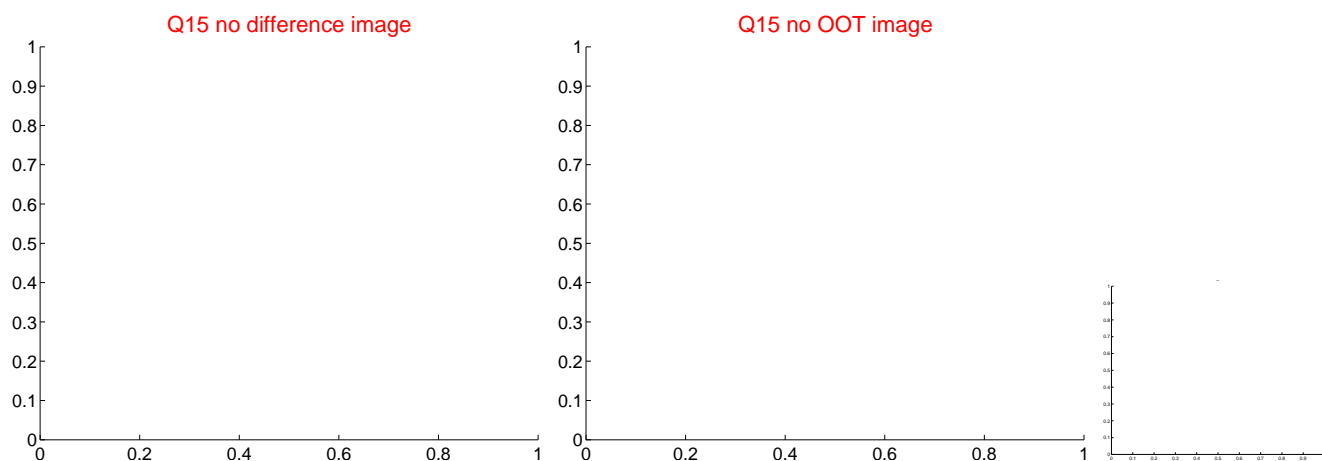
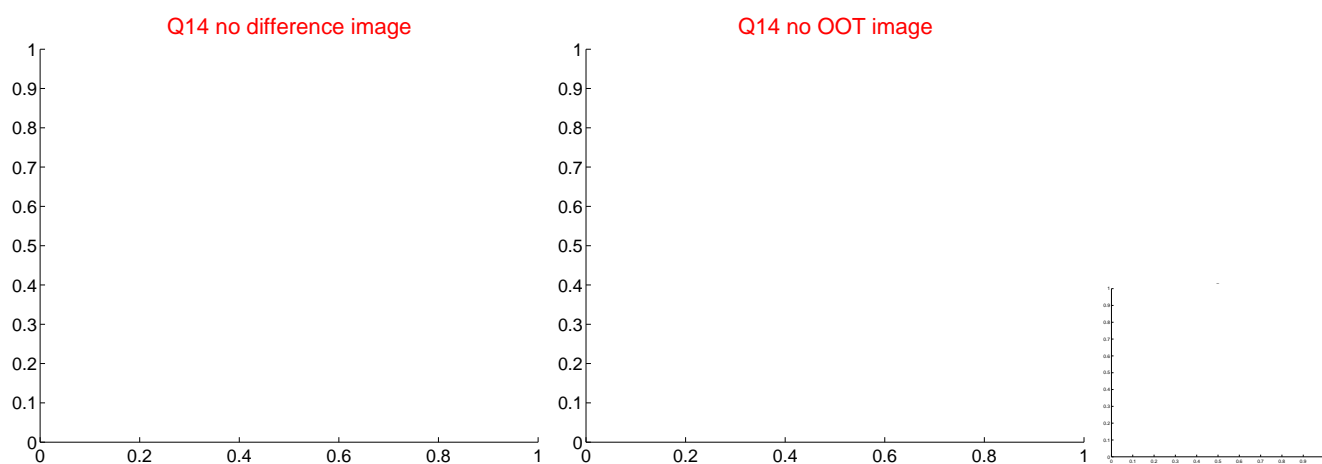
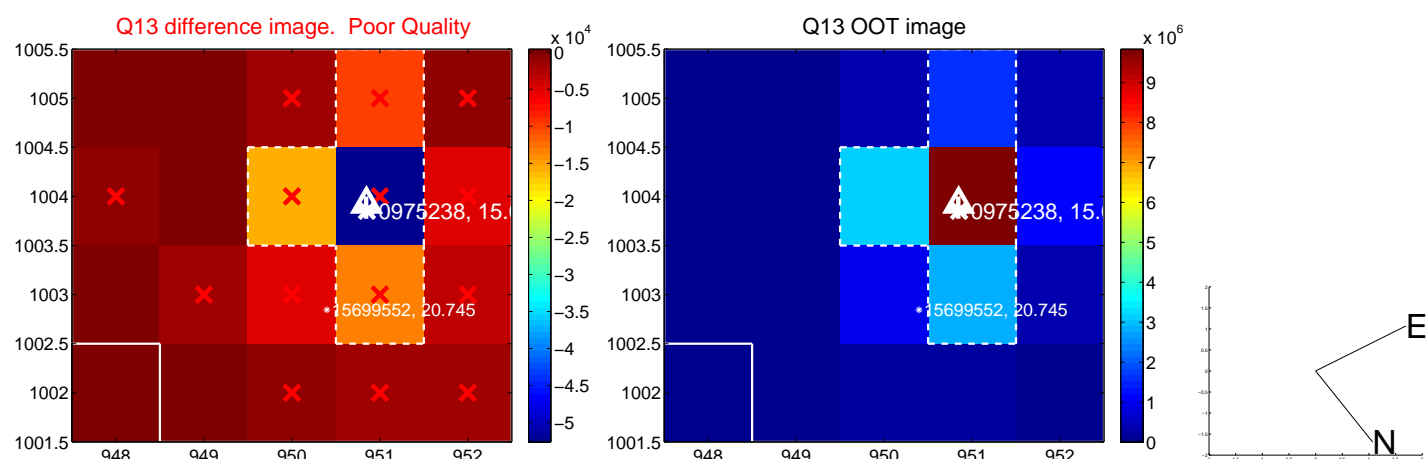
Q12 no difference image



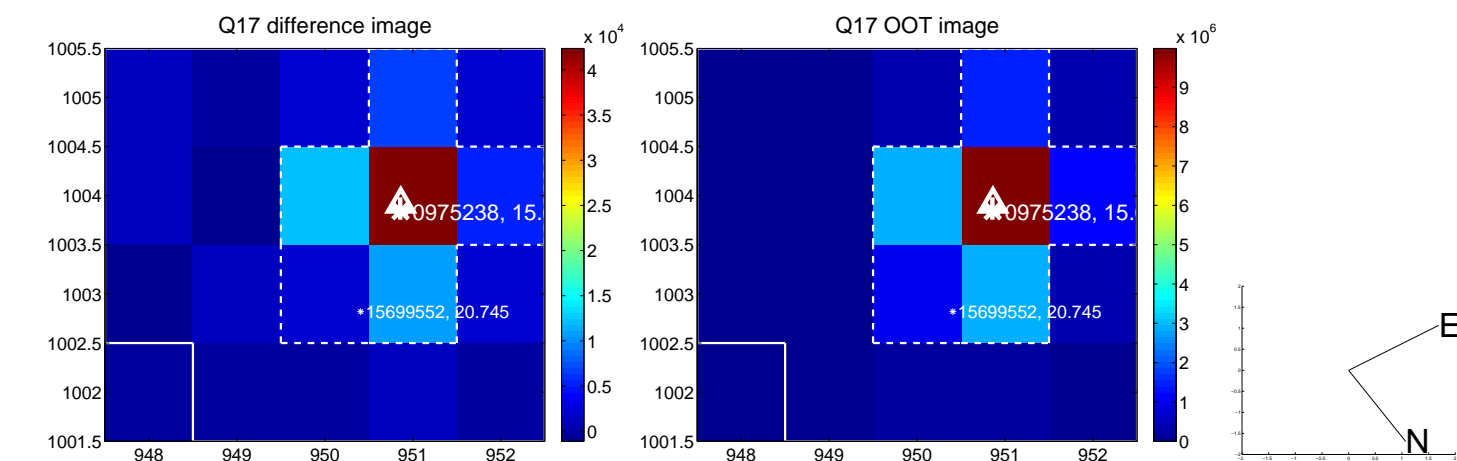
Q12 no OOT image



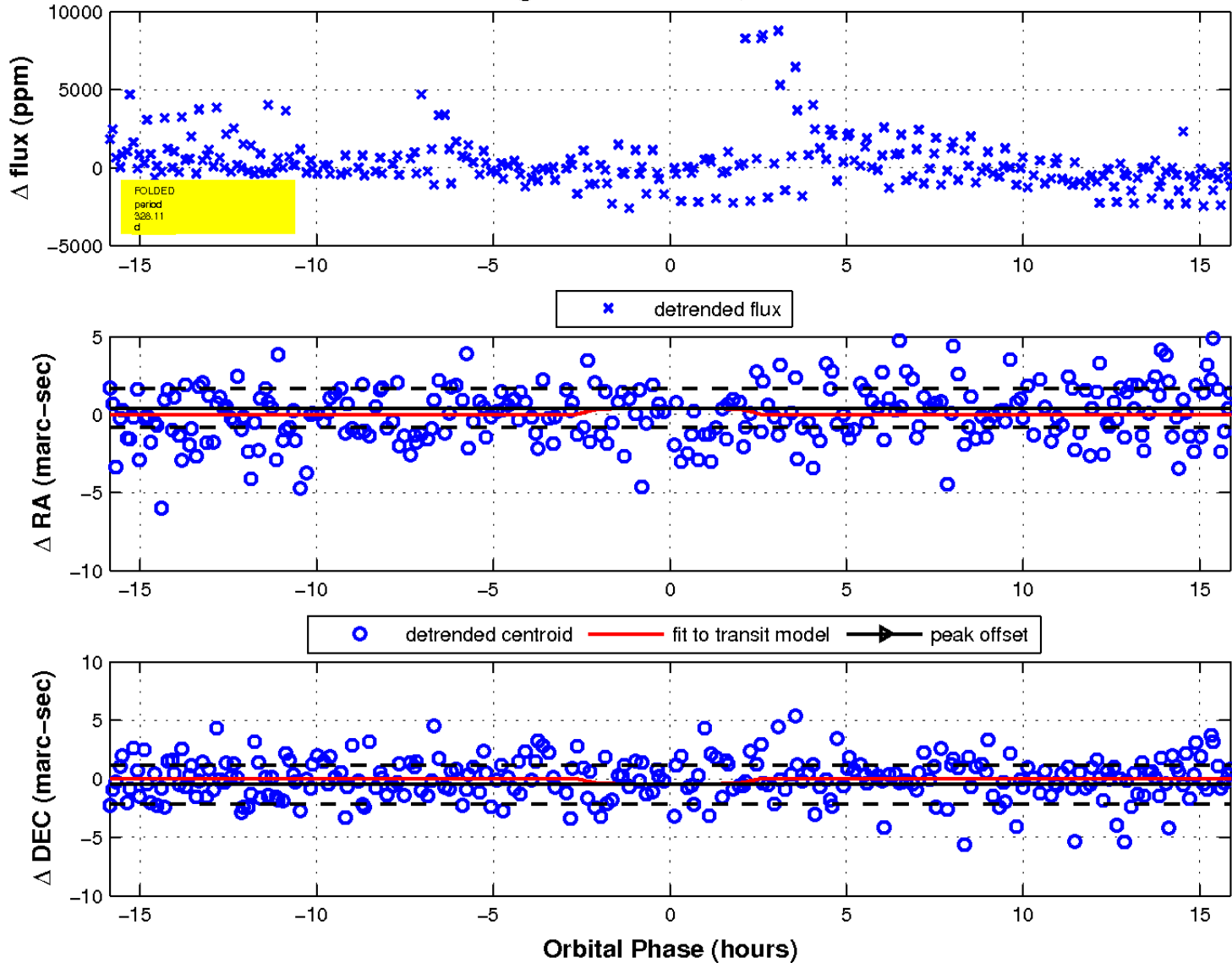
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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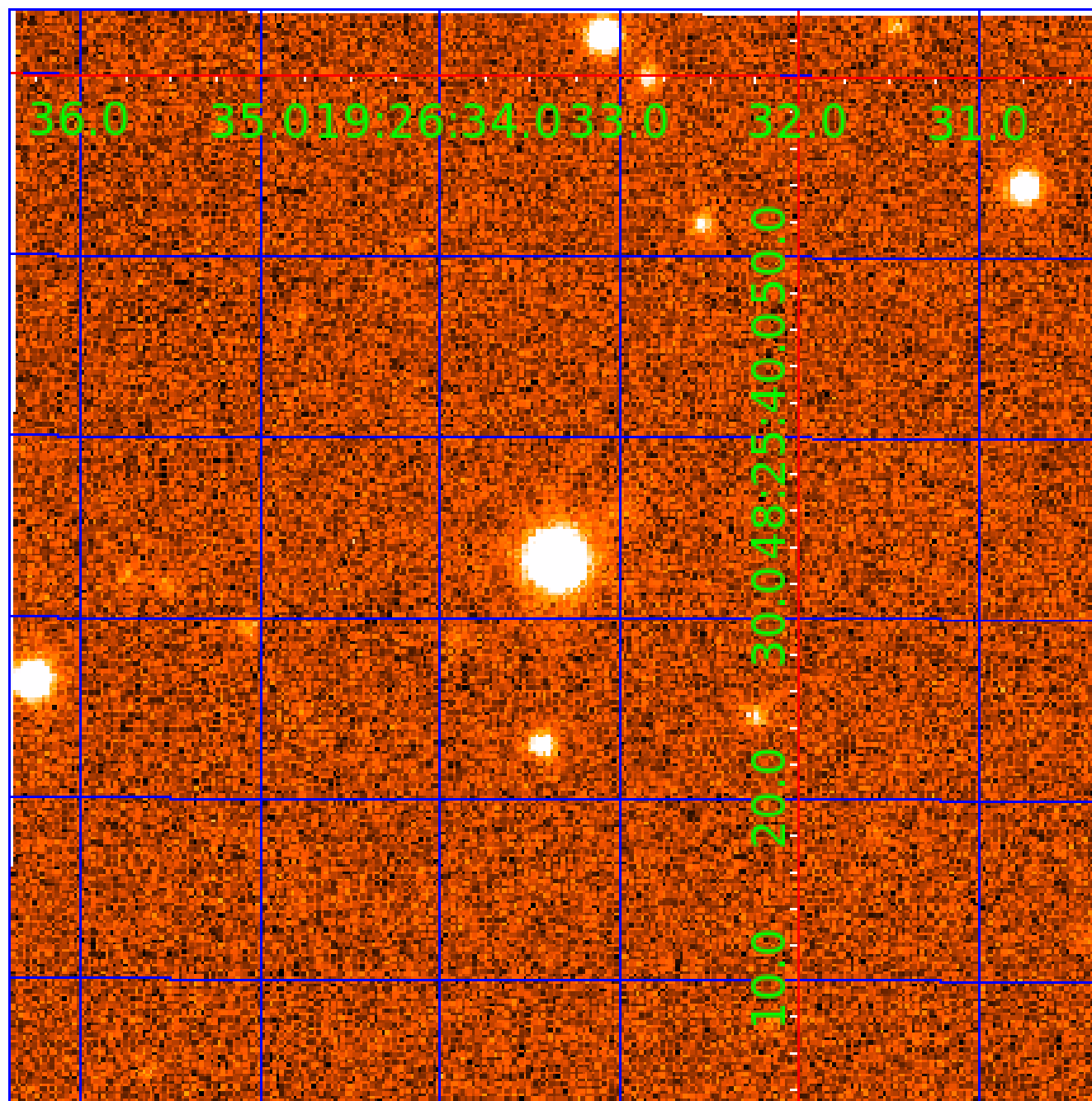


fluxWeightedCentroids, Planet 1 of 5



UKIRT Image

Declination



KIC 010975238

Q1-17 DR25 TCE Parameters

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010975238-04	OBS	No	437.904554	189.728910	1480.5	3.597	15.1	7.6	0.49	3794	1.87	0.06
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Robovetter Results

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010975238-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010975238-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
010975238-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010975238-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

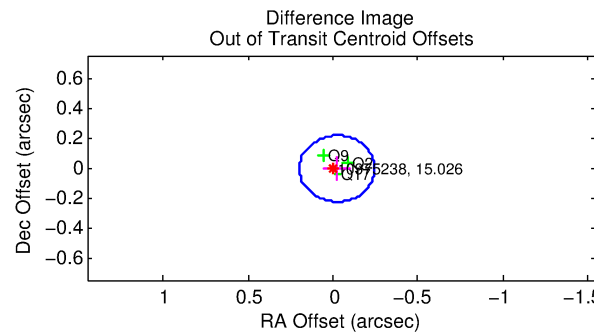
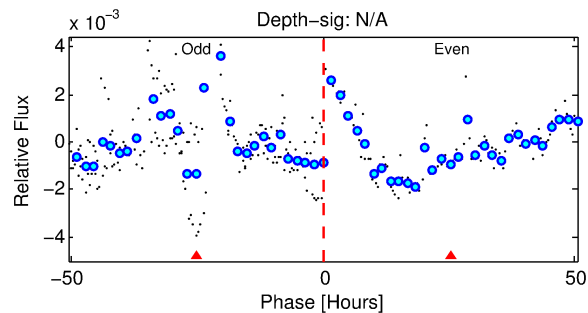
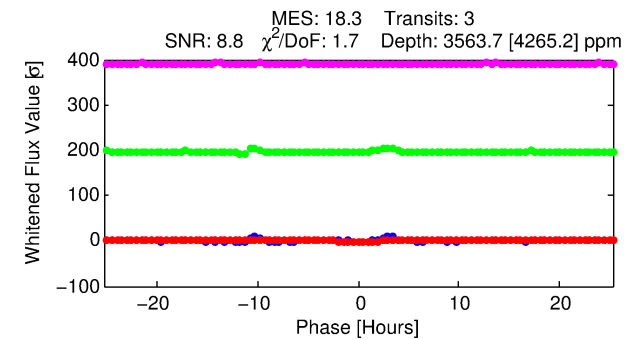
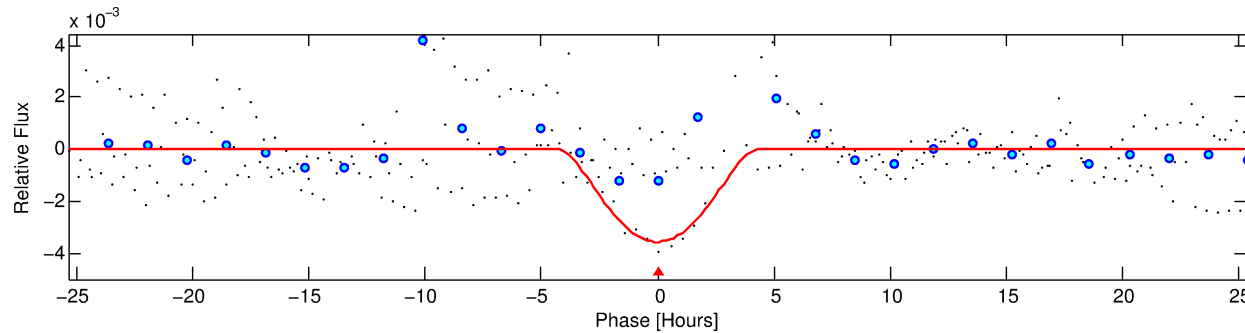
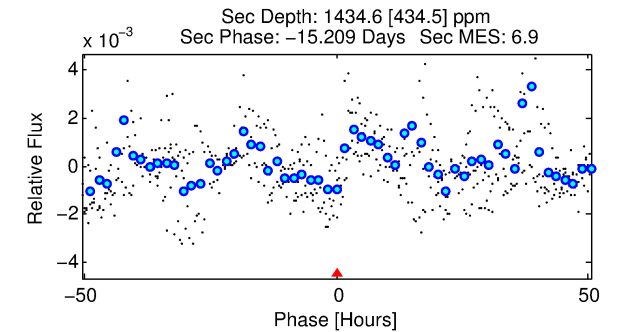
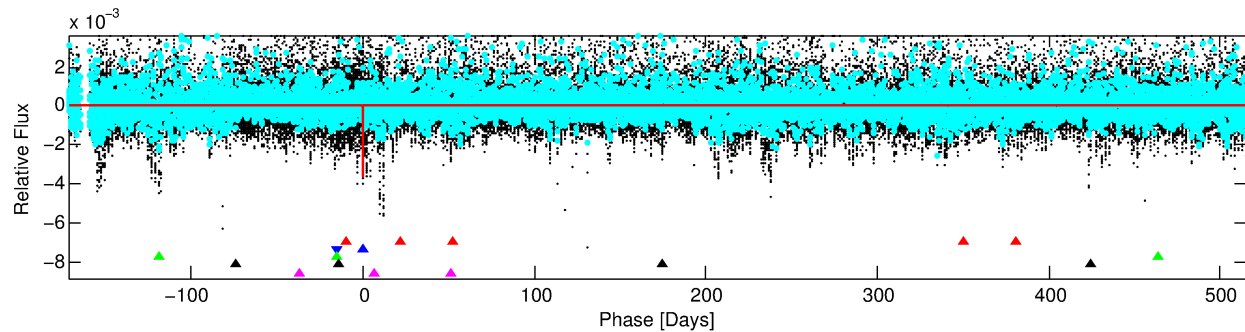
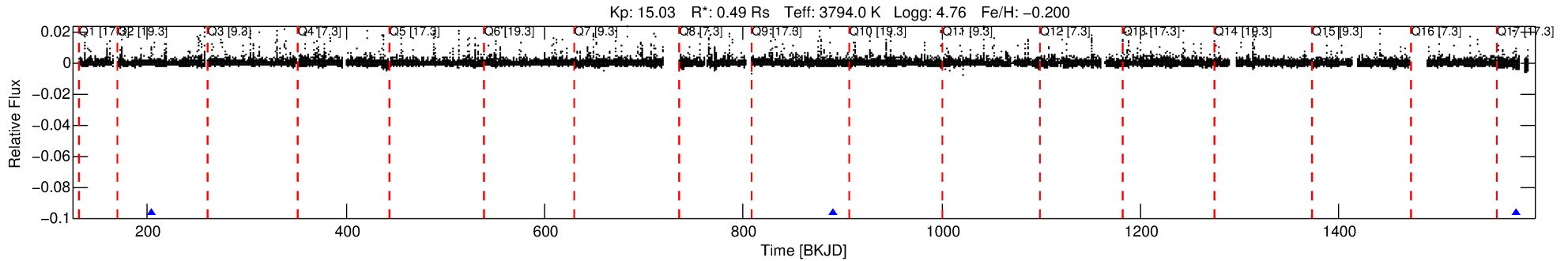
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010975238-02

No Significant Match Found

DV One-Page Summary

KIC: 10975238 Candidate: 2 of 5 Period: 687.091 d



DV Fit Results:

Period = 687.09060 [0.01385] d
Epoch = 203.4937 [0.0173] BKJD
Rp/R* = 0.1027 [0.3267]
a/R* = 288.65 [175.61]
b = 1.00 [0.38]
Seff = 0.03 [0.00]
Teff = 106 [3] K
Rp = 5.48 [17.44] Re
a = 1.2085 [0.0723] AU
Ag = 38392.41 [244571.72] [0.16 σ]
Teffp = 2304 [3670] K [0.60 σ]

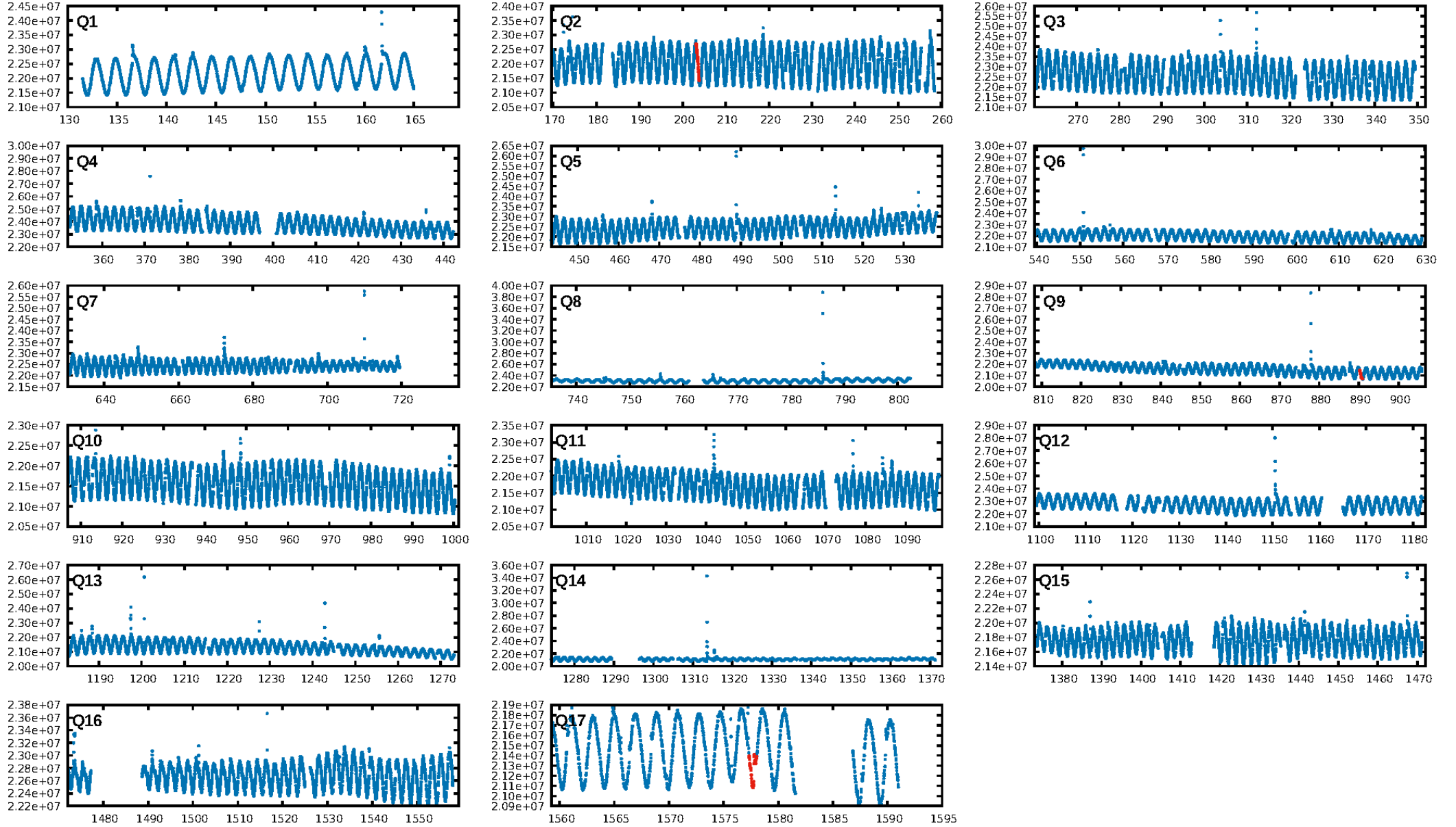
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [110.98 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 18.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.4351
Centroid-sig: 72.6%
Centroid-so: 0.283 arcsec [0.90 σ]
OotOffset-rm: 0.024 arcsec [0.32 σ]
KicOffset-rm: 0.119 arcsec [1.49 σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

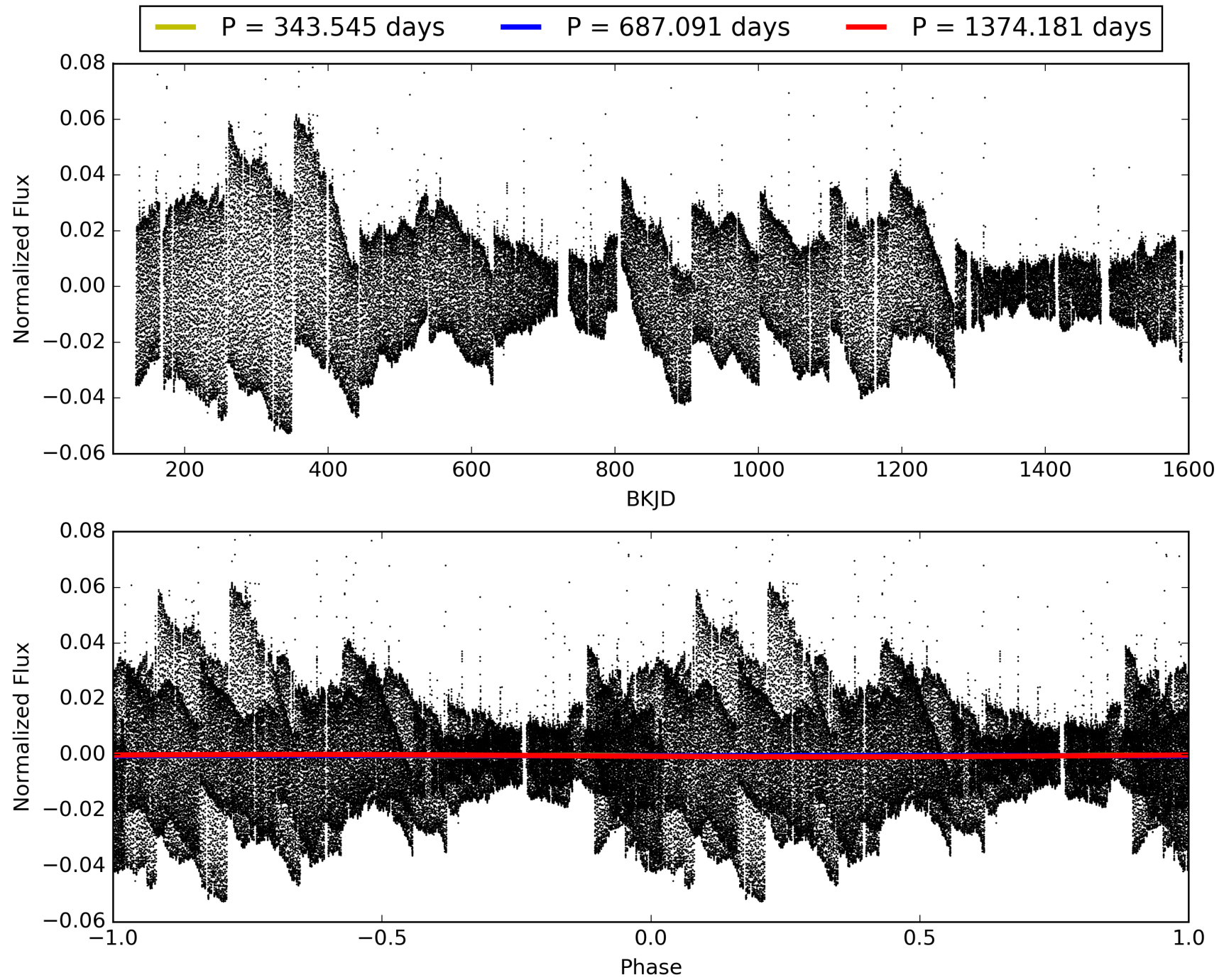
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:10:20 Z

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

TCE 010975238-02, PDC Light Curves

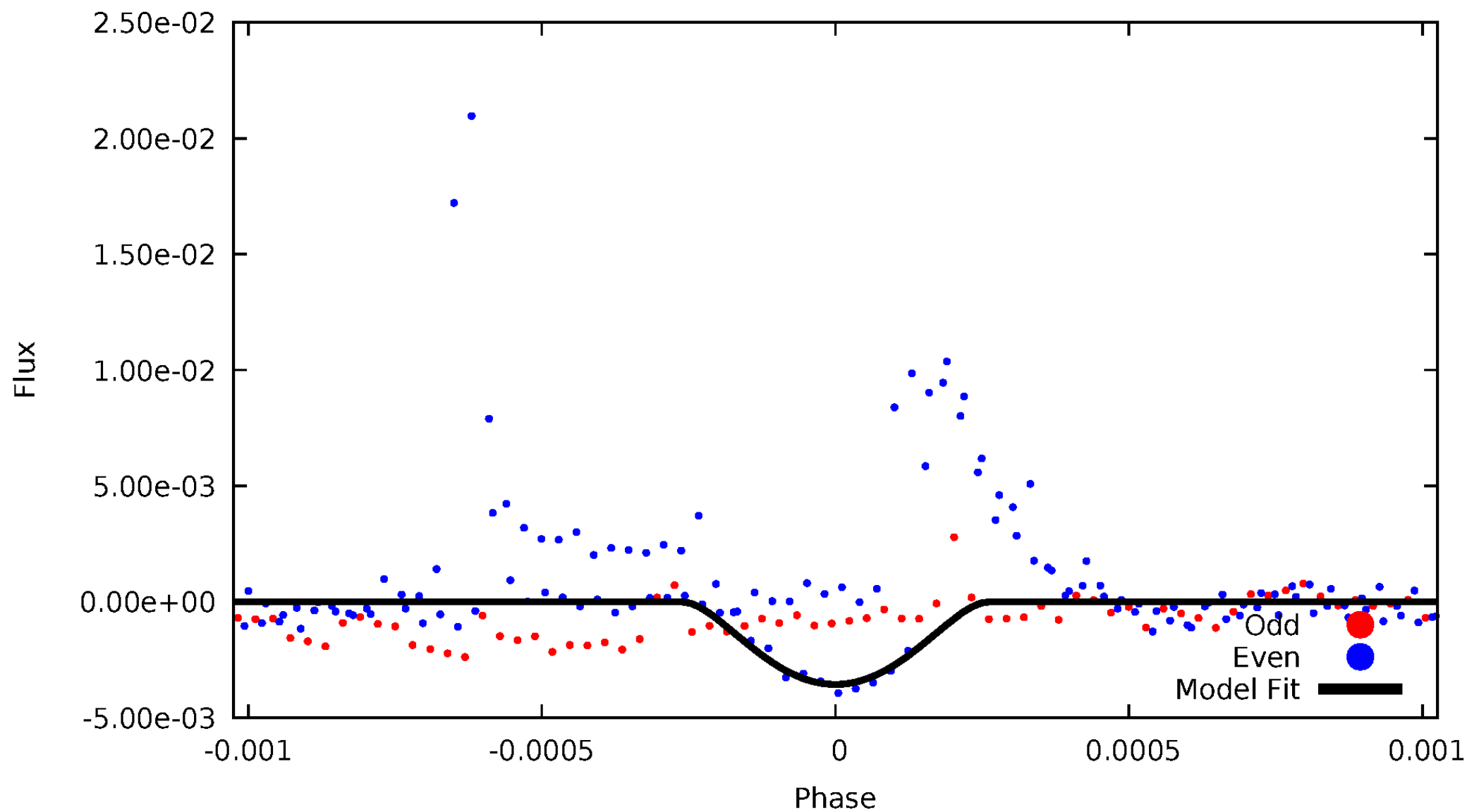


TCE 010975238-02



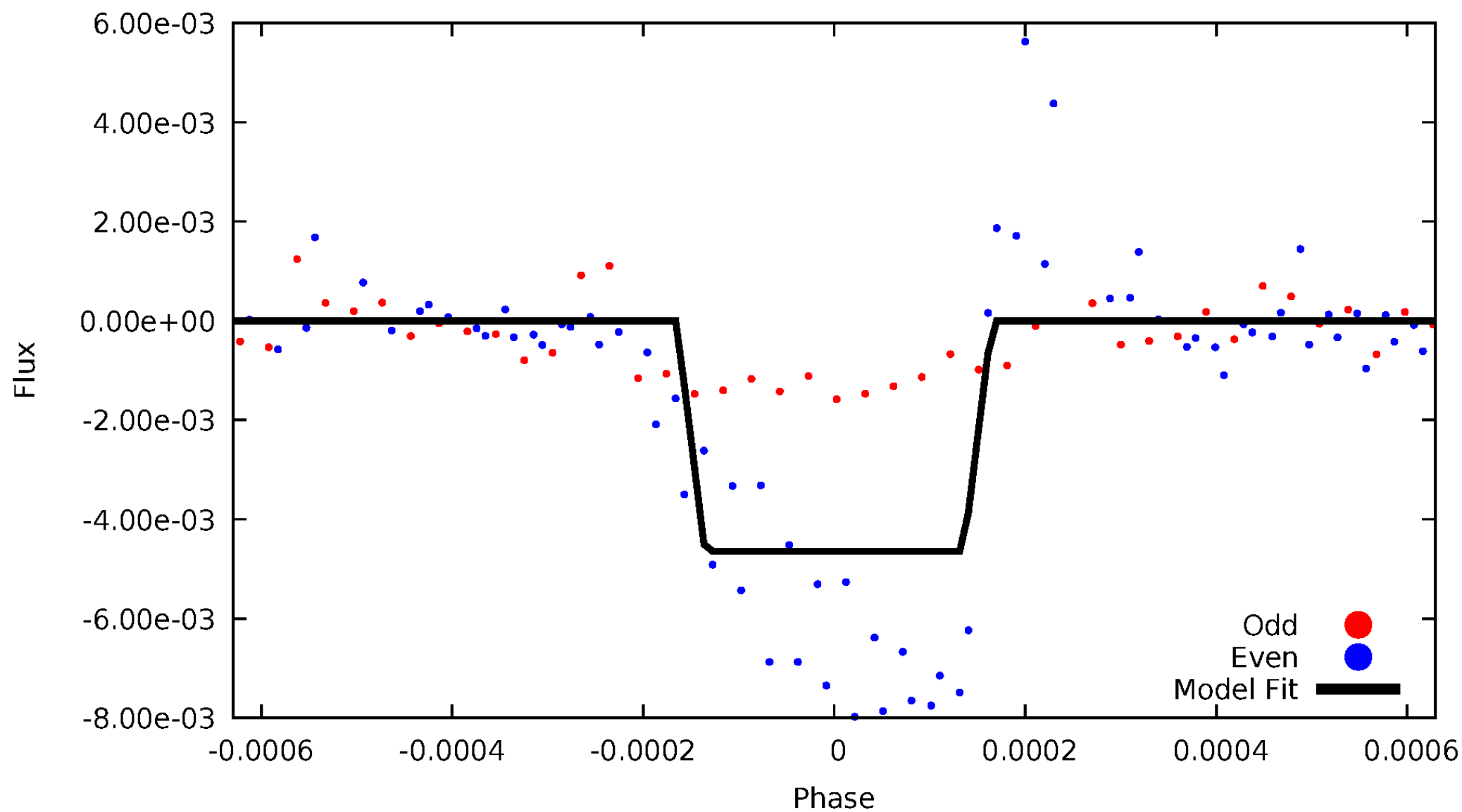
DV Odd/Even

TCE 010975238-02



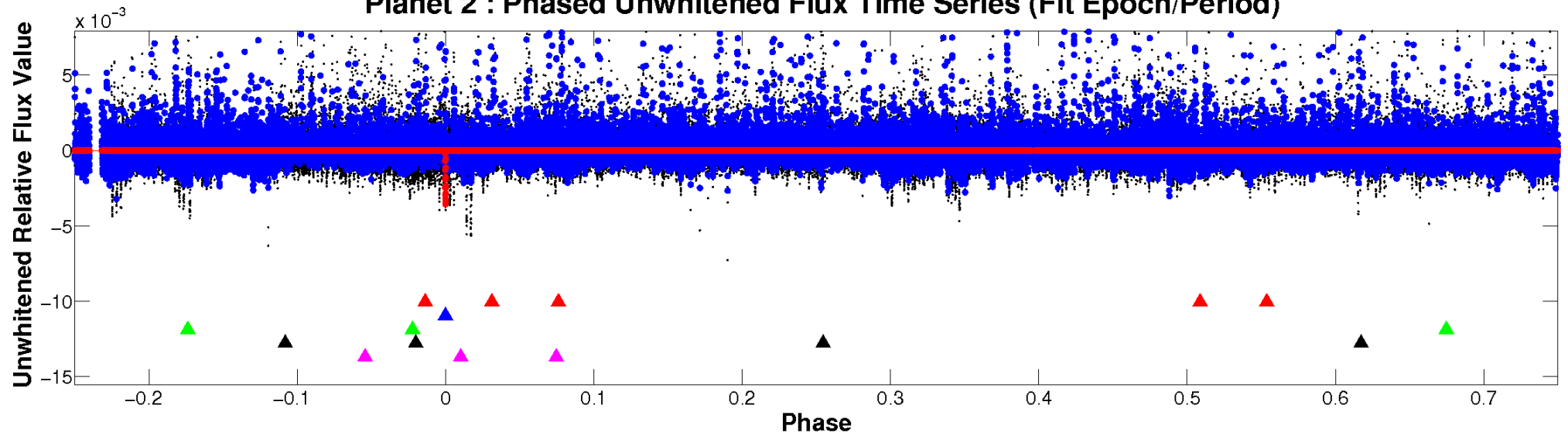
ALT Odd/Even

TCE 010975238-02

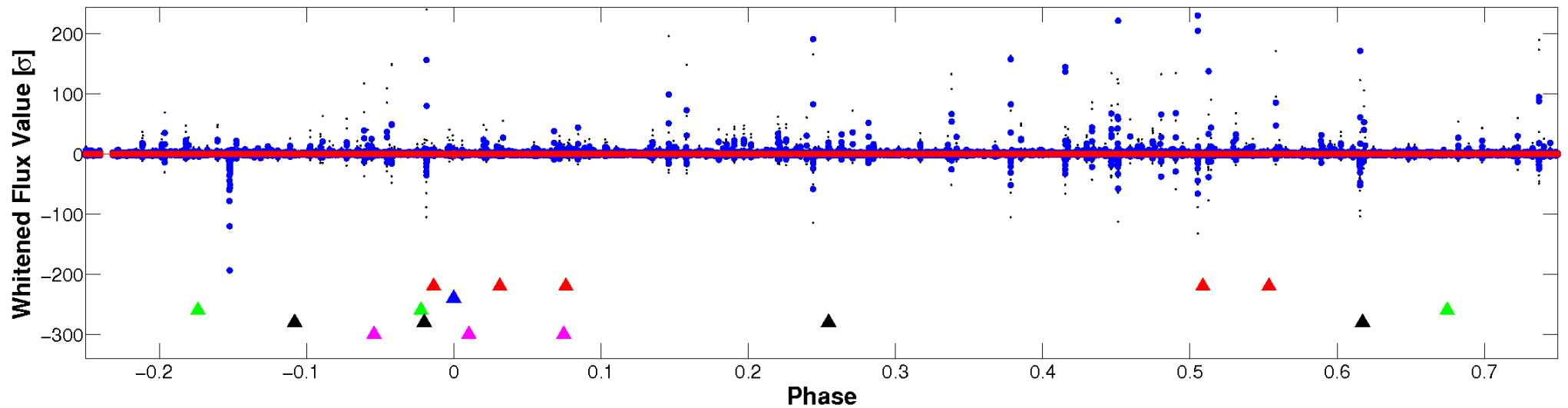


Non-Whitened Vs. Whitened Light Curve

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

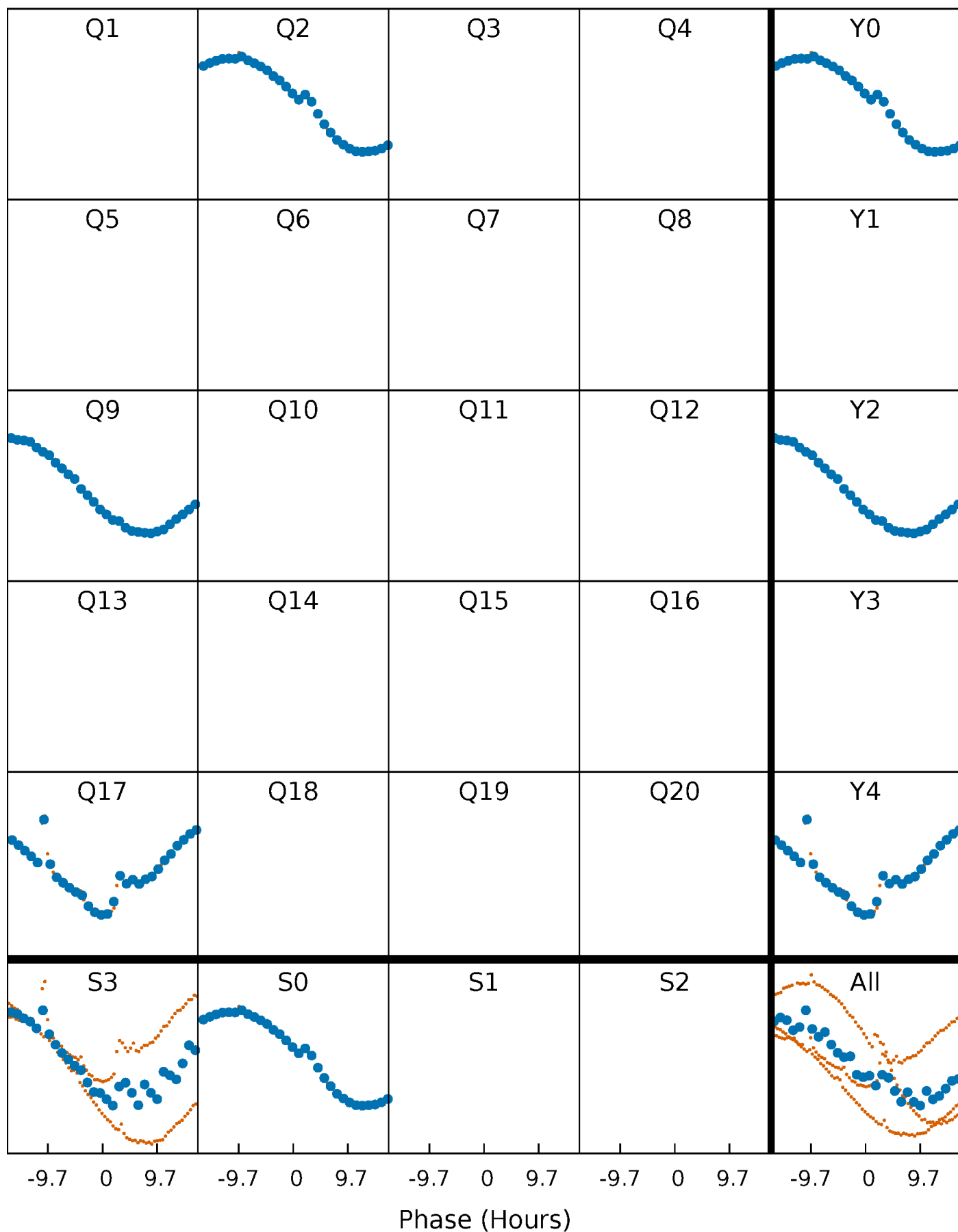


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



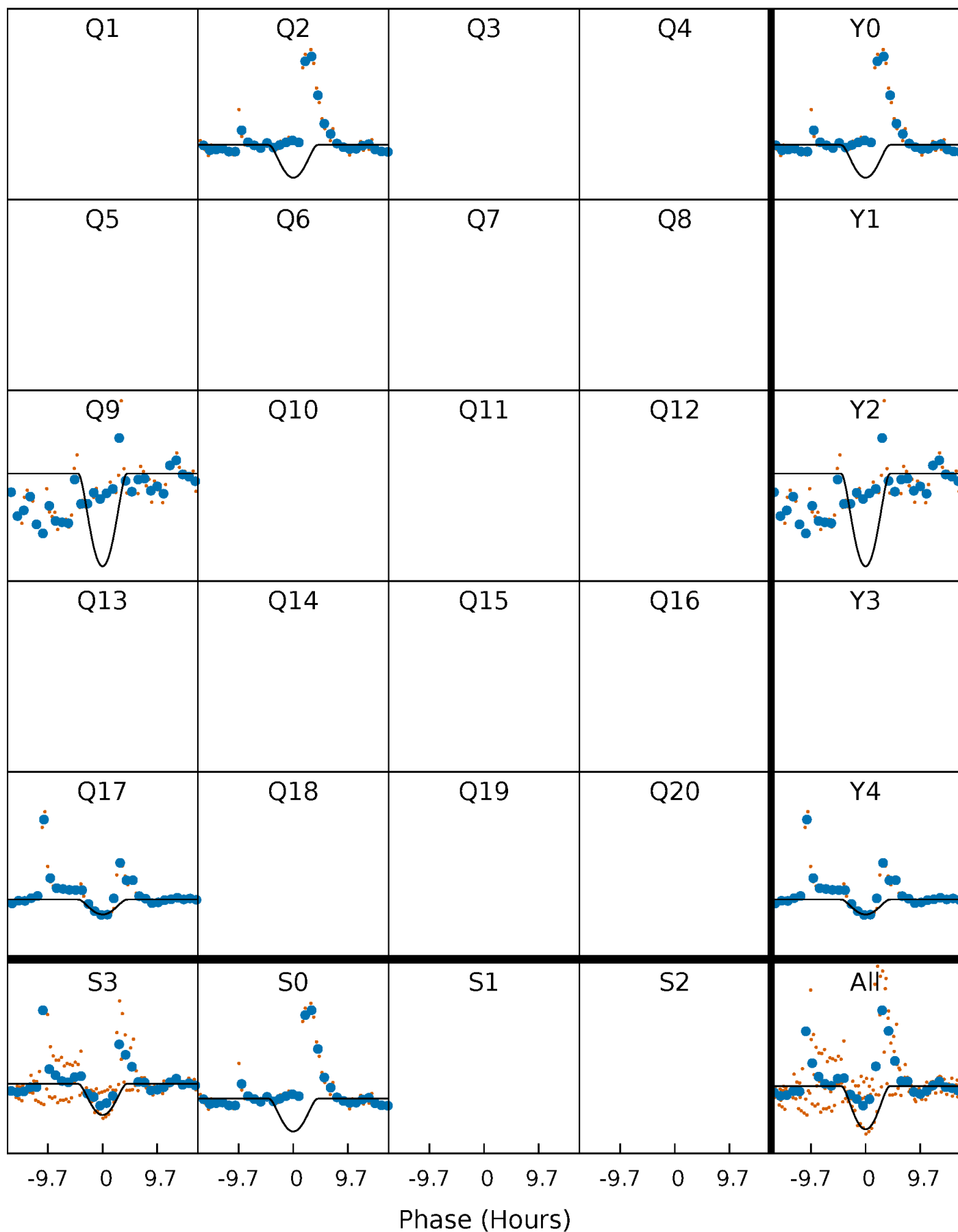
PDC Quarter-Phased Transit Curves

TCE 010975238-02 P=687.090596 Days $T_0=203.493676$ (BKJD)



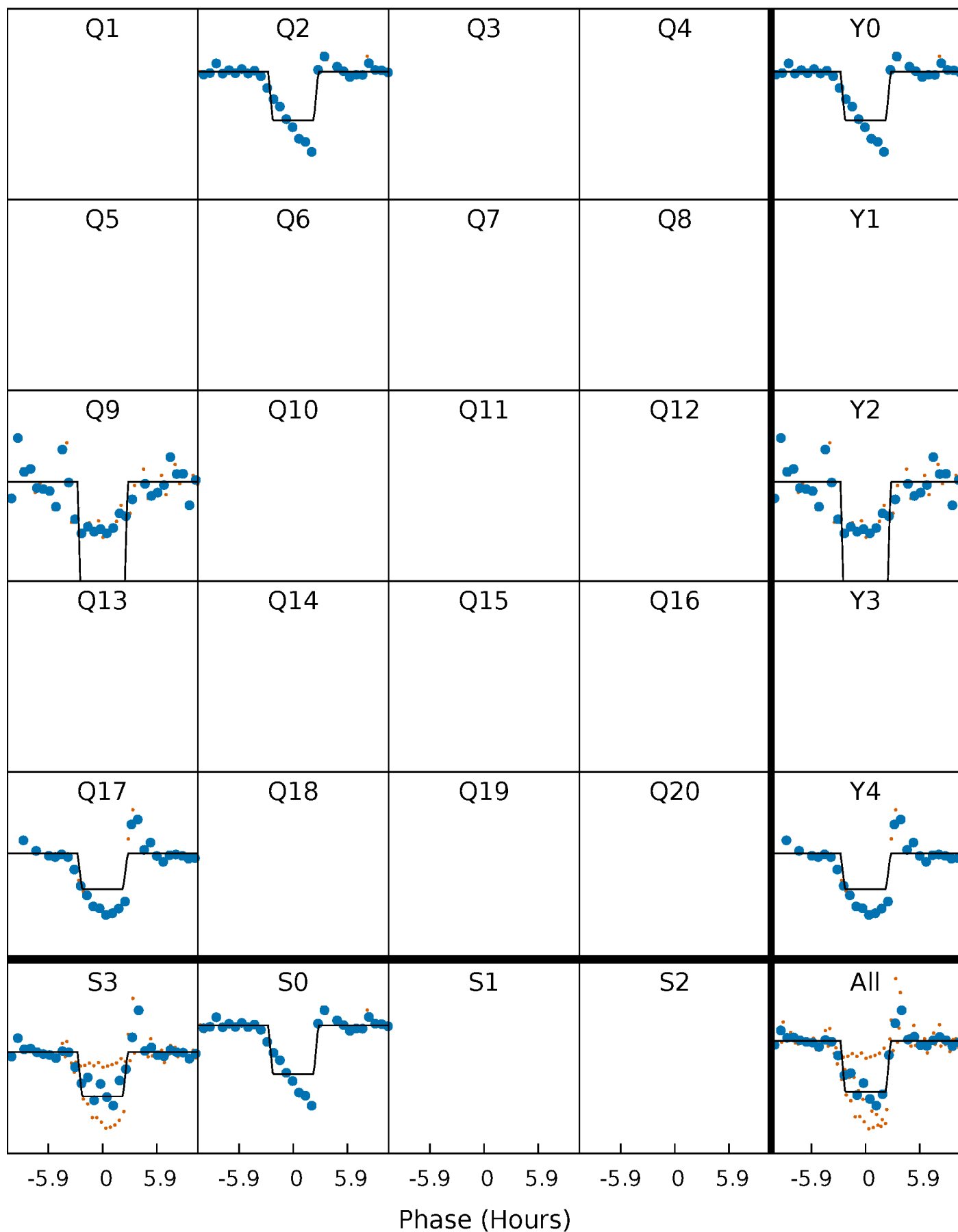
DV Quarter-Phased Transit Curves

TCE 010975238-02 $P=687.090596$ Days $T_0=203.493676$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

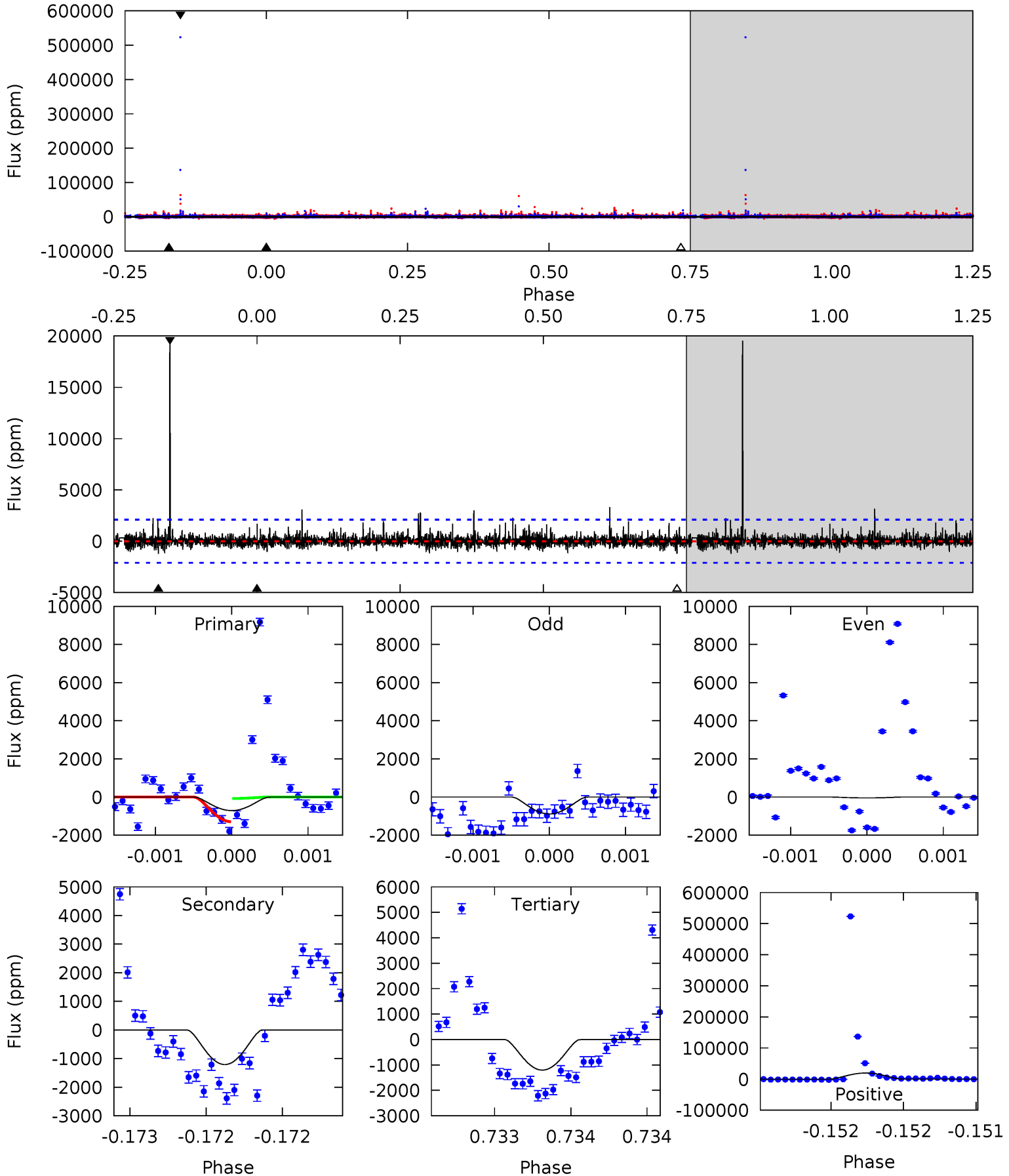
TCE 010975238-02 $P=687.105700$ Days $T_0=203.452020$ (BKJD)



DV Model-Shift Uniqueness Test

010975238-02, P = 687.090596 Days, E = 203.493676 Days

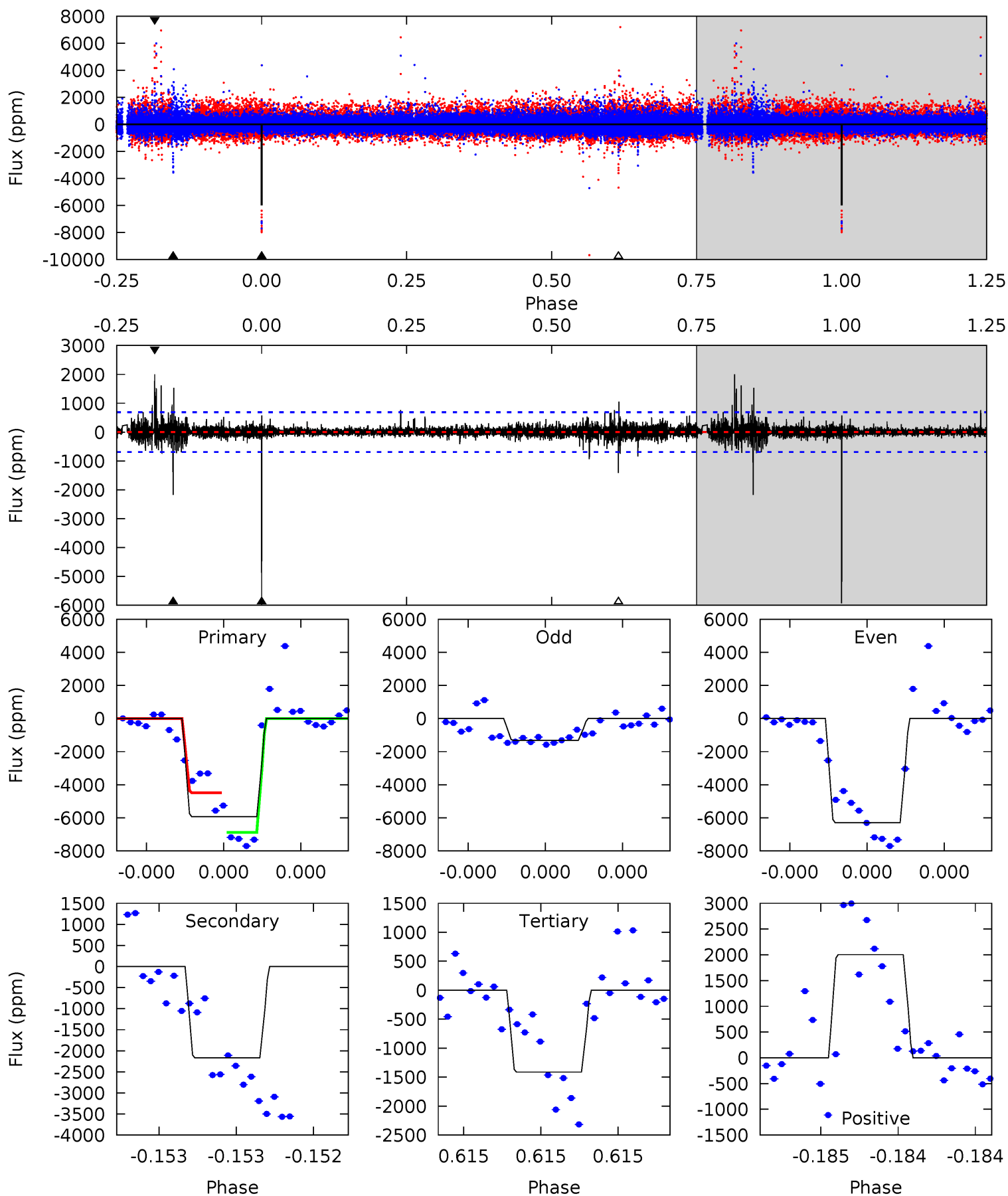
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.89	3.21	3.19	51.8	5.56	3.47	1.41	-1.30	-49.9	0.02	-48.6	0.68	0.12	0.94	1.68



Alt Model-Shift Uniqueness Test

010975238-02, P = 687.105700 Days, E = 203.452020 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.6	17.8	11.6	16.4	5.66	3.61	1.04	37.0	32.2	6.19	1.35	21.6	0.86	0.25	10.0



Stellar Parameters For KIC 010975238

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3794^{+68}_{-76}	$4.757^{+0.039}_{-0.024}$	$-0.200^{+0.100}_{-0.100}$	$0.489^{+0.027}_{-0.038}$	$0.498^{+0.031}_{-0.031}$	$6.001^{+1.077}_{-0.625}$
	+2%/-2%	+1%/-1%	+50%/-50%	+6%/-8%	+6%/-6%	+18%/-10%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 010975238-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1208 ± 377	$14.23^{+13.61}_{-9.70}$	148^{+3}_{-3}	2171^{+717}_{-292}	4673^{+41603}_{-3546}
Alt.	-2168 ± 122	$13.27^{+13.71}_{-9.27}$	148^{+3}_{-4}	2380^{+863}_{-355}	10216^{+99365}_{-7853}

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

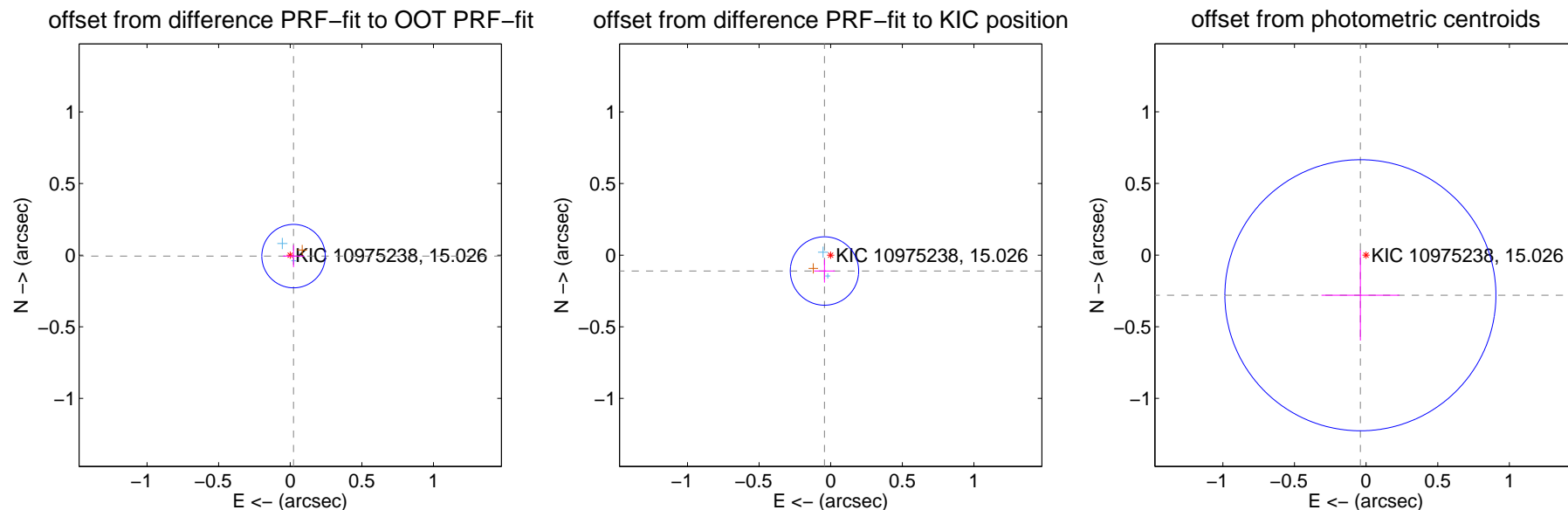
DV Centroid Data

Supplemental centroid analysis for 010975238-02. Kepler magnitude: 15.03. Transit SNR 8.79

There are 2 quarters with good PRF difference image offsets

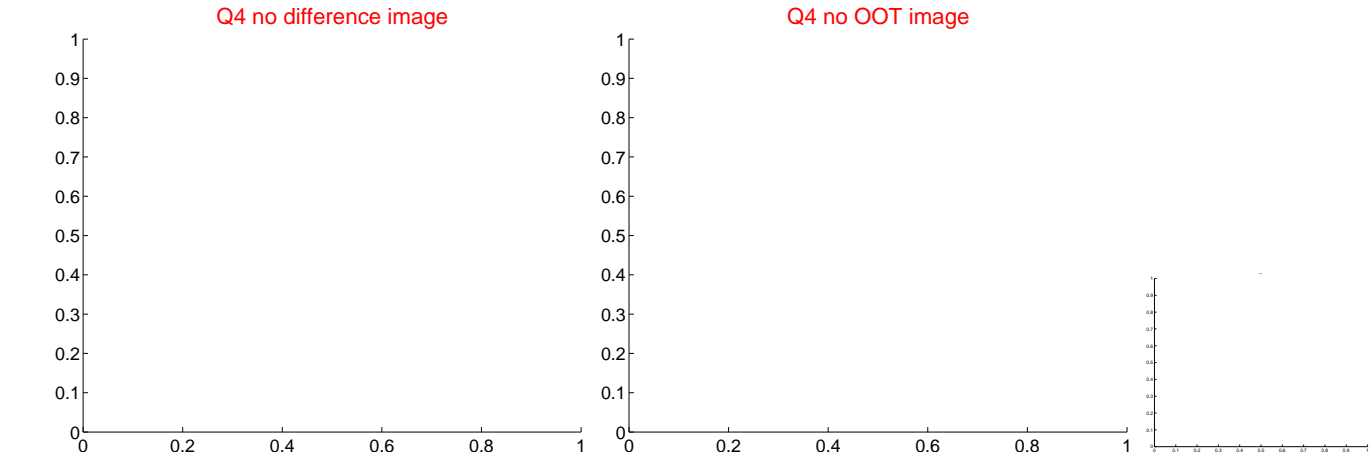
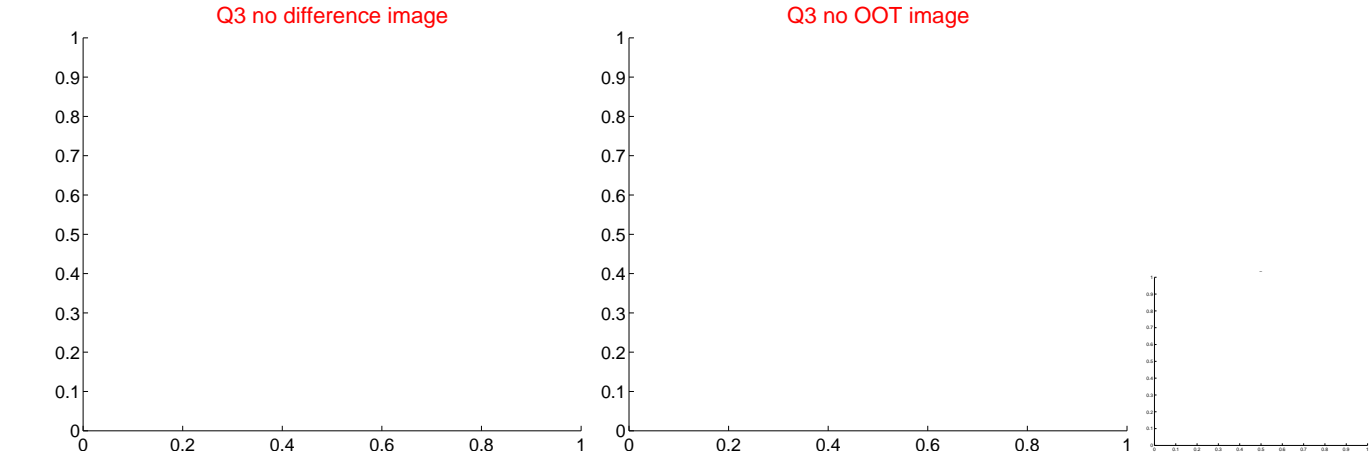
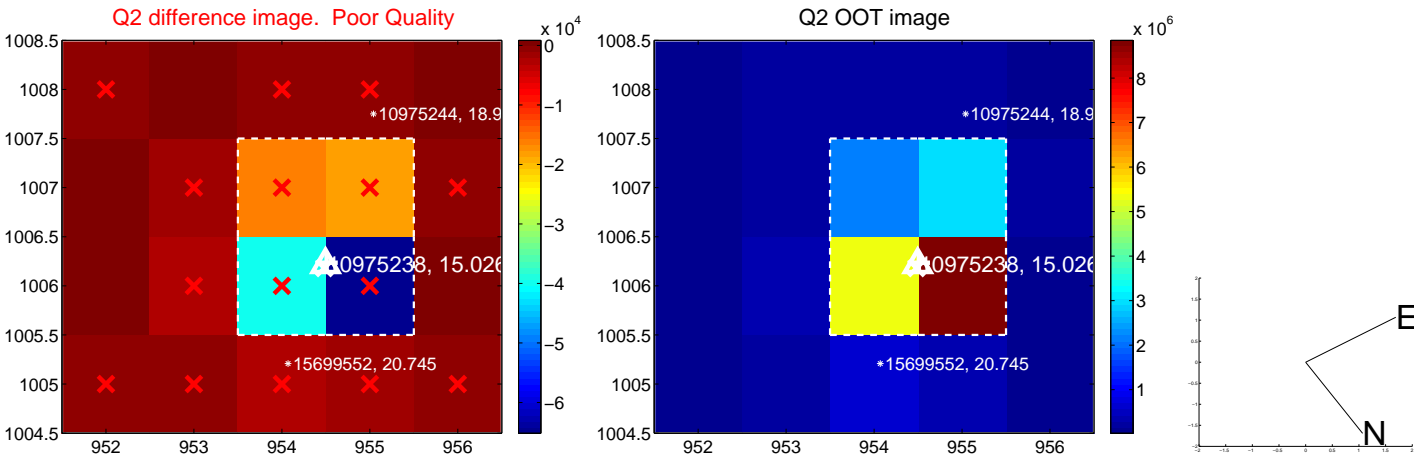
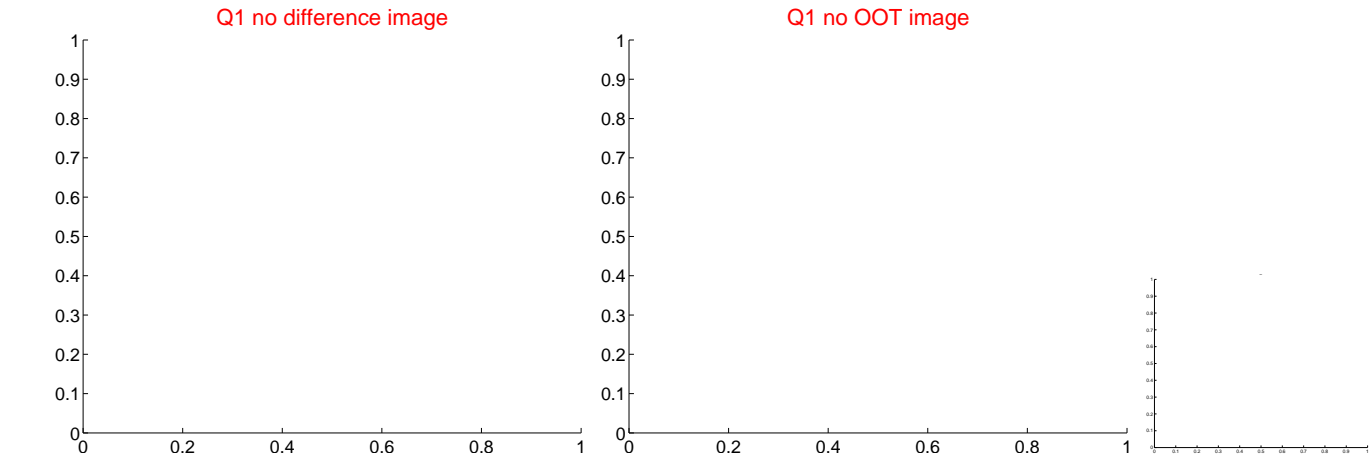
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.024 ± 0.074	0.32	-0.023 ± 0.074	-0.007 ± 0.077
PRF-fit source offset from KIC position	0.119 ± 0.080	1.49	0.044 ± 0.073	-0.111 ± 0.081
photometric centroid source offset	0.28 ± 0.32	0.90	0.04 ± 0.27	-0.28 ± 0.32



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

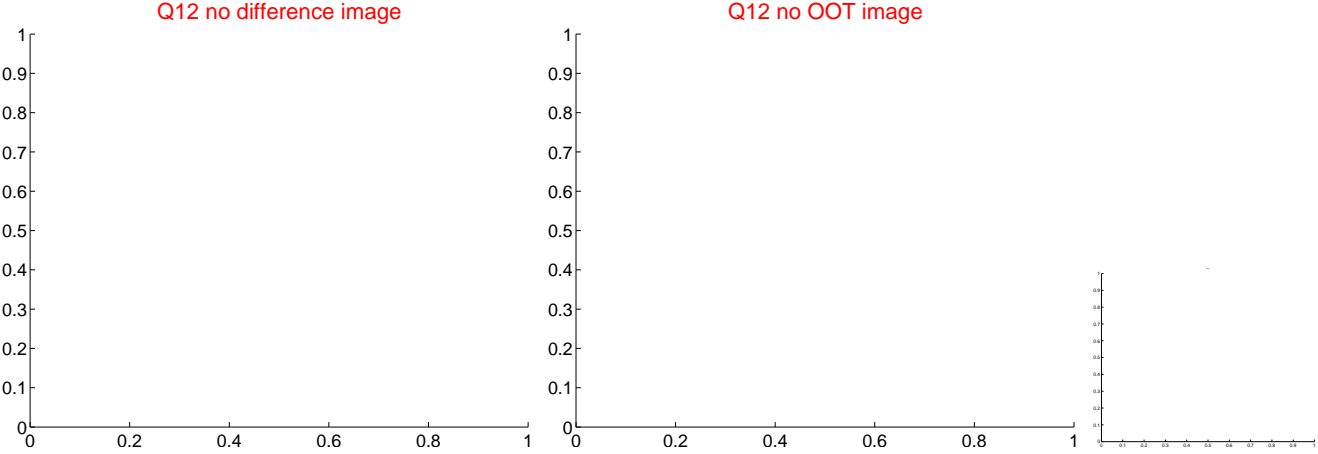
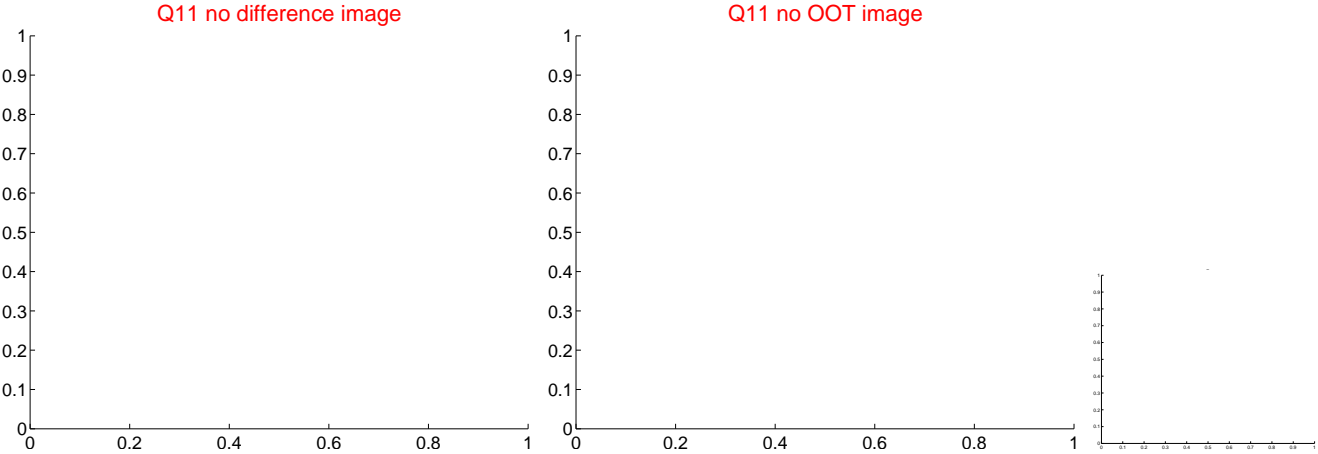
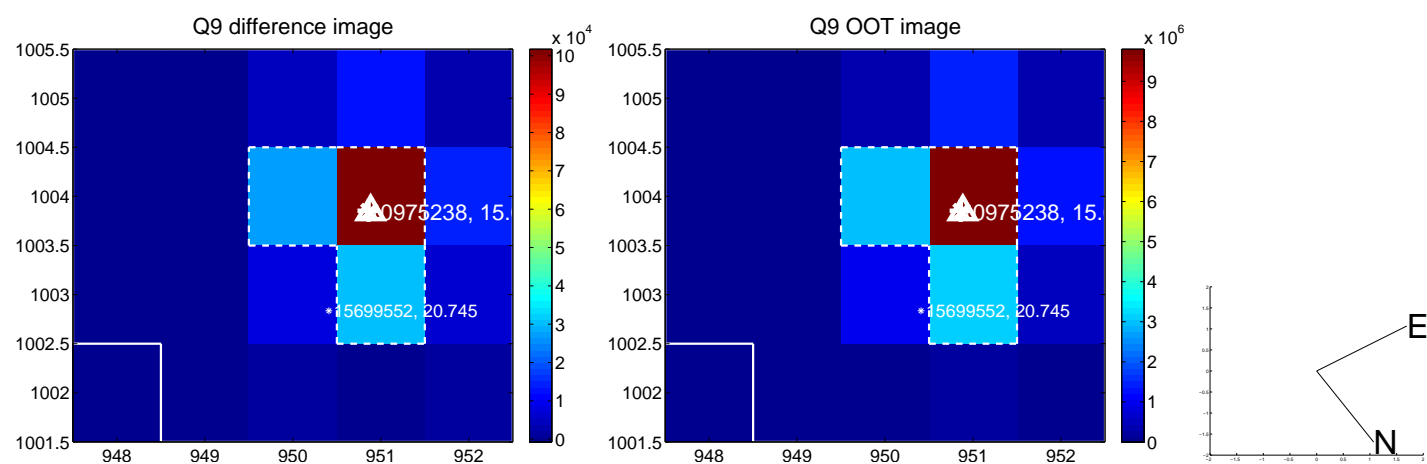
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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

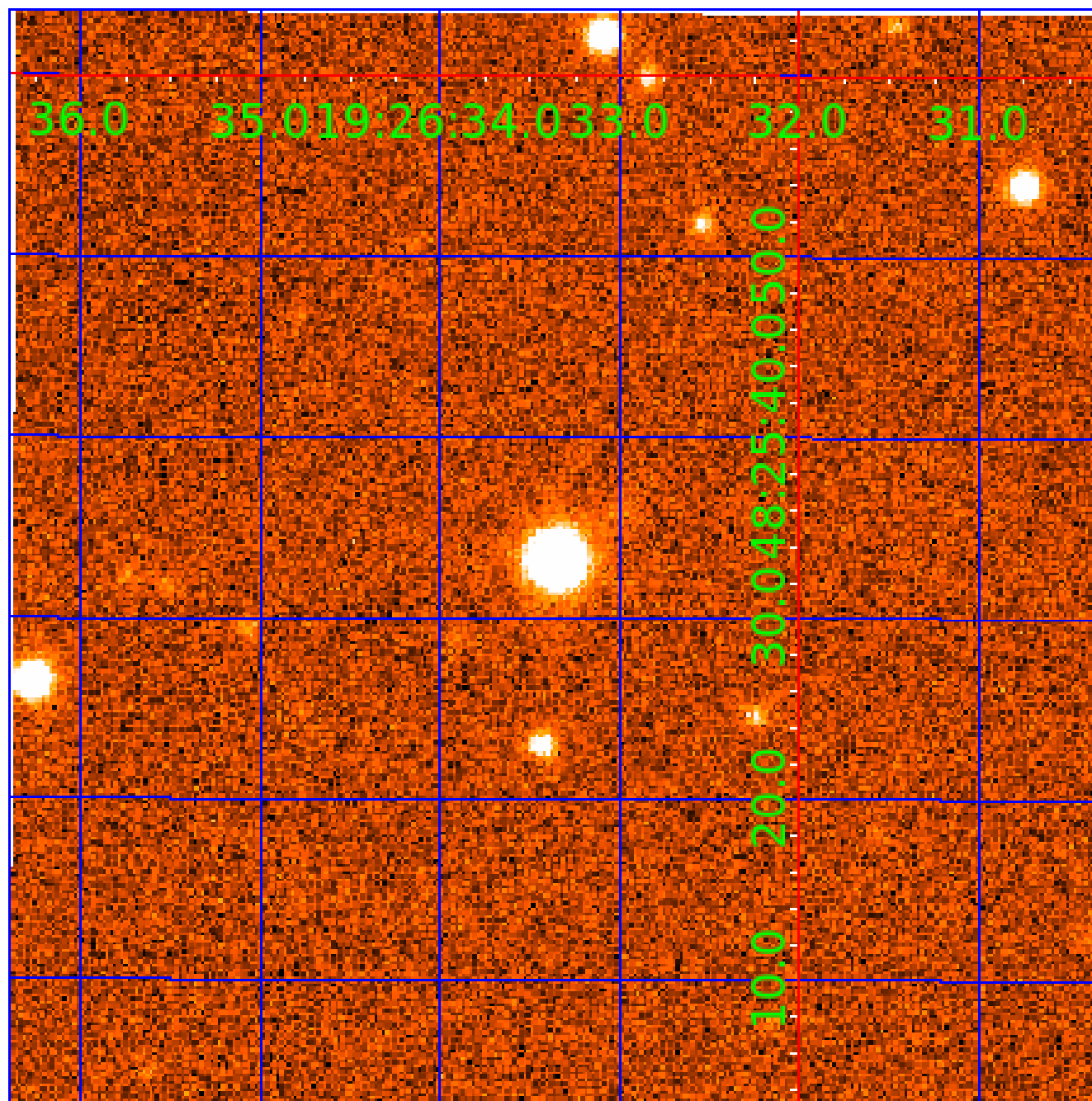


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010975238

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})
010975238-01	OBS	No	328.113997	255.833338	1182.4	5.332	14.8	4.9	0.49	3794	1.90	0.08
010975238-02	OBS	No	687.090596	203.493676	3563.7	8.450	18.3	8.8	0.49	3794	5.48	0.03
010975238-03	OBS	No	582.994076	188.225536	757.8	2.224	12.5	3.1	0.49	3794	1.50	0.04
010975238-04	OBS	No	437.904554	189.728910	1480.5	3.597	15.1	7.6	0.49	3794	1.87	0.06
010975238-05	OBS	No	642.819364	254.820717	1188.4	4.500	11.9	-1.0	0.49	3794	1.68	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010975238-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS
010975238-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010975238-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
010975238-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010975238-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

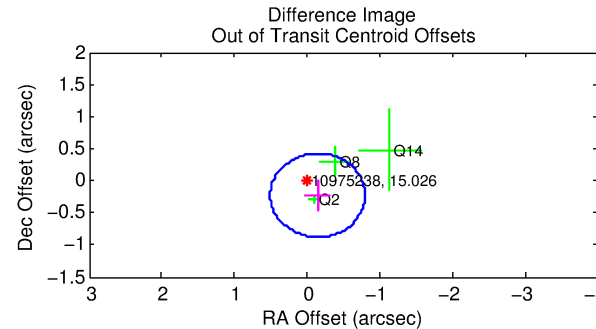
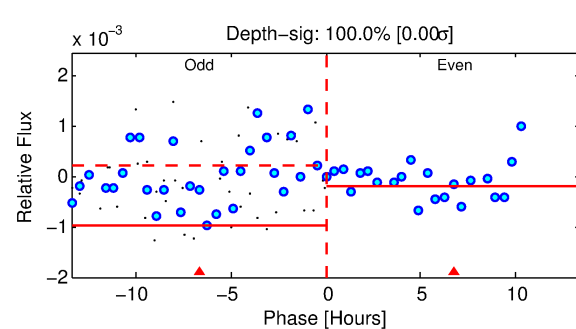
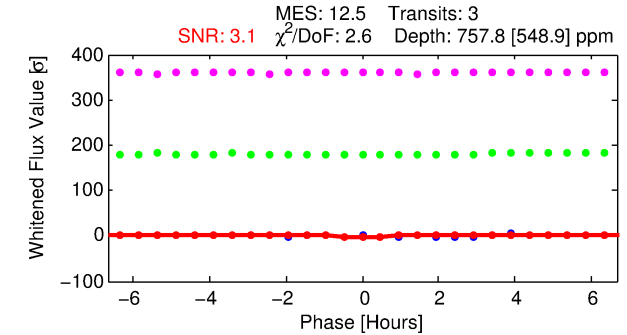
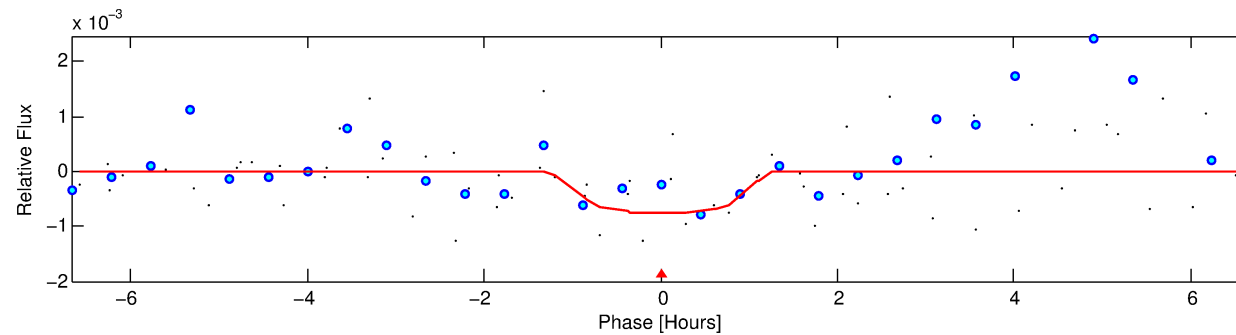
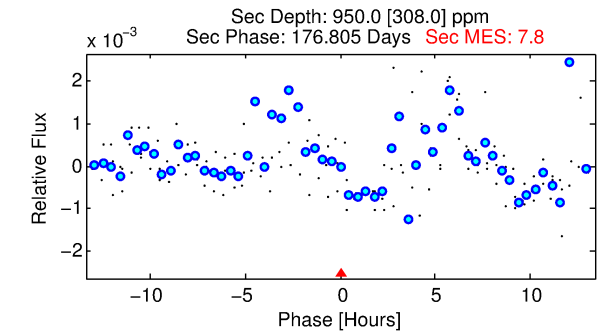
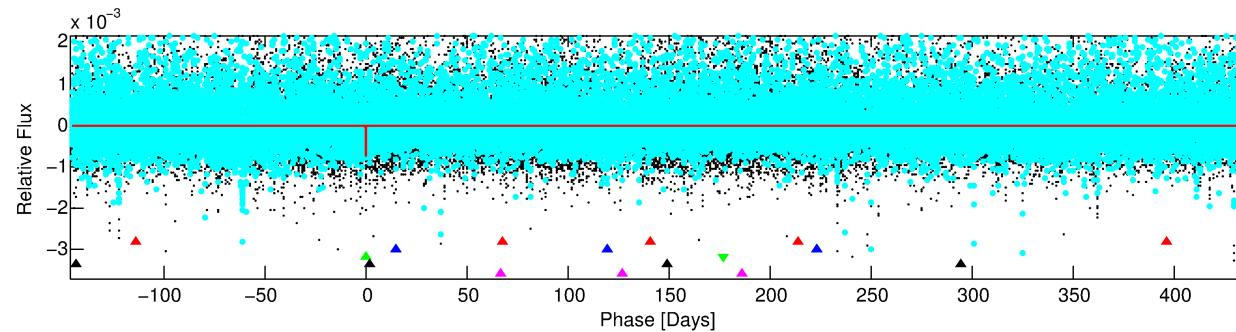
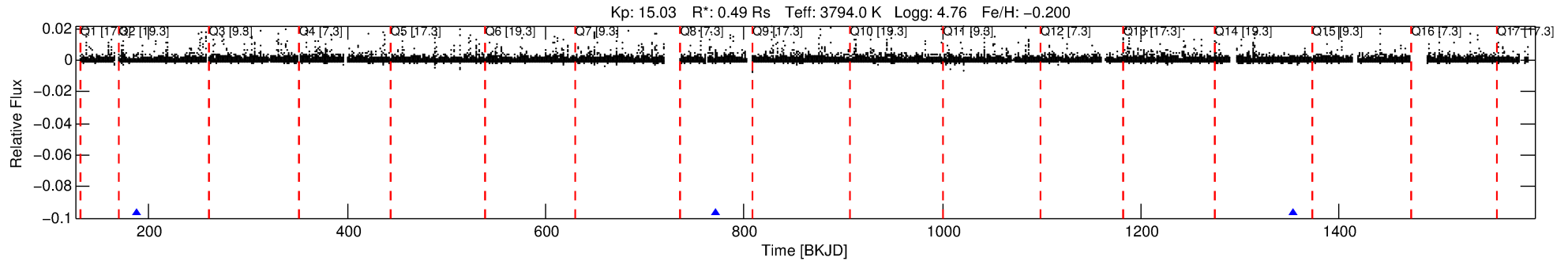
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010975238-03

No Significant Match Found

DV One-Page Summary

KIC: 10975238 Candidate: 3 of 5 Period: 582.994 d



DV Fit Results:

Period = 582.99408 [0.02193] d
Epoch = 188.2255 [0.0239] BKJD
Rp/R* = 0.0282 [0.0792]
a/R* = 1264.83 [15854.94]
b = 0.81 [5.32]
Seff = 0.04 [0.00]
Teq = 112 [3] K
Rp = 1.50 [4.23] Re
a = 1.0831 [0.0648] AU
Ag = 271440.36 [1529012.53] [0.18 σ]
Teffp = 3969 [5589] K [0.69 σ]

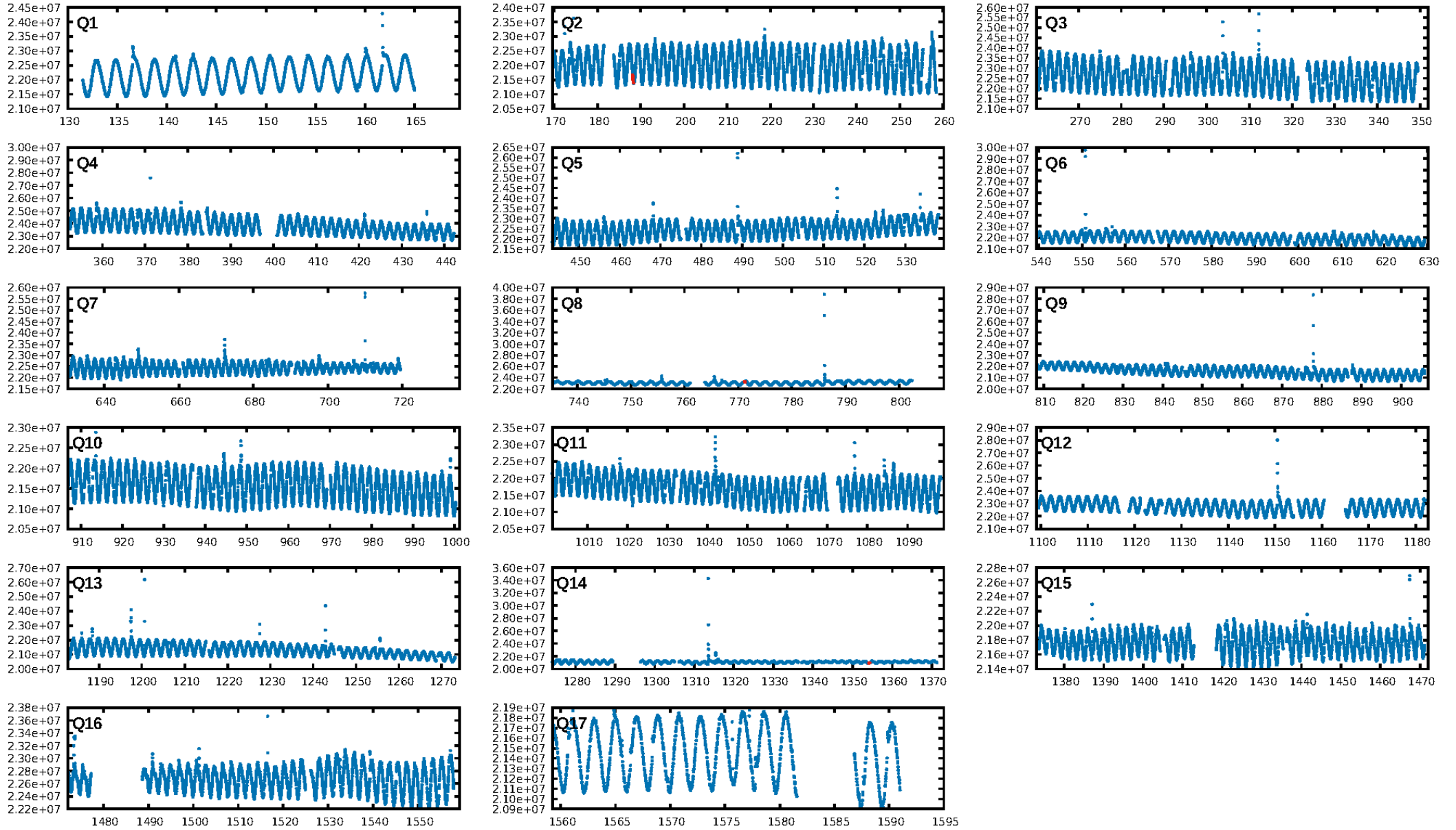
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [823.36 σ]
LongPeriod-sig: 100.0% [286.04 σ]
ModelChiSquare2-sig: 19.5%
ModelChiSquareGof-sig: 92.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.4304
Centroid-sig: 75.6%
Centroid-so: 0.909 arcsec [0.45 σ]
OotOffset-rm: 0.269 arcsec [1.24 σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-rm: 0.348 arcsec [1.51 σ]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

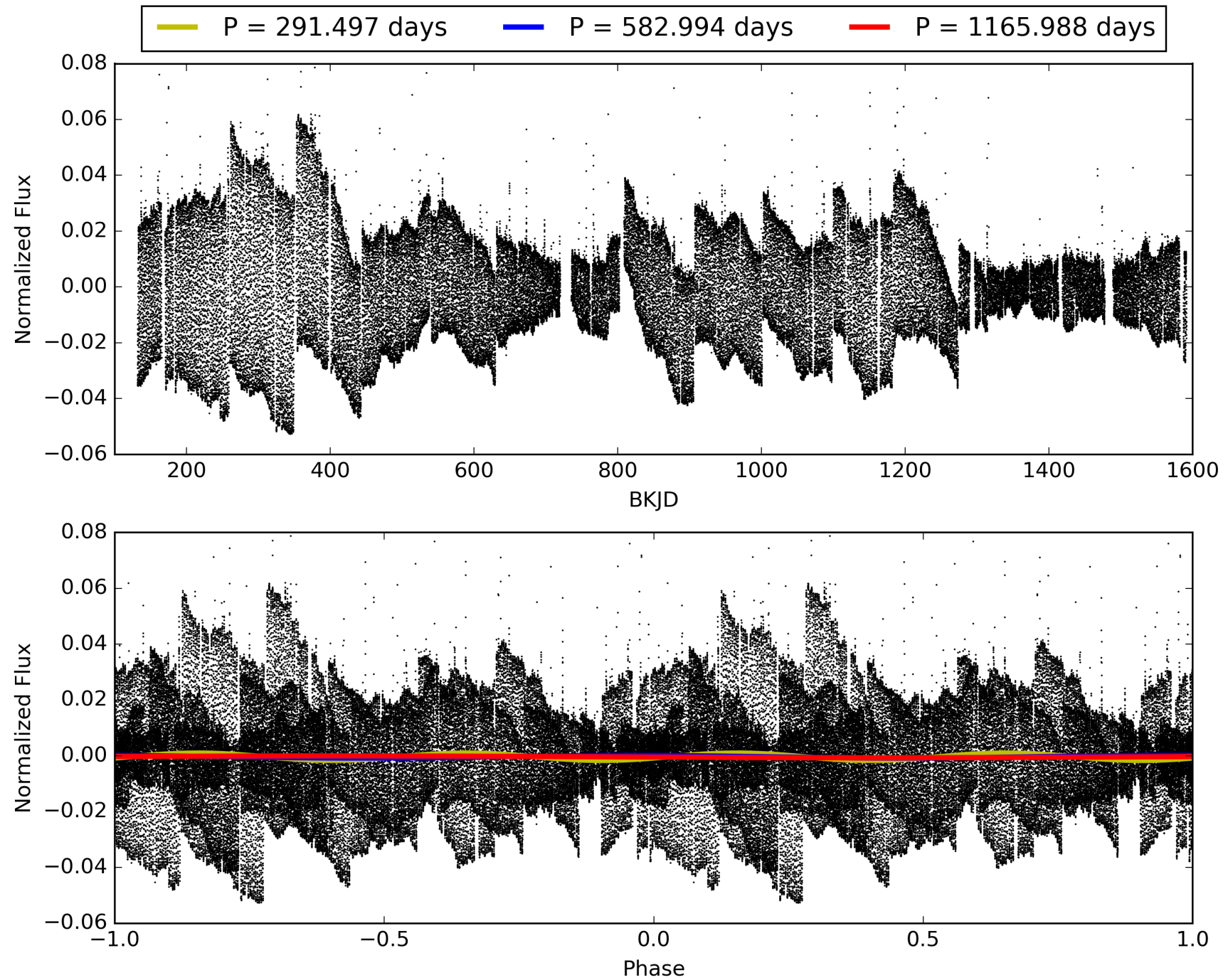
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:10:51 Z

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

TCE 010975238-03, PDC Light Curves

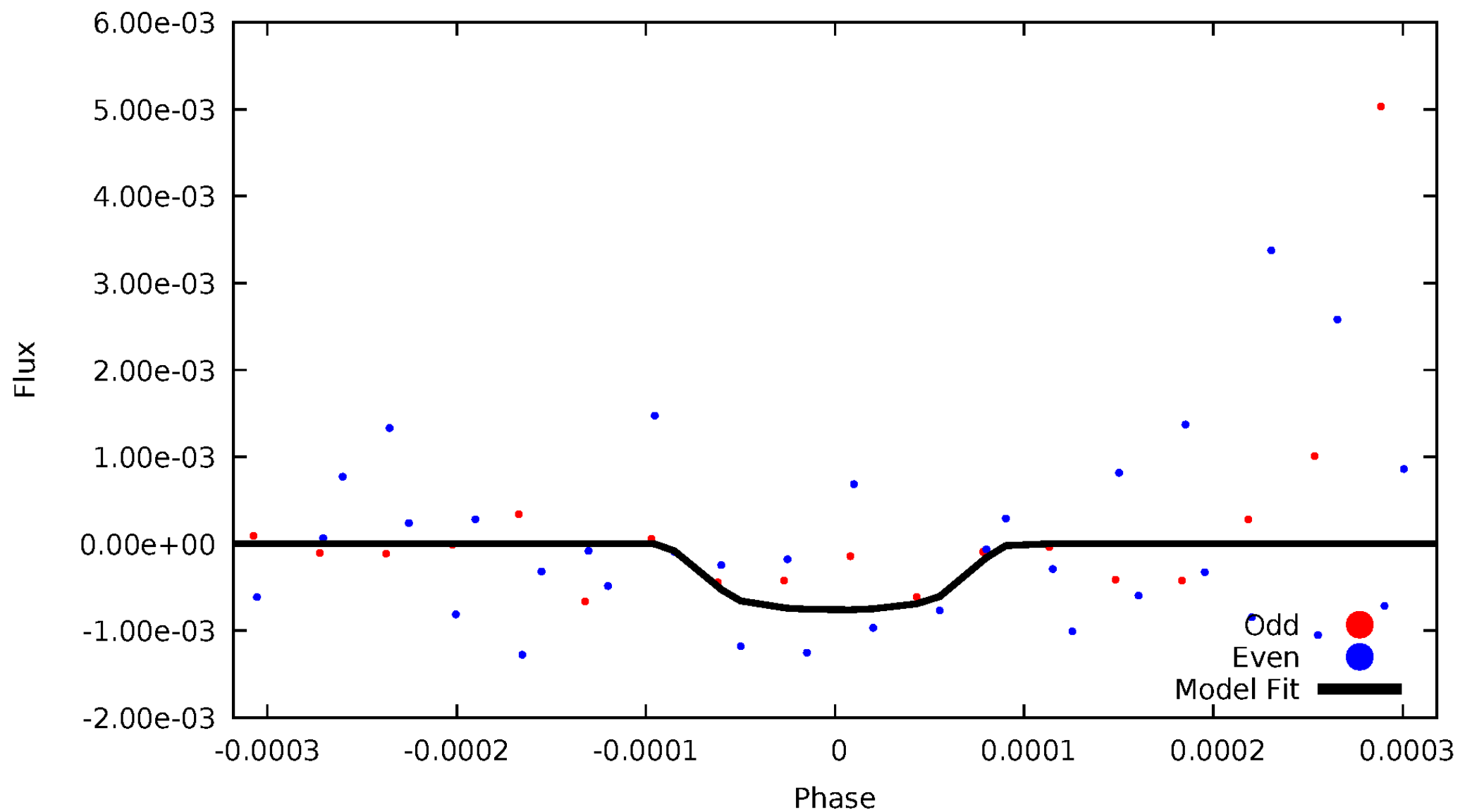


TCE 010975238-03



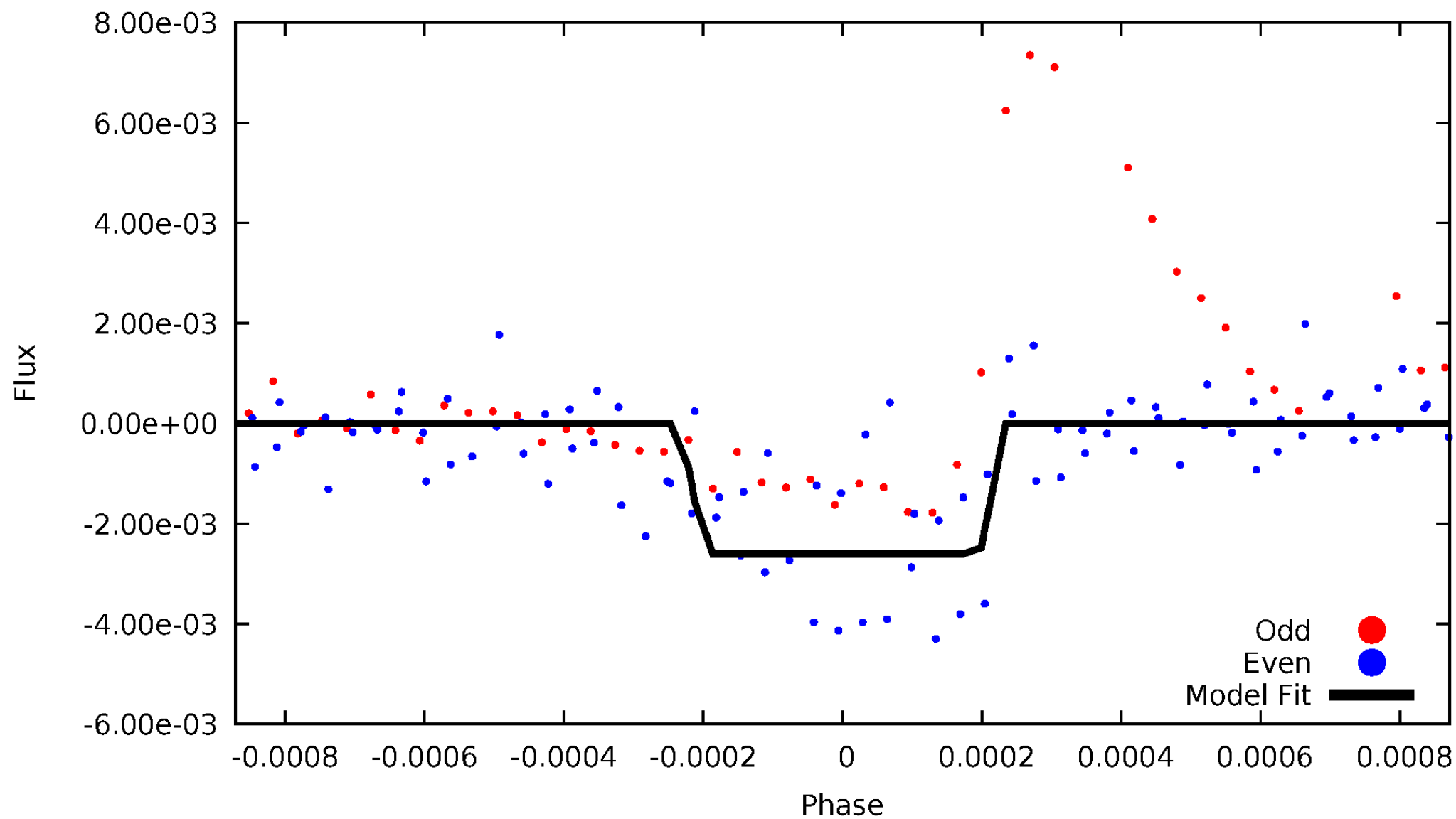
DV Odd/Even

TCE 010975238-03



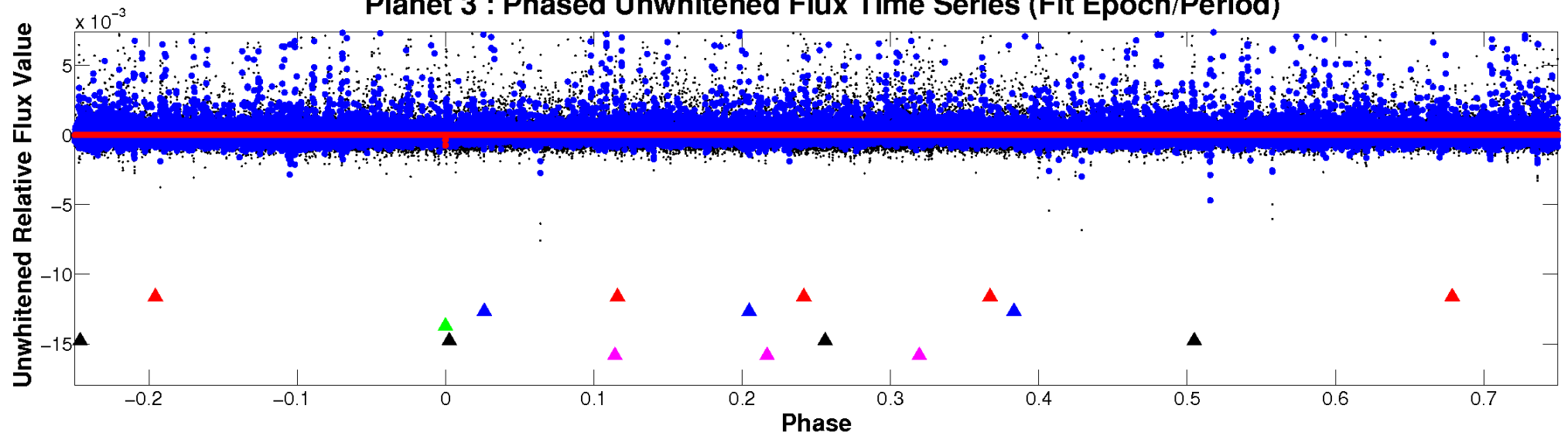
ALT Odd/Even

TCE 010975238-03

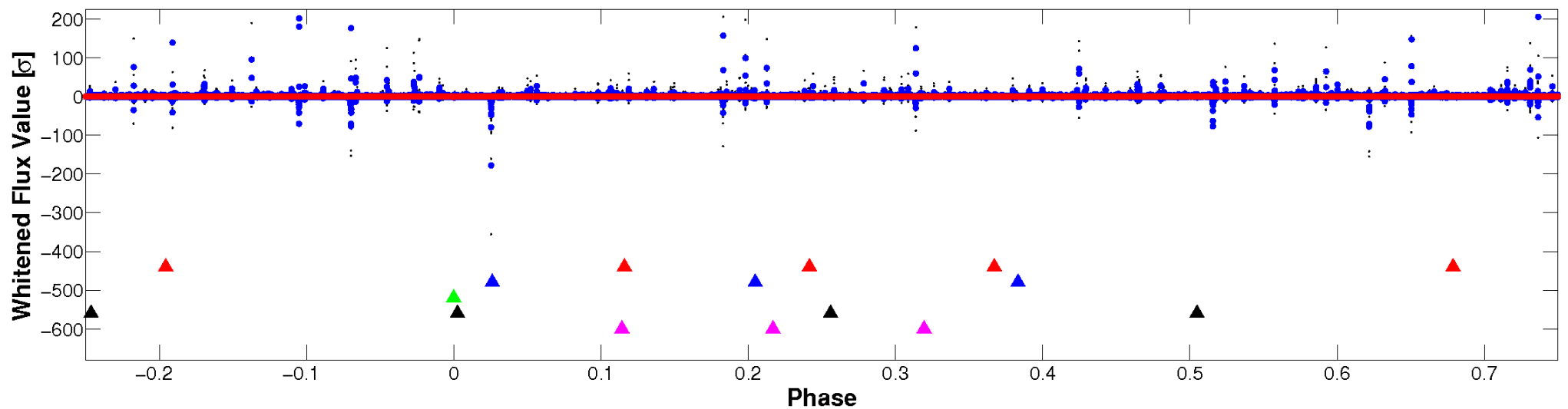


Non-Whitened Vs. Whitened Light Curve

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

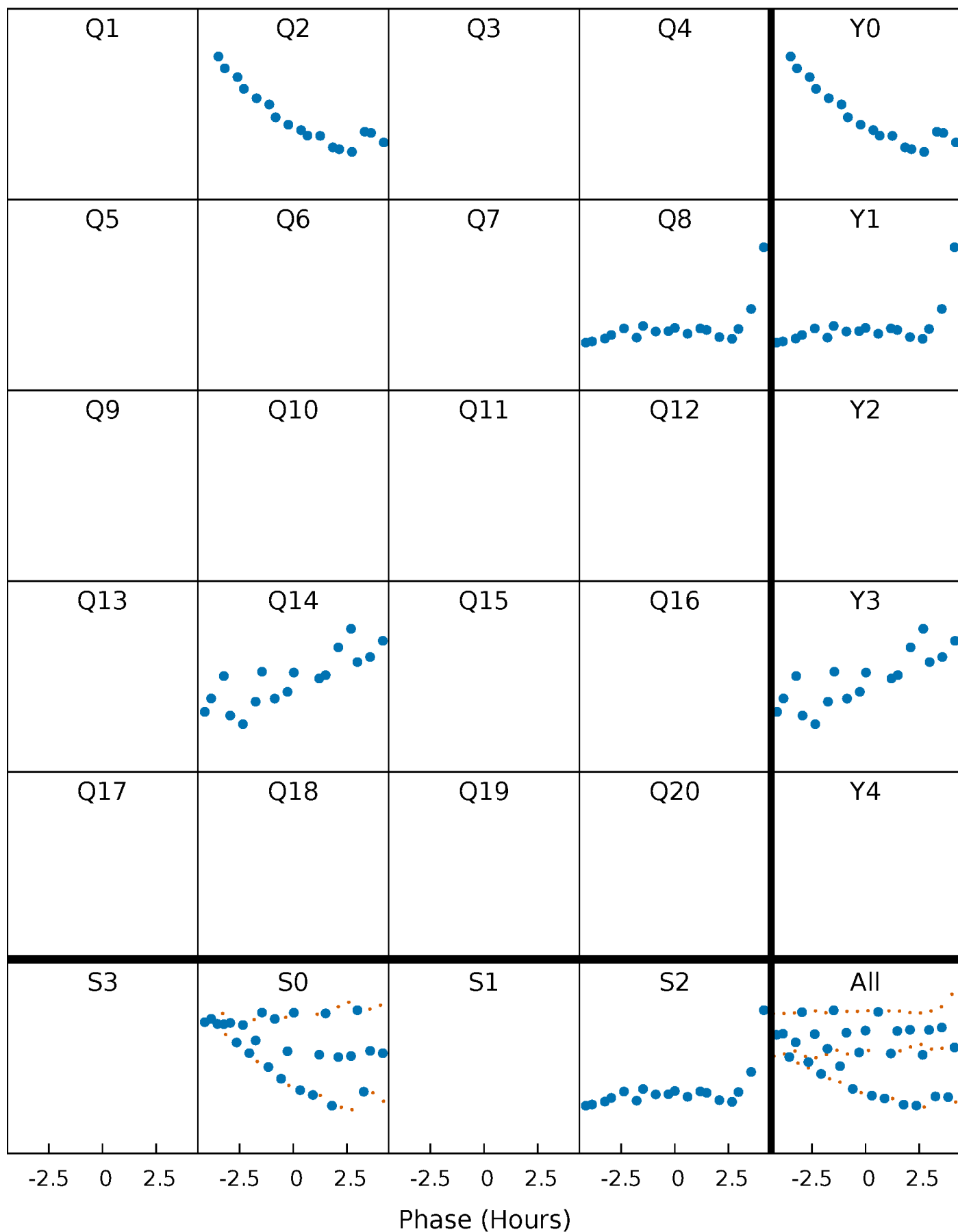


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



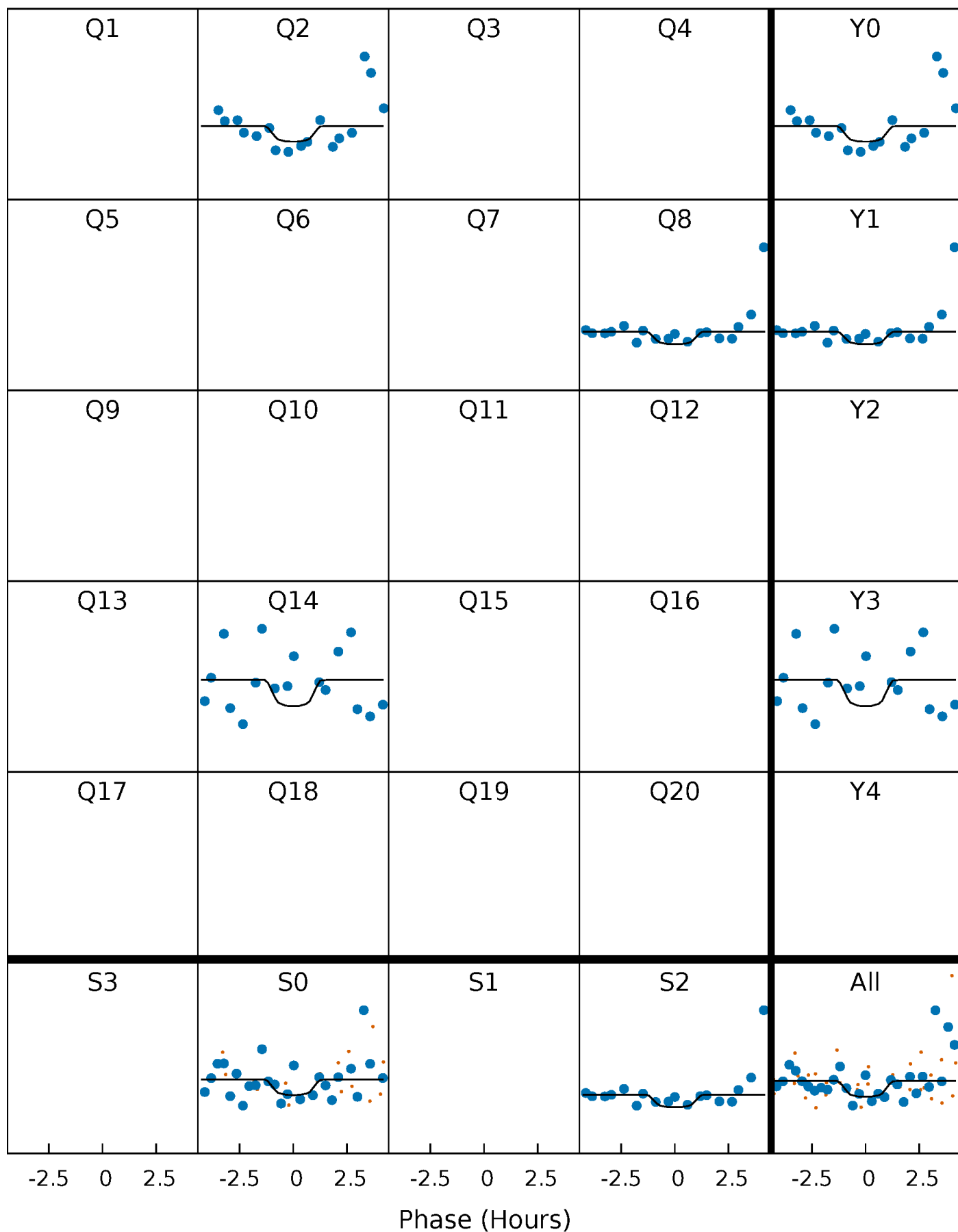
PDC Quarter-Phased Transit Curves

TCE 010975238-03 $P=582.994076$ Days $T_0=188.225536$ (BKJD)



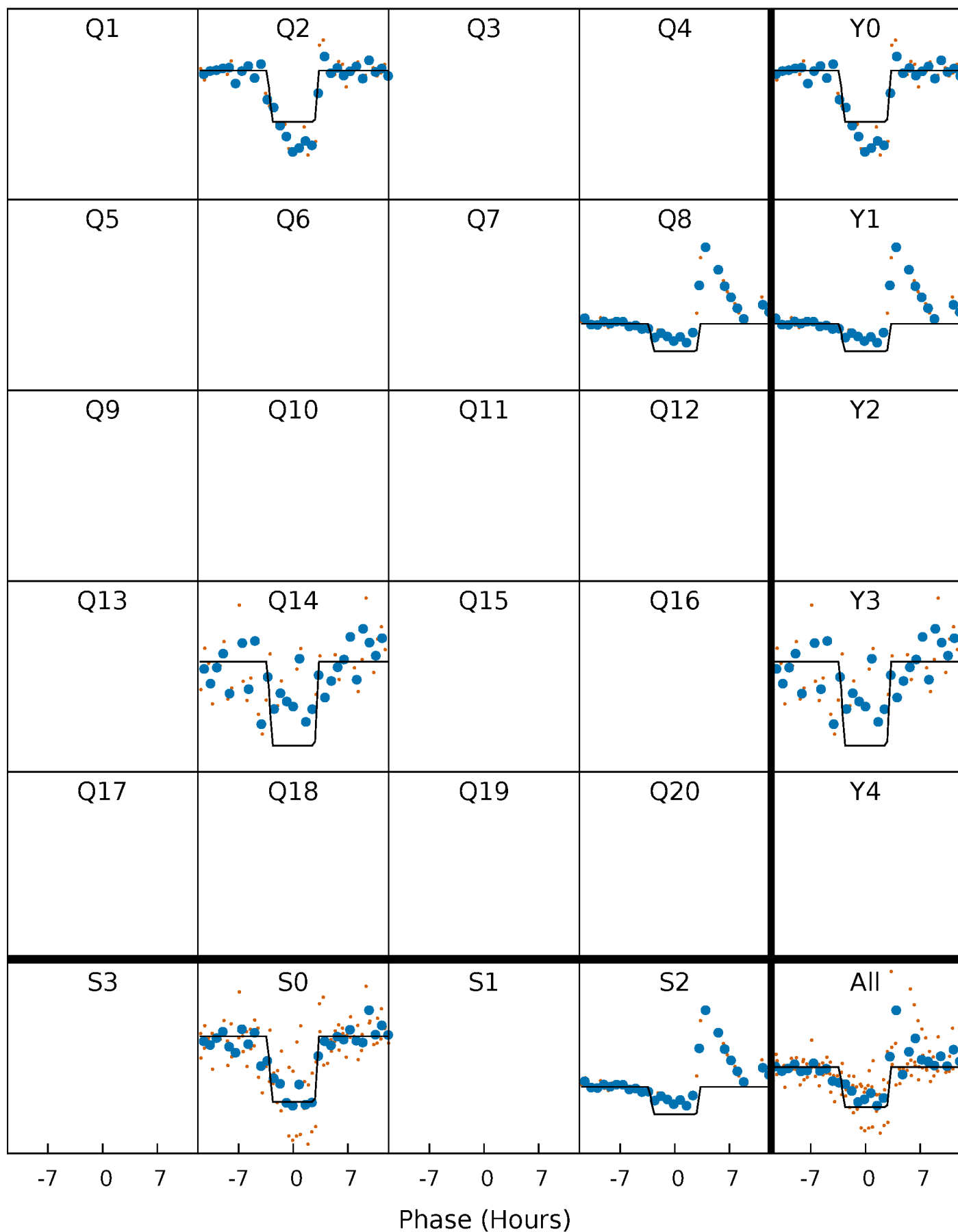
DV Quarter-Phased Transit Curves

TCE 010975238-03 $P=582.994076$ Days $T_0=188.225536$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

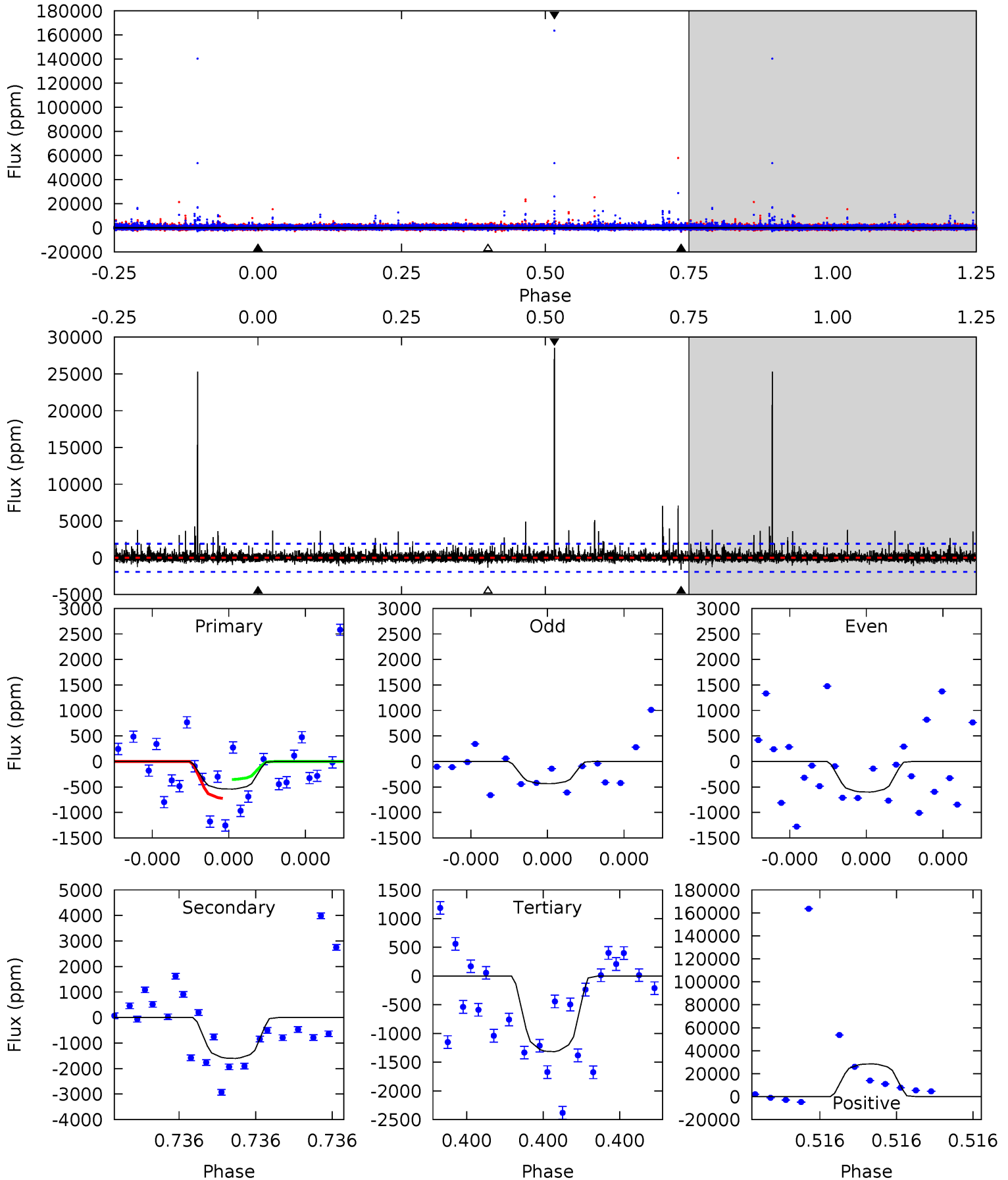
TCE 010975238-03 P=583.030768 Days $T_0=188.220424$ (BKJD)



DV Model-Shift Uniqueness Test

010975238-03, P = 582.994076 Days, E = 188.225536 Days

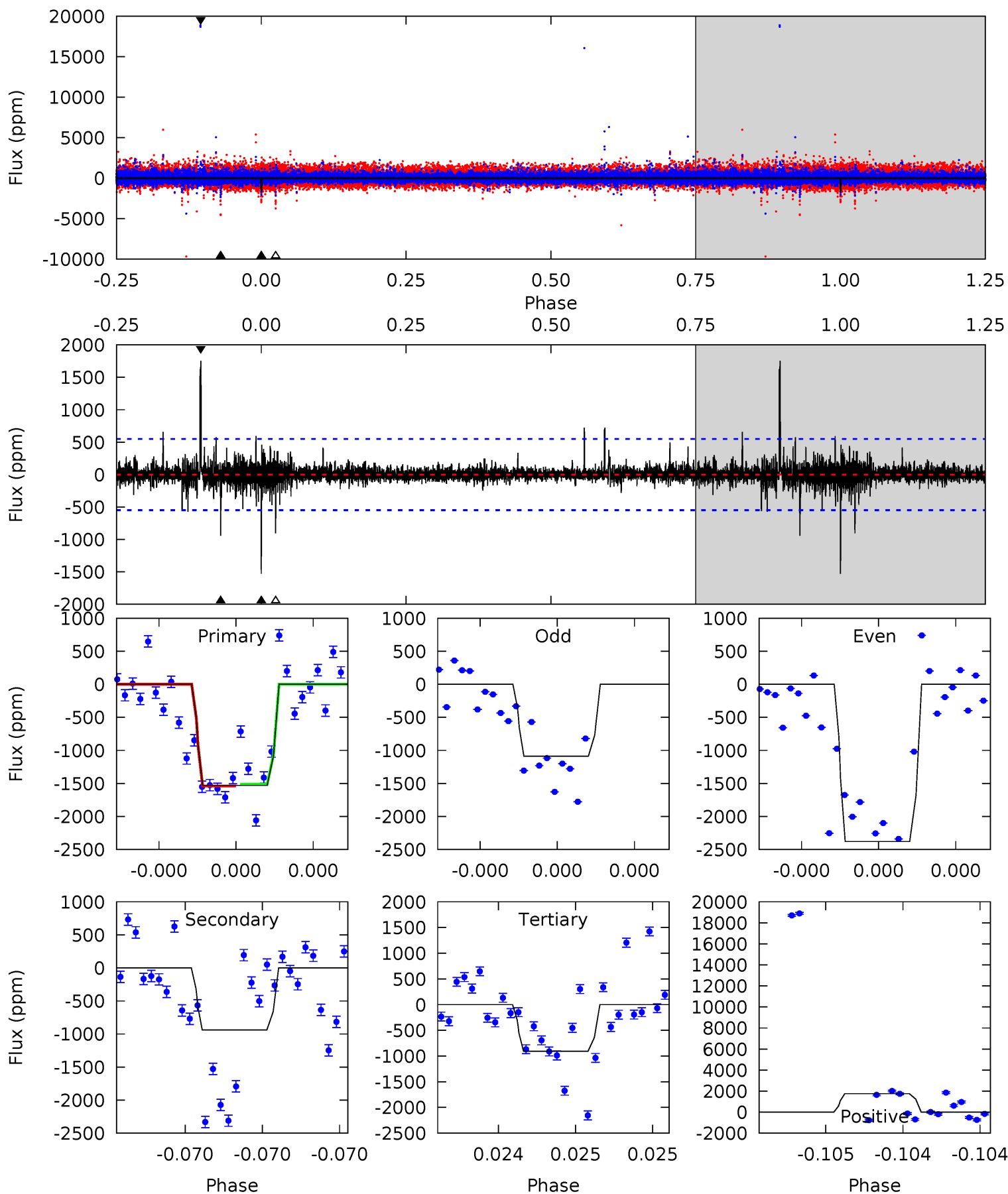
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.63	4.82	3.96	85.9	5.74	3.74	1.76	-2.33	-84.2	0.86	-81.0	0.08	1.10	0.95	0.54



Alt Model-Shift Uniqueness Test

010975238-03, P = 583.030768 Days, E = 188.220424 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	9.61	9.26	17.9	5.60	3.52	0.94	6.38	-2.30	0.35	-8.33	6.10	1.72	0.53	0.14



Stellar Parameters For KIC 010975238

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3794^{+68}_{-76}	$4.757^{+0.039}_{-0.024}$	$-0.200^{+0.100}_{-0.100}$	$0.489^{+0.027}_{-0.038}$	$0.498^{+0.031}_{-0.031}$	$6.001^{+1.077}_{-0.625}$
	+2%/-2%	+1%/-1%	+50%/-50%	+6%/-8%	+6%/-6%	+18%/-10%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 010975238-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1601 ± 332	$3.65^{+3.08}_{-2.53}$	157^{+3}_{-4}	3190^{+1750}_{-504}	$77172^{+815160}_{-55511}$
Alt.	-940 ± 98	$3.84^{+3.59}_{-2.55}$	157^{+3}_{-4}	2932^{+1164}_{-471}	$41727^{+307140}_{-30903}$

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 $A_{obs} \gg 1.0$

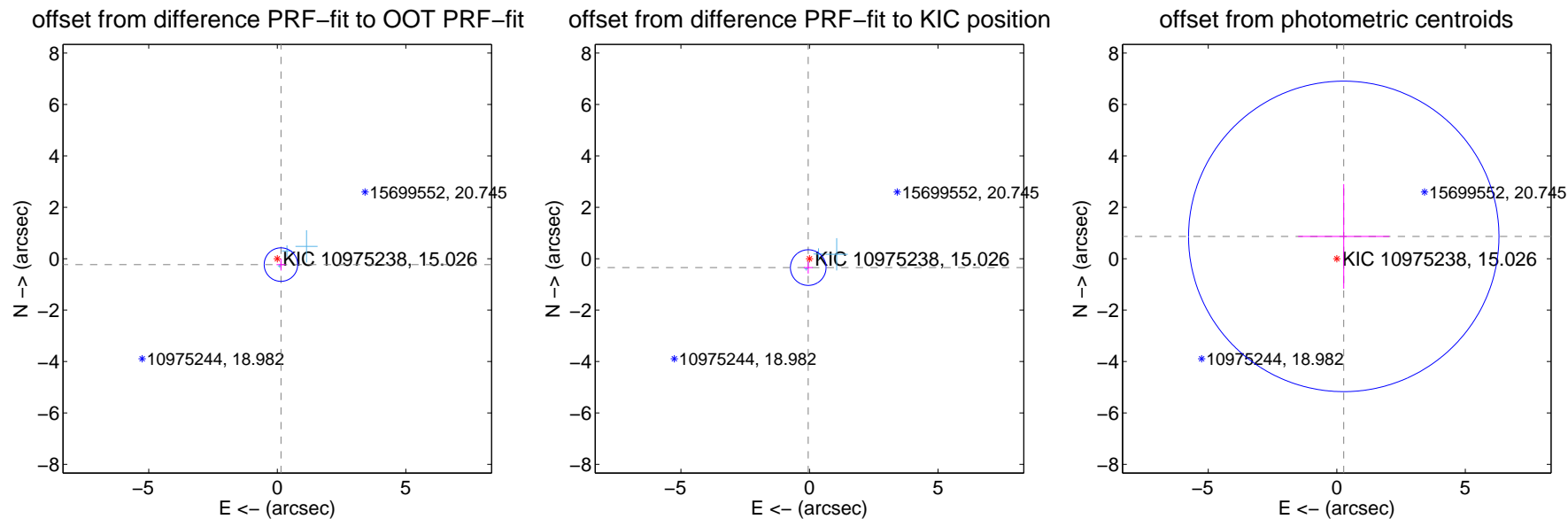
DV Centroid Data

Supplemental centroid analysis for 010975238-03. Kepler magnitude: 15.03. Transit SNR 3.08

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.269 ± 0.217	1.24	-0.142 ± 0.173	-0.229 ± 0.232
PRF-fit source offset from KIC position	0.348 ± 0.231	1.51	0.048 ± 0.173	-0.345 ± 0.232
photometric centroid source offset	0.91 ± 2.01	0.45	-0.27 ± 1.77	0.87 ± 2.03



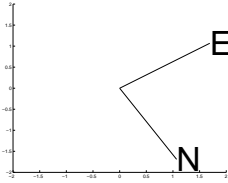
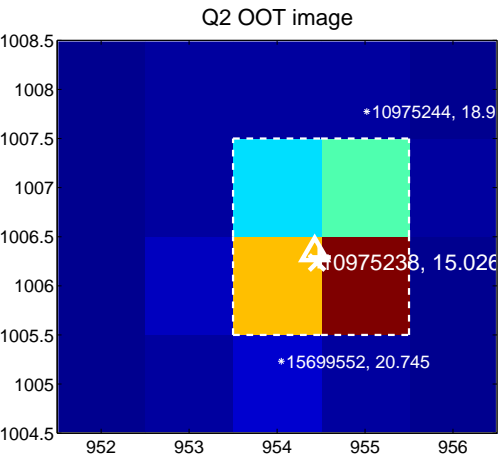
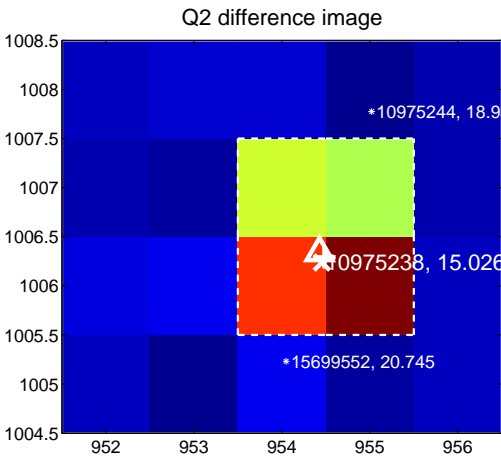
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

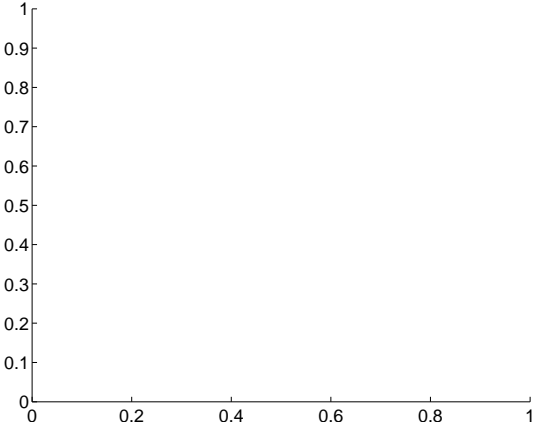
Q1 no difference image



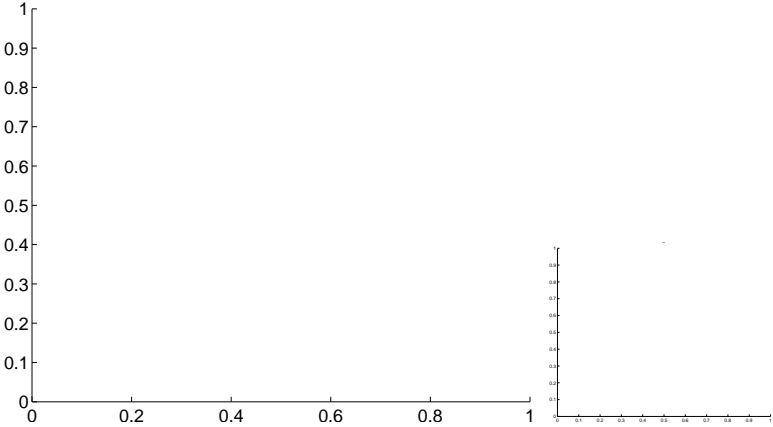
Q1 no OOT image



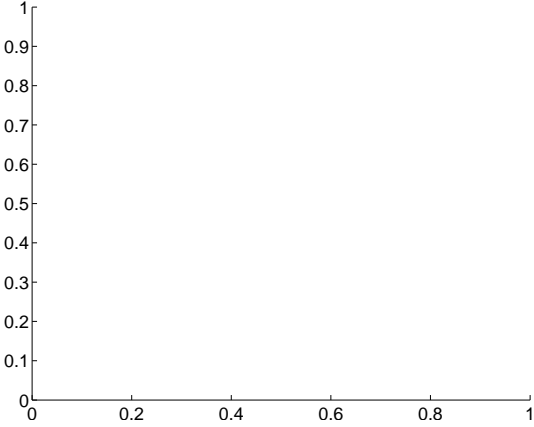
Q3 no difference image



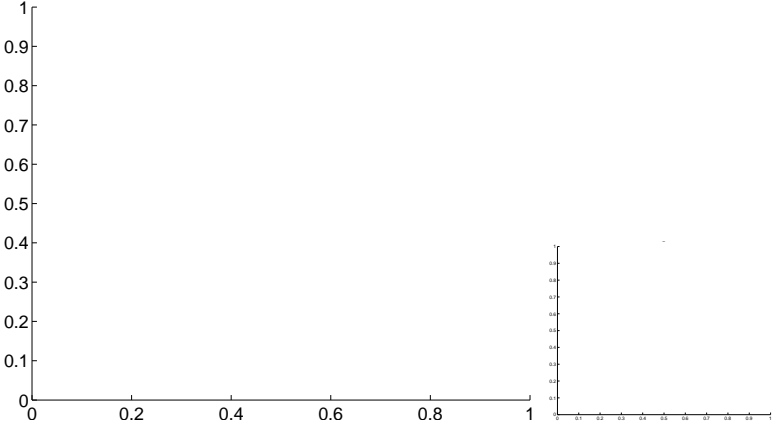
Q3 no OOT image



Q4 no difference image



Q4 no OOT image



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

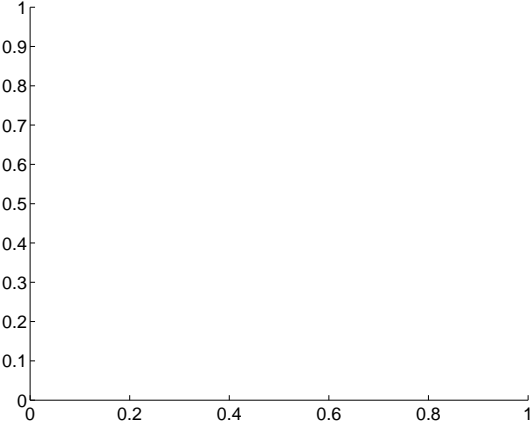
Q5 no difference image



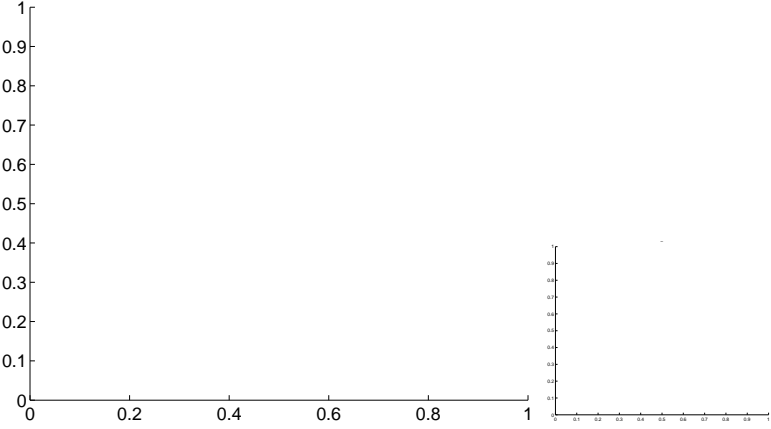
Q5 no OOT image



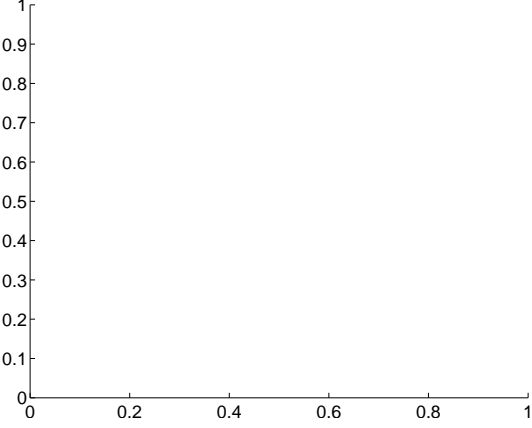
Q6 no difference image



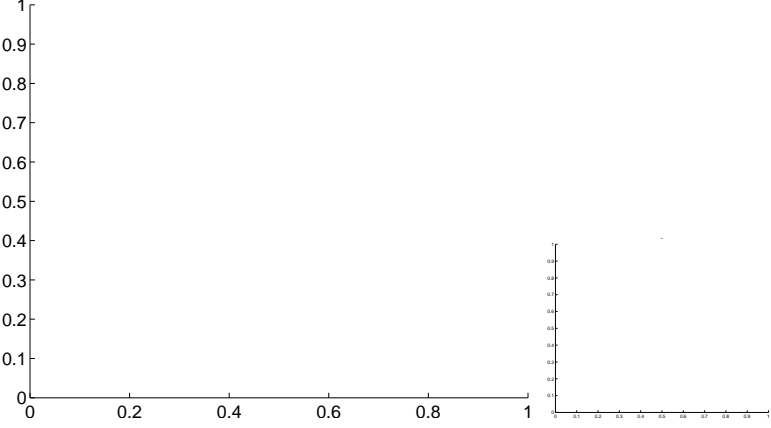
Q6 no OOT image



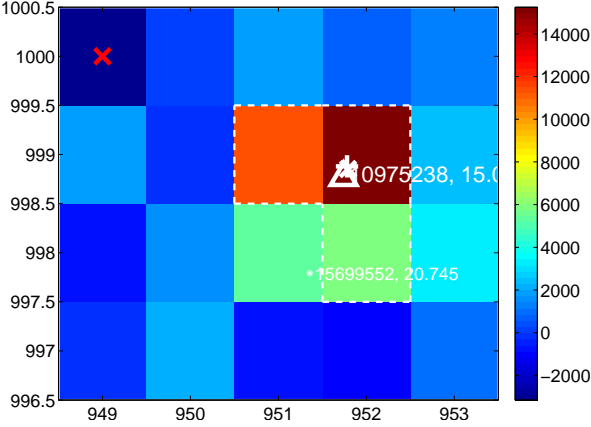
Q7 no difference image



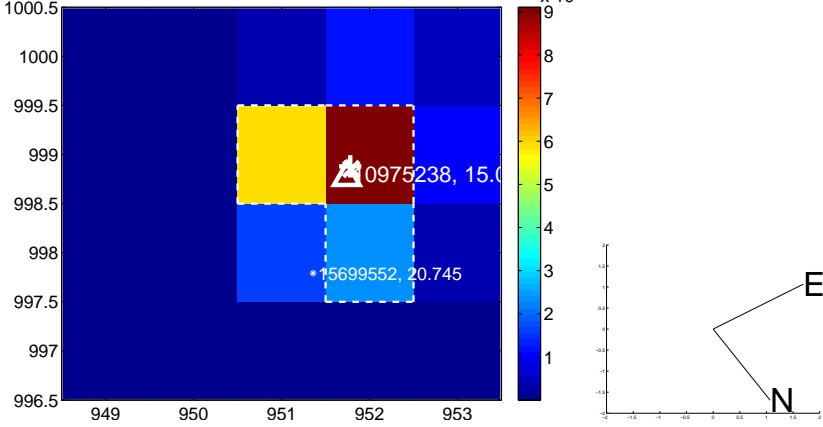
Q7 no OOT image



Q8 difference image



Q8 OOT image



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

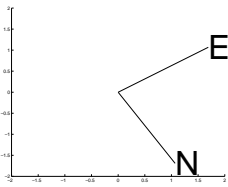
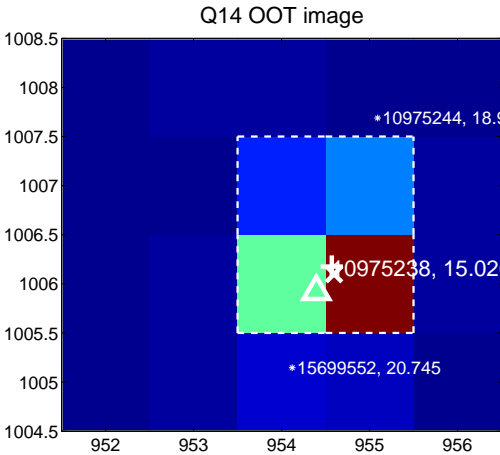
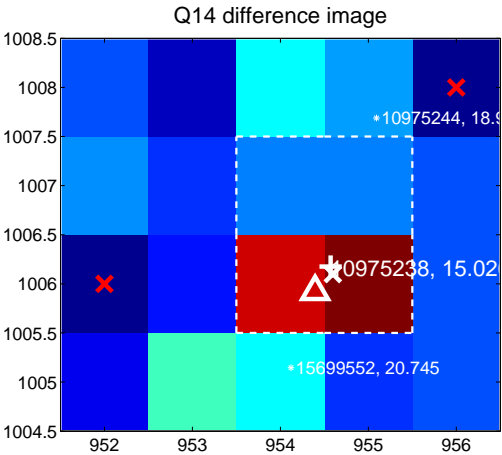


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

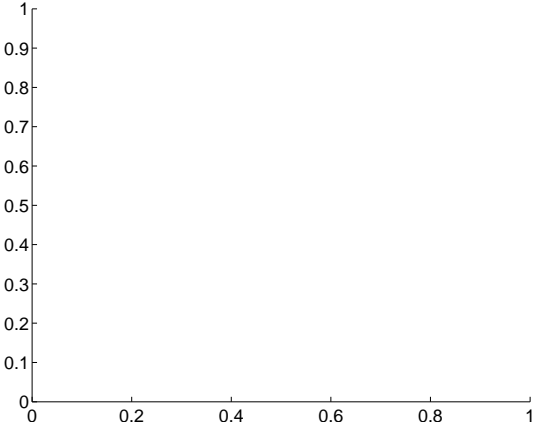
Q13 no difference image



Q13 no OOT image



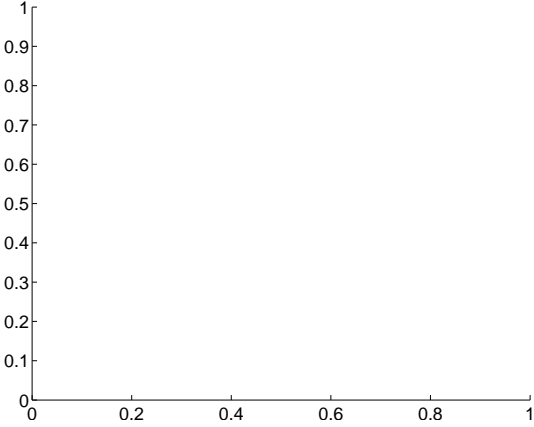
Q15 no difference image



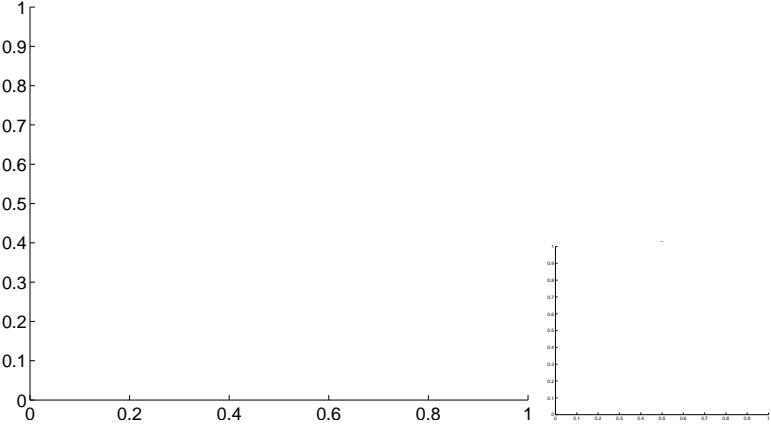
Q15 no OOT image



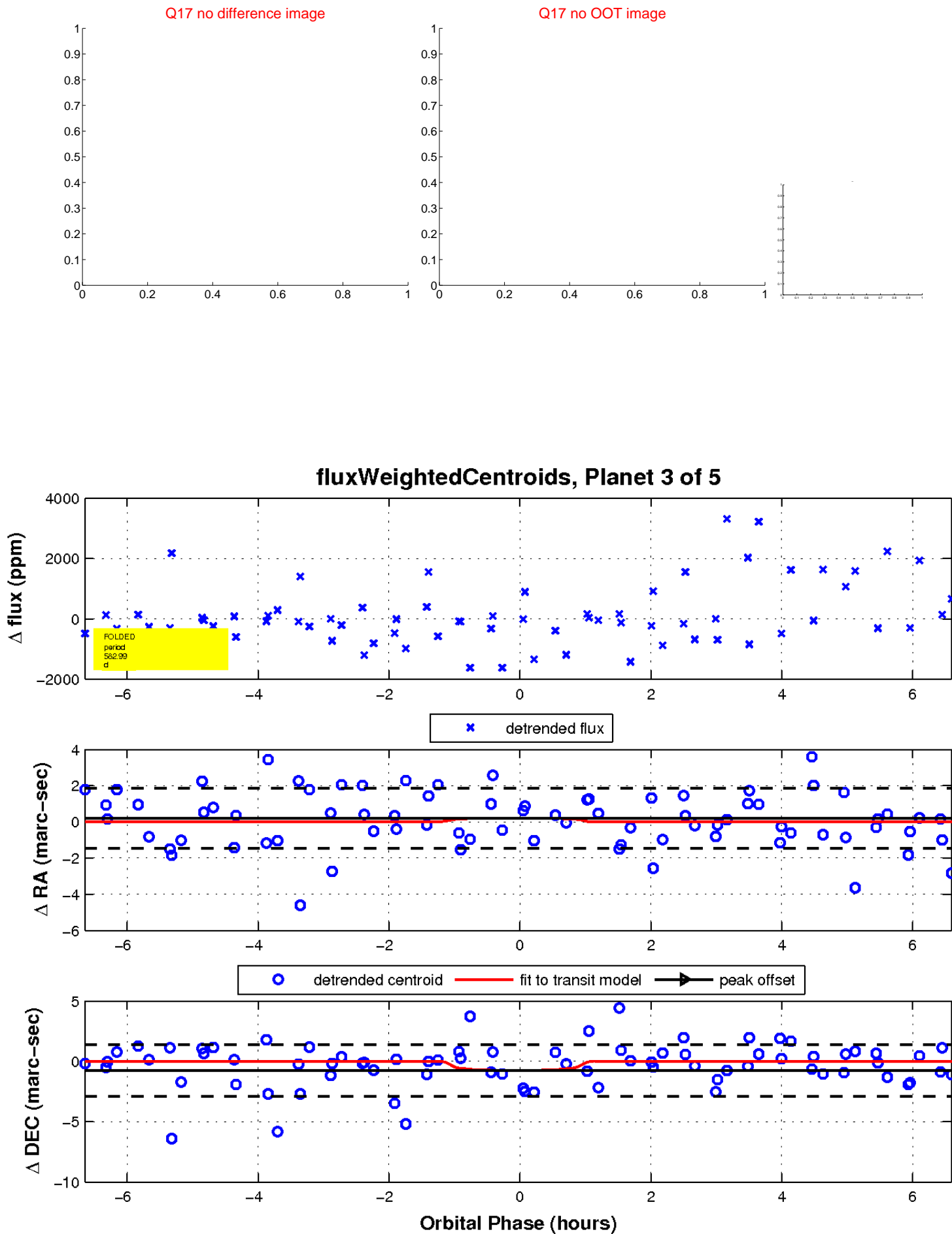
Q16 no difference image



Q16 no OOT image

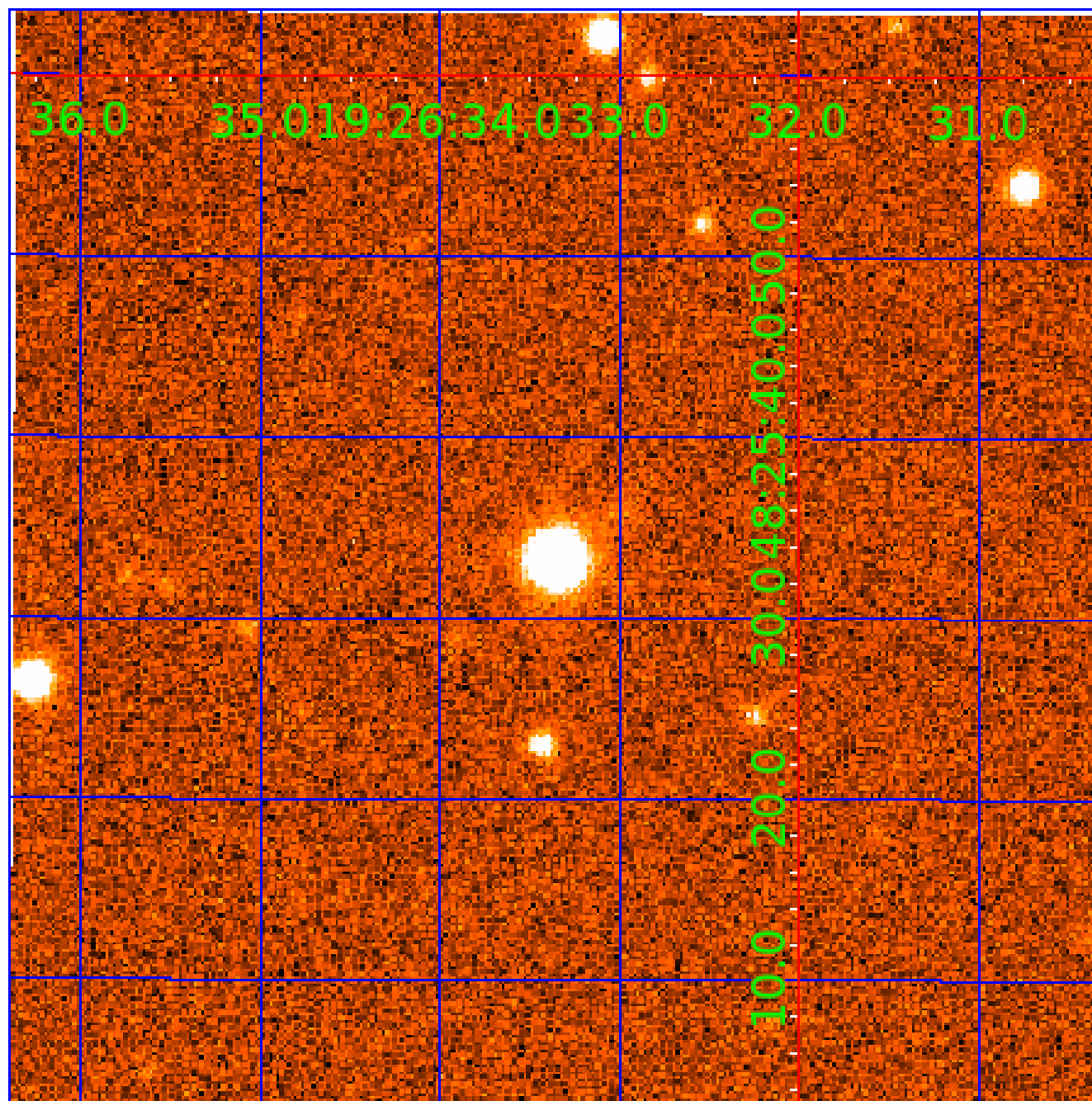


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010975238

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})
010975238-01	OBS	No	328.113997	255.833338	1182.4	5.332	14.8	4.9	0.49	3794	1.90	0.08
010975238-02	OBS	No	687.090596	203.493676	3563.7	8.450	18.3	8.8	0.49	3794	5.48	0.03
010975238-03	OBS	No	582.994076	188.225536	757.8	2.224	12.5	3.1	0.49	3794	1.50	0.04
010975238-04	OBS	No	437.904554	189.728910	1480.5	3.597	15.1	7.6	0.49	3794	1.87	0.06
010975238-05	OBS	No	642.819364	254.820717	1188.4	4.500	11.9	-1.0	0.49	3794	1.68	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010975238-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS
010975238-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010975238-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
010975238-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010975238-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

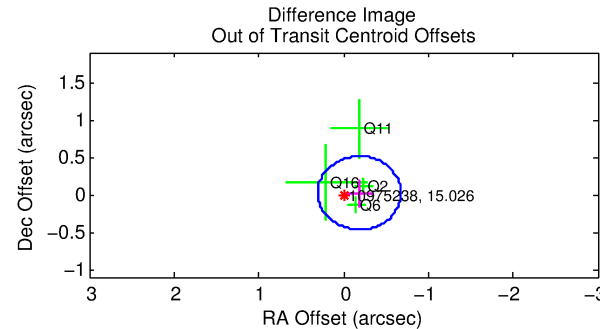
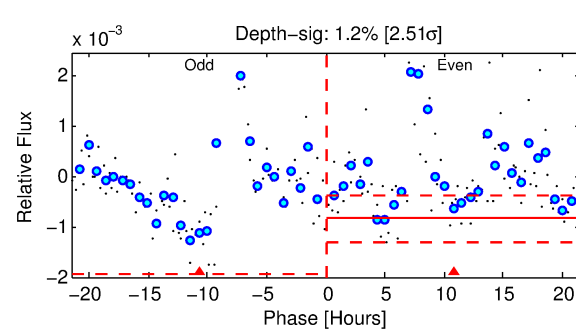
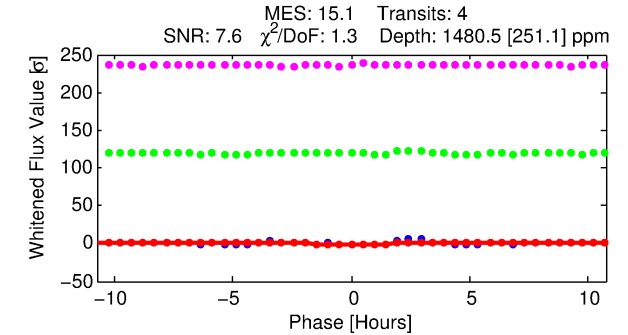
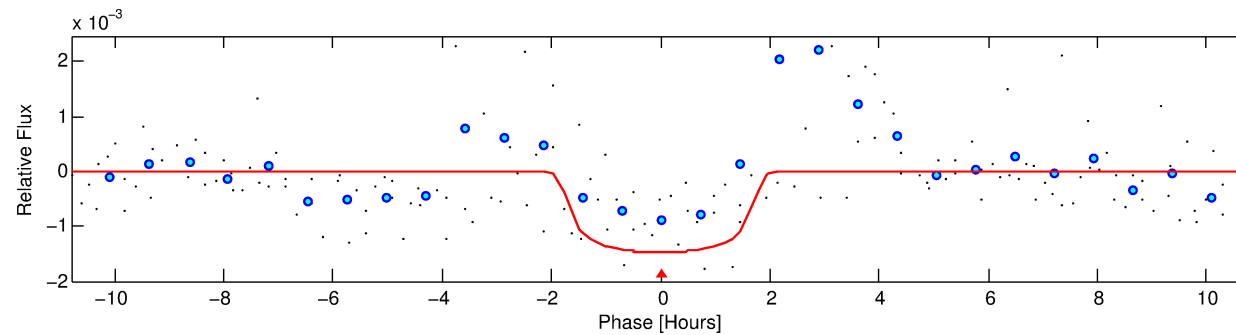
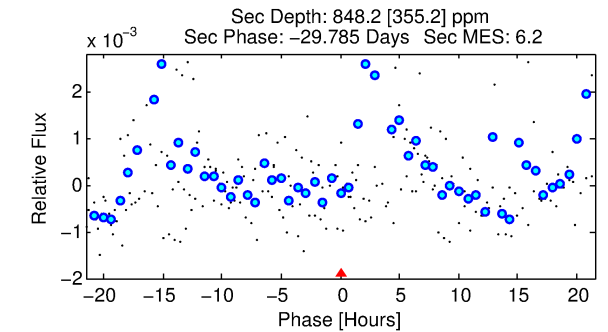
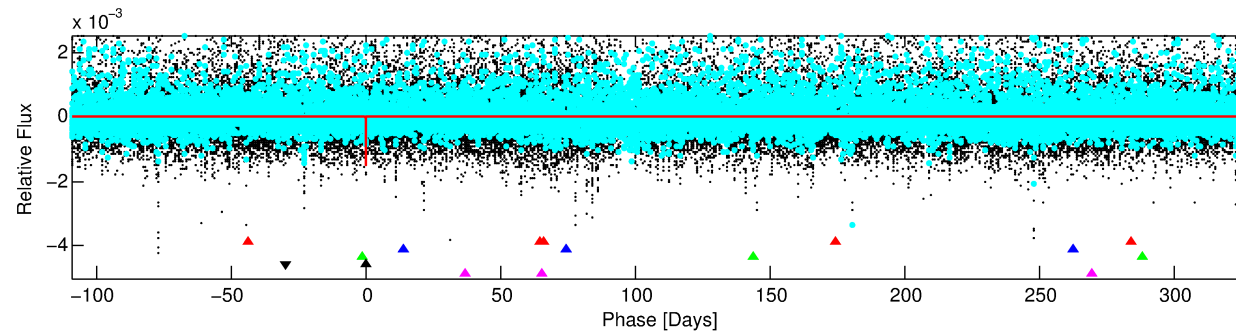
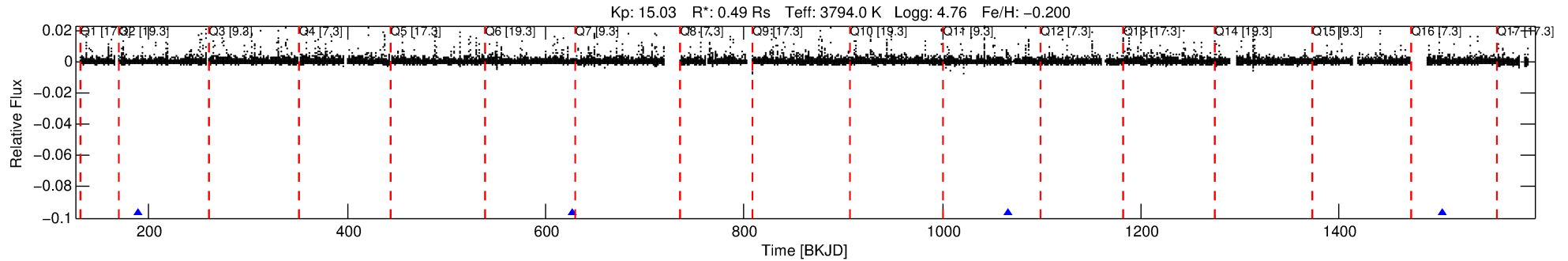
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010975238-04

No Significant Match Found

DV One-Page Summary

KIC: 10975238 Candidate: 4 of 5 Period: 437.905 d



DV Fit Results:

Period = 437.90455 [0.00489] d
Epoch = 189.7289 [0.0076] BKJD
Rp/R* = 0.0350 [0.0433]
a/R* = 962.48 [5301.75]
b = 0.00 [1669.84]
Seff = 0.06 [0.01]
Teq = 124 [3] K
Rp = 1.87 [2.31] Re
a = 0.8950 [0.0536] AU
Ag = 107331.01 [269601.46] [0.40σ]
Teffp = 3462 [2174] K [1.54σ]

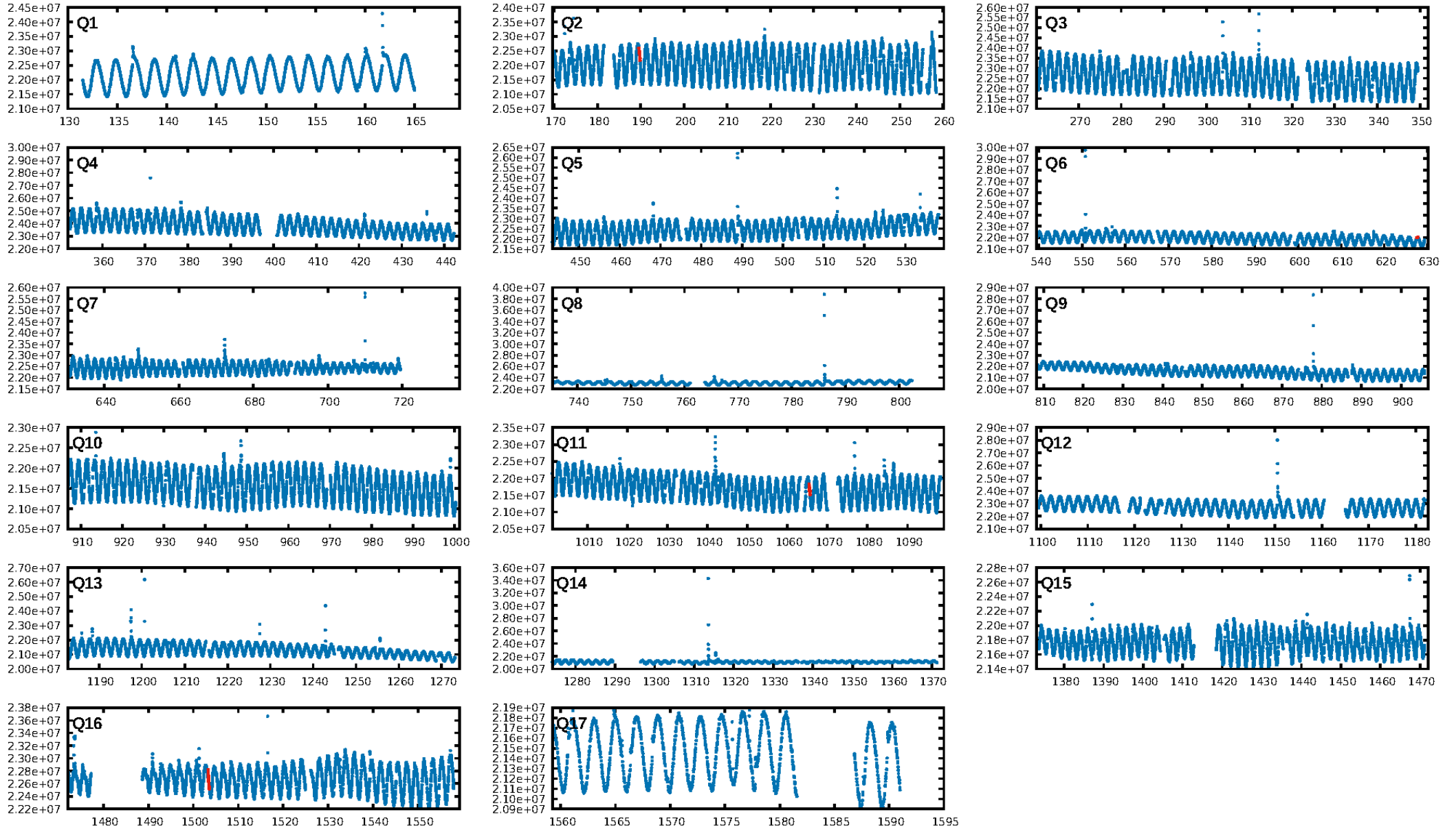
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [409.68σ]
LongPeriod-sig: 100.0% [823.36σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 70.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.996
Centroid-sig: 44.3%
Centroid-so: 0.594 arcsec [1.00σ]
OotOffset-rm: 0.185 arcsec [1.13σ]
KicOffset-rm: 0.187 arcsec [0.98σ]
OotOffset-st: 2/1/1/0 [4]
KicOffset-st: 2/1/1/0 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 1.00 [4/4]

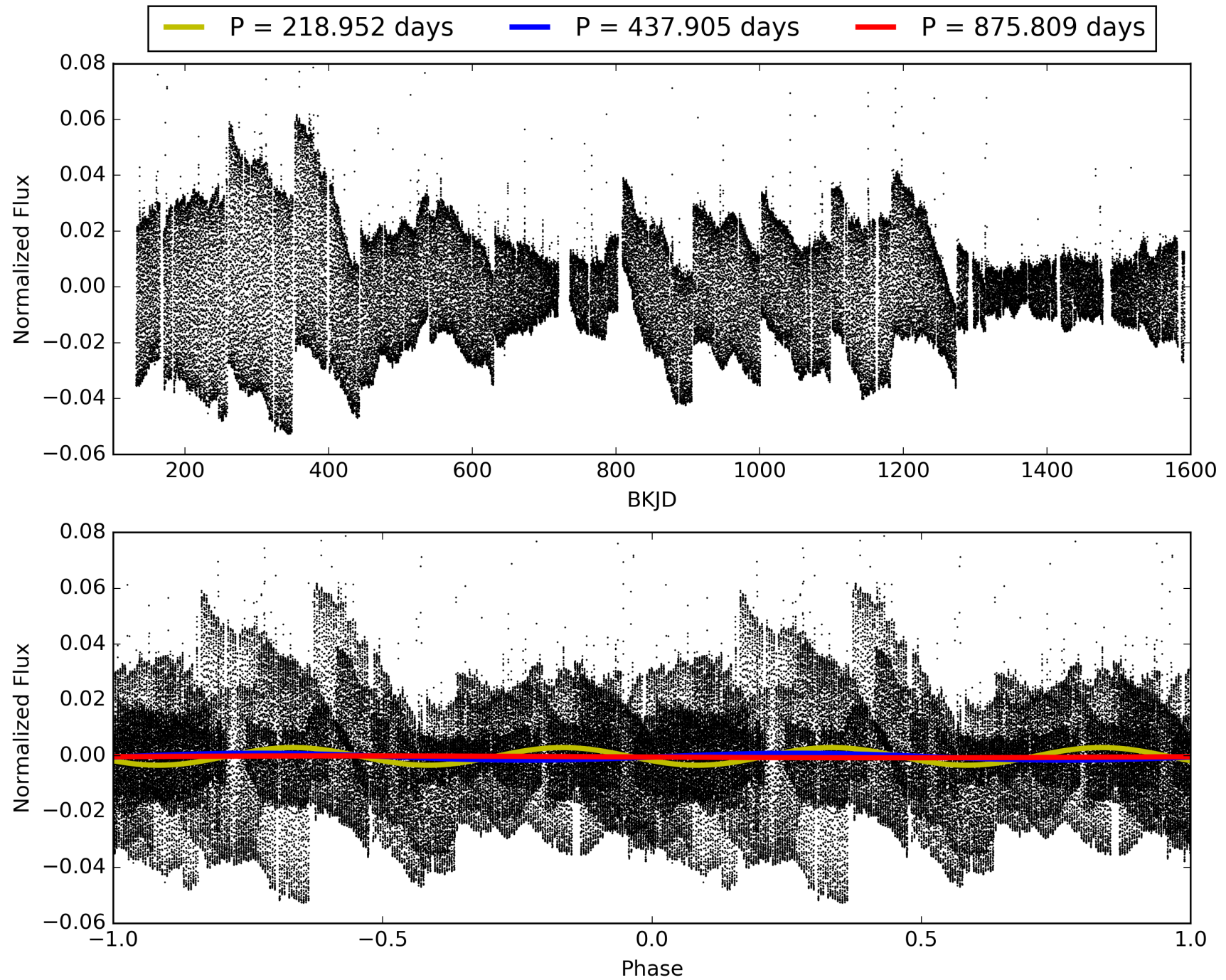
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:11:10 Z

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

TCE 010975238-04, PDC Light Curves

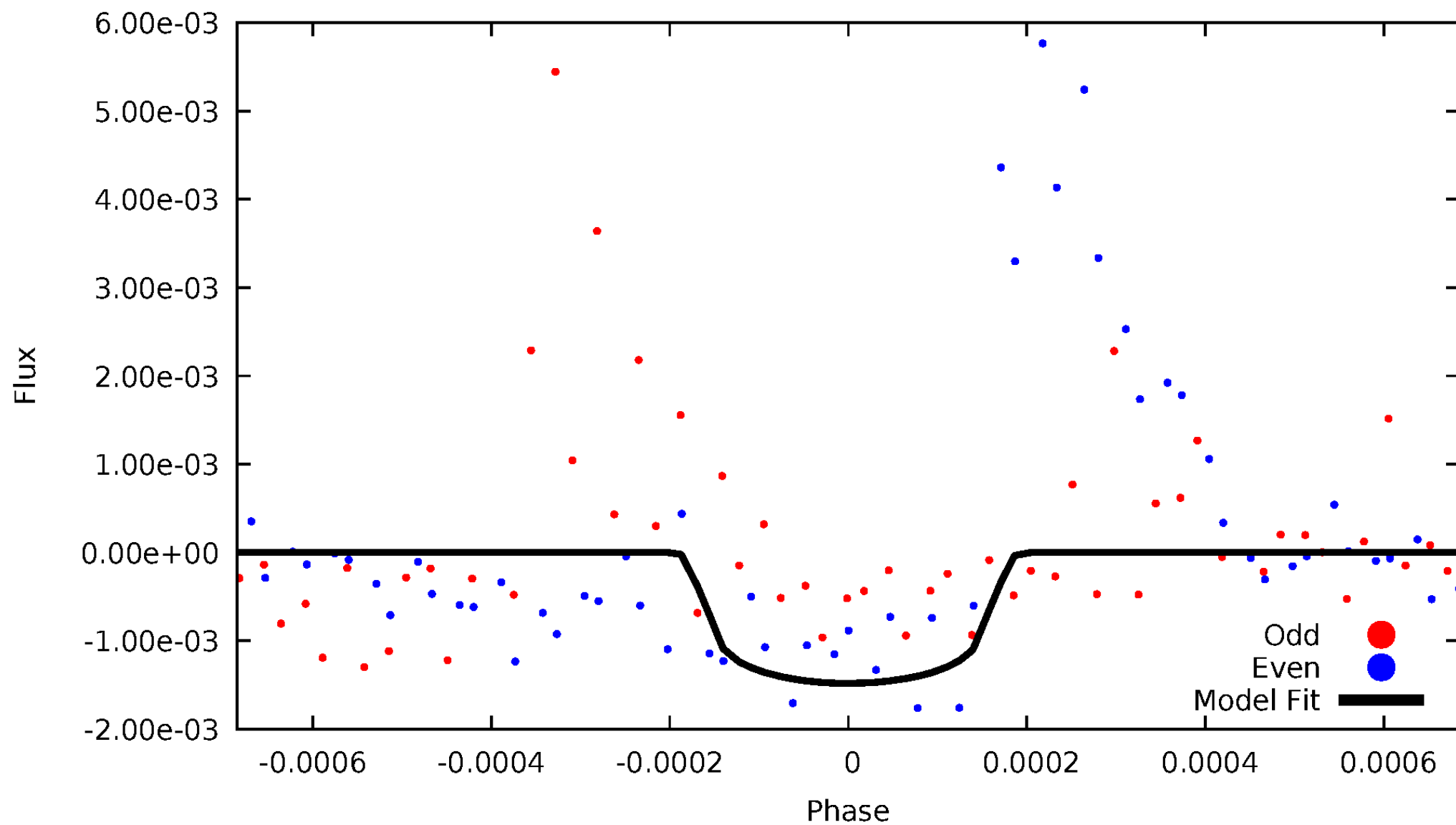


TCE 010975238-04



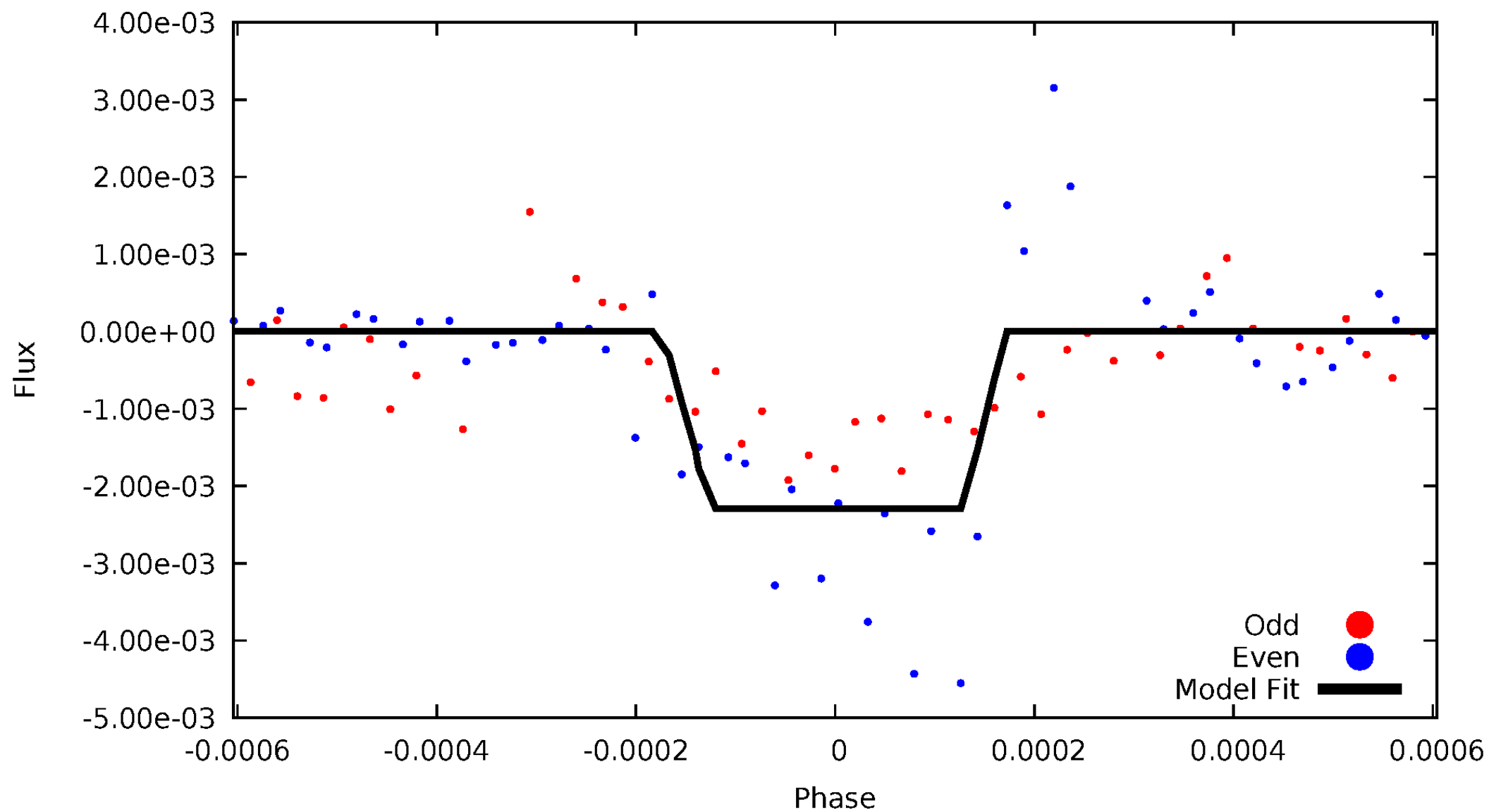
DV Odd/Even

TCE 010975238-04



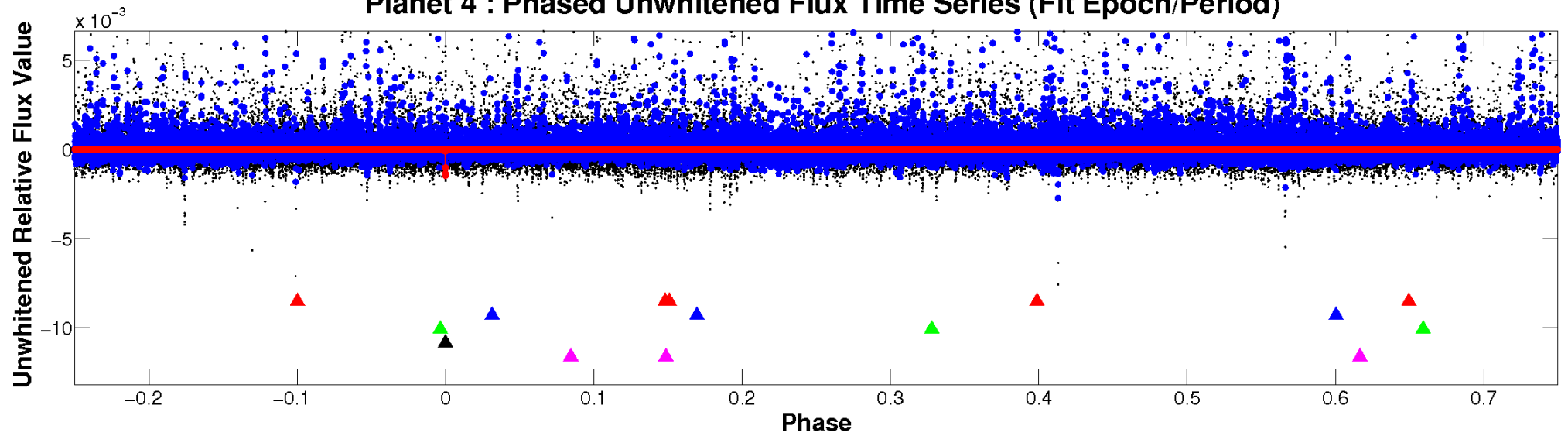
ALT Odd/Even

TCE 010975238-04

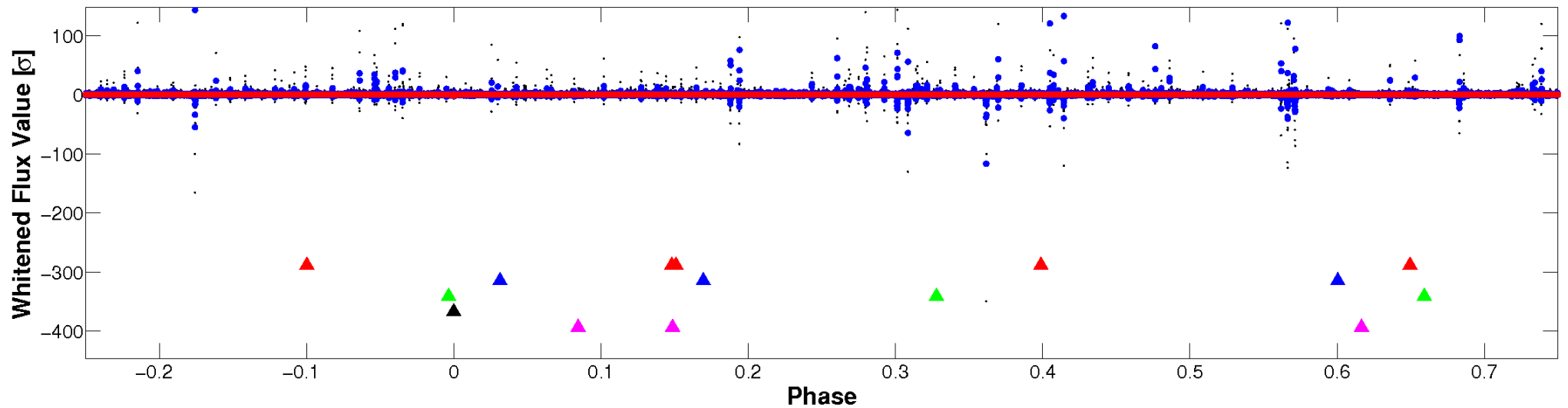


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

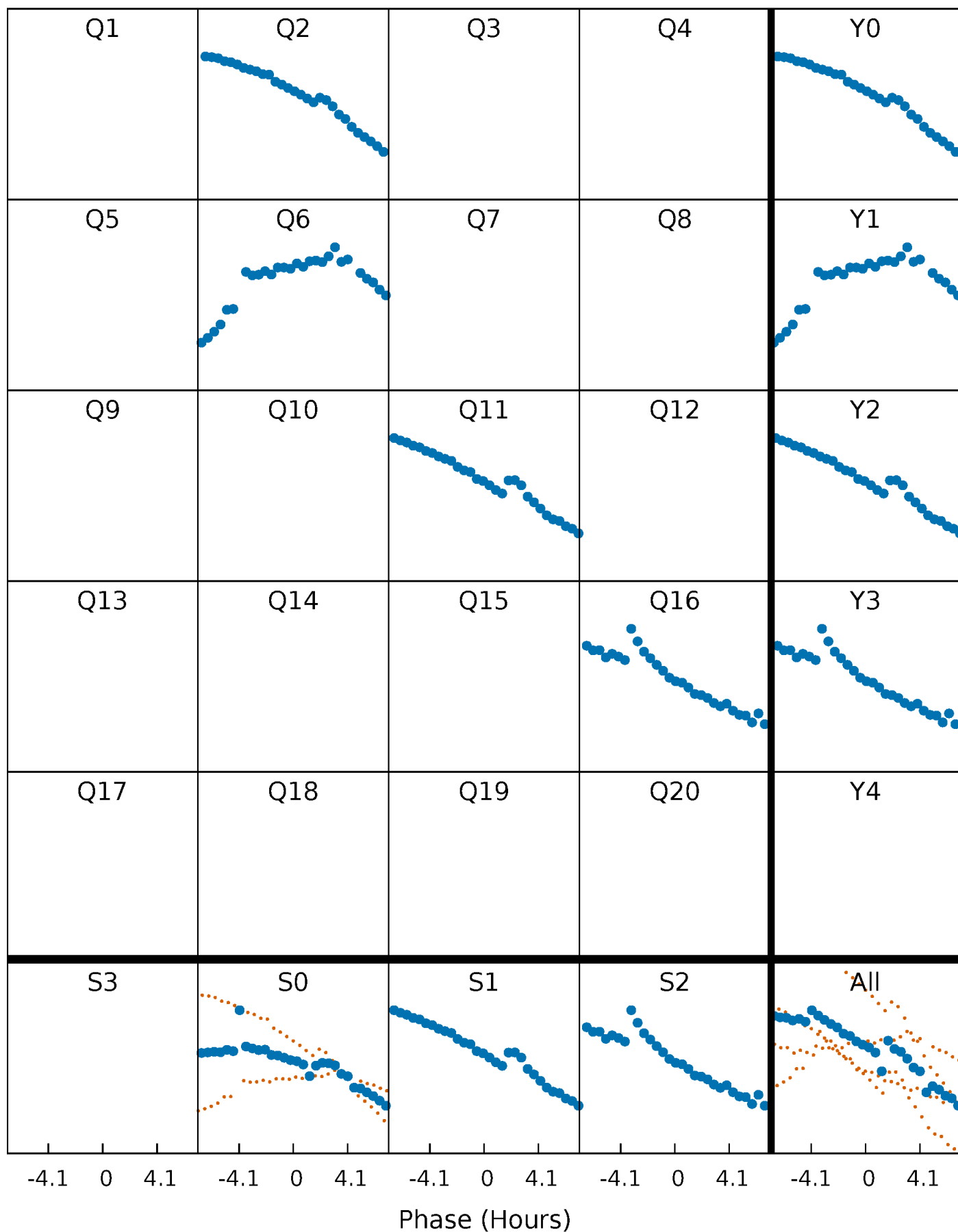


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



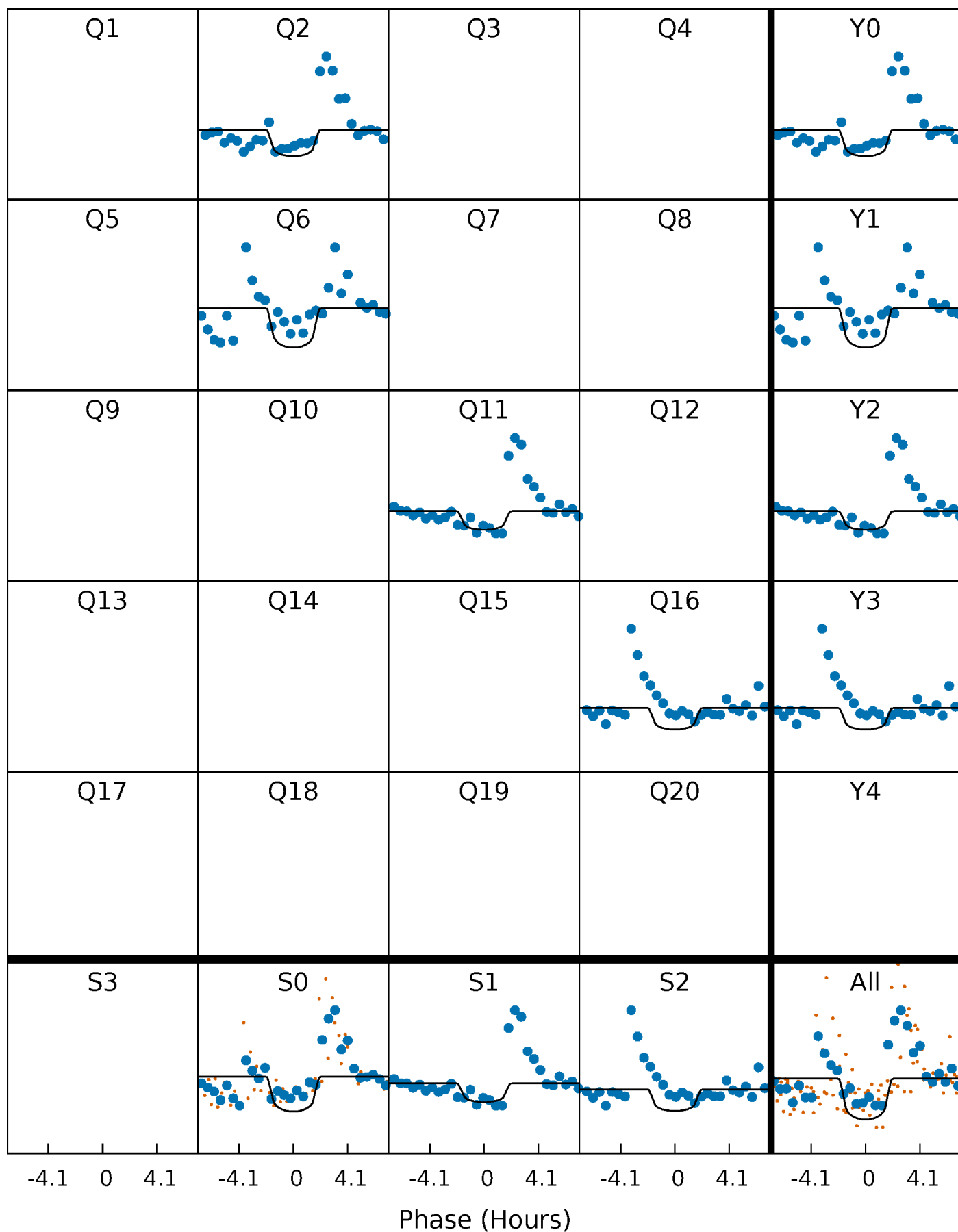
PDC Quarter-Phased Transit Curves

TCE 010975238-04 P=437.904554 Days $T_0=189.728910$ (BKJD)



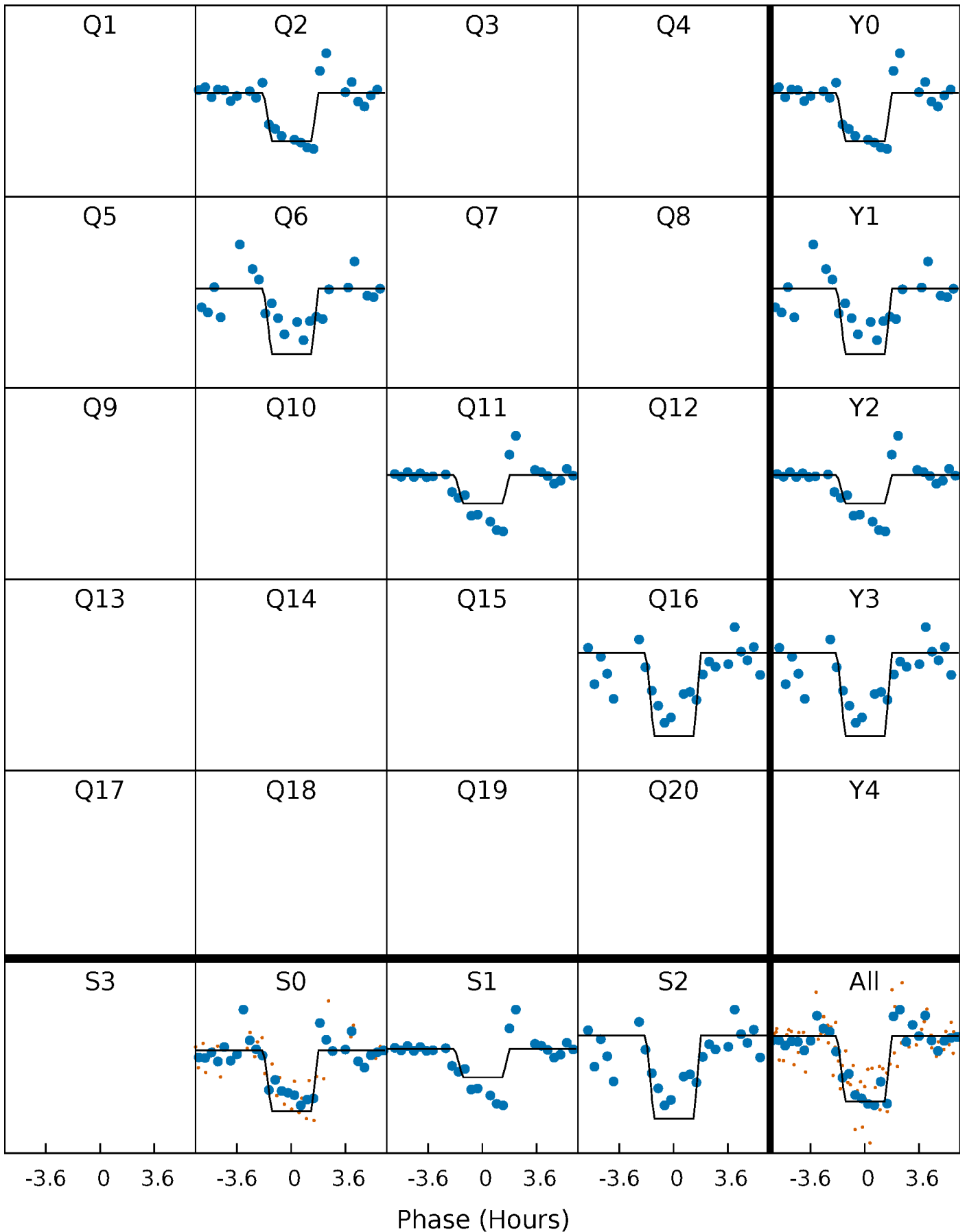
DV Quarter-Phased Transit Curves

TCE 010975238-04 $P=437.904554$ Days $T_0=189.728910$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

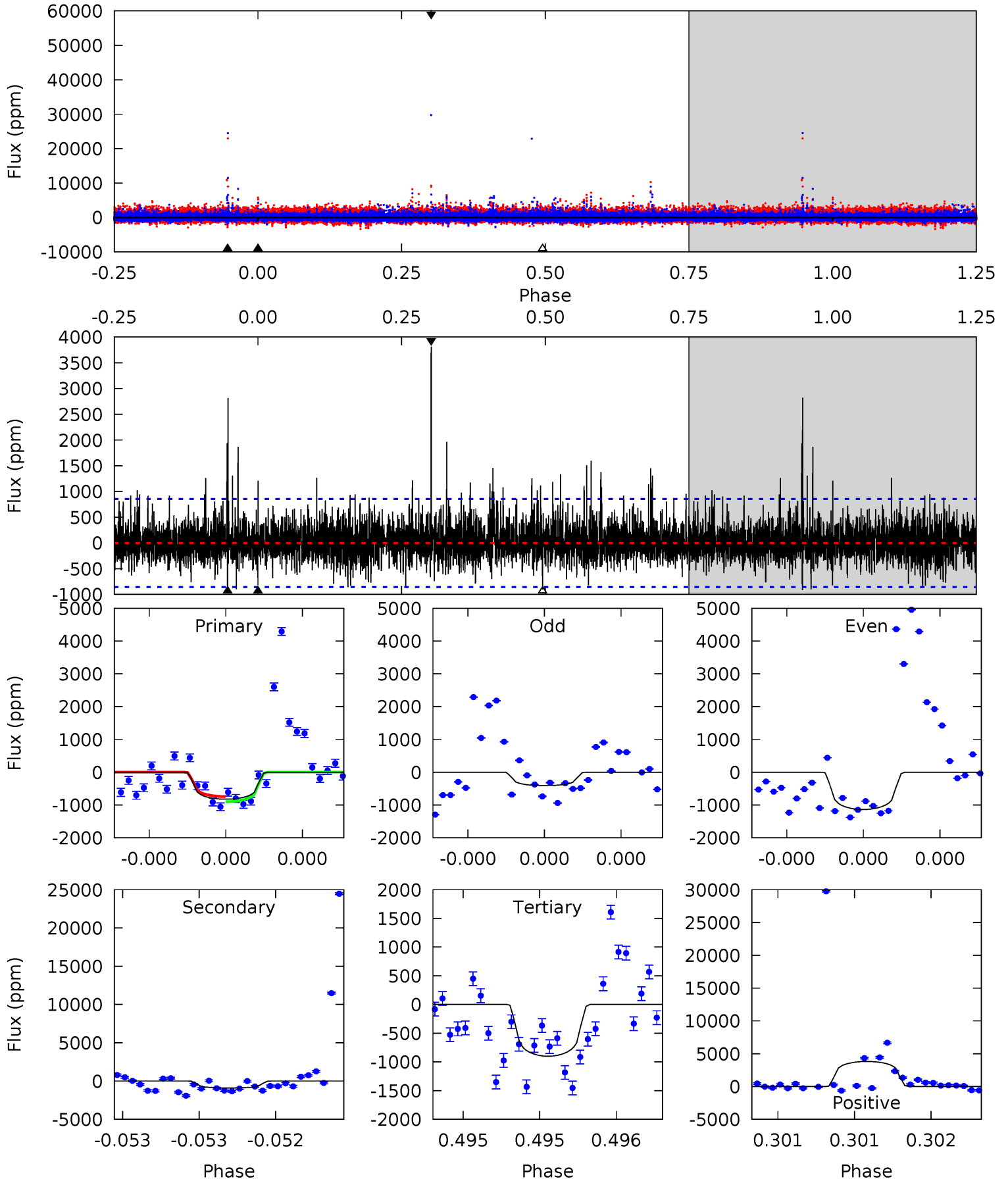
TCE 010975238-04 $P=437.904813$ Days $T_0=189.727645$ (BKJD)



DV Model-Shift Uniqueness Test

010975238-04, P = 437.904554 Days, E = 189.728910 Days

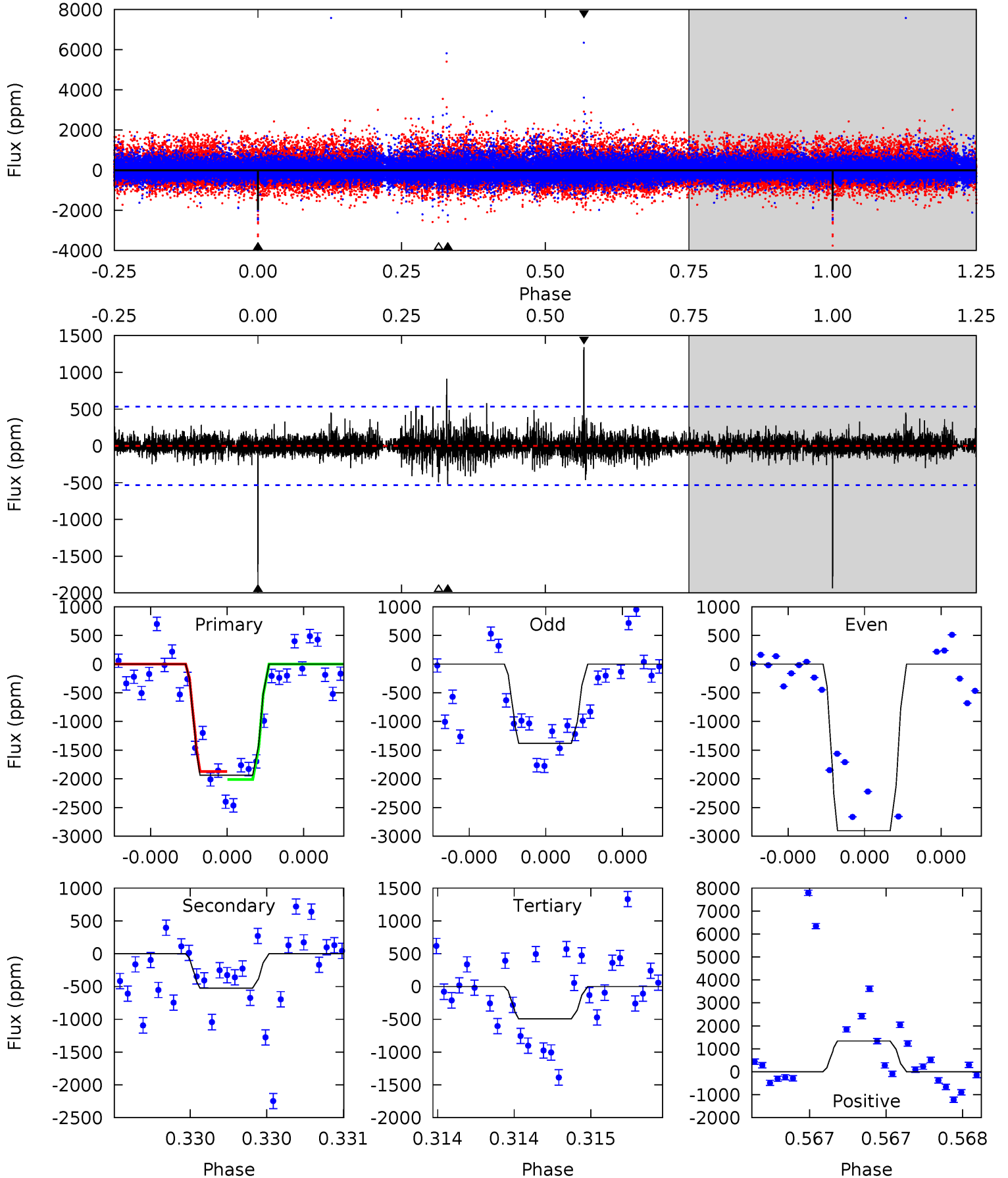
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.40	5.98	5.92	25.1	5.62	3.56	1.95	-0.52	-19.7	0.06	-19.1	0.76	0.98	0.81	0.51



Alt Model-Shift Uniqueness Test

010975238-04, P = 437.904813 Days, E = 189.727645 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	5.55	5.23	14.2	5.64	3.58	1.00	15.2	6.28	0.32	-8.64	6.86	1.13	0.41	0.74



Stellar Parameters For KIC 010975238

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3794^{+68}_{-76}	$4.757^{+0.039}_{-0.024}$	$-0.200^{+0.100}_{-0.100}$	$0.489^{+0.027}_{-0.038}$	$0.498^{+0.031}_{-0.031}$	$6.001^{+1.077}_{-0.625}$
	+2%/-2%	+1%/-1%	+50%/-50%	+6%/-8%	+6%/-6%	+18%/-10%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 010975238-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-911 ± 152	$2.44^{+2.10}_{-1.55}$	172^{+4}_{-4}	3327^{+1394}_{-548}	$68126^{+413571}_{-48511}$
Alt.	-524 ± 94	$2.86^{+2.14}_{-1.71}$	172^{+4}_{-4}	2905^{+975}_{-389}	$28295^{+154339}_{-19313}$

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 $A_{obs} \gg 1.0$

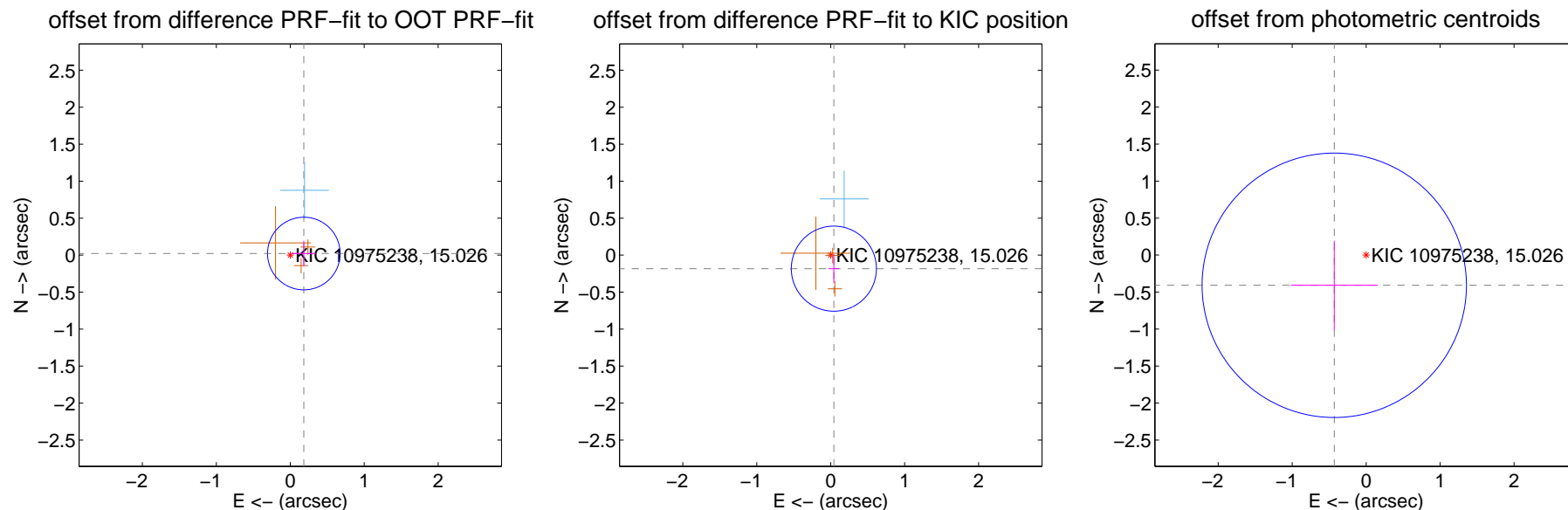
DV Centroid Data

Supplemental centroid analysis for 010975238-04. Kepler magnitude: 15.03. Transit SNR 7.61

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.185 ± 0.164	1.13	-0.184 ± 0.164	0.022 ± 0.174
PRF-fit source offset from KIC position	0.187 ± 0.192	0.98	-0.042 ± 0.073	-0.183 ± 0.196
photometric centroid source offset	0.59 ± 0.60	1.00	0.43 ± 0.59	-0.41 ± 0.60



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.

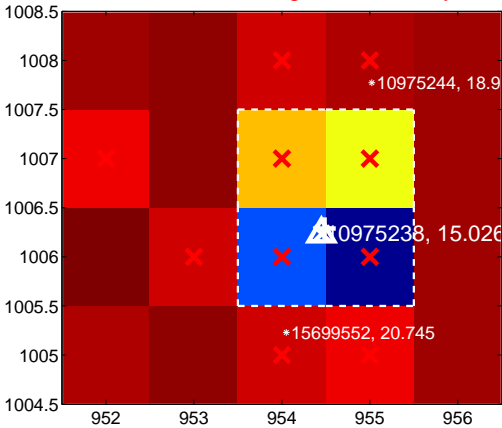
Q1 no difference image



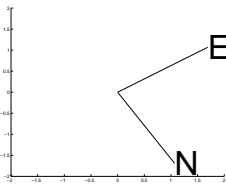
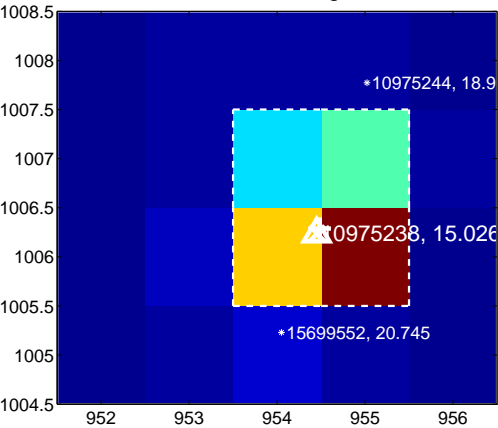
Q1 no OOT image



Q2 difference image. Poor Quality



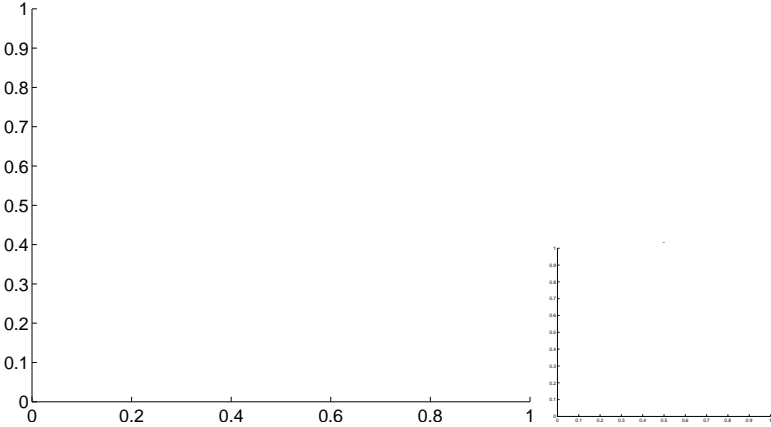
Q2 OOT image



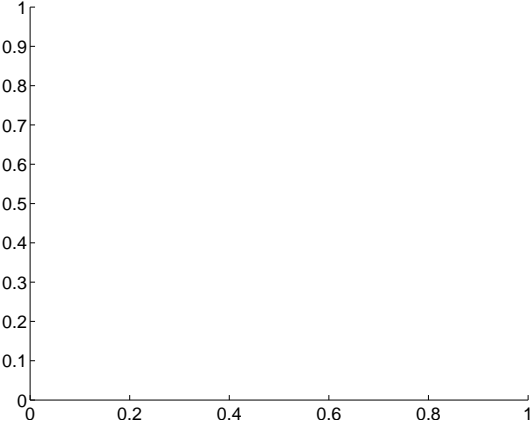
Q3 no difference image



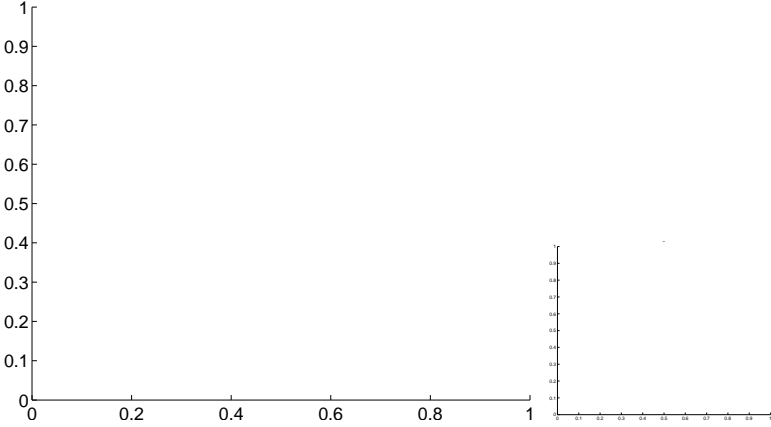
Q3 no OOT image



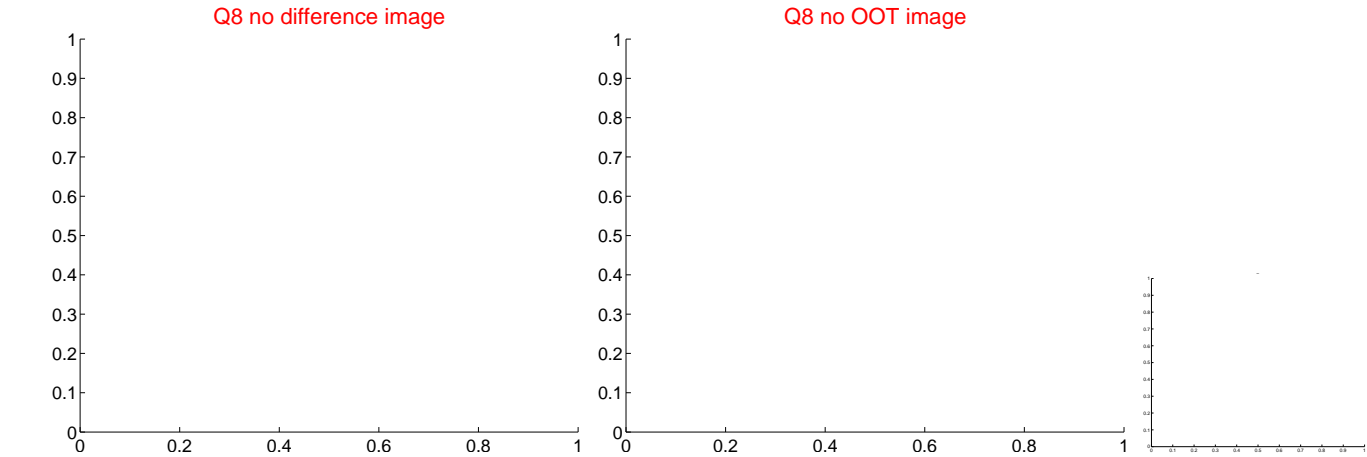
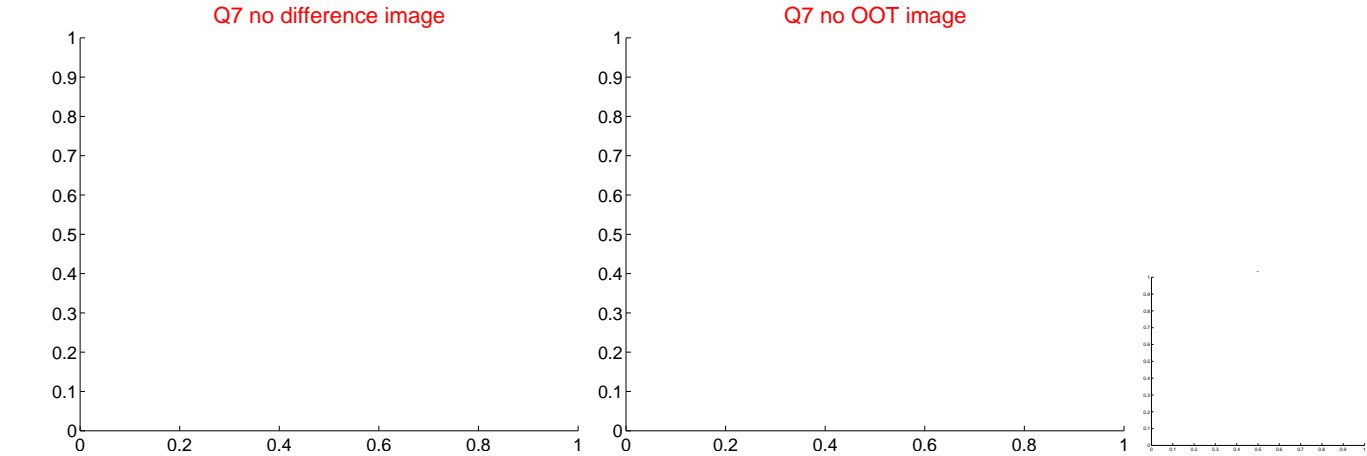
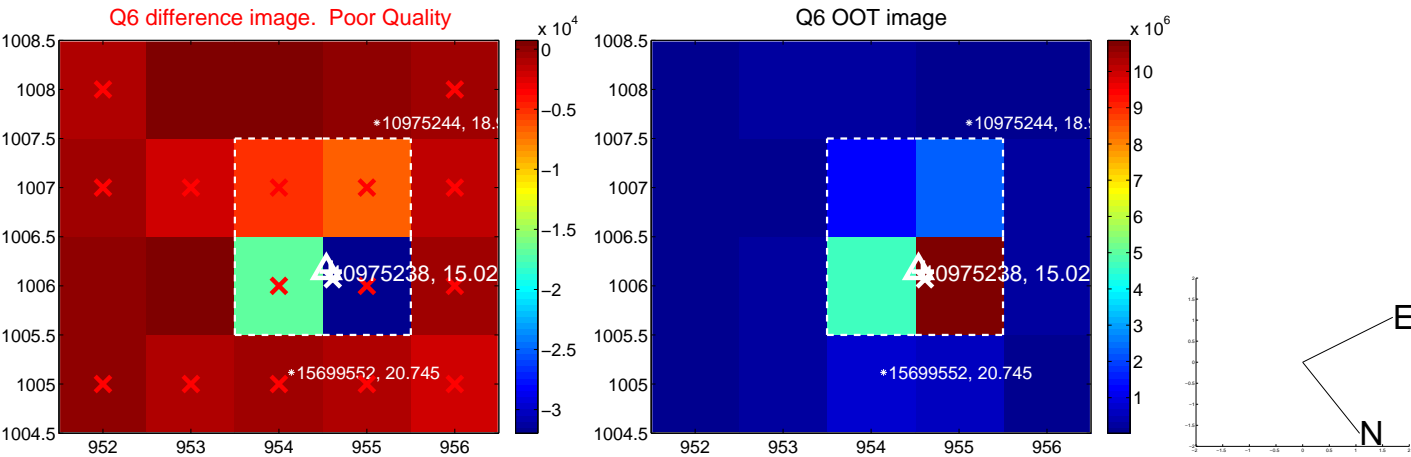
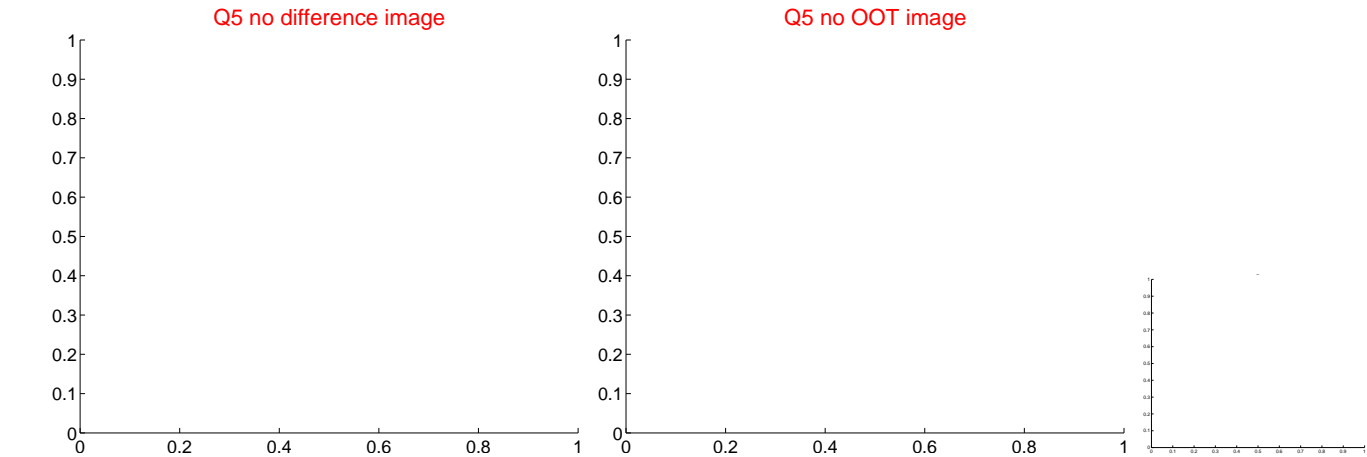
Q4 no difference image



Q4 no OOT image



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

Q9 no difference image



Q9 no OOT image



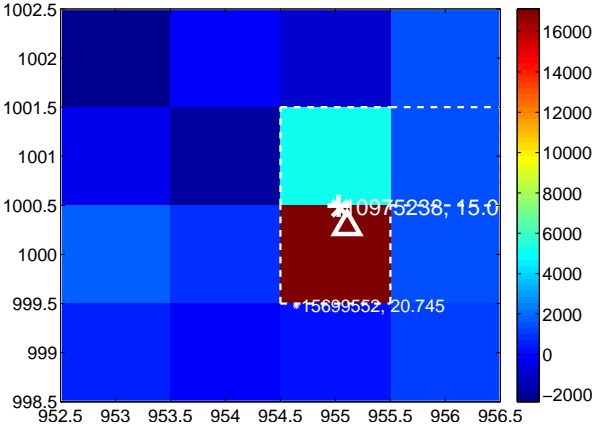
Q10 no difference image



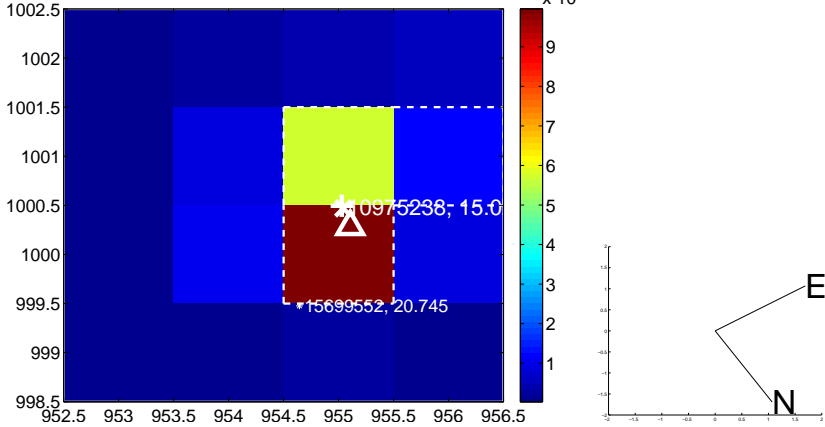
Q10 no OOT image



Q11 difference image



Q11 OOT image



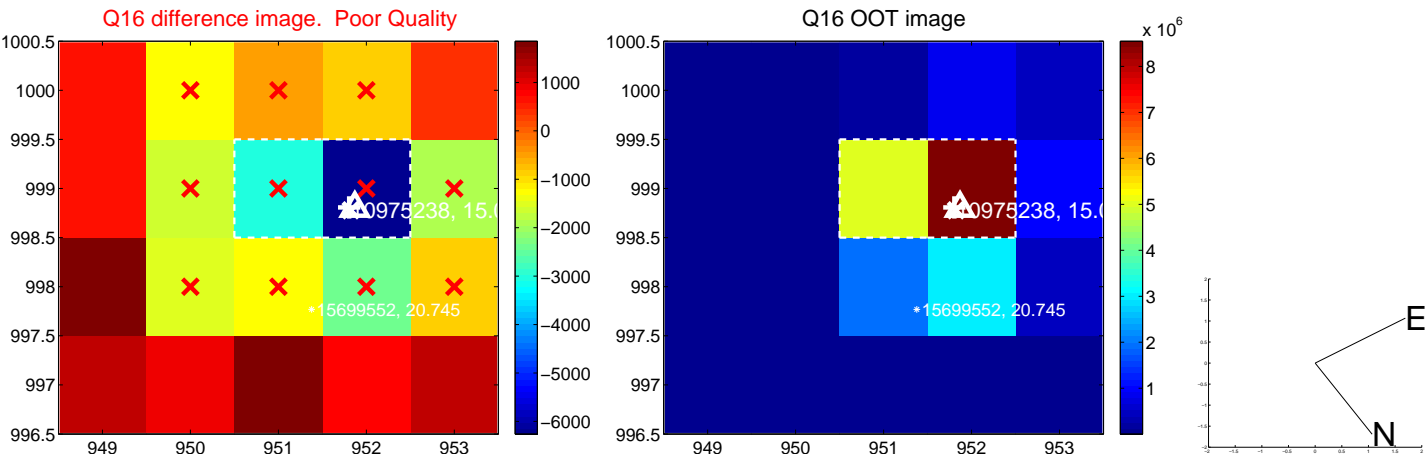
Q12 no difference image



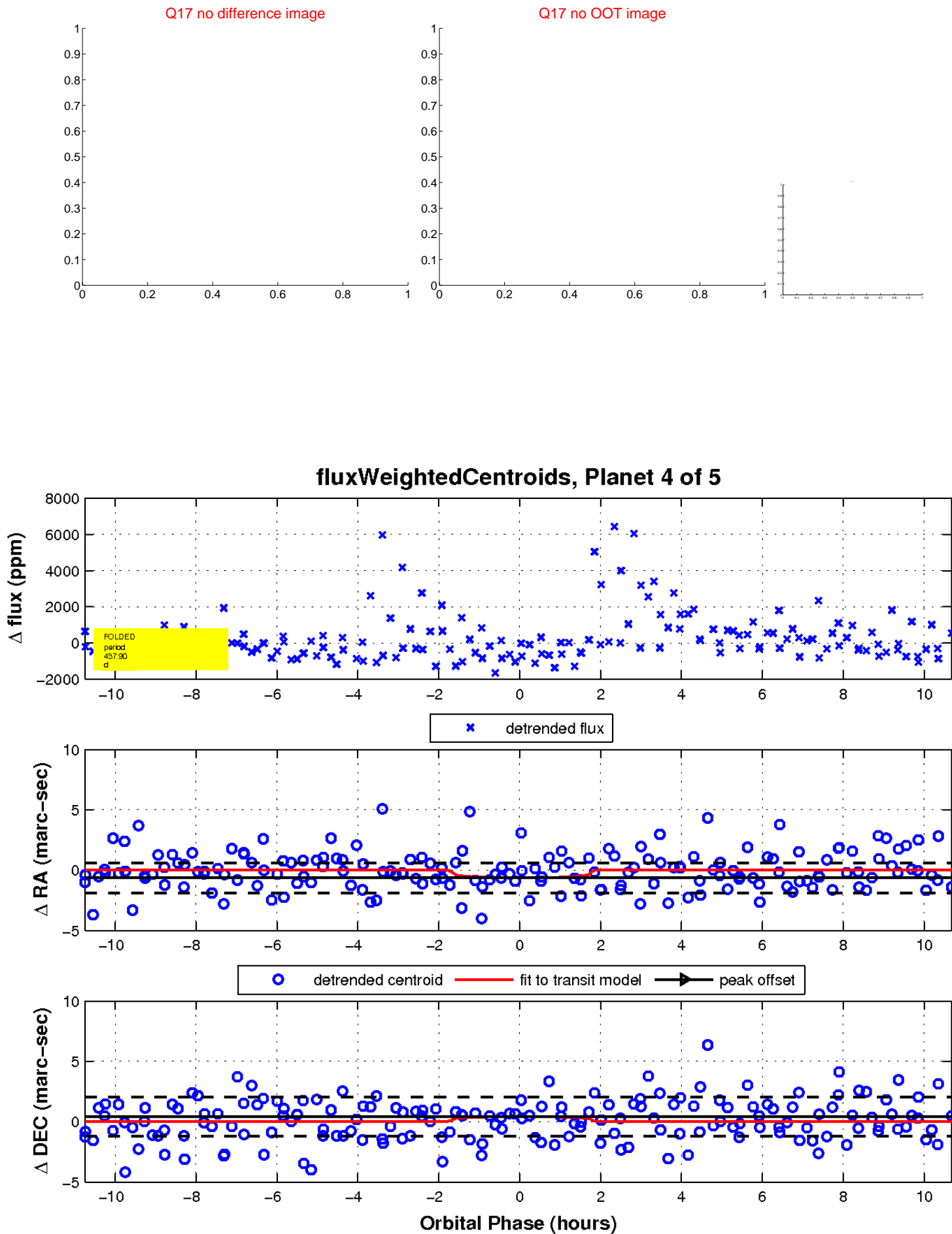
Q12 no OOT image



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

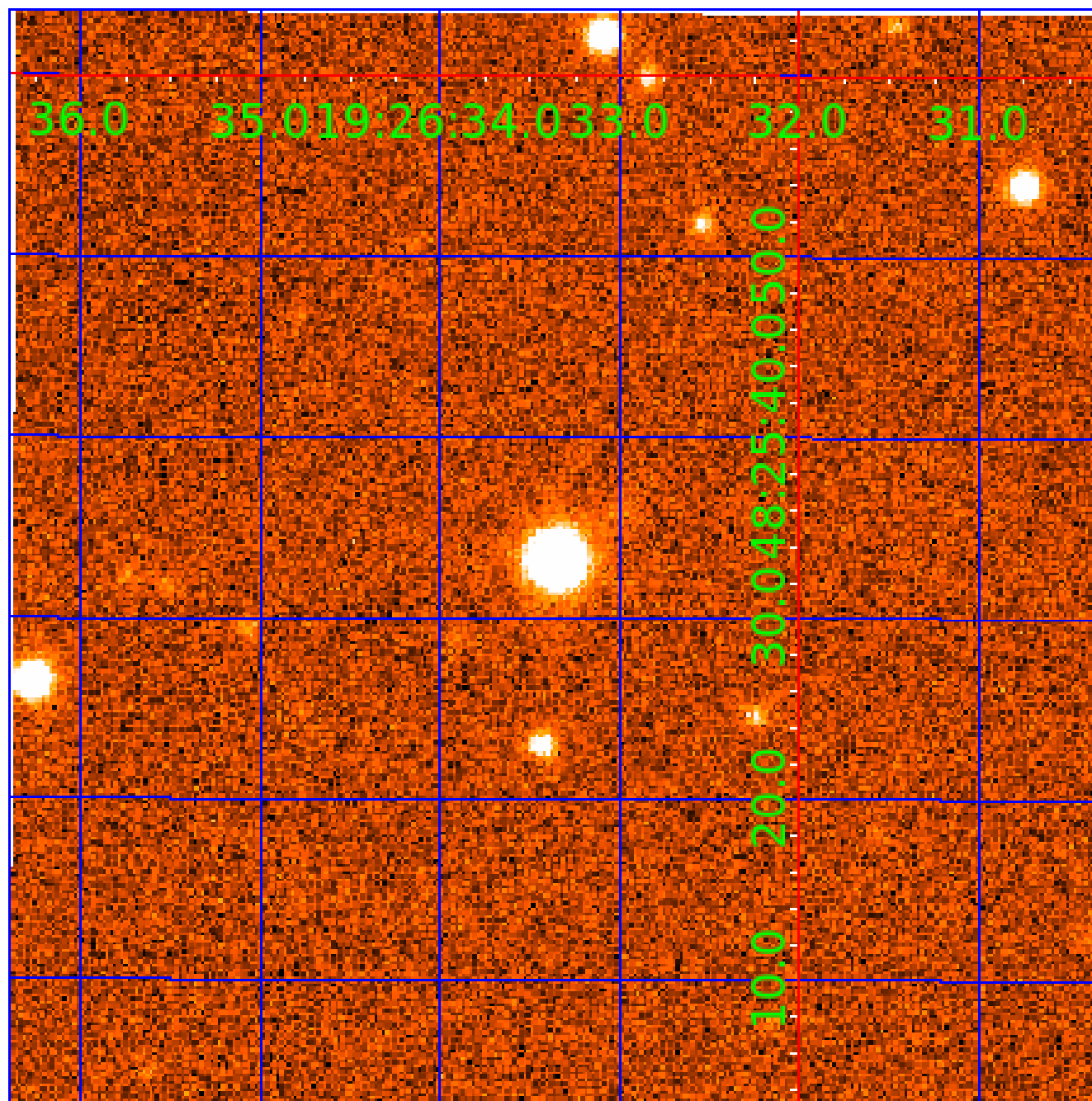


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010975238

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})
010975238-01	OBS	No	328.113997	255.833338	1182.4	5.332	14.8	4.9	0.49	3794	1.90	0.08
010975238-02	OBS	No	687.090596	203.493676	3563.7	8.450	18.3	8.8	0.49	3794	5.48	0.03
010975238-03	OBS	No	582.994076	188.225536	757.8	2.224	12.5	3.1	0.49	3794	1.50	0.04
010975238-04	OBS	No	437.904554	189.728910	1480.5	3.597	15.1	7.6	0.49	3794	1.87	0.06
010975238-05	OBS	No	642.819364	254.820717	1188.4	4.500	11.9	-1.0	0.49	3794	1.68	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010975238-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS
010975238-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010975238-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
010975238-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010975238-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

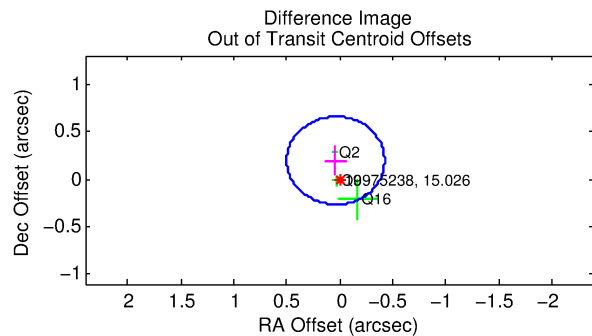
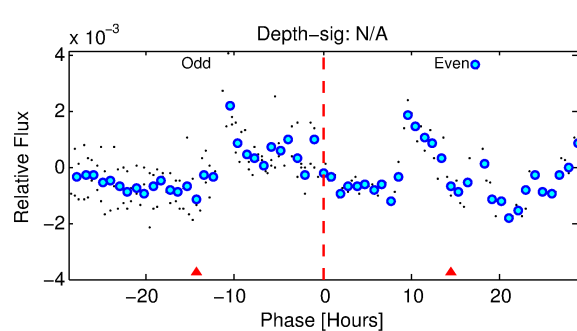
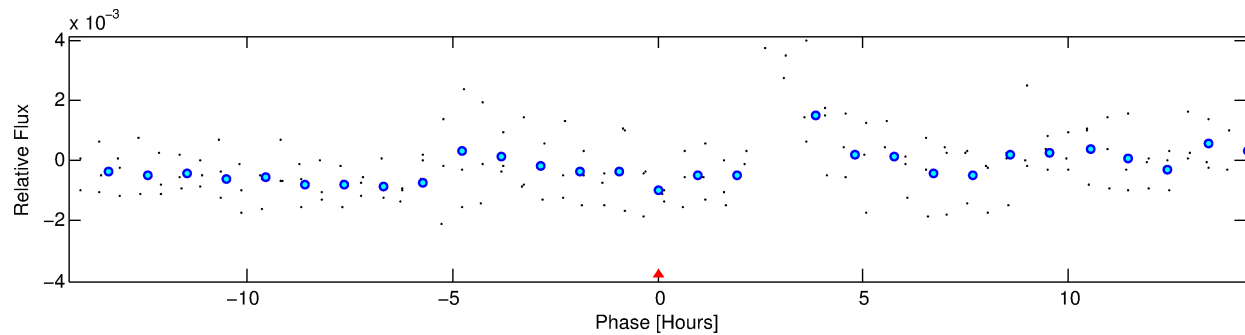
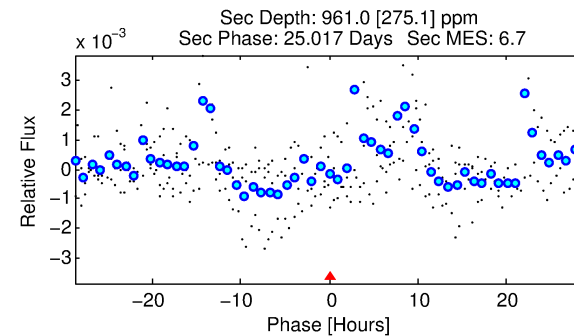
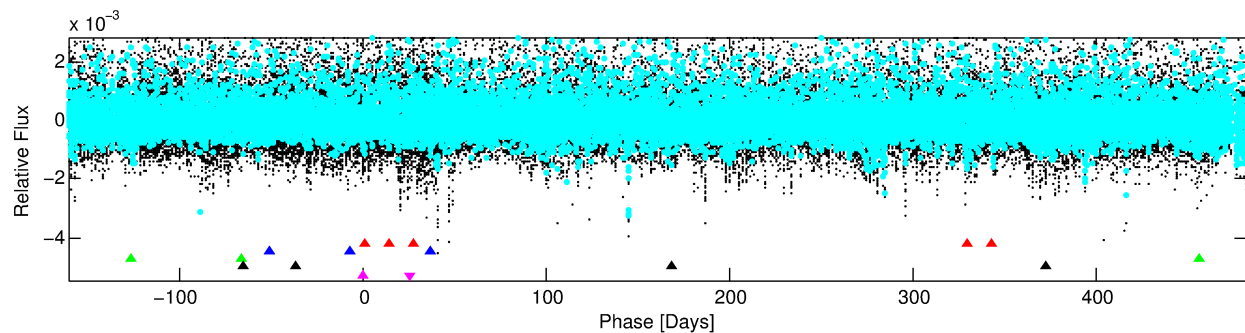
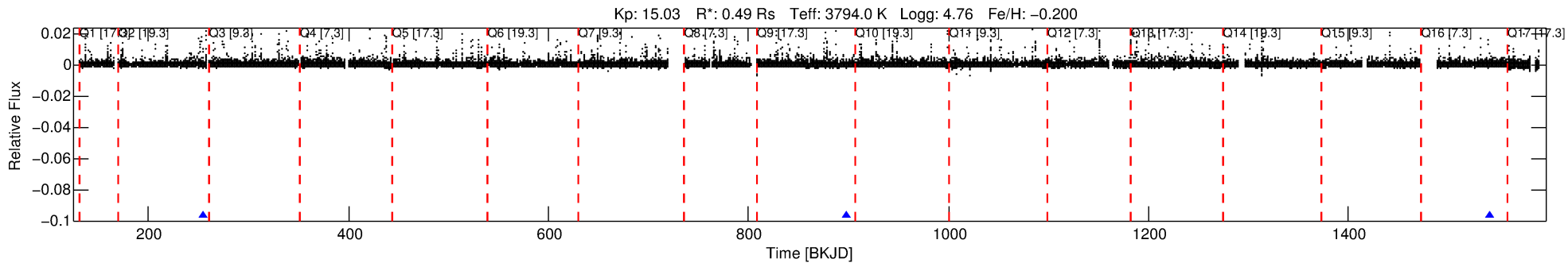
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010975238-05

No Significant Match Found

DV One-Page Summary

KIC: 10975238 Candidate: 5 of 5 Period: 642.819 d



TPS TCE Results:

Period = 642.81936 d
Epoch = 254.8207 BKJD

DV fit results are unavailable

DV Diagnostic Results:

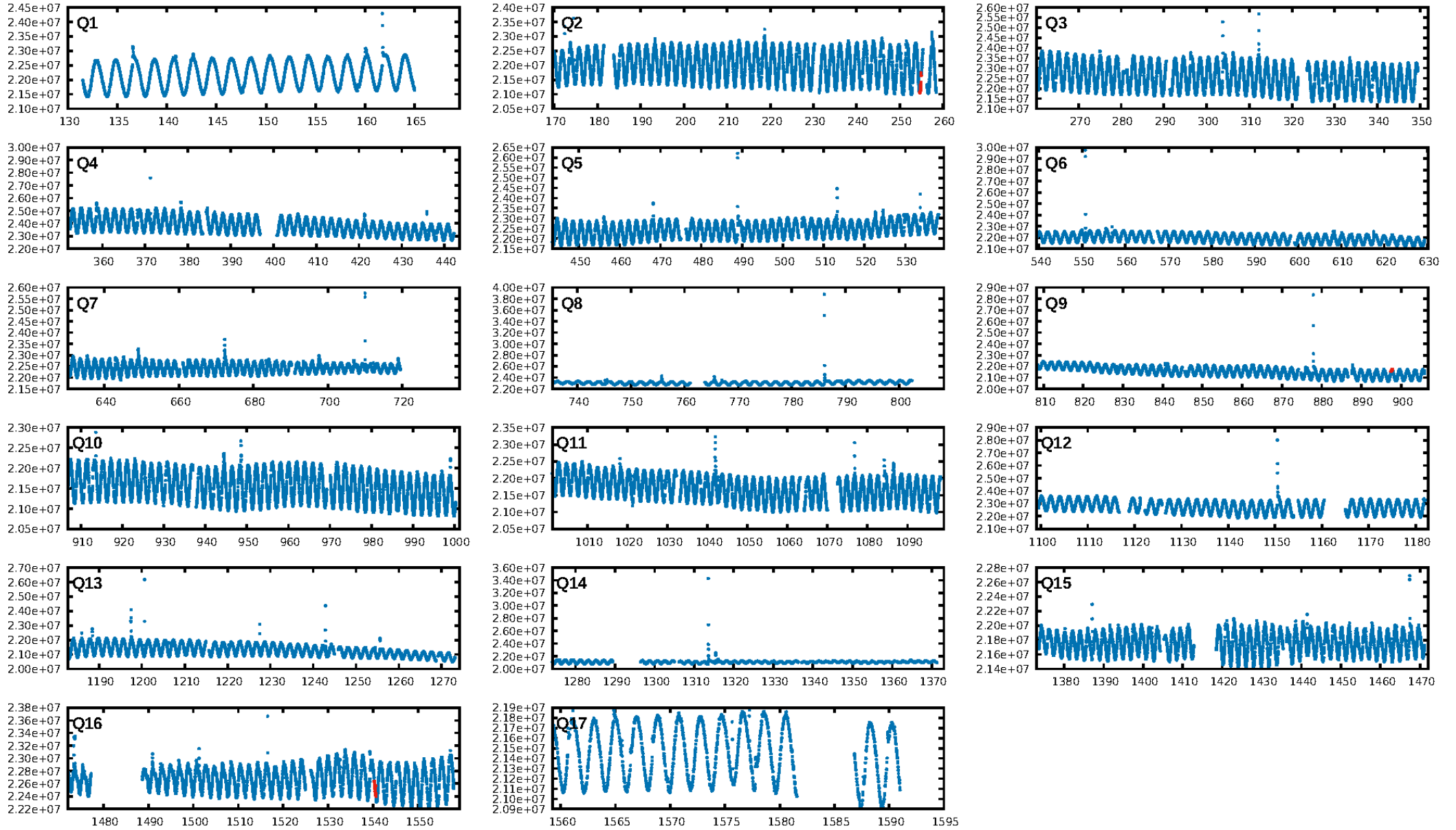
ShortPeriod-sig: 100.0% [286.04 σ]
LongPeriod-sig: 100.0% [110.98 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.292

Centroid-sig: 82.5%
Centroid-so: 0.272 arcsec [0.49 σ]
OotOffset-rm: 0.200 arcsec [1.30 σ]
KicOffset-rm: 0.190 arcsec [1.12 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

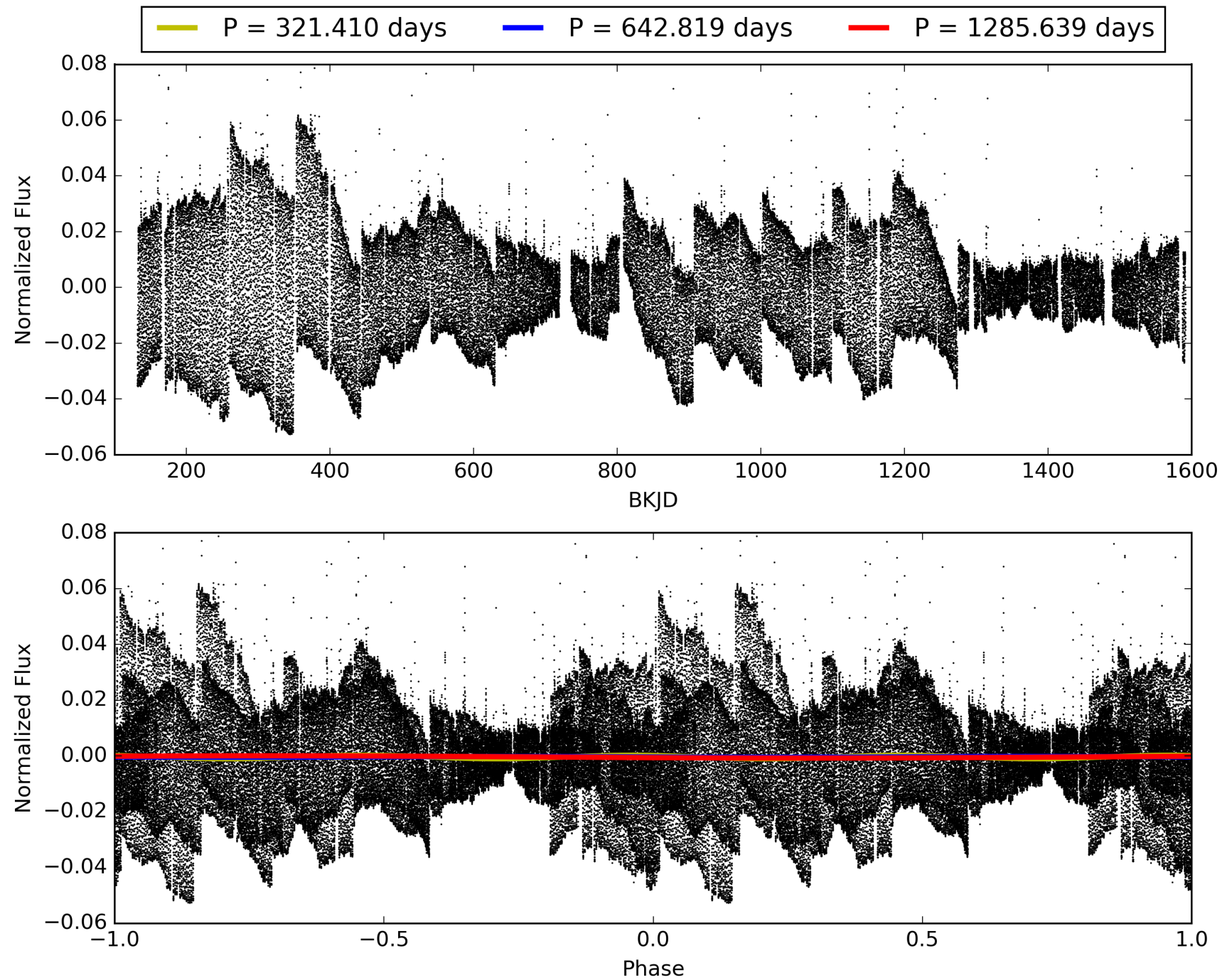
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:11:28 Z

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

TCE 010975238-05, PDC Light Curves

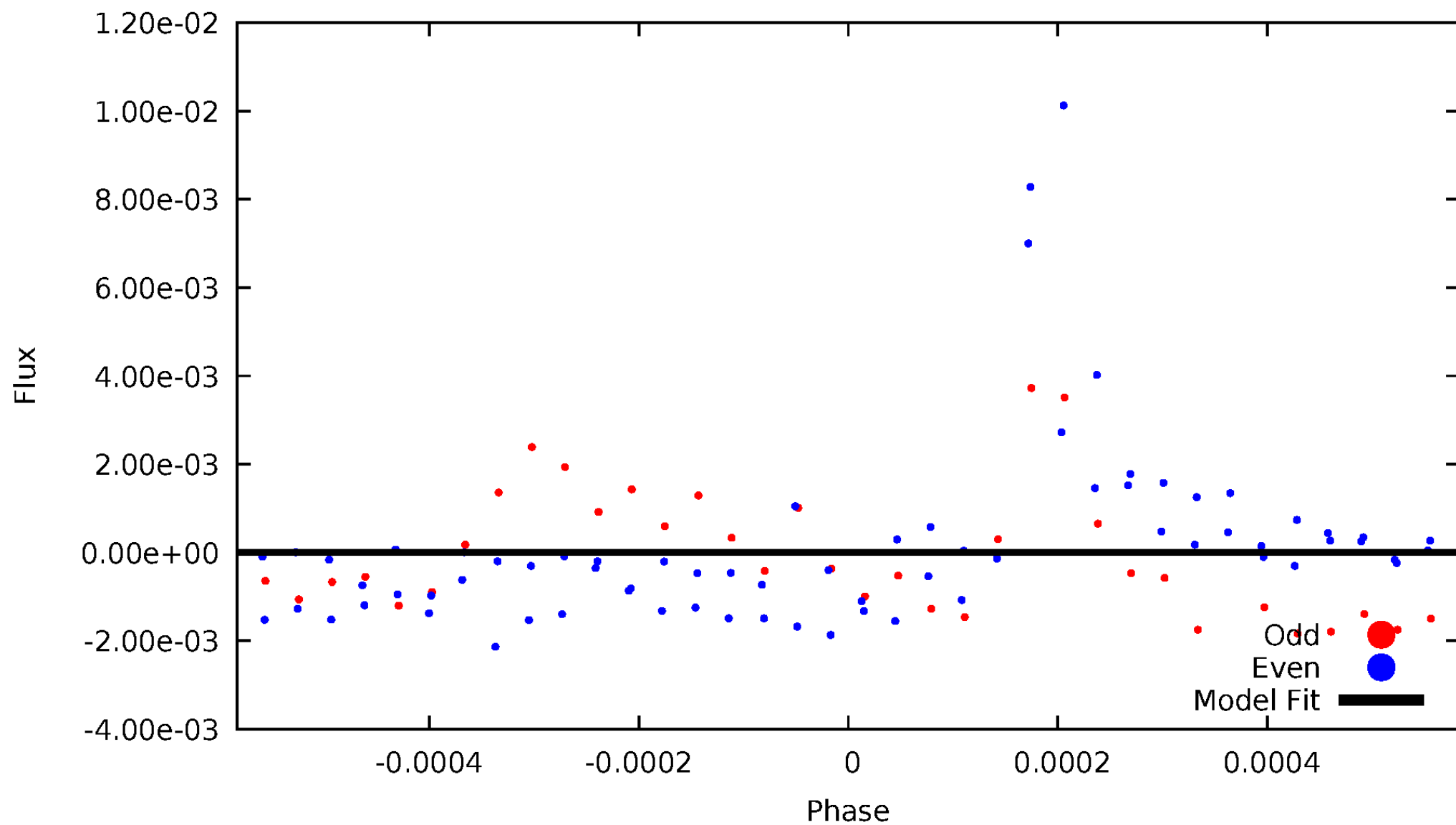


TCE 010975238-05



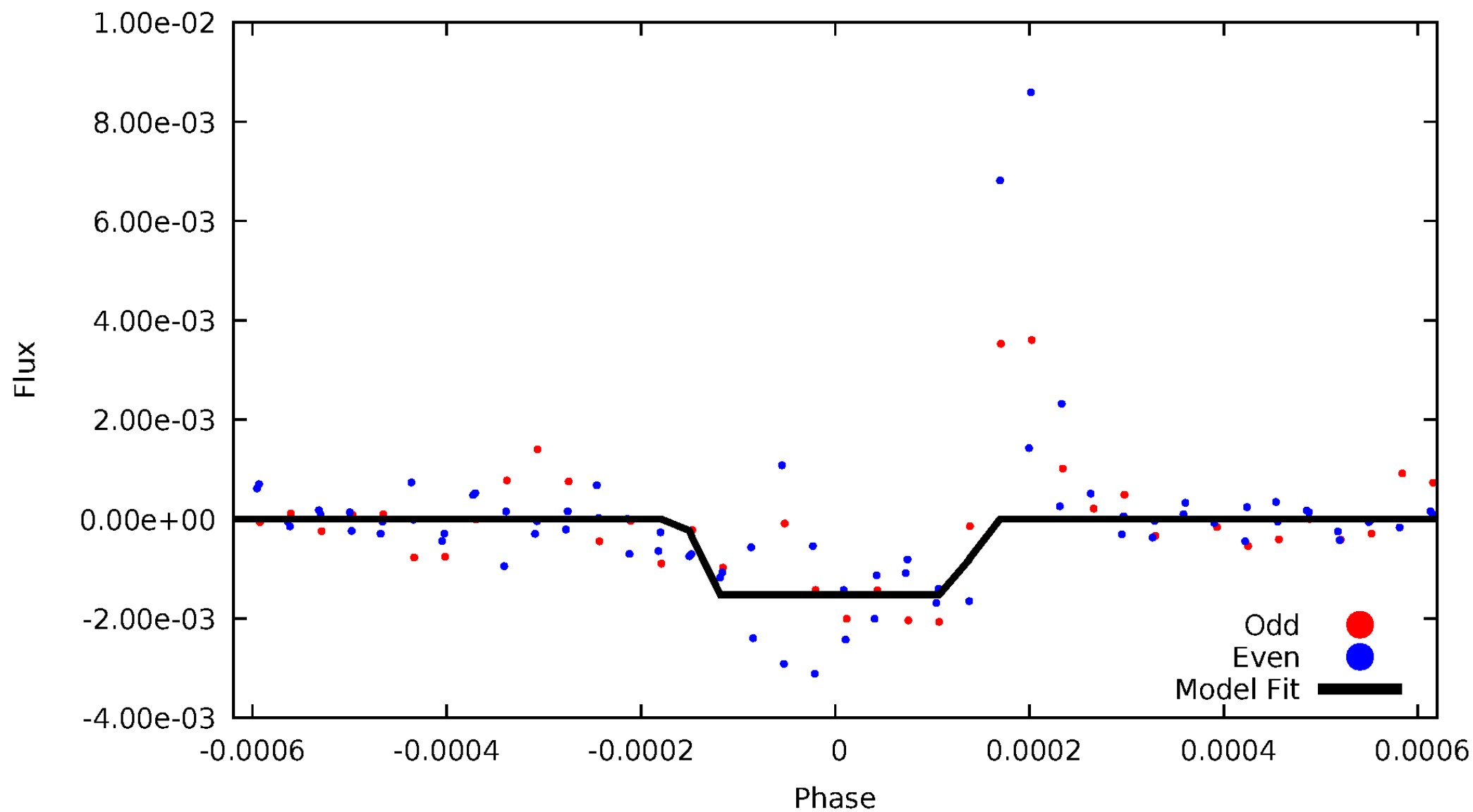
DV Odd/Even

TCE 010975238-05

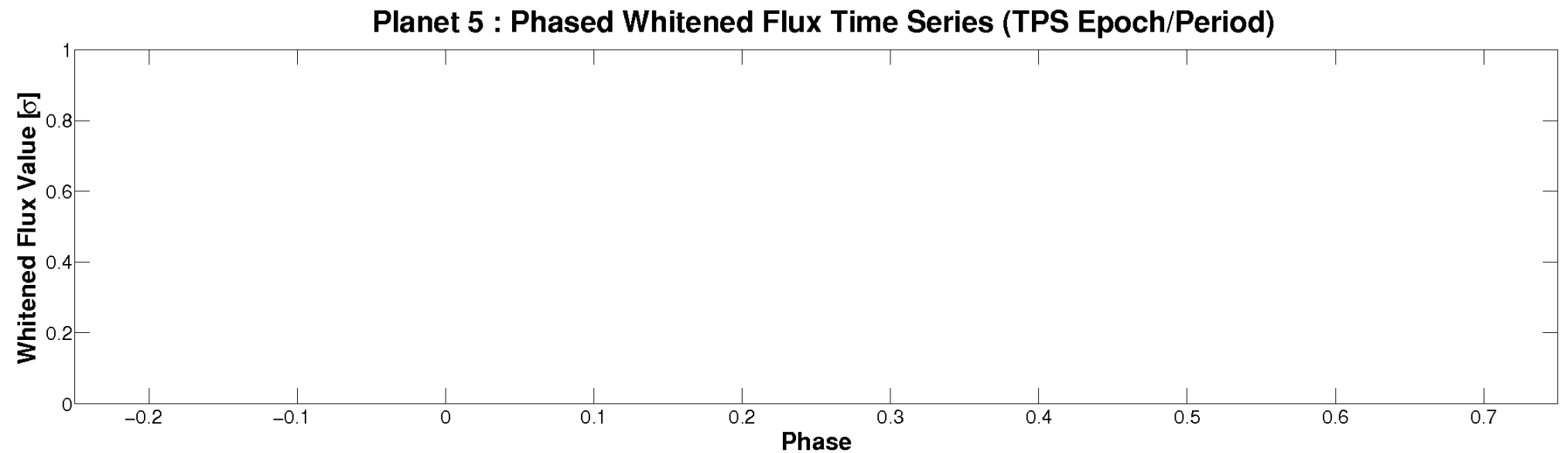
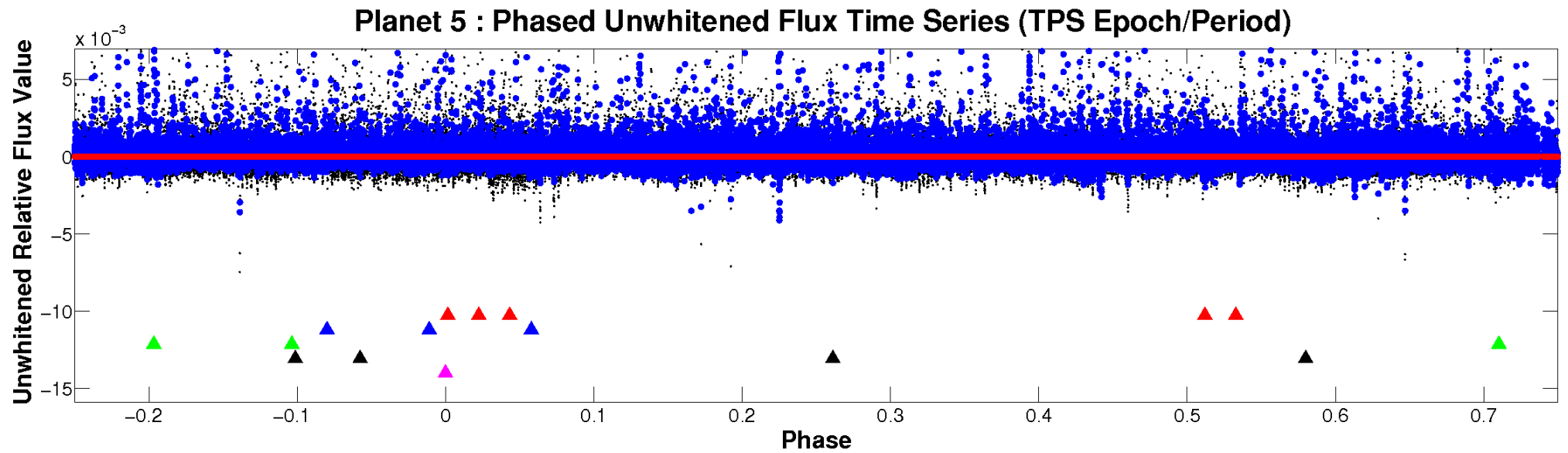


ALT Odd/Even

TCE 010975238-05

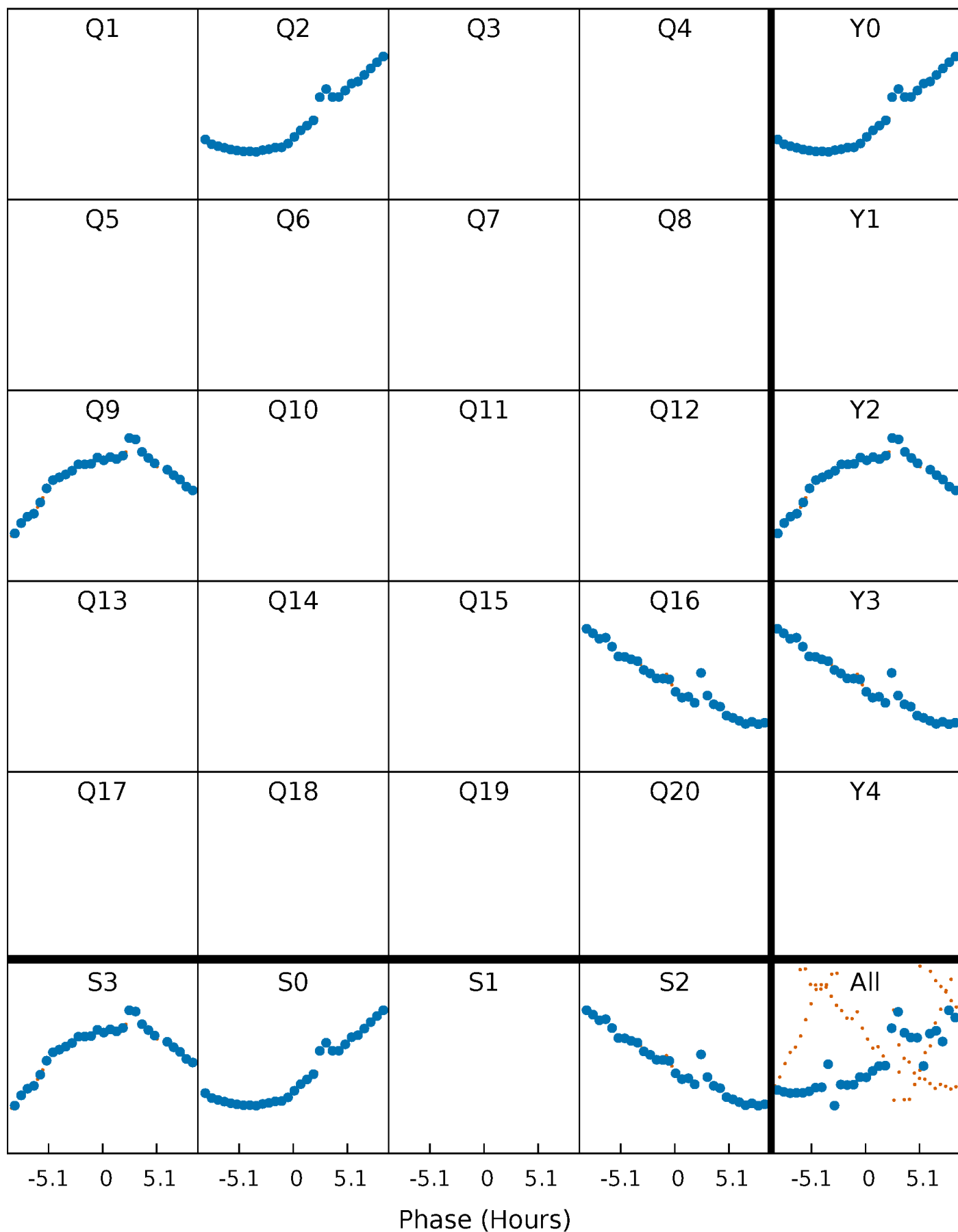


Non-Whitened Vs. Whitened Light Curve



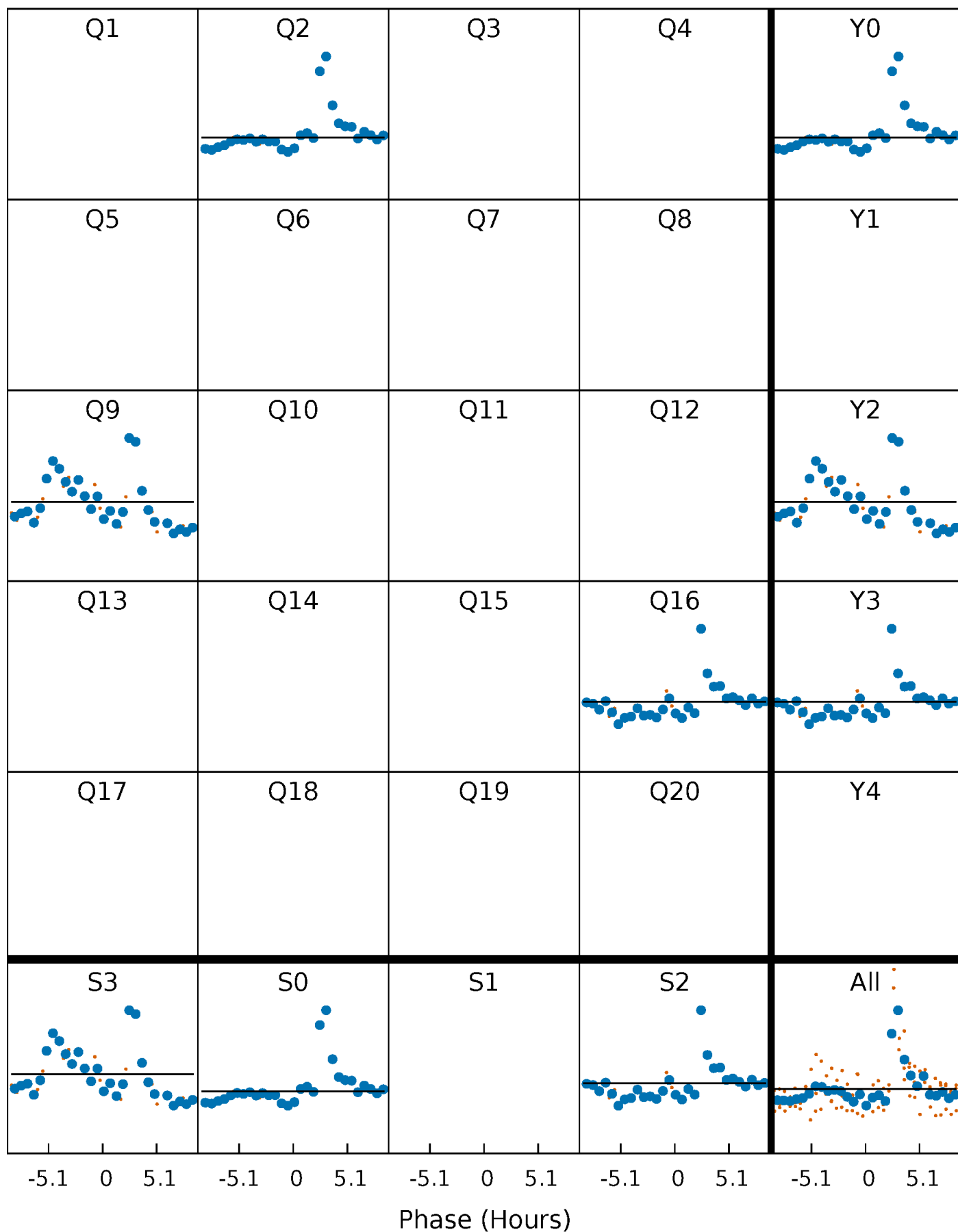
PDC Quarter-Phased Transit Curves

TCE 010975238-05 $P=642.819364$ Days $T_0=254.820717$ (BKJD)



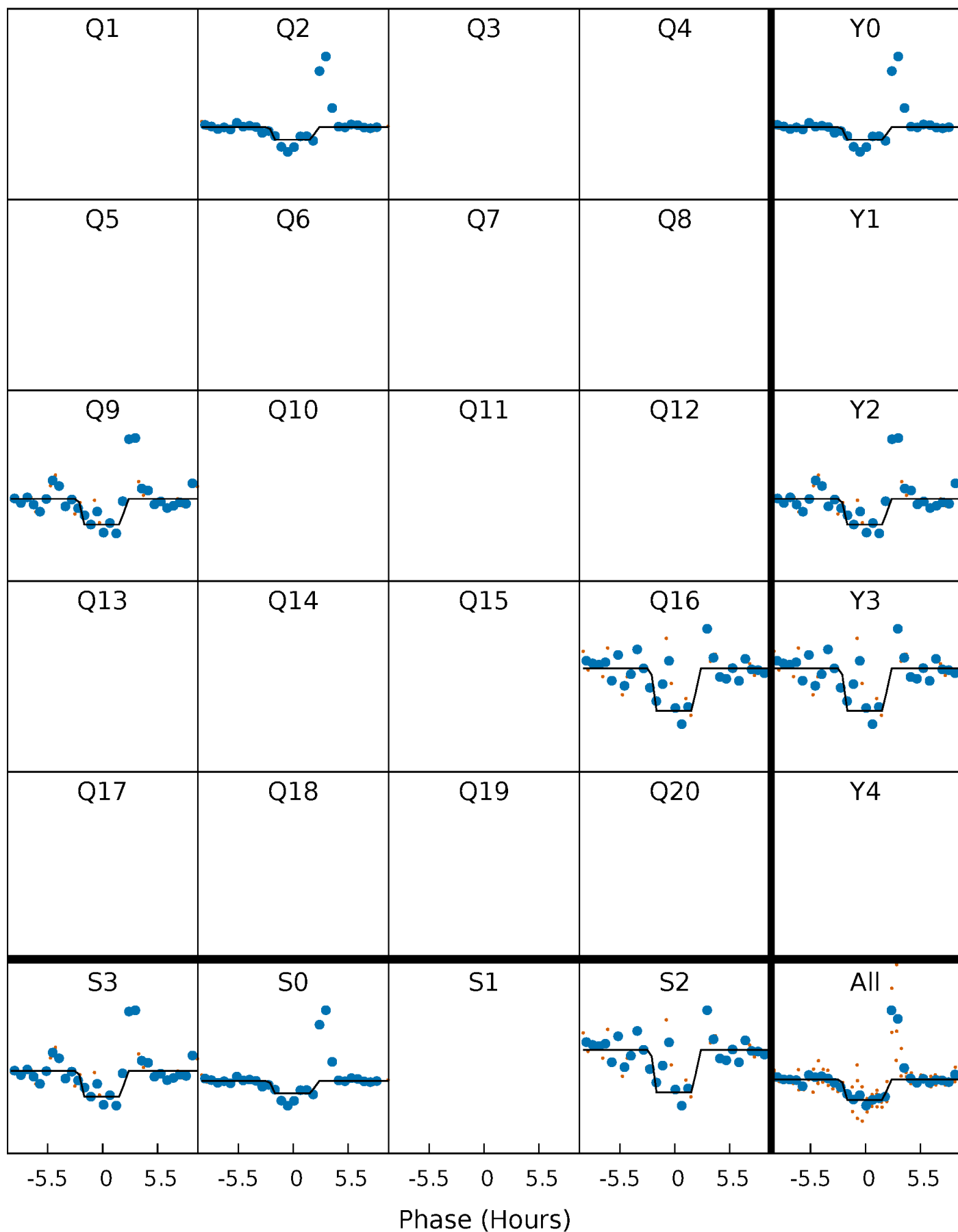
DV Quarter-Phased Transit Curves

TCE 010975238-05 $P=642.819364$ Days $T_0=254.820717$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

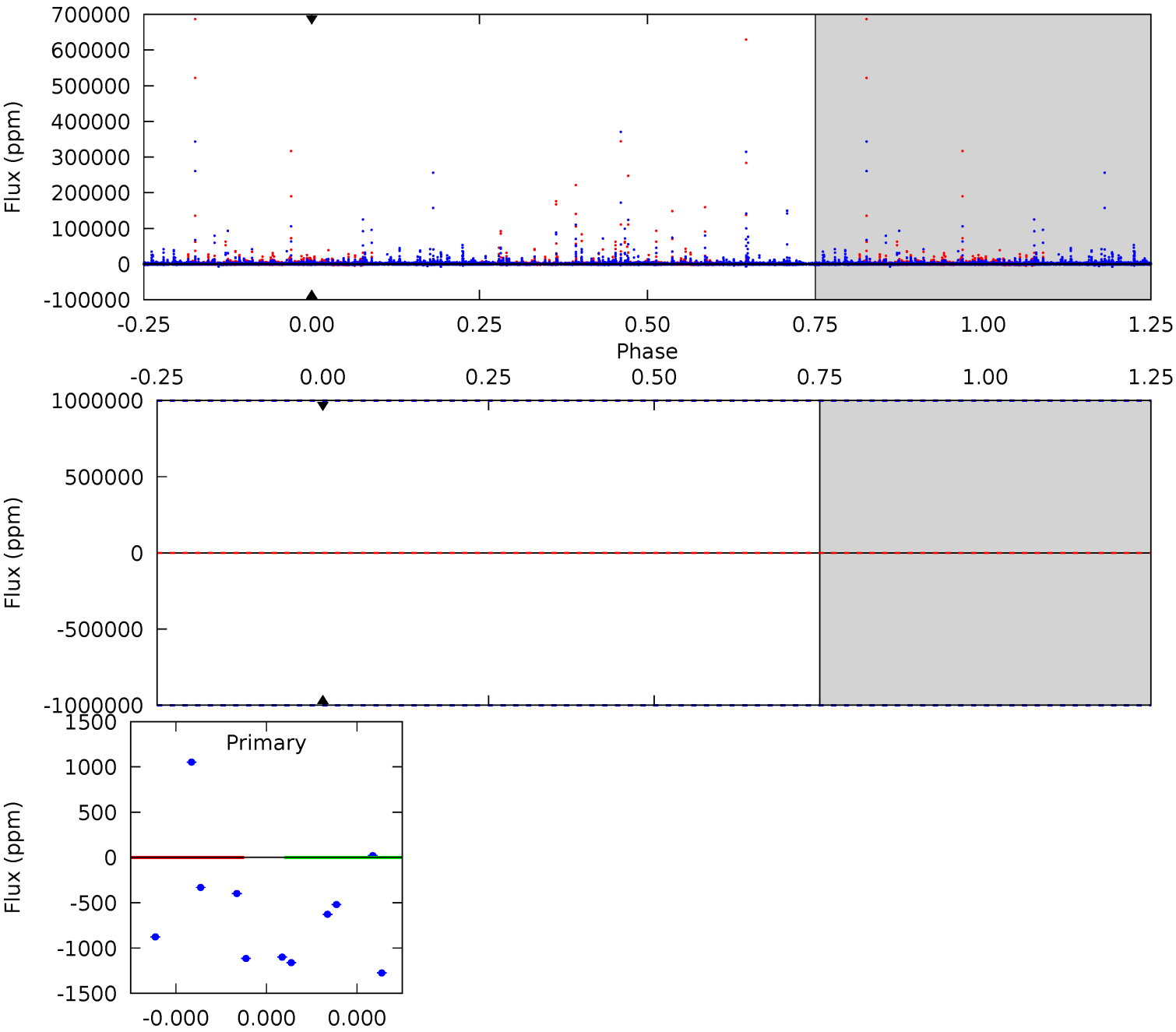
TCE 010975238-05 $P=642.819364$ Days $T_0=254.823370$ (BKJD)



DV Model-Shift Uniqueness Test

010975238-05, P = 642.819364 Days, E = 254.820717 Days

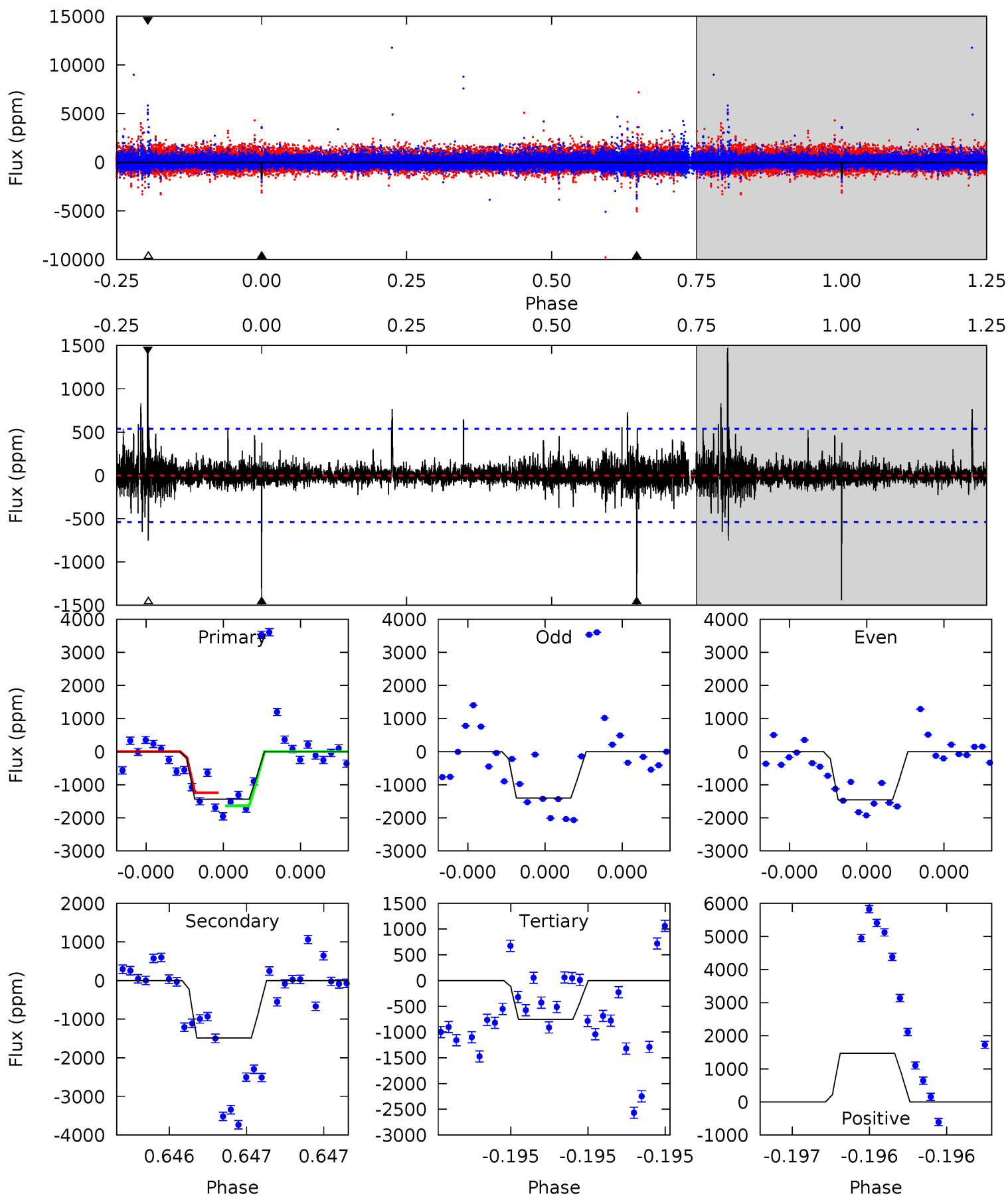
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010975238-05, P = 642.819364 Days, E = 254.823370 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	15.6	7.87	15.4	5.65	3.60	0.95	7.22	-0.33	7.72	0.18	0.22	1.02	0.50	2.07



Stellar Parameters For KIC 010975238

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3794^{+68}_{-76}	$4.757^{+0.039}_{-0.024}$	$-0.200^{+0.100}_{-0.100}$	$0.489^{+0.027}_{-0.038}$	$0.498^{+0.031}_{-0.031}$	$6.001^{+1.077}_{-0.625}$
	+2%/-2%	+1%/-1%	+50%/-50%	+6%/-8%	+6%/-6%	+18%/-10%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 010975238-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$4.39^{+4.31}_{-3.04}$	152^{+3}_{-4}	-2104^{+10280}_{-5409}	$-3490.986^{+7874820.354}_{-6272811.002}$
Alt.	-1489 ± 95	$4.52^{+4.36}_{-3.09}$	151^{+3}_{-4}	2980^{+1362}_{-496}	$53964^{+515336}_{-39963}$

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 $A_{obs} \gg 1.0$

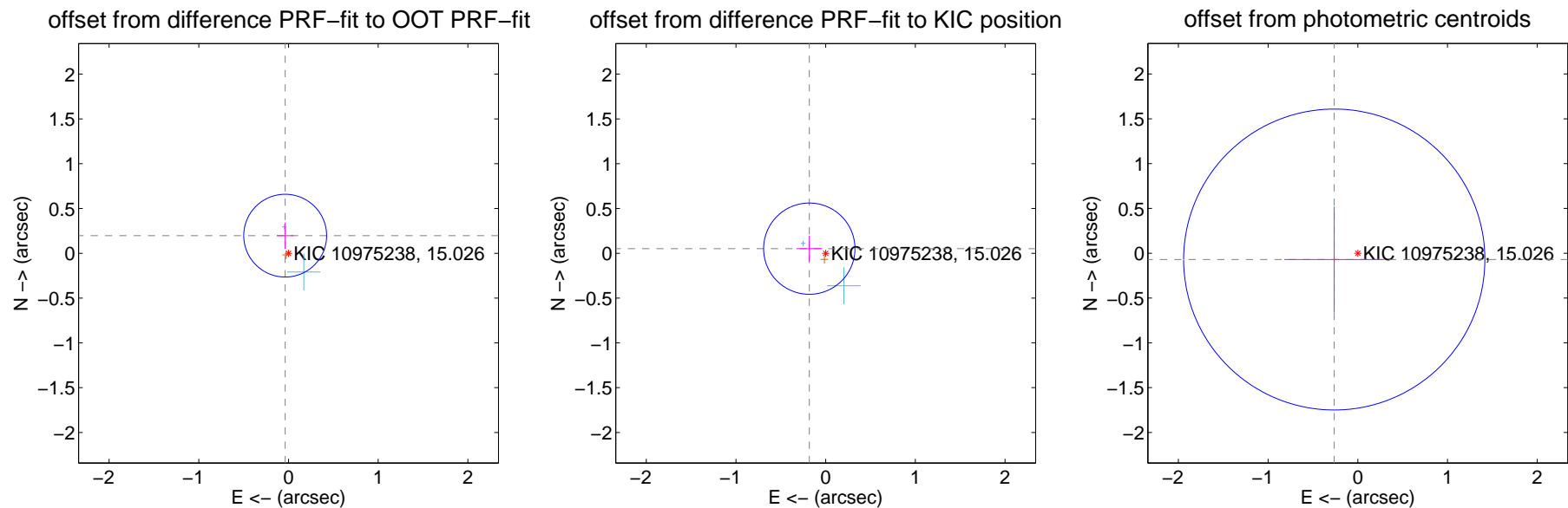
DV Centroid Data

Supplemental centroid analysis for 010975238-05. Kepler magnitude: 15.03. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.200 ± 0.154	1.30	0.037 ± 0.093	0.197 ± 0.146
PRF-fit source offset from KIC position	0.190 ± 0.170	1.12	0.183 ± 0.143	0.052 ± 0.143
photometric centroid source offset	0.27 ± 0.56	0.49	0.26 ± 0.56	-0.07 ± 0.59



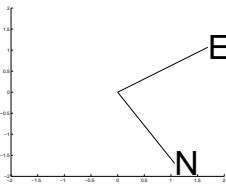
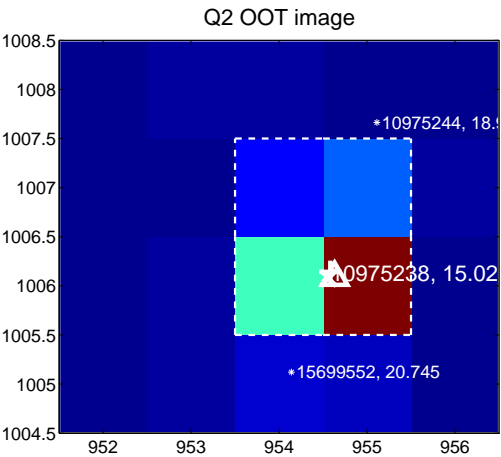
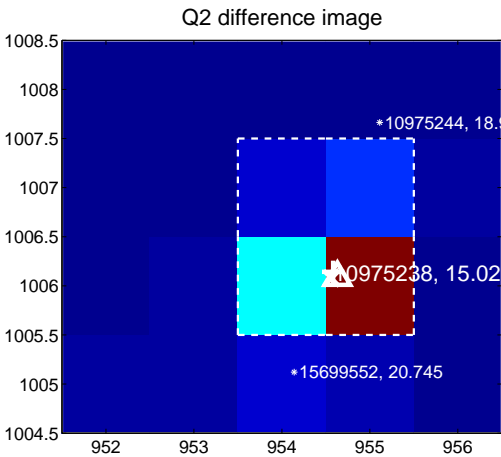
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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

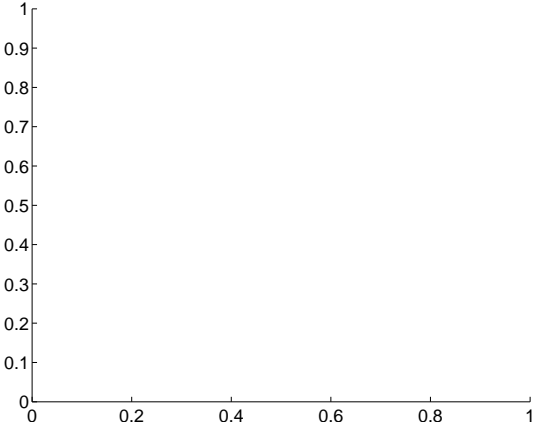
Q1 no difference image



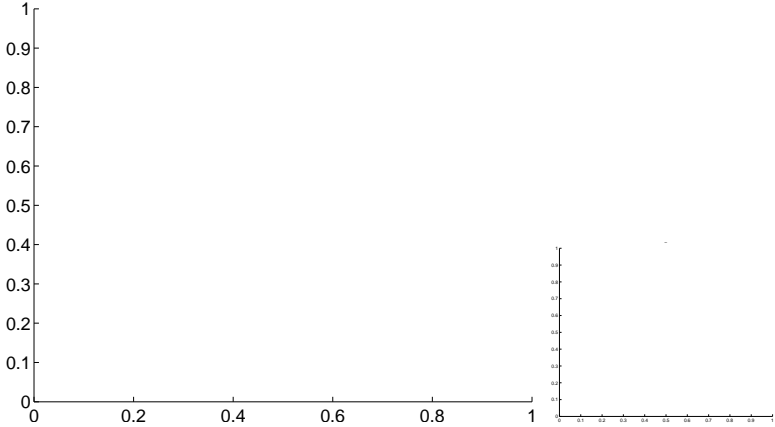
Q1 no OOT image



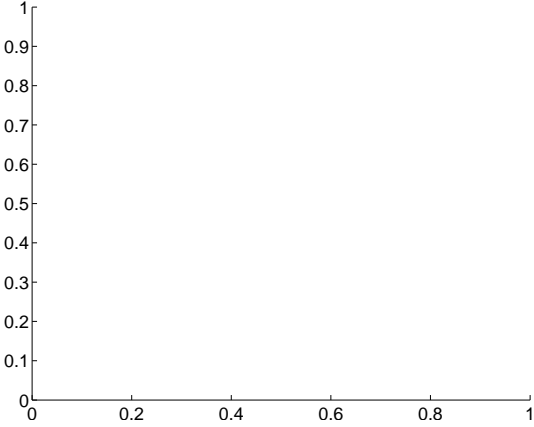
Q3 no difference image



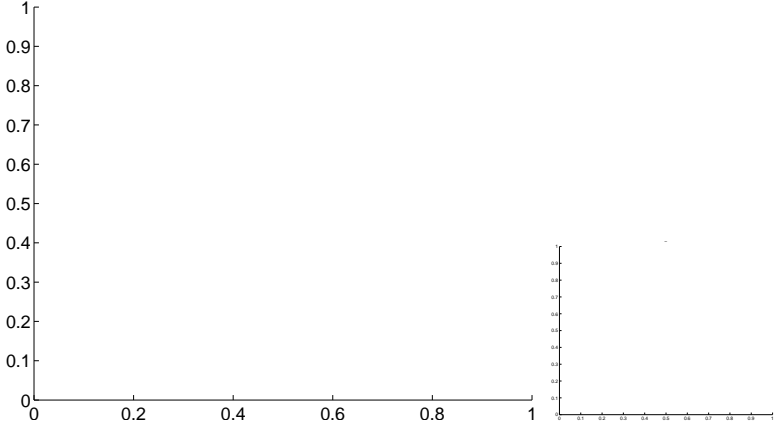
Q3 no OOT image



Q4 no difference image



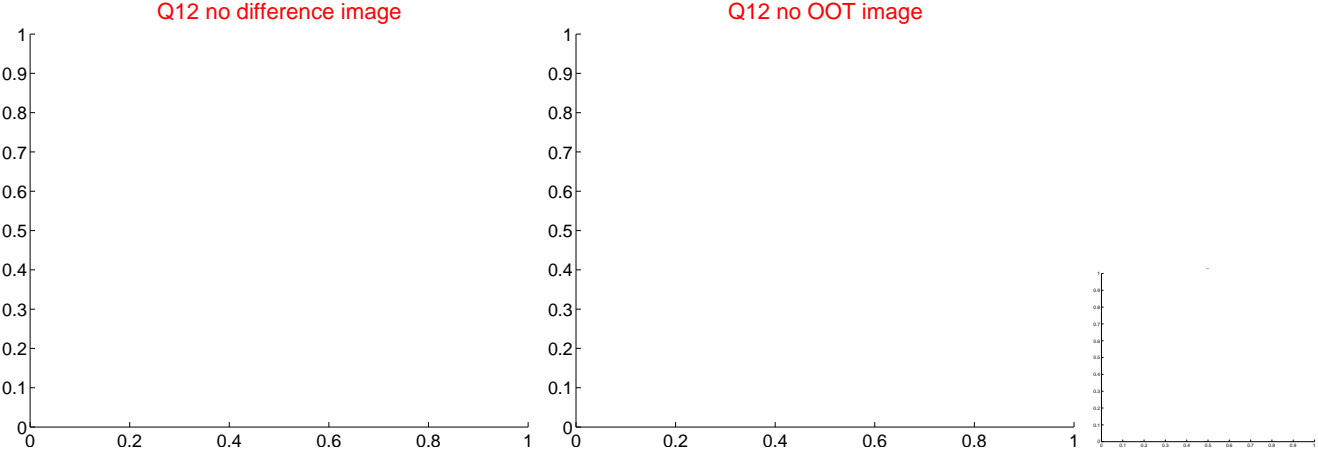
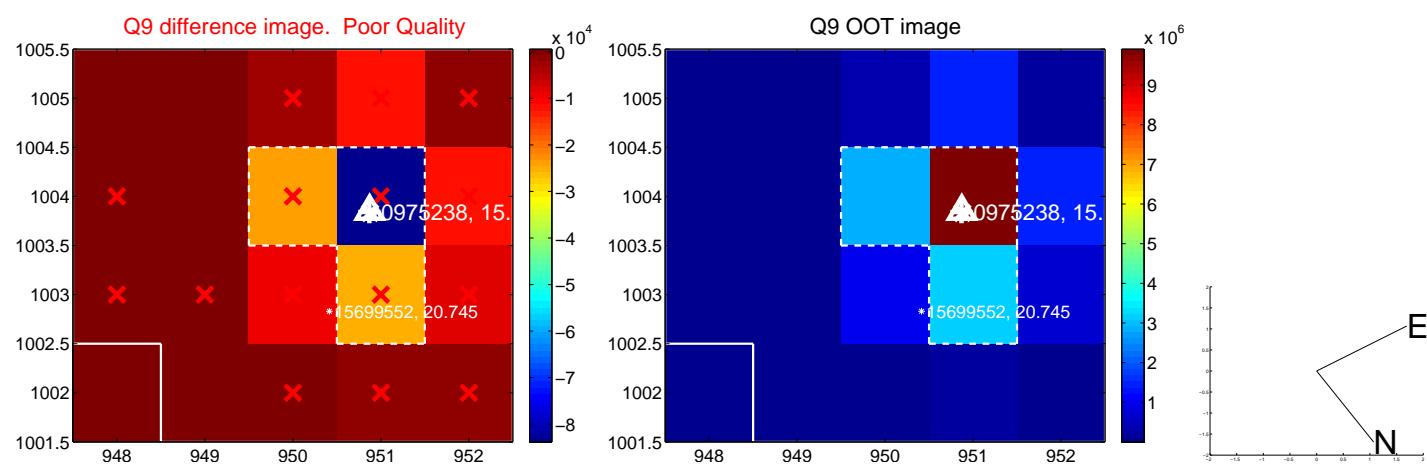
Q4 no OOT image



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

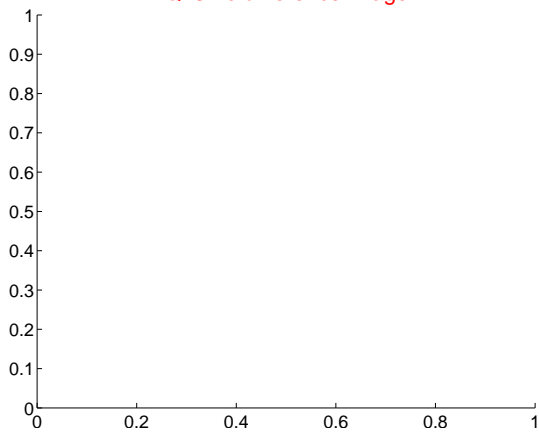


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

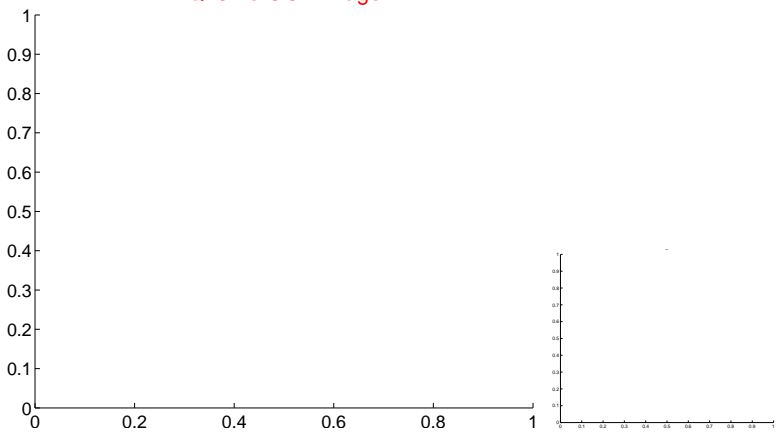


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

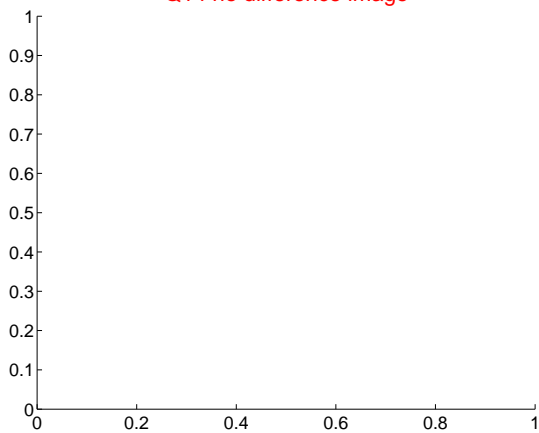
Q13 no difference image



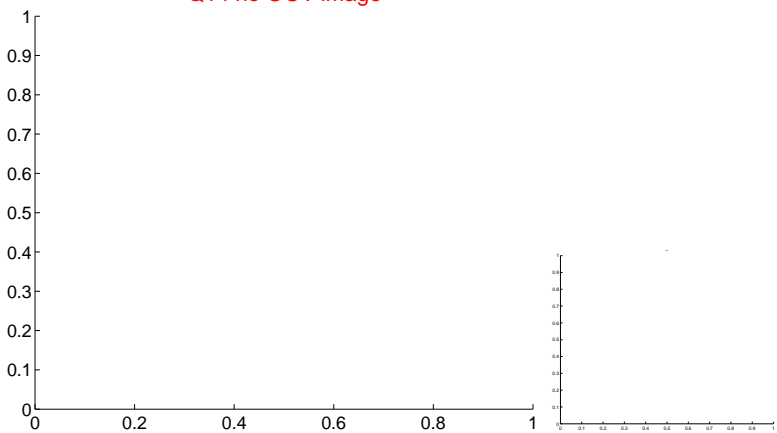
Q13 no OOT image



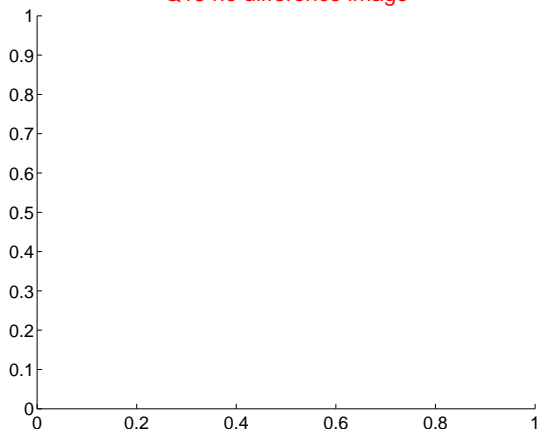
Q14 no difference image



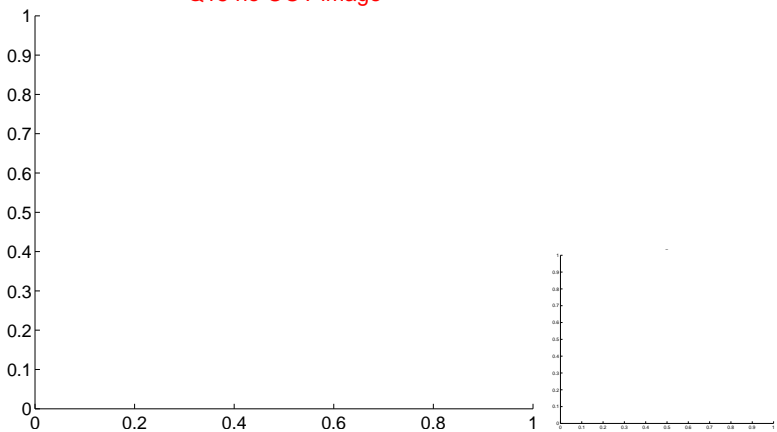
Q14 no OOT image



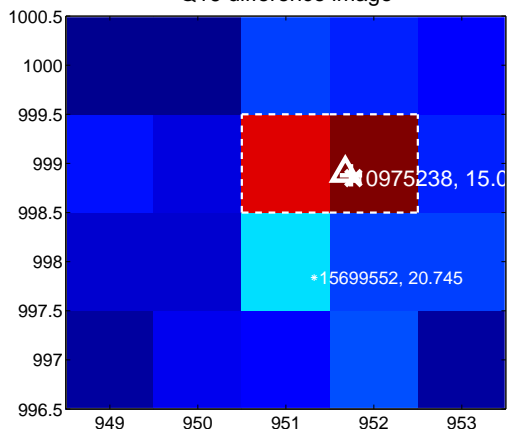
Q15 no difference image



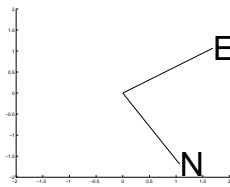
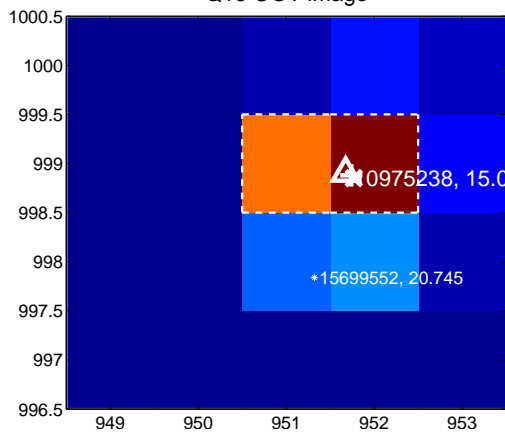
Q15 no OOT image



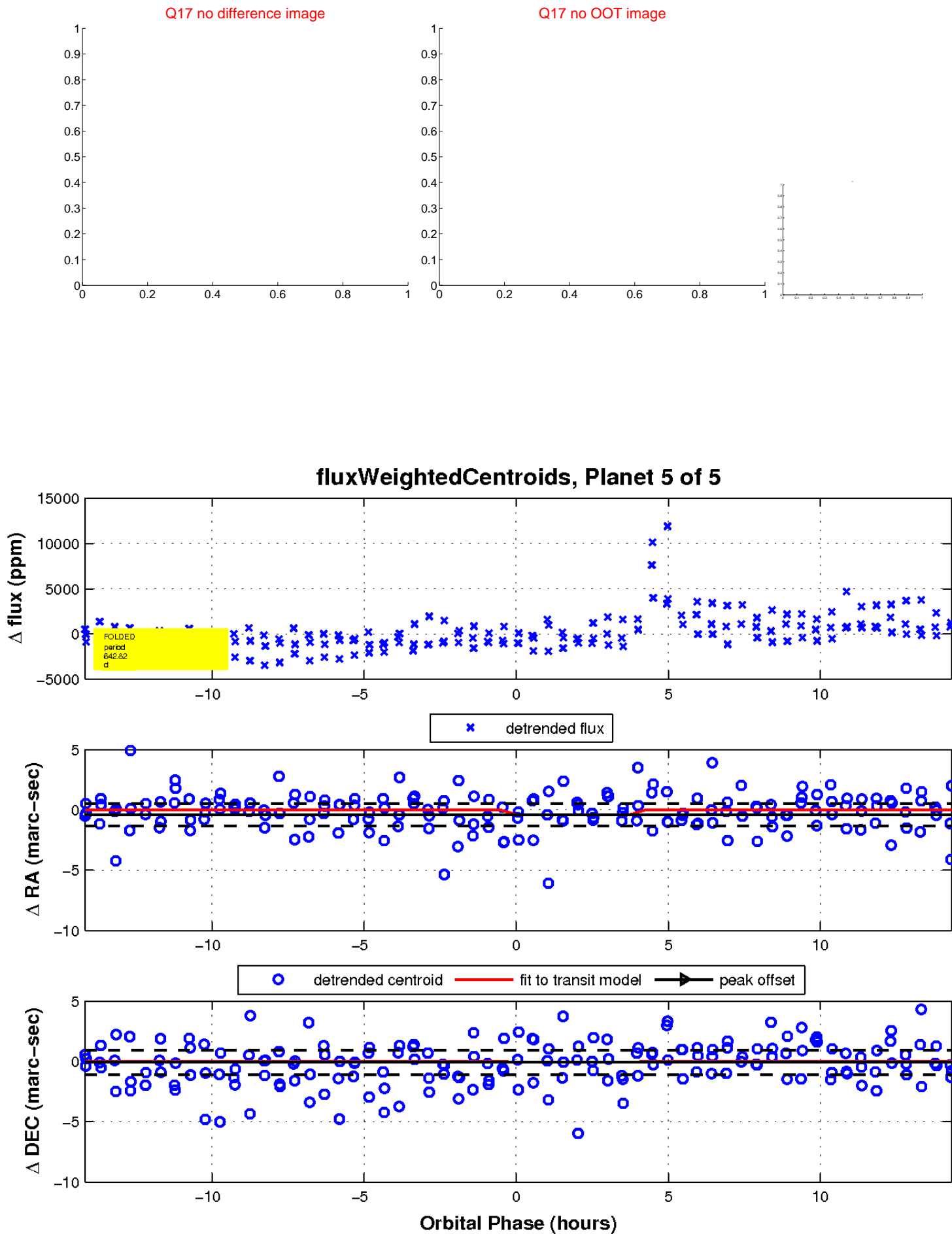
Q16 difference image



Q16 OOT image



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



UKIRT Image

Declination

