

KIC 010724625

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})
010724625-01	OBS	No	385.993737	247.094816	450.5	10.795	61.2	2.6	2.12	7733	5.20	9.44
010724625-02	OBS	No	391.454915	243.916044	1206.1	8.515	9.9	7.8	2.12	7733	13.72	9.26
010724625-03	OBS	No	339.246701	324.359153	743.9	14.486	9.6	10.7	2.12	7733	7.20	11.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010724625-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010724625-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010724625-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

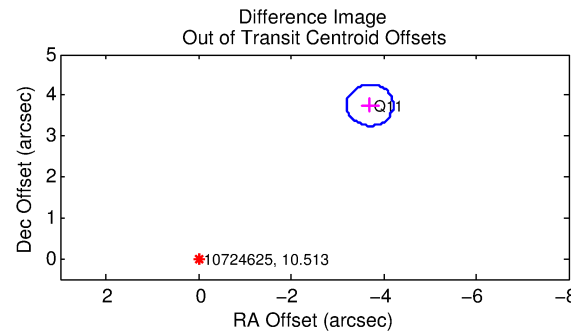
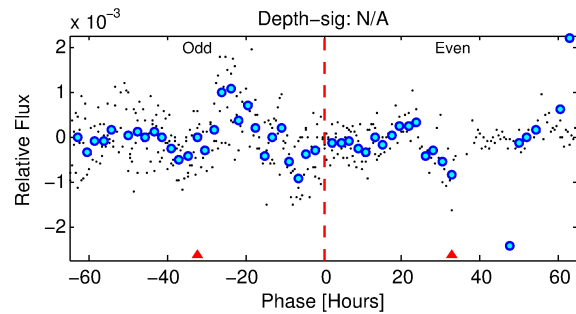
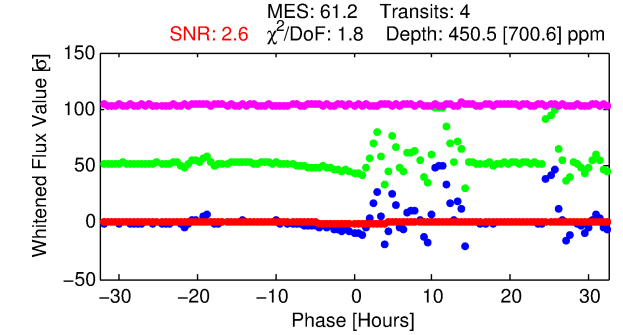
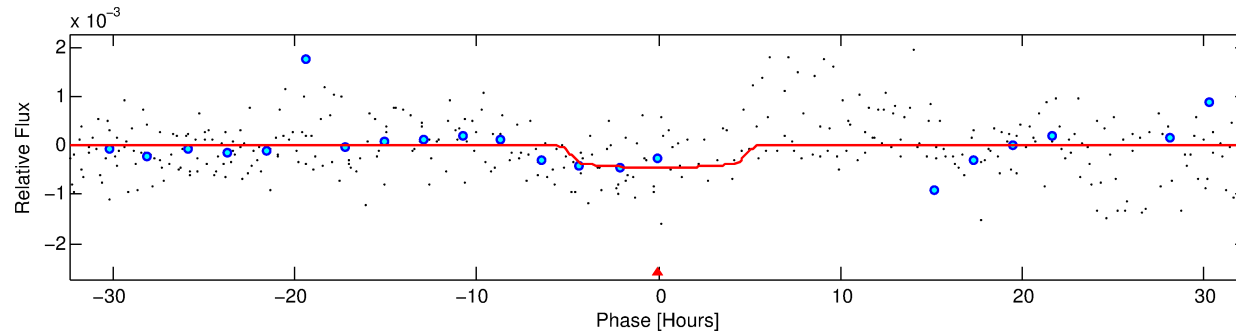
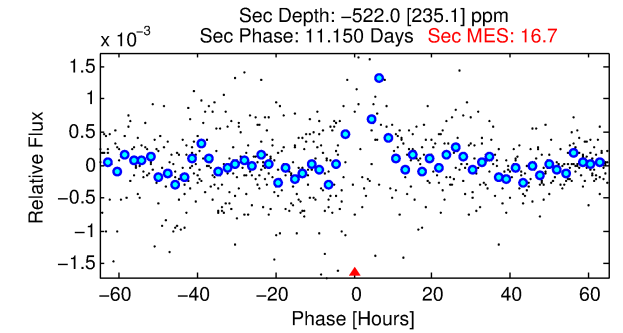
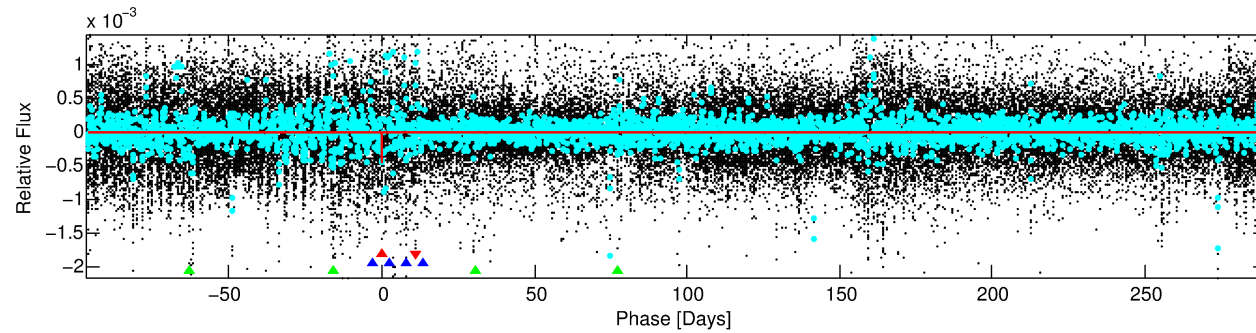
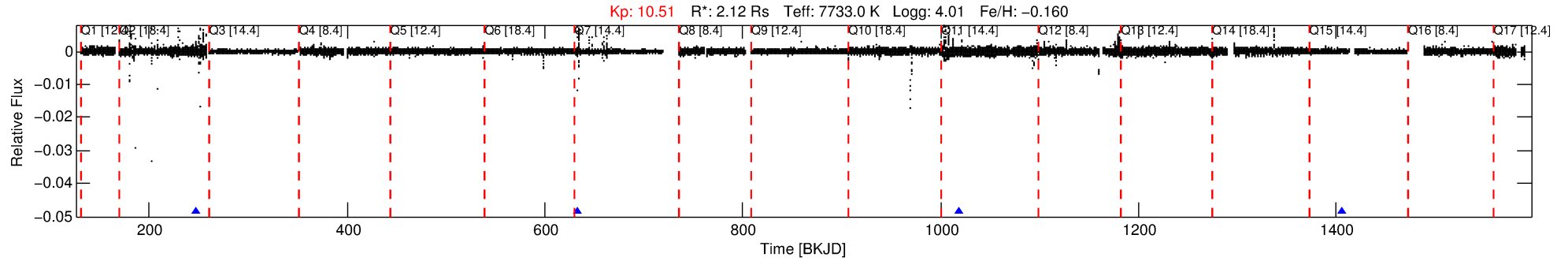
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010724625-01

No Significant Match Found

DV One-Page Summary

KIC: 10724625 Candidate: 1 of 3 Period: 385.994 d



DV Fit Results:

Period = 385.99374 [0.11684] d
Epoch = 247.0948 [0.1503] BKJD
Rp/R* = 0.0225 [0.0283]
a/R* = 139.26 [683.70]
b = 0.89 [1.20]
Seff = 9.44 [3.62]
Teq = 447 [43] K
Rp = 5.20 [6.70] Re
a = 1.2374 [0.2898] AU
Ag = N/A
Teffp = N/A

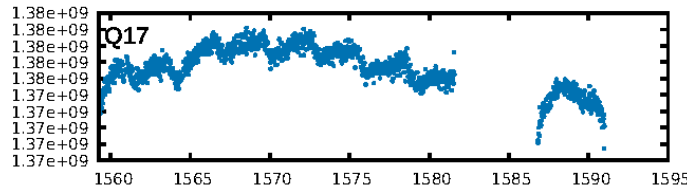
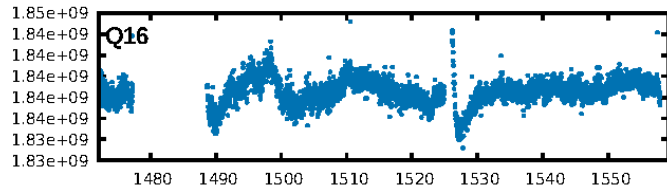
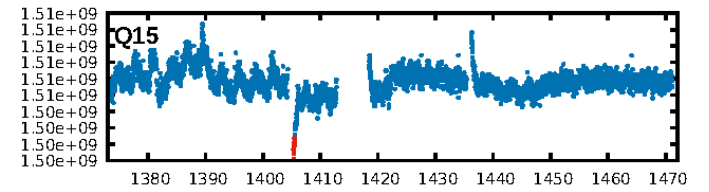
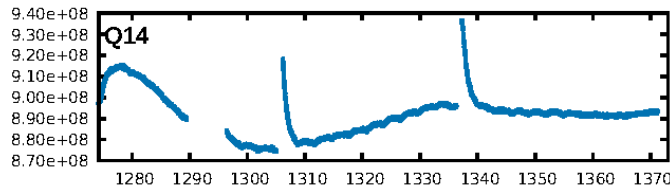
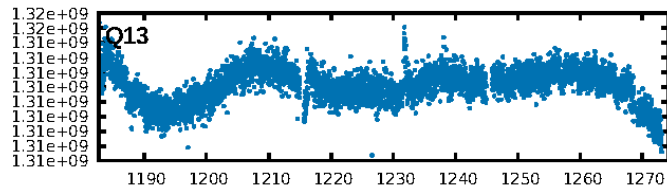
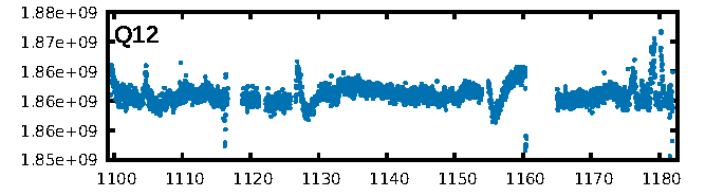
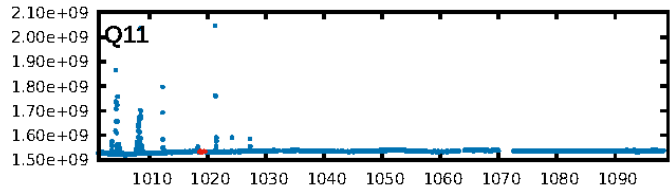
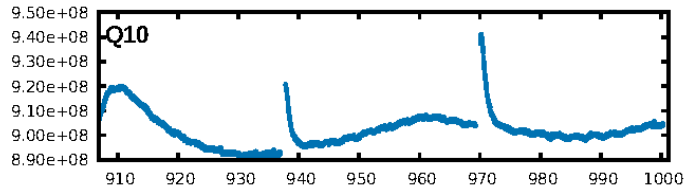
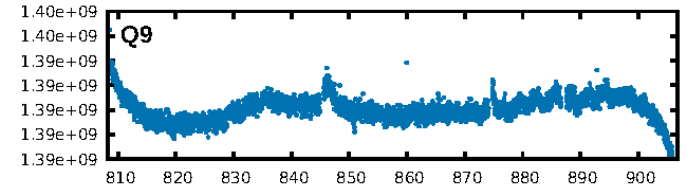
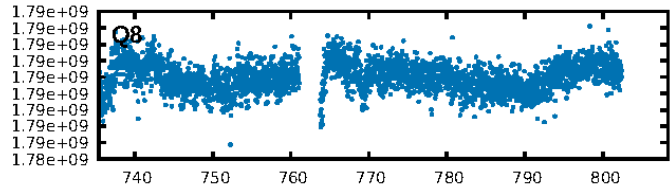
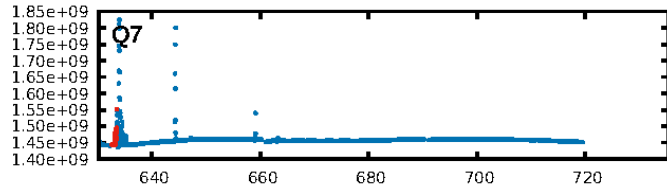
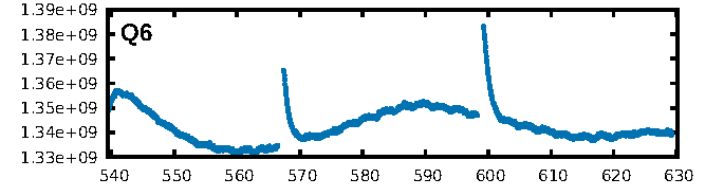
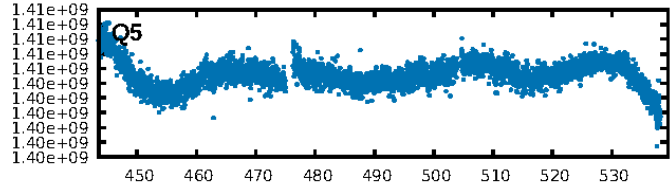
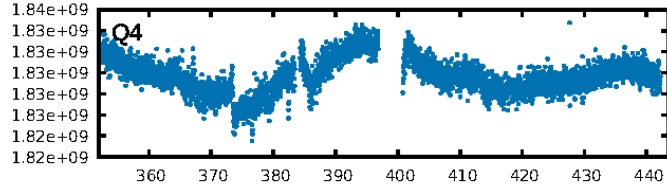
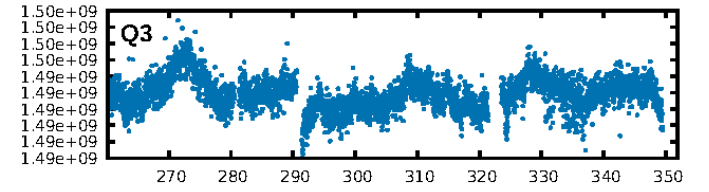
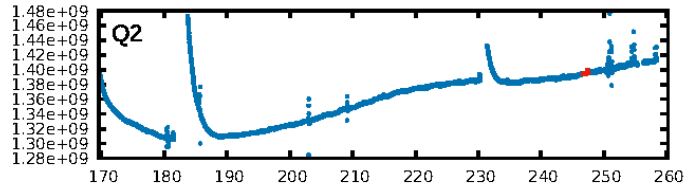
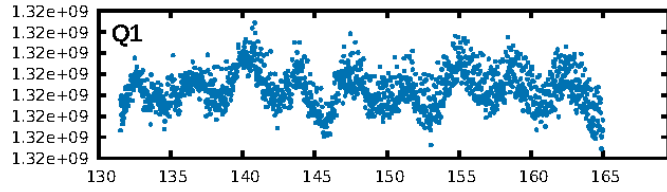
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [62.10 σ]
LongPeriod-sig: 100.0% [9.53 σ]
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.27e-52
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.507 arcsec [1.30 σ]
OotOffset-rm: 5.274 arcsec [31.27 σ]
KicOffset-rm: 5.887 arcsec [34.99 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

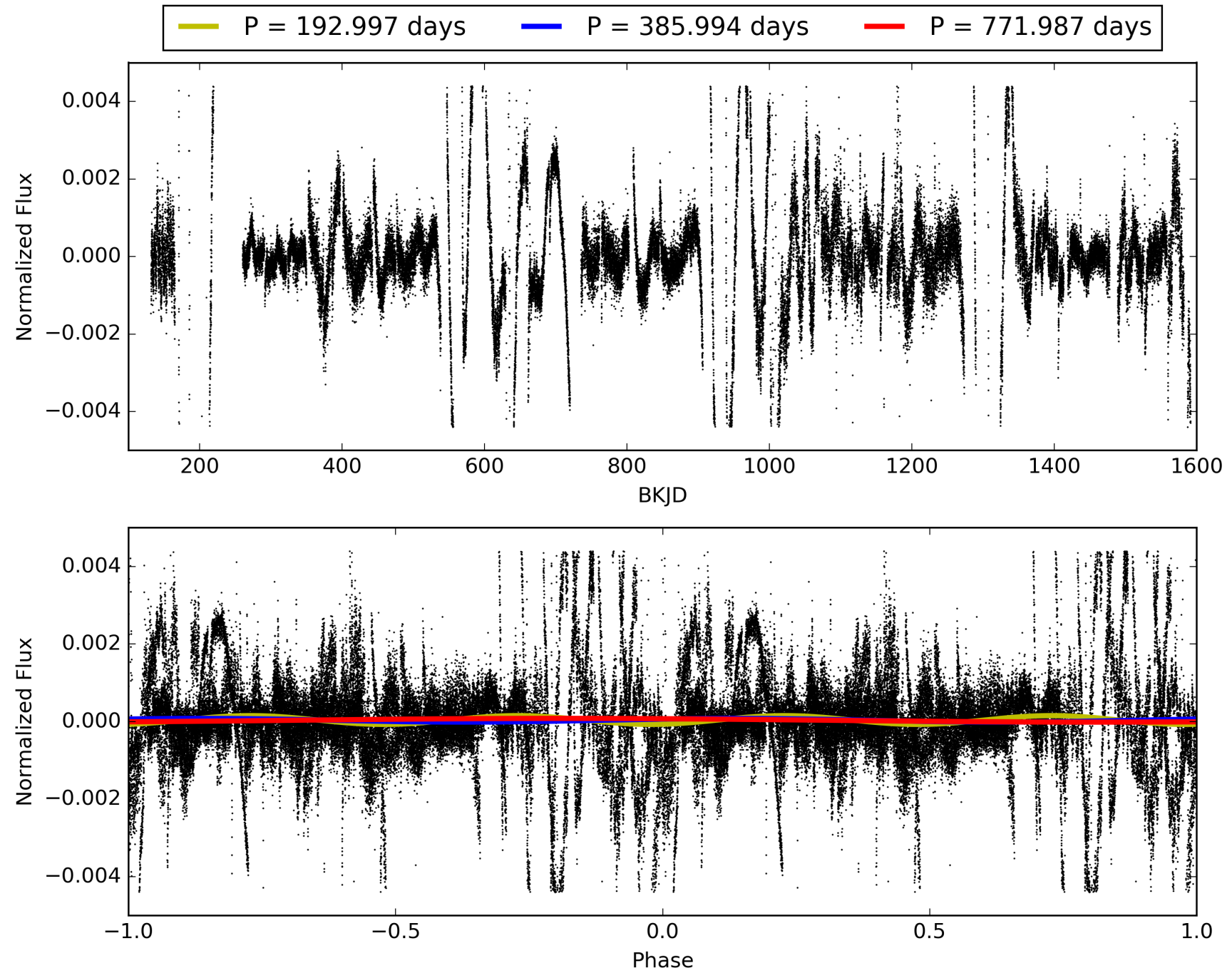
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:53:08 Z

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

TCE 010724625-01, PDC Light Curves

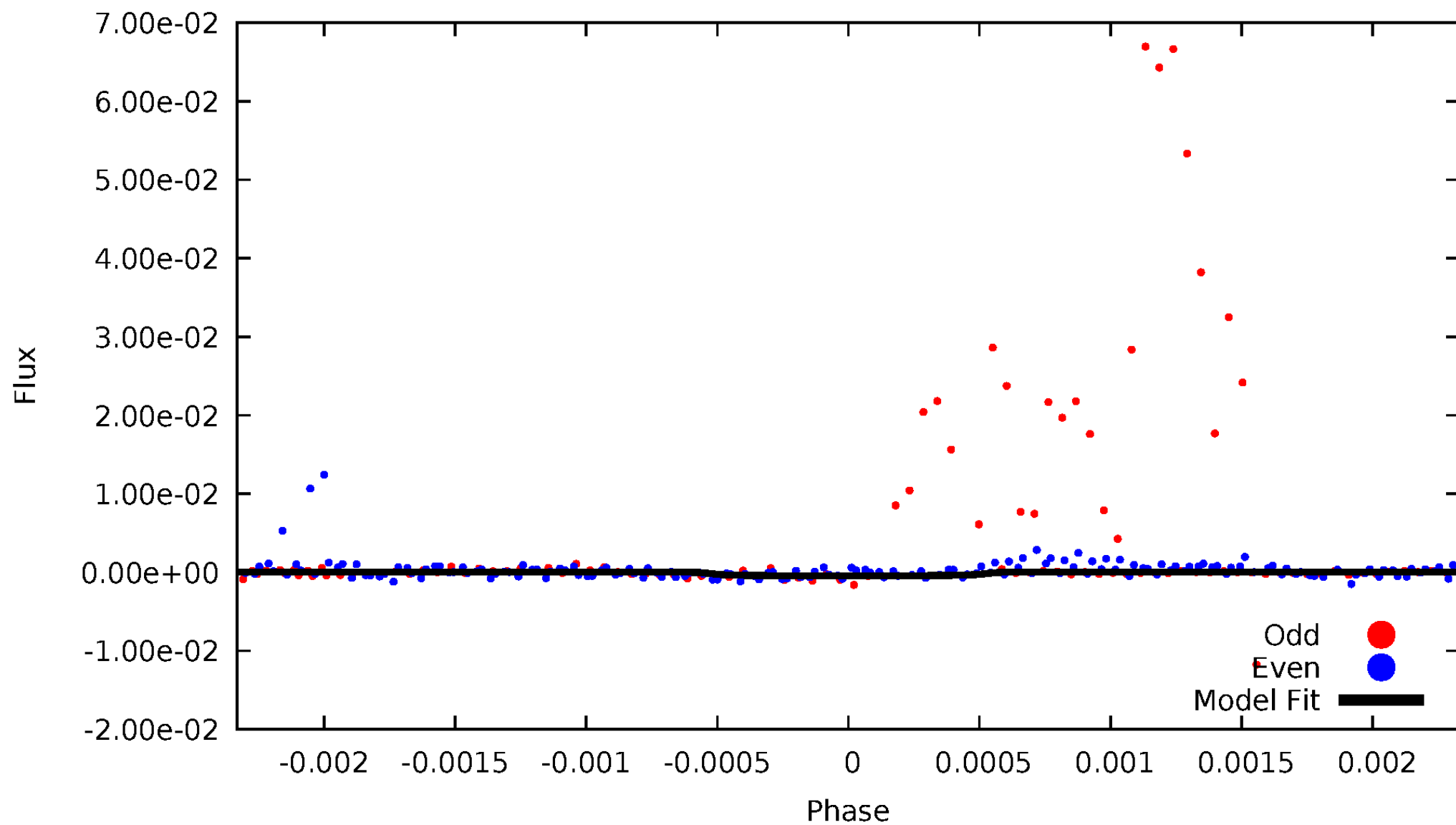


TCE 010724625-01



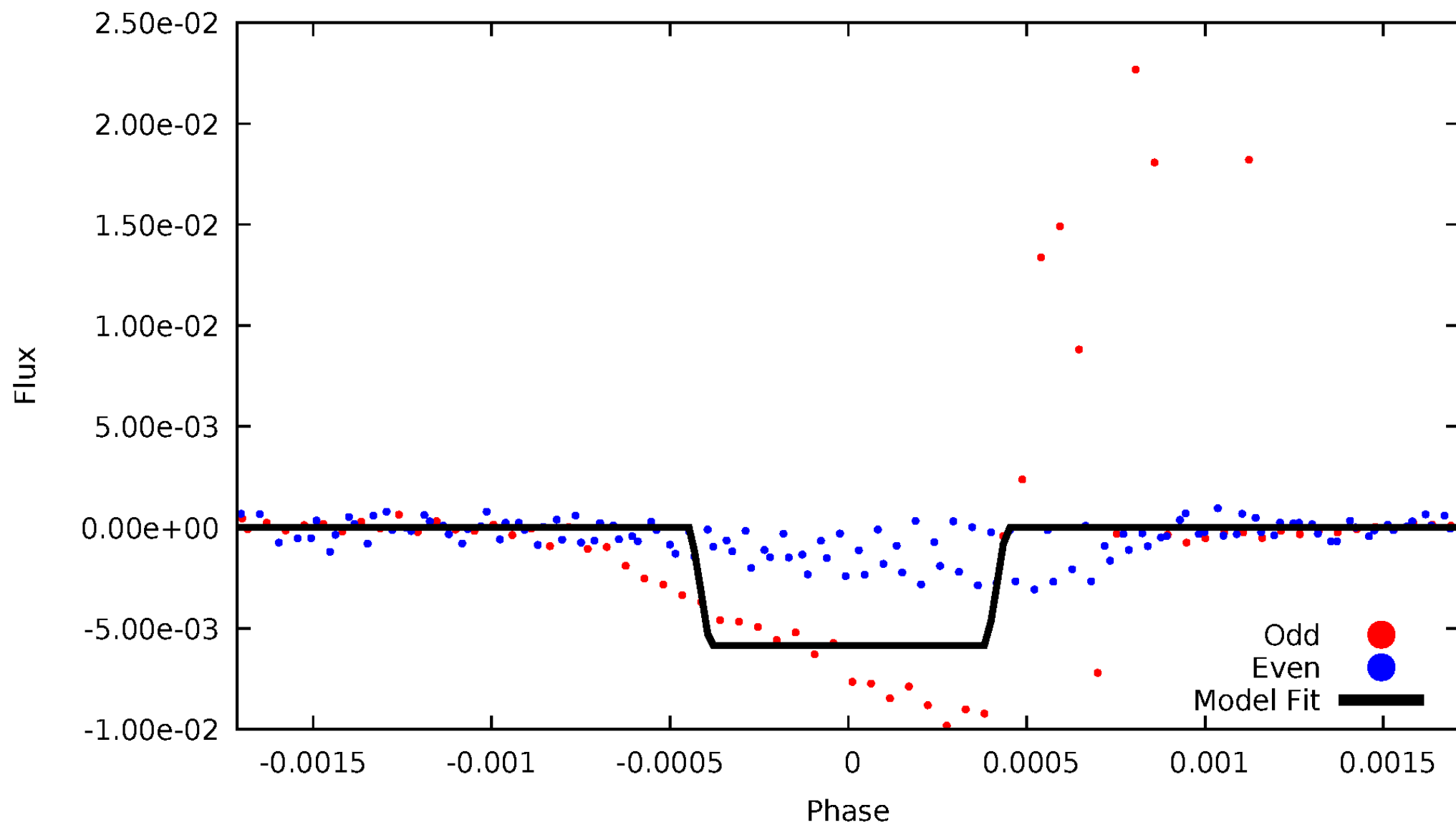
DV Odd/Even

TCE 010724625-01



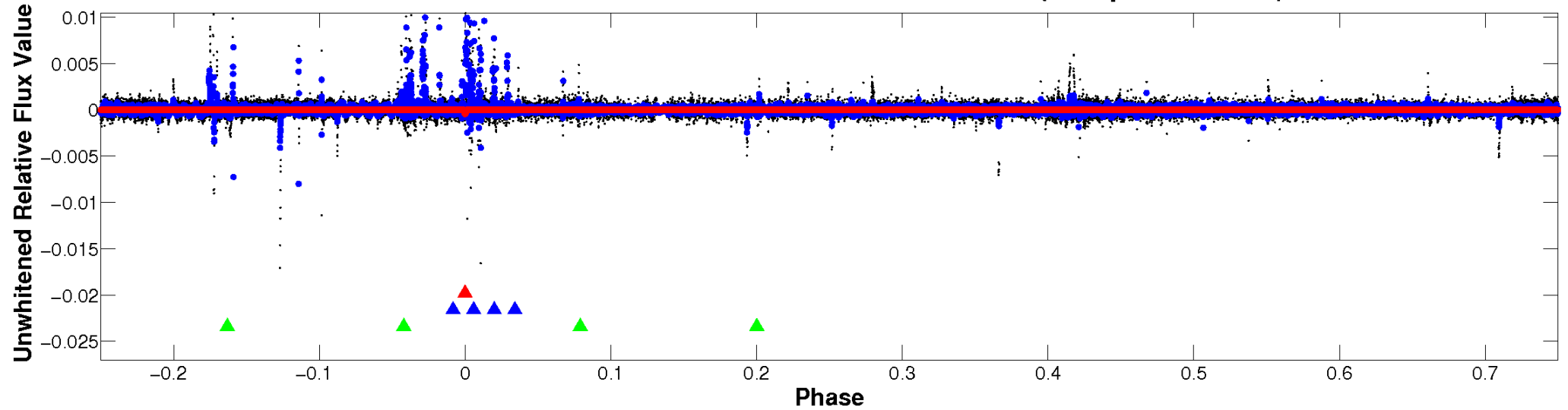
ALT Odd/Even

TCE 010724625-01

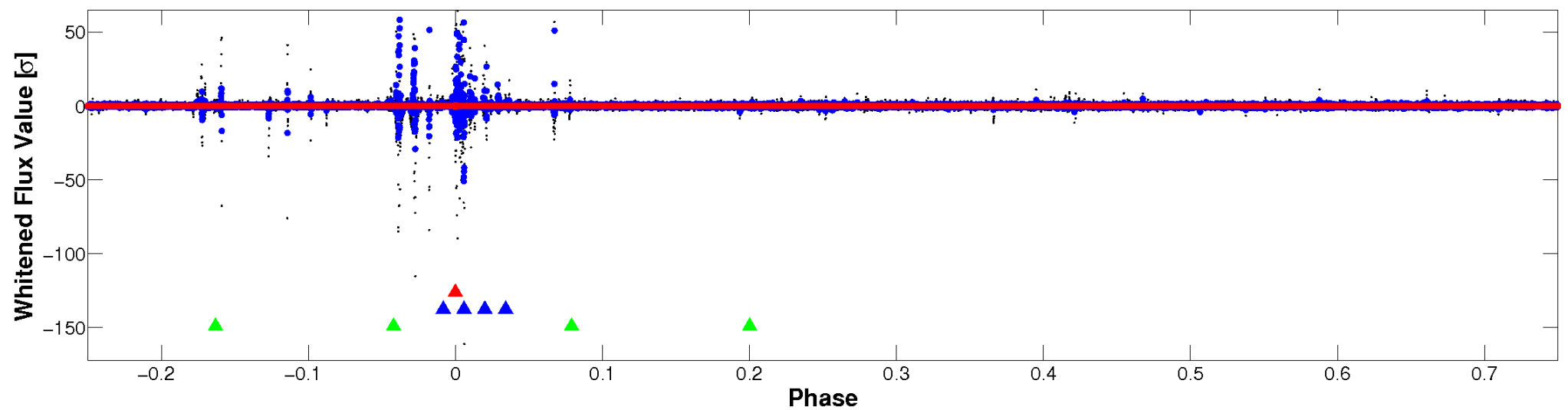


Non-Whitened Vs. Whitened Light Curve

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

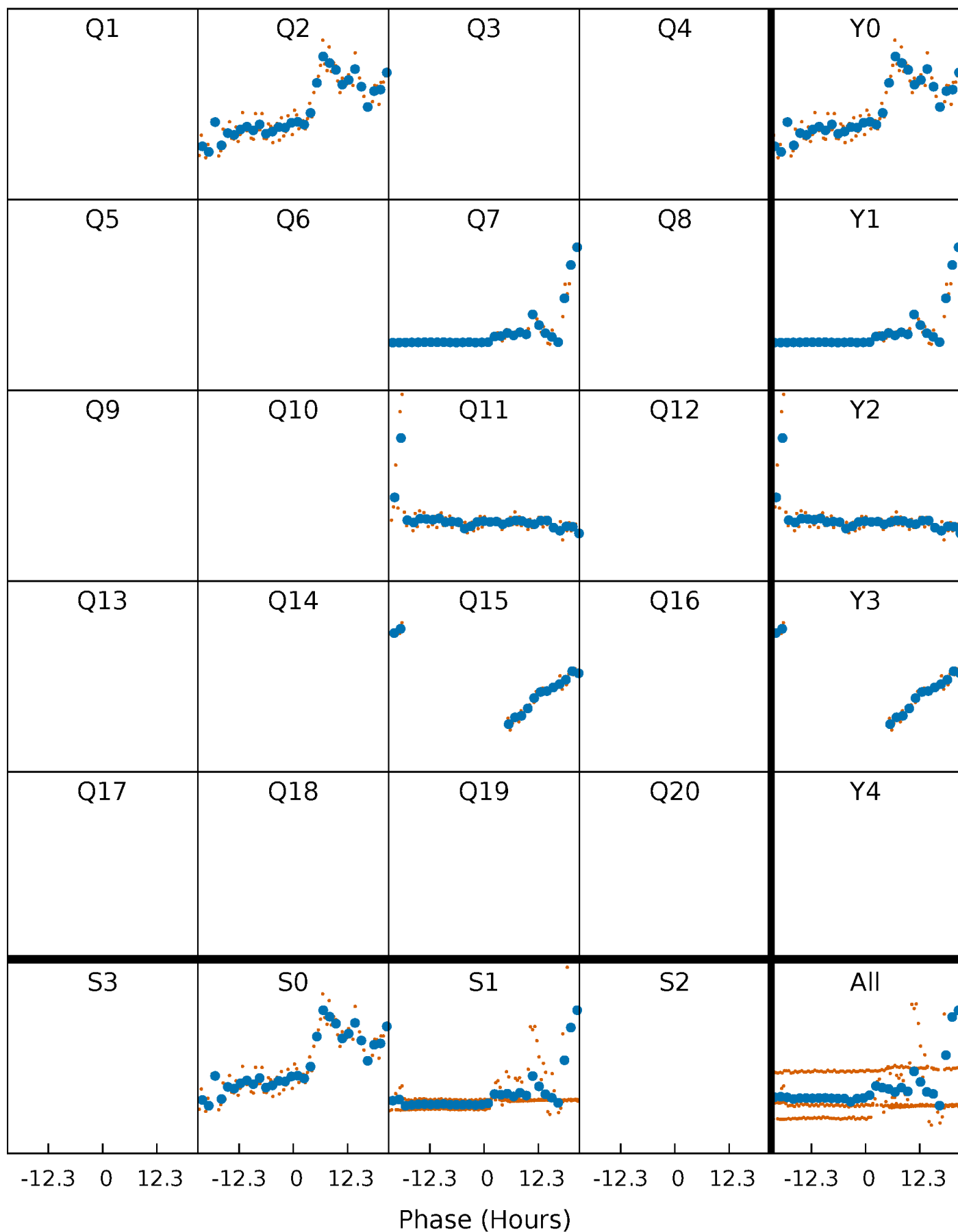


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



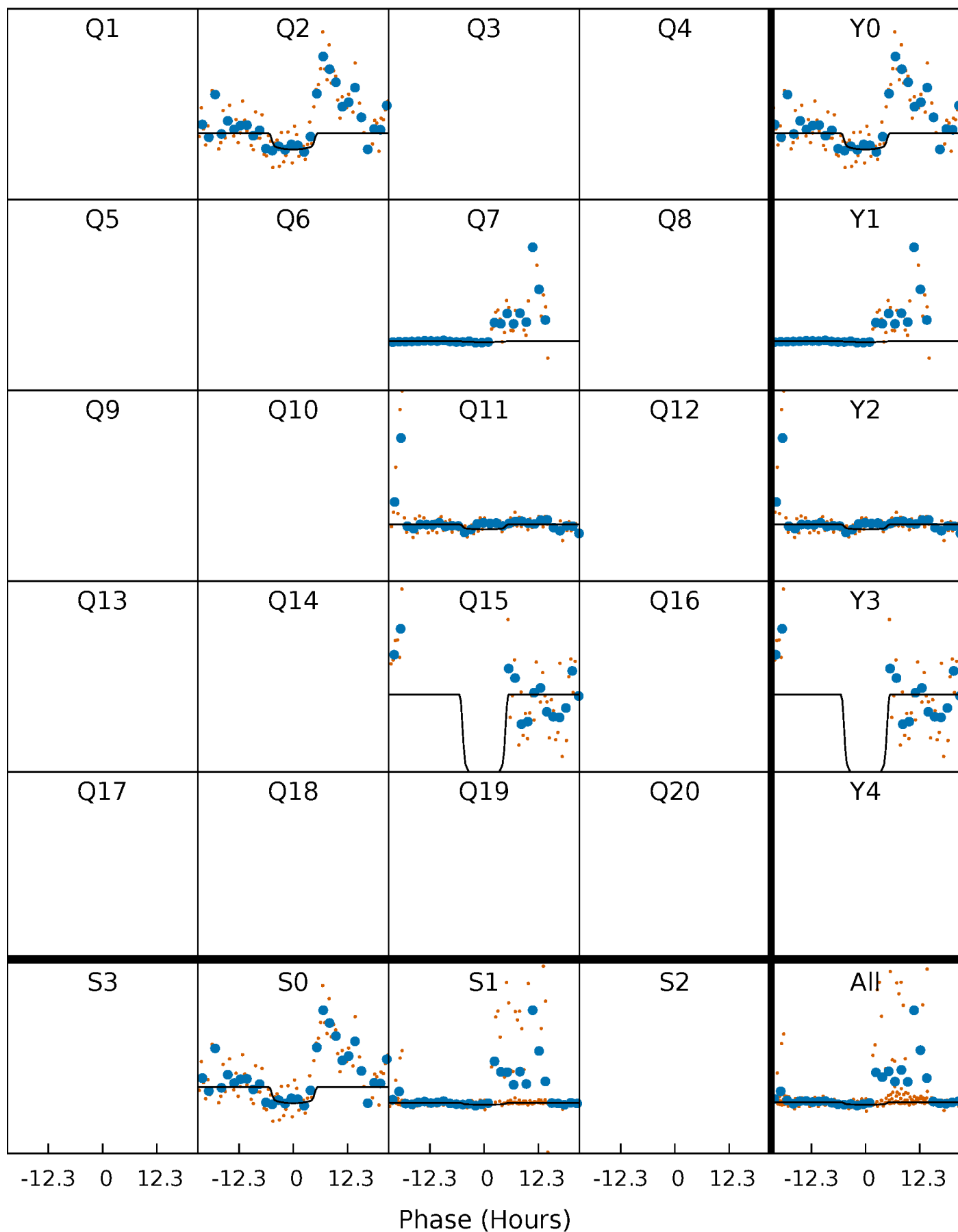
PDC Quarter-Phased Transit Curves

TCE 010724625-01 P=385.993737 Days $T_0=247.094816$ (BKJD)



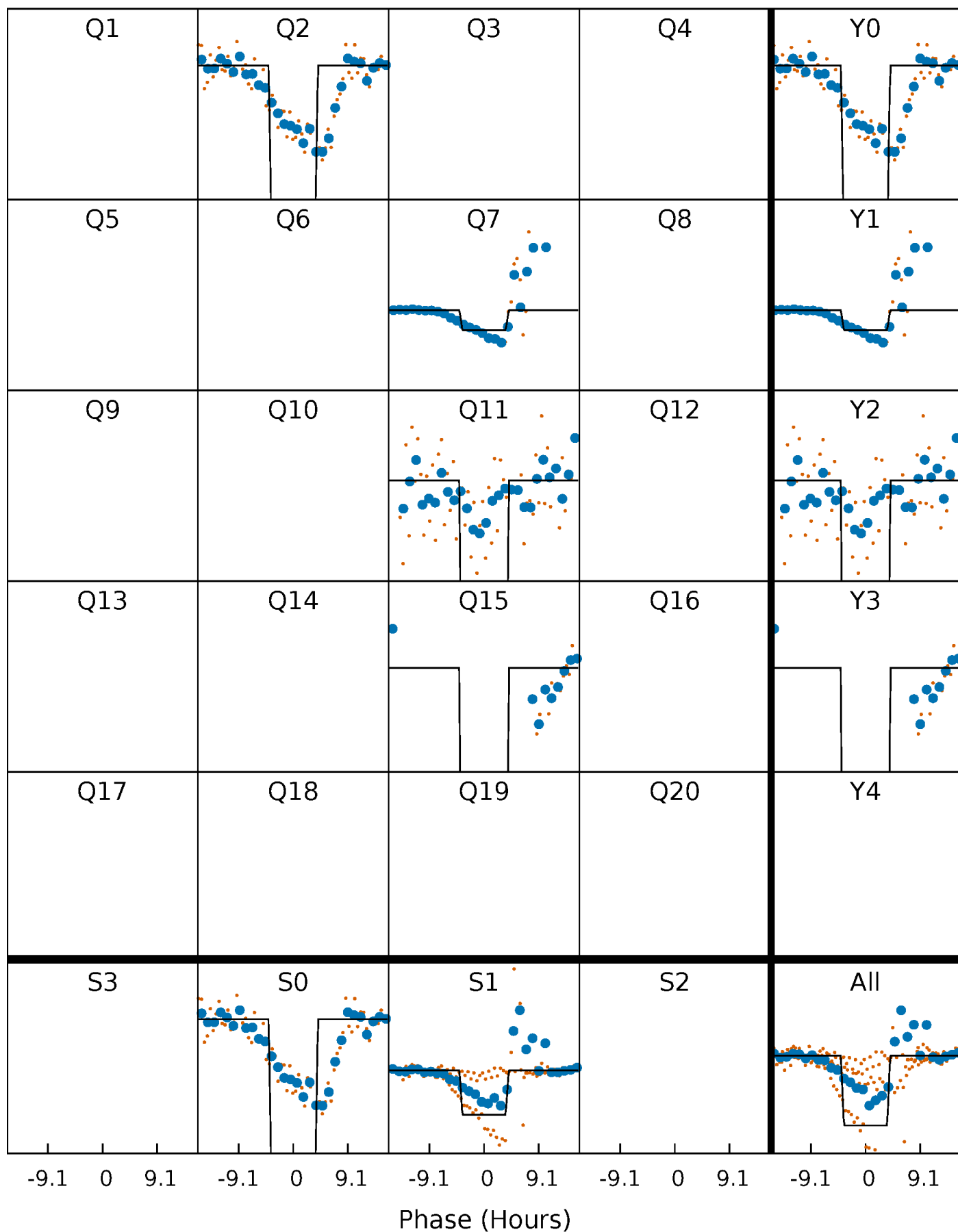
DV Quarter-Phased Transit Curves

TCE 010724625-01 $P=385.993737$ Days $T_0=247.094816$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

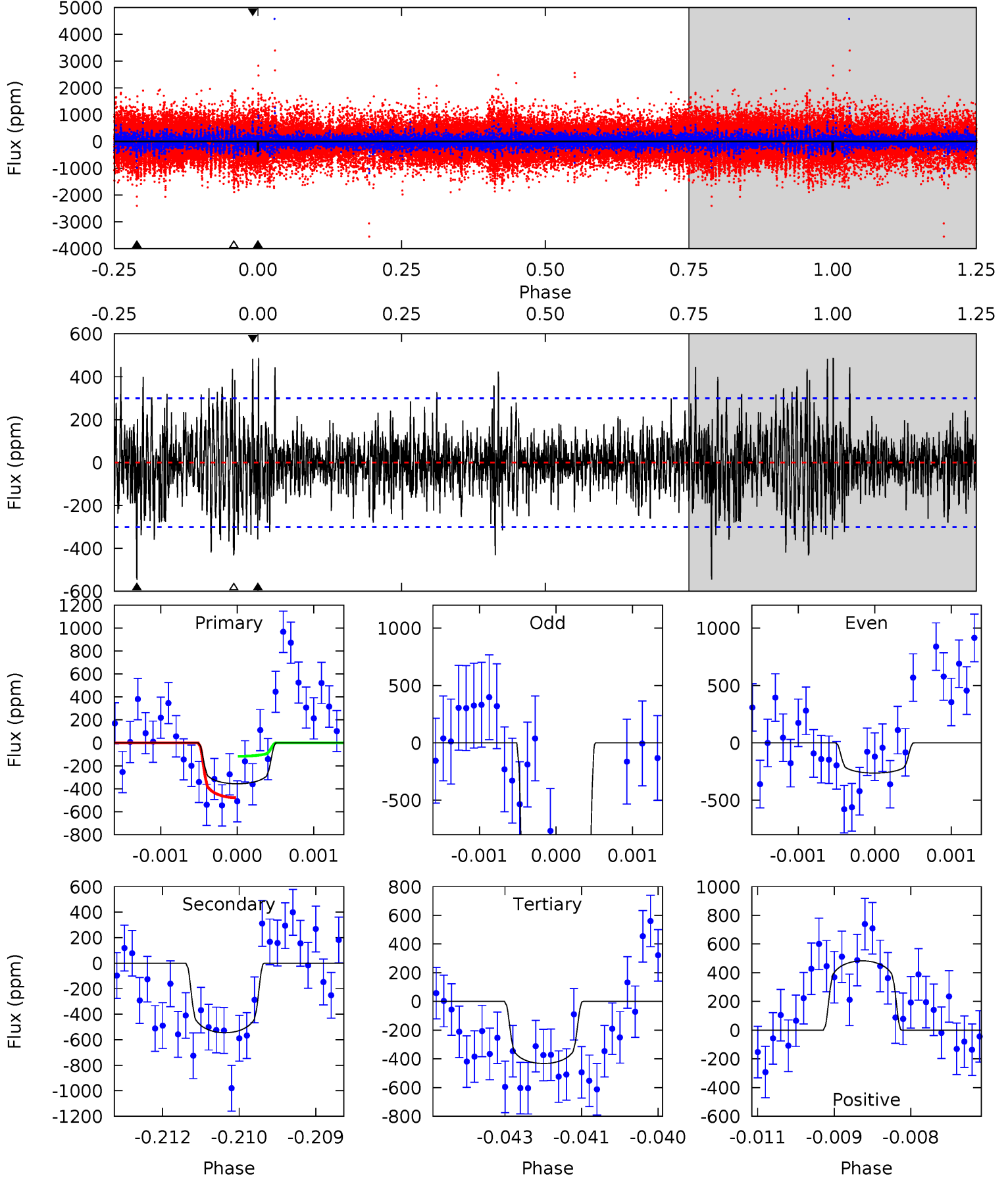
TCE 010724625-01 P=385.983137 Days $T_0=247.007267$ (BKJD)



DV Model-Shift Uniqueness Test

010724625-01, P = 385.993737 Days, E = 247.094816 Days

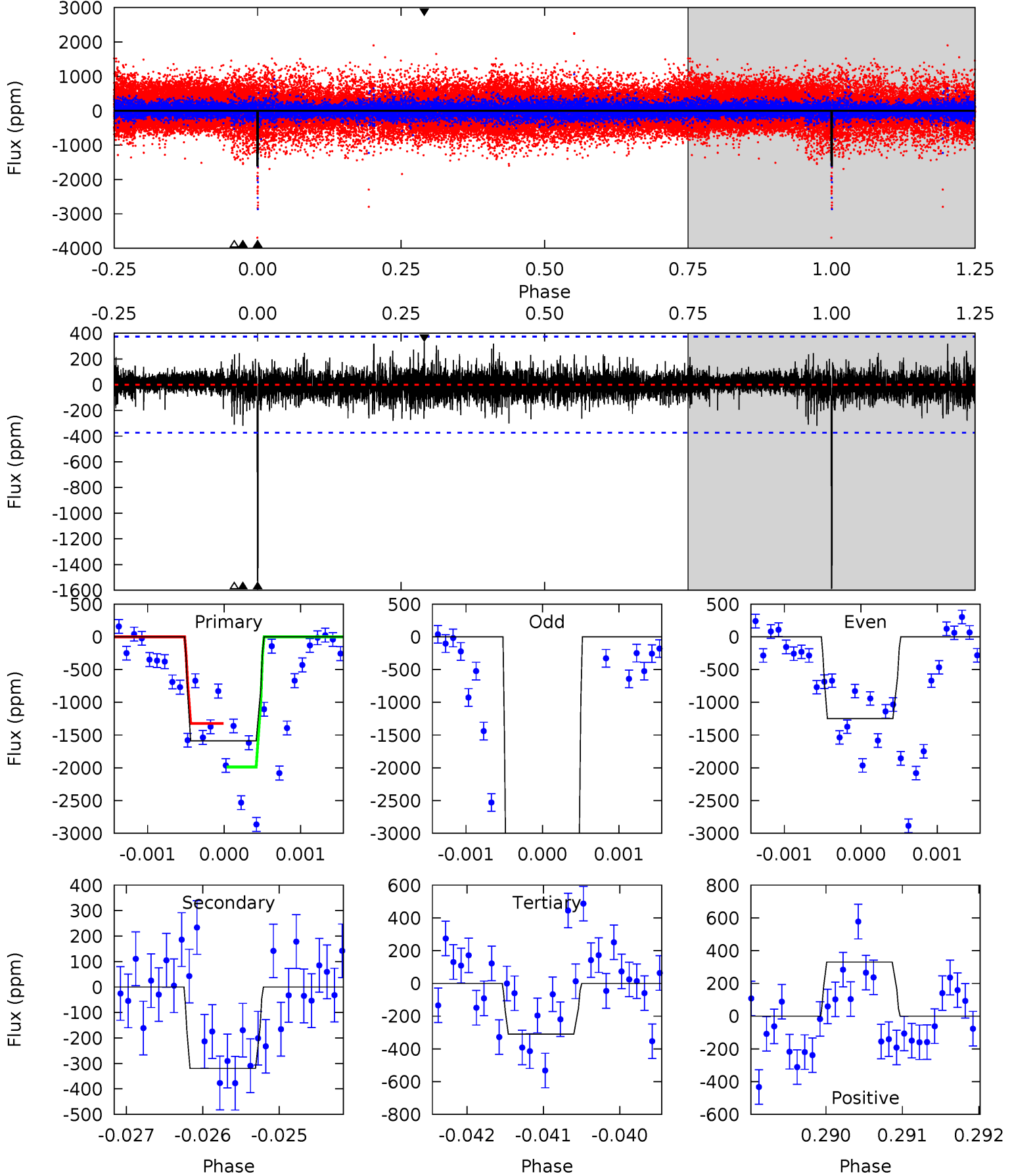
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.45	9.86	7.82	8.73	5.42	3.24	2.00	-1.37	-2.28	2.04	1.13	12.9	-8.19	0.47	3.26



Alt Model-Shift Uniqueness Test

010724625-01, $P = 385.983137$ Days, $E = 247.007267$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.3	4.68	4.55	4.84	5.48	3.33	0.98	18.8	18.5	0.14	-0.16	47.3	1.56	0.17	4.89



Stellar Parameters For KIC 010724625

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7733^{+211}_{-316}	$4.013^{+0.193}_{-0.140}$	$-0.160^{+0.200}_{-0.300}$	$2.124^{+0.473}_{-0.578}$	$1.695^{+0.198}_{-0.273}$	$0.249^{+0.309}_{-0.104}$
	+3%/-4%	+5%/-3%	+125%/-188%	+22%/-27%	+12%/-16%	+124%/-42%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010724625-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-545 ± 55	$6.98^{+5.94}_{-4.49}$	617^{+46}_{-44}	6601^{+6348}_{-1597}	9478^{+62585}_{-6776}
Alt.	-320 ± 68	$17.52^{+6.84}_{-6.73}$	620^{+44}_{-47}	3931^{+840}_{-392}	828^{+1524}_{-382}

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 $A_{obs} \gg 1.0$

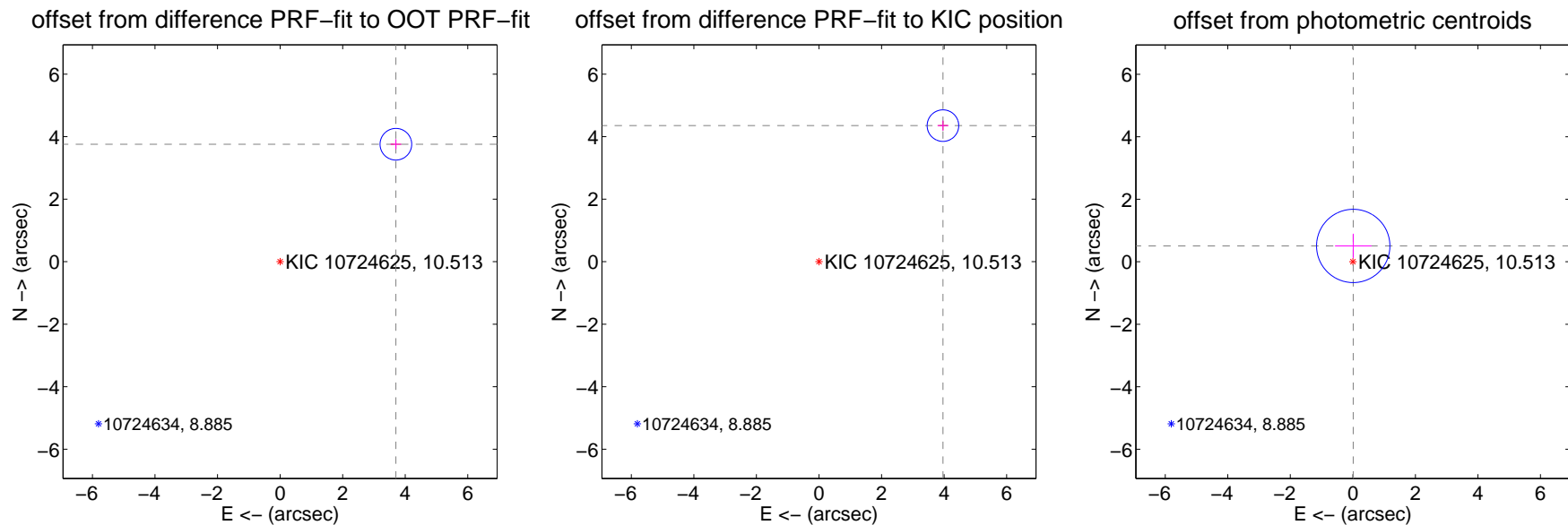
DV Centroid Data

Supplemental centroid analysis for 010724625-01. **Kepler magnitude: 10.51.** Transit SNR 2.63

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.65 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.274 \pm 0.169	31.27	-3.701 \pm 0.174	3.758 \pm 0.163
PRF-fit source offset from KIC position	5.887 \pm 0.168	34.99	-3.963 \pm 0.174	4.353 \pm 0.163
photometric centroid source offset	0.51 \pm 0.39	1.30	-0.01 \pm 0.58	0.51 \pm 0.39



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

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

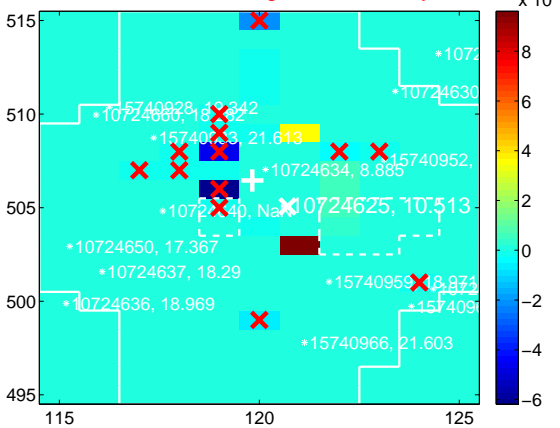
Q1 no difference image



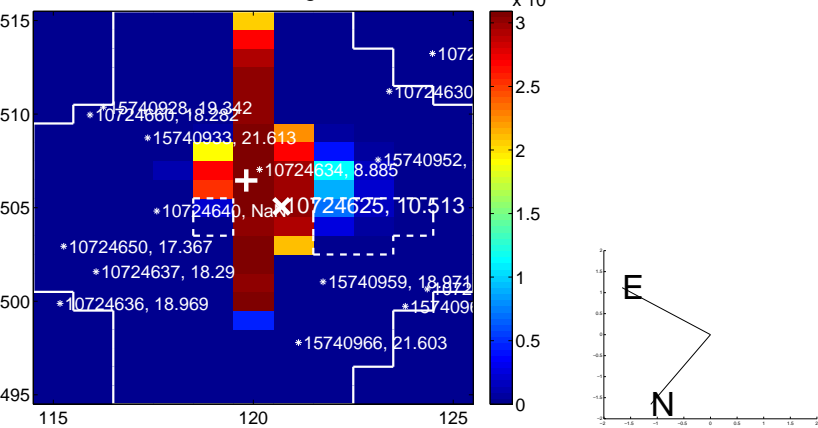
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



Q3 no OOT image



Q4 no difference image



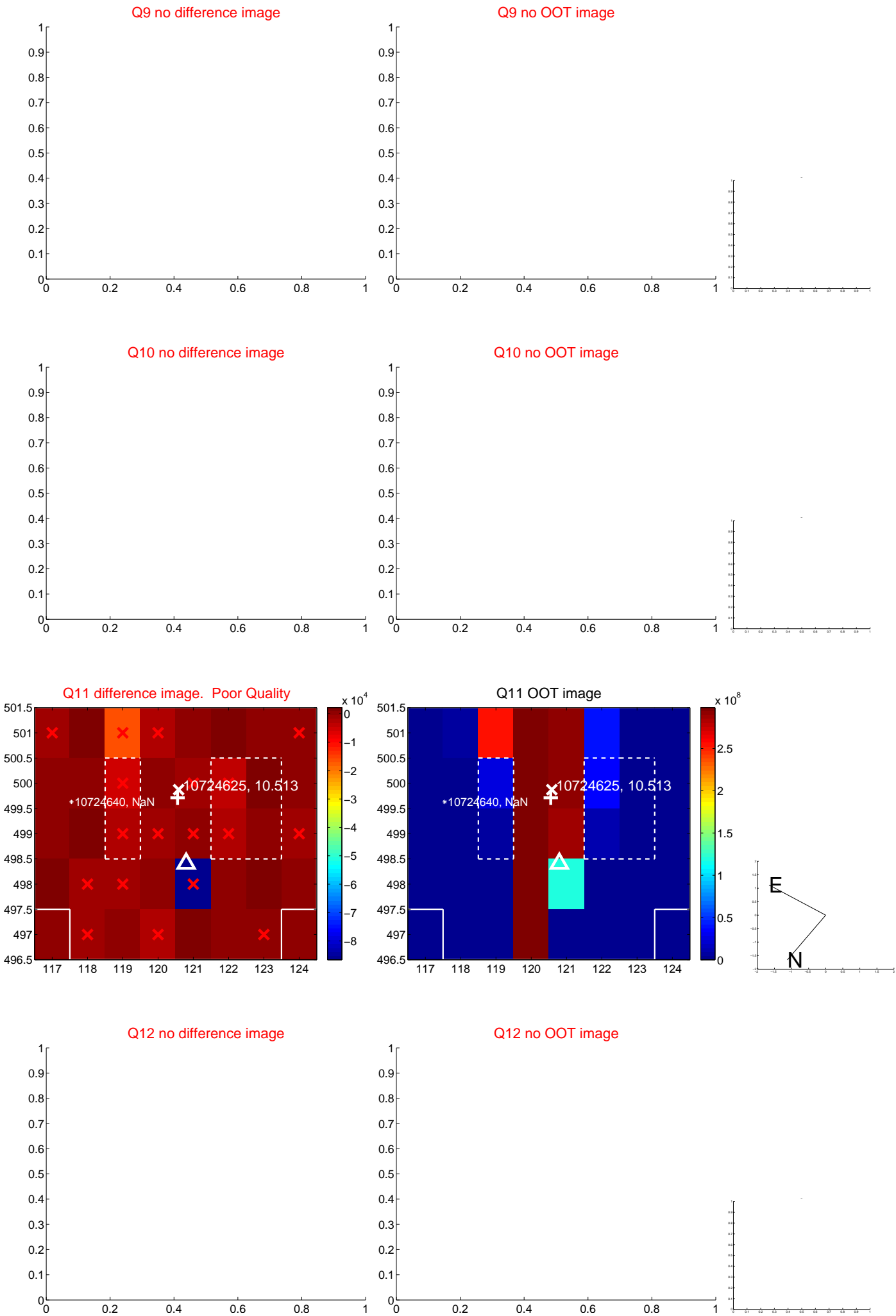
Q4 no OOT image



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



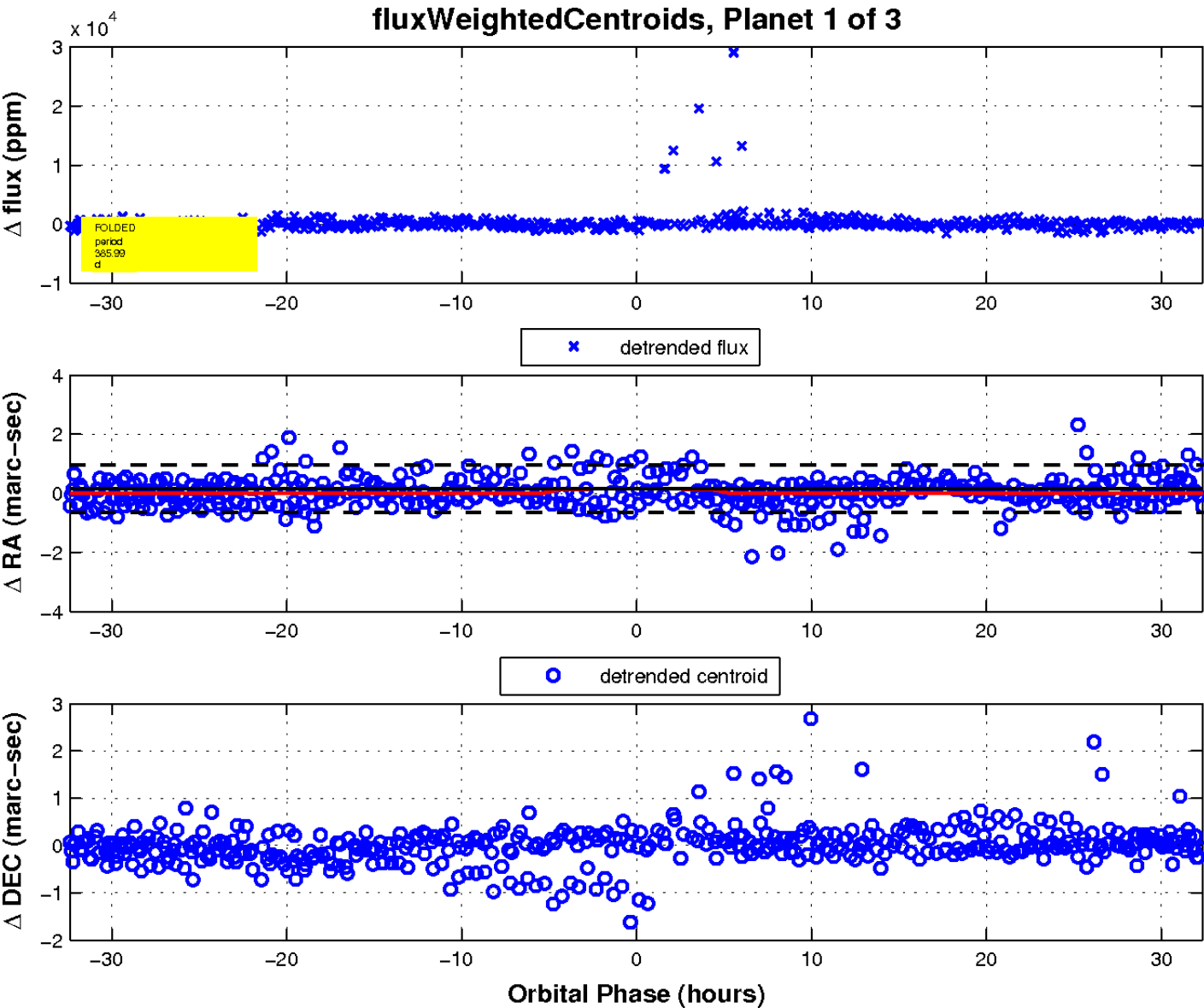
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

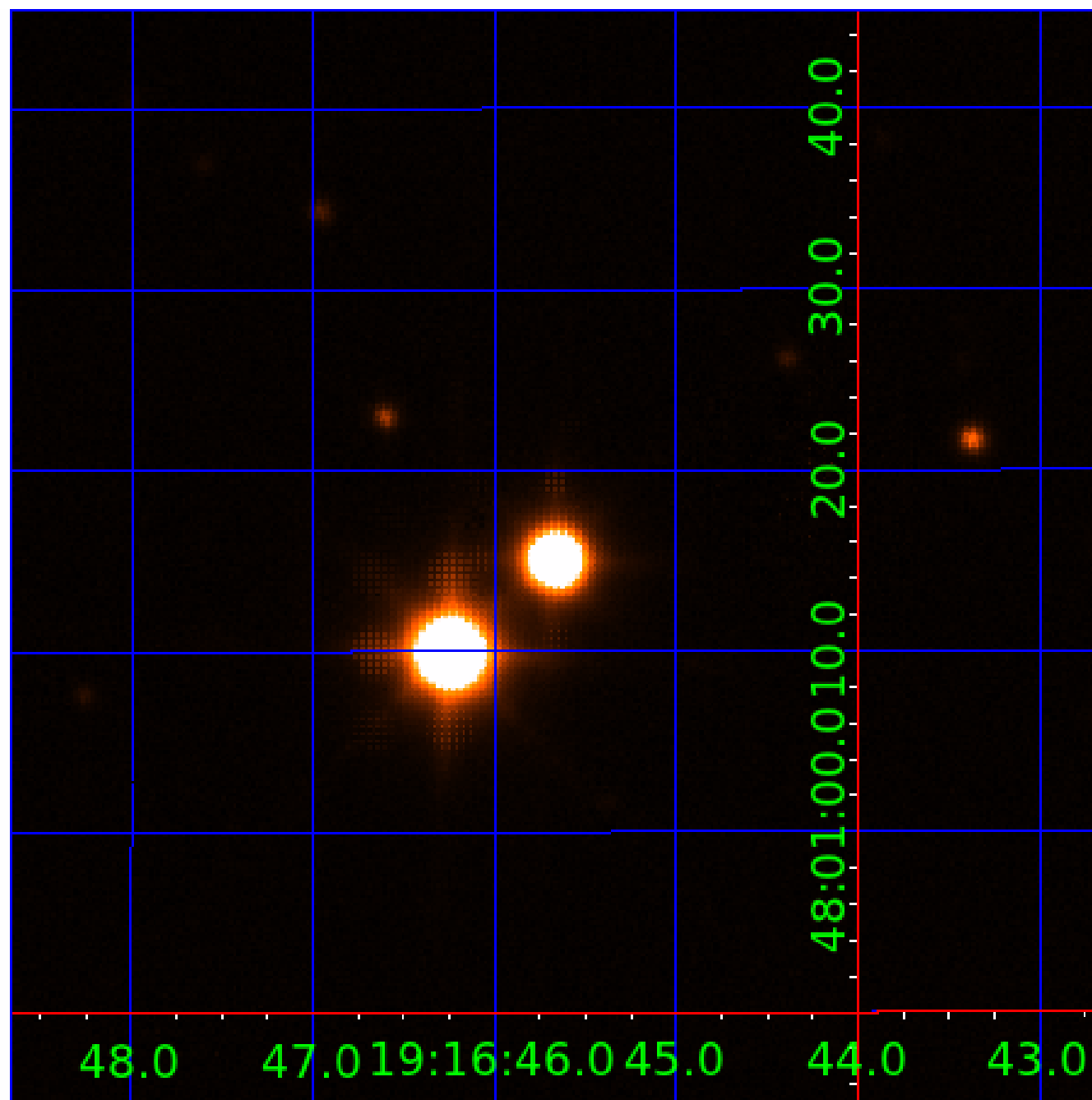


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010724625

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})
010724625-01	OBS	No	385.993737	247.094816	450.5	10.795	61.2	2.6	2.12	7733	5.20	9.44
010724625-02	OBS	No	391.454915	243.916044	1206.1	8.515	9.9	7.8	2.12	7733	13.72	9.26
010724625-03	OBS	No	339.246701	324.359153	743.9	14.486	9.6	10.7	2.12	7733	7.20	11.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010724625-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010724625-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010724625-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

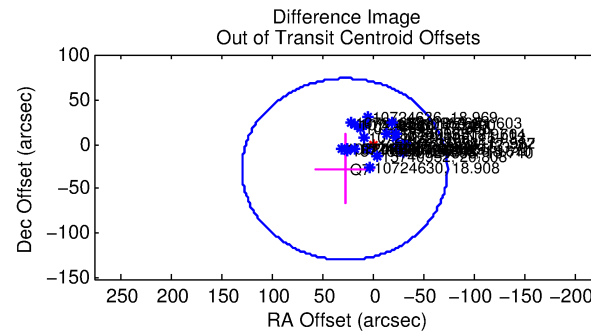
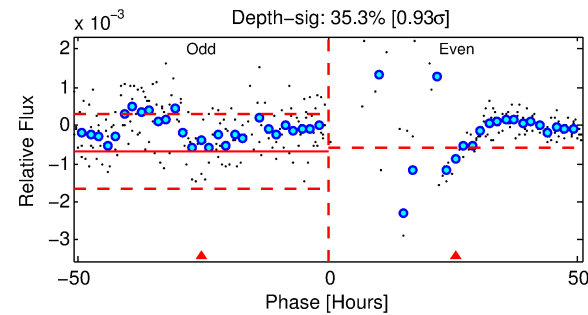
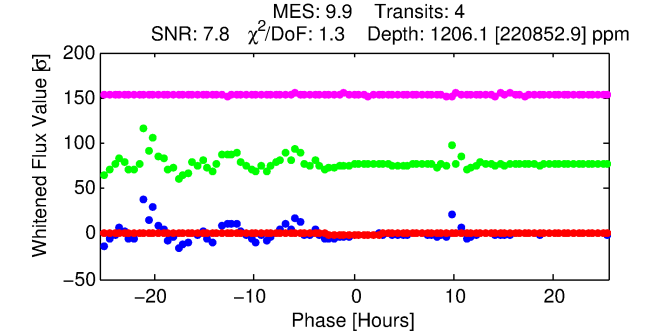
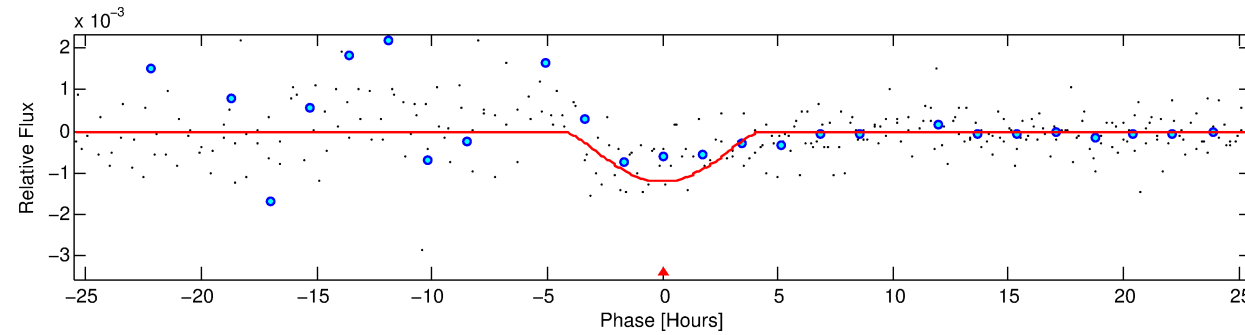
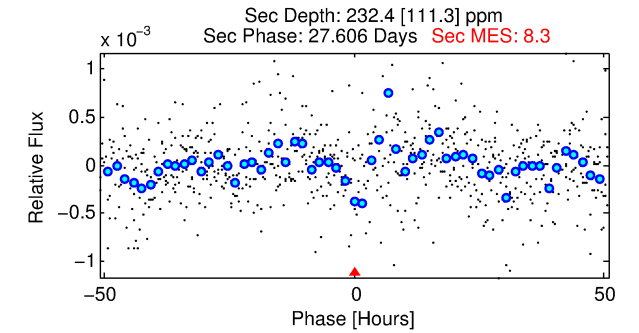
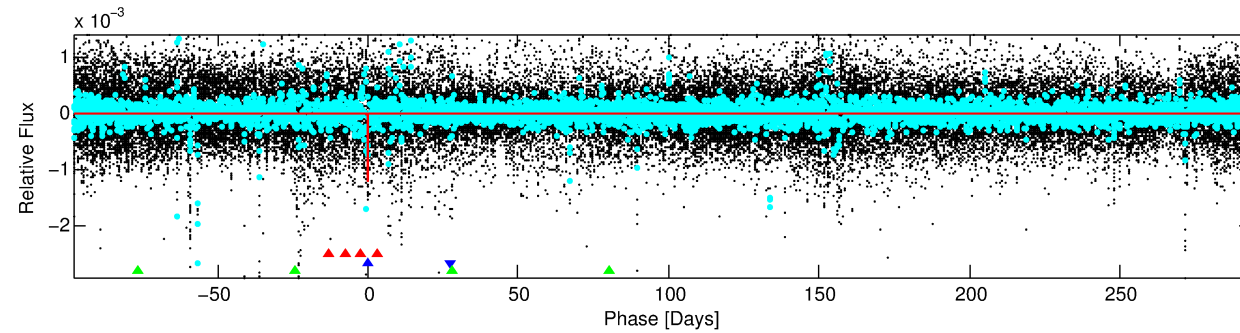
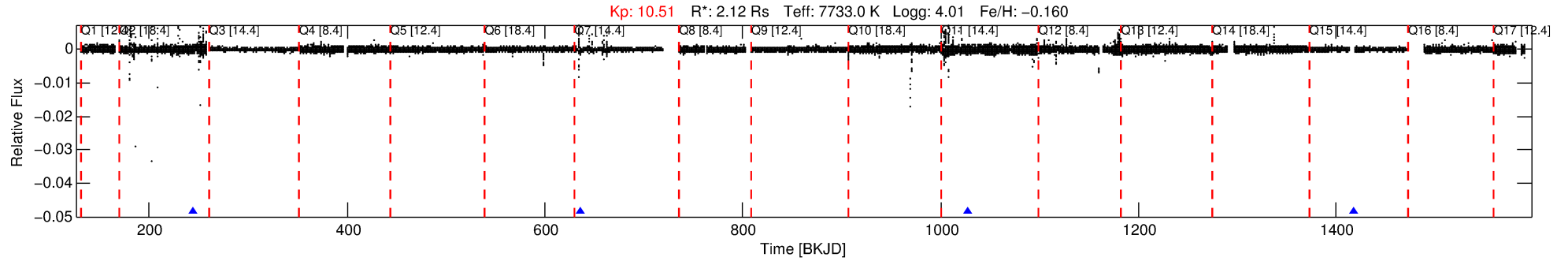
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010724625-02

No Significant Match Found

DV One-Page Summary

KIC: 10724625 Candidate: 2 of 3 Period: 391.455 d



DV Fit Results:

Period = 391.45492 [0.04440] d
Epoch = 243.9160 [0.0544] BKJD
Rp/R* = 0.0592 [0.4787]
a/R* = 122.61 [240.29]
b = 1.00 [6.77]
Seff = 9.26 [3.56]
Teff = 445 [43] K
Rp = 13.72 [111.02] Re
a = 1.2491 [0.2926] AU
Ag = 1059.63 [17151.73] [0.06σ]
Teffp = 3924 [15877] K [0.22σ]

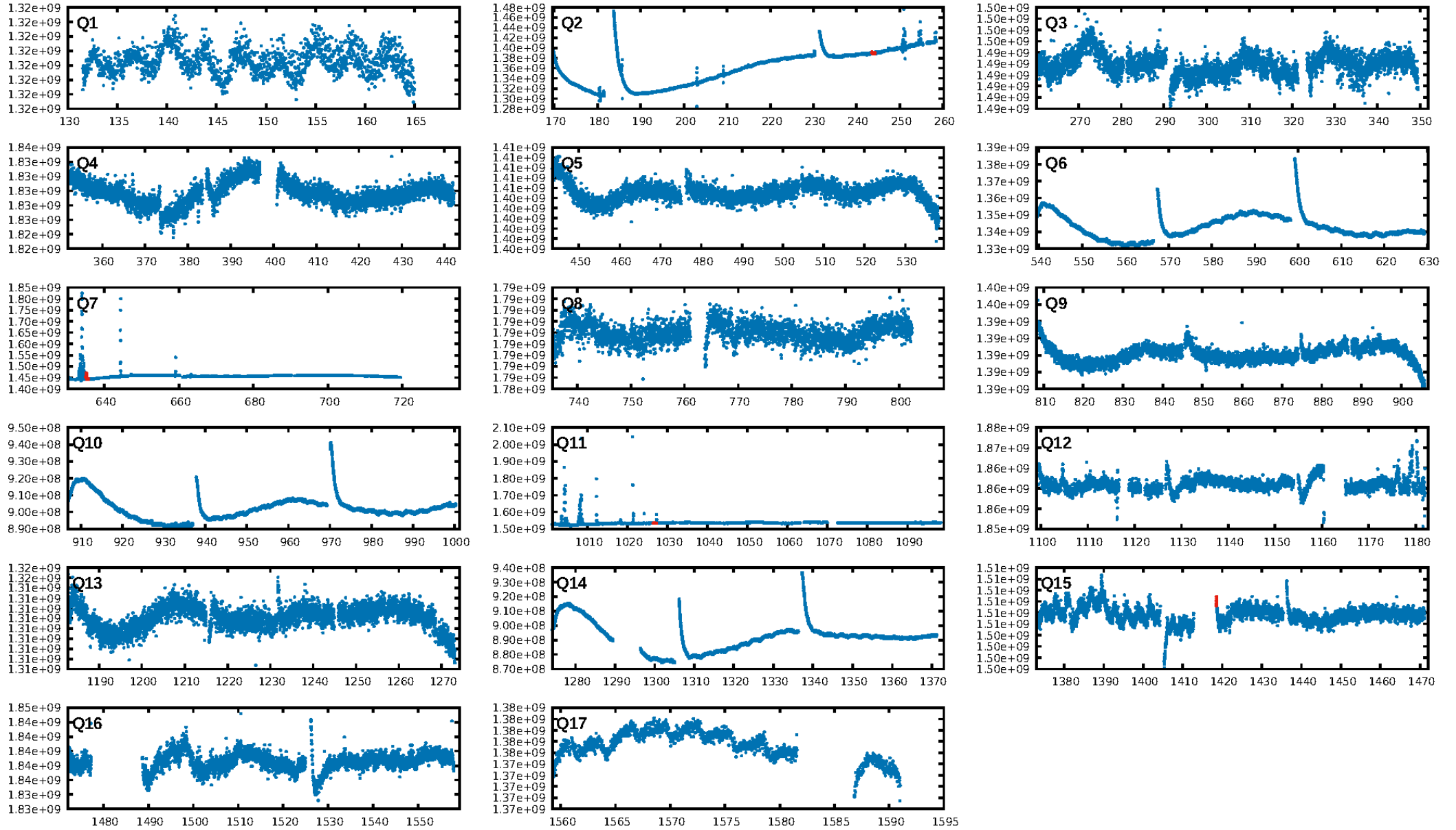
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.53σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: 1.71e-06
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.995 arcsec [5.87σ]
OotOffset-rm: 39.877 arcsec [1.18σ]
KicOffset-rm: 46.971 arcsec [1.38σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

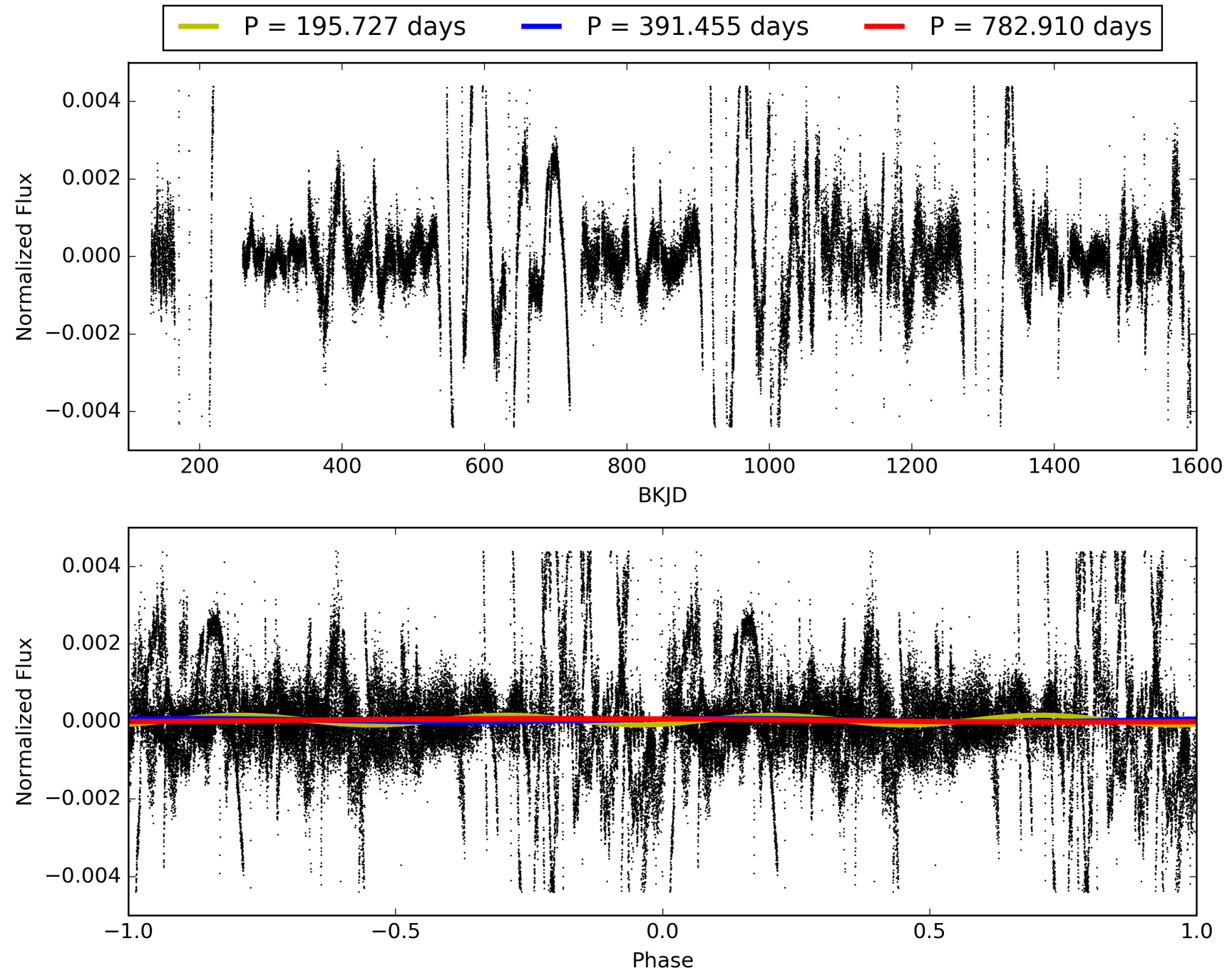
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:53:18 Z

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

TCE 010724625-02, PDC Light Curves

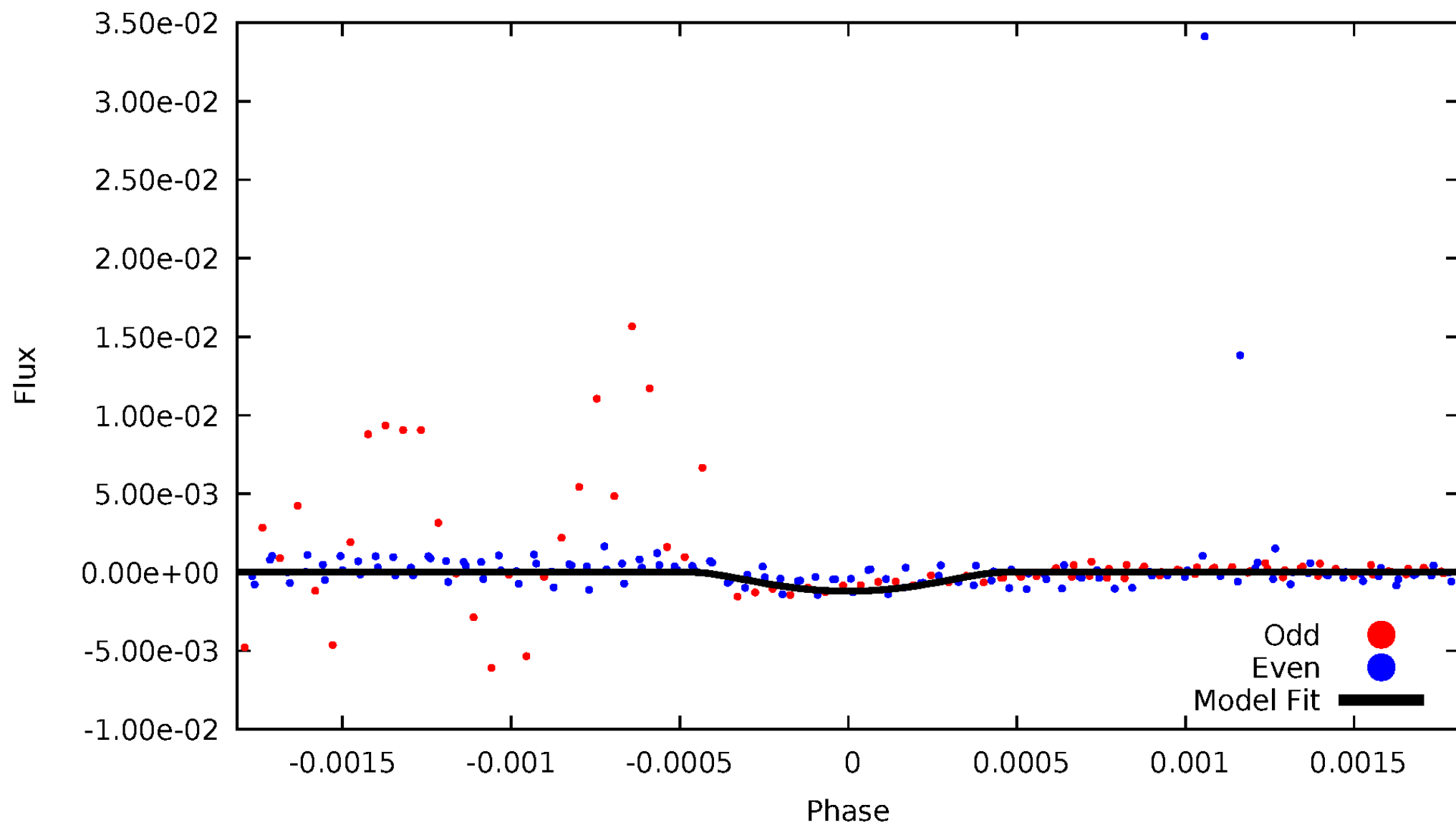


TCE 010724625-02



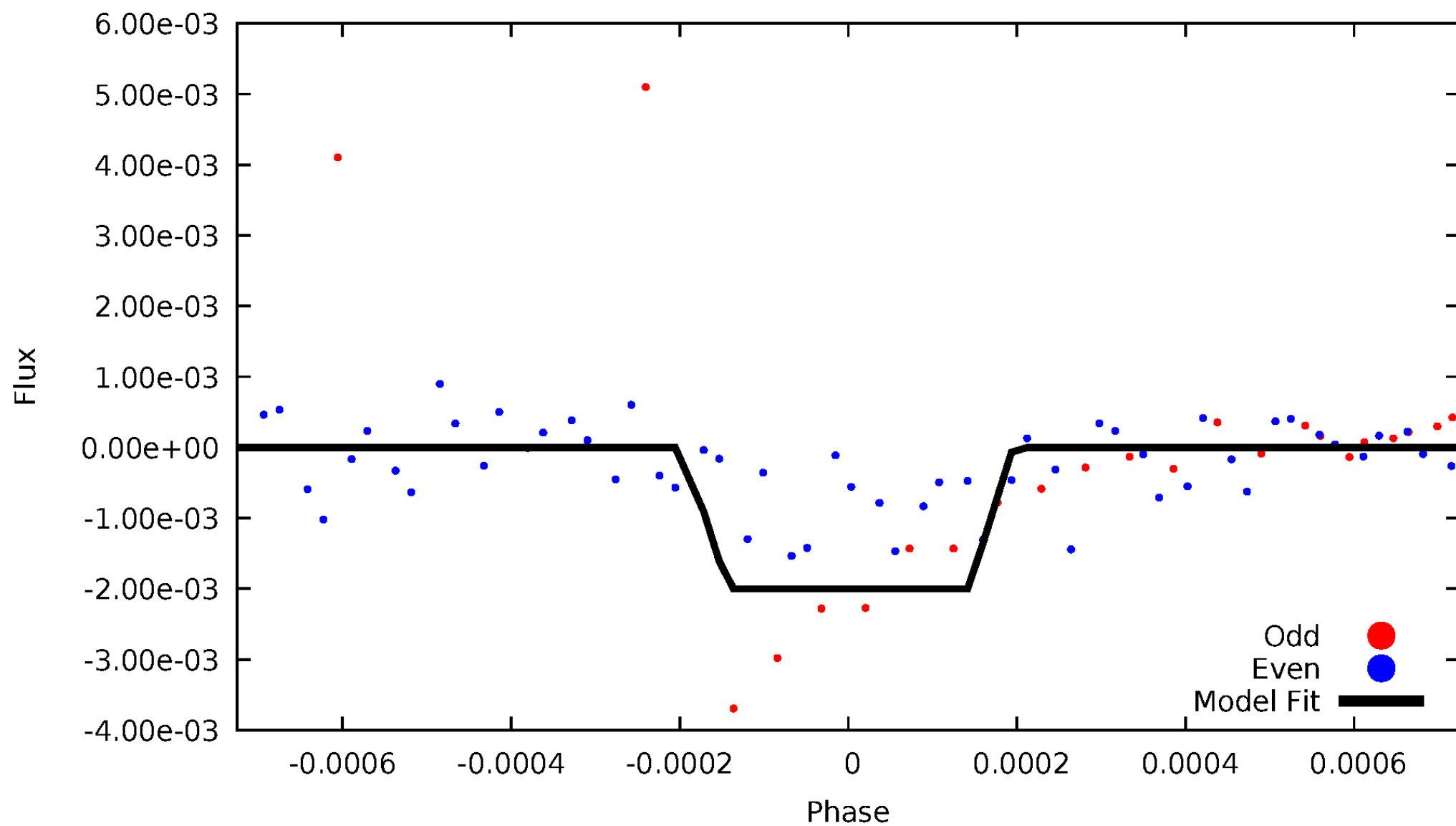
DV Odd/Even

TCE 010724625-02



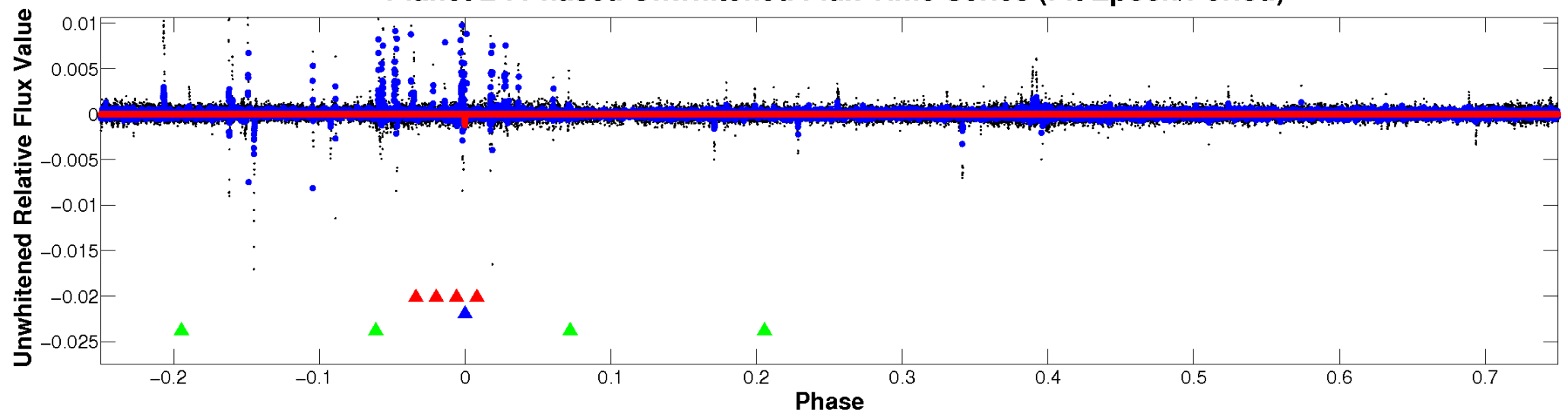
ALT Odd/Even

TCE 010724625-02

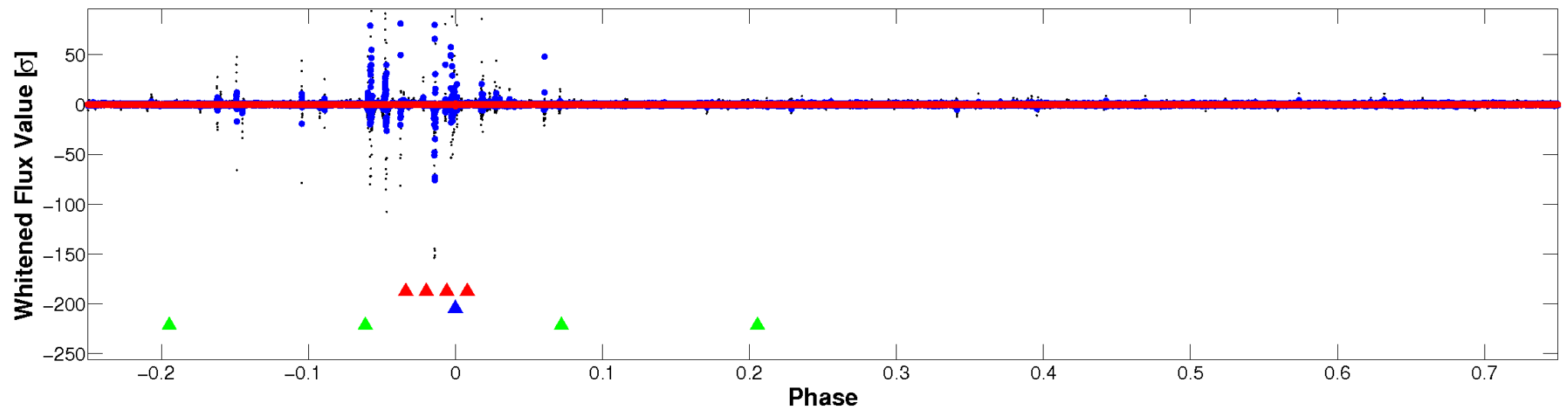


Non-Whitened Vs. Whitened Light Curve

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

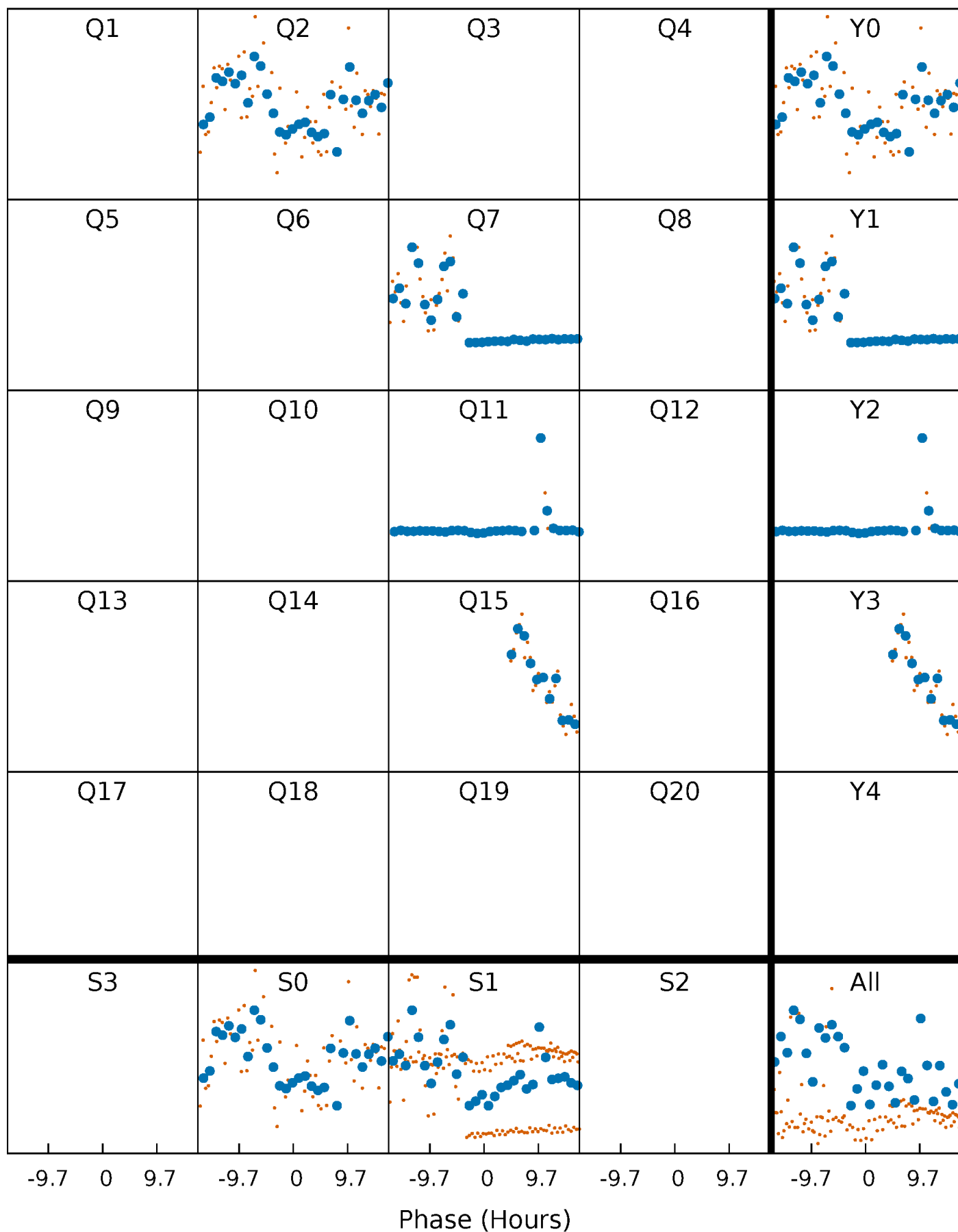


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



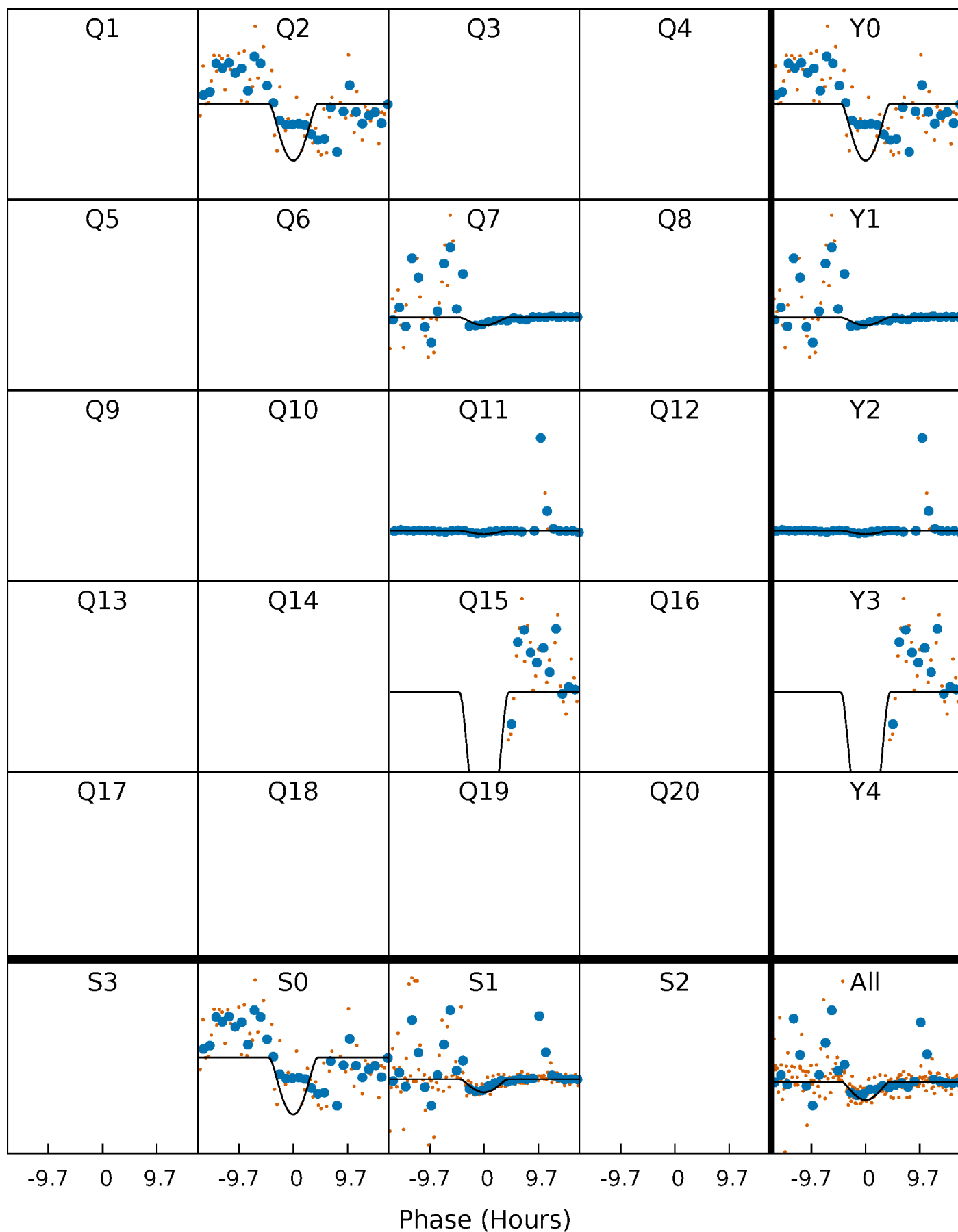
PDC Quarter-Phased Transit Curves

TCE 010724625-02 $P=391.454915$ Days $T_0=243.916044$ (BKJD)



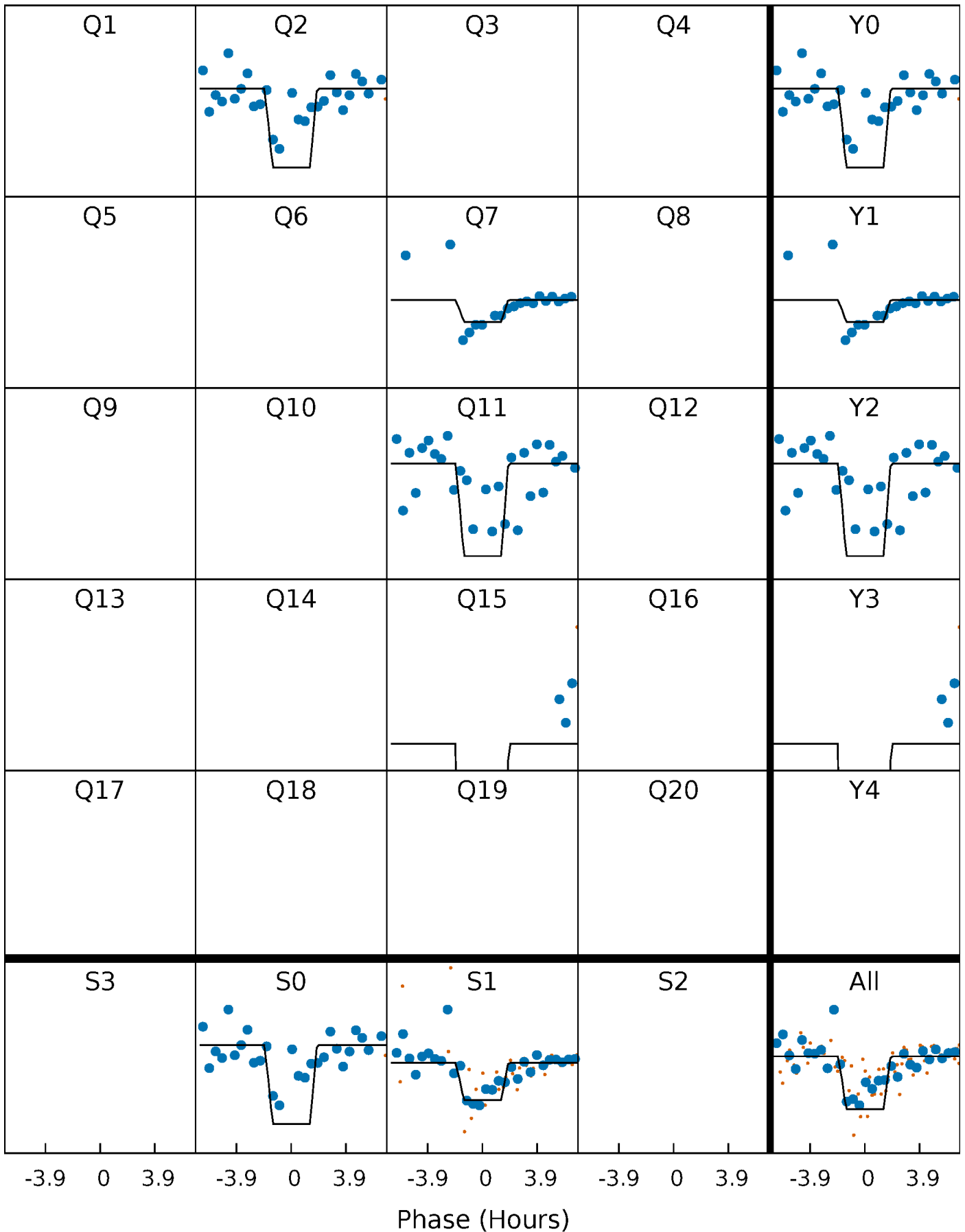
DV Quarter-Phased Transit Curves

TCE 010724625-02 P=391.454915 Days $T_0=243.916044$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

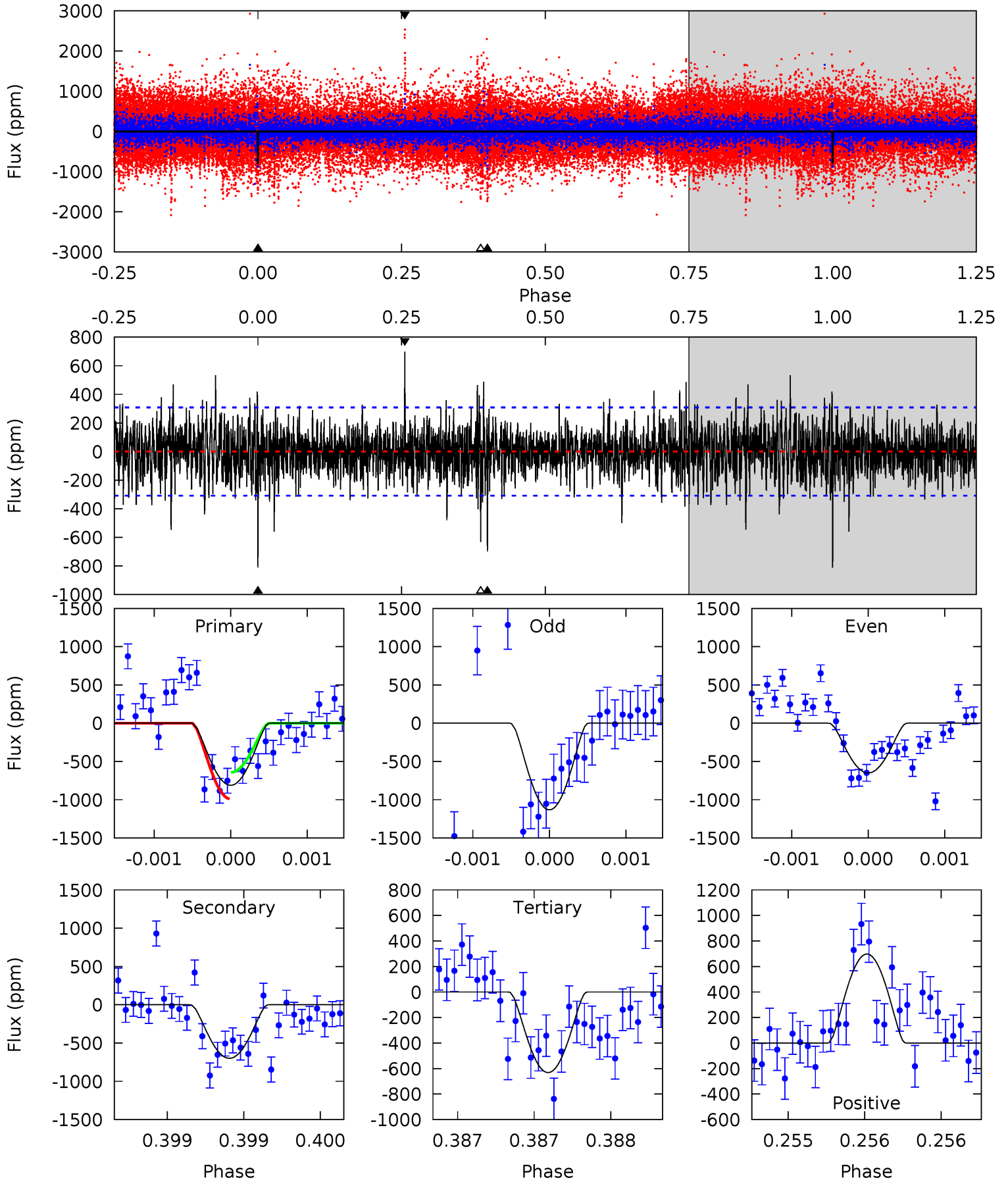
TCE 010724625-02 $P=391.472954$ Days $T_0=243.822635$ (BKJD)



DV Model-Shift Uniqueness Test

010724625-02, P = 391.454915 Days, E = 243.916044 Days

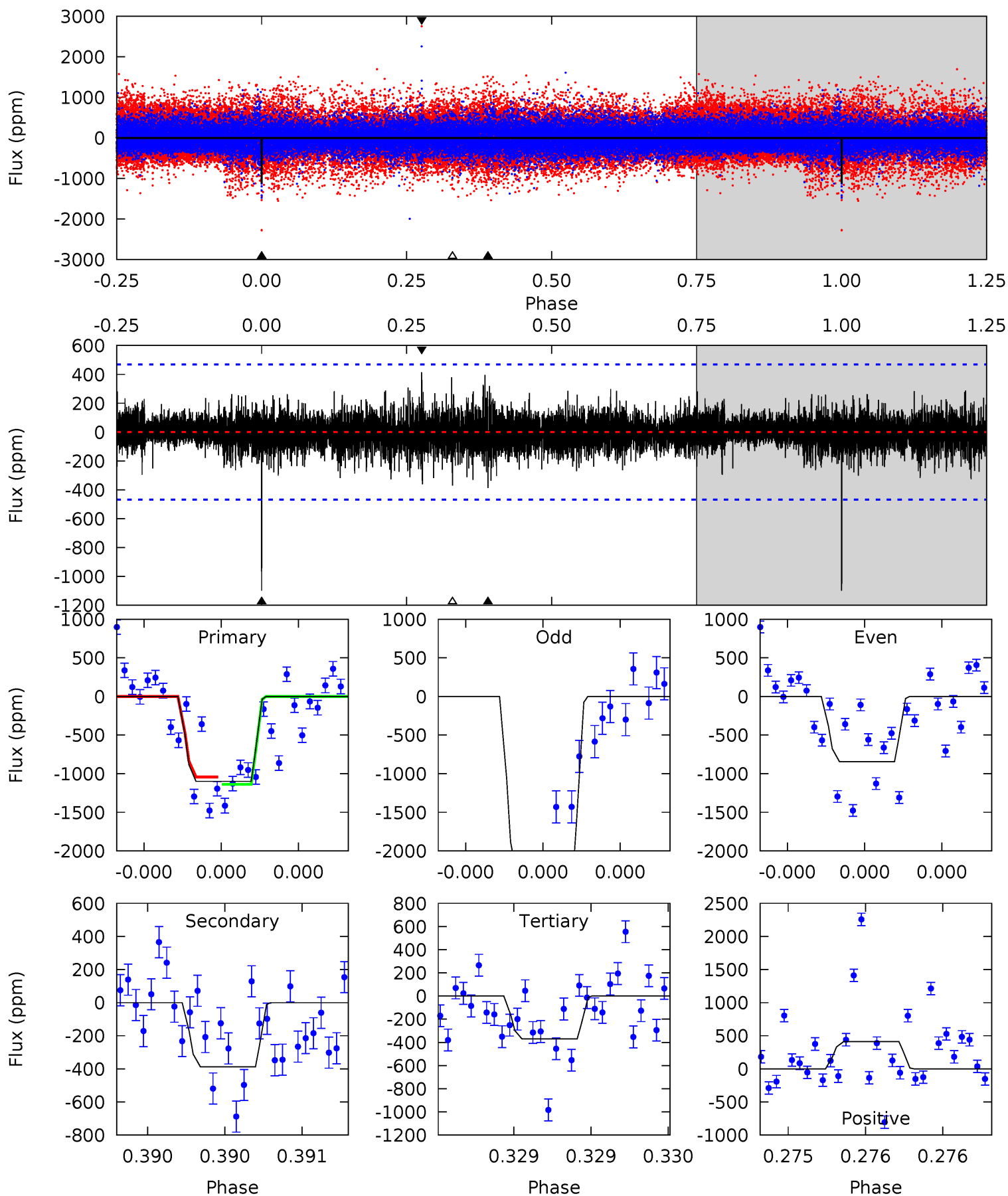
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	12.4	11.2	12.4	5.47	3.31	2.30	3.18	2.01	1.20	0.03	1.90	1.04	0.46	3.07



Alt Model-Shift Uniqueness Test

010724625-02, $P = 391.472954$ Days, $E = 243.822635$ 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	4.65	4.46	4.96	5.63	3.56	0.98	8.76	8.25	0.20	-0.31	9.09	1.54	0.27	0.57



Stellar Parameters For KIC 010724625

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7733^{+211}_{-316}	$4.013^{+0.193}_{-0.140}$	$-0.160^{+0.200}_{-0.300}$	$2.124^{+0.473}_{-0.578}$	$1.695^{+0.198}_{-0.273}$	$0.249^{+0.309}_{-0.104}$
	+3%/-4%	+5%/-3%	+125%/-188%	+22%/-27%	+12%/-16%	+124%/-42%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010724625-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-699 ± 56	$84.22^{+82.77}_{-59.89}$	616^{+44}_{-44}	2796^{+1246}_{-455}	85^{+885}_{-63}
Alt.	-387 ± 83	$75.53^{+82.26}_{-53.49}$	617^{+44}_{-47}	2616^{+1180}_{-409}	55^{+668}_{-42}

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

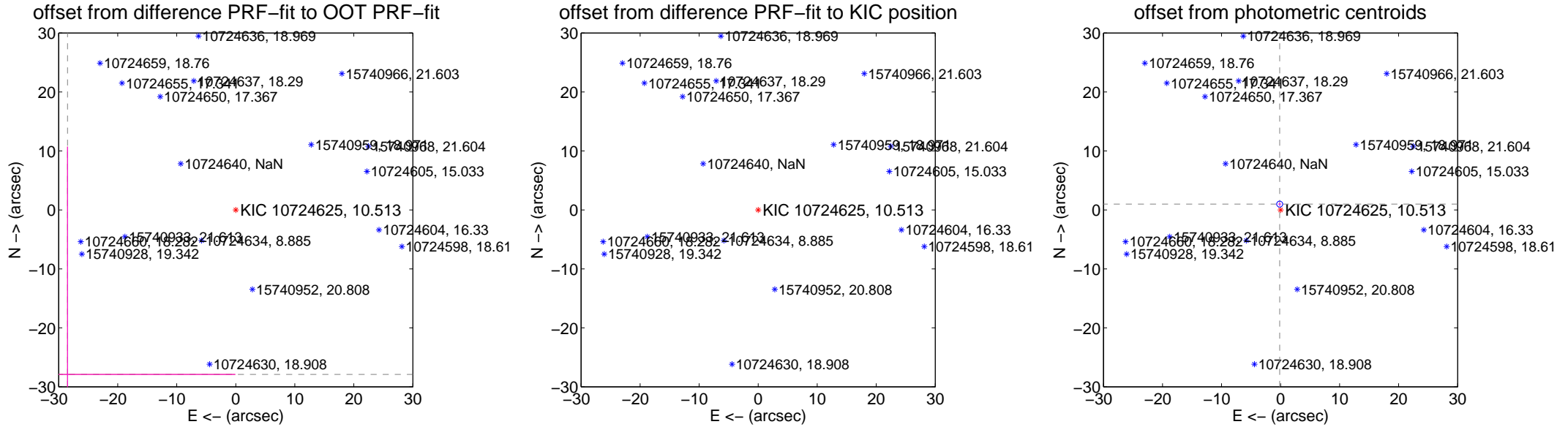
DV Centroid Data

Supplemental centroid analysis for 010724625-02. **Kepler magnitude: 10.51.** Transit SNR 7.81

There are 0 quarters with good PRF difference image offsets

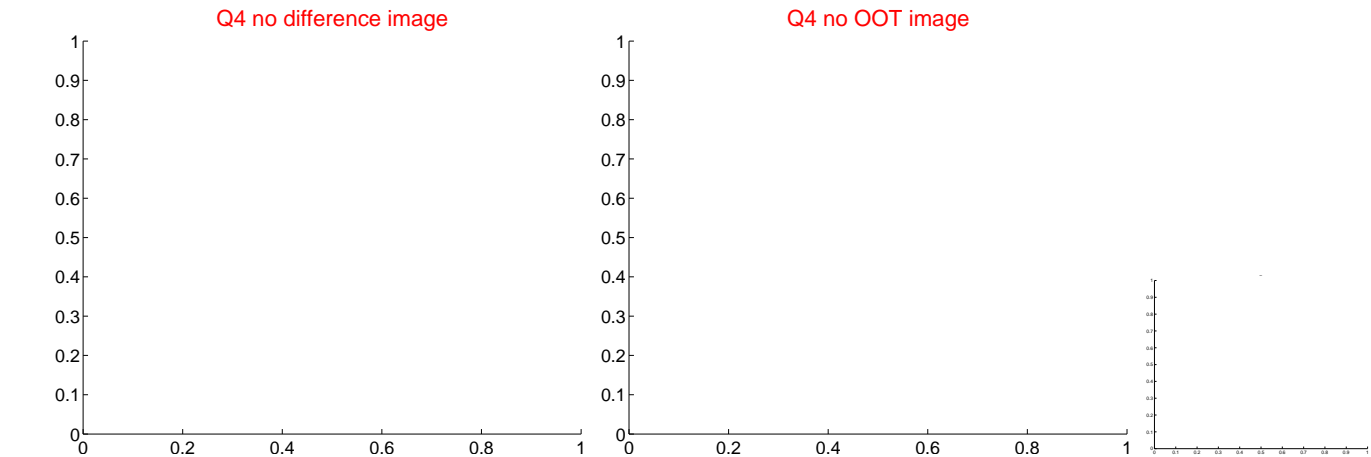
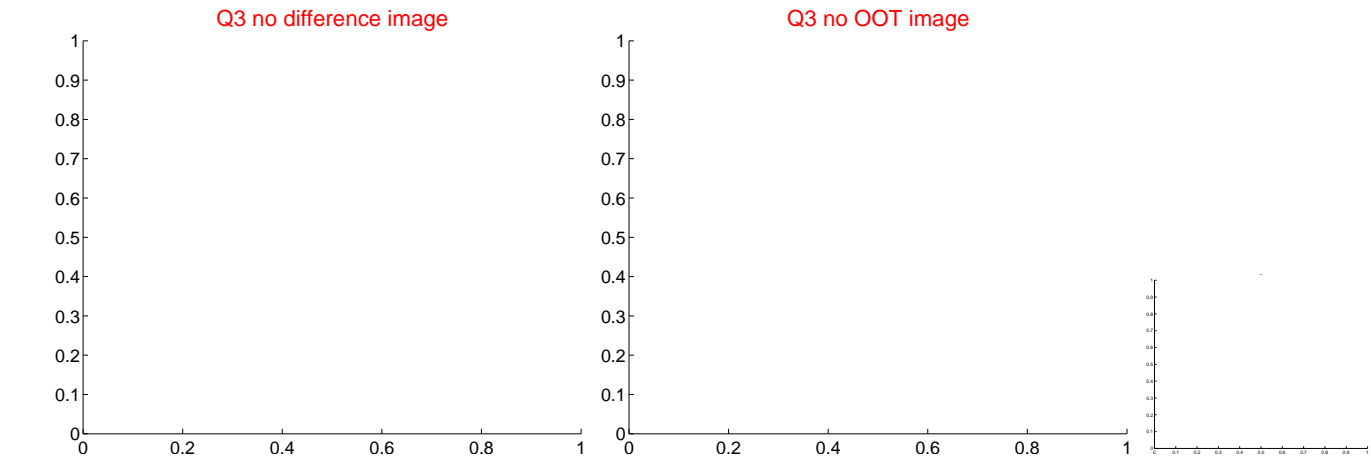
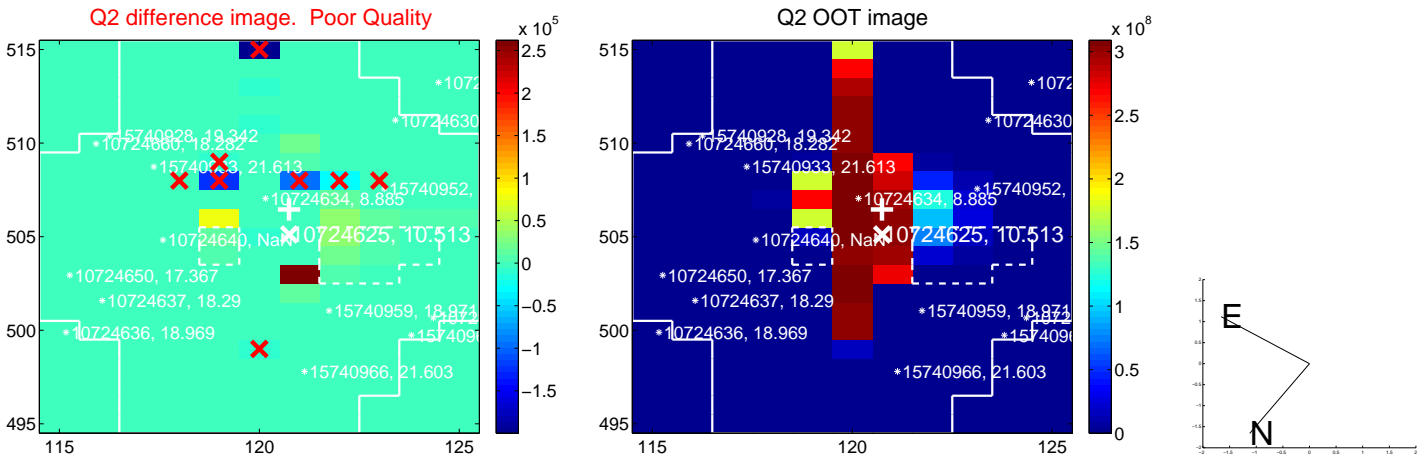
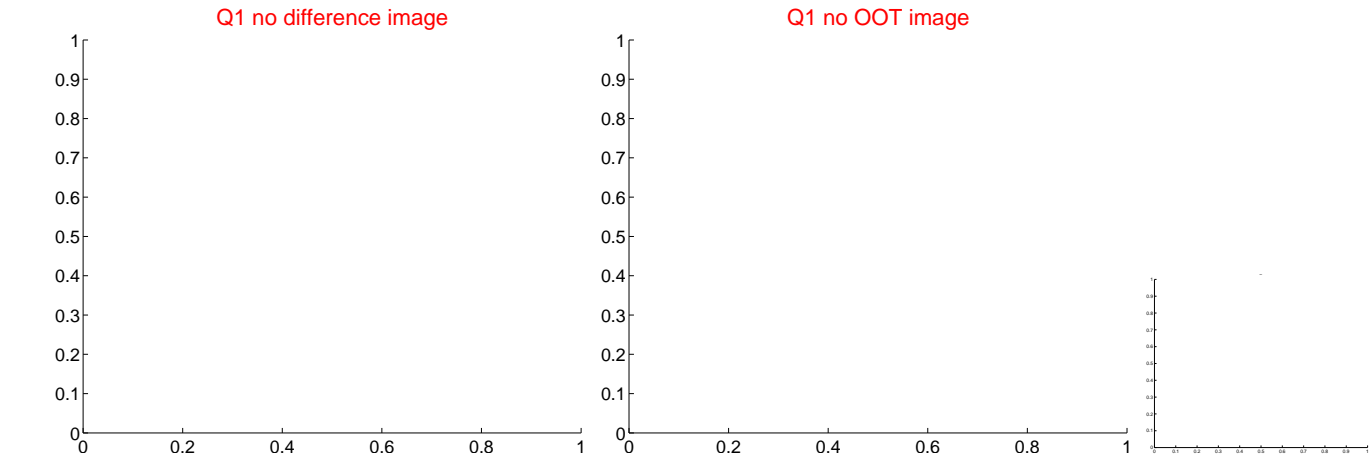
The OOT PRF centroid is offset from the target star catalog position by about 7.19 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	39.877 ± 33.800	1.18	28.496 ± 28.417	-27.895 ± 38.626
PRF-fit source offset from KIC position	46.971 ± 34.067	1.38	32.683 ± 28.416	-33.736 ± 38.626
photometric centroid source offset	0.99 ± 0.17	5.87	0.15 ± 0.24	0.98 ± 0.17

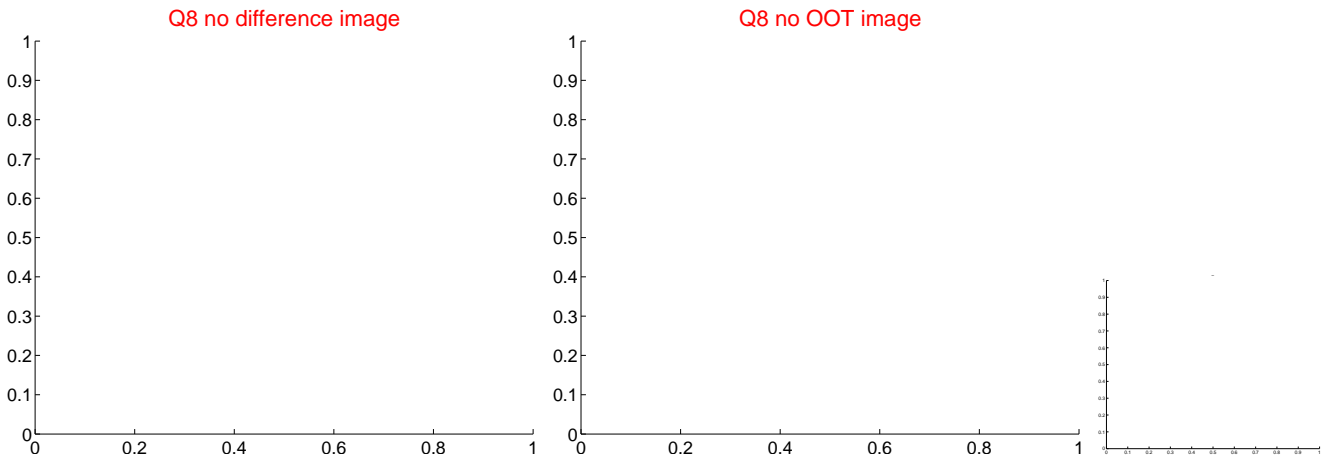
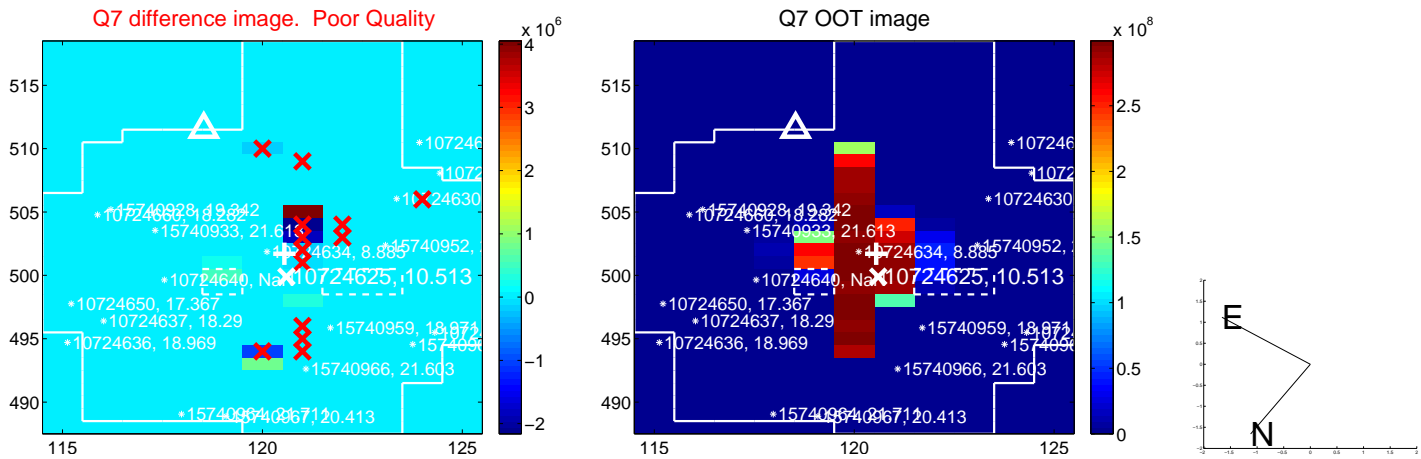
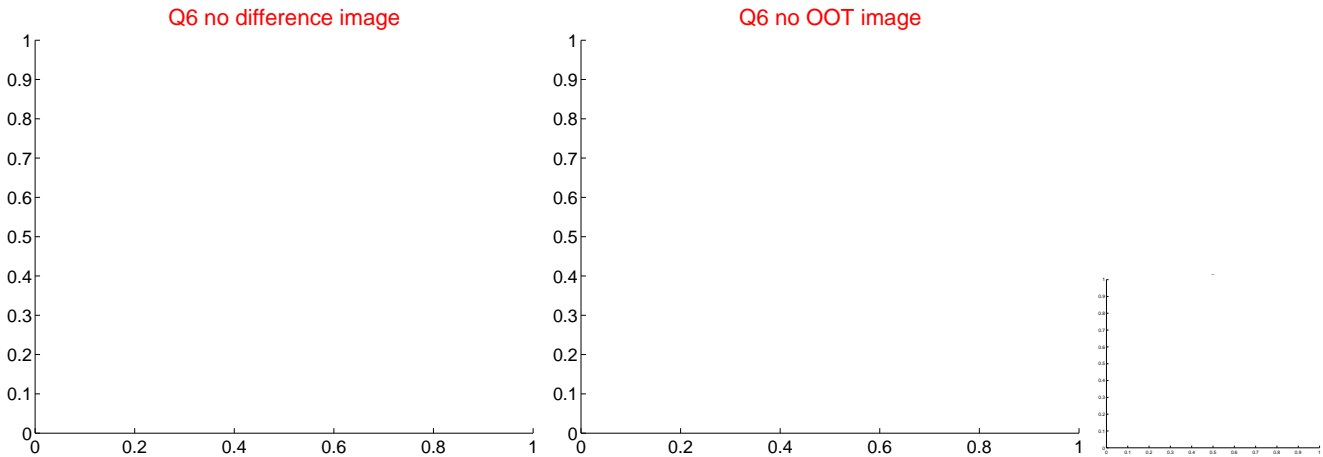
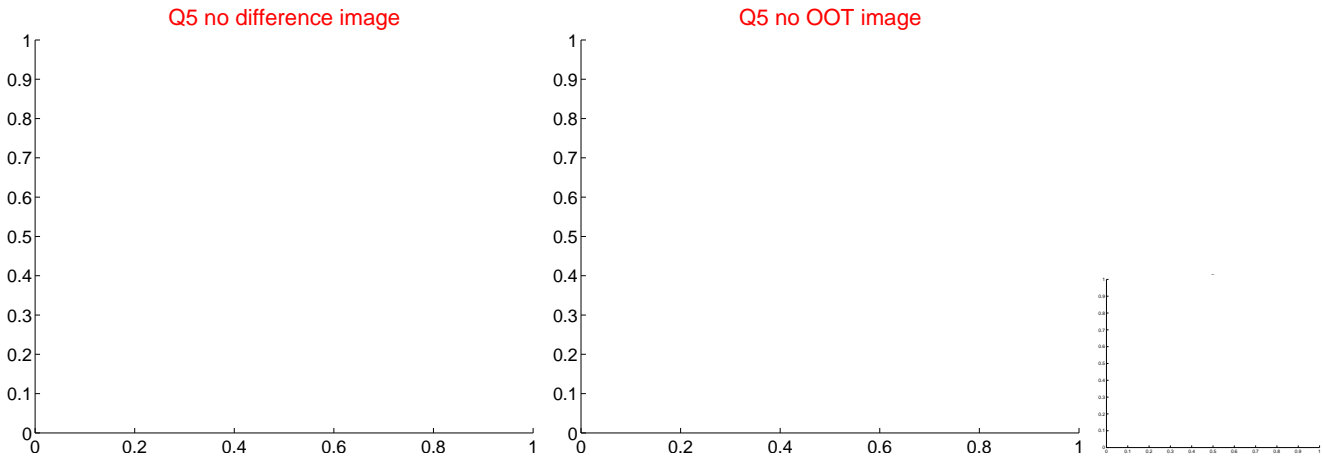


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



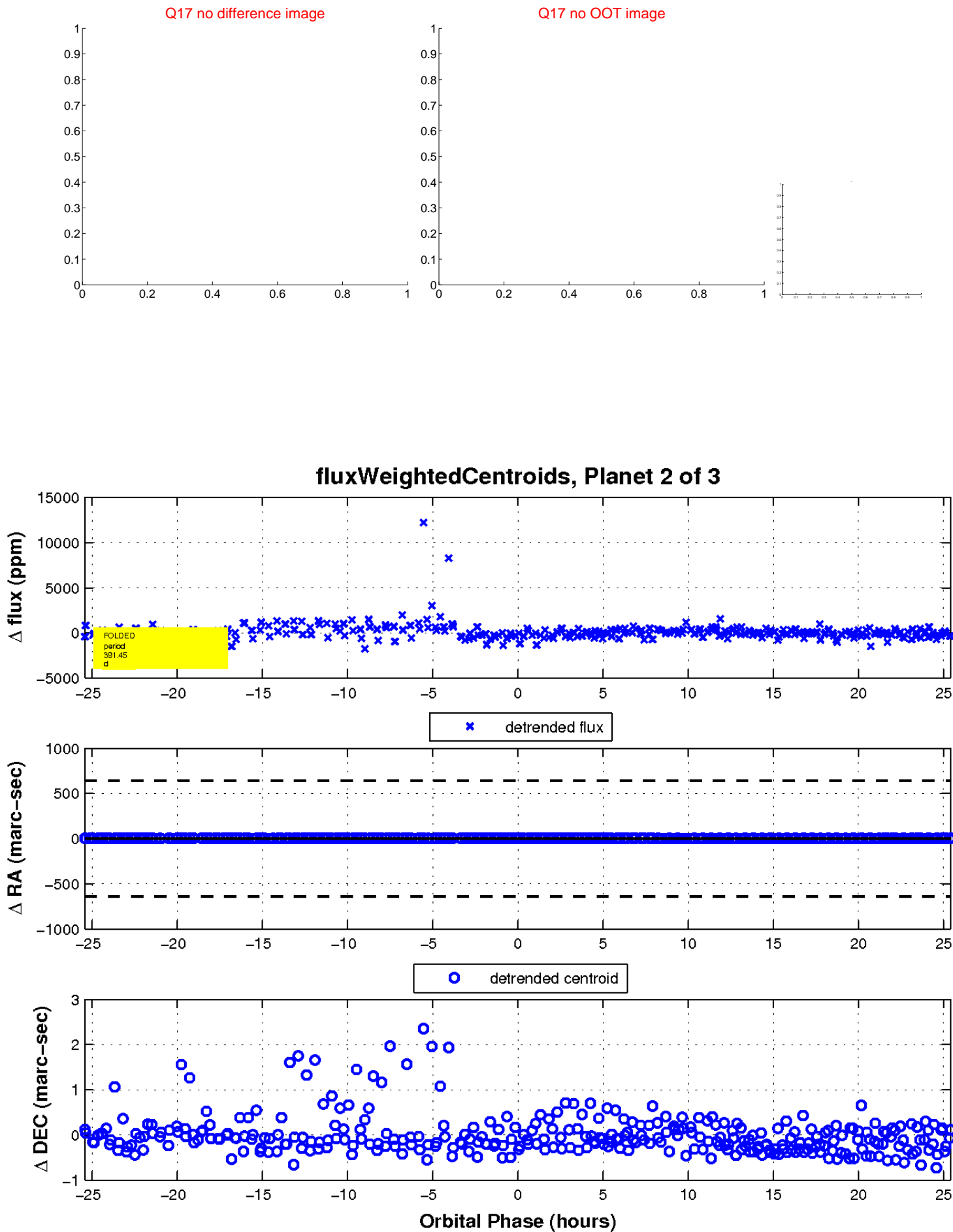
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

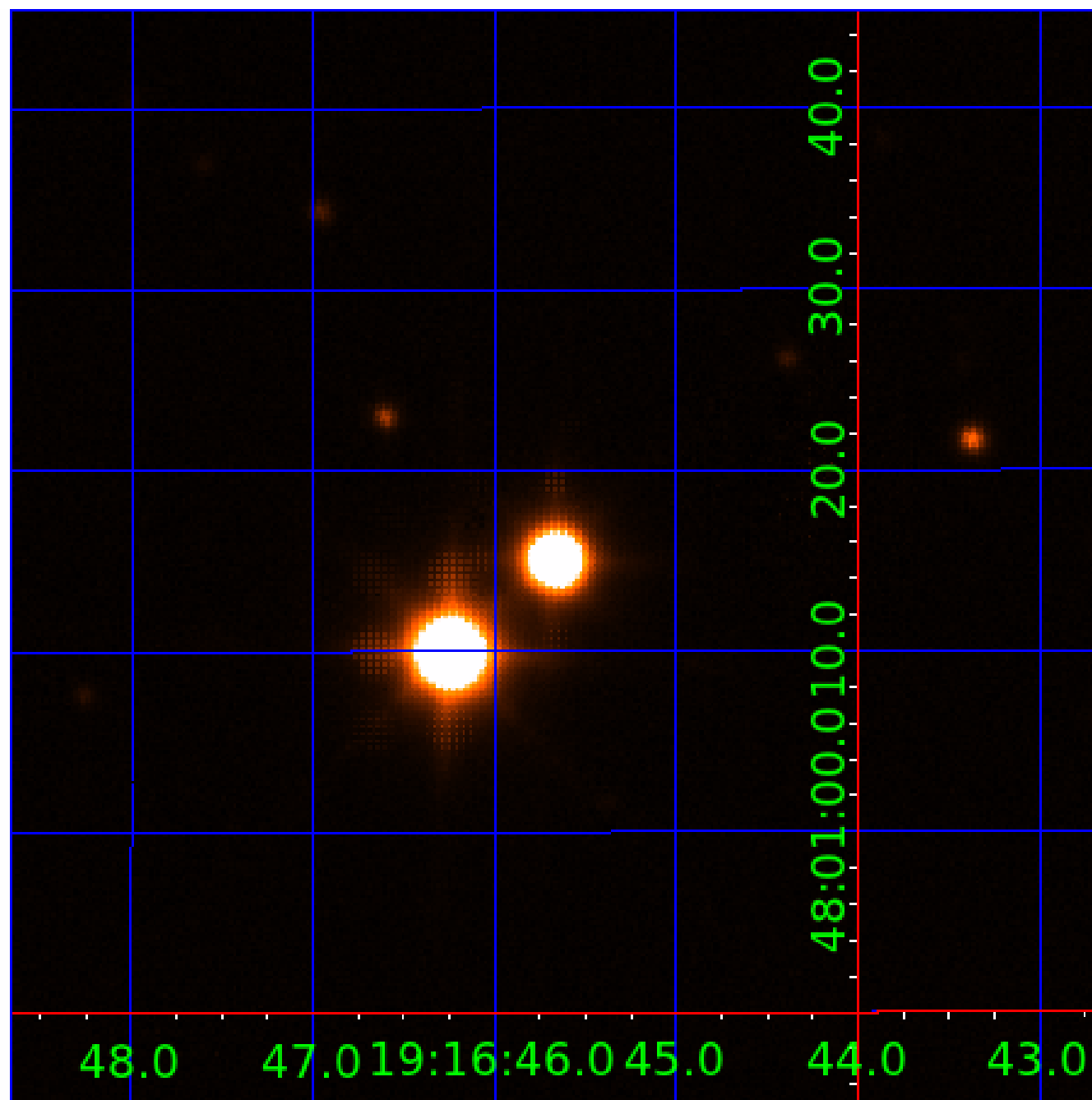


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010724625

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})
010724625-01	OBS	No	385.993737	247.094816	450.5	10.795	61.2	2.6	2.12	7733	5.20	9.44
010724625-02	OBS	No	391.454915	243.916044	1206.1	8.515	9.9	7.8	2.12	7733	13.72	9.26
010724625-03	OBS	No	339.246701	324.359153	743.9	14.486	9.6	10.7	2.12	7733	7.20	11.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010724625-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010724625-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010724625-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

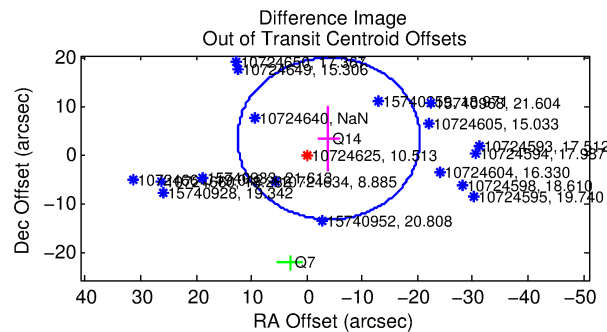
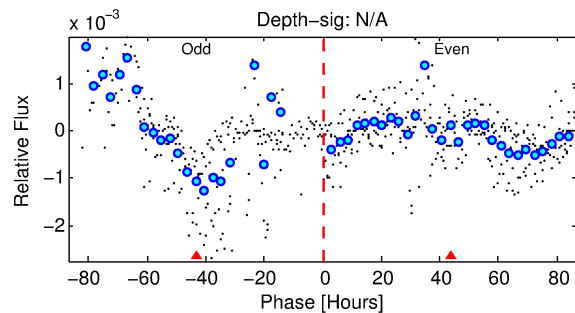
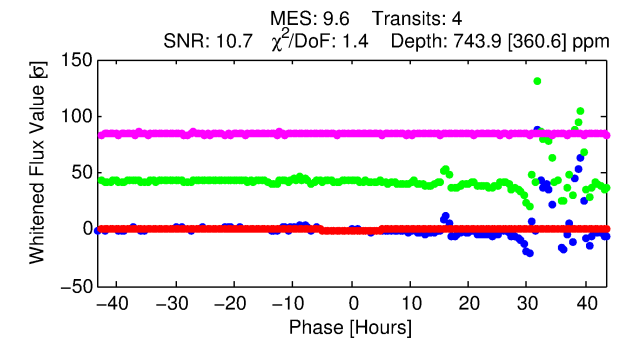
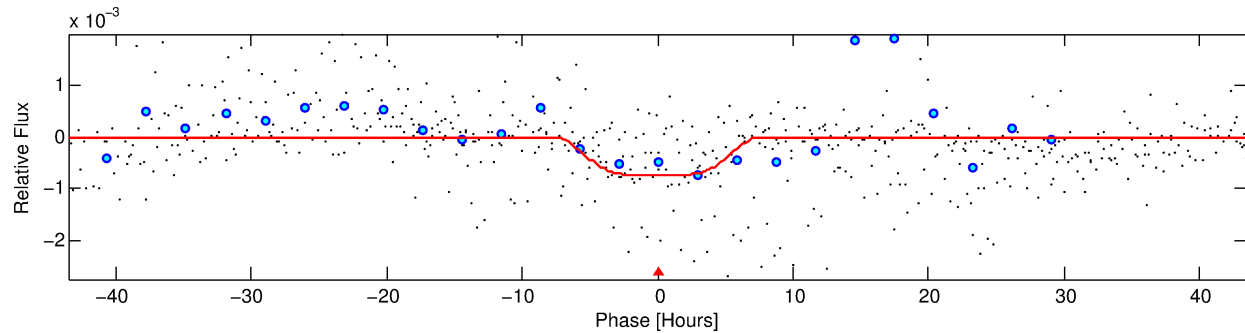
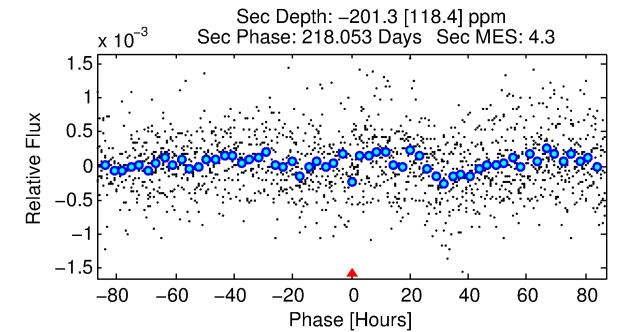
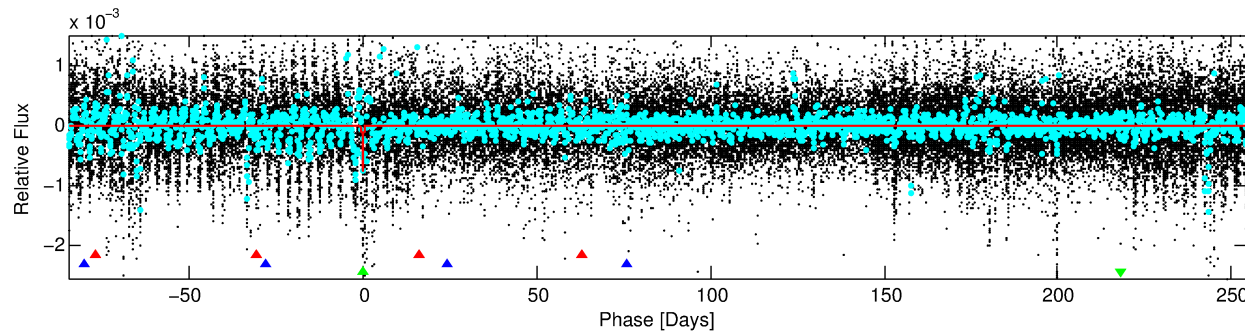
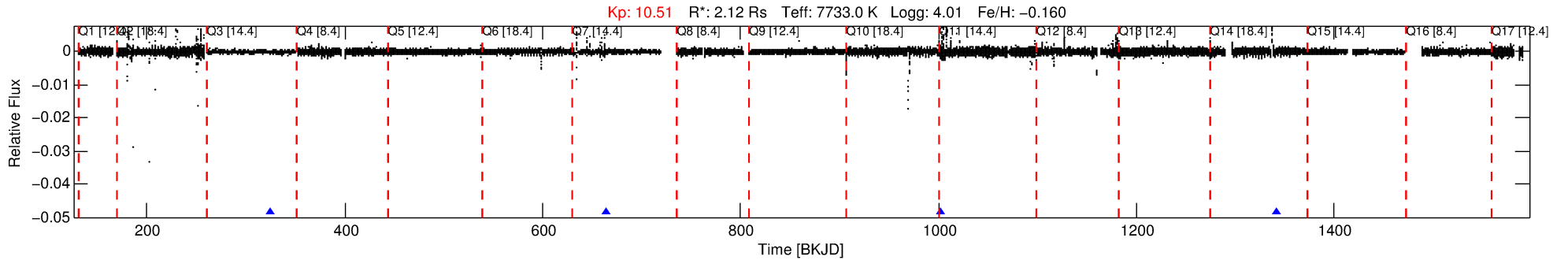
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010724625-03

No Significant Match Found

DV One-Page Summary

KIC: 10724625 Candidate: 3 of 3 Period: 339.247 d



DV Fit Results:

Period = 339.24670 [0.04242] d
Epoch = 324.3592 [0.0604] BKJD
Rp/R* = 0.0311 [0.0087]
a/R* = 69.41 [35.53]
b = 0.96 [0.05]
Seff = 11.21 [4.30]
Teff = 467 [45] K
Rp = 7.20 [2.82] Re
a = 1.1354 [0.2659] AU
Ag = N/A
Teffp = N/A

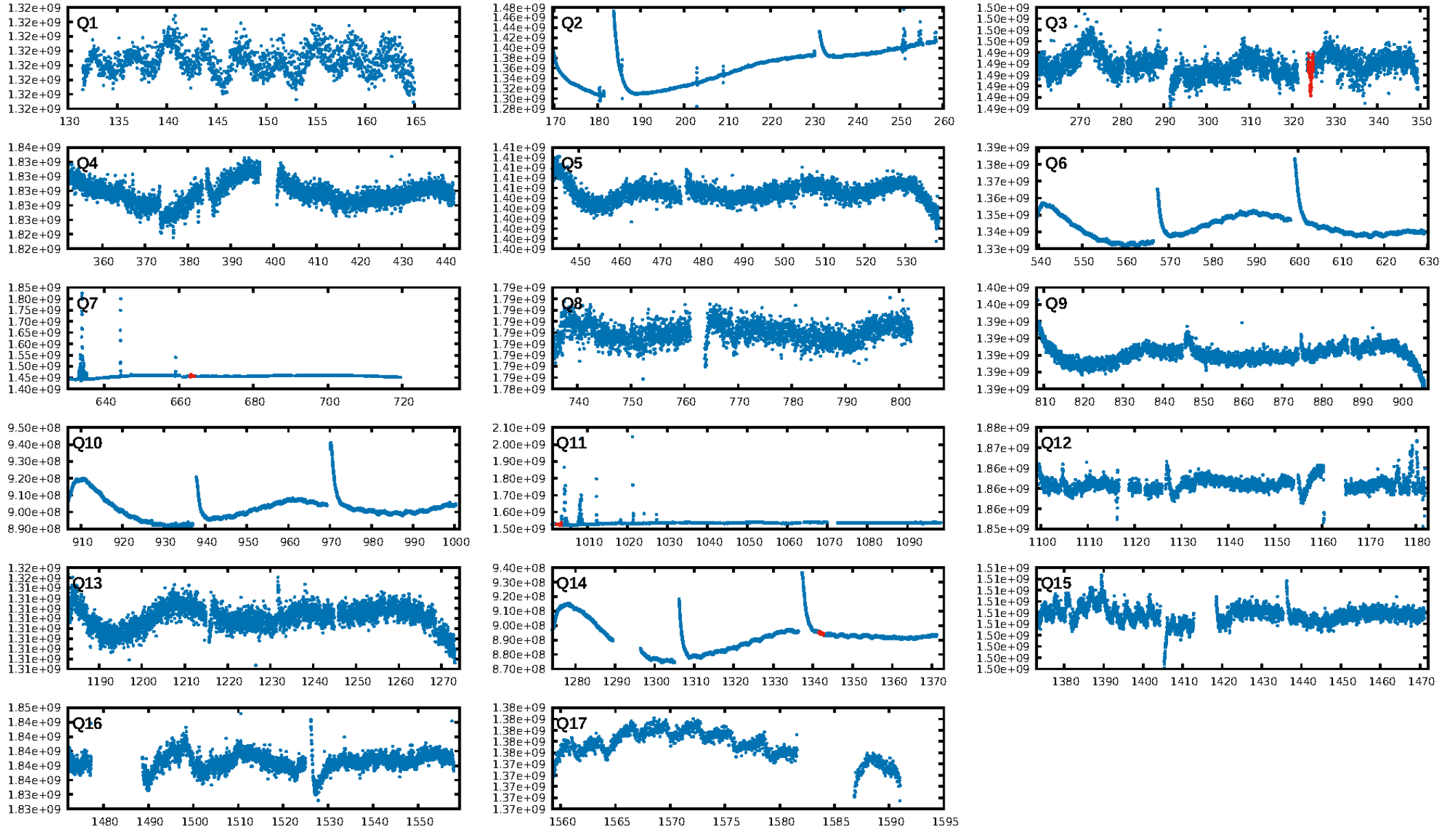
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [62.10σ]
ModelChiSquare2-sig: 8.2%
ModelChiSquareGof-sig: 4.5%
Bootstrap-pfa: 4.20e-07
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.855 arcsec [4.71σ]
OotOffset-rm: 5.246 arcsec [0.95σ]
KicOffset-rm: 7.582 arcsec [0.92σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

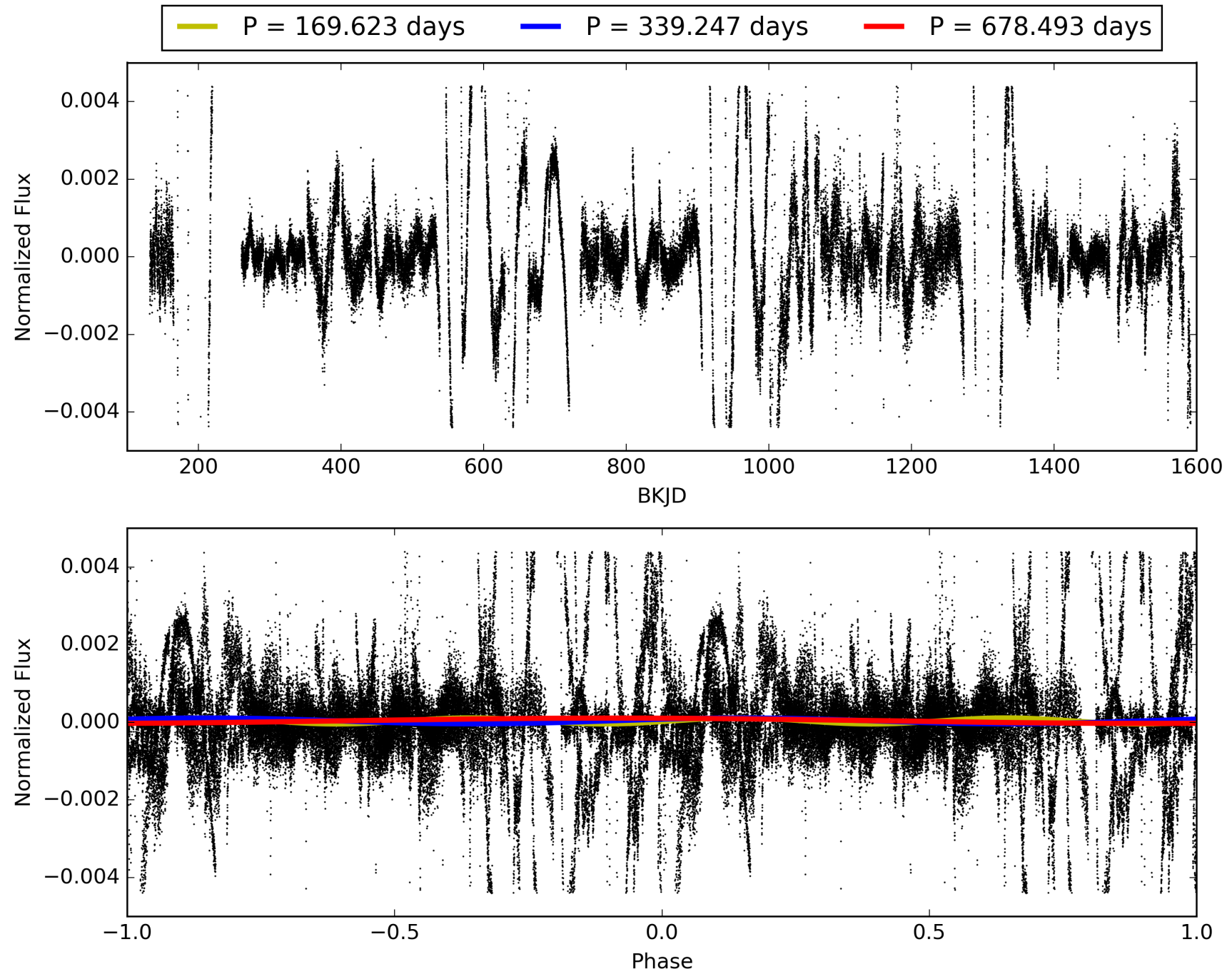
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:53:26 Z

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

TCE 010724625-03, PDC Light Curves

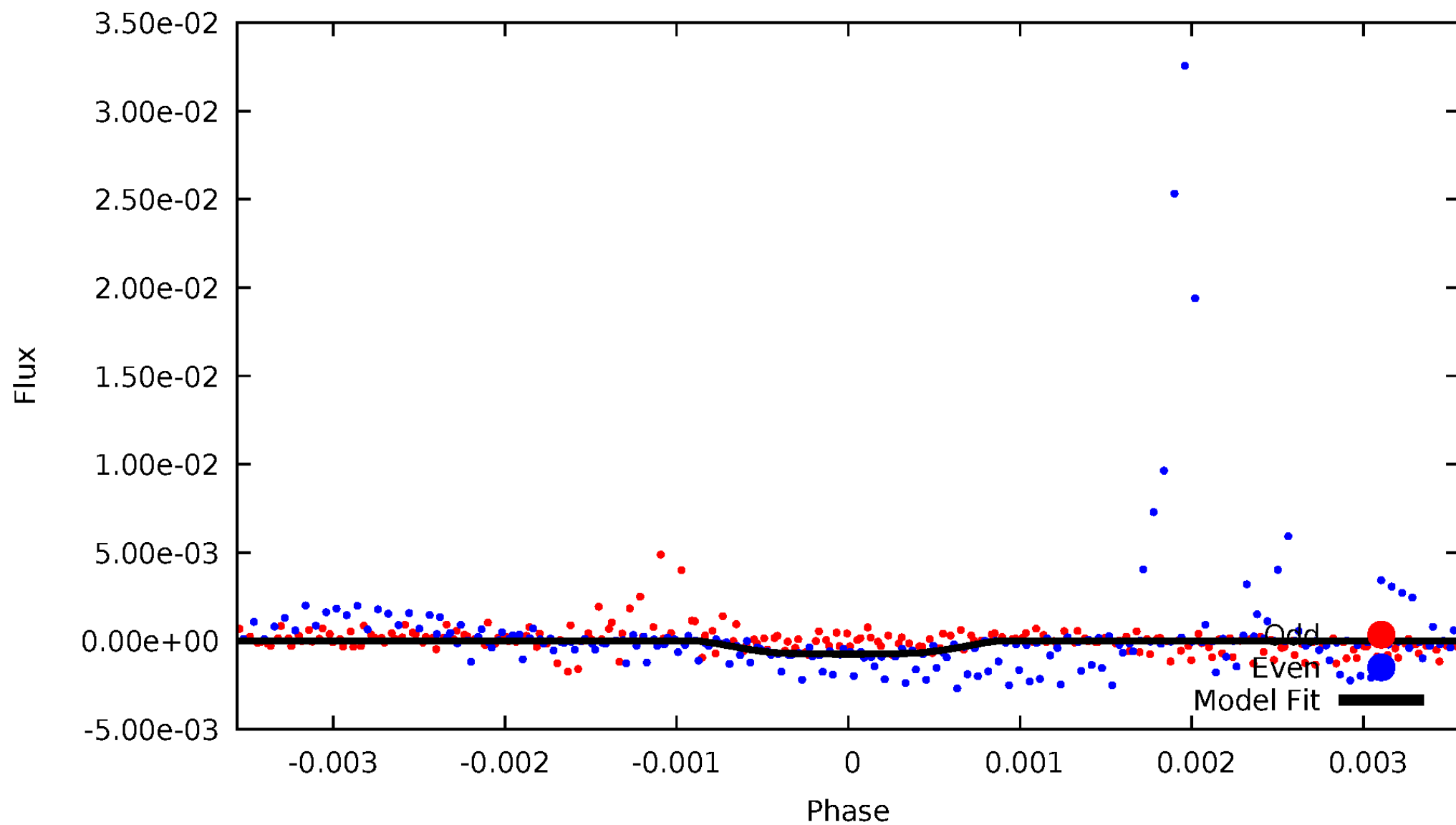


TCE 010724625-03



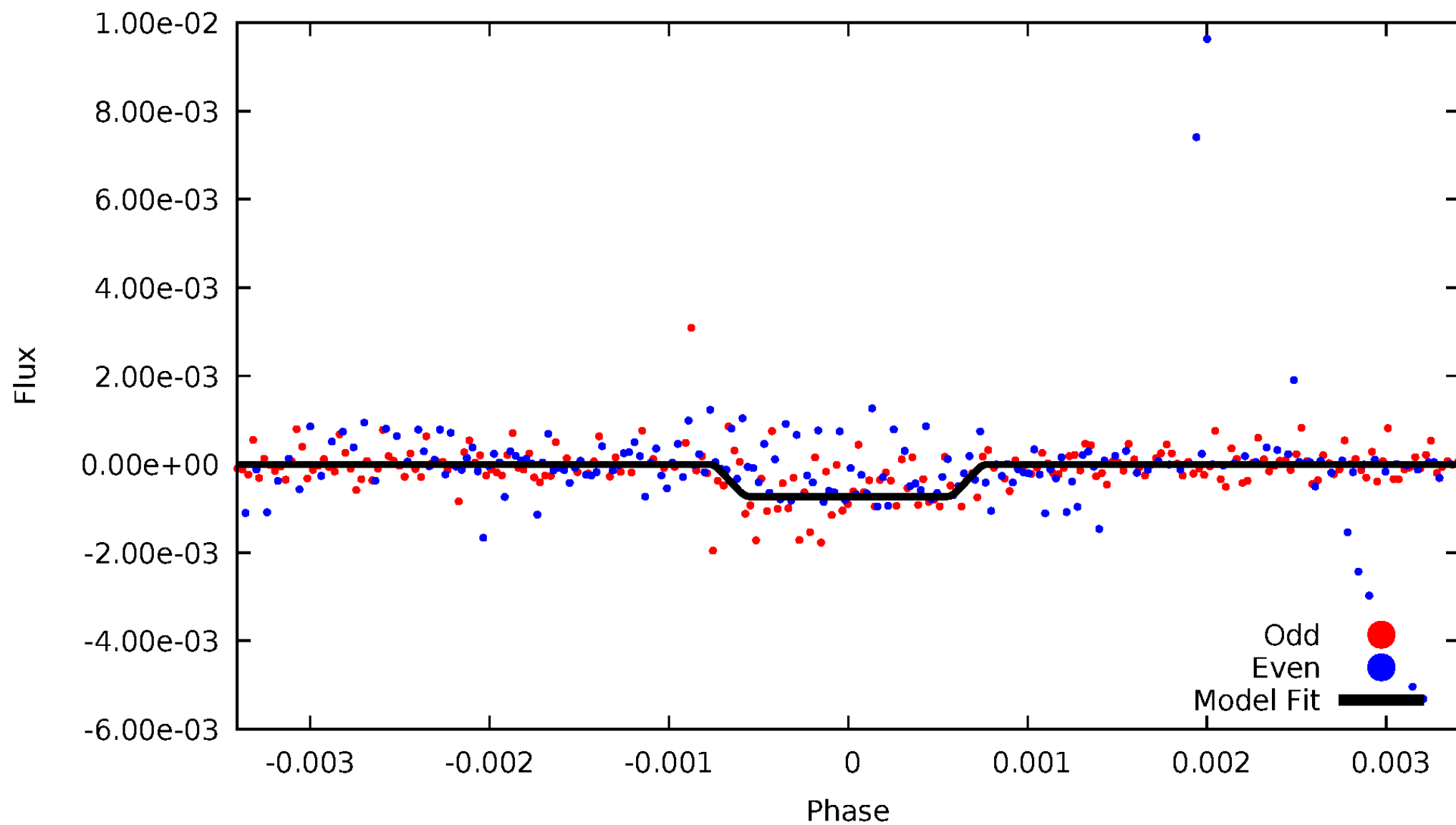
DV Odd/Even

TCE 010724625-03

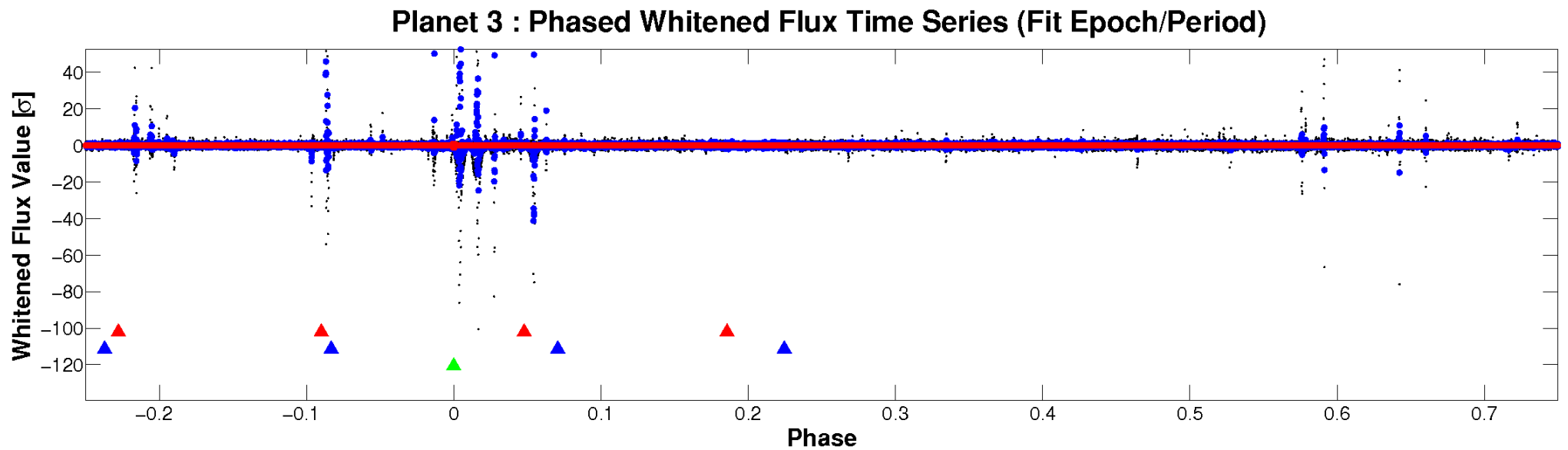
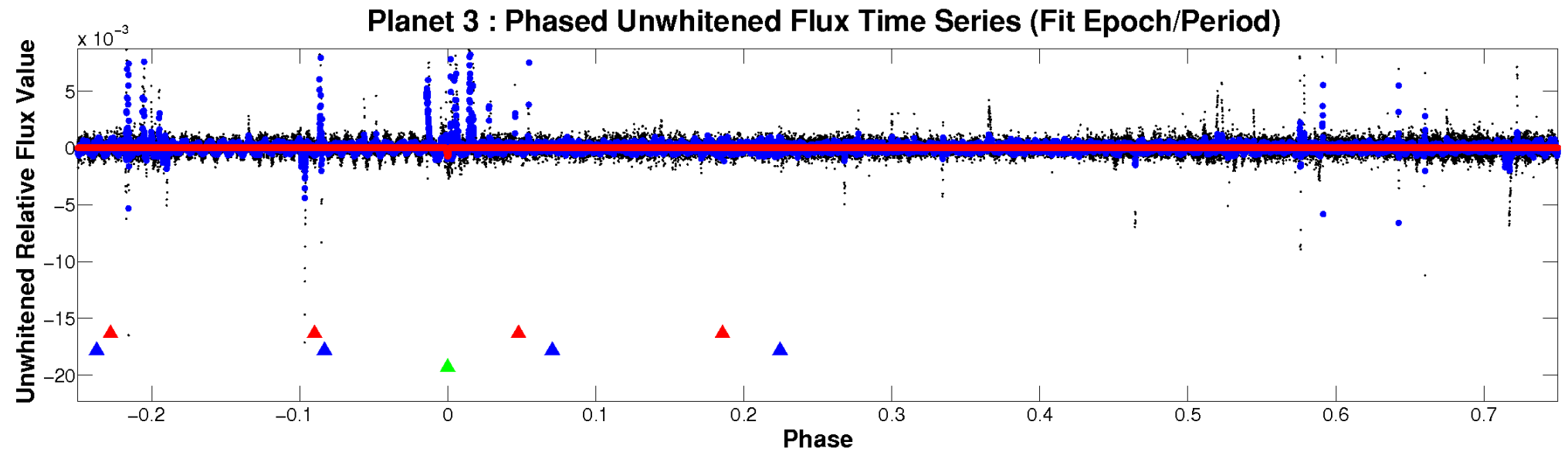


ALT Odd/Even

TCE 010724625-03

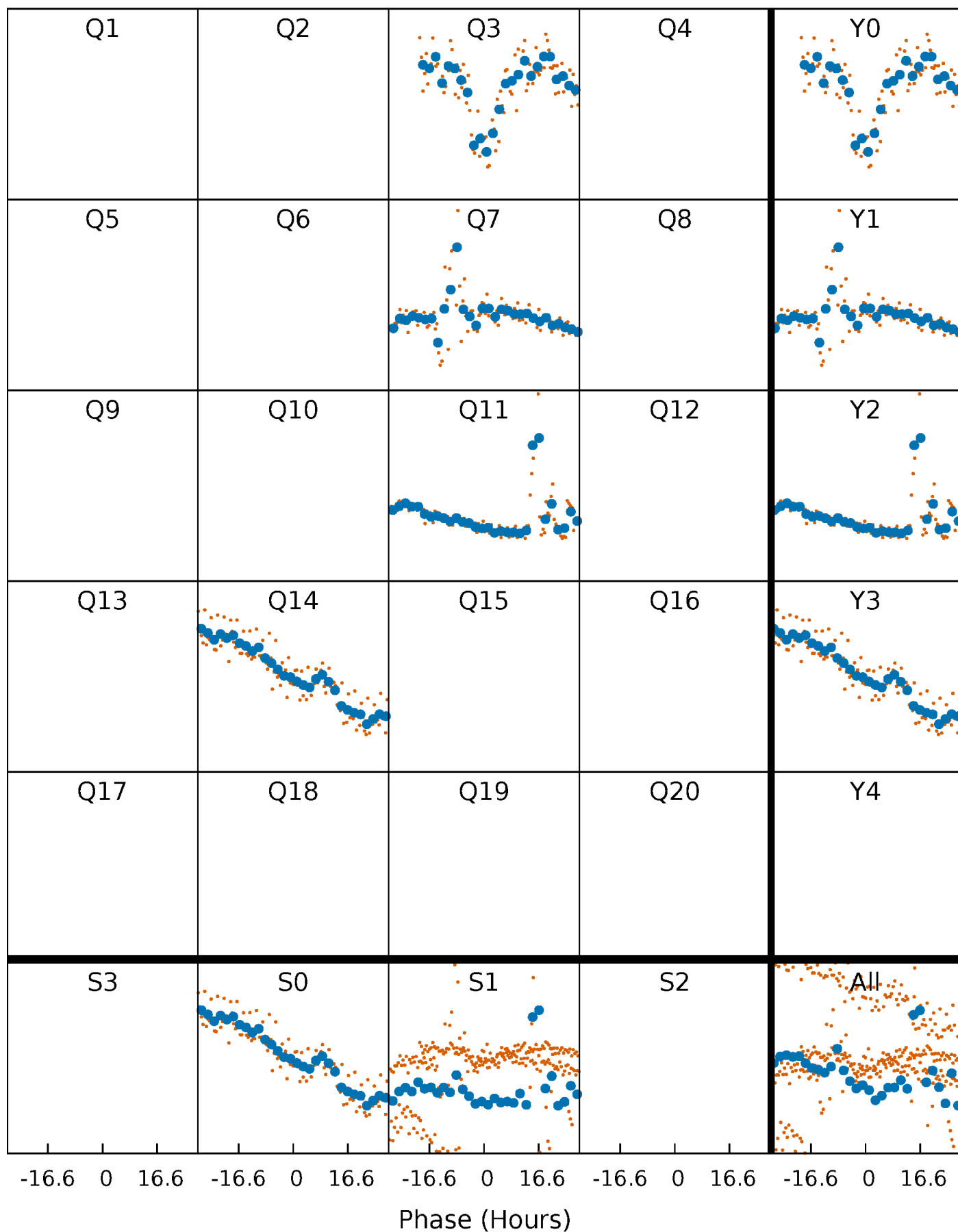


Non-Whitened Vs. Whitened Light Curve



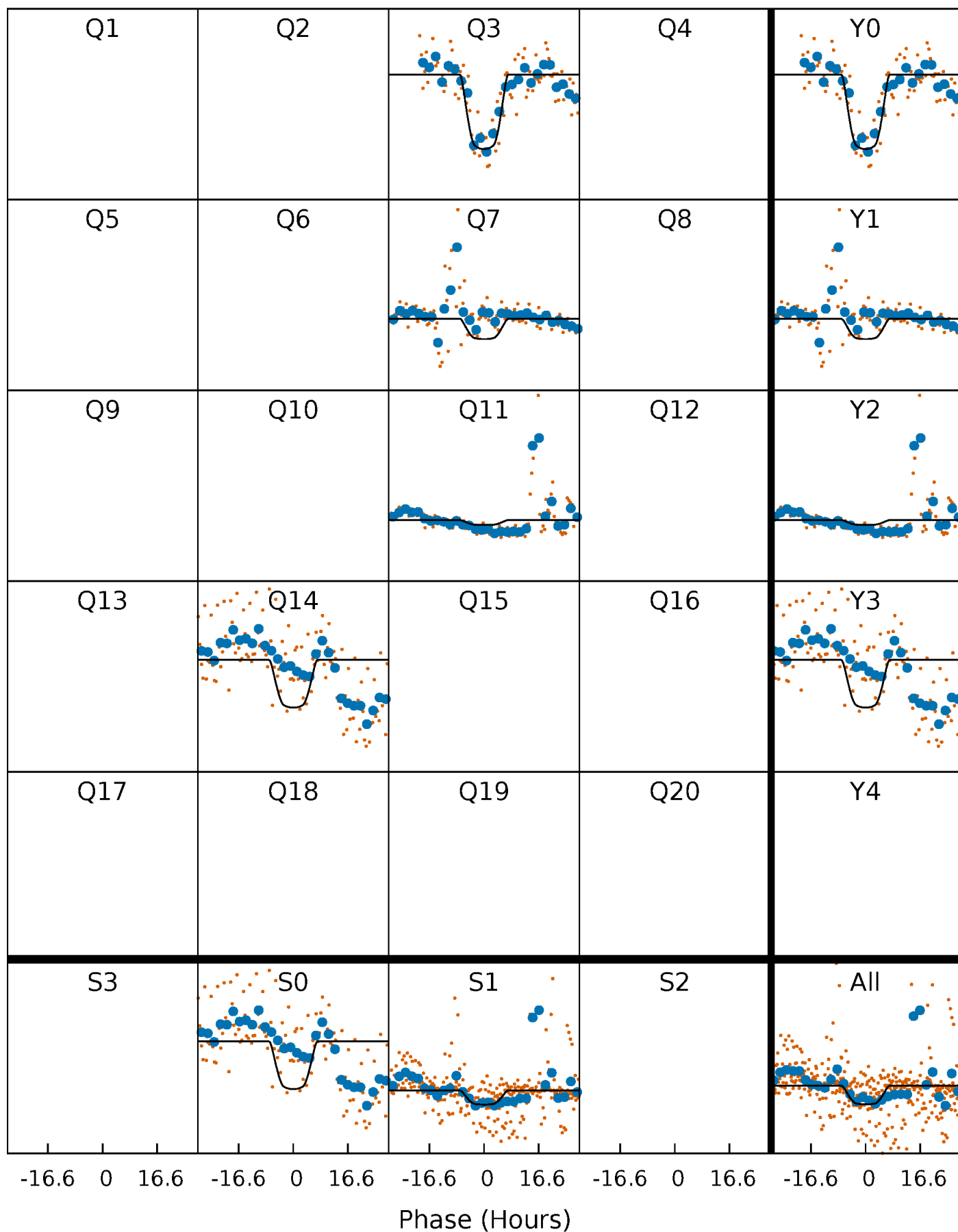
PDC Quarter-Phased Transit Curves

TCE 010724625-03 $P=339.246701$ Days $T_0=324.359153$ (BKJD)



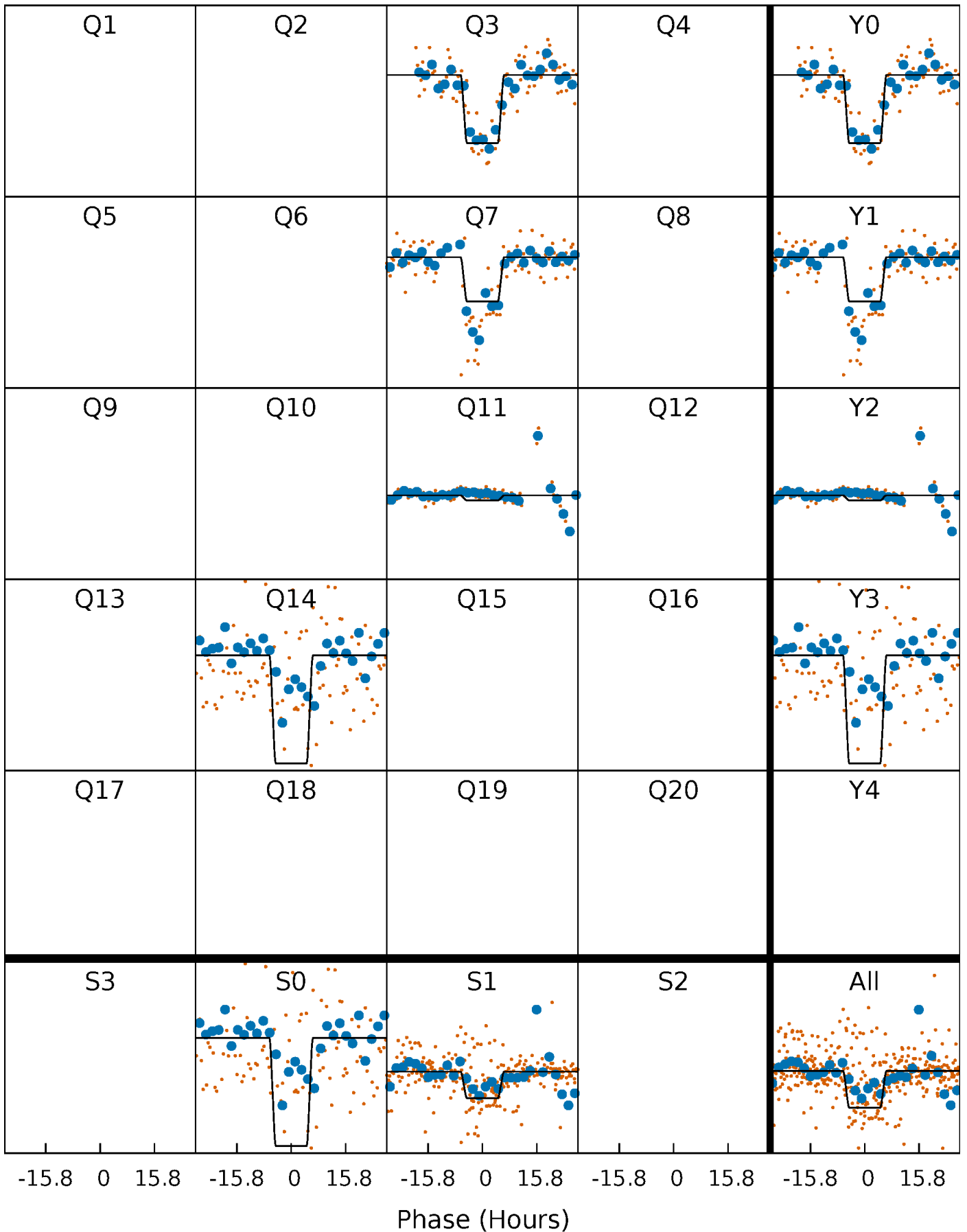
DV Quarter-Phased Transit Curves

TCE 010724625-03 P=339.246701 Days $T_0=324.359153$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

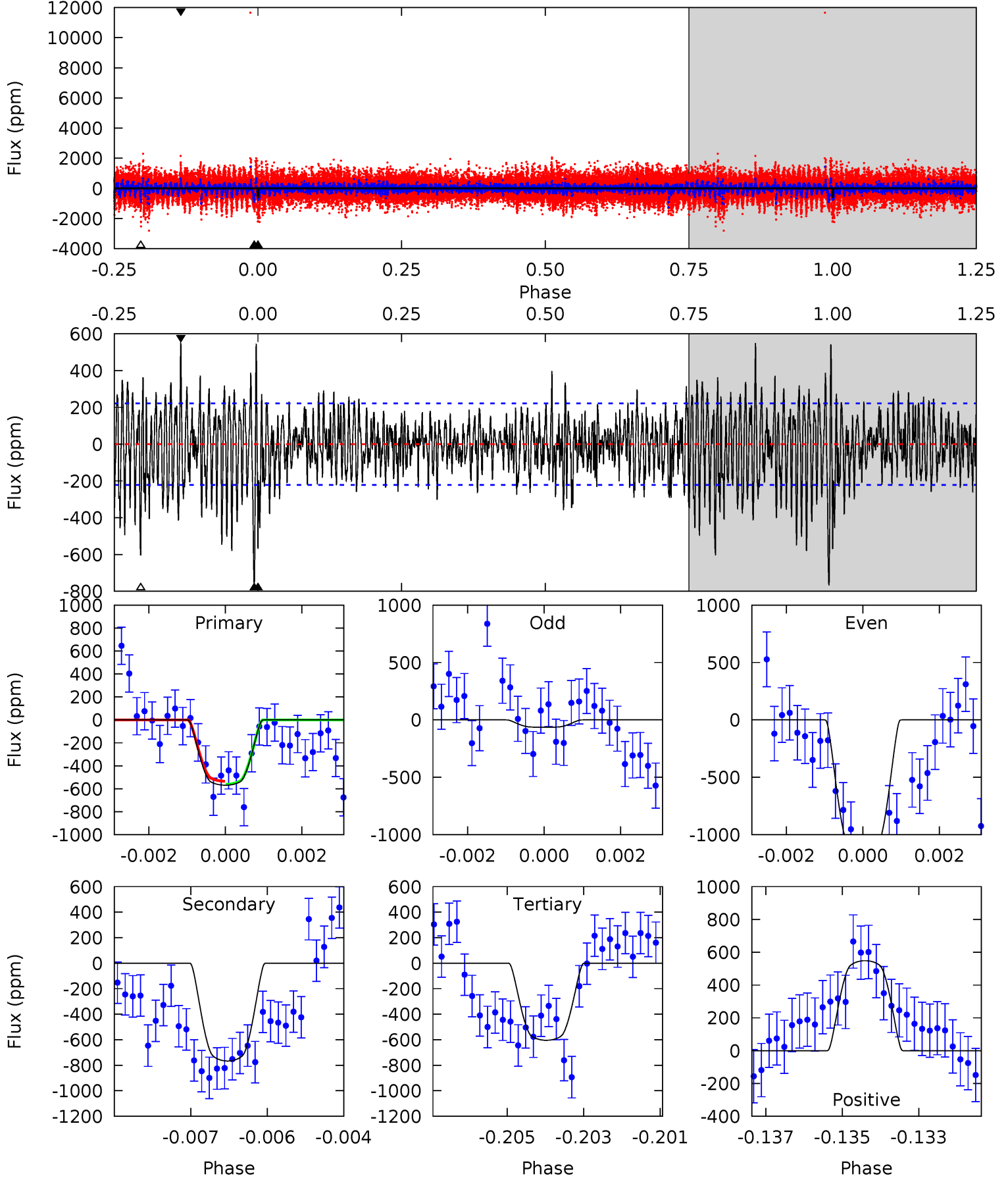
TCE 010724625-03 $P=339.224341$ Days $T_0=324.349008$ (BKJD)



DV Model-Shift Uniqueness Test

010724625-03, P = 339.246701 Days, E = 324.359153 Days

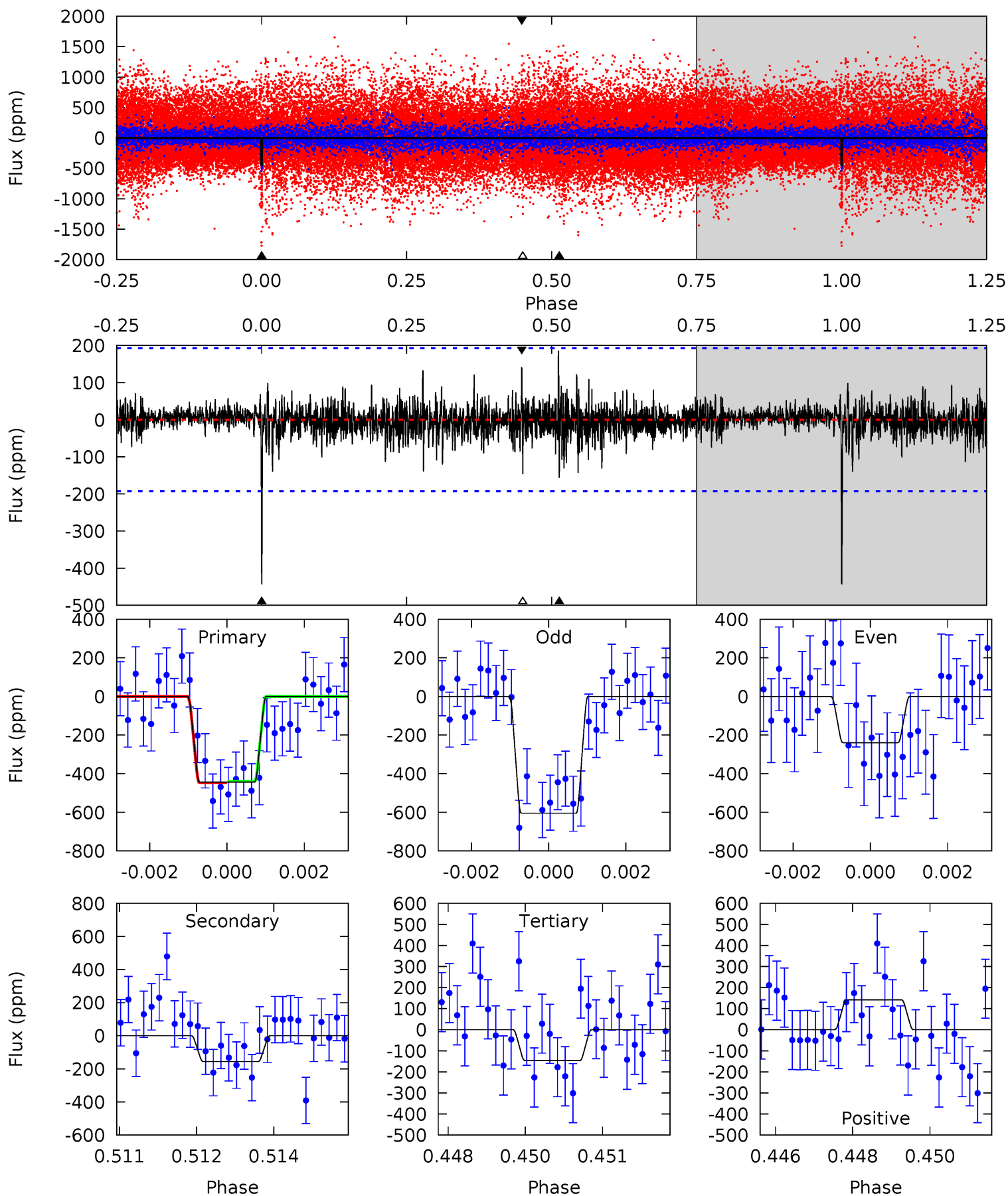
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	18.5	14.5	13.2	5.34	3.11	3.53	-0.85	0.49	3.92	5.25	5.82	1.47	0.42	0.33



Alt Model-Shift Uniqueness Test

010724625-03, P = 339.224341 Days, E = 324.349008 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	4.36	4.08	3.95	5.37	3.17	0.86	8.30	8.44	0.27	0.41	4.87	0.93	0.30	0.12



Stellar Parameters For KIC 010724625

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7733^{+211}_{-316}	$4.013^{+0.193}_{-0.140}$	$-0.160^{+0.200}_{-0.300}$	$2.124^{+0.473}_{-0.578}$	$1.695^{+0.198}_{-0.273}$	$0.249^{+0.309}_{-0.104}$
	+3%/-4%	+5%/-3%	+125%/-188%	+22%/-27%	+12%/-16%	+124%/-42%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010724625-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-767 ± 42	$7.16^{+2.21}_{-2.18}$	648^{+42}_{-48}	7202^{+1611}_{-964}	10794^{+10941}_{-4674}
Alt.	-156 ± 36	$5.97^{+2.34}_{-1.99}$	648^{+44}_{-44}	5259^{+995}_{-716}	2957^{+3528}_{-1460}

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

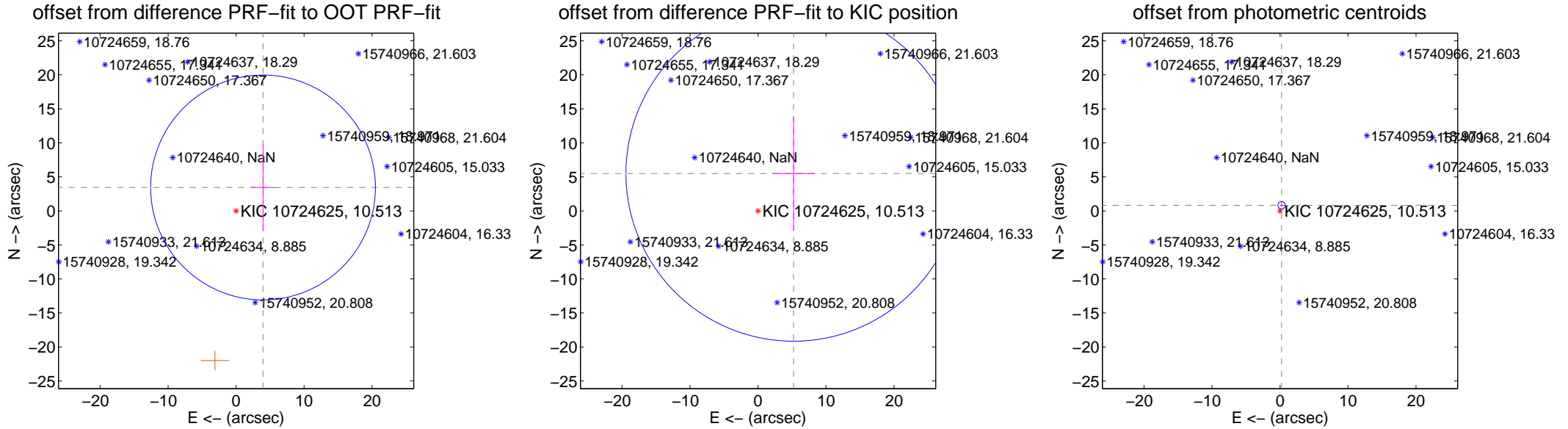
DV Centroid Data

Supplemental centroid analysis for 010724625-03. **Kepler magnitude: 10.51.** Transit SNR 10.65

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 2.42 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.246 ± 5.510	0.95	-3.960 ± 1.768	3.441 ± 6.366
PRF-fit source offset from KIC position	7.582 ± 8.217	0.92	-5.222 ± 3.141	5.497 ± 8.350
photometric centroid source offset	0.86 ± 0.18	4.71	-0.23 ± 0.27	0.82 ± 0.17

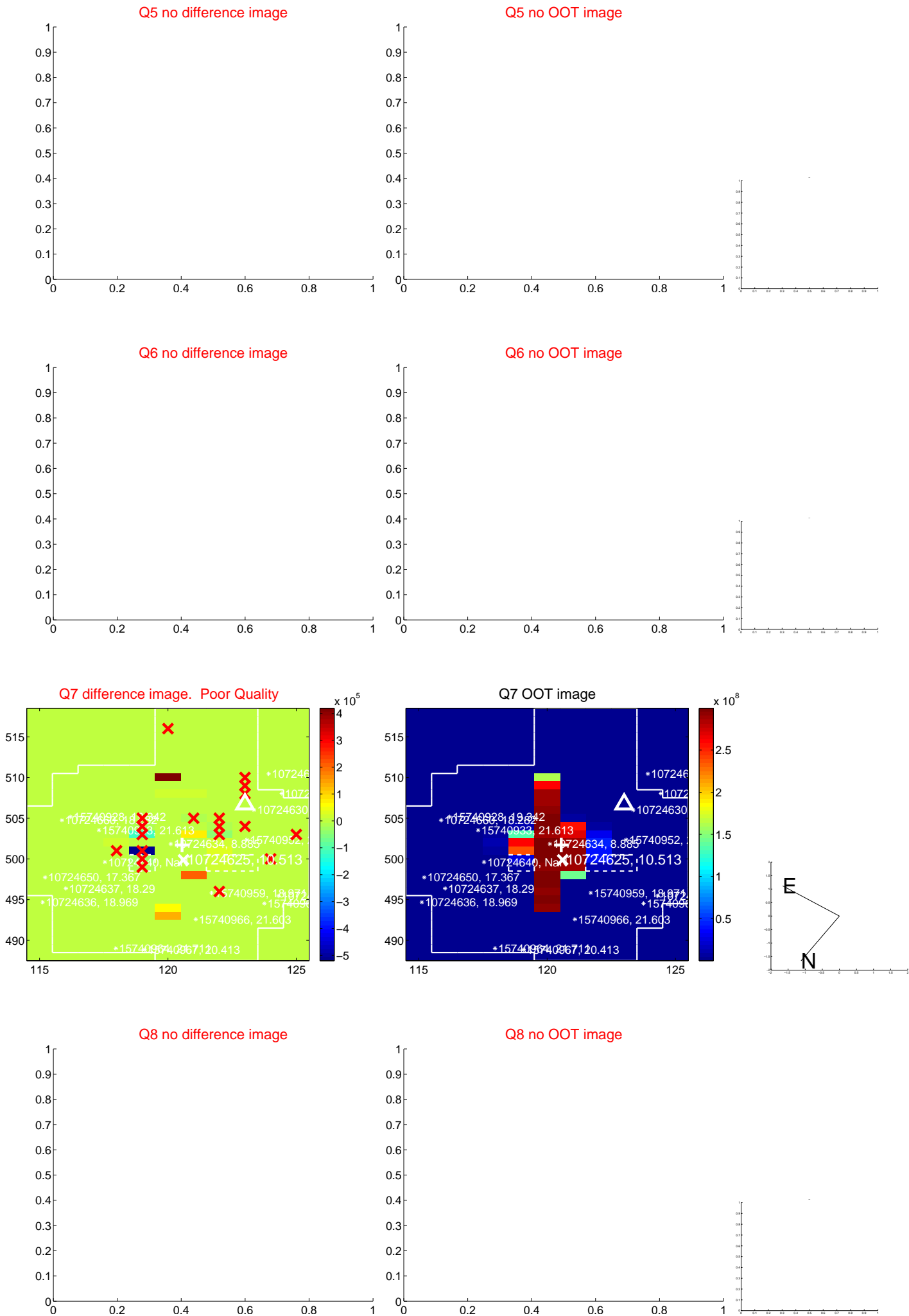


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

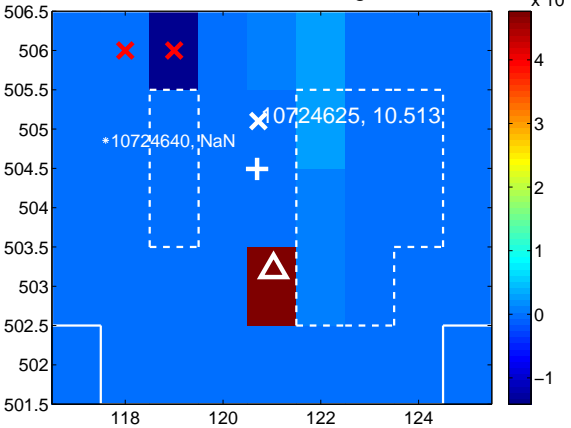
Q13 no difference image



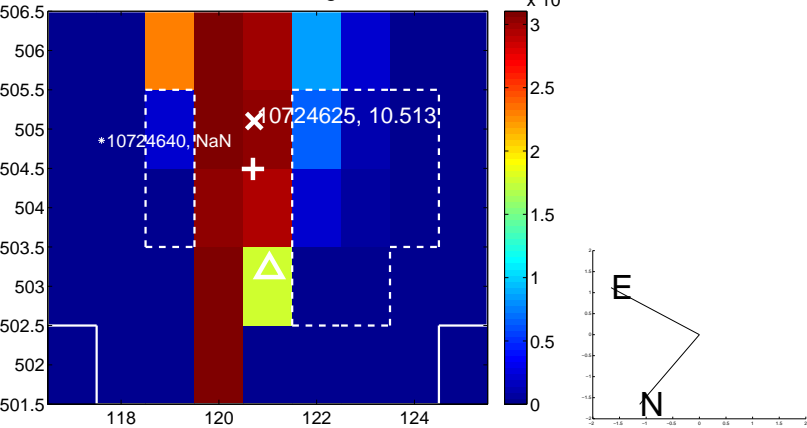
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



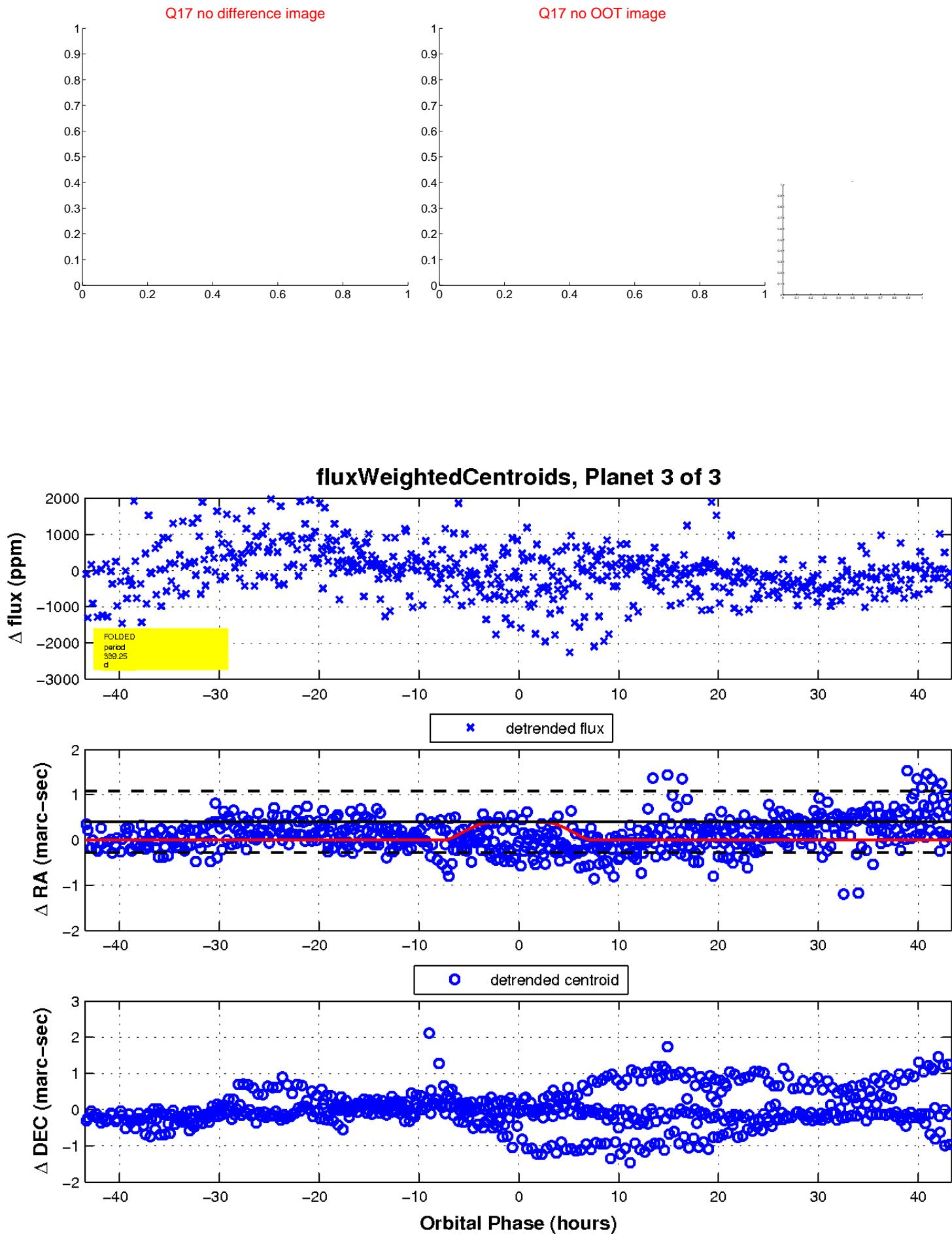
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

