

KIC 007041041

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})
007041041-01	OBS	No	172.310612	135.587163	1773.8	5.576	13.9	6.2	0.72	4395	3.21	0.59
007041041-02	OBS	No	149.572475	261.769953	2425.3	3.663	13.1	9.0	0.72	4395	3.77	0.71
007041041-03	OBS	No	162.479073	282.541541	2187.1	3.056	10.1	7.6	0.72	4395	3.99	0.64
007041041-04	OBS	No	317.055110	253.983311	1348.9	5.085	9.2	5.3	0.72	4395	2.99	0.26
007041041-05	OBS	No	126.244833	254.369149	1866.5	3.249	9.2	6.7	0.72	4395	3.63	0.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007041041-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-02	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
007041041-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES

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

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

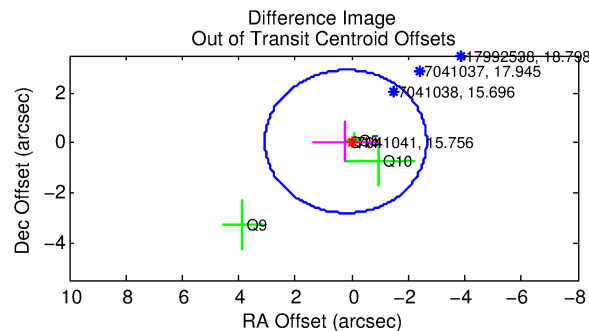
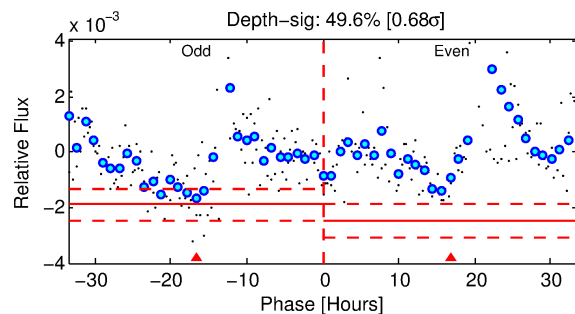
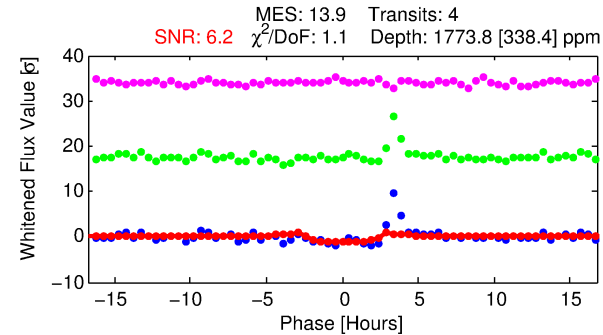
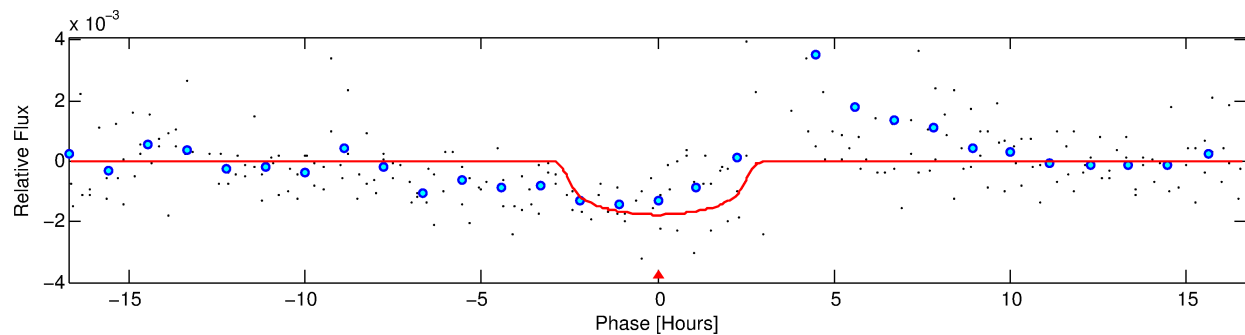
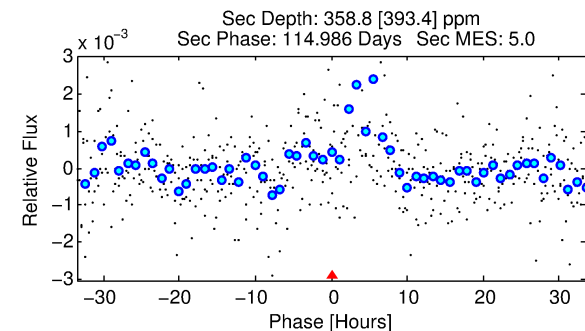
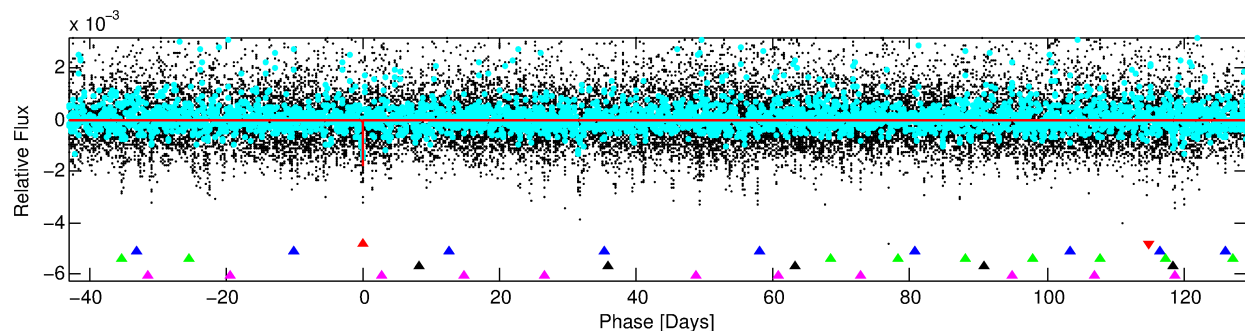
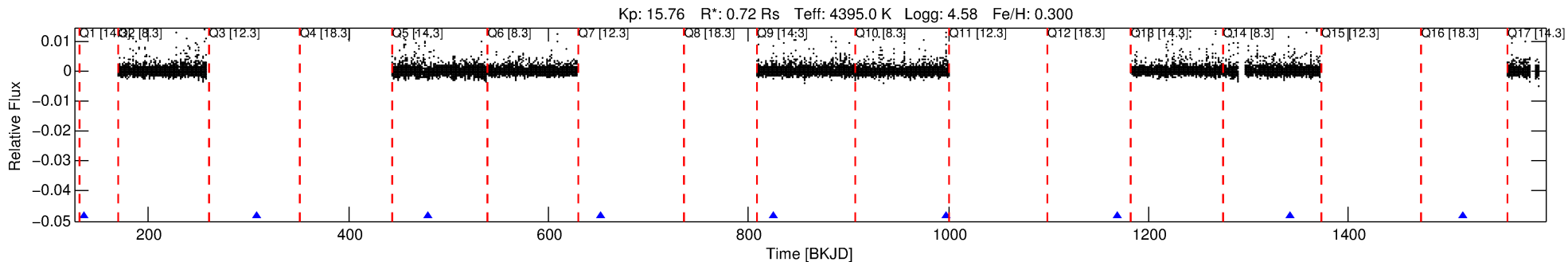
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007041041-01

No Significant Match Found

DV One-Page Summary

KIC: 7041041 Candidate: 1 of 5 Period: 172.311 d



DV Fit Results:

Period = 172.31061 [0.00366] d
Epoch = 135.5872 [0.0183] BKJD
Rp/R* = 0.0410 [0.0319]
a/R* = 184.24 [422.70]
b = 0.69 [1.78]
Seff = 0.59 [0.10]
Teq = 223 [10] K
Rp = 3.21 [2.51] Re
a = 0.5412 [0.0377] AU
Ag = 5601.60 [10672.87] [0.52σ]
Teffp = 2987 [1425] K [1.94σ]

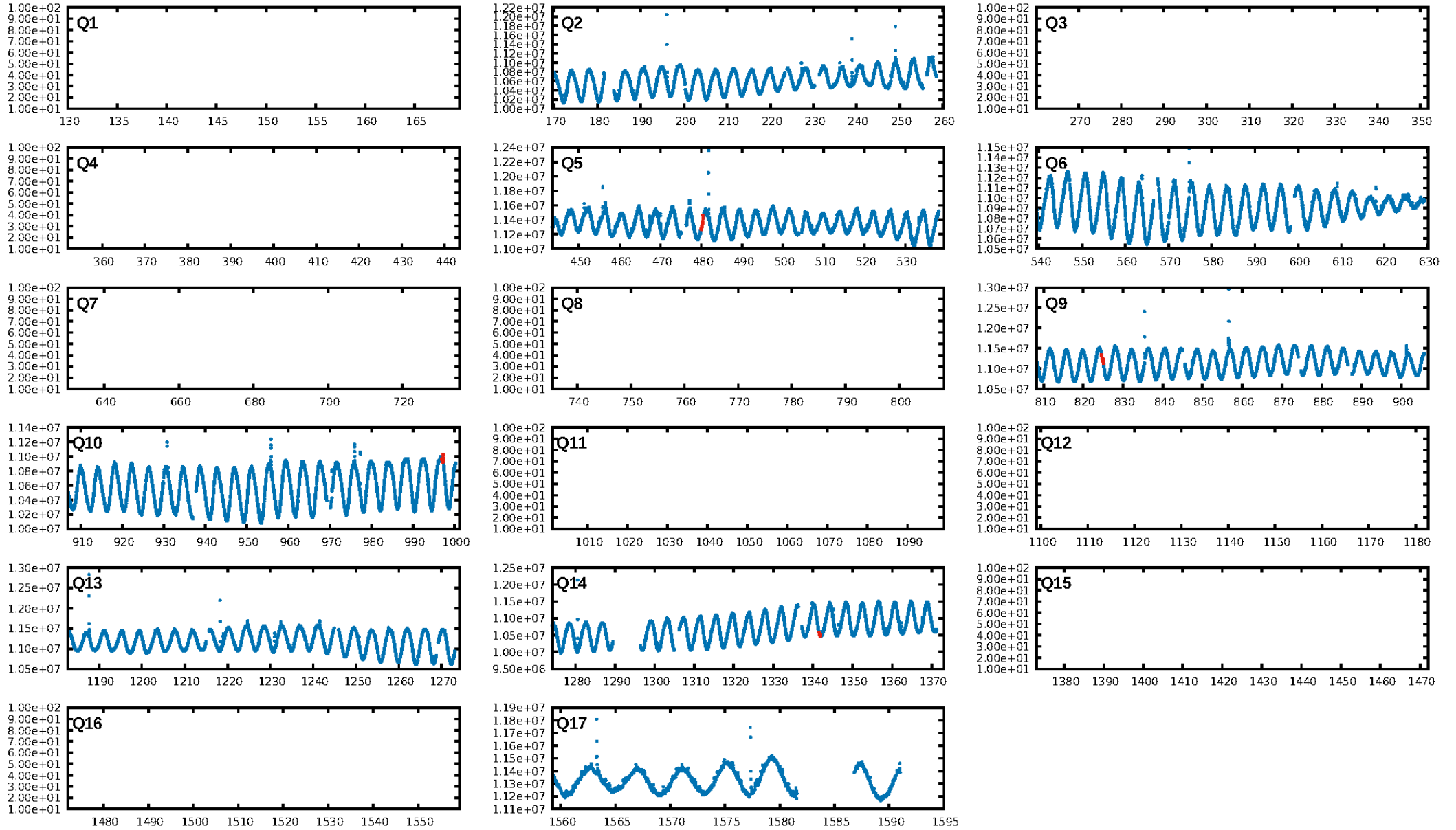
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [37.11σ]
LongPeriod-sig: 100.0% [460.34σ]
ModelChiSquare2-sig: 0.8%
ModelChiSquareGof-sig: 89.4%
Bootstrap-pfa: 1.02e-17
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.512
Centroid-sig: 25.2%
Centroid-so: 0.825 arcsec [0.80σ]
OotOffset-rm: 0.217 arcsec [0.23σ]
KicOffset-rm: 0.193 arcsec [0.16σ]
OotOffset-st: 2/0/0/2 [4]
KicOffset-st: 2/0/0/2 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

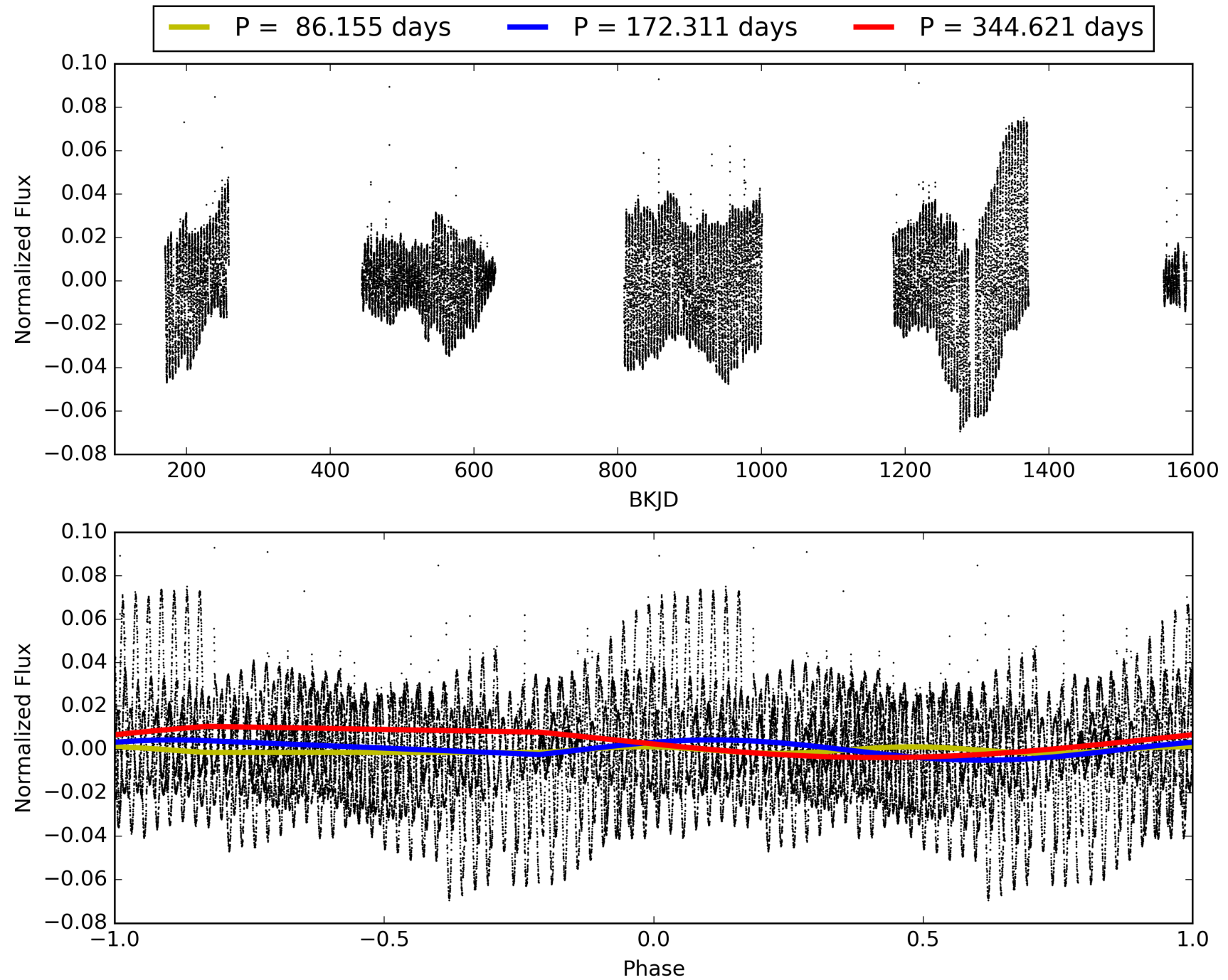
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:36:05 Z

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

TCE 007041041-01, PDC Light Curves

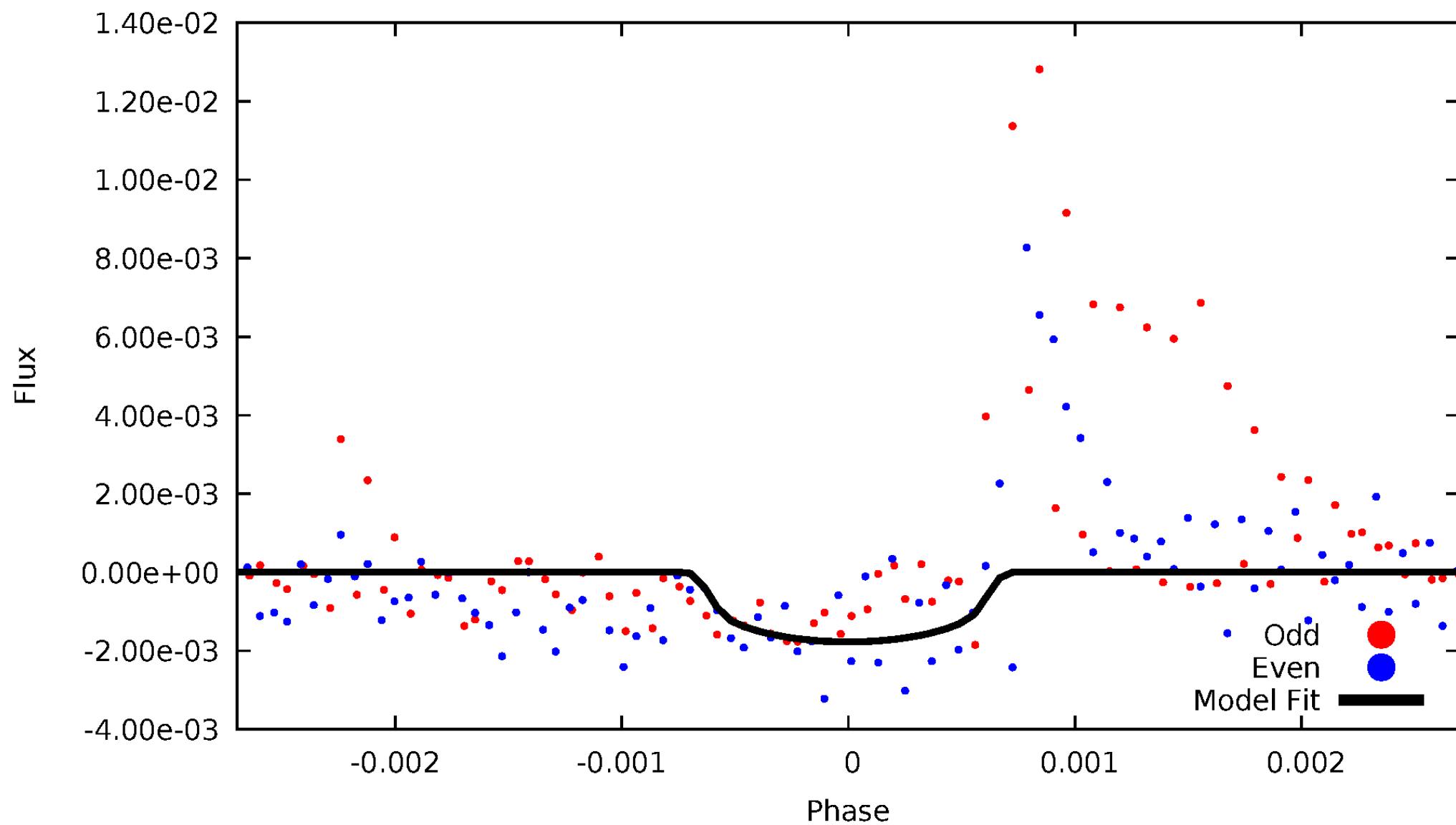


TCE 007041041-01



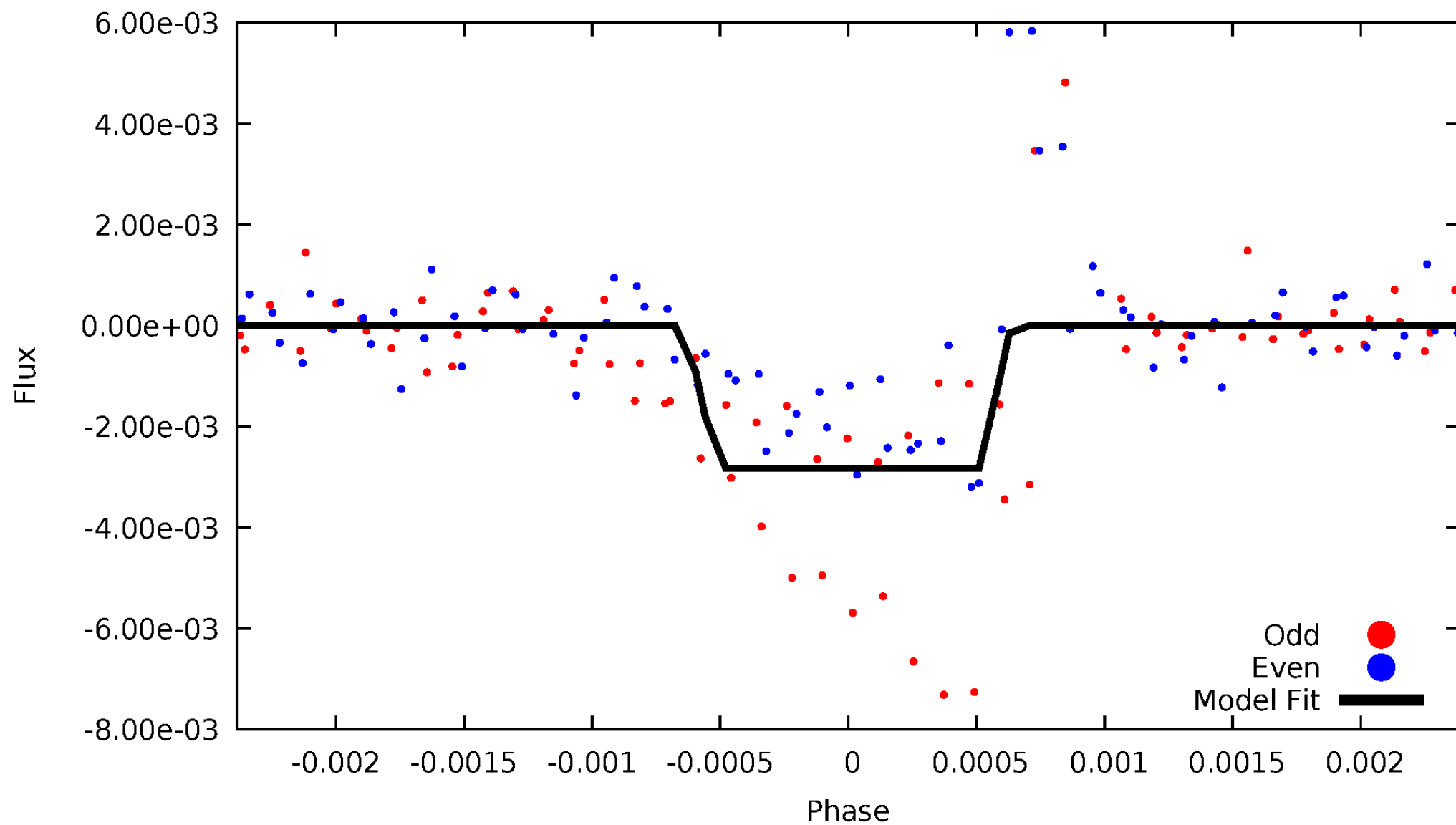
DV Odd/Even

TCE 007041041-01



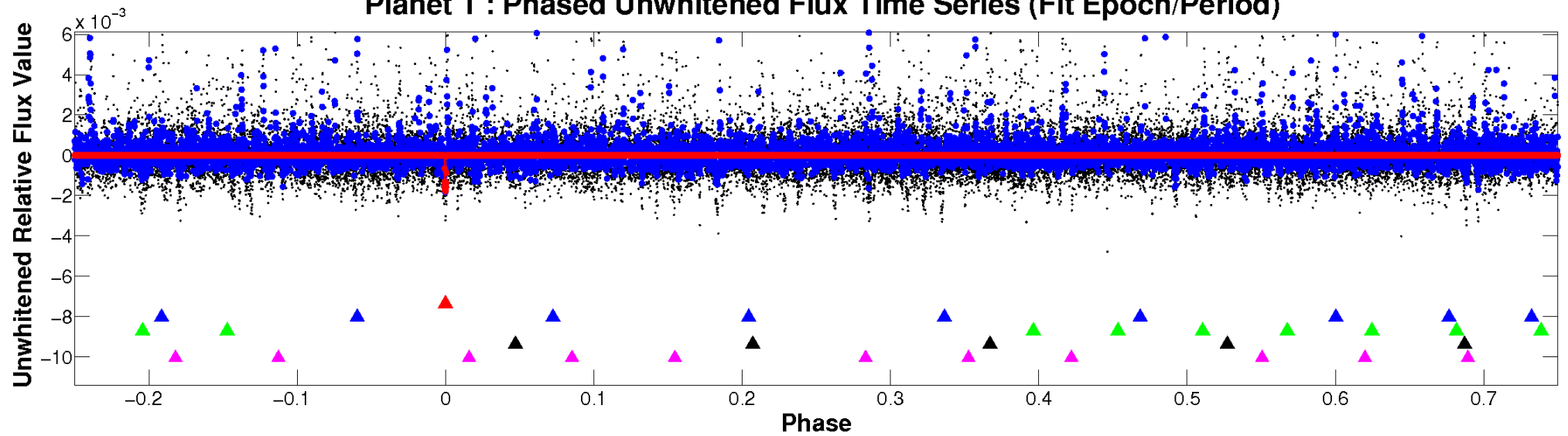
ALT Odd/Even

TCE 007041041-01

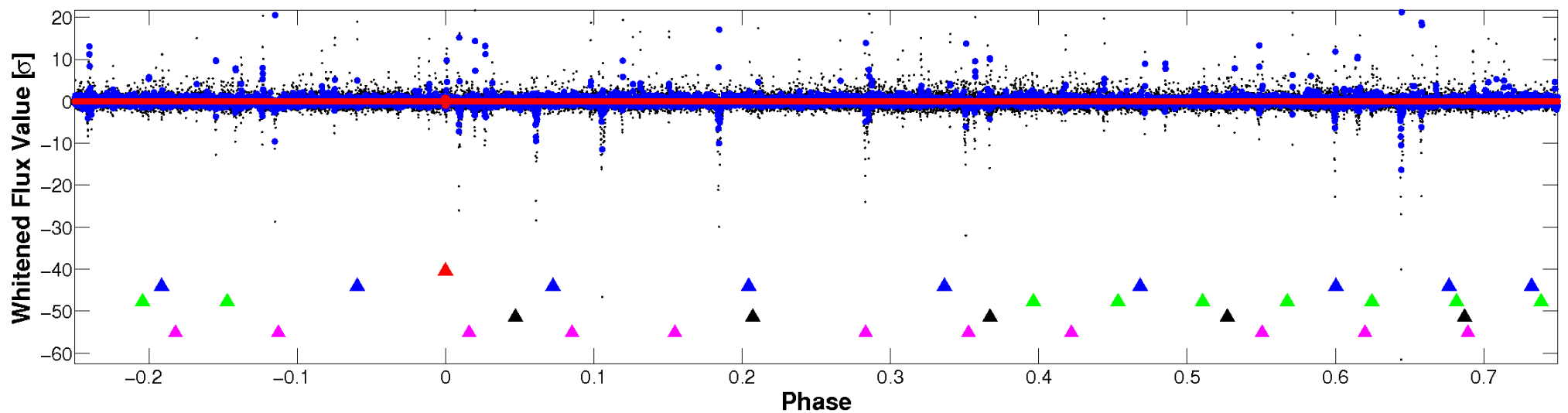


Non-Whitened Vs. Whitened Light Curve

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

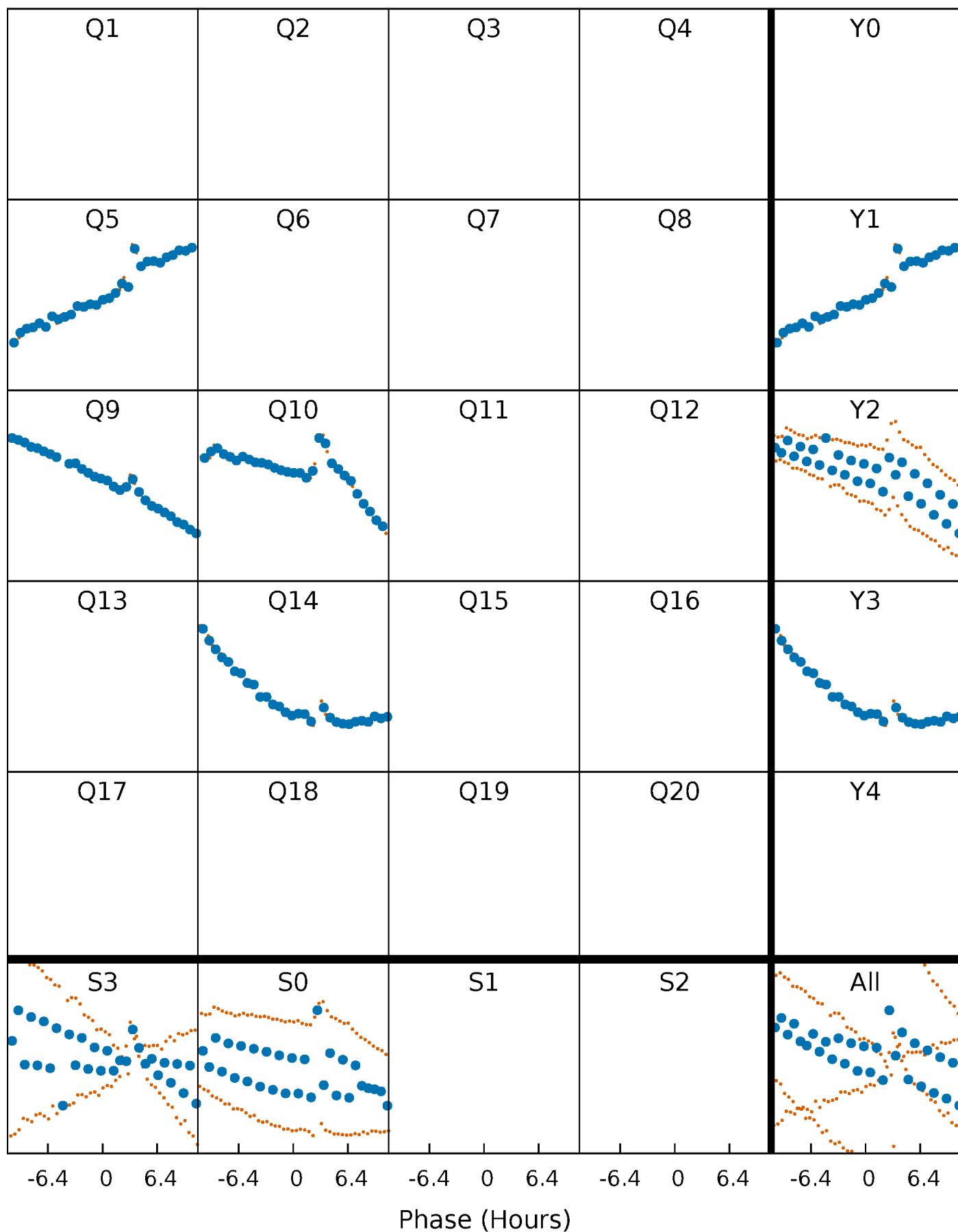


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



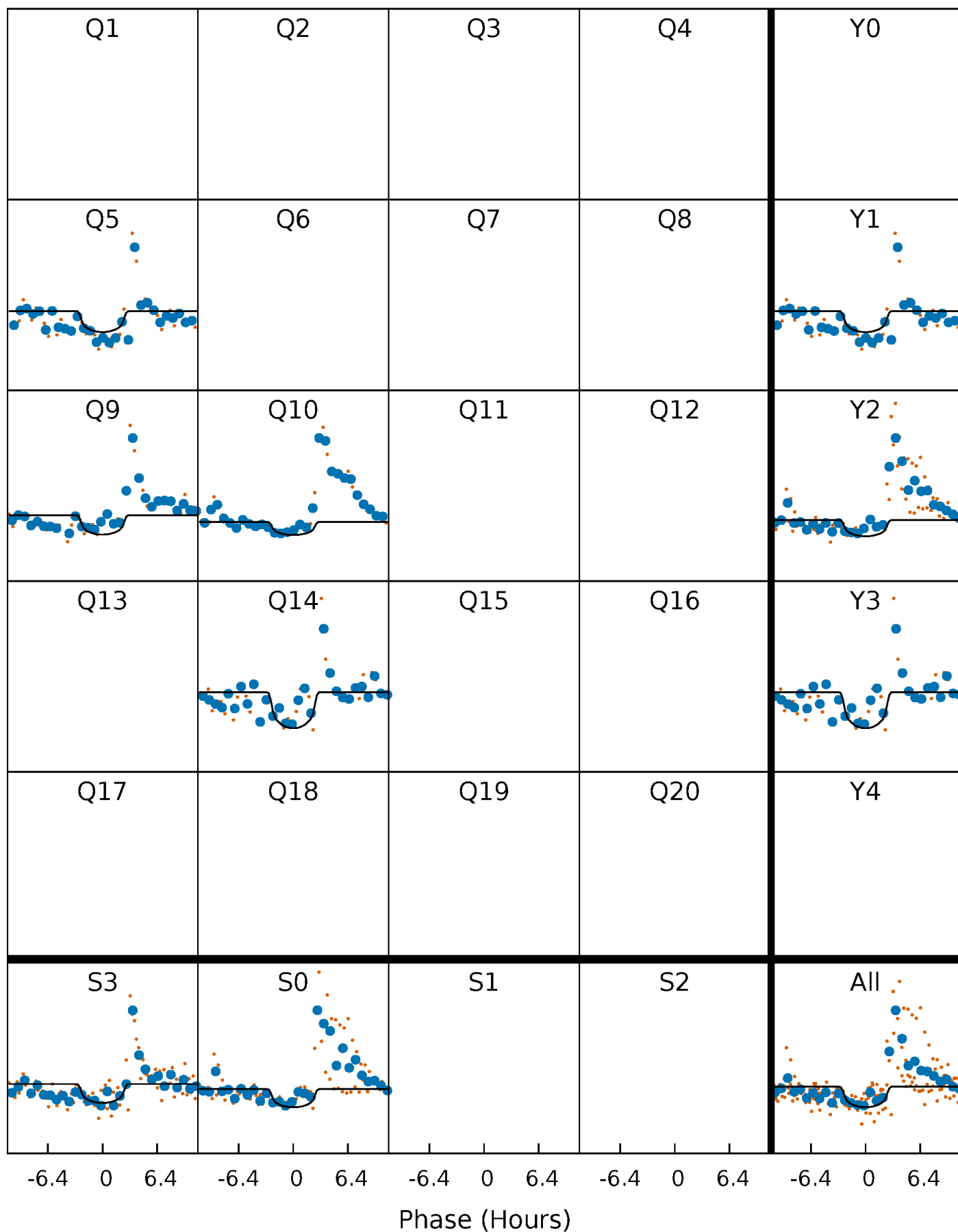
PDC Quarter-Phased Transit Curves

TCE 007041041-01 P=172.310612 Days $T_0=135.587163$ (BKJD)



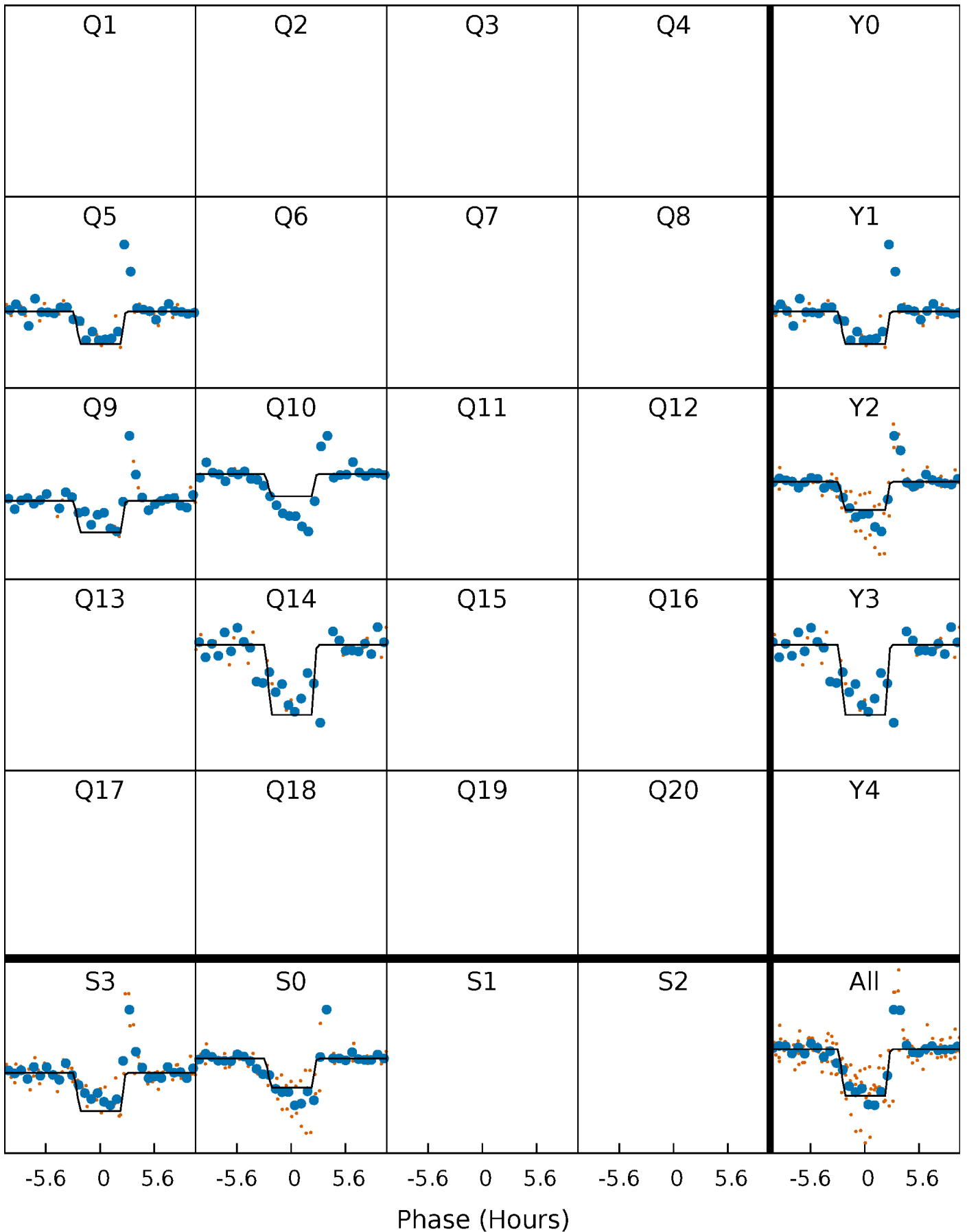
DV Quarter-Phased Transit Curves

TCE 007041041-01 P=172.310612 Days $T_0=135.587163$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

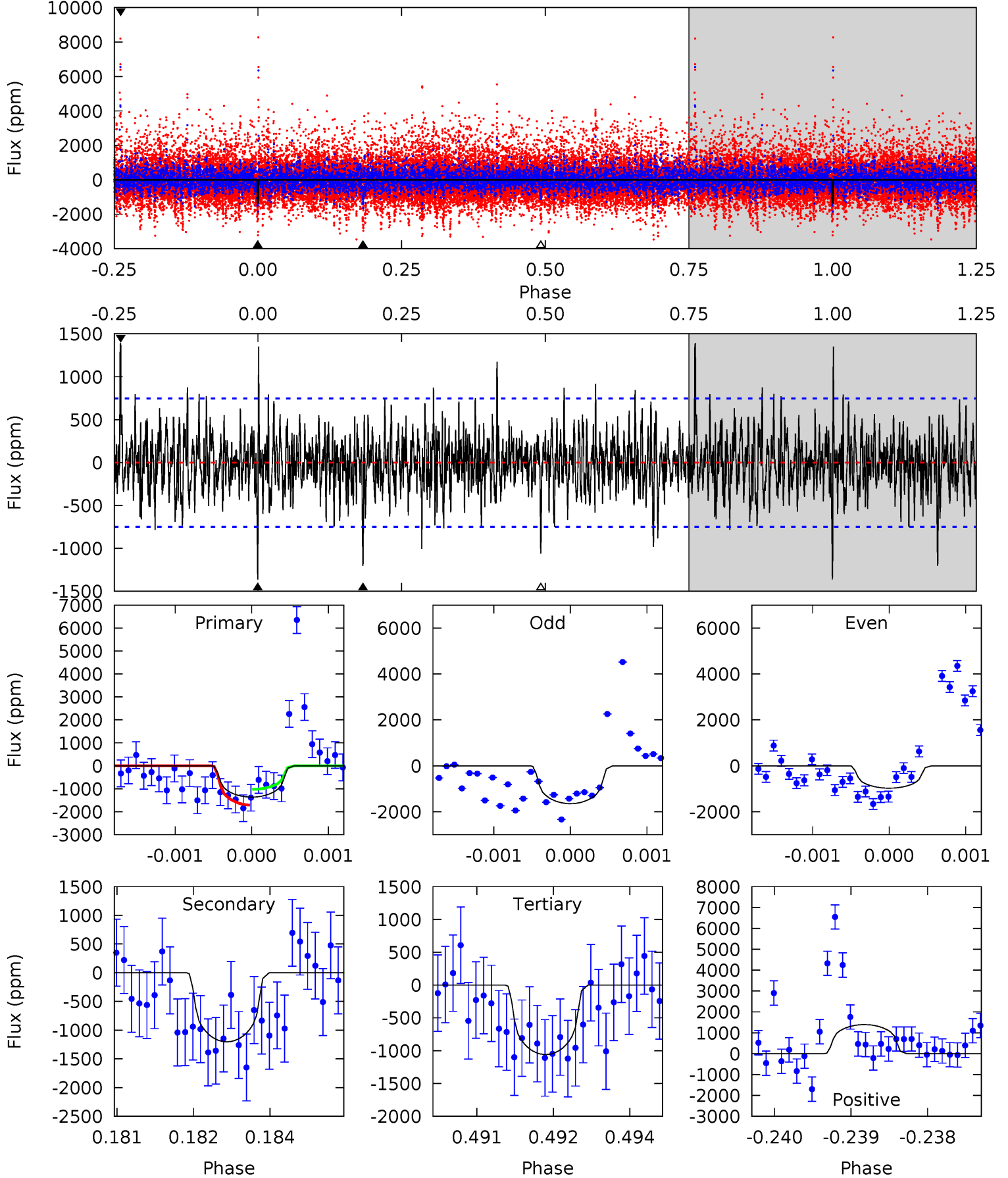
TCE 007041041-01 P=172.298044 Days $T_0=135.649419$ (BKJD)



DV Model-Shift Uniqueness Test

007041041-01, P = 172.310612 Days, E = 135.587163 Days

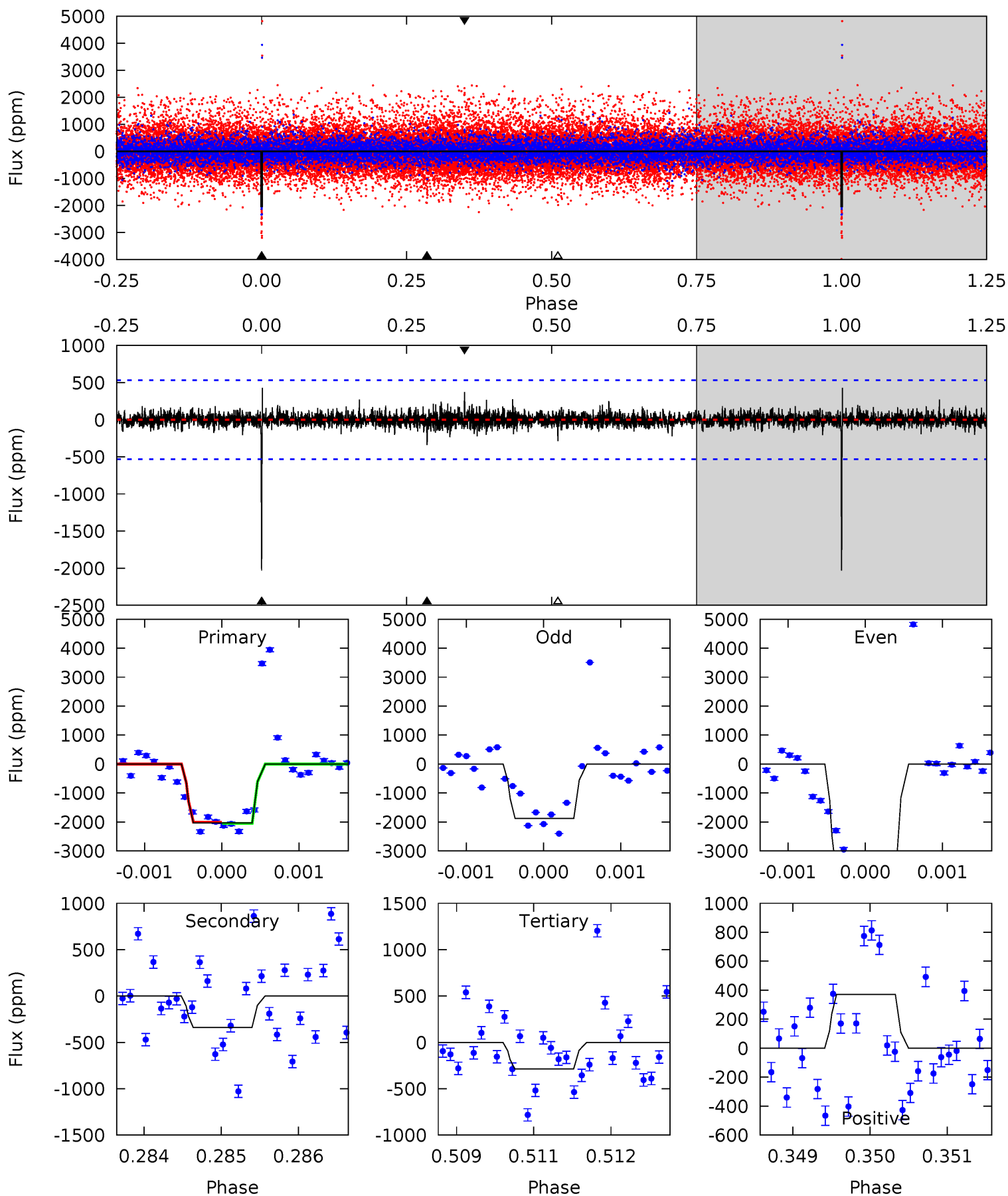
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.82	8.66	7.62	10.0	5.39	3.19	1.97	2.20	-0.21	1.04	-1.37	2.19	1.35	0.51	2.49



Alt Model-Shift Uniqueness Test

007041041-01, P = 172.298044 Days, E = 135.649419 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	3.44	2.92	3.77	5.41	3.22	0.61	17.7	16.9	0.52	-0.33	11.0	1.43	0.17	0.21



Stellar Parameters For KIC 007041041

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4395^{+154}_{-154}	$4.578^{+0.056}_{-0.020}$	$0.300^{+0.150}_{-0.300}$	$0.718^{+0.029}_{-0.059}$	$0.713^{+0.046}_{-0.050}$	$2.708^{+0.666}_{-0.180}$
	+4%/-4%	+1%/-0%	+50%/-100%	+4%/-8%	+6%/-7%	+25%/-7%
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 007041041-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1202 ± 139	$3.66^{+2.12}_{-2.15}$	310^{+12}_{-11}	3947^{+1688}_{-586}	14569^{+72294}_{-8795}
Alt.	-338 ± 98	$4.23^{+2.39}_{-2.18}$	310^{+12}_{-12}	3045^{+771}_{-353}	2900^{+9954}_{-1773}

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 $A_{obs} \gg 1.0$

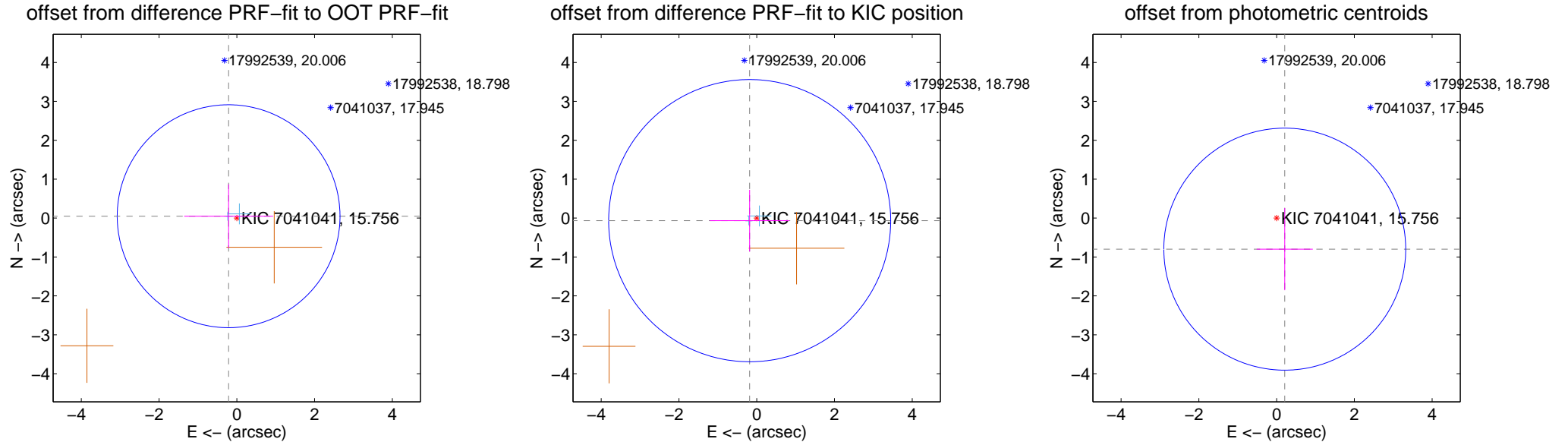
DV Centroid Data

Supplemental centroid analysis for 007041041-01. Kepler magnitude: 15.76. Transit SNR 6.24

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	0.217 ± 0.955	0.23	0.211 ± 1.143	0.048 ± 0.820
PRF-fit source offset from KIC position	0.193 ± 1.209	0.16	0.181 ± 1.021	-0.066 ± 0.793
photometric centroid source offset	0.83 ± 1.04	0.80	-0.21 ± 0.72	-0.80 ± 1.06

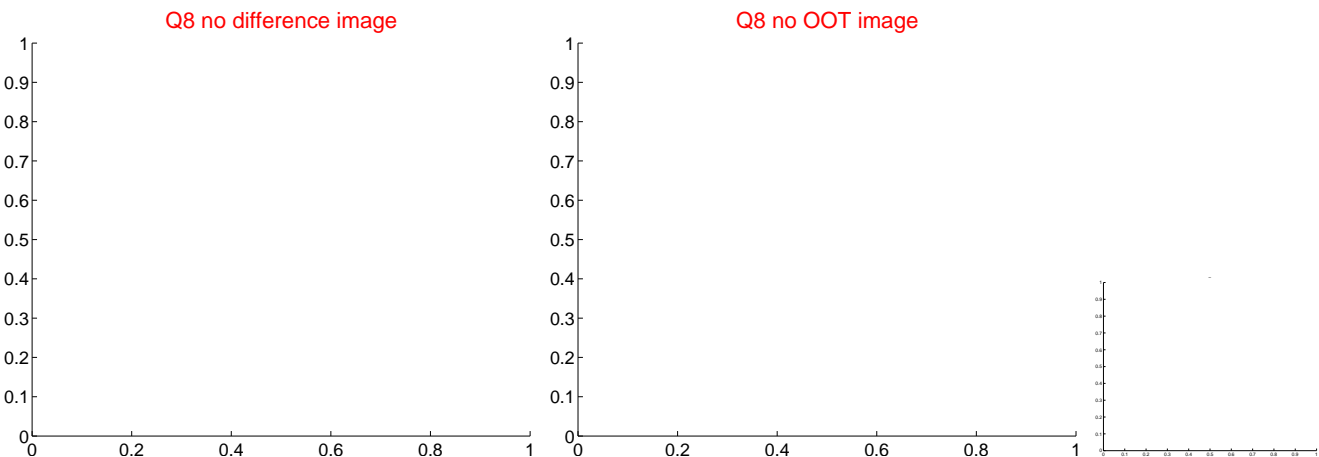
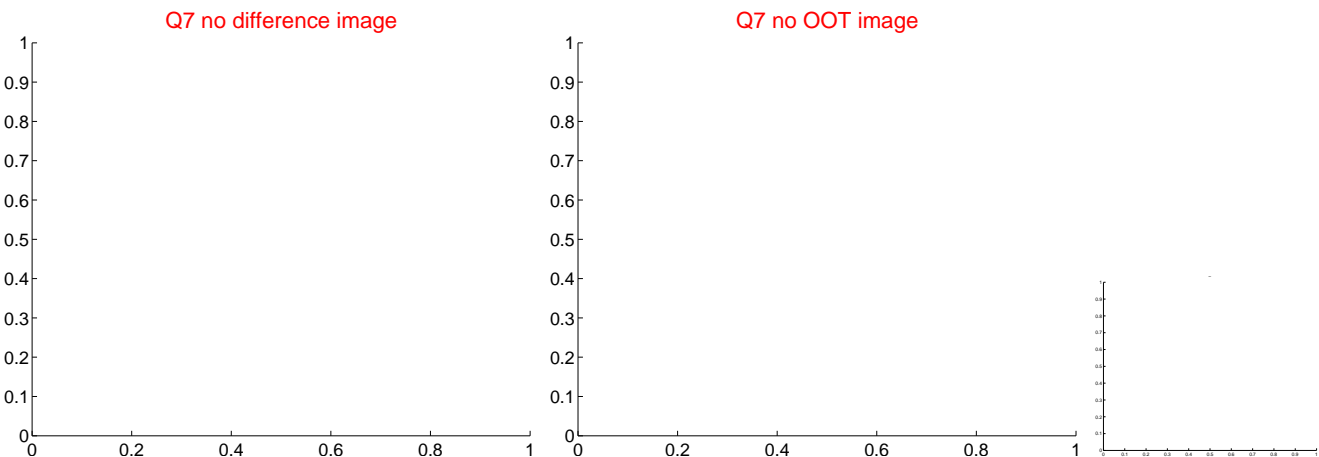
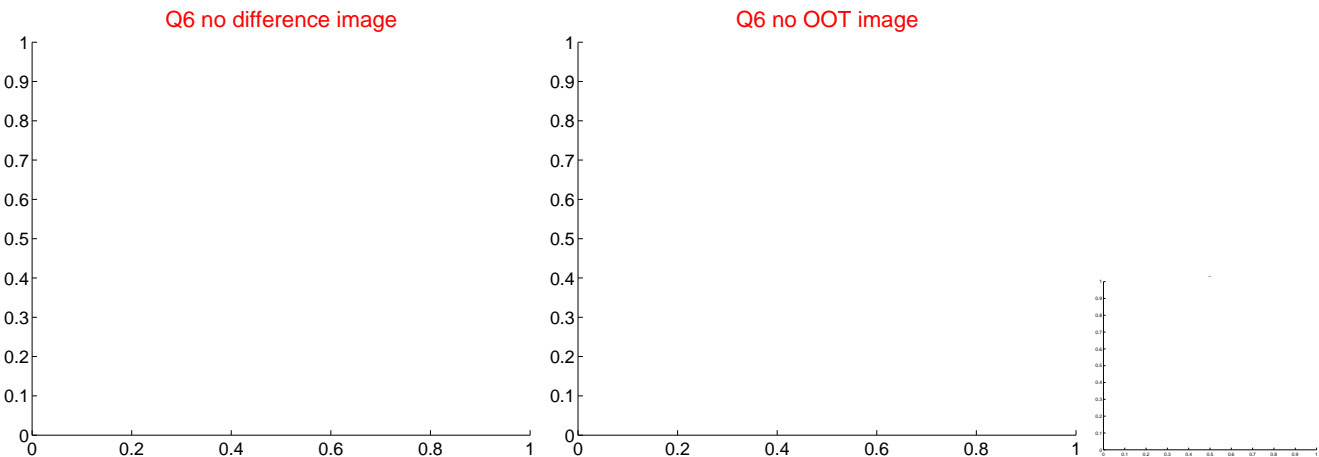
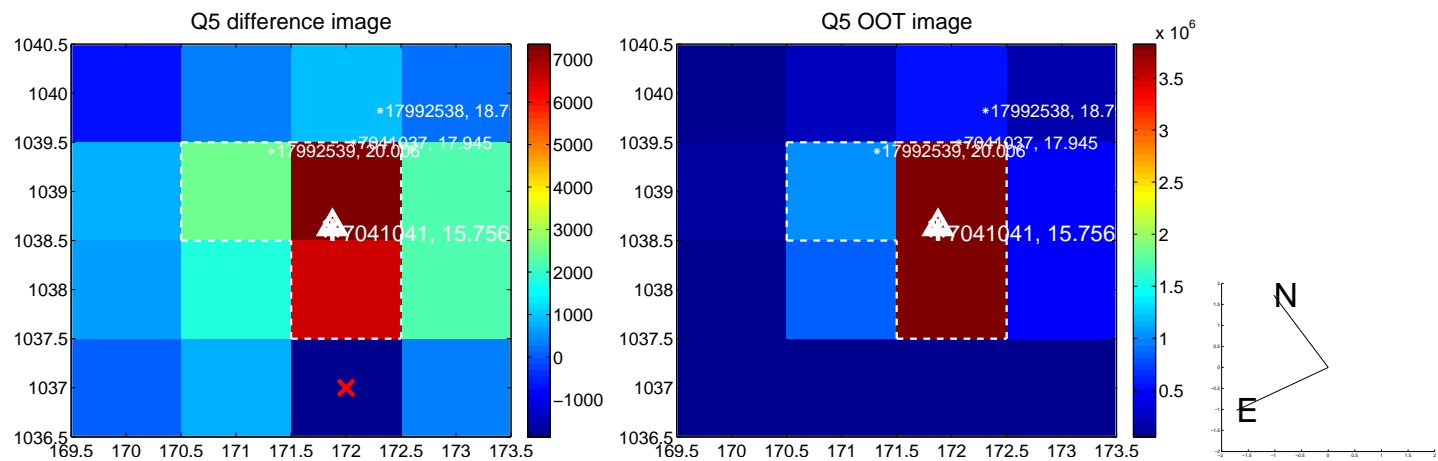


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

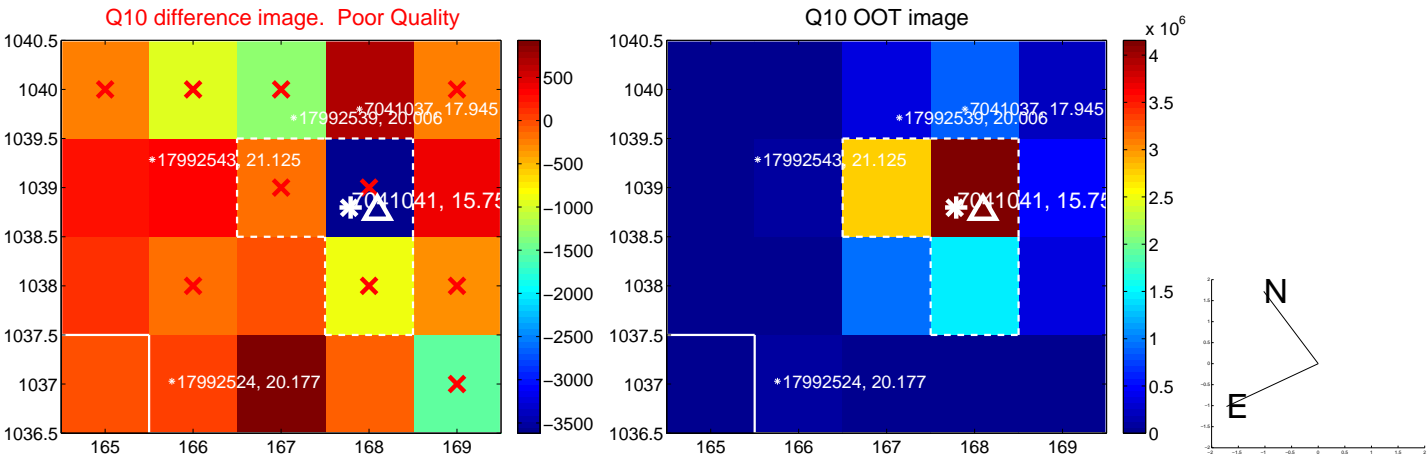
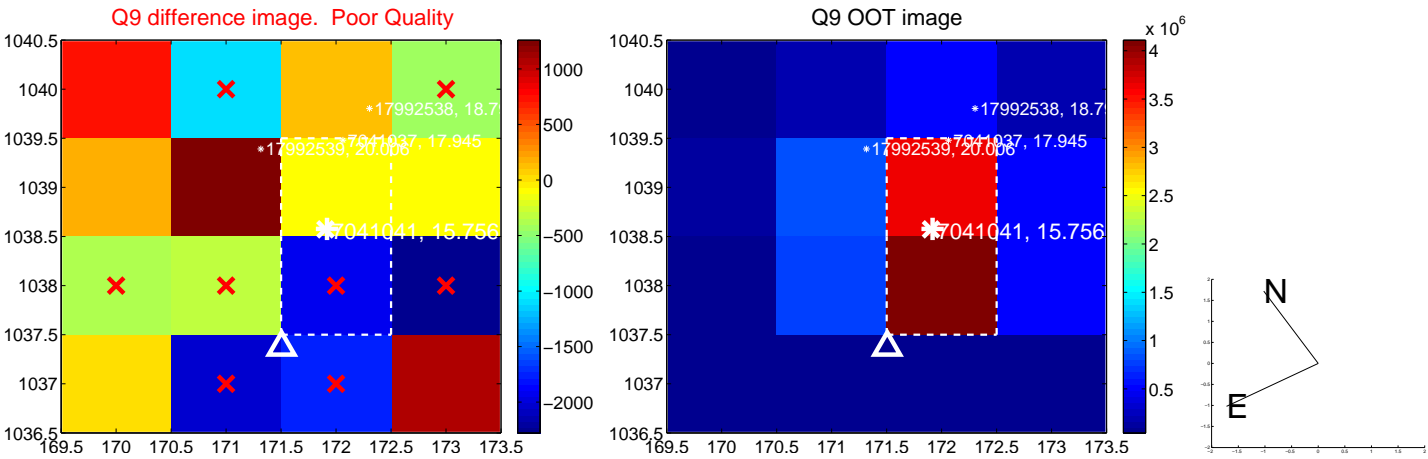
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

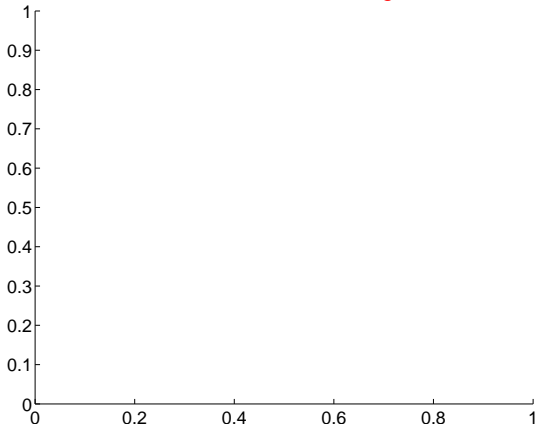


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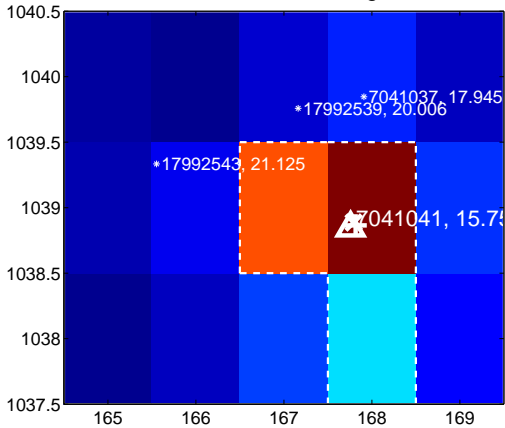
Q13 no difference image



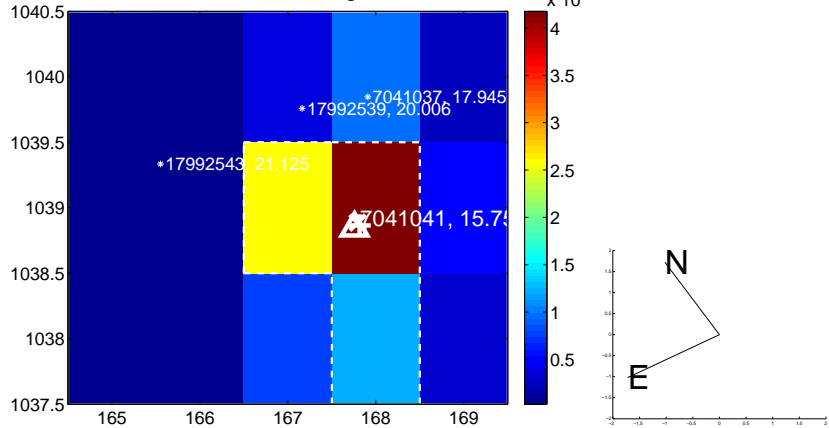
Q13 no OOT image



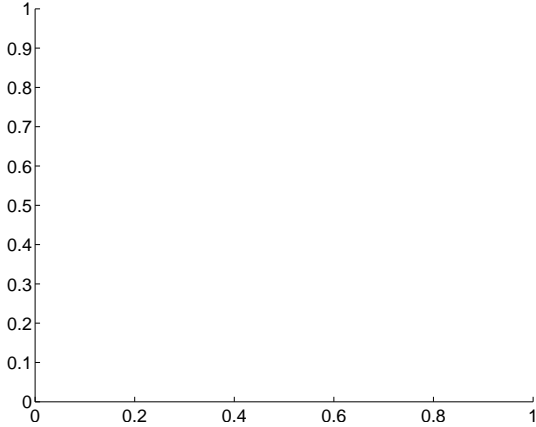
Q14 difference image



Q14 OOT image



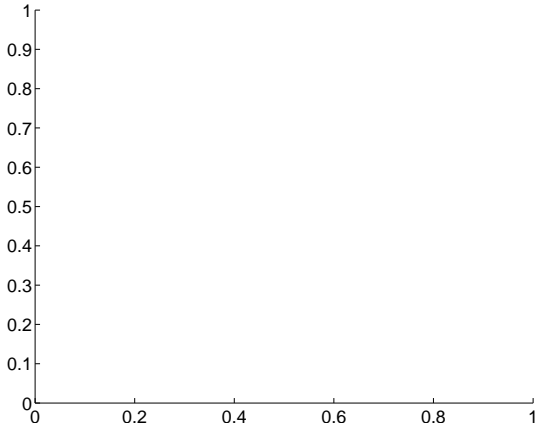
Q15 no difference image



Q15 no OOT image



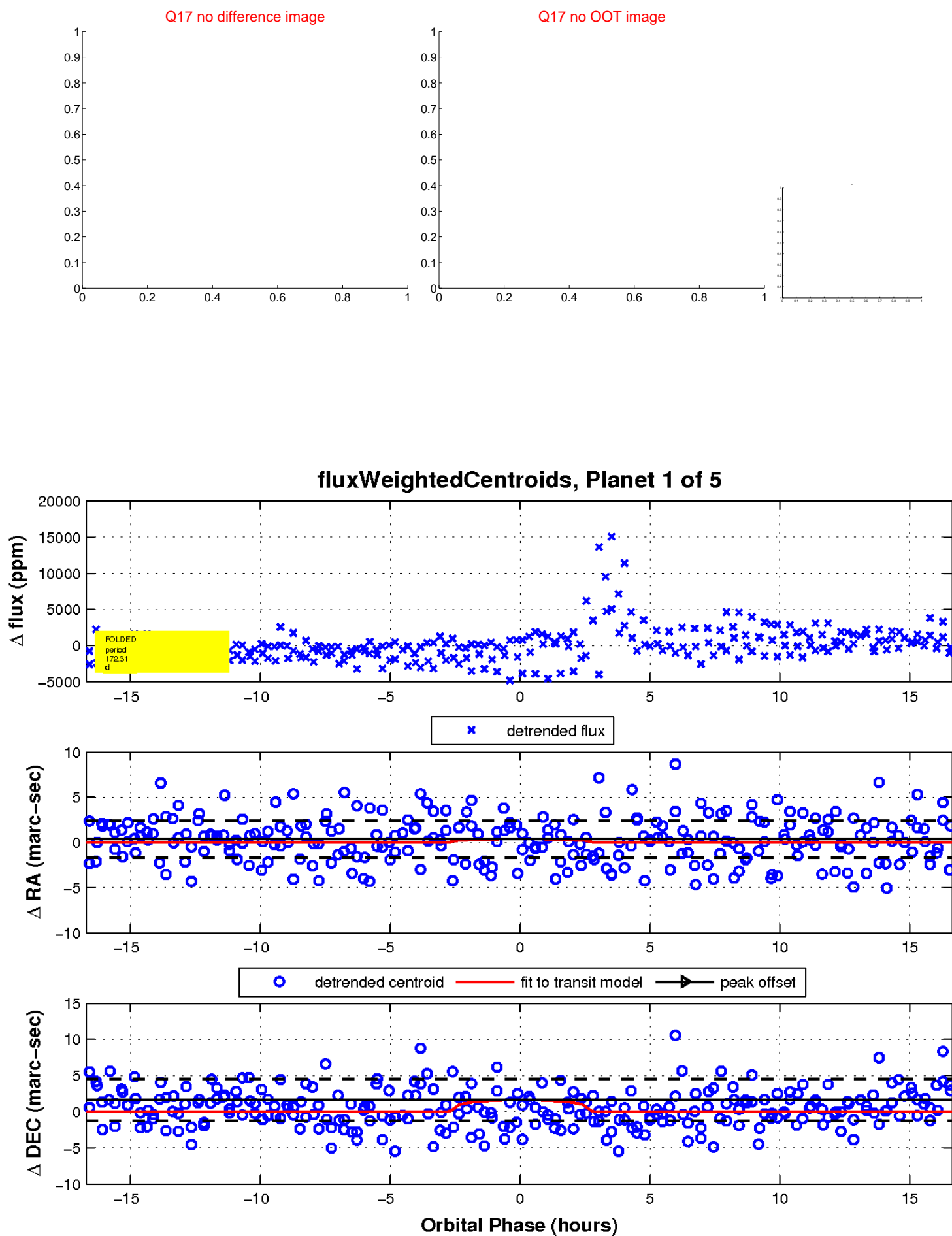
Q16 no difference image



Q16 no OOT image

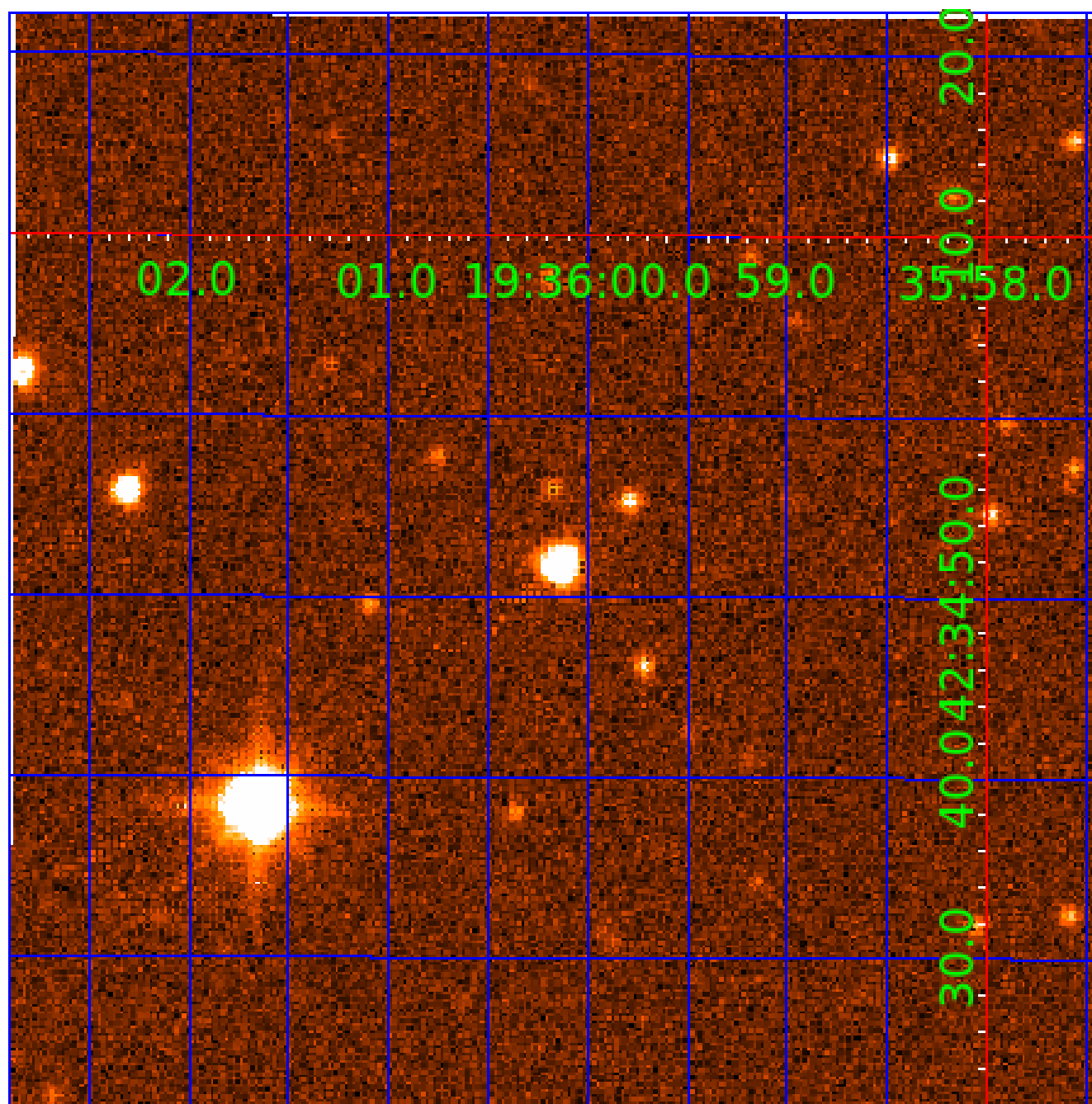


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007041041

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})
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Robovetter Results

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007041041-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES

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

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

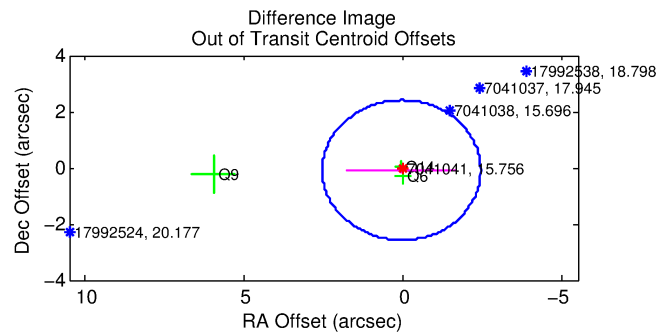
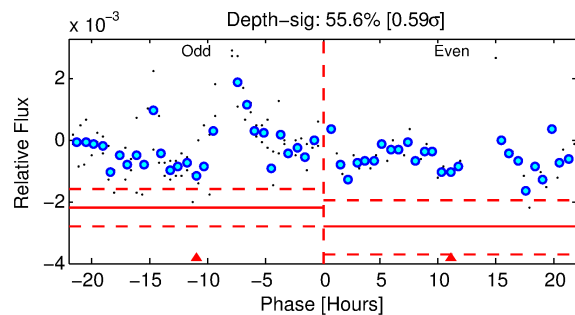
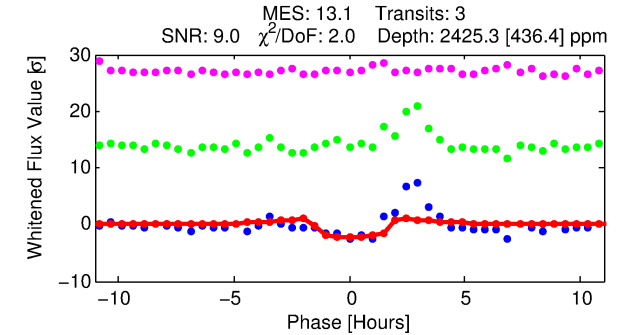
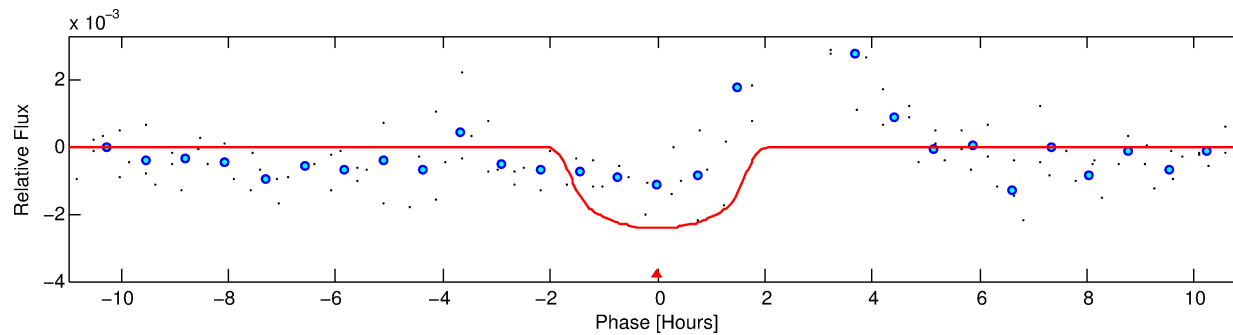
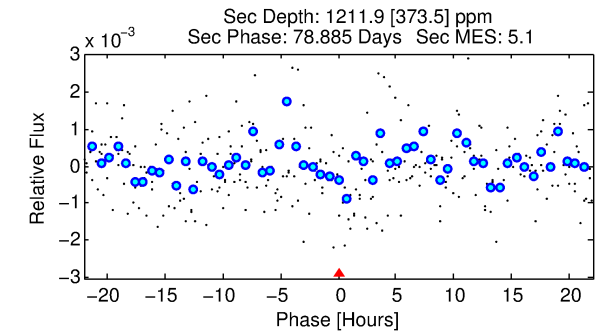
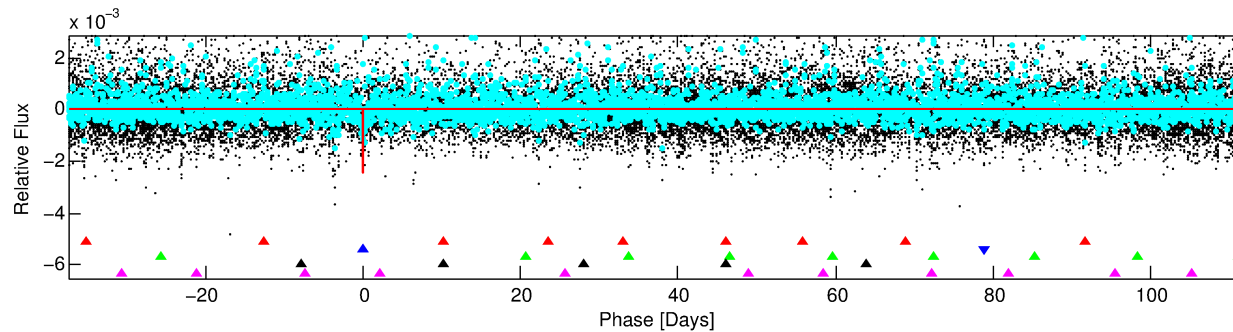
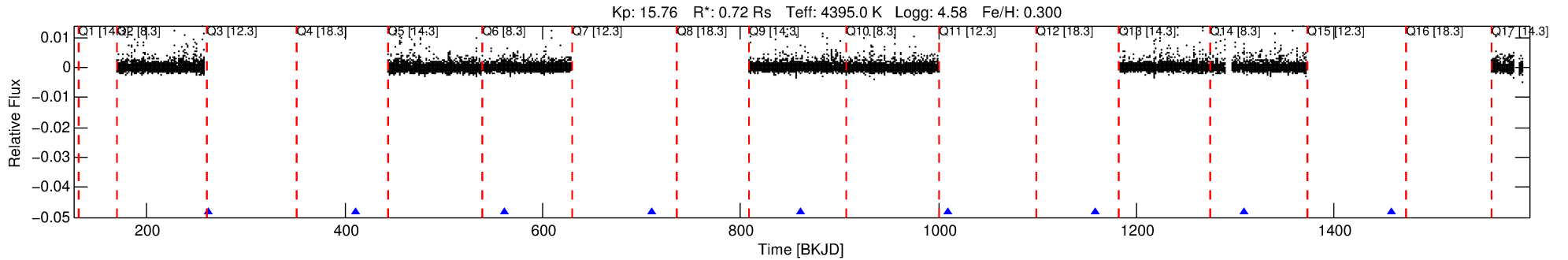
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007041041-02

No Significant Match Found

DV One-Page Summary

KIC: 7041041 Candidate: 2 of 5 Period: 149.572 d



DV Fit Results:

Period = 149.57248 [0.00267] d
Epoch = 261.7700 [0.0123] BKJD
Rp/R* = 0.0481 [0.0544]
a/R* = 244.67 [806.60]
b = 0.70 [2.52]
Seff = 0.71 [0.12]
Teq = 234 [10] K
Rp = 3.77 [4.27] Re
a = 0.4924 [0.0343] AU
Ag = 11374.61 [25962.26] [0.44σ]
Teffp = 3738 [2135] K [1.64σ]

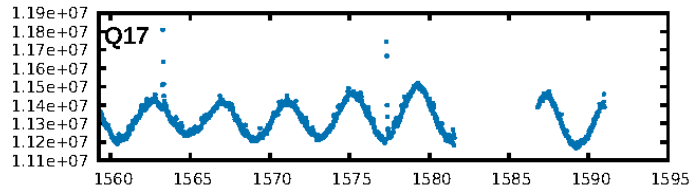
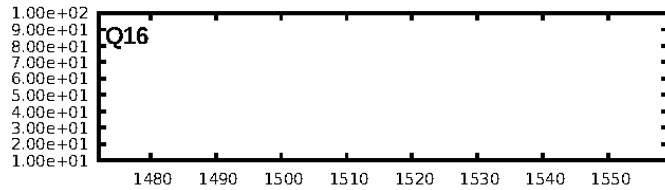
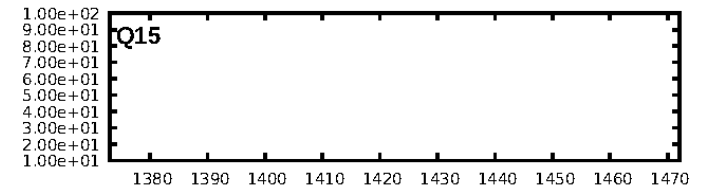
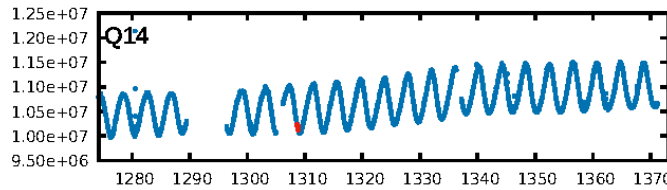
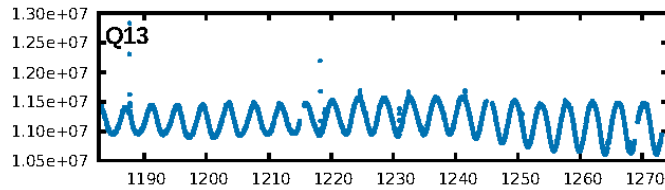
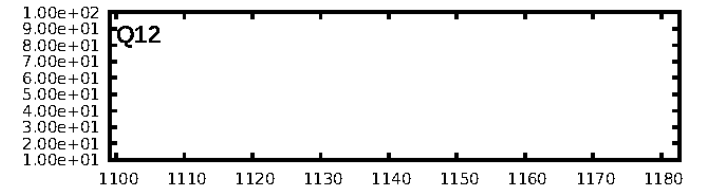
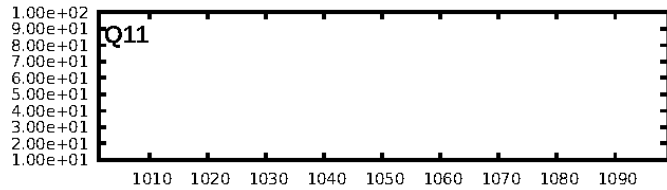
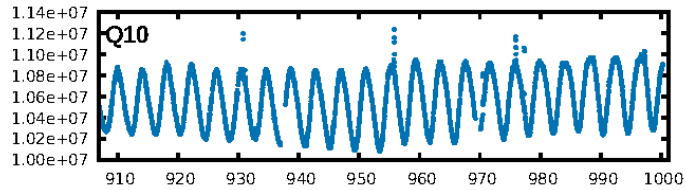
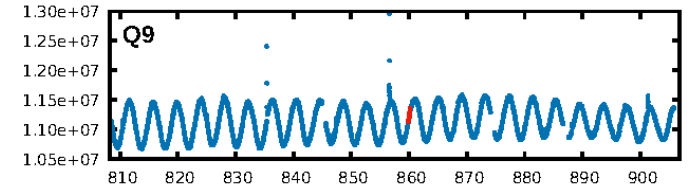
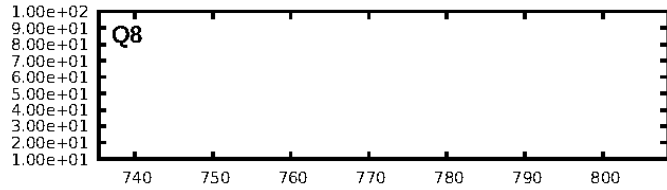
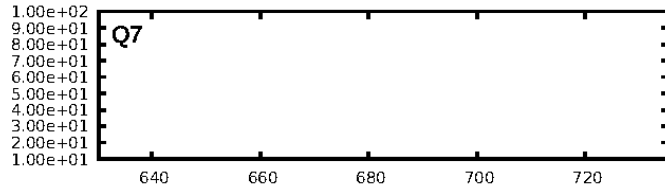
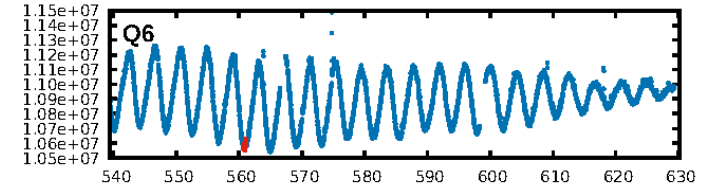
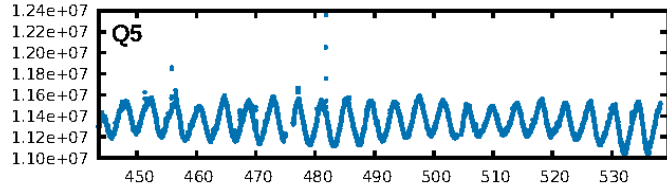
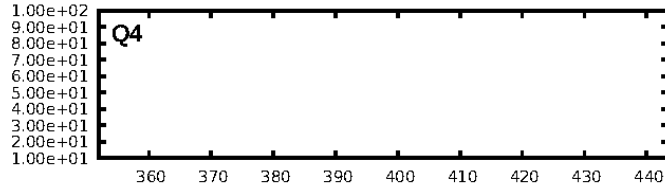
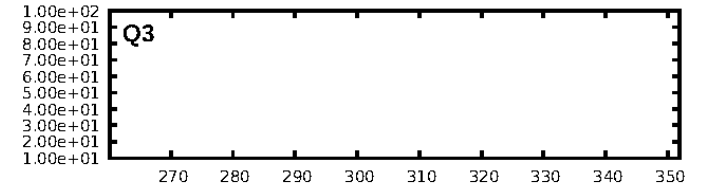
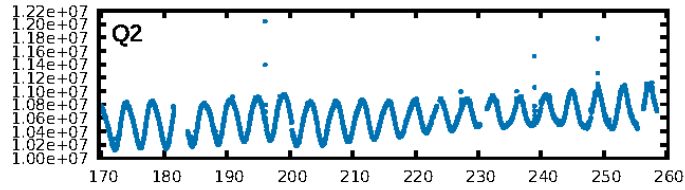
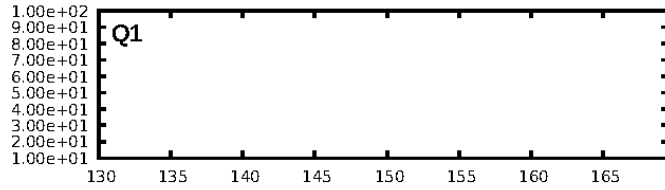
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [114.35σ]
LongPeriod-sig: 100.0% [64.94σ]
ModelChiSquare2-sig: 7.6%
ModelChiSquareGof-sig: 53.4%
Bootstrap-pfa: 5.50e-17
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.146
Centroid-sig: 43.3%
Centroid-so: 0.510 arcsec [0.55σ]
OotOffset-rm: 0.102 arcsec [0.12σ]
KicOffset-rm: 0.099 arcsec [0.05σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

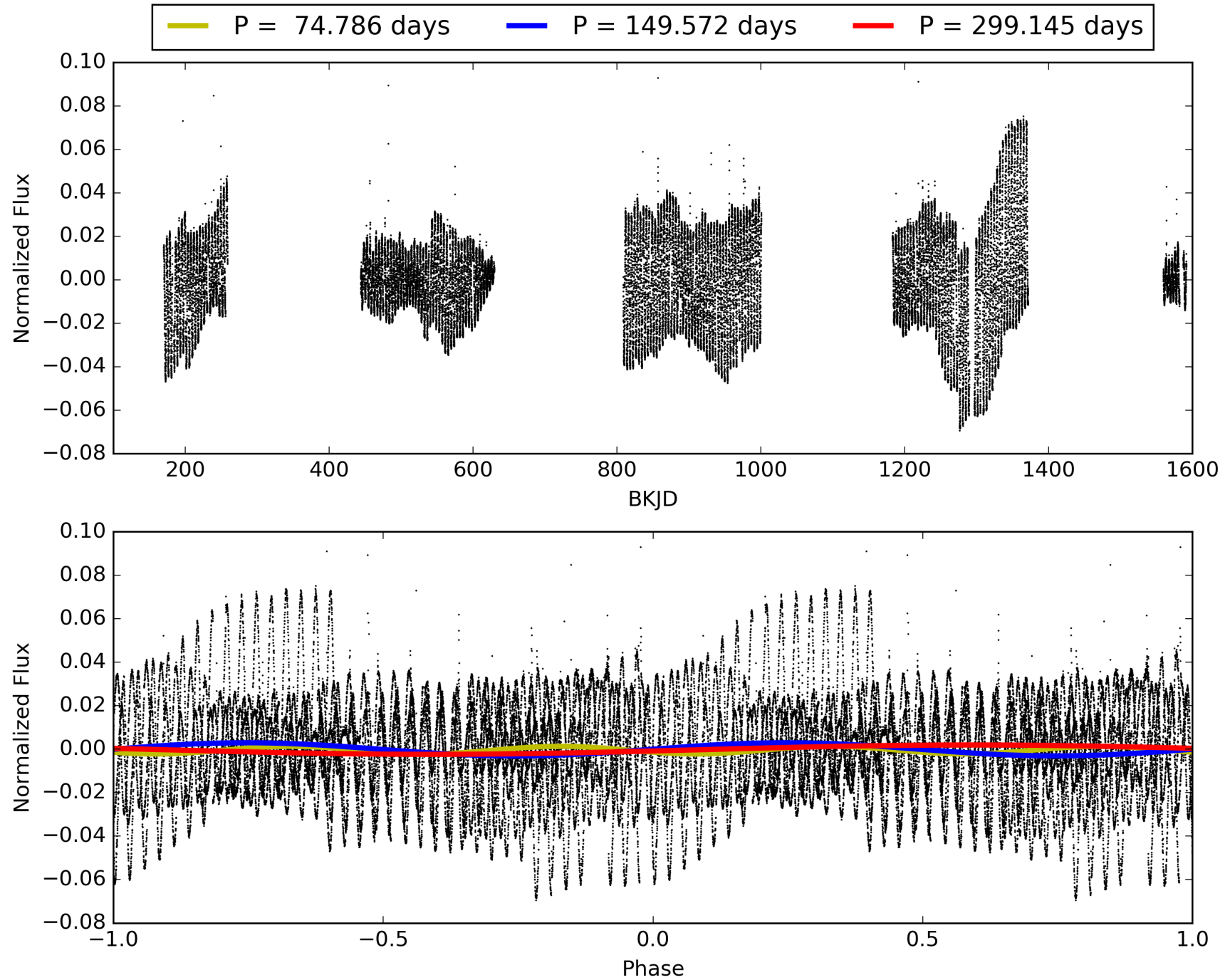
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:36:12 Z

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

TCE 007041041-02, PDC Light Curves

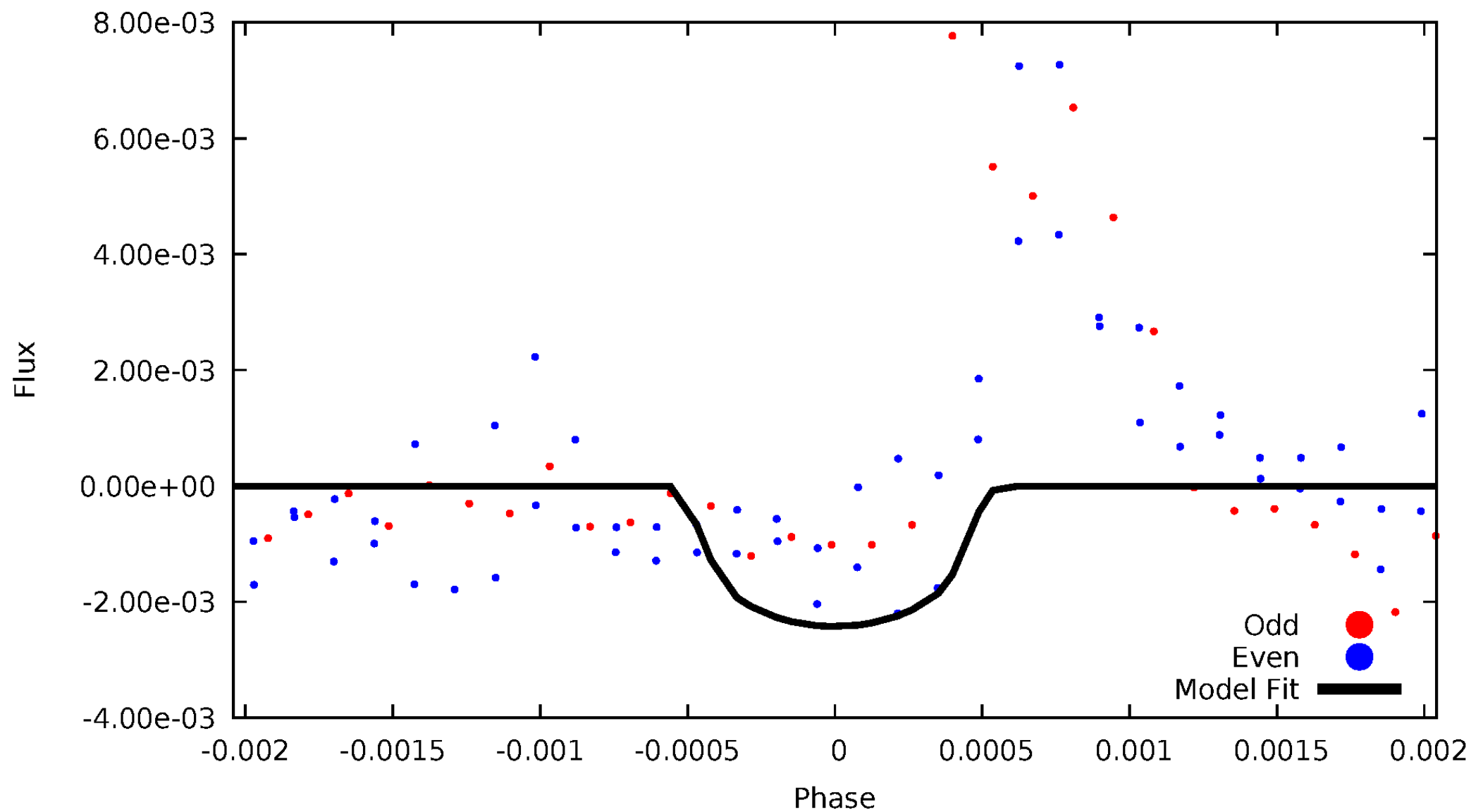


TCE 007041041-02



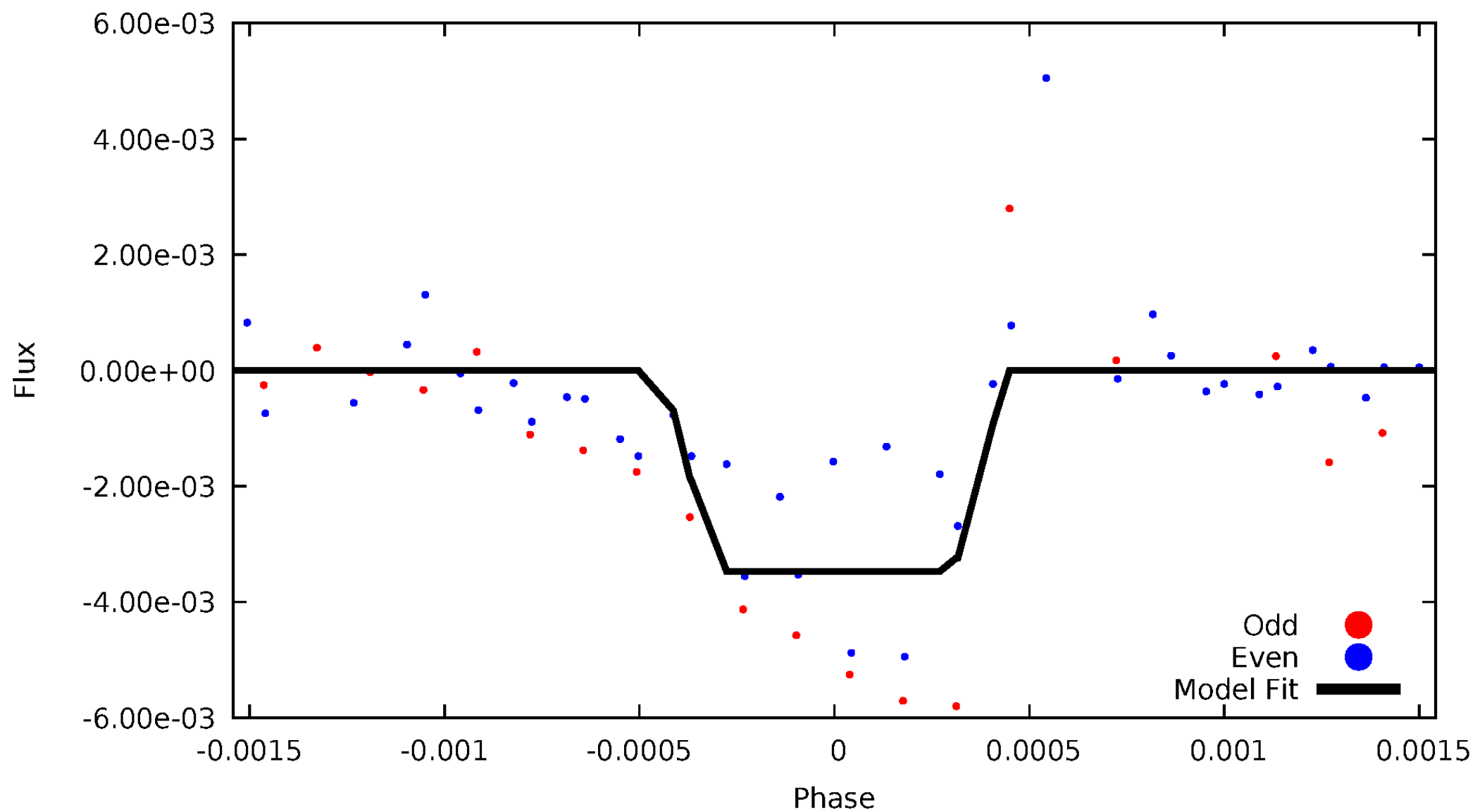
DV Odd/Even

TCE 007041041-02



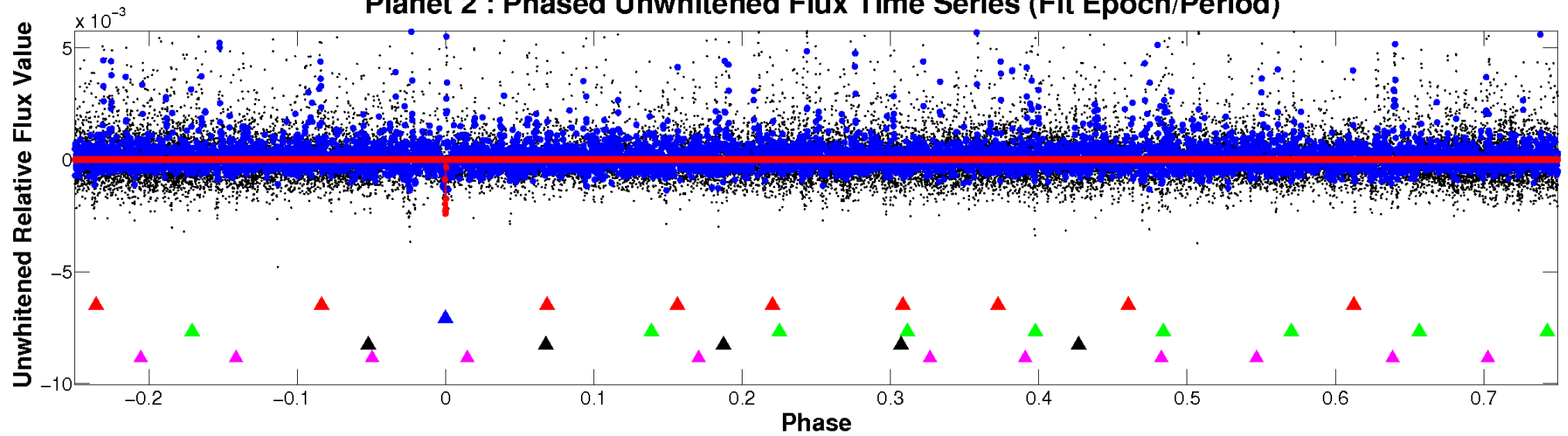
ALT Odd/Even

TCE 007041041-02

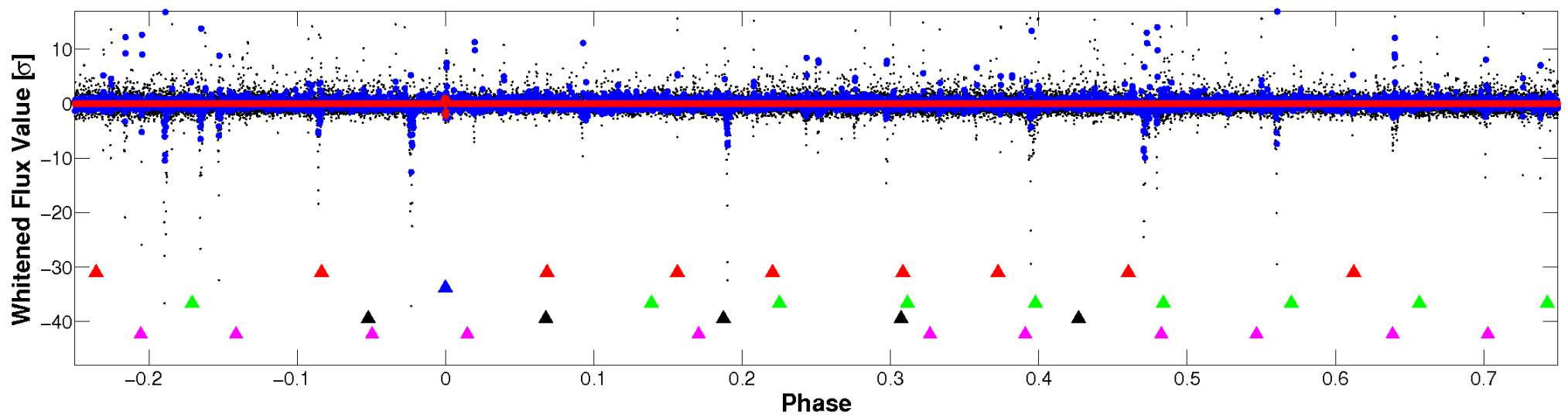


Non-Whitened Vs. Whitened Light Curve

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

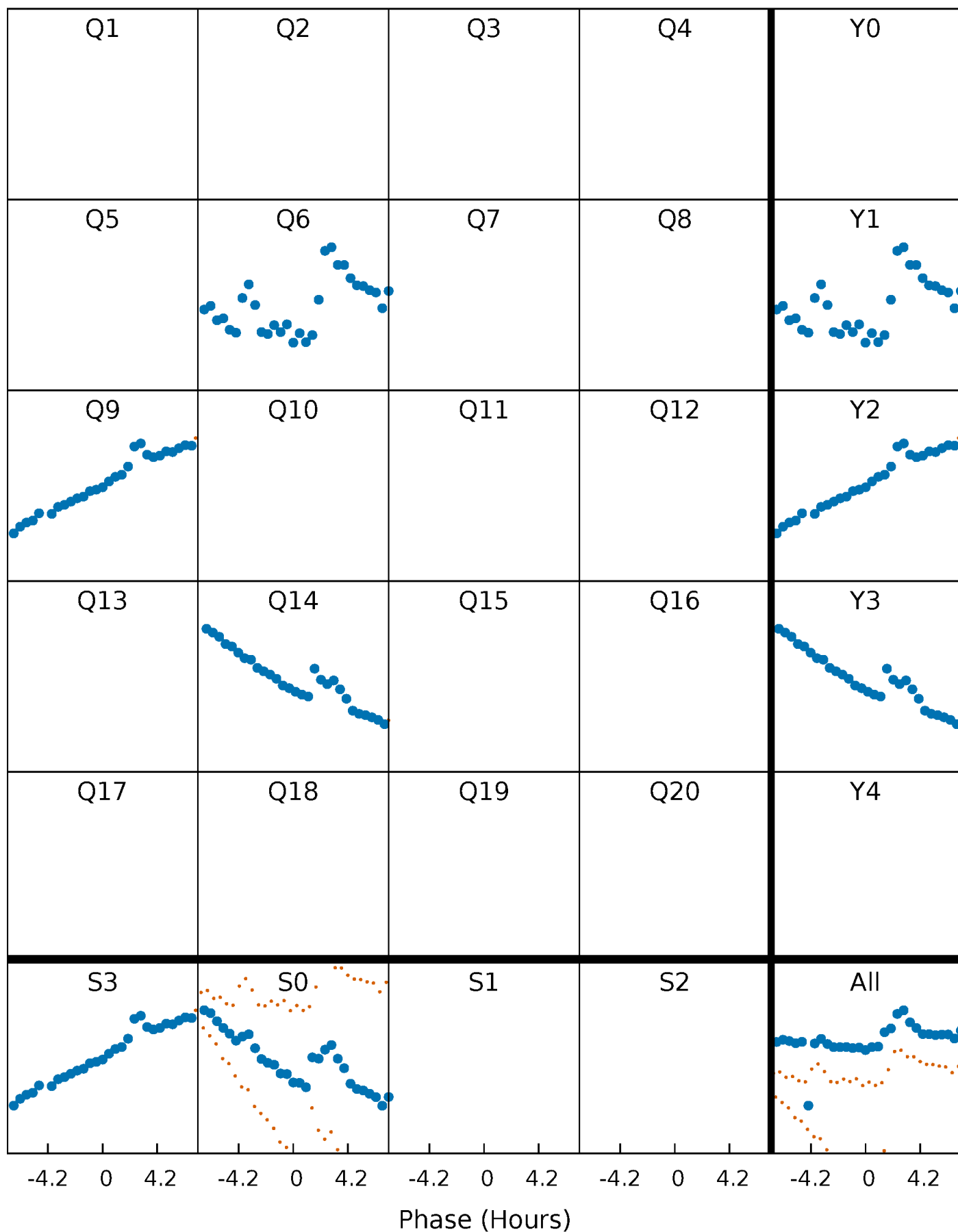


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



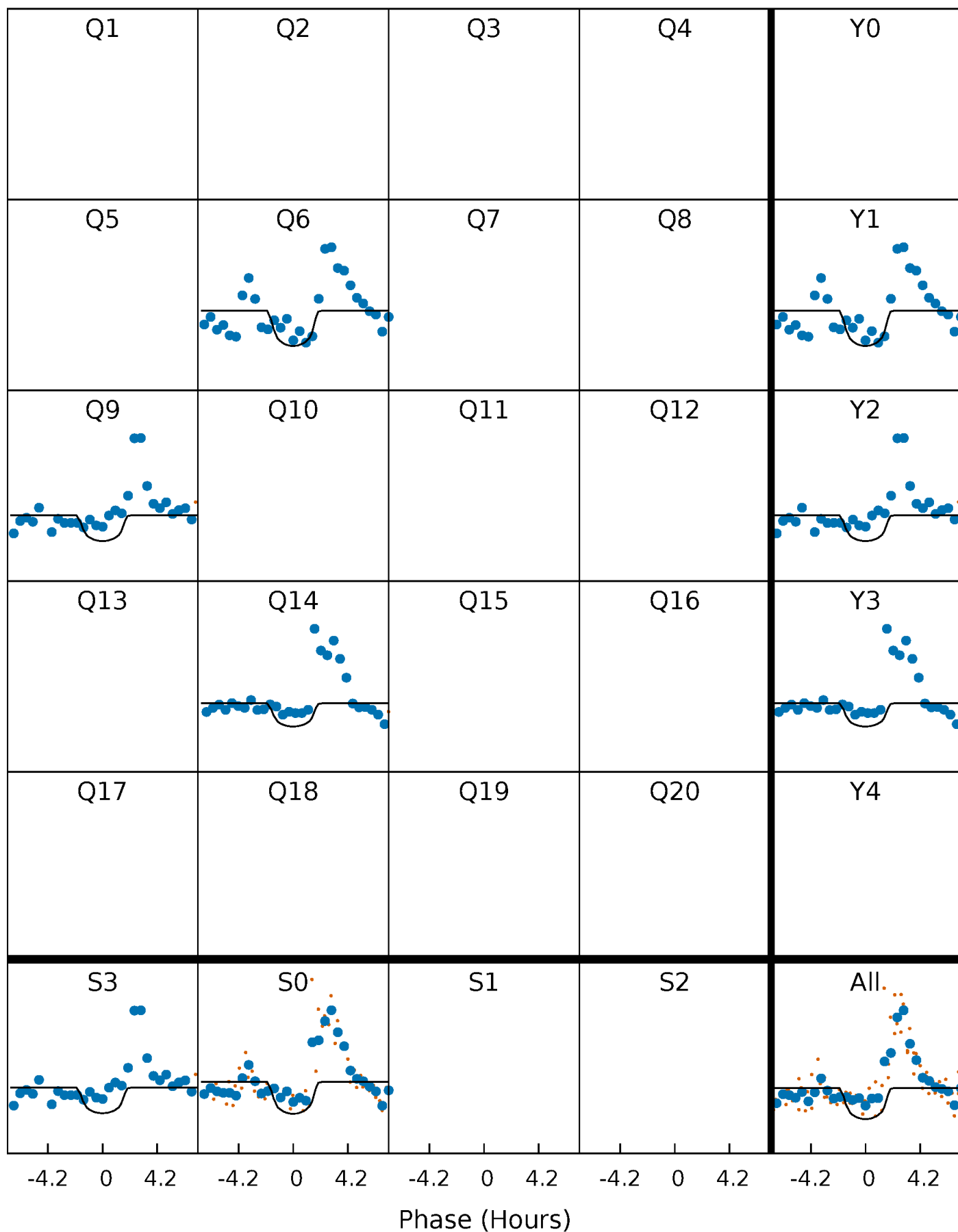
PDC Quarter-Phased Transit Curves

TCE 007041041-02 $P=149.572475$ Days $T_0=261.769953$ (BKJD)



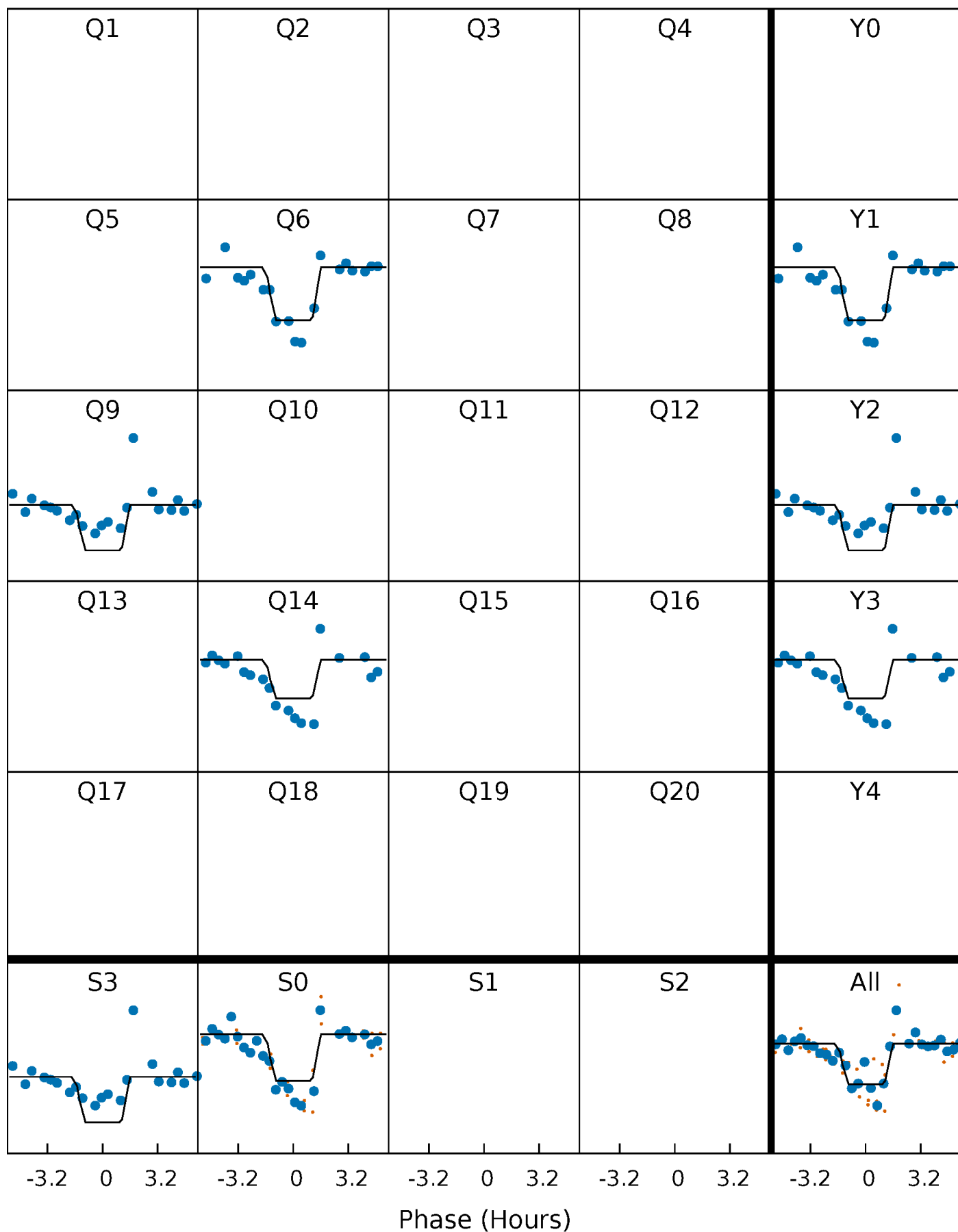
DV Quarter-Phased Transit Curves

TCE 007041041-02 P=149.572475 Days $T_0=261.769953$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

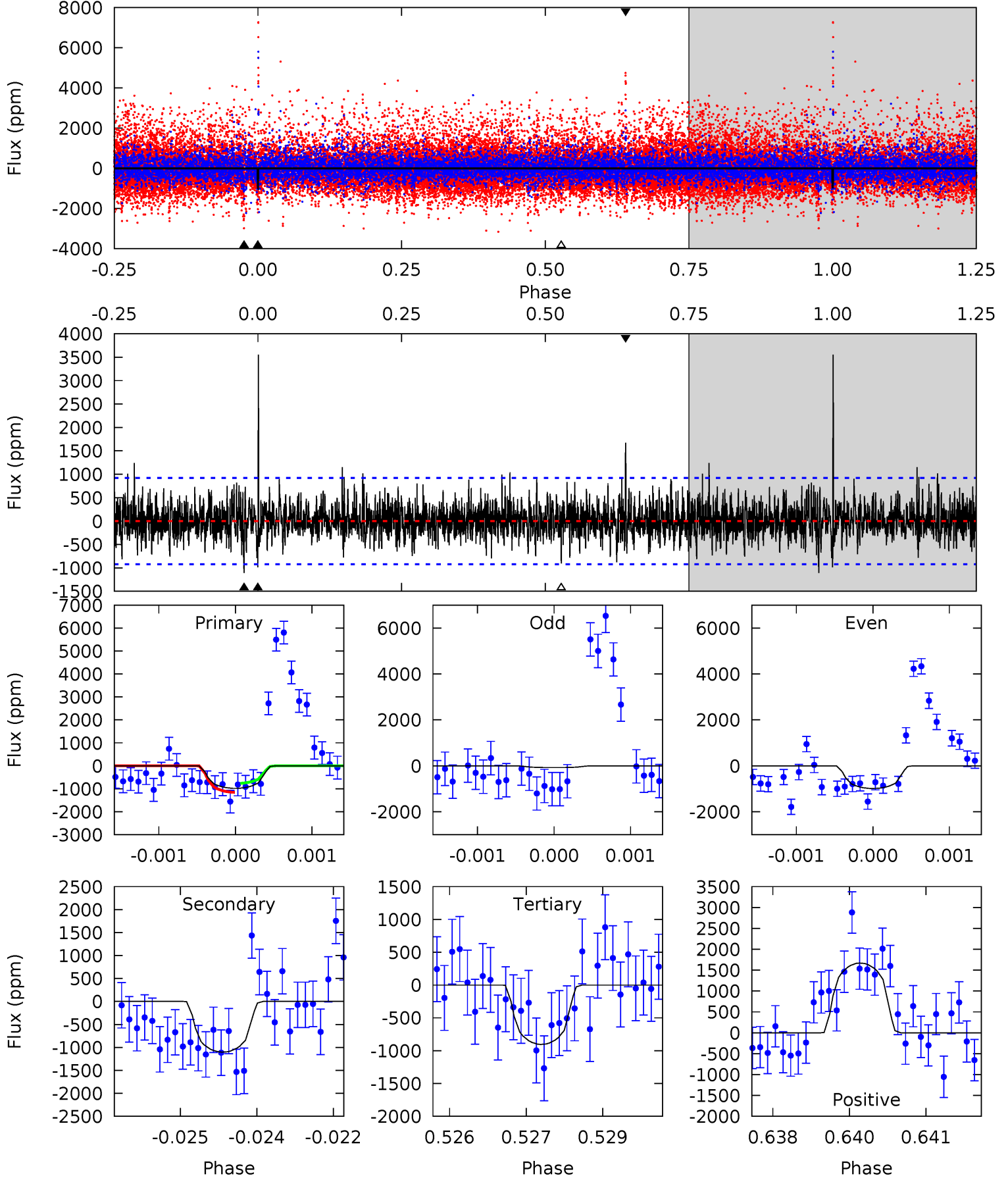
TCE 007041041-02 P=149.565913 Days $T_0=261.808373$ (BKJD)



DV Model-Shift Uniqueness Test

007041041-02, P = 149.572475 Days, E = 112.197478 Days

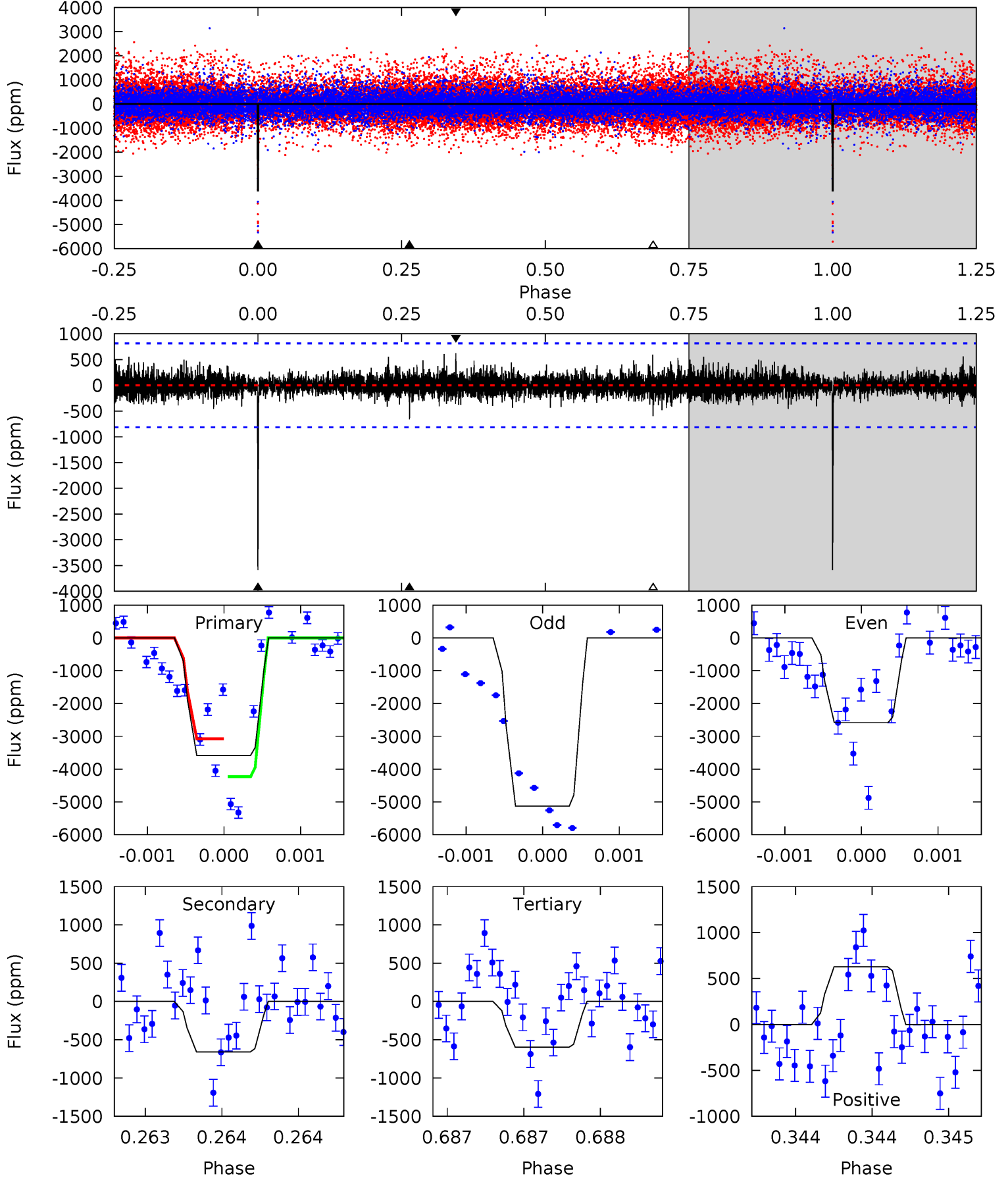
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.78	6.49	5.33	9.83	5.42	3.24	1.62	0.46	-4.05	1.17	-3.34	2.35	1.86	0.76	1.17



Alt Model-Shift Uniqueness Test

007041041-02, P = 149.565913 Days, E = 112.242460 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	4.46	4.04	4.23	5.50	3.36	0.86	20.2	20.0	0.42	0.23	8.31	0.92	0.15	3.91



Stellar Parameters For KIC 007041041

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4395^{+154}_{-154}	$4.578^{+0.056}_{-0.020}$	$0.300^{+0.150}_{-0.300}$	$0.718^{+0.029}_{-0.059}$	$0.713^{+0.046}_{-0.050}$	$2.708^{+0.666}_{-0.180}$
	+4%/-4%	+1%/-0%	+50%/-100%	+4%/-8%	+6%/-7%	+25%/-7%
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 007041041-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1104 ± 170	$4.69^{+3.50}_{-3.07}$	324^{+12}_{-13}	3543^{+1821}_{-557}	6320^{+50333}_{-4214}
Alt.	-660 ± 148	$5.35^{+3.97}_{-3.37}$	325^{+12}_{-13}	3144^{+1153}_{-450}	3045^{+17780}_{-2073}

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

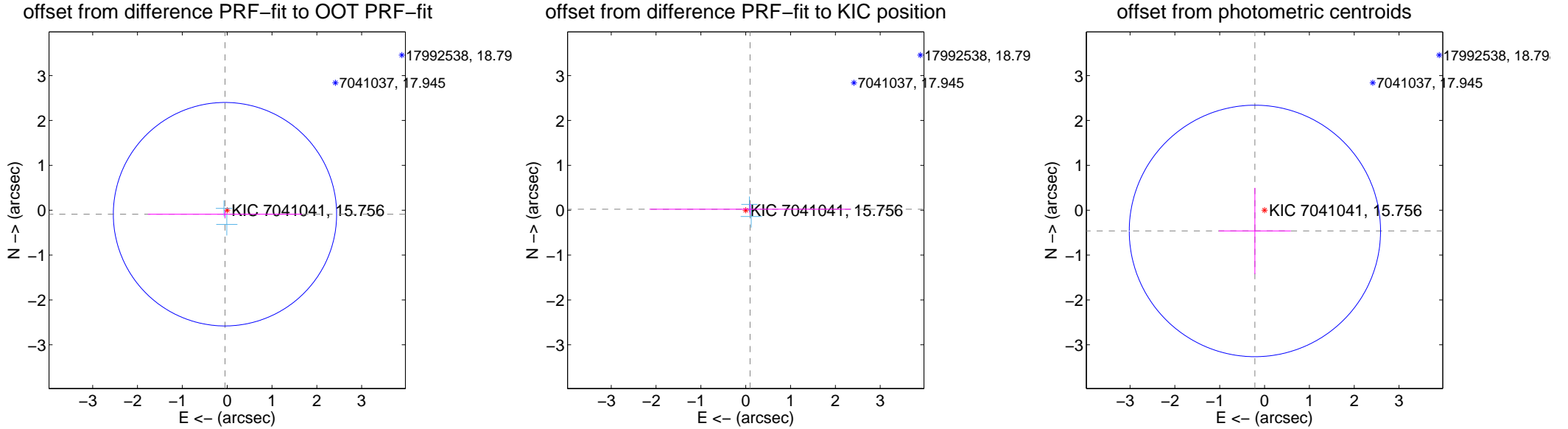
DV Centroid Data

Supplemental centroid analysis for 007041041-02. Kepler magnitude: 15.76. Transit SNR 8.98

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.102 ± 0.830	0.12	0.049 ± 1.717	-0.089 ± 0.082
PRF-fit source offset from KIC position	0.099 ± 2.205	0.05	-0.097 ± 2.245	0.022 ± 0.118
photometric centroid source offset	0.51 ± 0.93	0.55	0.21 ± 0.80	-0.46 ± 0.96



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.

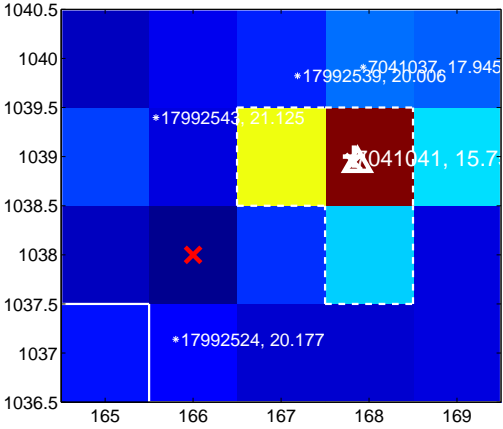
Q5 no difference image



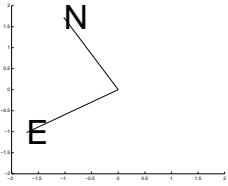
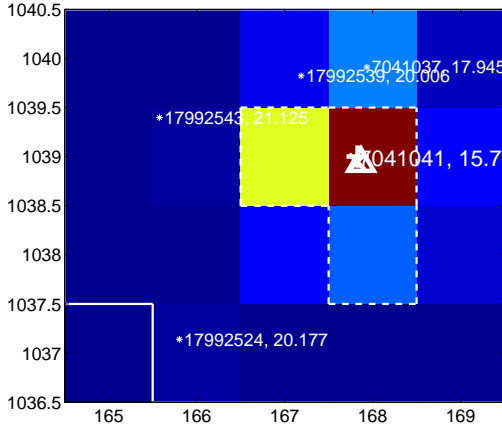
Q5 no OOT image



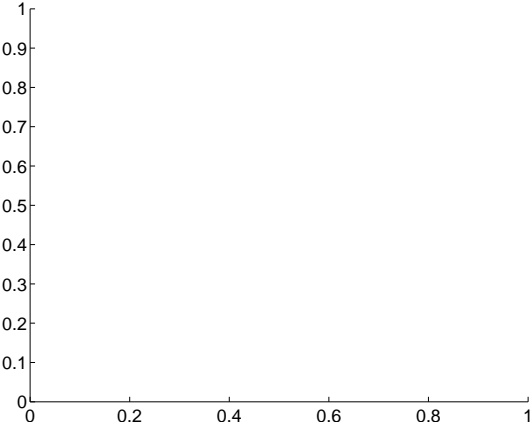
Q6 difference image



Q6 OOT image



Q7 no difference image



Q7 no OOT image



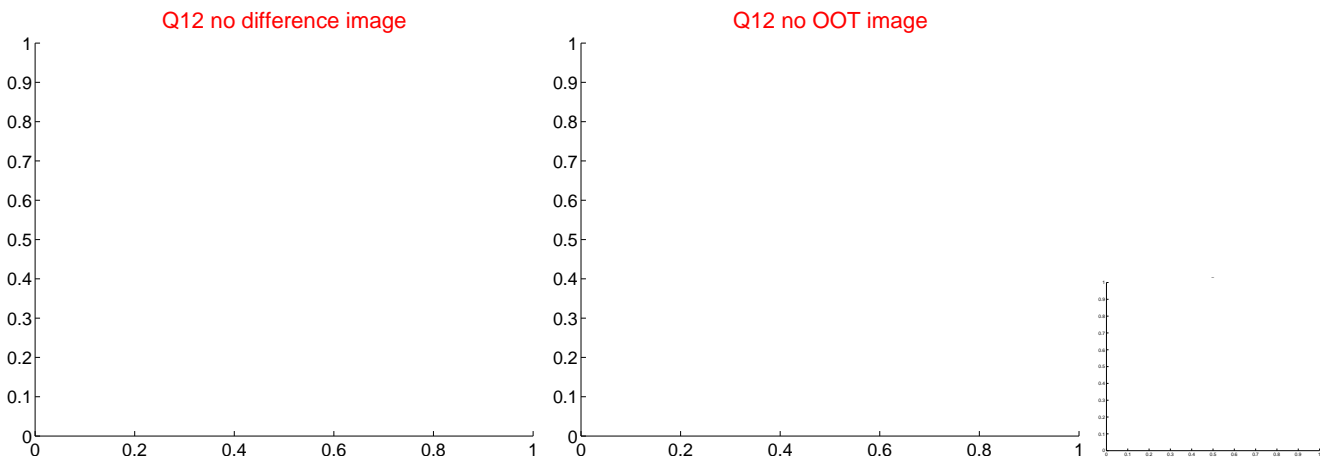
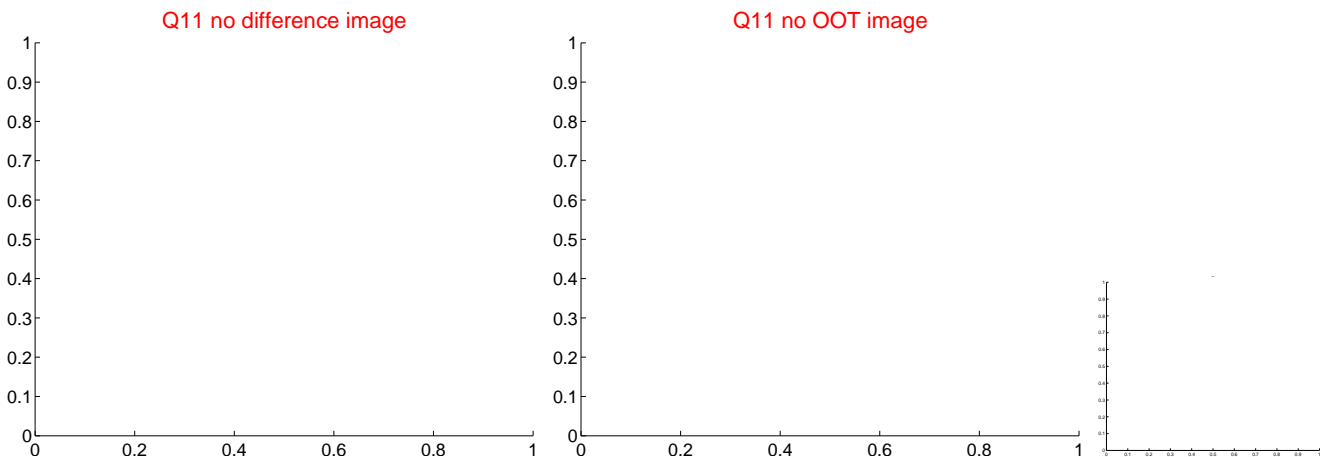
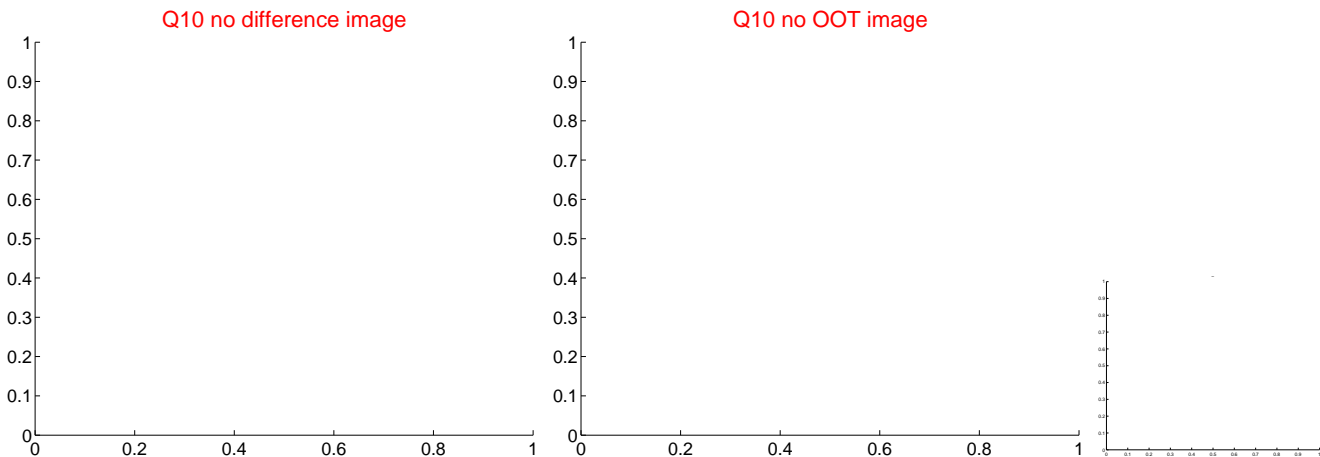
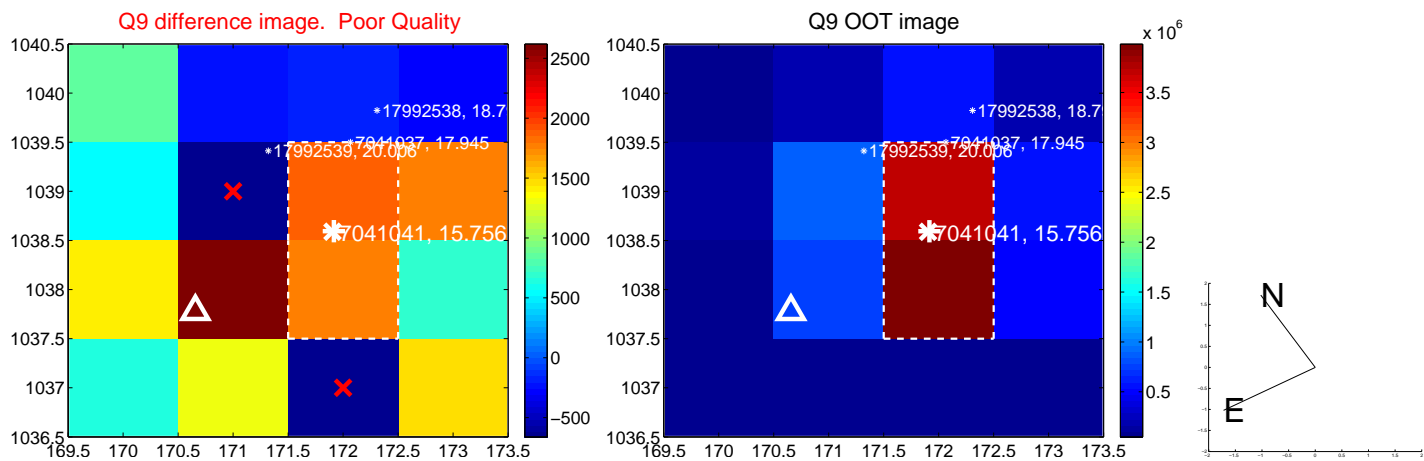
Q8 no difference image



Q8 no OOT image



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



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

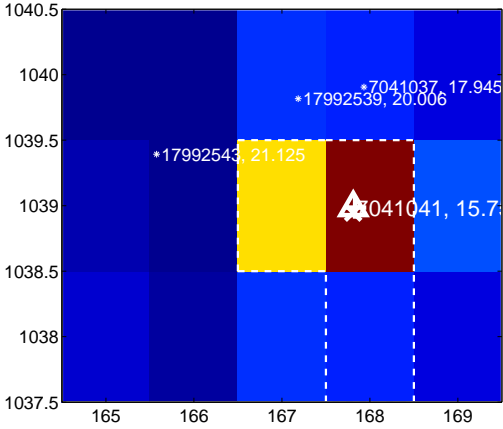
Q13 no difference image



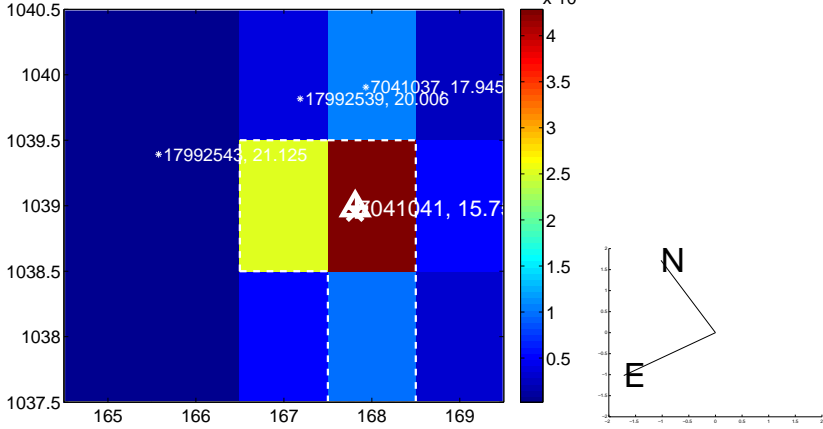
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



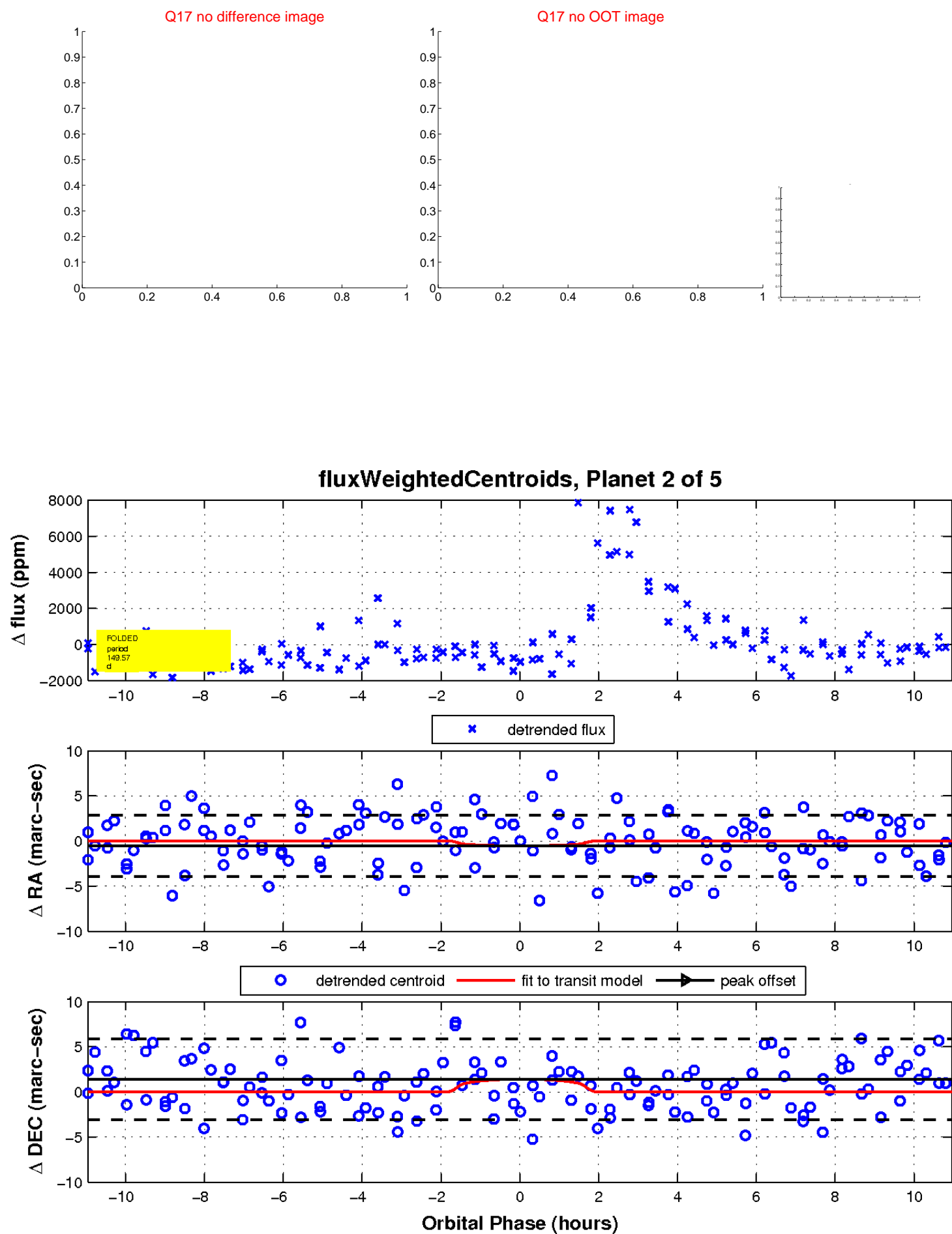
Q16 no difference image



Q16 no OOT image

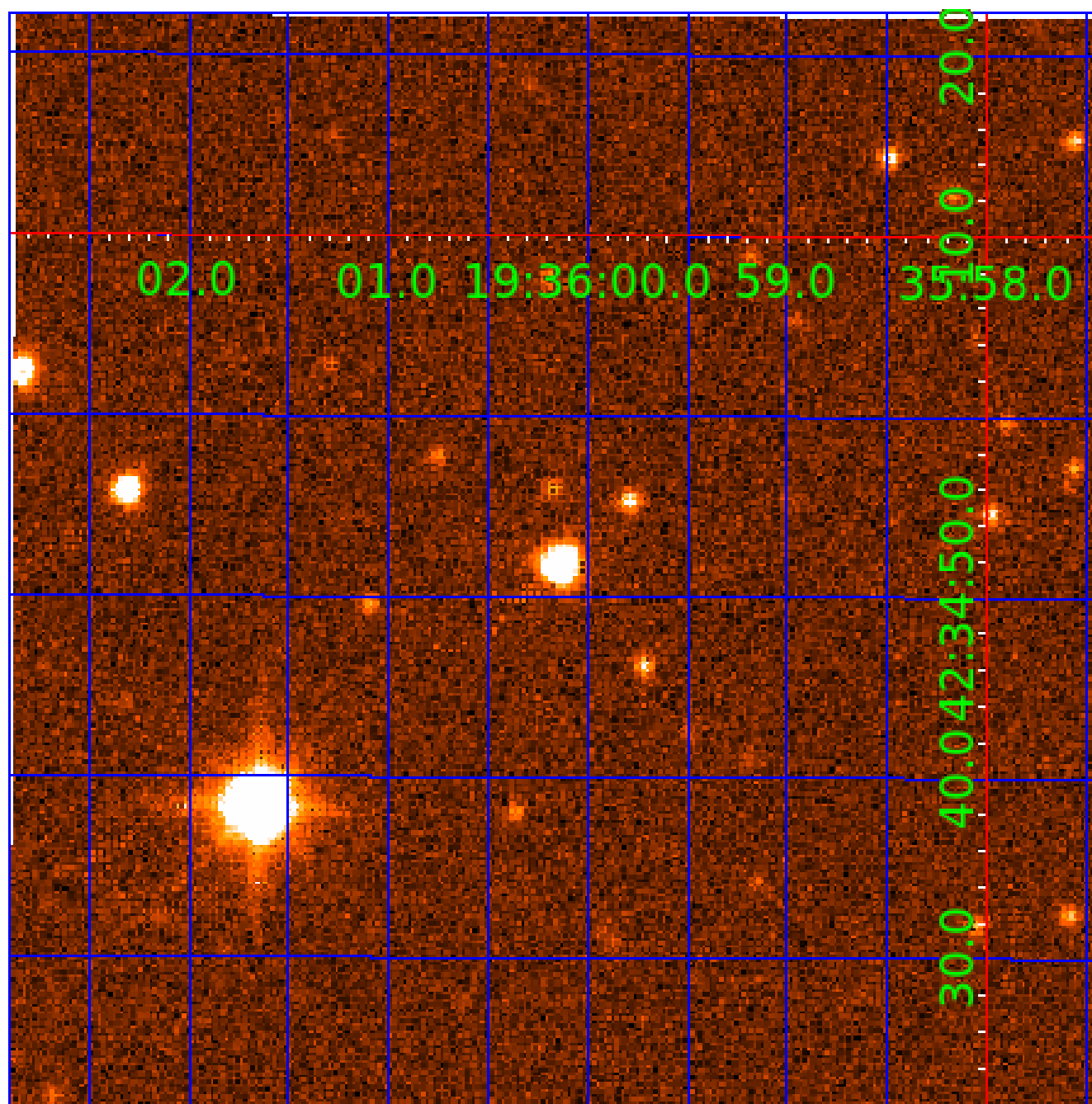


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007041041

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})
007041041-01	OBS	No	172.310612	135.587163	1773.8	5.576	13.9	6.2	0.72	4395	3.21	0.59
007041041-02	OBS	No	149.572475	261.769953	2425.3	3.663	13.1	9.0	0.72	4395	3.77	0.71
007041041-03	OBS	No	162.479073	282.541541	2187.1	3.056	10.1	7.6	0.72	4395	3.99	0.64
007041041-04	OBS	No	317.055110	253.983311	1348.9	5.085	9.2	5.3	0.72	4395	2.99	0.26
007041041-05	OBS	No	126.244833	254.369149	1866.5	3.249	9.2	6.7	0.72	4395	3.63	0.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007041041-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-02	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
007041041-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES

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

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

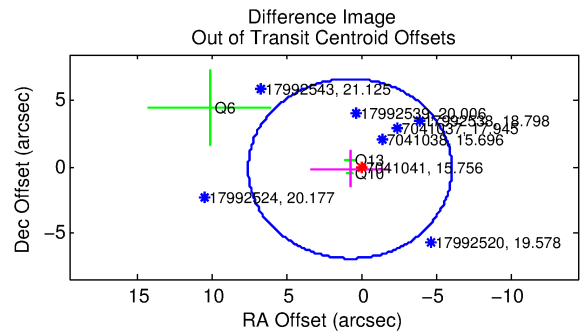
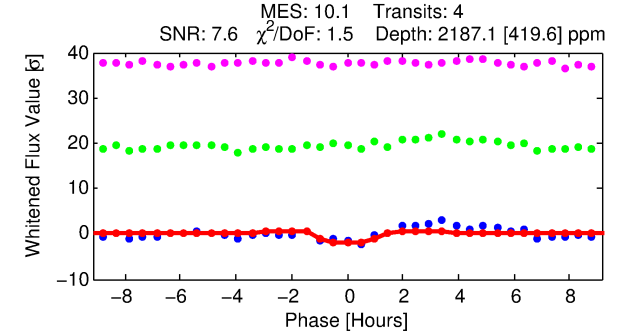
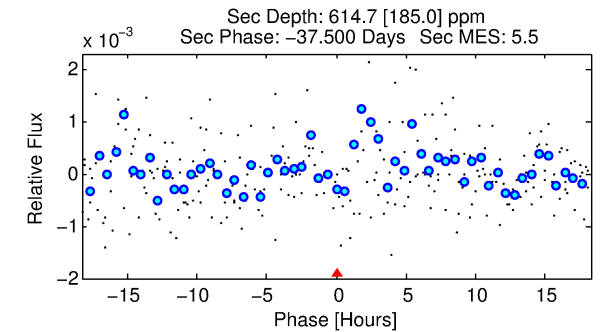
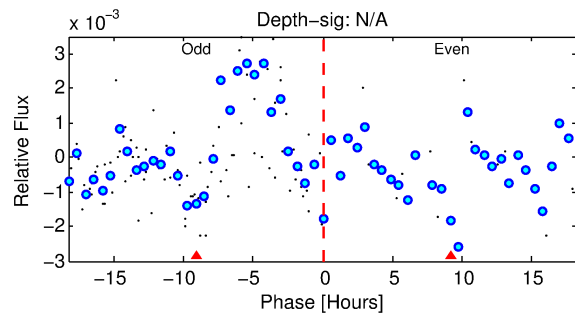
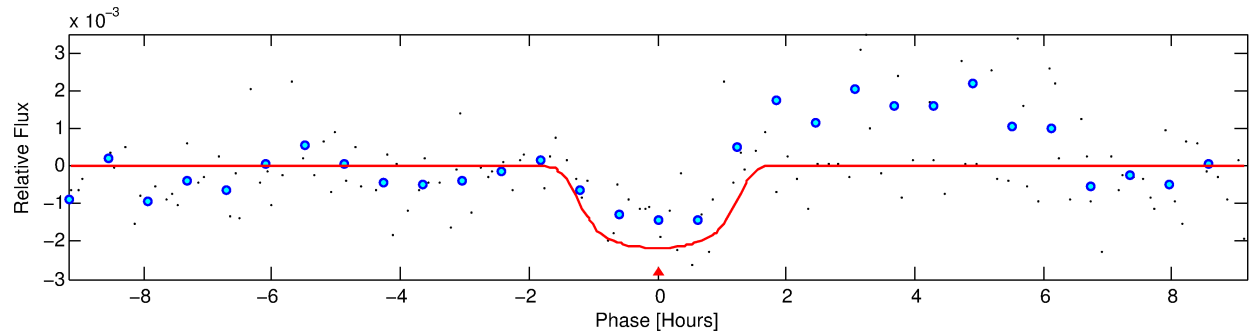
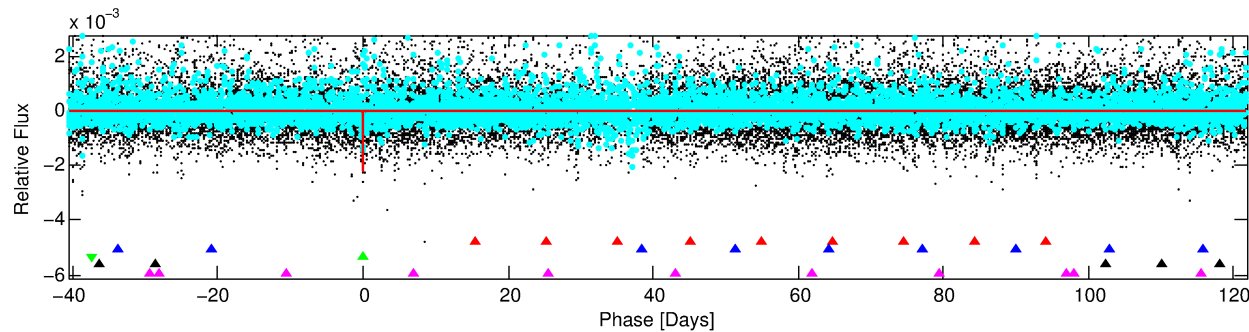
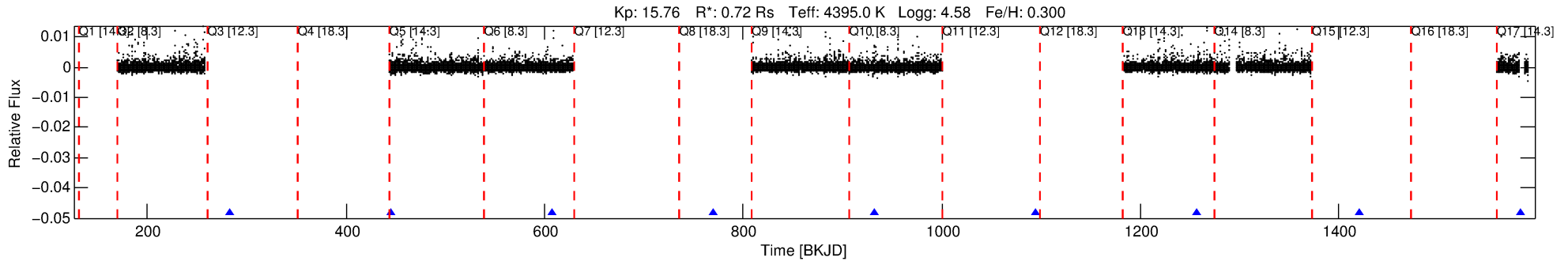
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007041041-03

No Significant Match Found

DV One-Page Summary

KIC: 7041041 Candidate: 3 of 5 Period: 162.479 d



DV Fit Results:

Period = 162.47907 [0.00288] d
Epoch = 282.5415 [0.0122] BKJD
Rp/R* = 0.0510 [0.0198]
a/R* = 245.61 [285.14]
b = 0.86 [0.36]
Seff = 0.64 [0.11]
Teq = 228 [10] K
Rp = 3.99 [1.58] Re
a = 0.5204 [0.0362] AU
Ag = 5739.68 [4807.95] [1.19σ]
Teffp = 3065 [646] K [4.39σ]

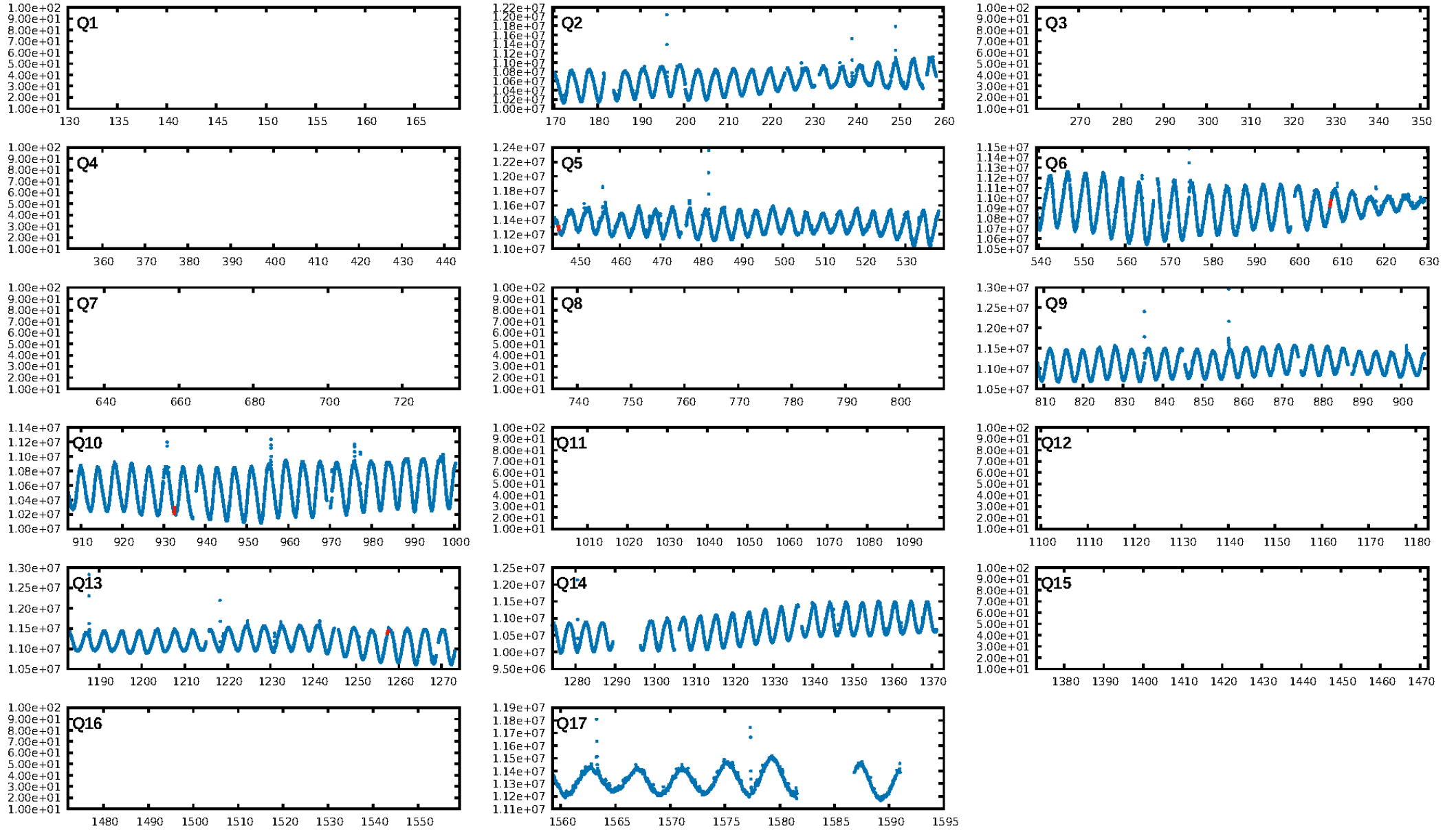
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [64.94σ]
LongPeriod-sig: 100.0% [37.11σ]
ModelChiSquare2-sig: 3.7%
ModelChiSquareGof-sig: 82.0%
Bootstrap-pfa: 9.70e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -10.66
Centroid-sig: 81.8%
Centroid-so: 0.473 arcsec [0.49σ]
OotOffset-rm: 0.744 arcsec [0.33σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-rm: 0.544 arcsec [0.25σ]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

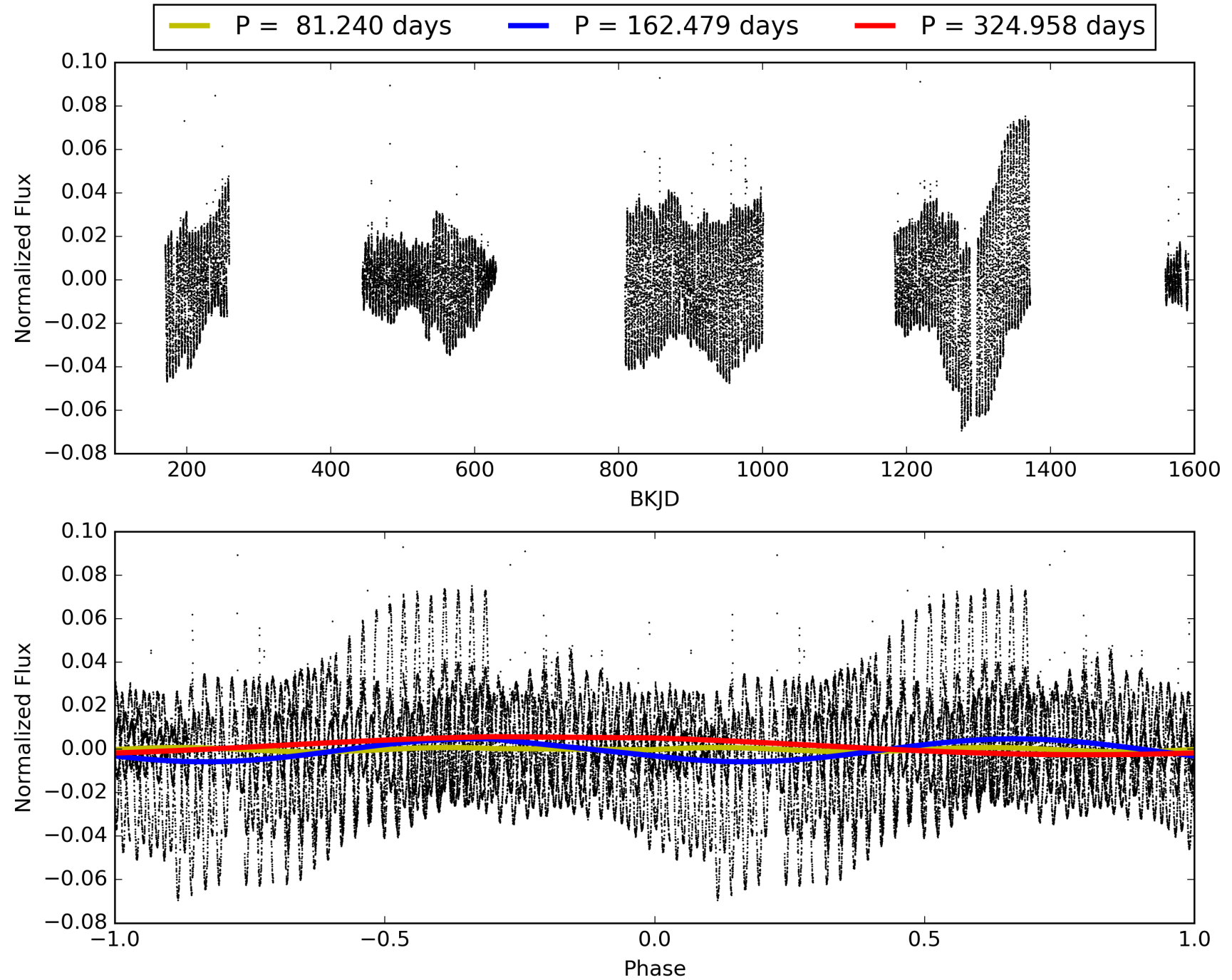
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:36:18 Z

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

TCE 007041041-03, PDC Light Curves

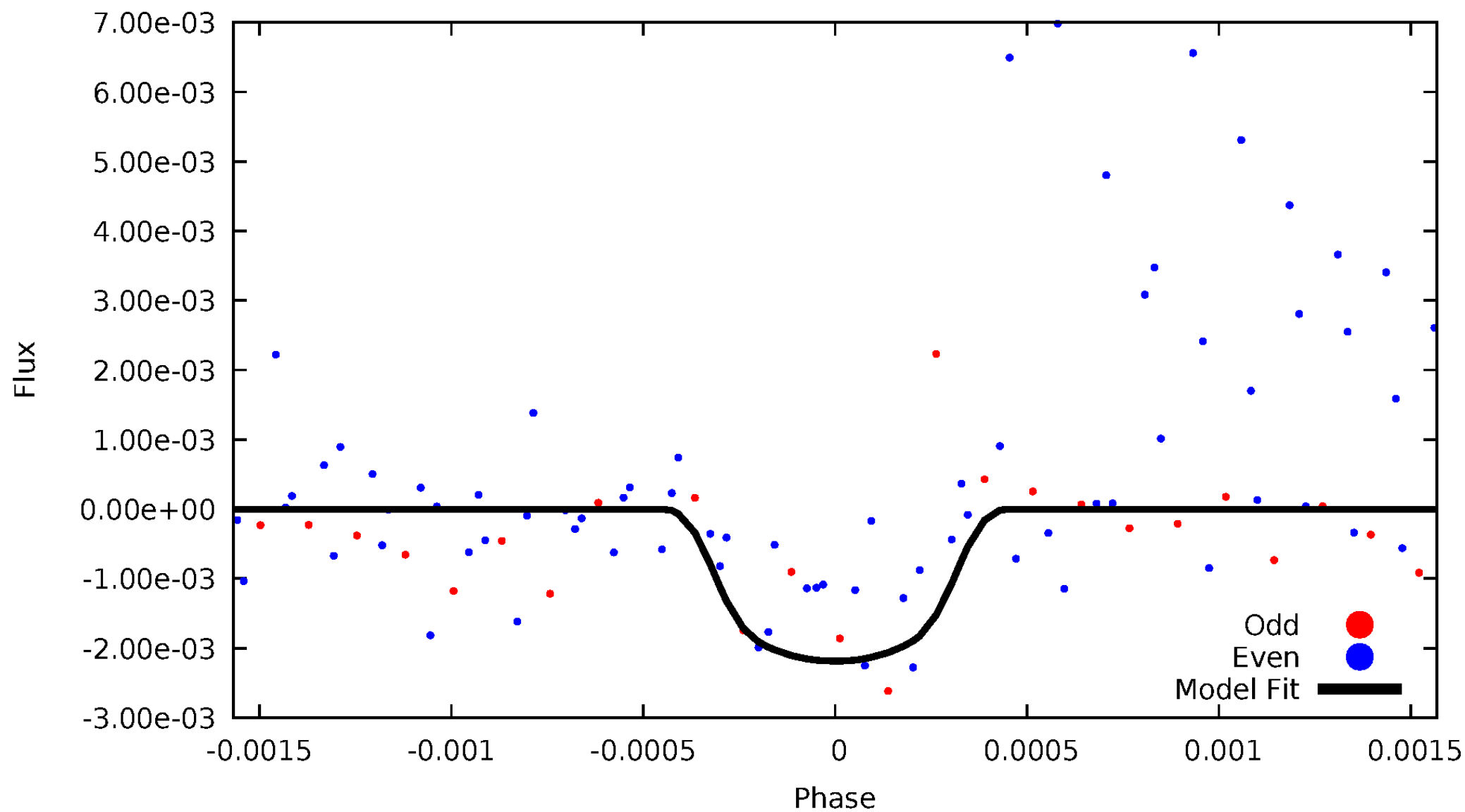


TCE 007041041-03



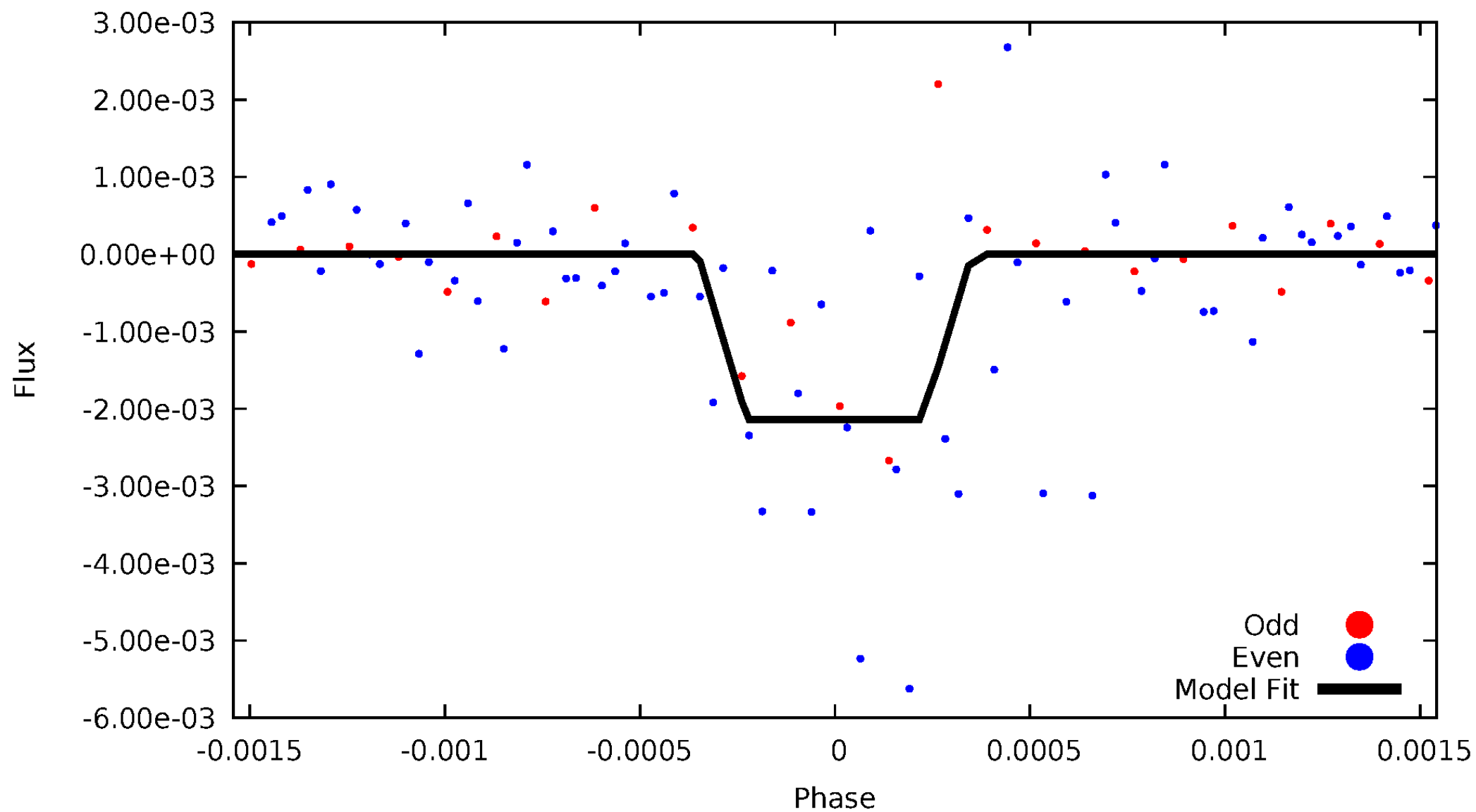
DV Odd/Even

TCE 007041041-03



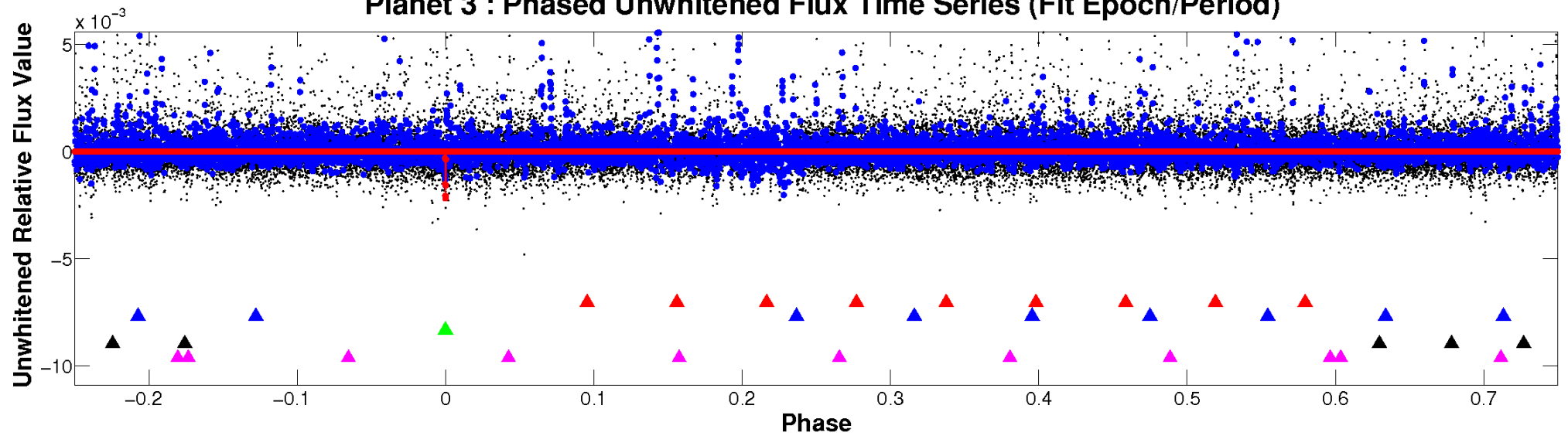
ALT Odd/Even

TCE 007041041-03

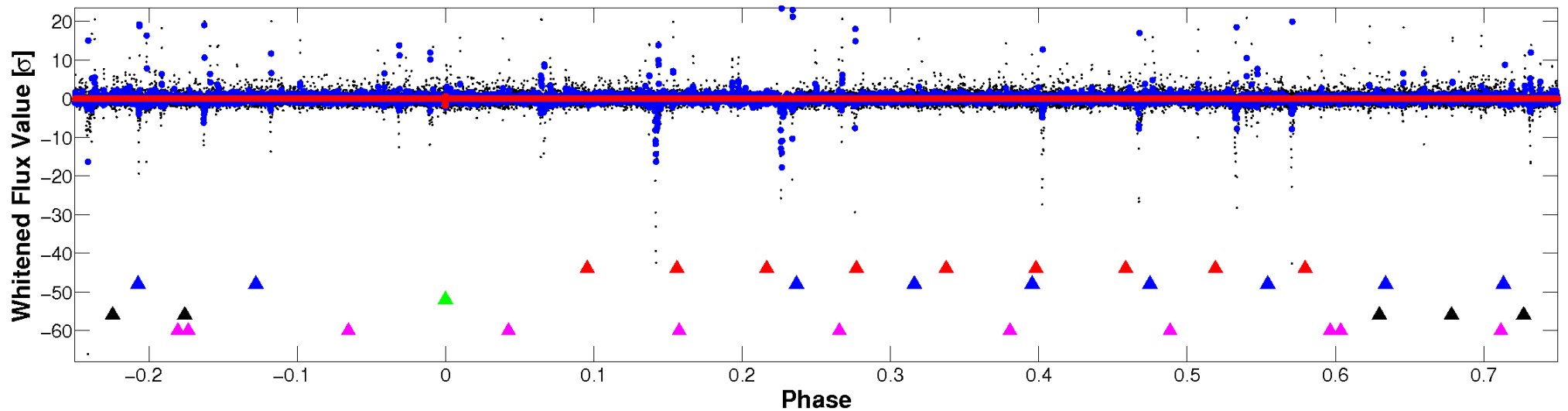


Non-Whitened Vs. Whitened Light Curve

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

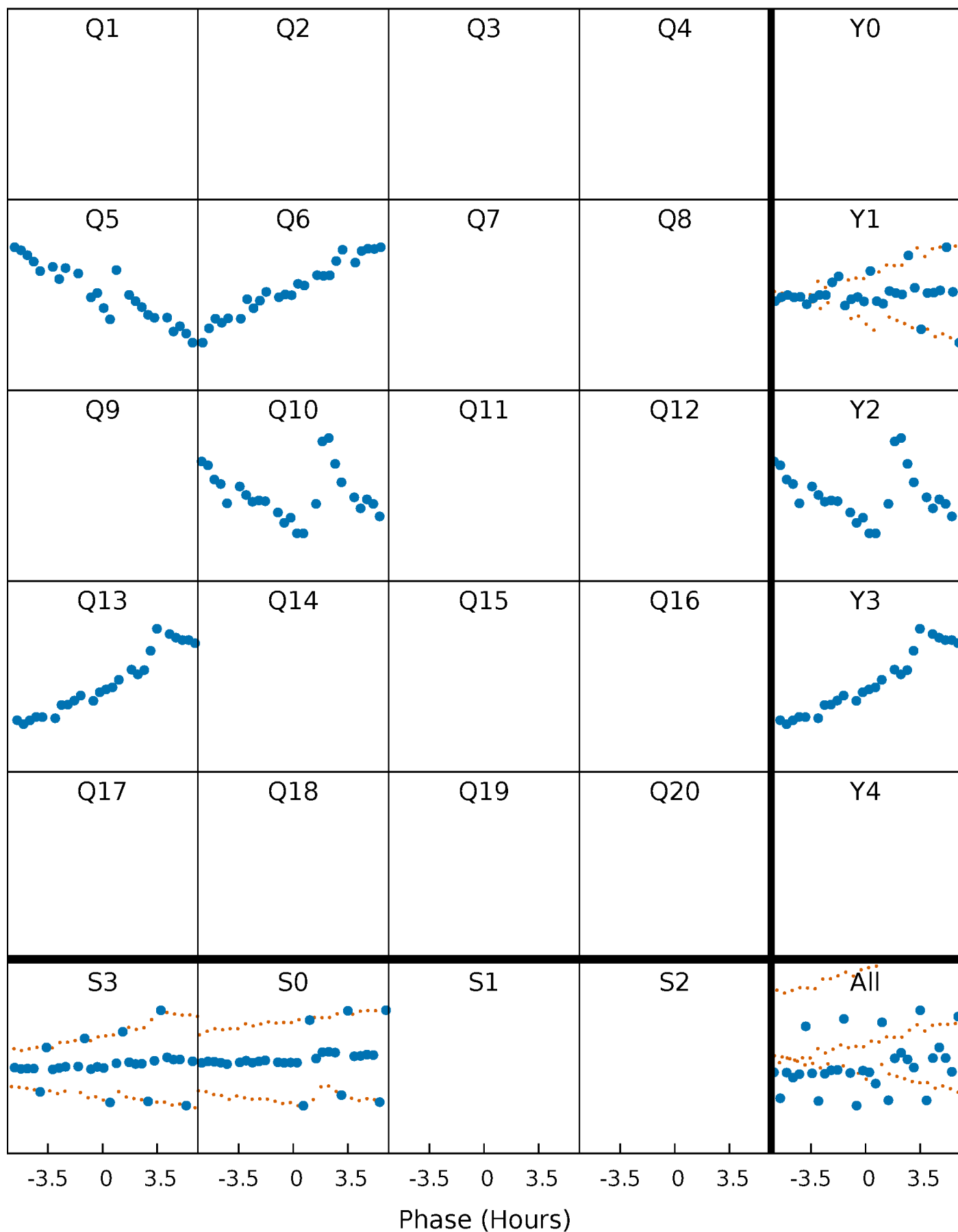


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



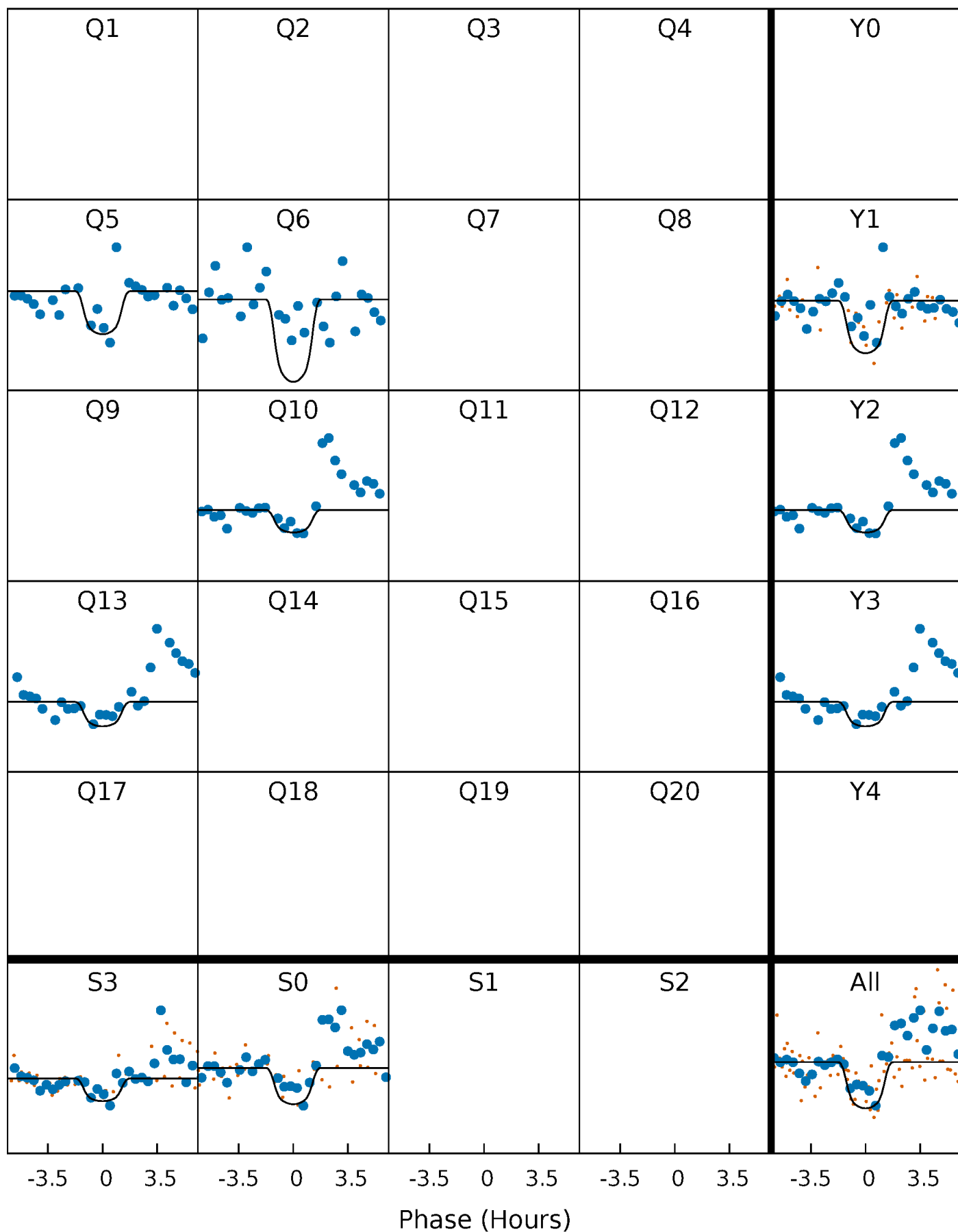
PDC Quarter-Phased Transit Curves

TCE 007041041-03 P=162.479073 Days $T_0=282.541541$ (BKJD)



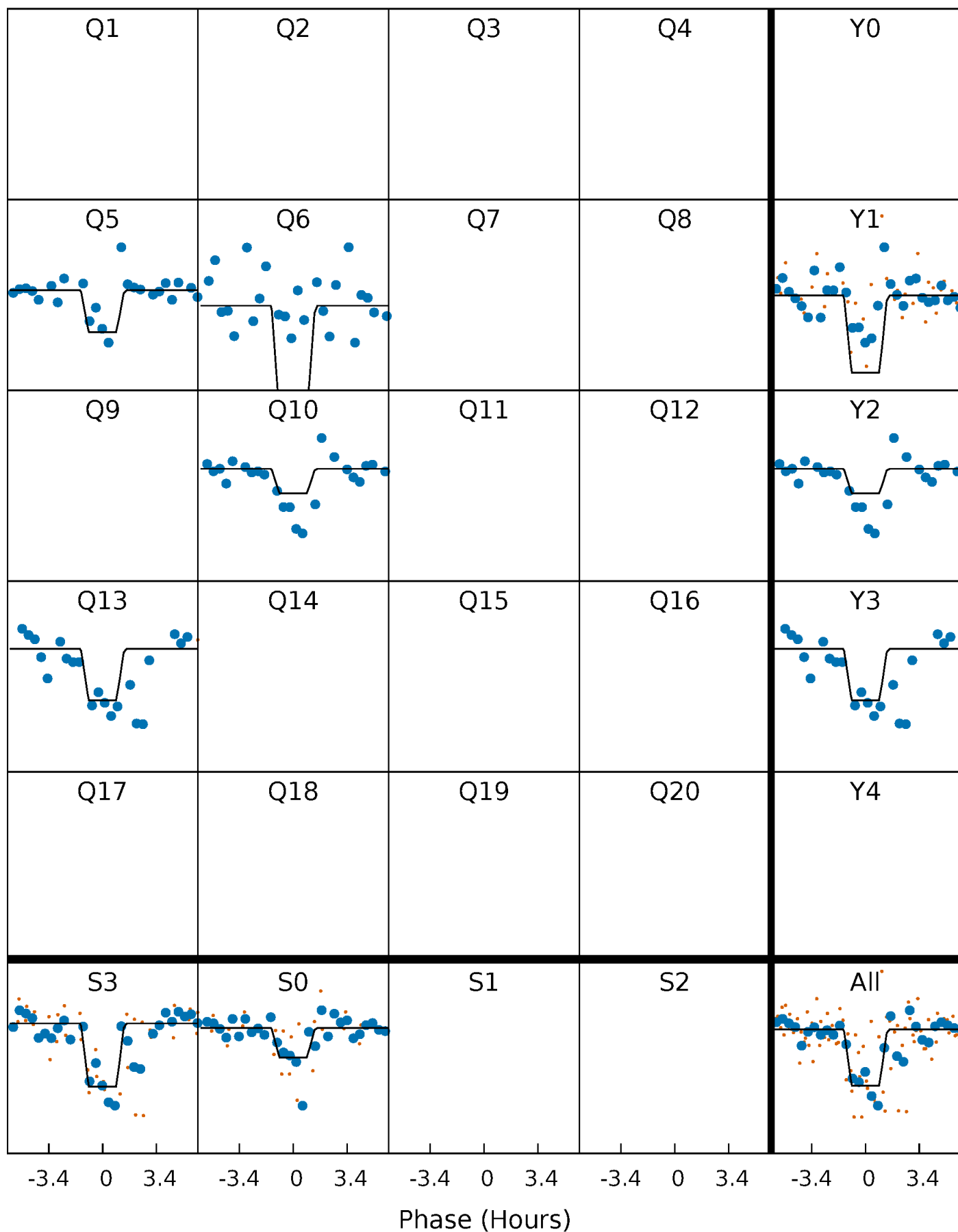
DV Quarter-Phased Transit Curves

TCE 007041041-03 P=162.479073 Days $T_0=282.541541$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

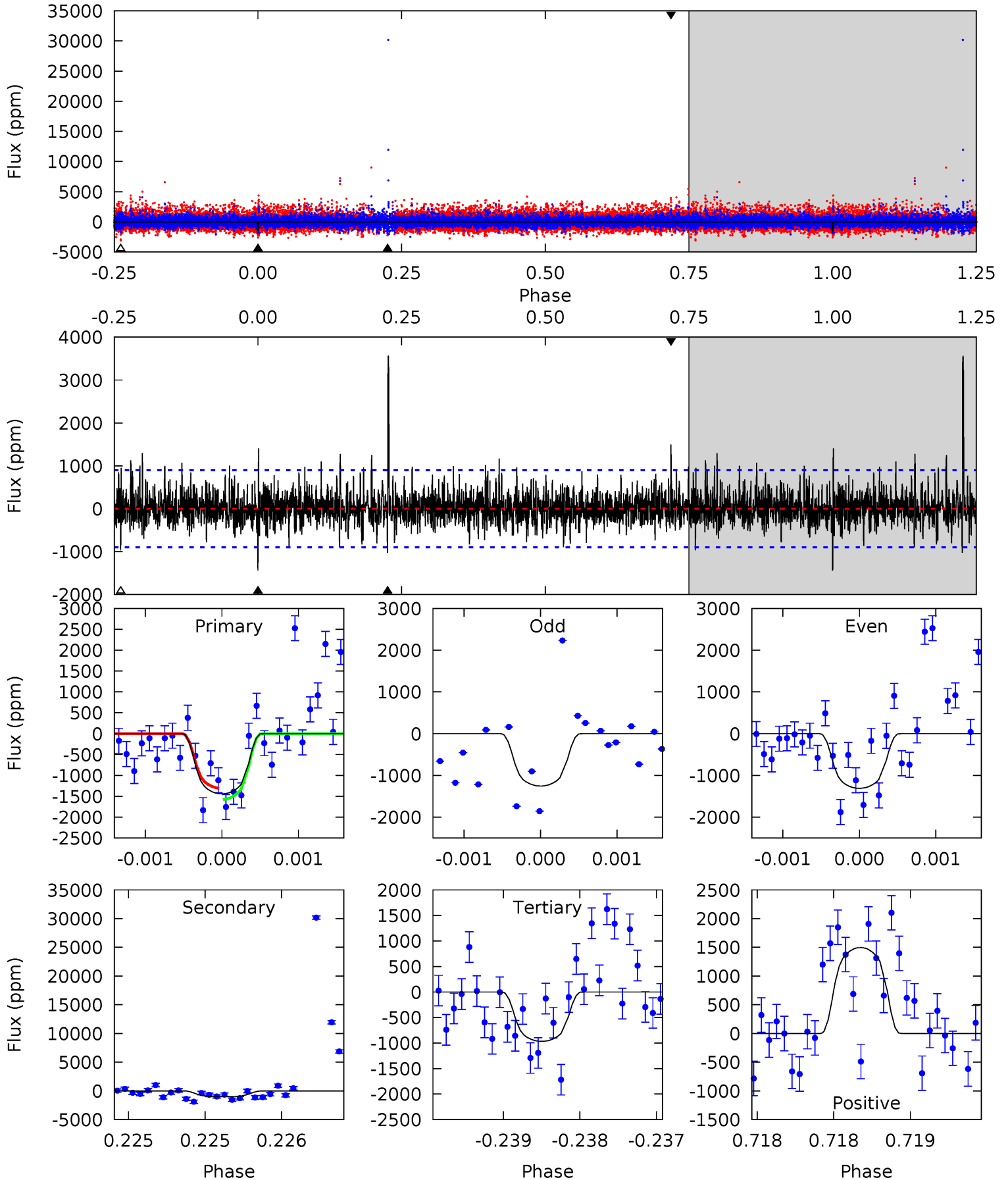
TCE 007041041-03 P=162.479772 Days $T_0=282.540723$ (BKJD)



DV Model-Shift Uniqueness Test

007041041-03, P = 162.479073 Days, E = 120.062468 Days

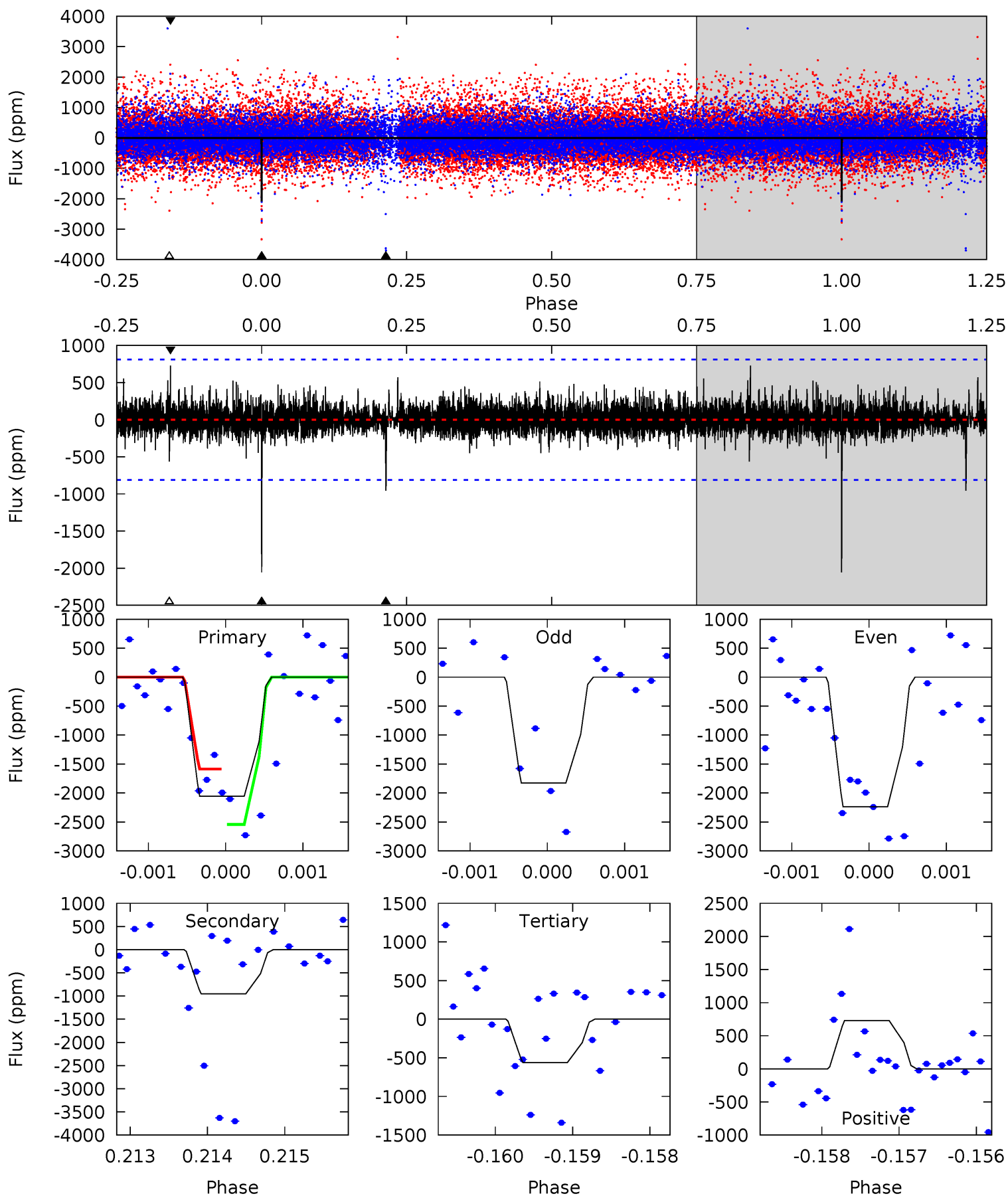
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.79	6.25	5.89	9.12	5.48	3.33	1.76	2.90	-0.34	0.36	-2.87	0.09	0.97	0.71	0.83



Alt Model-Shift Uniqueness Test

007041041-03, P = 162.479772 Days, E = 120.060951 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	6.51	3.83	4.97	5.53	3.41	0.88	10.2	9.04	2.68	1.53	1.24	1.14	0.26	3.08



Stellar Parameters For KIC 007041041

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4395^{+154}_{-154}	$4.578^{+0.056}_{-0.020}$	$0.300^{+0.150}_{-0.300}$	$0.718^{+0.029}_{-0.059}$	$0.713^{+0.046}_{-0.050}$	$2.708^{+0.666}_{-0.180}$
	+4%/-4%	+1%/-0%	+50%/-100%	+4%/-8%	+6%/-7%	+25%/-7%
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 007041041-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1026 ± 164	$3.96^{+1.52}_{-1.60}$	316^{+12}_{-13}	3726^{+789}_{-392}	9800^{+18288}_{-4873}
Alt.	-954 ± 147	$3.57^{+1.62}_{-1.41}$	316^{+12}_{-13}	3773^{+863}_{-430}	10953^{+19021}_{-5762}

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 $A_{obs} \gg 1.0$

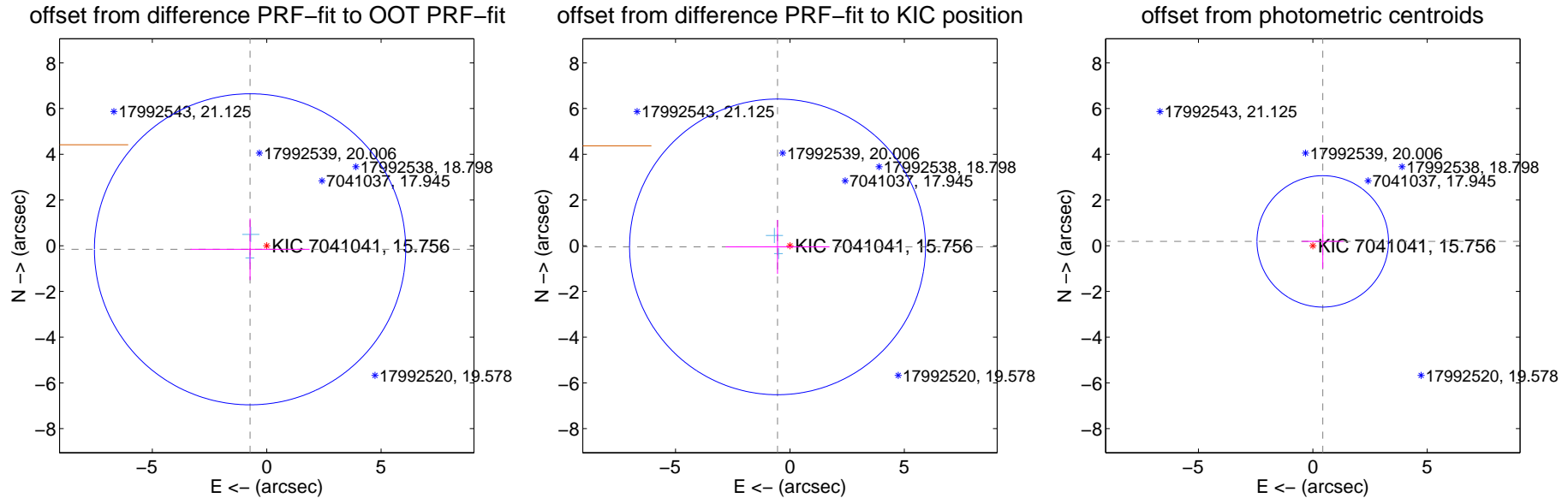
DV Centroid Data

Supplemental centroid analysis for 007041041-03. Kepler magnitude: 15.76. Transit SNR 7.55

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.744 ± 2.267	0.33	0.727 ± 2.602	-0.156 ± 1.346
PRF-fit source offset from KIC position	0.544 ± 2.155	0.25	0.541 ± 2.273	-0.050 ± 1.177
photometric centroid source offset	0.47 ± 0.96	0.49	-0.43 ± 0.91	0.19 ± 1.17

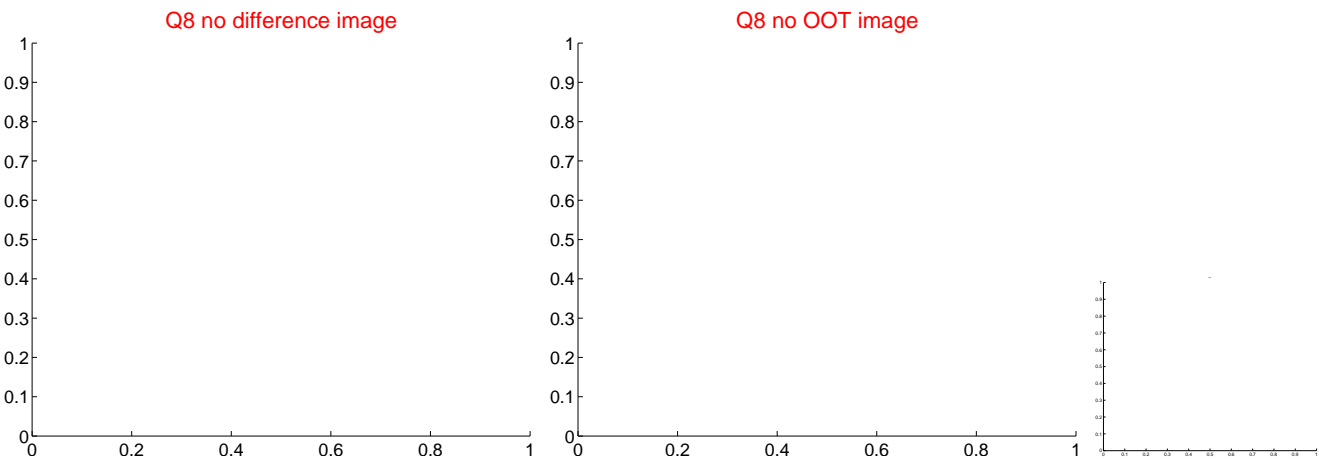
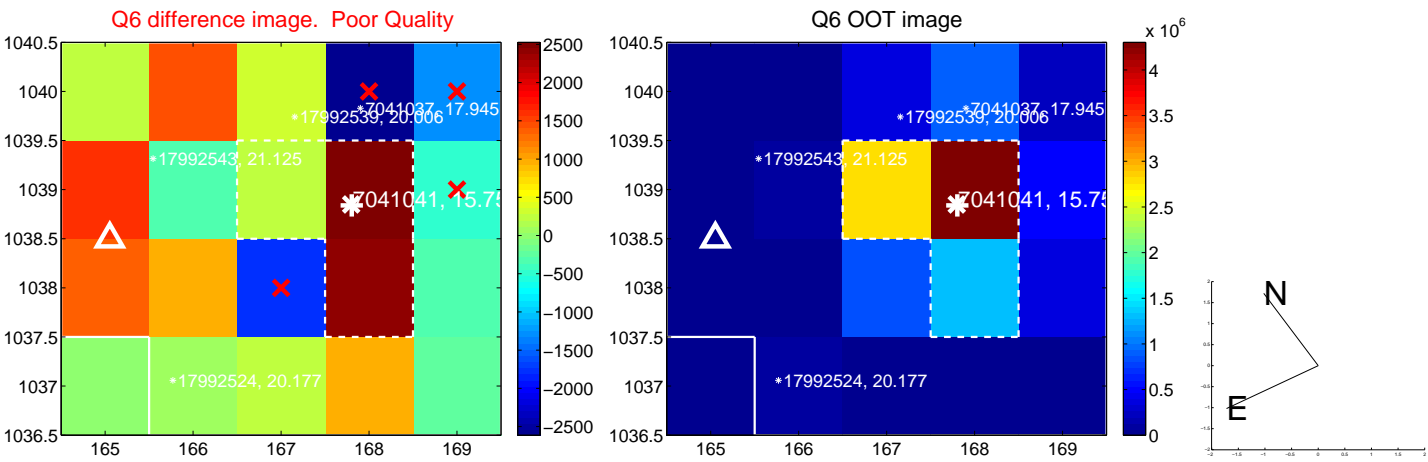
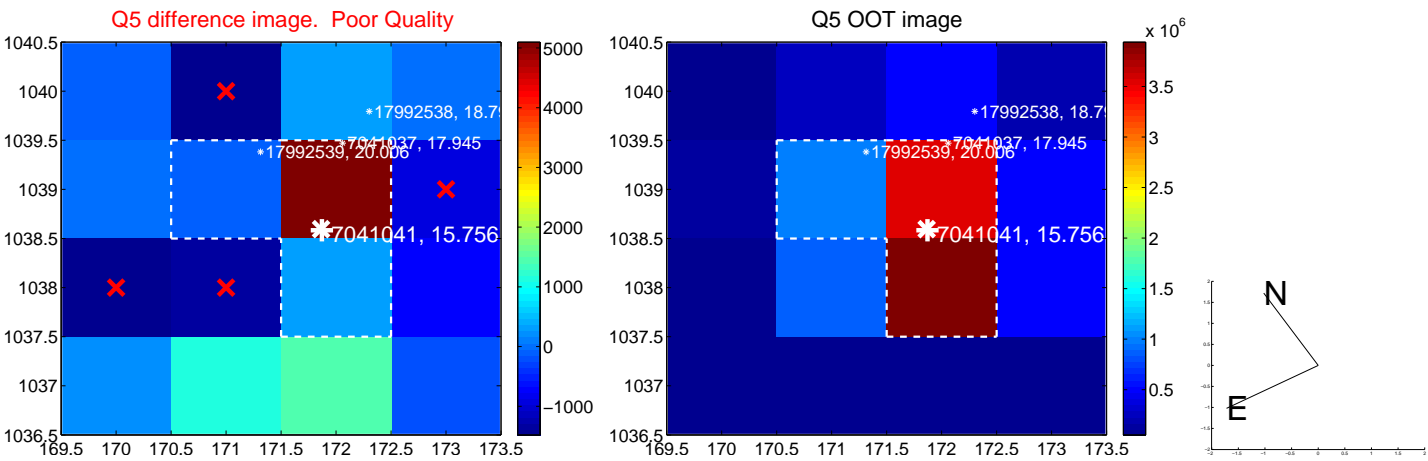


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

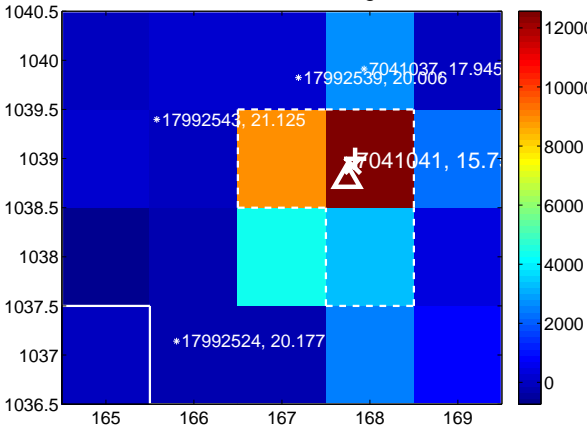
Q9 no difference image



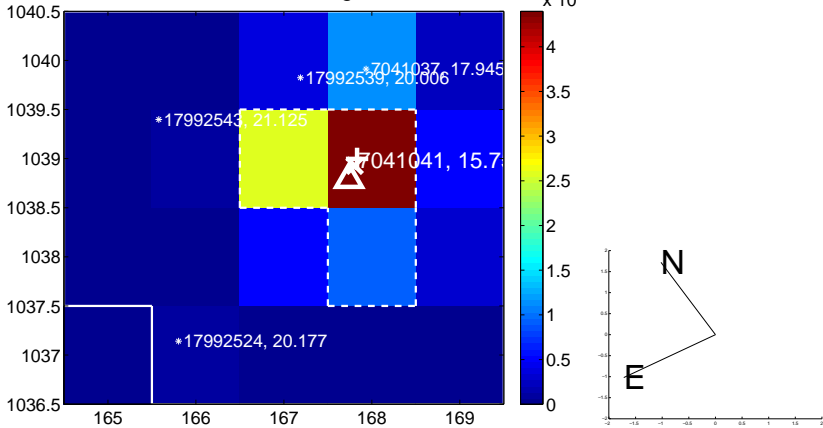
Q9 no OOT image



Q10 difference image



Q10 OOT image



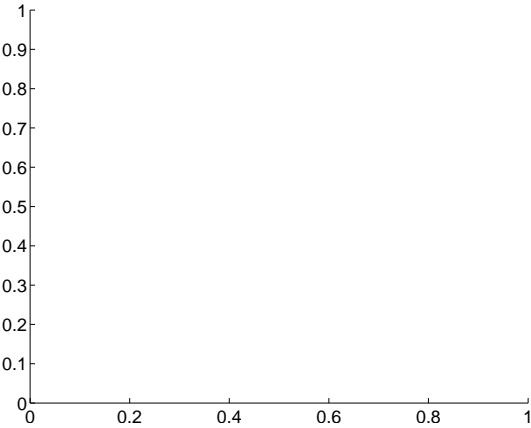
Q11 no difference image



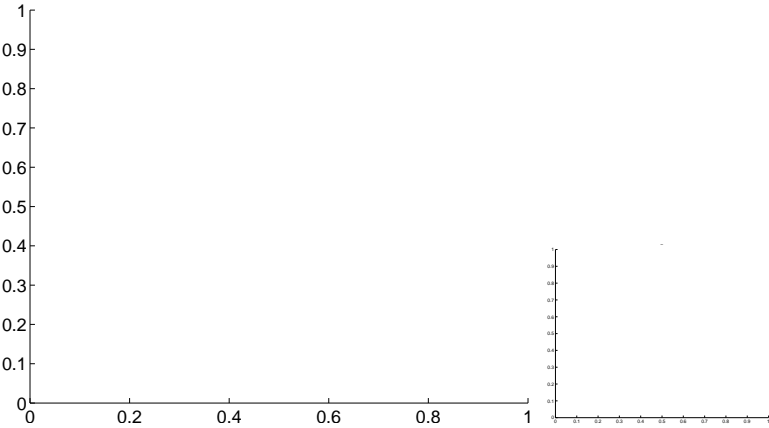
Q11 no OOT image



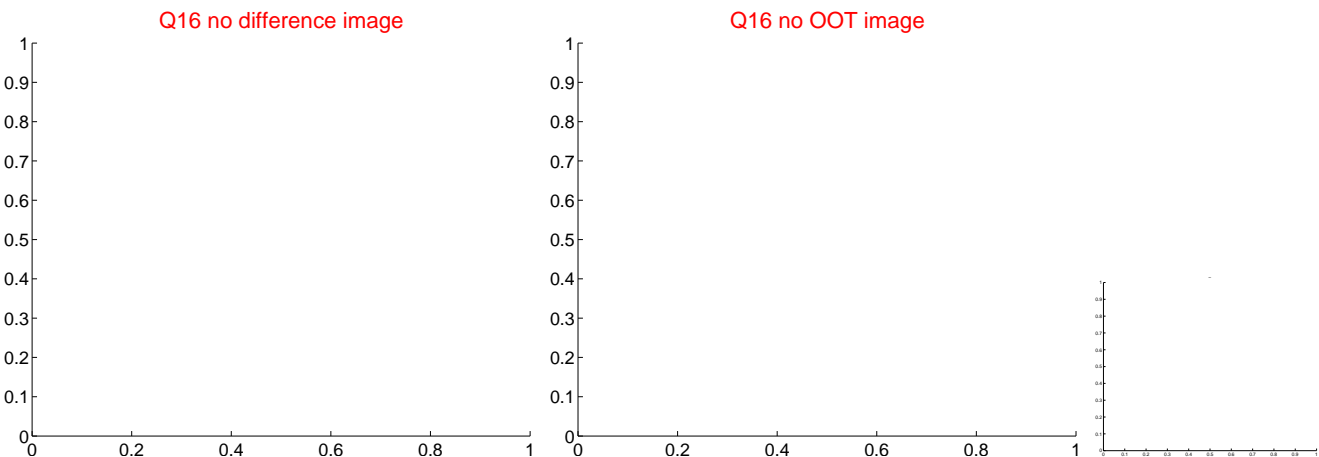
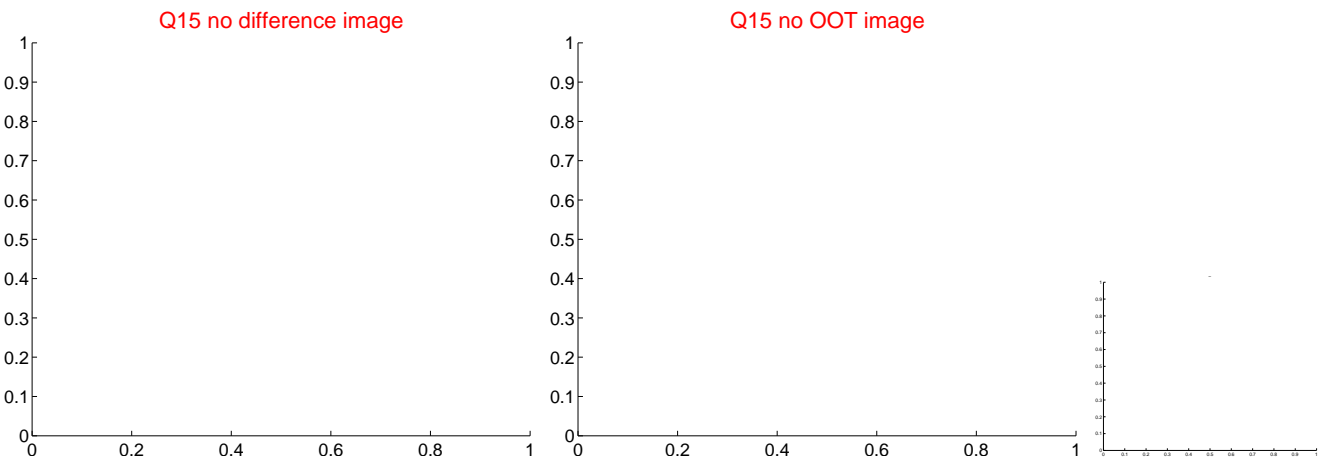
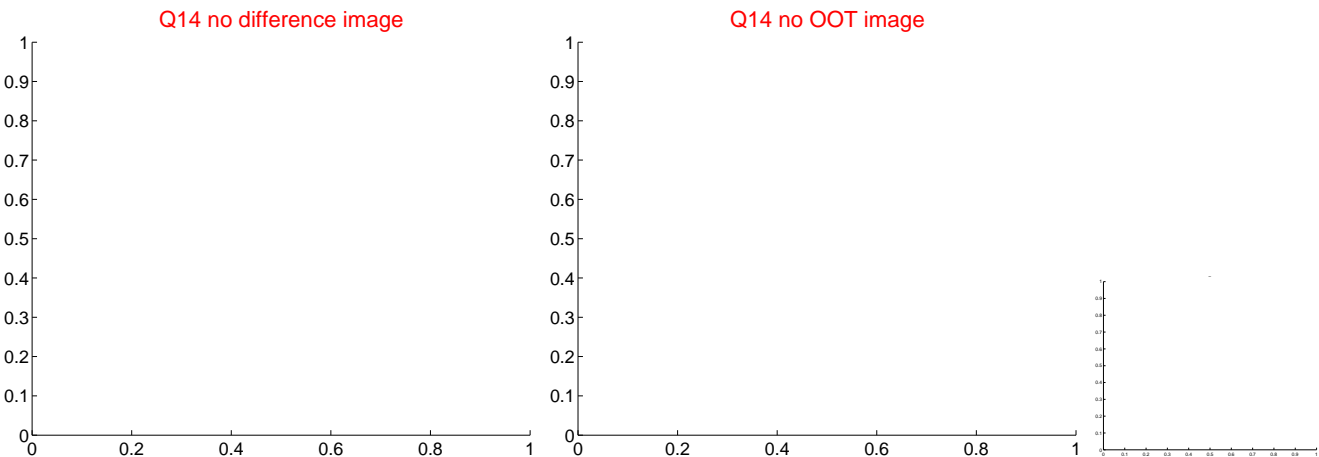
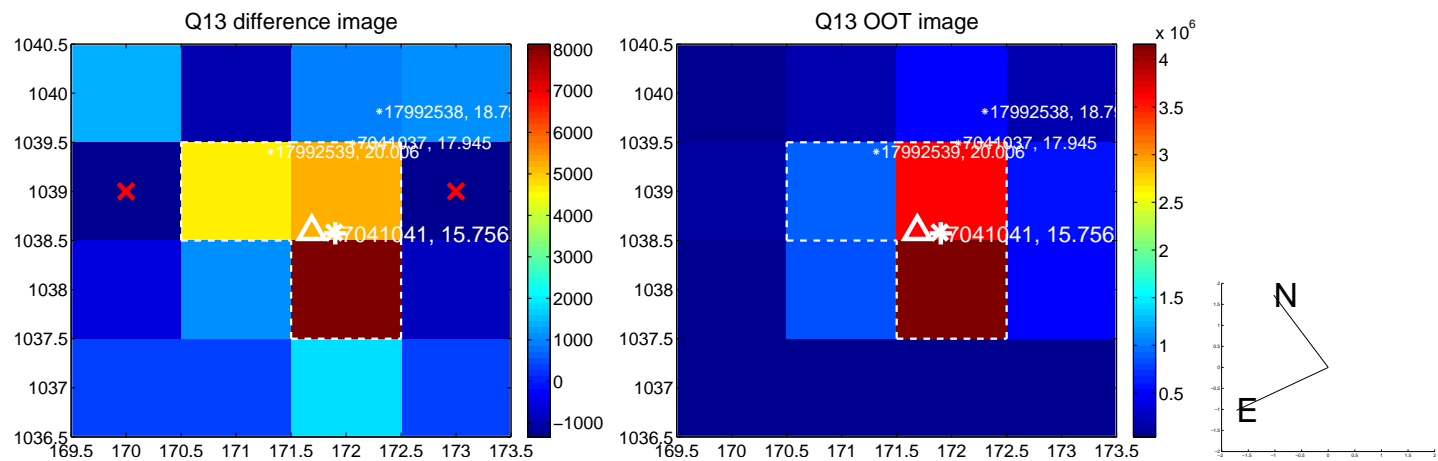
Q12 no difference image



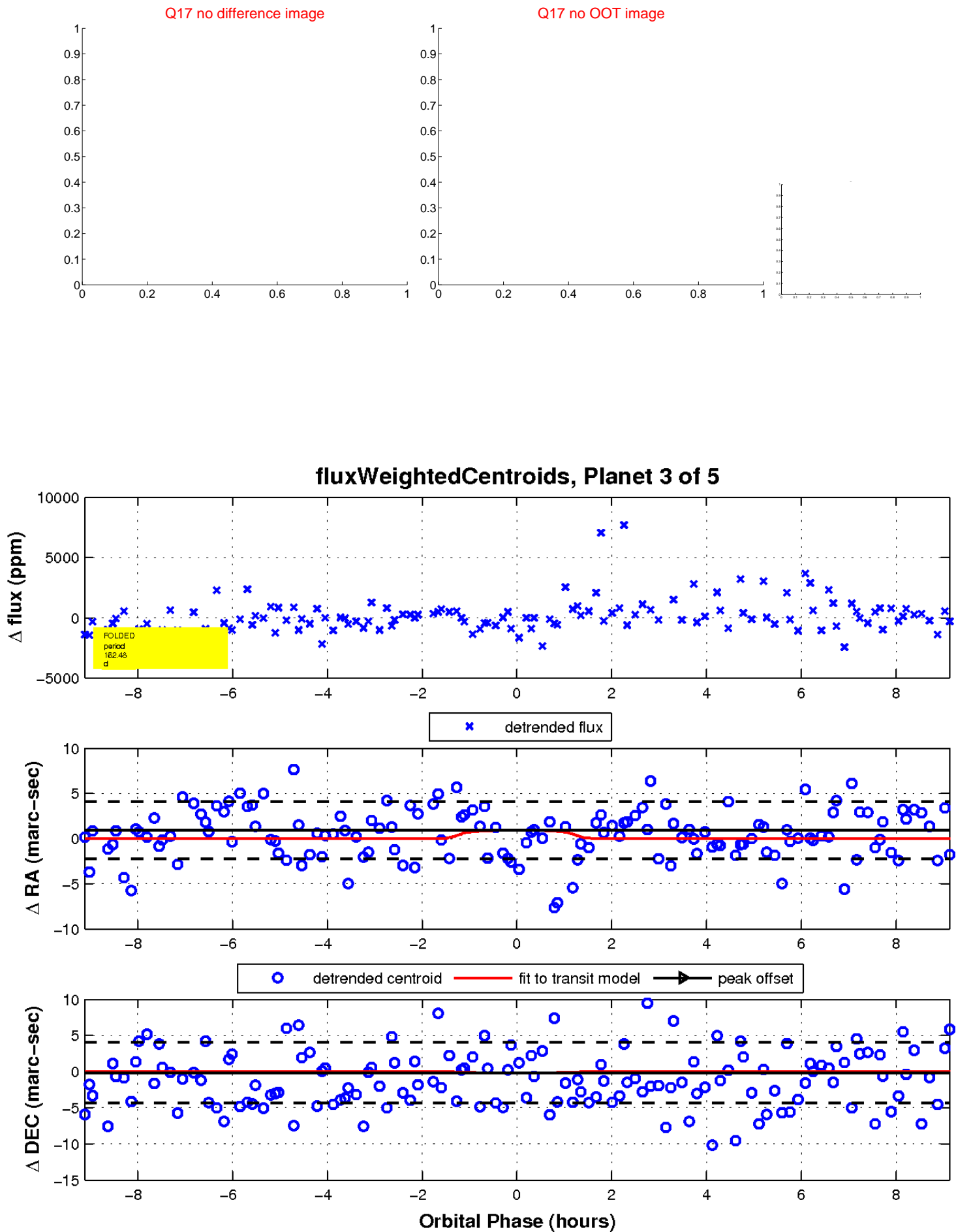
Q12 no OOT image



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

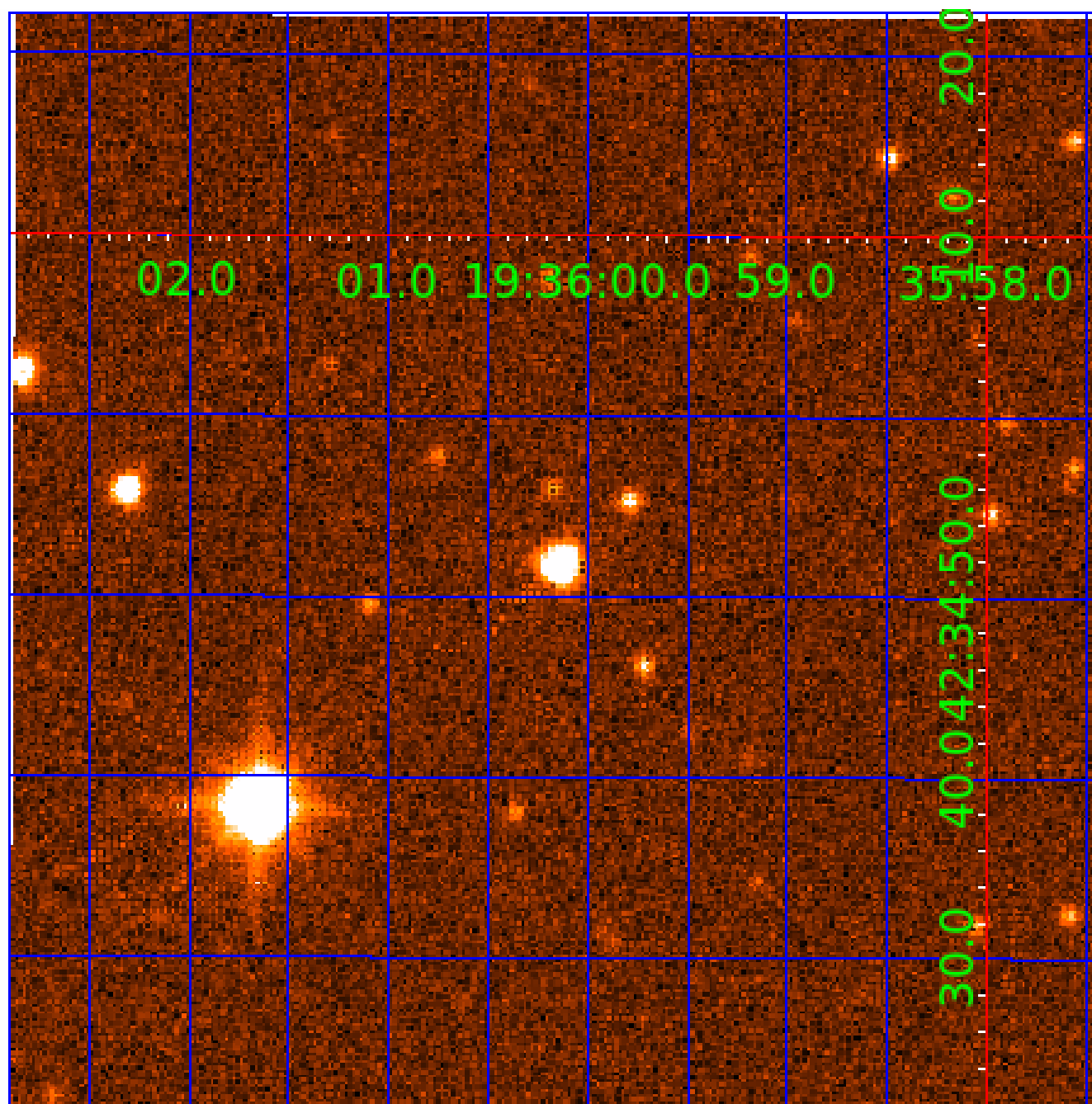


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007041041

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})
007041041-01	OBS	No	172.310612	135.587163	1773.8	5.576	13.9	6.2	0.72	4395	3.21	0.59
007041041-02	OBS	No	149.572475	261.769953	2425.3	3.663	13.1	9.0	0.72	4395	3.77	0.71
007041041-03	OBS	No	162.479073	282.541541	2187.1	3.056	10.1	7.6	0.72	4395	3.99	0.64
007041041-04	OBS	No	317.055110	253.983311	1348.9	5.085	9.2	5.3	0.72	4395	2.99	0.26
007041041-05	OBS	No	126.244833	254.369149	1866.5	3.249	9.2	6.7	0.72	4395	3.63	0.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007041041-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-02	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
007041041-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES

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

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

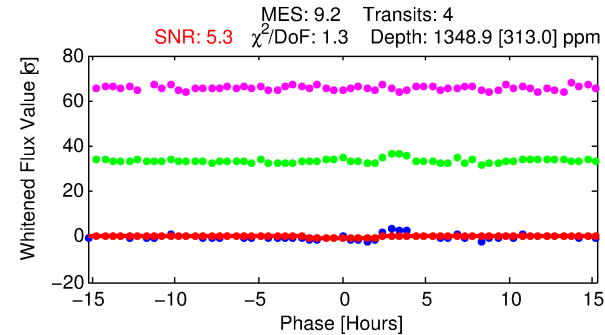
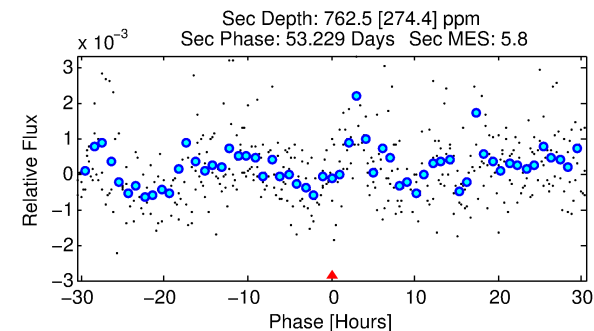
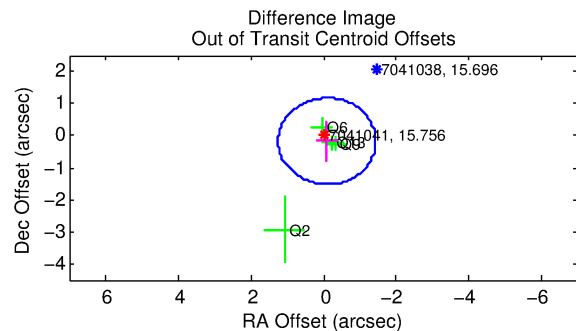
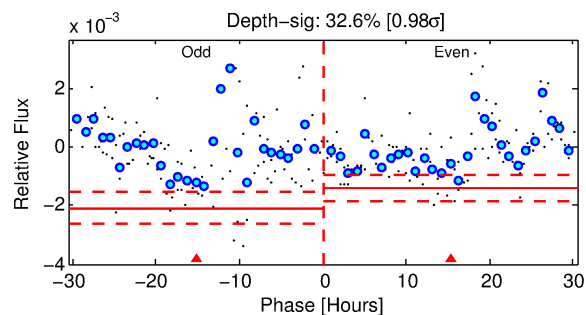
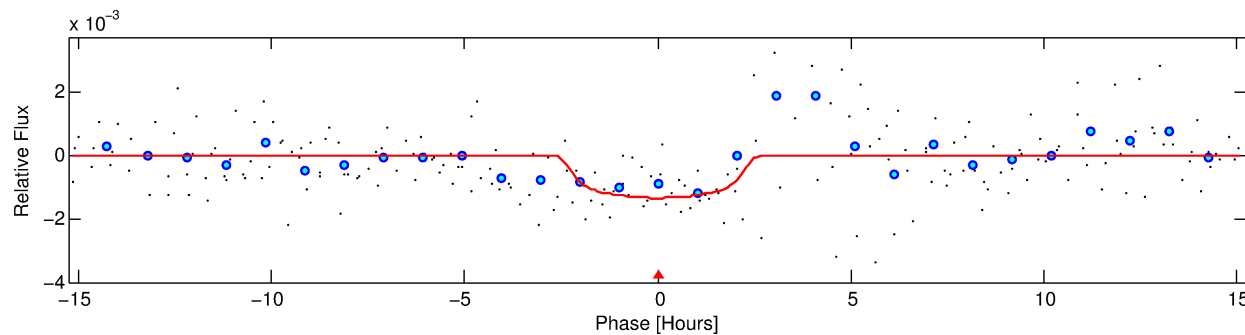
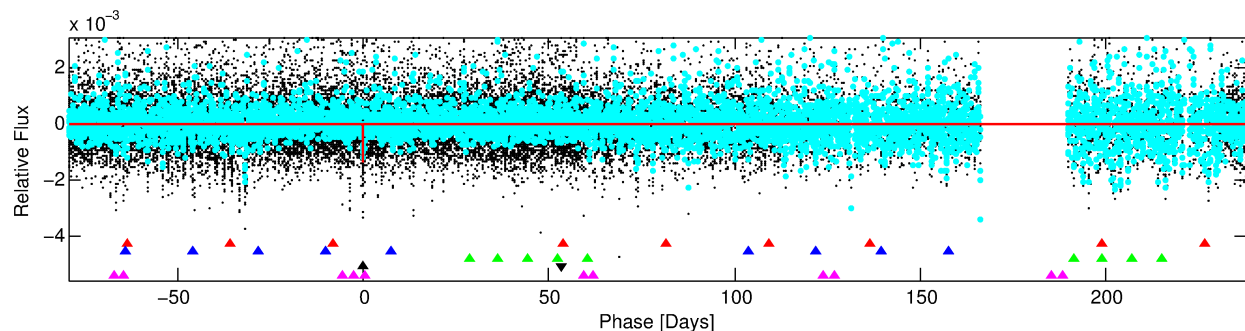
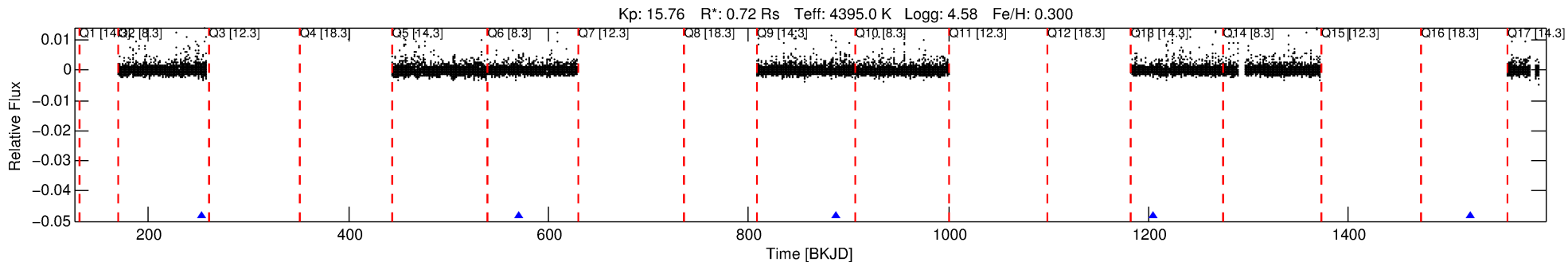
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007041041-04

No Significant Match Found

DV One-Page Summary

KIC: 7041041 Candidate: 4 of 5 Period: 317.055 d



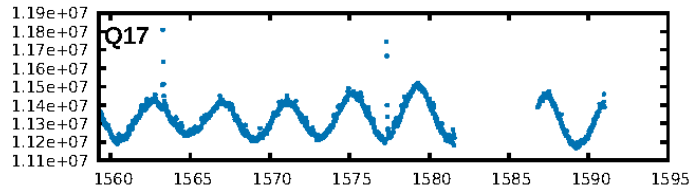
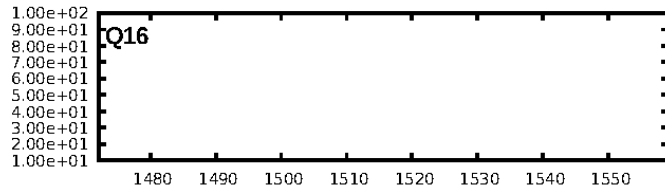
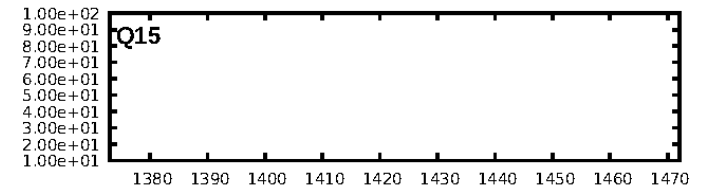
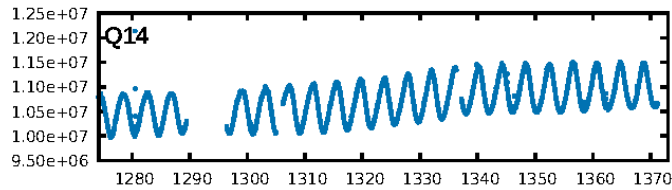
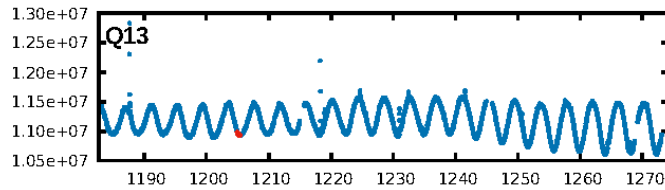
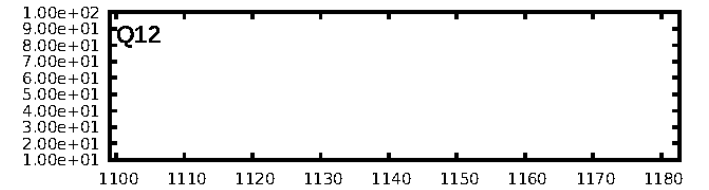
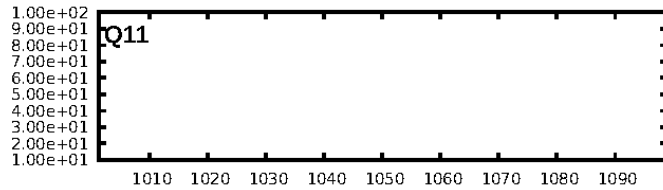
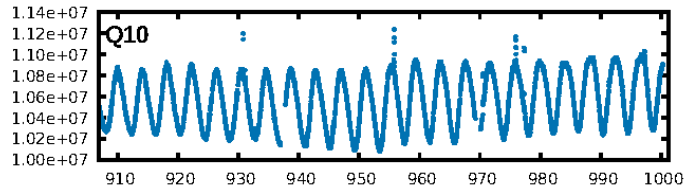
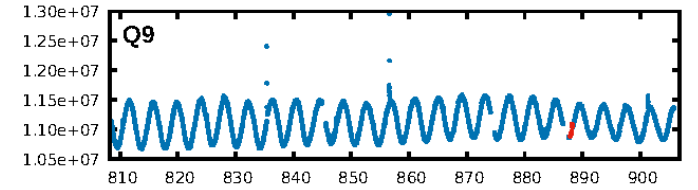
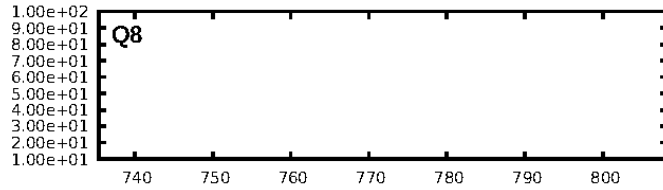
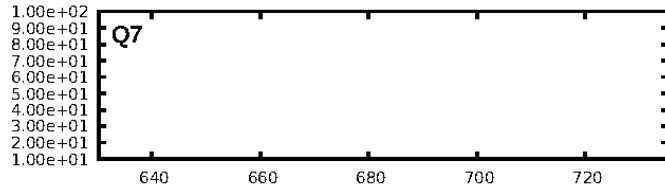
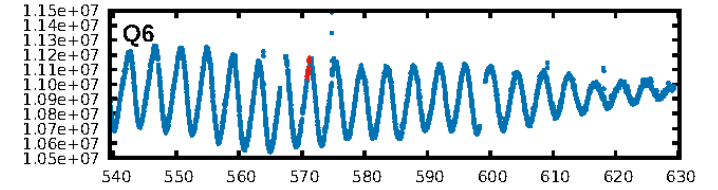
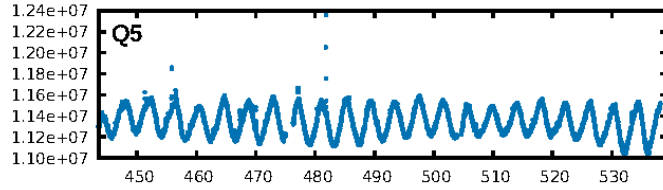
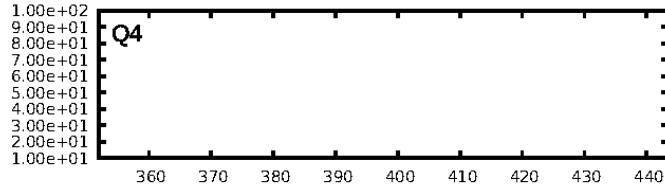
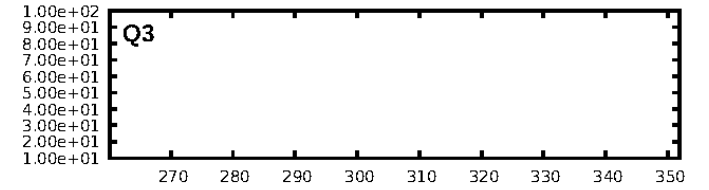
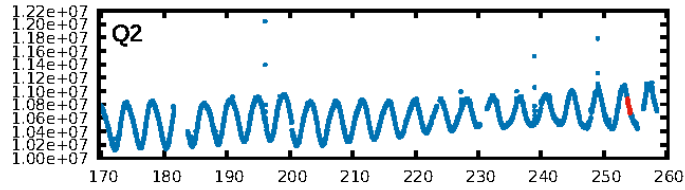
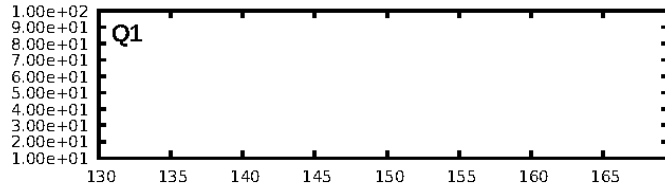
DV Fit Results:

Period = 317.05511 [0.00737] d
Epoch = 253.9833 [0.0150] BKJD
Rp/R* = 0.0382 [0.0229]
a/R* = 312.42 [565.78]
b = 0.80 [0.81]
Seff = 0.26 [0.05]
Teq = 182 [8] K
Rp = 2.99 [1.81] Re
a = 0.8126 [0.0566] AU
Ag = 30984.96 [38974.70] [0.79 σ]
Teffp = 3739 [1179] K [3.02 σ]

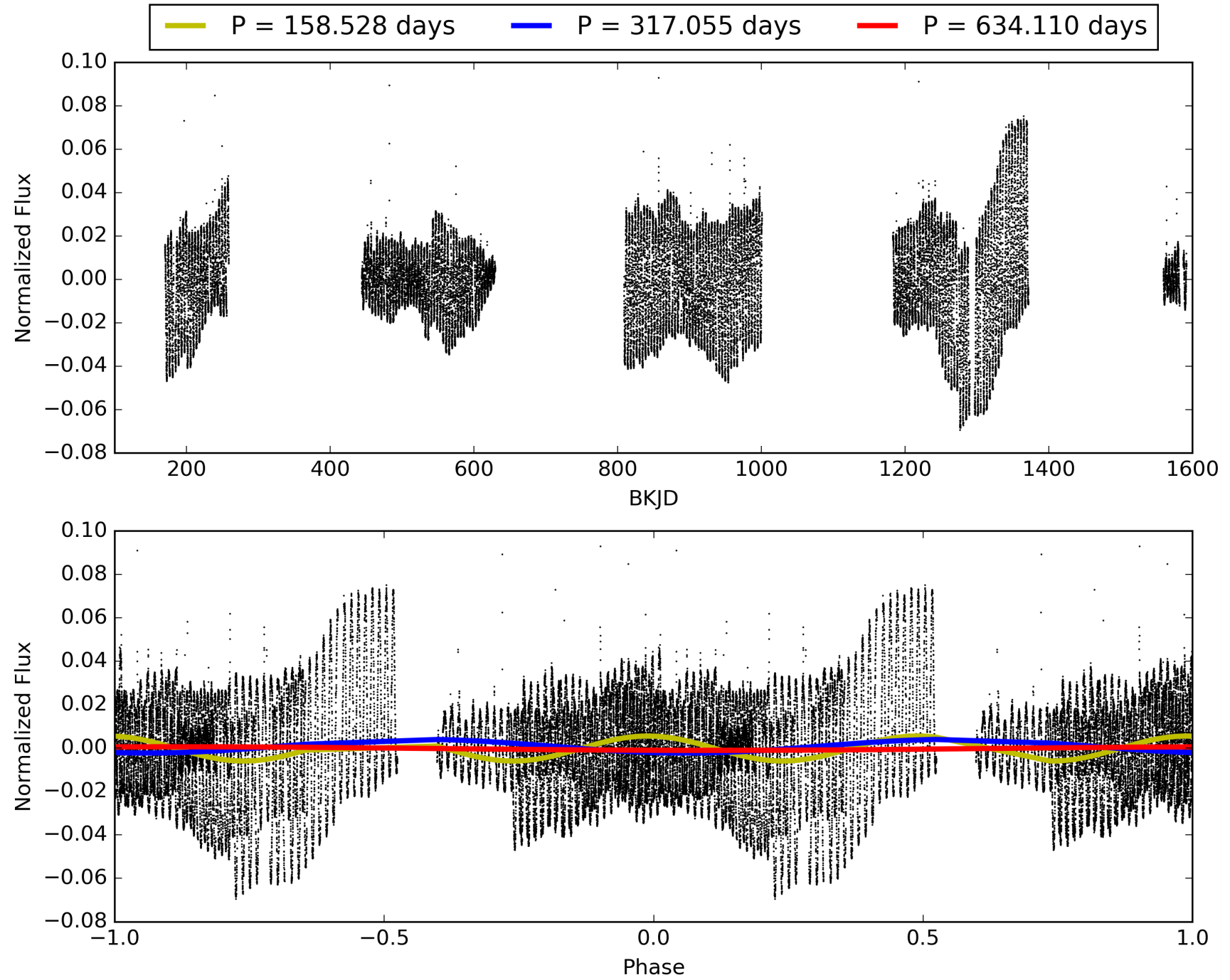
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [460.34 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 52.1%
ModelChiSquareGof-sig: 69.7%
Bootstrap-pfa: 3.09e-08
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 7.403
Centroid-sig: 16.3%
Centroid-so: 1.624 arcsec [1.33 σ]
OotOffset-rm: 0.200 arcsec [0.45 σ]
KicOffset-rm: 0.250 arcsec [0.89 σ]
OotOffset-st: 2/0/0/2 [4]
KicOffset-st: 2/0/0/2 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.75 [3/4]

TCE 007041041-04, PDC Light Curves

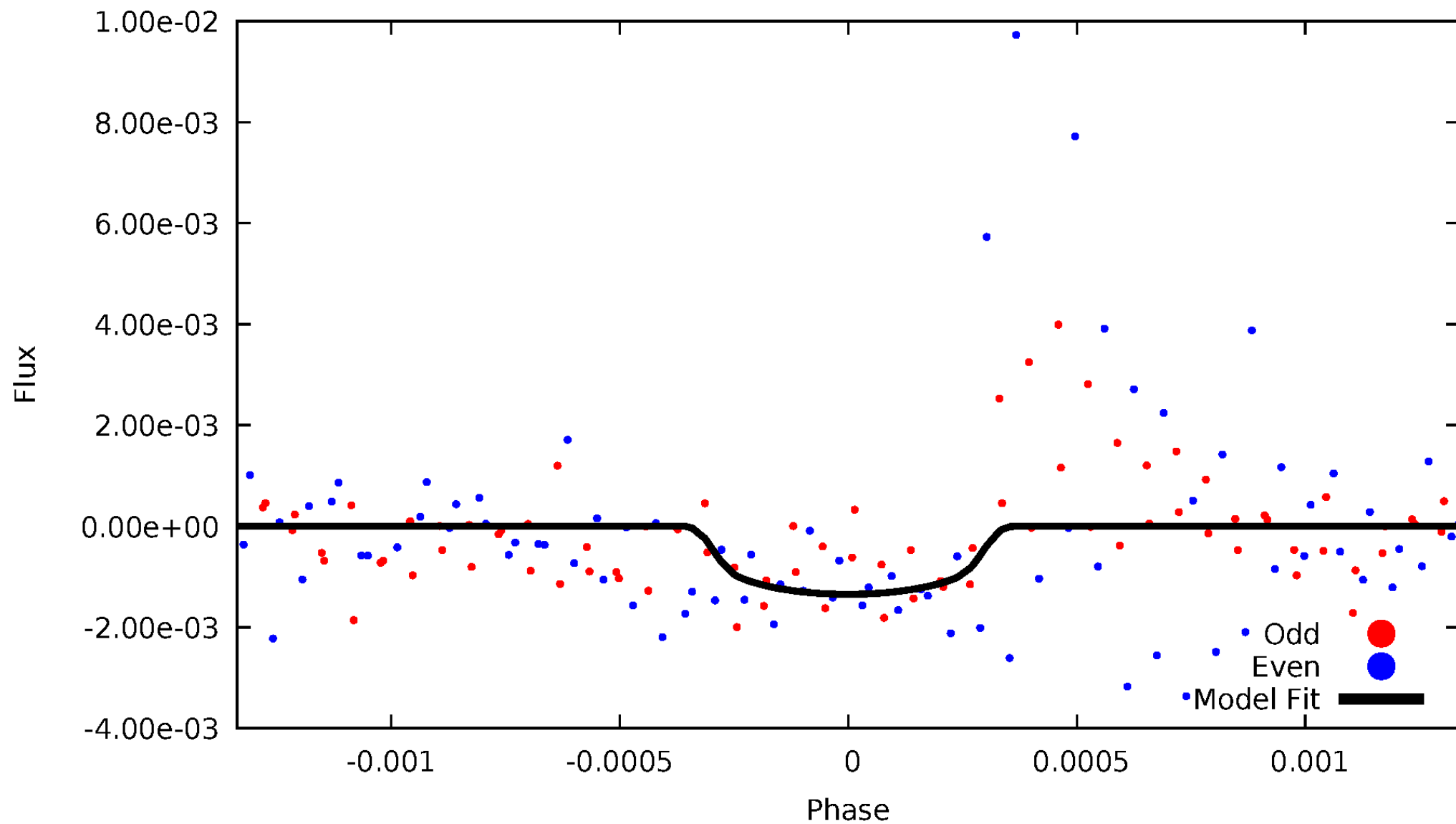


TCE 007041041-04



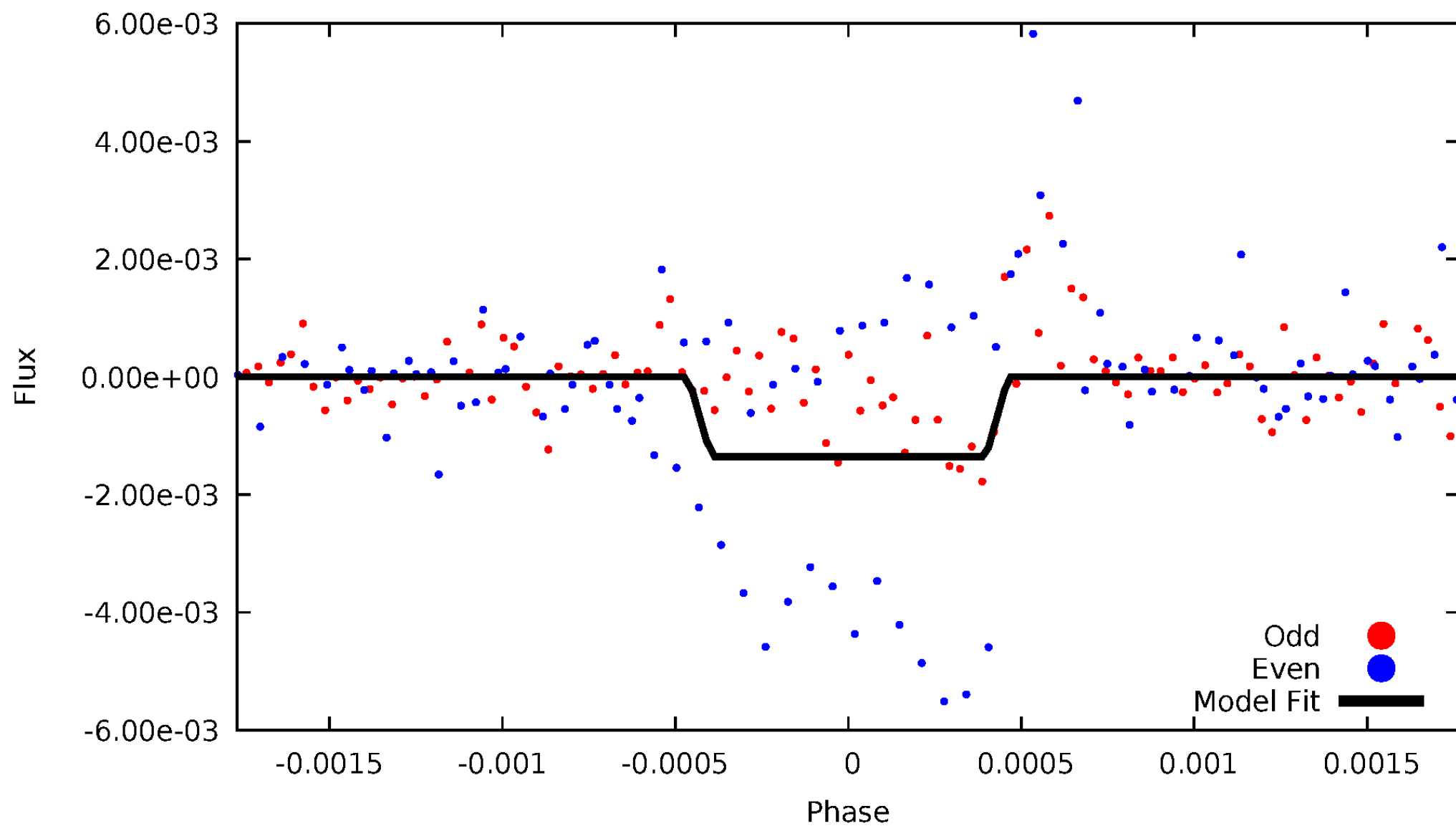
DV Odd/Even

TCE 007041041-04



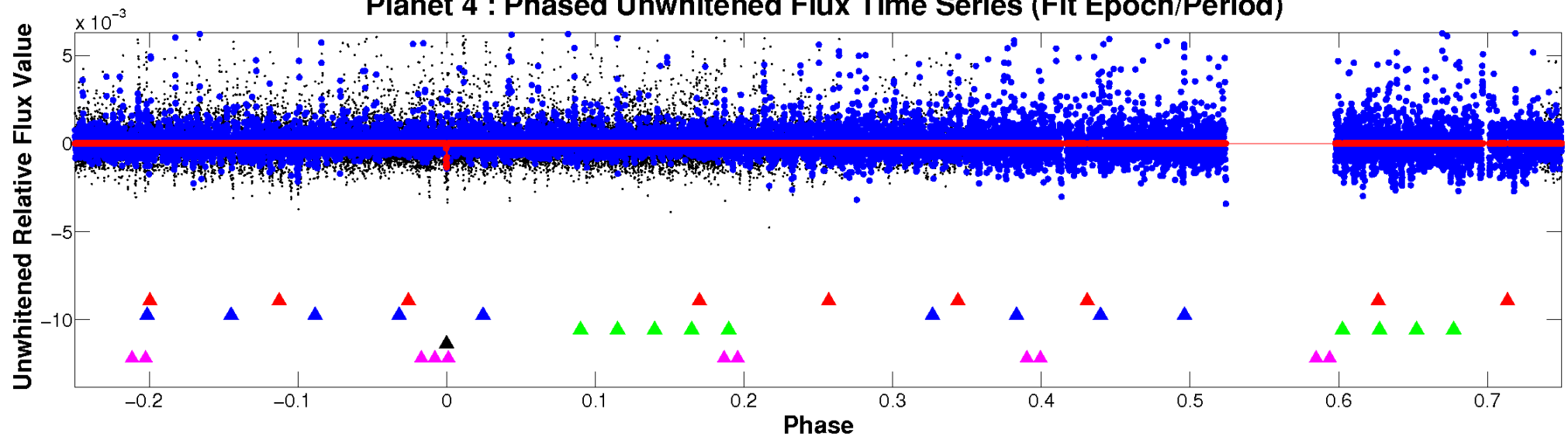
ALT Odd/Even

TCE 007041041-04

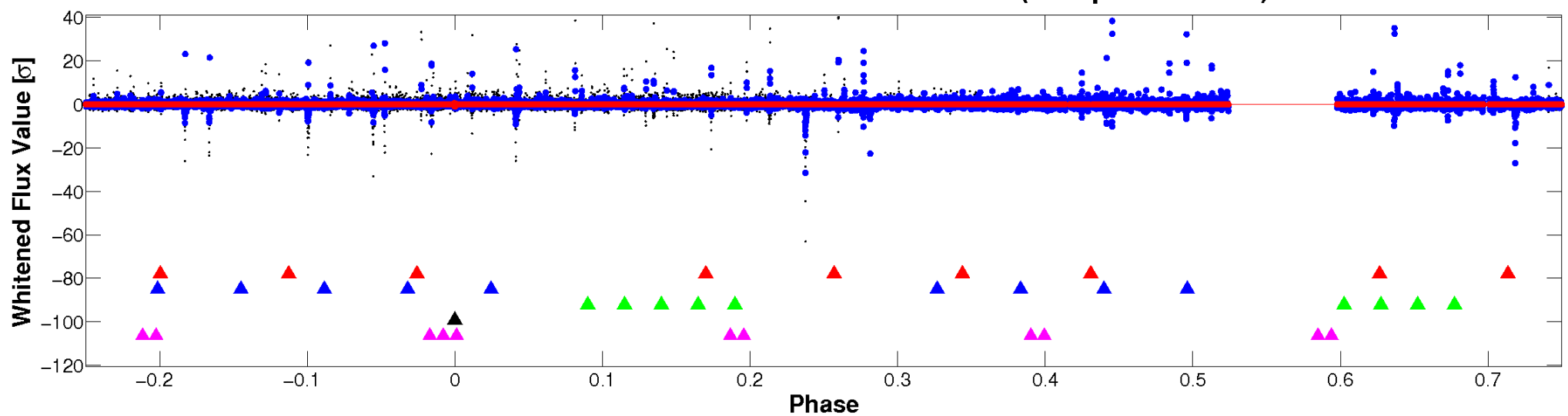


Non-Whitened Vs. Whitened Light Curve

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

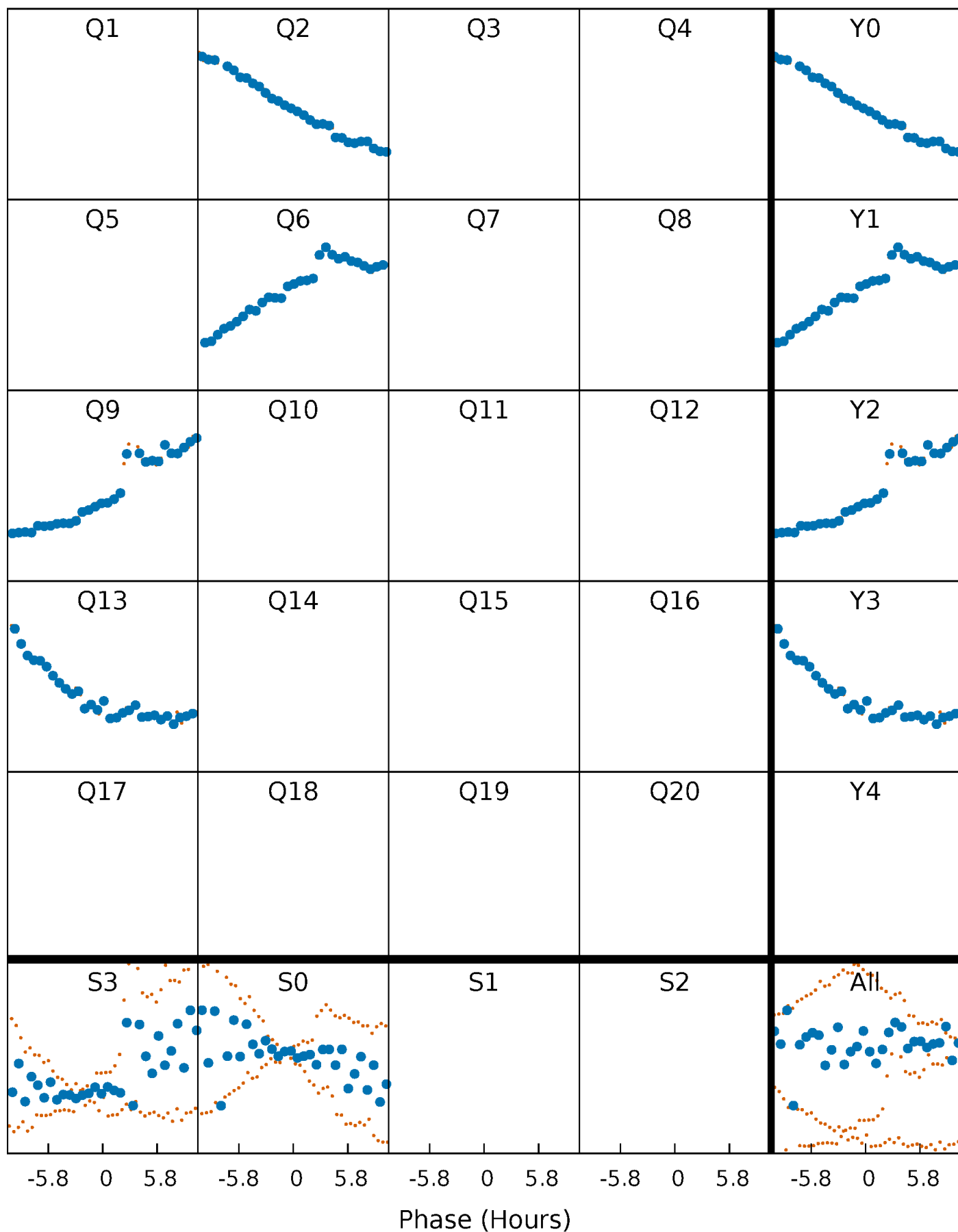


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



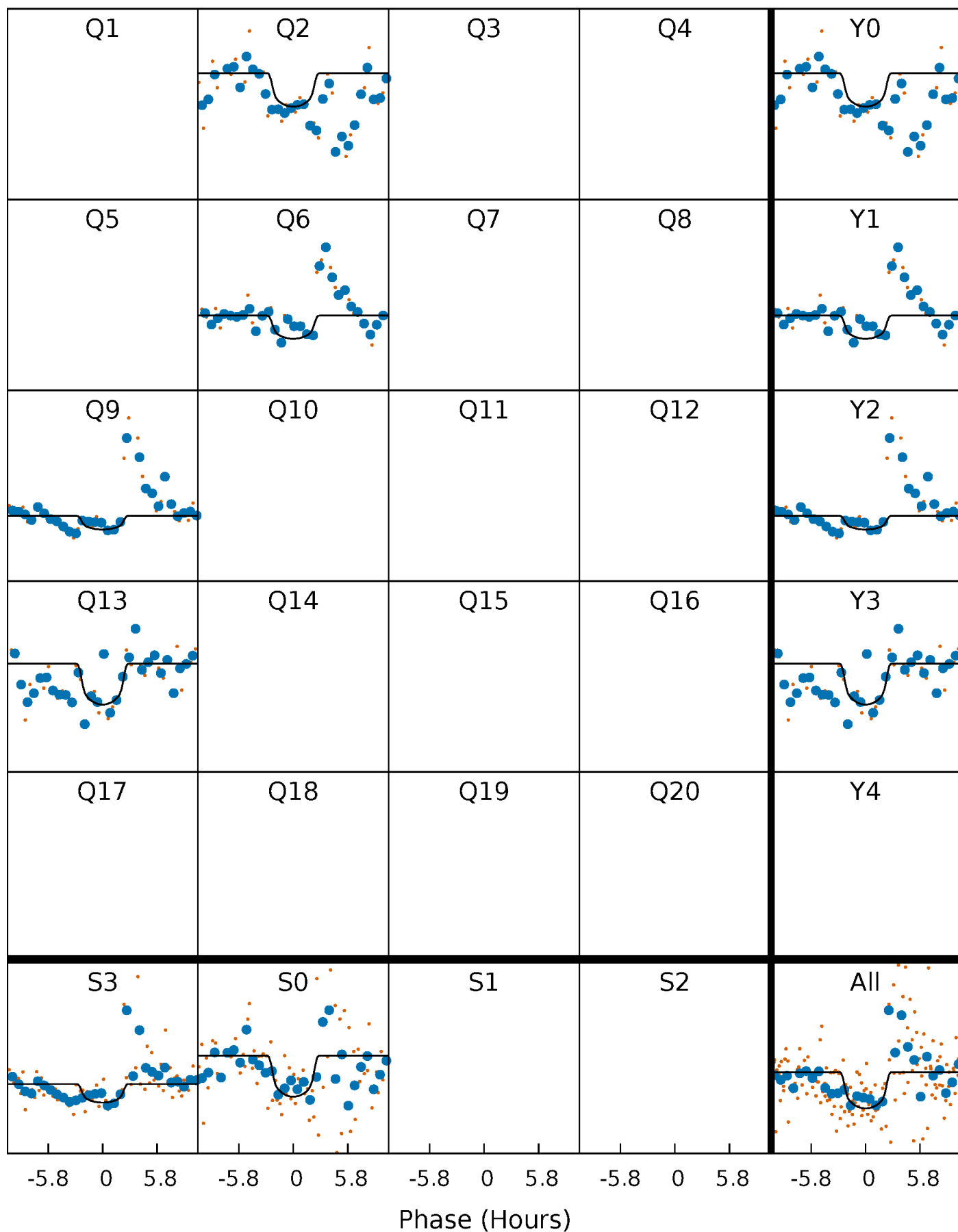
PDC Quarter-Phased Transit Curves

TCE 007041041-04 P=317.055110 Days $T_0=253.983311$ (BKJD)



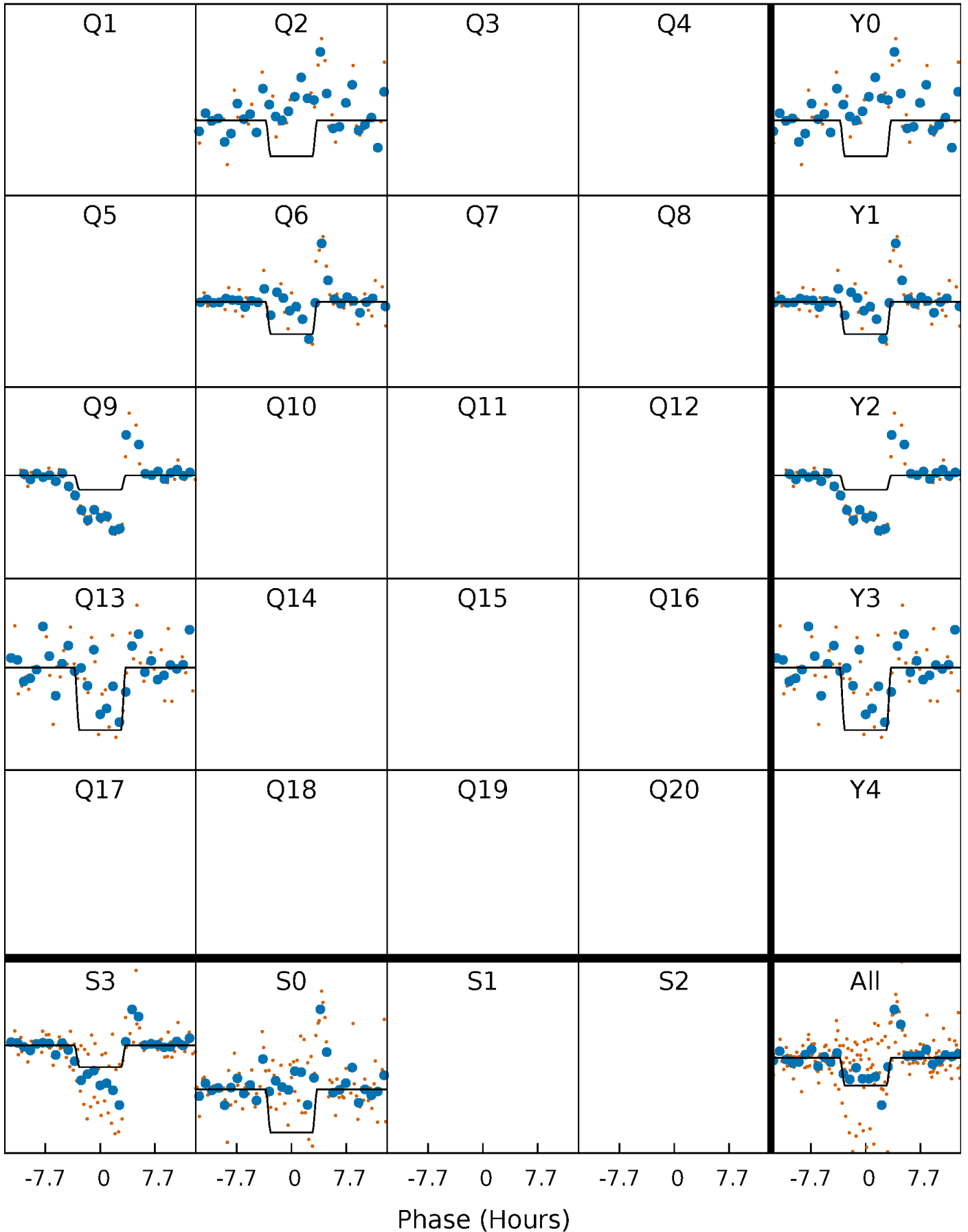
DV Quarter-Phased Transit Curves

TCE 007041041-04 P=317.055110 Days $T_0=253.983311$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

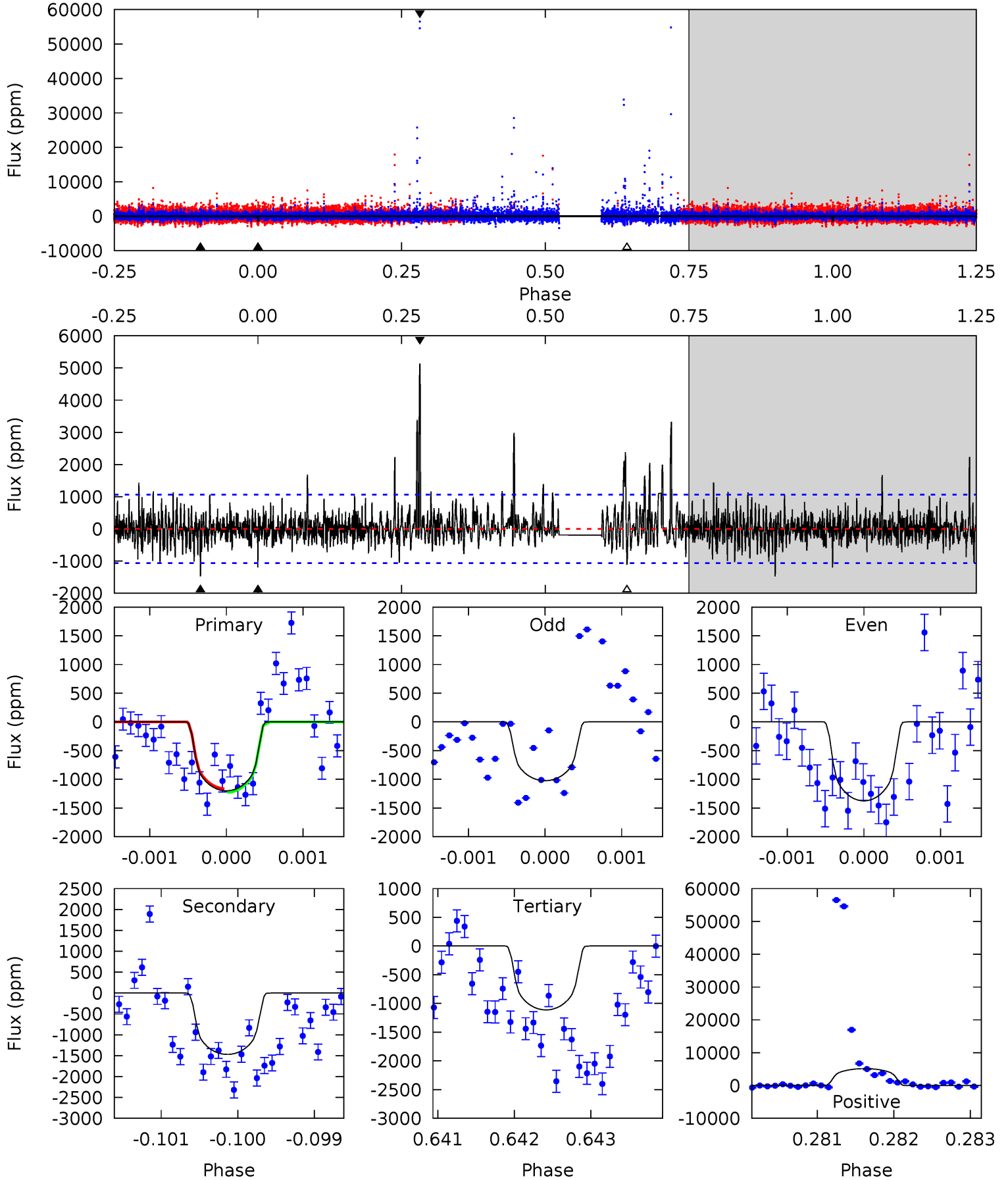
TCE 007041041-04 $P=317.040306$ Days $T_0=253.959802$ (BKJD)



DV Model-Shift Uniqueness Test

007041041-04, P = 317.055110 Days, E = 253.983311 Days

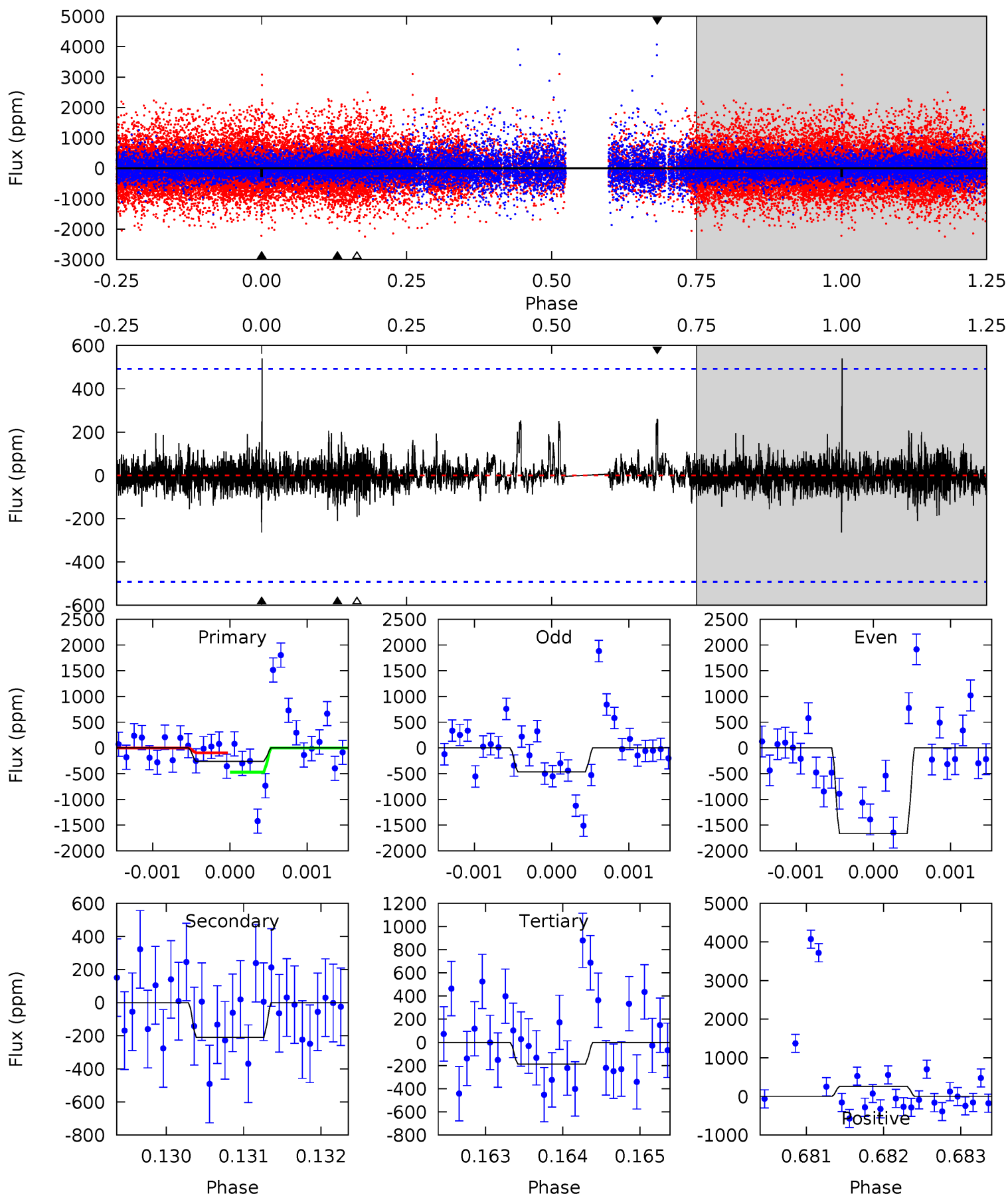
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.21	7.61	5.76	26.6	5.52	3.39	2.17	0.45	-20.4	1.85	-19.0	0.79	1.11	0.78	0.16



Alt Model-Shift Uniqueness Test

007041041-04, P = 317.040306 Days, E = 253.959802 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.92	2.34	2.08	2.91	5.47	3.33	0.50	0.83	0.01	0.26	-0.57	7.68	2.45	0.67	2.11



Stellar Parameters For KIC 007041041

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4395^{+154}_{-154}	$4.578^{+0.056}_{-0.020}$	$0.300^{+0.150}_{-0.300}$	$0.718^{+0.029}_{-0.059}$	$0.713^{+0.046}_{-0.050}$	$2.708^{+0.666}_{-0.180}$
	+4%/-4%	+1%/-0%	+50%/-100%	+4%/-8%	+6%/-7%	+25%/-7%
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 007041041-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1470 ± 193	$2.94^{+1.78}_{-1.59}$	254^{+9}_{-10}	4451^{+1723}_{-723}	$62566^{+238627}_{-39008}$
Alt.	-211 ± 90	$2.96^{+1.79}_{-1.59}$	252^{+10}_{-9}	3152^{+846}_{-439}	8181^{+29764}_{-5441}

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

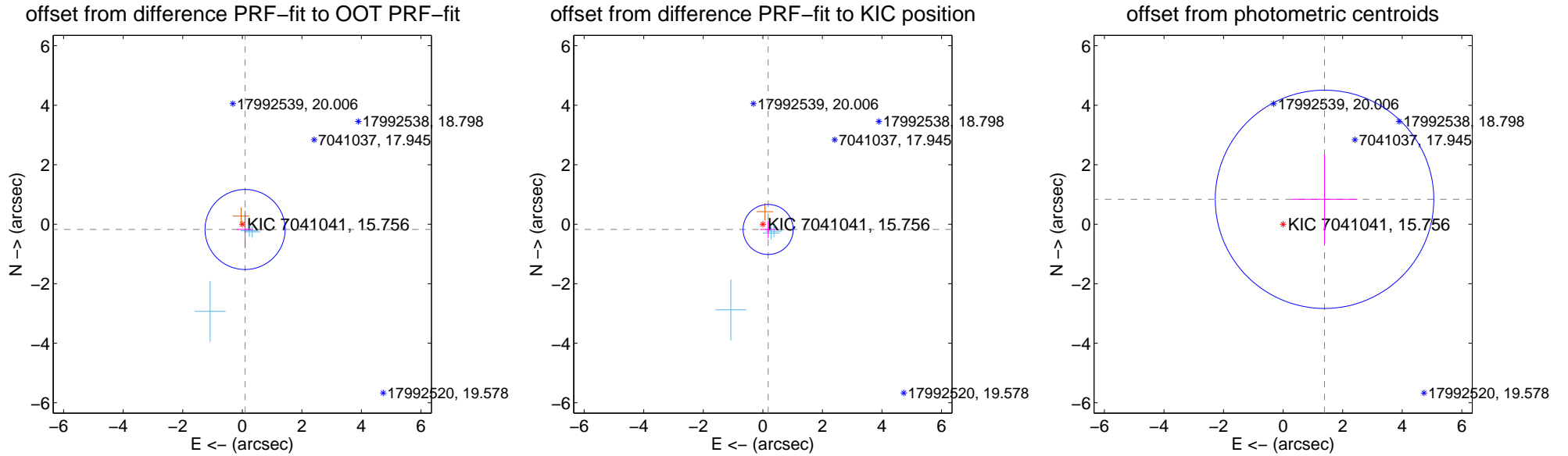
DV Centroid Data

Supplemental centroid analysis for 007041041-04. Kepler magnitude: 15.76. Transit SNR 5.35

There are 3 quarters with good PRF difference image offsets

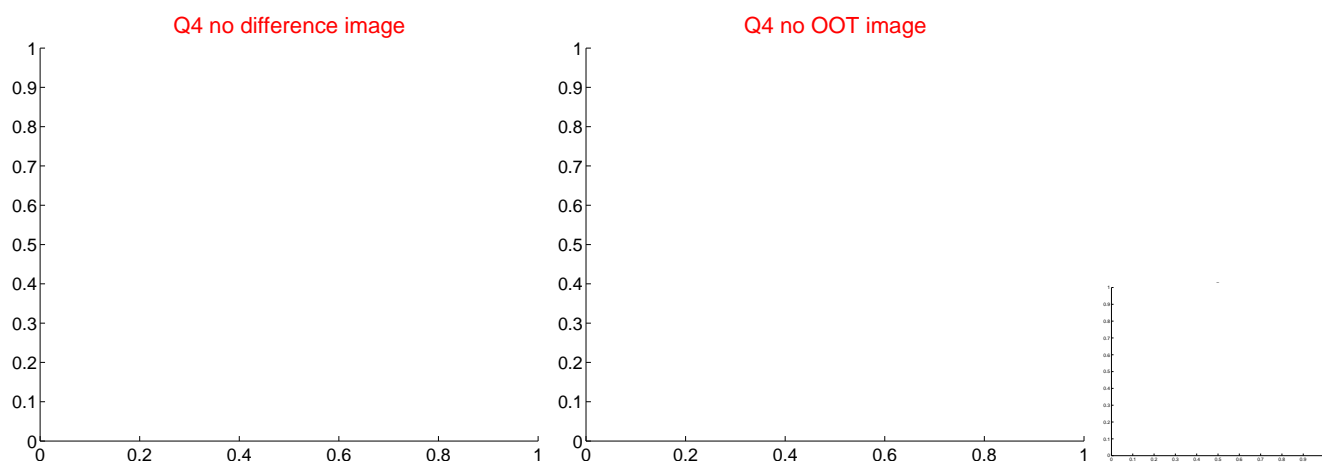
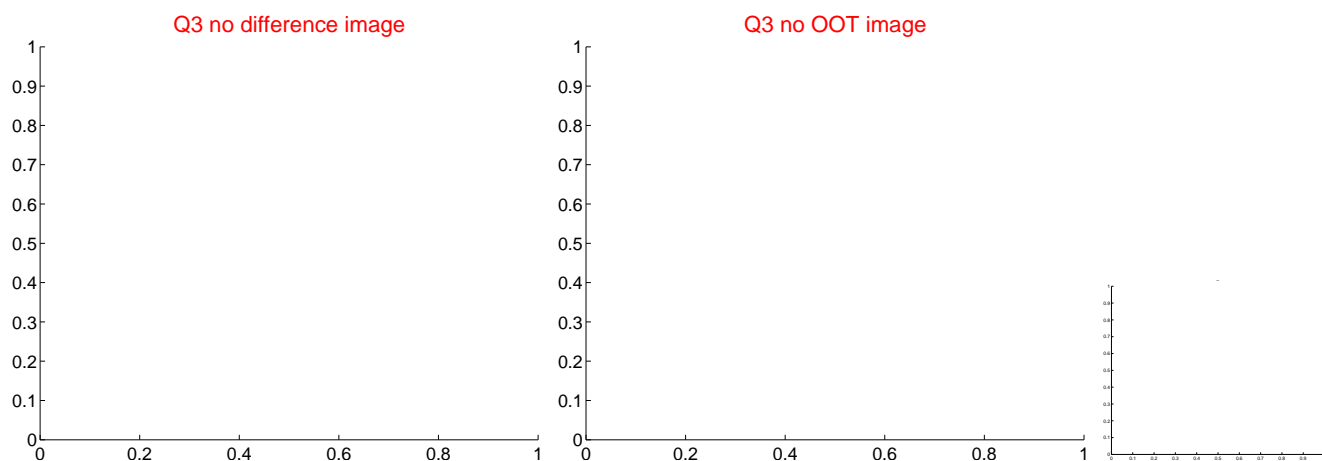
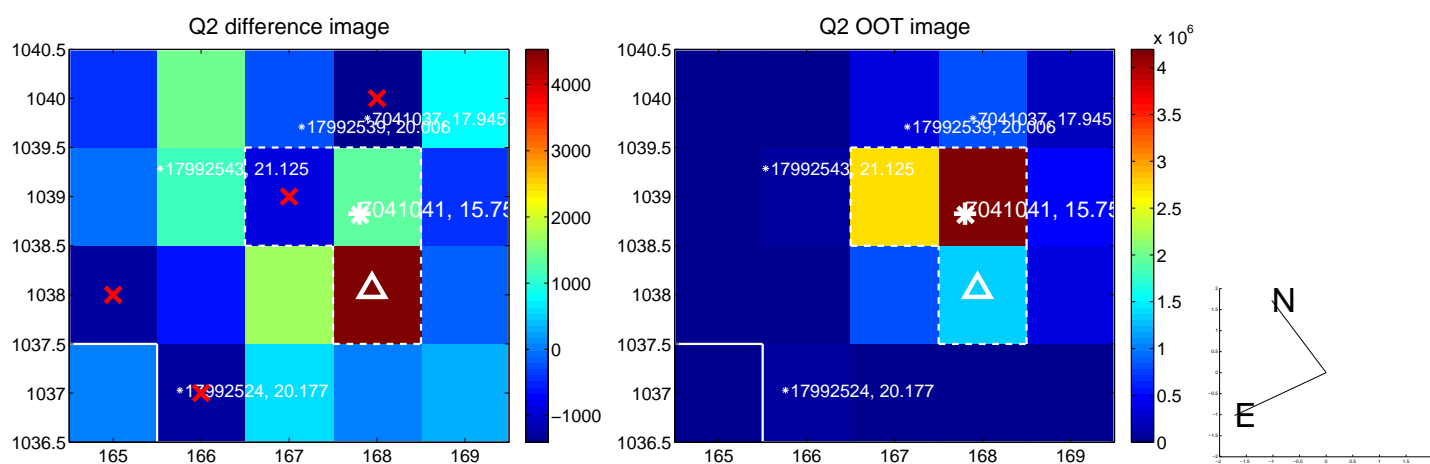
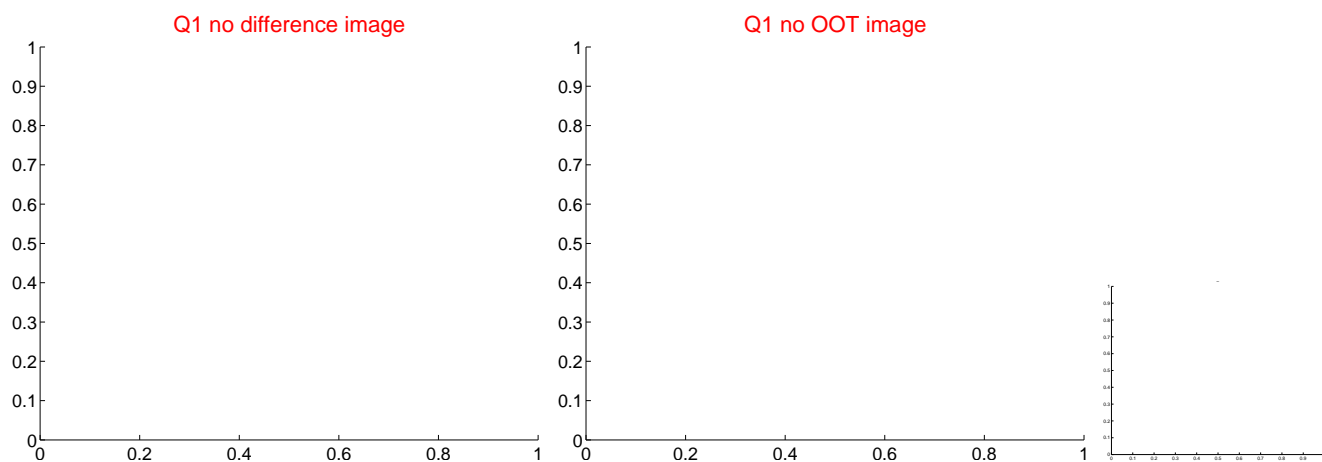
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.200 ± 0.448	0.45	-0.094 ± 0.276	-0.177 ± 0.630
PRF-fit source offset from KIC position	0.250 ± 0.280	0.89	-0.178 ± 0.268	-0.176 ± 0.292
photometric centroid source offset	1.62 ± 1.22	1.33	-1.39 ± 1.10	0.84 ± 1.51

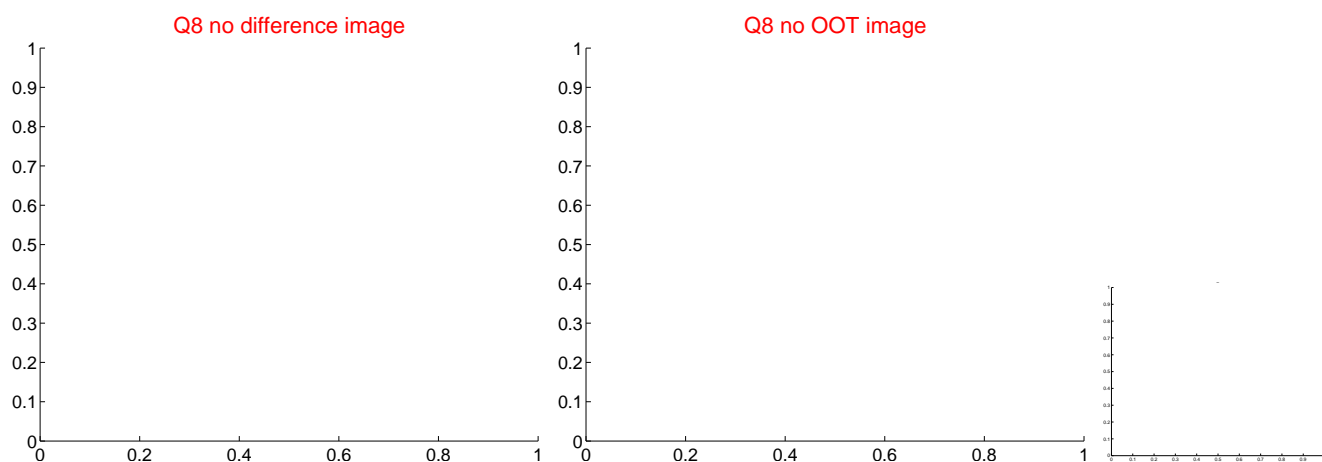
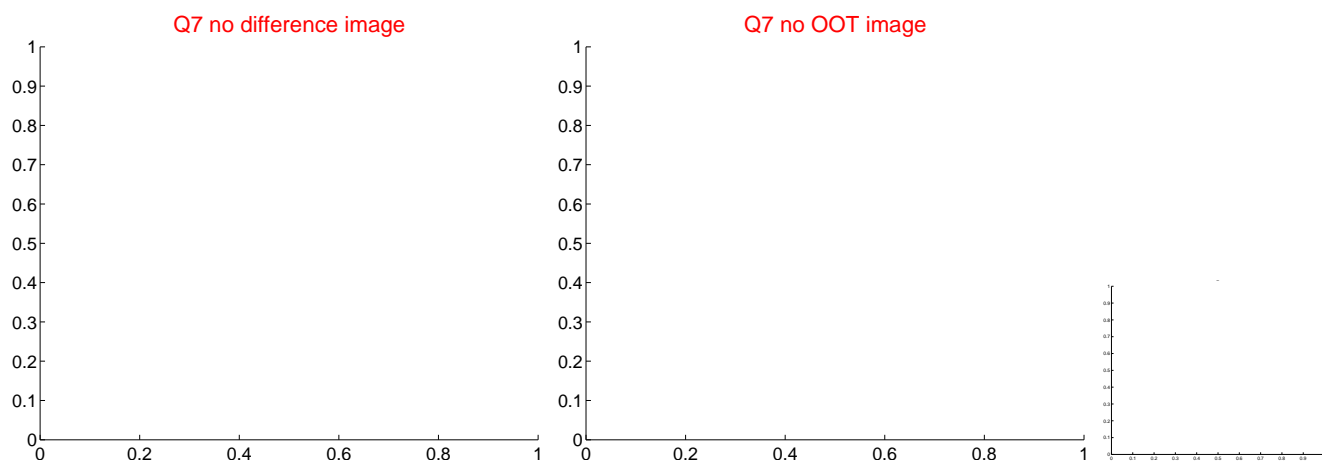
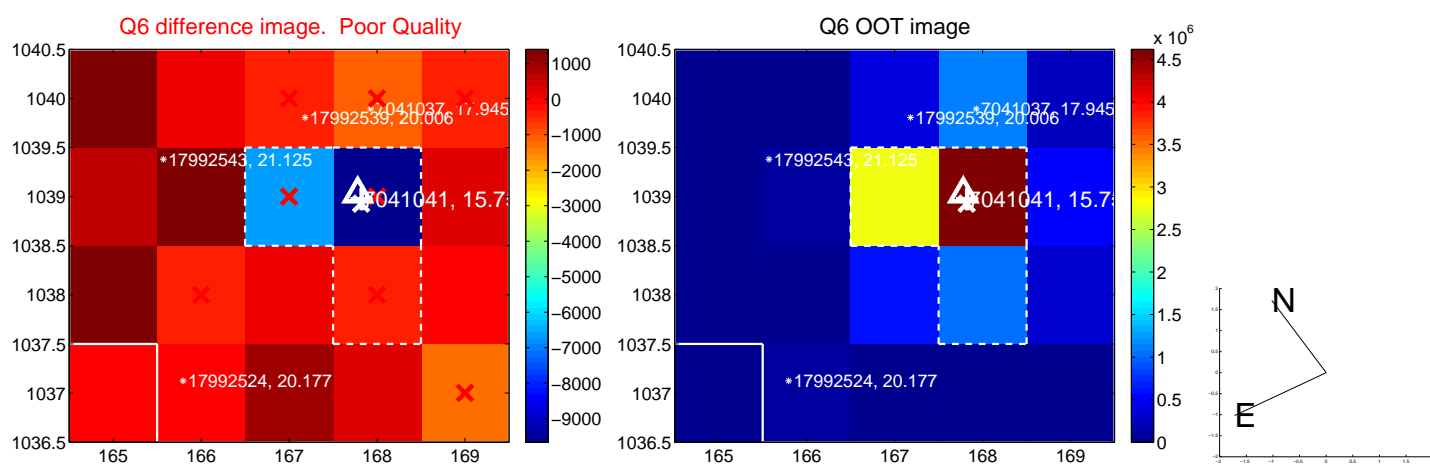
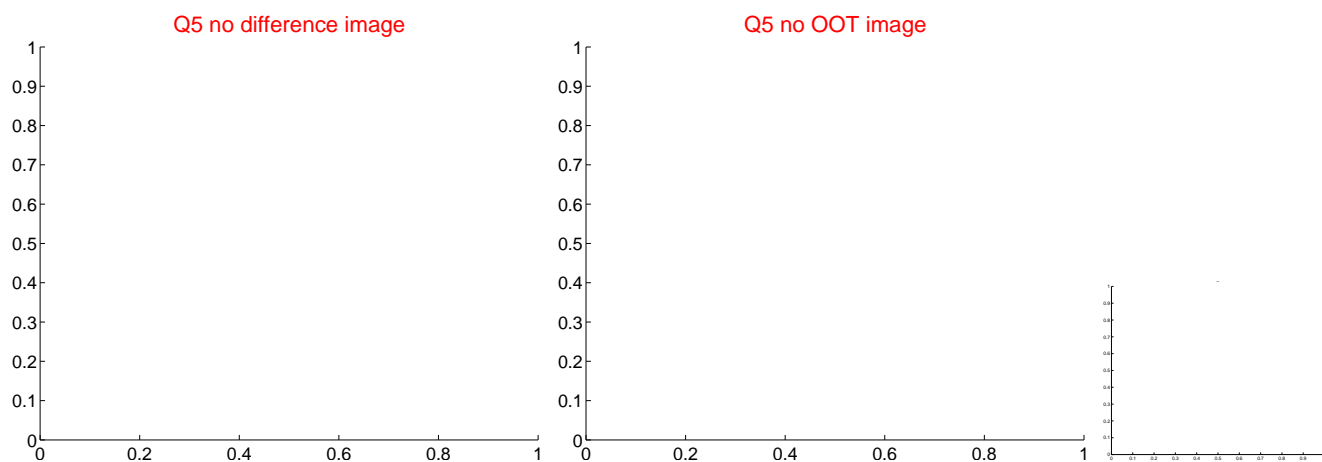


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

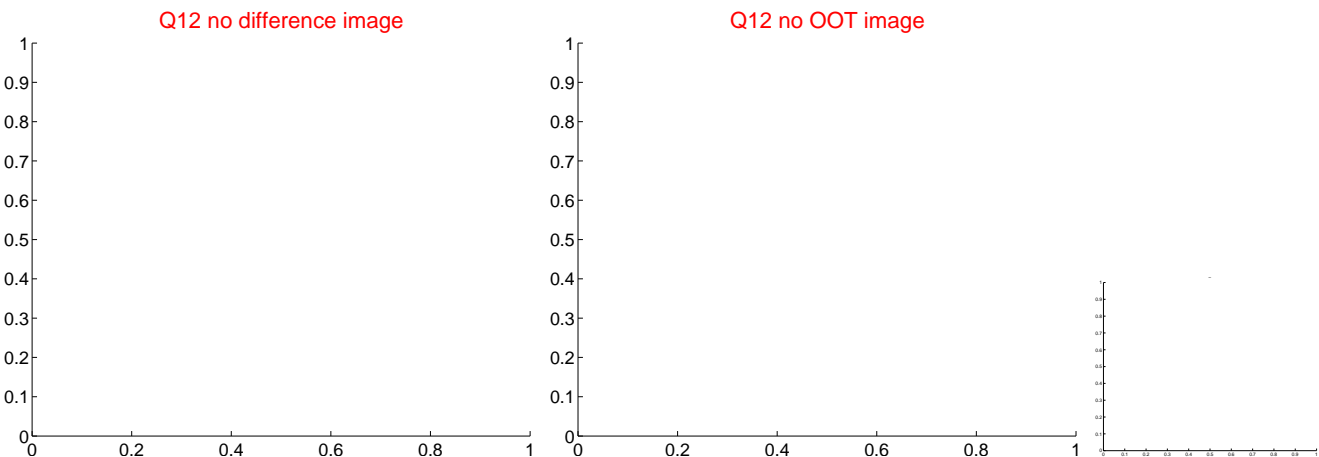
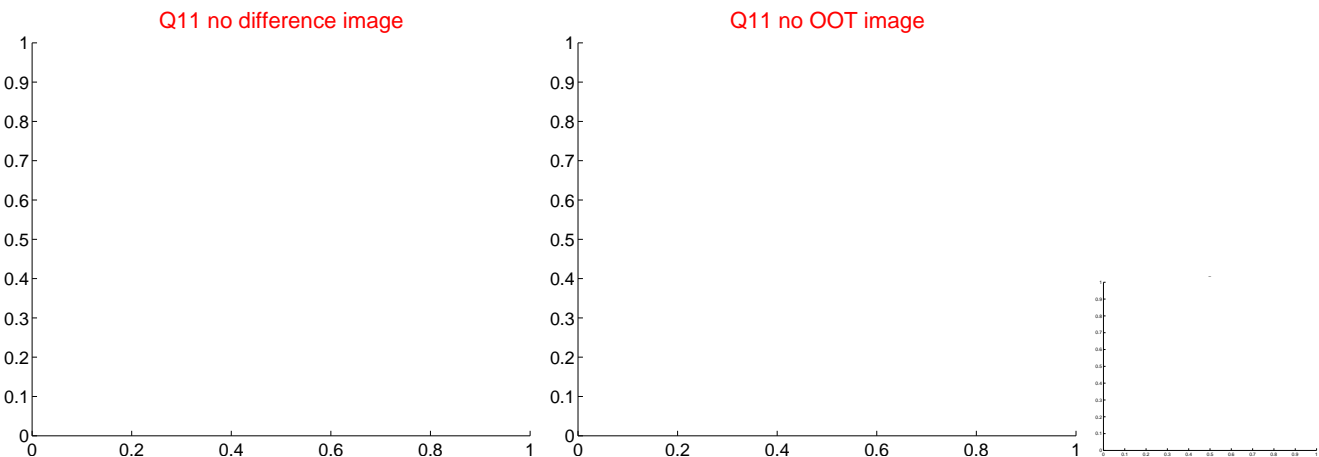
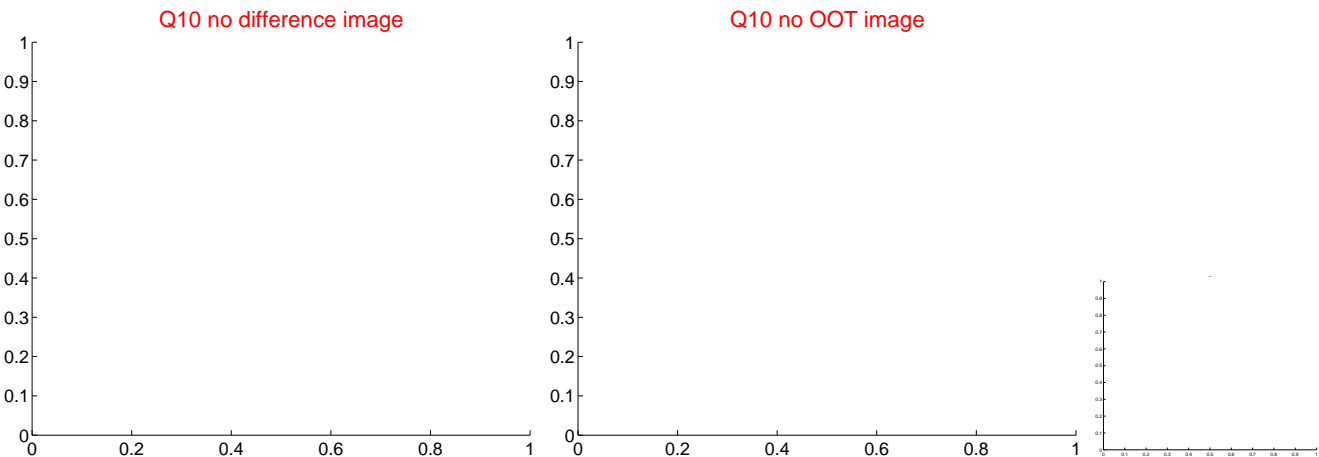
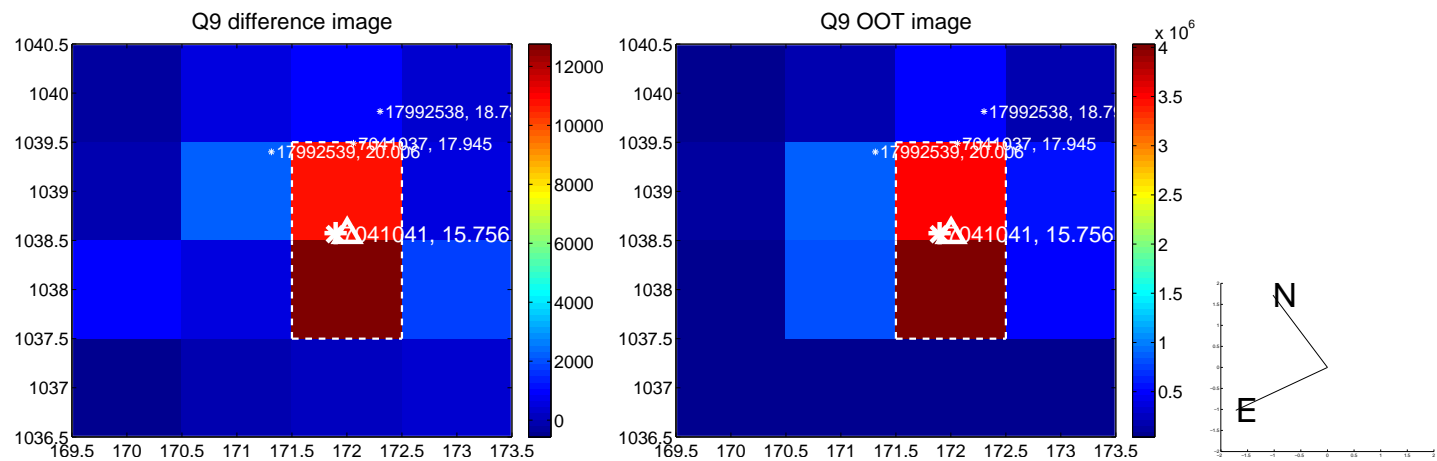
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



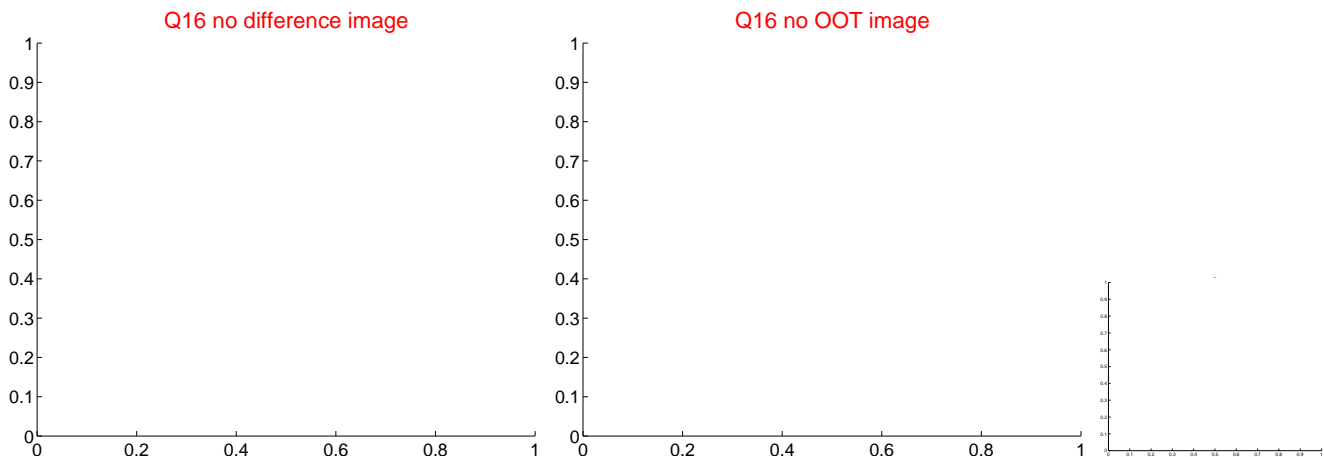
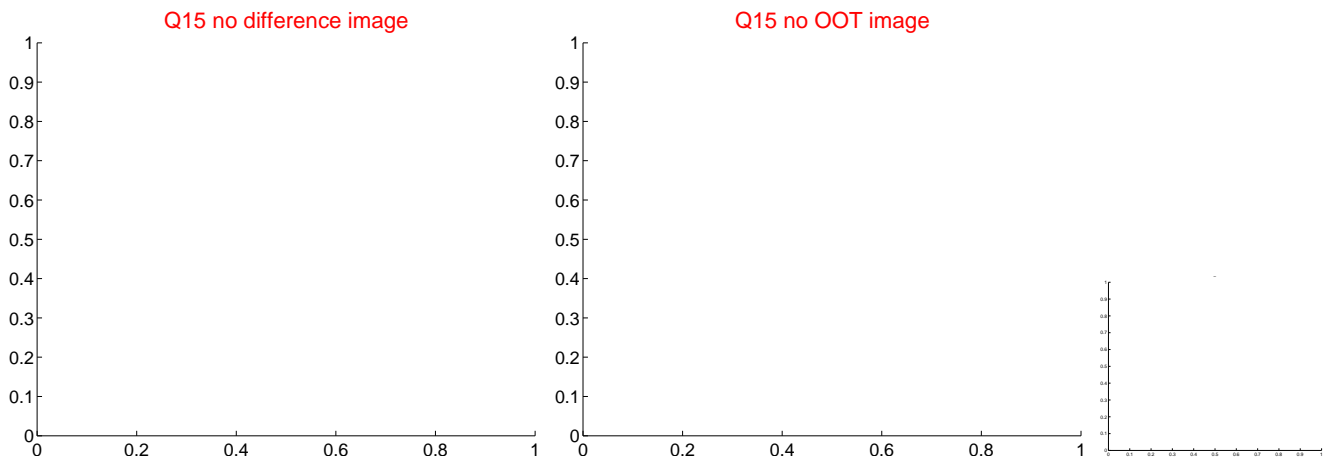
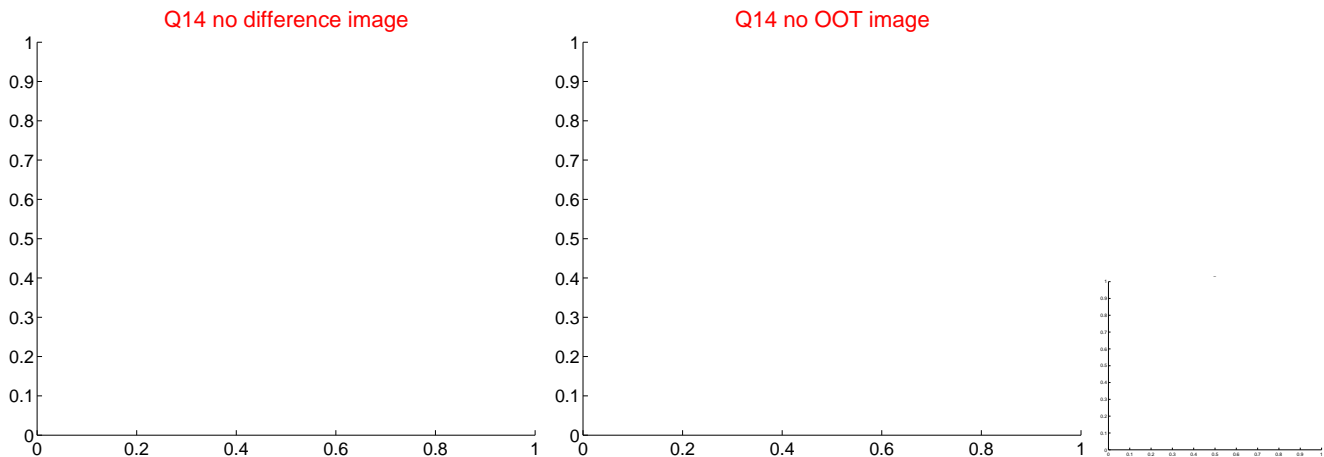
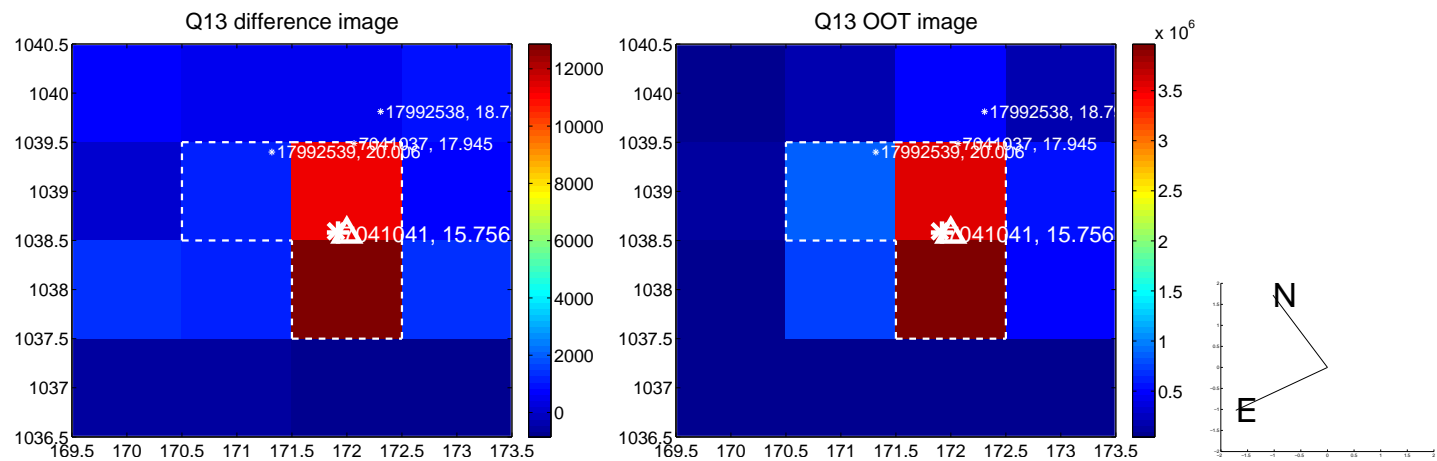
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



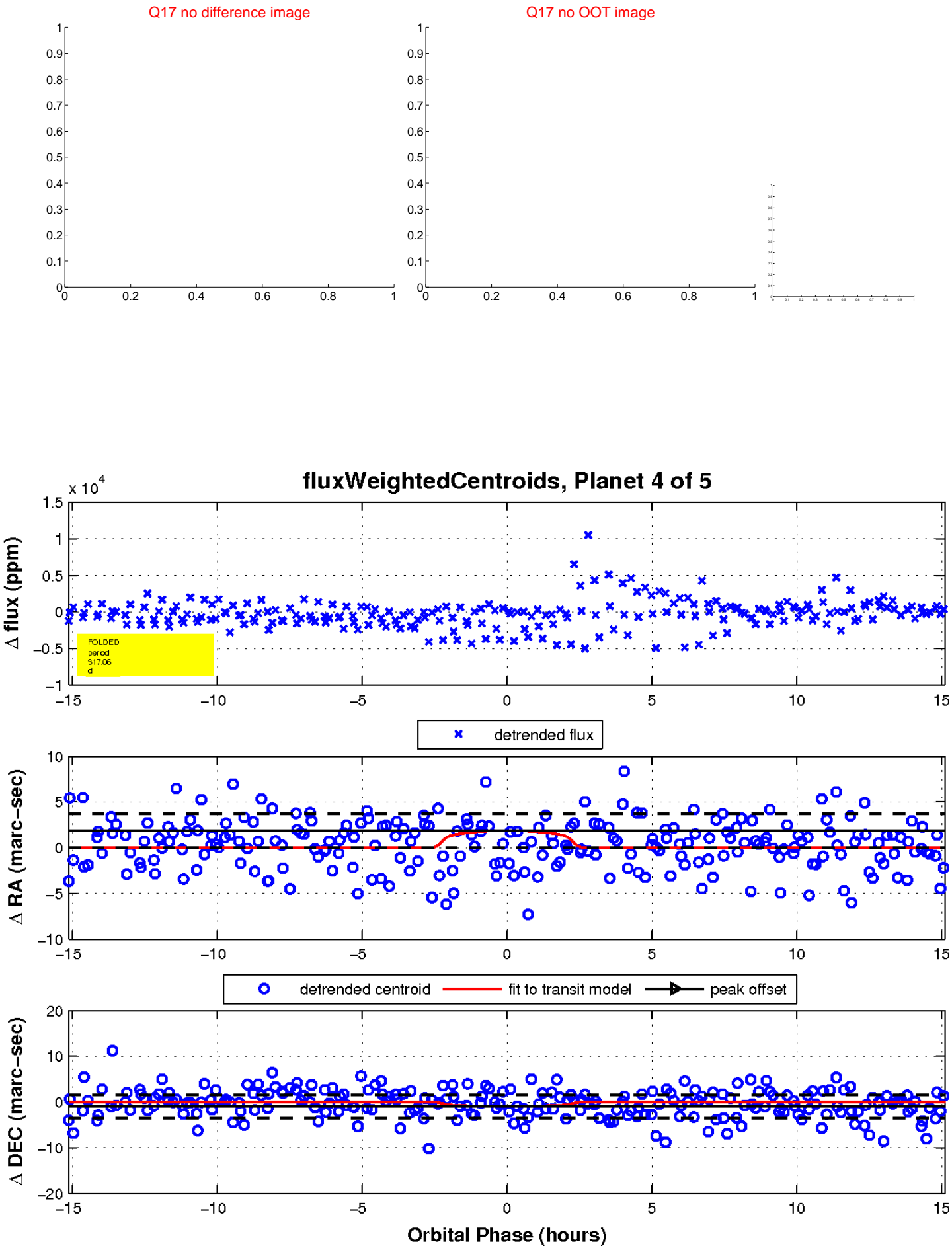
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

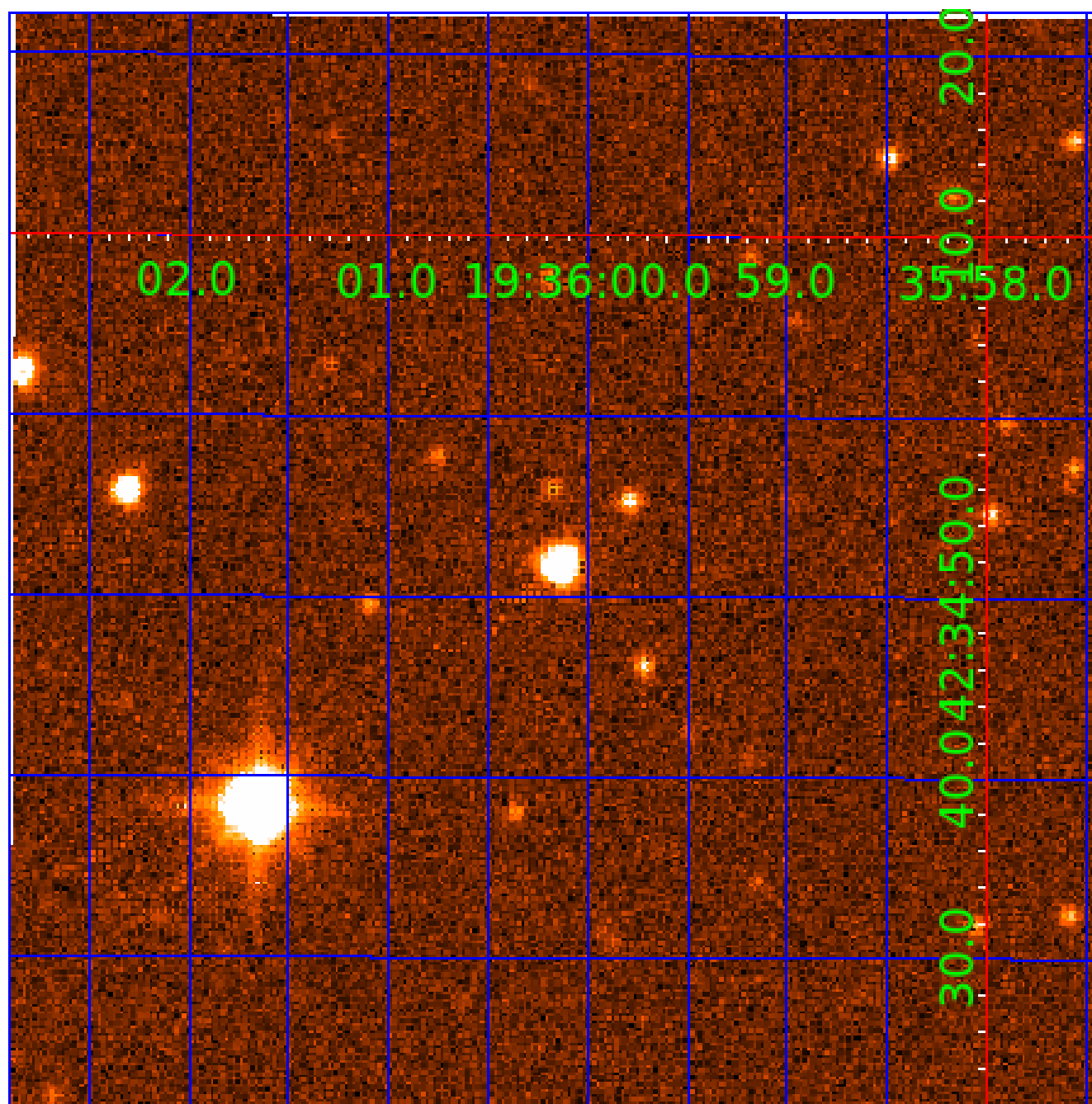


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007041041

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})
007041041-01	OBS	No	172.310612	135.587163	1773.8	5.576	13.9	6.2	0.72	4395	3.21	0.59
007041041-02	OBS	No	149.572475	261.769953	2425.3	3.663	13.1	9.0	0.72	4395	3.77	0.71
007041041-03	OBS	No	162.479073	282.541541	2187.1	3.056	10.1	7.6	0.72	4395	3.99	0.64
007041041-04	OBS	No	317.055110	253.983311	1348.9	5.085	9.2	5.3	0.72	4395	2.99	0.26
007041041-05	OBS	No	126.244833	254.369149	1866.5	3.249	9.2	6.7	0.72	4395	3.63	0.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007041041-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-02	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
007041041-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007041041-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES

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

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

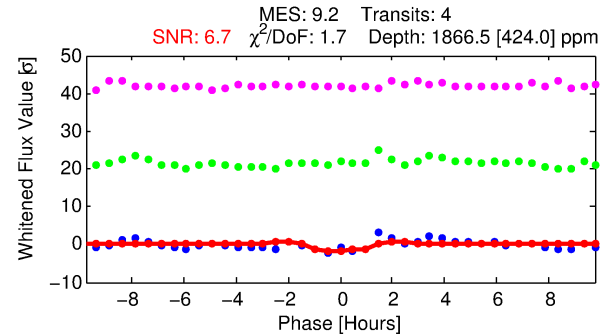
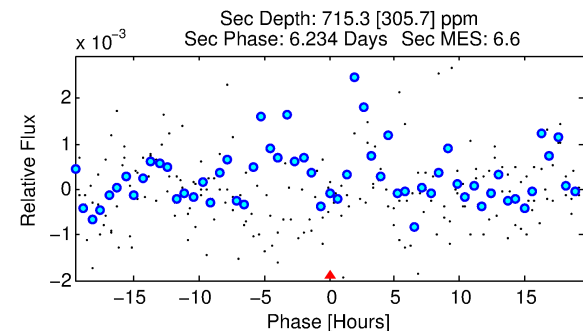
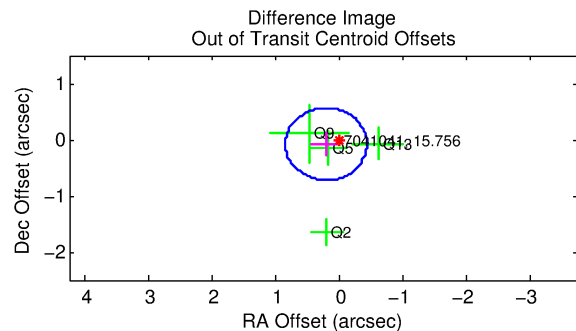
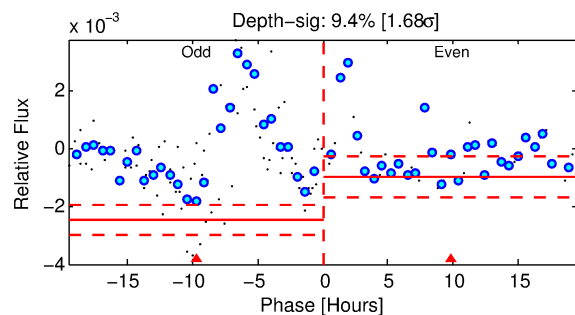
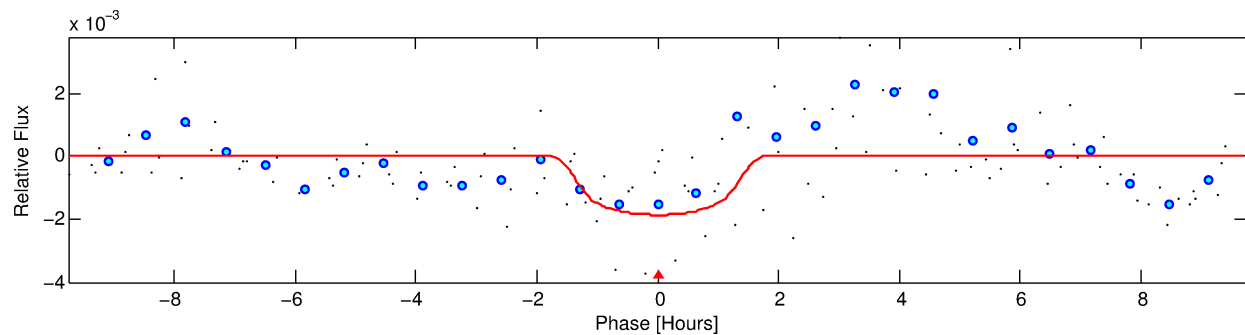
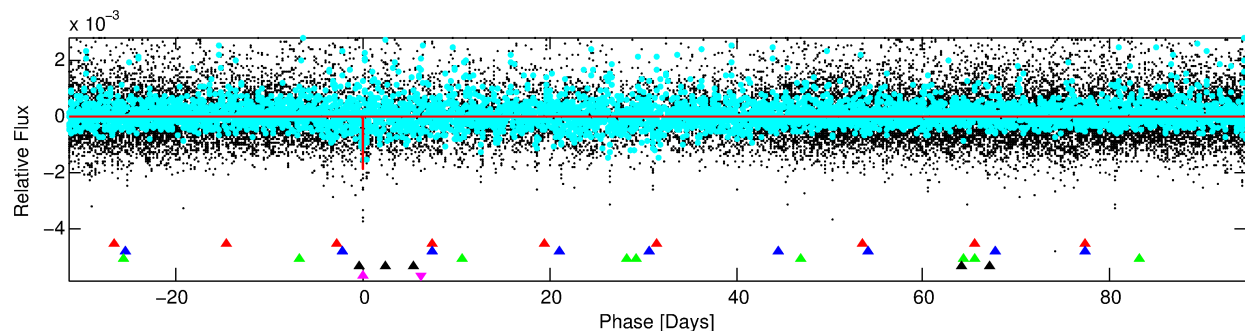
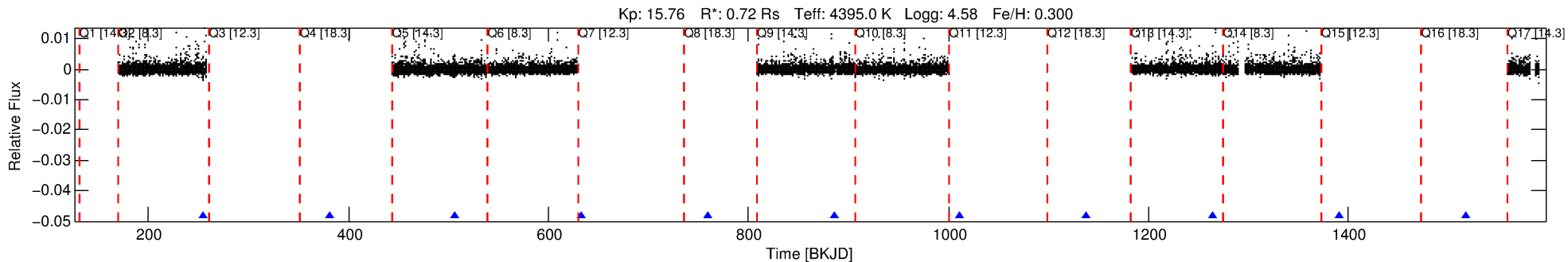
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007041041-05

No Significant Match Found

DV One-Page Summary

KIC: 7041041 Candidate: 5 of 5 Period: 126.245 d



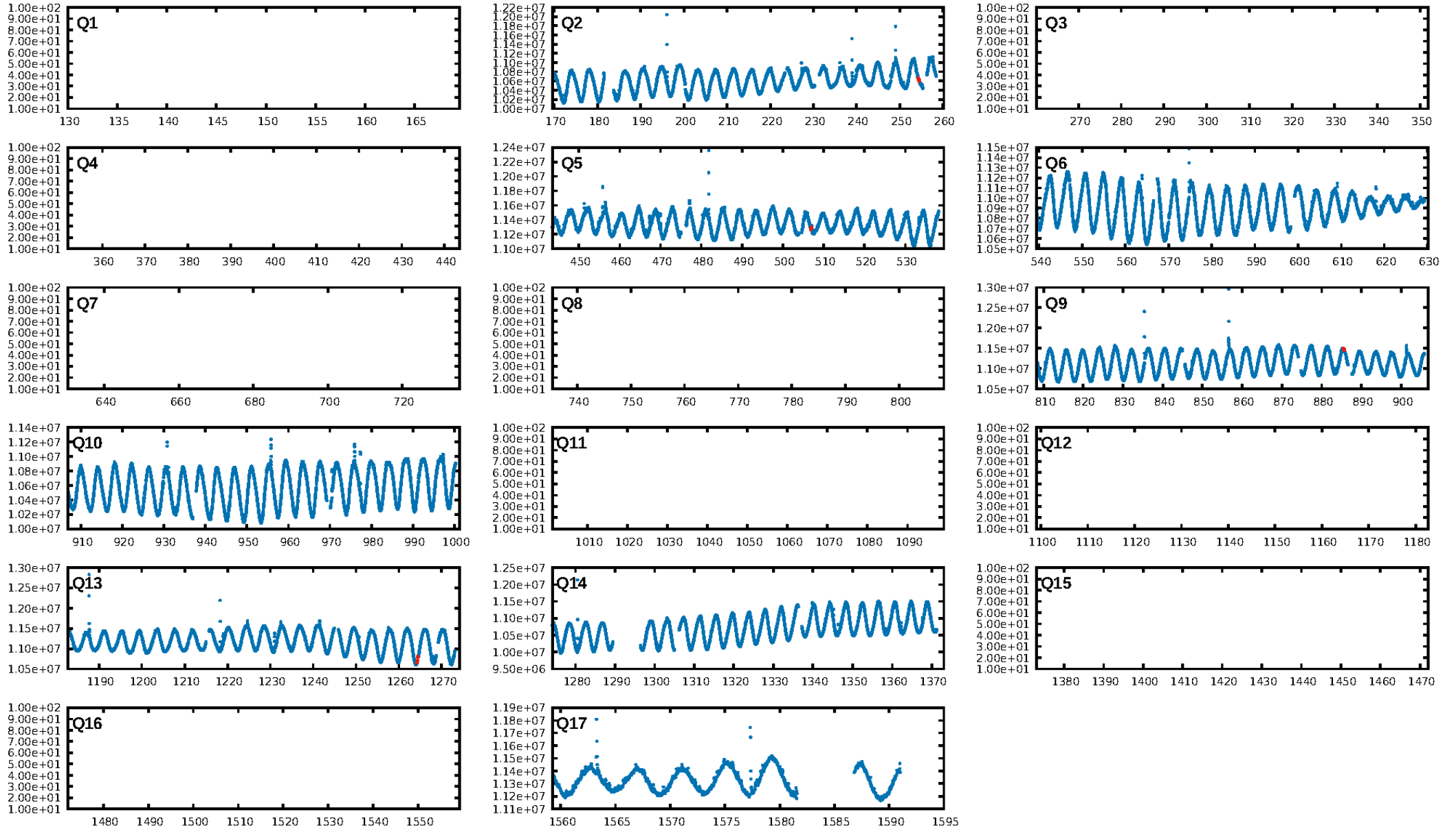
DV Fit Results:

Period = 126.24483 [0.00226] d
Epoch = 254.3691 [0.0121] BKJD
Rp/R* = 0.0463 [0.0390]
a/R* = 184.05 [467.91]
b = 0.84 [0.92]
Seff = 0.89 [0.15]
Teq = 248 [11] K
Rp = 3.63 [3.07] Re
a = 0.4398 [0.0306] AU
Ag = 5776.35 [10051.39] [0.57 σ]
Teffp = 3339 [1455] K [2.12 σ]

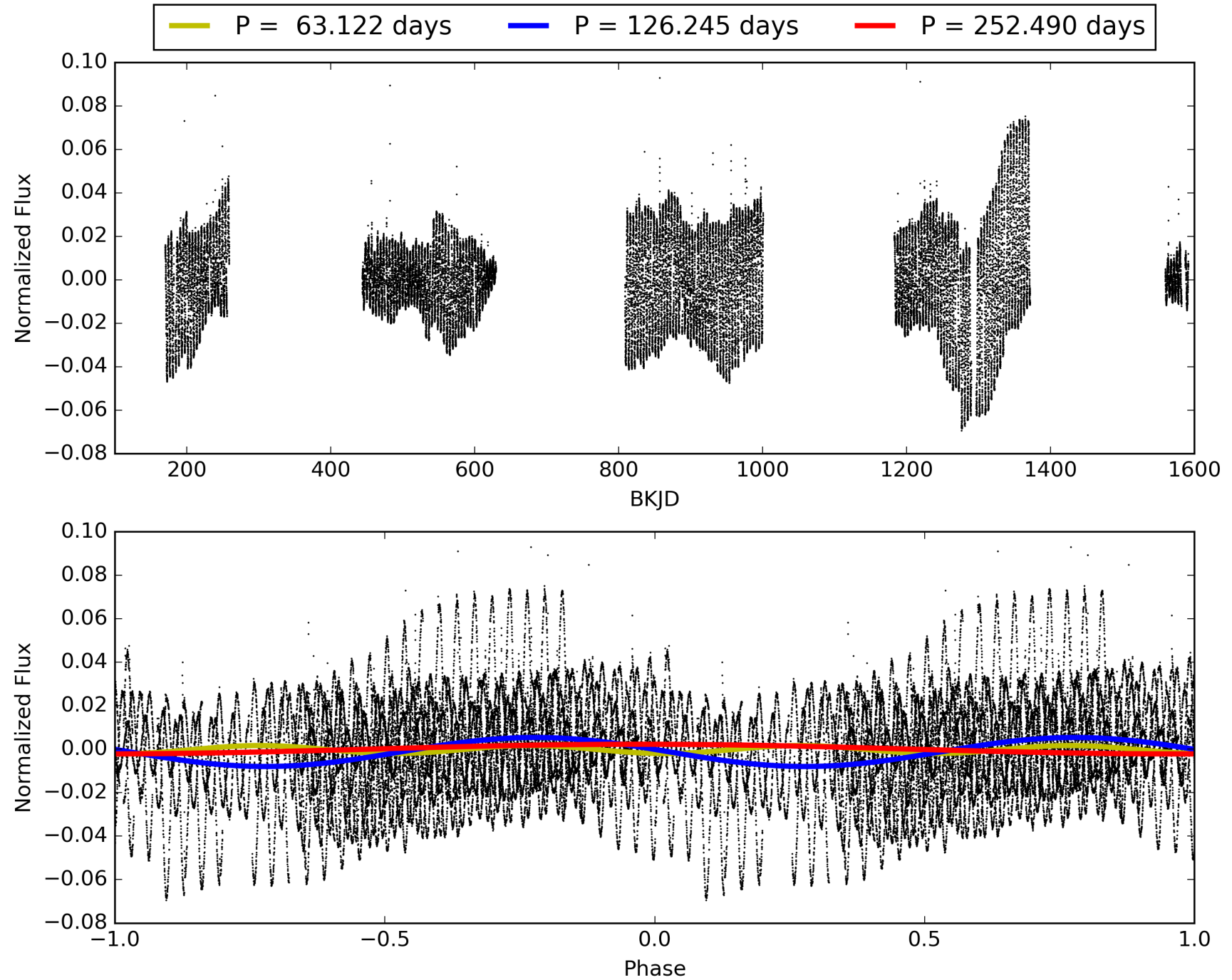
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [114.35 σ]
ModelChiSquare2-sig: 10.8%
ModelChiSquareGof-sig: 85.5%
Bootstrap-pfa: 8.61e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.3
Centroid-sig: 44.7%
Centroid-so: 0.790 arcsec [0.72 σ]
OotOffset-rm: 0.225 arcsec [1.05 σ]
KicOffset-rm: 0.230 arcsec [0.73 σ]
OotOffset-st: 1/0/0/3 [4]
KicOffset-st: 1/0/0/3 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.75 [3/4]

TCE 007041041-05, PDC Light Curves

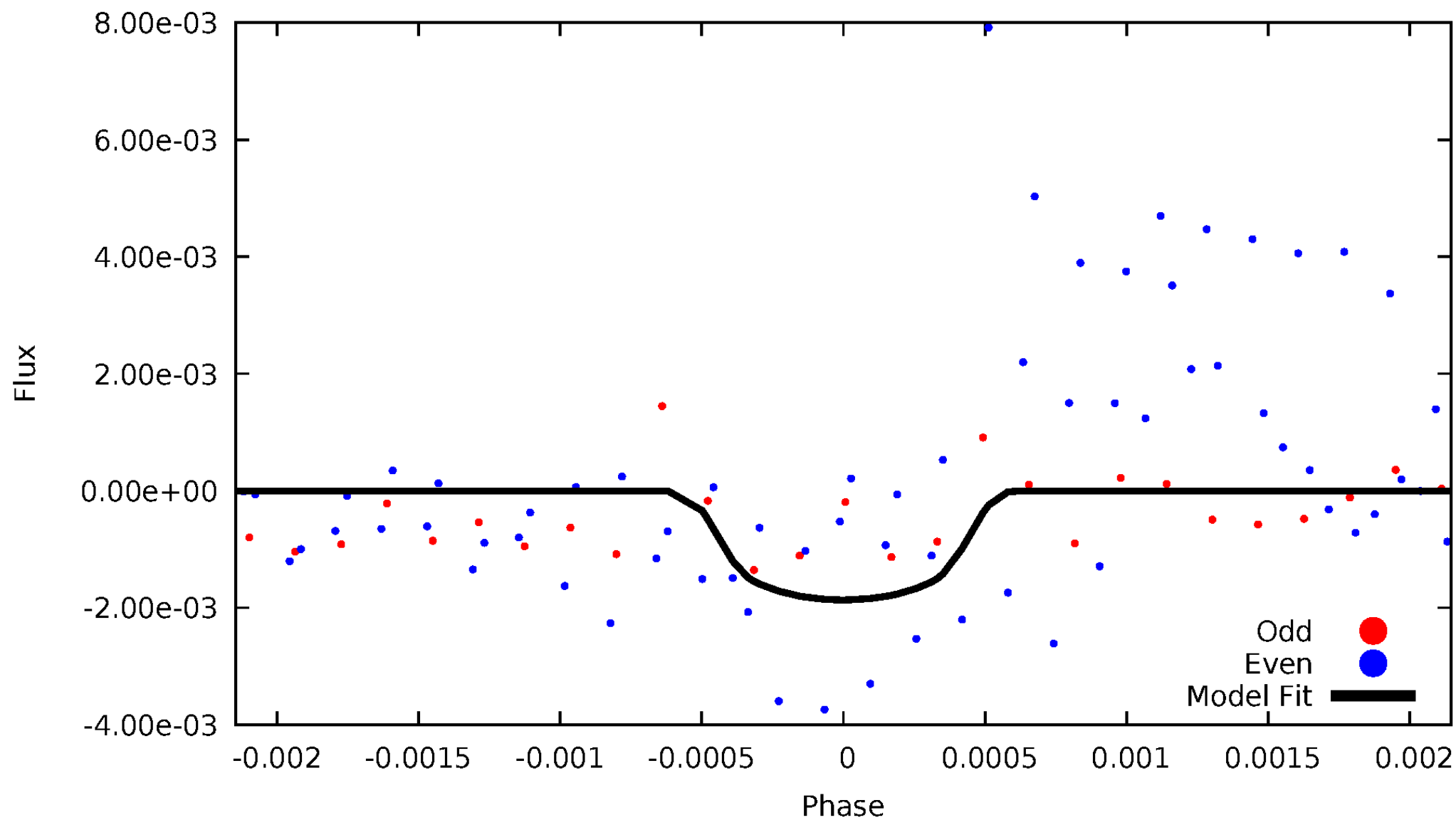


TCE 007041041-05



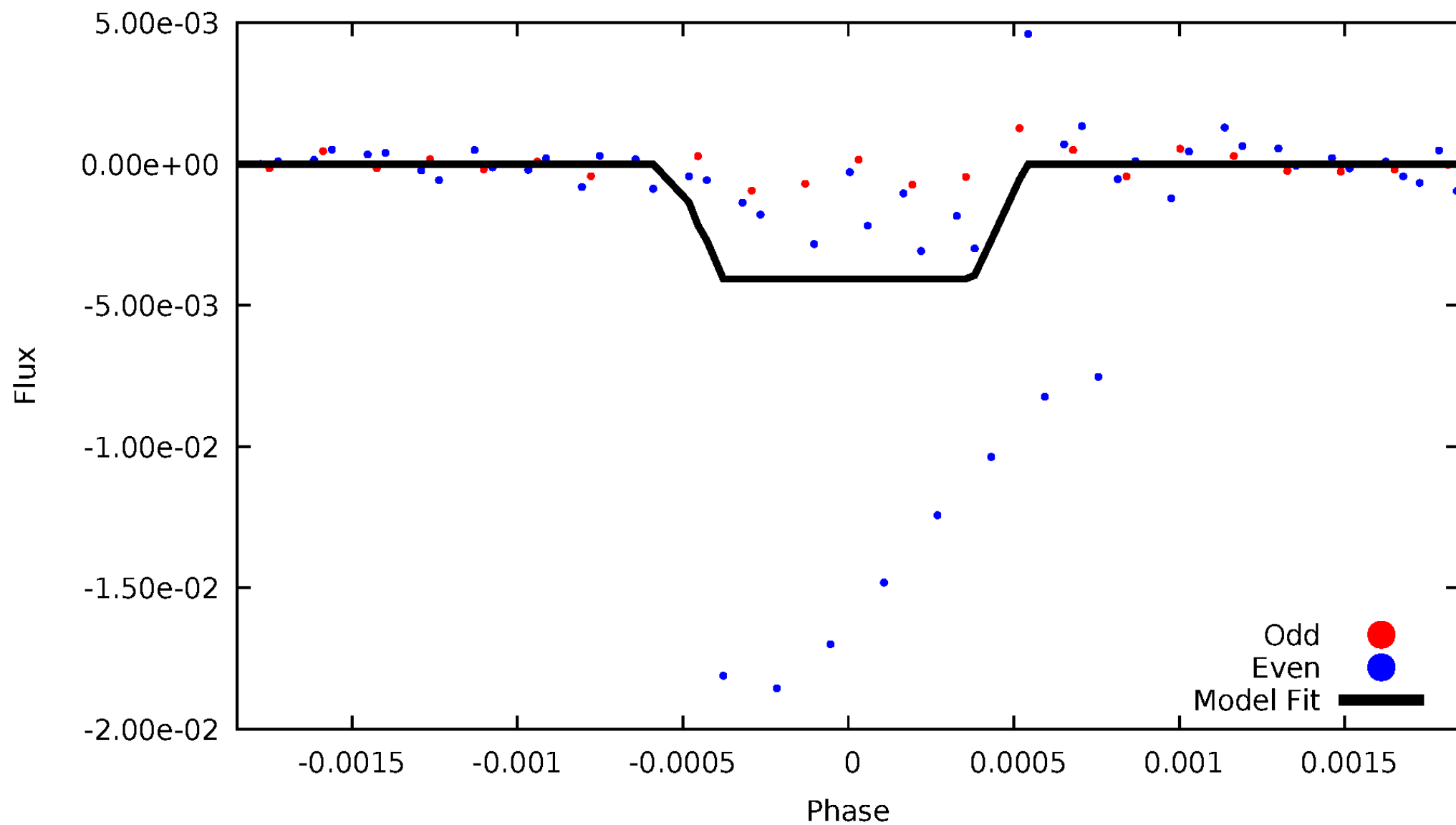
DV Odd/Even

TCE 007041041-05

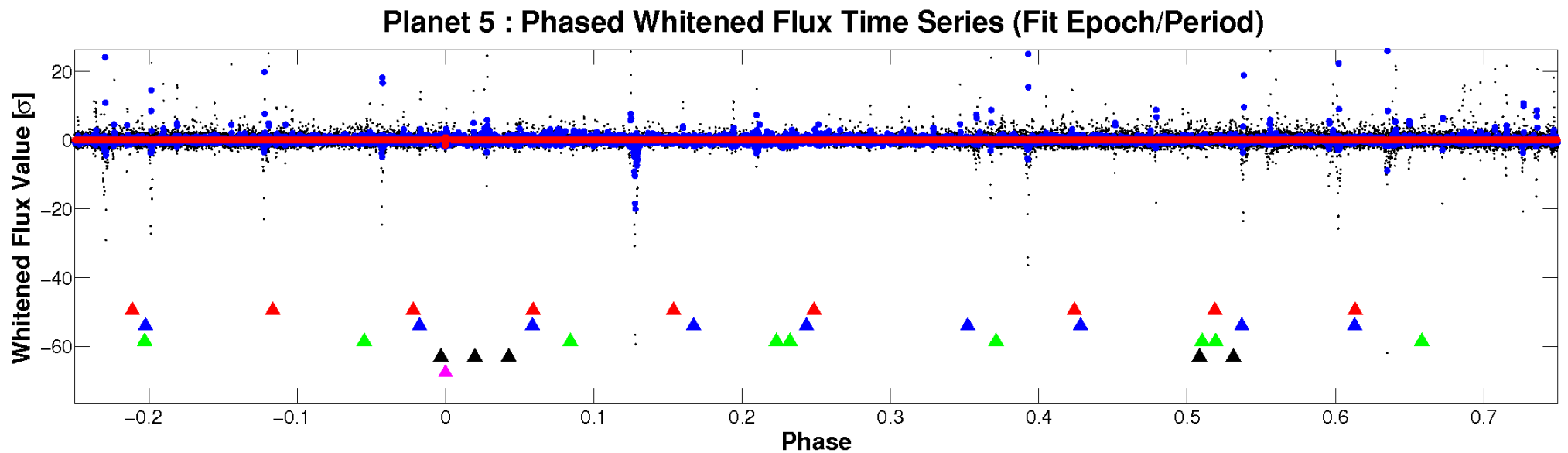
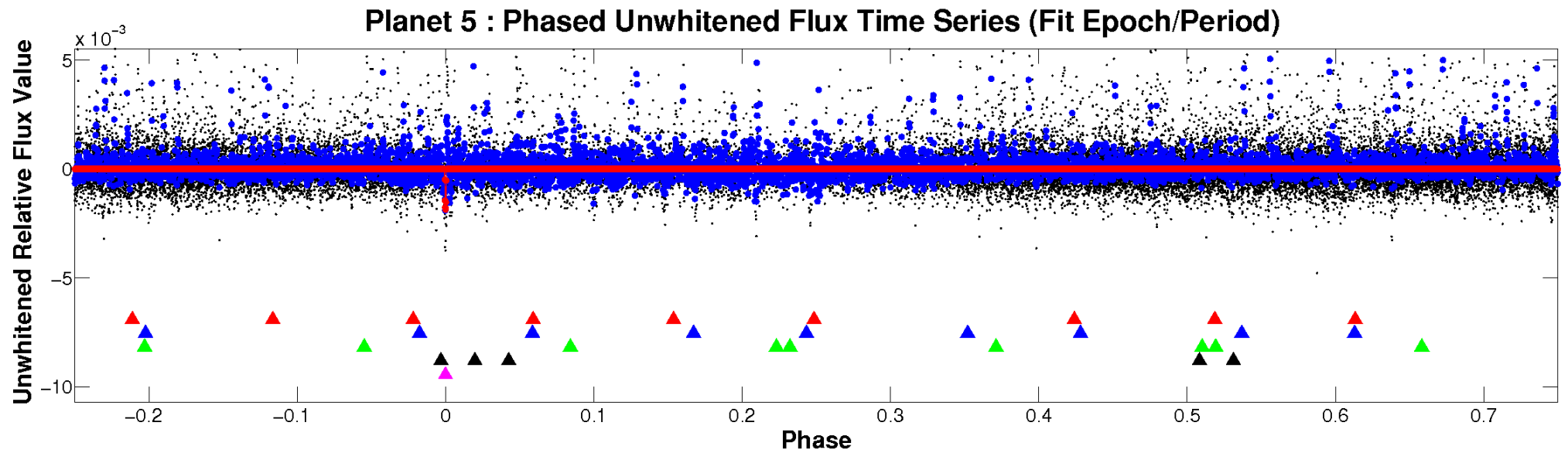


ALT Odd/Even

TCE 007041041-05

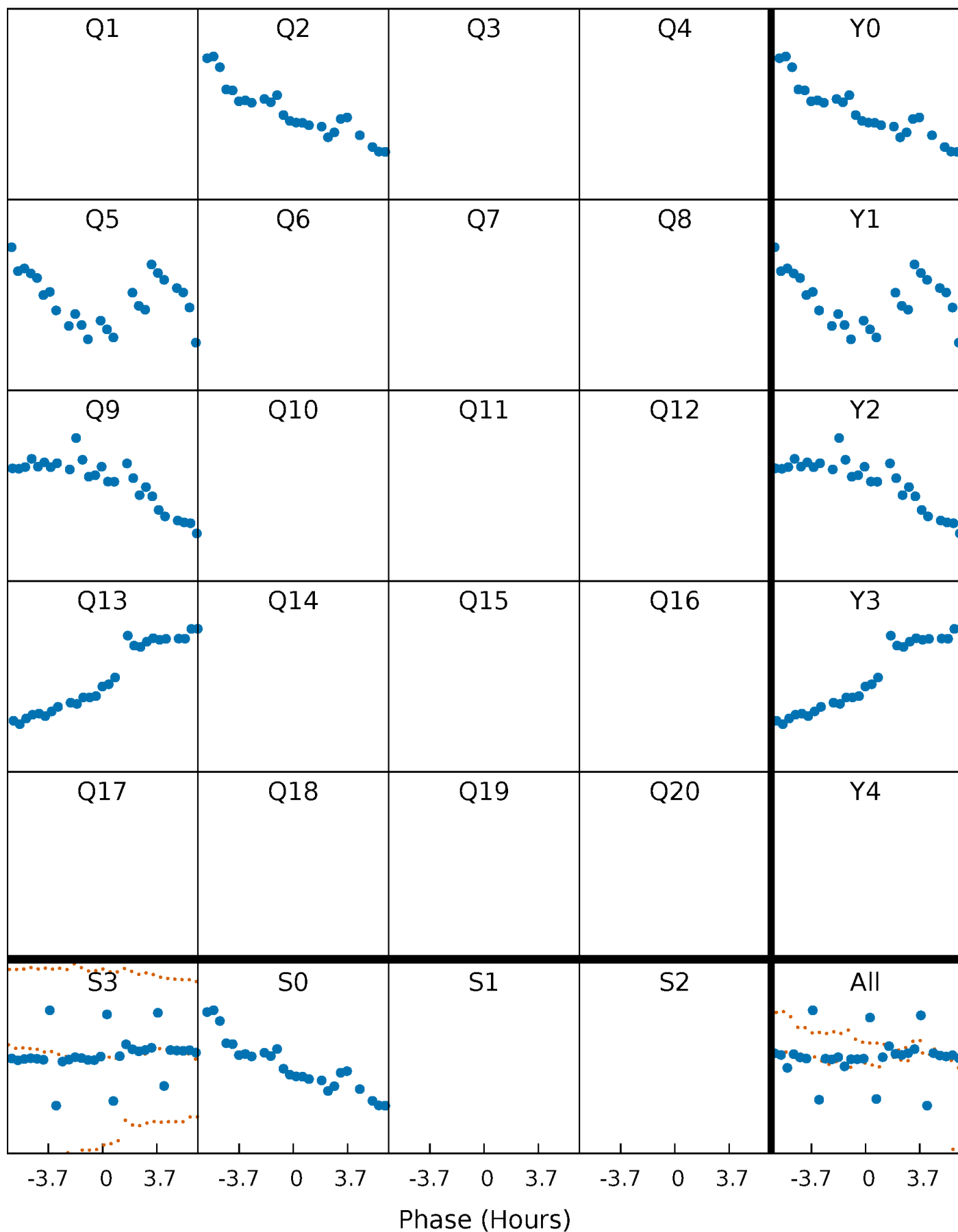


Non-Whitened Vs. Whitened Light Curve



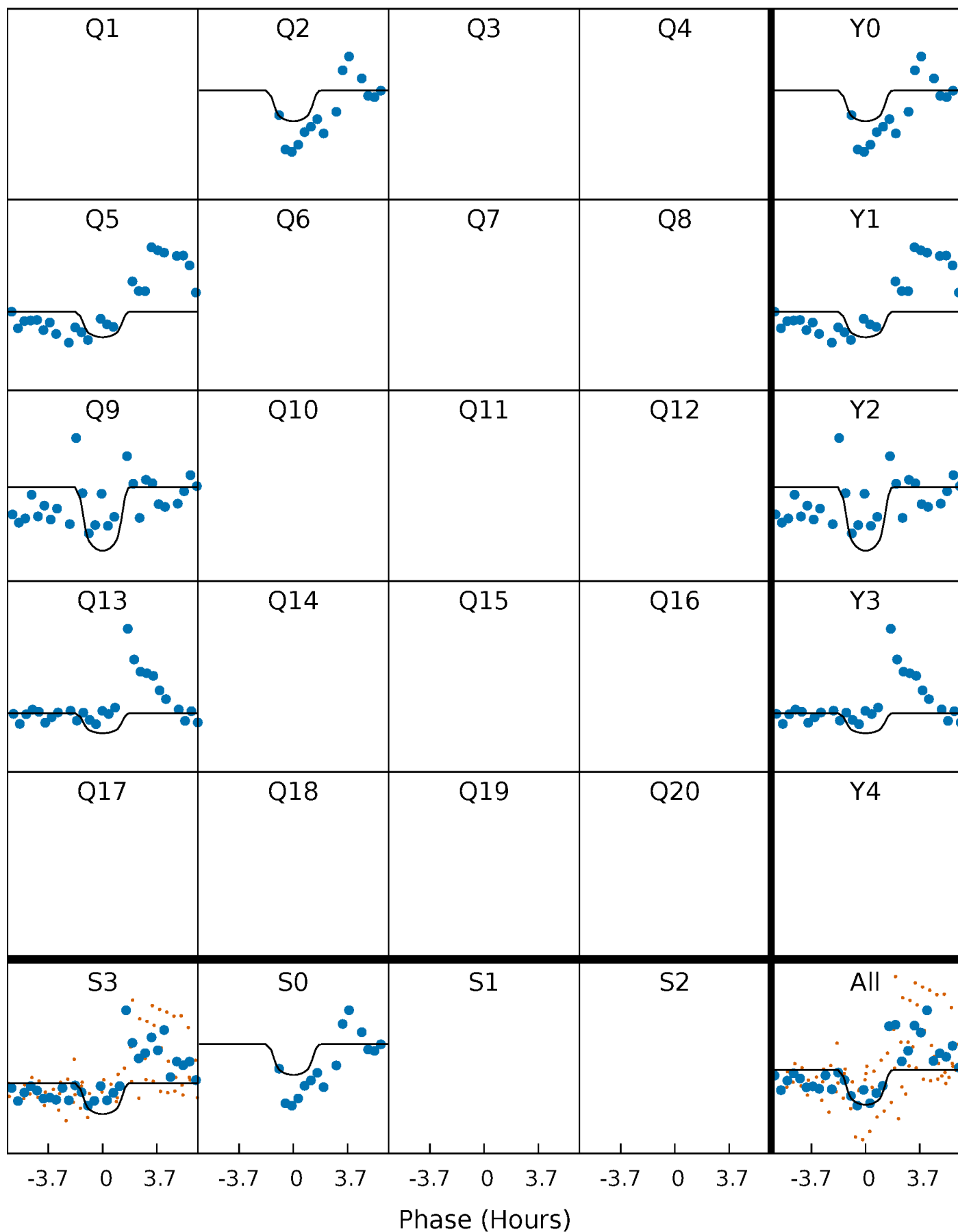
PDC Quarter-Phased Transit Curves

TCE 007041041-05 $P=126.244833$ Days $T_0=254.369149$ (BKJD)



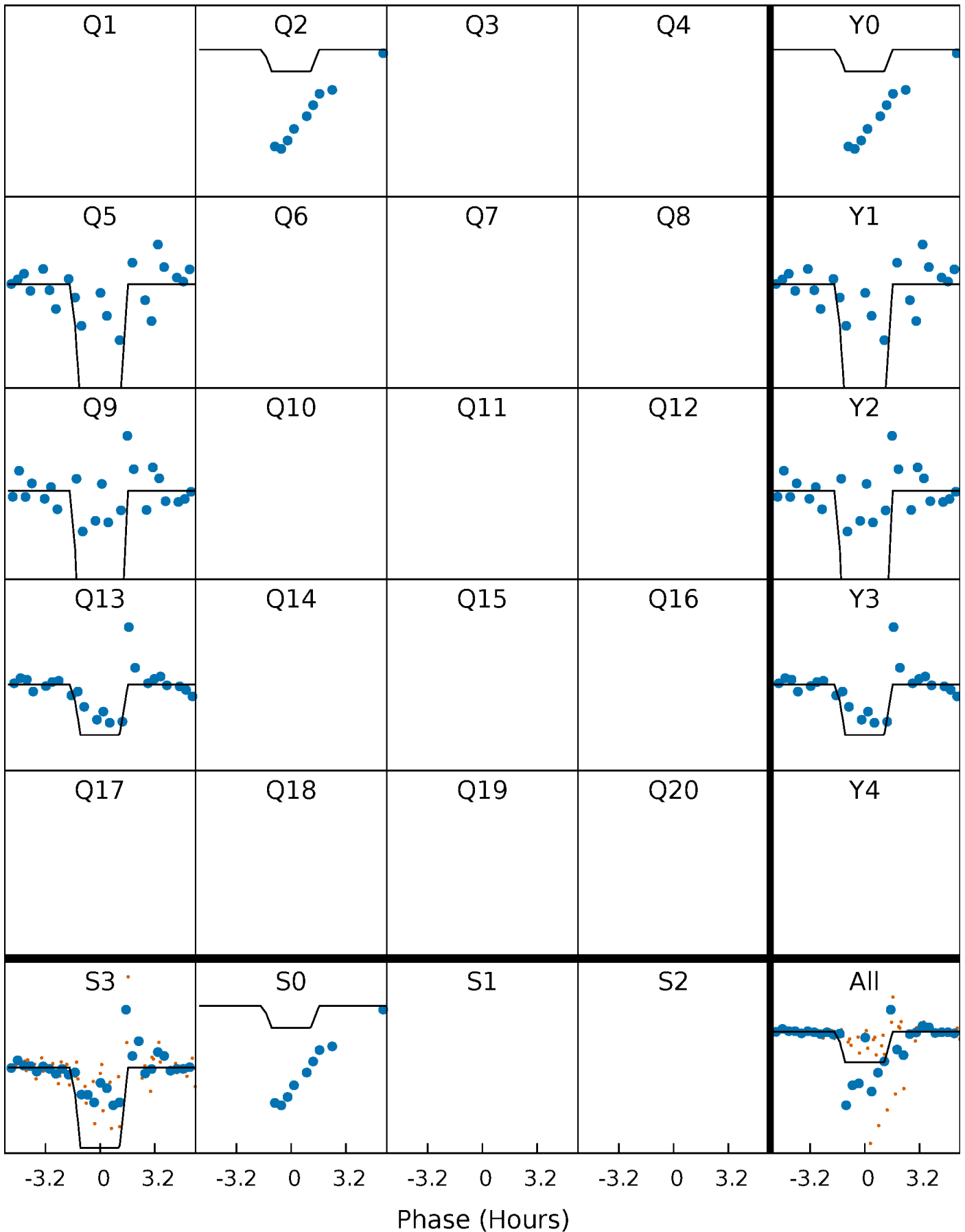
DV Quarter-Phased Transit Curves

TCE 007041041-05 $P=126.244833$ Days $T_0=254.369149$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

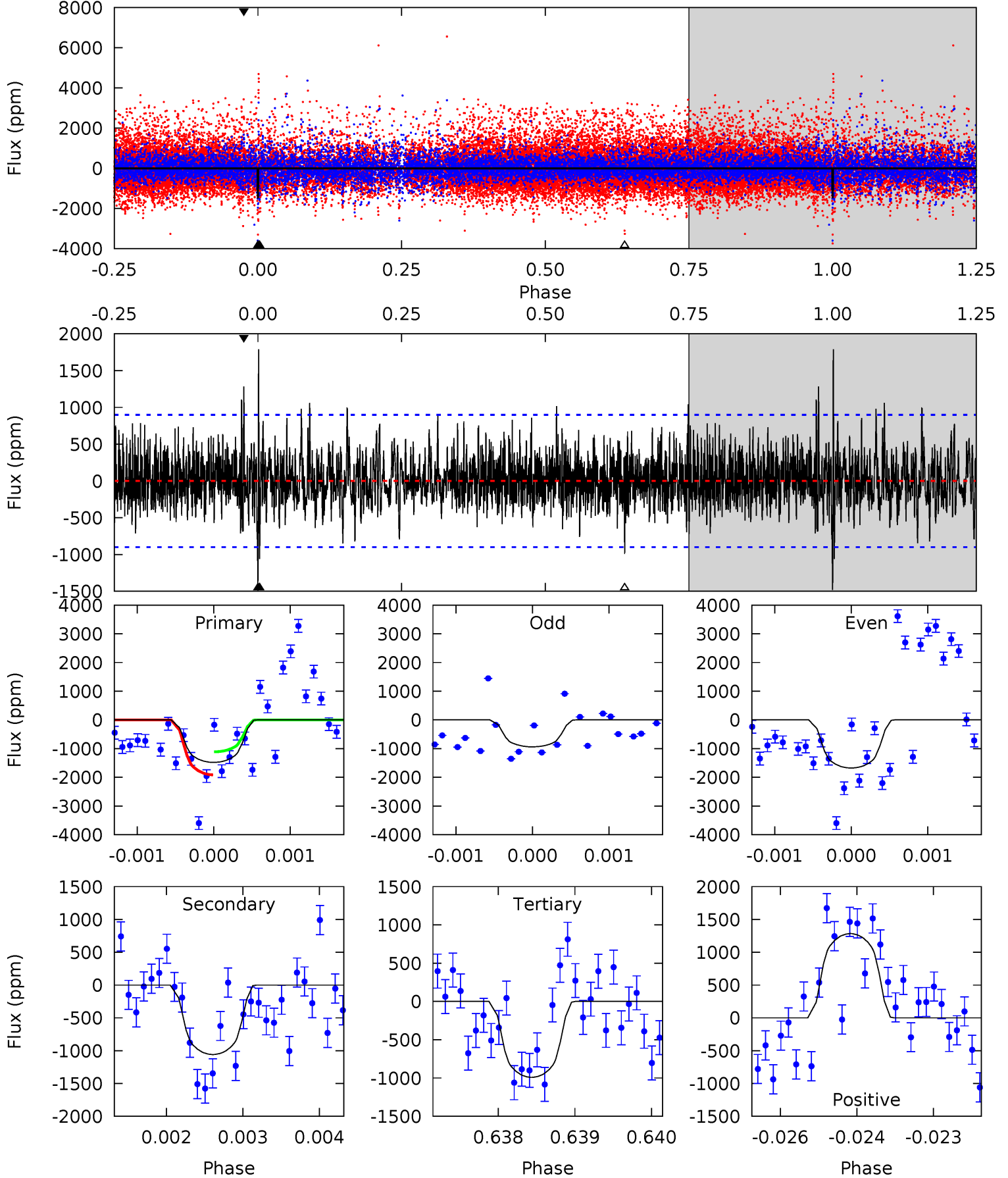
TCE 007041041-05 P=126.244546 Days $T_0=254.367582$ (BKJD)



DV Model-Shift Uniqueness Test

007041041-05, P = 126.244833 Days, E = 128.124316 Days

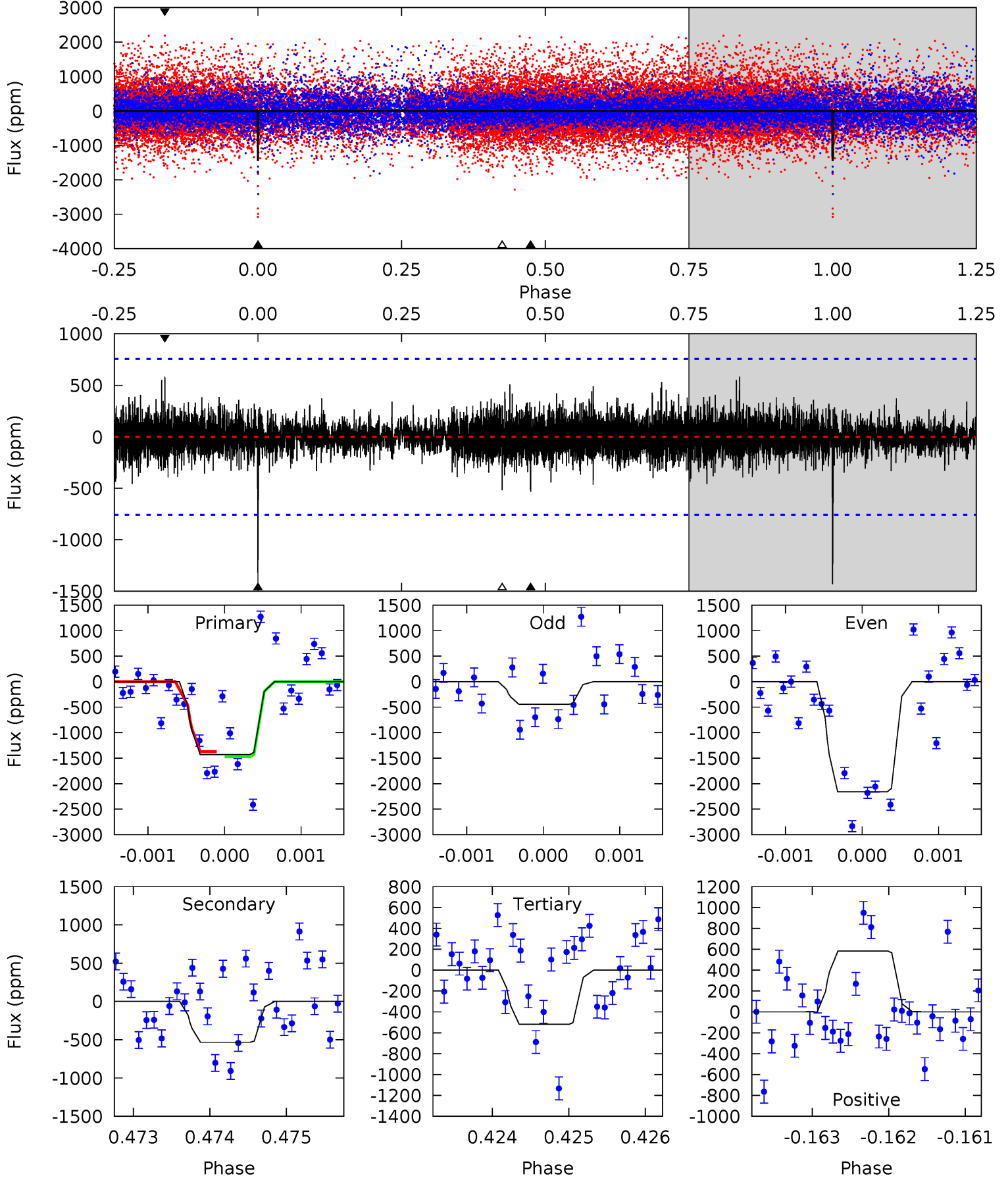
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.95	6.39	5.98	7.75	5.43	3.26	1.57	2.96	1.20	0.41	-1.36	1.82	1.26	0.55	2.41



Alt Model-Shift Uniqueness Test

007041041-05, P = 126.244546 Days, E = 128.123036 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	3.84	3.74	4.21	5.45	3.29	0.87	6.56	6.09	0.10	-0.36	5.98	2.81	0.29	0



Stellar Parameters For KIC 007041041

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4395^{+154}_{-154}	$4.578^{+0.056}_{-0.020}$	$0.300^{+0.150}_{-0.300}$	$0.718^{+0.029}_{-0.059}$	$0.713^{+0.046}_{-0.050}$	$2.708^{+0.666}_{-0.180}$
	+4%/-4%	+1%/-0%	+50%/-100%	+4%/-8%	+6%/-7%	+25%/-7%
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 007041041-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1059 ± 166	$3.91^{+3.11}_{-2.46}$	343^{+13}_{-13}	3745^{+1716}_{-603}	7227^{+42156}_{-4846}
Alt.	-534 ± 139	$5.11^{+2.98}_{-2.64}$	343^{+12}_{-12}	3101^{+826}_{-417}	2254^{+7471}_{-1471}

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 $A_{obs} \gg 1.0$

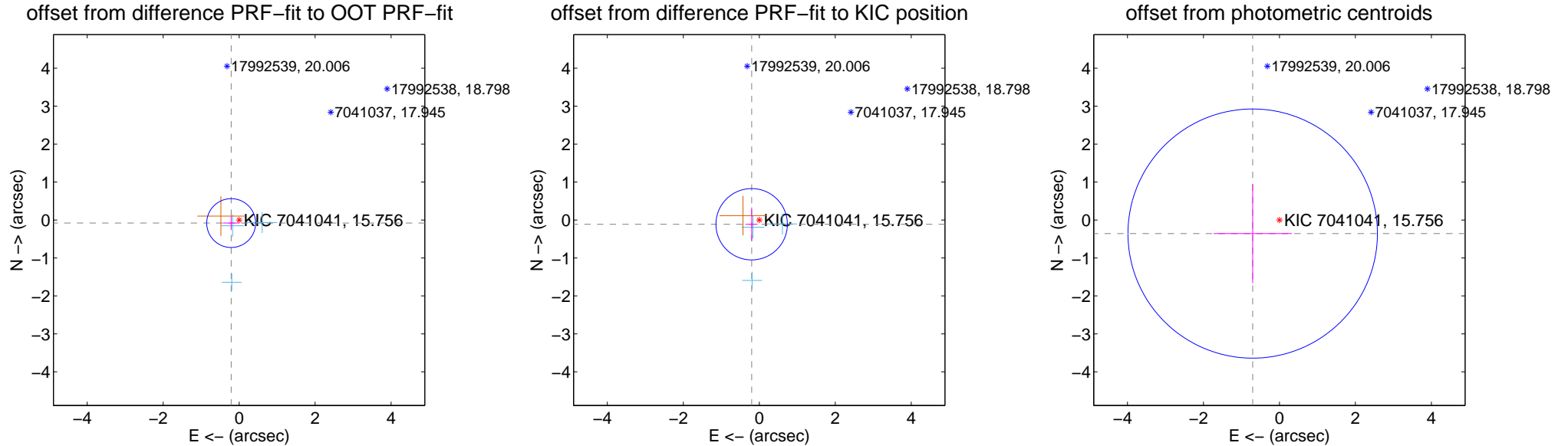
DV Centroid Data

Supplemental centroid analysis for 007041041-05. Kepler magnitude: 15.76. Transit SNR 6.67

There are 3 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.225 ± 0.214	1.05	0.210 ± 0.218	-0.081 ± 0.187
PRF-fit source offset from KIC position	0.230 ± 0.313	0.73	0.201 ± 0.158	-0.112 ± 0.440
photometric centroid source offset	0.79 ± 1.09	0.72	0.70 ± 1.03	-0.36 ± 1.31



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.

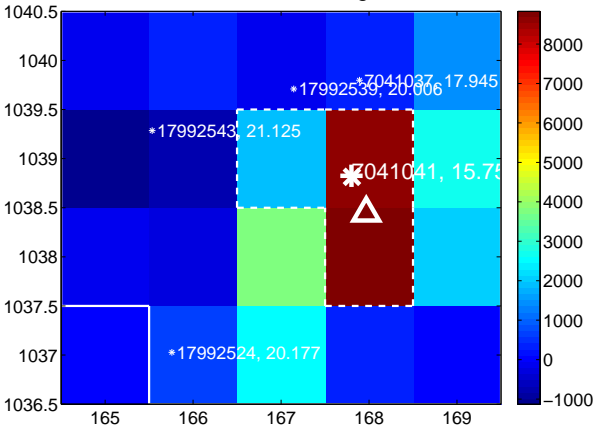
Q1 no difference image



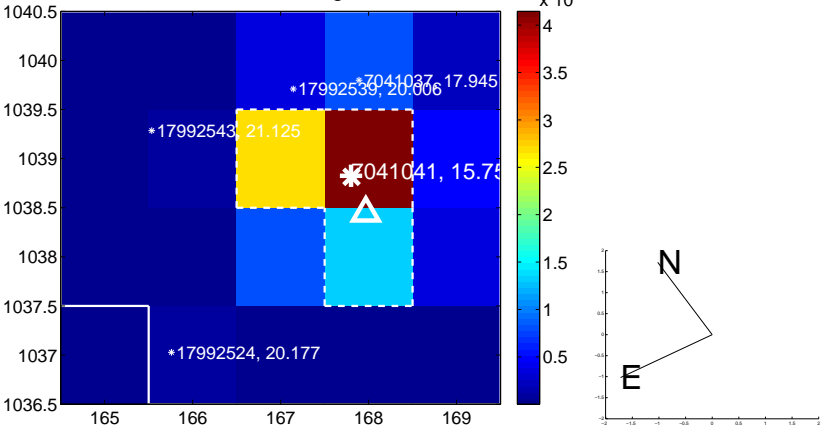
Q1 no OOT image



Q2 difference image



Q2 OOT image



Q3 no difference image



Q3 no OOT image



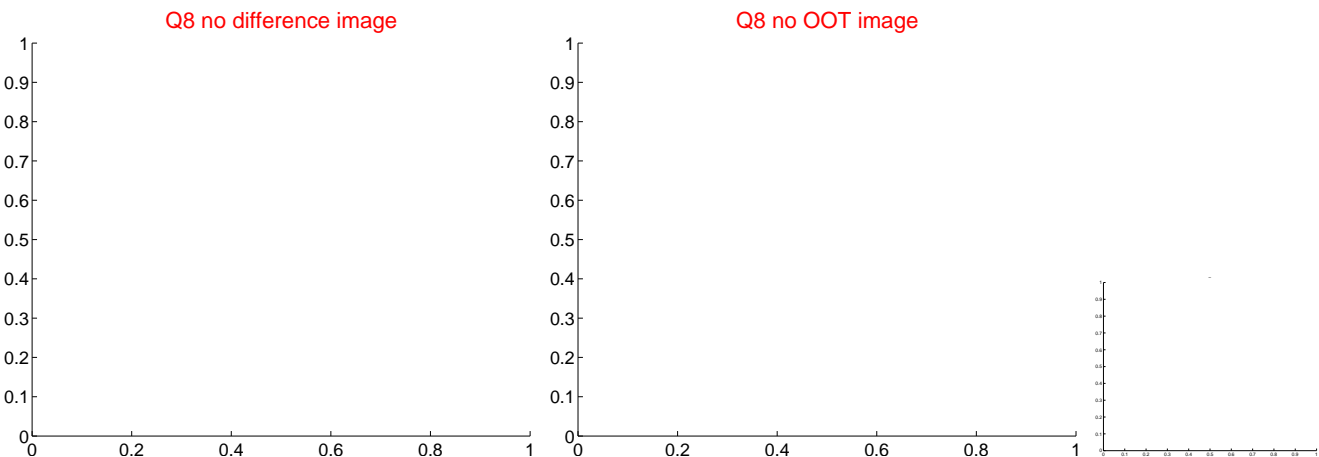
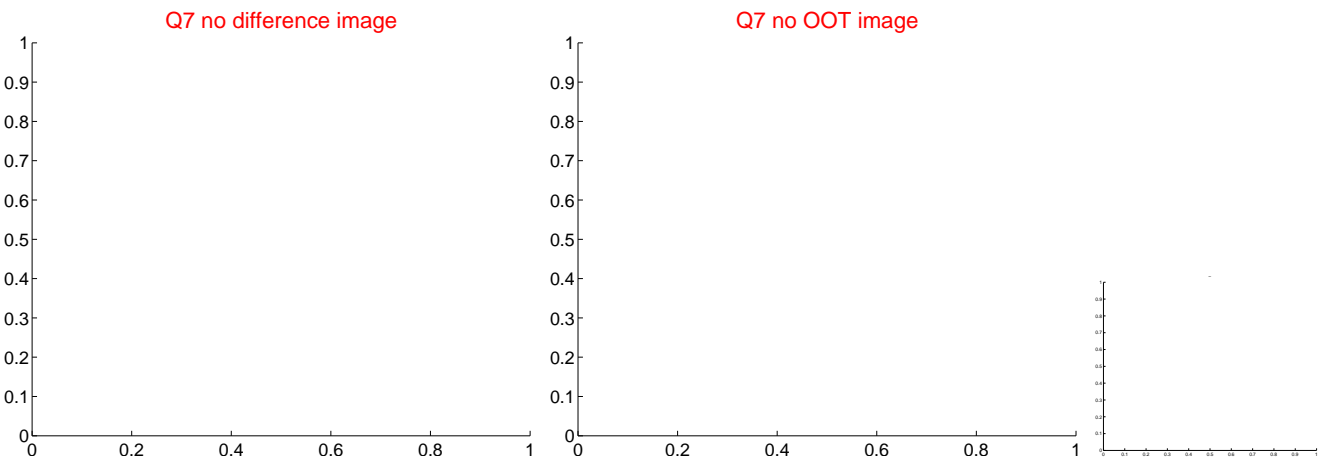
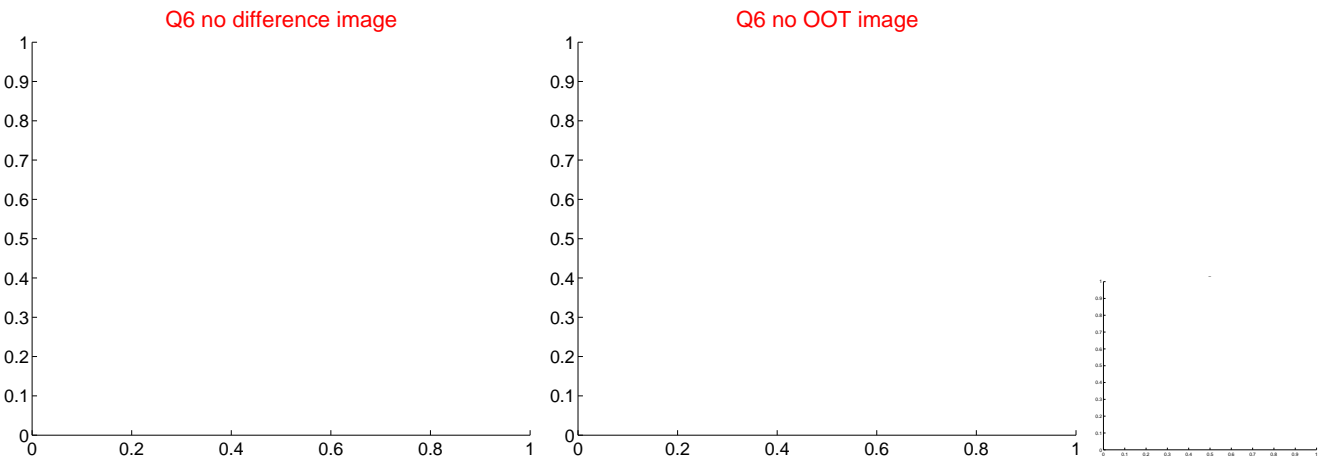
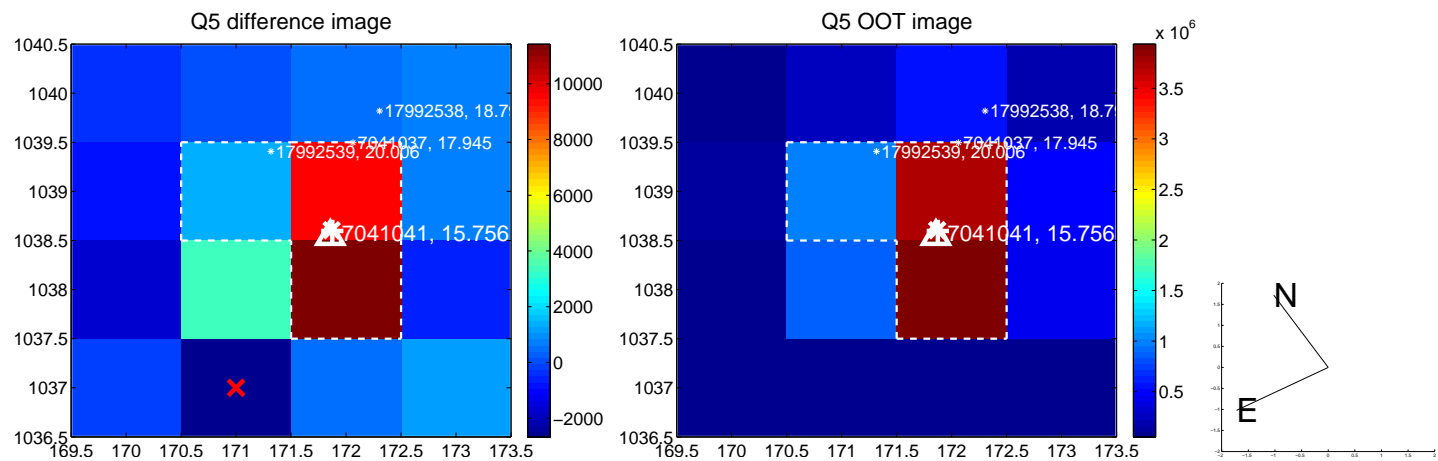
Q4 no difference image



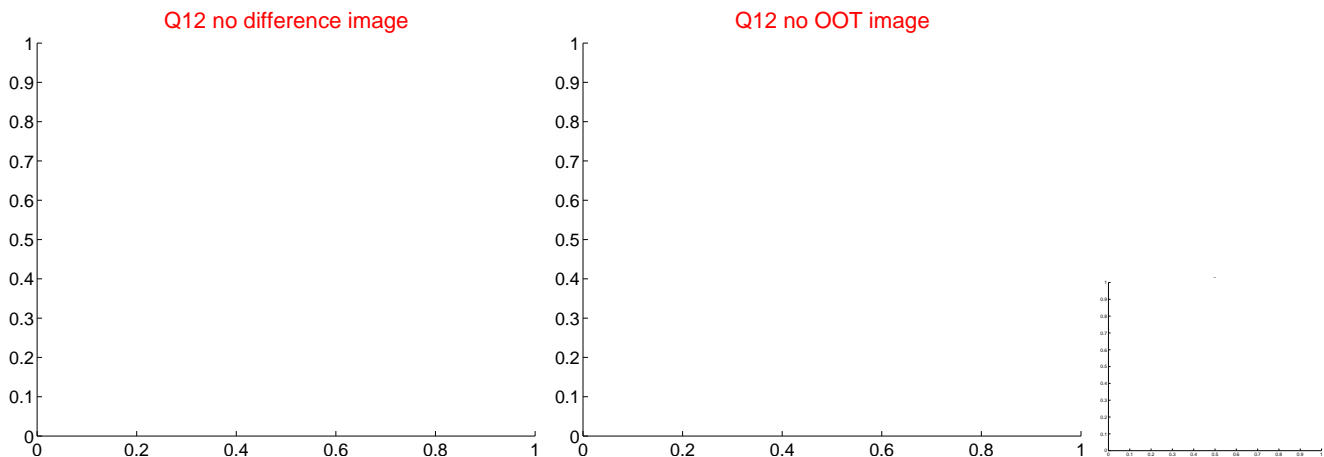
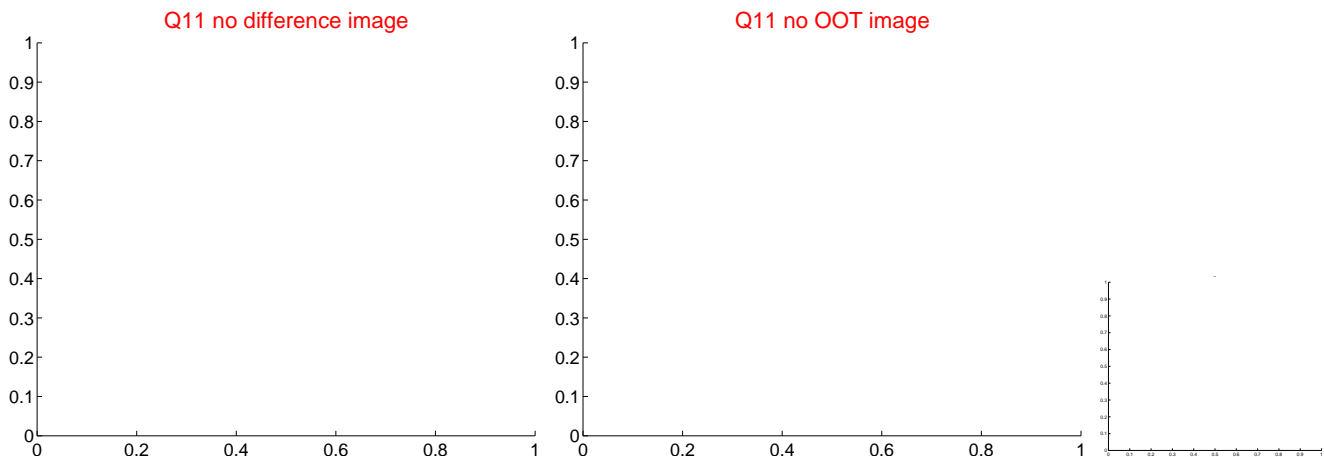
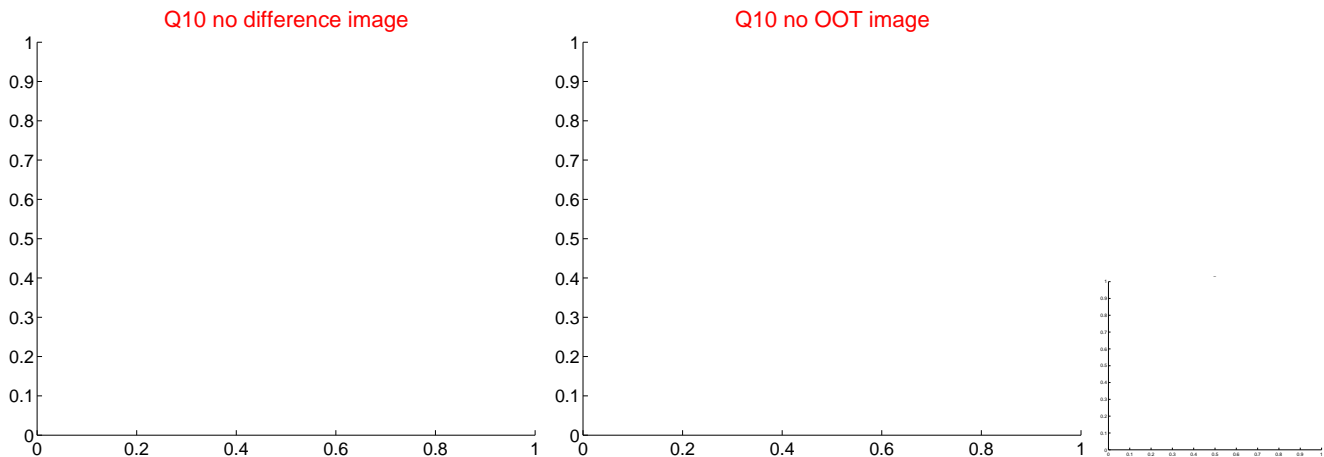
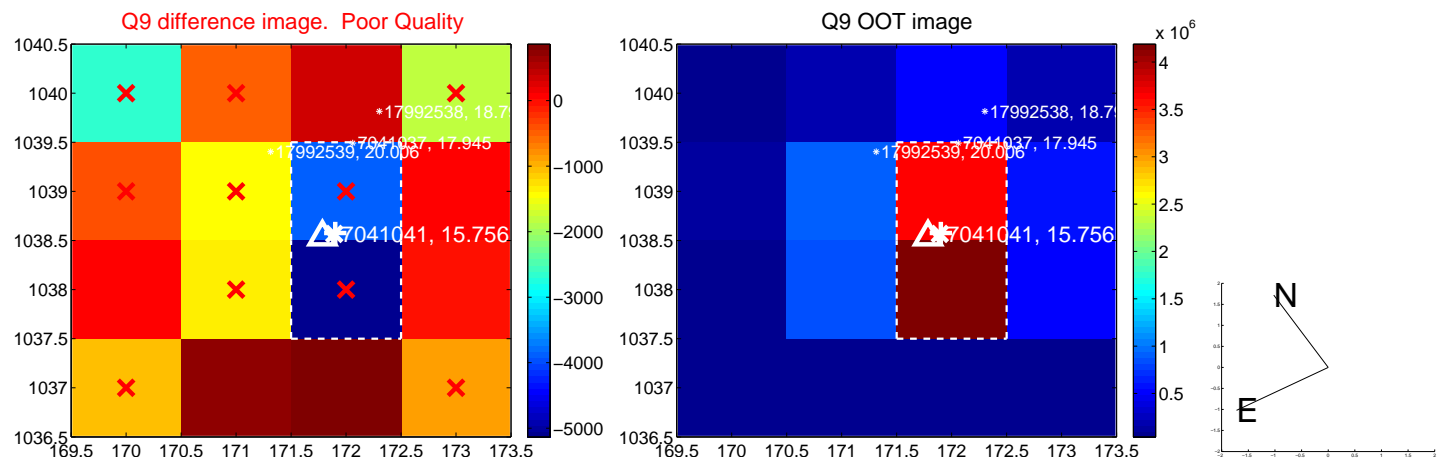
Q4 no OOT image



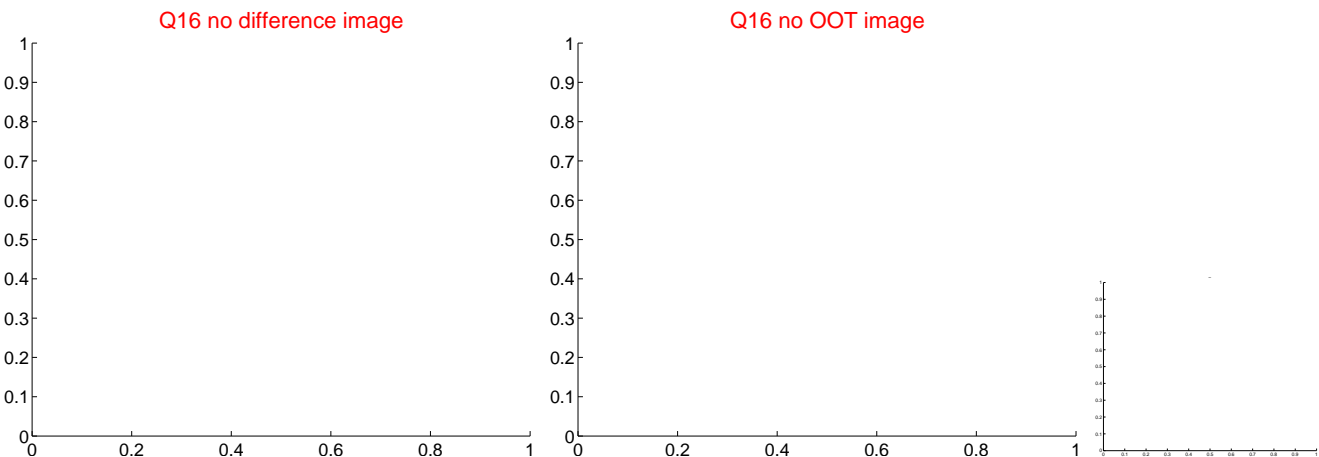
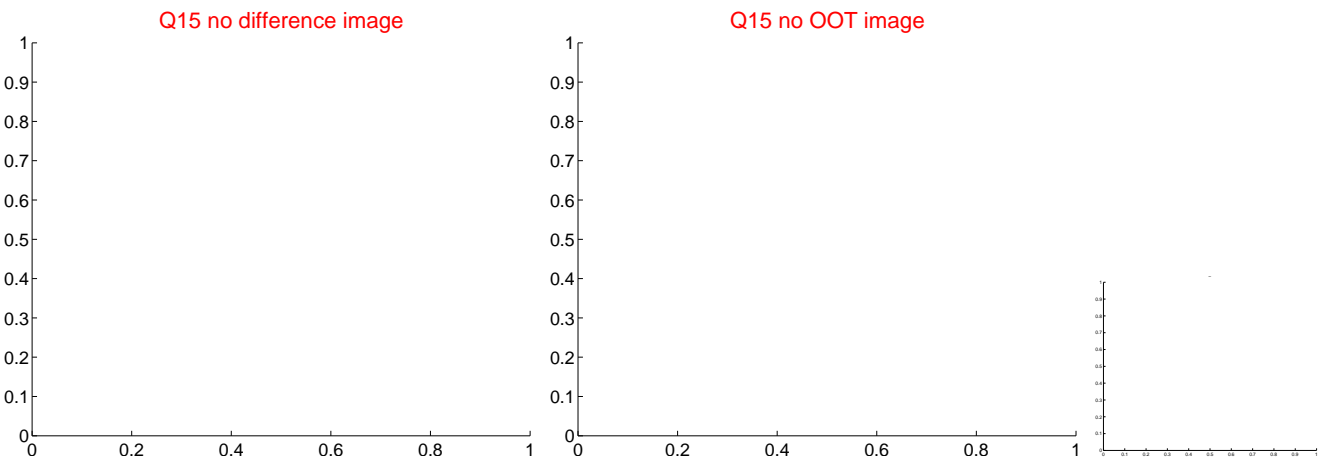
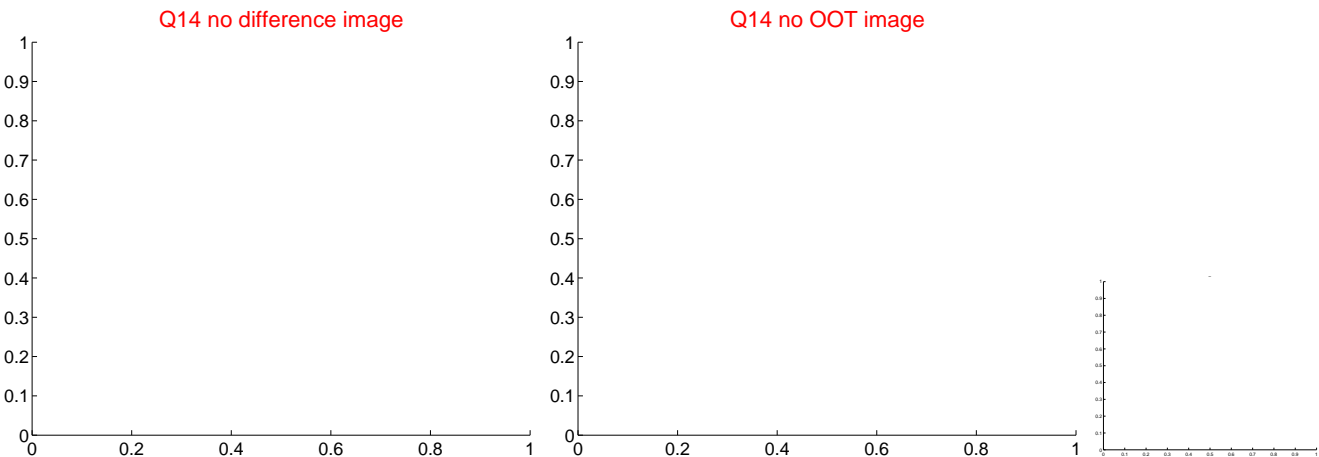
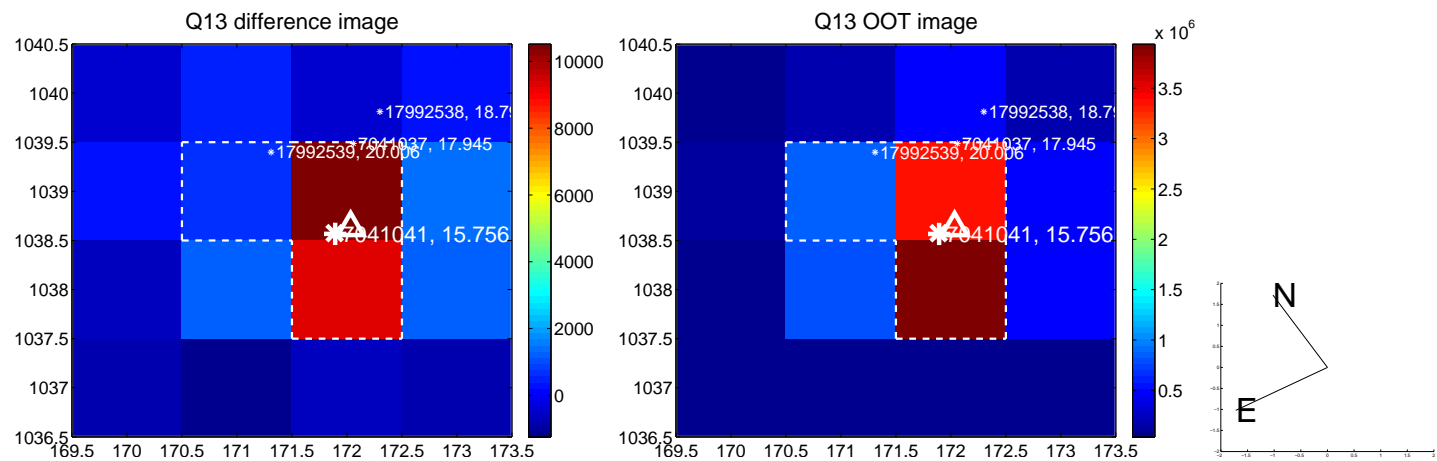
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



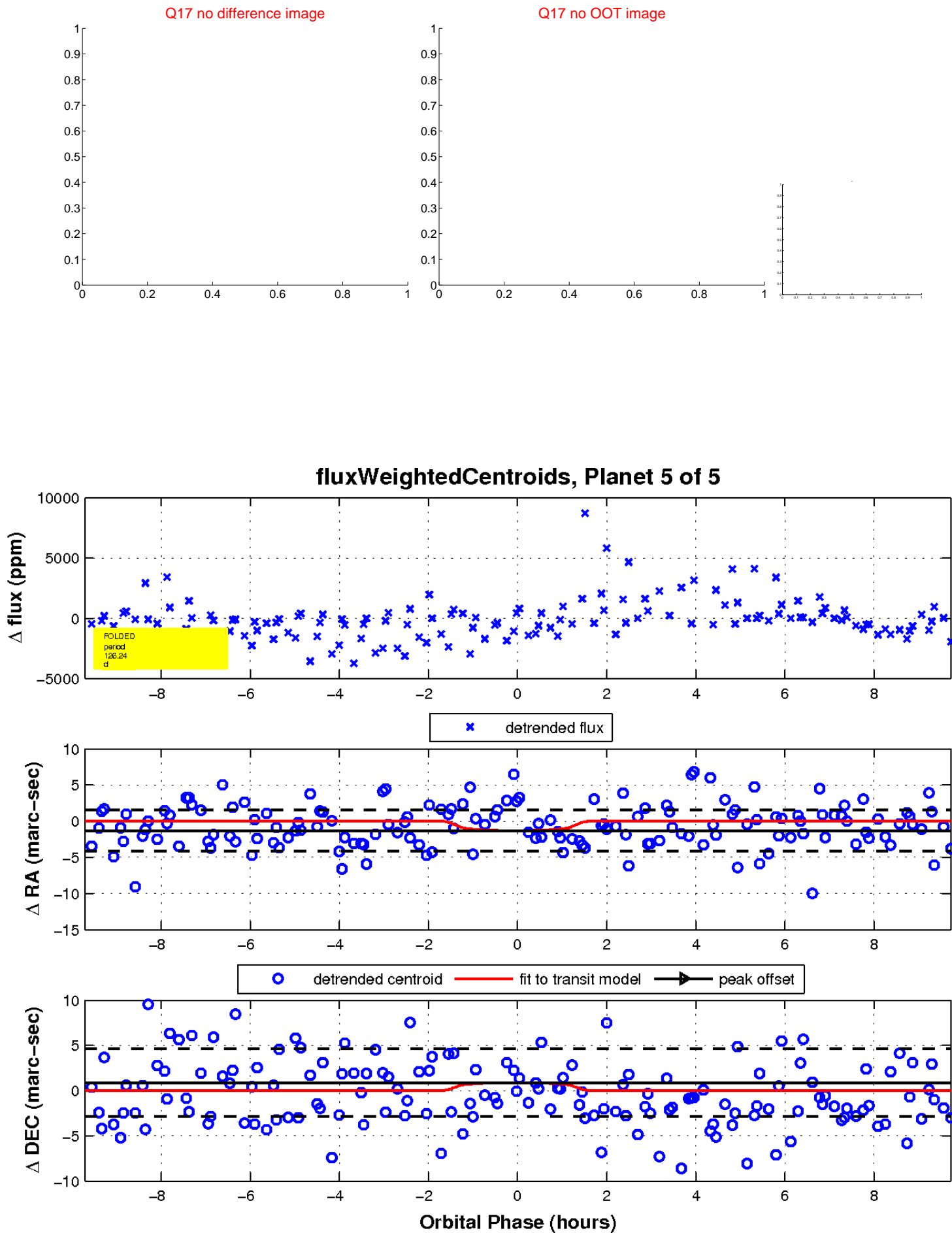
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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.



UKIRT Image

Declination

