

KIC 010417704

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})
010417704-01	OBS	7324.01	3.008261	132.687141	175.6	2.616	23.8	26.9	1.82	8275	2.81	5427.60
010417704-02	OBS	No	3.008211	133.250311	79.6	2.479	10.1	12.5	1.82	8275	1.88	5427.73
010417704-03	OBS	No	1.002590	132.529891	13.1	6.620	10.0	4.3	1.82	8275	0.68	23488.99
010417704-04	OBS	No	27.973745	147.577412	115.8	12.122	9.4	4.3	1.82	8275	2.13	277.56
010417704-05	OBS	No	132.861542	192.970176	239.8	0.642	9.7	2.5	1.82	8275	3.03	34.77
010417704-06	OBS	No	265.719830	193.132042	540.8	3.000	9.5	-1.0	1.82	8275	4.29	13.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010417704-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_FEW_DIFFS
010417704-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010417704-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
010417704-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010417704-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE_TRACKER—TRANS_GAPPED—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
010417704-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—NO_FITS—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

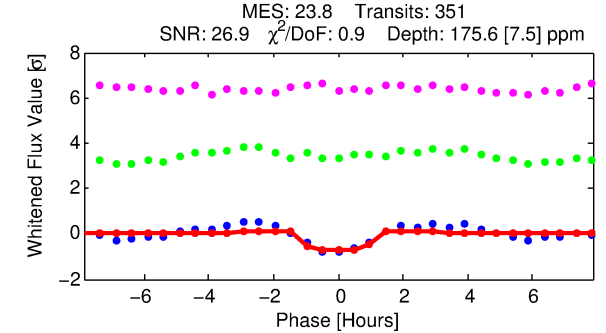
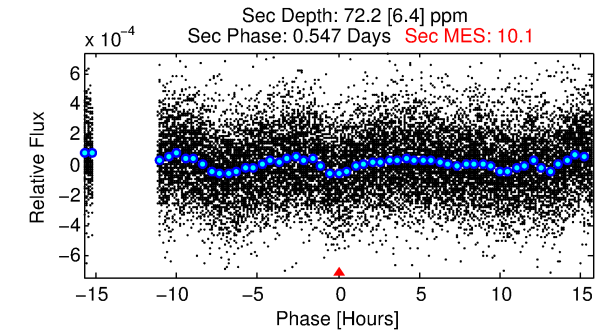
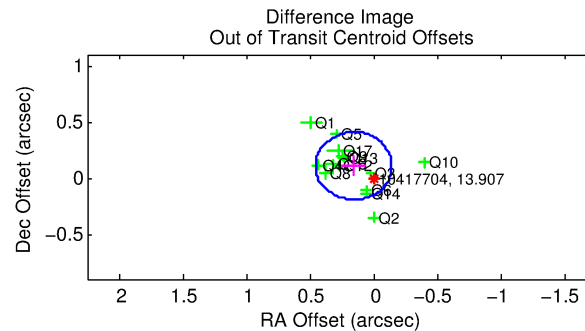
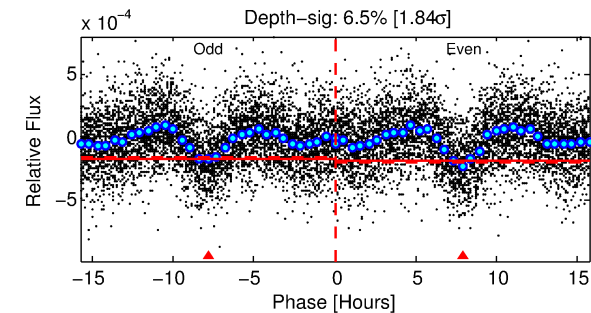
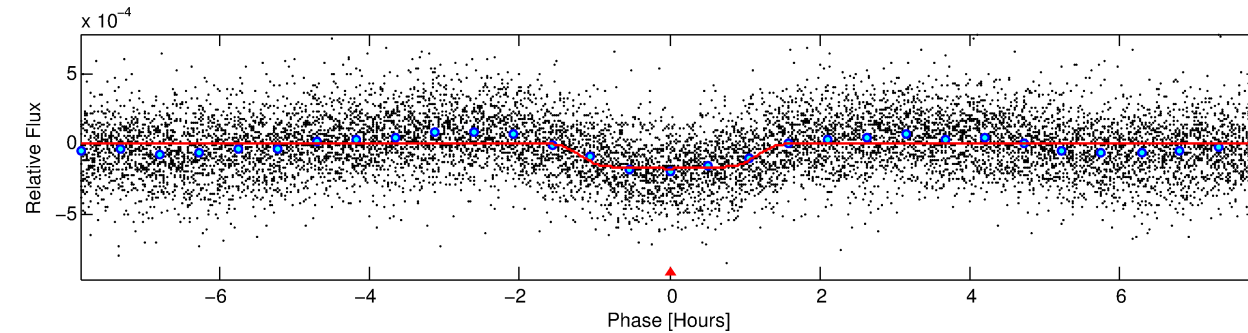
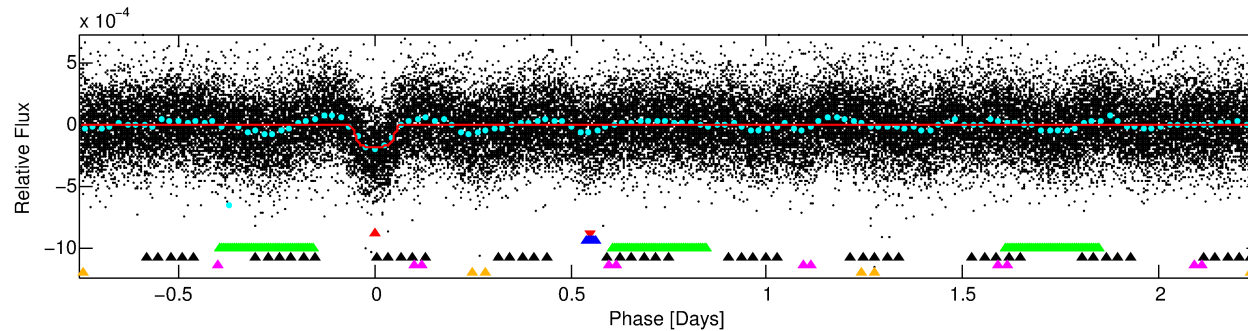
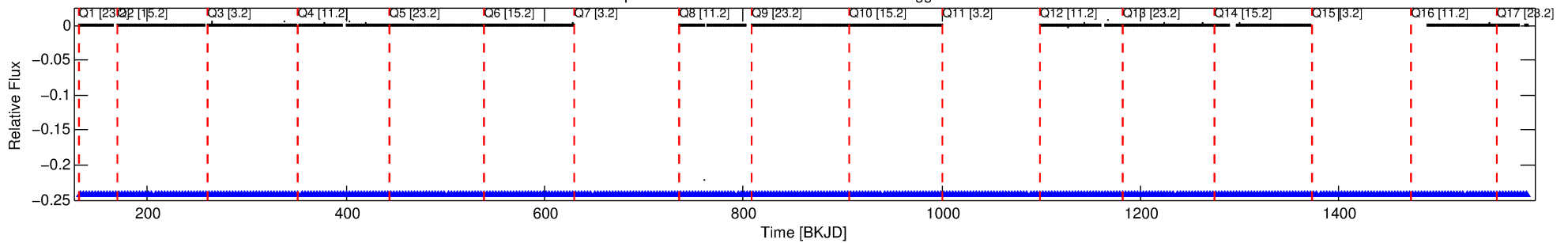
Ephemeris Match Information For 010417704-01

No Significant Match Found

DV One-Page Summary

KIC: 10417704 Candidate: 1 of 6 Period: 3.008 d
KOI: K07324.01 Corr: 0.770

Kp: 13.91 R*: 1.82 Rs Teff: 8275.0 K Logg: 4.20 Fe/H: 0.210



DV Fit Results:

Period = 3.00826 [0.00001] d
Epoch = 132.6871 [0.0013] BKJD
Rp/R* = 0.0141 [0.0020]
a/R* = 4.15 [3.42]
b = 0.90 [0.18]
Seff = 5427.61 [2301.94]
Teq = 2189 [232] K
Rp = 2.81 [0.99] Re
a = 0.0506 [0.0136] AU
Ag = 12.90 [6.25] [1.90σ]
Teffp = 6413 [548] K [7.09σ]

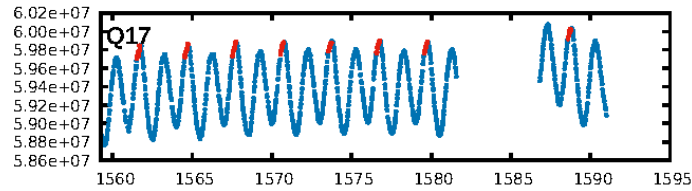
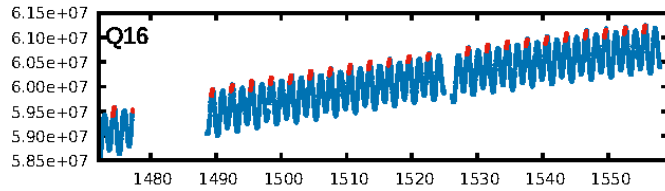
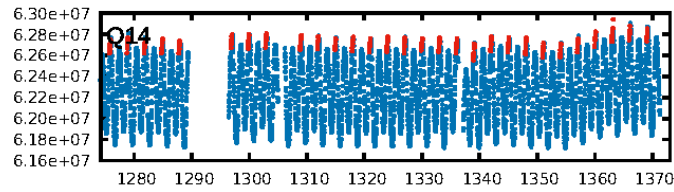
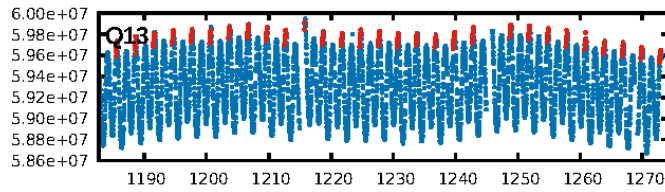
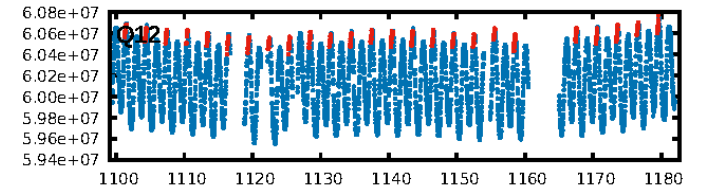
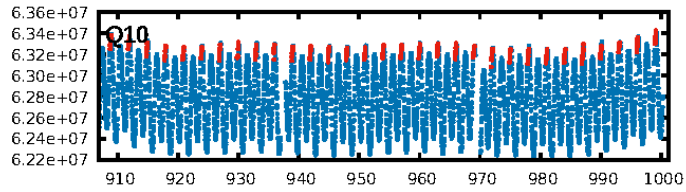
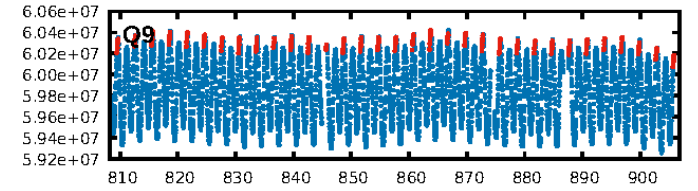
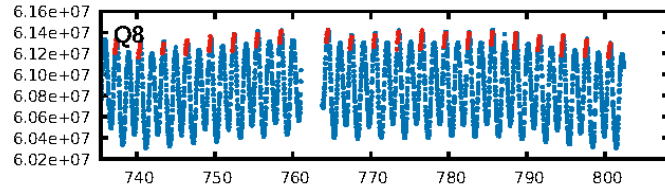
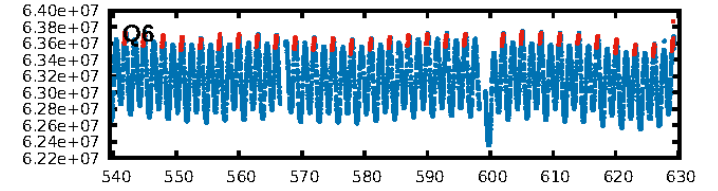
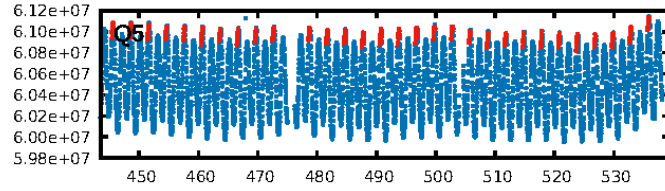
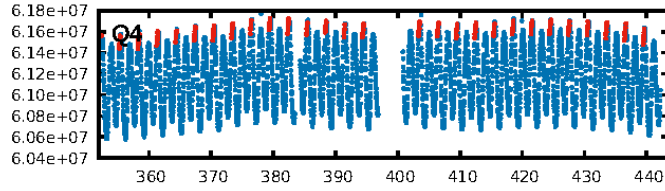
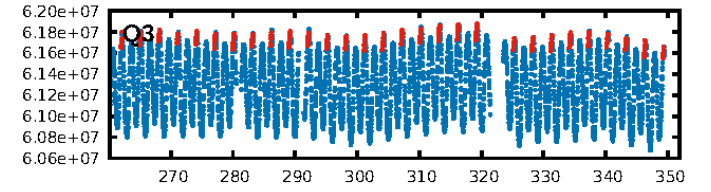
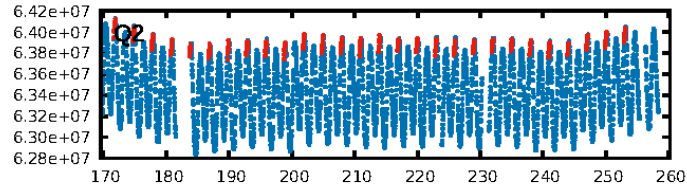
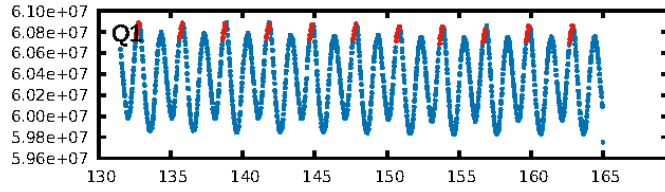
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [48.32σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [332/332]
GhostDiagnostic-chr: 0.5707
Centroid-sig: N/A
Centroid-so: 0.745 arcsec [1.74σ]
OotOffset-rm: 0.188 arcsec [1.88σ]
KicOffset-rm: 0.113 arcsec [1.44σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 0.00 [0/14]

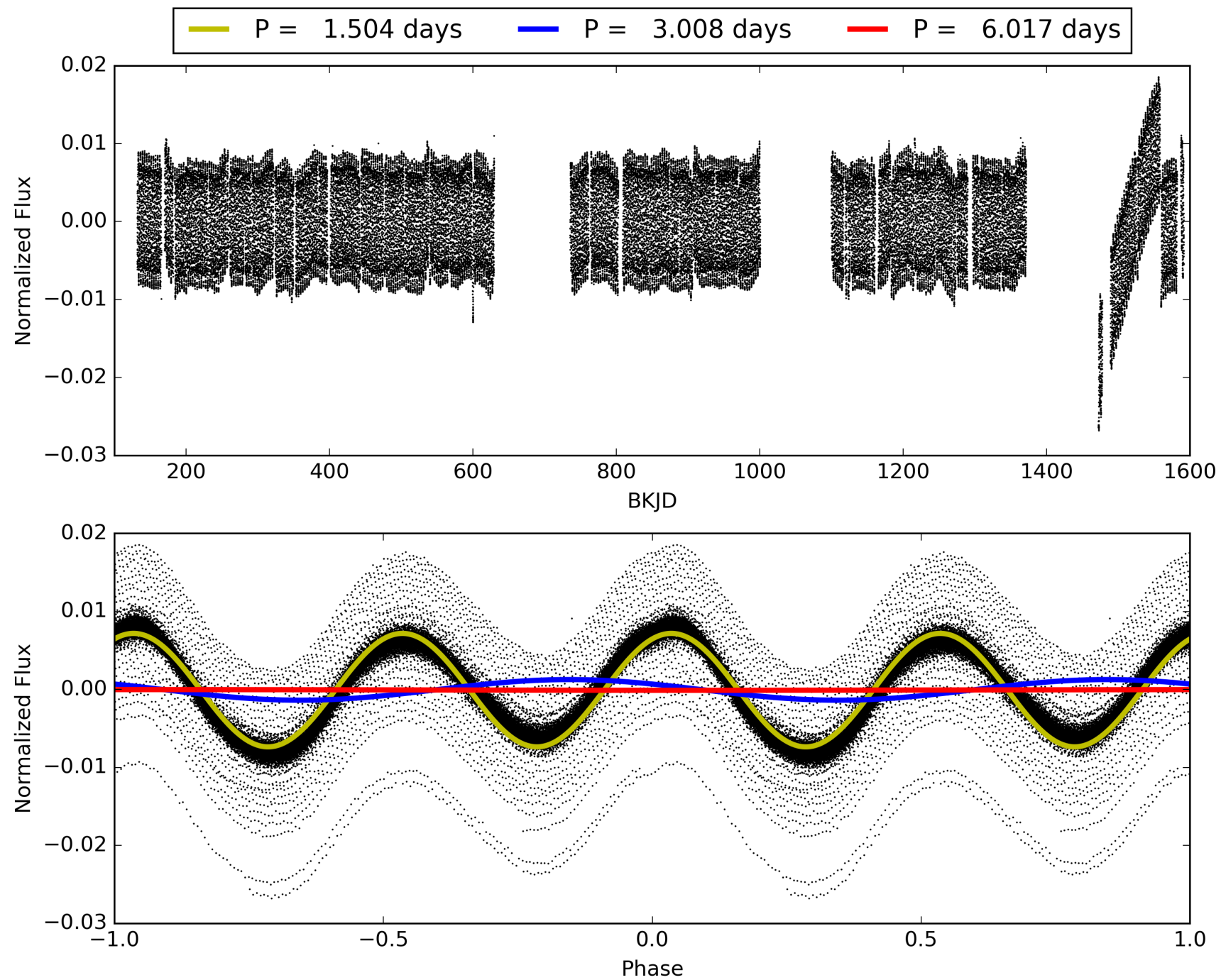
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010417704-01, PDC Light Curves

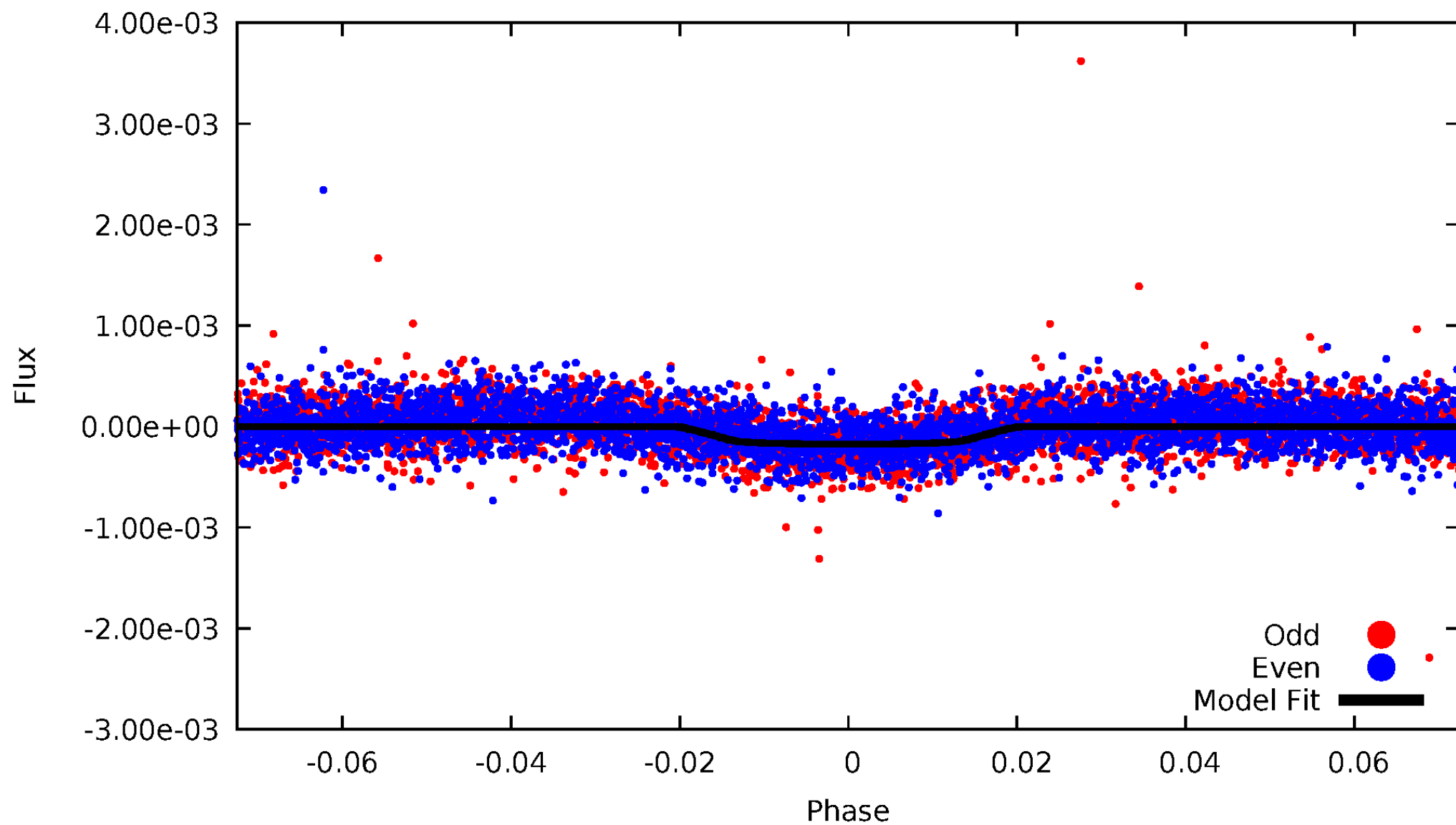


TCE 010417704-01



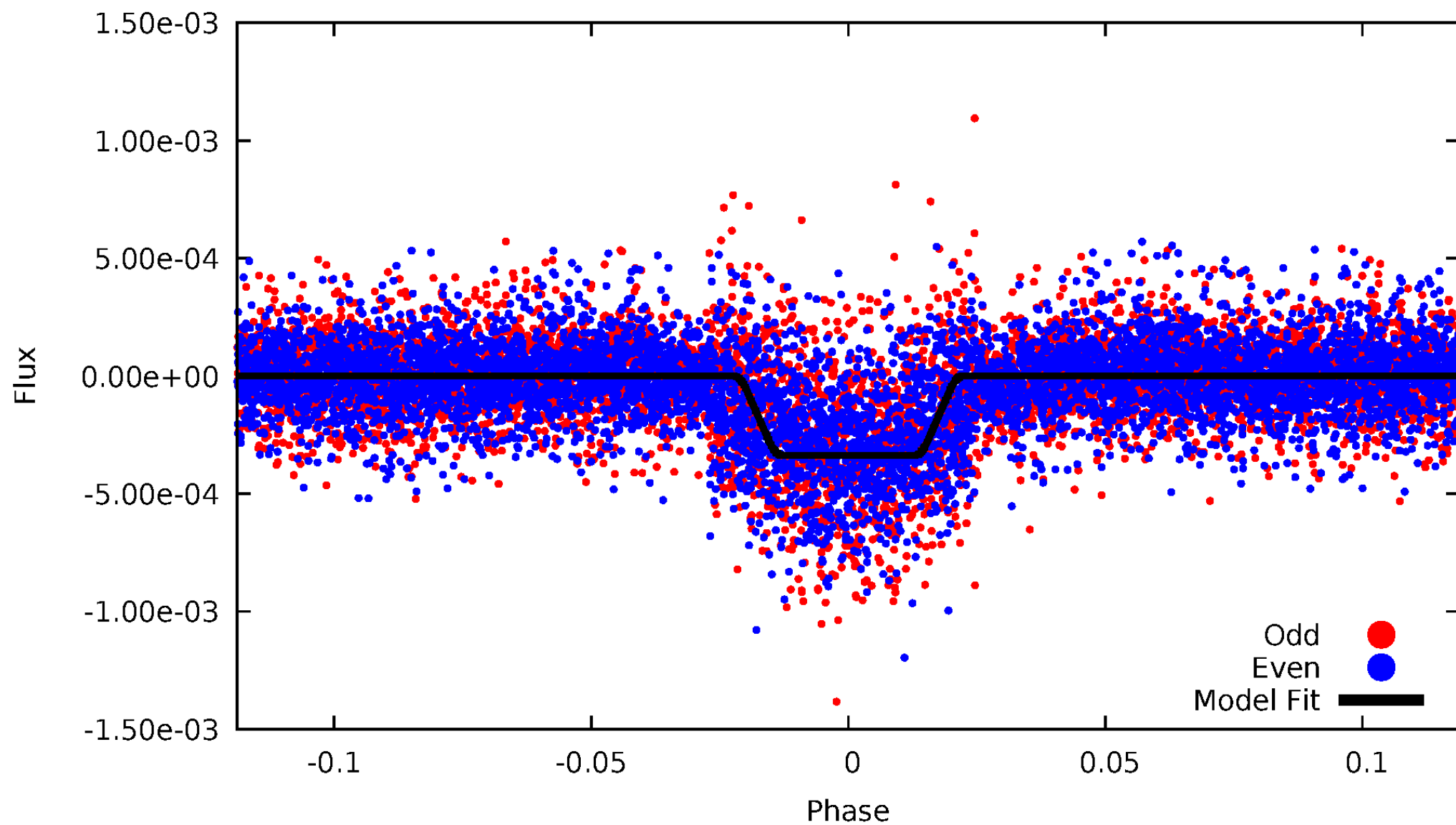
DV Odd/Even

TCE 010417704-01

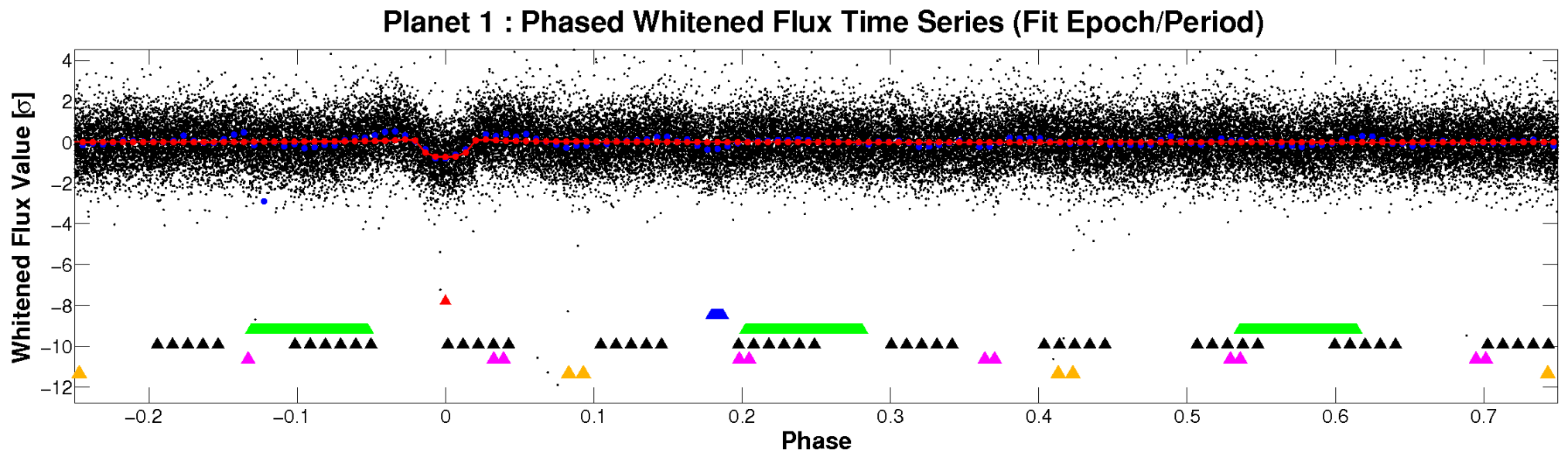
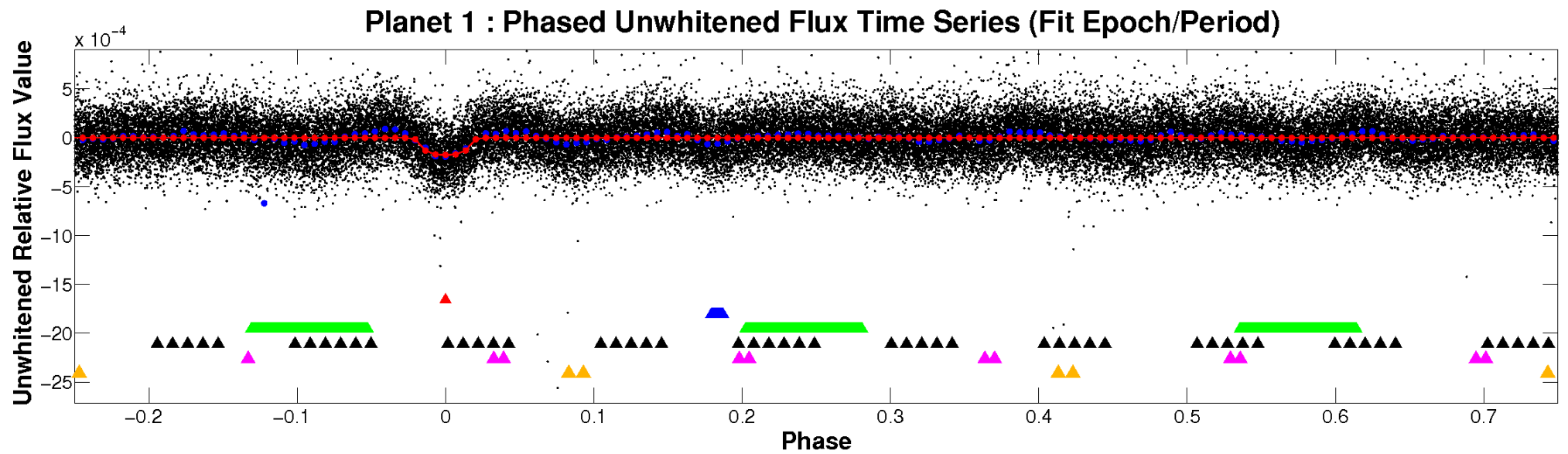


ALT Odd/Even

TCE 010417704-01

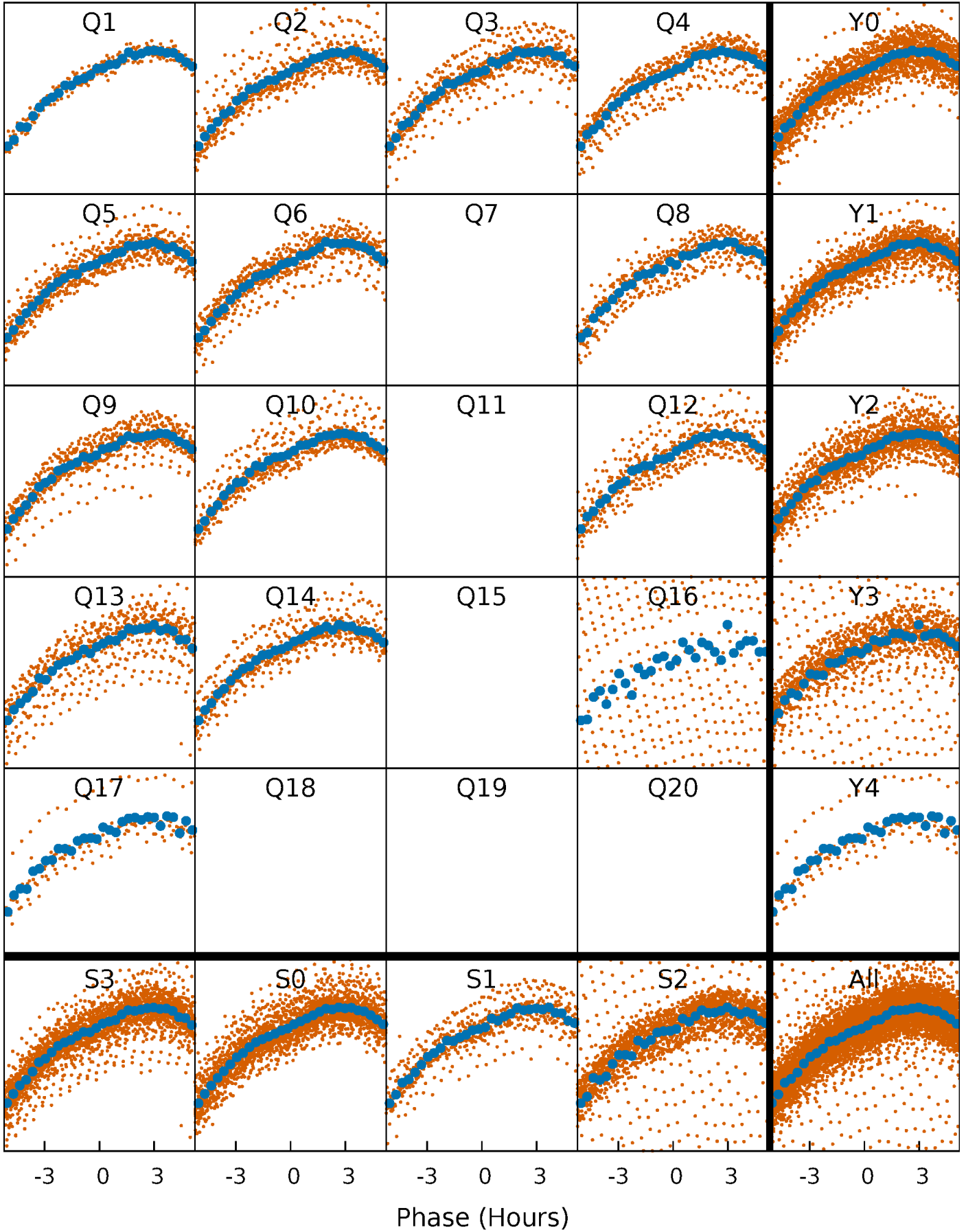


Non-Whitened Vs. Whitened Light Curve



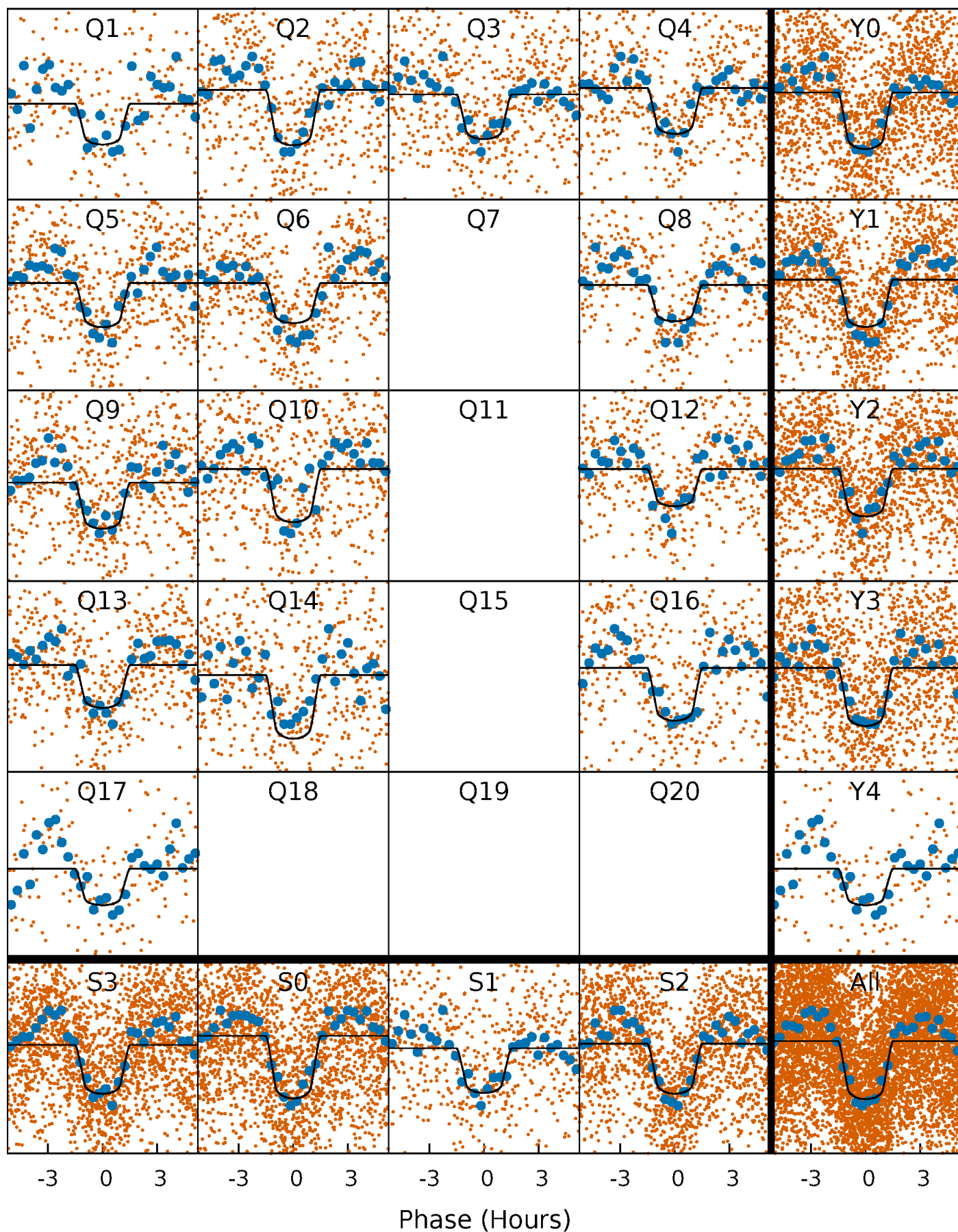
PDC Quarter-Phased Transit Curves

TCE 010417704-01 P= 3.008261 Days $T_0=132.687141$ (BKJD)



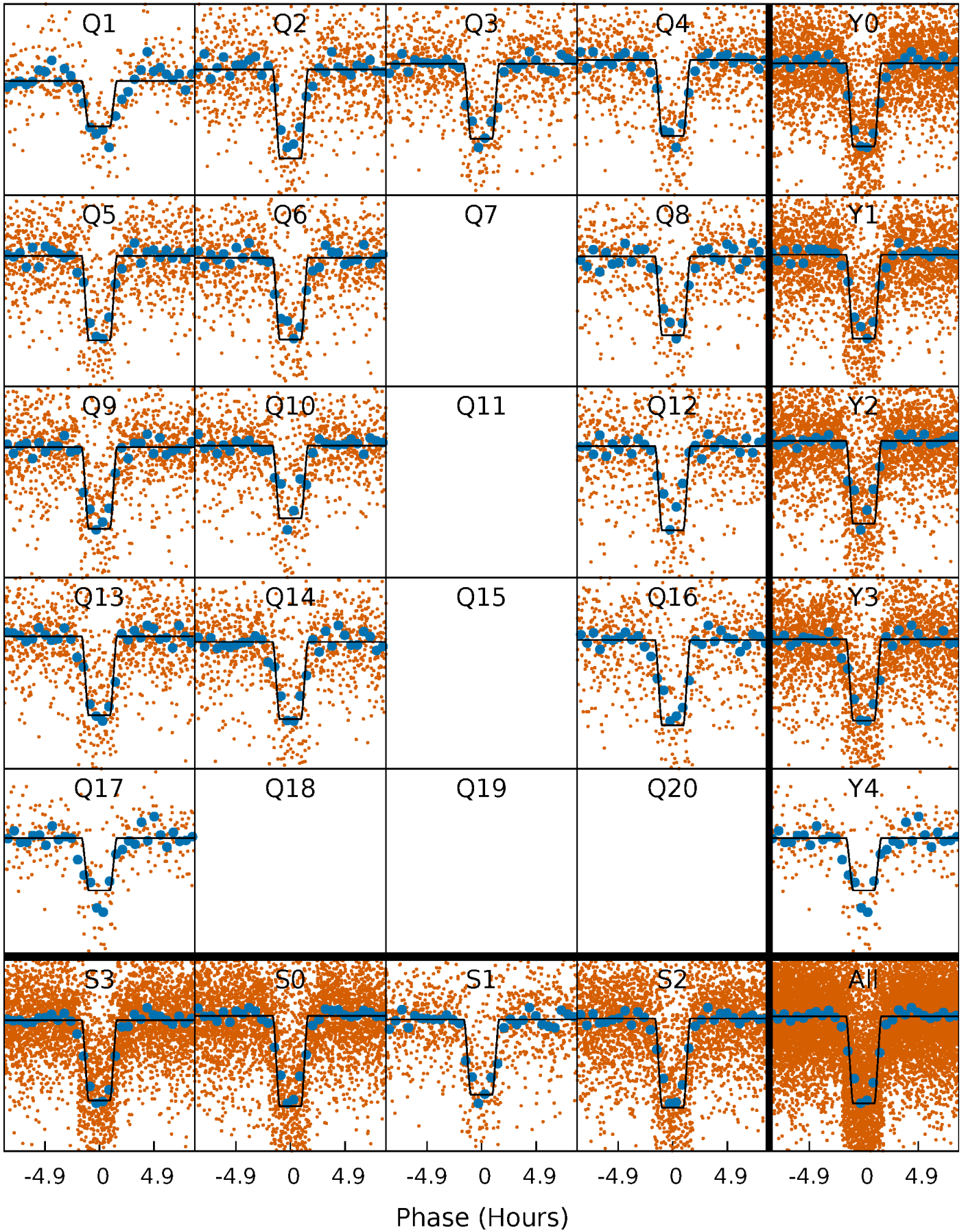
DV Quarter-Phased Transit Curves

TCE 010417704-01 P= 3.008261 Days $T_0=132.687141$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

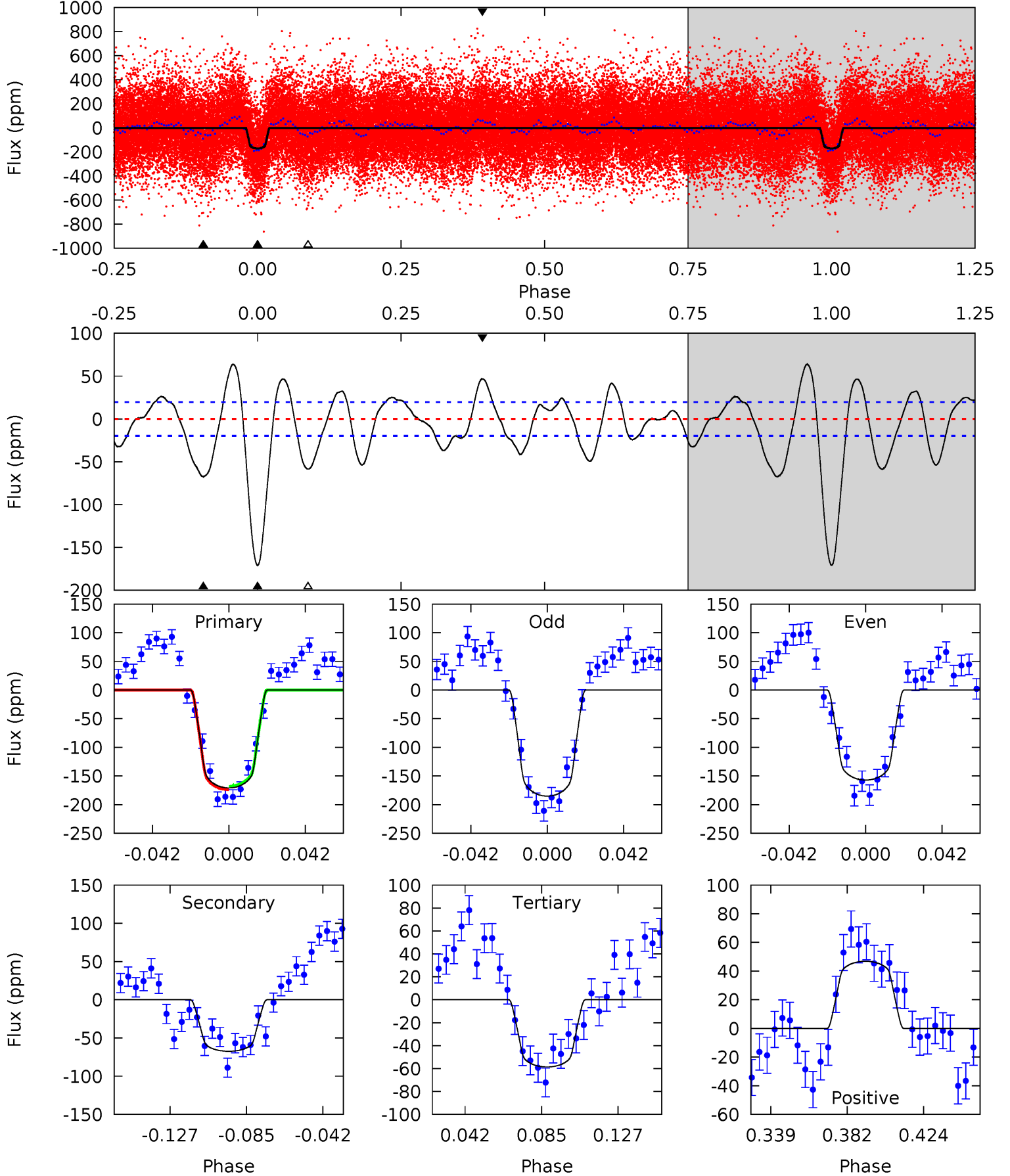
TCE 010417704-01 P= 3.008275 Days $T_0=132.679784$ (BKJD)



DV Model-Shift Uniqueness Test

010417704-01, P = 3.008261 Days, E = 129.678880 Days

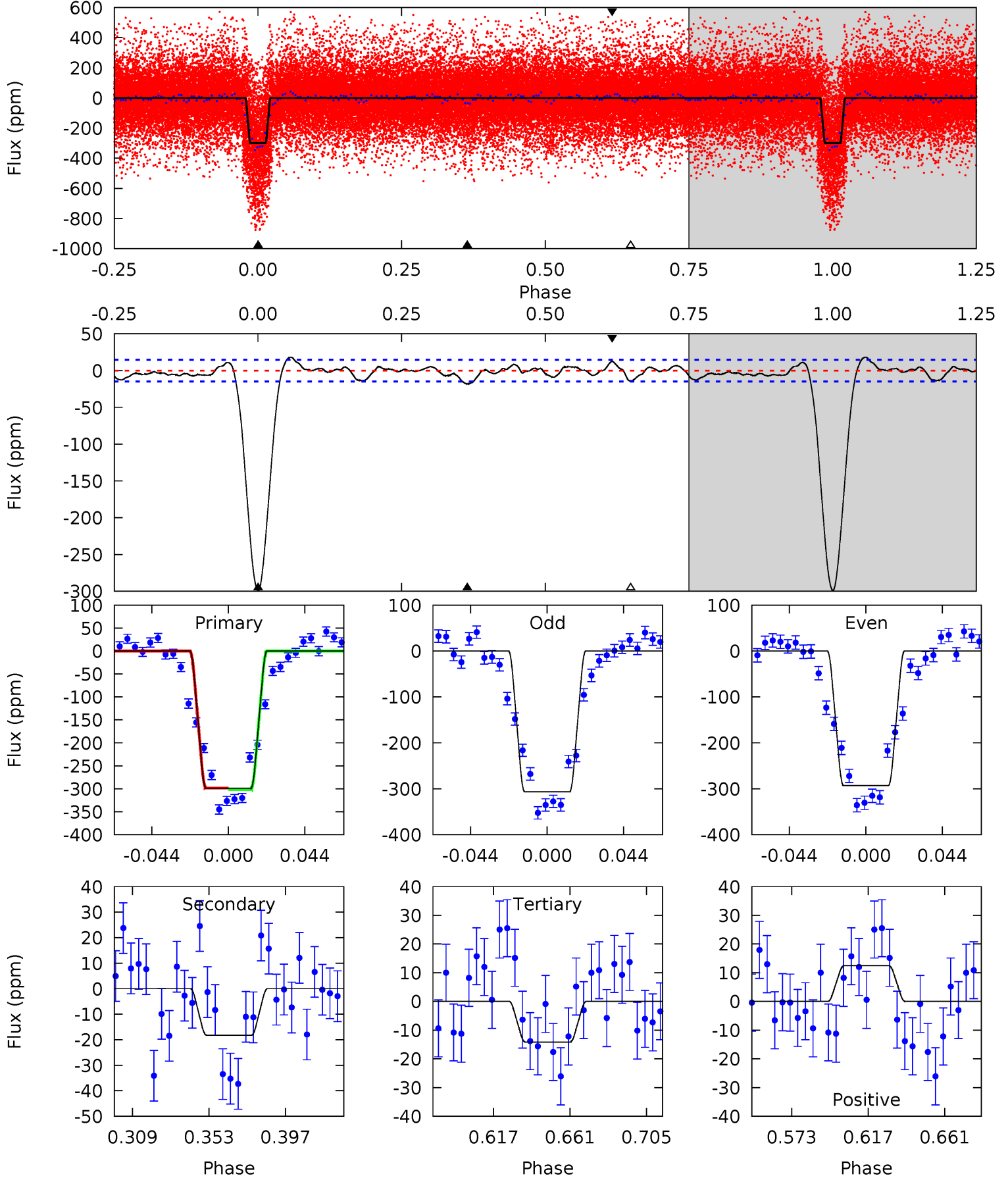
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.3	16.3	14.2	11.3	4.74	2.03	6.20	27.1	30.0	2.13	4.97	3.39	0.99	0.27	0.67



Alt Model-Shift Uniqueness Test

010417704-01, P = 3.008275 Days, E = 129.671509 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
95.8	5.84	4.53	3.99	4.73	2.01	1.92	91.2	91.8	1.31	1.85	2.22	0.94	0.06	0.53



Stellar Parameters For KIC 010417704

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8275^{+231}_{-364}	$4.199^{+0.065}_{-0.208}$	$0.210^{+0.150}_{-0.500}$	$1.818^{+0.591}_{-0.253}$	$1.908^{+0.340}_{-0.306}$	$0.448^{+0.130}_{-0.239}$
	+3%/-4%	+2%/-5%	+71%/-238%	+33%/-14%	+18%/-16%	+29%/-54%
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 010417704-01 / KOI 7324.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-67 ± 4	$2.96^{+0.64}_{-0.51}$	3123^{+231}_{-169}	6022^{+539}_{-433}	11^{+5}_{-3}
Alt.	-18 ± 3	$3.79^{+0.76}_{-0.58}$	3124^{+226}_{-181}	3990^{+270}_{-256}	$1.744^{+0.751}_{-0.558}$

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

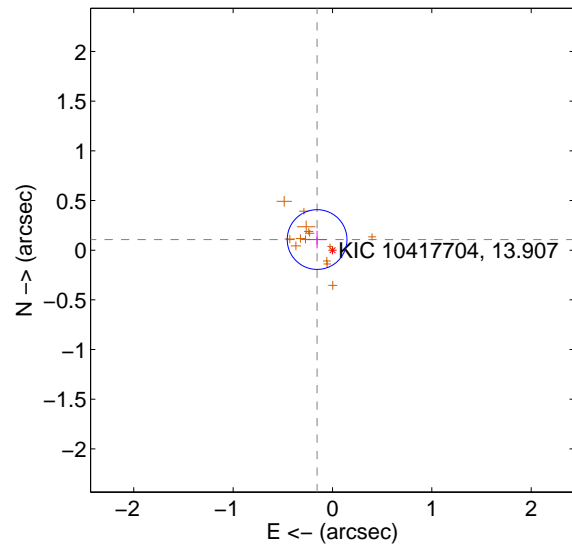
Supplemental centroid analysis for 010417704-01. Kepler magnitude: 13.91. Transit SNR 26.88

There are 0 quarters with good PRF difference image offsets

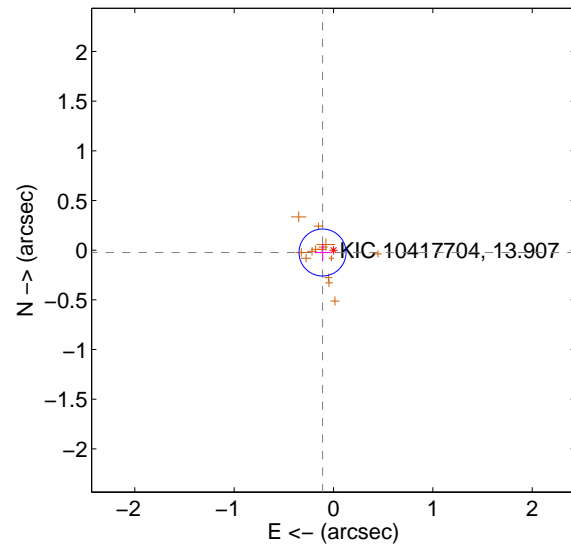
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.188 ± 0.100	1.88	0.155 ± 0.093	0.107 ± 0.089
PRF-fit source offset from KIC position	0.113 ± 0.079	1.44	0.111 ± 0.080	-0.024 ± 0.087
photometric centroid source offset	0.75 ± 0.43	1.74	-0.67 ± 0.43	-0.32 ± 0.44

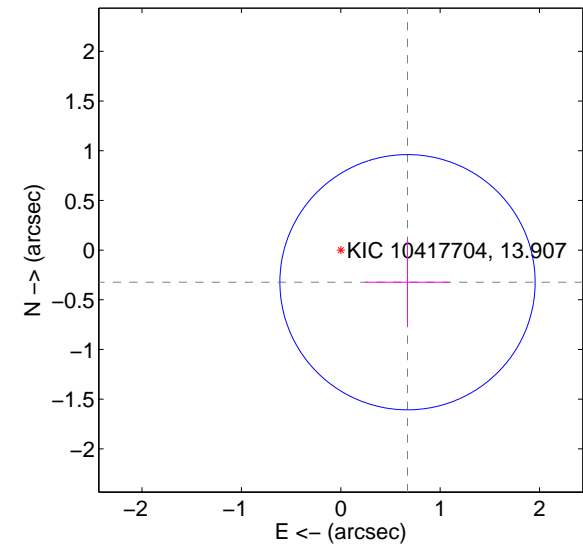
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

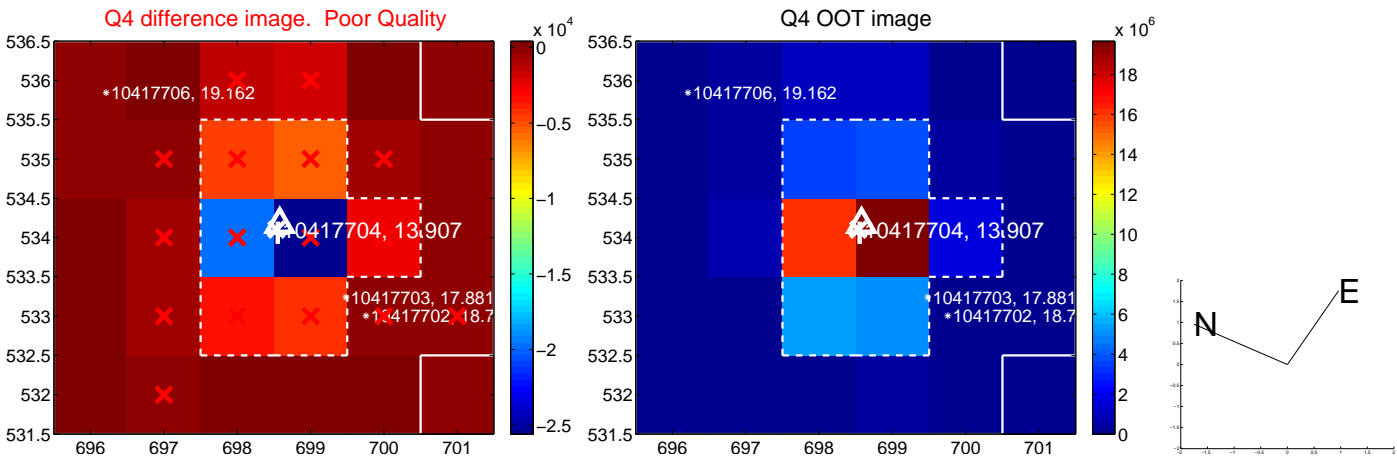
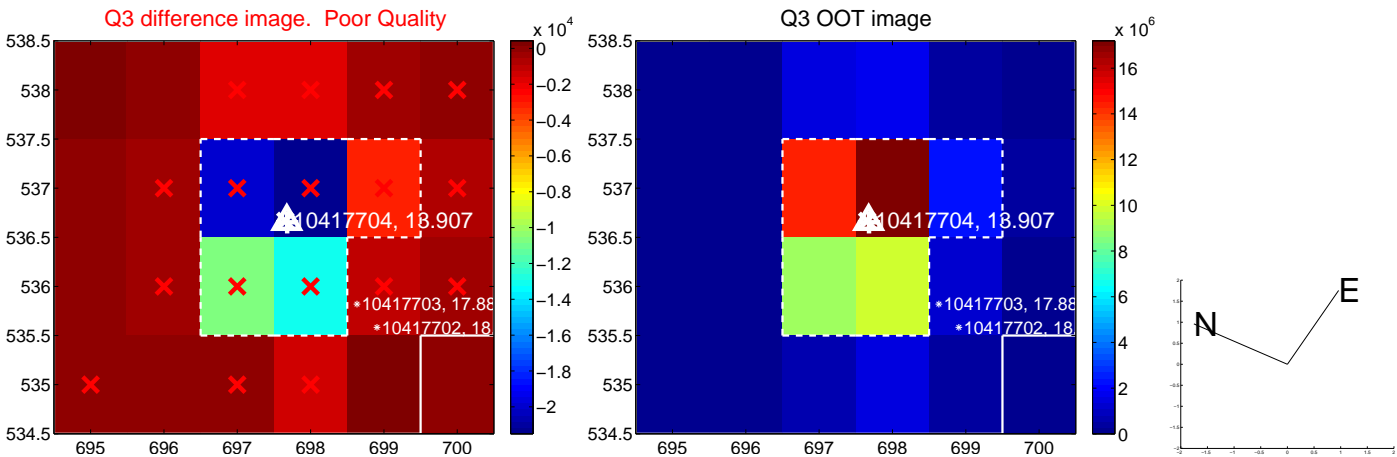
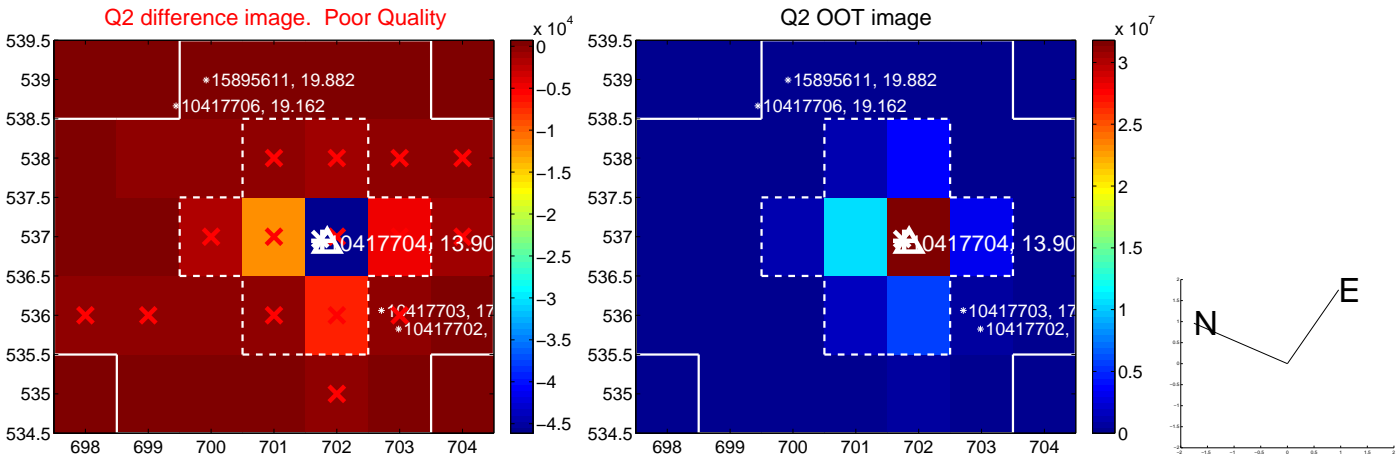
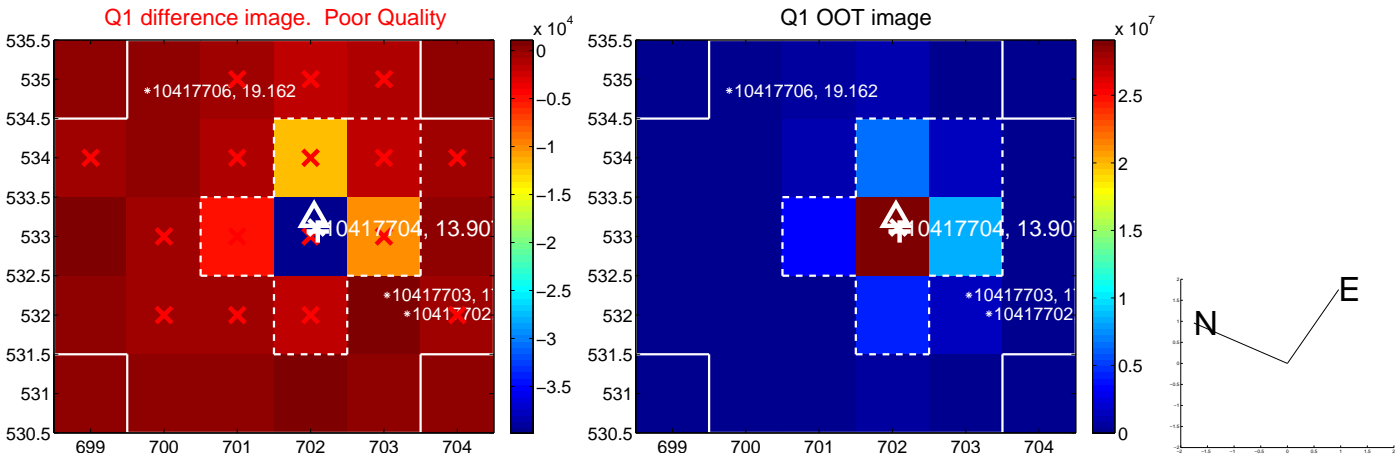


offset from photometric centroids

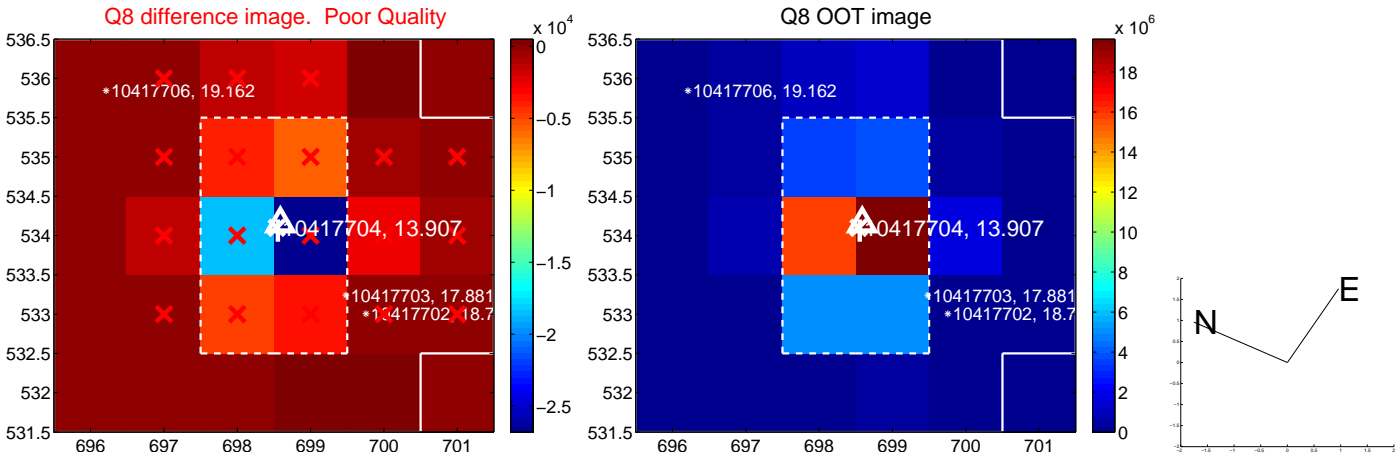
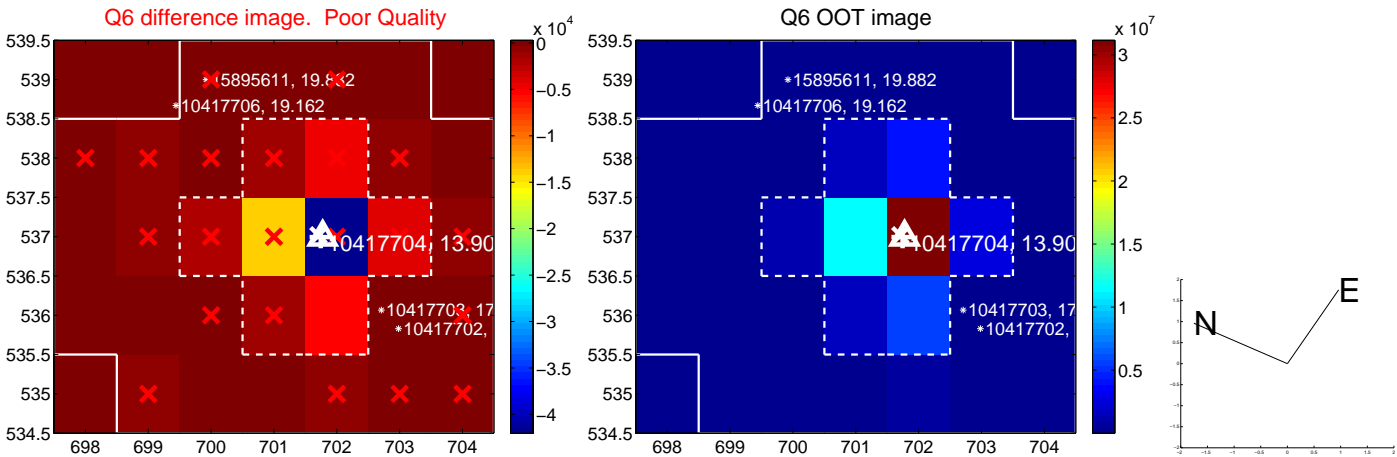
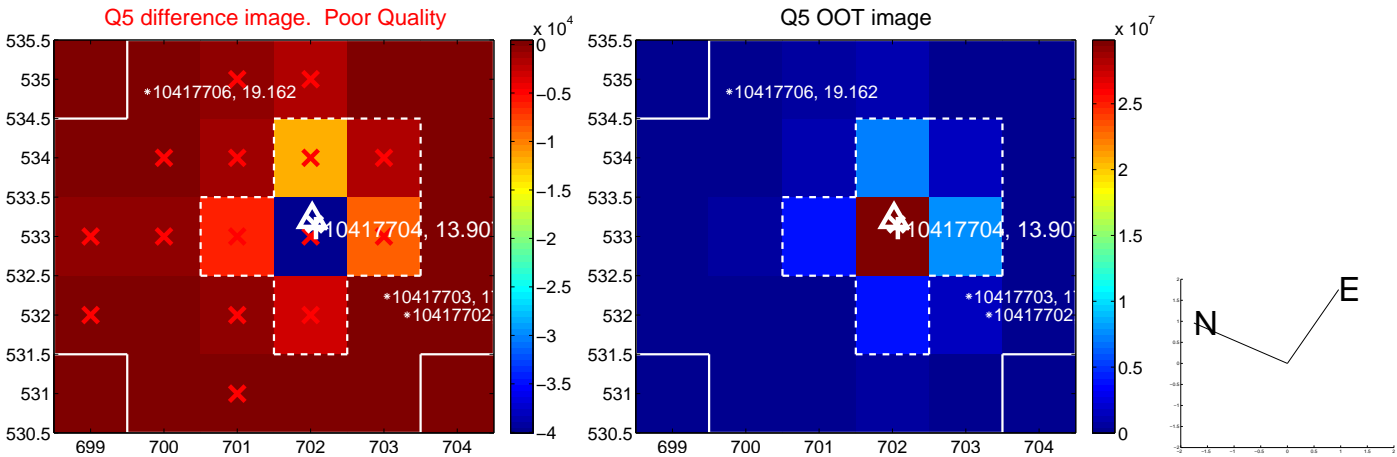


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

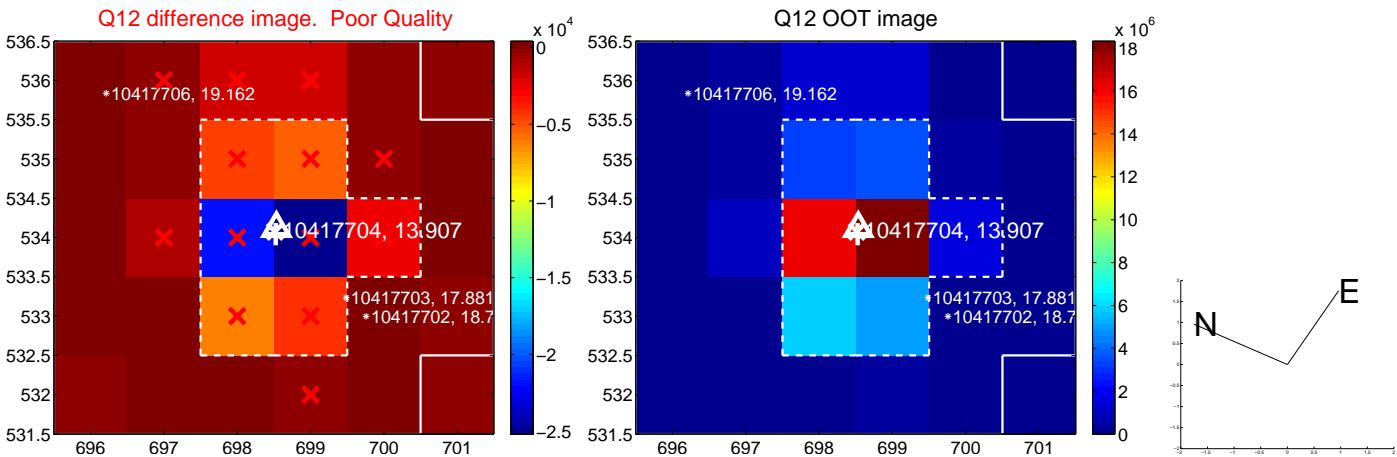
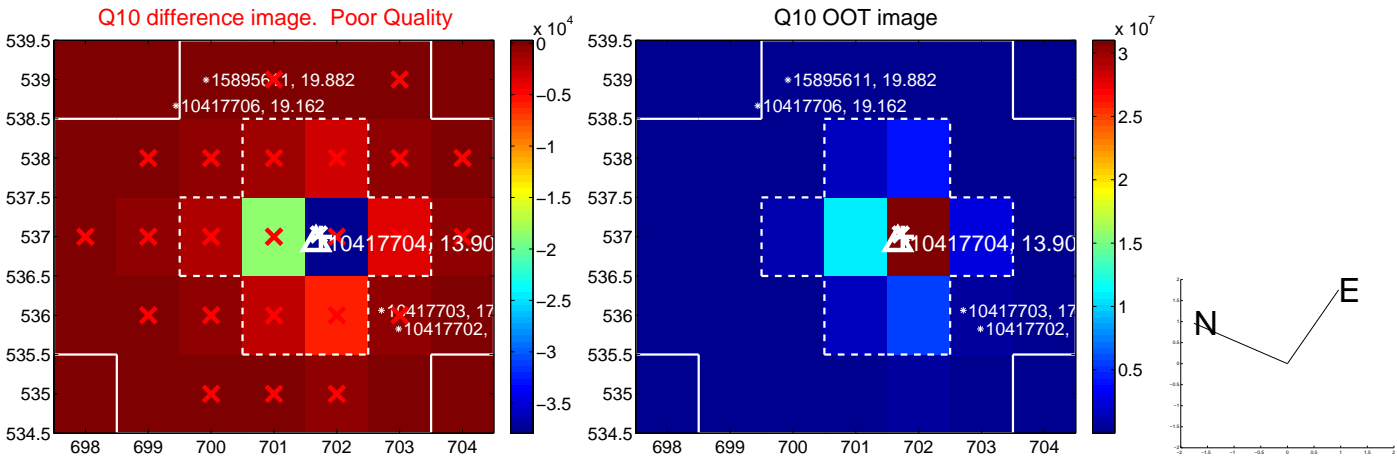
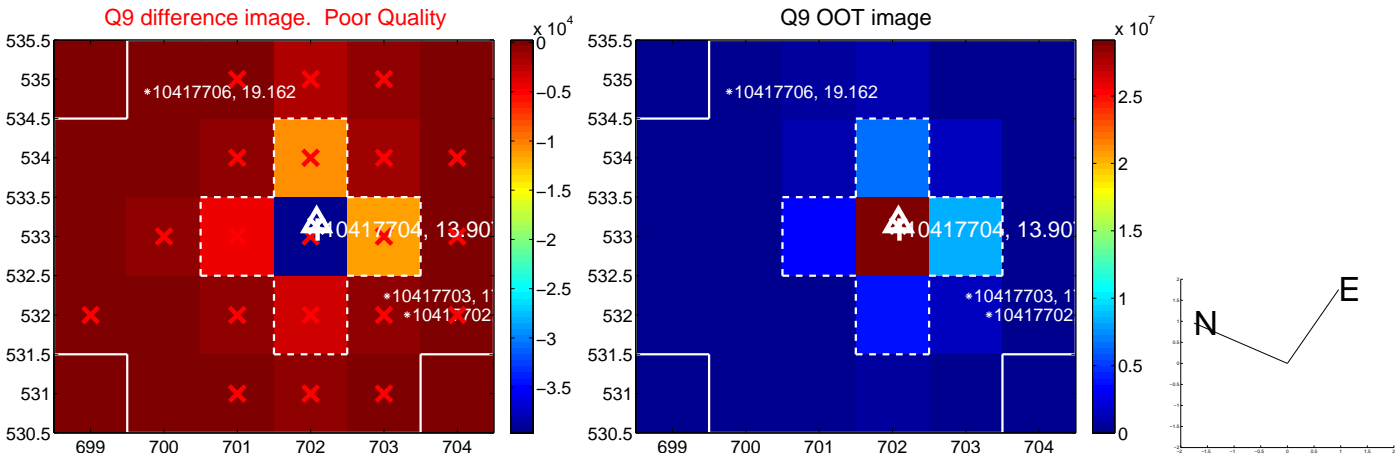
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



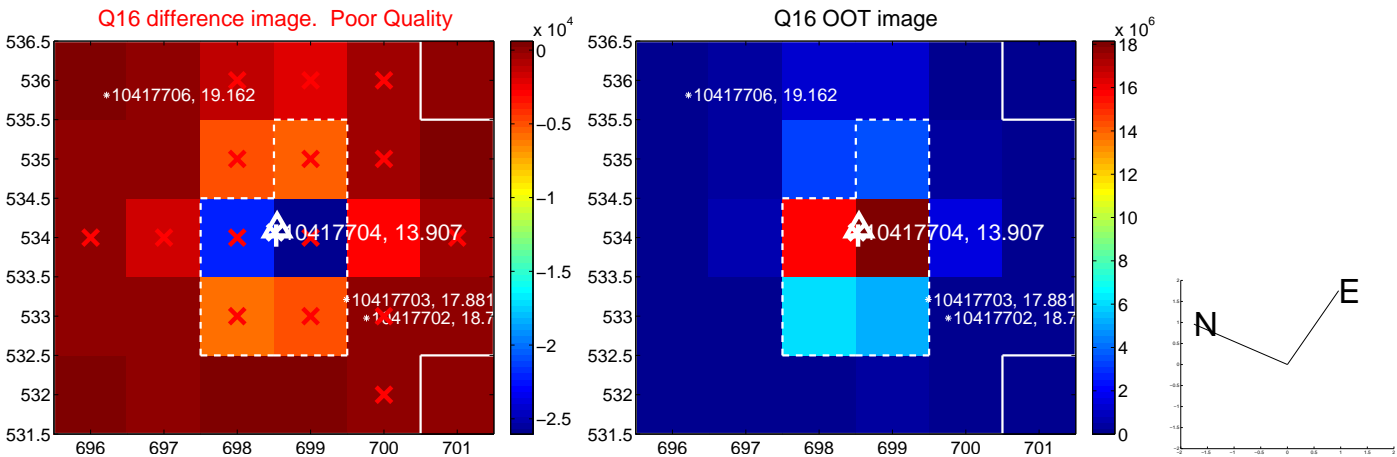
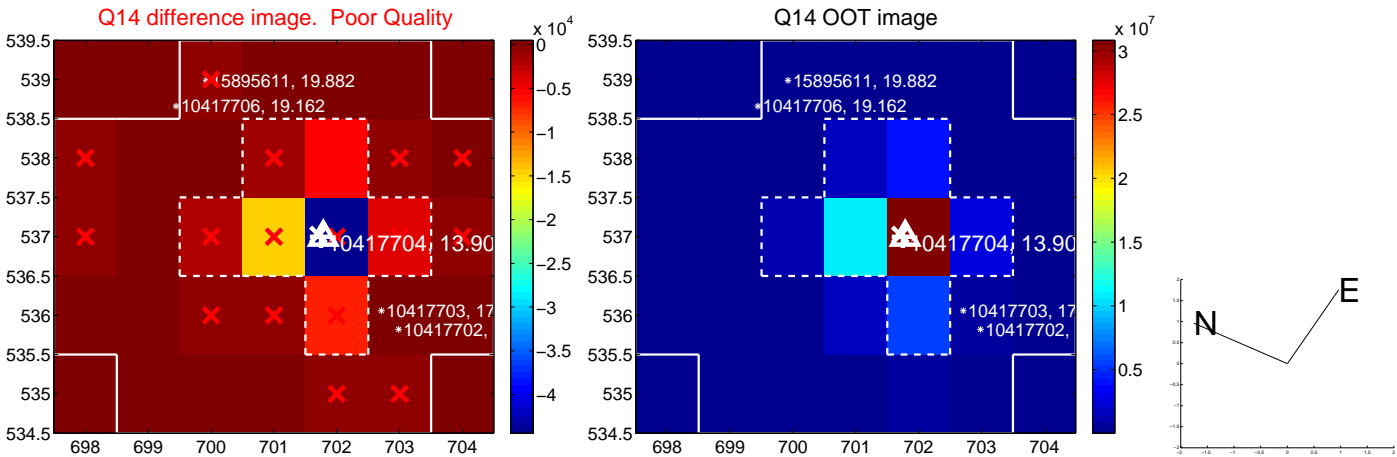
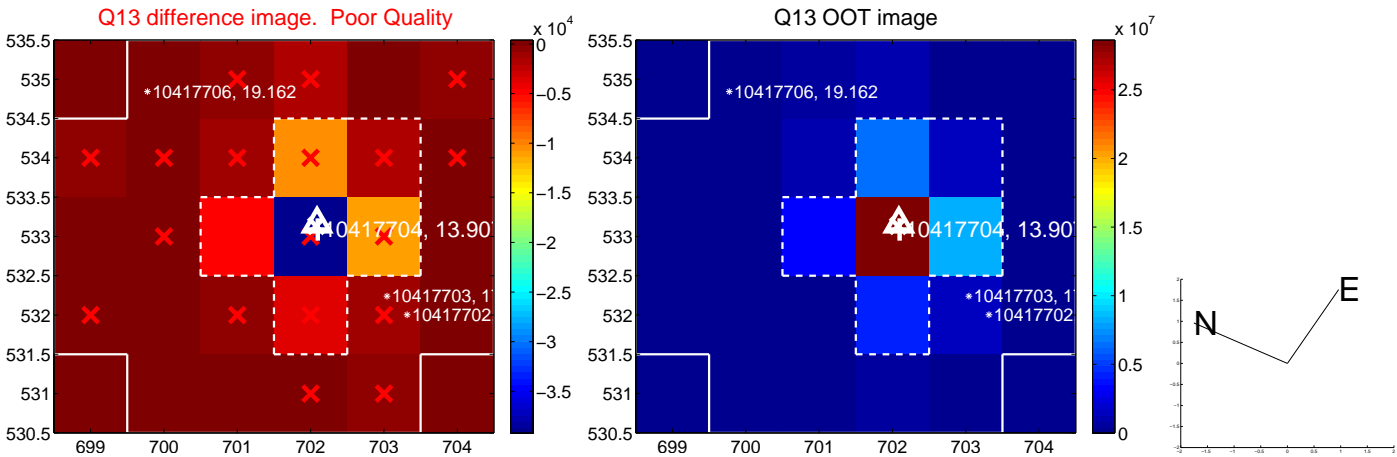
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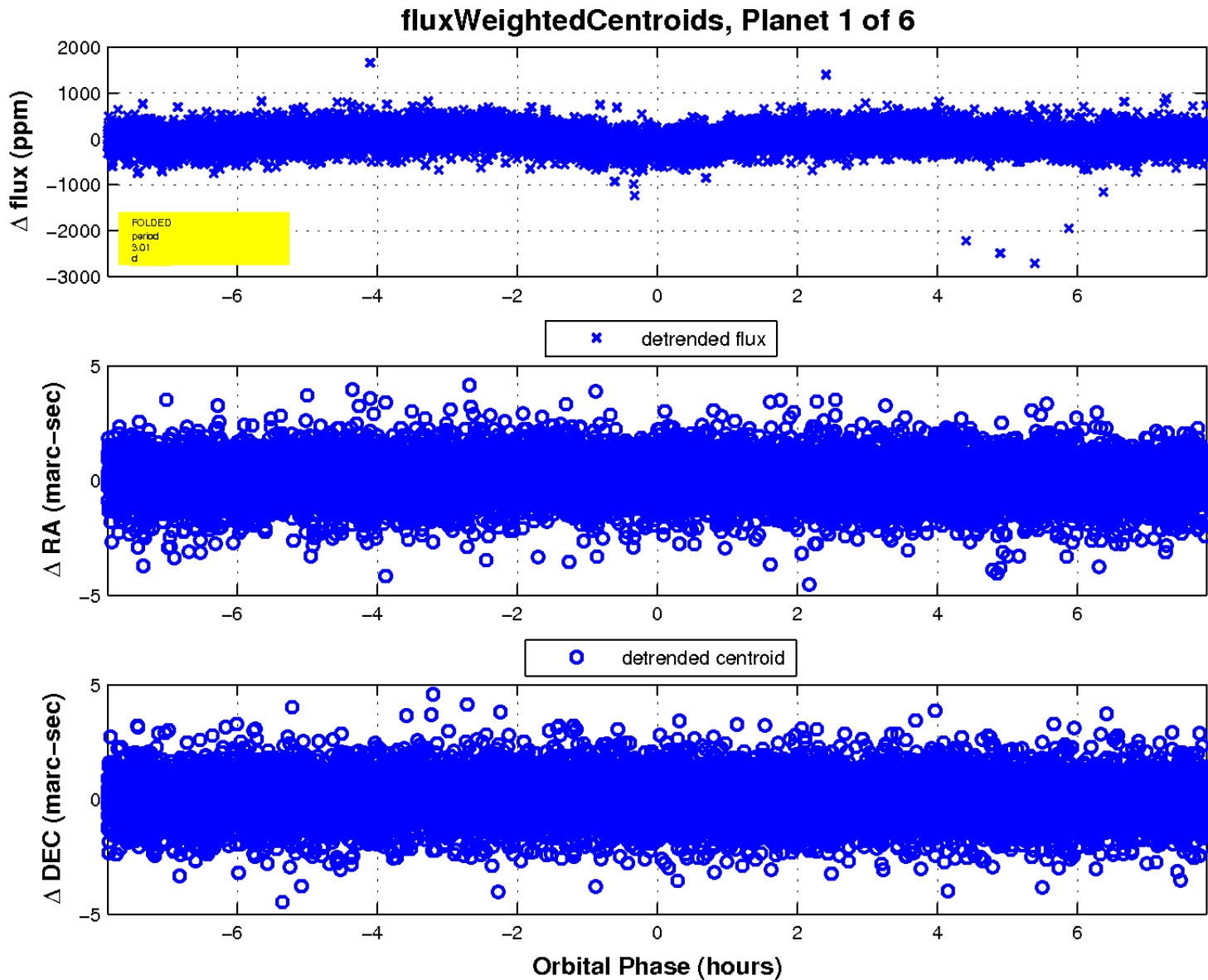
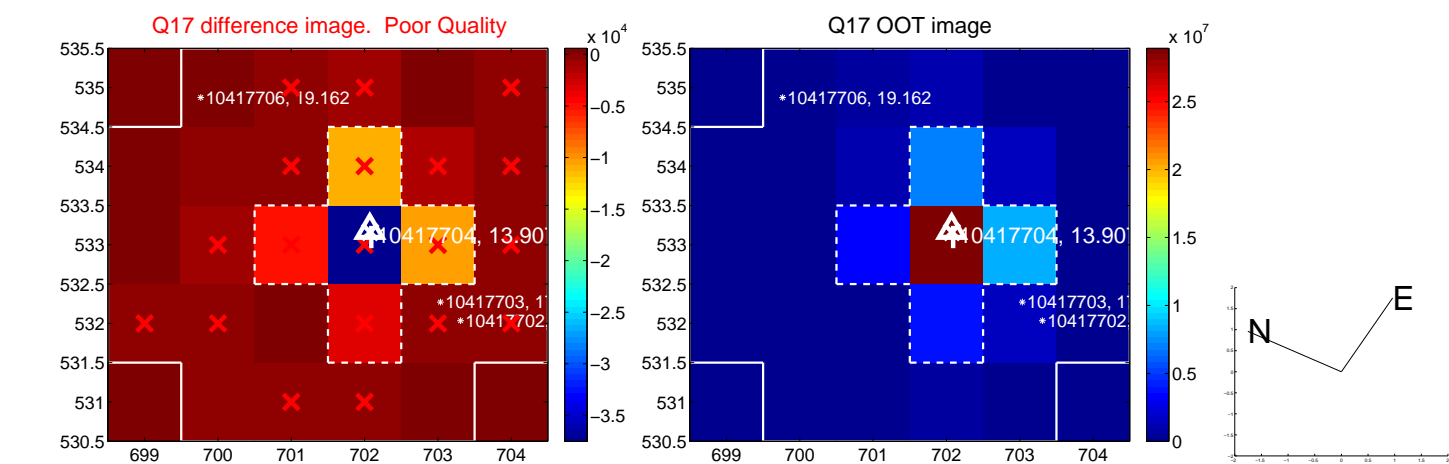
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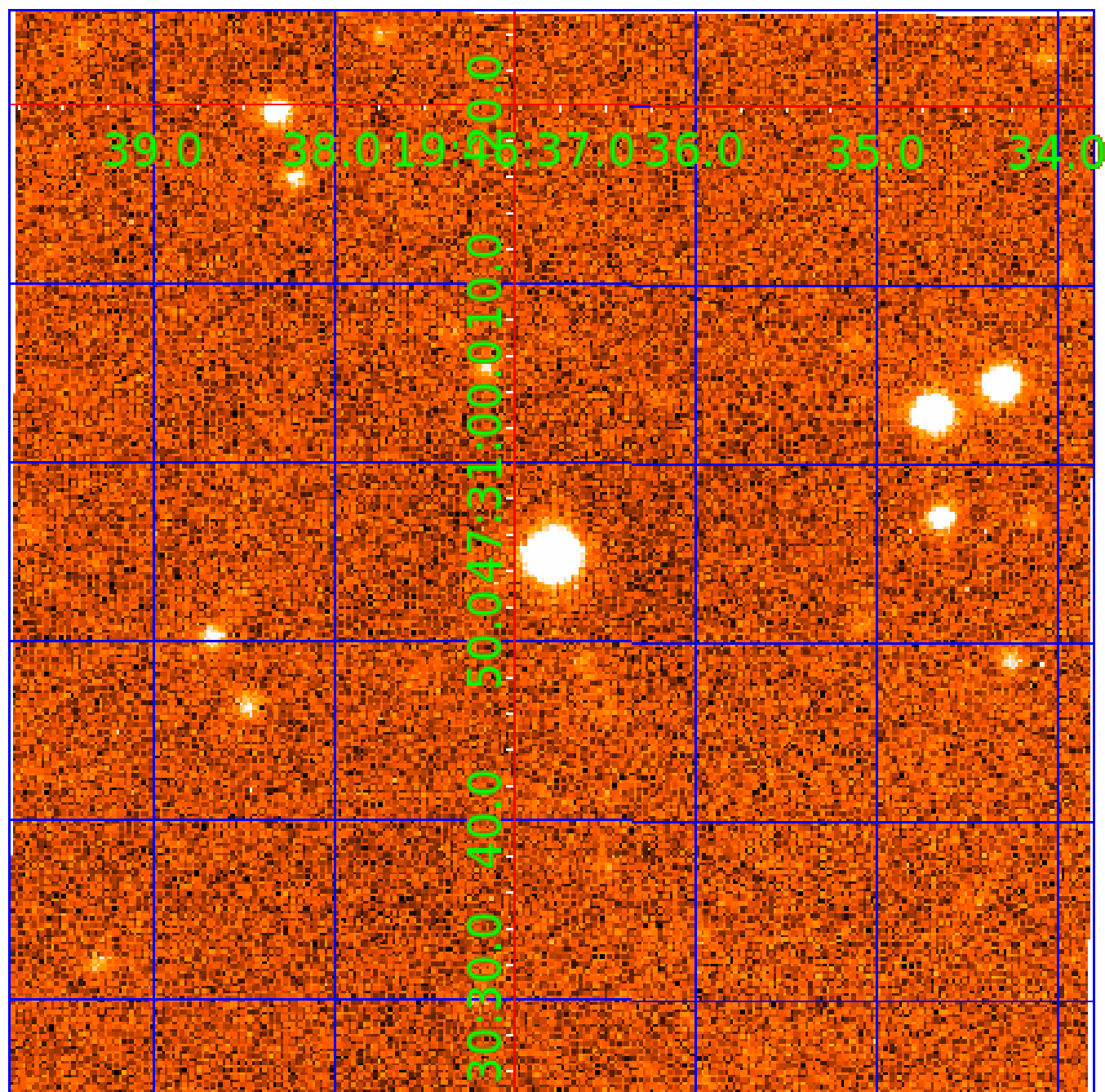


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010417704

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010417704-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE_TRACKER—TRANS_GAPPED—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
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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.

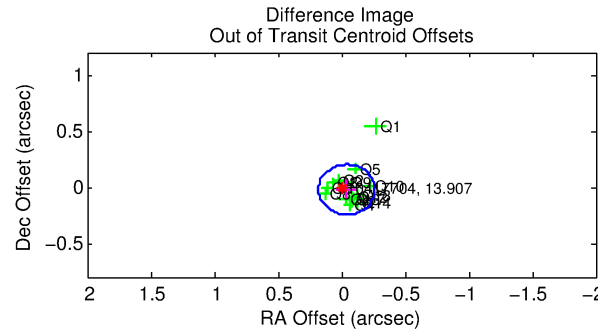
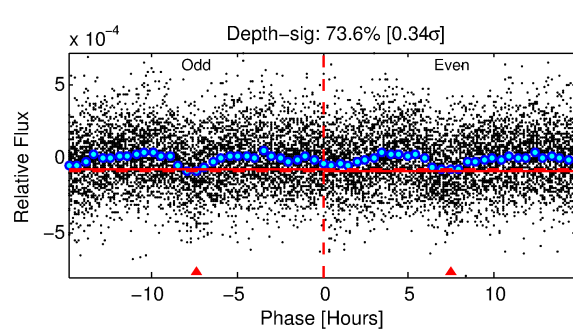
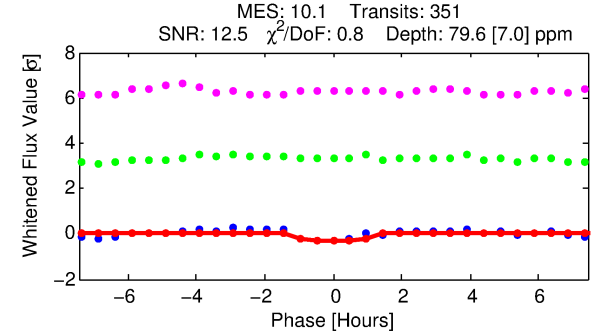
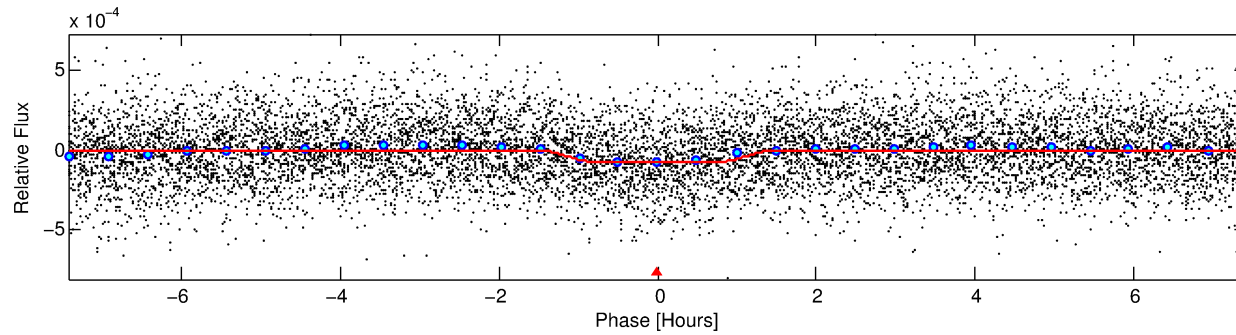
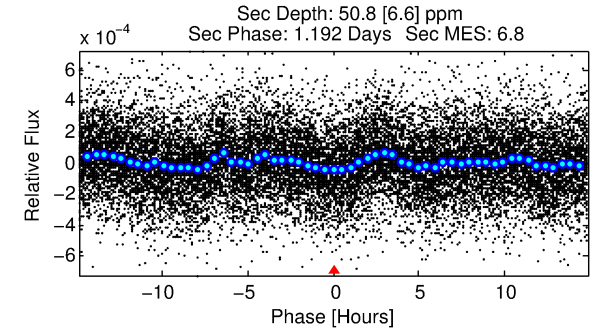
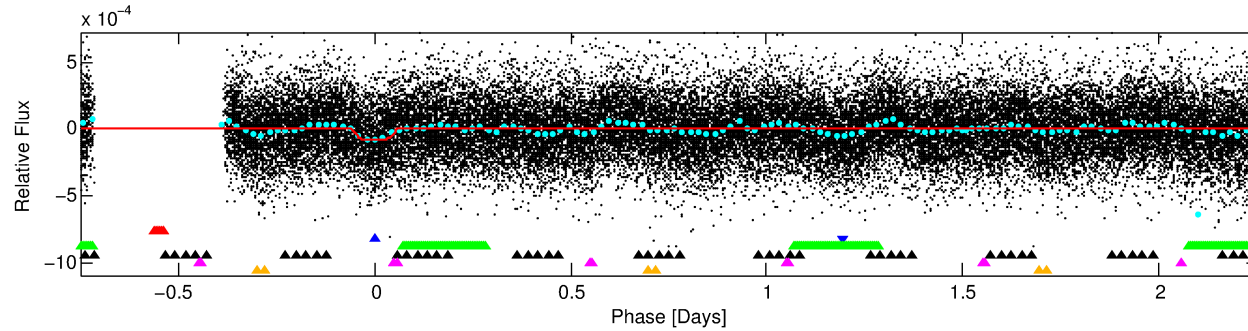
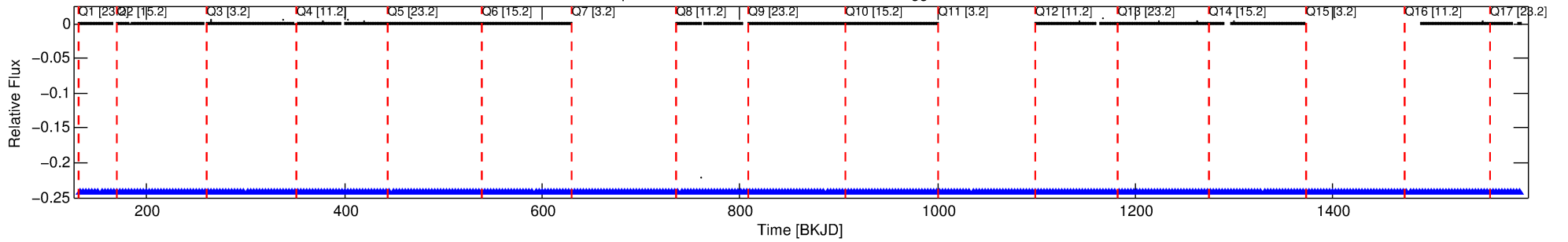
Ephemeris Match Information For 010417704-02

No Significant Match Found

DV One-Page Summary

KIC: 10417704 Candidate: 2 of 6 Period: 3.008 d
KOI: K07324 Corr: No Ephemeris Match

Kp: 13.91 R*: 1.82 Rs Teff: 8275.0 K Logg: 4.20 Fe/H: 0.210



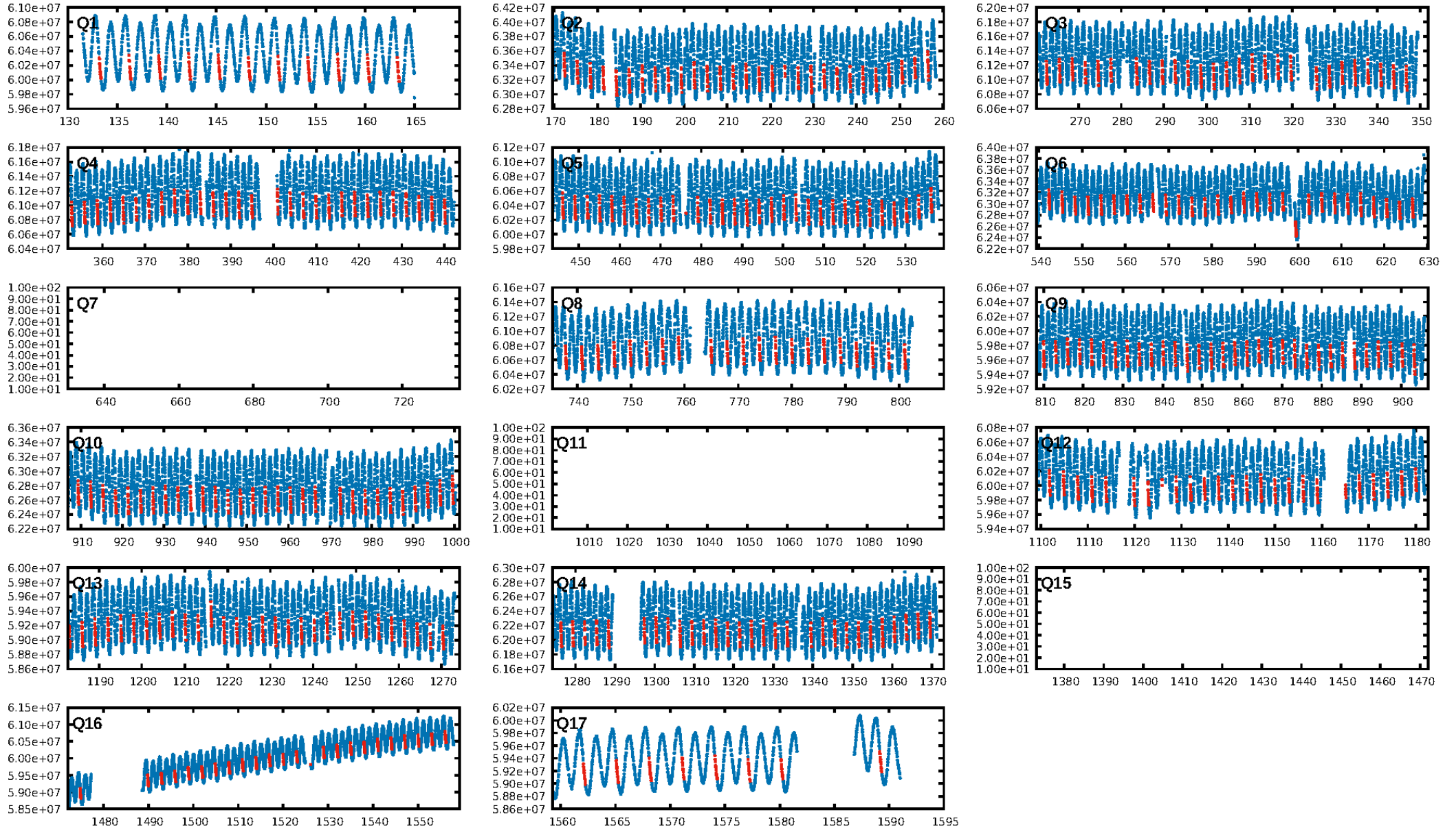
DV Fit Results:

Period = 3.00821 [0.00001] d
Epoch = 133.2503 [0.0026] BKJD
Rp/R* = 0.0095 [0.0031]
a/R* = 4.40 [8.69]
b = 0.90 [0.46]
Seff = 5427.73 [2301.99]
Teq = 2189 [232] K
Rp = 1.88 [0.87] Re
a = 0.0506 [0.0136] AU
Ag = 20.25 [15.70] [1.23σ]
Teffp = 7178 [1247] K [3.93σ]

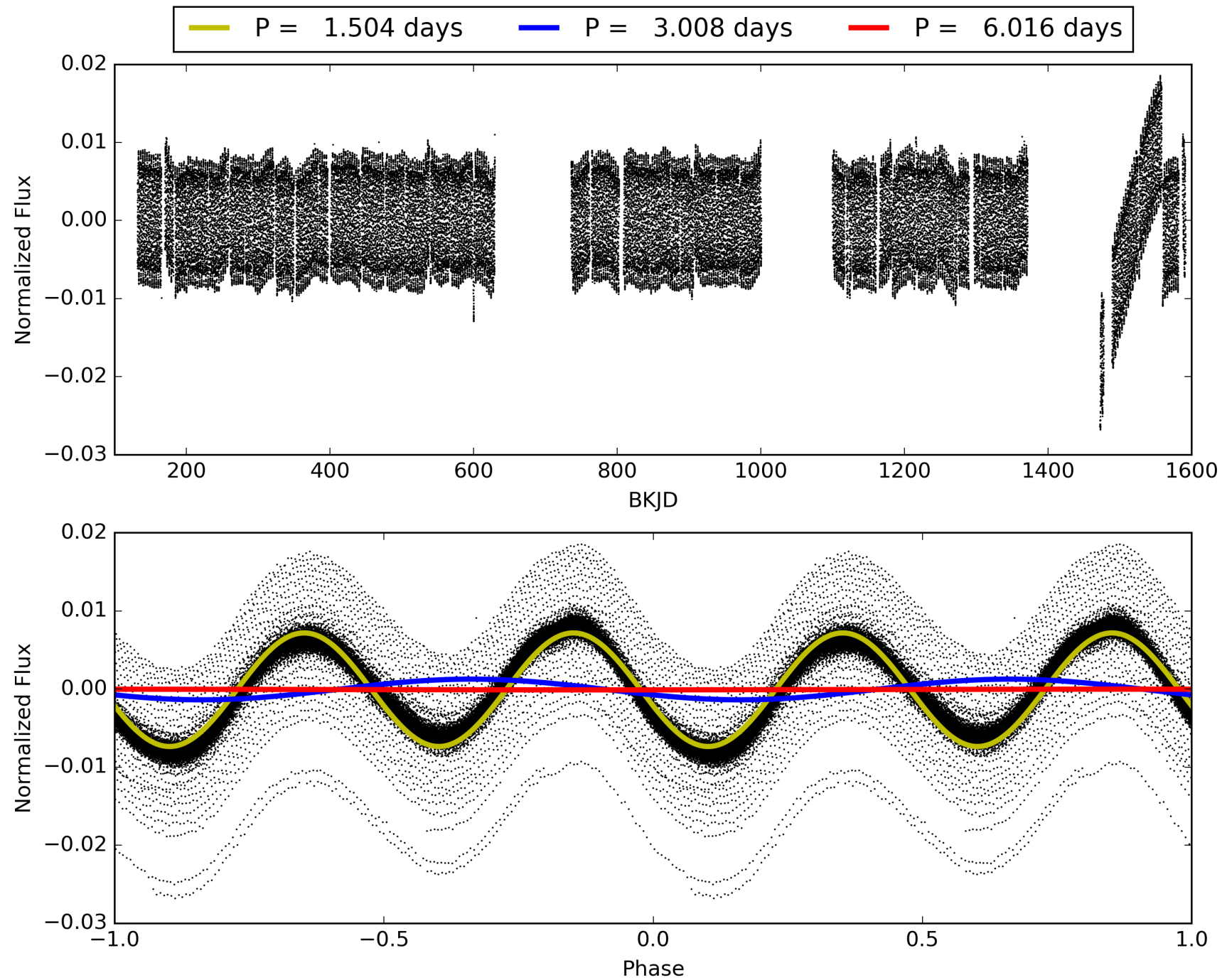
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.81σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [332/332]
GhostDiagnostic-chr: 0.6292
Centroid-sig: N/A
Centroid-so: 0.097 arcsec [0.10σ]
OotOffset-rm: 0.045 arcsec [0.61σ]
KicOffset-rm: 0.206 arcsec [2.71σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 010417704-02, PDC Light Curves

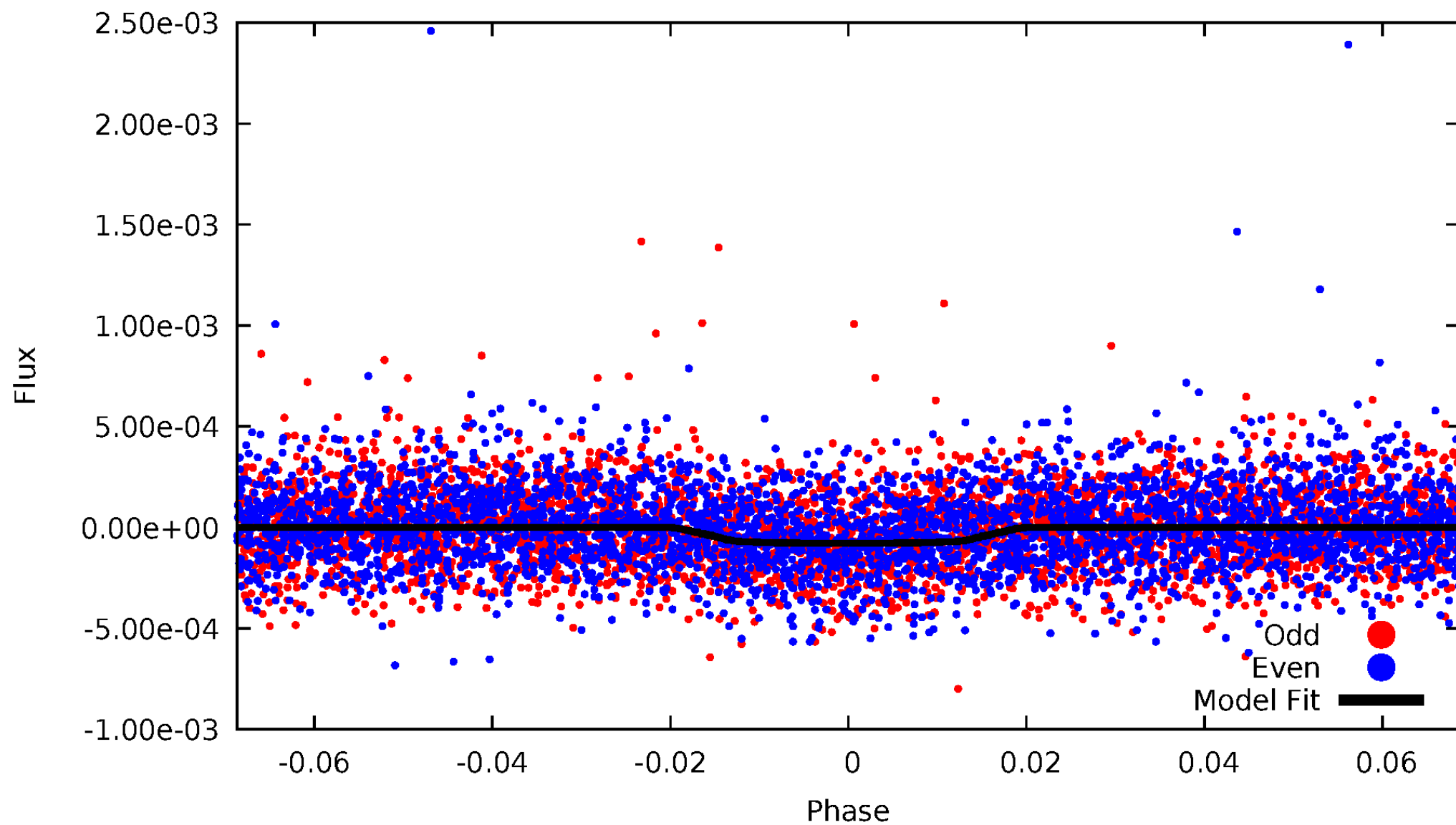


TCE 010417704-02



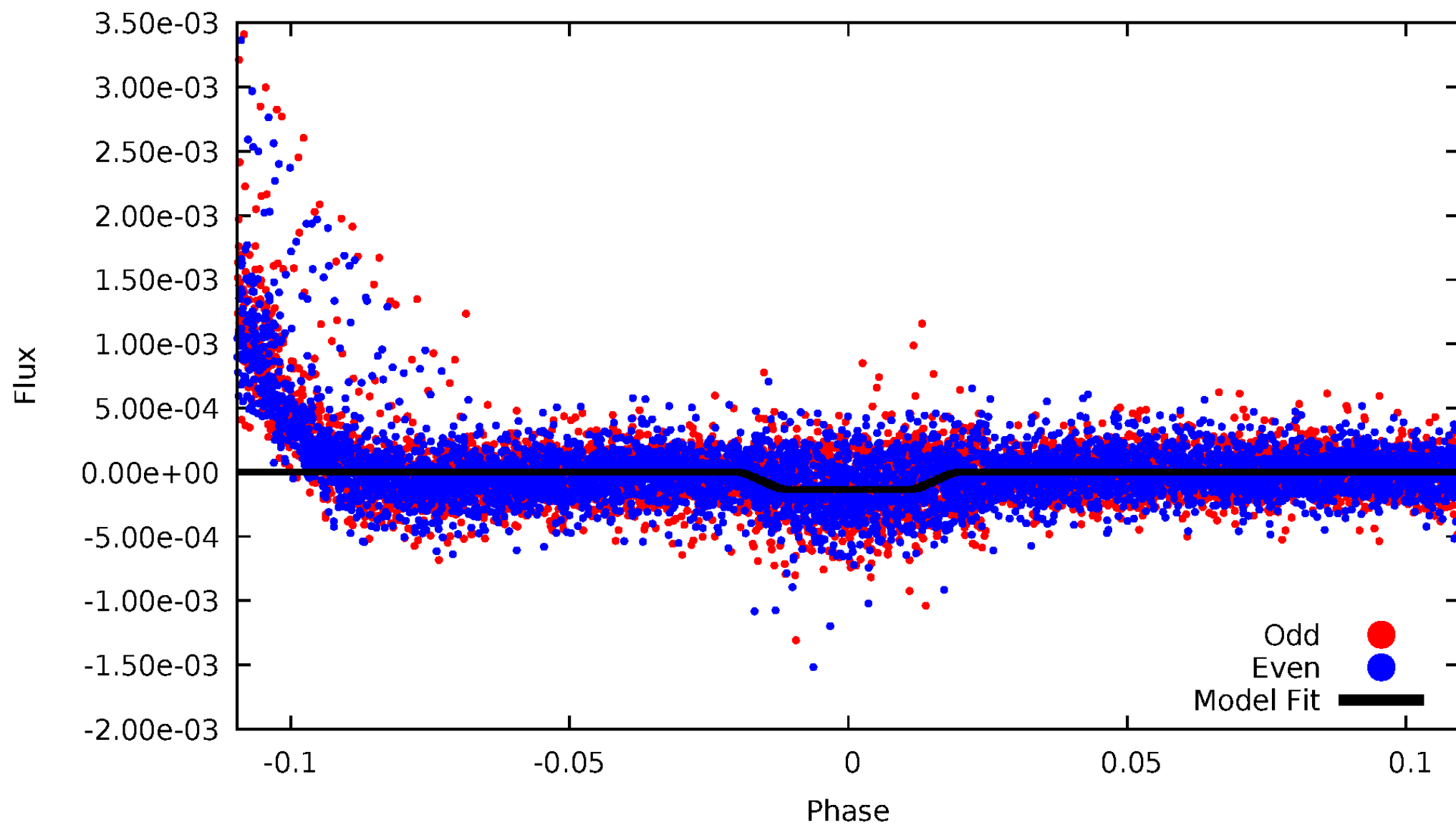
DV Odd/Even

TCE 010417704-02



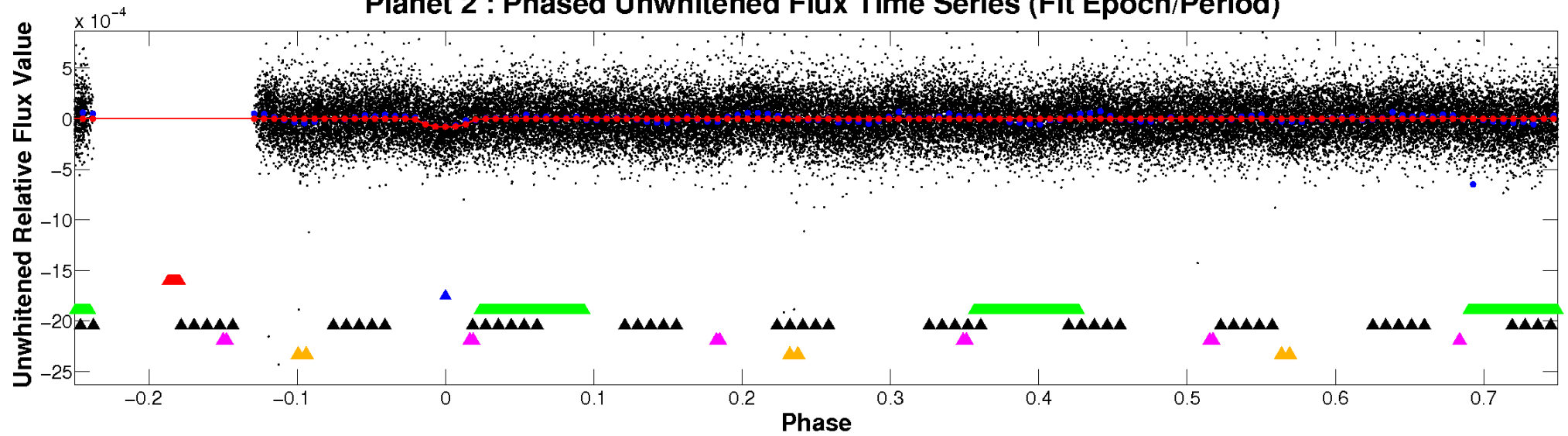
ALT Odd/Even

TCE 010417704-02

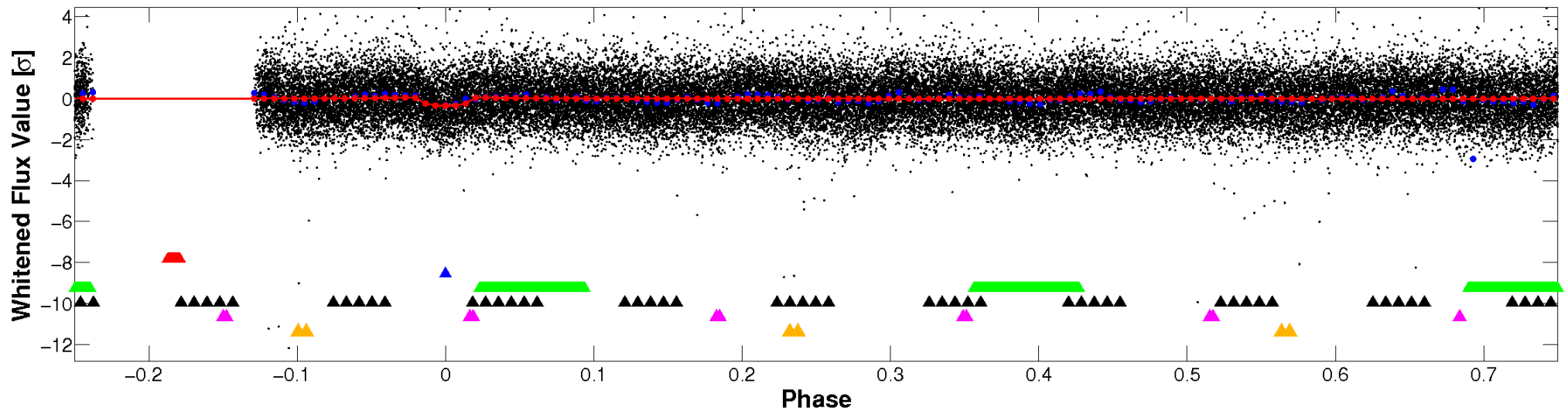


Non-Whitened Vs. Whitened Light Curve

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

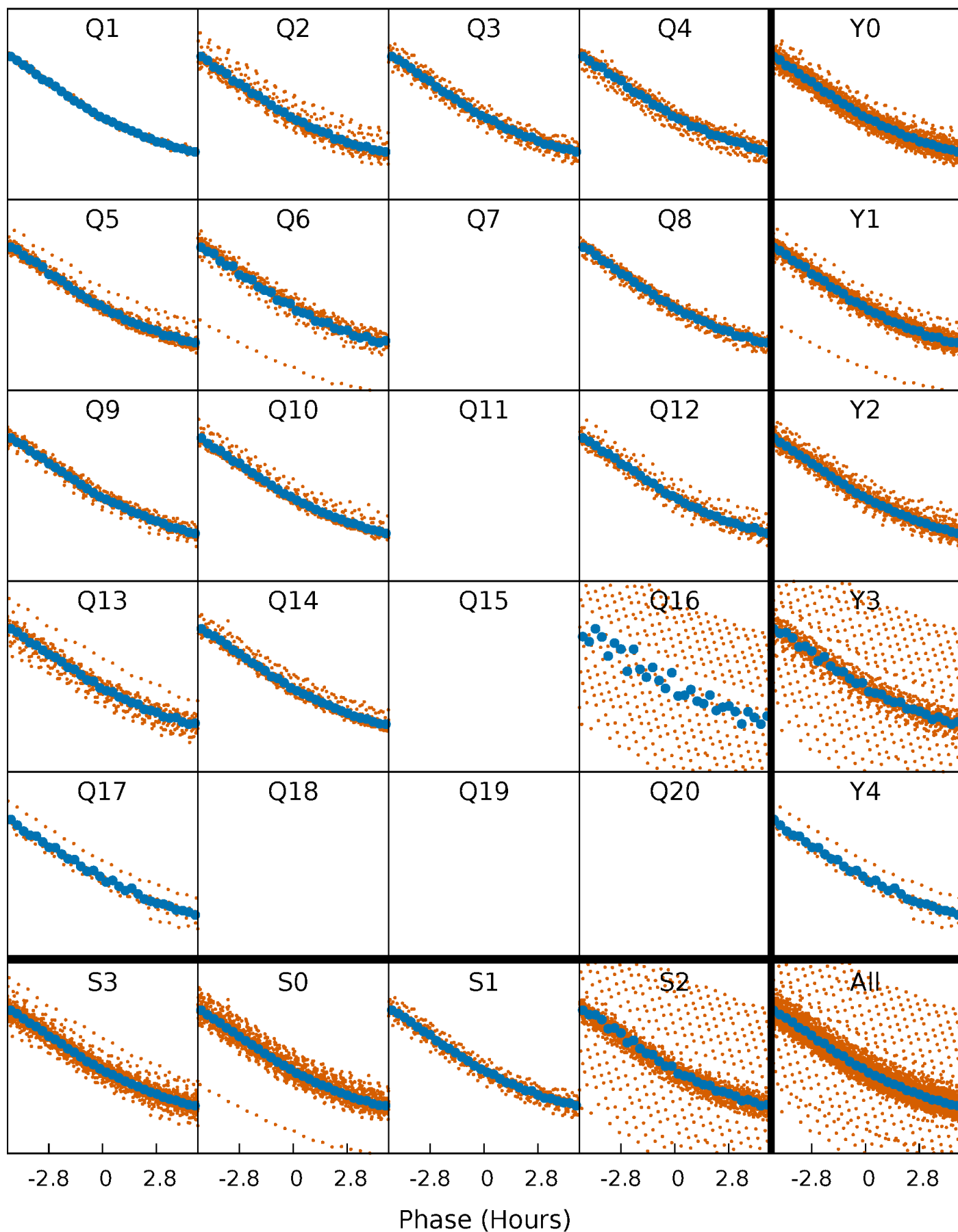


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



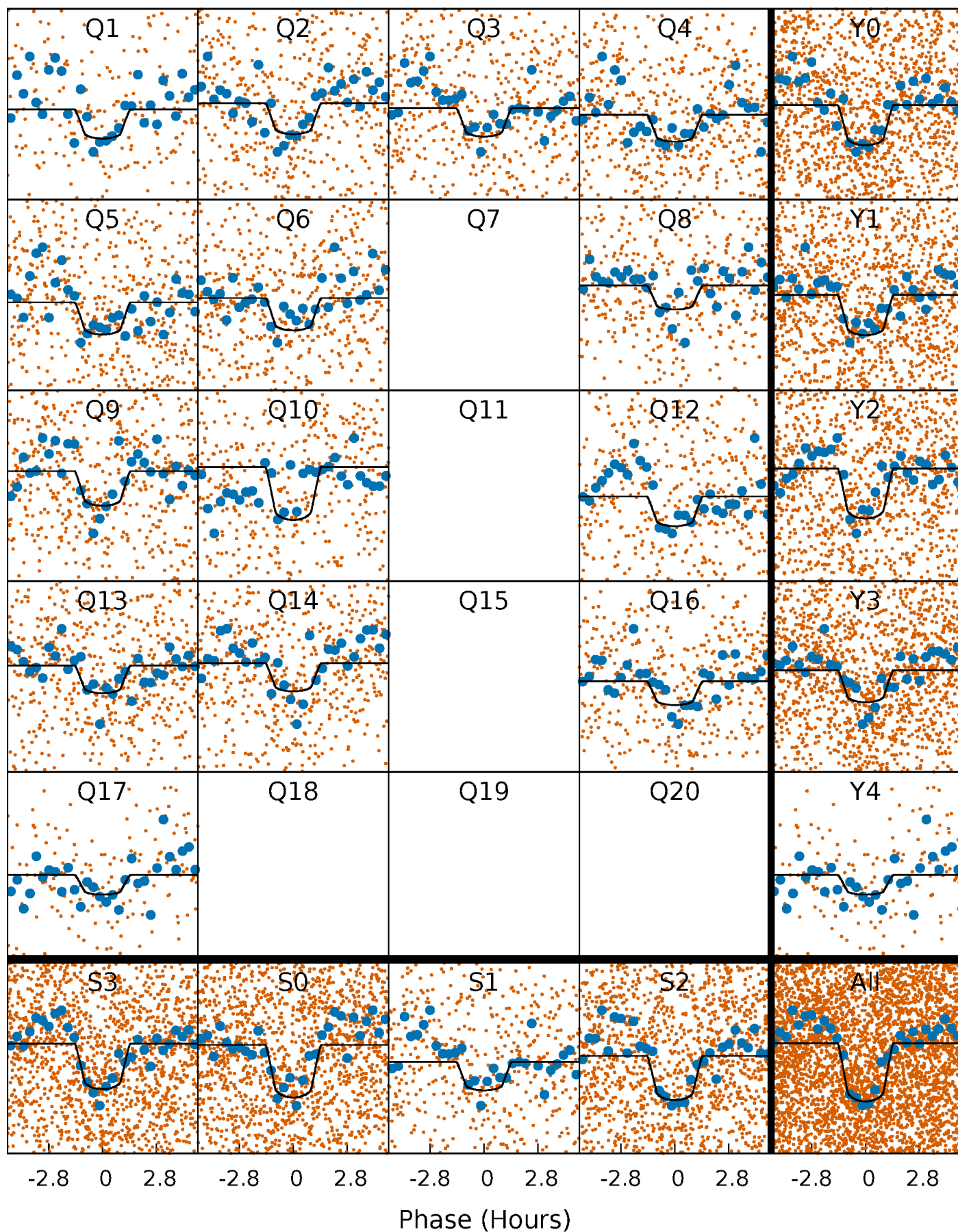
PDC Quarter-Phased Transit Curves

TCE 010417704-02 P= 3.008211 Days $T_0=133.250311$ (BKJD)



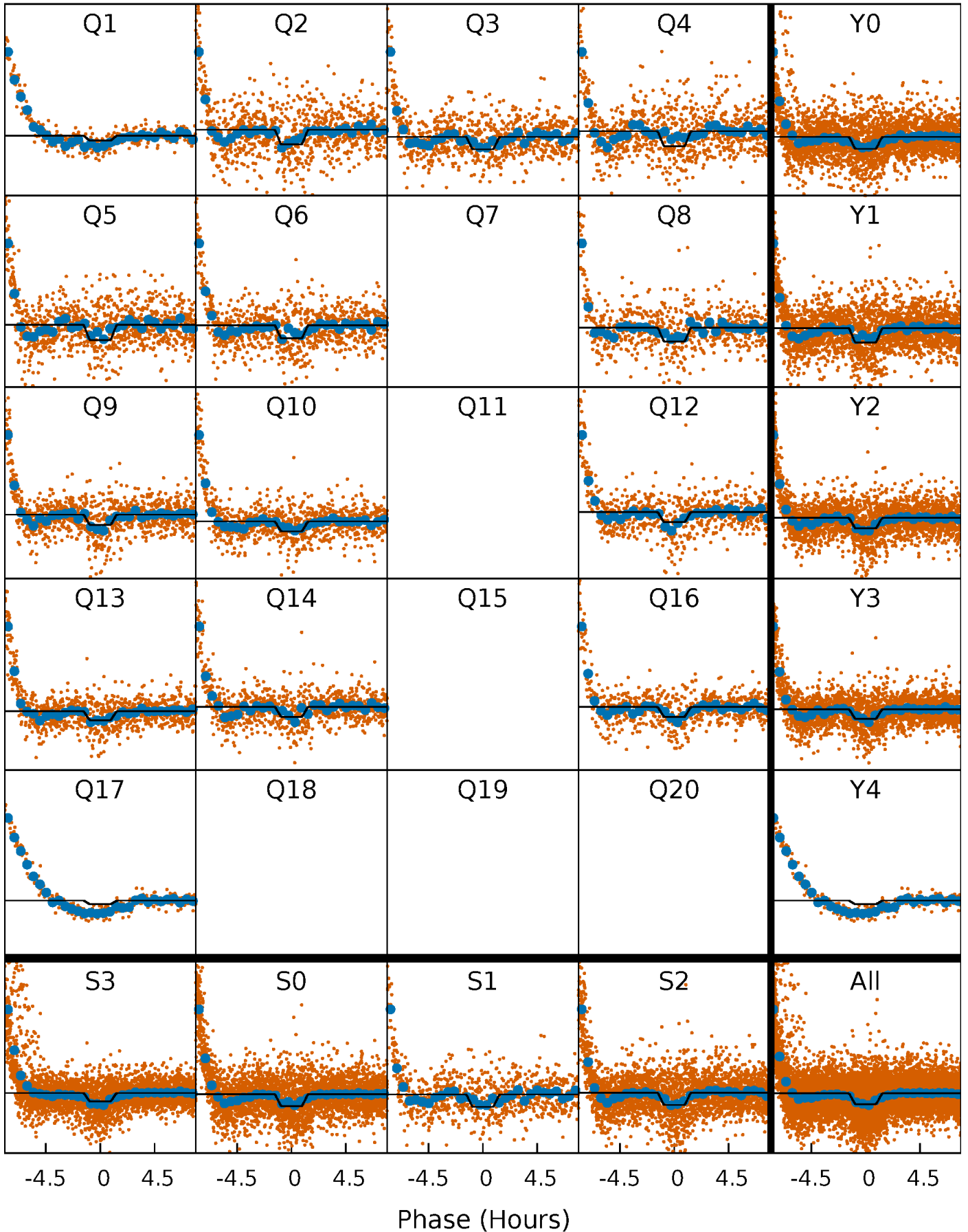
DV Quarter-Phased Transit Curves

TCE 010417704-02 P= 3.008211 Days $T_0=133.250311$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

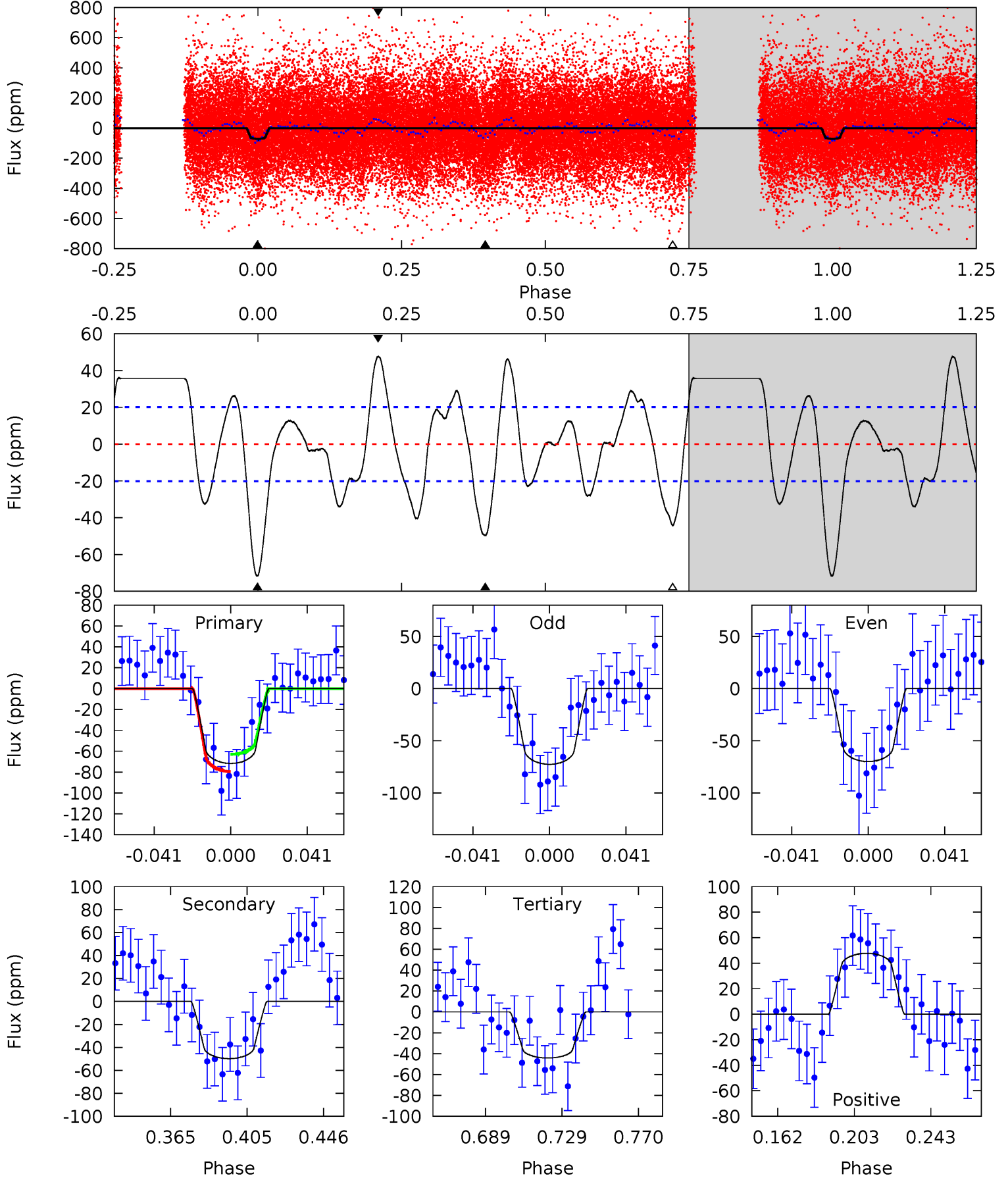
TCE 010417704-02 $P = 3.008237$ Days $T_0 = 133.236972$ (BKJD)



DV Model-Shift Uniqueness Test

010417704-02, P = 3.008211 Days, E = 130.242100 Days

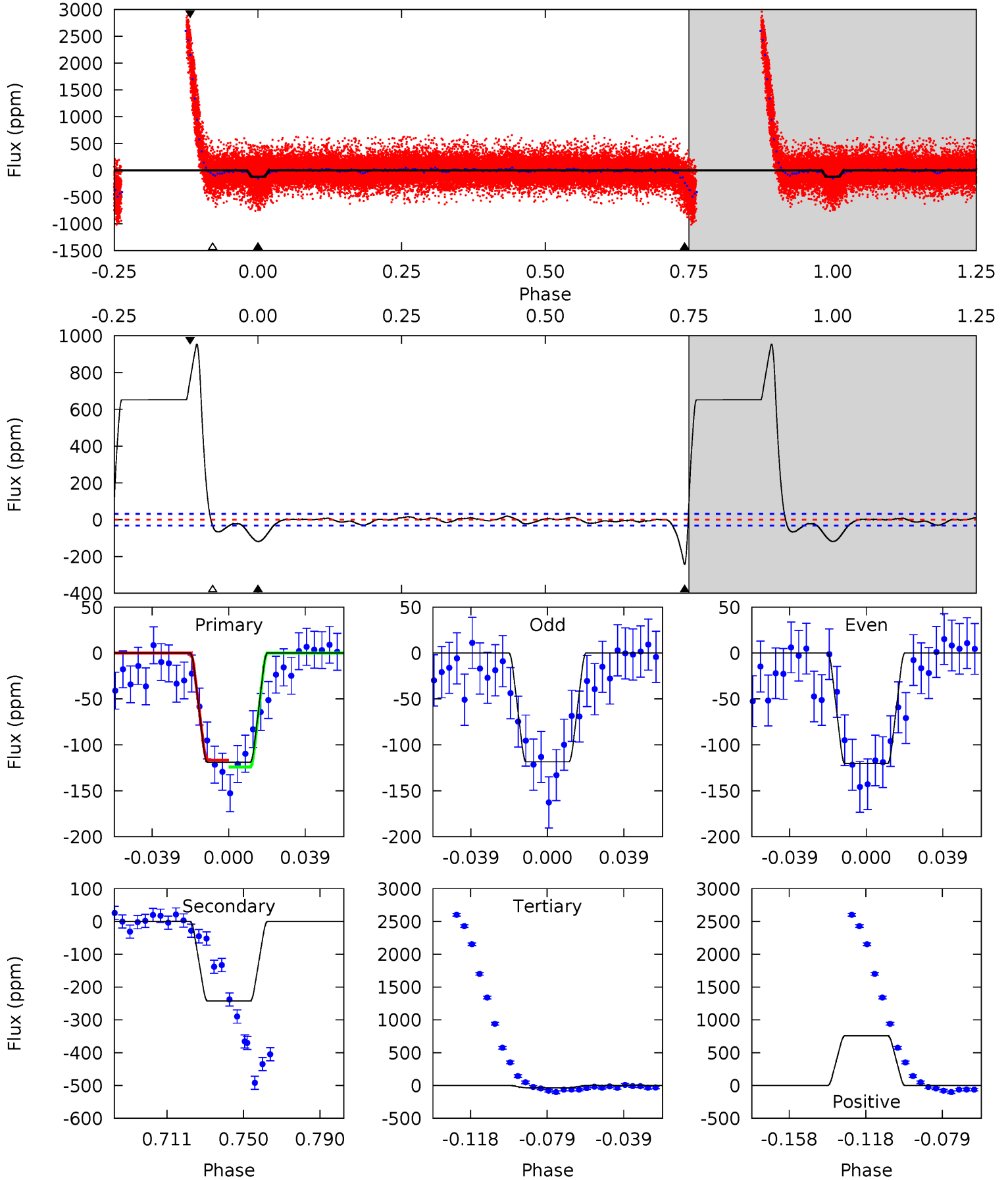
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	11.8	10.4	11.3	4.75	2.05	5.05	6.50	5.67	1.33	0.50	0.31	0.92	0.40	1.95



Alt Model-Shift Uniqueness Test

010417704-02, P = 3.008237 Days, E = 130.228735 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	36.0	5.14	112.8	4.76	2.06	21.1	12.5	-95.1	30.9	-76.7	0.13	1.17	0.80	0.54



Stellar Parameters For KIC 010417704

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8275^{+231}_{-364}	$4.199^{+0.065}_{-0.208}$	$0.210^{+0.150}_{-0.500}$	$1.818^{+0.591}_{-0.253}$	$1.908^{+0.340}_{-0.306}$	$0.448^{+0.130}_{-0.239}$
	+3%/-4%	+2%/-5%	+71%/-238%	+33%/-14%	+18%/-16%	+29%/-54%
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 010417704-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-50 ± 4	$1.96^{+0.69}_{-0.67}$	3110^{+244}_{-180}	6903^{+1760}_{-958}	18^{+22}_{-8}
Alt.	-243 ± 7	$2.33^{+0.76}_{-0.64}$	3107^{+245}_{-164}	10348^{+2674}_{-1774}	61^{+55}_{-25}

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 $A_{obs} \gg 1.0$

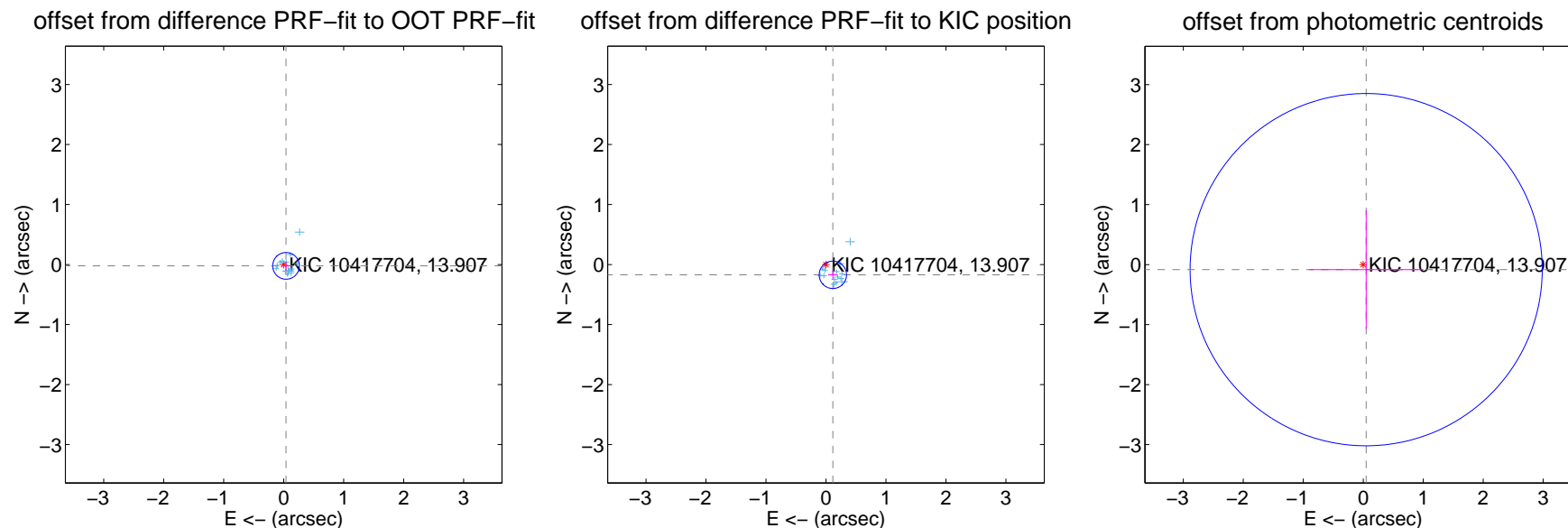
DV Centroid Data

Supplemental centroid analysis for 010417704-02. Kepler magnitude: 13.91. Transit SNR 12.51

There are 14 quarters with good PRF difference image offsets

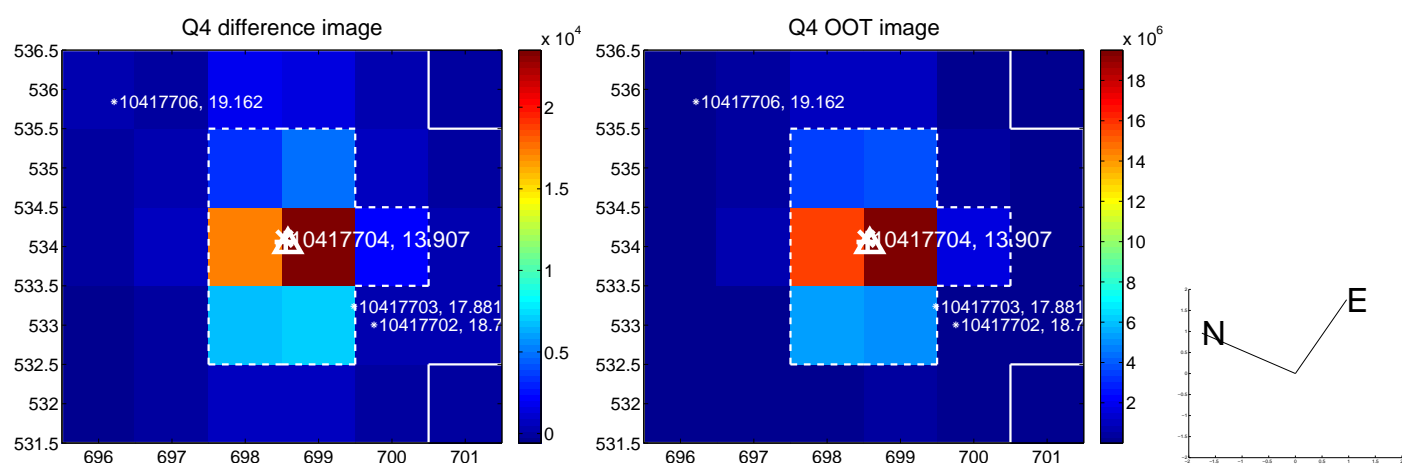
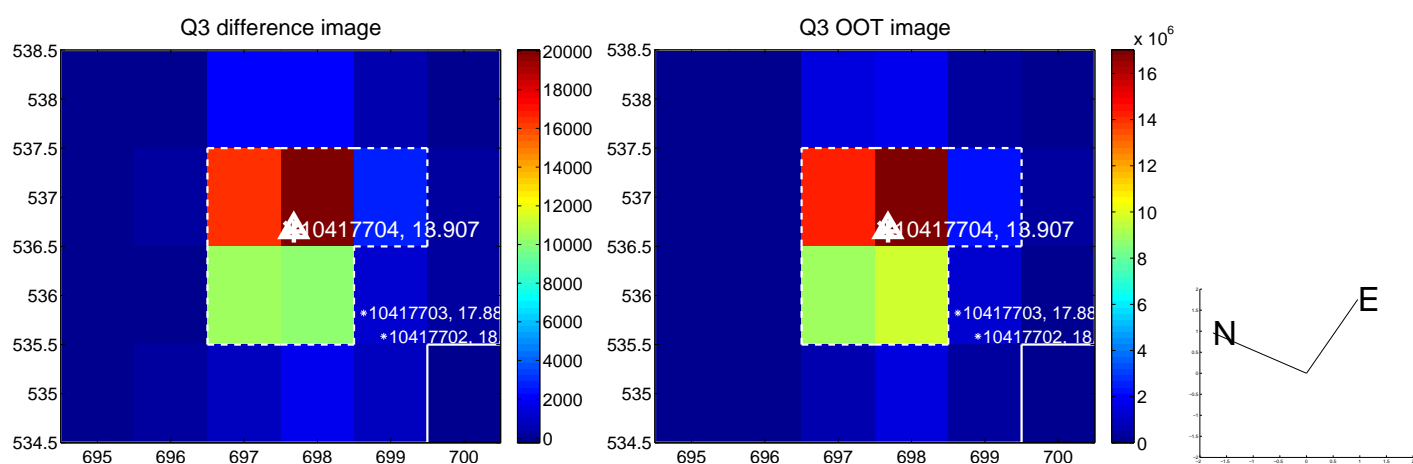
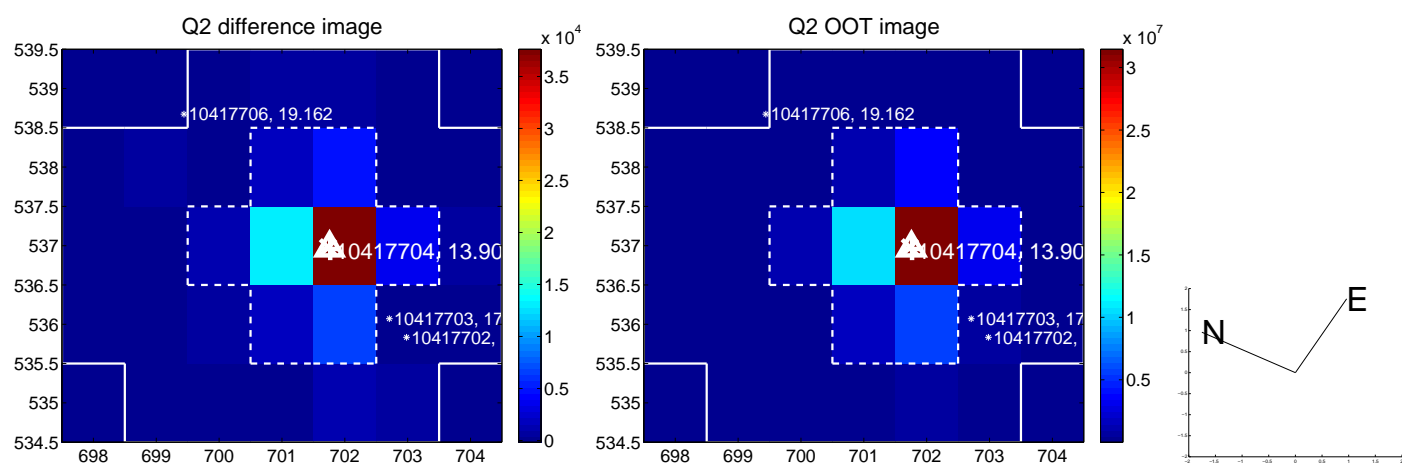
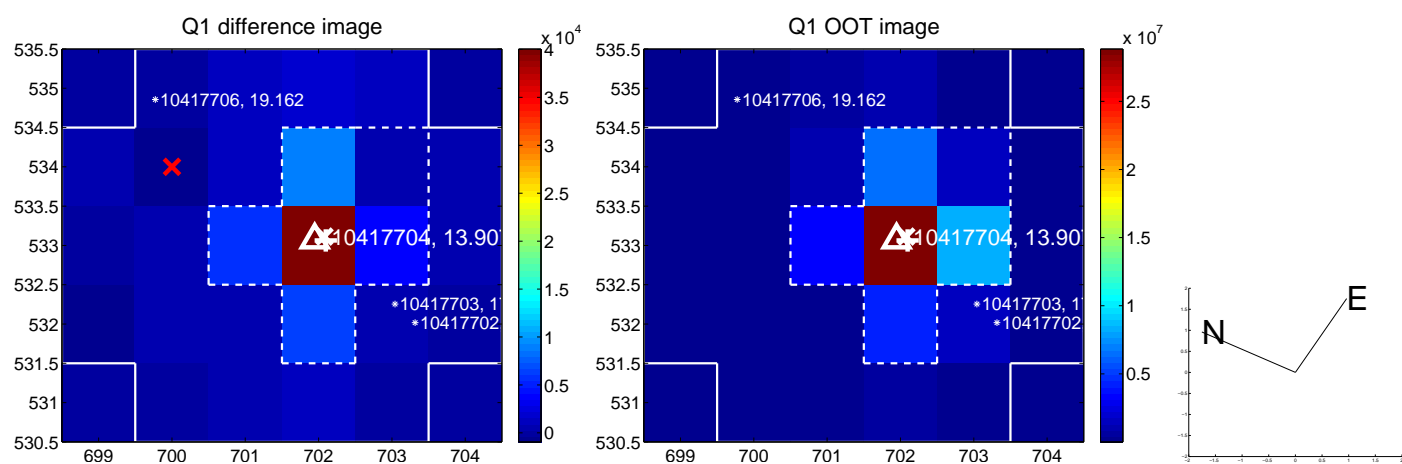
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.045 ± 0.074	0.61	-0.039 ± 0.074	-0.022 ± 0.075
PRF-fit source offset from KIC position	0.206 ± 0.076	2.71	-0.115 ± 0.078	-0.171 ± 0.075
photometric centroid source offset	0.10 ± 0.98	0.10	-0.05 ± 0.95	-0.08 ± 0.99

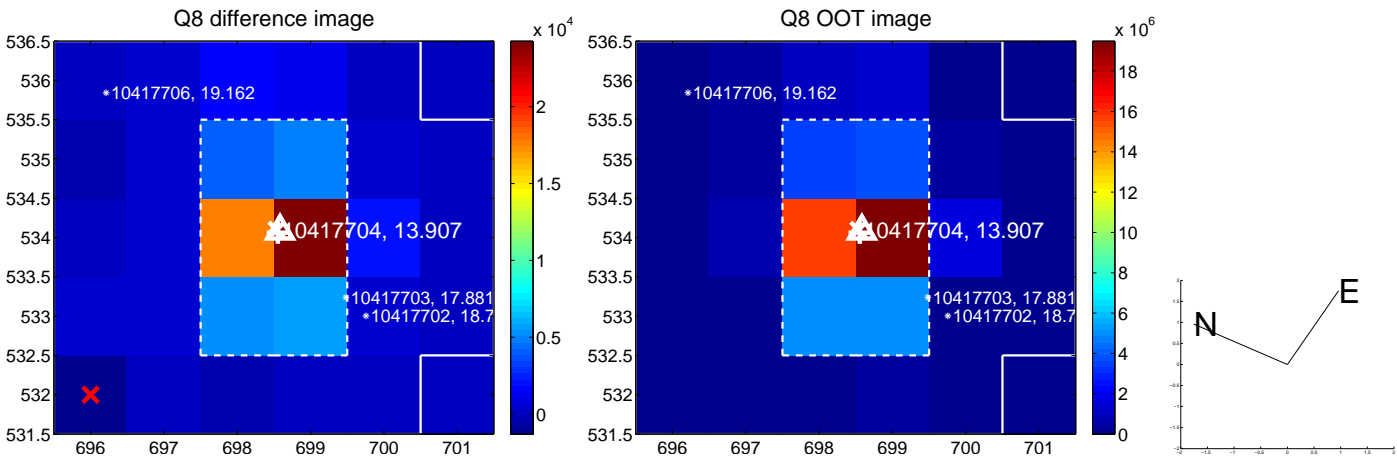
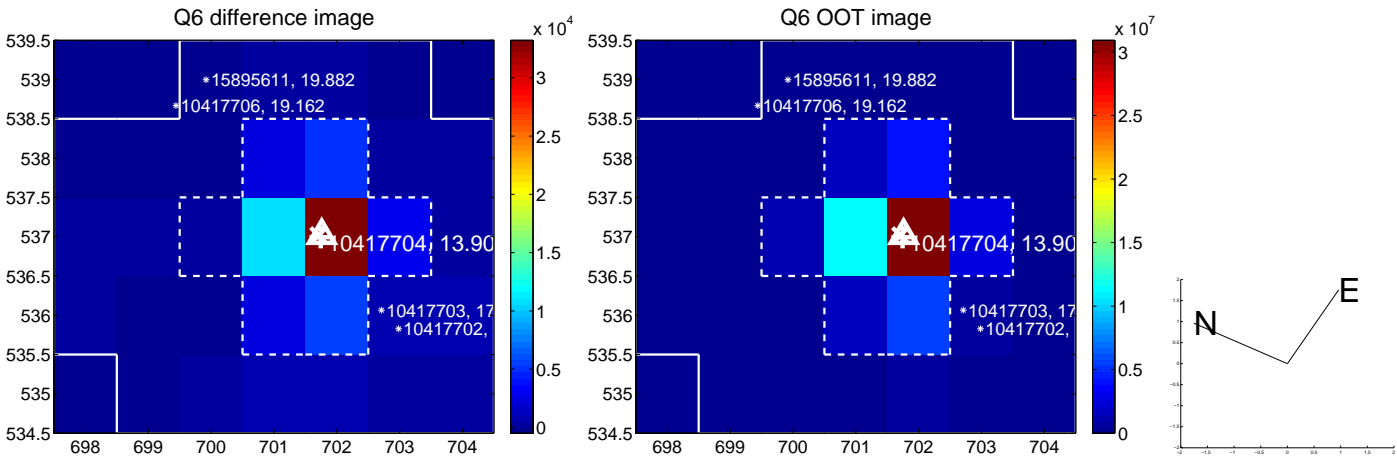
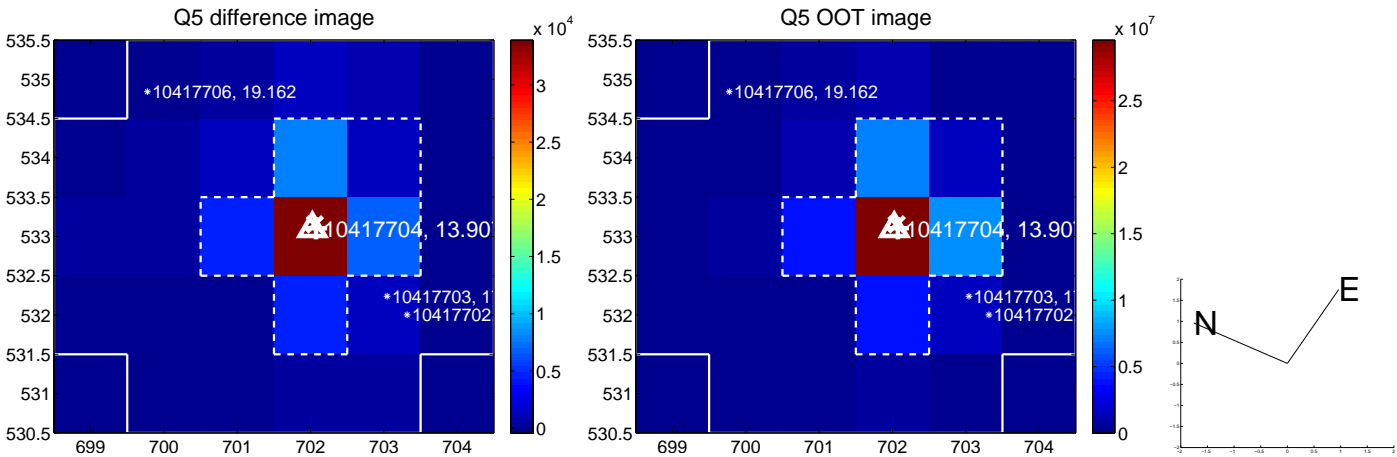


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

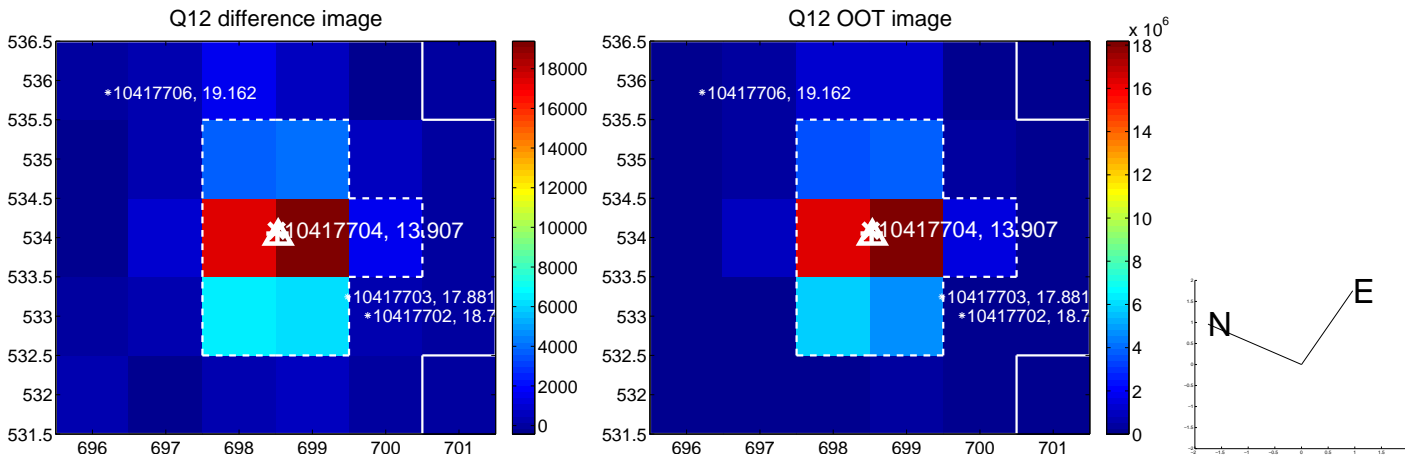
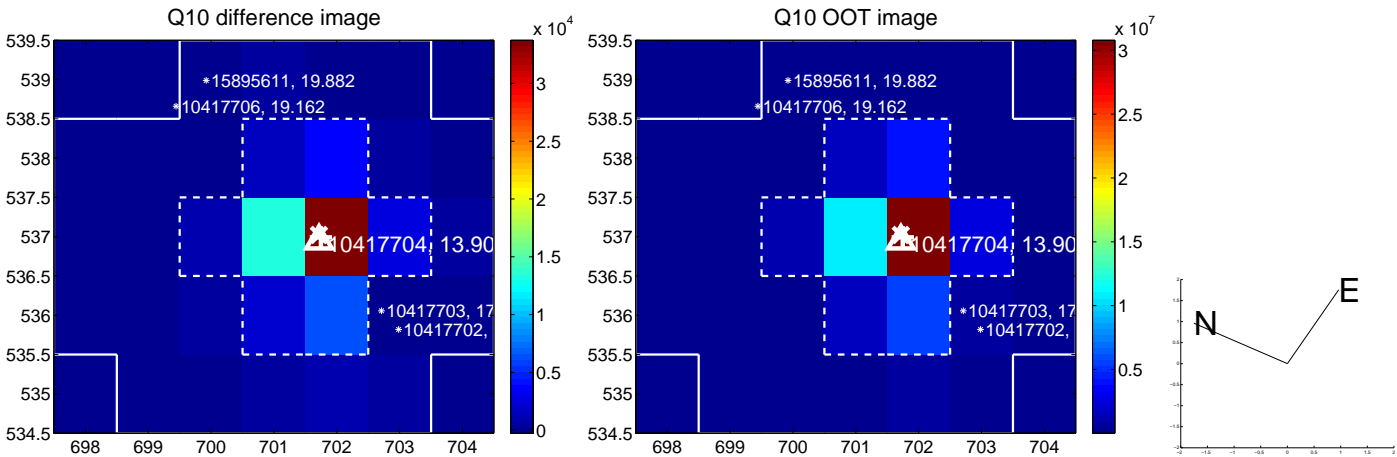
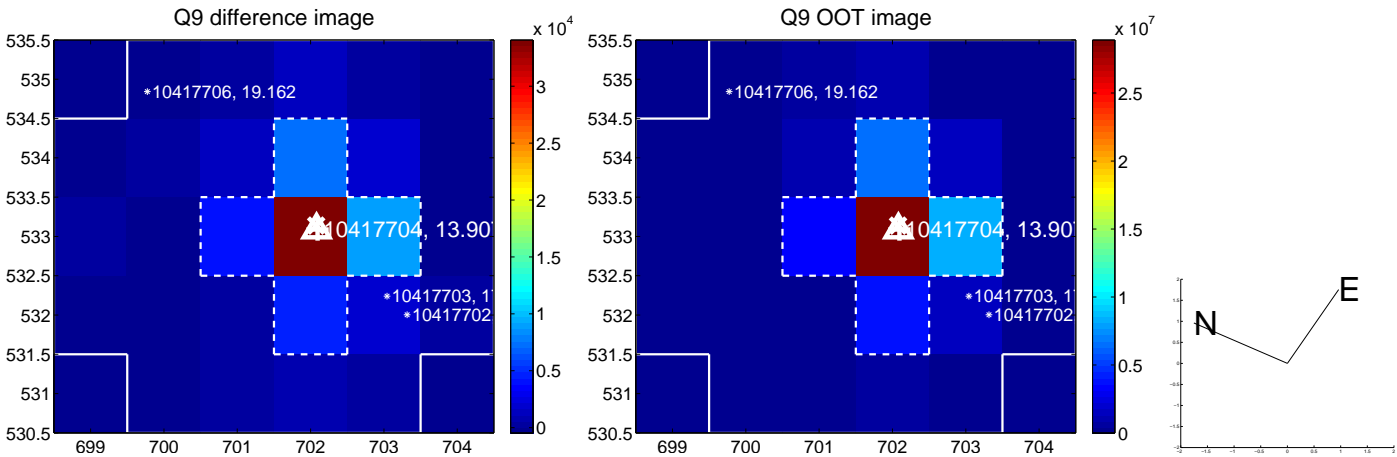
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



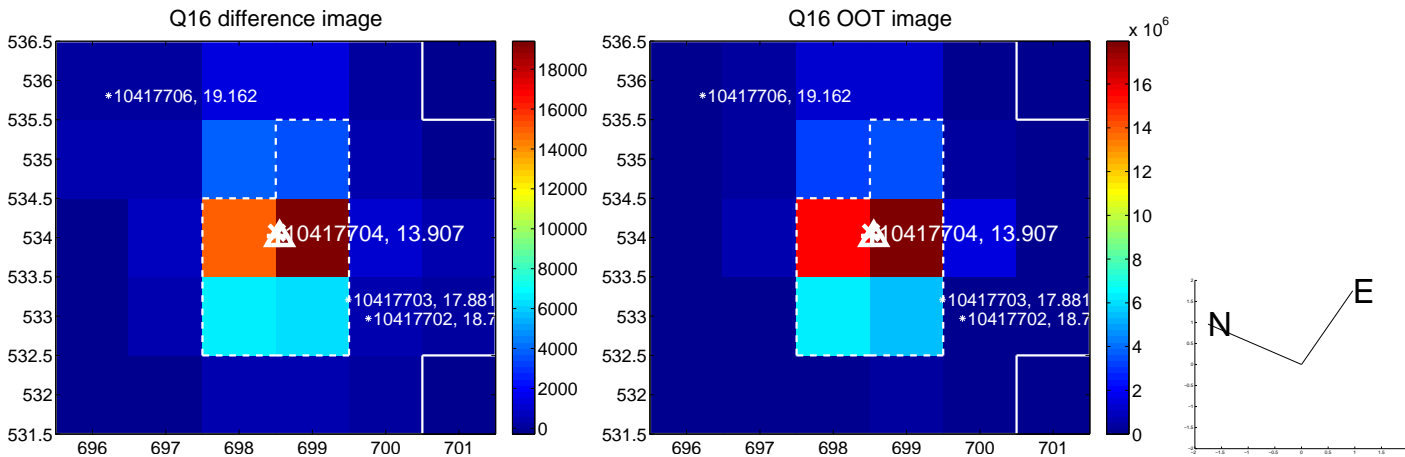
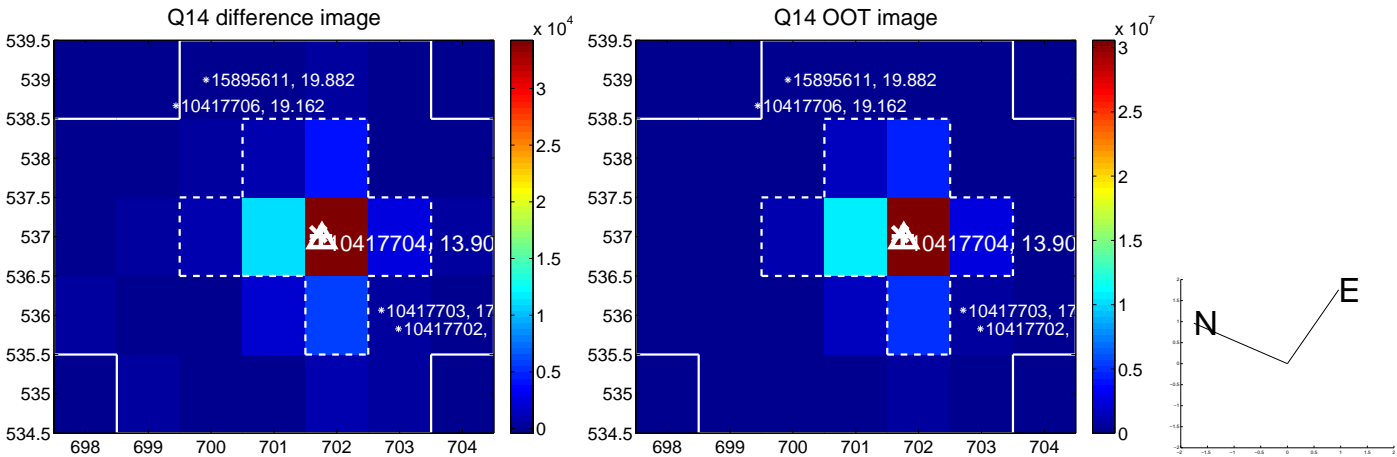
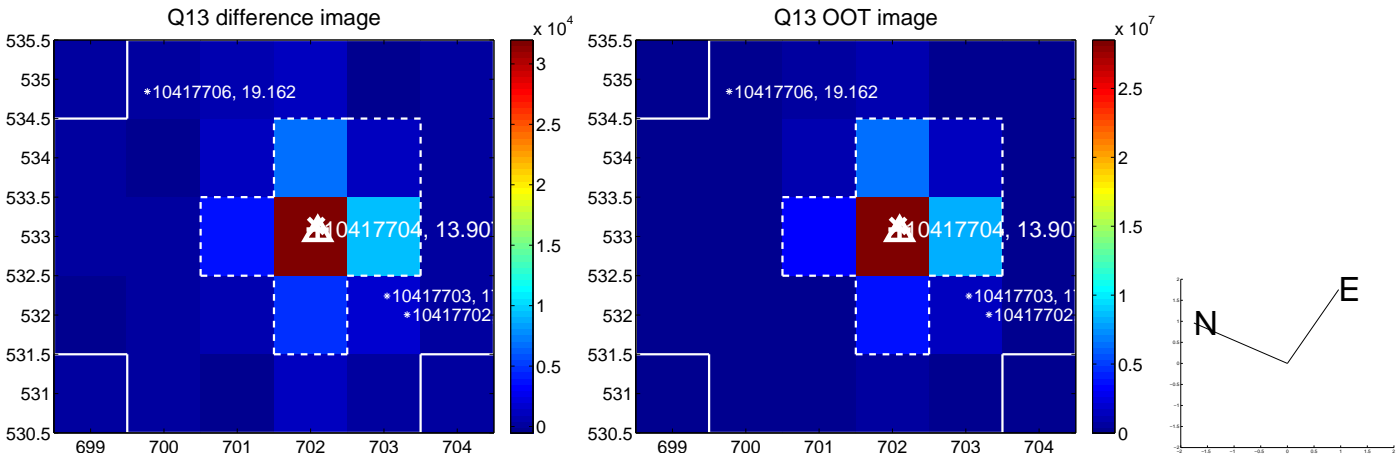
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



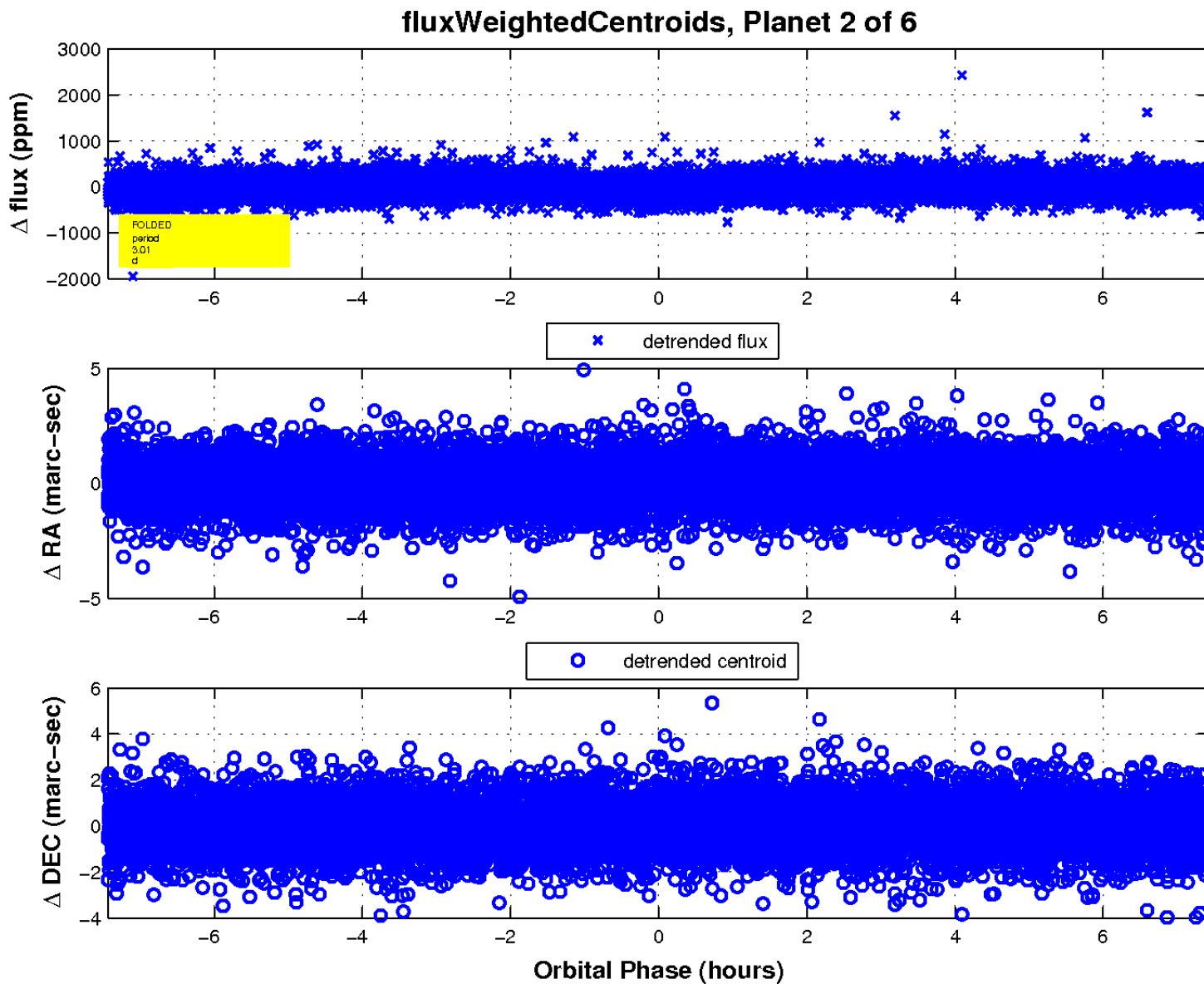
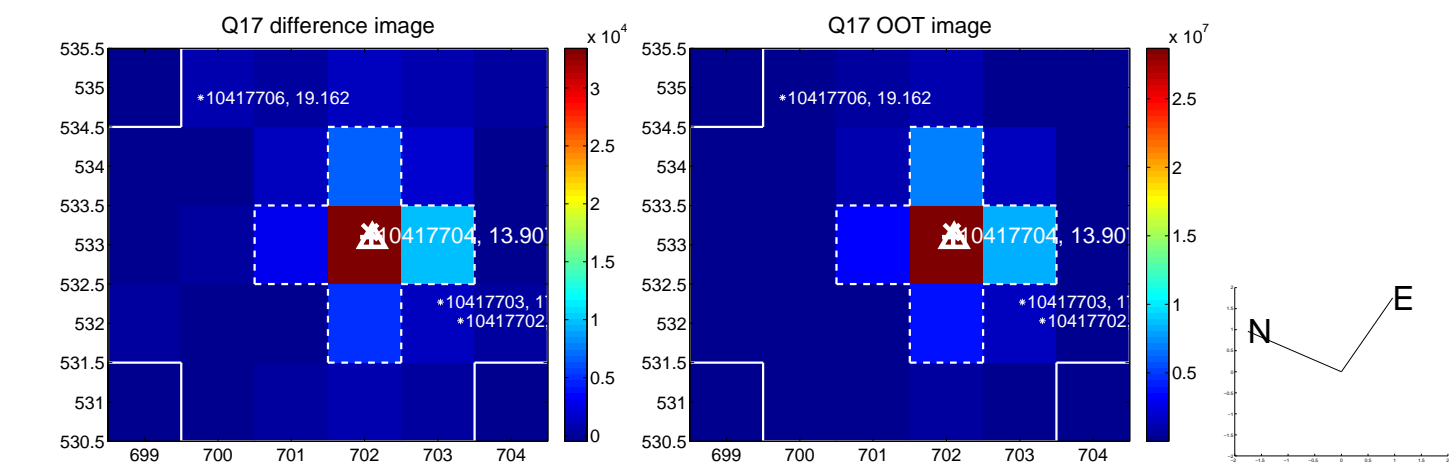
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

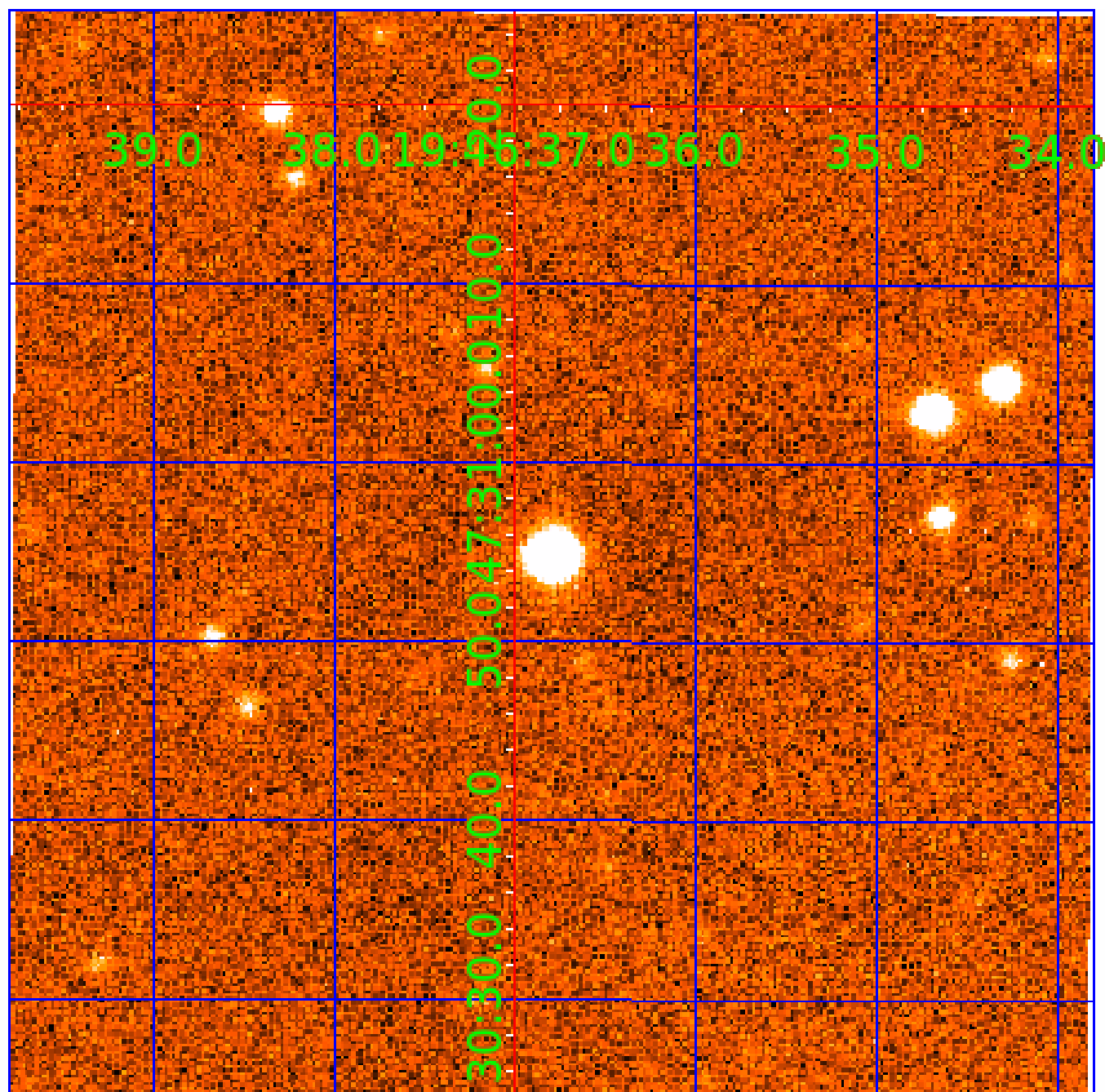


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010417704

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})
010417704-01	OBS	7324.01	3.008261	132.687141	175.6	2.616	23.8	26.9	1.82	8275	2.81	5427.60
010417704-02	OBS	No	3.008211	133.250311	79.6	2.479	10.1	12.5	1.82	8275	1.88	5427.73
010417704-03	OBS	No	1.002590	132.529891	13.1	6.620	10.0	4.3	1.82	8275	0.68	23488.99
010417704-04	OBS	No	27.973745	147.577412	115.8	12.122	9.4	4.3	1.82	8275	2.13	277.56
010417704-05	OBS	No	132.861542	192.970176	239.8	0.642	9.7	2.5	1.82	8275	3.03	34.77
010417704-06	OBS	No	265.719830	193.132042	540.8	3.000	9.5	-1.0	1.82	8275	4.29	13.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010417704-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_FEW_DIFFS
010417704-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010417704-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
010417704-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010417704-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE_TRACKER—TRANS_GAPPED—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
010417704-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—NO_FITS—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

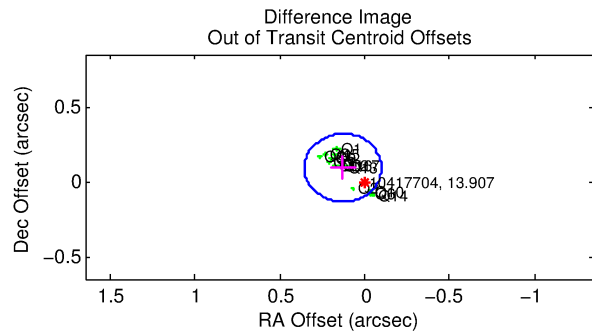
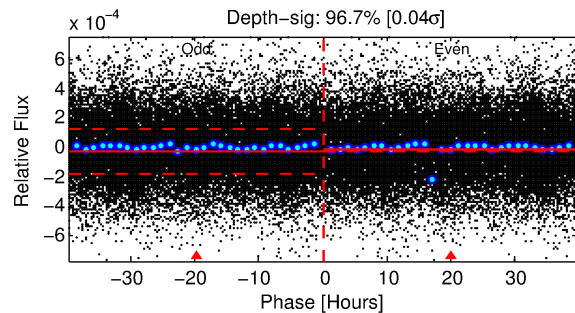
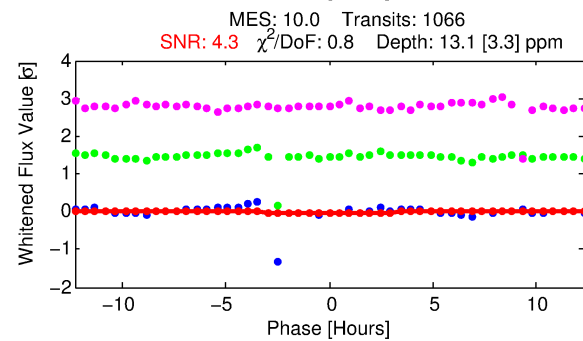
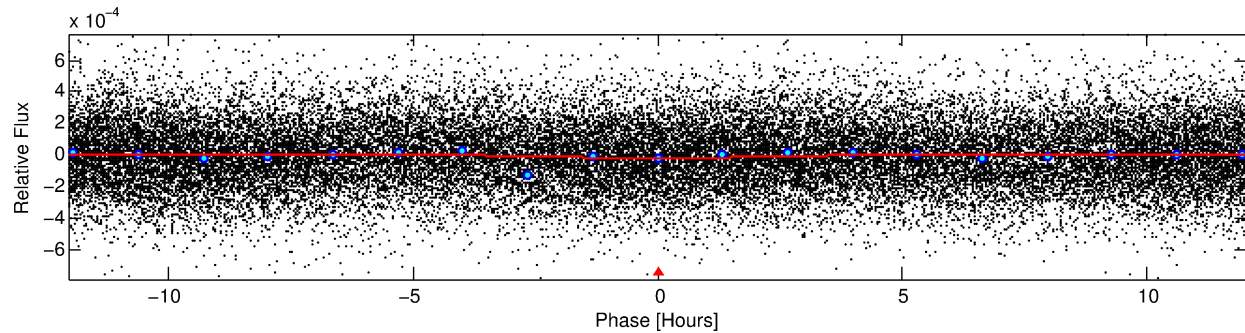
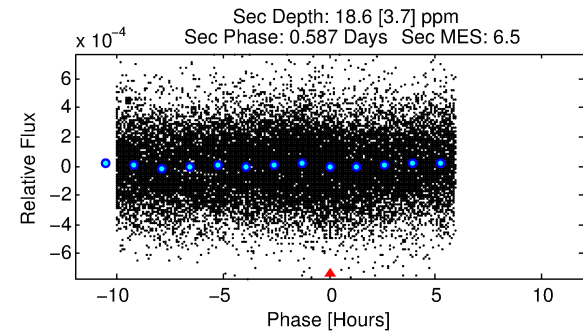
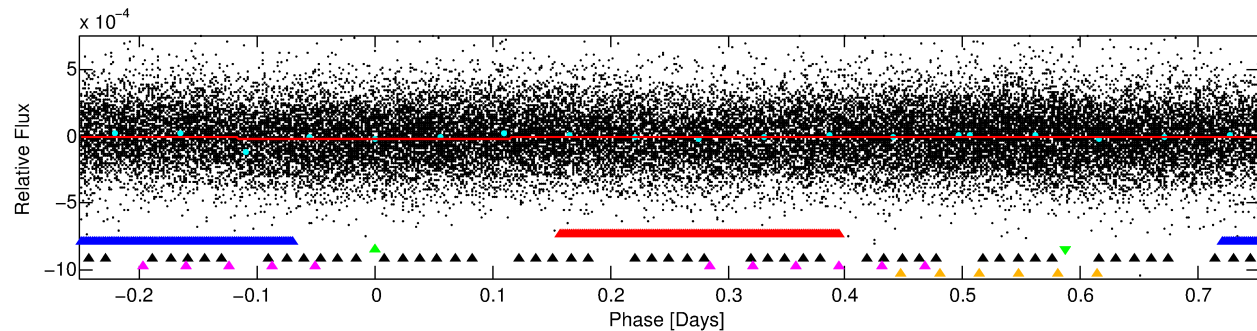
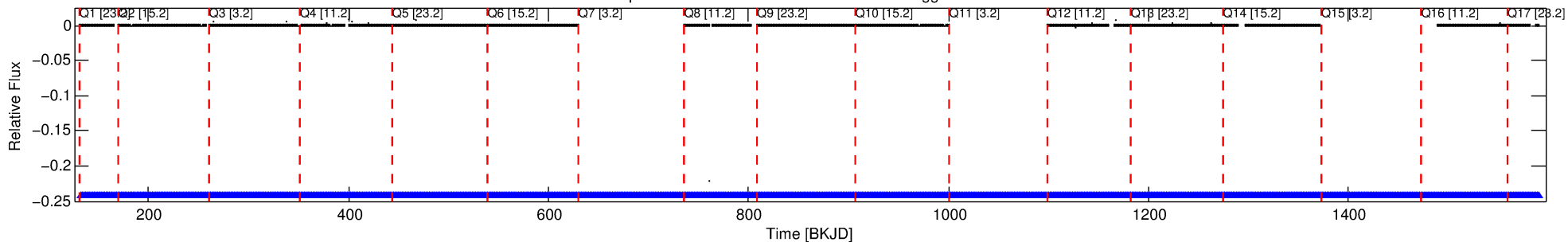
Ephemeris Match Information For 010417704-03

No Significant Match Found

DV One-Page Summary

KIC: 10417704 Candidate: 3 of 6 Period: 1.003 d
KOI: K07324 Corr: No Ephemeris Match

Kp: 13.91 R*: 1.82 Rs Teff: 8275.0 K Logg: 4.20 Fe/H: 0.210



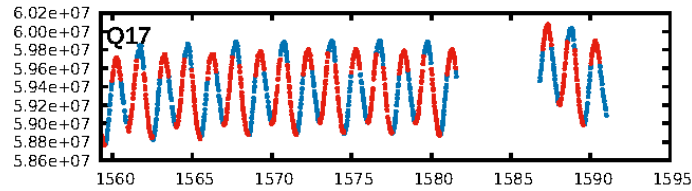
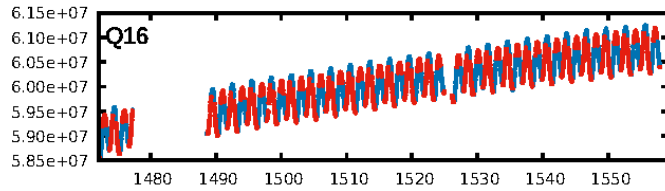
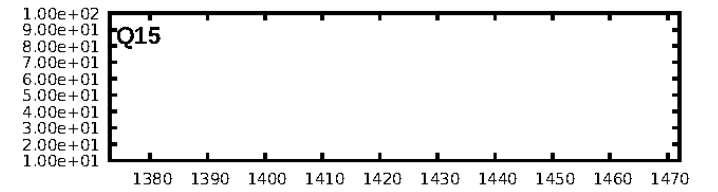
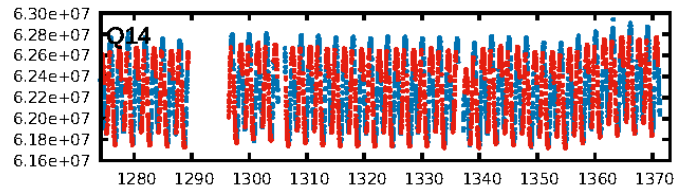
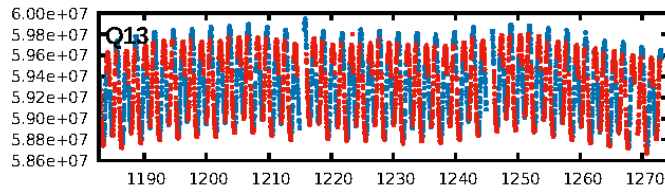
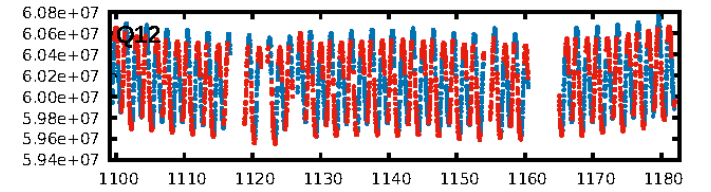
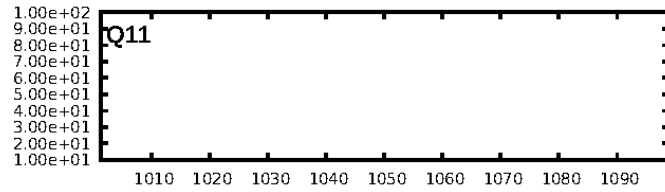
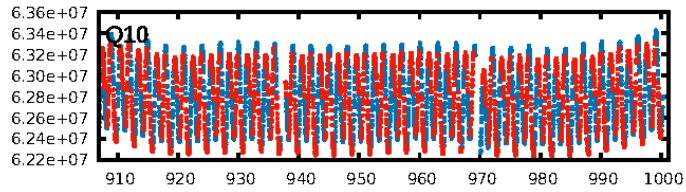
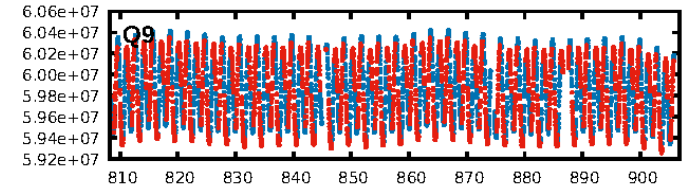
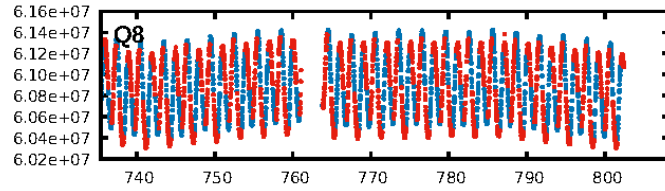
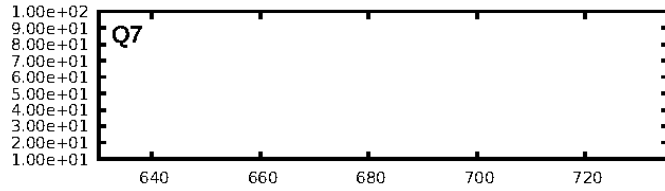
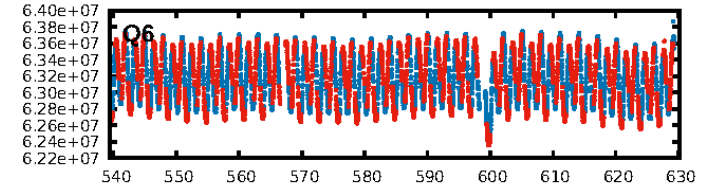
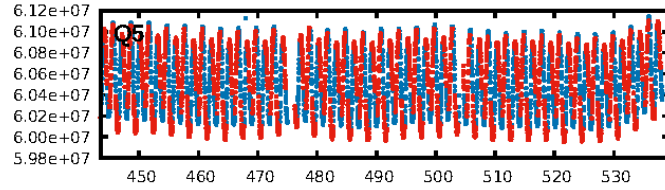
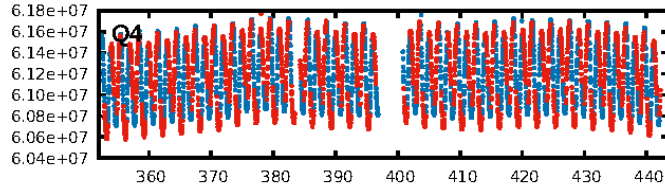
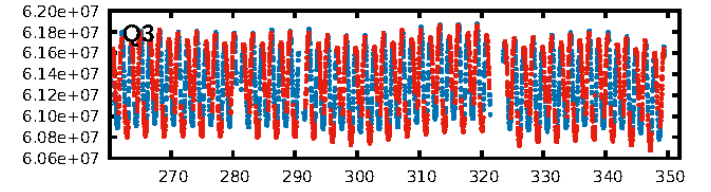
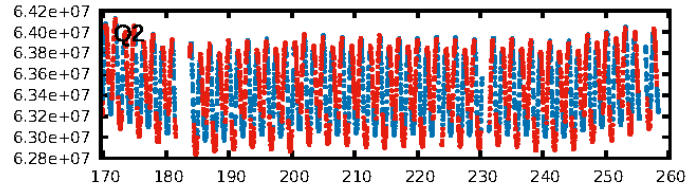
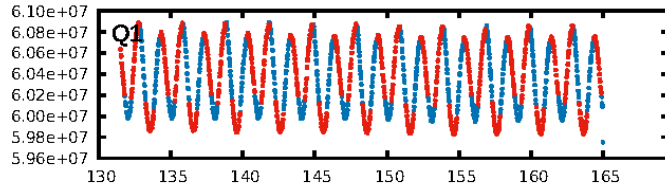
DV Fit Results:

Period = 1.00259 [0.00003] d
Epoch = 132.5299 [0.0120] BKJD
Rp/R* = 0.0034 [0.0033]
a/R* = 1.24 [2.51]
b = 0.52 [8.14]
Seff = 23488.99 [9962.06]
Teq = 3157 [335] K
Rp = 0.68 [0.70] Re
a = 0.0243 [0.0065] AU
Ag = 12.99 [25.77] [0.47σ]
Teffp = 9266 [4525] K [1.35σ]

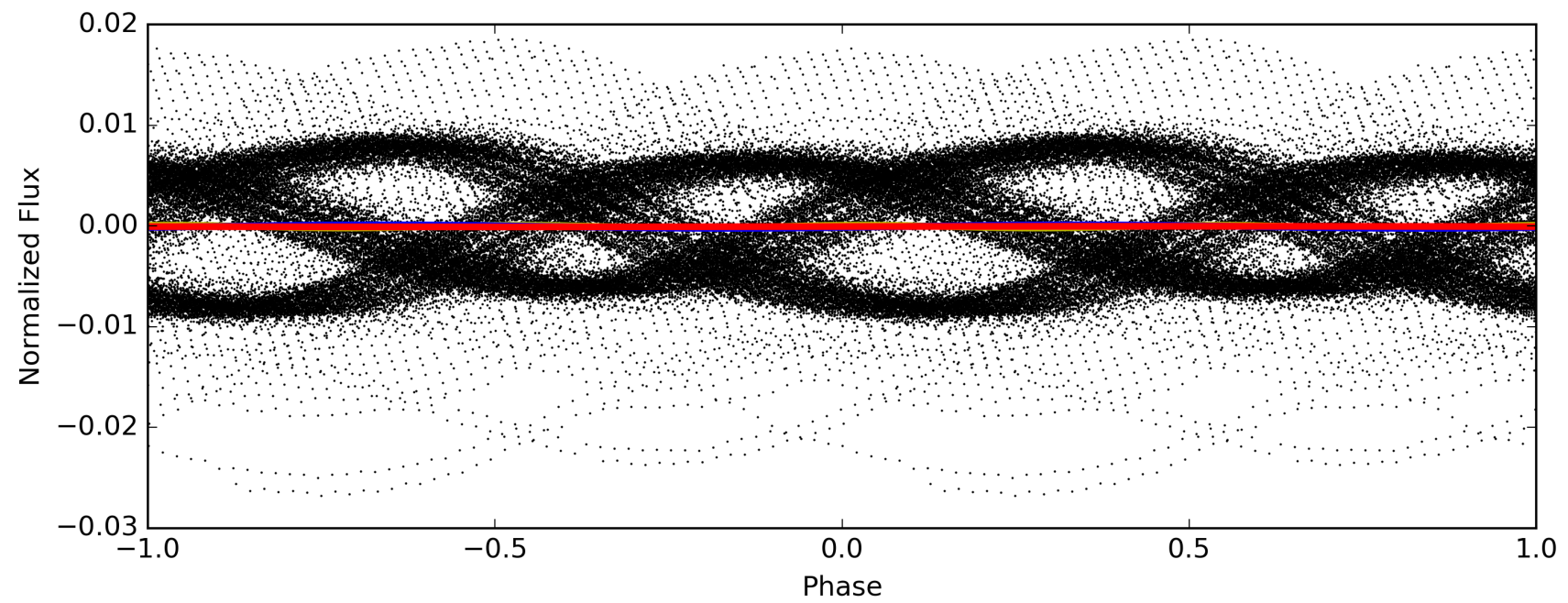
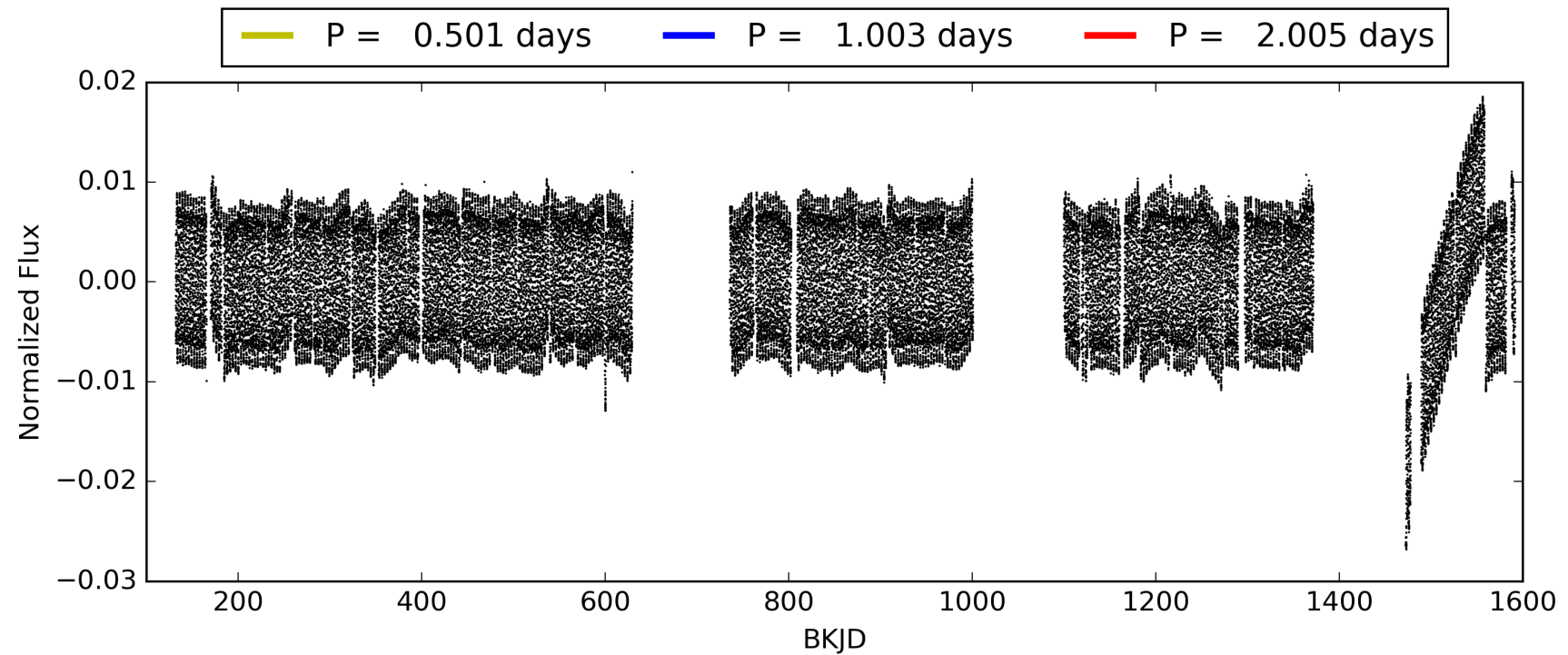
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [6.81σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1005/1005]
GhostDiagnostic-chr: 2.19
Centroid-sig: N/A
Centroid-so: 0.547 arcsec [0.26σ]
OotOffset-rm: 0.160 arcsec [2.11σ]
KicOffset-rm: 0.064 arcsec [0.88σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010417704-03, PDC Light Curves

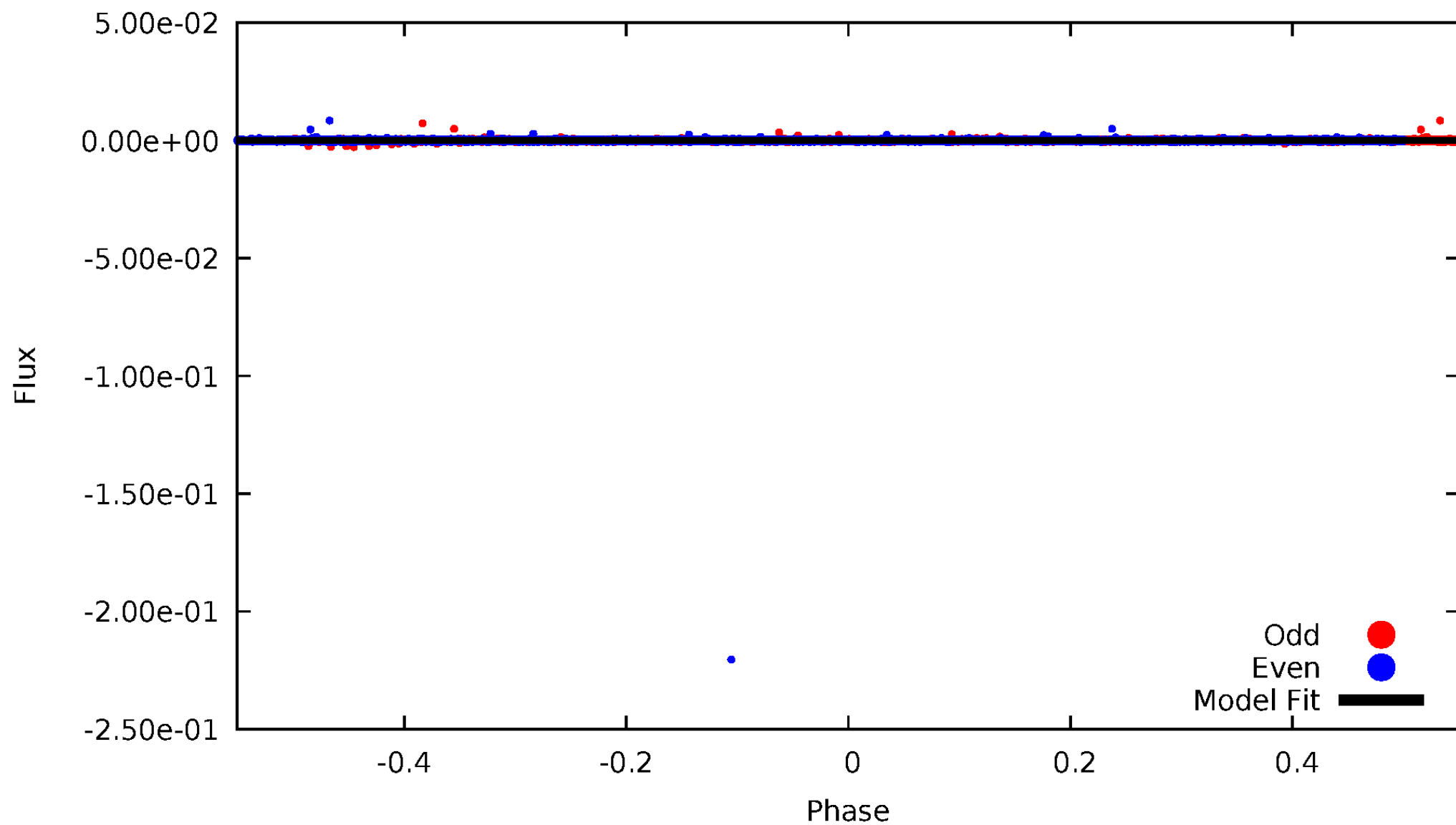


TCE 010417704-03



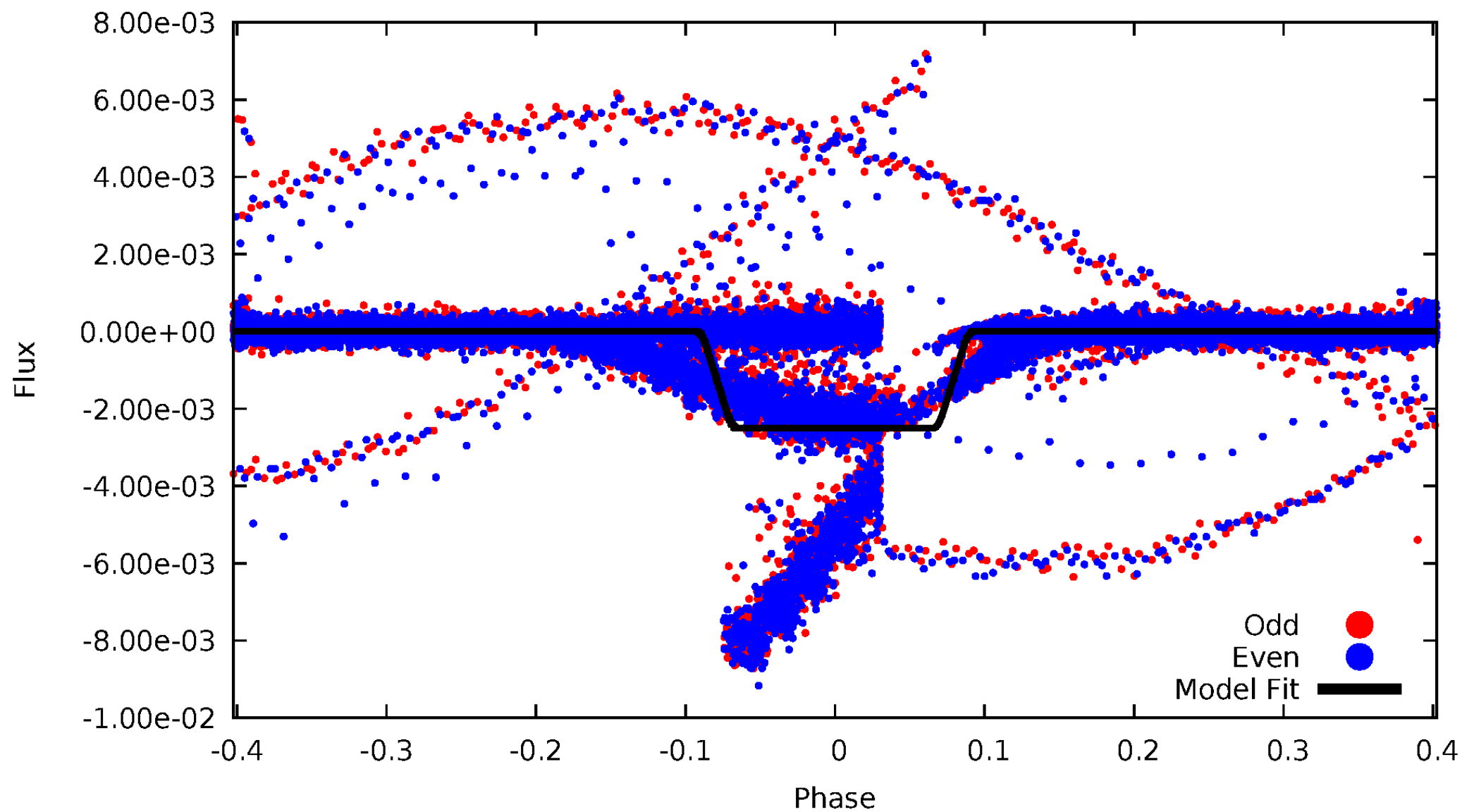
DV Odd/Even

TCE 010417704-03



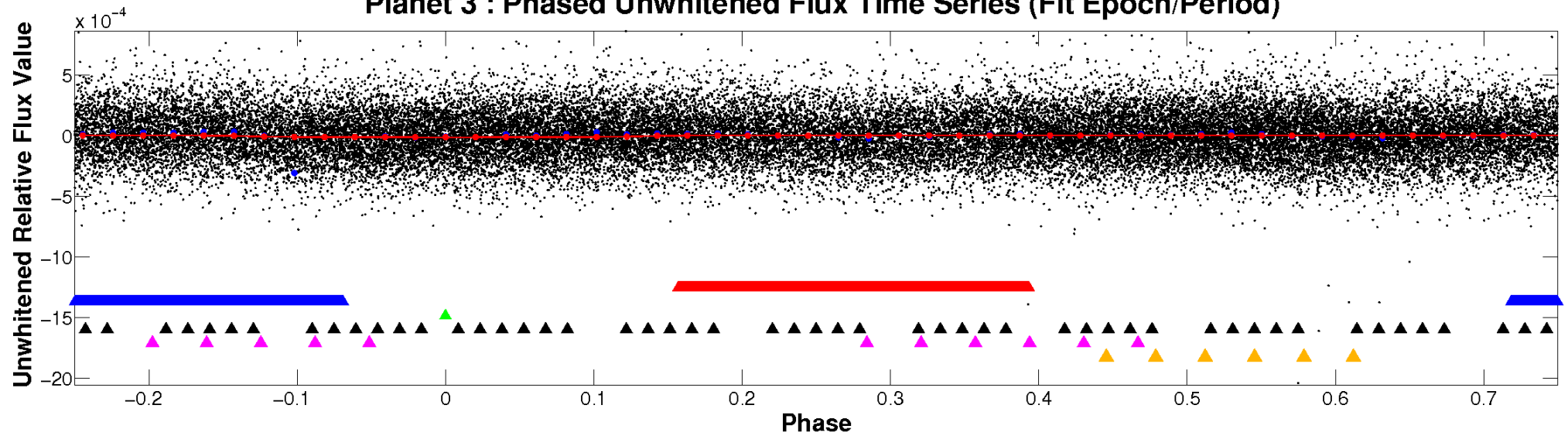
ALT Odd/Even

TCE 010417704-03

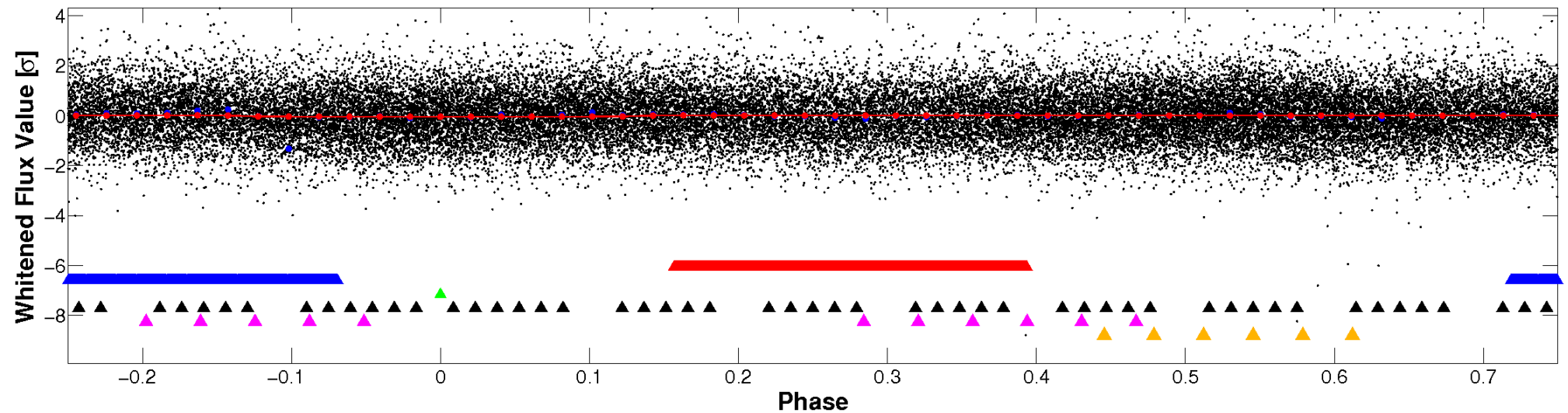


Non-Whitened Vs. Whitened Light Curve

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

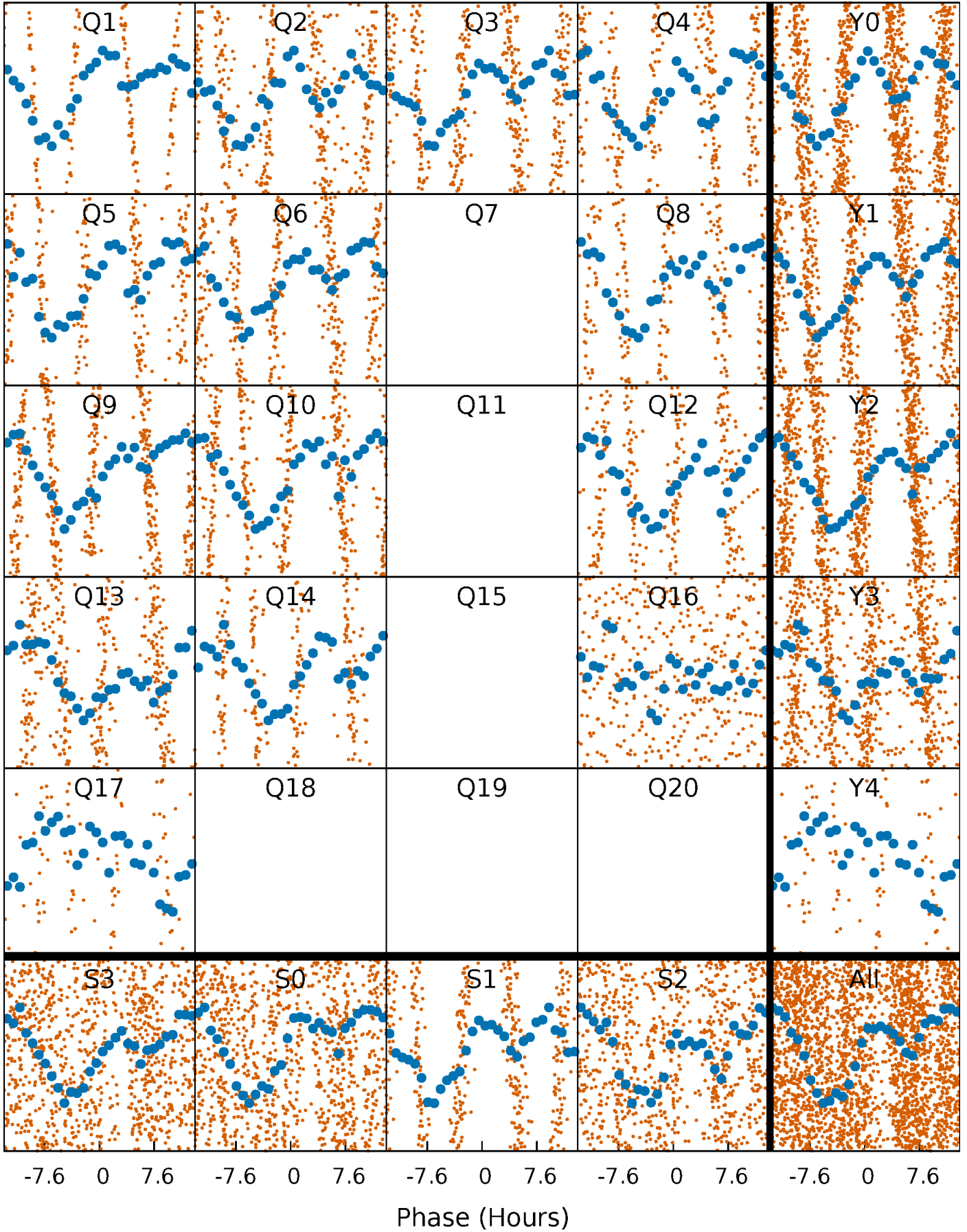


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



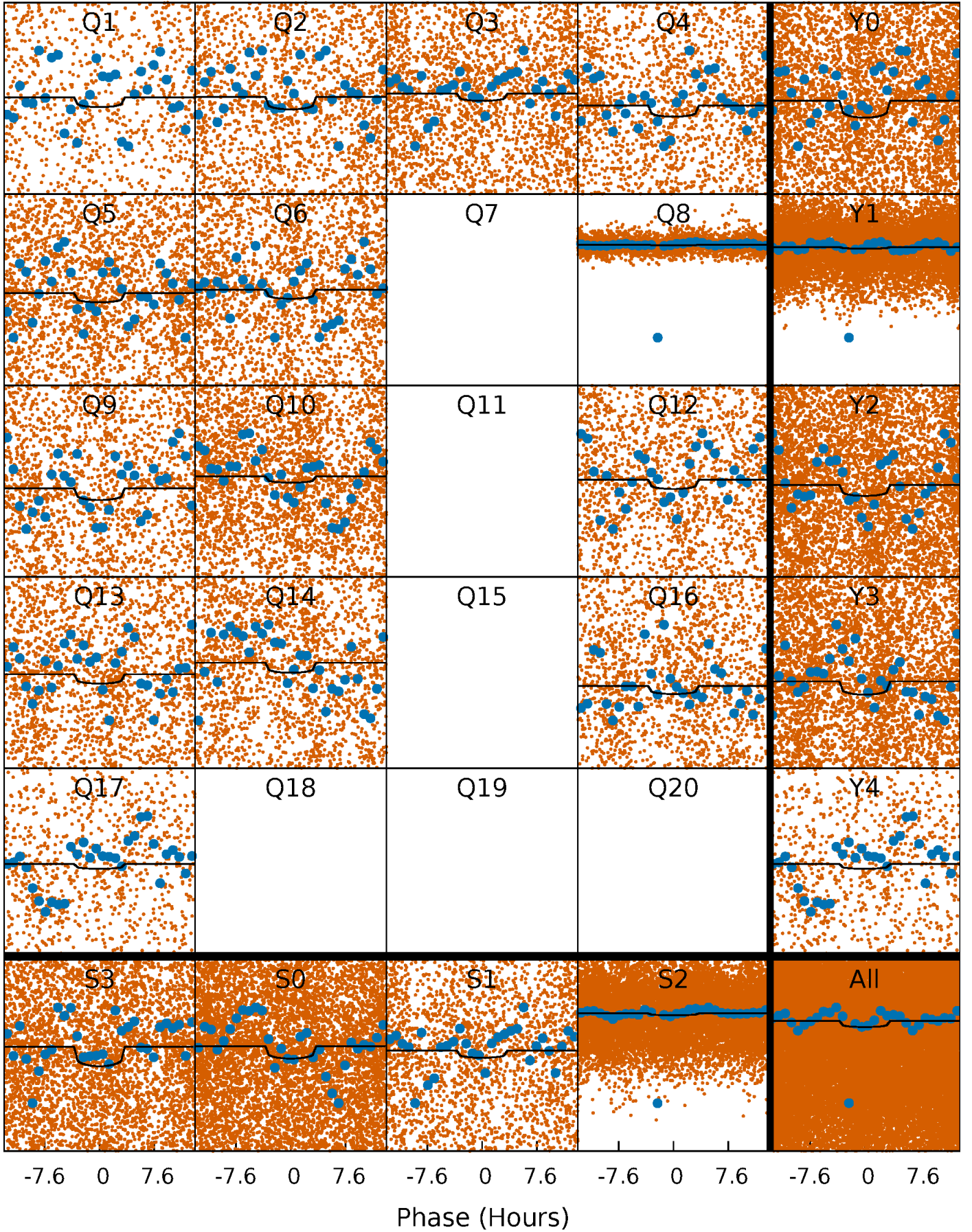
PDC Quarter-Phased Transit Curves

TCE 010417704-03 P= 1.002590 Days $T_0=132.529891$ (BKJD)



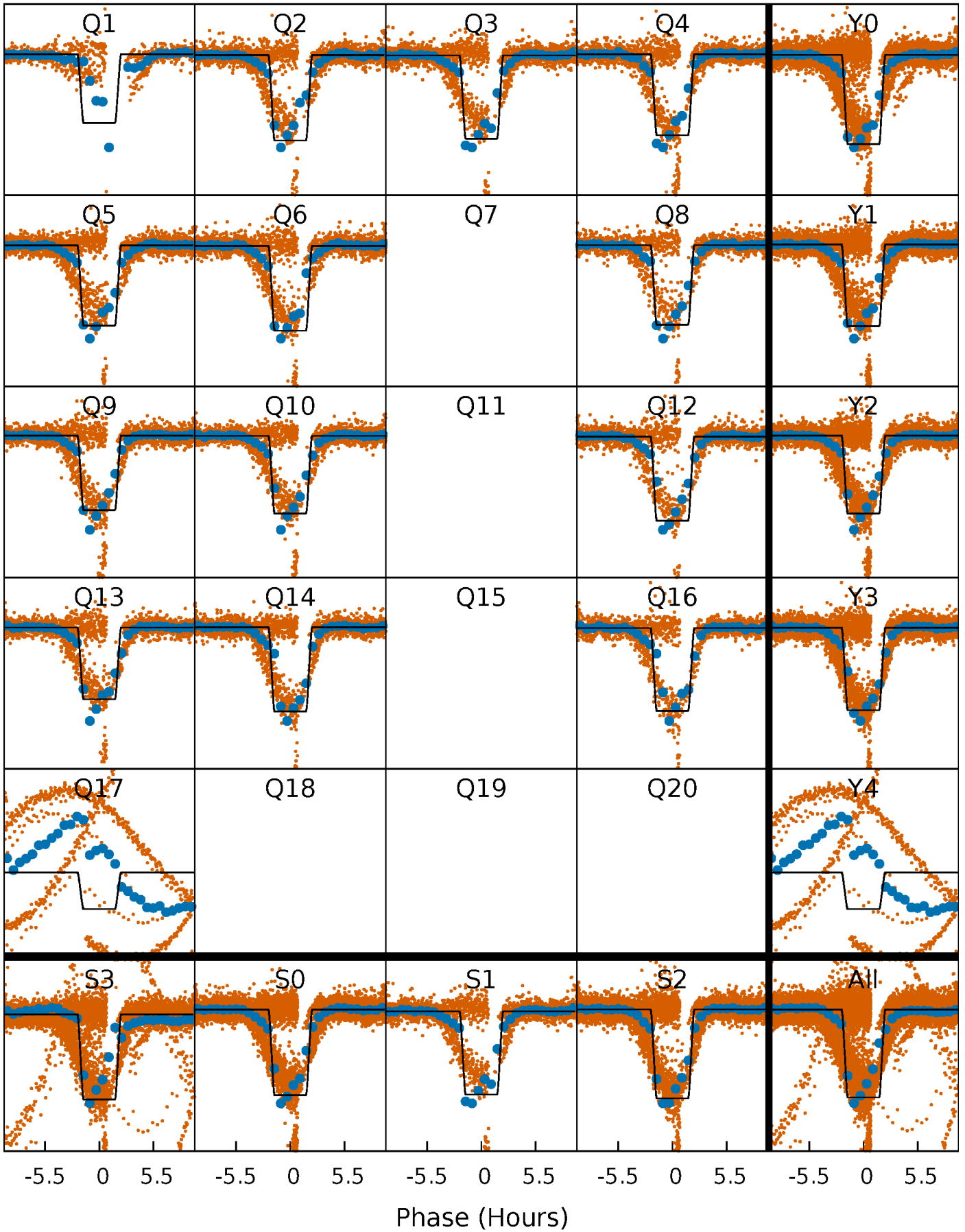
DV Quarter-Phased Transit Curves

TCE 010417704-03 P= 1.002590 Days $T_0=132.529891$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

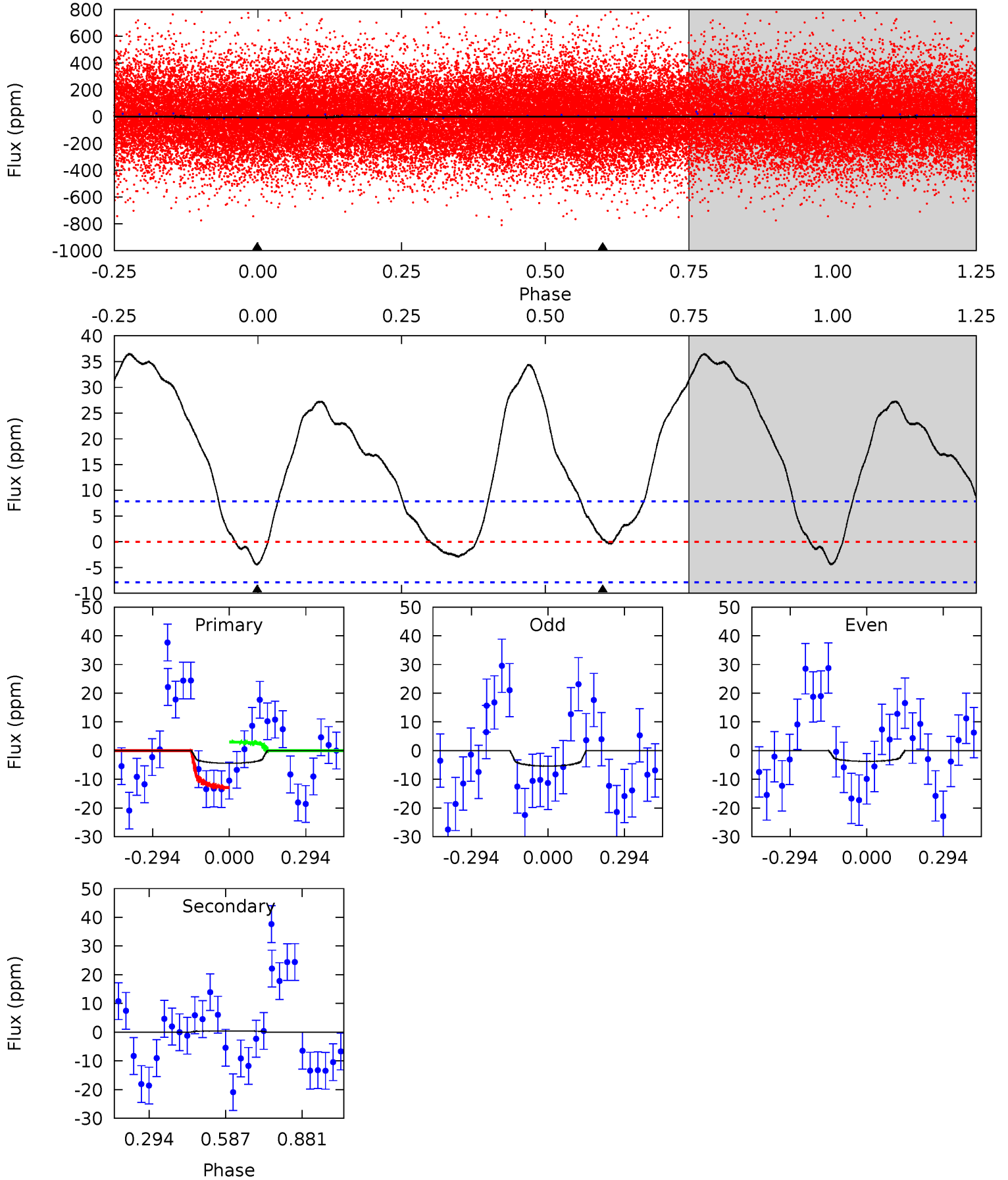
TCE 010417704-03 $P = 1.002725$ Days $T_0 = 132.489923$ (BKJD)



DV Model-Shift Uniqueness Test

010417704-03, P = 1.002590 Days, E = 130.524711 Days

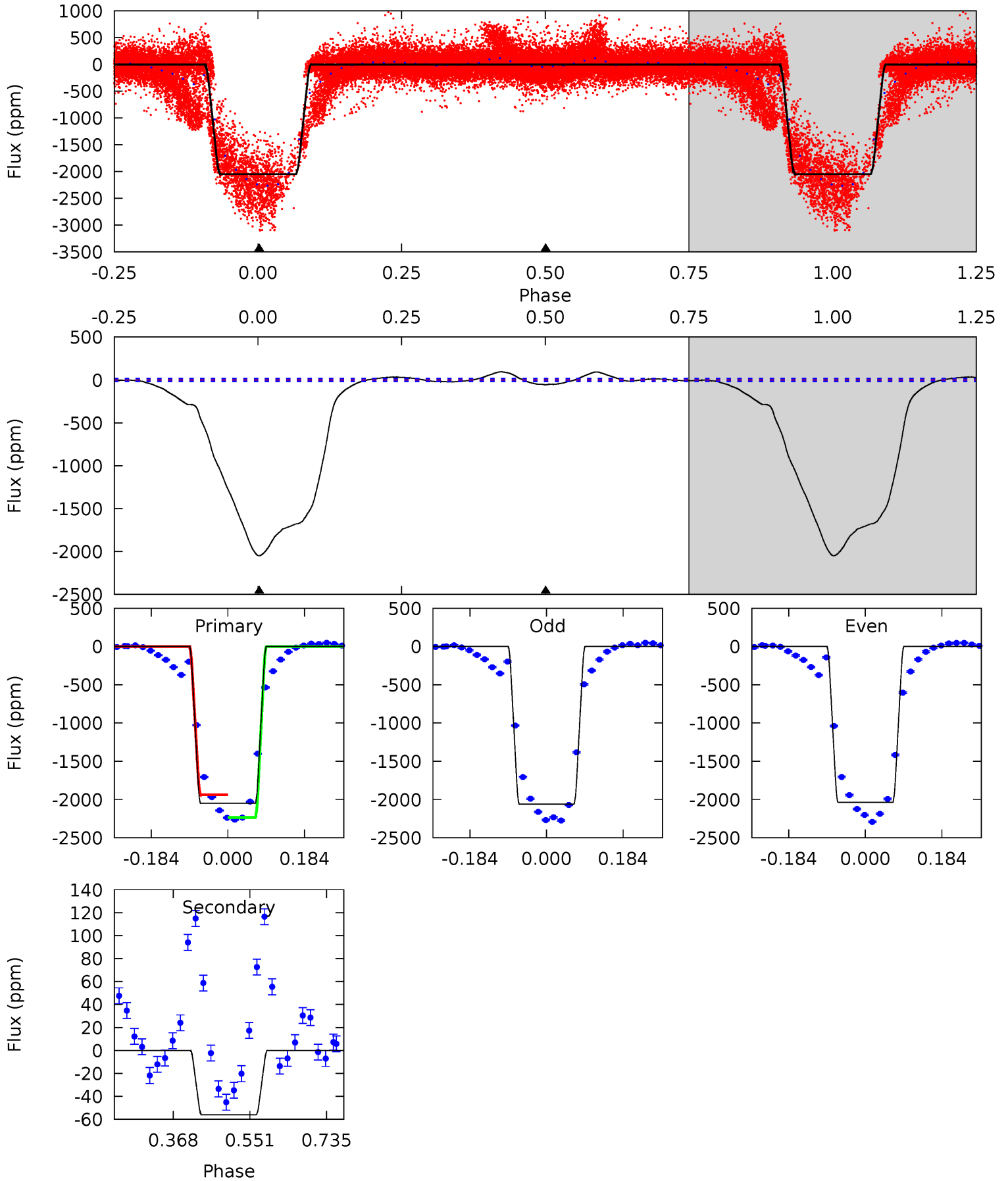
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.44	-0.24	0	0	4.33	1.05	2.20	2.44	2.44	-0.24	-0.24	0.46	44.0	0.89	2.72



Alt Model-Shift Uniqueness Test

010417704-03, P = 1.002725 Days, E = 131.487198 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
582.0	15.9	0	0	4.44	1.33	5.43	582.0	582.0	15.9	15.9	3.13	1.19	0.04	40.0



Stellar Parameters For KIC 010417704

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8275^{+231}_{-364}	$4.199^{+0.065}_{-0.208}$	$0.210^{+0.150}_{-0.500}$	$1.818^{+0.591}_{-0.253}$	$1.908^{+0.340}_{-0.306}$	$0.448^{+0.130}_{-0.239}$
	+3%/-4%	+2%/-5%	+71%/-238%	+33%/-14%	+18%/-16%	+29%/-54%
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 010417704-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 2	$0.88^{+0.66}_{-0.56}$	4481^{+327}_{-236}	-4193^{+8245}_{-1704}	$-0.142^{+0.833}_{-1.815}$
Alt.	-56 ± 4	$10.26^{+1.80}_{-1.23}$	4489^{+332}_{-245}	-3404^{+278}_{-319}	$0.167^{+0.046}_{-0.043}$

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

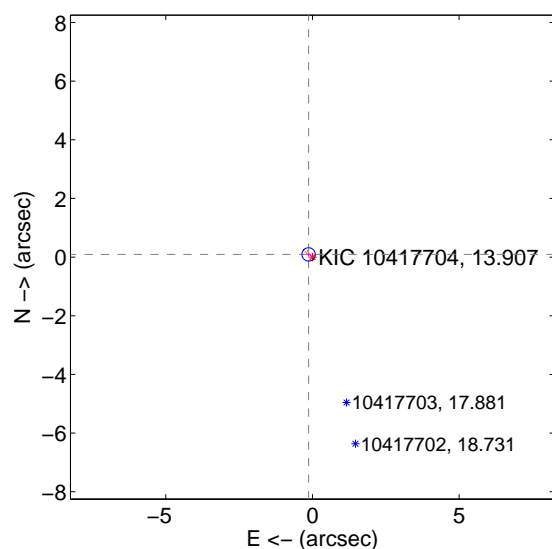
Supplemental centroid analysis for 010417704-03. Kepler magnitude: 13.91. Transit SNR 4.26

There are 0 quarters with good PRF difference image offsets

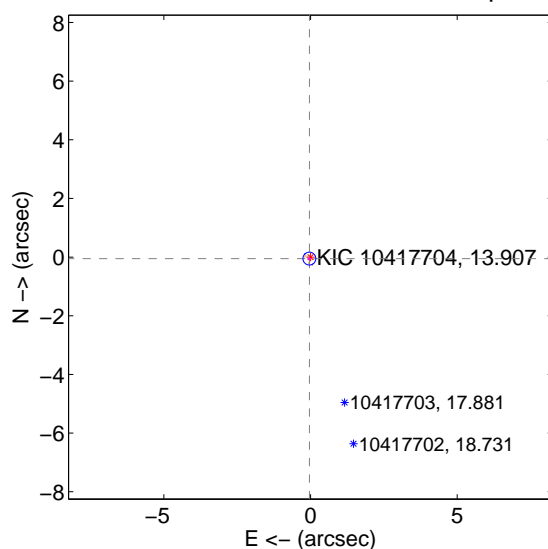
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.160 ± 0.076	2.11	0.131 ± 0.072	0.092 ± 0.072
PRF-fit source offset from KIC position	0.064 ± 0.073	0.88	0.039 ± 0.072	-0.051 ± 0.074
photometric centroid source offset	0.55 ± 2.11	0.26	0.13 ± 2.02	0.53 ± 2.12

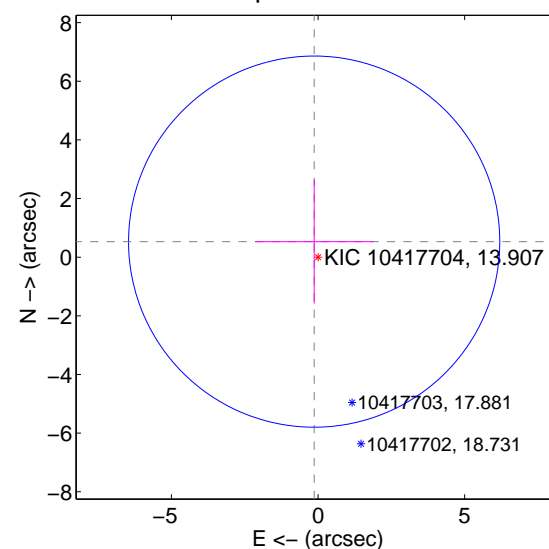
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

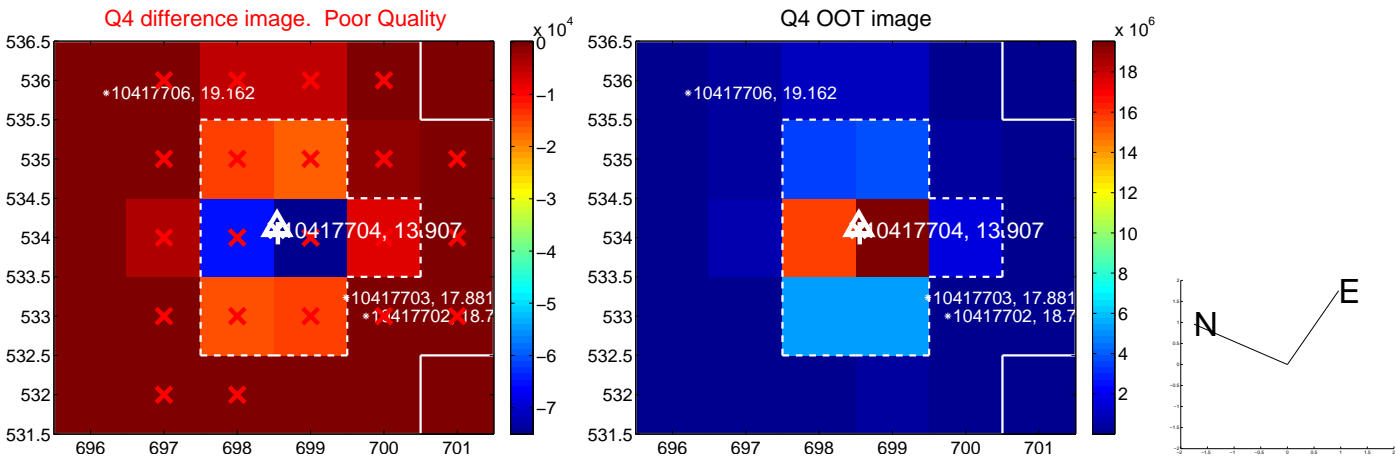
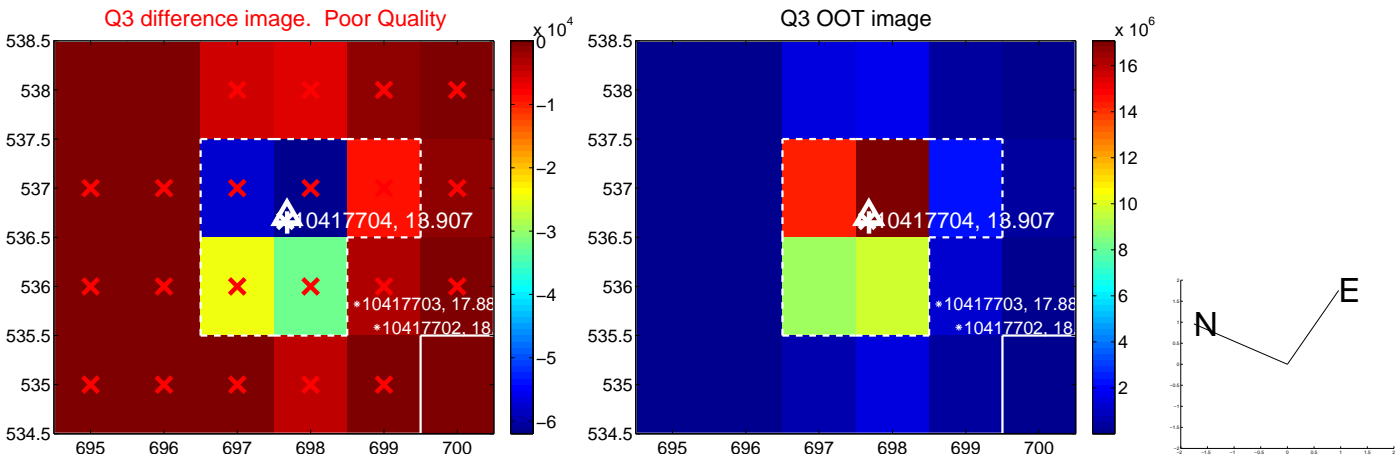
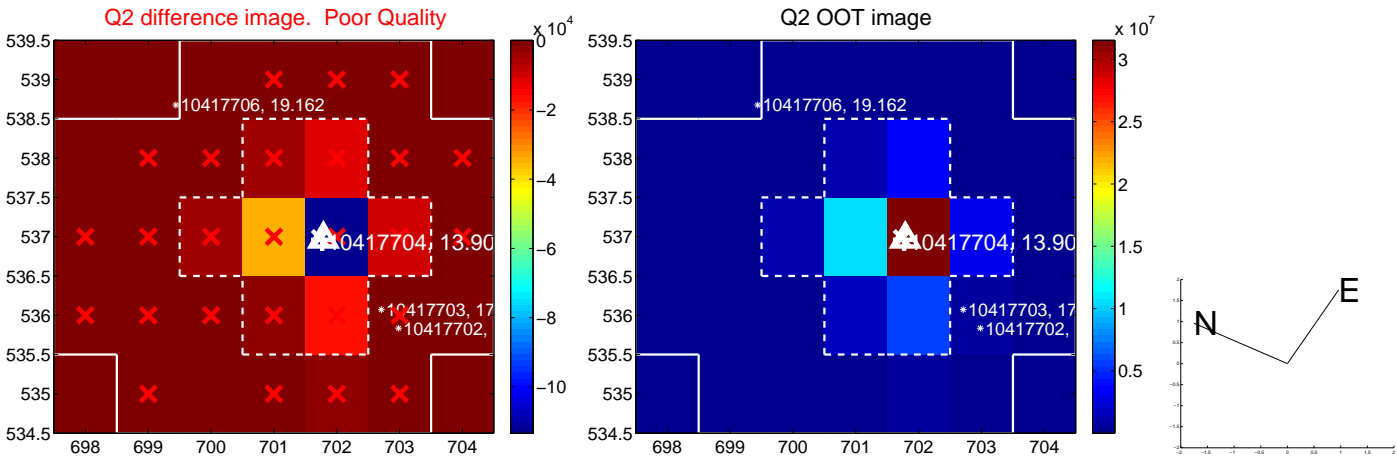
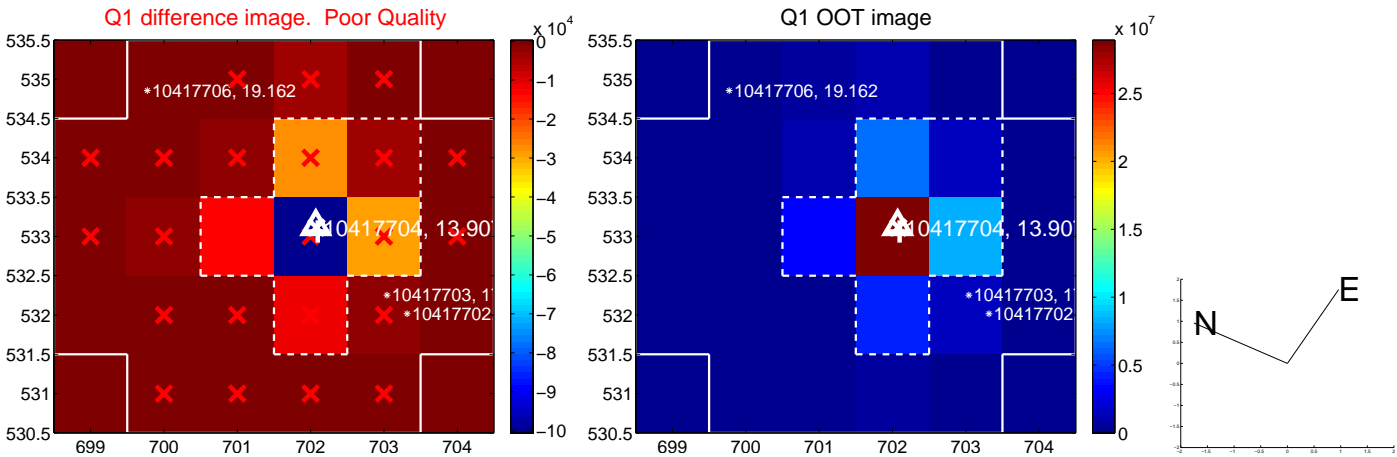


offset from photometric centroids

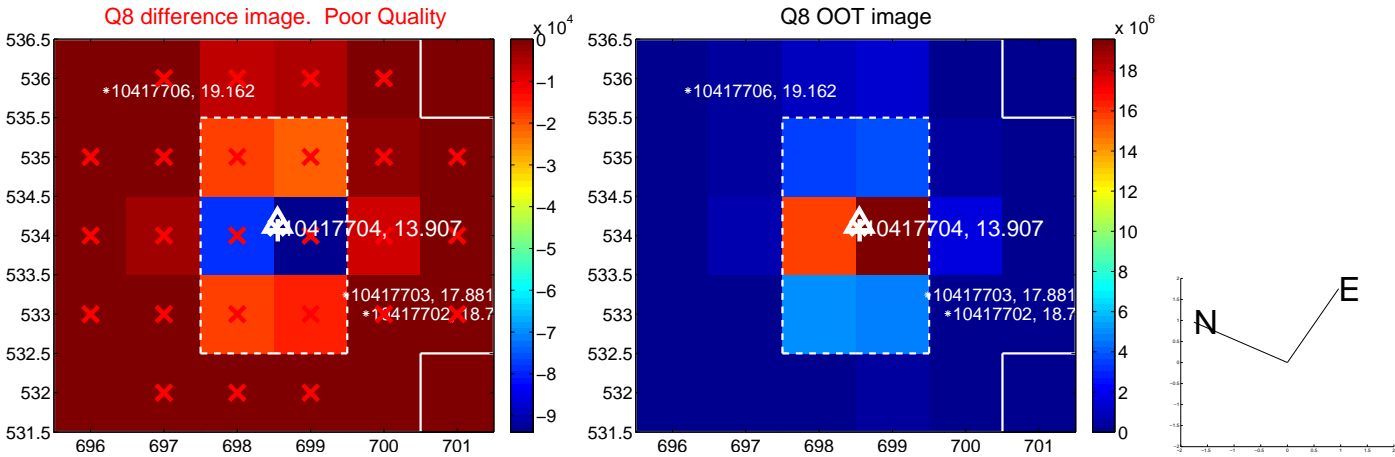
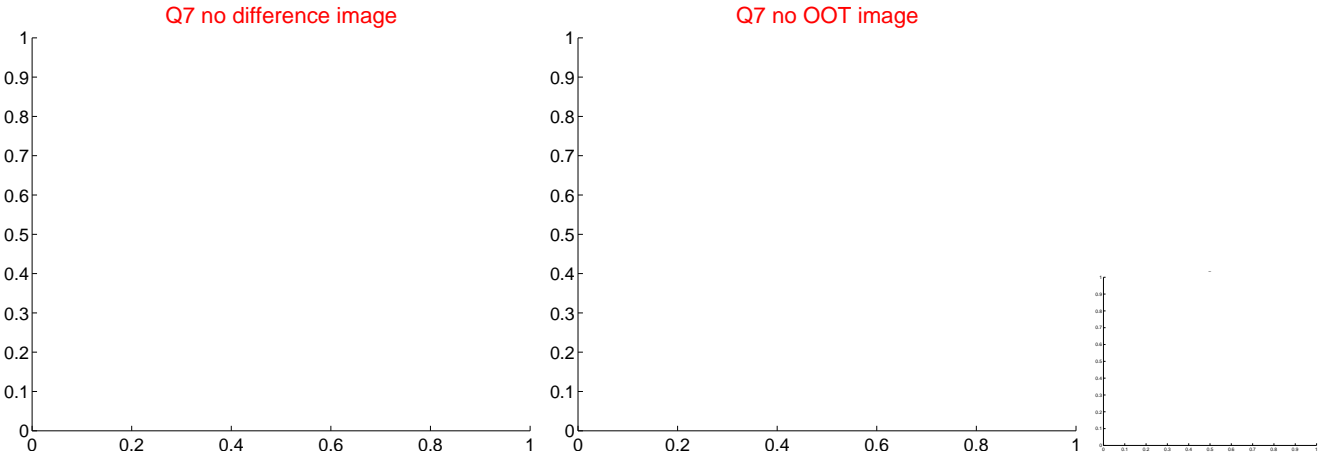
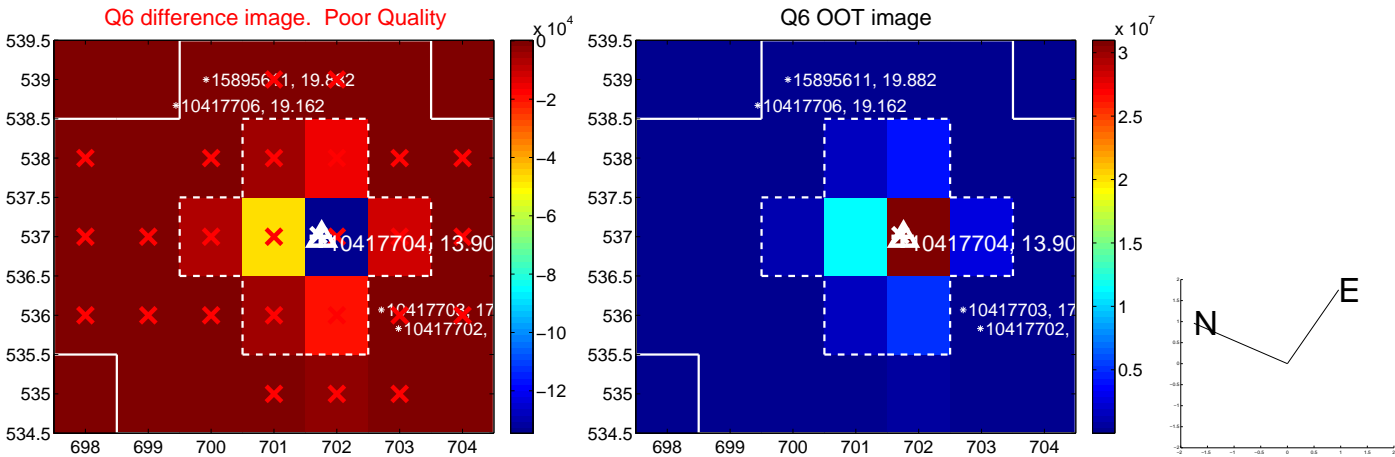
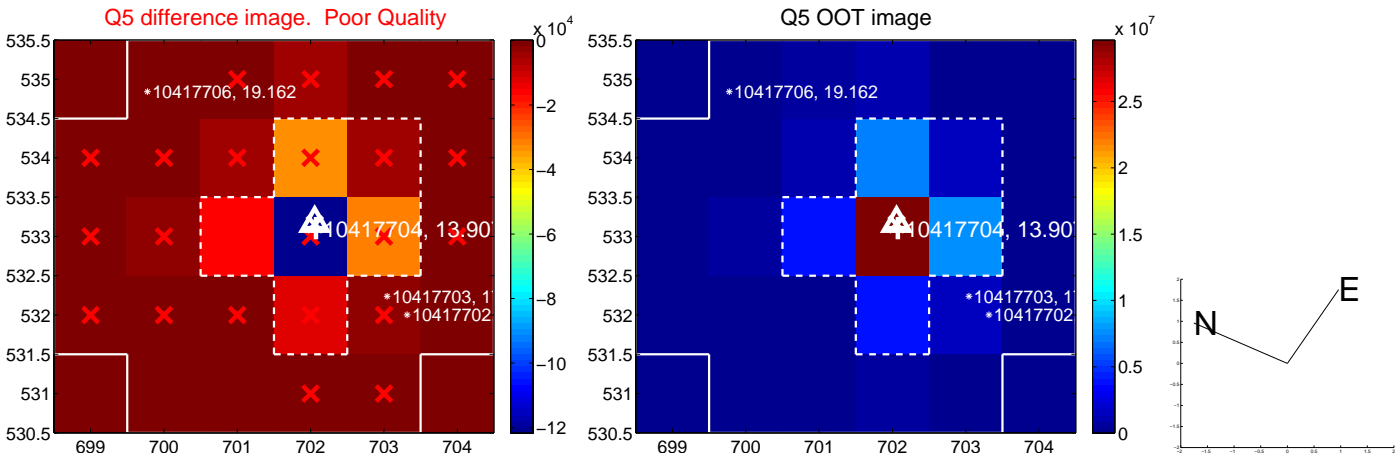


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

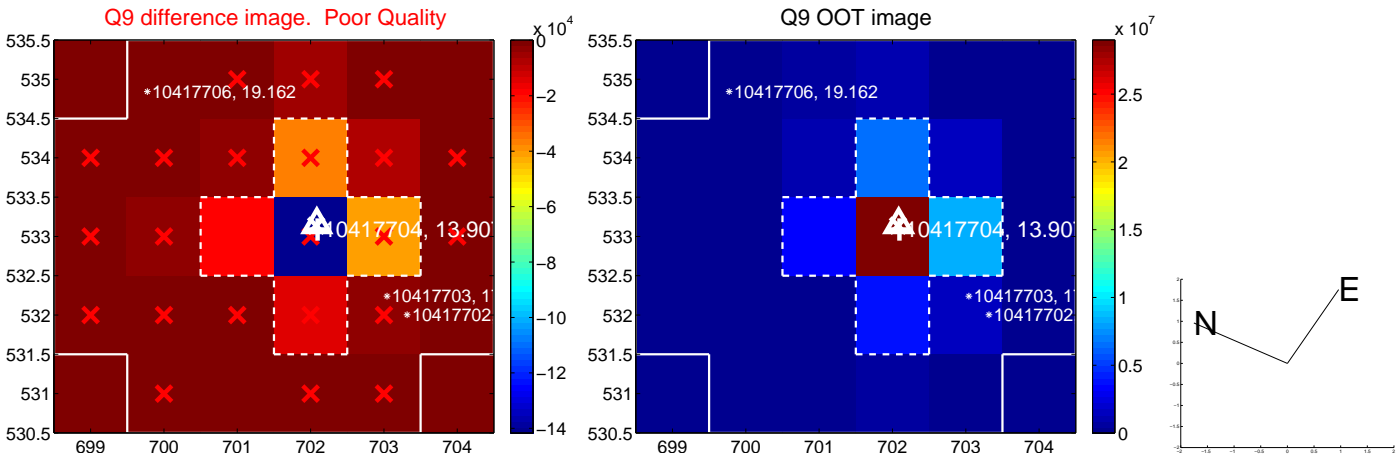
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



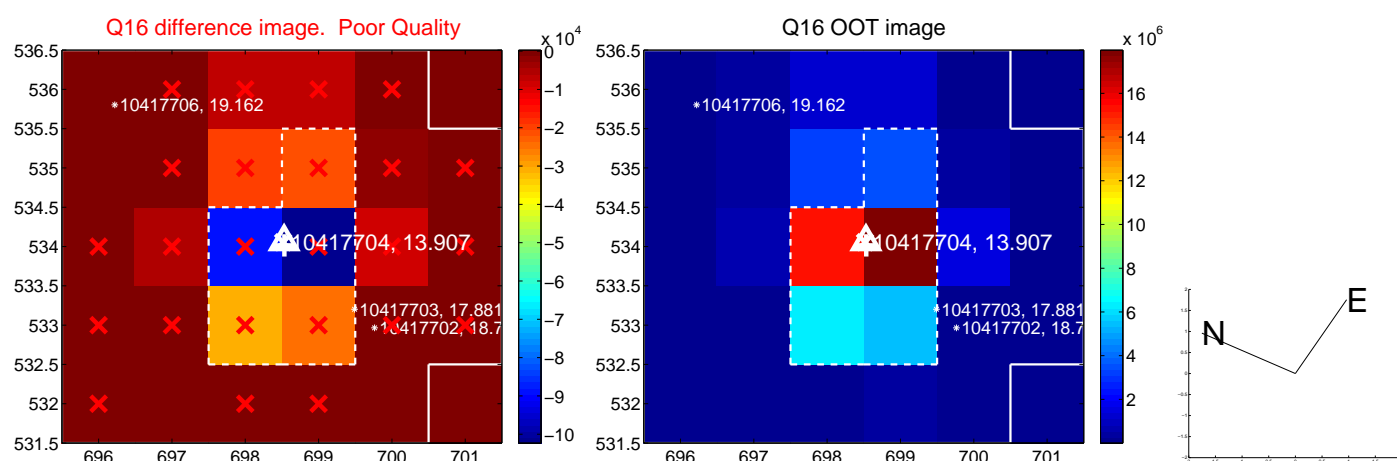
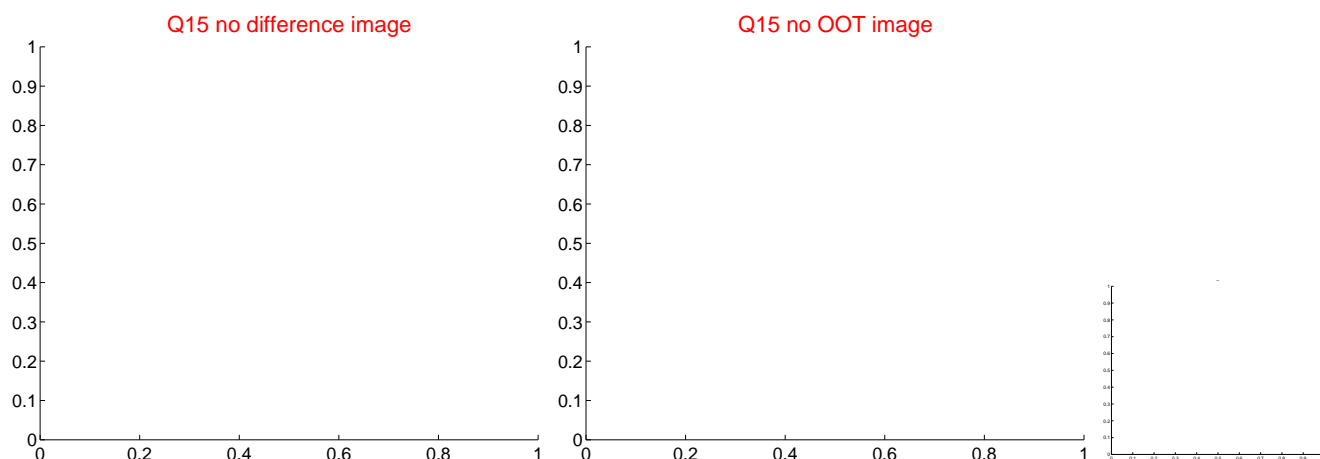
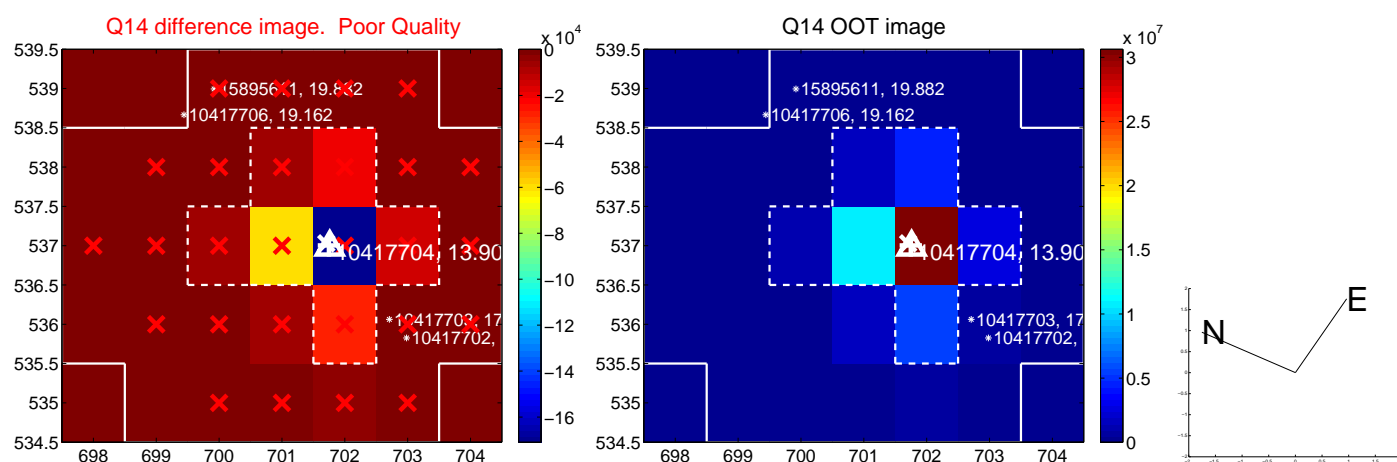
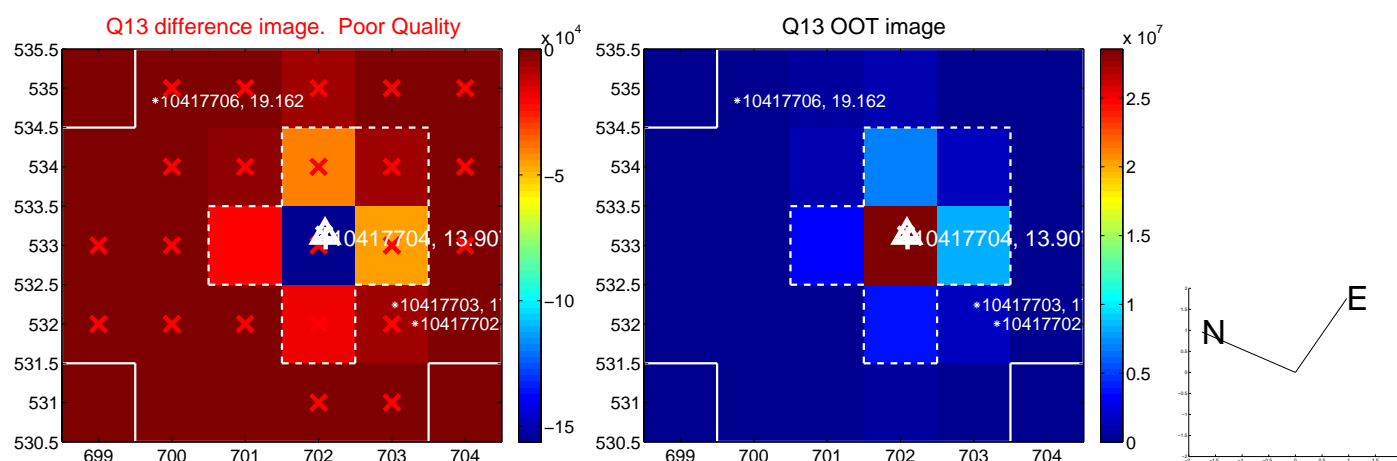
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



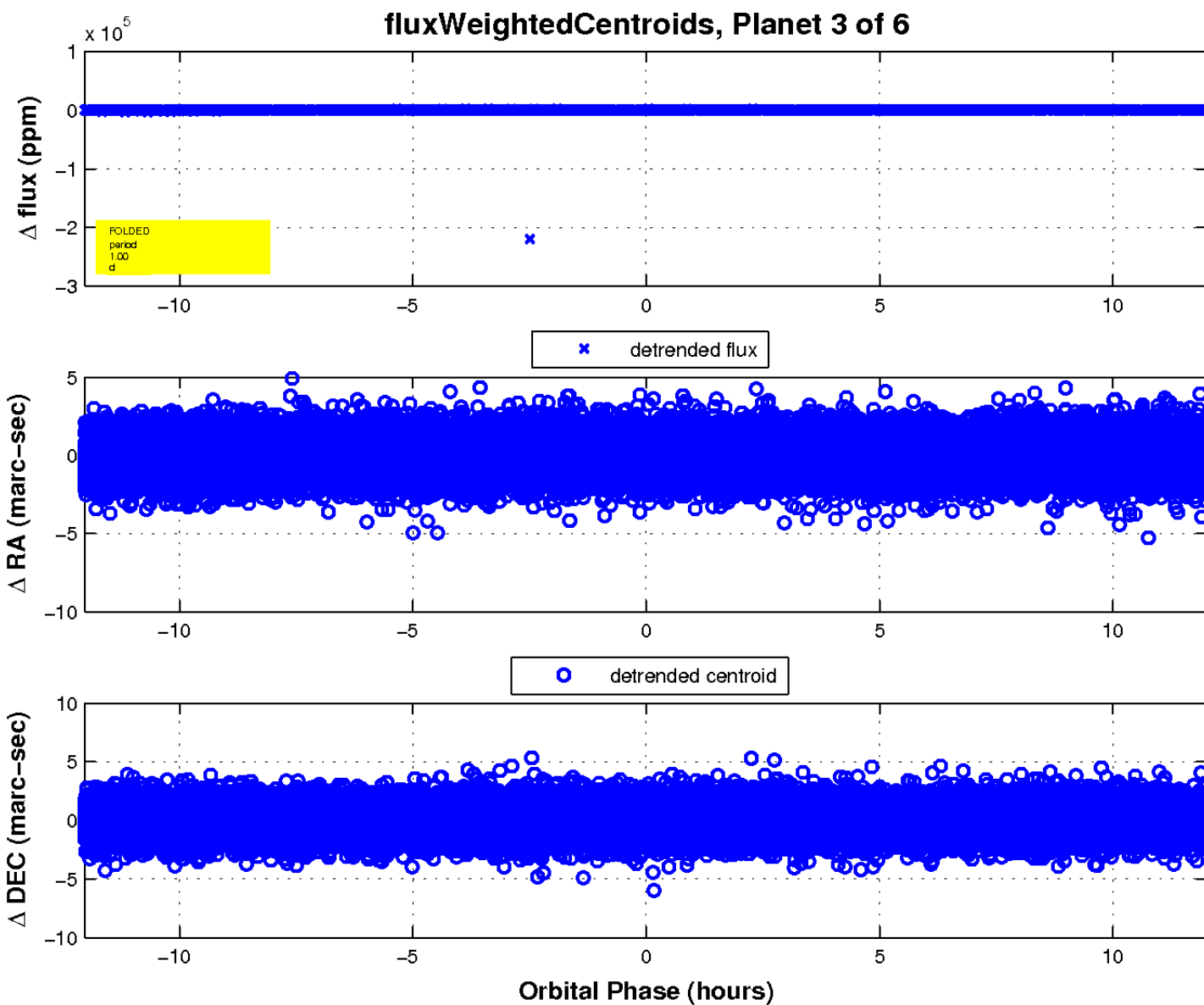
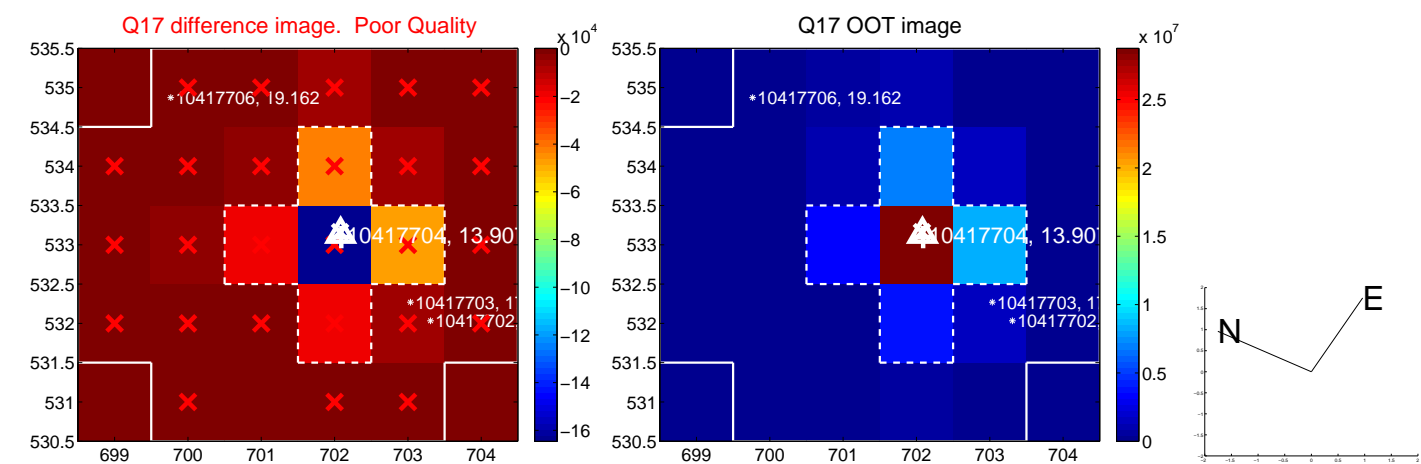
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

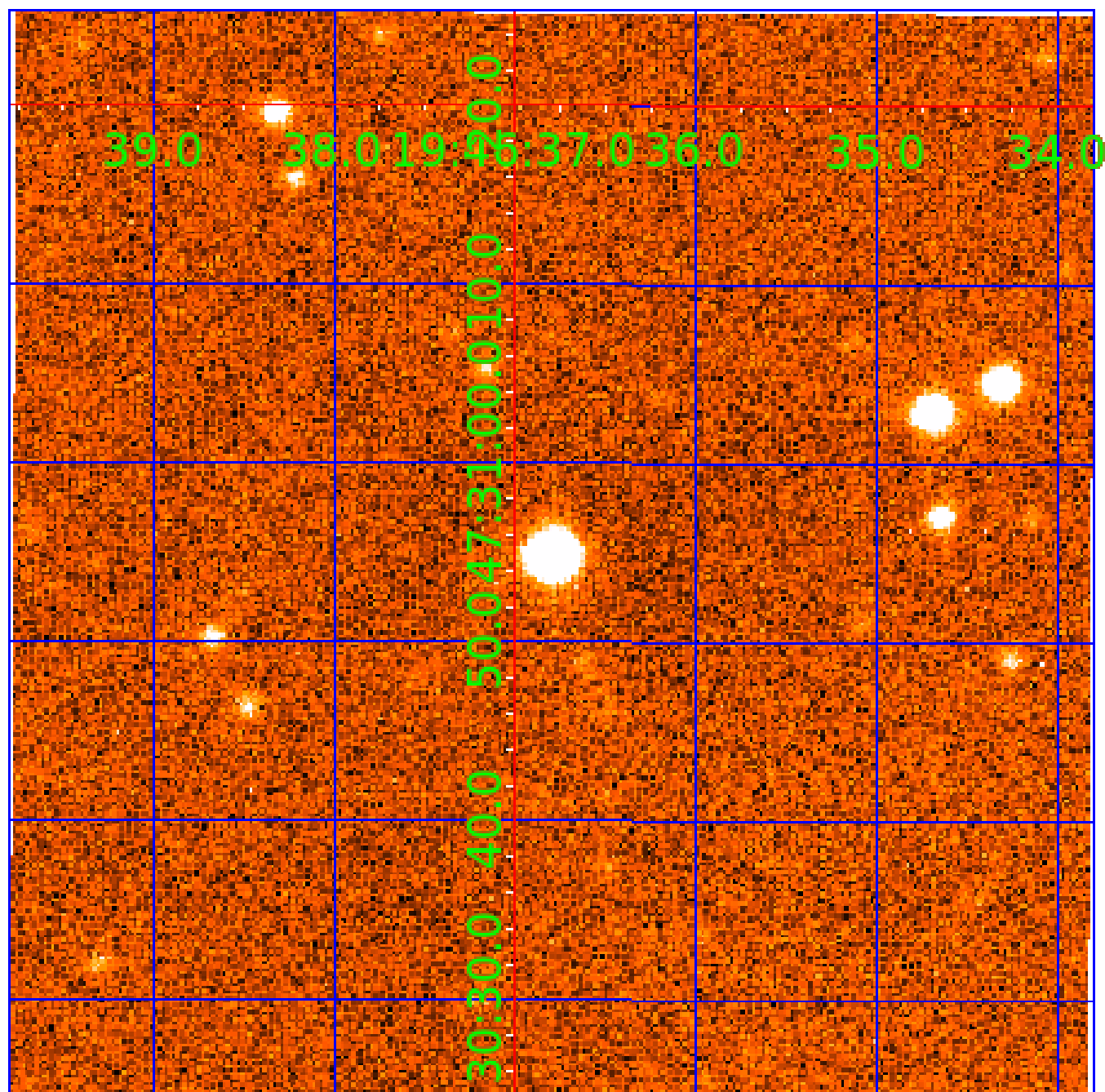


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010417704

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})
010417704-01	OBS	7324.01	3.008261	132.687141	175.6	2.616	23.8	26.9	1.82	8275	2.81	5427.60
010417704-02	OBS	No	3.008211	133.250311	79.6	2.479	10.1	12.5	1.82	8275	1.88	5427.73
010417704-03	OBS	No	1.002590	132.529891	13.1	6.620	10.0	4.3	1.82	8275	0.68	23488.99
010417704-04	OBS	No	27.973745	147.577412	115.8	12.122	9.4	4.3	1.82	8275	2.13	277.56
010417704-05	OBS	No	132.861542	192.970176	239.8	0.642	9.7	2.5	1.82	8275	3.03	34.77
010417704-06	OBS	No	265.719830	193.132042	540.8	3.000	9.5	-1.0	1.82	8275	4.29	13.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010417704-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_FEW_DIFFS
010417704-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010417704-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
010417704-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010417704-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE_TRACKER—TRANS_GAPPED—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
010417704-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—NO_FITS—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

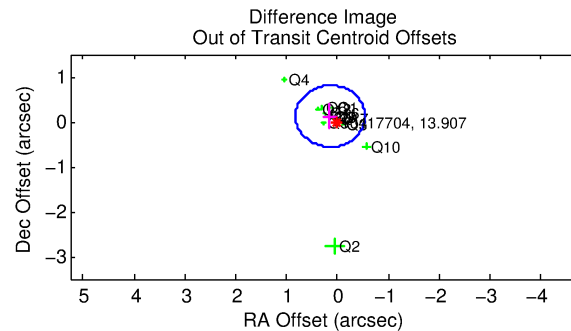
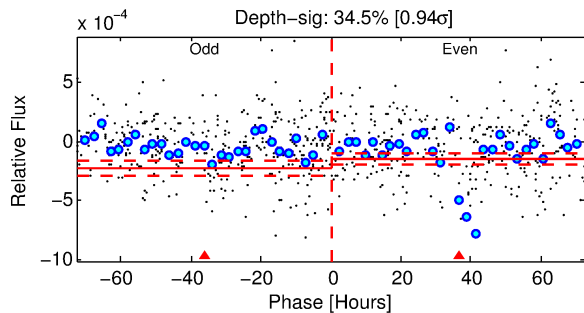
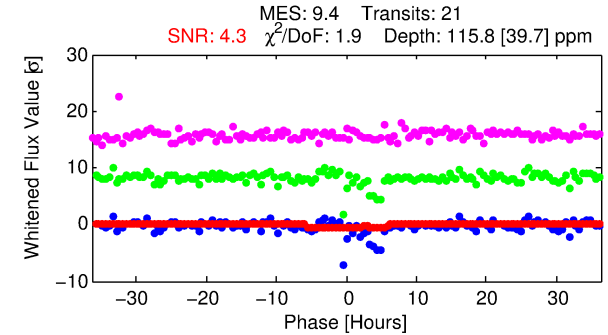
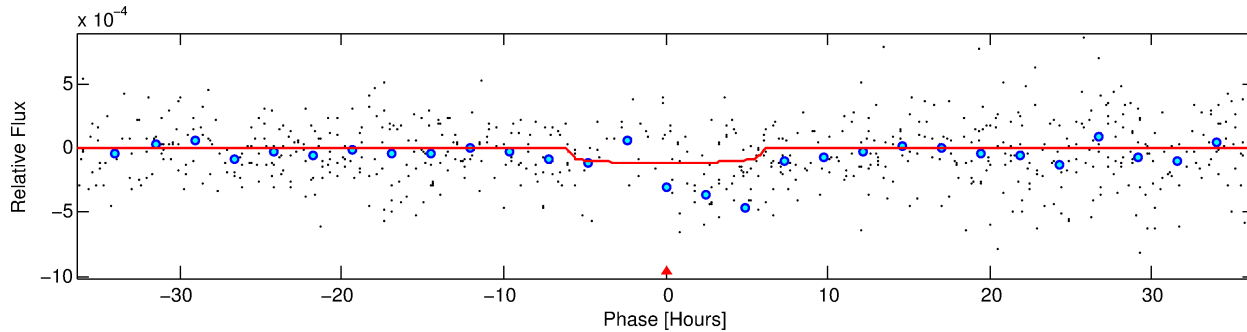
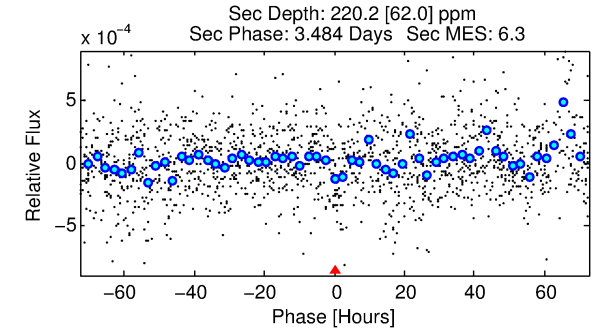
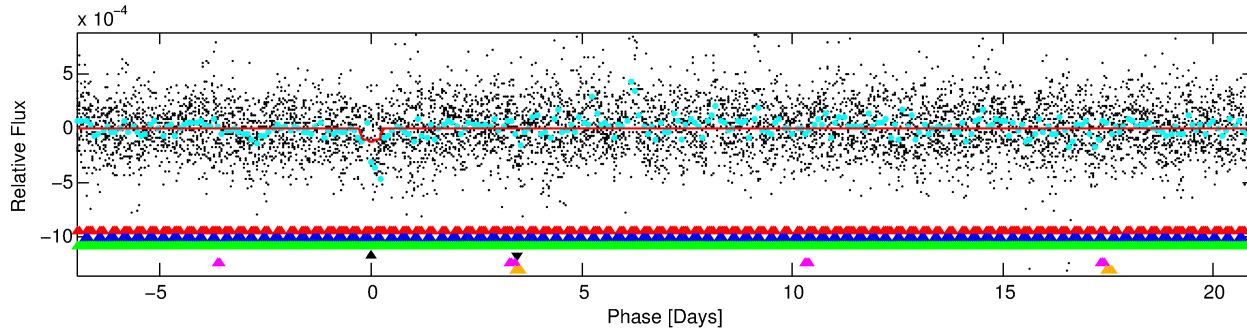
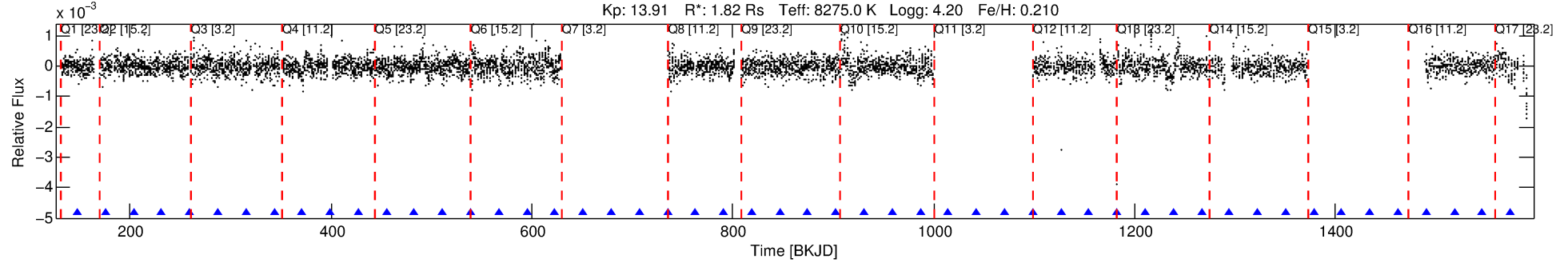
Ephemeris Match Information For 010417704-04

No Significant Match Found

DV One-Page Summary

KIC: 10417704 Candidate: 4 of 6 Period: 27.974 d
KOI: K07324 Corr: No Ephemeris Match

Kp: 13.91 R*: 1.82 Rs Teff: 8275.0 K Logg: 4.20 Fe/H: 0.210



DV Fit Results:

Period = 27.97375 [0.00130] d
Epoch = 147.5774 [0.0376] BKJD
Rp/R* = 0.0107 [0.0052]
a/R* = 11.74 [30.24]
b = 0.76 [1.44]
Seff = 277.56 [117.72]
Teq = 1041 [110] K
Rp = 2.13 [1.23] Re
a = 0.2237 [0.0602] AU
Ag = 1335.68 [1431.56] [0.93σ]
Teffp = 9728 [2469] K [3.51σ]

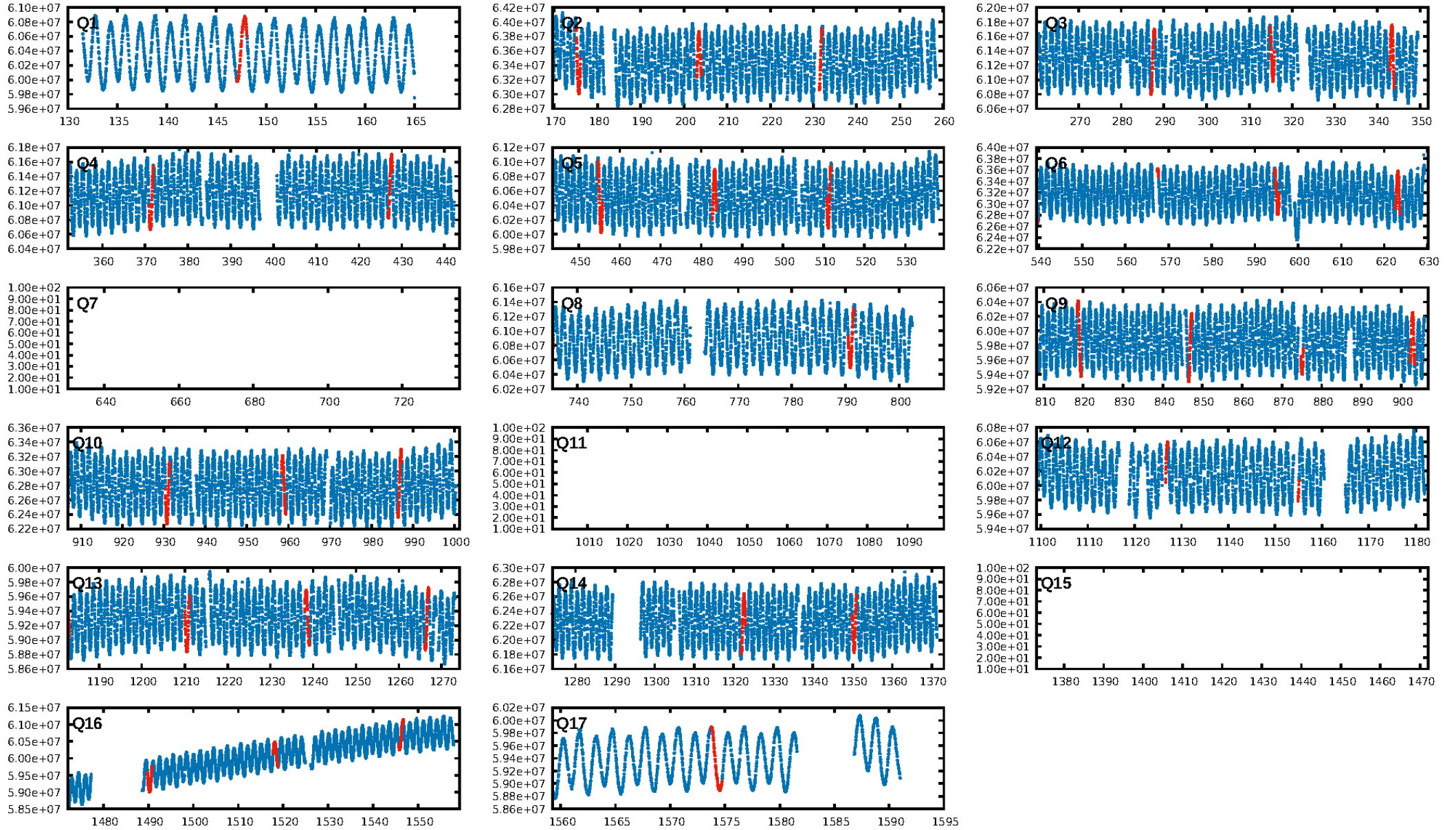
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [48.32σ]
LongPeriod-sig: 100.0% [207.37σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [21/21]
GhostDiagnostic-chr: -1.788
Centroid-sig: N/A
Centroid-so: 2.433 arcsec [2.06σ]
OotOffset-rm: 0.189 arcsec [0.83σ]
KicOffset-rm: 0.050 arcsec [0.36σ]
OotOffset-st: 3/1/3/5 [12]
KicOffset-st: 3/1/3/5 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 0.00 [0/13]

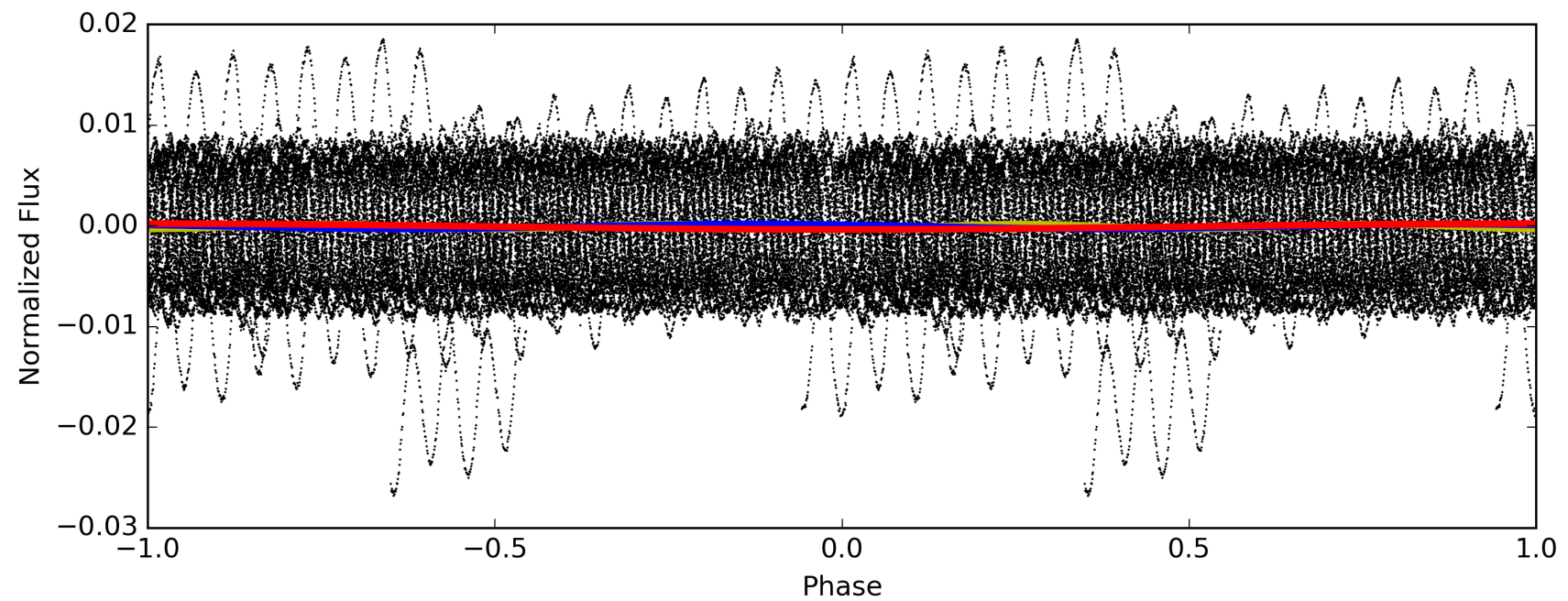
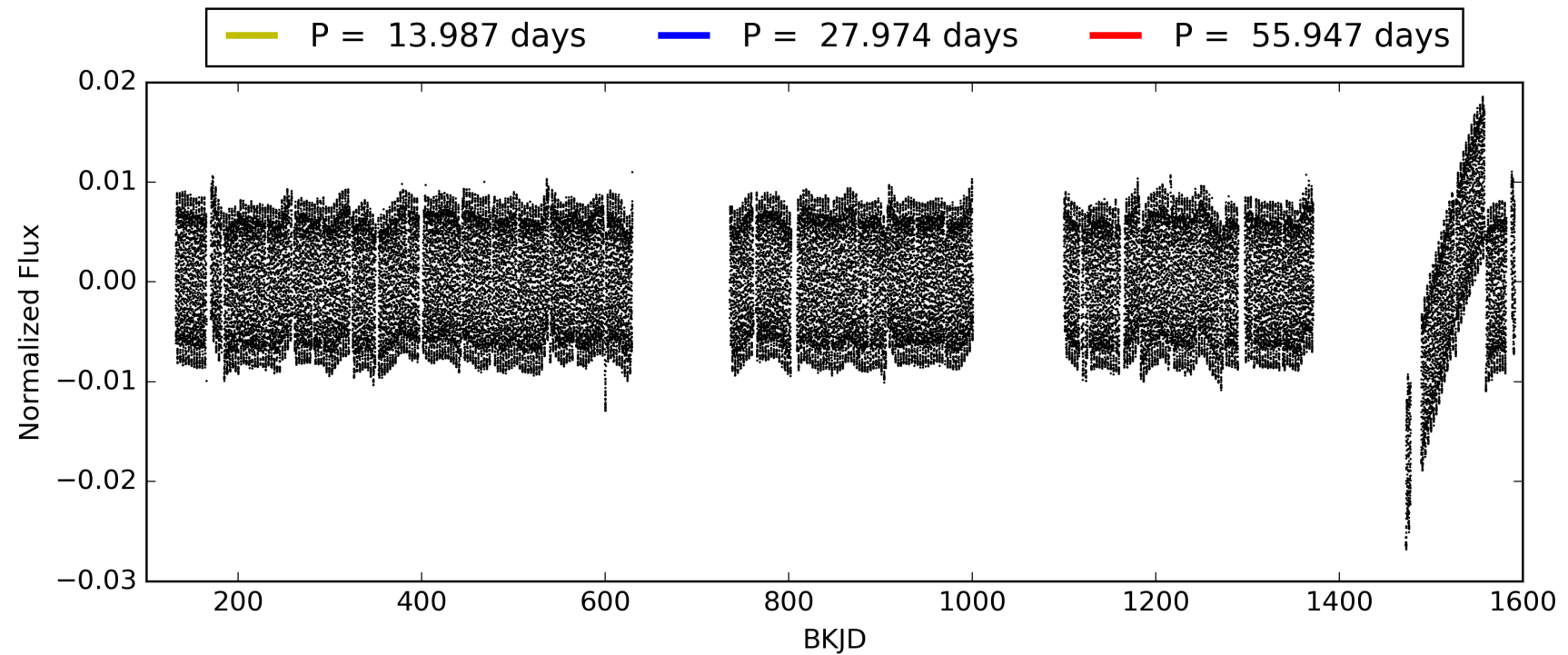
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:39:51 Z

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

TCE 010417704-04, PDC Light Curves

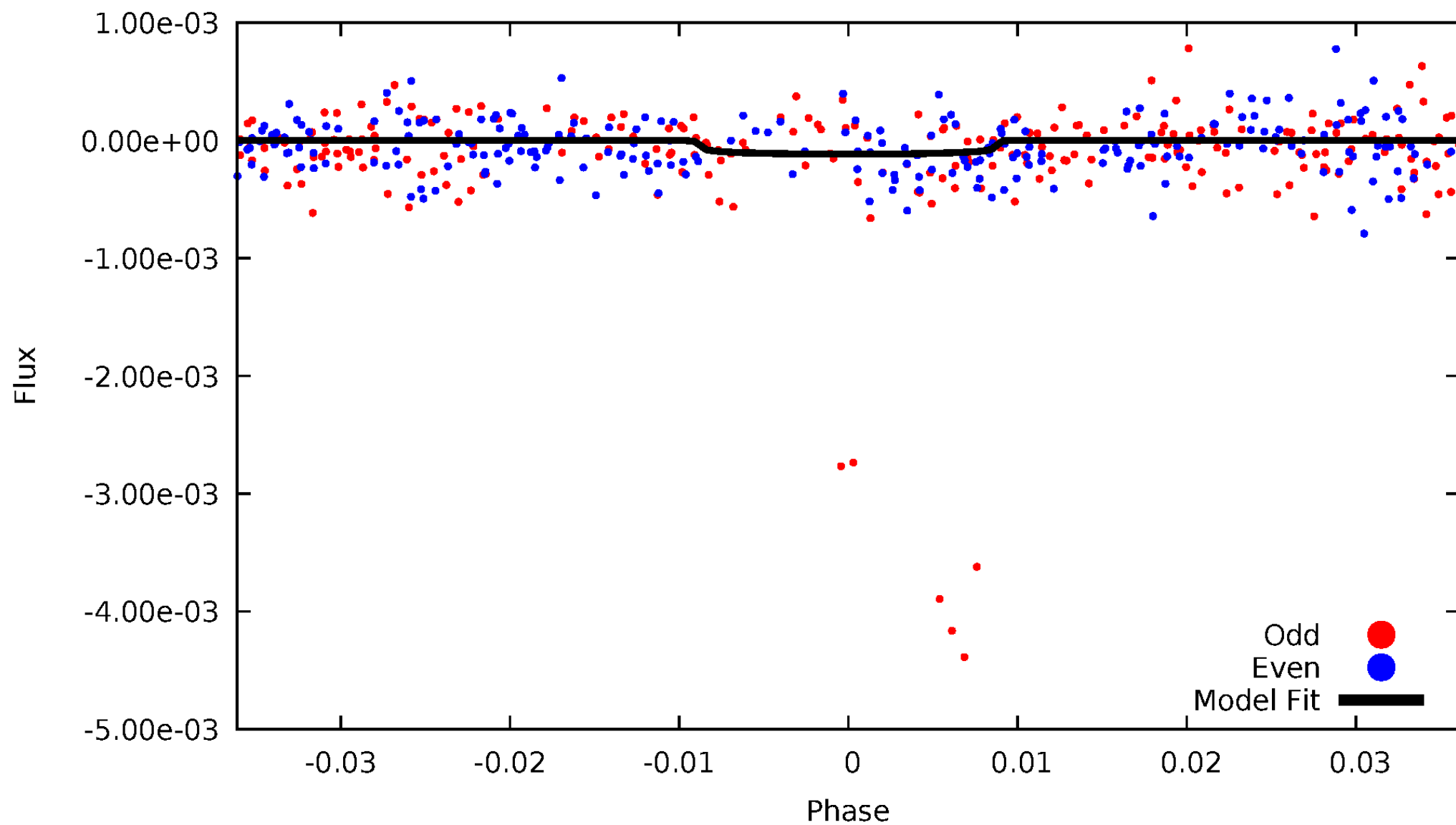


TCE 010417704-04



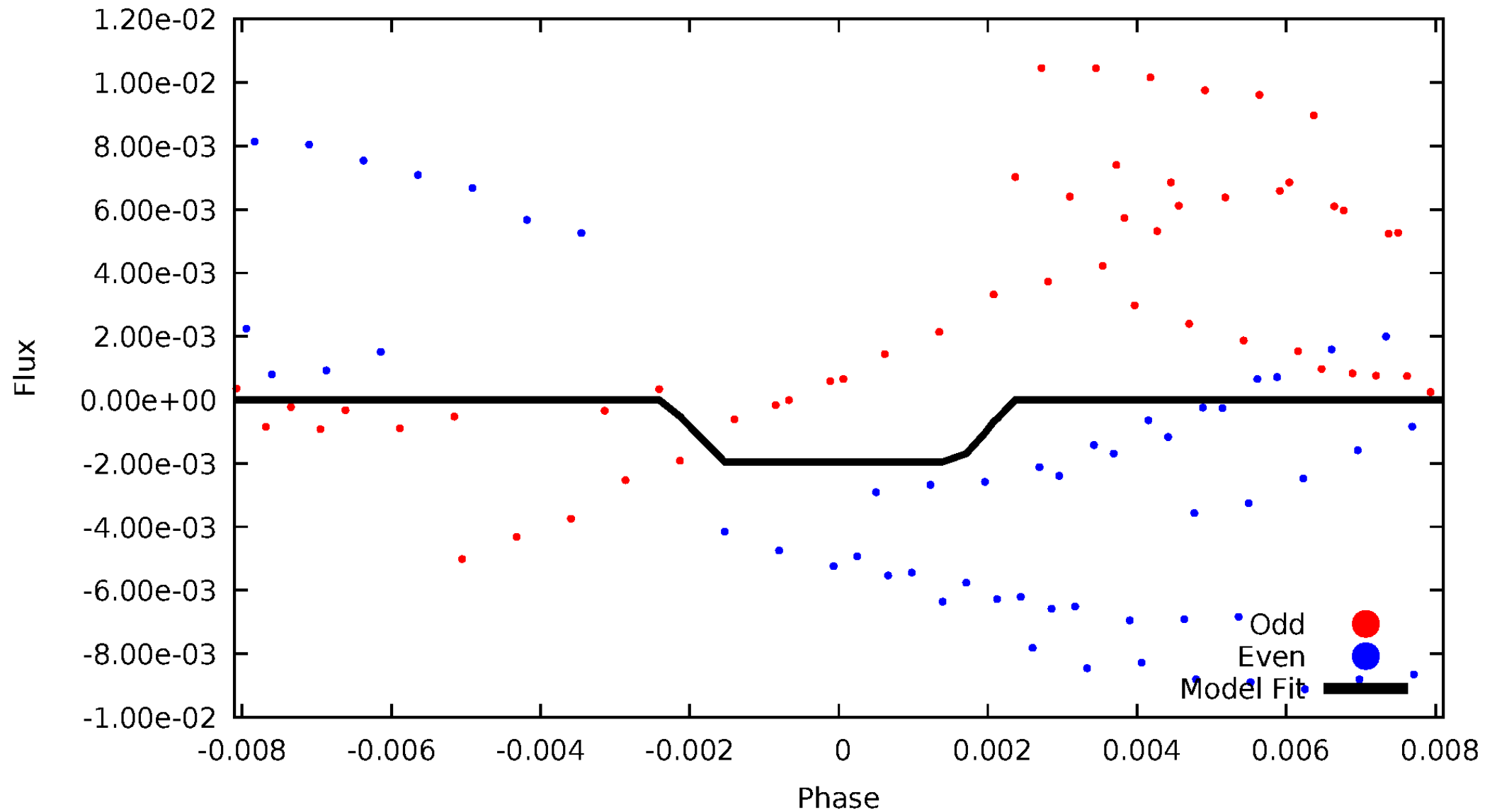
DV Odd/Even

TCE 010417704-04



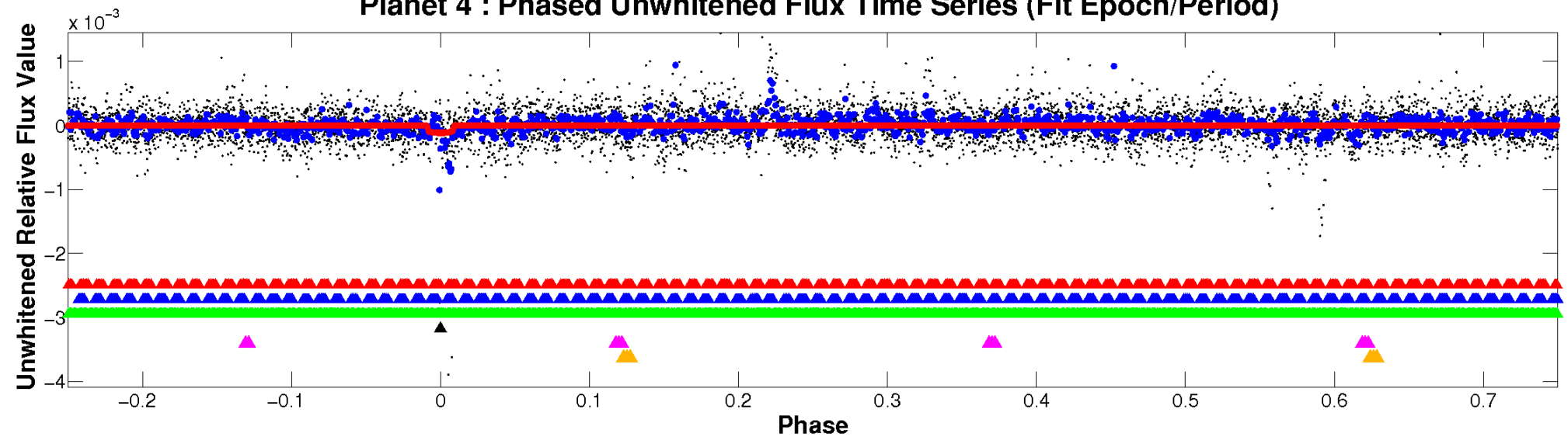
ALT Odd/Even

TCE 010417704-04

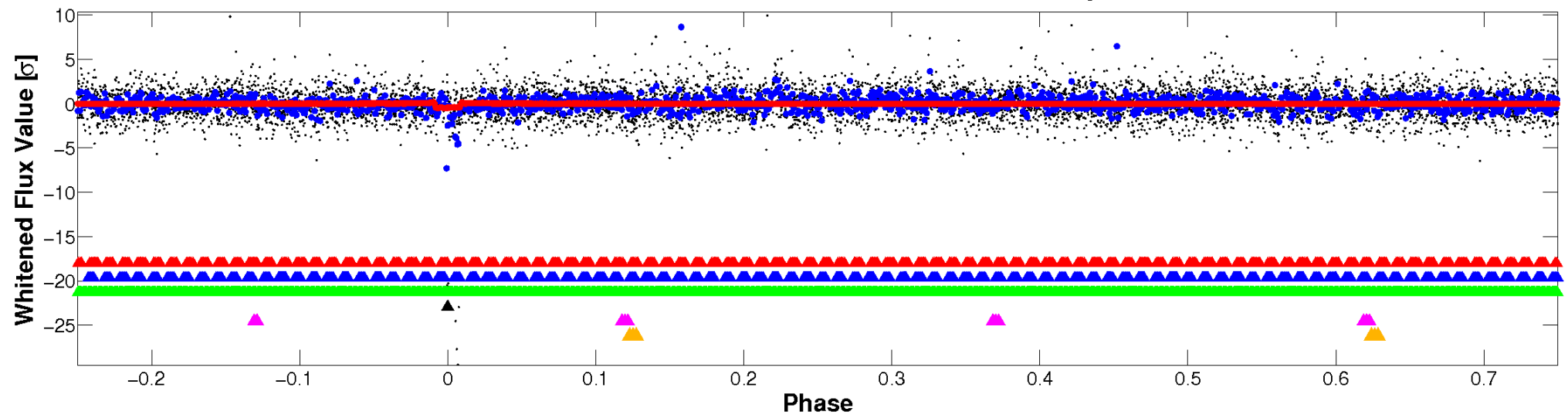


Non-Whitened Vs. Whitened Light Curve

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

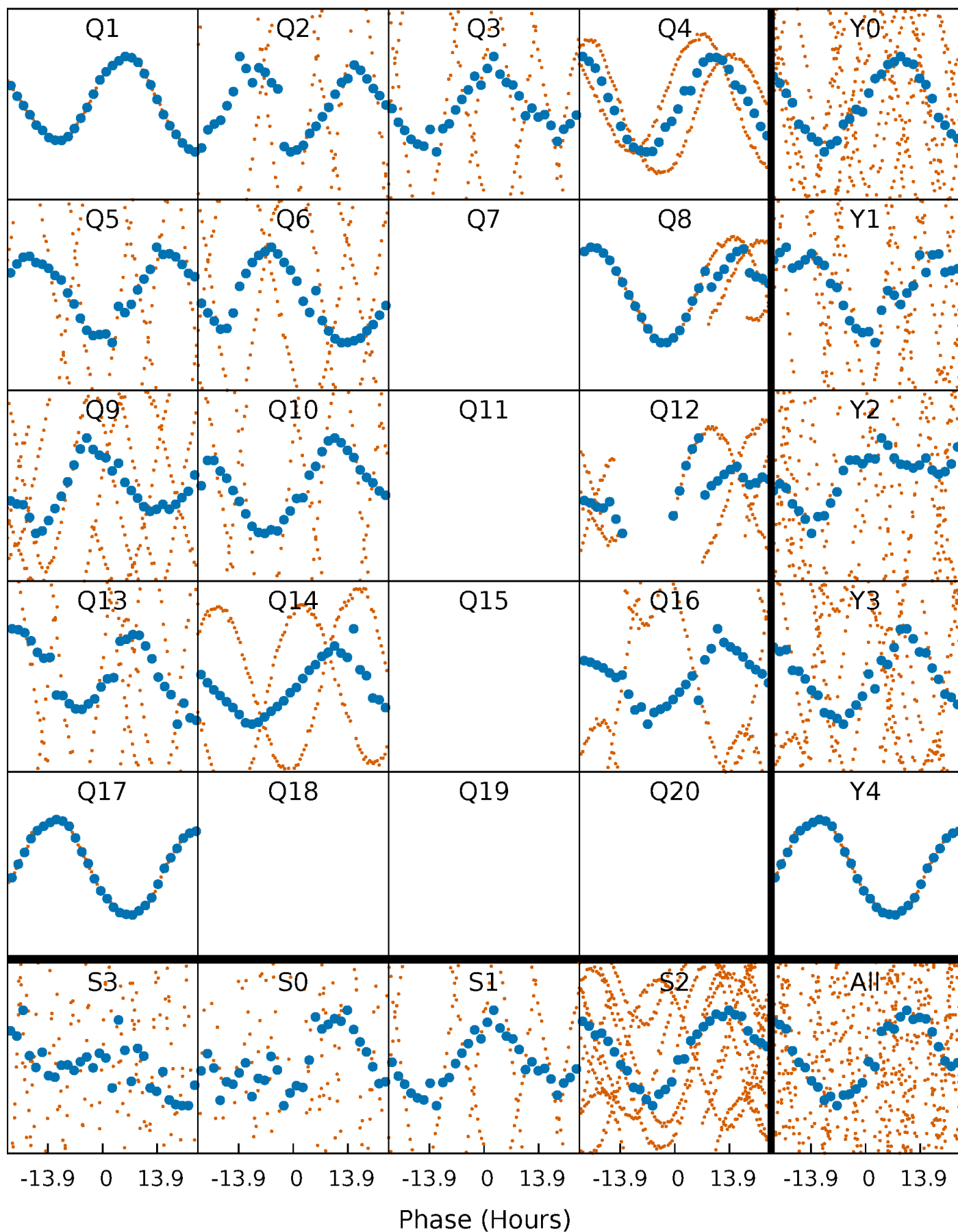


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



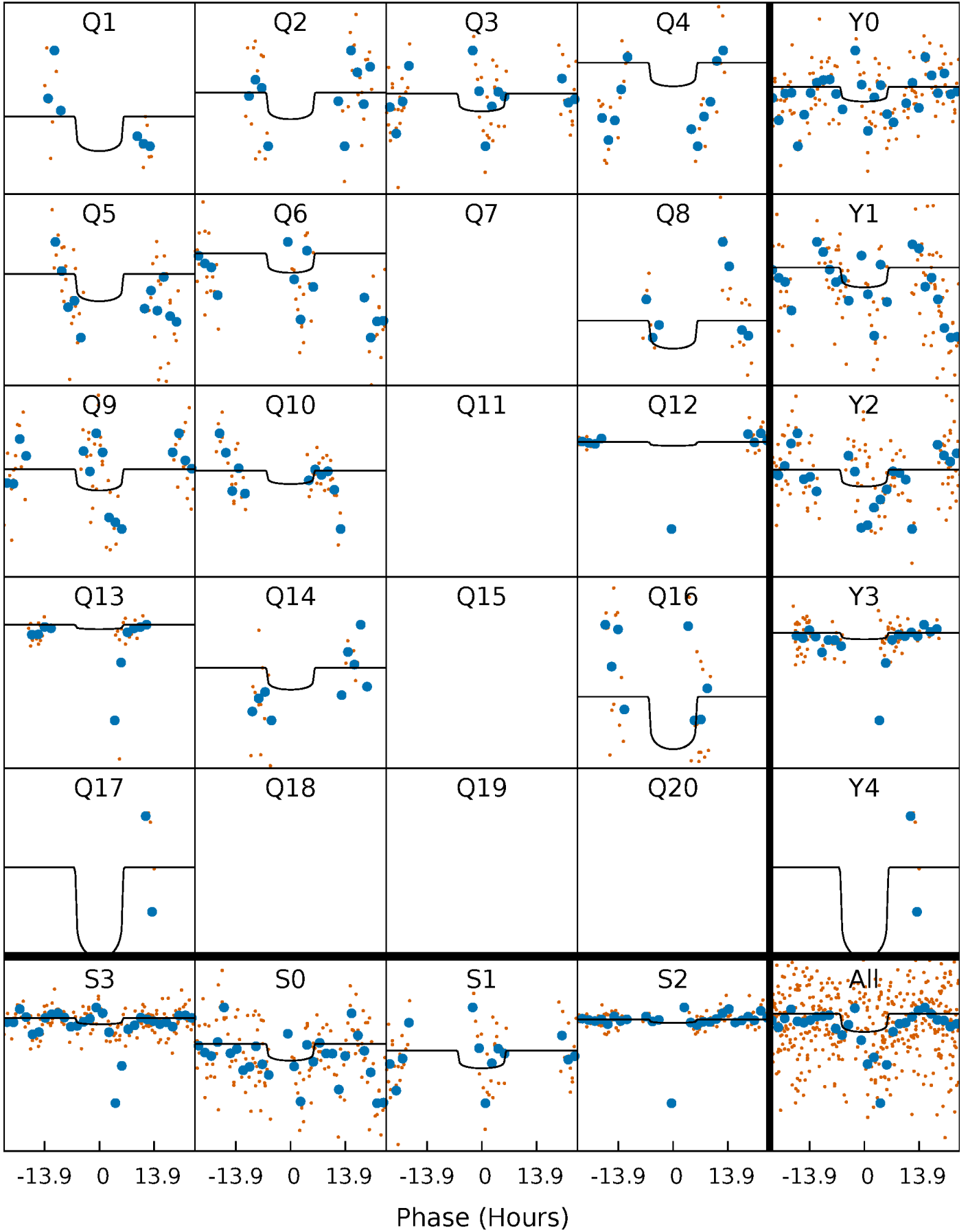
PDC Quarter-Phased Transit Curves

TCE 010417704-04 $P = 27.973745$ Days $T_0 = 147.577412$ (BKJD)



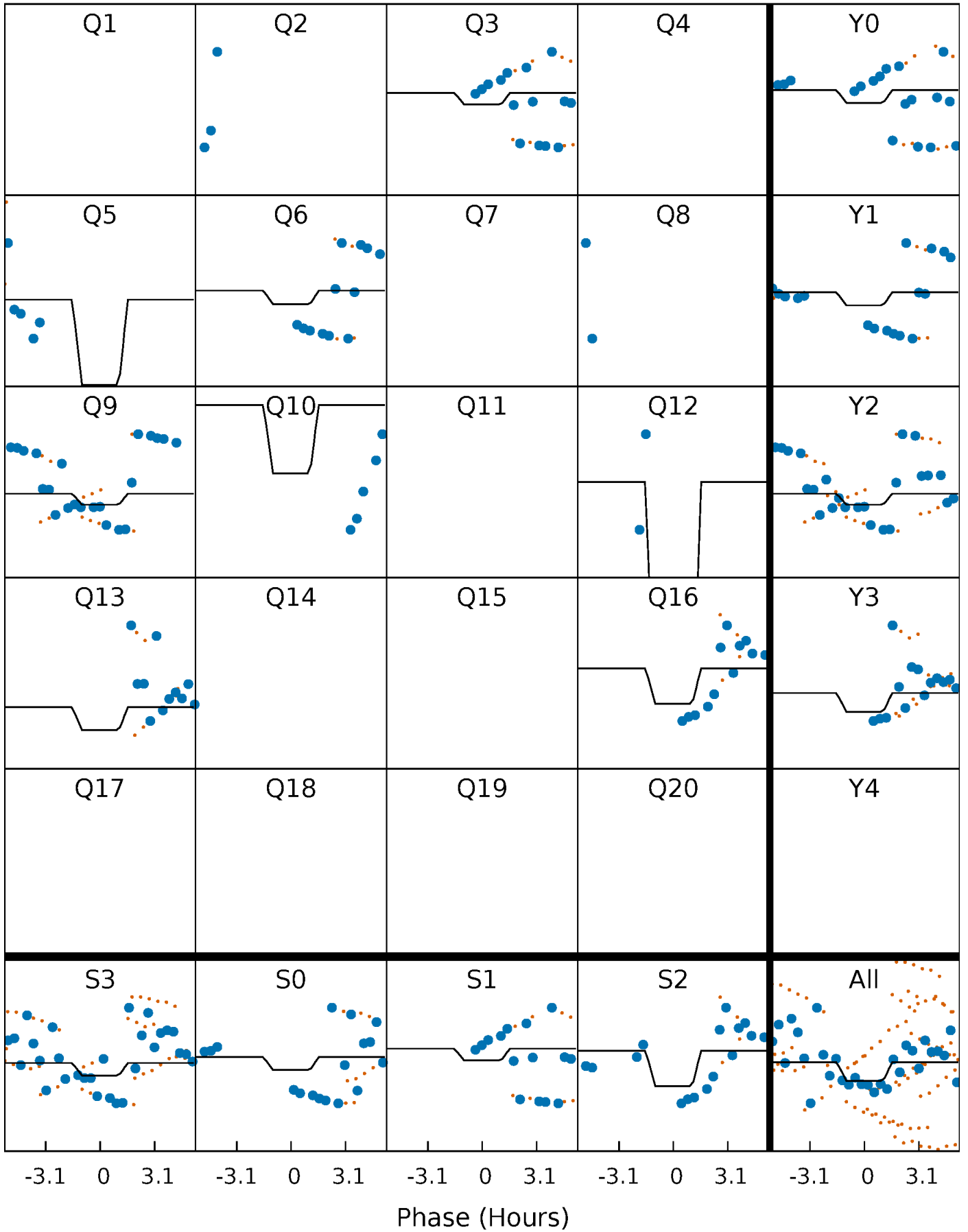
DV Quarter-Phased Transit Curves

TCE 010417704-04 $P = 27.973745$ Days $T_0 = 147.577412$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

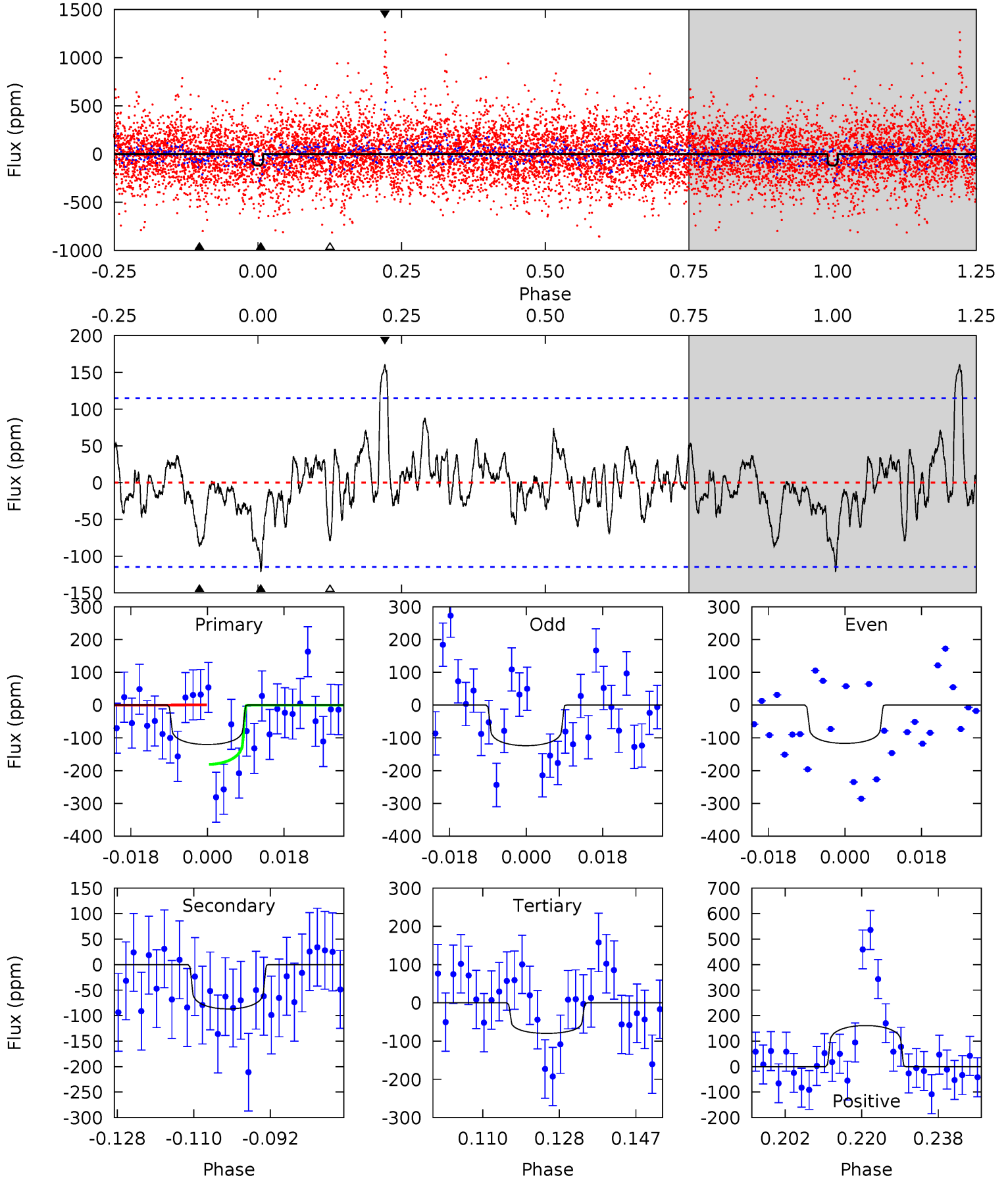
TCE 010417704-04 P= 27.978352 Days $T_0=147.491888$ (BKJD)



DV Model-Shift Uniqueness Test

010417704-04, P = 27.973745 Days, E = 119.603667 Days

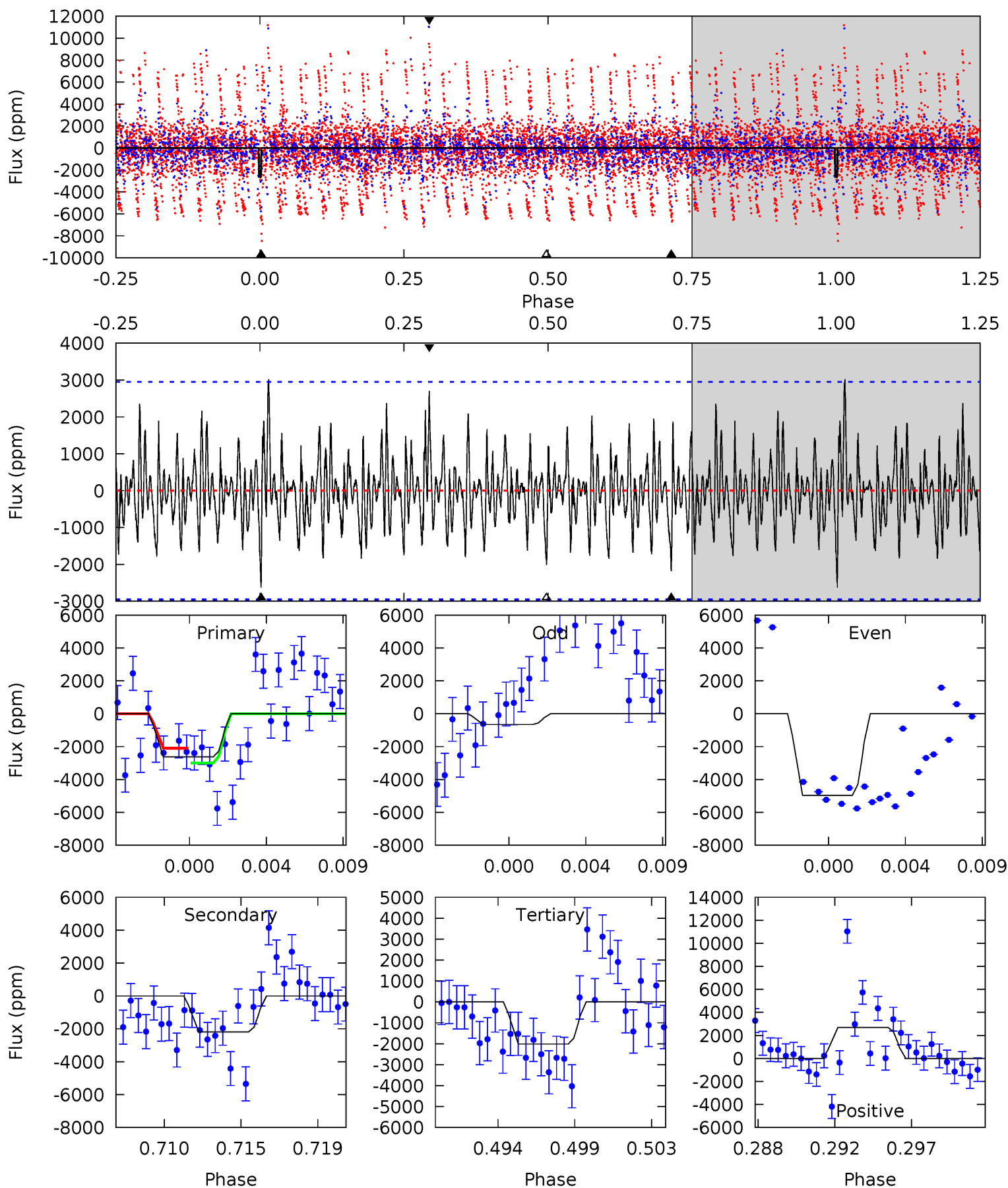
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.15	3.72	3.41	6.89	4.91	2.36	1.37	1.74	-1.74	0.30	-3.17	0.15	2.71	0.57	3.68



Alt Model-Shift Uniqueness Test

010417704-04, P = 27.978352 Days, E = 119.513536 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.61	3.83	3.53	4.73	5.18	2.84	1.32	1.08	-0.12	0.30	-0.91	3.08	0.85	0.53	0.79



Stellar Parameters For KIC 010417704

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8275^{+231}_{-364}	$4.199^{+0.065}_{-0.208}$	$0.210^{+0.150}_{-0.500}$	$1.818^{+0.591}_{-0.253}$	$1.908^{+0.340}_{-0.306}$	$0.448^{+0.130}_{-0.239}$
	+3%/-4%	+2%/-5%	+71%/-238%	+33%/-14%	+18%/-16%	+29%/-54%
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 010417704-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-87 ± 23	$2.23^{+1.15}_{-0.98}$	1480^{+109}_{-85}	7555^{+3691}_{-1501}	483^{+1065}_{-283}
Alt.	-2184 ± 570	$9.22^{+1.83}_{-1.38}$	1486^{+110}_{-82}	8492^{+1135}_{-1015}	694^{+326}_{-283}

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 $A_{obs} \gg 1.0$

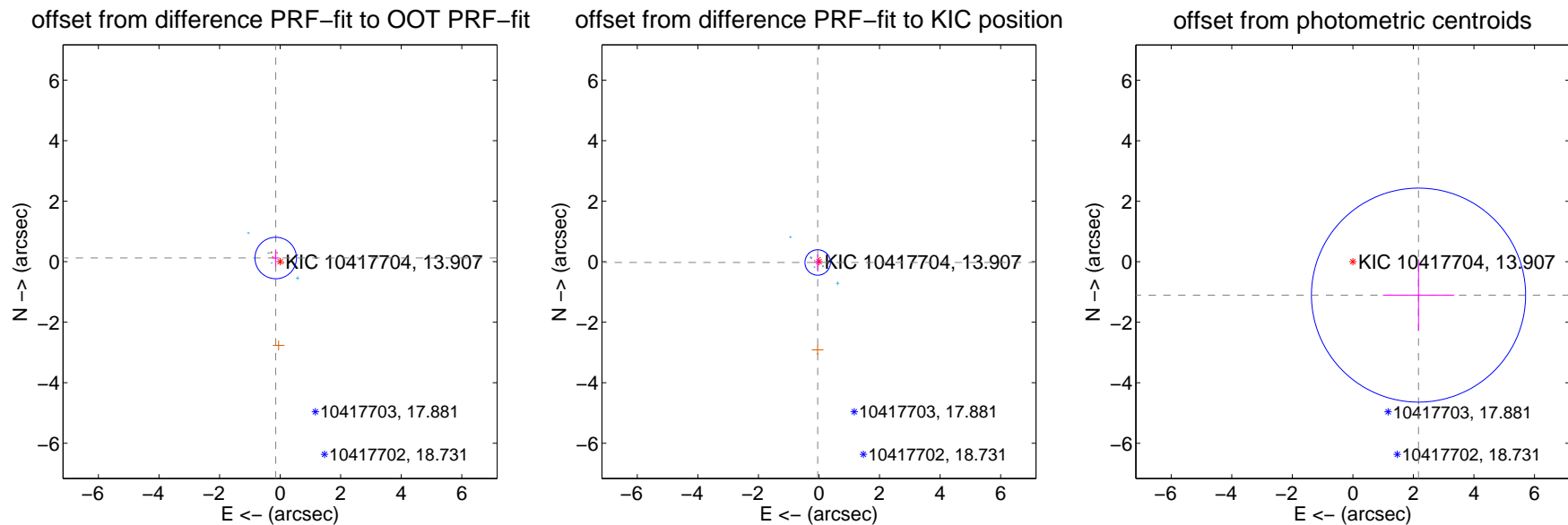
DV Centroid Data

Supplemental centroid analysis for 010417704-04. Kepler magnitude: 13.91. Transit SNR 4.25

There are 6 quarters with good PRF difference image offsets

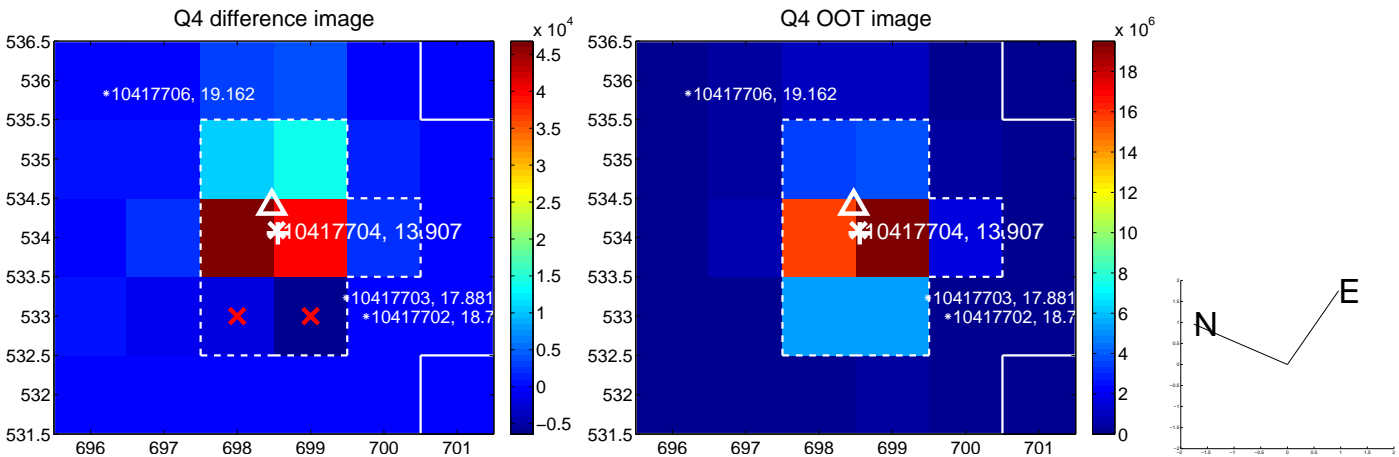
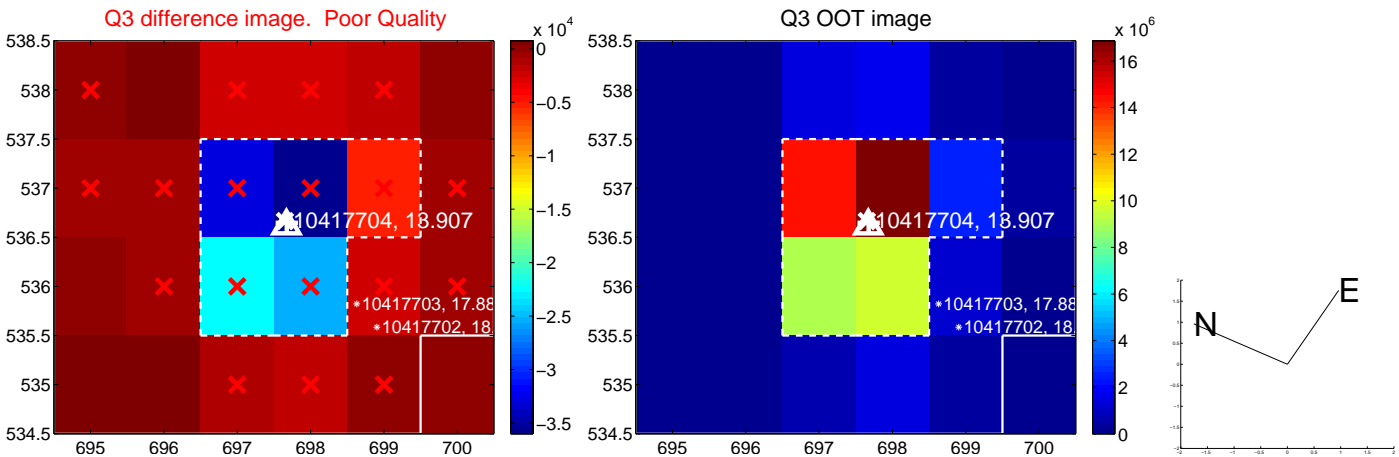
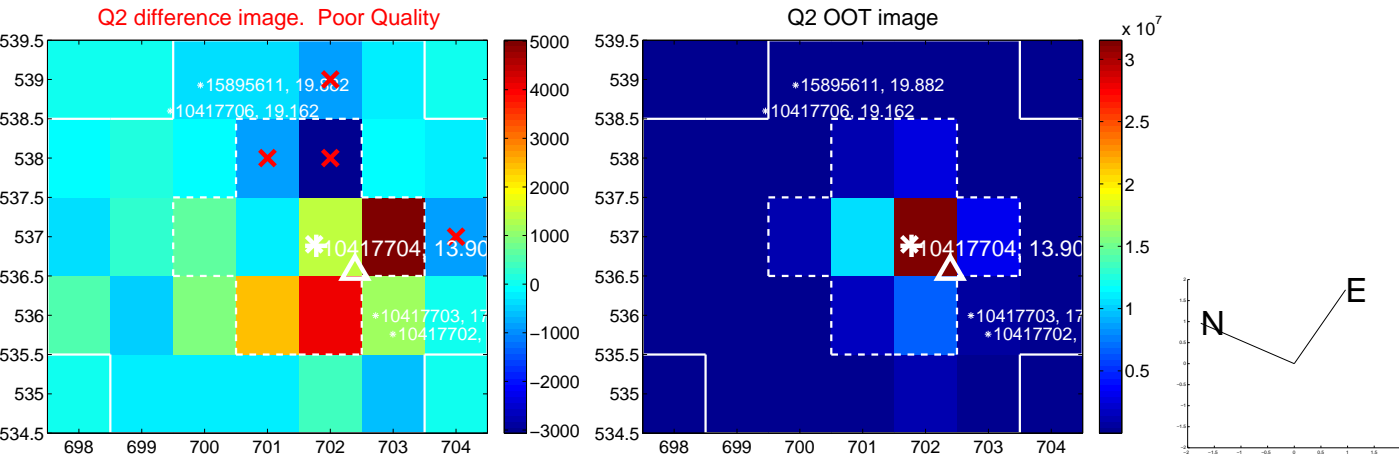
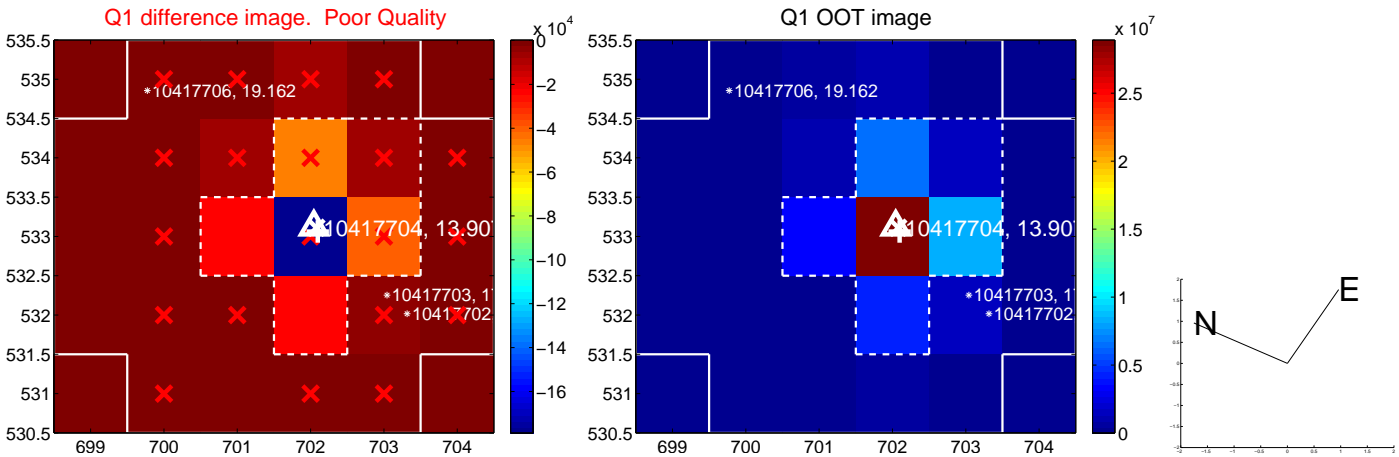
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.189 ± 0.228	0.83	0.145 ± 0.122	0.122 ± 0.275
PRF-fit source offset from KIC position	0.050 ± 0.140	0.36	0.043 ± 0.120	-0.026 ± 0.261
photometric centroid source offset	2.43 ± 1.18	2.06	-2.17 ± 1.18	-1.10 ± 1.18

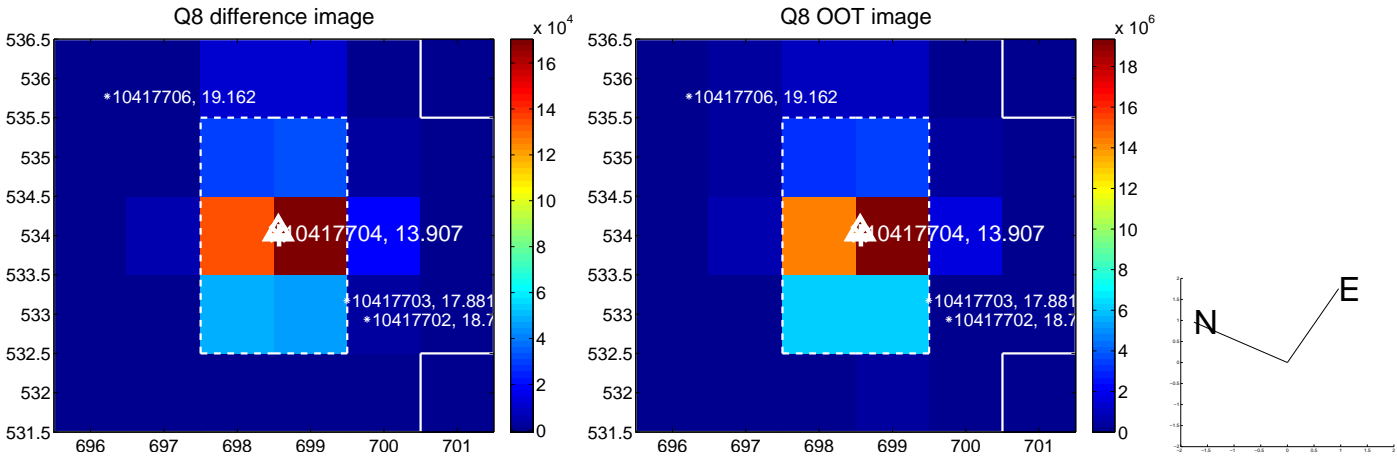
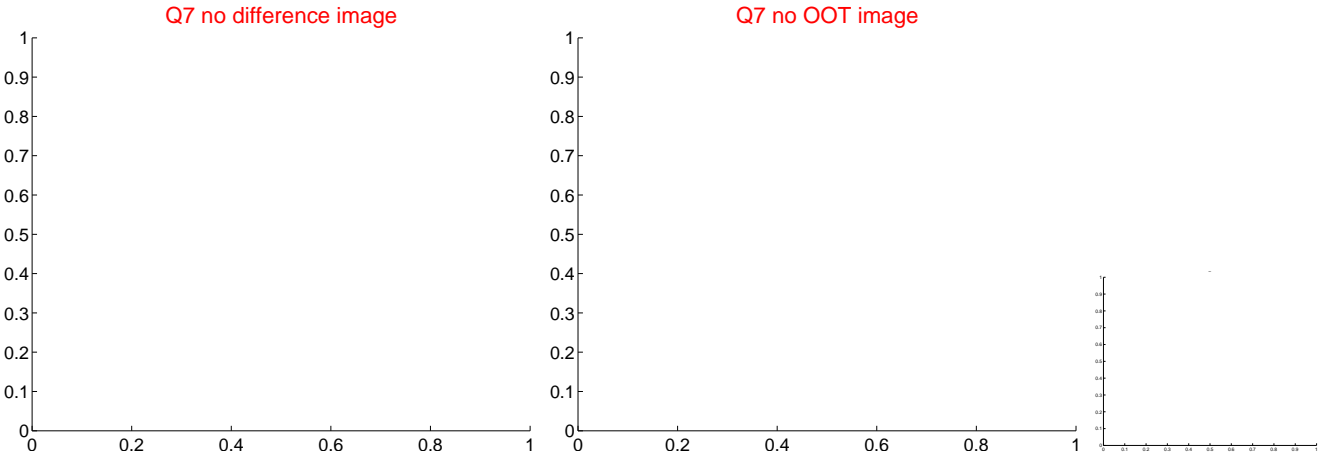
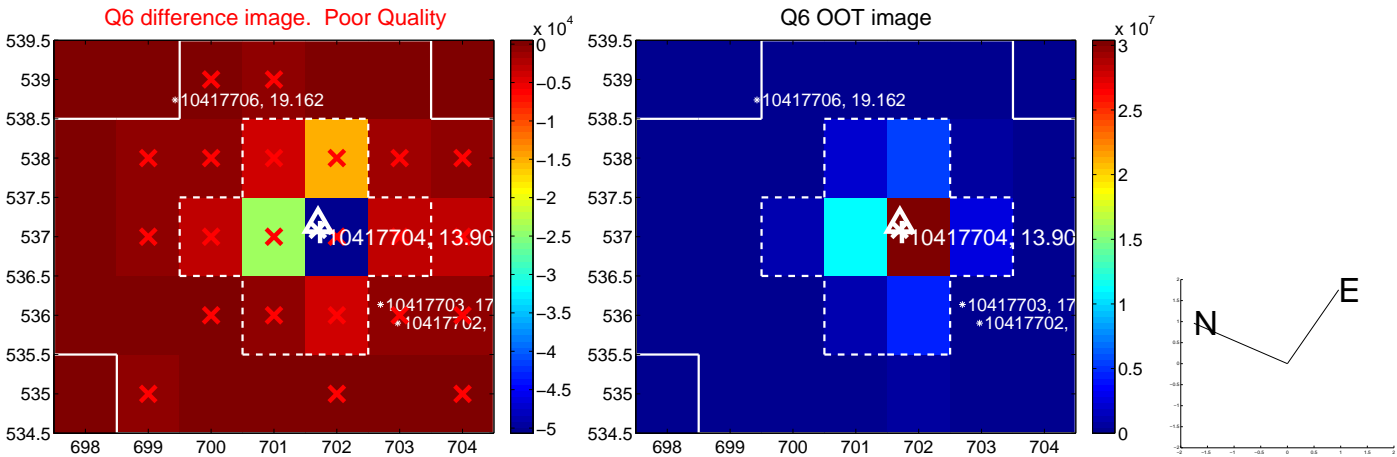
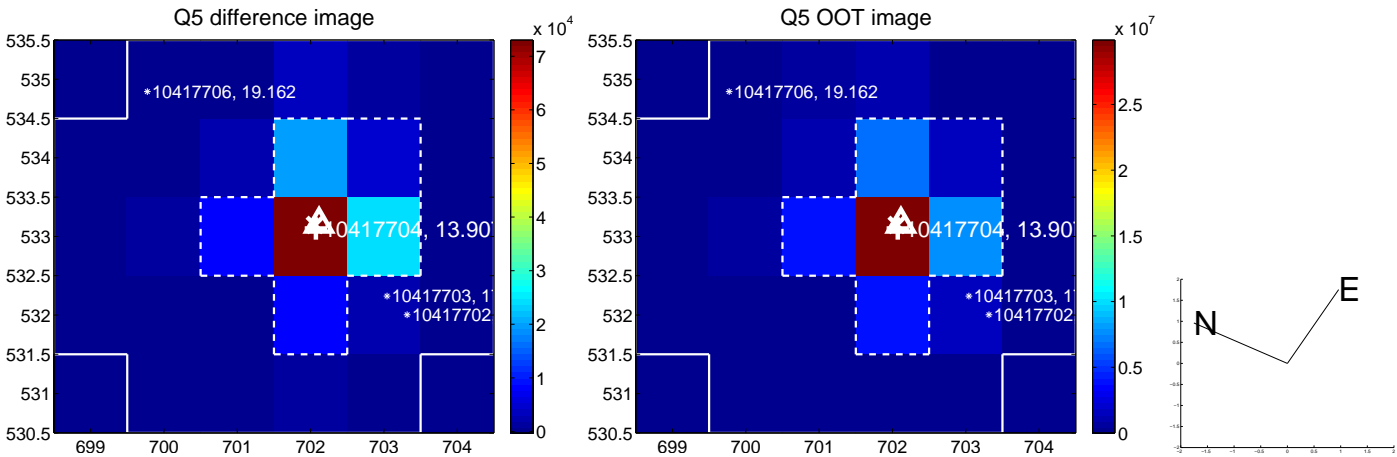


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

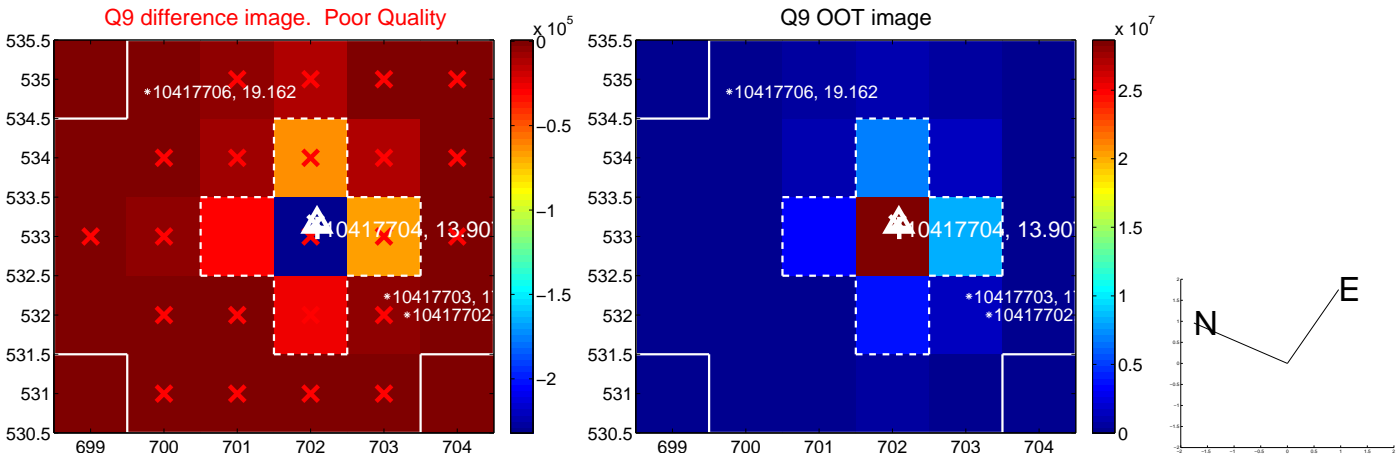
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



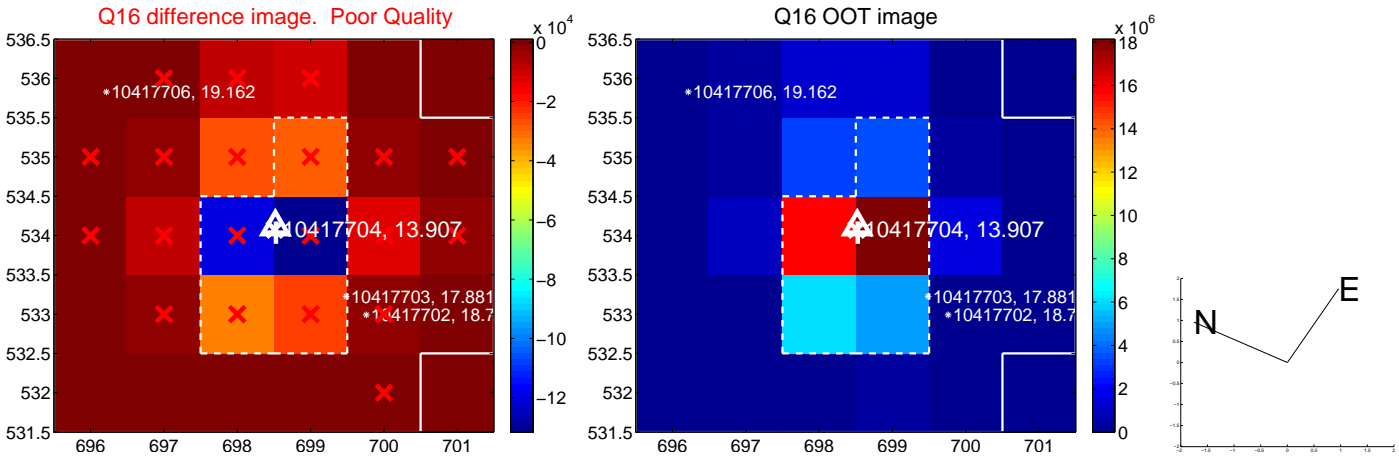
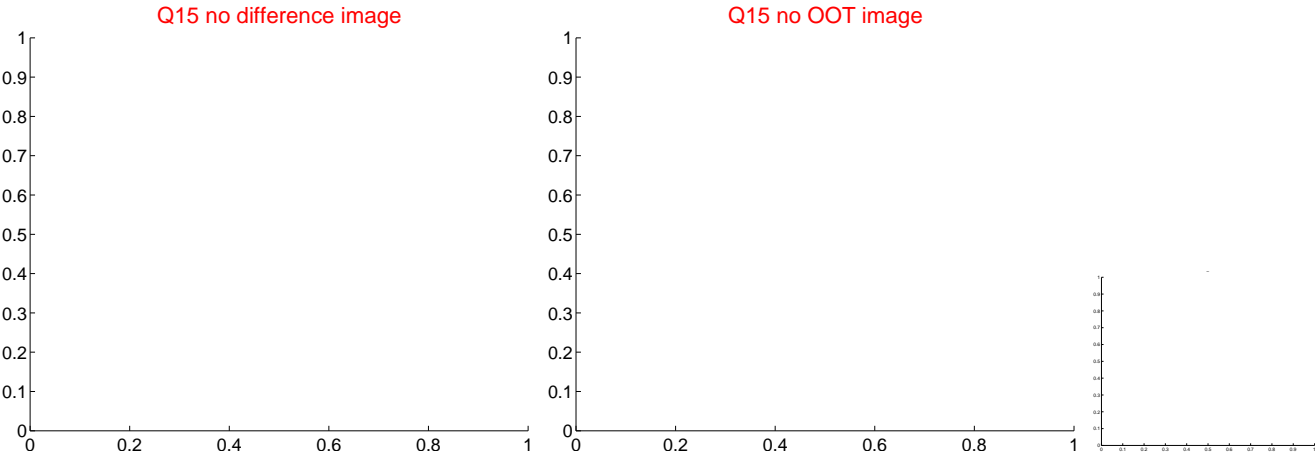
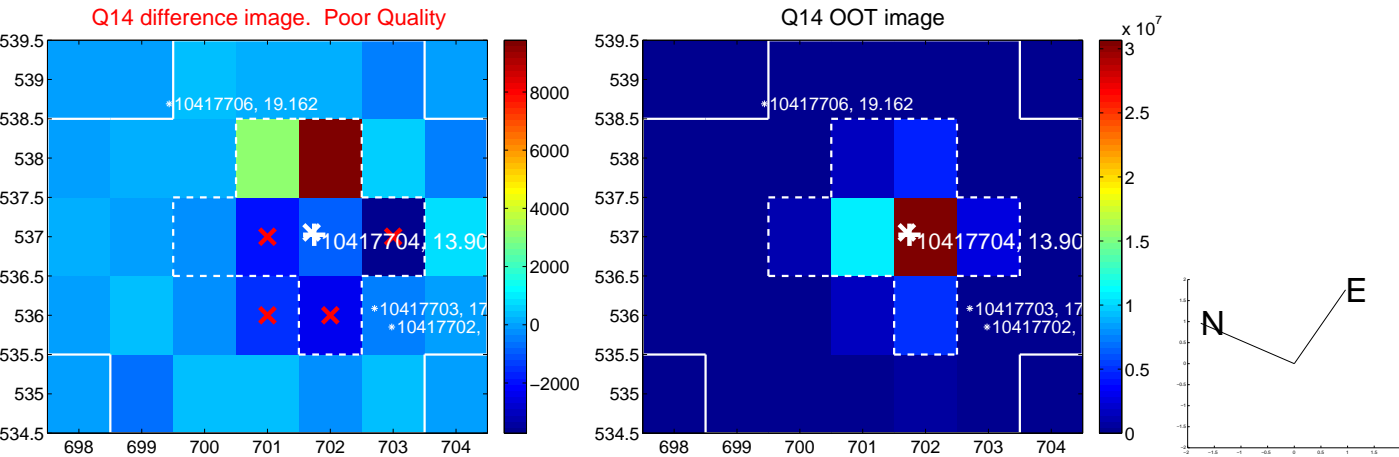
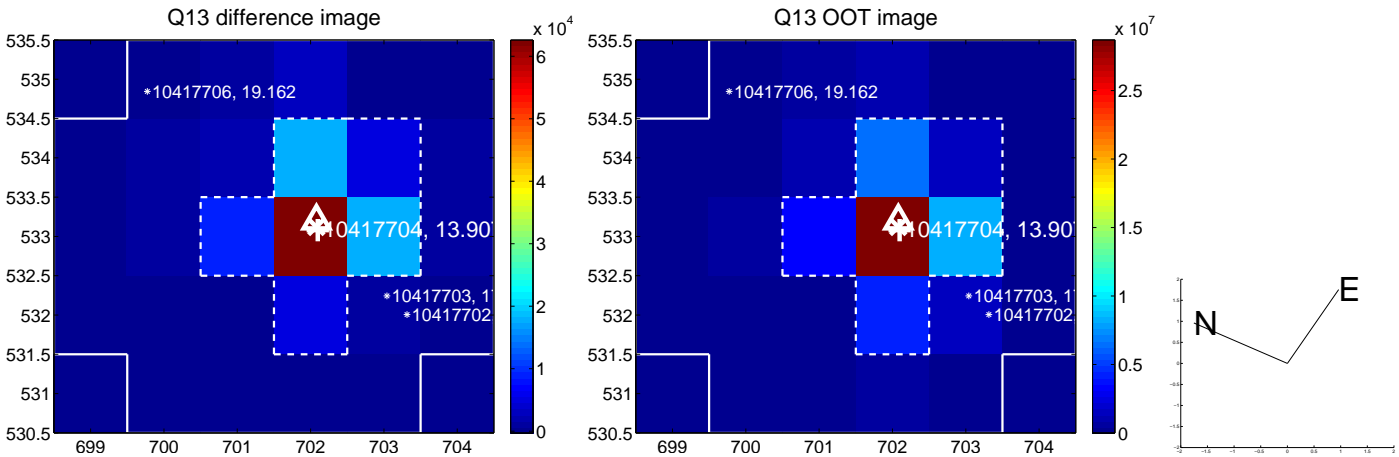
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



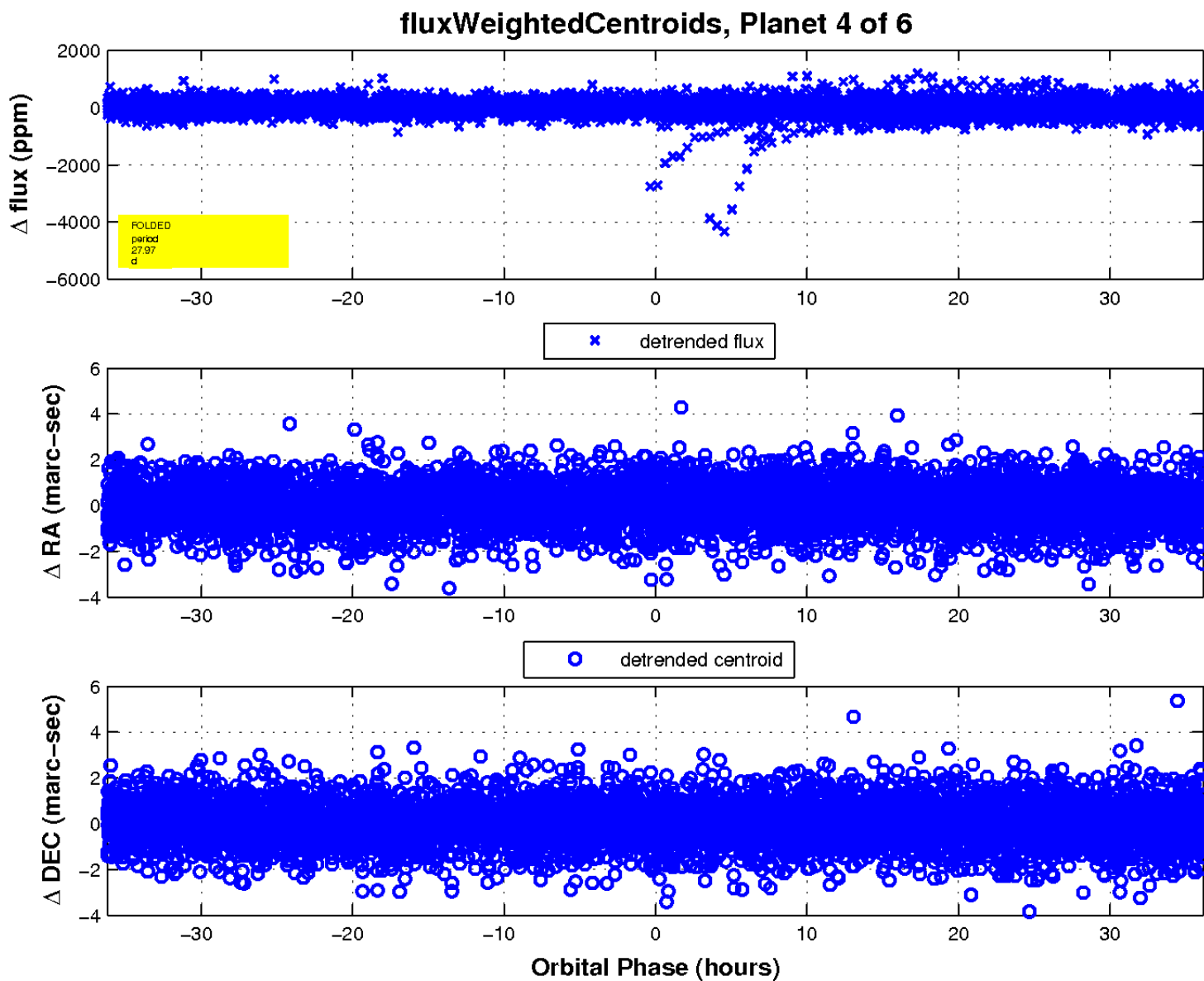
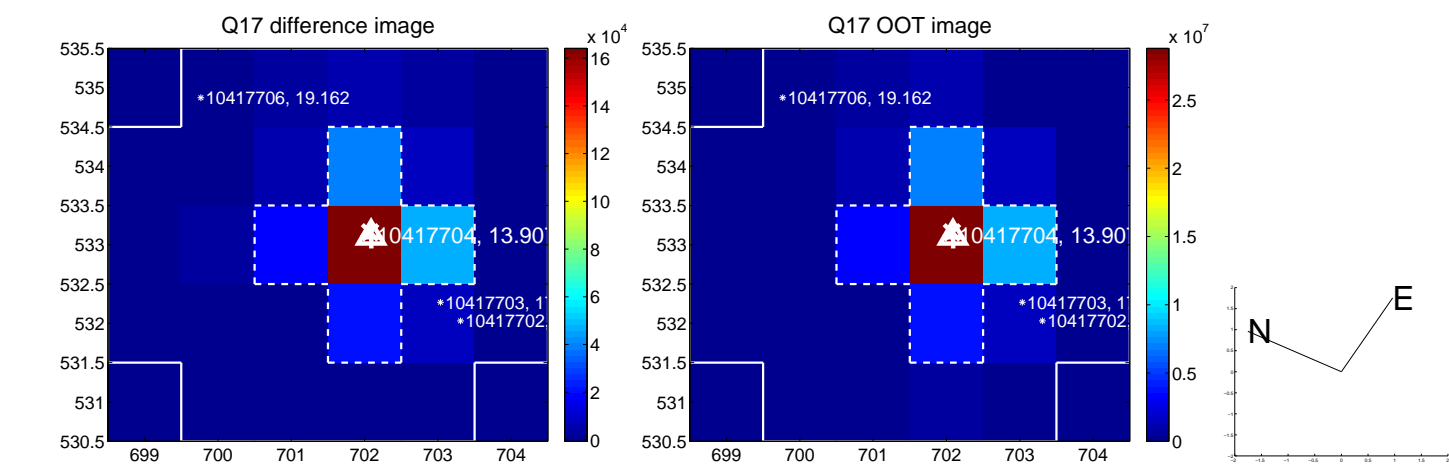
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

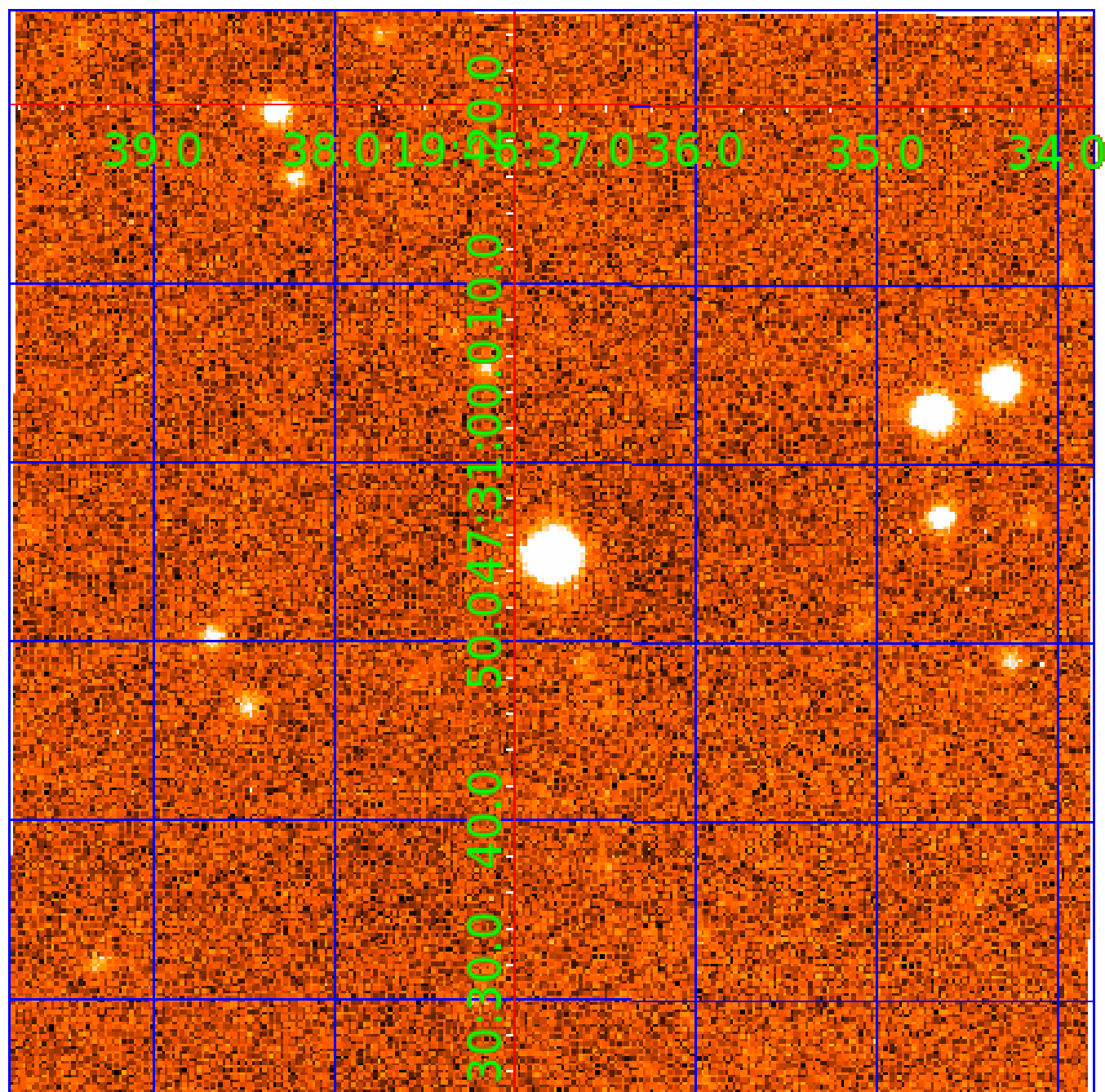


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010417704

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})
010417704-01	OBS	7324.01	3.008261	132.687141	175.6	2.616	23.8	26.9	1.82	8275	2.81	5427.60
010417704-02	OBS	No	3.008211	133.250311	79.6	2.479	10.1	12.5	1.82	8275	1.88	5427.73
010417704-03	OBS	No	1.002590	132.529891	13.1	6.620	10.0	4.3	1.82	8275	0.68	23488.99
010417704-04	OBS	No	27.973745	147.577412	115.8	12.122	9.4	4.3	1.82	8275	2.13	277.56
010417704-05	OBS	No	132.861542	192.970176	239.8	0.642	9.7	2.5	1.82	8275	3.03	34.77
010417704-06	OBS	No	265.719830	193.132042	540.8	3.000	9.5	-1.0	1.82	8275	4.29	13.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010417704-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_FEW_DIFFS
010417704-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010417704-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
010417704-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010417704-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE_TRACKER—TRANS_GAPPED—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
010417704-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—NO_FITS—SAME_NTL_PERIOD—CENT_NOFITS

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

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

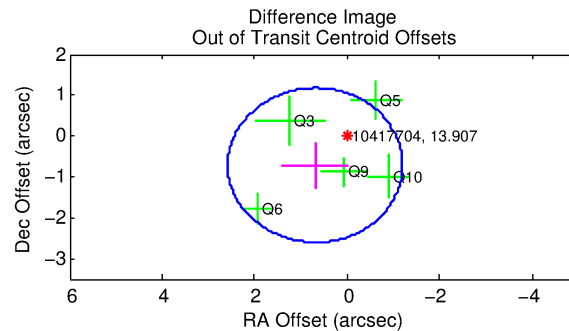
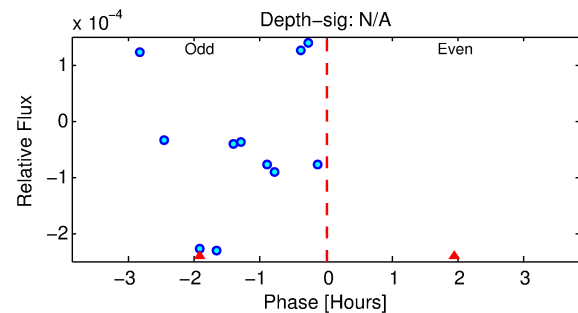
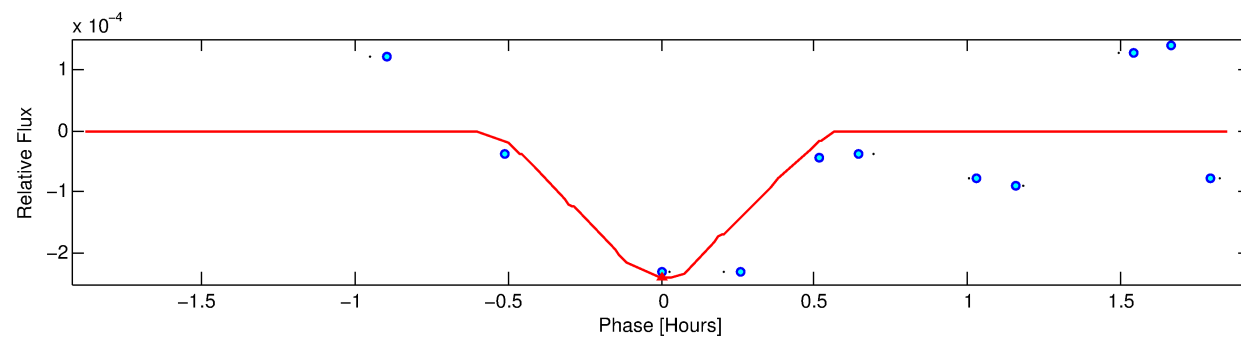
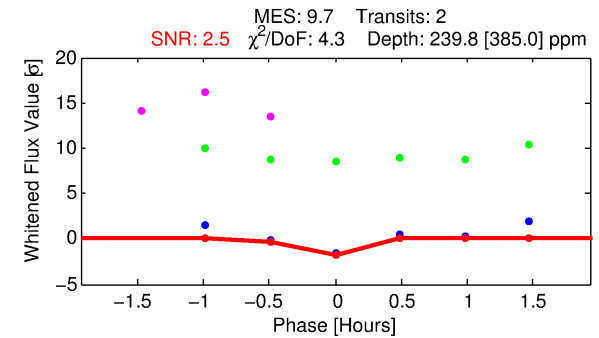
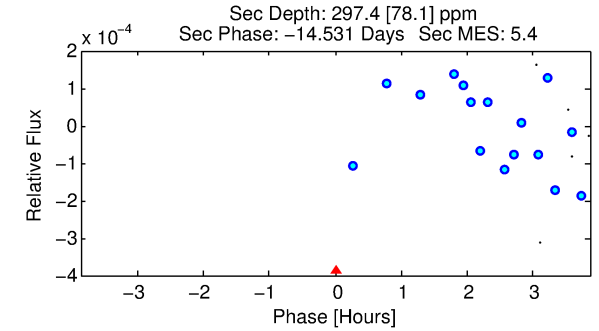
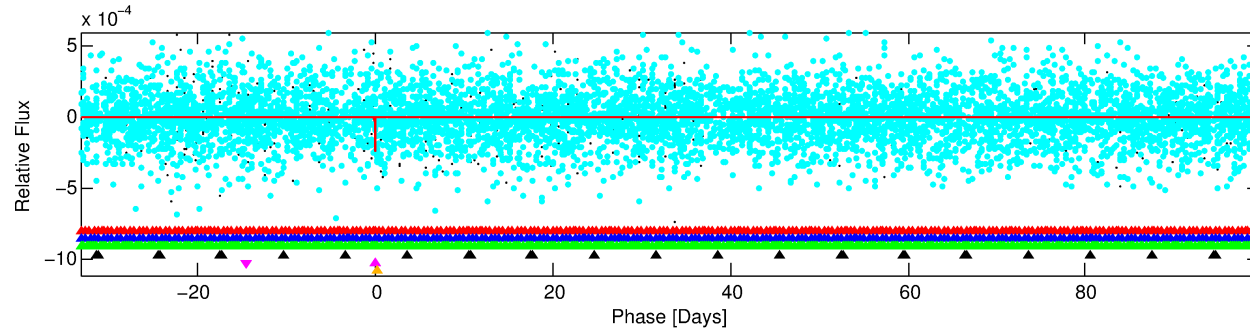
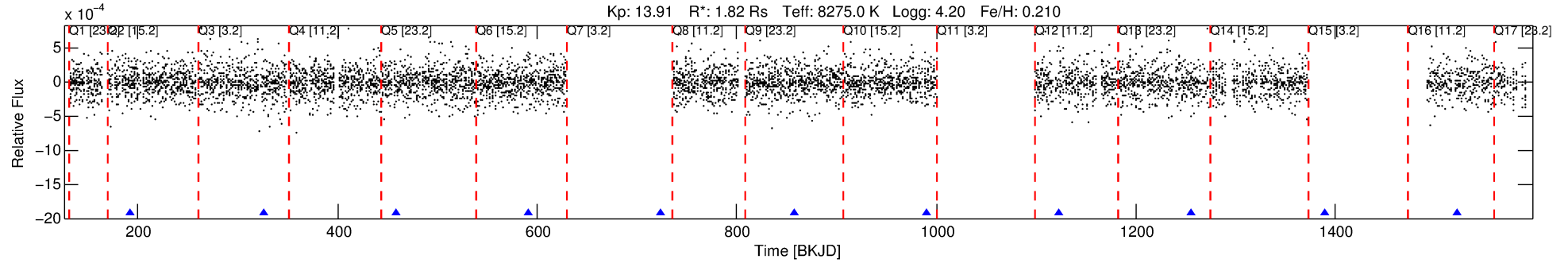
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010417704-05

No Significant Match Found

DV One-Page Summary

KIC: 10417704 Candidate: 5 of 6 Period: 132.862 d
KOI: K07324 Corr: No Ephemeris Match



DV Fit Results:

Period = 132.86154 [0.01158] d
Epoch = 192.9702 [0.0742] BKJD
Rp/R* = 0.0153 [0.8851]
a/R* = 1280.68 [440415.23]
b = 0.61 [356.75]
Seff = 34.77 [14.75]
Teq = 619 [66] K
Rp = 3.03 [175.59] Re
a = 0.6320 [0.1701] AU
Ag = 7130.53 [827265.70] [0.01σ]
Teffp = 8797 [255152] K [0.03σ]

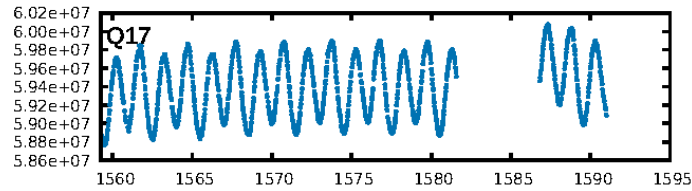
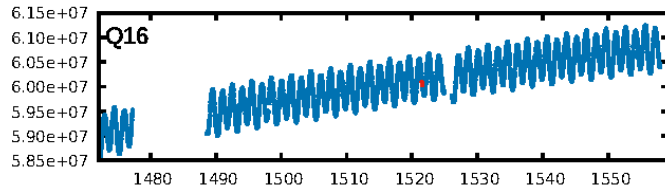
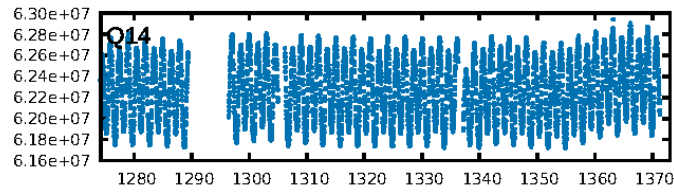
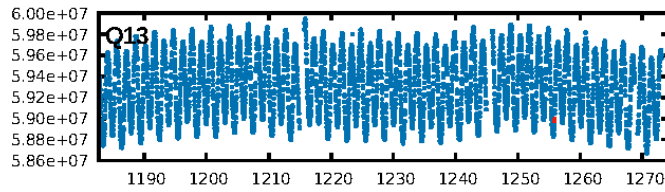
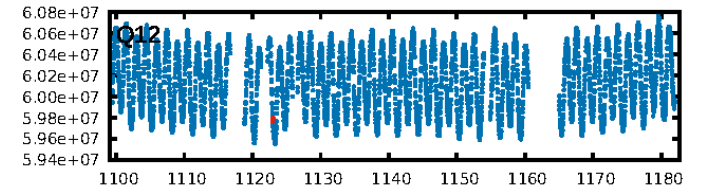
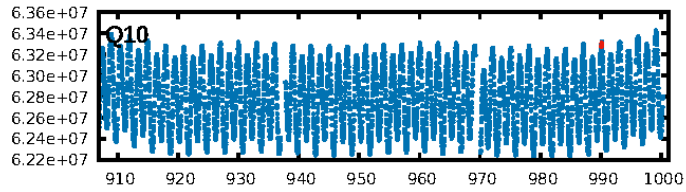
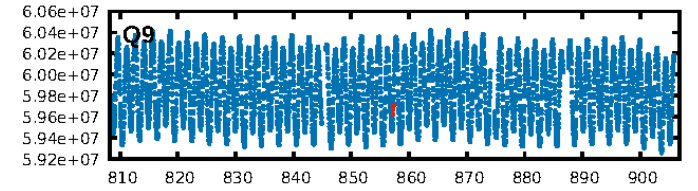
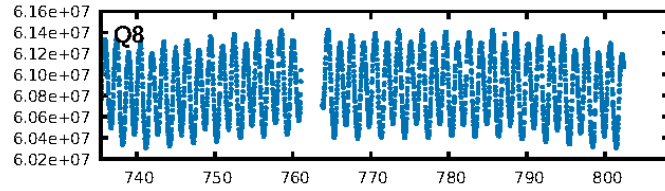
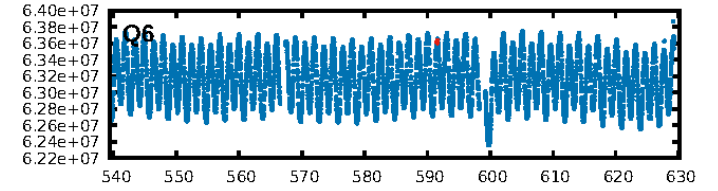
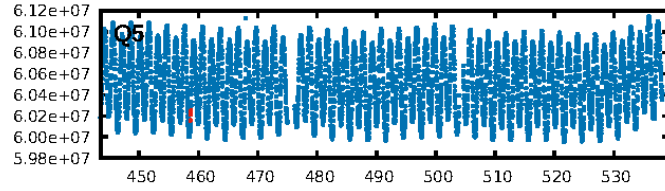
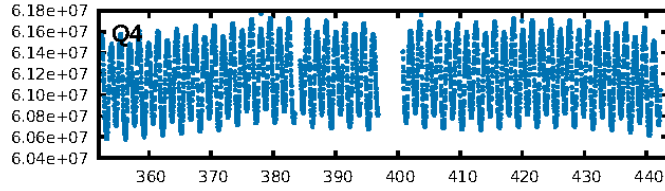
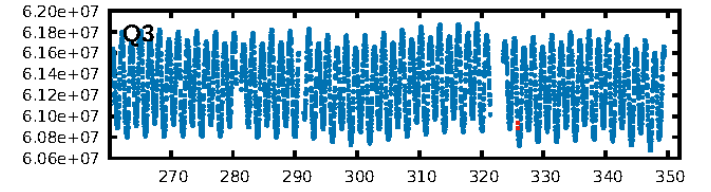
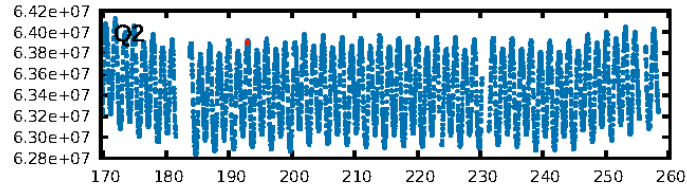
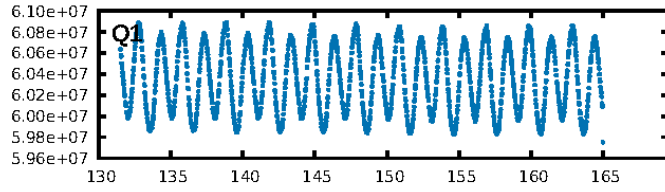
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [207.37σ]
LongPeriod-sig: 100.0% [1039.31σ]
ModelChiSquare2-sig: 85.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.697
Centroid-sig: N/A
Centroid-so: 0.279 arcsec [0.07σ]
OotOffset-rm: 0.997 arcsec [1.58σ]
OotOffset-st: 2/1/0/2 [5]
KicOffset-rm: 1.069 arcsec [1.71σ]
KicOffset-st: 2/1/0/2 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.17 [1/6]

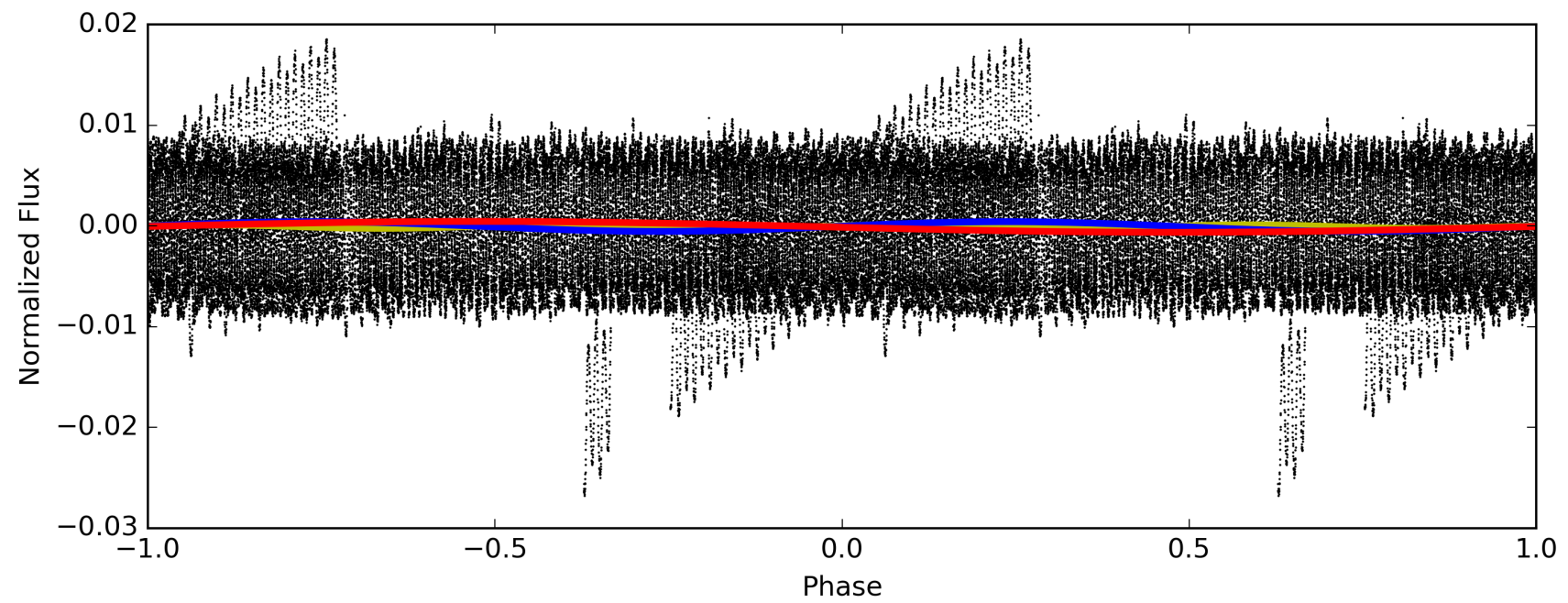
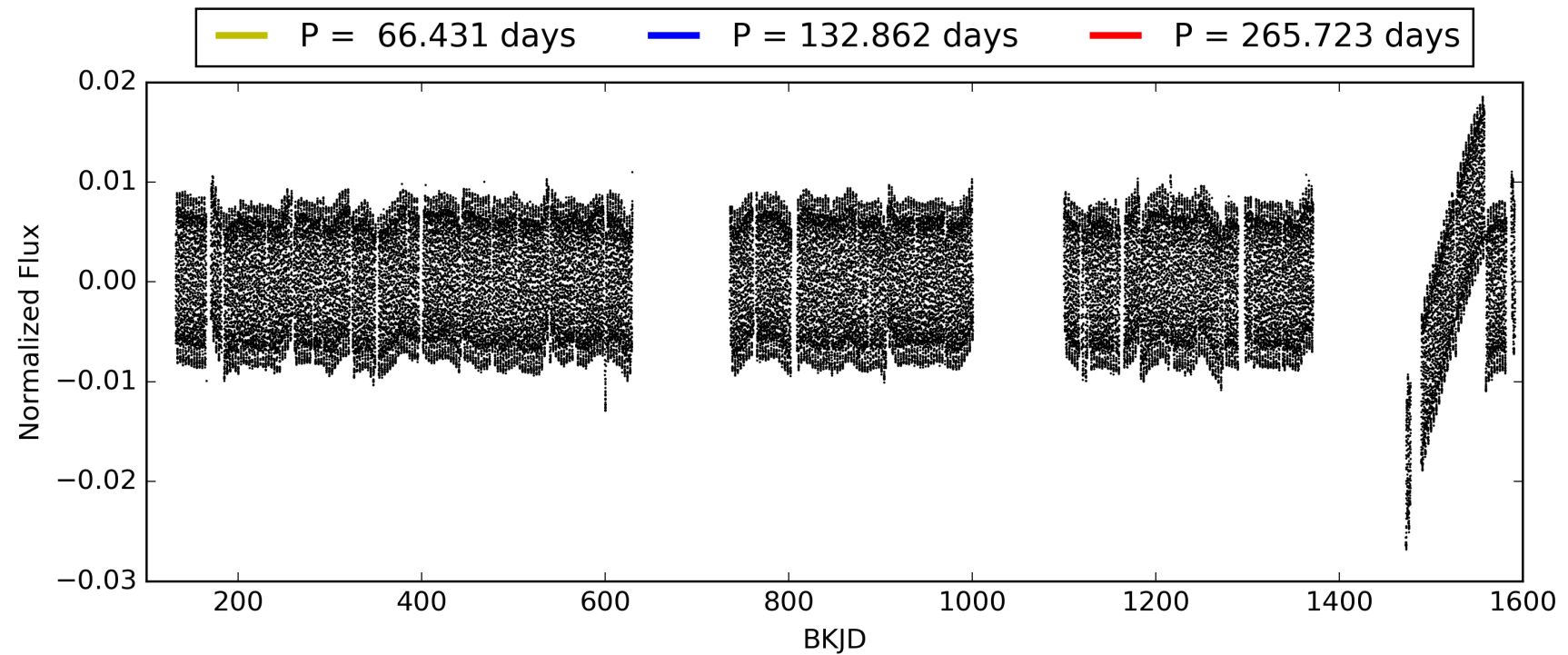
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:39:57 Z

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

TCE 010417704-05, PDC Light Curves

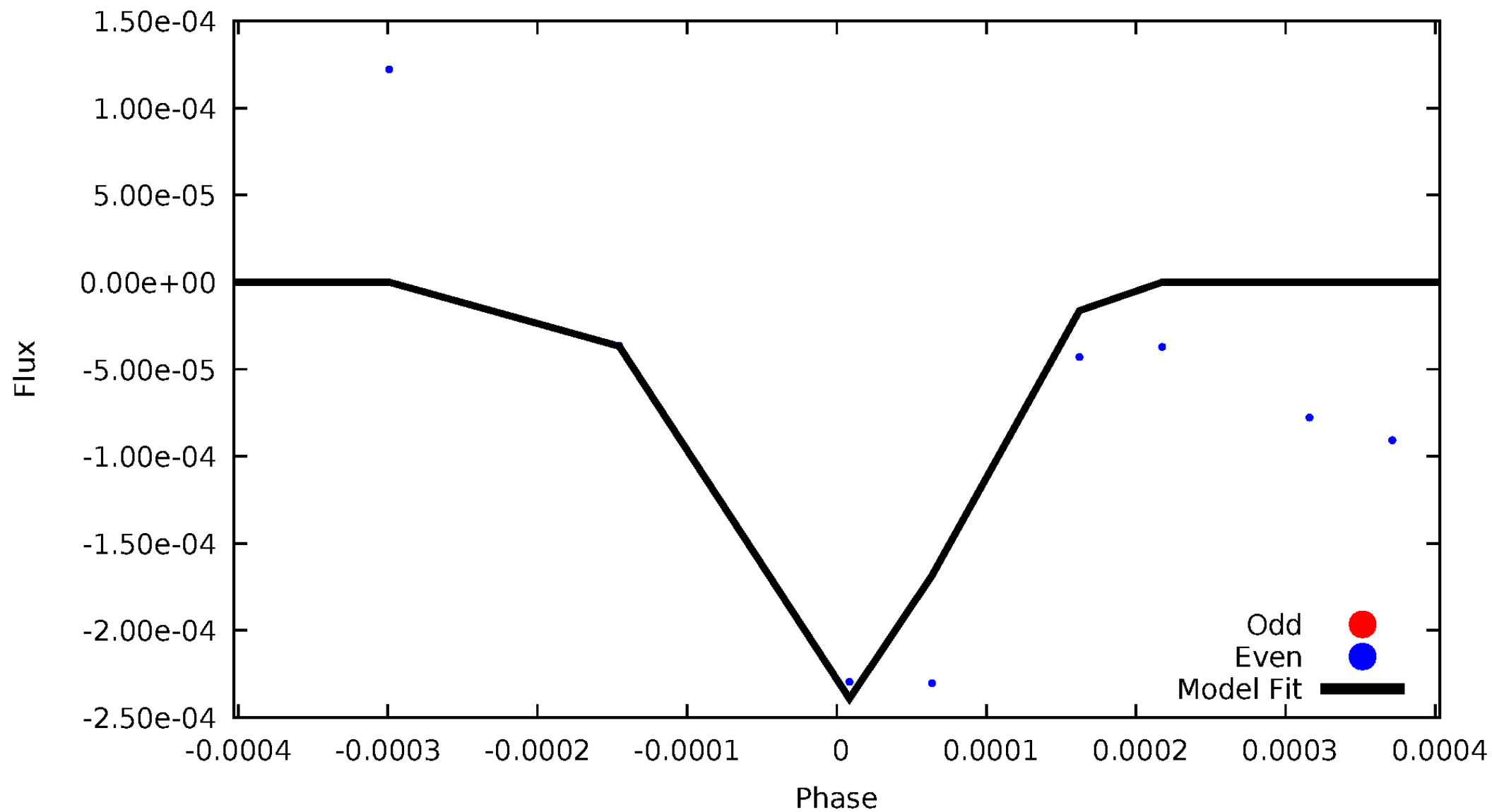


TCE 010417704-05



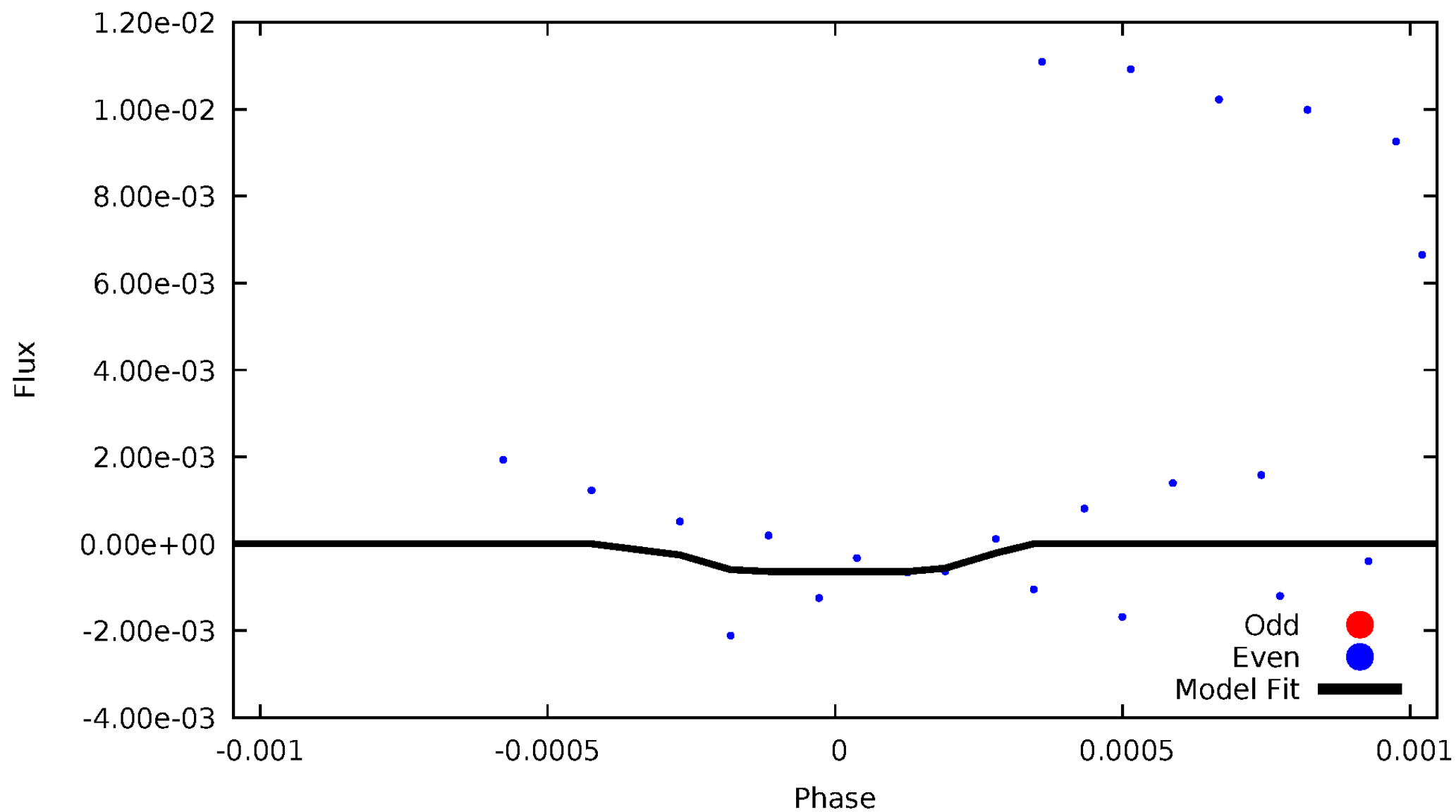
DV Odd/Even

TCE 010417704-05



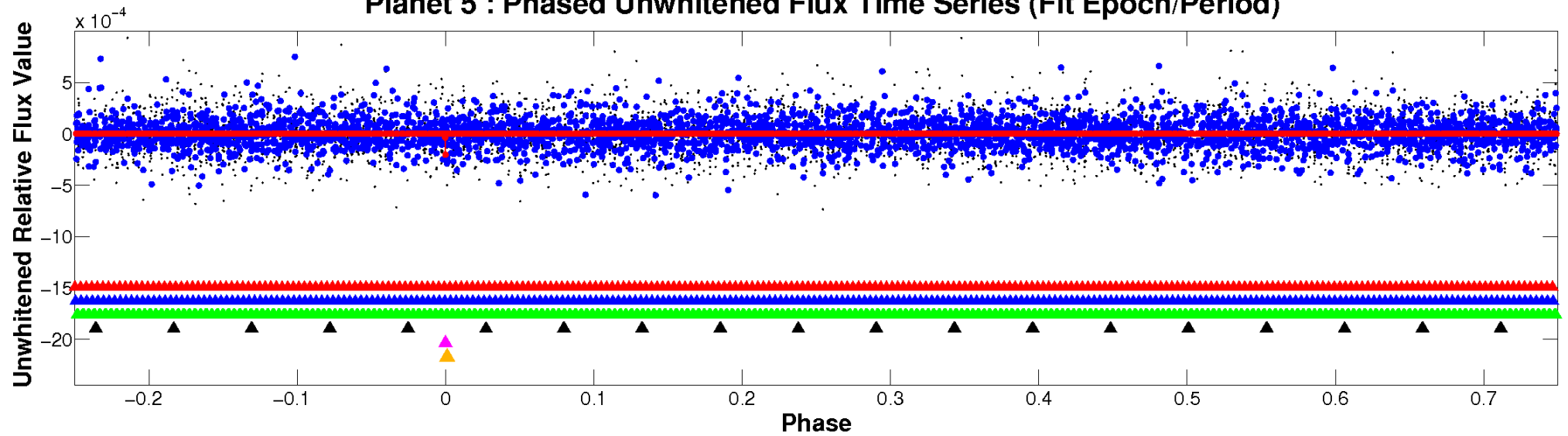
ALT Odd/Even

TCE 010417704-05

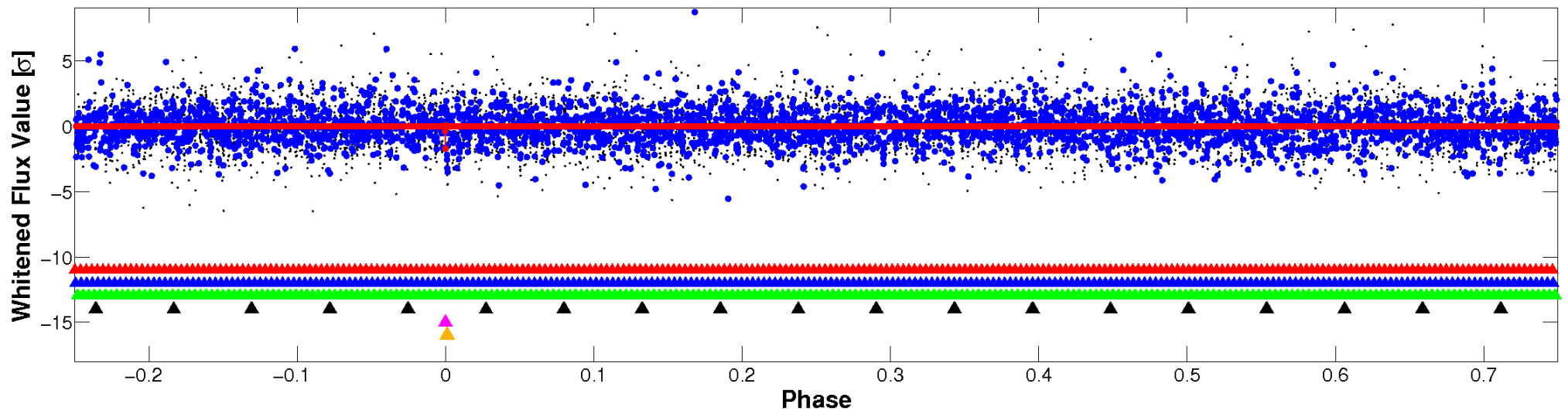


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

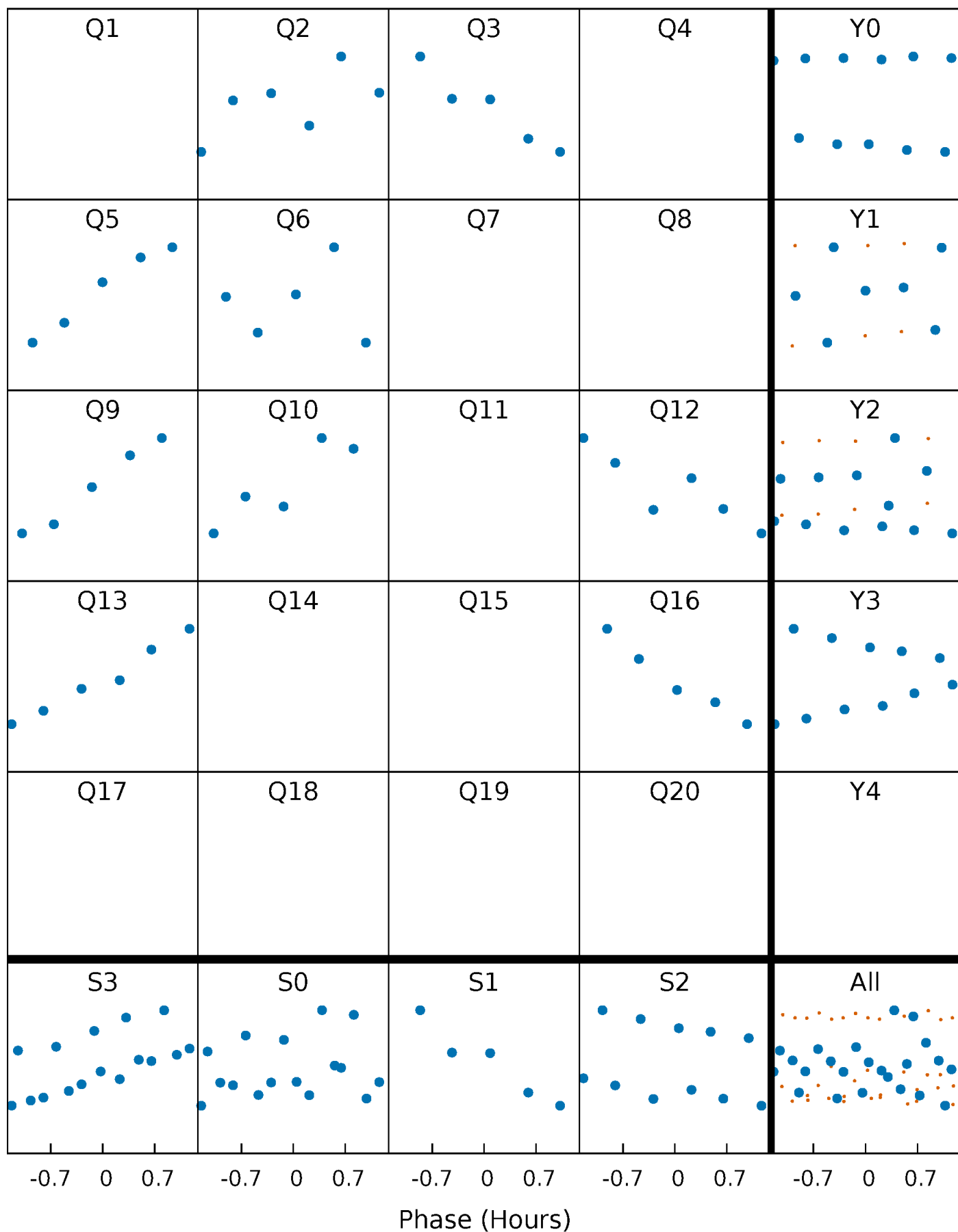


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



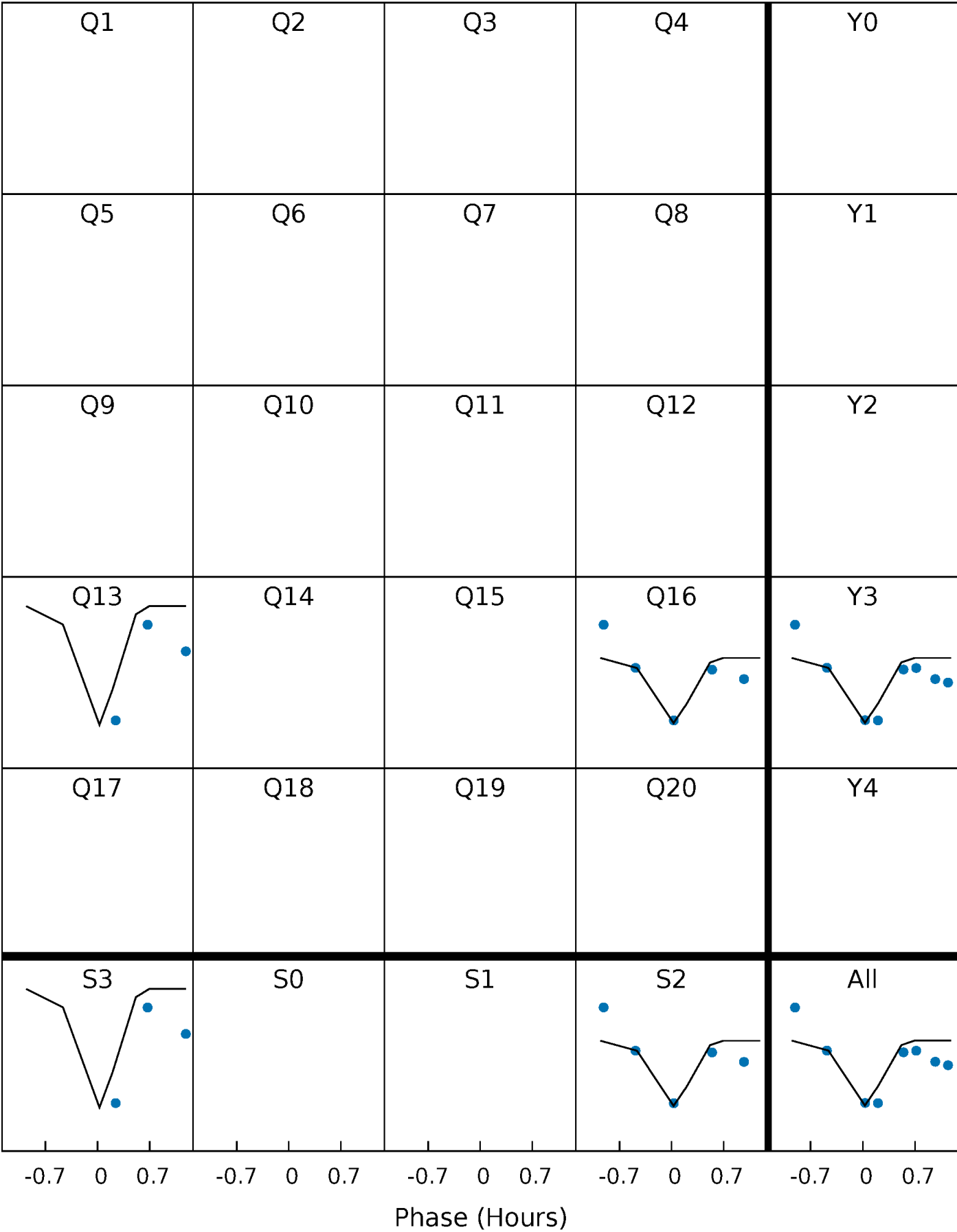
PDC Quarter-Phased Transit Curves

TCE 010417704-05 $P=132.861541$ Days $T_0=192.970176$ (BKJD)



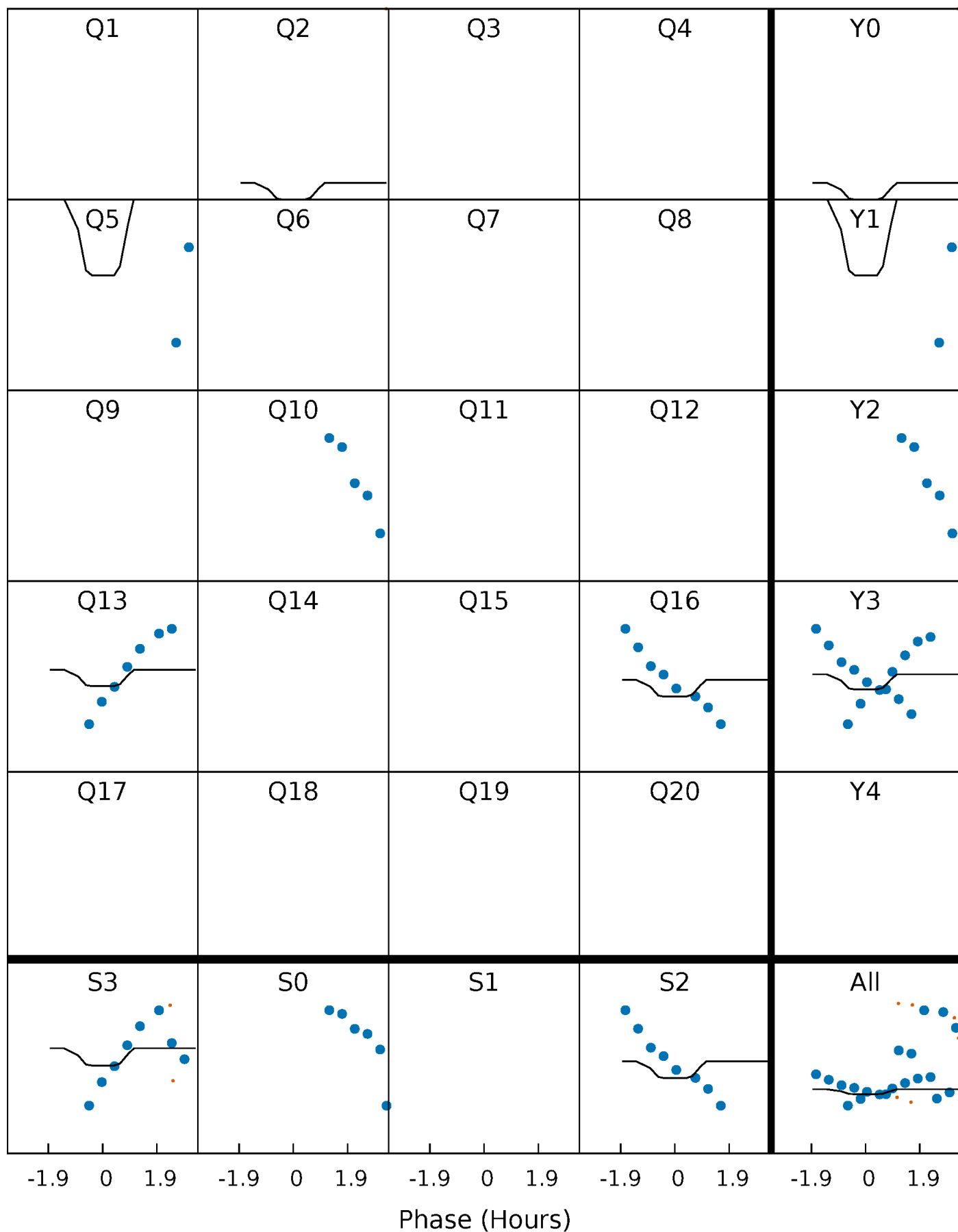
DV Quarter-Phased Transit Curves

TCE 010417704-05 P=132.861541 Days T₀=192.970176 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

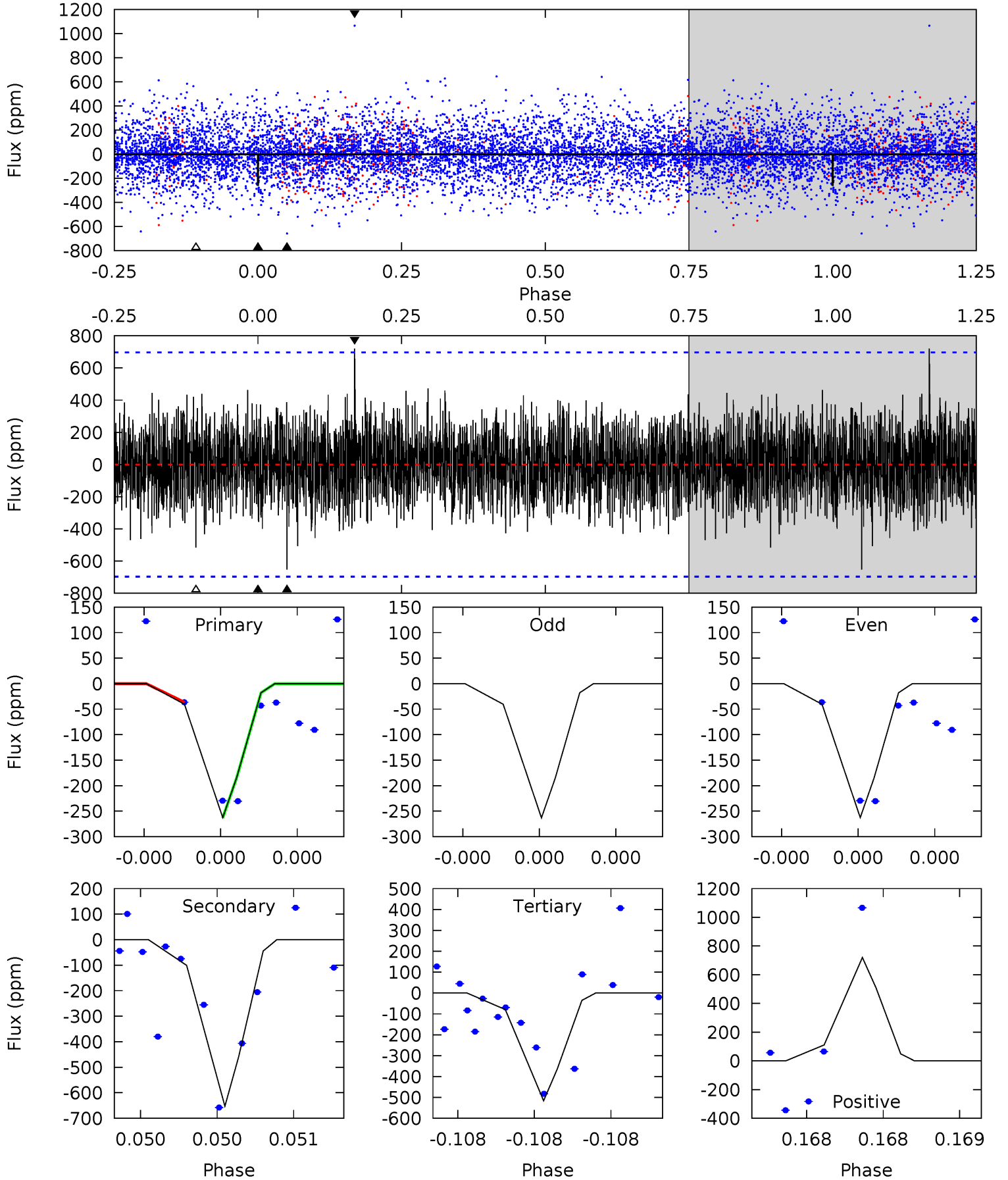
TCE 010417704-05 P=132.863708 Days $T_0=192.985477$ (BKJD)



DV Model-Shift Uniqueness Test

010417704-05, P = 132.861541 Days, E = 60.108635 Days

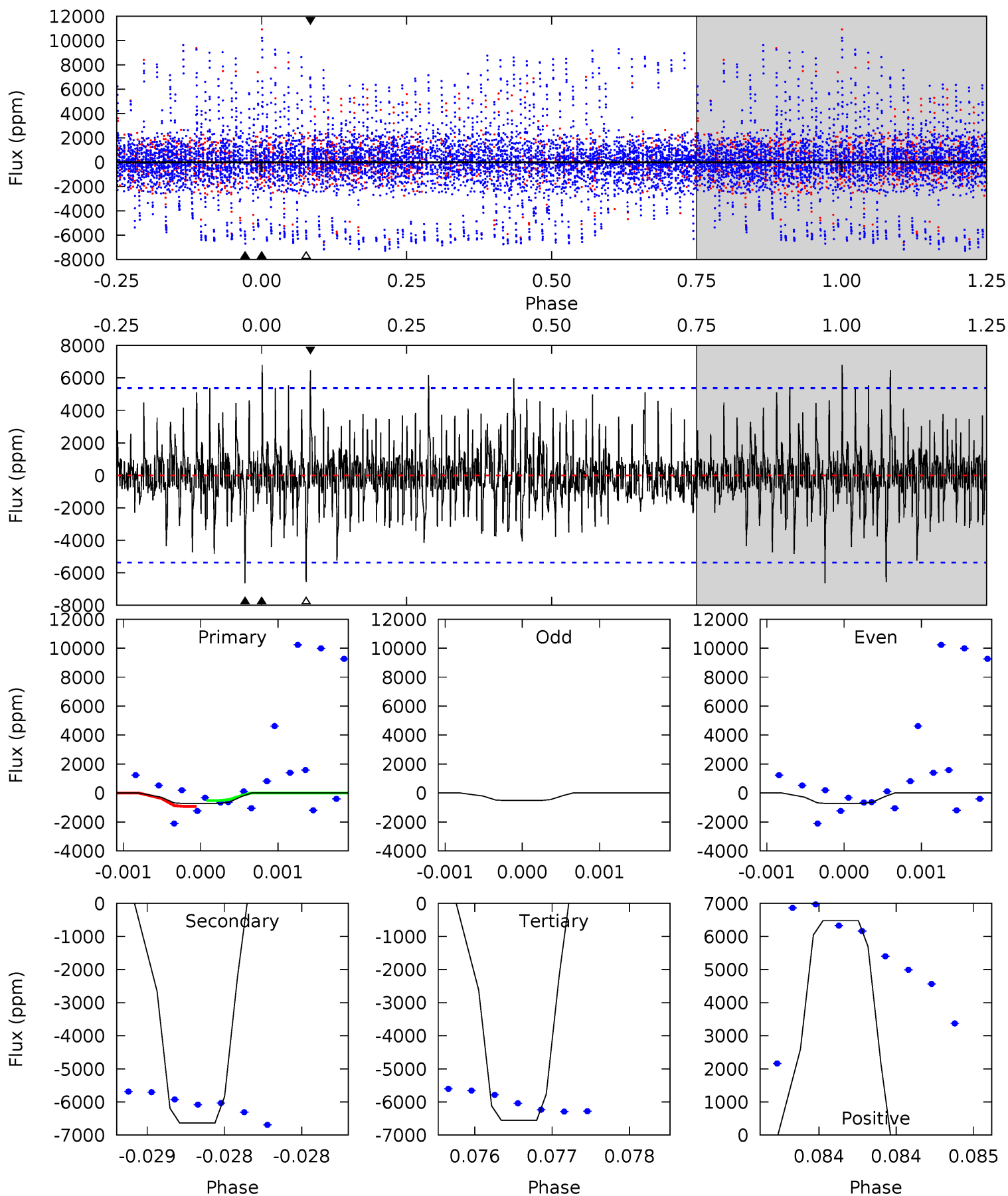
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.13	5.30	4.19	5.85	5.66	3.61	1.15	-2.06	-3.72	1.11	-0.55	0.00	1.00	0.52	0.00



Alt Model-Shift Uniqueness Test

010417704-05, P = 132.863708 Days, E = 60.121769 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.76	6.87	6.79	6.71	5.56	3.47	1.49	-6.04	-5.96	0.08	0.16	0.12	1.00	0.51	0.21



Stellar Parameters For KIC 010417704

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8275^{+231}_{-364}	$4.199^{+0.065}_{-0.208}$	$0.210^{+0.150}_{-0.500}$	$1.818^{+0.591}_{-0.253}$	$1.908^{+0.340}_{-0.306}$	$0.448^{+0.130}_{-0.239}$
	+3%/-4%	+2%/-5%	+71%/-238%	+33%/-14%	+18%/-16%	+29%/-54%
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 010417704-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-653 ± 123	$125.66^{+135.62}_{-87.34}$	878^{+68}_{-48}	2482^{+996}_{-409}	$8.748^{+90.911}_{-6.748}$
Alt.	-6631 ± 965	$125.78^{+136.46}_{-90.18}$	880^{+67}_{-50}	3427^{+2262}_{-654}	91^{+1022}_{-71}

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

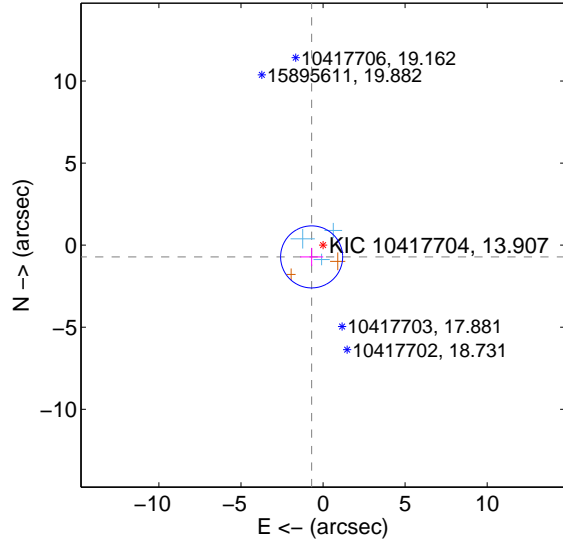
Supplemental centroid analysis for 010417704-05. Kepler magnitude: 13.91. Transit SNR 2.51

There are 3 quarters with good PRF difference image offsets

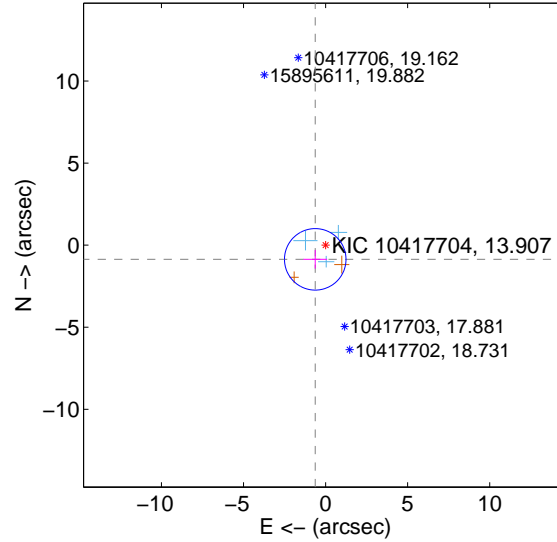
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.997 ± 0.630	1.58	0.695 ± 0.702	-0.715 ± 0.553
PRF-fit source offset from KIC position	1.069 ± 0.625	1.71	0.630 ± 0.723	-0.864 ± 0.566
photometric centroid source offset	0.28 ± 4.00	0.07	0.28 ± 4.00	-0.01 ± 4.09

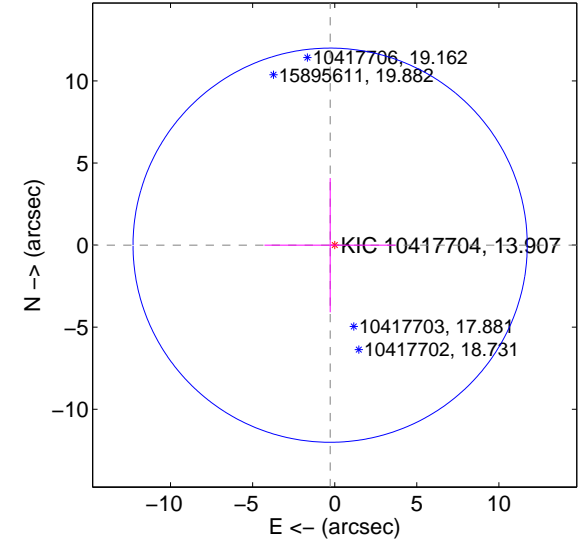
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

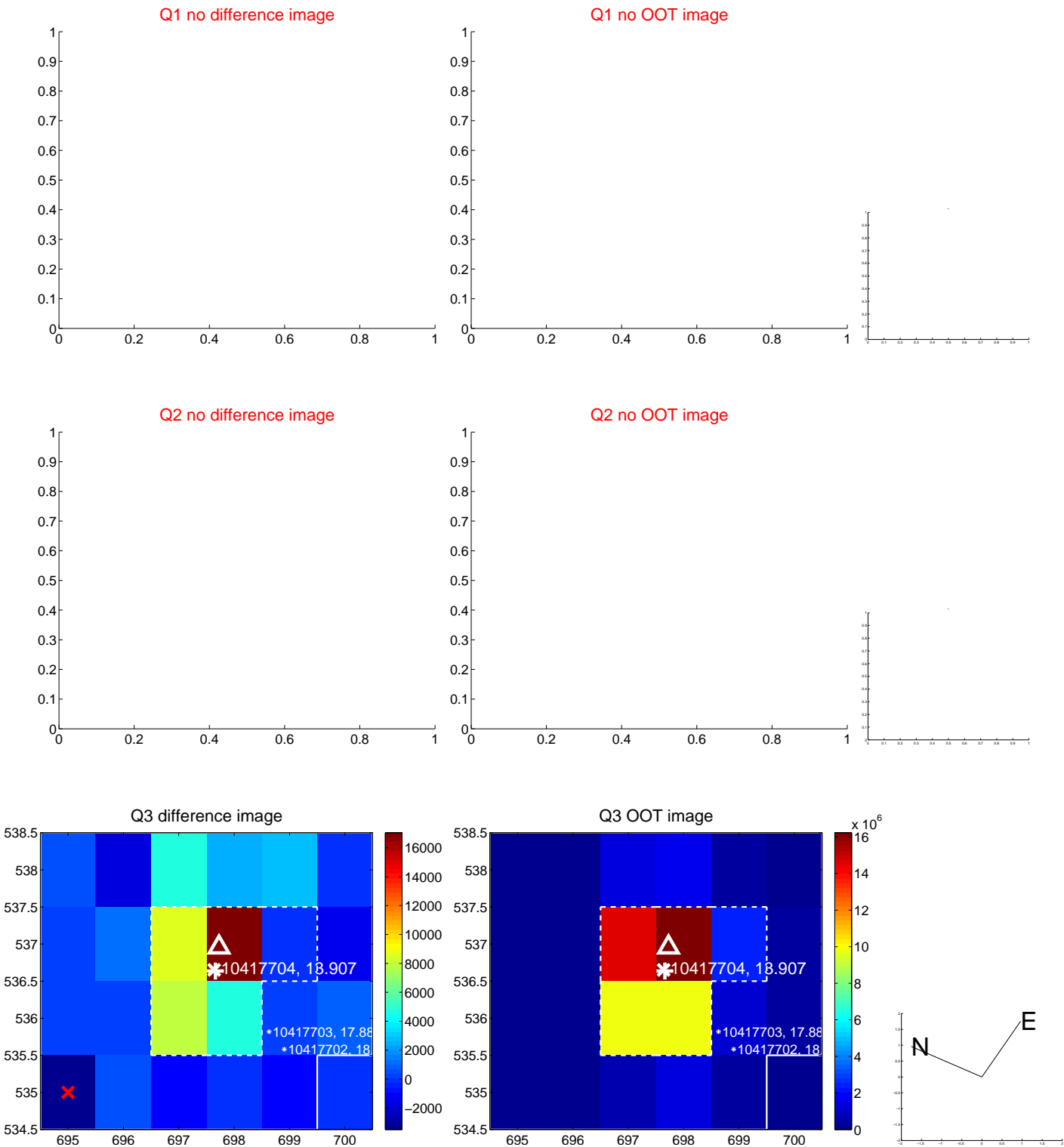


offset from photometric centroids

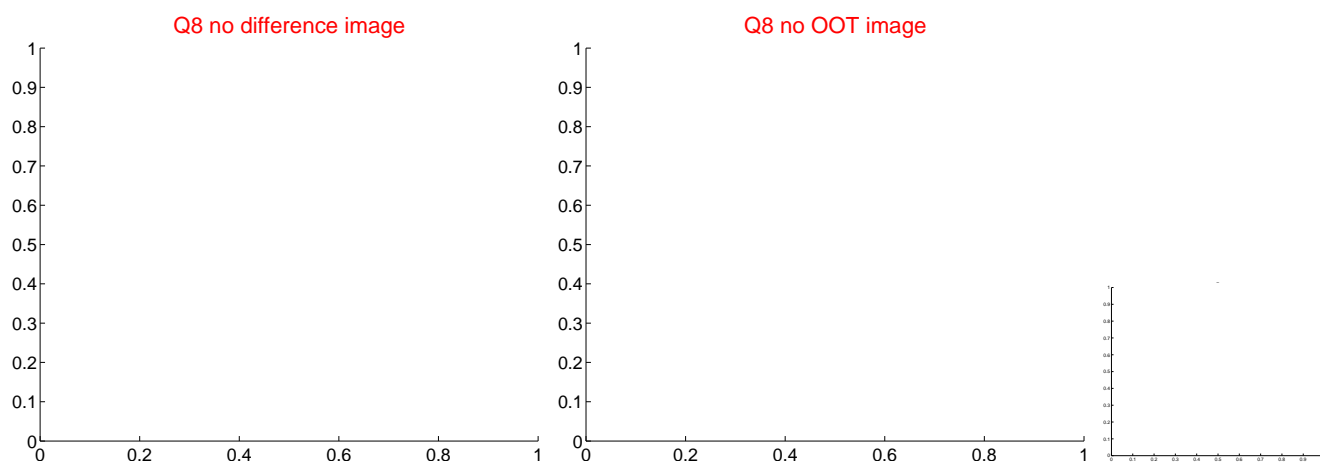
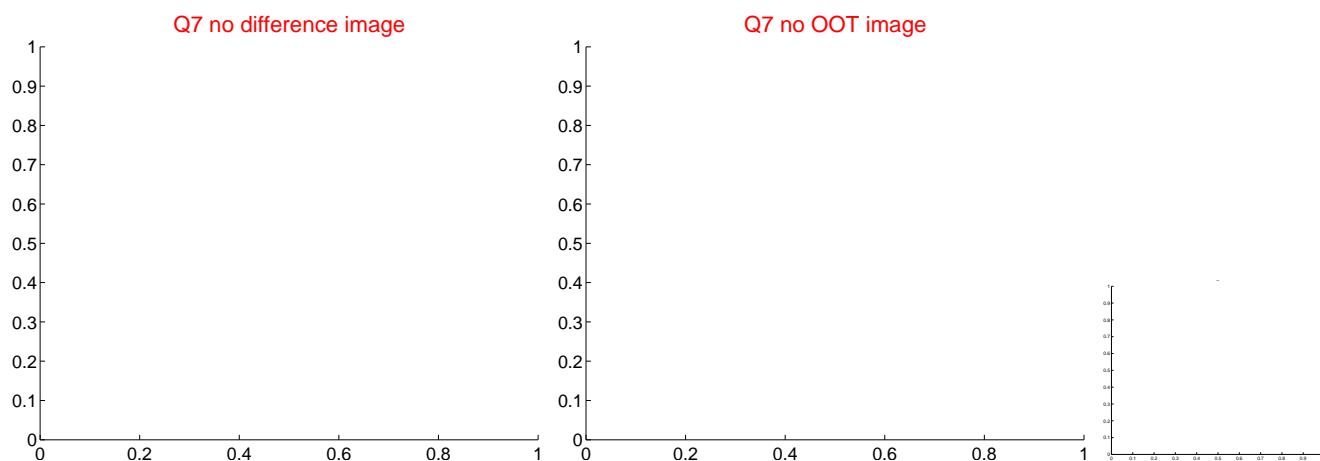
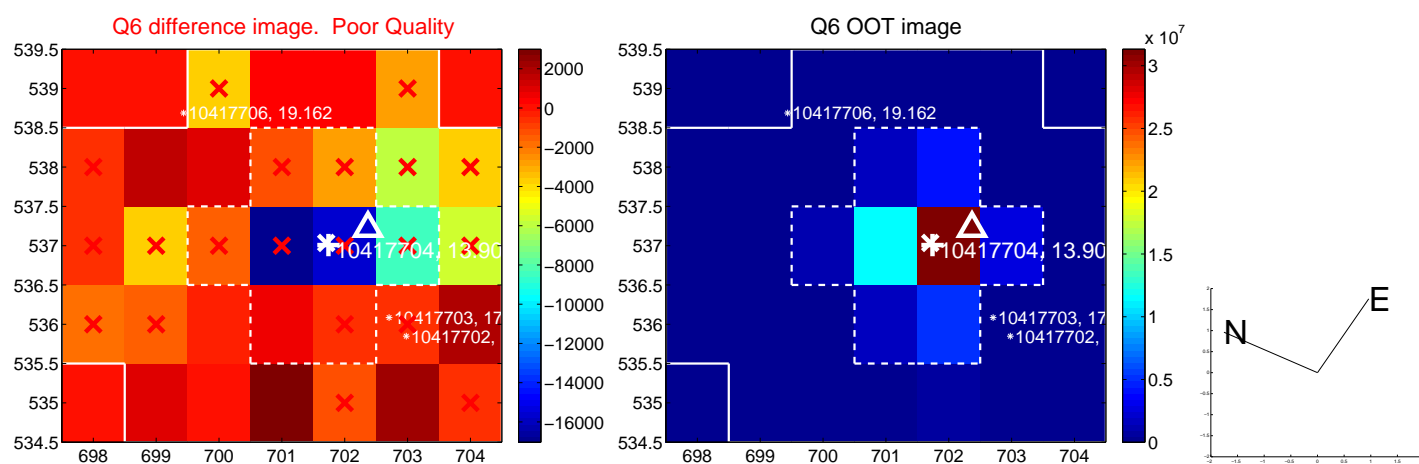
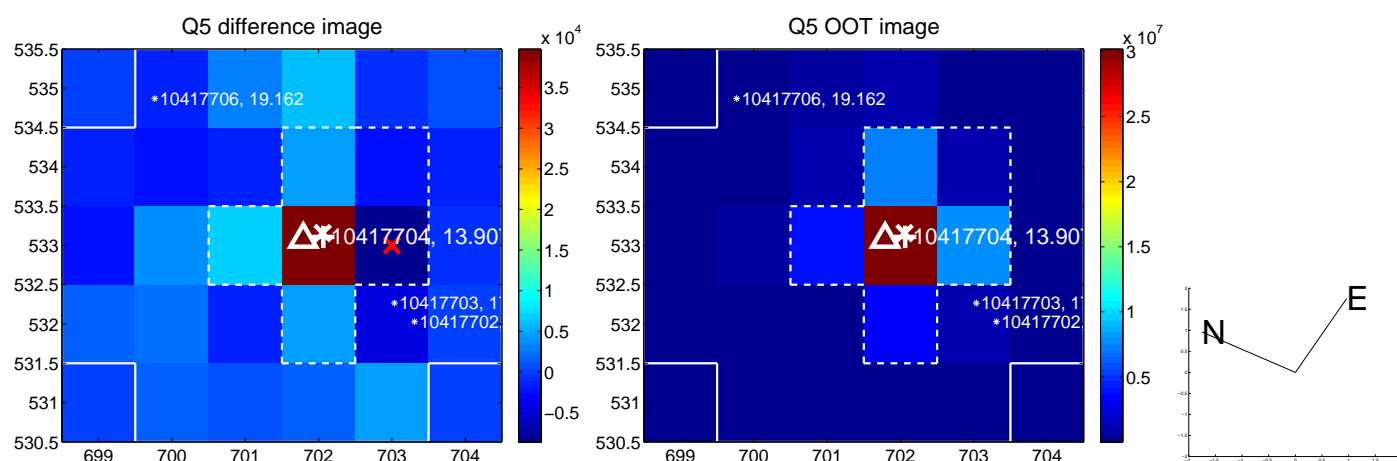


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

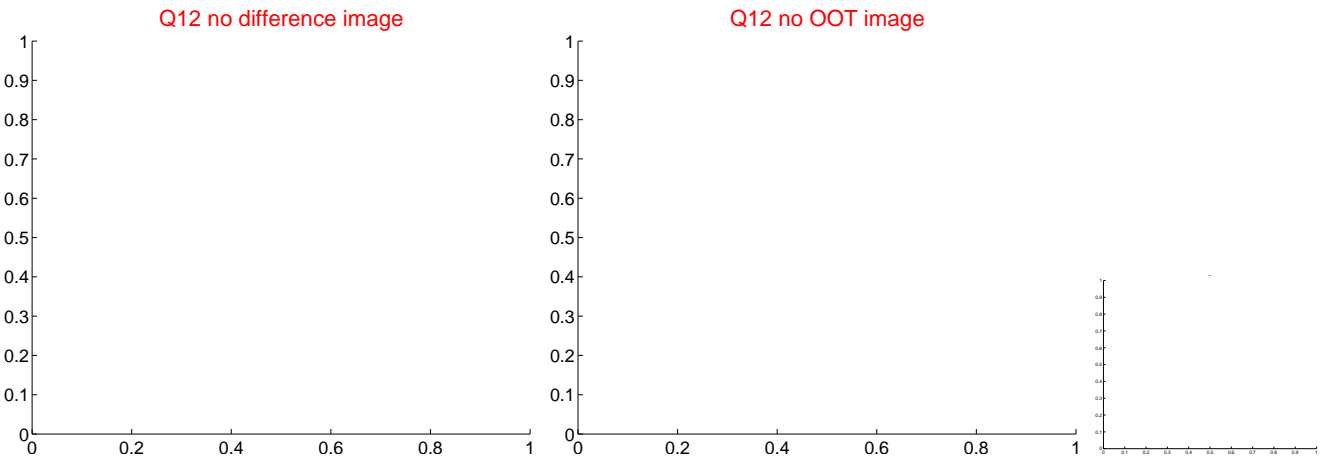
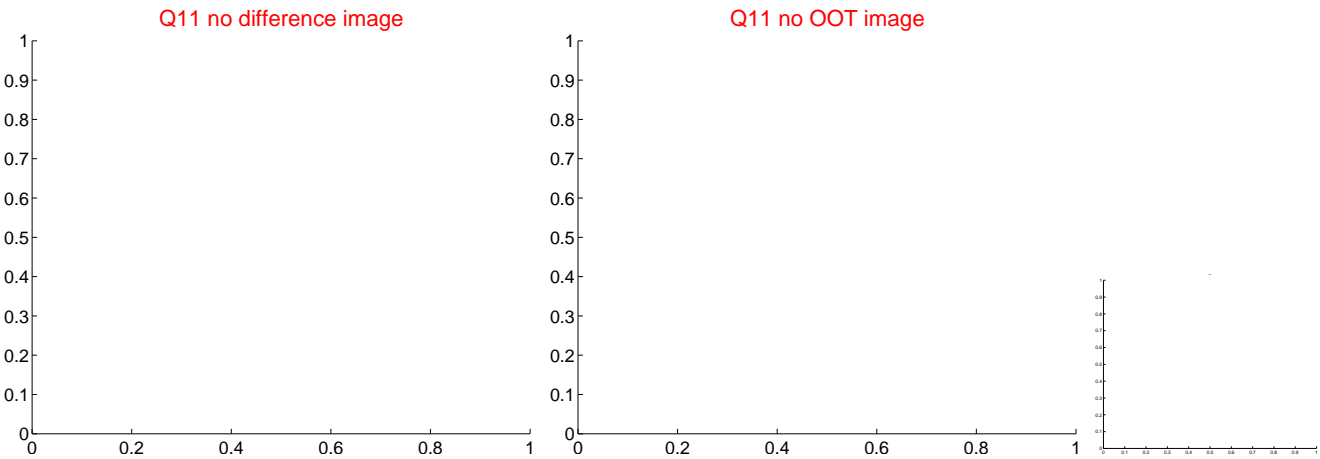
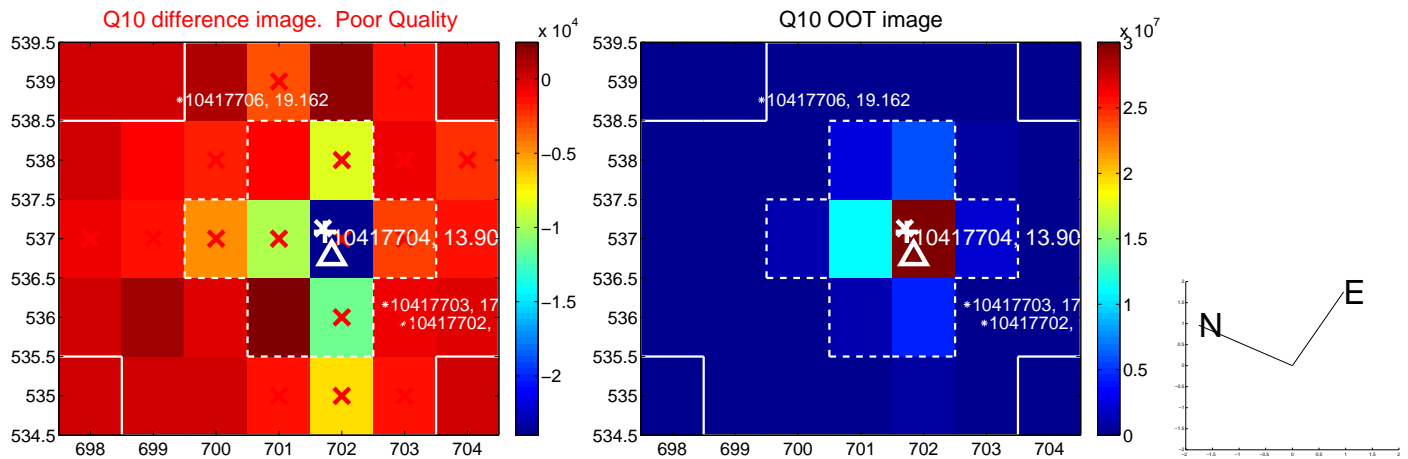
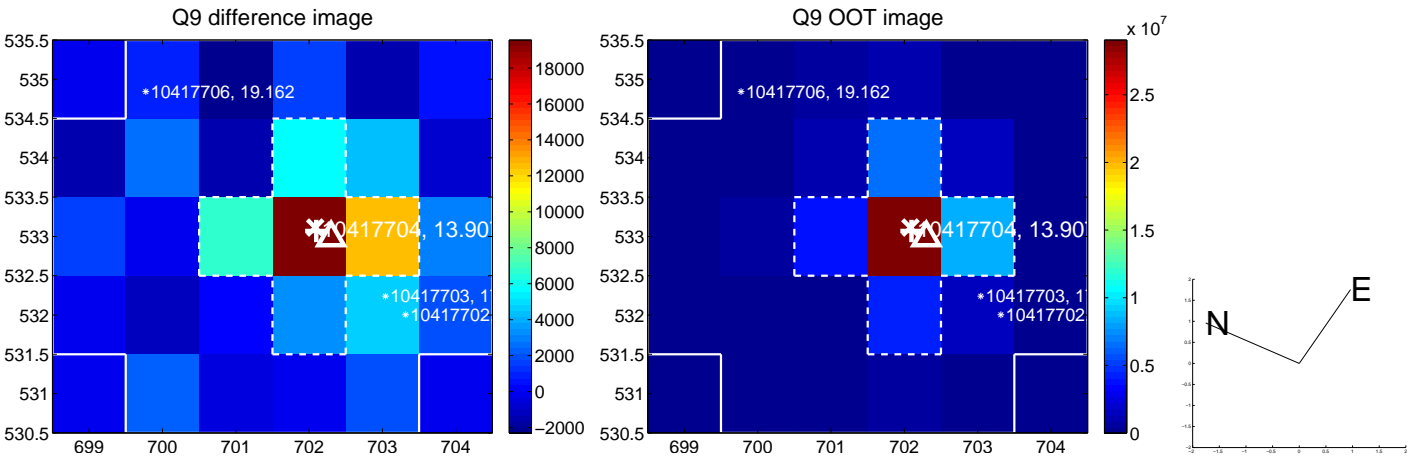
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



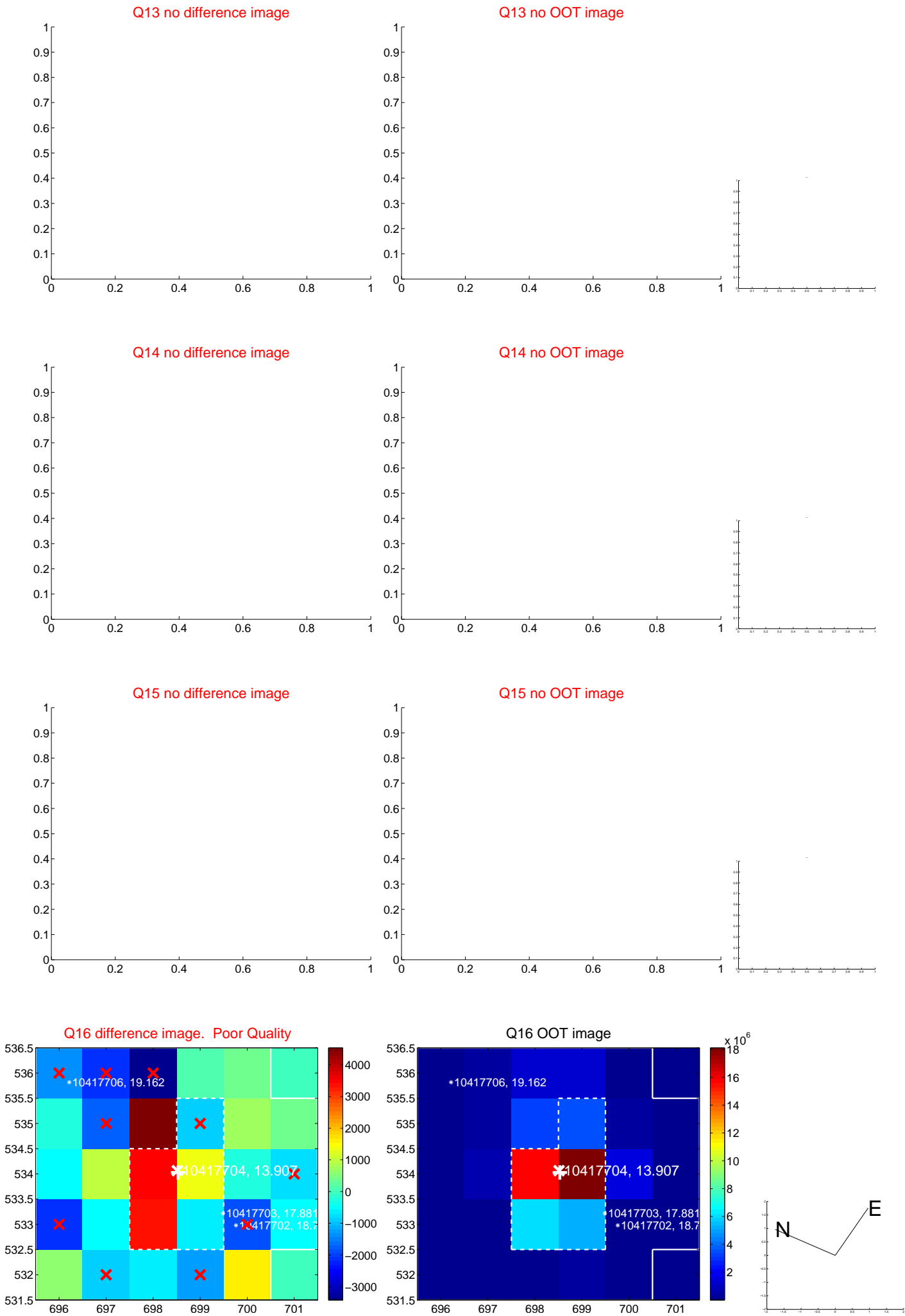
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

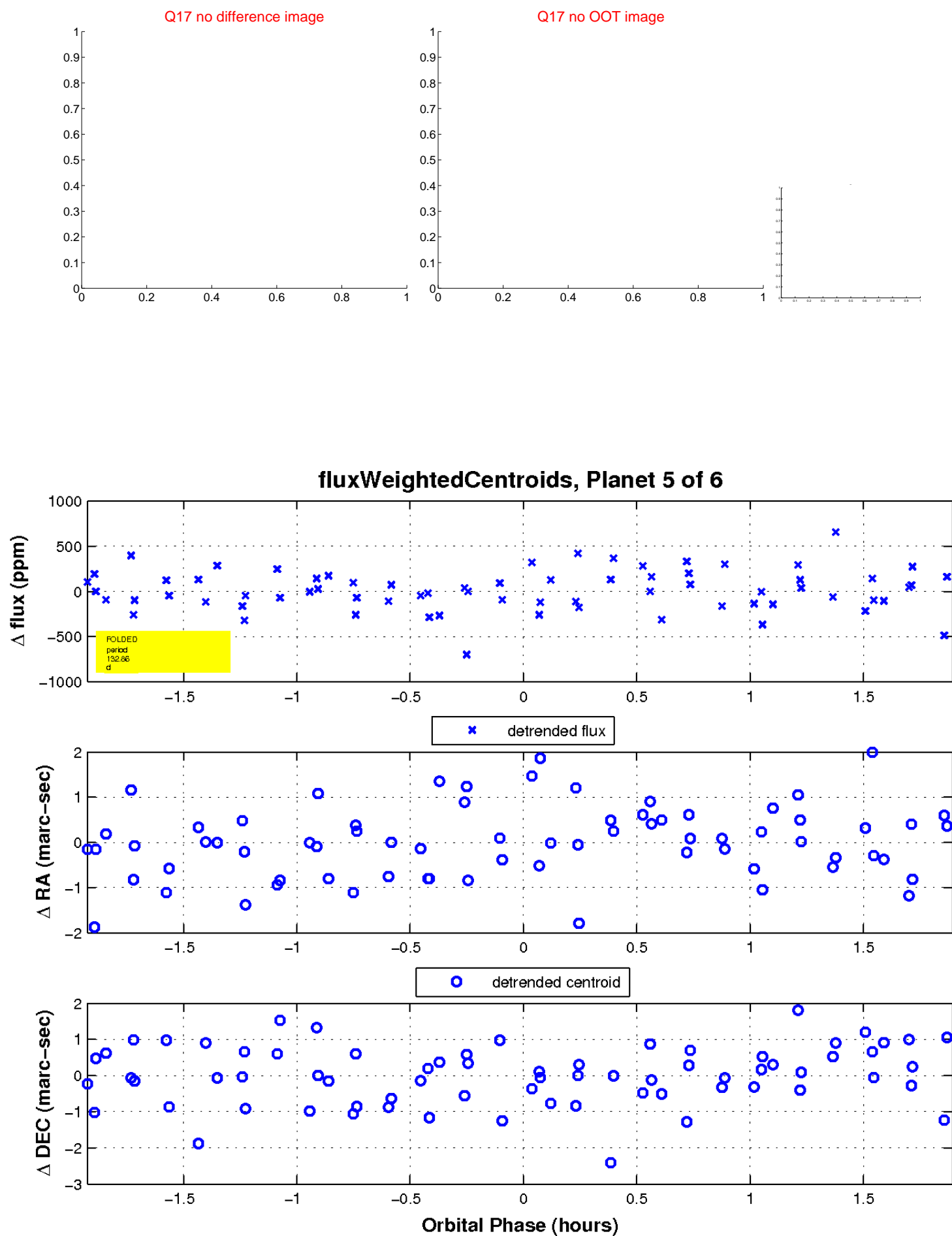


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



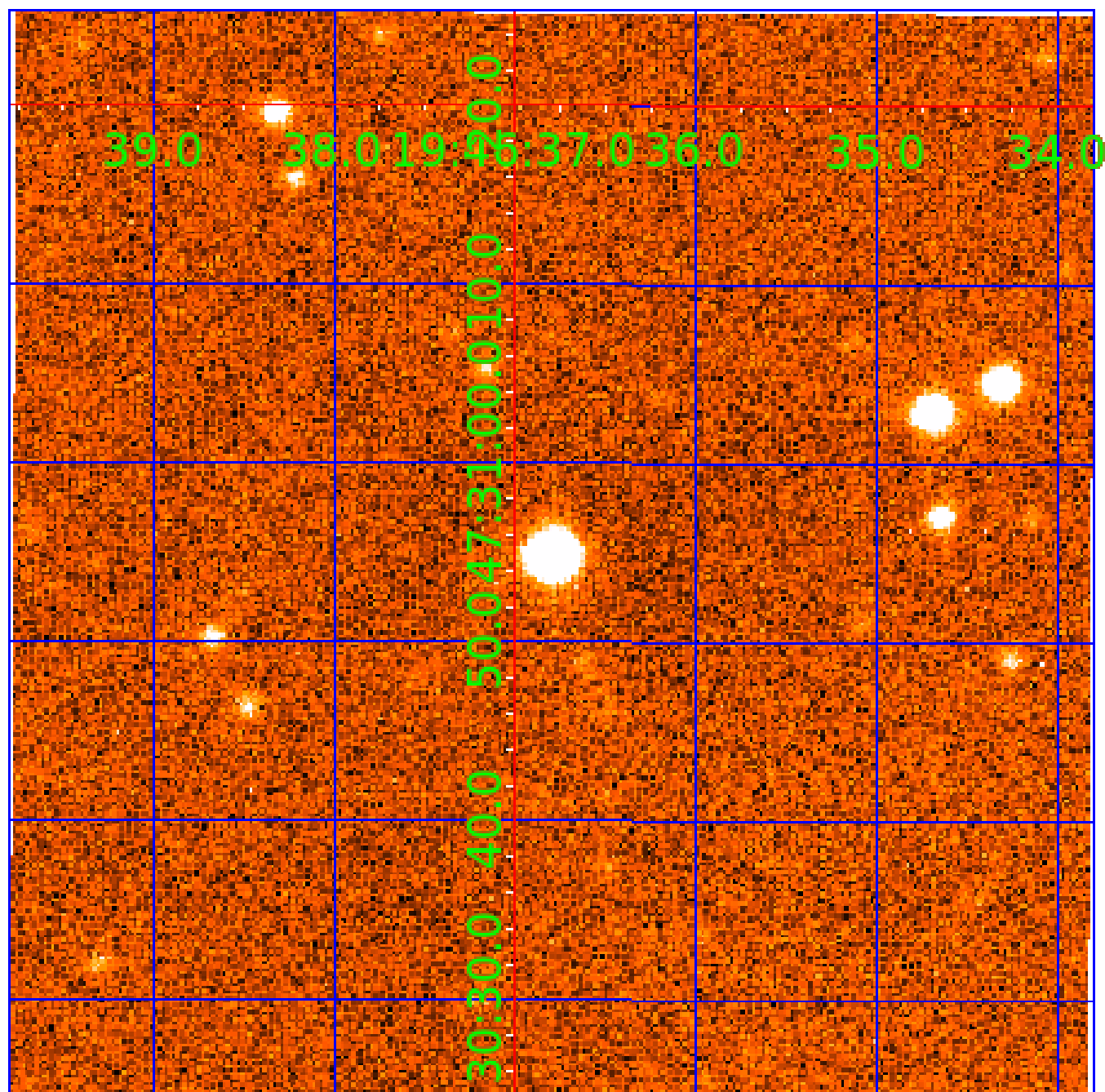
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.





UKIRT Image

Declination



KIC 010417704

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})
010417704-01	OBS	7324.01	3.008261	132.687141	175.6	2.616	23.8	26.9	1.82	8275	2.81	5427.60
010417704-02	OBS	No	3.008211	133.250311	79.6	2.479	10.1	12.5	1.82	8275	1.88	5427.73
010417704-03	OBS	No	1.002590	132.529891	13.1	6.620	10.0	4.3	1.82	8275	0.68	23488.99
010417704-04	OBS	No	27.973745	147.577412	115.8	12.122	9.4	4.3	1.82	8275	2.13	277.56
010417704-05	OBS	No	132.861542	192.970176	239.8	0.642	9.7	2.5	1.82	8275	3.03	34.77
010417704-06	OBS	No	265.719830	193.132042	540.8	3.000	9.5	-1.0	1.82	8275	4.29	13.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010417704-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_FEW_DIFFS
010417704-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010417704-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
010417704-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010417704-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE_TRACKER—TRANS_GAPPED—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
010417704-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—NO_FITS—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

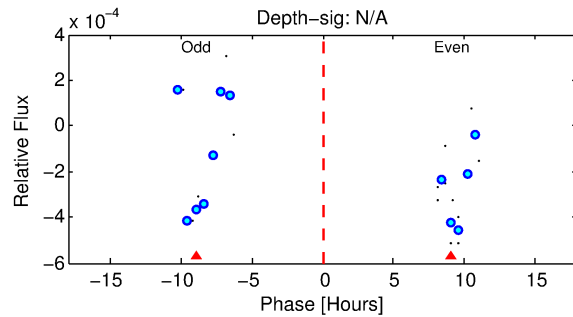
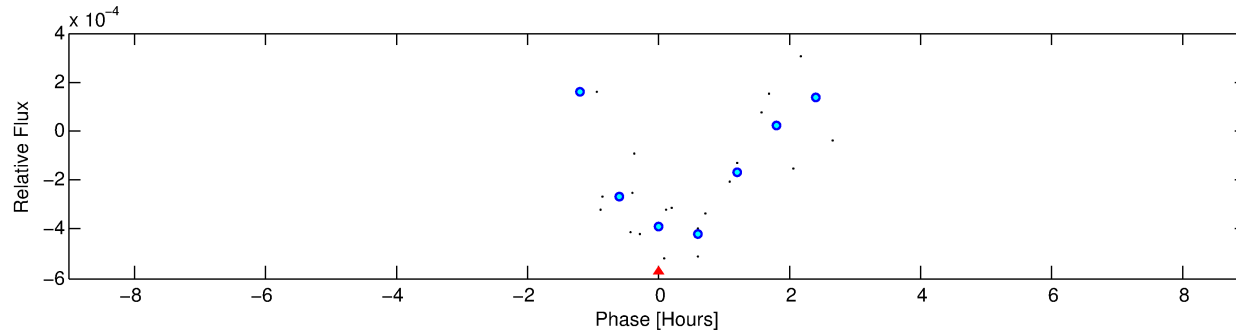
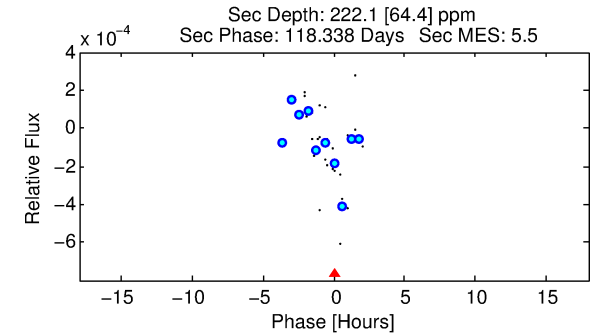
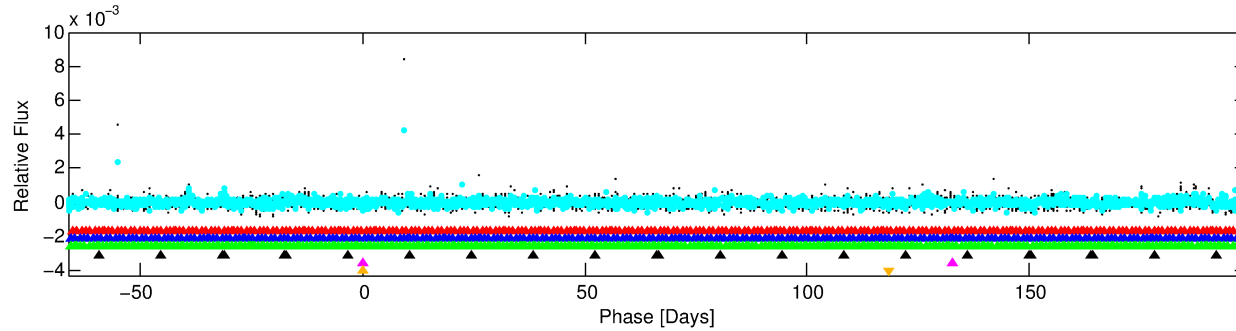
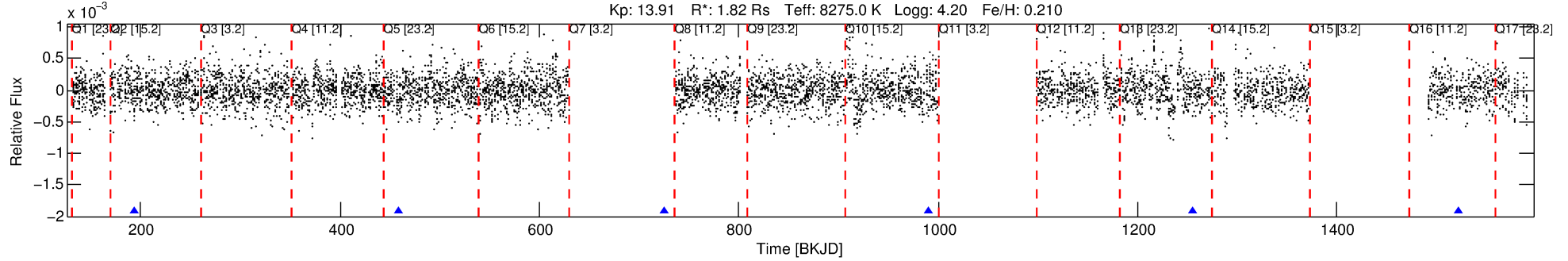
Ephemeris Match Information For 010417704-06

No Significant Match Found

DV One-Page Summary

KIC: 10417704 Candidate: 6 of 6 Period: 265.720 d
KOI: K07324 Corr: No Ephemeris Match

Kp: 13.91 R*: 1.82 Rs Teff: 8275.0 K Logg: 4.20 Fe/H: 0.210



TPS TCE Results:

Period = 265.71983 d
Epoch = 193.1320 BKJD

DV fit results are unavailable

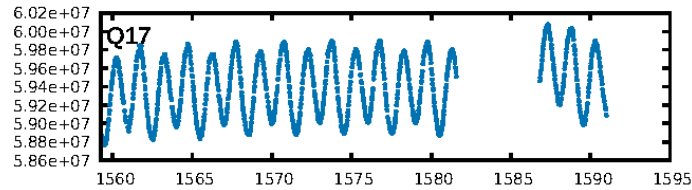
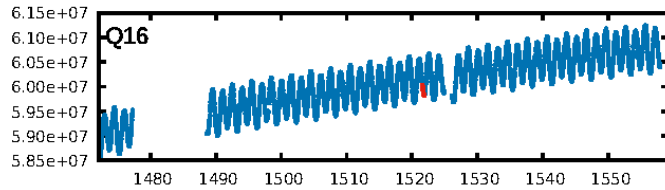
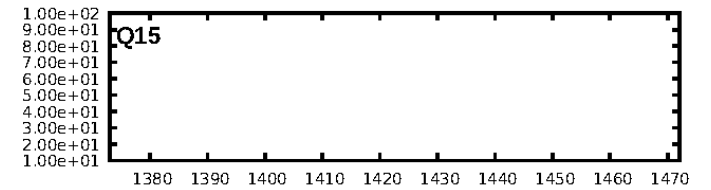
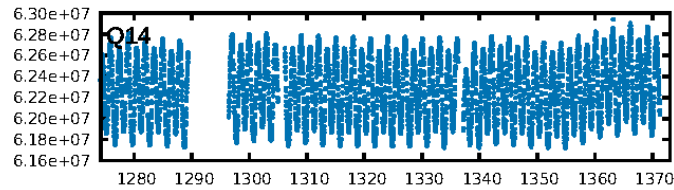
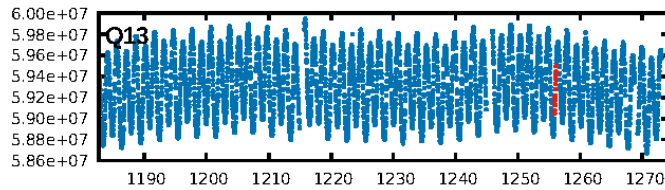
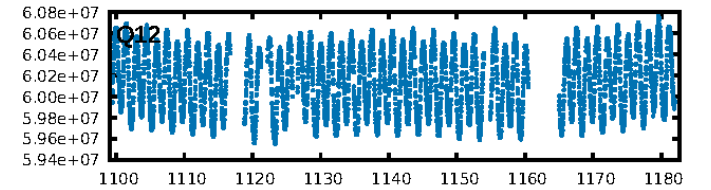
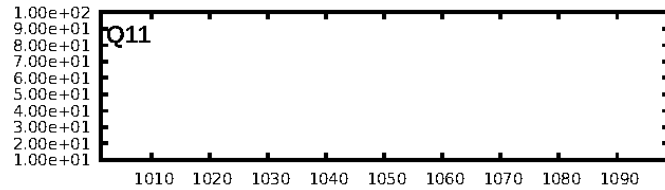
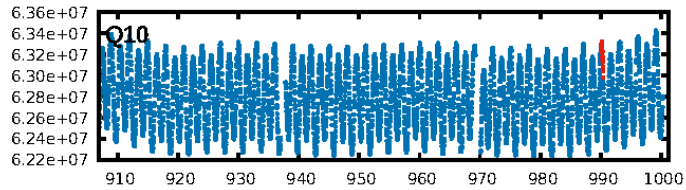
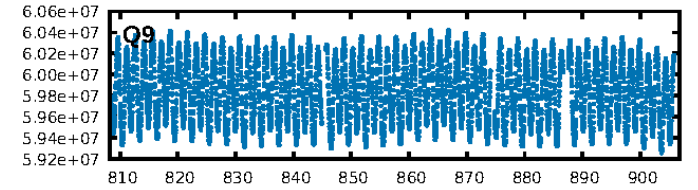
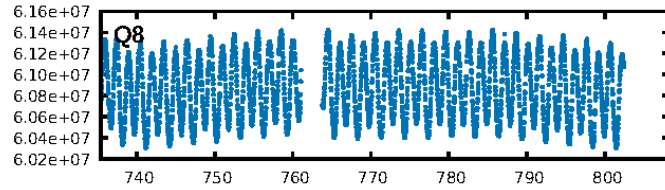
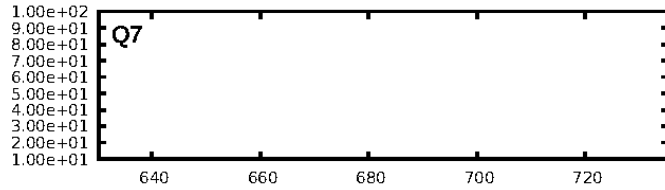
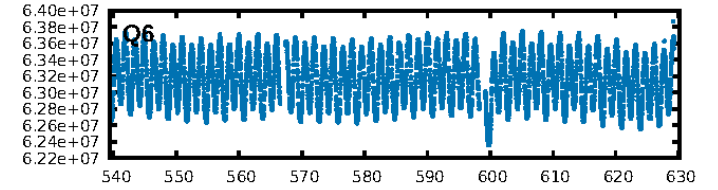
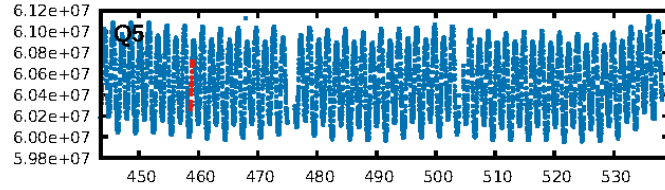
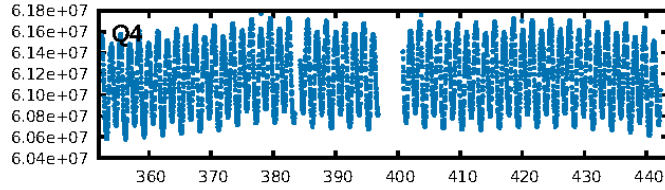
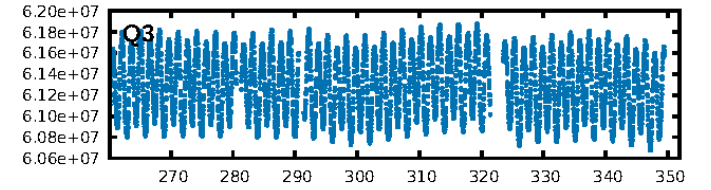
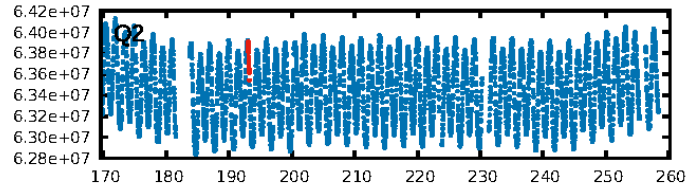
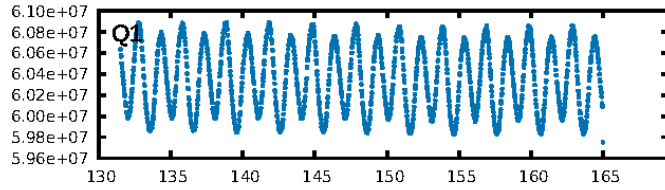
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1039.31σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: N/A
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

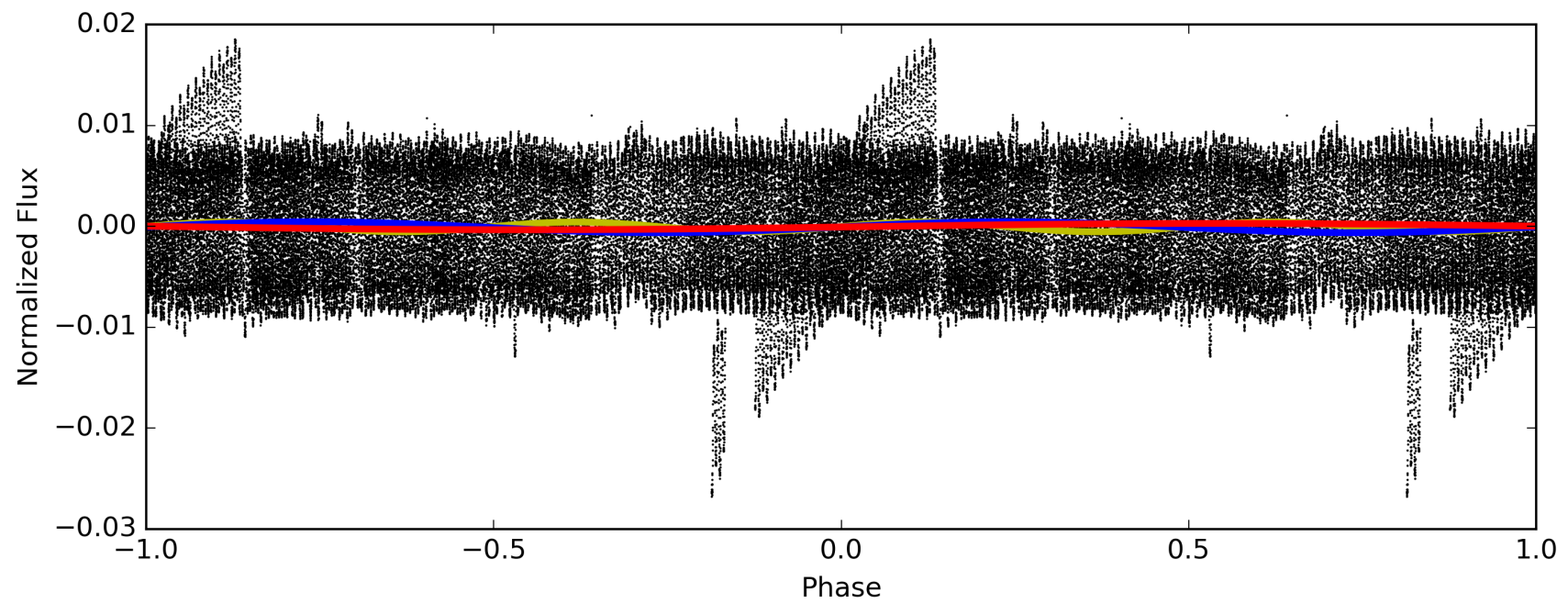
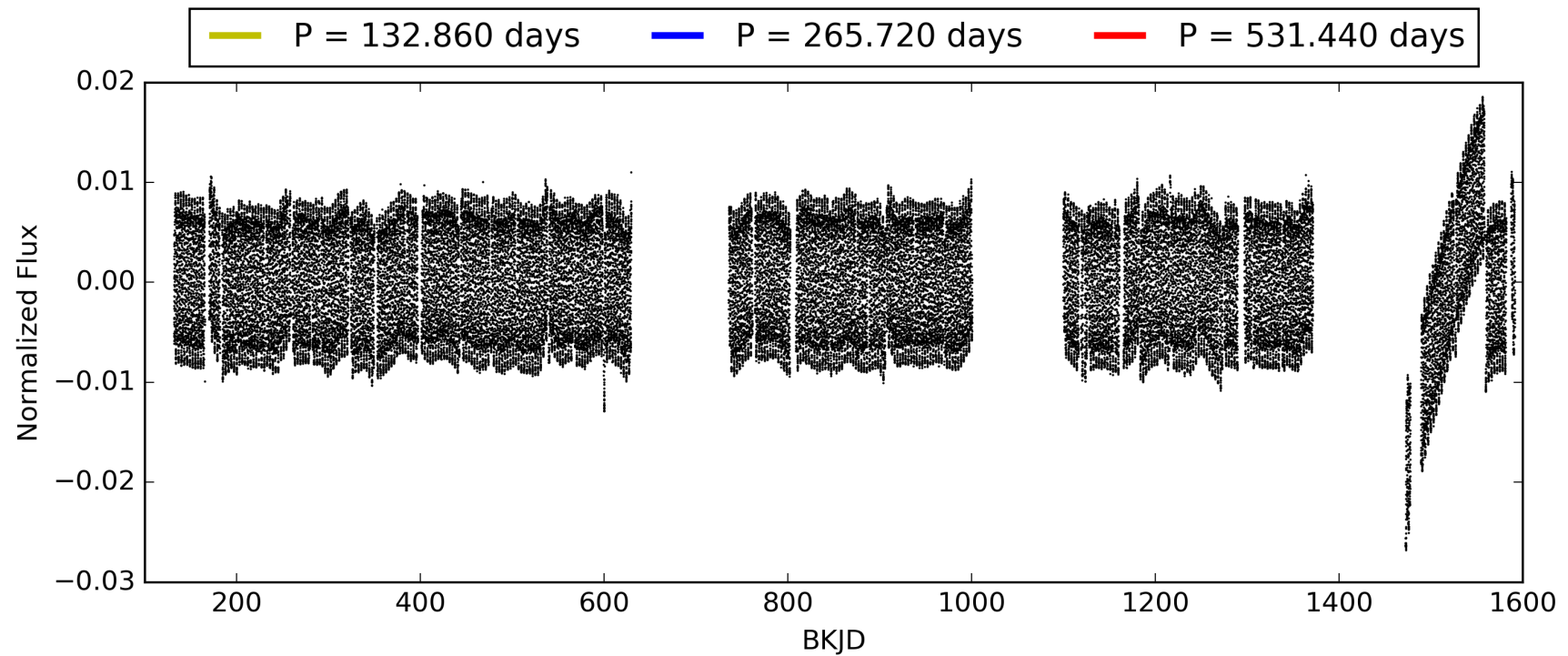
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:40:01 Z

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

TCE 010417704-06, PDC Light Curves

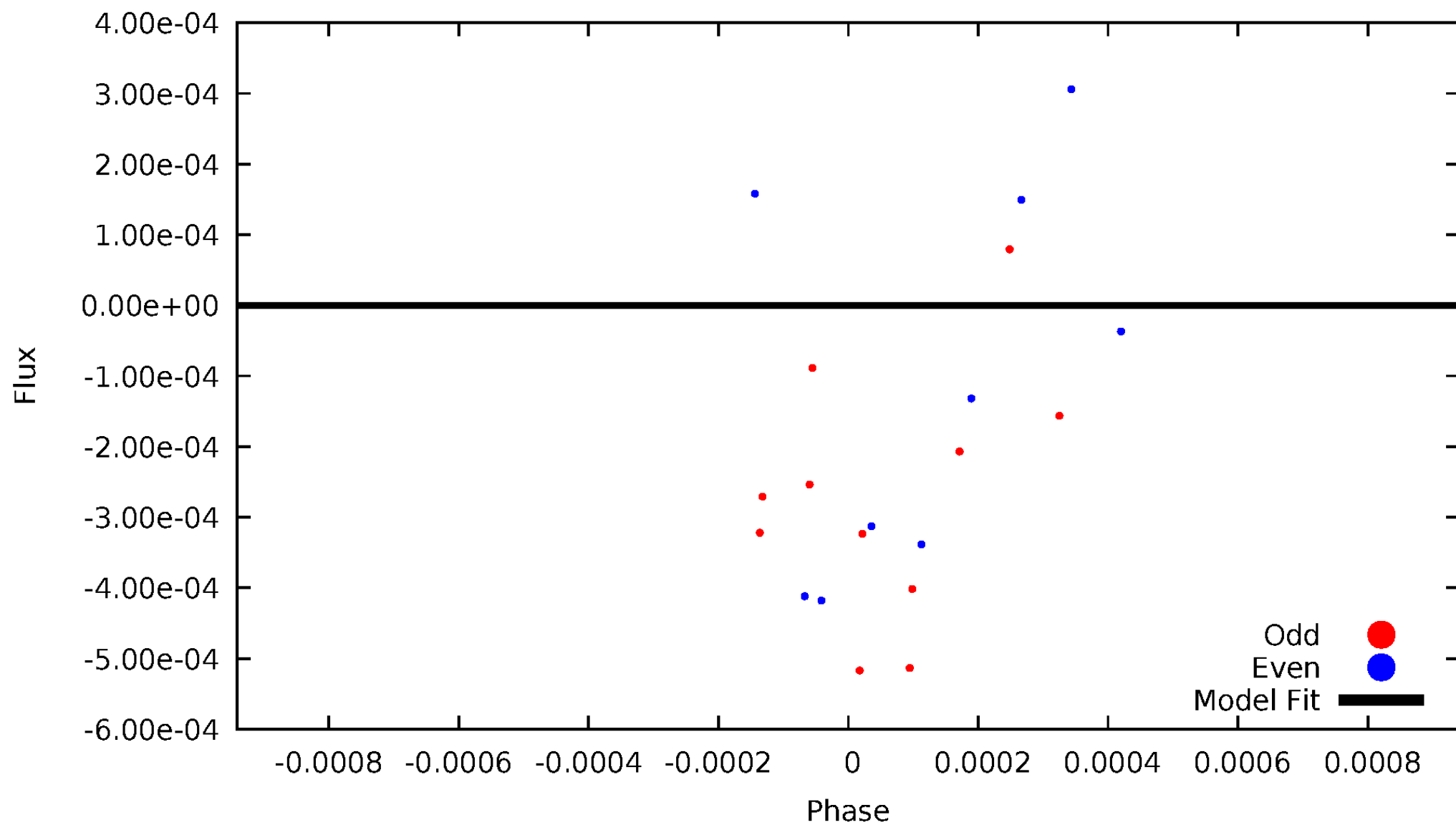


TCE 010417704-06



DV Odd/Even

TCE 010417704-06

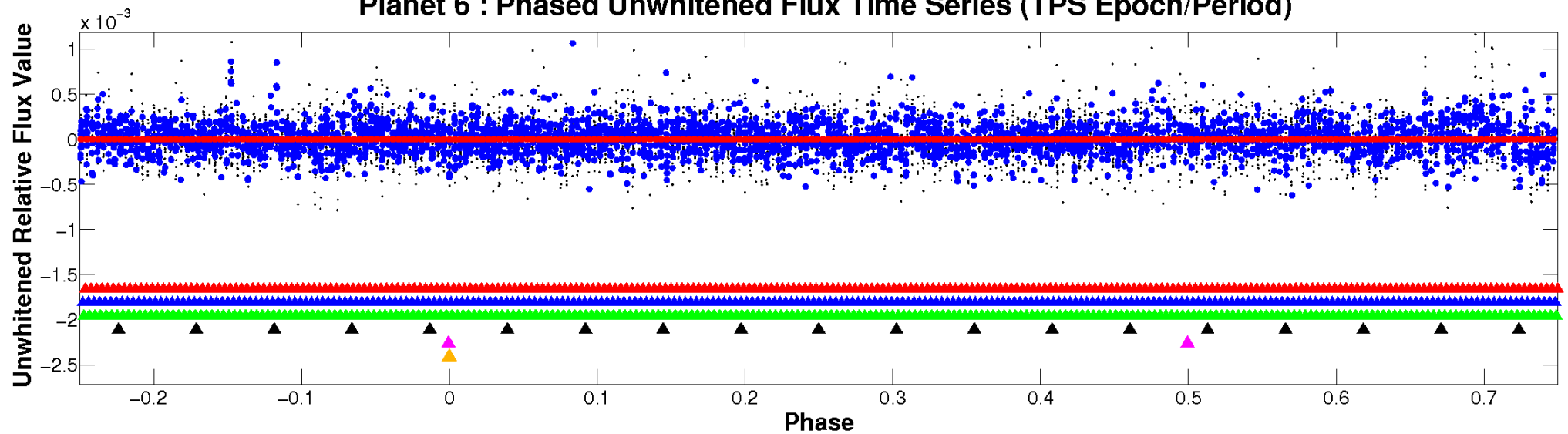


ALT Odd/Even

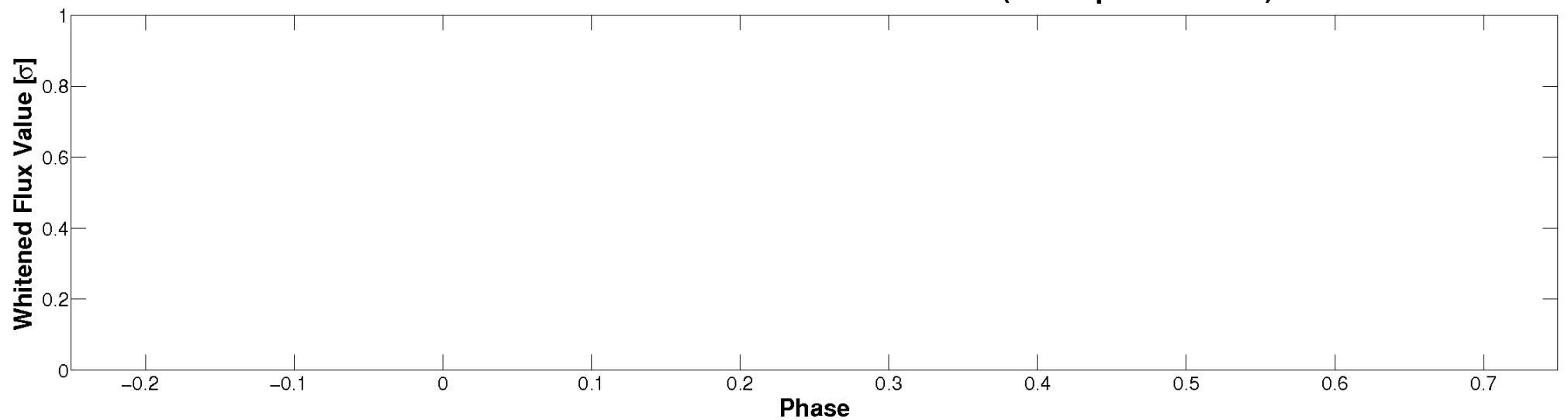
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

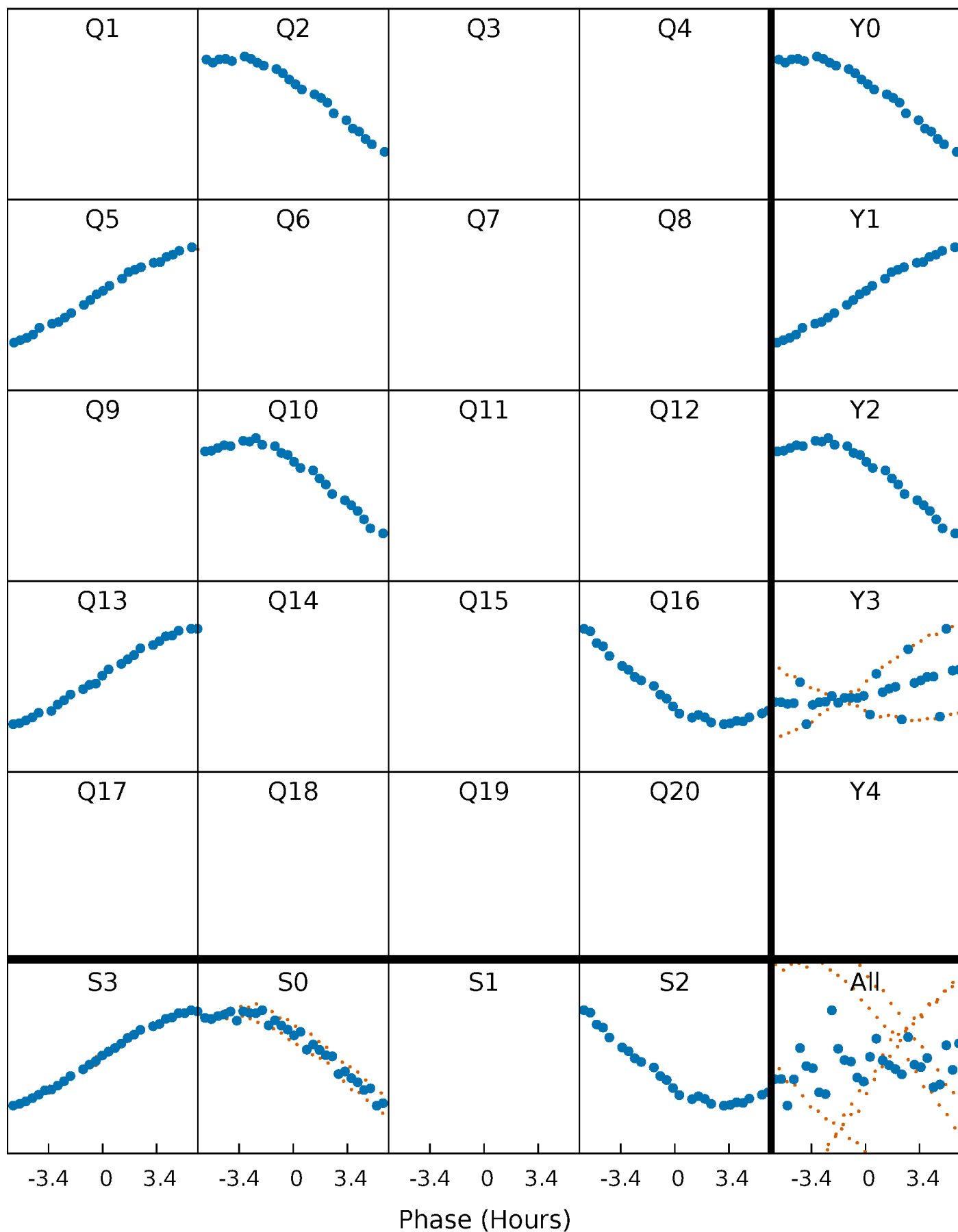


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



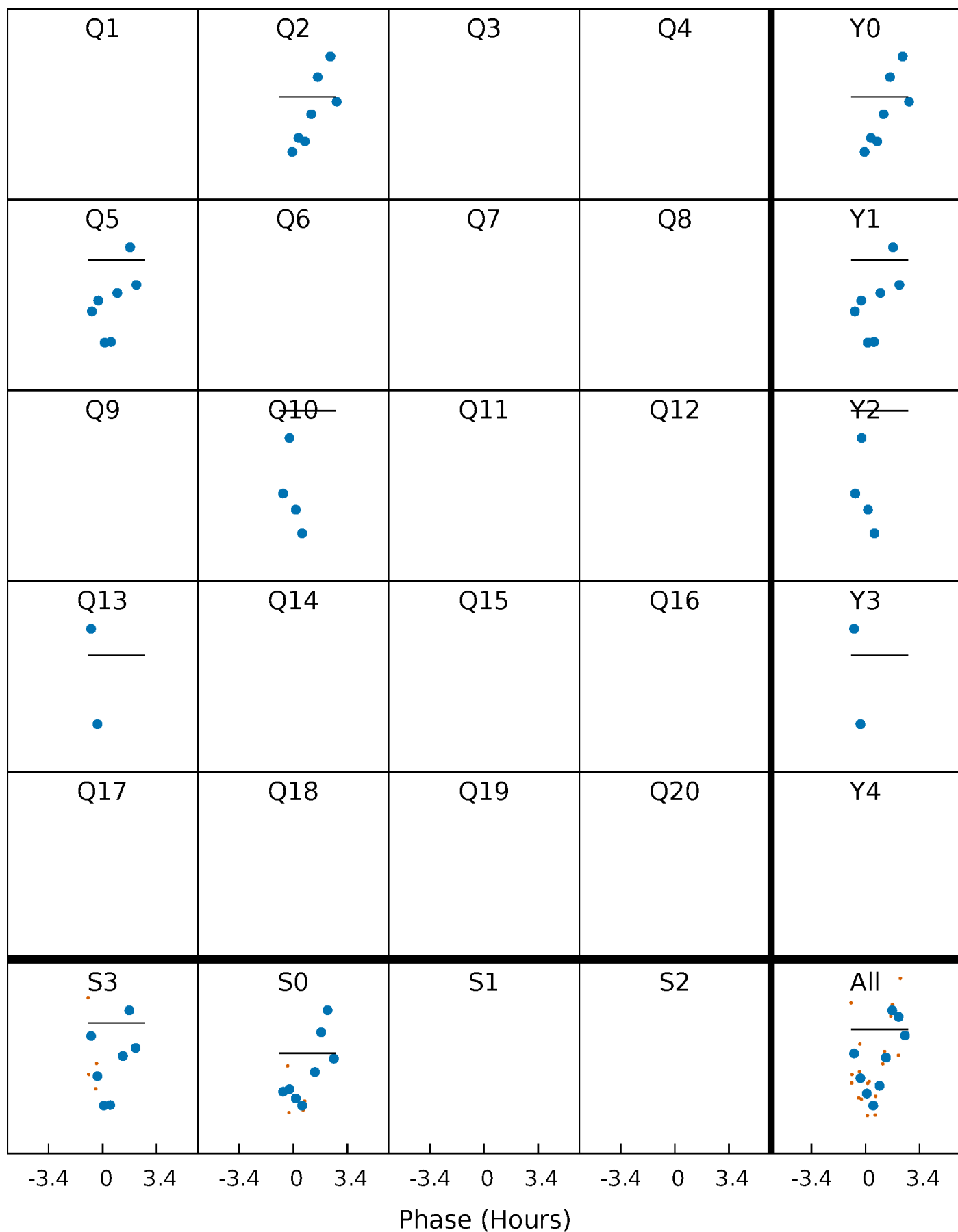
PDC Quarter-Phased Transit Curves

TCE 010417704-06 P=265.719830 Days $T_0=193.132042$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010417704-06 P=265.719830 Days $T_0=193.132042$ (BKJD)

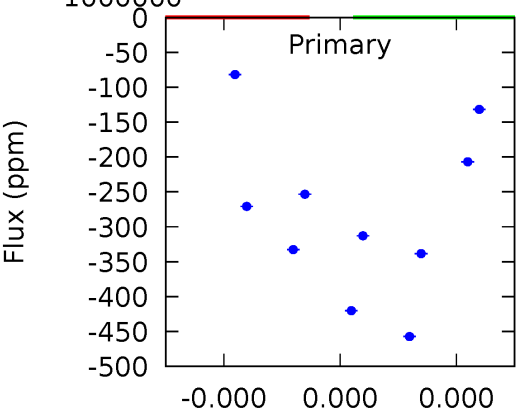
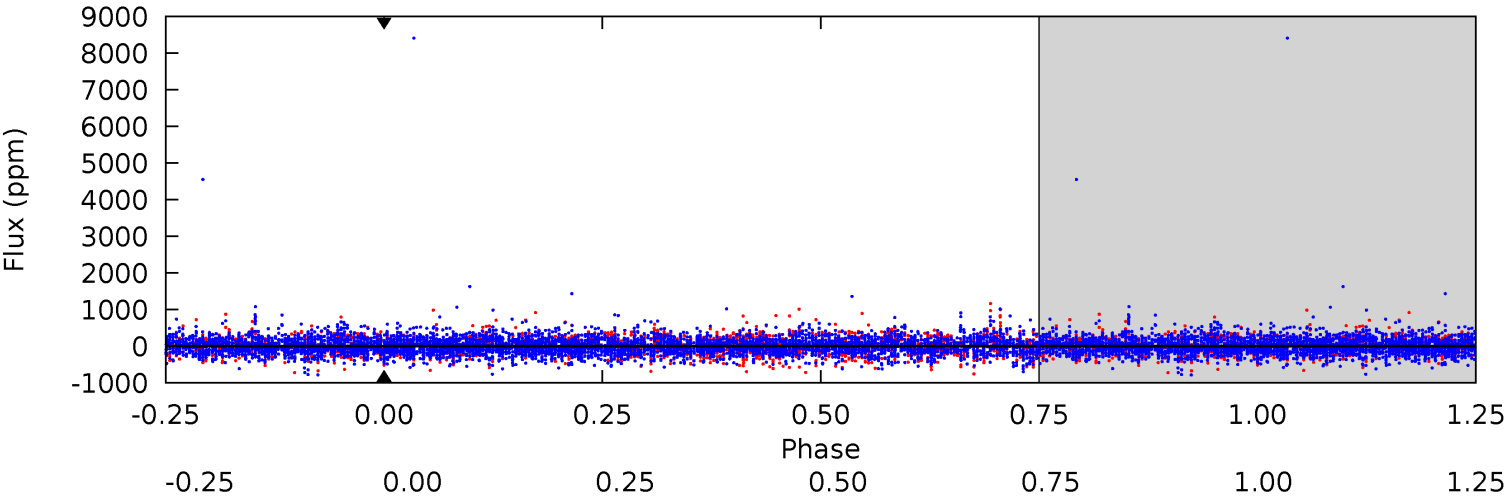


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

010417704-06, P = 265.719830 Days, E = 193.132042 Days

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



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 010417704

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8275^{+231}_{-364}	$4.199^{+0.065}_{-0.208}$	$0.210^{+0.150}_{-0.500}$	$1.818^{+0.591}_{-0.253}$	$1.908^{+0.340}_{-0.306}$	$0.448^{+0.130}_{-0.239}$
	+3%/-4%	+2%/-5%	+71%/-238%	+33%/-14%	+18%/-16%	+29%/-54%
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 010417704-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$15.05^{+17.99}_{-10.13}$	699^{+57}_{-37}	4277^{+50042}_{-52657}	$826^{+425800}_{-384927}$
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

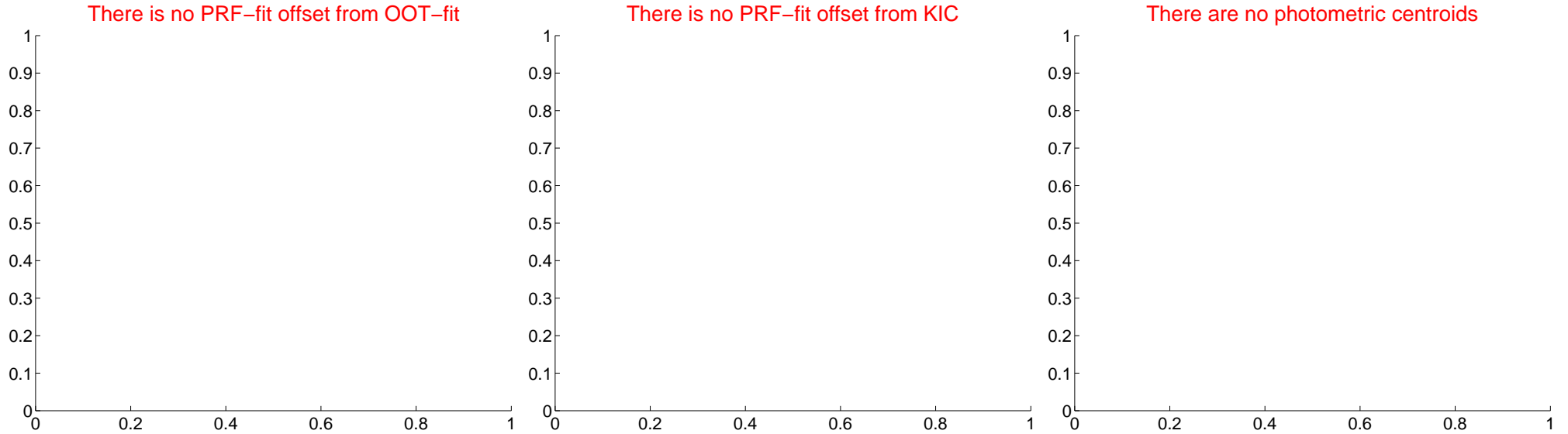
DV Centroid Data

Supplemental centroid analysis for 010417704-06. Kepler magnitude: 13.91. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—



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

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



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



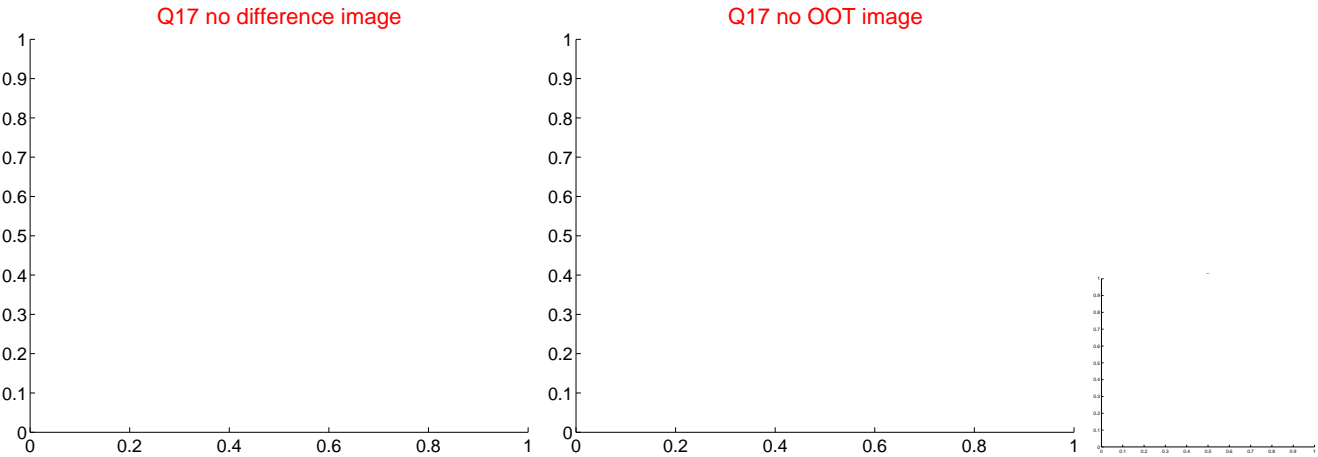
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



folded centroid time series figure for this object.

UKIRT Image

Declination

