

KIC 011343461

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})
011343461-01	OBS	No	127.914626	214.321225	1943.9	4.089	11.3	5.5	0.29	3470	1.31	0.10
011343461-02	OBS	No	170.667997	152.060723	2629.9	3.951	12.3	6.4	0.29	3470	1.49	0.07
011343461-03	OBS	No	256.542000	275.844710	3444.0	5.247	11.1	8.9	0.29	3470	1.69	0.04
011343461-04	OBS	No	223.984010	305.302117	2846.6	4.646	9.9	6.6	0.29	3470	1.53	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011343461-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_KIC_POS
011343461-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011343461-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS
011343461-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

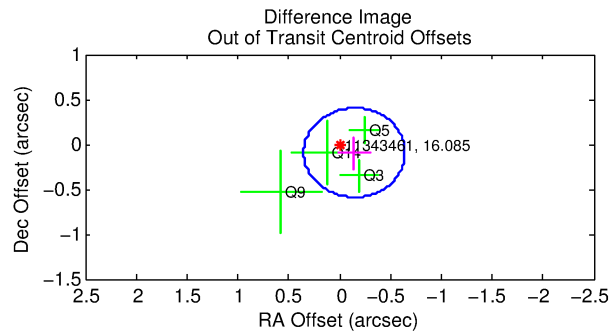
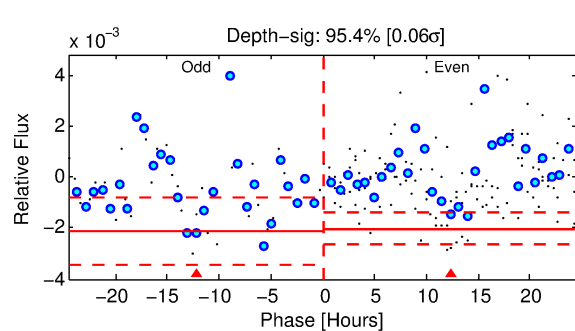
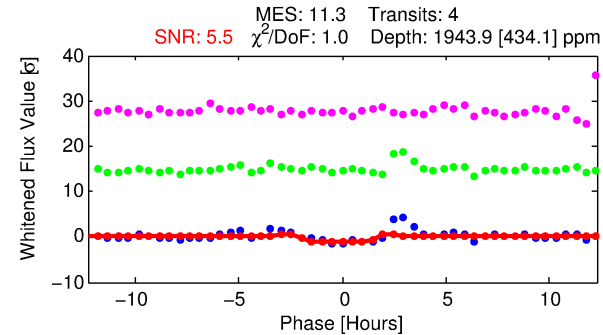
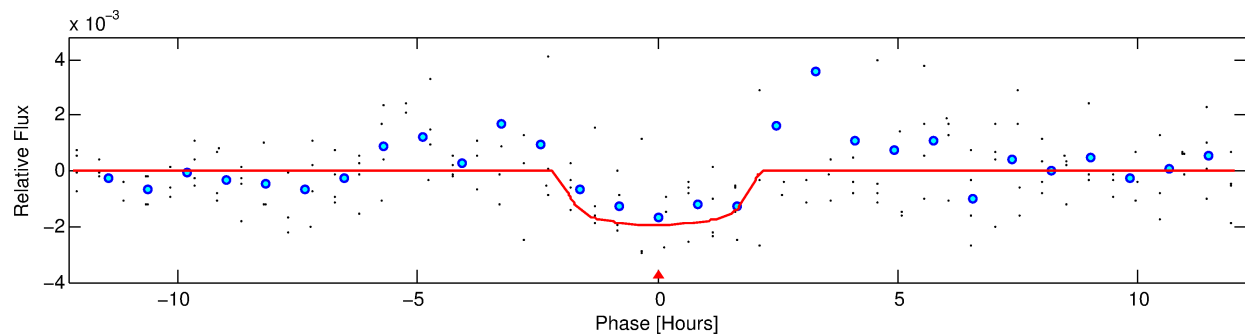
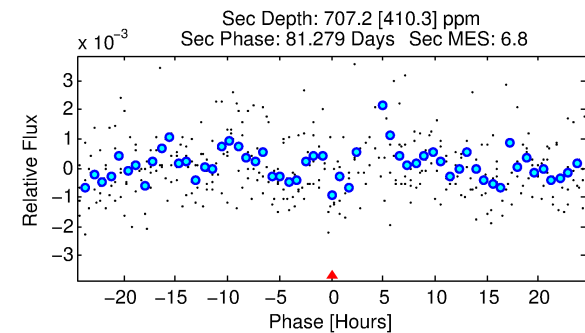
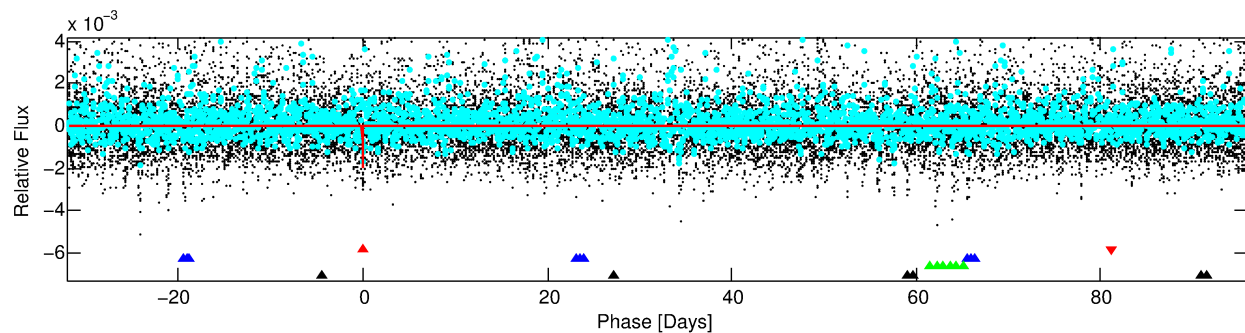
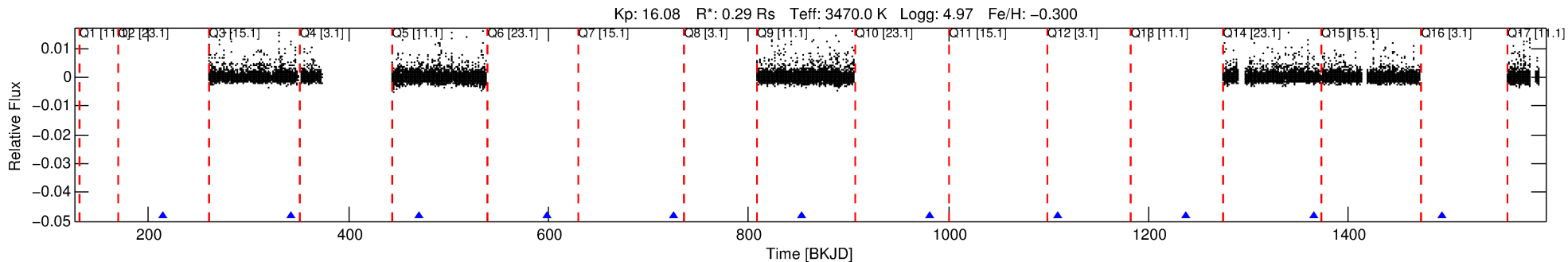
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011343461-01

No Significant Match Found

DV One-Page Summary

KIC: 11343461 Candidate: 1 of 4 Period: 127.915 d



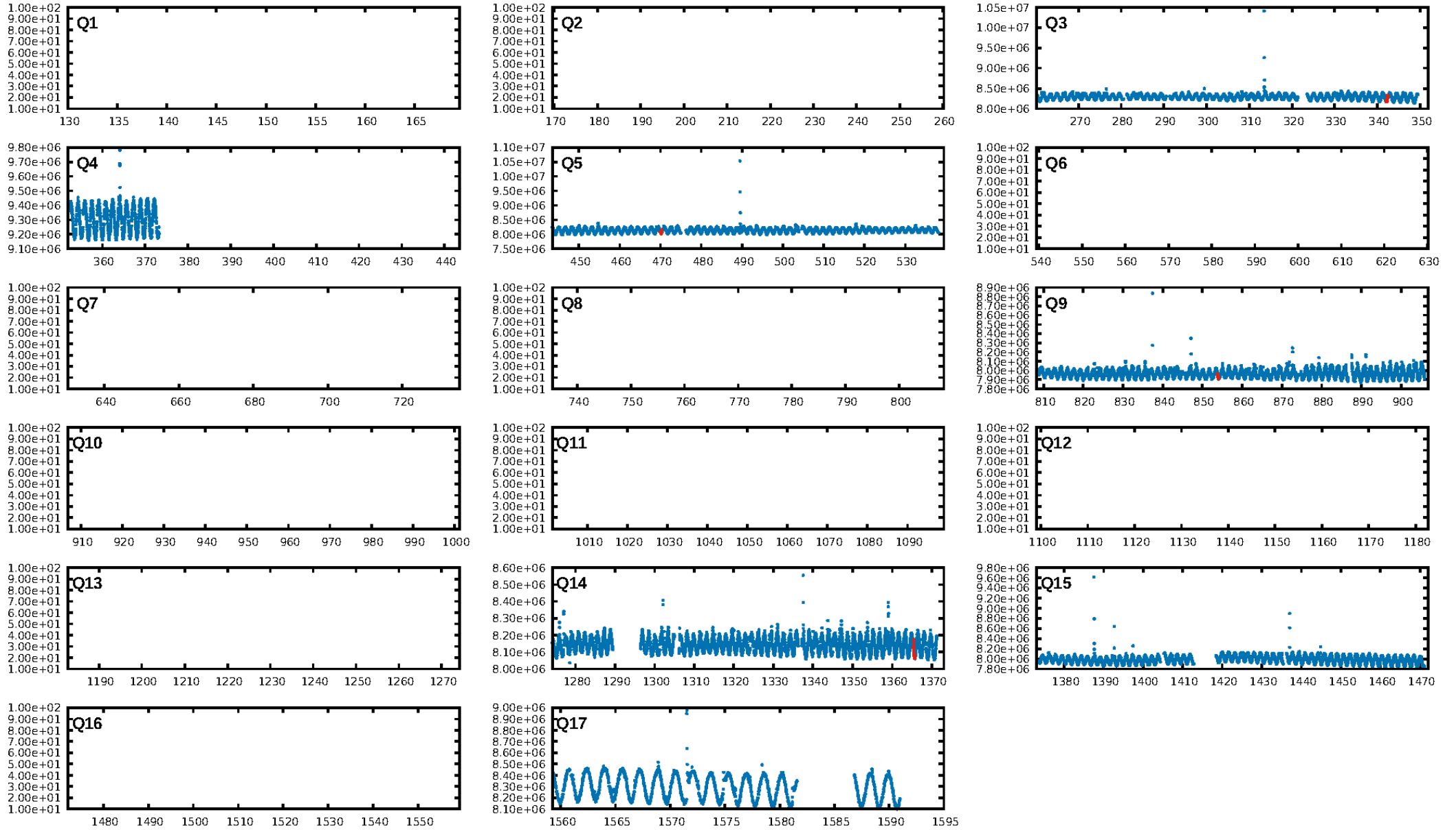
DV Fit Results:

Period = 127.91463 [0.00195] d
Epoch = 214.3212 [0.0112] BKJD
Rp/R* = 0.0417 [0.0341]
a/R* = 210.68 [769.00]
b = 0.55 [4.59]
Seff = 0.10 [0.02]
Teq = 144 [5] K
Rp = 1.32 [1.09] Re
a = 0.3268 [0.0369] AU
Ag = 24012.11 [41755.86] [0.58σ]
Teffp = 2771 [1202] K [2.19σ]

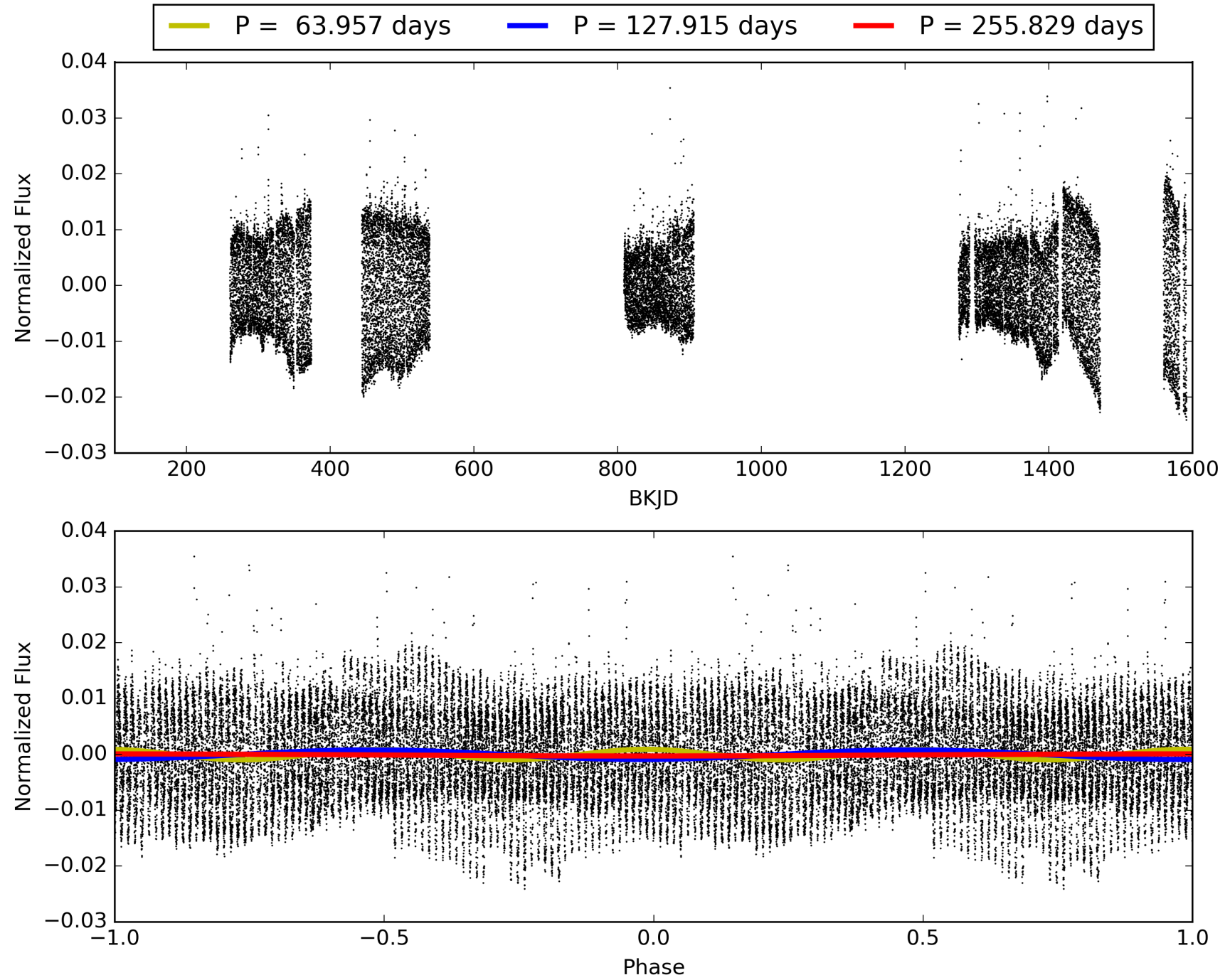
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [180.44σ]
ModelChiSquare2-sig: 2.8%
ModelChiSquareGof-sig: 95.0%
Bootstrap-pfa: 1.31e-14
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.7476
Centroid-sig: 39.8%
Centroid-so: 0.895 arcsec [0.73σ]
OotOffset-rm: 0.172 arcsec [1.04σ]
KicOffset-rm: 0.217 arcsec [1.02σ]
OotOffset-st: 1/1/0/2 [4]
KicOffset-st: 1/1/0/2 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 011343461-01, PDC Light Curves

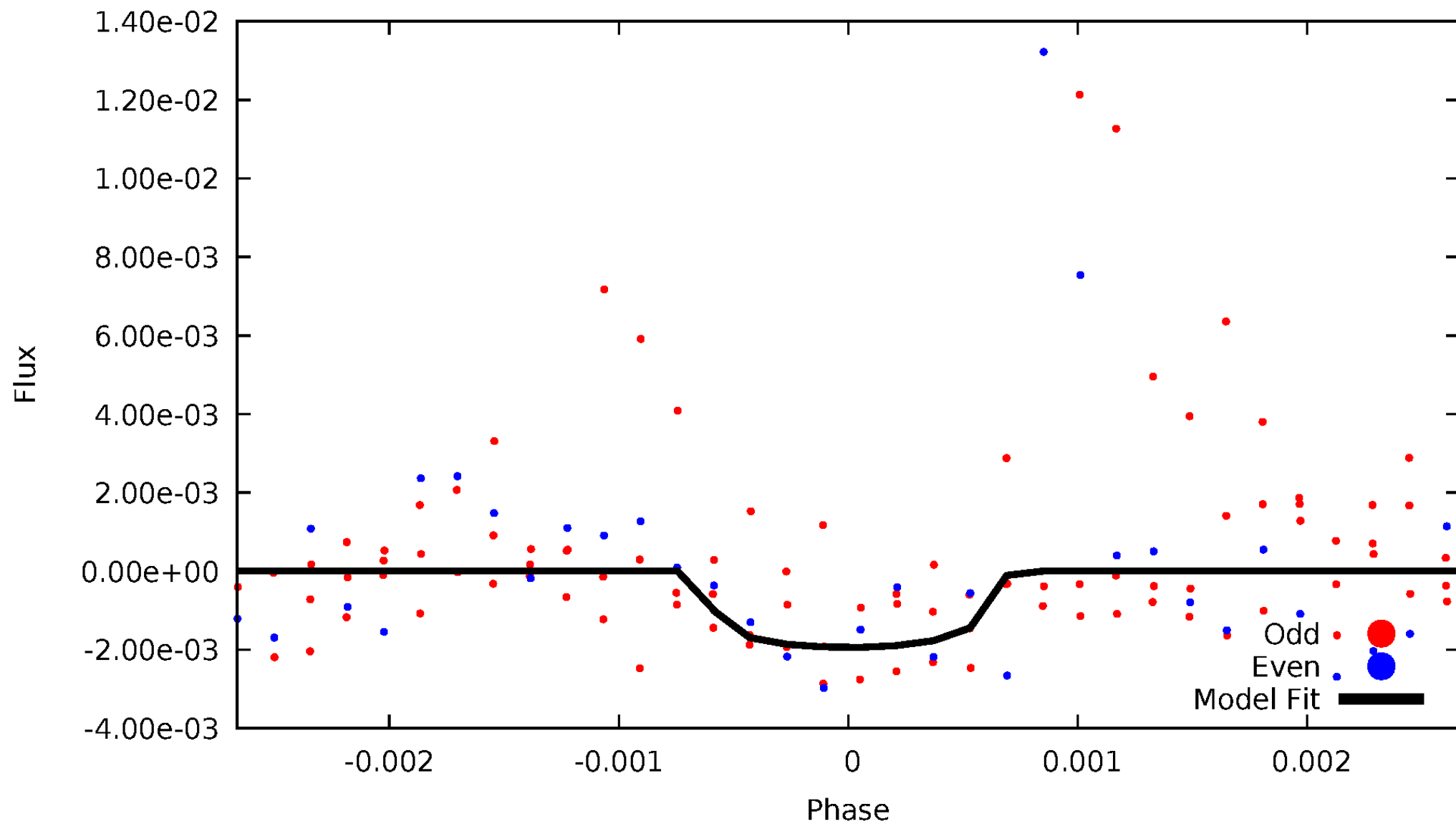


TCE 011343461-01



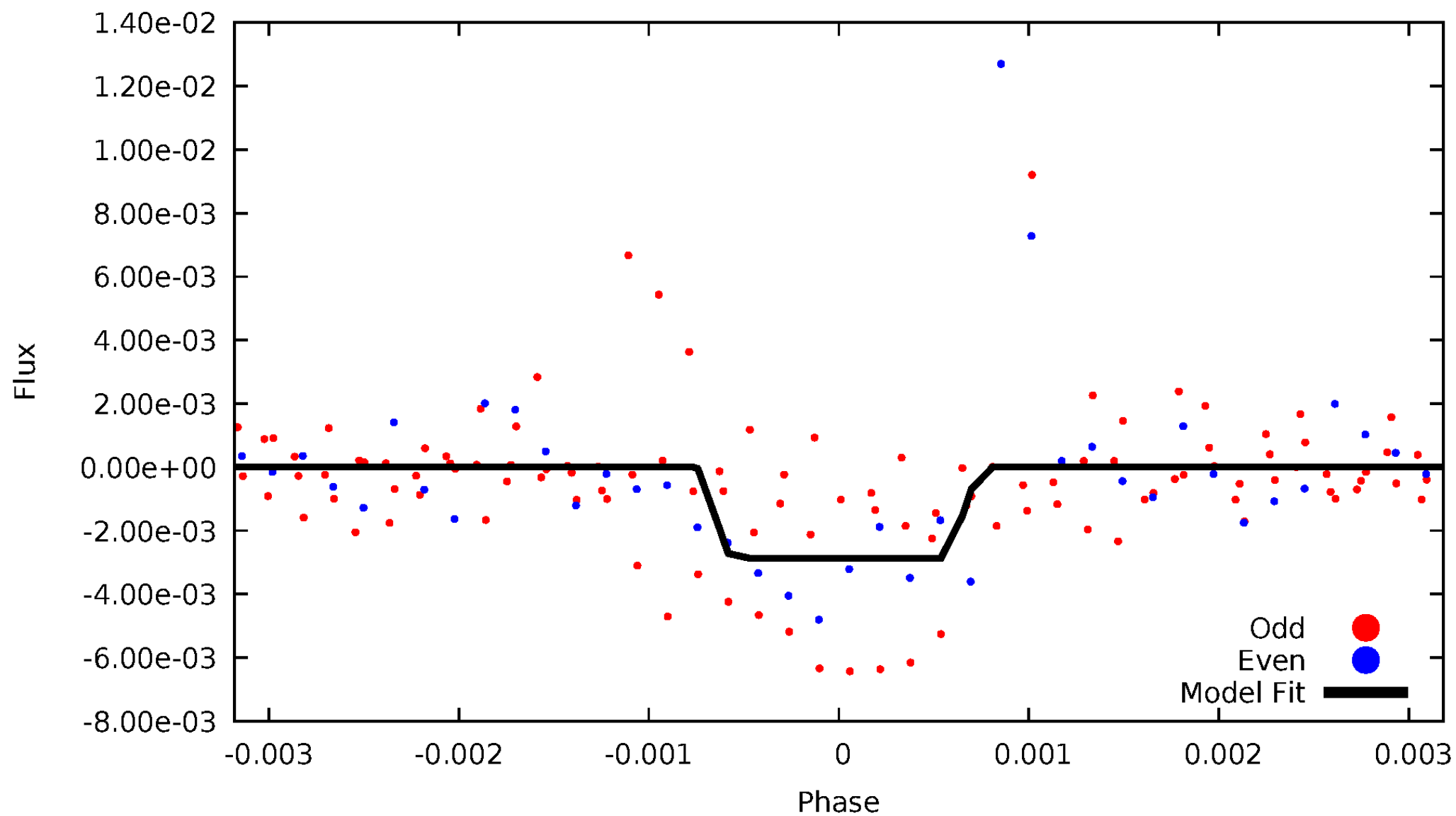
DV Odd/Even

TCE 011343461-01

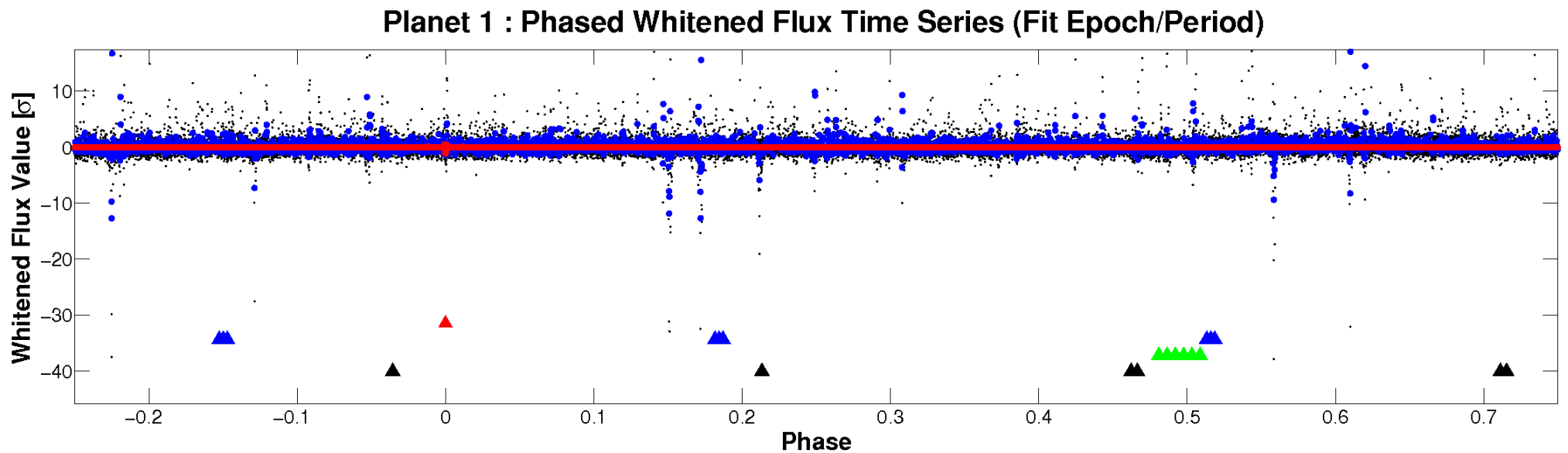
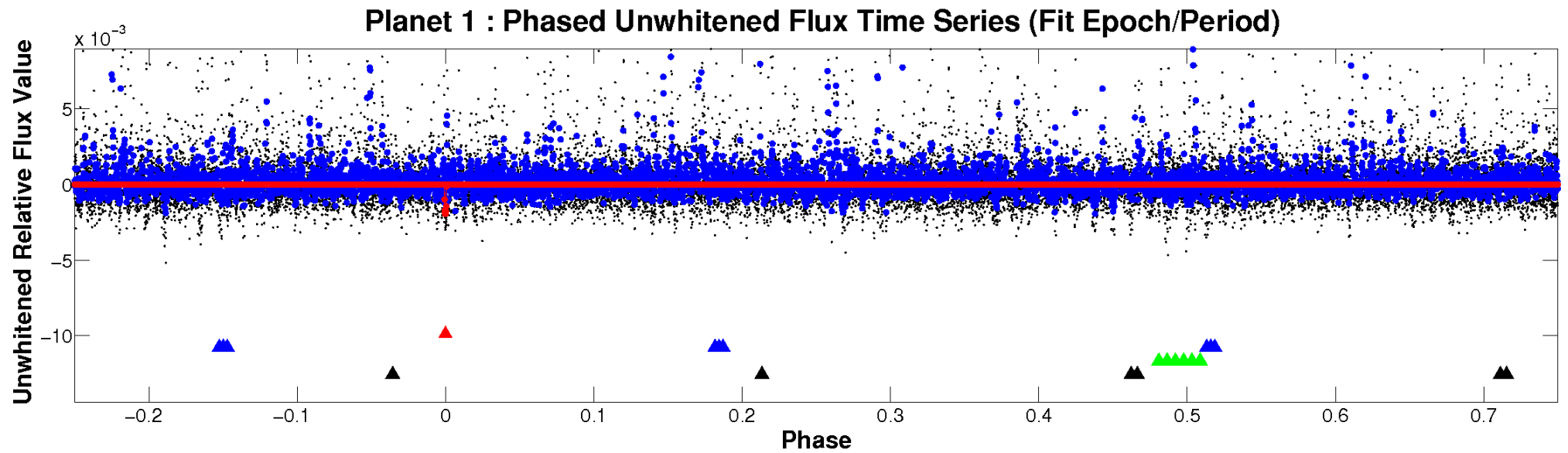


ALT Odd/Even

TCE 011343461-01

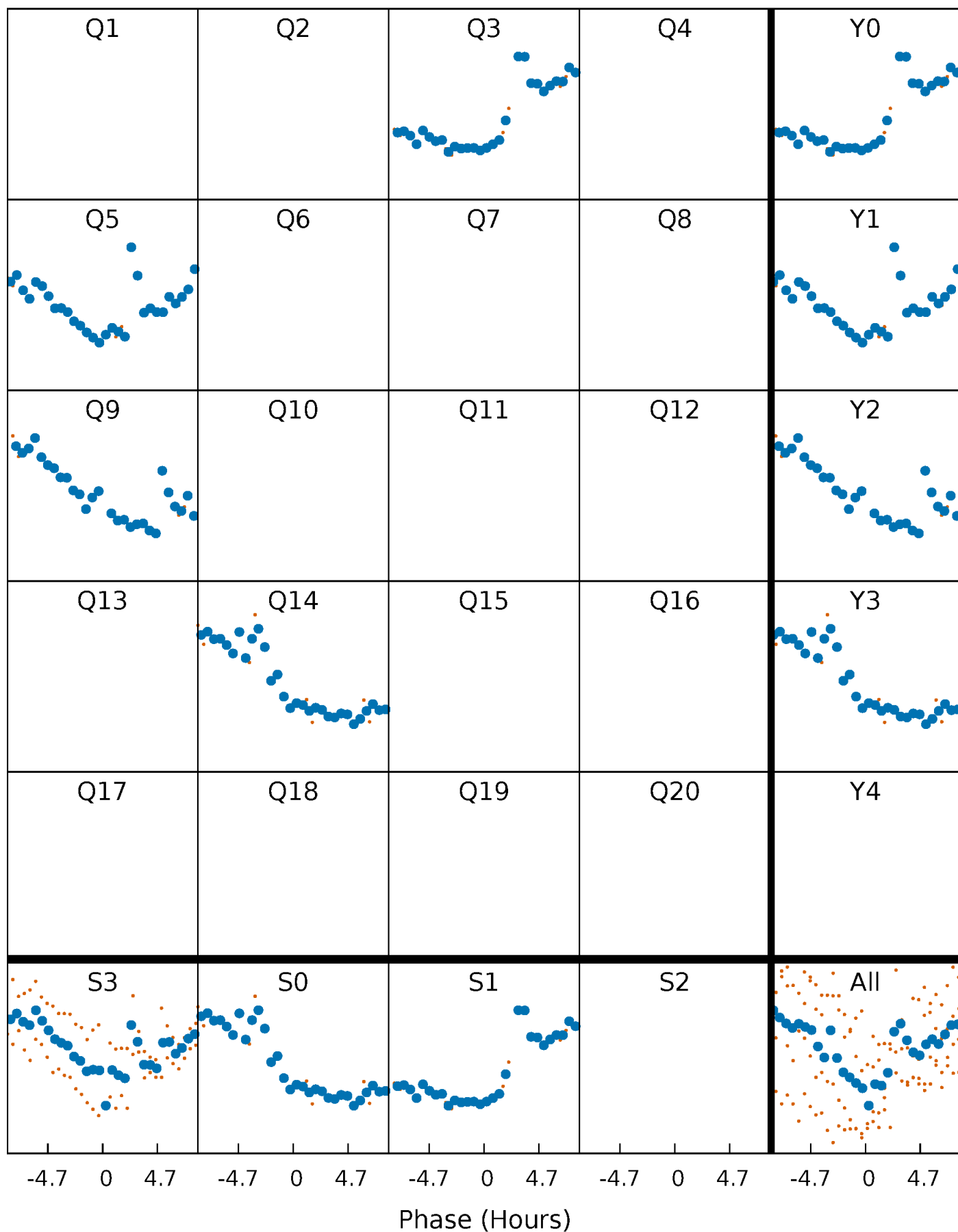


Non-Whitened Vs. Whitened Light Curve



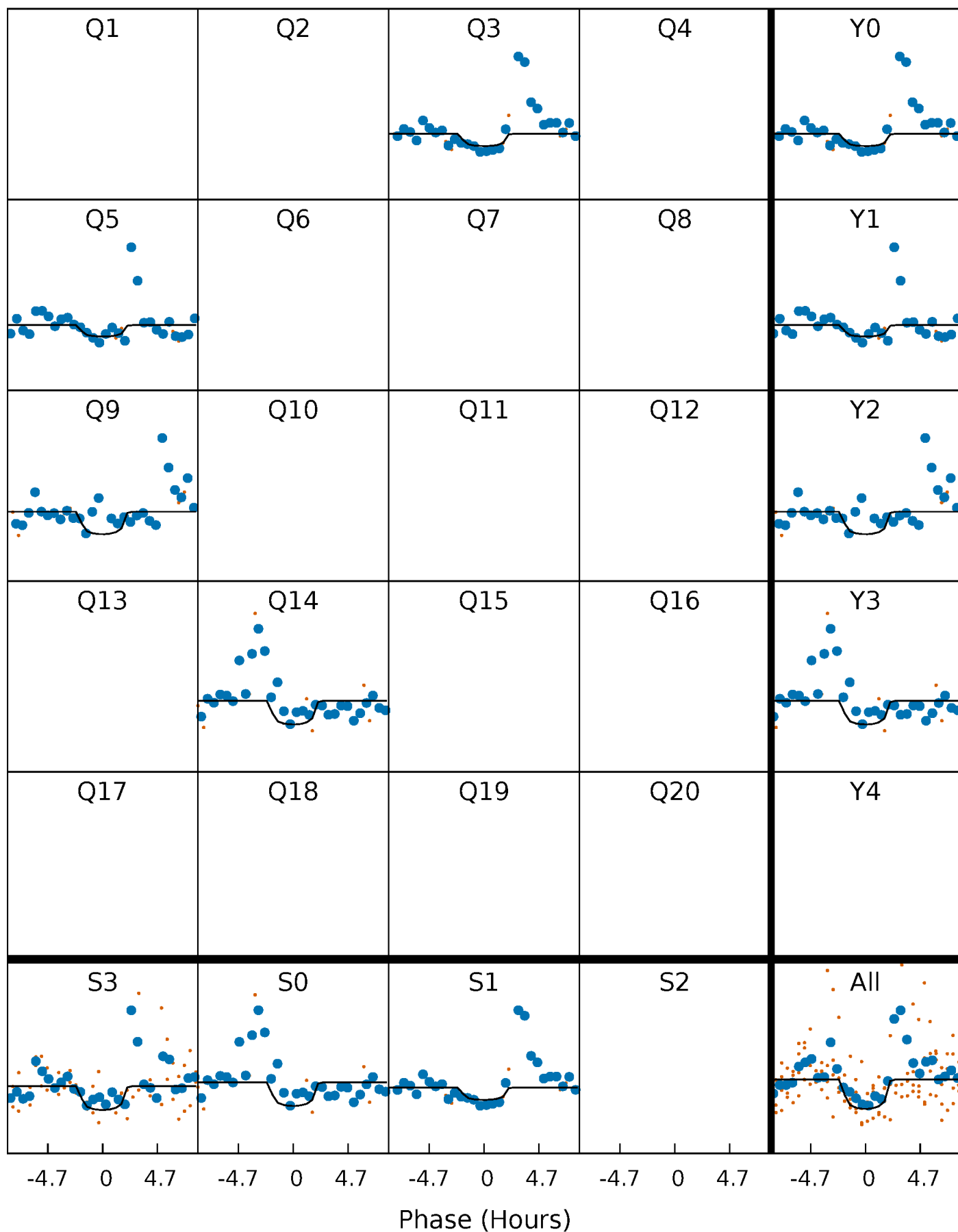
PDC Quarter-Phased Transit Curves

TCE 011343461-01 P=127.914626 Days $T_0=214.321225$ (BKJD)



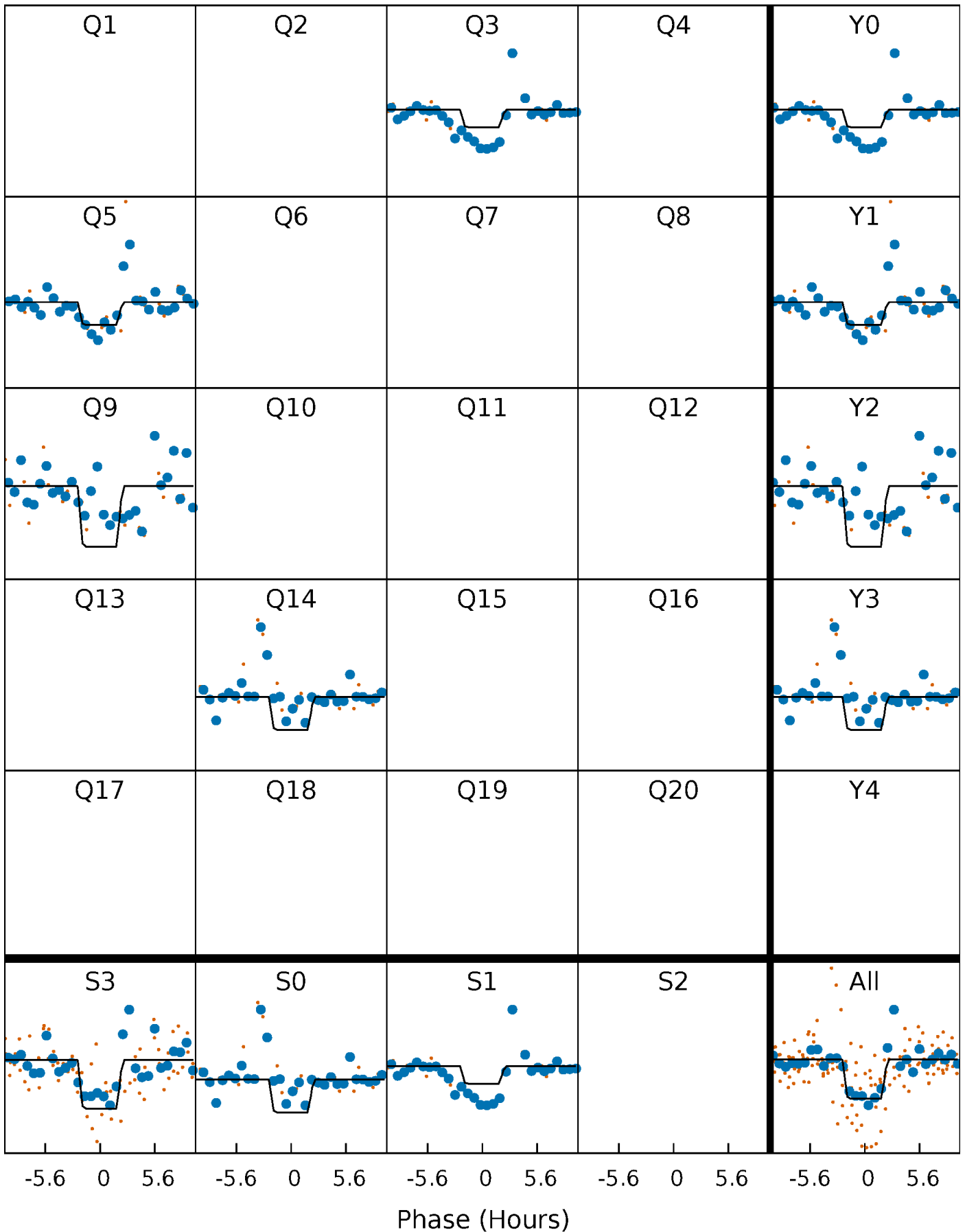
DV Quarter-Phased Transit Curves

TCE 011343461-01 P=127.914626 Days $T_0=214.321225$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

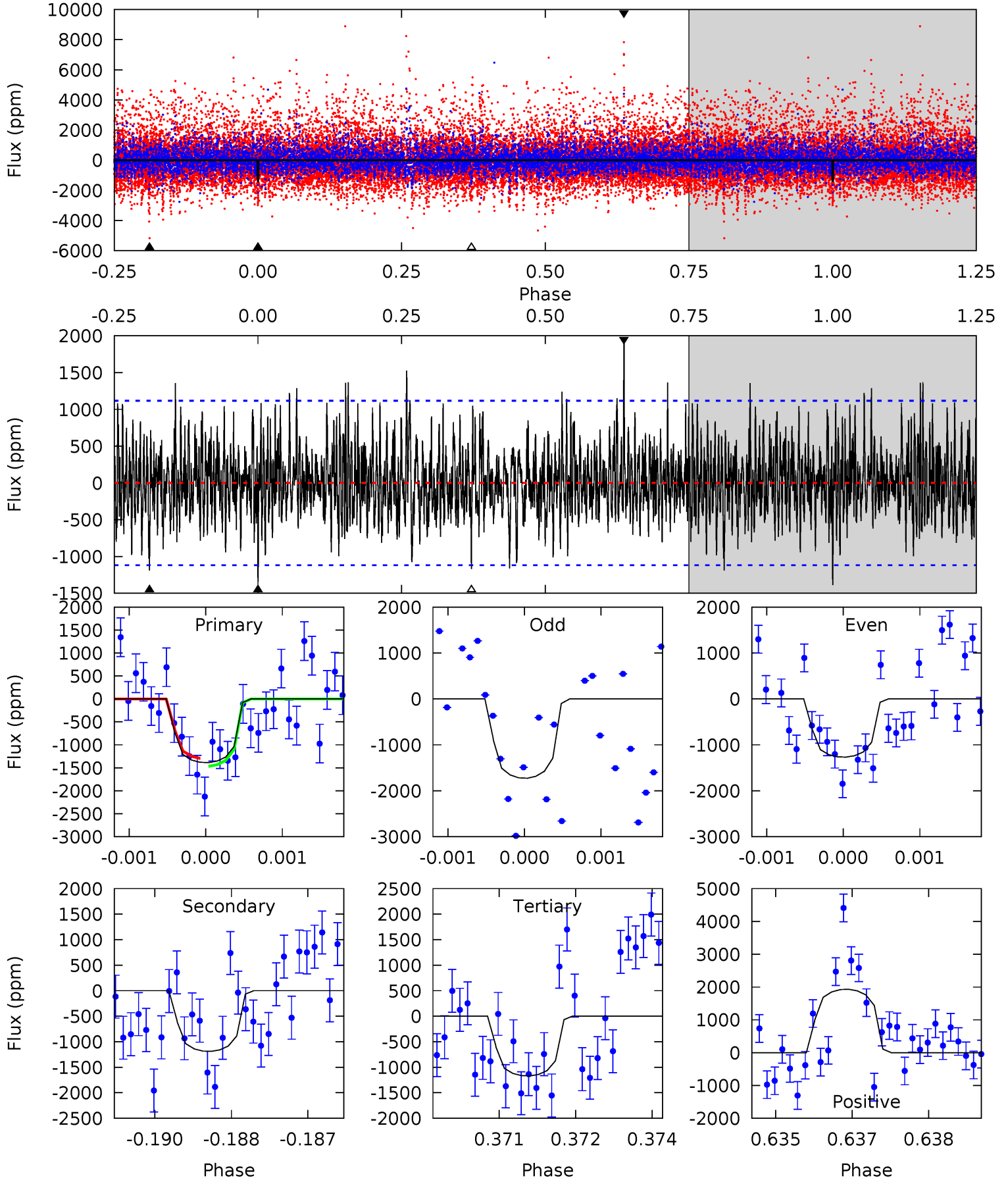
TCE 011343461-01 P=127.915437 Days $T_0=214.319372$ (BKJD)



DV Model-Shift Uniqueness Test

011343461-01, P = 127.914626 Days, E = 214.321225 Days

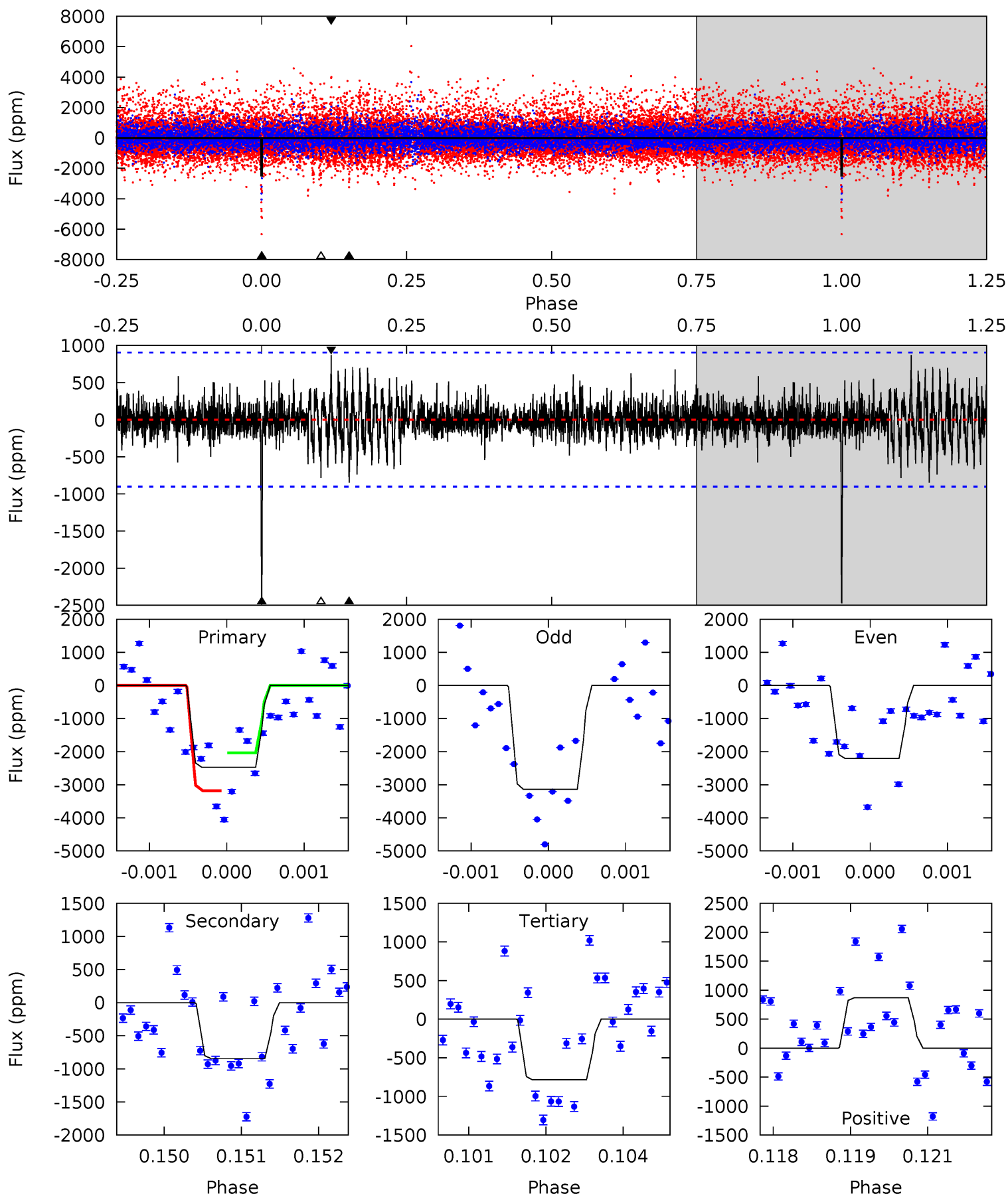
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.69	5.73	5.64	9.31	5.39	3.19	1.89	1.05	-2.62	0.09	-3.58	0.46	1.09	0.58	0.42



Alt Model-Shift Uniqueness Test

011343461-01, P = 127.915437 Days, E = 214.319372 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	5.04	4.69	5.19	5.39	3.19	1.08	10.1	9.56	0.35	-0.15	2.21	1.25	0.26	3.38



Stellar Parameters For KIC 011343461

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3470^{+62}_{-55}	$4.970^{+0.050}_{-0.045}$	$-0.300^{+0.100}_{-0.100}$	$0.289^{+0.046}_{-0.038}$	$0.285^{+0.053}_{-0.044}$	$16.570^{+4.807}_{-3.732}$
	+2%/-2%	+1%/-1%	+33%/-33%	+16%/-13%	+19%/-15%	+29%/-23%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011343461-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1188 ± 207	$1.47^{+1.01}_{-0.86}$	201^{+6}_{-6}	3168^{+1111}_{-444}	$32342^{+168203}_{-21609}$
Alt.	-844 ± 168	$1.77^{+1.01}_{-0.96}$	201^{+6}_{-6}	2853^{+796}_{-322}	15168^{+62583}_{-8958}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

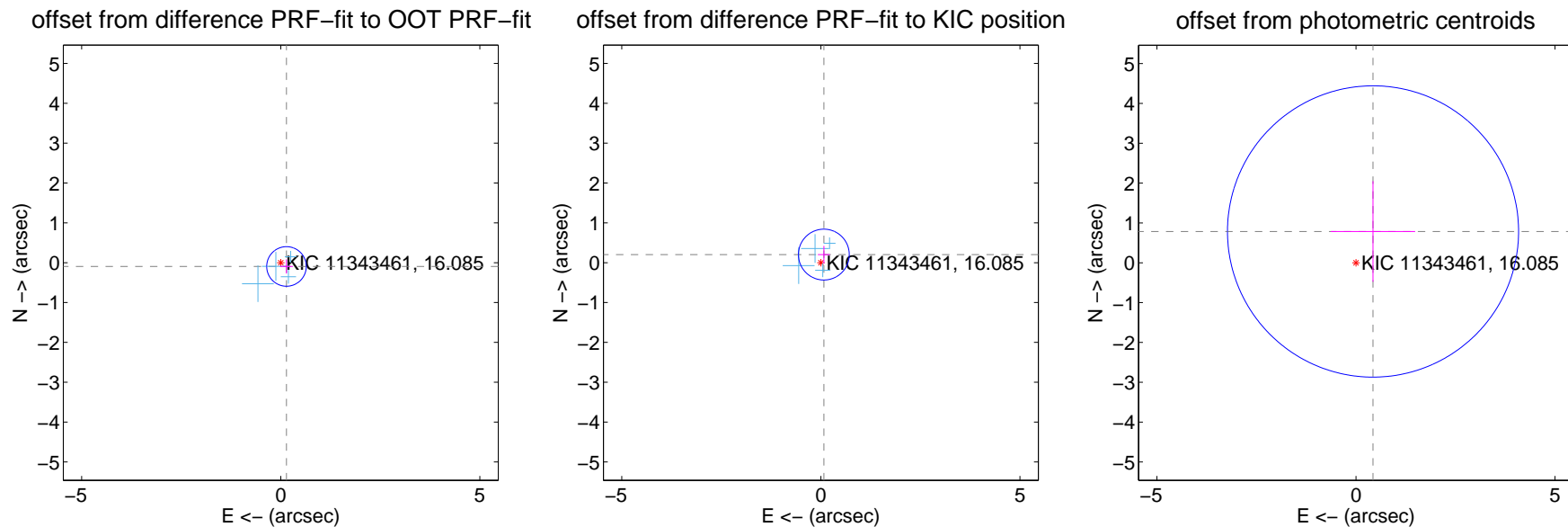
DV Centroid Data

Supplemental centroid analysis for 011343461-01. Kepler magnitude: 16.09. Transit SNR 5.48

There are 4 quarters with good PRF difference image offsets

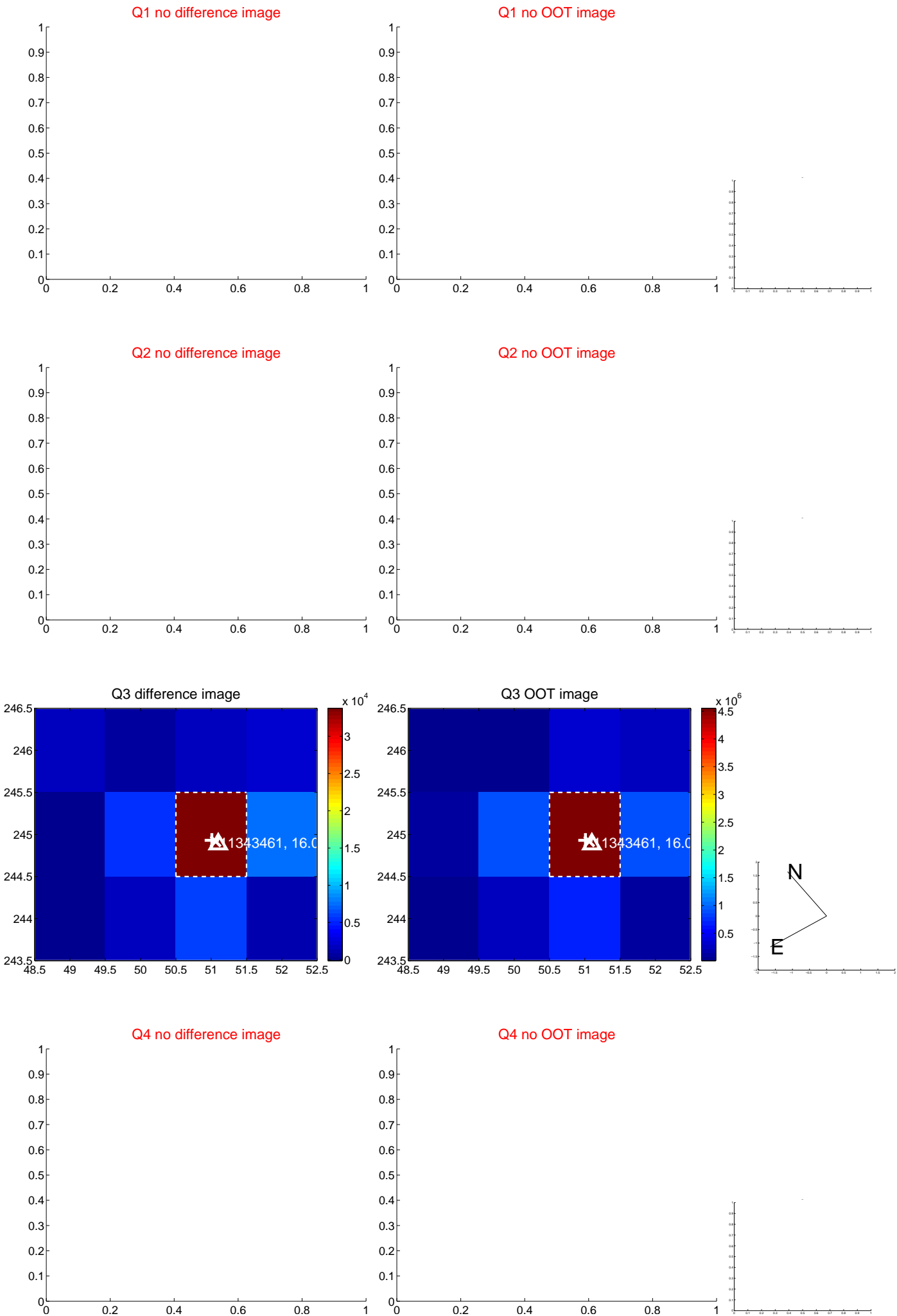
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.172 ± 0.166	1.04	-0.144 ± 0.160	-0.094 ± 0.177
PRF-fit source offset from KIC position	0.217 ± 0.213	1.02	-0.075 ± 0.151	0.203 ± 0.220
photometric centroid source offset	0.89 ± 1.22	0.73	-0.43 ± 1.06	0.79 ± 1.26

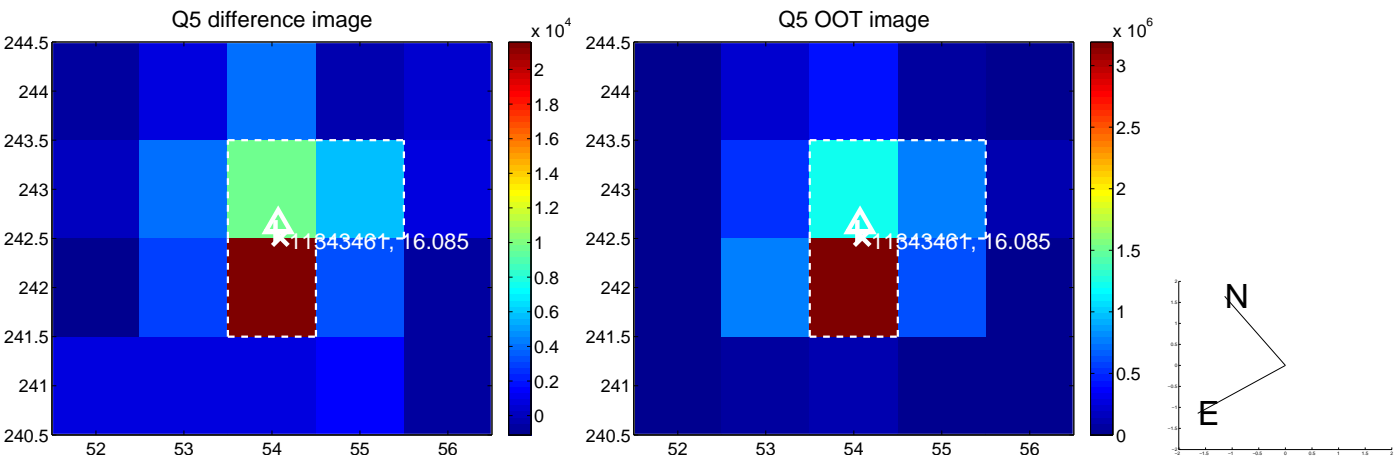


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

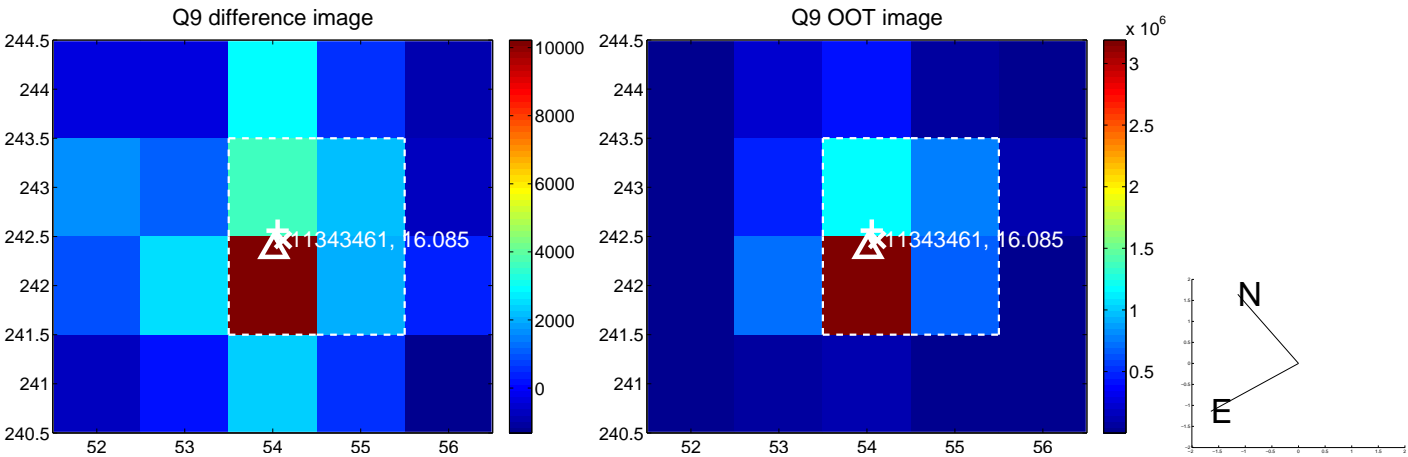
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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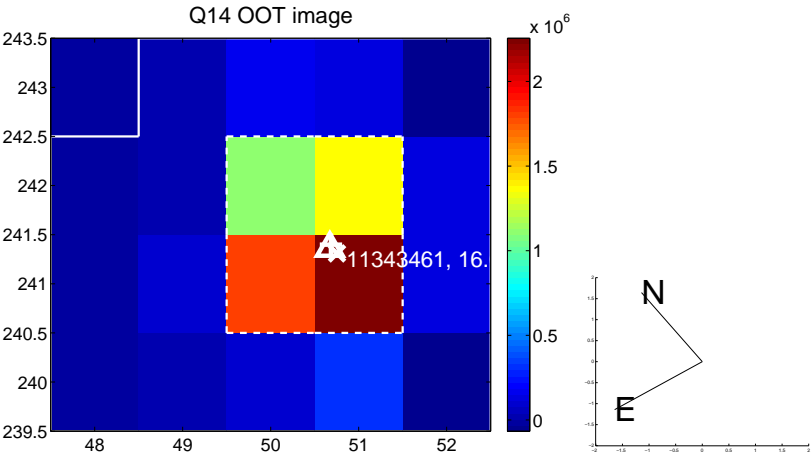
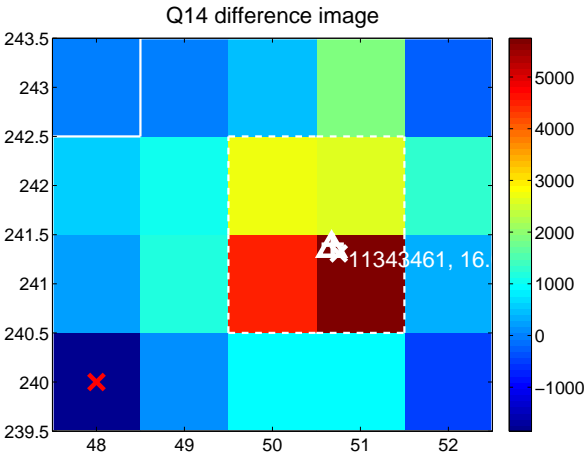


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

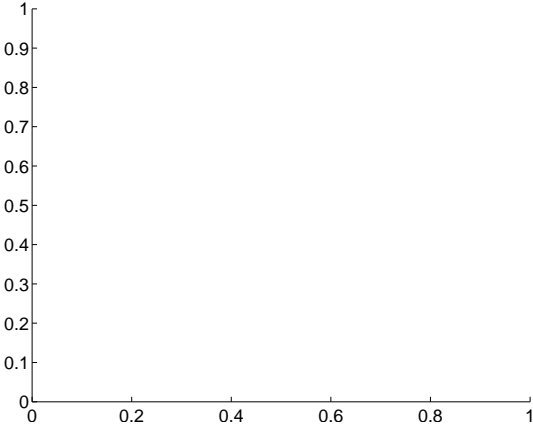
Q13 no difference image



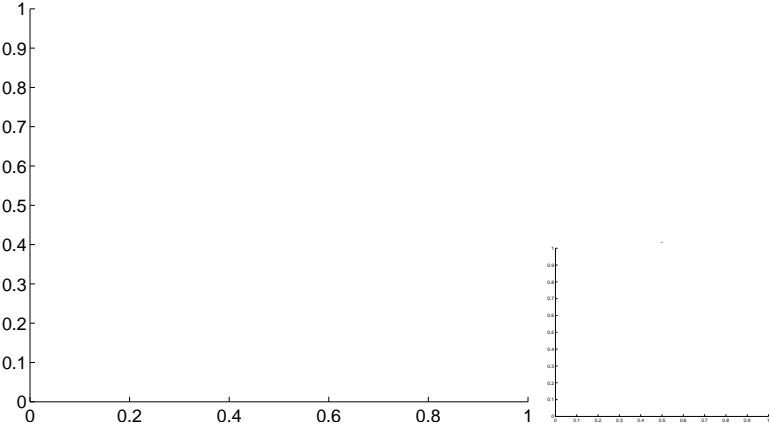
Q13 no OOT image



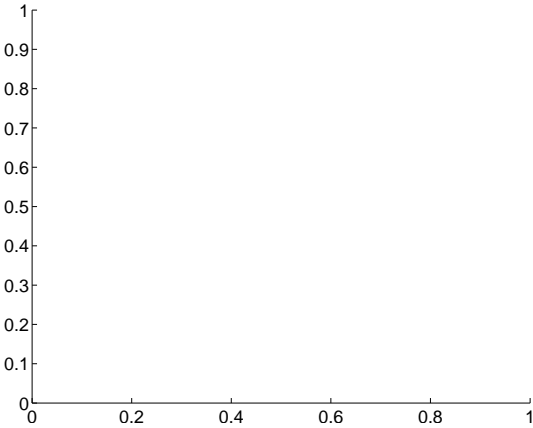
Q15 no difference image



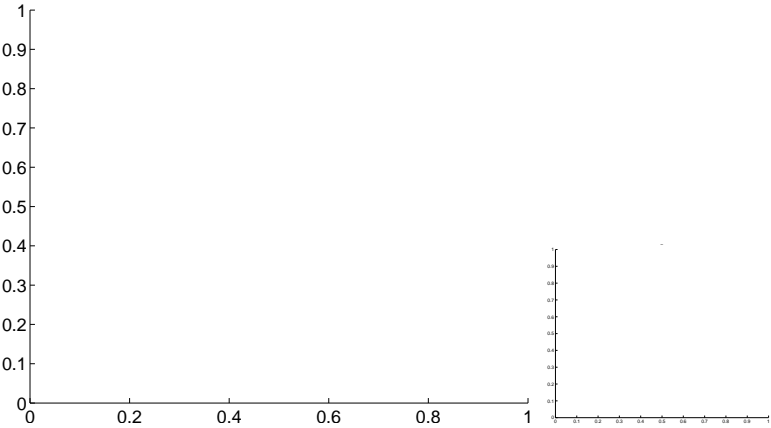
Q15 no OOT image



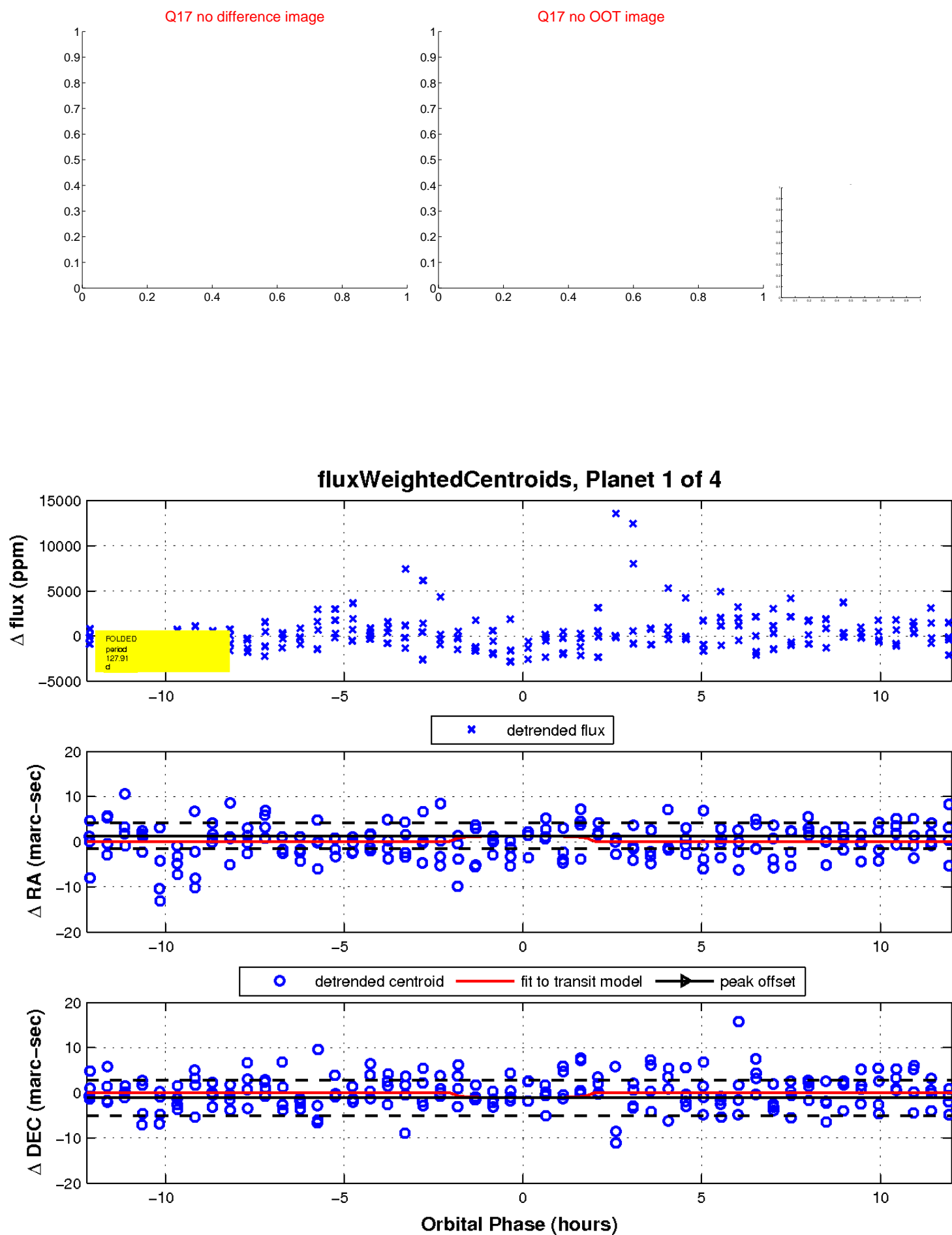
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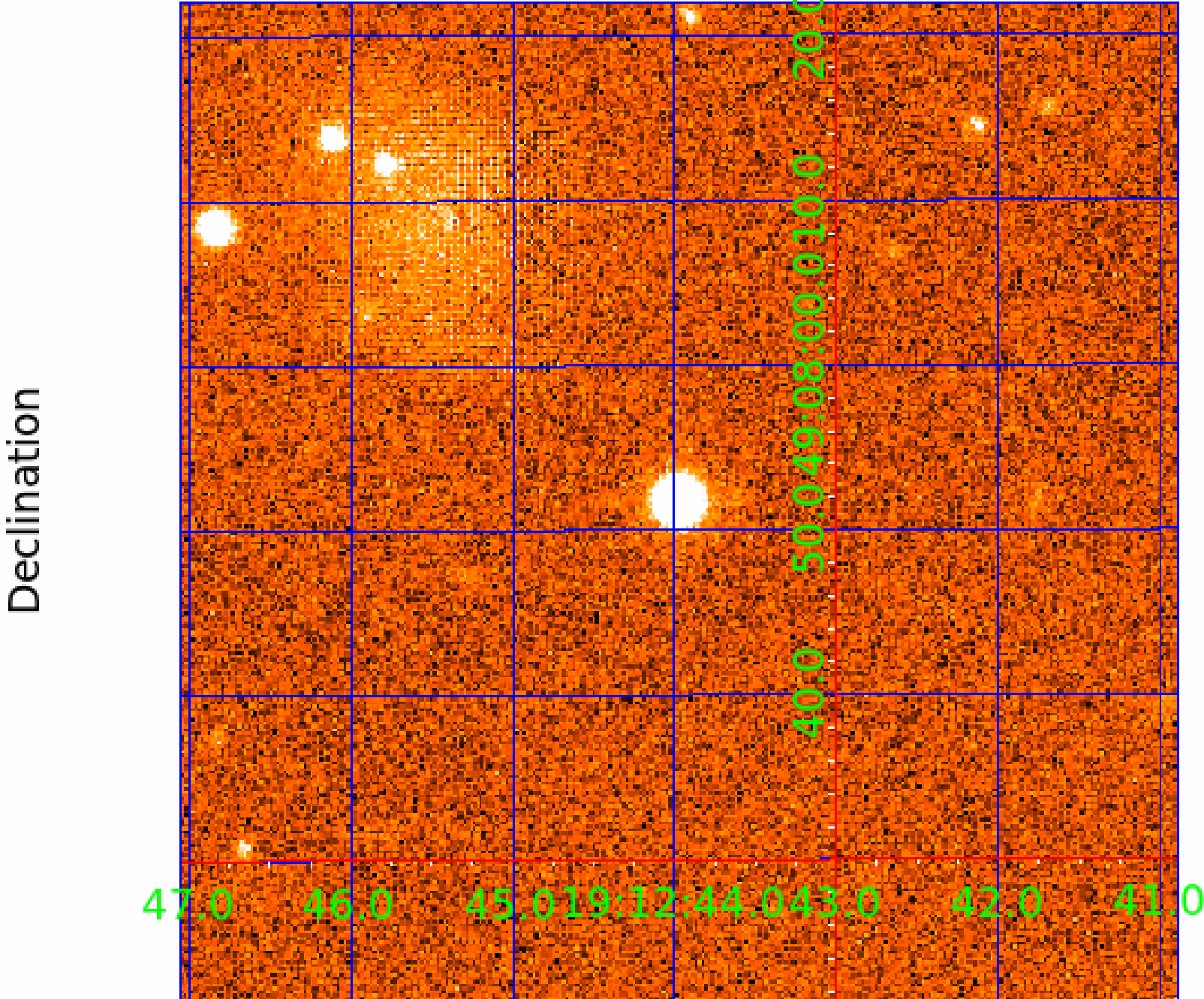
Q16 no OOT image



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



UKIRT Image



KIC 011343461

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})
011343461-01	OBS	No	127.914626	214.321225	1943.9	4.089	11.3	5.5	0.29	3470	1.31	0.10
011343461-02	OBS	No	170.667997	152.060723	2629.9	3.951	12.3	6.4	0.29	3470	1.49	0.07
011343461-03	OBS	No	256.542000	275.844710	3444.0	5.247	11.1	8.9	0.29	3470	1.69	0.04
011343461-04	OBS	No	223.984010	305.302117	2846.6	4.646	9.9	6.6	0.29	3470	1.53	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011343461-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_KIC_POS
011343461-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011343461-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS
011343461-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

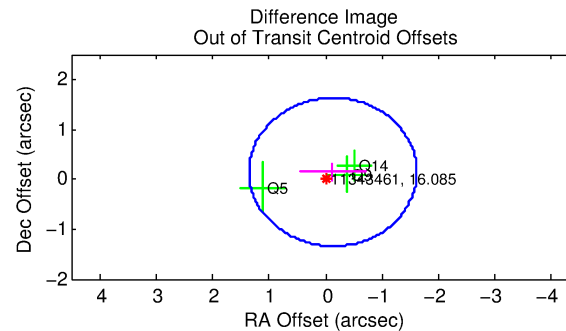
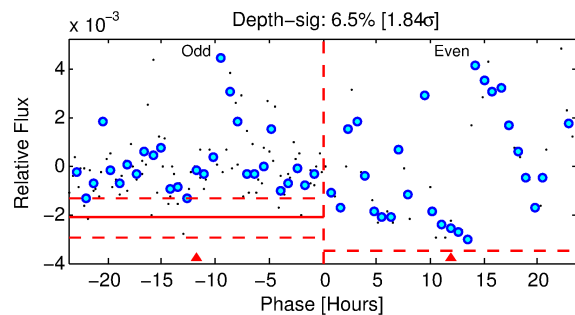
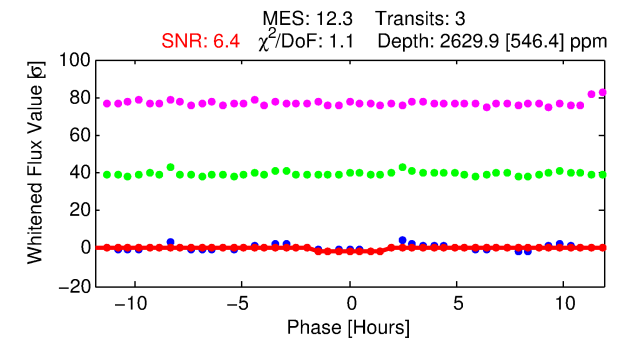
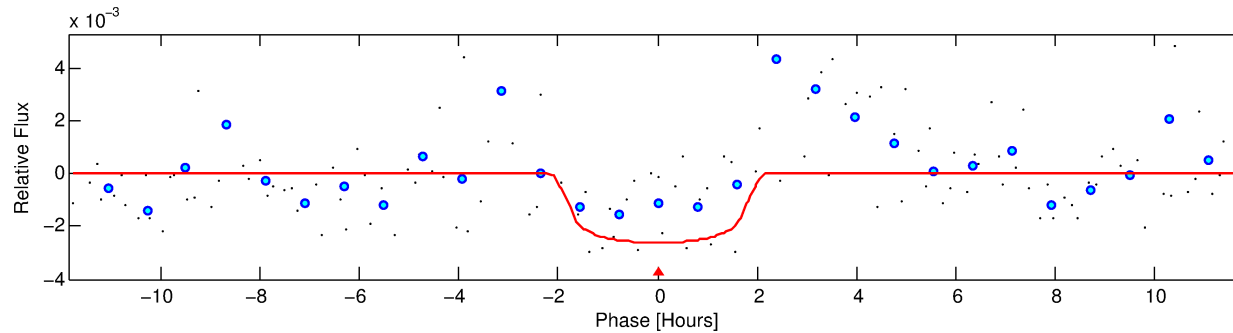
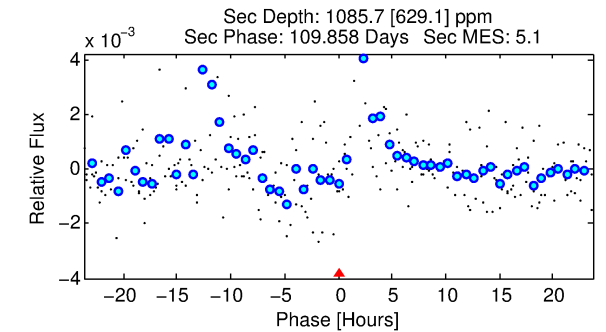
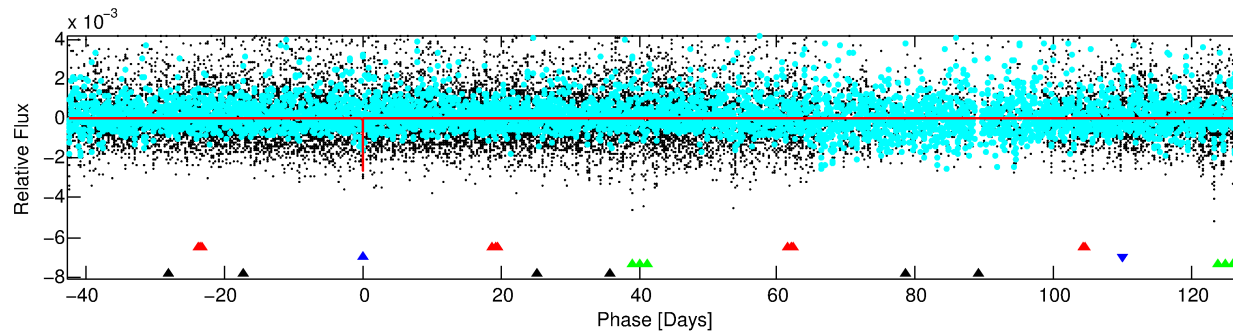
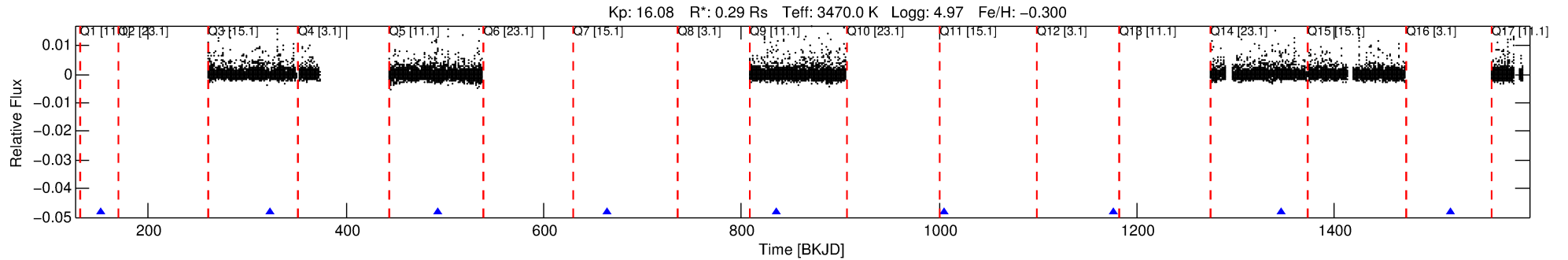
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011343461-02

No Significant Match Found

DV One-Page Summary

KIC: 11343461 Candidate: 2 of 4 Period: 170.668 d



DV Fit Results:

Period = 170.66800 [0.00359] d
Epoch = 152.0607 [0.0191] BKJD
Rp/R* = 0.0473 [0.0517]
a/R* = 327.07 [1650.51]
b = 0.34 [13.27]
Seff = 0.07 [0.01]
Teq = 131 [5] K
Rp = 1.49 [1.65] Re
a = 0.3960 [0.0447] AU
Ag = 42160.68 [95627.70] [0.44σ]
Teffp = 2897 [1641] K [1.69σ]

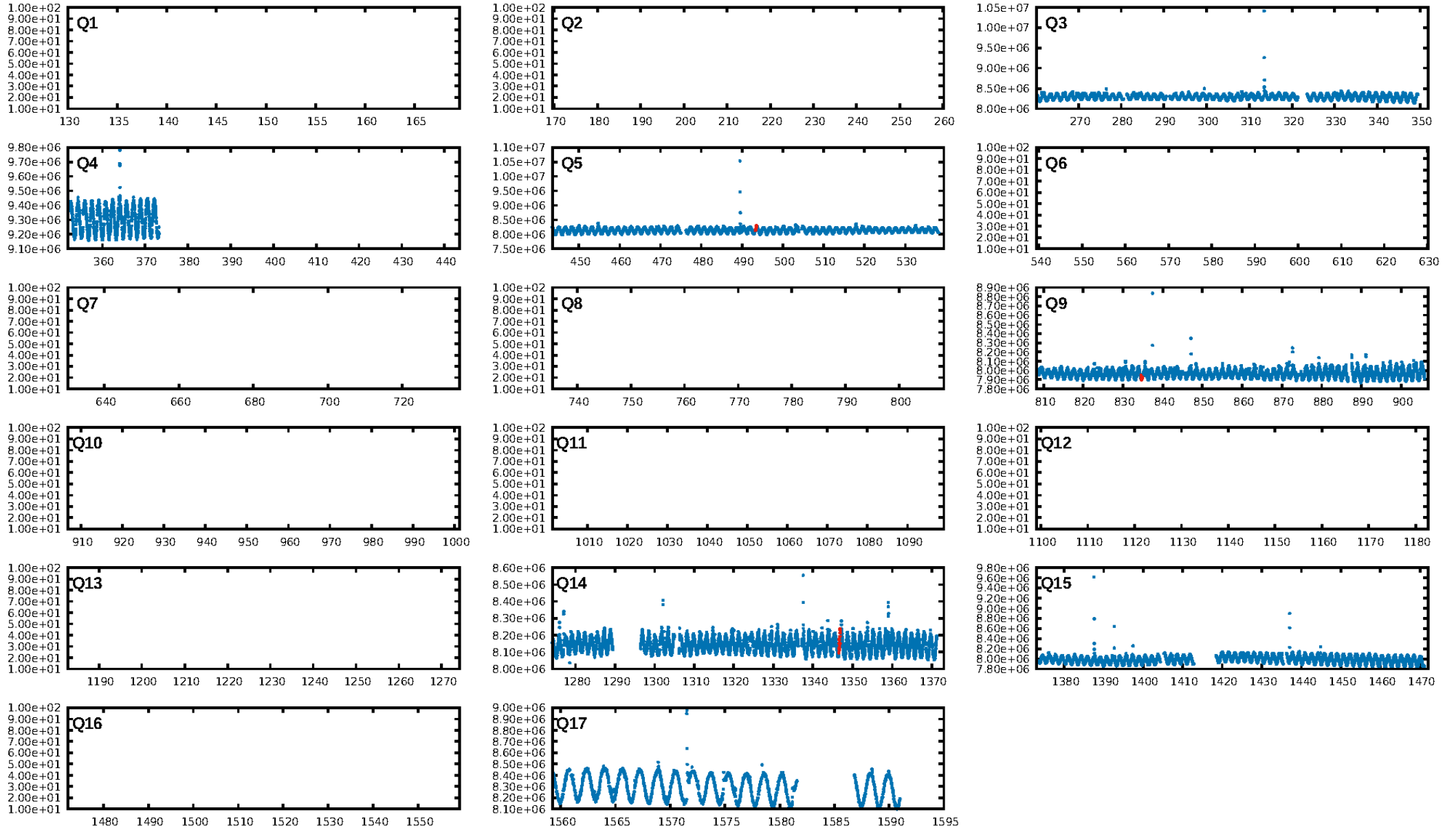
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [180.44σ]
LongPeriod-sig: 100.0% [209.80σ]
ModelChiSquare2-sig: 1.2%
ModelChiSquareGof-sig: 94.2%
Bootstrap-pfa: 1.60e-16
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -8.841
Centroid-sig: 42.8%
Centroid-so: 0.942 arcsec [0.79σ]
OotOffset-rm: 0.191 arcsec [0.39σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-rm: 0.589 arcsec [2.50σ]
KicOffset-st: 1/0/0/2 [3]
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DiffImageOverlap-fno: 1.00 [3/3]

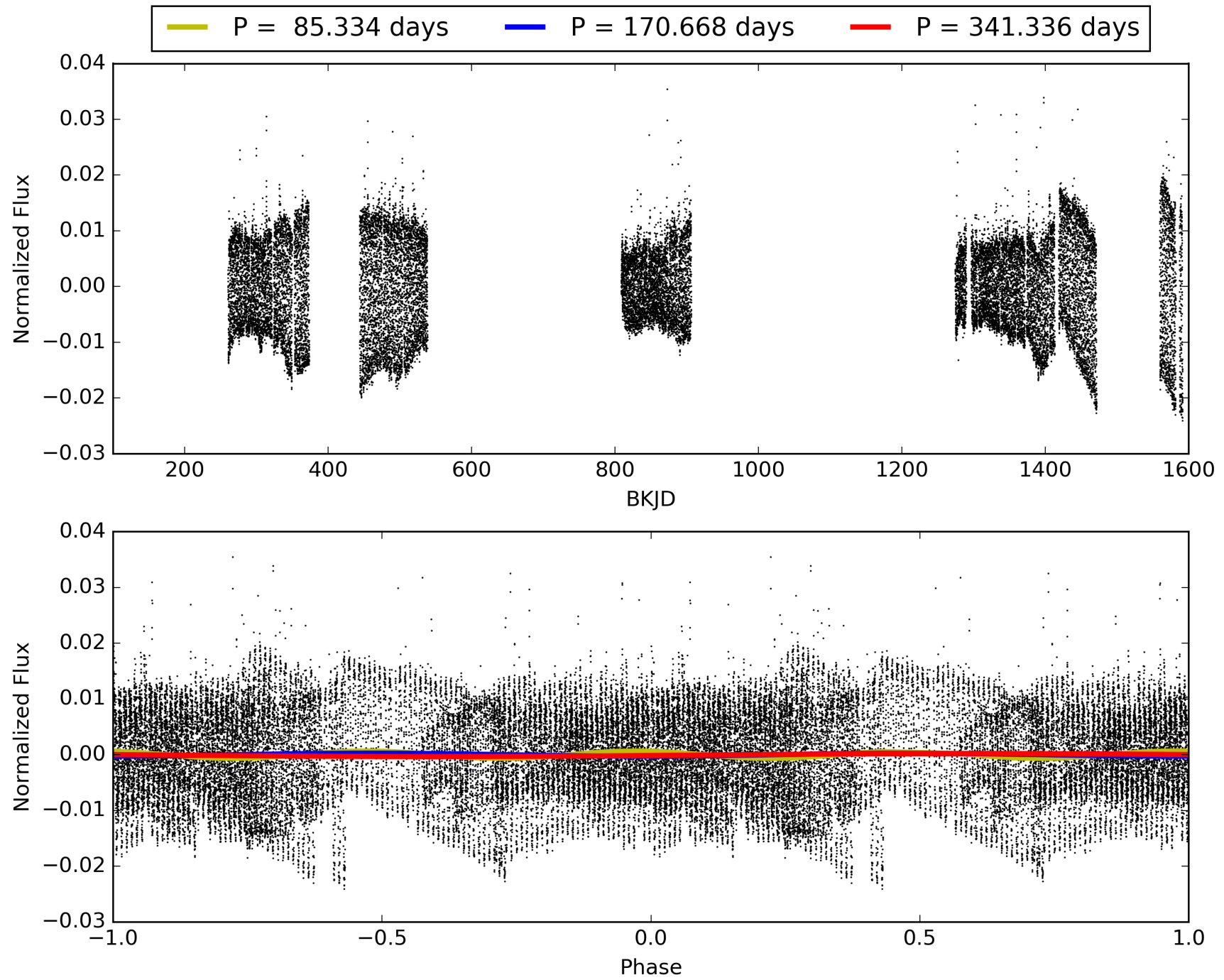
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:54:38 Z

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

TCE 011343461-02, PDC Light Curves

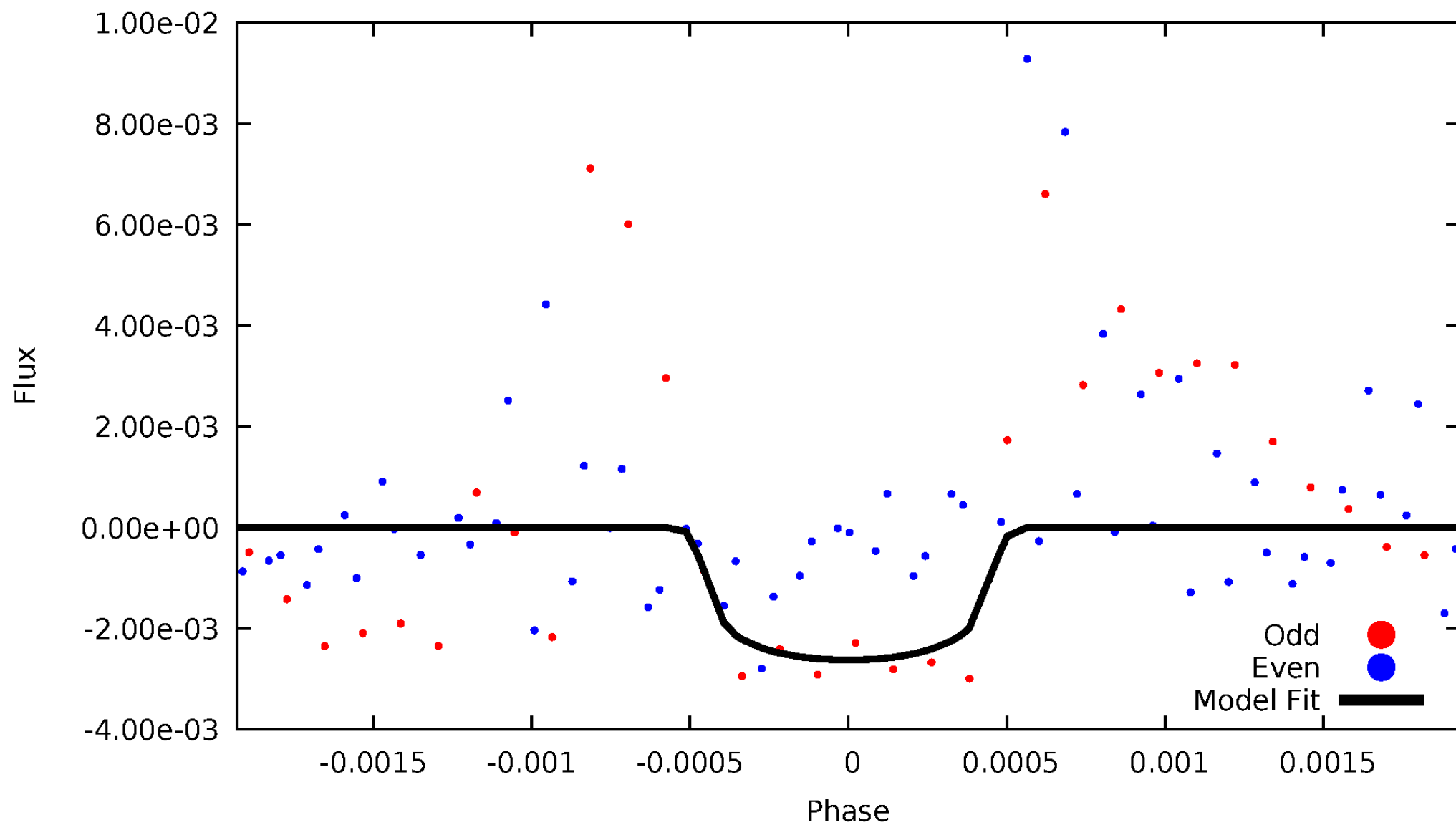


TCE 011343461-02



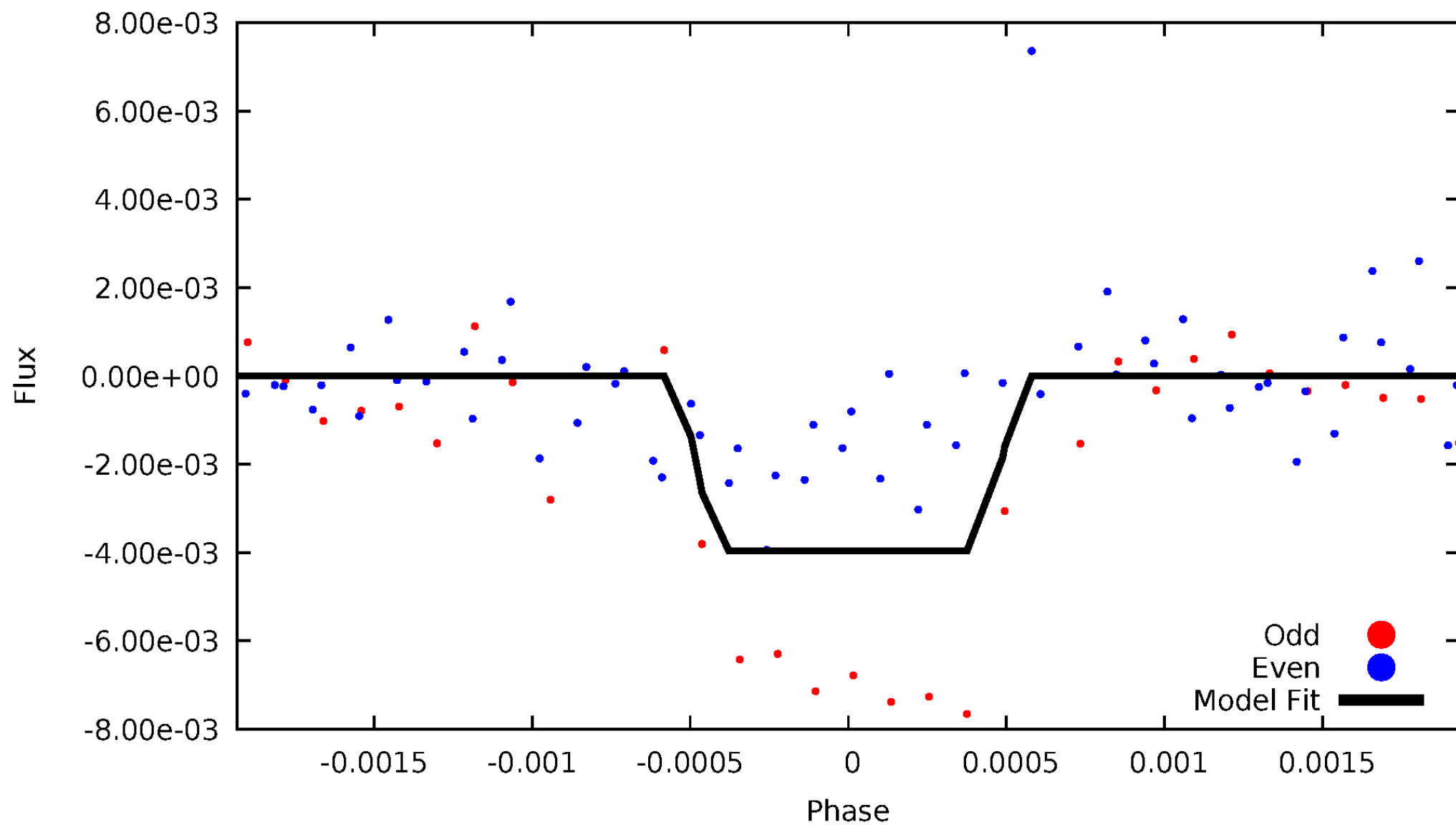
DV Odd/Even

TCE 011343461-02



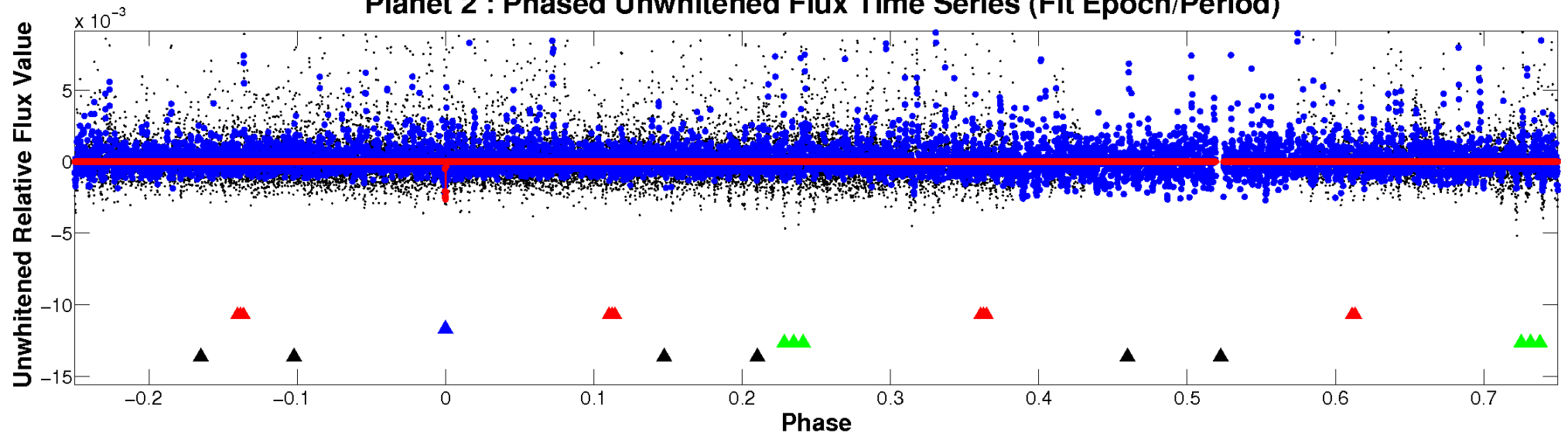
ALT Odd/Even

TCE 011343461-02

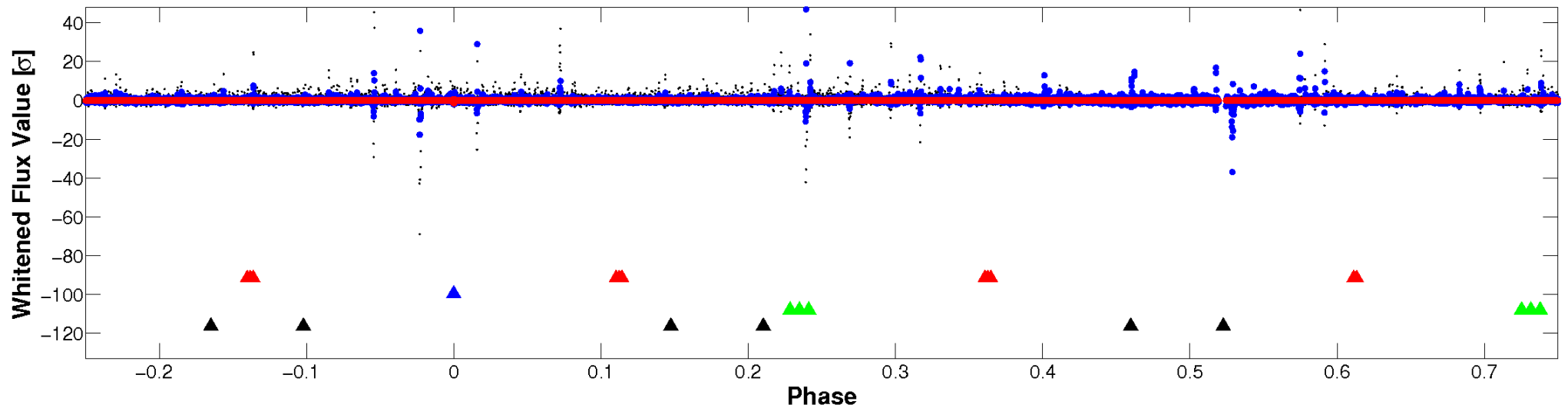


Non-Whitened Vs. Whitened Light Curve

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

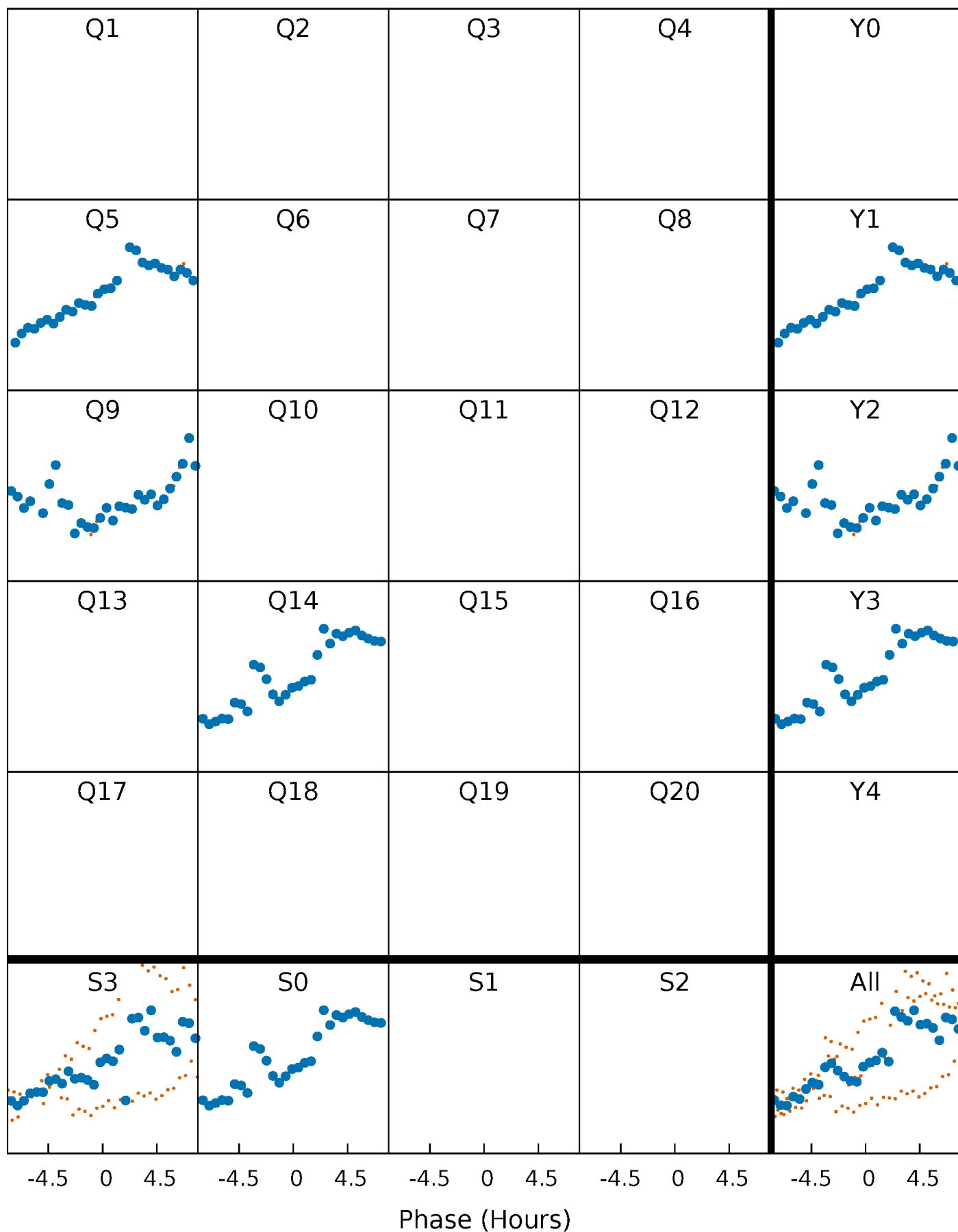


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



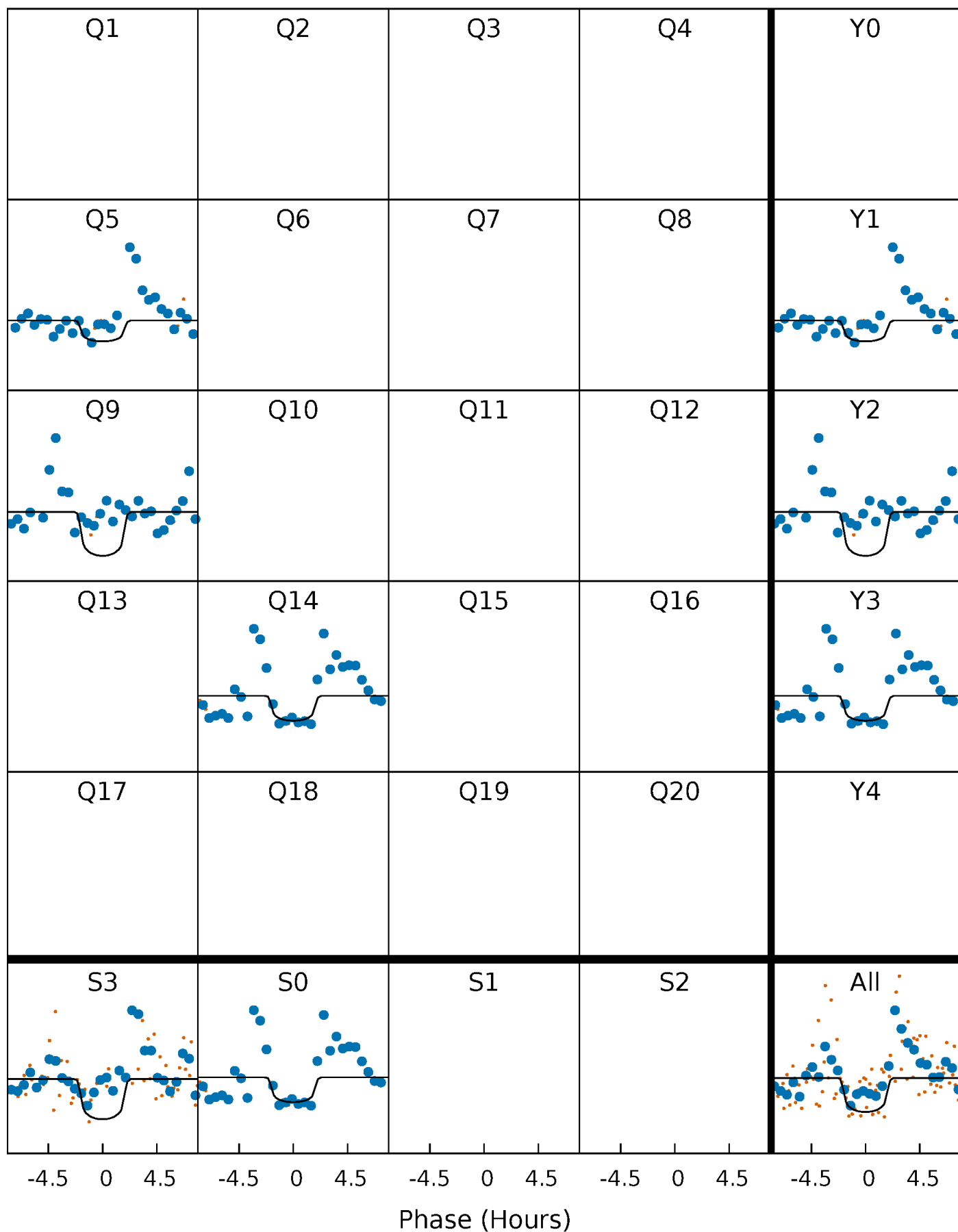
PDC Quarter-Phased Transit Curves

TCE 011343461-02 P=170.667997 Days $T_0=152.060723$ (BKJD)



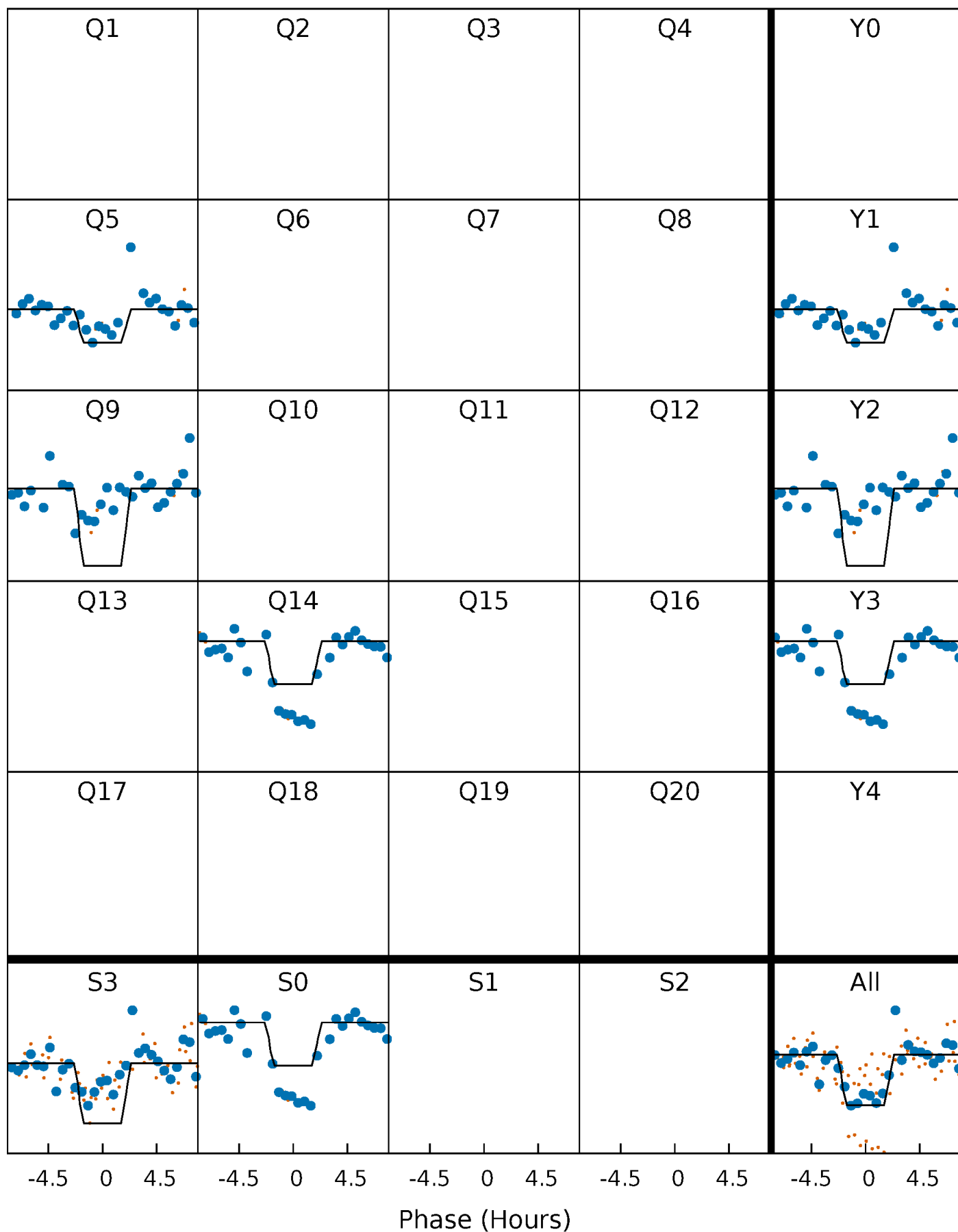
DV Quarter-Phased Transit Curves

TCE 011343461-02 $P=170.667997$ Days $T_0=152.060723$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

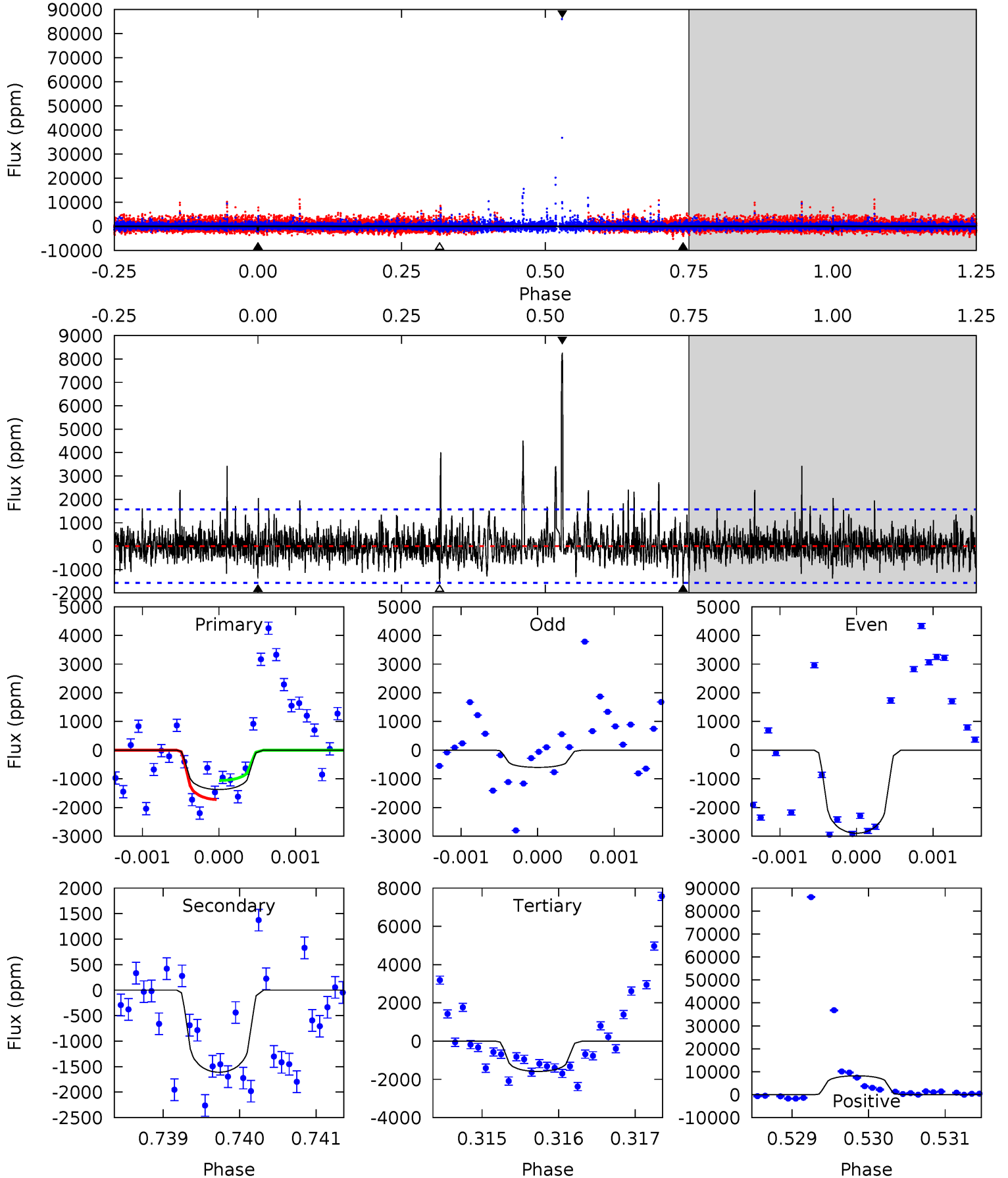
TCE 011343461-02 P=170.668768 Days $T_0=152.056581$ (BKJD)



DV Model-Shift Uniqueness Test

011343461-02, P = 170.667997 Days, E = 152.060723 Days

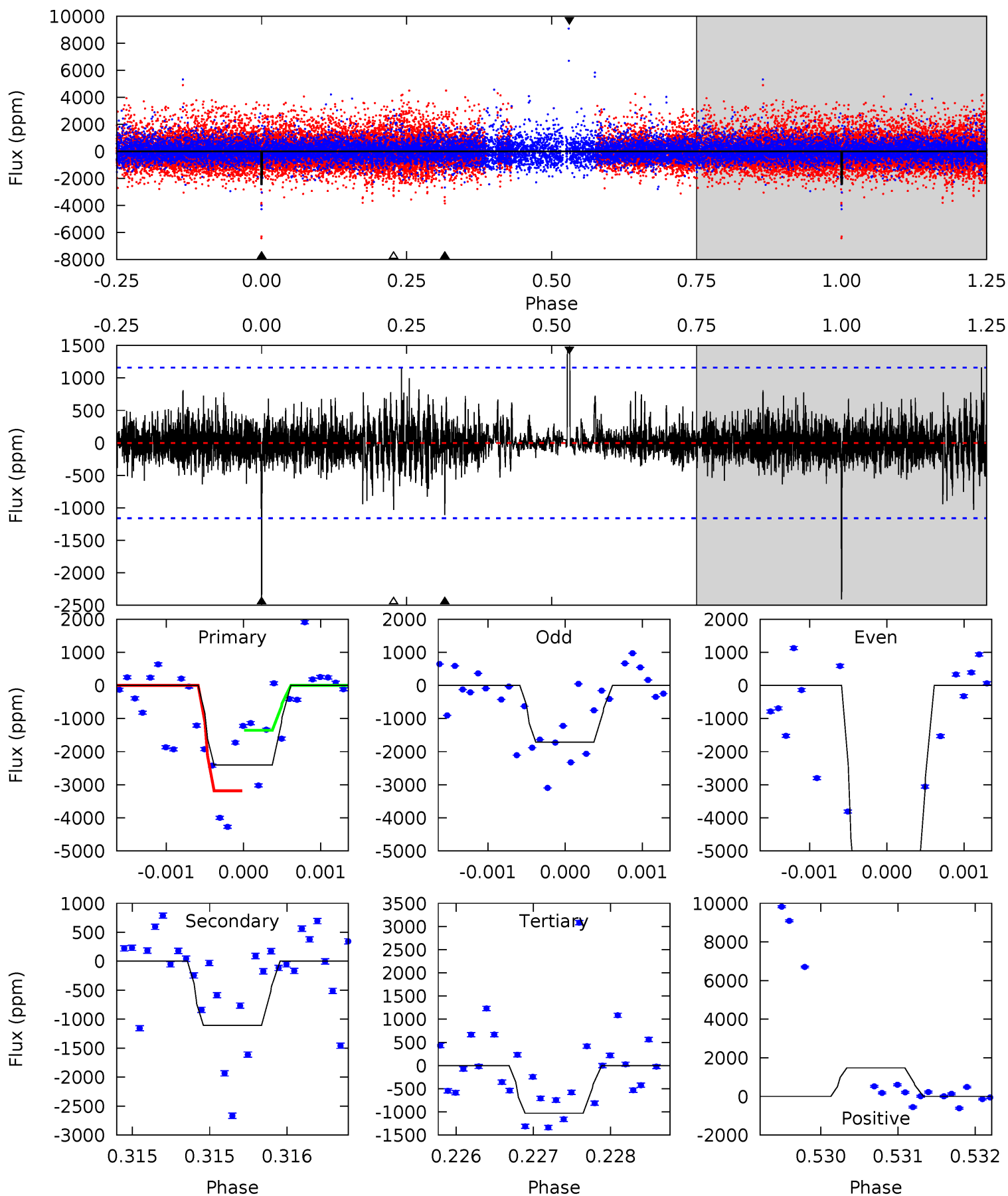
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.76	5.58	5.50	28.5	5.44	3.28	1.89	-0.74	-23.8	0.08	-23.0	3.52	1.49	0.84	1.14



Alt Model-Shift Uniqueness Test

011343461-02, P = 170.668768 Days, E = 152.056581 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	5.21	4.84	6.94	5.45	3.29	1.05	6.48	4.38	0.37	-1.73	12.1	1.41	0.38	4.26



Stellar Parameters For KIC 011343461

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3470^{+62}_{-55}	$4.970^{+0.050}_{-0.045}$	$-0.300^{+0.100}_{-0.100}$	$0.289^{+0.046}_{-0.038}$	$0.285^{+0.053}_{-0.044}$	$16.570^{+4.807}_{-3.732}$
	+2%/-2%	+1%/-1%	+33%/-33%	+16%/-13%	+19%/-15%	+29%/-23%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011343461-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1611 ± 288	$1.93^{+1.50}_{-1.17}$	183^{+5}_{-5}	3052^{+1019}_{-432}	$37726^{+203643}_{-25850}$
Alt.	-1108 ± 213	$2.22^{+1.56}_{-1.27}$	183^{+5}_{-5}	2791^{+826}_{-358}	19140^{+94118}_{-12820}

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 $A_{obs} \gg 1.0$

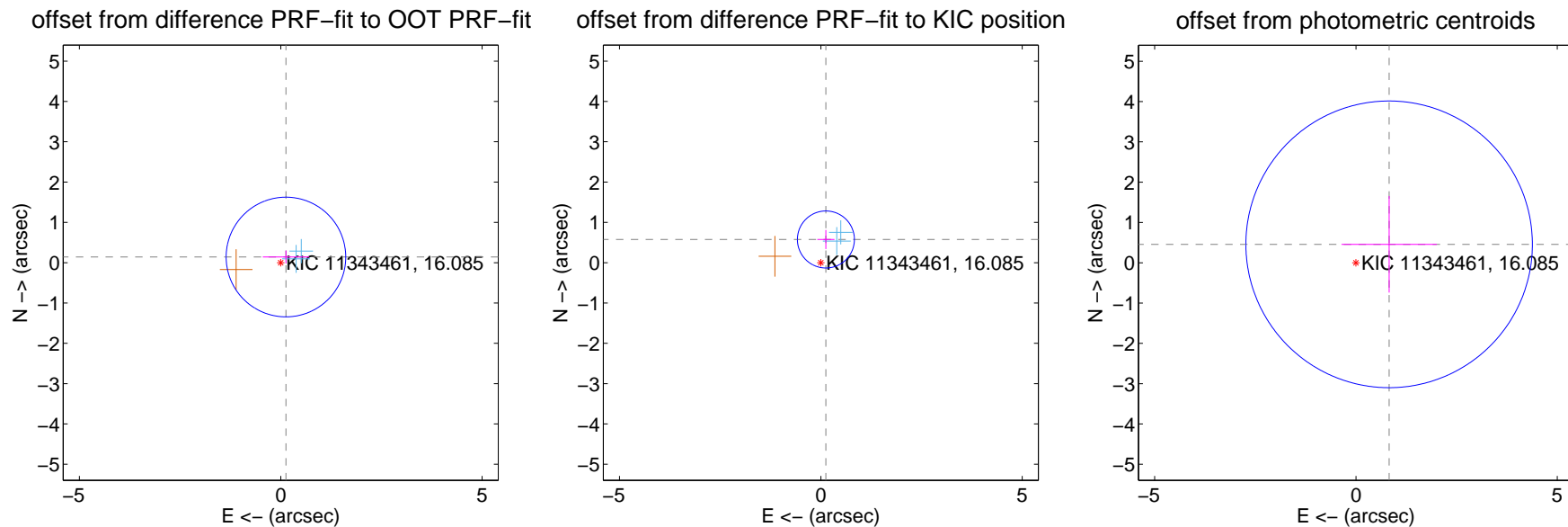
DV Centroid Data

Supplemental centroid analysis for 011343461-02. Kepler magnitude: 16.09. Transit SNR 6.36

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.191 ± 0.495	0.39	-0.129 ± 0.575	0.141 ± 0.160
PRF-fit source offset from KIC position	0.589 ± 0.236	2.50	-0.125 ± 0.213	0.576 ± 0.237
photometric centroid source offset	0.94 ± 1.19	0.79	-0.82 ± 1.18	0.46 ± 1.20

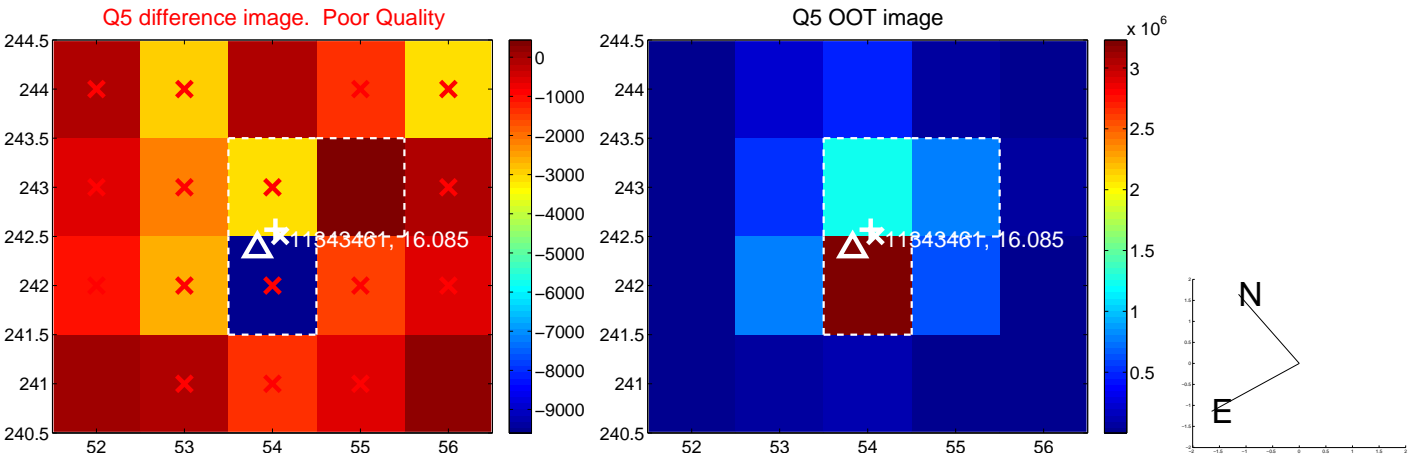


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

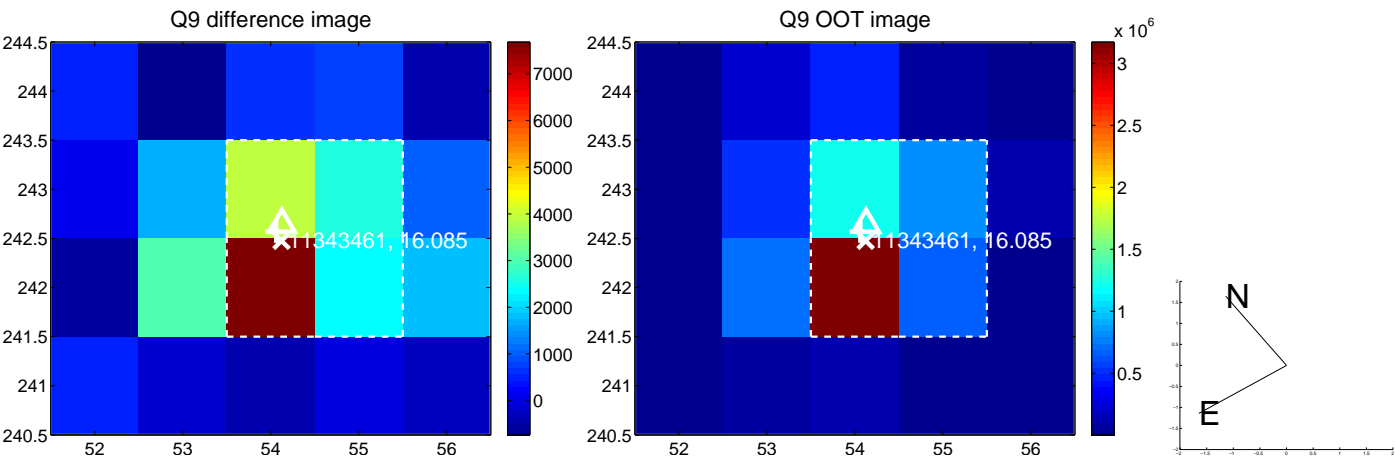
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



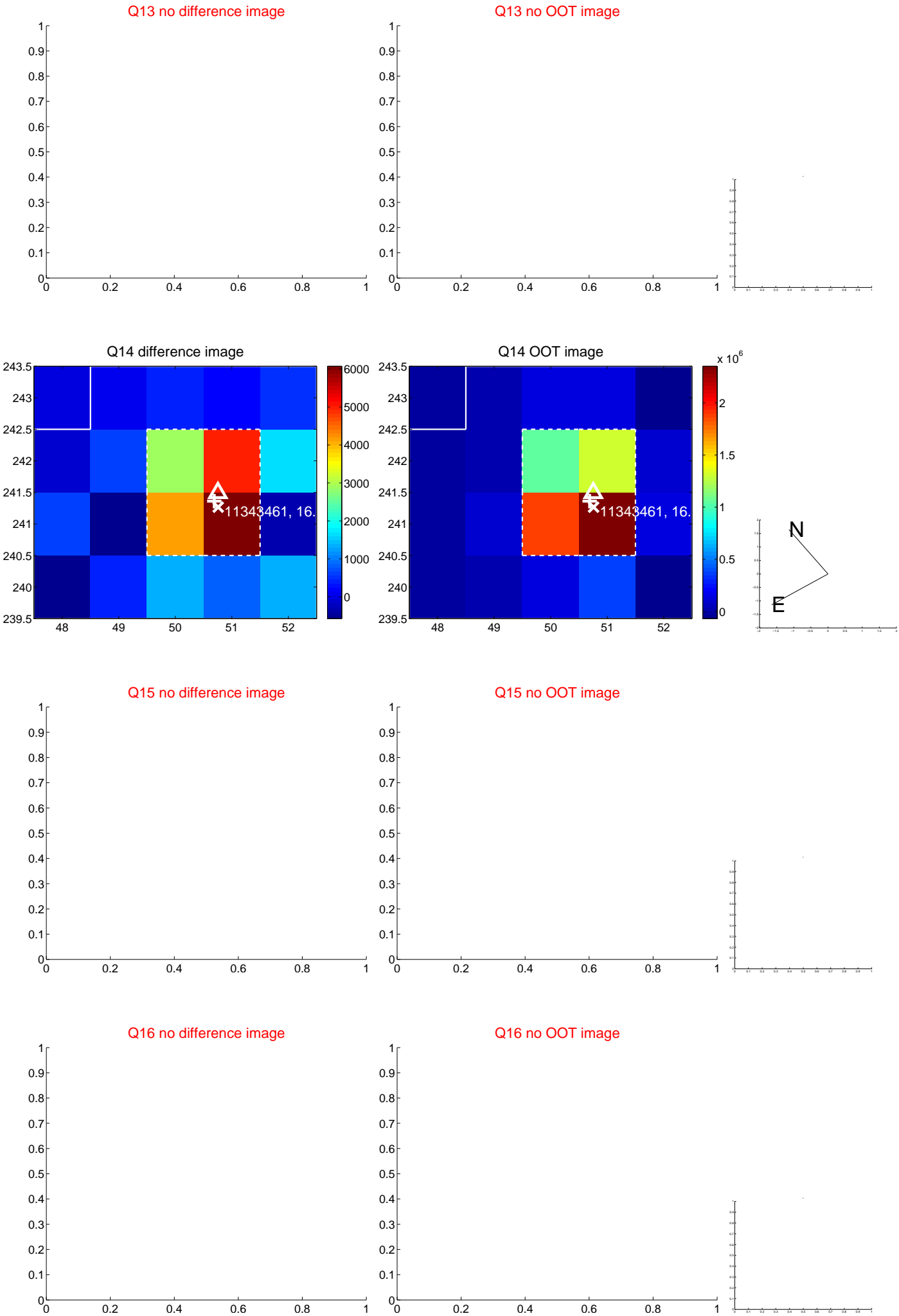
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



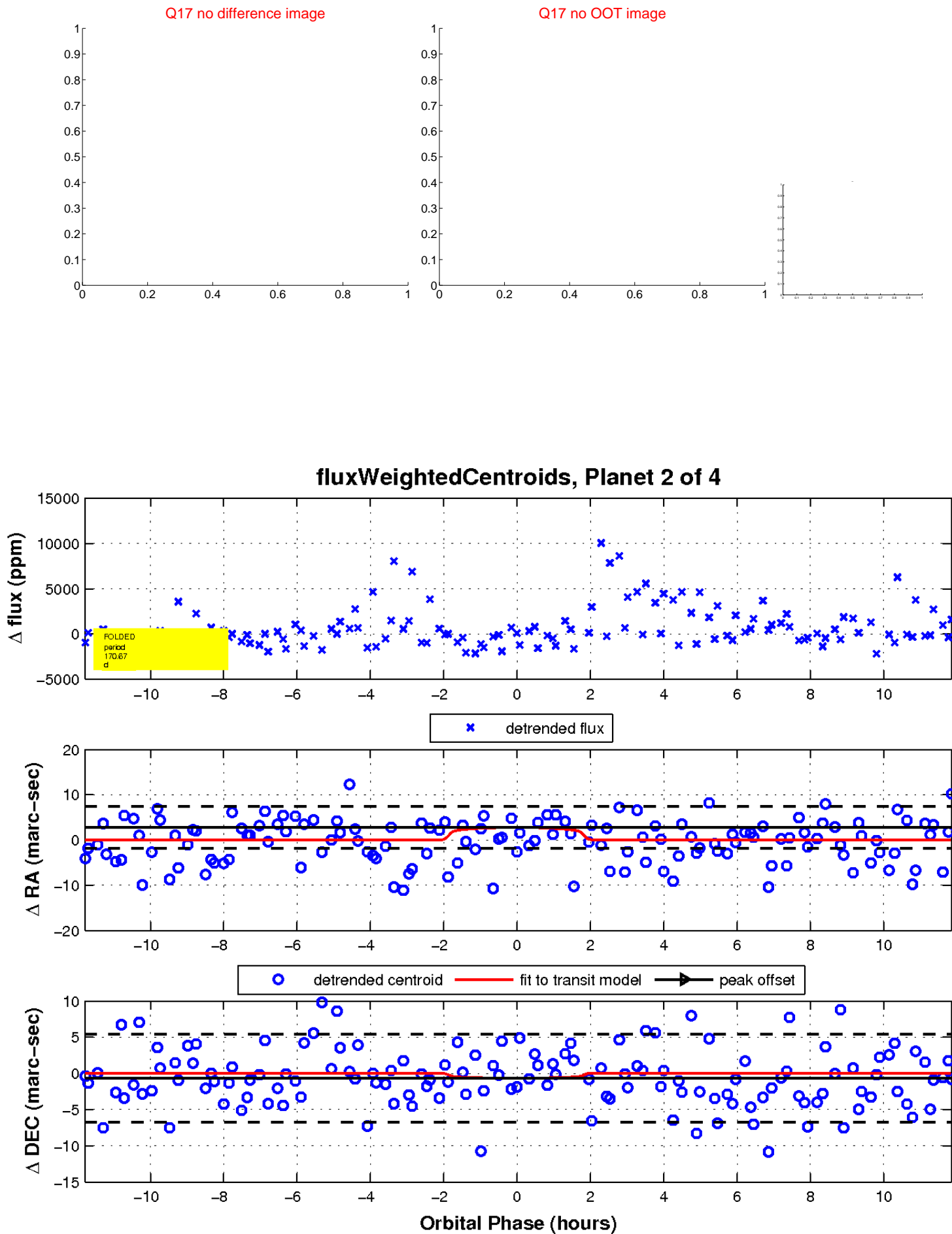
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

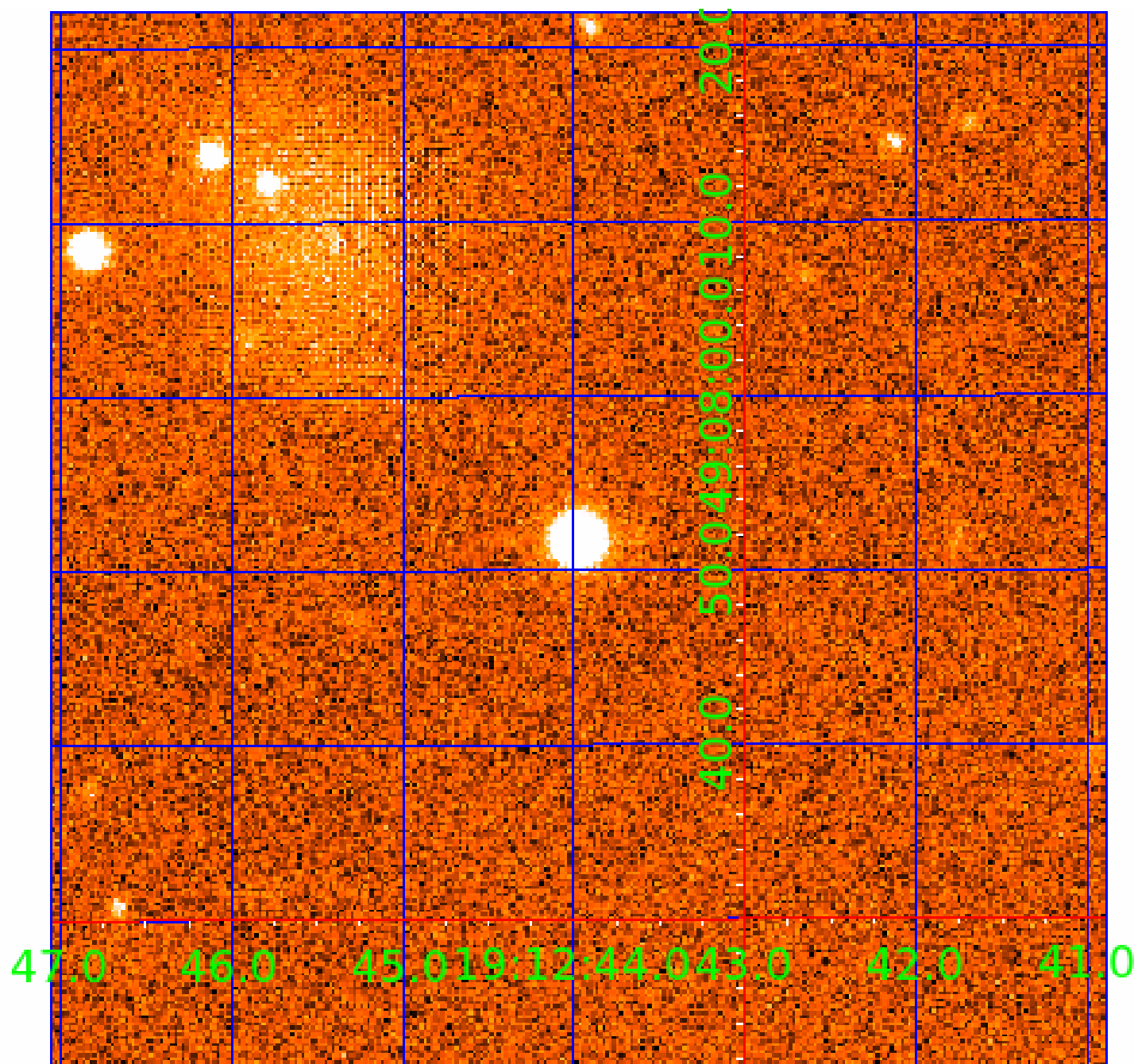


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011343461

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})
011343461-01	OBS	No	127.914626	214.321225	1943.9	4.089	11.3	5.5	0.29	3470	1.31	0.10
011343461-02	OBS	No	170.667997	152.060723	2629.9	3.951	12.3	6.4	0.29	3470	1.49	0.07
011343461-03	OBS	No	256.542000	275.844710	3444.0	5.247	11.1	8.9	0.29	3470	1.69	0.04
011343461-04	OBS	No	223.984010	305.302117	2846.6	4.646	9.9	6.6	0.29	3470	1.53	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011343461-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_KIC_POS
011343461-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011343461-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS
011343461-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

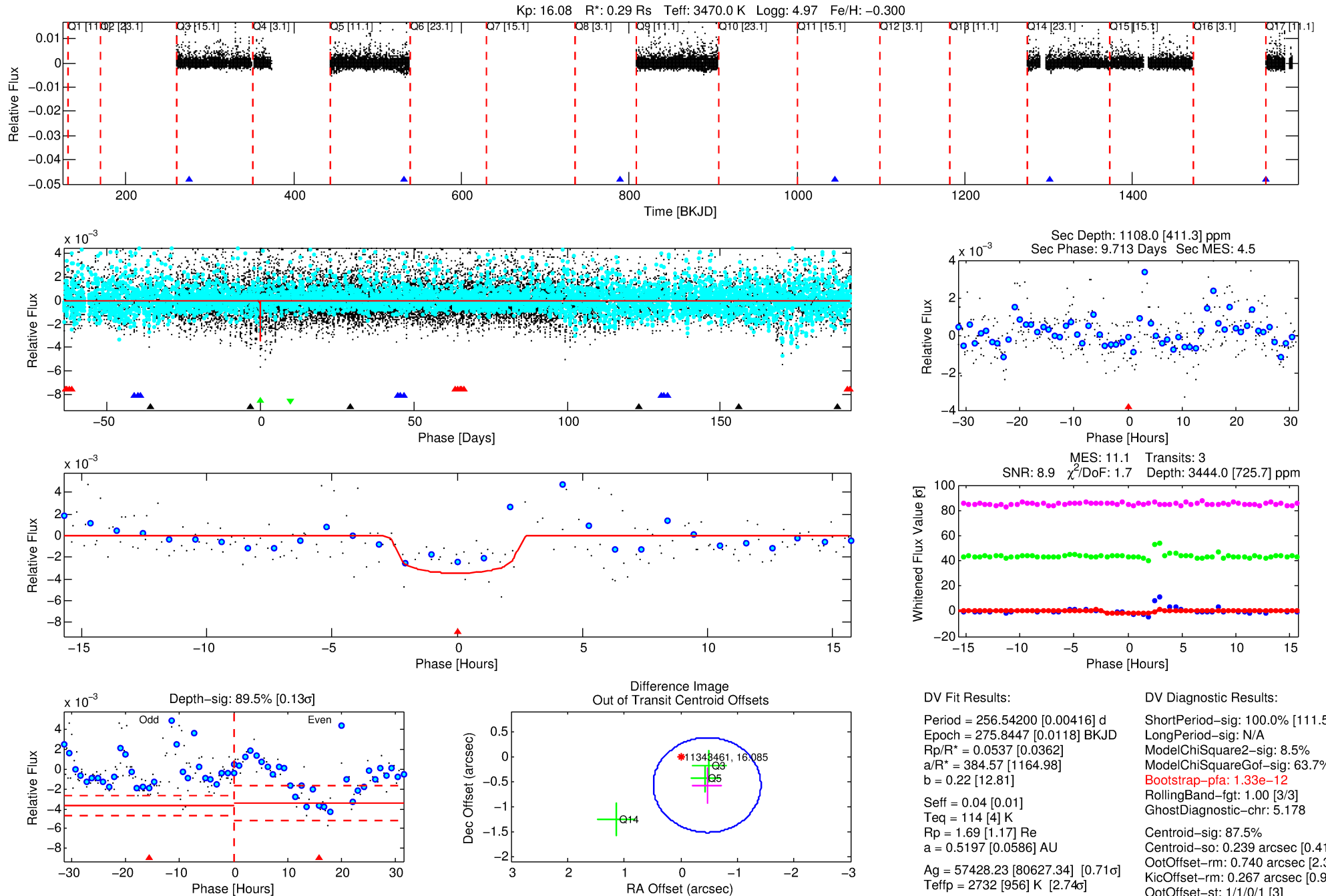
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011343461-03

No Significant Match Found

DV One-Page Summary

KIC: 11343461 Candidate: 3 of 4 Period: 256.542 d



DV Fit Results:

Period = 256.54200 [0.00416] d
Epoch = 275.8447 [0.0118] BKJD
Rp/R* = 0.0537 [0.0362]
a/R* = 384.57 [1164.98]
b = 0.22 [12.81]
Seff = 0.04 [0.01]
Teq = 114 [4] K
Rp = 1.69 [1.17] Re
a = 0.5197 [0.0586] AU
Ag = 57428.23 [80627.34] [0.71σ]
Teffp = 2732 [956] K [2.74σ]

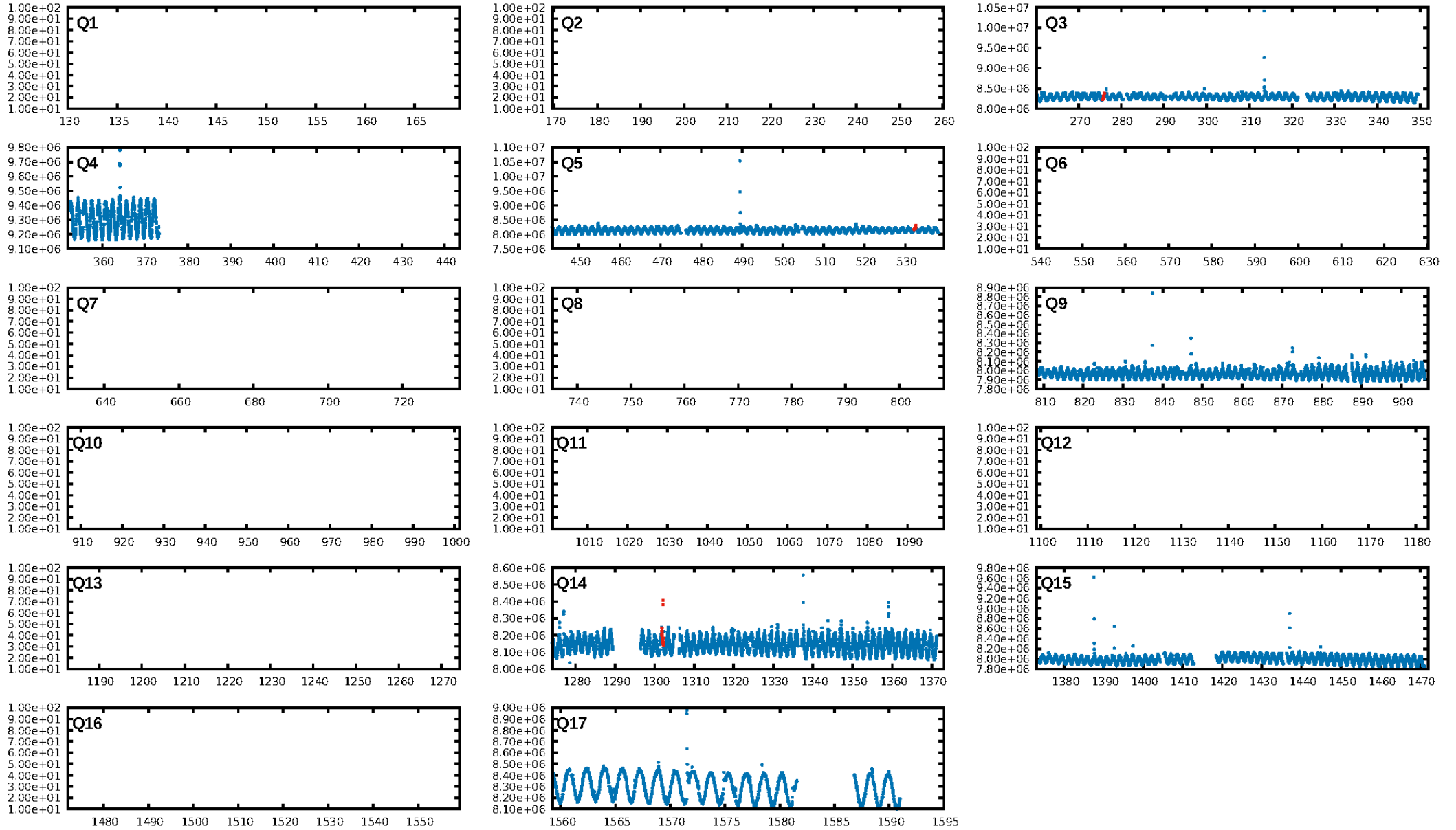
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [111.50σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 8.5%
ModelChiSquareGof-sig: 63.7%
Bootstrap-pfa: 1.33e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 5.178
Centroid-sig: 87.5%
Centroid-so: 0.239 arcsec [0.41σ]
OotOffset-rm: 0.740 arcsec [2.34σ]
KicOffset-rm: 0.267 arcsec [0.99σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

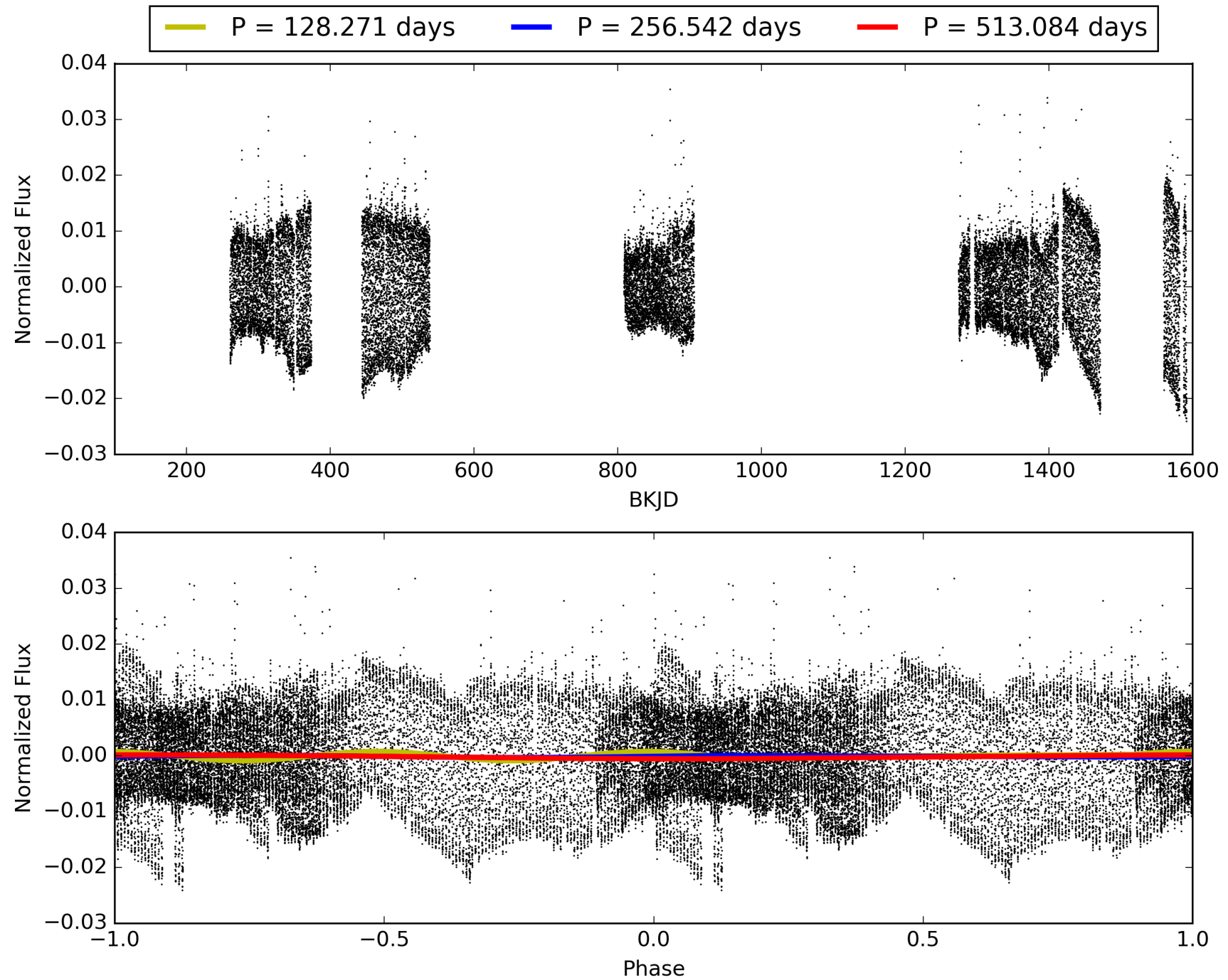
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:54:43 Z

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

TCE 011343461-03, PDC Light Curves

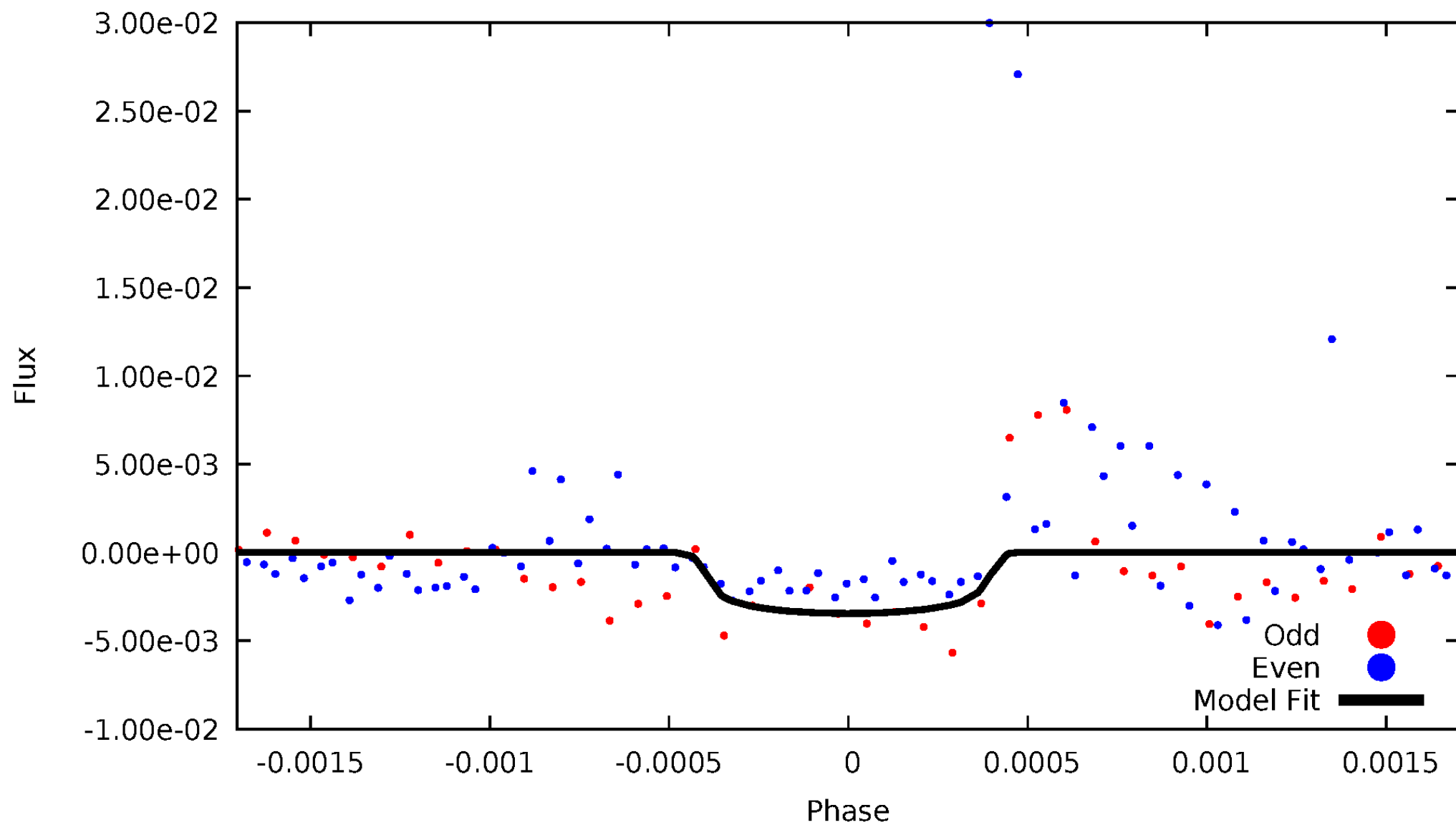


TCE 011343461-03



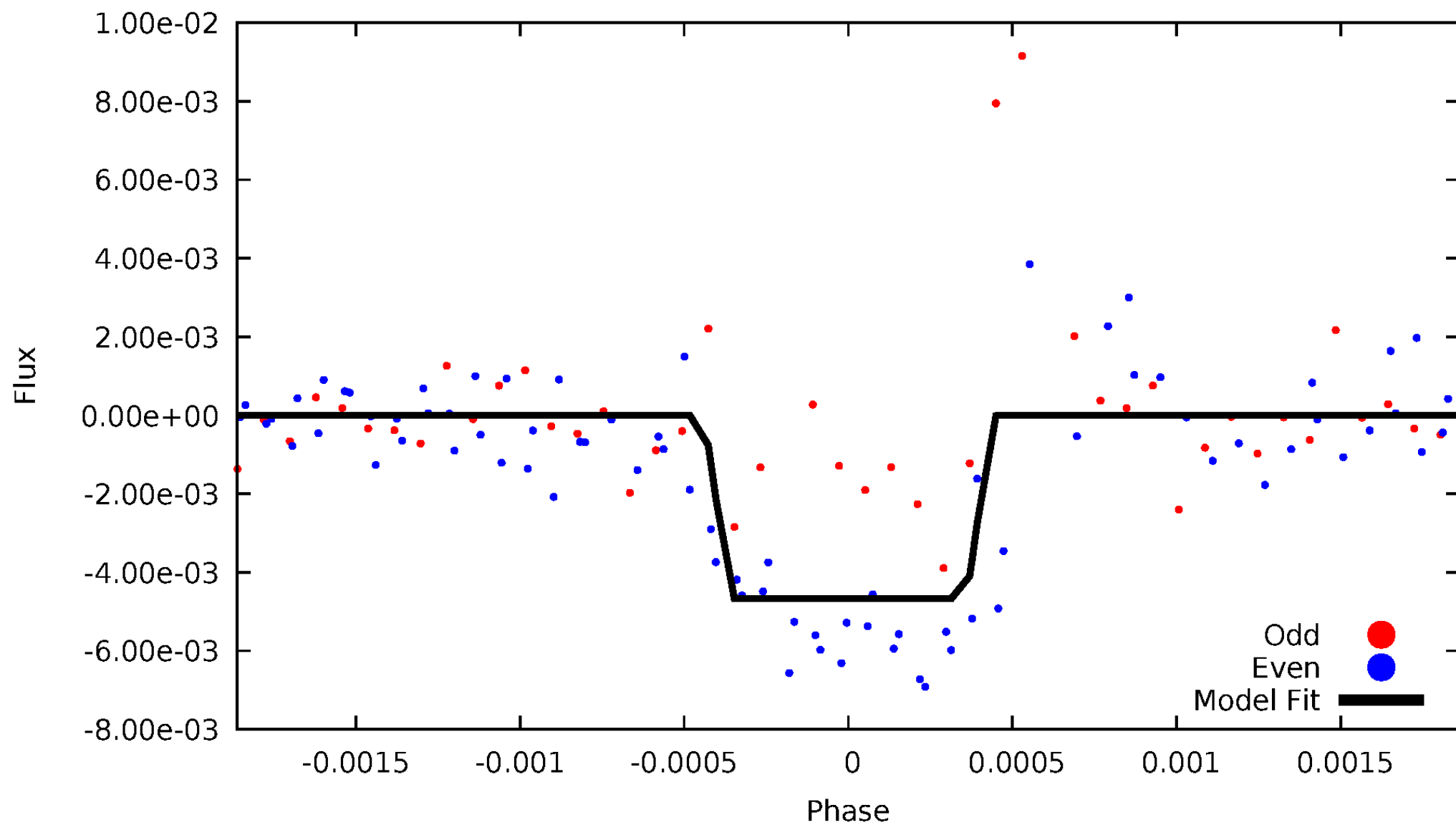
DV Odd/Even

TCE 011343461-03

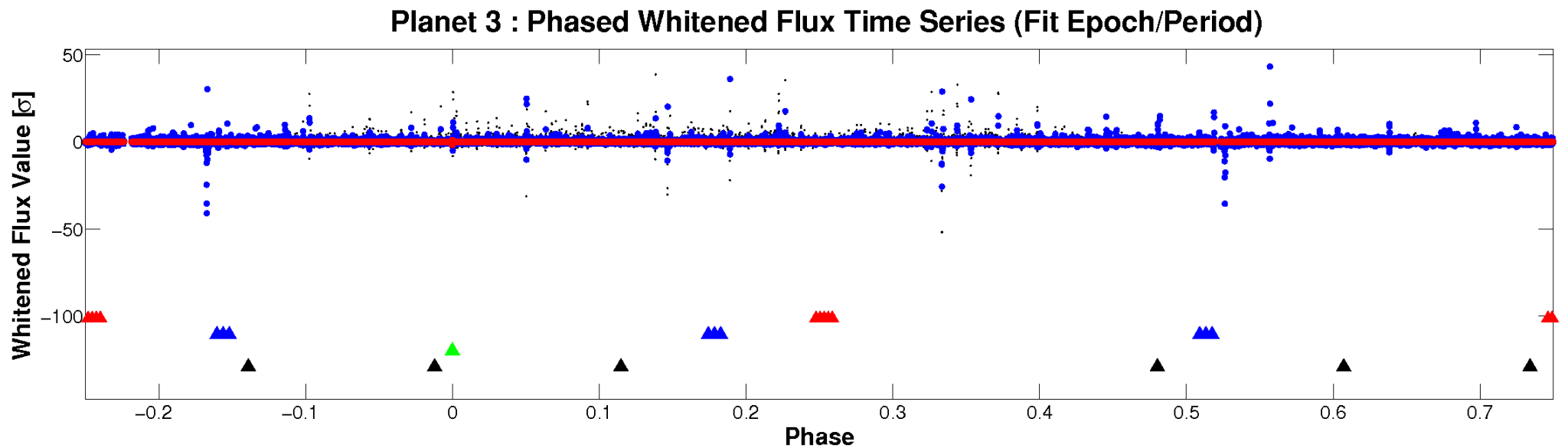
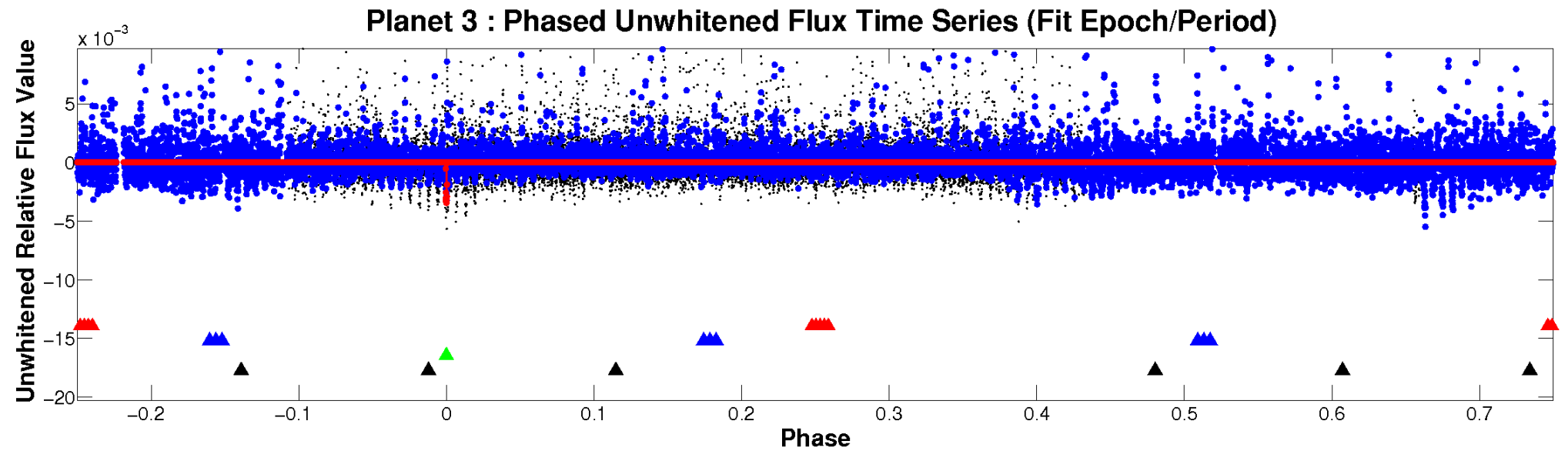


ALT Odd/Even

TCE 011343461-03

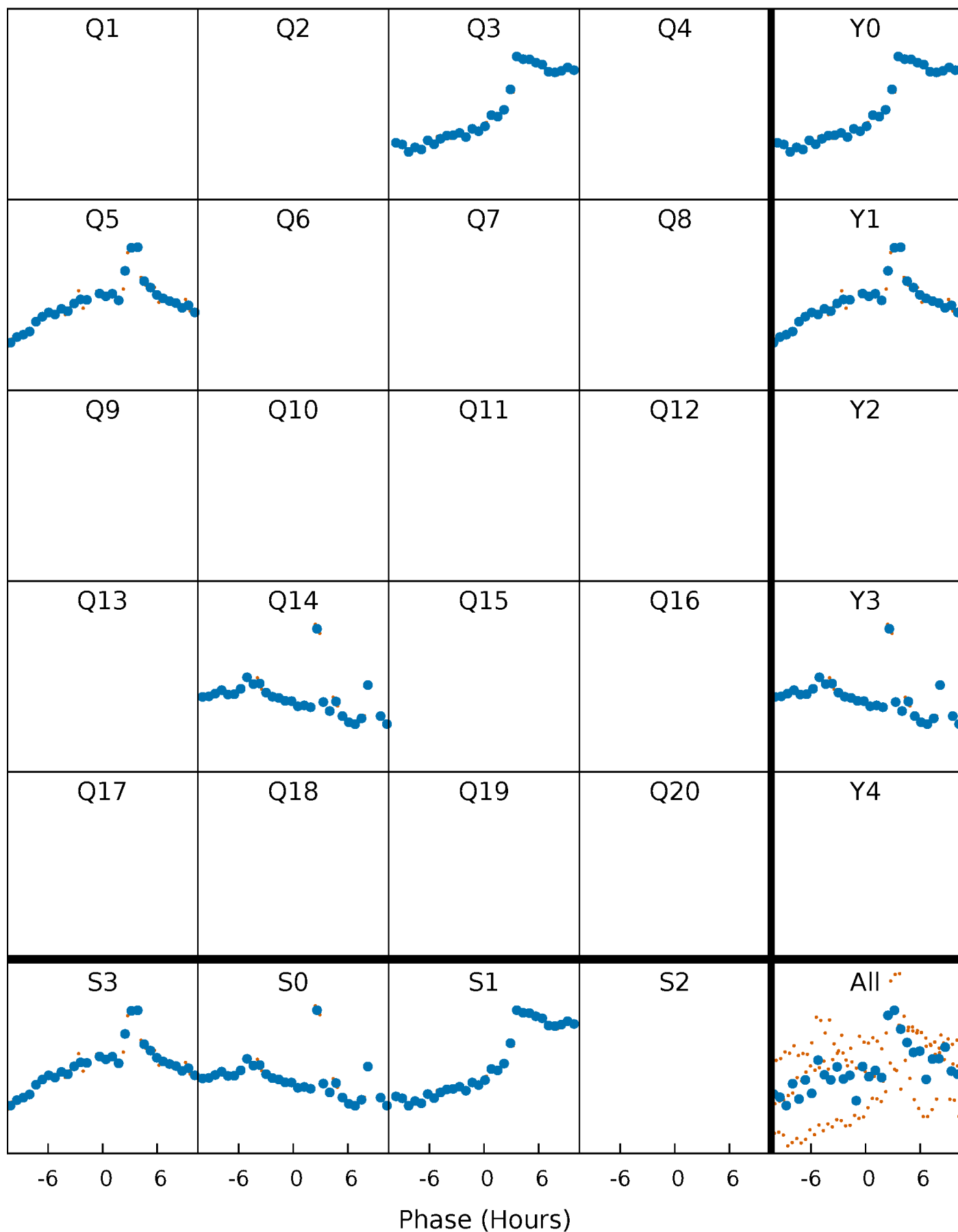


Non-Whitened Vs. Whitened Light Curve



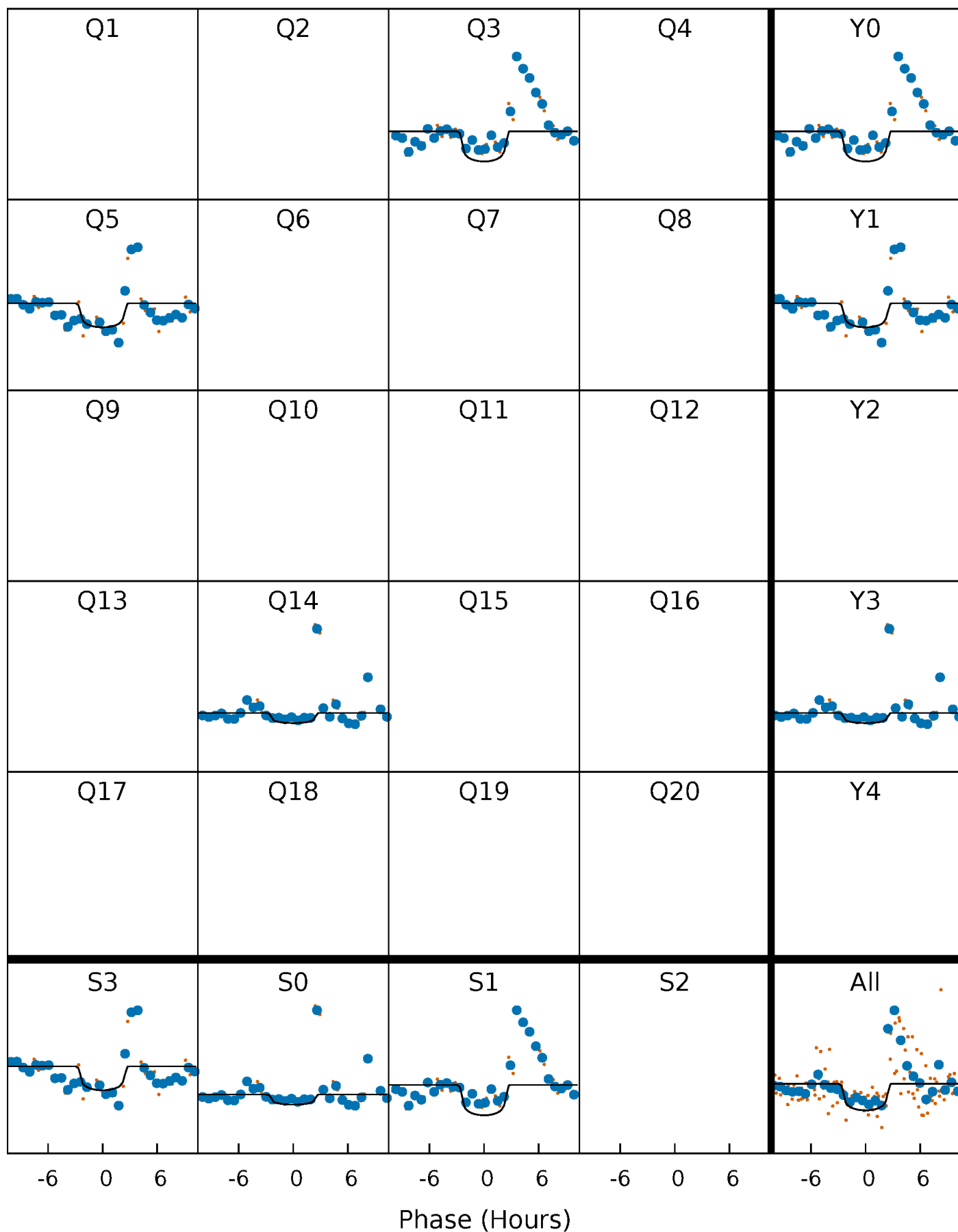
PDC Quarter-Phased Transit Curves

TCE 011343461-03 P=256.542000 Days $T_0=275.844710$ (BKJD)



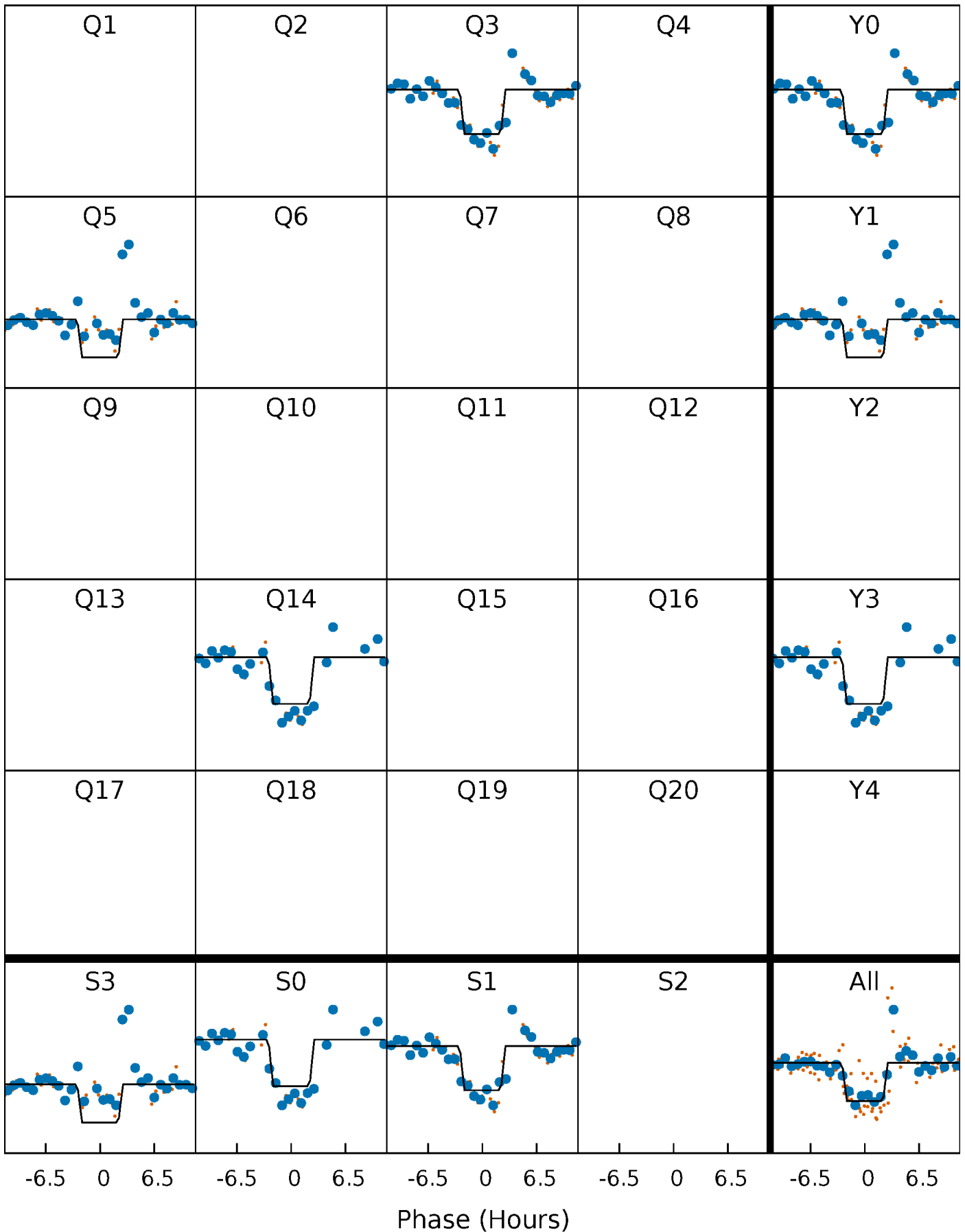
DV Quarter-Phased Transit Curves

TCE 011343461-03 $P=256.542000$ Days $T_0=275.844710$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

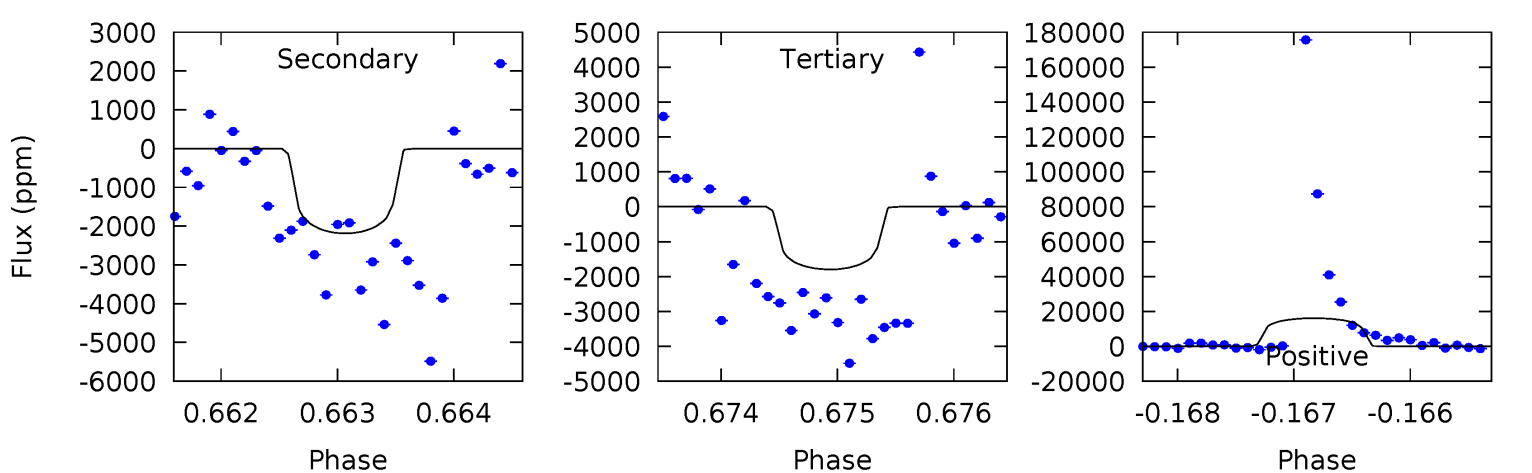
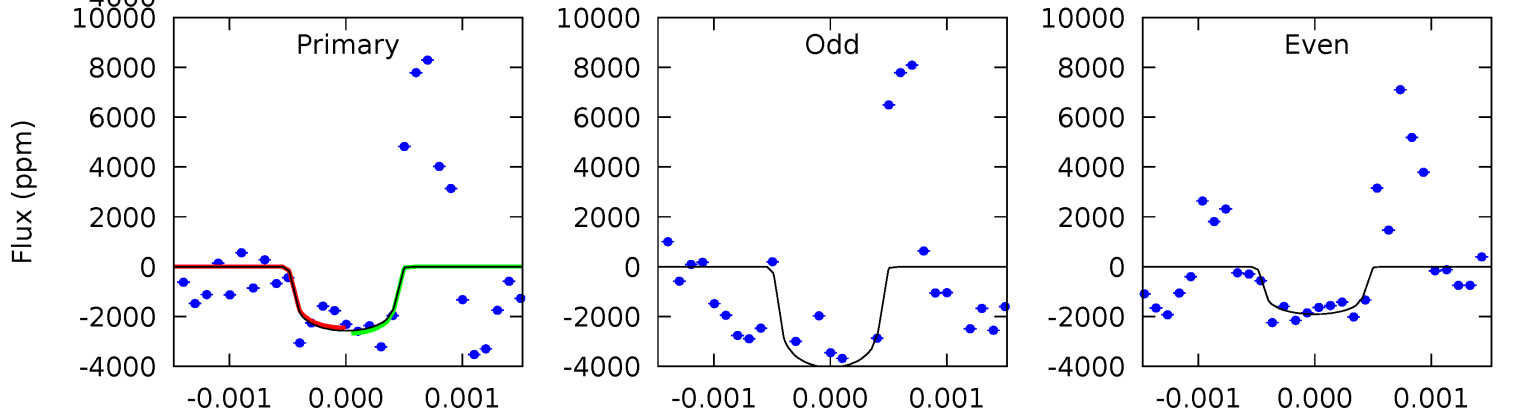
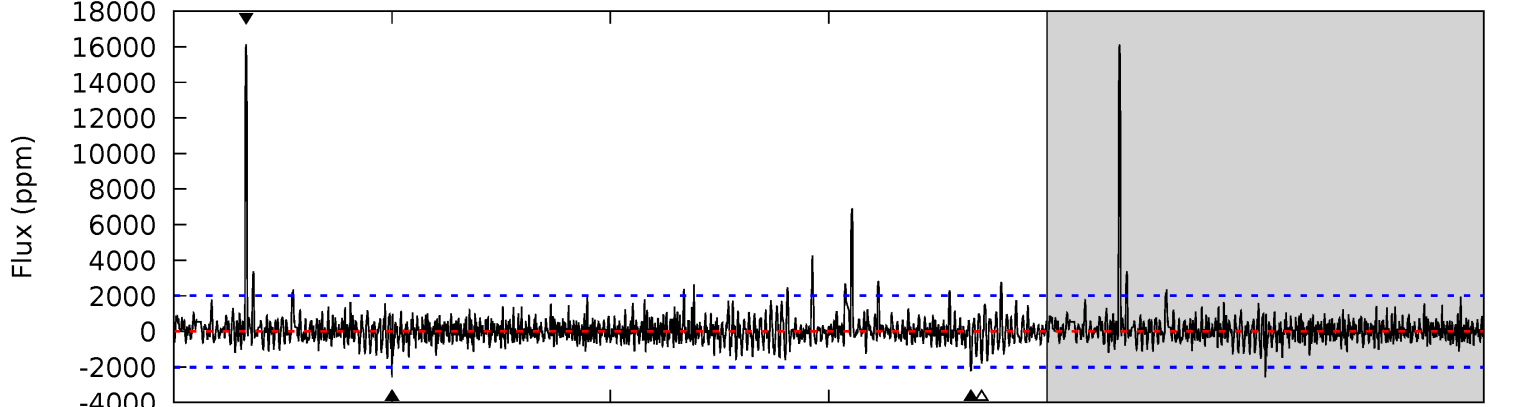
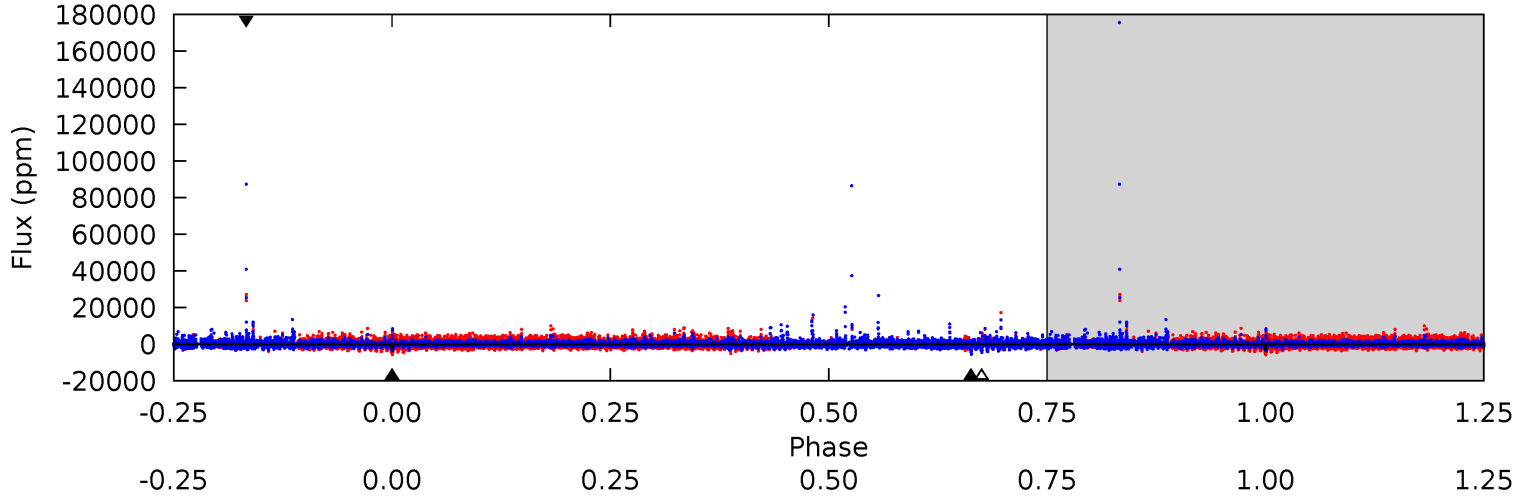
TCE 011343461-03 $P=256.529723$ Days $T_0=275.857040$ (BKJD)



DV Model-Shift Uniqueness Test

011343461-03, P = 256.542000 Days, E = 19.302710 Days

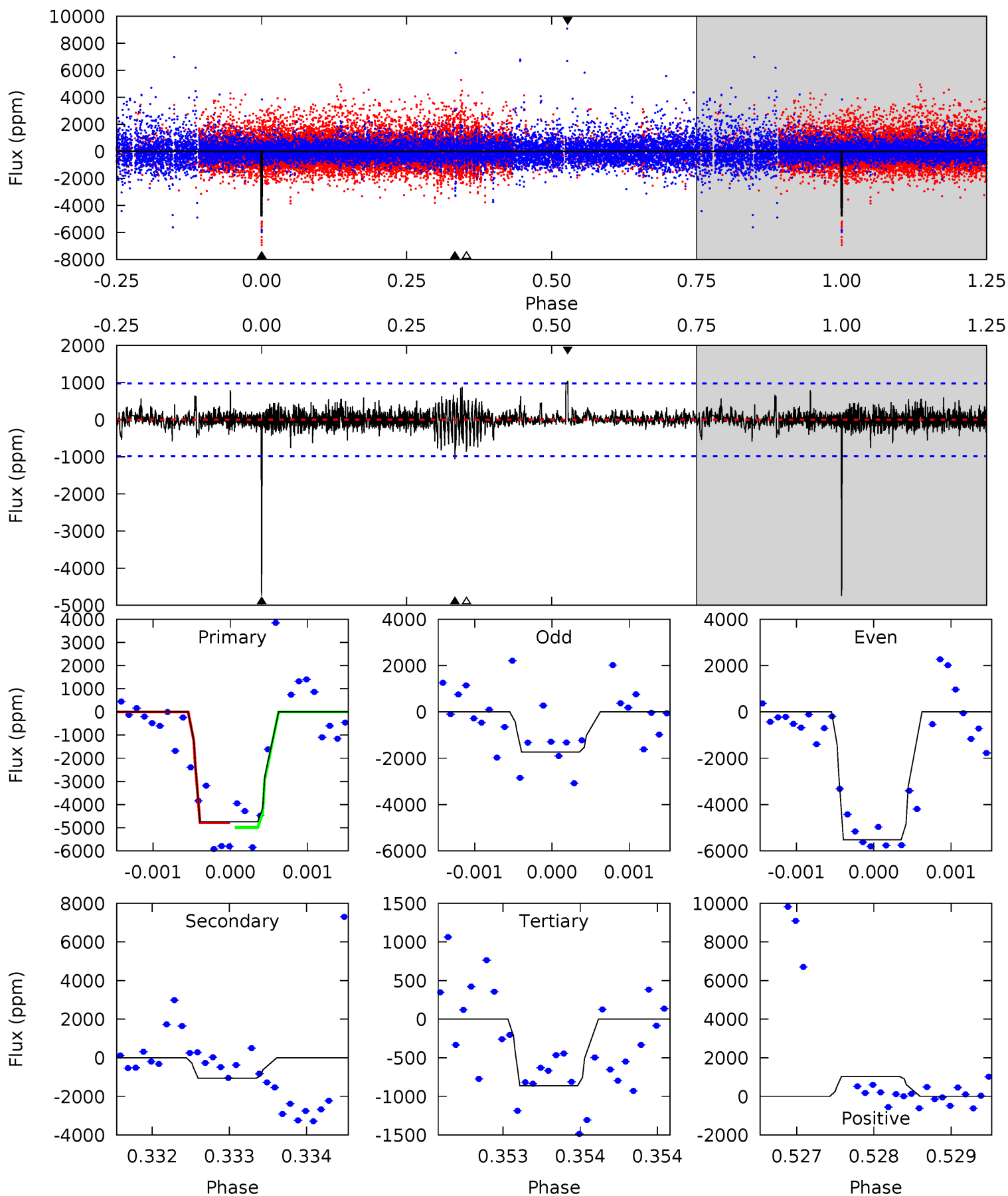
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.00	5.95	4.89	43.9	5.47	3.32	2.11	2.11	-36.9	1.06	-37.9	1.87	1.18	0.86	0.29



Alt Model-Shift Uniqueness Test

011343461-03, P = 256.529723 Days, E = 19.327317 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.5	5.93	4.81	5.81	5.47	3.33	1.02	21.6	20.6	1.12	0.12	9.81	0.80	0.18	0.57



Stellar Parameters For KIC 011343461

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3470^{+62}_{-55}	$4.970^{+0.050}_{-0.045}$	$-0.300^{+0.100}_{-0.100}$	$0.289^{+0.046}_{-0.038}$	$0.285^{+0.053}_{-0.044}$	$16.570^{+4.807}_{-3.732}$
	+2%/-2%	+1%/-1%	+33%/-33%	+16%/-13%	+19%/-15%	+29%/-23%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011343461-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2187 ± 368	$1.77^{+1.12}_{-0.95}$	159^{+5}_{-5}	3286^{+939}_{-429}	$104416^{+369689}_{-64924}$
Alt.	-1062 ± 179	$2.14^{+1.22}_{-1.11}$	159^{+5}_{-4}	2794^{+686}_{-294}	$33824^{+119380}_{-19775}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

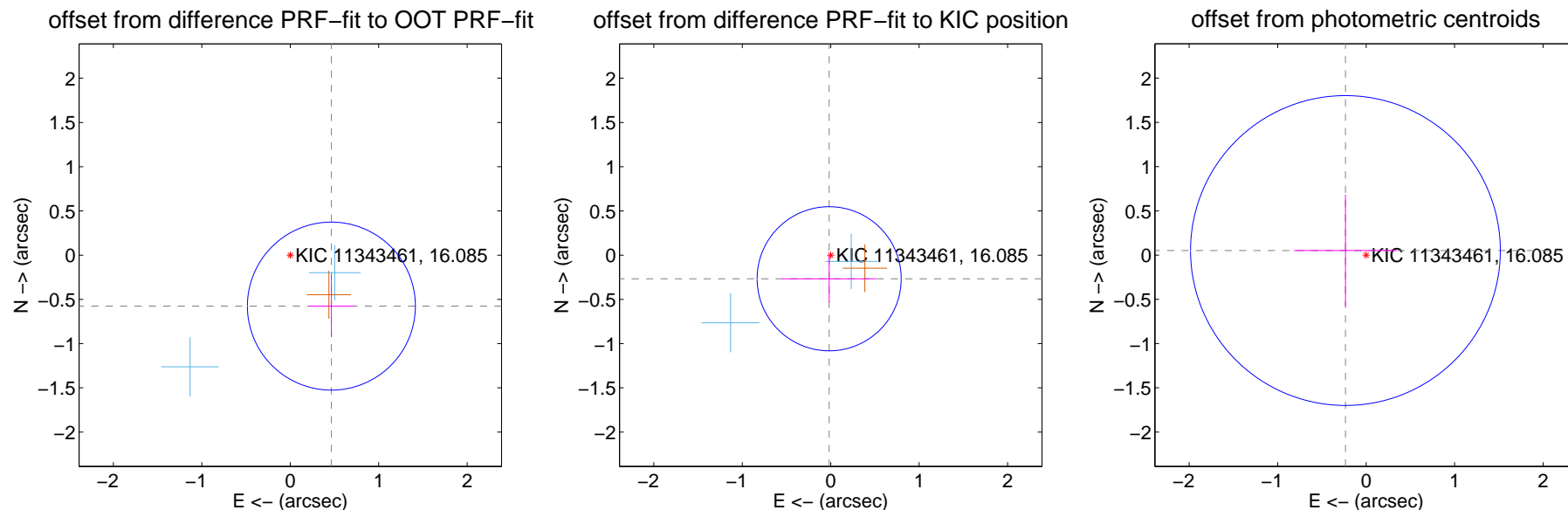
DV Centroid Data

Supplemental centroid analysis for 011343461-03. Kepler magnitude: 16.09. Transit SNR 8.86

There are 2 quarters with good PRF difference image offsets

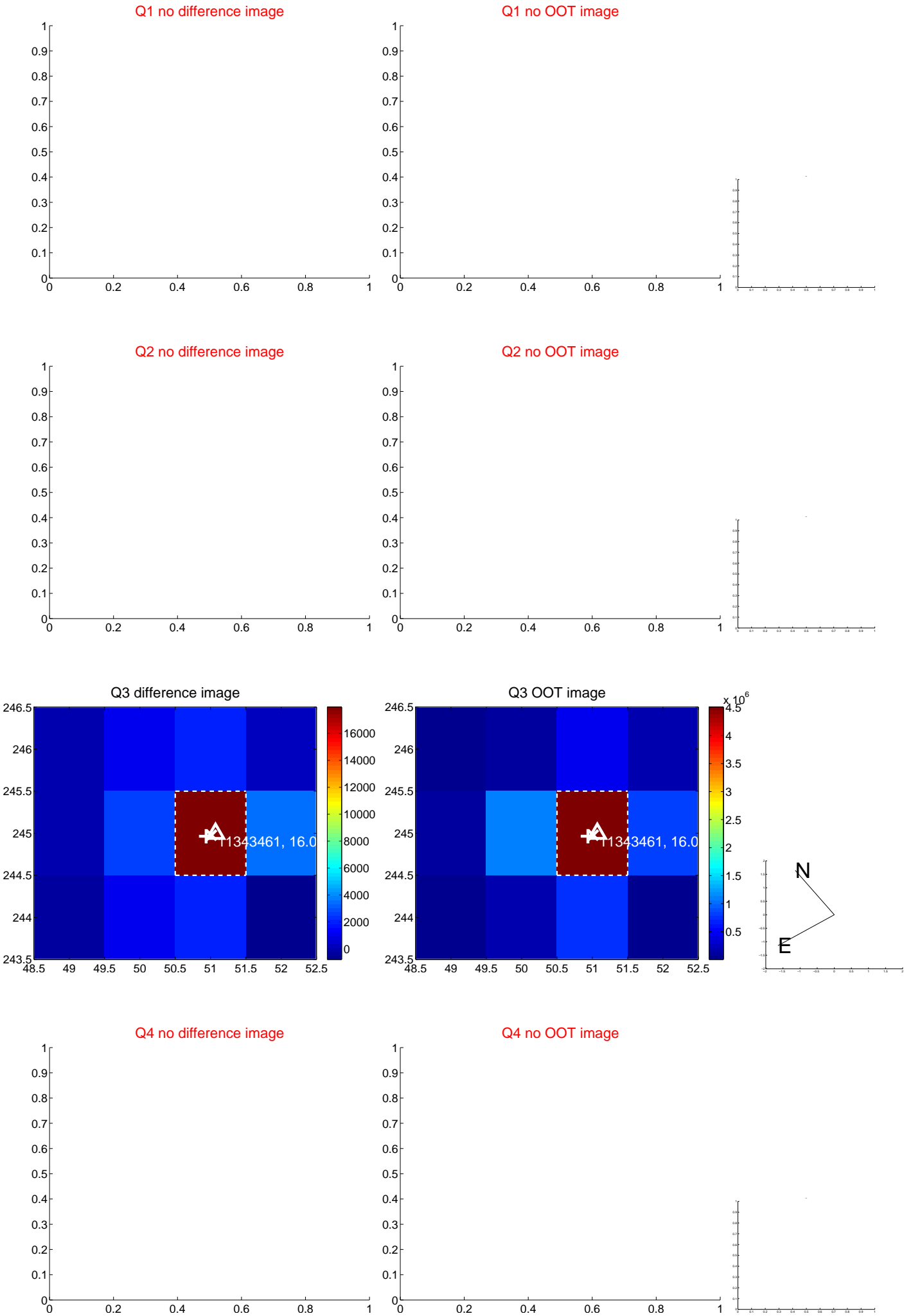
The direct PRF centroid is offset from the target star catalog position by about 0.50 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.740 ± 0.317	2.34	-0.465 ± 0.258	-0.576 ± 0.350
PRF-fit source offset from KIC position	0.267 ± 0.272	0.99	0.018 ± 0.531	-0.267 ± 0.270
photometric centroid source offset	0.24 ± 0.58	0.41	0.23 ± 0.58	0.05 ± 0.63

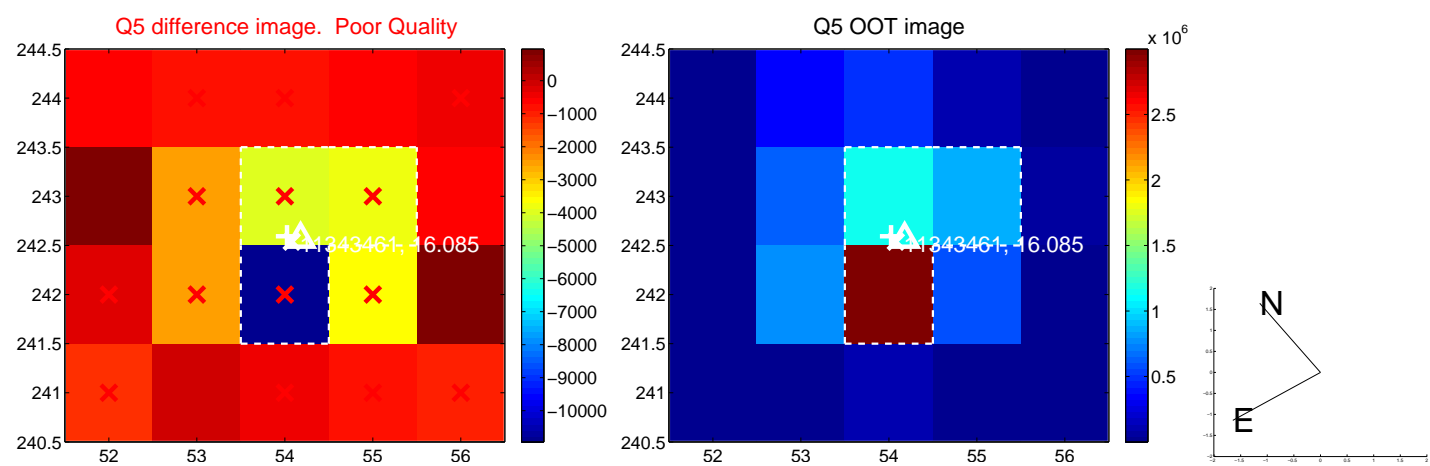


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



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



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



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

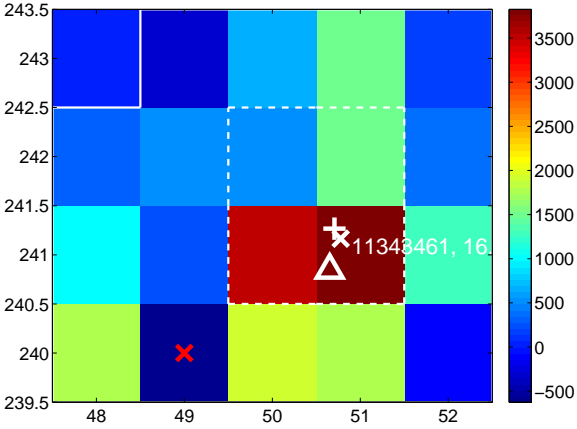
Q13 no difference image



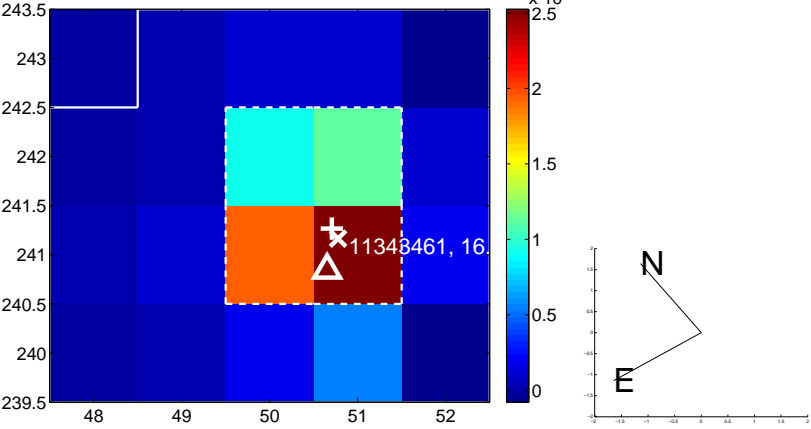
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



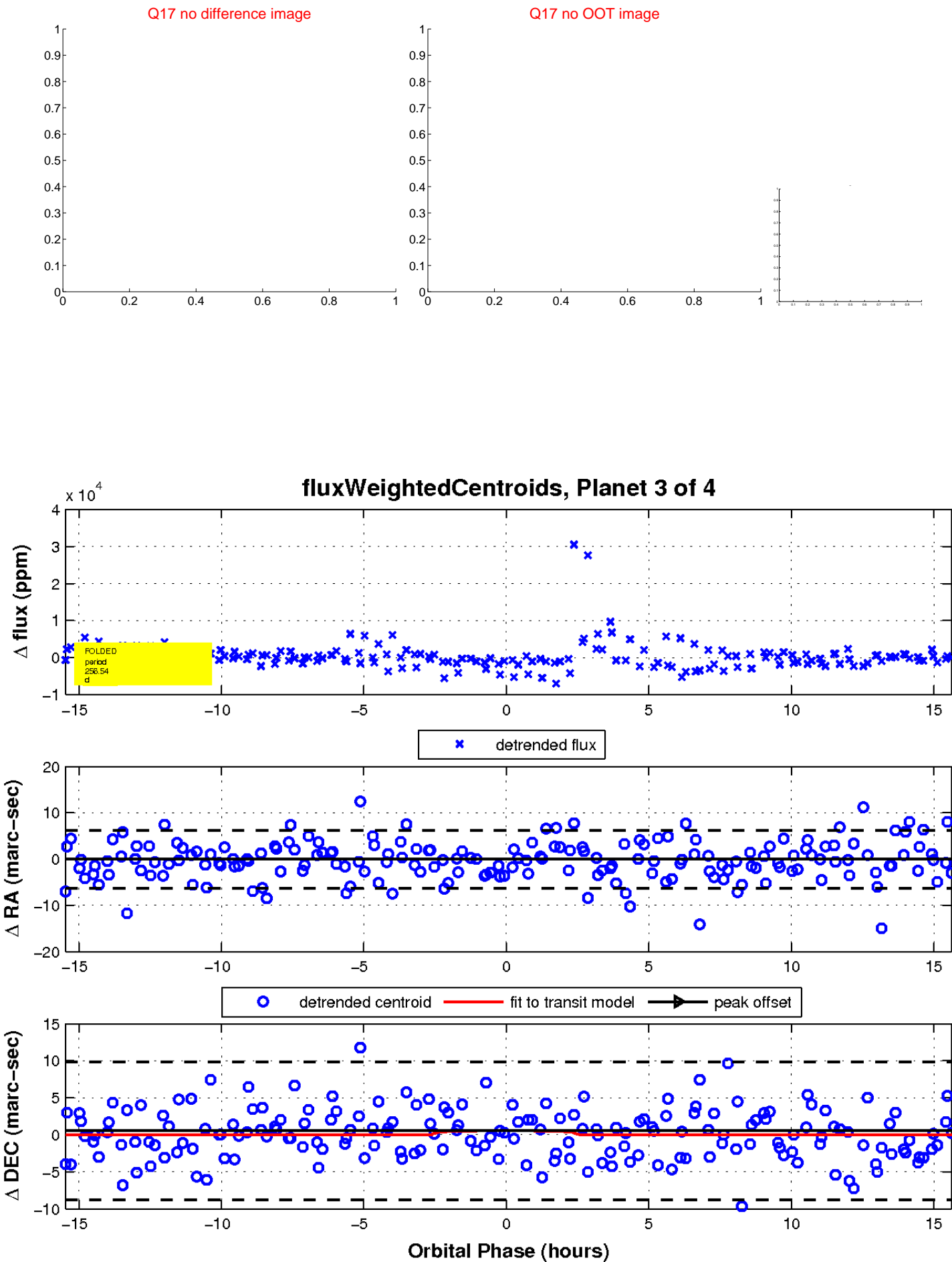
Q16 no difference image



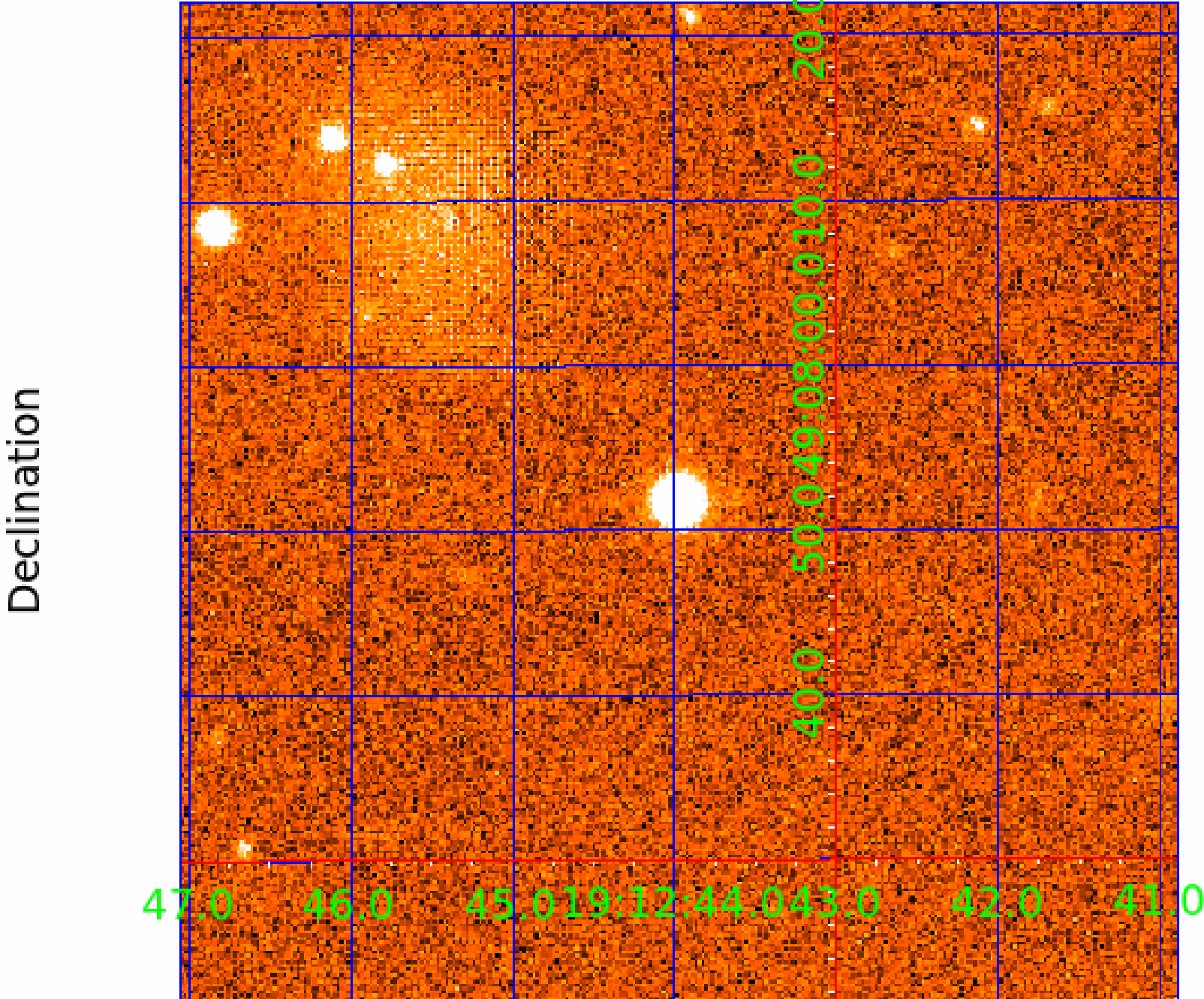
Q16 no OOT image



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



UKIRT Image



KIC 011343461

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})
011343461-01	OBS	No	127.914626	214.321225	1943.9	4.089	11.3	5.5	0.29	3470	1.31	0.10
011343461-02	OBS	No	170.667997	152.060723	2629.9	3.951	12.3	6.4	0.29	3470	1.49	0.07
011343461-03	OBS	No	256.542000	275.844710	3444.0	5.247	11.1	8.9	0.29	3470	1.69	0.04
011343461-04	OBS	No	223.984010	305.302117	2846.6	4.646	9.9	6.6	0.29	3470	1.53	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011343461-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_KIC_POS
011343461-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011343461-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS
011343461-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

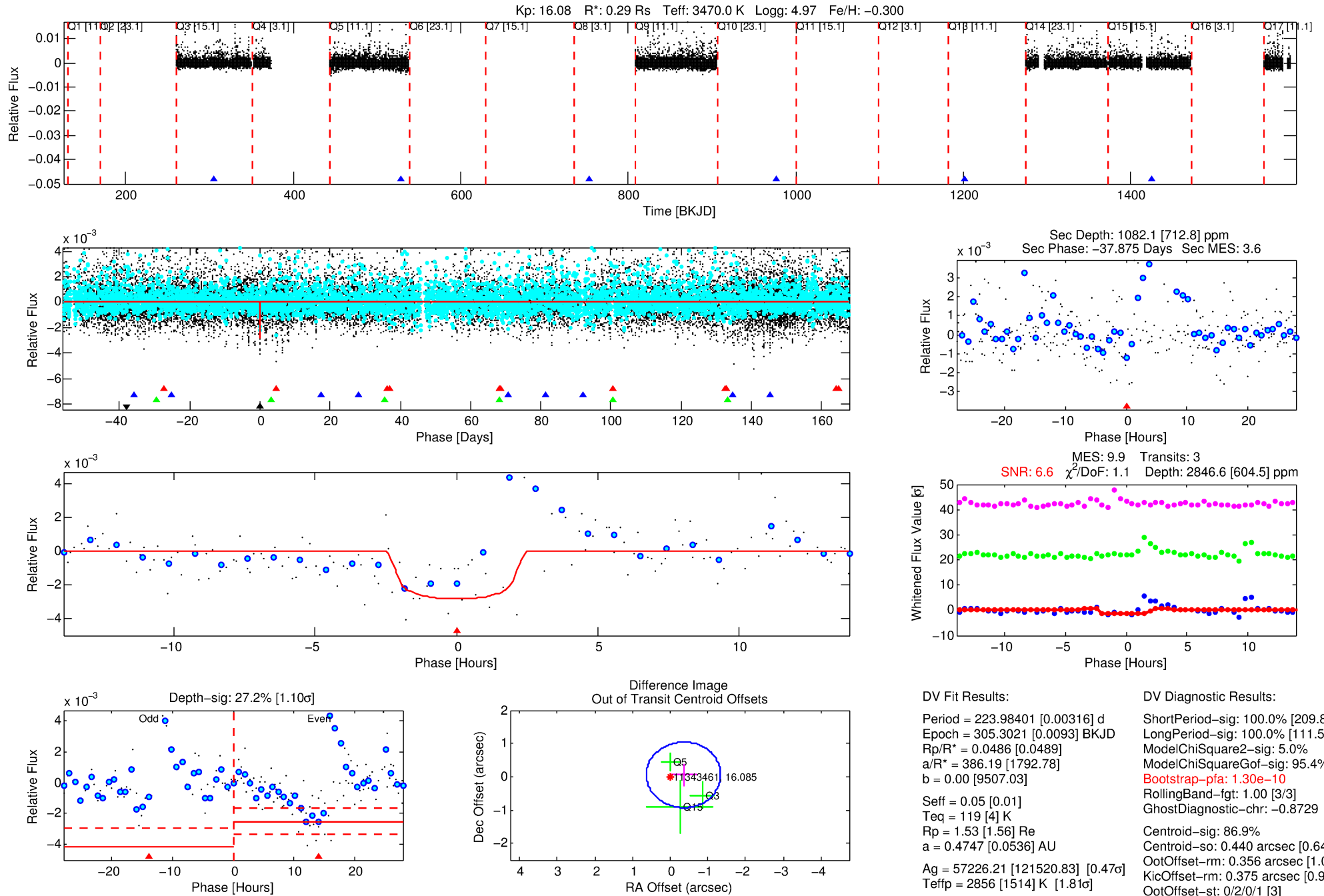
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011343461-04

No Significant Match Found

DV One-Page Summary

KIC: 11343461 Candidate: 4 of 4 Period: 223.984 d



DV Fit Results:

Period = 223.98401 [0.00316] d
Epoch = 305.3021 [0.0093] BKJD
Rp/R* = 0.0486 [0.0489]
a/R* = 386.19 [1792.78]
b = 0.00 [9507.03]
Seff = 0.05 [0.01]
Teq = 119 [4] K
Rp = 1.53 [1.56] Re
a = 0.4747 [0.0536] AU
Ag = 57226.21 [121520.83] [0.47σ]
Teffp = 2856 [1514] K [1.81σ]

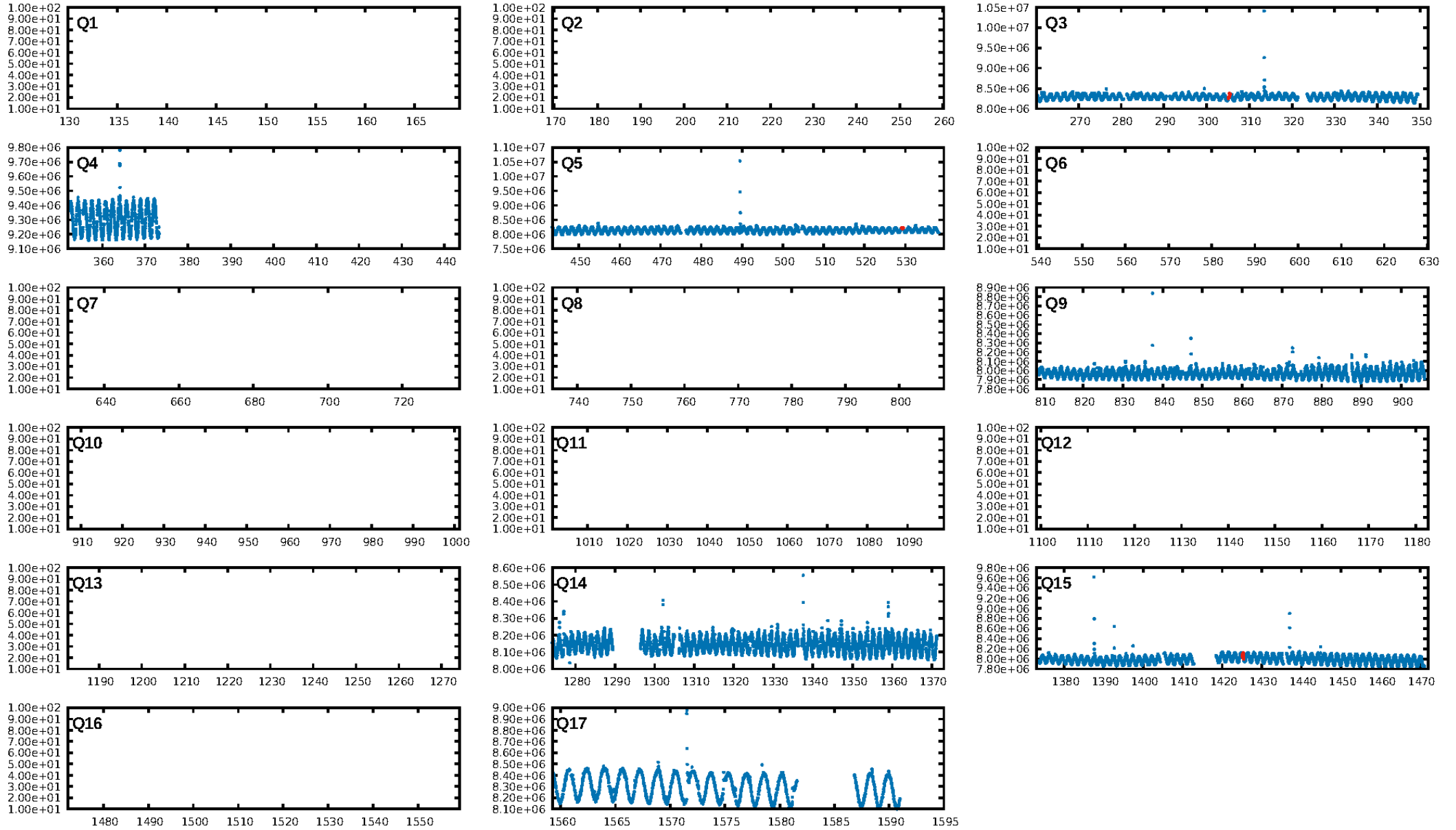
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [209.80σ]
LongPeriod-sig: 100.0% [111.50σ]
ModelChiSquare2-sig: 5.0%
ModelChiSquareGof-sig: 95.4%
Bootstrap-pfa: 1.30e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.8729
Centroid-sig: 86.9%
Centroid-so: 0.440 arcsec [0.64σ]
OotOffset-rm: 0.356 arcsec [1.08σ]
KicOffset-rm: 0.375 arcsec [0.90σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

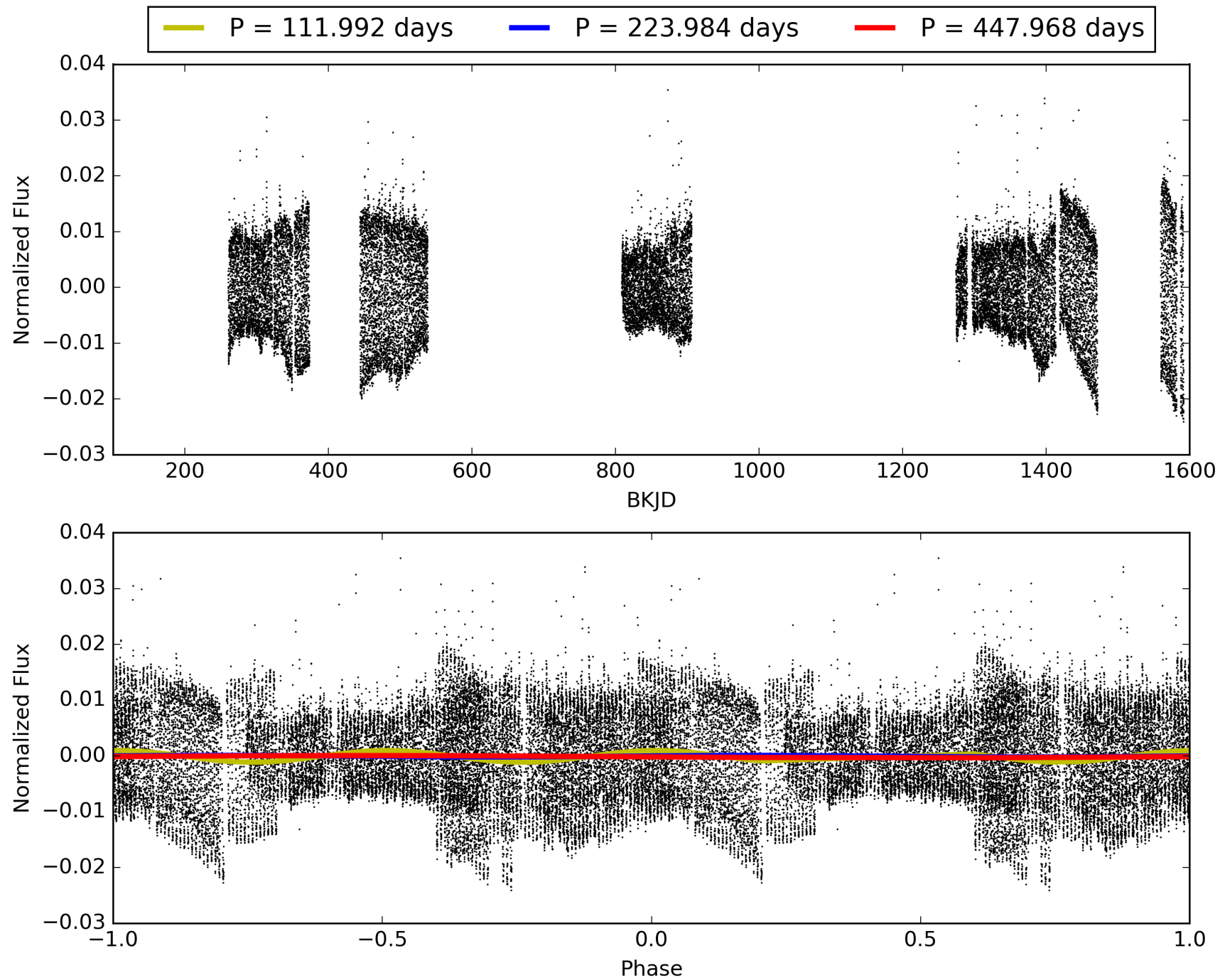
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:54:49 Z

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

TCE 011343461-04, PDC Light Curves

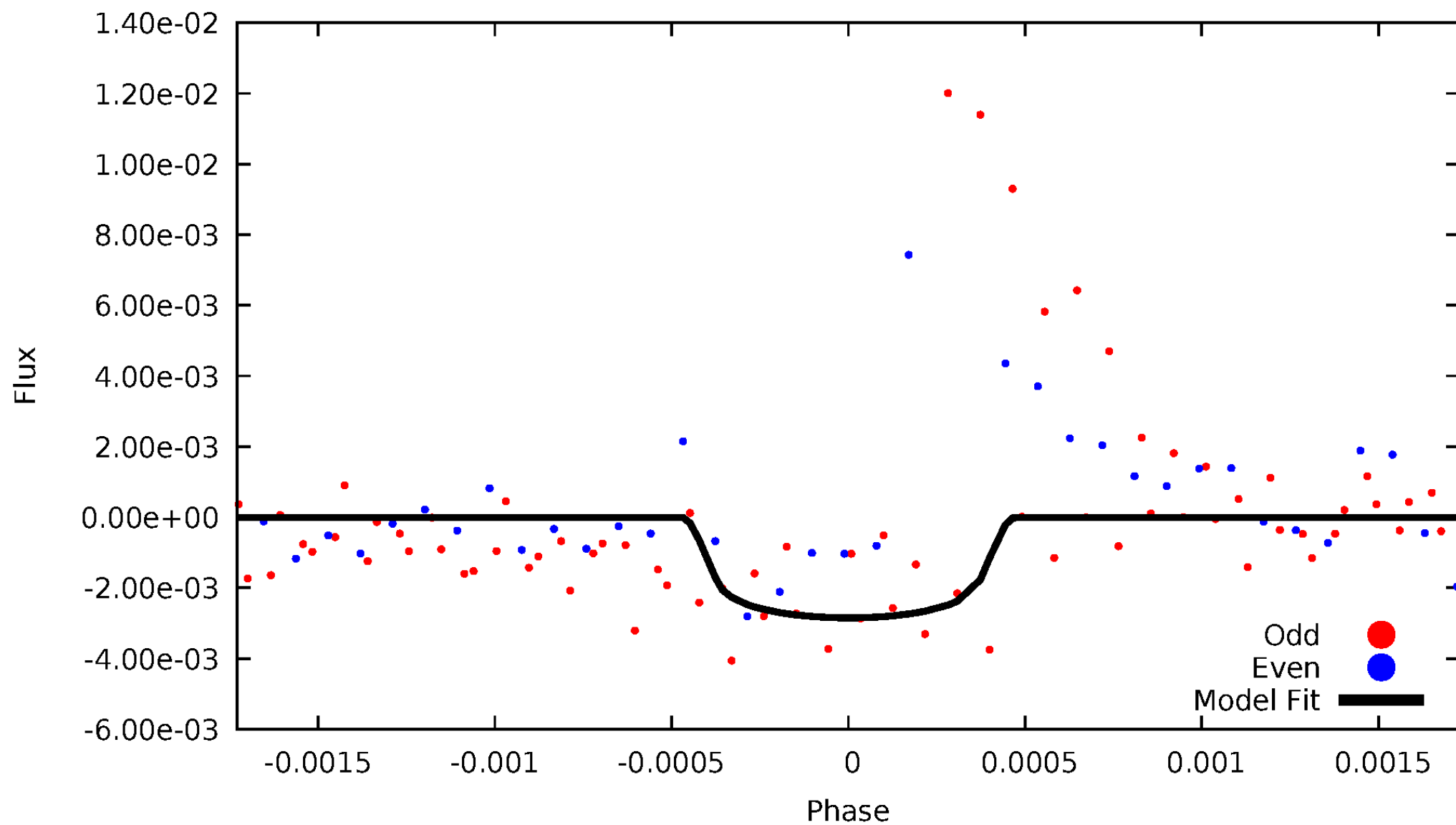


TCE 011343461-04



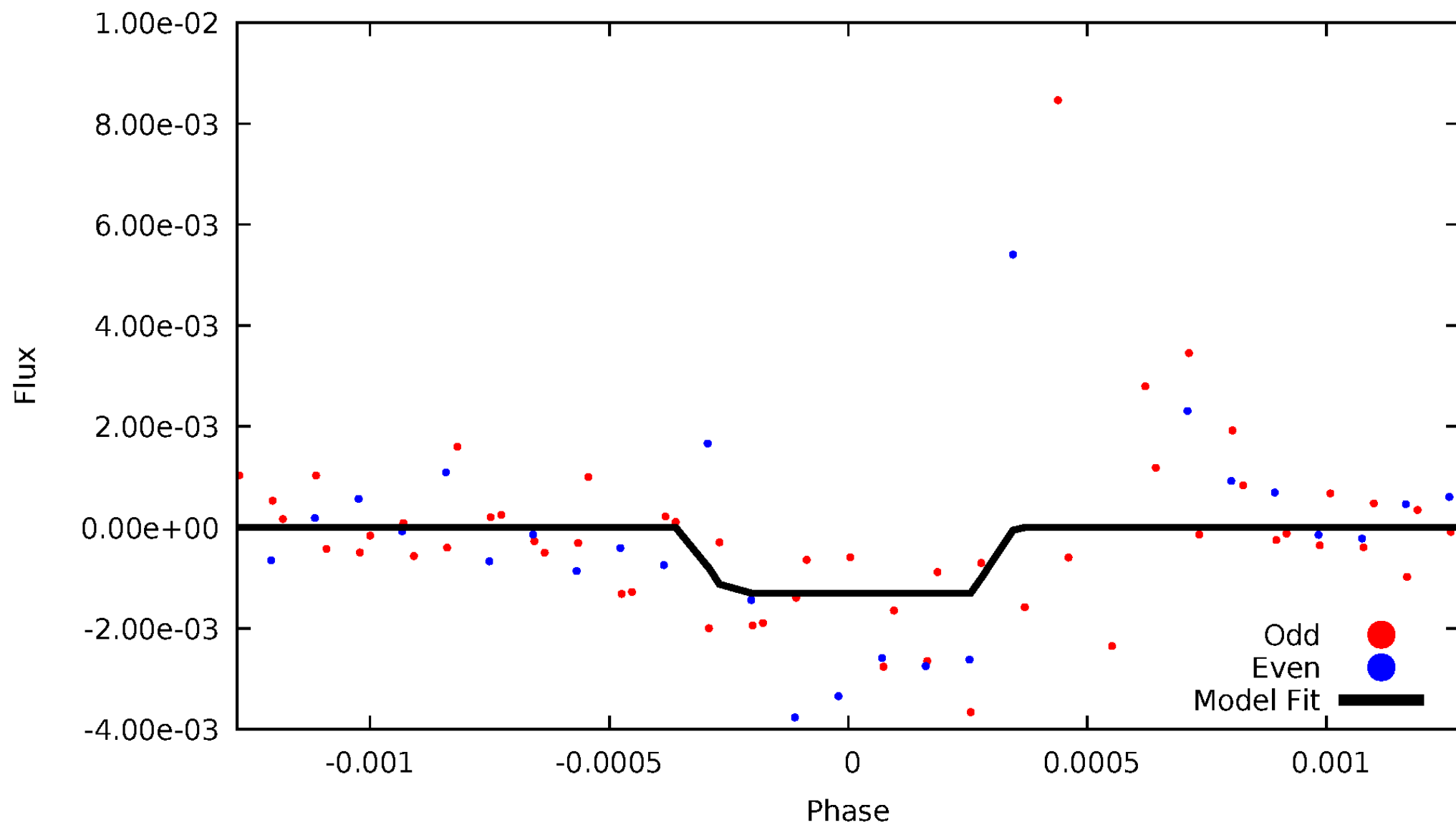
DV Odd/Even

TCE 011343461-04



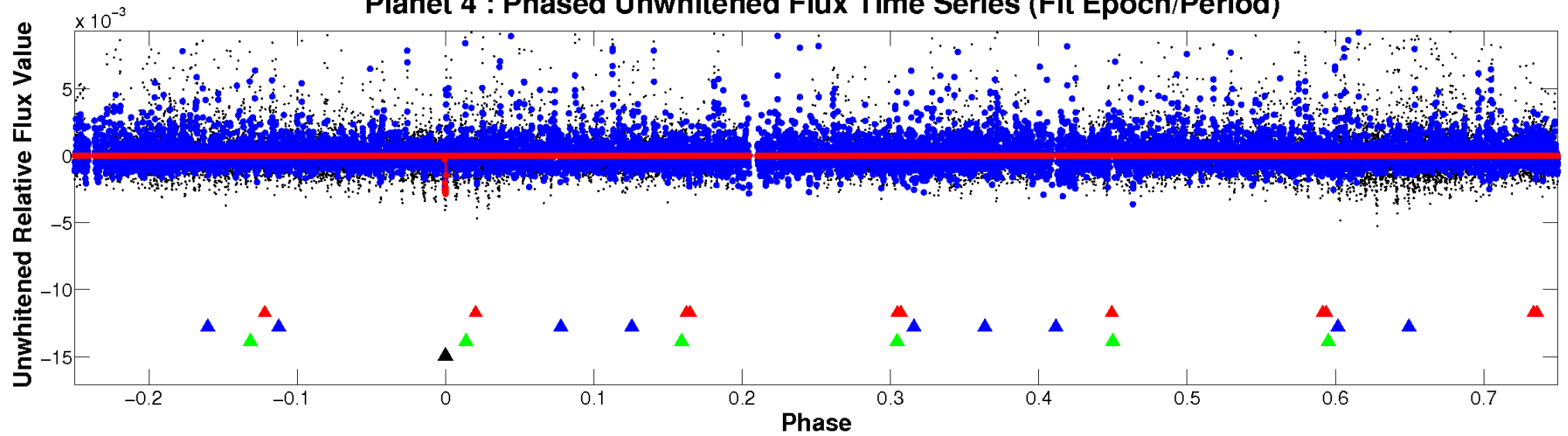
ALT Odd/Even

TCE 011343461-04

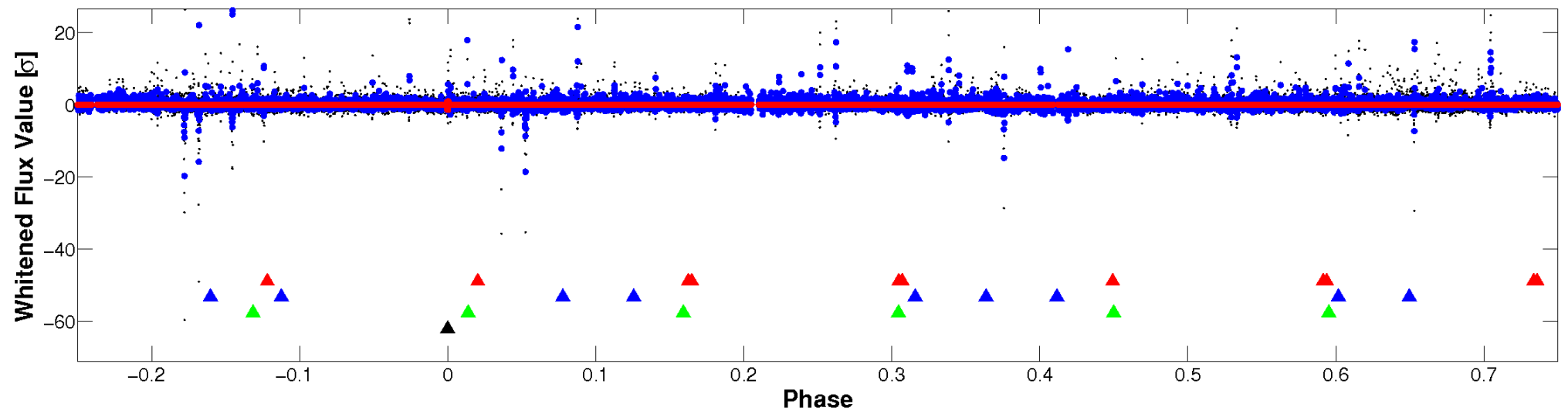


Non-Whitened Vs. Whitened Light Curve

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

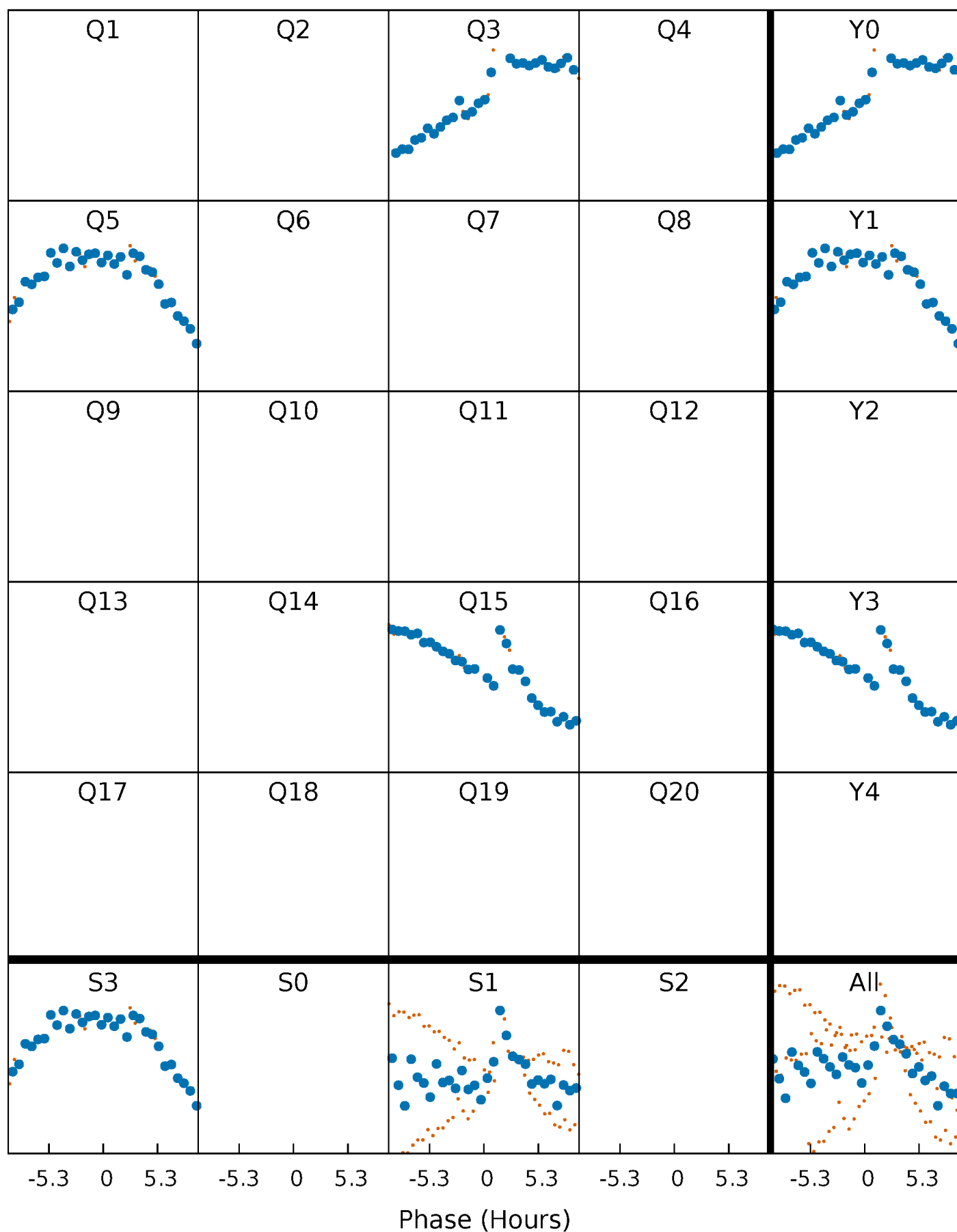


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



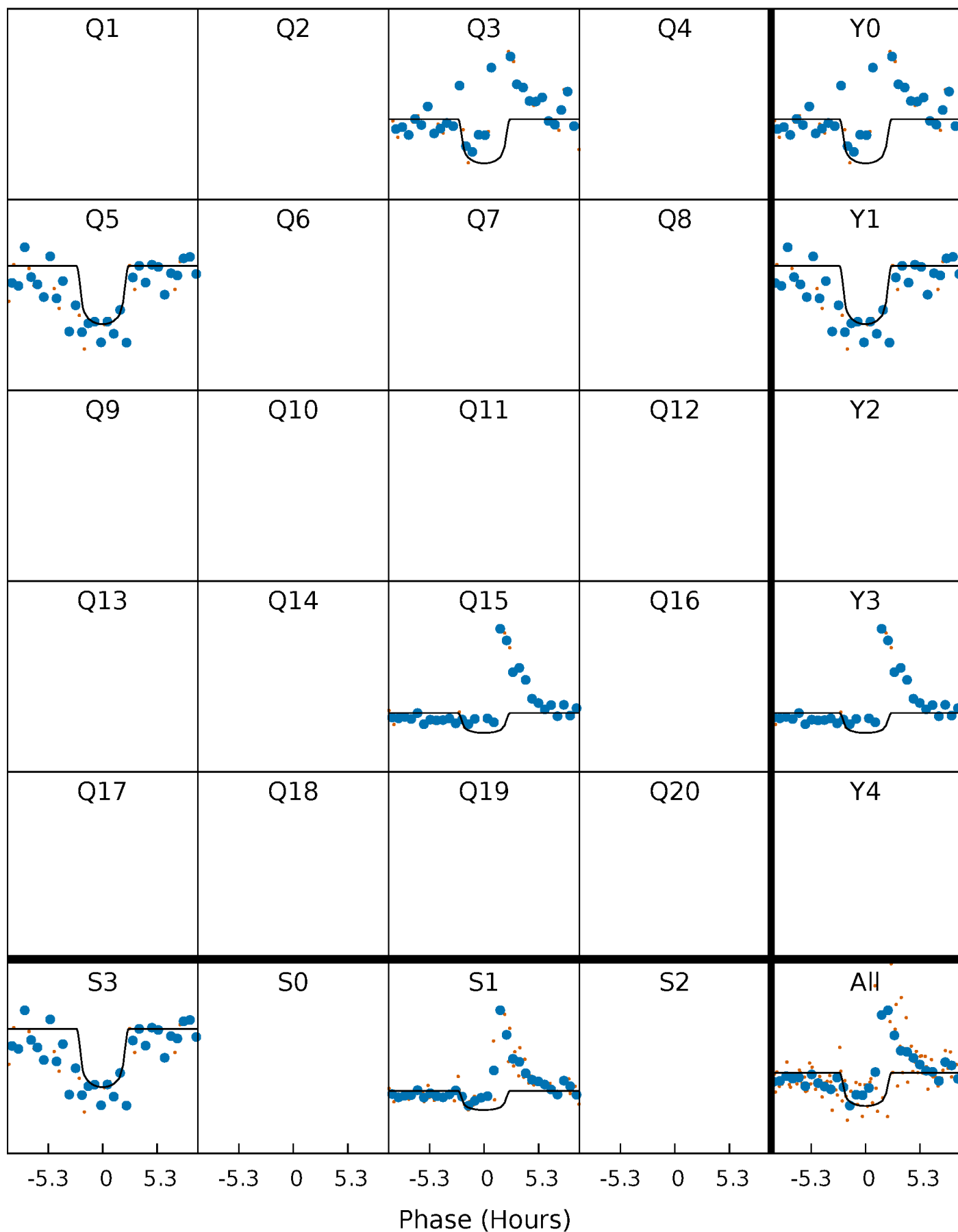
PDC Quarter-Phased Transit Curves

TCE 011343461-04 $P=223.984010$ Days $T_0=305.302117$ (BKJD)



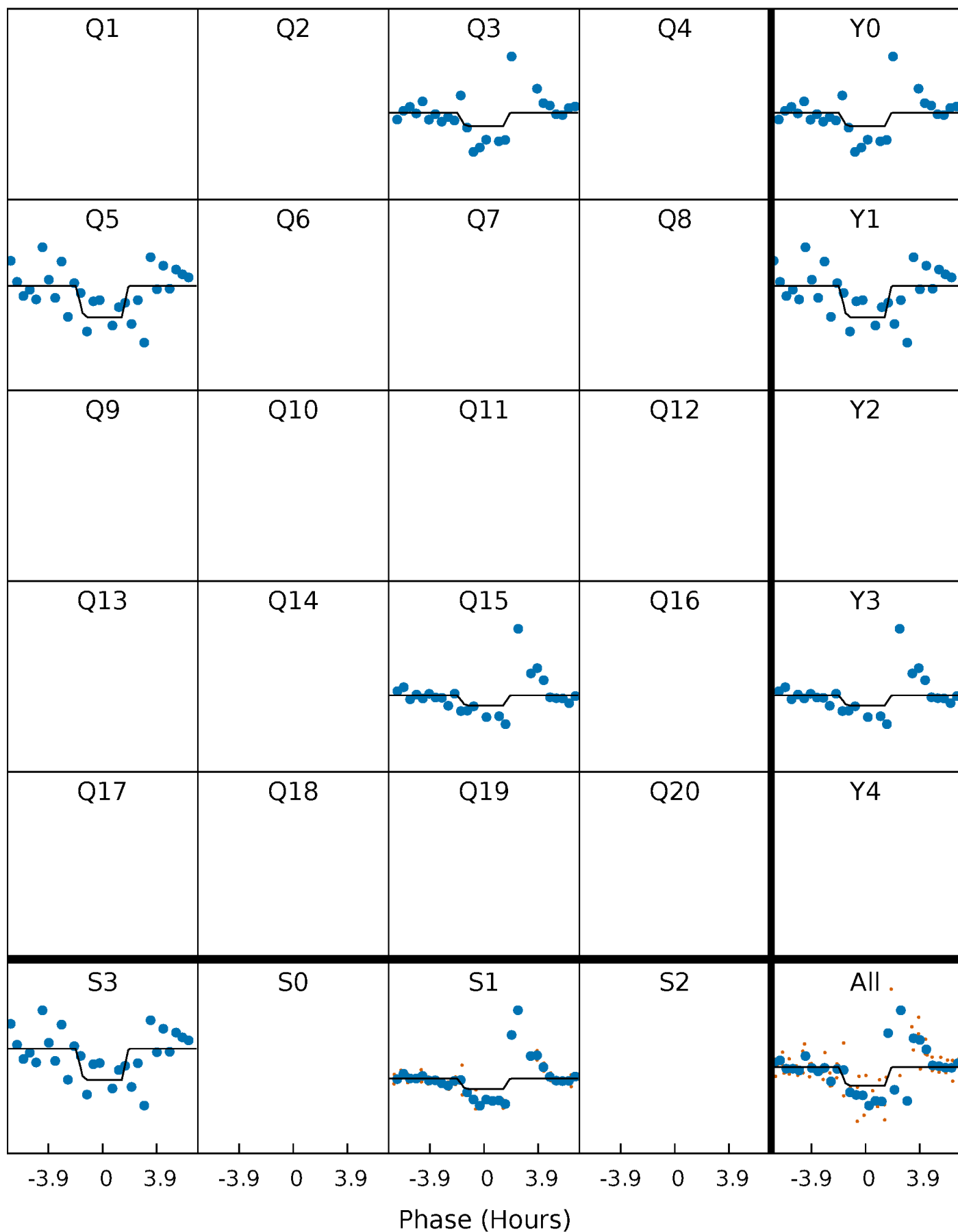
DV Quarter-Phased Transit Curves

TCE 011343461-04 $P=223.984010$ Days $T_0=305.302117$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

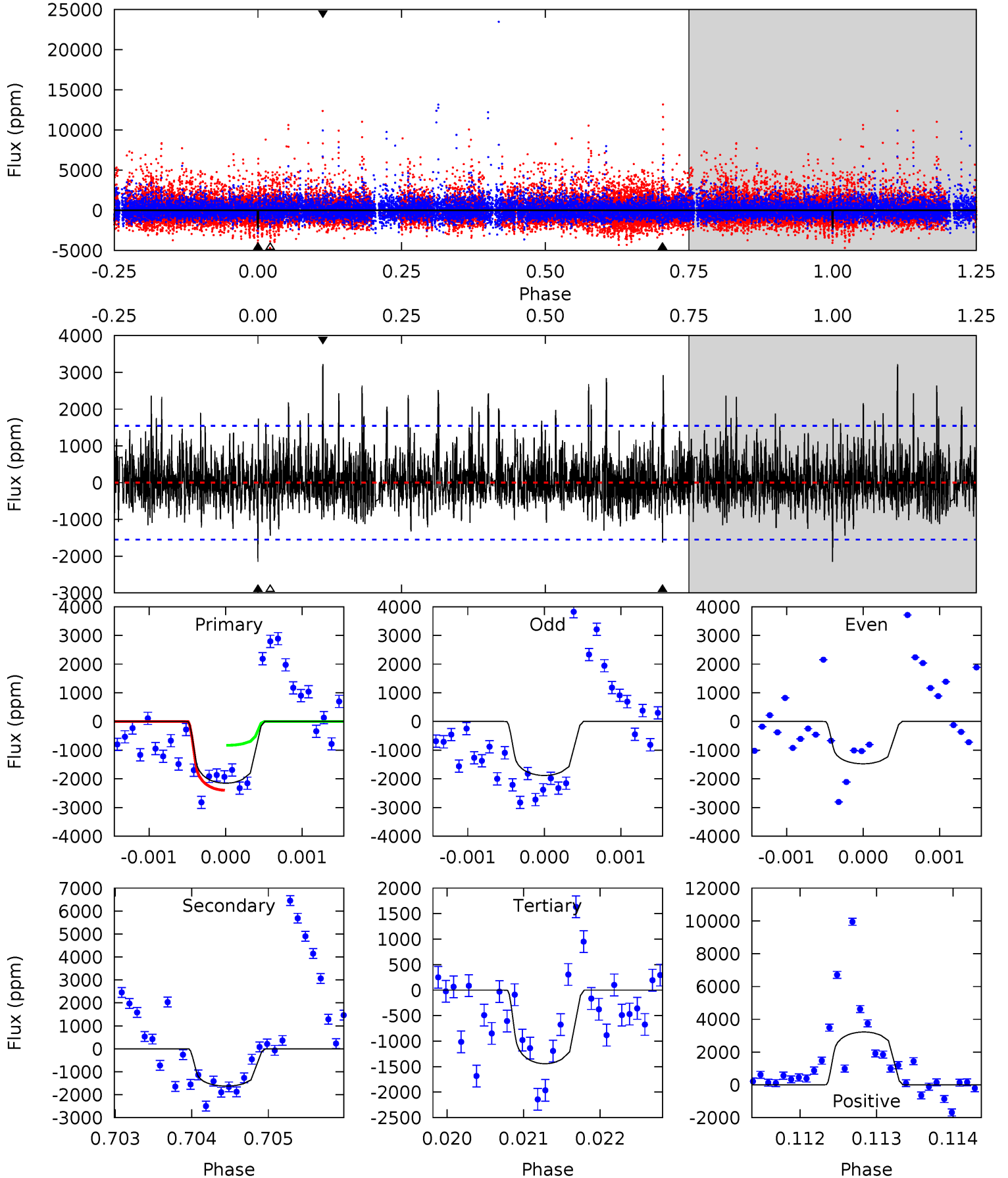
TCE 011343461-04 $P=223.988867$ Days $T_0=305.263272$ (BKJD)



DV Model-Shift Uniqueness Test

011343461-04, P = 223.984010 Days, E = 81.318107 Days

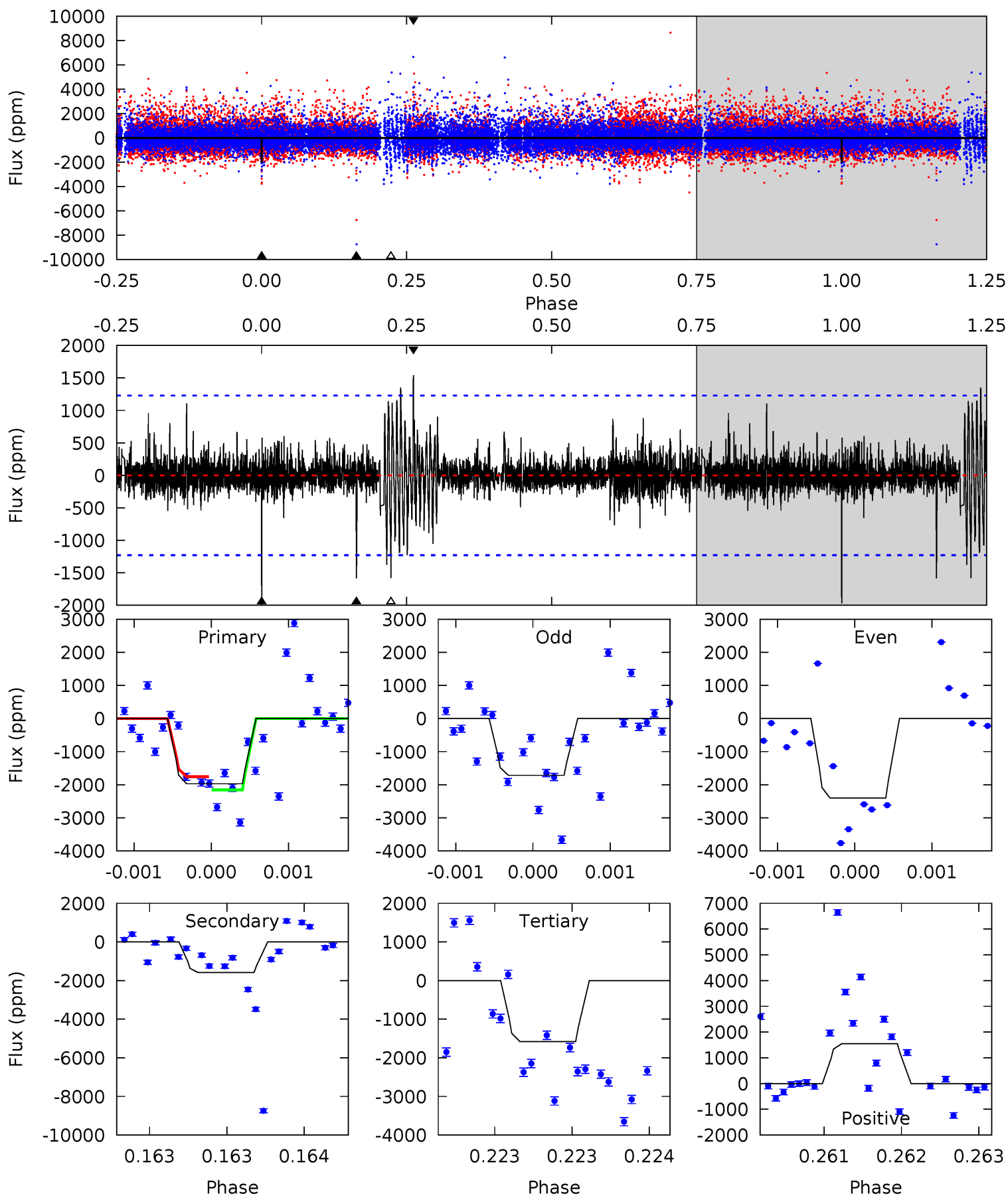
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.60	5.74	5.09	11.4	5.46	3.30	1.93	2.51	-3.78	0.64	-5.64	0.41	16.7	0.60	2.77



Alt Model-Shift Uniqueness Test

011343461-04, P = 223.988867 Days, E = 81.274405 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.86	7.14	7.10	6.94	5.53	3.42	0.99	1.76	1.92	0.03	0.20	1.38	0.83	0.44	0.89



Stellar Parameters For KIC 011343461

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3470^{+62}_{-55}	$4.970^{+0.050}_{-0.045}$	$-0.300^{+0.100}_{-0.100}$	$0.289^{+0.046}_{-0.038}$	$0.285^{+0.053}_{-0.044}$	$16.570^{+4.807}_{-3.732}$
	+2%/-2%	+1%/-1%	+33%/-33%	+16%/-13%	+19%/-15%	+29%/-23%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011343461-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1626 ± 283	$1.74^{+1.47}_{-1.15}$	167^{+5}_{-5}	3167^{+1284}_{-481}	$66693^{+463853}_{-46283}$
Alt.	-1587 ± 222	$1.65^{+1.44}_{-1.05}$	167^{+4}_{-5}	3186^{+1380}_{-499}	$71165^{+506248}_{-50593}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

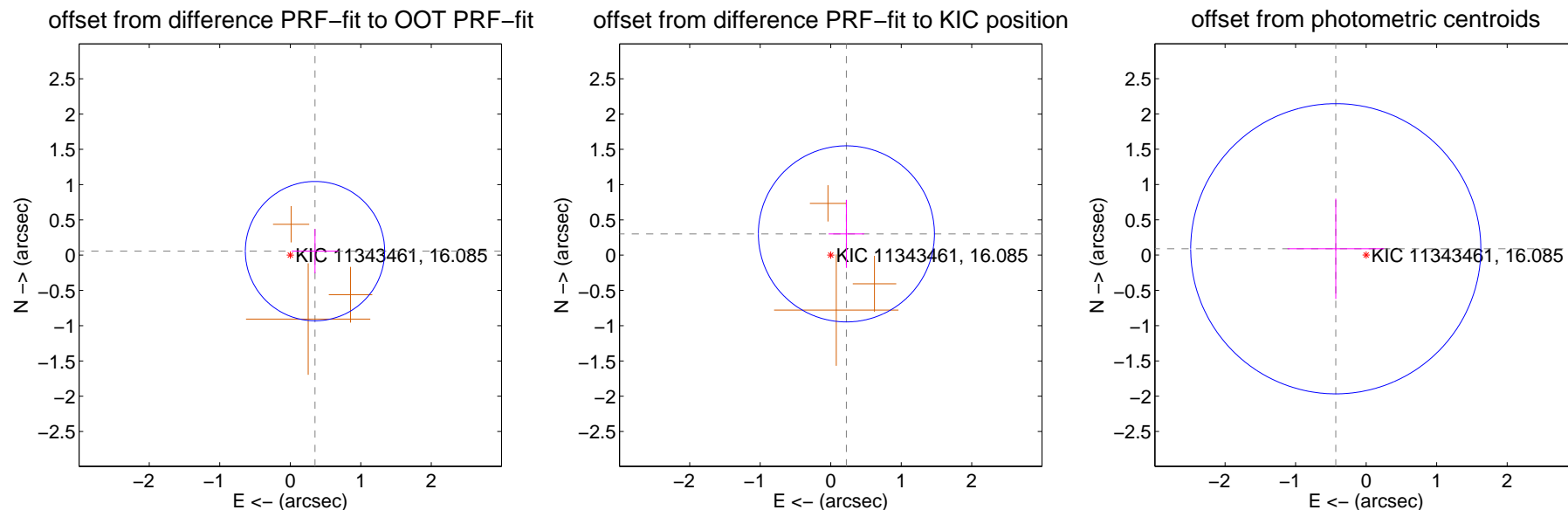
DV Centroid Data

Supplemental centroid analysis for 011343461-04. Kepler magnitude: 16.09. Transit SNR 6.57

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.356 ± 0.329	1.08	-0.351 ± 0.330	0.057 ± 0.314
PRF-fit source offset from KIC position	0.375 ± 0.416	0.90	-0.222 ± 0.252	0.302 ± 0.482
photometric centroid source offset	0.44 ± 0.69	0.64	0.43 ± 0.68	0.09 ± 0.71



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

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

Q1 no difference image



Q1 no OOT image



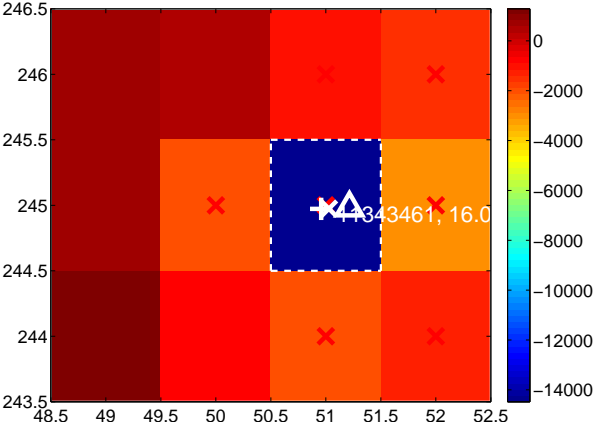
Q2 no difference image



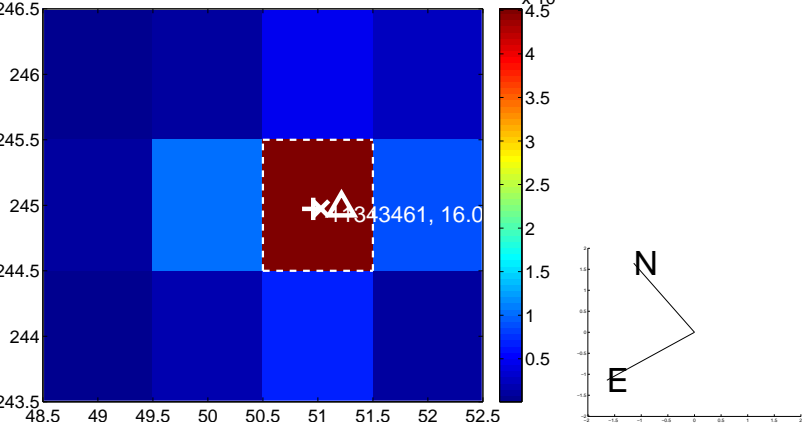
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



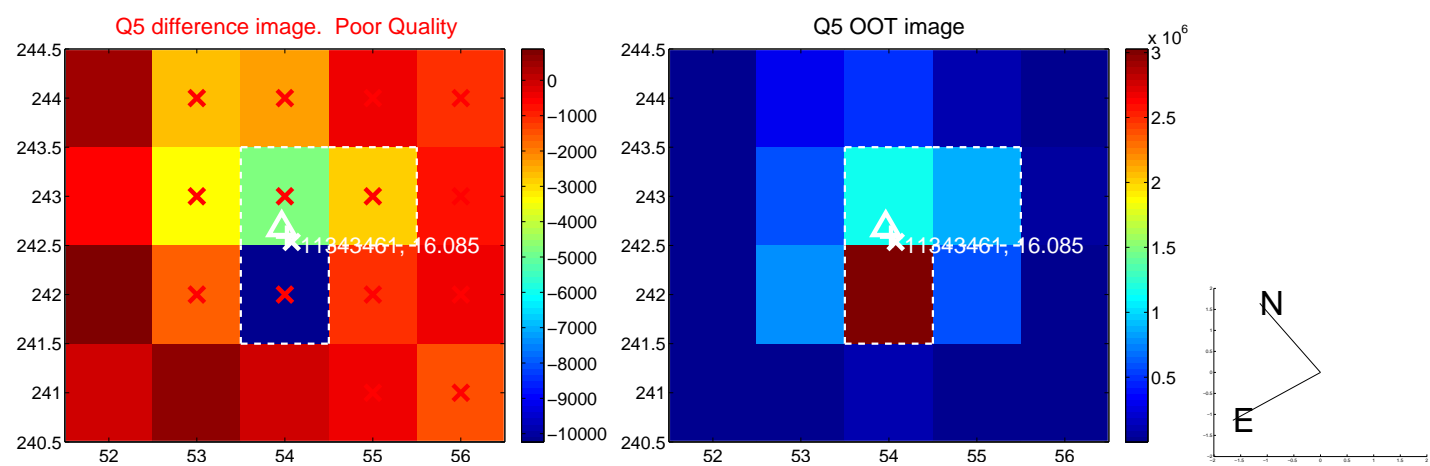
Q4 no difference image



Q4 no OOT image



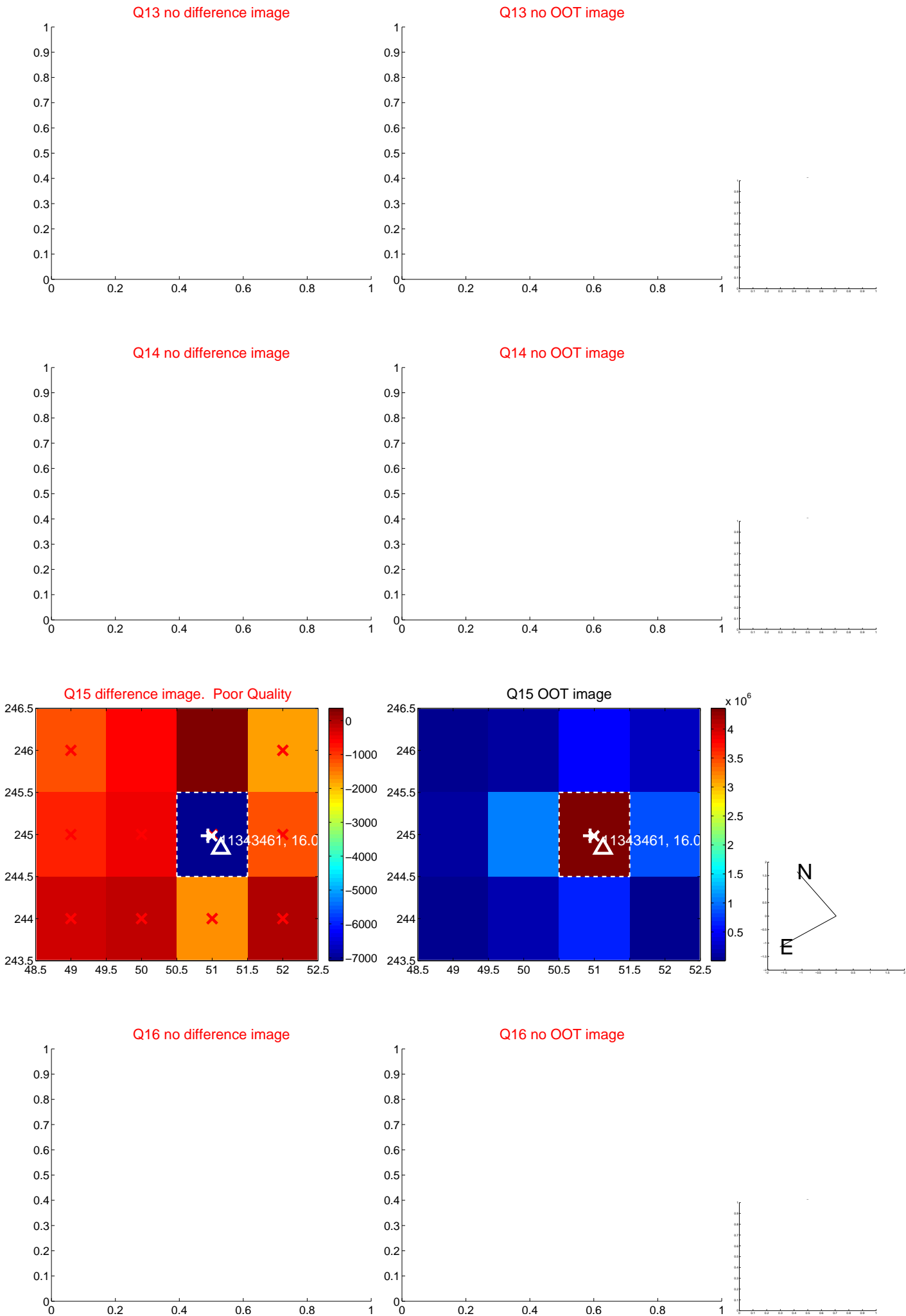
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



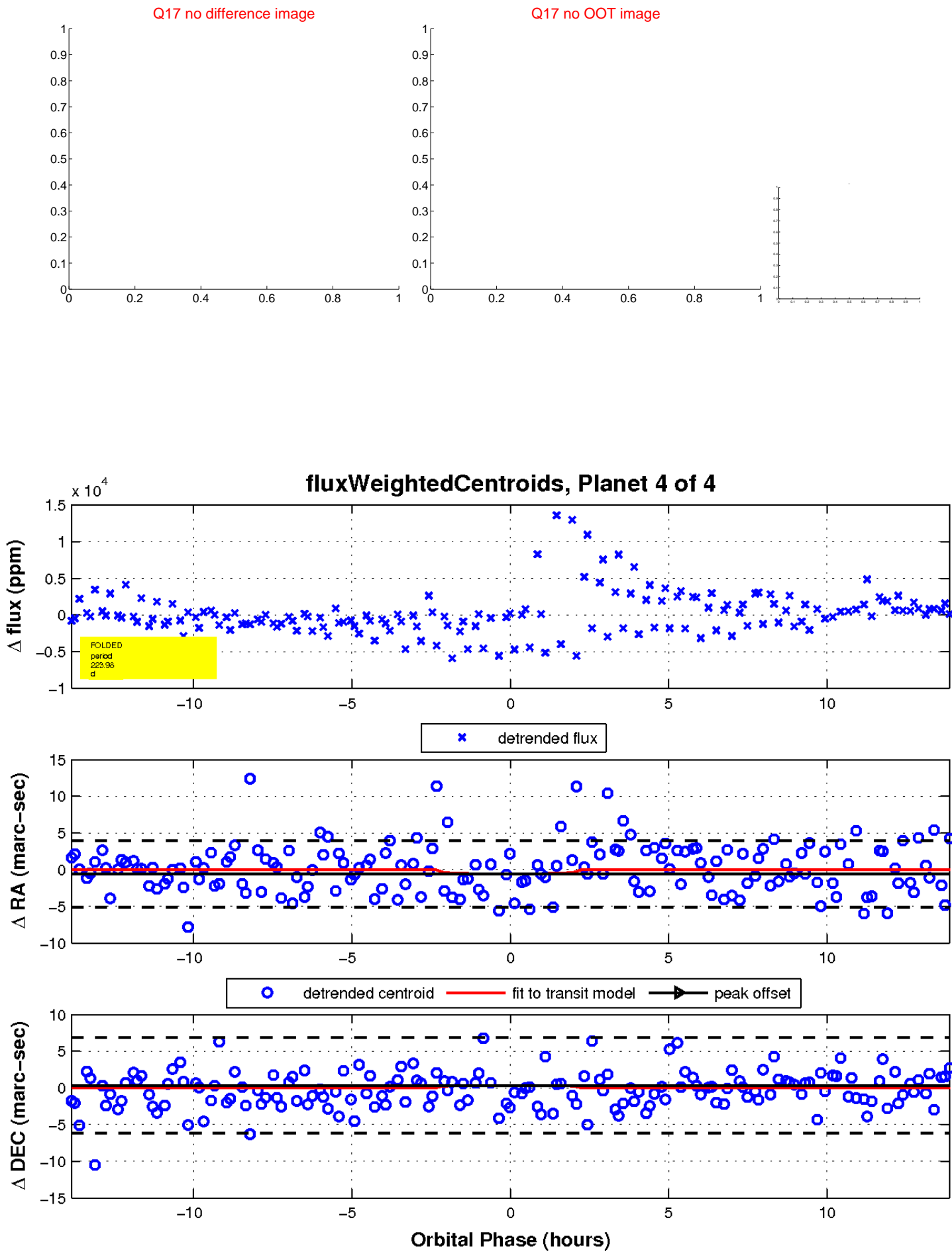
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

