

KIC 011408304

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})
011408304-01	OBS	No	337.324201	419.186782	199.9	12.959	14.0	5.9	3.53	6064	7.08	12.06
011408304-02	OBS	No	529.047454	220.759000	269.8	6.710	8.1	8.1	3.53	6064	10.62	6.62
011408304-03	OBS	No	457.011081	141.576209	167.5	13.650	8.2	6.6	3.53	6064	5.17	8.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011408304-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_SATURATED
011408304-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_SATURATED
011408304-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST

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

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

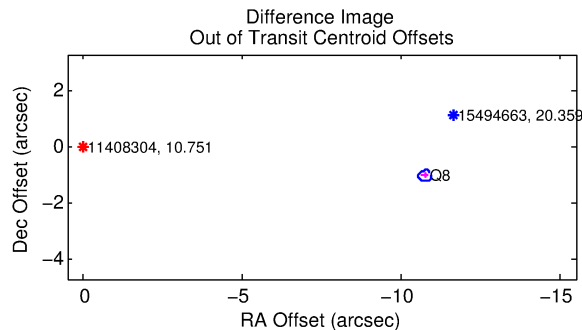
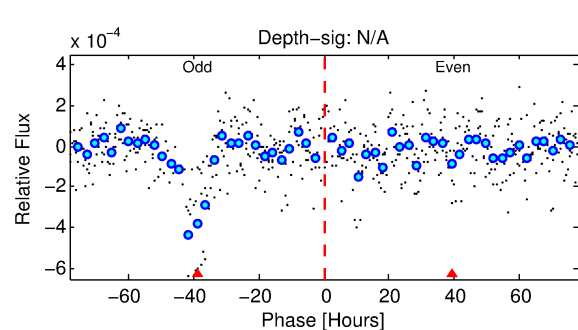
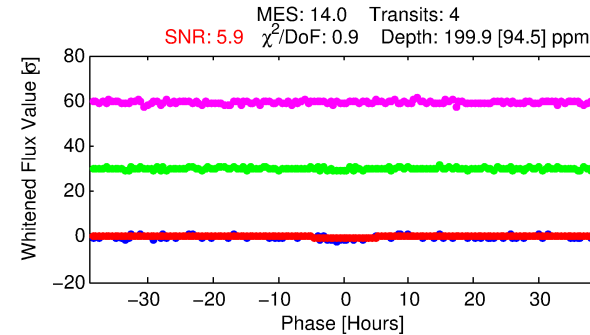
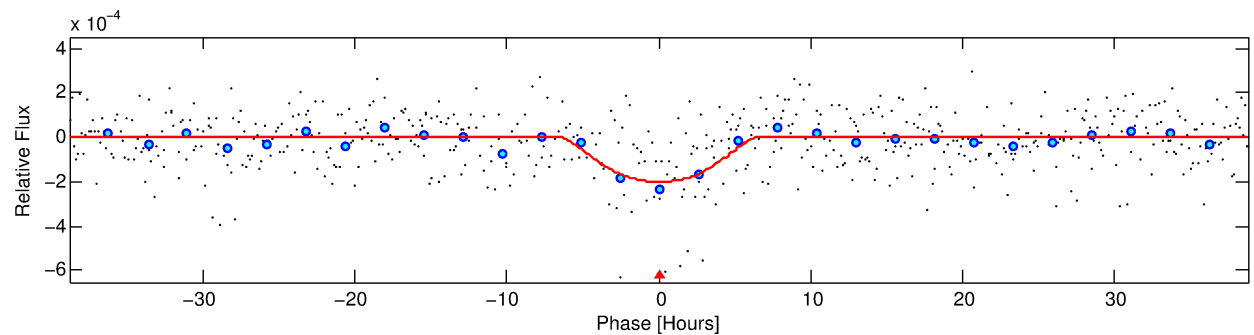
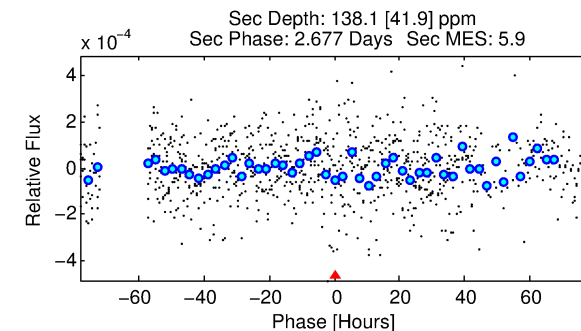
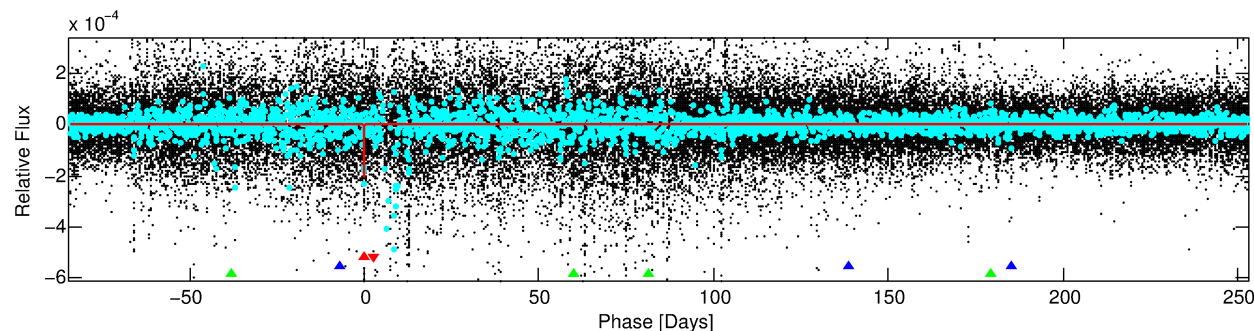
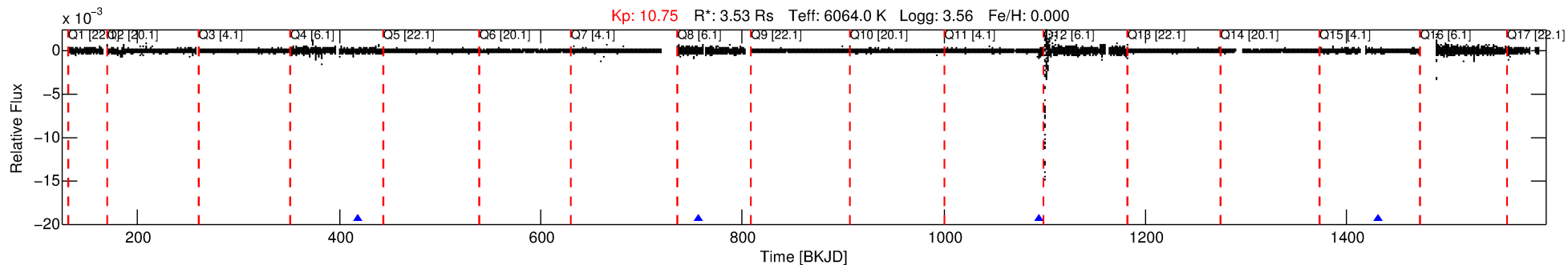
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011408304-01

No Significant Match Found

DV One-Page Summary

KIC: 11408304 Candidate: 1 of 3 Period: 337.324 d



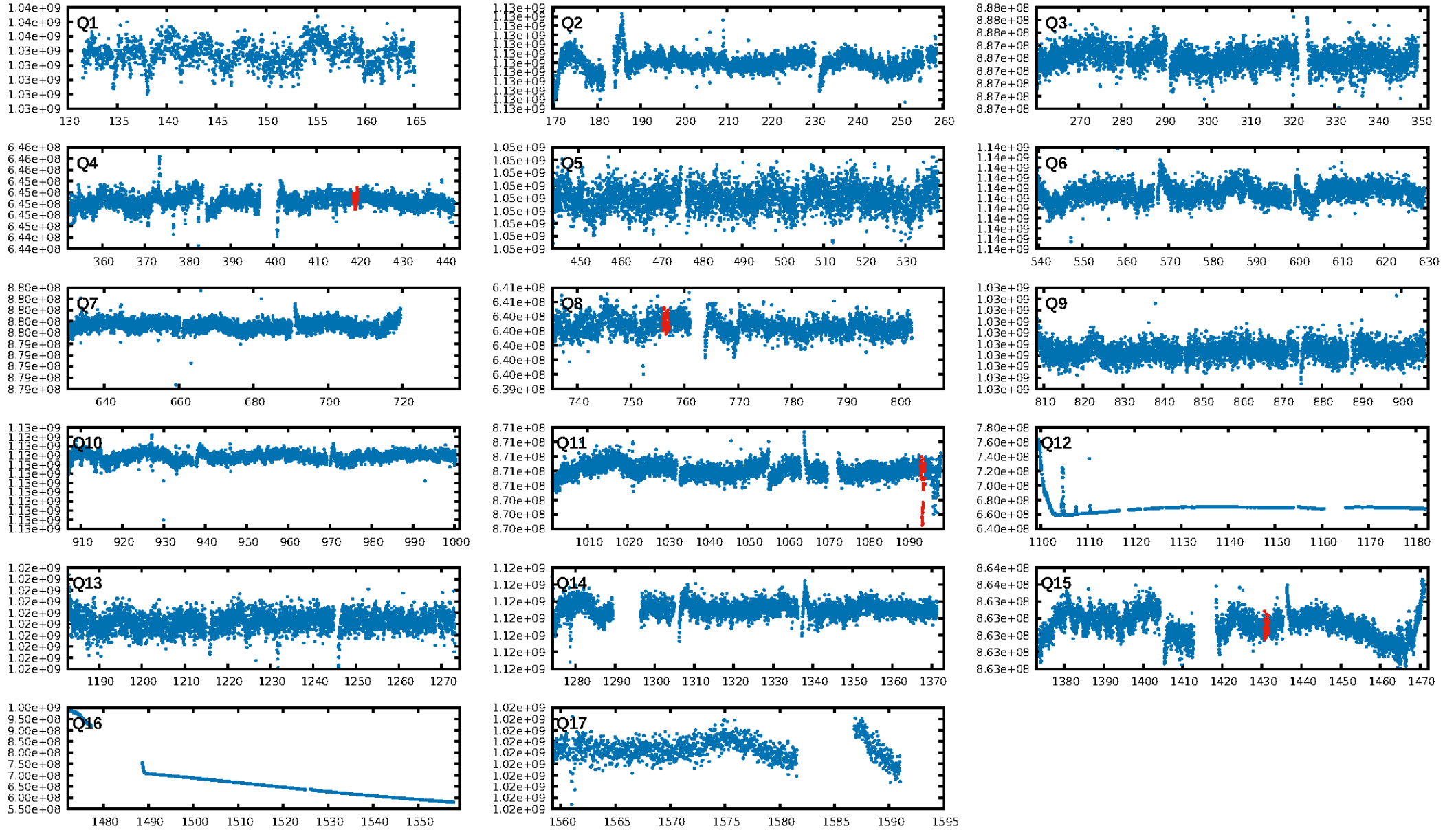
DV Fit Results:

Period = 337.32420 [0.01627] d
Epoch = 419.1868 [0.0348] BKJD
Rp/R* = 0.0184 [0.0085]
a/R* = 51.44 [17.48]
b = 0.98 [0.02]
Seff = 12.06 [7.69]
Teq = 475 [76] K
Rp = 7.08 [4.36] Re
a = 1.1201 [0.4385] AU
Ag = 1902.56 [2201.79] [0.86σ]
Teff = 4852 [1190] K [3.67σ]

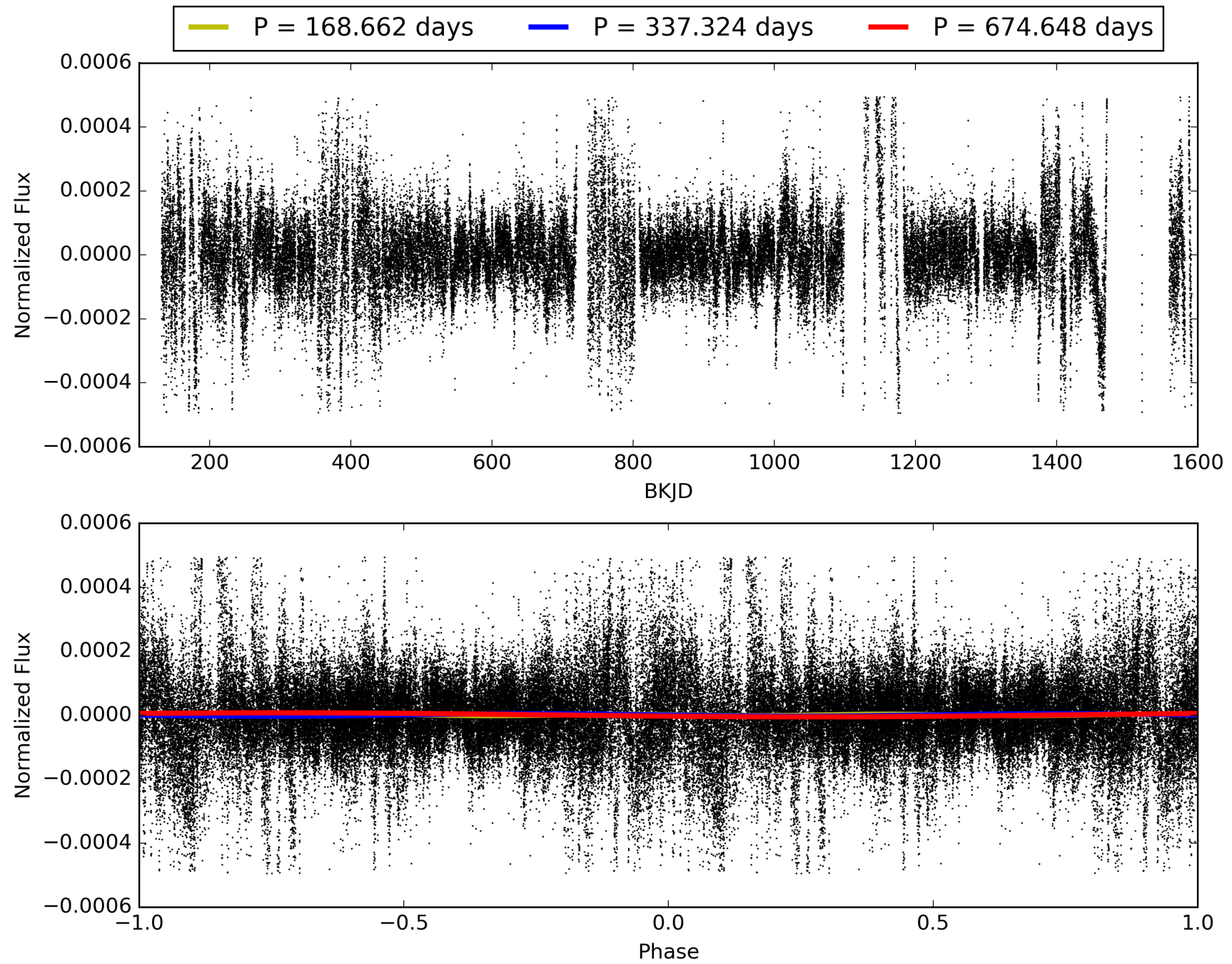
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [152.61σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.36e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.615
Centroid-sig: 0.3%
Centroid-so: 13.311 arcsec [2.62σ]
OotOffset-rm: 10.790 arcsec [160.06σ]
KicOffset-rm: 10.083 arcsec [150.12σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 011408304-01, PDC Light Curves

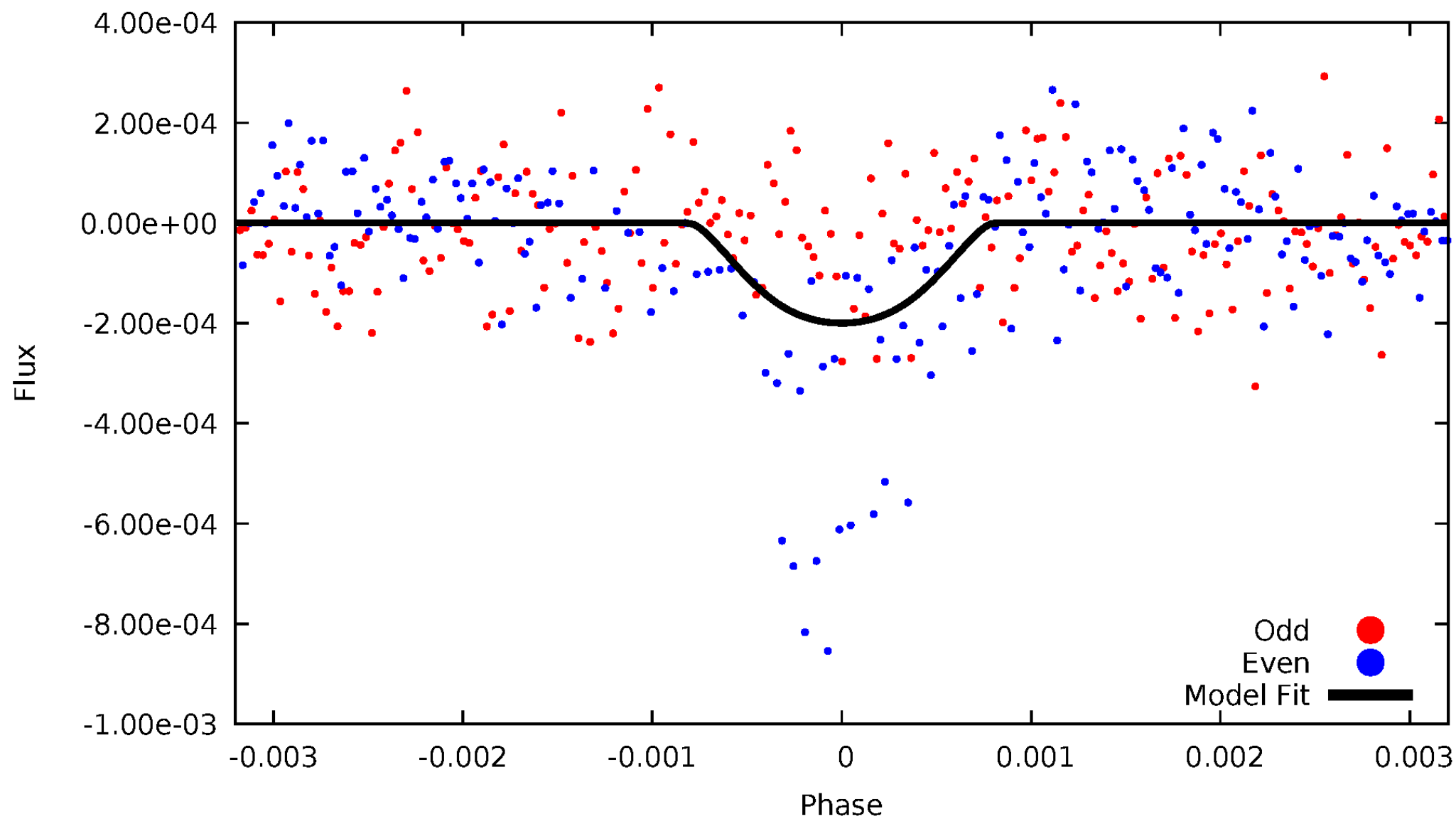


TCE 011408304-01



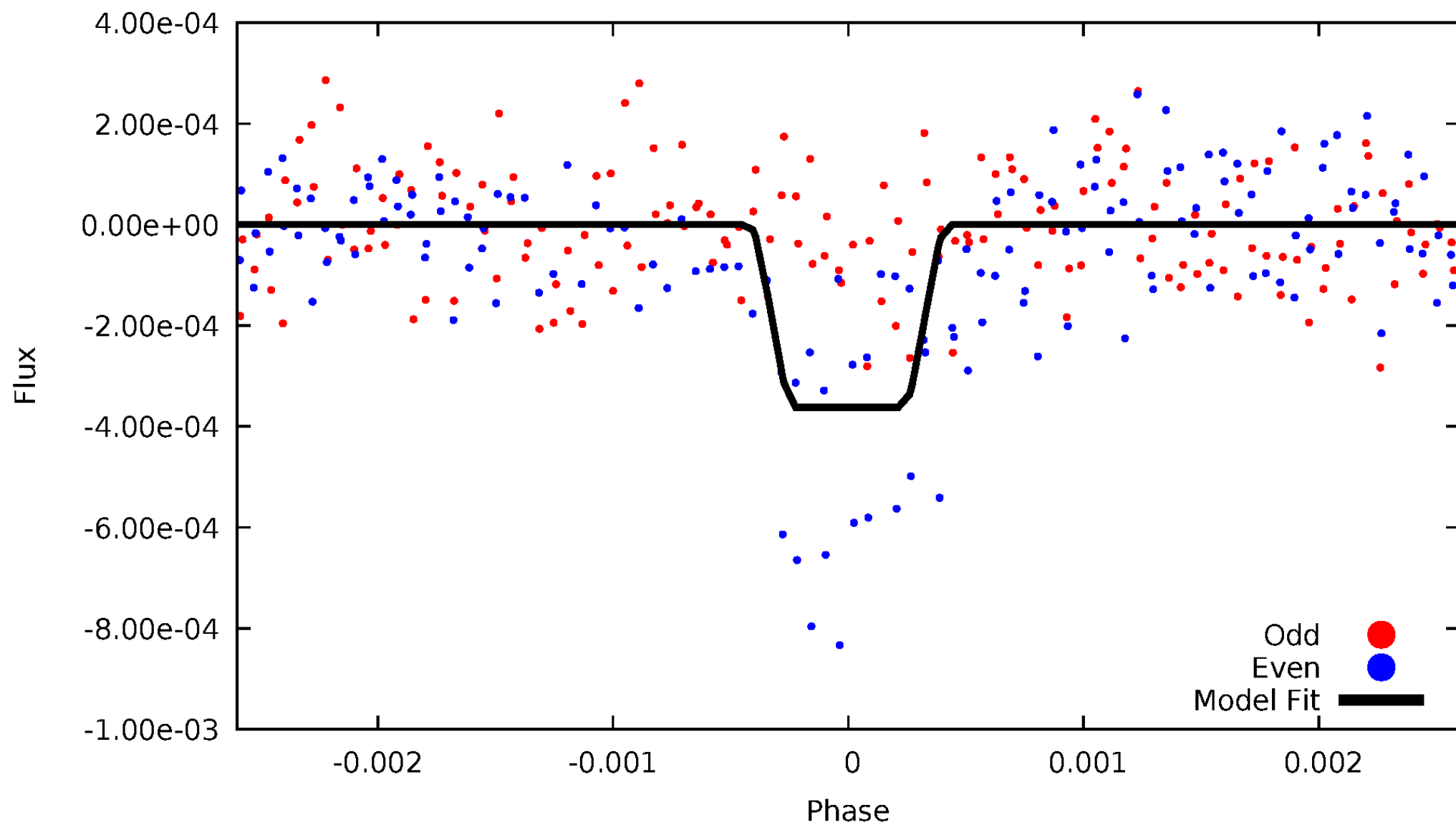
DV Odd/Even

TCE 011408304-01

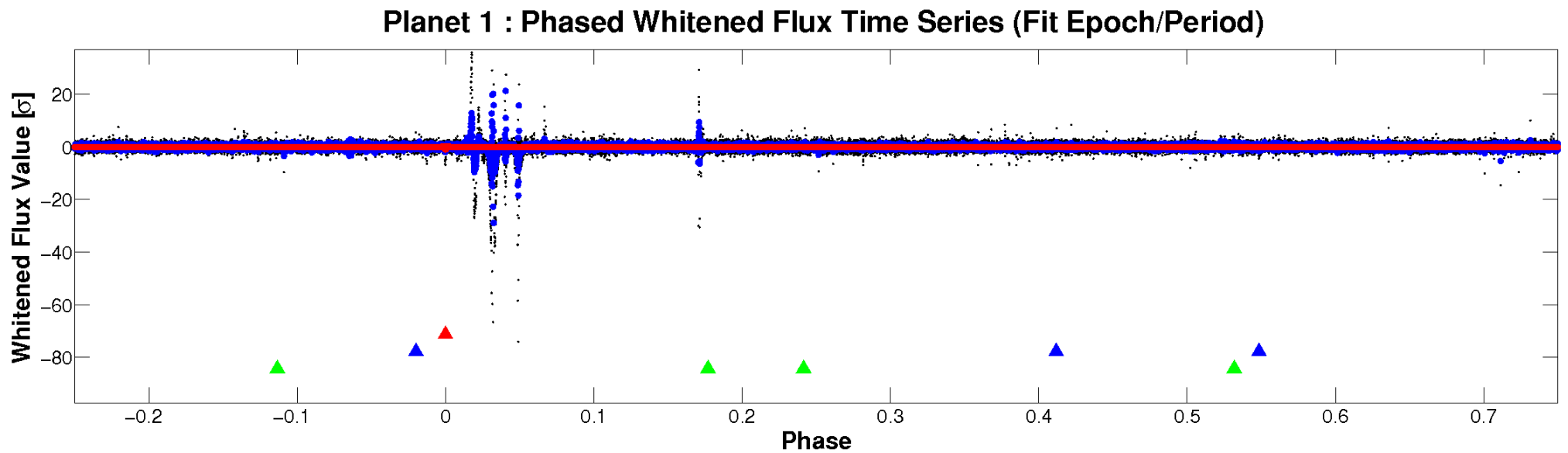
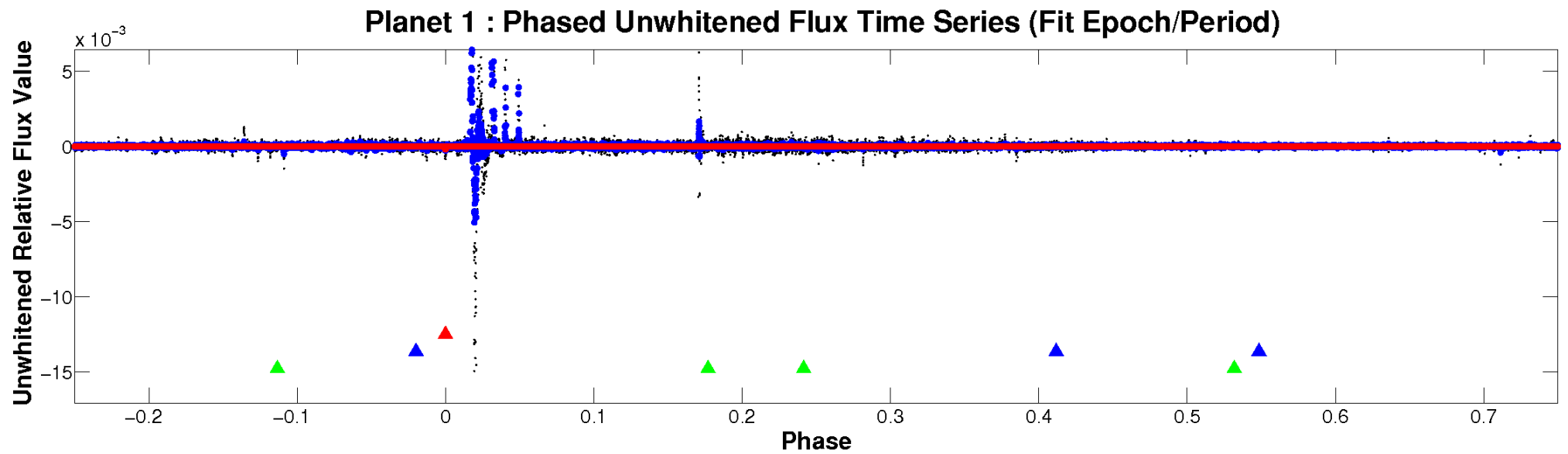


ALT Odd/Even

TCE 011408304-01



Non-Whitened Vs. Whitened Light Curve



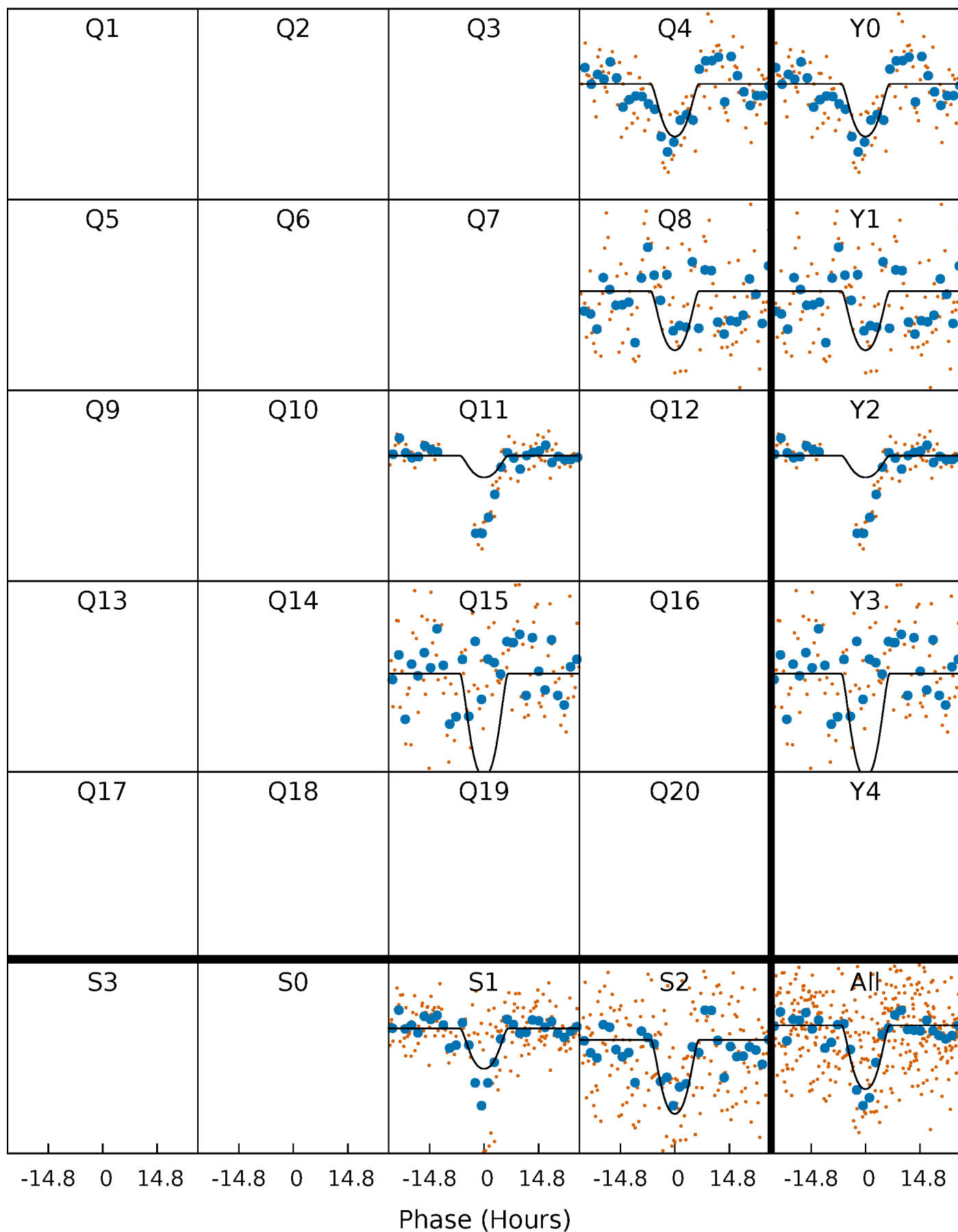
PDC Quarter-Phased Transit Curves

TCE 011408304-01 P=337.324201 Days $T_0=419.186782$ (BKJD)



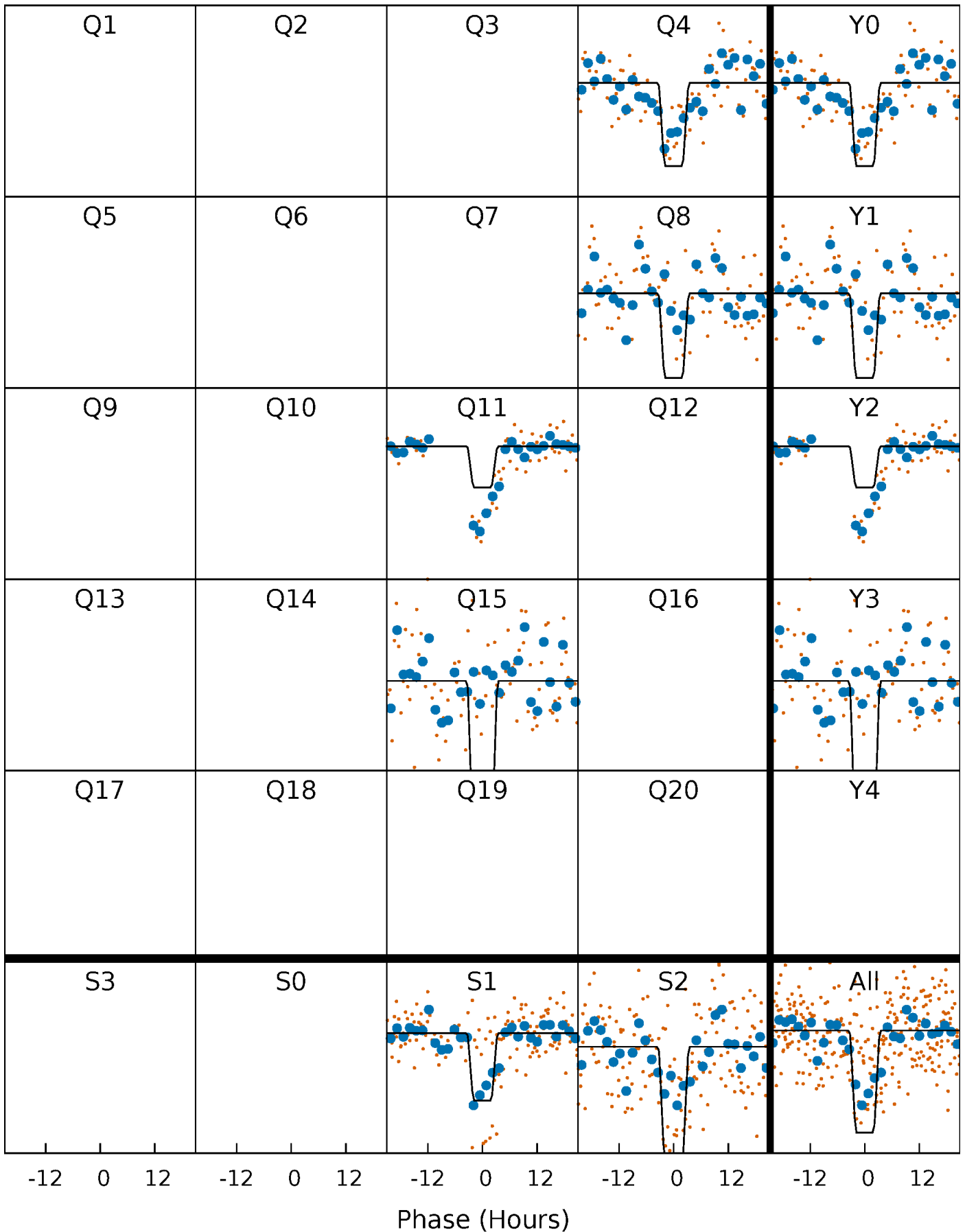
DV Quarter-Phased Transit Curves

TCE 011408304-01 P=337.324201 Days $T_0=419.186782$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

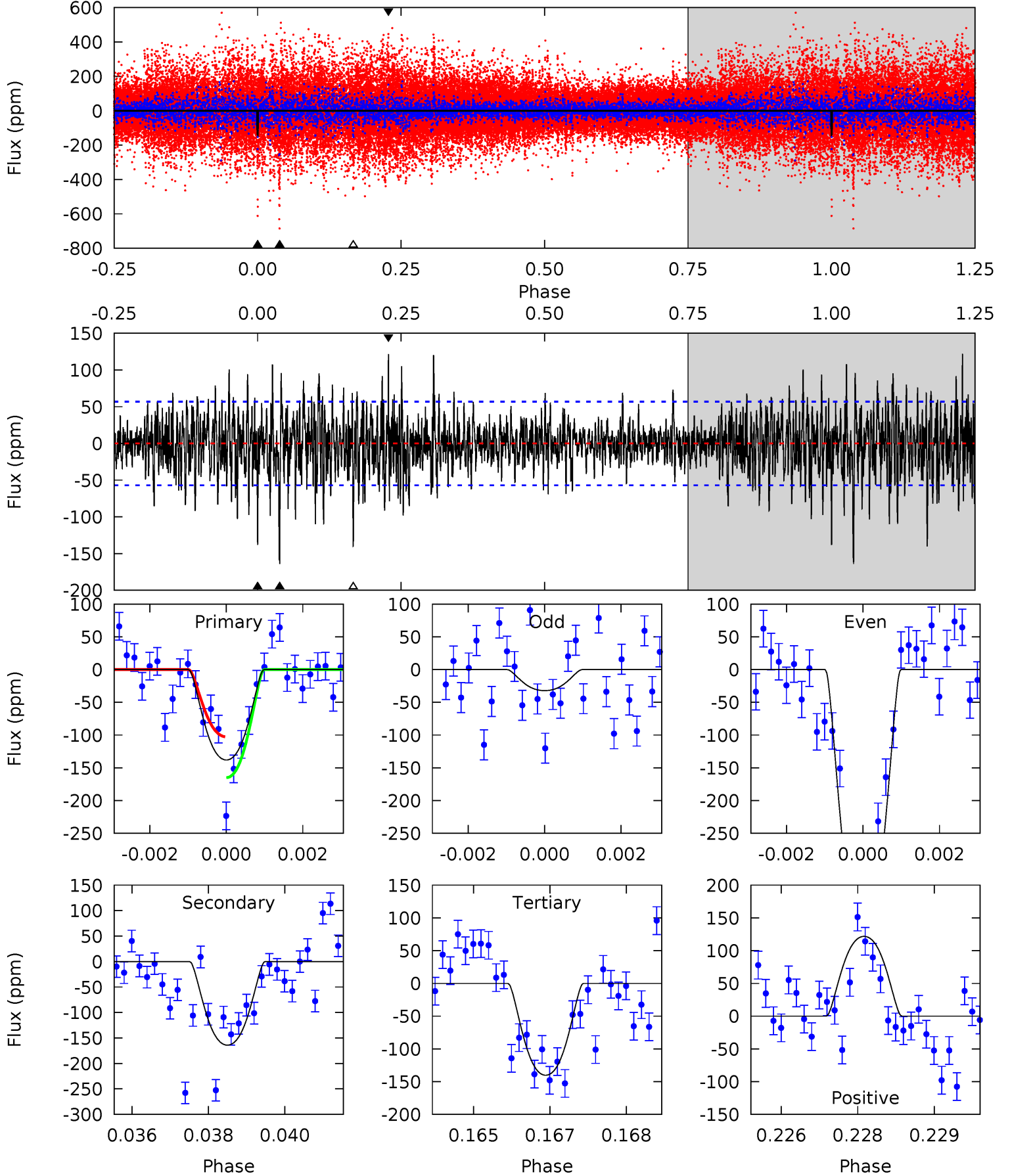
TCE 011408304-01 P=337.337642 Days $T_0=419.147458$ (BKJD)



DV Model-Shift Uniqueness Test

011408304-01, $P = 337.324201$ Days, $E = 81.862581$ Days

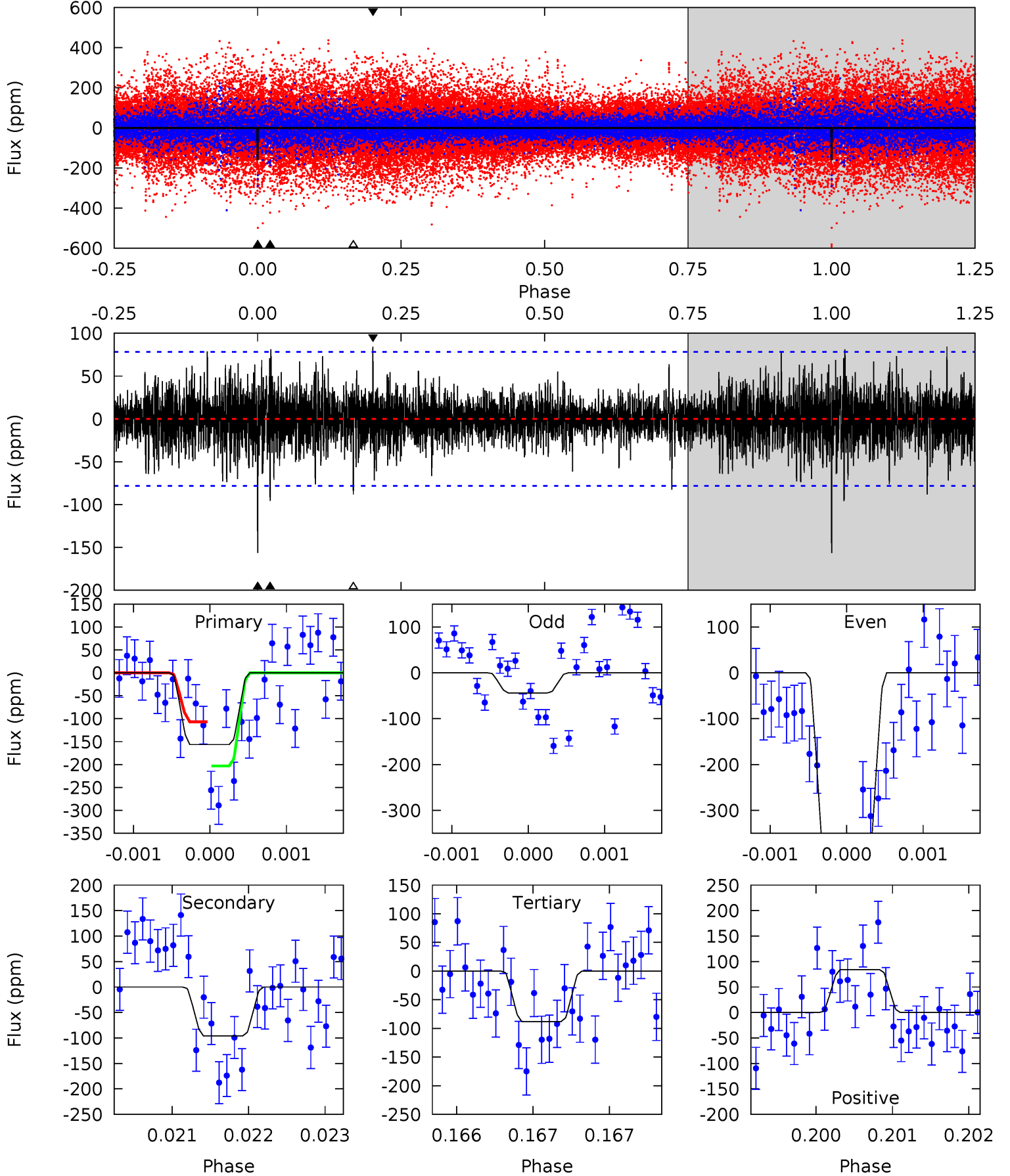
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	15.4	13.2	11.5	5.36	3.15	2.74	-0.20	1.54	2.24	3.98	4.13	1.59	0.43	0



Alt Model-Shift Uniqueness Test

011408304-01, $P = 337.337642$ Days, $E = 81.809816$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	6.72	6.17	5.91	5.48	3.34	1.33	4.80	5.05	0.55	0.80	14.8	1.58	0.35	3.41



Stellar Parameters For KIC 011408304

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6064^{+185}_{-167}	$3.558^{+0.367}_{-0.122}$	$0.000^{+0.300}_{-0.300}$	$3.534^{+0.618}_{-1.441}$	$1.644^{+0.178}_{-0.416}$	$0.052^{+0.161}_{-0.018}$
	+3%/-3%	+10%/-3%	+inf%/-inf%	+17%/-41%	+11%/-25%	+307%/-35%
Source	PHO1	FLK73	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 011408304-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-164 ± 11	$6.45^{+3.38}_{-3.00}$	653^{+42}_{-63}	5126^{+1812}_{-715}	2667^{+6652}_{-1508}
Alt.	-96 ± 14	$6.90^{+3.50}_{-3.07}$	654^{+45}_{-65}	4509^{+1337}_{-583}	1380^{+3230}_{-770}

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

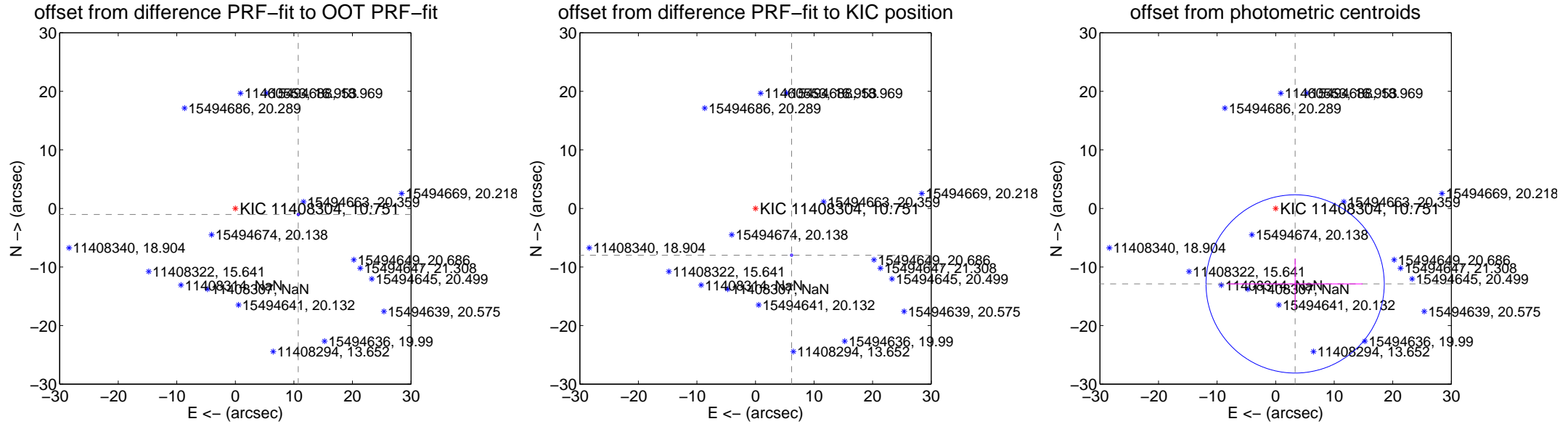
DV Centroid Data

Supplemental centroid analysis for 011408304-01. **Kepler magnitude: 10.75.** Transit SNR 5.87

There are 1 quarters with good PRF difference image offsets

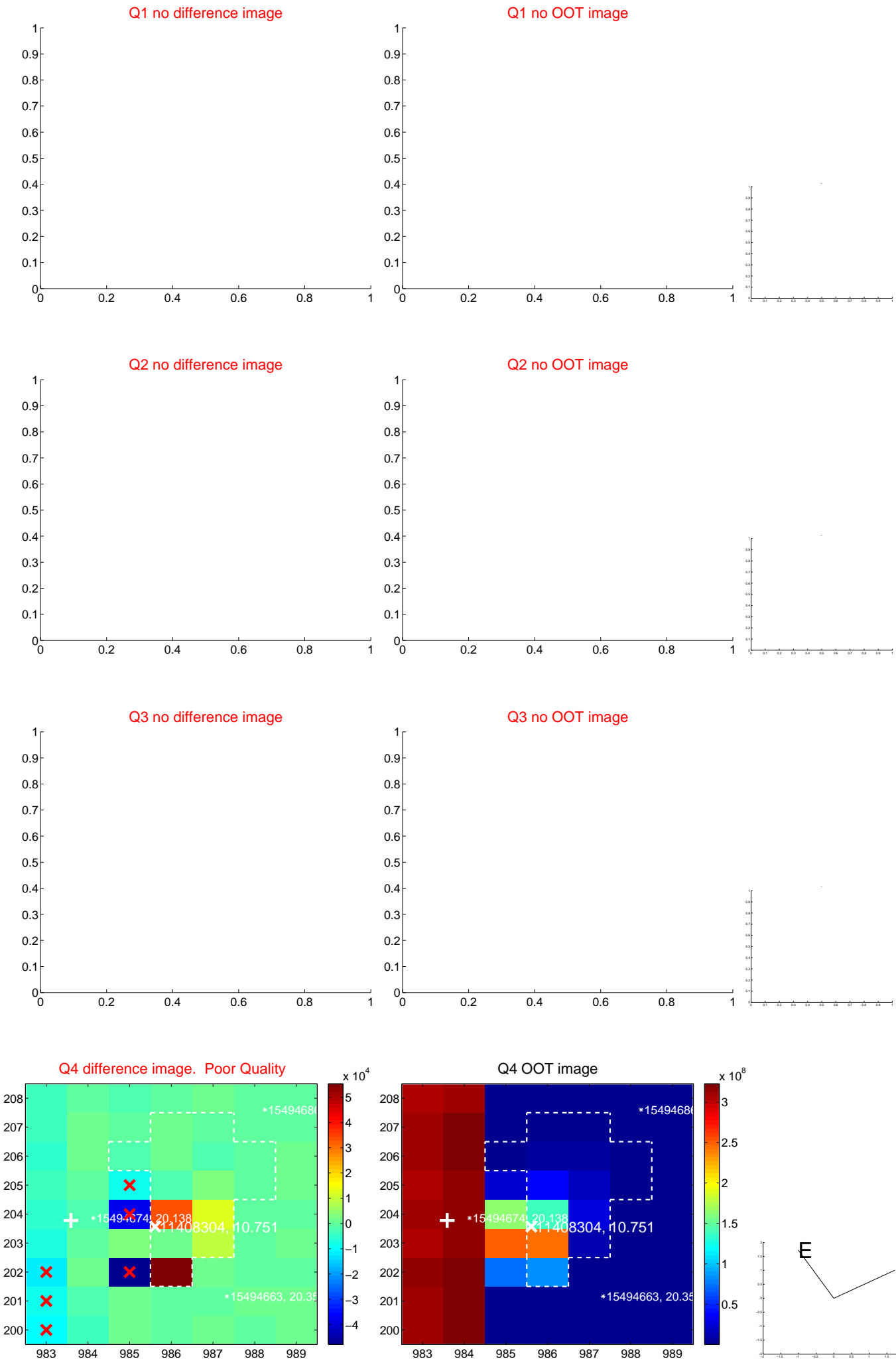
The OOT PRF centroid is offset from the target star catalog position by about 8.32 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.790 ± 0.067	160.06	-10.741 ± 0.067	-1.028 ± 0.067
PRF-fit source offset from KIC position	10.083 ± 0.067	150.12	-6.164 ± 0.067	-7.980 ± 0.067
photometric centroid source offset	13.31 ± 5.07	2.62	-3.33 ± 11.52	-12.89 ± 4.31

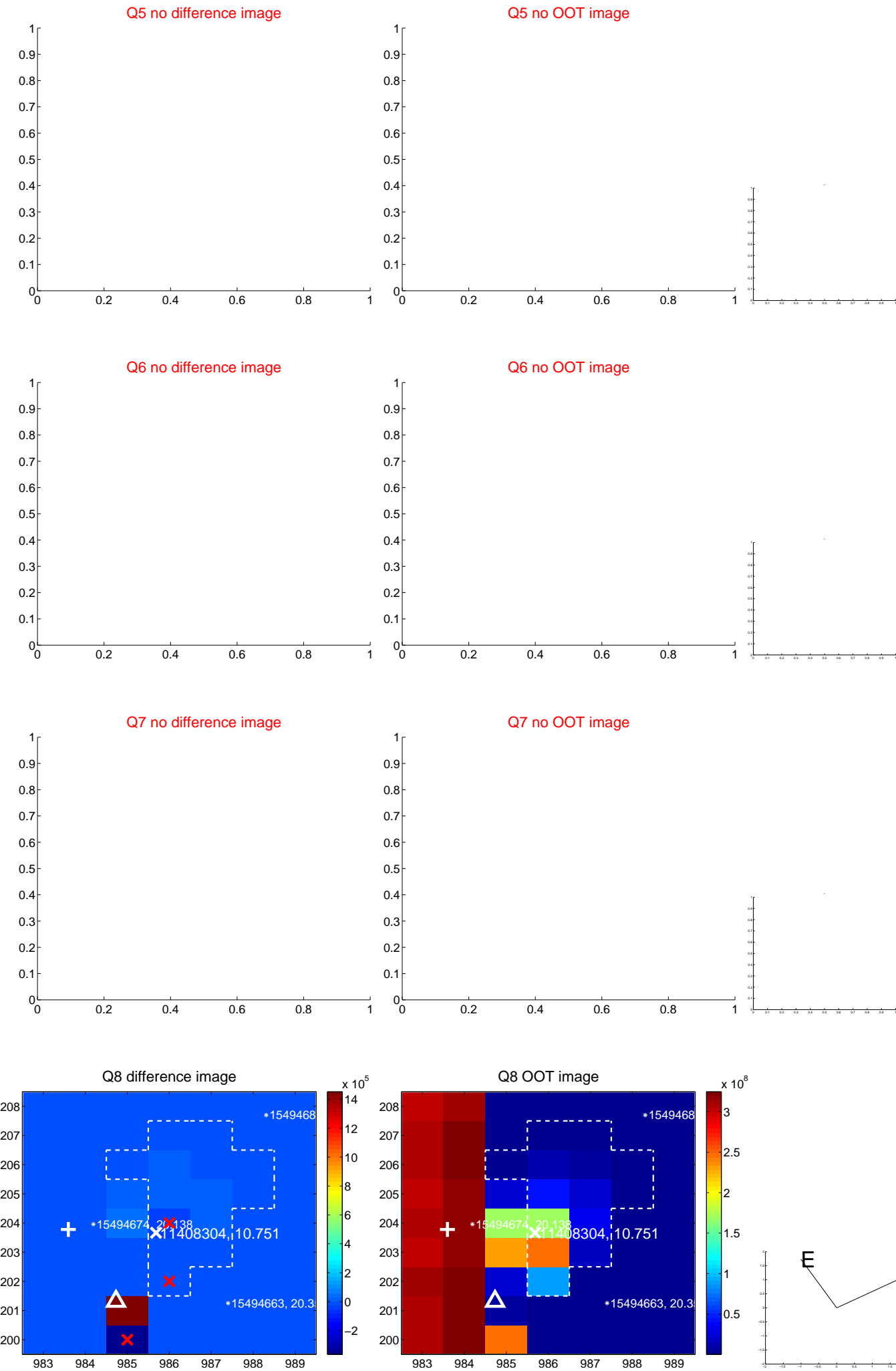


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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



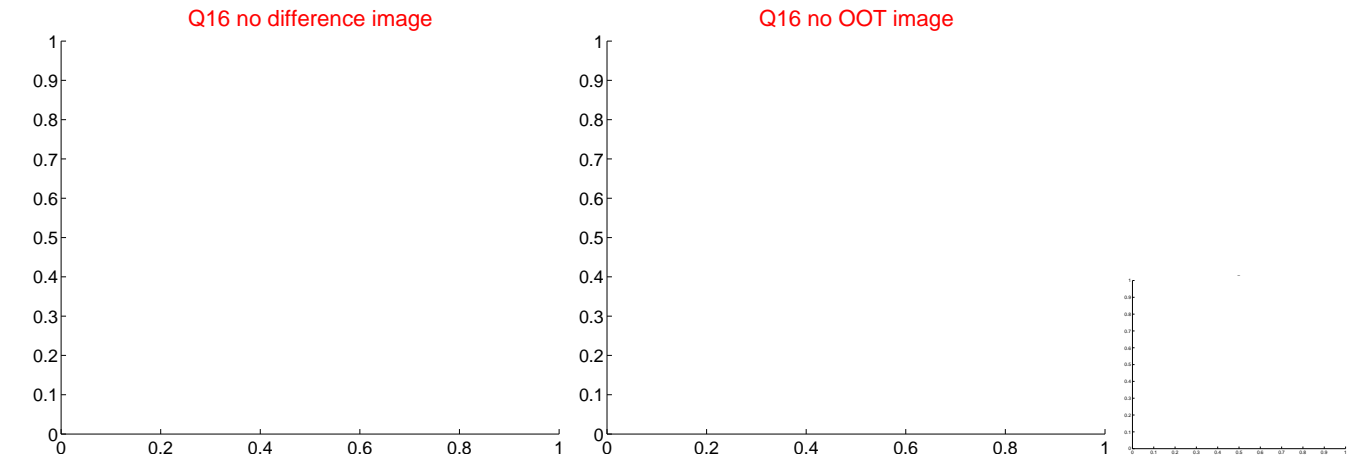
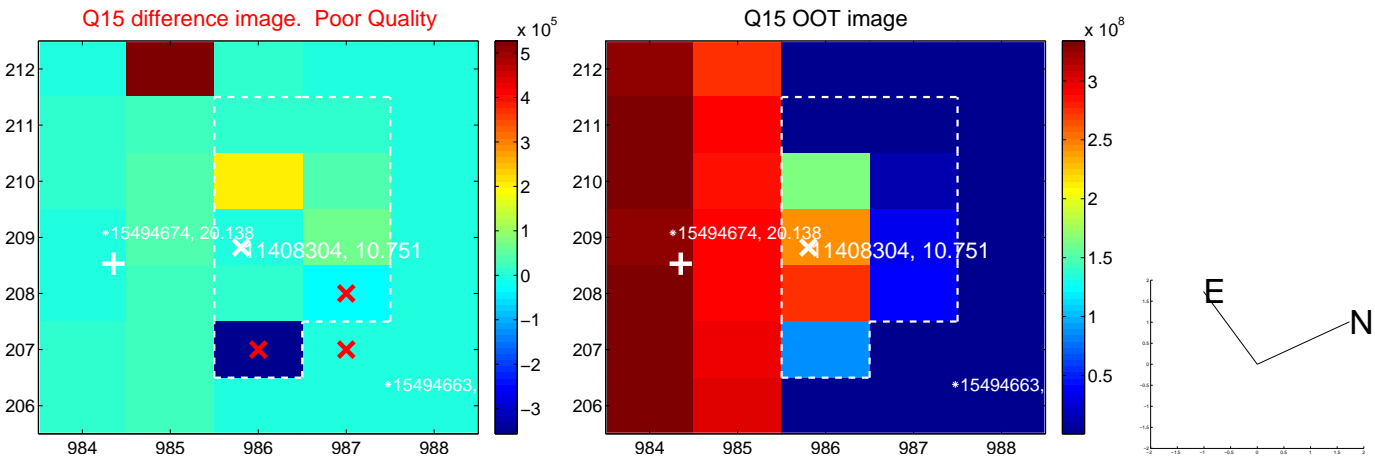
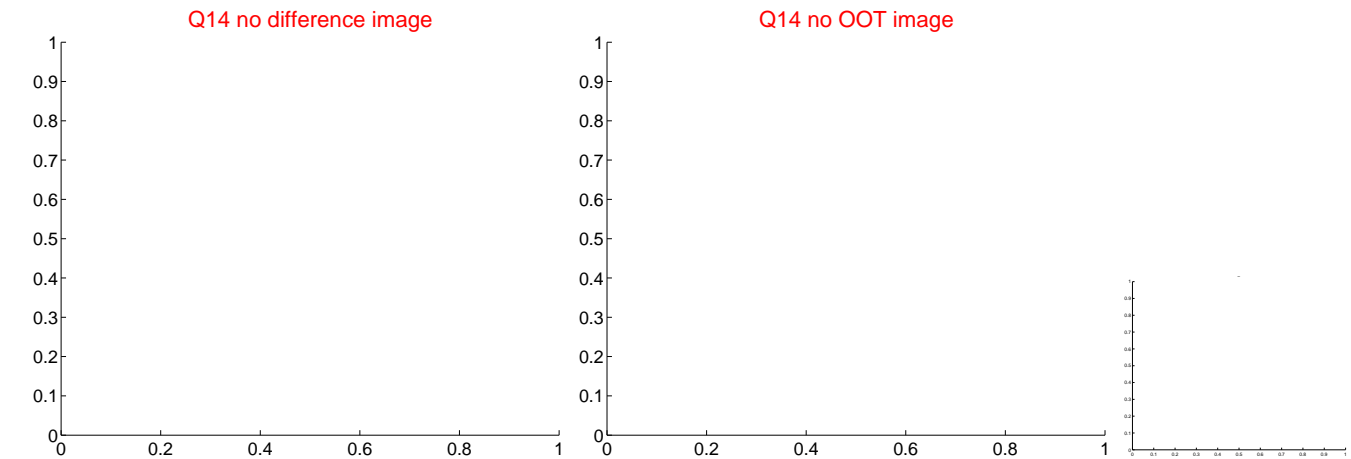
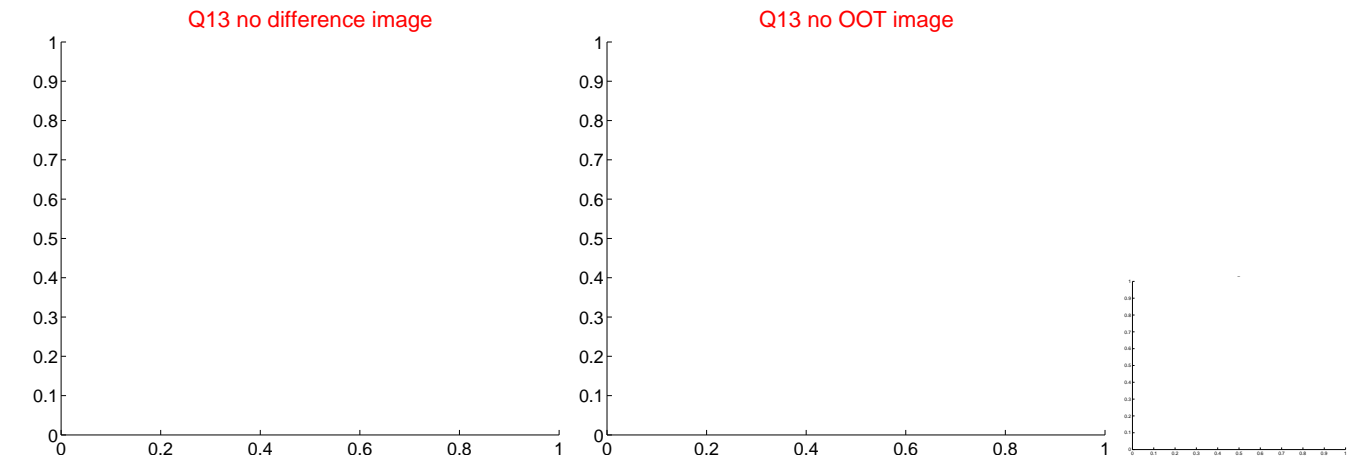
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



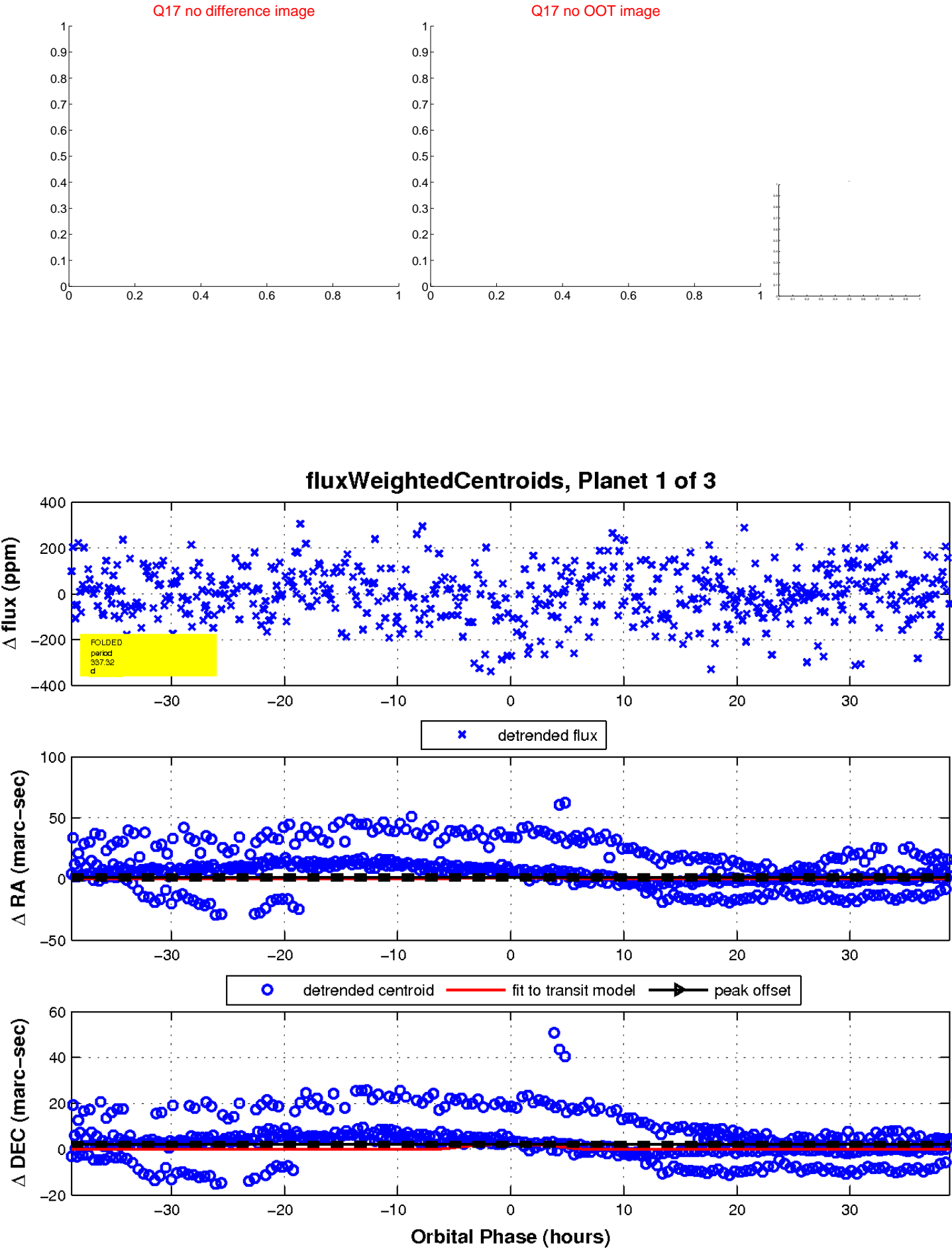
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

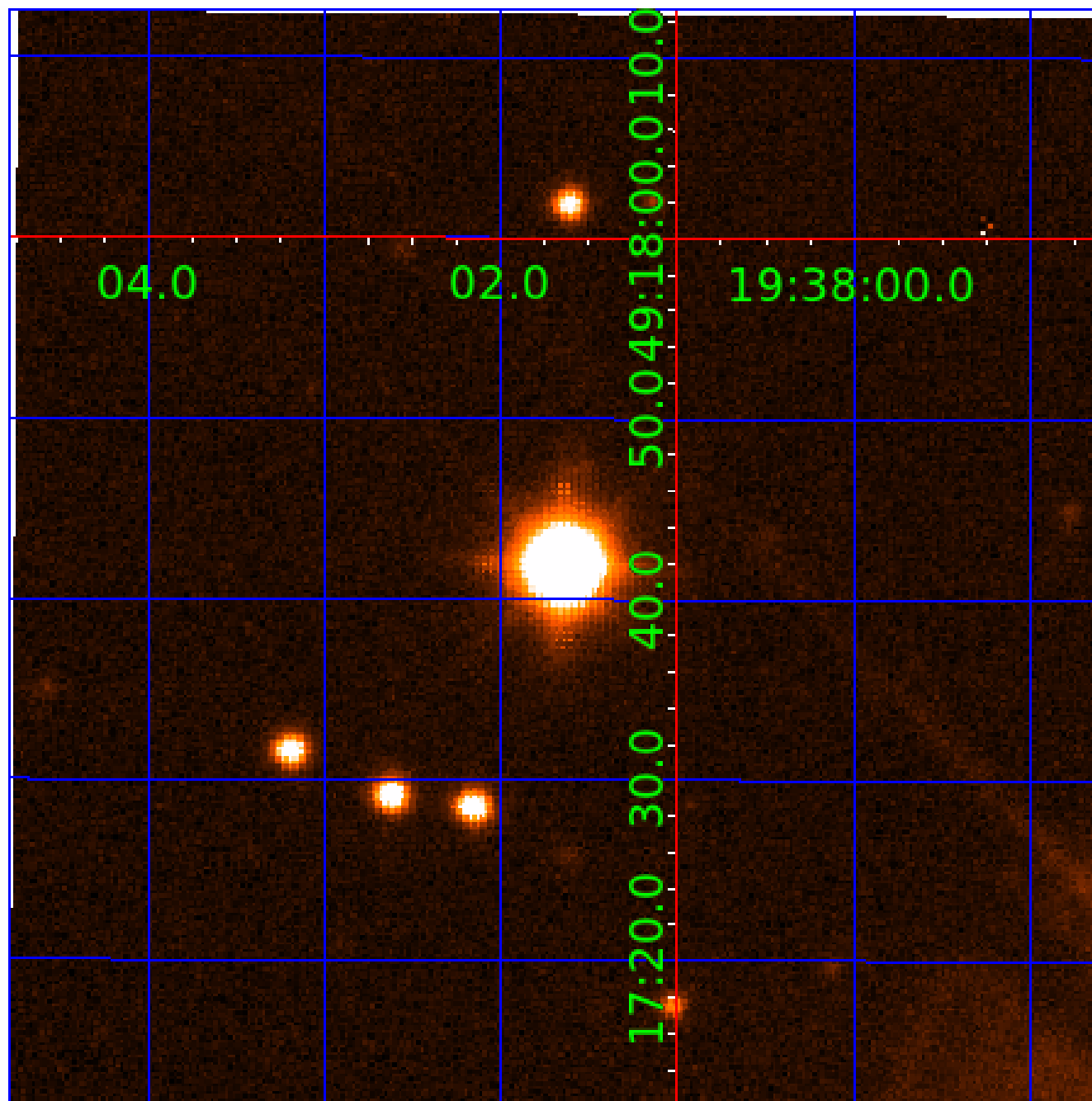


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011408304

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})
011408304-01	OBS	No	337.324201	419.186782	199.9	12.959	14.0	5.9	3.53	6064	7.08	12.06
011408304-02	OBS	No	529.047454	220.759000	269.8	6.710	8.1	8.1	3.53	6064	10.62	6.62
011408304-03	OBS	No	457.011081	141.576209	167.5	13.650	8.2	6.6	3.53	6064	5.17	8.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011408304-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_SATURATED
011408304-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_SATURATED
011408304-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST

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

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

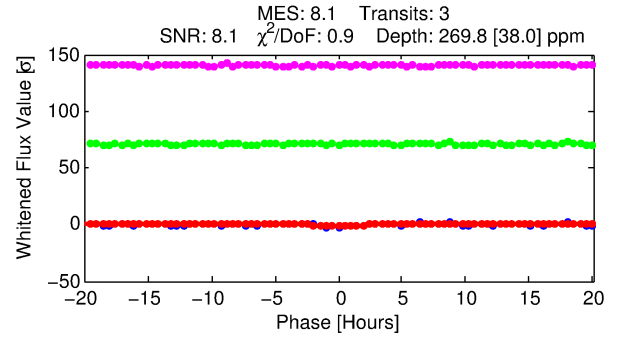
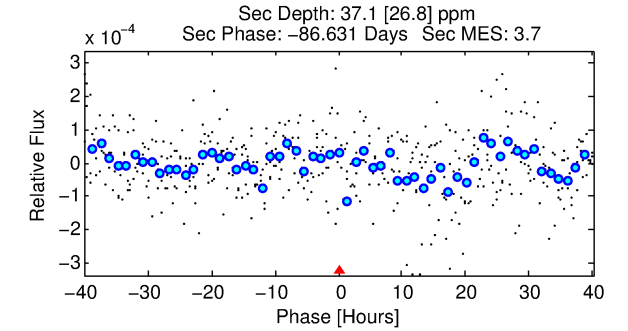
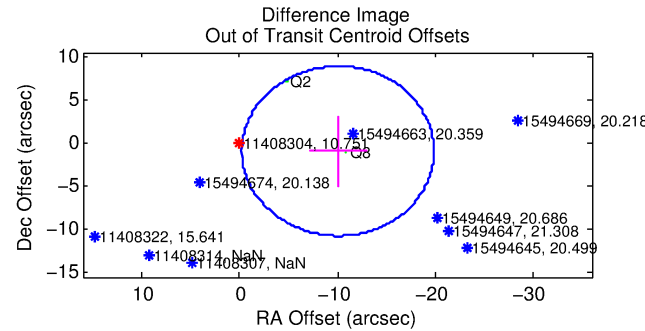
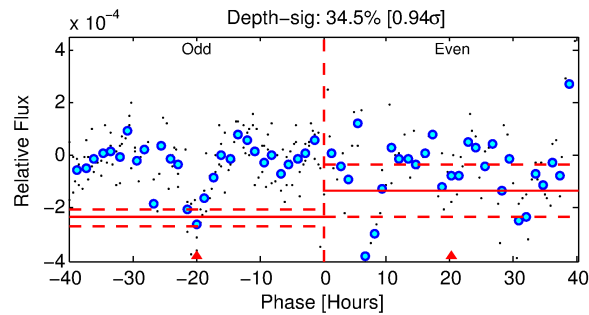
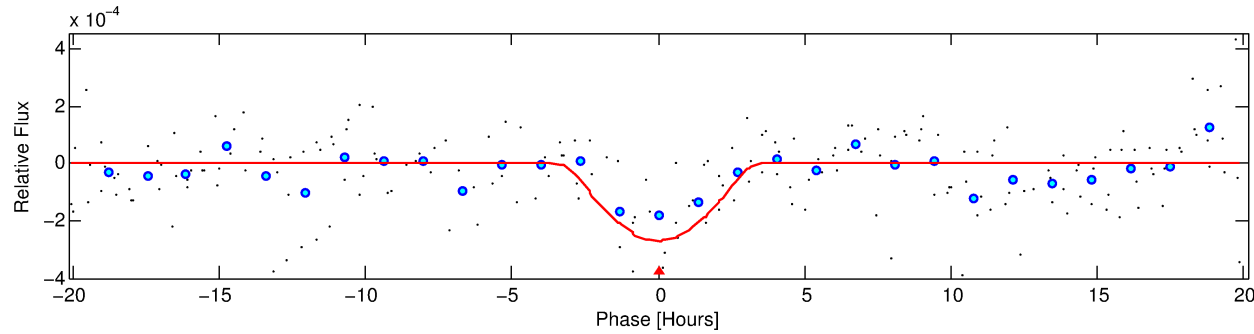
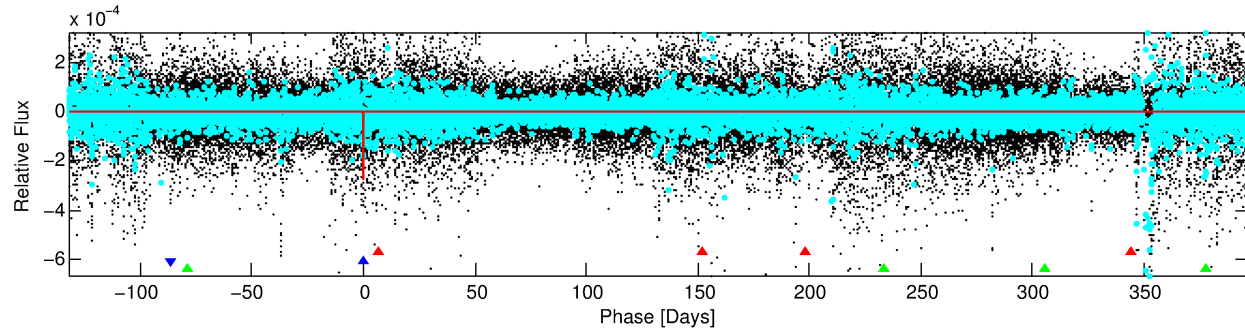
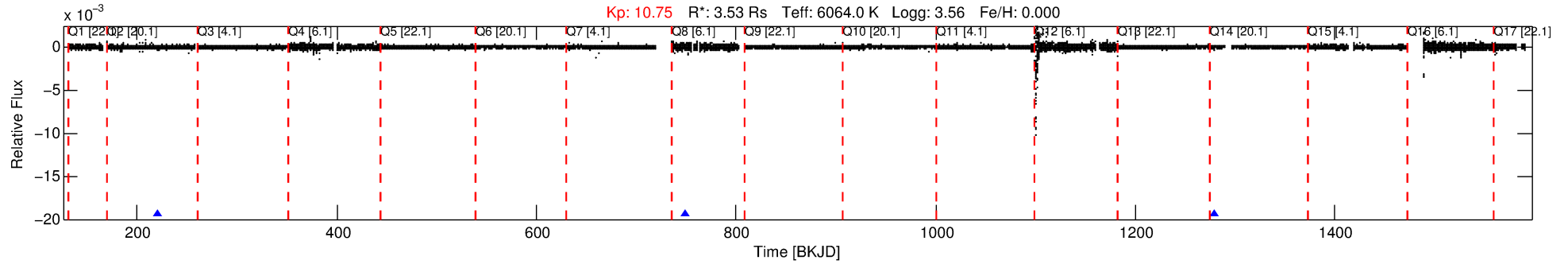
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011408304-02

No Significant Match Found

DV One-Page Summary

KIC: 11408304 Candidate: 2 of 3 Period: 529.047 d



DV Fit Results:

Period = 529.04745 [0.01071] d
Epoch = 220.7590 [0.0155] BKJD
Rp/R* = 0.0275 [0.0681]
a/R* = 152.22 [110.22]
b = 1.00 [0.11]
Seff = 6.62 [4.22]
Teq = 409 [65] K
Rp = 10.62 [26.63] Re
a = 1.5120 [0.5919] AU
Ag = 413.61 [2083.95] [0.20 σ]
Teffp = 2852 [3565] K [0.69 σ]

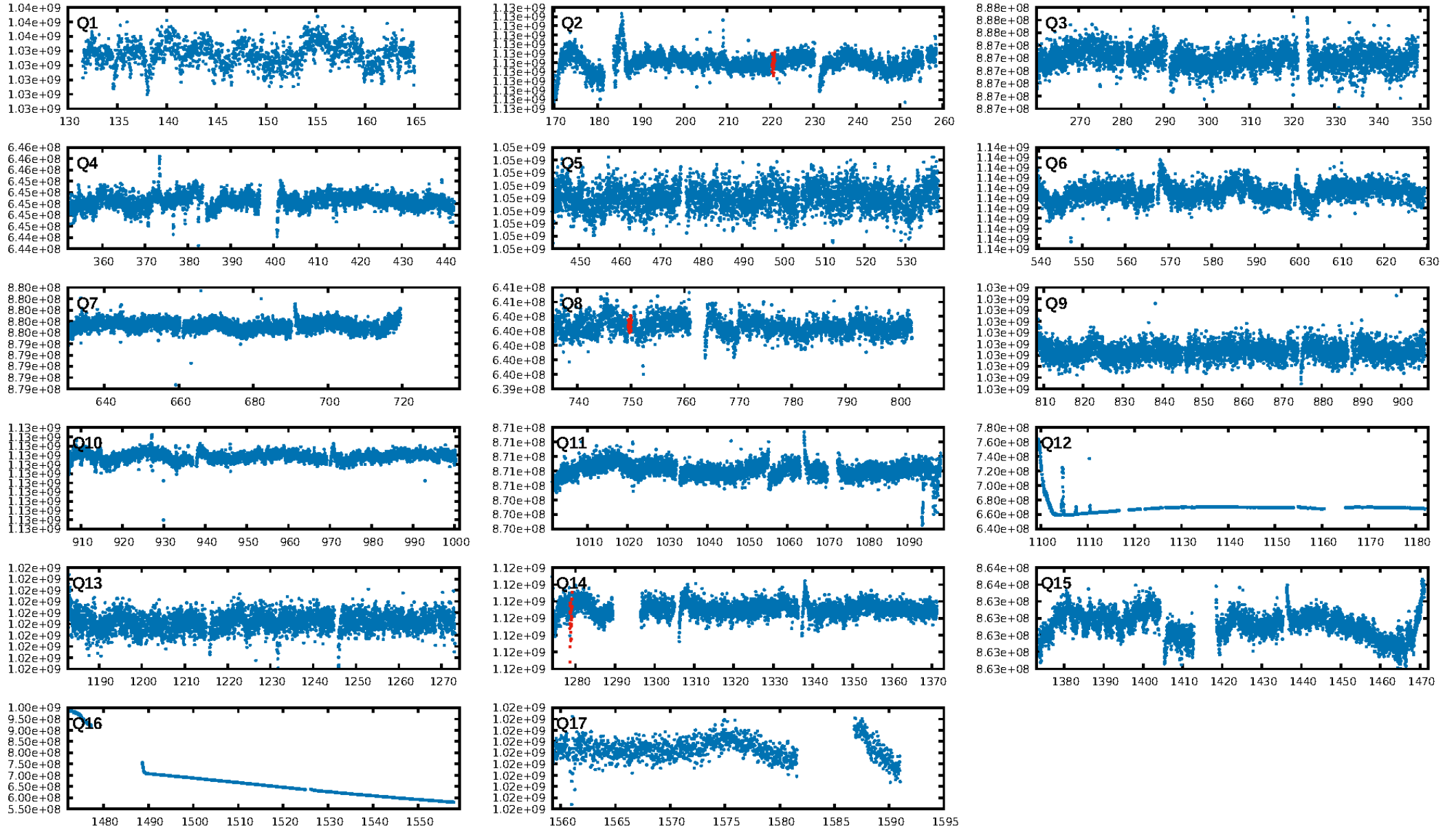
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [113.67 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.6%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 1.13e-07
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.297
Centroid-sig: 83.1%
Centroid-so: 2.738 arcsec [4.73 σ]
OotOffset-rm: 10.099 arcsec [3.09 σ]
KicOffset-rm: 9.663 arcsec [3.20 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

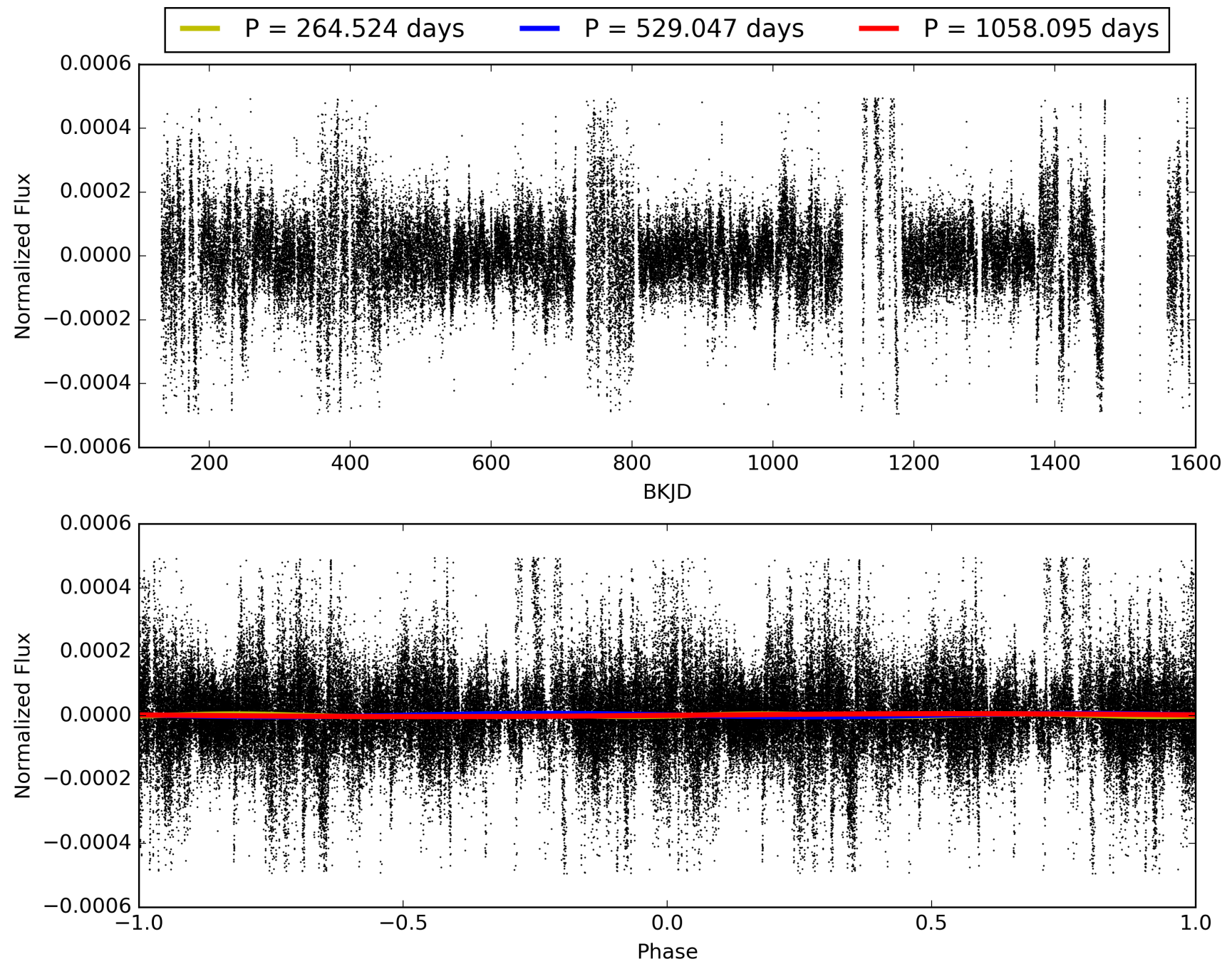
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:46:20 Z

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

TCE 011408304-02, PDC Light Curves

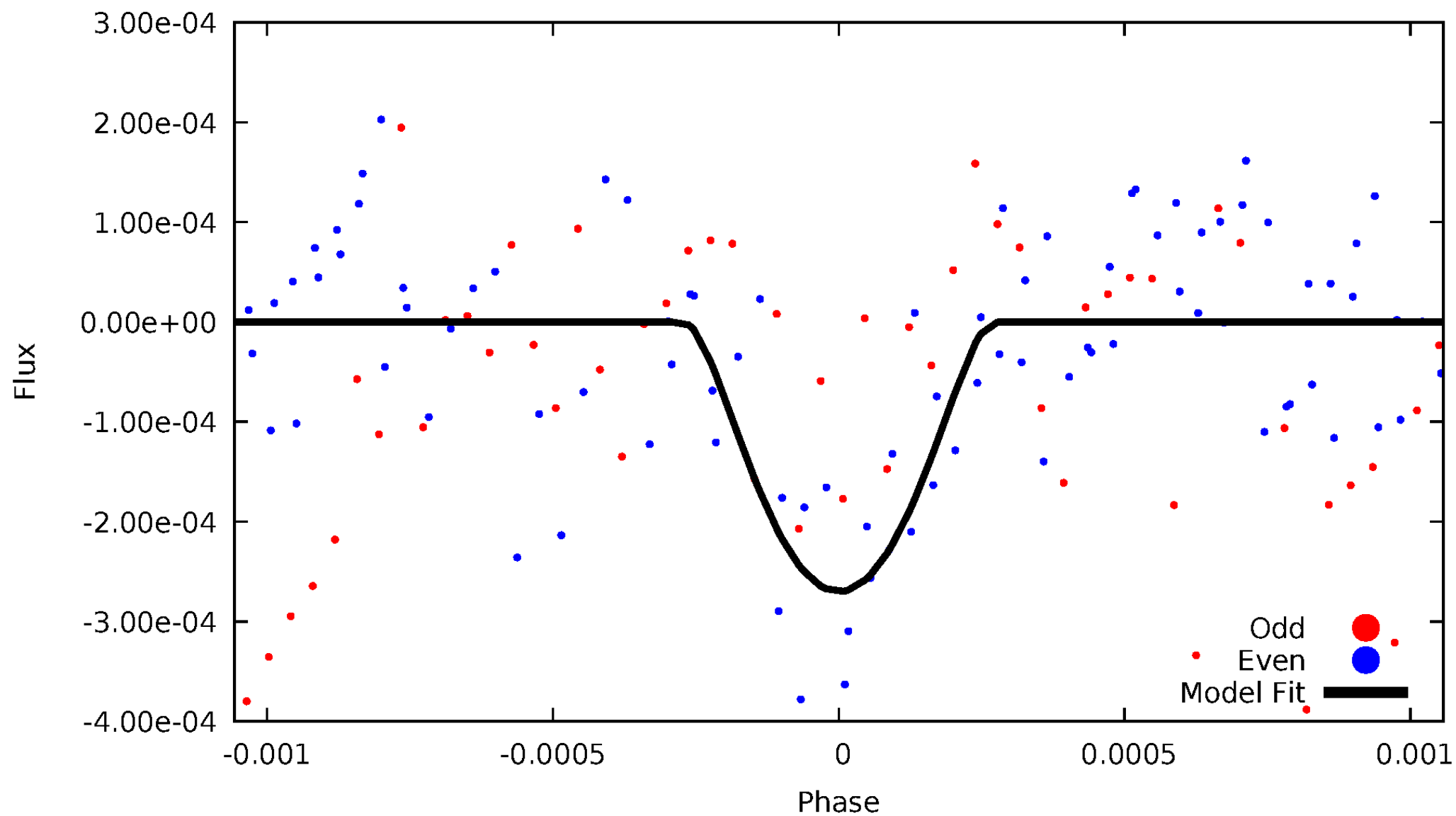


TCE 011408304-02



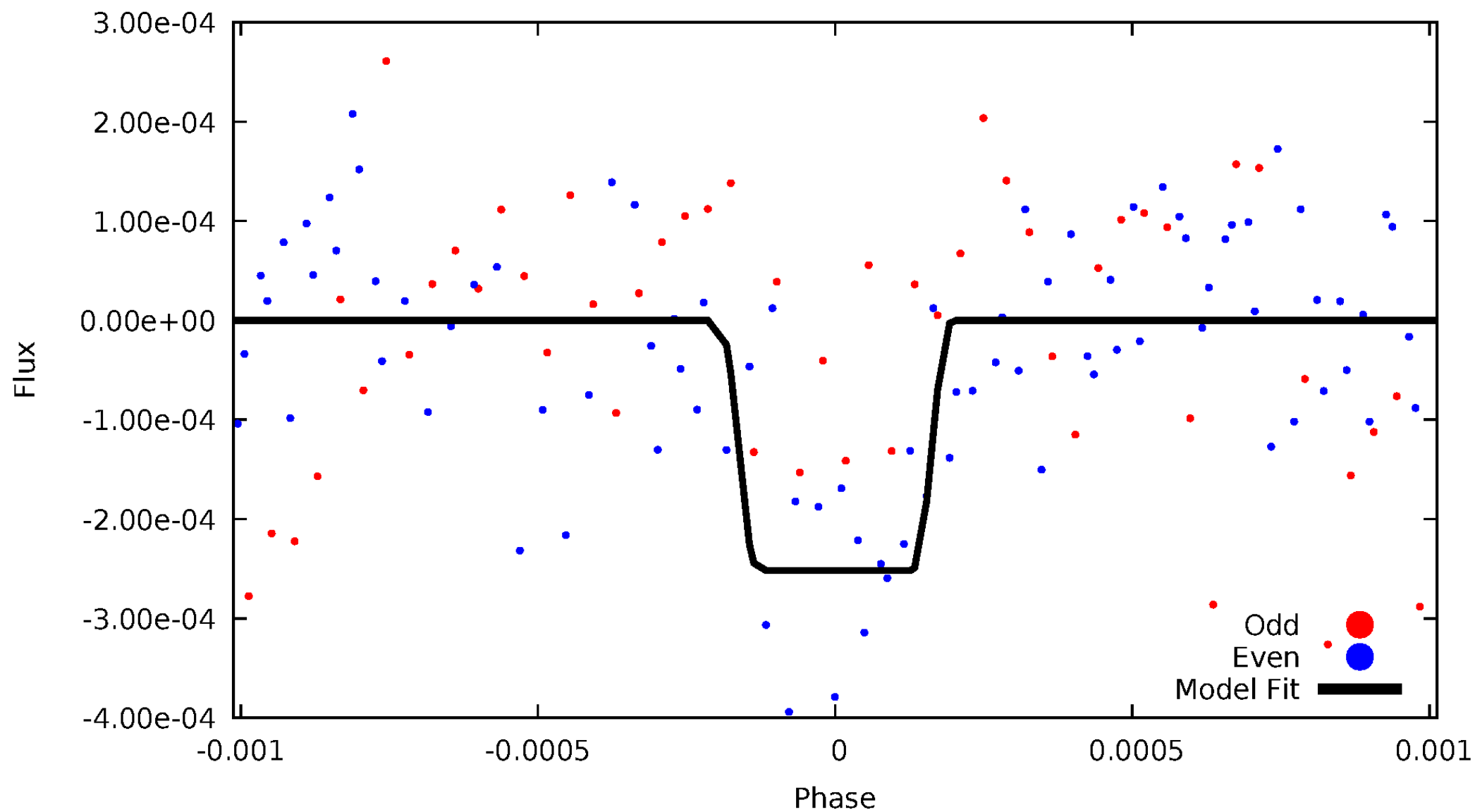
DV Odd/Even

TCE 011408304-02



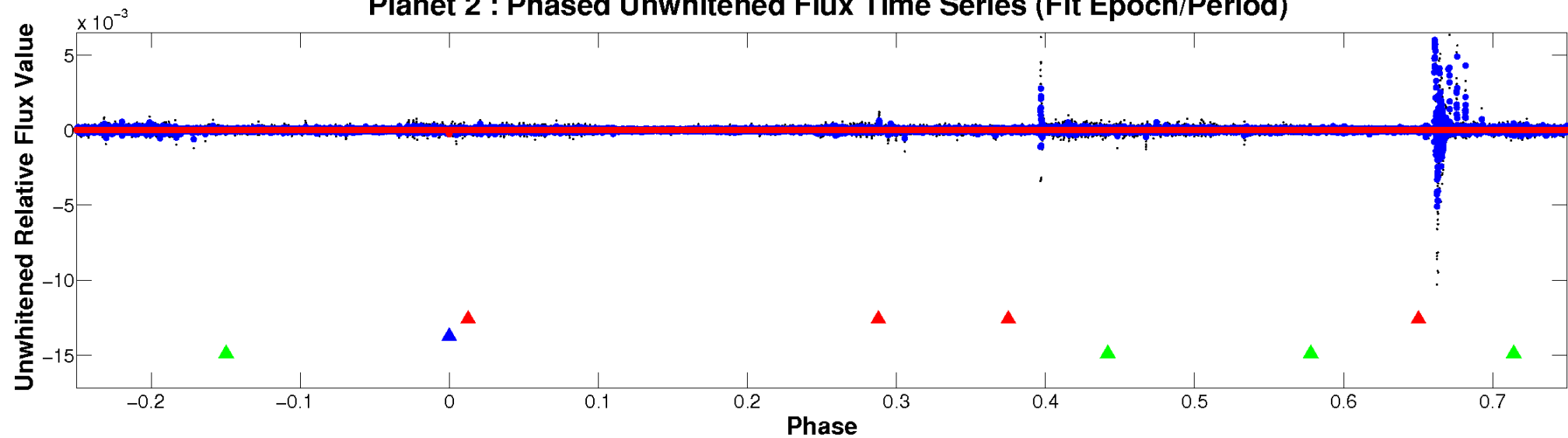
ALT Odd/Even

TCE 011408304-02

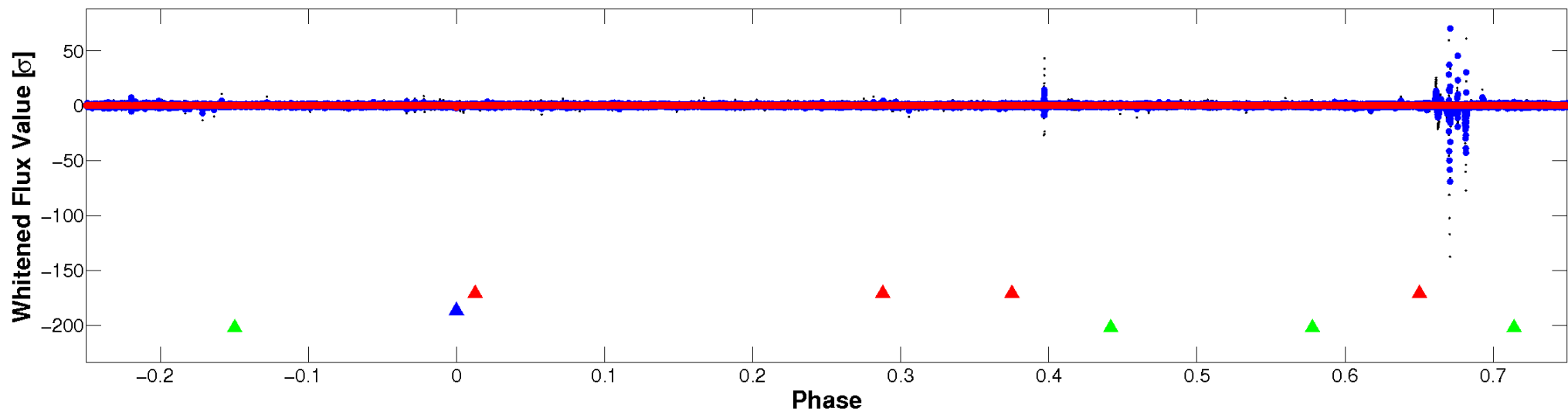


Non-Whitened Vs. Whitened Light Curve

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

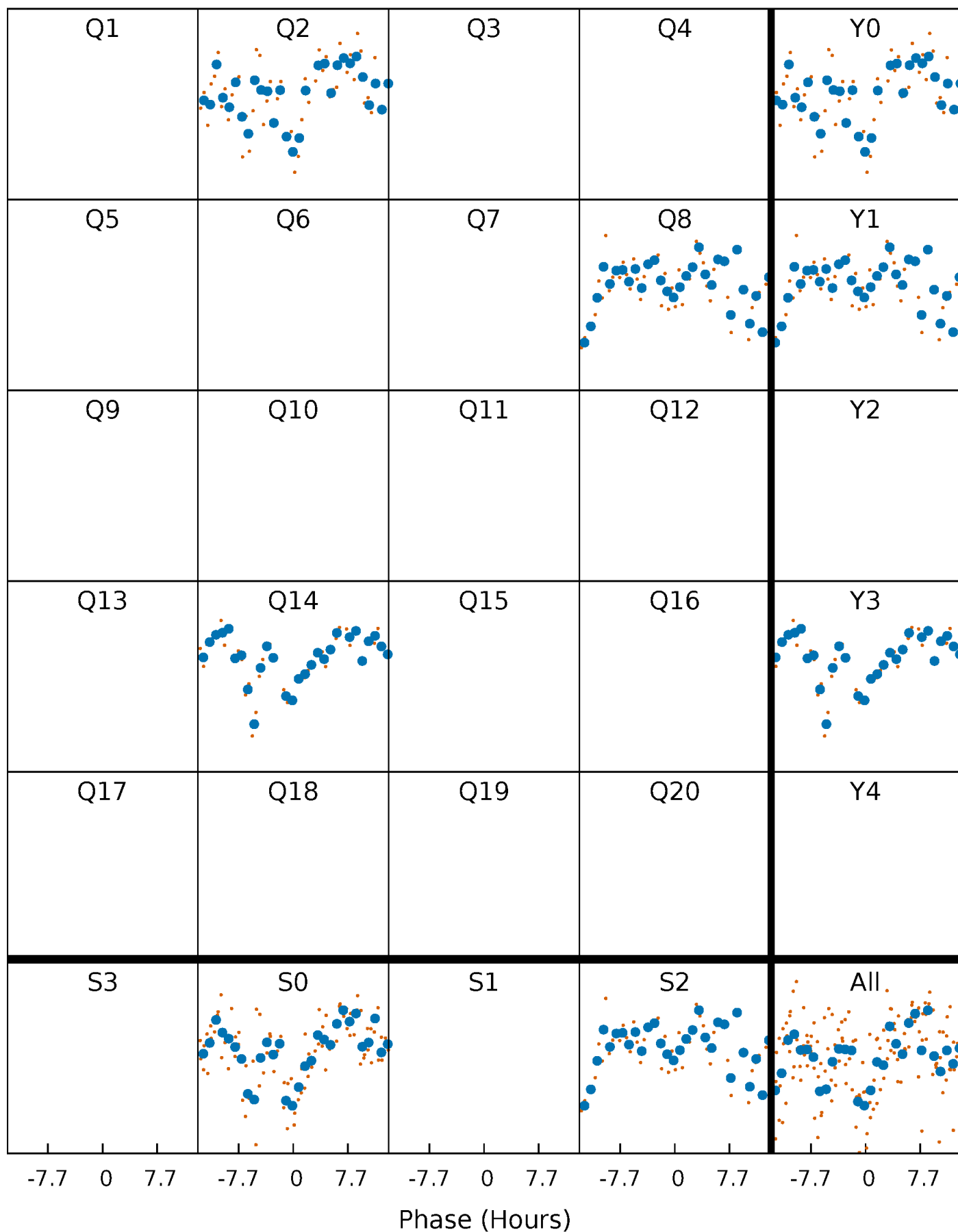


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



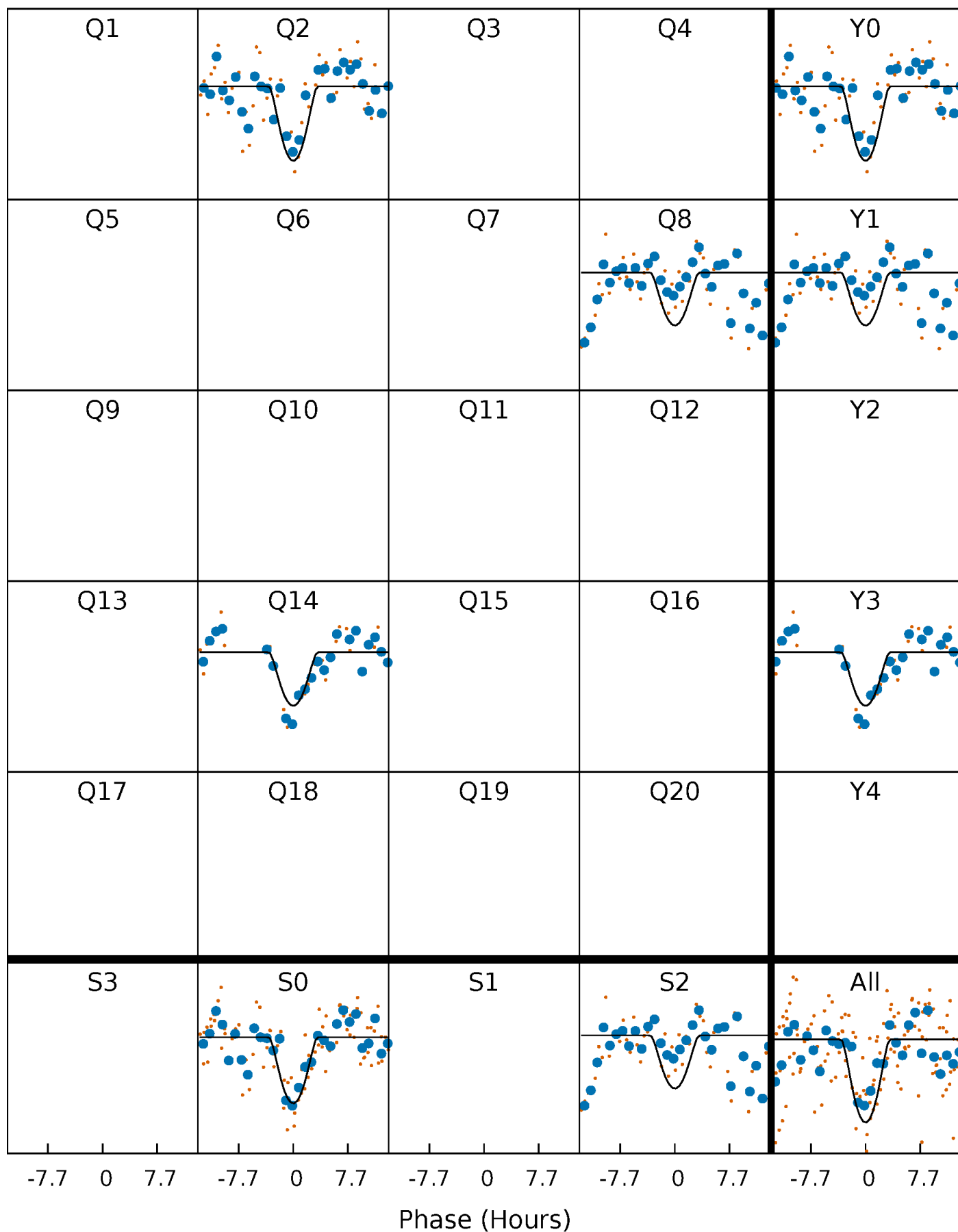
PDC Quarter-Phased Transit Curves

TCE 011408304-02 $P=529.047454$ Days $T_0=220.759000$ (BKJD)



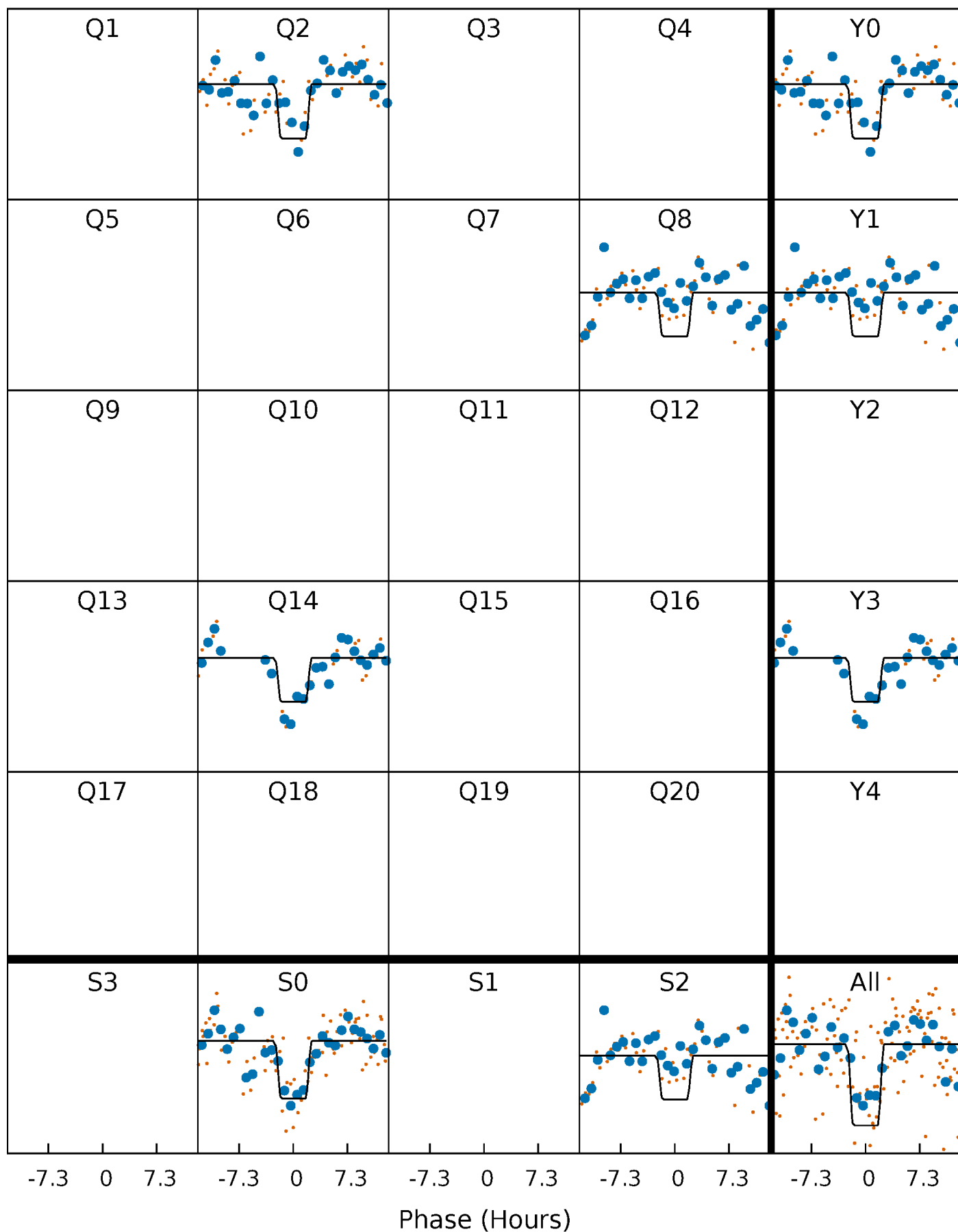
DV Quarter-Phased Transit Curves

TCE 011408304-02 P=529.047454 Days $T_0=220.759000$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

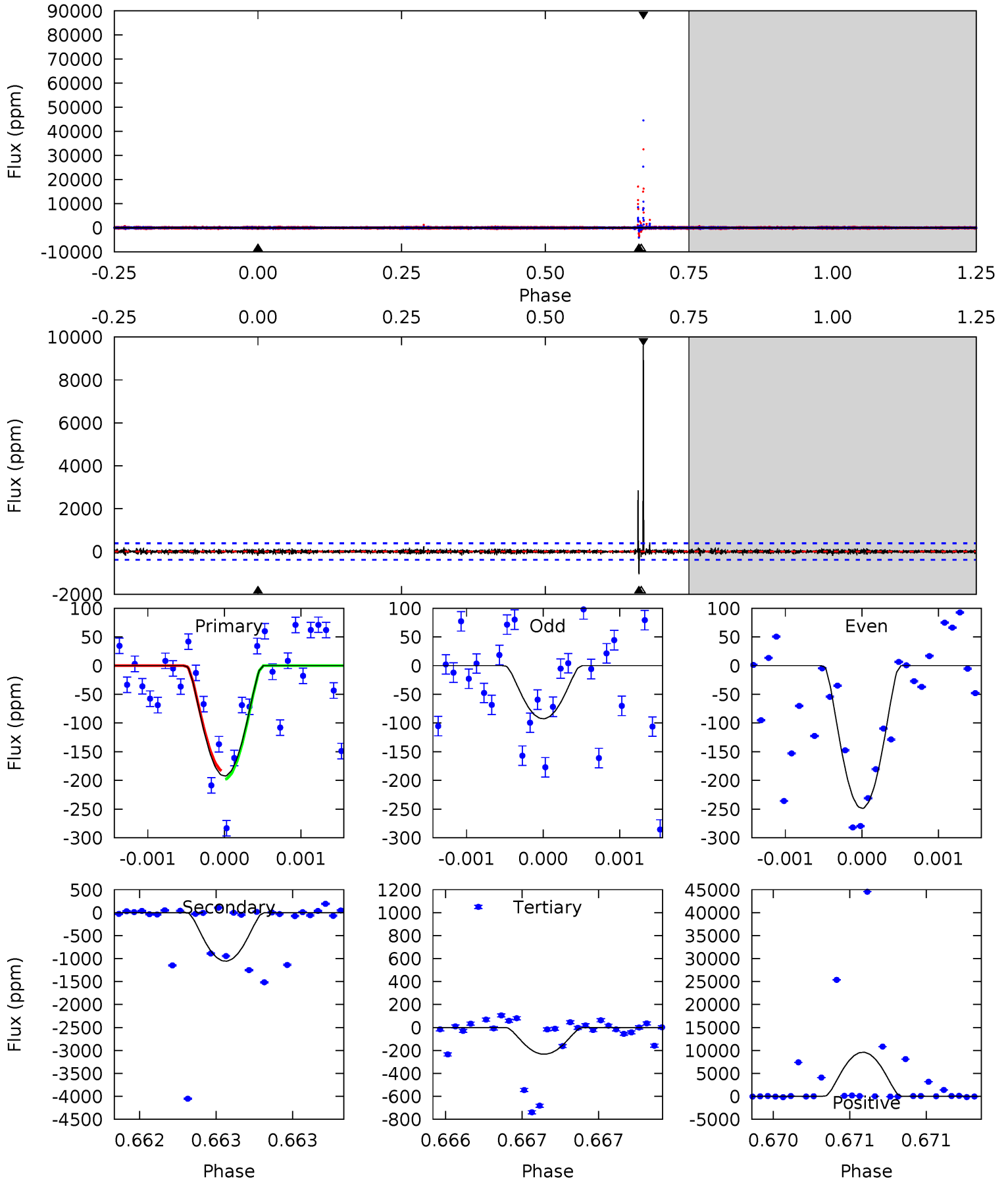
TCE 011408304-02 $P=529.058924$ Days $T_0=220.741869$ (BKJD)



DV Model-Shift Uniqueness Test

011408304-02, P = 529.047454 Days, E = 220.759000 Days

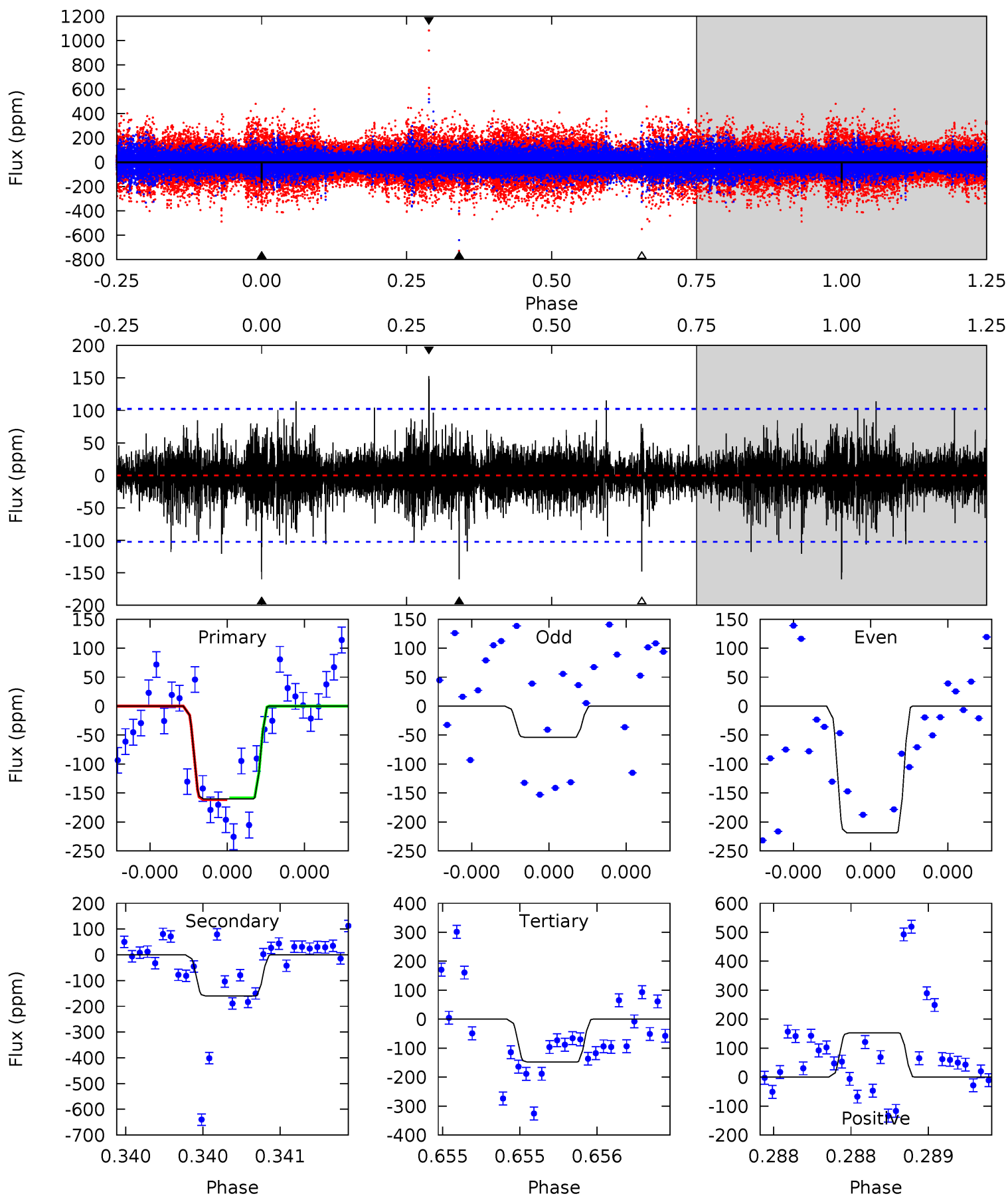
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.78	15.2	3.36	138.5	5.56	3.46	2.55	-0.58	-135.7	11.9	-123.3	0.68	1.08	0.90	0.10



Alt Model-Shift Uniqueness Test

011408304-02, P = 529.058924 Days, E = 220.741869 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.81	8.79	8.12	8.40	5.62	3.56	1.33	0.68	0.41	0.66	0.39	2.17	1.05	0.49	0.08



Stellar Parameters For KIC 011408304

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6064^{+185}_{-167}	$3.558^{+0.367}_{-0.122}$	$0.000^{+0.300}_{-0.300}$	$3.534^{+0.618}_{-1.441}$	$1.644^{+0.178}_{-0.416}$	$0.052^{+0.161}_{-0.018}$
	+3%/-3%	+10%/-3%	+inf%/-inf%	+17%/-41%	+11%/-25%	+307%/-35%
Source	PHO1	FLK73	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 011408304-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1056 ± 69	$20.15^{+21.29}_{-13.33}$	562^{+38}_{-57}	4754^{+3355}_{-1086}	3312^{+23532}_{-2554}
Alt.	-160 ± 18	$19.79^{+18.82}_{-13.70}$	564^{+37}_{-55}	3425^{+1780}_{-603}	506^{+4621}_{-377}

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 $A_{obs} \gg 1.0$

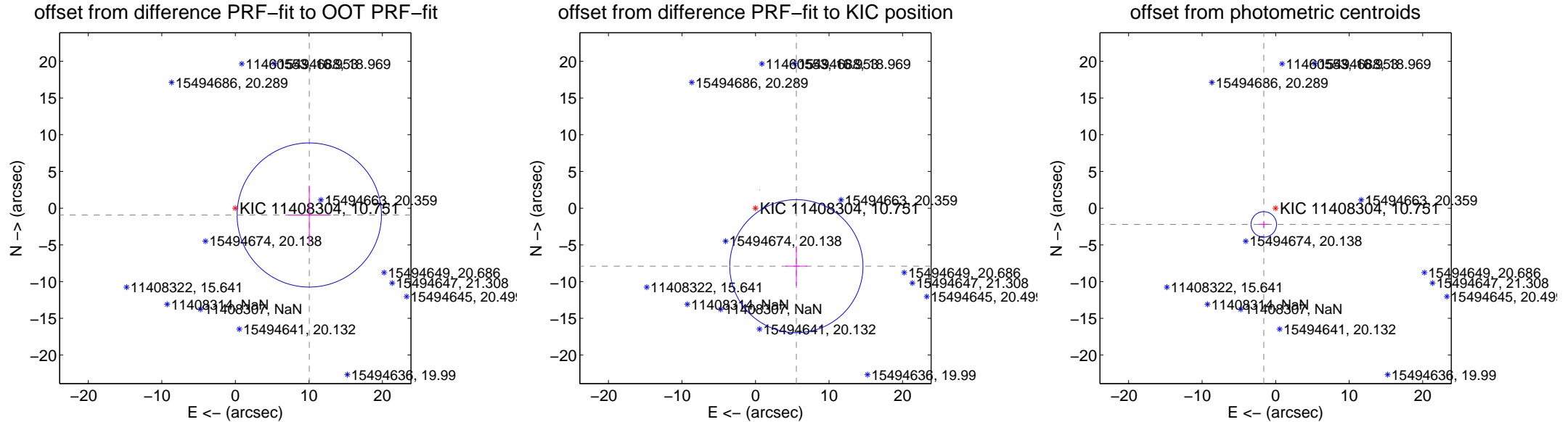
DV Centroid Data

Supplemental centroid analysis for 011408304-02. **Kepler magnitude: 10.75.** Transit SNR 8.08

There are 2 quarters with good PRF difference image offsets

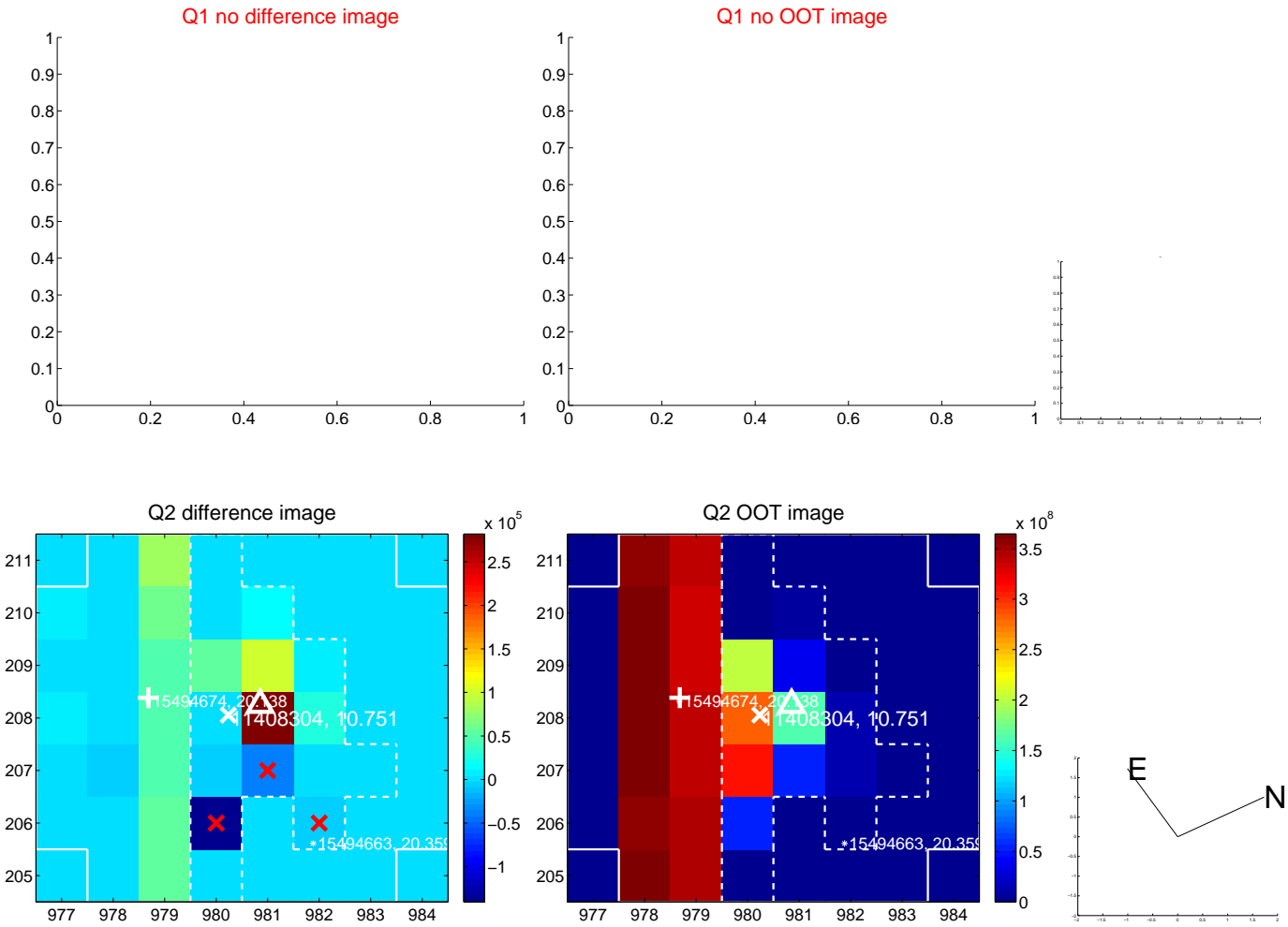
The OOT PRF centroid is offset from the target star catalog position by about 8.37 arcsec so the offset from difference PRF-fit to OOT PRF-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.099 ± 3.272	3.09	-10.056 ± 2.917	-0.930 ± 3.990
PRF-fit source offset from KIC position	9.663 ± 3.020	3.20	-5.562 ± 1.450	-7.902 ± 2.674
photometric centroid source offset	2.74 ± 0.58	4.73	1.61 ± 0.76	-2.21 ± 0.46

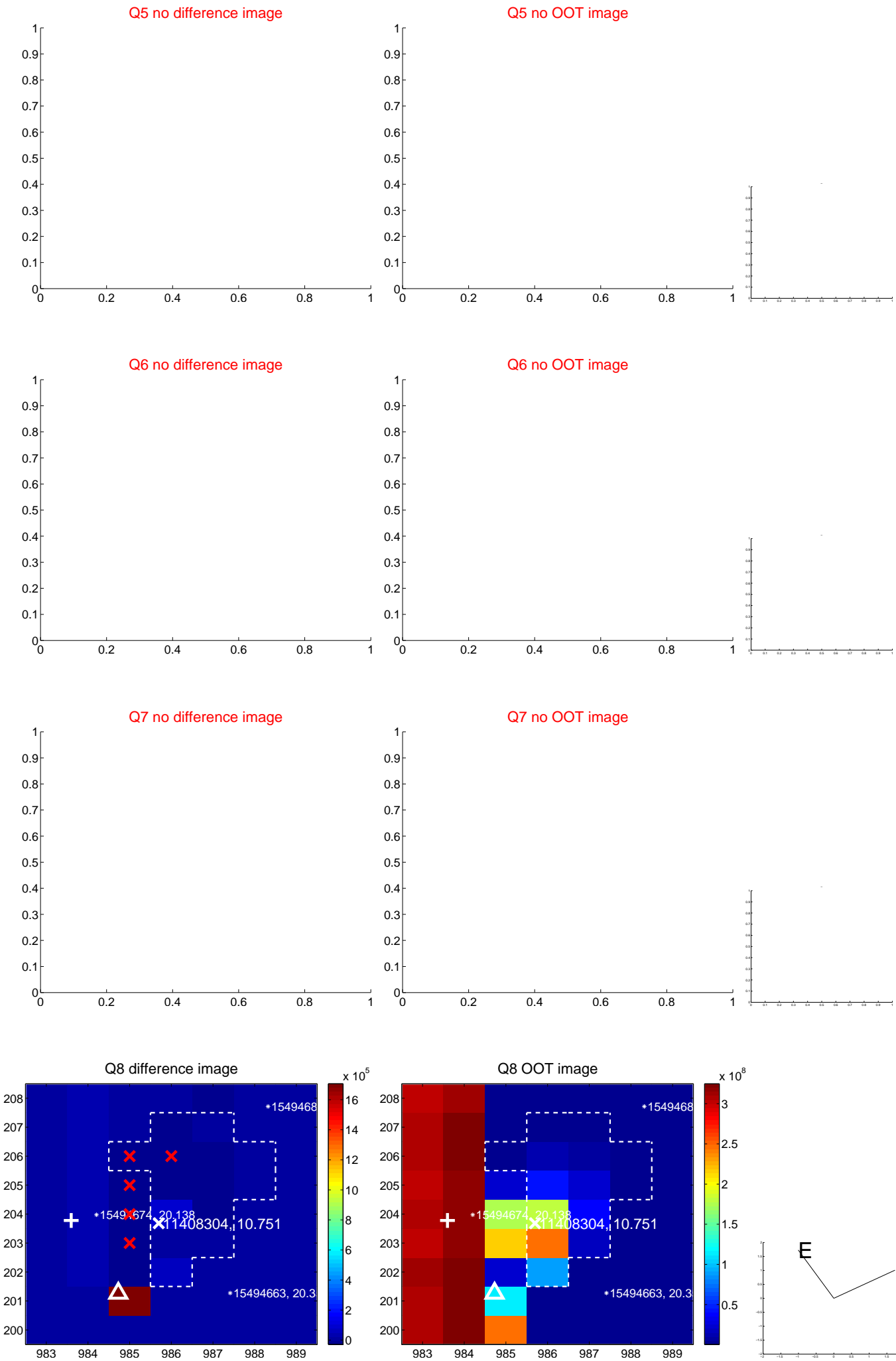


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



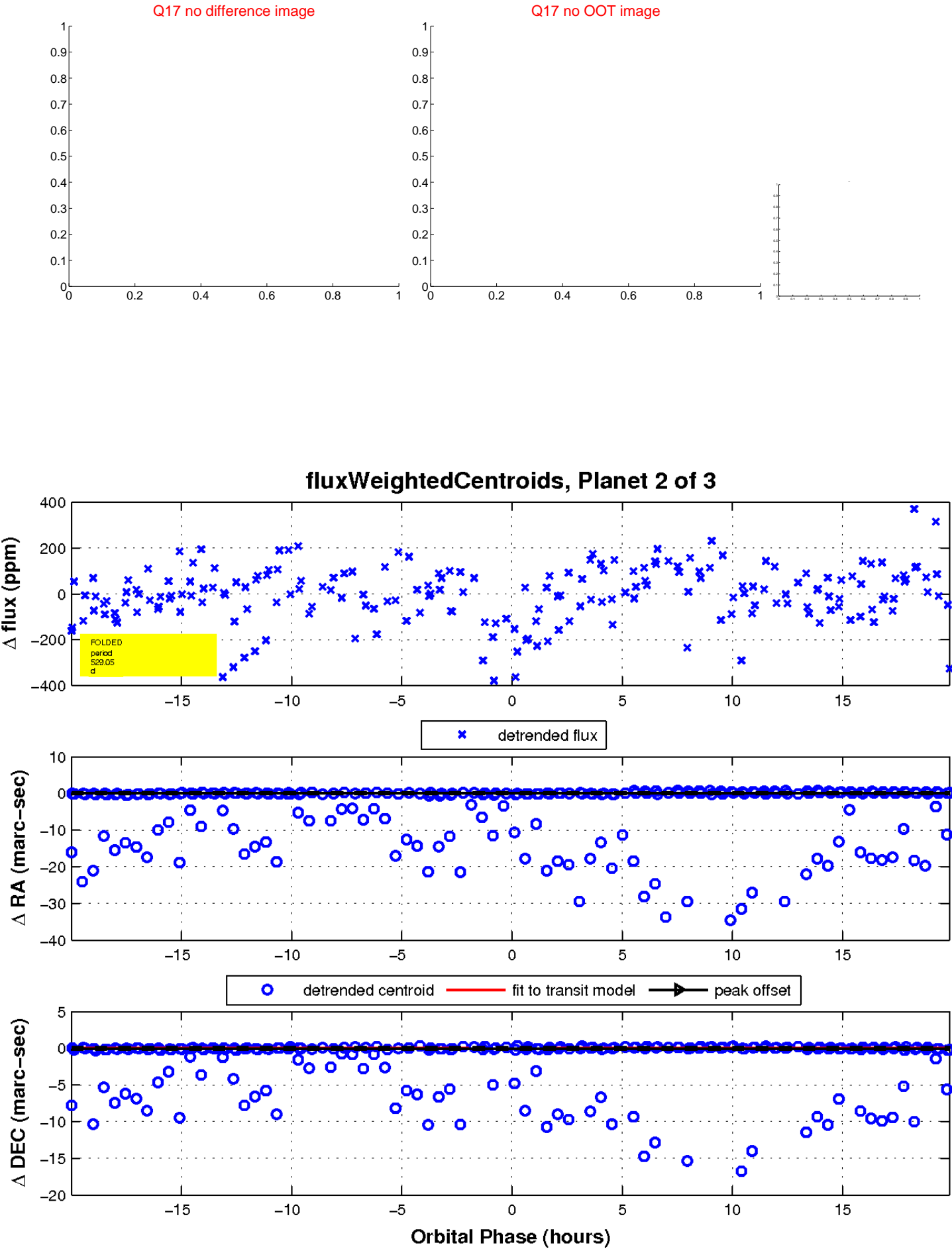
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

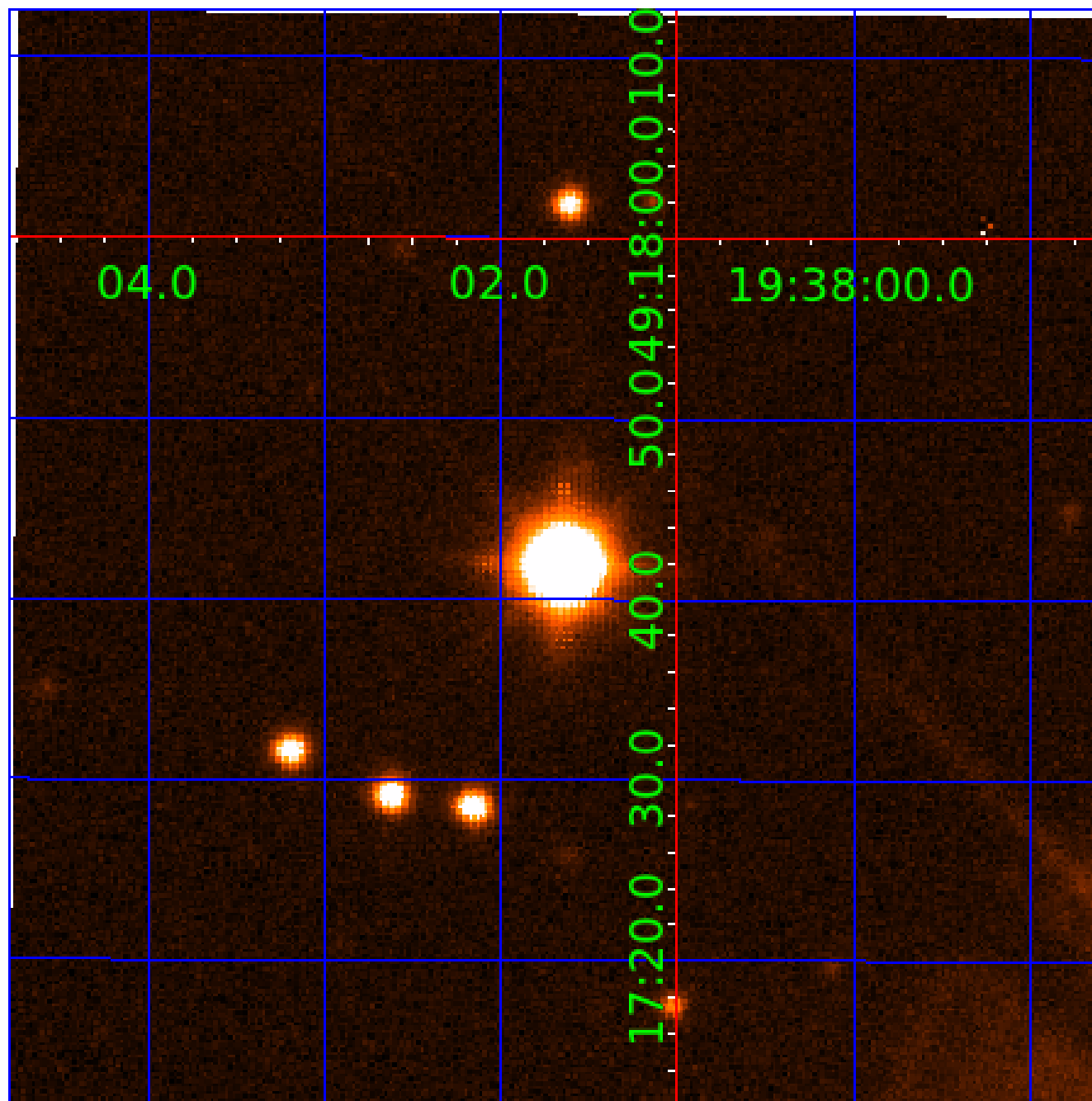


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011408304

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})
011408304-01	OBS	No	337.324201	419.186782	199.9	12.959	14.0	5.9	3.53	6064	7.08	12.06
011408304-02	OBS	No	529.047454	220.759000	269.8	6.710	8.1	8.1	3.53	6064	10.62	6.62
011408304-03	OBS	No	457.011081	141.576209	167.5	13.650	8.2	6.6	3.53	6064	5.17	8.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011408304-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_SATURATED
011408304-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_SATURATED
011408304-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST

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

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

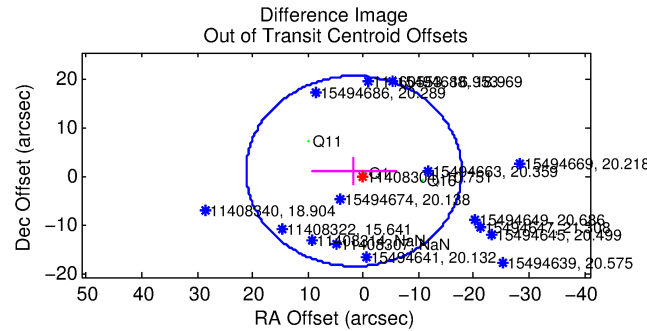
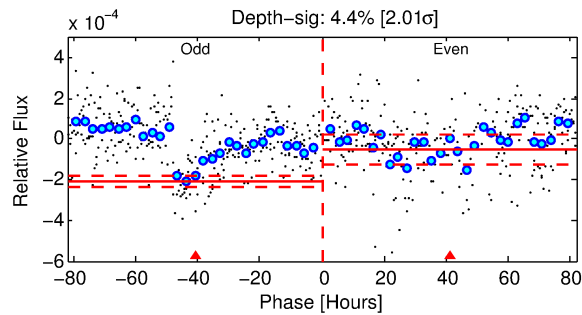
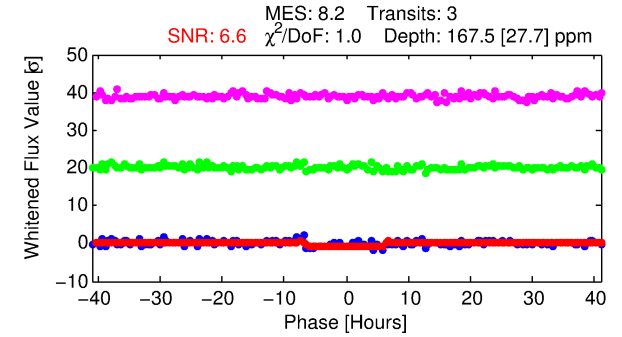
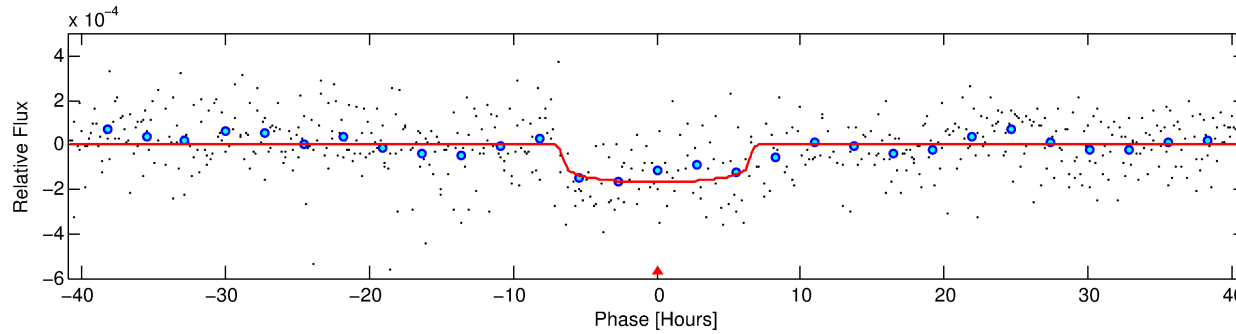
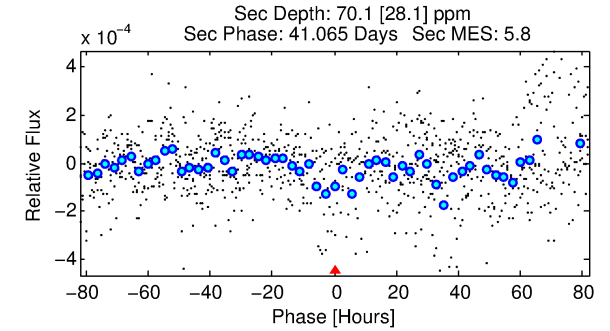
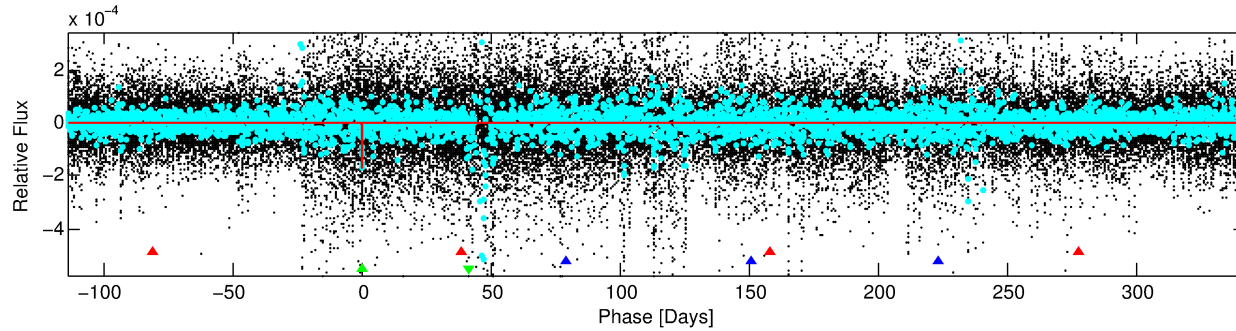
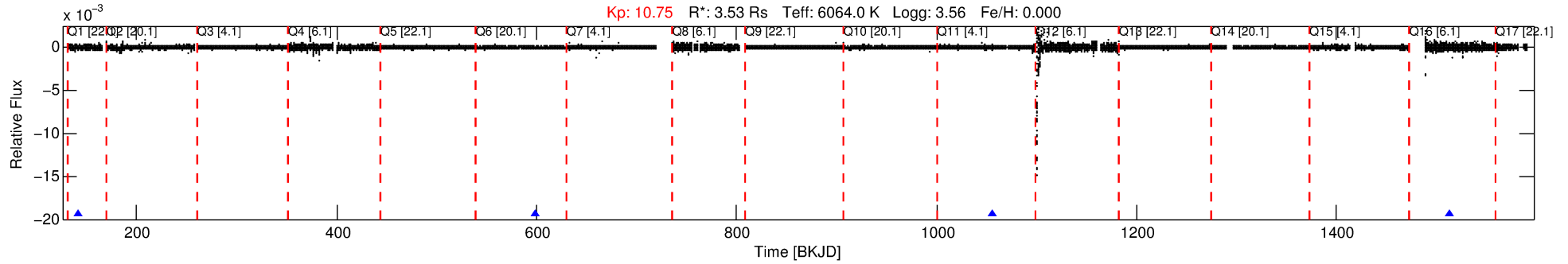
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011408304-03

No Significant Match Found

DV One-Page Summary

KIC: 11408304 Candidate: 3 of 3 Period: 457.011 d



DV Fit Results:

Period = 457.01108 [0.01011] d
Epoch = 141.5762 [0.0198] BKJD
Rp/R* = 0.0134 [0.0030]
a/R* = 144.07 [147.92]
b = 0.84 [0.36]
Seff = 8.05 [5.13]
Teq = 429 [68] K
Rp = 5.17 [2.40] Re
a = 1.3714 [0.5368] AU
Ag = 2714.08 [2349.20] [1.15σ]
Teffp = 4792 [732] K [5.94σ]

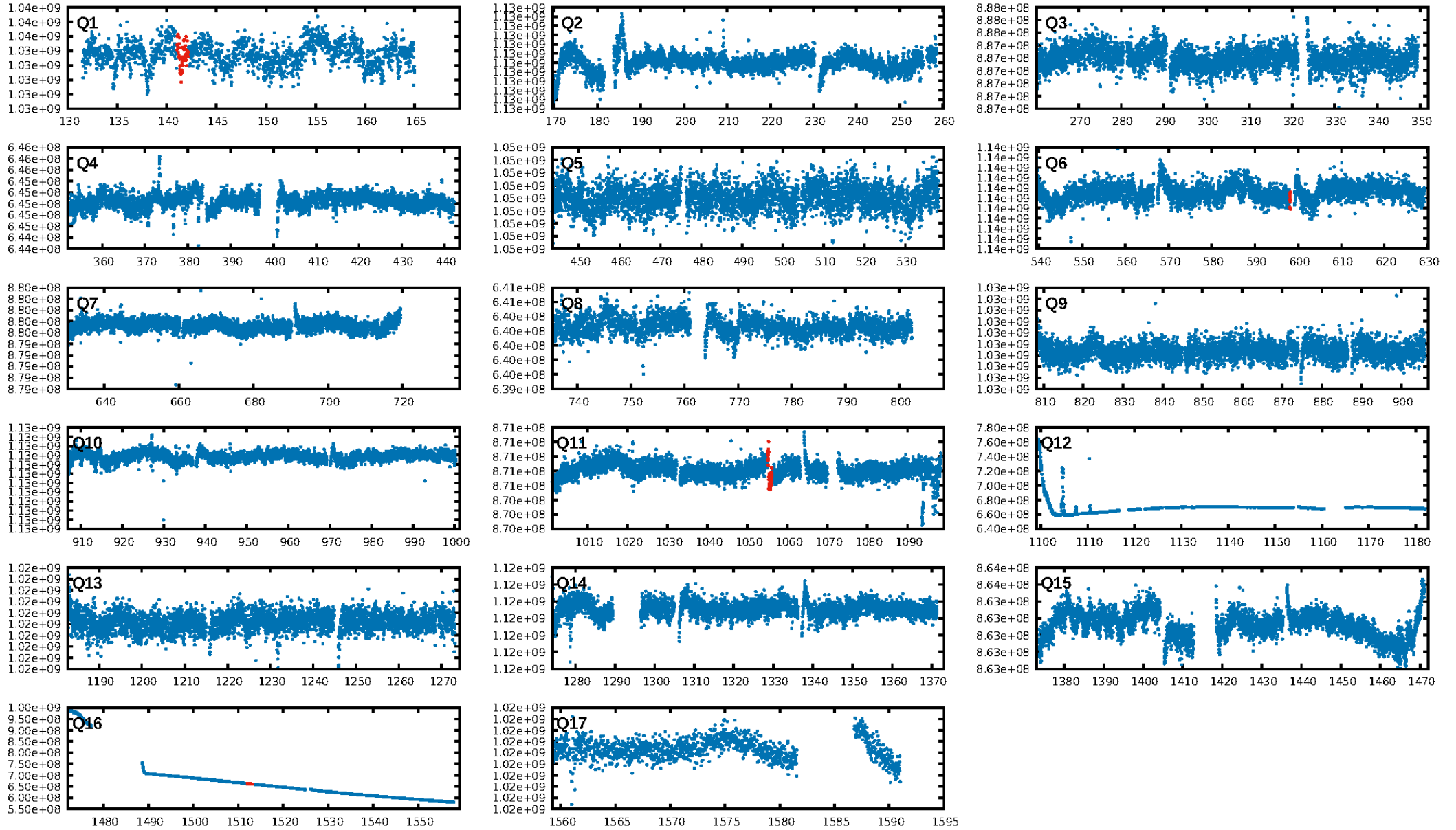
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [152.61σ]
LongPeriod-sig: 100.0% [113.67σ]
ModelChiSquare2-sig: 14.7%
ModelChiSquareGof-sig: 98.5%
Bootstrap-pfa: 1.94e-08
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.09056
Centroid-sig: 63.1%
Centroid-so: 3.224 arcsec [2.04σ]
OotOffset-rm: 2.069 arcsec [0.32σ]
KicOffset-rm: 7.199 arcsec [1.46σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

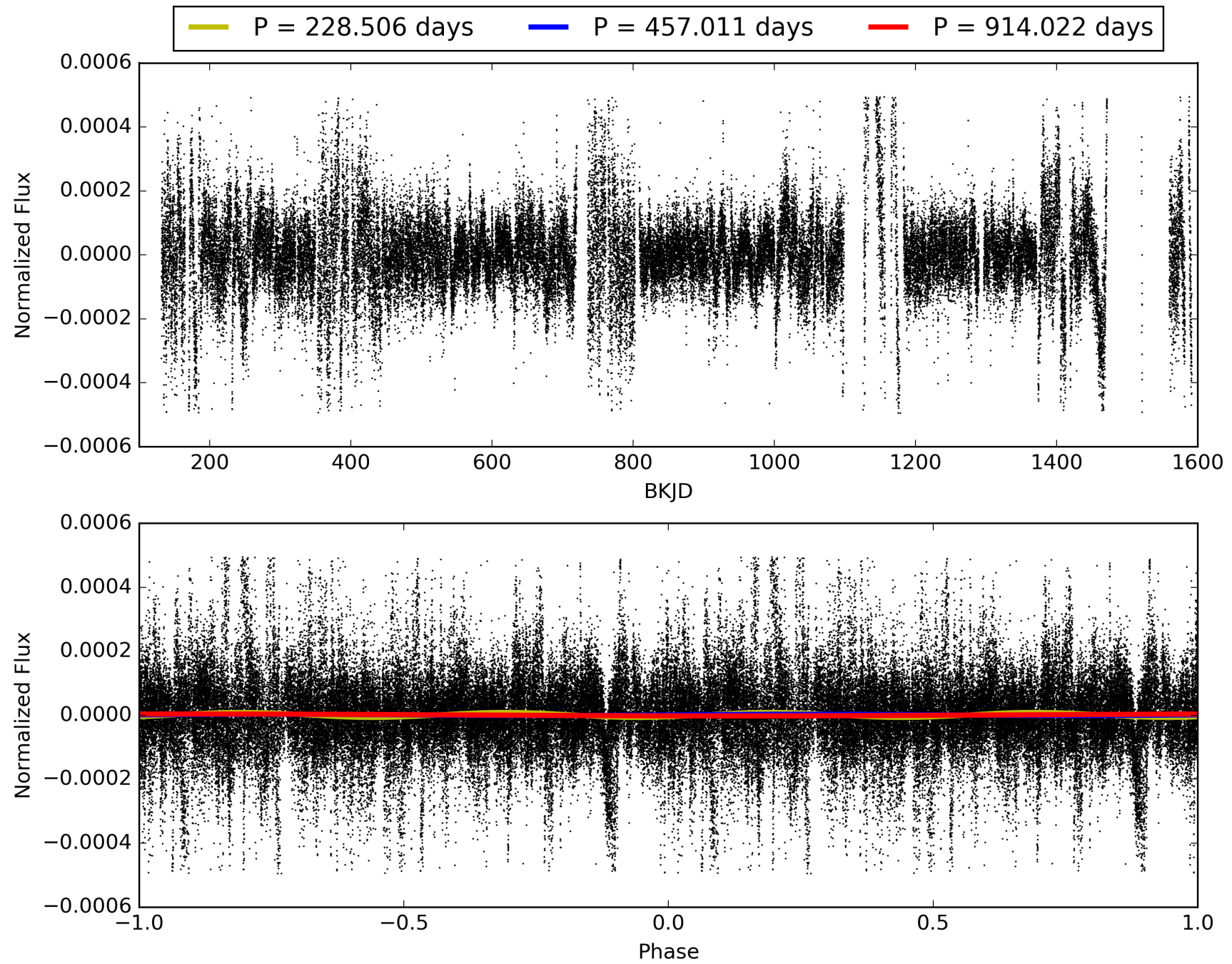
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:46:28 Z

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

TCE 011408304-03, PDC Light Curves

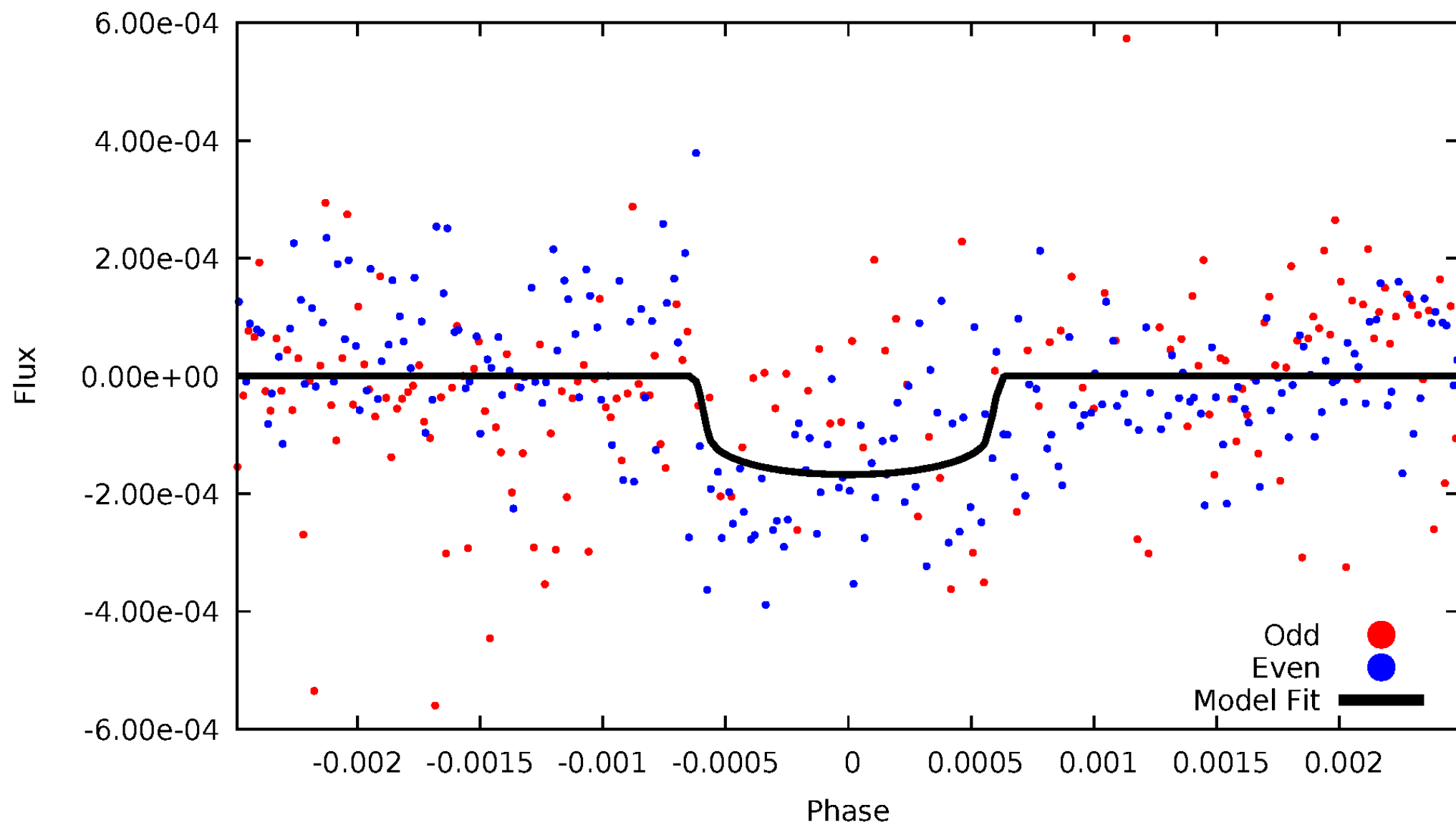


TCE 011408304-03



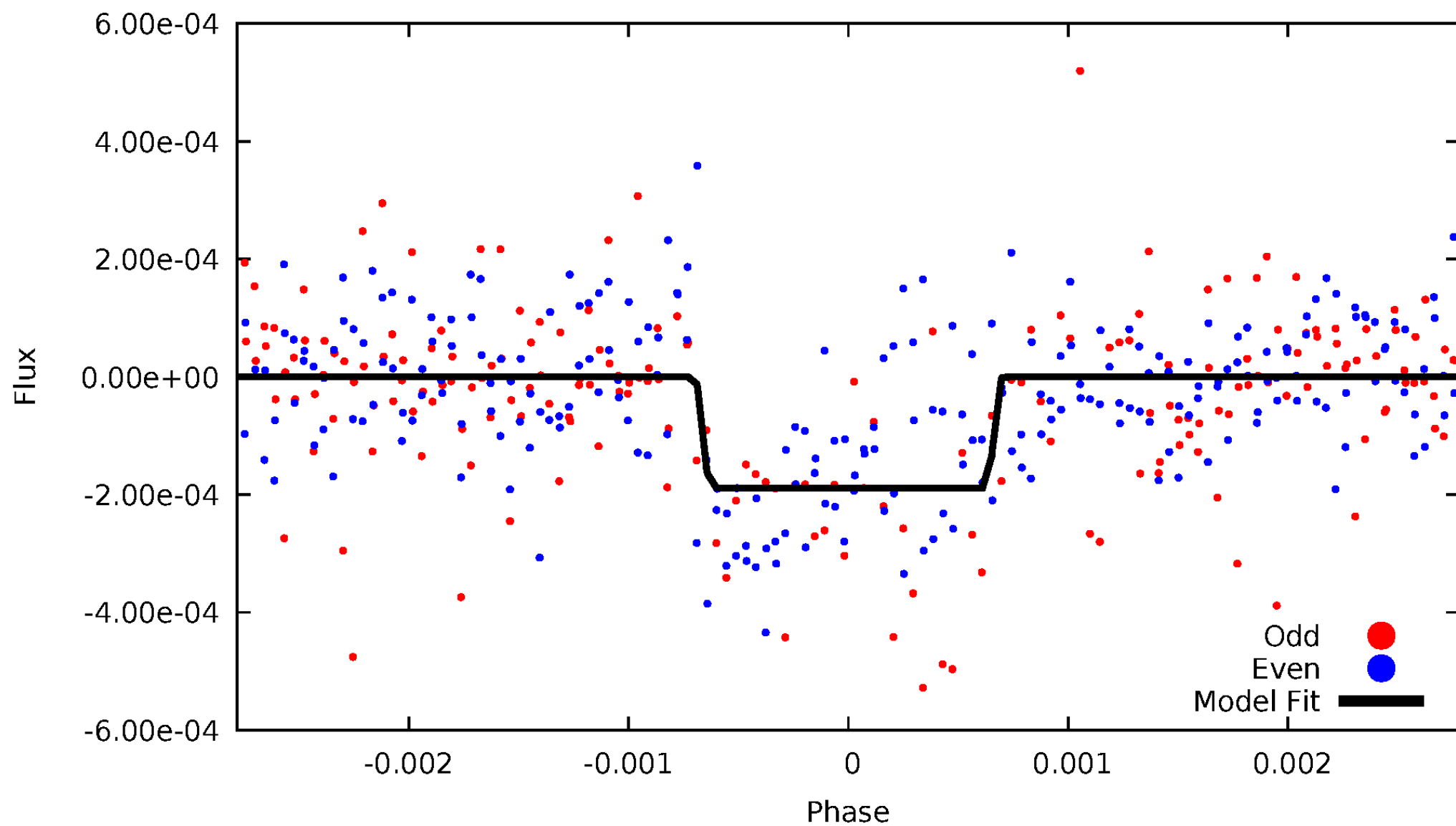
DV Odd/Even

TCE 011408304-03

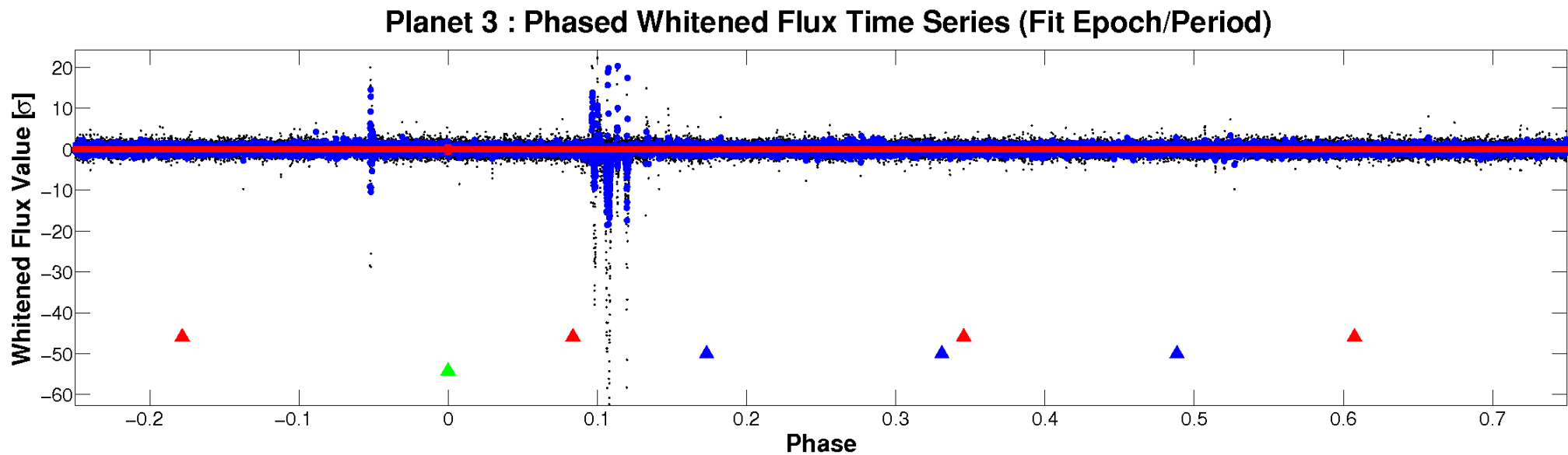
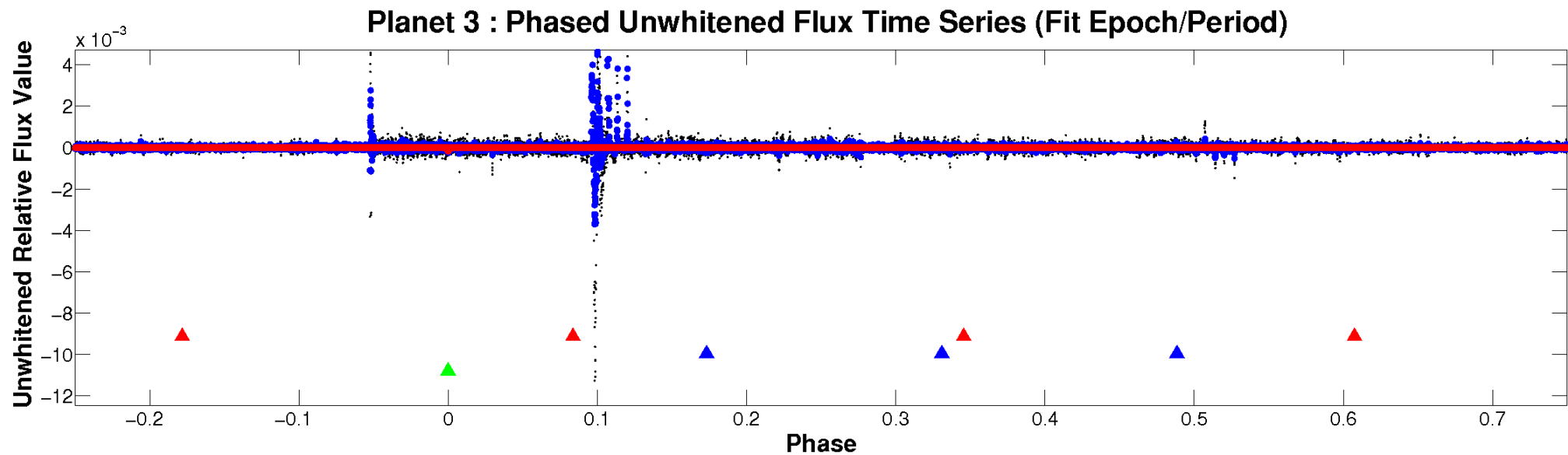


ALT Odd/Even

TCE 011408304-03

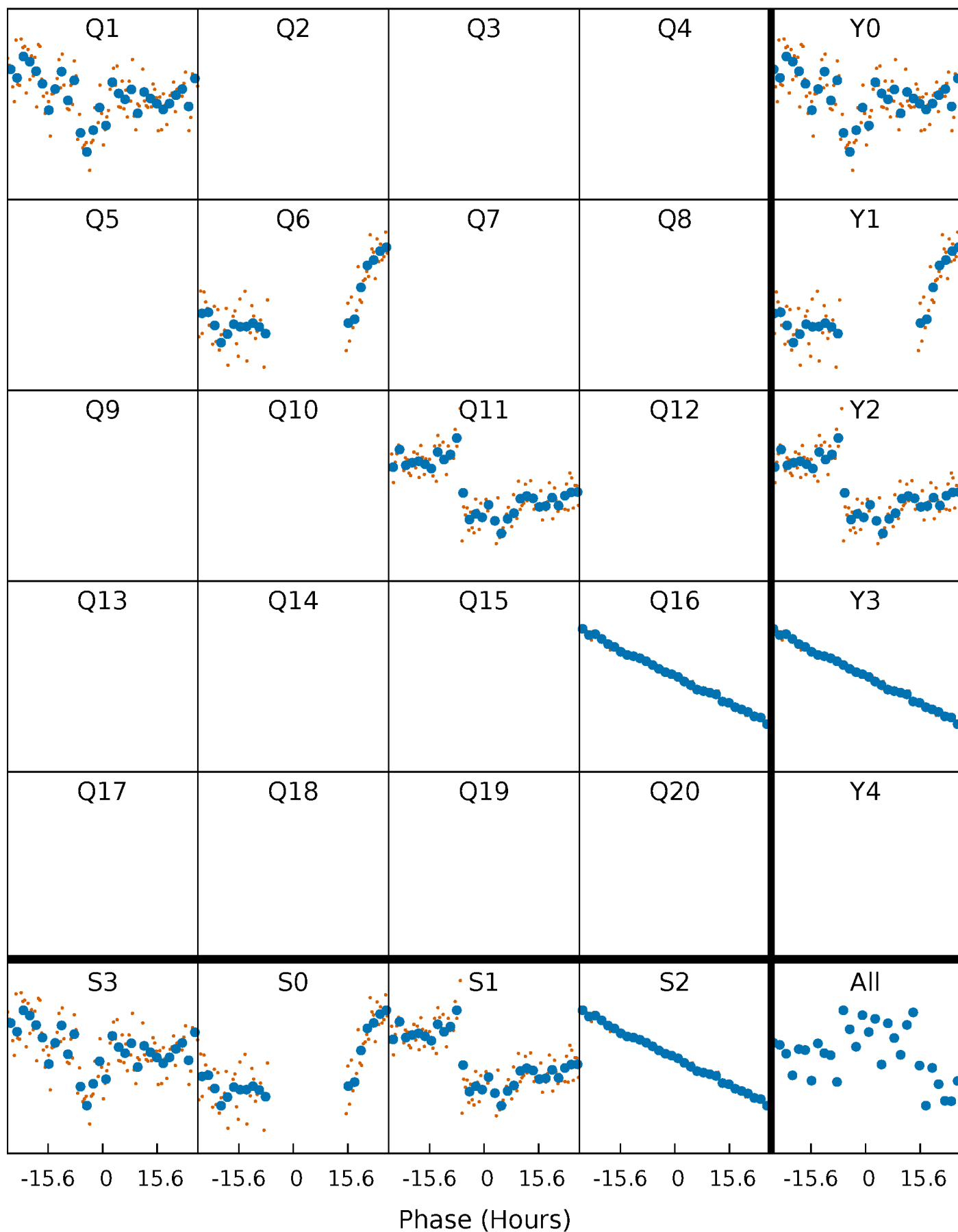


Non-Whitened Vs. Whitened Light Curve



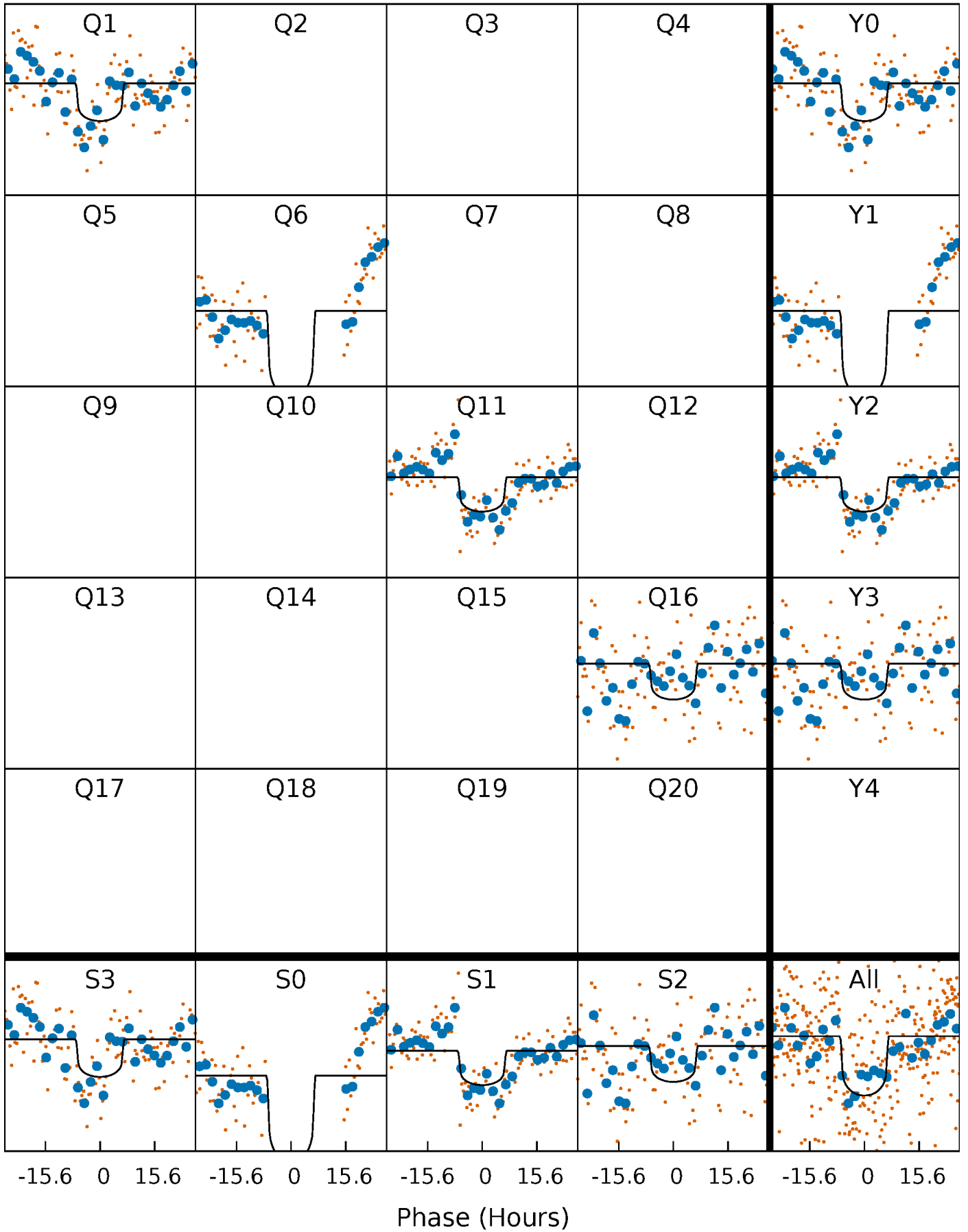
PDC Quarter-Phased Transit Curves

TCE 011408304-03 P=457.011081 Days $T_0=141.576209$ (BKJD)



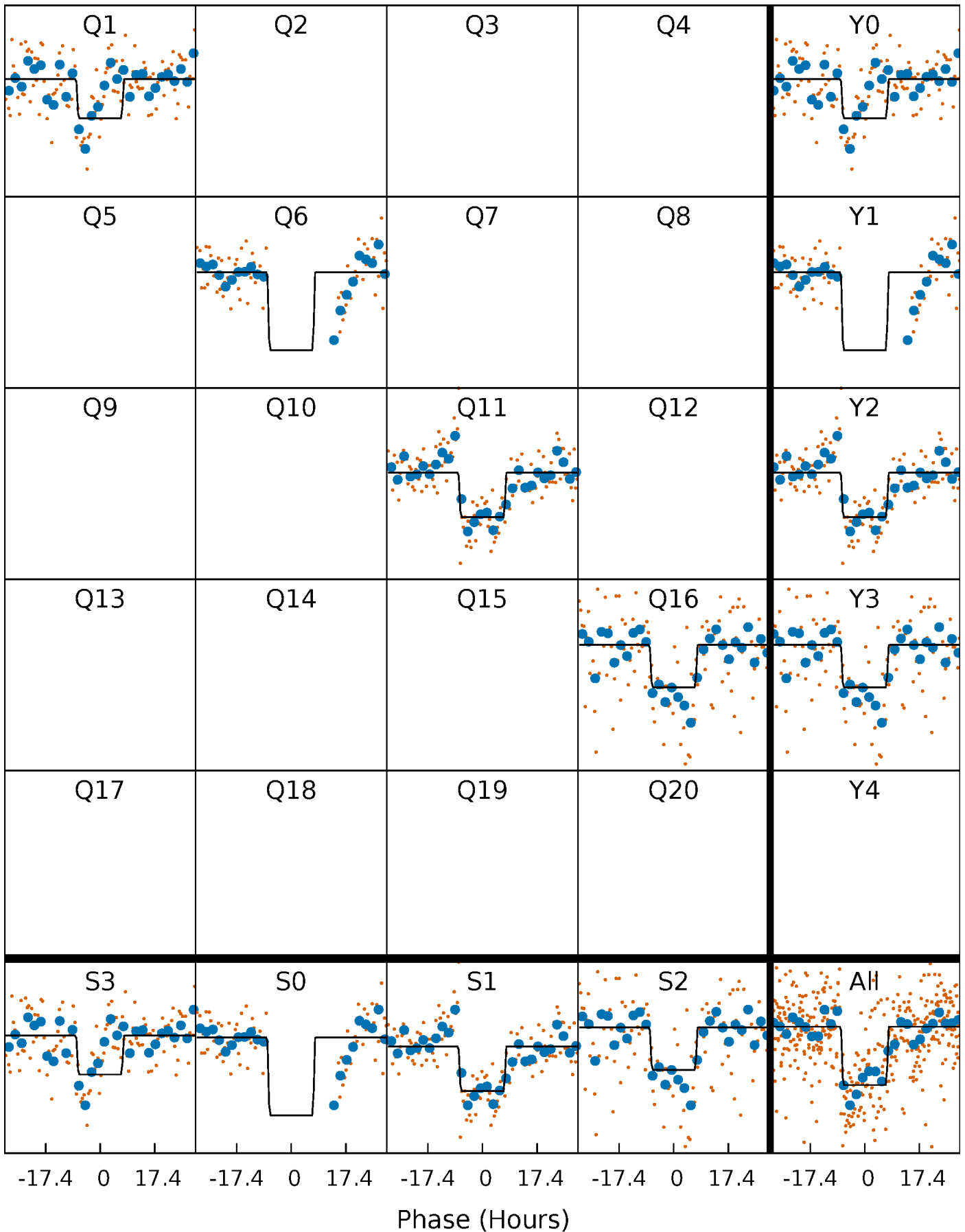
DV Quarter-Phased Transit Curves

TCE 011408304-03 P=457.011081 Days $T_0=141.576209$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

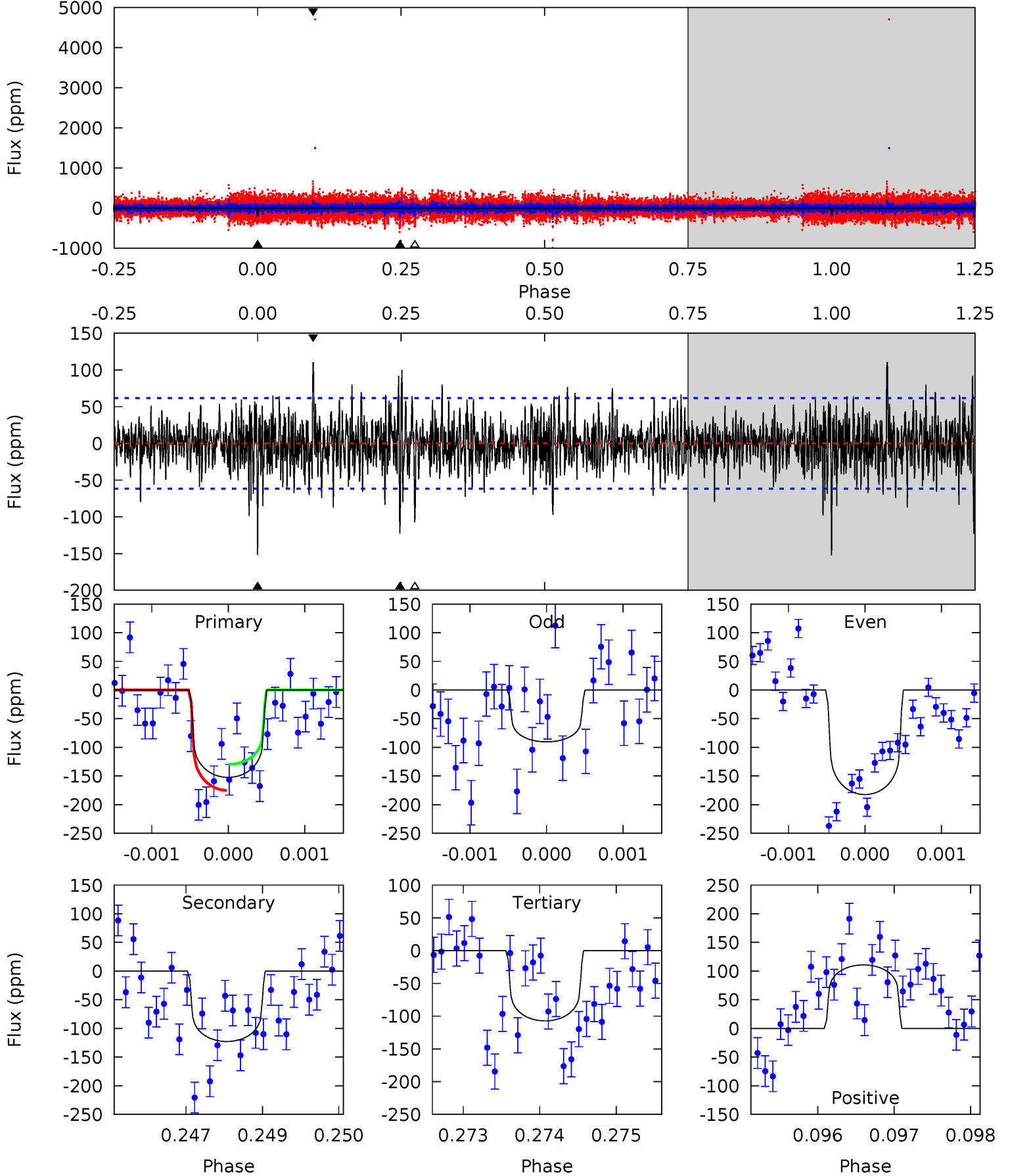
TCE 011408304-03 P=457.017003 Days $T_0=141.594528$ (BKJD)



DV Model-Shift Uniqueness Test

011408304-03, P = 457.011081 Days, E = 141.576209 Days

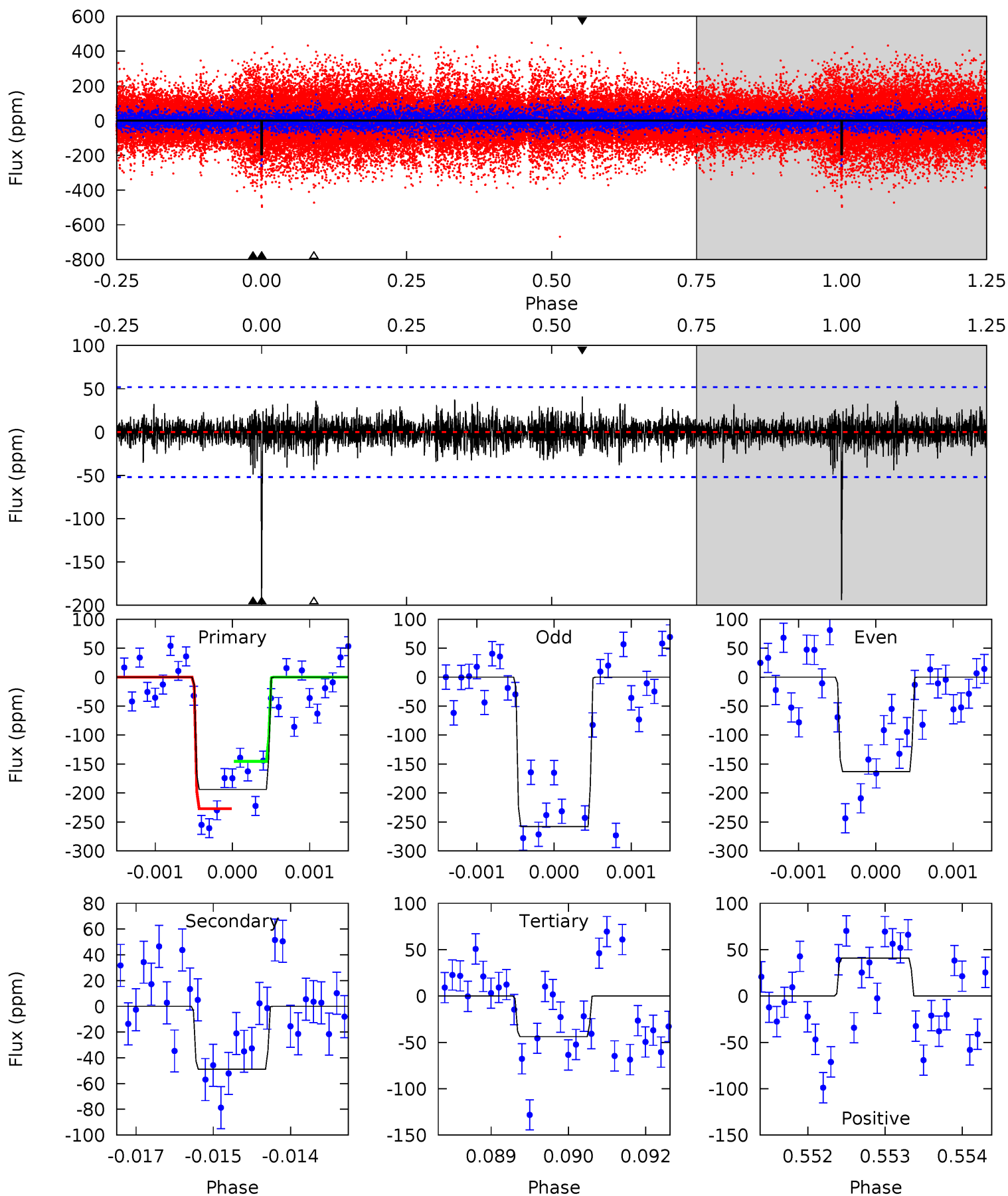
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	10.8	9.39	9.70	5.41	3.22	2.21	3.96	3.65	1.36	1.05	1.07	0.97	0.42	2.00



Alt Model-Shift Uniqueness Test

011408304-03, P = 457.017003 Days, E = 141.594528 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	5.07	4.55	4.24	5.39	3.20	1.06	15.6	15.9	0.52	0.83	4.57	0.90	0.17	4.26



Stellar Parameters For KIC 011408304

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6064^{+185}_{-167}	$3.558^{+0.367}_{-0.122}$	$0.000^{+0.300}_{-0.300}$	$3.534^{+0.618}_{-1.441}$	$1.644^{+0.178}_{-0.416}$	$0.052^{+0.161}_{-0.018}$
	+3%/-3%	+10%/-3%	+inf%/-inf%	+17%/-41%	+11%/-25%	+307%/-35%
Source	PHO1	FLK73	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 011408304-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-123 ± 11	$4.87^{+1.34}_{-1.52}$	591^{+42}_{-59}	5559^{+784}_{-490}	5245^{+5788}_{-2016}
Alt.	-49 ± 10	$4.93^{+1.54}_{-1.49}$	592^{+39}_{-64}	4519^{+575}_{-390}	2098^{+2160}_{-936}

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 $A_{obs} \gg 1.0$

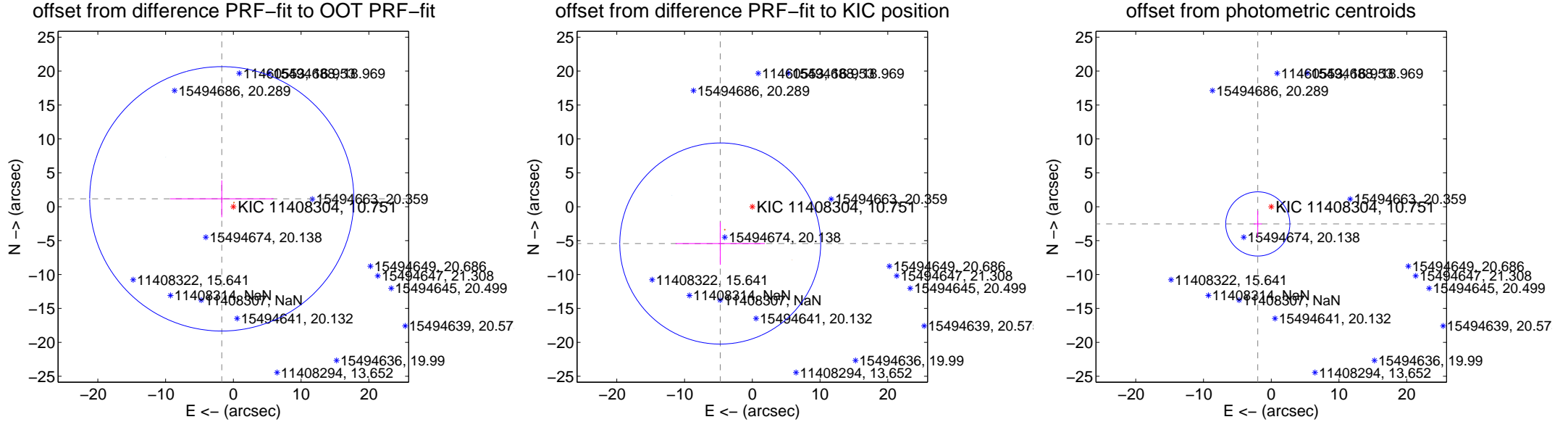
DV Centroid Data

Supplemental centroid analysis for 011408304-03. **Kepler magnitude: 10.75.** Transit SNR 6.58

There are 1 quarters with good PRF difference image offsets

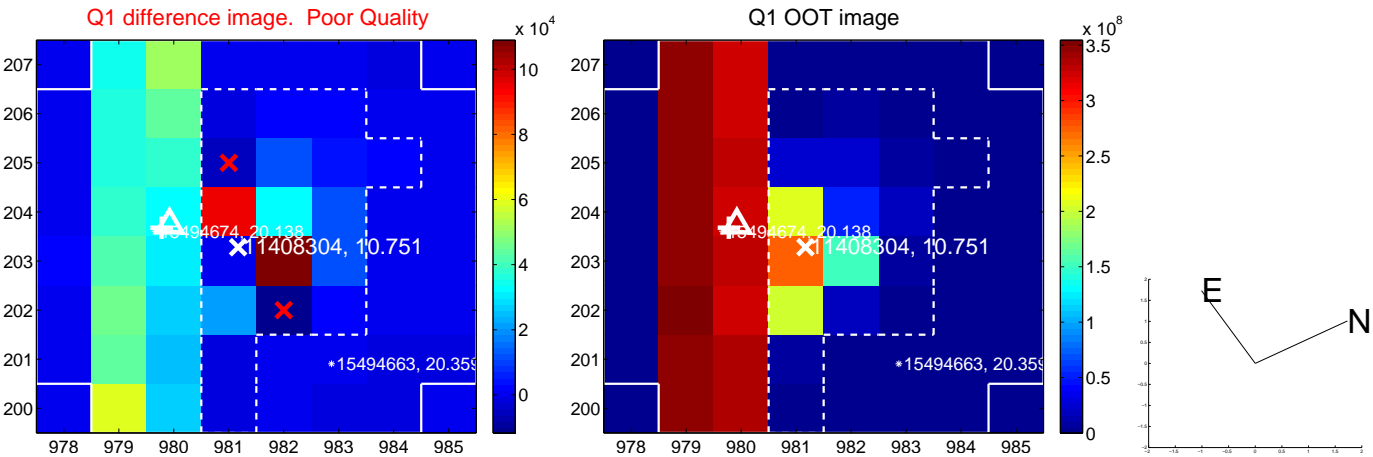
The OOT PRF centroid is offset from the target star catalog position by about 8.37 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.069 ± 6.498	0.32	1.710 ± 7.640	1.164 ± 2.706
PRF-fit source offset from KIC position	7.199 ± 4.943	1.46	4.732 ± 6.601	-5.426 ± 3.143
photometric centroid source offset	3.22 ± 1.58	2.04	1.99 ± 0.60	-2.54 ± 1.95



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.

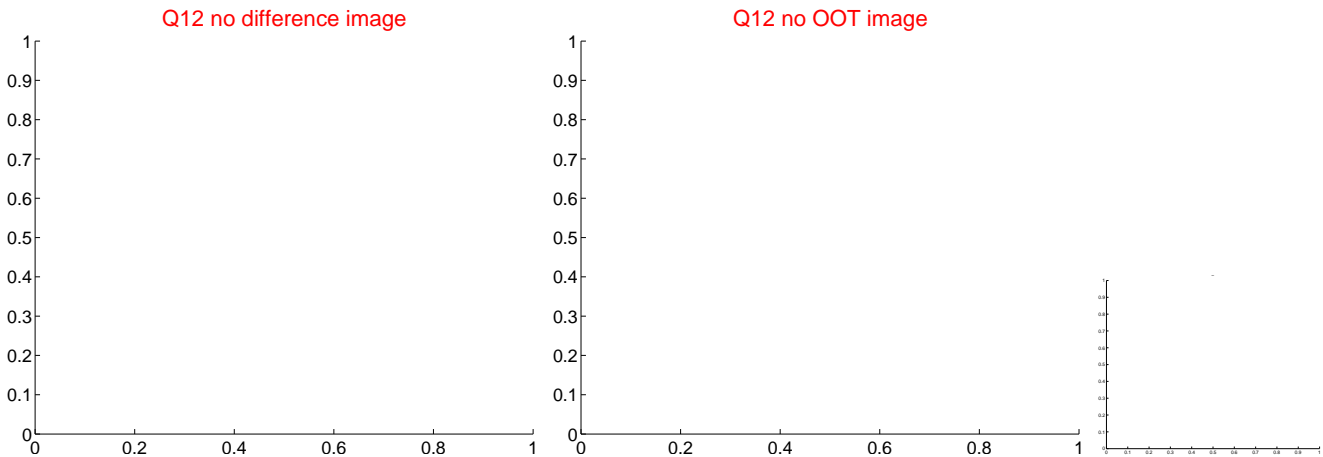
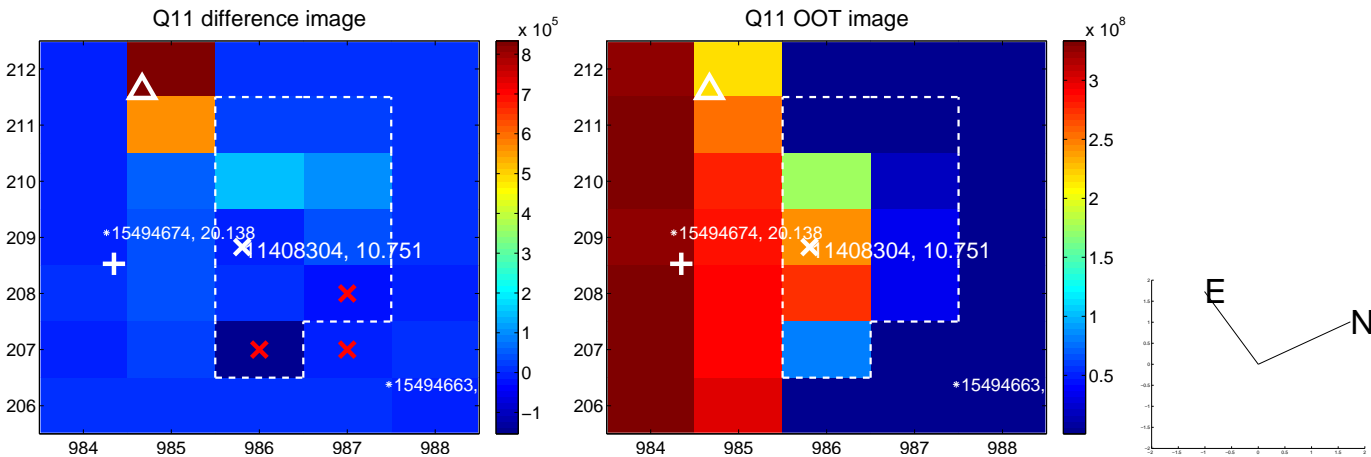
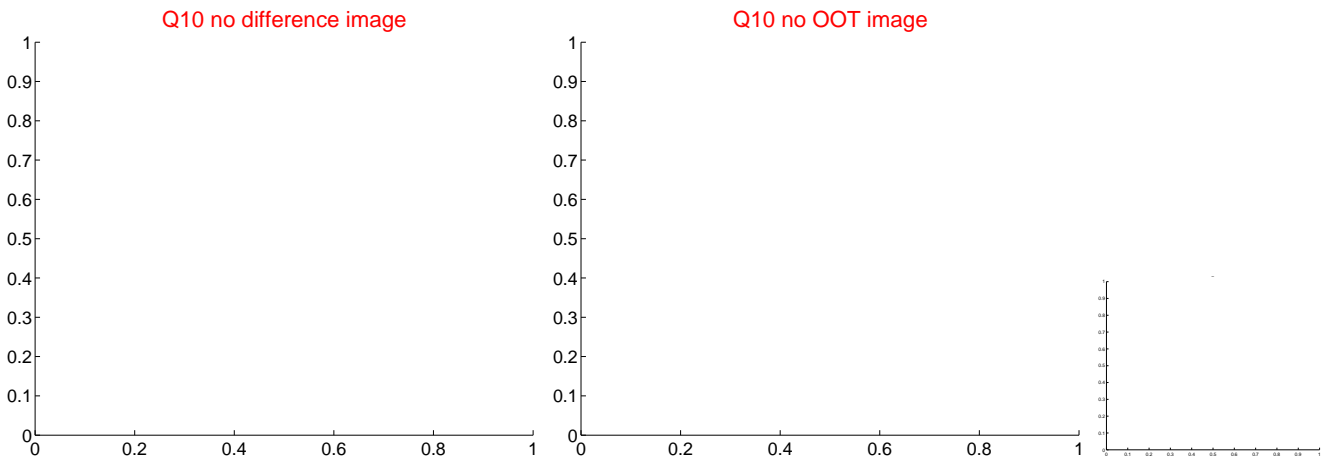
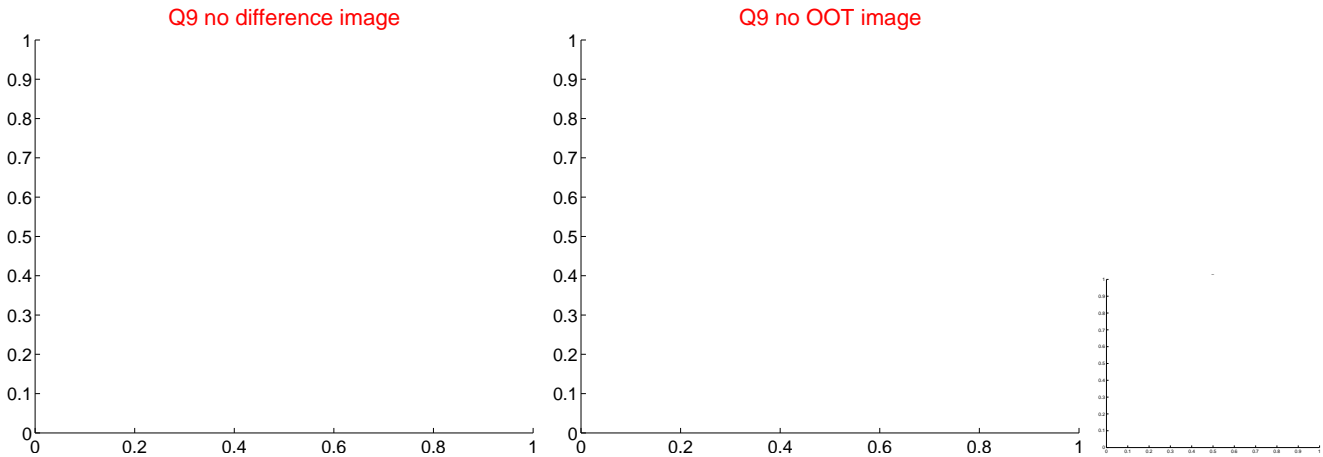
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



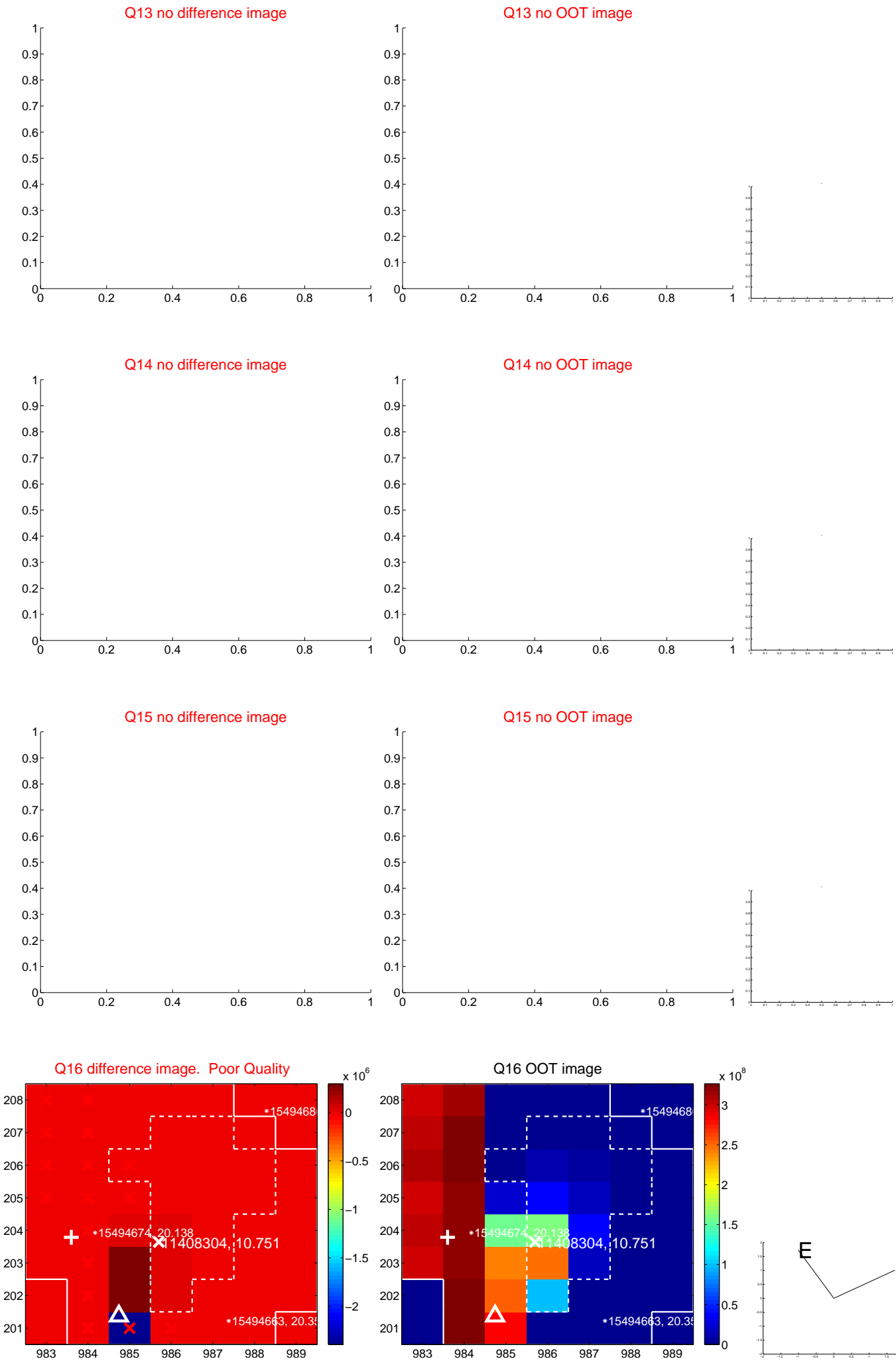
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



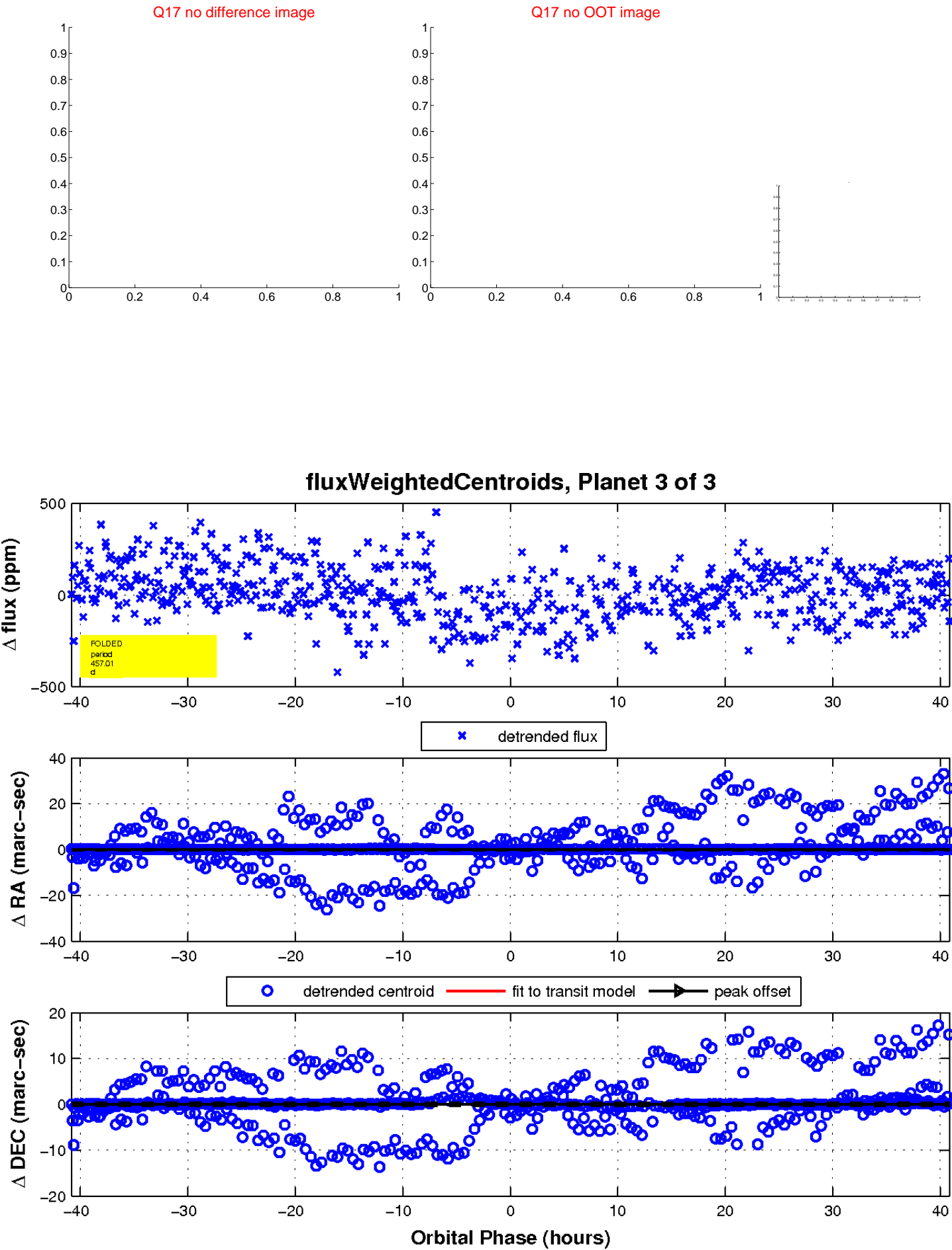
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

