

KIC 005706988

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})
005706988-01	OBS	No	454.115874	179.595152	1140.5	4.158	24.3	3.3	2.09	7545	7.87	6.67
005706988-03	OBS	No	432.957683	456.333161	2079.4	4.759	24.9	4.2	2.09	7545	11.86	7.11
005706988-04	OBS	No	433.067031	456.547066	26335.6	13.490	26.1	16.5	2.09	7545	35.36	7.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005706988-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005706988-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005706988-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—SAME_NTL_PERIOD—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.

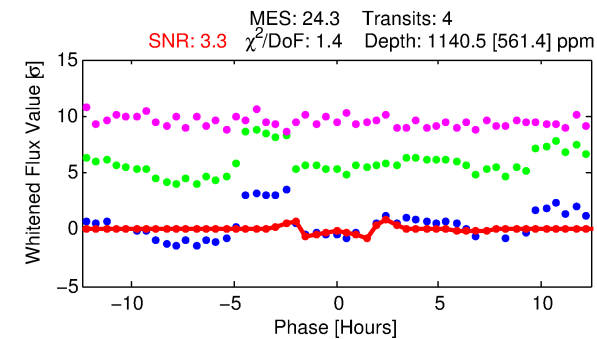
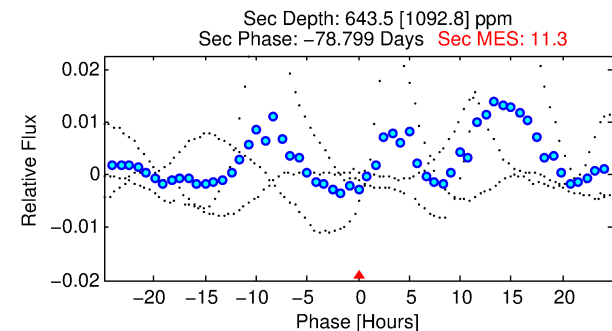
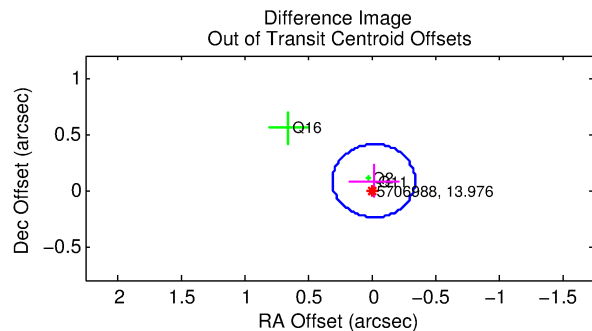
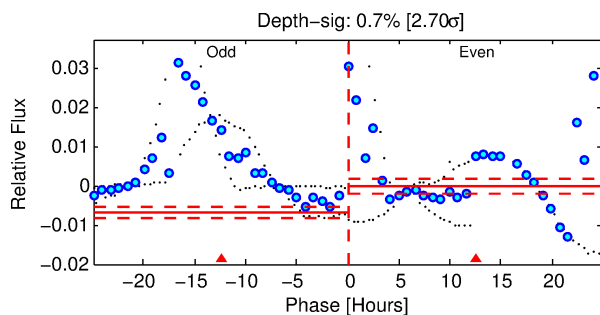
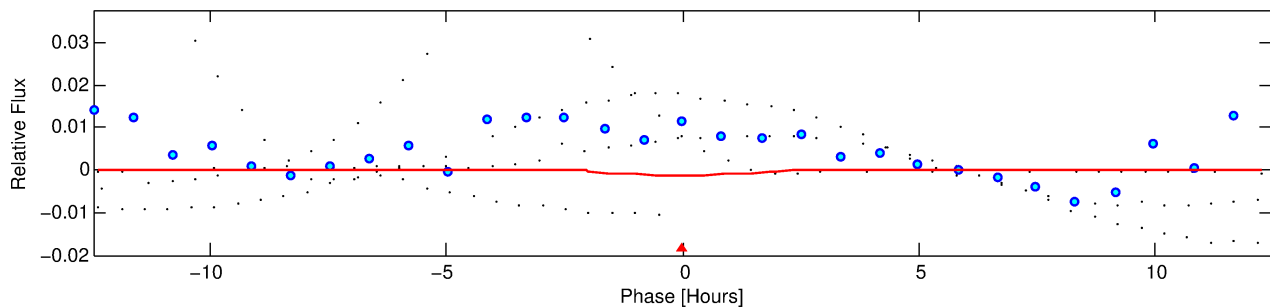
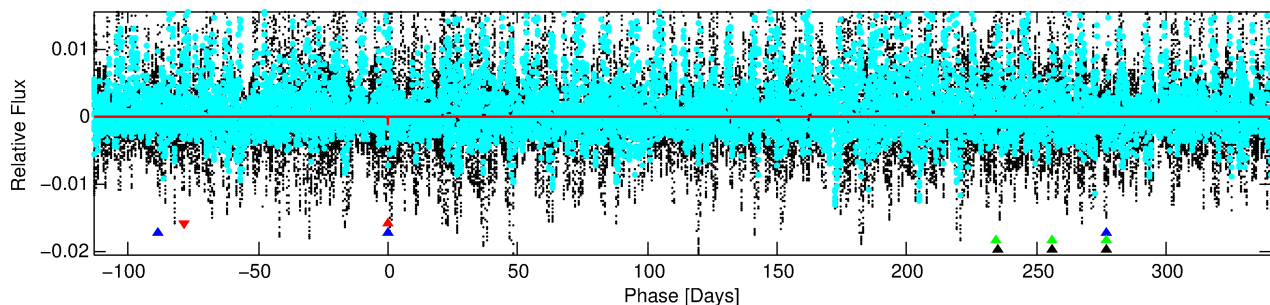
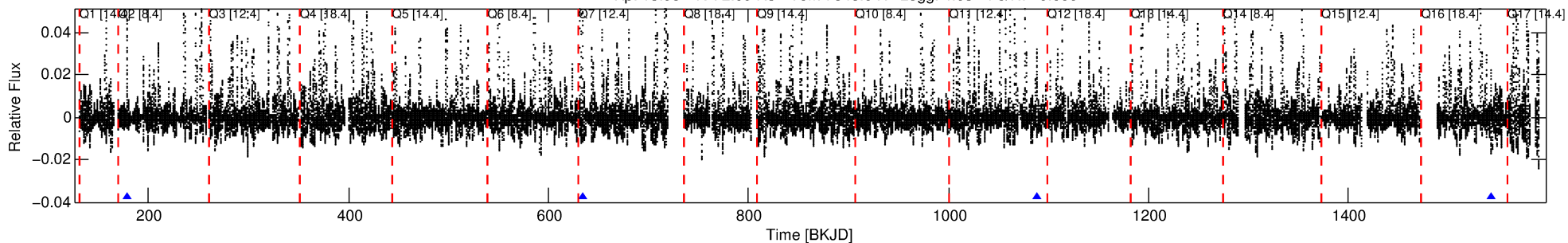
Ephemeris Match Information For 005706988-01

No Significant Match Found

DV One-Page Summary

KIC: 5706988 Candidate: 1 of 4 Period: 454.116 d

Kp: 13.98 R*: 2.09 Rs Teff: 7545.0 K Logg: 4.03 Fe/H: -0.060



DV Fit Results:

Period = 454.11587 [0.00529] d
Epoch = 179.5952 [0.0106] BKJD
Rp/R* = 0.0346 [0.0142]
a/R* = 510.97 [766.04]
b = 0.83 [0.56]
Seff = 6.68 [2.65]
Teff = 410 [41] K
Rp = 7.87 [3.96] Re
a = 1.3771 [0.3385] AU
Ag = 10832.75 [20806.98] [0.52σ]
Teffp = 6465 [3061] K [1.98σ]

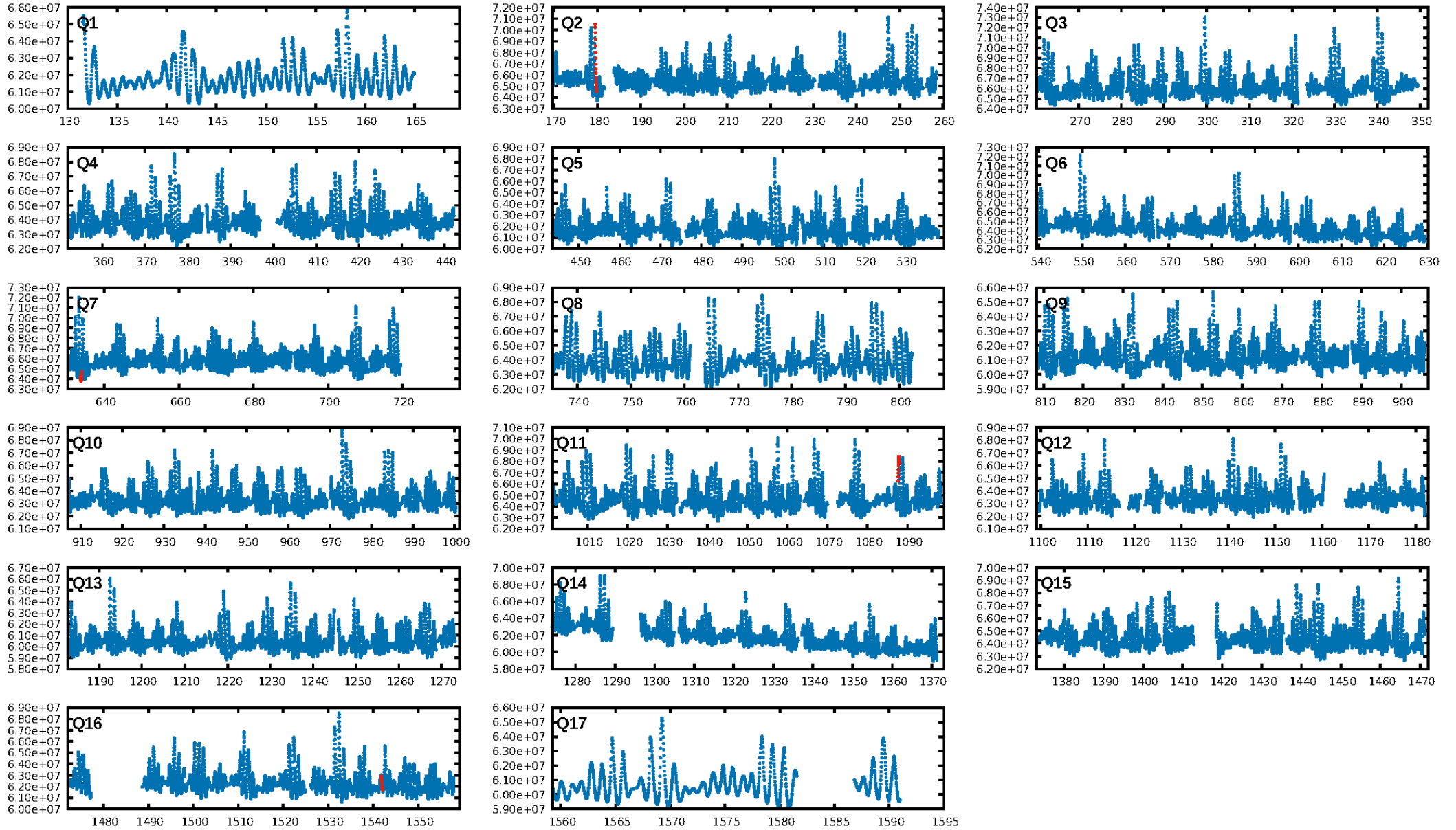
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [35.79σ]
LongPeriod-sig: 100.0% [447.66σ]
ModelChiSquare2-sig: 1.1%
ModelChiSquareGof-sig: 51.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.8355
Centroid-sig: 25.9%
Centroid-so: 0.664 arcsec [1.02σ]
OotOffset-rm: 0.085 arcsec [0.78σ]
KicOffset-rm: 0.202 arcsec [1.42σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.67 [2/3]

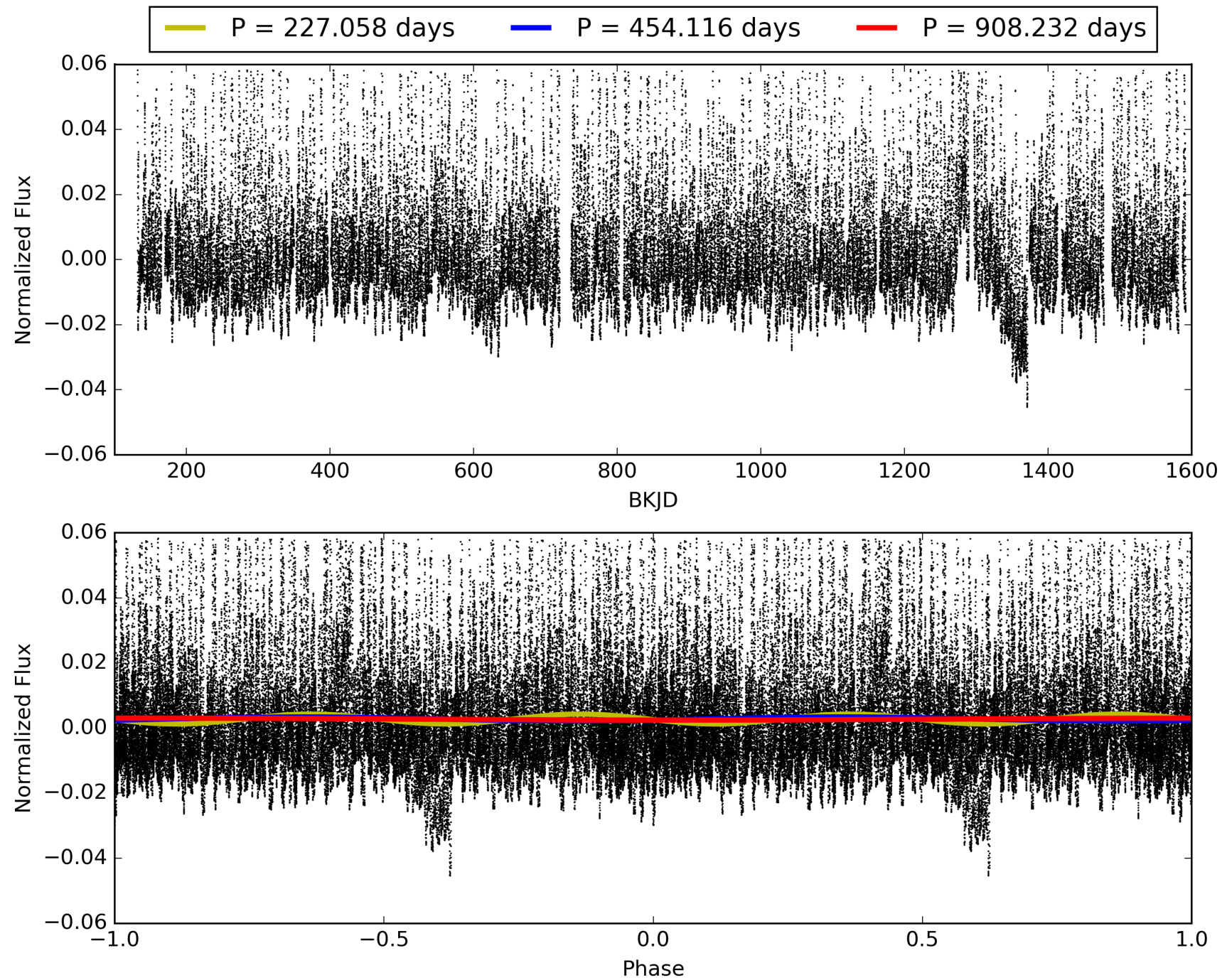
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:17:14 Z

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

TCE 005706988-01, PDC Light Curves

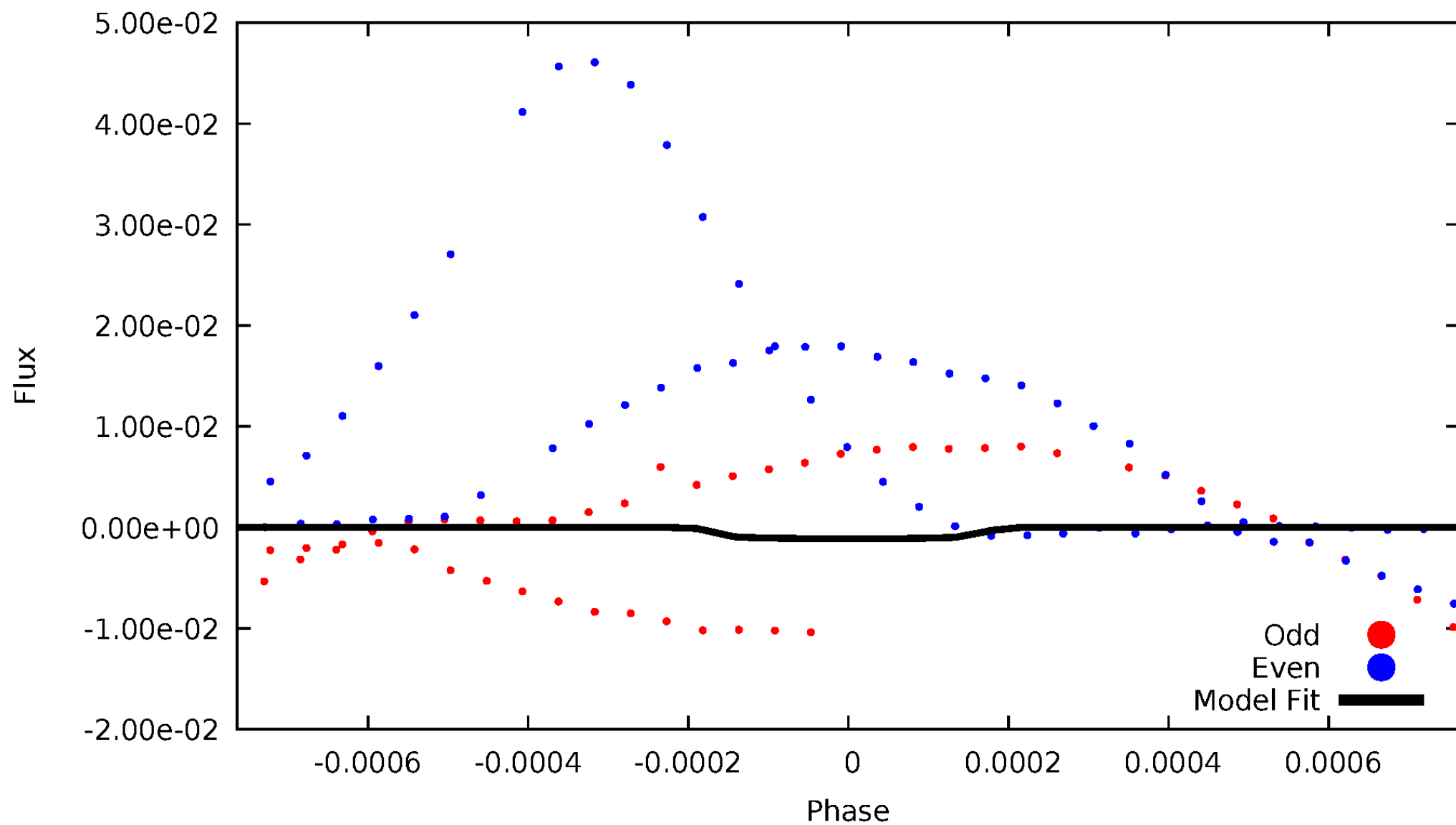


TCE 005706988-01



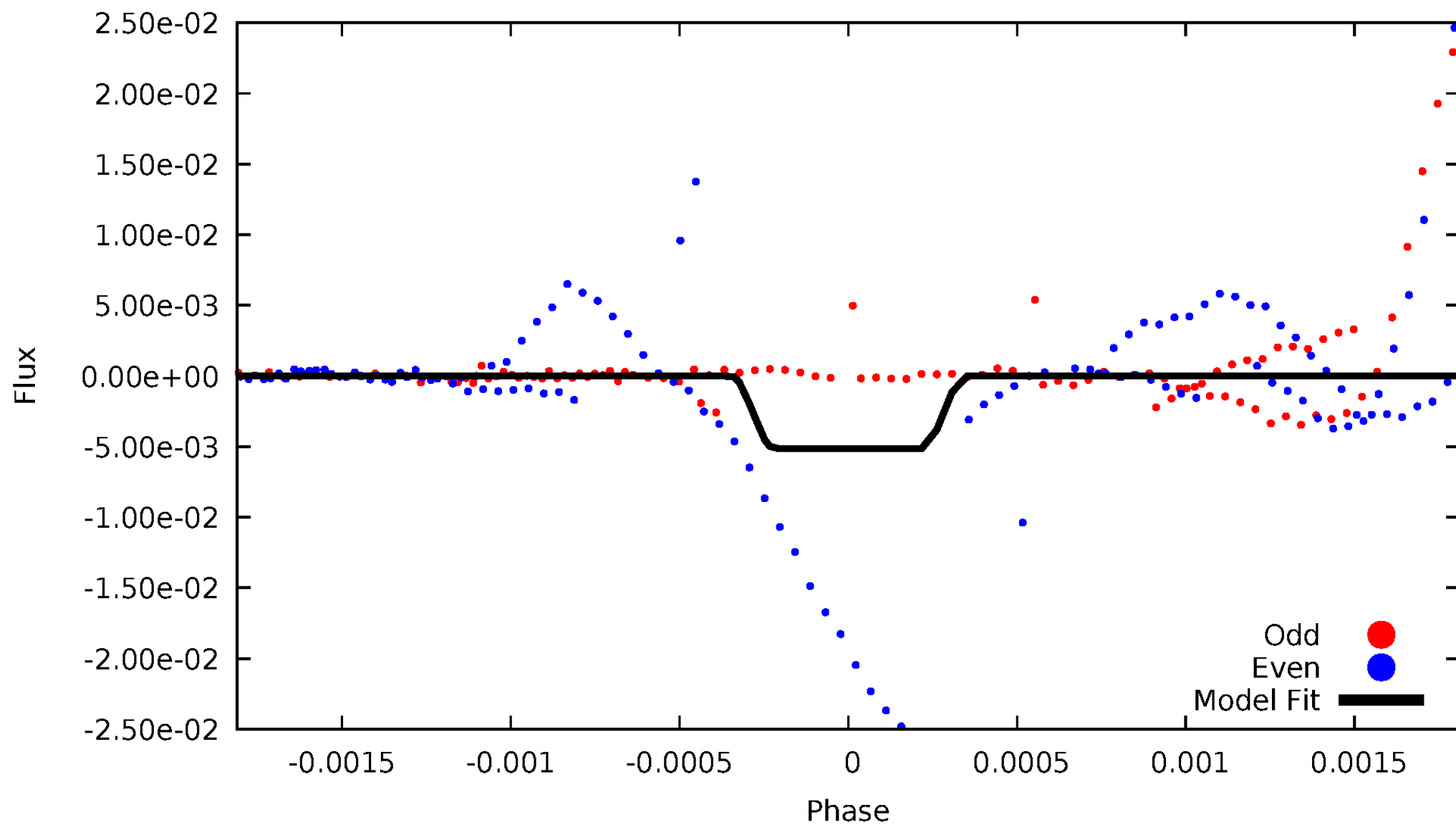
DV Odd/Even

TCE 005706988-01



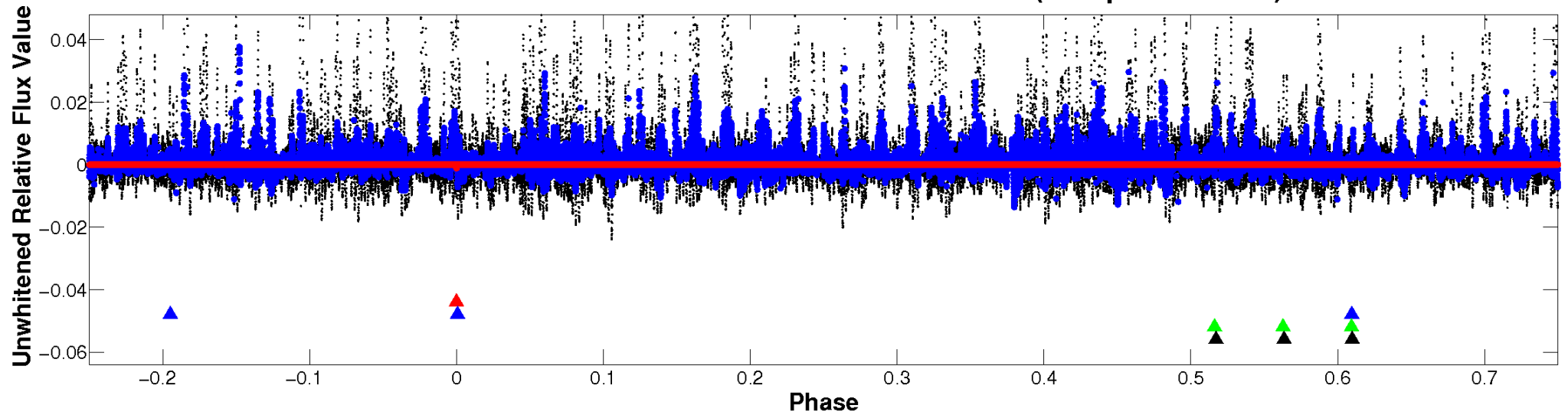
ALT Odd/Even

TCE 005706988-01

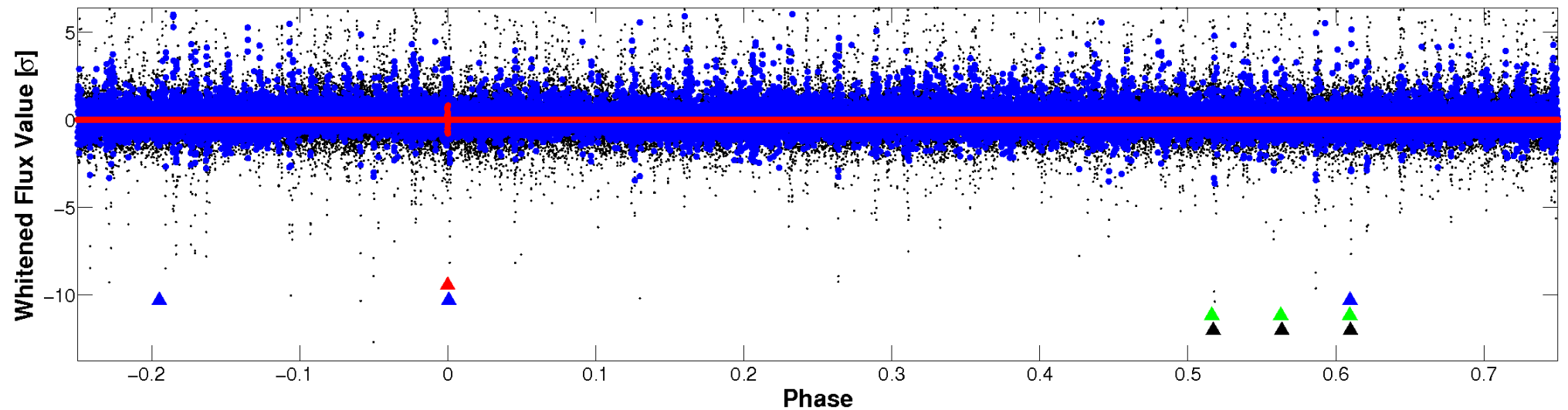


Non-Whitened Vs. Whitened Light Curve

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

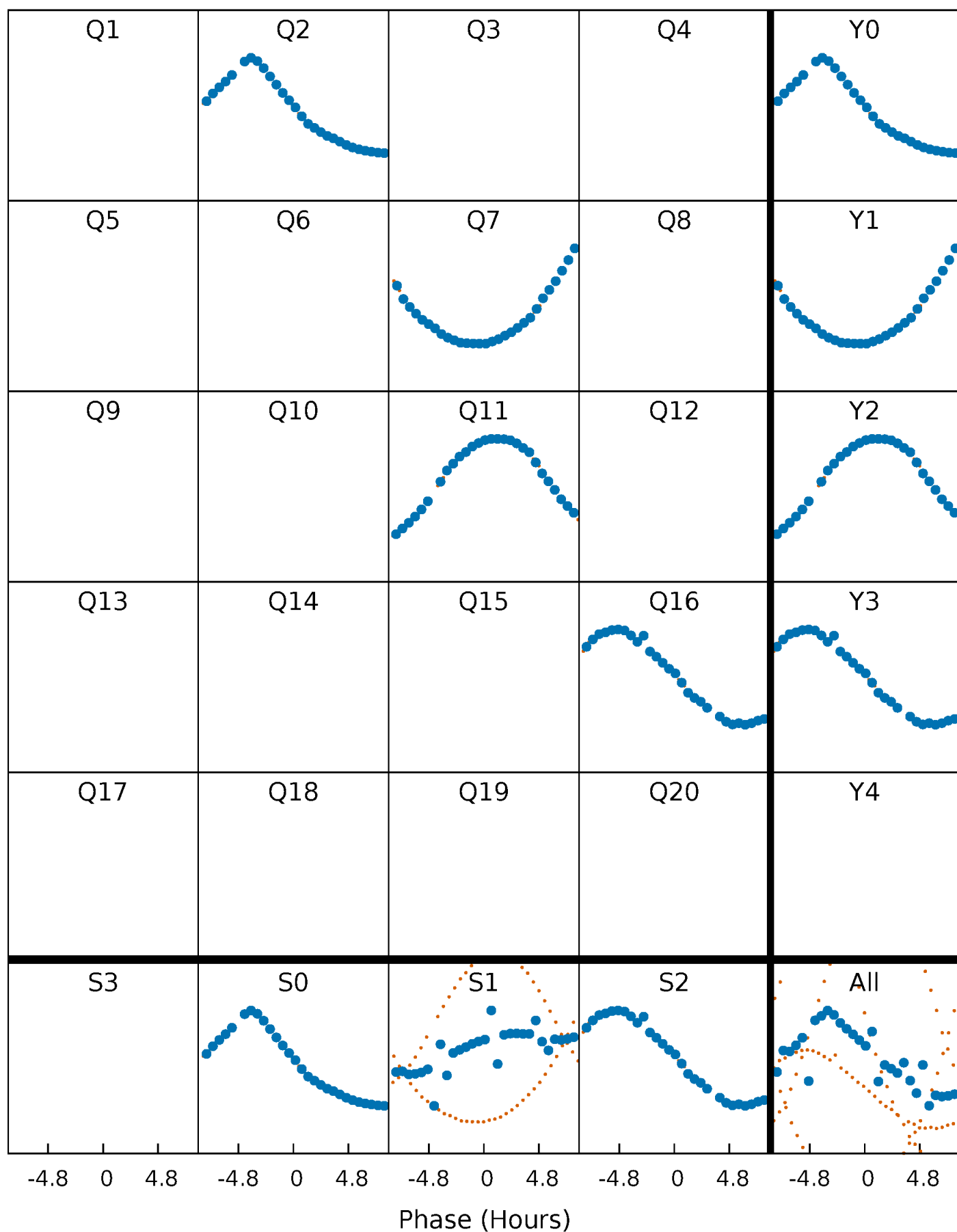


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



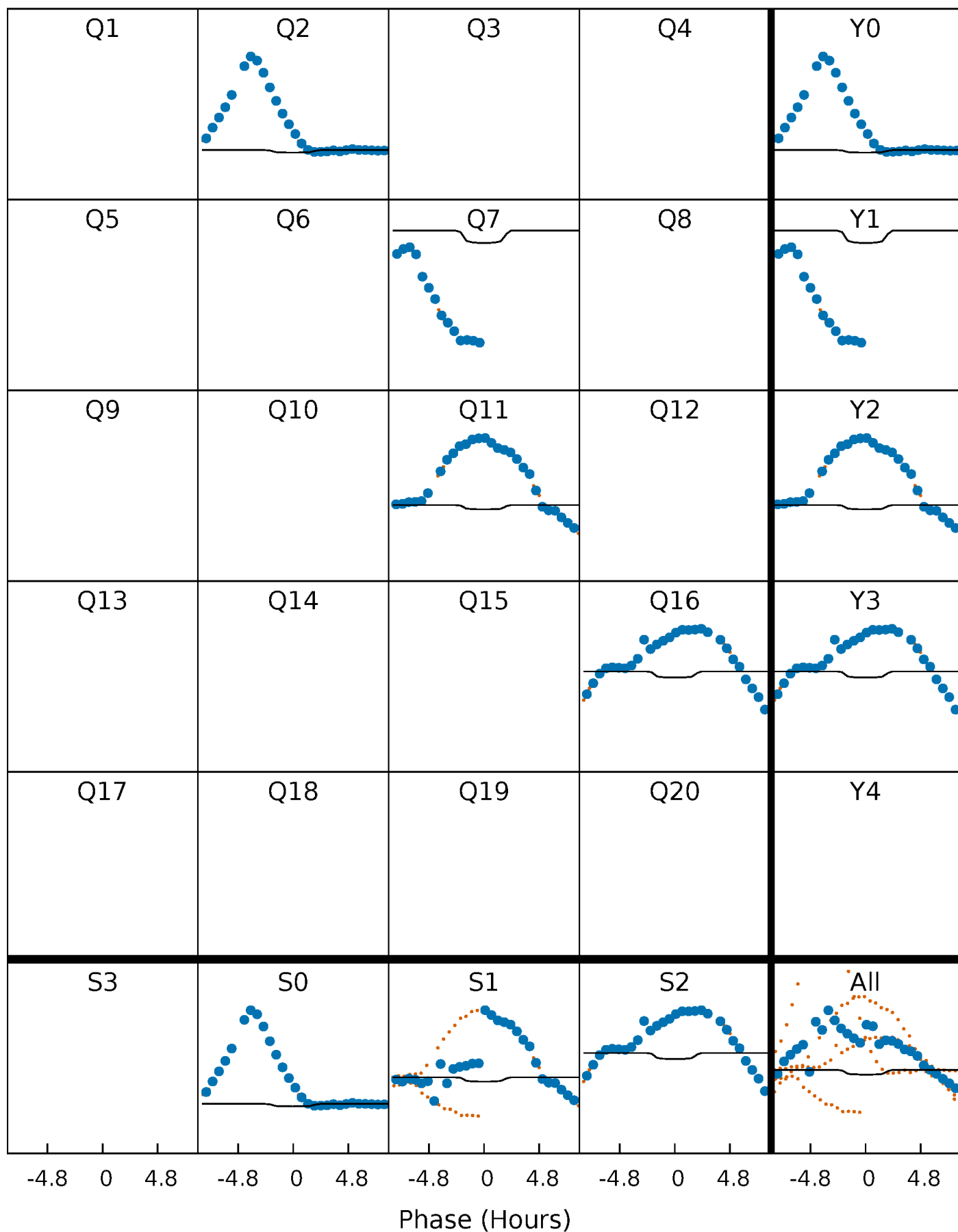
PDC Quarter-Phased Transit Curves

TCE 005706988-01 P=454.115874 Days $T_0=179.595152$ (BKJD)



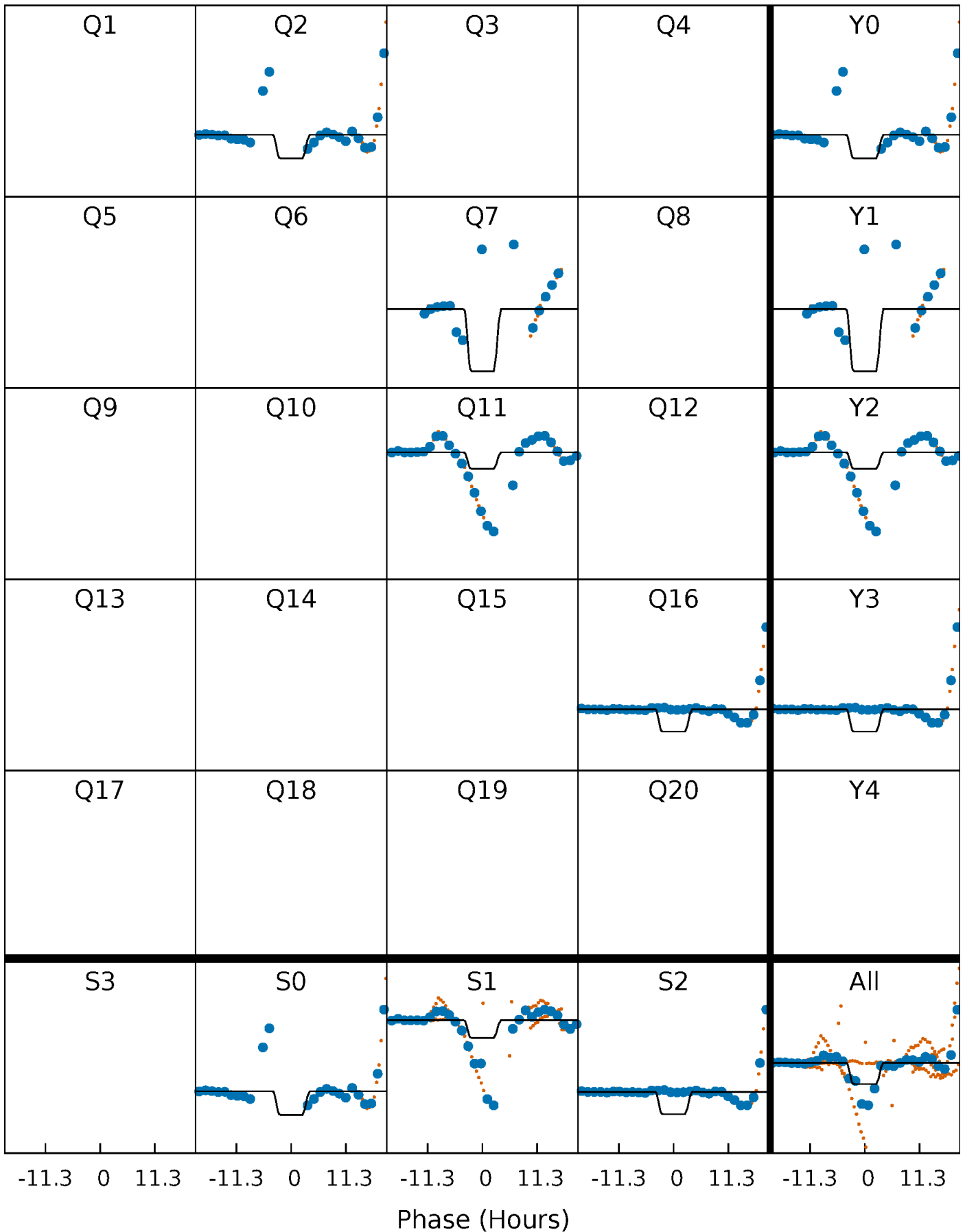
DV Quarter-Phased Transit Curves

TCE 005706988-01 P=454.115874 Days $T_0=179.595152$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

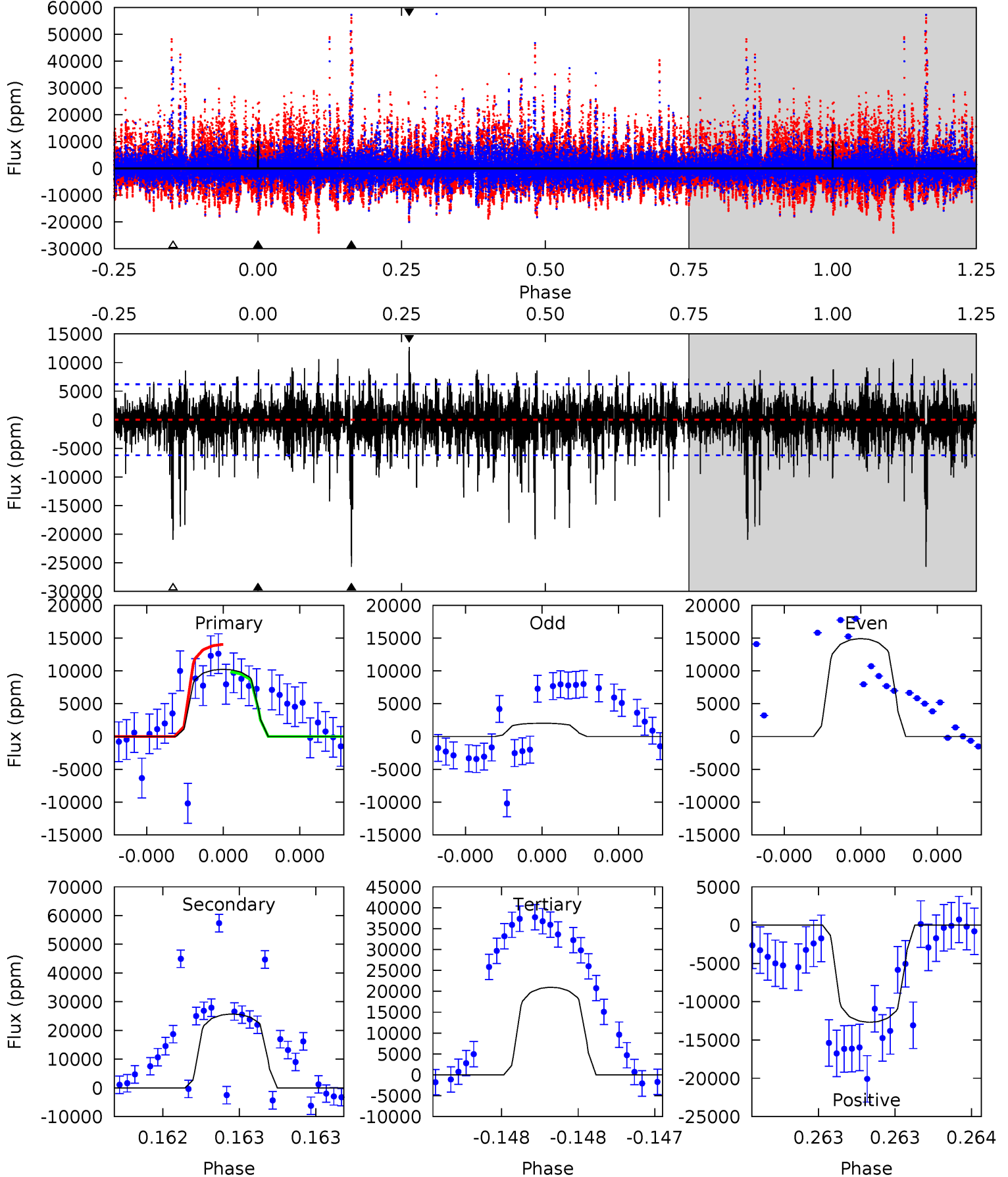
TCE 005706988-01 P=454.415130 Days $T_0=178.594469$ (BKJD)



DV Model-Shift Uniqueness Test

005706988-01, P = 454.115874 Days, E = 179.595152 Days

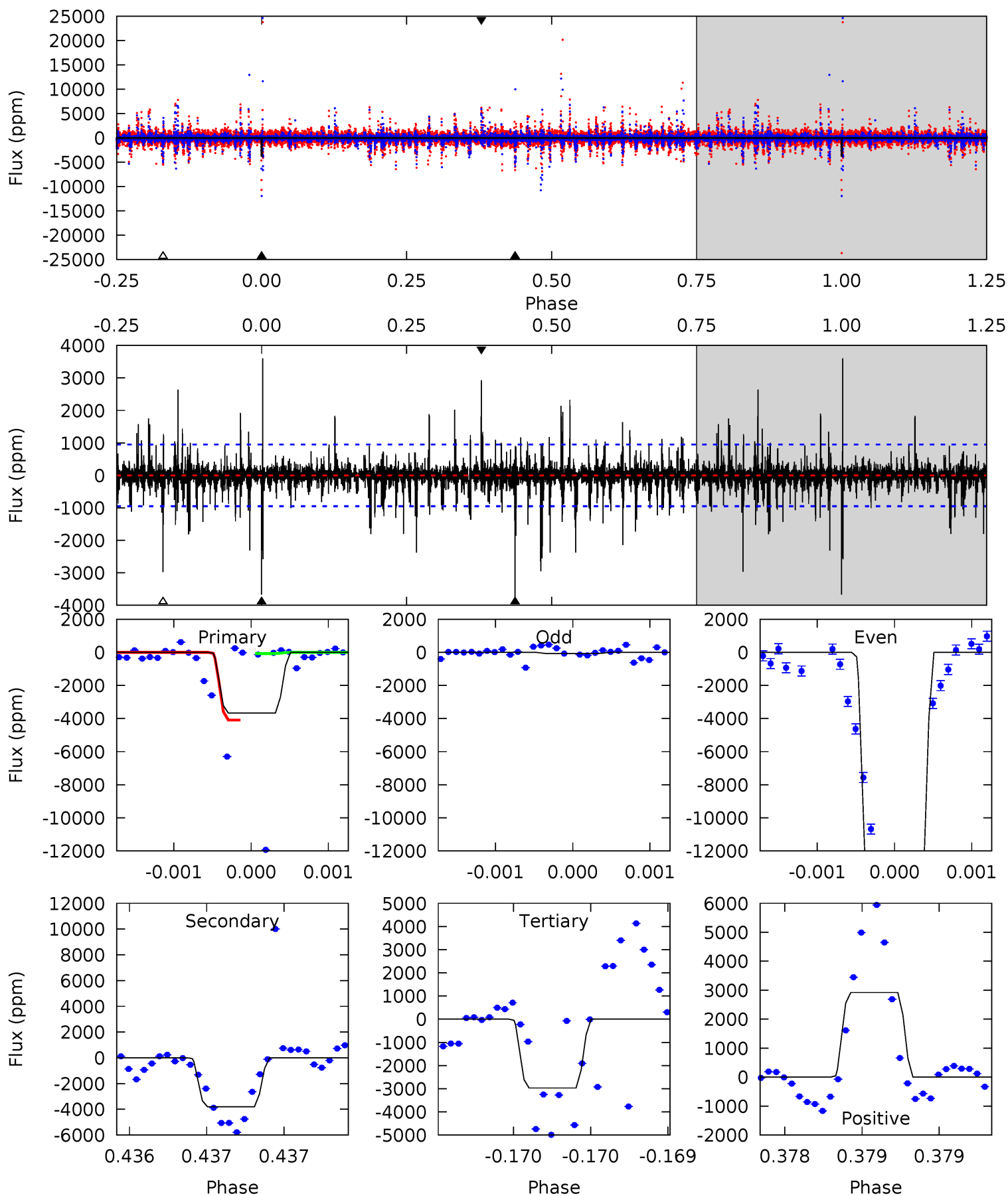
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.30	23.4	19.1	11.5	5.63	3.56	2.77	-9.75	-2.22	4.31	11.8	4.16	0.69	0.33	1.78



Alt Model-Shift Uniqueness Test

005706988-01, P = 454.415130 Days, E = 178.594469 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.3	22.1	17.2	17.0	5.52	3.39	1.55	4.06	4.34	4.84	5.12	39.9	1.00	0.49	0



Stellar Parameters For KIC 005706988

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7545^{+235}_{-314}	$4.026^{+0.198}_{-0.162}$	$-0.060^{+0.200}_{-0.350}$	$2.088^{+0.495}_{-0.605}$	$1.687^{+0.185}_{-0.291}$	$0.261^{+0.291}_{-0.121}$
	+3%/-4%	+5%/-4%	+333%/-583%	+24%/-29%	+11%/-17%	+112%/-46%
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 005706988-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-25714 ± 1101	$7.98^{+3.50}_{-3.48}$	566^{+44}_{-43}	29076^{+35929}_{-9601}	$424826^{+883686}_{-218825}$
Alt.	-3804 ± 172	$16.15^{+4.05}_{-3.89}$	569^{+42}_{-44}	6917^{+982}_{-706}	15075^{+10557}_{-5435}

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

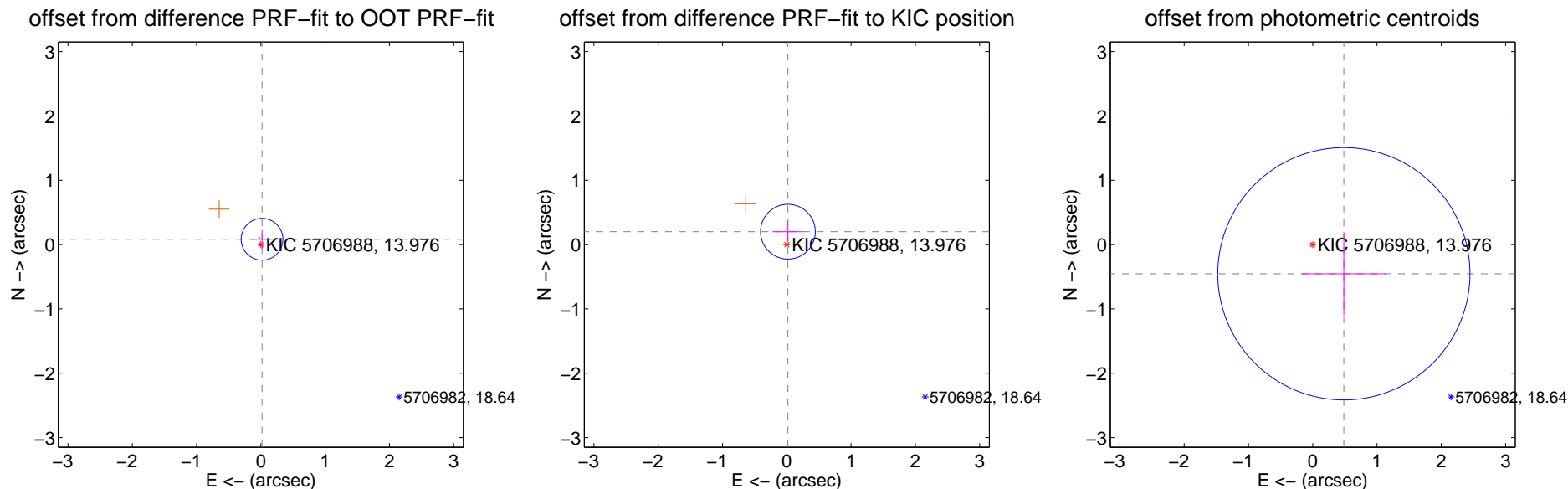
DV Centroid Data

Supplemental centroid analysis for 005706988-01. Kepler magnitude: 13.98. Transit SNR 3.26

There are 0 quarters with good PRF difference image offsets

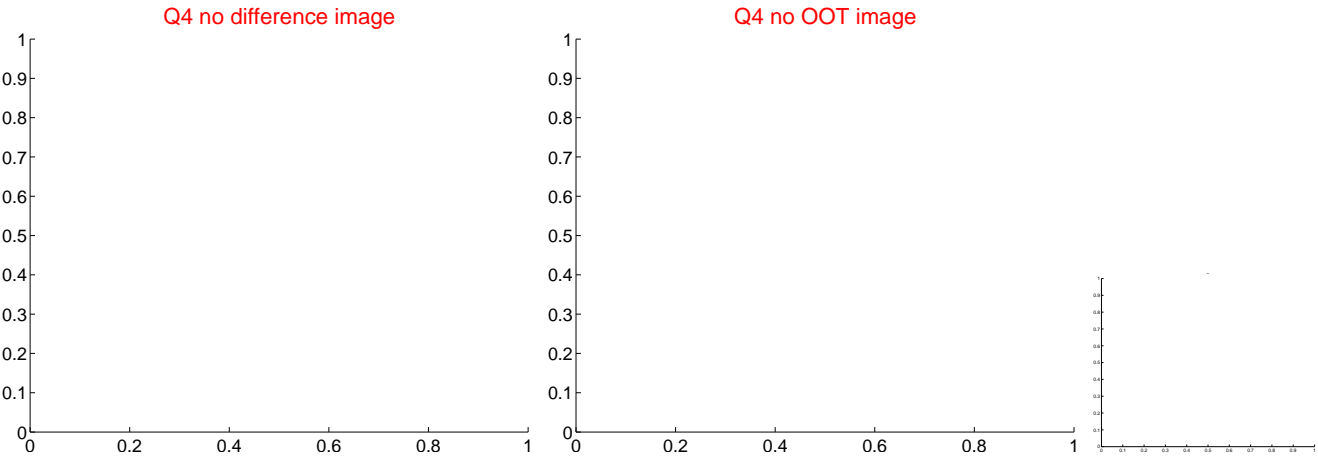
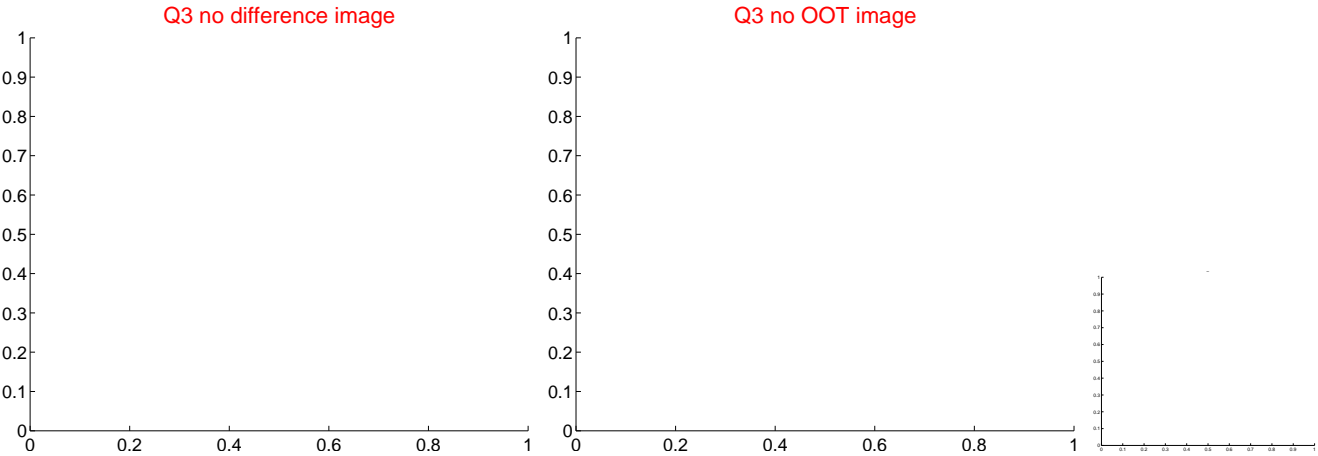
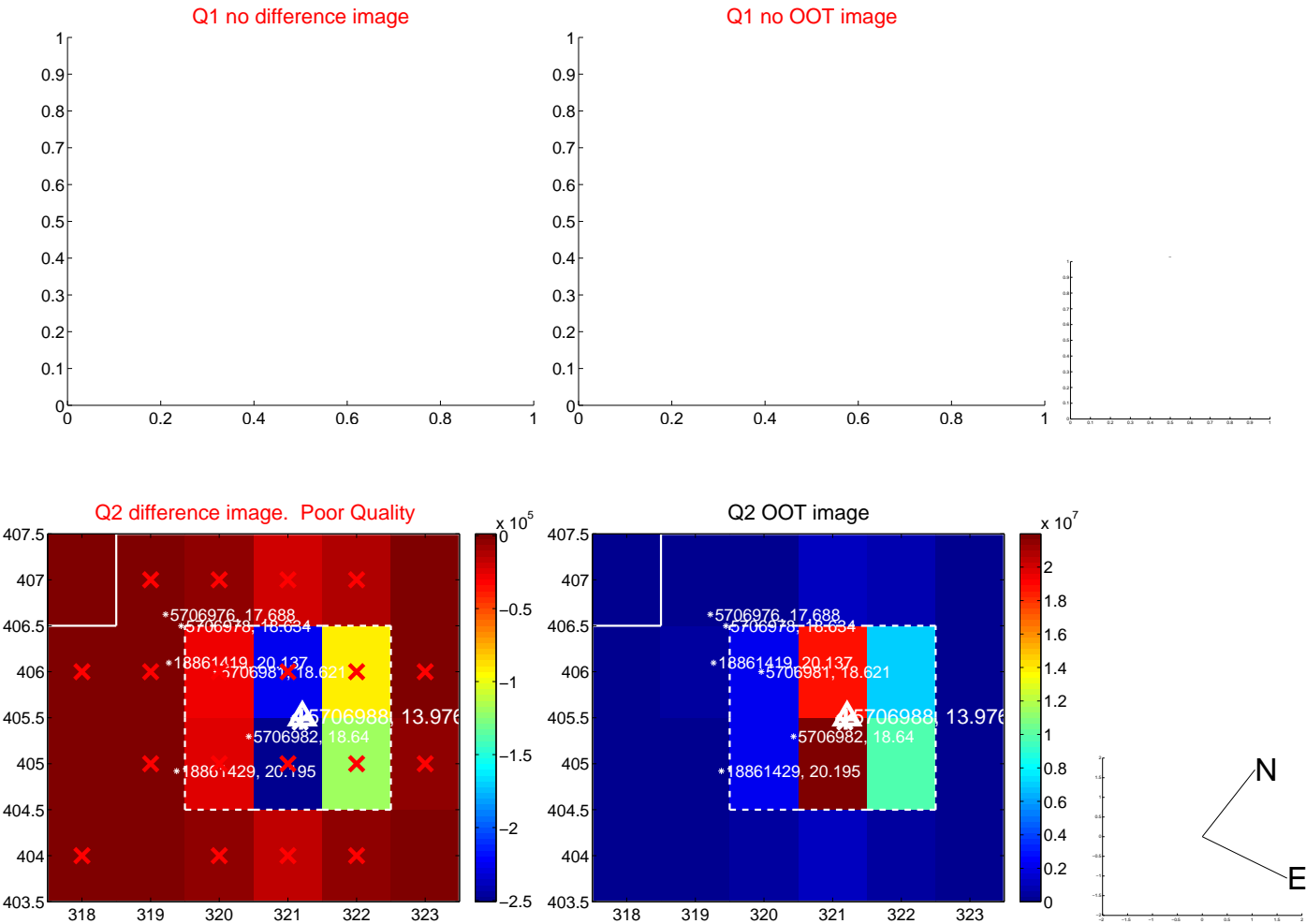
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.085 ± 0.108	0.78	-0.019 ± 0.194	0.083 ± 0.145
PRF-fit source offset from KIC position	0.202 ± 0.142	1.42	-0.018 ± 0.243	0.201 ± 0.161
photometric centroid source offset	0.66 ± 0.65	1.02	-0.48 ± 0.66	-0.45 ± 0.65



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

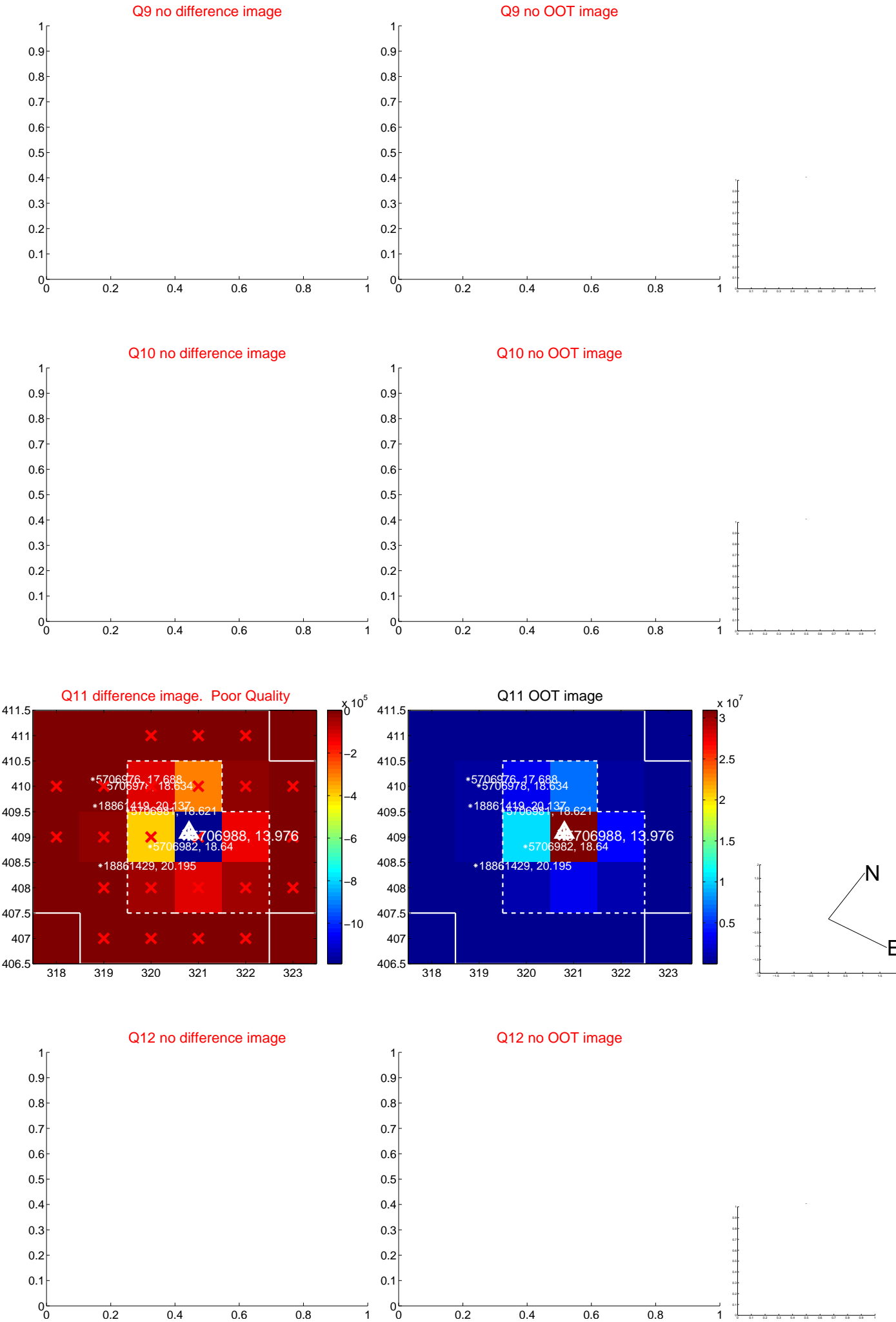
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



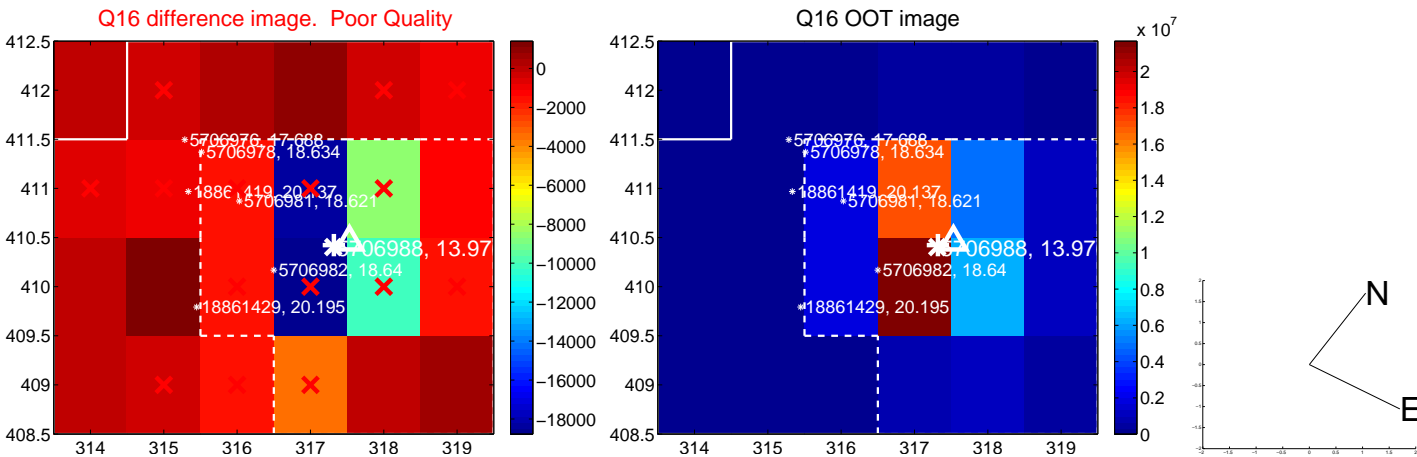
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



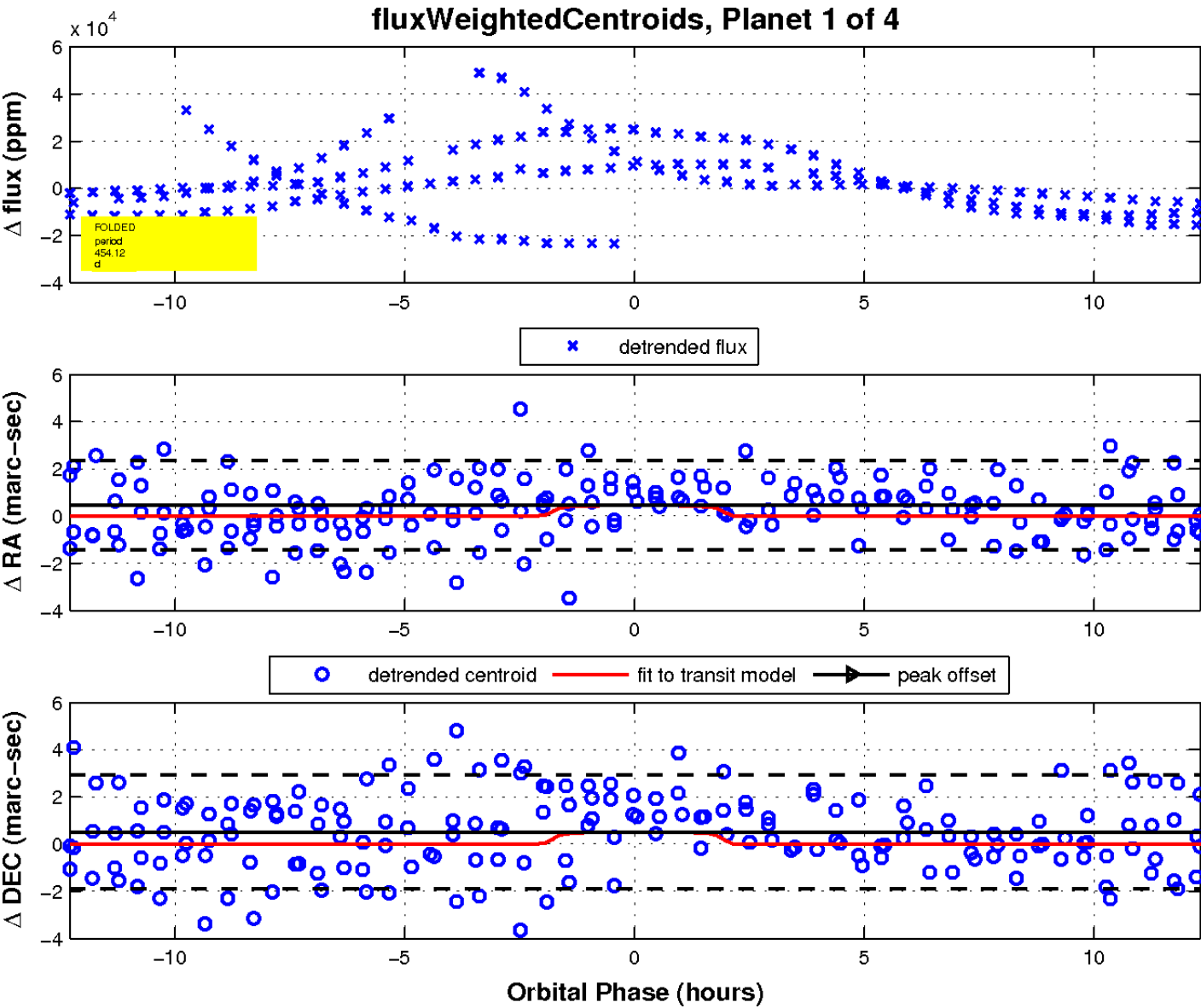
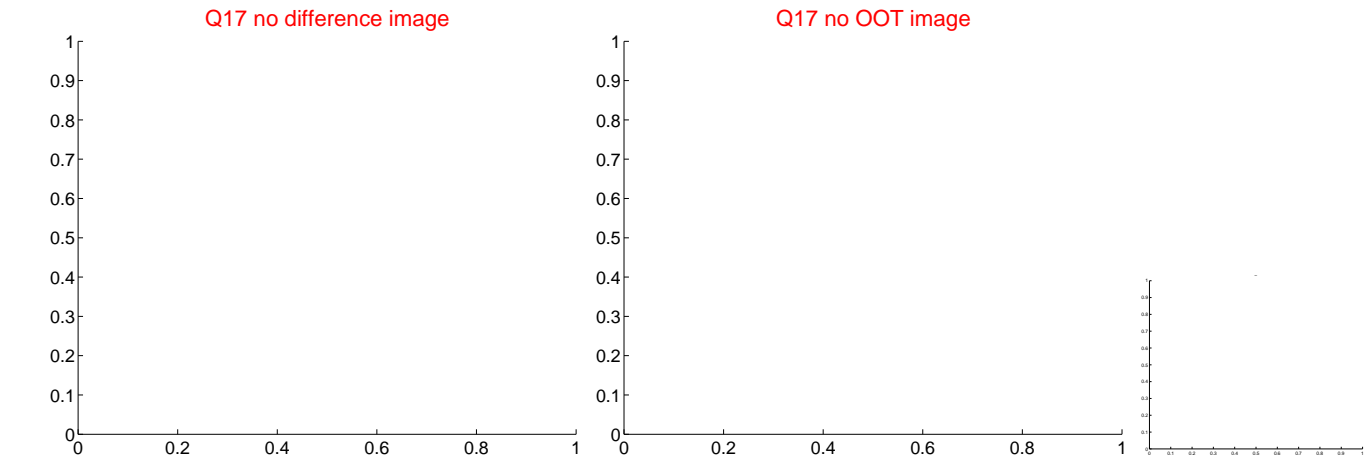
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

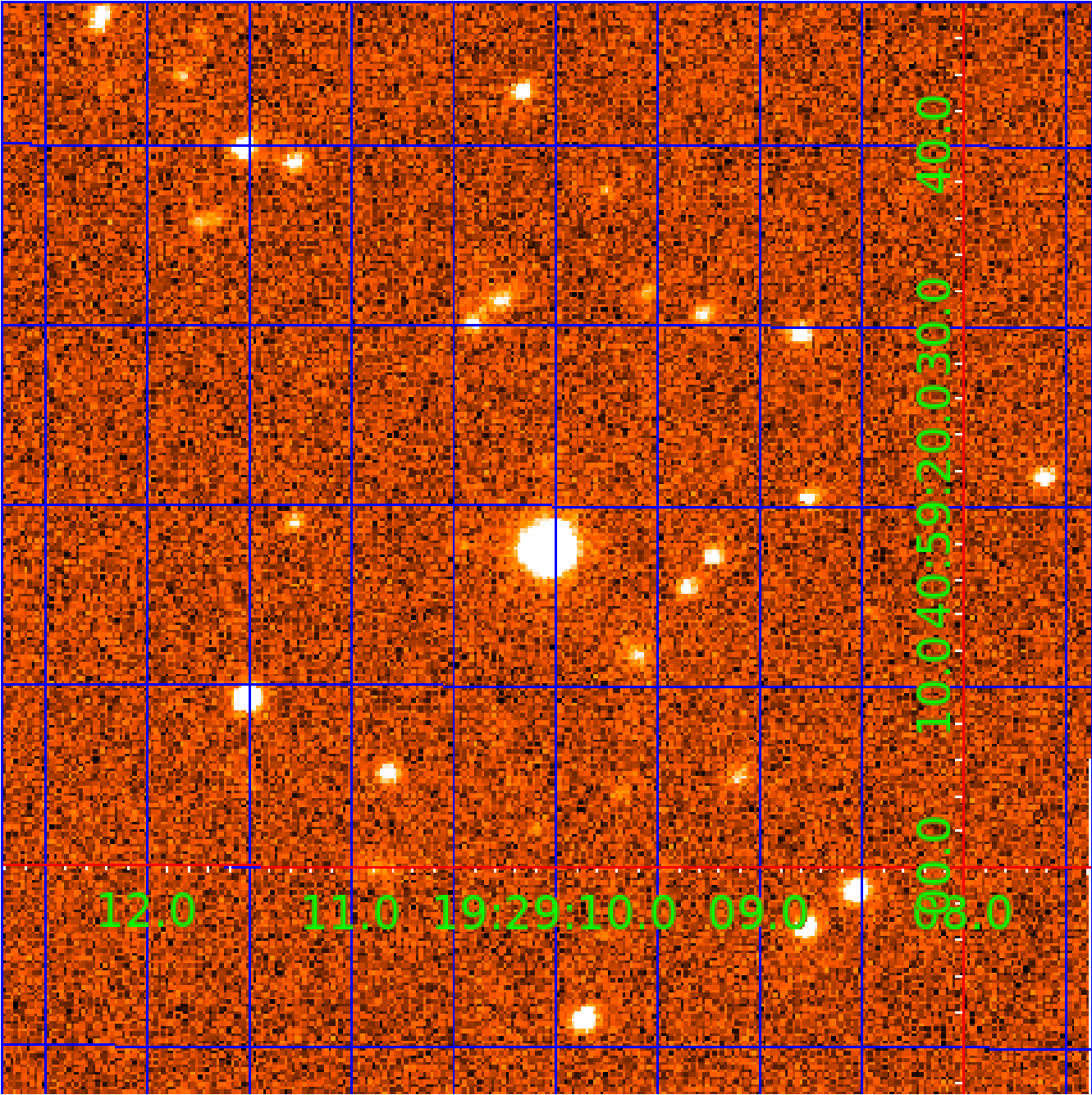


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005706988

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})
005706988-01	OBS	No	454.115874	179.595152	1140.5	4.158	24.3	3.3	2.09	7545	7.87	6.67
005706988-03	OBS	No	432.957683	456.333161	2079.4	4.759	24.9	4.2	2.09	7545	11.86	7.11
005706988-04	OBS	No	433.067031	456.547066	26335.6	13.490	26.1	16.5	2.09	7545	35.36	7.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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005706988-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005706988-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—SAME_NTL_PERIOD—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.

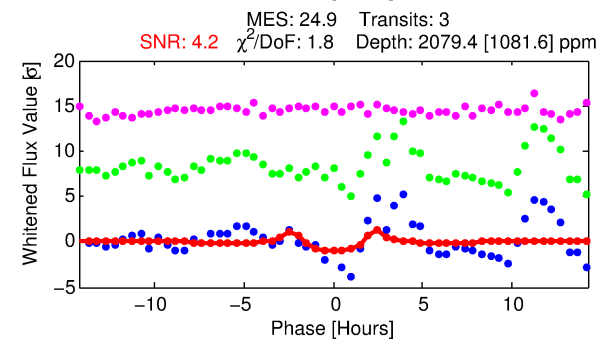
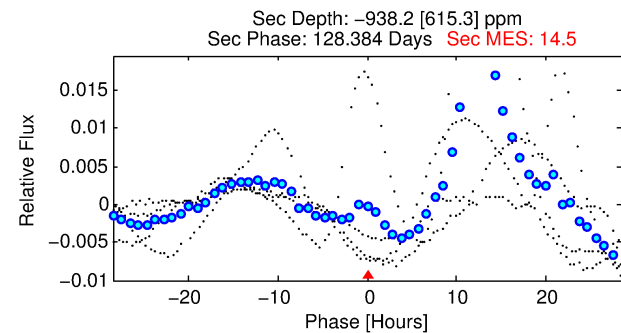
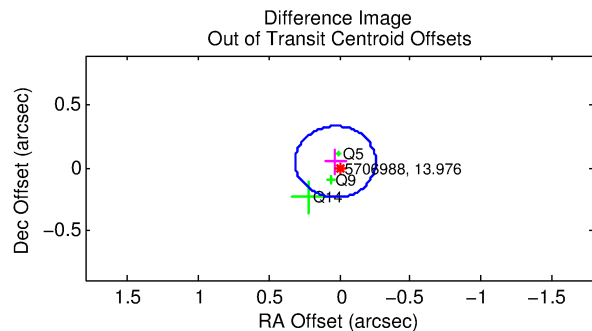
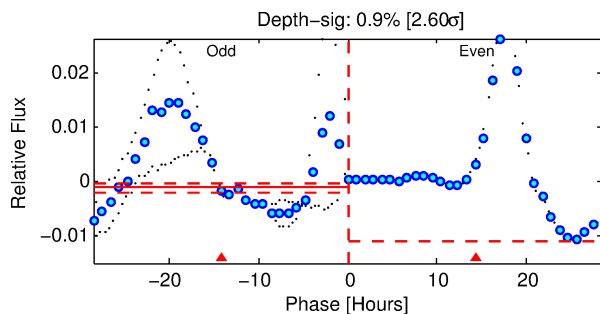
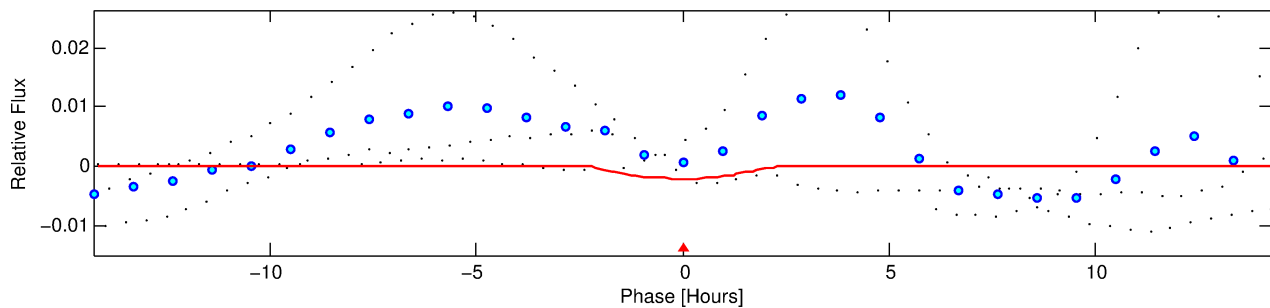
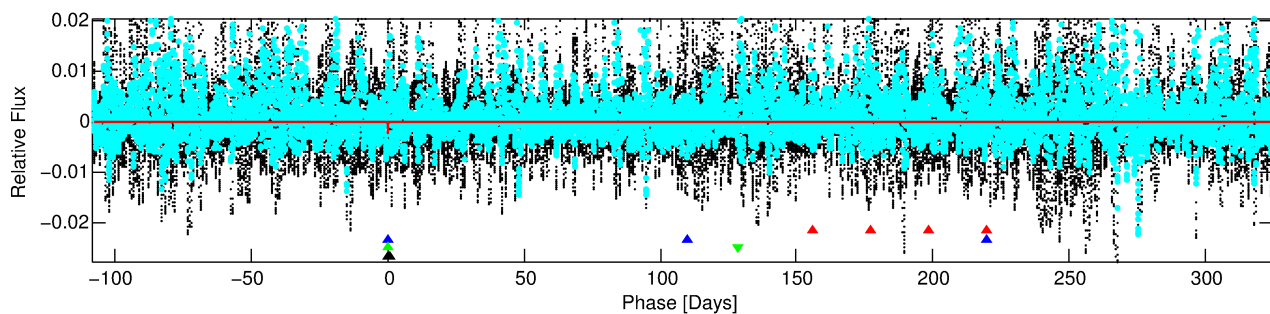
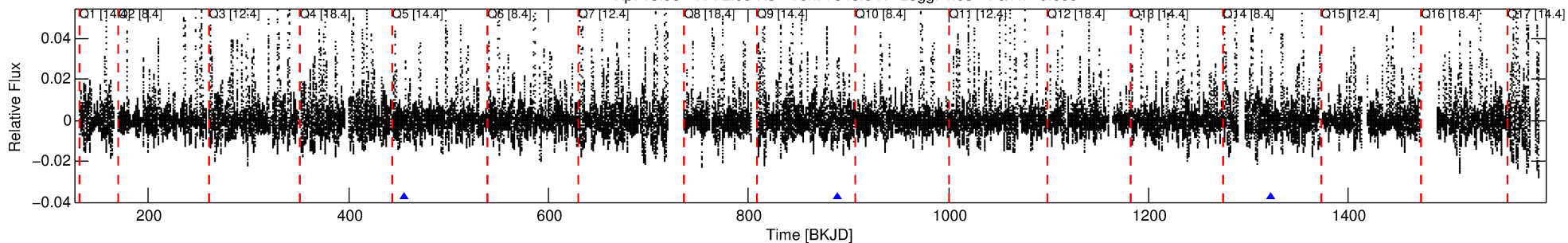
Ephemeris Match Information For 005706988-03

No Significant Match Found

DV One-Page Summary

KIC: 5706988 Candidate: 3 of 4 Period: 432.958 d

Kp: 13.98 R*: 2.09 Rs Teff: 7545.0 K Logg: 4.03 Fe/H: -0.060



DV Fit Results:

Period = 432.95768 [0.01337] d
Epoch = 456.3332 [0.0207] BKJD
Rp/R* = 0.0521 [0.0214]
a/R* = 309.55 [80.90]
b = 0.95 [0.05]
Seff = 7.11 [2.82]
Teff = 416 [41] K
Rp = 11.86 [5.96] Re
a = 1.3340 [0.3279] AU
Ag = N/A
Teffp = N/A

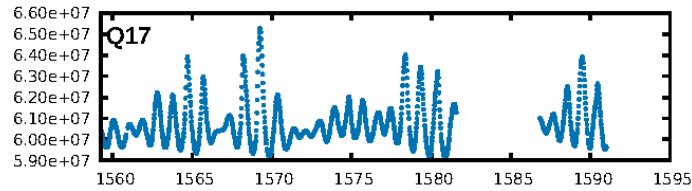
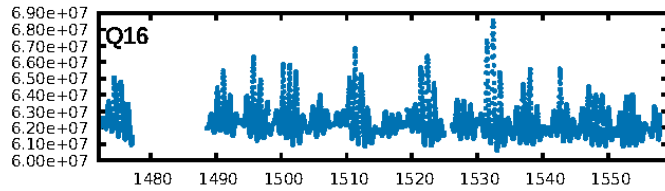
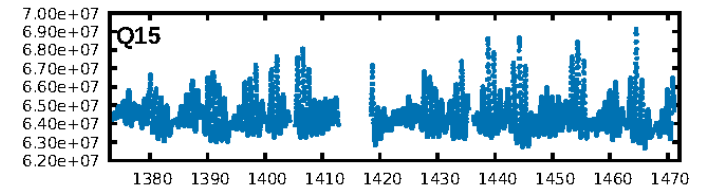
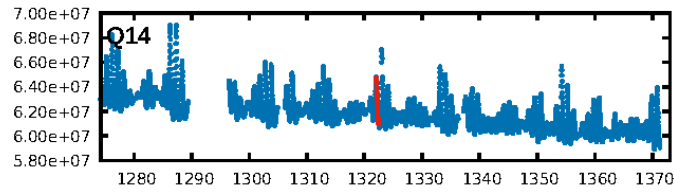
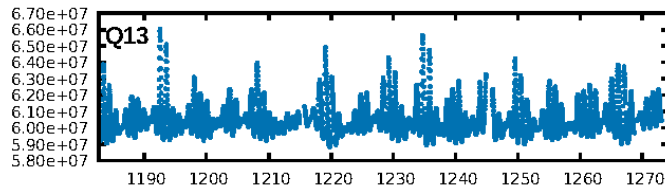
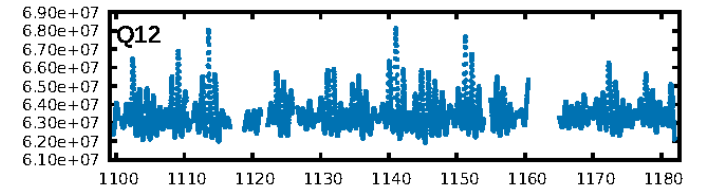
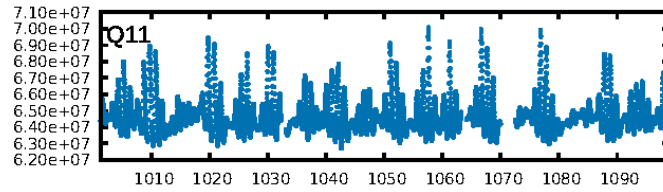
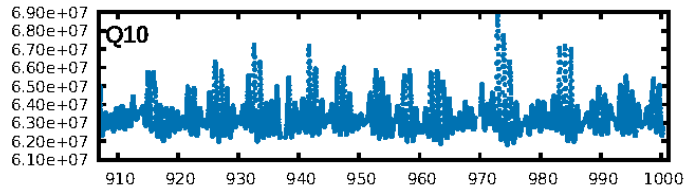
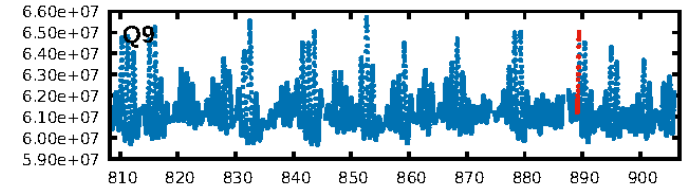
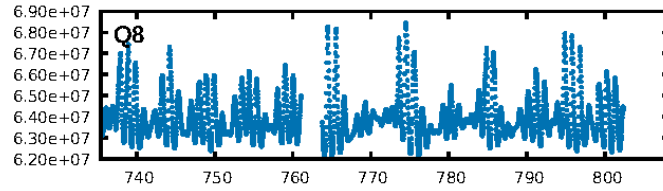
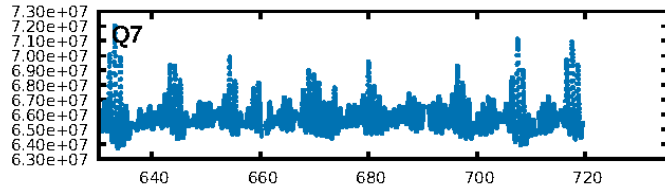
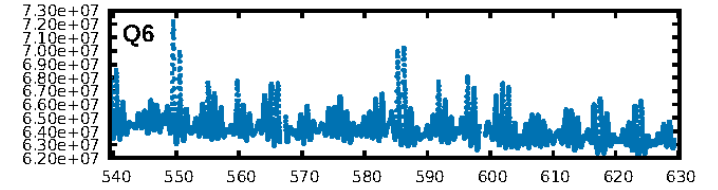
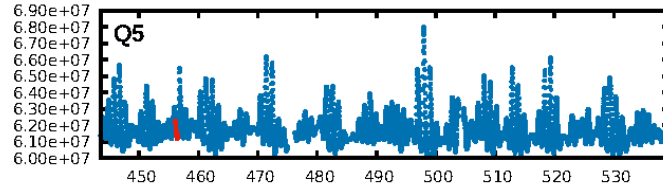
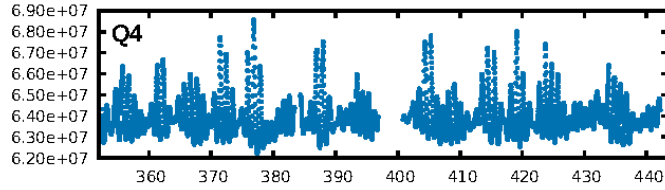
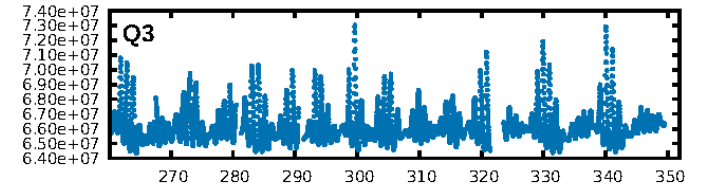
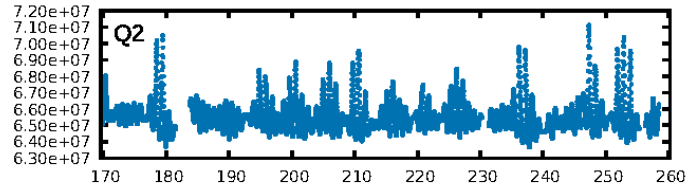
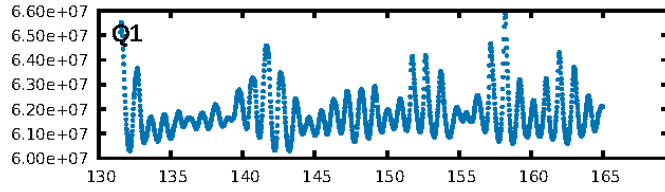
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 14.6% [0.18σ]
ModelChiSquare2-sig: 39.8%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 5.775
Centroid-sig: 84.8%
Centroid-so: 0.155 arcsec [0.50σ]
OotOffset-rm: 0.056 arcsec [0.59σ]
KicOffset-rm: 0.058 arcsec [0.55σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/3]

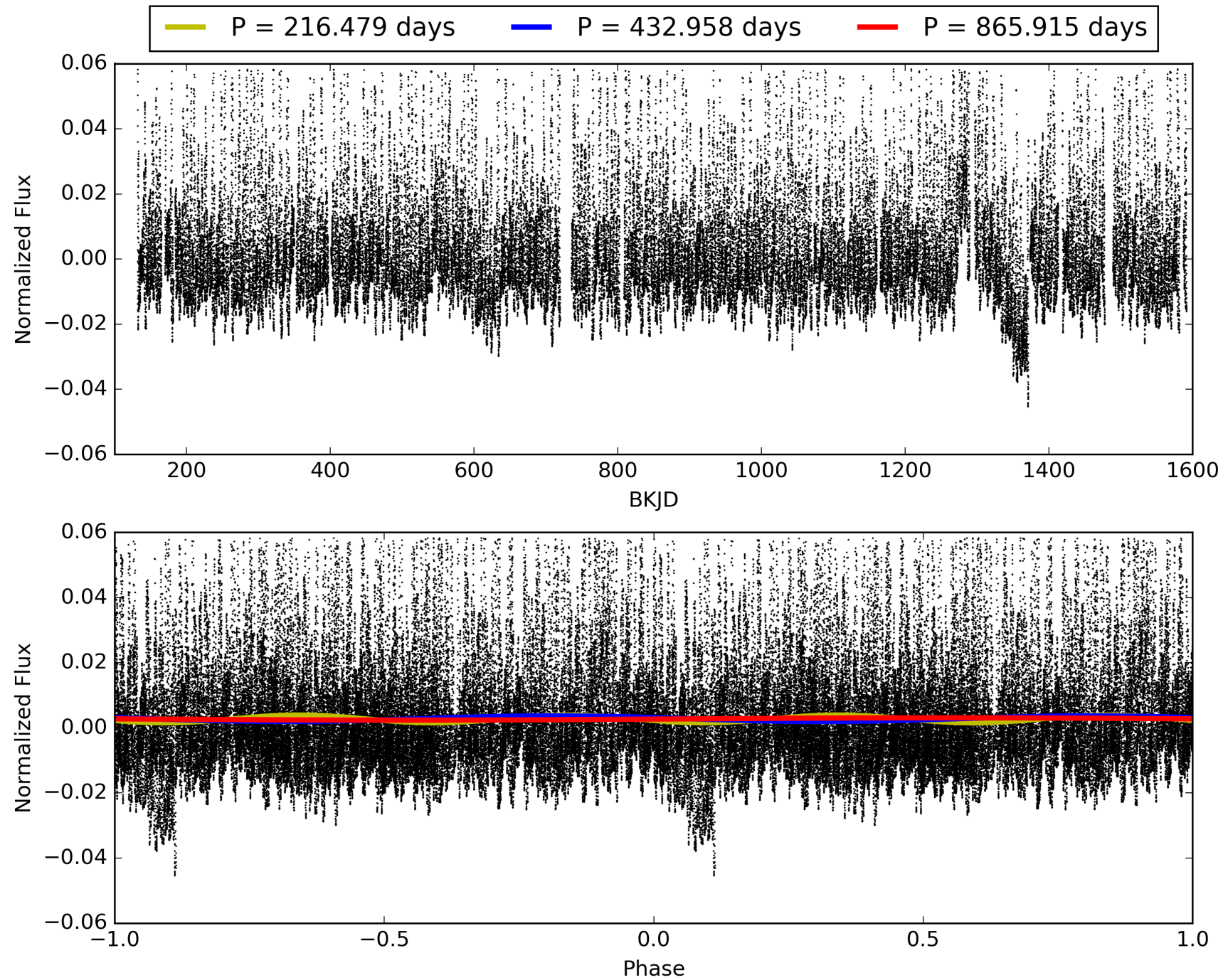
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:17:58 Z

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

TCE 005706988-03, PDC Light Curves

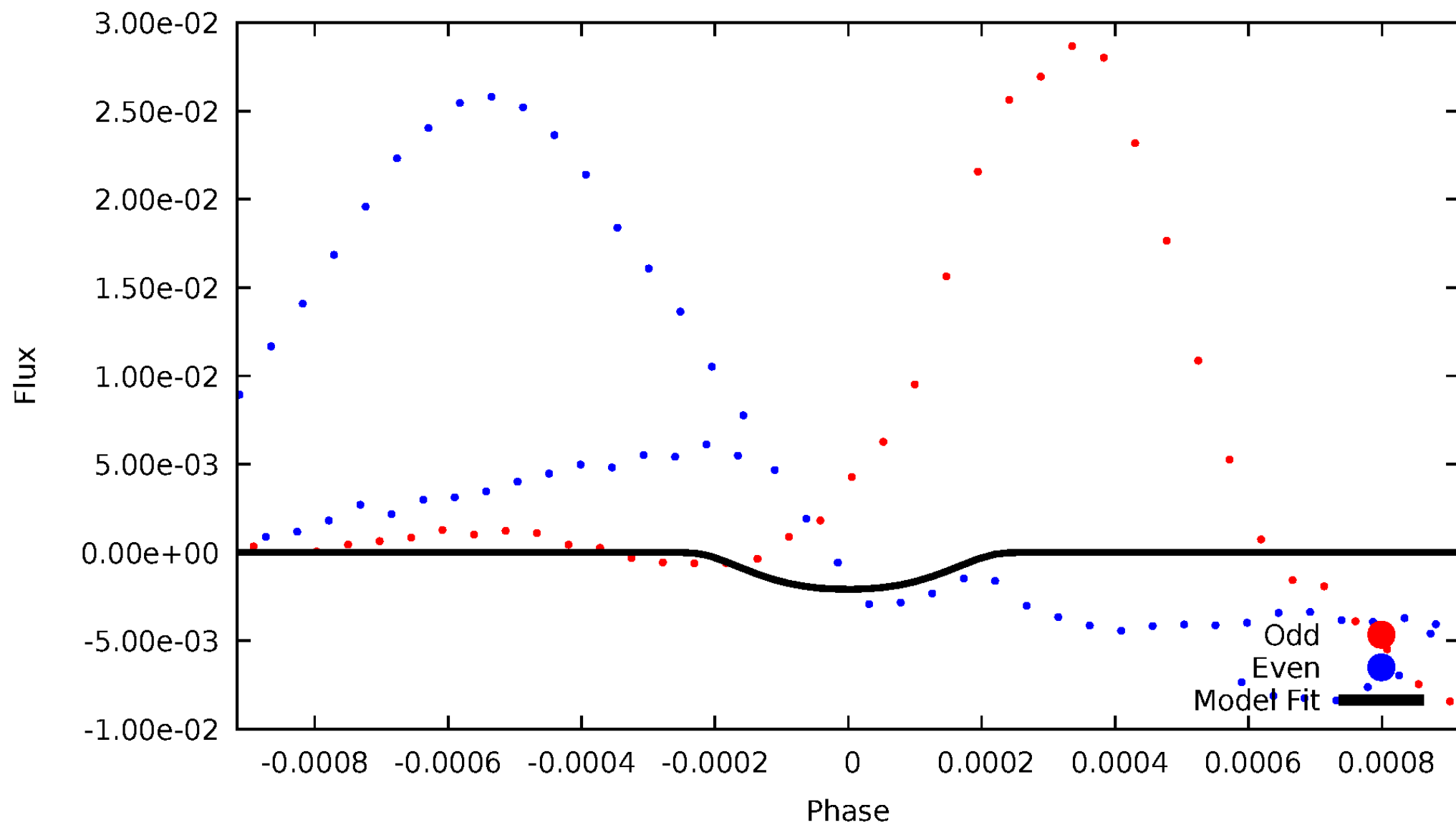


TCE 005706988-03



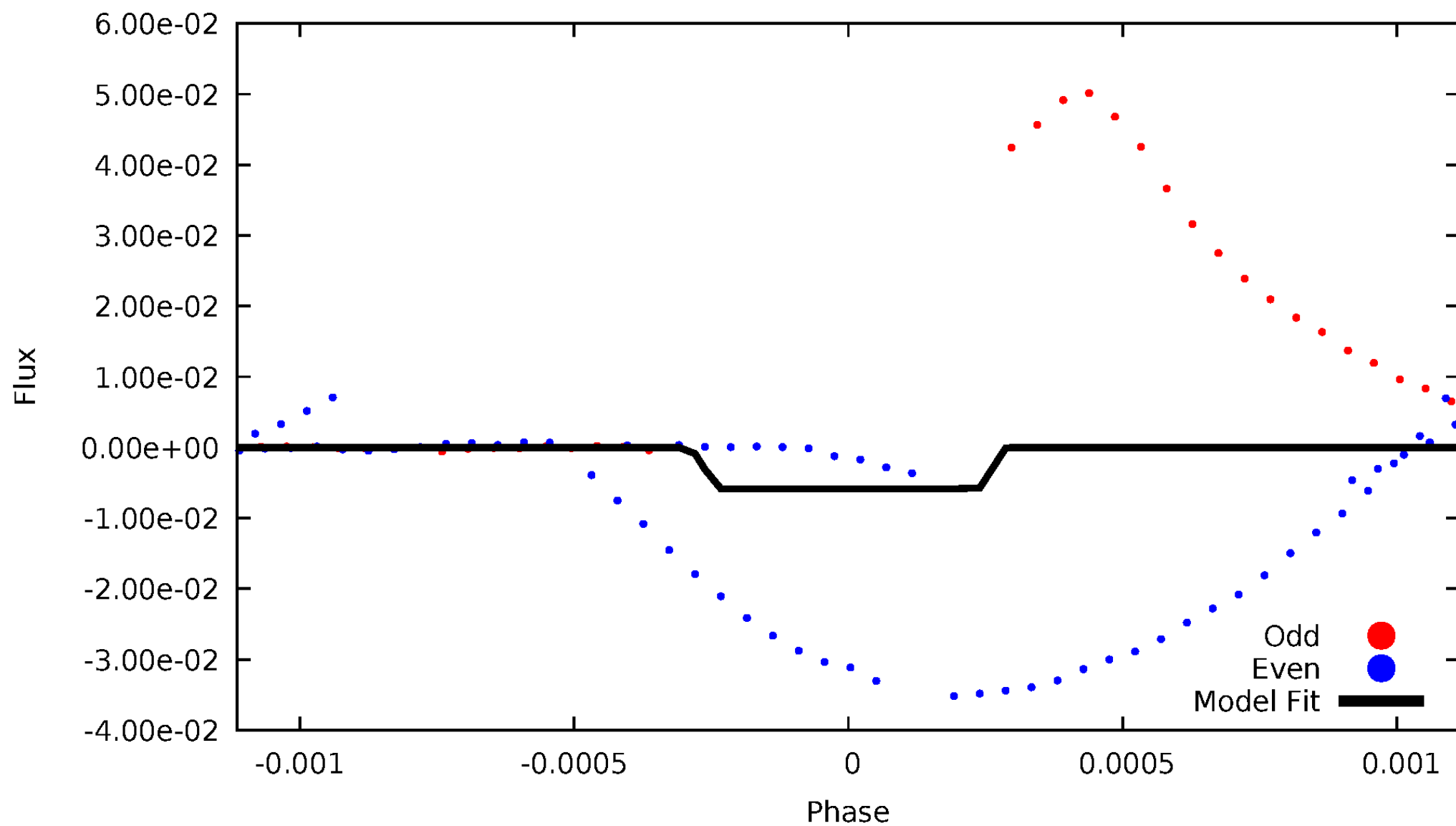
DV Odd/Even

TCE 005706988-03



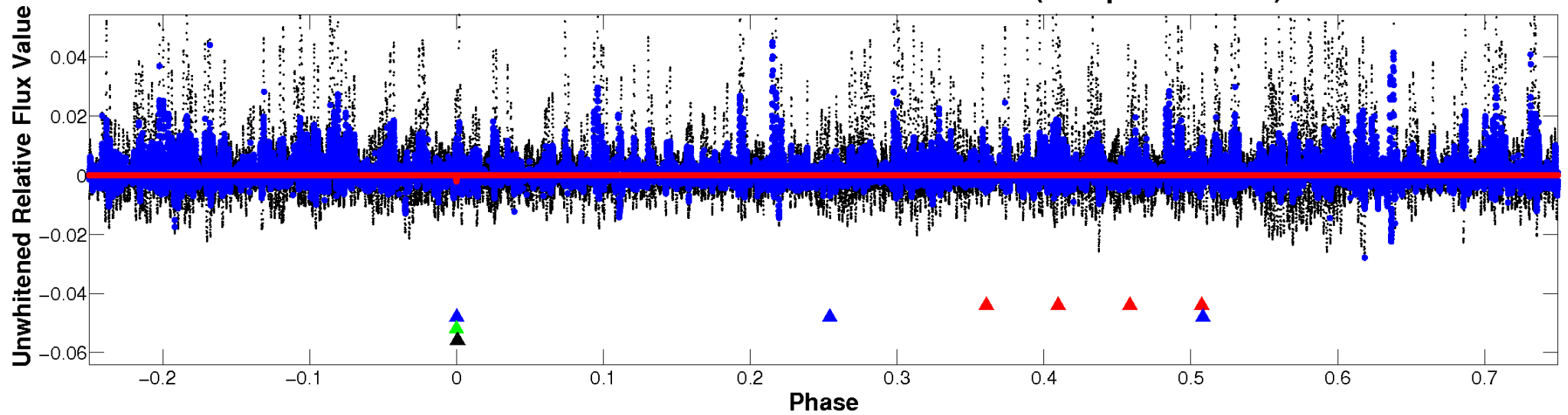
ALT Odd/Even

TCE 005706988-03

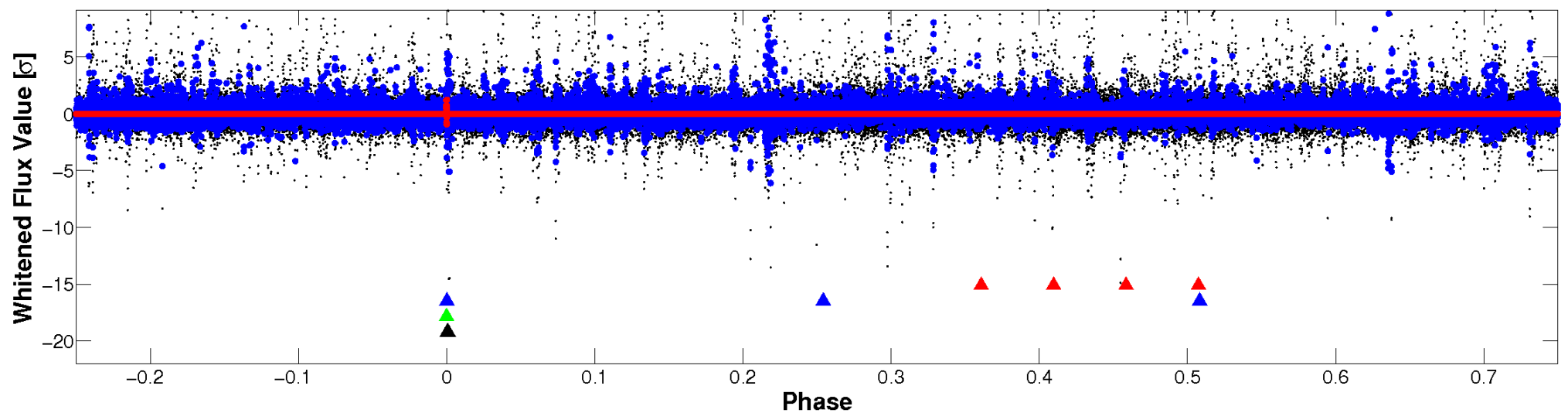


Non-Whitened Vs. Whitened Light Curve

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

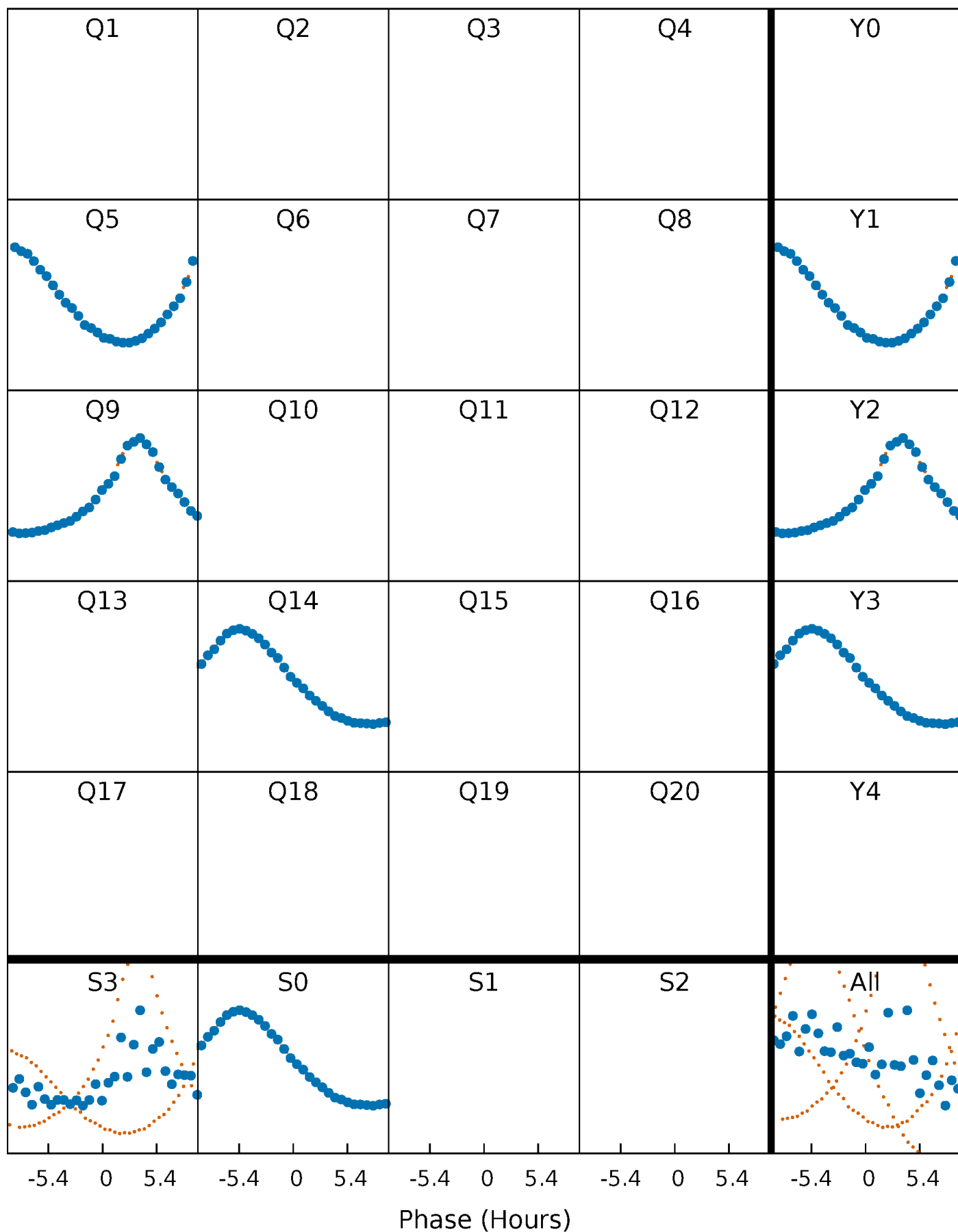


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



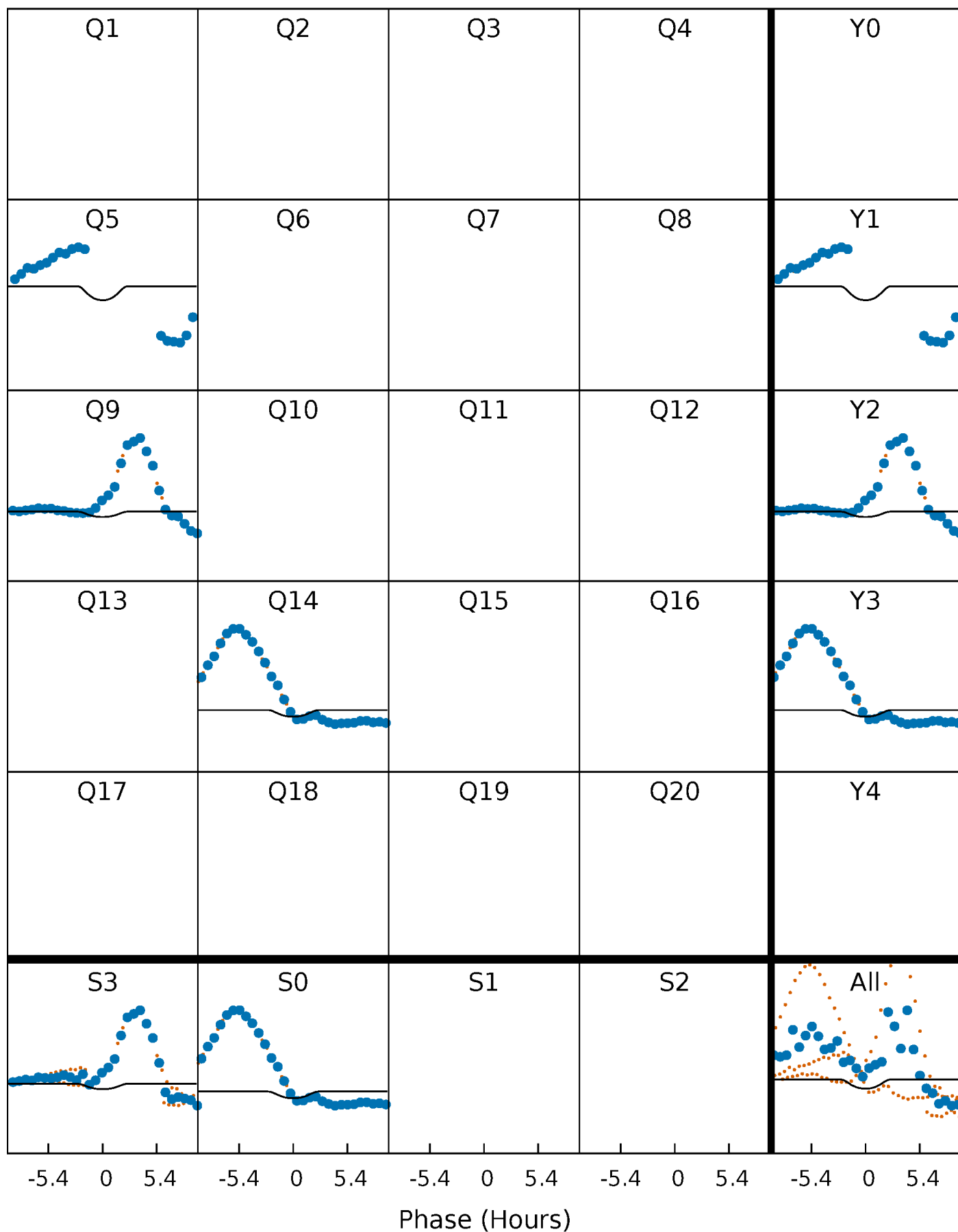
PDC Quarter-Phased Transit Curves

TCE 005706988-03 $P=432.957682$ Days $T_0=456.333161$ (BKJD)



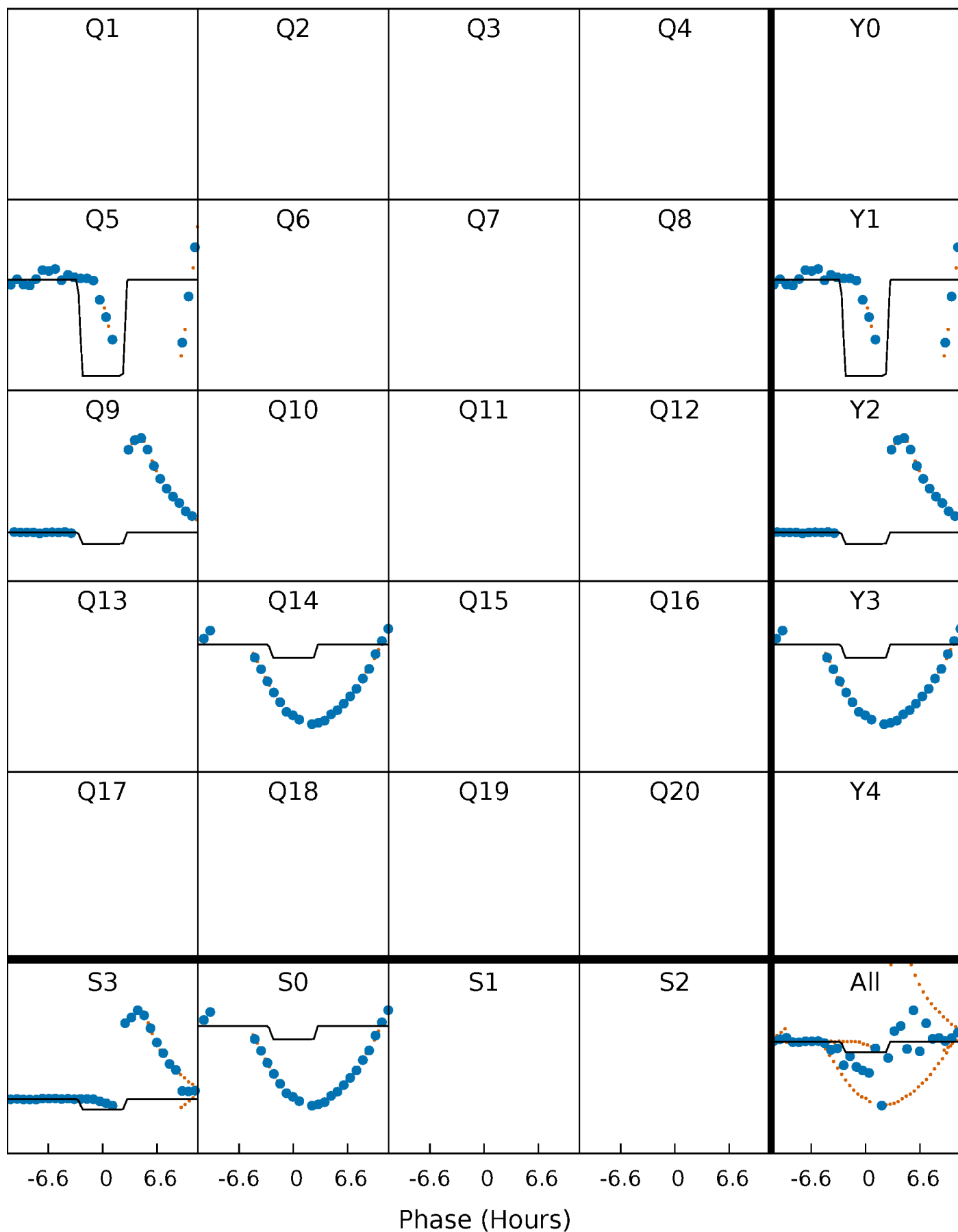
DV Quarter-Phased Transit Curves

TCE 005706988-03 $P=432.957682$ Days $T_0=456.333161$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

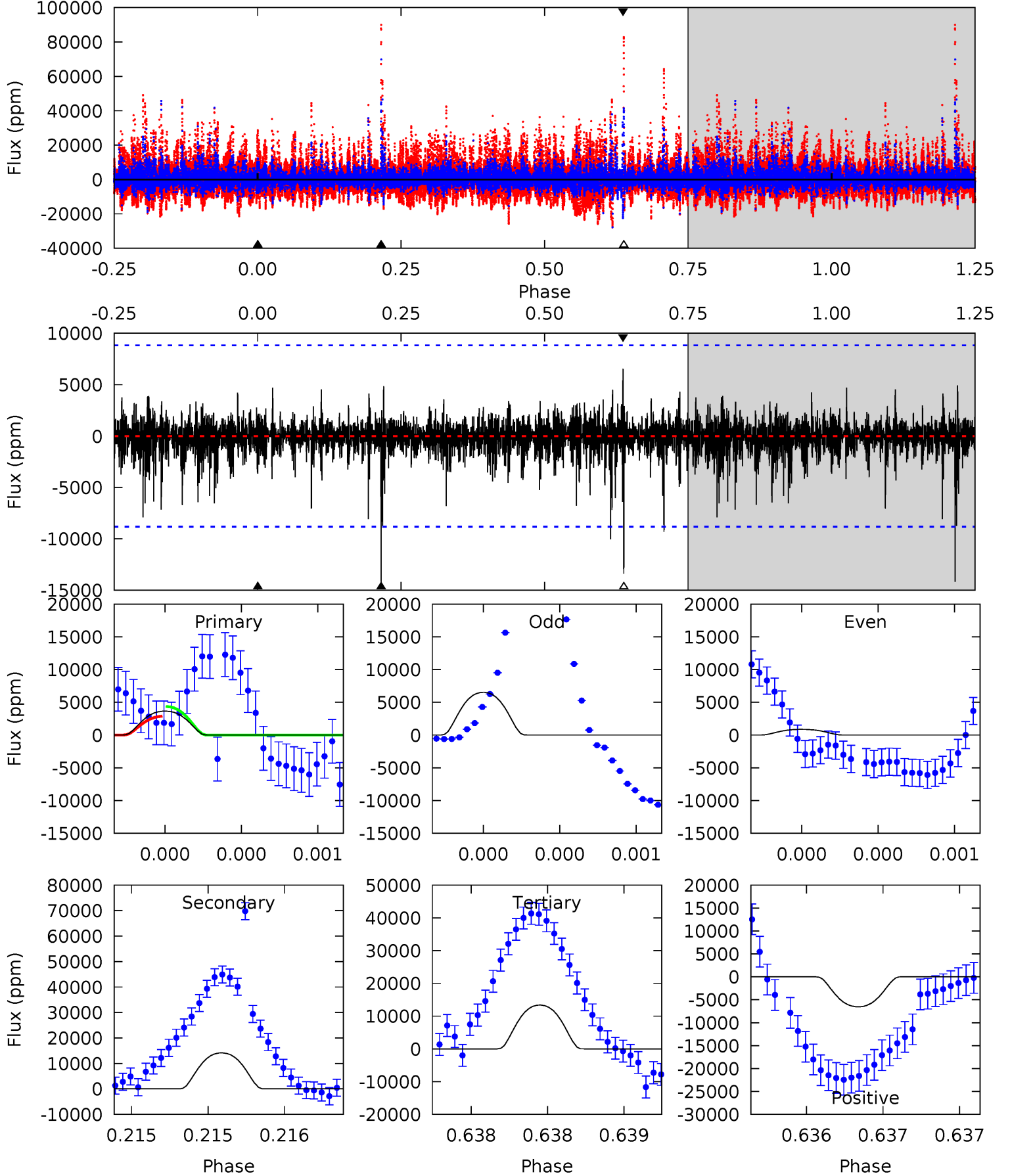
TCE 005706988-03 P=433.075682 Days $T_0=456.190835$ (BKJD)



DV Model-Shift Uniqueness Test

005706988-03, $P = 432.957682$ Days, $E = 23.375479$ Days

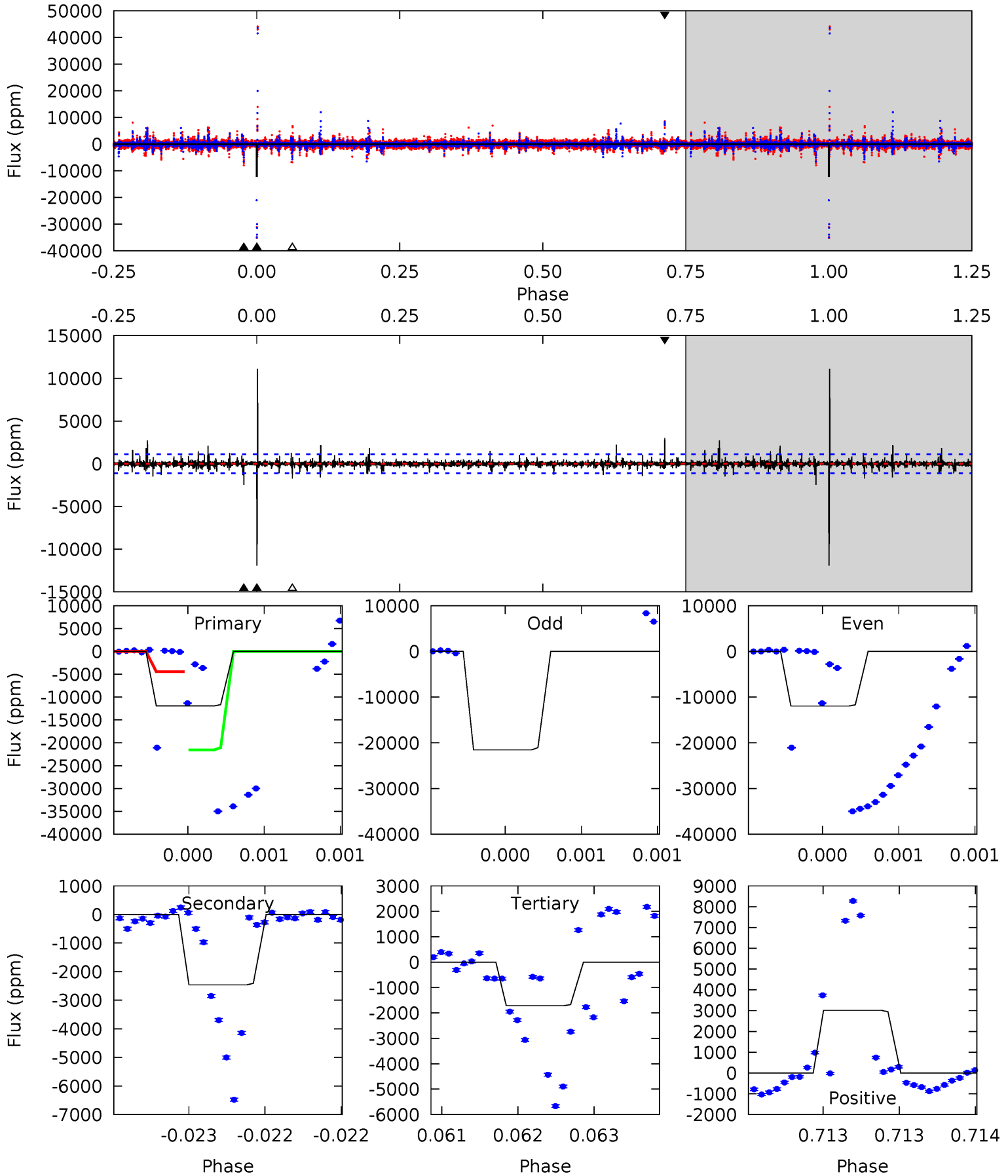
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.32	8.97	8.49	4.15	5.59	3.51	0.87	-6.17	-1.83	0.49	4.83	1.38	1.21	0.32	0.47



Alt Model-Shift Uniqueness Test

005706988-03, P = 433.075682 Days, E = 23.115153 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.7	12.3	8.56	15.1	5.55	3.45	1.20	51.1	44.6	3.76	-2.76	21.3	1.00	0.48	41.4



Stellar Parameters For KIC 005706988

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7545^{+235}_{-314}	$4.026^{+0.198}_{-0.162}$	$-0.060^{+0.200}_{-0.350}$	$2.088^{+0.495}_{-0.605}$	$1.687^{+0.185}_{-0.291}$	$0.261^{+0.291}_{-0.121}$
	+3%/-4%	+5%/-4%	+333%/-583%	+24%/-29%	+11%/-17%	+112%/-46%
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 005706988-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-14163 ± 1578	$11.47^{+5.39}_{-4.48}$	582^{+39}_{-45}	13937^{+9243}_{-3509}	$103756^{+168281}_{-56193}$
Alt.	-2462 ± 200	$17.31^{+5.85}_{-5.01}$	580^{+45}_{-44}	5933^{+1044}_{-668}	7923^{+7605}_{-3374}

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

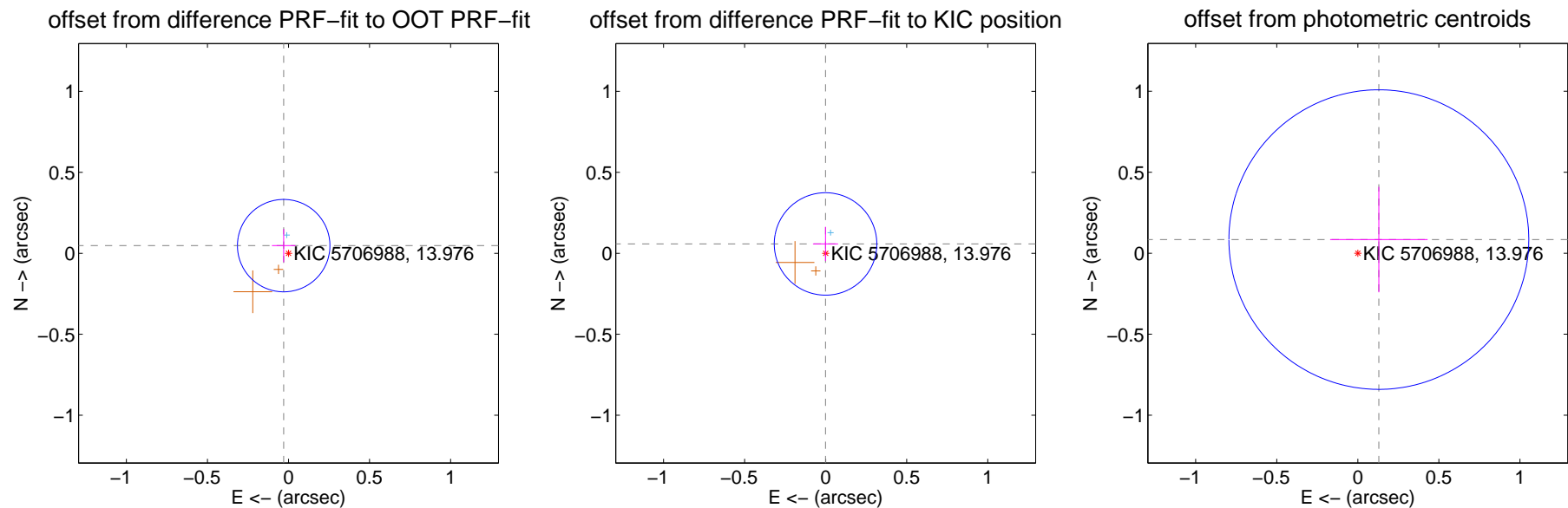
DV Centroid Data

Supplemental centroid analysis for 005706988-03. Kepler magnitude: 13.98. Transit SNR 4.21

There are 1 quarters with good PRF difference image offsets

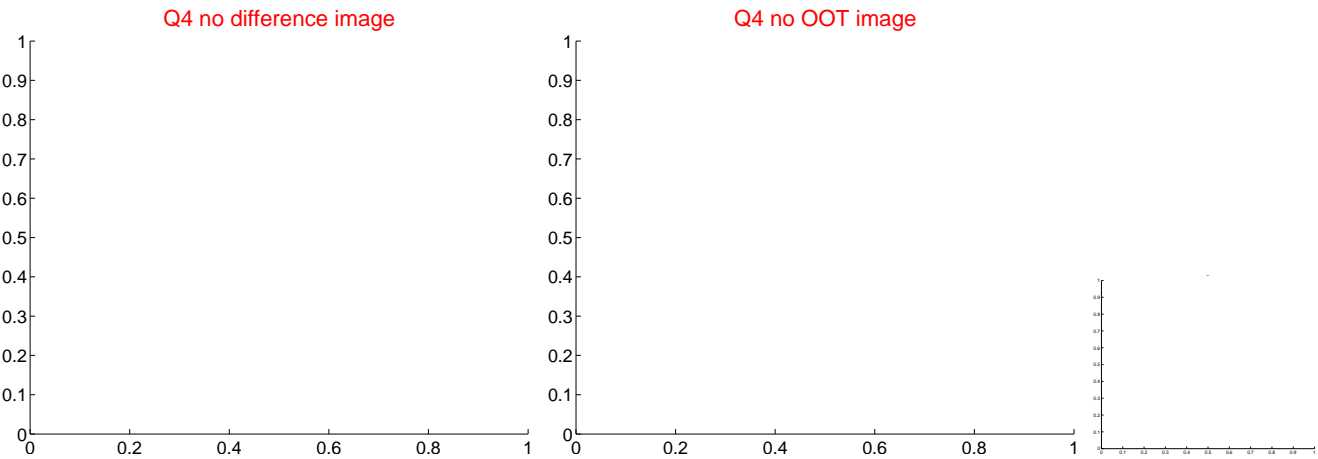
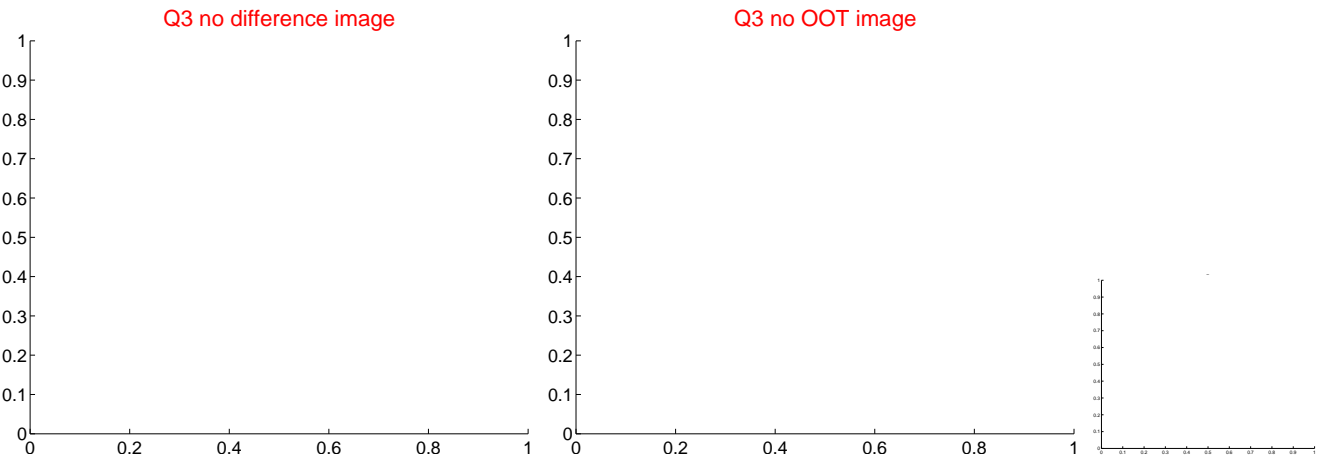
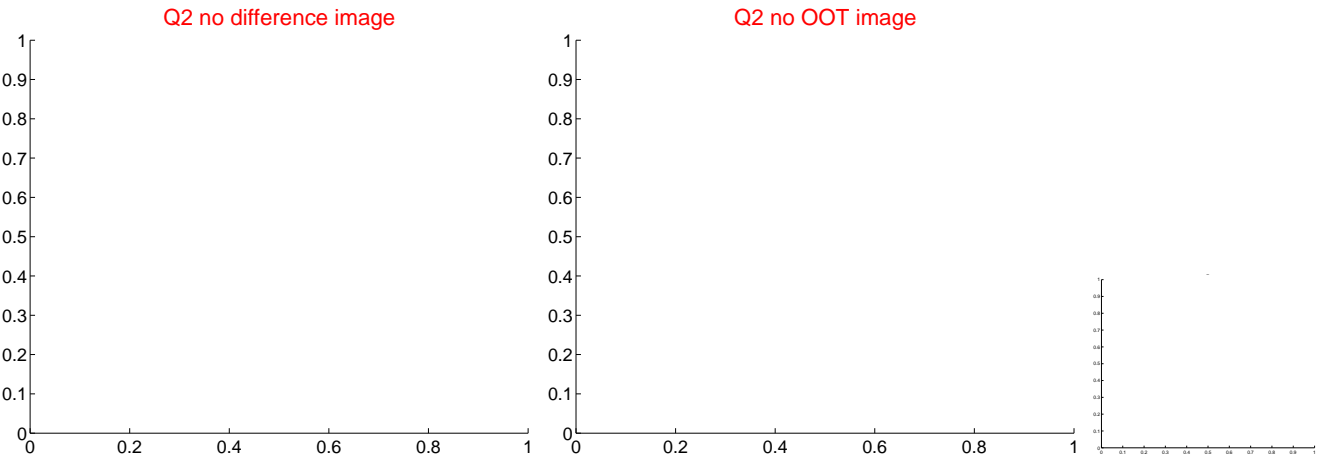
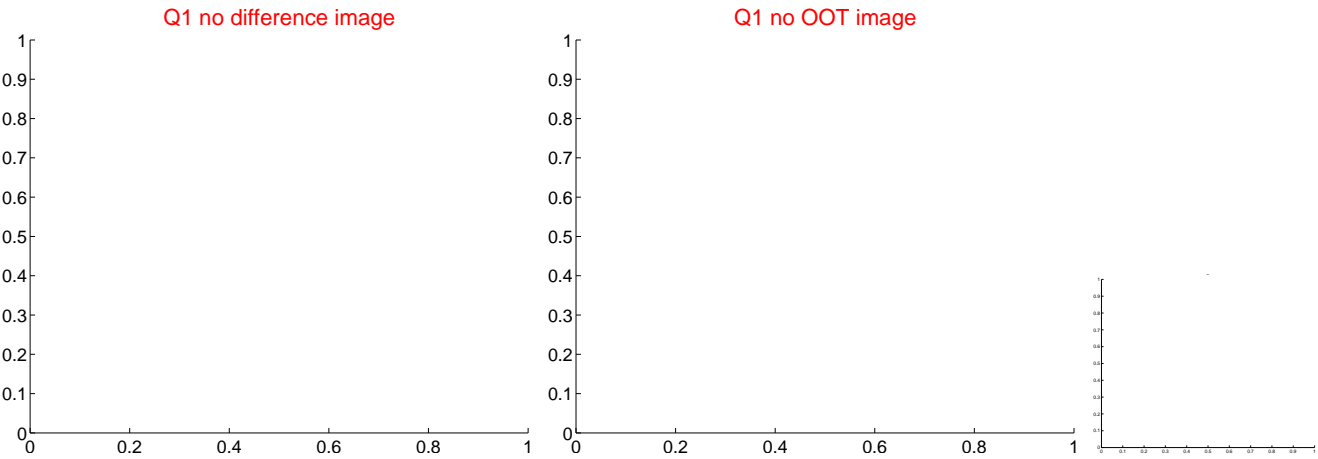
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.056 ± 0.095	0.59	0.030 ± 0.072	0.047 ± 0.103
PRF-fit source offset from KIC position	0.058 ± 0.105	0.55	0.001 ± 0.077	0.058 ± 0.105
photometric centroid source offset	0.15 ± 0.31	0.50	-0.13 ± 0.30	0.08 ± 0.33

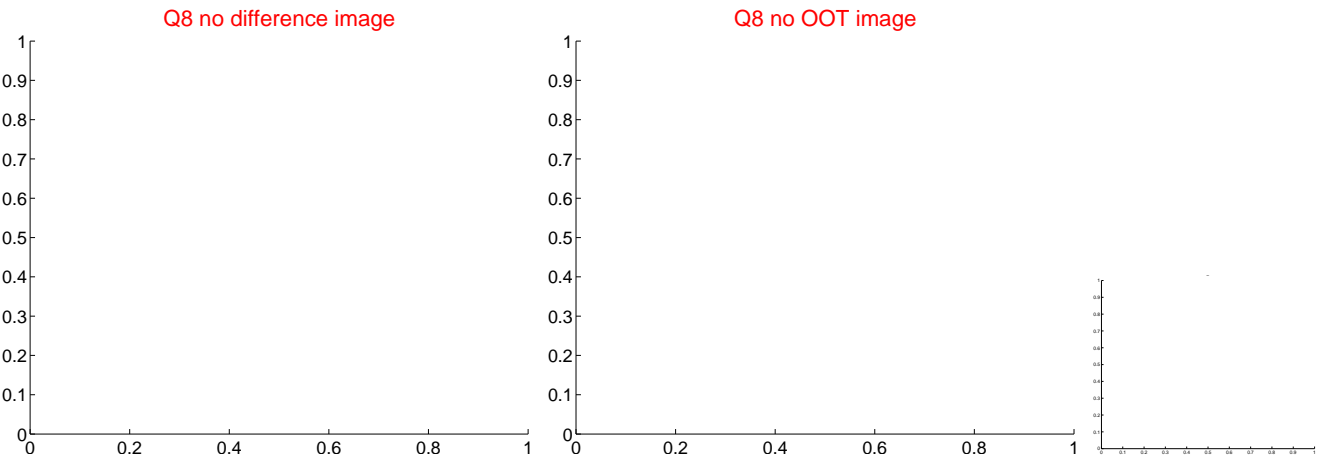
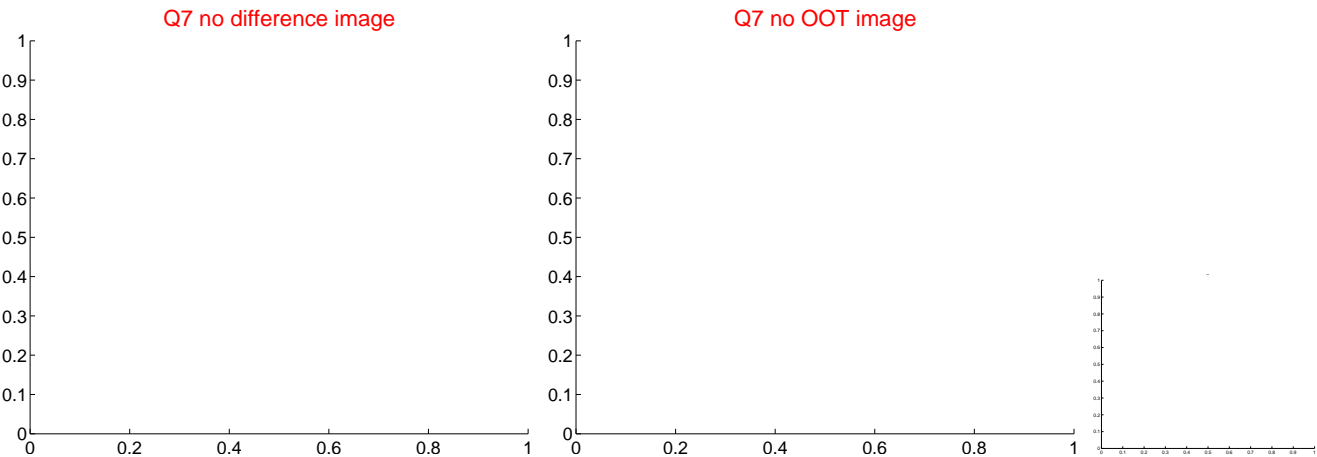
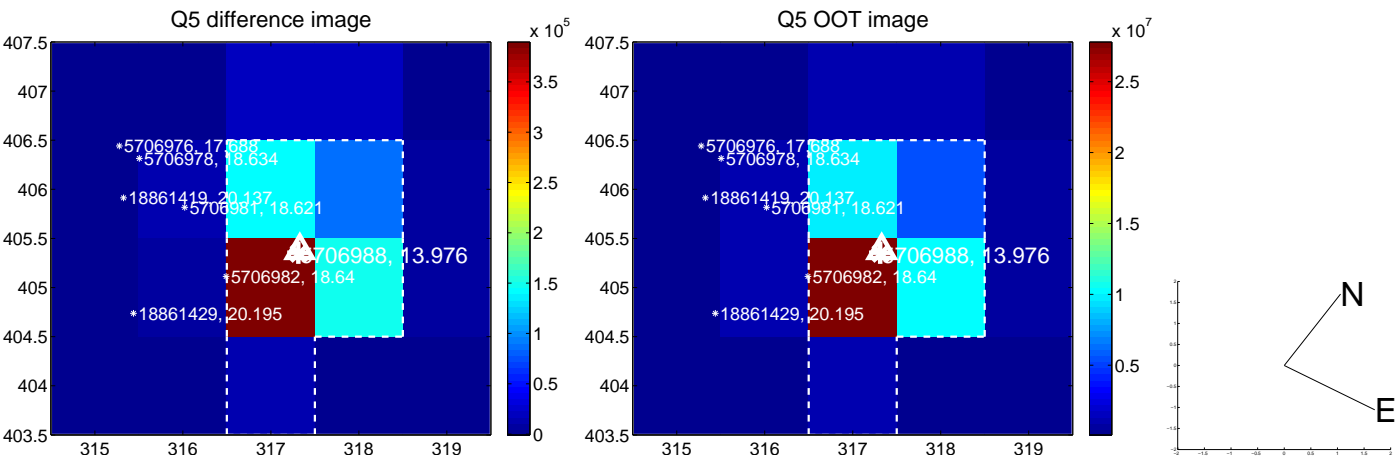


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

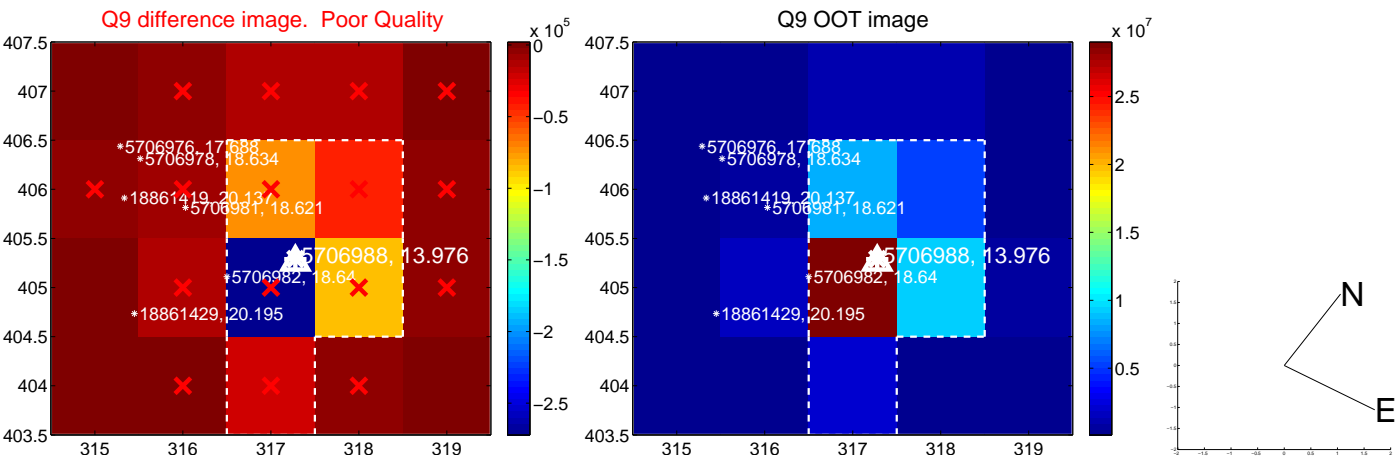
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



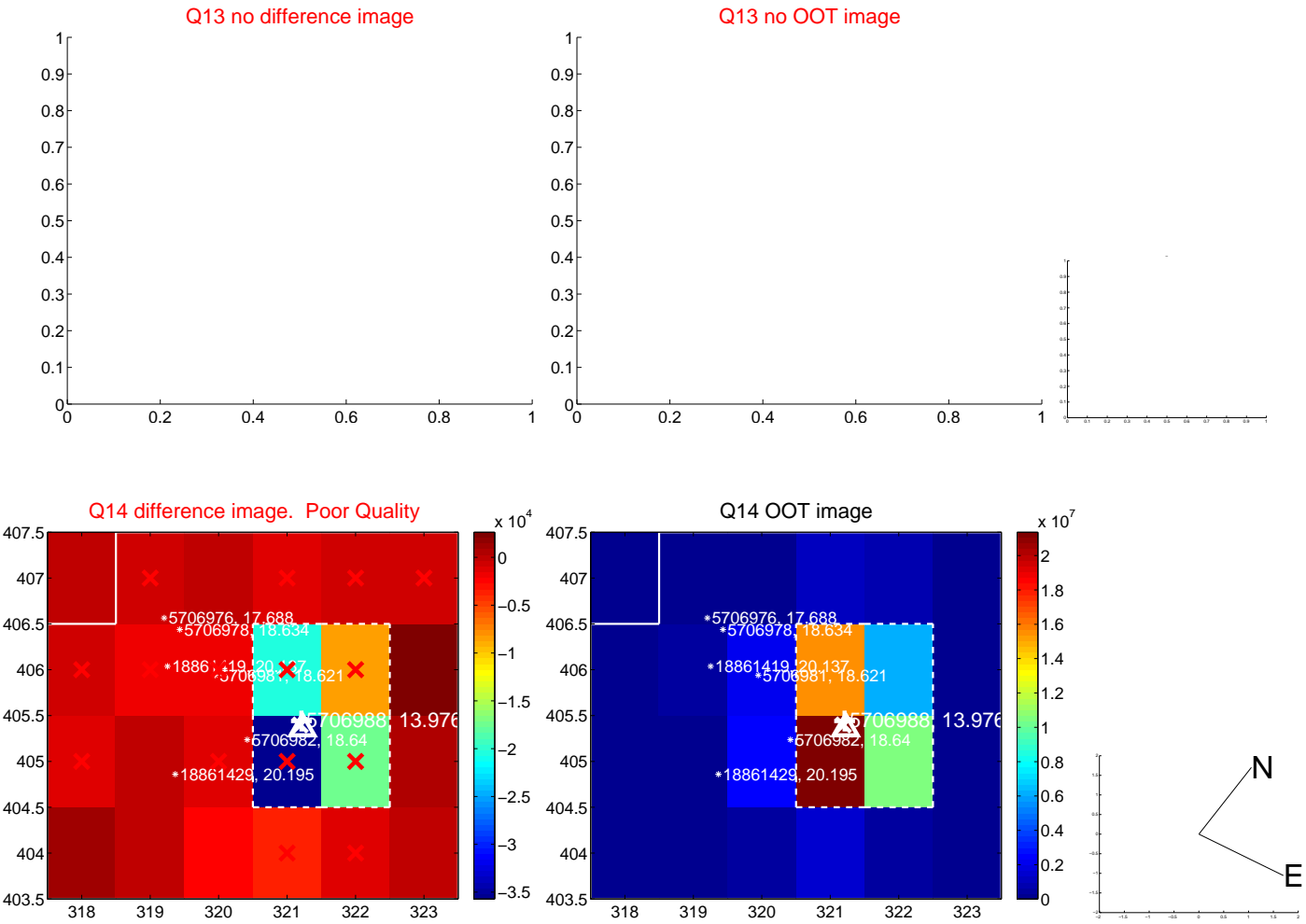
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



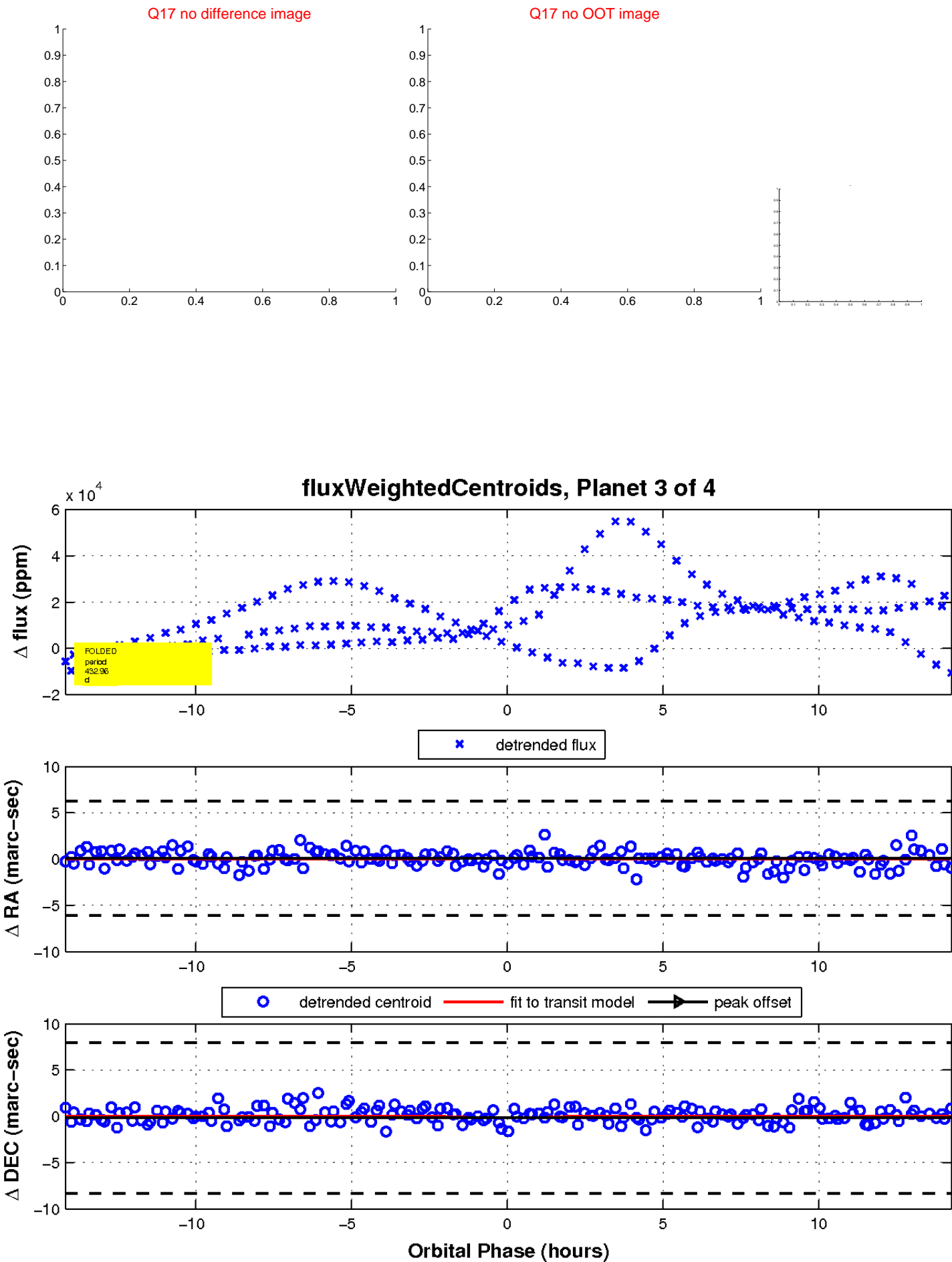
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

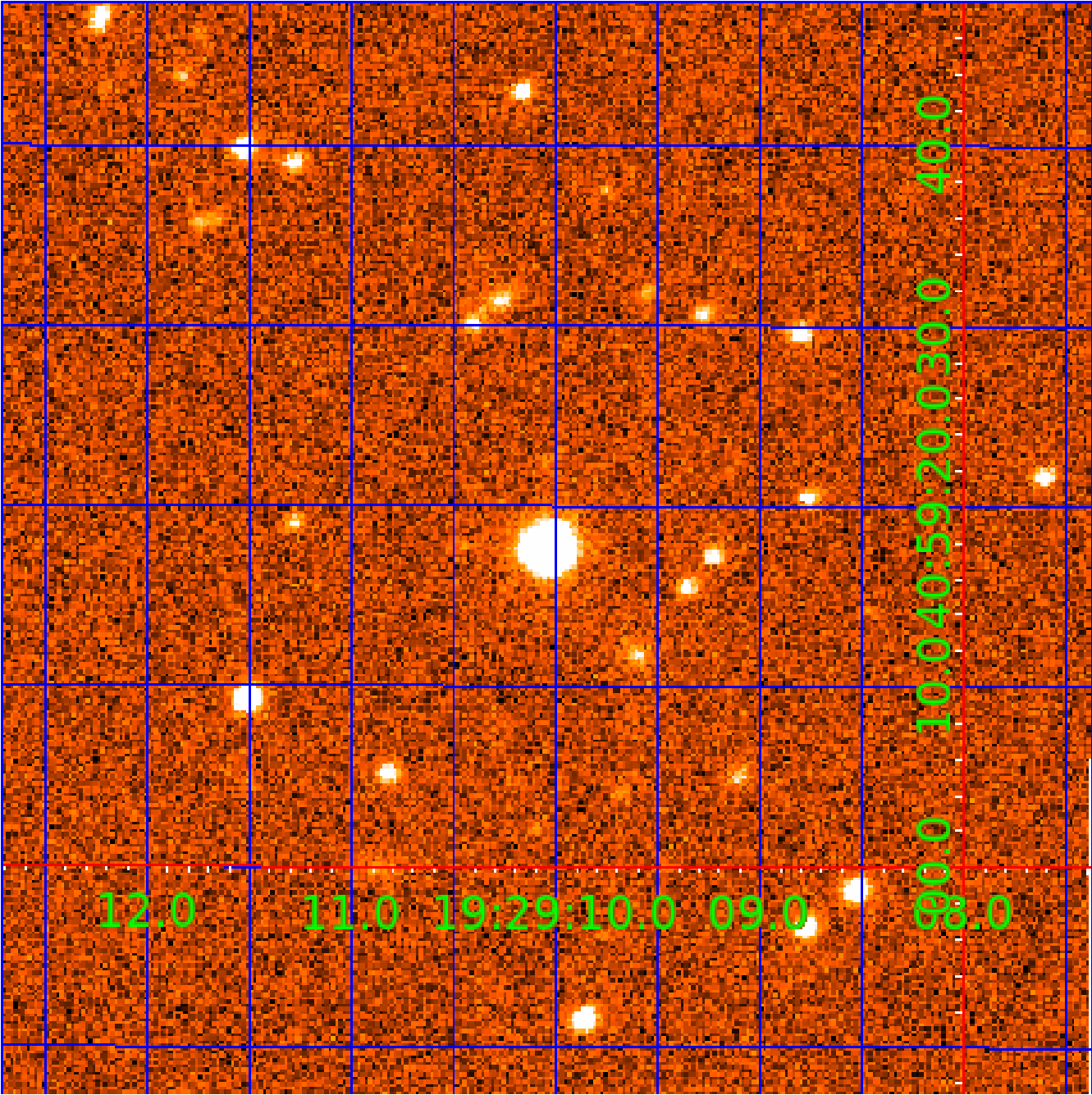


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005706988

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})
005706988-01	OBS	No	454.115874	179.595152	1140.5	4.158	24.3	3.3	2.09	7545	7.87	6.67
005706988-03	OBS	No	432.957683	456.333161	2079.4	4.759	24.9	4.2	2.09	7545	11.86	7.11
005706988-04	OBS	No	433.067031	456.547066	26335.6	13.490	26.1	16.5	2.09	7545	35.36	7.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005706988-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005706988-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005706988-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—SAME_NTL_PERIOD—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.

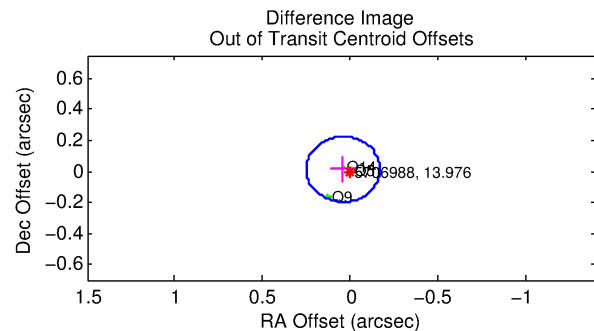
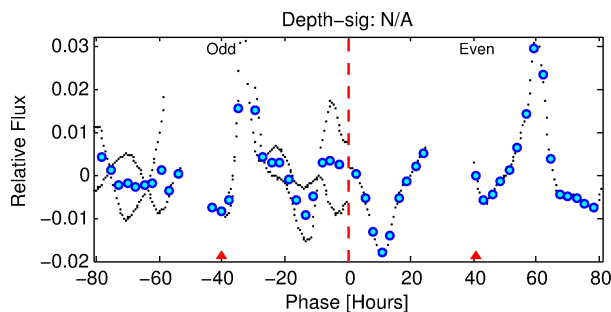
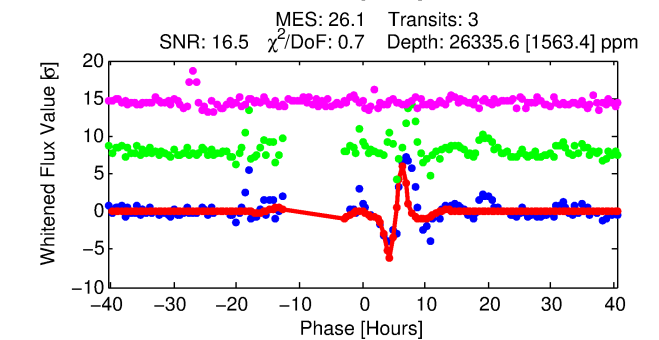
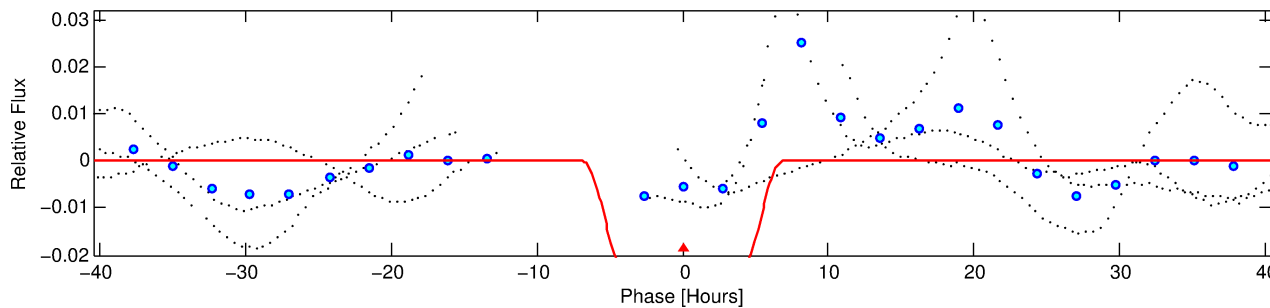
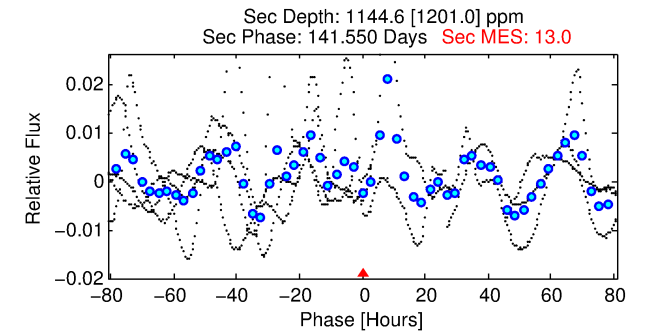
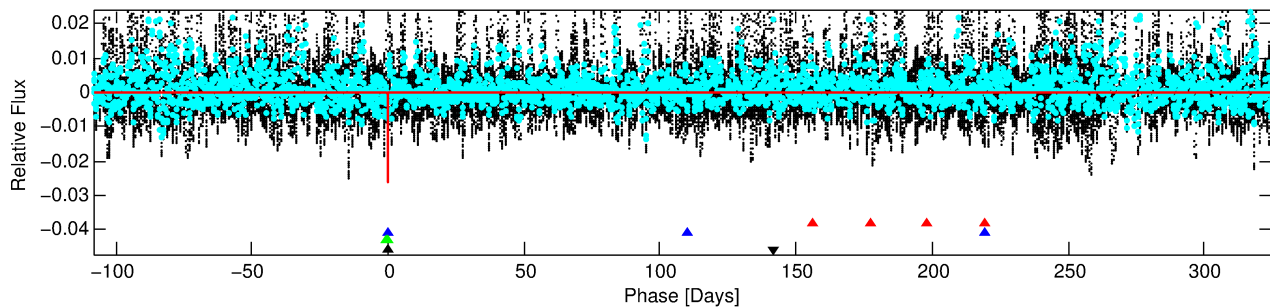
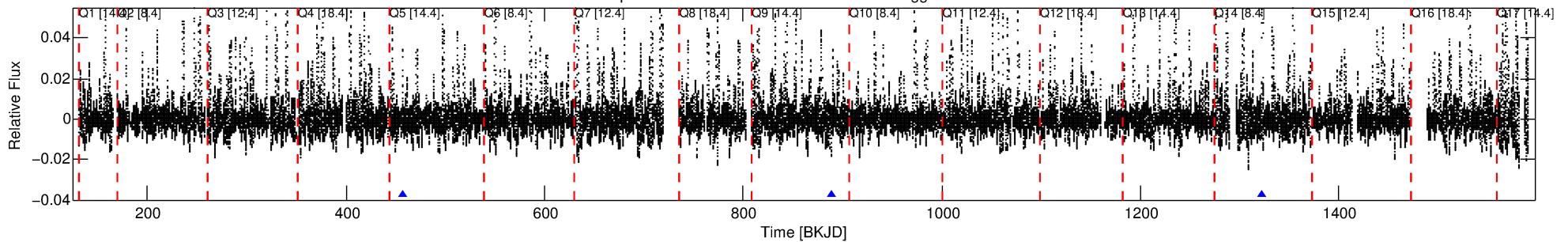
Ephemeris Match Information For 005706988-04

No Significant Match Found

DV One-Page Summary

KIC: 5706988 Candidate: 4 of 4 Period: 433.067 d

Kp: 13.98 R*: 2.09 Rs Teff: 7545.0 K Logg: 4.03 Fe/H: -0.060



DV Fit Results:

Period = 433.06703 [0.00187] d
Epoch = 456.5471 [0.0115] BKJD
Rp/R* = 0.1552 [0.0046]
a/R* = 252.71 [10.02]
b = 0.52 [0.03]
Seff = 7.11 [2.82]
Teq = 416 [41] K
Rp = 35.36 [10.30] Re
a = 1.3342 [0.3279] AU
Ag = 896.28 [995.69] [0.90σ]
Teffp = 3523 [937] K [3.31σ]

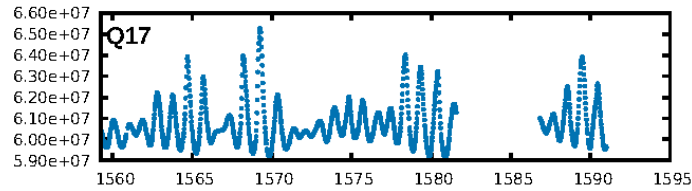
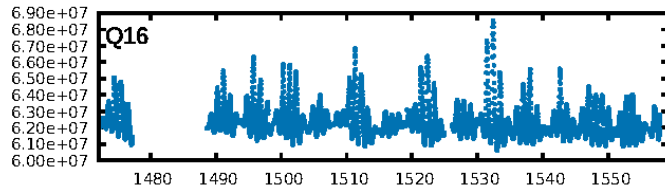
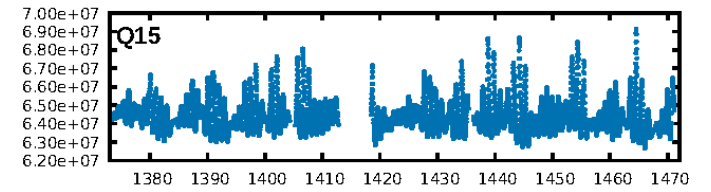
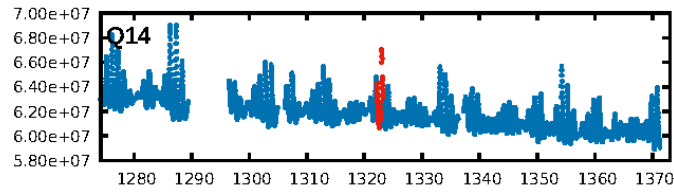
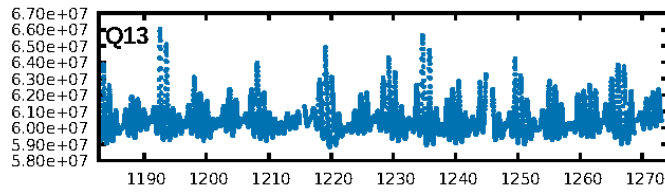
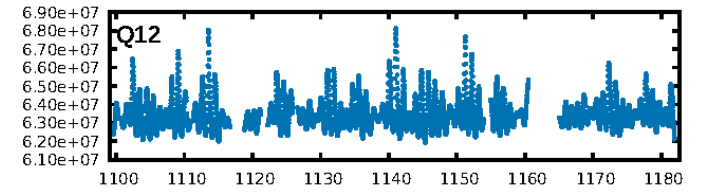
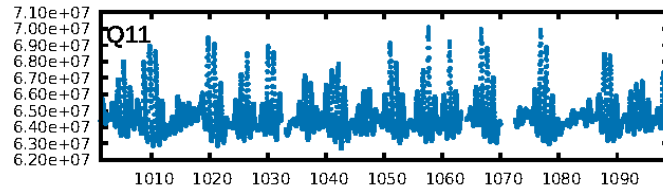
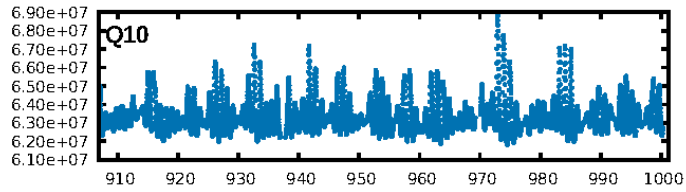
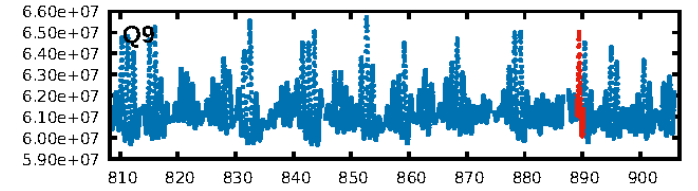
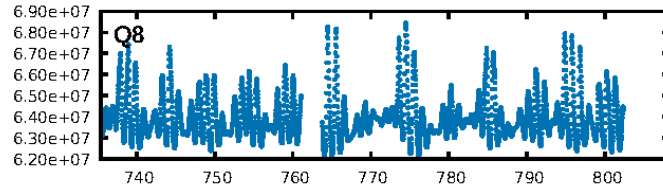
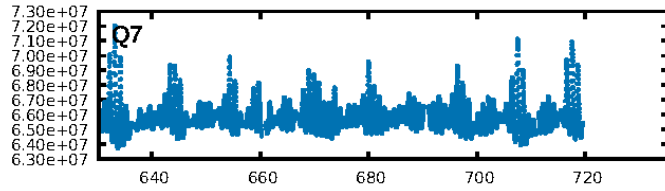
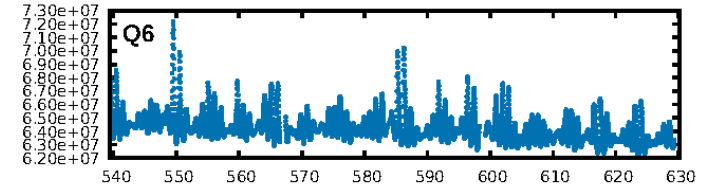
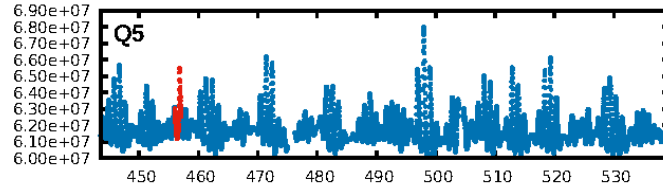
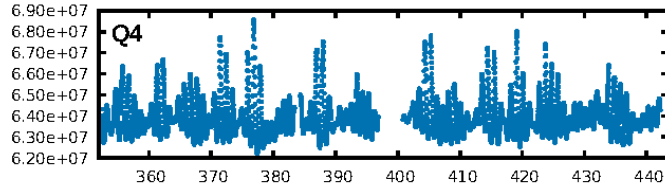
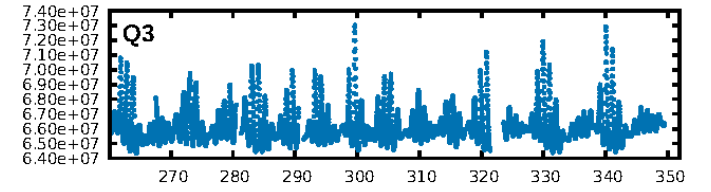
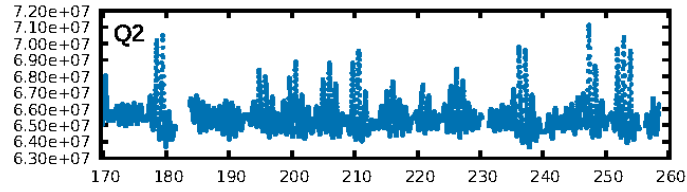
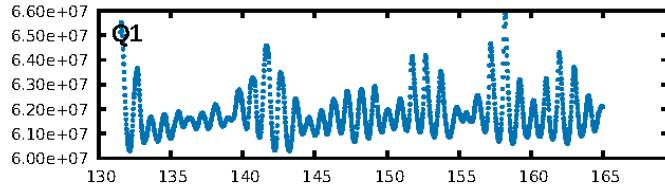
DV Diagnostic Results:

ShortPeriod-sig: 14.6% [0.18σ]
LongPeriod-sig: 100.0% [35.79σ]
ModelChiSquare2-sig: 11.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.4335
Centroid-sig: 34.0%
Centroid-so: 0.097 arcsec [7.32σ]
OotOffset-rm: 0.044 arcsec [0.63σ]
KicOffset-rm: 0.171 arcsec [1.67σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

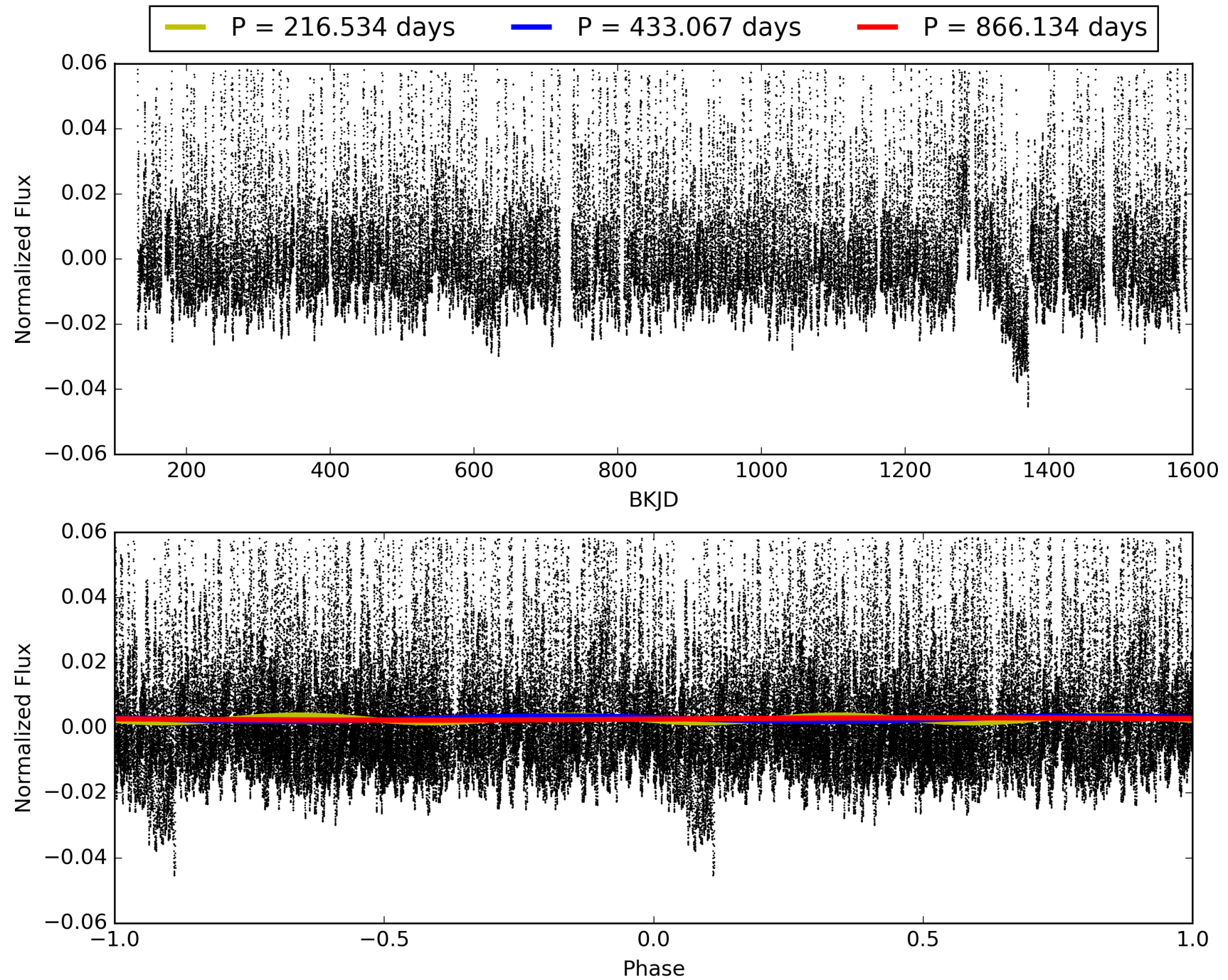
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:18:07 Z

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

TCE 005706988-04, PDC Light Curves

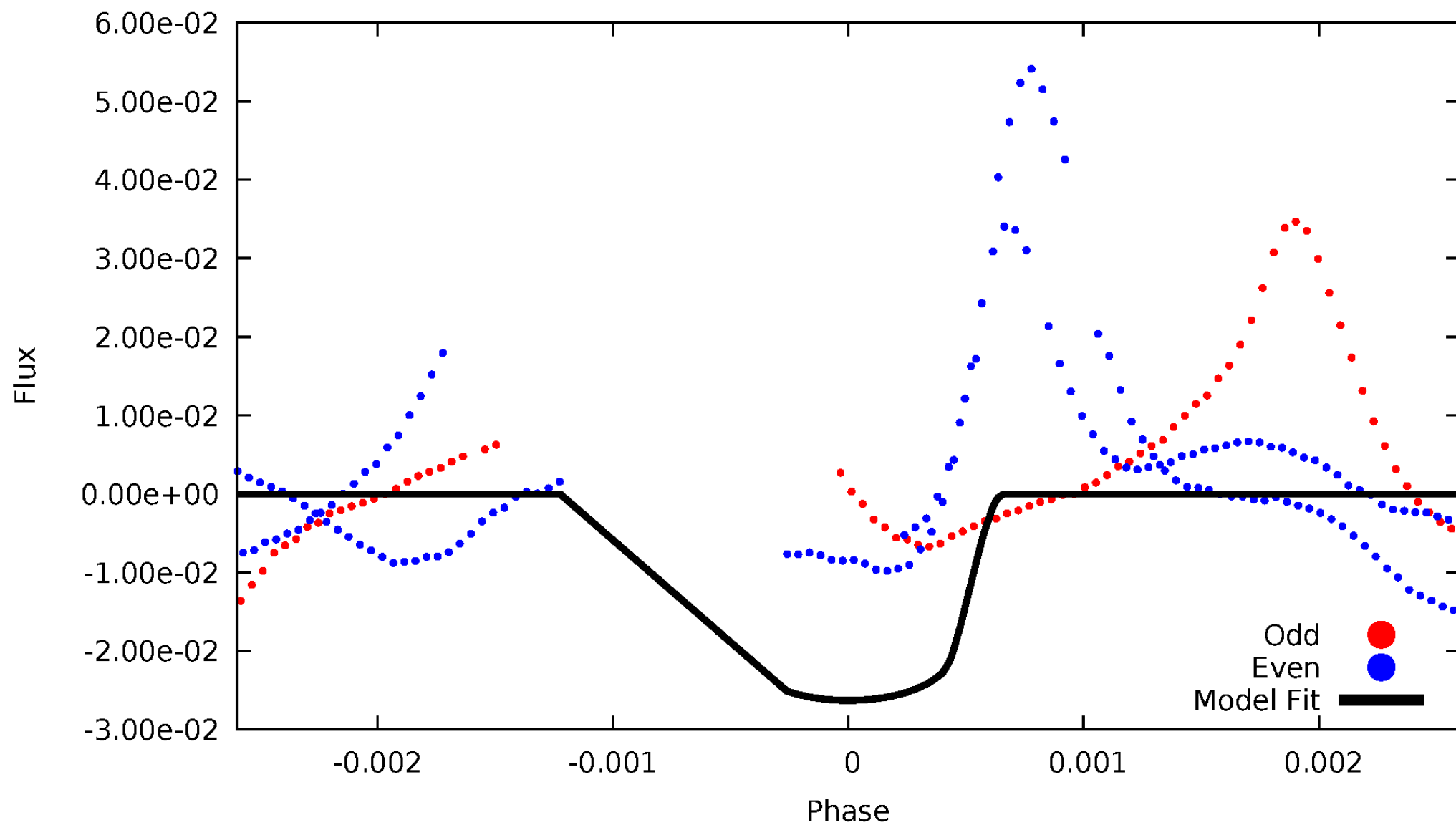


TCE 005706988-04



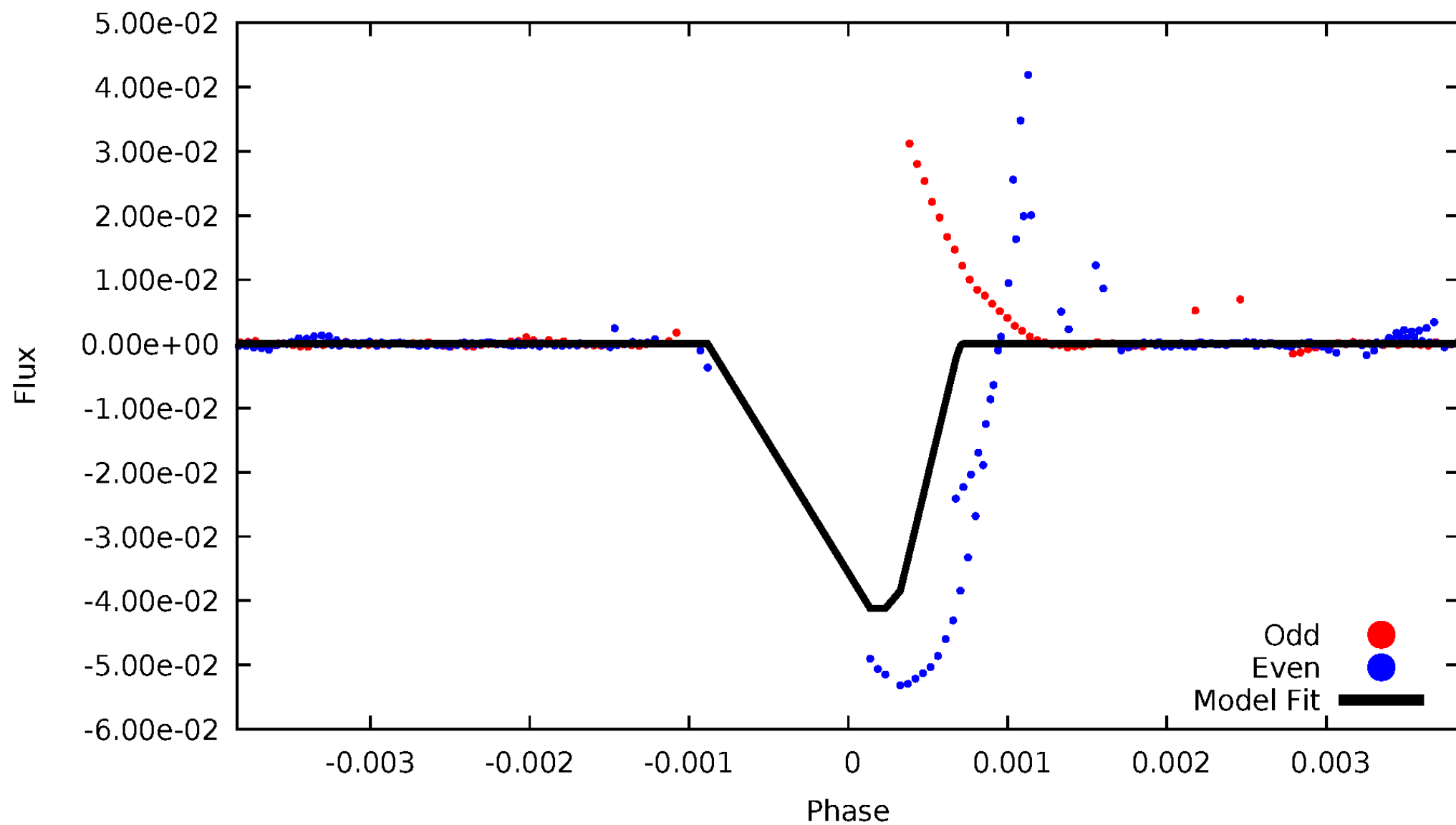
DV Odd/Even

TCE 005706988-04



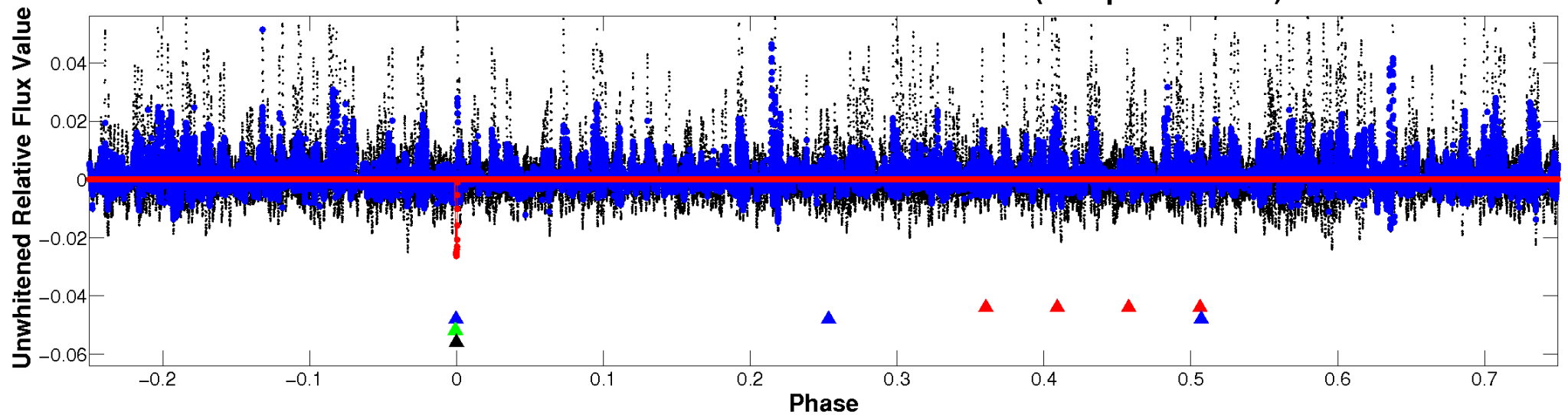
ALT Odd/Even

TCE 005706988-04

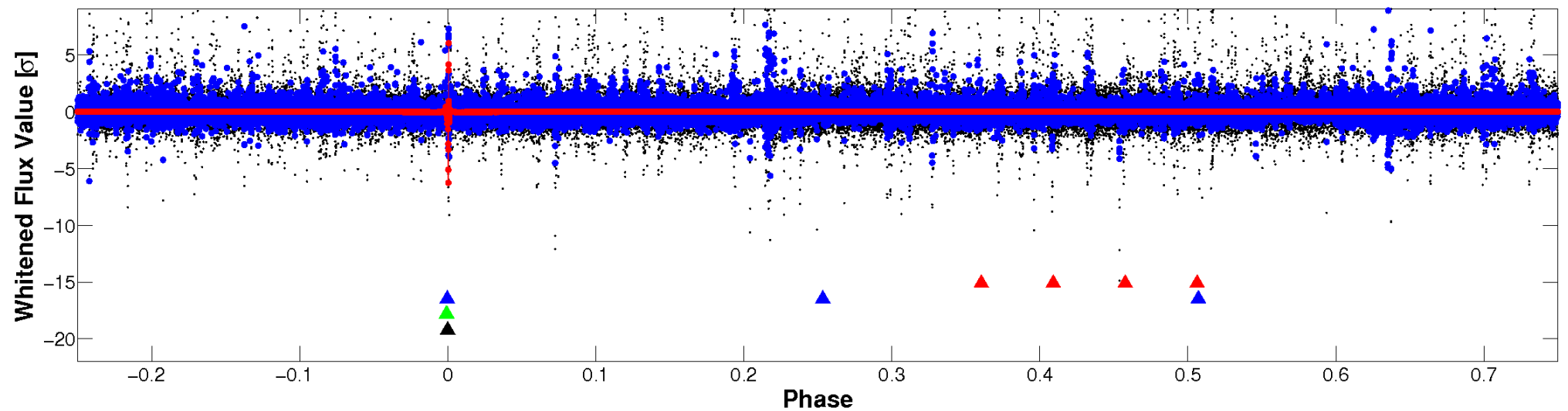


Non-Whitened Vs. Whitened Light Curve

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

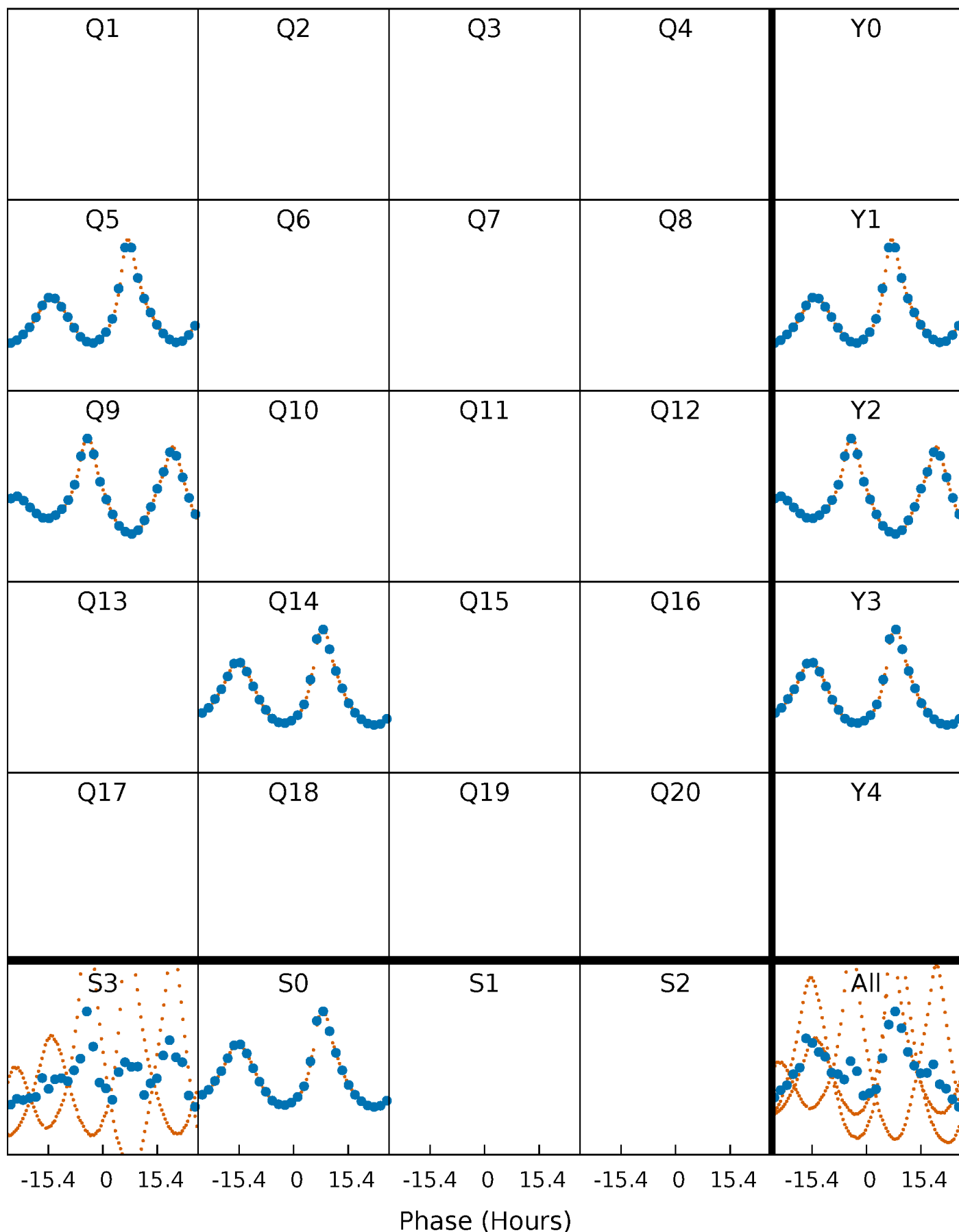


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



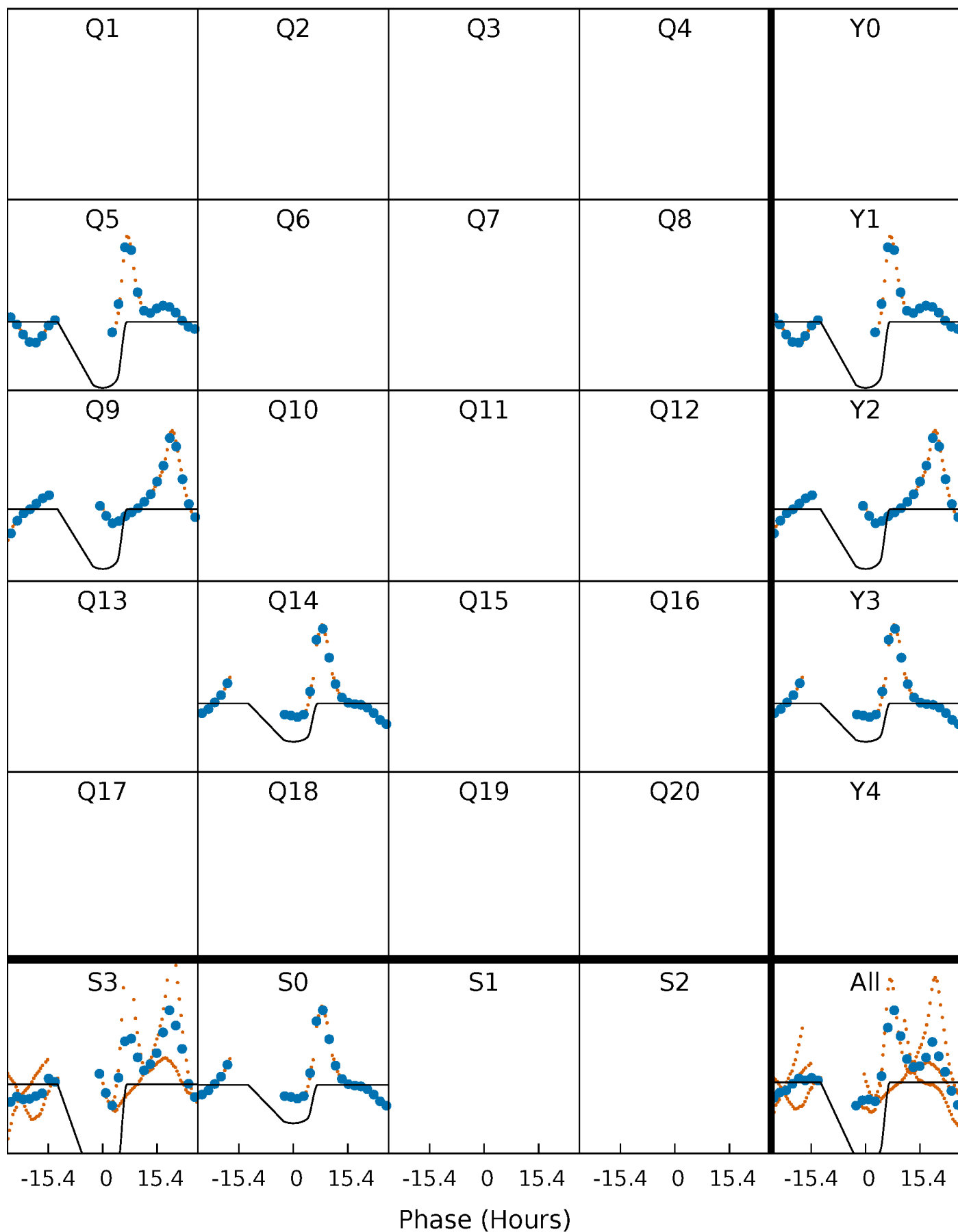
PDC Quarter-Phased Transit Curves

TCE 005706988-04 P=433.067031 Days $T_0=456.547066$ (BKJD)



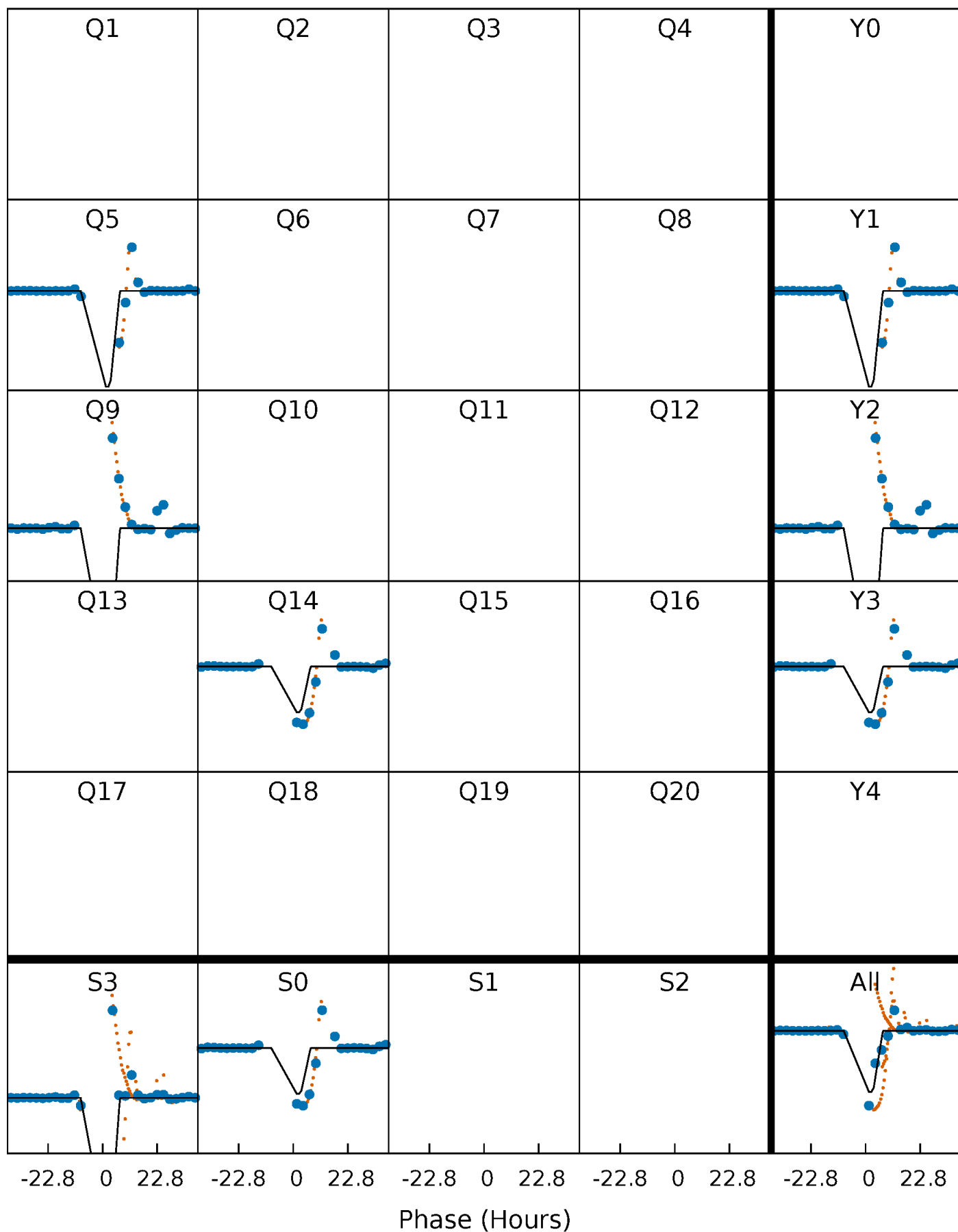
DV Quarter-Phased Transit Curves

TCE 005706988-04 $P=433.067031$ Days $T_0=456.547066$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

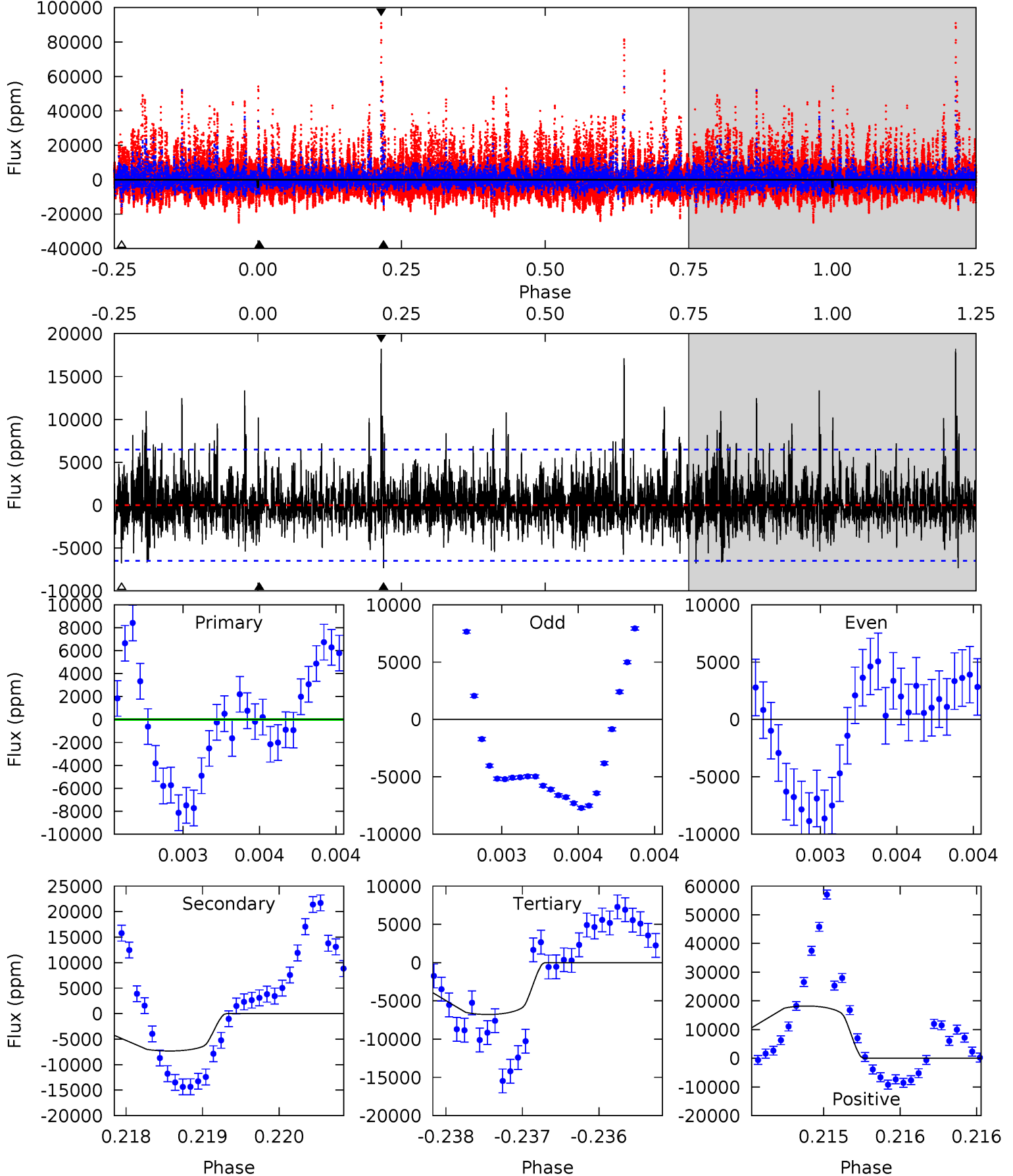
TCE 005706988-04 P=433.075682 Days $T_0=456.357607$ (BKJD)



DV Model-Shift Uniqueness Test

005706988-04, $P = 433.067031$ Days, $E = 23.480035$ Days

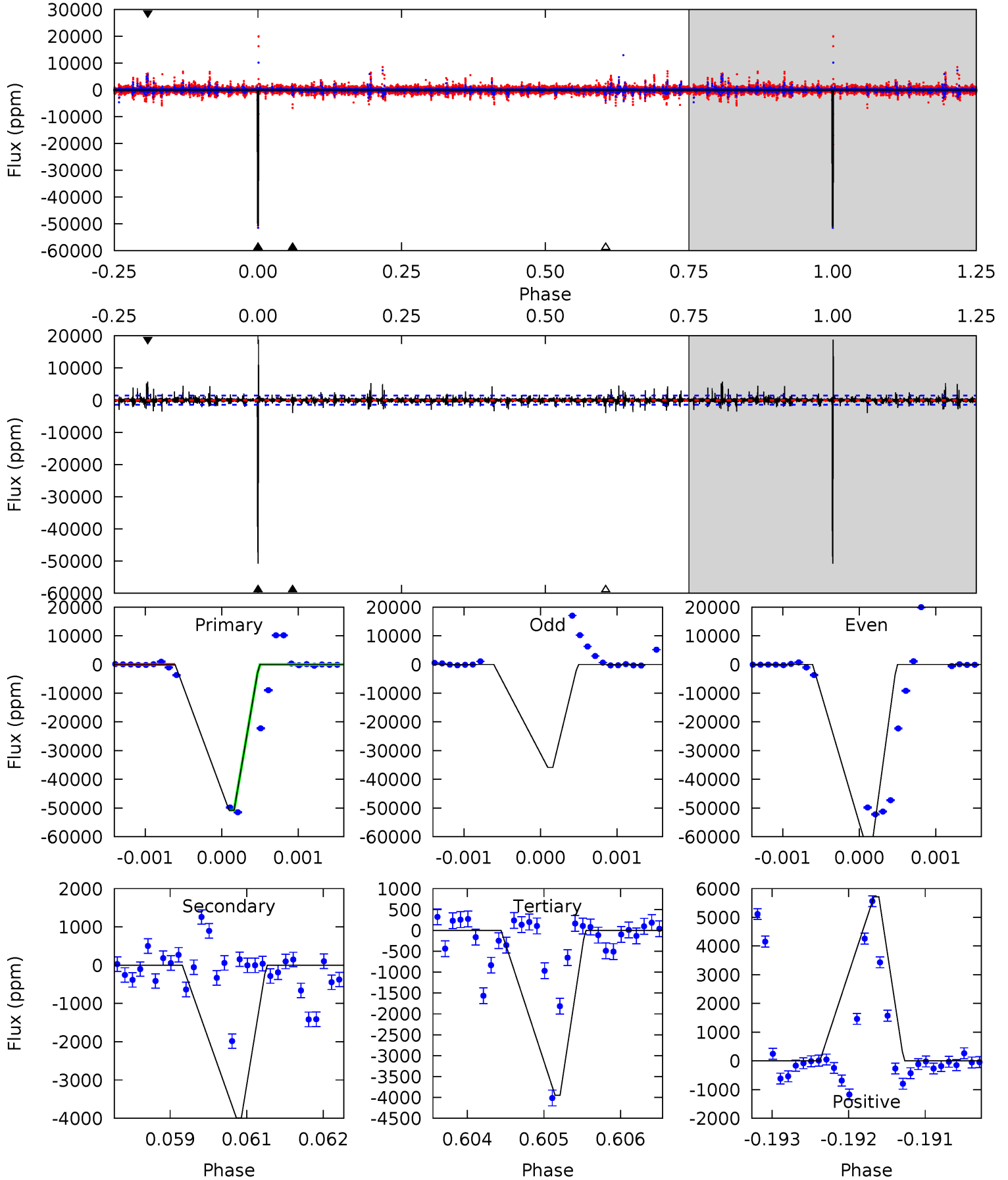
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.62	6.17	5.72	15.4	5.47	3.32	1.88	-2.10	-11.7	0.46	-9.19	0.04	0.66	0.71	0.74



Alt Model-Shift Uniqueness Test

005706988-04, P = 433.075682 Days, E = 23.281925 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
191.3	15.0	14.9	21.5	5.39	3.19	1.39	176.4	169.7	0.15	-6.50	60.0	1.00	0.27	0



Stellar Parameters For KIC 005706988

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7545^{+235}_{-314}	$4.026^{+0.198}_{-0.162}$	$-0.060^{+0.200}_{-0.350}$	$2.088^{+0.495}_{-0.605}$	$1.687^{+0.185}_{-0.291}$	$0.261^{+0.291}_{-0.121}$
	+3%/-4%	+5%/-4%	+333%/-583%	+24%/-29%	+11%/-17%	+112%/-46%
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 005706988-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7325 ± 1187	$35.71^{+4.78}_{-5.09}$	581^{+43}_{-37}	5527^{+278}_{-296}	5636^{+2038}_{-1474}
Alt.	-3990 ± 266	$46.31^{+6.55}_{-6.99}$	579^{+47}_{-47}	4357^{+119}_{-135}	1790^{+664}_{-381}

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

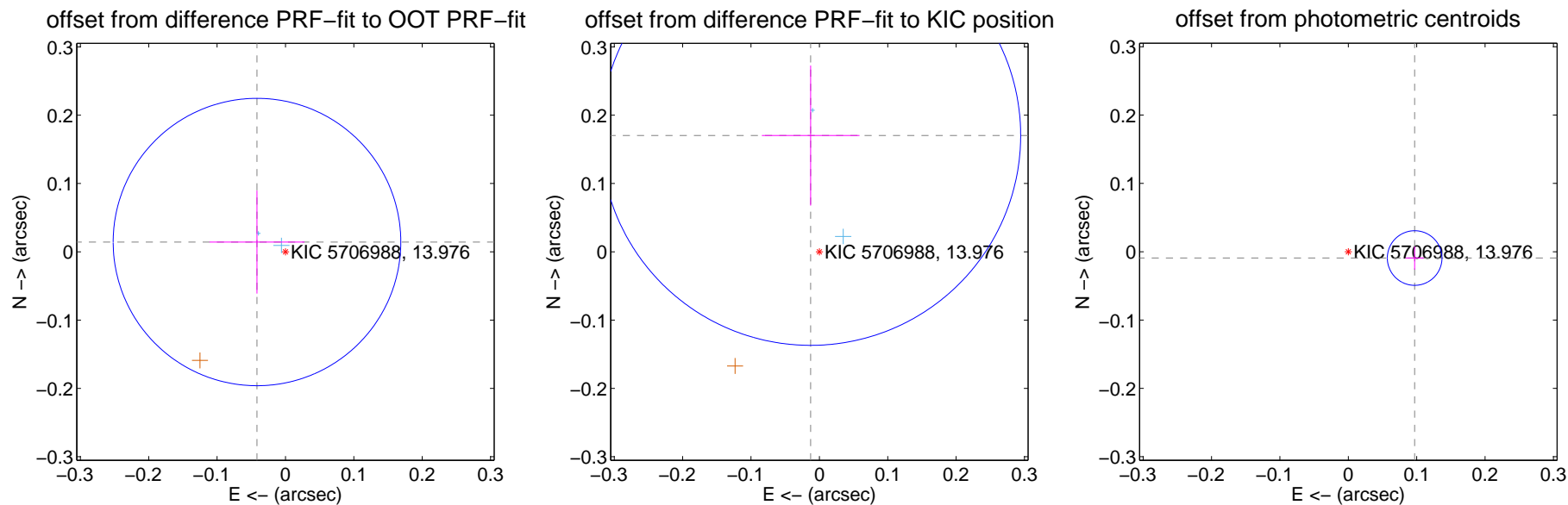
DV Centroid Data

Supplemental centroid analysis for 005706988-04. Kepler magnitude: 13.98. Transit SNR 16.45

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.044 ± 0.070	0.63	0.042 ± 0.069	0.014 ± 0.075
PRF-fit source offset from KIC position	0.171 ± 0.102	1.67	0.013 ± 0.071	0.170 ± 0.103
photometric centroid source offset	0.10 ± 0.01	7.32	-0.10 ± 0.01	-0.01 ± 0.02

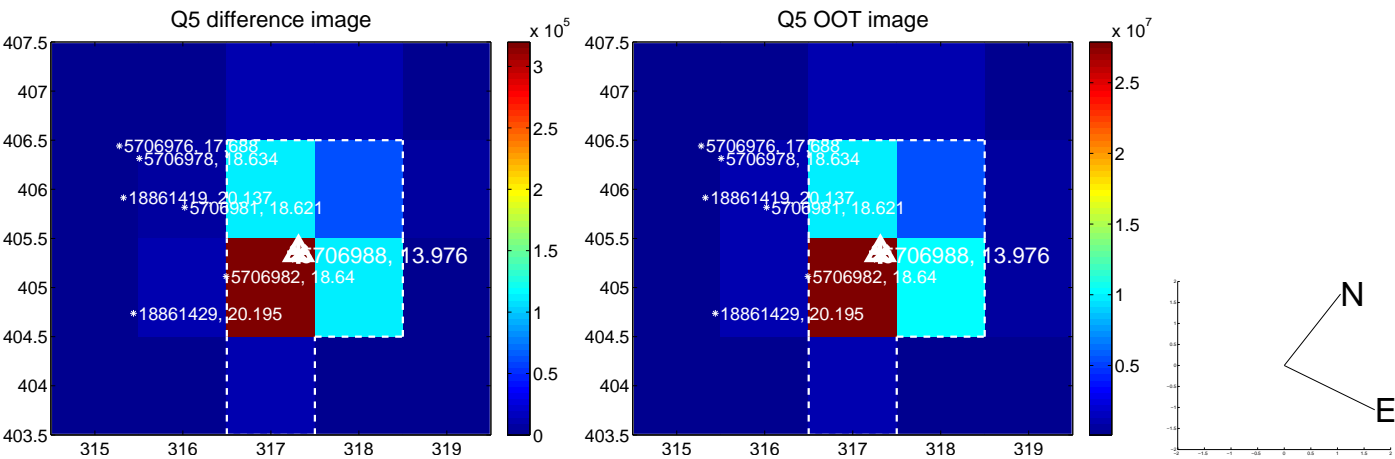


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

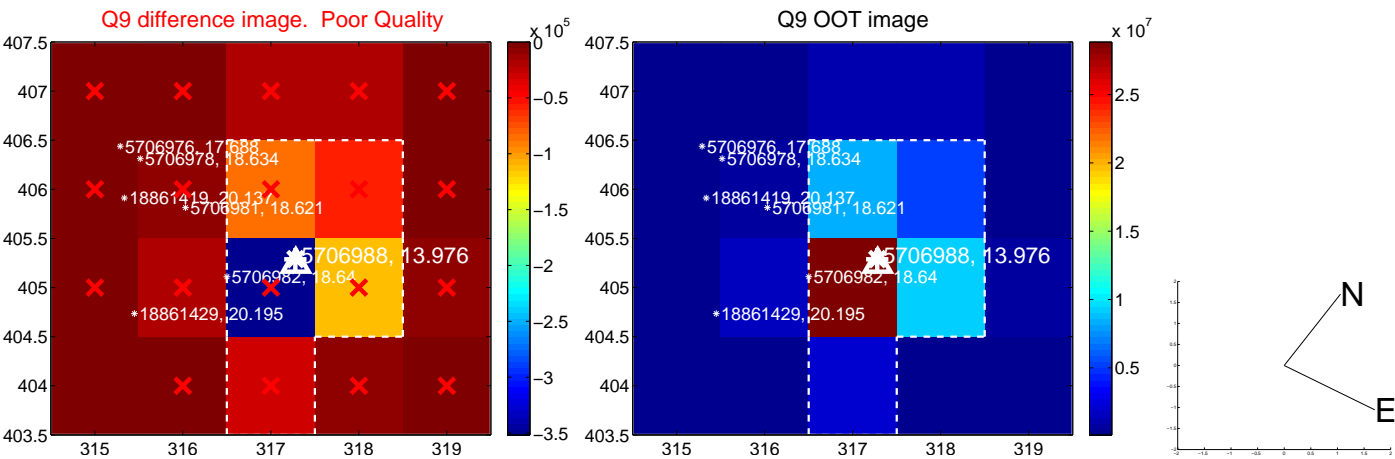
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



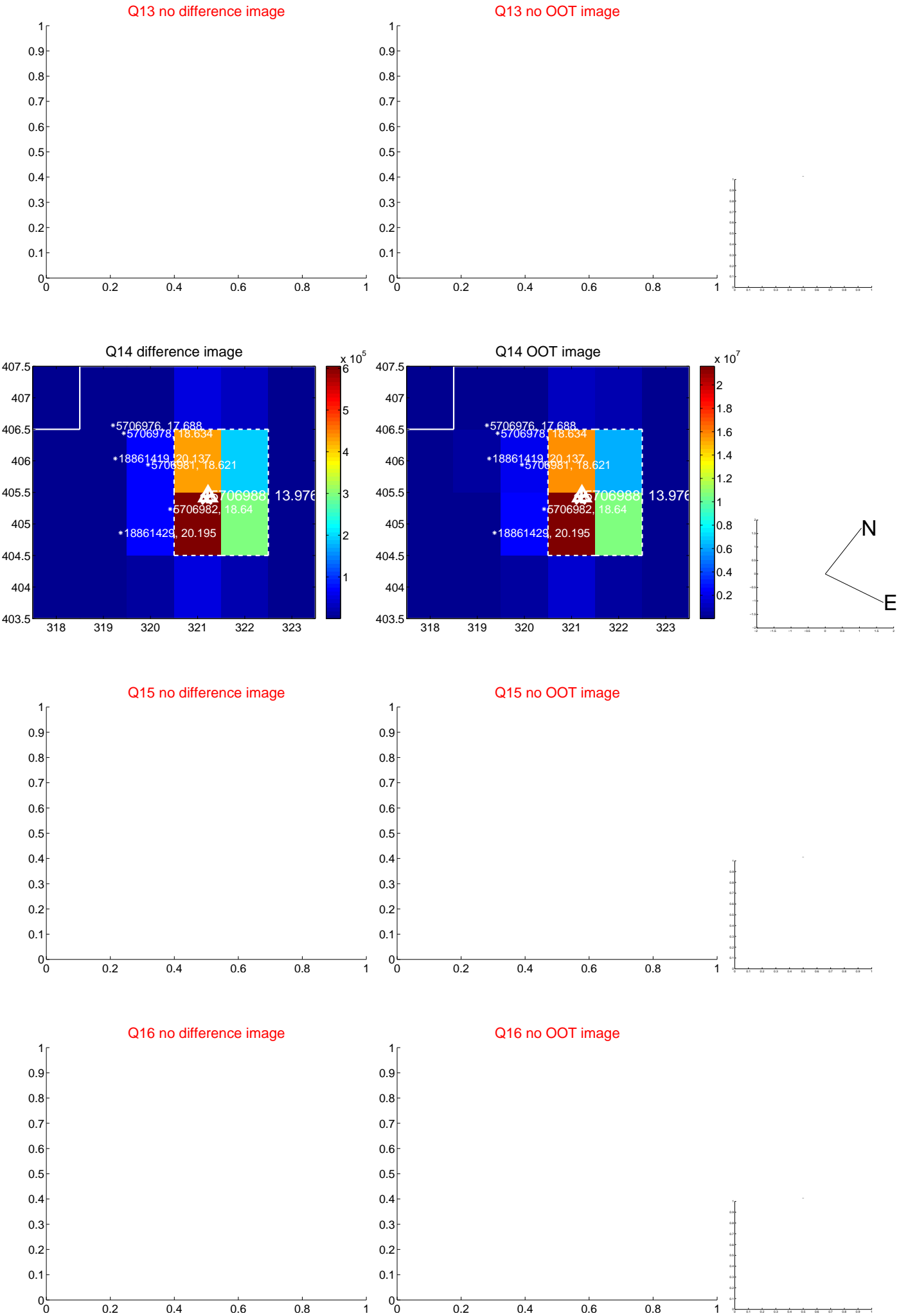
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



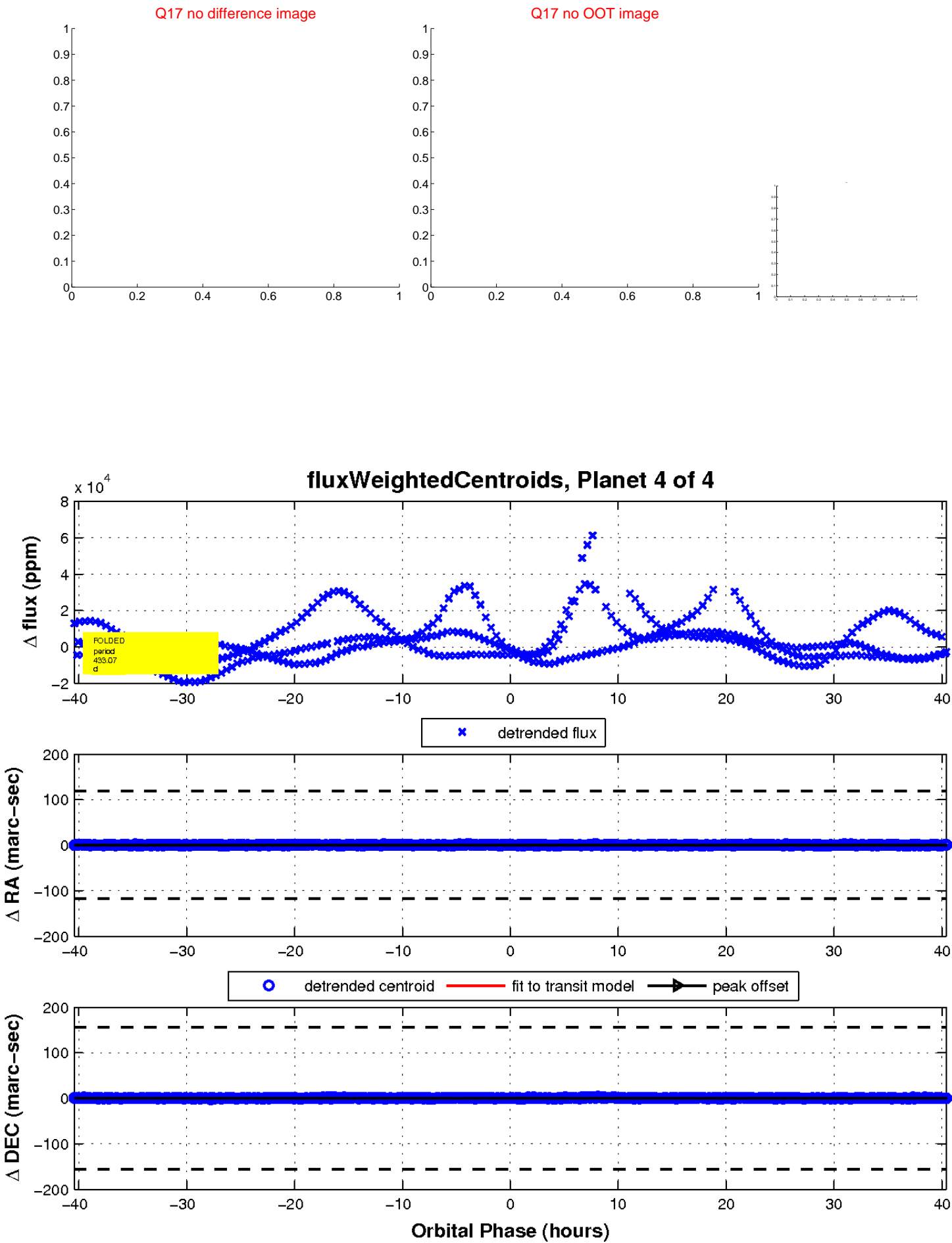
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

