

KIC 005982073

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})
005982073-01	OBS	No	1.251196	131.861115	25.0	2.442	11.0	10.2	3.40	6751	1.99	27243.28
005982073-02	OBS	No	382.295527	500.105636	304.2	4.120	7.2	7.9	3.40	6751	6.54	13.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005982073-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005982073-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

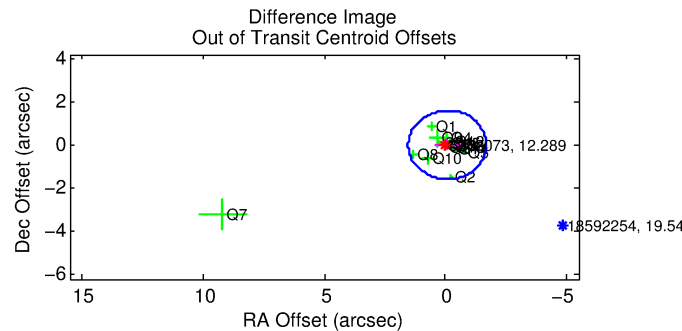
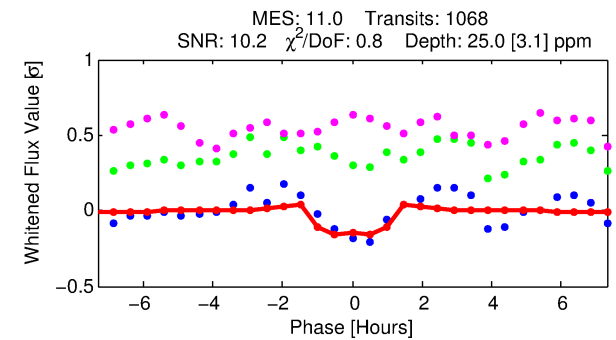
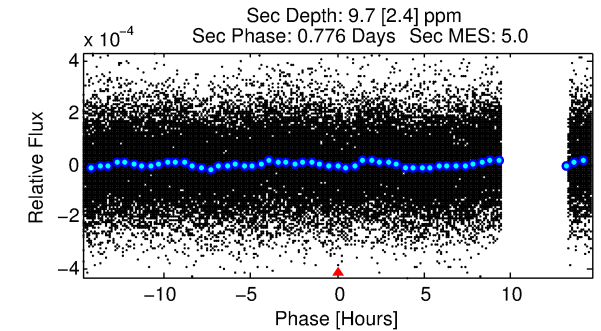
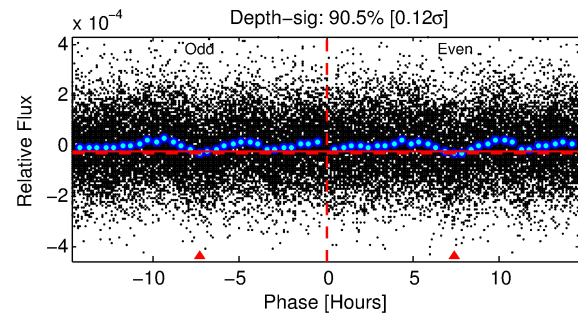
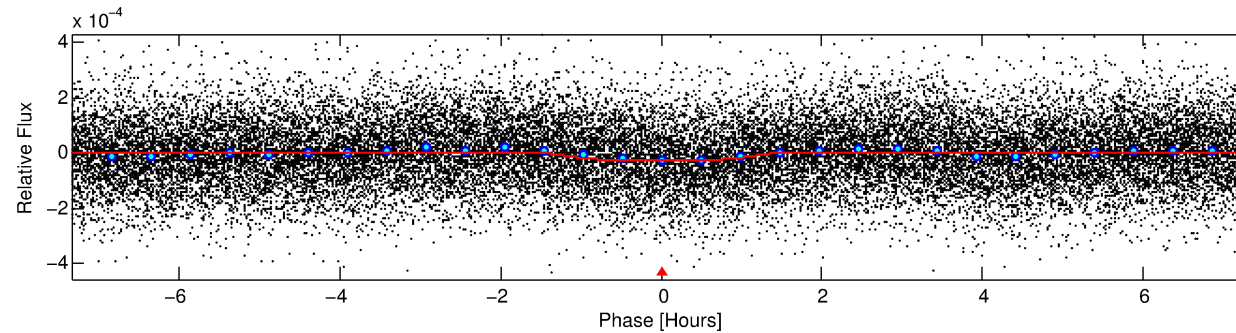
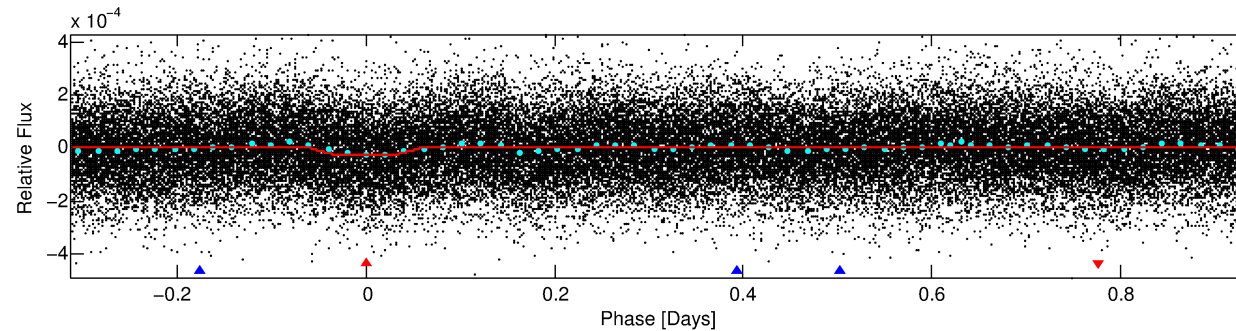
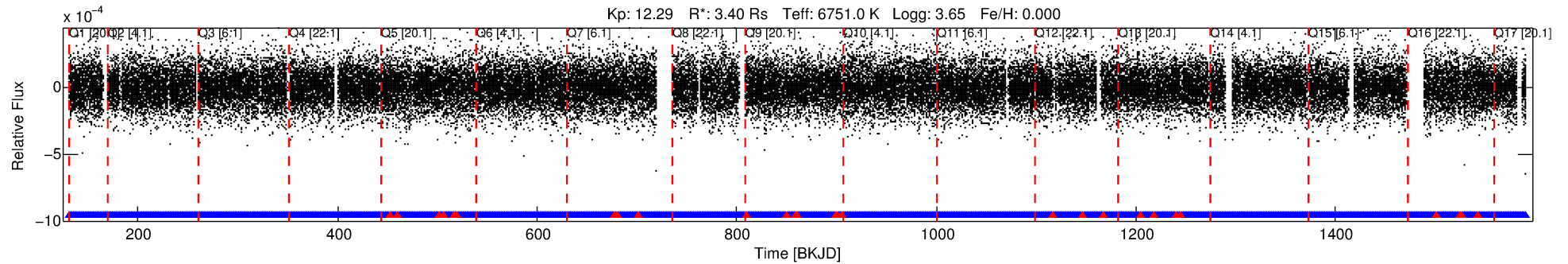
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005982073-01

No Significant Match Found

DV One-Page Summary

KIC: 5982073 Candidate: 1 of 2 Period: 1.251 d



DV Fit Results:

Period = 1.25120 [0.00001] d
Epoch = 131.8611 [0.0022] BKJD
Rp/R* = 0.0053 [0.0013]
a/R* = 1.98 [2.16]
b = 0.90 [0.31]
Seff = 27243.28 [14557.91]
Teq = 3276 [438] K
Rp = 1.99 [0.90] Re
a = 0.0281 [0.0096] AU
Ag = 1.07 [0.82] [0.09 σ]
Teffp = 5156 [731] K [2.21 σ]

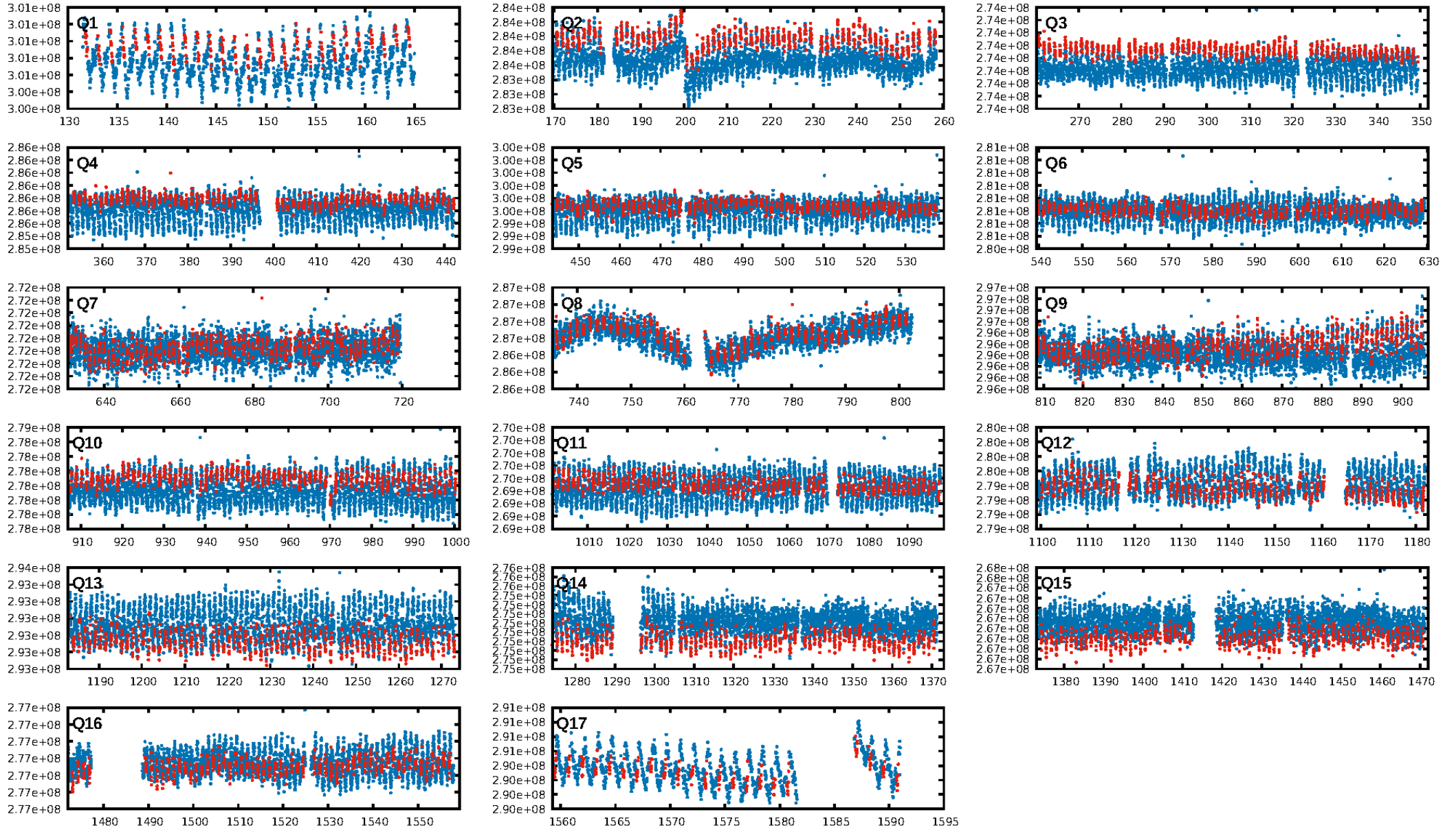
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1909.52 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.79e-25
RollingBand-fgt: 0.97 [992/1019]
GhostDiagnostic-chr: 3.112
Centroid-sig: 1.4%
Centroid-so: 1.312 arcsec [1.97 σ]
OotOffset-rm: 0.076 arcsec [0.14 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.144 arcsec [0.28 σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 1.00 [17/17]

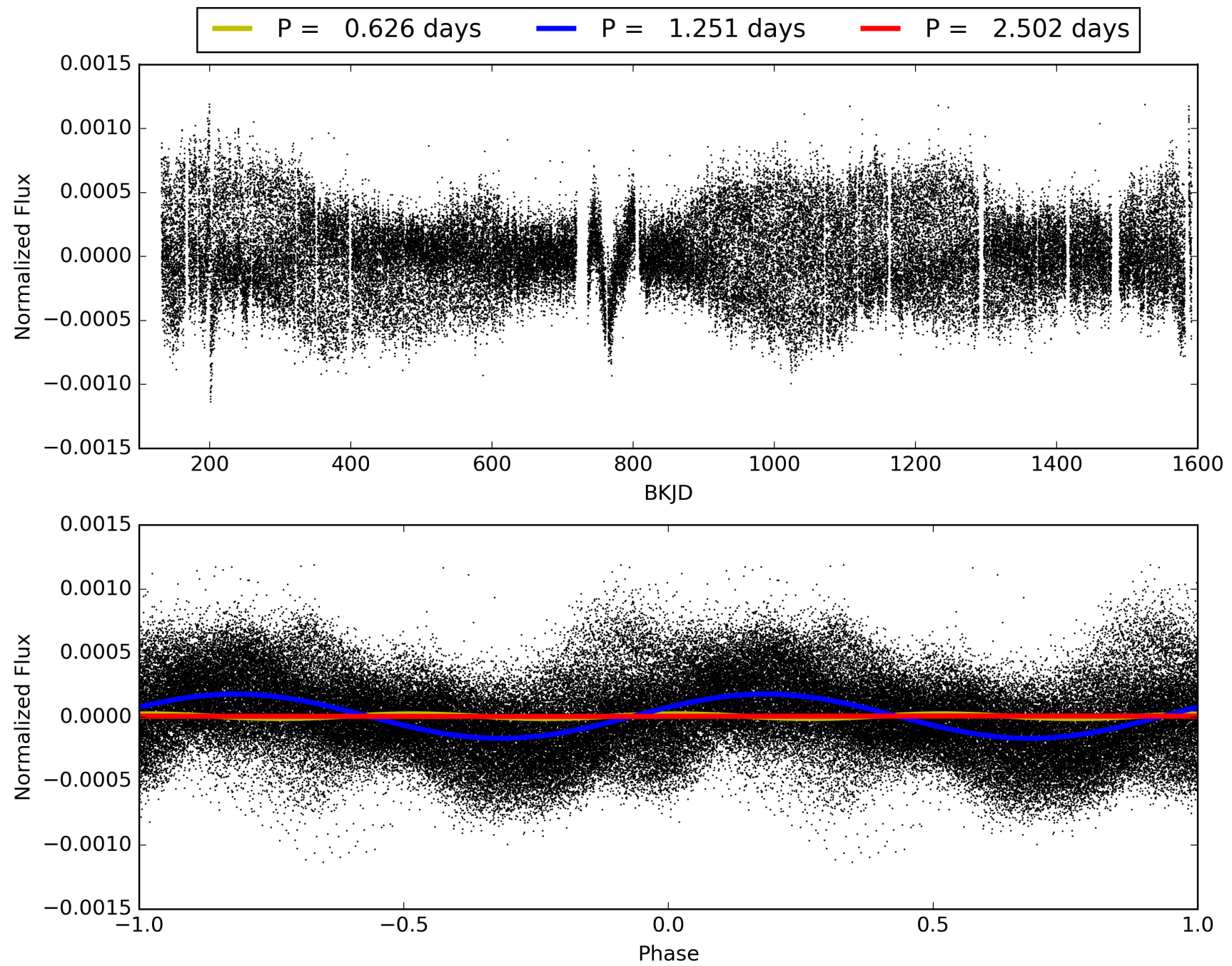
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:23:19 Z

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

TCE 005982073-01, PDC Light Curves

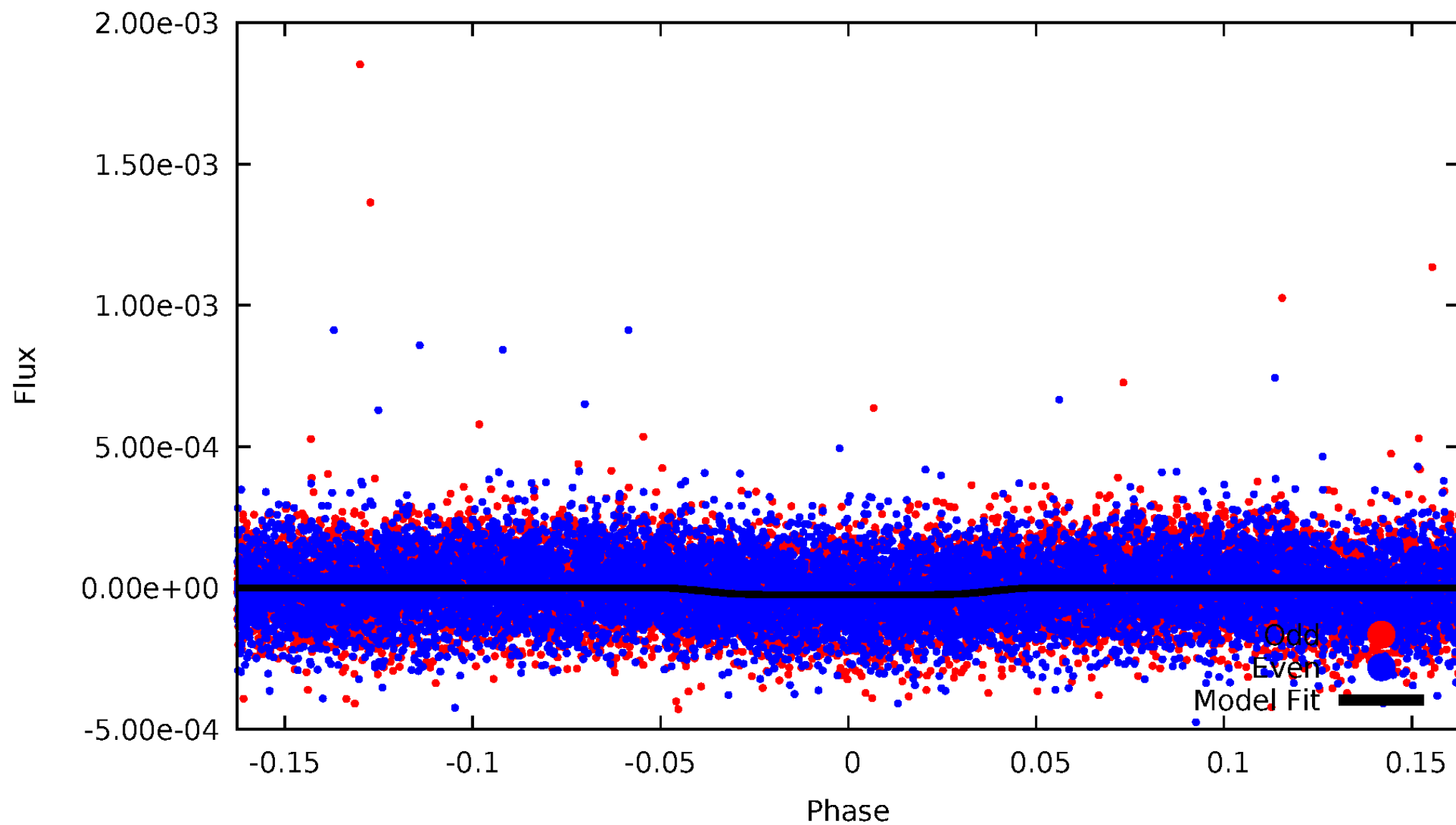


TCE 005982073-01



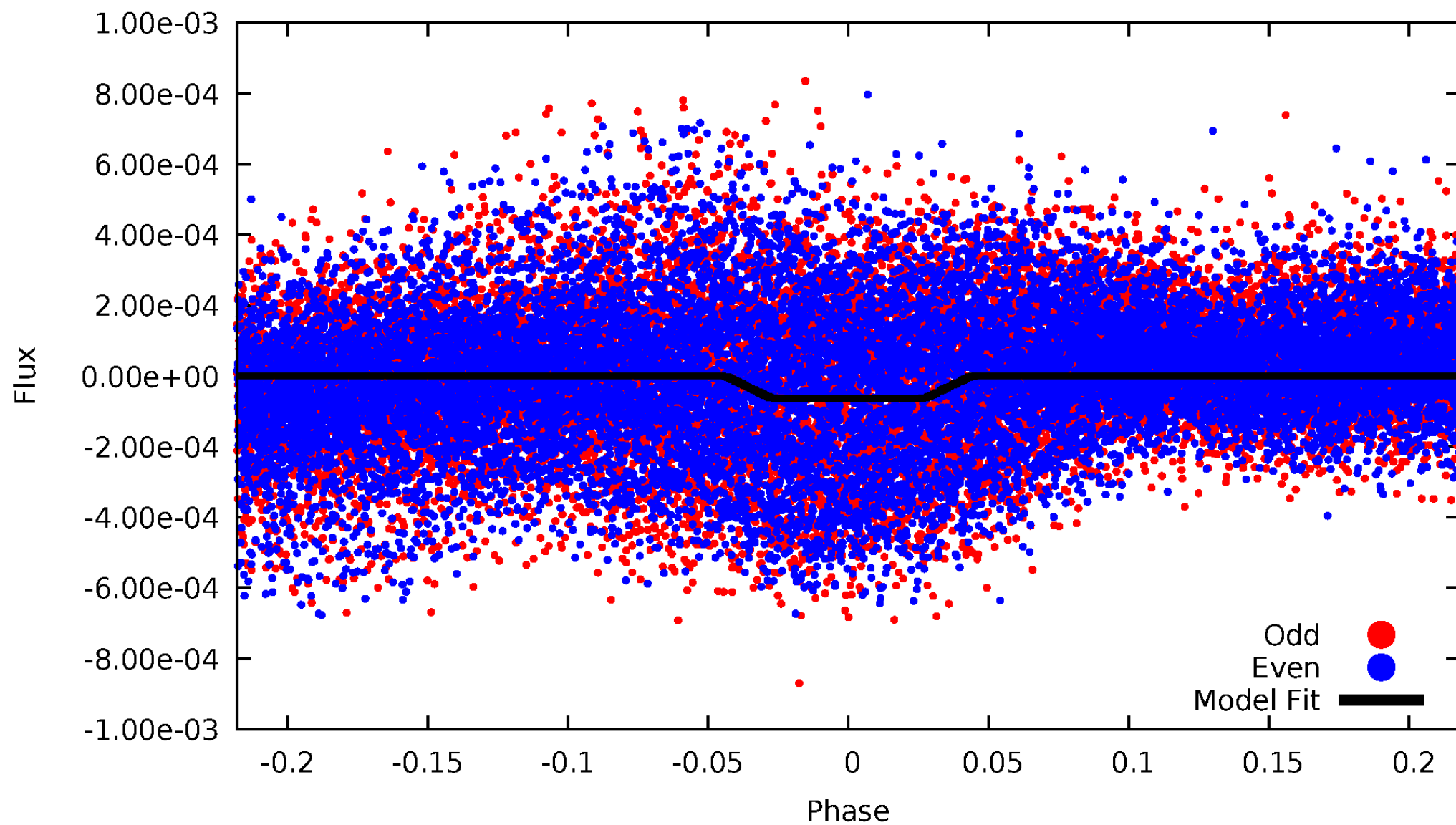
DV Odd/Even

TCE 005982073-01

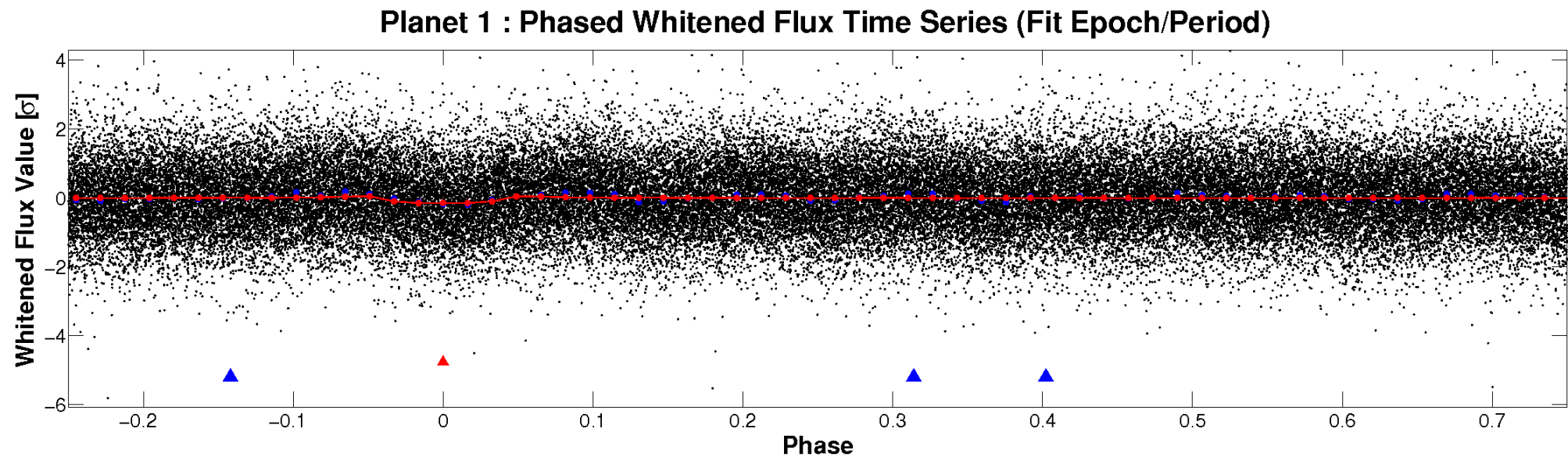
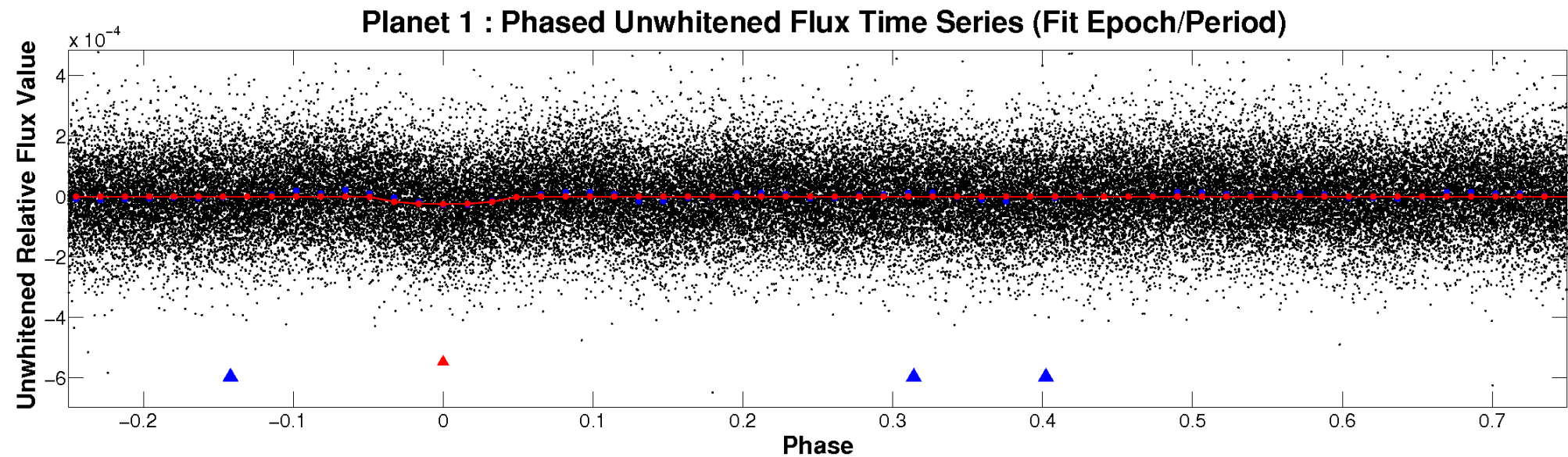


ALT Odd/Even

TCE 005982073-01

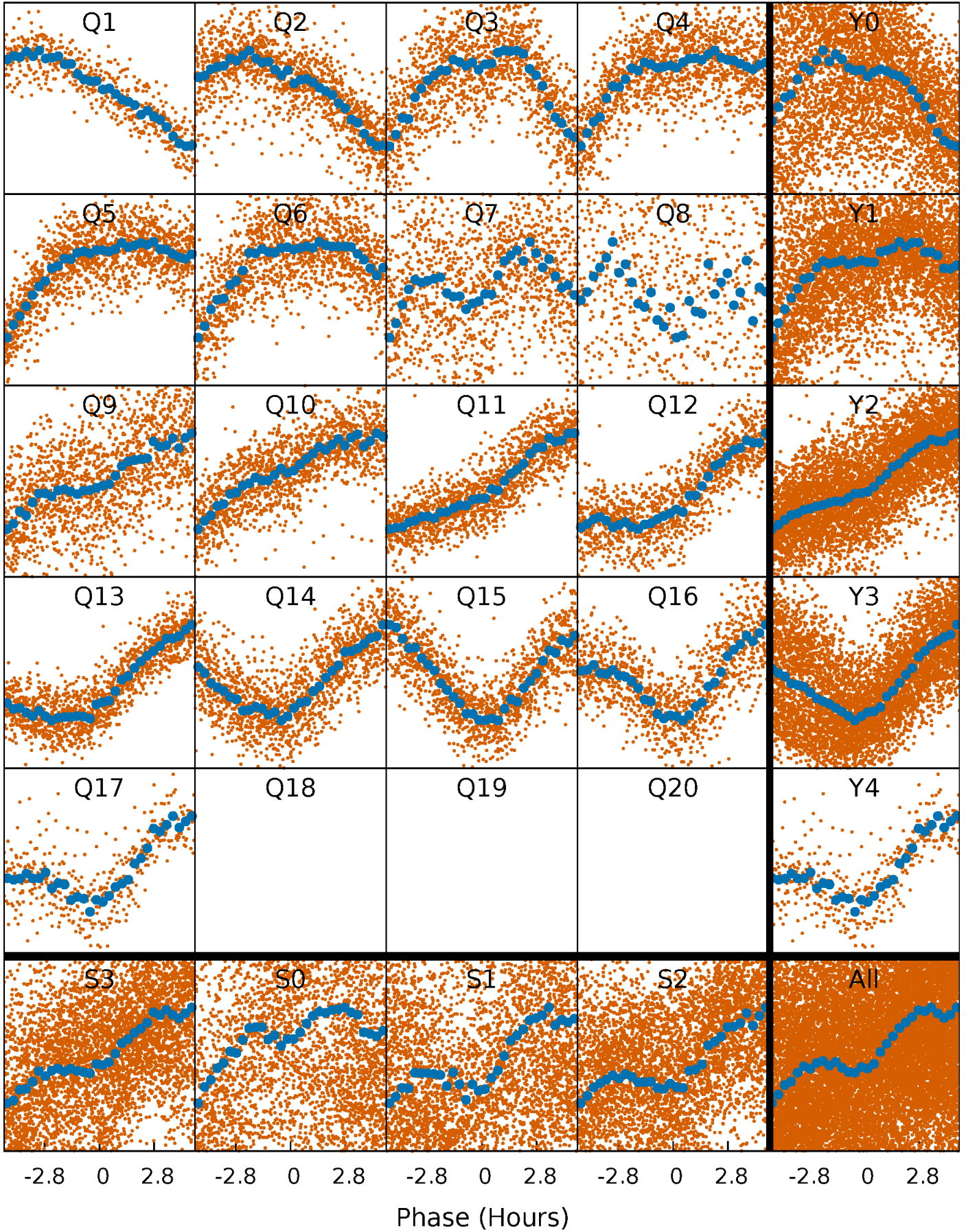


Non-Whitened Vs. Whitened Light Curve



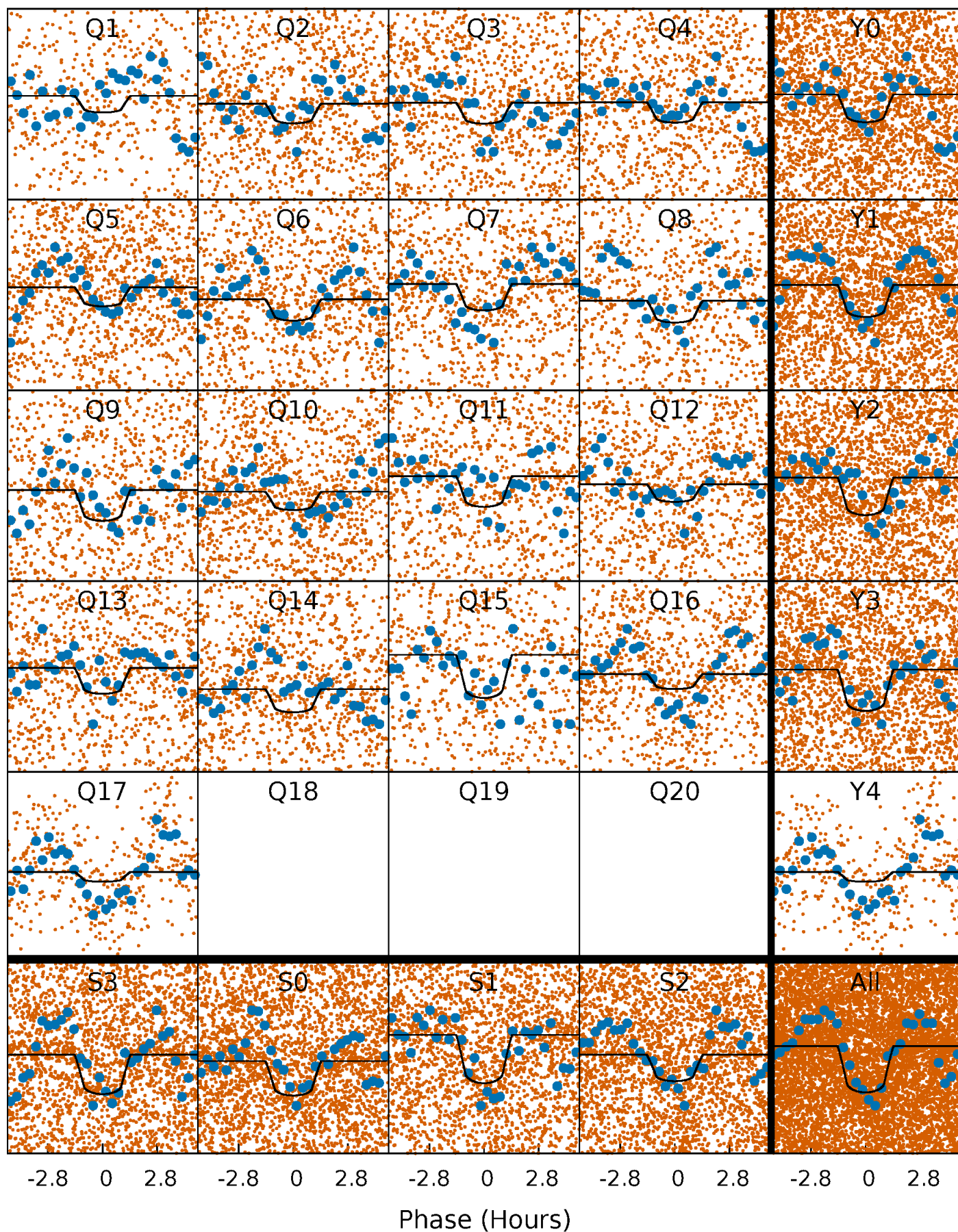
PDC Quarter-Phased Transit Curves

TCE 005982073-01 P= 1.251196 Days $T_0=131.861115$ (BKJD)



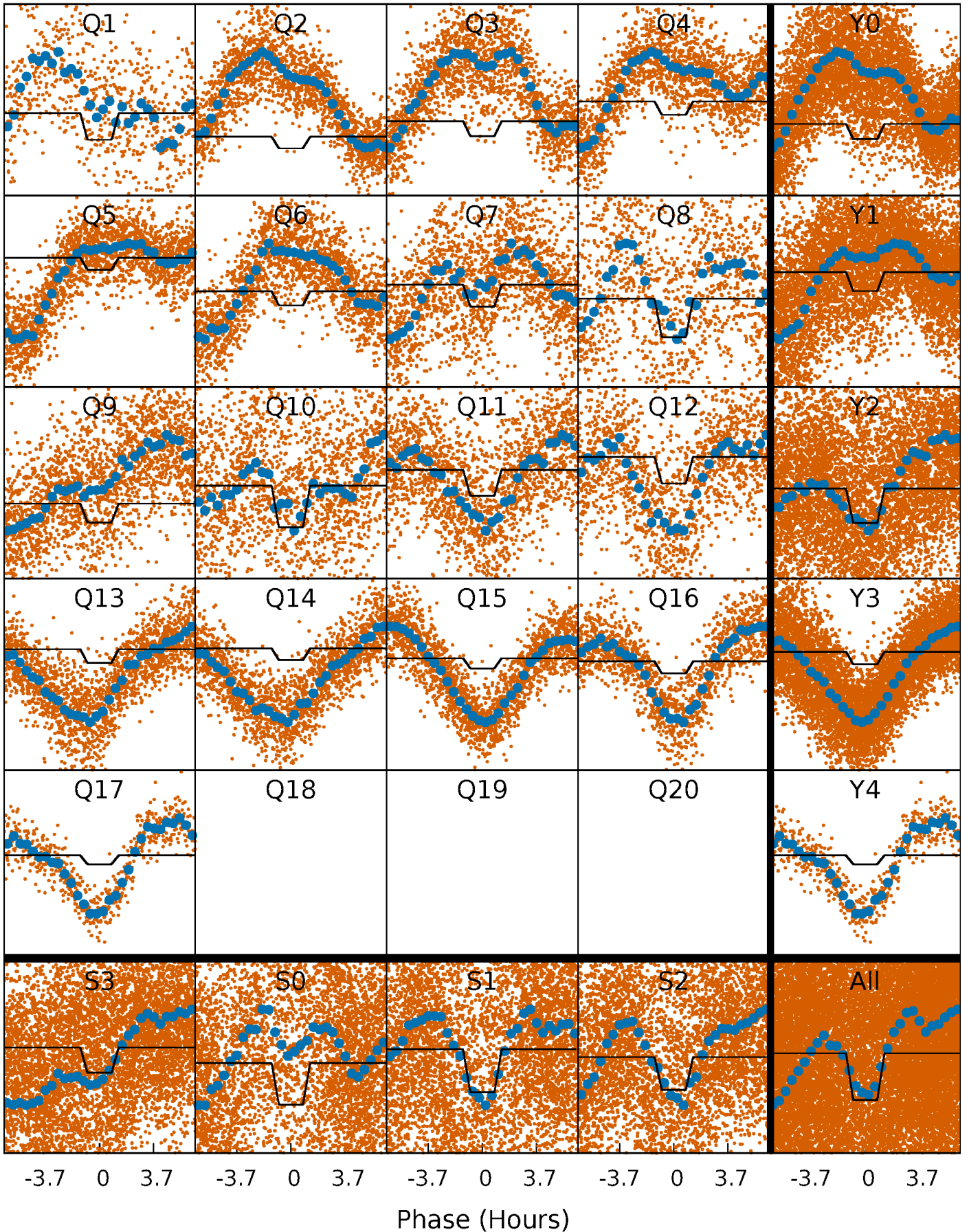
DV Quarter-Phased Transit Curves

TCE 005982073-01 P= 1.251196 Days $T_0=131.861115$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

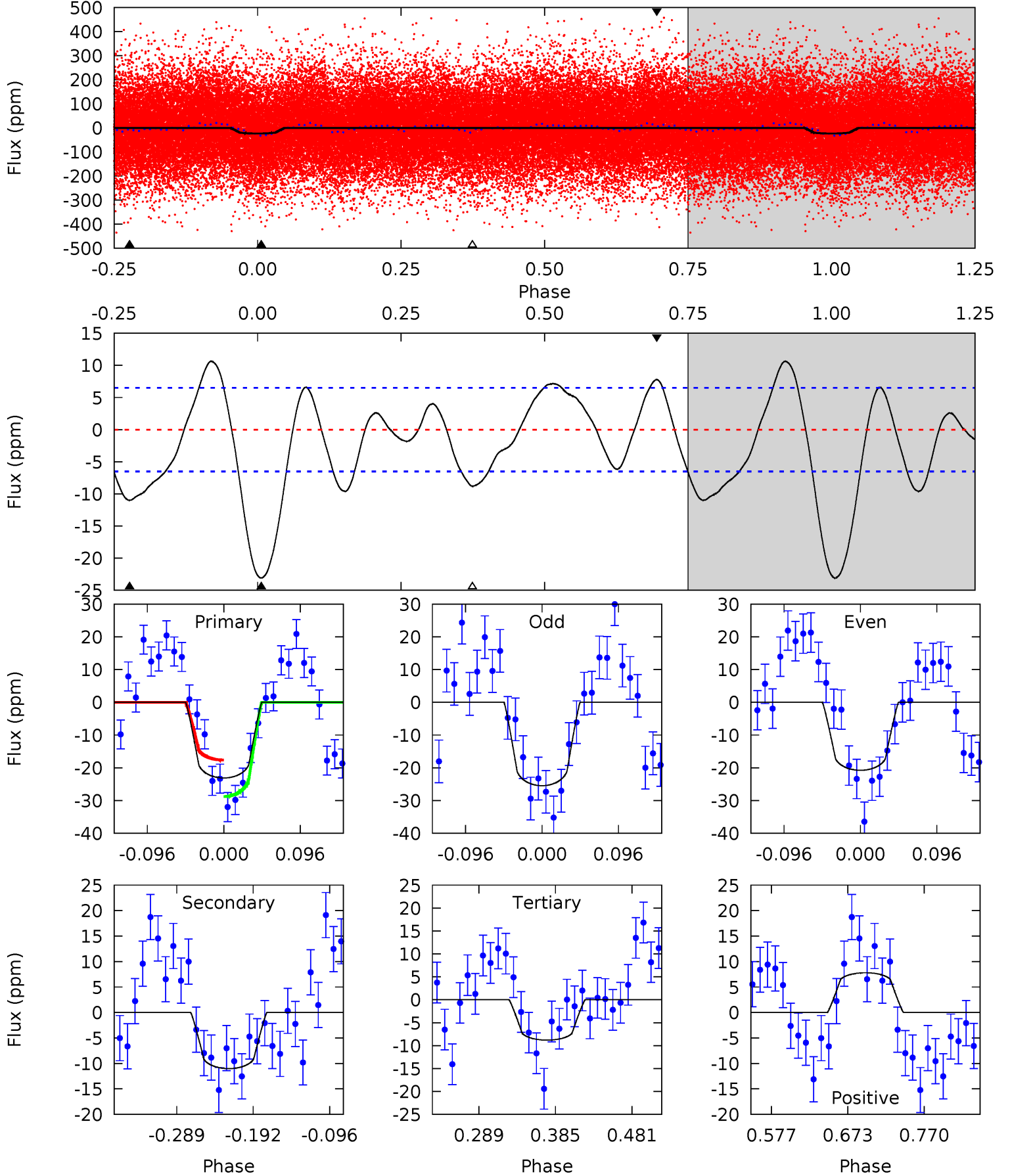
TCE 005982073-01 P= 1.251209 Days $T_0=131.848277$ (BKJD)



DV Model-Shift Uniqueness Test

005982073-01, P = 1.251196 Days, E = 130.609919 Days

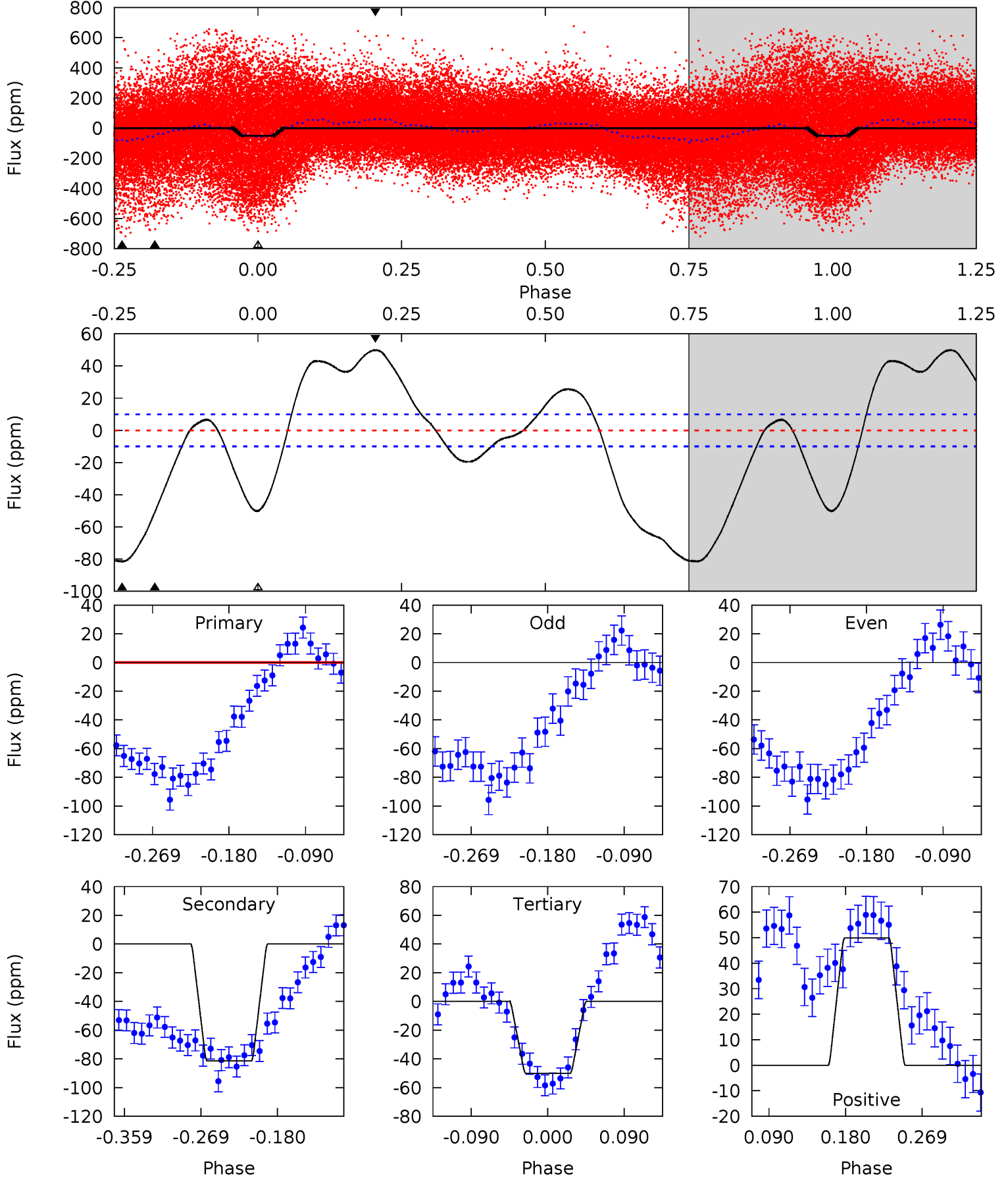
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	7.73	6.18	5.48	4.57	1.66	3.40	10.1	10.8	1.55	2.25	1.65	1.05	0.32	3.92



Alt Model-Shift Uniqueness Test

005982073-01, P = 1.251209 Days, E = 130.597068 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.6	37.7	23.2	23.1	4.59	1.70	15.7	0.38	0.45	14.5	14.6	1.41	1.28	0.38	0.14



Stellar Parameters For KIC 005982073

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6751^{+162}_{-203}	$3.652^{+0.296}_{-0.074}$	$0.000^{+0.250}_{-0.250}$	$3.404^{+0.346}_{-1.298}$	$1.896^{+0.181}_{-0.423}$	$0.068^{+0.145}_{-0.017}$
	+2%/-3%	+8%/-2%	+inf%/-inf%	+10%/-38%	+10%/-22%	+214%/-25%
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 005982073-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 1	$1.88^{+0.54}_{-0.52}$	4500^{+216}_{-404}	4989^{+861}_{-582}	$1.325^{+1.176}_{-0.502}$
Alt.	-81 ± 2	$2.81^{+0.69}_{-0.64}$	4500^{+211}_{-418}	7012^{+875}_{-630}	$4.420^{+2.811}_{-1.483}$

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

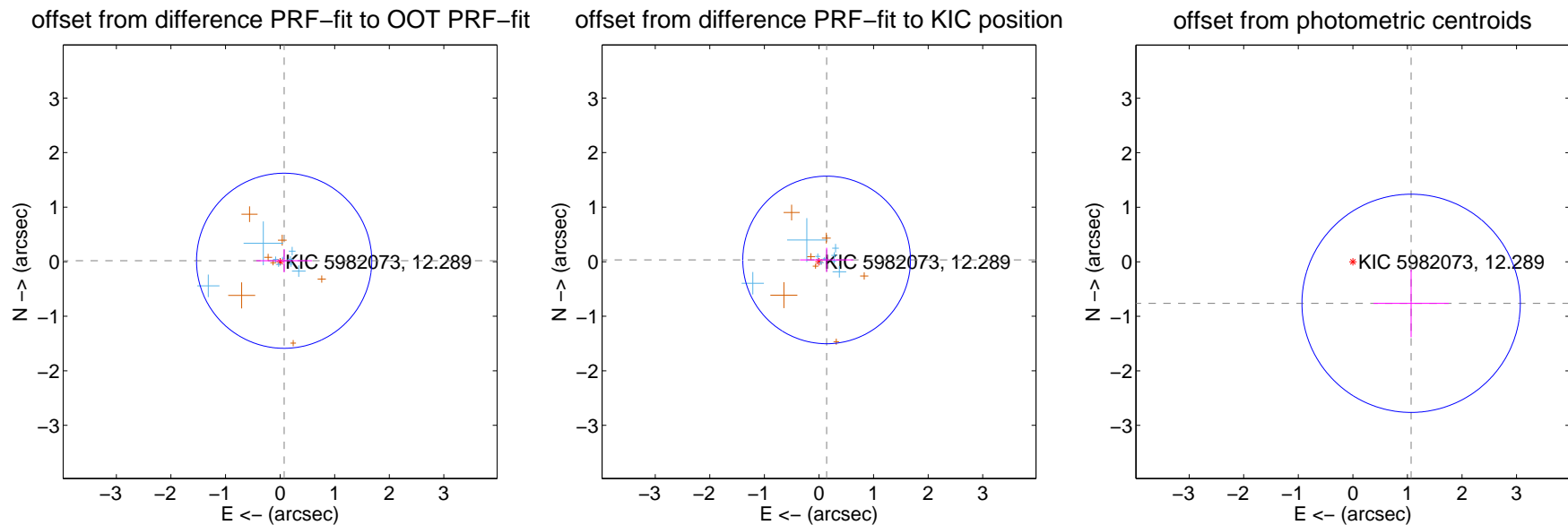
DV Centroid Data

Supplemental centroid analysis for 005982073-01. Kepler magnitude: 12.29. Transit SNR 10.19

There are 9 quarters with good PRF difference image offsets

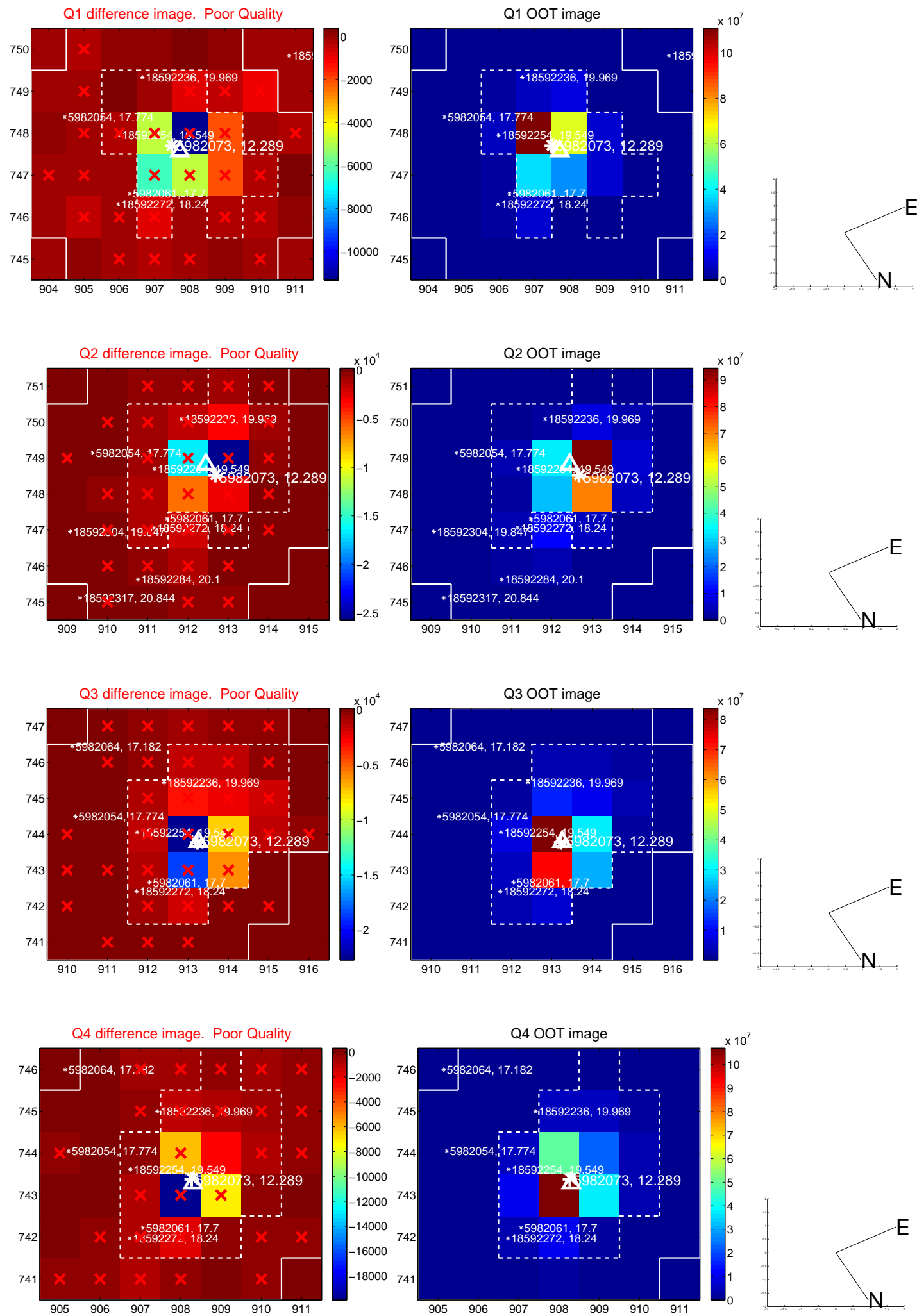
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.076 ± 0.535	0.14	-0.074 ± 0.512	0.017 ± 0.211
PRF-fit source offset from KIC position	0.144 ± 0.512	0.28	-0.140 ± 0.487	0.032 ± 0.222
photometric centroid source offset	1.31 ± 0.67	1.97	-1.07 ± 0.69	-0.76 ± 0.62

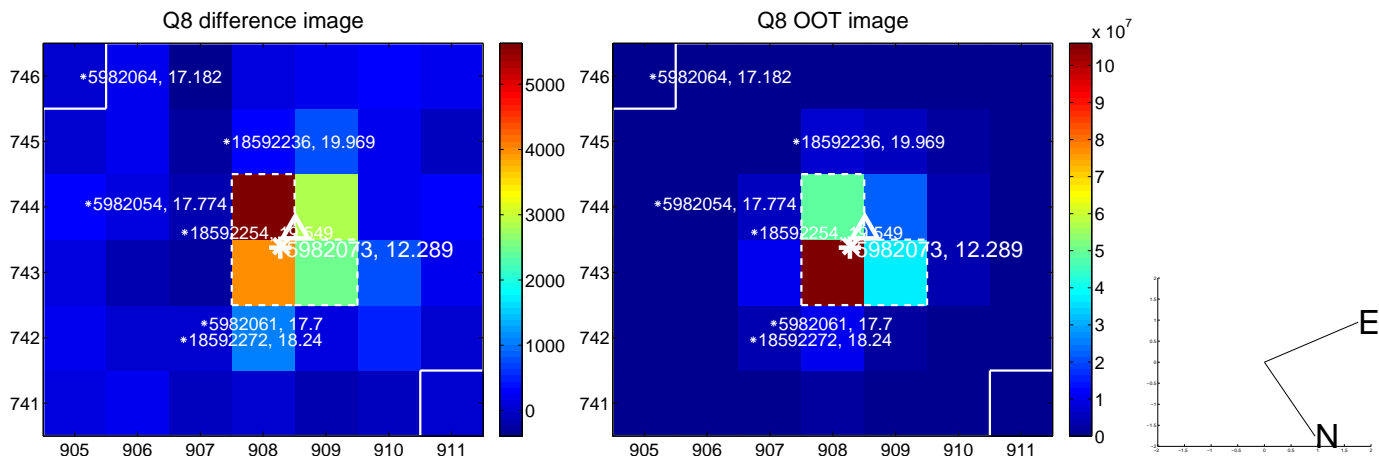
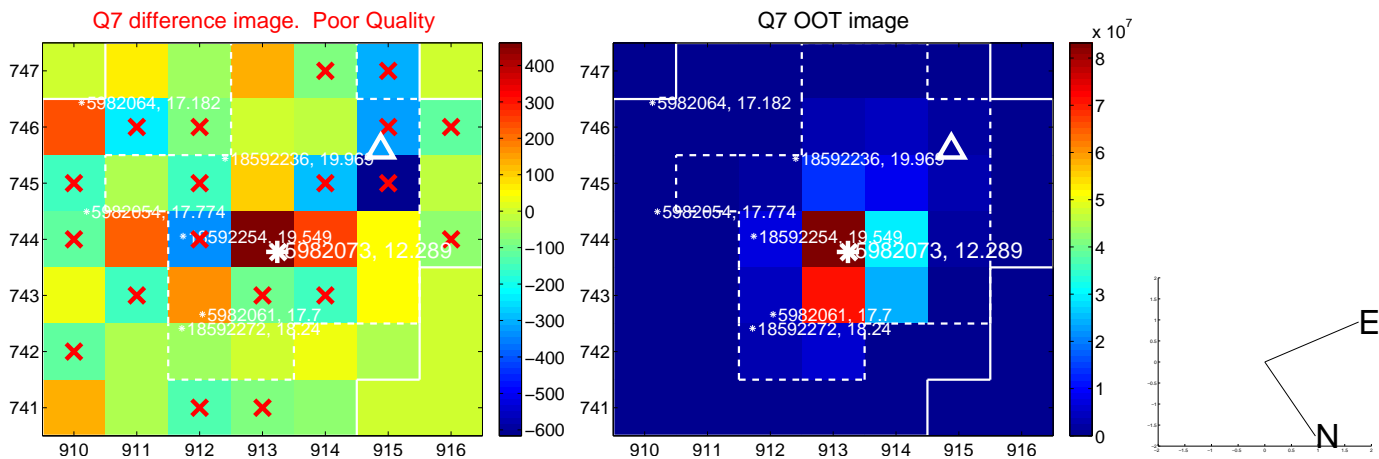
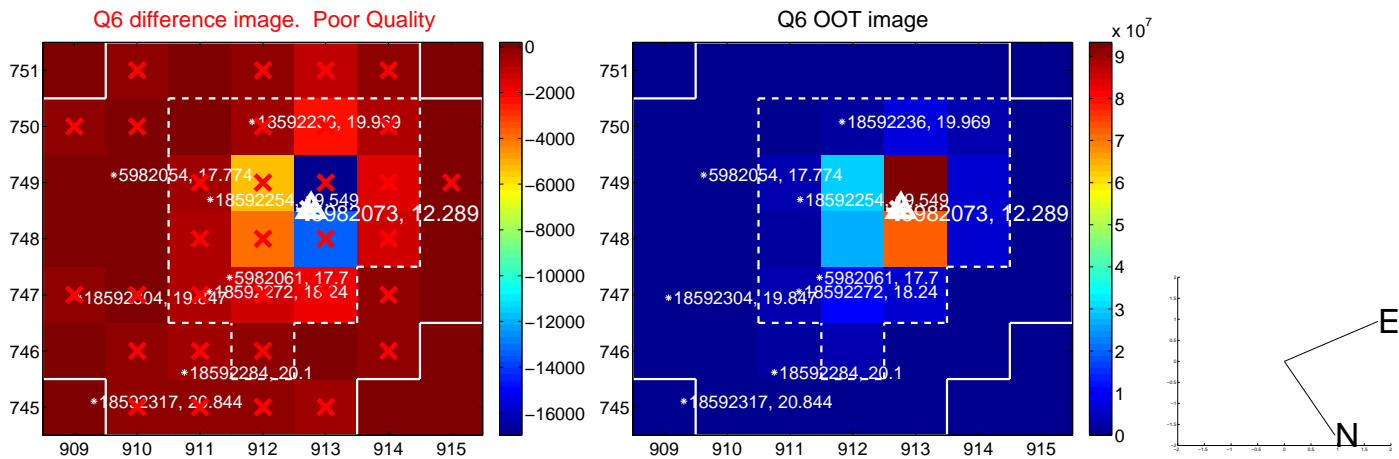
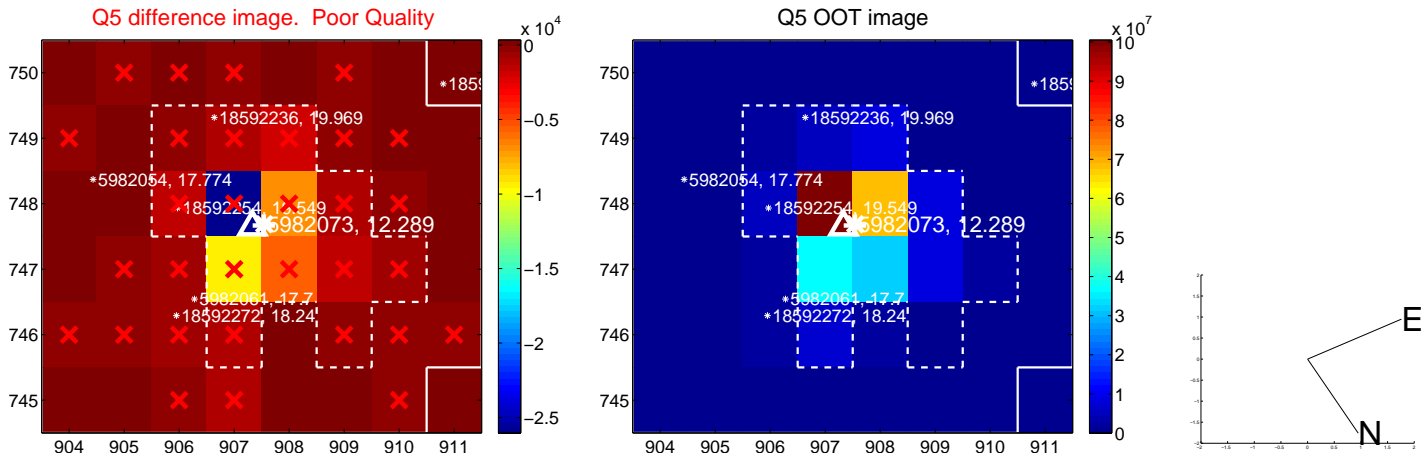


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

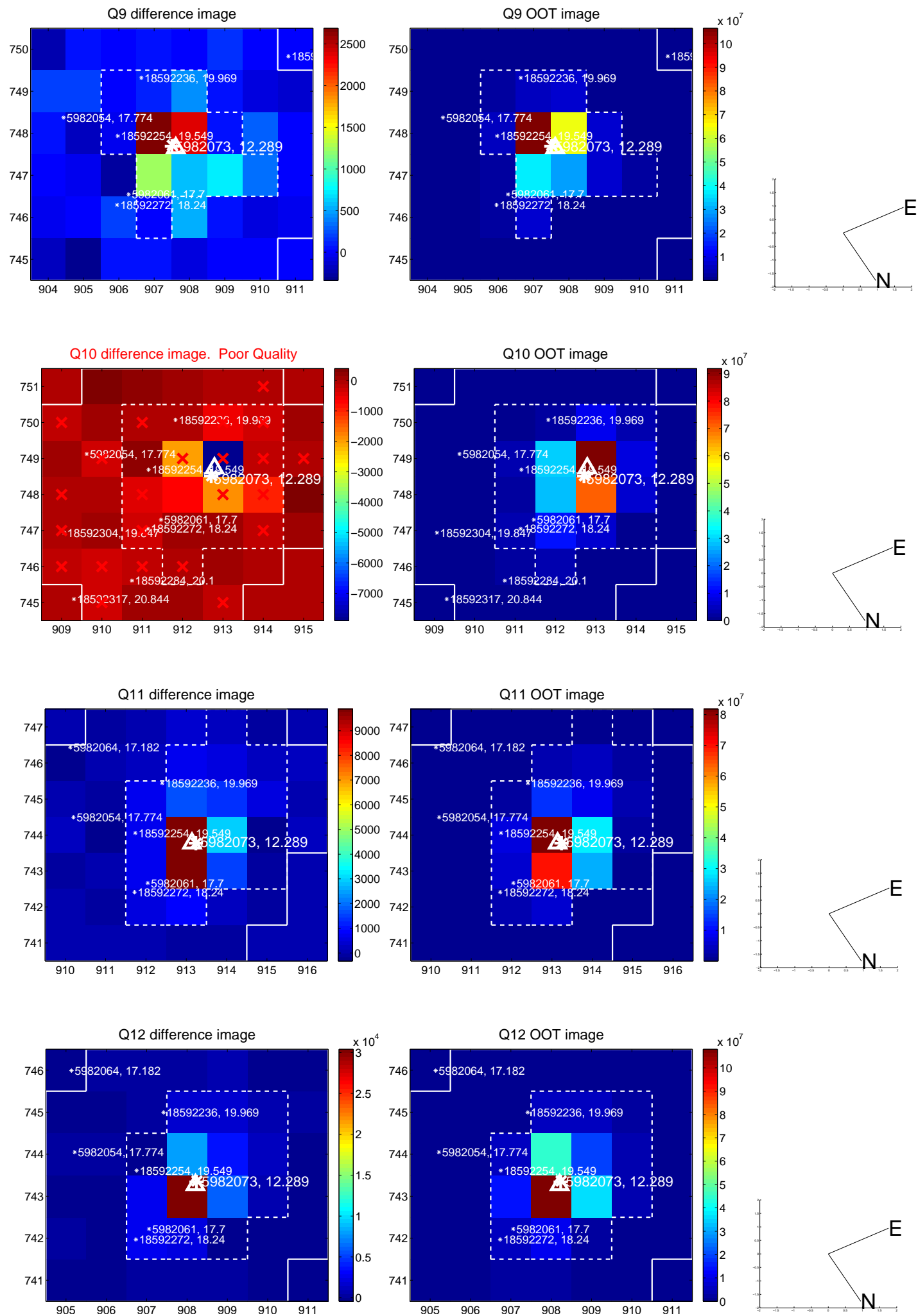
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



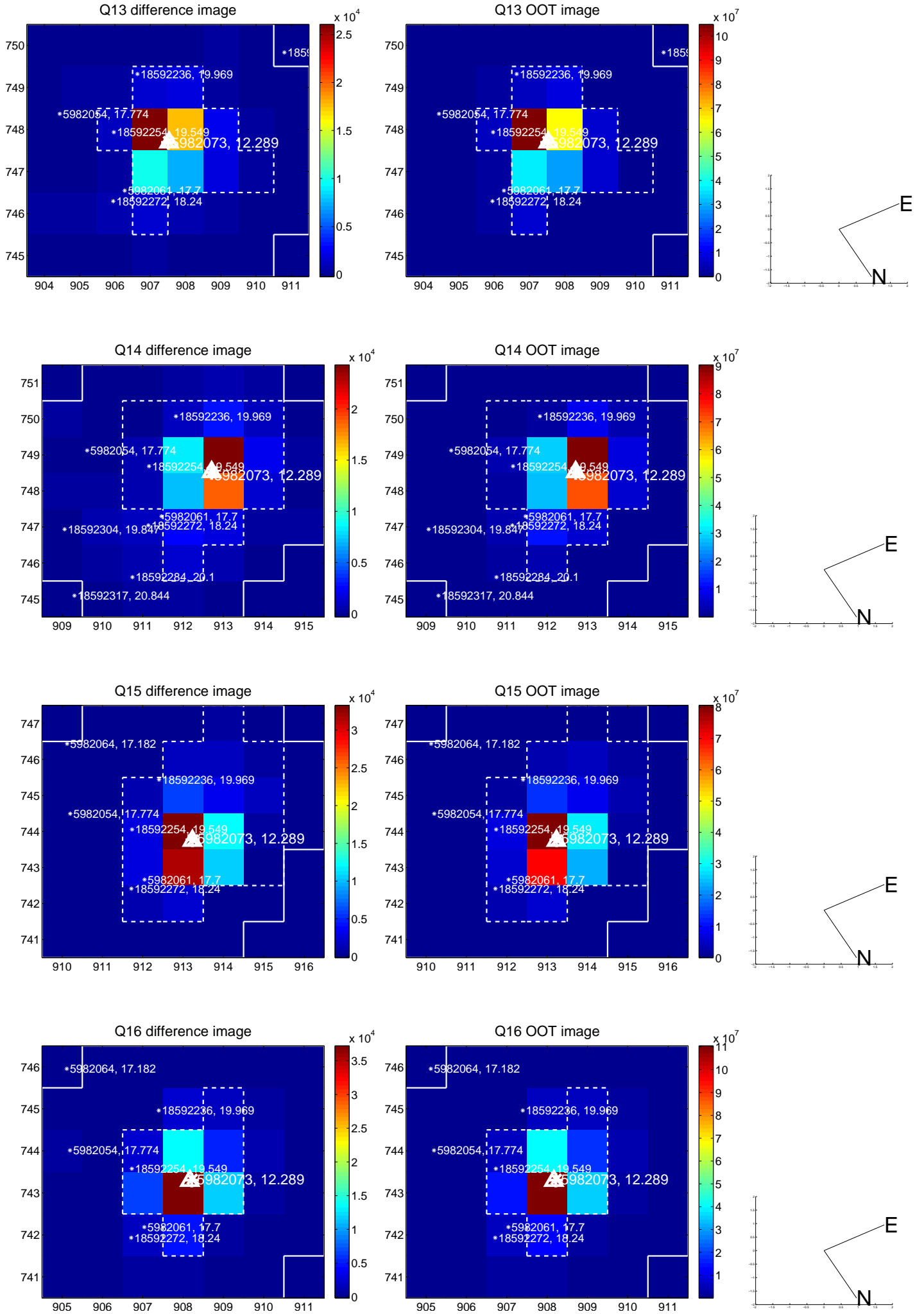
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



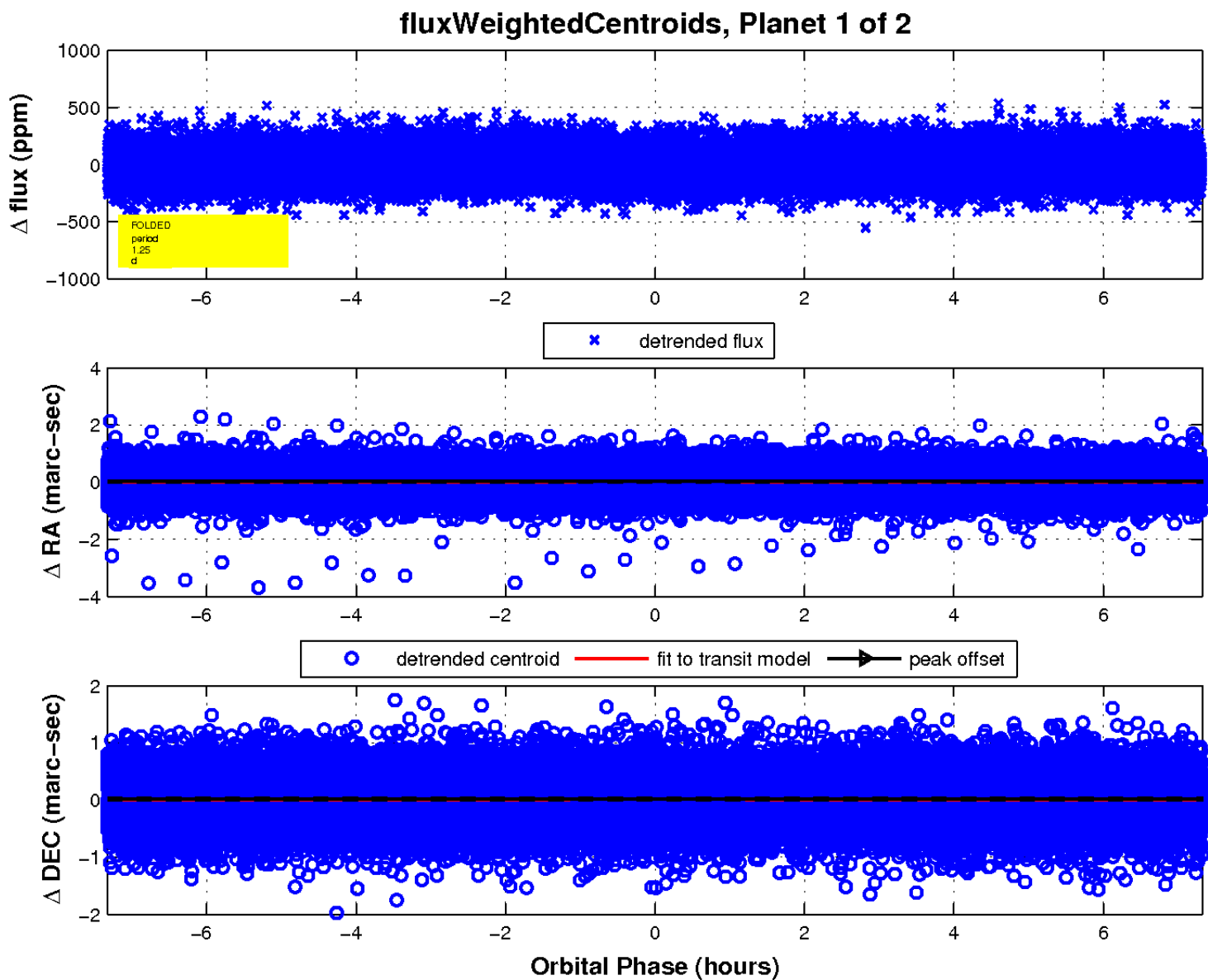
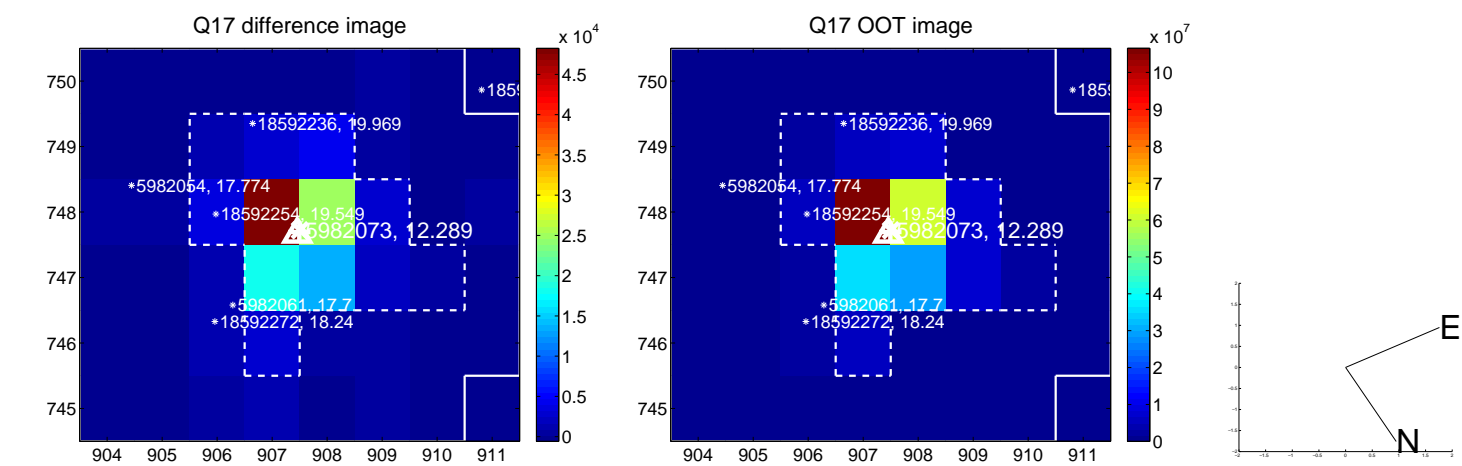
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

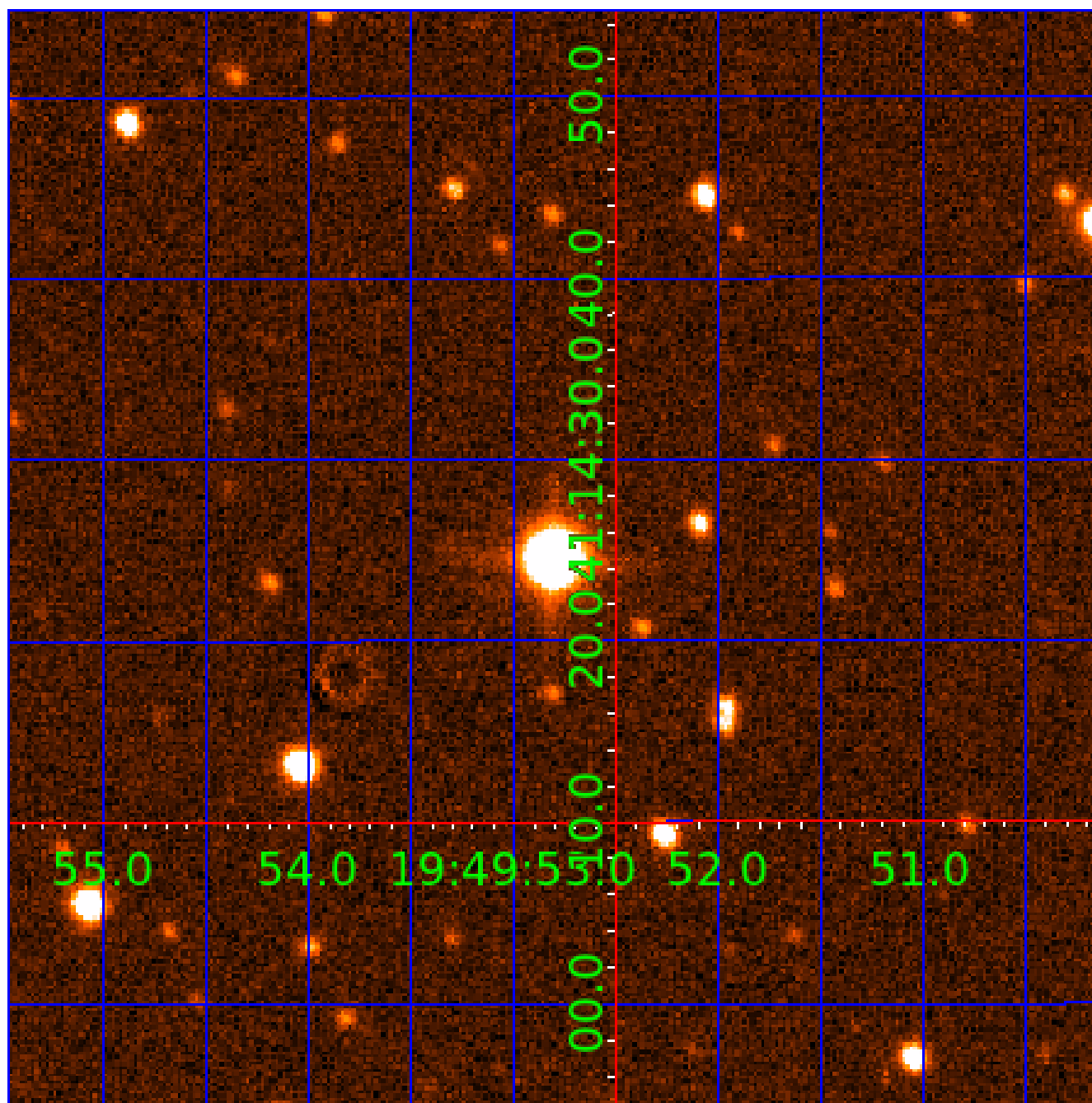


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005982073

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})
005982073-01	OBS	No	1.251196	131.861115	25.0	2.442	11.0	10.2	3.40	6751	1.99	27243.28
005982073-02	OBS	No	382.295527	500.105636	304.2	4.120	7.2	7.9	3.40	6751	6.54	13.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005982073-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005982073-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

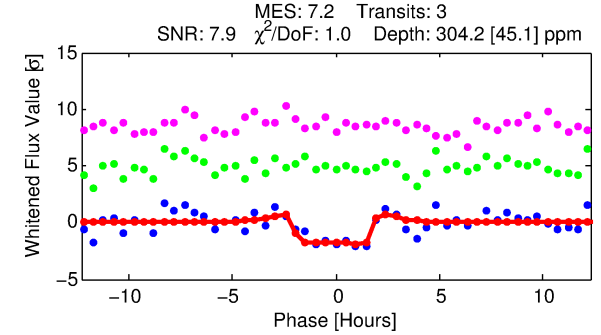
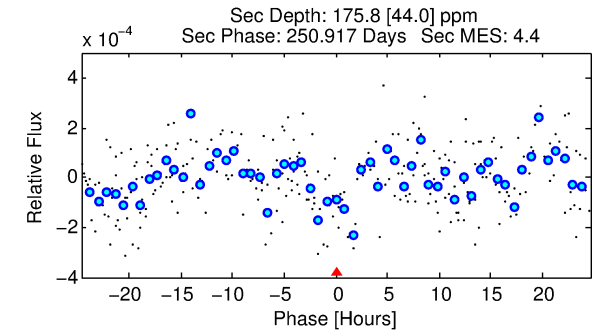
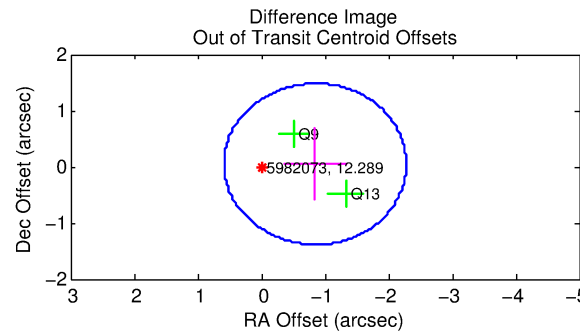
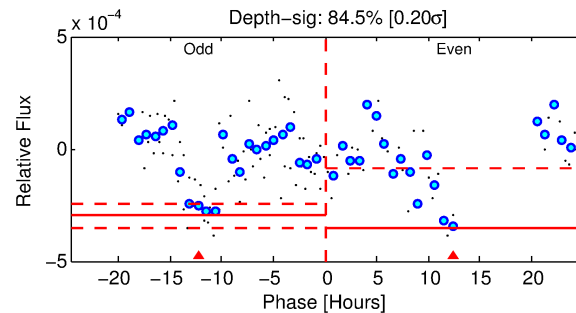
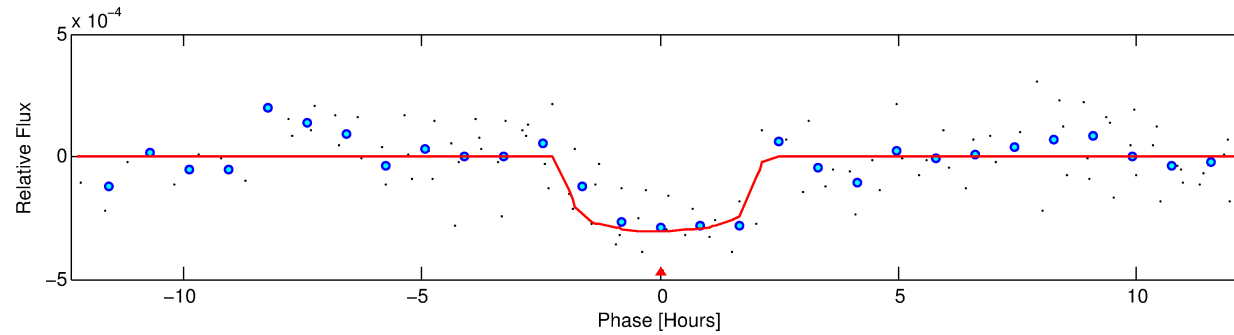
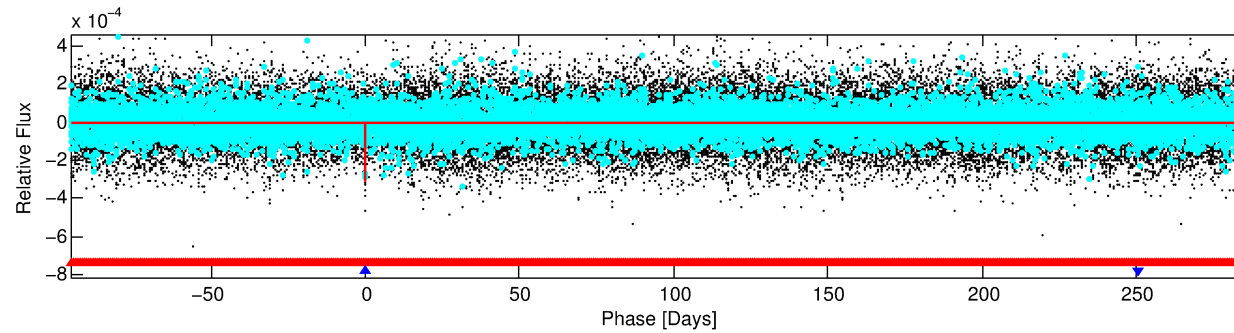
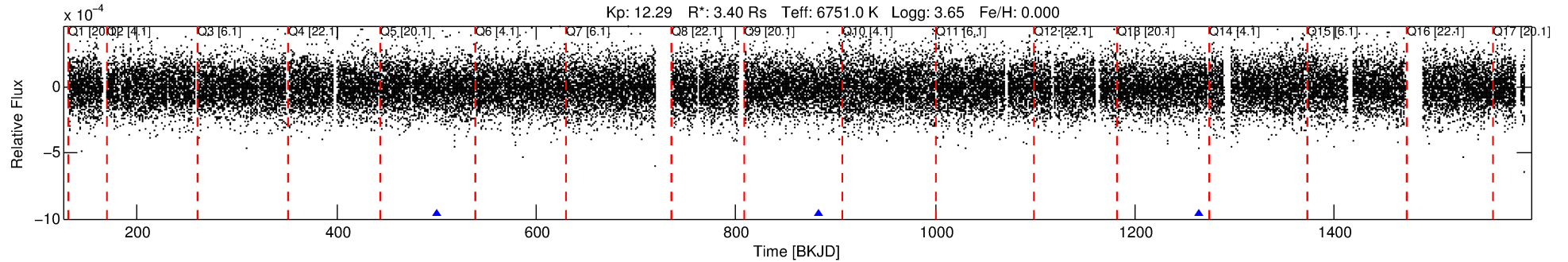
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005982073-02

No Significant Match Found

DV One-Page Summary

KIC: 5982073 Candidate: 2 of 2 Period: 382.296 d



DV Fit Results:

Period = 382.29553 [0.00576] d
Epoch = 500.1056 [0.0077] BKJD
Rp/R* = 0.0176 [0.0149]
a/R* = 452.07 [2197.74]
b = 0.79 [2.29]
Seff = 13.24 [7.07]
Teq = 486 [65] K
Rp = 6.54 [6.06] Re
a = 1.2763 [0.4351] AU
Ag = 3685.44 [6583.60] [0.56 σ]
Teffp = 5859 [2509] K [2.14 σ]

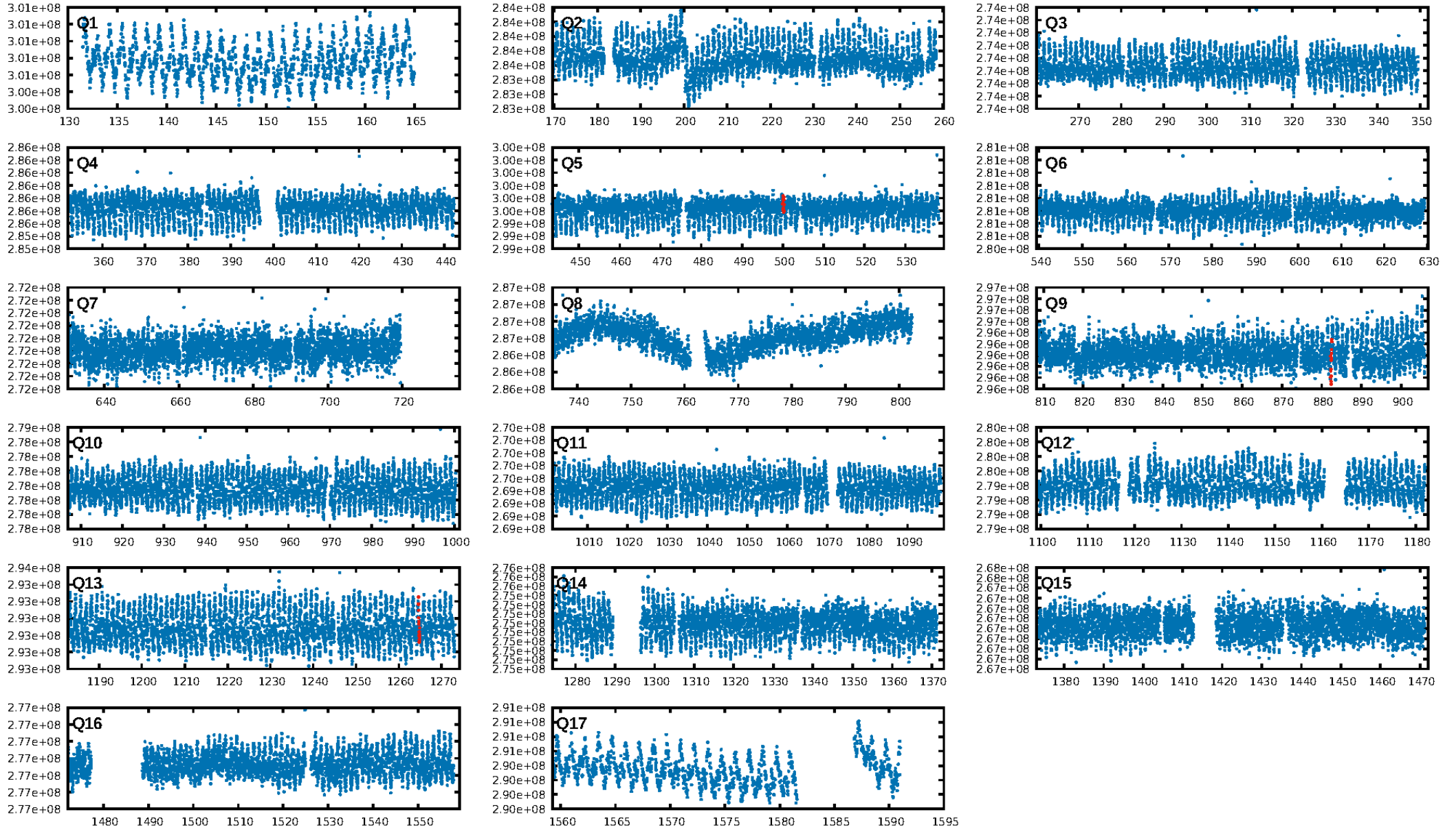
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1909.52 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 36.4%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 2.48e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -3.493
Centroid-sig: 12.9%
Centroid-so: 1.010 arcsec [1.16 σ]
OotOffset-rm: 0.848 arcsec [1.77 σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-rm: 0.935 arcsec [2.02 σ]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.33 [1/3]

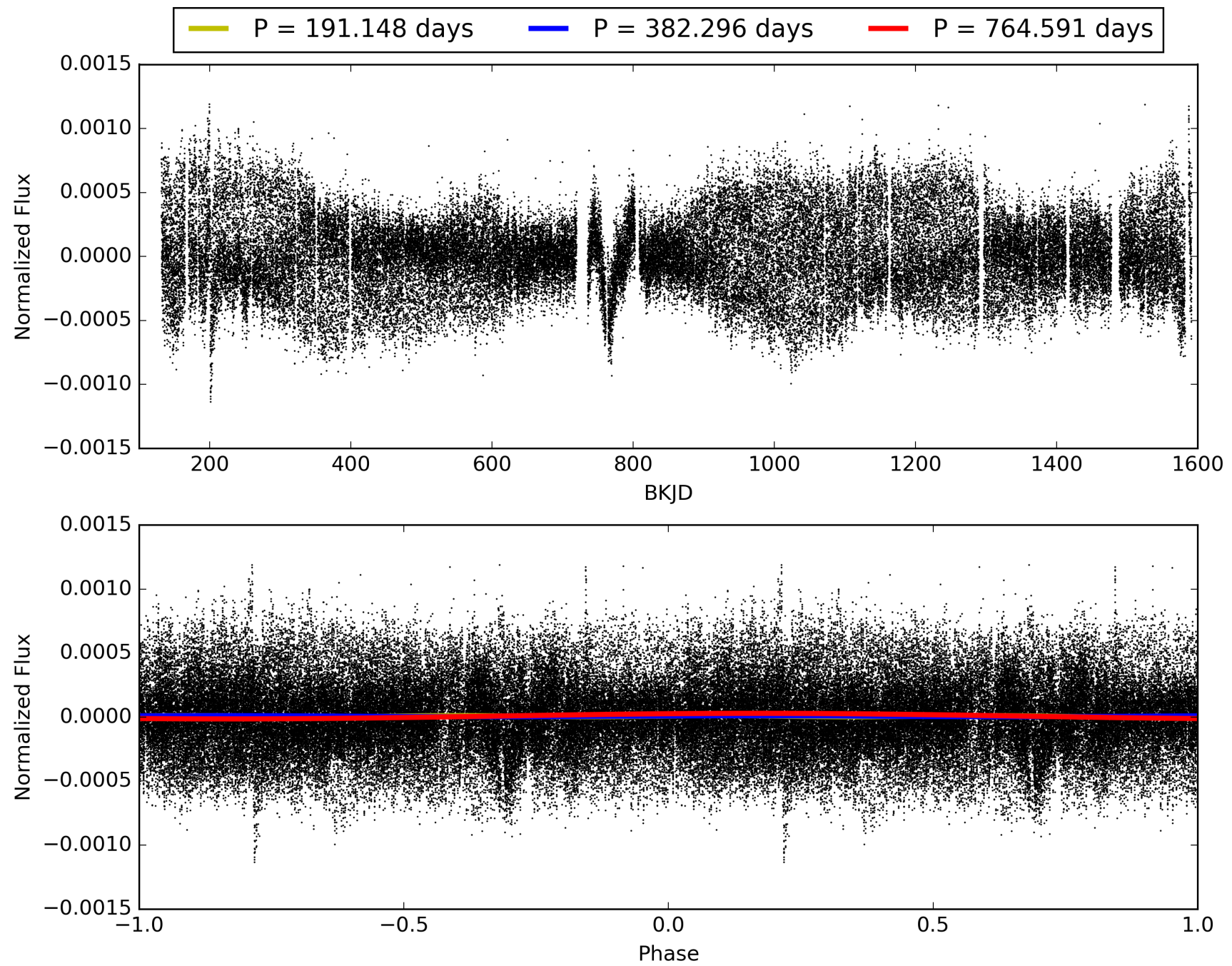
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:23:35 Z

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

TCE 005982073-02, PDC Light Curves

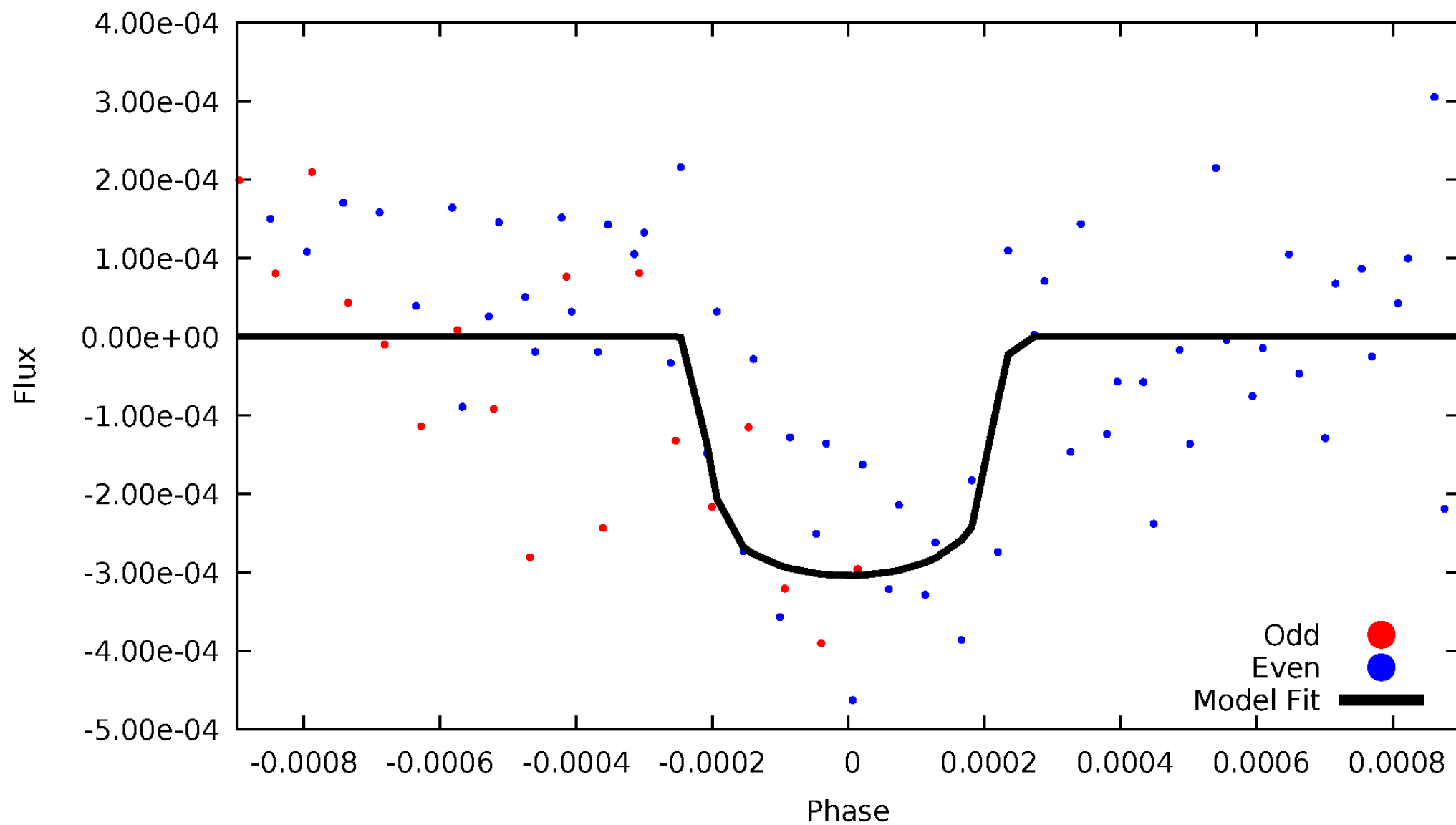


TCE 005982073-02



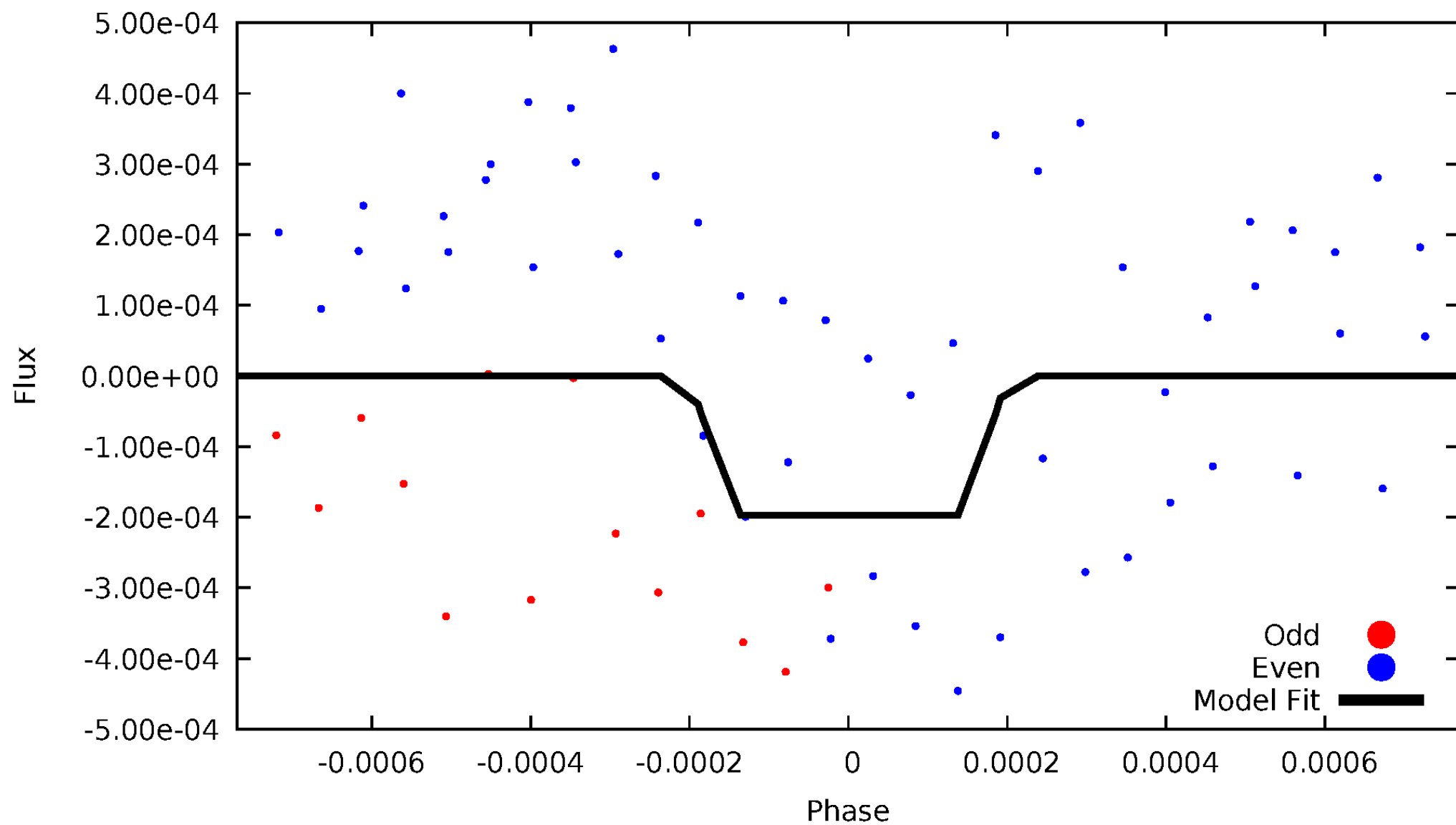
DV Odd/Even

TCE 005982073-02



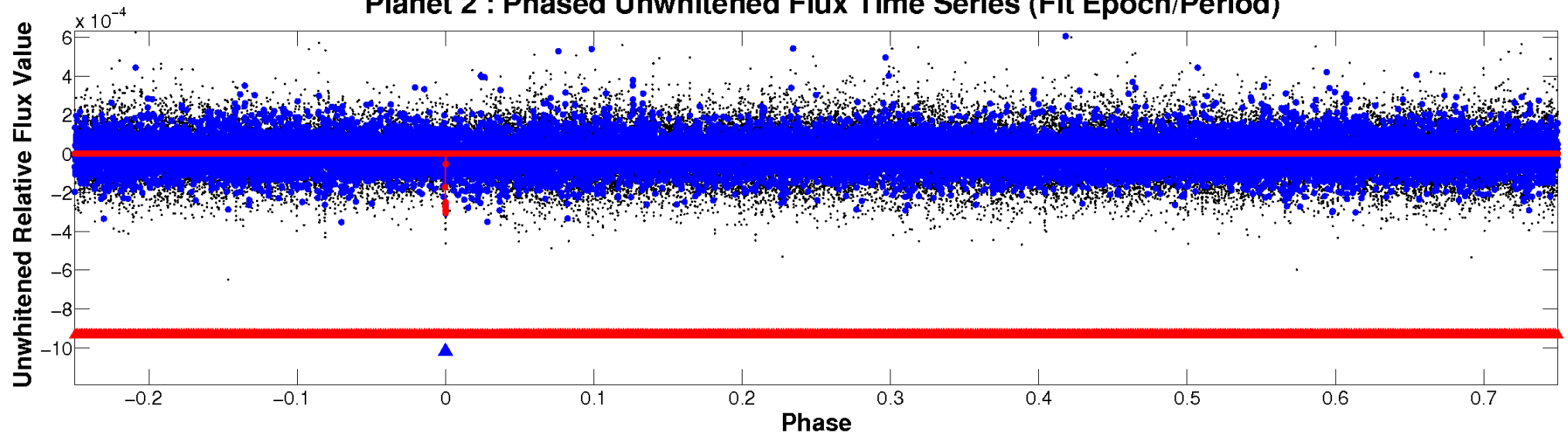
ALT Odd/Even

TCE 005982073-02

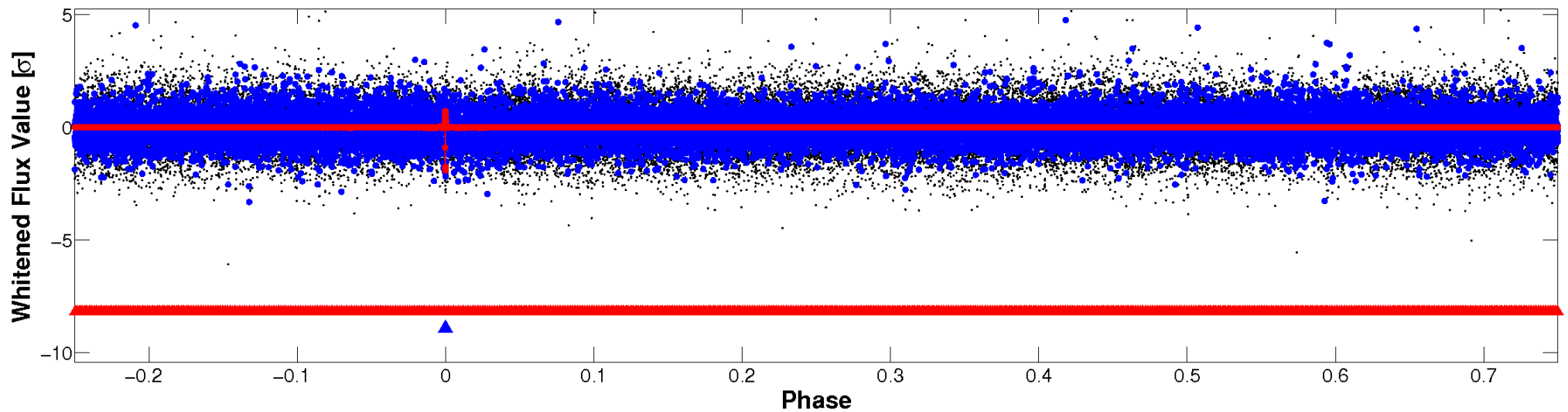


Non-Whitened Vs. Whitened Light Curve

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

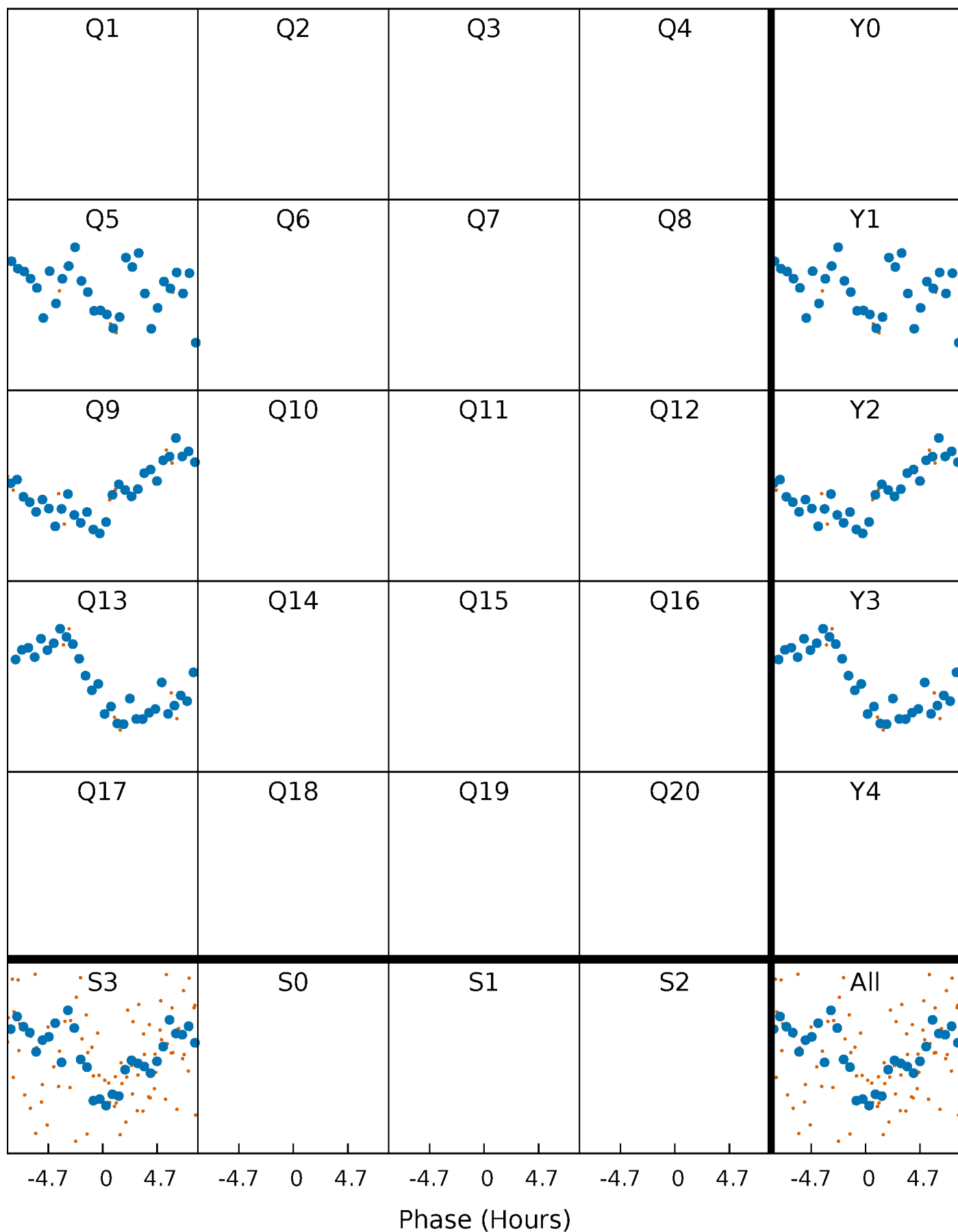


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



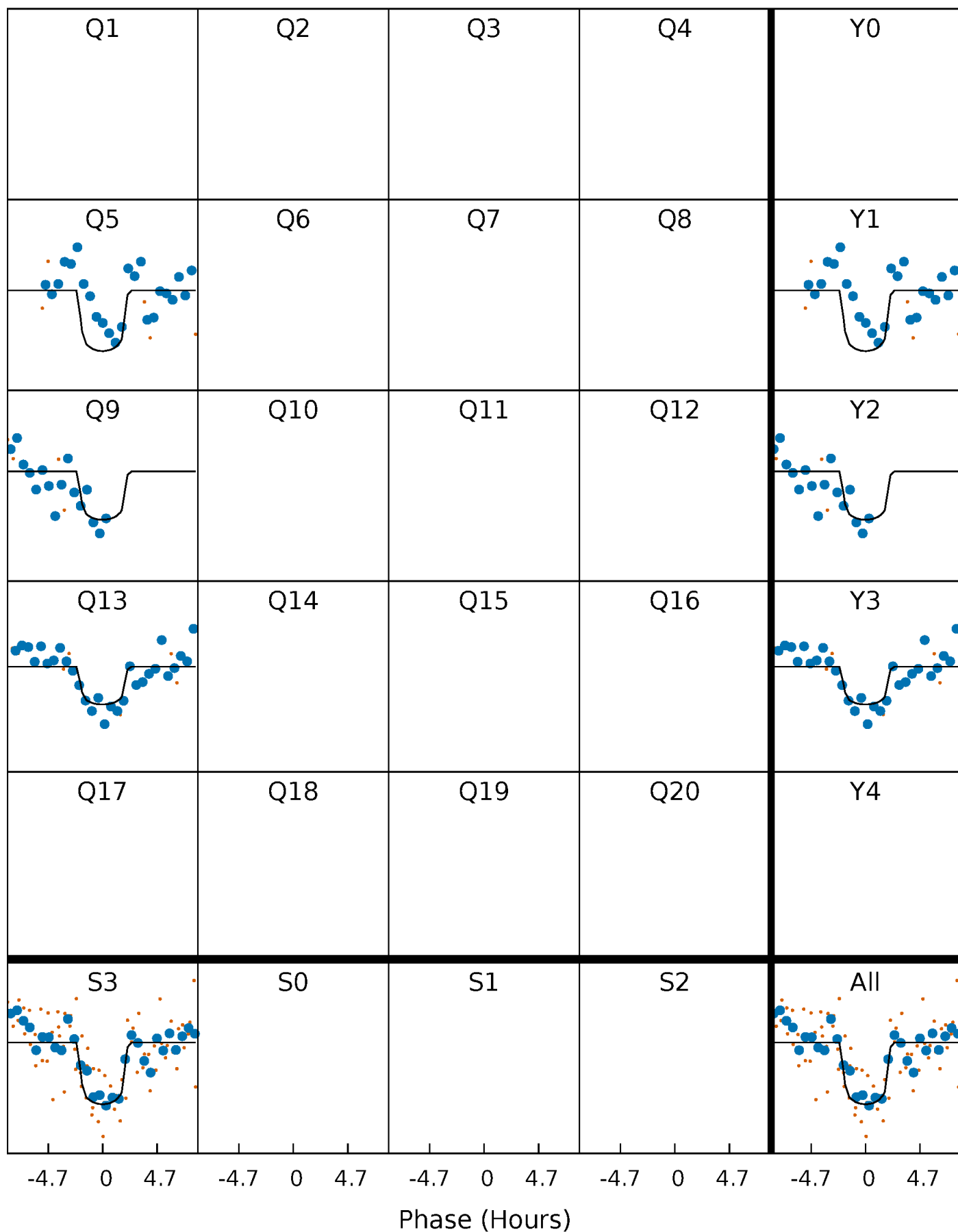
PDC Quarter-Phased Transit Curves

TCE 005982073-02 $P=382.295527$ Days $T_0=500.105636$ (BKJD)



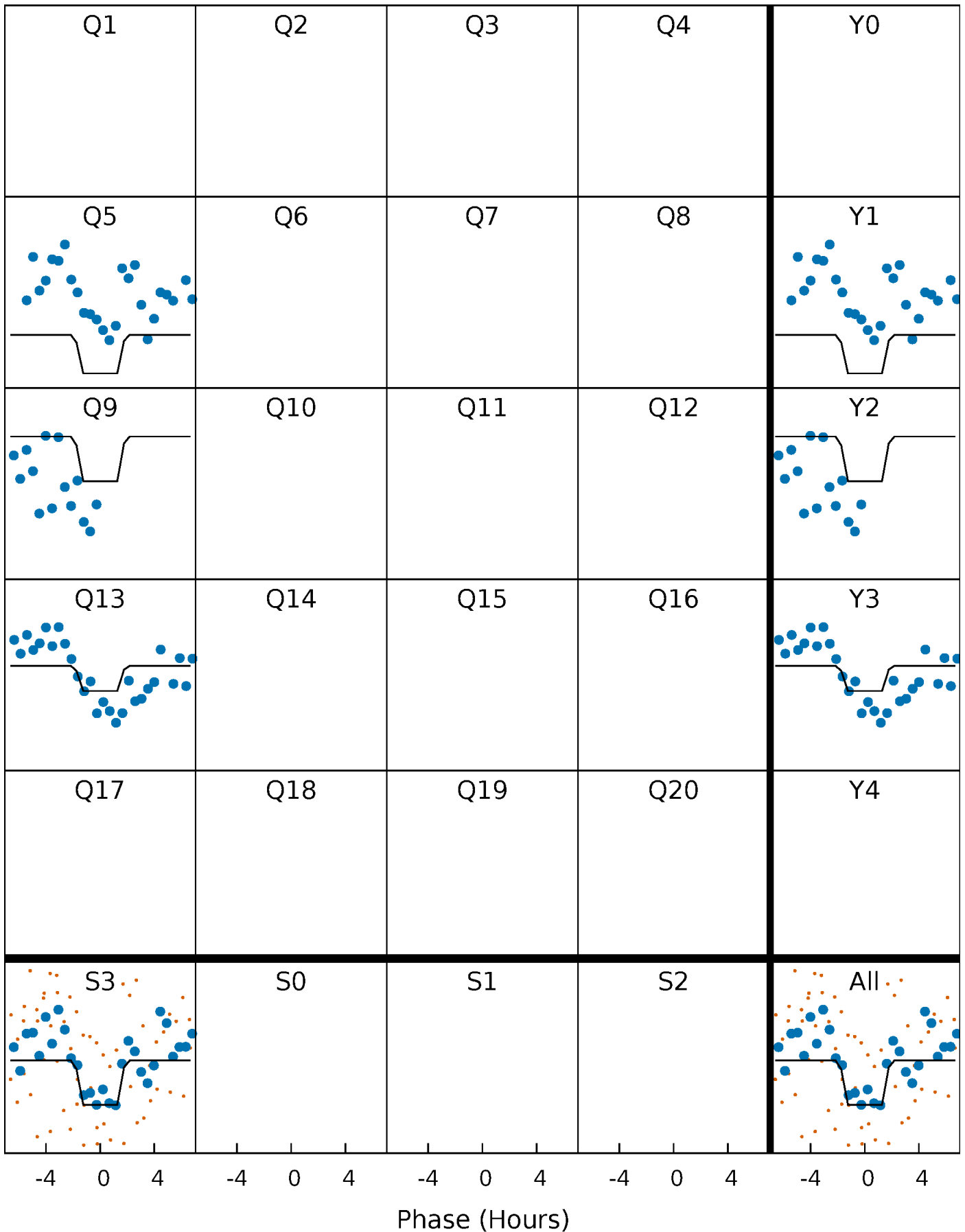
DV Quarter-Phased Transit Curves

TCE 005982073-02 P=382.295527 Days $T_0=500.105636$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

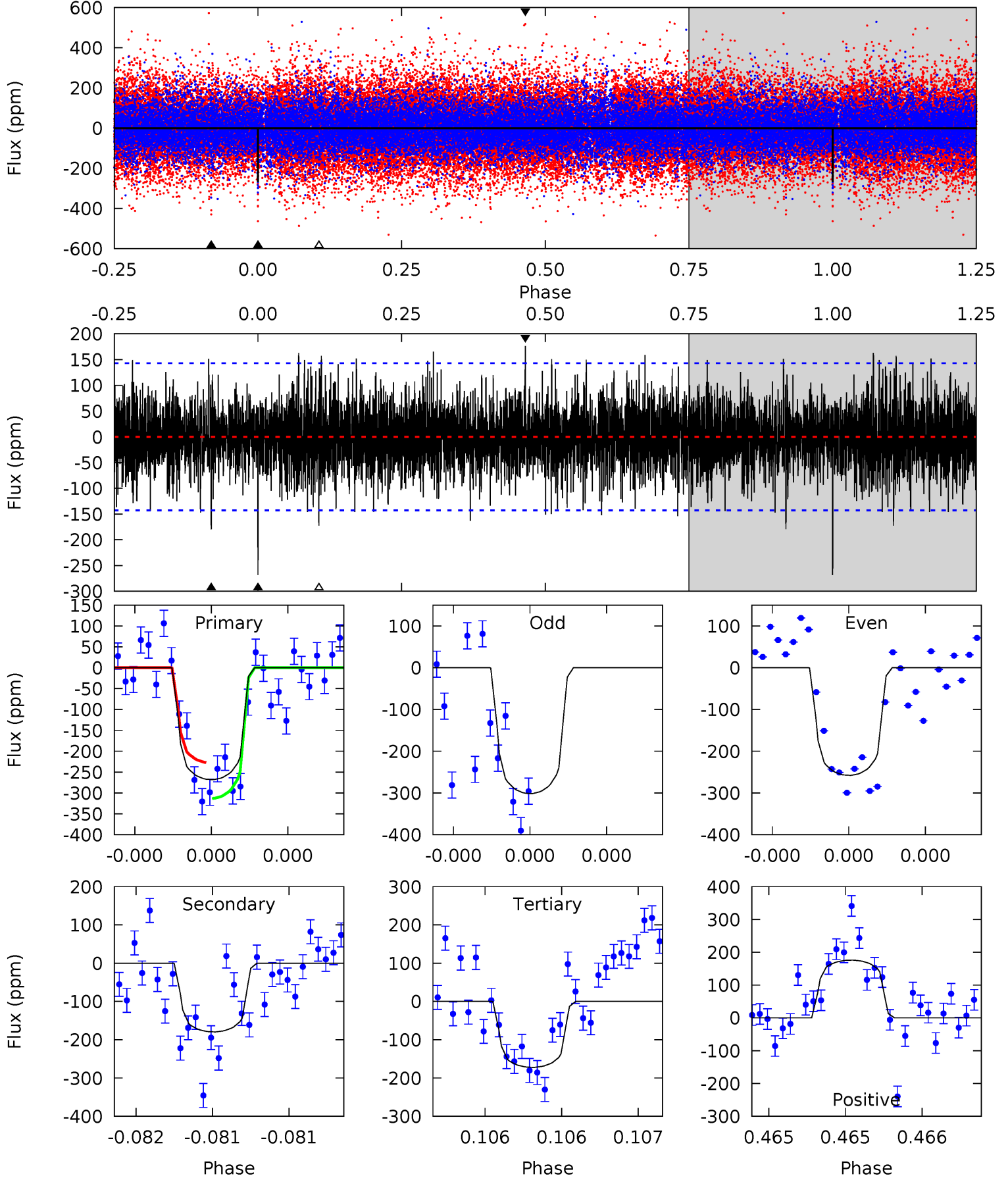
TCE 005982073-02 P=382.291474 Days $T_0=500.124585$ (BKJD)



DV Model-Shift Uniqueness Test

005982073-02, P = 382.295527 Days, E = 117.810109 Days

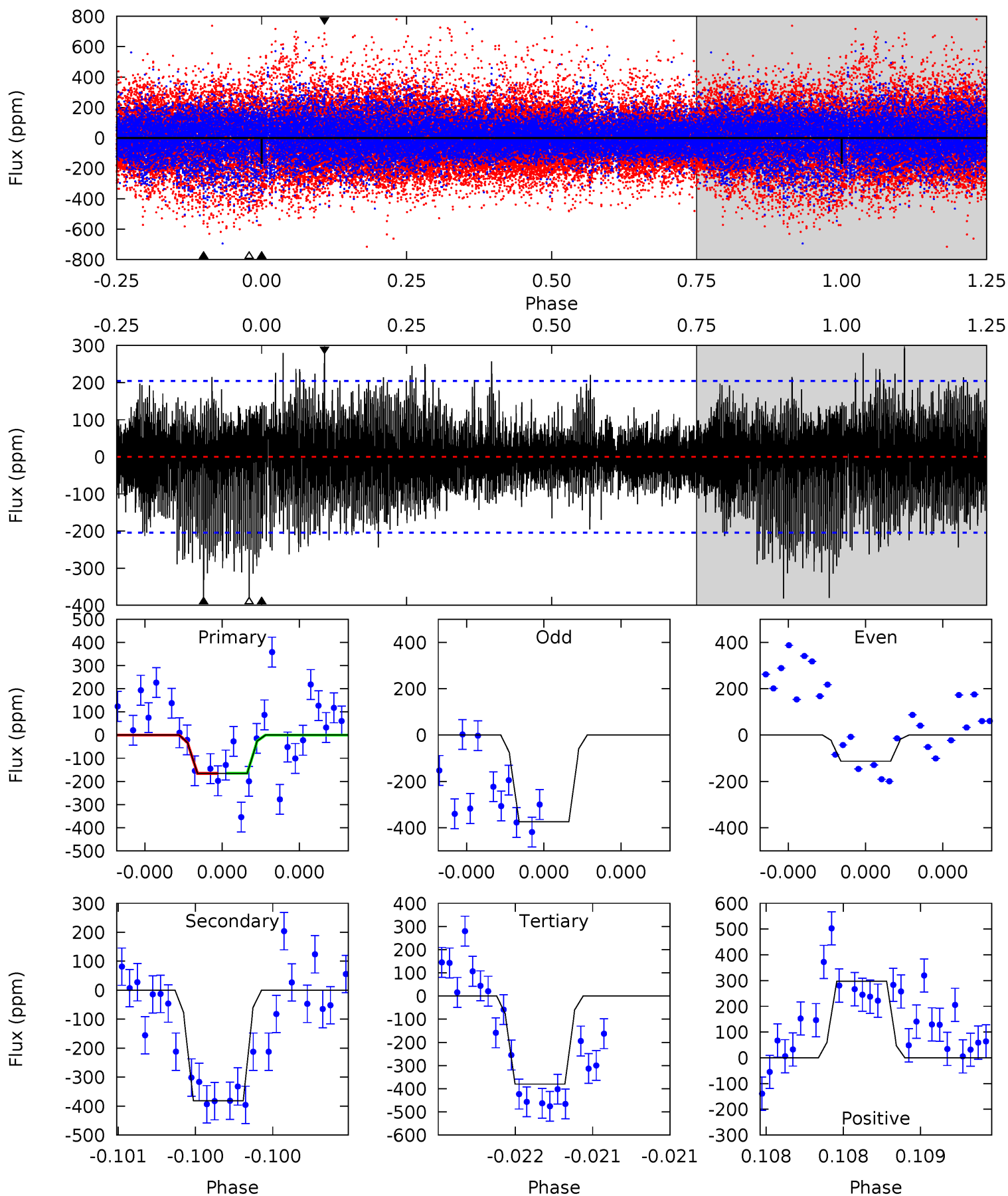
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	7.02	6.73	6.88	5.58	3.49	1.80	3.75	3.60	0.29	0.14	0.72	0.91	0.40	1.68



Alt Model-Shift Uniqueness Test

005982073-02, P = 382.291474 Days, E = 117.833111 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.53	10.5	10.4	8.16	5.60	3.52	2.04	-5.89	-3.63	0.05	2.31	2.67	0.66	0.44	0.01



Stellar Parameters For KIC 005982073

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6751^{+162}_{-203}	$3.652^{+0.296}_{-0.074}$	$0.000^{+0.250}_{-0.250}$	$3.404^{+0.346}_{-1.298}$	$1.896^{+0.181}_{-0.423}$	$0.068^{+0.145}_{-0.017}$
	+2%/-3%	+8%/-2%	+inf%/-inf%	+10%/-38%	+10%/-22%	+214%/-25%
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 005982073-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-180 ± 26	$6.57^{+5.26}_{-4.00}$	666^{+33}_{-56}	5669^{+3739}_{-1244}	3656^{+19257}_{-2547}
Alt.	-382 ± 36	$5.77^{+4.73}_{-3.78}$	667^{+35}_{-54}	7379^{+9205}_{-1897}	10343^{+72774}_{-7324}

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 $A_{obs} \gg 1.0$

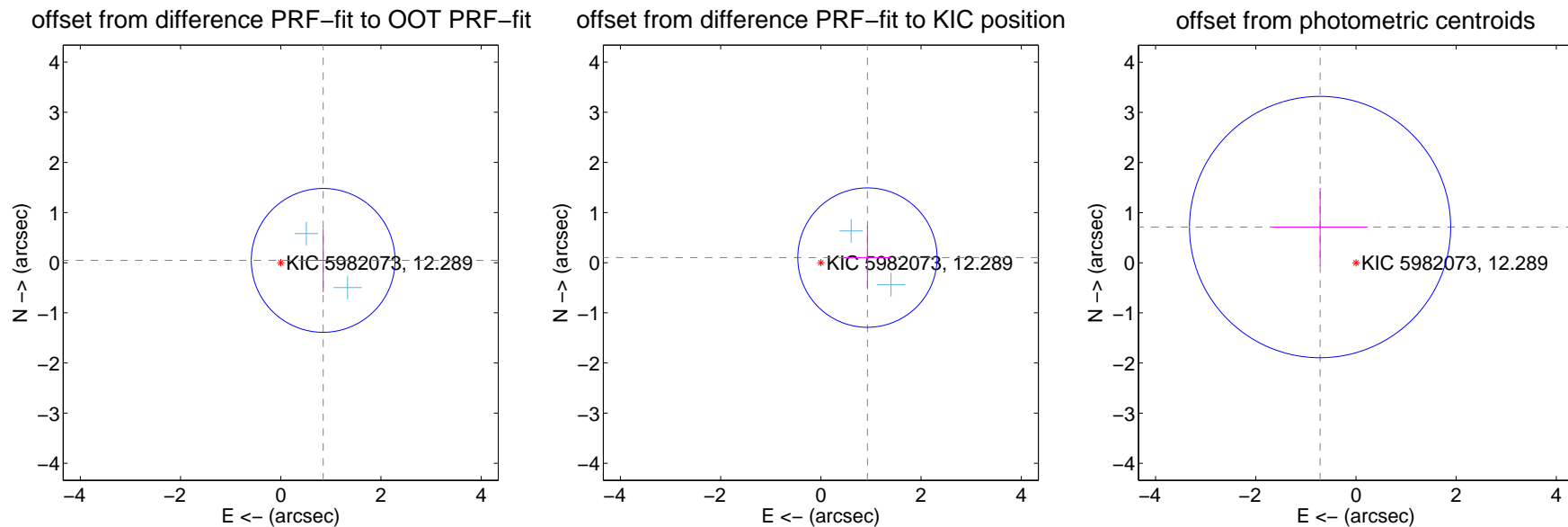
DV Centroid Data

Supplemental centroid analysis for 005982073-02. Kepler magnitude: 12.29. Transit SNR 7.92

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.848 ± 0.478	1.77	-0.846 ± 0.477	0.046 ± 0.632
PRF-fit source offset from KIC position	0.935 ± 0.463	2.02	-0.929 ± 0.461	0.101 ± 0.631
photometric centroid source offset	1.01 ± 0.87	1.16	0.72 ± 0.95	0.71 ± 0.78

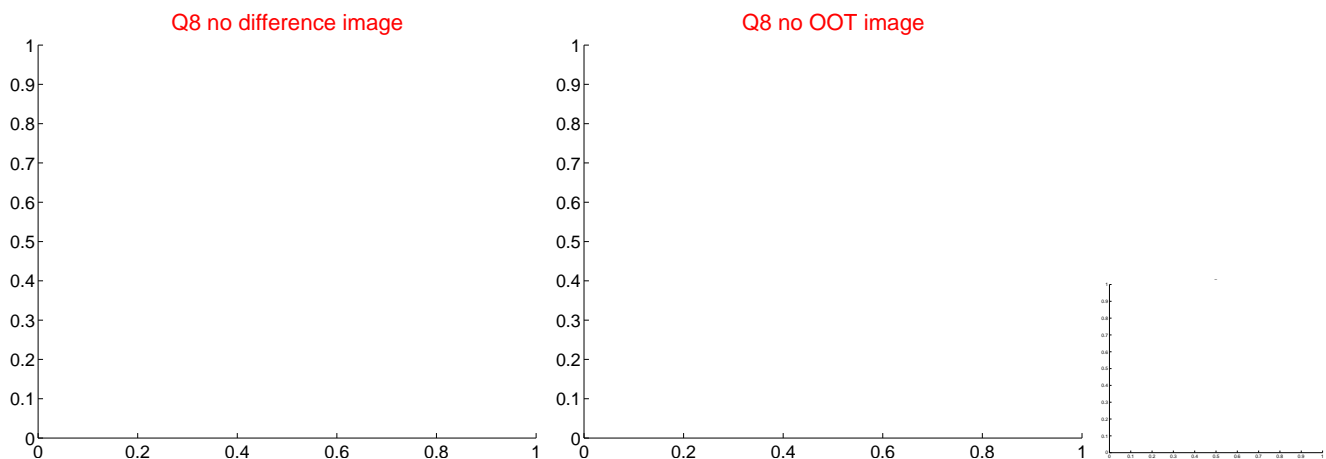
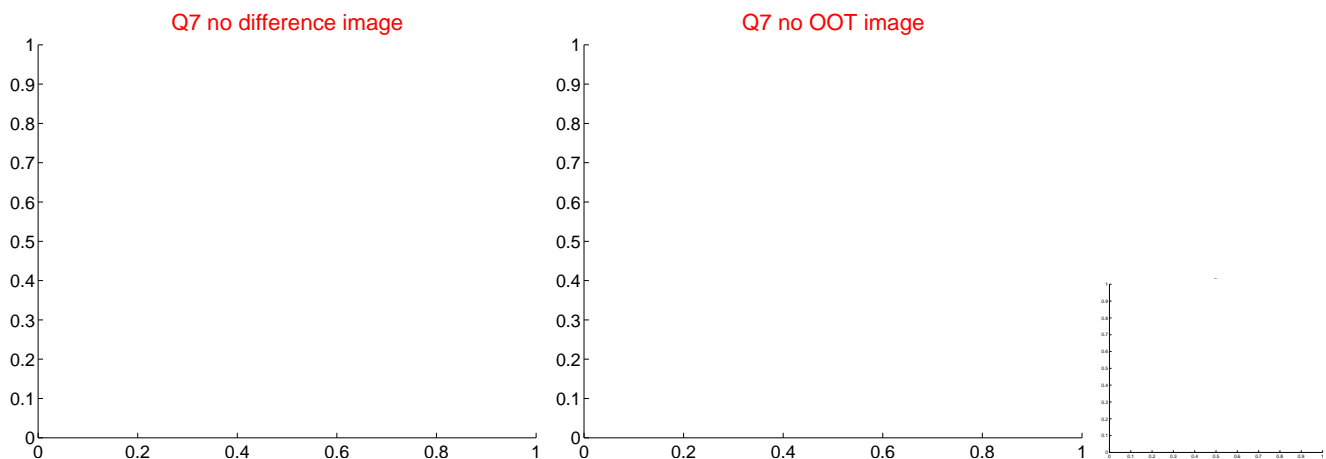
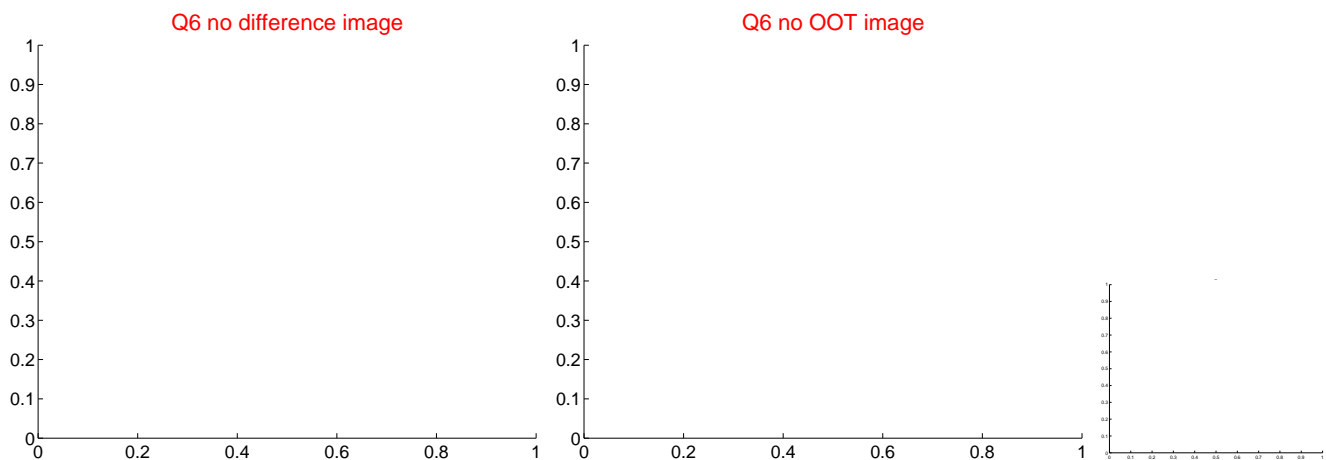
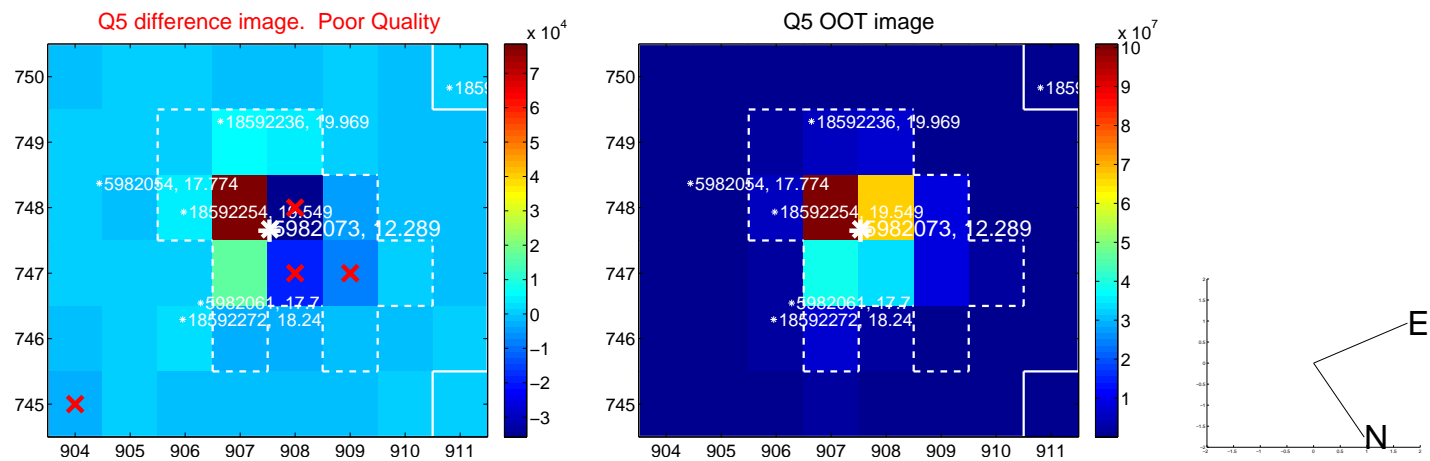


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

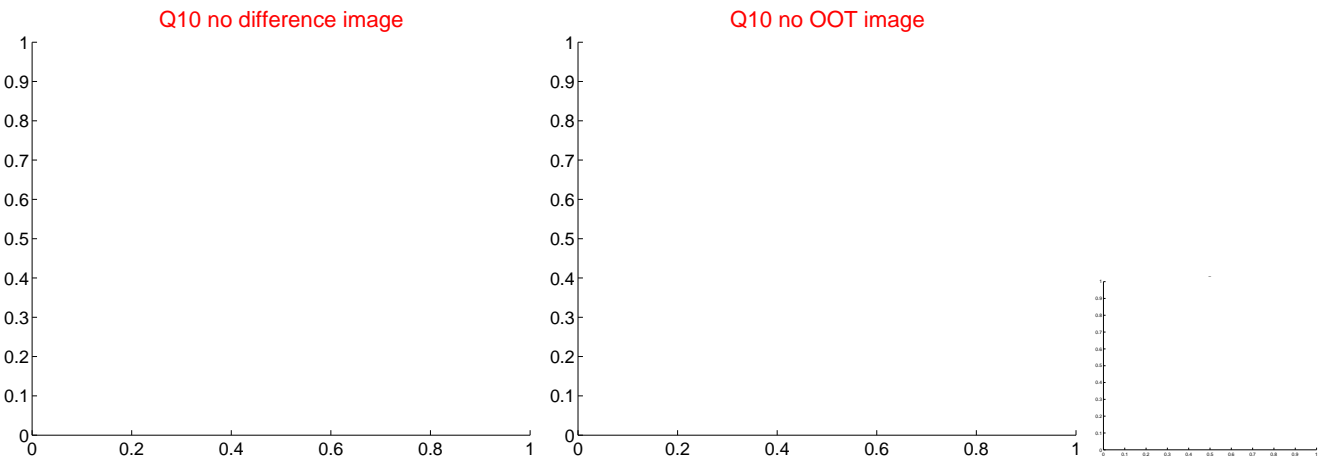
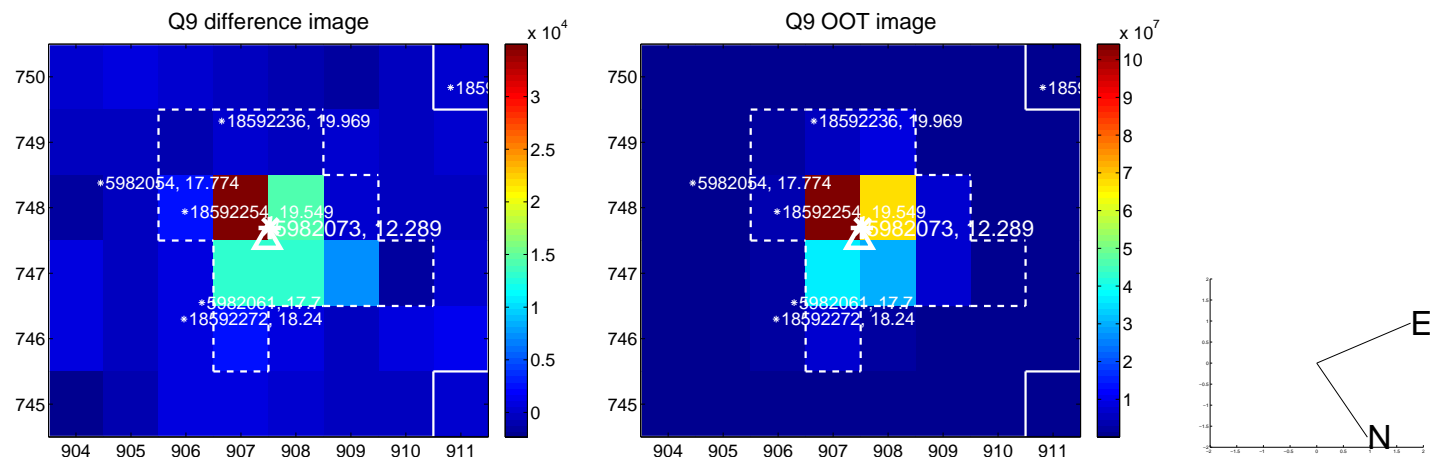
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



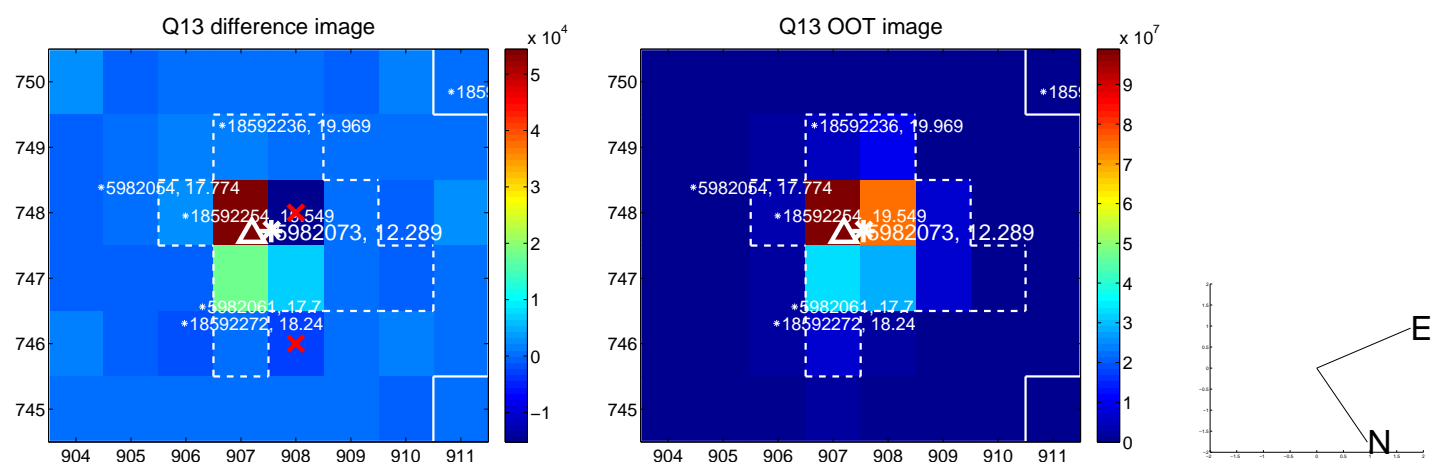
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



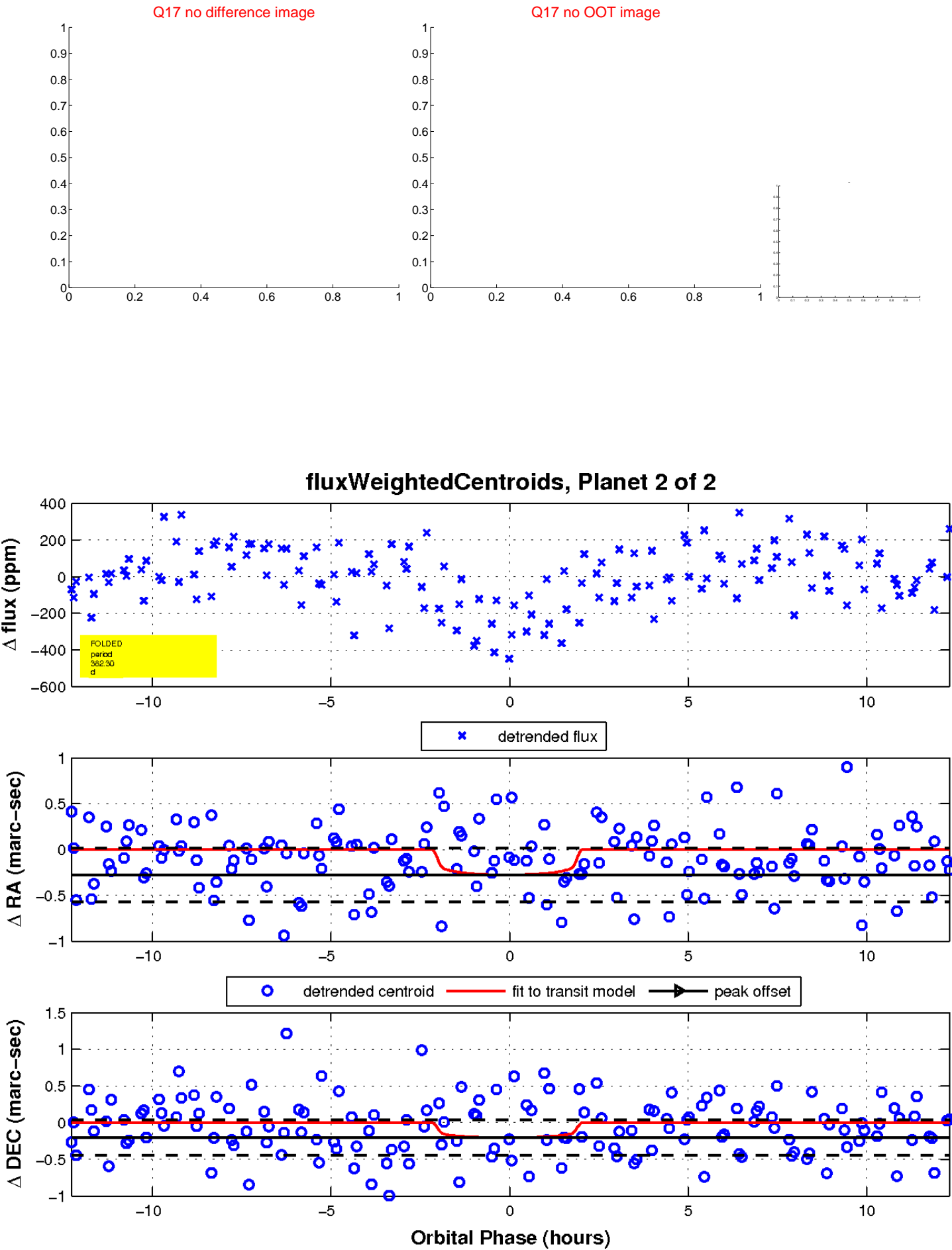
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

