

KIC 005598595

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})
005598595-01	OBS	3949.01	0.648768	131.748391	179.0	3.017	19.5	20.6	0.73	5026	1.19	1792.60
005598595-02	OBS	No	348.933434	416.880067	2339.2	26.856	14.0	8.0	0.73	5026	4.23	0.41
005598595-03	OBS	No	247.616638	212.557901	1049.0	19.945	12.9	4.8	0.73	5026	2.56	0.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005598595-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—PLANET_OCCULT_DV—CENT_RESOLVED_OFFSET—EPHEM_MATCH
005598595-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005598595-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

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

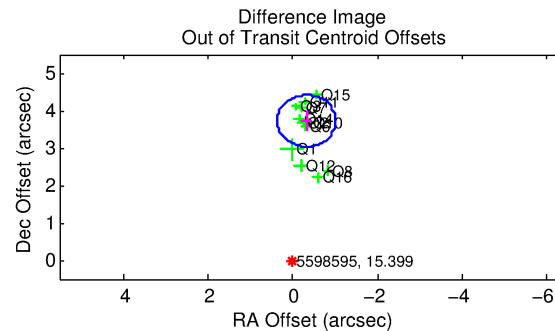
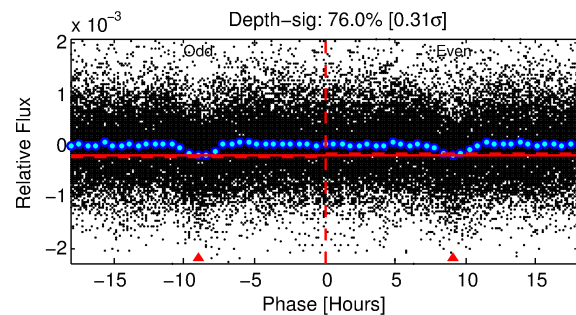
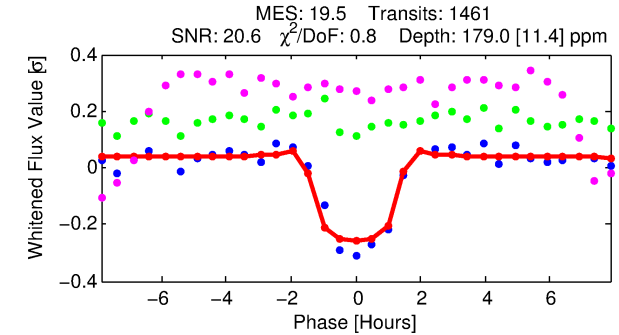
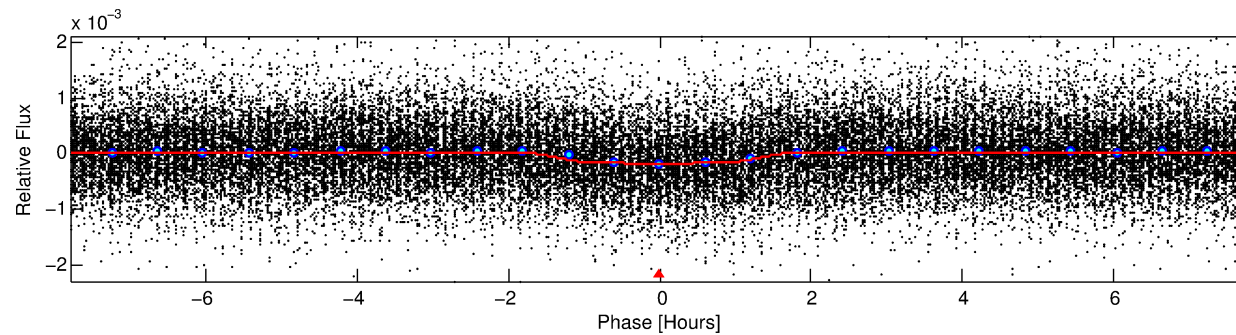
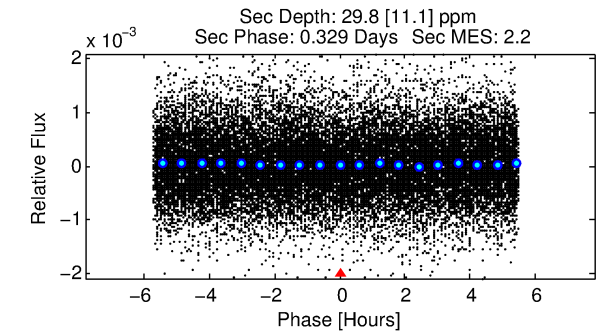
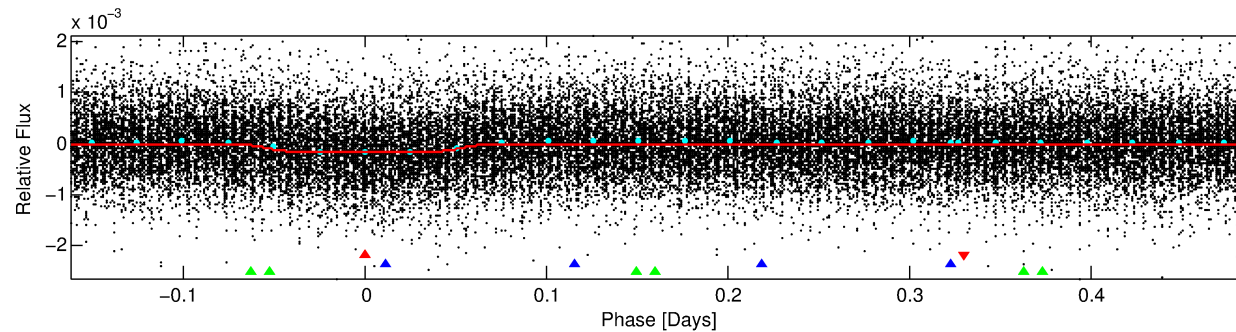
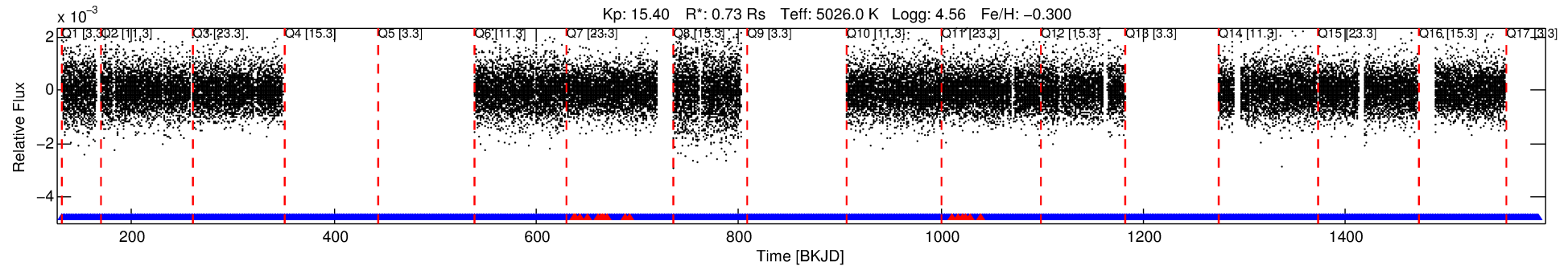
Ephemeris Match Information For 005598595-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
005598595-01	5598595	005598639-01	5598639	1:1	67.8	-13	11	10.20	15.40	607.79	Direct-PRF	0	1.60	0.30

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5598595 Candidate: 1 of 3 Period: 0.649 d
KOI: K03949.01 Corr: 0.950



DV Fit Results:

Period = 0.64877 [0.00000] d
Epoch = 131.7484 [0.0015] BKJD
Rp/R* = 0.0149 [0.0039]
a/R* = 1.21 [0.42]
b = 0.90 [0.23]
Seff = 1792.60 [318.36]
Teq = 1659 [74] K
Rp = 1.19 [0.34] Re
a = 0.0130 [0.0012] AU
Ag = 1.97 [1.30] [0.74 σ]
Teff = 3038 [500] K [2.73 σ]

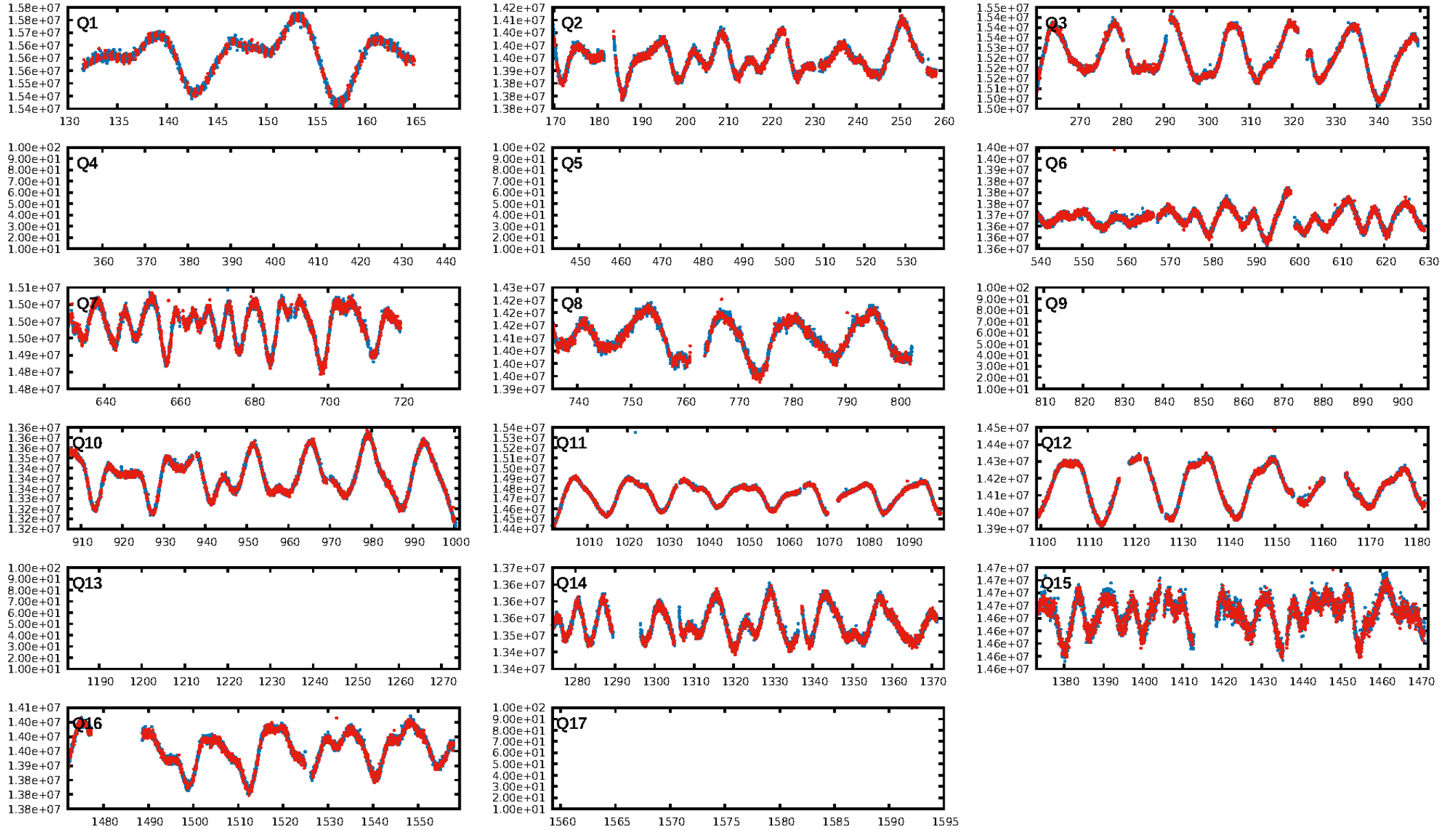
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [293.83 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.48e-67
RollingBand-fgt: 0.99 [1388/1409]
GhostDiagnostic-chr: 0.7342
Centroid-sig: 0.0%
Centroid-so: 3.973 arcsec [6.51 σ]
OotOffset-rm: 3.737 arcsec [16.27 σ]
KicOffset-rm: 3.686 arcsec [15.92 σ]
OotOffset-st: 4/4/3/1 [12]
KicOffset-st: 4/4/3/1 [12]
DiffImageQuality-fgm: 0.17 [2/12]
DiffImageOverlap-fno: 1.00 [12/12]

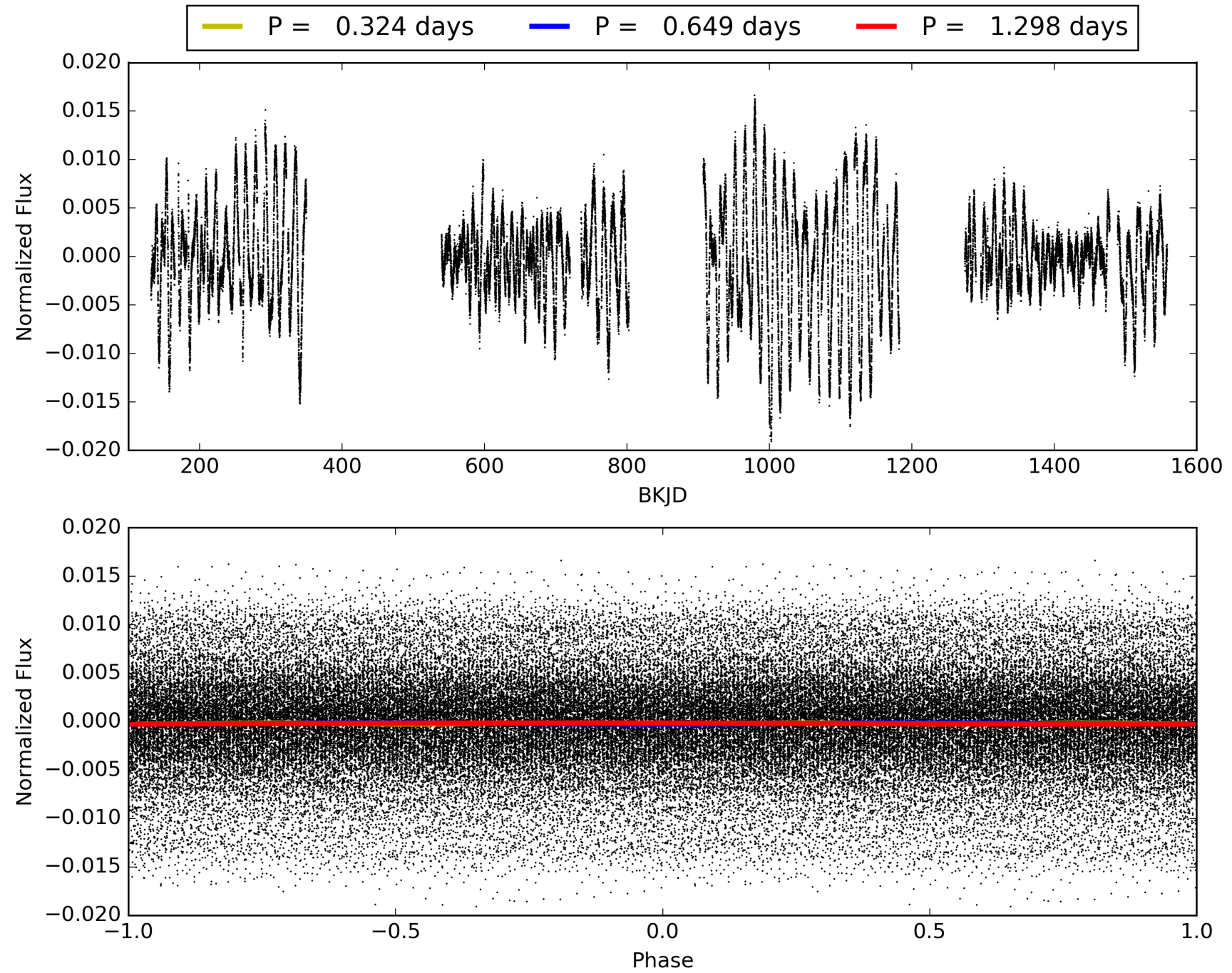
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 21:03:48 Z

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

TCE 005598595-01, PDC Light Curves

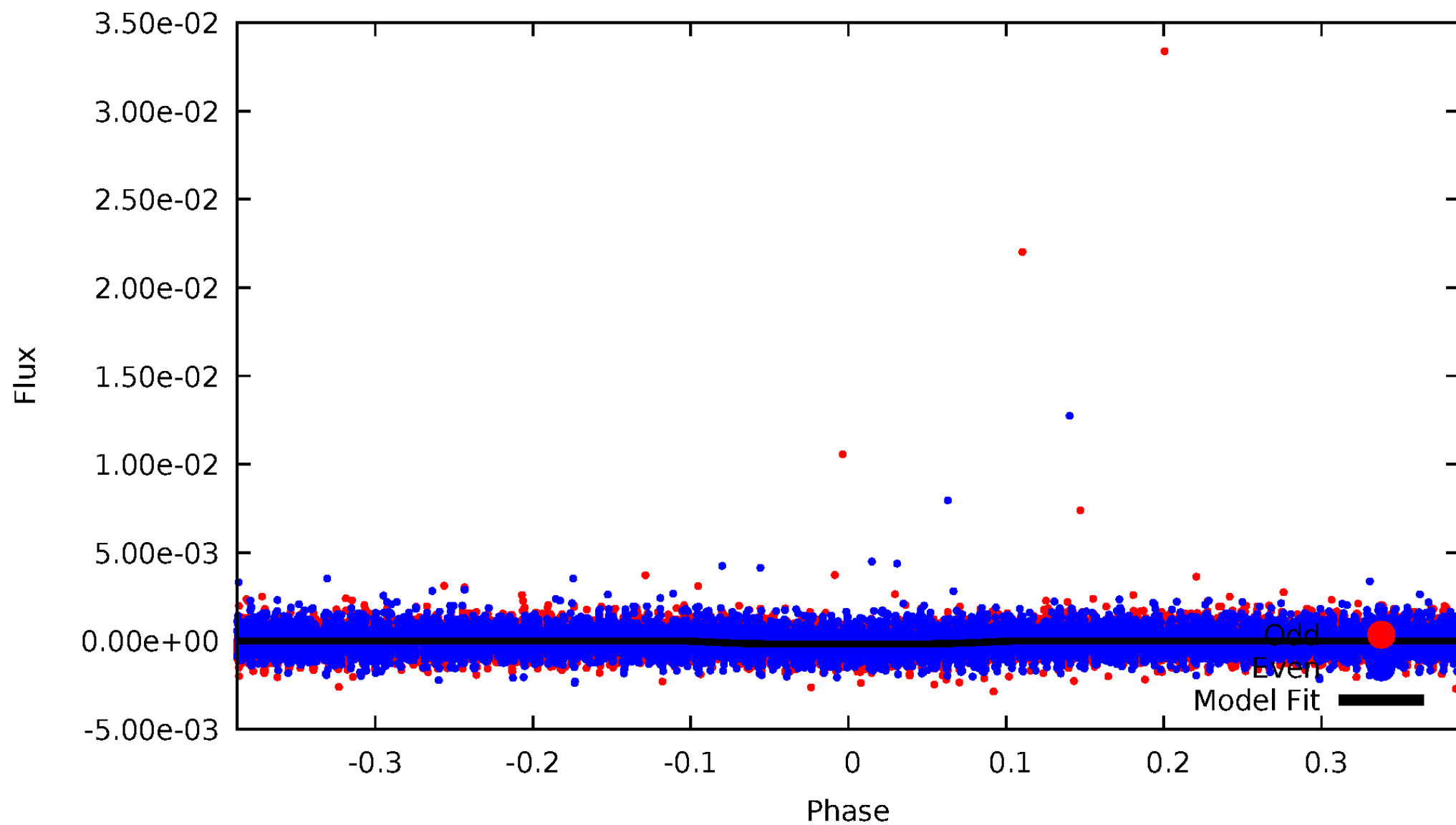


TCE 005598595-01



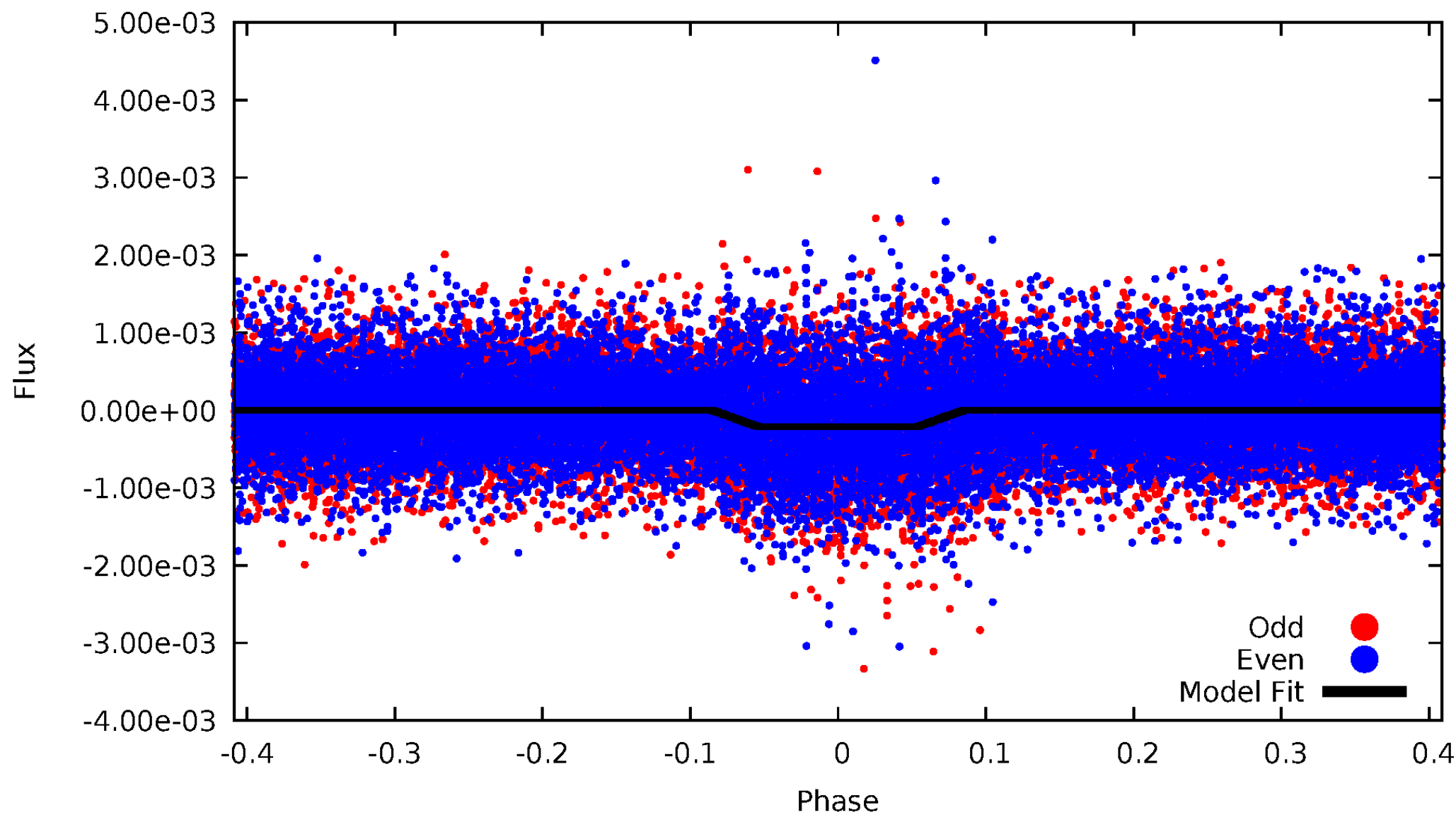
DV Odd/Even

TCE 005598595-01



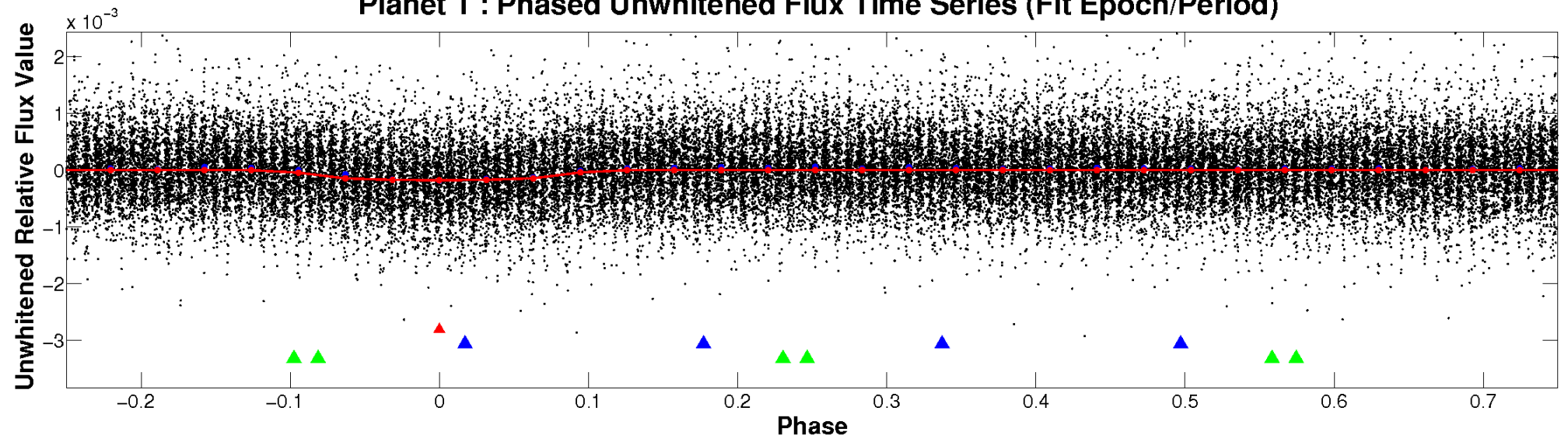
ALT Odd/Even

TCE 005598595-01

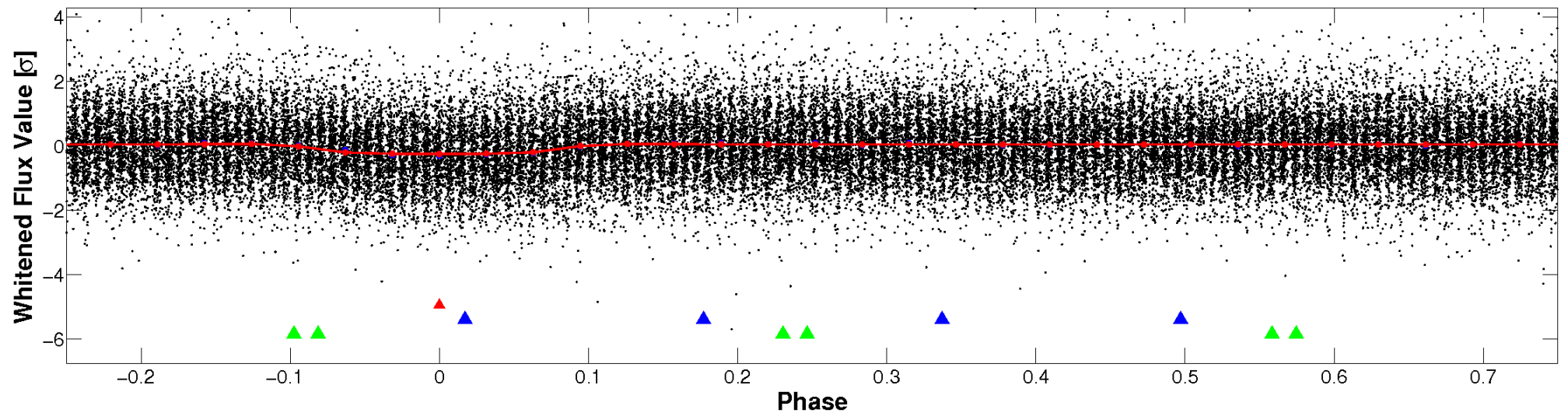


Non-Whitened Vs. Whitened Light Curve

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

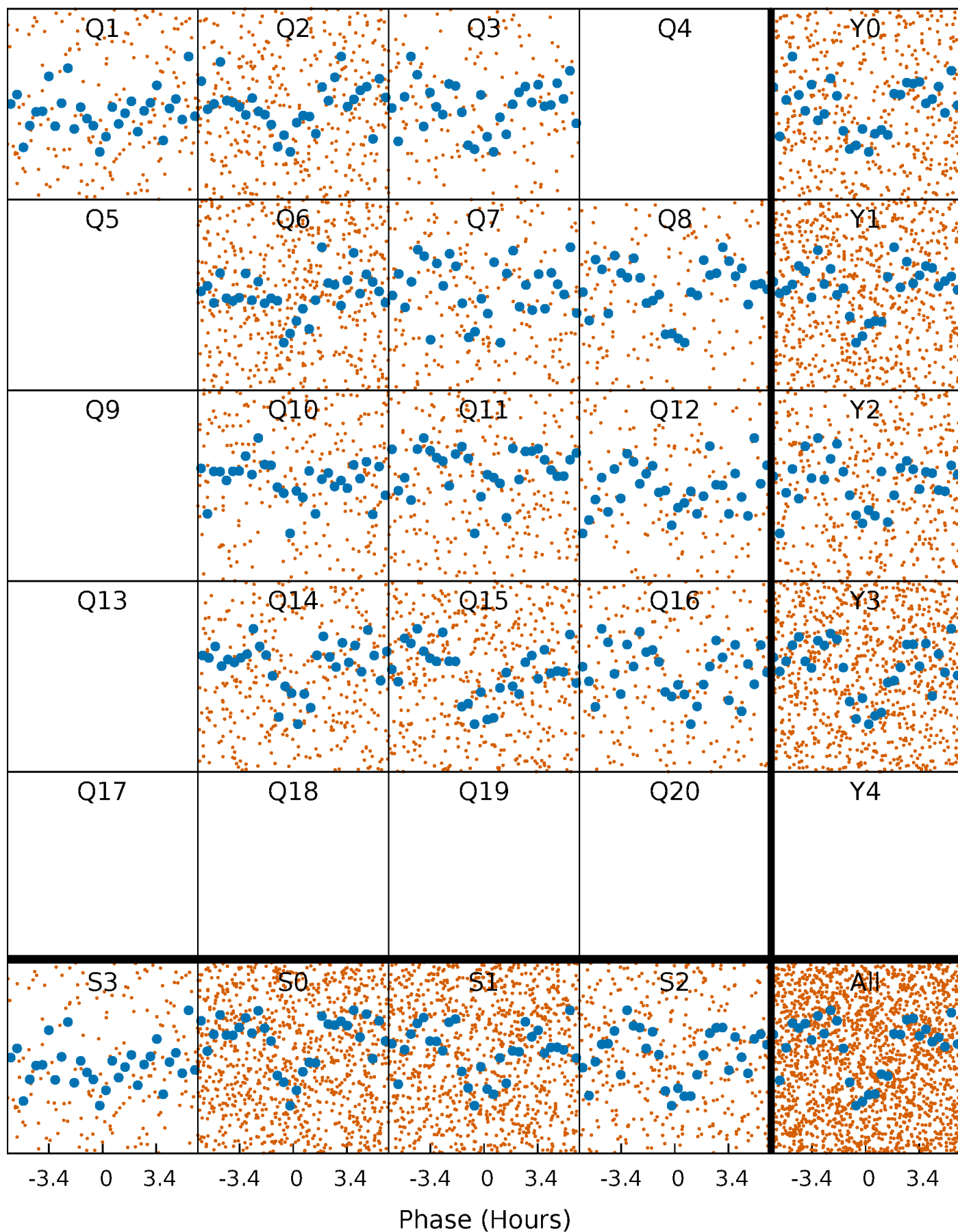


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



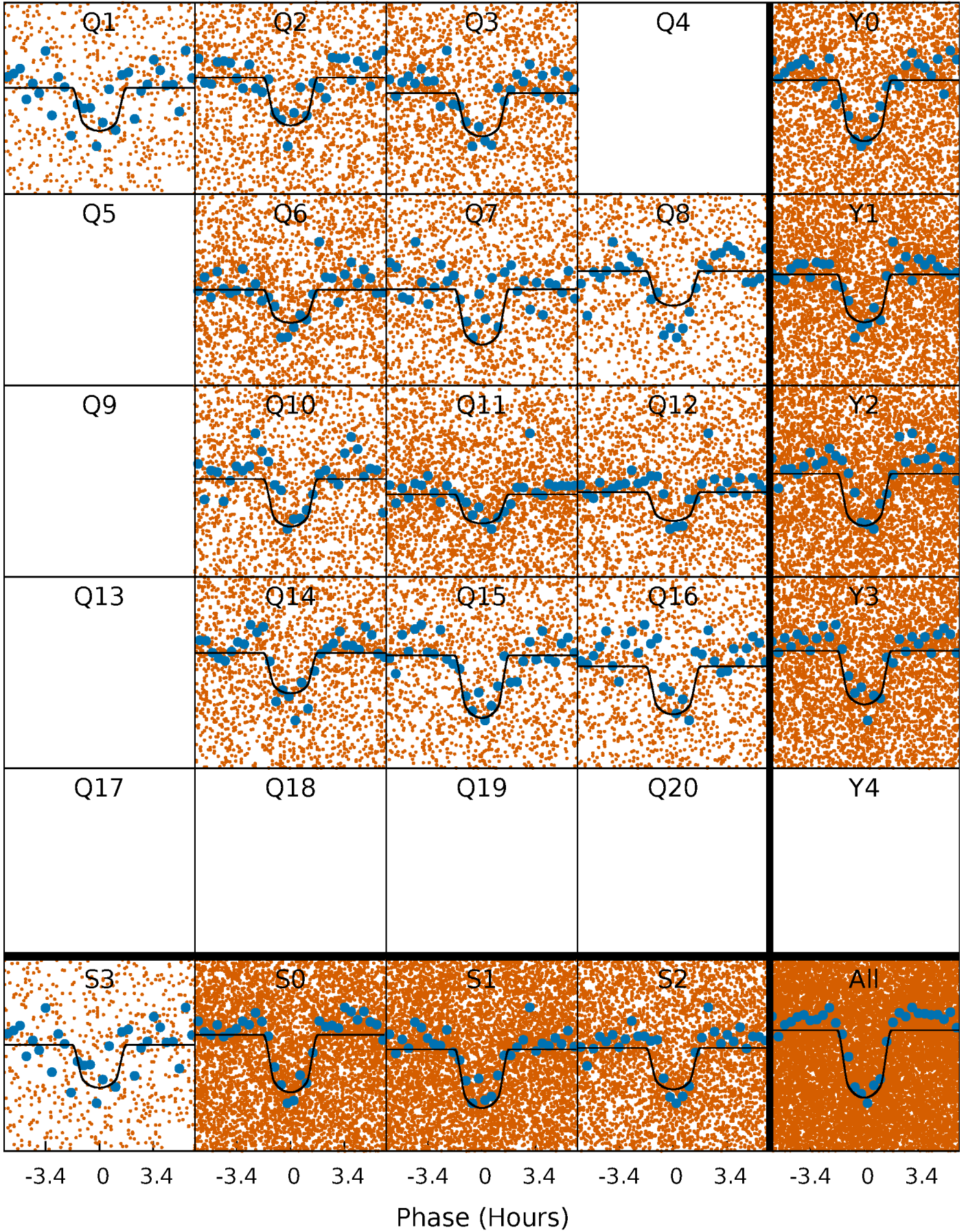
PDC Quarter-Phased Transit Curves

TCE 005598595-01 P= 0.648768 Days $T_0=131.748391$ (BKJD)



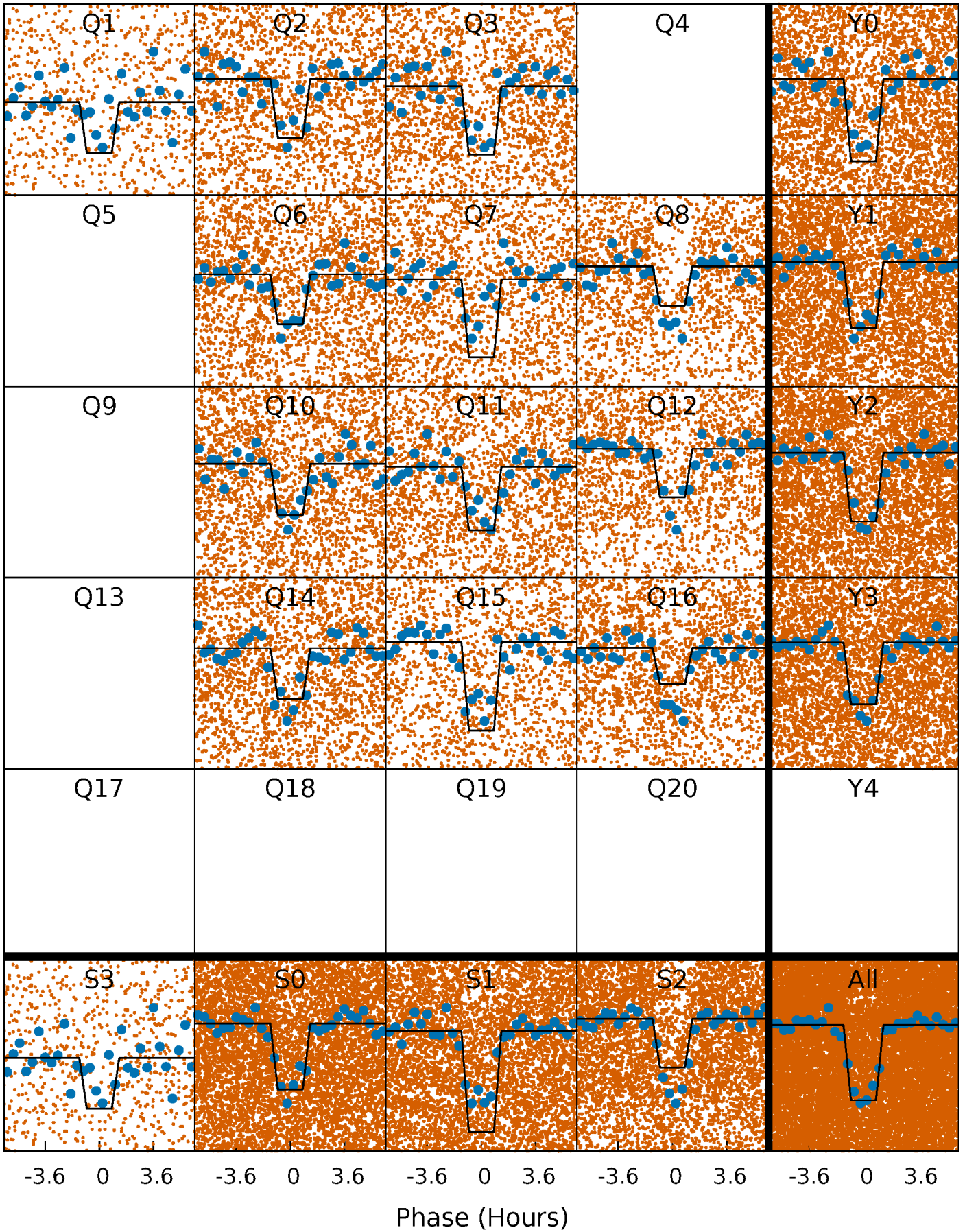
DV Quarter-Phased Transit Curves

TCE 005598595-01 P= 0.648768 Days $T_0=131.748391$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

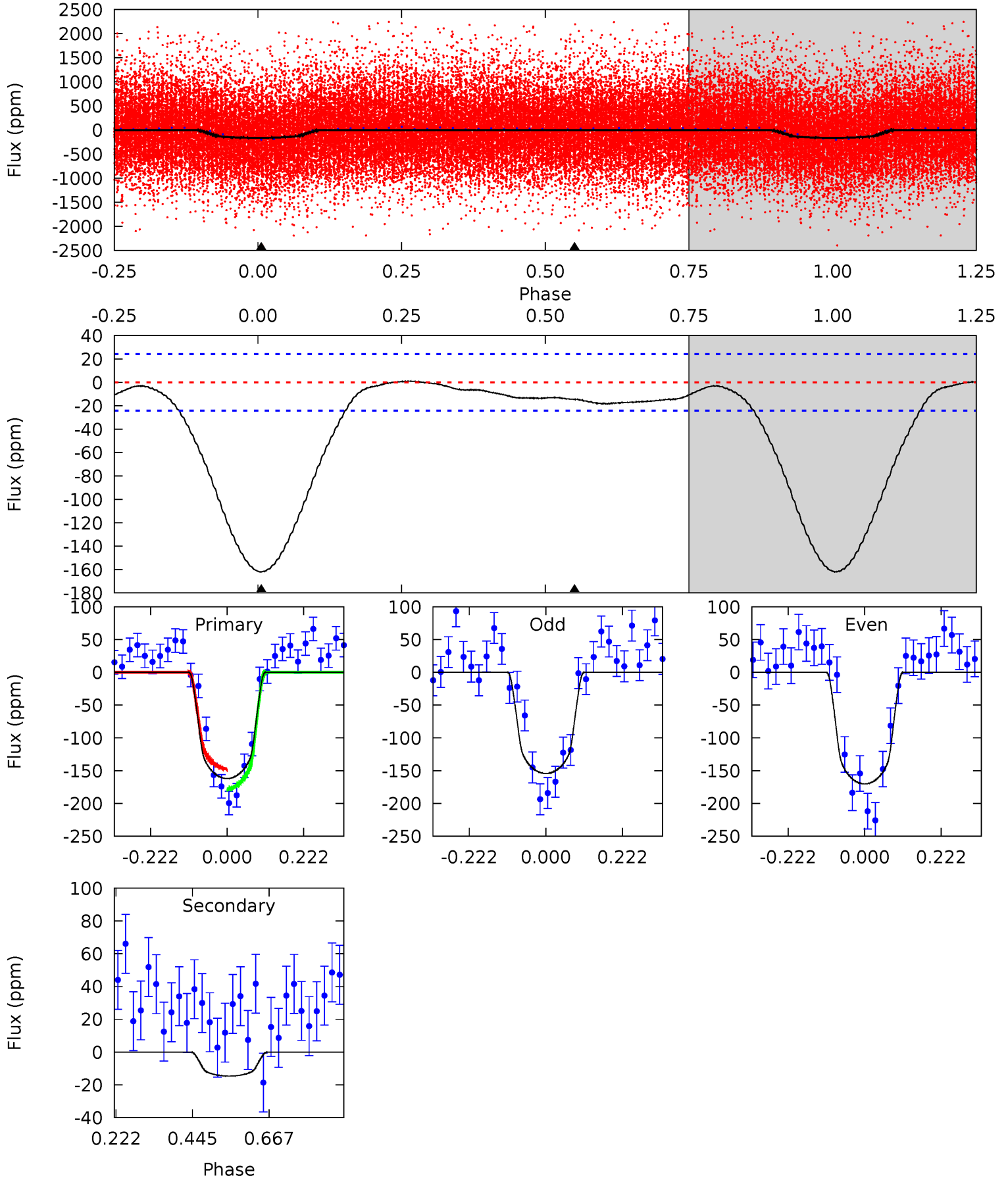
TCE 005598595-01 P= 0.648773 Days $T_0=131.747498$ (BKJD)



DV Model-Shift Uniqueness Test

005598595-01, P = 0.648768 Days, E = 131.099623 Days

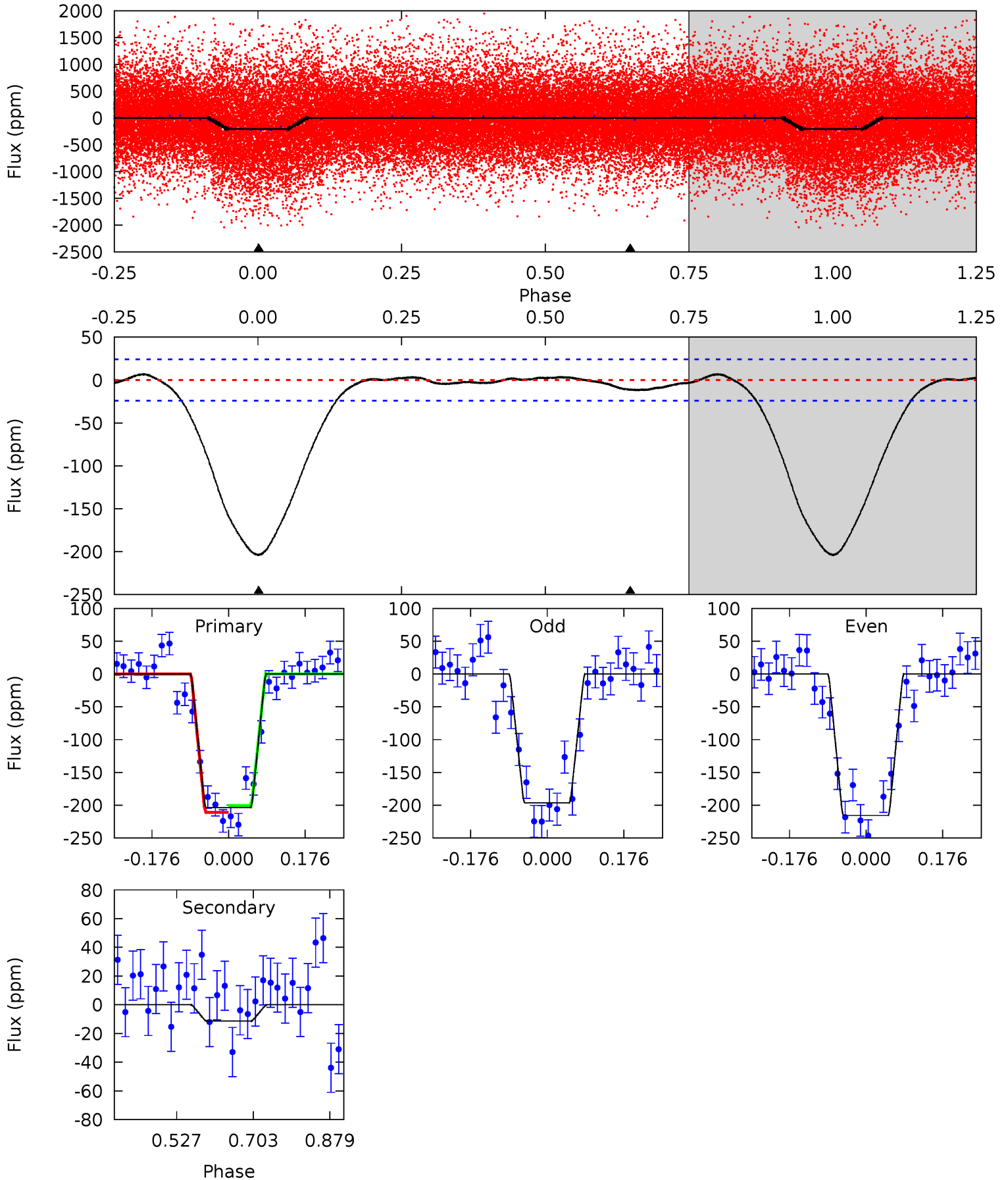
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.5	2.66	0	0	4.39	1.22	0.30	29.5	29.5	2.66	2.66	1.44	1.00	0.01	2.76



Alt Model-Shift Uniqueness Test

005598595-01, P = 0.648773 Days, E = 131.098725 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.6	2.08	0	0	4.44	1.35	0.42	37.6	37.6	2.08	2.08	1.79	0.98	0.03	0.96



Stellar Parameters For KIC 005598595

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5026^{+151}_{-151}	$4.557^{+0.071}_{-0.065}$	$-0.300^{+0.350}_{-0.300}$	$0.729^{+0.079}_{-0.071}$	$0.701^{+0.103}_{-0.047}$	$2.542^{+0.812}_{-0.515}$
	+3%/-3%	+2%/-1%	+117%/-100%	+11%/-10%	+15%/-7%	+32%/-20%
Source	PHO1	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 005598595-01 / KOI 3949.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-15 ± 5	$1.20^{+0.32}_{-0.31}$	2314^{+98}_{-95}	2941^{+368}_{-491}	$0.919^{+0.849}_{-0.466}$
Alt.	-11 ± 5	$1.17^{+0.35}_{-0.33}$	2316^{+100}_{-85}	2788^{+442}_{-748}	$0.724^{+0.771}_{-0.393}$

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

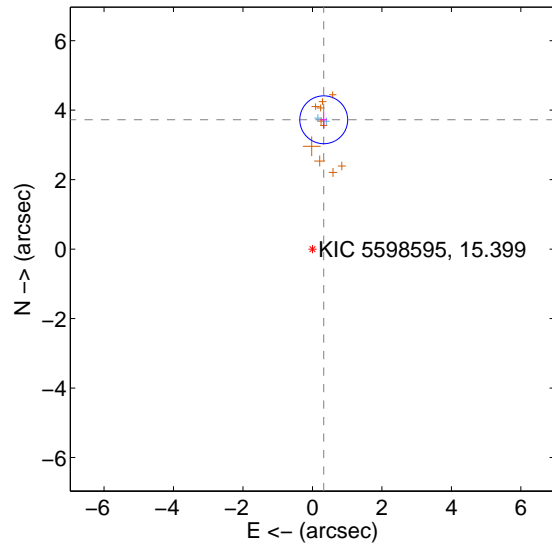
Supplemental centroid analysis for 005598595-01. Kepler magnitude: 15.40. Transit SNR 20.64

There are 2 quarters with good PRF difference image offsets

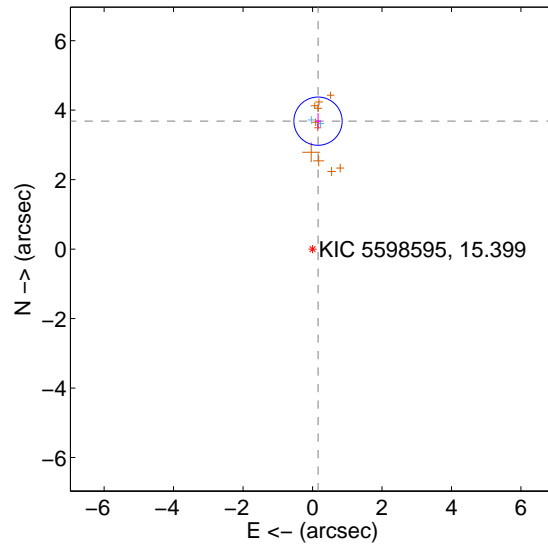
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.737 ± 0.230	16.27	-0.325 ± 0.095	3.723 ± 0.230
PRF-fit source offset from KIC position	3.686 ± 0.232	15.92	-0.158 ± 0.085	3.683 ± 0.232
photometric centroid source offset	3.97 ± 0.61	6.51	0.27 ± 0.61	3.96 ± 0.61

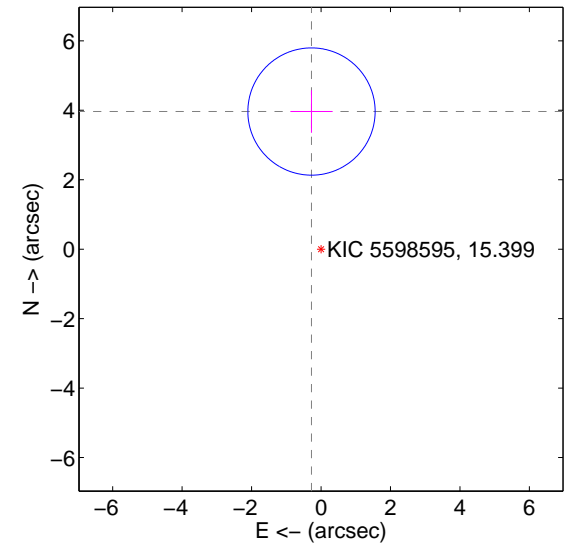
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

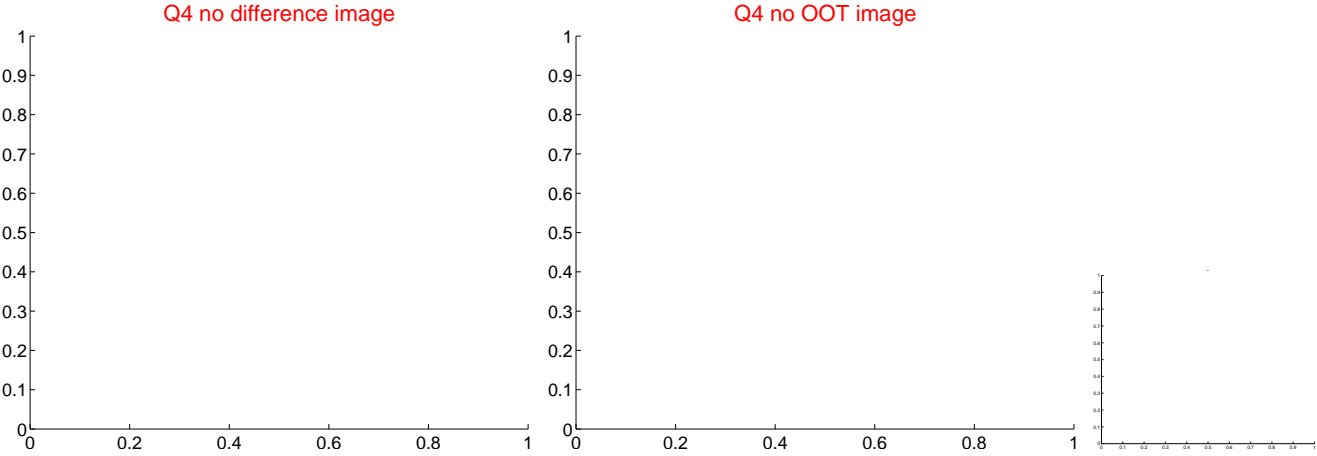
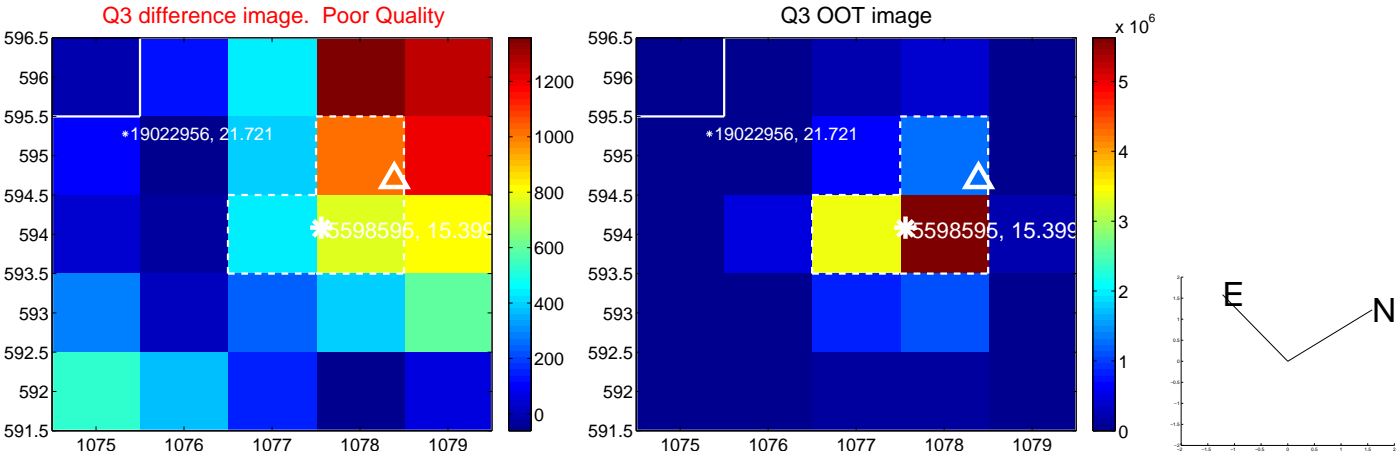
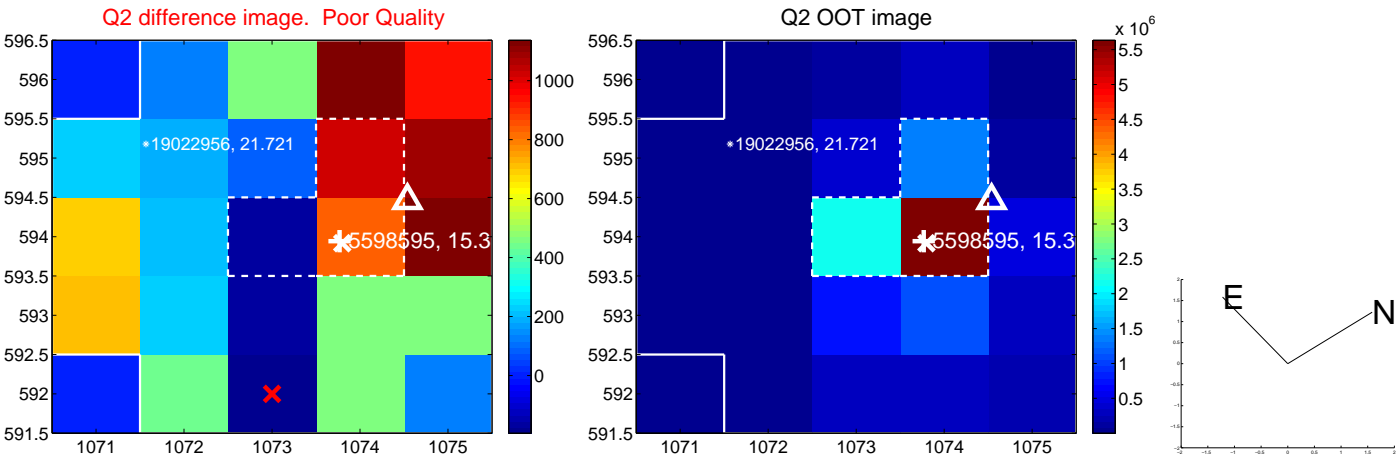
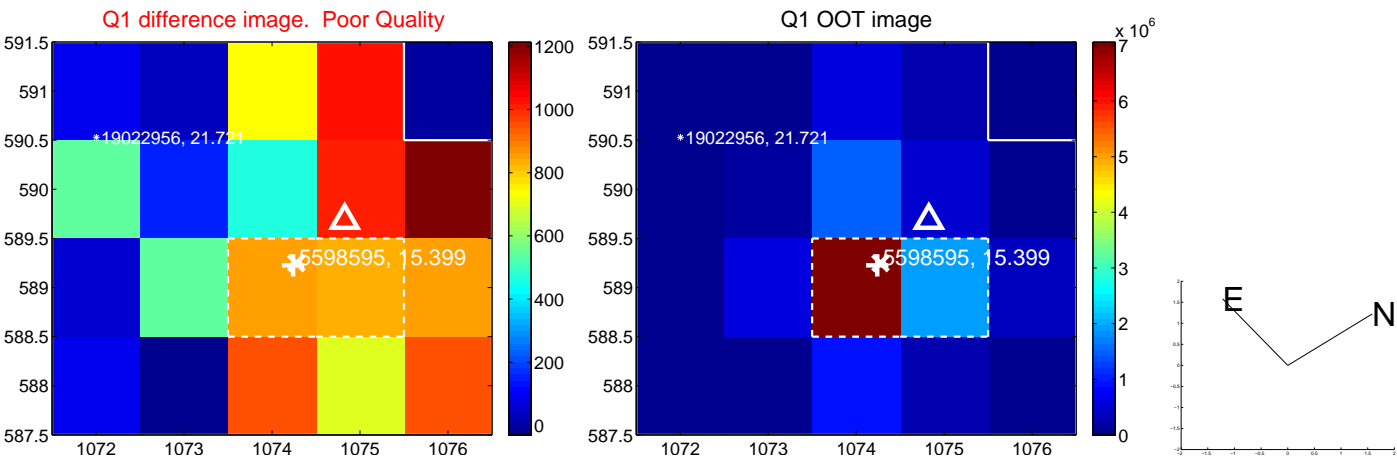


offset from photometric centroids

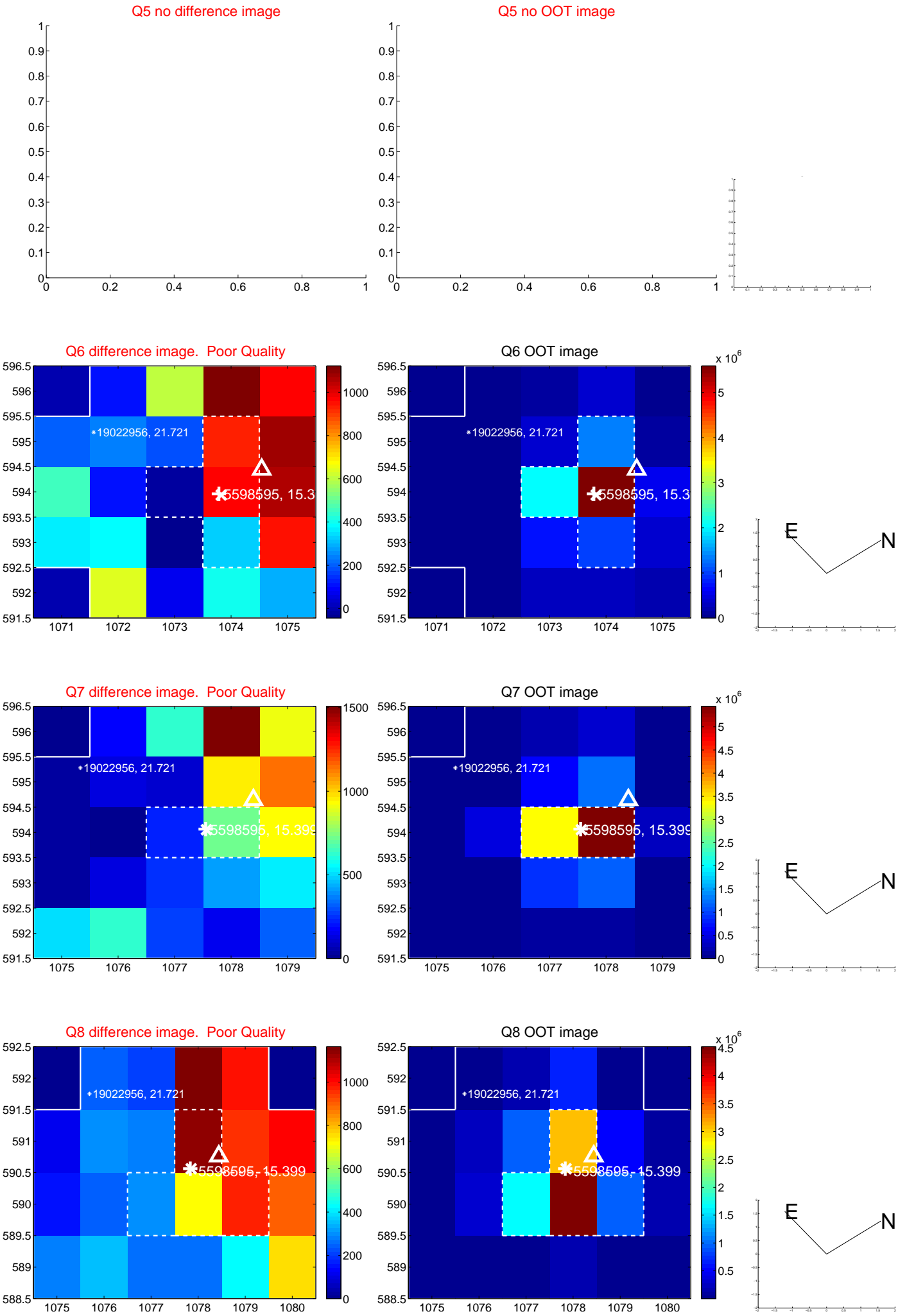


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

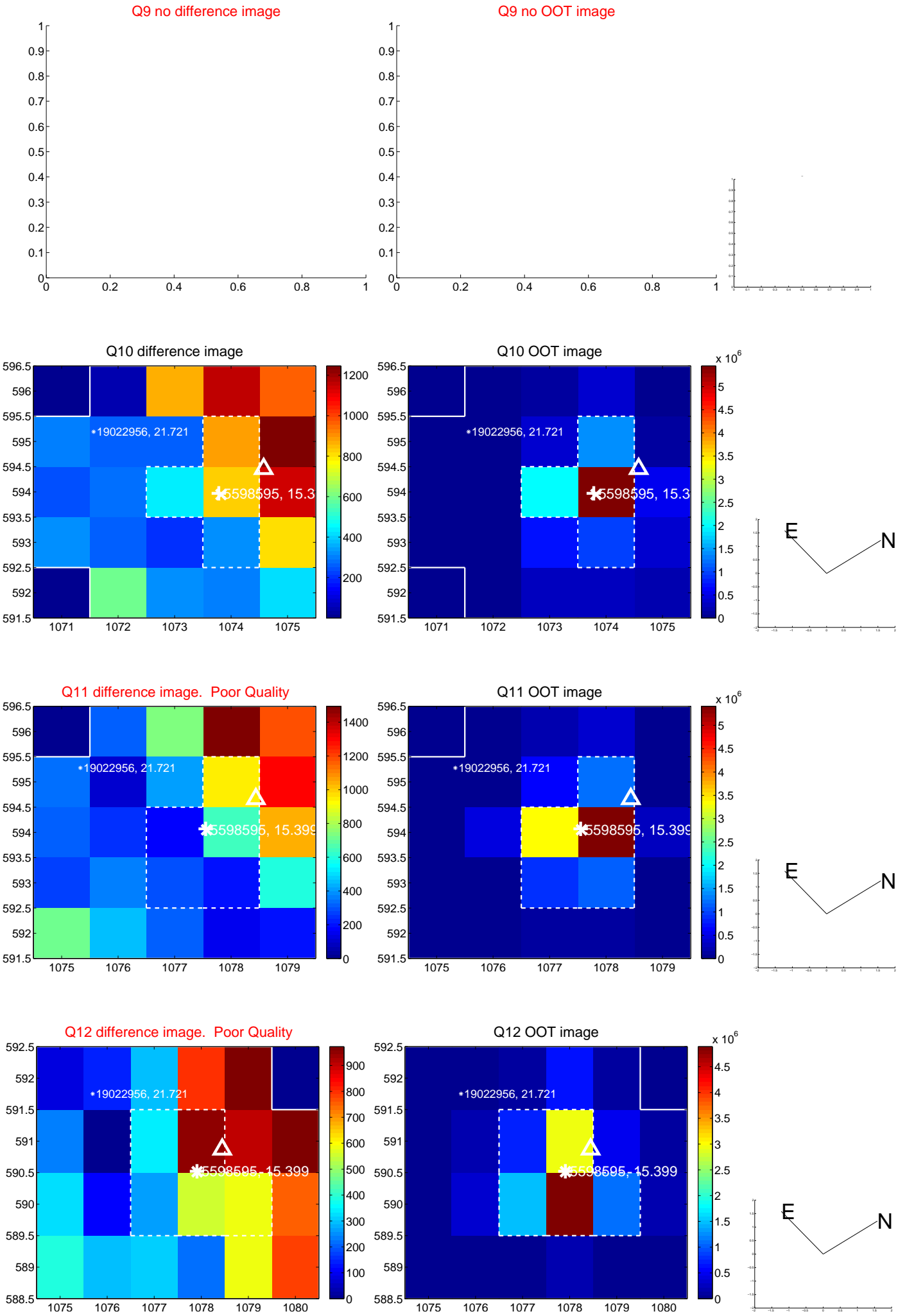
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



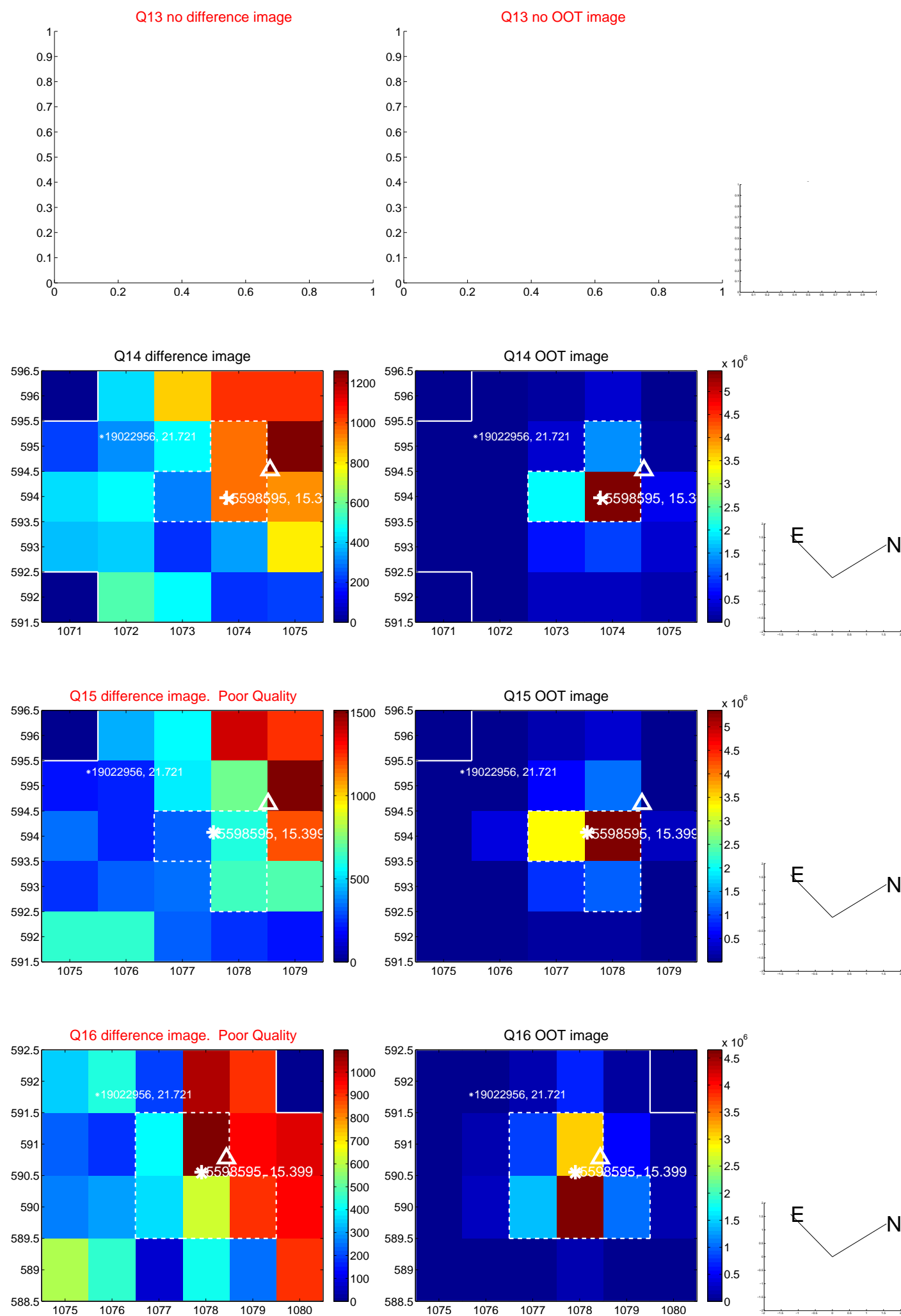
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



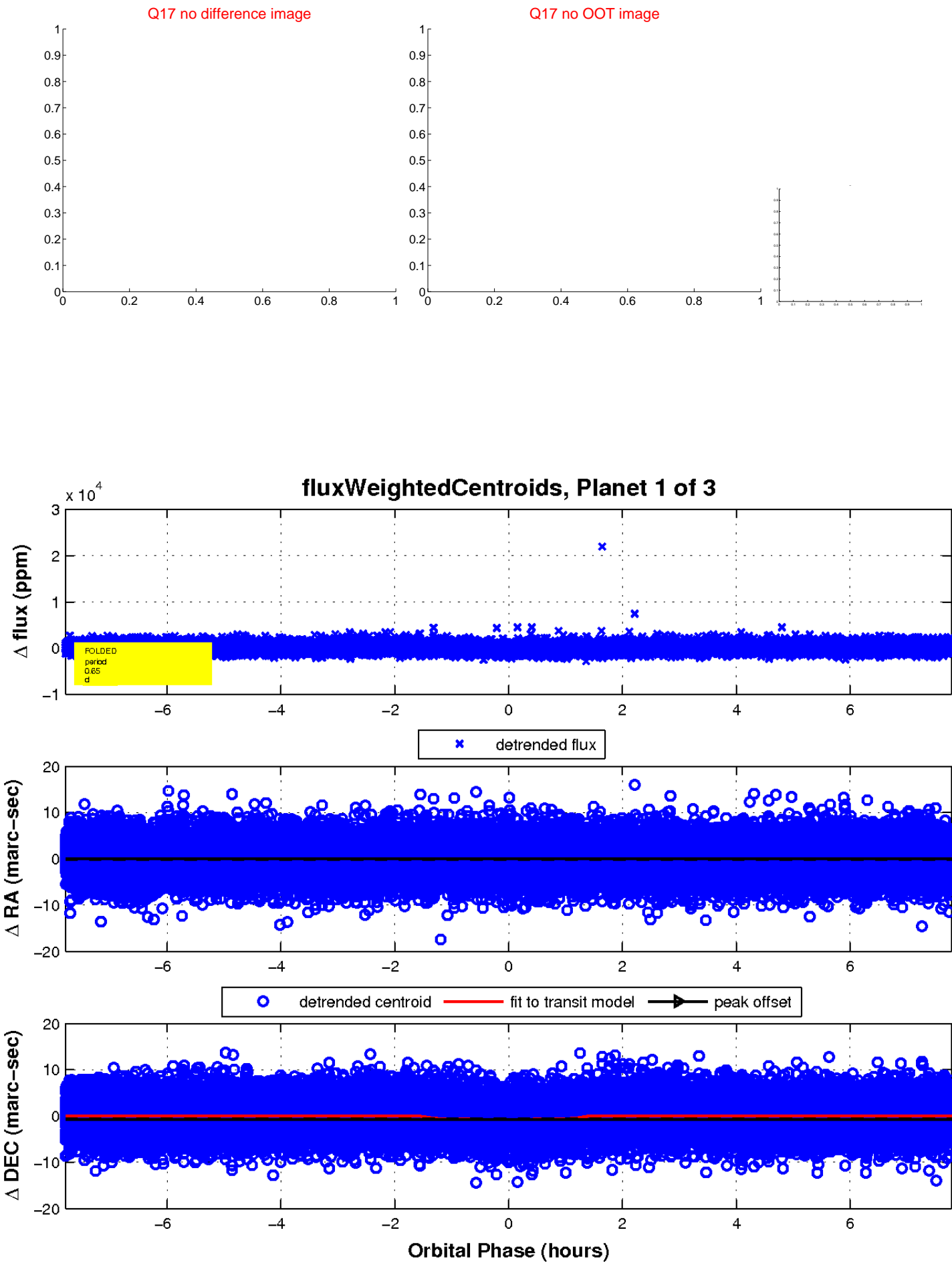
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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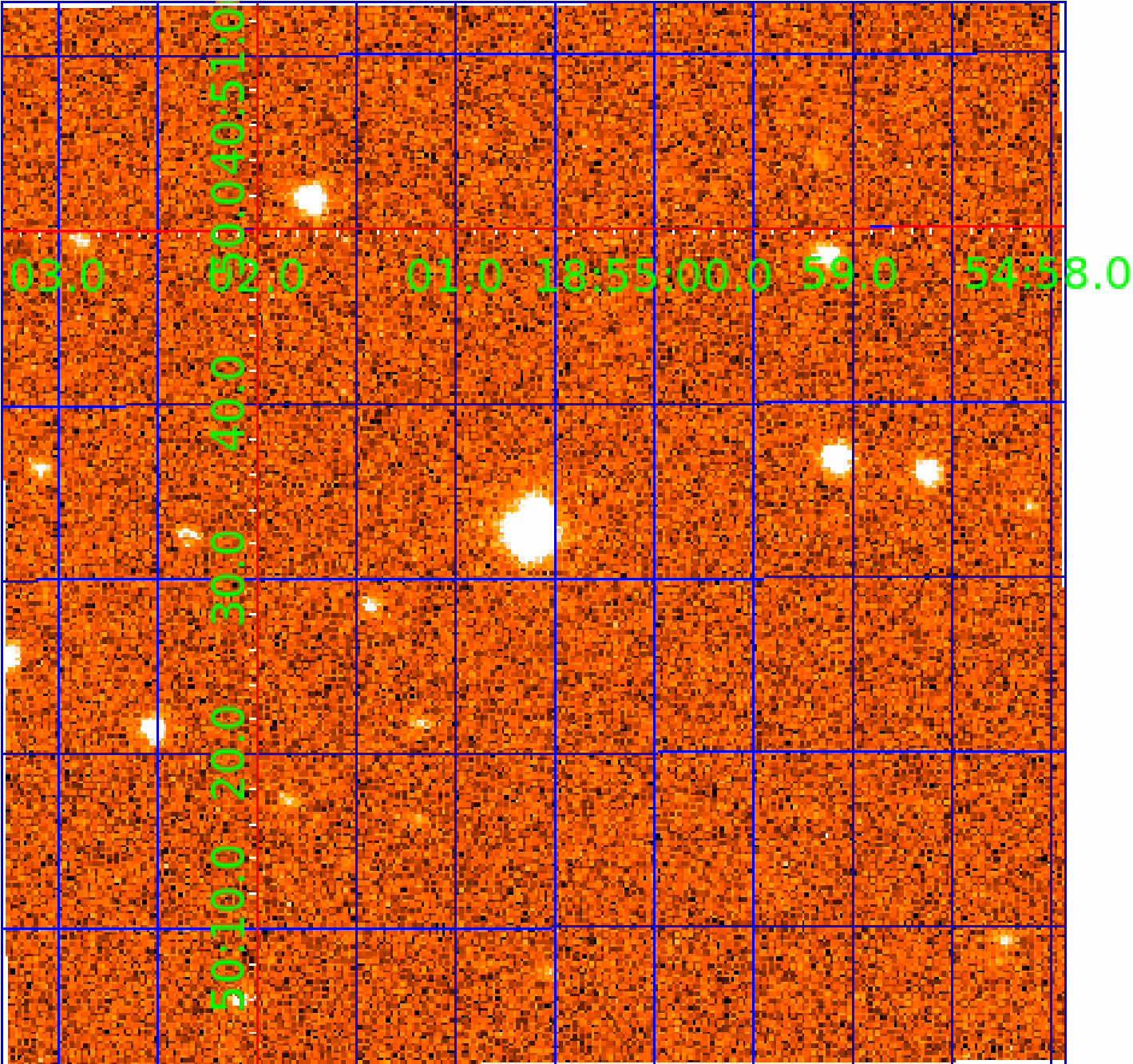


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005598595

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005598595-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—PLANET_OCCULT_DV—CENT_RESOLVED_OFFSET—EPHEM_MATCH
005598595-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005598595-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

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

Ephemeris Match Information For 005598595-02

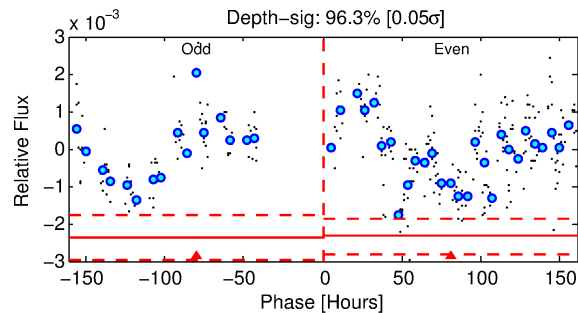
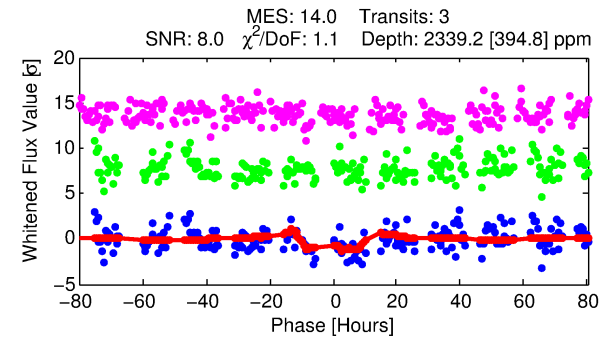
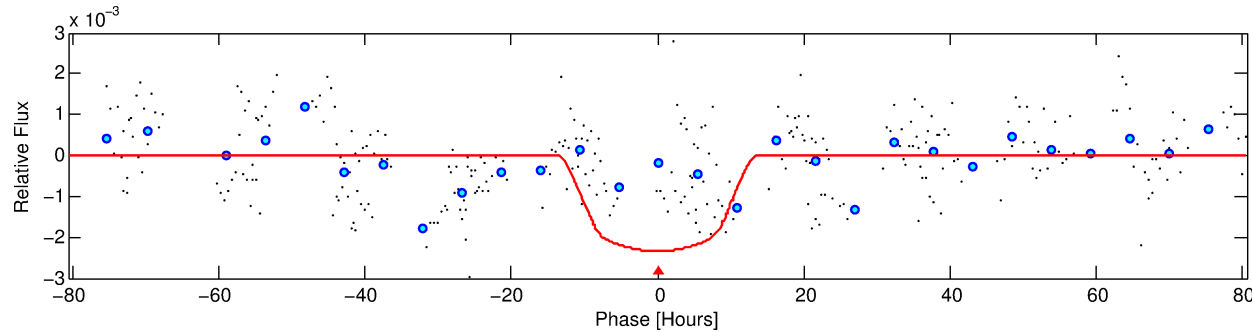
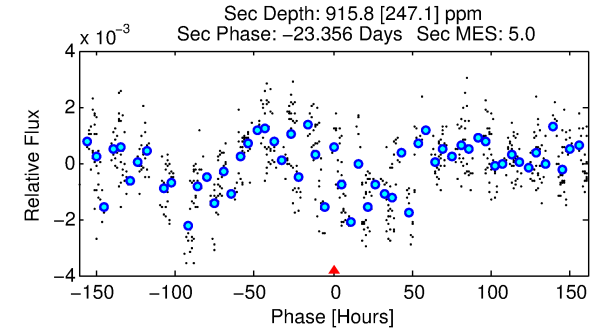
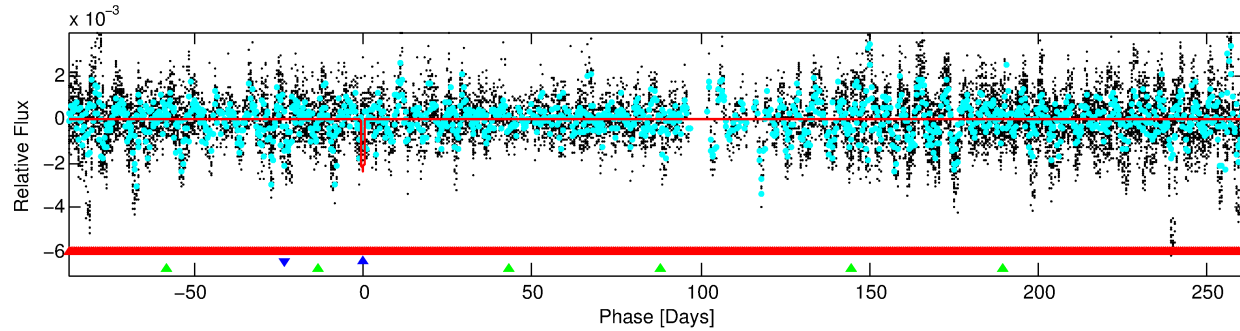
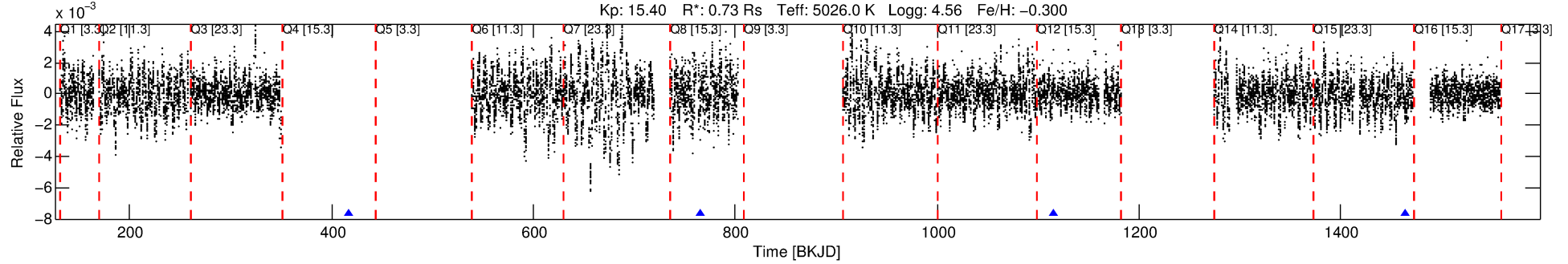
No Significant Match Found

DV One-Page Summary

KIC: 5598595 Candidate: 2 of 3 Period: 348.933 d

KOI: K03949 Corr: No Ephemeris Match

Kp: 15.40 R*: 0.73 Rs Teff: 5026.0 K Logg: 4.56 Fe/H: -0.300



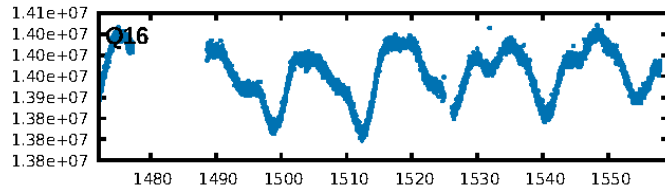
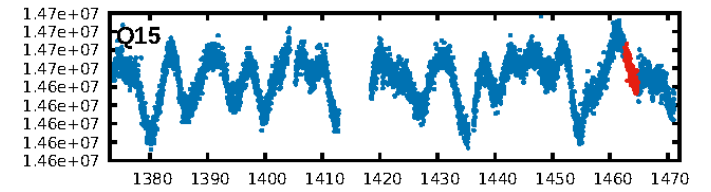
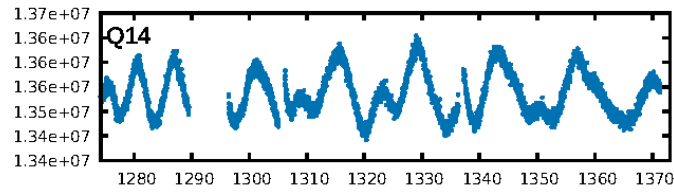
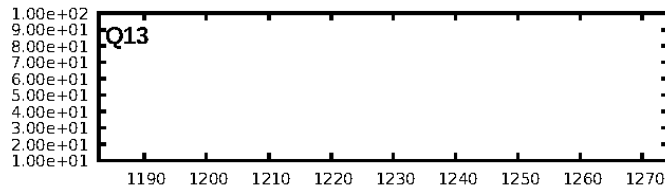
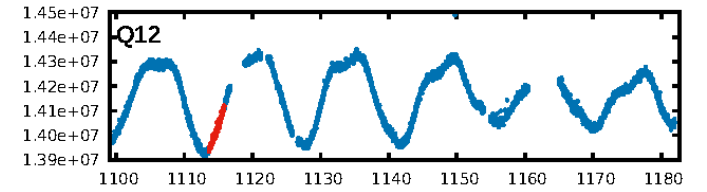
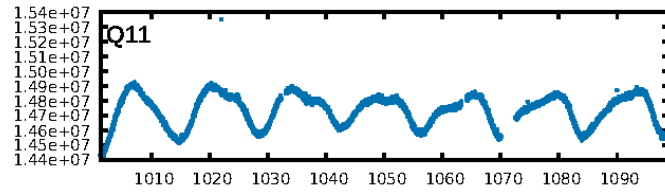
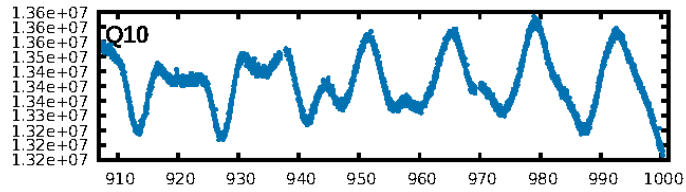
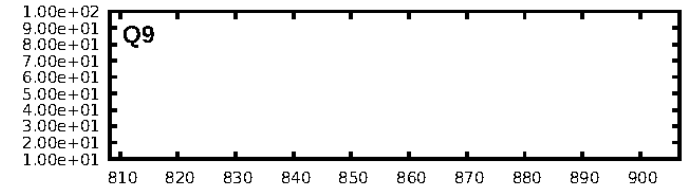
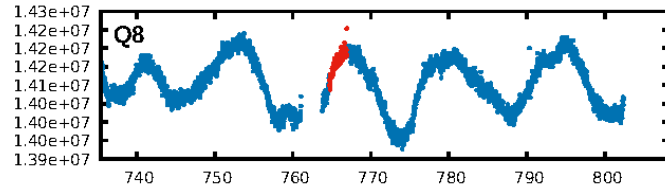
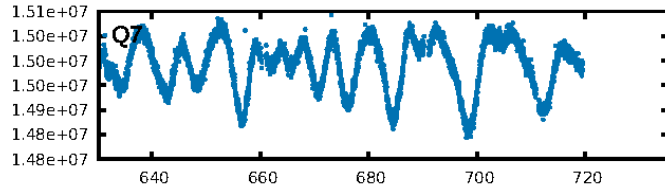
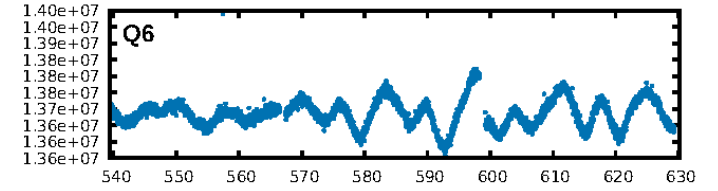
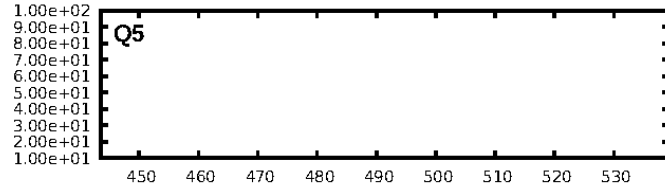
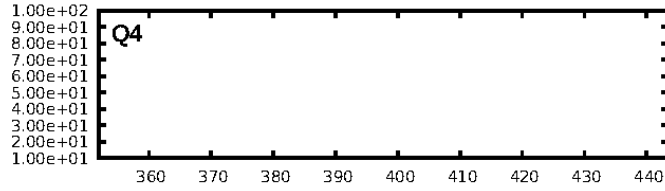
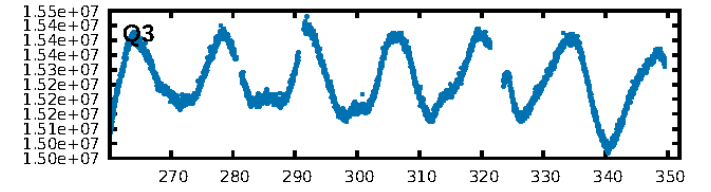
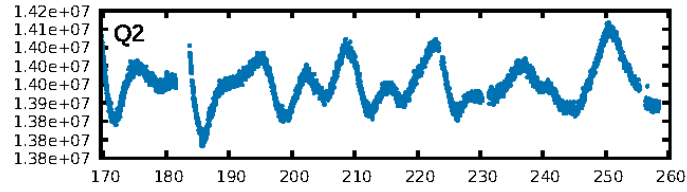
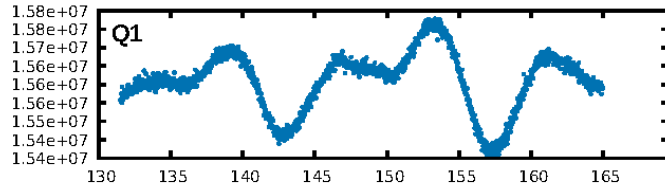
DV Fit Results:

Period = 348.93343 [0.03529] d
Epoch = 416.8801 [0.0929] BKJD
Rp/R* = 0.0532 [0.0059]
a/R* = 56.02 [11.58]
b = 0.89 [0.04]
Seff = 0.41 [0.07]
Teq = 204 [9] K
Rp = 4.23 [0.65] Re
a = 0.8610 [0.0779] AU
Ag = 20845.60 [7754.16] [2.69σ]
Teffp = 3790 [349] K [10.27σ]

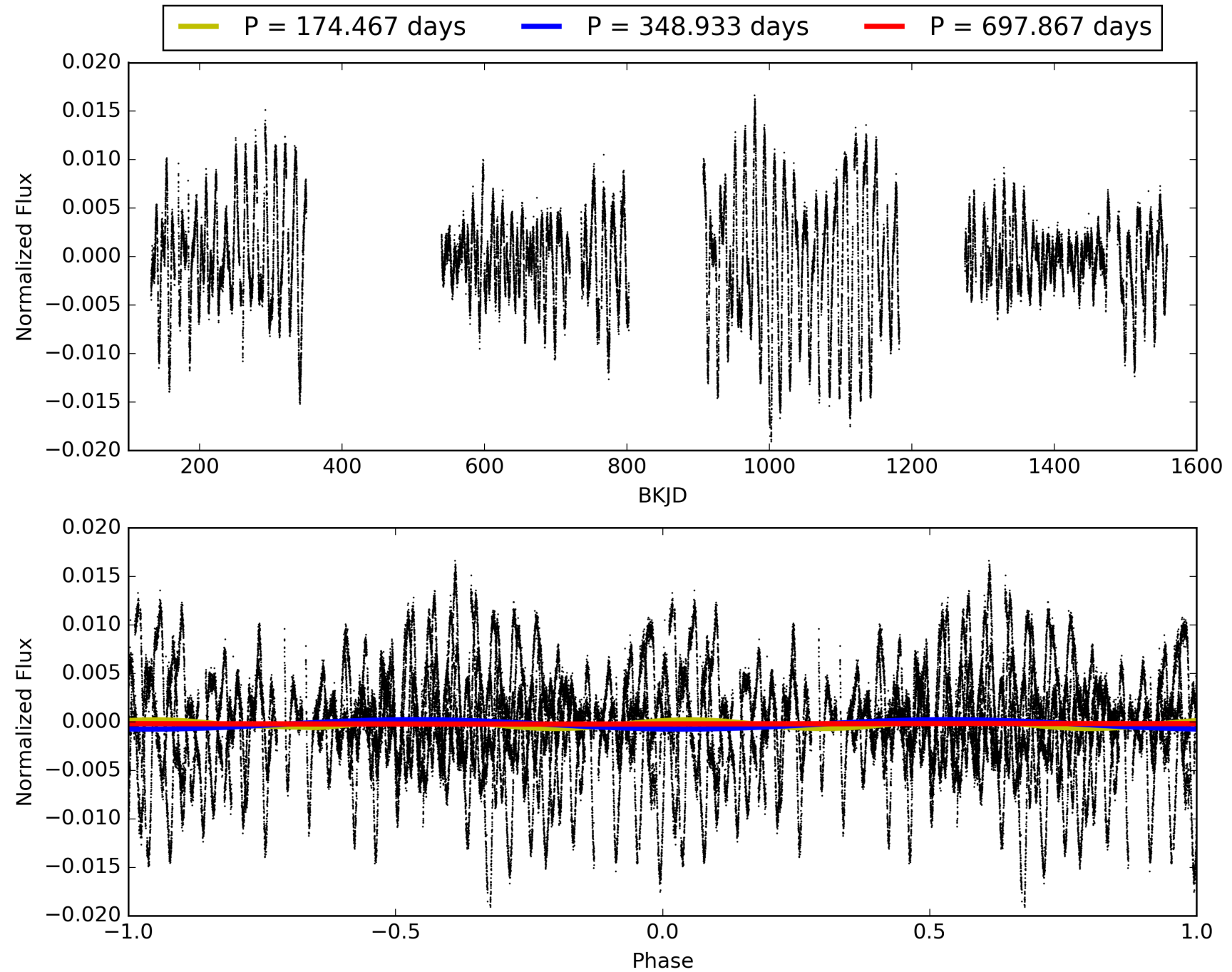
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [72.69σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 14.1%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 3.12e-17
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.274
Centroid-sig: 34.6%
Centroid-so: 0.443 arcsec [0.96σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/1]

TCE 005598595-02, PDC Light Curves

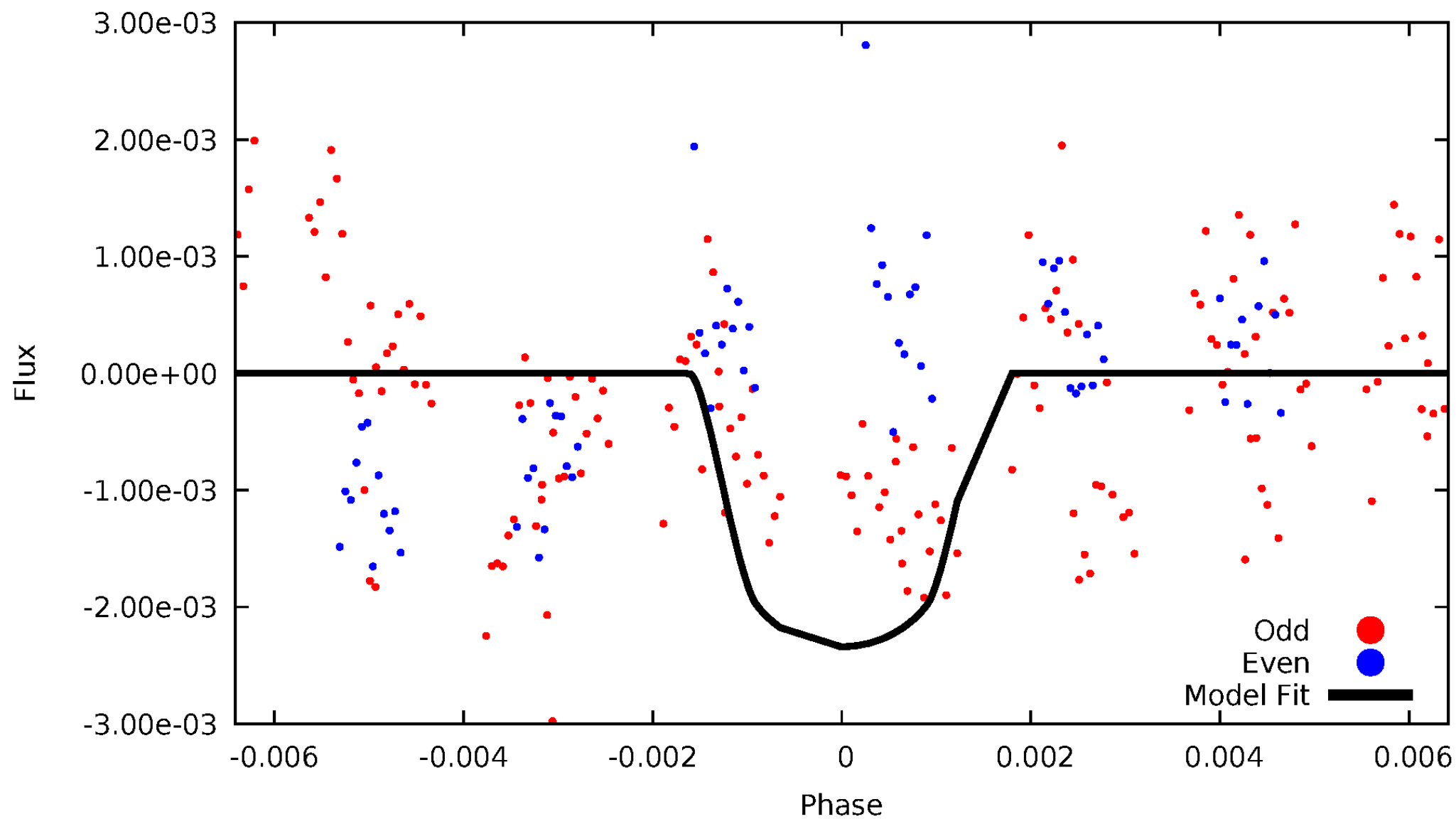


TCE 005598595-02



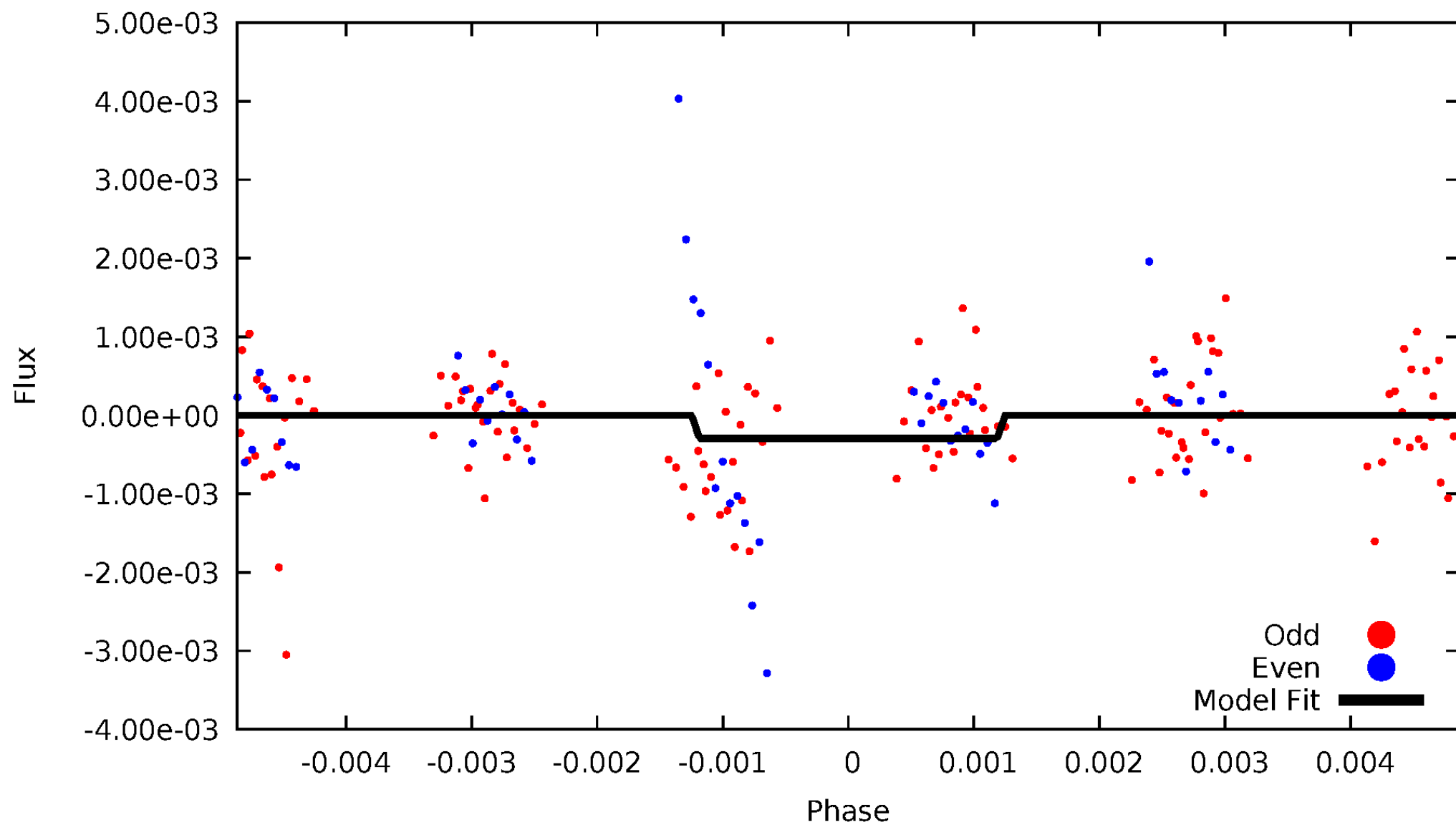
DV Odd/Even

TCE 005598595-02



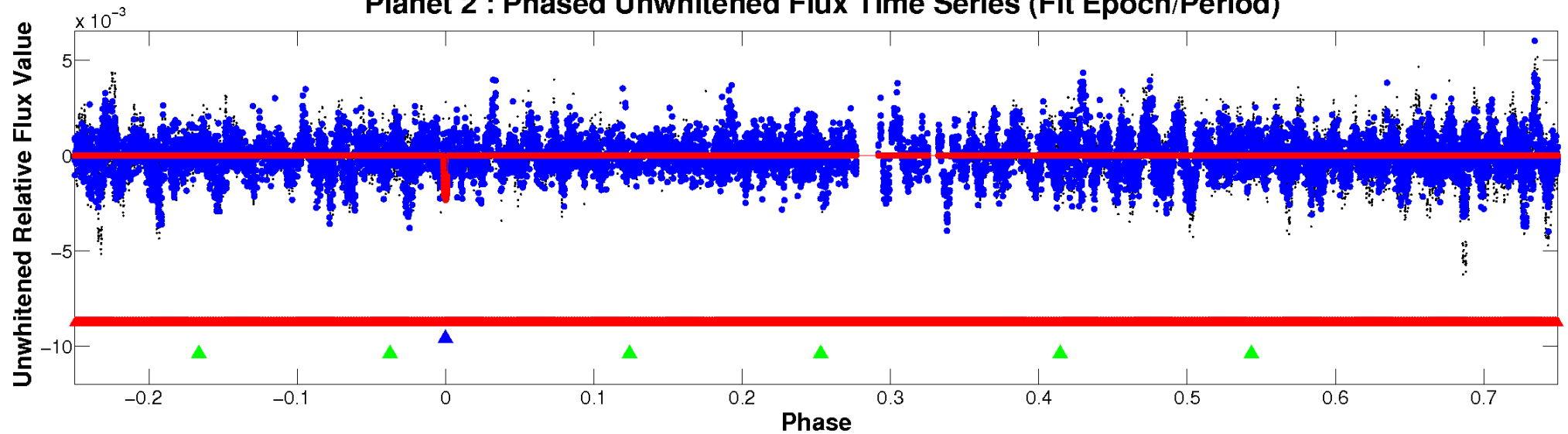
ALT Odd/Even

TCE 005598595-02

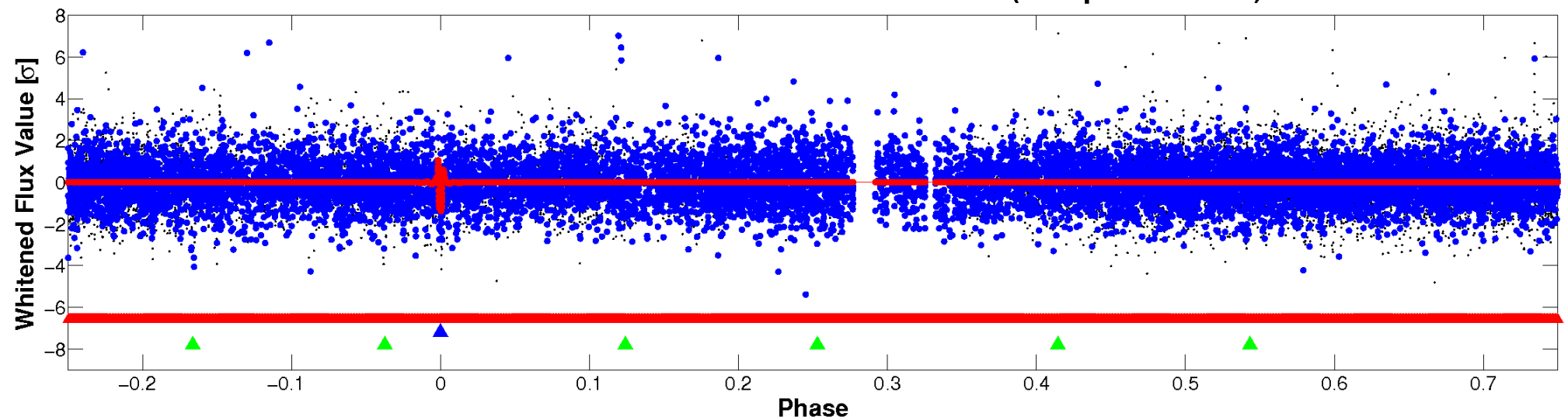


Non-Whitened Vs. Whitened Light Curve

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

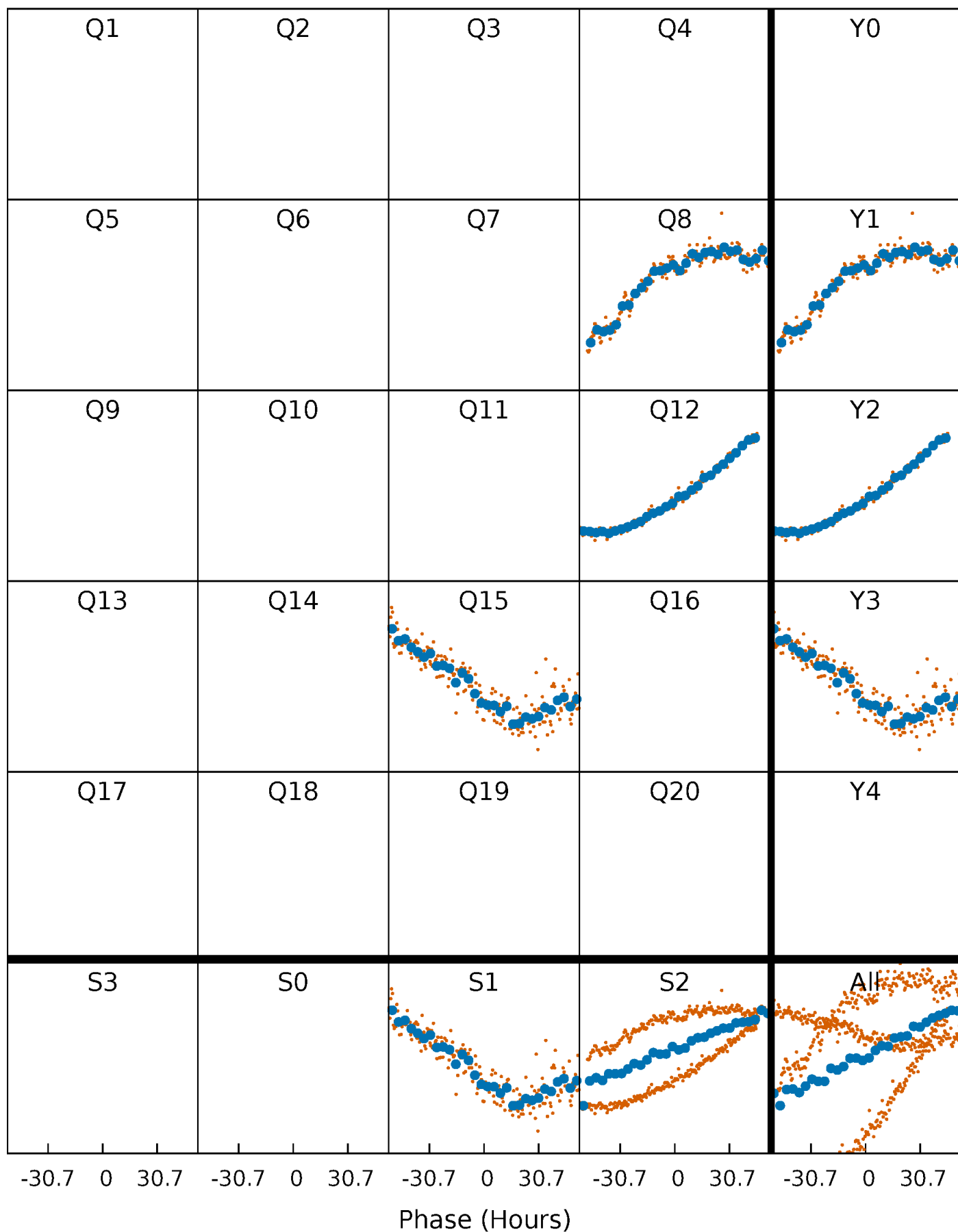


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



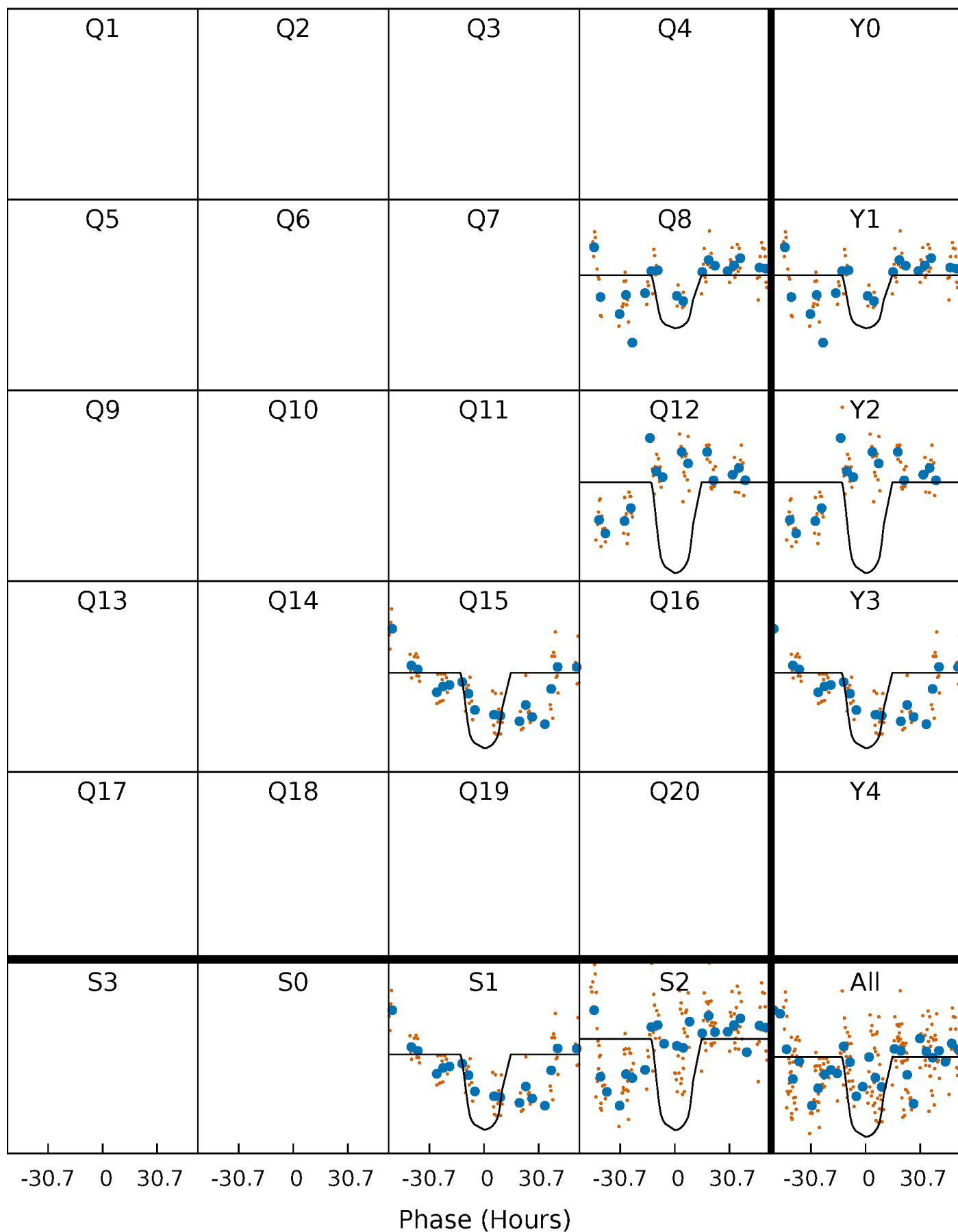
PDC Quarter-Phased Transit Curves

TCE 005598595-02 P=348.933434 Days $T_0=416.880067$ (BKJD)



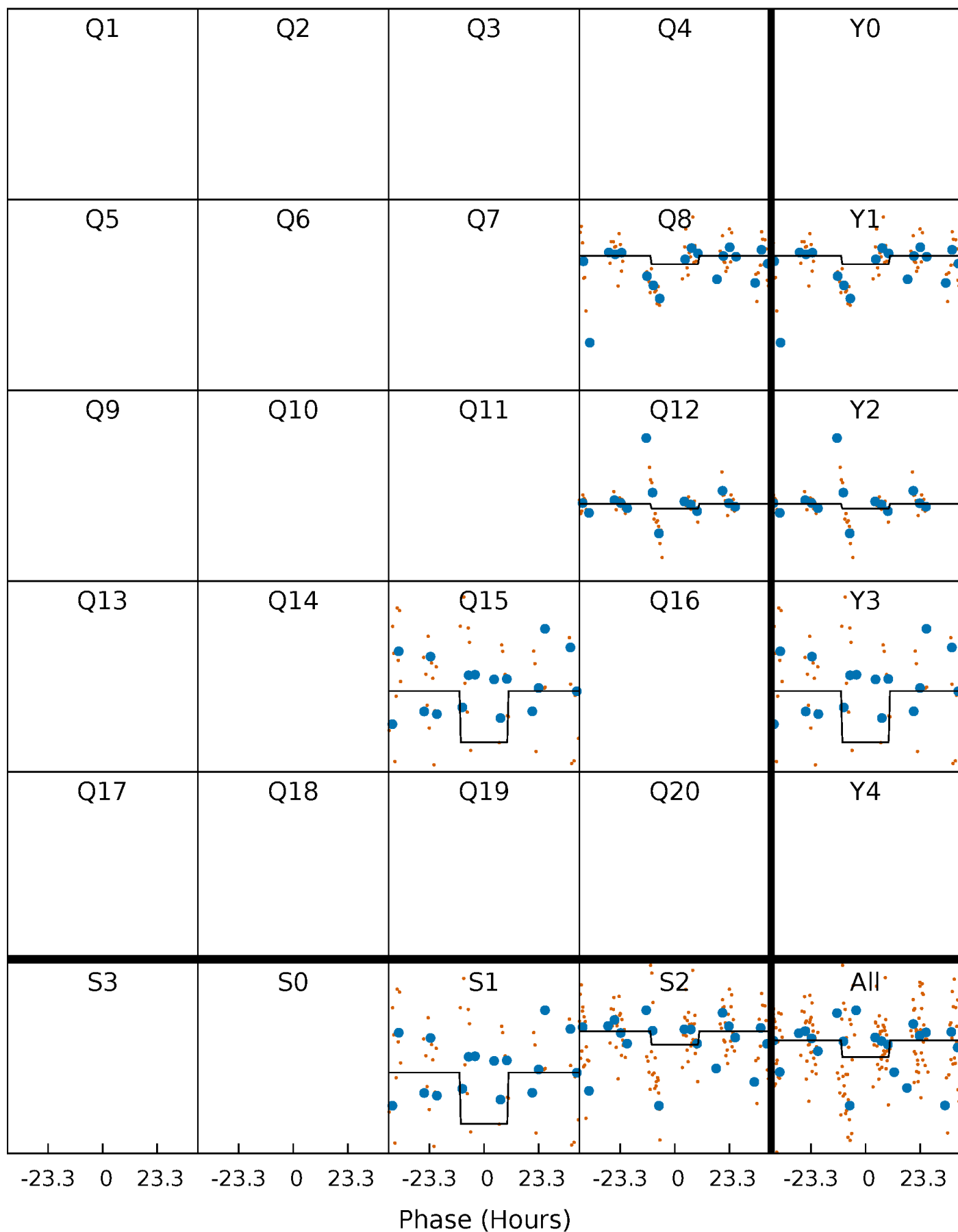
DV Quarter-Phased Transit Curves

TCE 005598595-02 $P=348.933434$ Days $T_0=416.880067$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

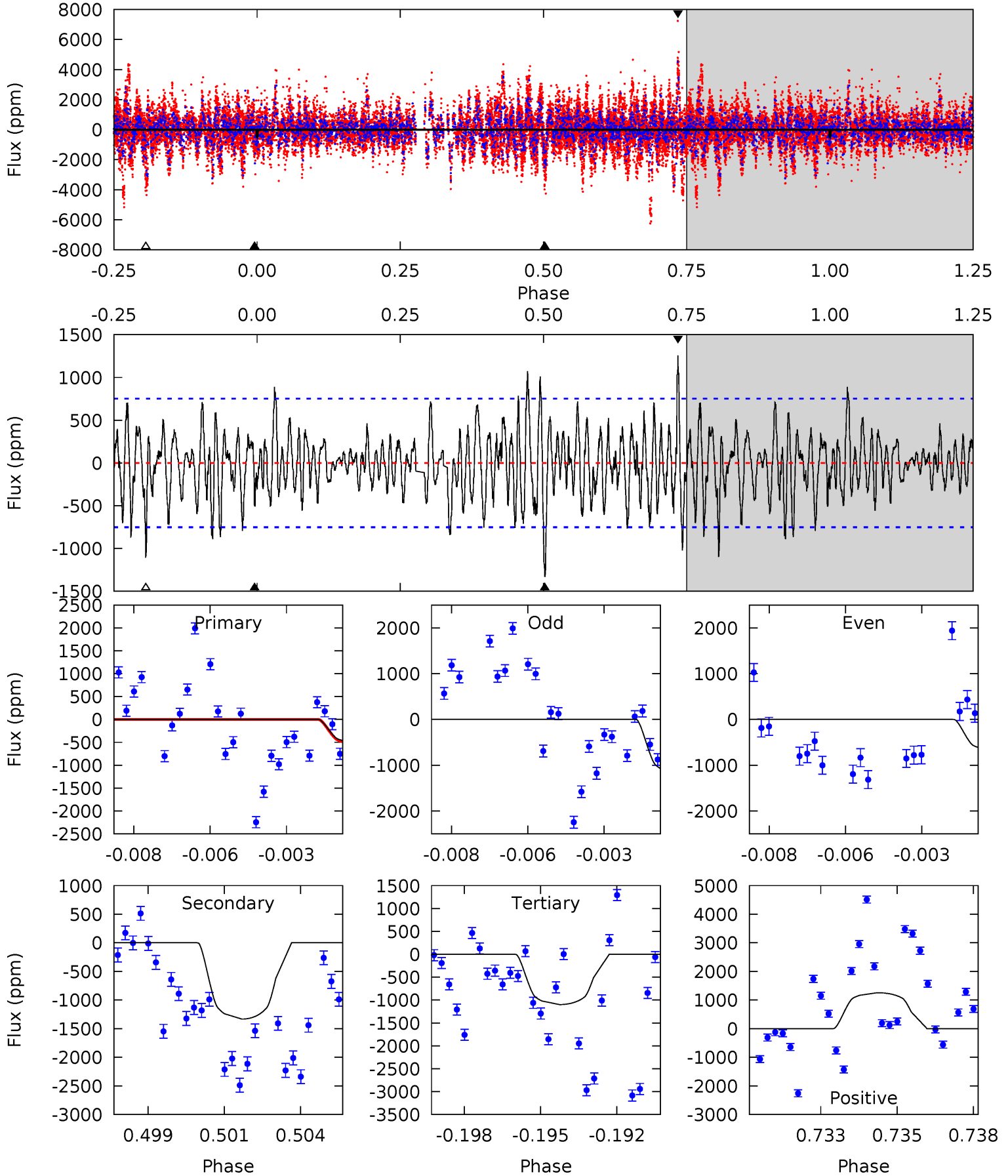
TCE 005598595-02 $P=348.998394$ Days $T_0=417.309771$ (BKJD)



DV Model-Shift Uniqueness Test

005598595-02, P = 348.933434 Days, E = 67.946633 Days

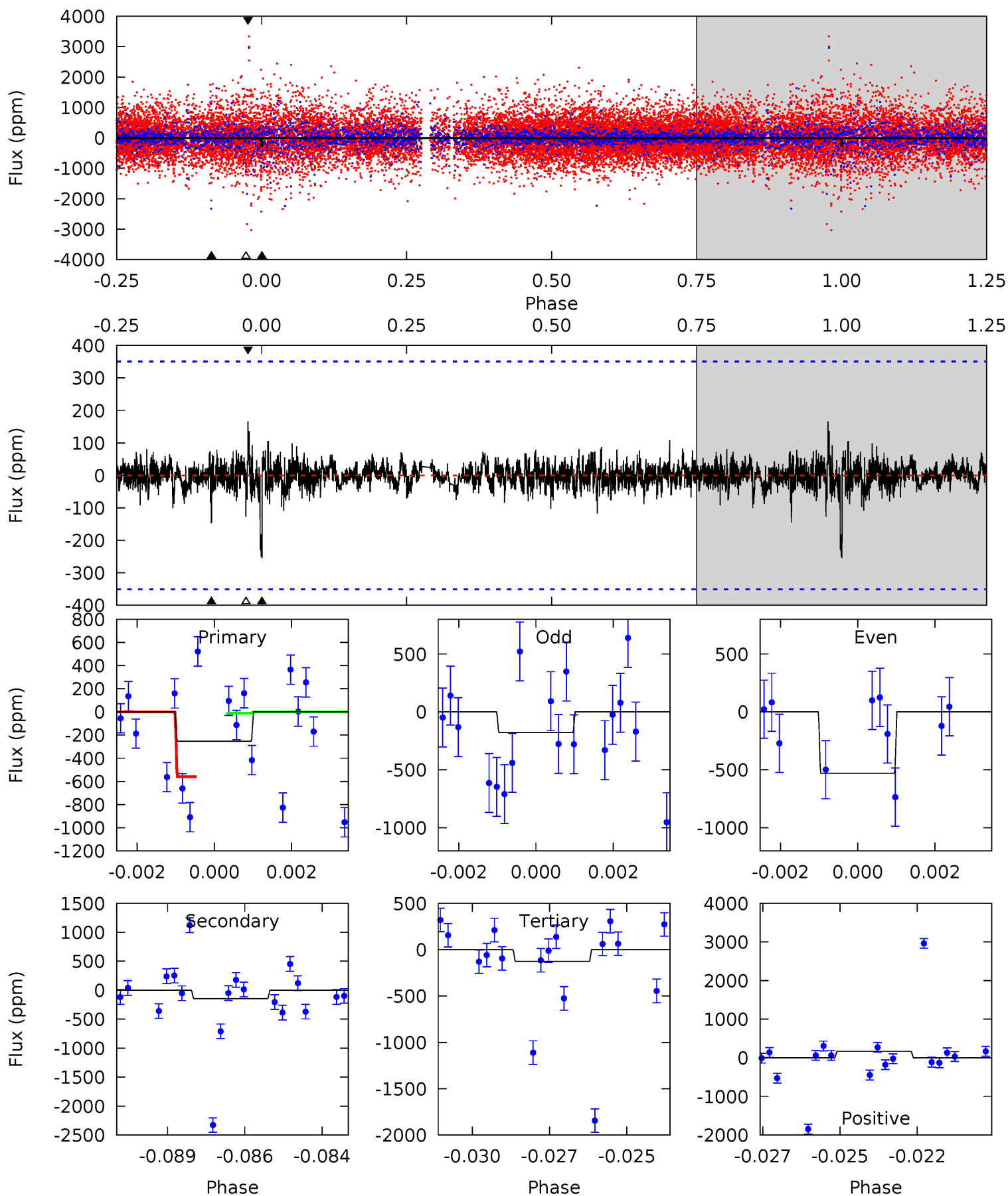
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.55	9.34	7.70	8.80	5.27	2.99	2.46	-4.15	-5.26	1.64	0.53	1.82	0.57	0.49	0.15



Alt Model-Shift Uniqueness Test

005598595-02, P = 348.998394 Days, E = 68.311377 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.84	2.19	1.91	2.50	5.29	3.03	0.44	1.93	1.34	0.27	-0.32	2.60	0.78	0.39	4.09



Stellar Parameters For KIC 005598595

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5026^{+151}_{-151}	$4.557^{+0.071}_{-0.065}$	$-0.300^{+0.350}_{-0.300}$	$0.729^{+0.079}_{-0.071}$	$0.701^{+0.103}_{-0.047}$	$2.542^{+0.812}_{-0.515}$
	+3%/-3%	+2%/-1%	+117%/-100%	+11%/-10%	+15%/-7%	+32%/-20%
Source	PHO1	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 005598595-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1332 ± 143	$4.24^{+0.56}_{-0.54}$	285^{+12}_{-12}	4333^{+264}_{-238}	30294^{+10404}_{-6948}
Alt.	-145 ± 66	$1.33^{+0.52}_{-0.43}$	285^{+11}_{-12}	4350^{+868}_{-638}	31713^{+45345}_{-18244}

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 $A_{obs} \gg 1.0$

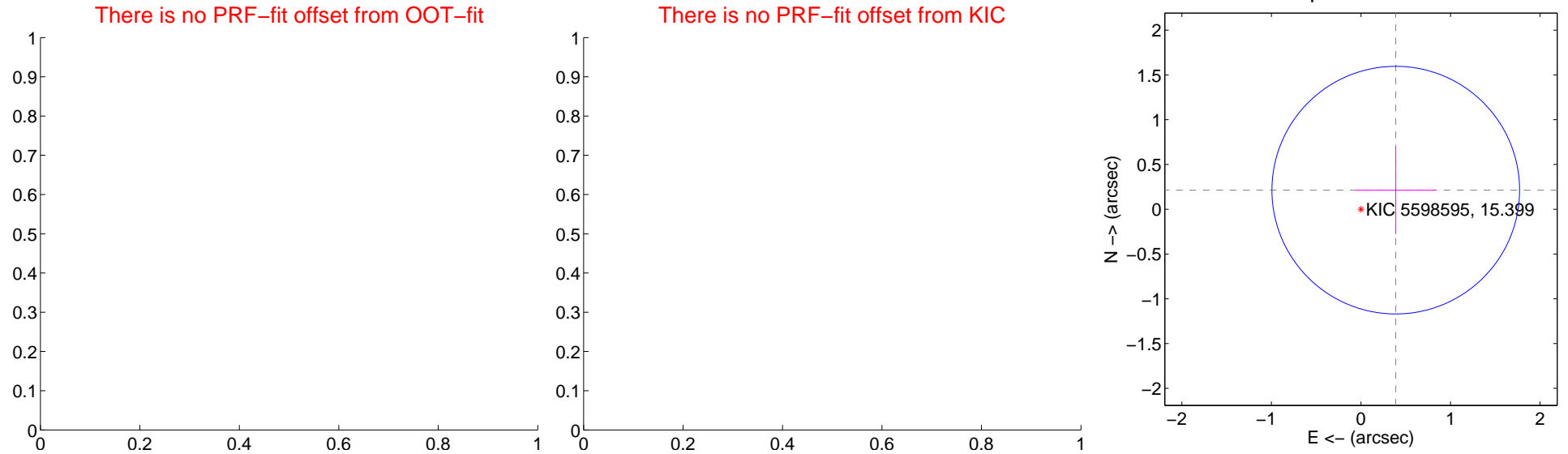
DV Centroid Data

Supplemental centroid analysis for 005598595-02. Kepler magnitude: 15.40. Transit SNR 7.96

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.44 ± 0.46	0.96	-0.39 ± 0.45	0.21 ± 0.49

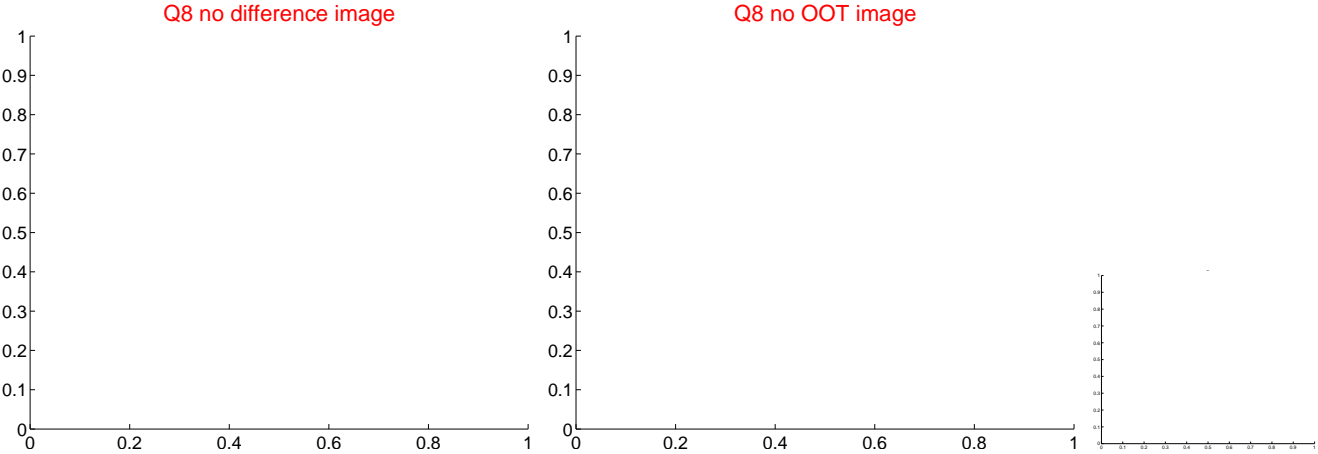


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



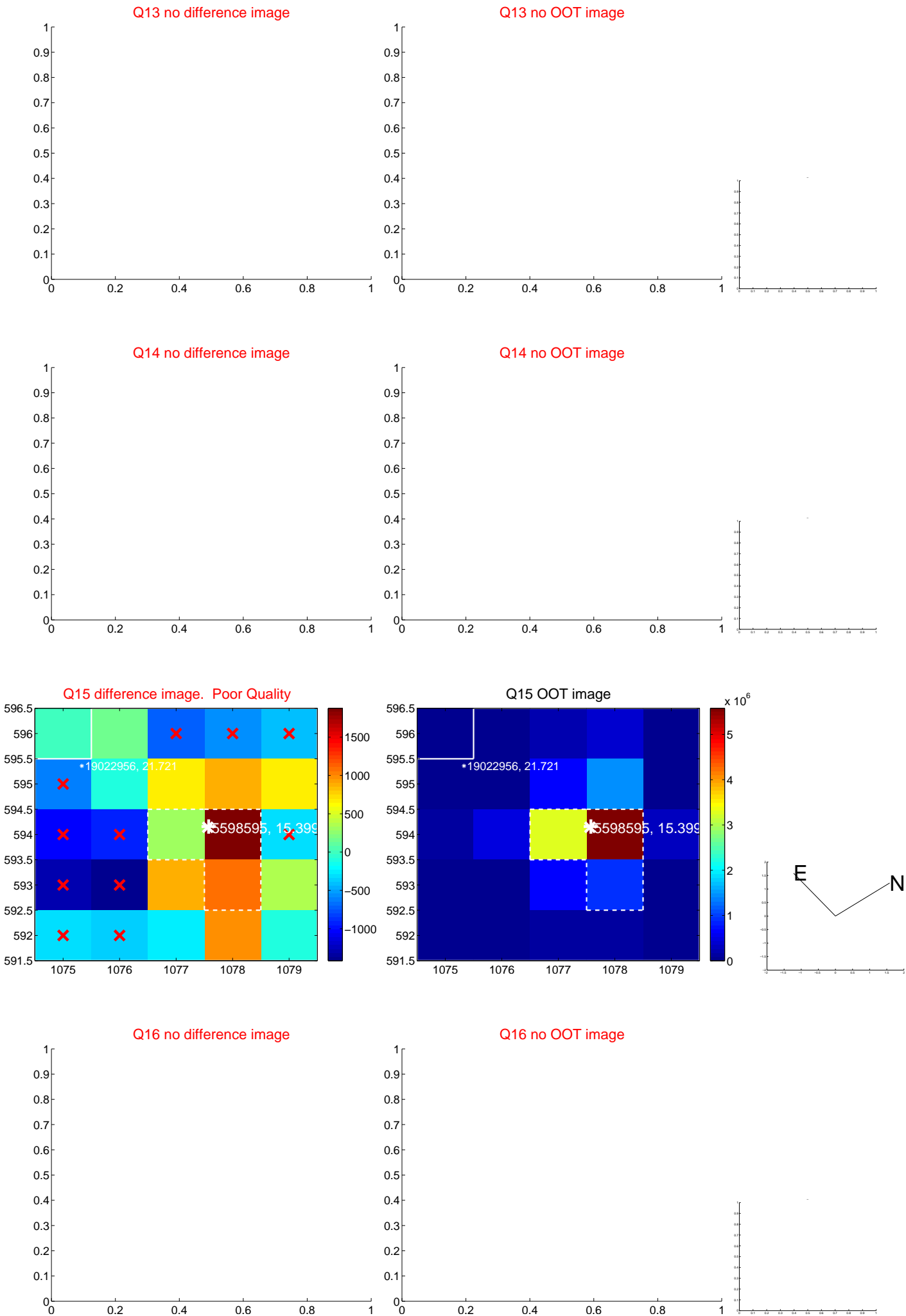
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



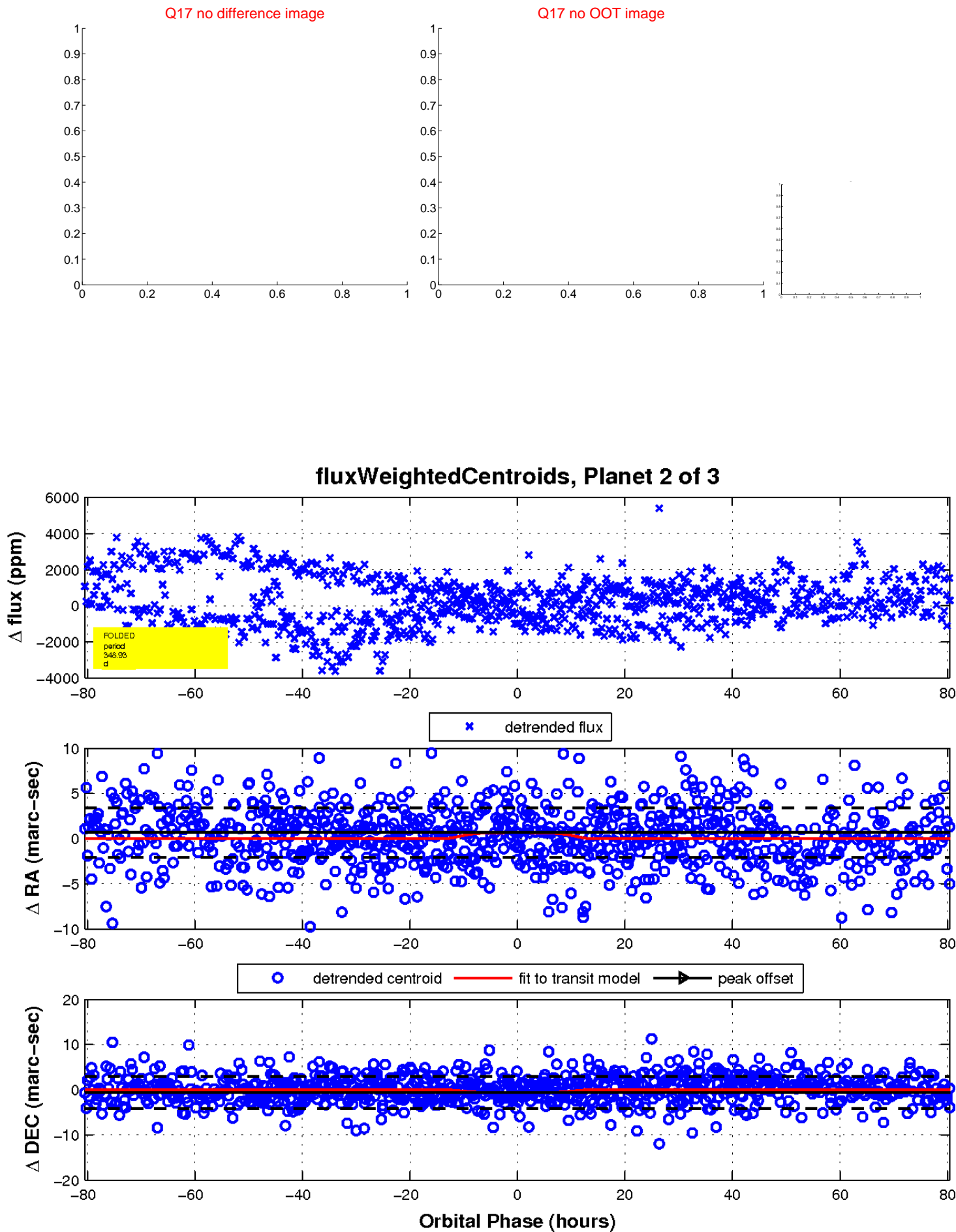
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

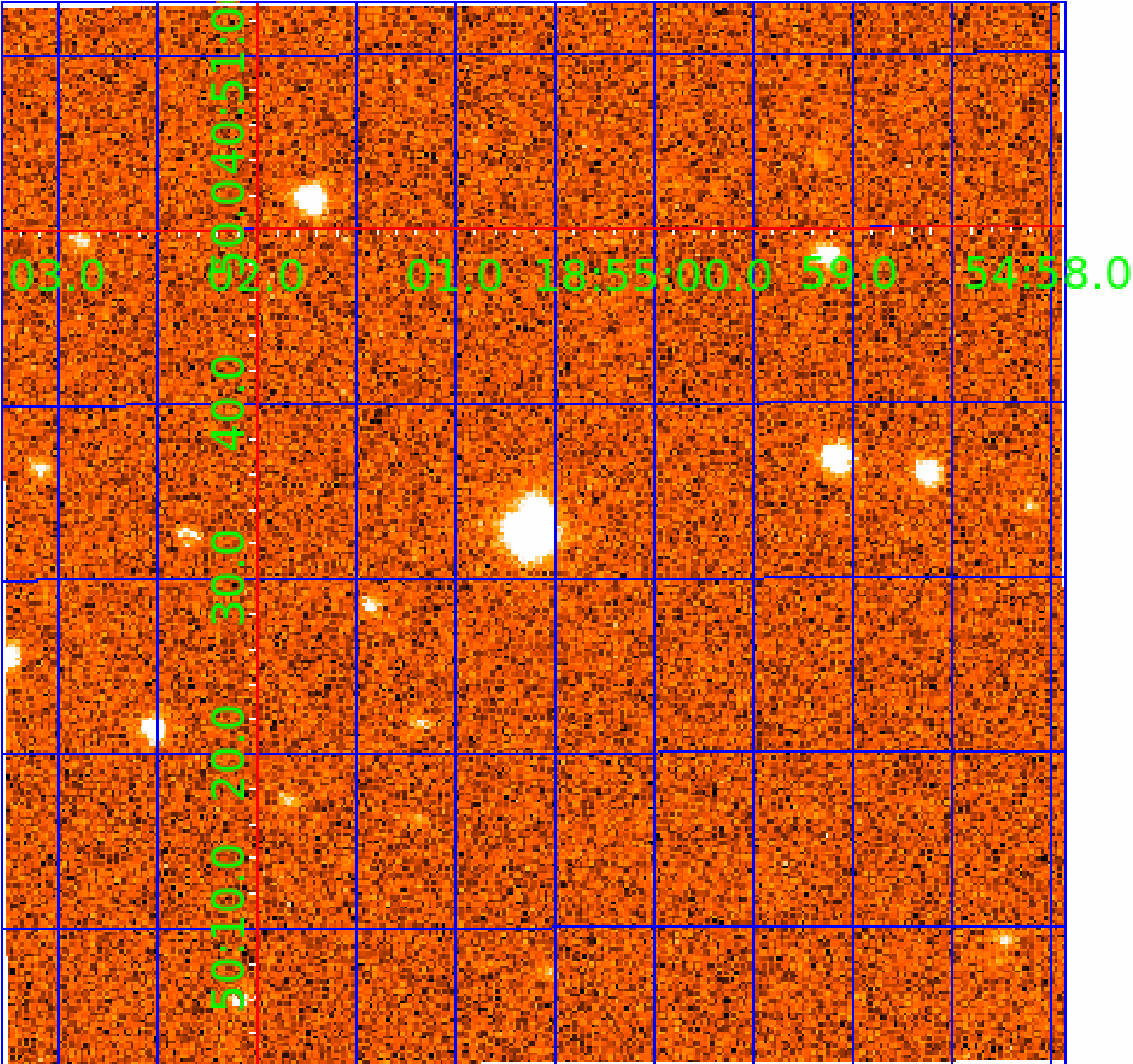


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005598595

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})
005598595-01	OBS	3949.01	0.648768	131.748391	179.0	3.017	19.5	20.6	0.73	5026	1.19	1792.60
005598595-02	OBS	No	348.933434	416.880067	2339.2	26.856	14.0	8.0	0.73	5026	4.23	0.41
005598595-03	OBS	No	247.616638	212.557901	1049.0	19.945	12.9	4.8	0.73	5026	2.56	0.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005598595-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—PLANET_OCCULT_DV—CENT_RESOLVED_OFFSET—EPHEM_MATCH
005598595-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005598595-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

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

Ephemeris Match Information For 005598595-03

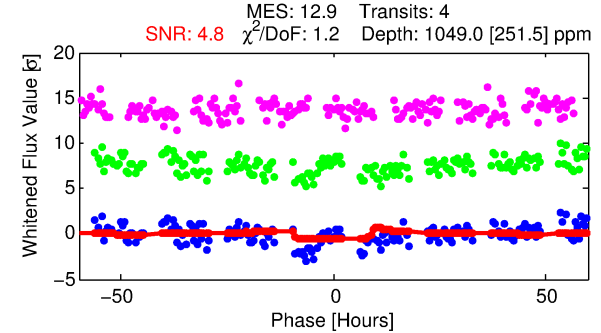
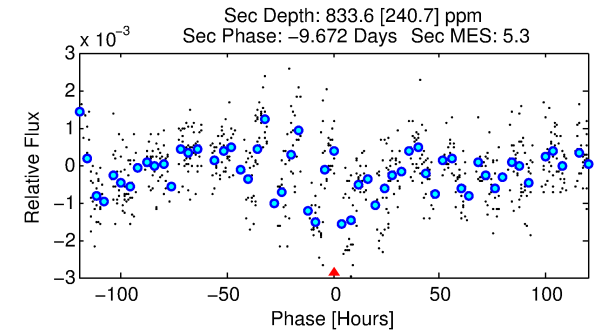
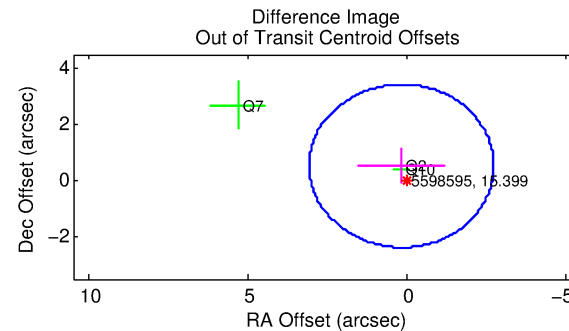
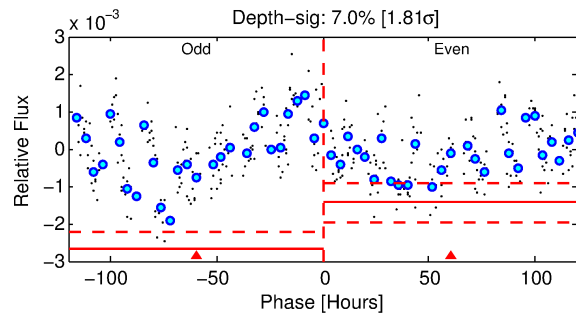
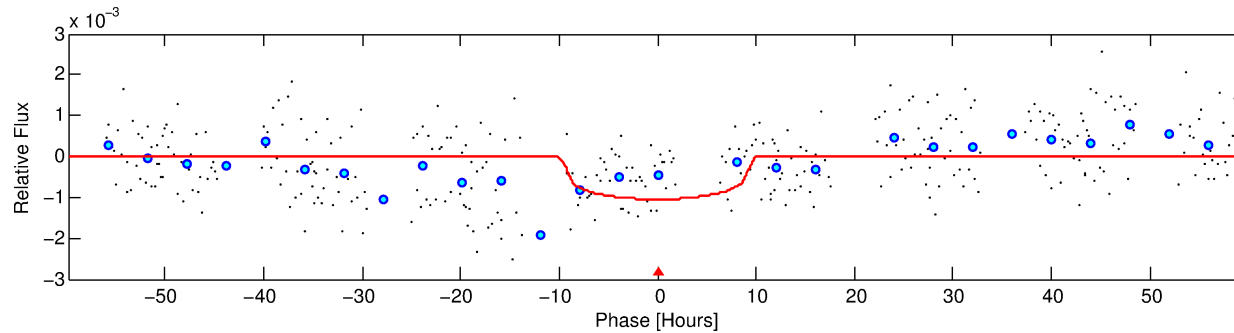
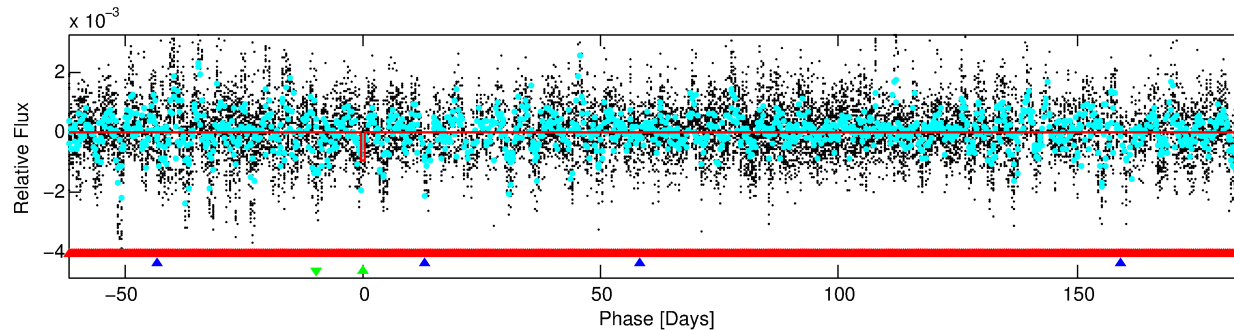
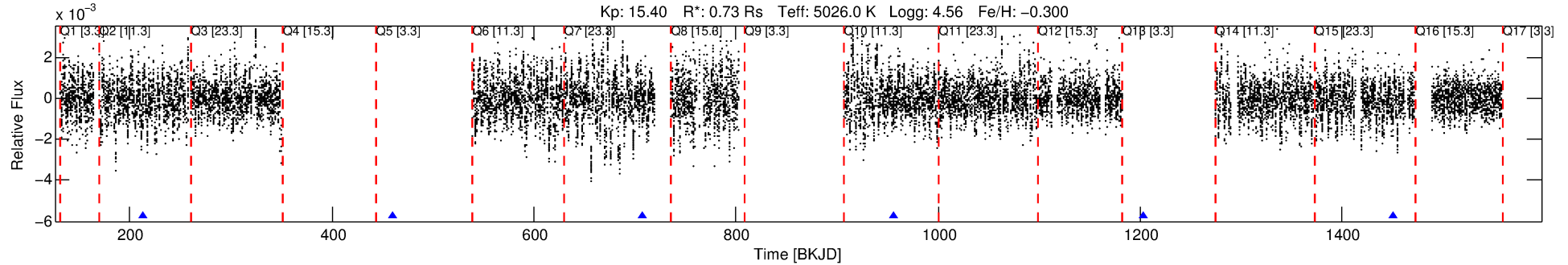
No Significant Match Found

DV One-Page Summary

KIC: 5598595 Candidate: 3 of 3 Period: 247.617 d

KOI: K03949 Corr: No Ephemeris Match

Kp: 15.40 R*: 0.73 Rs Teff: 5026.0 K Logg: 4.56 Fe/H: -0.300



DV Fit Results:

Period = 247.61664 [0.01160] d
Epoch = 212.5579 [0.0455] BKJD
Rp/R* = 0.0322 [0.0088]
a/R* = 68.06 [59.41]
b = 0.74 [0.53]
Seff = 0.65 [0.11]
Teq = 229 [10] K
Rp = 2.56 [0.75] Re
a = 0.6850 [0.0620] AU
Ag = 32816.93 [20660.50] [1.59σ]
Teff = 4760 [747] K [6.07σ]

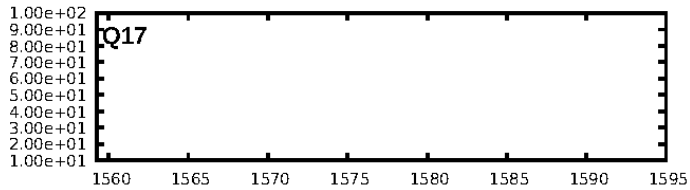
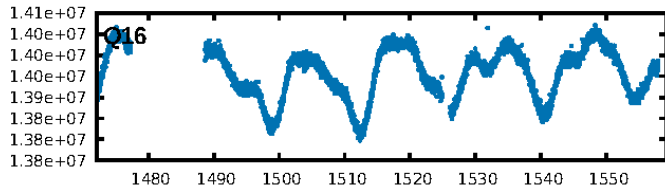
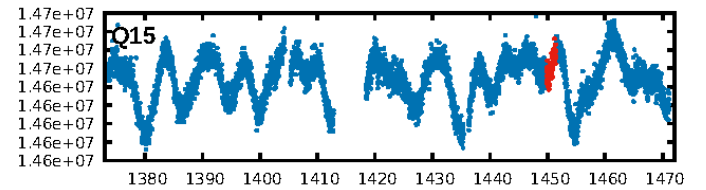
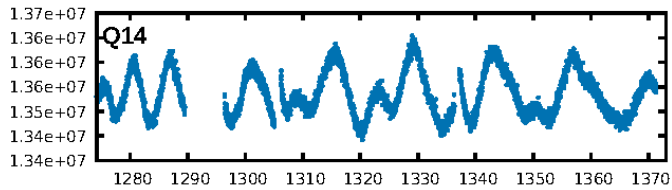
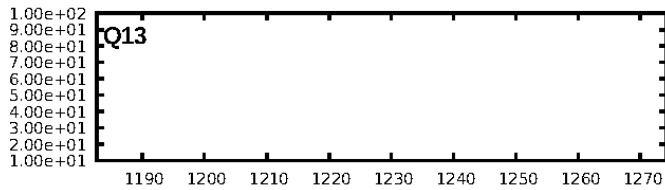
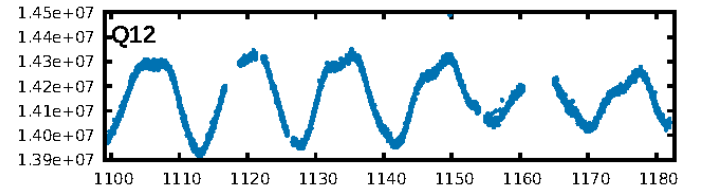
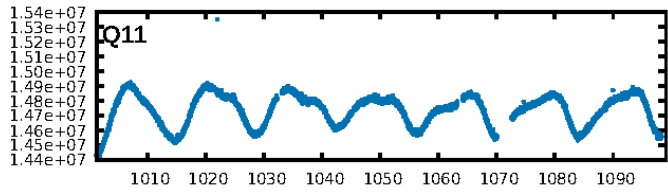
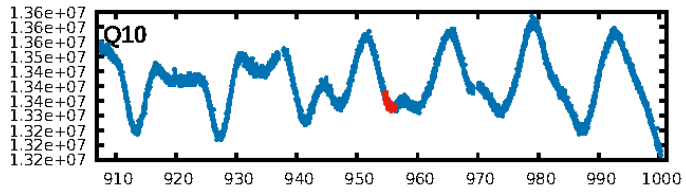
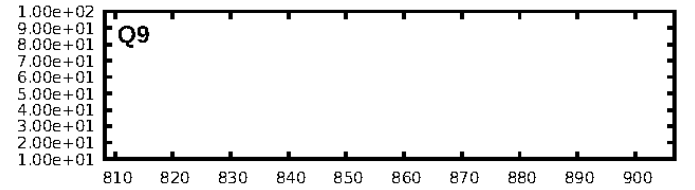
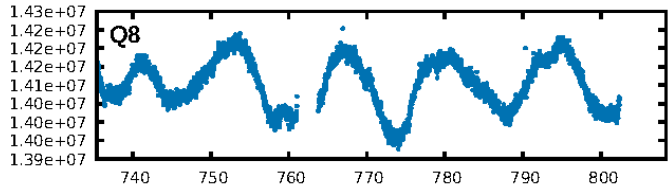
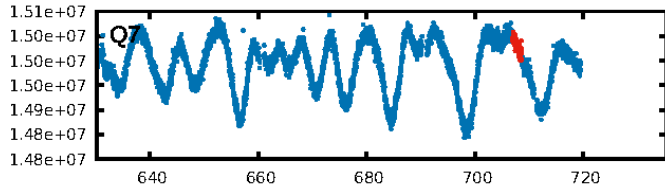
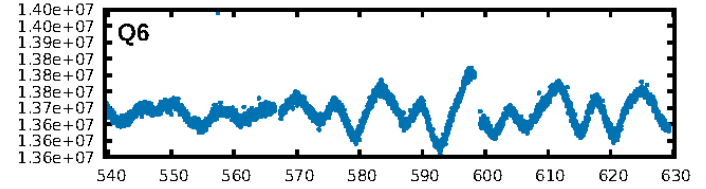
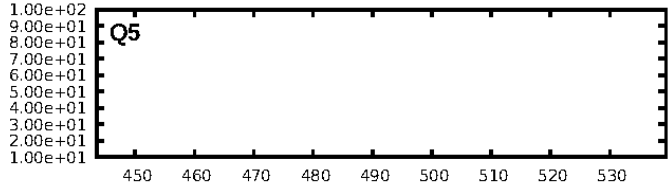
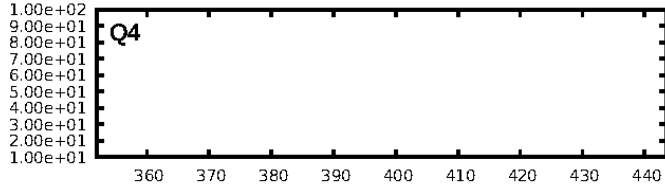
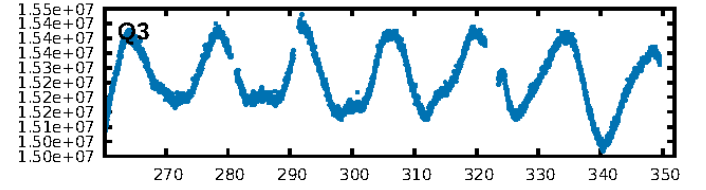
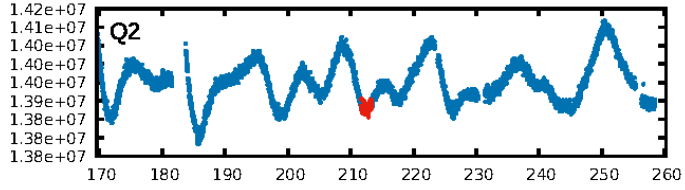
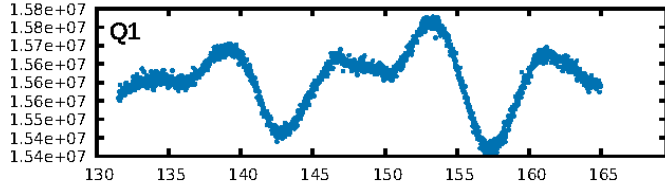
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [293.83σ]
LongPeriod-sig: 100.0% [72.69σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.02e-17
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 5.355
Centroid-sig: 18.2%
Centroid-so: 0.719 arcsec [0.84σ]
OotOffset-rm: 0.552 arcsec [0.57σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-rm: 0.575 arcsec [0.51σ]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

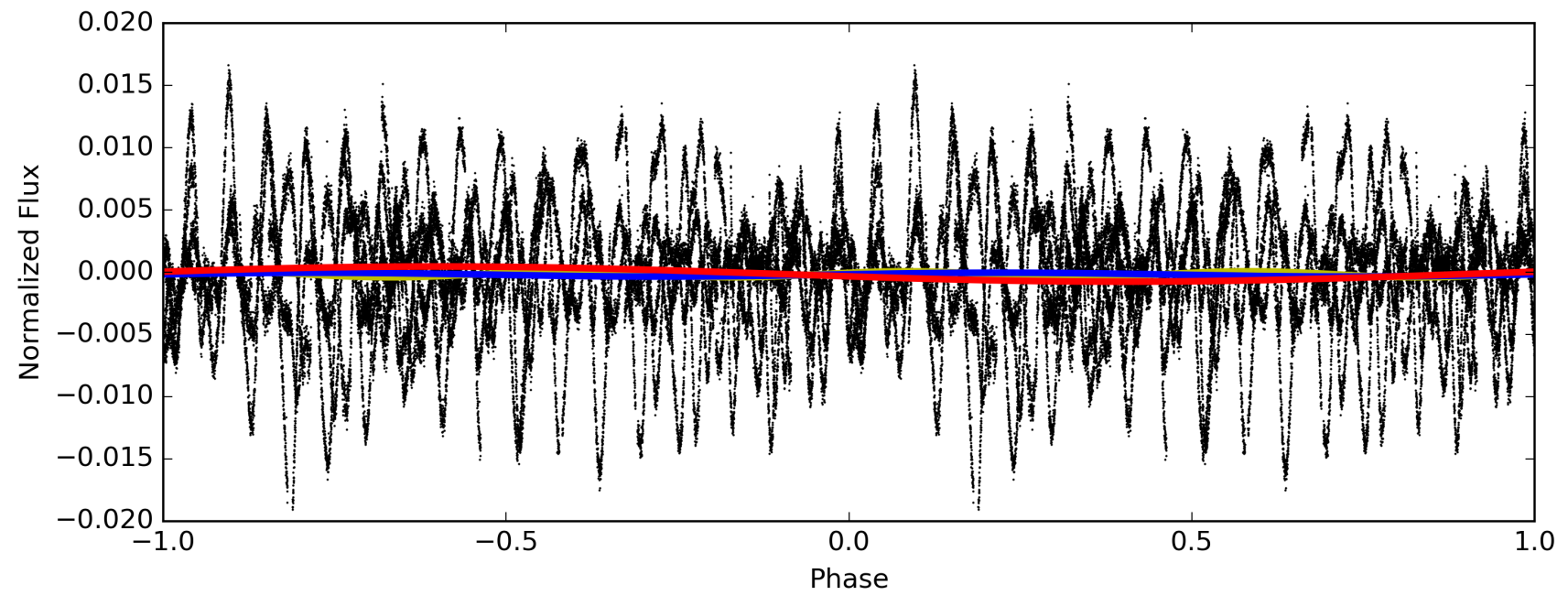
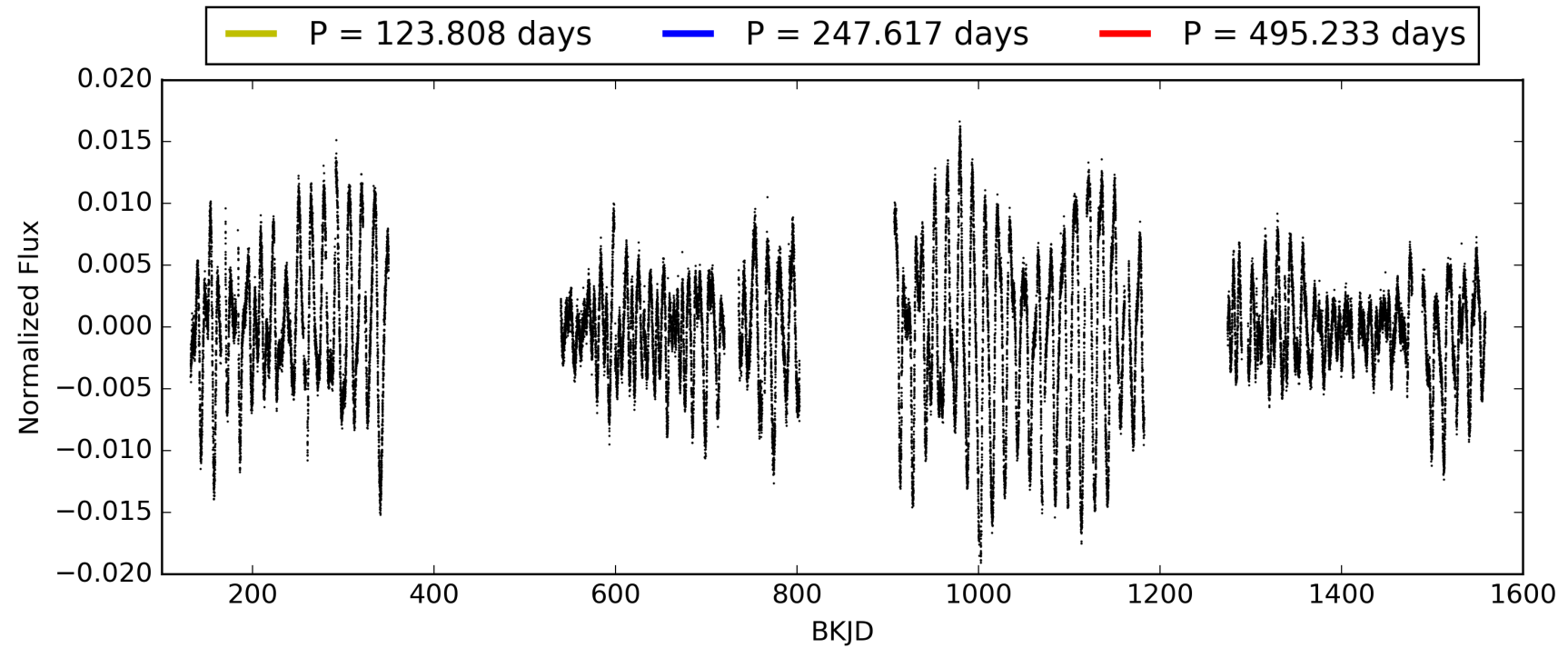
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 21:04:01 Z

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

TCE 005598595-03, PDC Light Curves

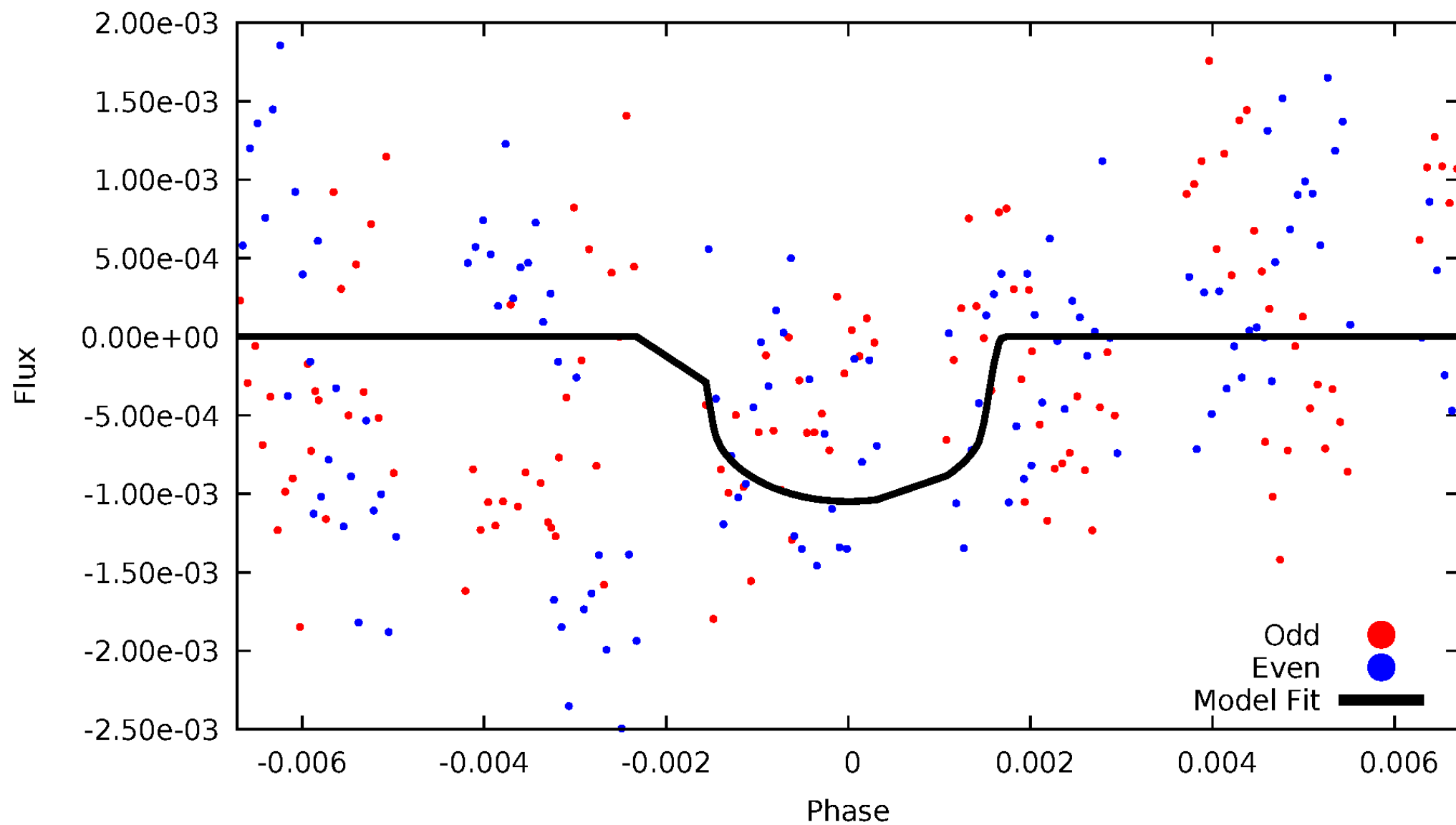


TCE 005598595-03



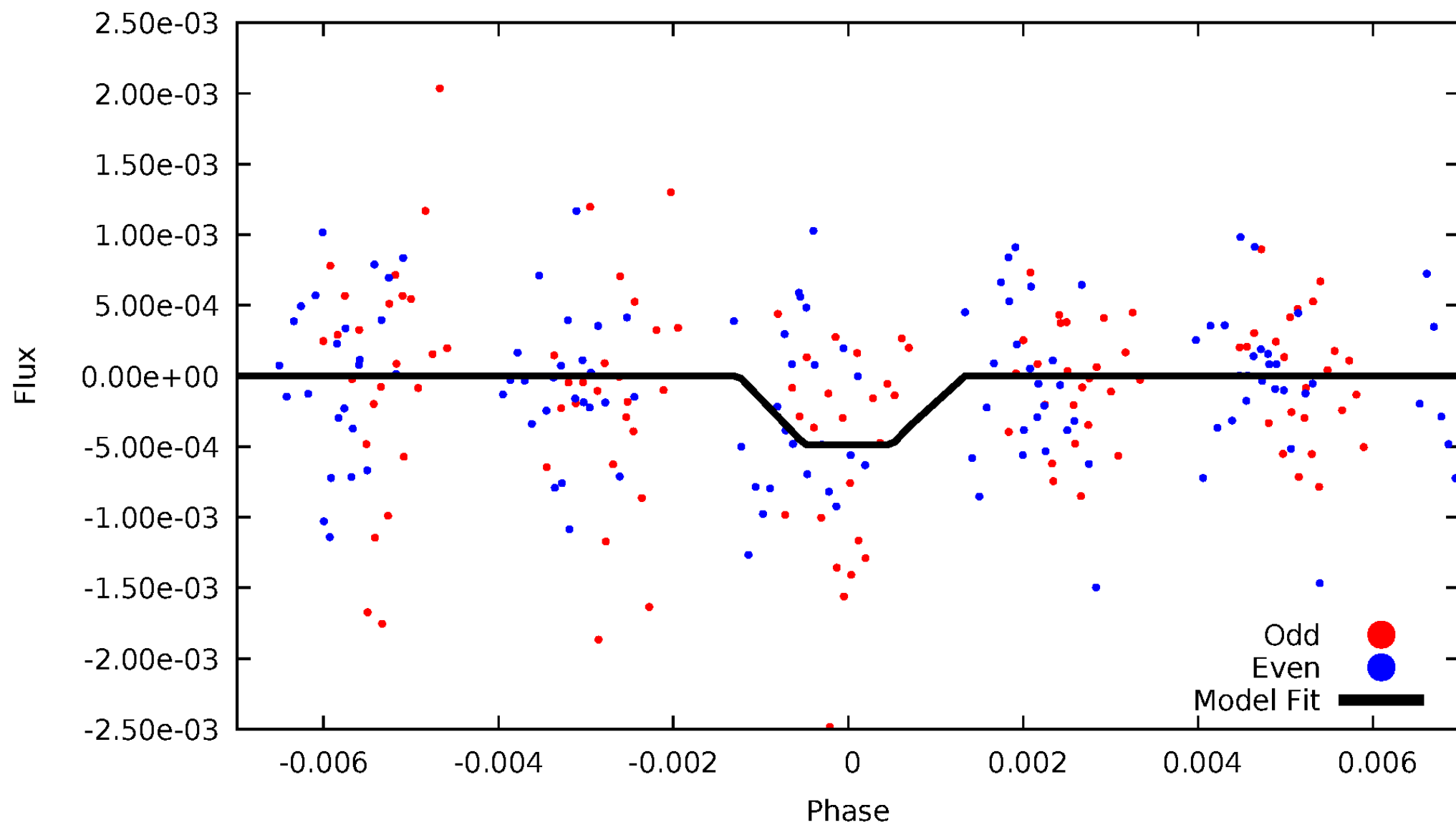
DV Odd/Even

TCE 005598595-03



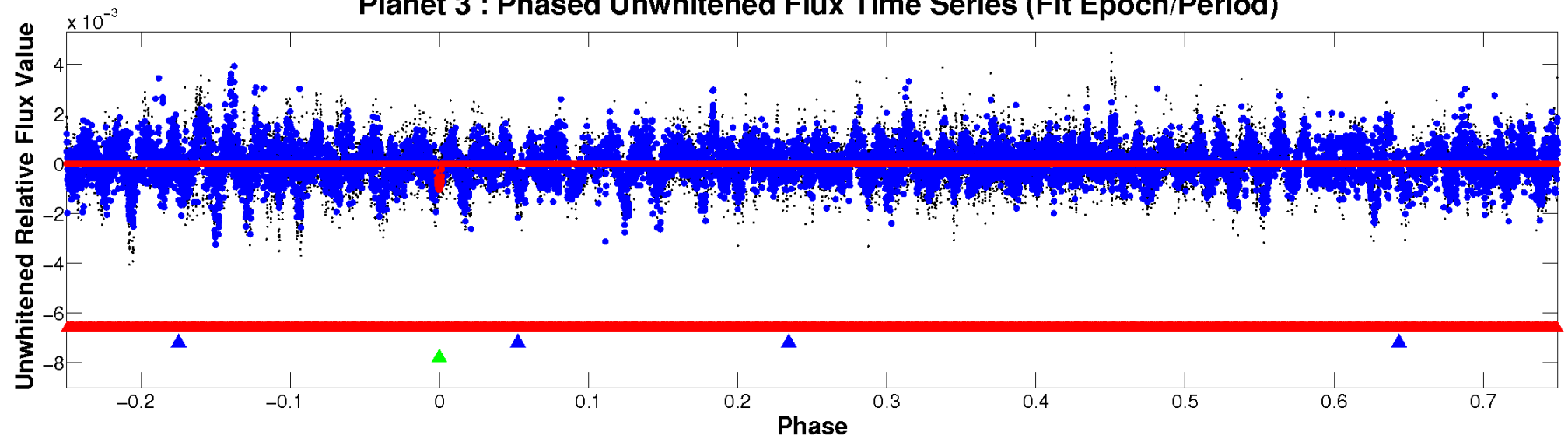
ALT Odd/Even

TCE 005598595-03

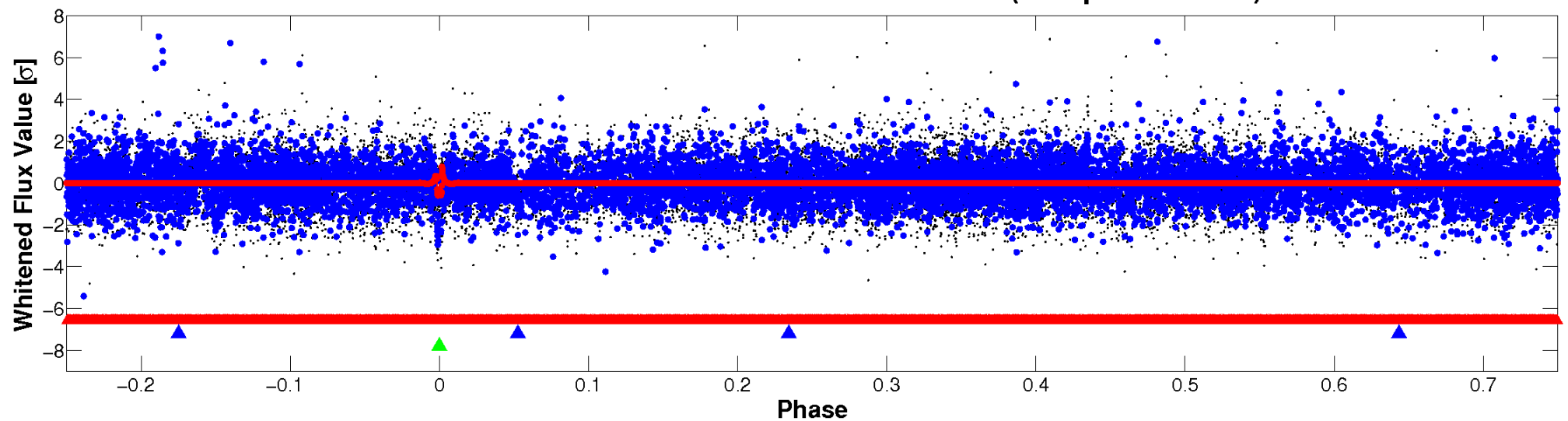


Non-Whitened Vs. Whitened Light Curve

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

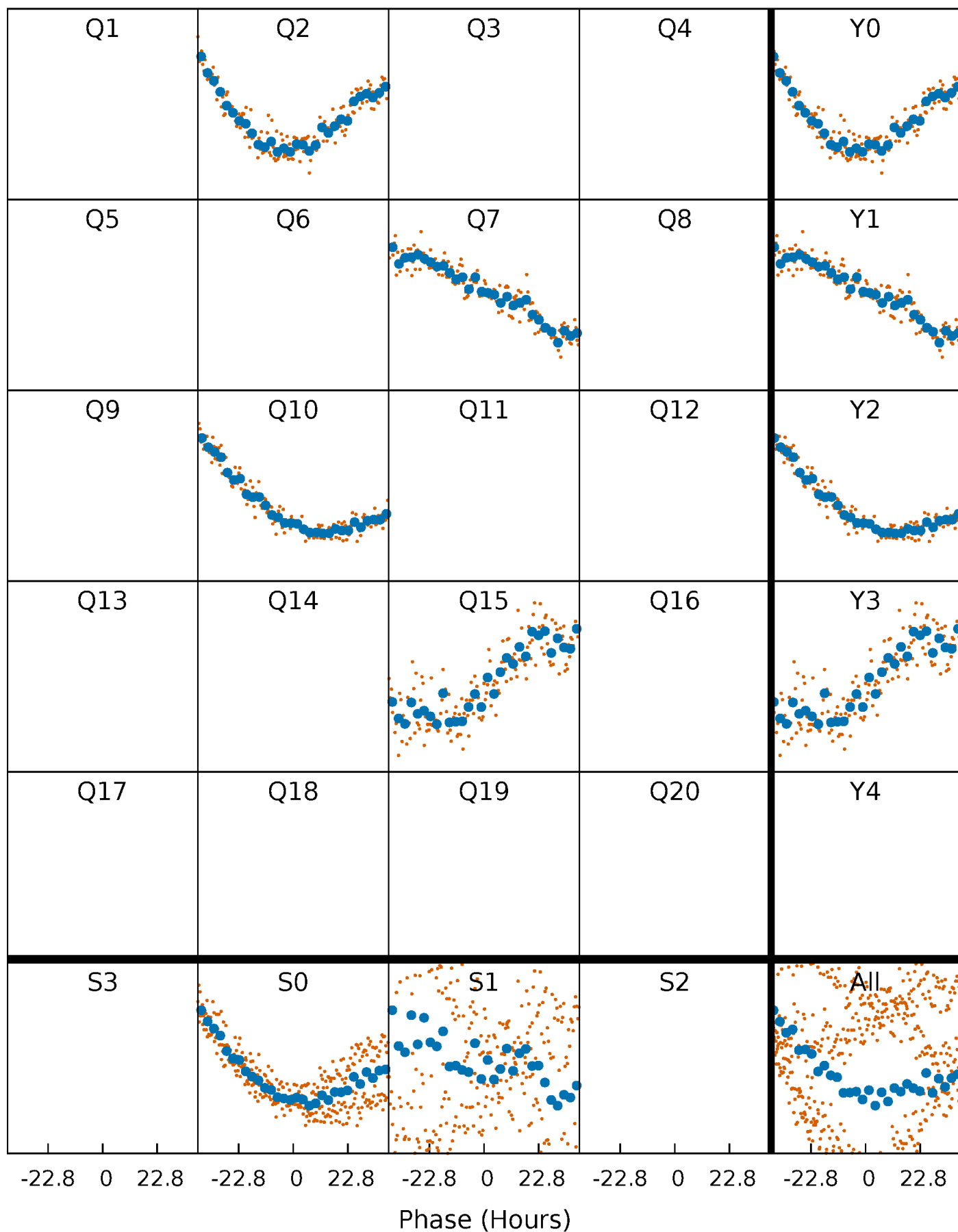


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



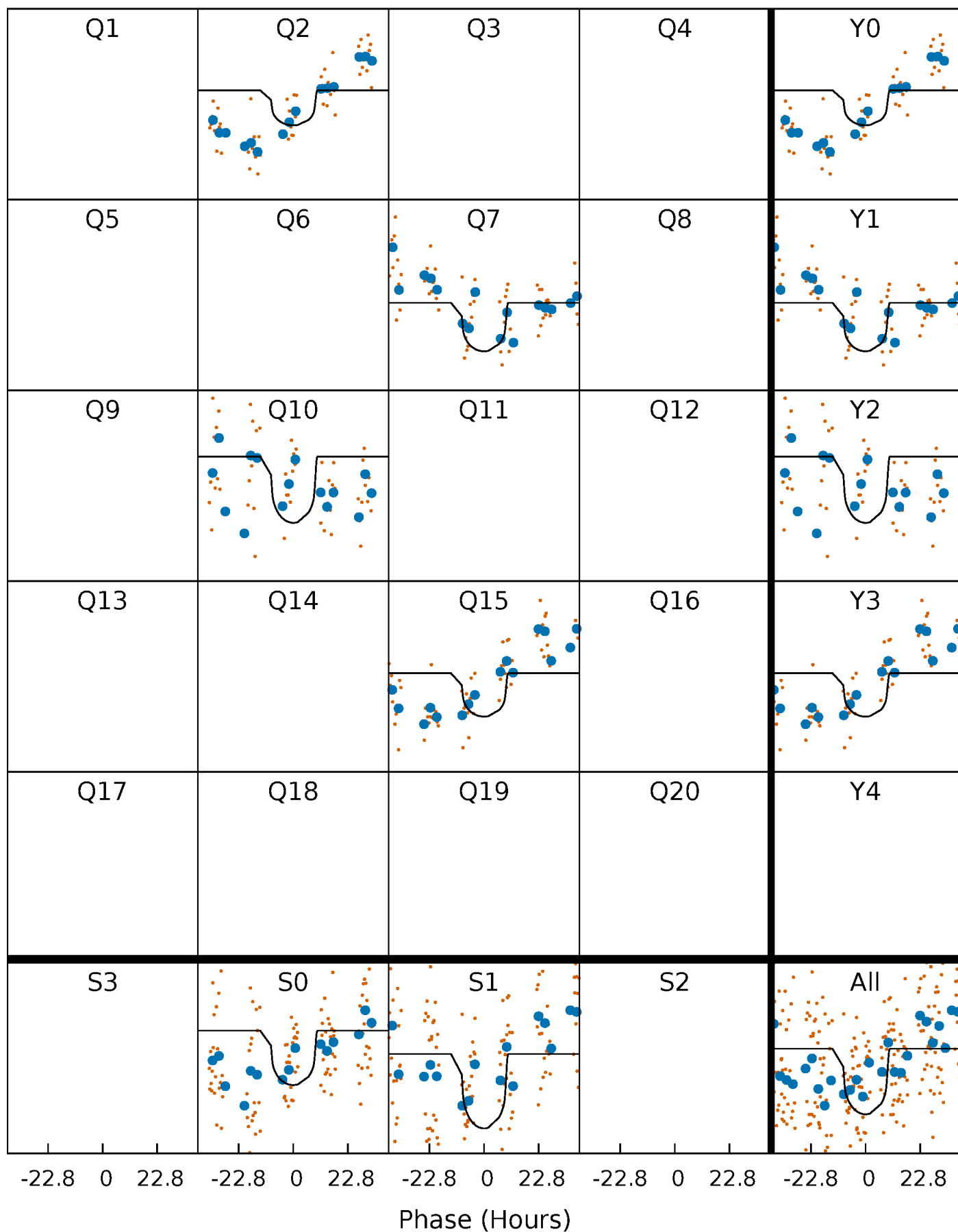
PDC Quarter-Phased Transit Curves

TCE 005598595-03 $P=247.616638$ Days $T_0=212.557900$ (BKJD)



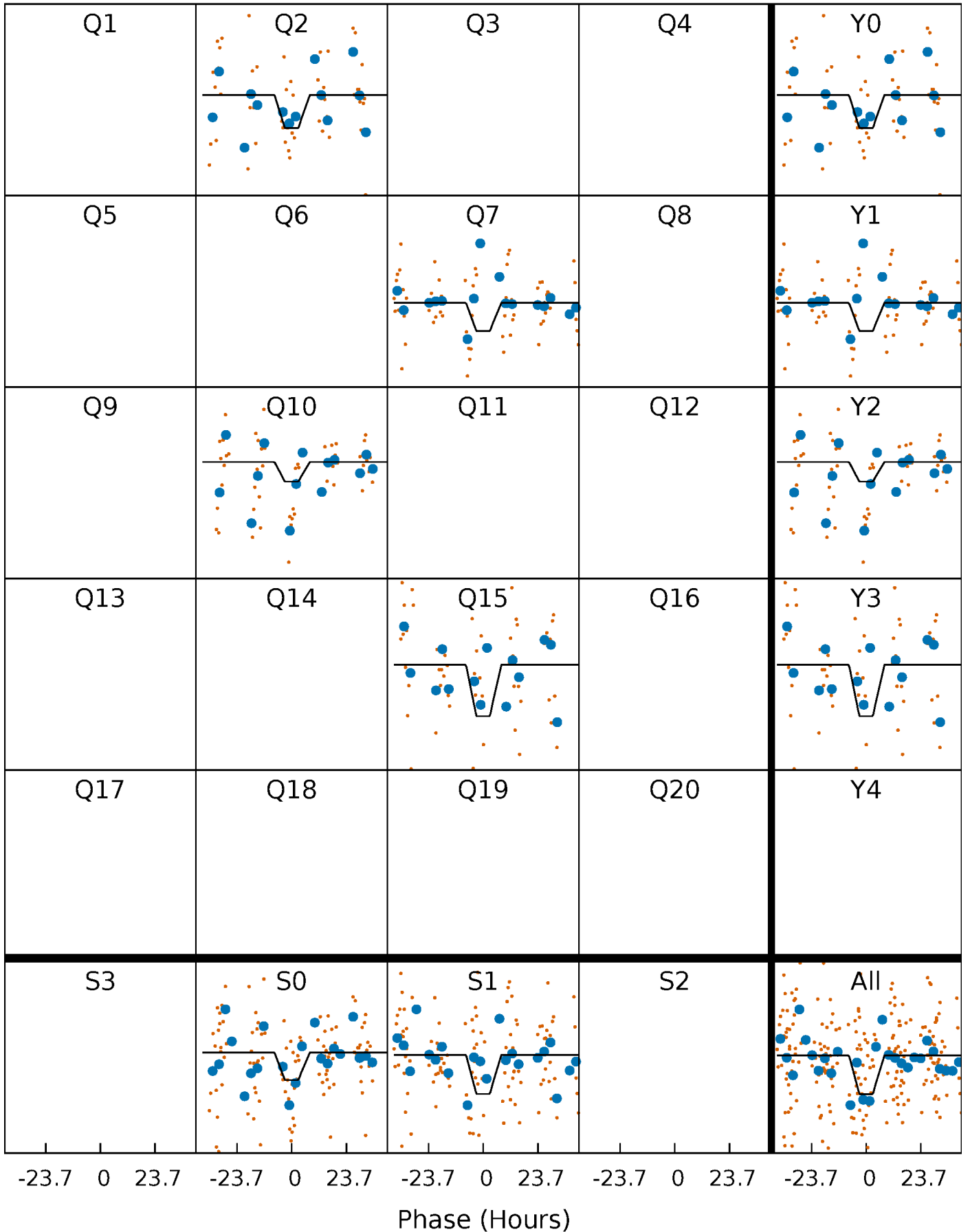
DV Quarter-Phased Transit Curves

TCE 005598595-03 $P=247.616638$ Days $T_0=212.557900$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

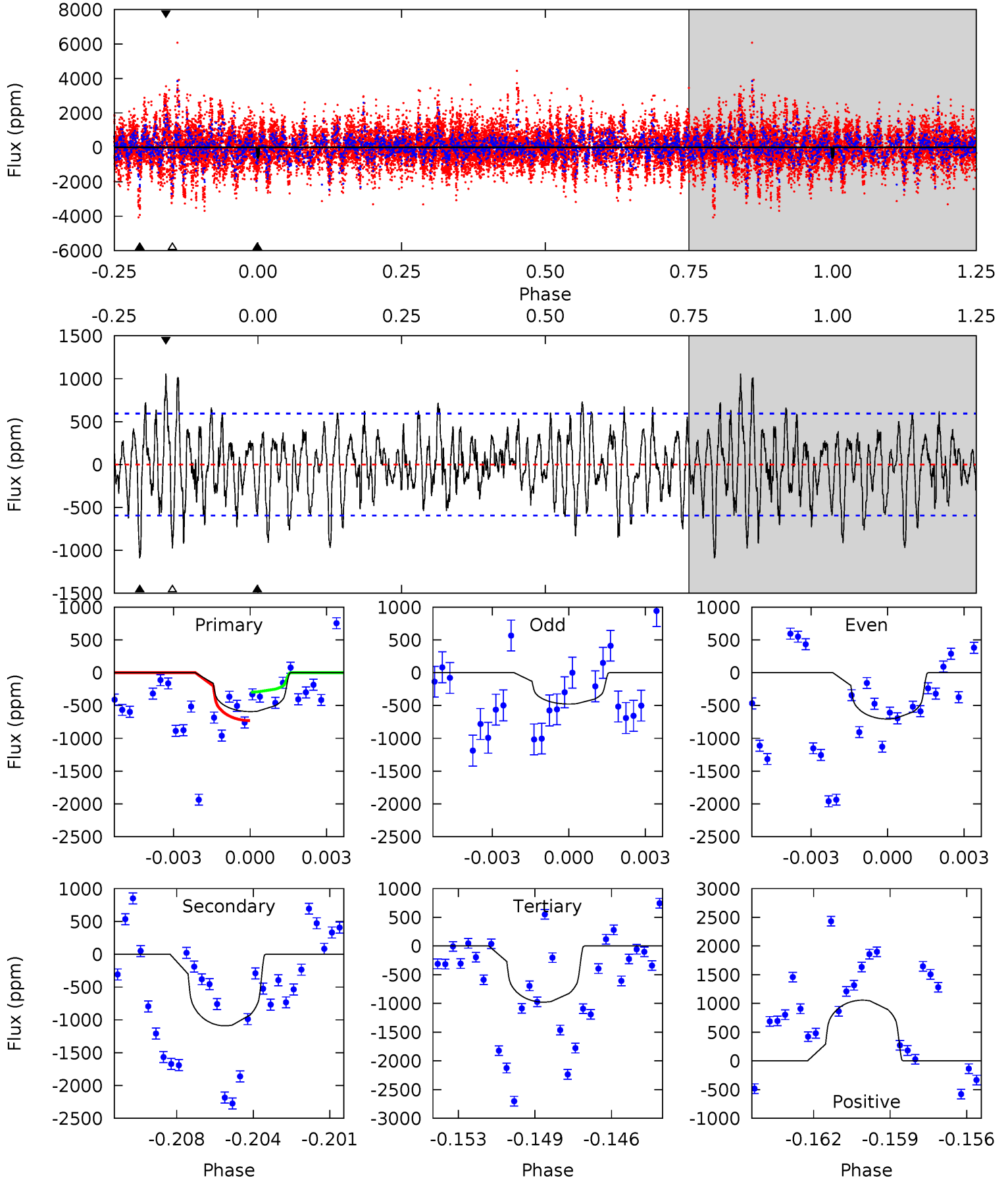
TCE 005598595-03 P=247.573013 Days $T_0=212.588166$ (BKJD)



DV Model-Shift Uniqueness Test

005598595-03, P = 247.616638 Days, E = 212.557900 Days

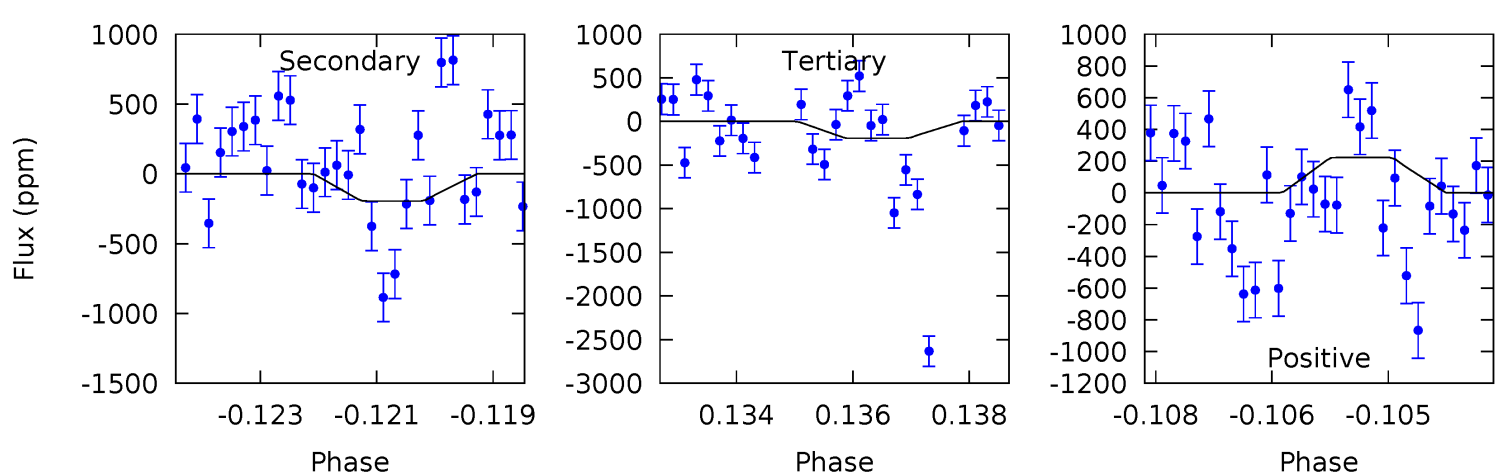
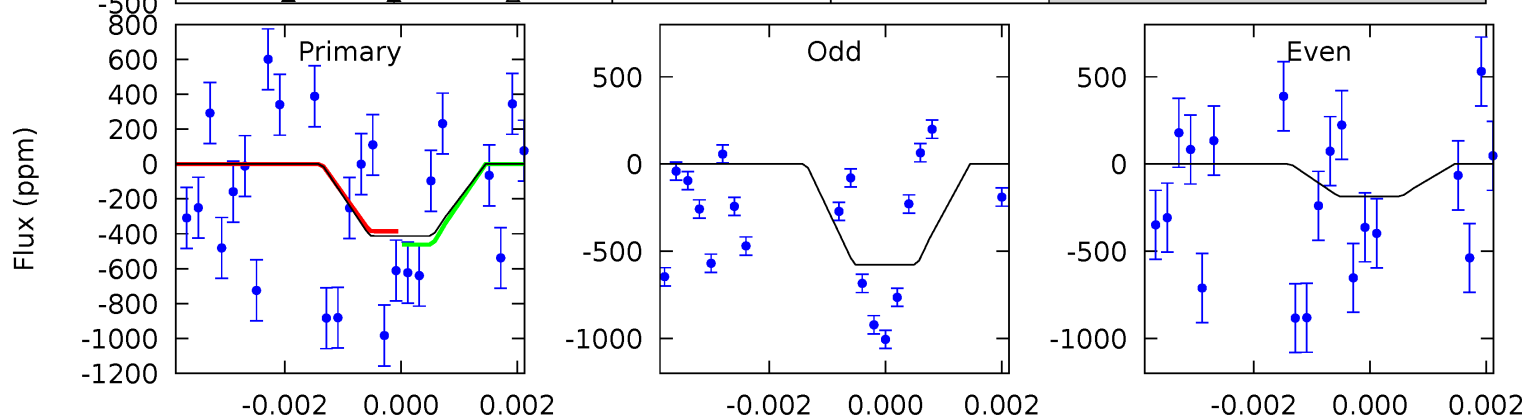
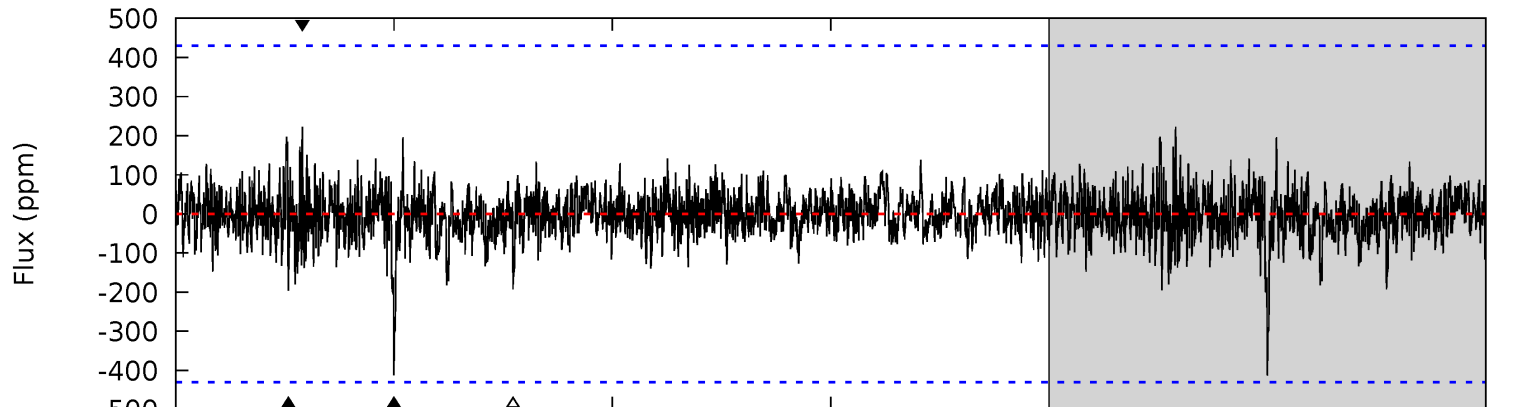
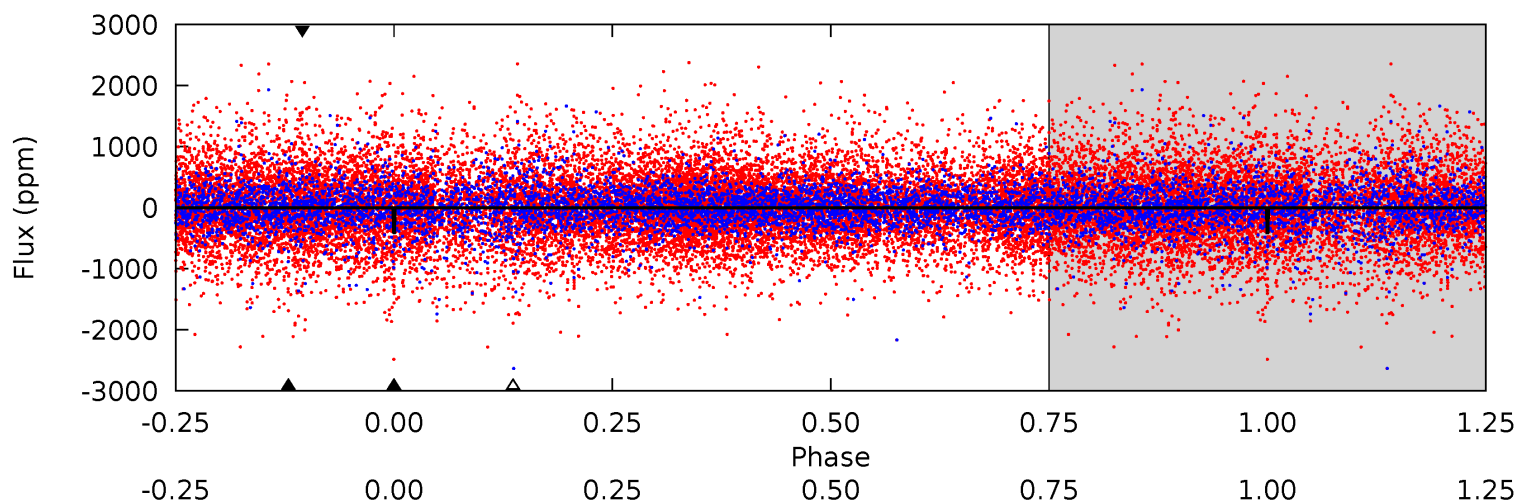
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.22	9.61	8.60	9.31	5.24	2.94	2.79	-3.38	-4.09	1.00	0.29	1.02	1.03	0.49	1.88



Alt Model-Shift Uniqueness Test

005598595-03, P = 247.573013 Days, E = 212.588166 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.12	2.42	2.39	2.76	5.34	3.12	0.59	2.73	2.37	0.03	-0.34	2.44	1.01	0.35	0.44



Stellar Parameters For KIC 005598595

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5026^{+151}_{-151}	$4.557^{+0.071}_{-0.065}$	$-0.300^{+0.350}_{-0.300}$	$0.729^{+0.079}_{-0.071}$	$0.701^{+0.103}_{-0.047}$	$2.542^{+0.812}_{-0.515}$
	+3%/-3%	+2%/-1%	+117%/-100%	+11%/-10%	+15%/-7%	+32%/-20%
Source	PHO1	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 005598595-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1091 ± 114	$2.55^{+0.88}_{-0.71}$	320^{+12}_{-13}	5103^{+802}_{-561}	44309^{+41556}_{-19936}
Alt.	-195 ± 81	$1.77^{+0.72}_{-0.67}$	319^{+13}_{-14}	4194^{+987}_{-572}	16234^{+28007}_{-9193}

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 $A_{obs} \gg 1.0$

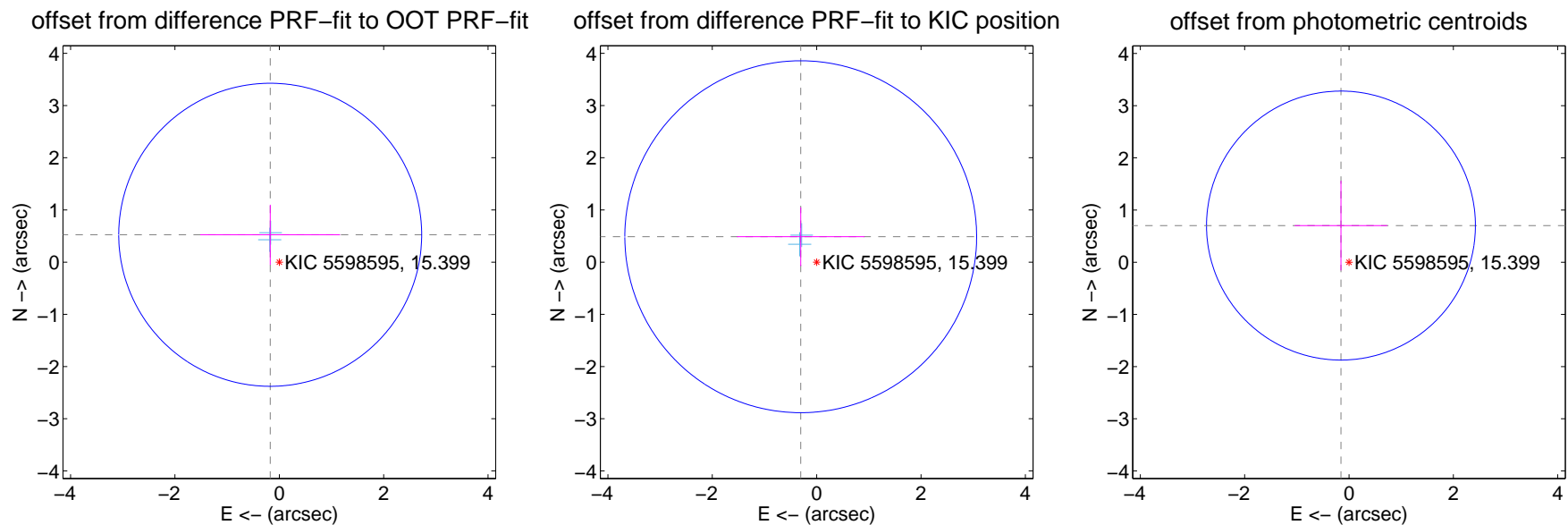
DV Centroid Data

Supplemental centroid analysis for 005598595-03. Kepler magnitude: 15.40. Transit SNR 4.80

There are 2 quarters with good PRF difference image offsets

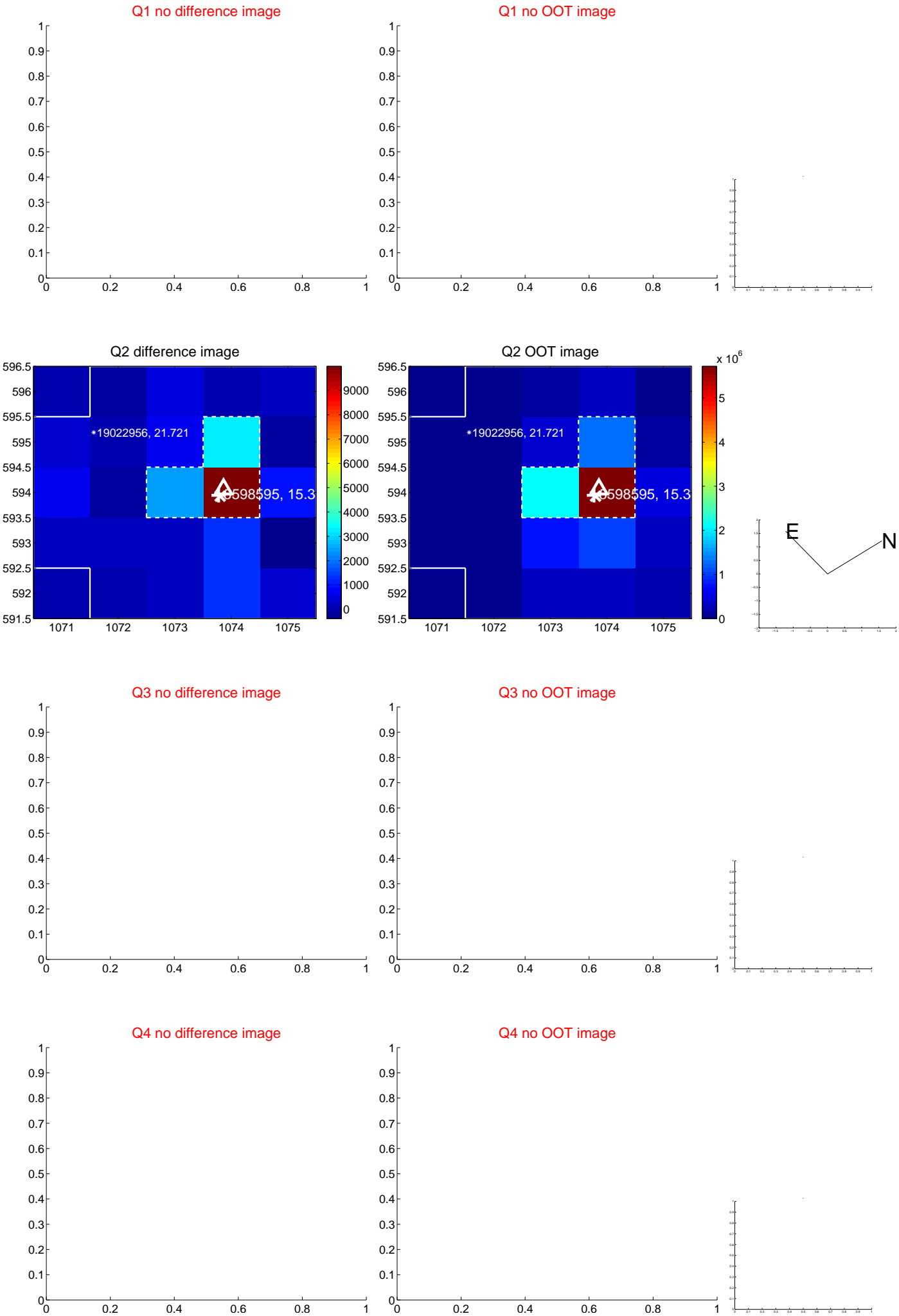
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.552 ± 0.968	0.57	0.174 ± 1.339	0.524 ± 0.577
PRF-fit source offset from KIC position	0.575 ± 1.124	0.51	0.305 ± 1.223	0.487 ± 0.563
photometric centroid source offset	0.72 ± 0.86	0.84	0.15 ± 0.89	0.70 ± 0.86

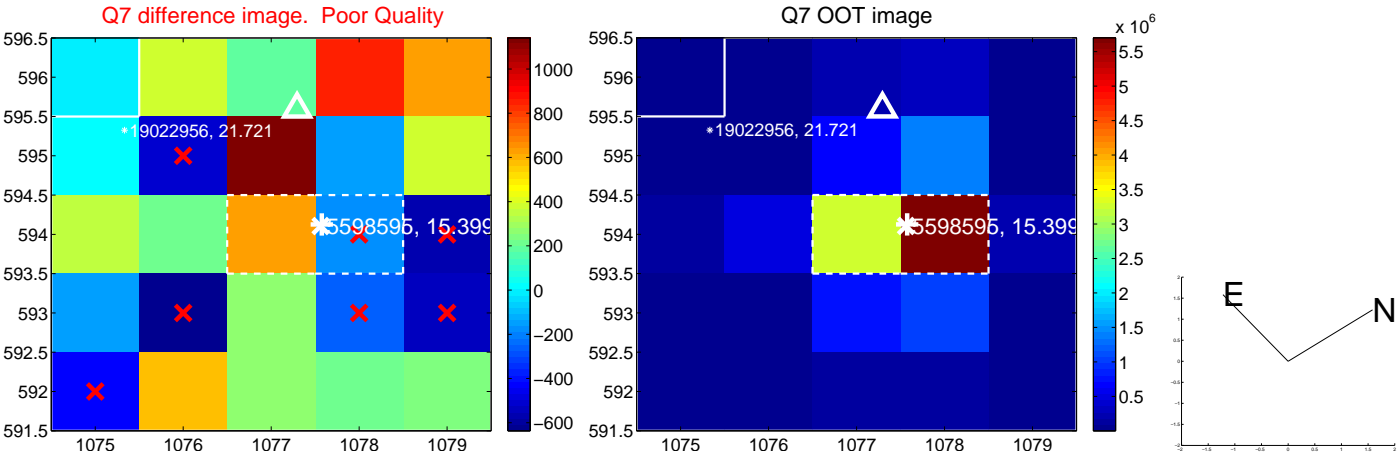


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

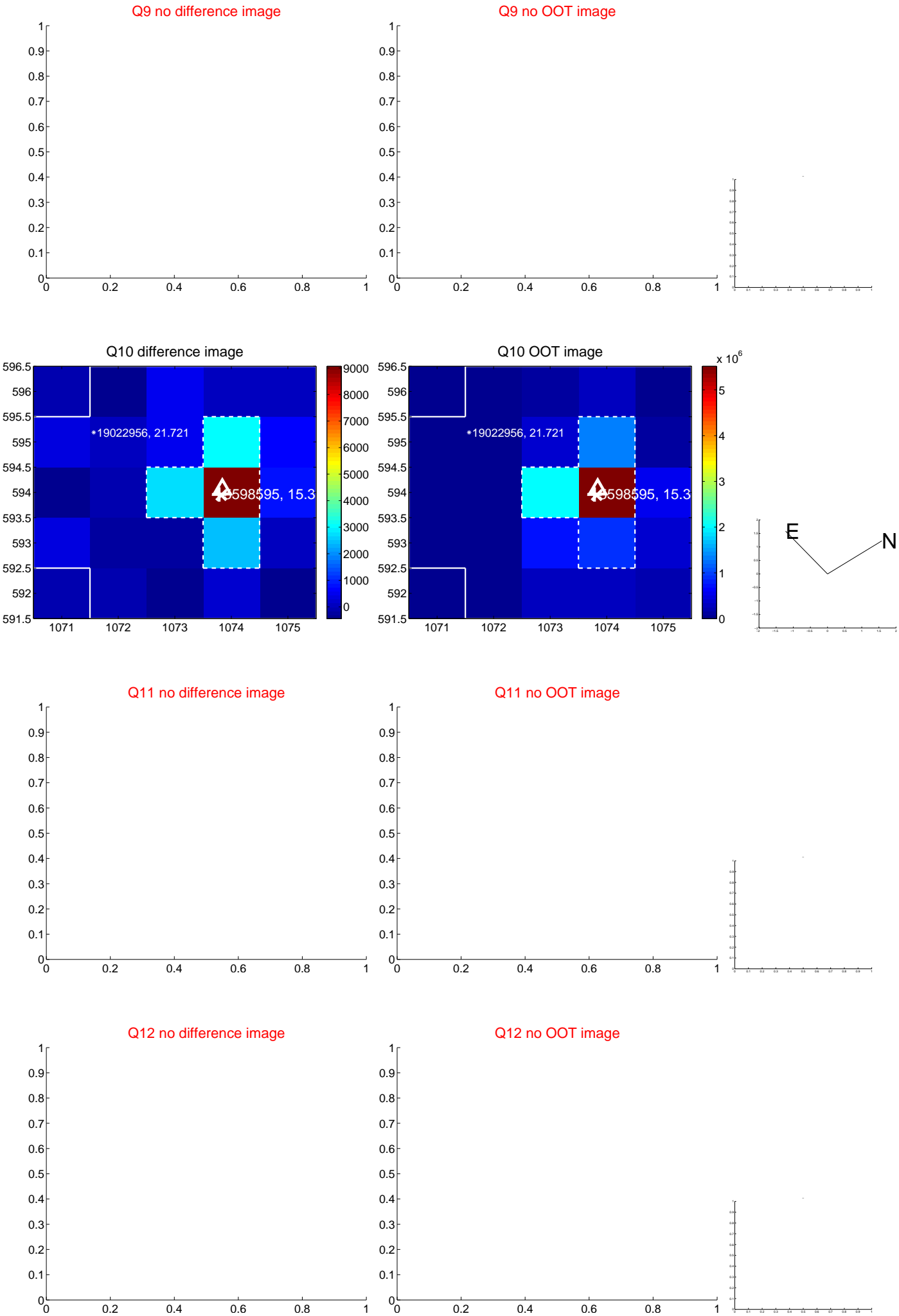
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



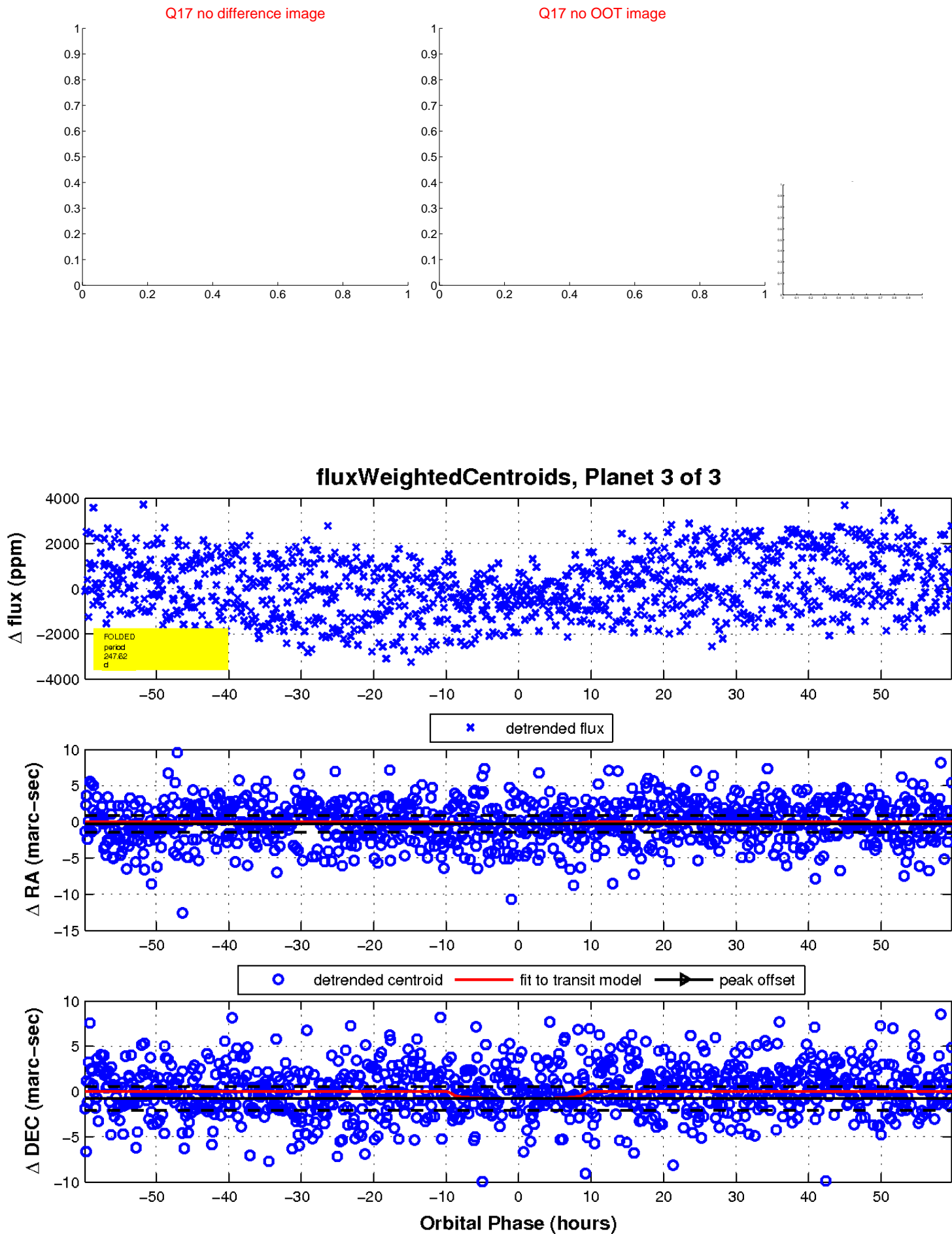
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

