

KIC 007584778

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})
007584778-01	OBS	6887.01	0.622299	132.090736	59.5	2.392	11.8	12.0	0.85	5672	0.78	4040.85
007584778-02	OBS	No	141.164373	238.072361	801.9	7.438	14.4	8.2	0.85	5672	3.14	2.92
007584778-03	OBS	No	301.817616	187.160614	646.5	7.804	9.8	7.0	0.85	5672	2.40	1.06
007584778-04	OBS	No	277.395648	390.253541	512.3	4.784	9.7	4.5	0.85	5672	2.09	1.19
007584778-05	OBS	No	201.549825	189.072332	727.1	10.500	11.0	-1.0	0.85	5672	2.29	1.82
007584778-06	OBS	No	135.172218	147.613285	558.3	4.205	9.0	6.3	0.85	5672	2.20	3.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007584778-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH
007584778-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007584778-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—CENT_FEW_DIFFS
007584778-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007584778-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007584778-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

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

Ephemeris Match Information For 007584778-01

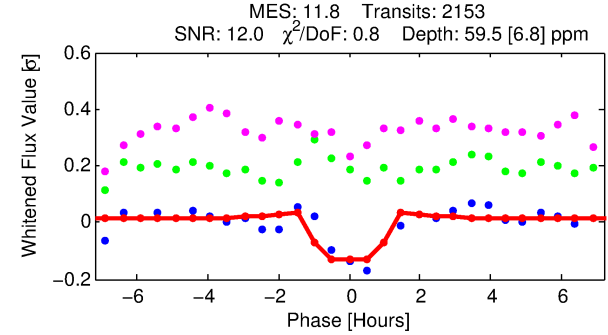
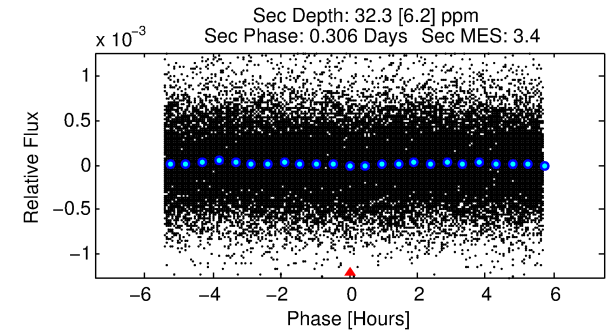
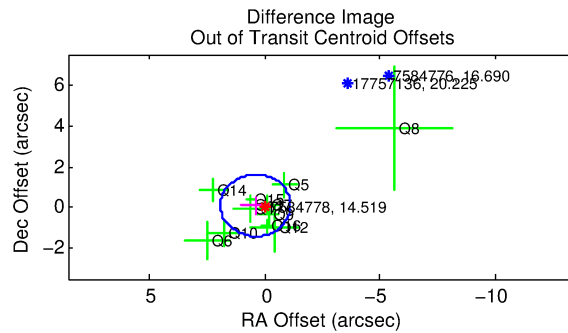
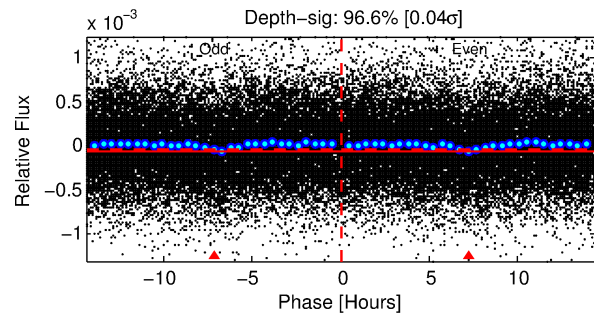
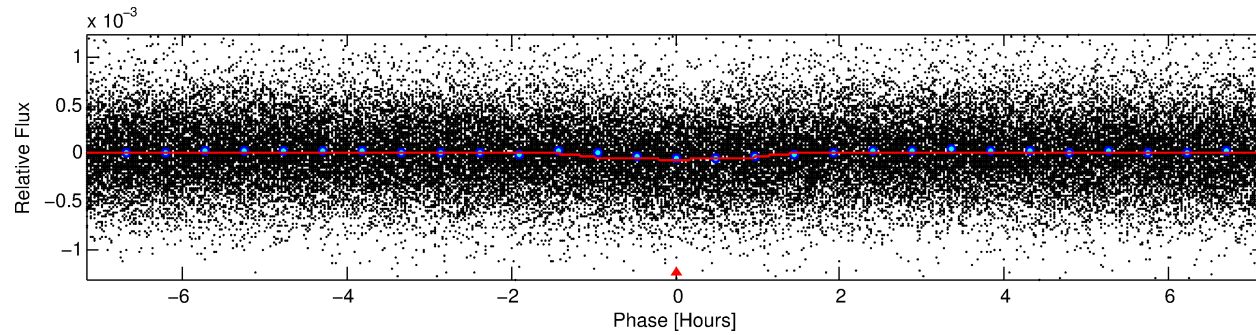
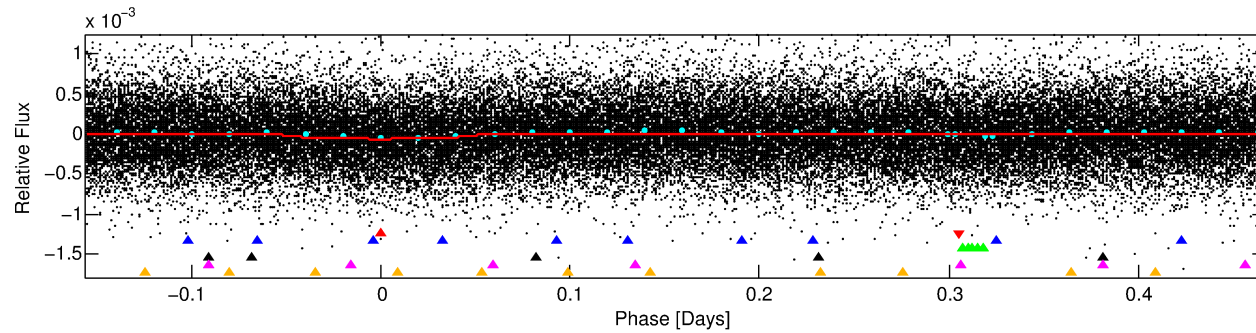
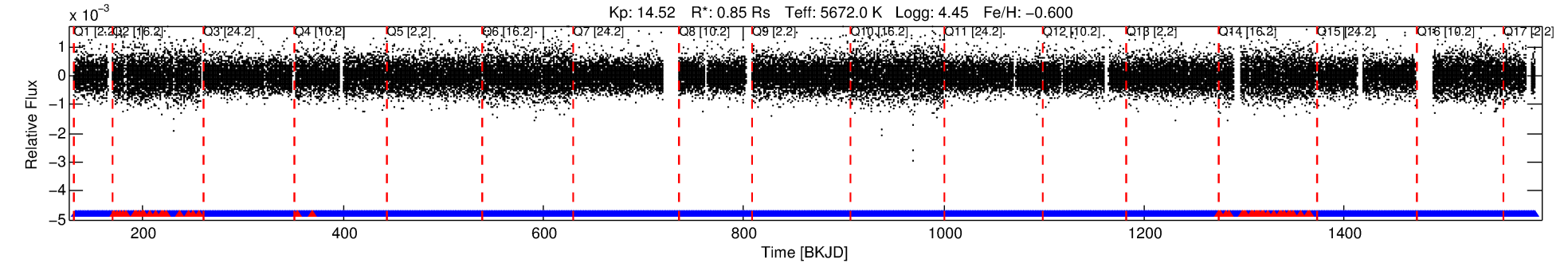
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist ($''$)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
007584778-01	7584778	007584826-pri	7584826	1:1	105.1	27	1	15.19	14.52	4366.70	Col-Anomaly	0	1.75	0.87

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: 7584778 Candidate: 1 of 6 Period: 0.622 d

KOI: K06887.01 Corr: 0.932



DV Fit Results:

Period = 0.62230 [0.00001] d
Epoch = 132.0907 [0.0021] BKJD
Rp/R* = 0.0084 [0.0043]
a/R* = 1.30 [1.35]
b = 0.90 [0.53]
Seff = 4040.85 [1213.08]
Teff = 2033 [153] K
Rp = 0.78 [0.43] Re
a = 0.0129 [0.0024] AU
Ag = 4.87 [5.21] [0.74 σ]
Teffp = 4668 [1217] K [2.15 σ]

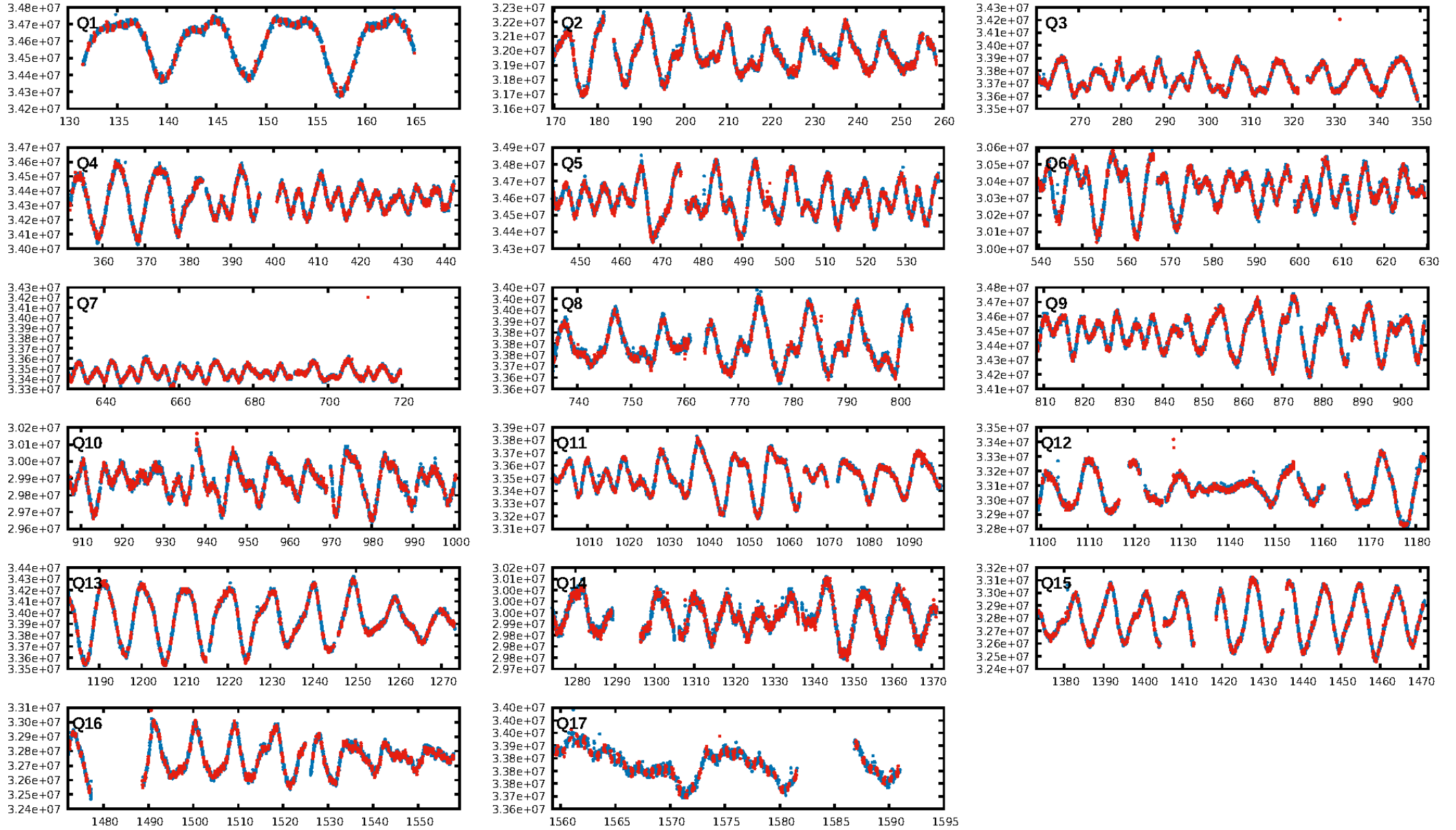
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [667.56 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.92e-26
RollingBand-fgt: 0.97 [2003/2056]
GhostDiagnostic-chr: 14.76
Centroid-sig: 0.2%
Centroid-so: 1.616 arcsec [1.87 σ]
OotOffset-rm: 0.412 arcsec [0.82 σ]
KicOffset-rm: 0.360 arcsec [1.22 σ]
OotOffset-st: 3/3/3 [12]
KicOffset-st: 3/3/3 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 1.00 [17/17]

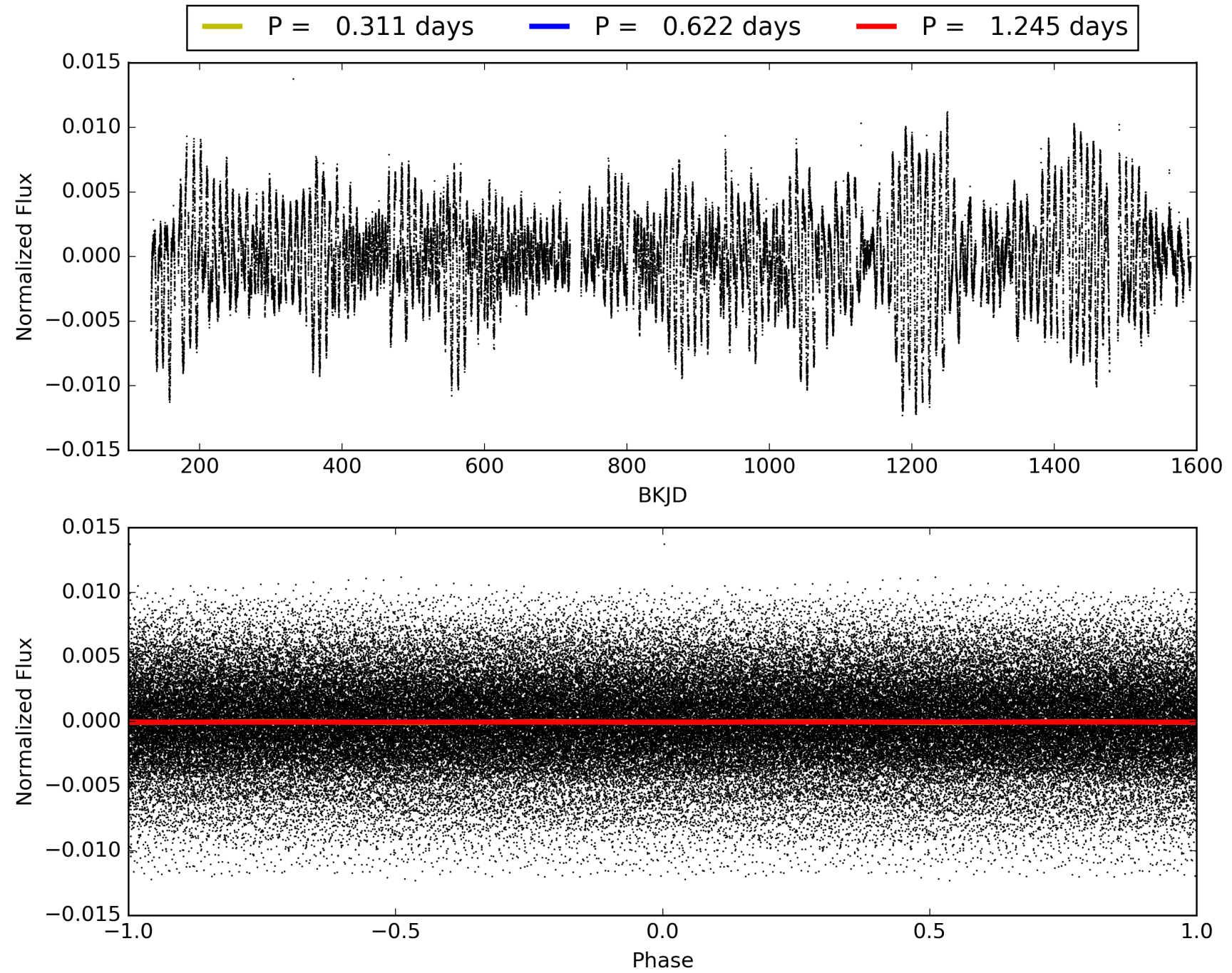
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:13:23 Z

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

TCE 007584778-01, PDC Light Curves

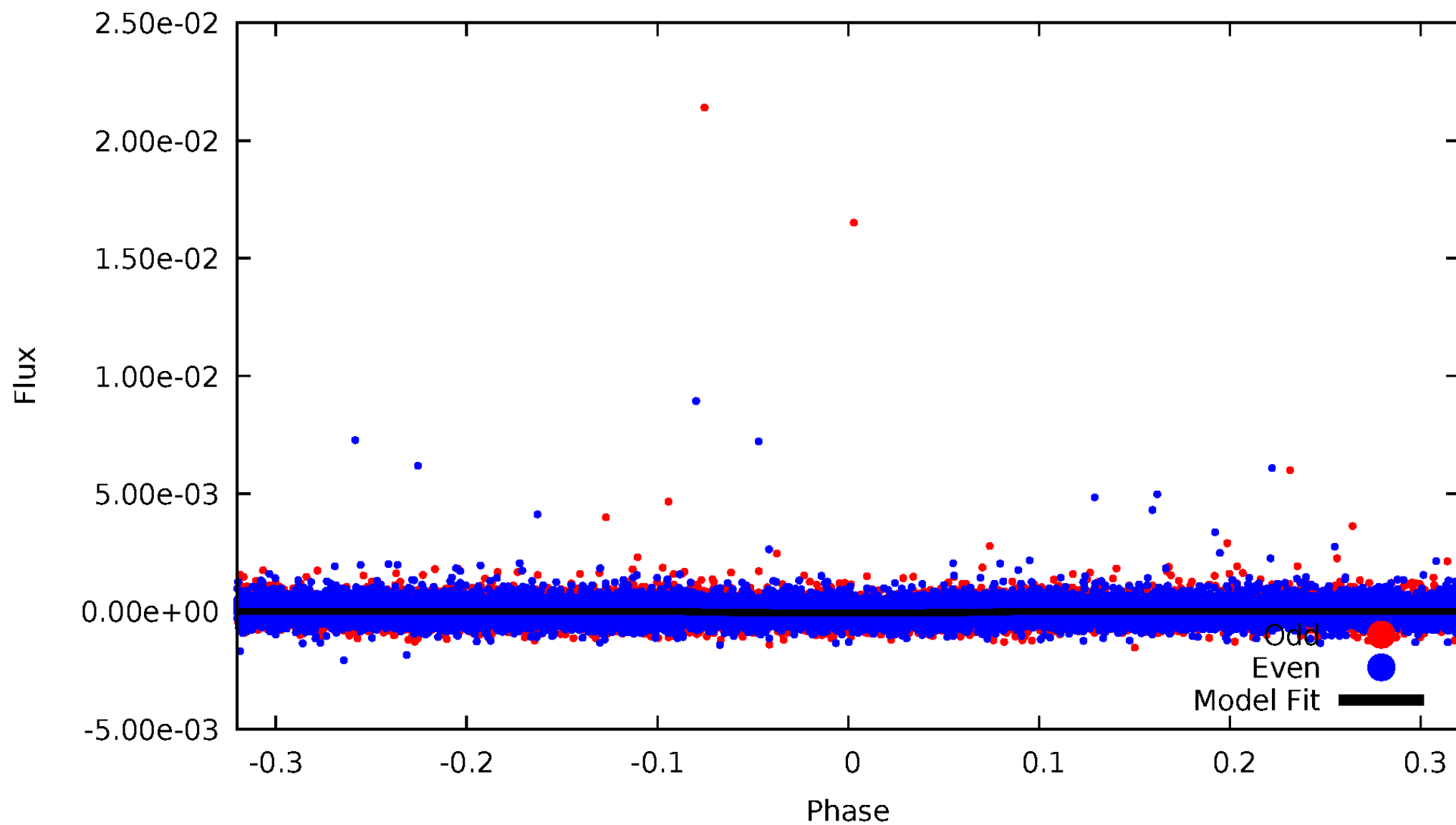


TCE 007584778-01



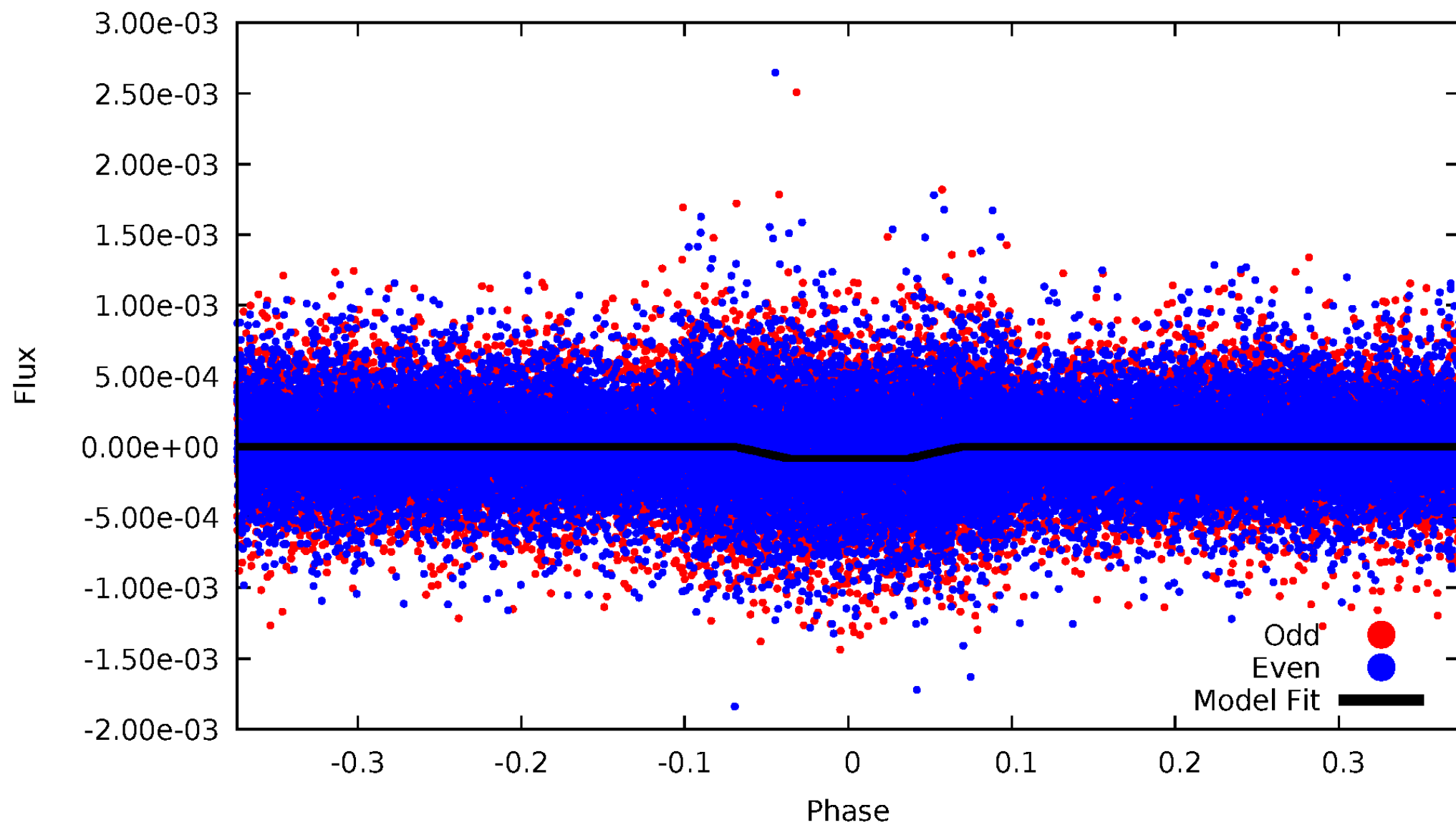
DV Odd/Even

TCE 007584778-01



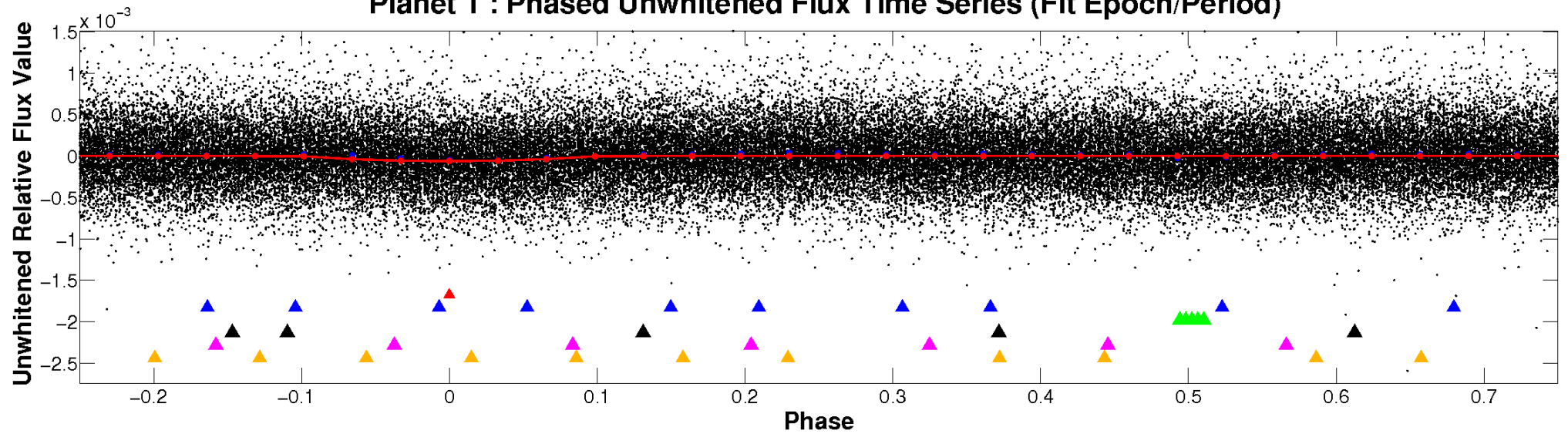
ALT Odd/Even

TCE 007584778-01

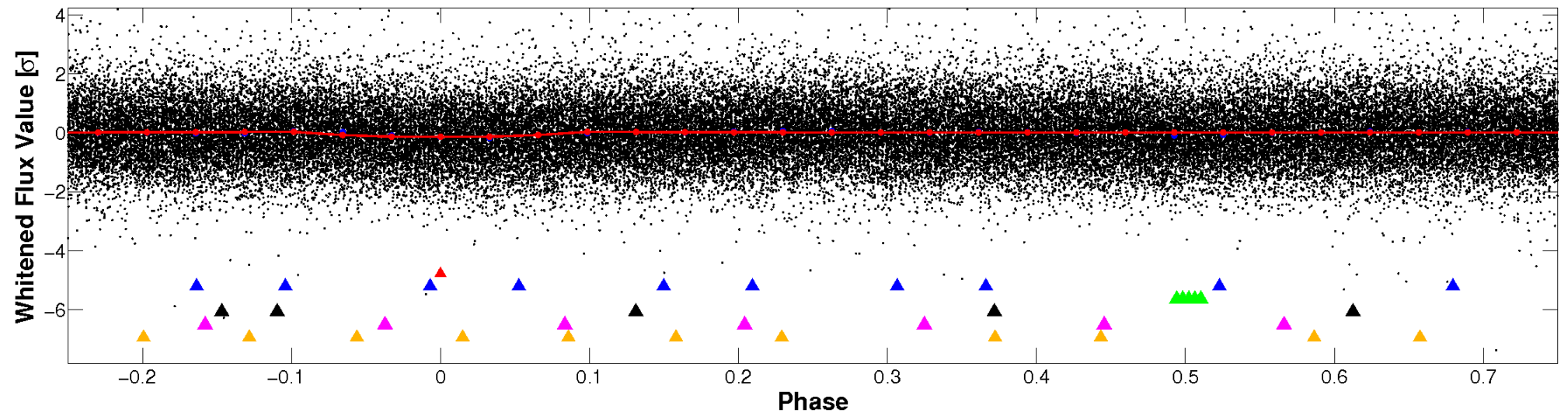


Non-Whitened Vs. Whitened Light Curve

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

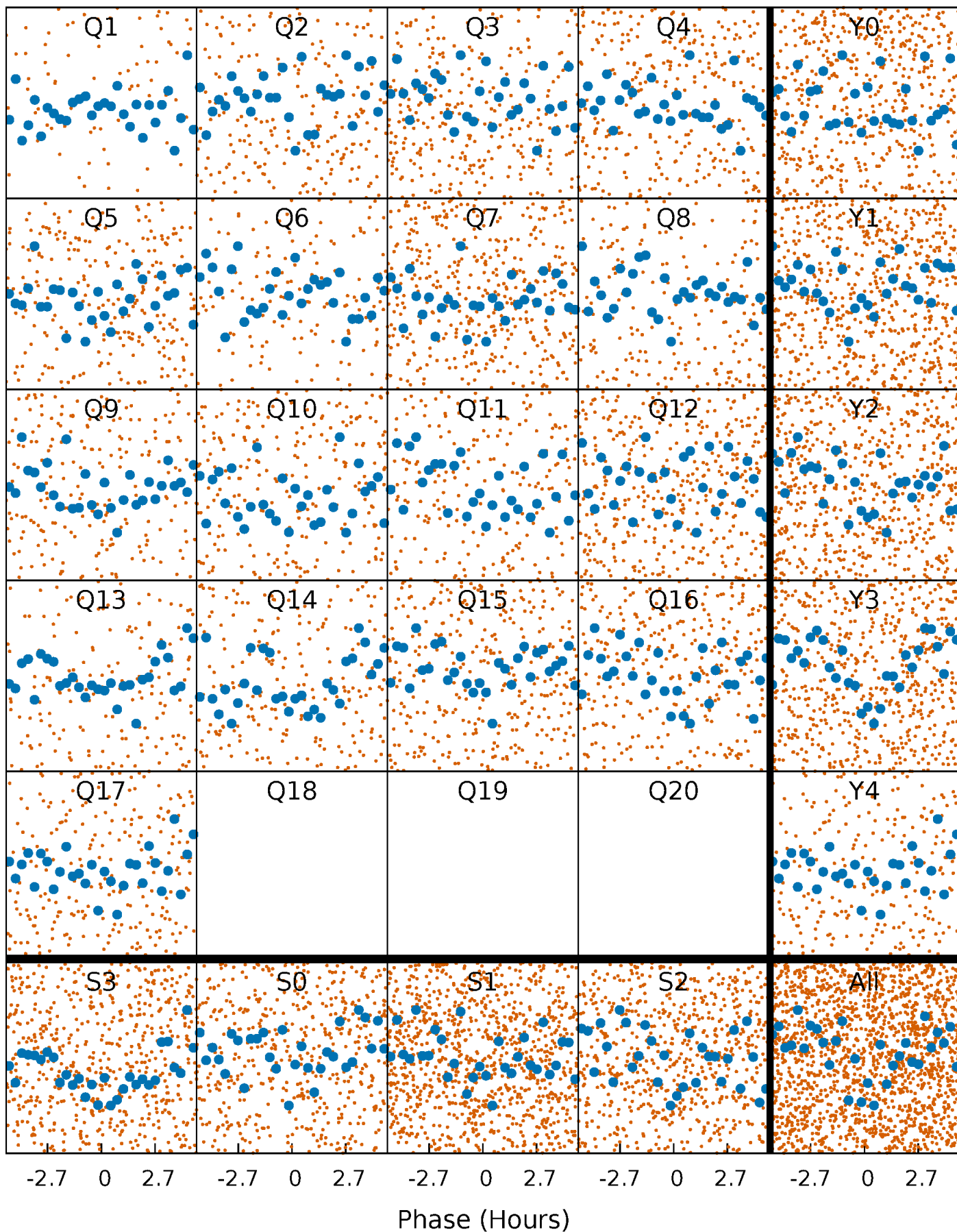


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



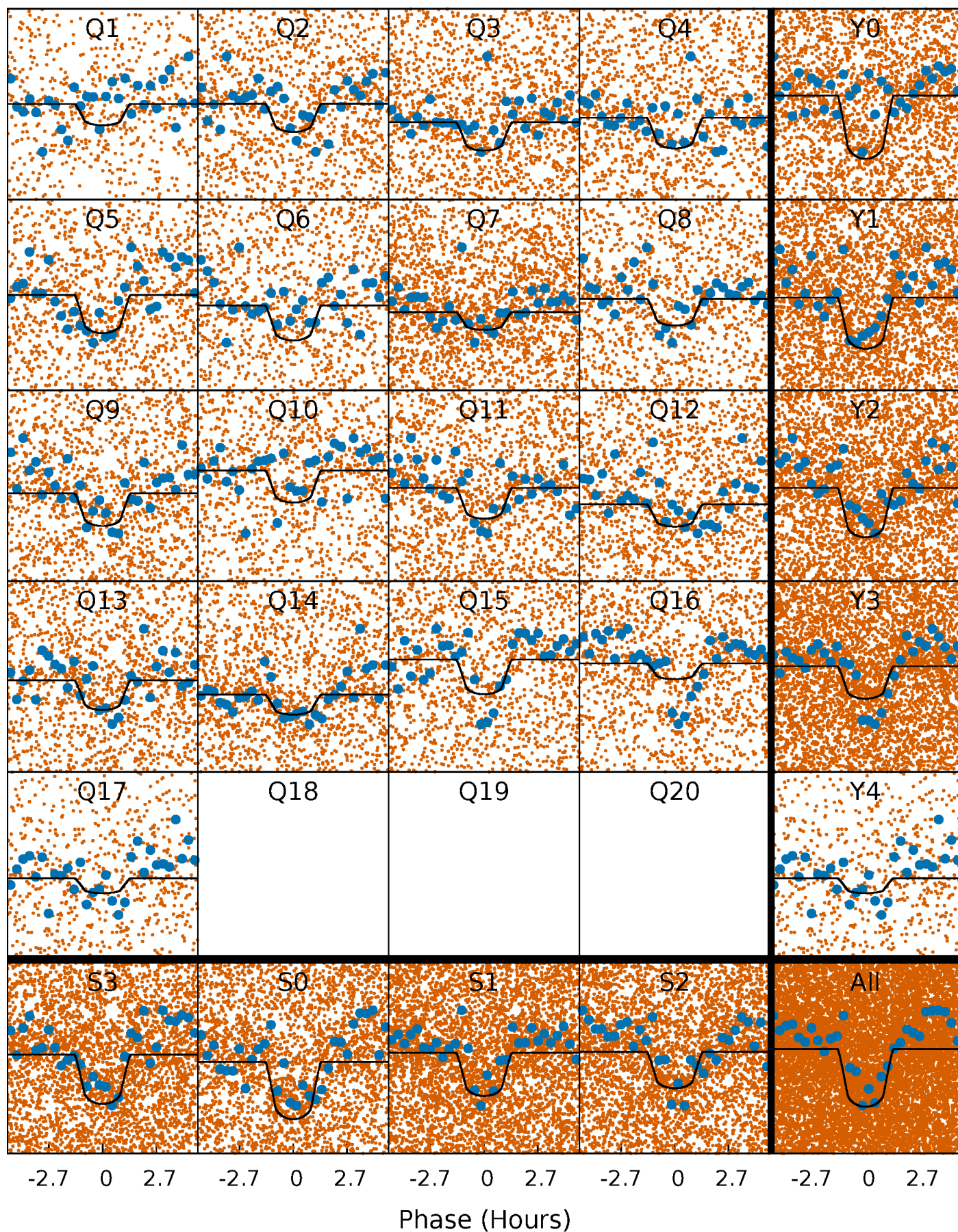
PDC Quarter-Phased Transit Curves

TCE 007584778-01 P= 0.622299 Days $T_0=132.090736$ (BKJD)



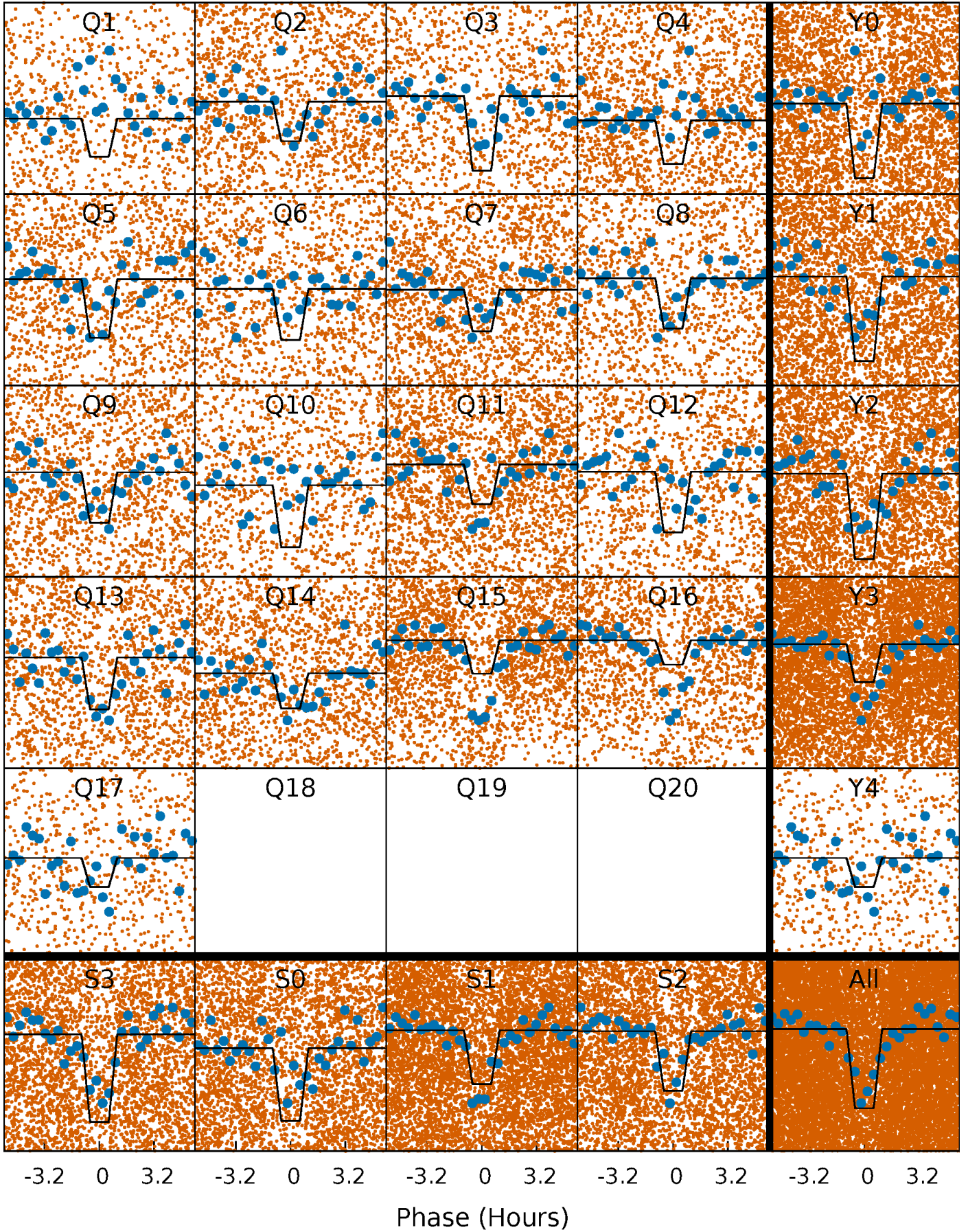
DV Quarter-Phased Transit Curves

TCE 007584778-01 P= 0.622299 Days $T_0=132.090736$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

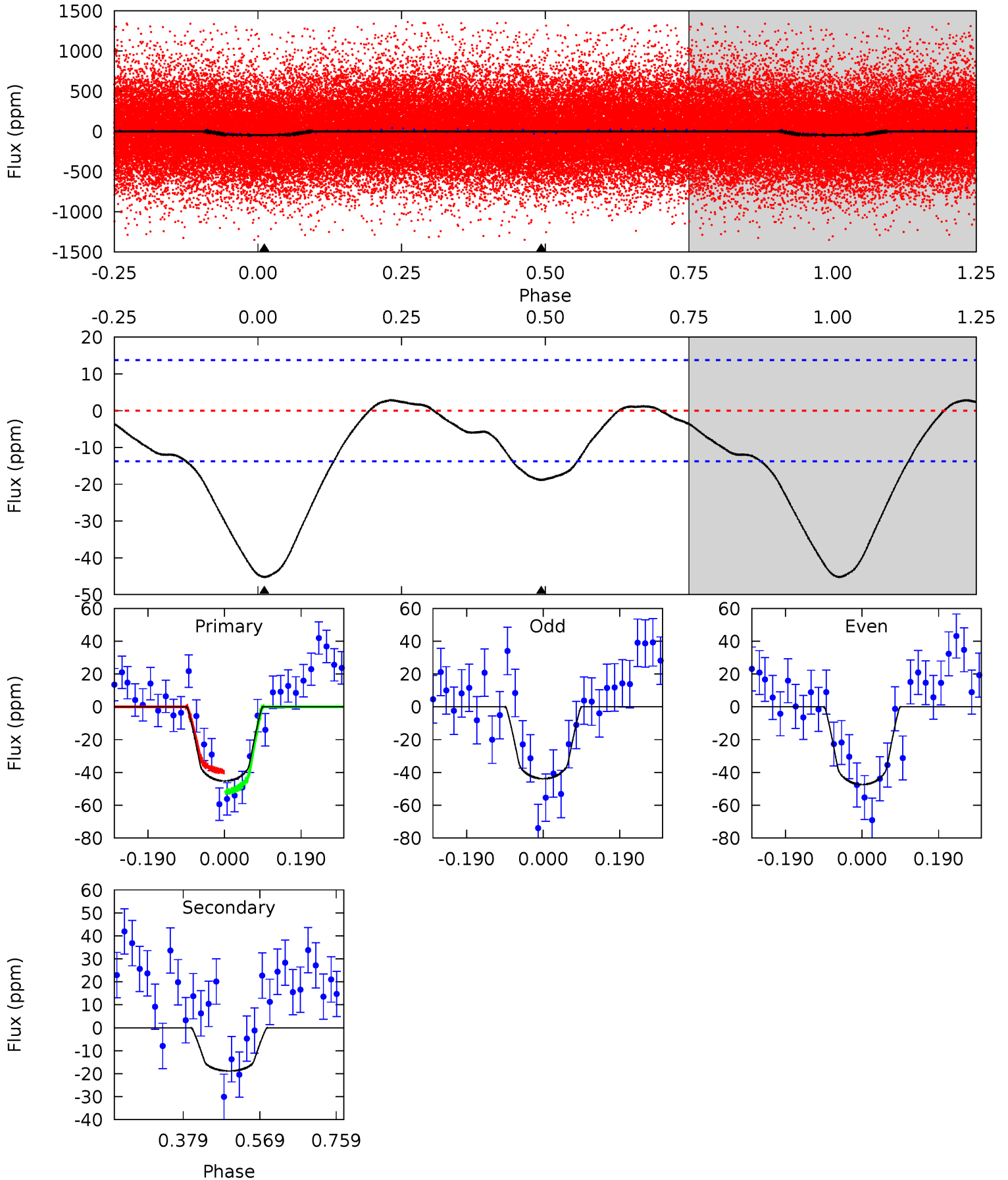
TCE 007584778-01 P= 0.622307 Days $T_0=132.086647$ (BKJD)



DV Model-Shift Uniqueness Test

007584778-01, P = 0.622299 Days, E = 131.468437 Days

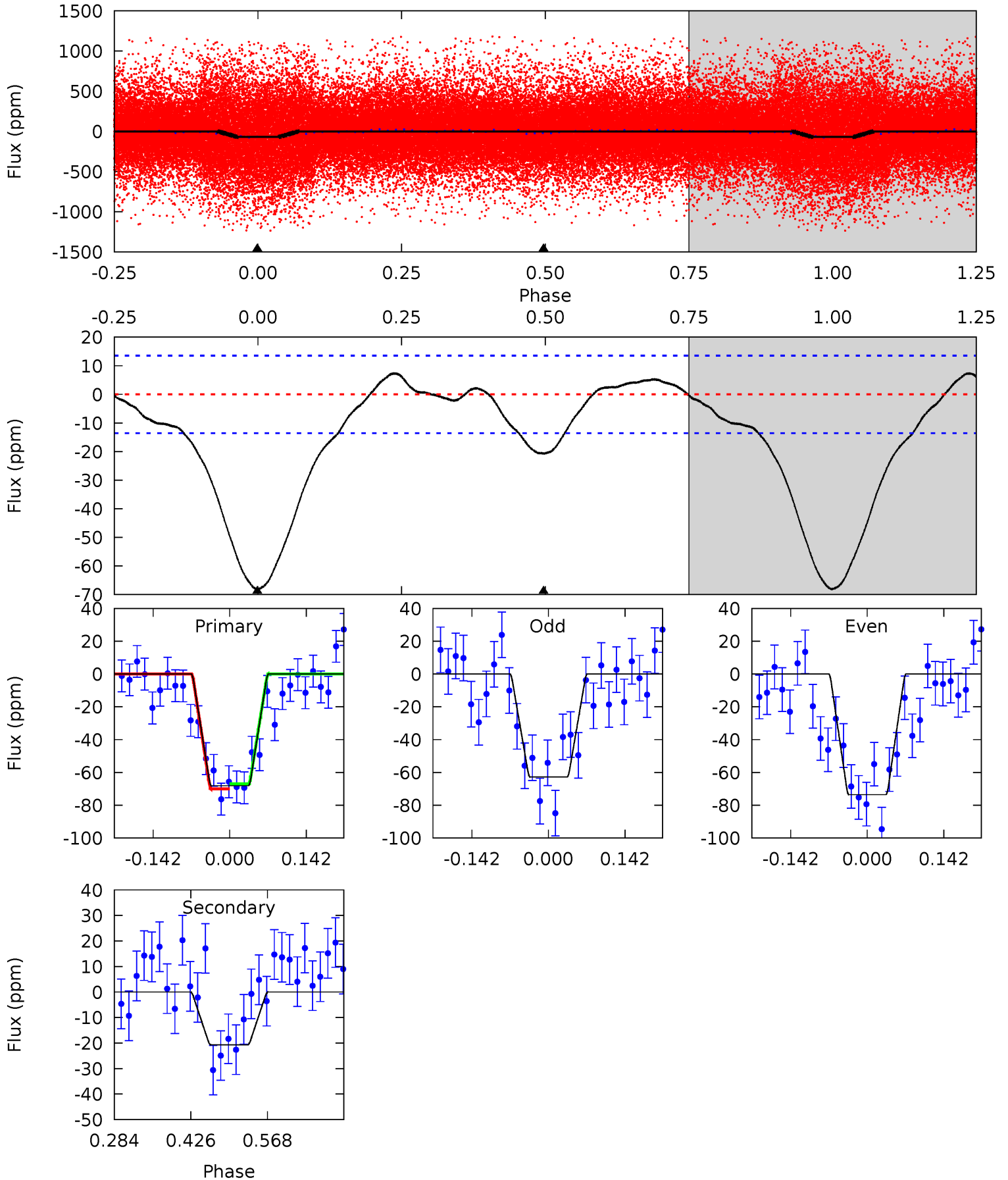
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	6.07	0	0	4.43	1.31	1.37	14.6	14.6	6.07	6.07	0.57	0.89	0.06	2.02



Alt Model-Shift Uniqueness Test

007584778-01, P = 0.622307 Days, E = 131.464340 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	6.87	0	0	4.49	1.47	1.79	22.6	22.6	6.87	6.87	1.80	0.90	0.10	0.51



Stellar Parameters For KIC 007584778

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5672^{+170}_{-153}	$4.447^{+0.140}_{-0.155}$	$-0.600^{+0.300}_{-0.300}$	$0.853^{+0.177}_{-0.129}$	$0.742^{+0.111}_{-0.040}$	$1.684^{+1.121}_{-0.717}$
	+3%/-3%	+3%/-3%	+50%/-50%	+21%/-15%	+15%/-5%	+67%/-43%
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 007584778-01 / KOI 6887.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-19 ± 3	$0.77^{+0.43}_{-0.35}$	2844^{+171}_{-144}	4249^{+1303}_{-717}	$2.854^{+7.102}_{-1.680}$
Alt.	-21 ± 3	$0.87^{+0.41}_{-0.39}$	2845^{+177}_{-142}	4144^{+1182}_{-630}	$2.603^{+6.181}_{-1.486}$

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 $A_{obs} \gg 1.0$

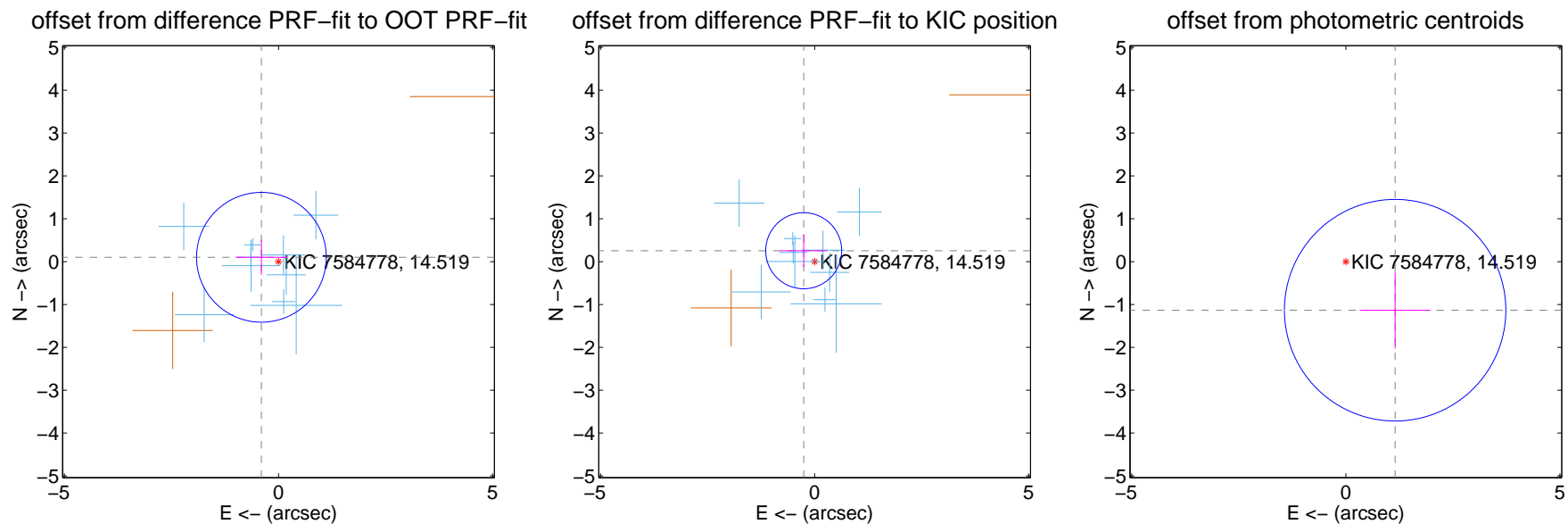
DV Centroid Data

Supplemental centroid analysis for 007584778-01. Kepler magnitude: 14.52. Transit SNR 12.04

There are 10 quarters with good PRF difference image offsets

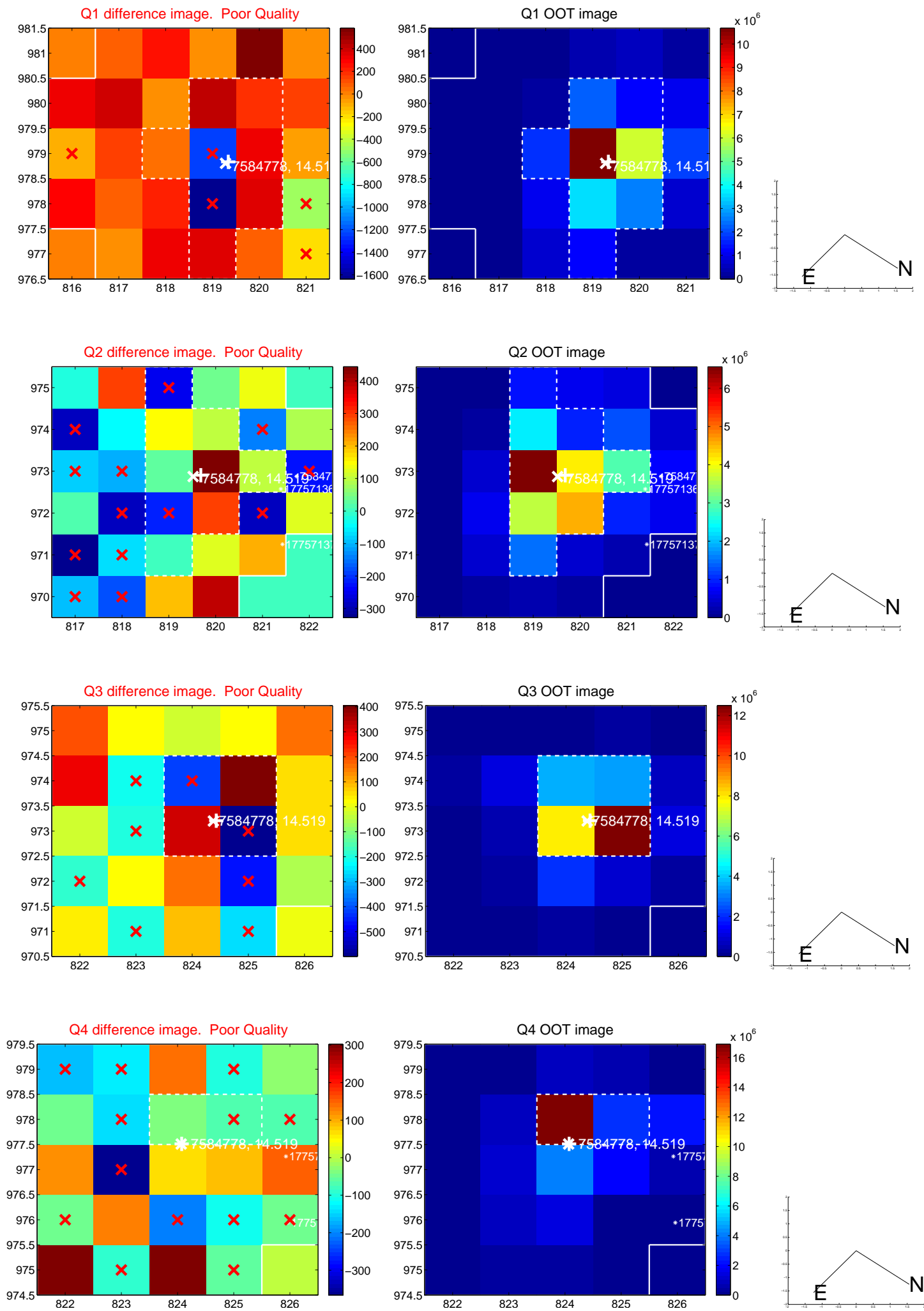
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.412 ± 0.505	0.82	0.399 ± 0.601	0.102 ± 0.408
PRF-fit source offset from KIC position	0.360 ± 0.296	1.22	0.255 ± 0.553	0.255 ± 0.385
photometric centroid source offset	1.62 ± 0.86	1.87	-1.15 ± 0.83	-1.13 ± 0.90

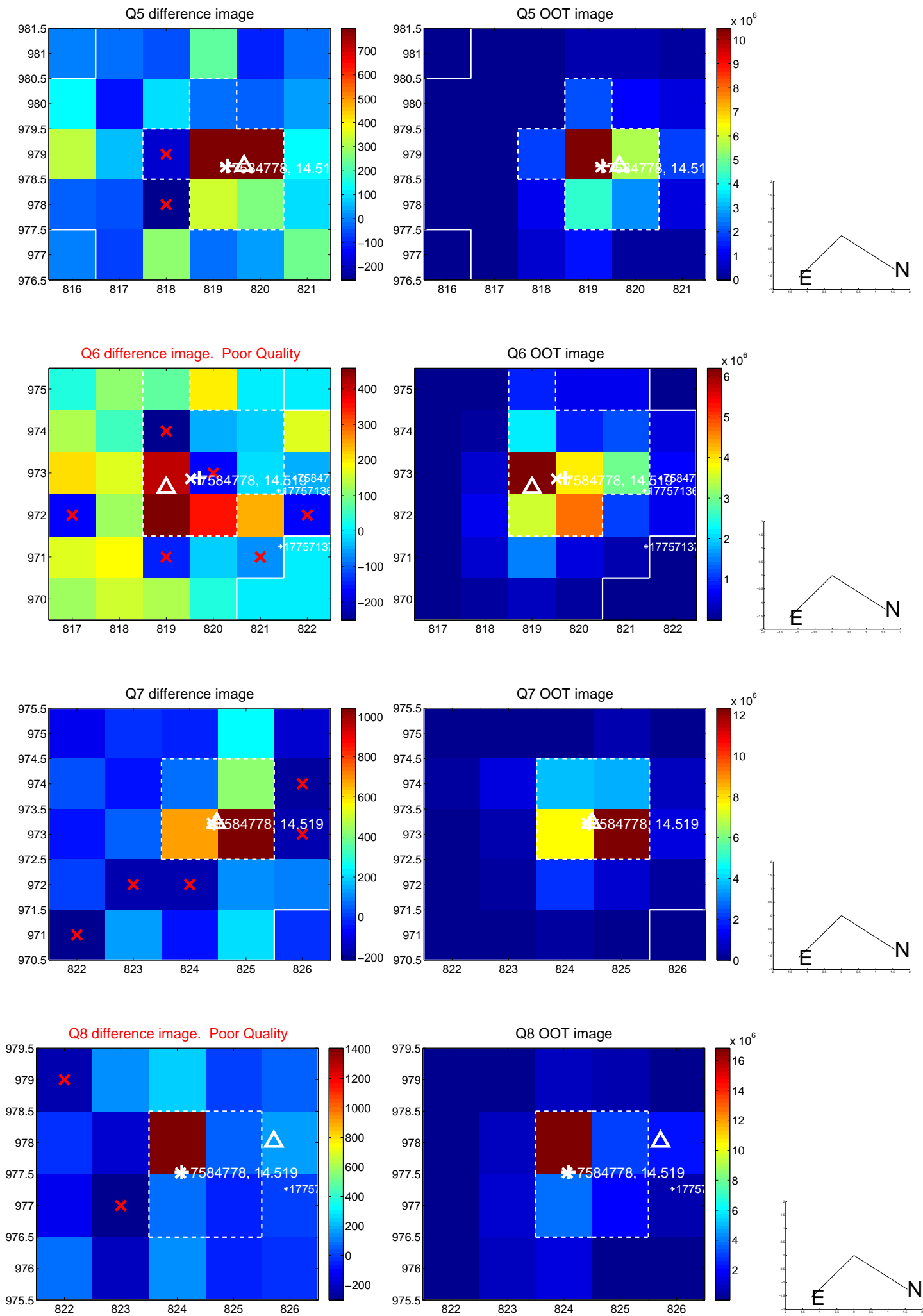


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

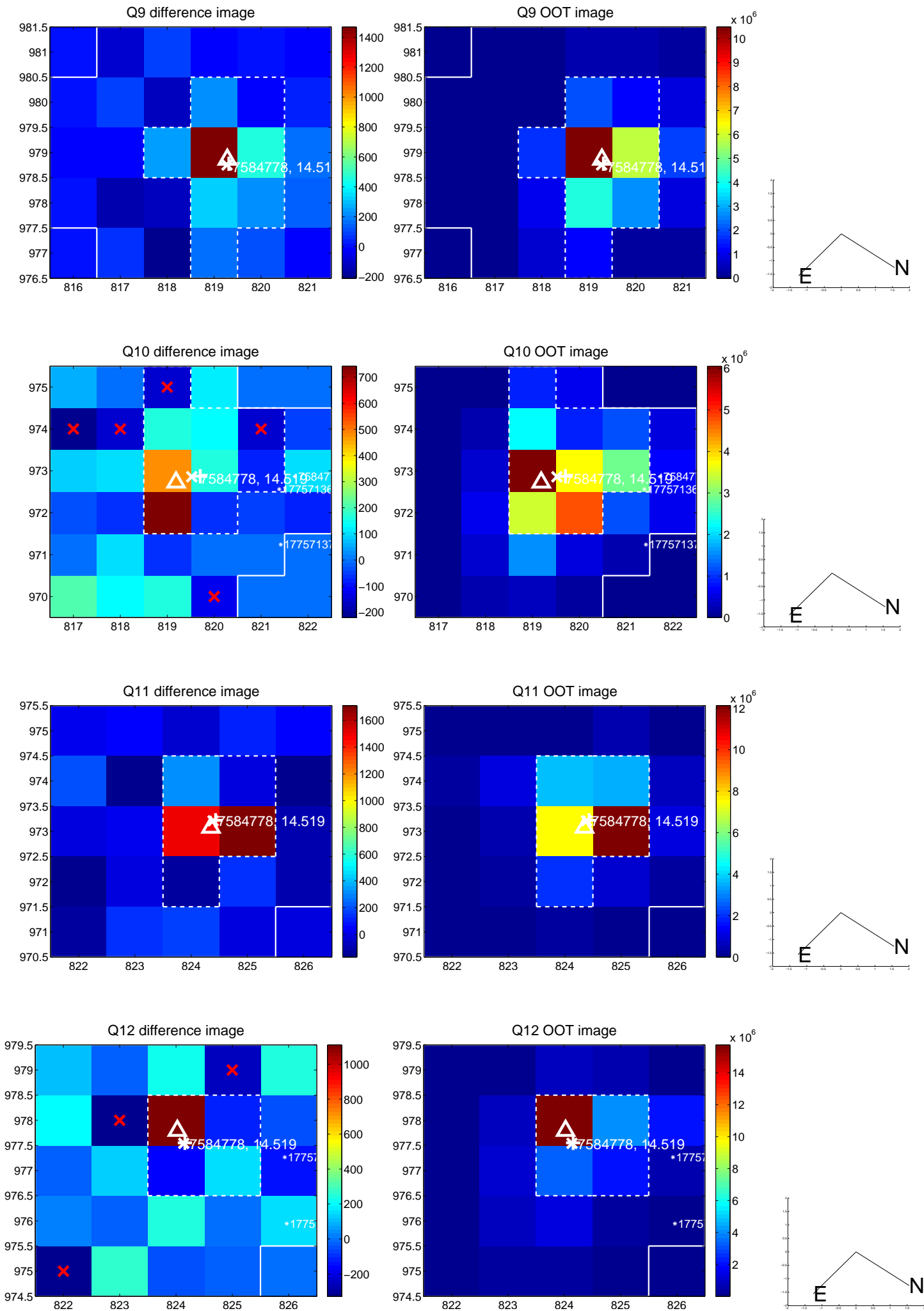
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



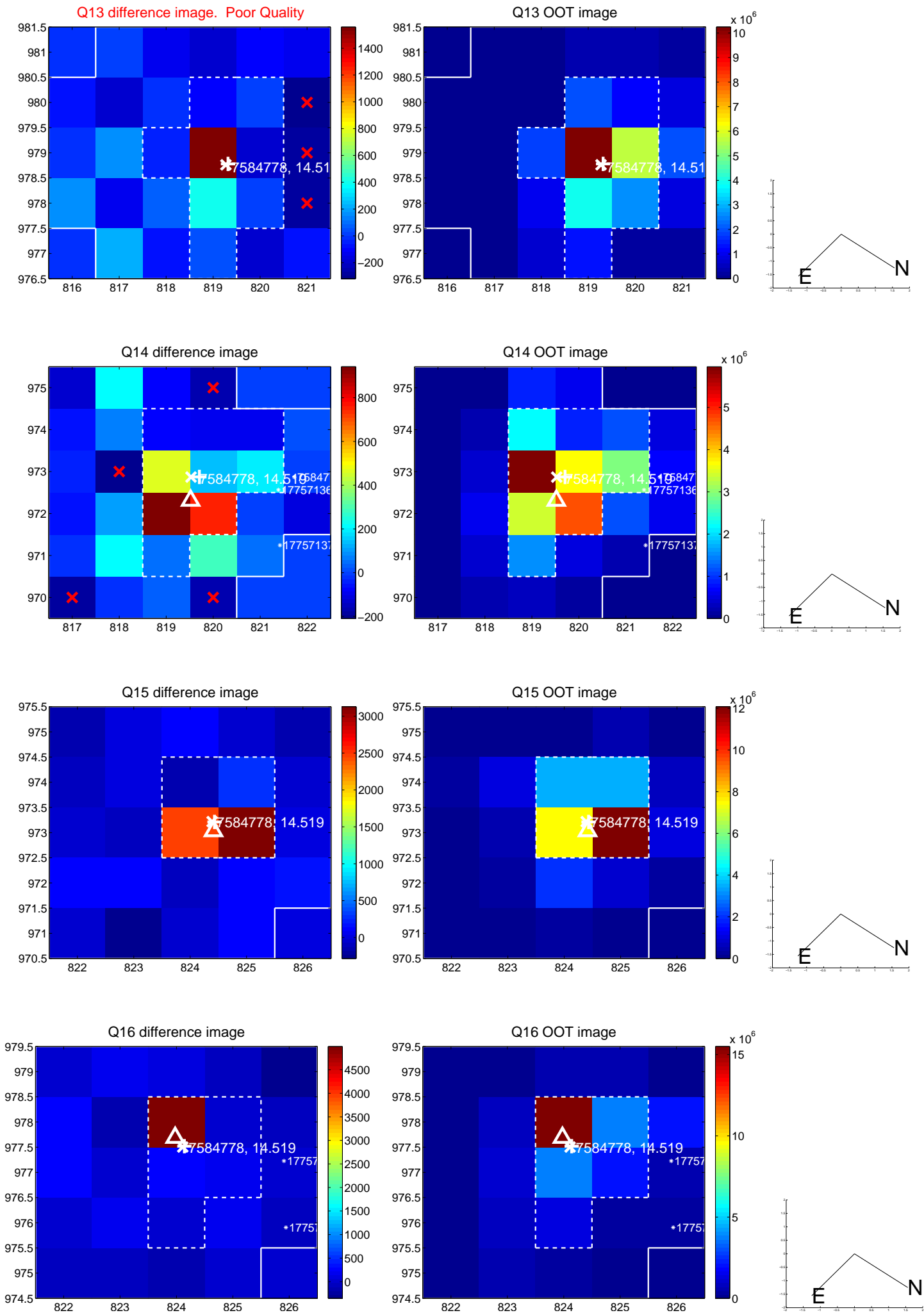
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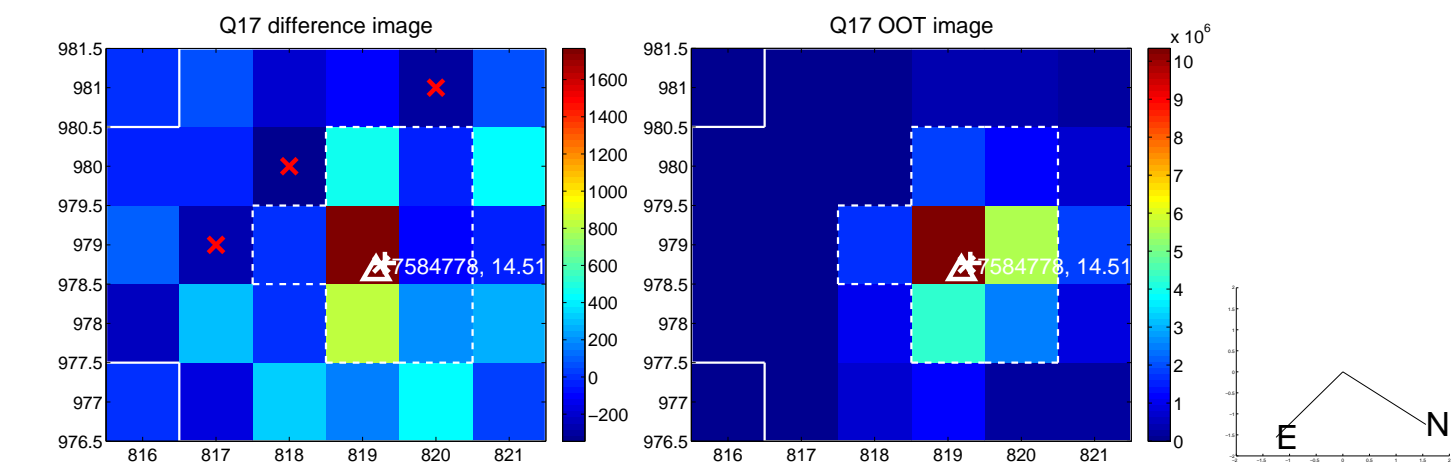
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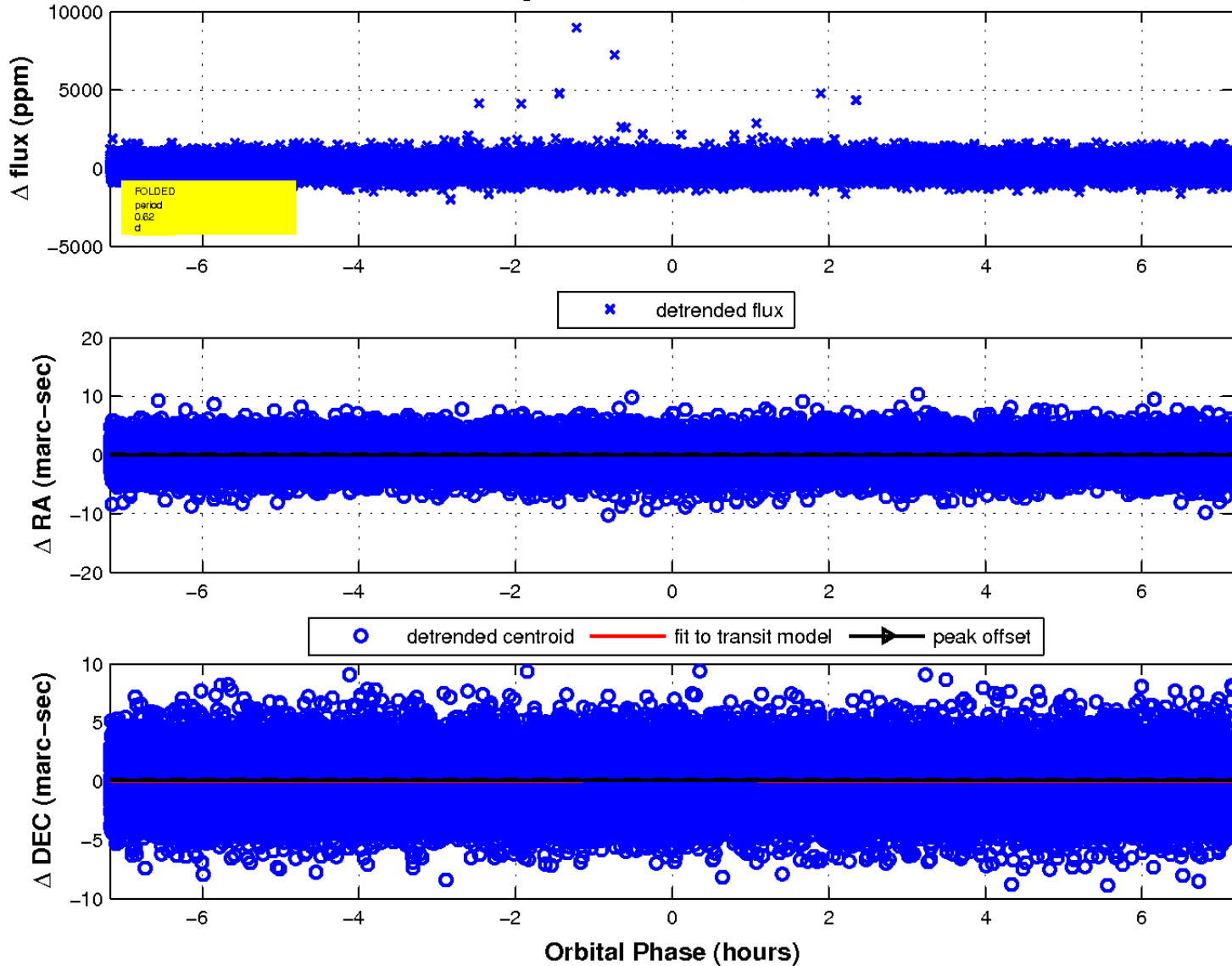
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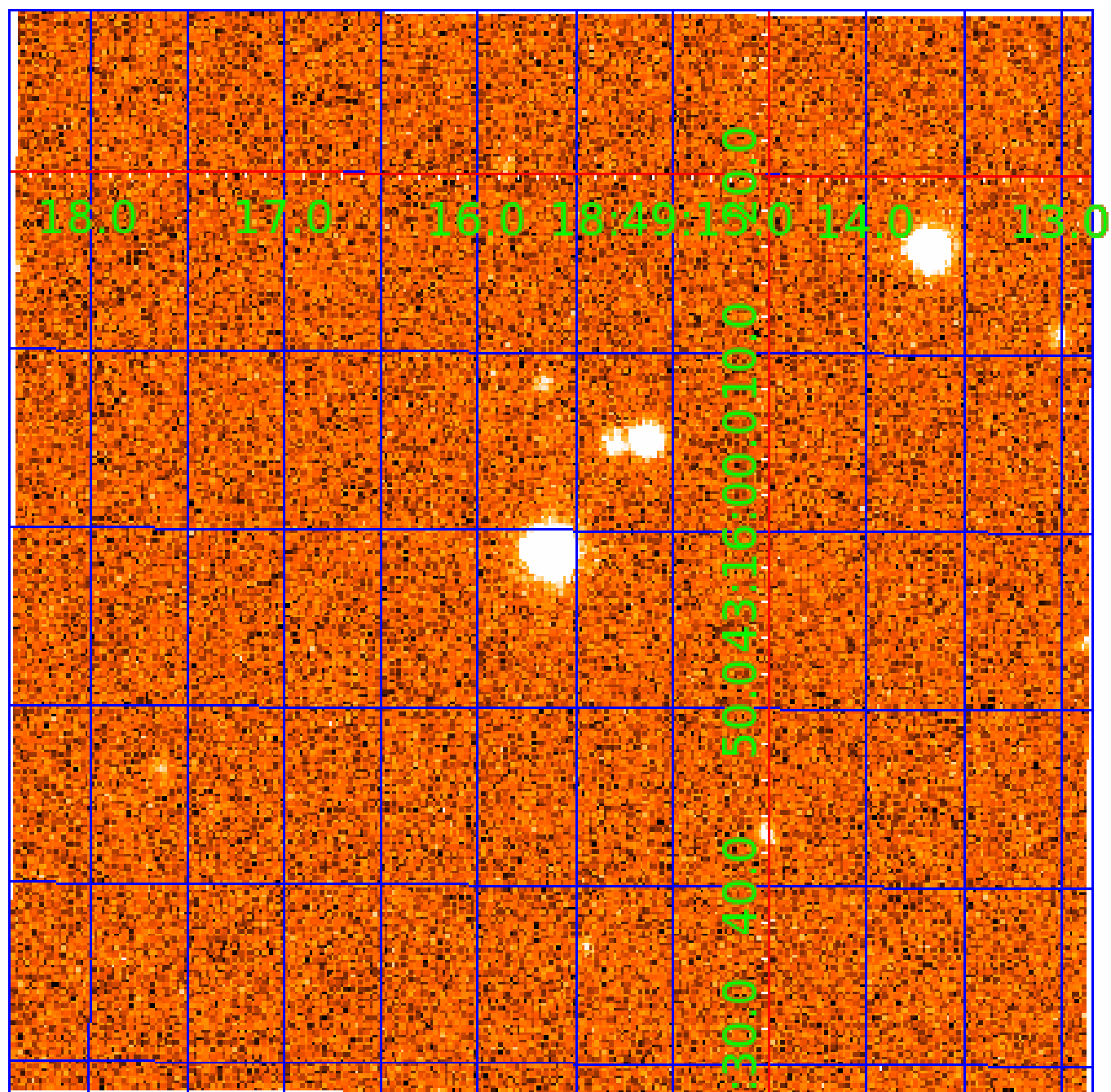


fluxWeightedCentroids, Planet 1 of 6



UKIRT Image

Declination



KIC 007584778

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
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007584778-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007584778-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007584778-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

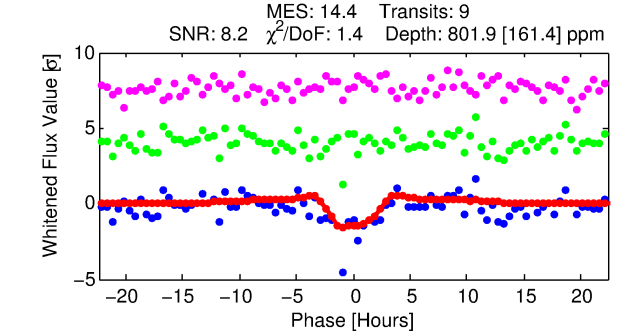
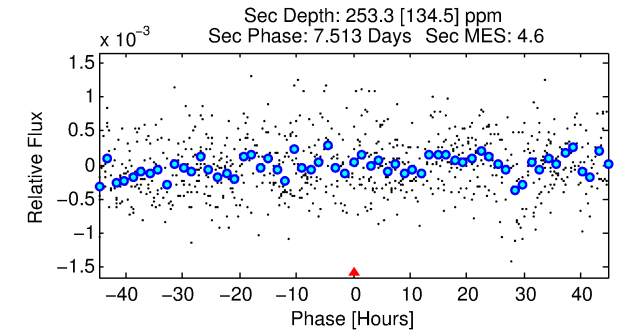
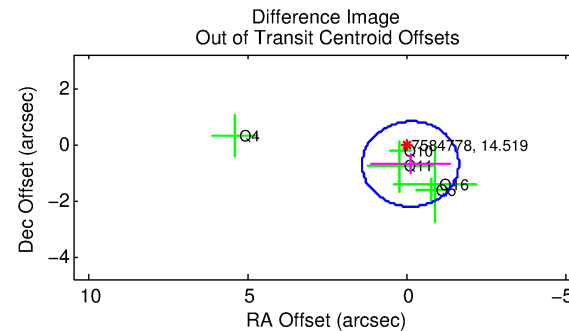
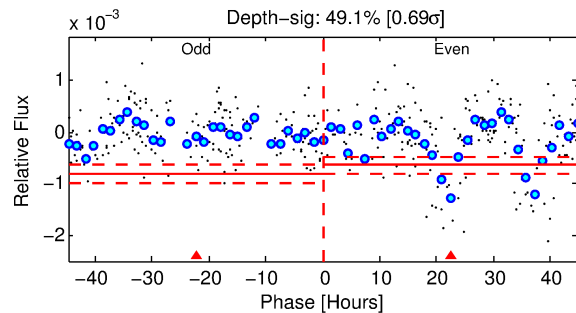
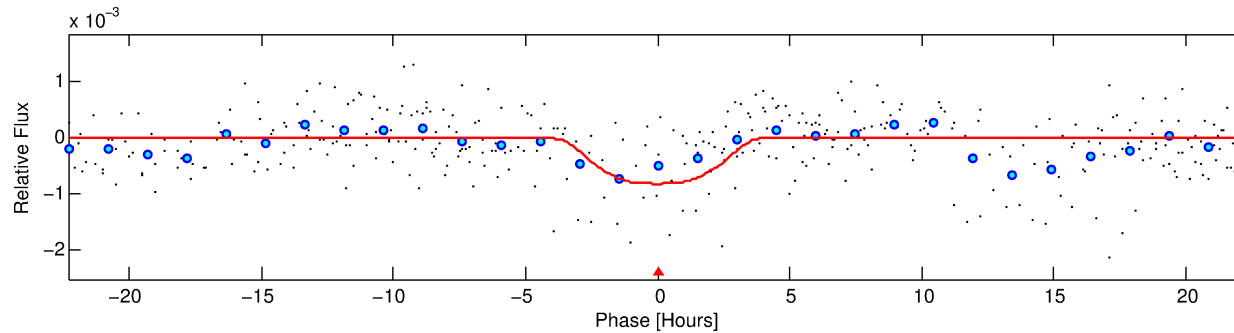
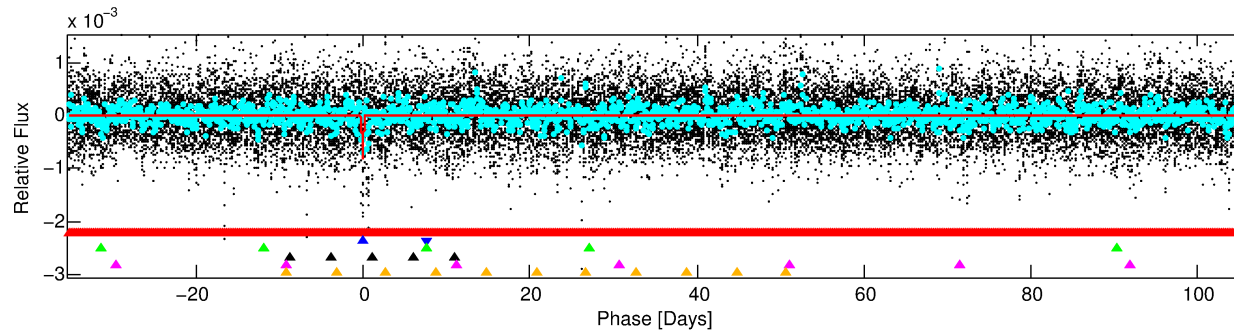
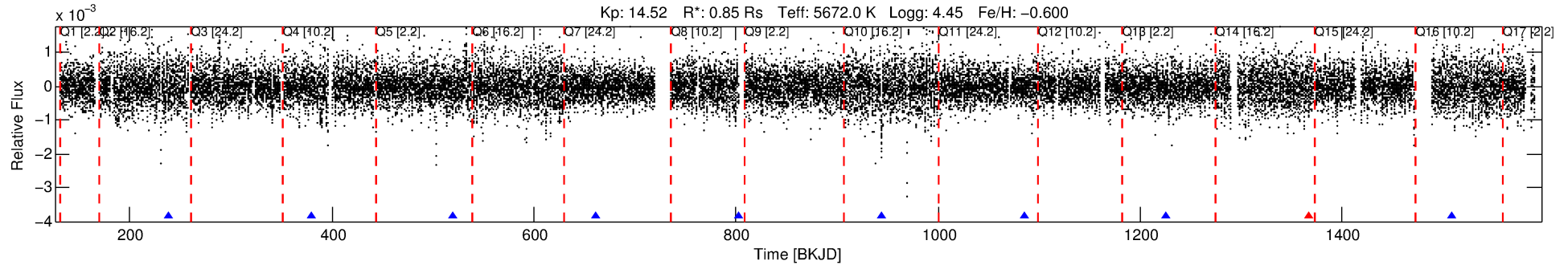
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007584778-02

No Significant Match Found

DV One-Page Summary

KIC: 7584778 Candidate: 2 of 6 Period: 141.164 d
KOI: K06887 Corr: No Ephemeris Match



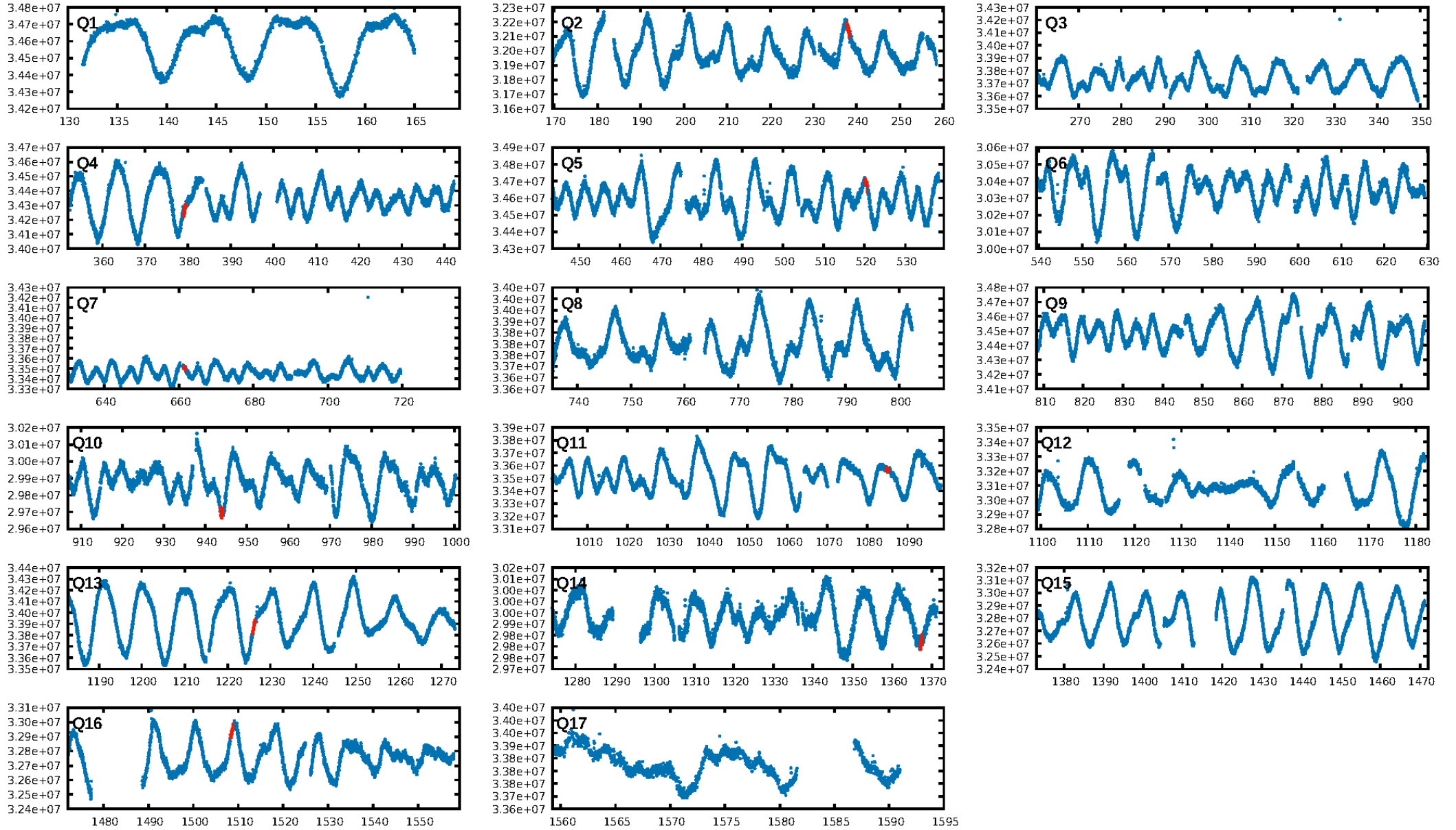
DV Fit Results:

Period = 141.16437 [0.00428] d
Epoch = 238.0724 [0.0224] BKJD
Rp/R* = 0.0337 [0.0048]
a/R* = 54.67 [12.76]
b = 0.96 [0.02]
Seff = 2.92 [0.88]
Teq = 333 [25] K
Rp = 3.14 [0.79] Re
a = 0.4806 [0.0877] AU
Ag = 3272.88 [2169.47] [1.51 σ]
Teffp = 3898 [599] K [5.94 σ]

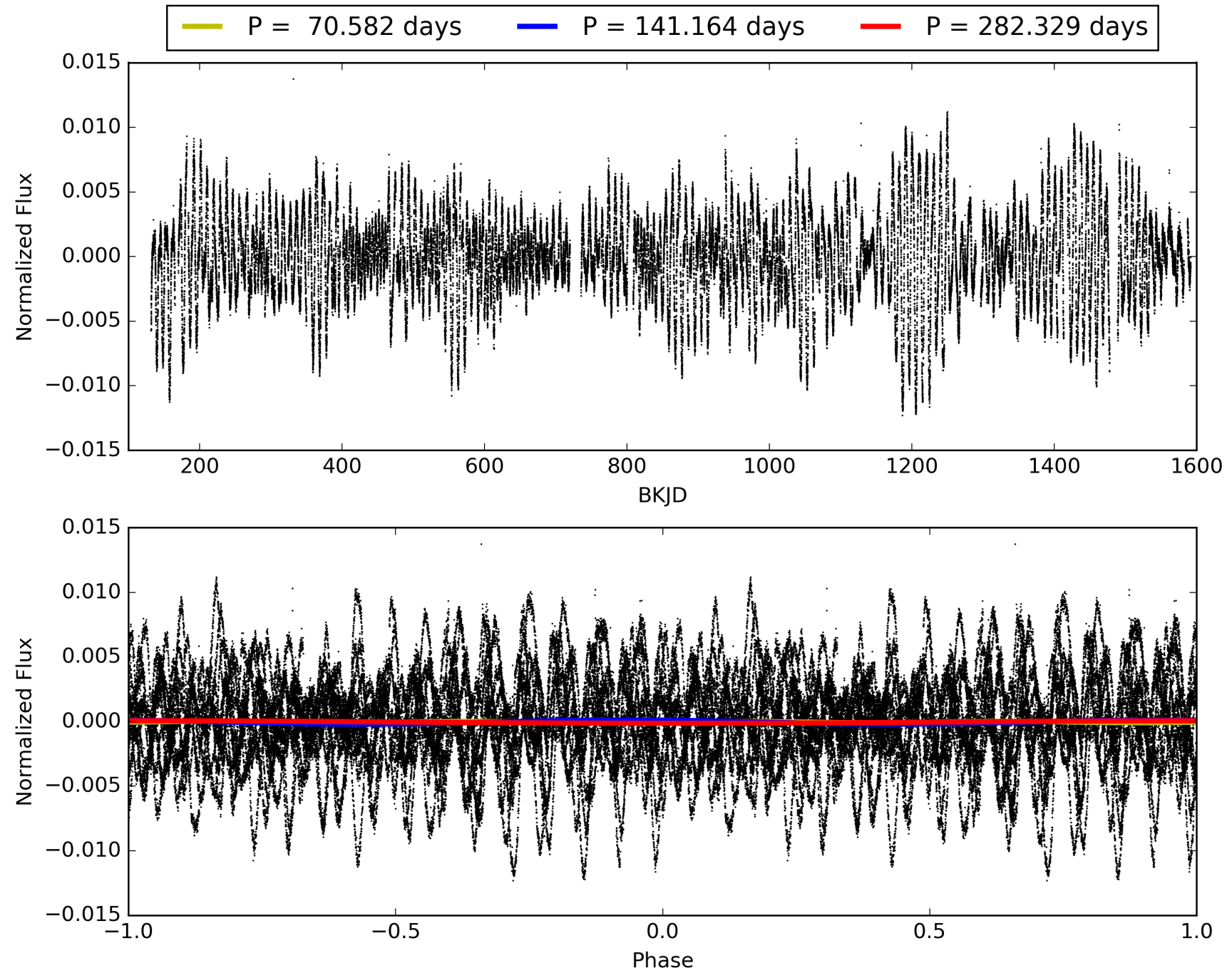
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.83 σ]
LongPeriod-sig: 100.0% [112.63 σ]
ModelChiSquare2-sig: 2.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.87e-27
RollingBand-fgt: 0.89 [8/9]
GhostDiagnostic-chr: -0.1875
Centroid-sig: 2.0%
Centroid-so: 0.654 arcsec [0.83 σ]
OotOffset-rm: 0.666 arcsec [1.32 σ]
OotOffset-st: 1/1/2/1 [5]
KicOffset-rm: 0.534 arcsec [0.42 σ]
KicOffset-st: 1/1/2/1 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 0.00 [0/7]

TCE 007584778-02, PDC Light Curves

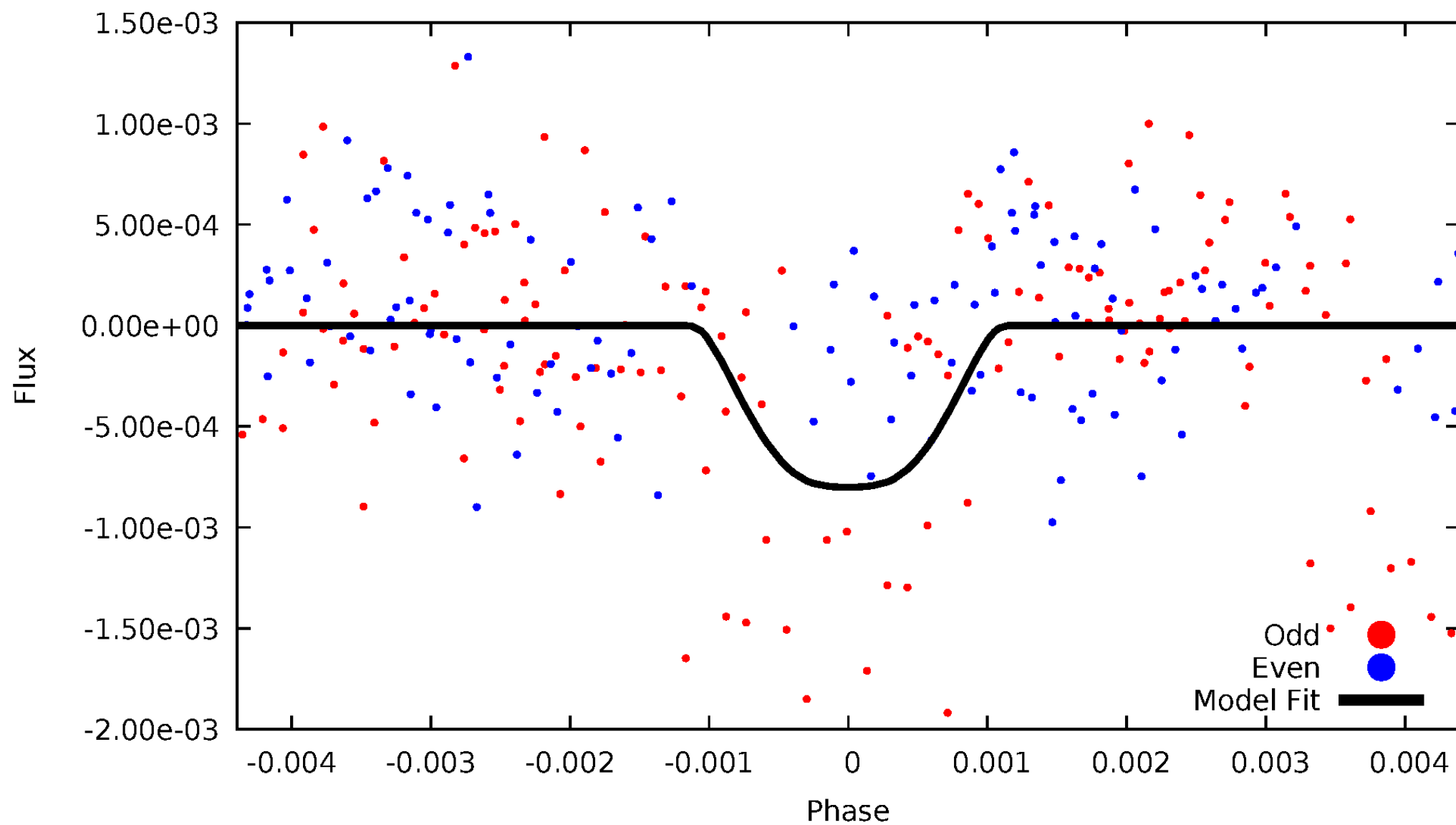


TCE 007584778-02



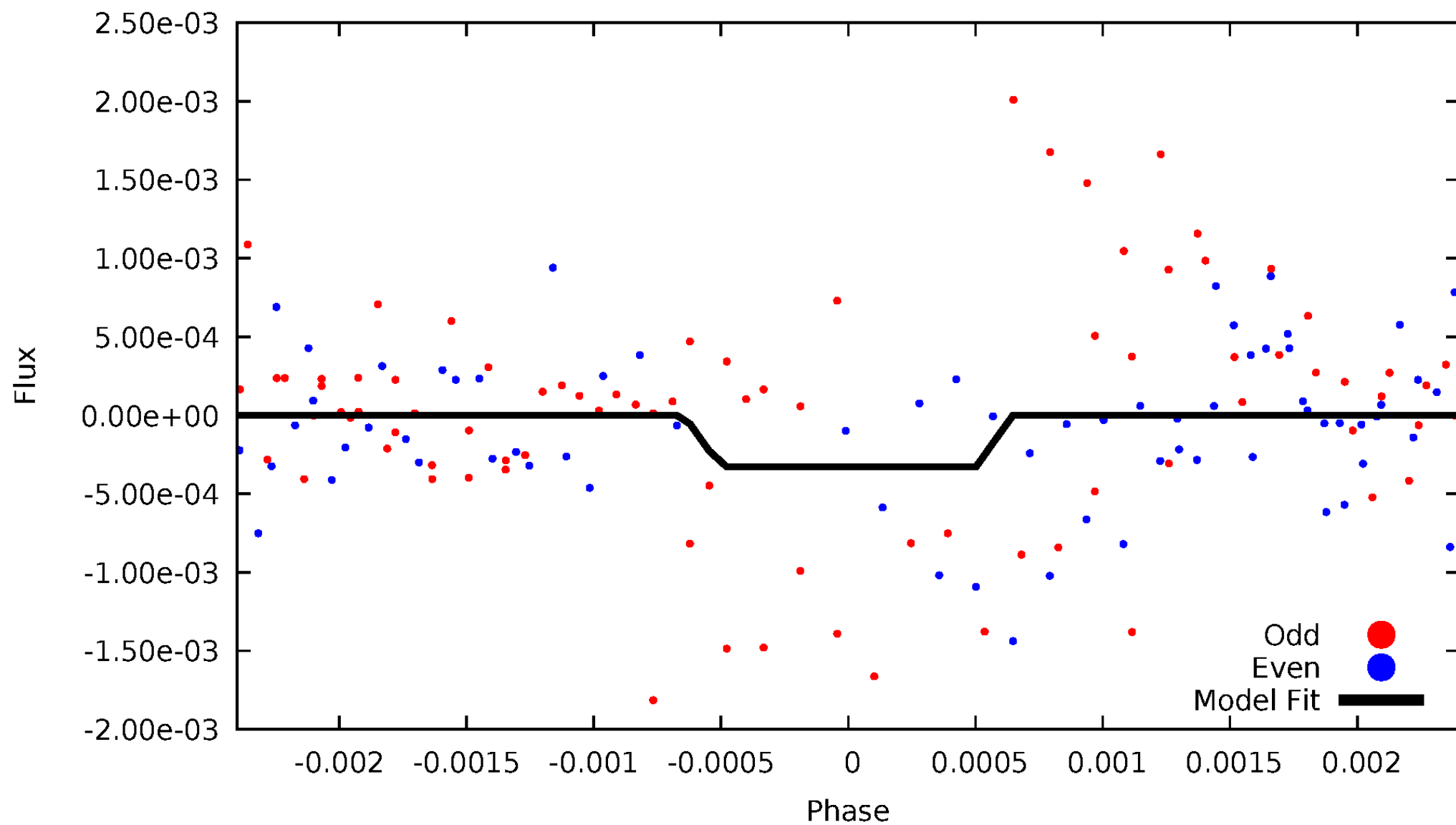
DV Odd/Even

TCE 007584778-02



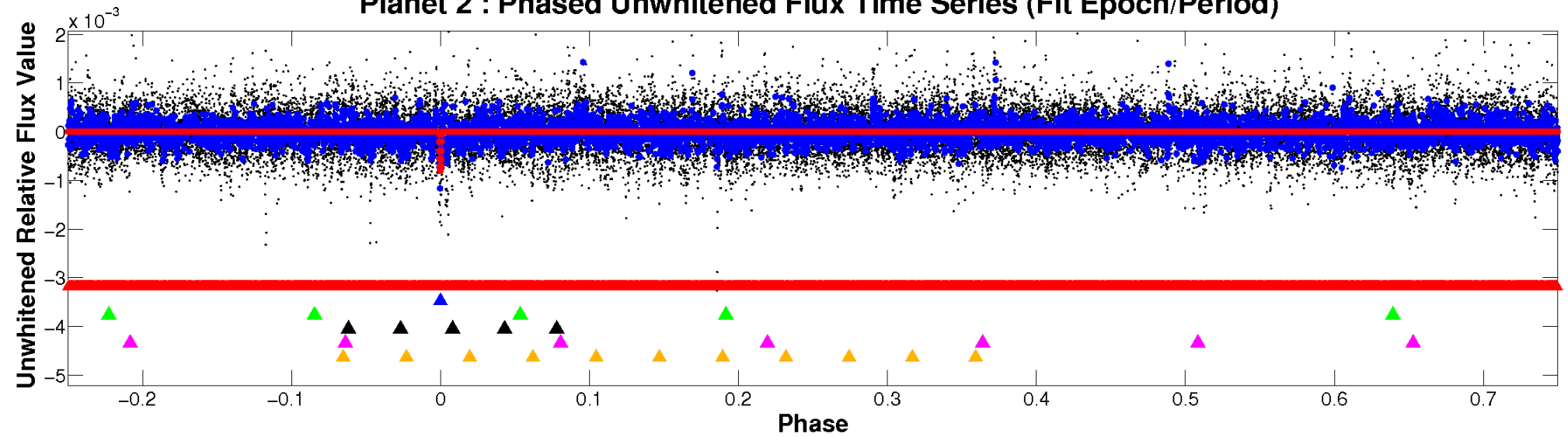
ALT Odd/Even

TCE 007584778-02

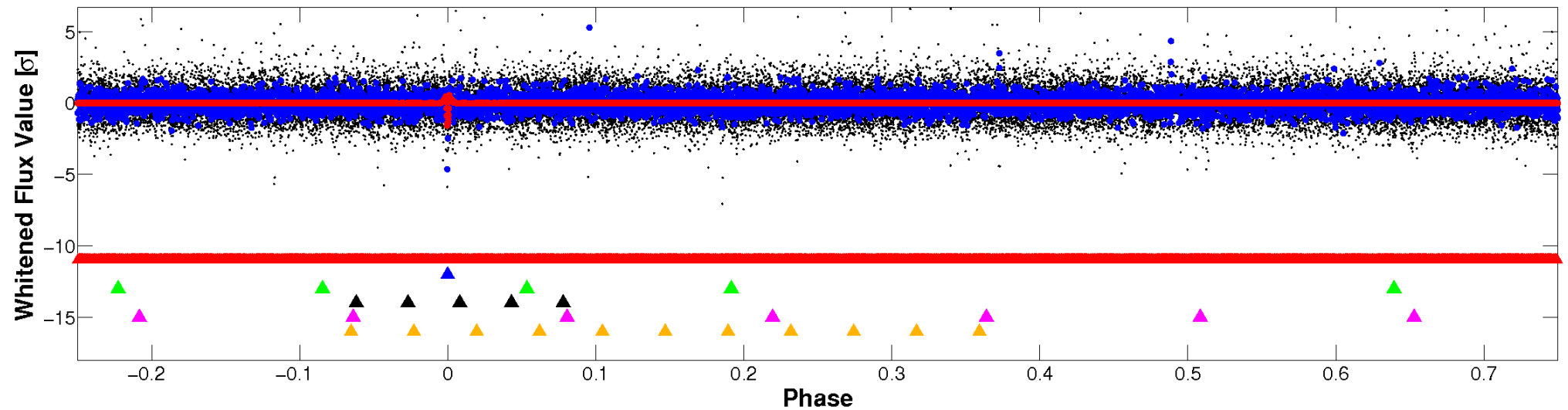


Non-Whitened Vs. Whitened Light Curve

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

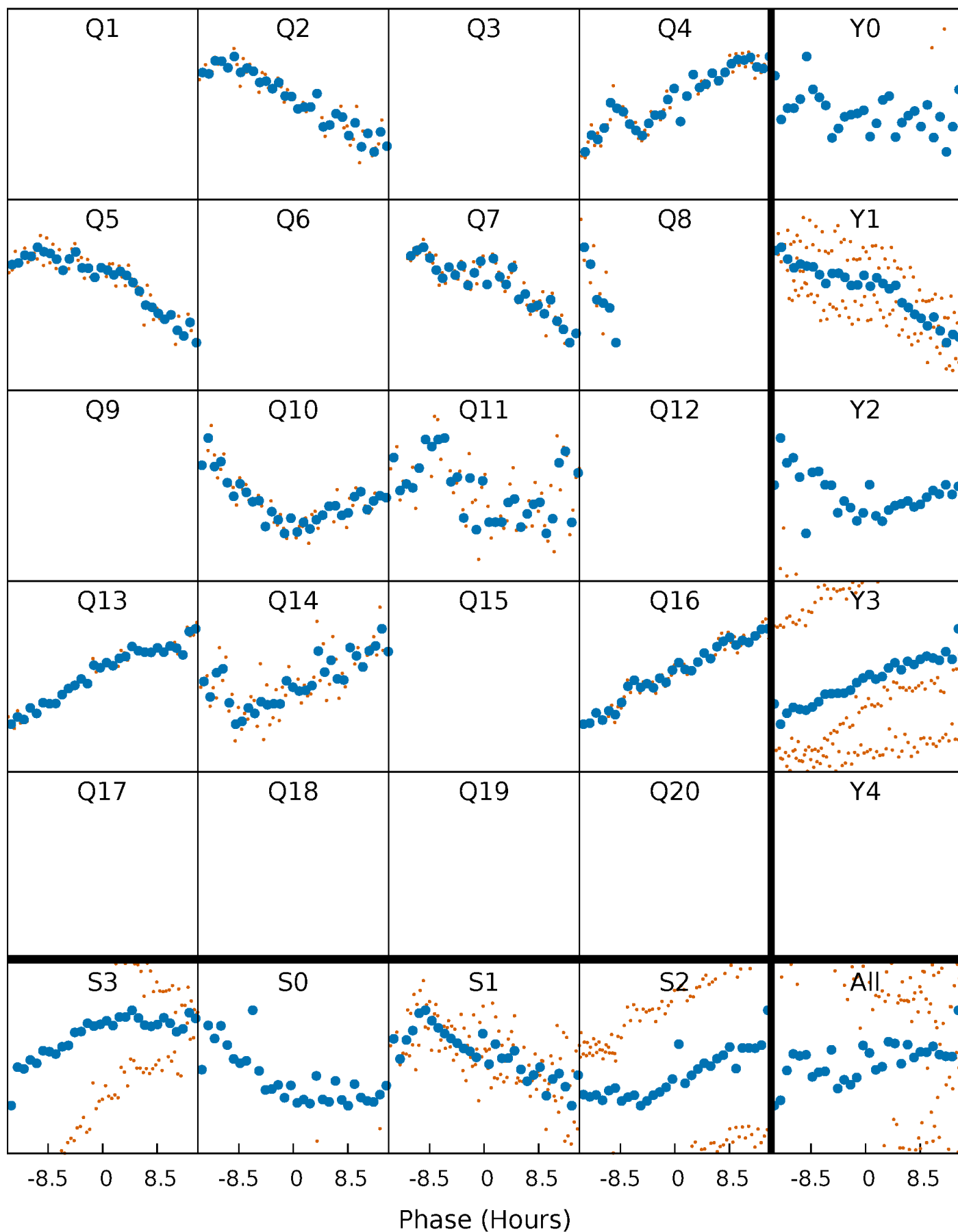


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



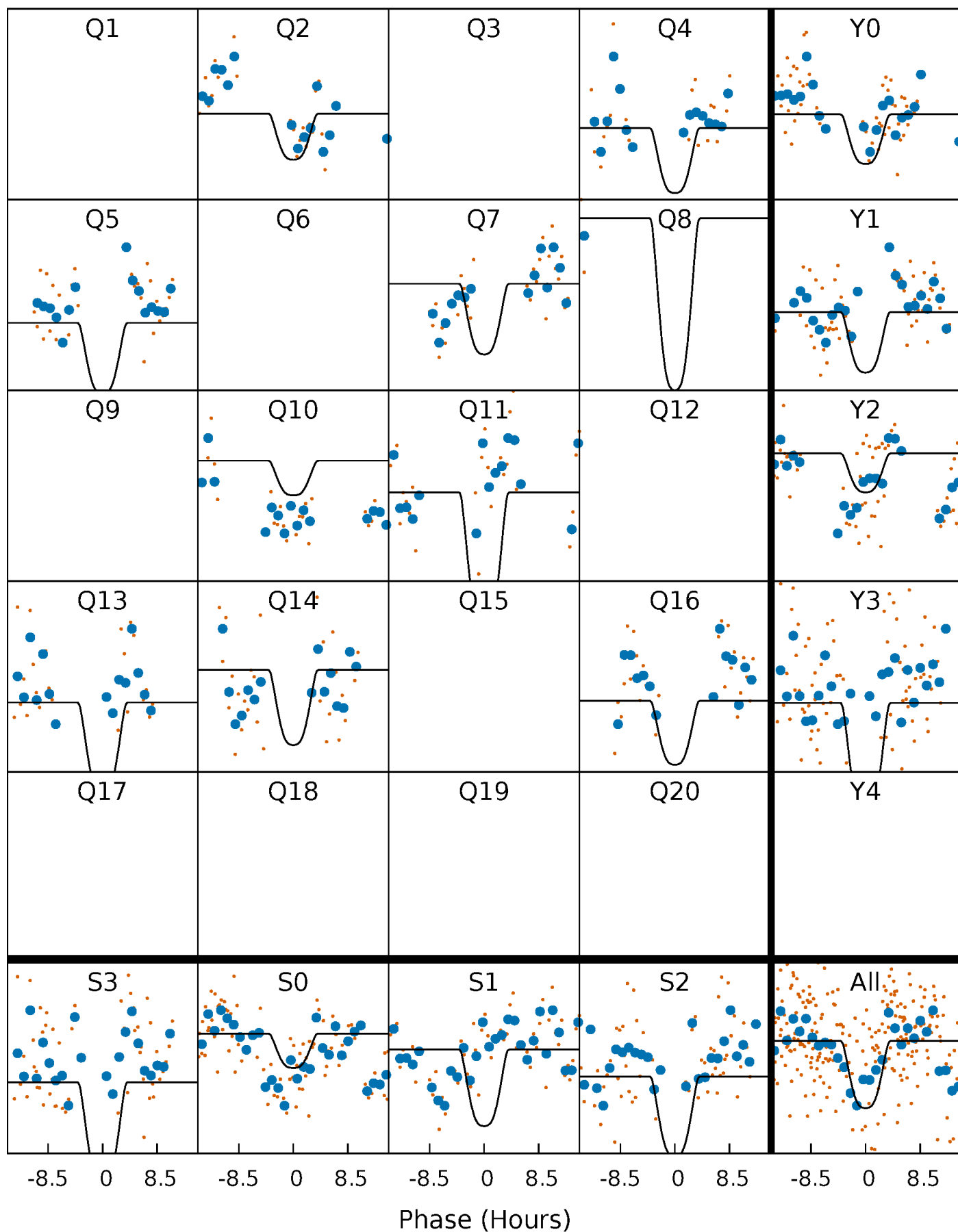
PDC Quarter-Phased Transit Curves

TCE 007584778-02 P=141.164373 Days $T_0=238.072361$ (BKJD)



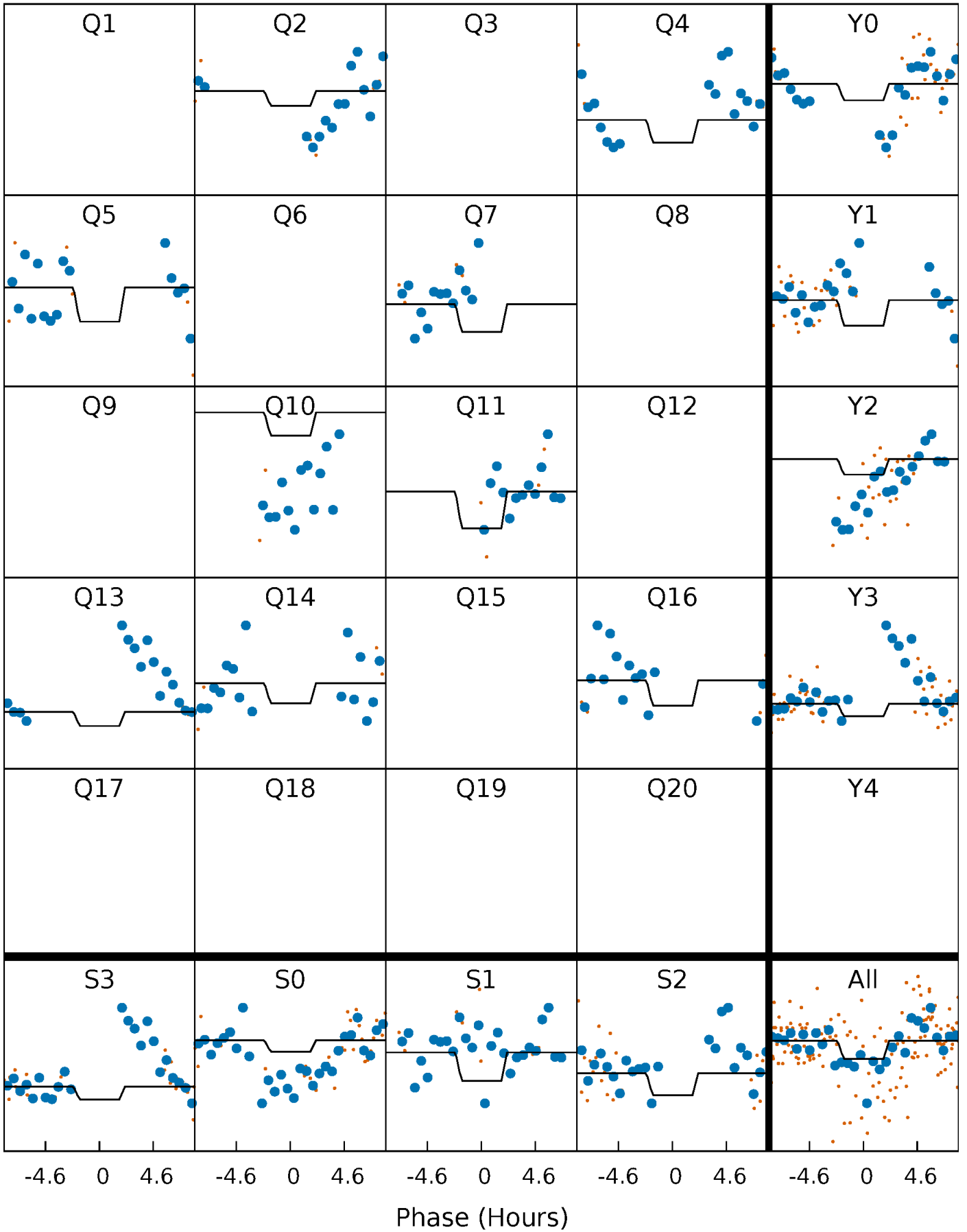
DV Quarter-Phased Transit Curves

TCE 007584778-02 P=141.164373 Days $T_0=238.072361$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

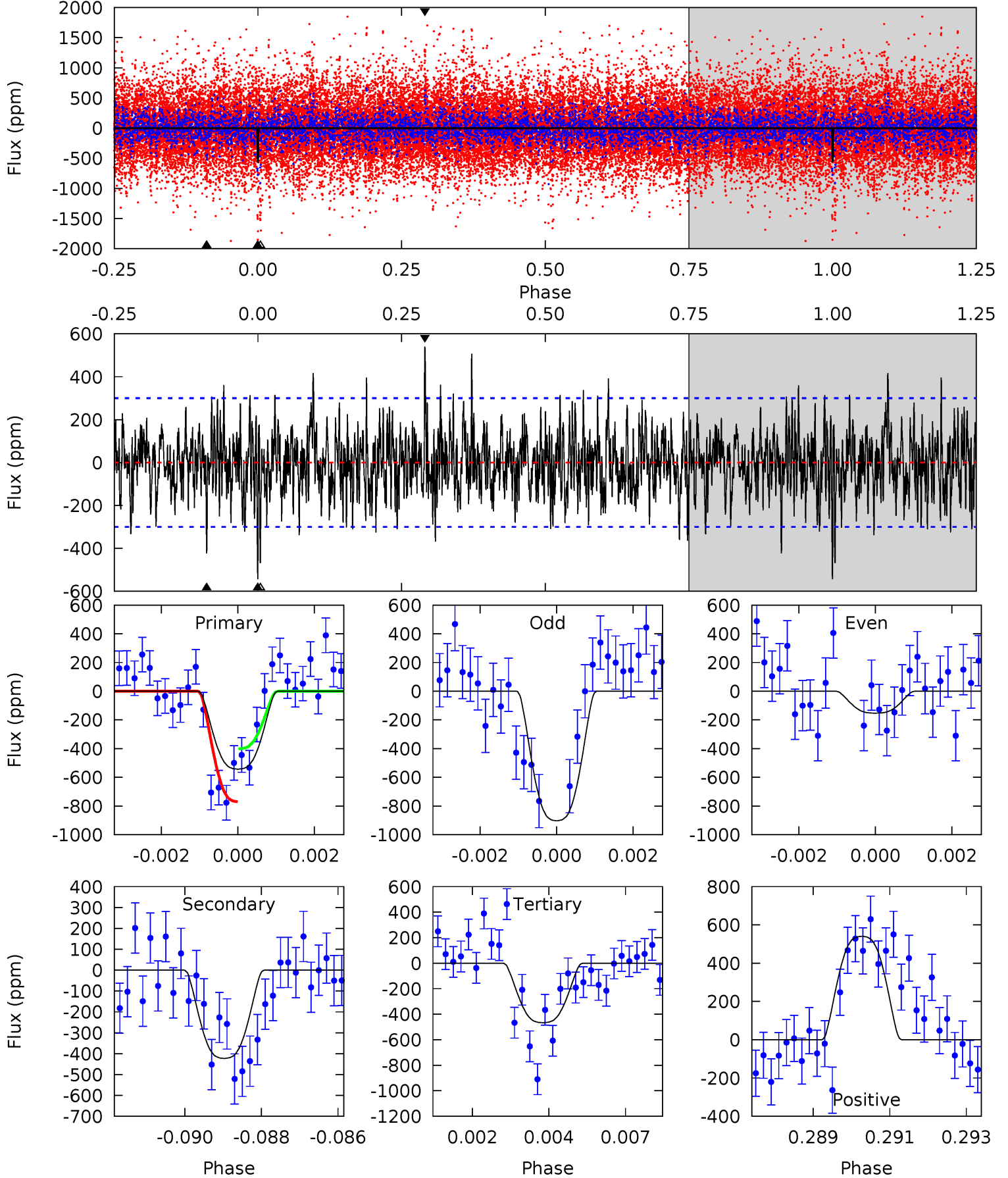
TCE 007584778-02 P=141.166721 Days $T_0=238.004050$ (BKJD)



DV Model-Shift Uniqueness Test

007584778-02, P = 141.164373 Days, E = 96.907988 Days

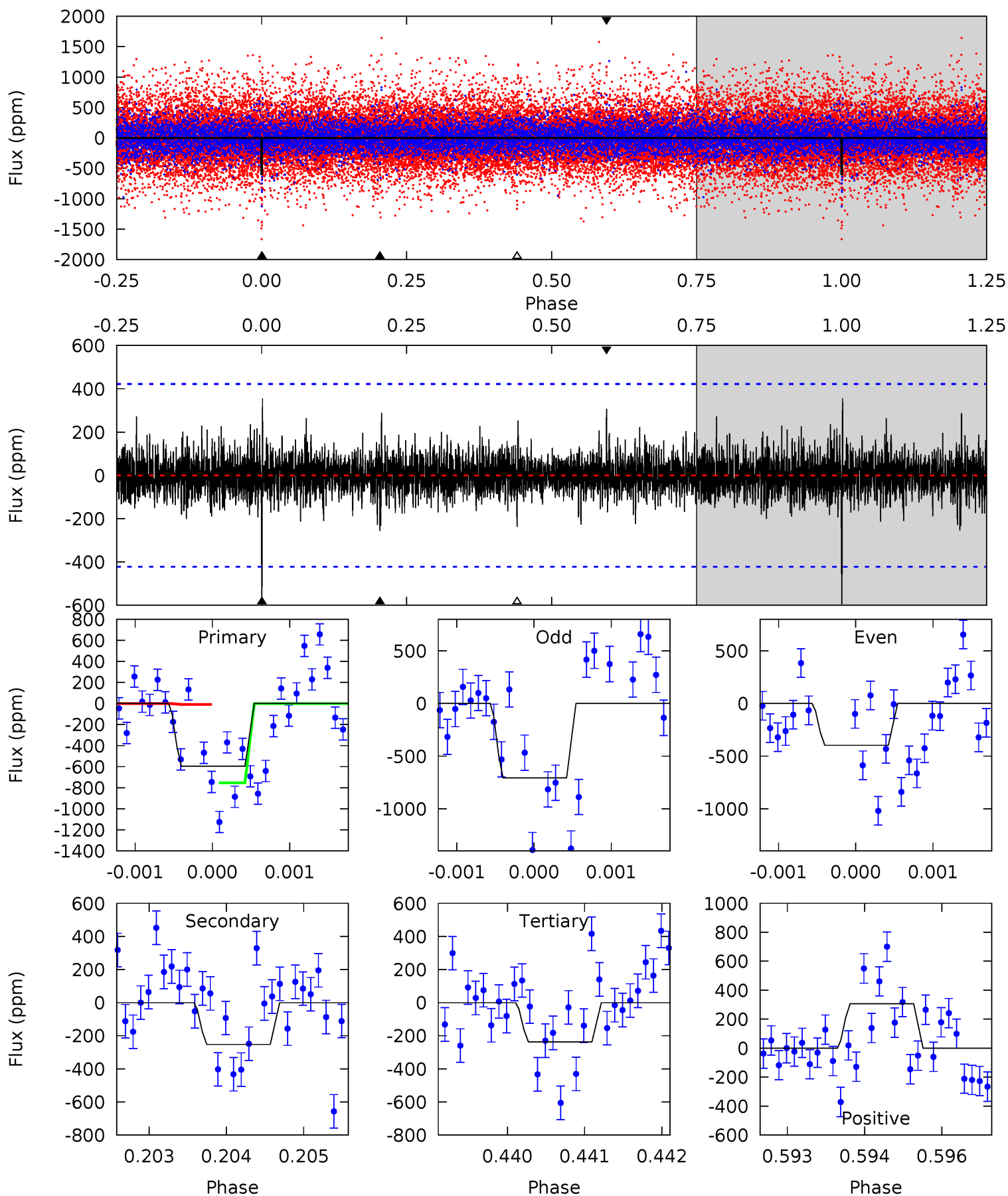
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.61	7.48	8.26	9.57	5.31	3.06	2.19	1.35	0.04	-0.78	-2.09	6.58	2.56	0.50	3.14



Alt Model-Shift Uniqueness Test

007584778-02, P = 141.166721 Days, E = 96.837329 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.64	3.25	3.05	3.94	5.42	3.24	0.81	4.59	3.70	0.20	-0.69	1.89	3.17	0.37	4.66



Stellar Parameters For KIC 007584778

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5672^{+170}_{-153}	$4.447^{+0.140}_{-0.155}$	$-0.600^{+0.300}_{-0.300}$	$0.853^{+0.177}_{-0.129}$	$0.742^{+0.111}_{-0.040}$	$1.684^{+1.121}_{-0.717}$
	+3%/-3%	+3%/-3%	+50%/-50%	+21%/-15%	+15%/-5%	+67%/-43%
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 007584778-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-423 ± 57	$3.18^{+0.60}_{-0.55}$	468^{+29}_{-27}	4598^{+319}_{-288}	5376^{+2701}_{-1690}
Alt.	-253 ± 78	$1.70^{+0.53}_{-0.47}$	468^{+26}_{-25}	5304^{+933}_{-633}	11061^{+10602}_{-5327}

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

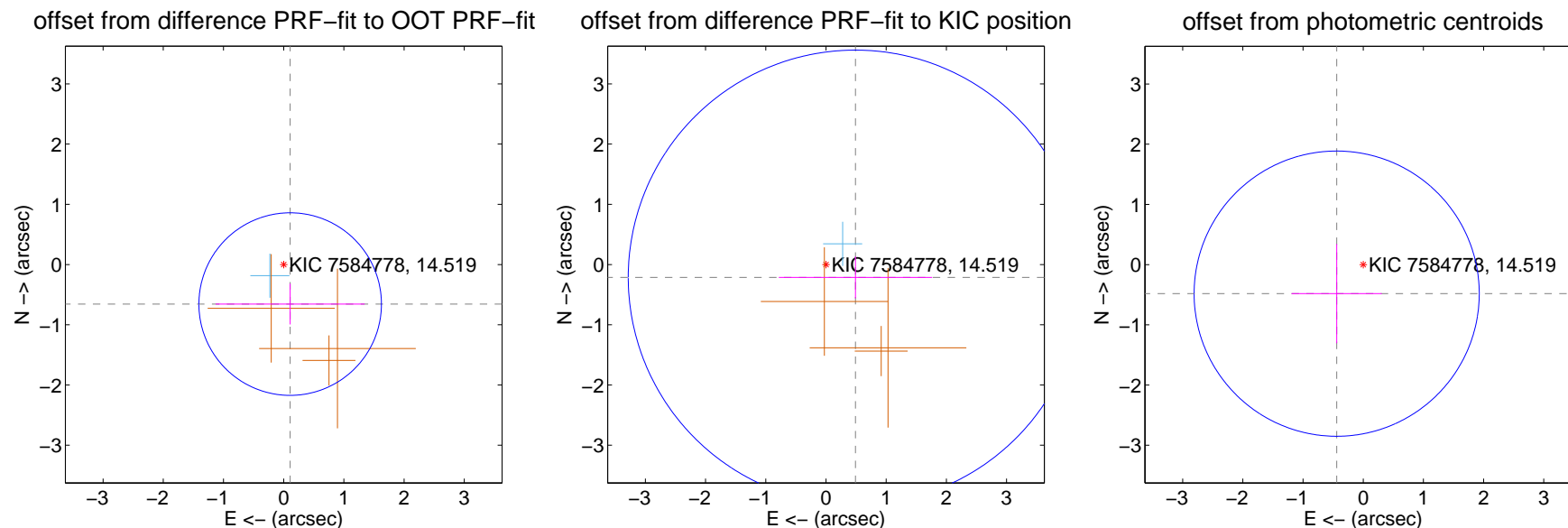
DV Centroid Data

Supplemental centroid analysis for 007584778-02. Kepler magnitude: 14.52. Transit SNR 8.18

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.666 ± 0.505	1.32	-0.108 ± 1.238	-0.657 ± 0.338
PRF-fit source offset from KIC position	0.534 ± 1.258	0.42	-0.490 ± 1.273	-0.213 ± 0.348
photometric centroid source offset	0.65 ± 0.79	0.83	0.44 ± 0.75	-0.48 ± 0.82



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.

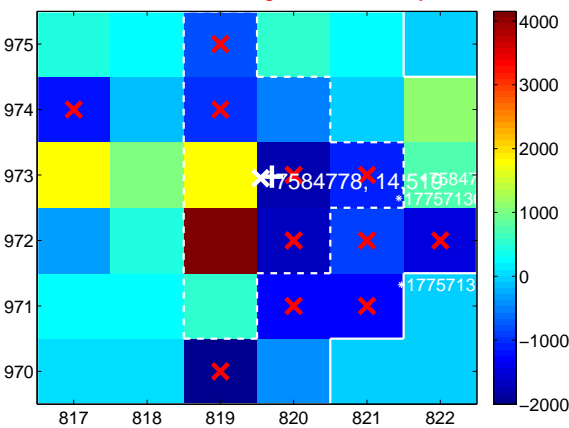
Q1 no difference image



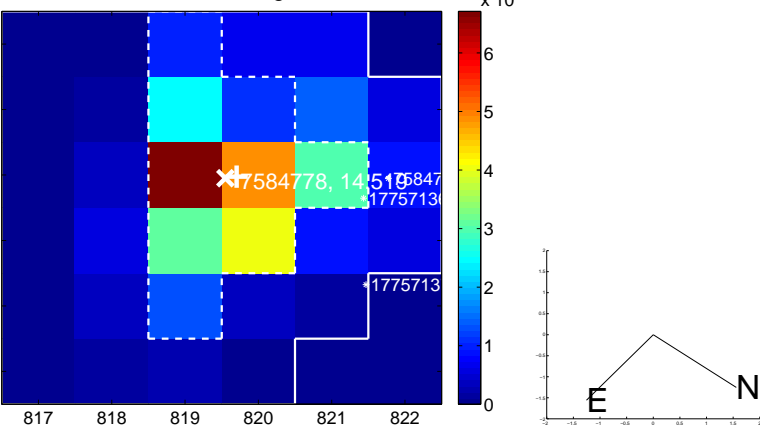
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



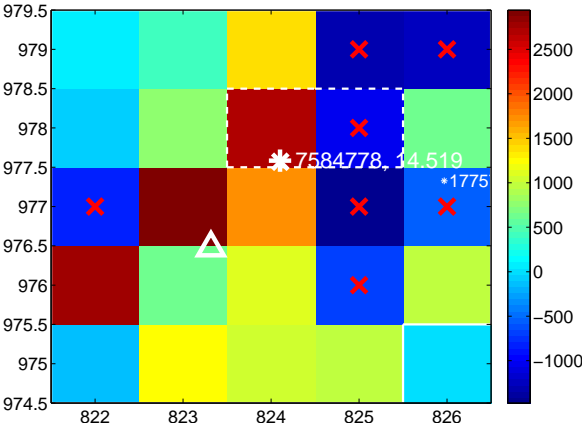
Q3 no difference image



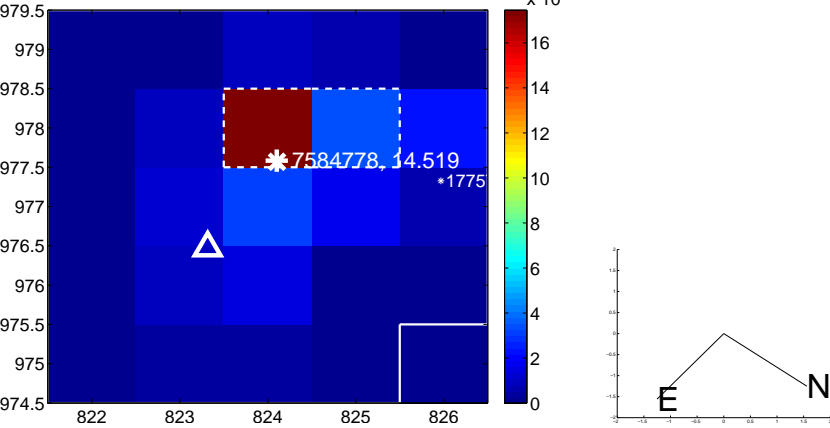
Q3 no OOT image



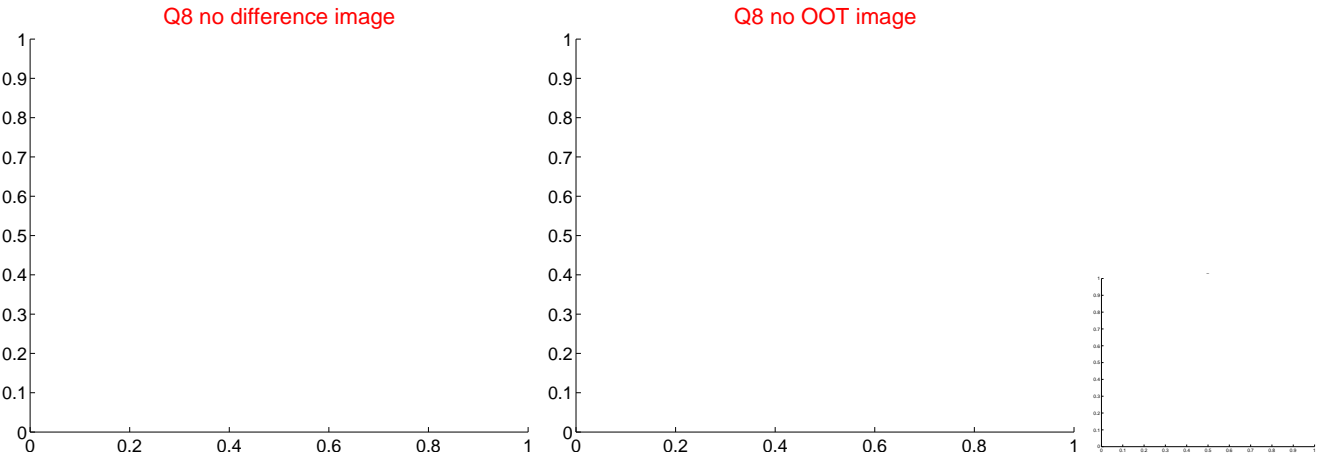
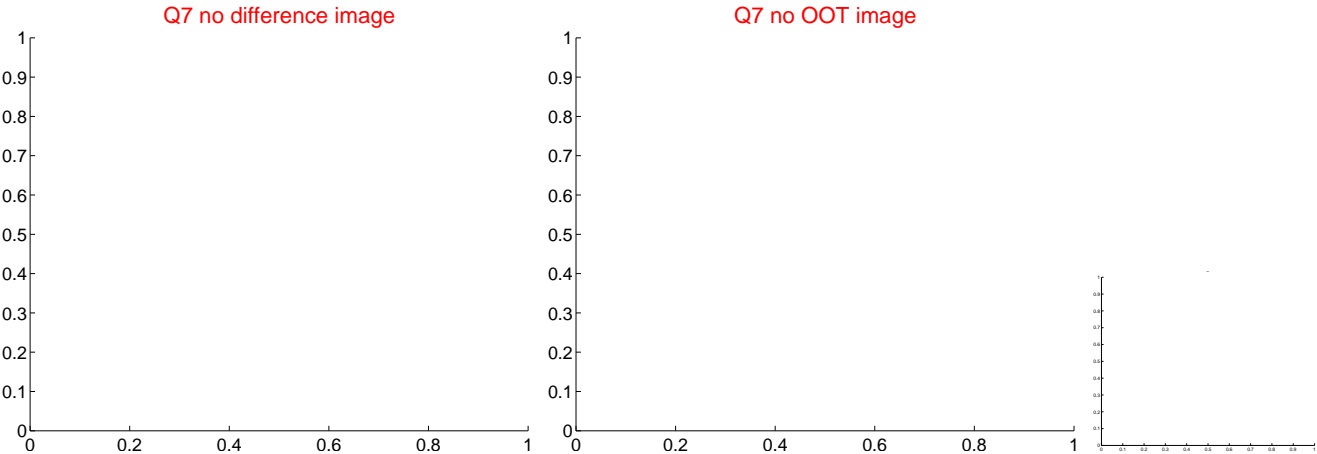
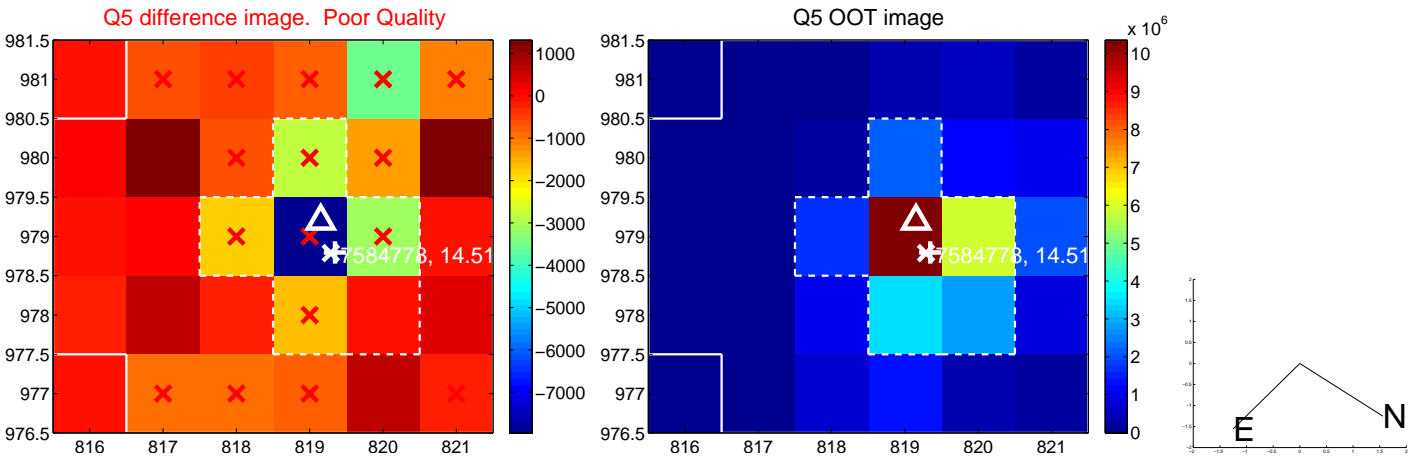
Q4 difference image. Poor Quality



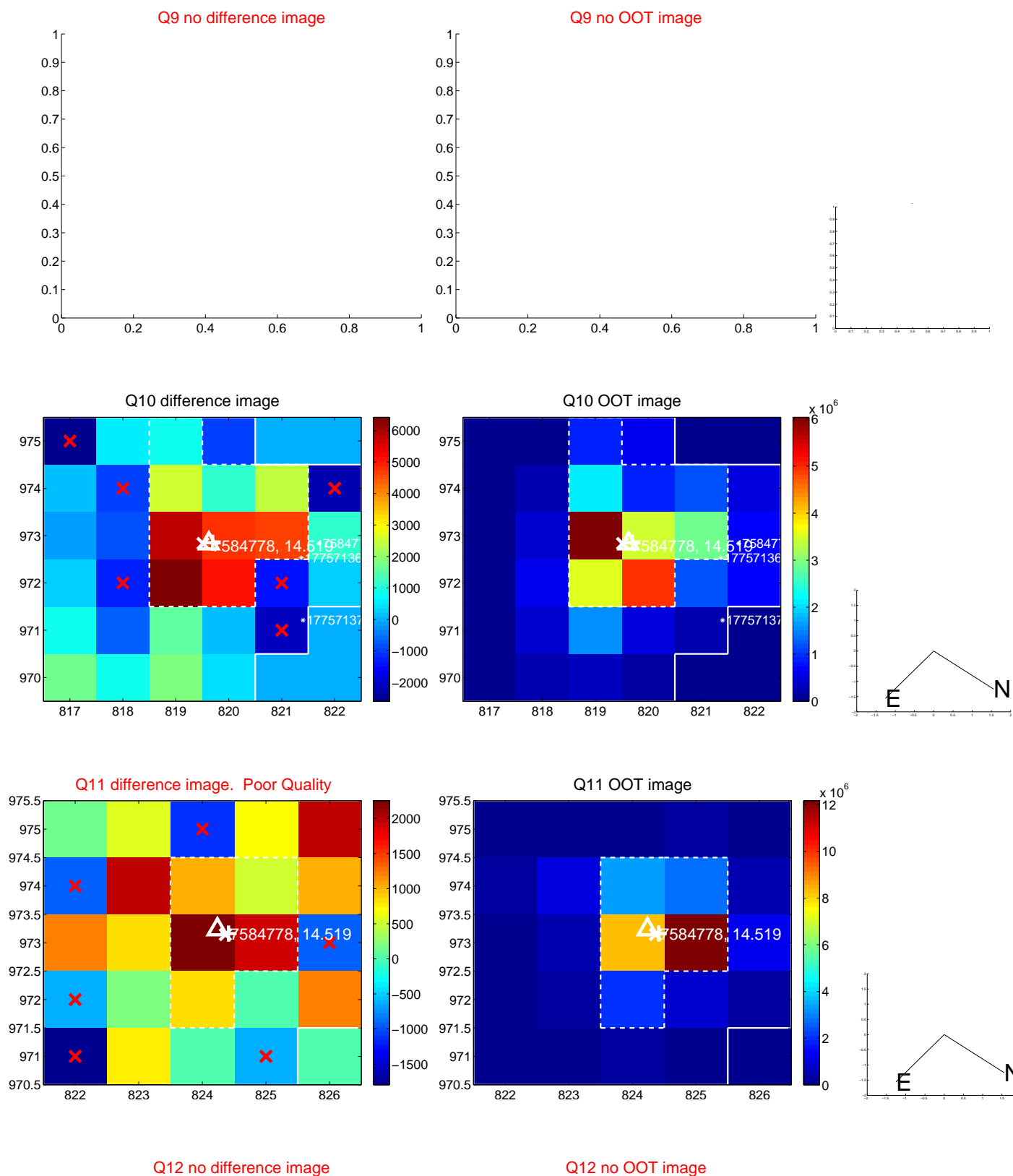
Q4 OOT image



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



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



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

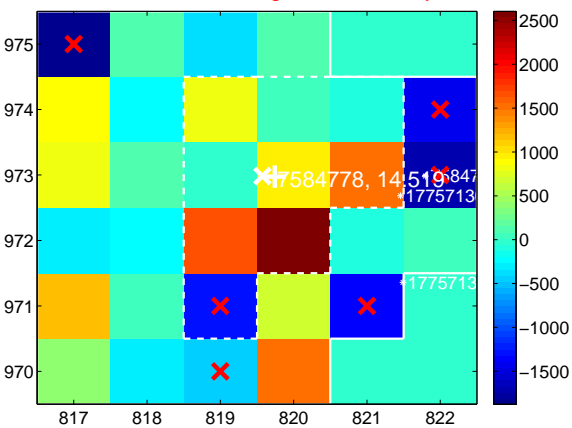
Q13 no difference image



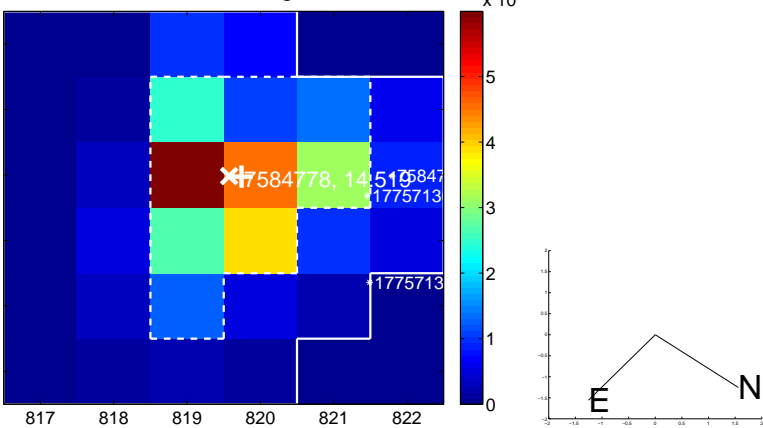
Q13 no OOT image



Q14 difference image. Poor Quality



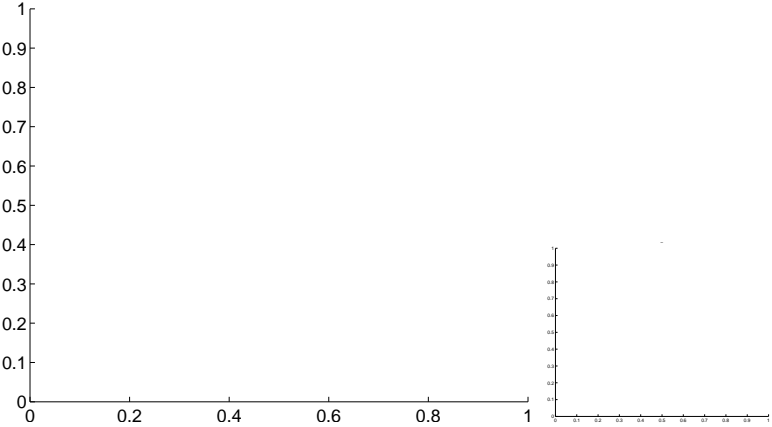
Q14 OOT image



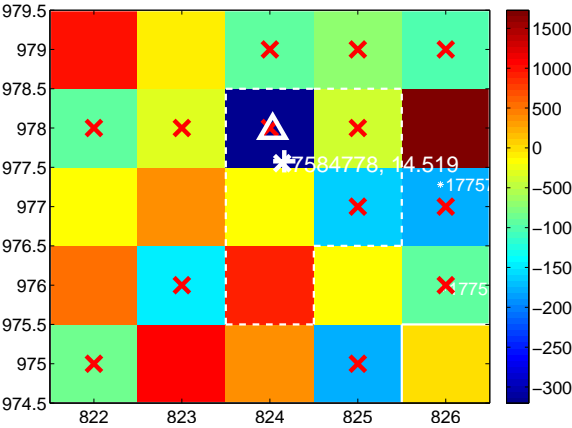
Q15 no difference image



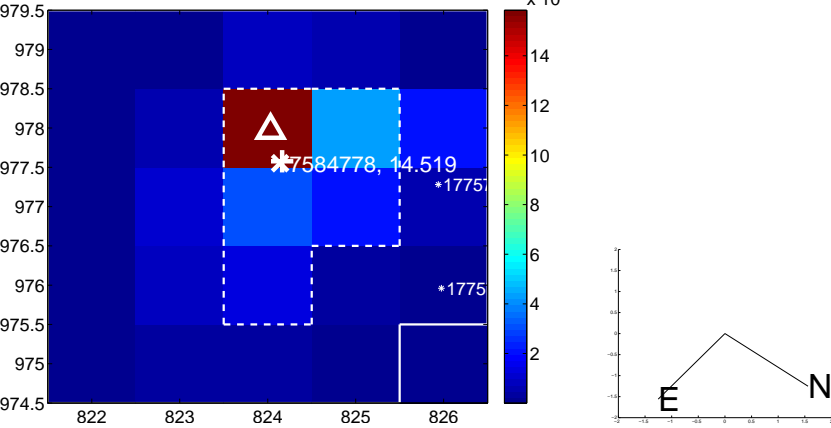
Q15 no OOT image



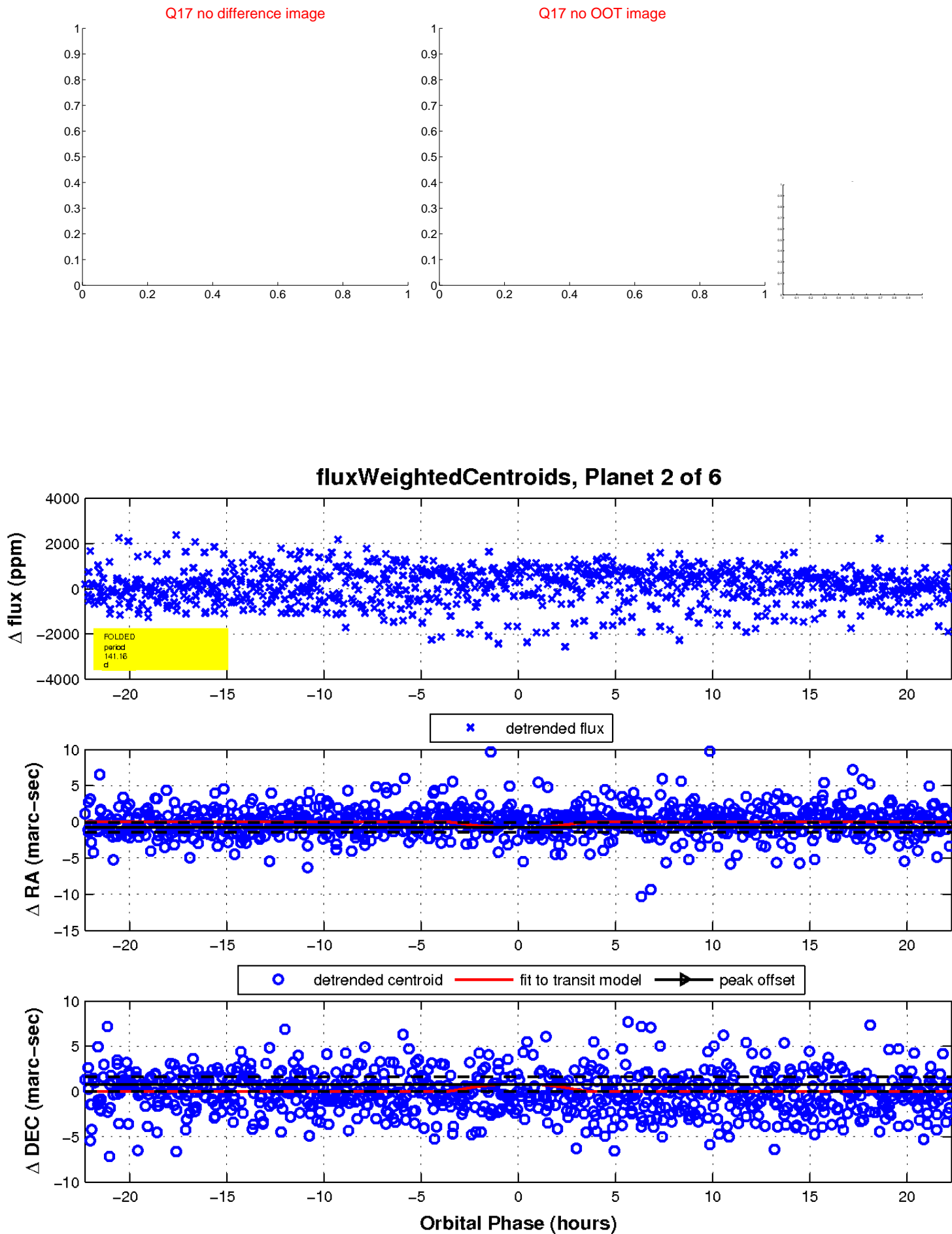
Q16 difference image. Poor Quality



Q16 OOT image

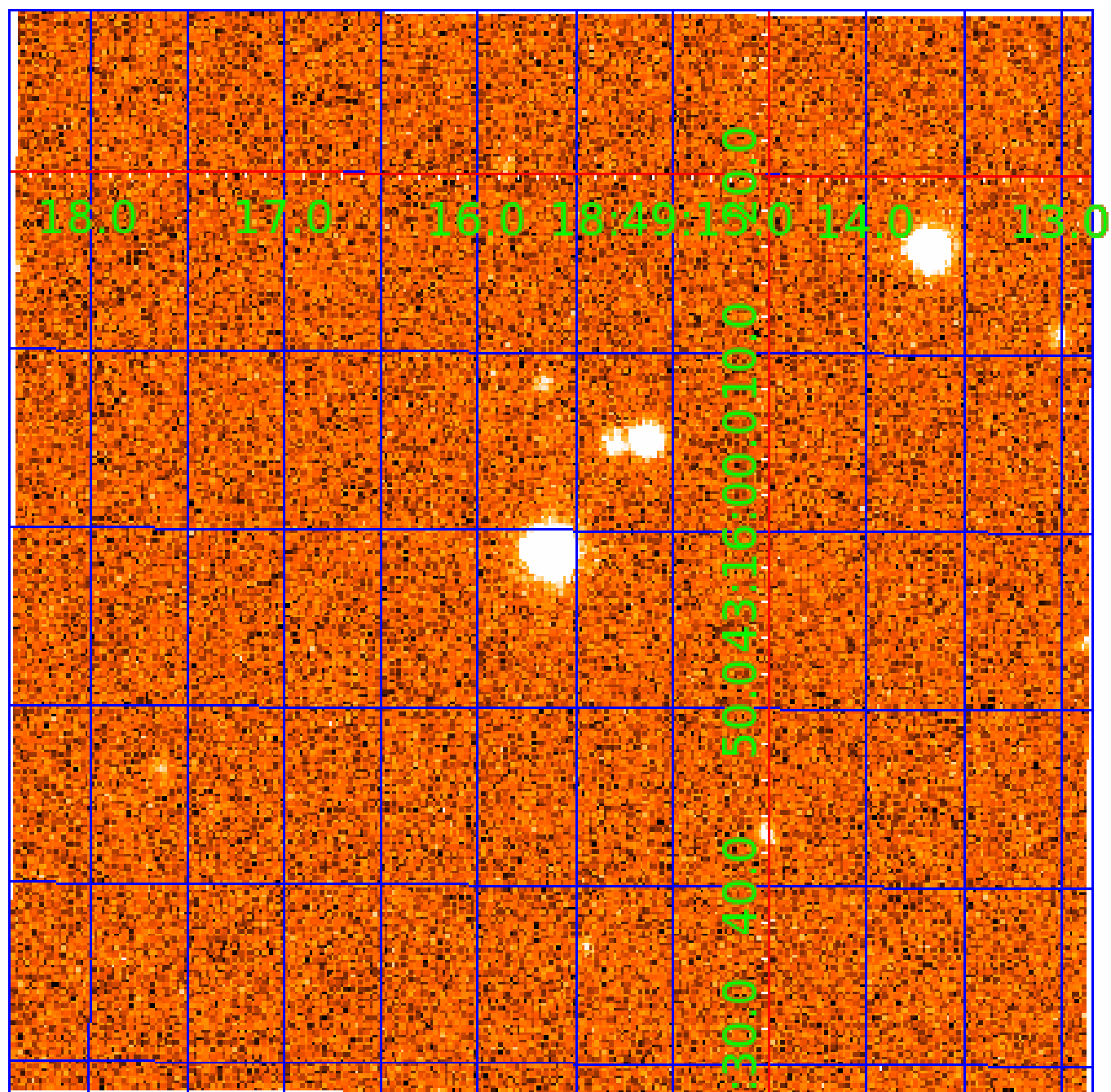


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007584778

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})
007584778-01	OBS	6887.01	0.622299	132.090736	59.5	2.392	11.8	12.0	0.85	5672	0.78	4040.85
007584778-02	OBS	No	141.164373	238.072361	801.9	7.438	14.4	8.2	0.85	5672	3.14	2.92
007584778-03	OBS	No	301.817616	187.160614	646.5	7.804	9.8	7.0	0.85	5672	2.40	1.06
007584778-04	OBS	No	277.395648	390.253541	512.3	4.784	9.7	4.5	0.85	5672	2.09	1.19
007584778-05	OBS	No	201.549825	189.072332	727.1	10.500	11.0	-1.0	0.85	5672	2.29	1.82
007584778-06	OBS	No	135.172218	147.613285	558.3	4.205	9.0	6.3	0.85	5672	2.20	3.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007584778-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH
007584778-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007584778-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—CENT_FEW_DIFFS
007584778-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007584778-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007584778-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

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

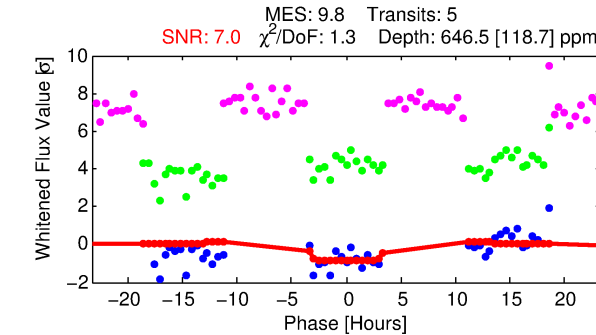
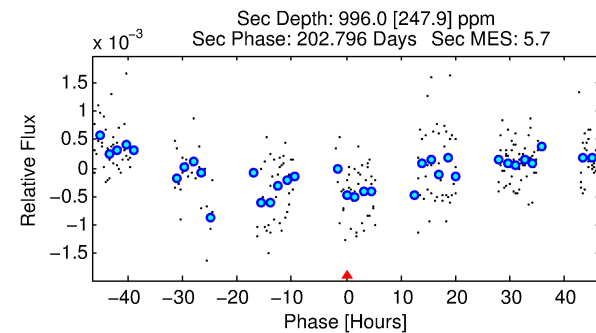
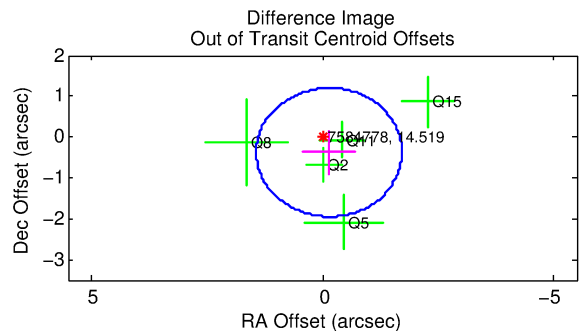
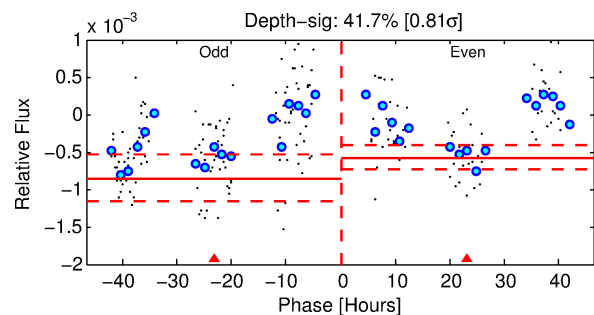
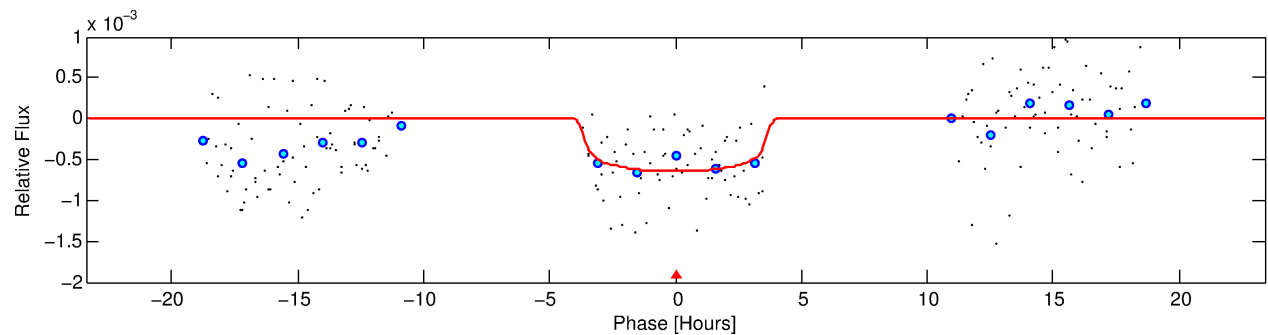
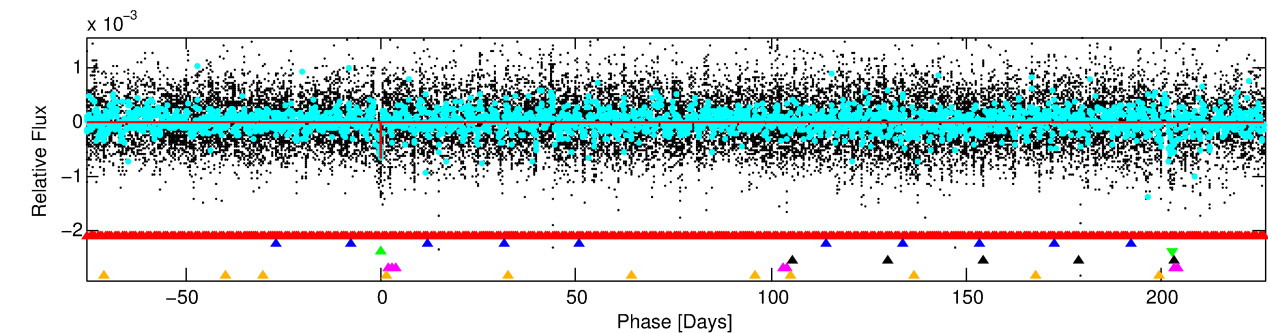
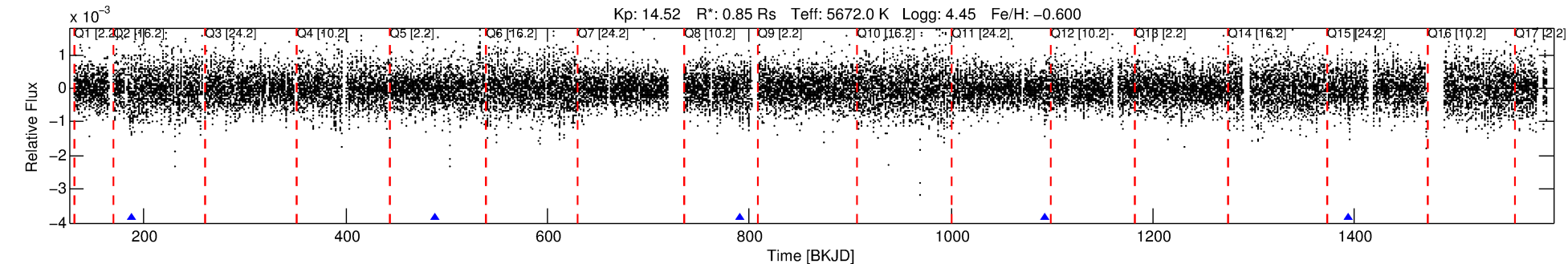
Ephemeris Match Information For 007584778-03

No Significant Match Found

DV One-Page Summary

KIC: 7584778 Candidate: 3 of 6 Period: 301.818 d
KOI: K06887 Corr: No Ephemeris Match

Kp: 14.52 R*: 0.85 Rs Teff: 5672.0 K Logg: 4.45 Fe/H: -0.600



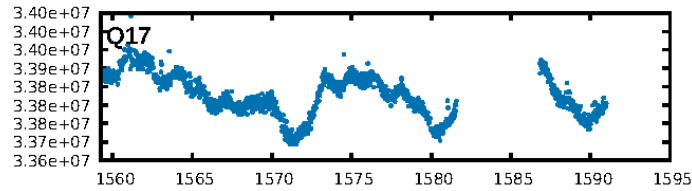
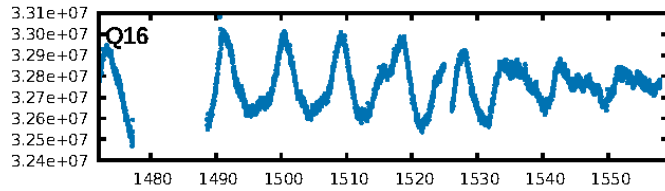
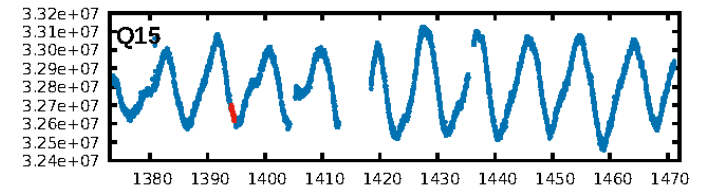
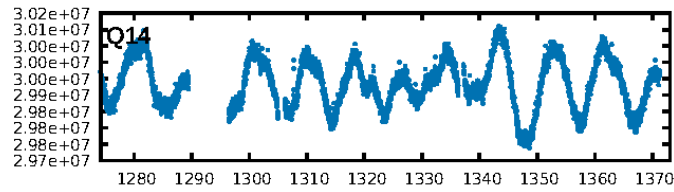
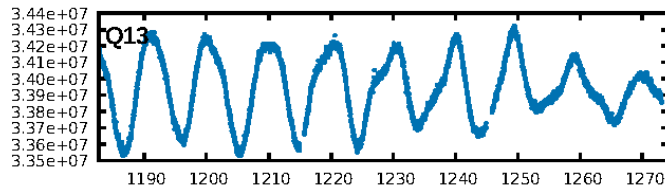
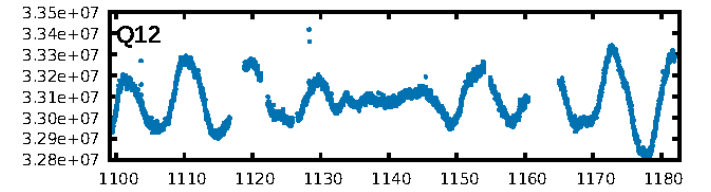
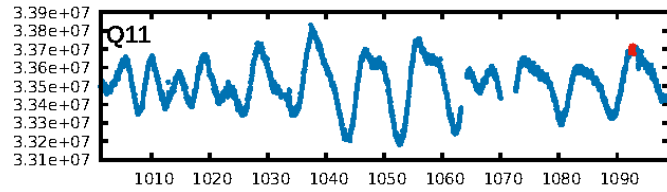
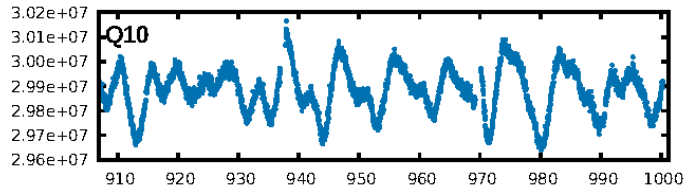
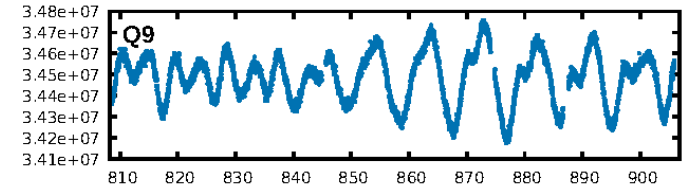
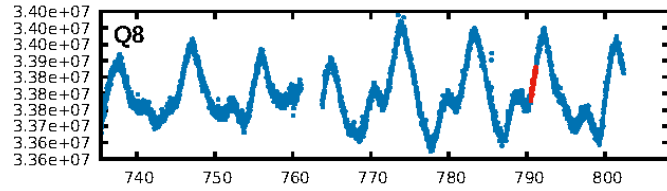
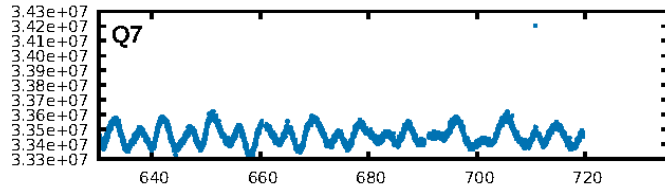
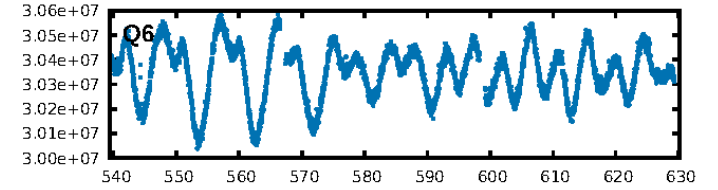
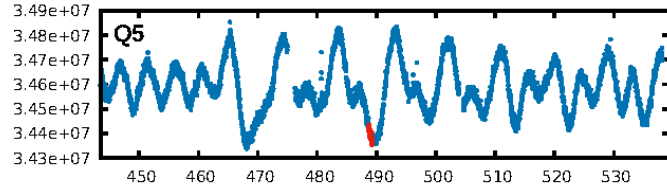
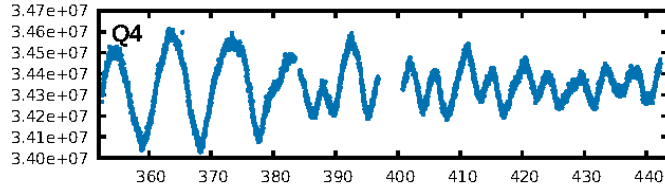
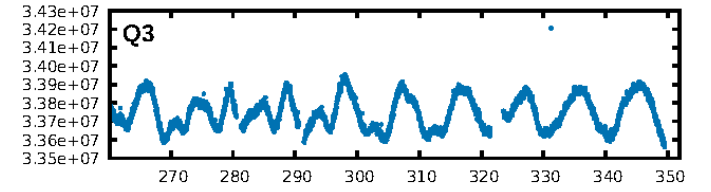
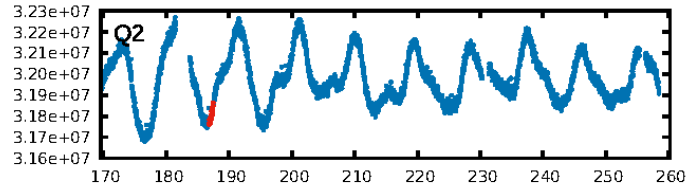
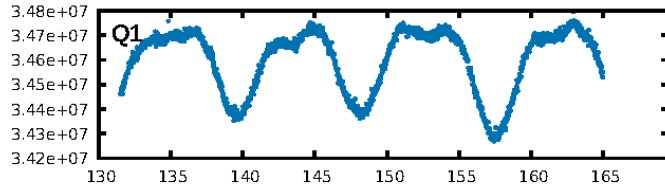
DV Fit Results:

Period = 301.81762 [0.00752] d
Epoch = 187.1606 [0.0204] BKJD
Rp/R* = 0.0258 [0.0125]
a/R* = 189.34 [428.17]
b = 0.80 [0.99]
Seff = 1.06 [0.32]
Teff = 259 [19] K
Rp = 2.40 [1.27] Re
a = 0.7977 [0.1455] AU
Ag = 60354.96 [62628.23] [0.96σ]
Teffp = 6271 [1580] K [3.81σ]

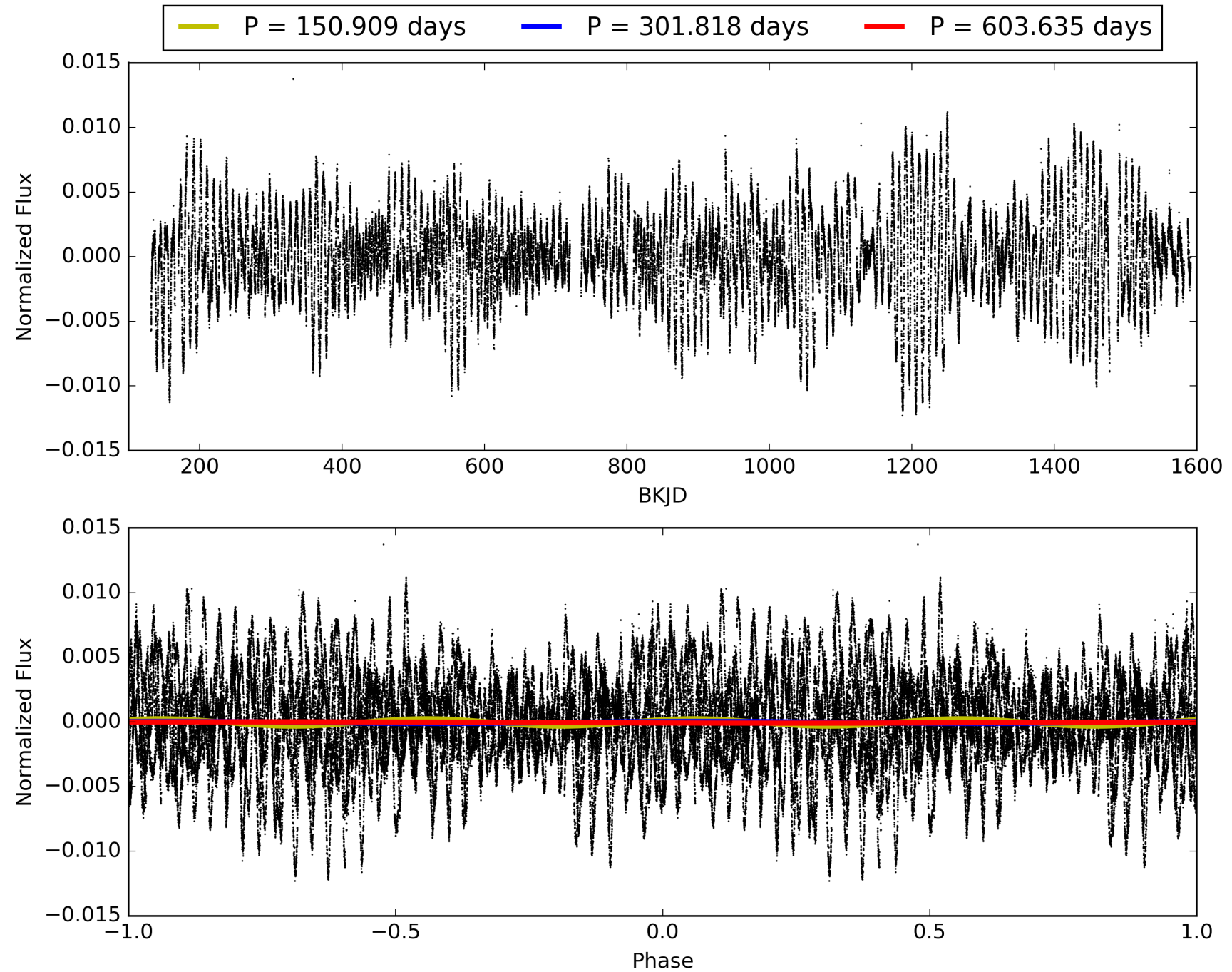
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [64.03σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 8.0%
ModelChiSquareGof-sig: 98.8%
Bootstrap-pfa: 4.01e-12
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -4.052
Centroid-sig: 1.1%
Centroid-so: 2.543 arcsec [2.41σ]
OotOffset-rm: 0.402 arcsec [0.77σ]
KicOffset-rm: 0.623 arcsec [1.16σ]
OotOffset-st: 1/2/1/1 [5]
KicOffset-st: 1/2/1/1 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 0.00 [0/5]

TCE 007584778-03, PDC Light Curves

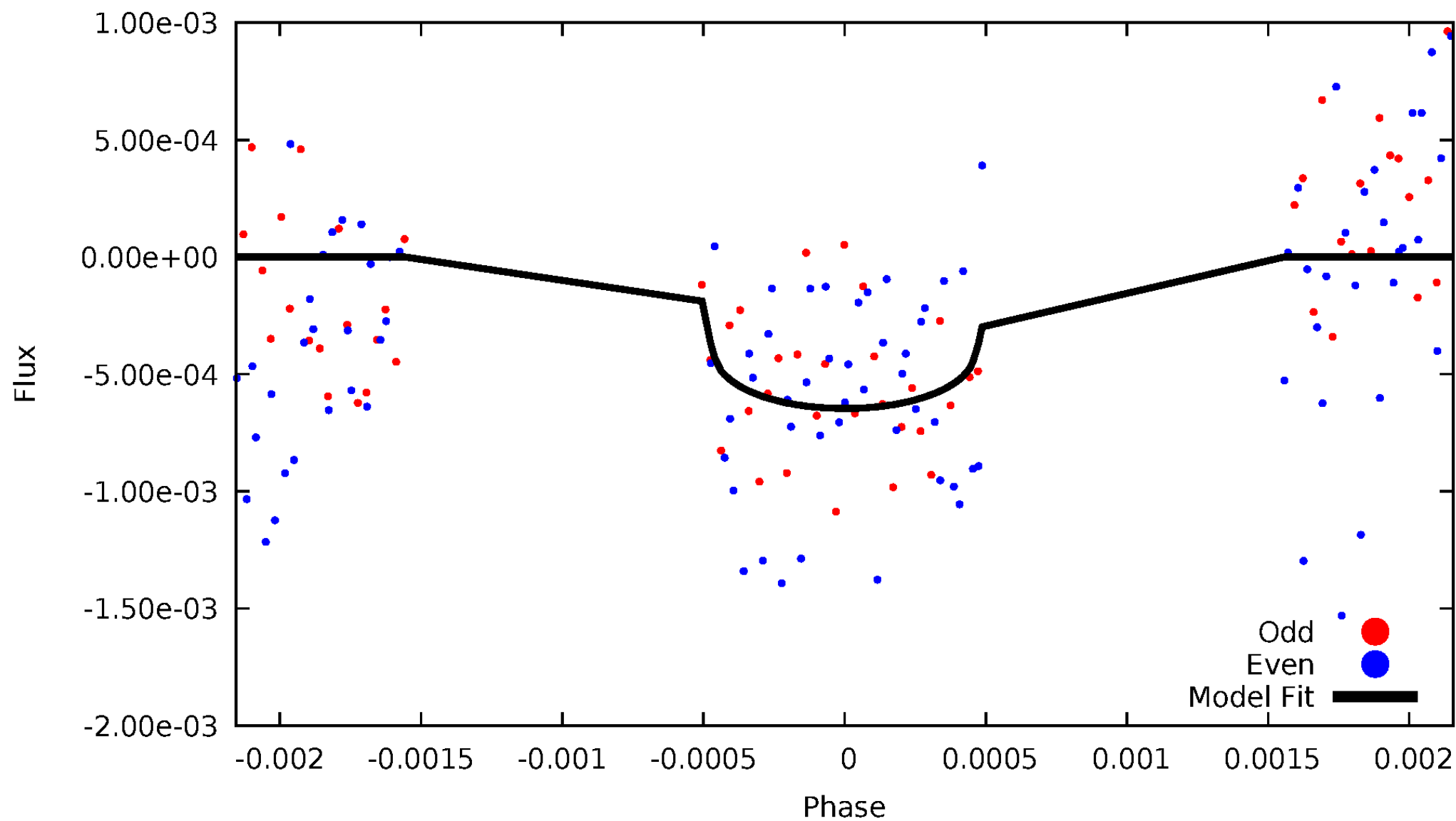


TCE 007584778-03



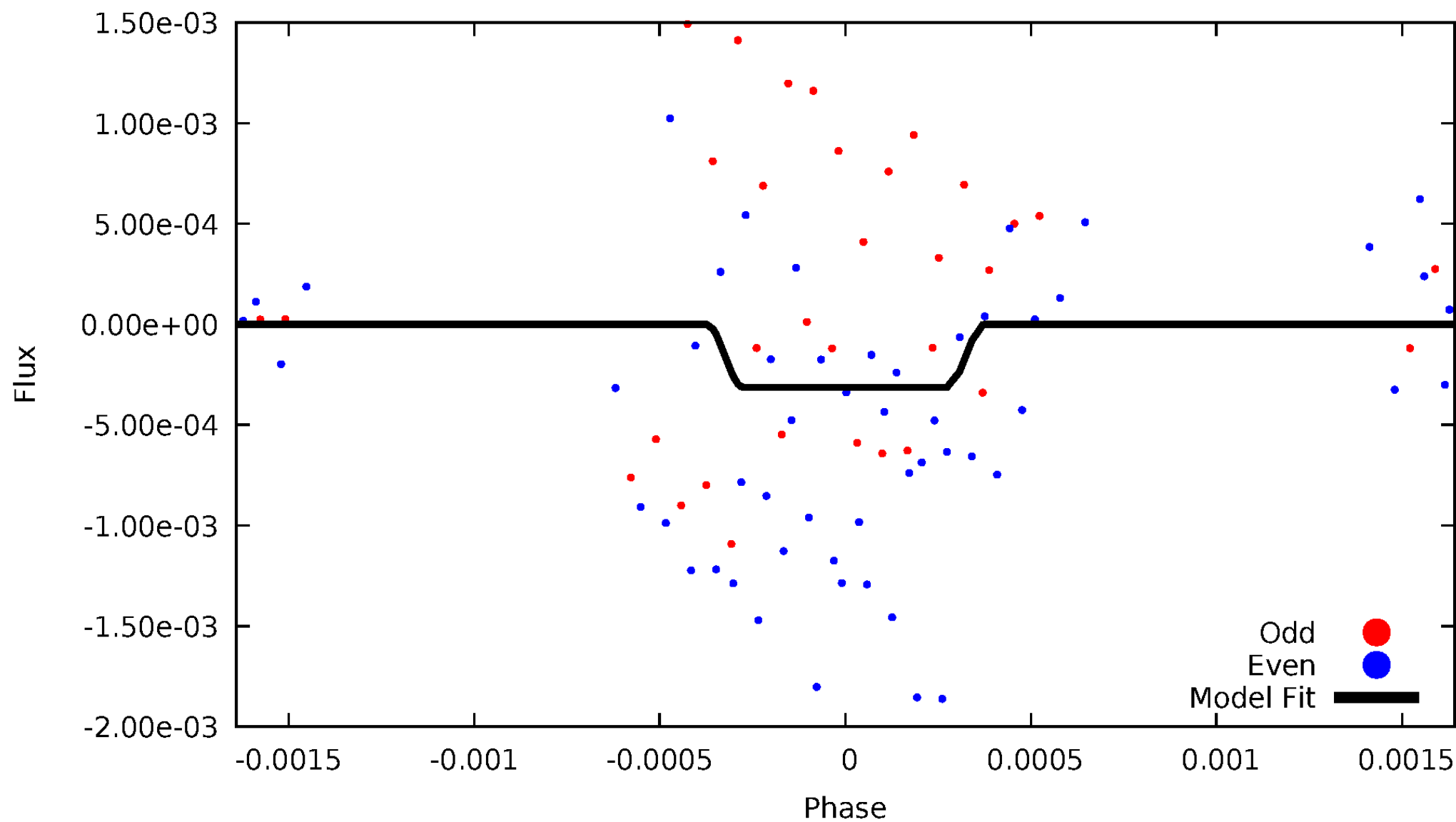
DV Odd/Even

TCE 007584778-03



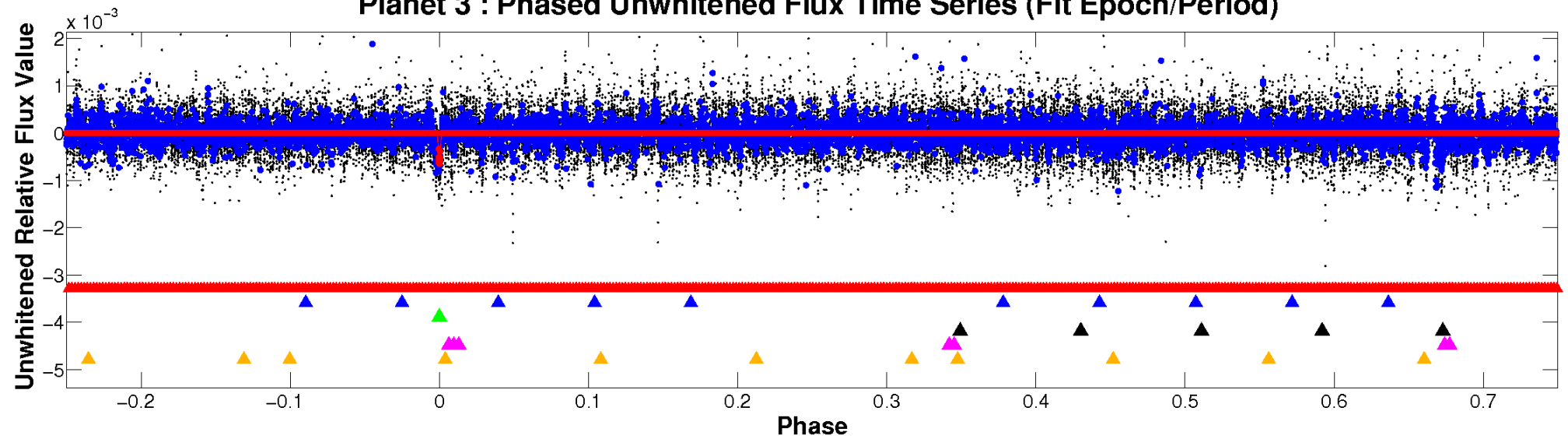
ALT Odd/Even

TCE 007584778-03

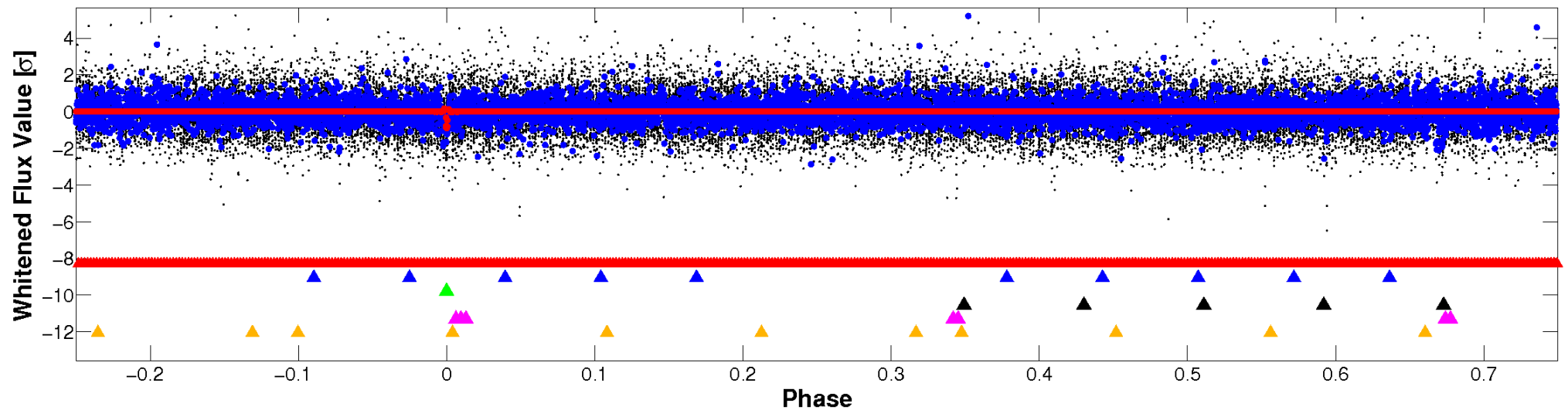


Non-Whitened Vs. Whitened Light Curve

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

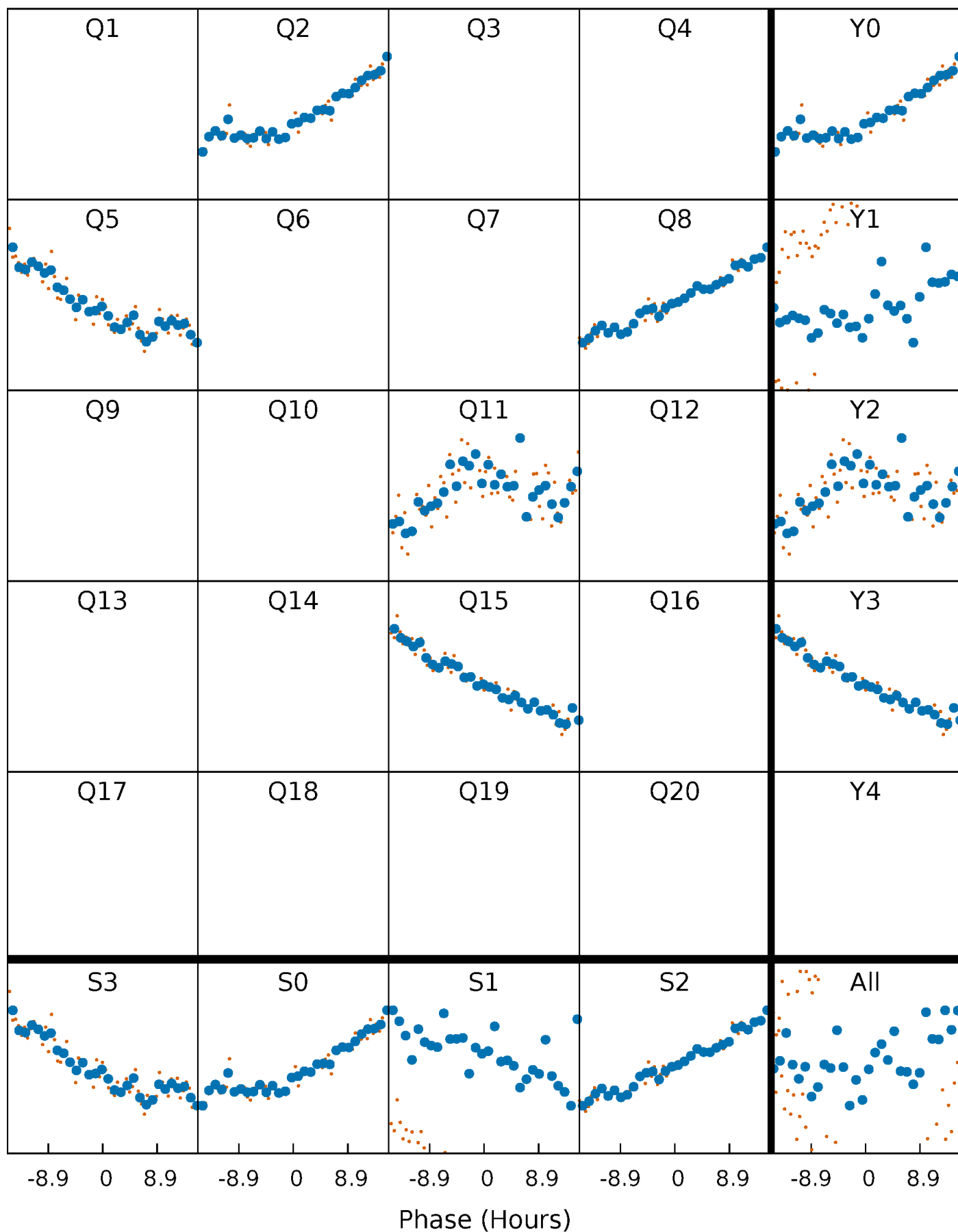


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



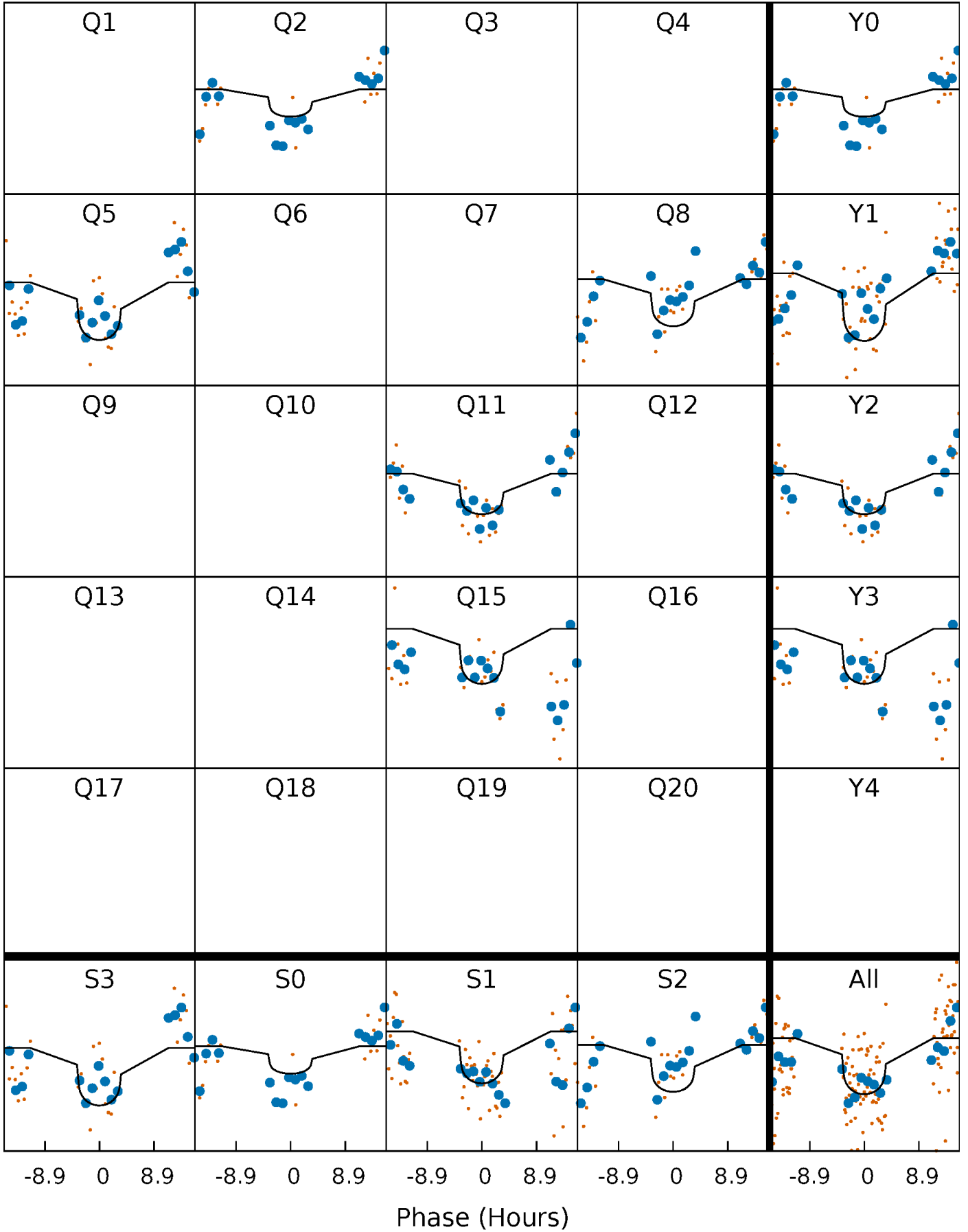
PDC Quarter-Phased Transit Curves

TCE 007584778-03 P=301.817616 Days $T_0=187.160614$ (BKJD)



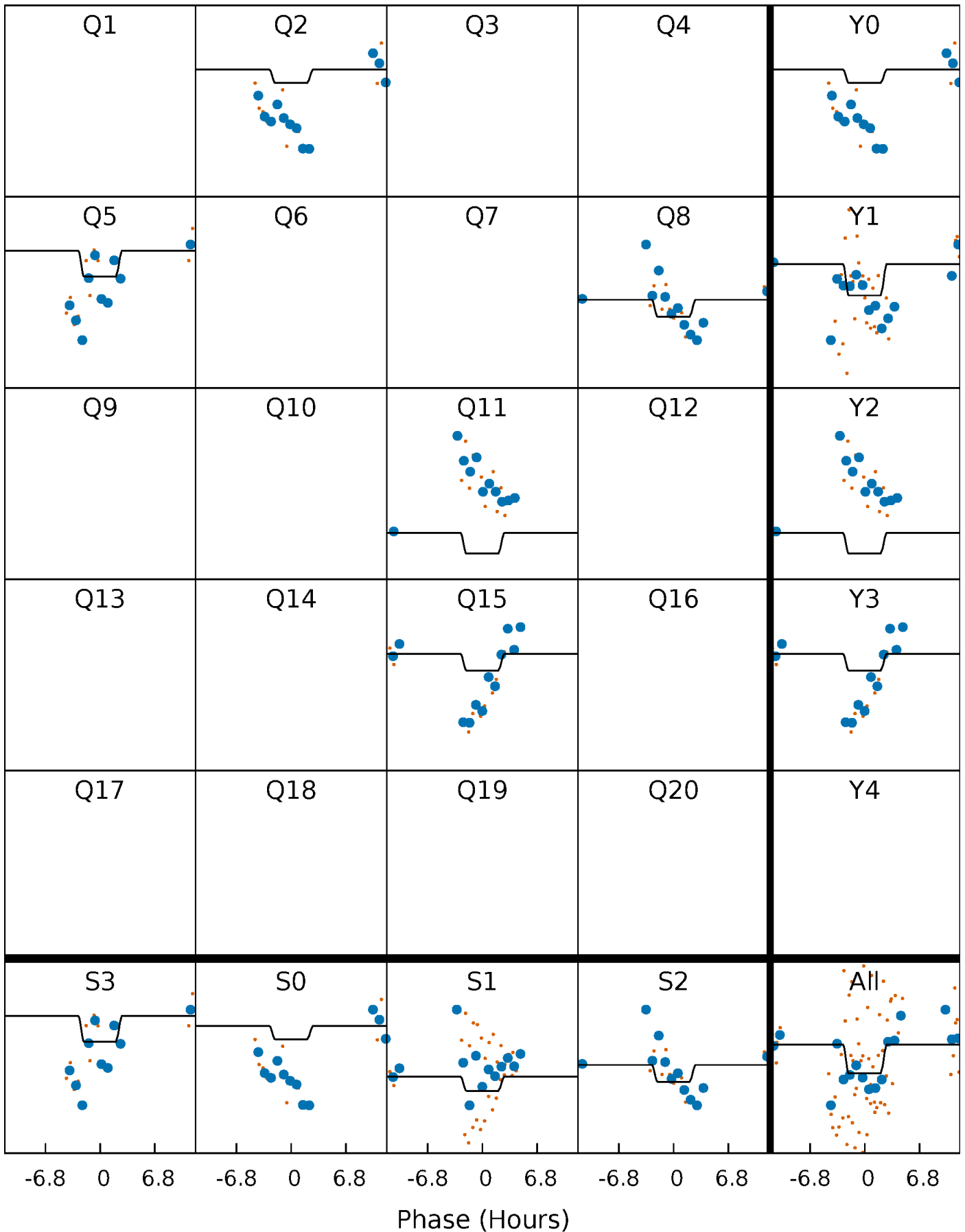
DV Quarter-Phased Transit Curves

TCE 007584778-03 $P=301.817616$ Days $T_0=187.160614$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

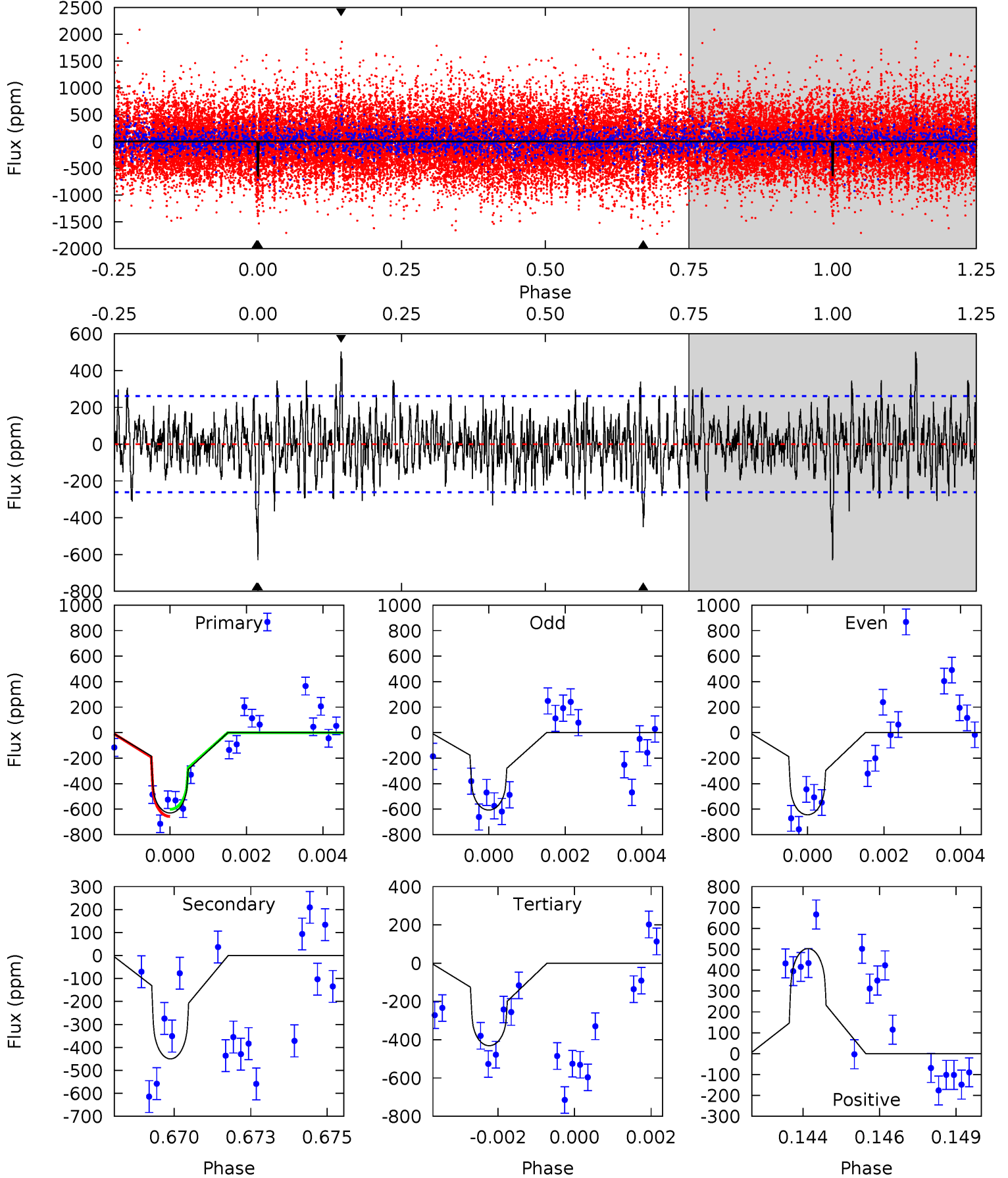
TCE 007584778-03 P=301.790059 Days $T_0=187.219135$ (BKJD)



DV Model-Shift Uniqueness Test

007584778-03, P = 301.817616 Days, E = 187.160614 Days

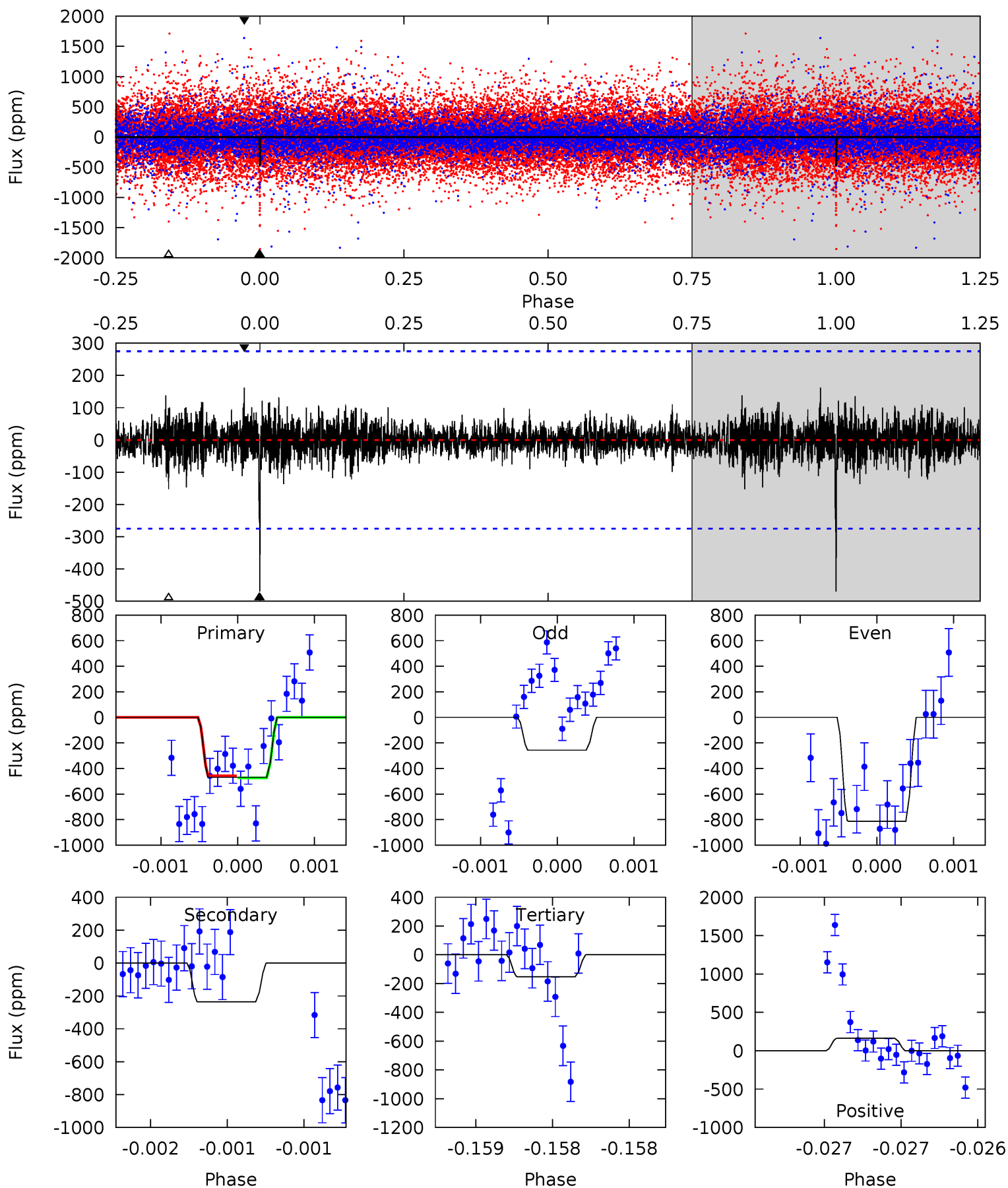
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	9.18	8.79	10.3	5.32	3.08	2.38	4.05	2.58	0.39	-1.08	0.37	1.05	0.44	0.57



Alt Model-Shift Uniqueness Test

007584778-03, P = 301.790059 Days, E = 187.219135 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.40	4.74	3.06	3.25	5.51	3.38	0.68	6.35	6.15	1.69	1.49	5.71	0.94	0.26	0.15



Stellar Parameters For KIC 007584778

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5672^{+170}_{-153}	$4.447^{+0.140}_{-0.155}$	$-0.600^{+0.300}_{-0.300}$	$0.853^{+0.177}_{-0.129}$	$0.742^{+0.111}_{-0.040}$	$1.684^{+1.121}_{-0.717}$
	+3%/-3%	+3%/-3%	+50%/-50%	+21%/-15%	+15%/-5%	+67%/-43%
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 007584778-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-450 ± 49	$2.53^{+1.11}_{-1.15}$	363^{+24}_{-20}	5122^{+1782}_{-702}	25473^{+59696}_{-13347}
Alt.	-237 ± 50	$1.72^{+1.14}_{-0.93}$	363^{+24}_{-20}	5232^{+2585}_{-998}	$28313^{+100877}_{-18298}$

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

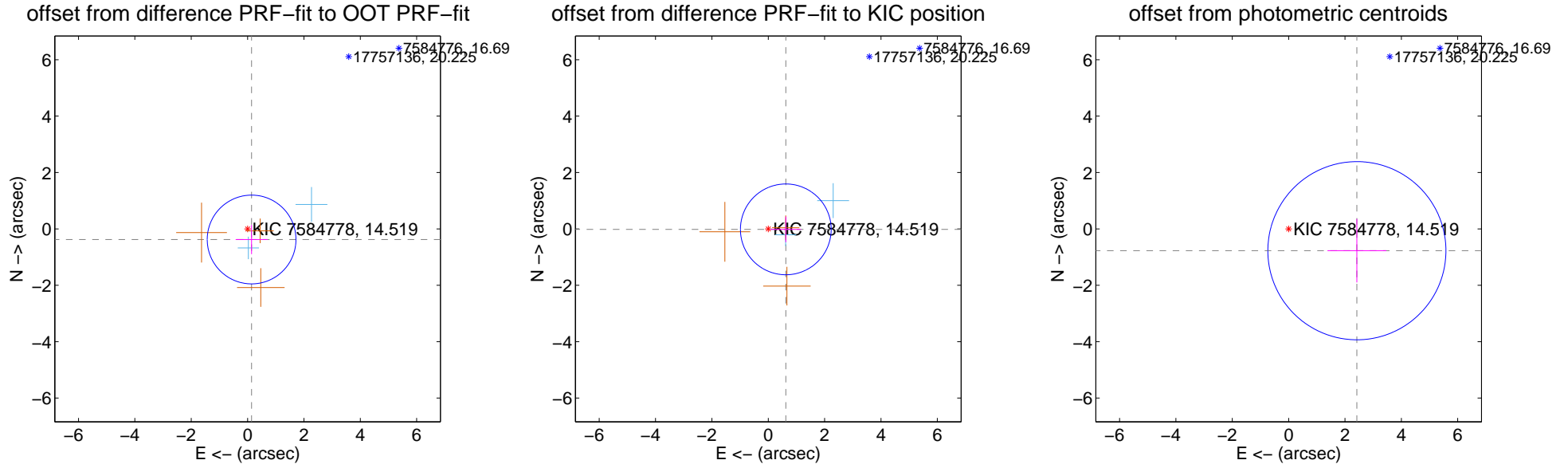
DV Centroid Data

Supplemental centroid analysis for 007584778-03. Kepler magnitude: 14.52. Transit SNR 6.97

There are 2 quarters with good PRF difference image offsets

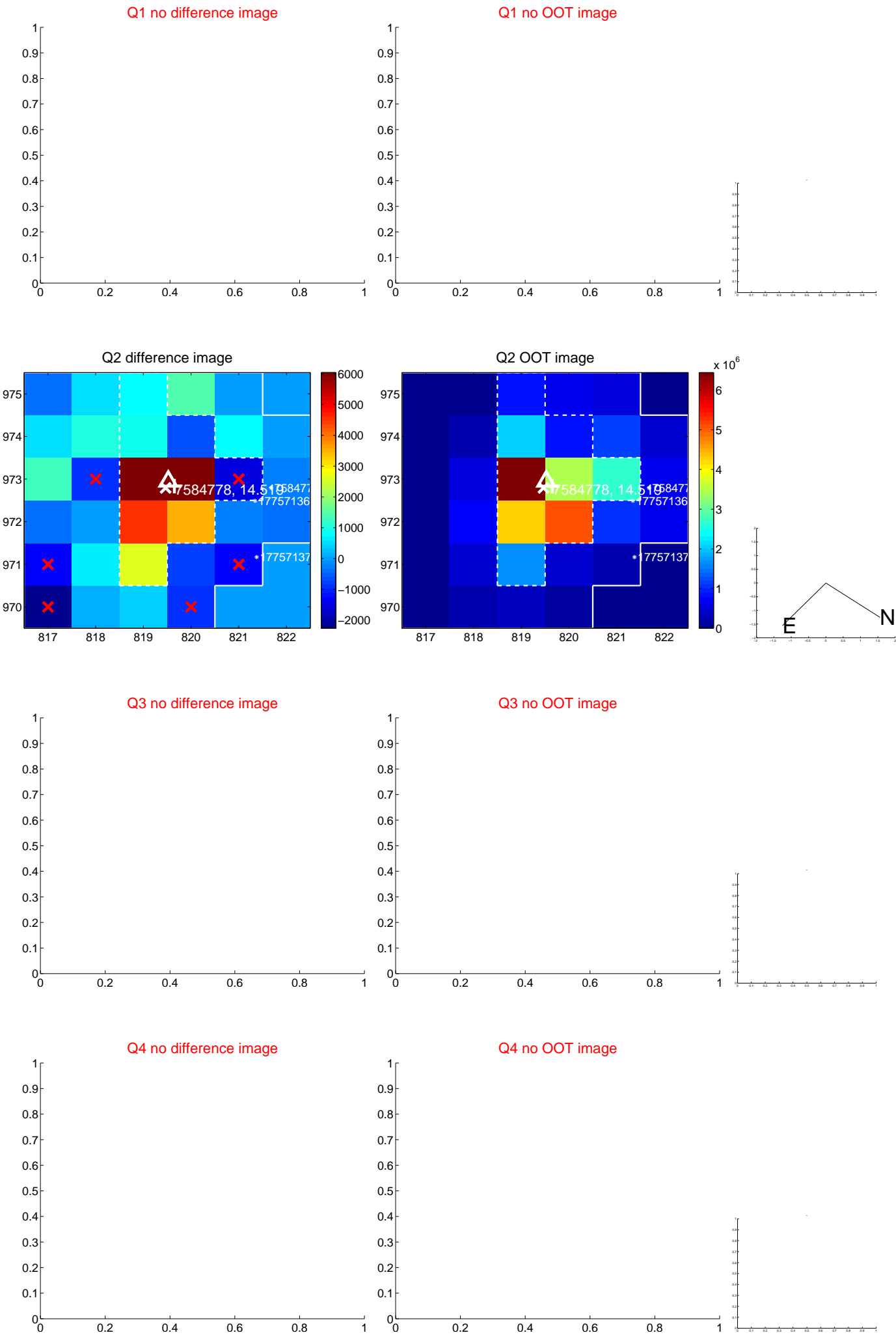
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.402 ± 0.525	0.77	-0.142 ± 0.566	-0.376 ± 0.519
PRF-fit source offset from KIC position	0.623 ± 0.537	1.16	-0.623 ± 0.540	-0.017 ± 0.455
photometric centroid source offset	2.54 ± 1.05	2.41	-2.42 ± 1.05	-0.77 ± 1.13

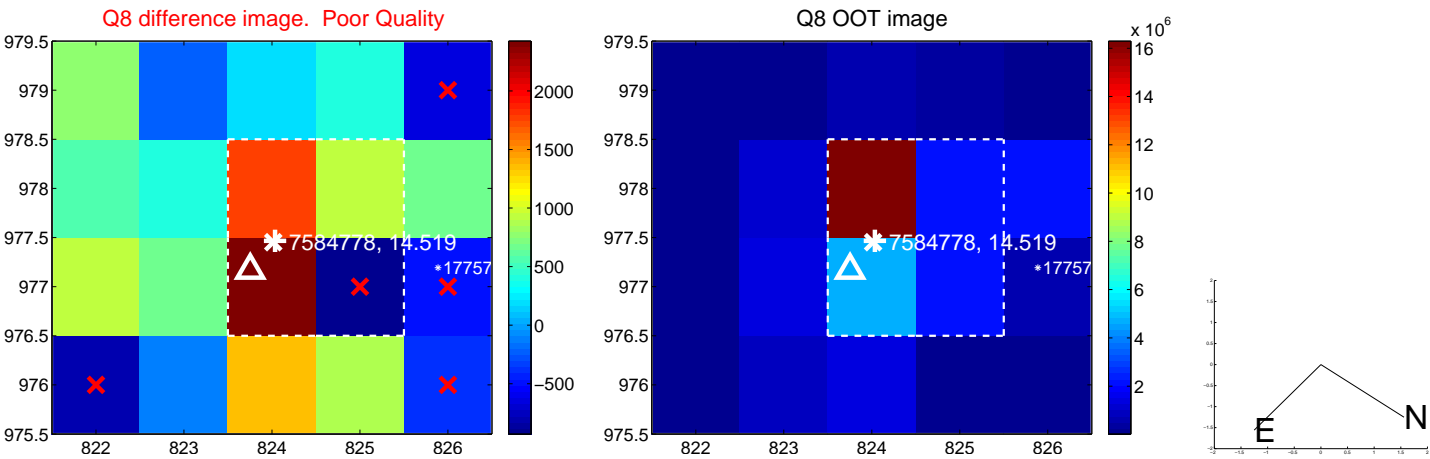
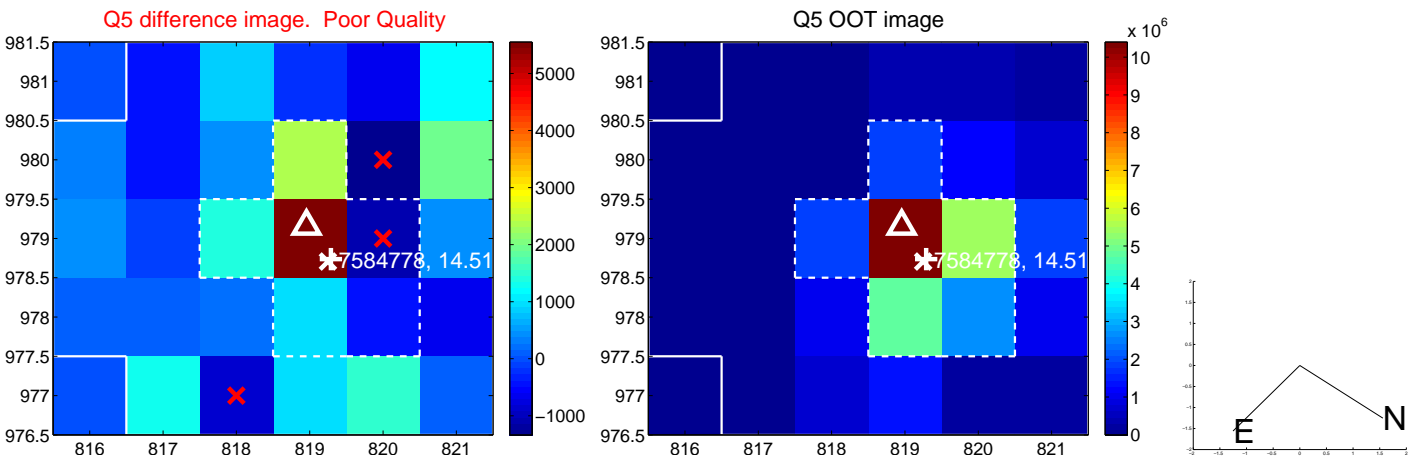


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

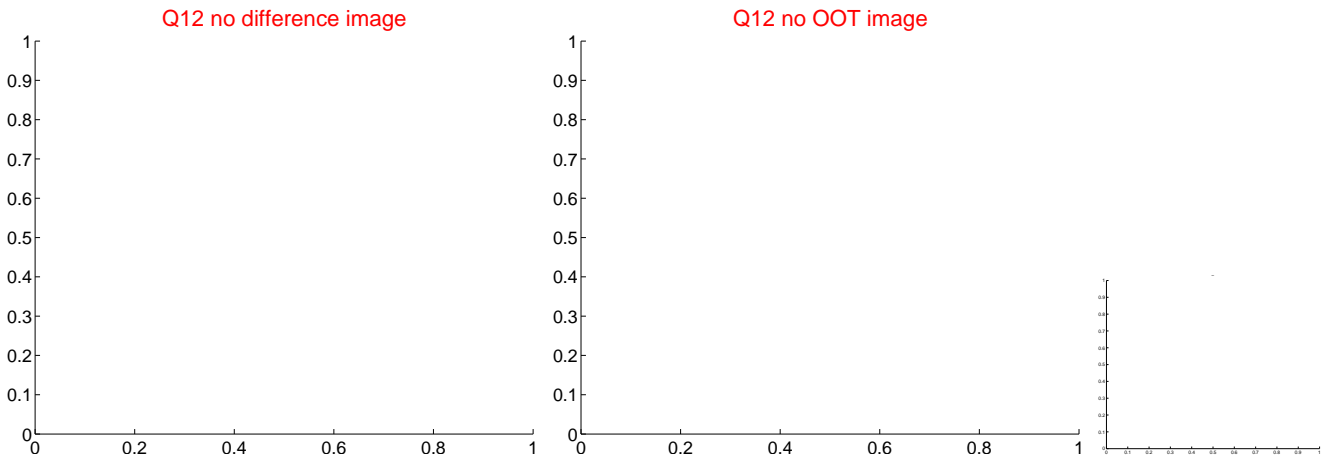
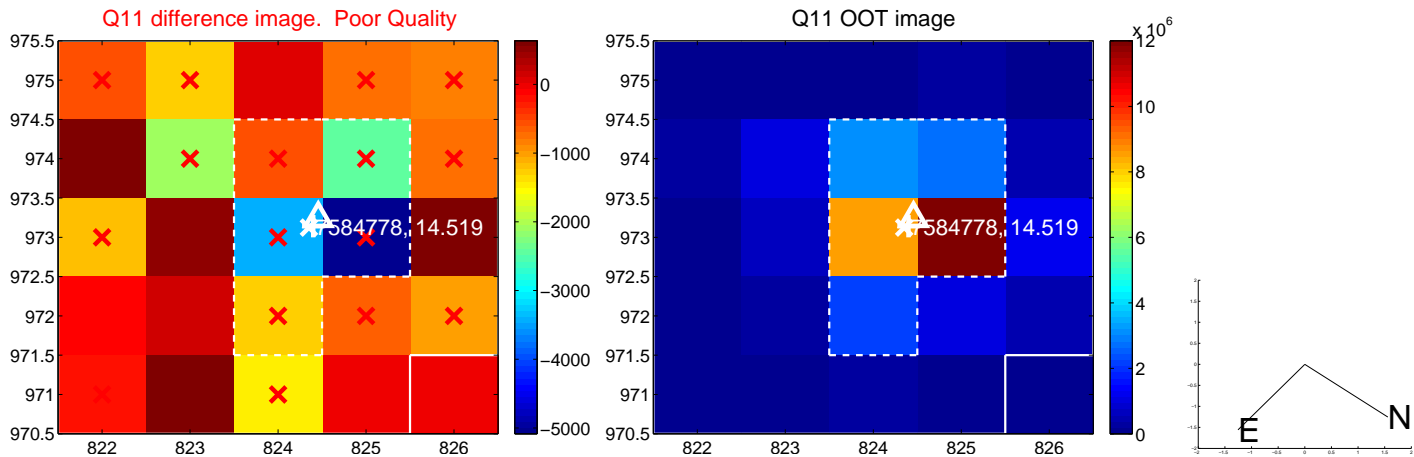
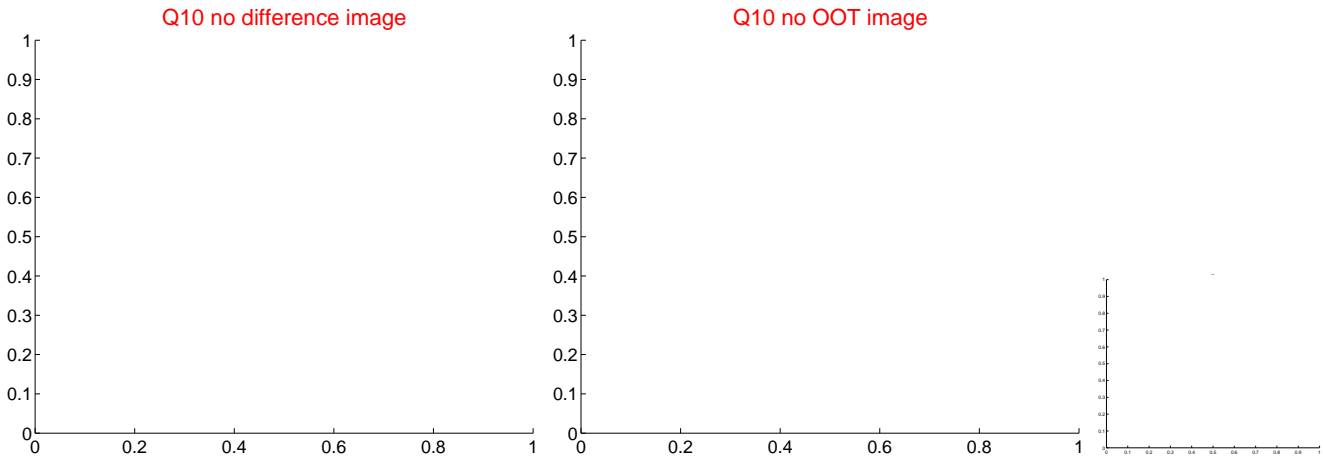
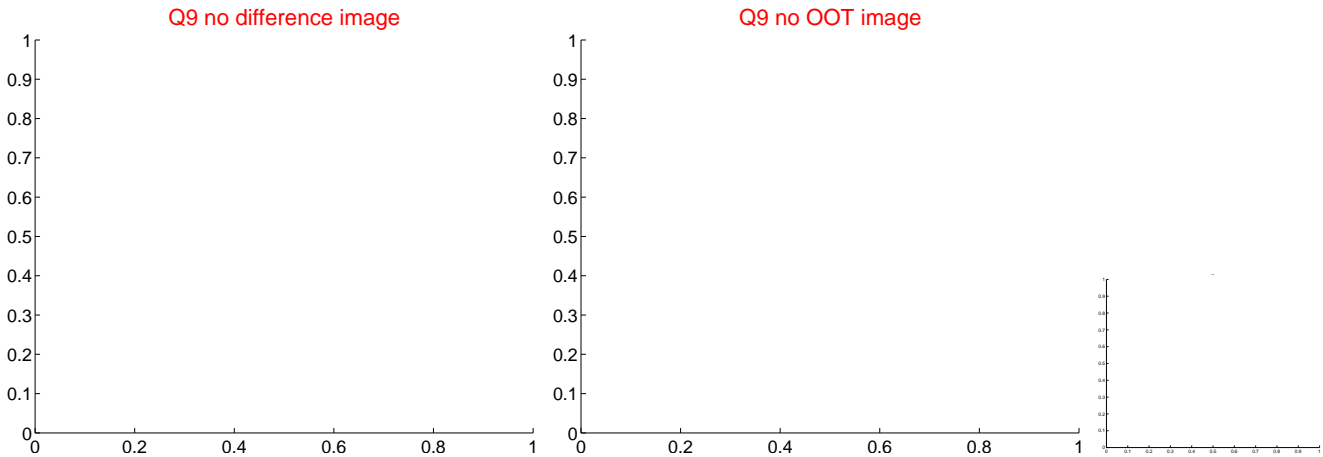
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



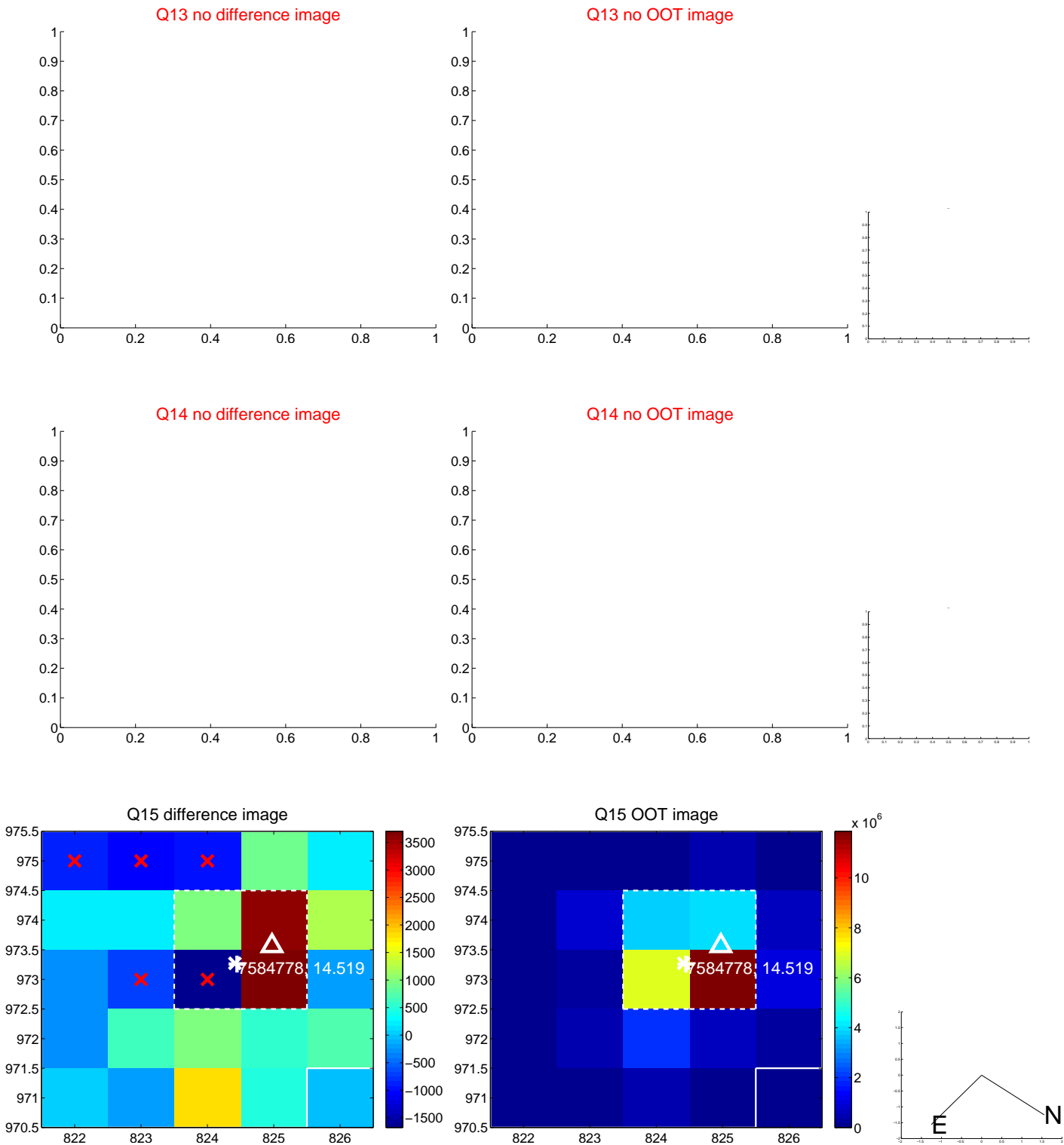
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



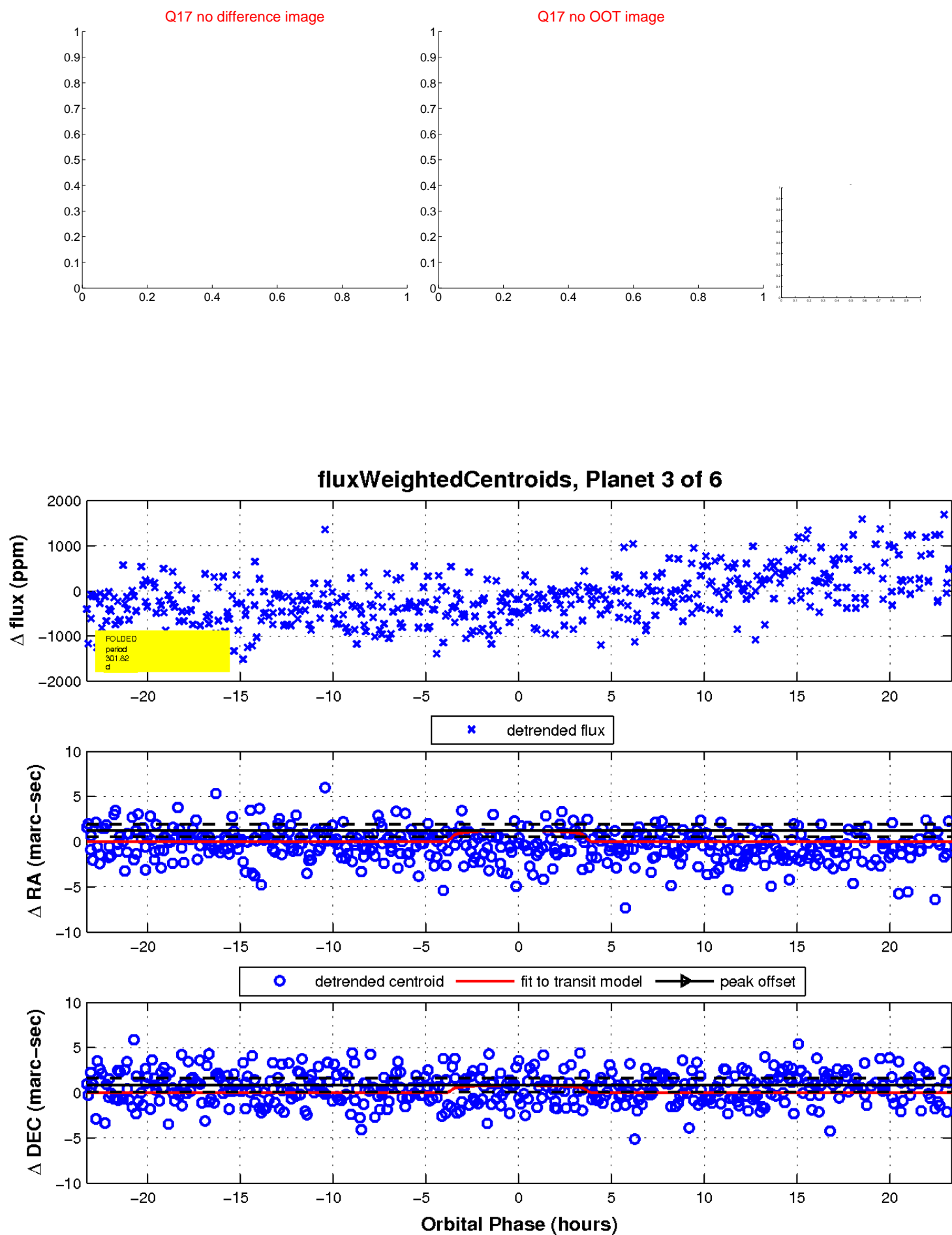
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

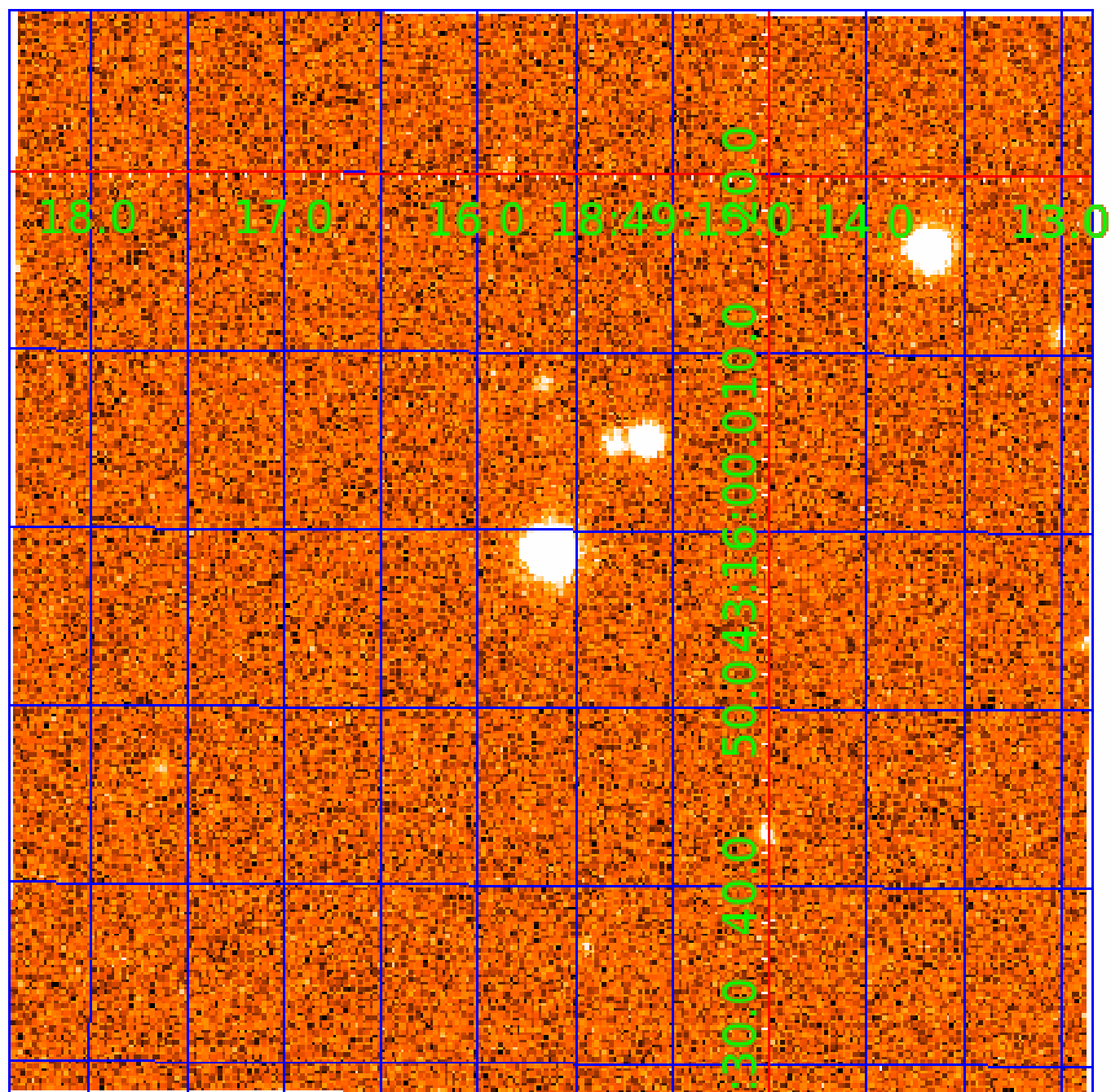


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007584778

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})
007584778-01	OBS	6887.01	0.622299	132.090736	59.5	2.392	11.8	12.0	0.85	5672	0.78	4040.85
007584778-02	OBS	No	141.164373	238.072361	801.9	7.438	14.4	8.2	0.85	5672	3.14	2.92
007584778-03	OBS	No	301.817616	187.160614	646.5	7.804	9.8	7.0	0.85	5672	2.40	1.06
007584778-04	OBS	No	277.395648	390.253541	512.3	4.784	9.7	4.5	0.85	5672	2.09	1.19
007584778-05	OBS	No	201.549825	189.072332	727.1	10.500	11.0	-1.0	0.85	5672	2.29	1.82
007584778-06	OBS	No	135.172218	147.613285	558.3	4.205	9.0	6.3	0.85	5672	2.20	3.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007584778-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH
007584778-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007584778-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—CENT_FEW_DIFFS
007584778-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007584778-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007584778-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

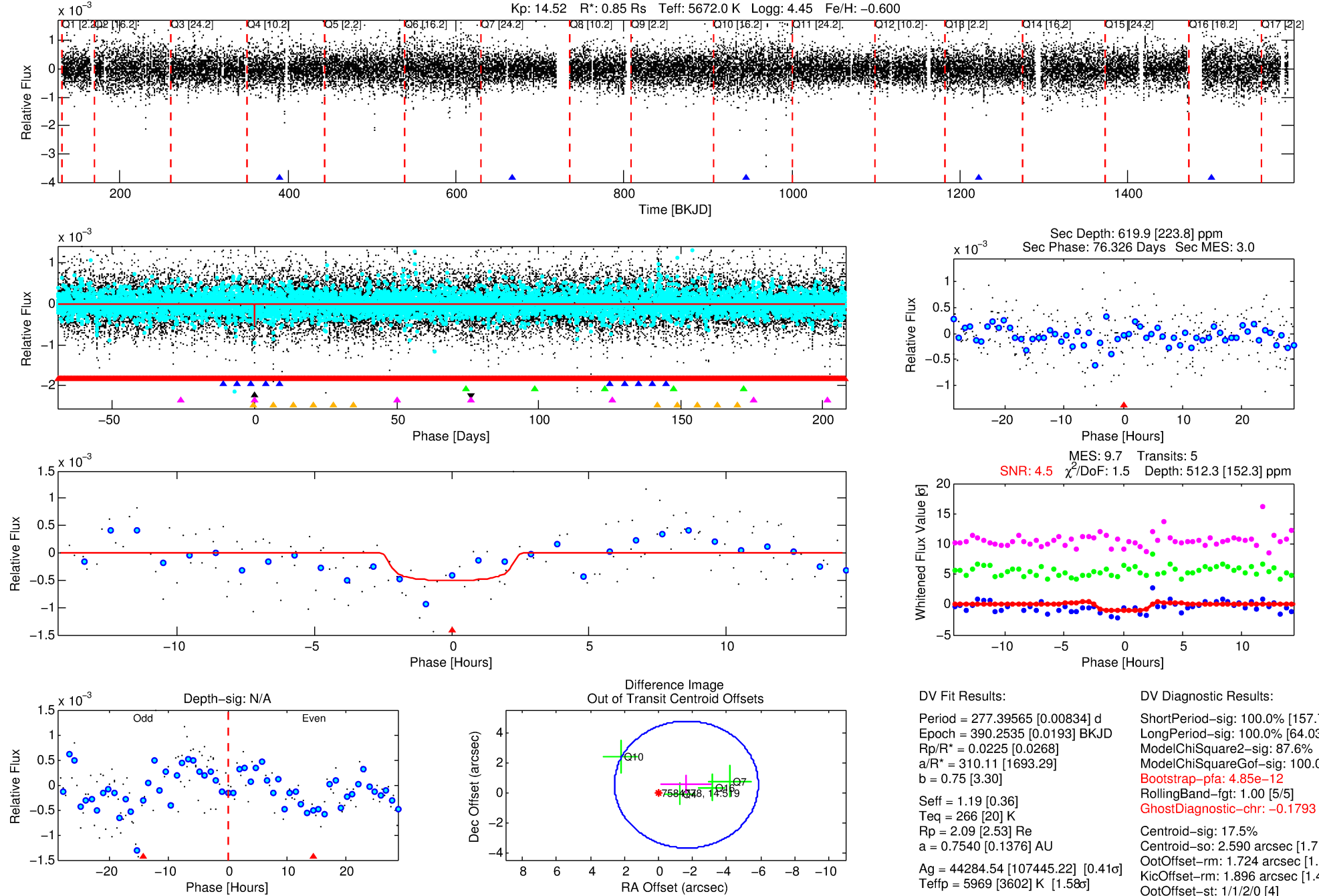
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007584778-04

No Significant Match Found

DV One-Page Summary

KIC: 7584778 Candidate: 4 of 6 Period: 277.396 d
KOI: K06887 Corr: No Ephemeris Match



DV Fit Results:

Period = 277.39565 [0.00834] d
Epoch = 390.2535 [0.0193] BKJD
Rp/R* = 0.0225 [0.0268]
a/R* = 310.11 [1693.29]
b = 0.75 [3.30]
Seff = 1.19 [0.36]
Teff = 266 [20] K
Rp = 2.09 [2.53] Re
a = 0.7540 [0.1376] AU
Ag = 44284.54 [107445.22] [0.41] σ
Teffp = 5969 [3602] K [1.58] σ

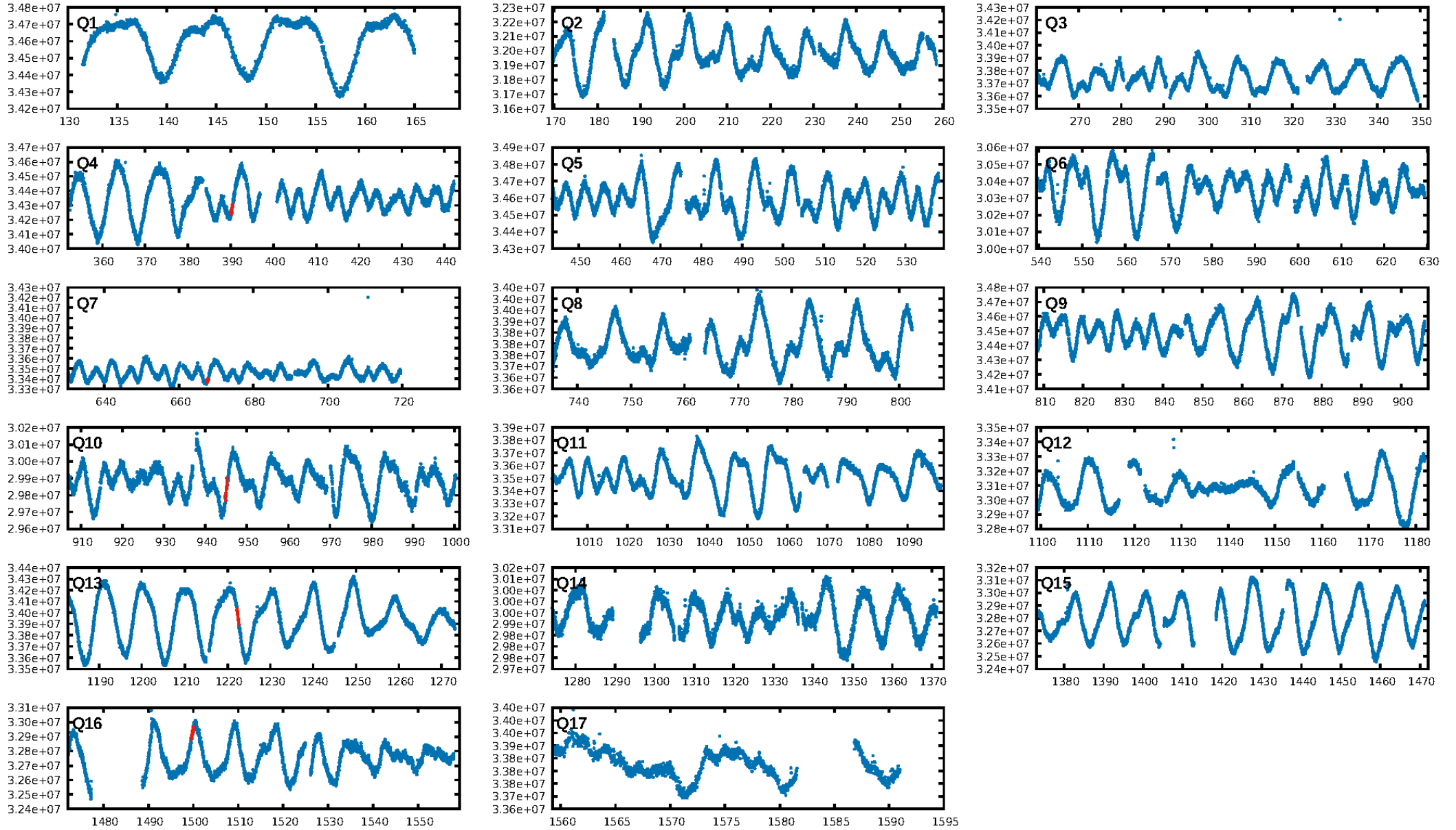
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [157.76] σ
LongPeriod-sig: 100.0% [64.03] σ
ModelChiSquare2-sig: 87.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.85e-12
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.1793
Centroid-sig: 17.5%
Centroid-so: 2.590 arcsec [1.71] σ
OotOffset-rm: 1.724 arcsec [1.22] σ
KicOffset-rm: 1.896 arcsec [1.43] σ
OotOffset-st: 1/1/2/0 [4]
KicOffset-st: 1/1/2/0 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.00 [0/5]

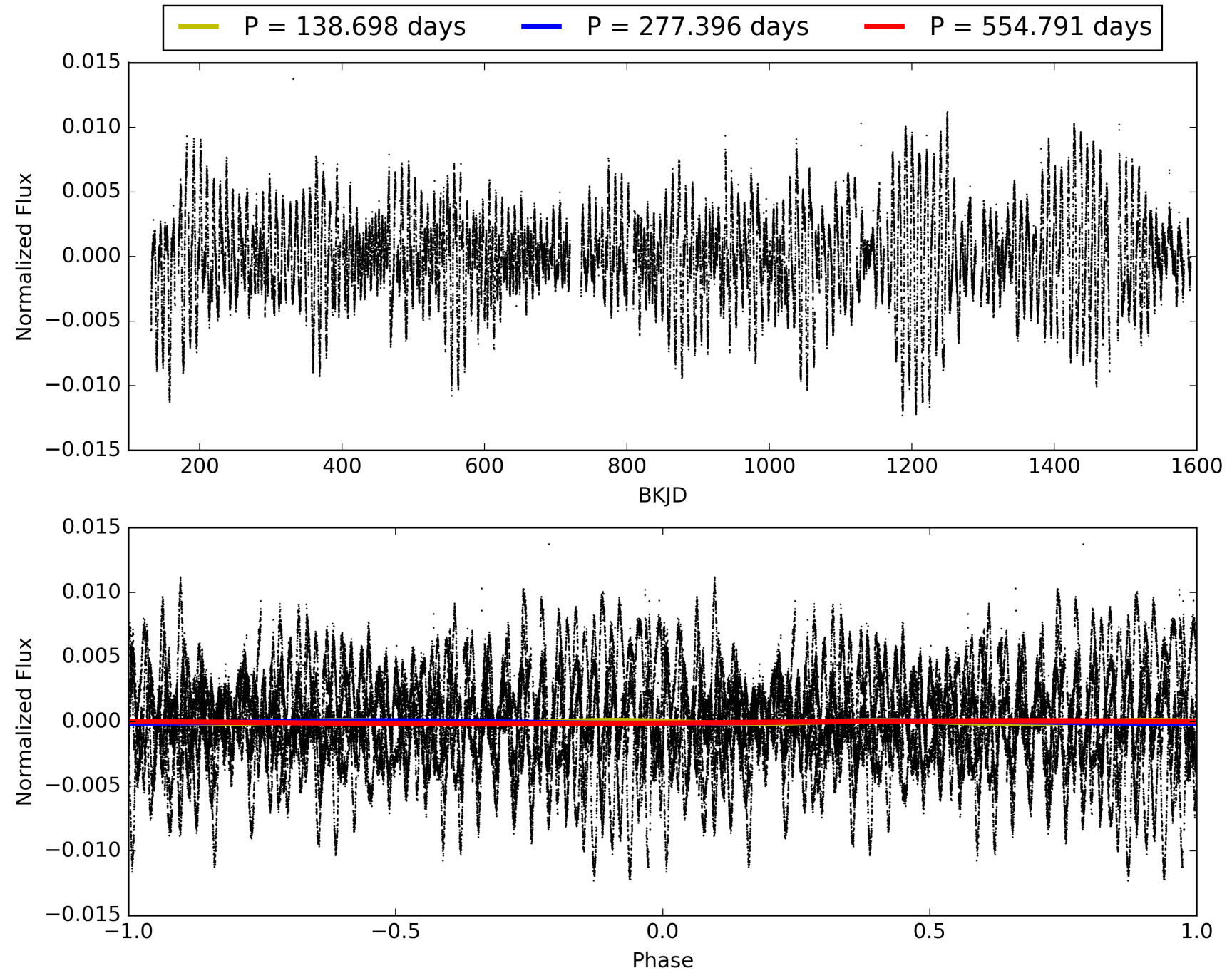
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:13:52 Z

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

TCE 007584778-04, PDC Light Curves

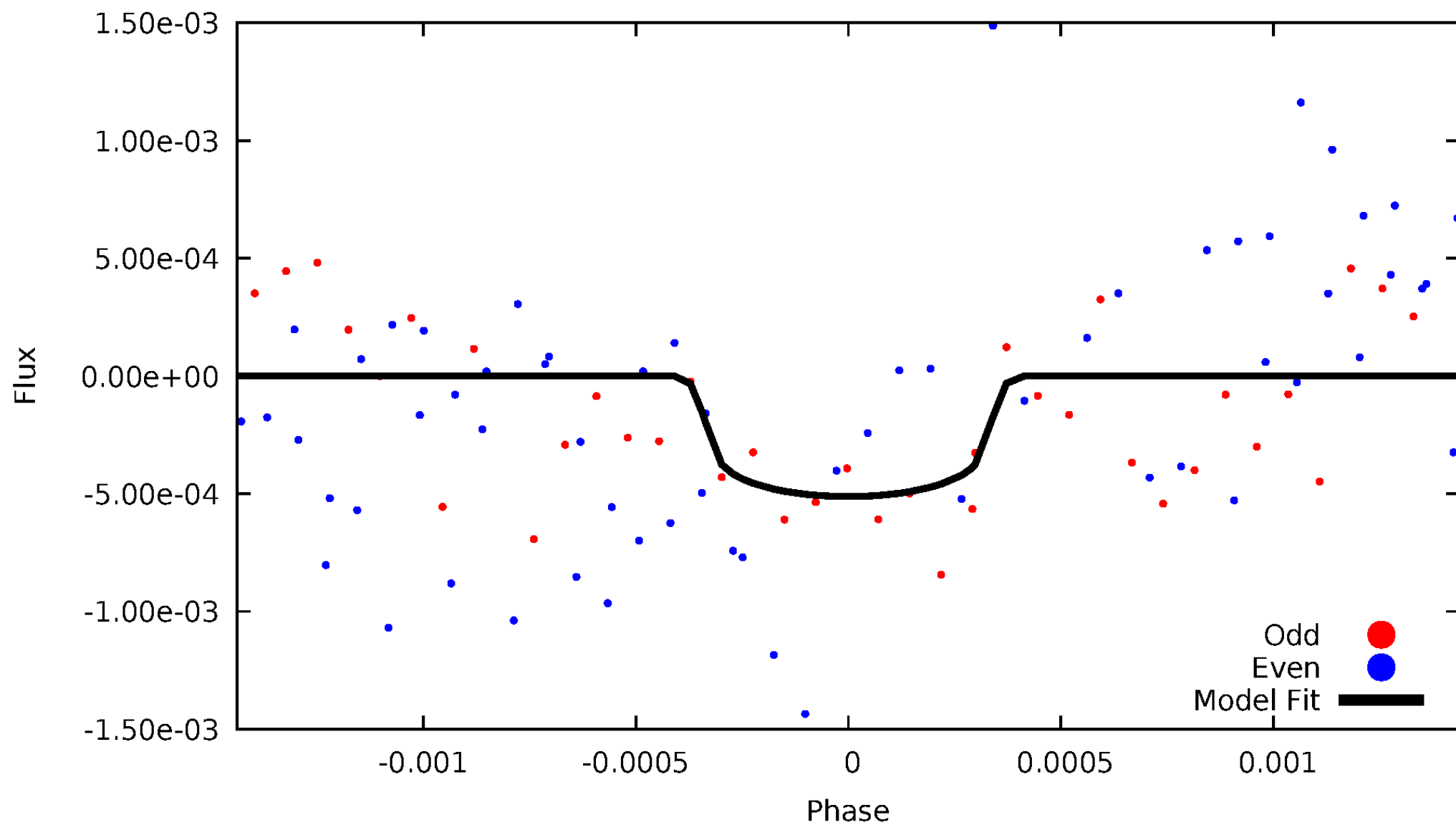


TCE 007584778-04



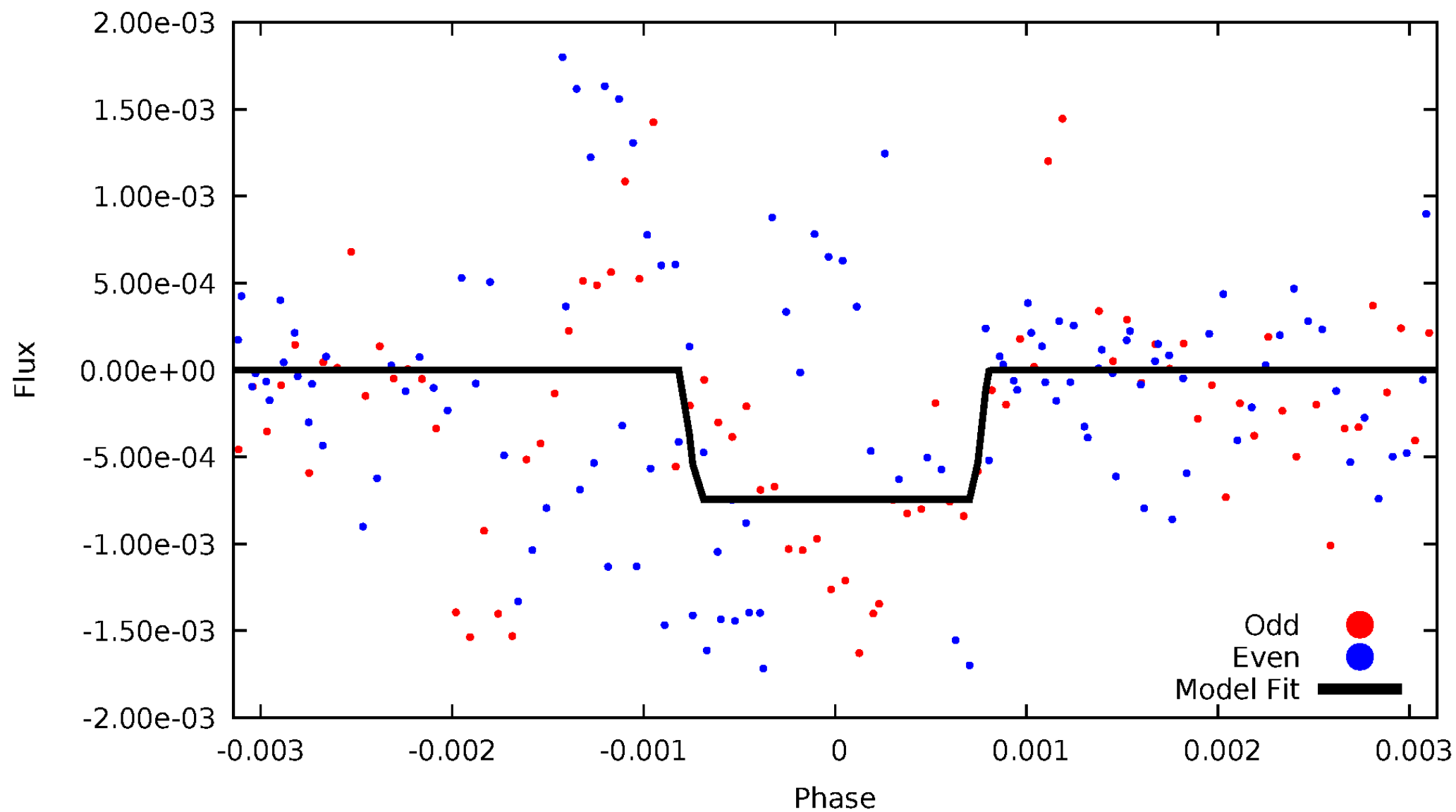
DV Odd/Even

TCE 007584778-04



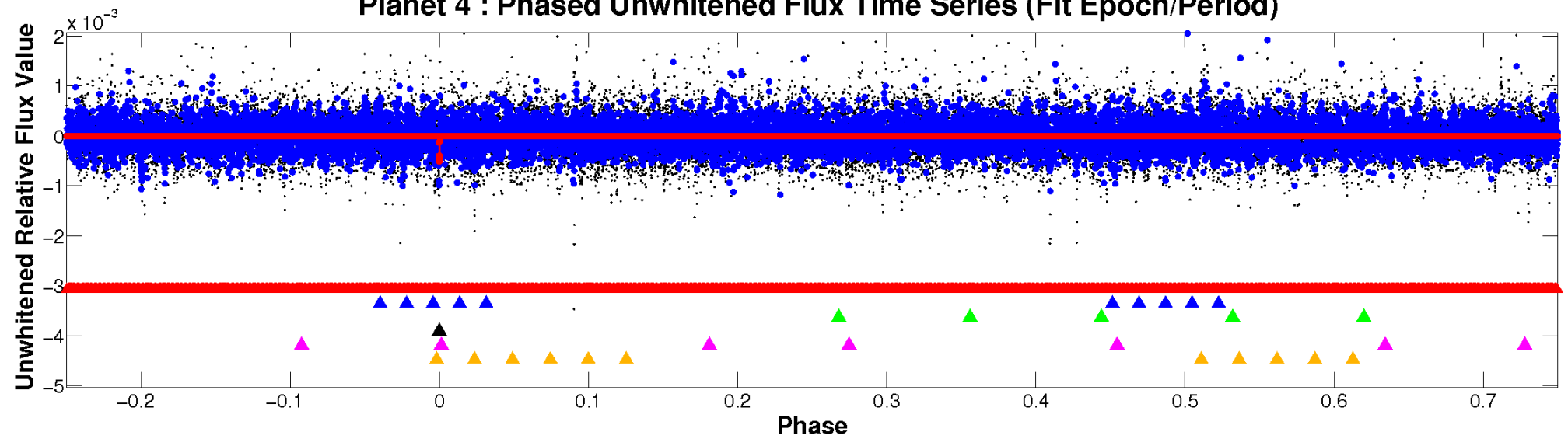
ALT Odd/Even

TCE 007584778-04

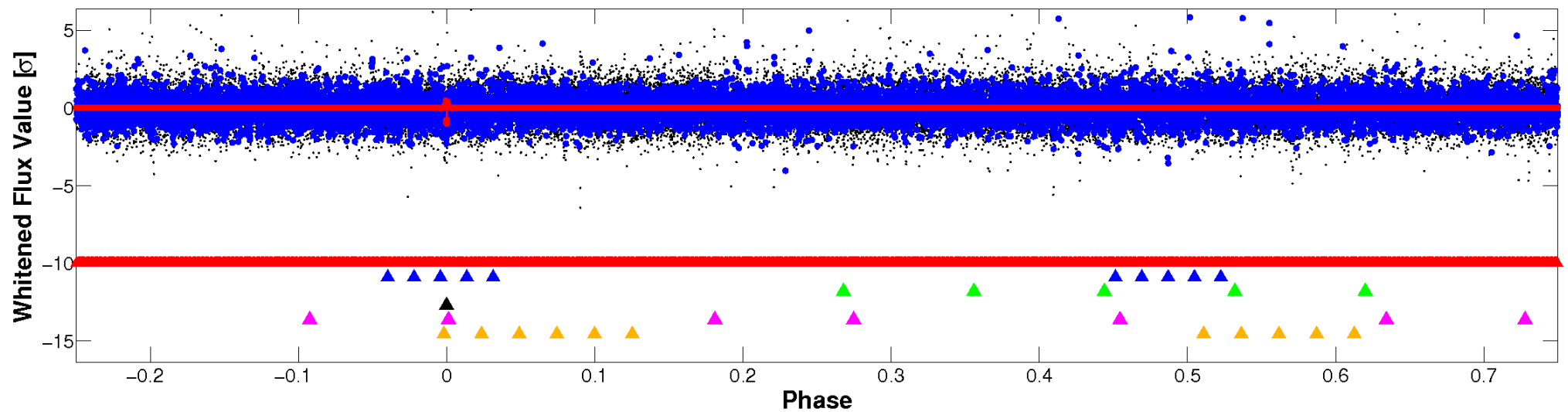


Non-Whitened Vs. Whitened Light Curve

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

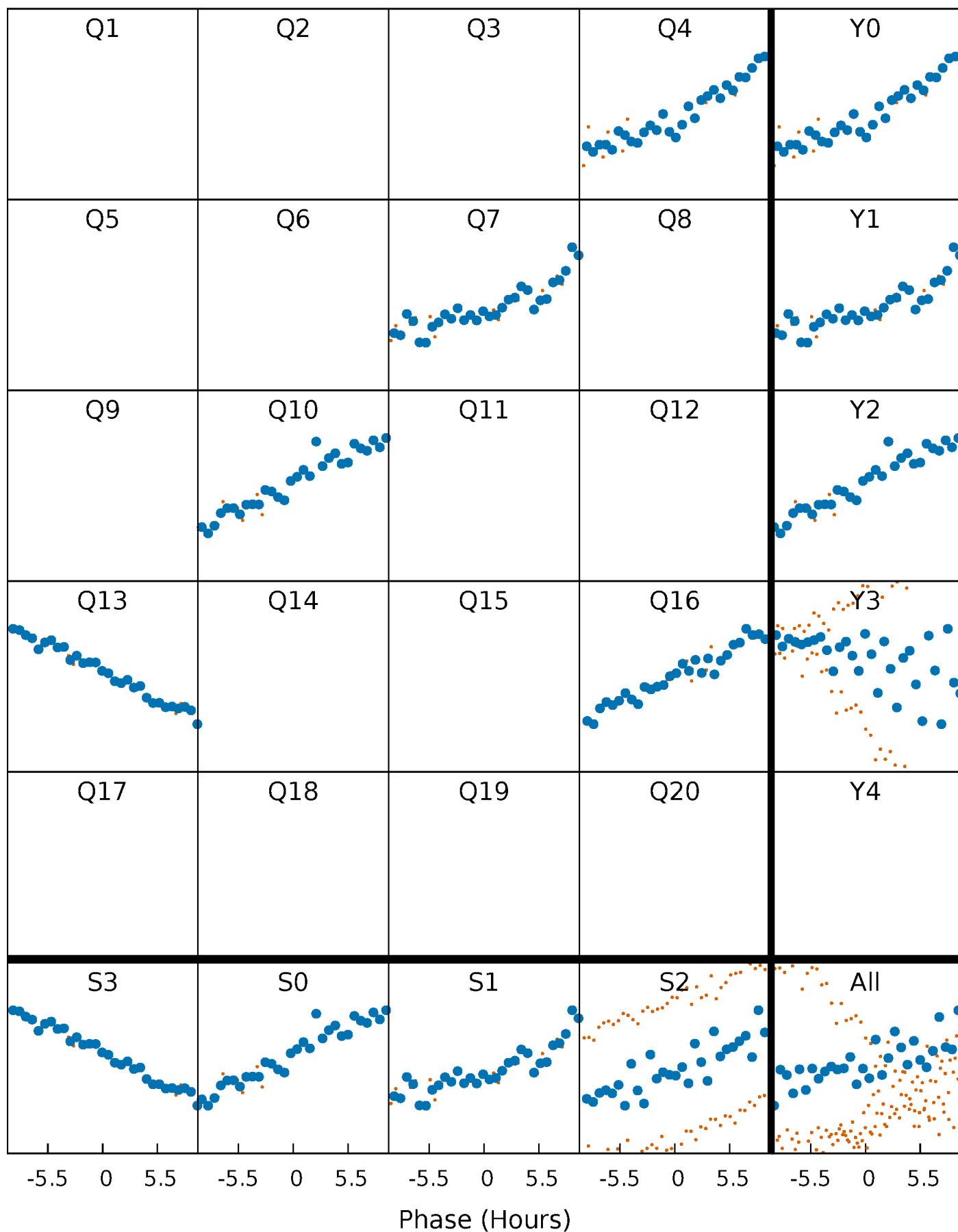


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



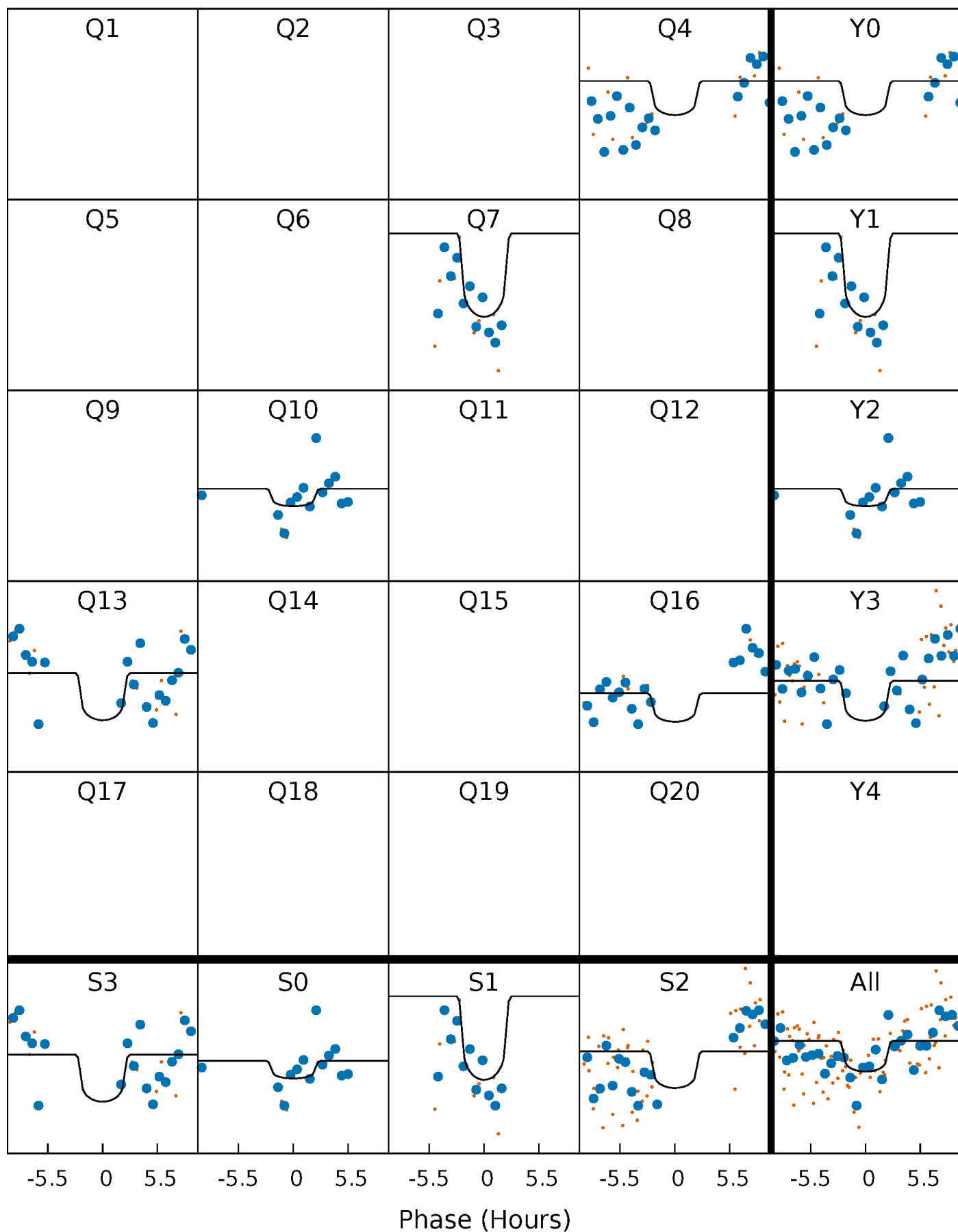
PDC Quarter-Phased Transit Curves

TCE 007584778-04 $P=277.395648$ Days $T_0=390.253541$ (BKJD)



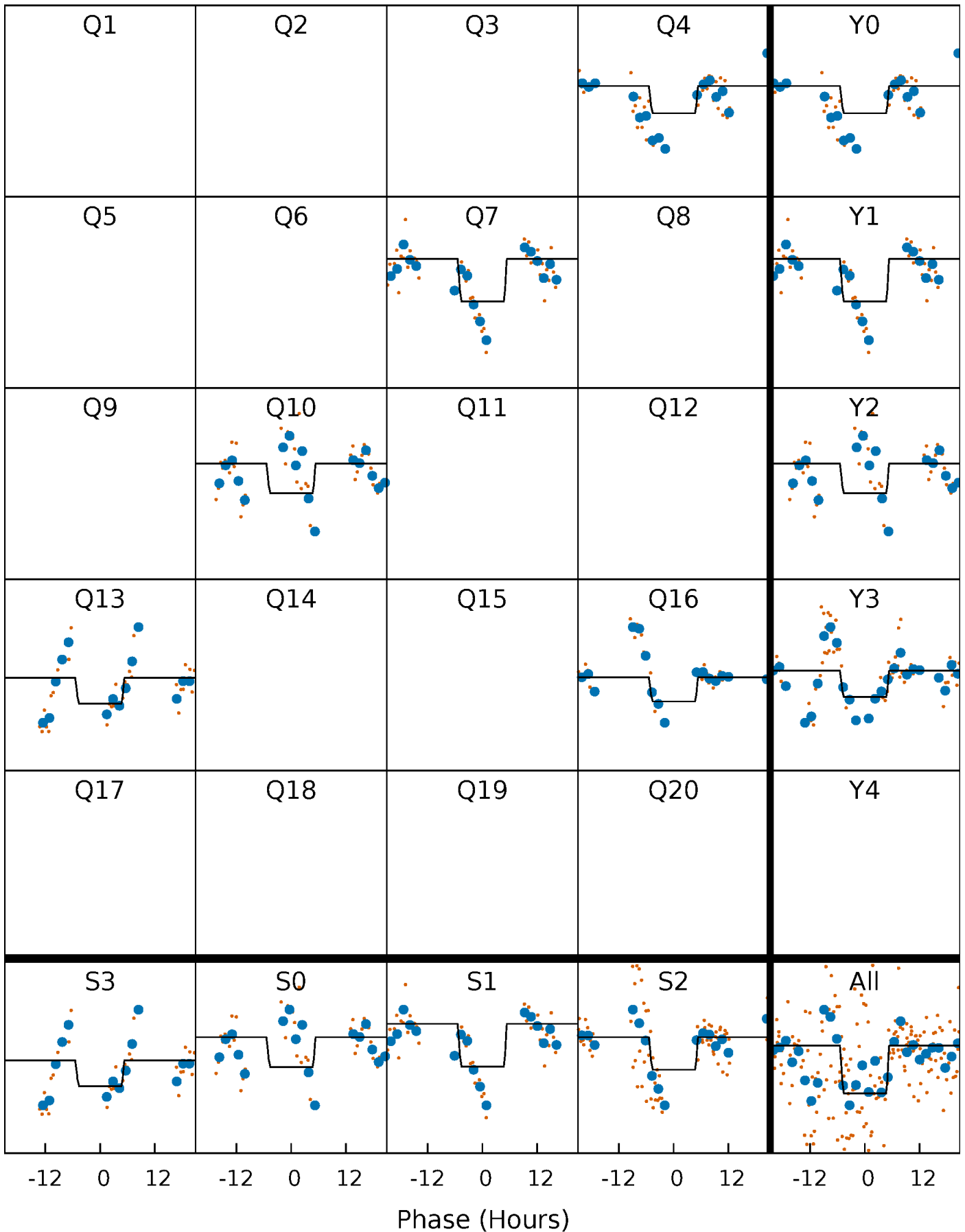
DV Quarter-Phased Transit Curves

TCE 007584778-04 $P=277.395648$ Days $T_0=390.253541$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

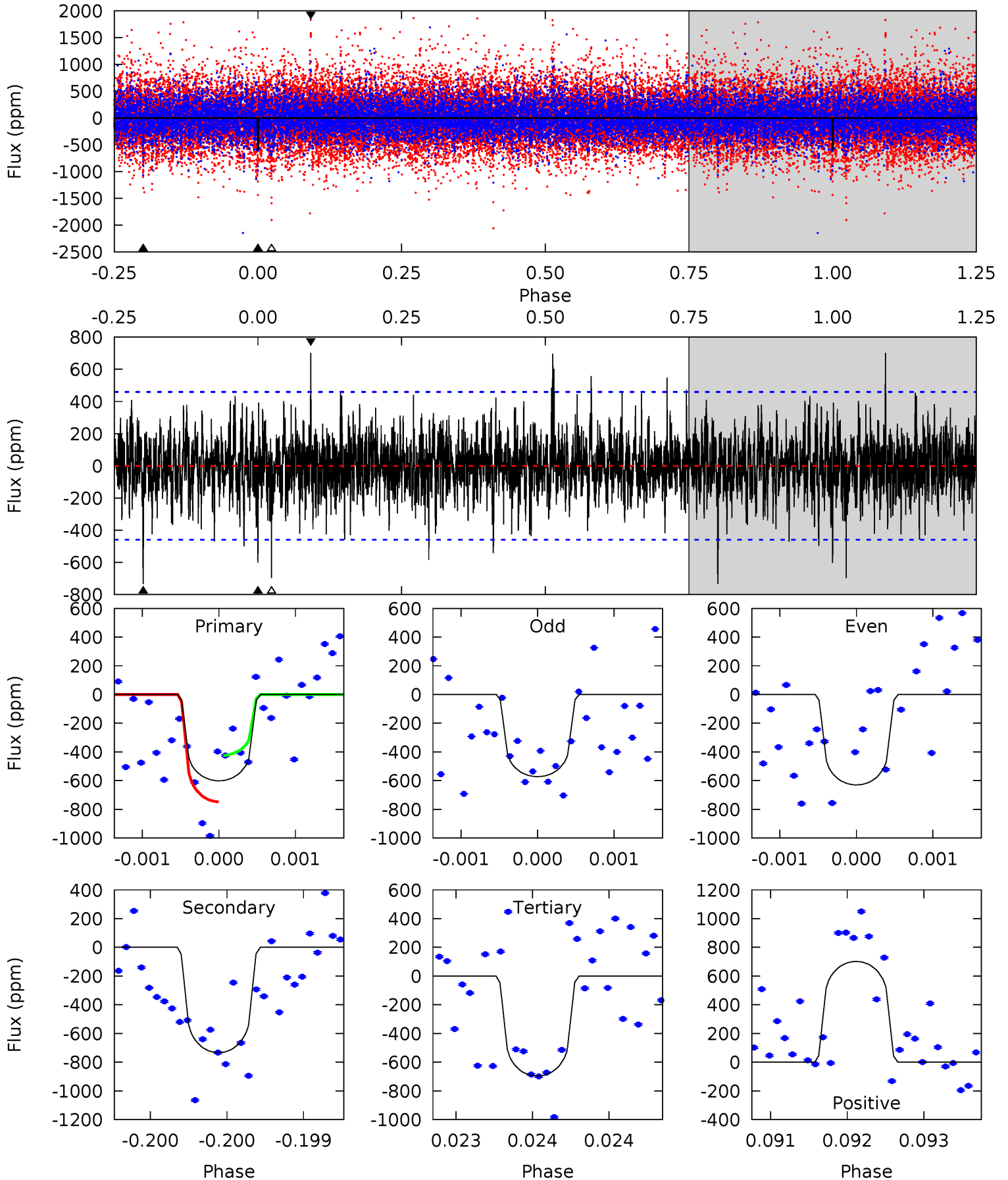
TCE 007584778-04 $P=277.392388$ Days $T_0=390.282467$ (BKJD)



DV Model-Shift Uniqueness Test

007584778-04, P = 277.395648 Days, E = 112.857893 Days

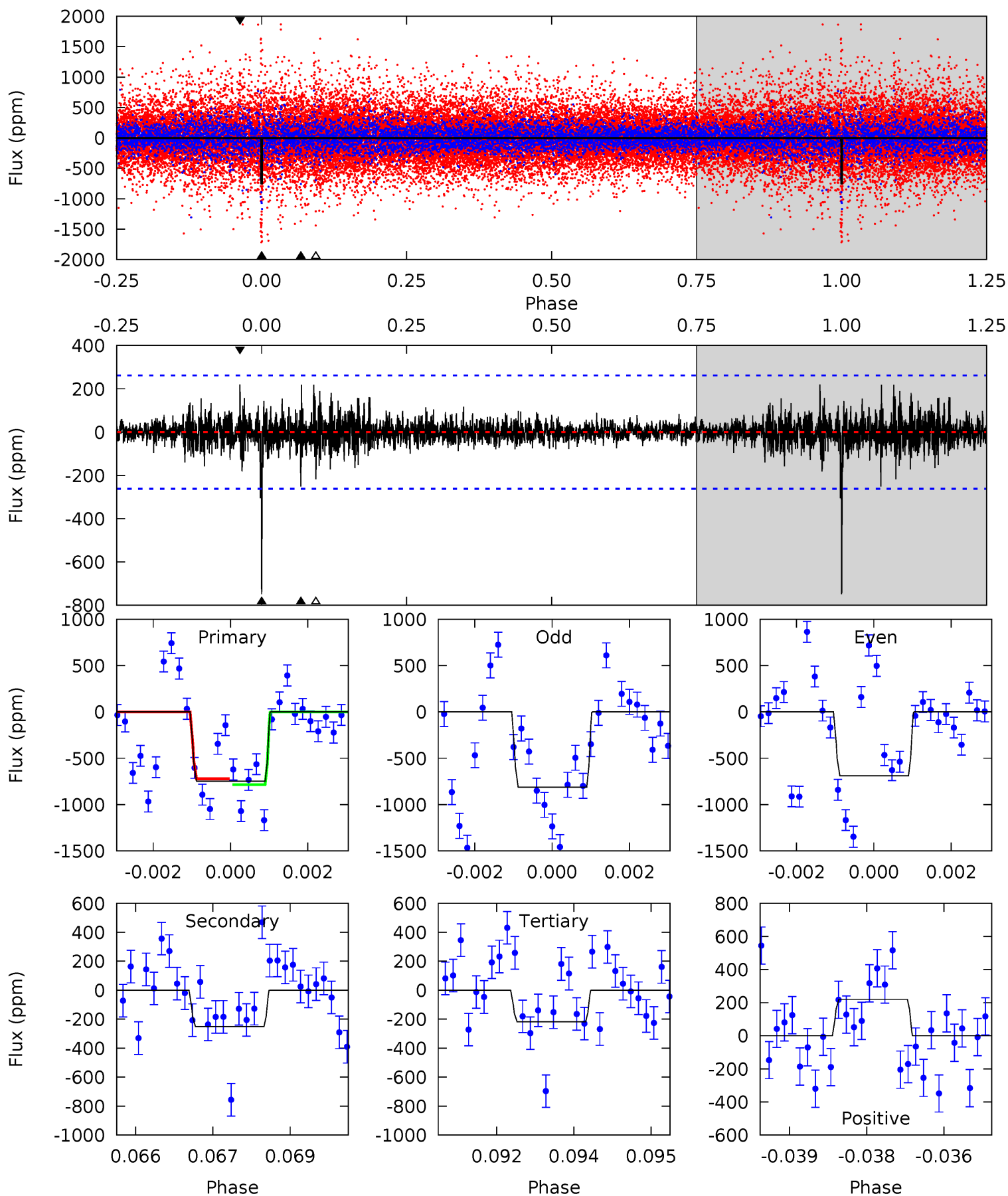
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.21	8.80	8.35	8.42	5.50	3.37	1.70	-1.14	-1.21	0.45	0.38	0.35	1.15	0.49	1.93



Alt Model-Shift Uniqueness Test

007584778-04, P = 277.392388 Days, E = 112.890079 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	5.14	4.47	4.51	5.37	3.16	0.83	10.9	10.9	0.67	0.63	1.24	0.98	0.23	0.65



Stellar Parameters For KIC 007584778

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5672^{+170}_{-153}	$4.447^{+0.140}_{-0.155}$	$-0.600^{+0.300}_{-0.300}$	$0.853^{+0.177}_{-0.129}$	$0.742^{+0.111}_{-0.040}$	$1.684^{+1.121}_{-0.717}$
	+3%/-3%	+3%/-3%	+50%/-50%	+21%/-15%	+15%/-5%	+67%/-43%
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 007584778-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-734 ± 83	$2.76^{+2.44}_{-1.74}$	372^{+23}_{-20}	5449^{+4347}_{-1263}	$30824^{+195246}_{-22538}$
Alt.	-250 ± 49	$3.08^{+2.34}_{-1.94}$	372^{+25}_{-19}	4230^{+2145}_{-763}	8650^{+50004}_{-5991}

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

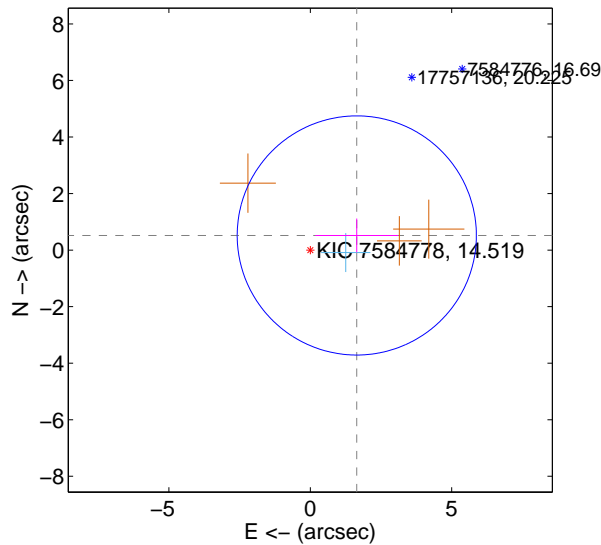
Supplemental centroid analysis for 007584778-04. Kepler magnitude: 14.52. Transit SNR 4.51

There are 1 quarters with good PRF difference image offsets

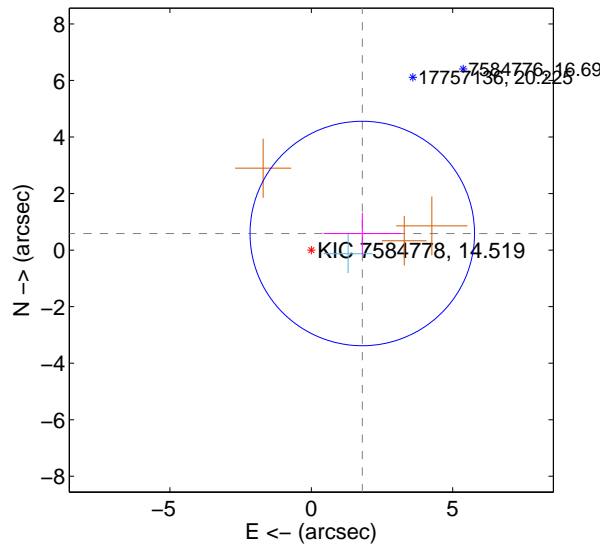
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.724 ± 1.410	1.22	-1.644 ± 1.466	0.518 ± 0.598
PRF-fit source offset from KIC position	1.896 ± 1.323	1.43	-1.803 ± 1.371	0.587 ± 0.734
photometric centroid source offset	2.59 ± 1.51	1.71	-2.27 ± 1.48	1.25 ± 1.63

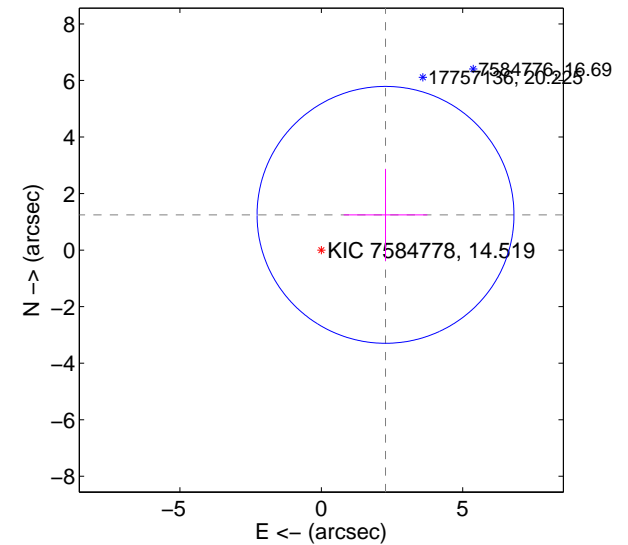
offset from difference PRF-fit to OOT PRF-fit



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

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



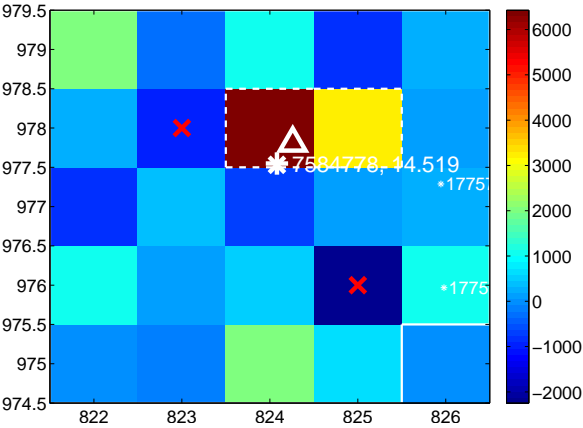
Q3 no difference image



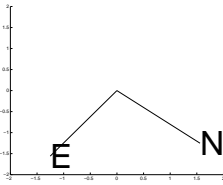
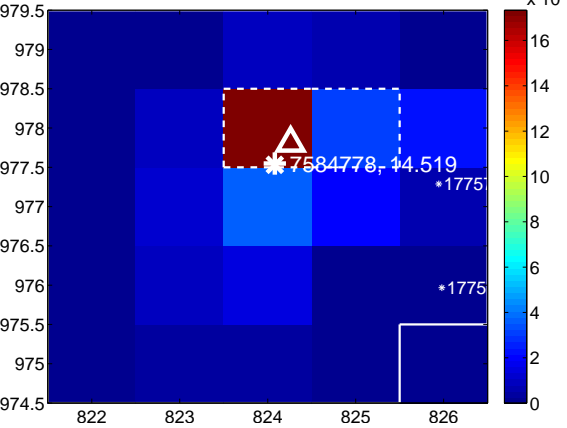
Q3 no OOT image



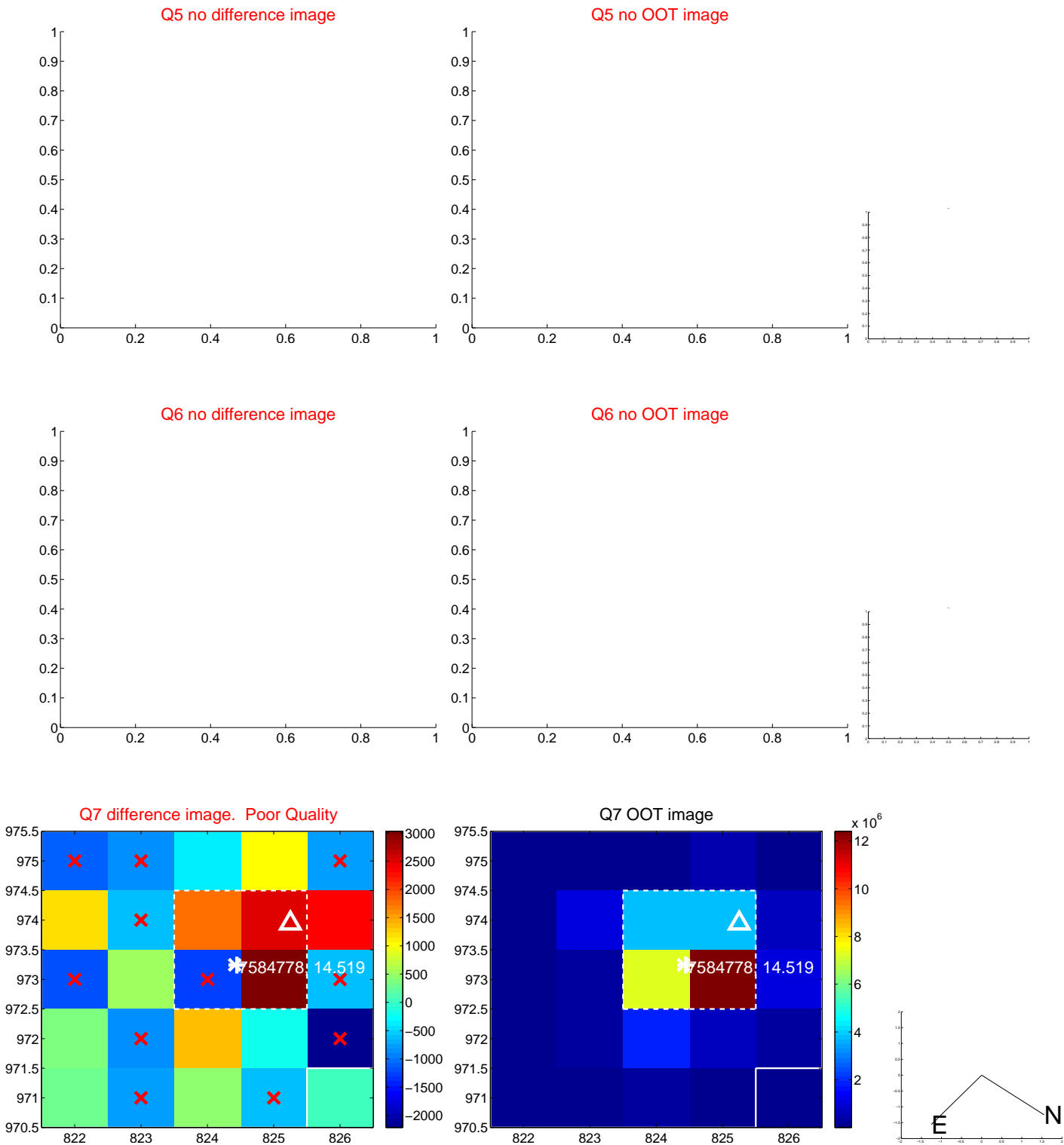
Q4 difference image



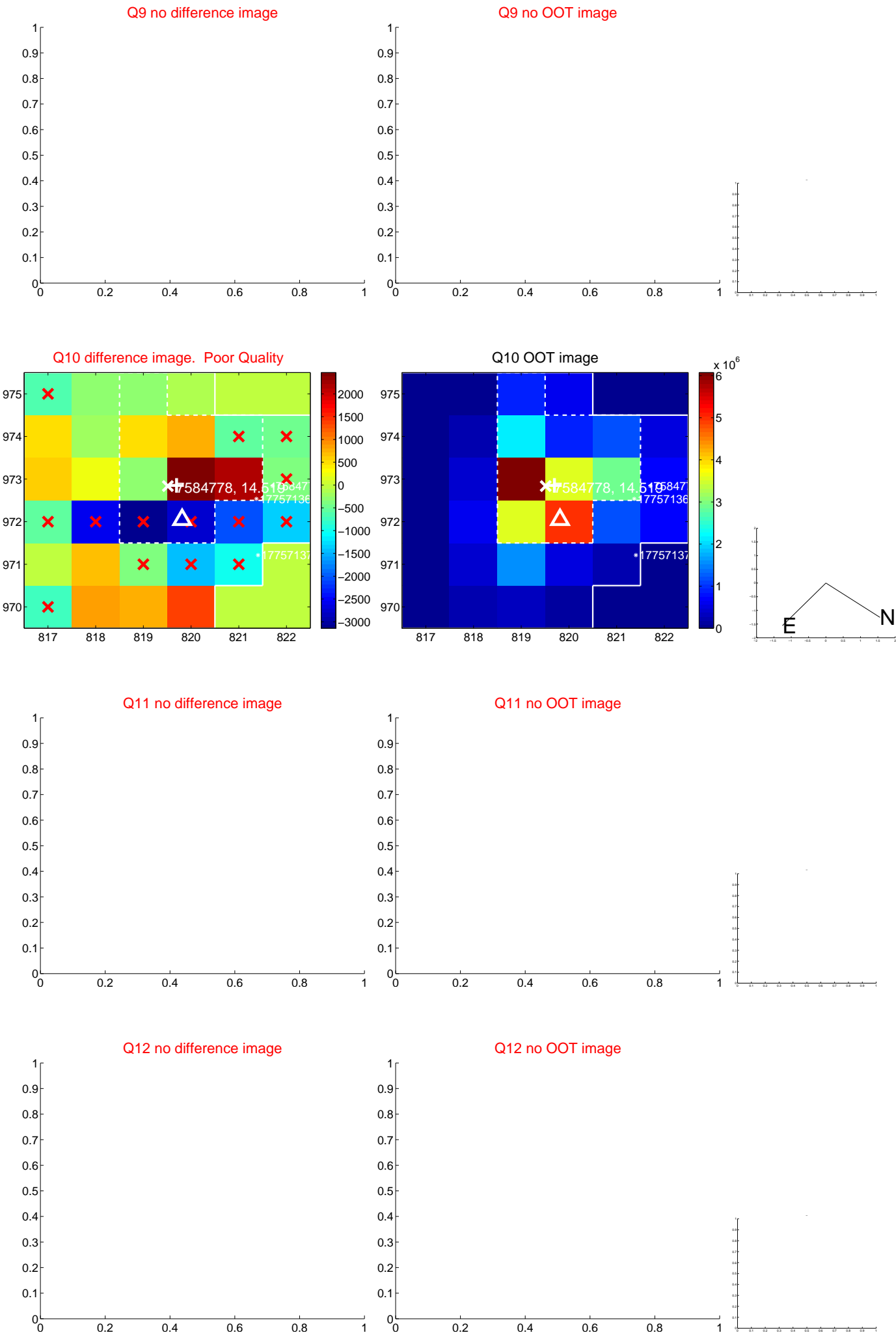
Q4 OOT image



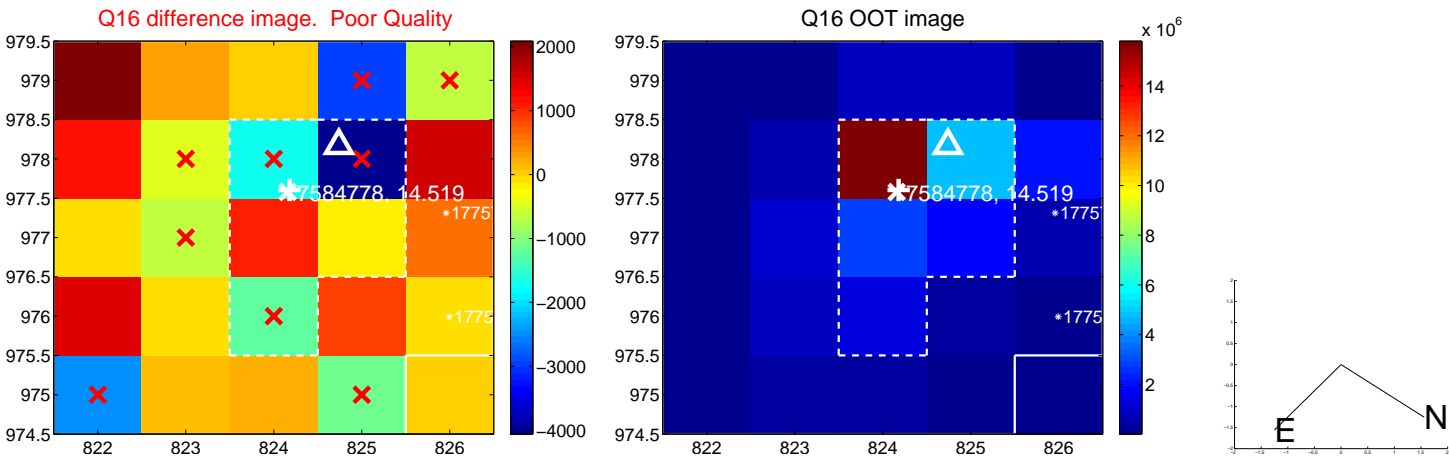
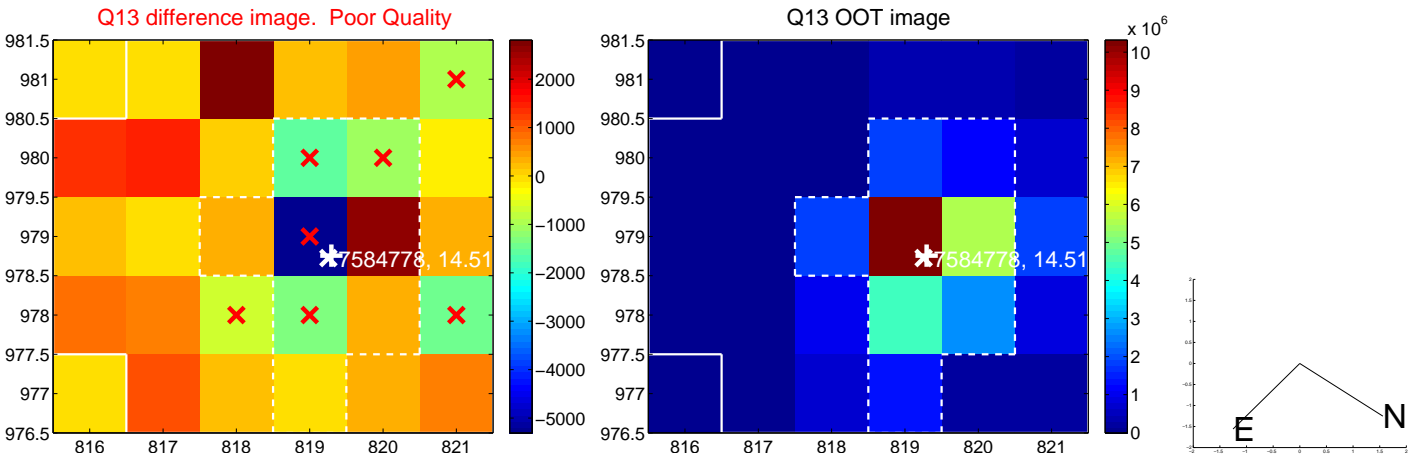
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



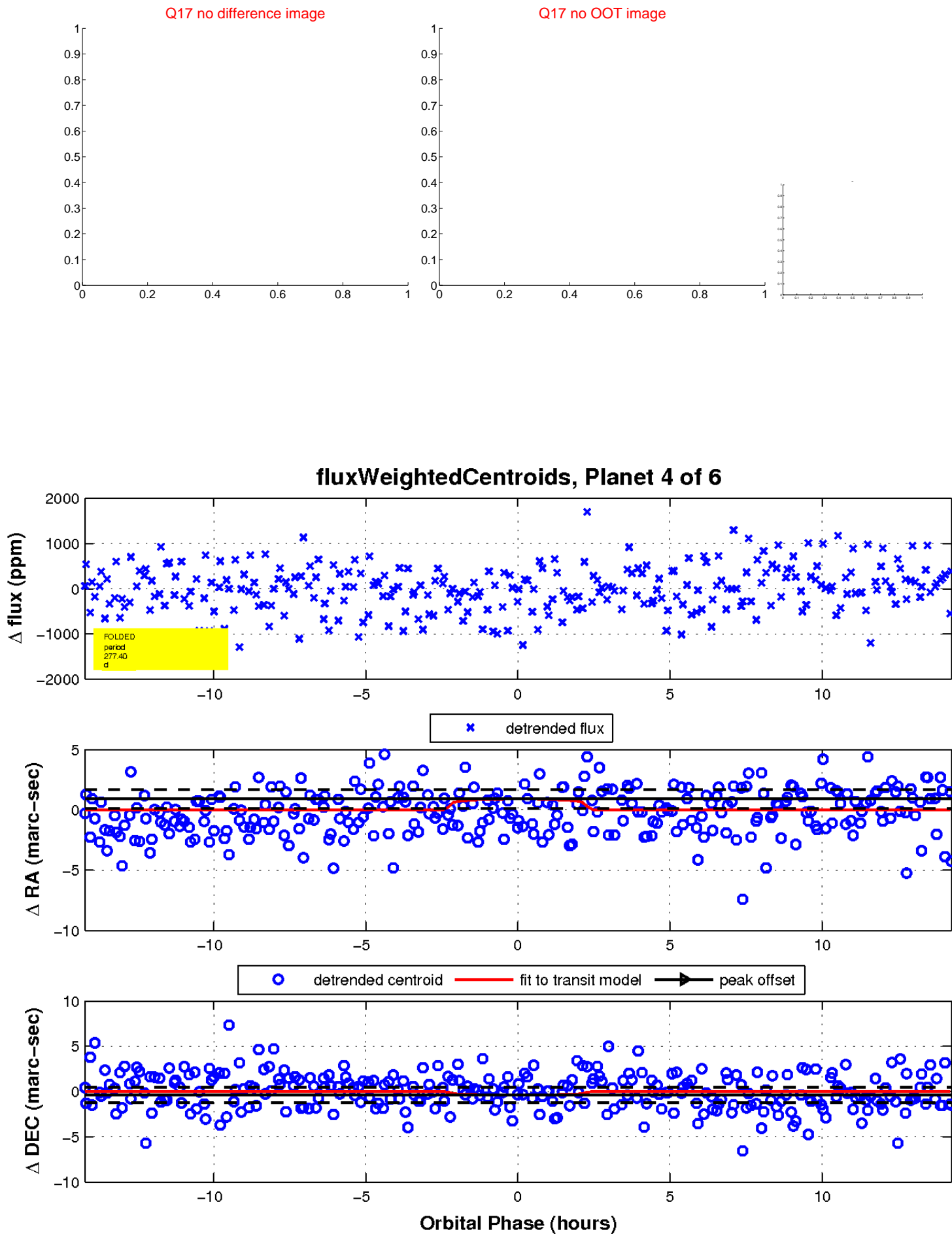
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

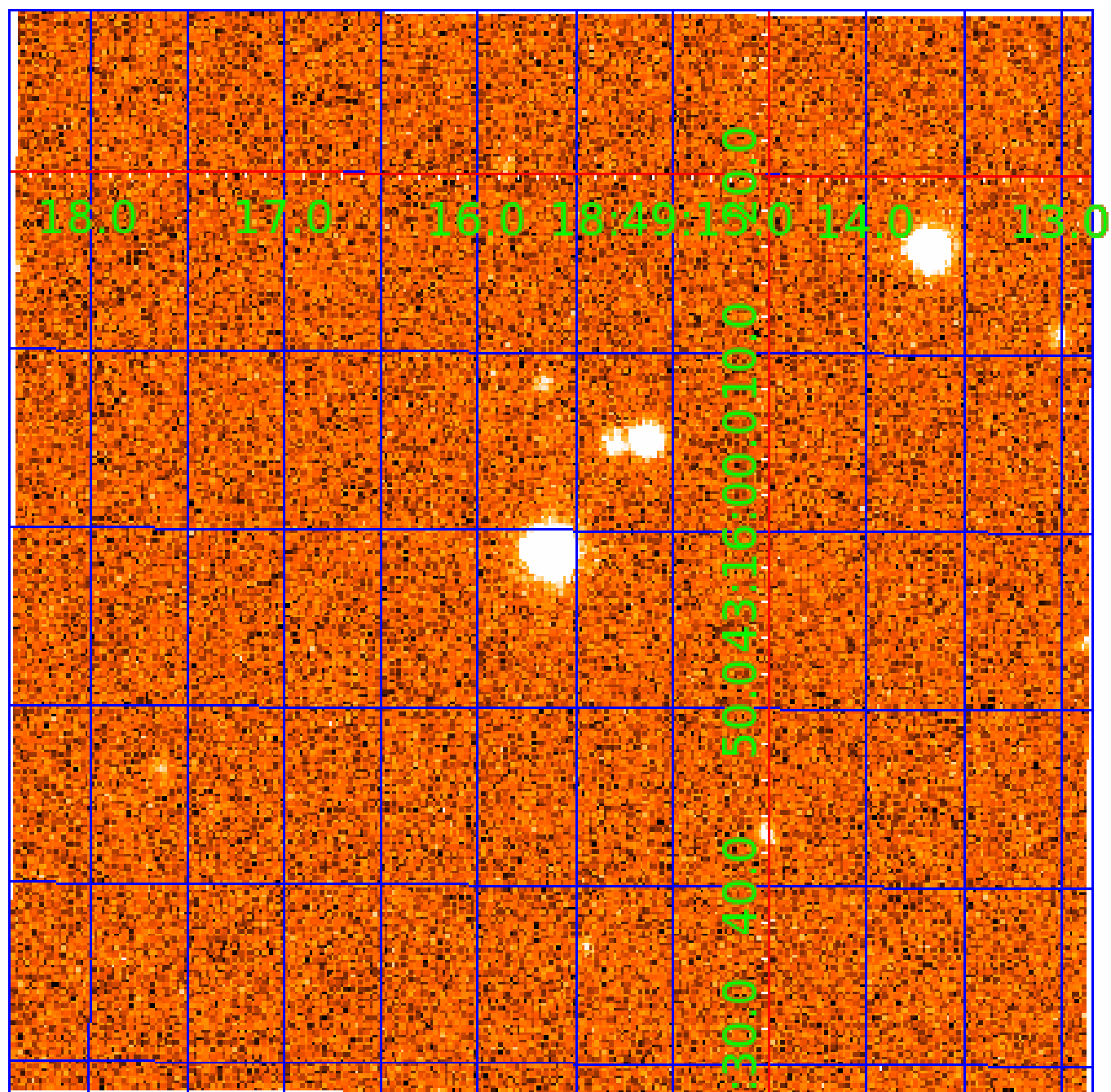


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007584778

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})
007584778-01	OBS	6887.01	0.622299	132.090736	59.5	2.392	11.8	12.0	0.85	5672	0.78	4040.85
007584778-02	OBS	No	141.164373	238.072361	801.9	7.438	14.4	8.2	0.85	5672	3.14	2.92
007584778-03	OBS	No	301.817616	187.160614	646.5	7.804	9.8	7.0	0.85	5672	2.40	1.06
007584778-04	OBS	No	277.395648	390.253541	512.3	4.784	9.7	4.5	0.85	5672	2.09	1.19
007584778-05	OBS	No	201.549825	189.072332	727.1	10.500	11.0	-1.0	0.85	5672	2.29	1.82
007584778-06	OBS	No	135.172218	147.613285	558.3	4.205	9.0	6.3	0.85	5672	2.20	3.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007584778-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH
007584778-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007584778-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—CENT_FEW_DIFFS
007584778-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007584778-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007584778-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

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

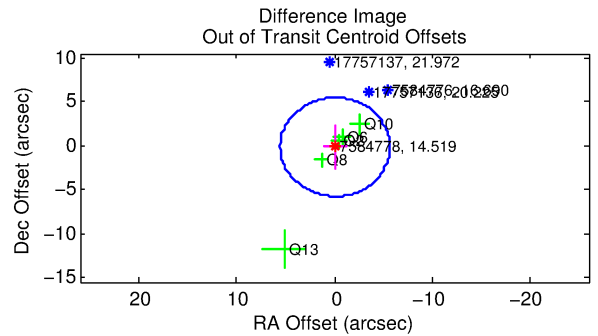
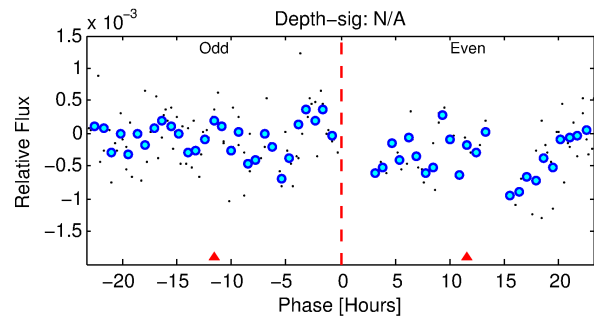
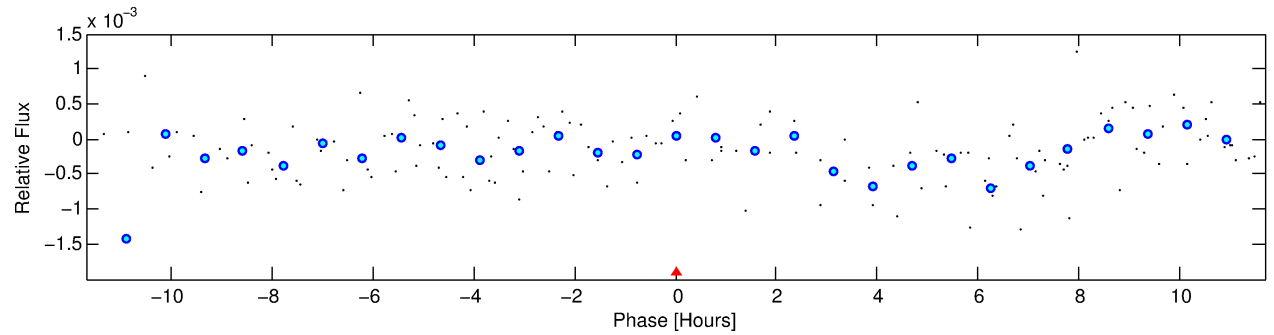
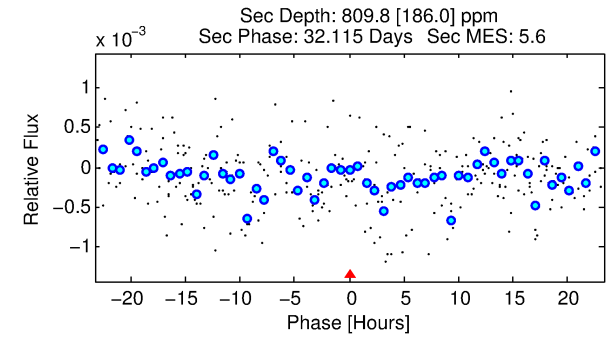
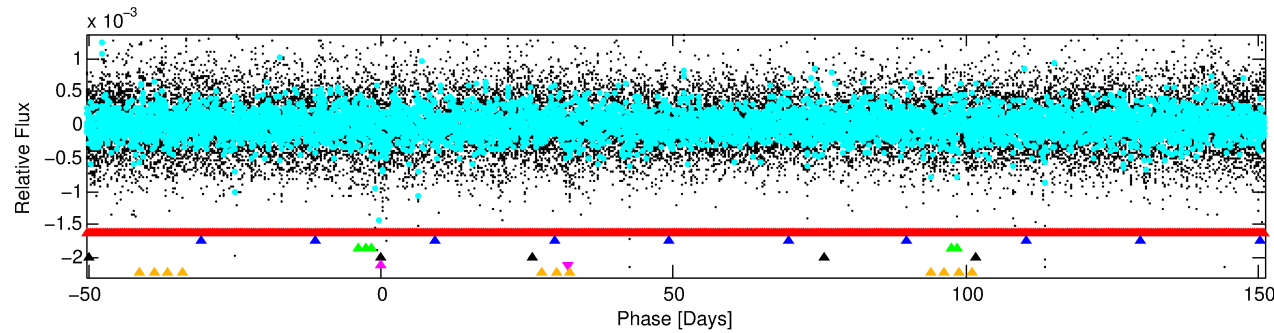
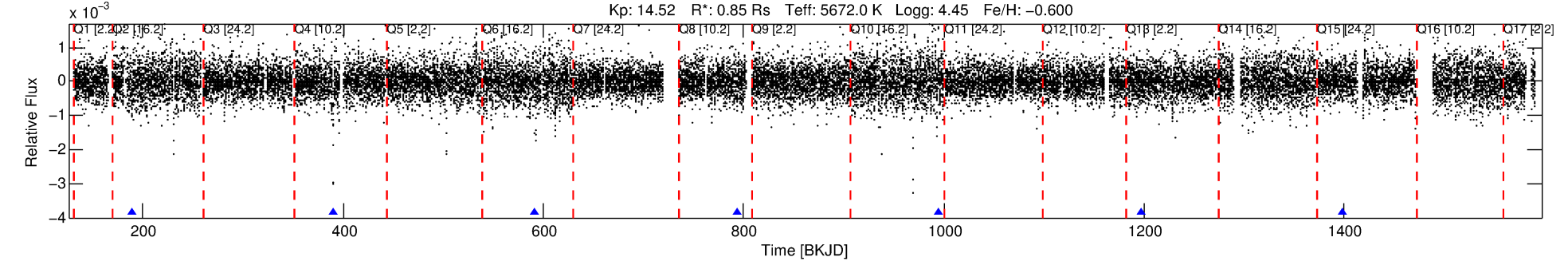
Ephemeris Match Information For 007584778-05

No Significant Match Found

DV One-Page Summary

KIC: 7584778 Candidate: 5 of 6 Period: 201.550 d
KOI: K06887 Corr: No Ephemeris Match

Kp: 14.52 R*: 0.85 Rs Teff: 5672.0 K Logg: 4.45 Fe/H: -0.600



TPS TCE Results:

Period = 201.54982 d
Epoch = 189.0723 BKJD

DV fit results are unavailable

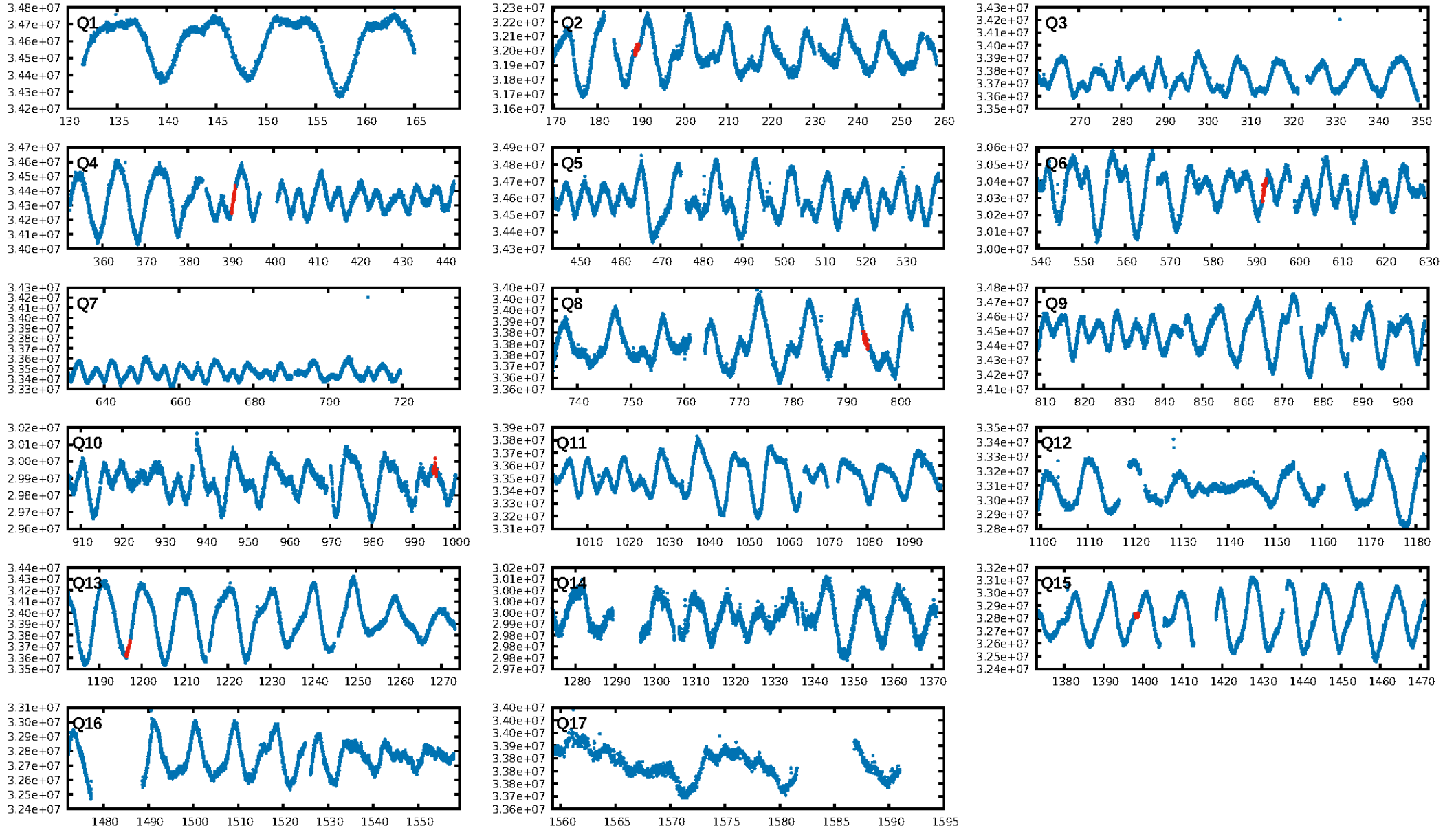
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [112.63σ]
LongPeriod-sig: 100.0% [157.76σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.73e-16
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -460.2
Centroid-sig: 0.4%
Centroid-so: 4.411 arcsec [2.01σ]
OotOffset-rm: 0.145 arcsec [0.08σ]
KicOffset-rm: 0.471 arcsec [0.25σ]
OotOffset-st: 3/0/1/1 [5]
KicOffset-st: 3/0/1/1 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 0.00 [0/7]

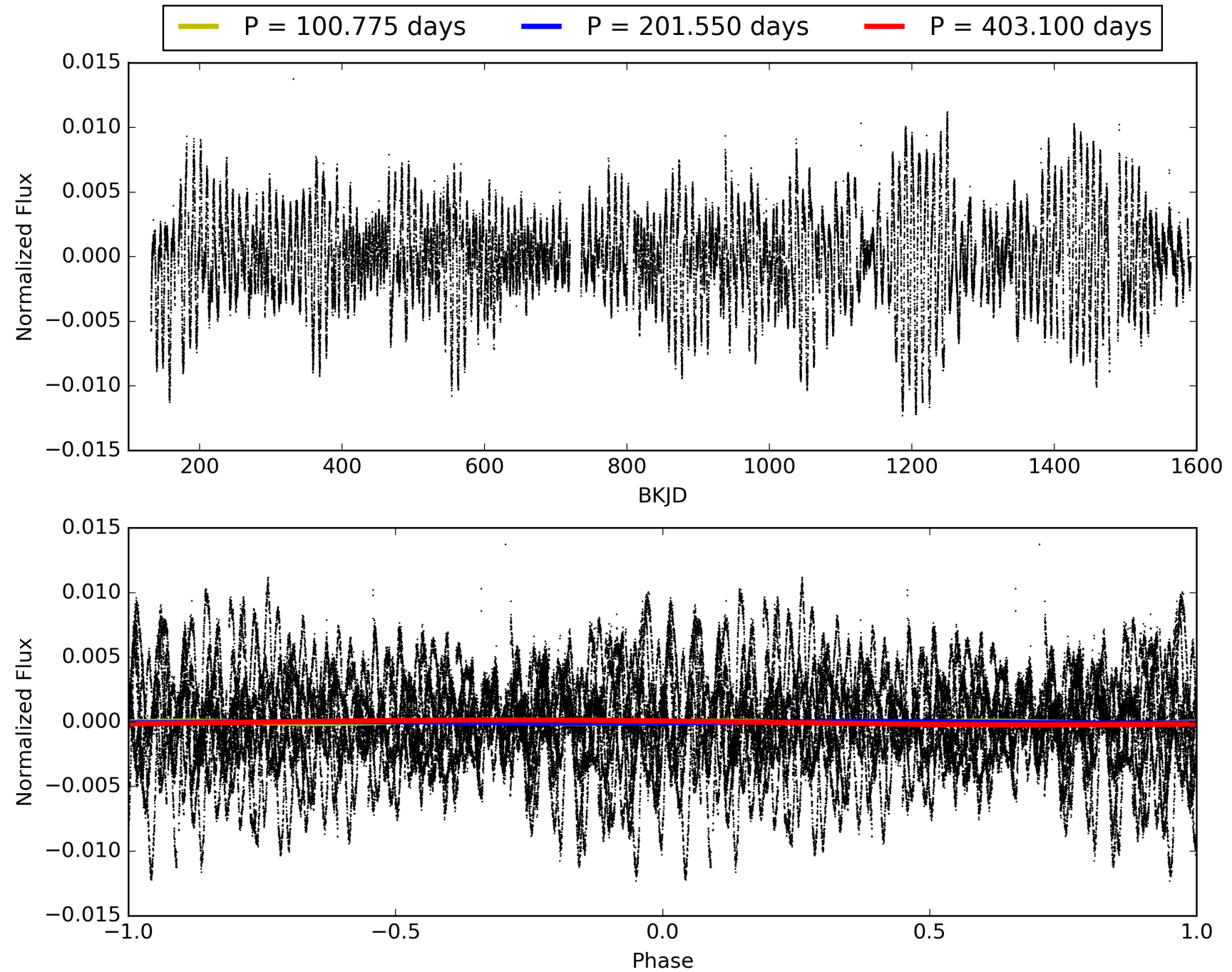
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:14:03 Z

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

TCE 007584778-05, PDC Light Curves

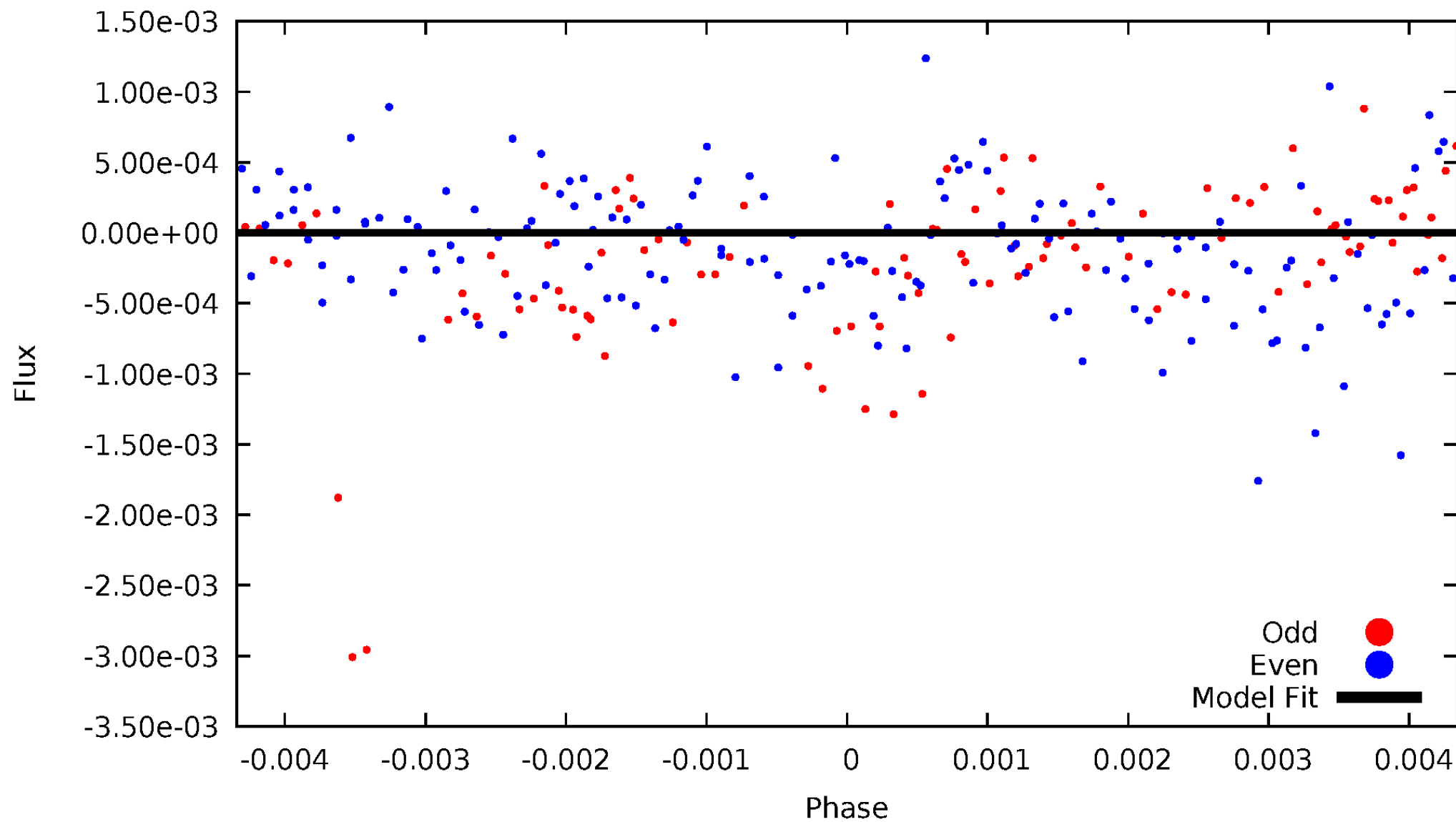


TCE 007584778-05



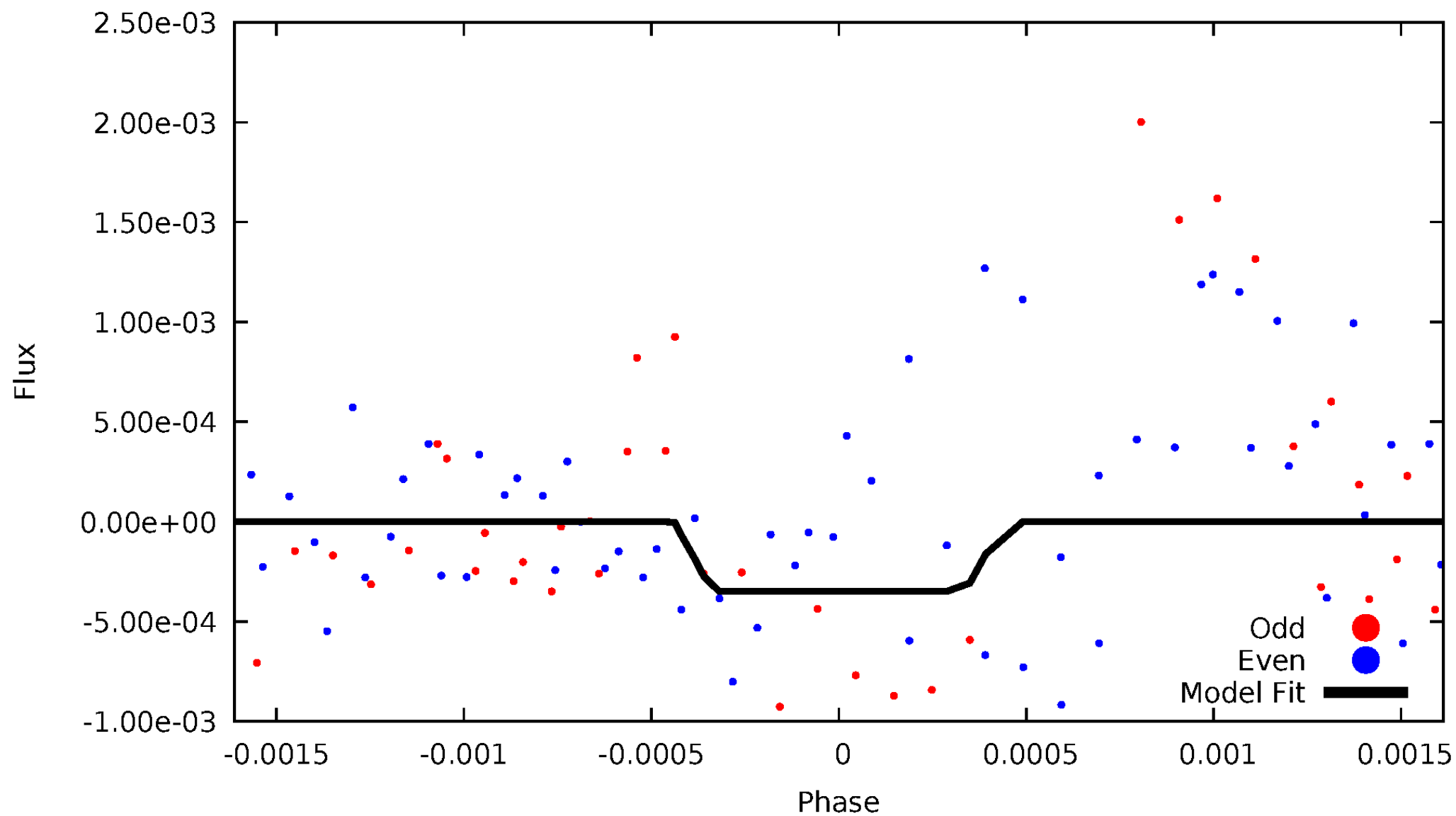
DV Odd/Even

TCE 007584778-05

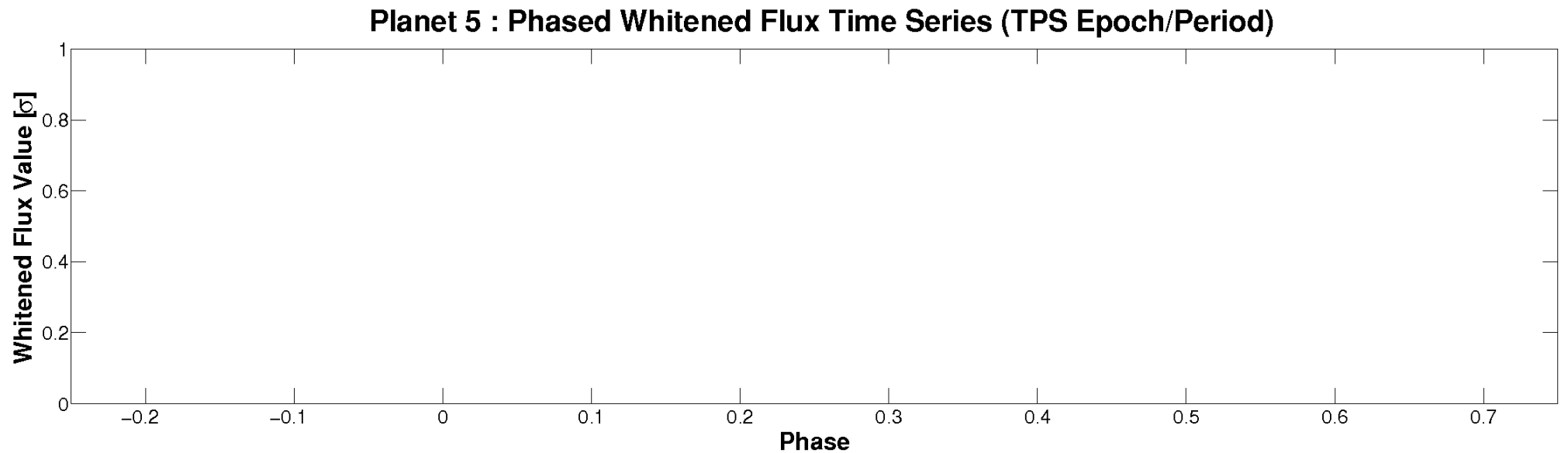
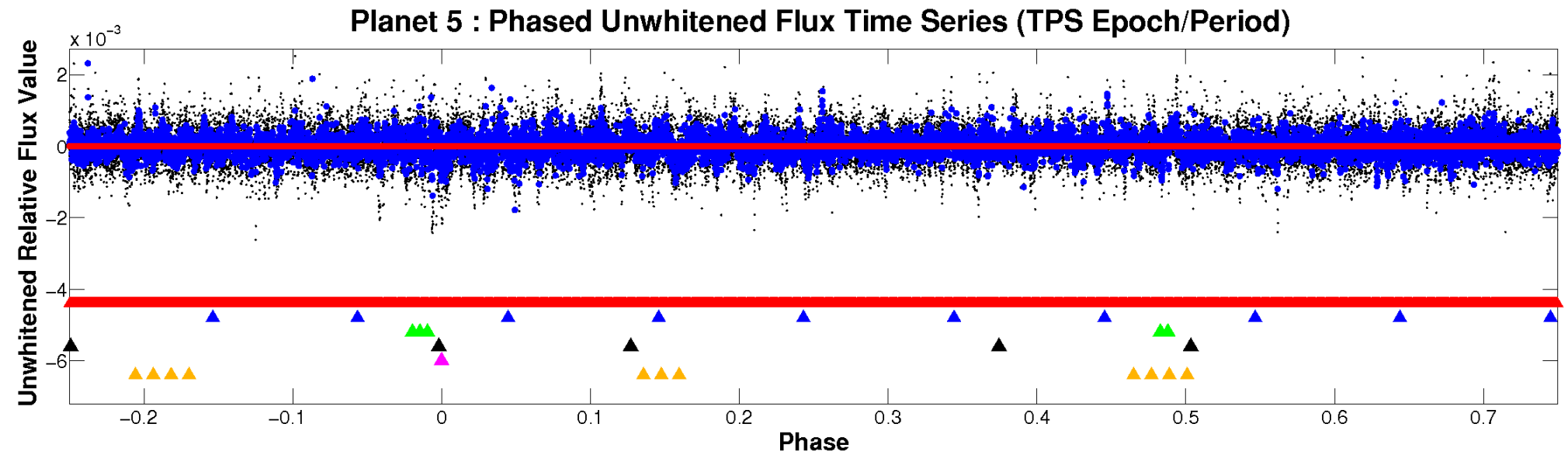


ALT Odd/Even

TCE 007584778-05

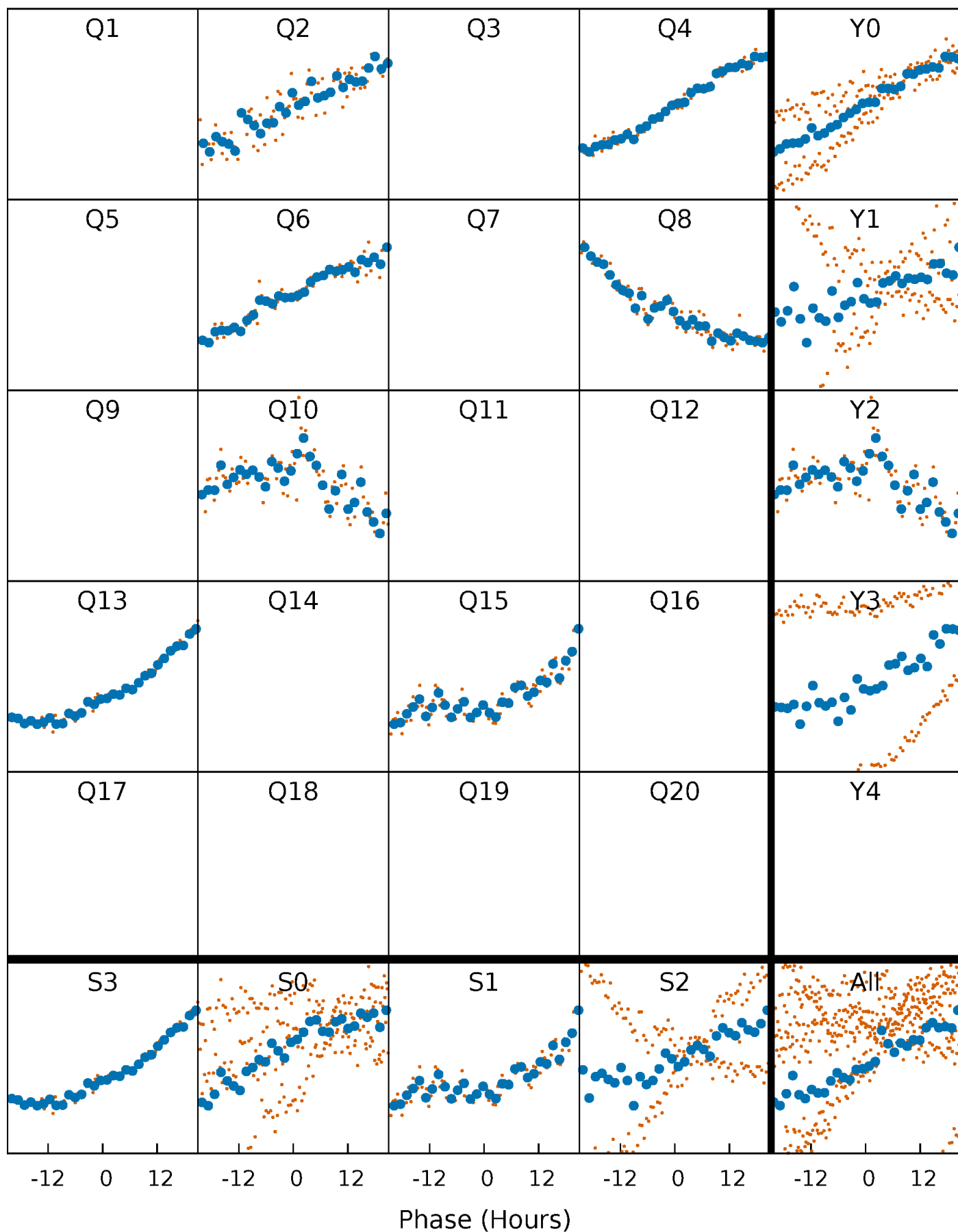


Non-Whitened Vs. Whitened Light Curve



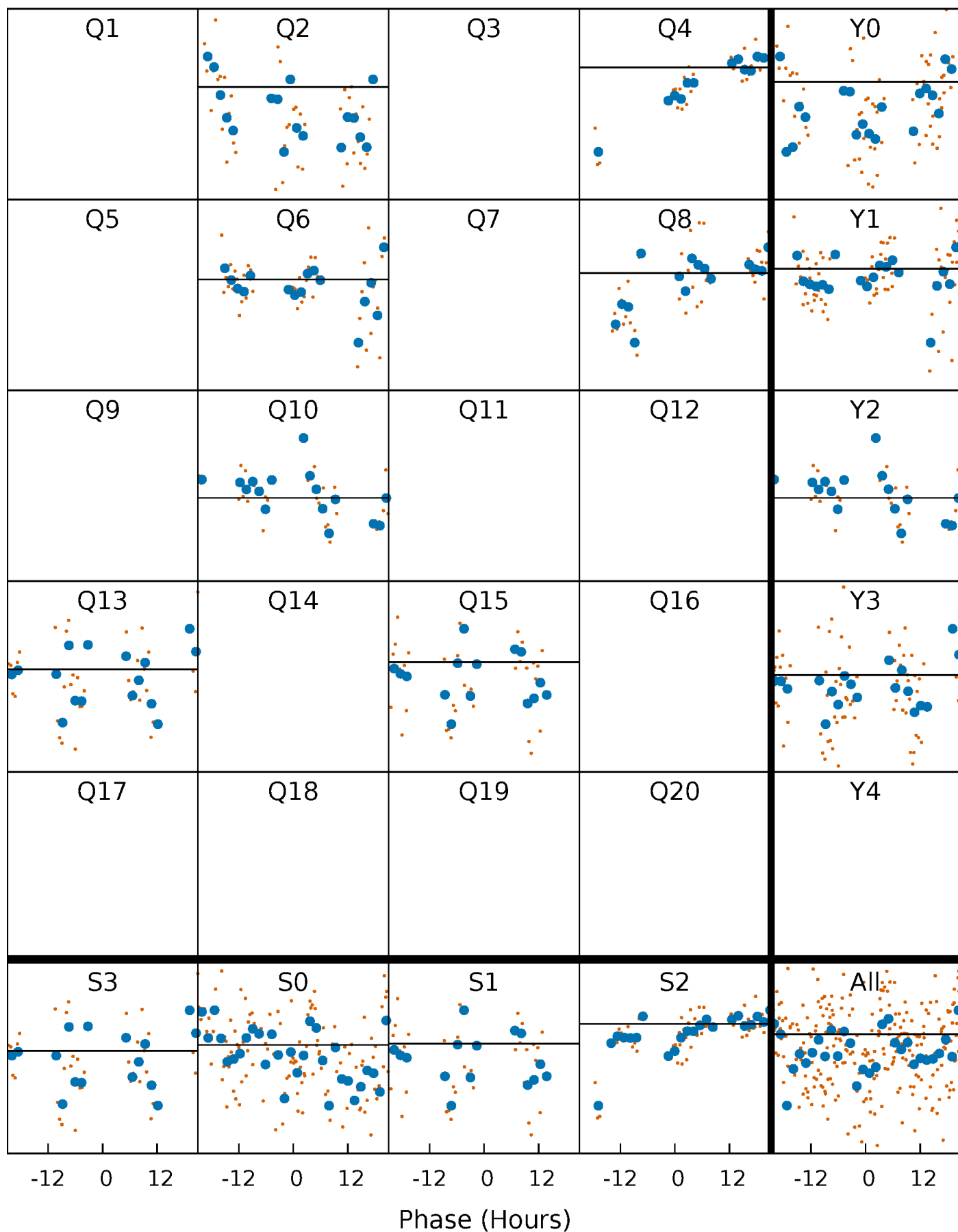
PDC Quarter-Phased Transit Curves

TCE 007584778-05 $P=201.549825$ Days $T_0=189.072332$ (BKJD)



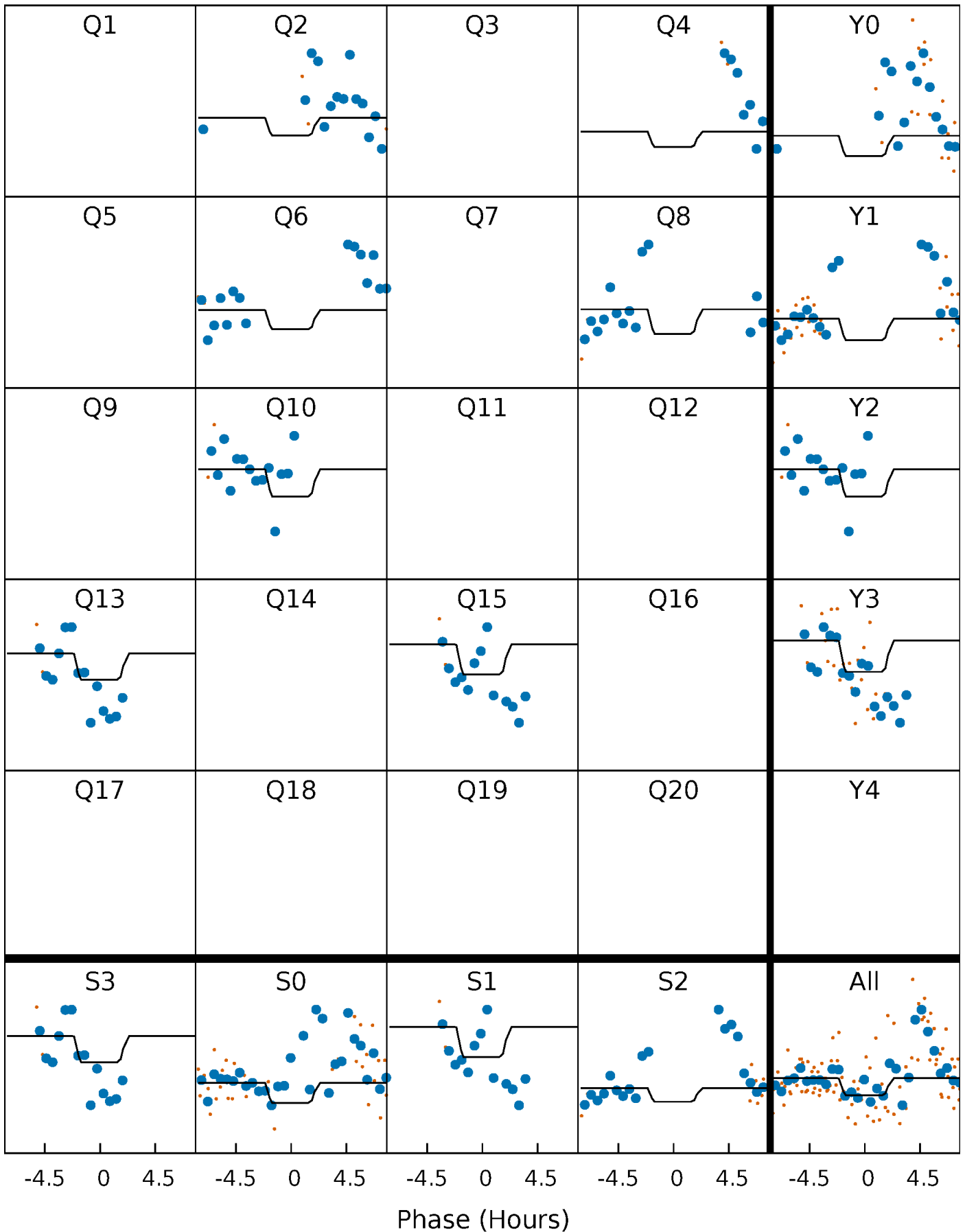
DV Quarter-Phased Transit Curves

TCE 007584778-05 $P=201.549825$ Days $T_0=189.072332$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

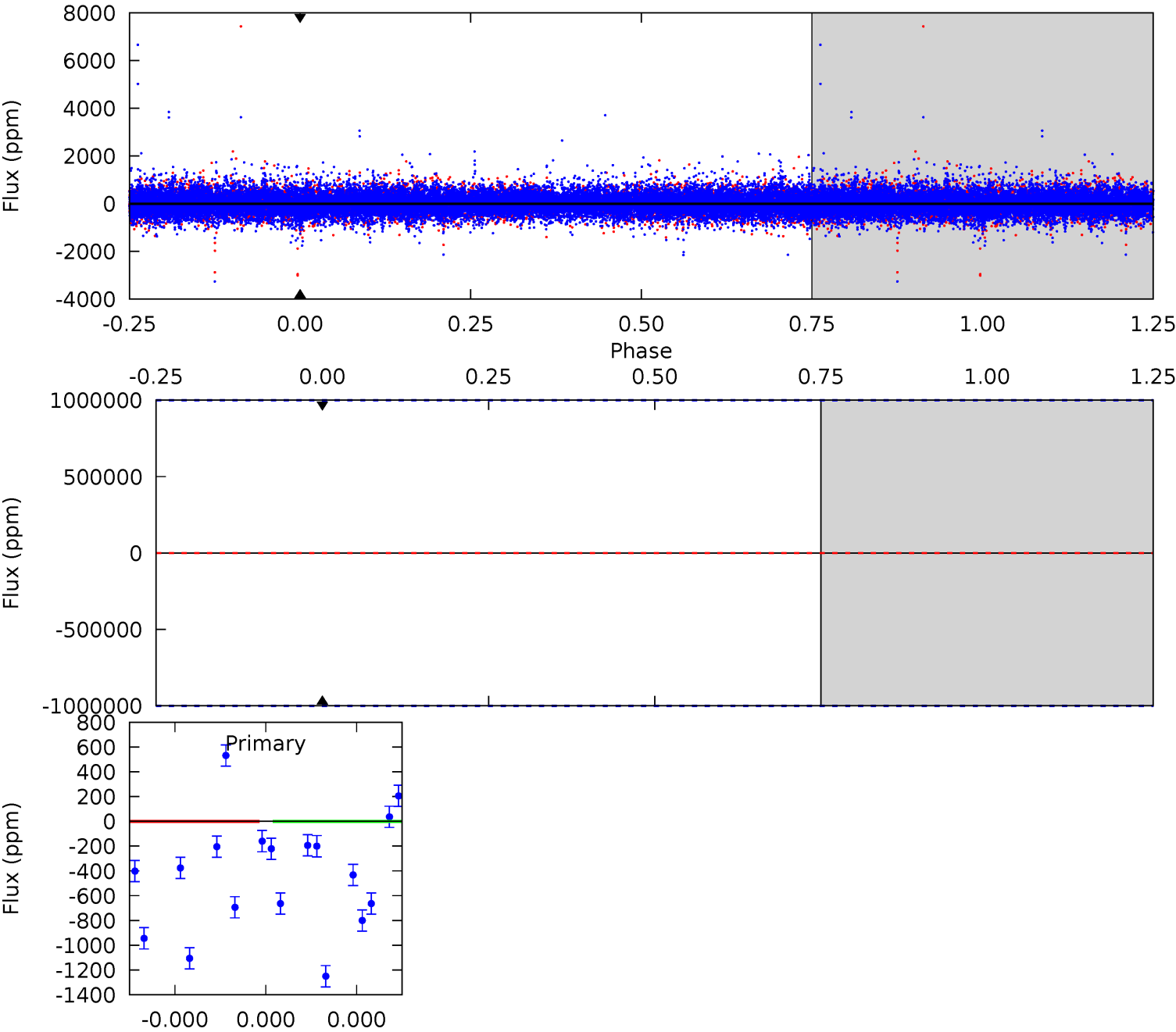
TCE 007584778-05 $P=201.549825$ Days $T_0=188.854123$ (BKJD)



DV Model-Shift Uniqueness Test

007584778-05, P = 201.549825 Days, E = 189.072332 Days

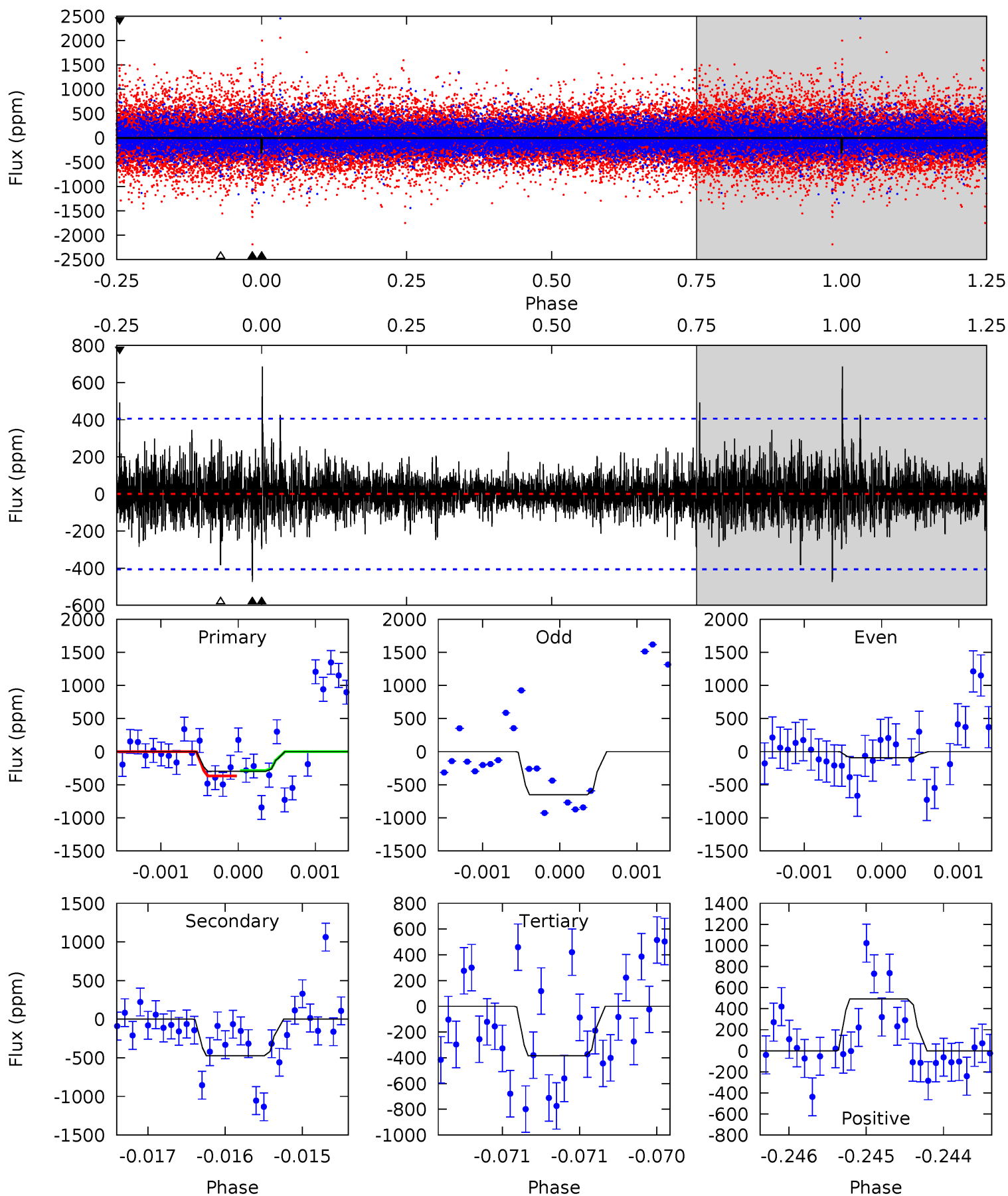
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007584778-05, P = 201.549825 Days, E = 188.854123 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.02	6.41	5.19	6.67	5.49	3.35	1.11	-1.17	-2.65	1.22	-0.26	3.65	0.58	0.59	0.53



Stellar Parameters For KIC 007584778

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5672^{+170}_{-153}	$4.447^{+0.140}_{-0.155}$	$-0.600^{+0.300}_{-0.300}$	$0.853^{+0.177}_{-0.129}$	$0.742^{+0.111}_{-0.040}$	$1.684^{+1.121}_{-0.717}$
	+3%/-3%	+3%/-3%	+50%/-50%	+21%/-15%	+15%/-5%	+67%/-43%
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 007584778-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$6.80^{+8.25}_{-4.58}$	415^{+27}_{-22}	3661^{+18016}_{-22000}	$2798^{+867452}_{-615776}$
Alt.	-474 ± 74	$7.00^{+7.44}_{-4.95}$	414^{+26}_{-22}	3536^{+2162}_{-685}	2097^{+20690}_{-1629}

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

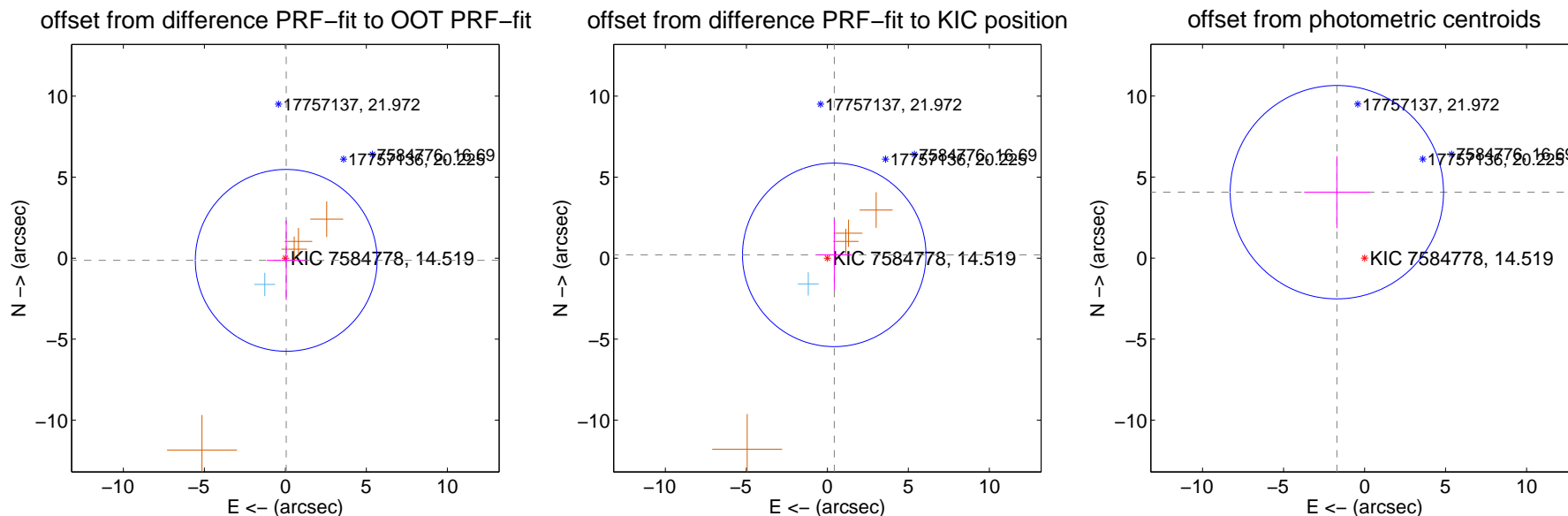
DV Centroid Data

Supplemental centroid analysis for 007584778-05. Kepler magnitude: 14.52. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.145 ± 1.870	0.08	-0.053 ± 1.191	-0.135 ± 2.456
PRF-fit source offset from KIC position	0.471 ± 1.887	0.25	-0.425 ± 1.075	0.203 ± 2.187
photometric centroid source offset	4.41 ± 2.19	2.01	1.71 ± 2.02	4.07 ± 2.22



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.

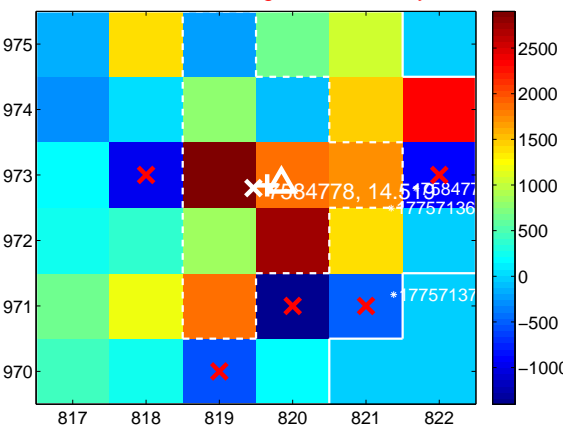
Q1 no difference image



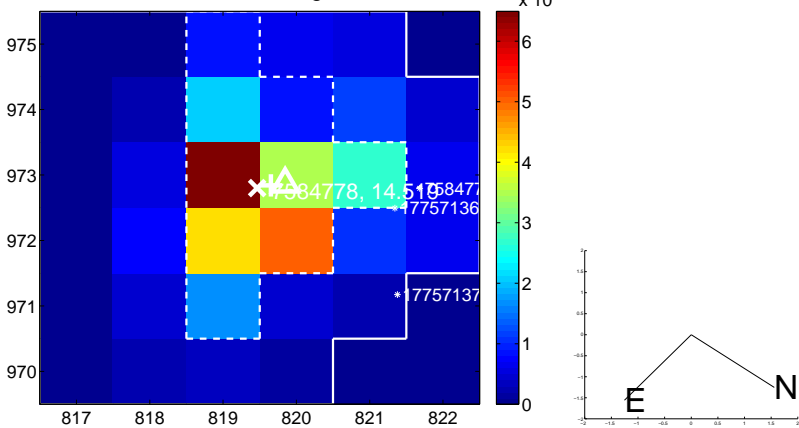
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



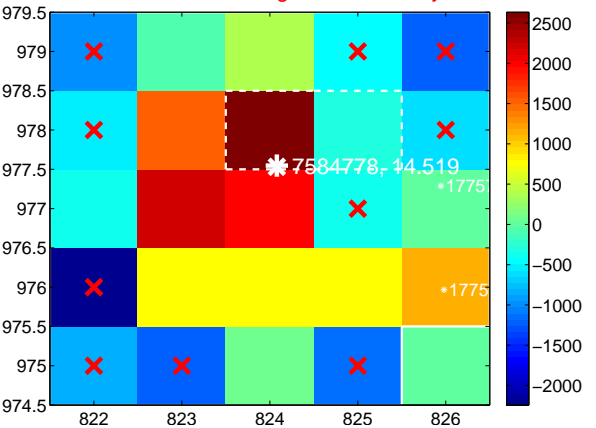
Q3 no difference image



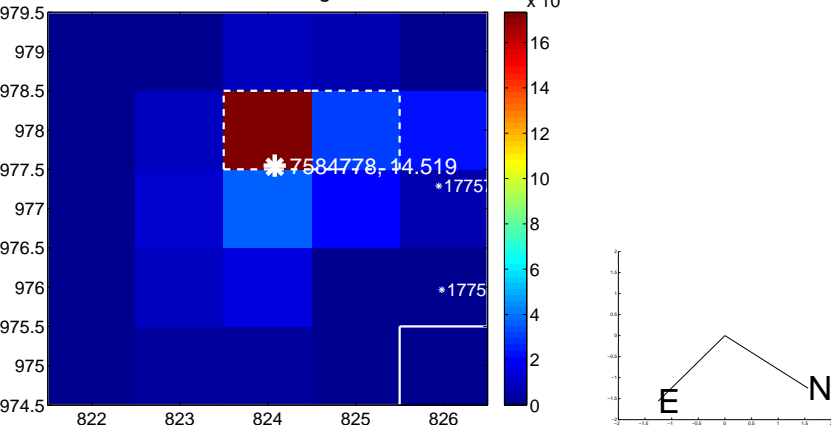
Q3 no OOT image



Q4 difference image. Poor Quality



Q4 OOT image



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

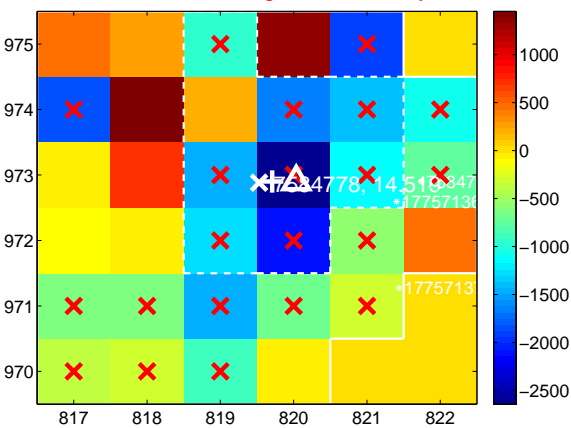
Q5 no difference image



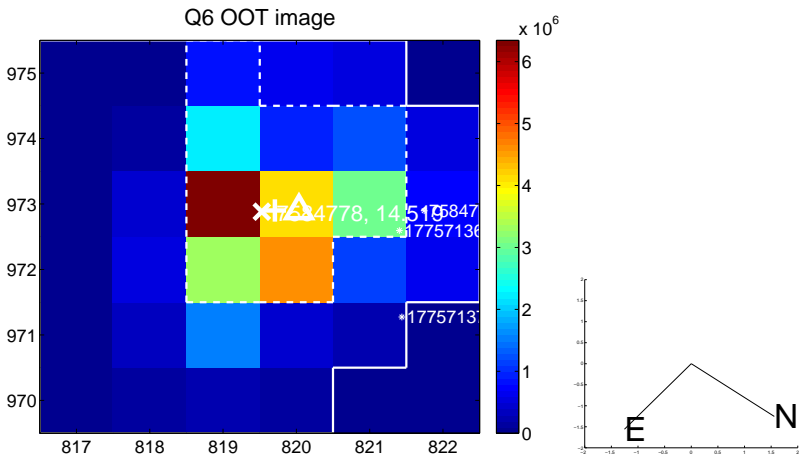
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



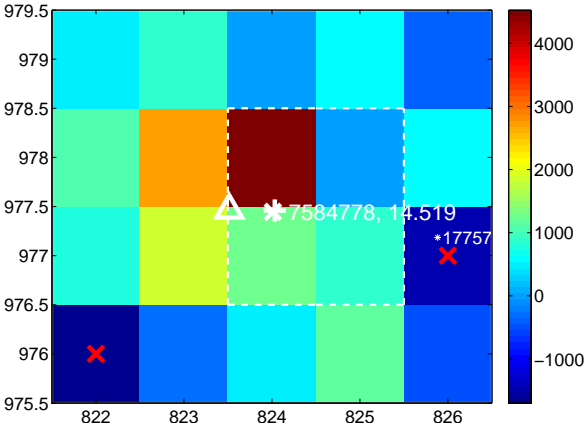
Q7 no difference image



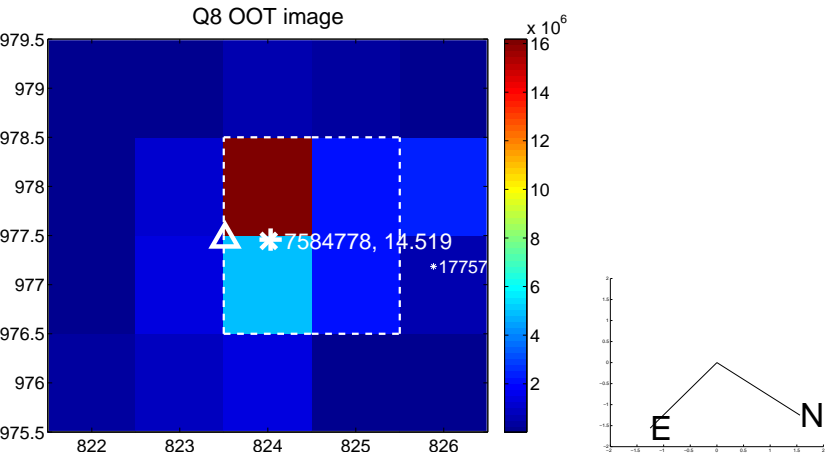
Q7 no OOT image



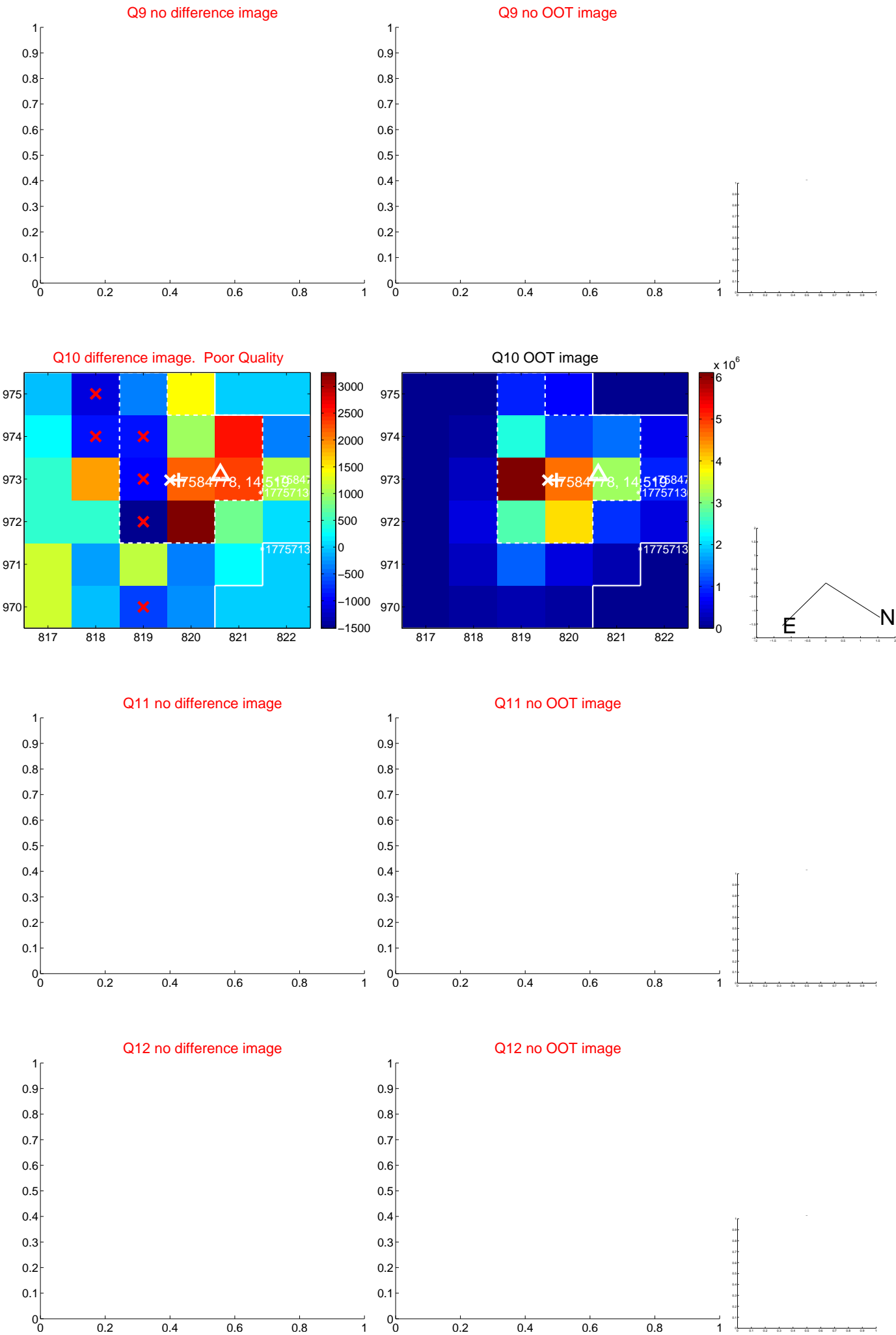
Q8 difference image



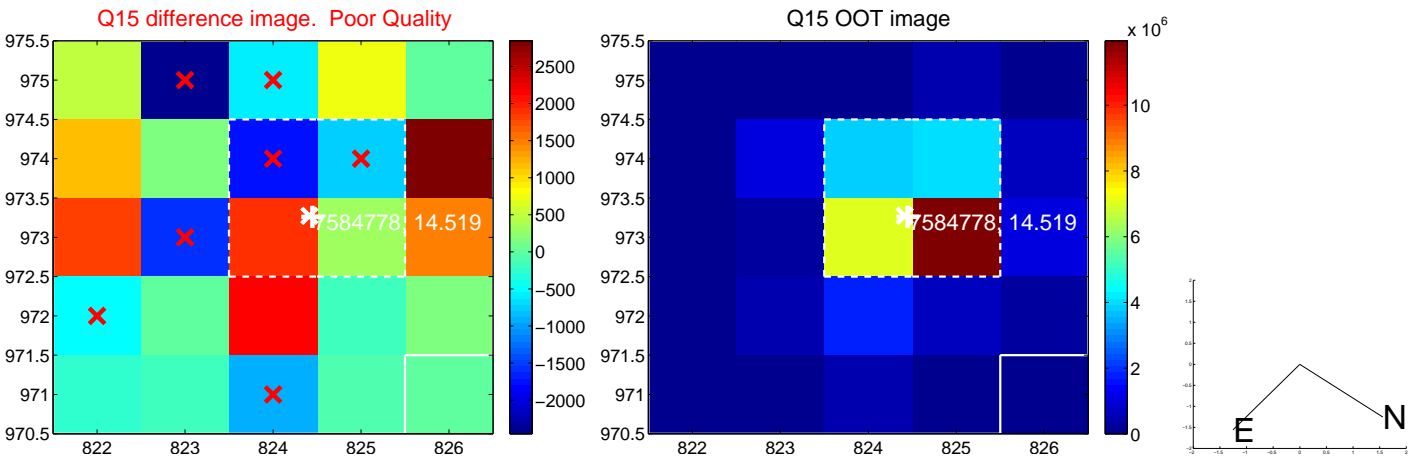
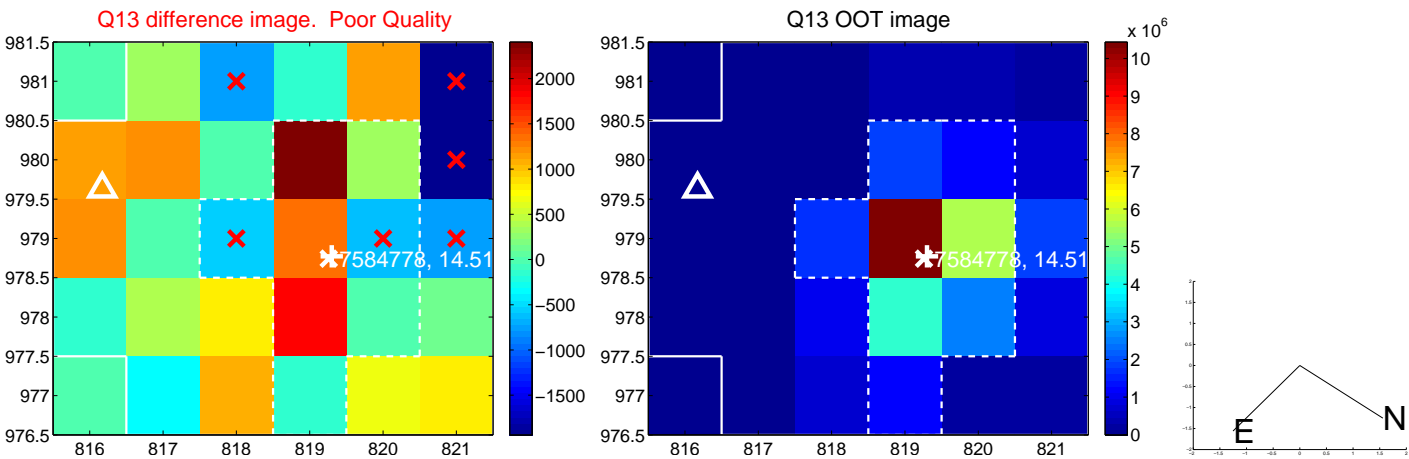
Q8 OOT image



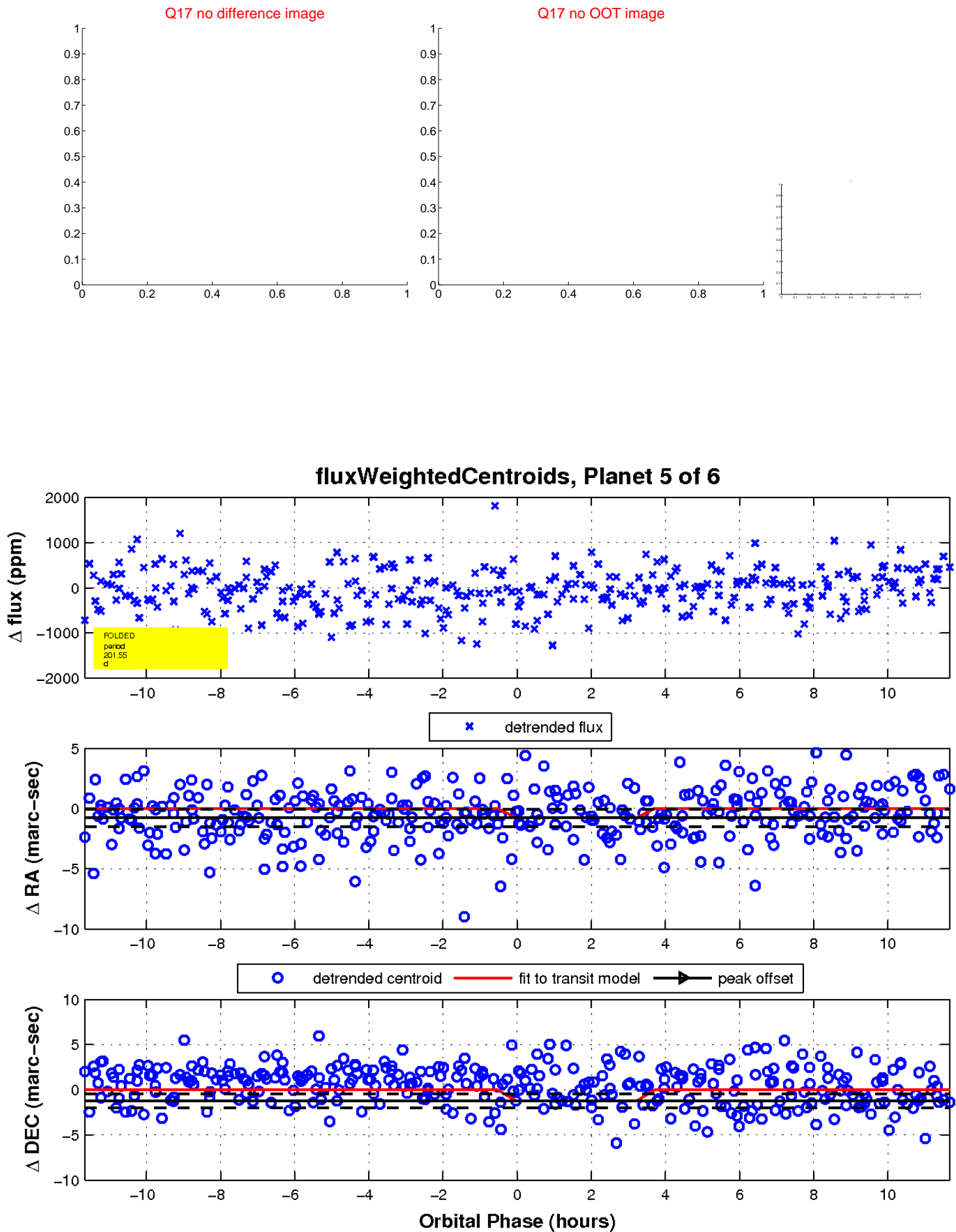
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

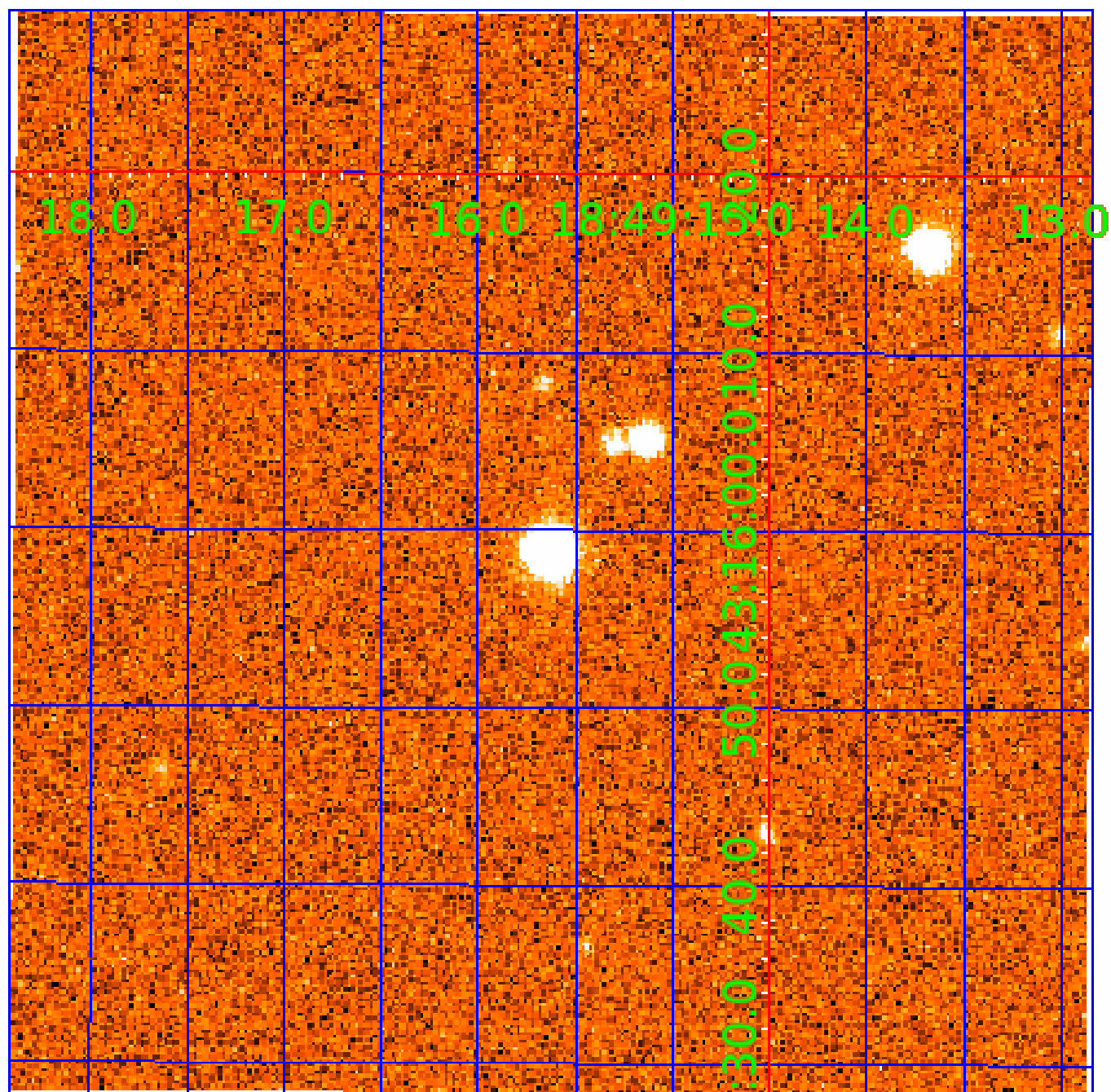


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007584778

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})
007584778-01	OBS	6887.01	0.622299	132.090736	59.5	2.392	11.8	12.0	0.85	5672	0.78	4040.85
007584778-02	OBS	No	141.164373	238.072361	801.9	7.438	14.4	8.2	0.85	5672	3.14	2.92
007584778-03	OBS	No	301.817616	187.160614	646.5	7.804	9.8	7.0	0.85	5672	2.40	1.06
007584778-04	OBS	No	277.395648	390.253541	512.3	4.784	9.7	4.5	0.85	5672	2.09	1.19
007584778-05	OBS	No	201.549825	189.072332	727.1	10.500	11.0	-1.0	0.85	5672	2.29	1.82
007584778-06	OBS	No	135.172218	147.613285	558.3	4.205	9.0	6.3	0.85	5672	2.20	3.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007584778-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH
007584778-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007584778-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—CENT_FEW_DIFFS
007584778-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007584778-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007584778-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

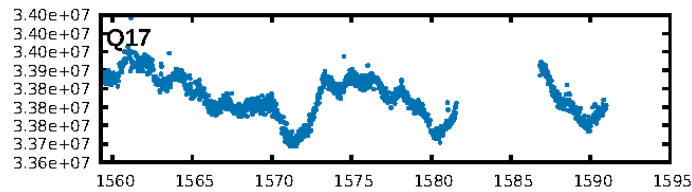
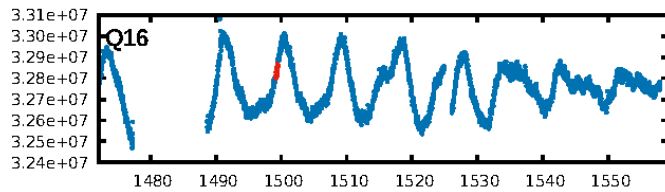
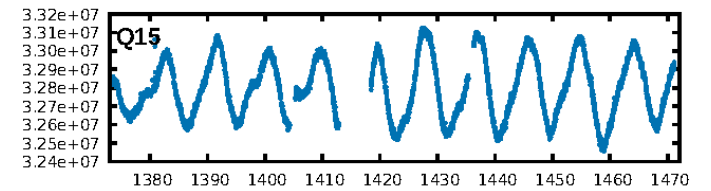
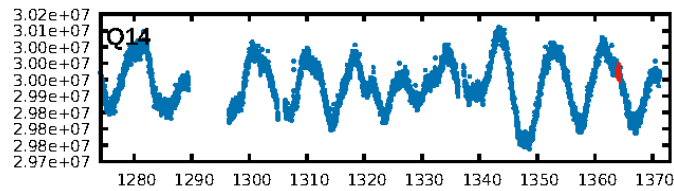
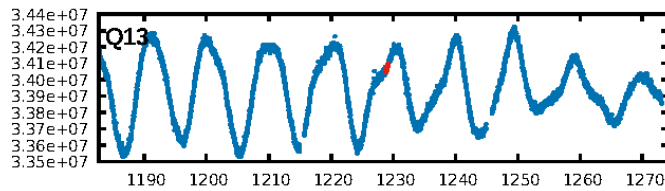
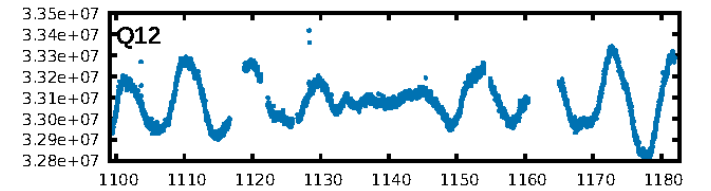
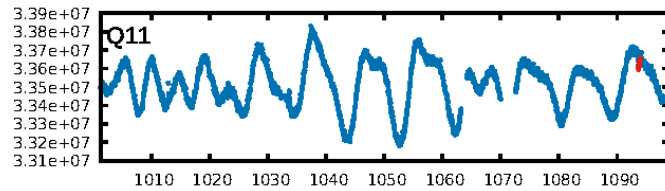
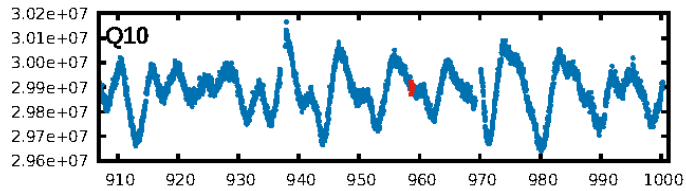
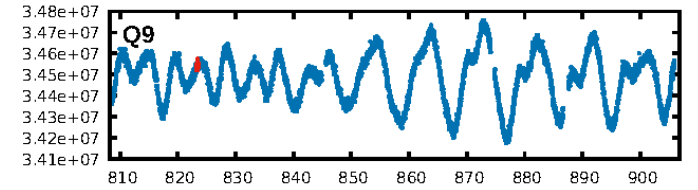
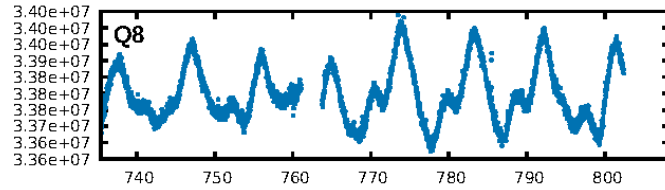
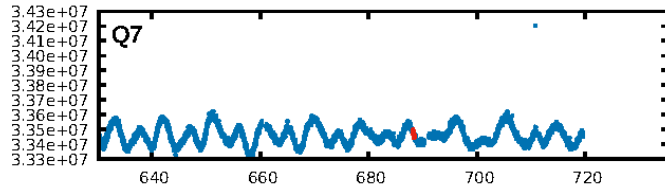
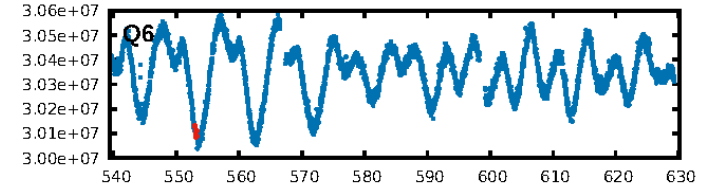
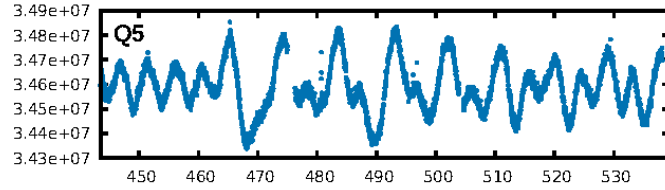
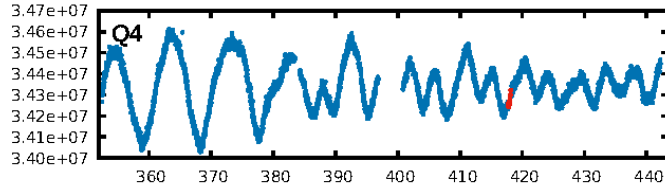
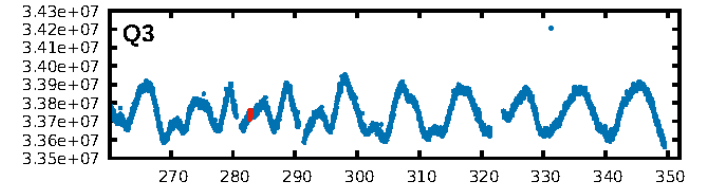
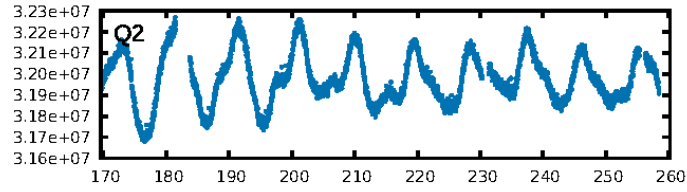
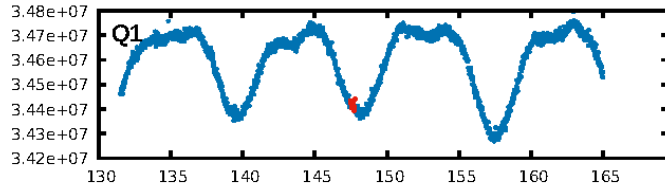
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007584778-06

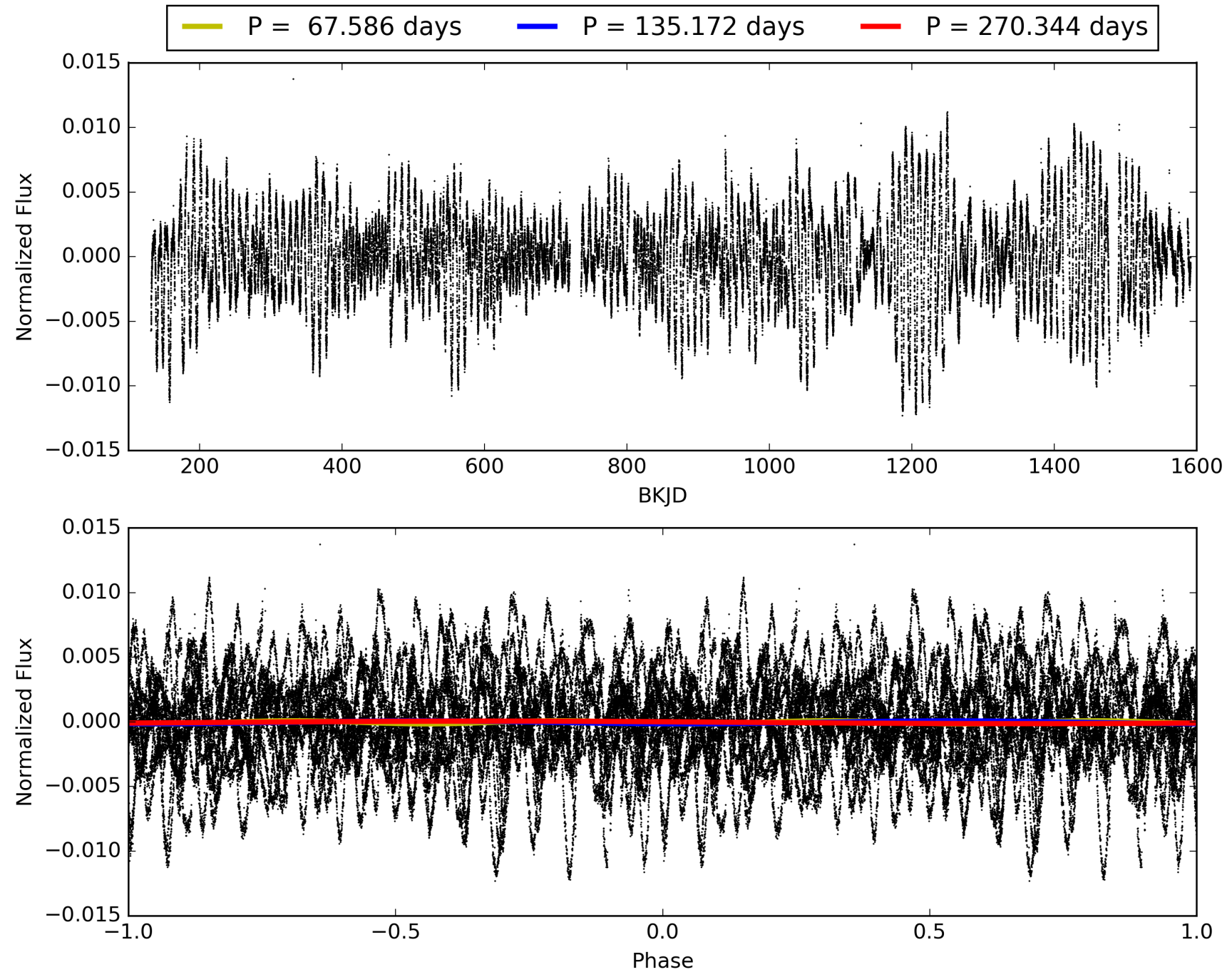
No Significant Match Found

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

TCE 007584778-06, PDC Light Curves

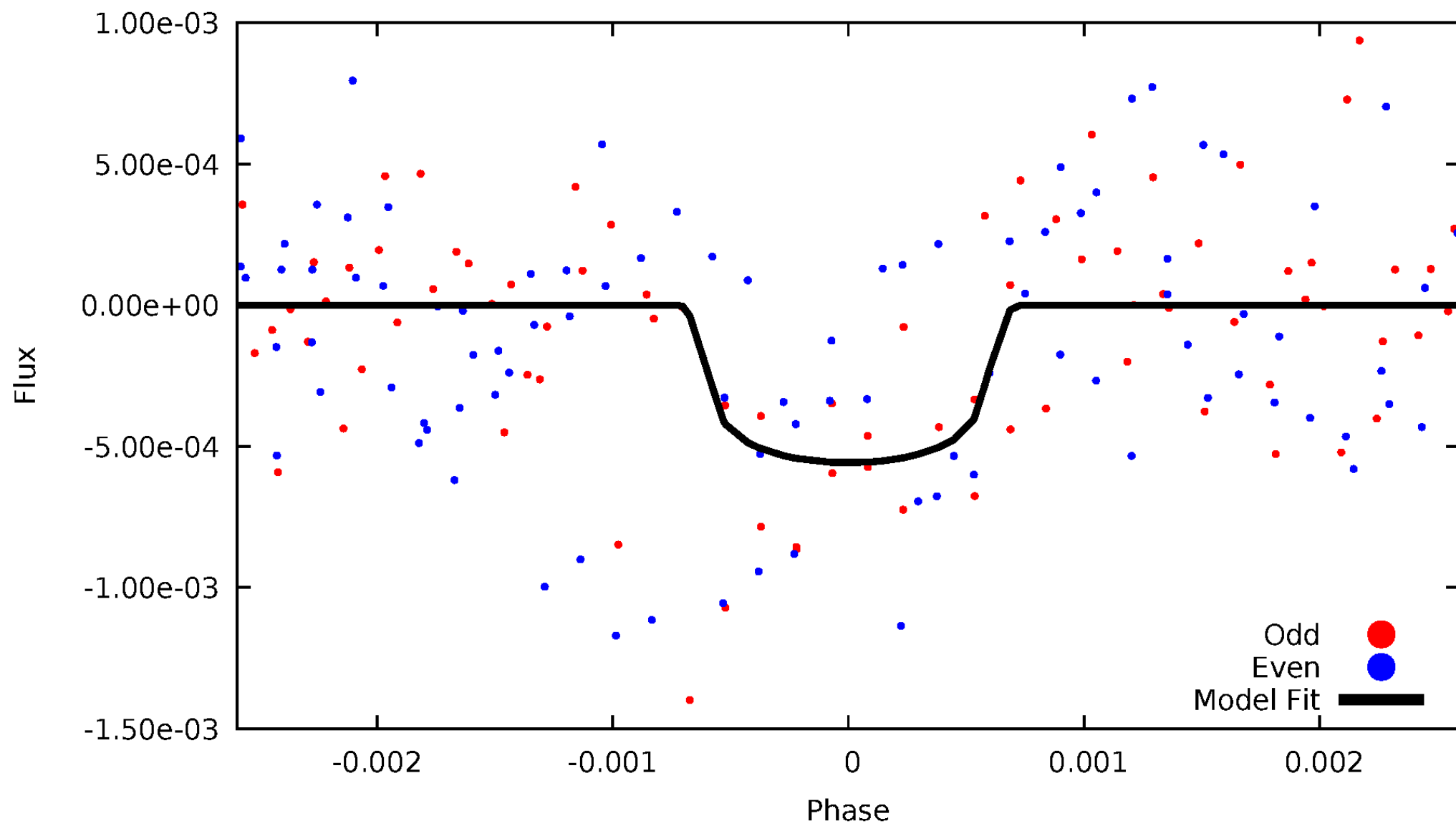


TCE 007584778-06



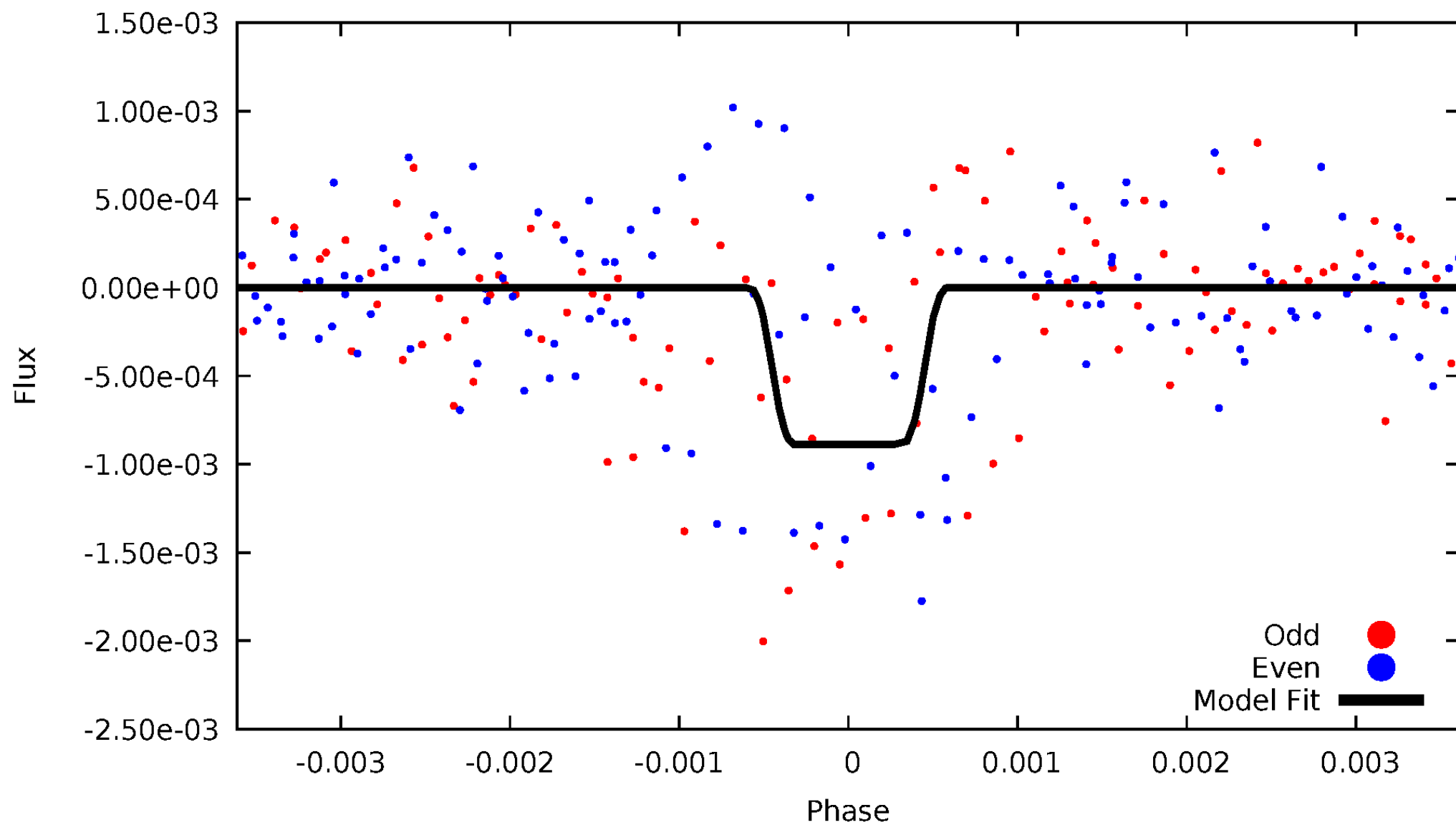
DV Odd/Even

TCE 007584778-06



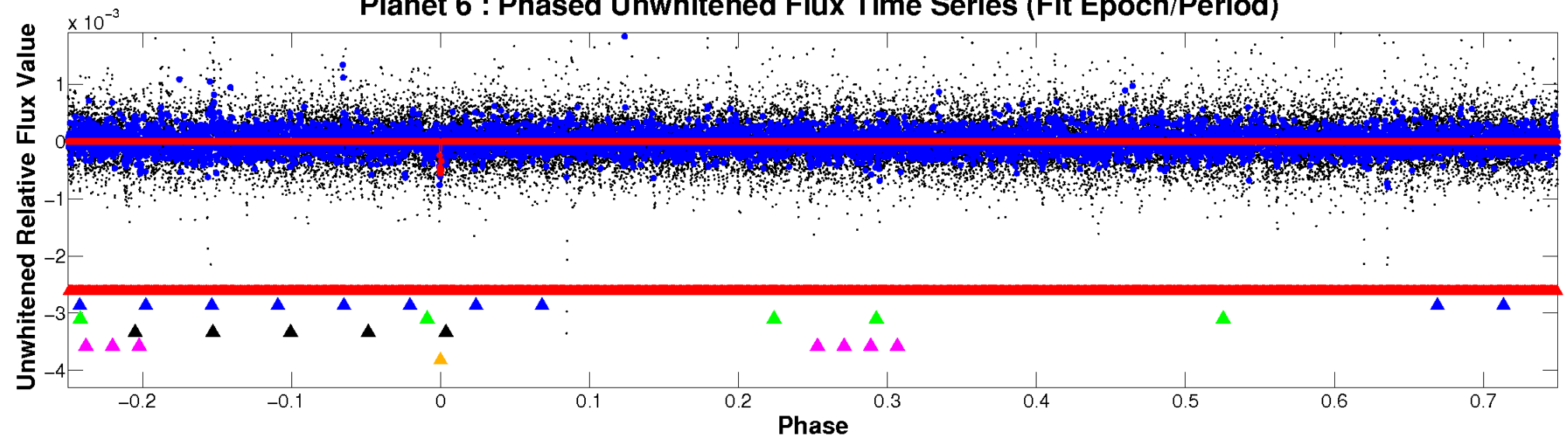
ALT Odd/Even

TCE 007584778-06

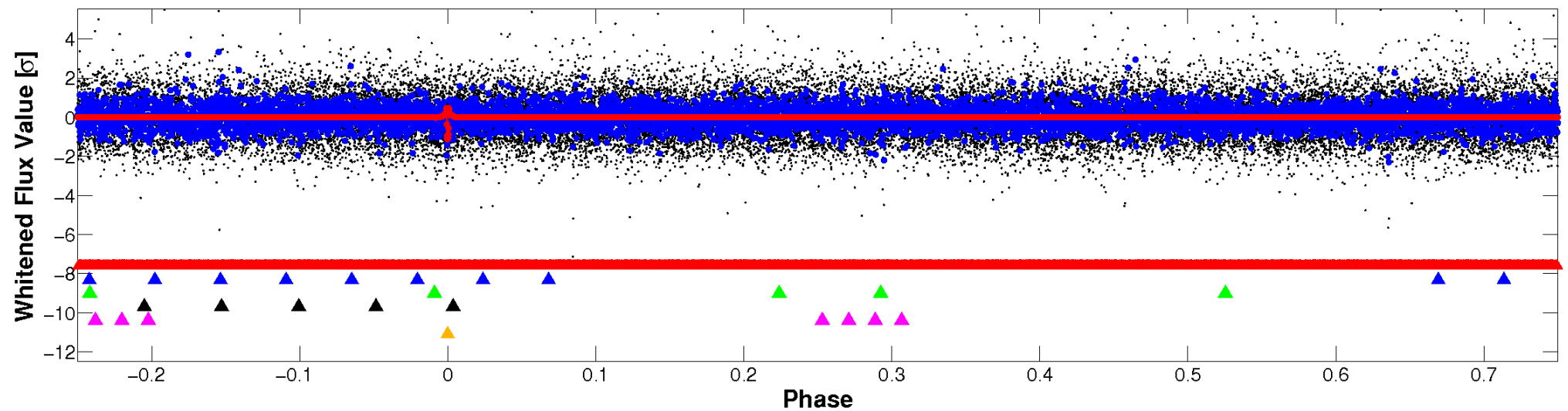


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

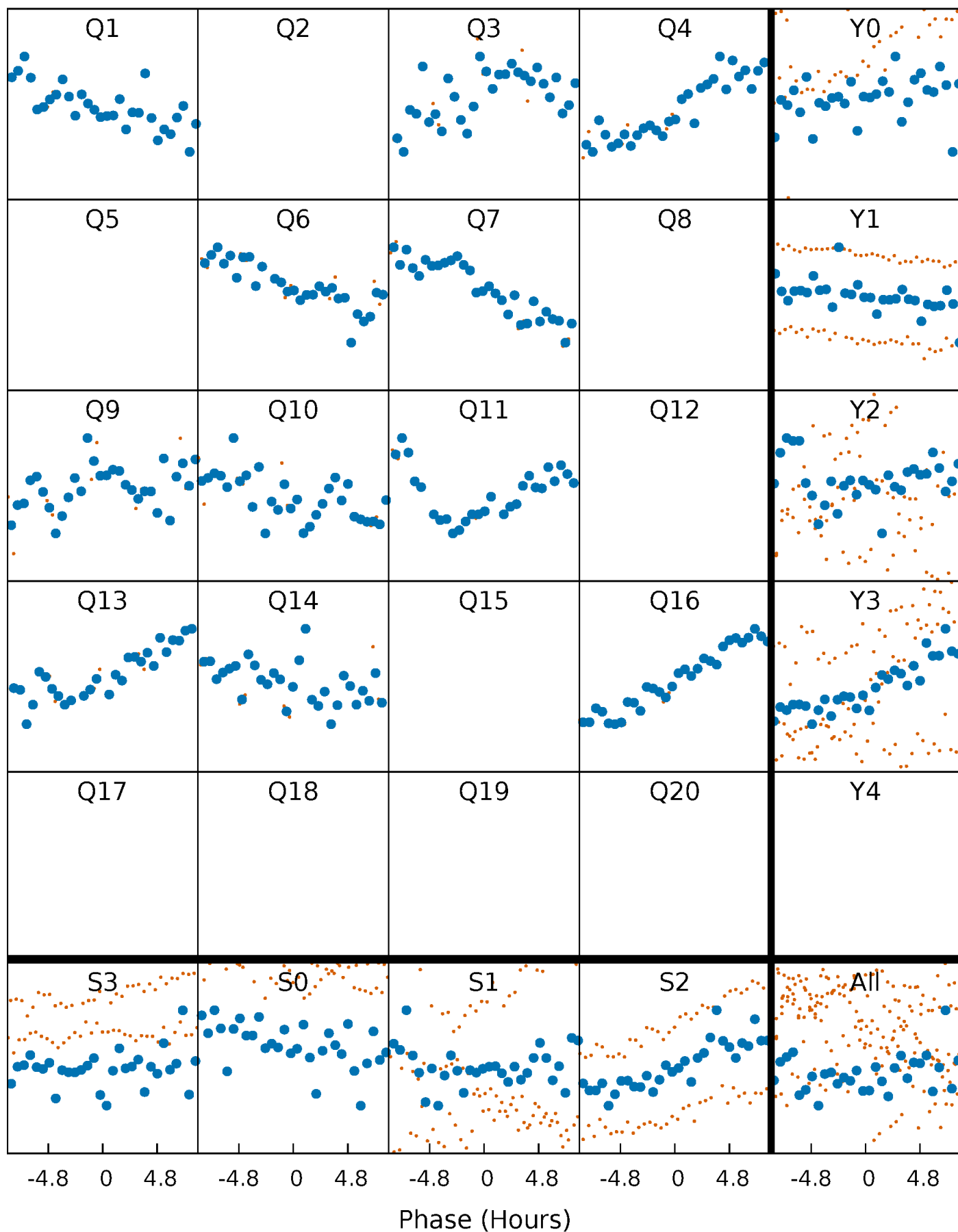


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



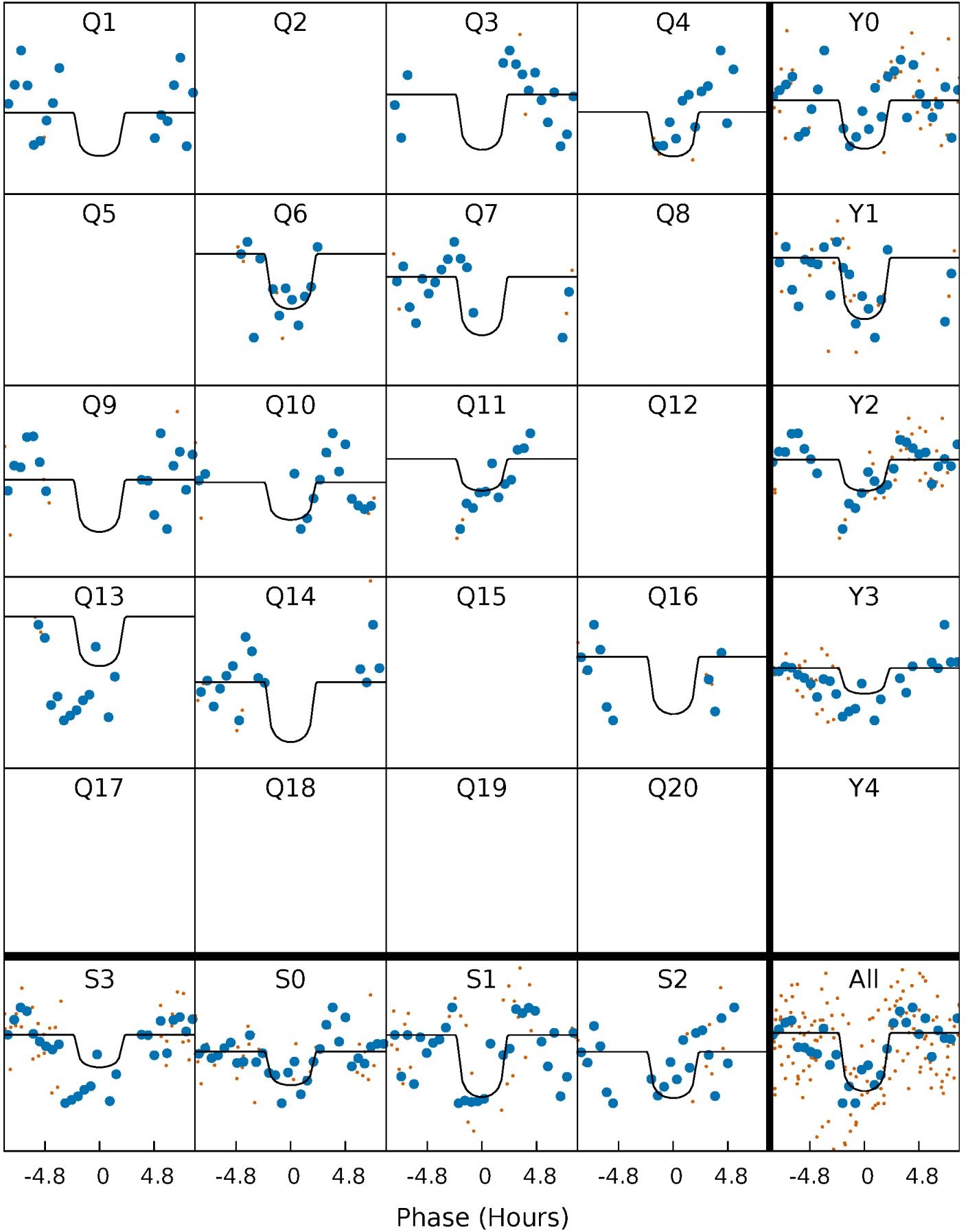
PDC Quarter-Phased Transit Curves

TCE 007584778-06 P=135.172219 Days $T_0=147.613285$ (BKJD)



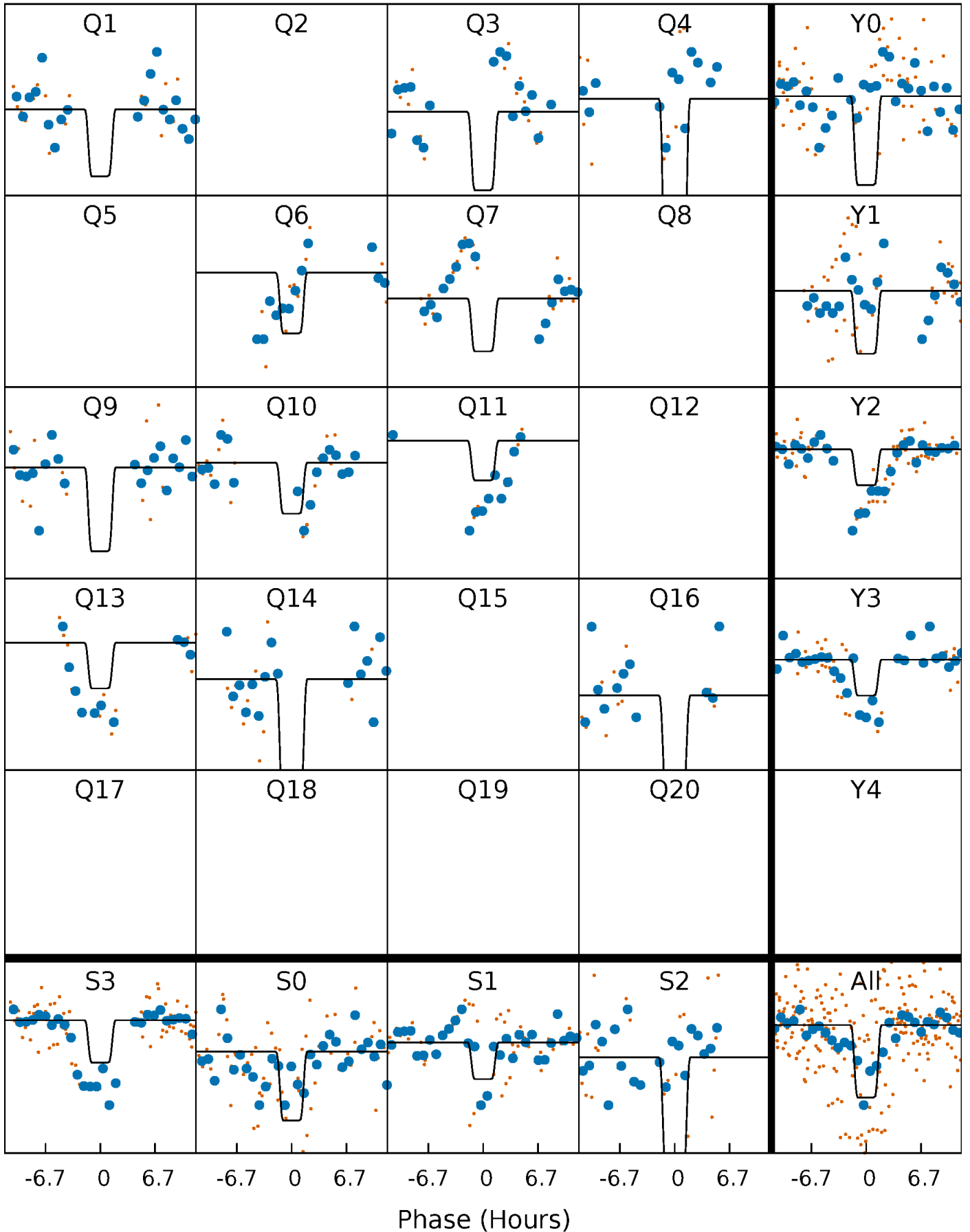
DV Quarter-Phased Transit Curves

TCE 007584778-06 P=135.172219 Days $T_0=147.613285$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

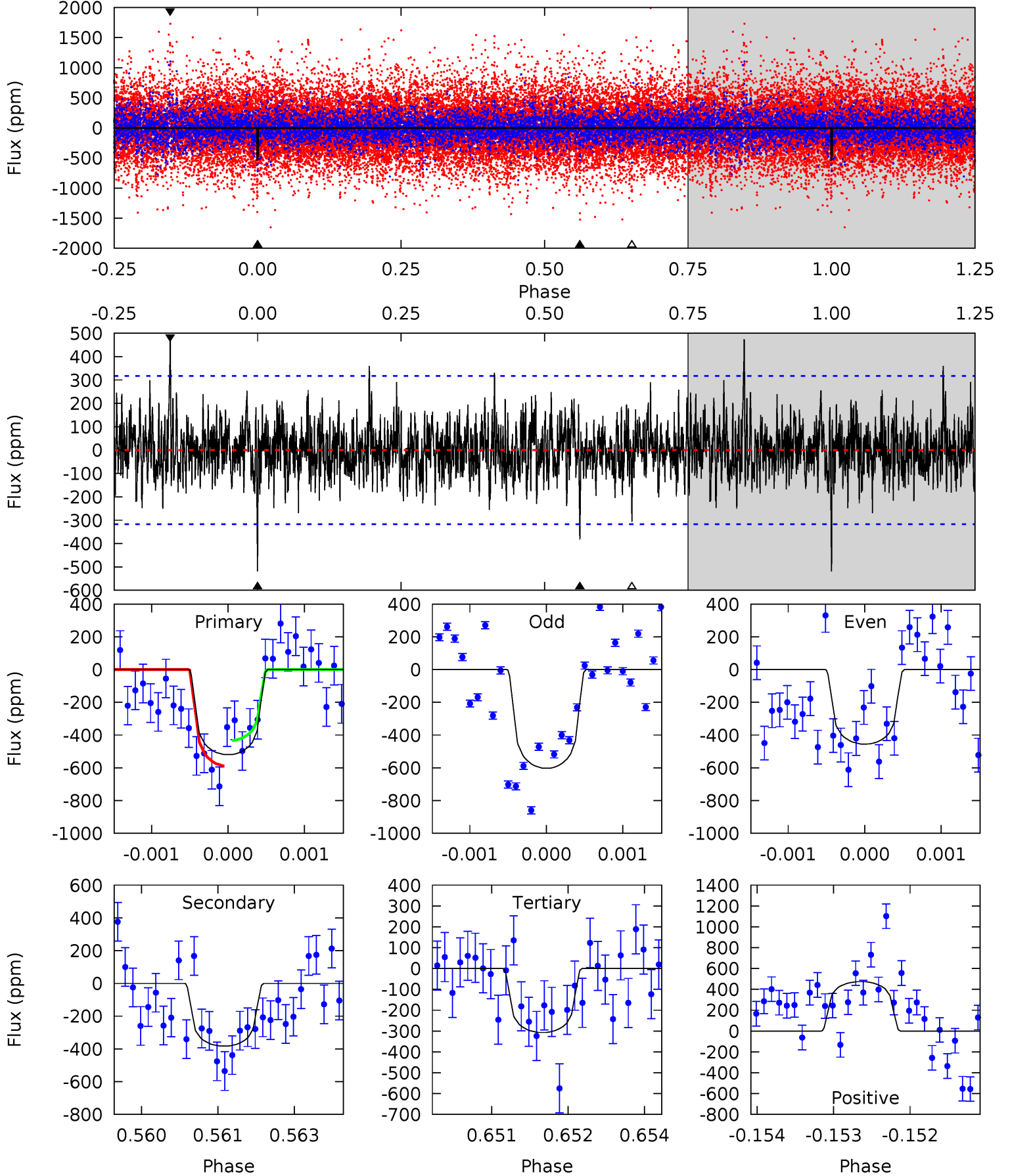
TCE 007584778-06 P=135.166720 Days $T_0=147.628944$ (BKJD)



DV Model-Shift Uniqueness Test

007584778-06, P = 135.172219 Days, E = 12.441066 Days

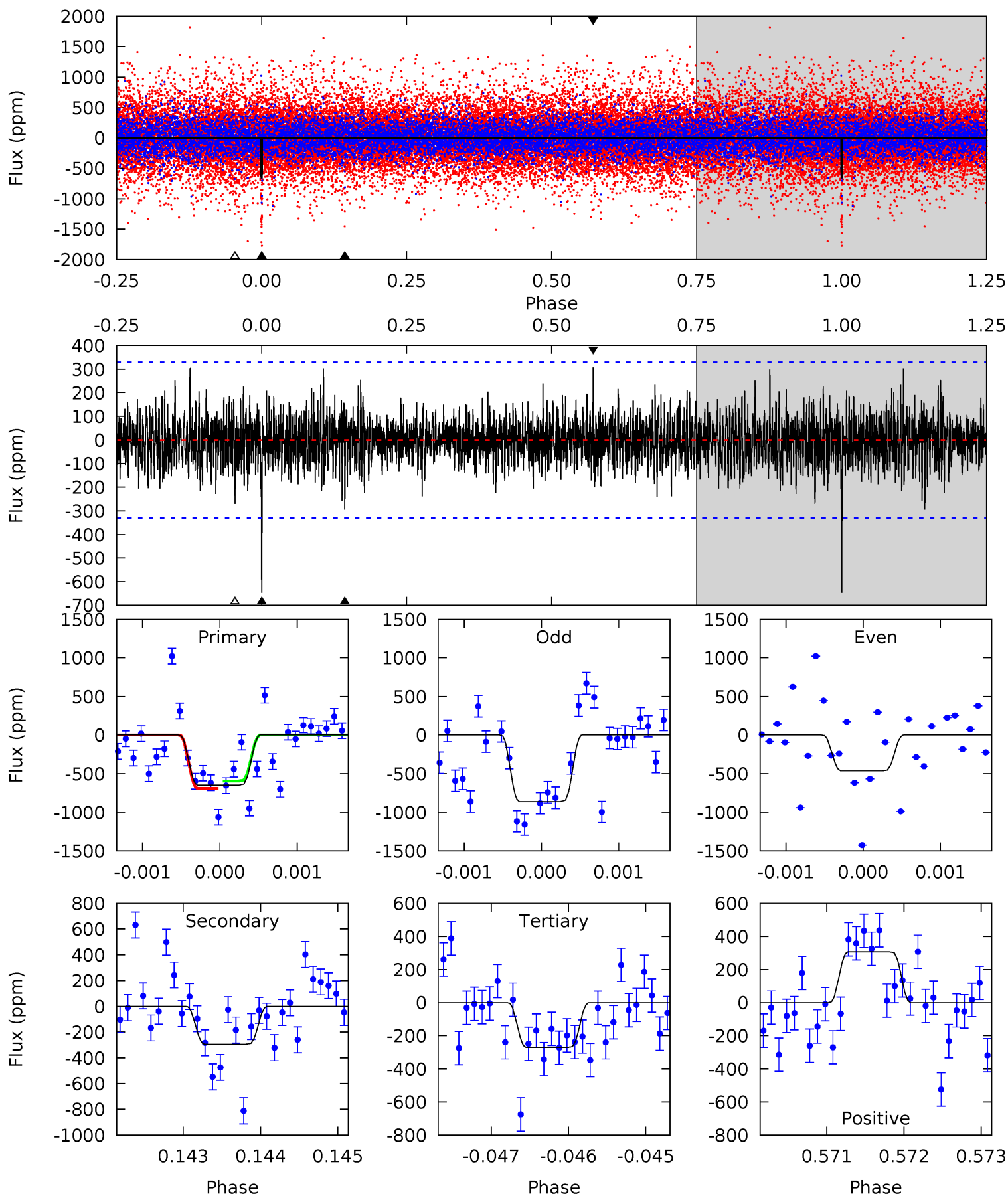
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.82	6.50	5.21	8.04	5.39	3.19	1.52	3.60	0.77	1.29	-1.54	1.24	1.03	0.48	1.32



Alt Model-Shift Uniqueness Test

007584778-06, P = 135.166720 Days, E = 12.462224 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	4.86	4.47	5.07	5.43	3.26	1.24	6.21	5.61	0.39	-0.21	3.26	0.87	0.32	0.79



Stellar Parameters For KIC 007584778

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5672^{+170}_{-153}	$4.447^{+0.140}_{-0.155}$	$-0.600^{+0.300}_{-0.300}$	$0.853^{+0.177}_{-0.129}$	$0.742^{+0.111}_{-0.040}$	$1.684^{+1.121}_{-0.717}$
	+3%/-3%	+3%/-3%	+50%/-50%	+21%/-15%	+15%/-5%	+67%/-43%
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 007584778-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-383 ± 59	$2.44^{+1.42}_{-1.45}$	474^{+27}_{-25}	5079^{+2723}_{-901}	8092^{+39636}_{-4954}
Alt.	-295 ± 61	$2.88^{+1.65}_{-1.47}$	472^{+30}_{-25}	4438^{+1549}_{-668}	4262^{+14312}_{-2531}

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 $A_{obs} \gg 1.0$

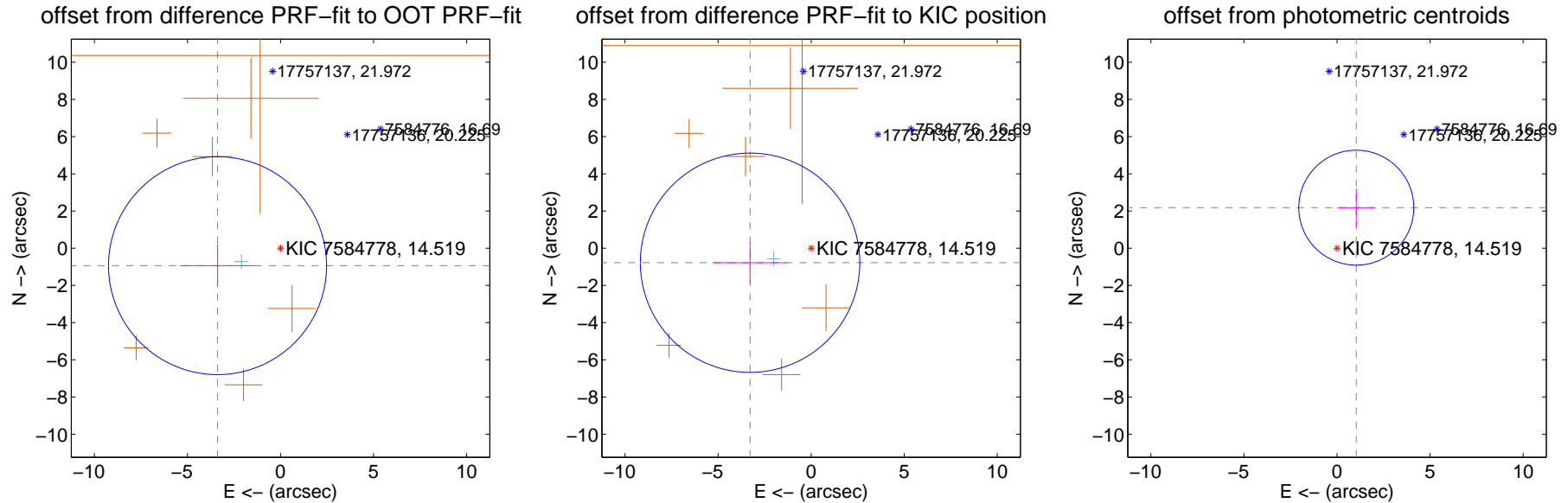
DV Centroid Data

Supplemental centroid analysis for 007584778-06. Kepler magnitude: 14.52. Transit SNR 6.26

There are 1 quarters with good PRF difference image offsets

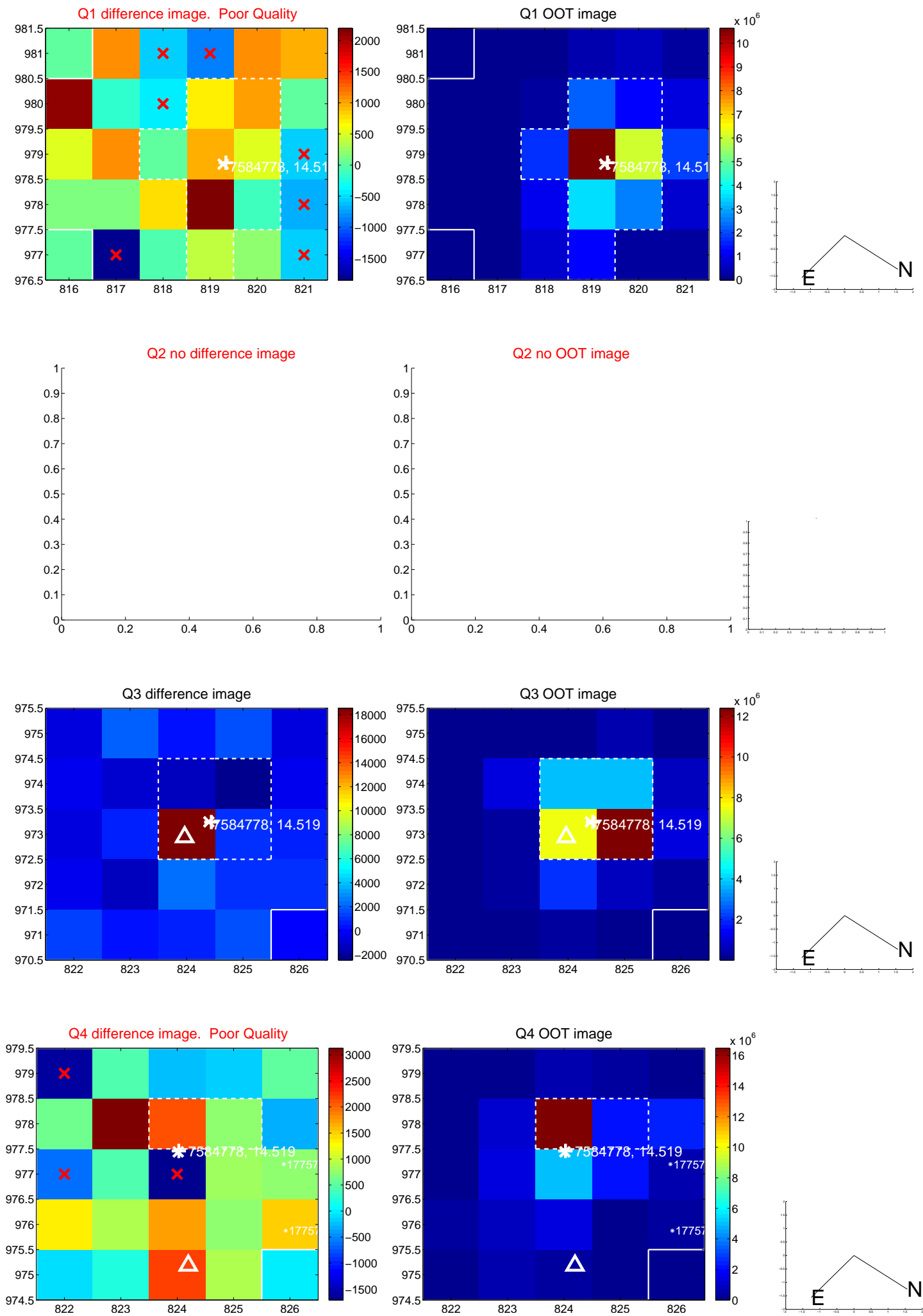
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.510 ± 1.952	1.80	3.383 ± 2.002	-0.938 ± 1.132
PRF-fit source offset from KIC position	3.373 ± 1.965	1.72	3.281 ± 2.002	-0.781 ± 1.132
photometric centroid source offset	2.41 ± 1.03	2.34	-1.03 ± 1.02	2.18 ± 1.03



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.

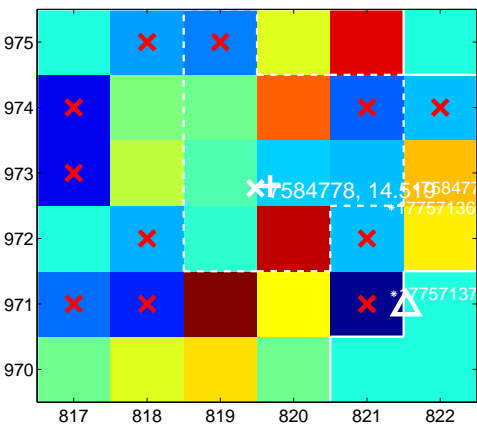
Q5 no difference image



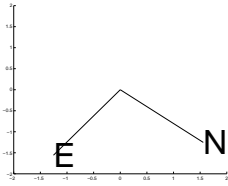
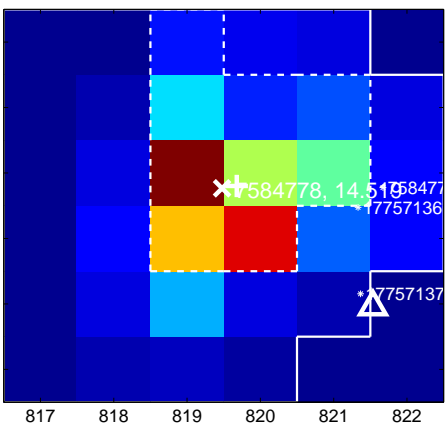
Q5 no OOT image



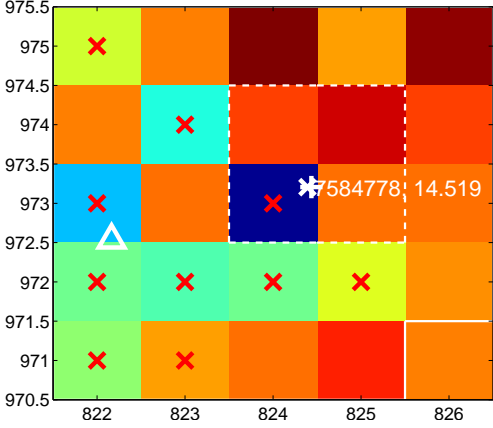
Q6 difference image. Poor Quality



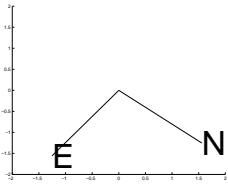
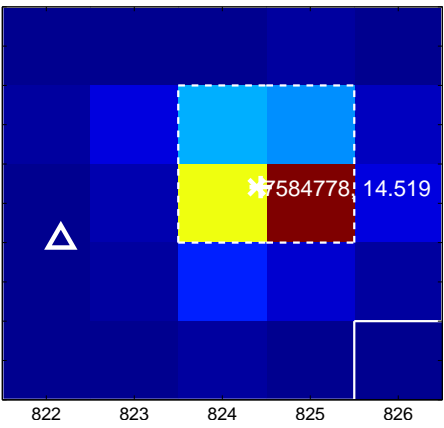
Q6 OOT image



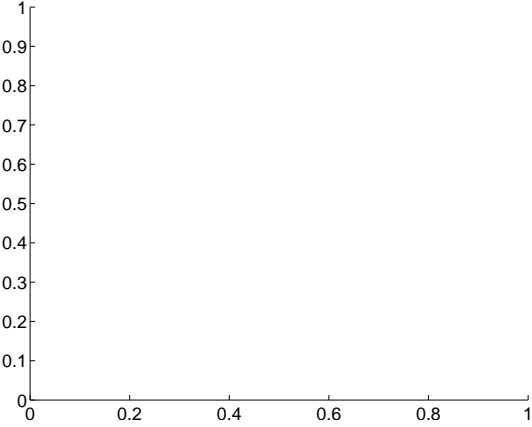
Q7 difference image. Poor Quality



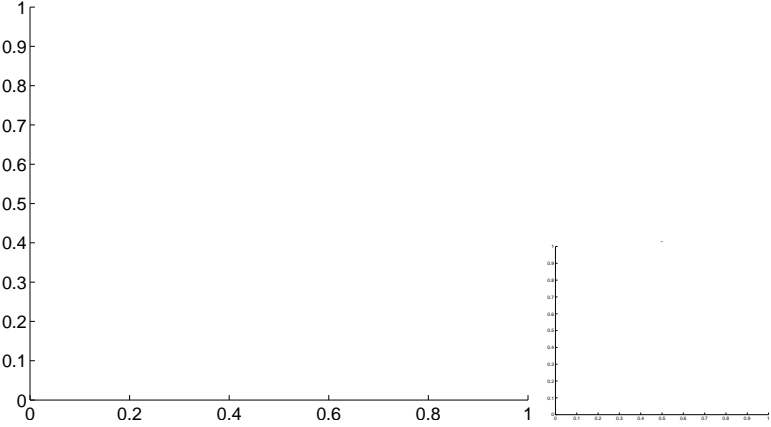
Q7 OOT image



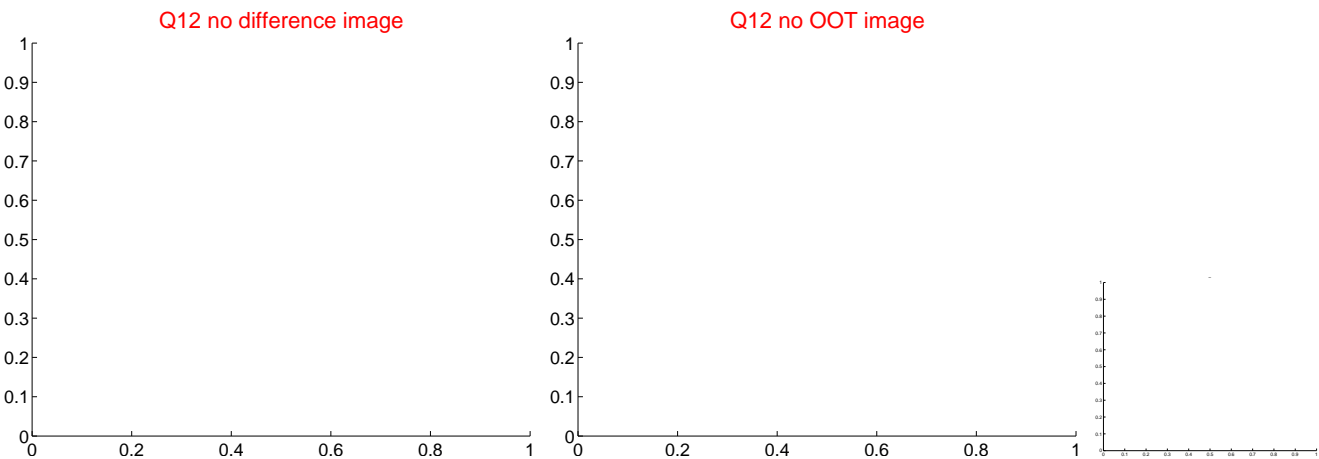
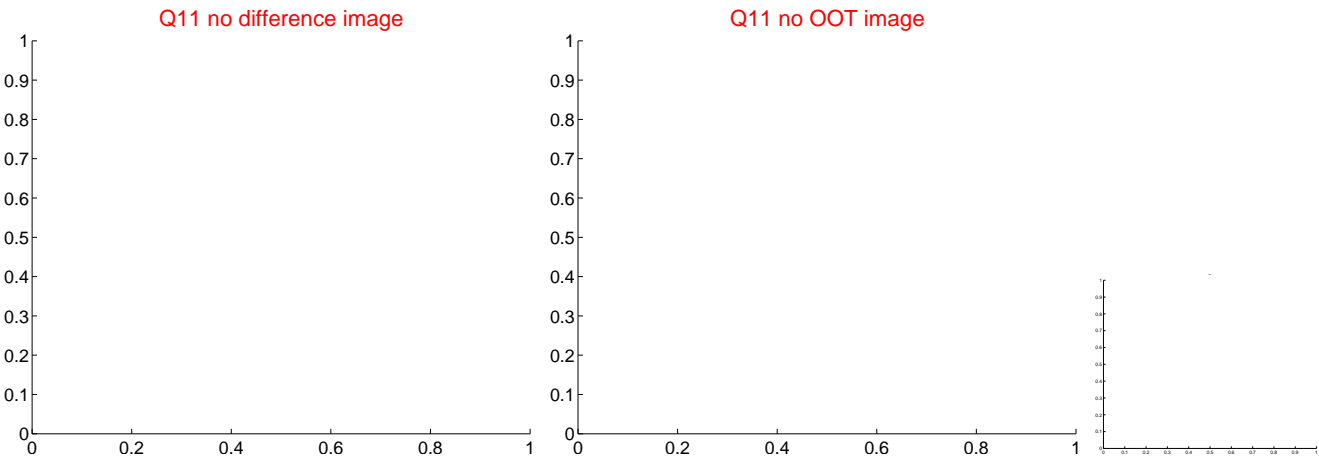
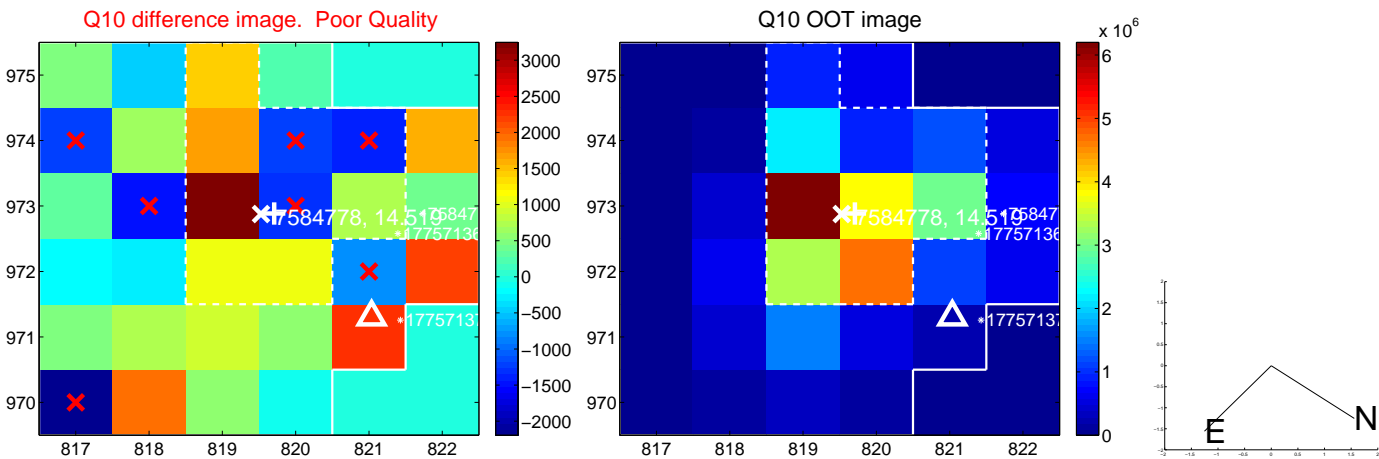
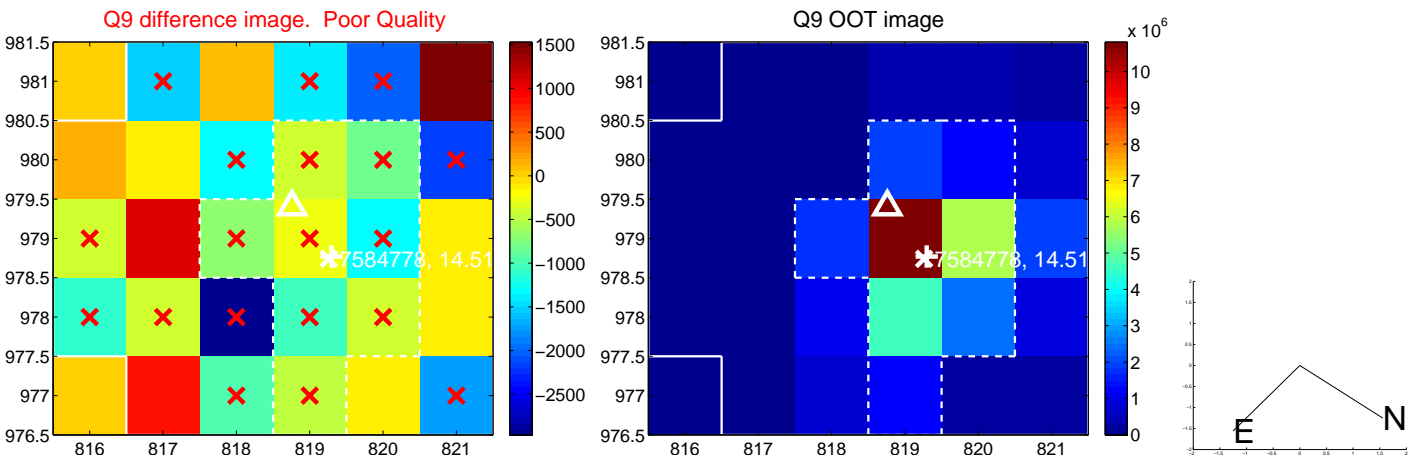
Q8 no difference image



Q8 no OOT image



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



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

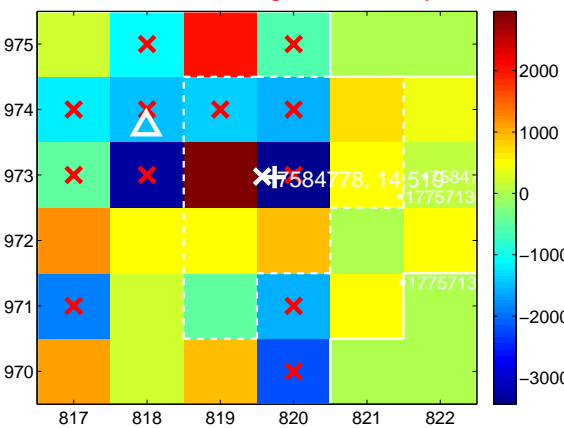
Q13 no difference image



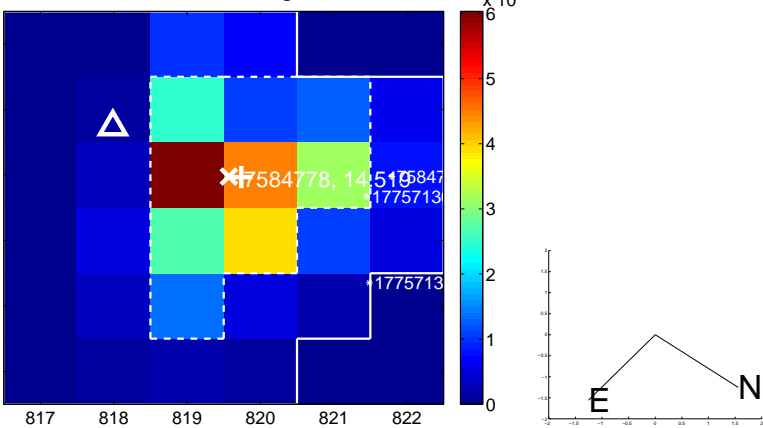
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



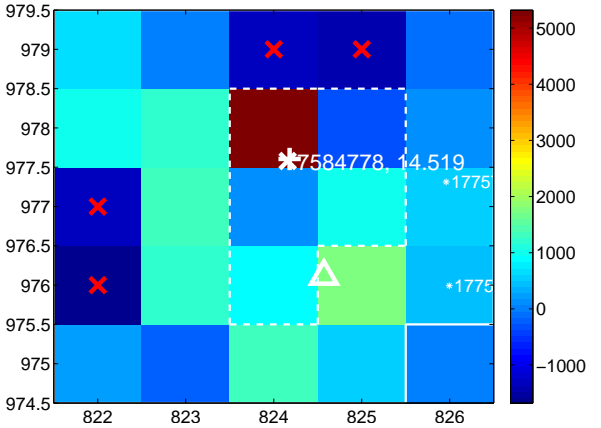
Q15 no difference image



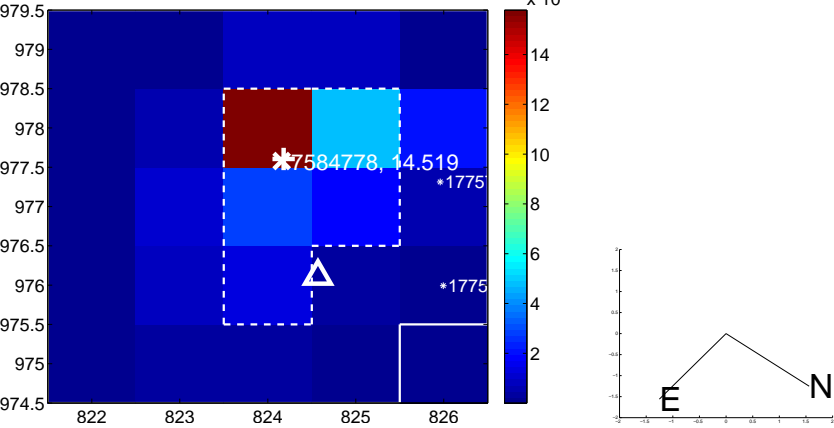
Q15 no OOT image



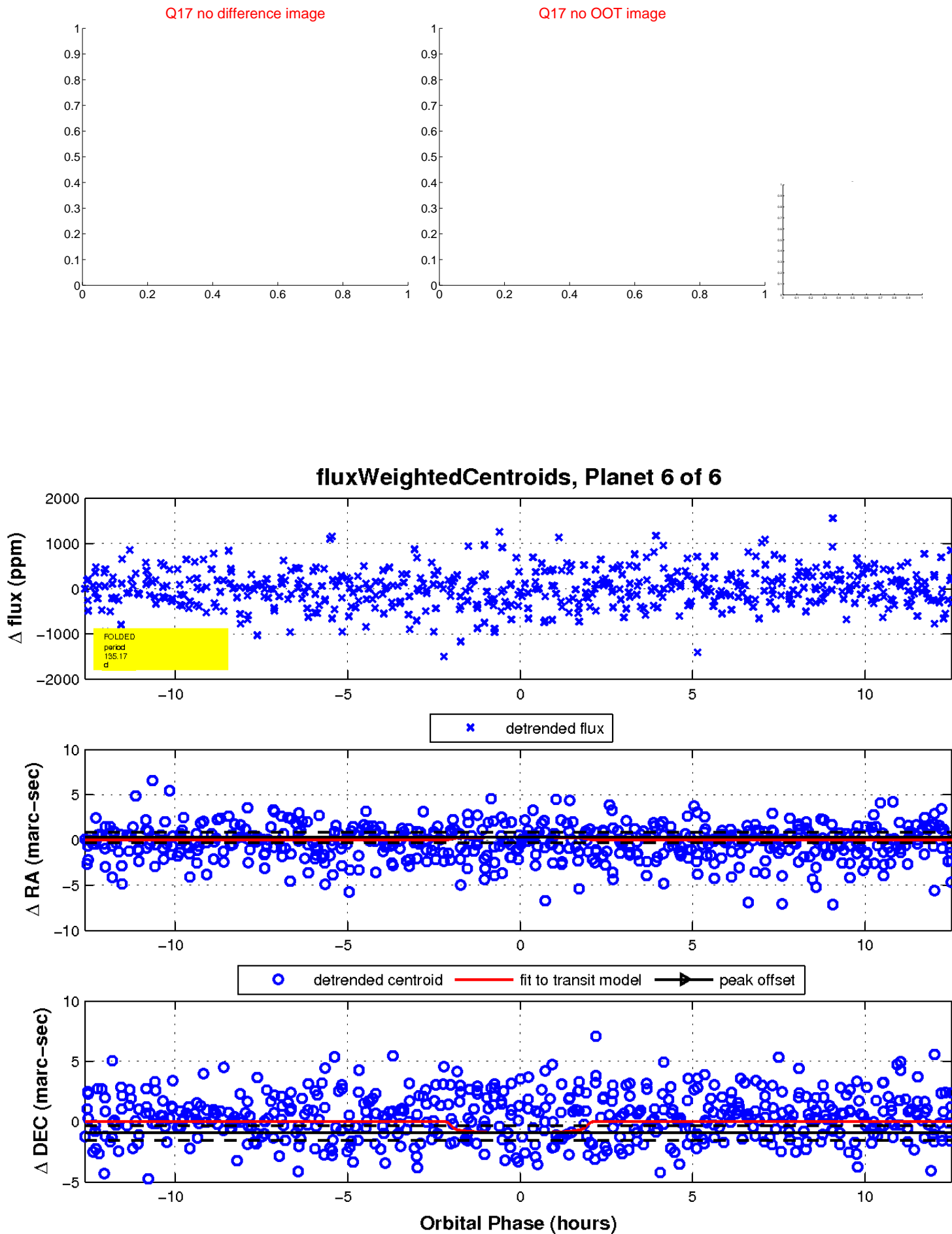
Q16 difference image. Poor Quality



Q16 OOT image



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



UKIRT Image

Declination

