

KIC 007898071

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})
007898071-01	OBS	No	503.971943	494.160338	5714.3	9.759	16.6	12.8	0.57	4764	4.17	0.14
007898071-02	OBS	No	586.862752	190.561125	2063.2	4.976	16.4	6.3	0.57	4764	2.56	0.12
007898071-03	OBS	No	317.622657	201.812375	2495.3	7.202	13.8	7.6	0.57	4764	3.53	0.26
007898071-04	OBS	No	290.840696	372.597438	1465.7	4.404	12.0	5.4	0.57	4764	2.11	0.29
007898071-05	OBS	No	361.050997	432.396110	2159.2	3.768	12.7	6.8	0.57	4764	2.68	0.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007898071-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007898071-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

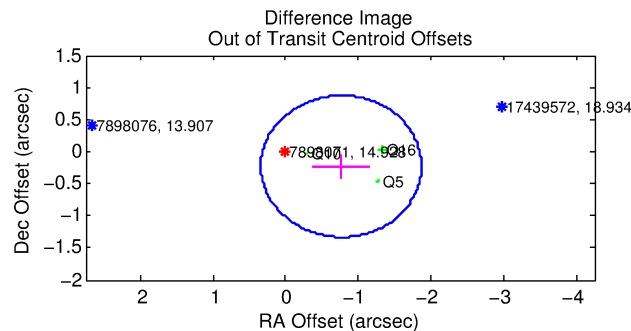
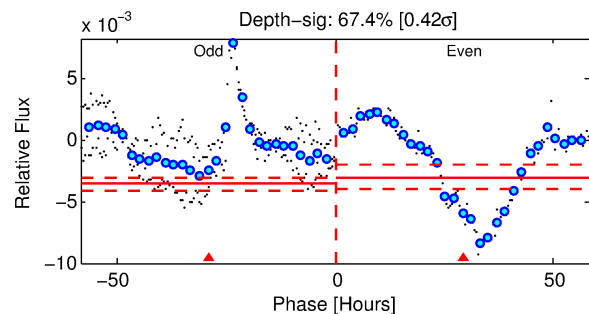
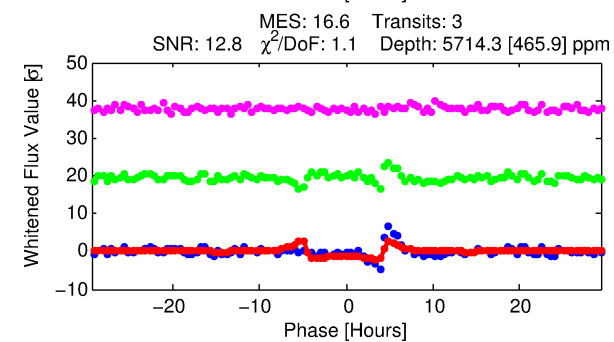
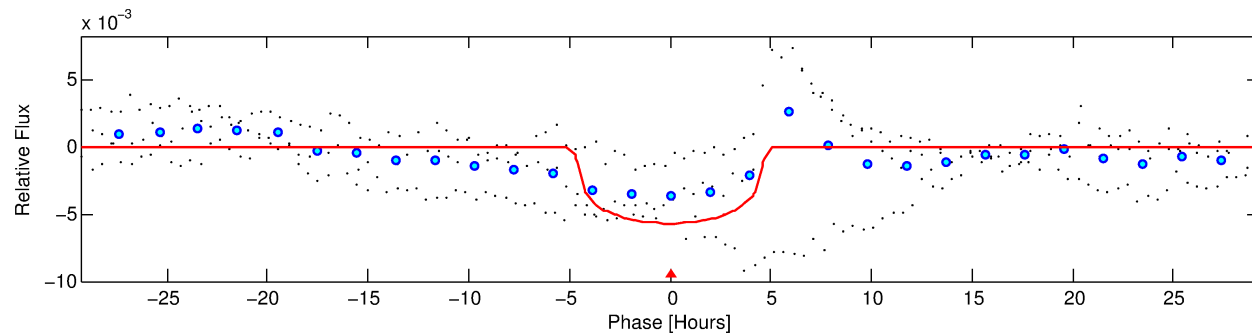
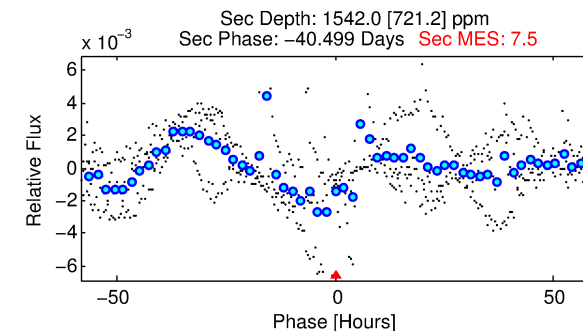
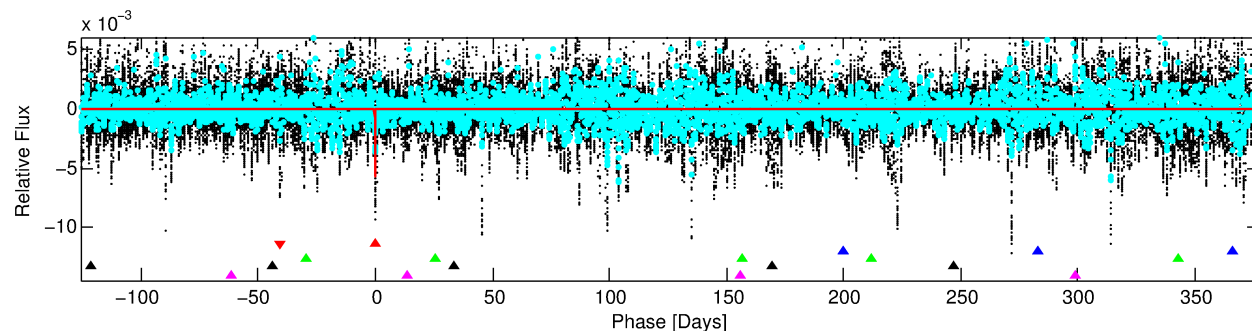
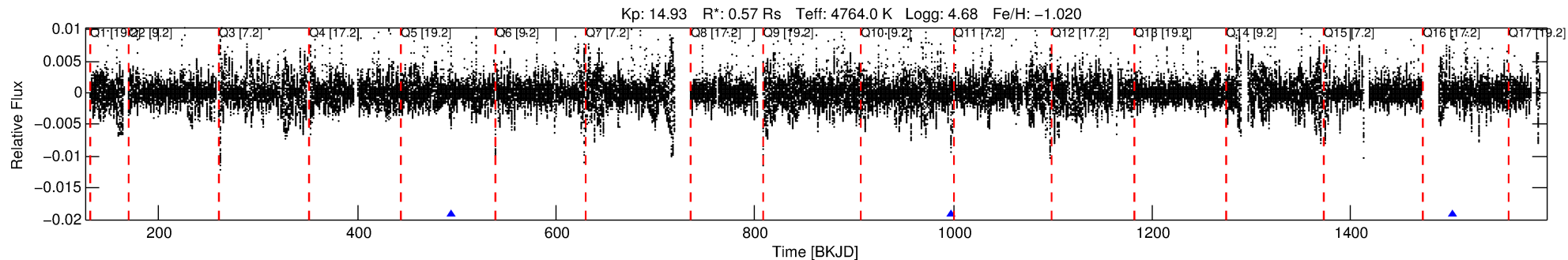
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007898071-01

No Significant Match Found

DV One-Page Summary

KIC: 7898071 Candidate: 1 of 5 Period: 503.972 d



DV Fit Results:

Period = 503.97194 [0.00286] d
Epoch = 494.1603 [0.0033] BKJD
Rp/R* = 0.0675 [0.0072]
a/R* = 421.13 [134.19]
b = 0.01 [32.39]
Seff = 0.14 [0.02]
Teq = 156 [6] K
Rp = 4.17 [0.52] Re
a = 1.0253 [0.0615] AU
Ag = 51265.84 [26749.26] [1.92σ]
Teff = 3633 [481] K [7.23σ]

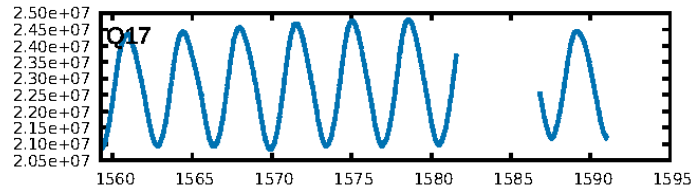
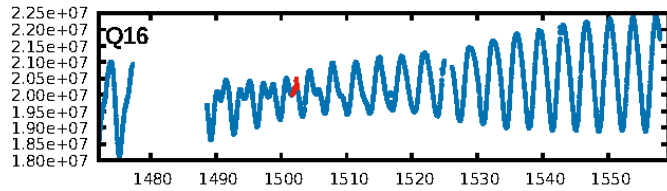
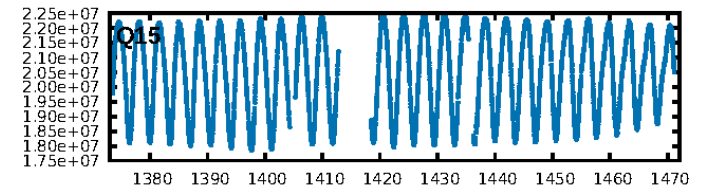
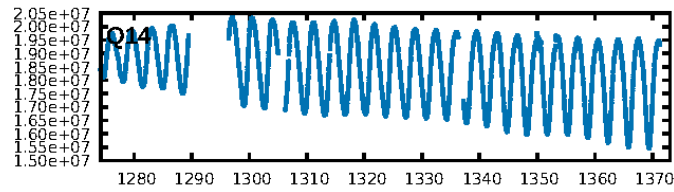
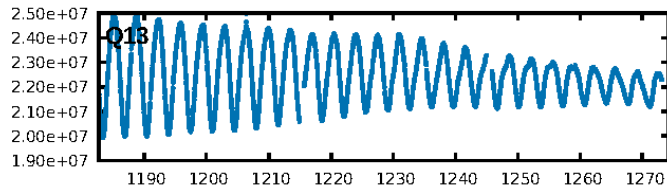
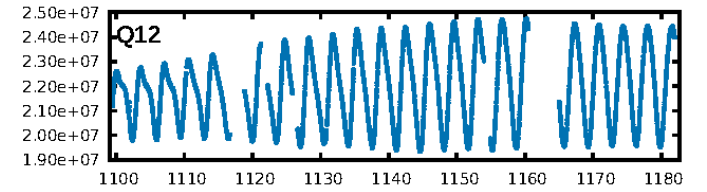
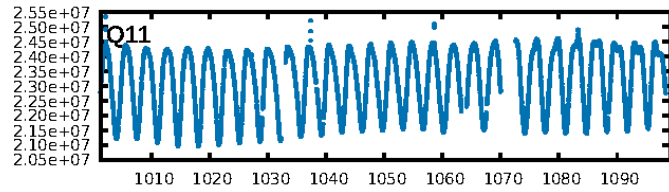
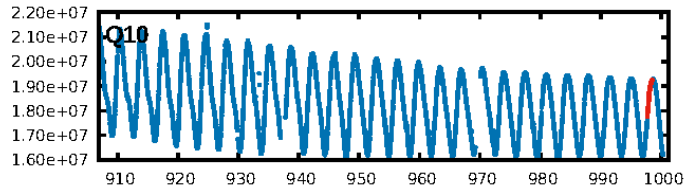
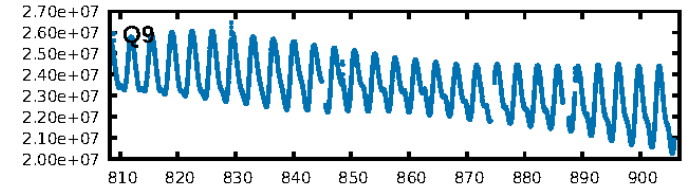
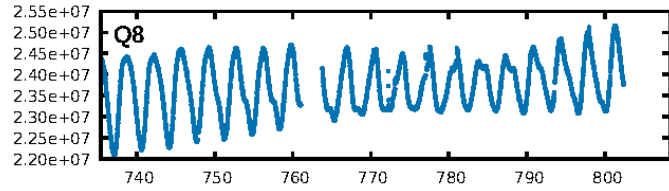
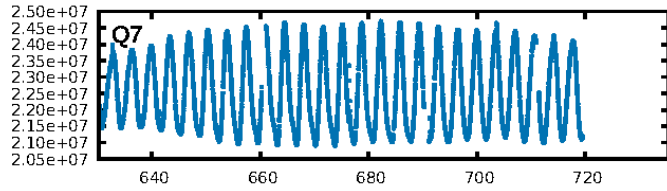
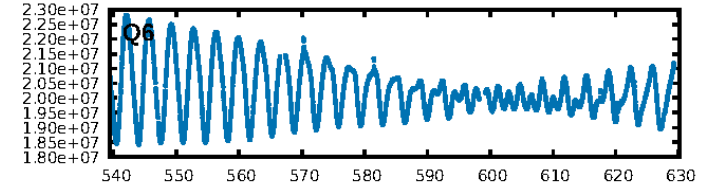
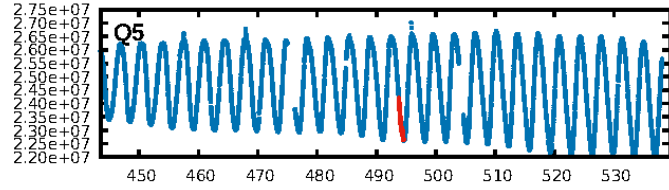
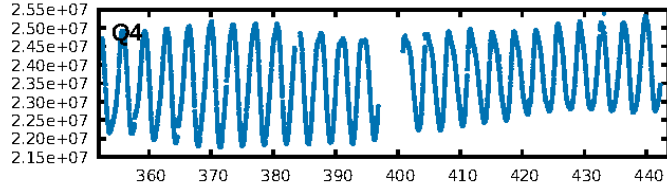
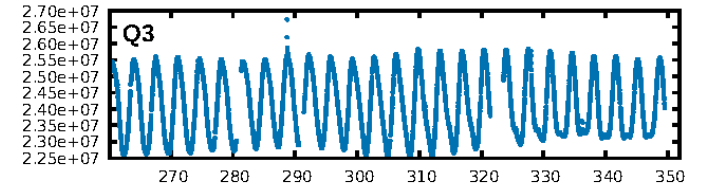
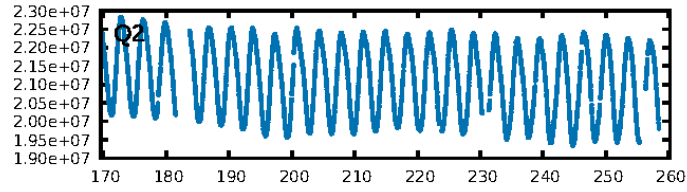
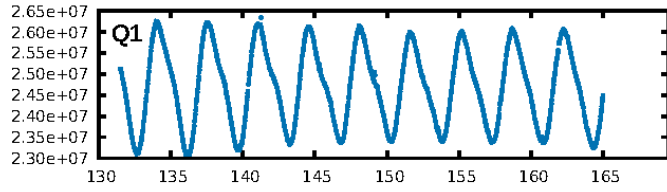
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [327.88σ]
LongPeriod-sig: 100.0% [181.61σ]
ModelChiSquare2-sig: 62.1%
ModelChiSquareGof-sig: 93.7%
Bootstrap-pfa: 3.76e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.004352
Centroid-sig: 68.6%
Centroid-so: 0.824 arcsec [0.73σ]
OotOffset-rm: 0.797 arcsec [2.17σ]
KicOffset-rm: 0.354 arcsec [4.32σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

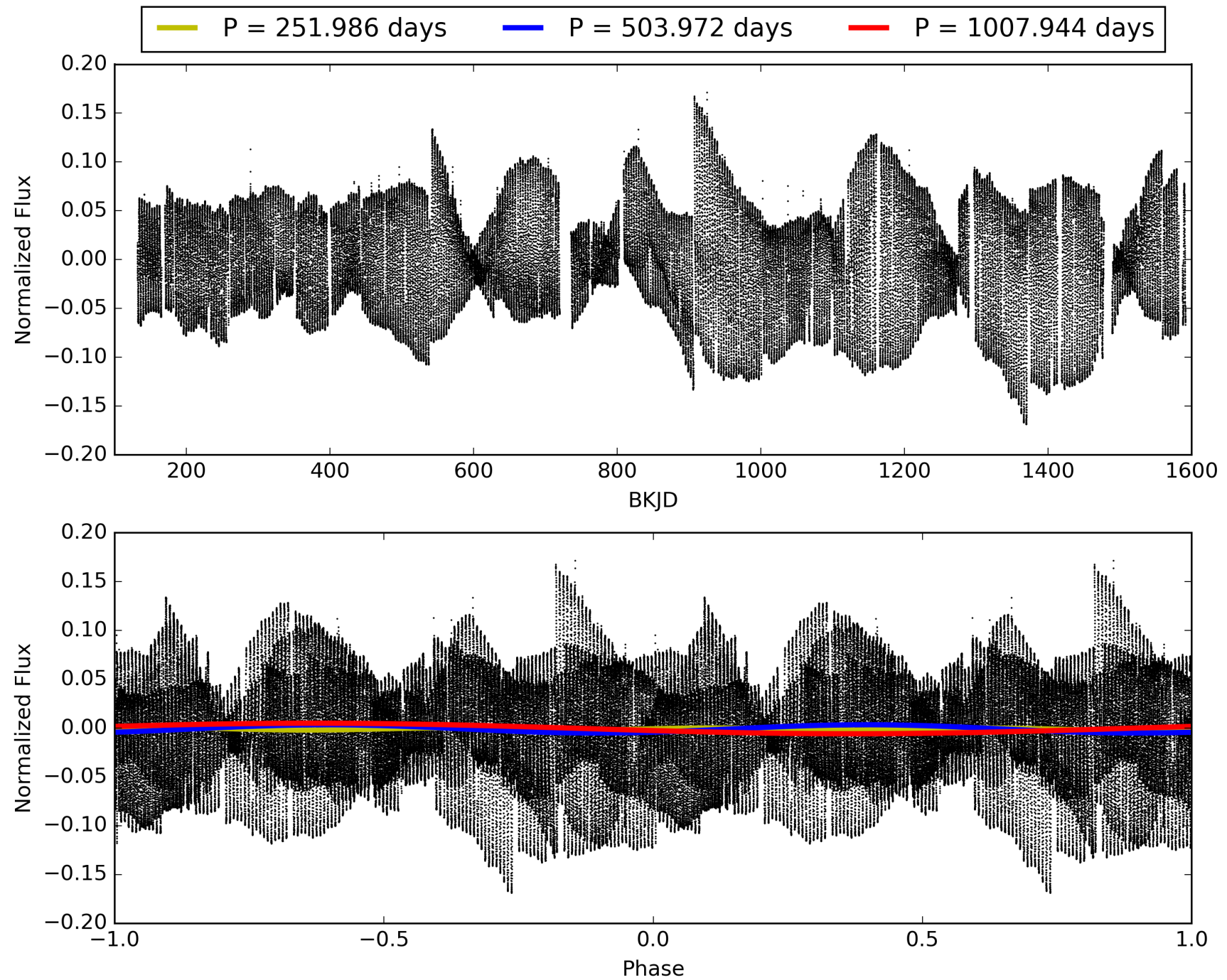
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007898071-01, PDC Light Curves

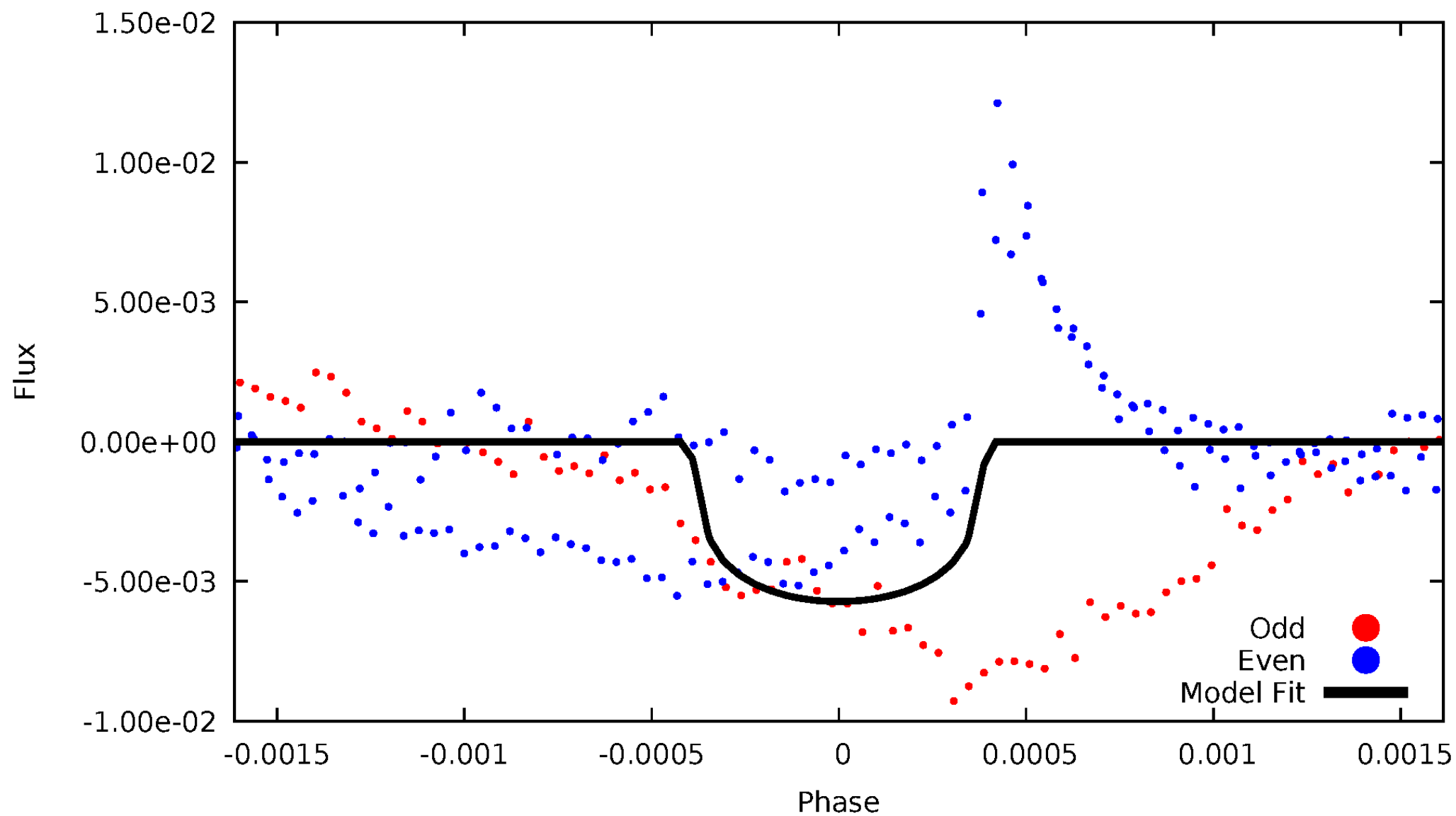


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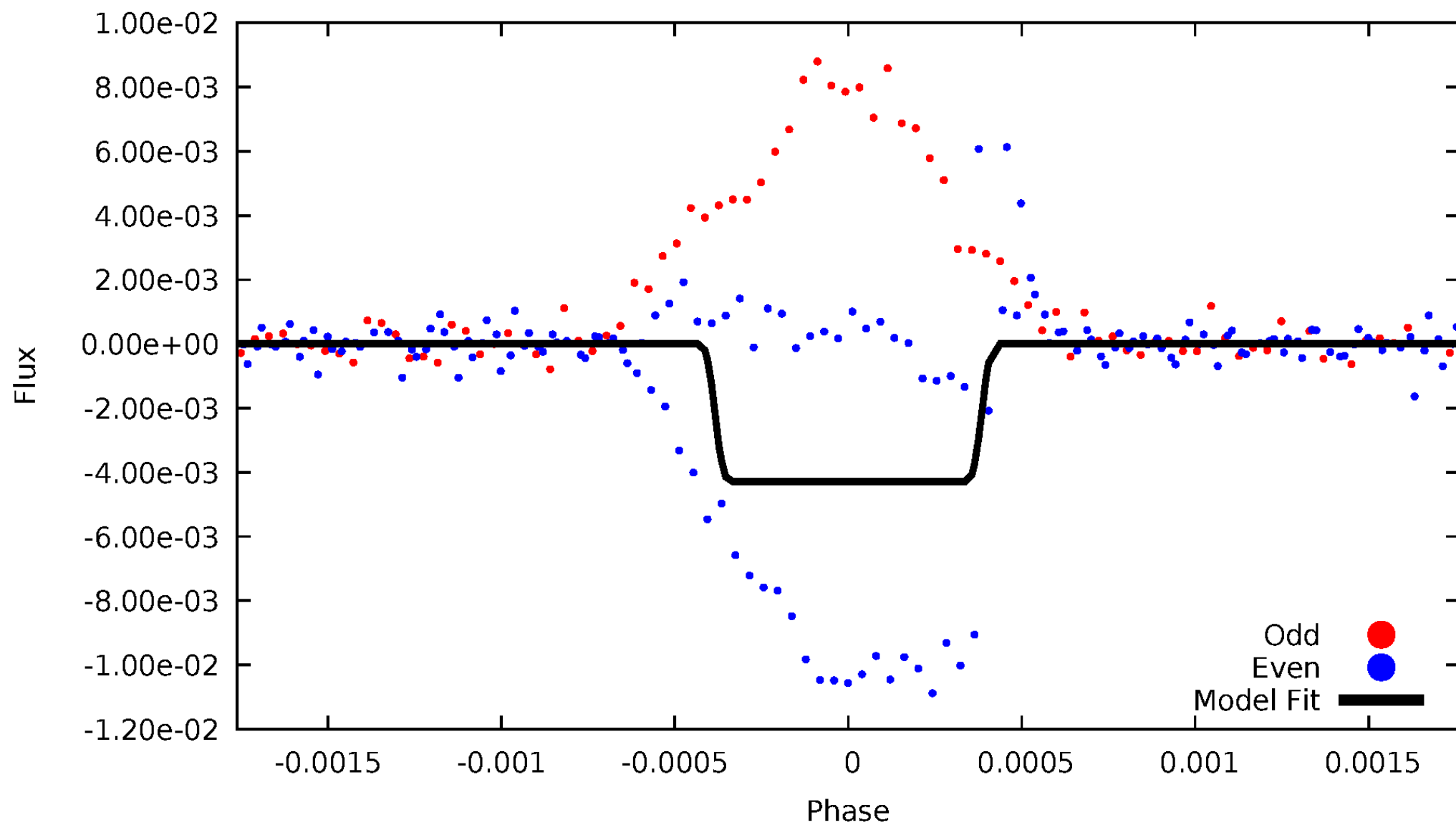
DV Odd/Even

TCE 007898071-01



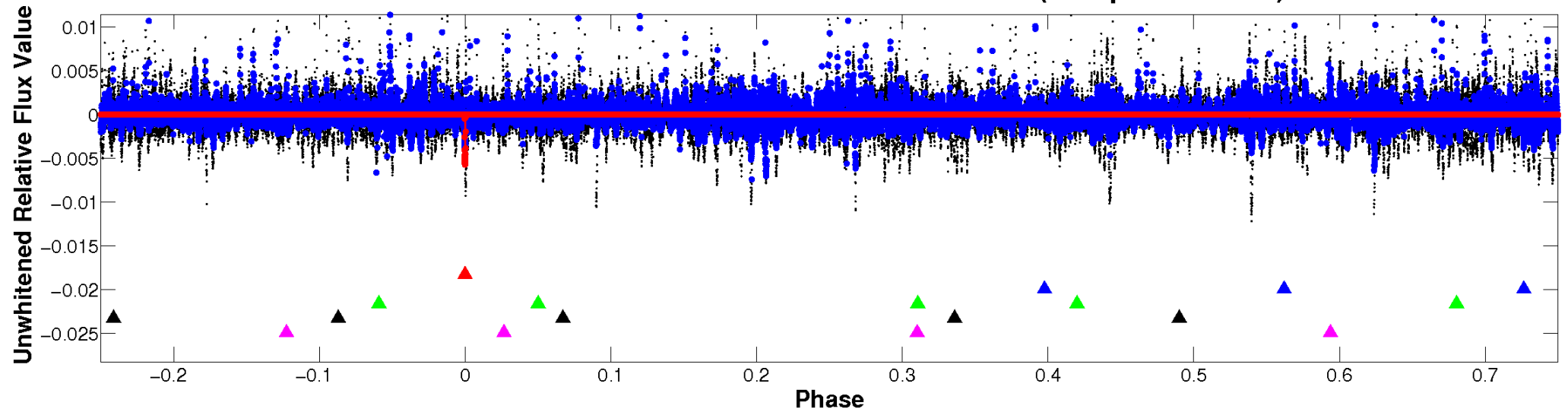
ALT Odd/Even

TCE 007898071-01

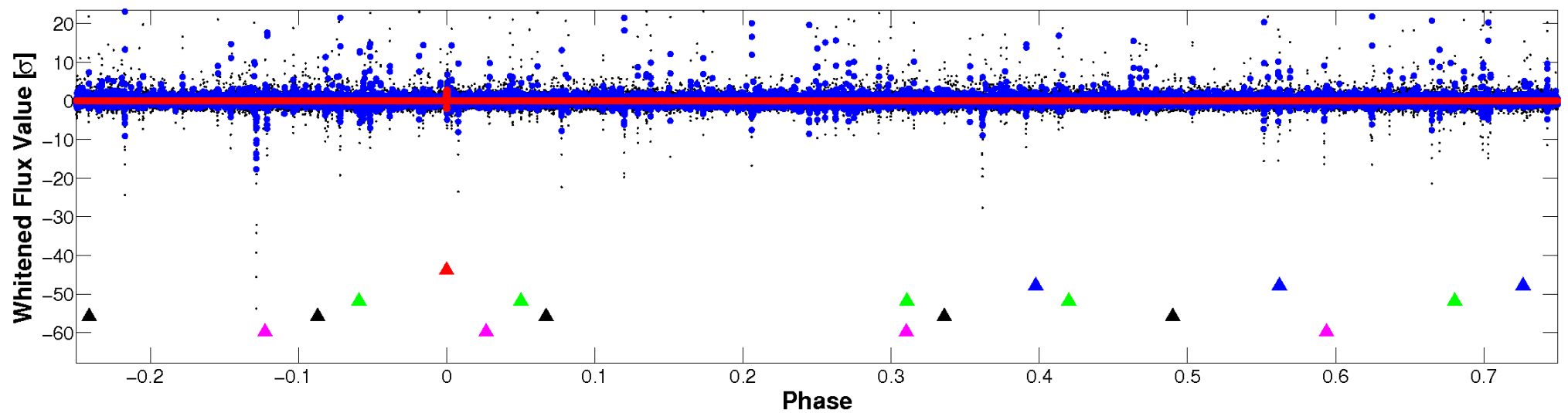


Non-Whitened Vs. Whitened Light Curve

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

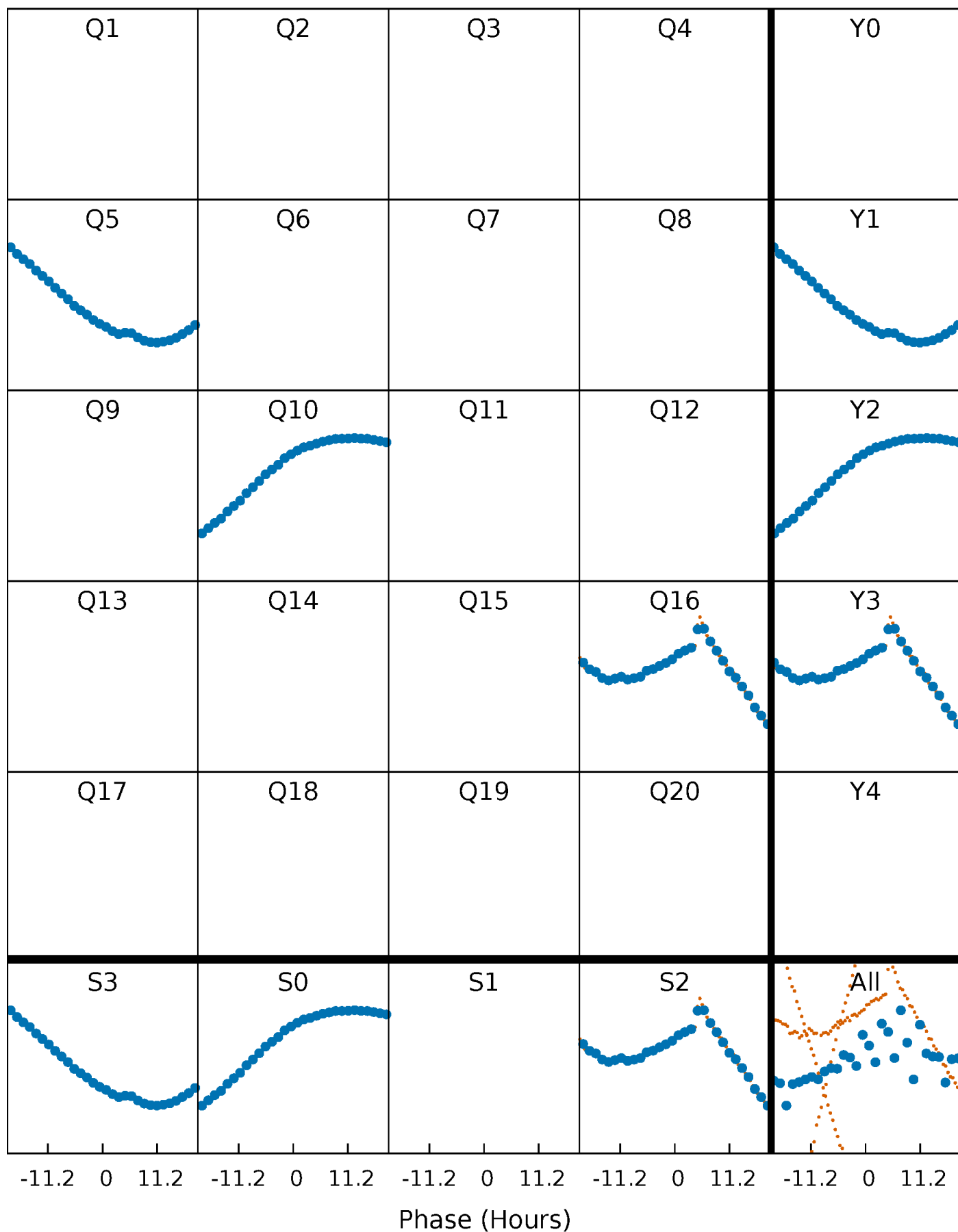


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



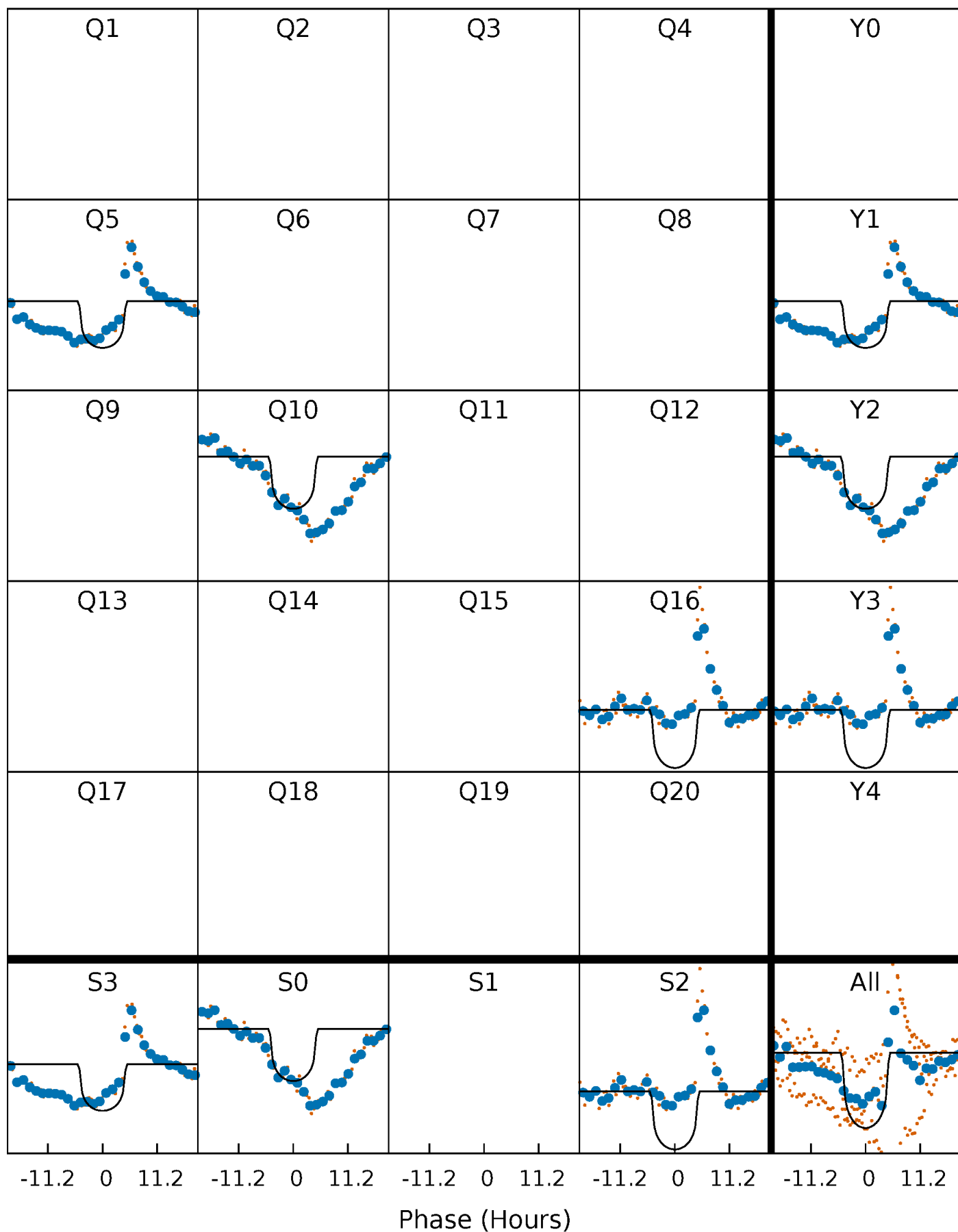
PDC Quarter-Phased Transit Curves

TCE 007898071-01 P=503.971943 Days $T_0=494.160338$ (BKJD)



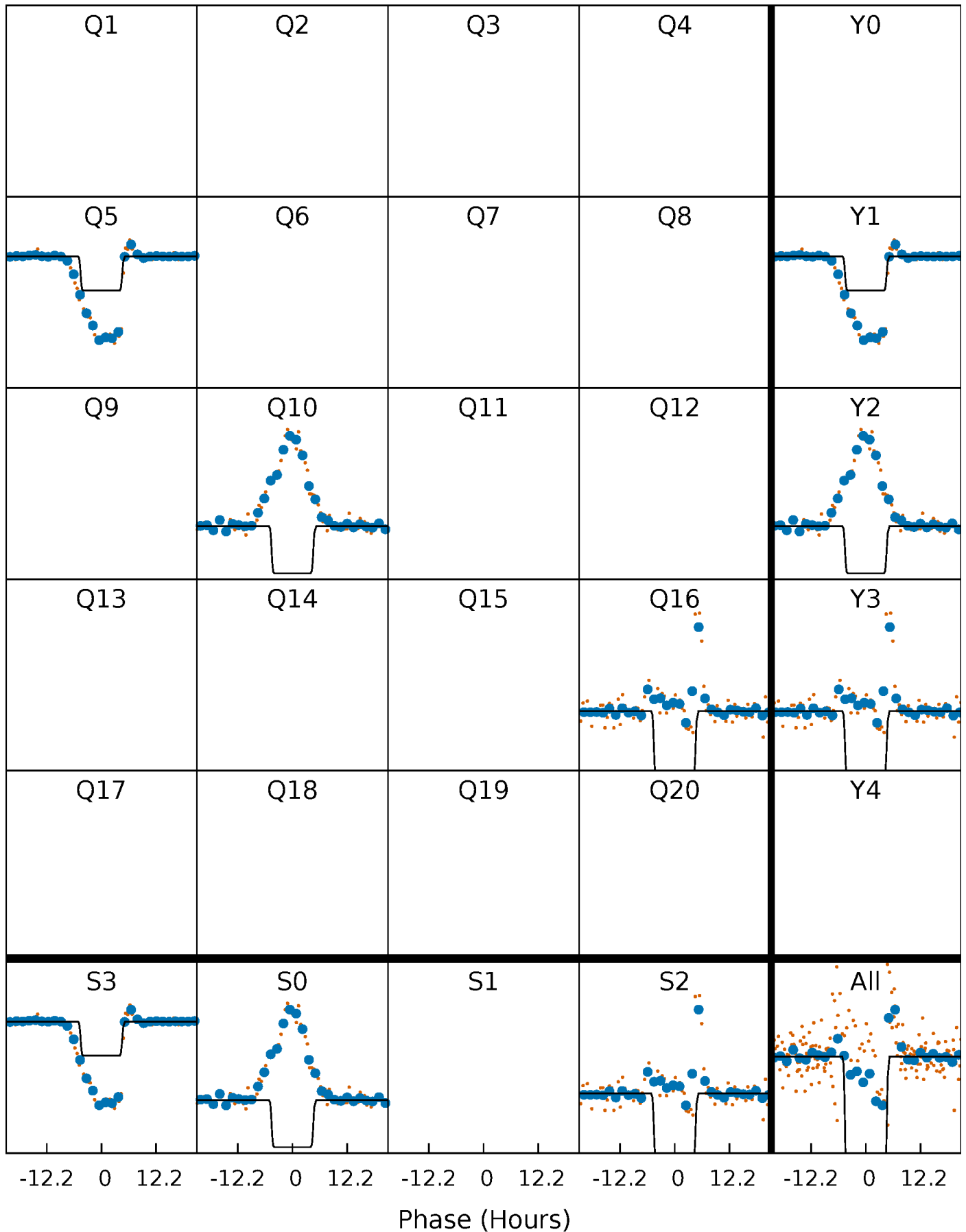
DV Quarter-Phased Transit Curves

TCE 007898071-01 P=503.971943 Days $T_0=494.160338$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

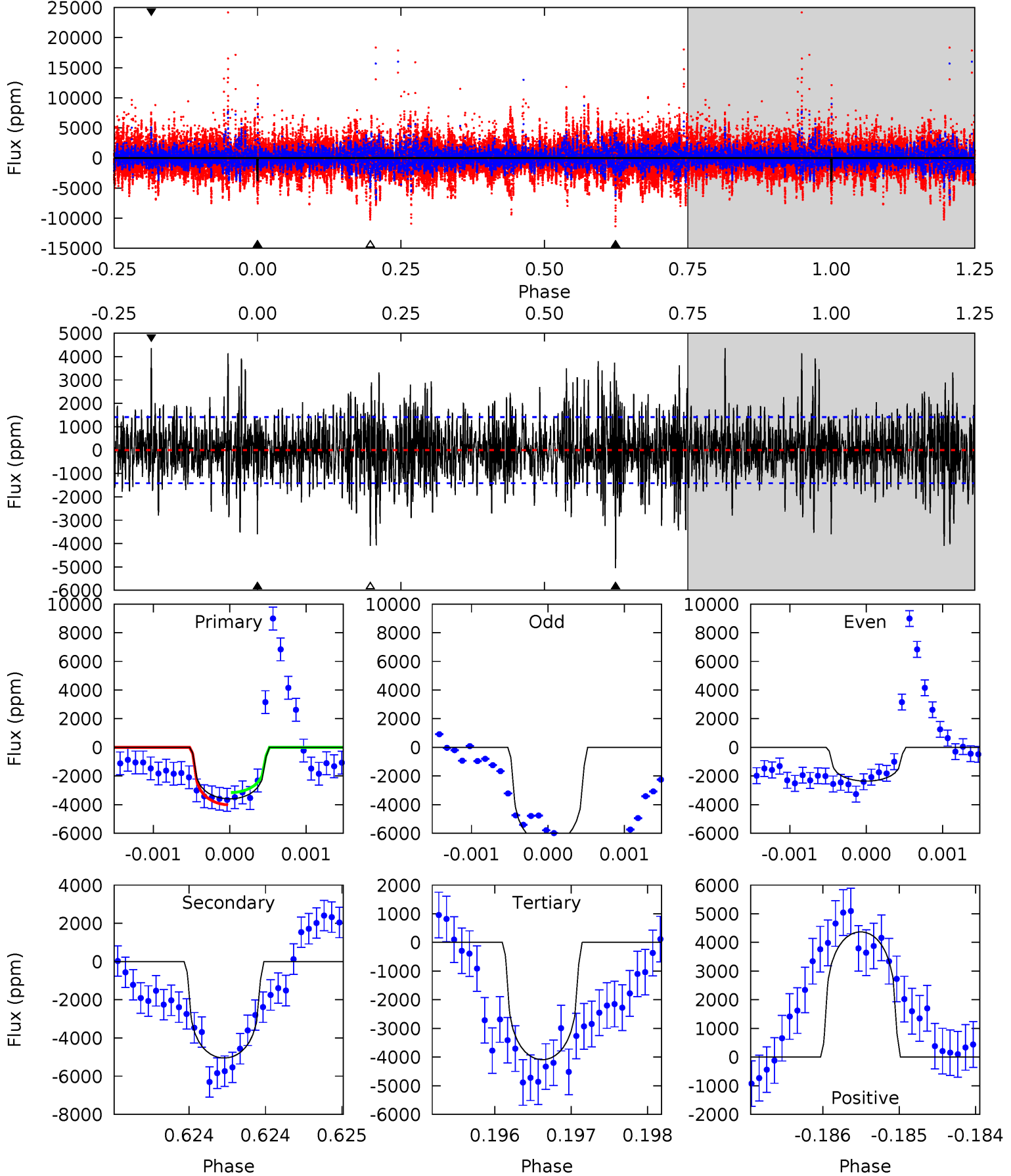
TCE 007898071-01 P=503.980135 Days $T_0=494.147365$ (BKJD)



DV Model-Shift Uniqueness Test

007898071-01, P = 503.971943 Days, E = 494.160338 Days

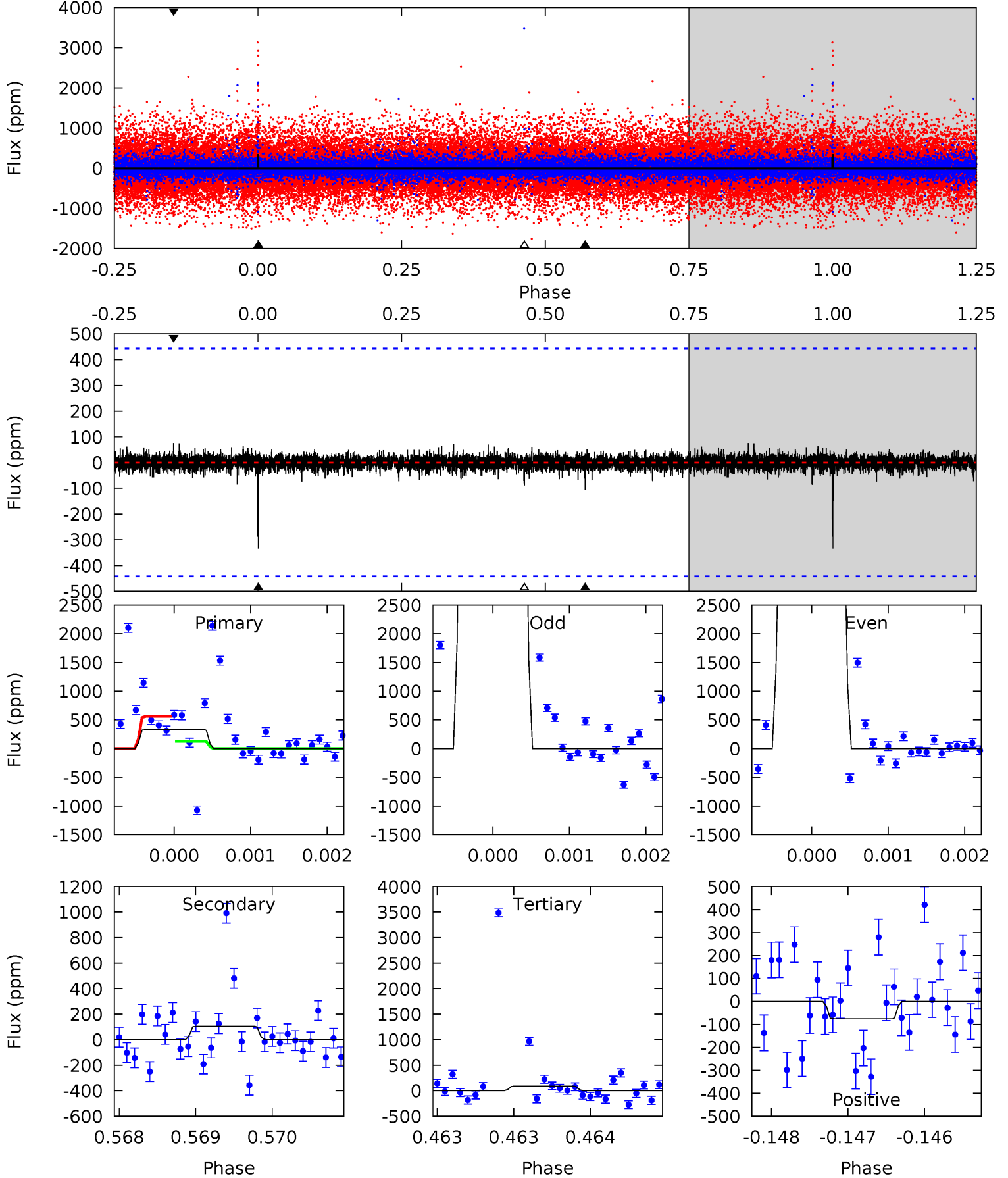
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	19.6	15.9	16.9	5.49	3.35	4.11	-1.92	-3.00	3.71	2.63	7.14	0.92	0.46	1.66



Alt Model-Shift Uniqueness Test

007898071-01, P = 503.980135 Days, E = 494.147365 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.13	1.29	1.10	0.93	5.48	3.34	0.19	3.03	3.20	0.19	0.36	15.2	-2.27	0.18	0



Stellar Parameters For KIC 007898071

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4764^{+139}_{-153}	$4.685^{+0.052}_{-0.032}$	$-1.020^{+0.300}_{-0.300}$	$0.566^{+0.038}_{-0.038}$	$0.564^{+0.047}_{-0.024}$	$4.387^{+0.855}_{-0.533}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+8%/-4%	+19%/-12%
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 007898071-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5045 ± 258	$4.15^{+0.47}_{-0.46}$	217^{+7}_{-8}	4870^{+276}_{-239}	173245^{+43356}_{-35858}
Alt.	-104 ± 81	$4.02^{+0.48}_{-0.44}$	217^{+8}_{-8}	2630^{+222}_{-466}	3824^{+3030}_{-3073}

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 $A_{obs} \gg 1.0$

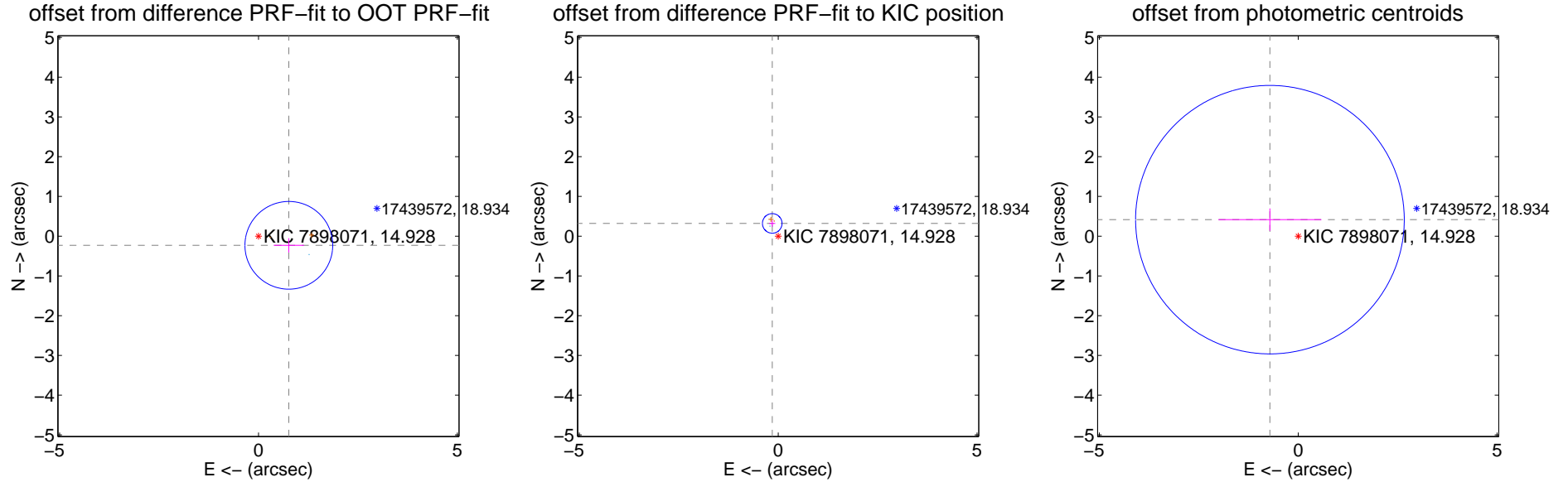
DV Centroid Data

Supplemental centroid analysis for 007898071-01. Kepler magnitude: 14.93. Transit SNR 12.79

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.797 ± 0.368	2.17	-0.763 ± 0.380	-0.230 ± 0.179
PRF-fit source offset from KIC position	0.354 ± 0.082	4.32	0.150 ± 0.078	0.321 ± 0.083
photometric centroid source offset	0.82 ± 1.13	0.73	0.71 ± 1.29	0.42 ± 0.28

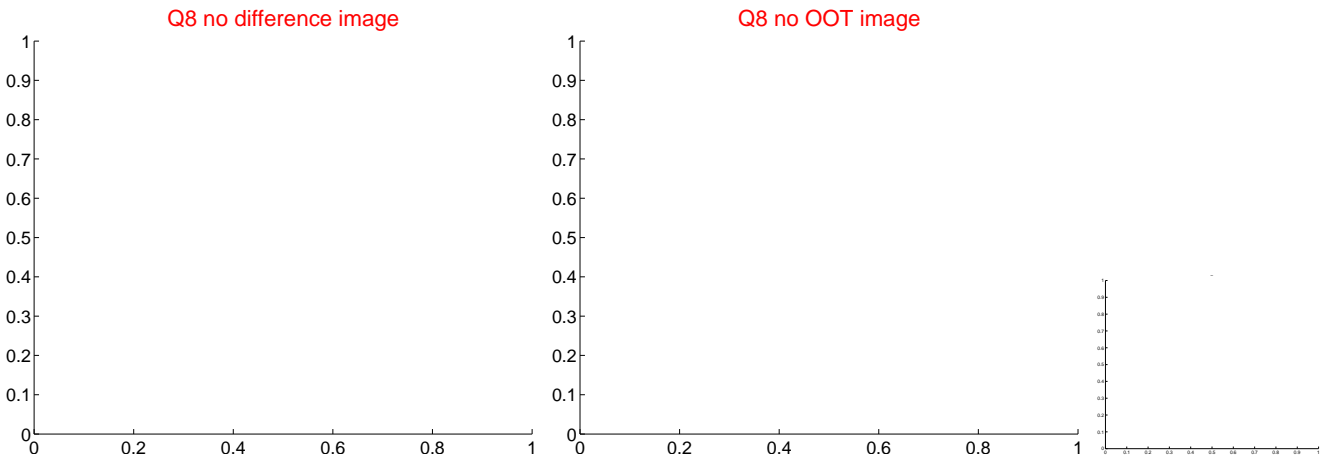
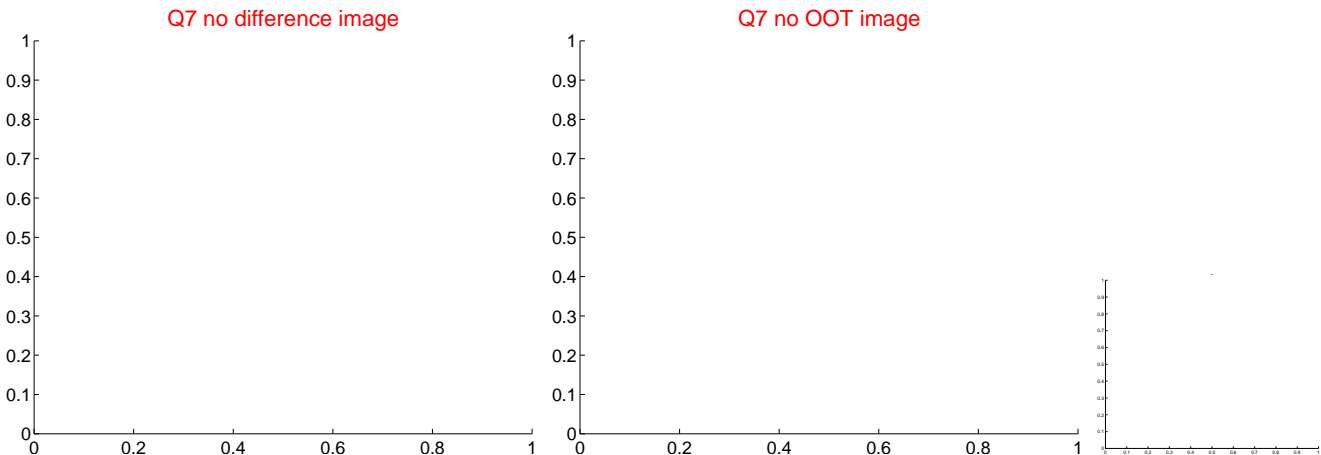
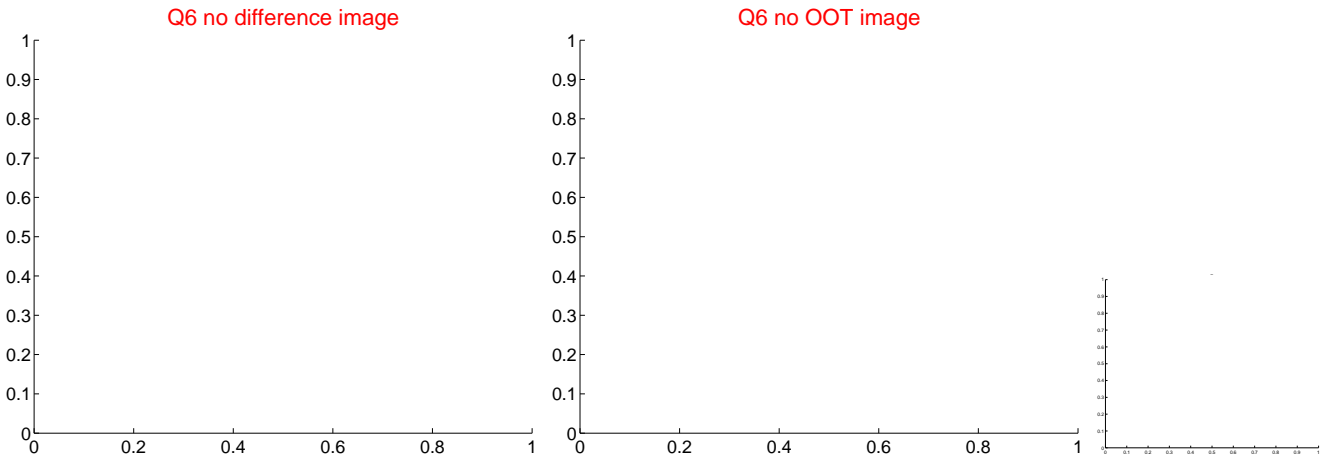
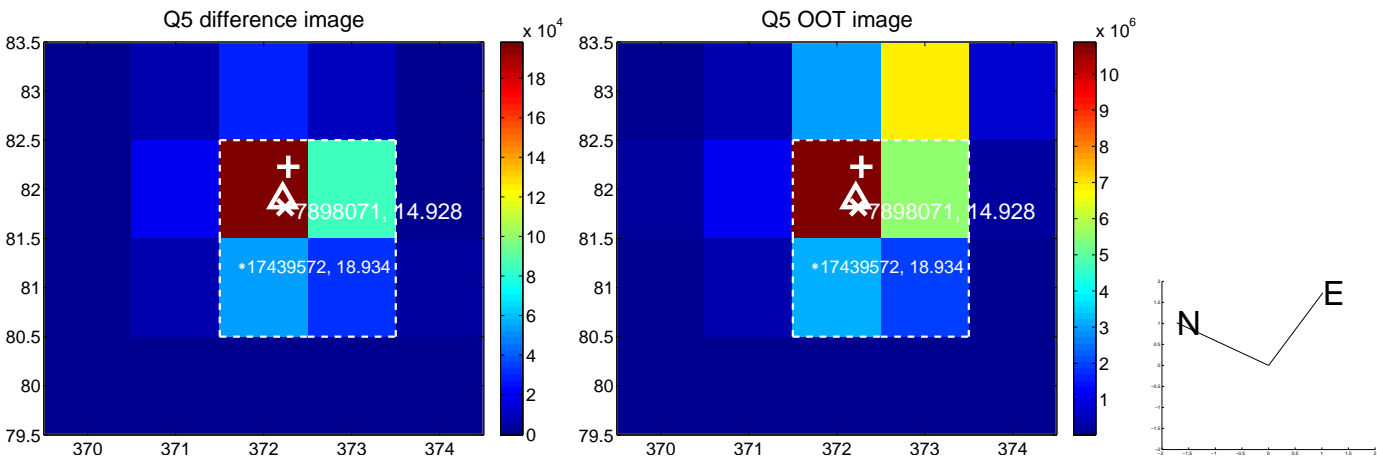


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

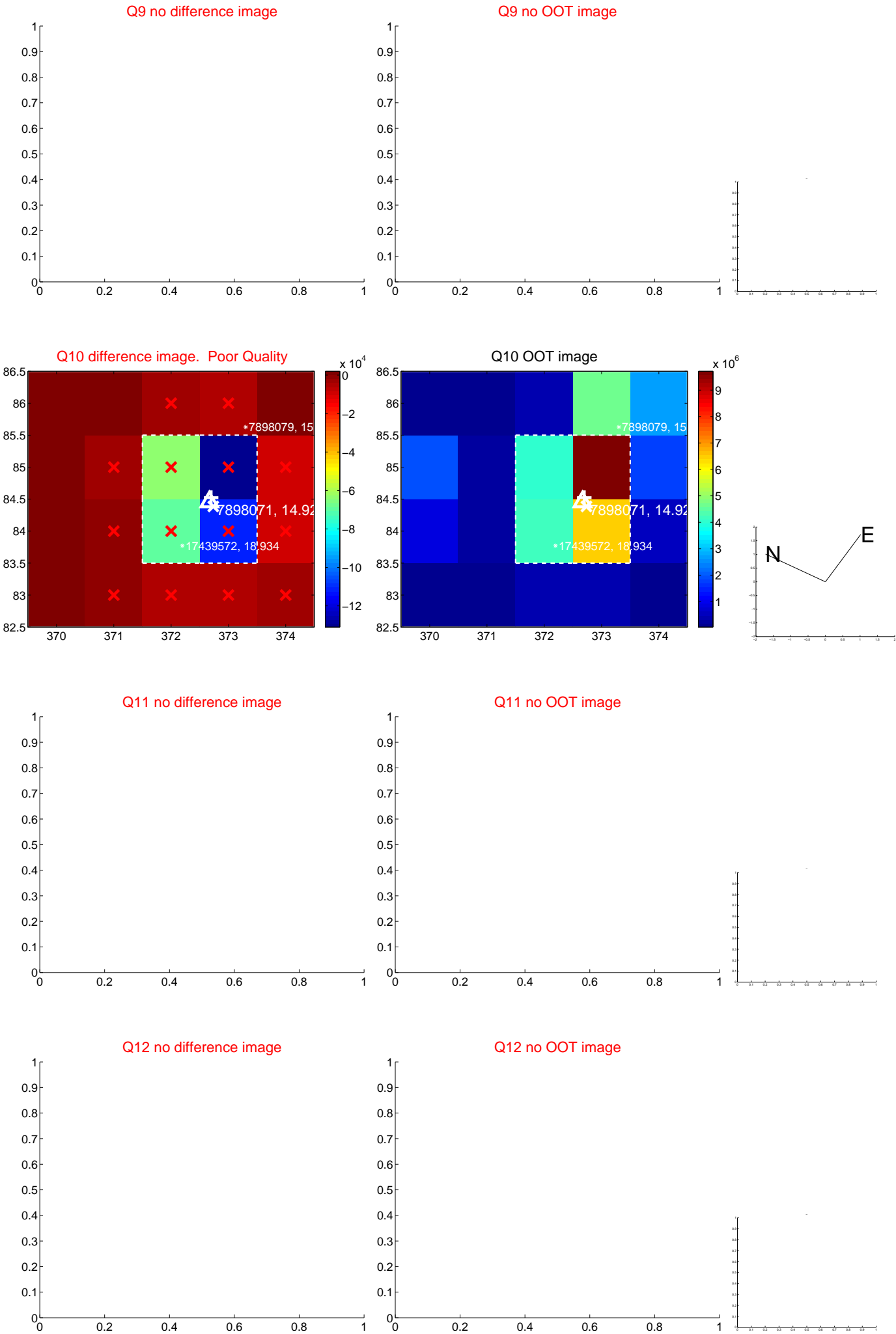
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



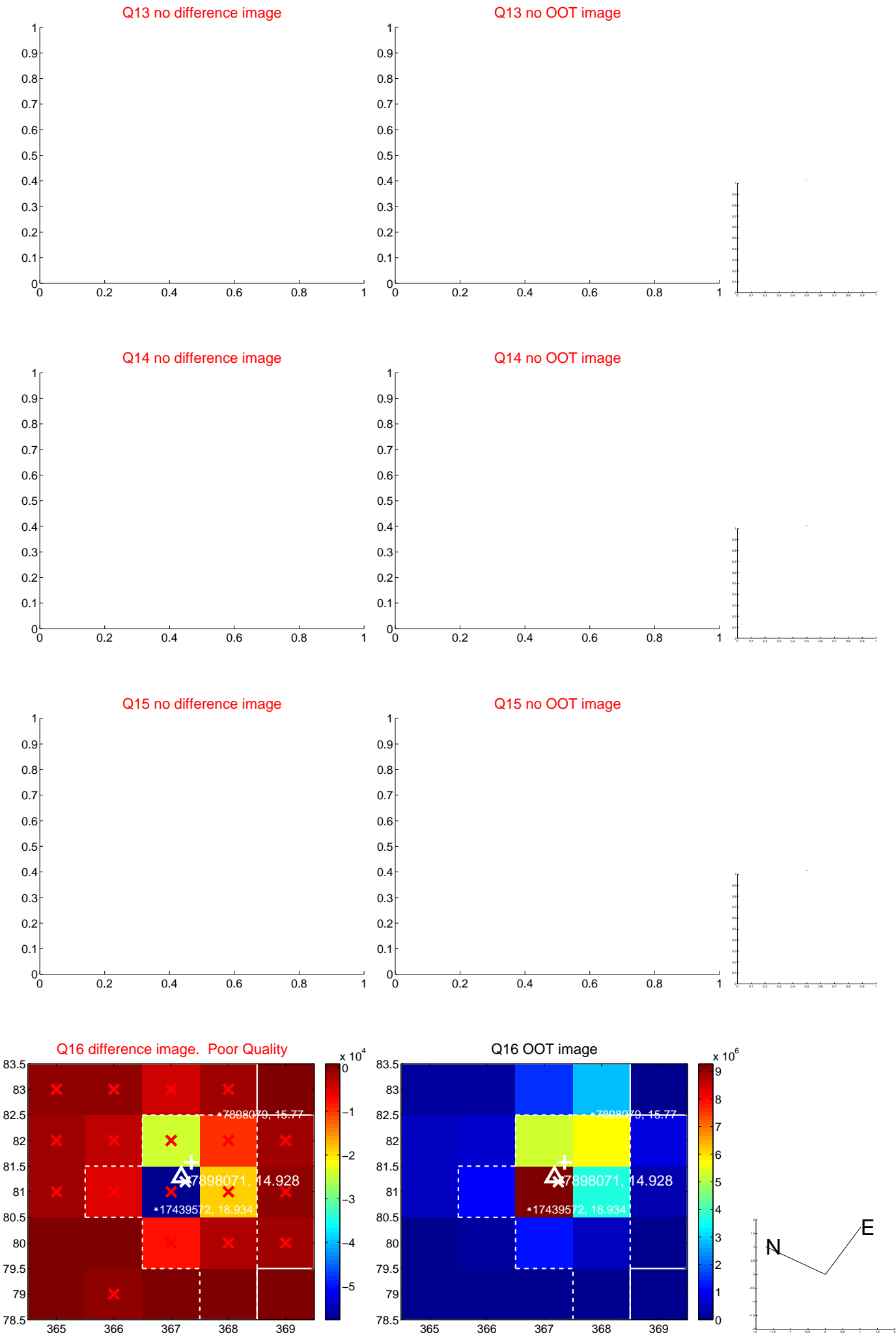
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



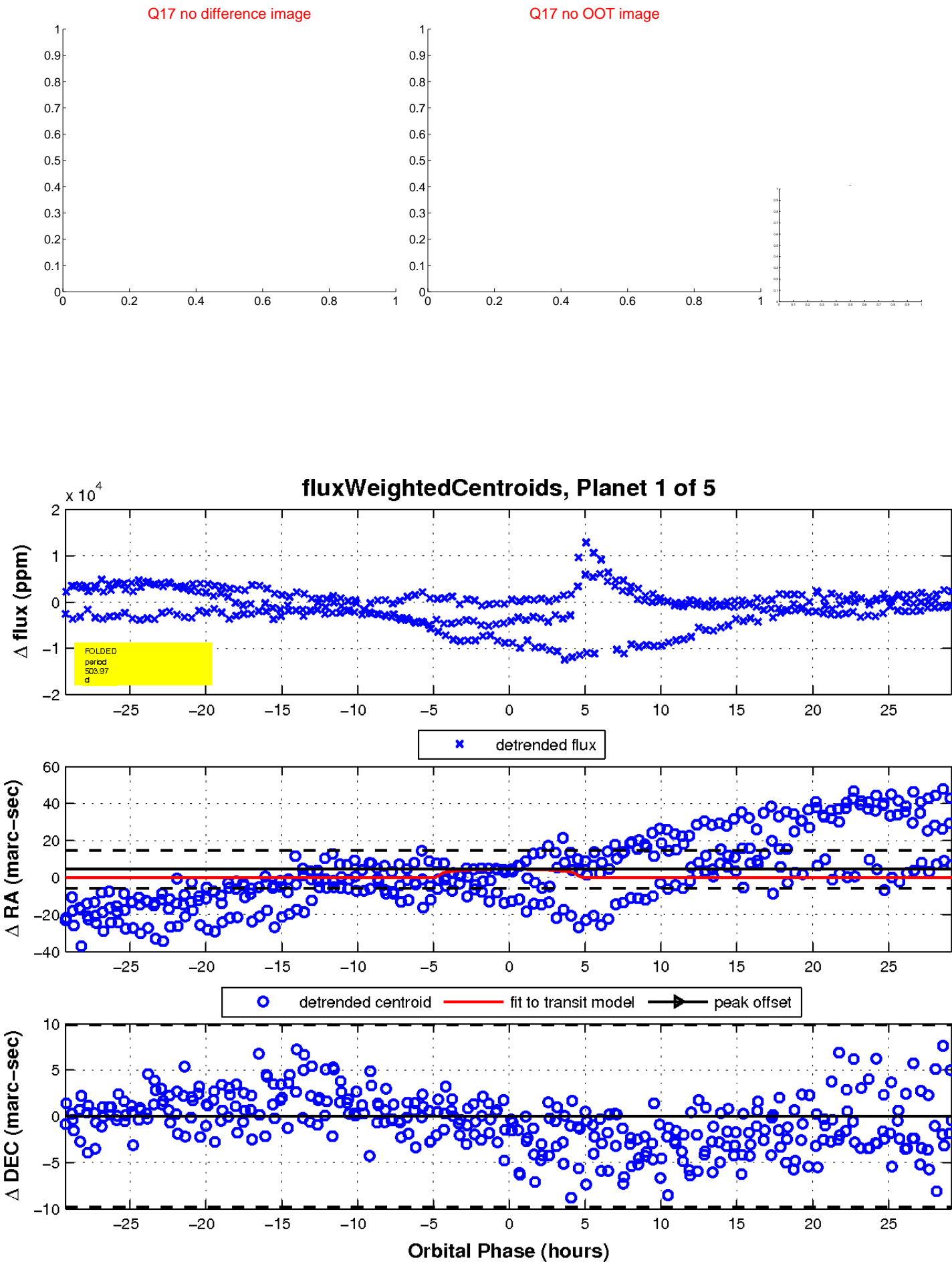
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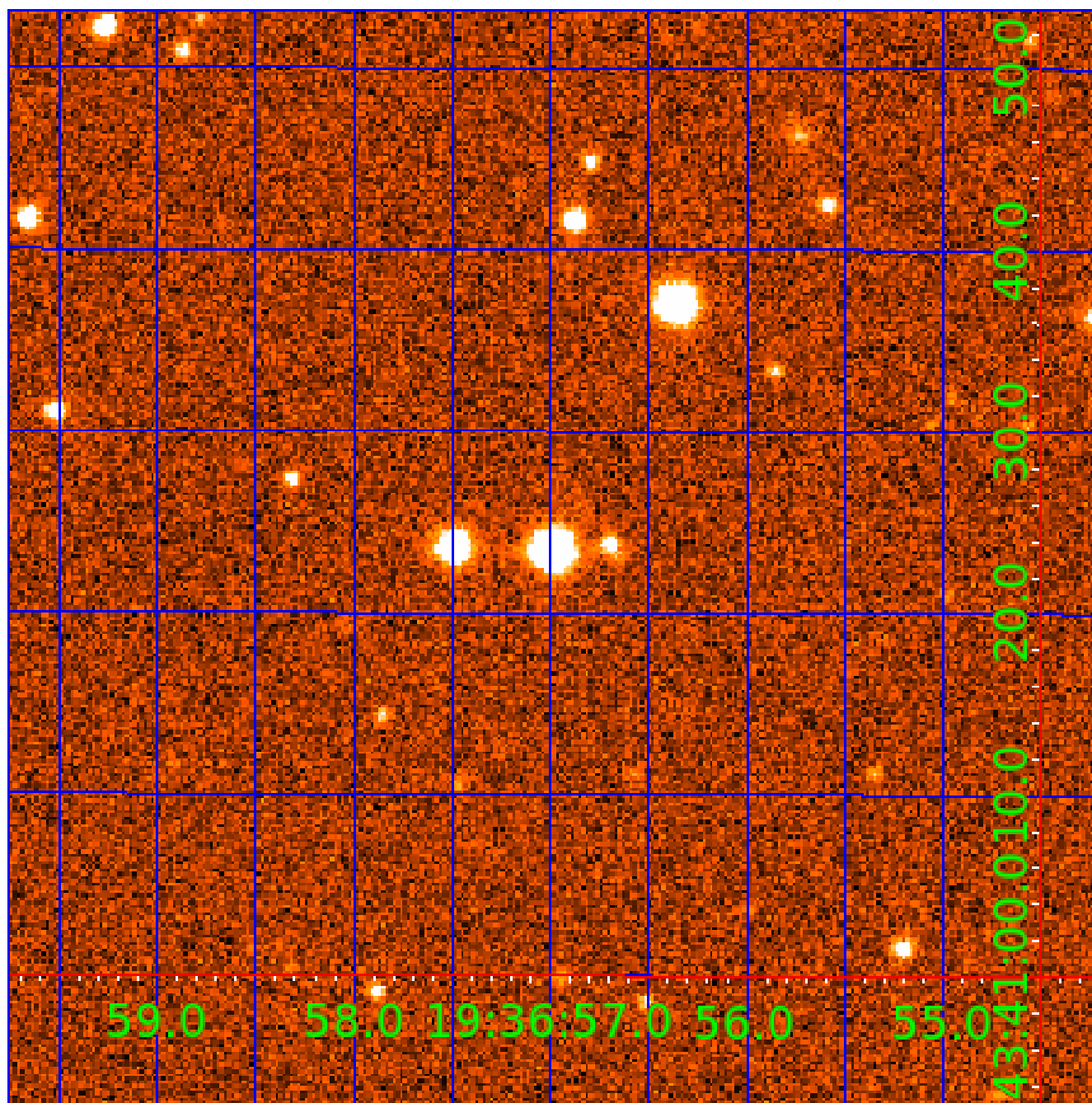


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007898071

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

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007898071-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
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007898071-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

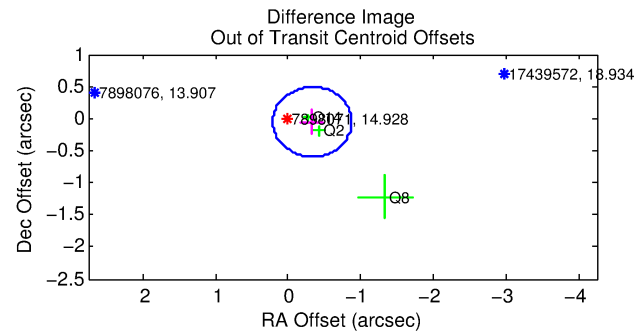
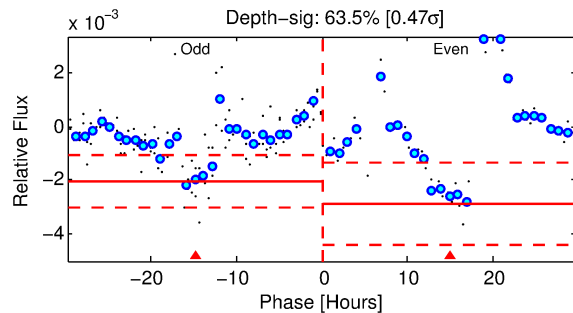
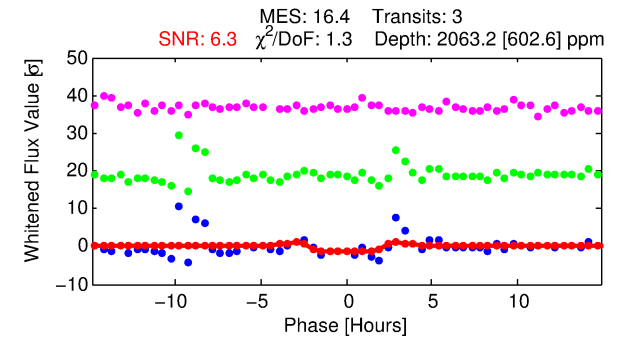
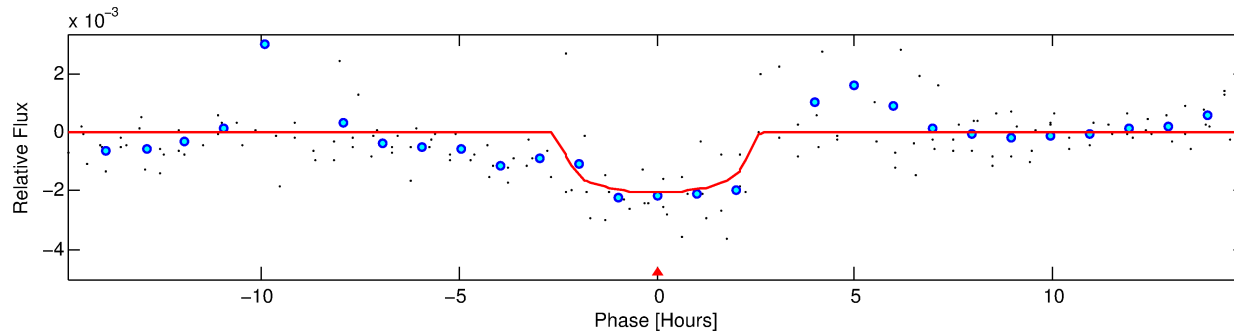
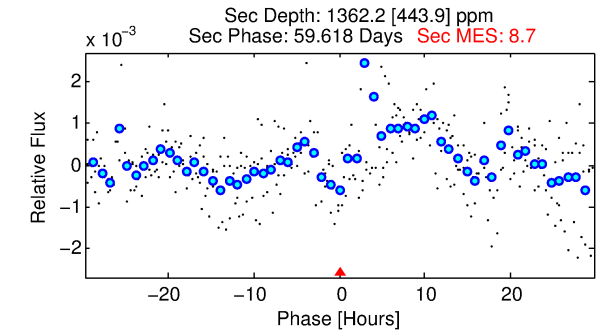
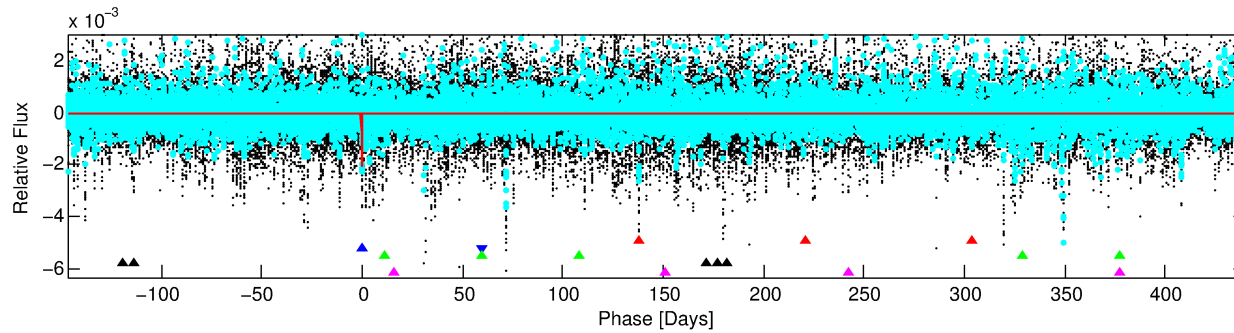
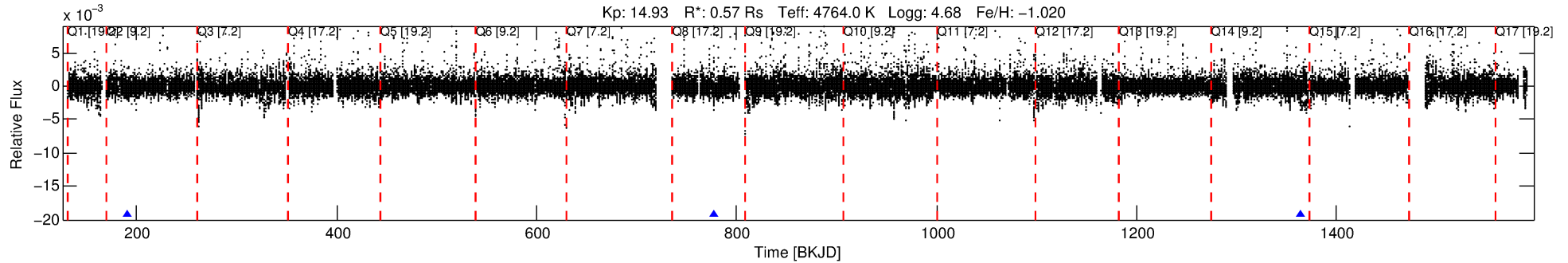
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007898071-02

No Significant Match Found

DV One-Page Summary

KIC: 7898071 Candidate: 2 of 5 Period: 586.863 d



DV Fit Results:

Period = 586.86275 [0.00943] d
Epoch = 190.5611 [0.0125] BKJD
Rp/R* = 0.0414 [0.0522]
a/R* = 872.71 [3923.84]
b = 0.38 [10.13]
Seff = 0.11 [0.02]
Teq = 148 [6] K
Rp = 2.56 [3.23] Re
a = 1.1348 [0.0681] AU
Ag = 147285.46 [374258.39] [0.39 σ]
Teffp = 4496 [2858] K [1.52 σ]

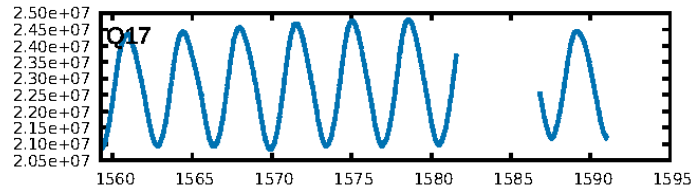
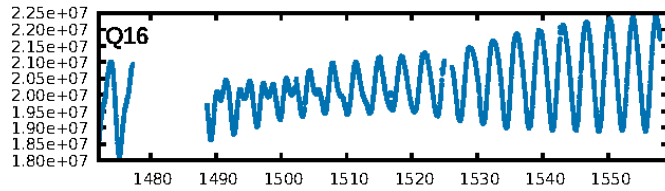
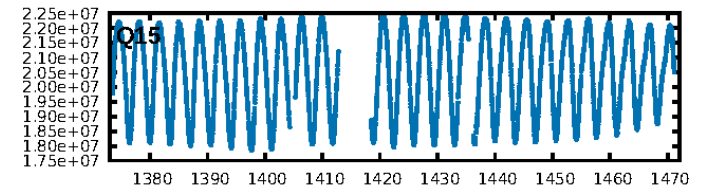
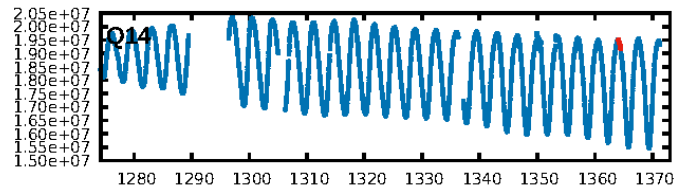
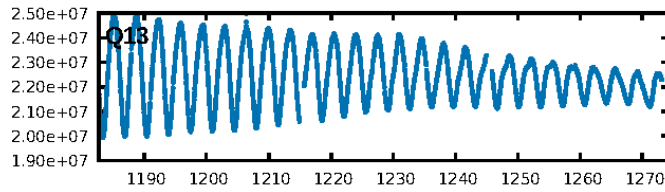
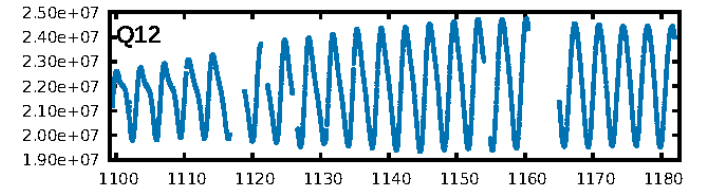
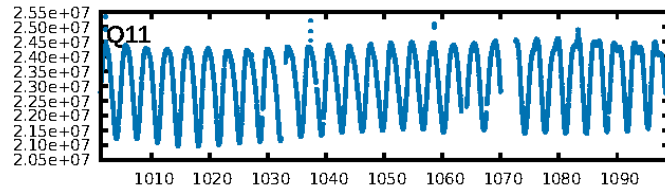
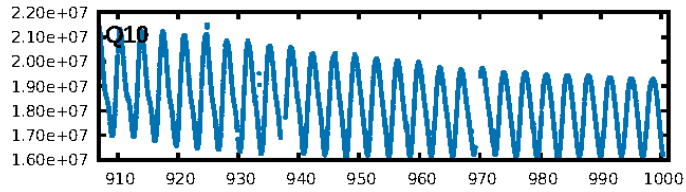
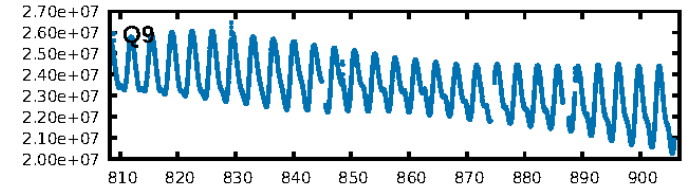
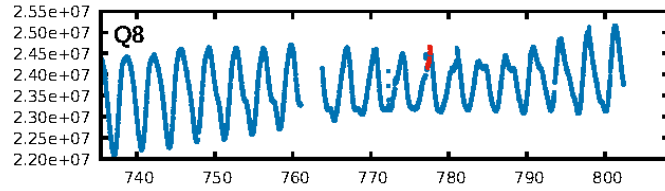
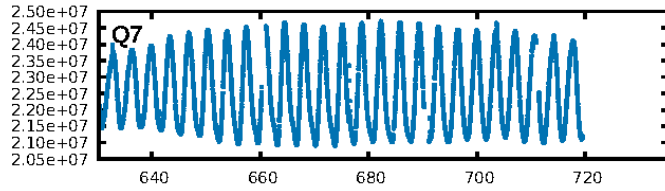
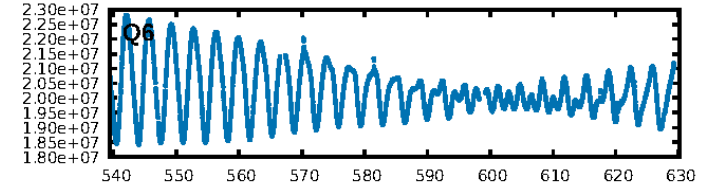
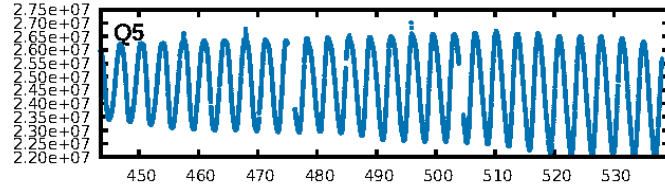
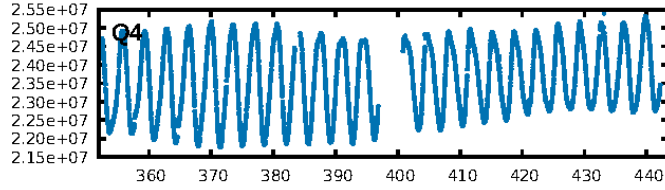
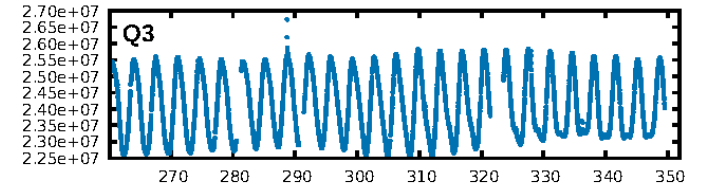
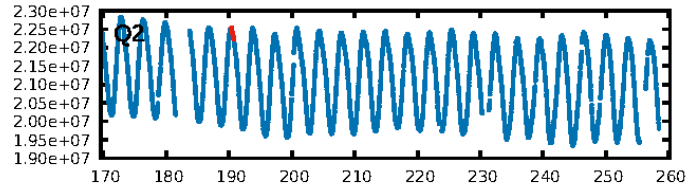
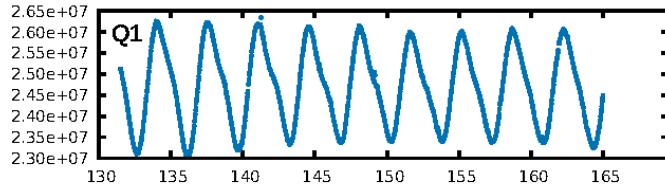
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [181.61 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.7%
ModelChiSquareGof-sig: 90.1%
Bootstrap-pfa: 2.07e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.299
Centroid-sig: 29.2%
Centroid-so: 2.367 arcsec [0.93 σ]
OotOffset-rm: 0.334 arcsec [1.85 σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-rm: 0.362 arcsec [0.93 σ]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

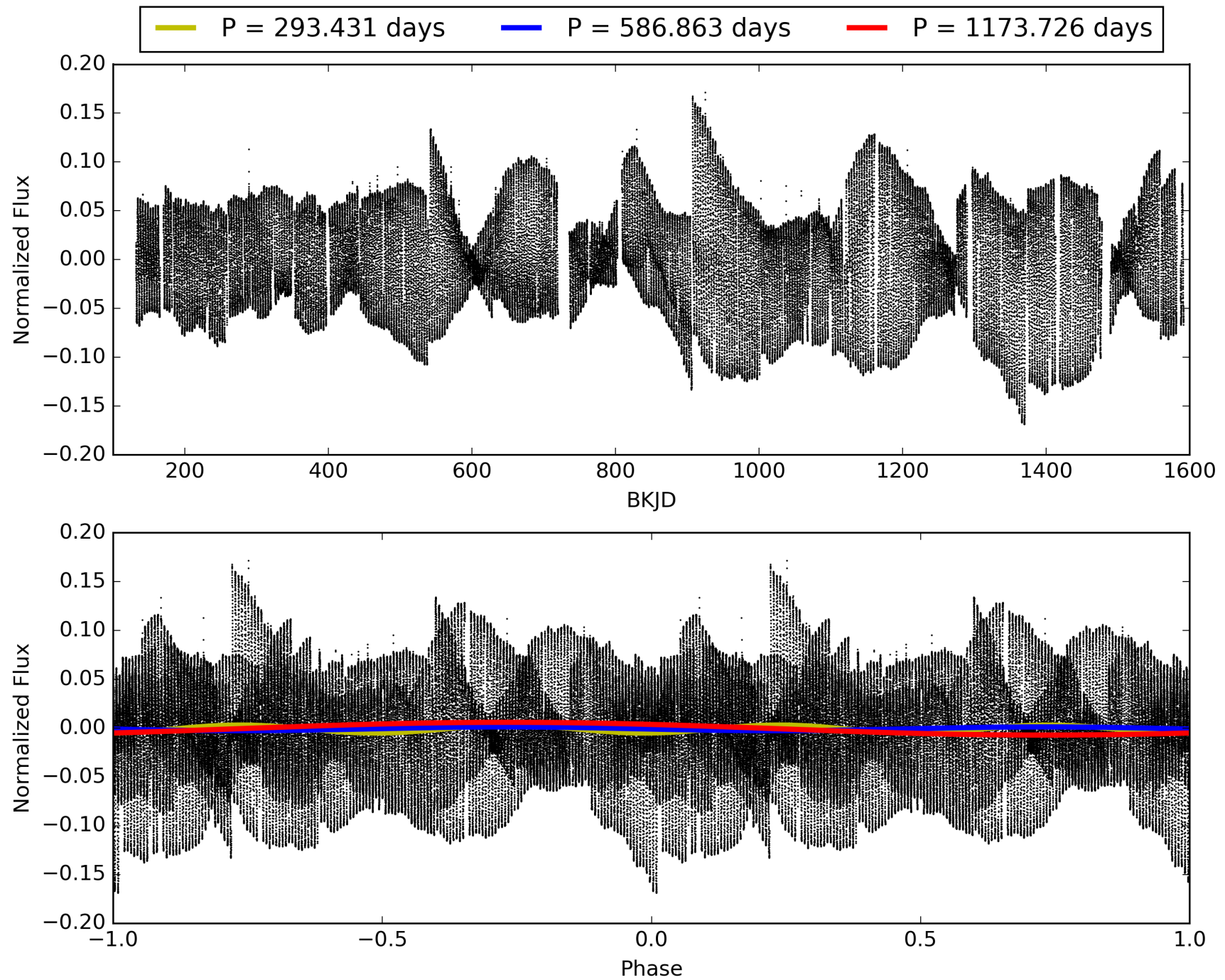
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:07:33 Z

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

TCE 007898071-02, PDC Light Curves

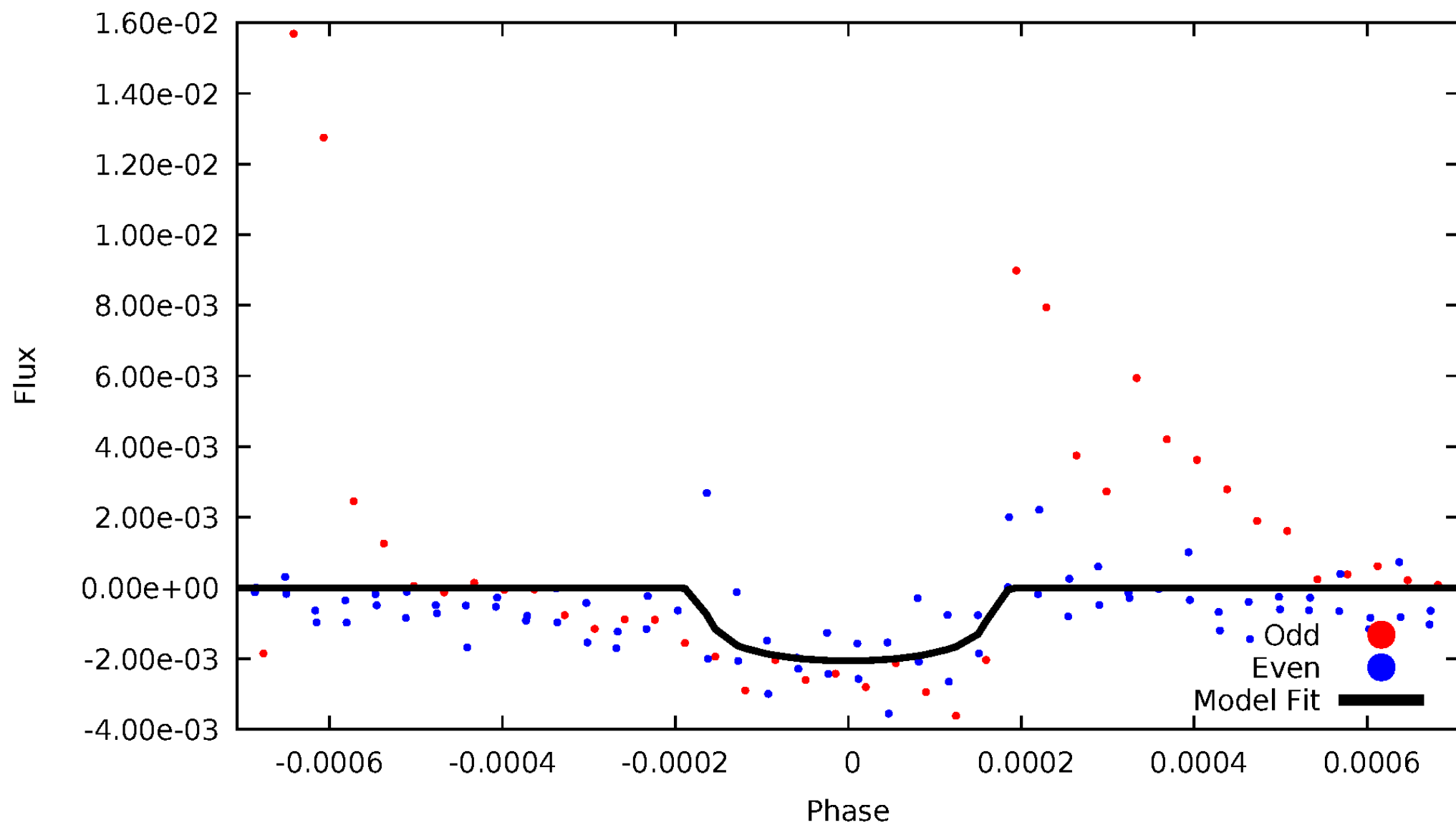


TCE 007898071-02



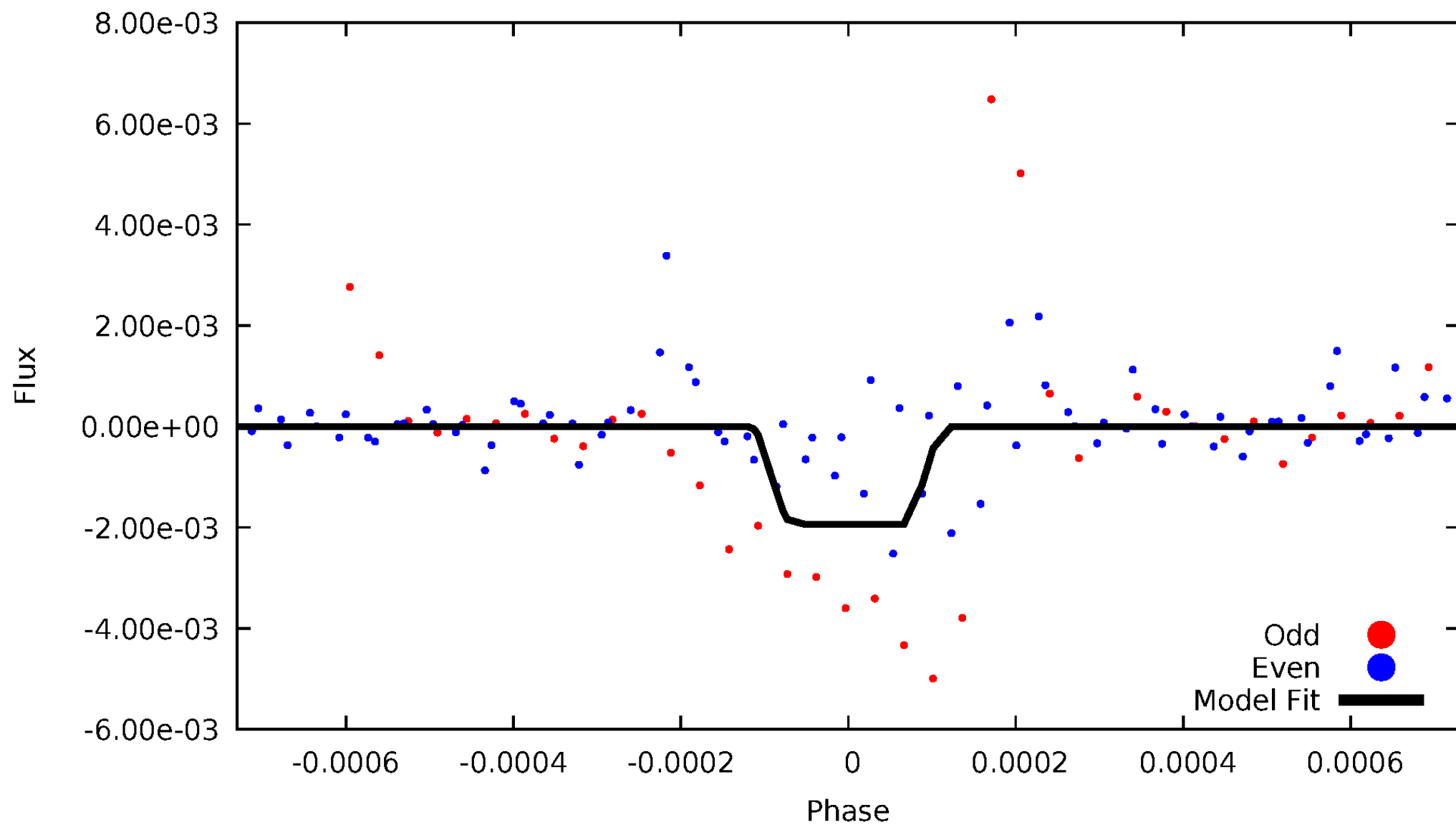
DV Odd/Even

TCE 007898071-02



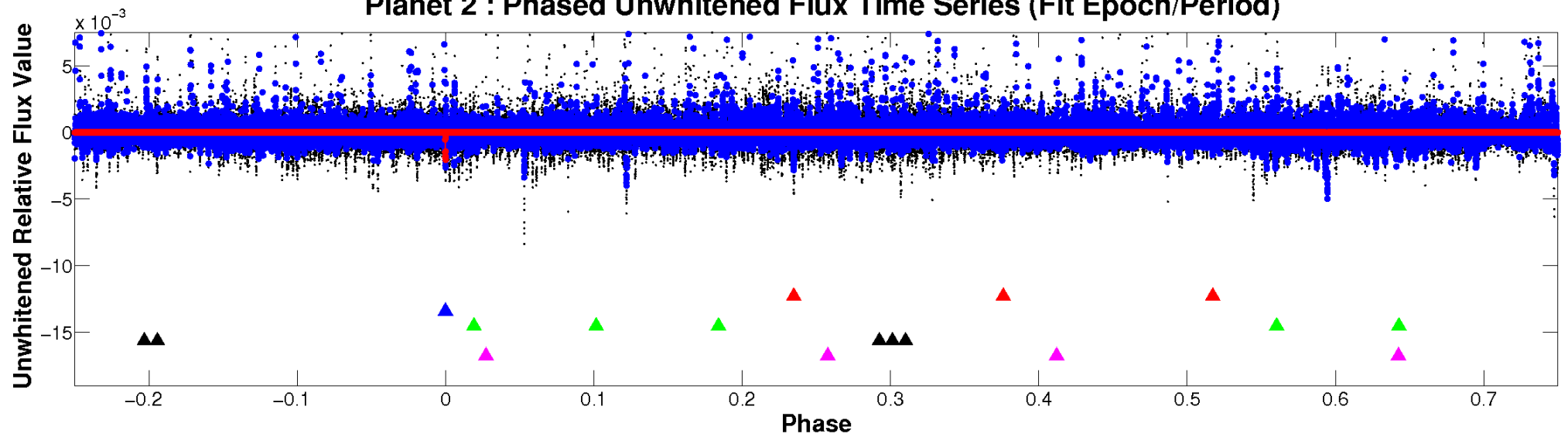
ALT Odd/Even

TCE 007898071-02

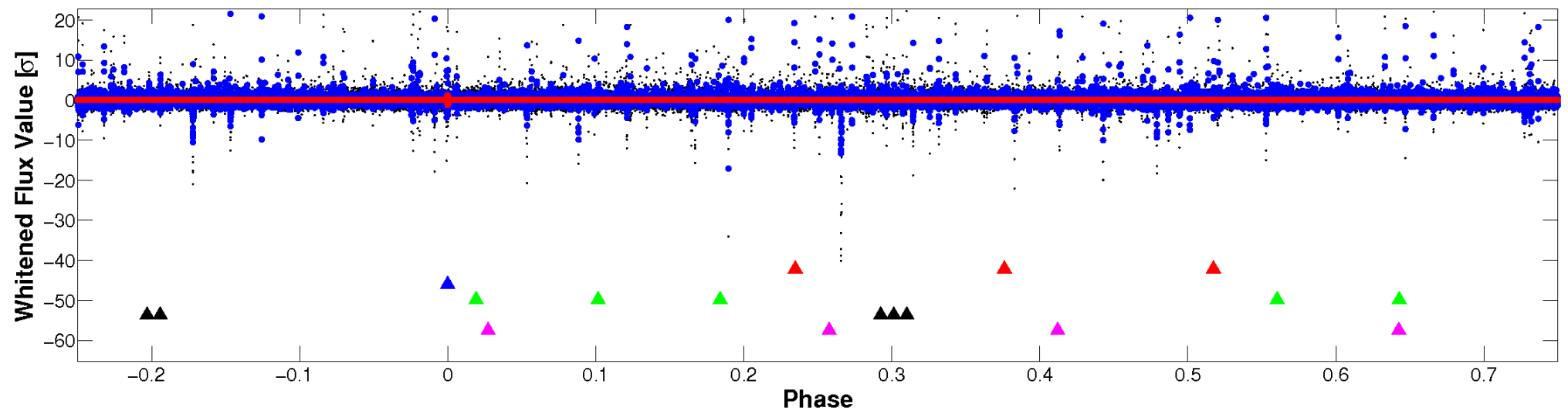


Non-Whitened Vs. Whitened Light Curve

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

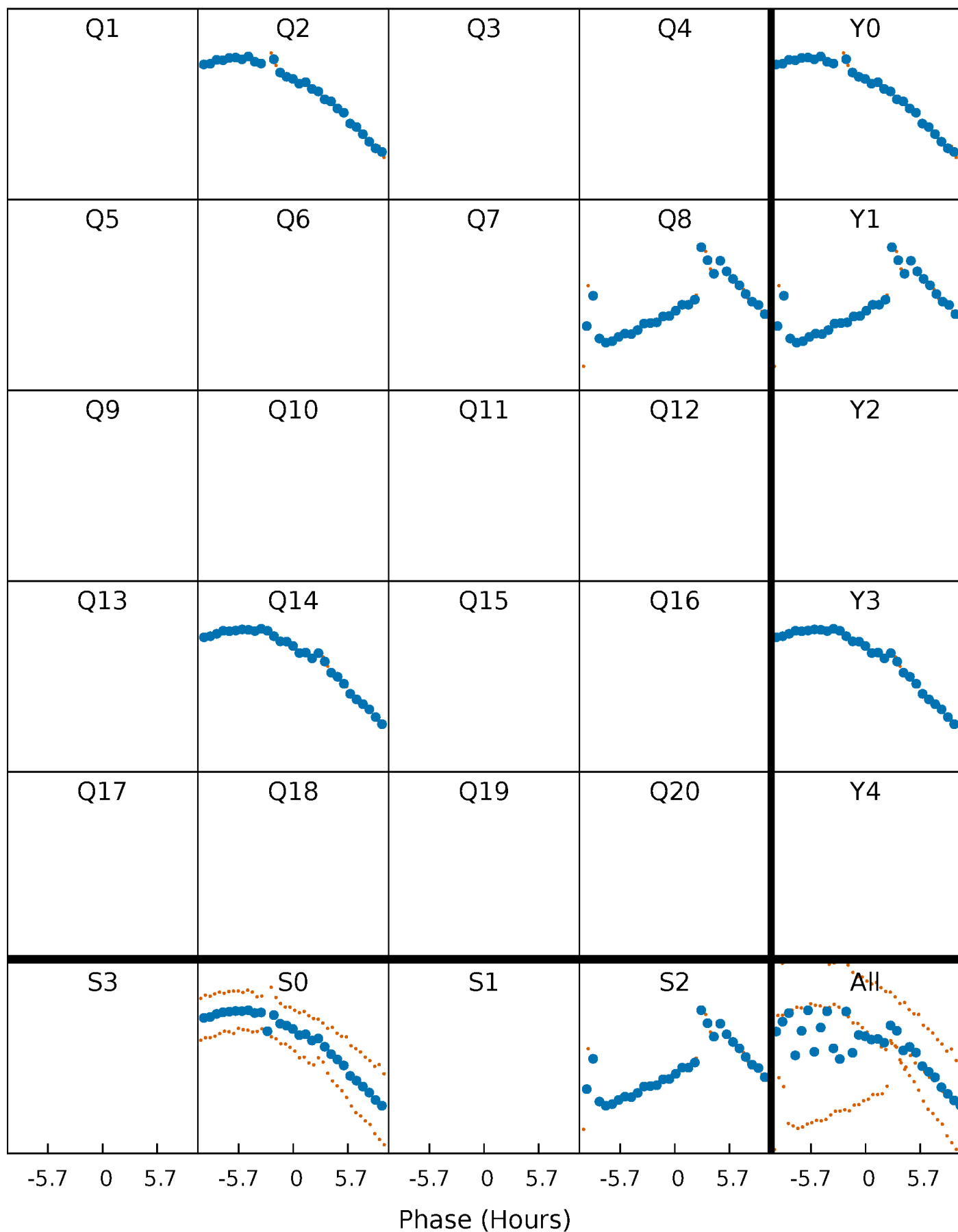


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



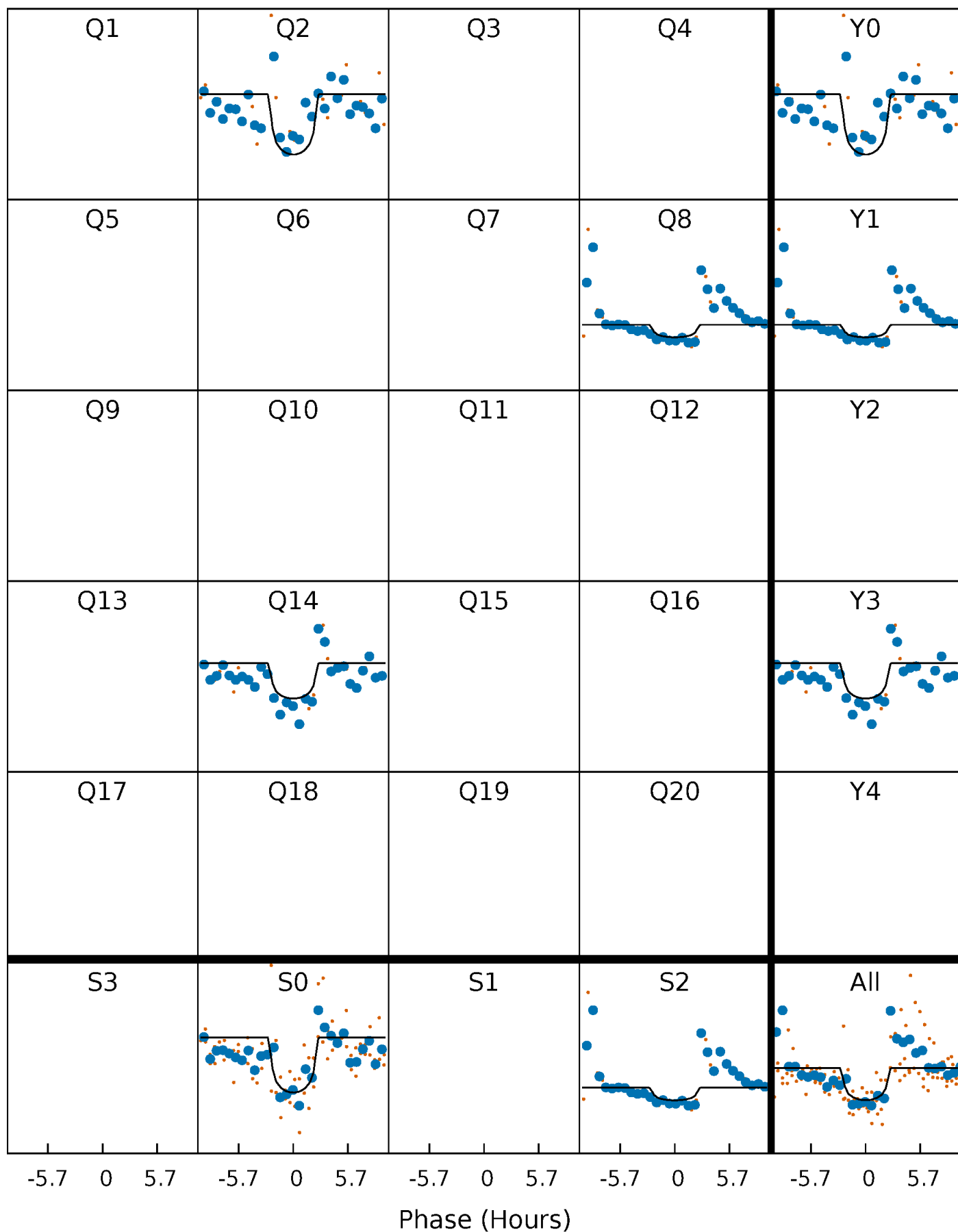
PDC Quarter-Phased Transit Curves

TCE 007898071-02 P=586.862752 Days $T_0=190.561125$ (BKJD)



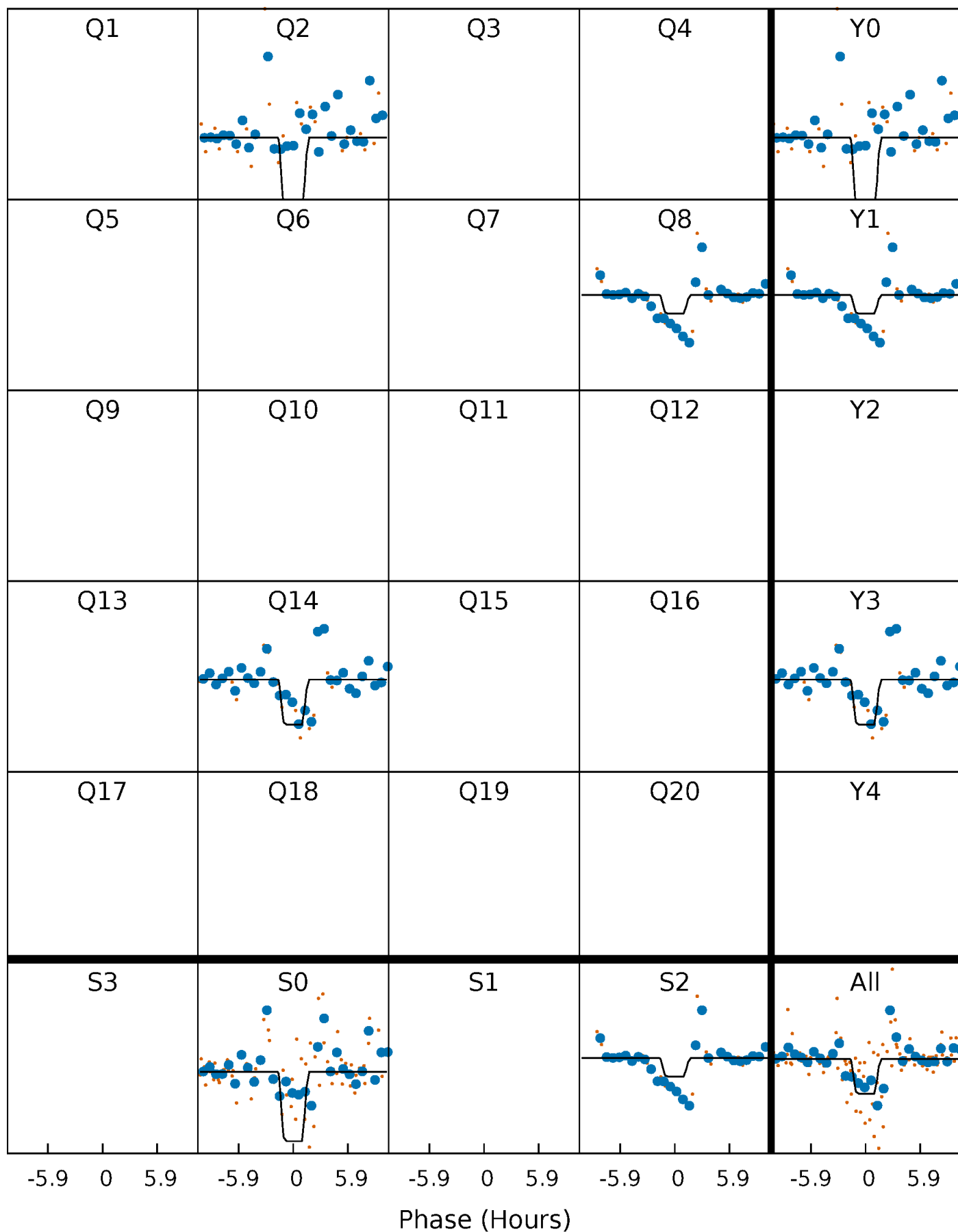
DV Quarter-Phased Transit Curves

TCE 007898071-02 $P=586.862752$ Days $T_0=190.561125$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

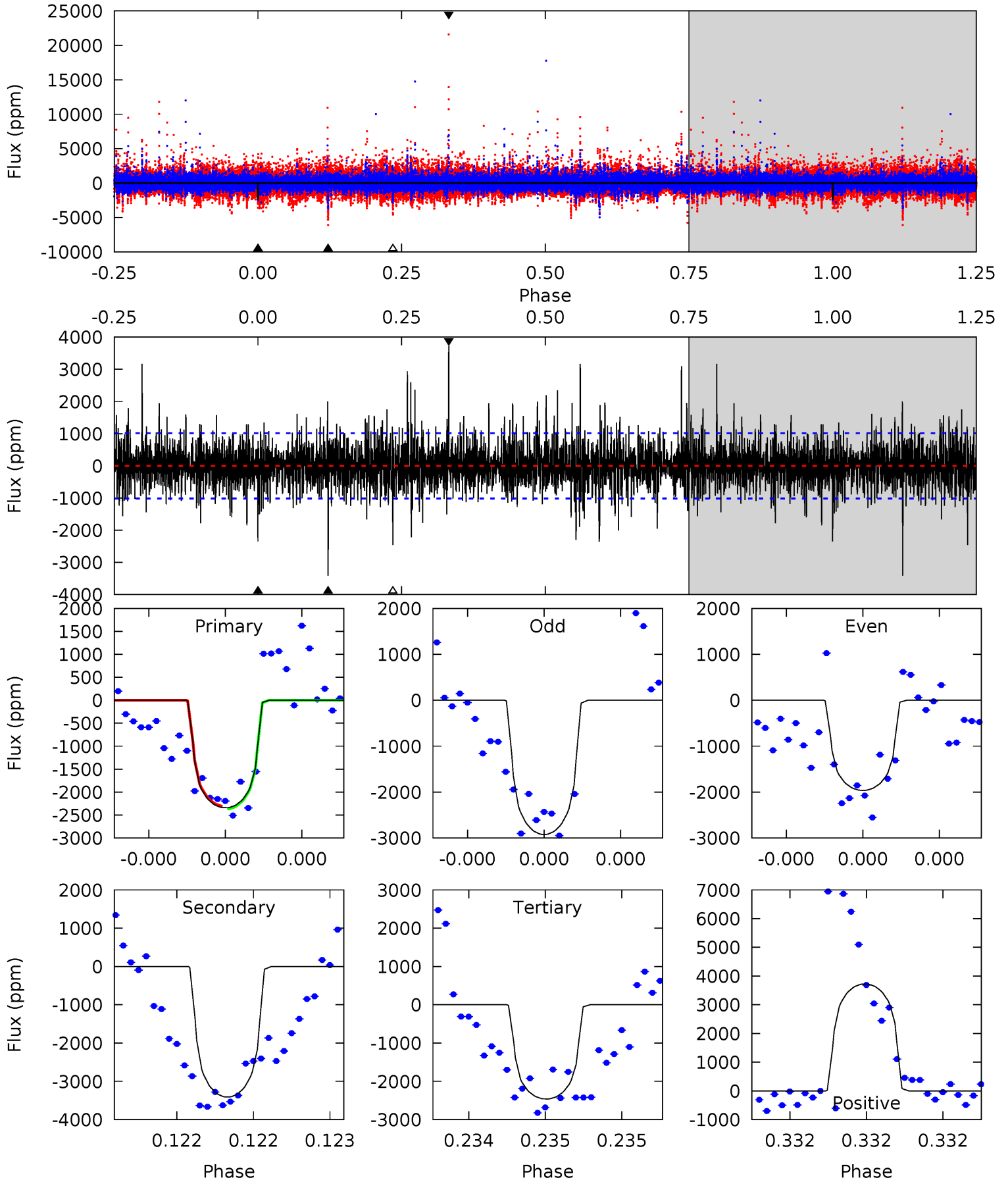
TCE 007898071-02 P=586.845032 Days $T_0=190.592527$ (BKJD)



DV Model-Shift Uniqueness Test

007898071-02, P = 586.862752 Days, E = 190.561125 Days

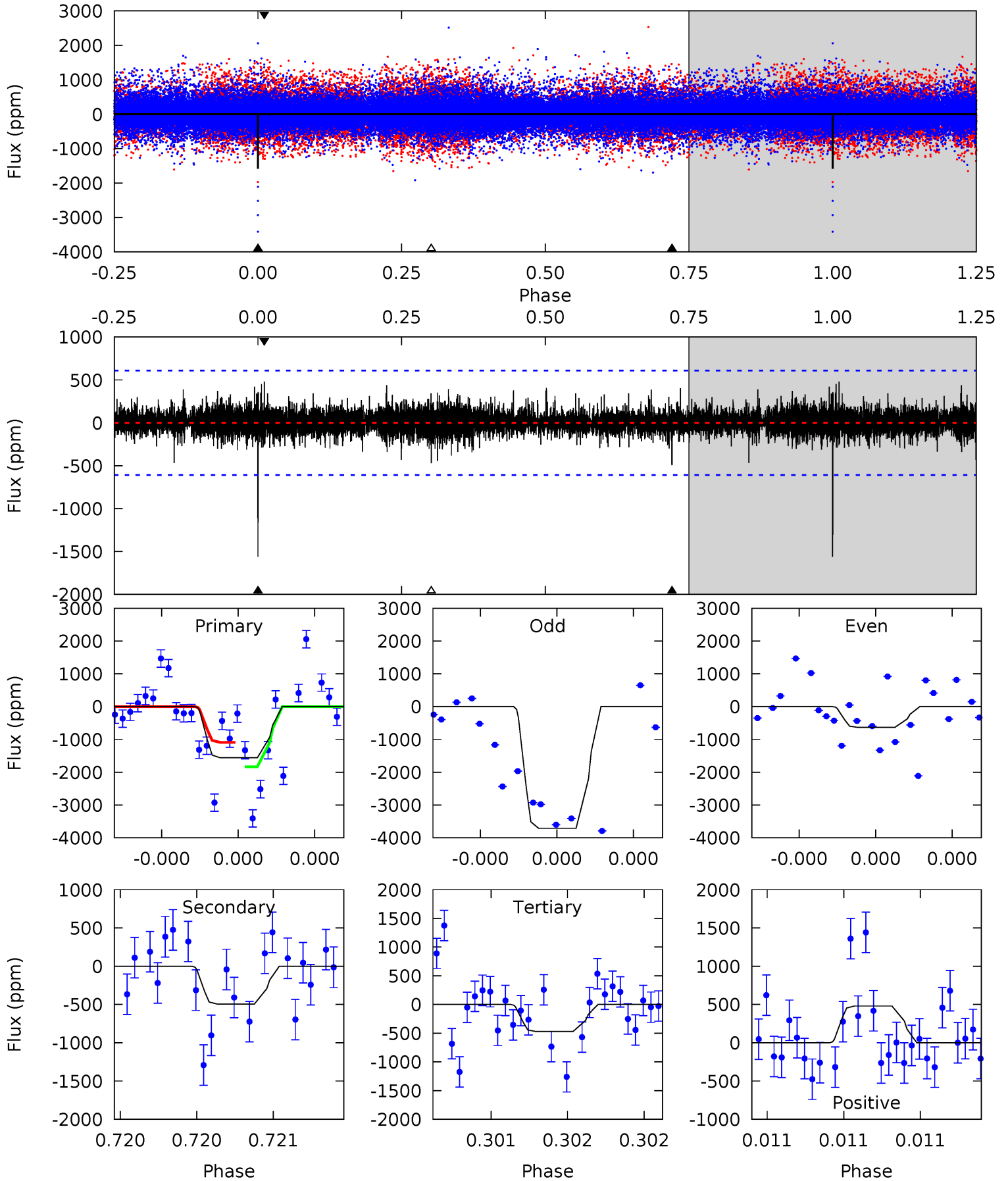
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	18.9	13.6	20.6	5.62	3.55	2.97	-0.66	-7.66	5.26	-1.75	1.61	0.81	0.52	0.16



Alt Model-Shift Uniqueness Test

007898071-02, P = 586.845032 Days, E = 190.592527 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	4.64	4.41	4.52	5.72	3.70	0.74	10.3	10.2	0.23	0.12	15.5	1.13	0.24	0



Stellar Parameters For KIC 007898071

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4764^{+139}_{-153}	$4.685^{+0.052}_{-0.032}$	$-1.020^{+0.300}_{-0.300}$	$0.566^{+0.038}_{-0.038}$	$0.564^{+0.047}_{-0.024}$	$4.387^{+0.855}_{-0.533}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+8%/-4%	+19%/-12%
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 007898071-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3409 ± 180	$3.45^{+2.78}_{-2.17}$	206^{+8}_{-7}	4840^{+3103}_{-979}	$208501^{+1267120}_{-144118}$
Alt.	-493 ± 106	$3.64^{+2.59}_{-2.31}$	207^{+7}_{-7}	3377^{+1423}_{-506}	$26594^{+165164}_{-17981}$

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

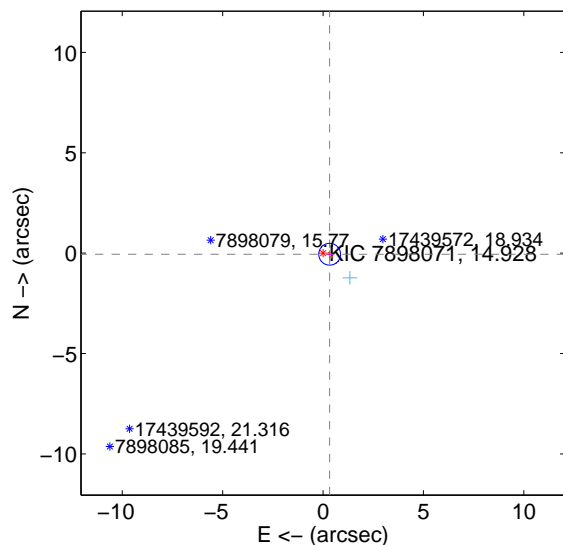
Supplemental centroid analysis for 007898071-02. Kepler magnitude: 14.93. Transit SNR 6.32

There are 1 quarters with good PRF difference image offsets

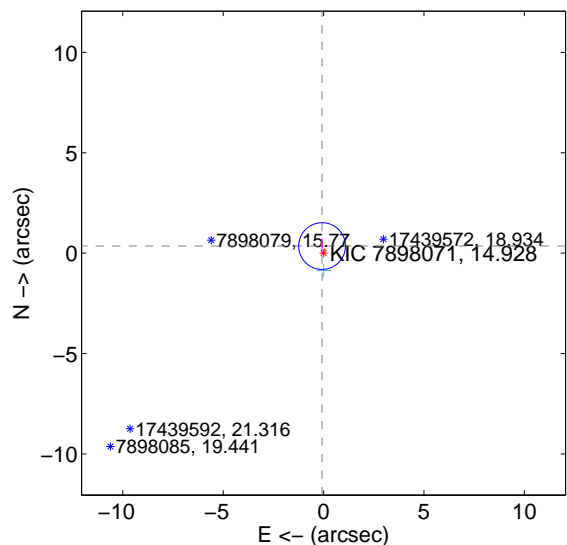
The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.334 ± 0.181	1.85	-0.330 ± 0.159	-0.053 ± 0.179
PRF-fit source offset from KIC position	0.362 ± 0.388	0.93	0.075 ± 0.081	0.354 ± 0.397
photometric centroid source offset	2.37 ± 2.56	0.93	2.36 ± 2.56	-0.16 ± 0.78

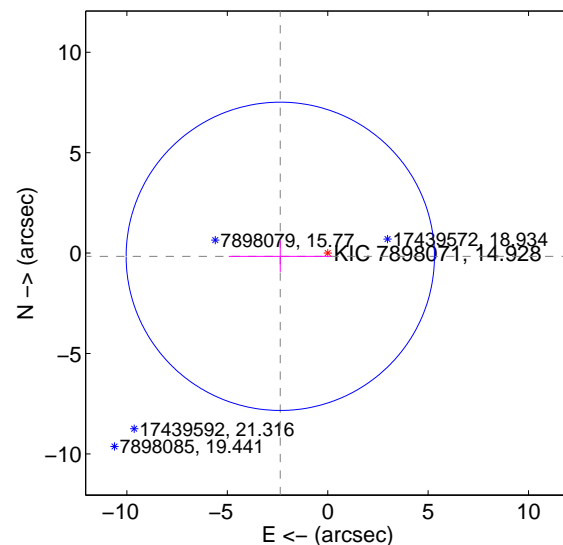
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

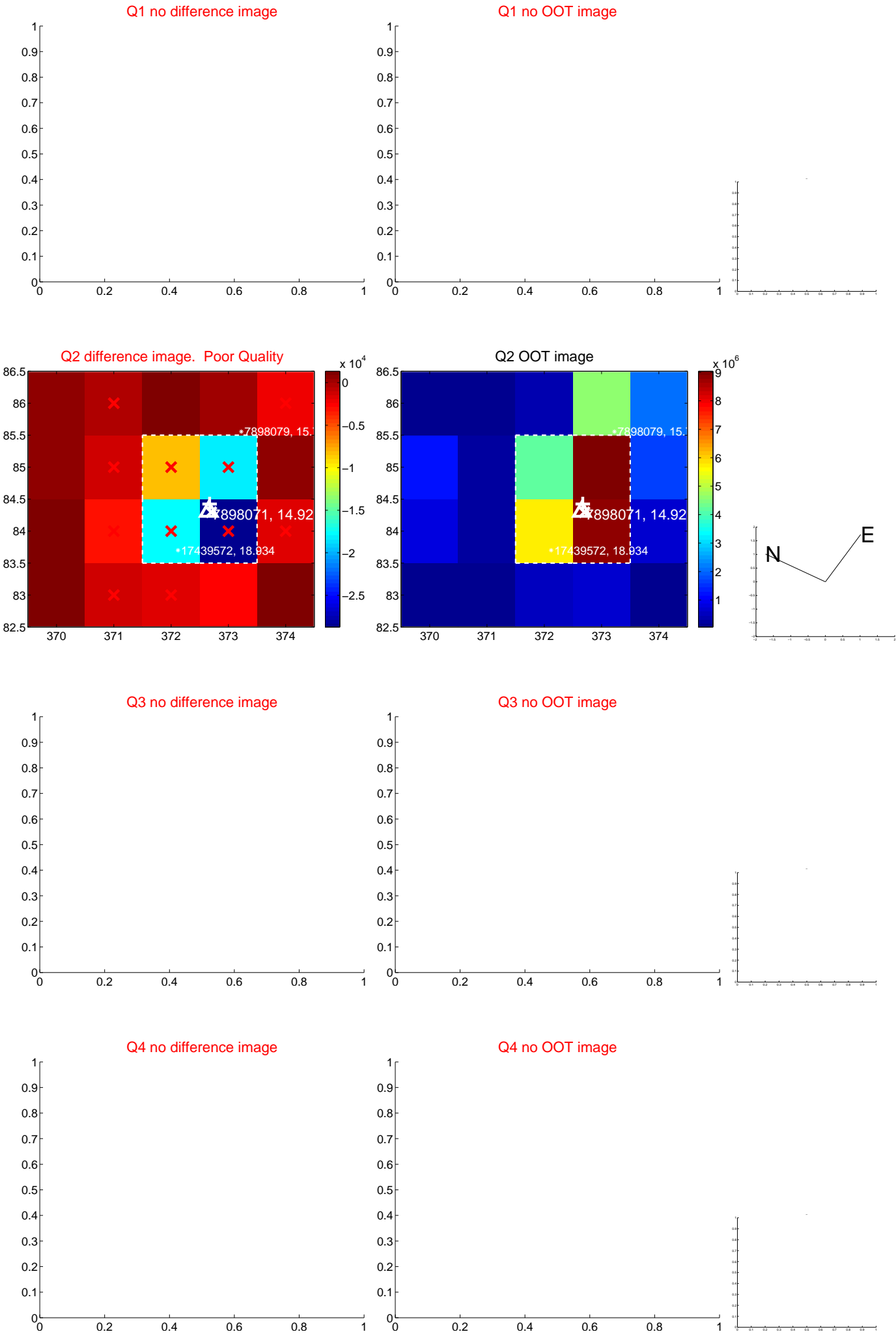


offset from photometric centroids



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.

Q5 no difference image



Q5 no OOT image



Q6 no difference image



Q6 no OOT image



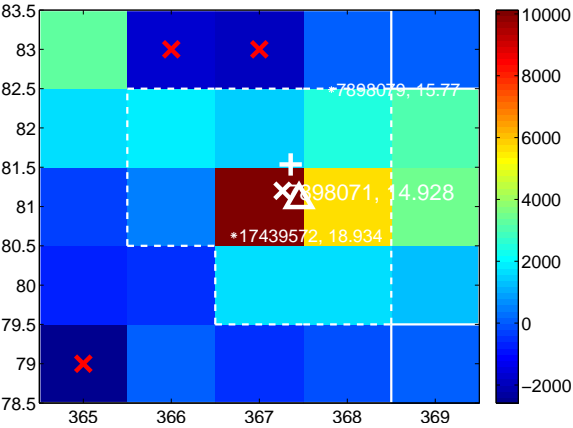
Q7 no difference image



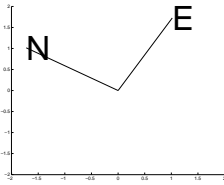
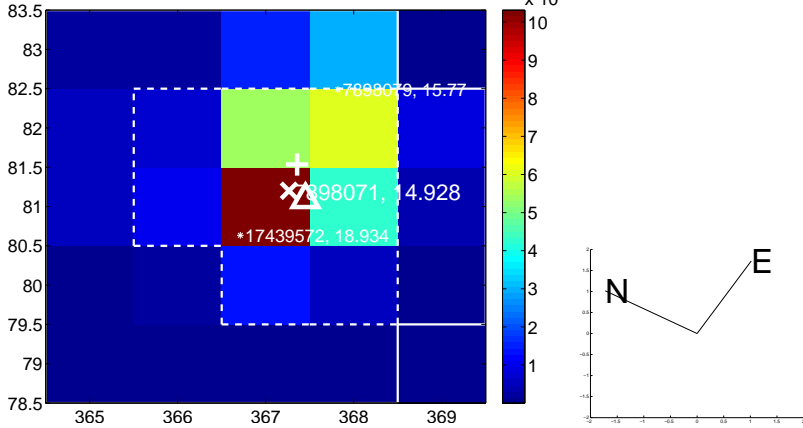
Q7 no OOT image



Q8 difference image



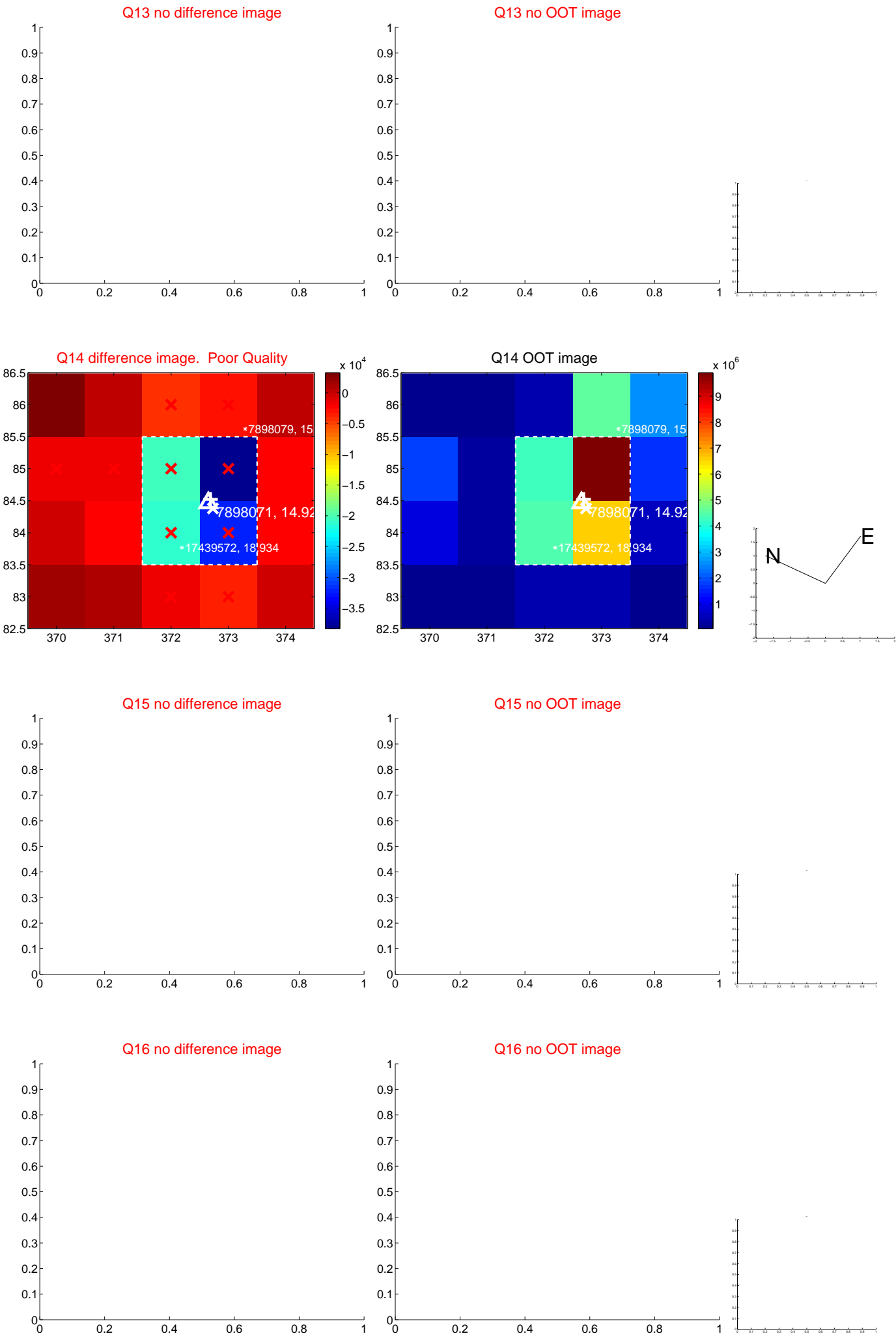
Q8 OOT image



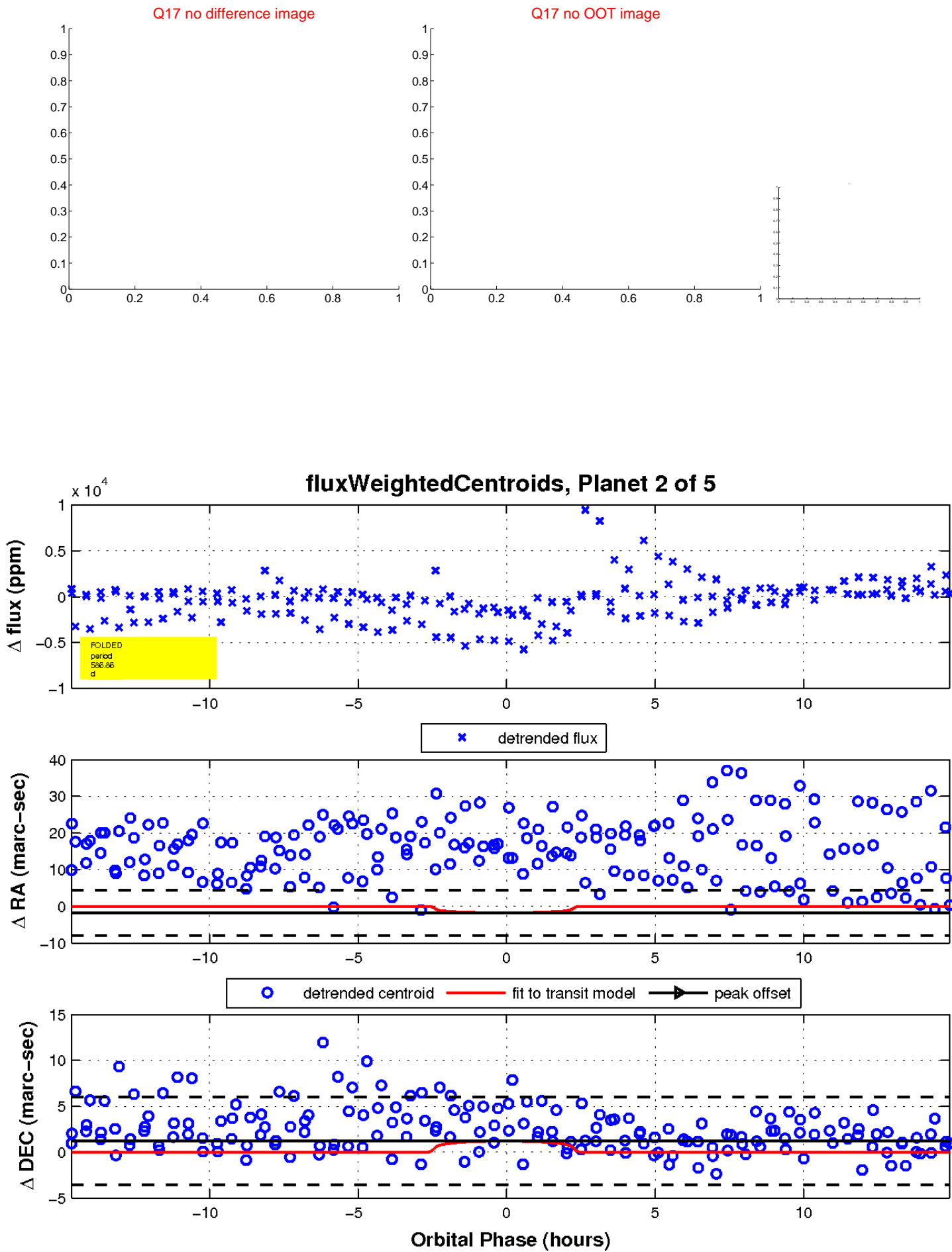
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

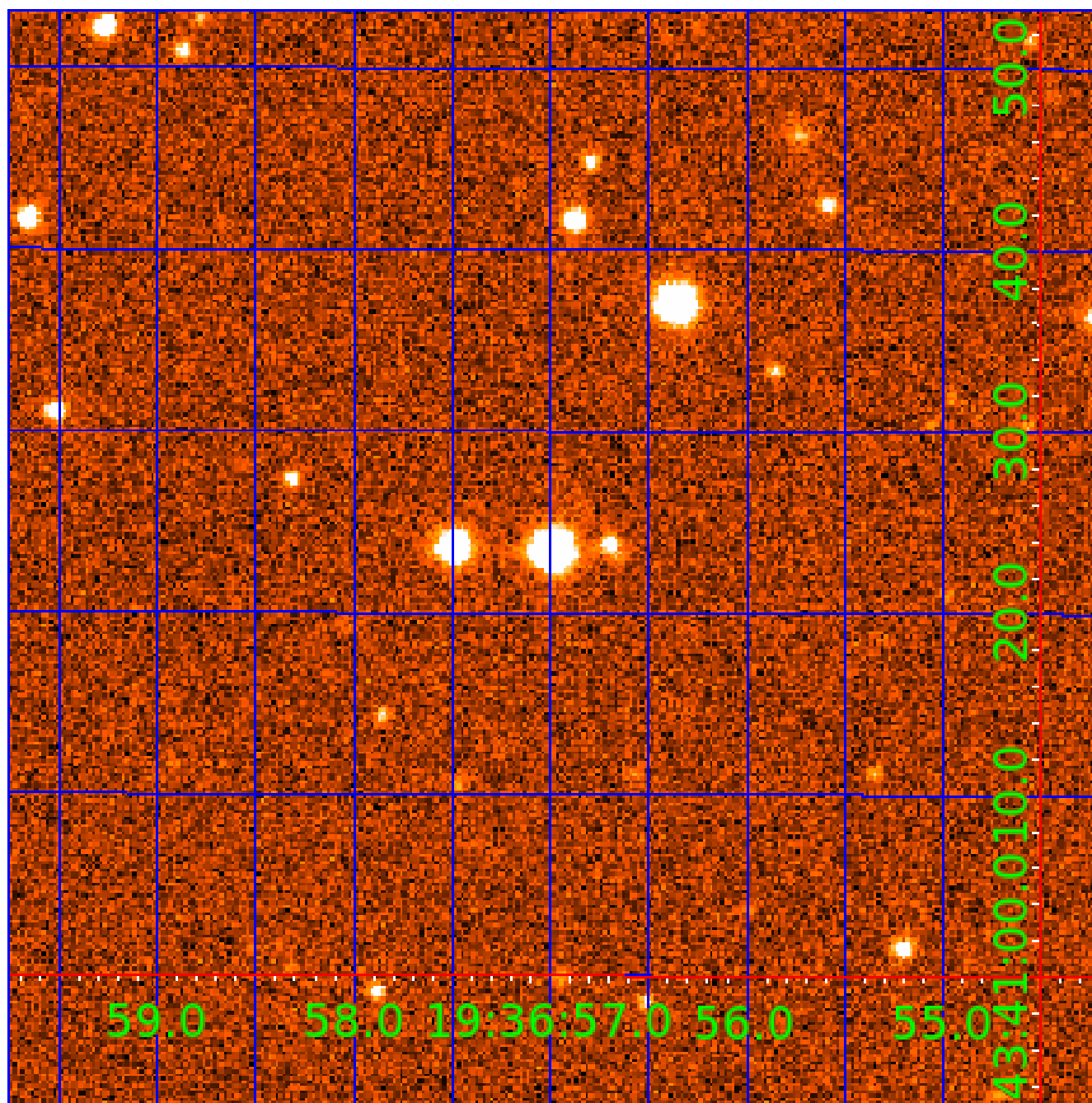


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007898071

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})
007898071-01	OBS	No	503.971943	494.160338	5714.3	9.759	16.6	12.8	0.57	4764	4.17	0.14
007898071-02	OBS	No	586.862752	190.561125	2063.2	4.976	16.4	6.3	0.57	4764	2.56	0.12
007898071-03	OBS	No	317.622657	201.812375	2495.3	7.202	13.8	7.6	0.57	4764	3.53	0.26
007898071-04	OBS	No	290.840696	372.597438	1465.7	4.404	12.0	5.4	0.57	4764	2.11	0.29
007898071-05	OBS	No	361.050997	432.396110	2159.2	3.768	12.7	6.8	0.57	4764	2.68	0.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007898071-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007898071-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

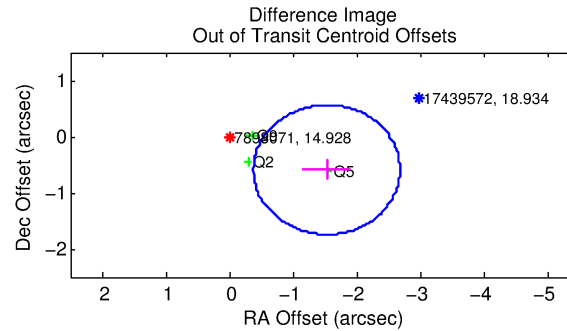
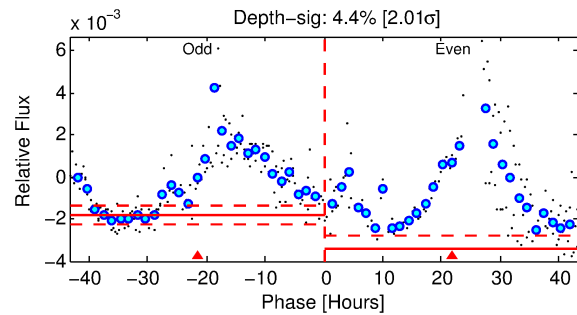
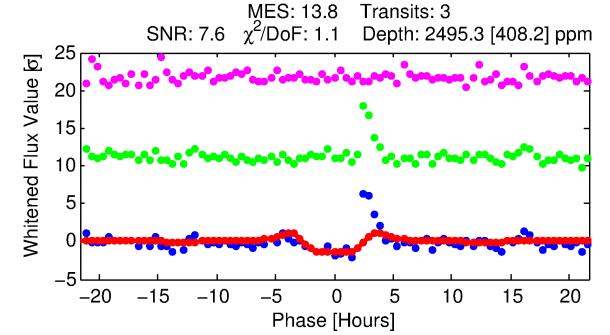
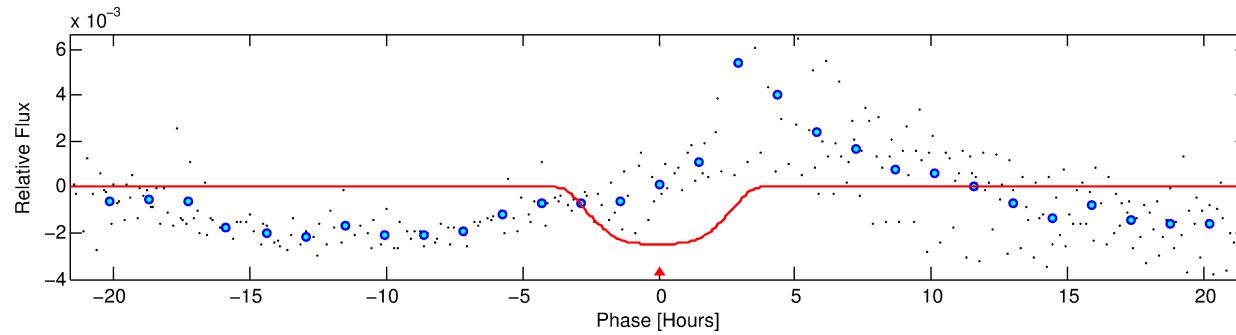
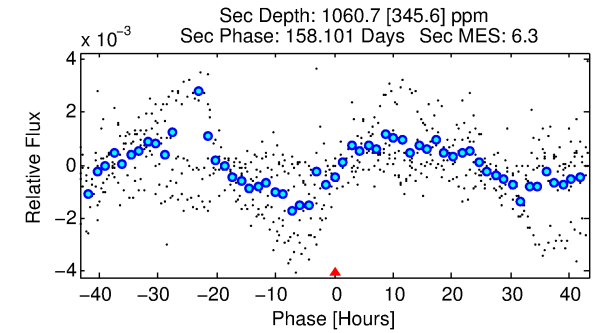
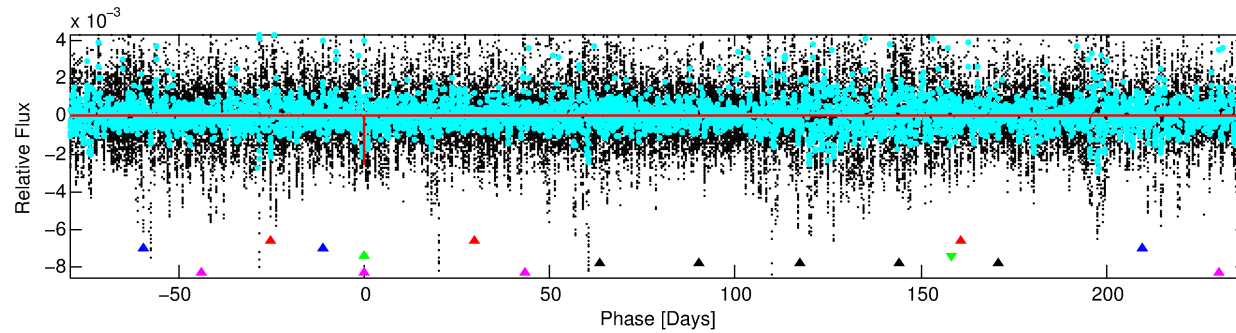
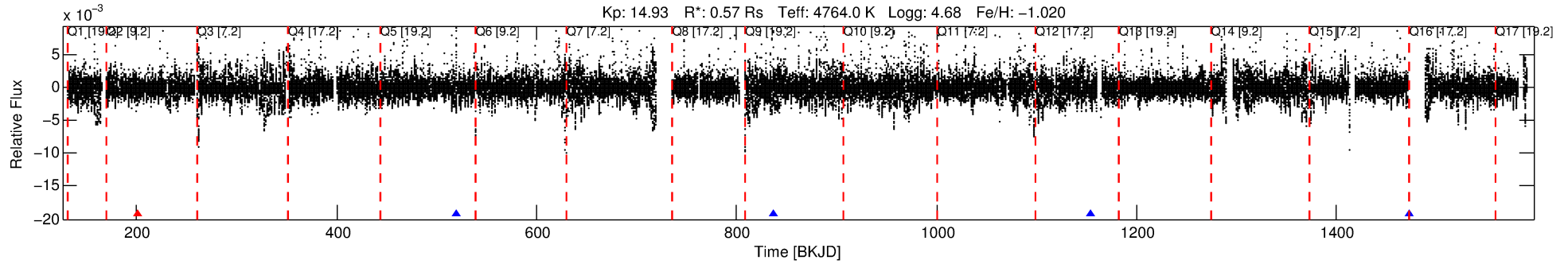
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007898071-03

No Significant Match Found

DV One-Page Summary

KIC: 7898071 Candidate: 3 of 5 Period: 317.623 d



DV Fit Results:

Period = 317.62266 [0.00872] d
Epoch = 201.8124 [0.0117] BKJD
Rp/R* = 0.0572 [0.0058]
a/R* = 174.65 [26.93]
b = 0.92 [0.03]
Seff = 0.26 [0.04]
Teq = 182 [7] K
Rp = 3.53 [0.43] Re
a = 0.7537 [0.0452] AU
Ag = 26579.62 [10498.72] [2.53σ]
Teffp = 3596 [364] K [9.37σ]

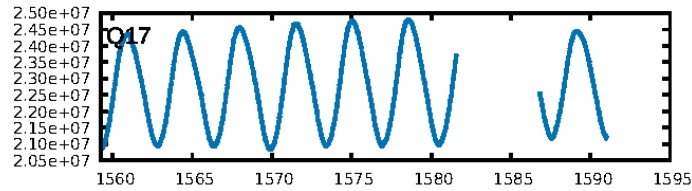
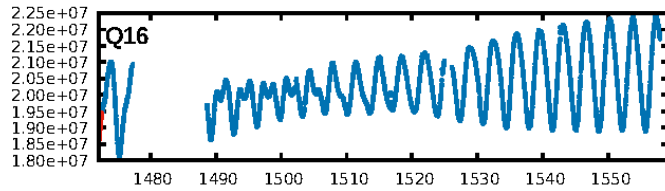
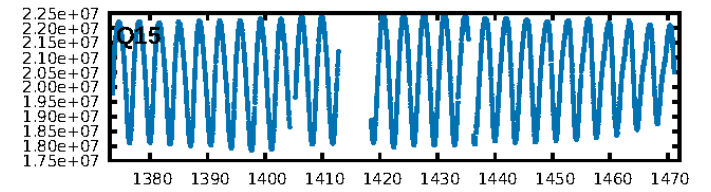
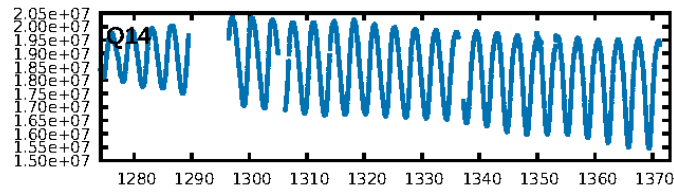
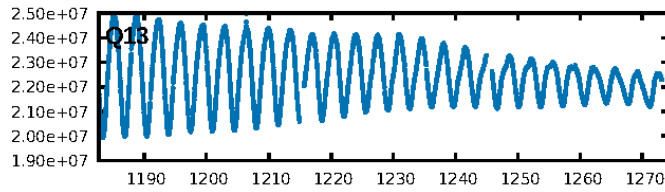
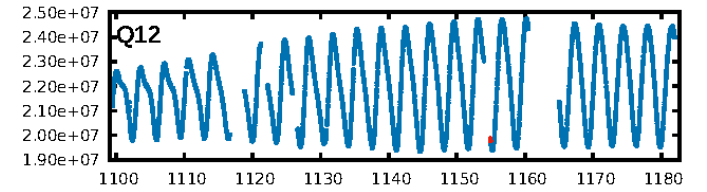
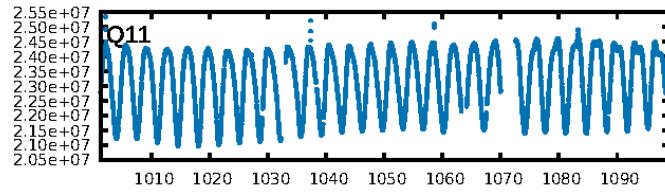
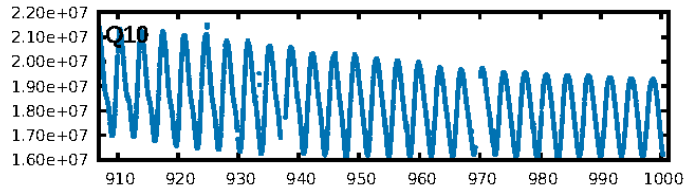
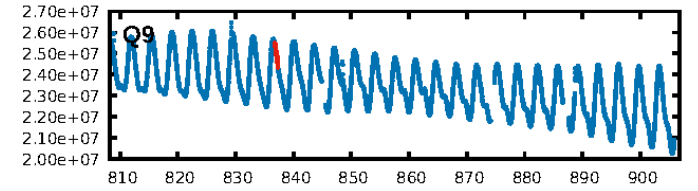
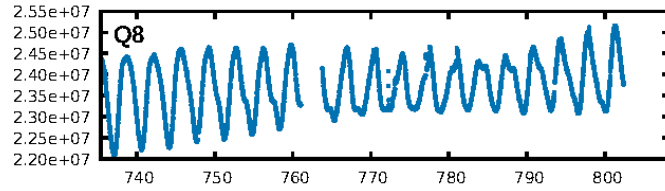
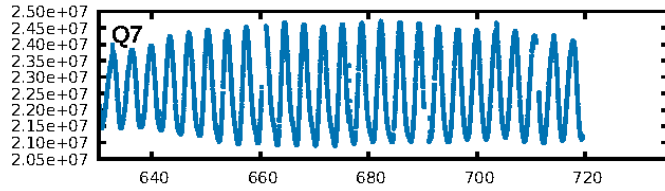
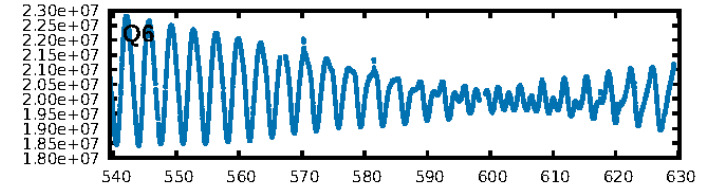
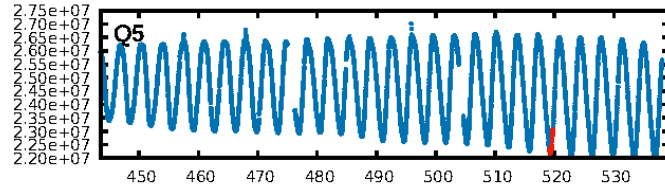
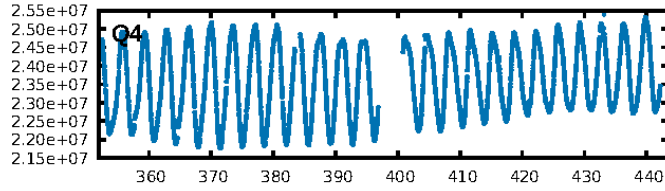
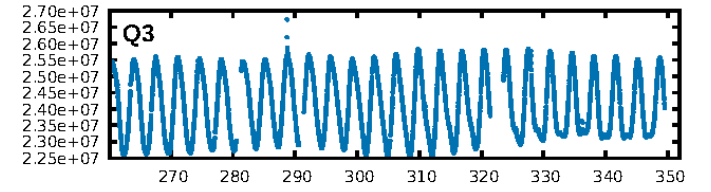
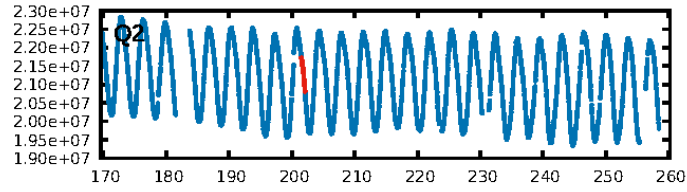
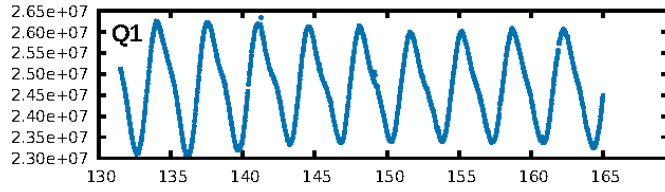
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [76.14σ]
LongPeriod-sig: 100.0% [128.23σ]
ModelChiSquare2-sig: 0.8%
ModelChiSquareGof-sig: 94.1%
Bootstrap-pfa: 3.73e-11
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 0.3893
Centroid-sig: 12.3%
Centroid-so: 1.450 arcsec [0.65σ]
OotOffset-rm: 1.643 arcsec [4.27σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-rm: 0.227 arcsec [1.58σ]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

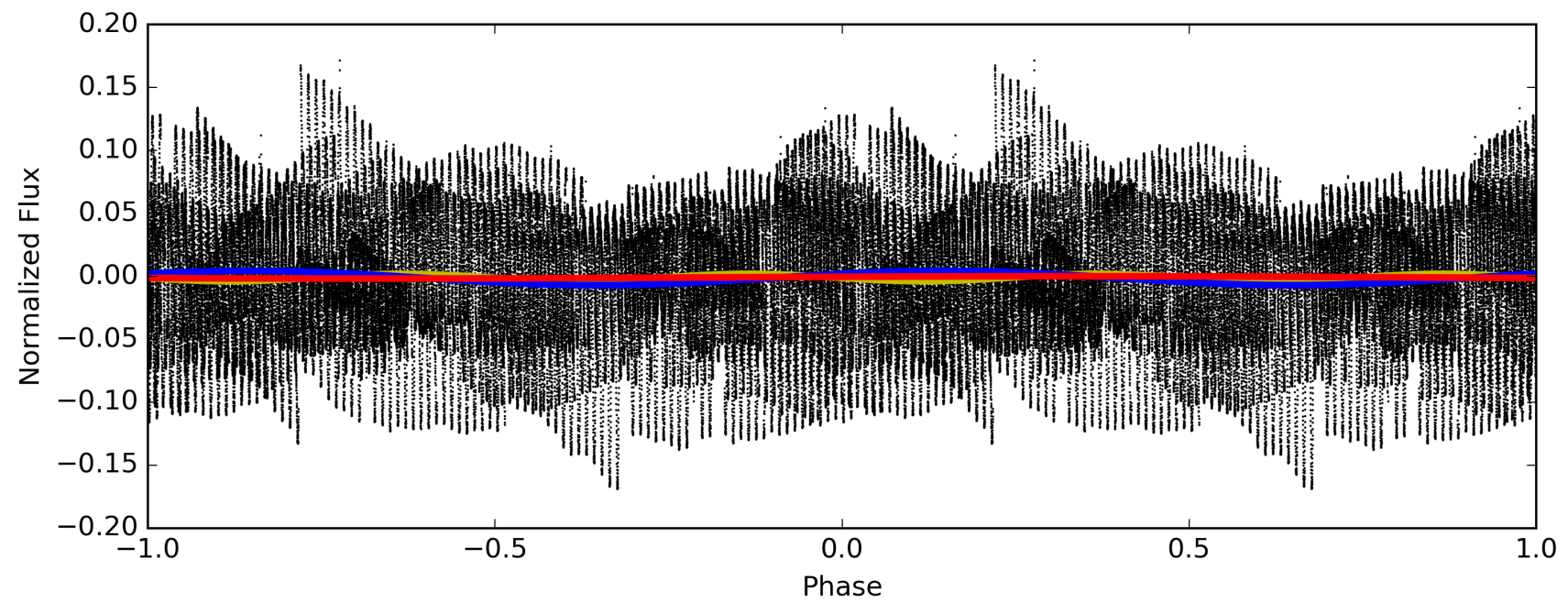
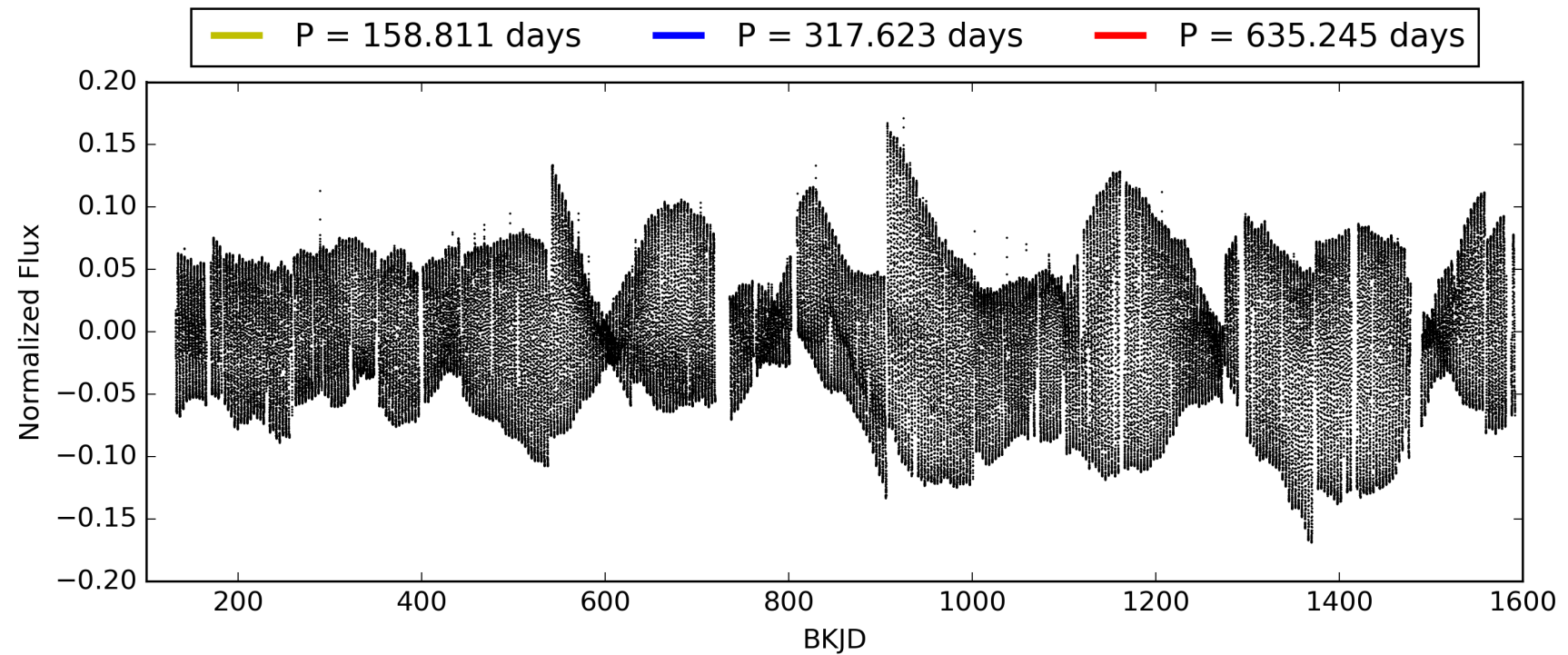
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:07:44 Z

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

TCE 007898071-03, PDC Light Curves

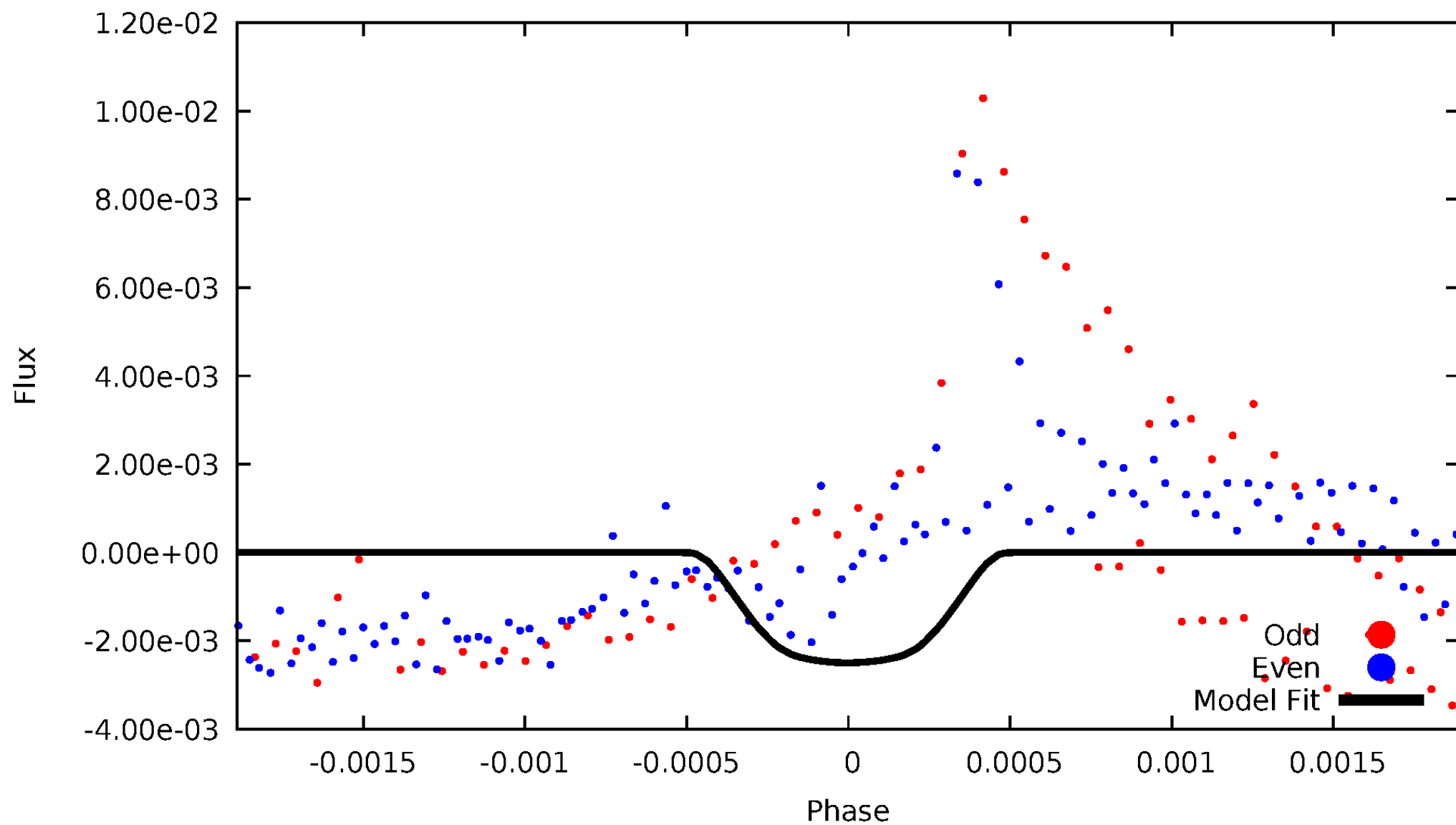


TCE 007898071-03



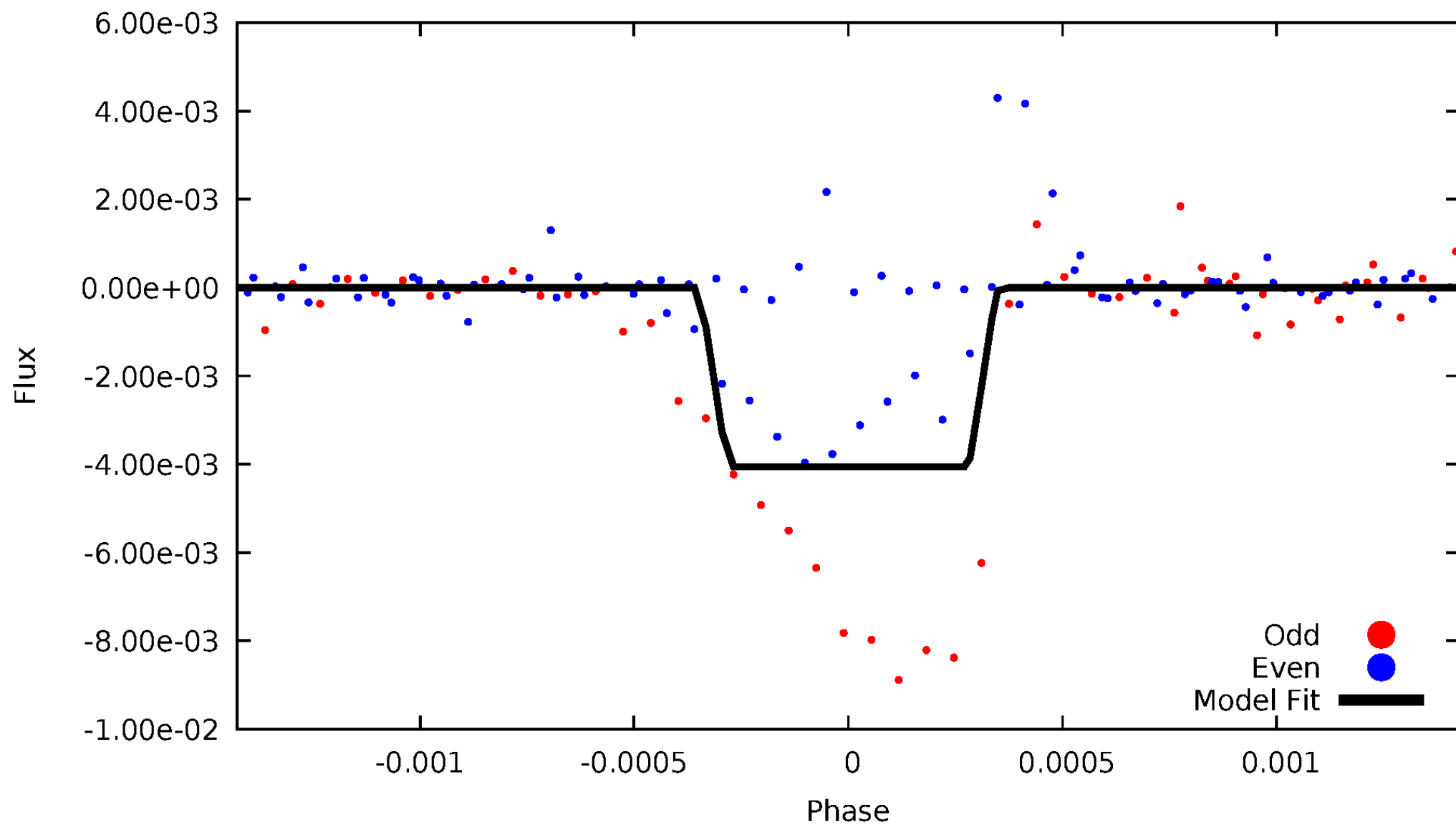
DV Odd/Even

TCE 007898071-03

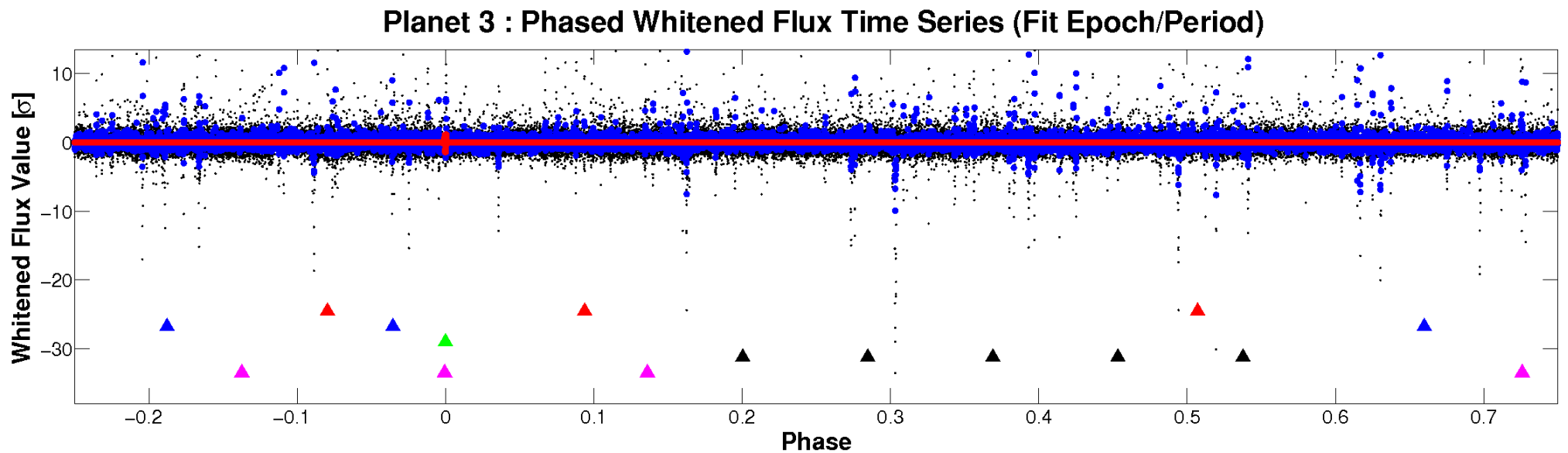
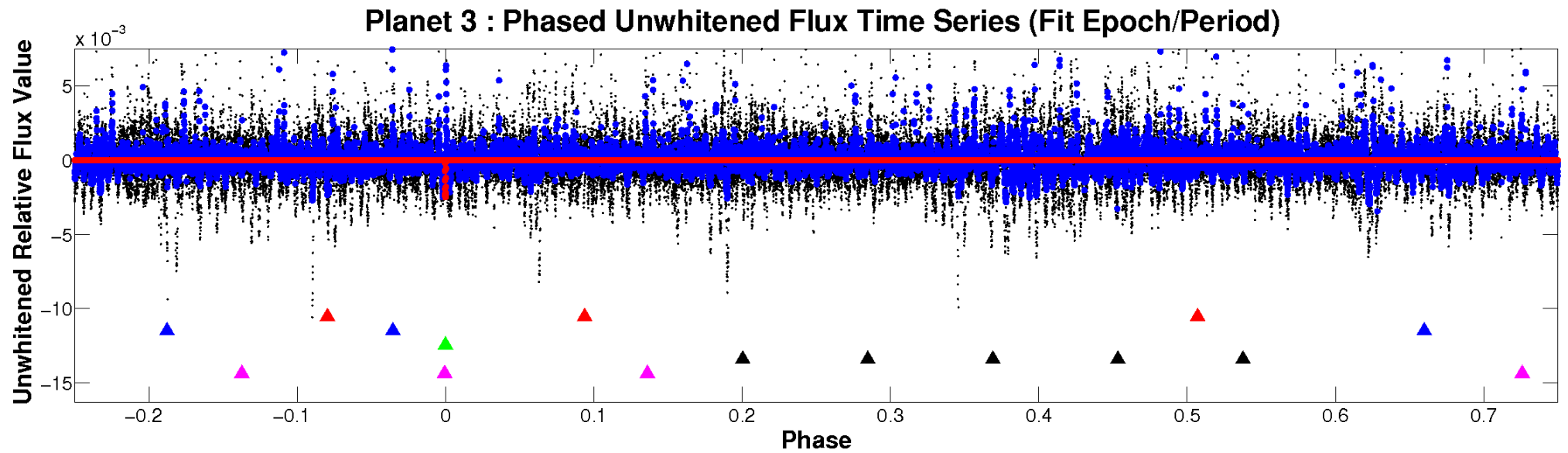


ALT Odd/Even

TCE 007898071-03

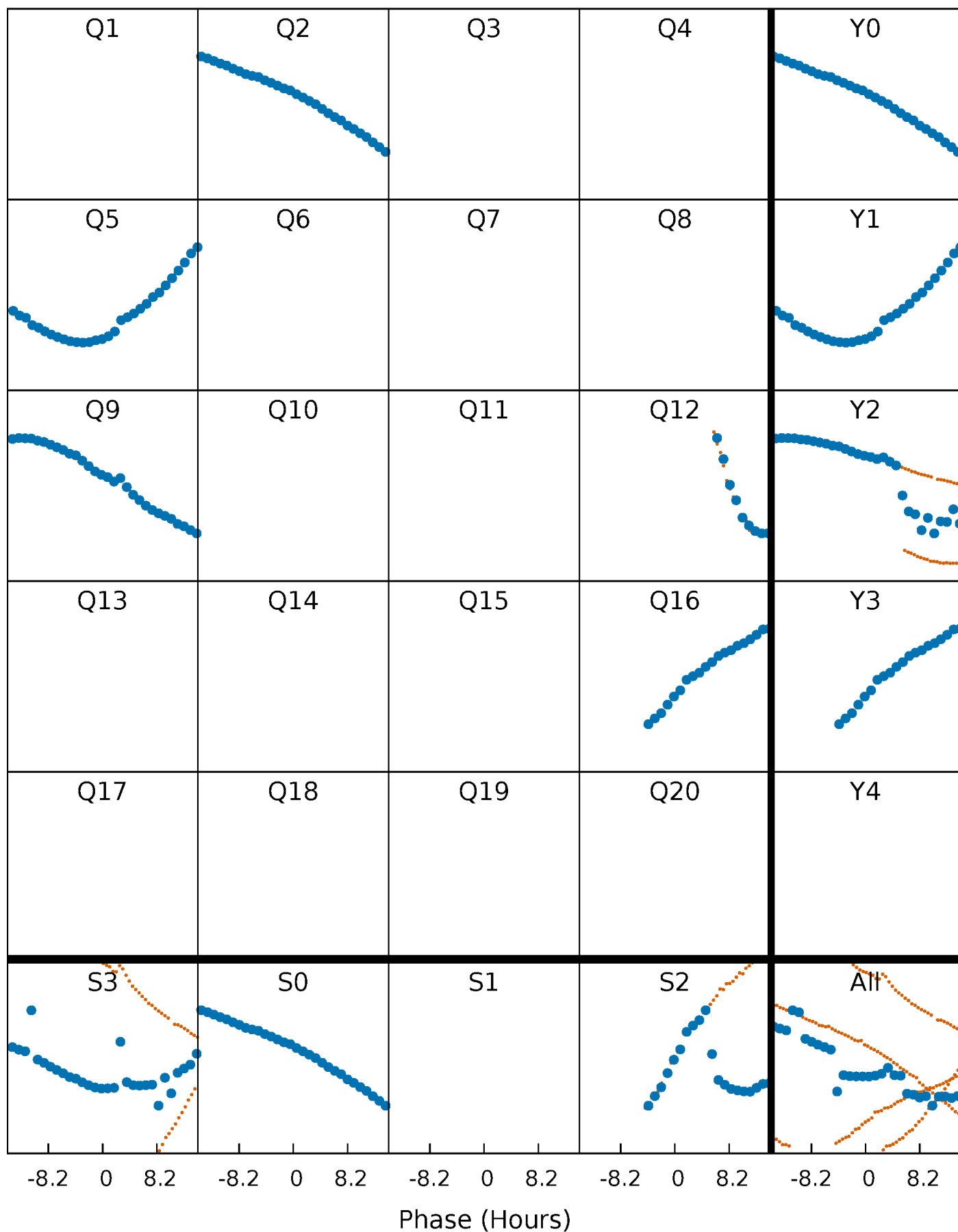


Non-Whitened Vs. Whitened Light Curve



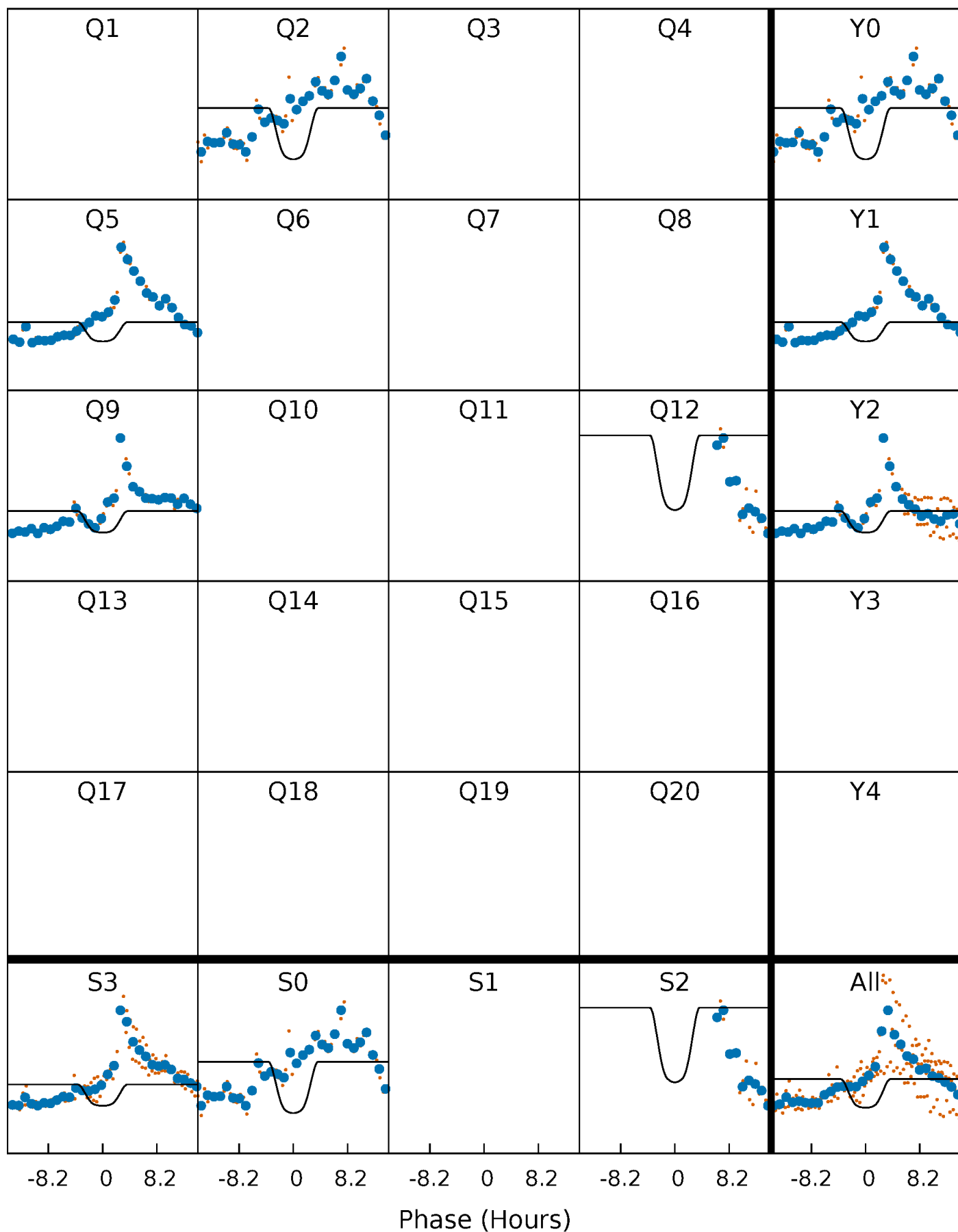
PDC Quarter-Phased Transit Curves

TCE 007898071-03 P=317.622657 Days $T_0=201.812375$ (BKJD)



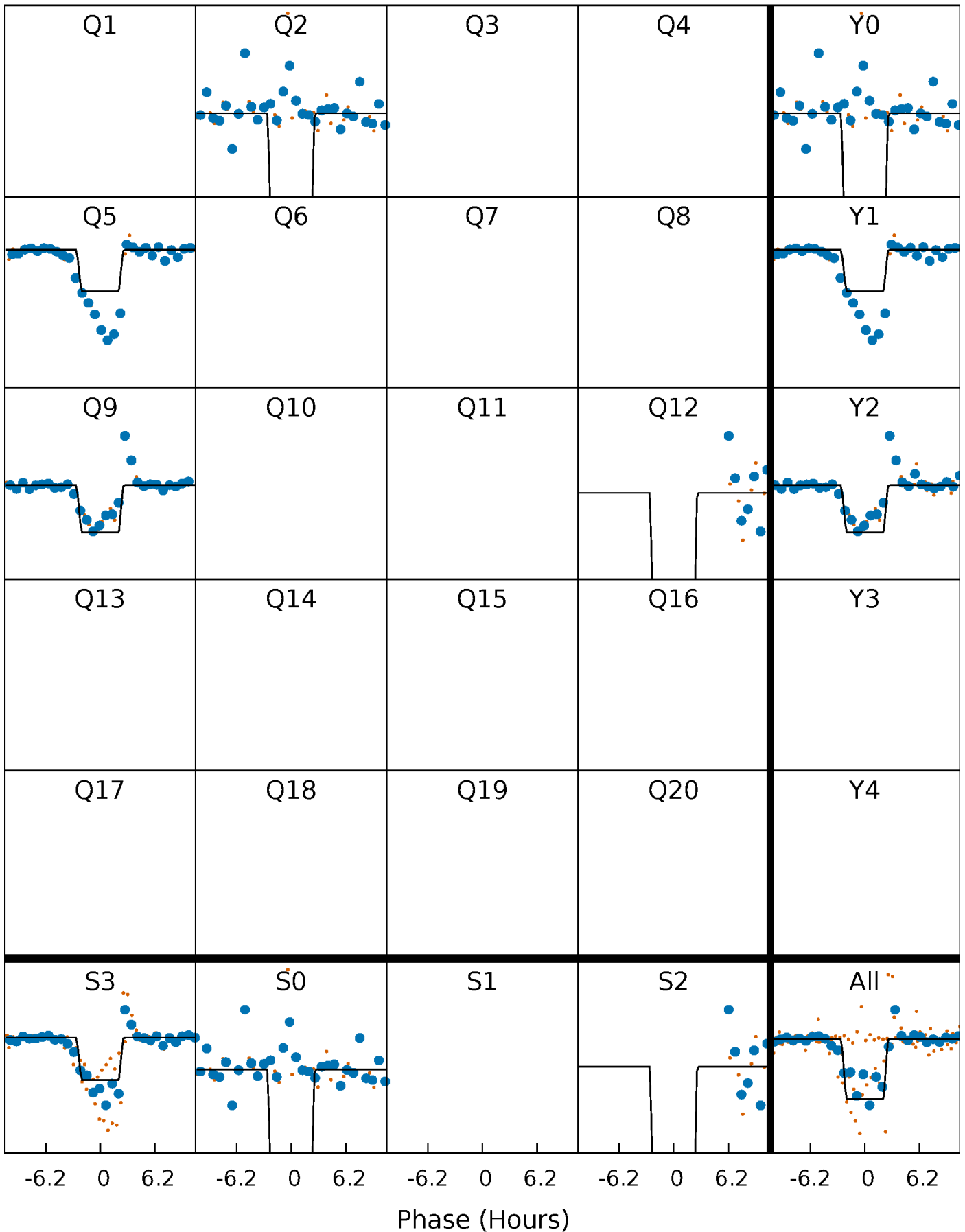
DV Quarter-Phased Transit Curves

TCE 007898071-03 P=317.622657 Days $T_0=201.812375$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

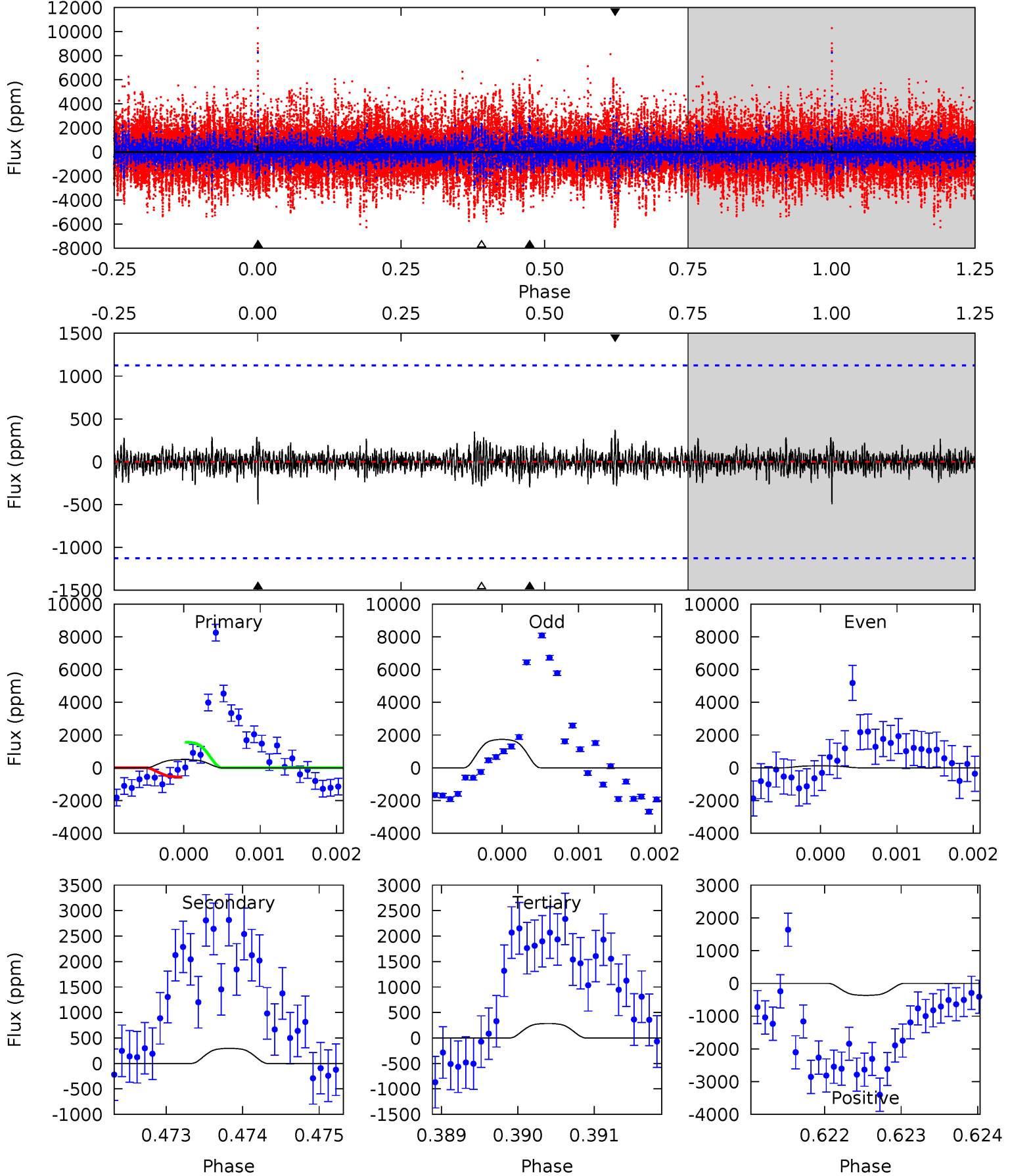
TCE 007898071-03 P=317.626068 Days $T_0=201.801638$ (BKJD)



DV Model-Shift Uniqueness Test

007898071-03, P = 317.622657 Days, E = 201.812375 Days

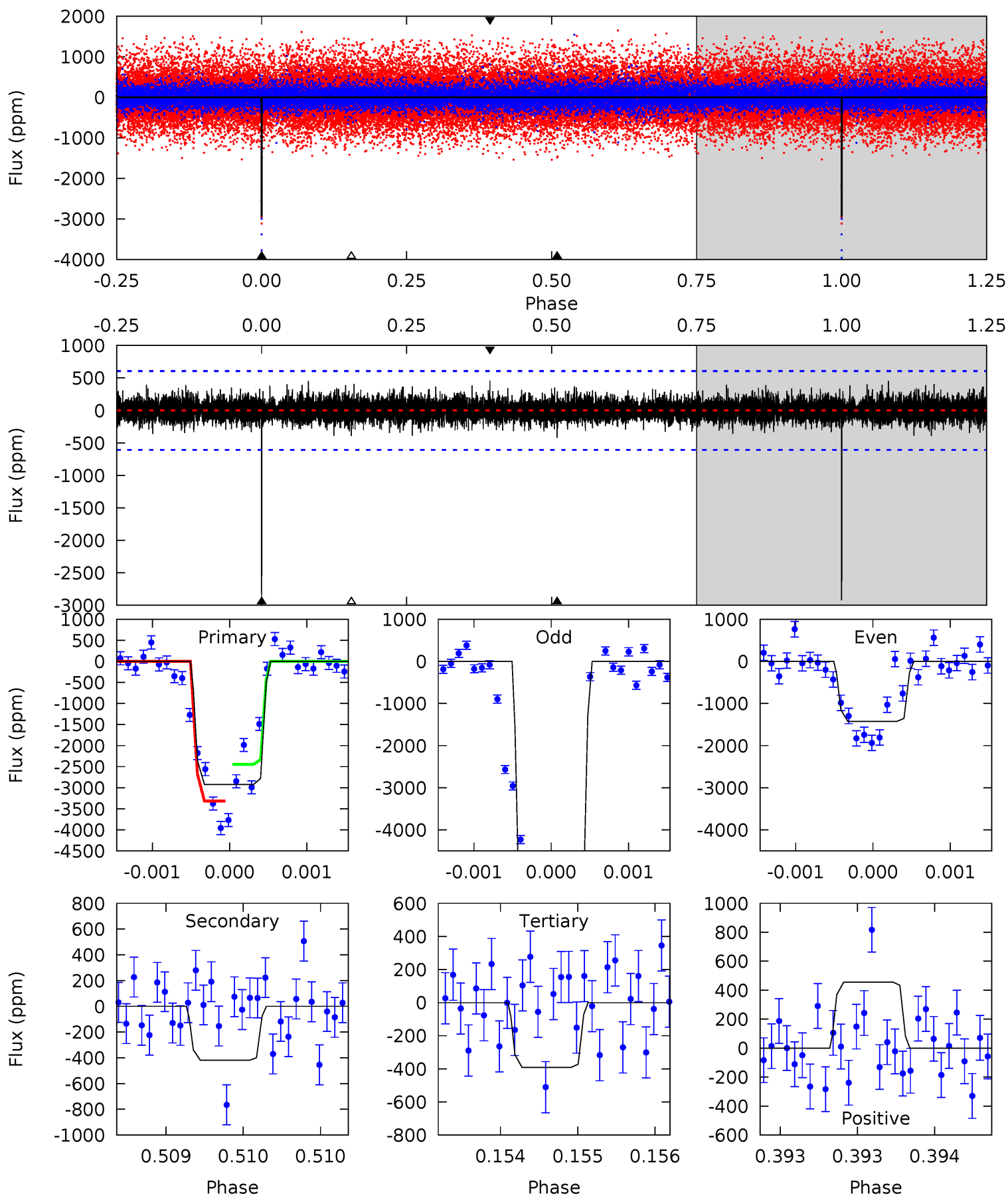
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.41	1.44	1.38	1.78	5.45	3.29	0.41	1.03	0.63	0.06	-0.34	3.65	2.52	0.42	2.44



Alt Model-Shift Uniqueness Test

007898071-03, P = 317.626068 Days, E = 201.801638 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.5	3.81	3.55	4.14	5.51	3.39	0.84	23.0	22.4	0.26	-0.33	39.9	1.13	0.14	0



Stellar Parameters For KIC 007898071

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4764^{+139}_{-153}	$4.685^{+0.052}_{-0.032}$	$-1.020^{+0.300}_{-0.300}$	$0.566^{+0.038}_{-0.038}$	$0.564^{+0.047}_{-0.024}$	$4.387^{+0.855}_{-0.533}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+8%/-4%	+19%/-12%
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 007898071-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-297 ± 206	$3.55^{+0.37}_{-0.40}$	253^{+9}_{-8}	3146^{+290}_{-489}	7575^{+5495}_{-5281}
Alt.	-419 ± 110	$3.93^{+0.39}_{-0.38}$	253^{+9}_{-9}	3203^{+177}_{-166}	8513^{+3269}_{-2482}

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

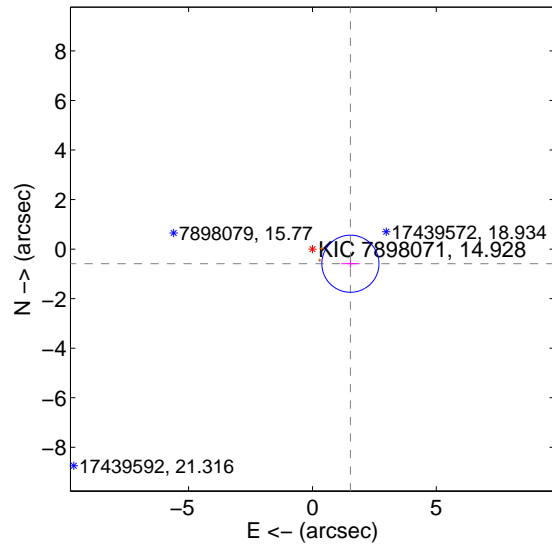
Supplemental centroid analysis for 007898071-03. Kepler magnitude: 14.93. Transit SNR 7.64

There are 1 quarters with good PRF difference image offsets

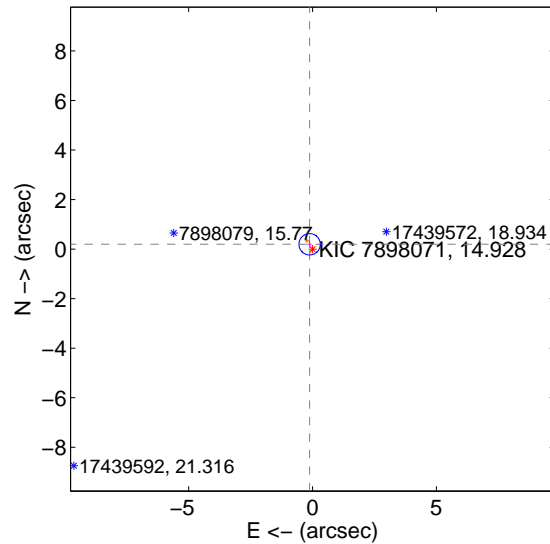
The direct PRF centroid is offset from the target star catalog position by about 0.68 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.643 ± 0.384	4.27	-1.533 ± 0.368	-0.590 ± 0.165
PRF-fit source offset from KIC position	0.227 ± 0.143	1.58	0.117 ± 0.081	0.194 ± 0.139
photometric centroid source offset	1.45 ± 2.23	0.65	-1.27 ± 2.53	0.69 ± 0.48

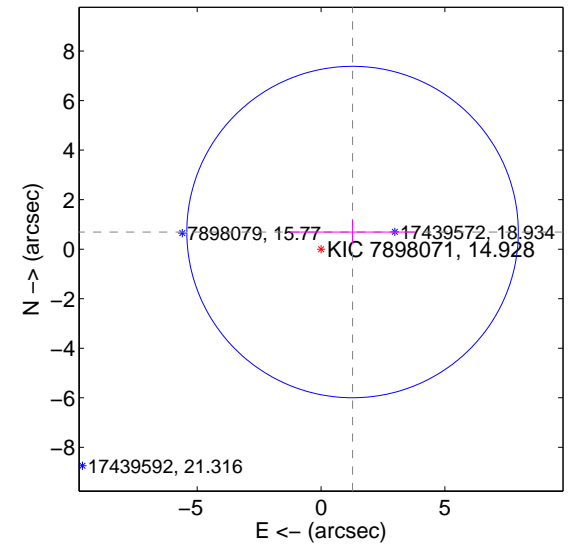
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

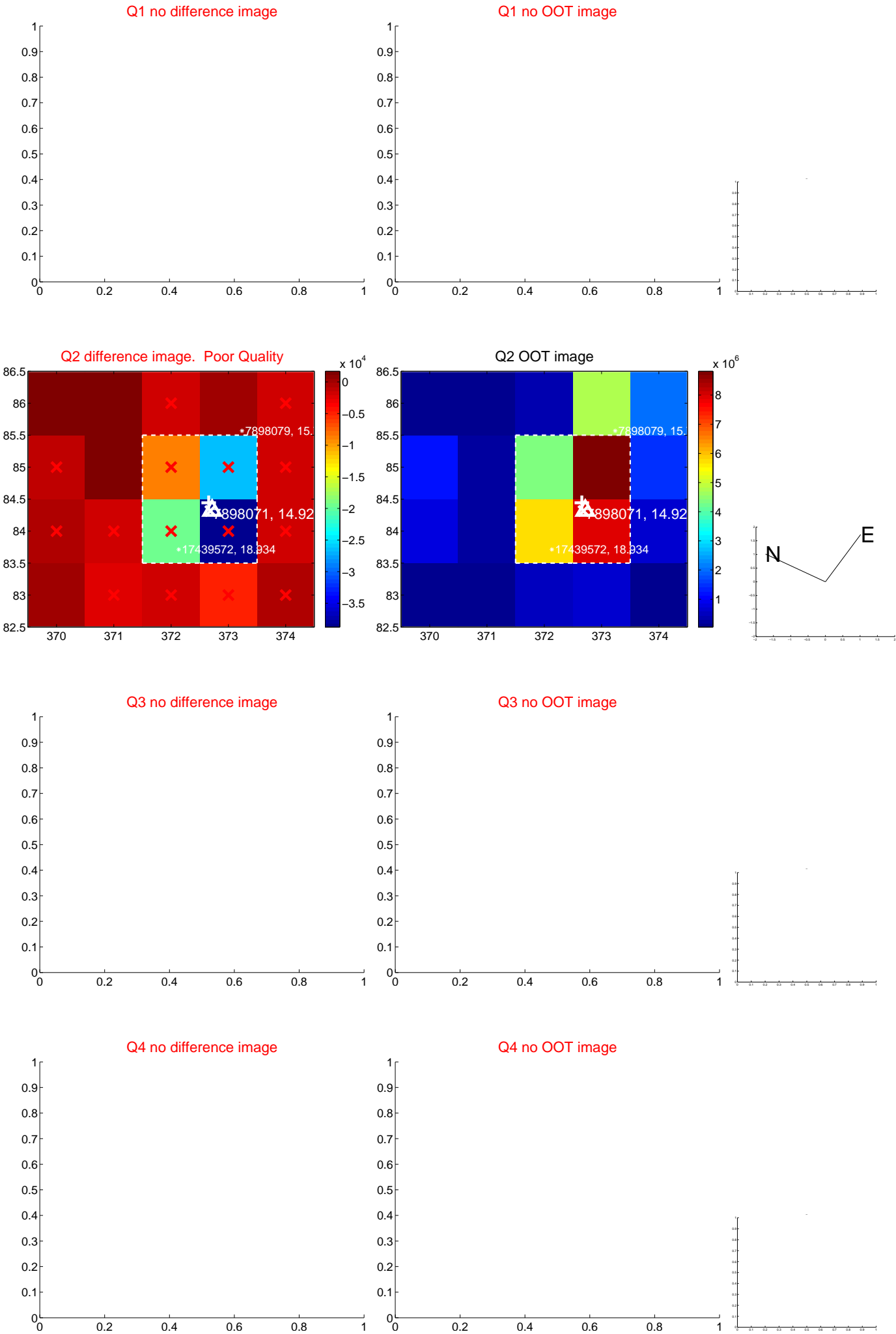


offset from photometric centroids

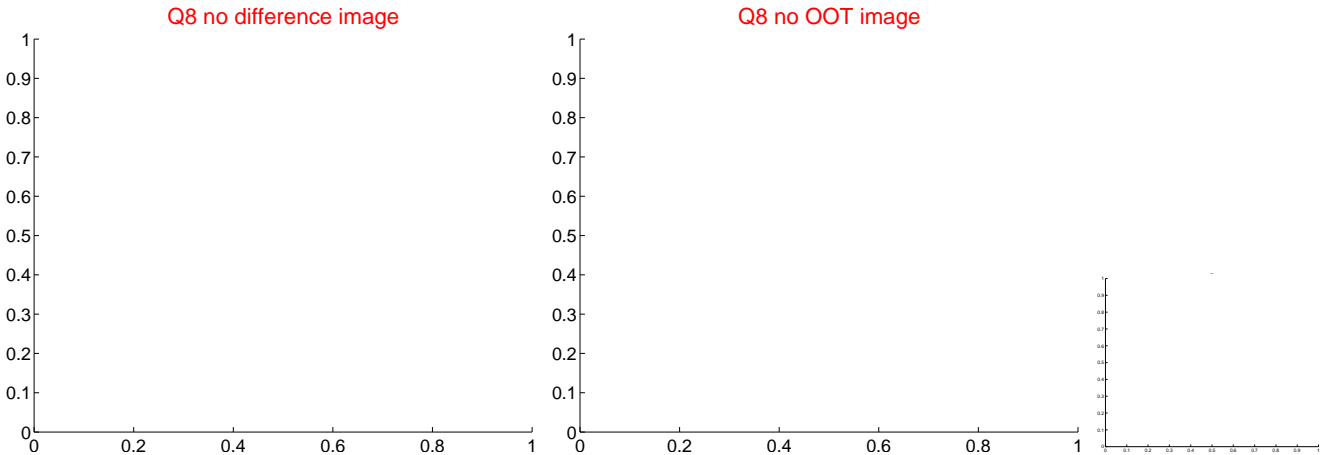
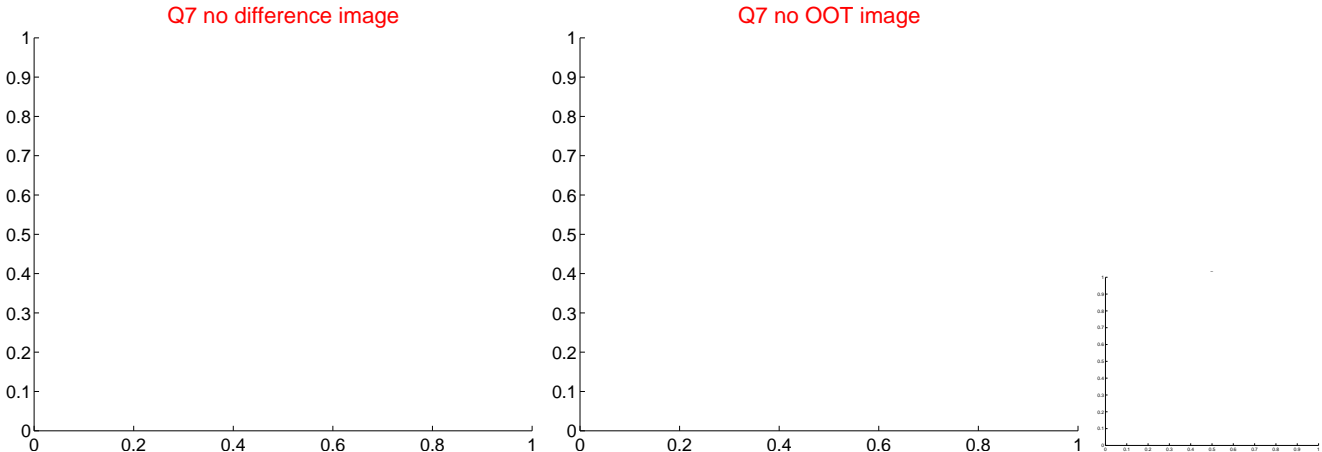
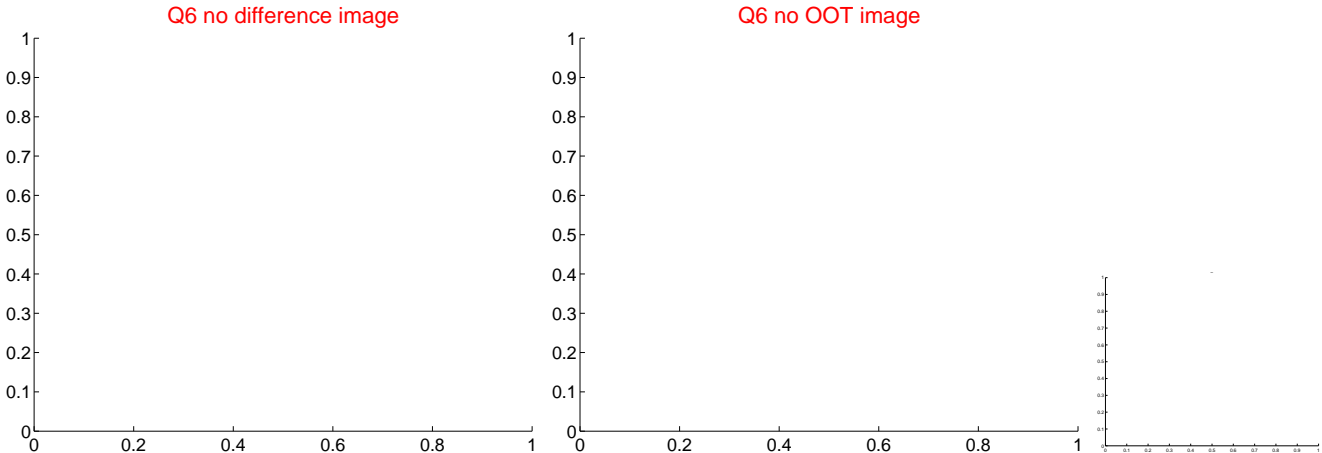
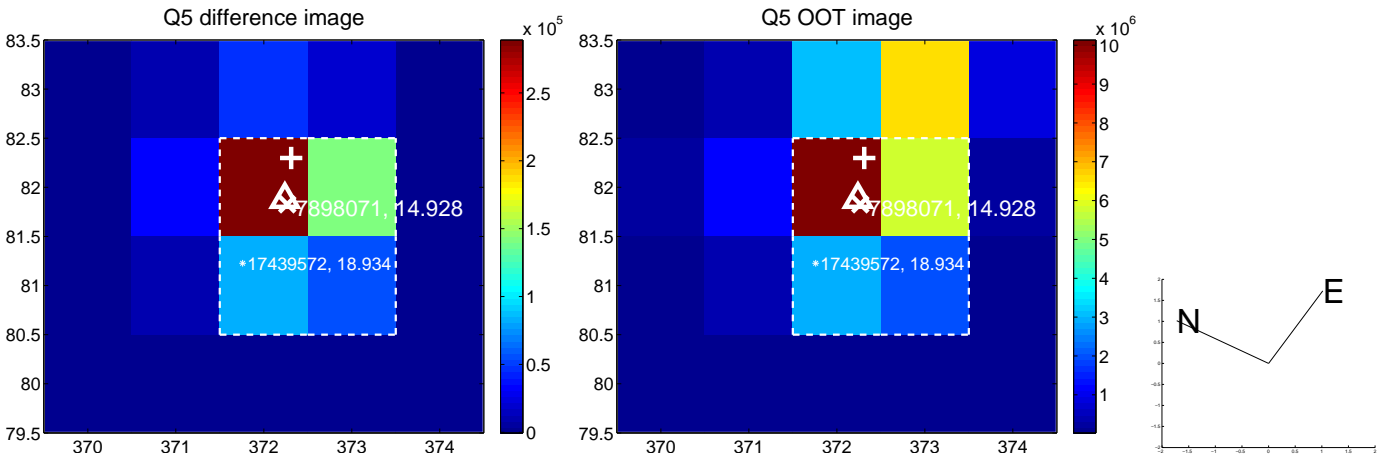


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

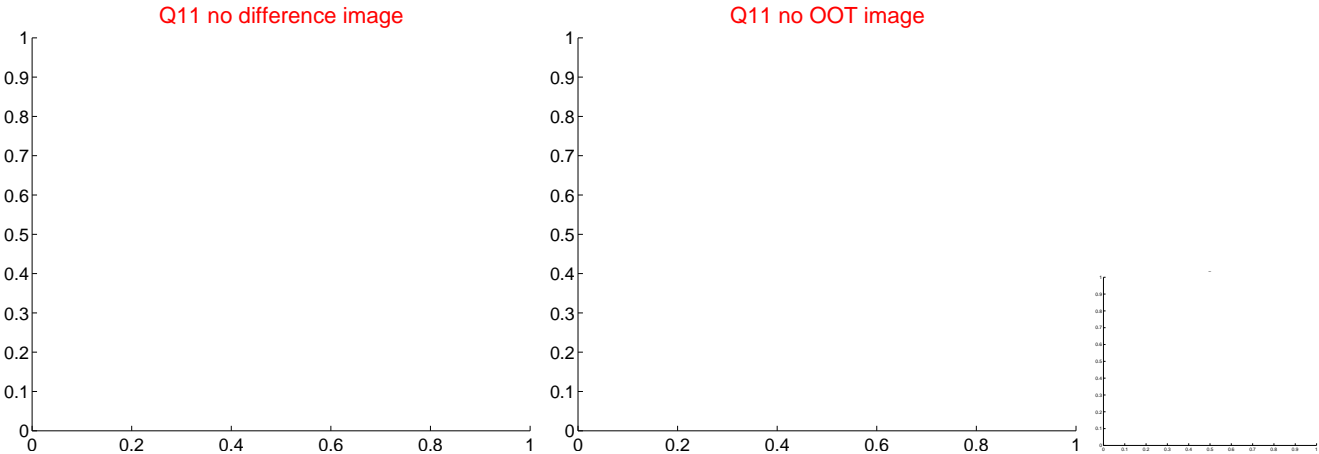
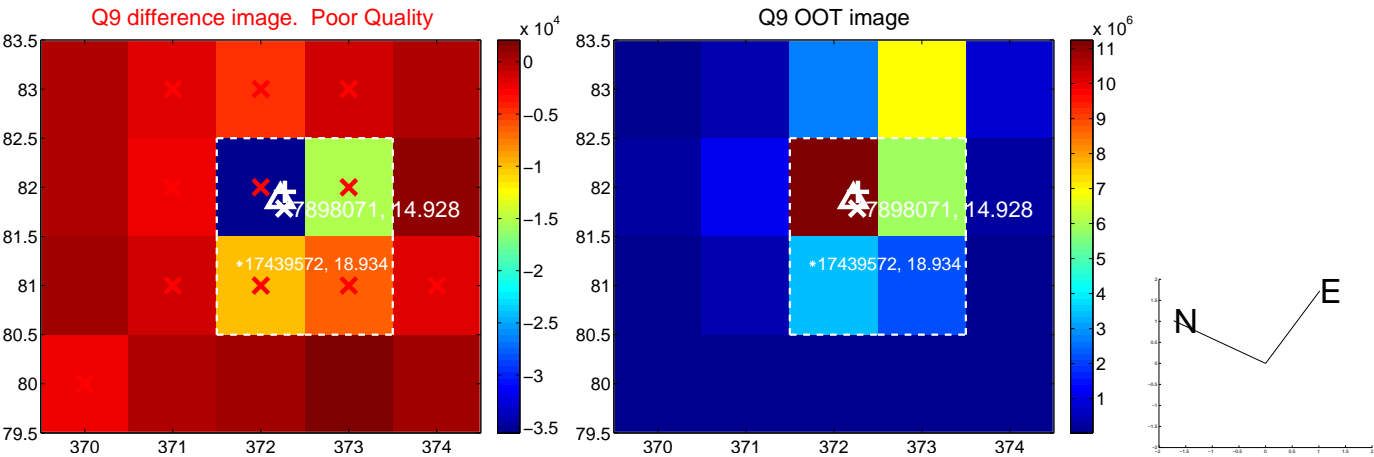
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



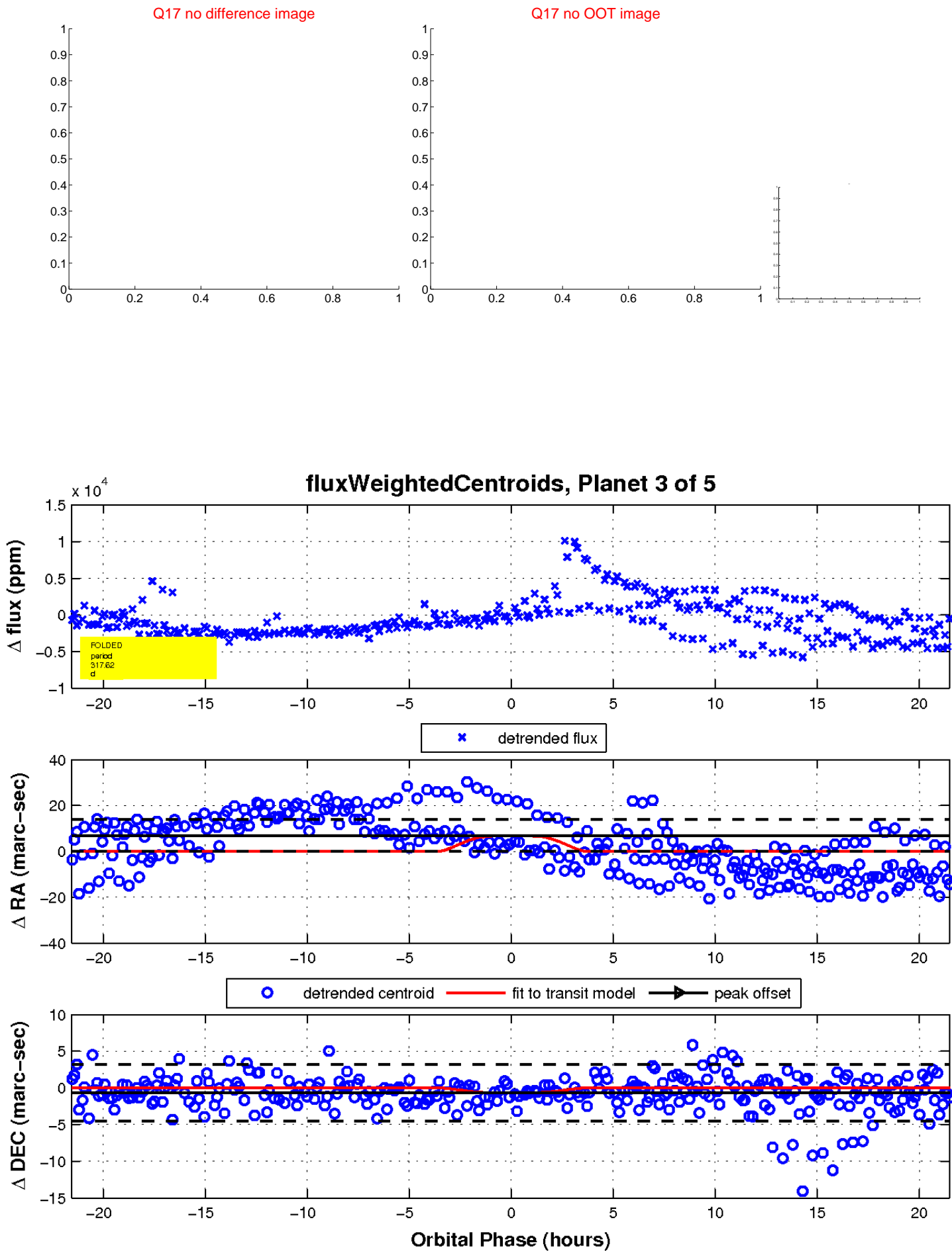
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

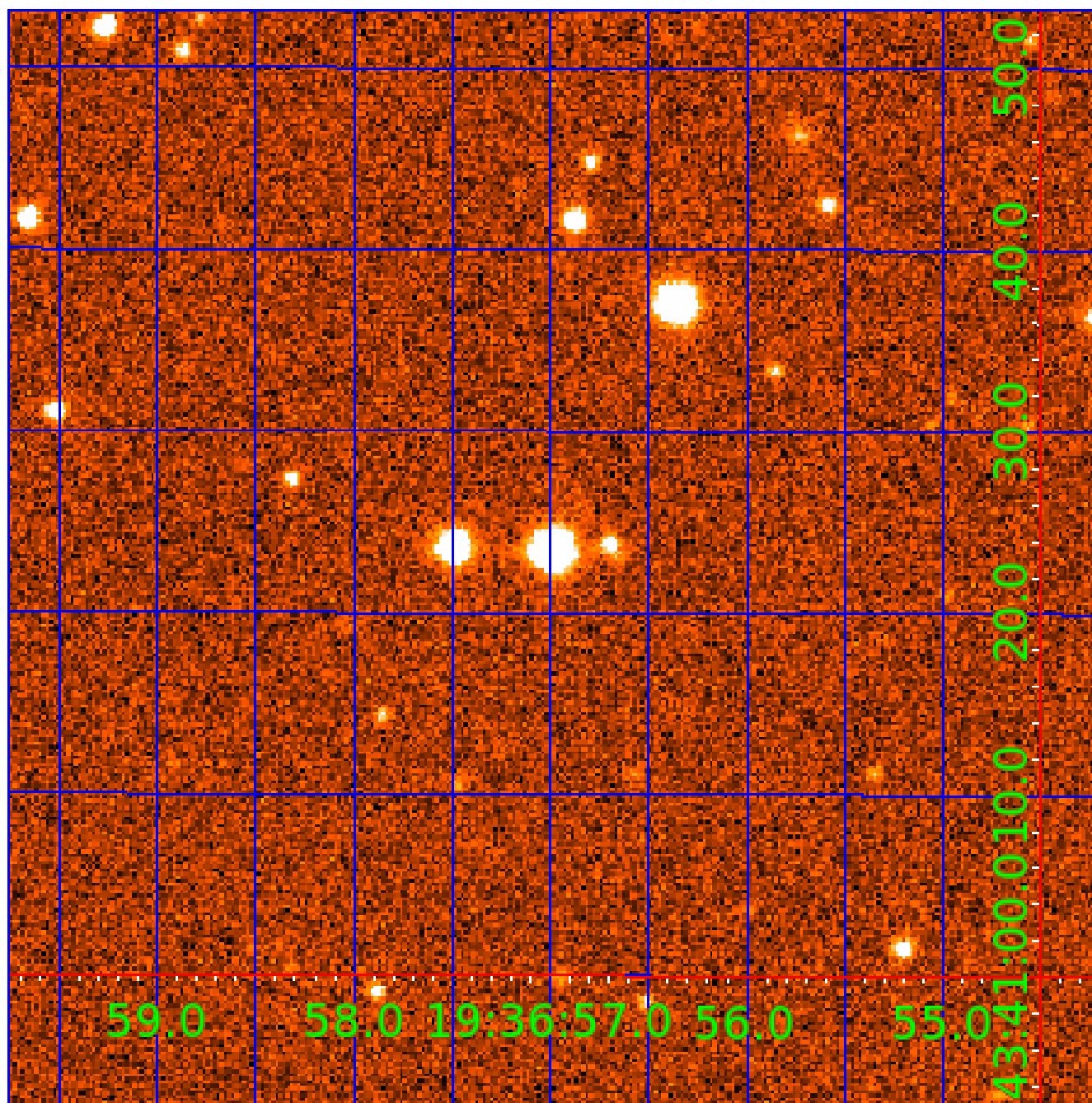


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007898071

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})
007898071-01	OBS	No	503.971943	494.160338	5714.3	9.759	16.6	12.8	0.57	4764	4.17	0.14
007898071-02	OBS	No	586.862752	190.561125	2063.2	4.976	16.4	6.3	0.57	4764	2.56	0.12
007898071-03	OBS	No	317.622657	201.812375	2495.3	7.202	13.8	7.6	0.57	4764	3.53	0.26
007898071-04	OBS	No	290.840696	372.597438	1465.7	4.404	12.0	5.4	0.57	4764	2.11	0.29
007898071-05	OBS	No	361.050997	432.396110	2159.2	3.768	12.7	6.8	0.57	4764	2.68	0.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007898071-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007898071-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

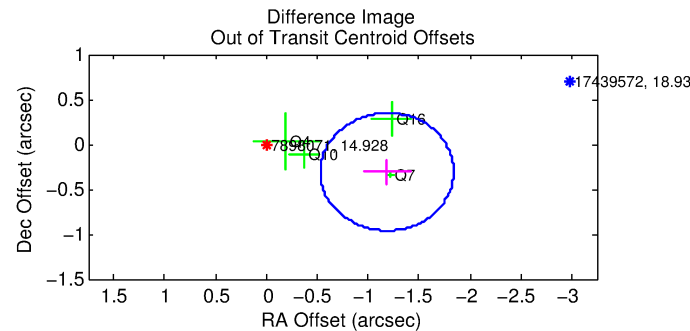
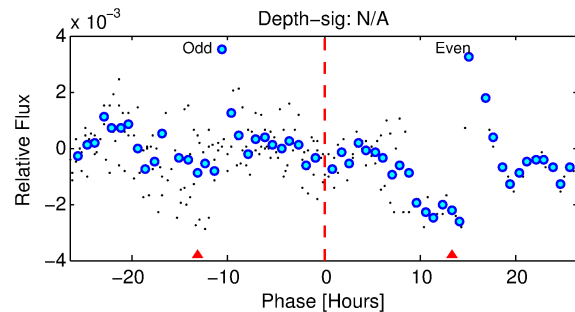
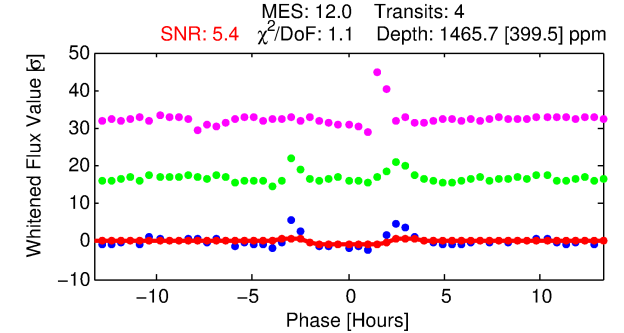
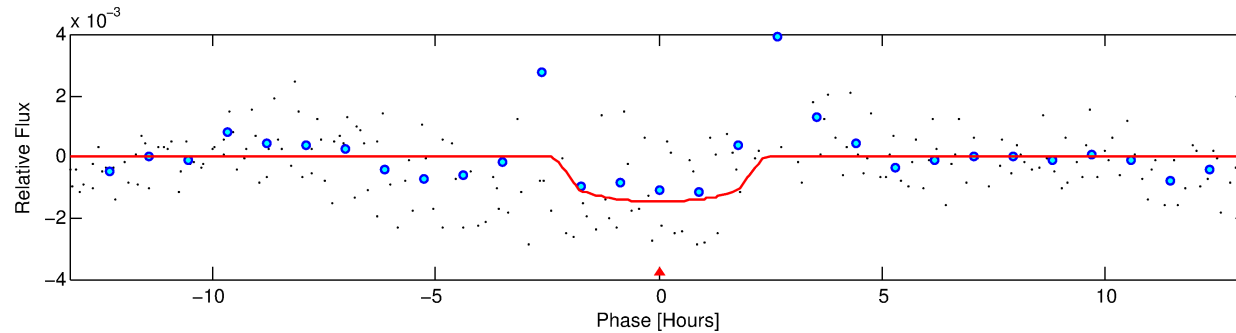
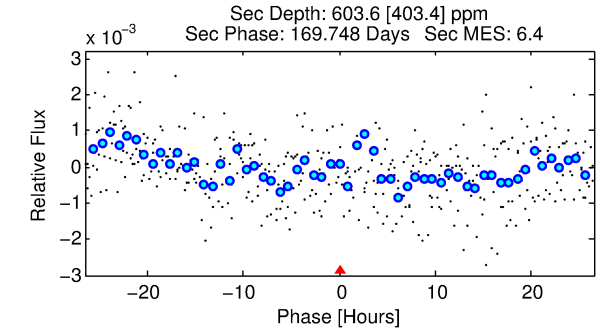
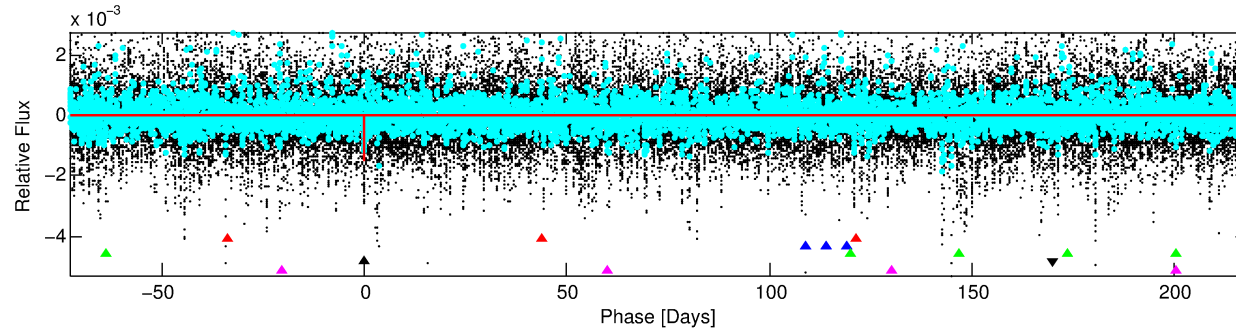
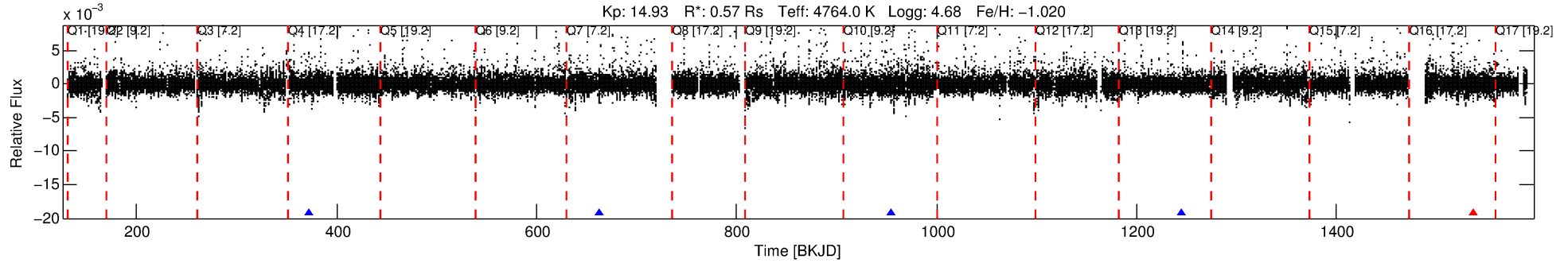
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007898071-04

No Significant Match Found

DV One-Page Summary

KIC: 7898071 Candidate: 4 of 5 Period: 290.841 d



DV Fit Results:

Period = 290.84070 [0.00460] d
Epoch = 372.5974 [0.0103] BKJD
Rp/R* = 0.0342 [0.1165]
a/R* = 521.77 [6637.62]
b = 0.02 [832.88]
Seff = 0.29 [0.05]
Teq = 188 [7] K
Rp = 2.11 [7.20] Re
a = 0.7107 [0.0426] AU
Ag = 37577.90 [257208.00] [0.15] σ
Teffp = 4038 [6909] K [0.56] σ

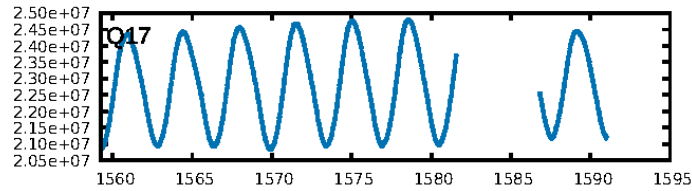
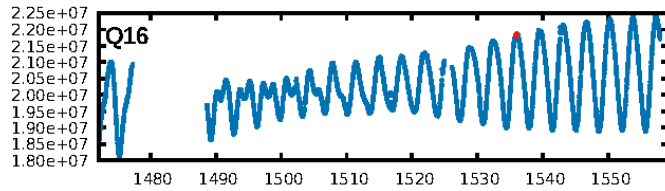
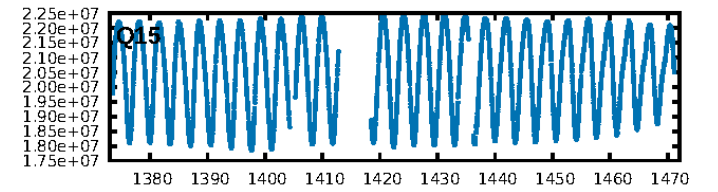
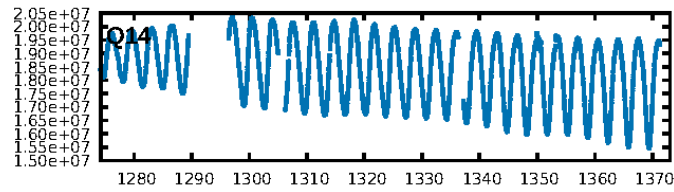
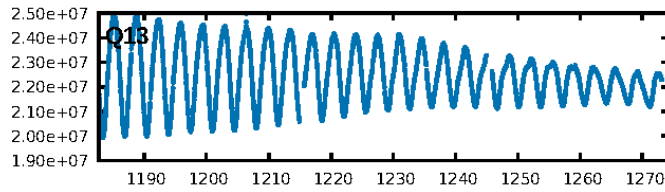
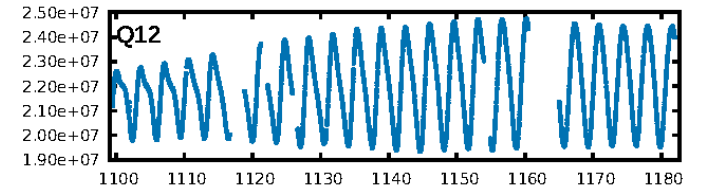
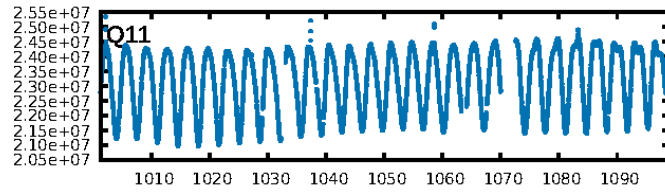
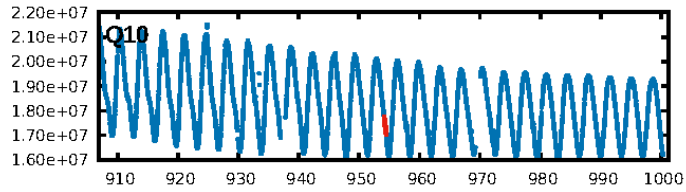
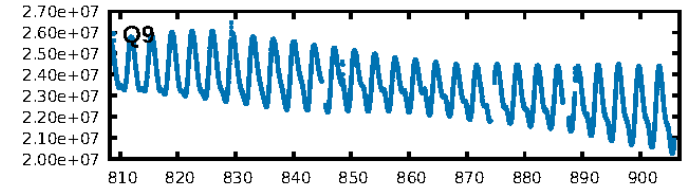
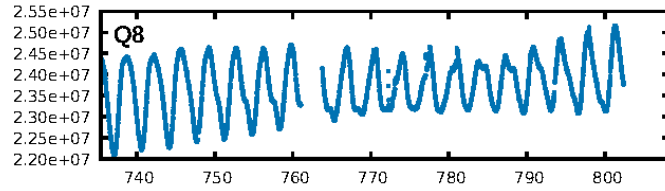
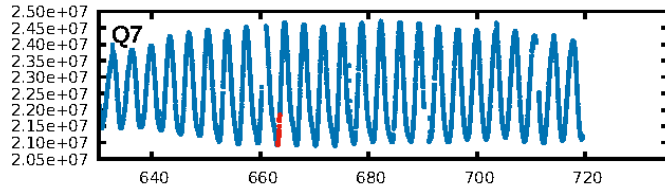
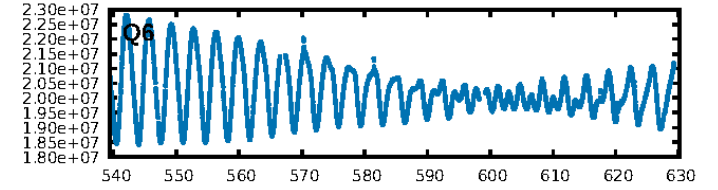
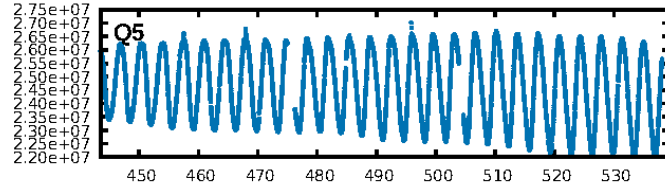
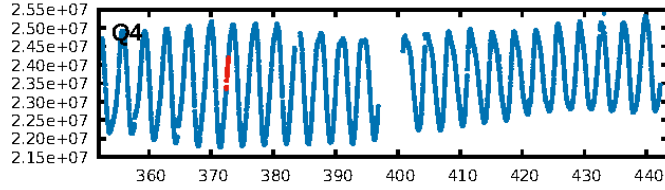
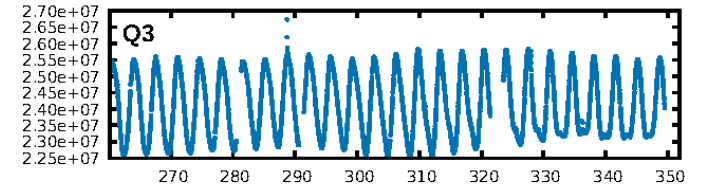
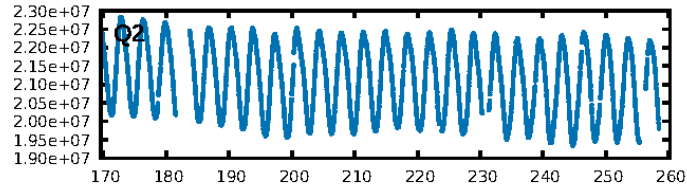
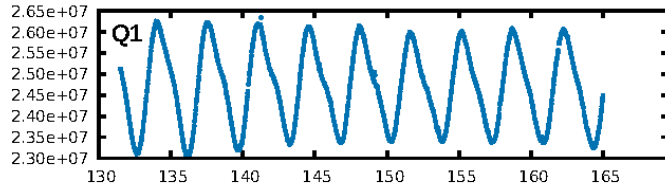
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [76.14] σ
ModelChiSquare2-sig: 3.0%
ModelChiSquareGof-sig: 85.1%
Bootstrap-pfa: 1.66e-09
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 1.964
Centroid-sig: 93.2%
Centroid-so: 1.797 arcsec [0.63] σ
OotOffset-rm: 1.225 arcsec [5.61] σ
KicOffset-st: 1/1/2/0 [4]
KicOffset-st: 1/1/2/0 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 1.00 [4/4]

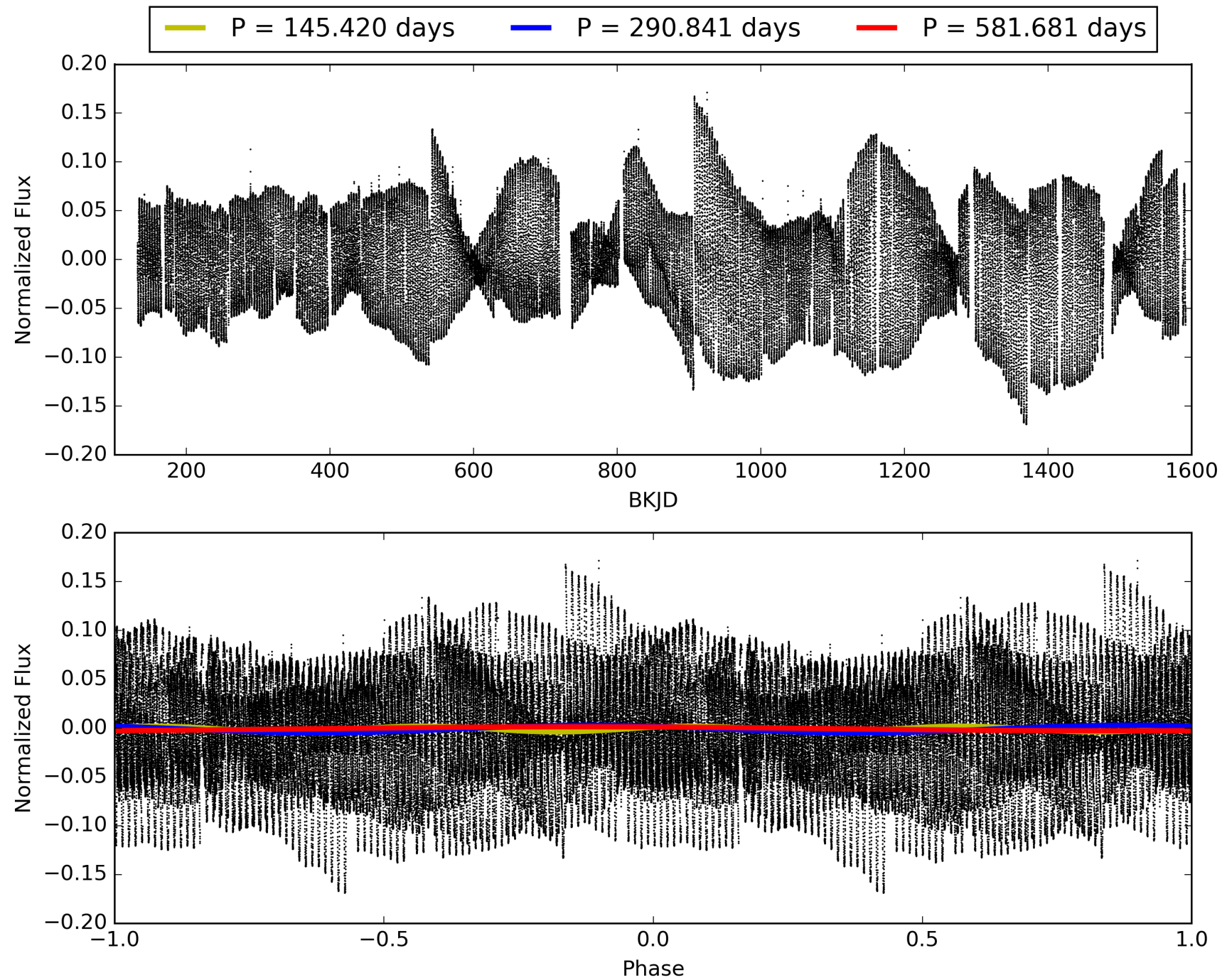
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:07:56 Z

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

TCE 007898071-04, PDC Light Curves

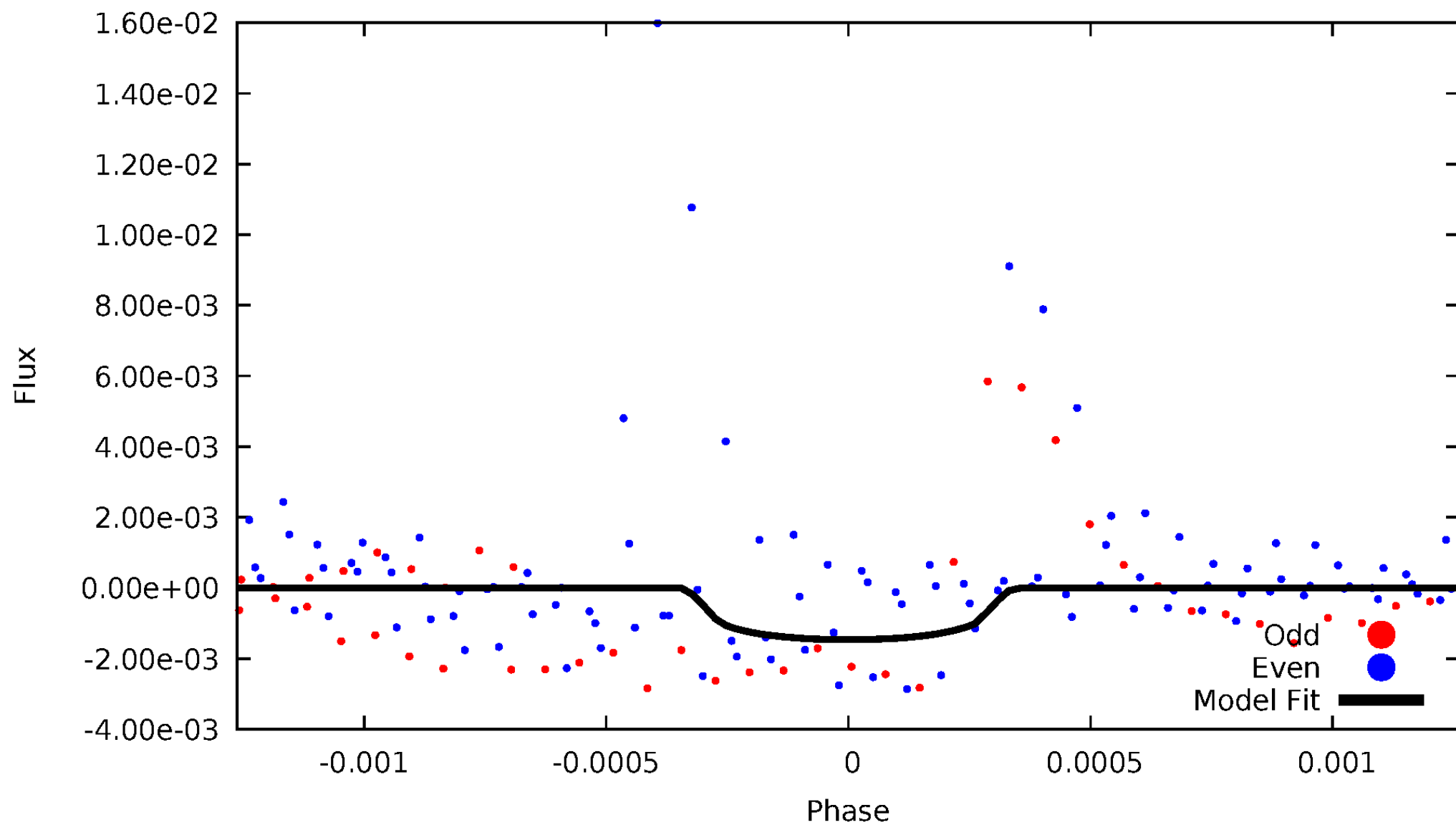


TCE 007898071-04



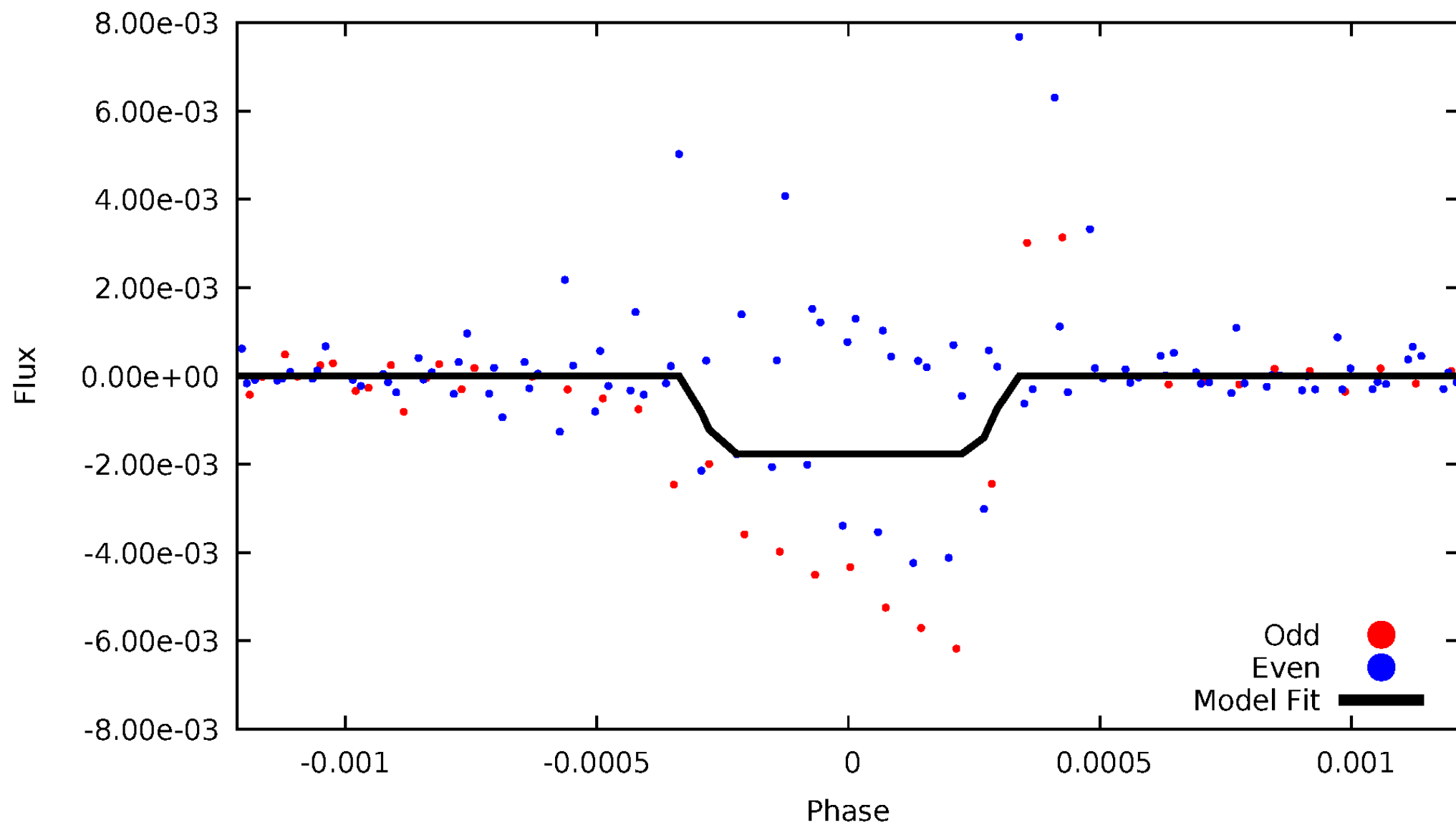
DV Odd/Even

TCE 007898071-04



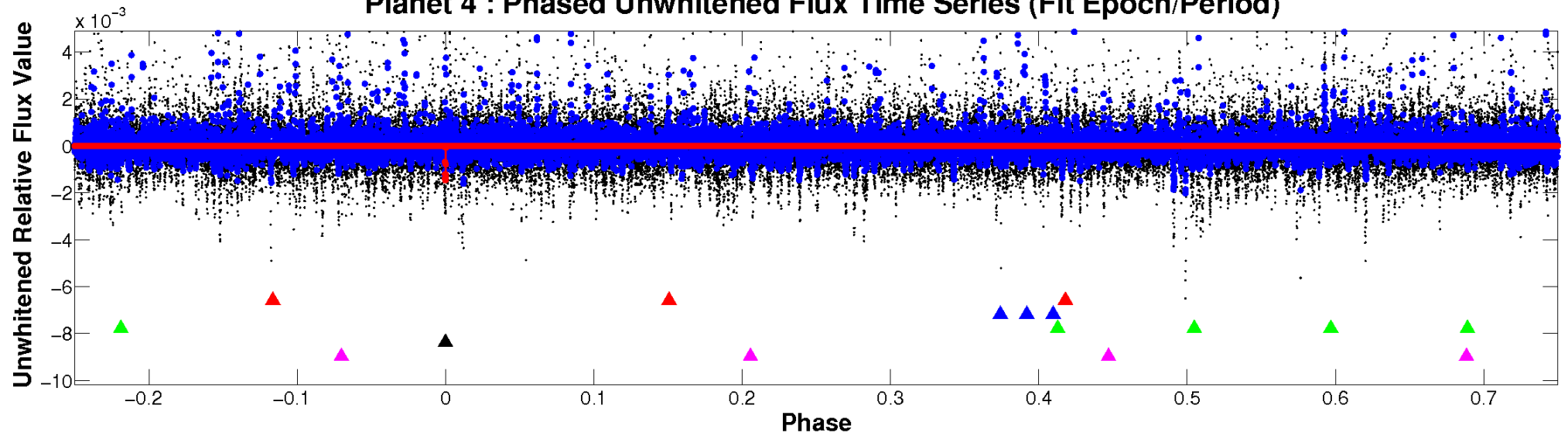
ALT Odd/Even

TCE 007898071-04

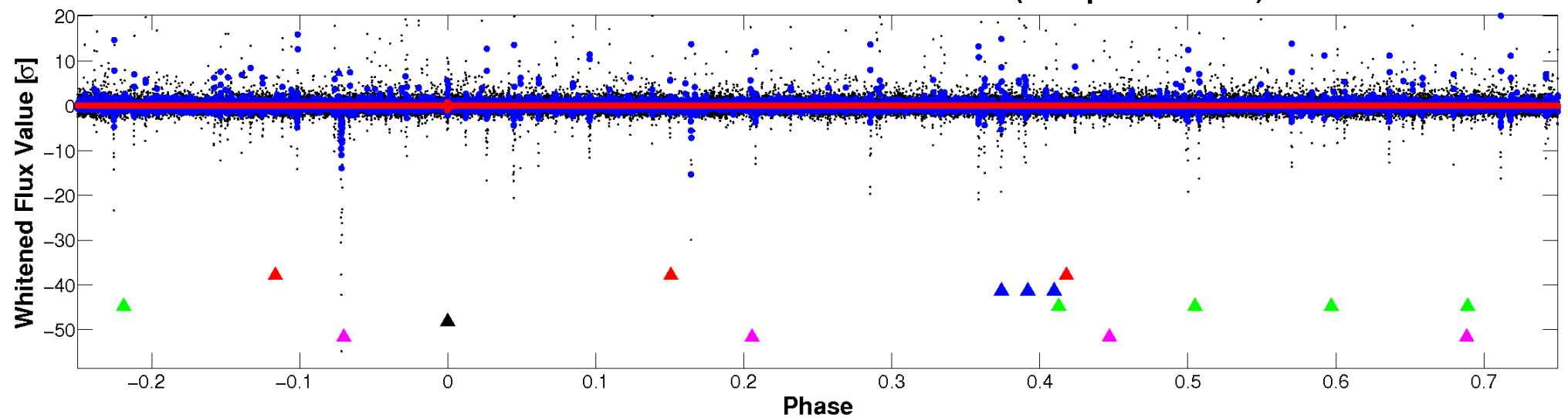


Non-Whitened Vs. Whitened Light Curve

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

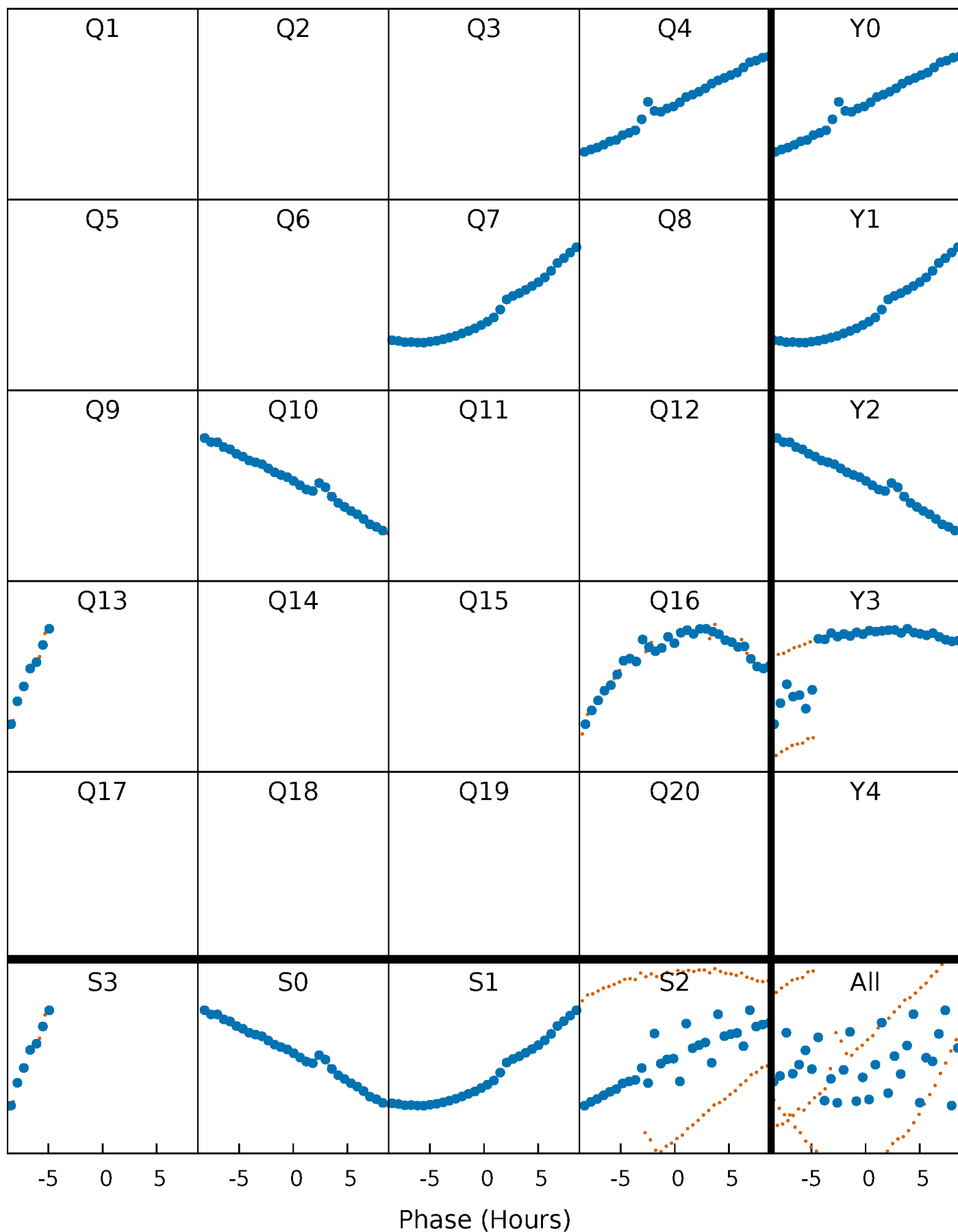


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



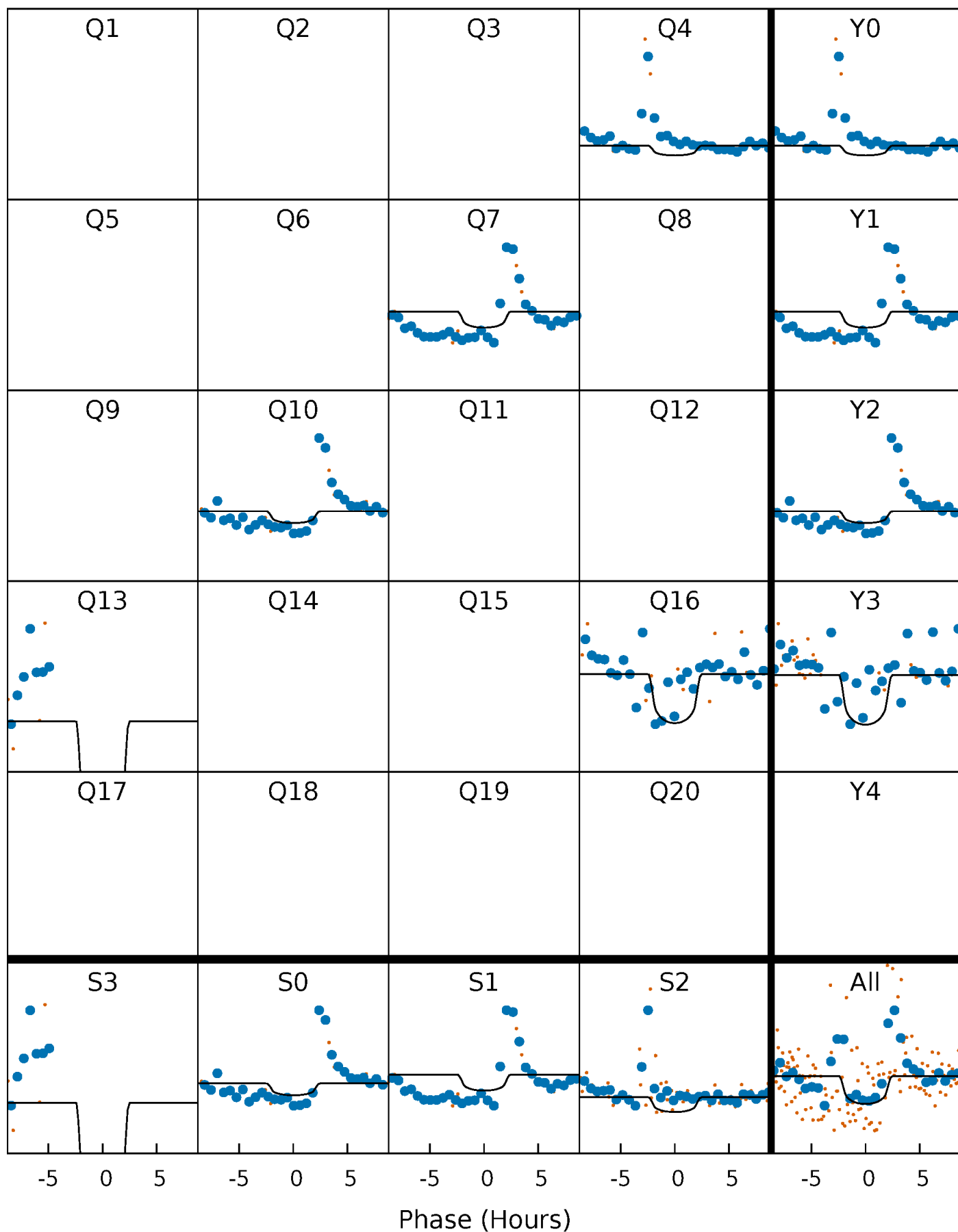
PDC Quarter-Phased Transit Curves

TCE 007898071-04 P=290.840696 Days $T_0=372.597438$ (BKJD)



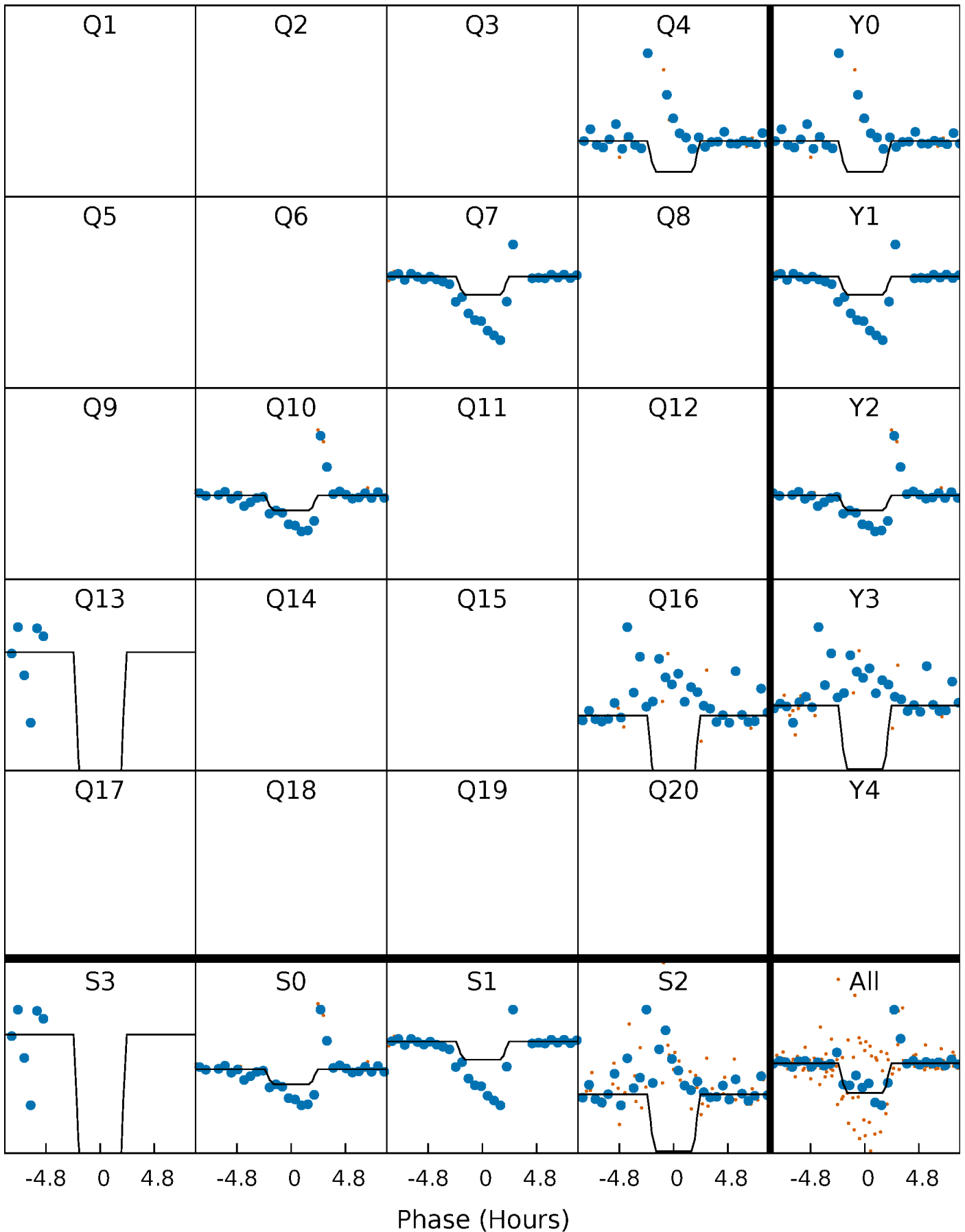
DV Quarter-Phased Transit Curves

TCE 007898071-04 $P=290.840696$ Days $T_0=372.597438$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

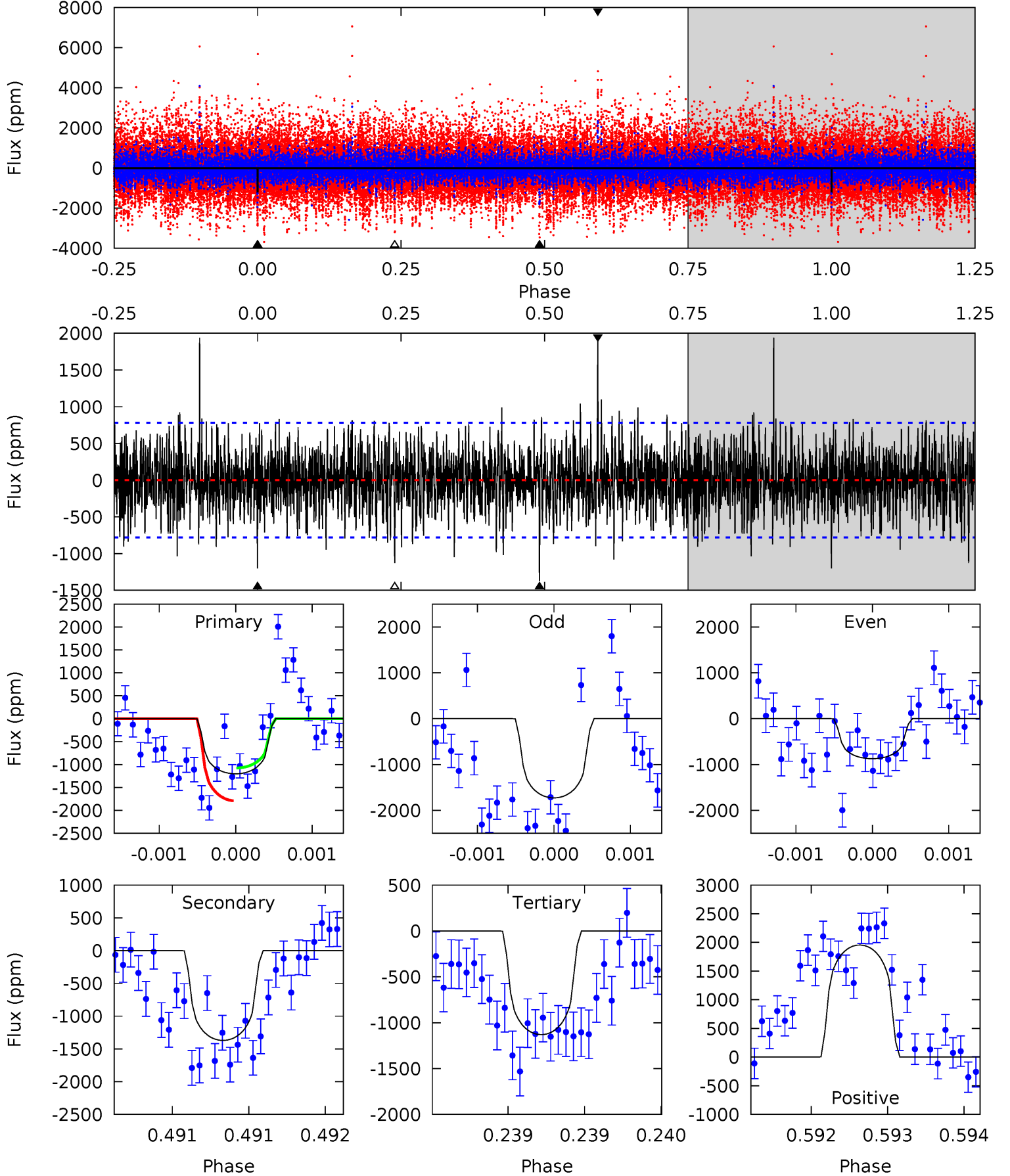
TCE 007898071-04 $P=290.858104$ Days $T_0=372.560324$ (BKJD)



DV Model-Shift Uniqueness Test

007898071-04, P = 290.840696 Days, E = 81.756742 Days

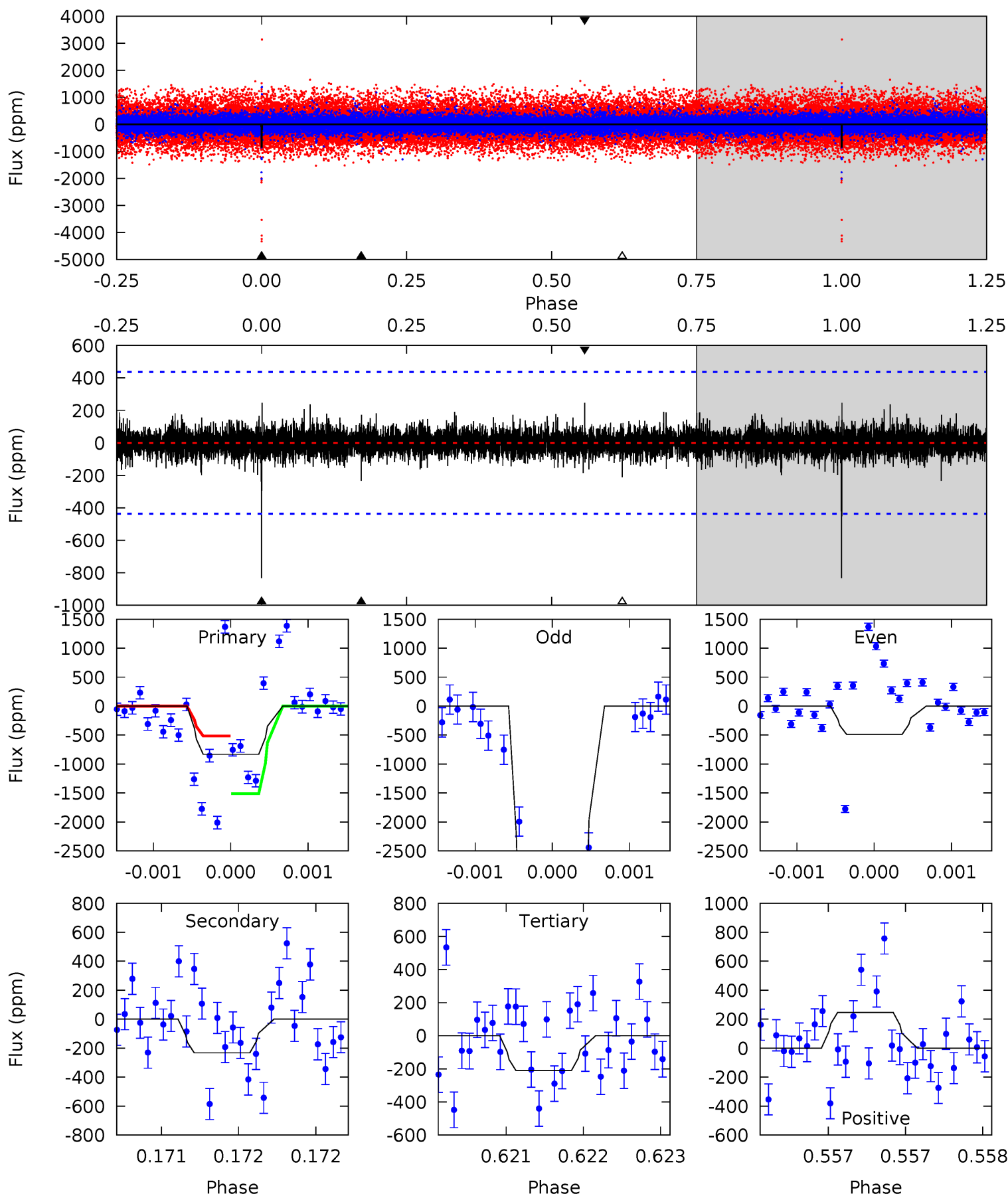
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.50	9.69	7.99	13.8	5.52	3.40	2.20	0.51	-5.32	1.70	-4.13	2.50	0.74	0.59	2.45



Alt Model-Shift Uniqueness Test

007898071-04, P = 290.858104 Days, E = 81.702220 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	2.95	2.66	3.13	5.53	3.42	0.59	7.88	7.41	0.29	-0.18	26.6	1.28	0.23	5.99



Stellar Parameters For KIC 007898071

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4764^{+139}_{-153}	$4.685^{+0.052}_{-0.032}$	$-1.020^{+0.300}_{-0.300}$	$0.566^{+0.038}_{-0.038}$	$0.564^{+0.047}_{-0.024}$	$4.387^{+0.855}_{-0.533}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+8%/-4%	+19%/-12%
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 007898071-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1370 ± 141	$5.78^{+5.84}_{-3.96}$	261^{+8}_{-10}	3404^{+1740}_{-608}	$11326^{+105262}_{-8522}$
Alt.	-233 ± 79	$6.05^{+5.78}_{-4.32}$	261^{+9}_{-9}	2647^{+1081}_{-432}	1814^{+17813}_{-1405}

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 $A_{obs} \gg 1.0$

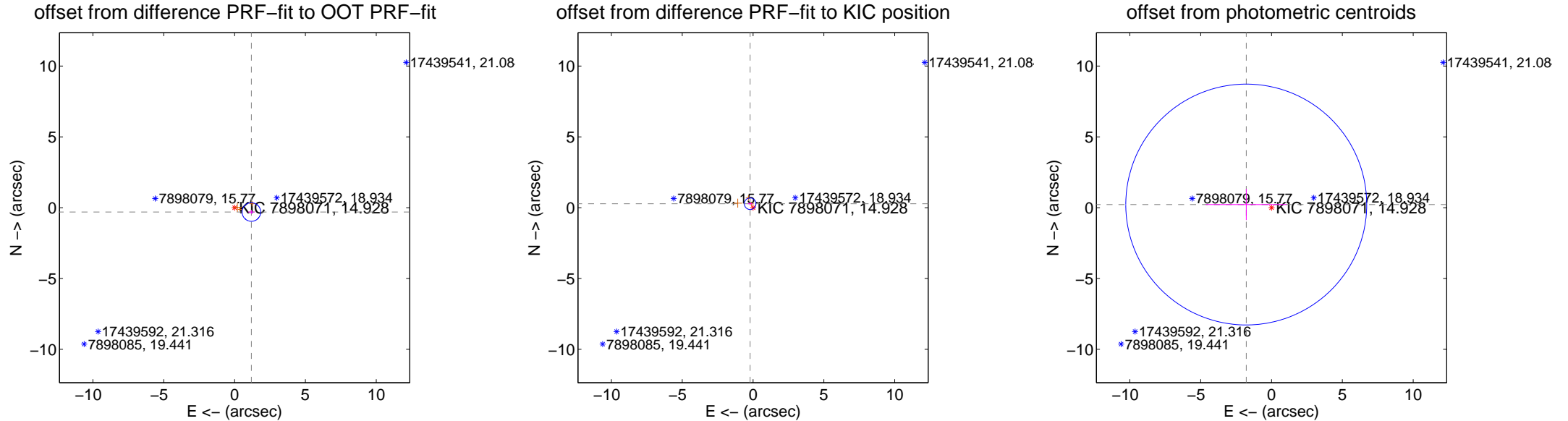
DV Centroid Data

Supplemental centroid analysis for 007898071-04. Kepler magnitude: 14.93. Transit SNR 5.38

There are 1 quarters with good PRF difference image offsets

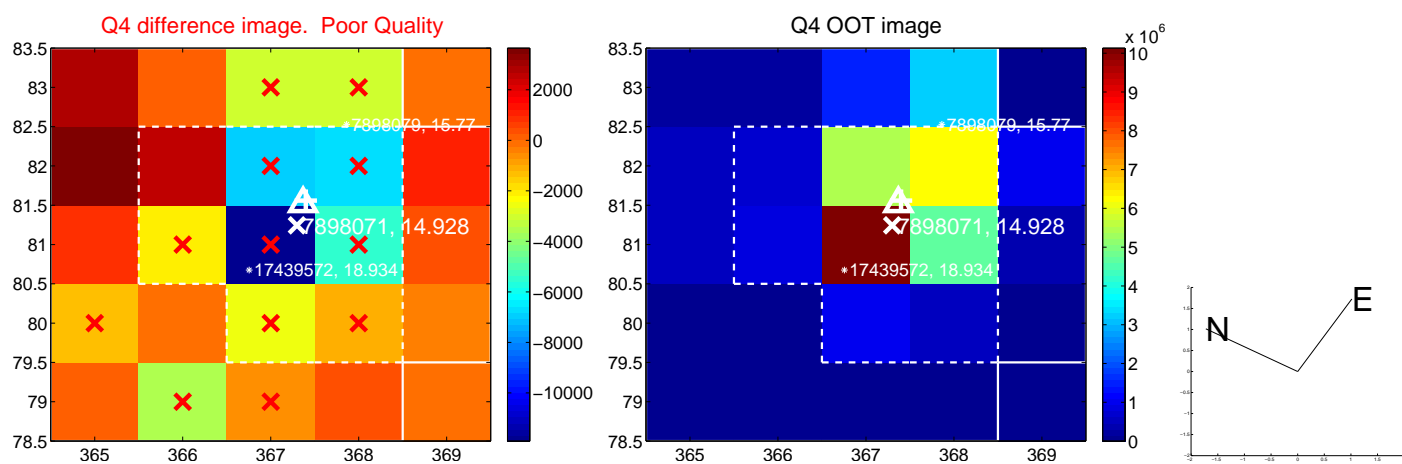
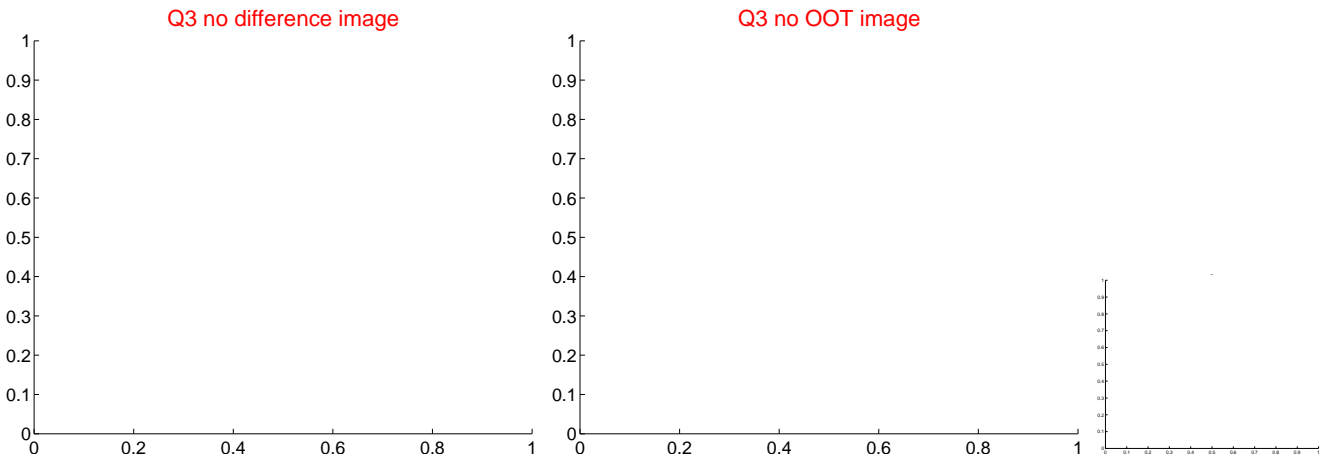
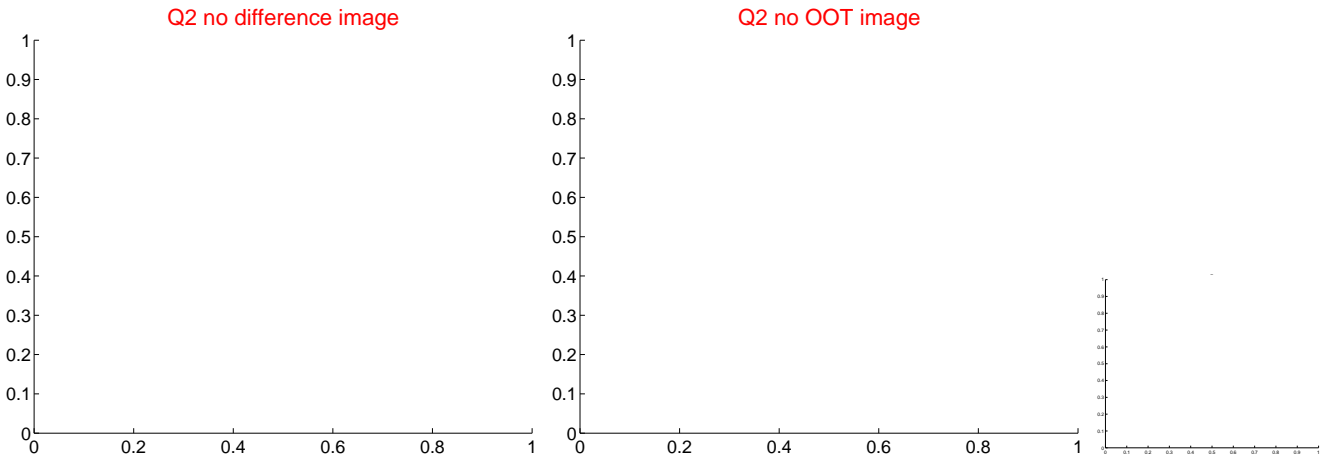
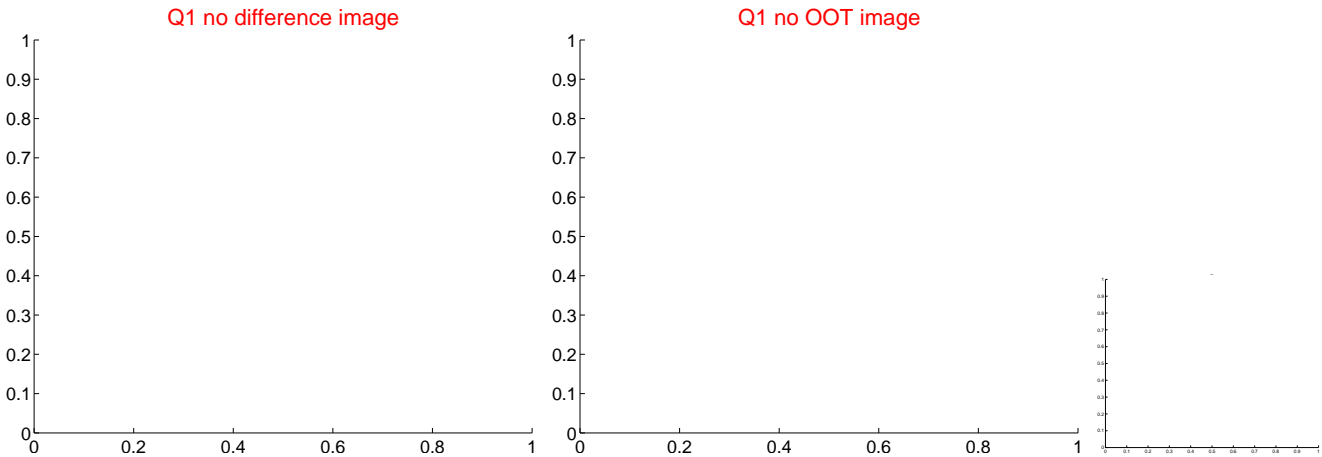
The direct PRF centroid is offset from the target star catalog position by about 1.61 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.225 ± 0.218	5.61	-1.186 ± 0.233	-0.308 ± 0.135
PRF-fit source offset from KIC position	0.346 ± 0.136	2.54	0.205 ± 0.171	0.279 ± 0.115
photometric centroid source offset	1.80 ± 2.83	0.63	1.78 ± 2.85	0.22 ± 1.10

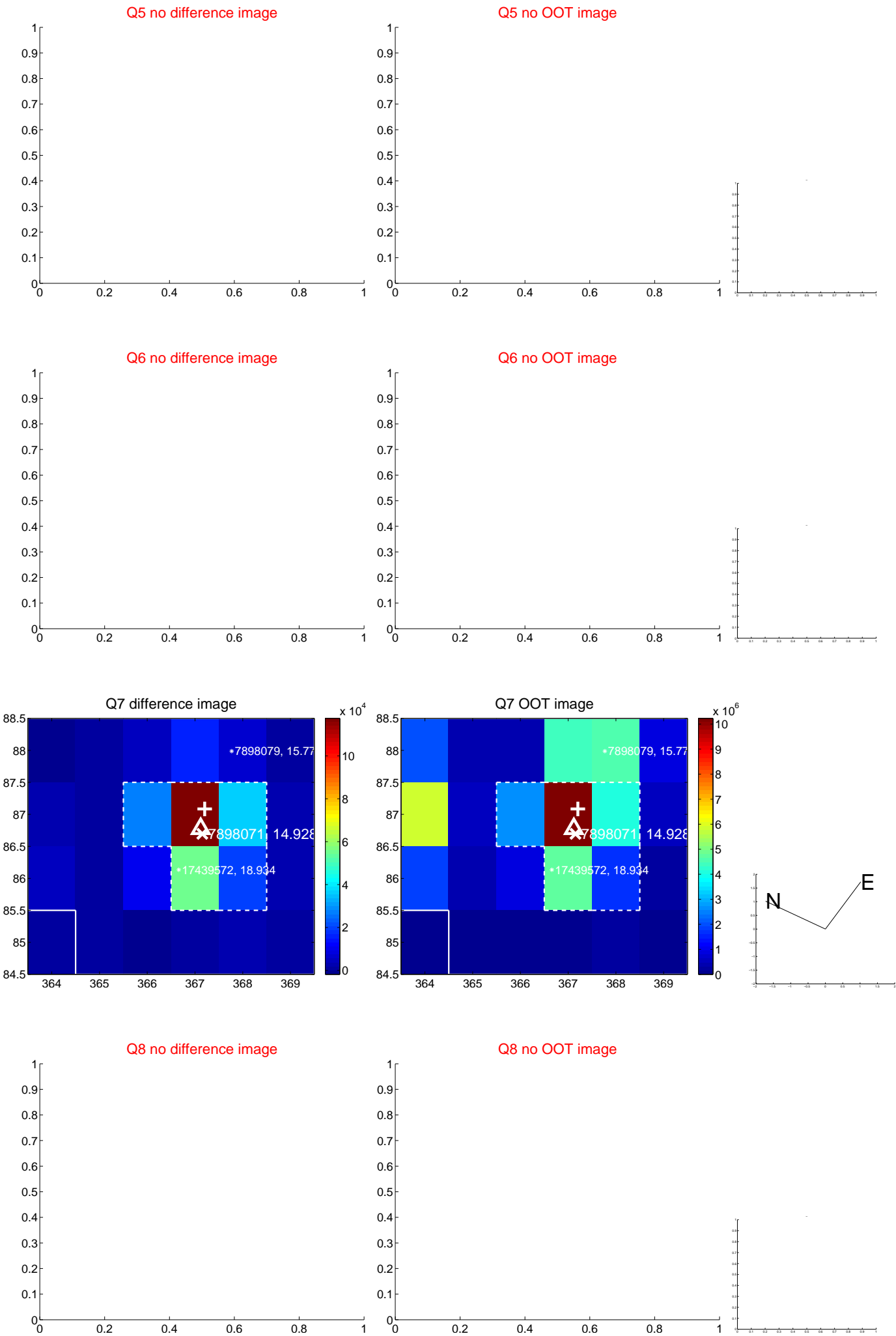


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

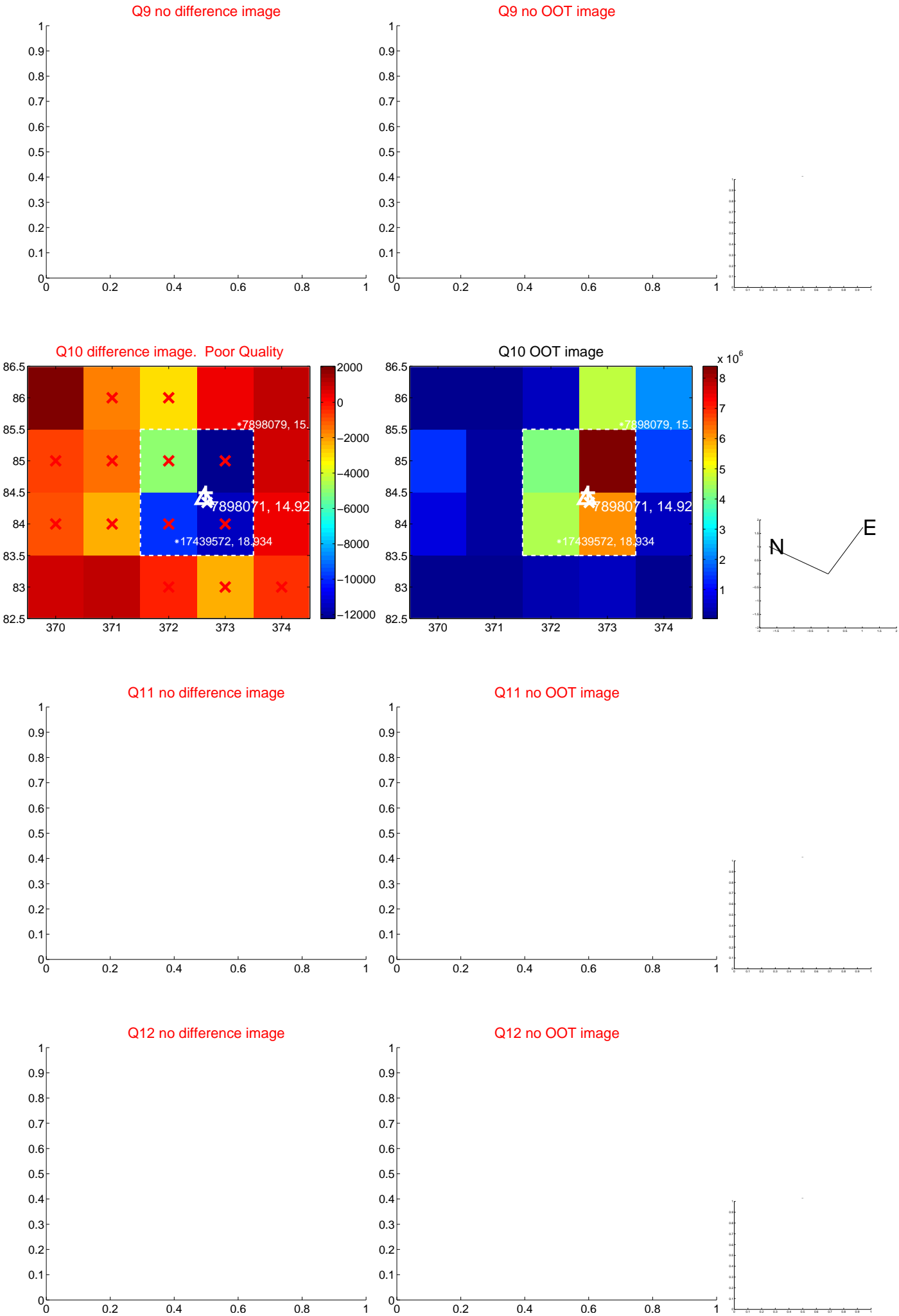
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



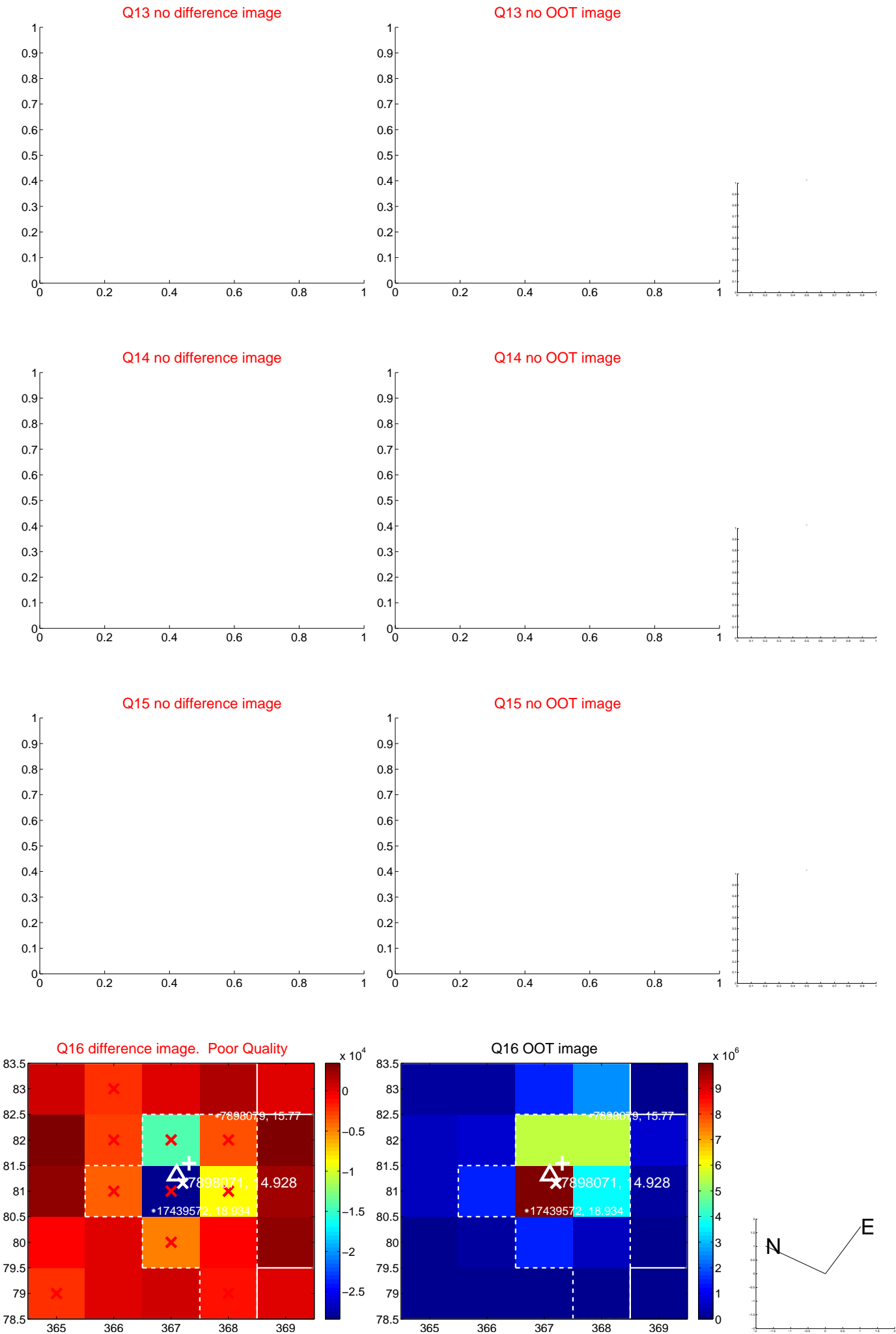
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



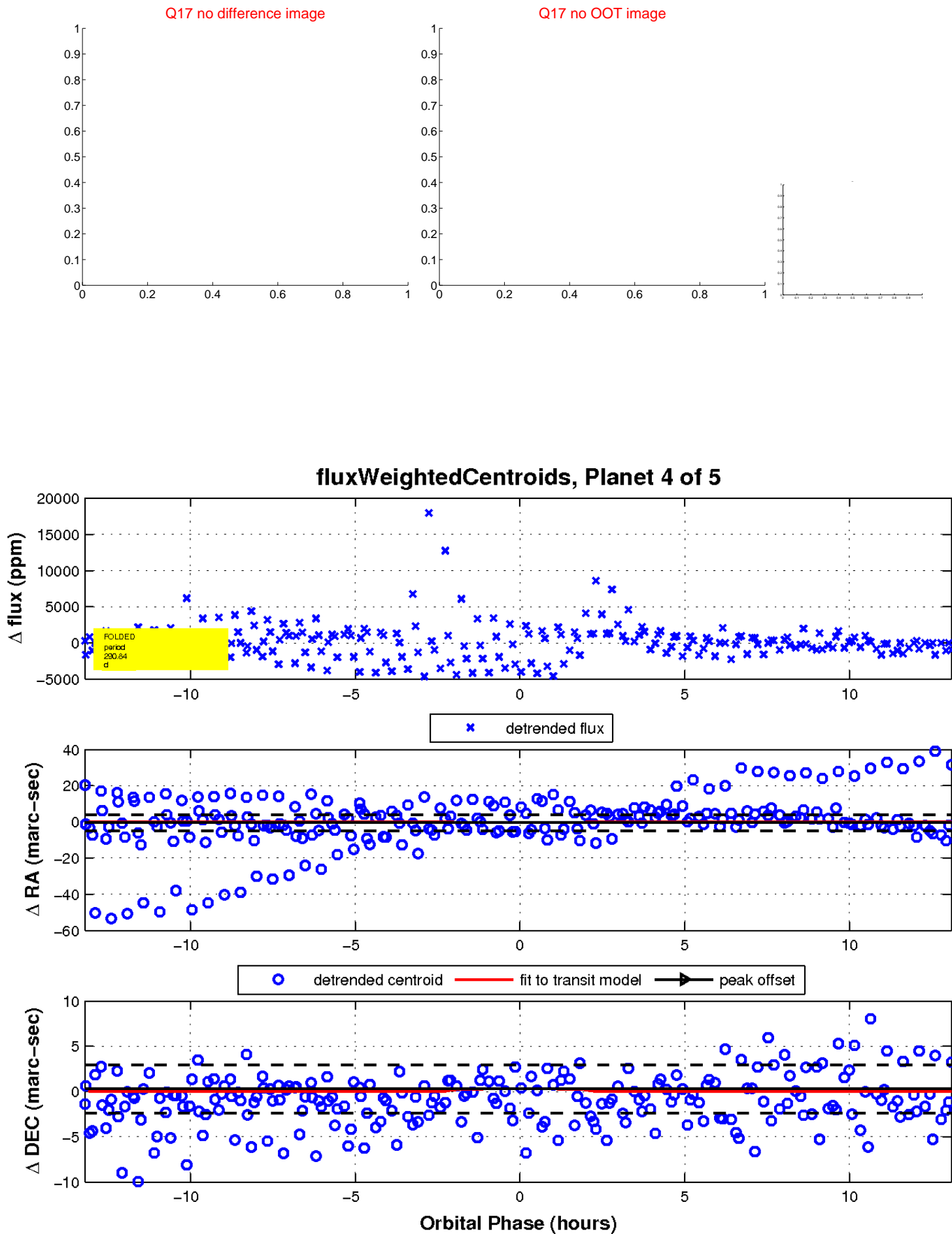
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

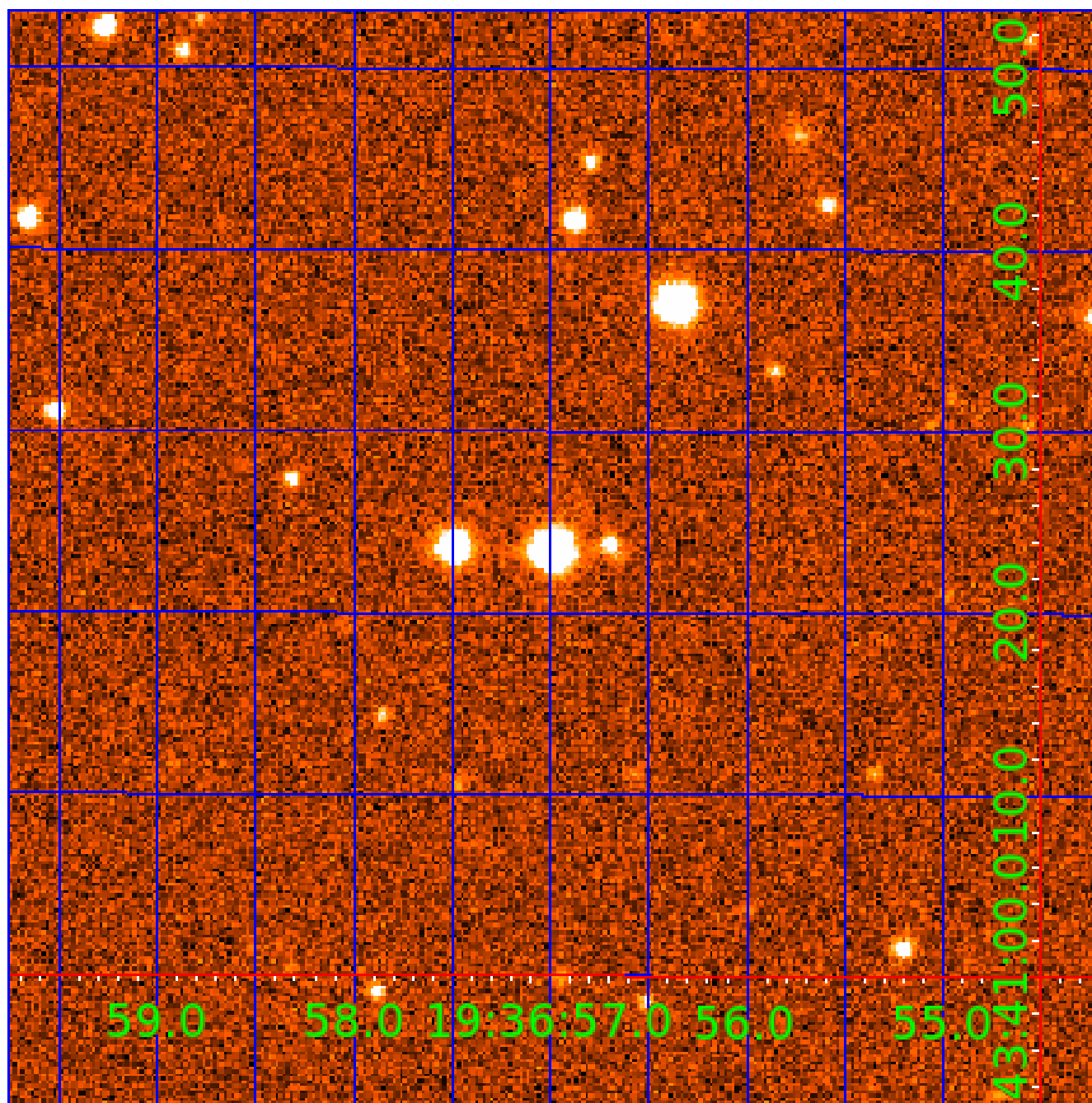


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007898071

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})
007898071-01	OBS	No	503.971943	494.160338	5714.3	9.759	16.6	12.8	0.57	4764	4.17	0.14
007898071-02	OBS	No	586.862752	190.561125	2063.2	4.976	16.4	6.3	0.57	4764	2.56	0.12
007898071-03	OBS	No	317.622657	201.812375	2495.3	7.202	13.8	7.6	0.57	4764	3.53	0.26
007898071-04	OBS	No	290.840696	372.597438	1465.7	4.404	12.0	5.4	0.57	4764	2.11	0.29
007898071-05	OBS	No	361.050997	432.396110	2159.2	3.768	12.7	6.8	0.57	4764	2.68	0.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007898071-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
007898071-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007898071-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

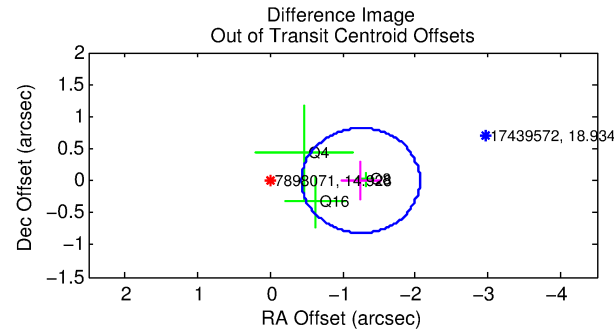
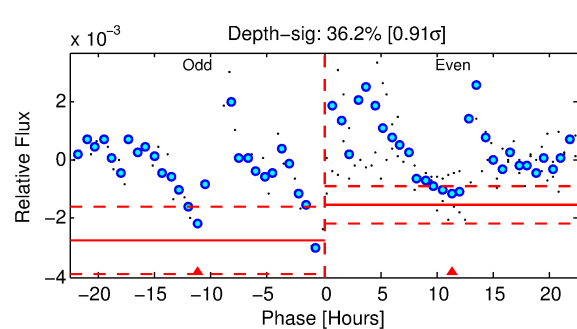
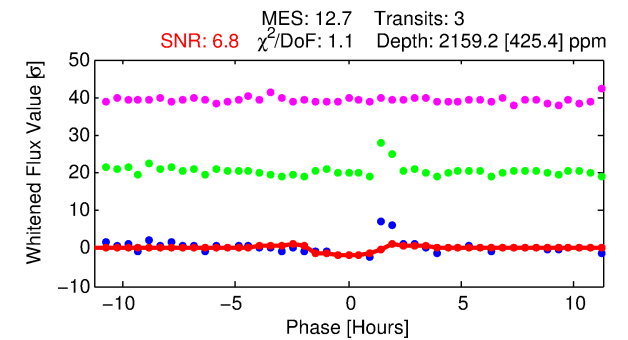
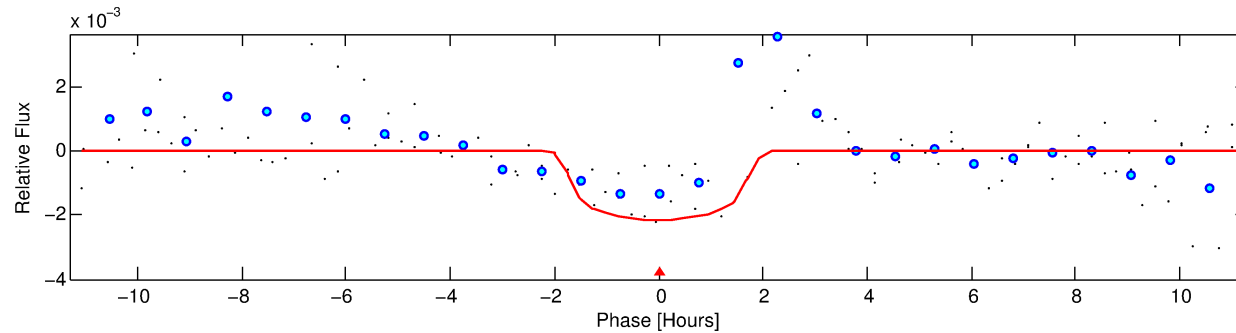
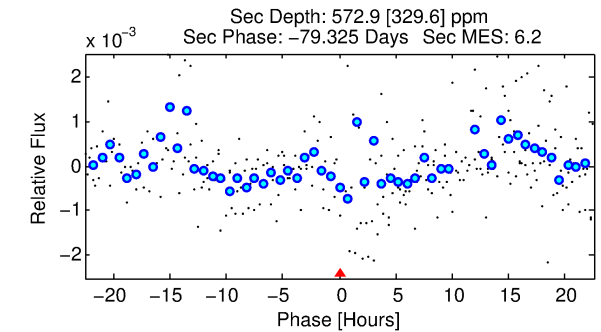
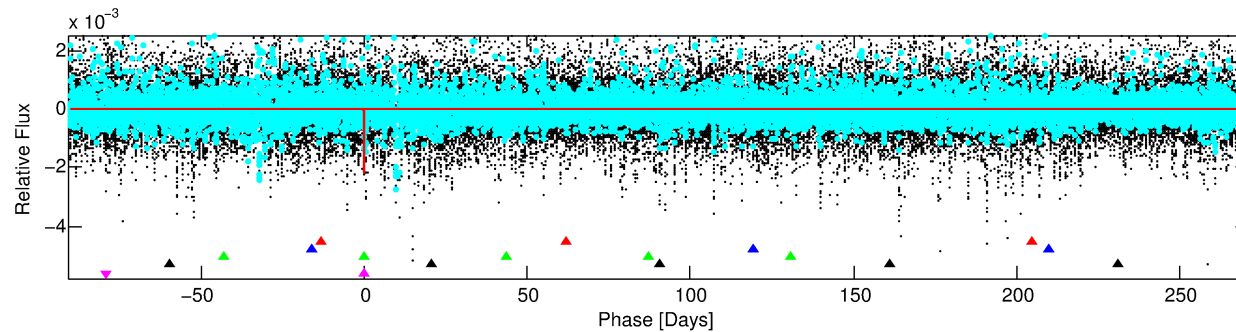
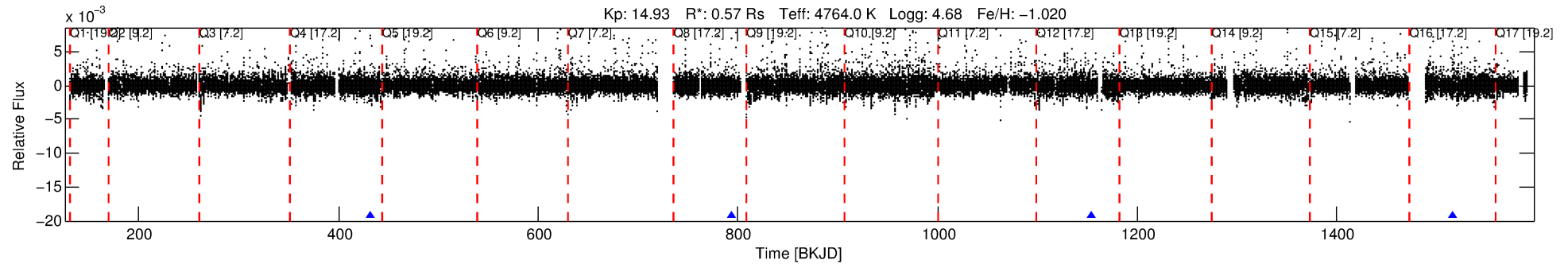
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007898071-05

No Significant Match Found

DV One-Page Summary

KIC: 7898071 Candidate: 5 of 5 Period: 361.051 d



DV Fit Results:

Period = 361.05100 [0.00447] d
Epoch = 432.3961 [0.0078] BKJD
Rp/R* = 0.0434 [0.0557]
a/R* = 657.56 [3063.60]
b = 0.53 [6.40]
Seff = 0.22 [0.03]
Teq = 175 [7] K
Rp = 2.68 [3.45] Re
a = 0.8209 [0.0492] AU
Ag = 29592.45 [77958.00] [0.38 σ]
Teffp = 3539 [2332] K [1.44 σ]

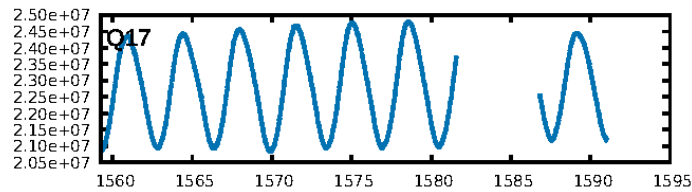
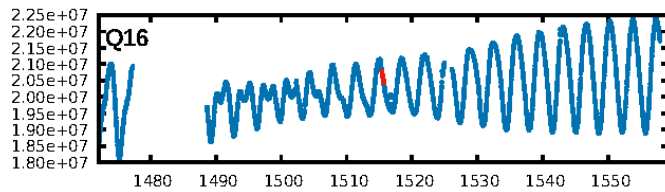
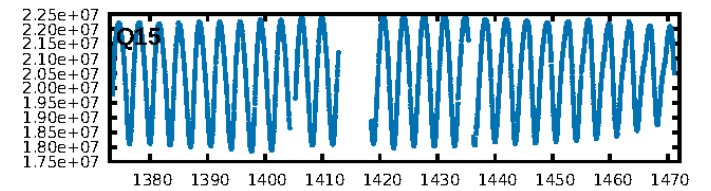
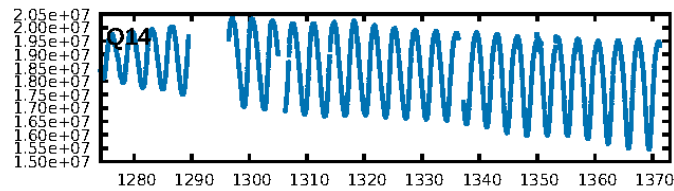
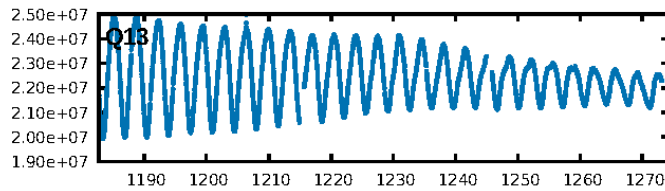
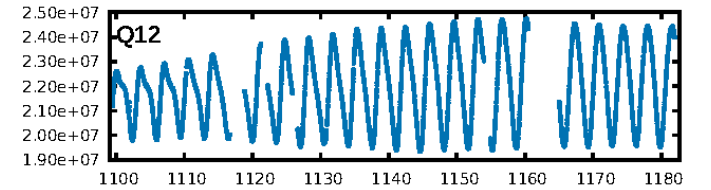
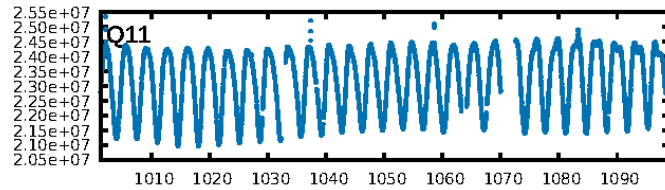
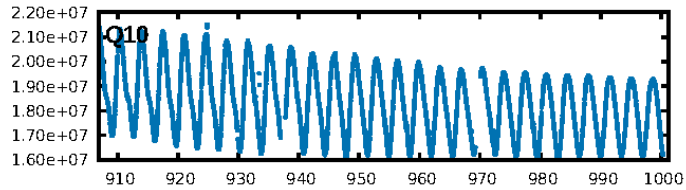
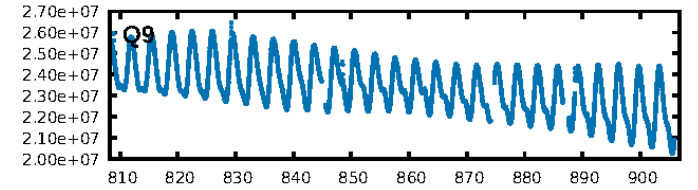
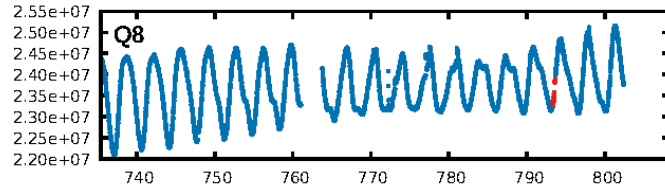
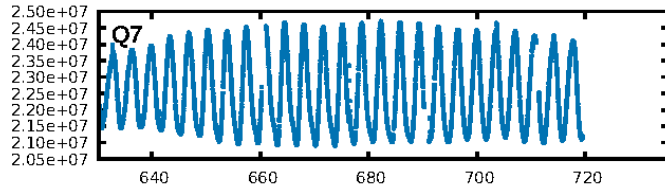
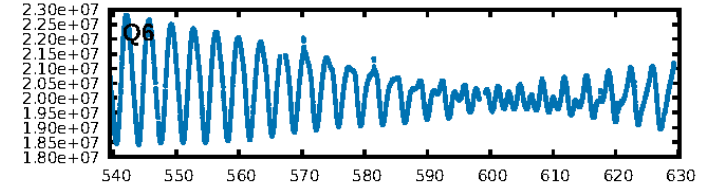
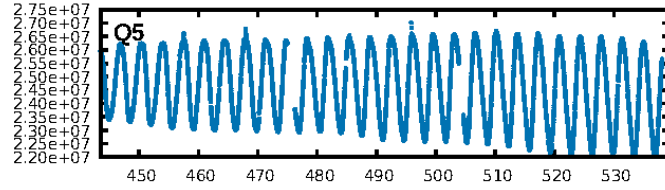
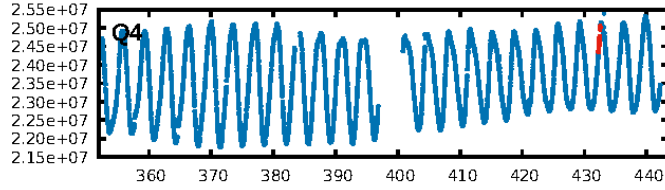
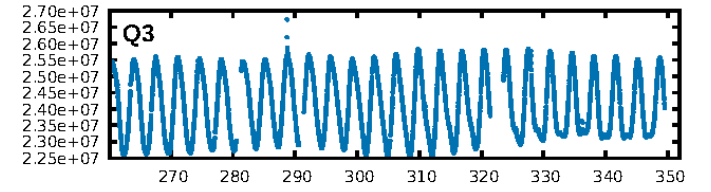
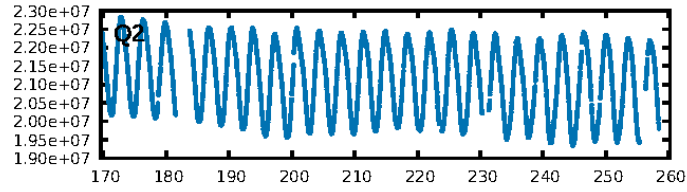
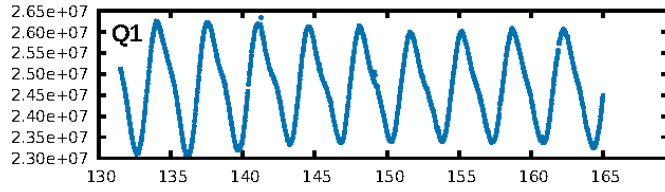
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [128.23 σ]
LongPeriod-sig: 100.0% [327.88 σ]
ModelChiSquare2-sig: 15.0%
ModelChiSquareGof-sig: 98.1%
Bootstrap-pfa: 1.38e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -76.01
Centroid-sig: 46.0%
Centroid-so: 0.756 arcsec [0.55 σ]
OotOffset-rm: 1.248 arcsec [4.59 σ]
OotOffset-st: 0/0/3/0 [3]
KicOffset-rm: 0.410 arcsec [1.44 σ]
KicOffset-st: 0/0/3/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

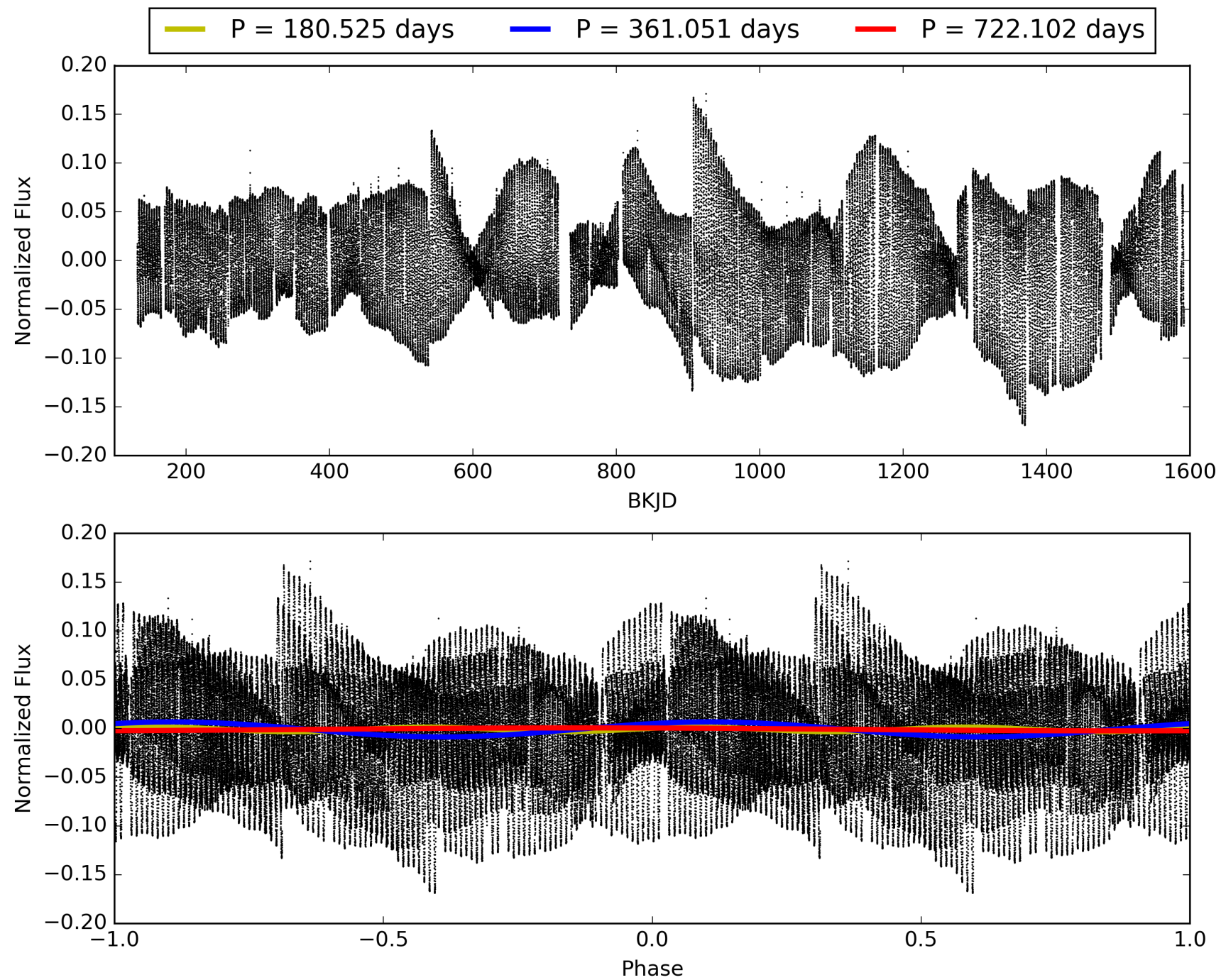
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:08:11 Z

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

TCE 007898071-05, PDC Light Curves

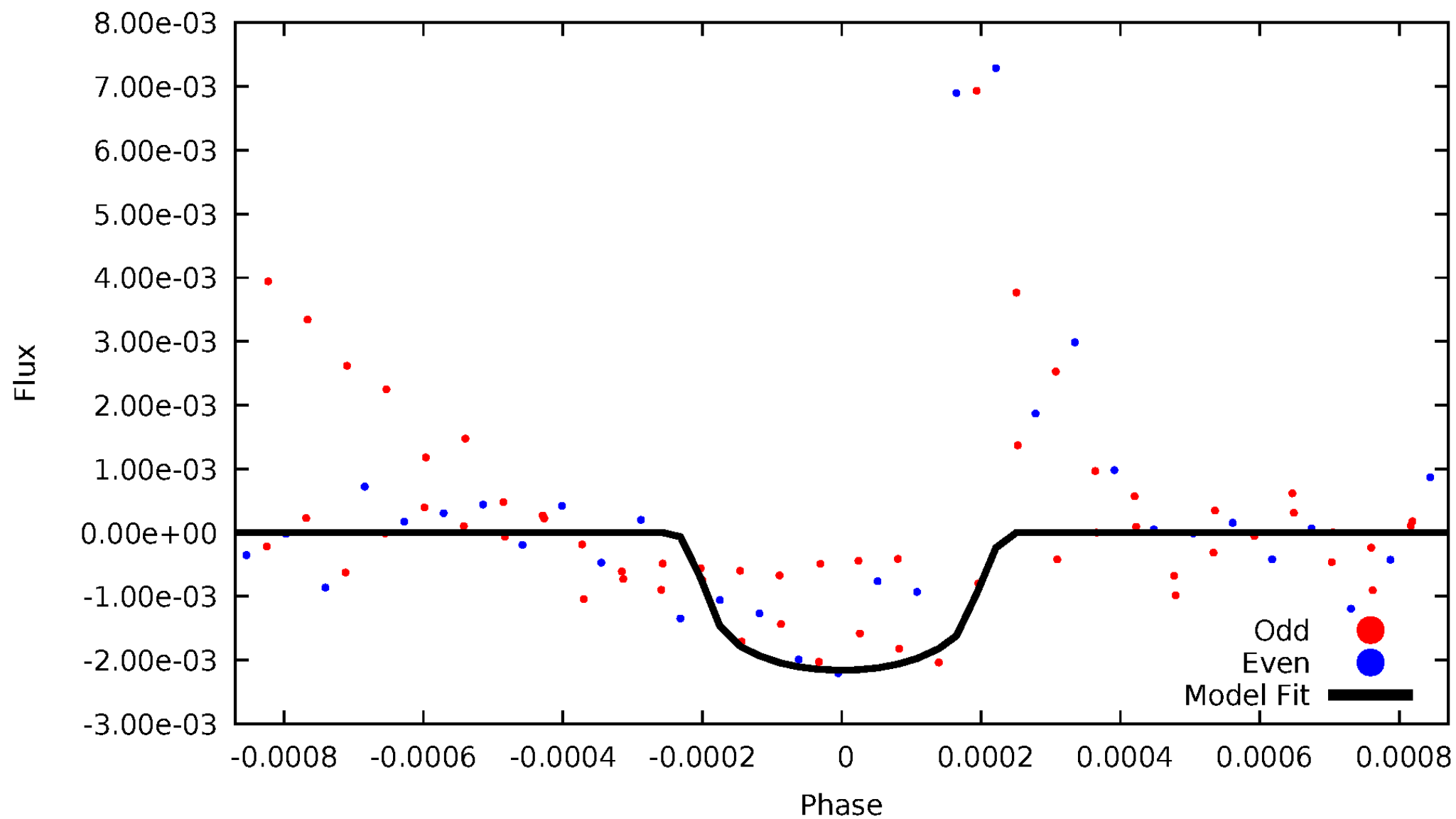


TCE 007898071-05



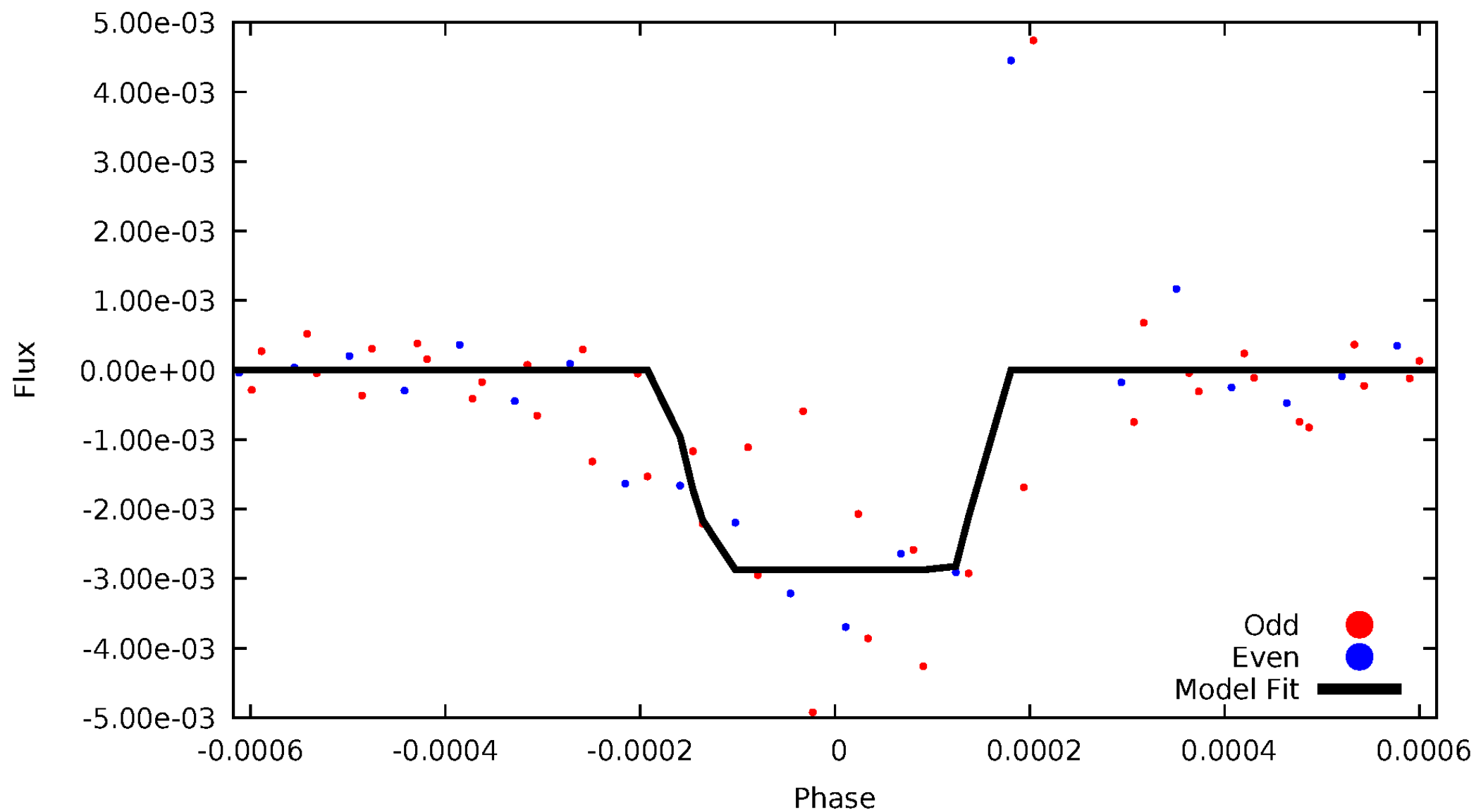
DV Odd/Even

TCE 007898071-05



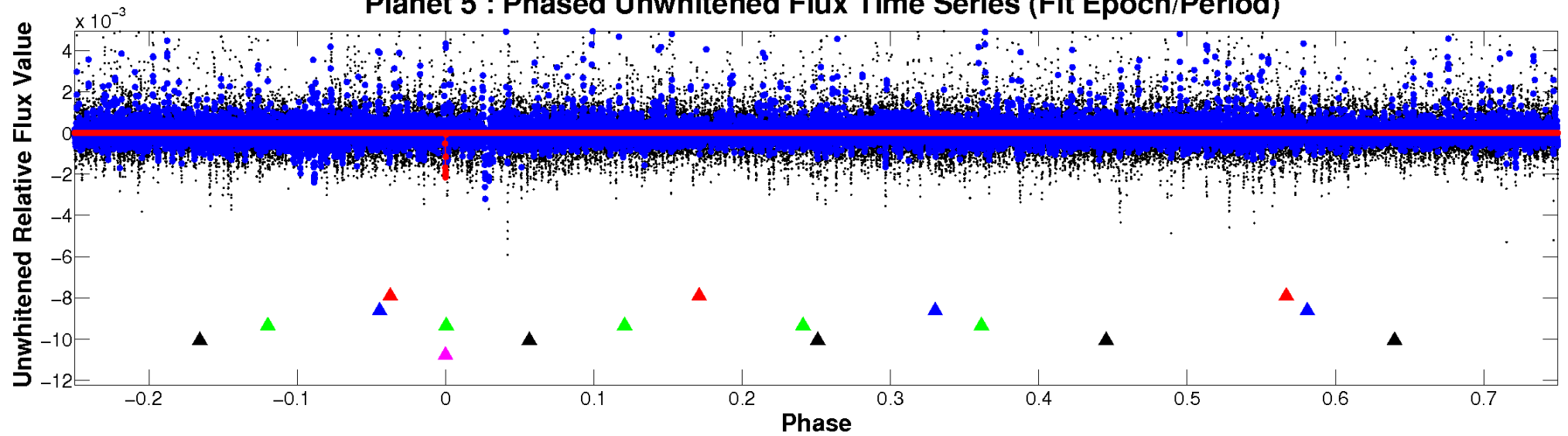
ALT Odd/Even

TCE 007898071-05

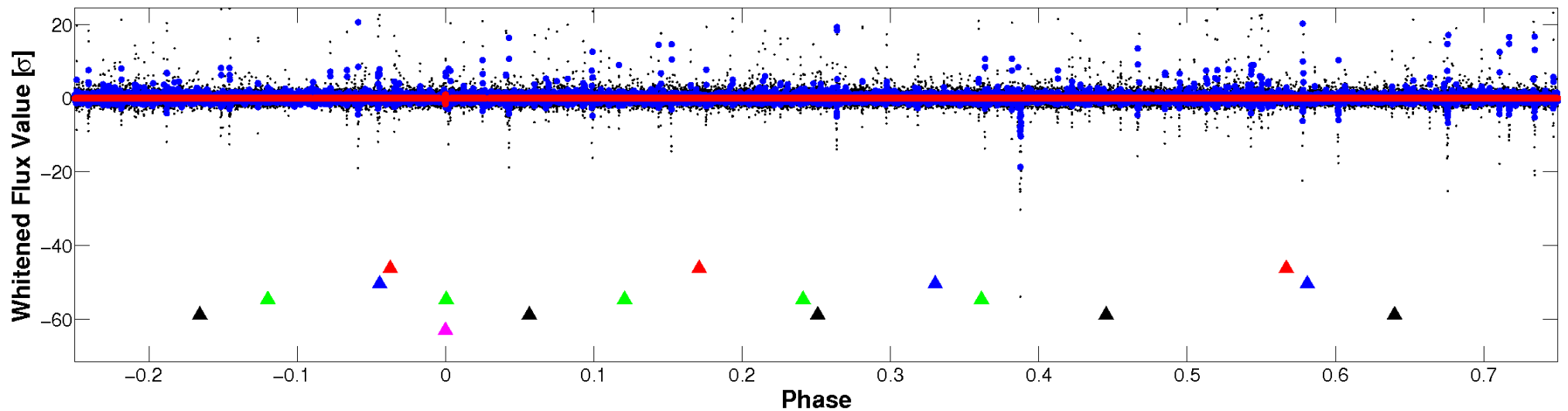


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



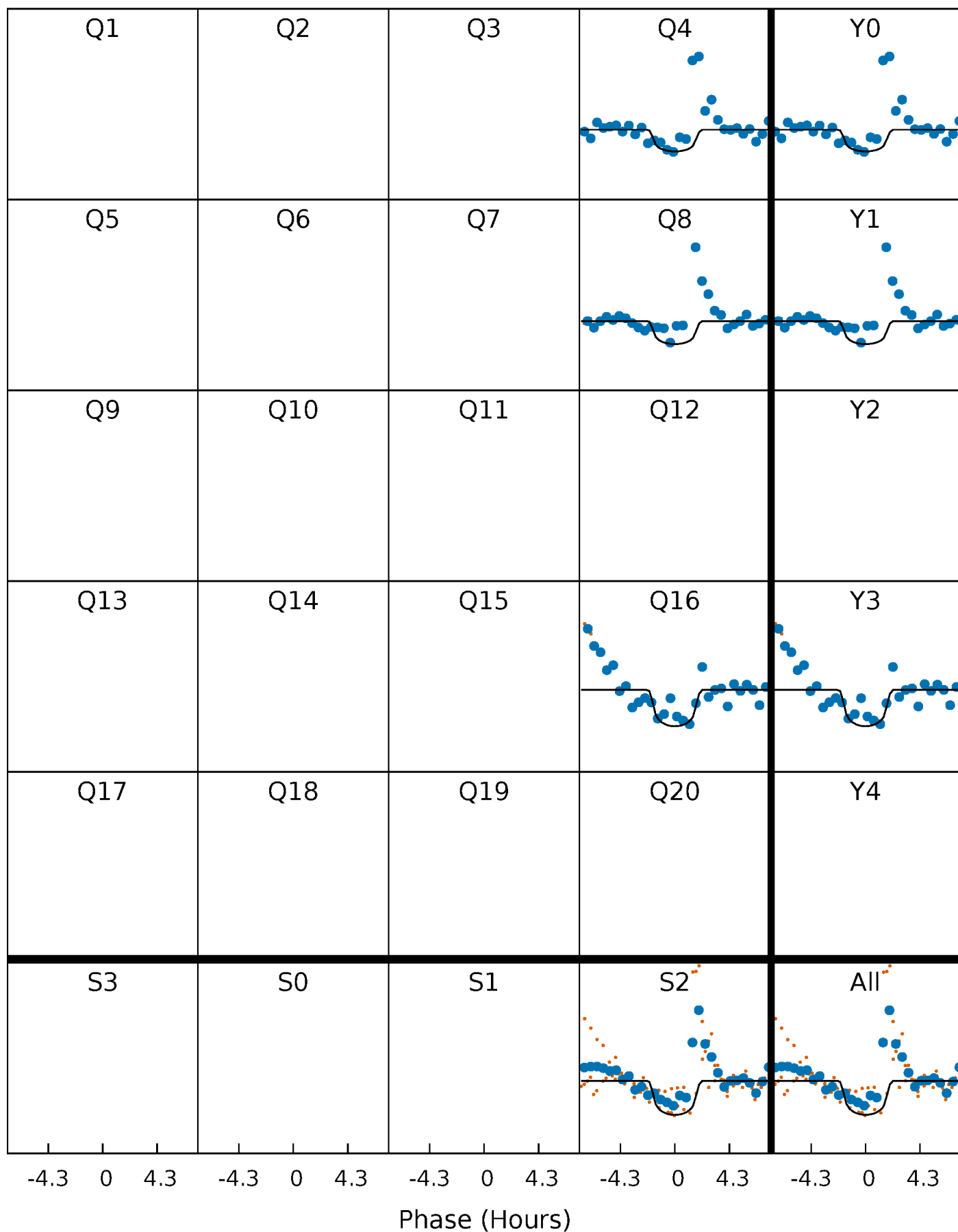
PDC Quarter-Phased Transit Curves

TCE 007898071-05 $P=361.050997$ Days $T_0=432.396110$ (BKJD)



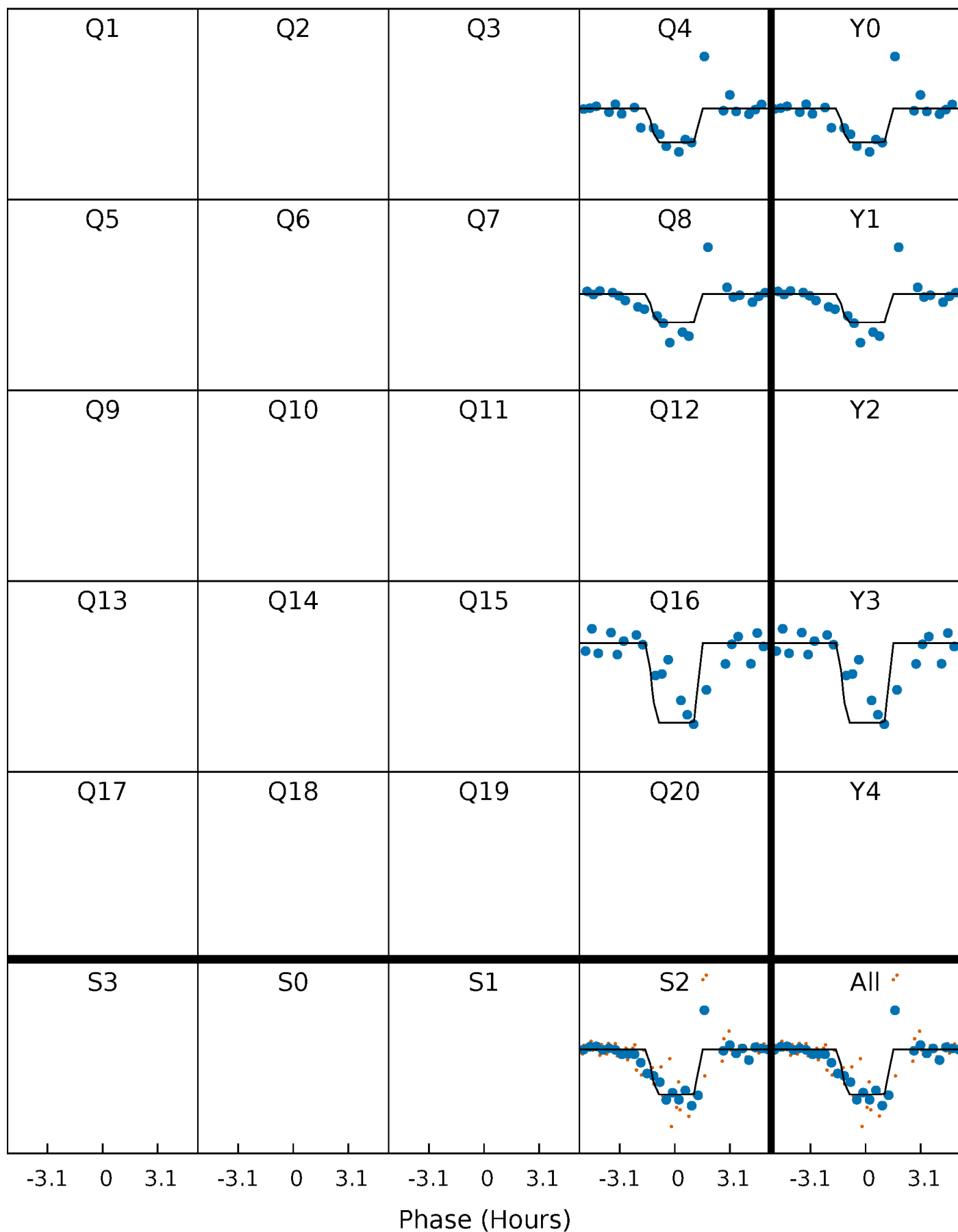
DV Quarter-Phased Transit Curves

TCE 007898071-05 $P=361.050997$ Days $T_0=432.396110$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

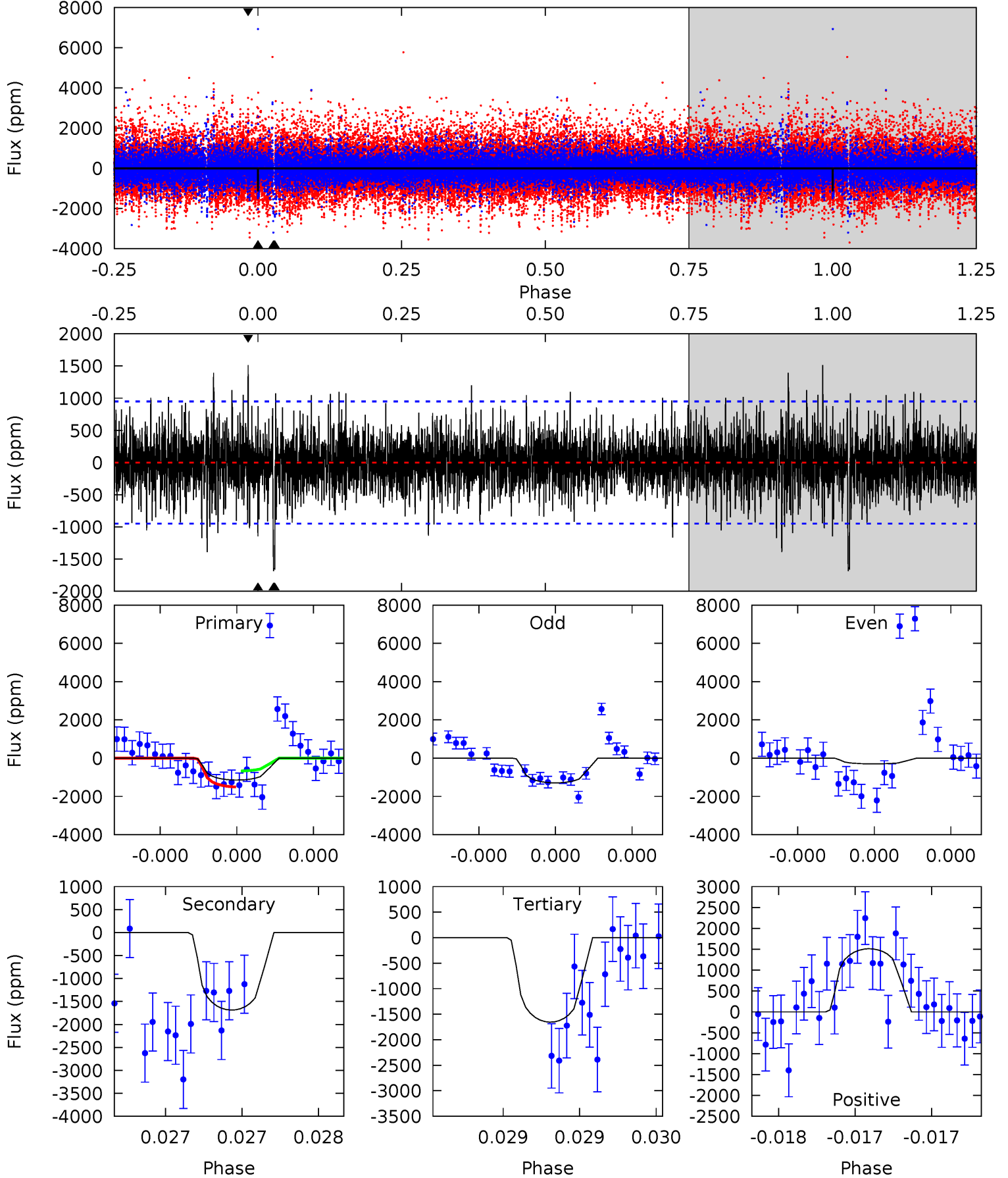
TCE 007898071-05 P=361.053186 Days $T_0=432.390323$ (BKJD)



DV Model-Shift Uniqueness Test

007898071-05, P = 361.050997 Days, E = 71.345113 Days

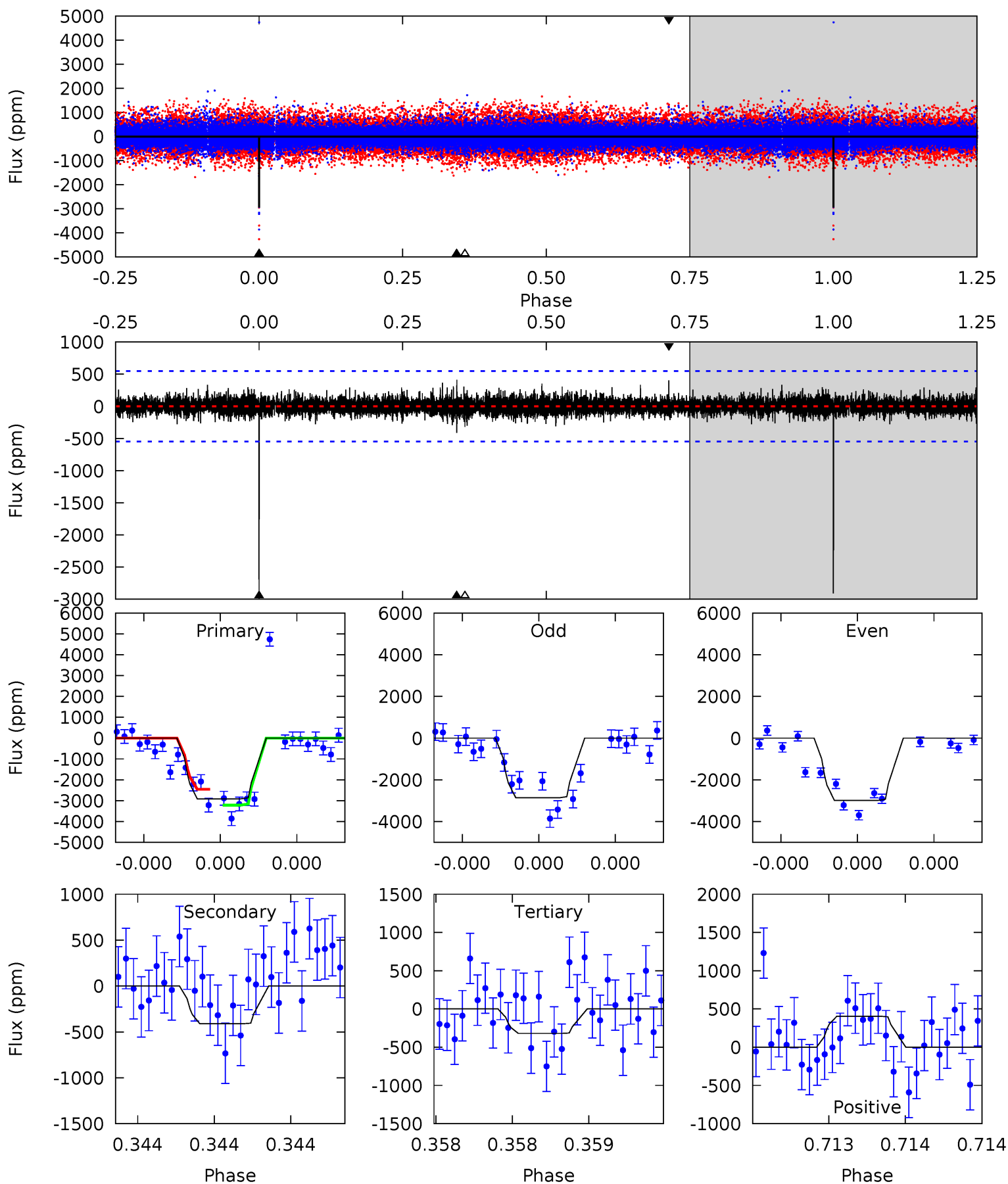
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.74	9.94	9.75	8.91	5.59	3.51	1.75	-3.00	-2.16	0.19	1.03	2.46	2.40	0.47	2.41



Alt Model-Shift Uniqueness Test

007898071-05, P = 361.053186 Days, E = 71.337137 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.0	4.24	3.29	4.17	5.64	3.58	0.73	26.7	25.8	0.94	0.07	0.63	0.97	0.12	0



Stellar Parameters For KIC 007898071

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4764^{+139}_{-153}	$4.685^{+0.052}_{-0.032}$	$-1.020^{+0.300}_{-0.300}$	$0.566^{+0.038}_{-0.038}$	$0.564^{+0.047}_{-0.024}$	$4.387^{+0.855}_{-0.533}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+8%/-4%	+19%/-12%
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 007898071-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1687 ± 170	$3.76^{+3.16}_{-2.38}$	243^{+9}_{-8}	4089^{+2180}_{-763}	$43485^{+285077}_{-30249}$
Alt.	-412 ± 97	$3.83^{+3.16}_{-2.31}$	243^{+9}_{-8}	3207^{+1196}_{-508}	10006^{+56278}_{-7079}

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 $A_{obs} \gg 1.0$

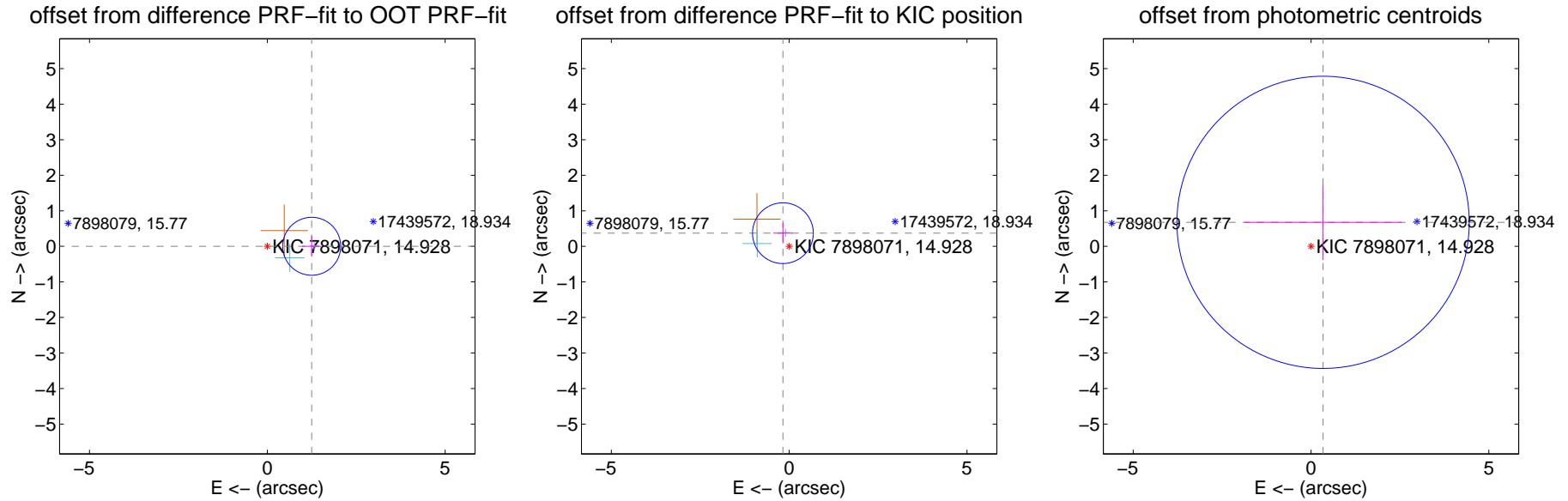
DV Centroid Data

Supplemental centroid analysis for 007898071-05. Kepler magnitude: 14.93. Transit SNR 6.85

There are 2 quarters with good PRF difference image offsets

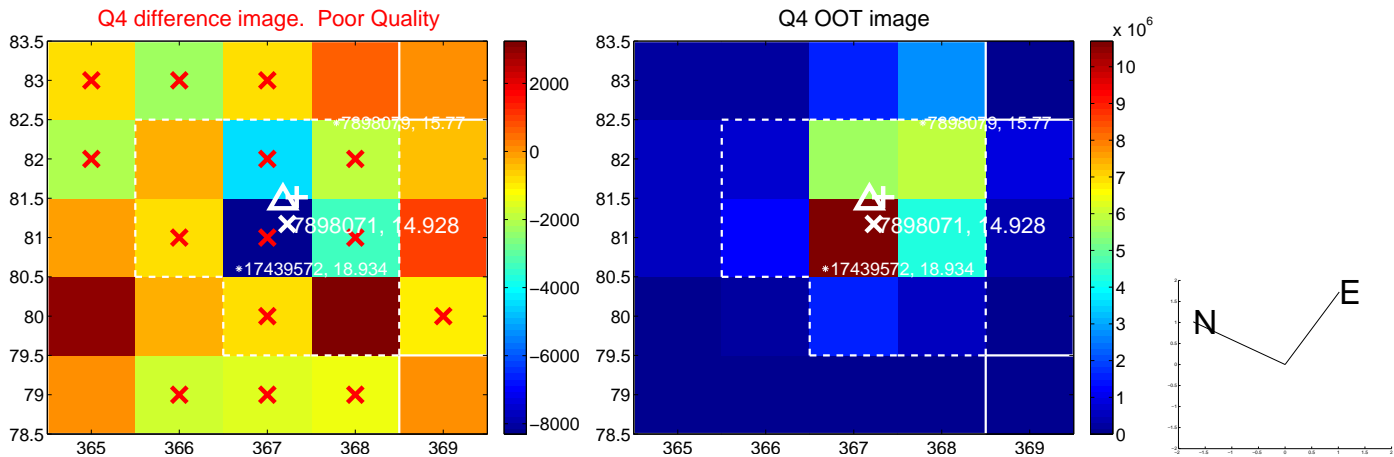
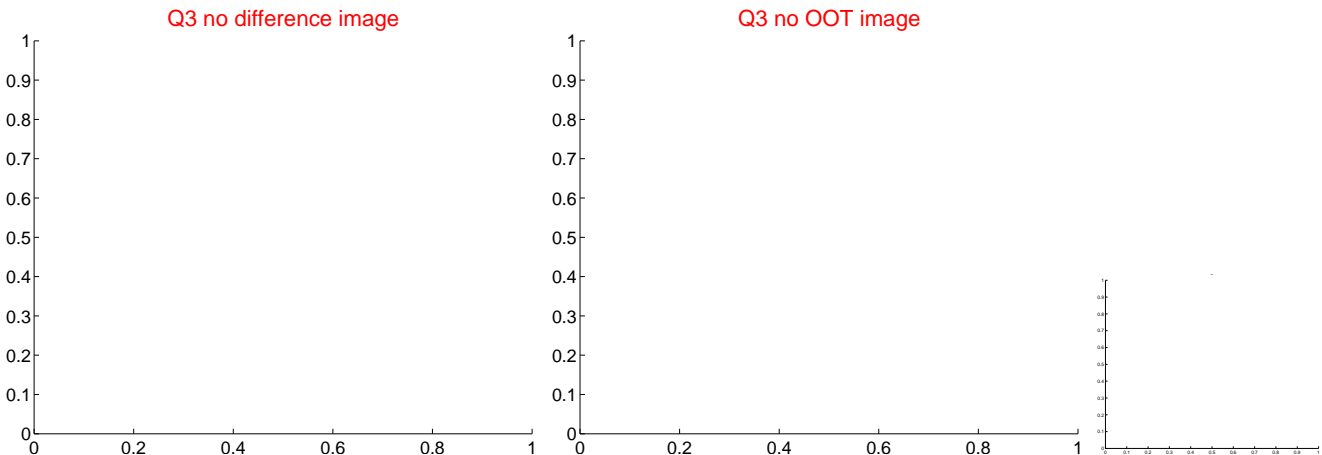
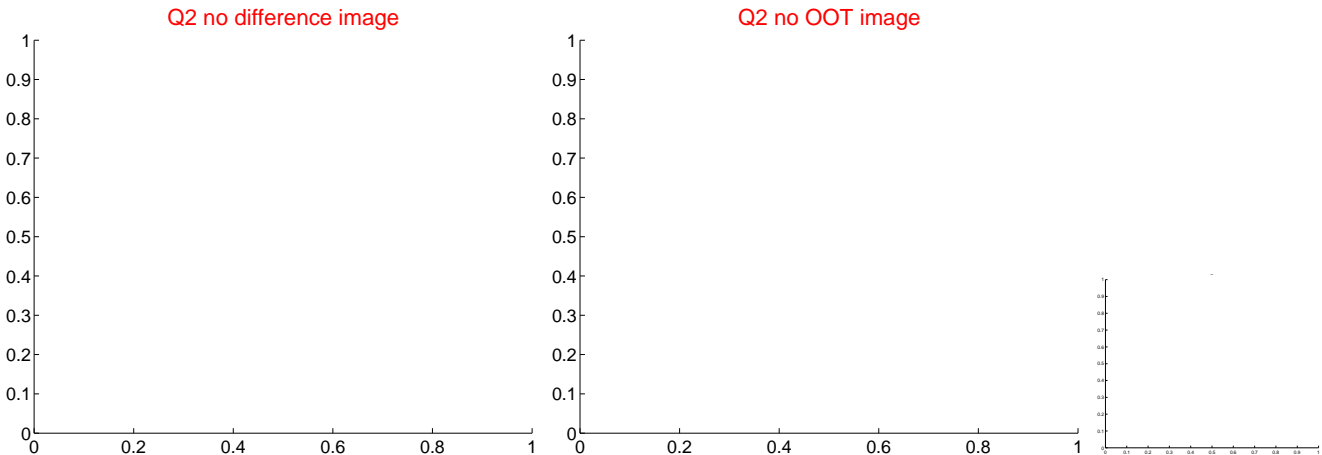
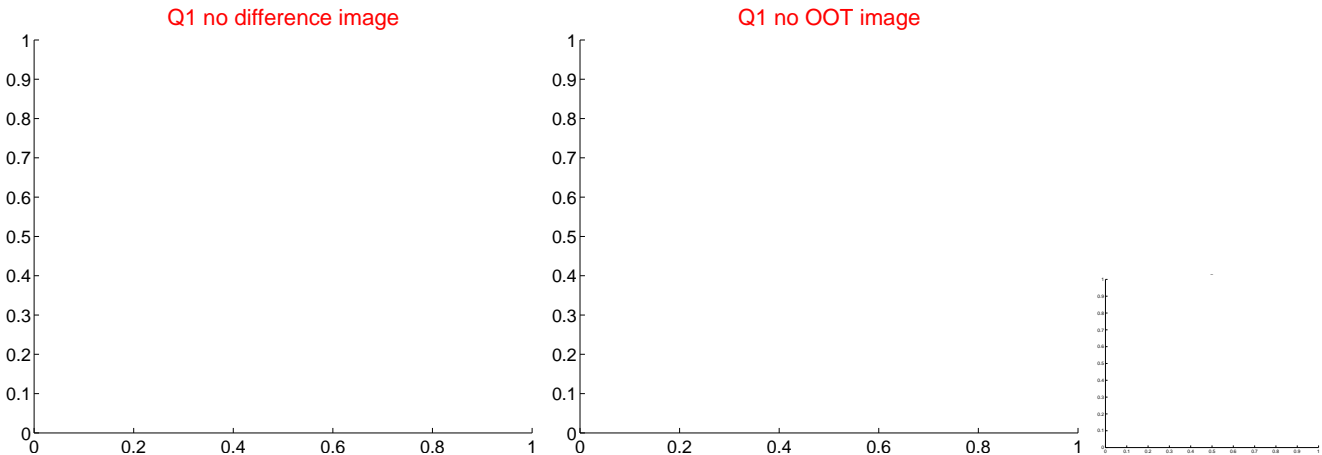
The direct PRF centroid is offset from the target star catalog position by about 1.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.248 \pm 0.272	4.59	-1.248 \pm 0.272	0.002 \pm 0.288
PRF-fit source offset from KIC position	0.410 \pm 0.285	1.44	0.176 \pm 0.272	0.371 \pm 0.288
photometric centroid source offset	0.76 \pm 1.37	0.55	-0.34 \pm 2.21	0.68 \pm 1.06

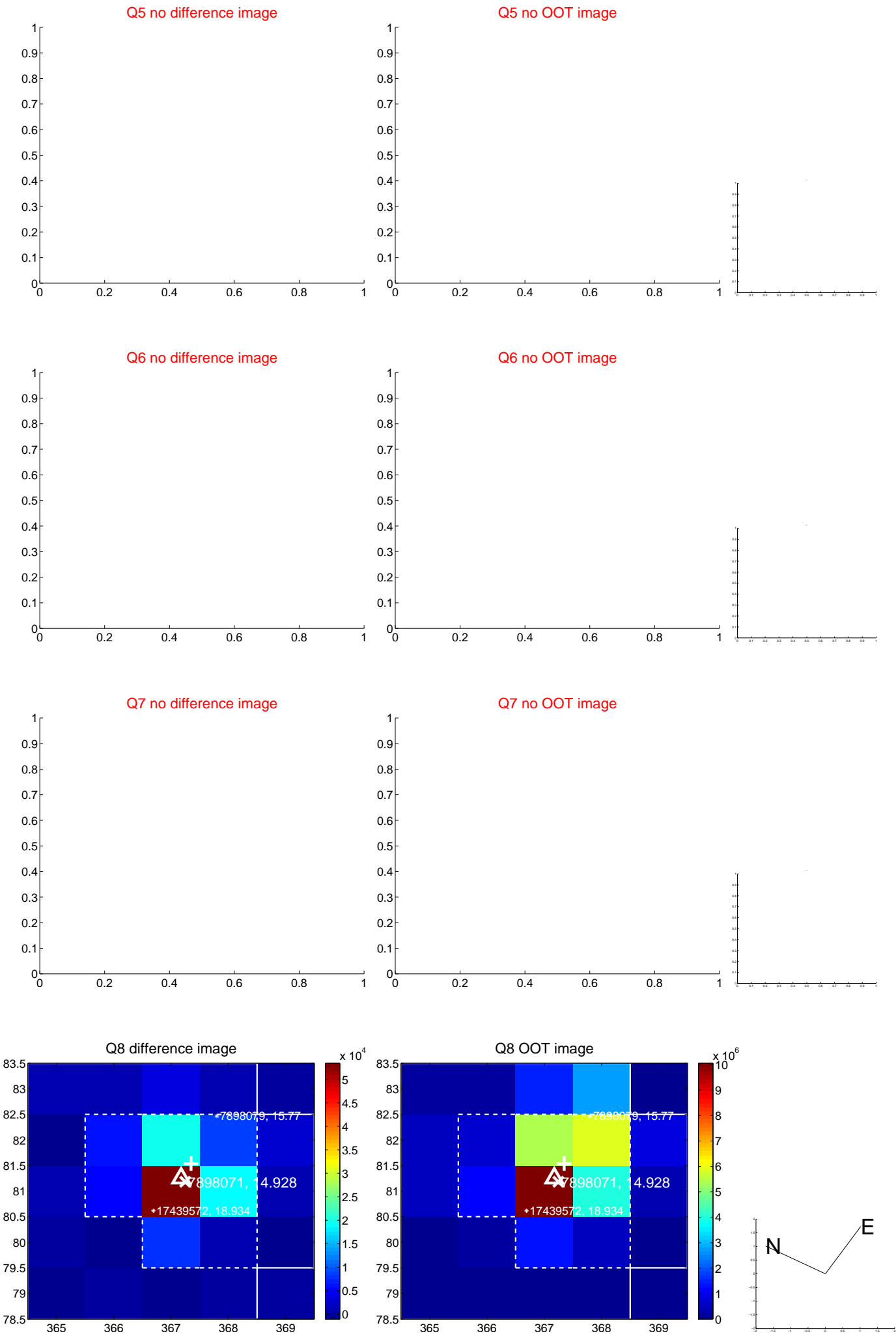


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

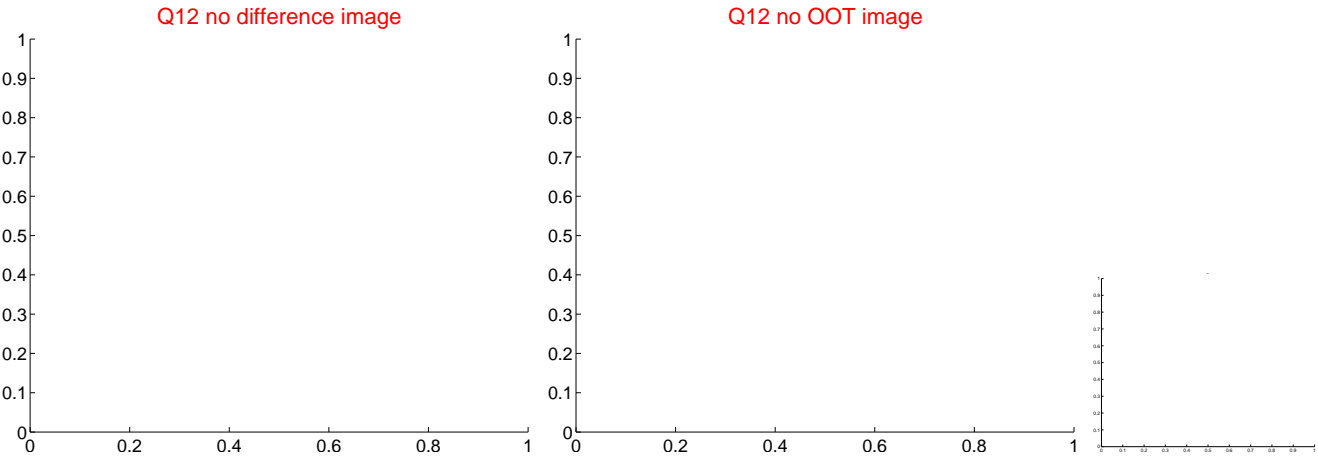
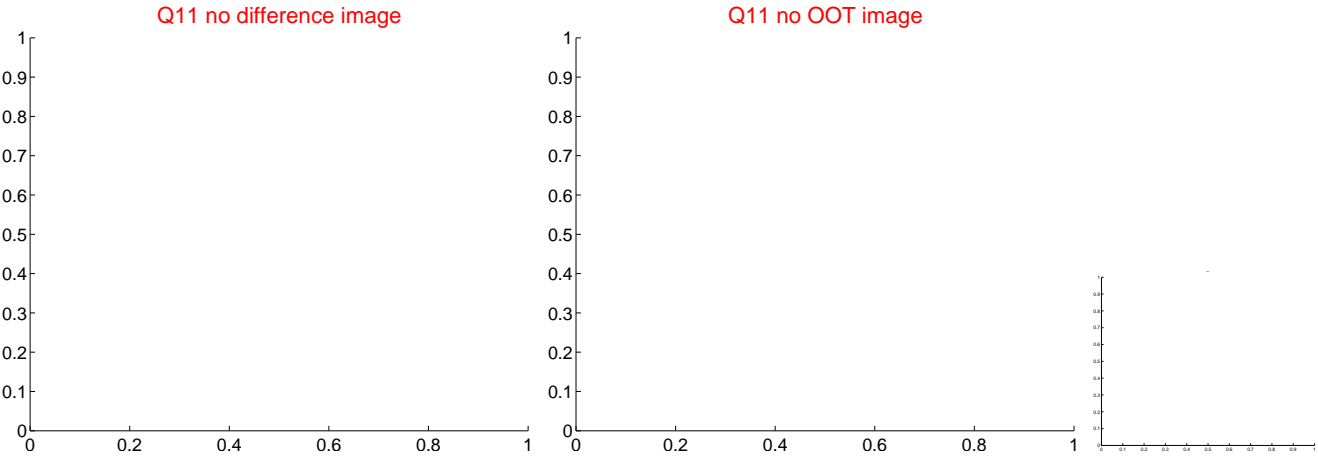
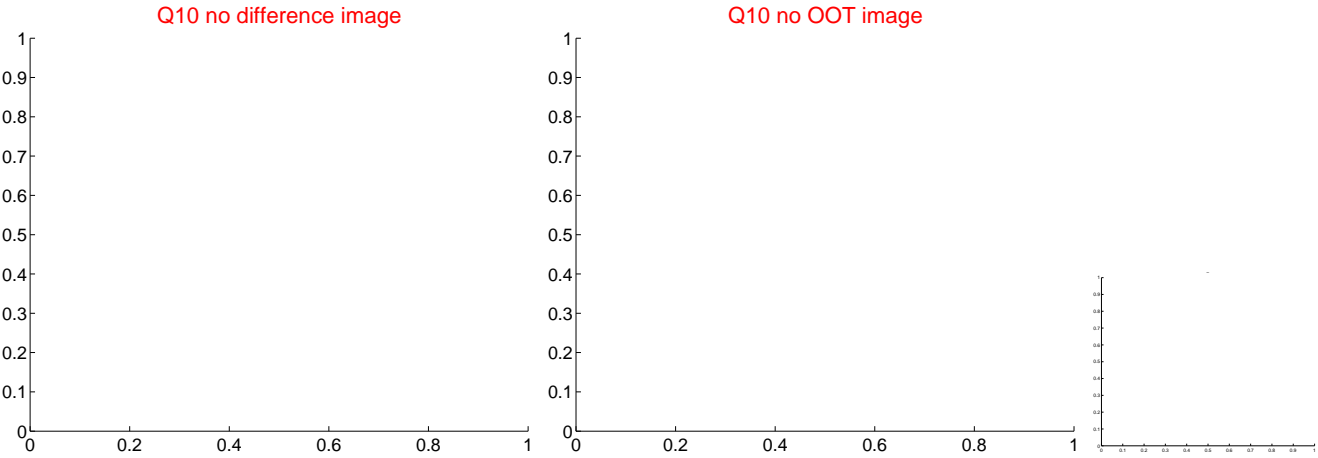
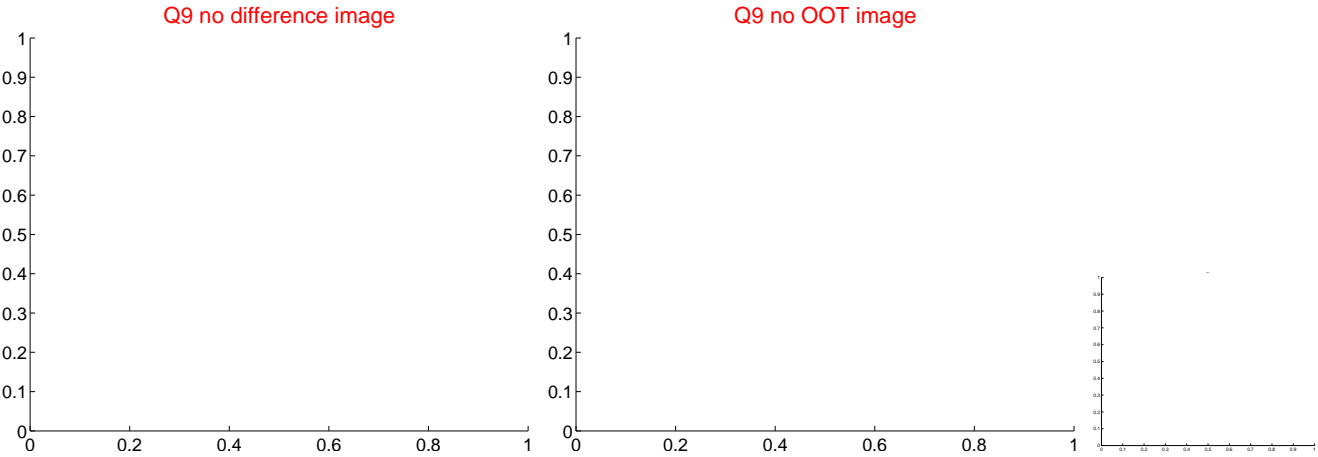
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



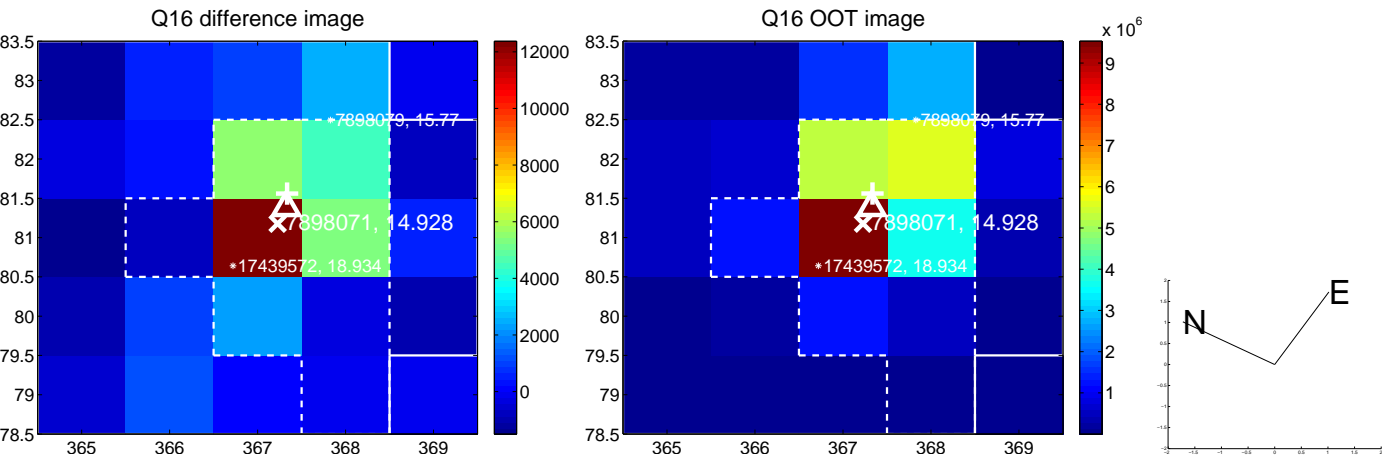
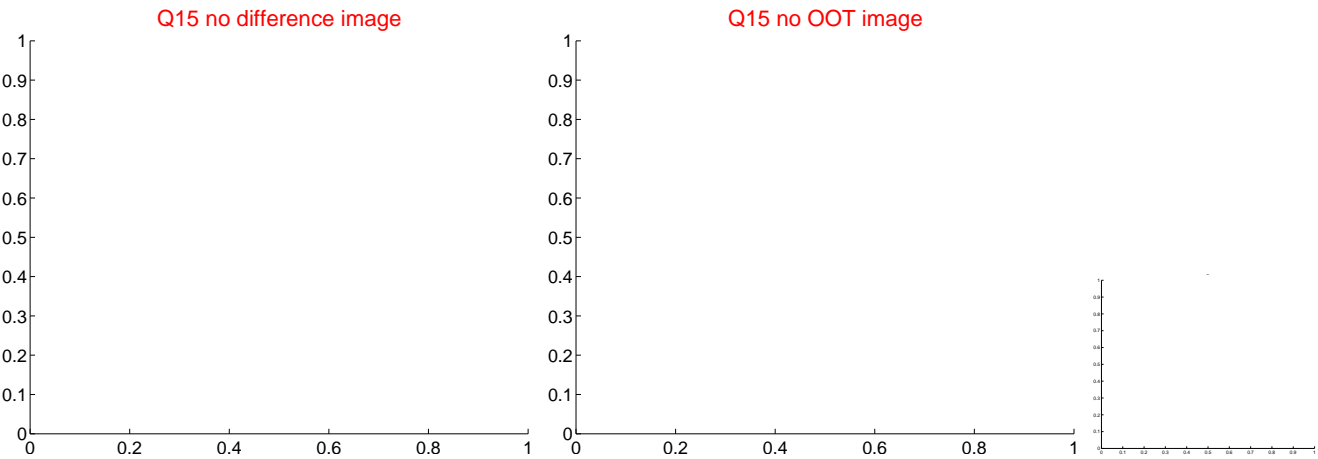
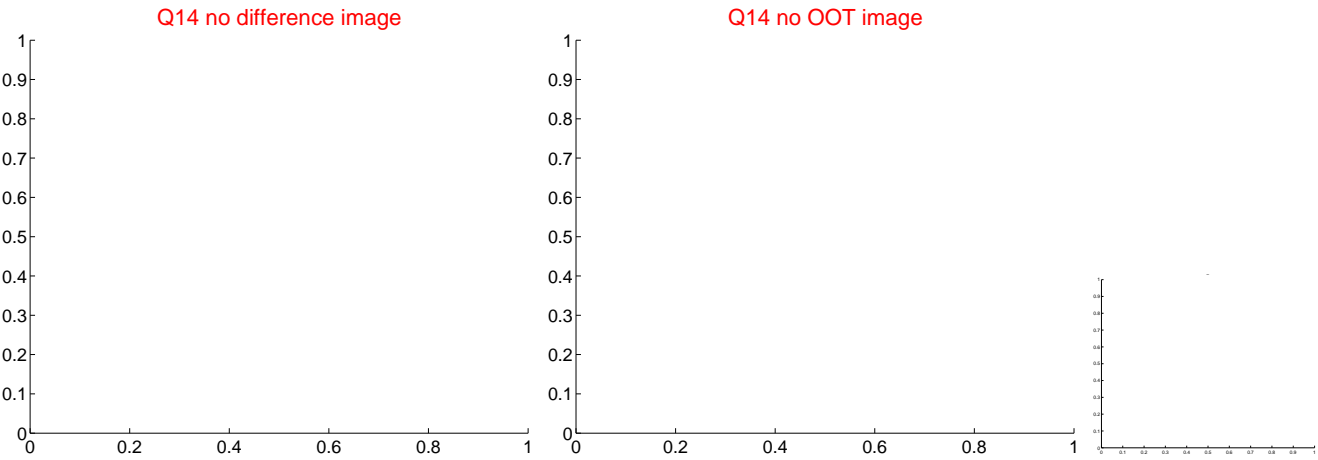
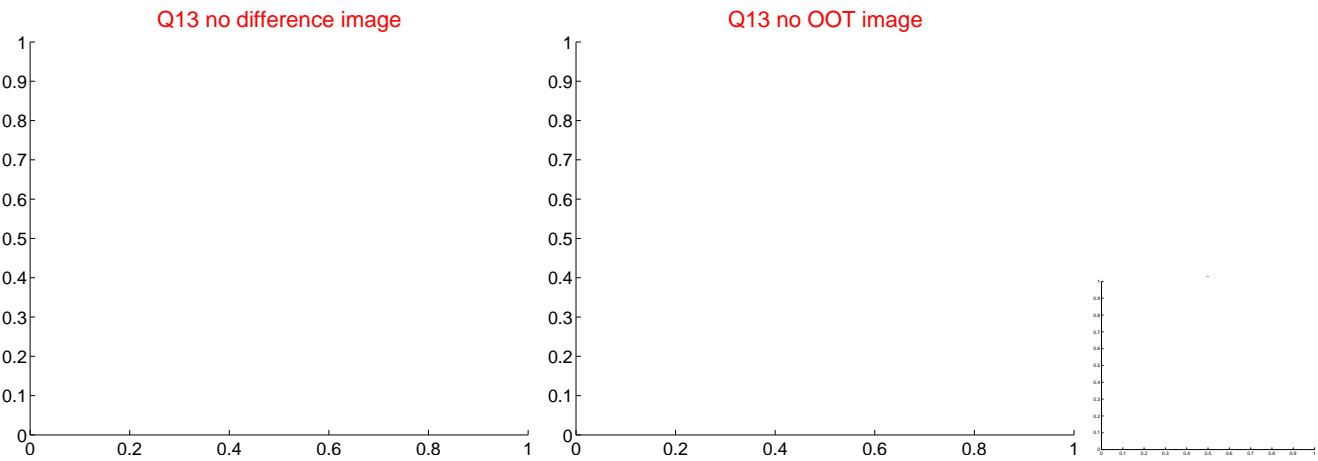
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



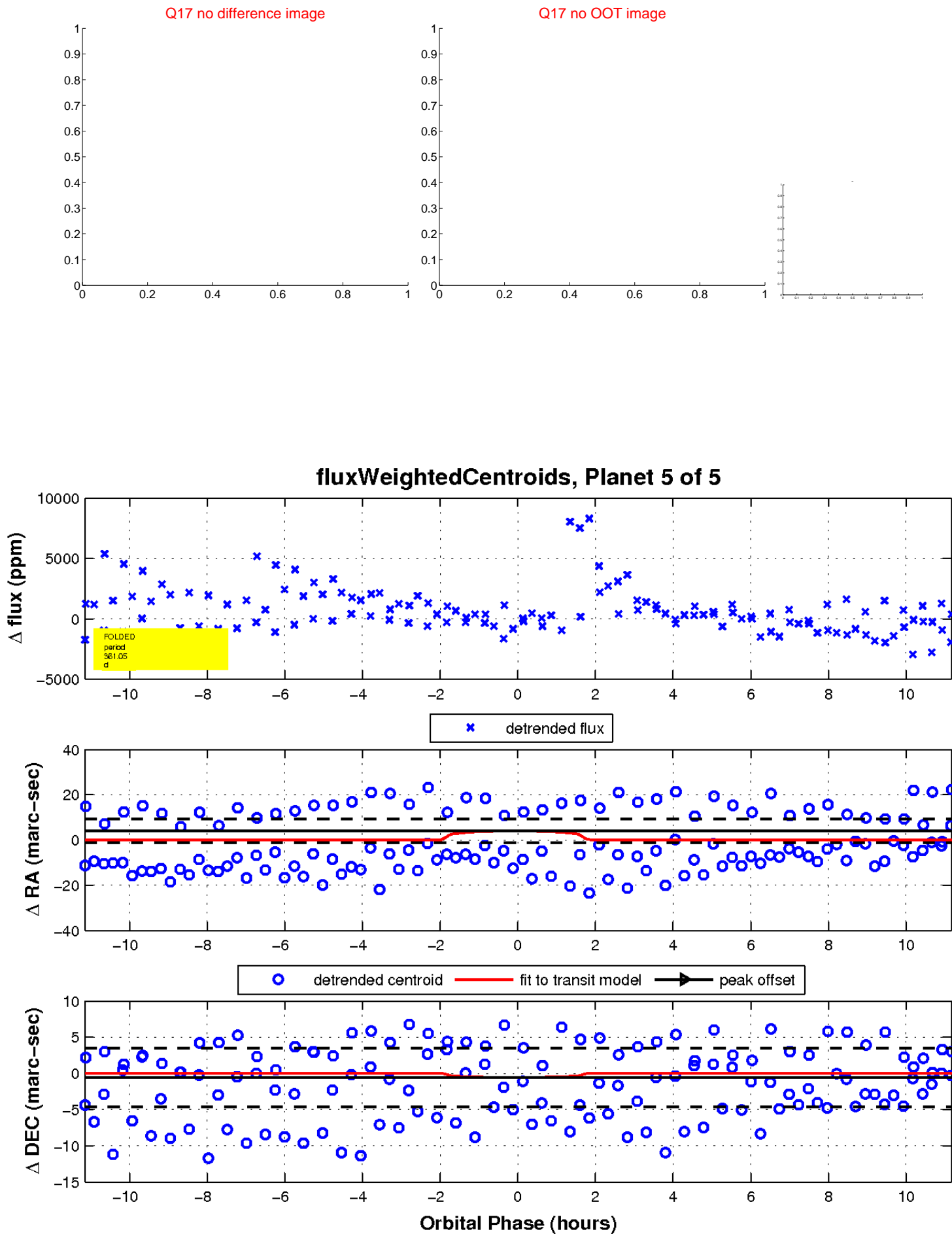
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

