

KIC 008572338

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})
008572338-01	OBS	No	347.133522	399.962067	1211.8	7.797	14.3	6.8	0.52	4857	1.81	0.21
008572338-02	OBS	No	508.973662	241.617925	1193.7	6.555	10.8	7.3	0.52	4857	2.09	0.13
008572338-03	OBS	No	526.214472	333.302769	1041.0	21.596	10.7	5.0	0.52	4857	1.66	0.12
008572338-04	OBS	No	414.970835	177.896671	1059.3	8.187	12.7	7.5	0.52	4857	1.71	0.17
008572338-05	OBS	No	546.482419	308.171104	1007.9	7.064	10.2	5.9	0.52	4857	2.72	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008572338-01	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
008572338-02	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—CENT_FEW_DIFFS
008572338-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008572338-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008572338-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

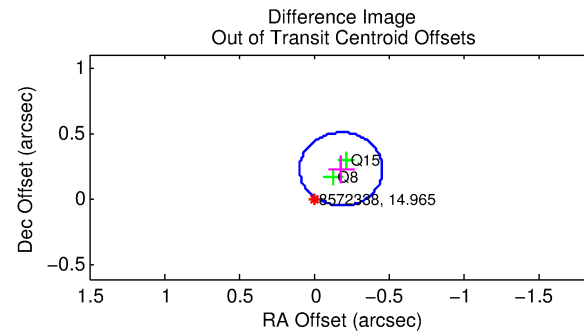
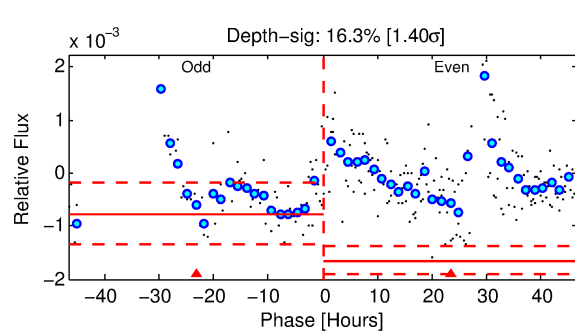
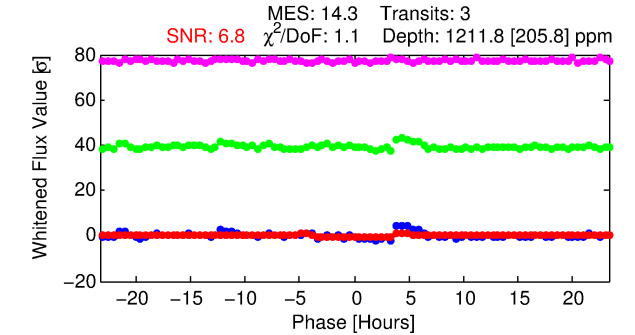
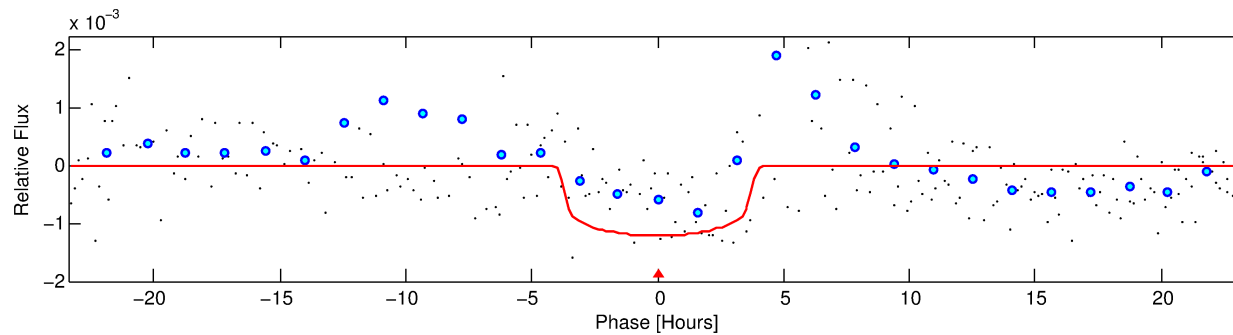
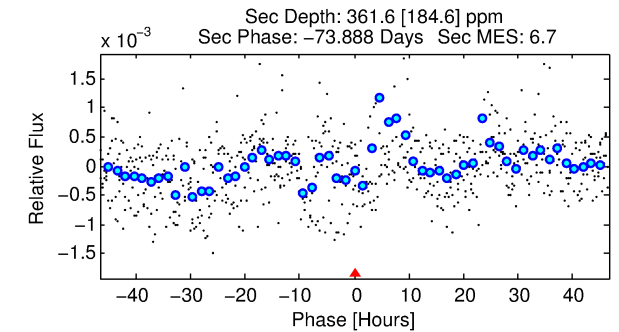
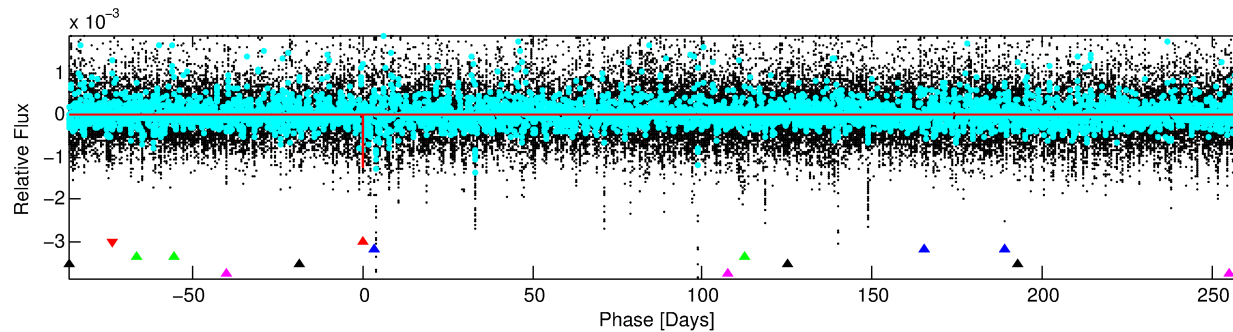
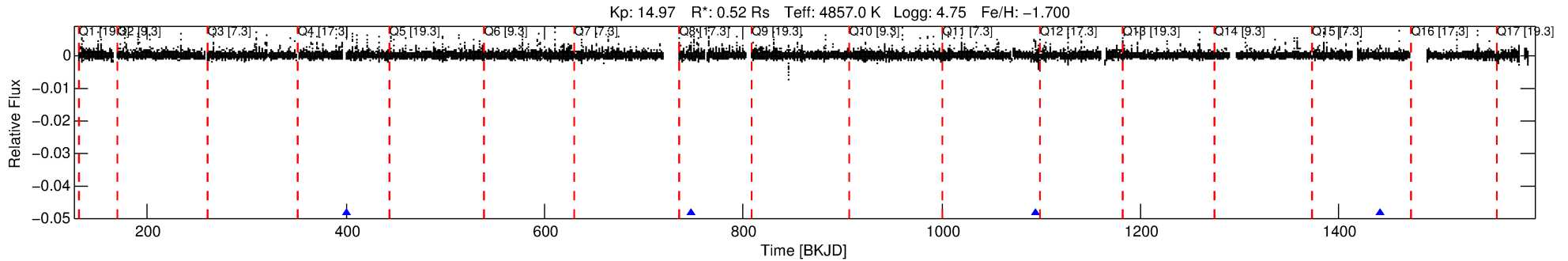
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008572338-01

No Significant Match Found

DV One-Page Summary

KIC: 8572338 Candidate: 1 of 5 Period: 347.134 d



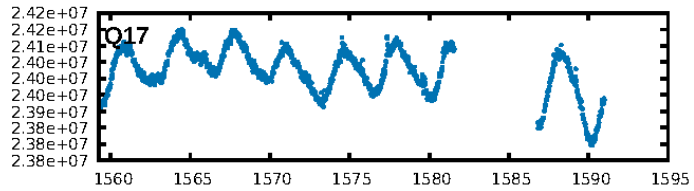
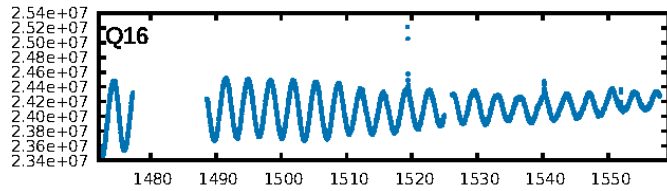
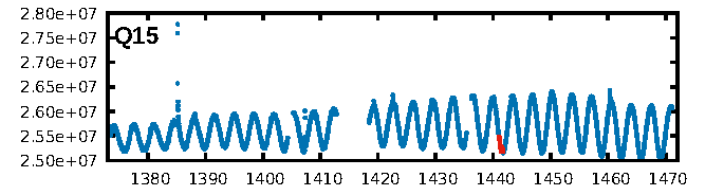
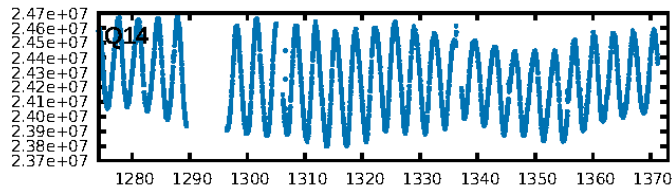
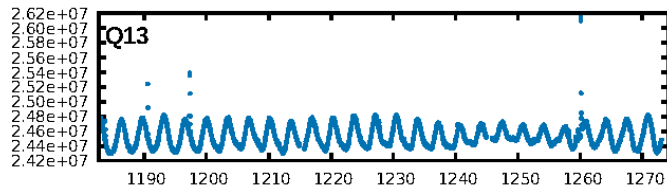
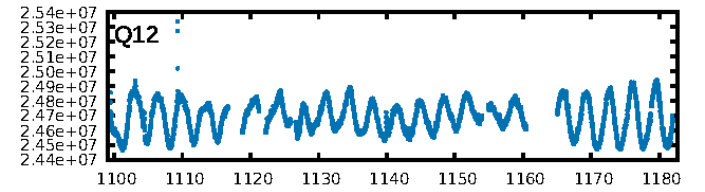
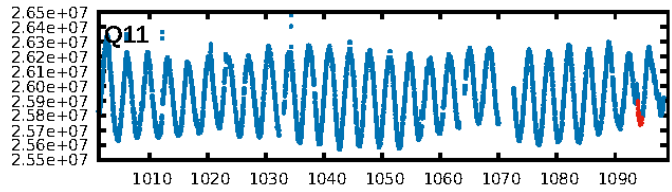
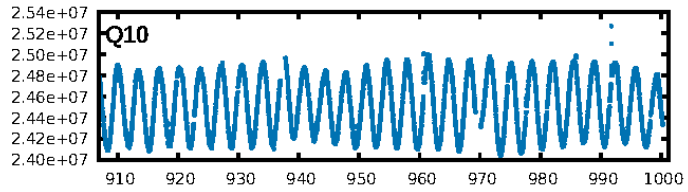
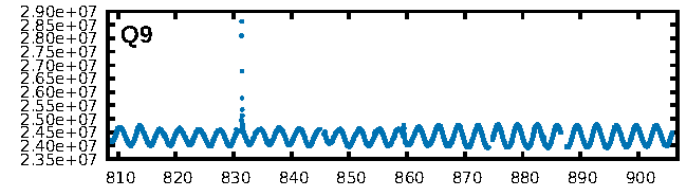
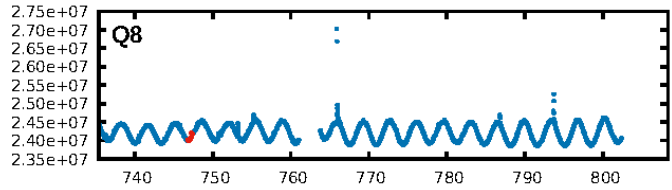
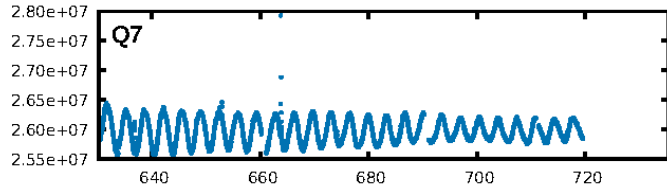
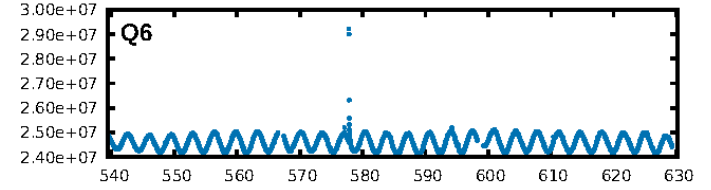
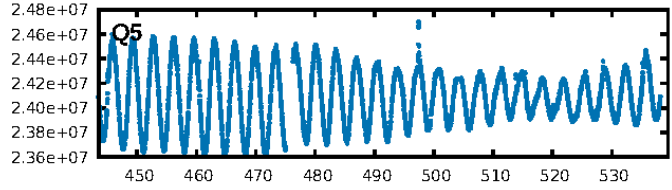
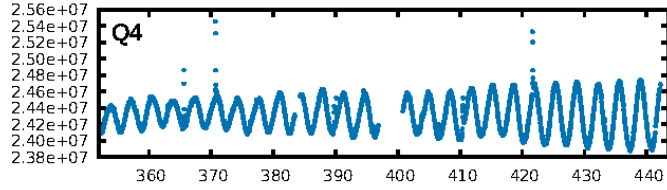
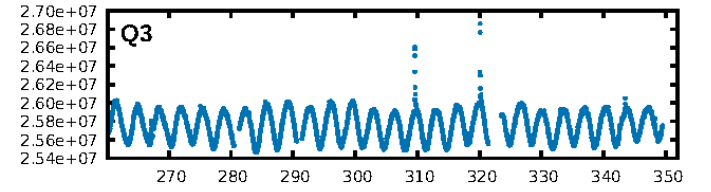
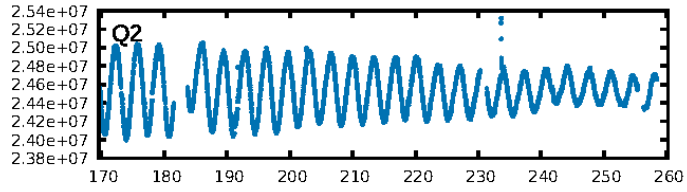
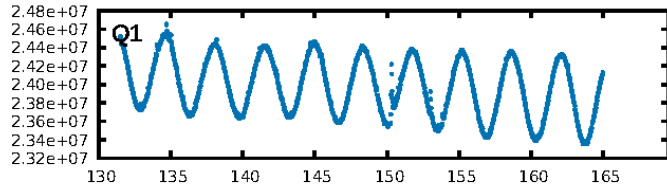
DV Fit Results:

Period = 347.13352 [0.00745] d
Epoch = 399.9621 [0.0168] BKJD
Rp/R* = 0.0322 [0.0233]
a/R* = 330.21 [1136.92]
b = 0.35 [8.63]
Seff = 0.21 [0.03]
Teq = 173 [6] K
Rp = 1.81 [1.32] Re
a = 0.7903 [0.0322] AU
Ag = 37747.80 [57986.67] [0.65σ]
Teffp = 3731 [1436] K [2.48σ]

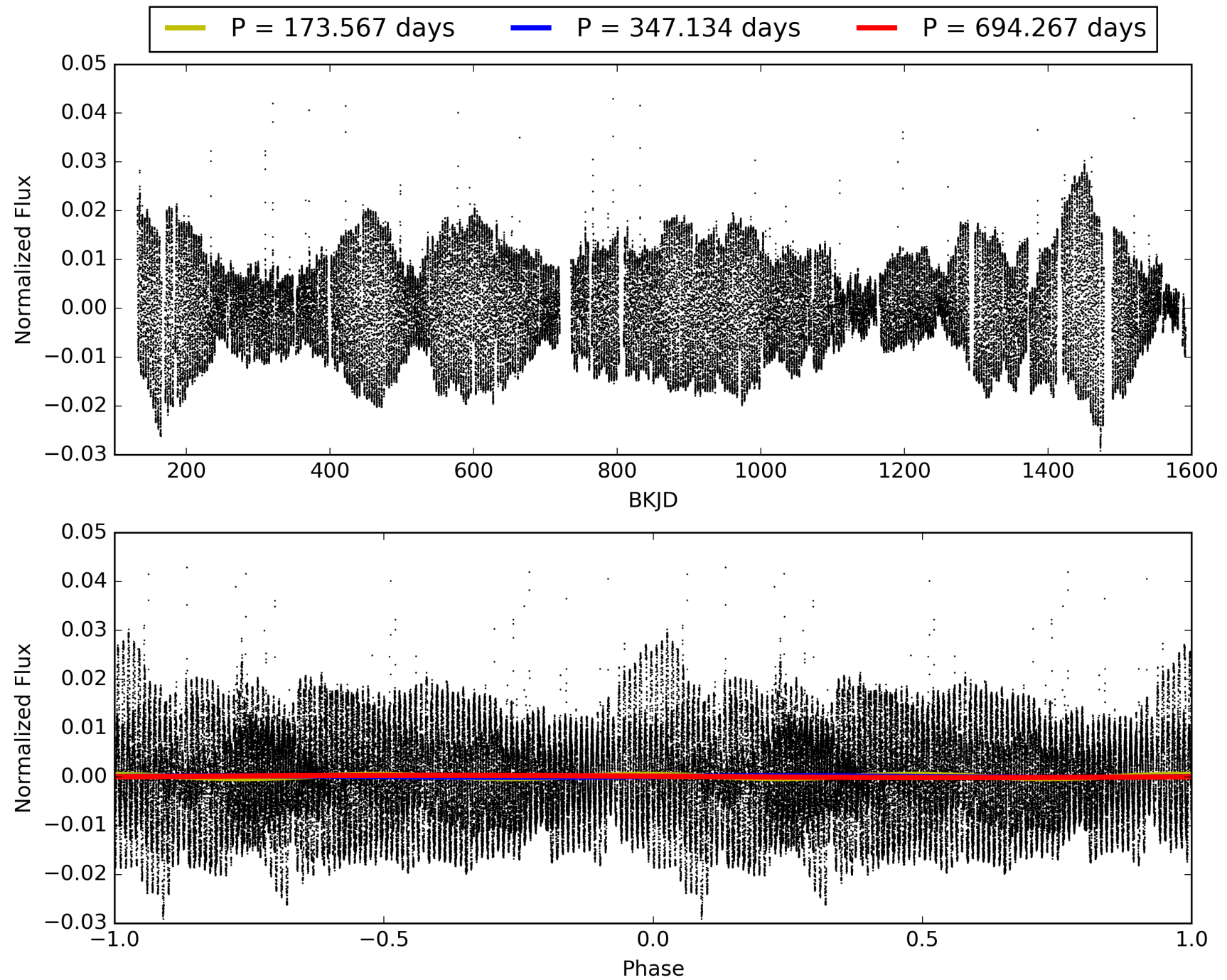
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [144.00σ]
ModelChiSquare2-sig: 41.1%
ModelChiSquareGof-sig: 93.8%
Bootstrap-pfa: 9.08e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.3581
Centroid-sig: 87.4%
Centroid-so: 0.381 arcsec [0.47σ]
OotOffset-rm: 0.295 arcsec [3.19σ]
KicOffset-rm: 0.203 arcsec [2.09σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 008572338-01, PDC Light Curves

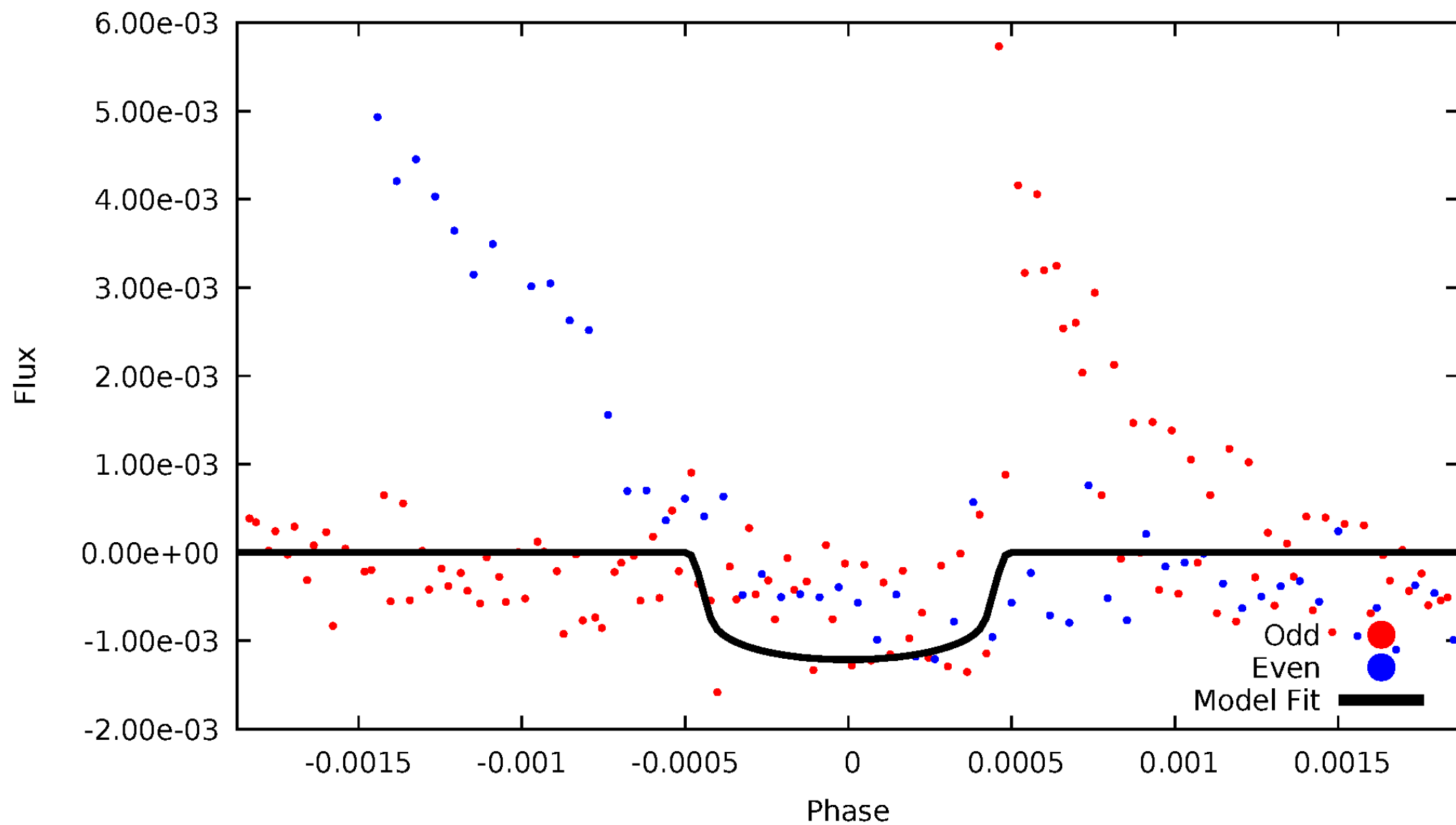


TCE 008572338-01



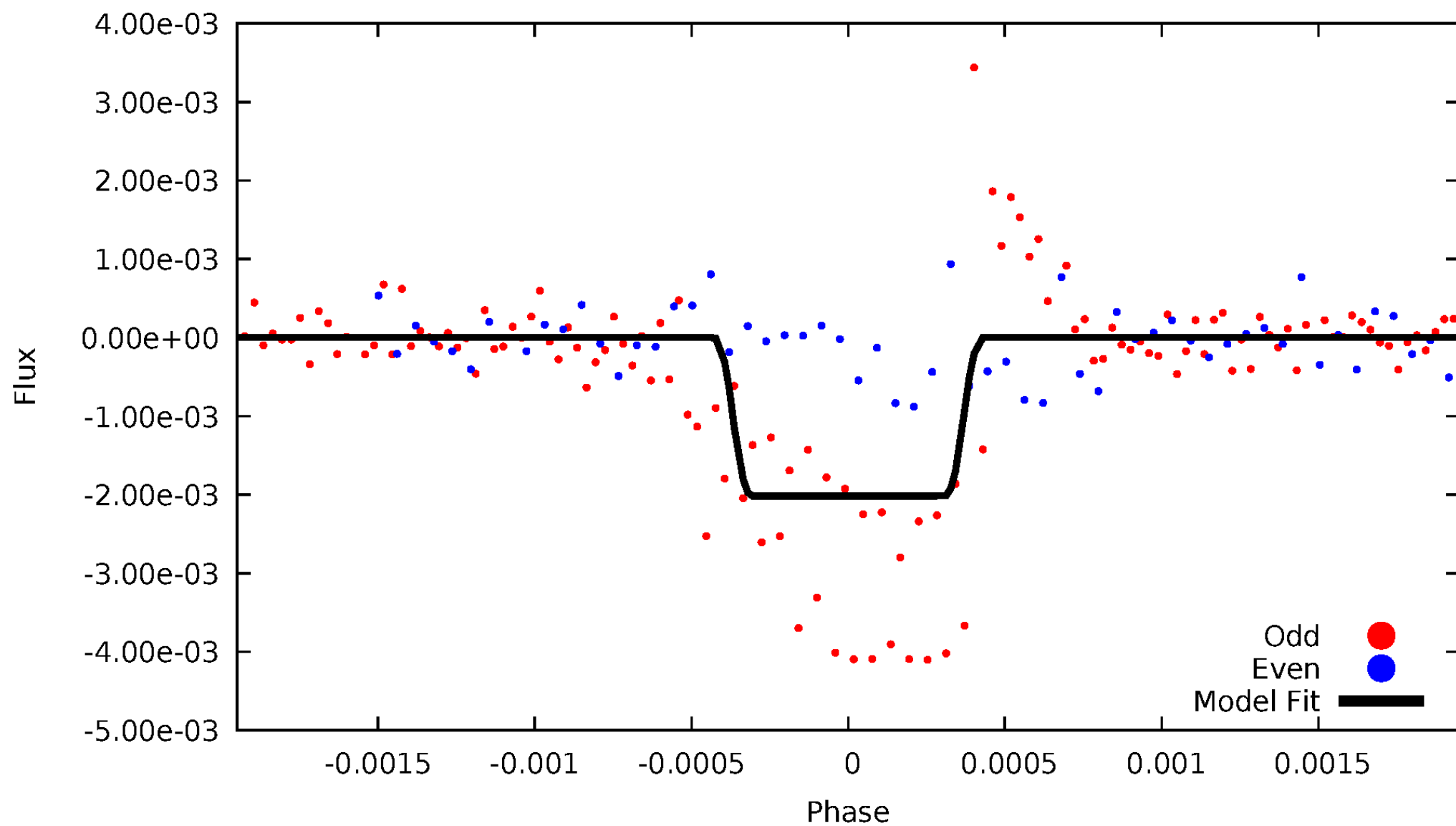
DV Odd/Even

TCE 008572338-01



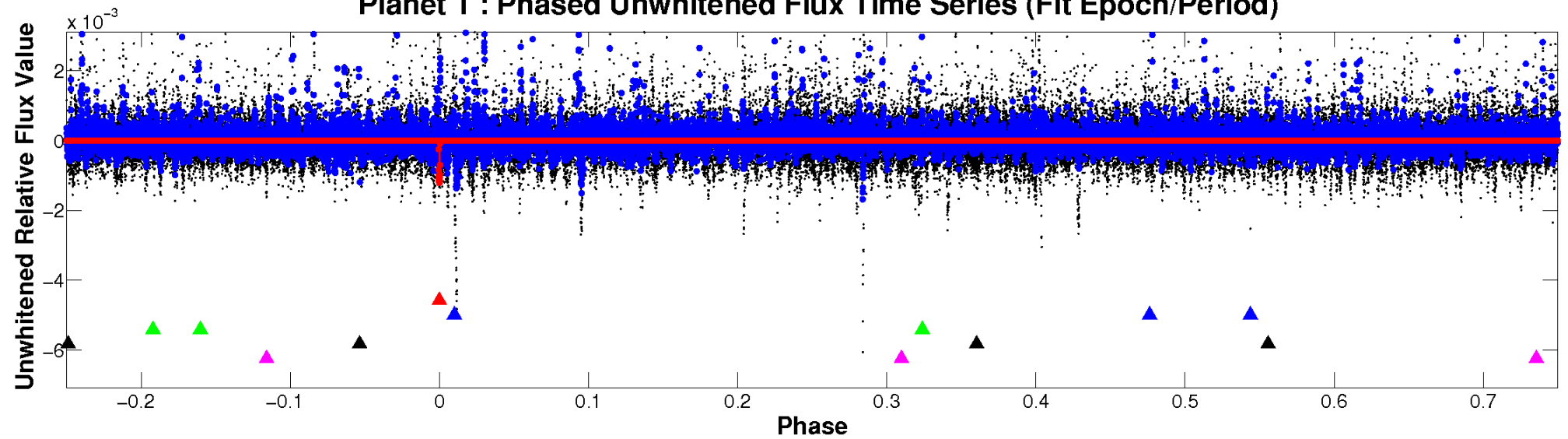
ALT Odd/Even

TCE 008572338-01

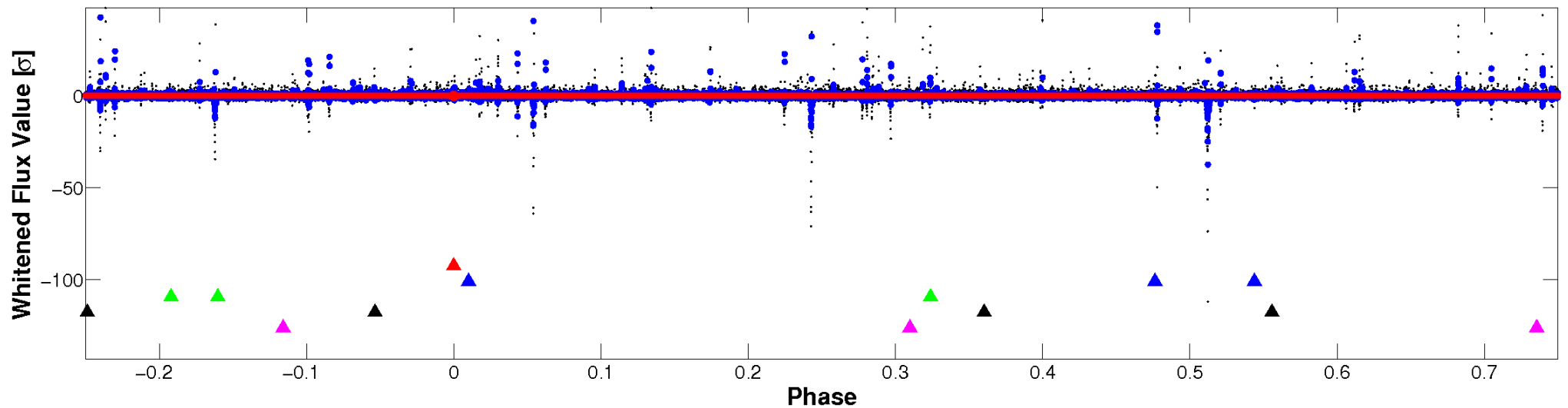


Non-Whitened Vs. Whitened Light Curve

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

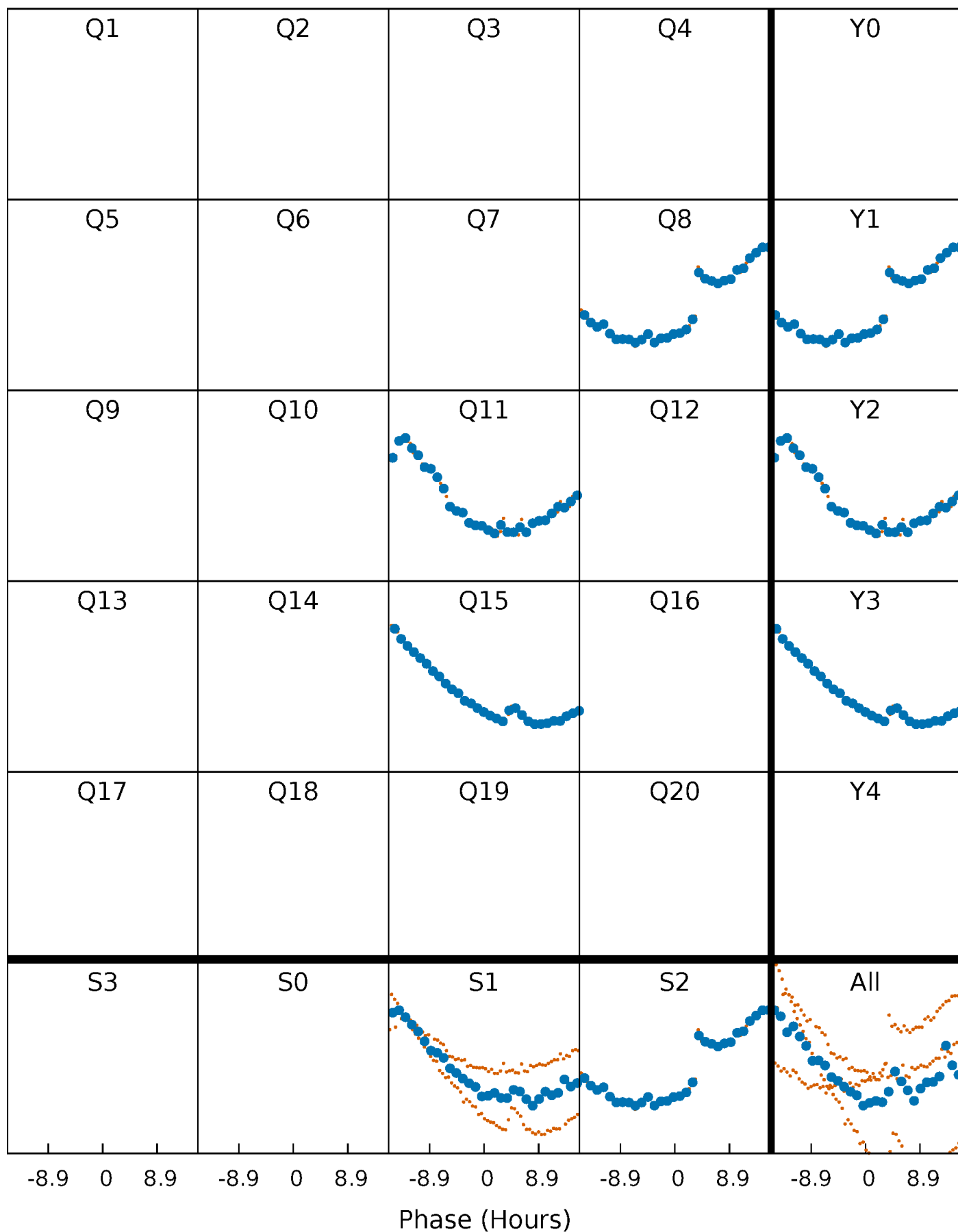


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



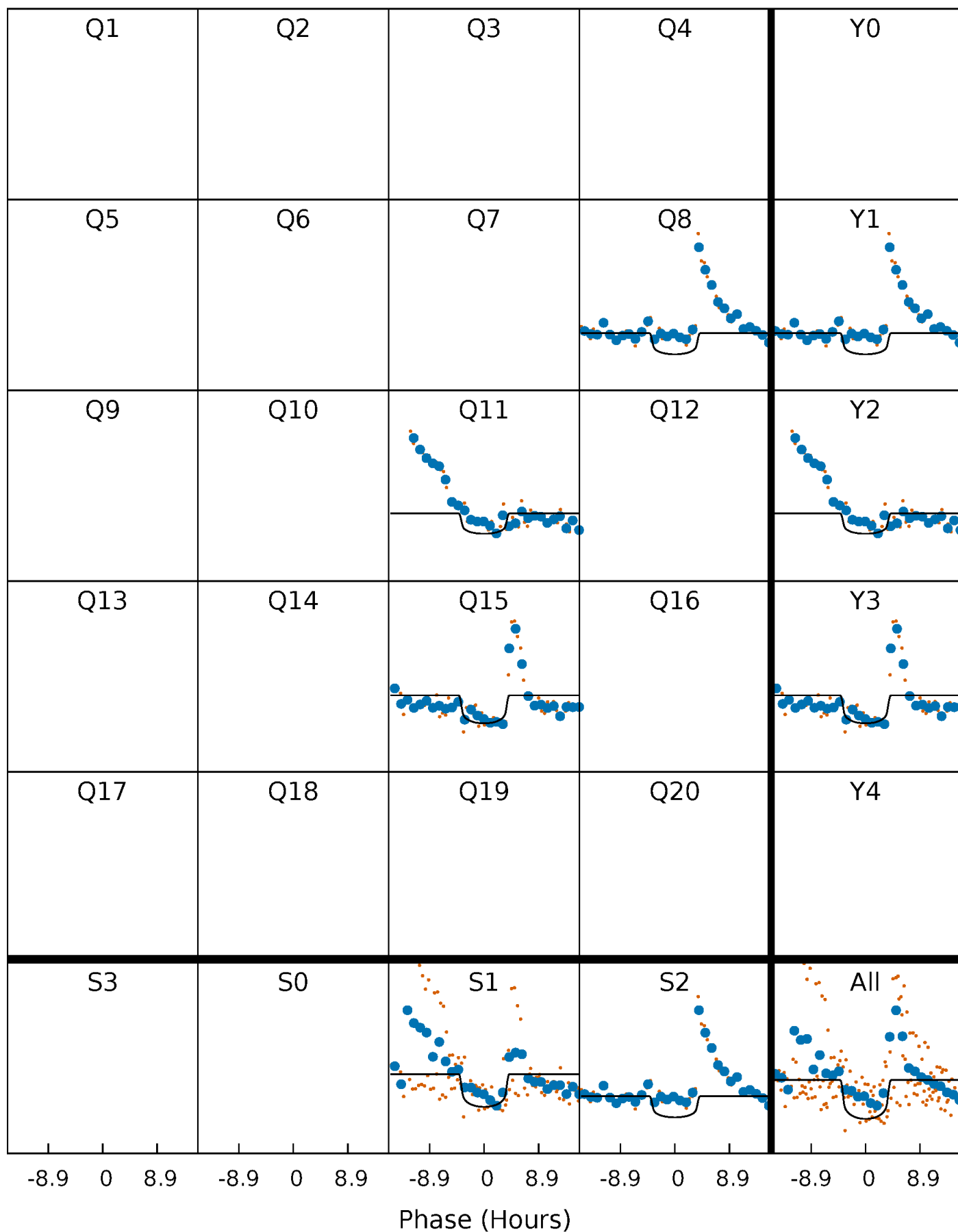
PDC Quarter-Phased Transit Curves

TCE 008572338-01 P=347.133522 Days $T_0=399.962067$ (BKJD)



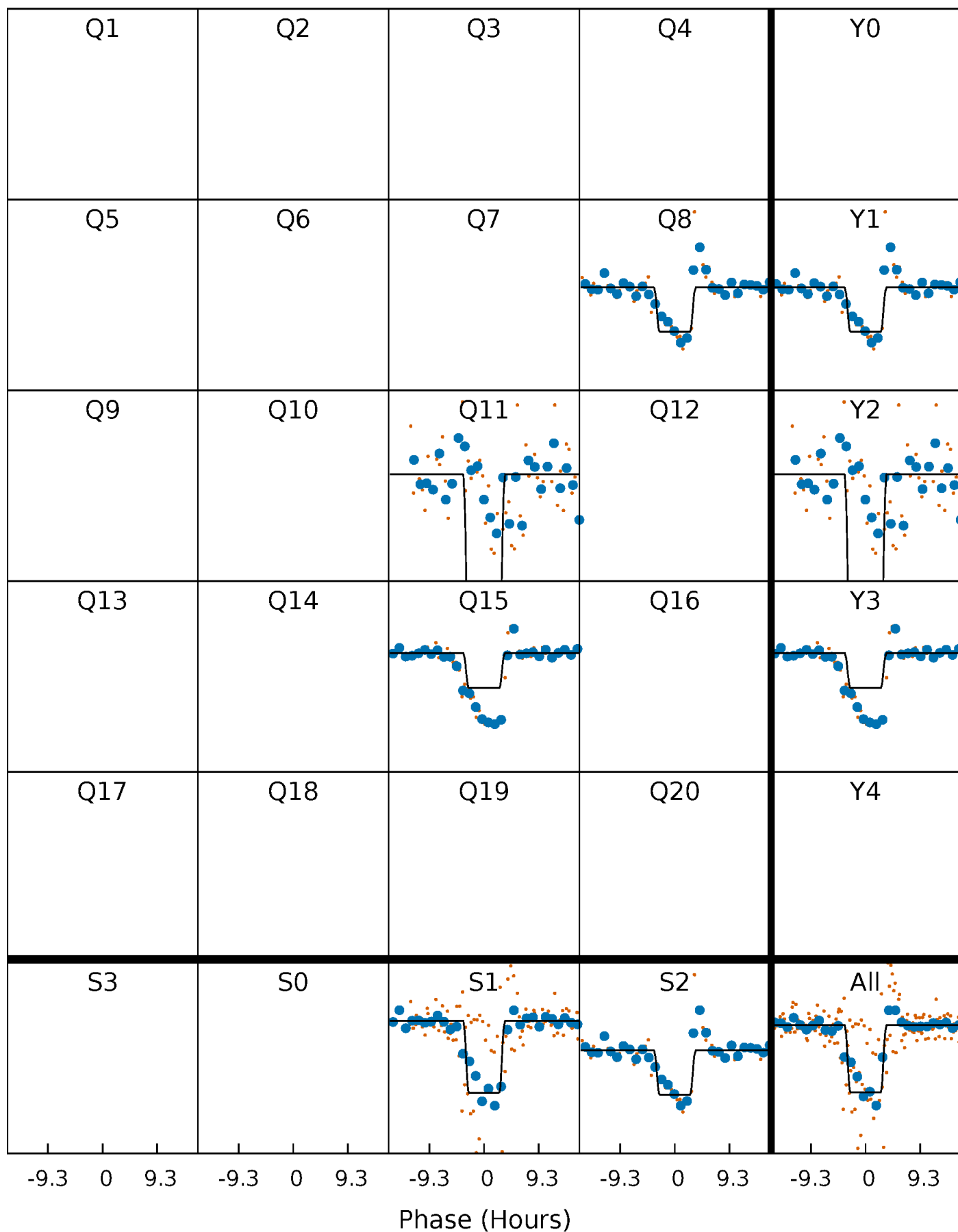
DV Quarter-Phased Transit Curves

TCE 008572338-01 P=347.133522 Days $T_0=399.962067$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

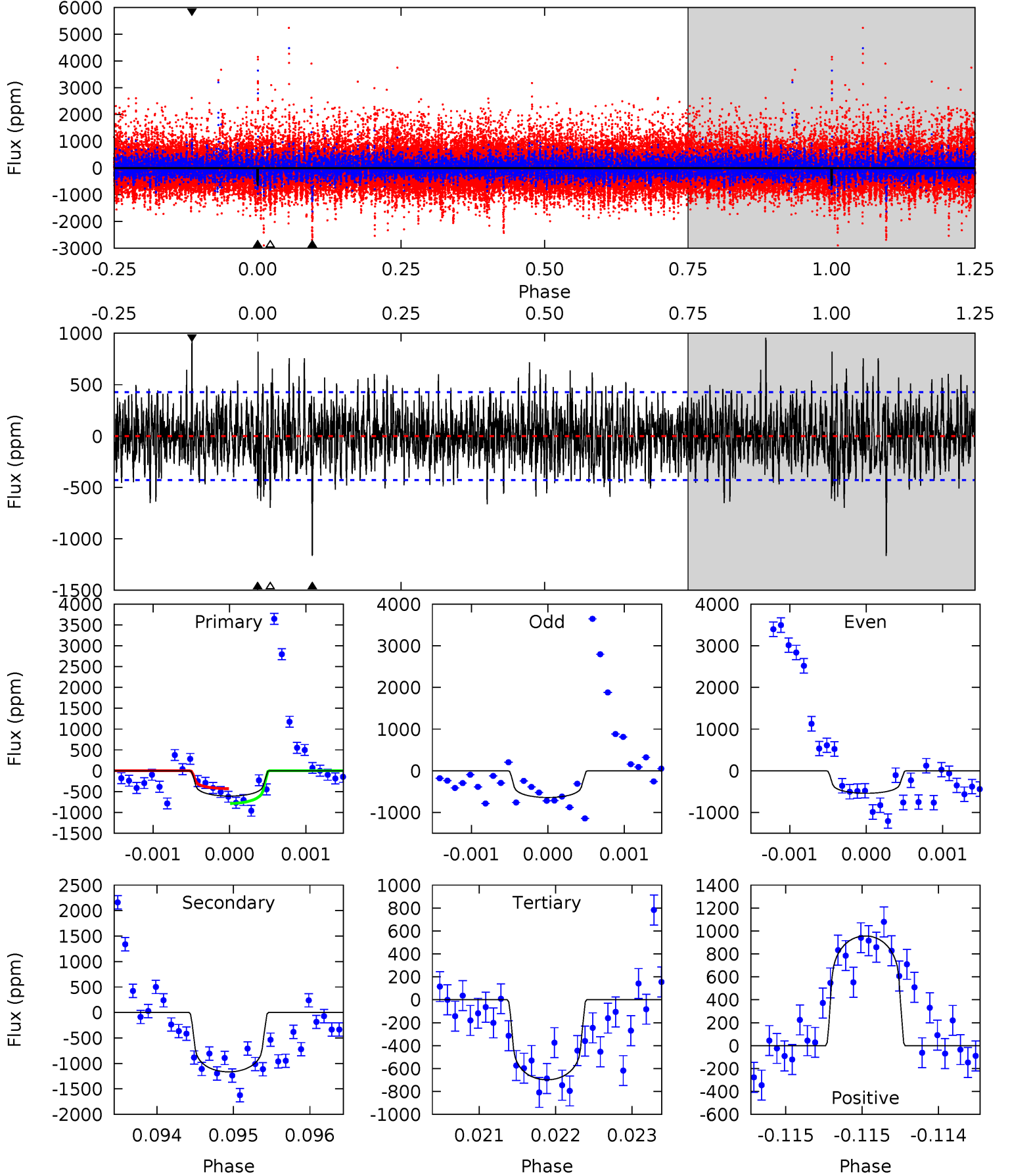
TCE 008572338-01 P=347.132129 Days $T_0=399.984256$ (BKJD)



DV Model-Shift Uniqueness Test

008572338-01, $P = 347.133522$ Days, $E = 52.828545$ Days

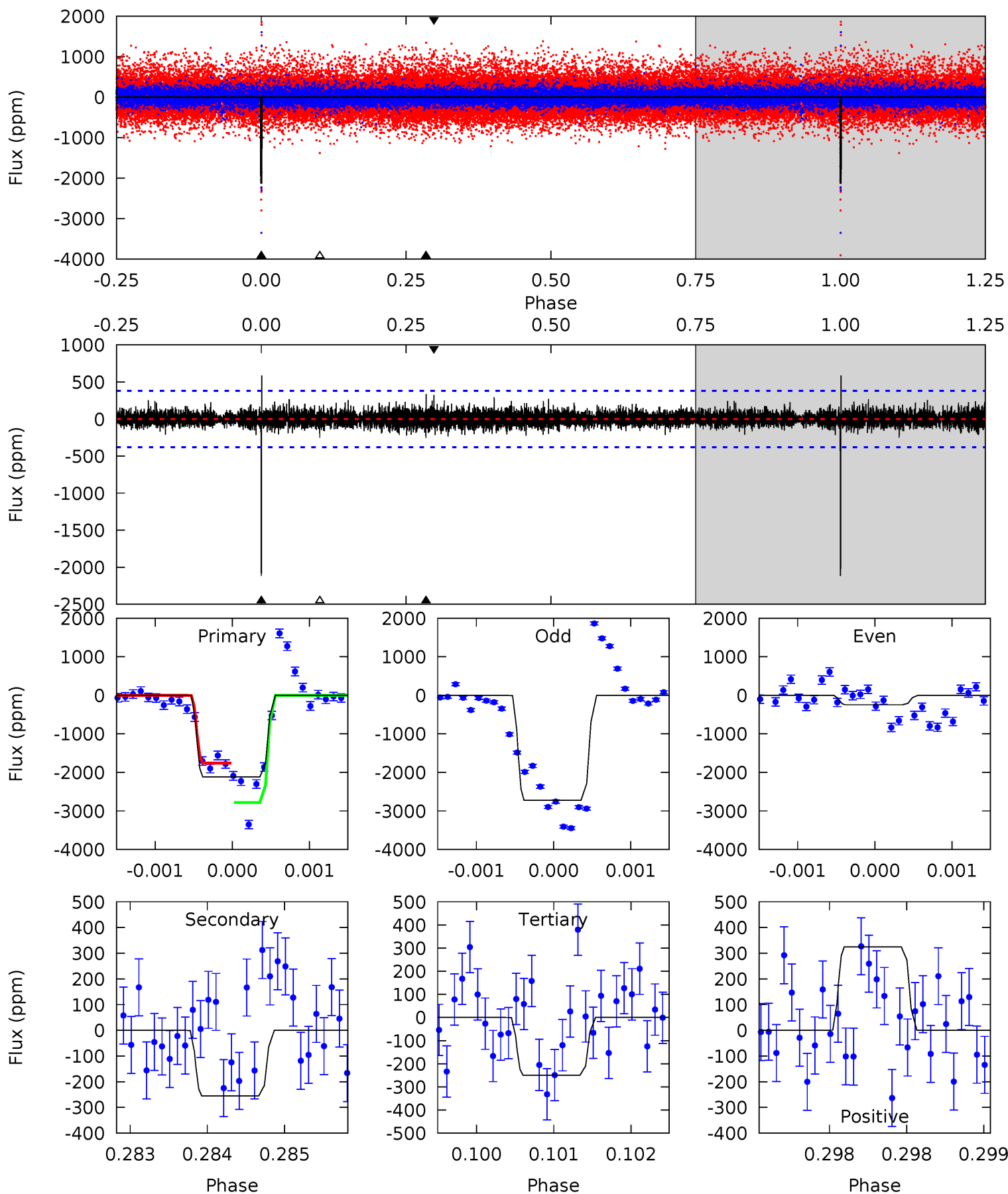
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.76	14.9	8.92	12.2	5.46	3.30	2.67	-1.16	-4.46	5.96	2.66	0.48	1.07	0.45	2.28



Alt Model-Shift Uniqueness Test

008572338-01, P = 347.132129 Days, E = 52.852127 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.6	3.68	3.60	4.69	5.49	3.35	0.87	27.0	25.9	0.08	-1.01	24.4	1.00	0.22	7.59



Stellar Parameters For KIC 008572338

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4857^{+146}_{-146}	$4.750^{+0.030}_{-0.027}$	$-1.700^{+0.300}_{-0.200}$	$0.516^{+0.026}_{-0.023}$	$0.547^{+0.030}_{-0.022}$	$5.593^{+0.685}_{-0.611}$
	+3%/-3%	+1%/-1%	+18%/-12%	+5%/-4%	+5%/-4%	+12%/-11%
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 008572338-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1165 ± 78	$1.95^{+1.19}_{-1.03}$	241^{+8}_{-7}	4794^{+2198}_{-772}	$102885^{+378082}_{-61648}$
Alt.	-255 ± 69	$2.58^{+1.36}_{-1.24}$	242^{+7}_{-7}	3321^{+894}_{-402}	12659^{+38387}_{-7266}

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

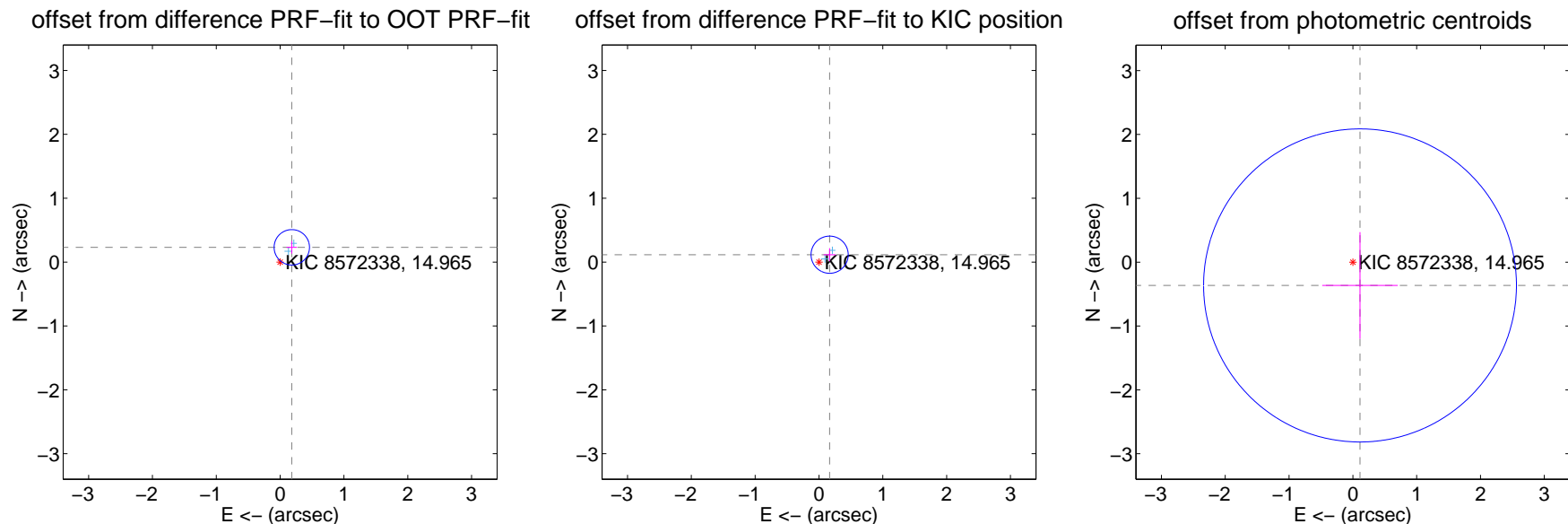
DV Centroid Data

Supplemental centroid analysis for 008572338-01. Kepler magnitude: 14.96. Transit SNR 6.82

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.295 ± 0.092	3.19	-0.183 ± 0.082	0.231 ± 0.098
PRF-fit source offset from KIC position	0.203 ± 0.097	2.09	-0.167 ± 0.094	0.116 ± 0.103
photometric centroid source offset	0.38 ± 0.82	0.47	-0.11 ± 0.59	-0.36 ± 0.84

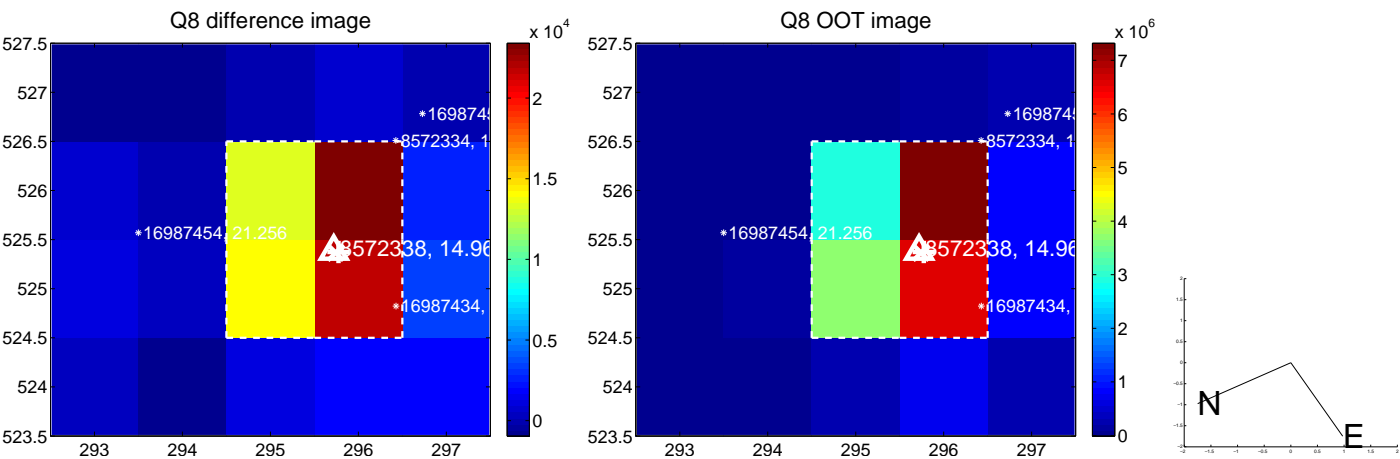
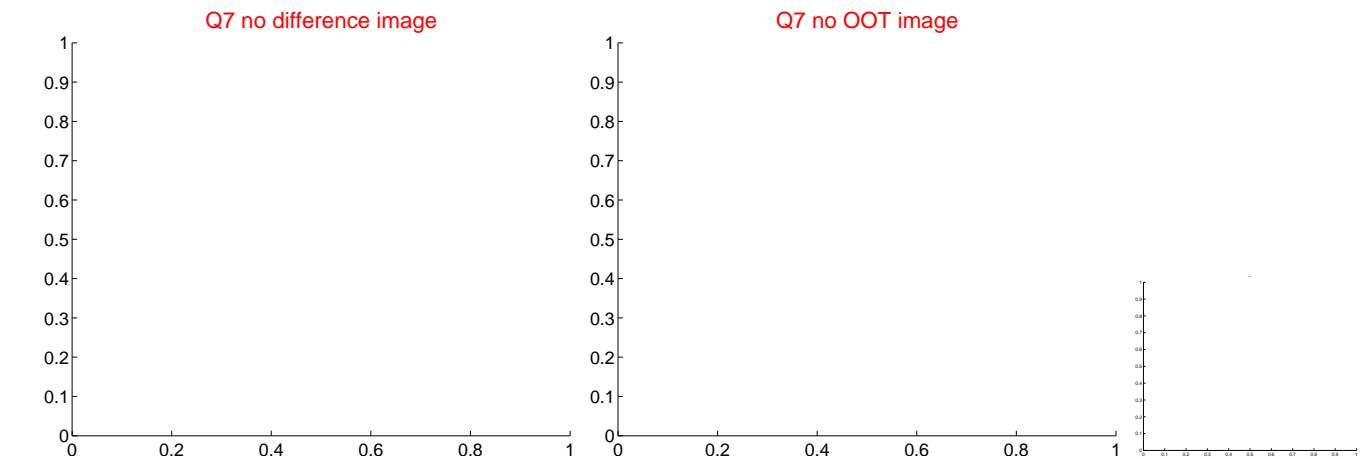
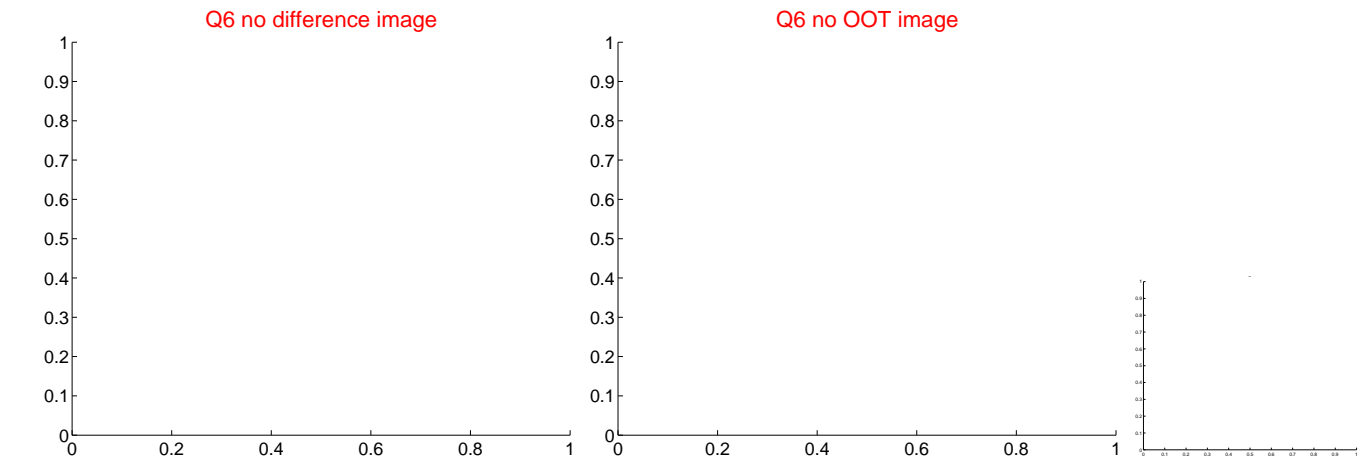
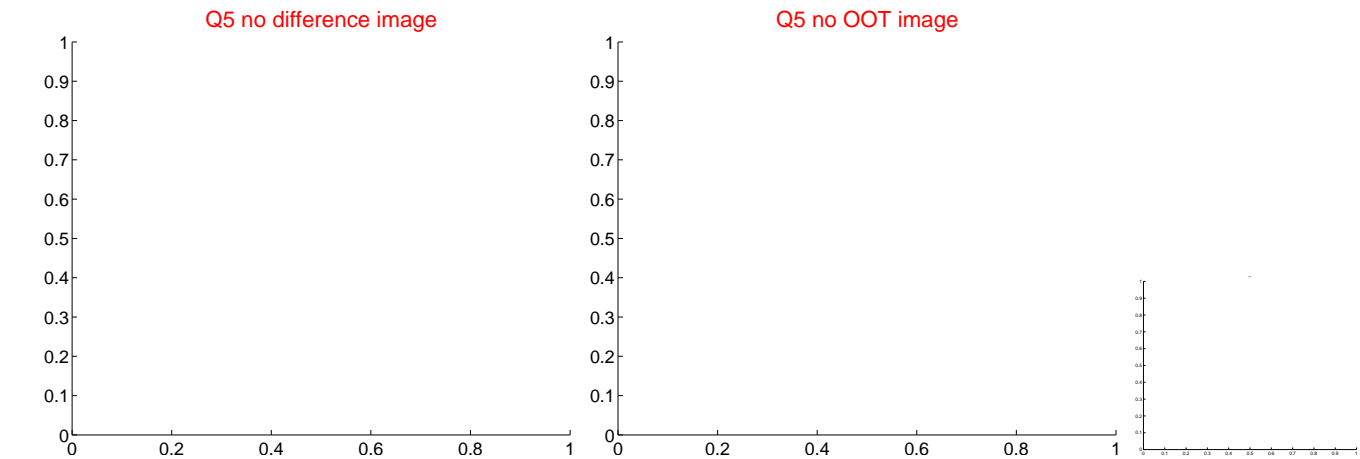


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



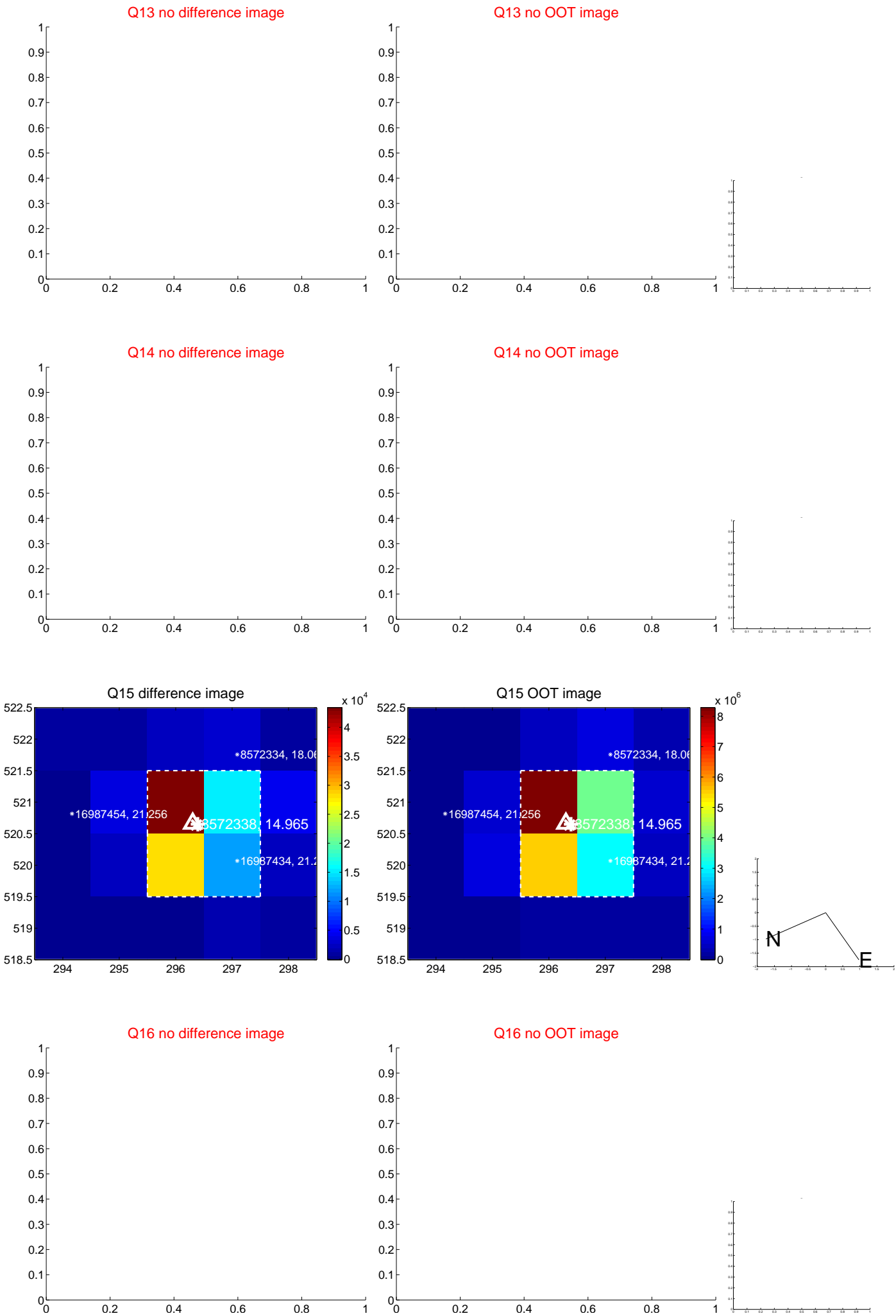
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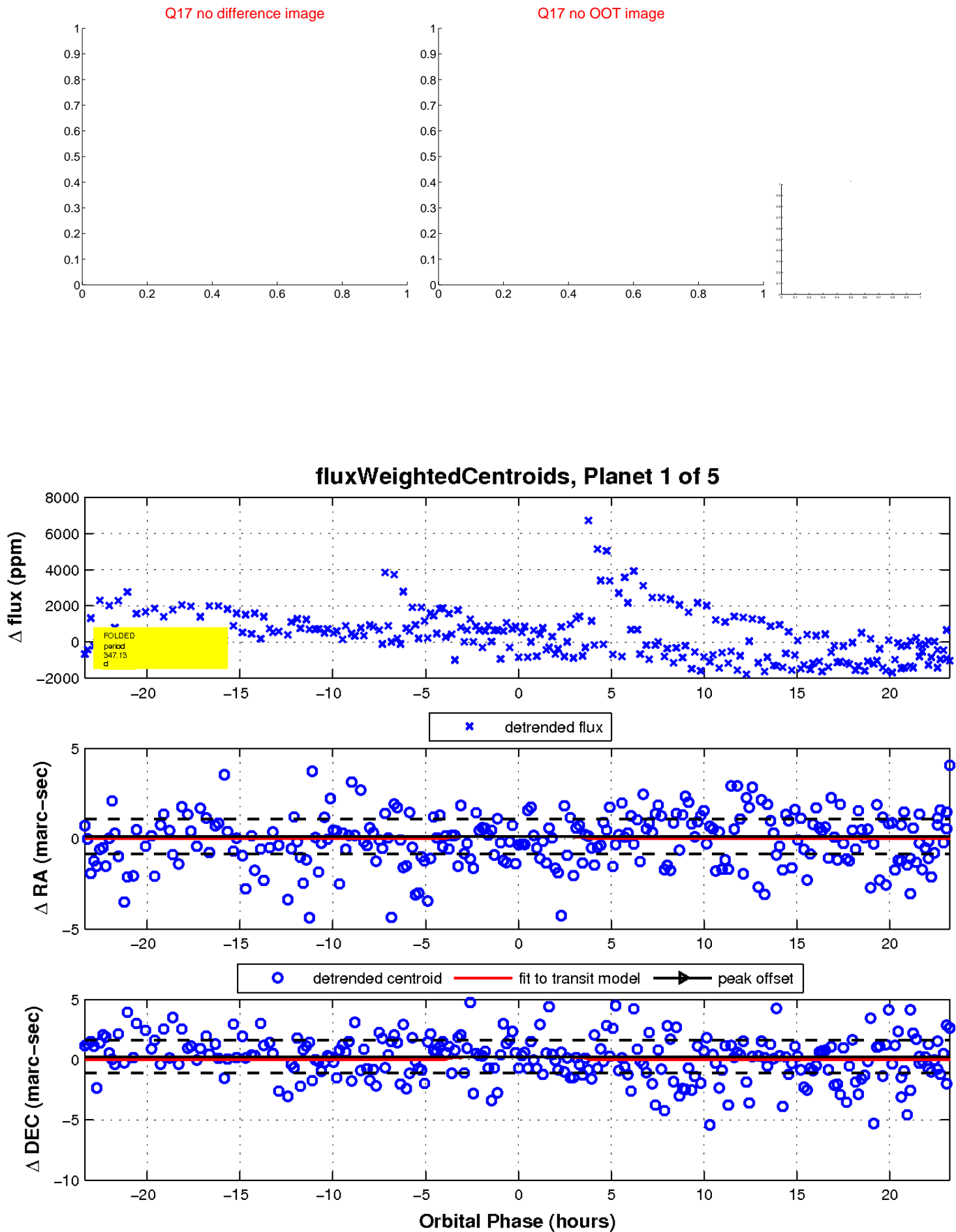
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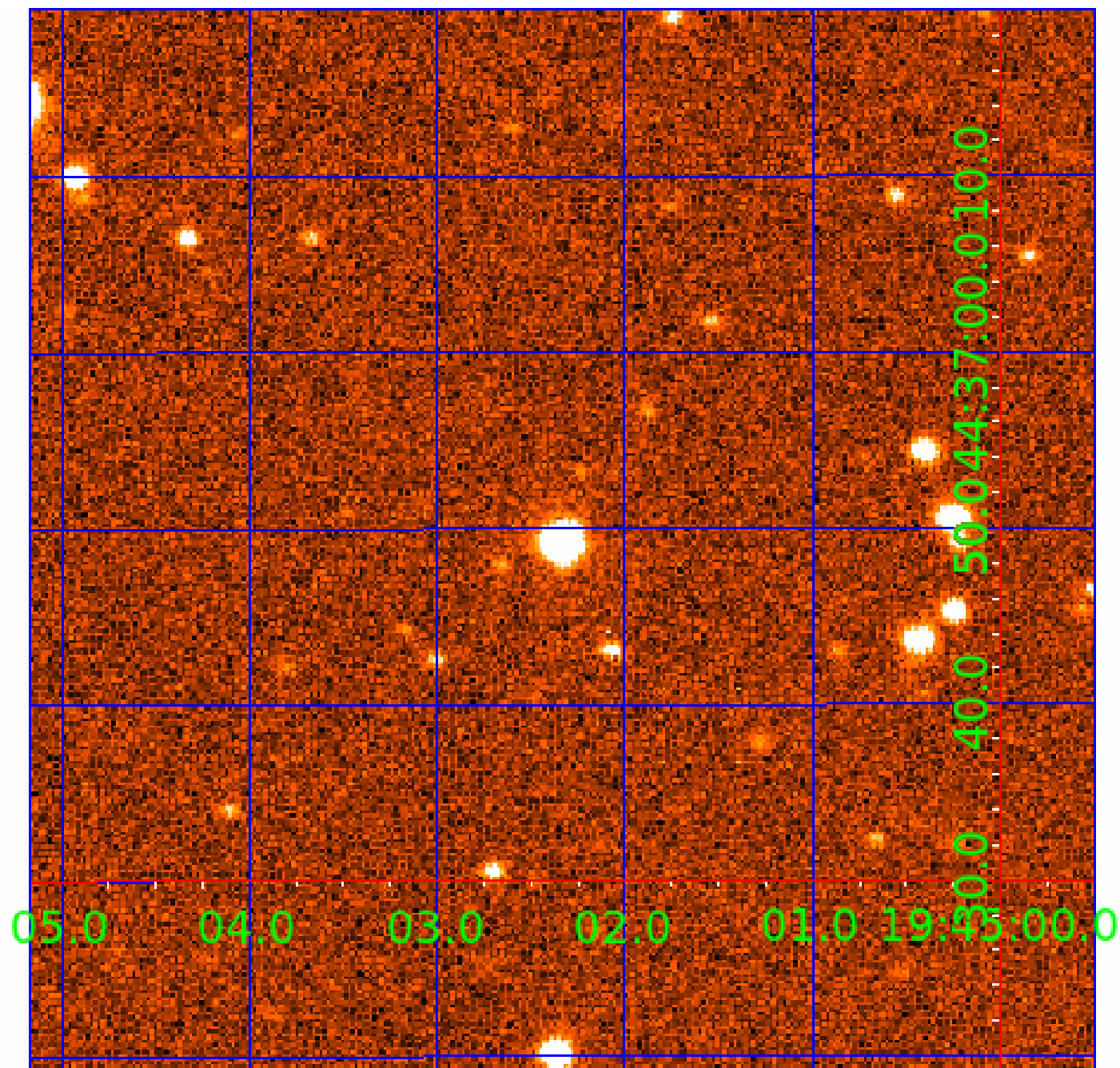


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008572338

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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008572338-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008572338-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008572338-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

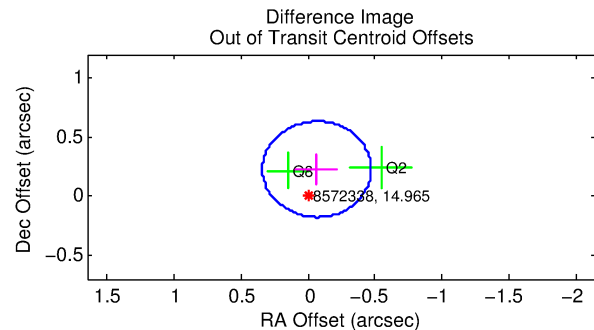
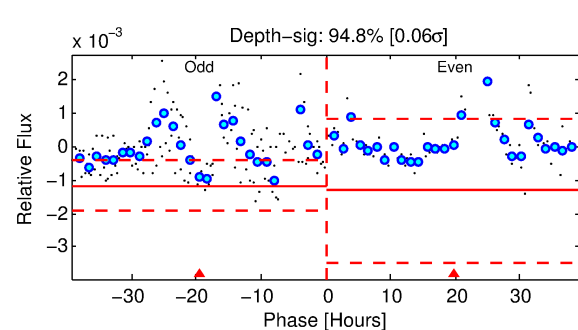
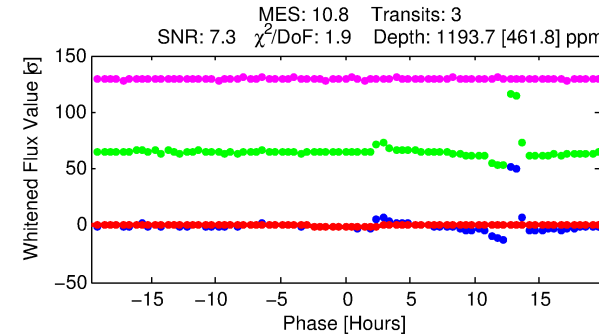
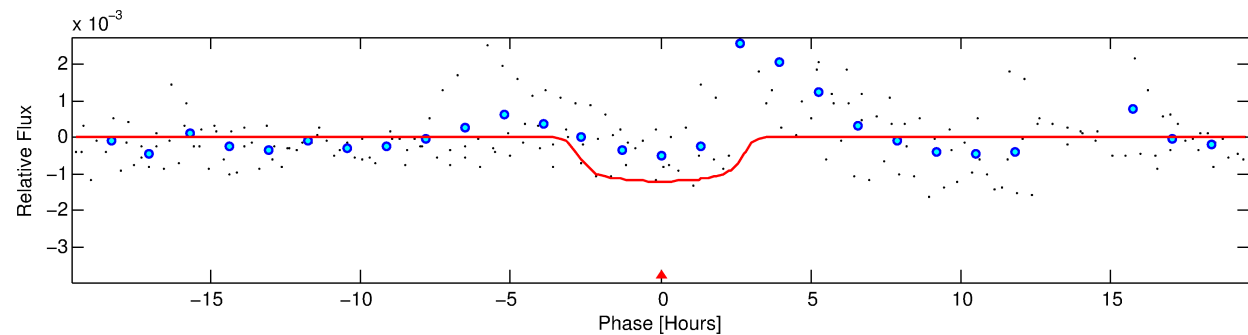
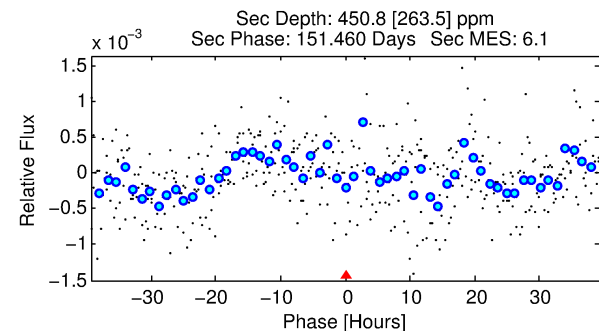
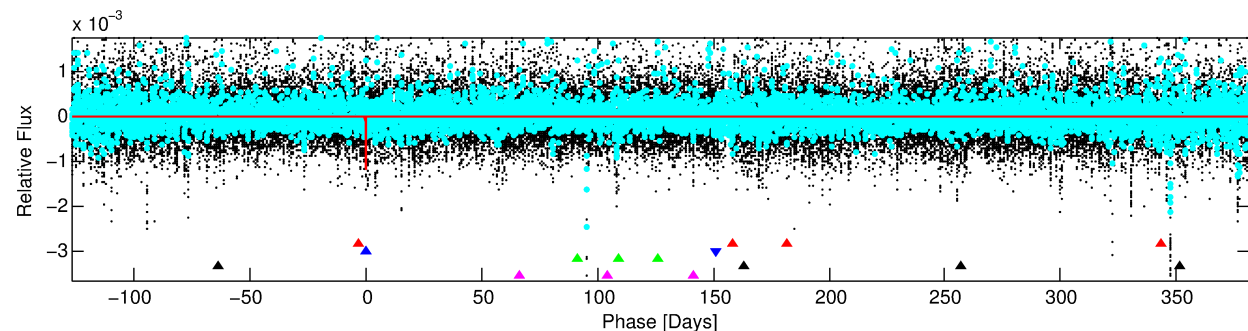
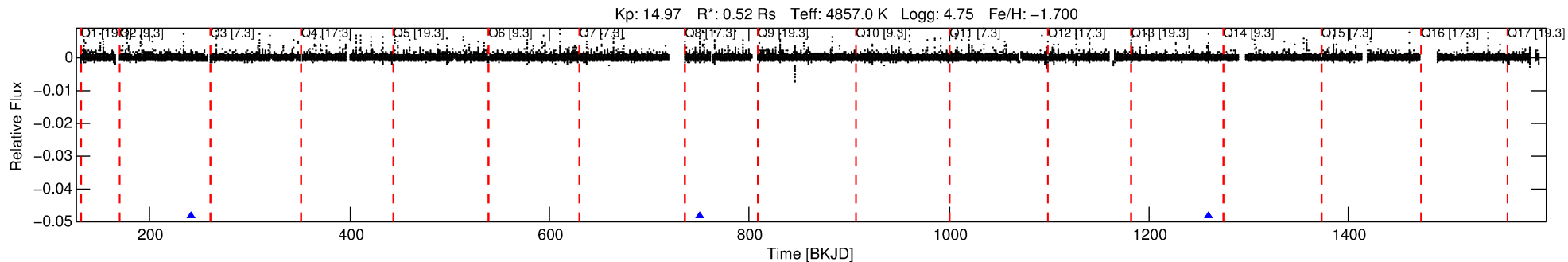
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008572338-02

No Significant Match Found

DV One-Page Summary

KIC: 8572338 Candidate: 2 of 5 Period: 508.974 d



DV Fit Results:

Period = 508.97366 [0.02011] d
Epoch = 241.6179 [0.0289] BKJD
Rp/R* = 0.0371 [0.0110]
a/R* = 313.78 [275.54]
b = 0.89 [0.20]
Seff = 0.13 [0.02]
Teq = 152 [5] K
Rp = 2.09 [0.63] Re
a = 1.0200 [0.0415] AU
Ag = 59184.51 [49503.23] [1.20σ]
Teffp = 3675 [775] K [4.55σ]

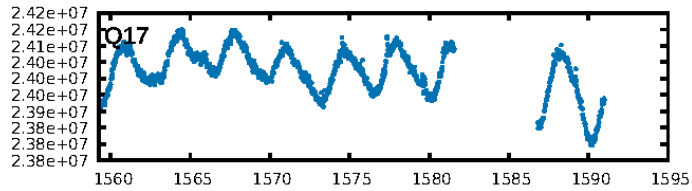
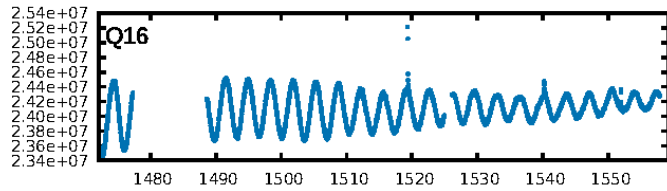
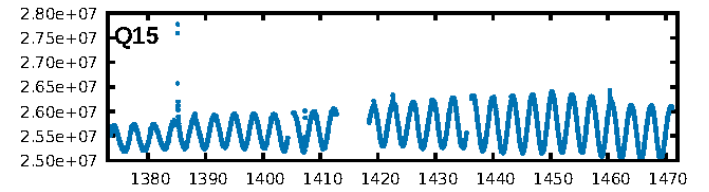
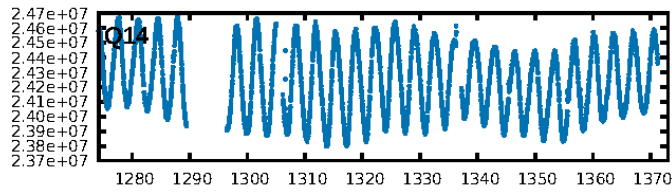
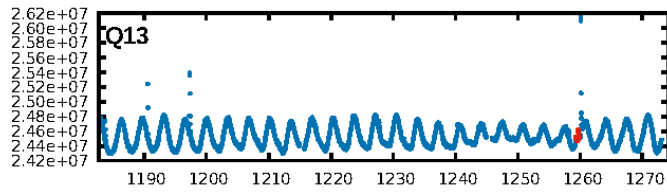
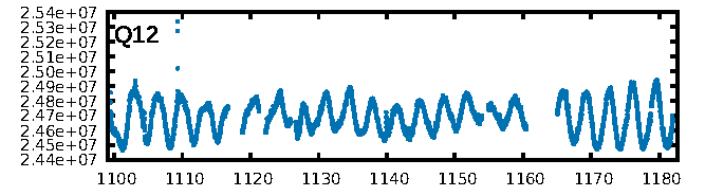
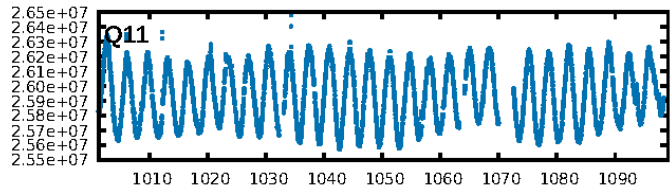
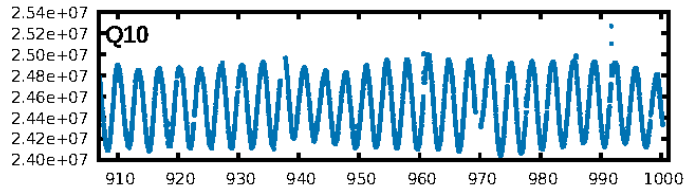
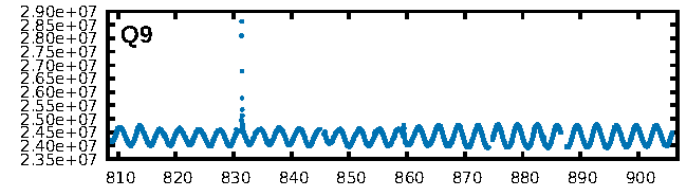
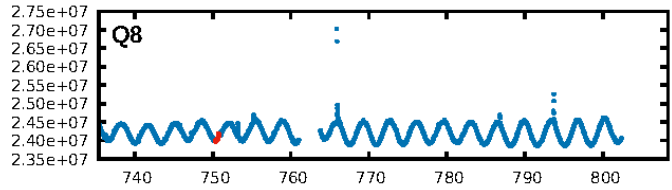
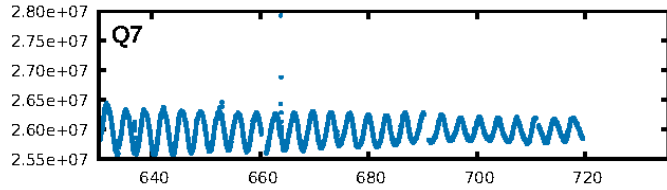
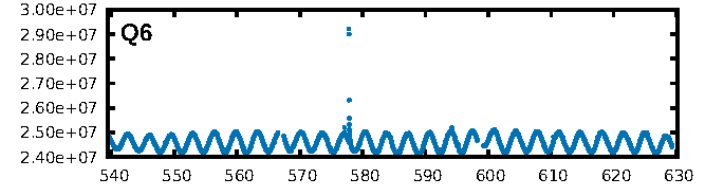
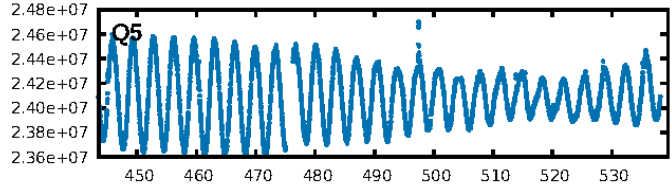
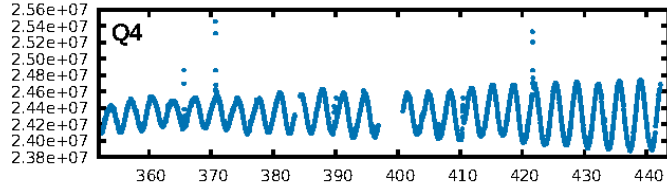
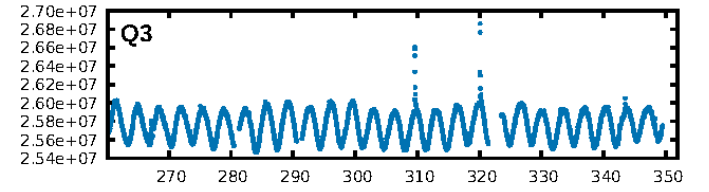
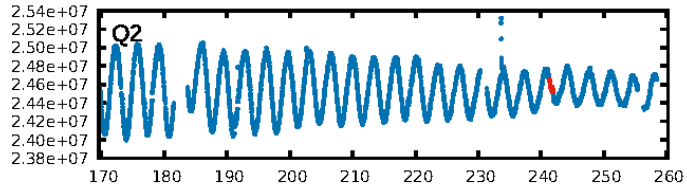
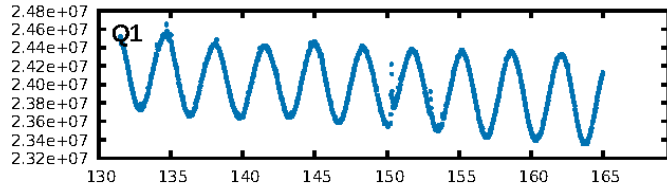
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [215.11σ]
LongPeriod-sig: 100.0% [18.33σ]
ModelChiSquare2-sig: 75.9%
ModelChiSquareGof-sig: 90.2%
Bootstrap-pfa: 2.75e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -3.458
Centroid-sig: 46.4%
Centroid-so: 0.533 arcsec [0.71σ]
OotOffset-rm: 0.236 arcsec [1.75σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-rm: 0.139 arcsec [0.63σ]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

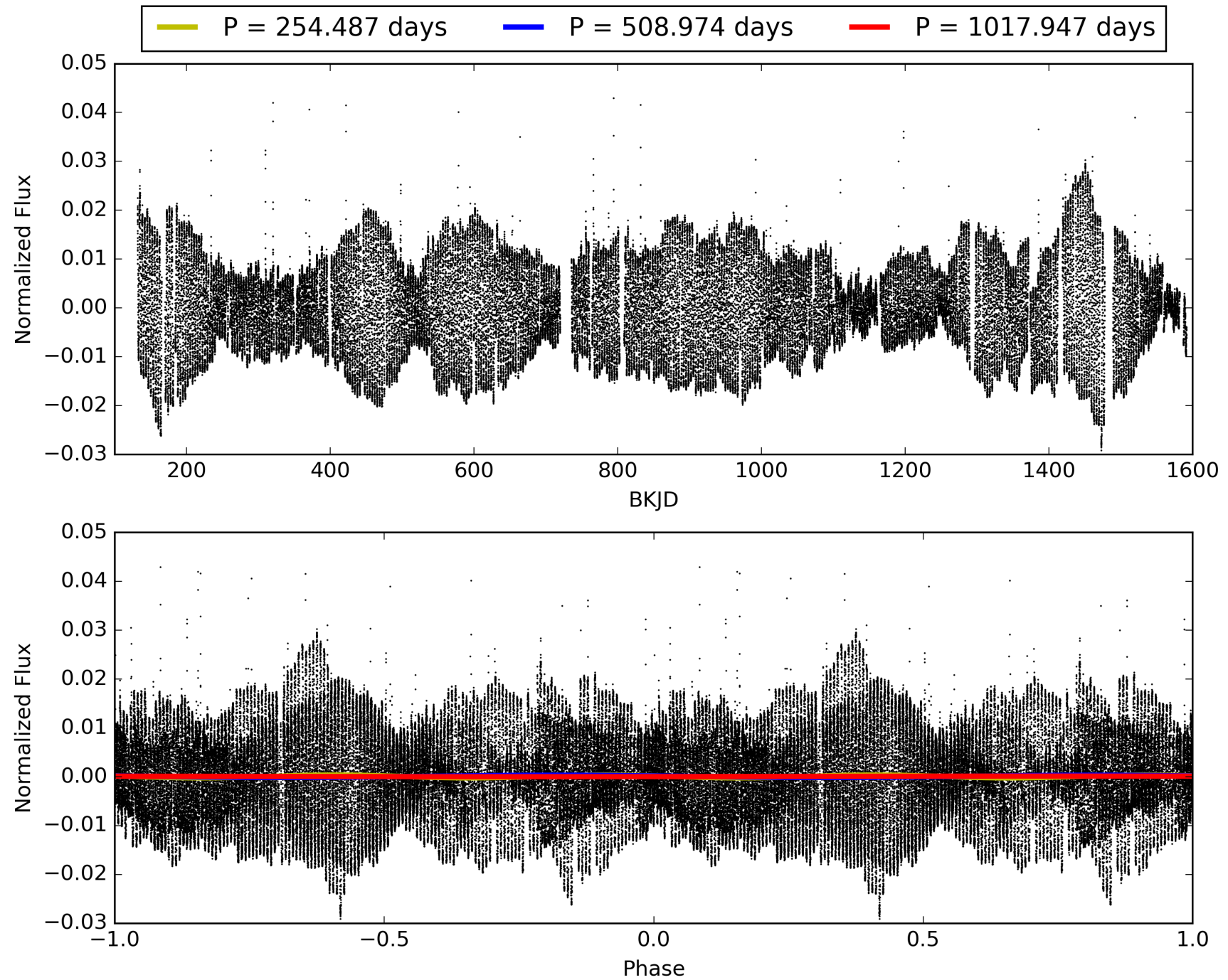
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:36:20 Z

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

TCE 008572338-02, PDC Light Curves

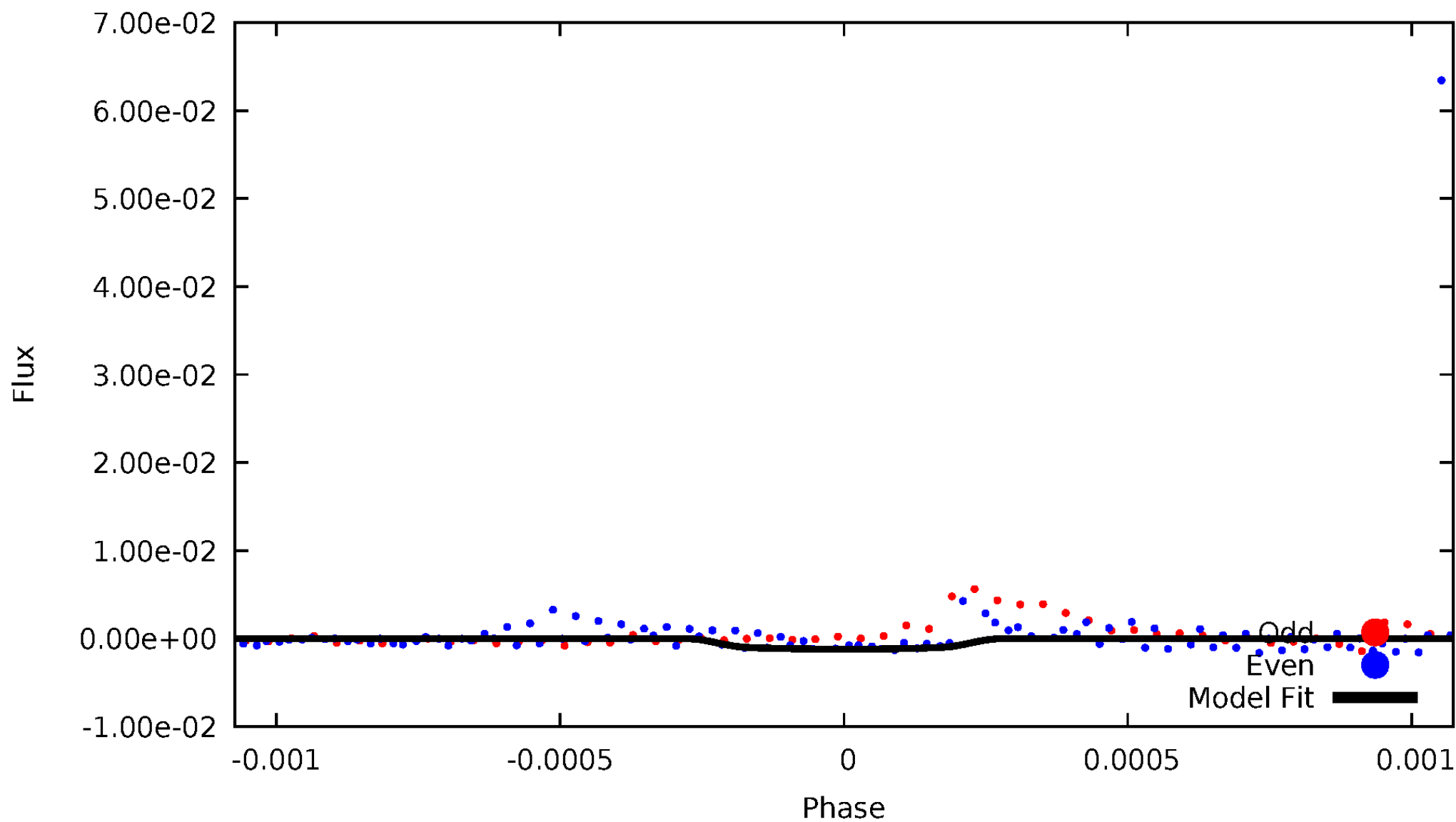


TCE 008572338-02



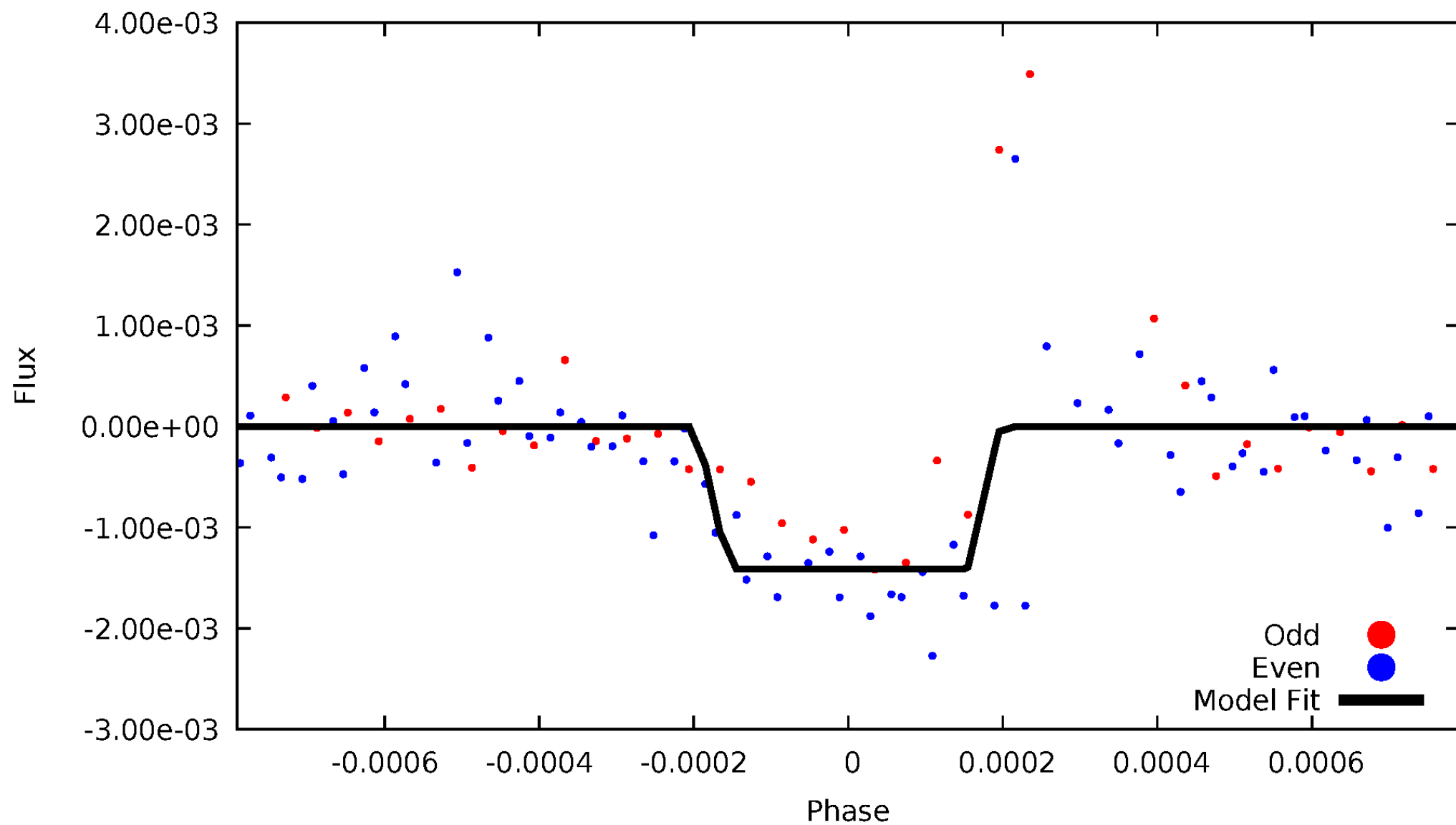
DV Odd/Even

TCE 008572338-02



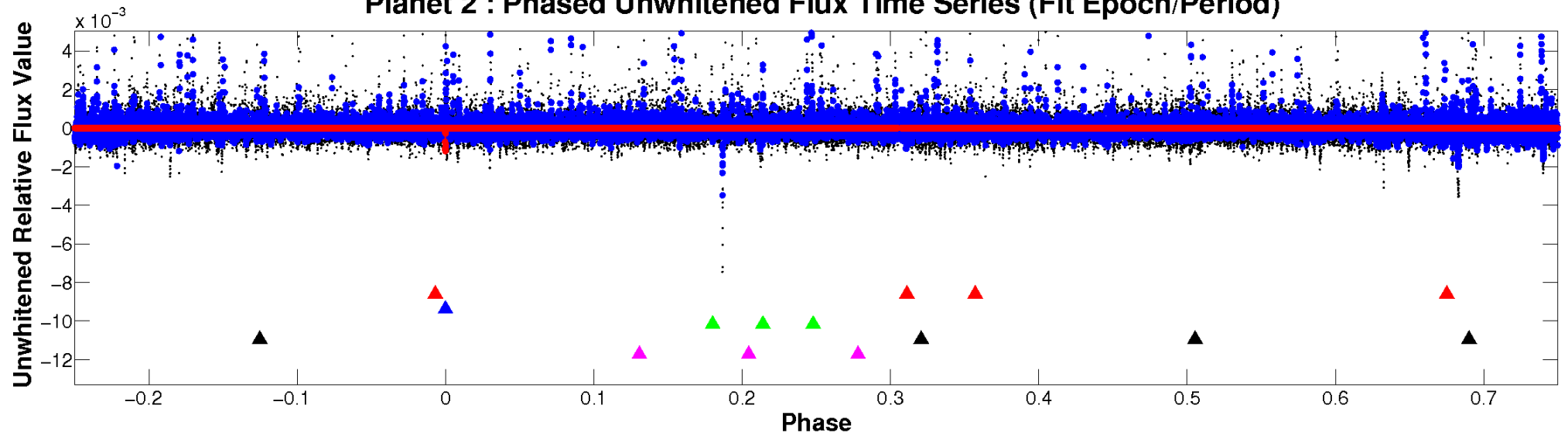
ALT Odd/Even

TCE 008572338-02

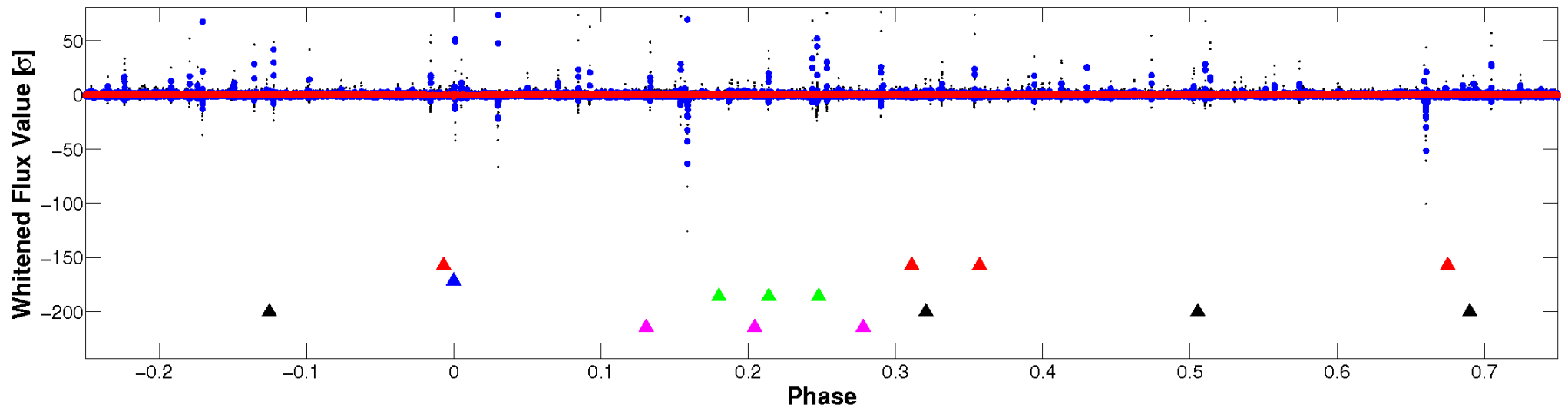


Non-Whitened Vs. Whitened Light Curve

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

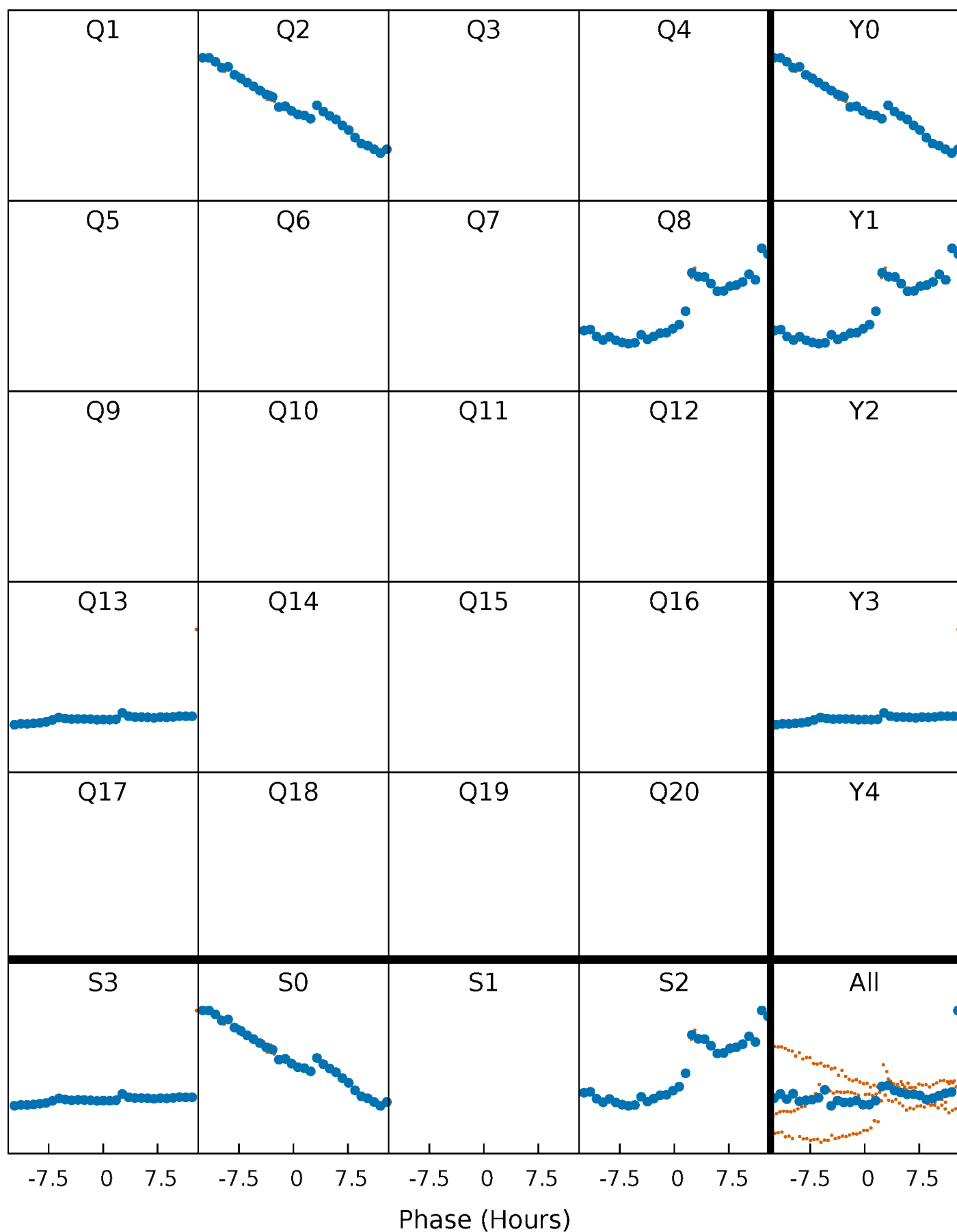


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



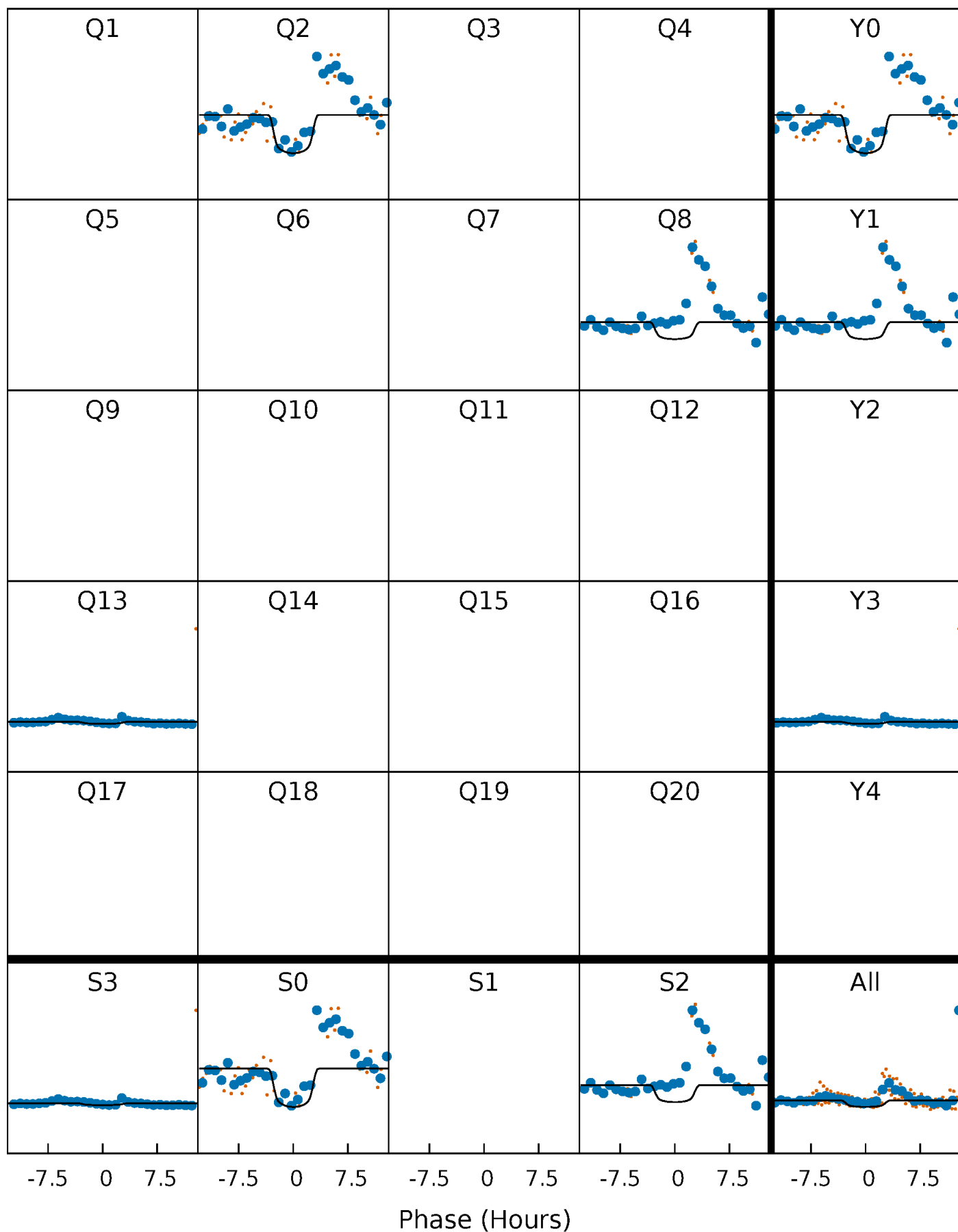
PDC Quarter-Phased Transit Curves

TCE 008572338-02 $P=508.973662$ Days $T_0=241.617925$ (BKJD)



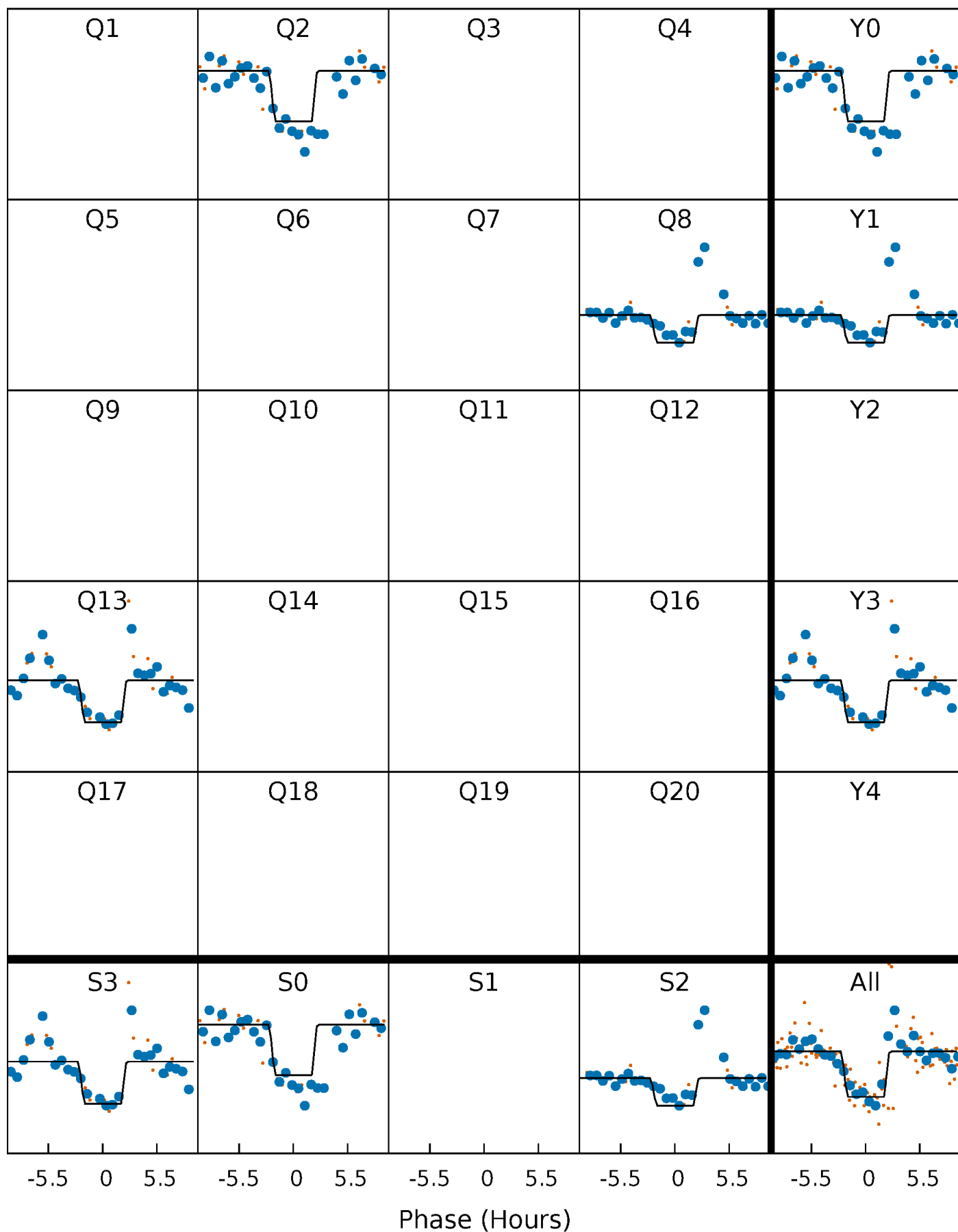
DV Quarter-Phased Transit Curves

TCE 008572338-02 $P=508.973662$ Days $T_0=241.617925$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

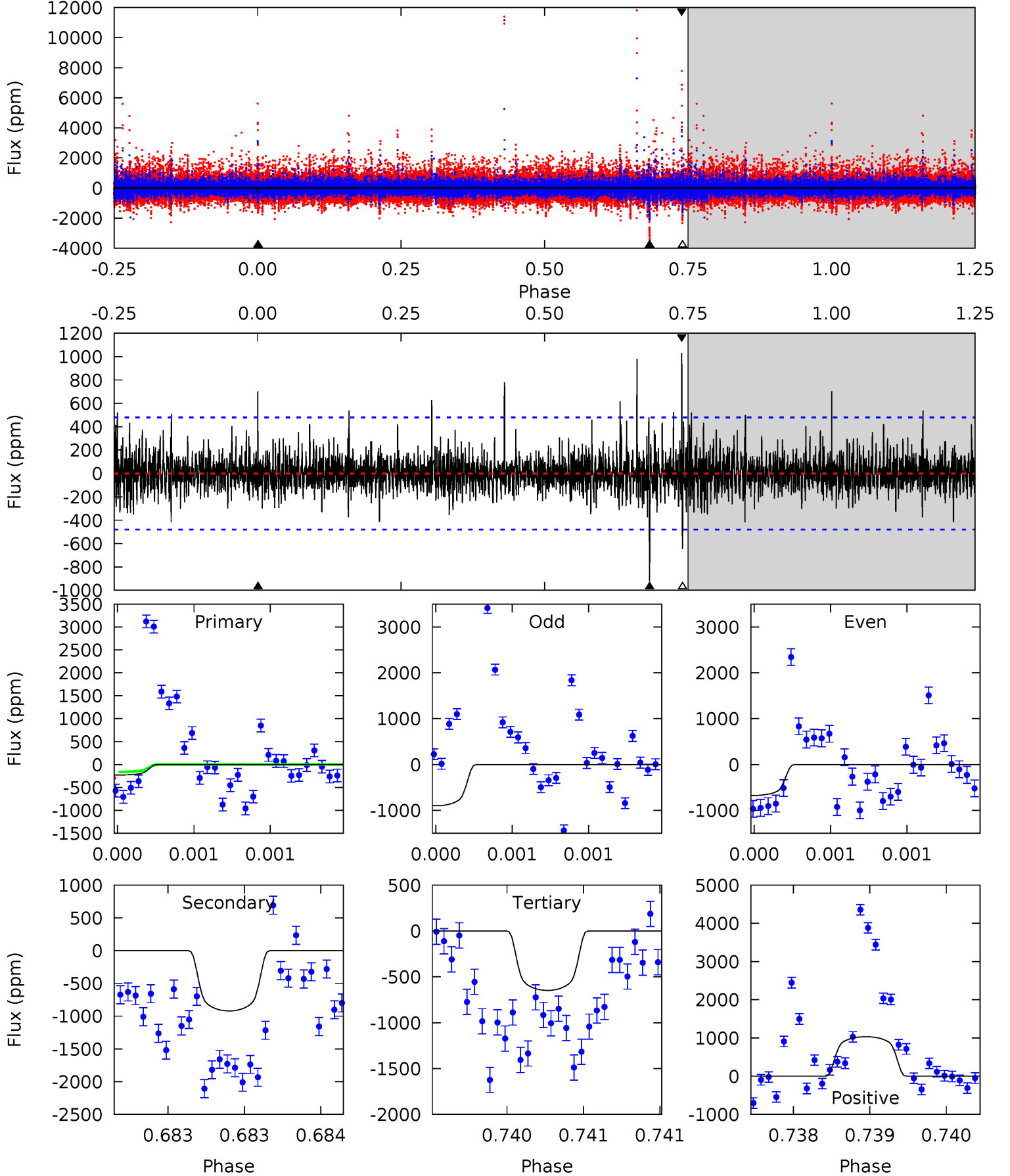
TCE 008572338-02 P=508.993168 Days $T_0=241.595885$ (BKJD)



DV Model-Shift Uniqueness Test

008572338-02, P = 508.973662 Days, E = 241.617925 Days

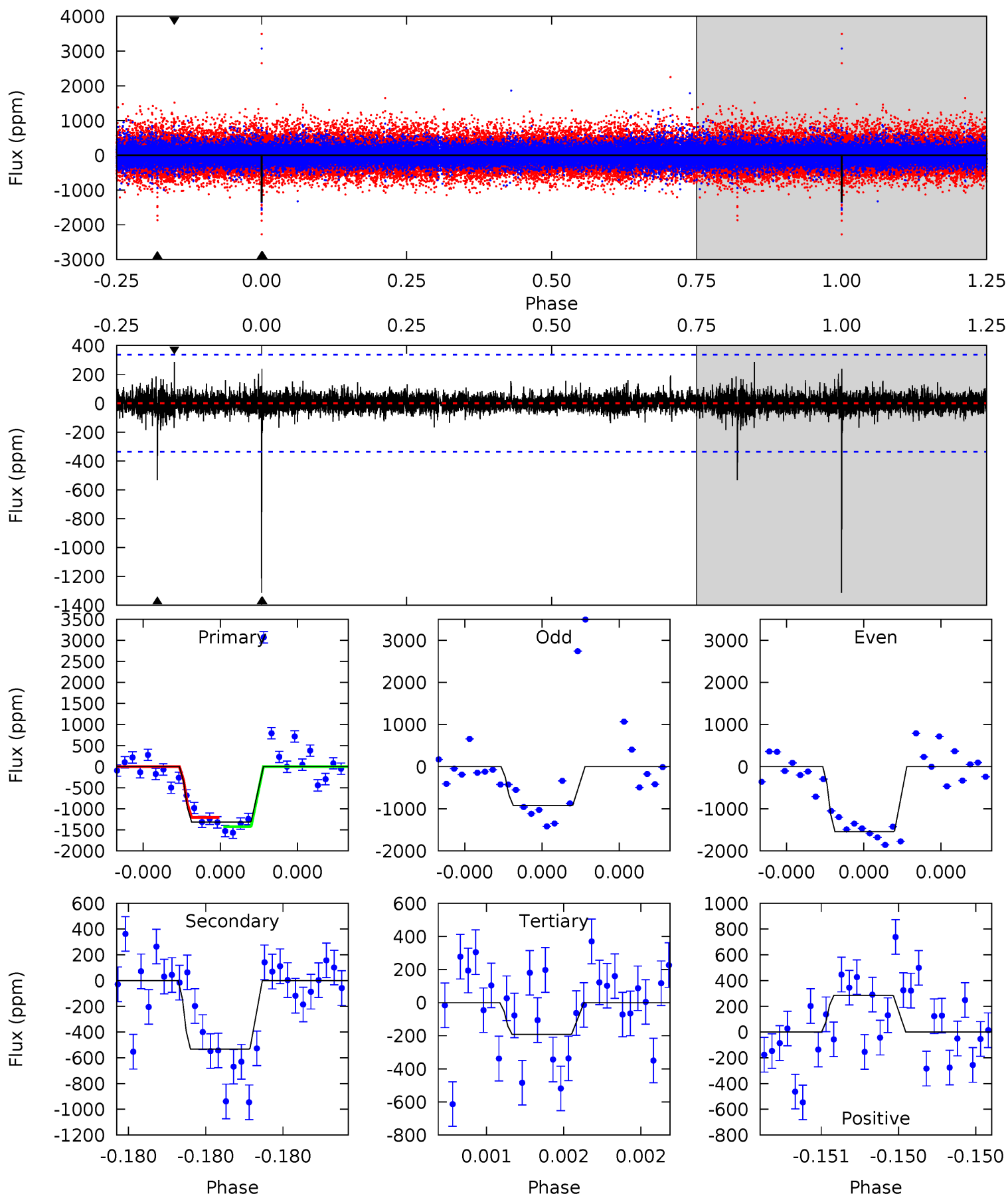
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.66	10.7	7.50	12.0	5.56	3.46	1.37	-4.84	-9.29	3.15	-1.30	0.56	0.60	0.53	0.78



Alt Model-Shift Uniqueness Test

008572338-02, P = 508.993168 Days, E = 241.595885 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.0	8.93	3.22	4.77	5.62	3.55	0.60	18.8	17.2	5.71	4.15	5.08	1.02	0.18	1.85



Stellar Parameters For KIC 008572338

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4857^{+146}_{-146}	$4.750^{+0.030}_{-0.027}$	$-1.700^{+0.300}_{-0.200}$	$0.516^{+0.026}_{-0.023}$	$0.547^{+0.030}_{-0.022}$	$5.593^{+0.685}_{-0.611}$
	+3%/-3%	+1%/-1%	+18%/-12%	+5%/-4%	+5%/-4%	+12%/-11%
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 008572338-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-921 ± 86	$2.04^{+0.62}_{-0.59}$	213^{+7}_{-7}	4547^{+622}_{-479}	$127655^{+125250}_{-53411}$
Alt.	-533 ± 60	$2.13^{+0.61}_{-0.61}$	213^{+6}_{-7}	4023^{+604}_{-370}	66719^{+65190}_{-27196}

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

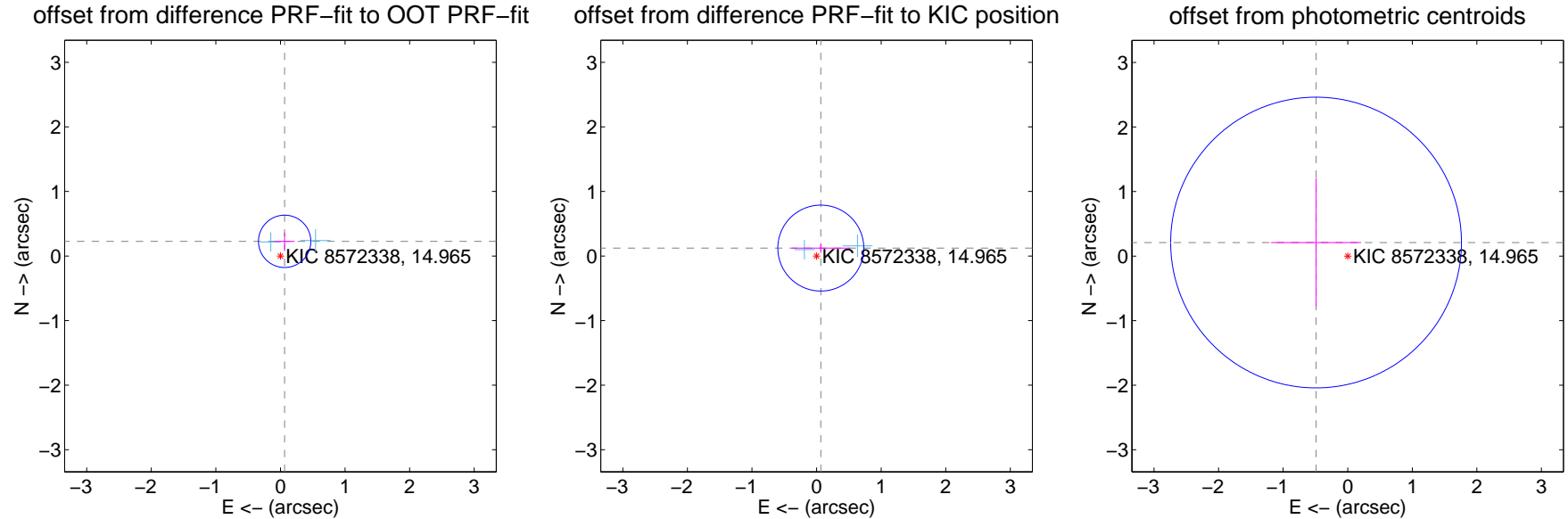
DV Centroid Data

Supplemental centroid analysis for 008572338-02. Kepler magnitude: 14.96. Transit SNR 7.29

There are 2 quarters with good PRF difference image offsets

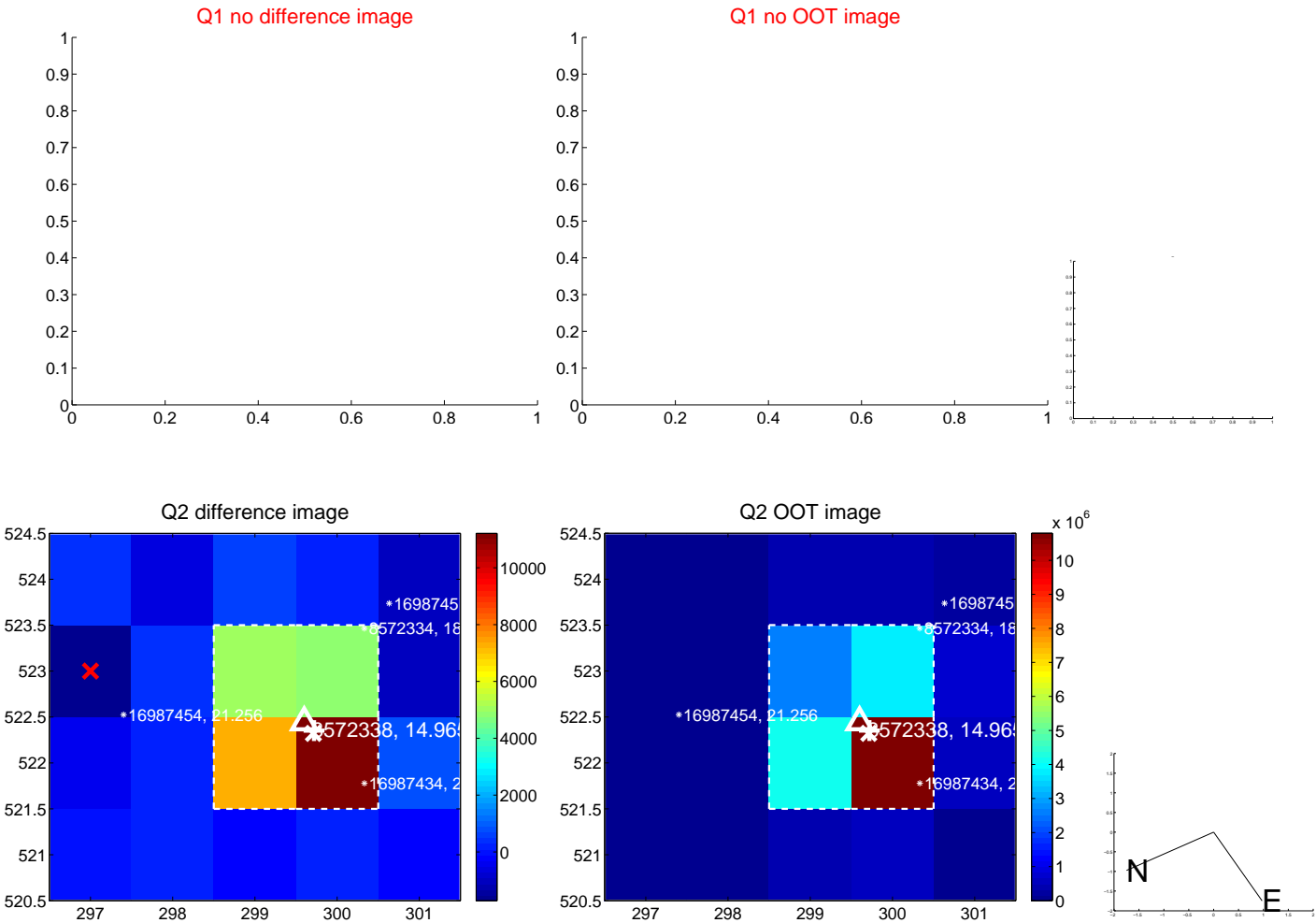
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.236 ± 0.135	1.75	-0.065 ± 0.155	0.227 ± 0.133
PRF-fit source offset from KIC position	0.139 ± 0.222	0.63	-0.066 ± 0.450	0.123 ± 0.075
photometric centroid source offset	0.53 ± 0.75	0.71	0.49 ± 0.70	0.21 ± 0.99

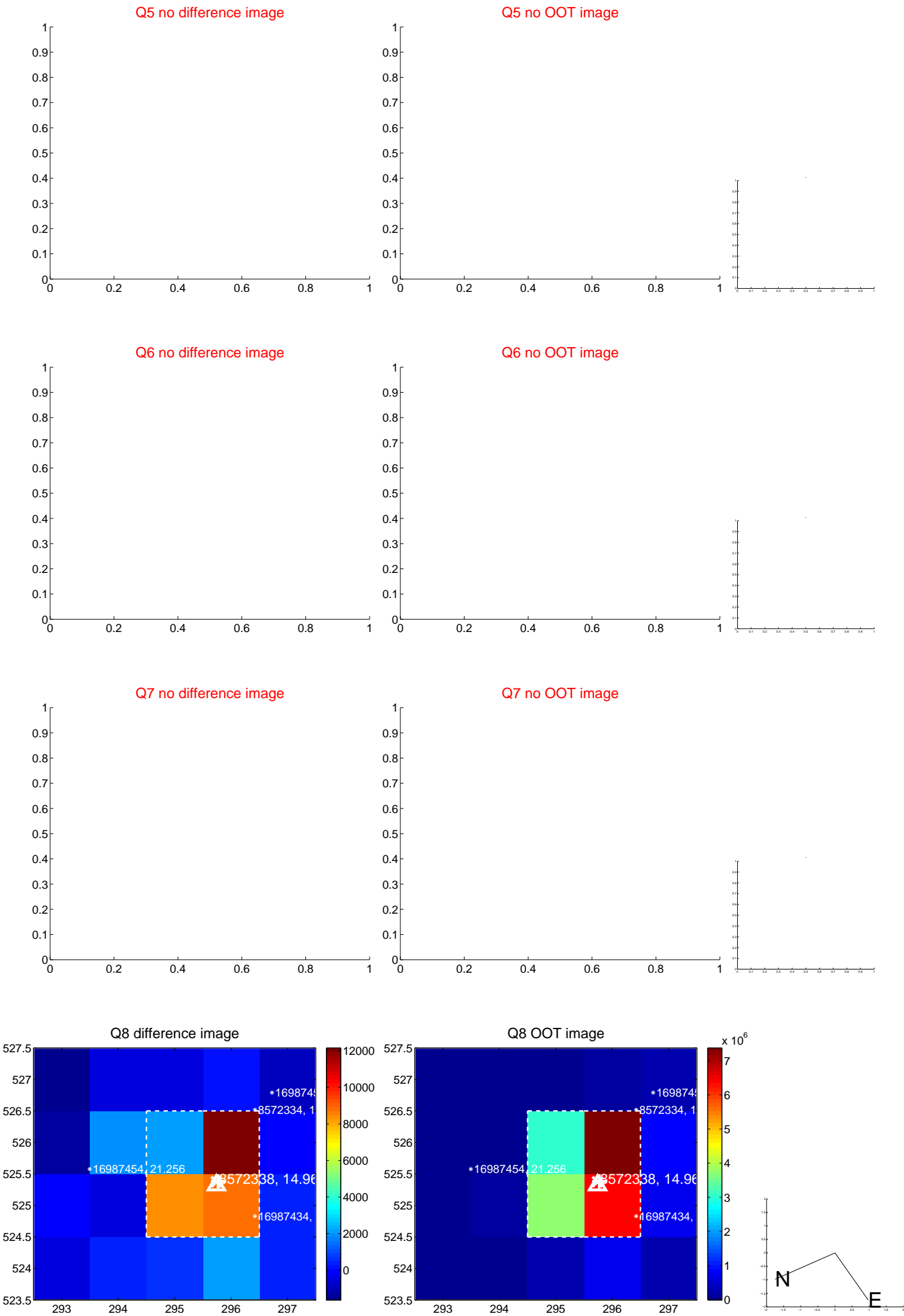


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



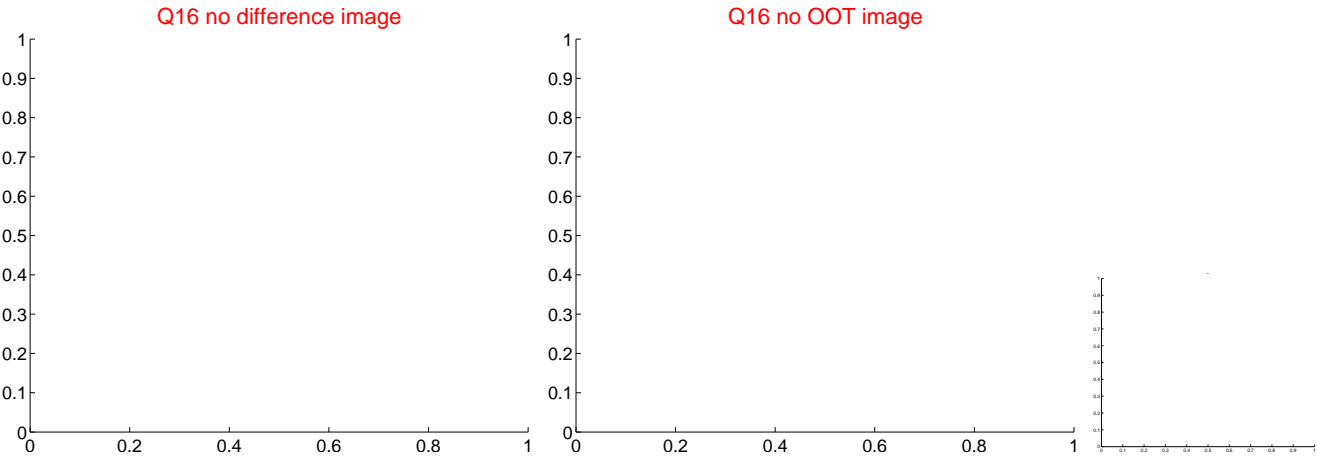
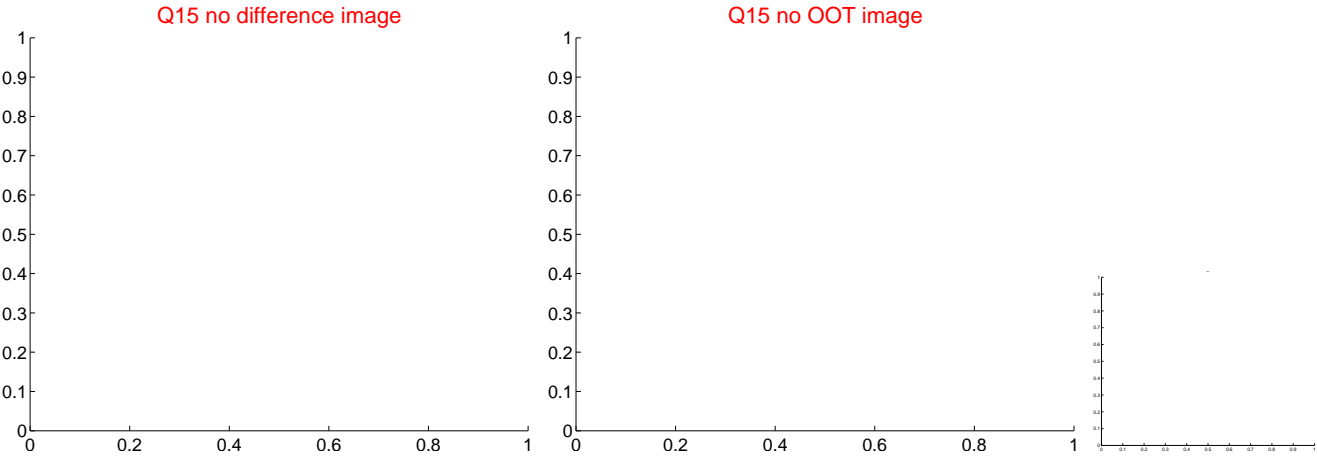
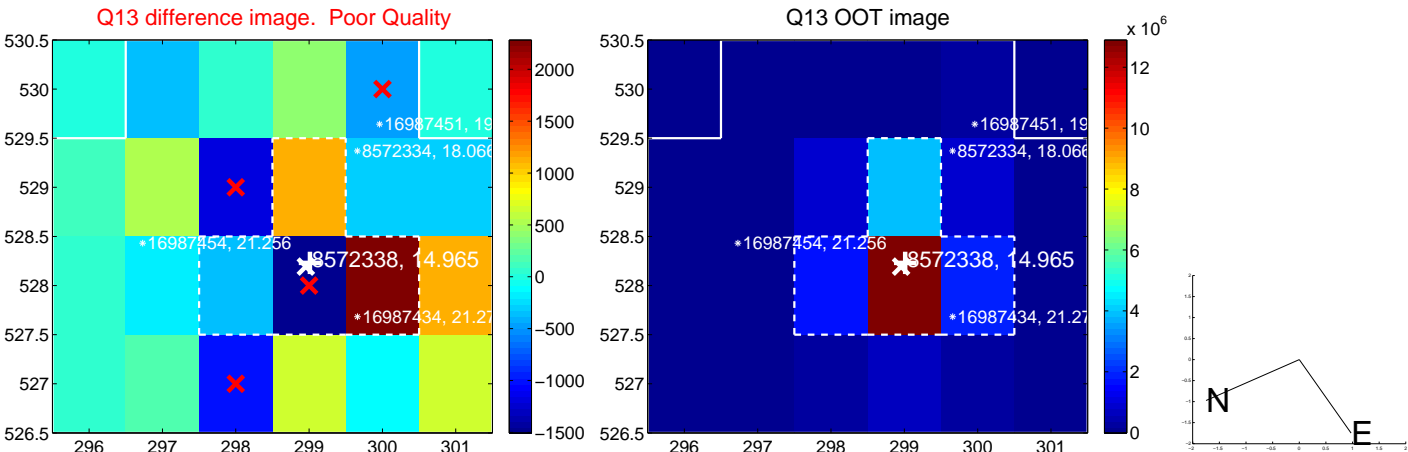
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



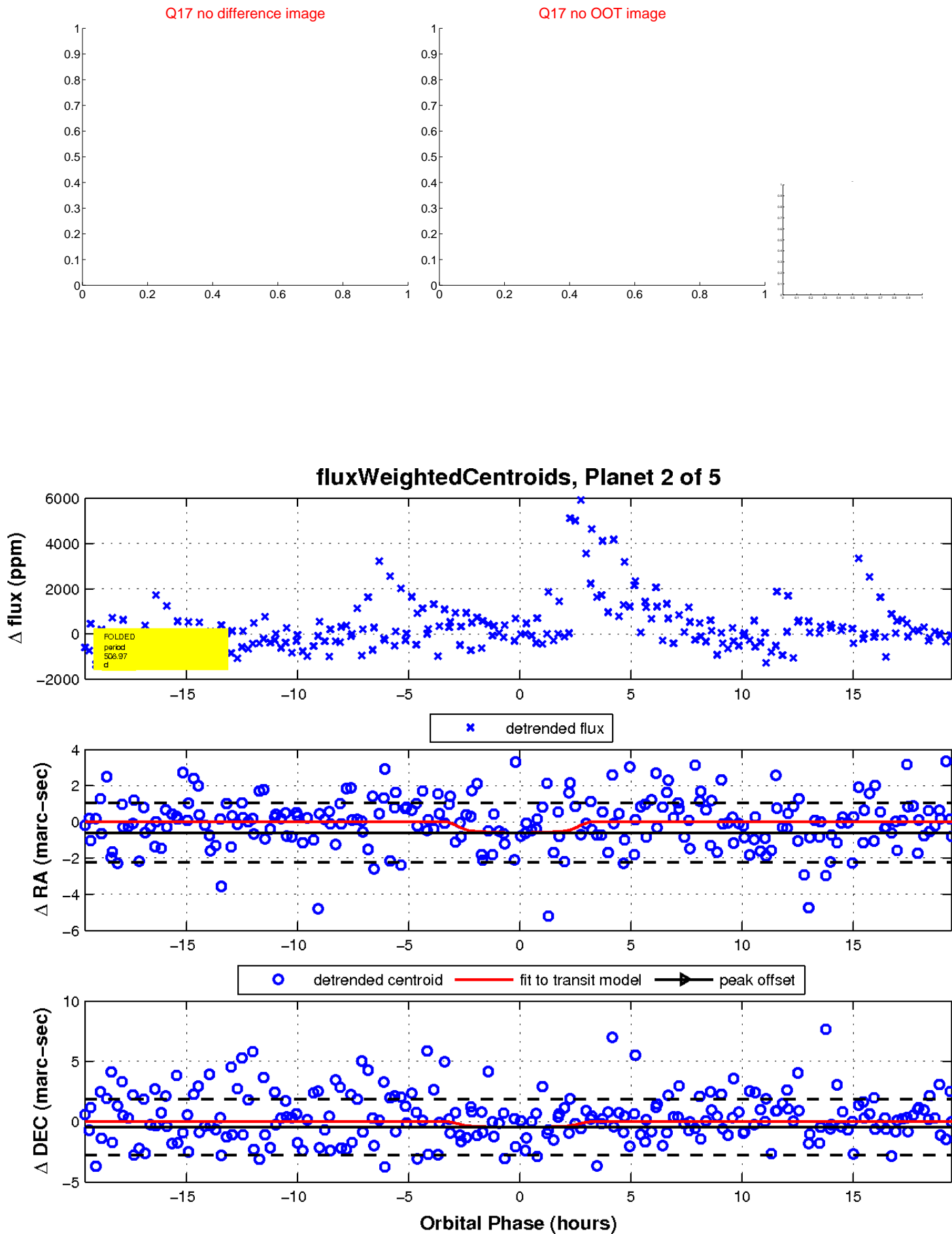
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

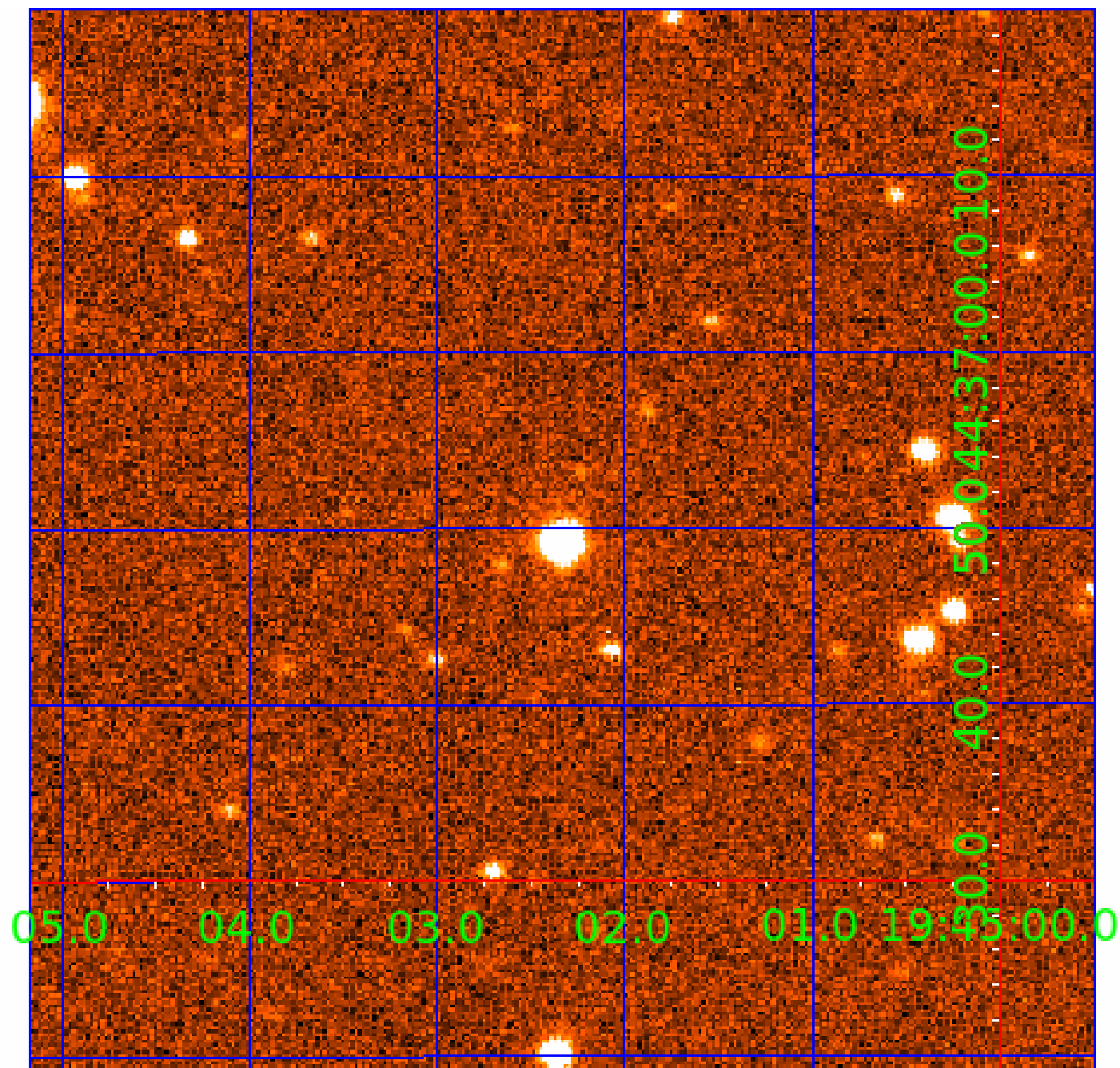


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008572338

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})
008572338-01	OBS	No	347.133522	399.962067	1211.8	7.797	14.3	6.8	0.52	4857	1.81	0.21
008572338-02	OBS	No	508.973662	241.617925	1193.7	6.555	10.8	7.3	0.52	4857	2.09	0.13
008572338-03	OBS	No	526.214472	333.302769	1041.0	21.596	10.7	5.0	0.52	4857	1.66	0.12
008572338-04	OBS	No	414.970835	177.896671	1059.3	8.187	12.7	7.5	0.52	4857	1.71	0.17
008572338-05	OBS	No	546.482419	308.171104	1007.9	7.064	10.2	5.9	0.52	4857	2.72	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008572338-01	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
008572338-02	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—CENT_FEW_DIFFS
008572338-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008572338-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008572338-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

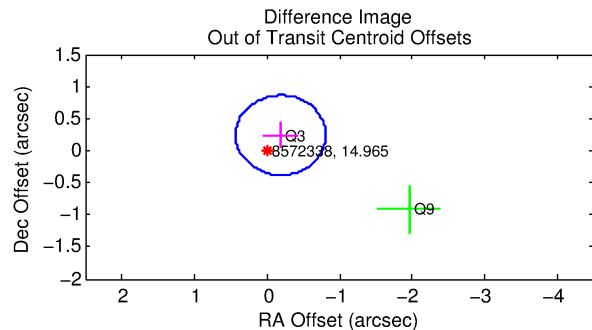
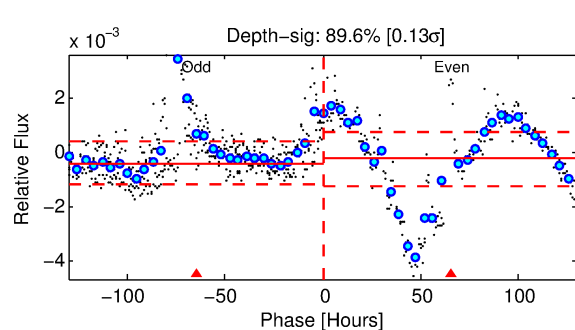
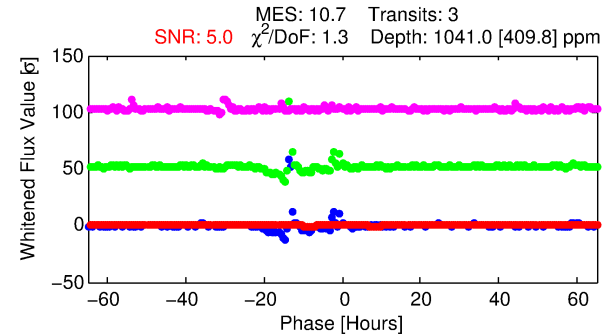
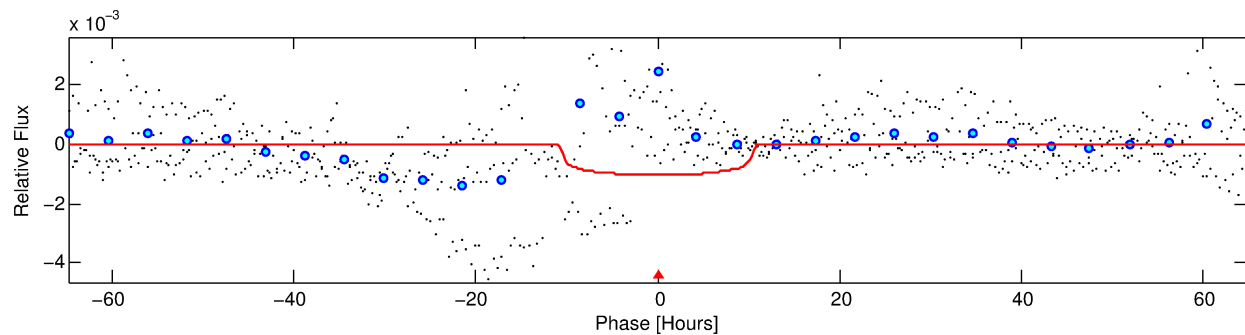
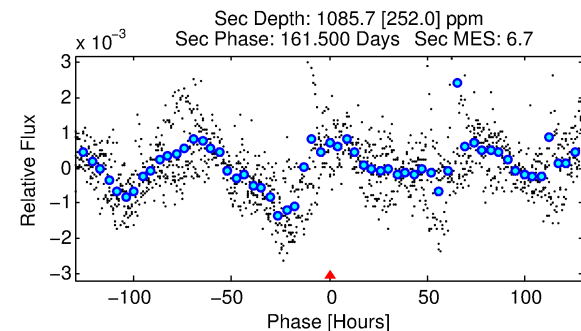
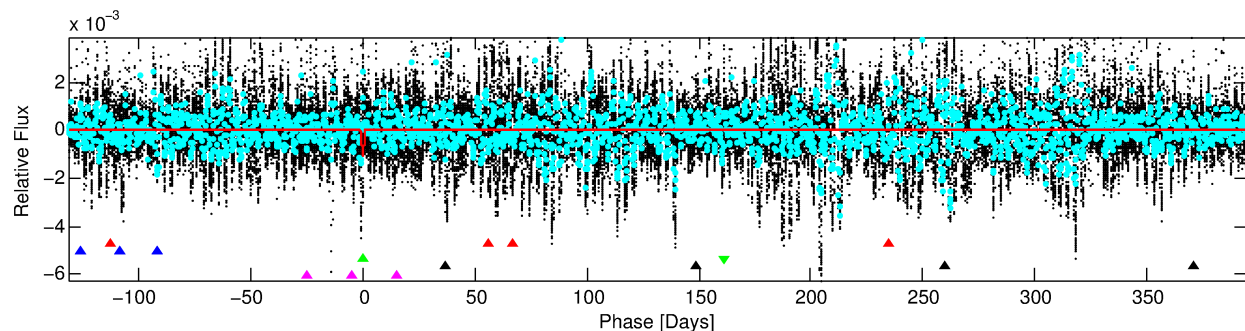
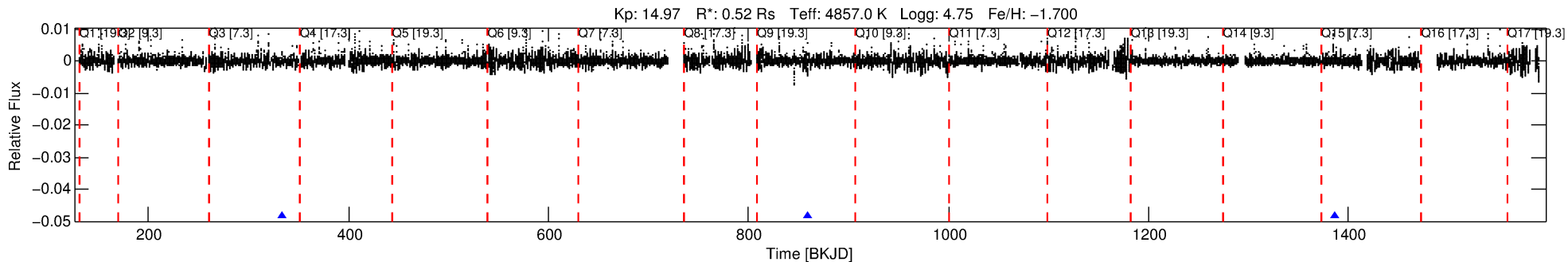
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008572338-03

No Significant Match Found

DV One-Page Summary

KIC: 8572338 Candidate: 3 of 5 Period: 526.214 d



DV Fit Results:

Period = 526.21447 [0.01812] d
Epoch = 333.3028 [0.0231] BKJD
Rp/R* = 0.0295 [0.0146]
a/R* = 190.98 [384.56]
b = 0.08 [23.66]
Seff = 0.12 [0.02]
Teff = 151 [5] K
Rp = 1.66 [0.82] Re
a = 1.0429 [0.0425] AU
Ag = 235765.52 [239656.41] [0.98σ]
Teffp = 5135 [1312] K [3.80σ]

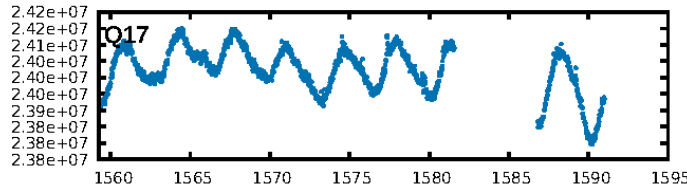
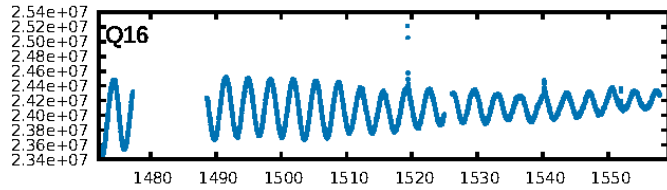
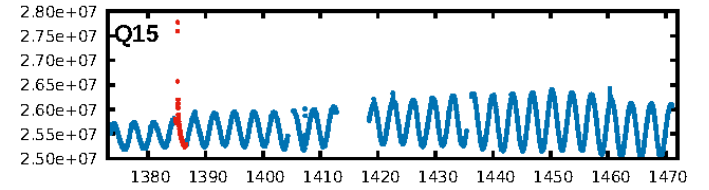
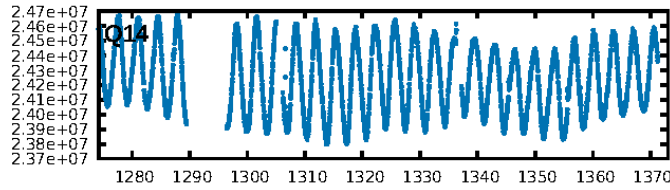
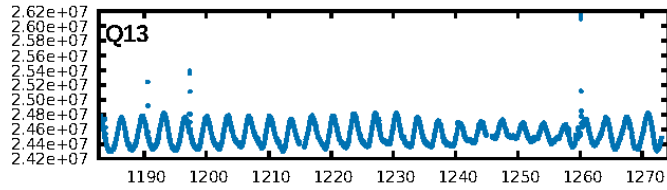
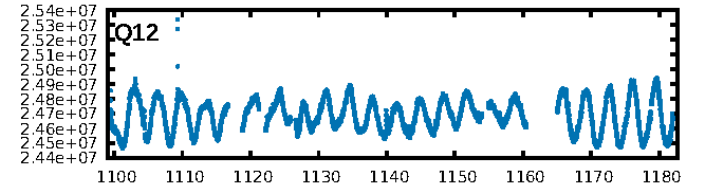
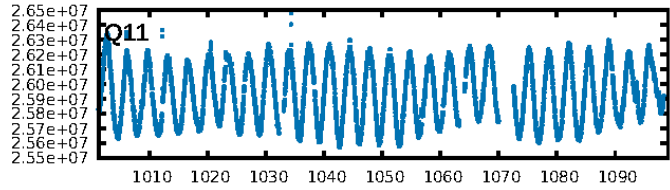
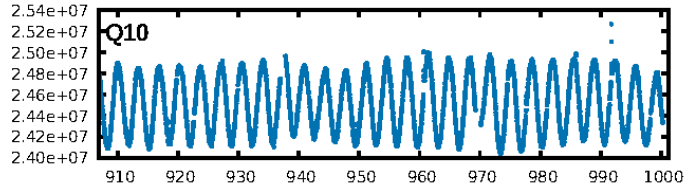
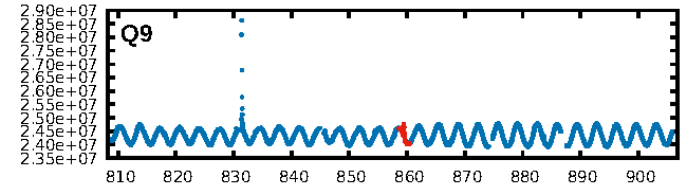
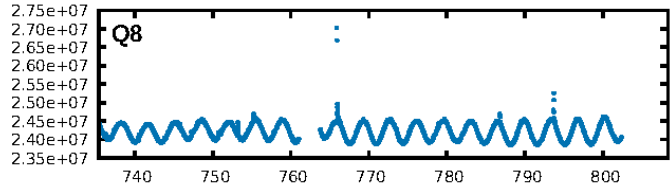
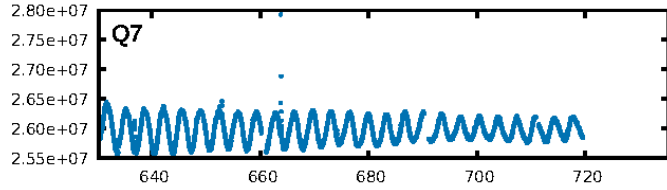
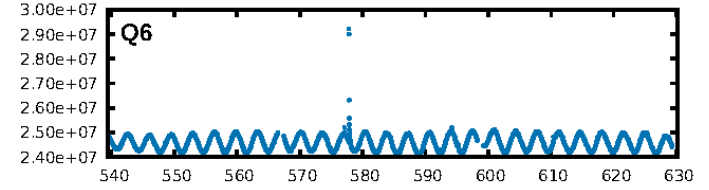
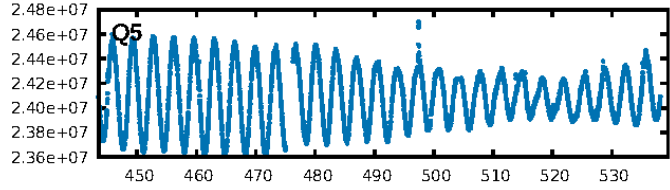
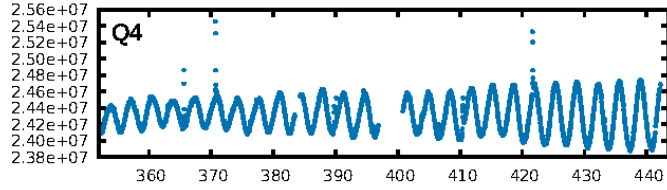
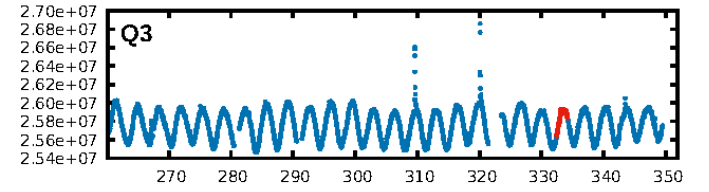
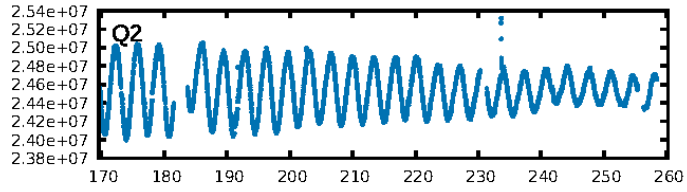
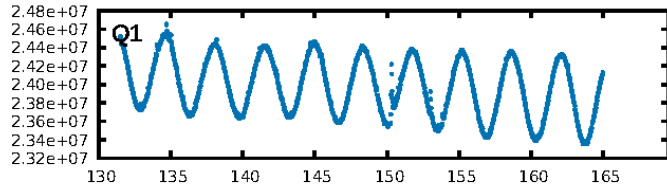
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [18.33σ]
LongPeriod-sig: 100.0% [21.41σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 83.0%
Bootstrap-pfa: 5.14e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.3002
Centroid-sig: 0.1%
Centroid-so: 1.962 arcsec [1.98σ]
OotOffset-rm: 0.305 arcsec [1.47σ]
KicOffset-rm: 0.263 arcsec [1.24σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

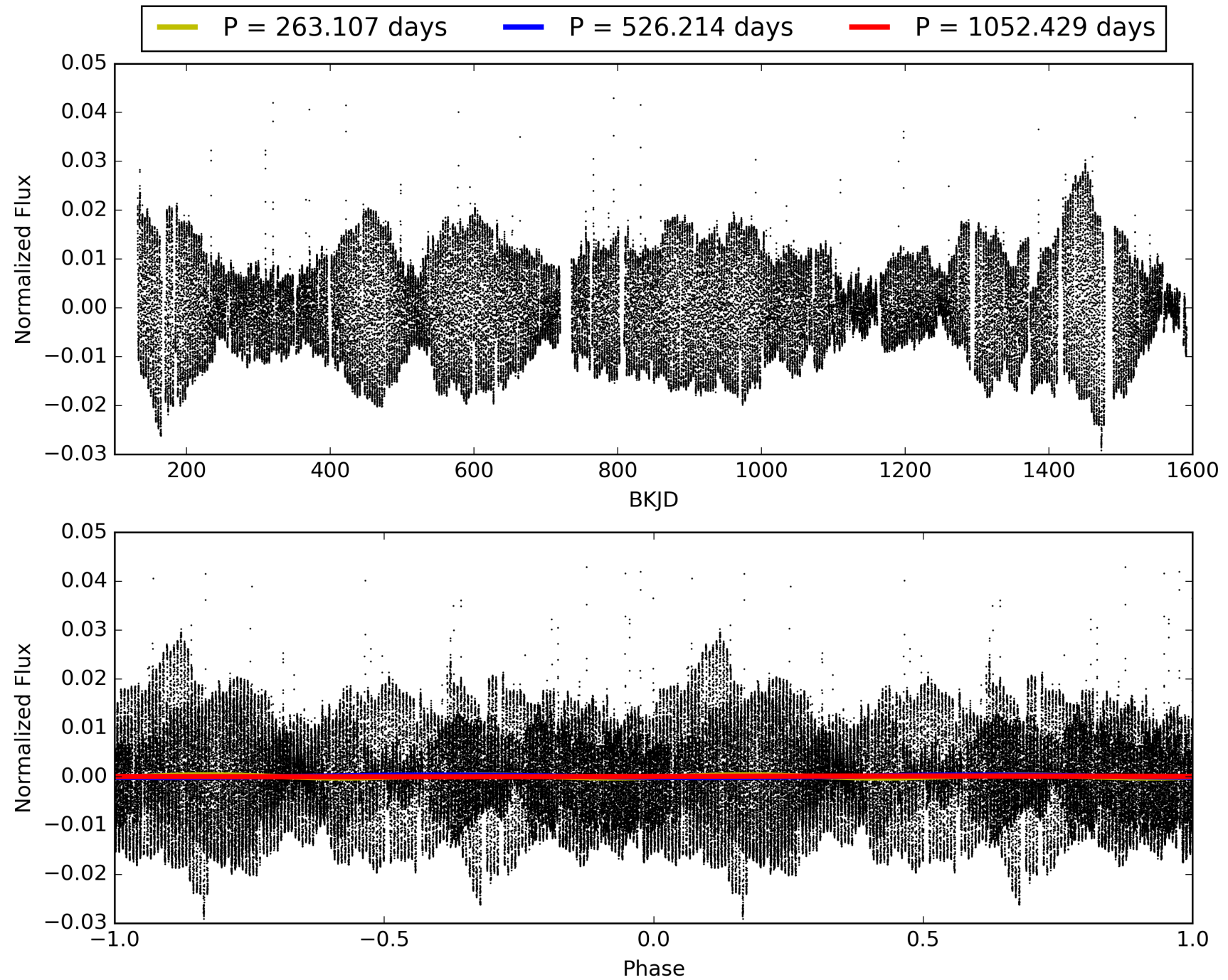
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:36:29 Z

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

TCE 008572338-03, PDC Light Curves

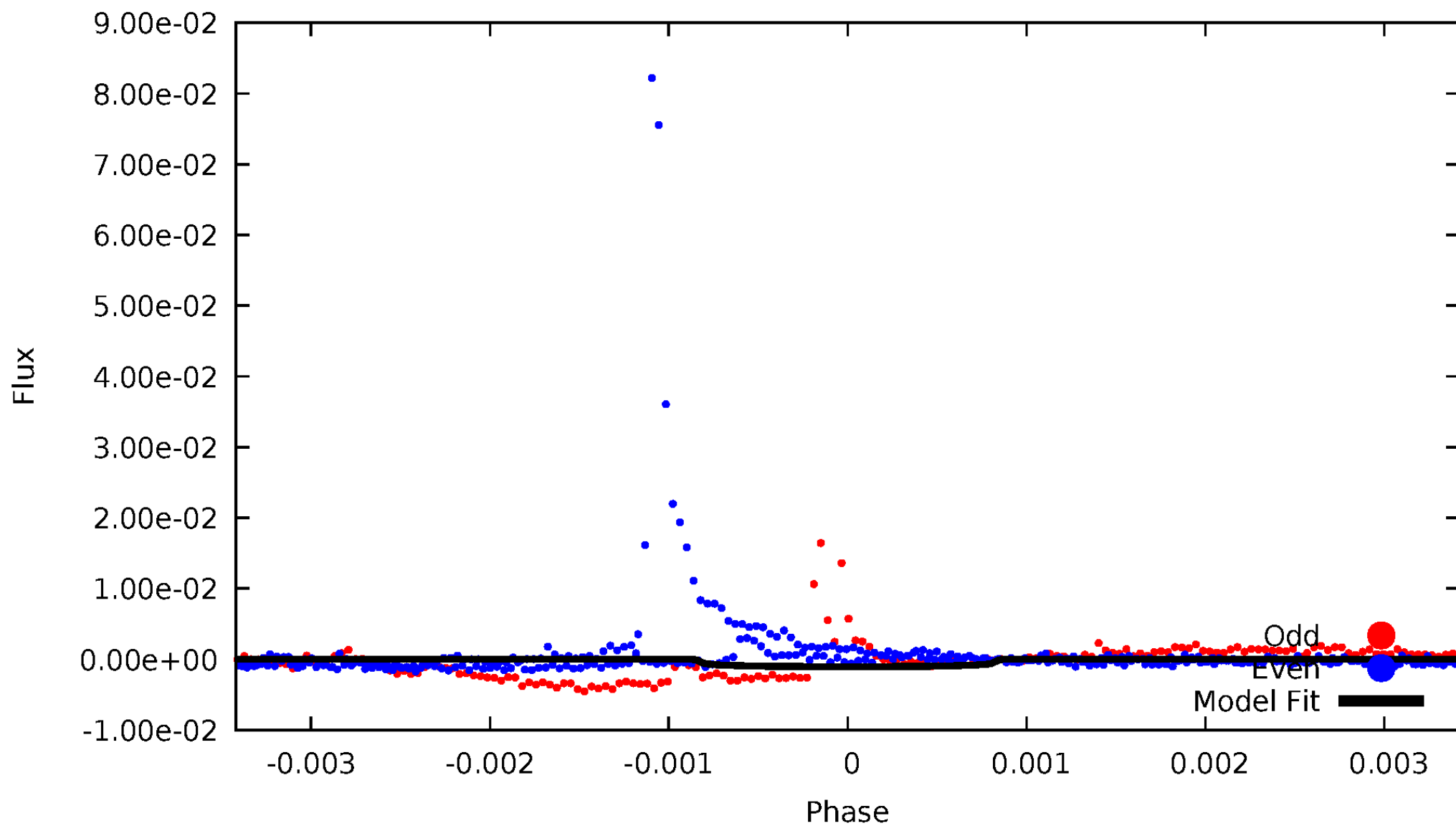


TCE 008572338-03



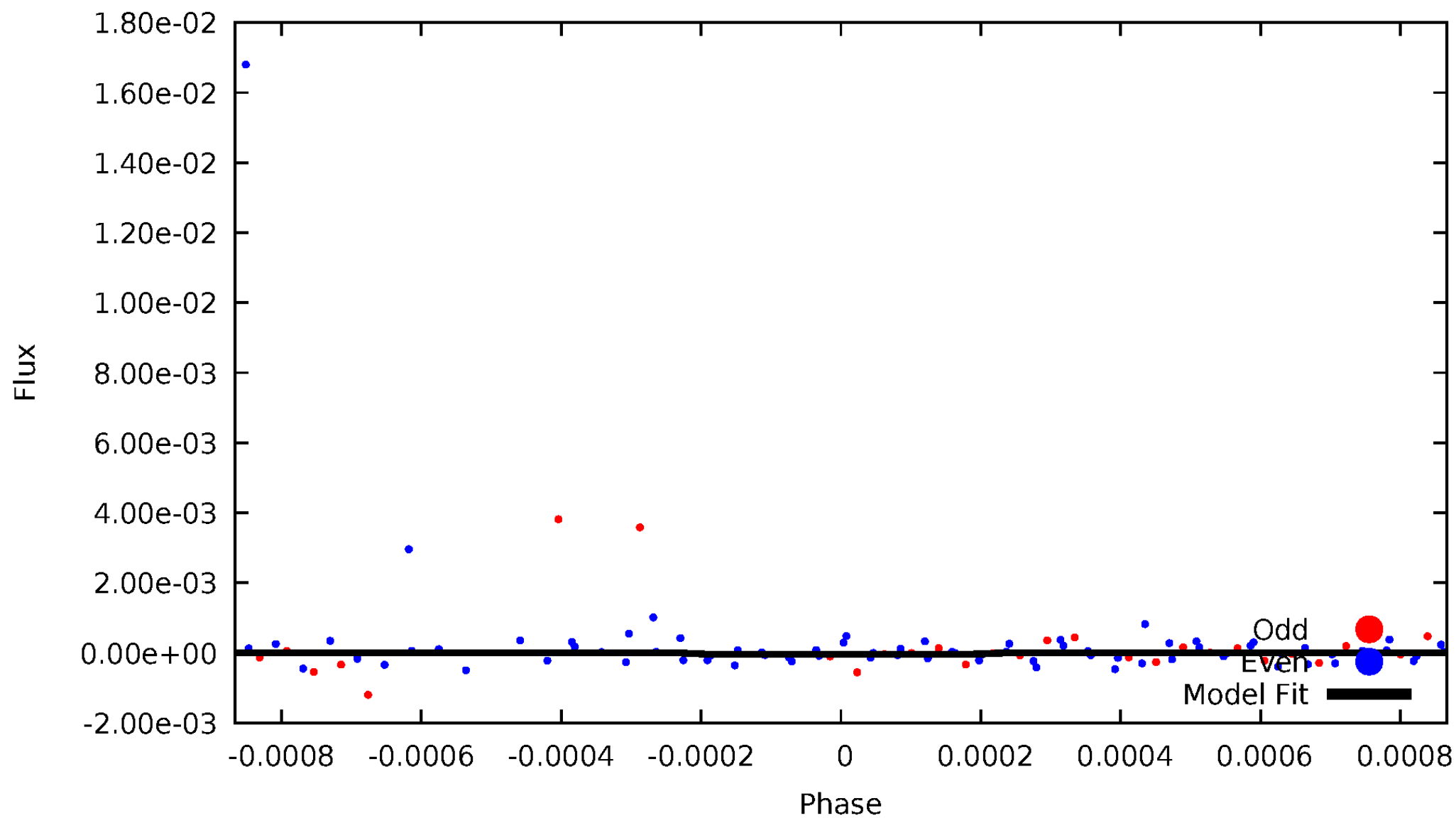
DV Odd/Even

TCE 008572338-03



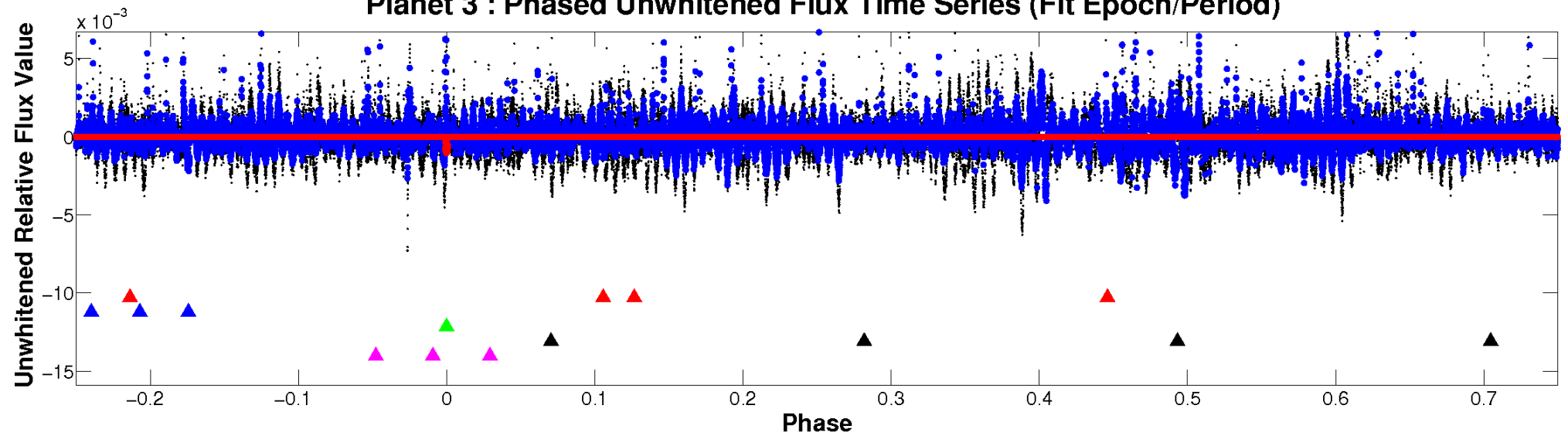
ALT Odd/Even

TCE 008572338-03

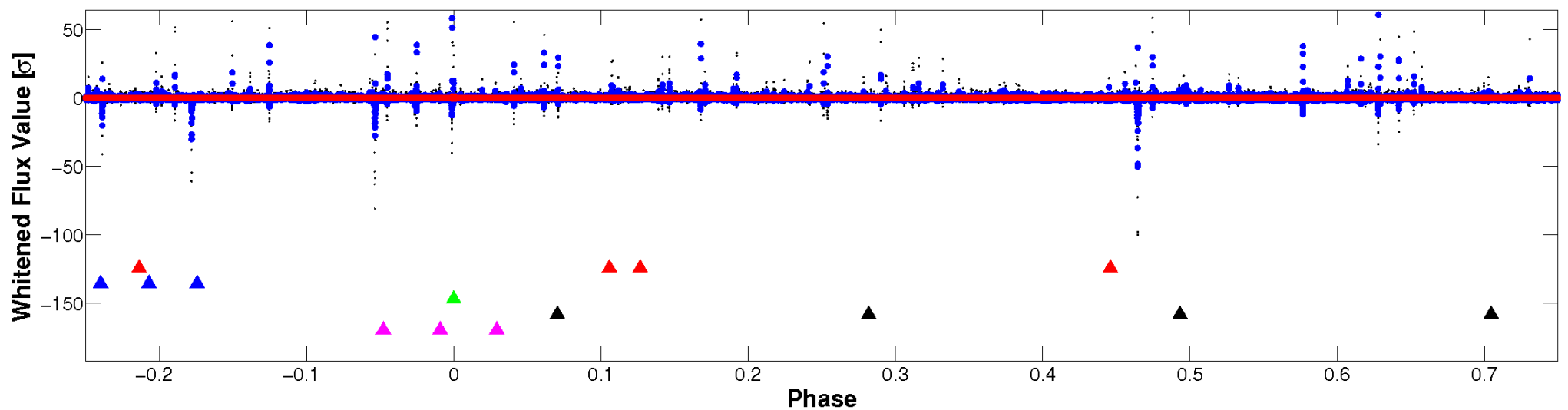


Non-Whitened Vs. Whitened Light Curve

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

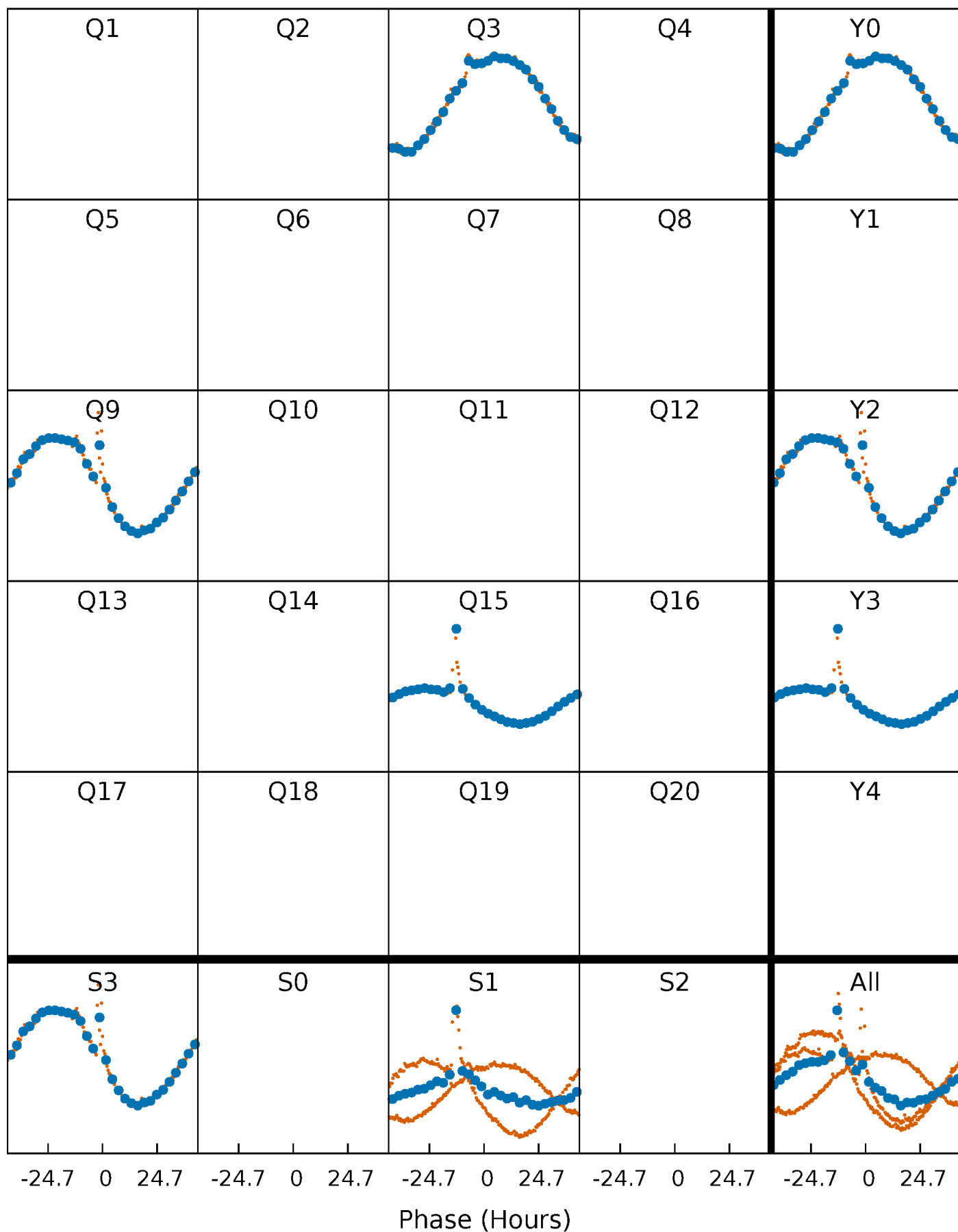


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



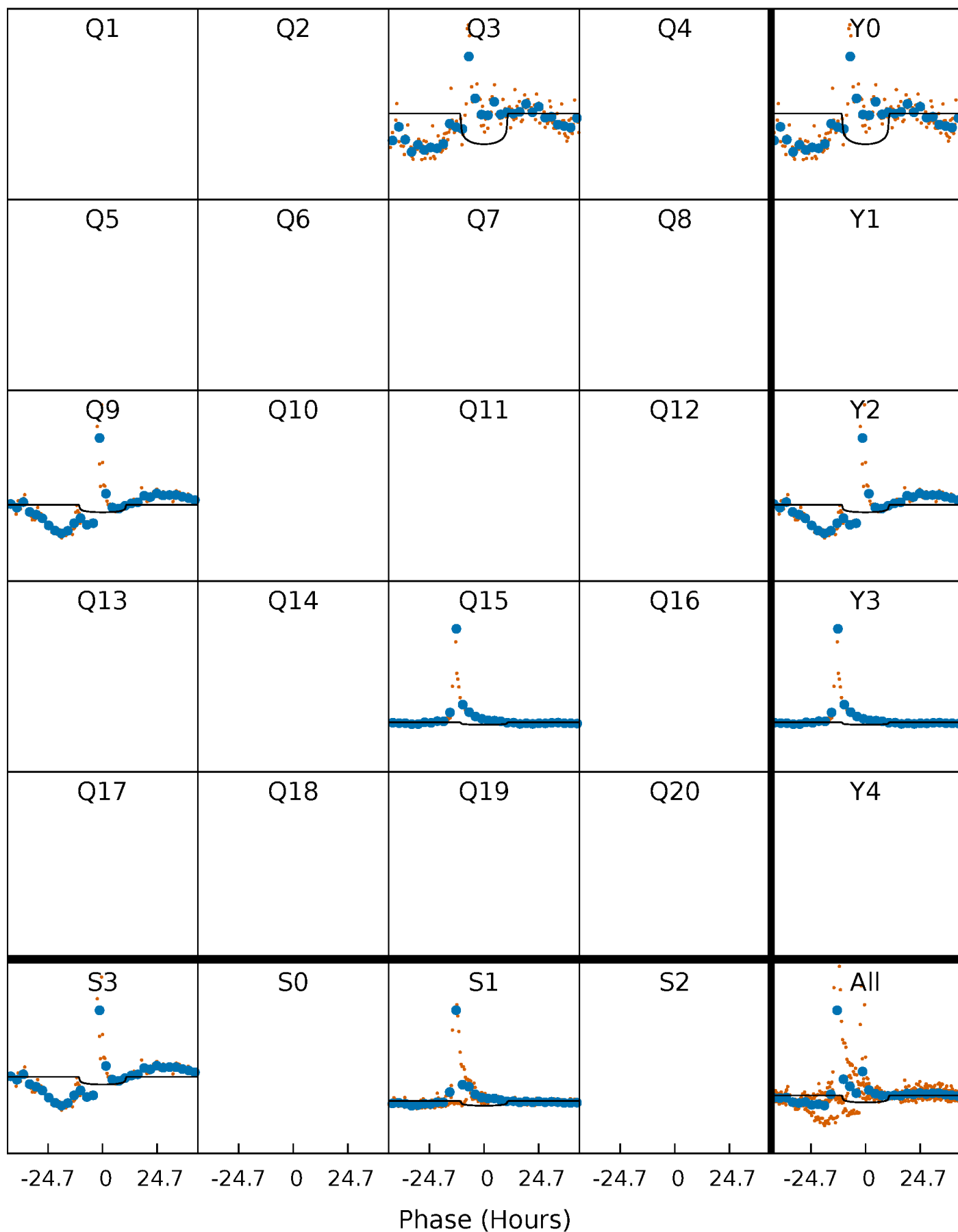
PDC Quarter-Phased Transit Curves

TCE 008572338-03 P=526.214472 Days $T_0=333.302769$ (BKJD)



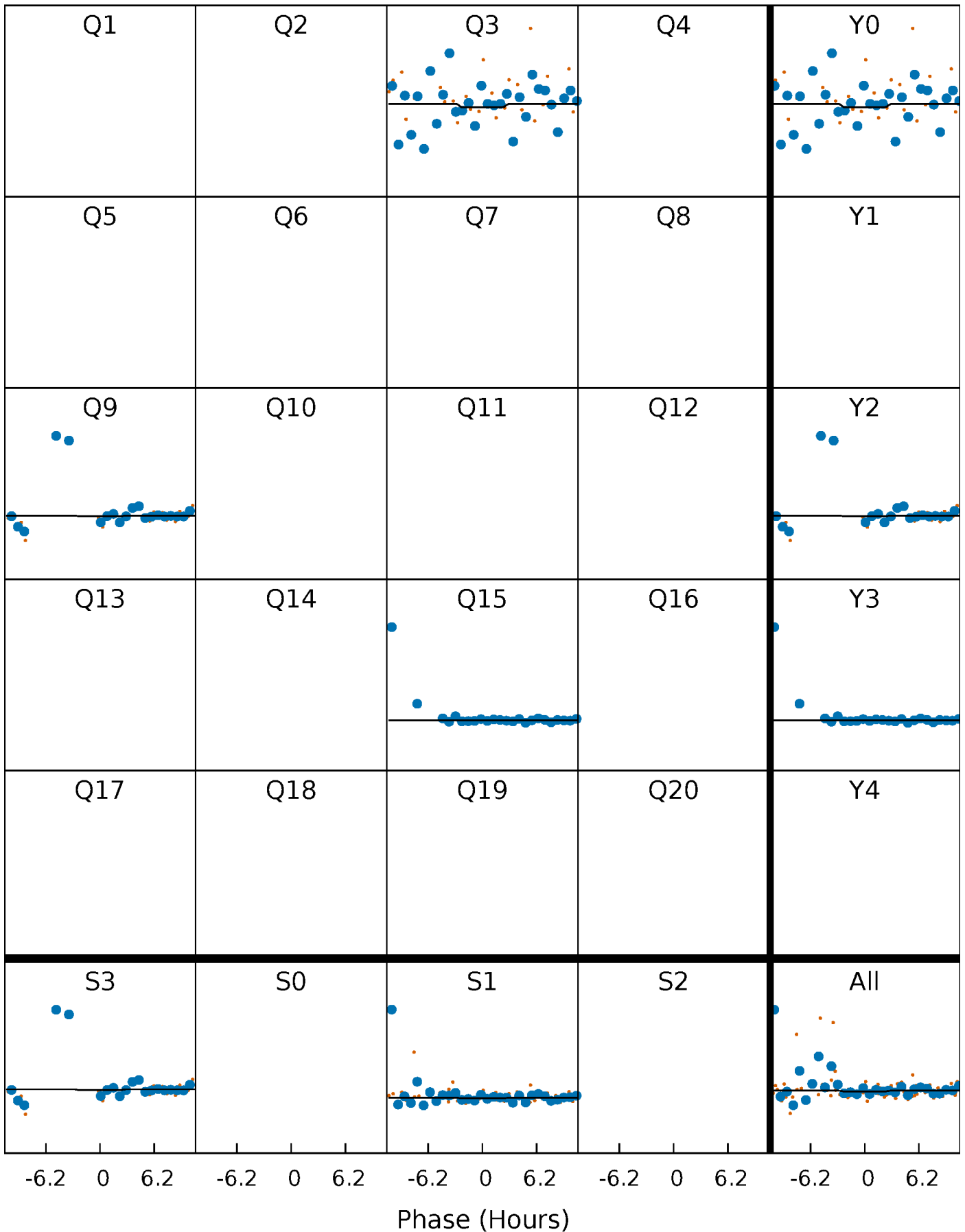
DV Quarter-Phased Transit Curves

TCE 008572338-03 $P=526.214472$ Days $T_0=333.302769$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

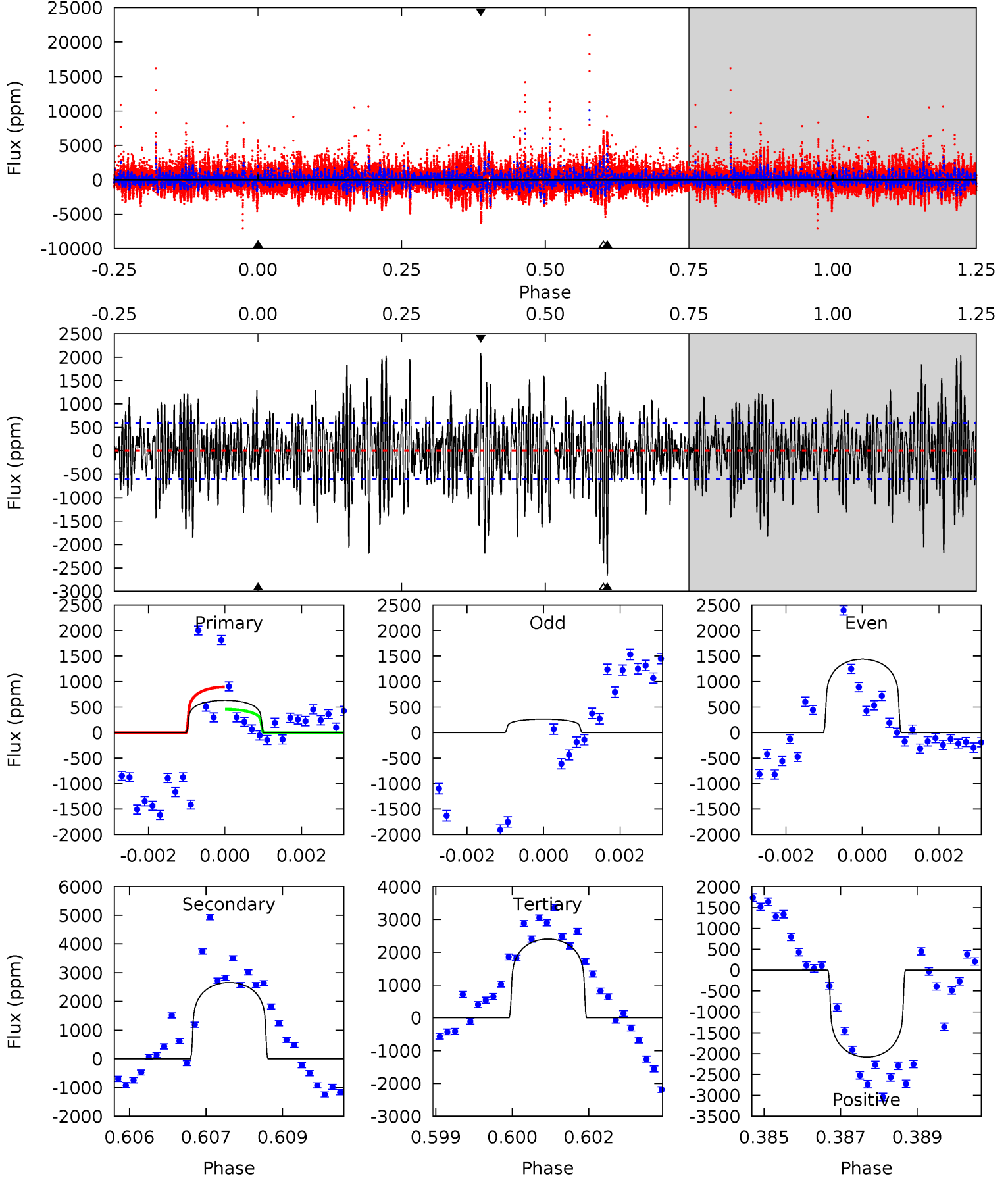
TCE 008572338-03 $P=526.014324$ Days $T_0=333.656500$ (BKJD)



DV Model-Shift Uniqueness Test

008572338-03, P = 526.214472 Days, E = 333.302769 Days

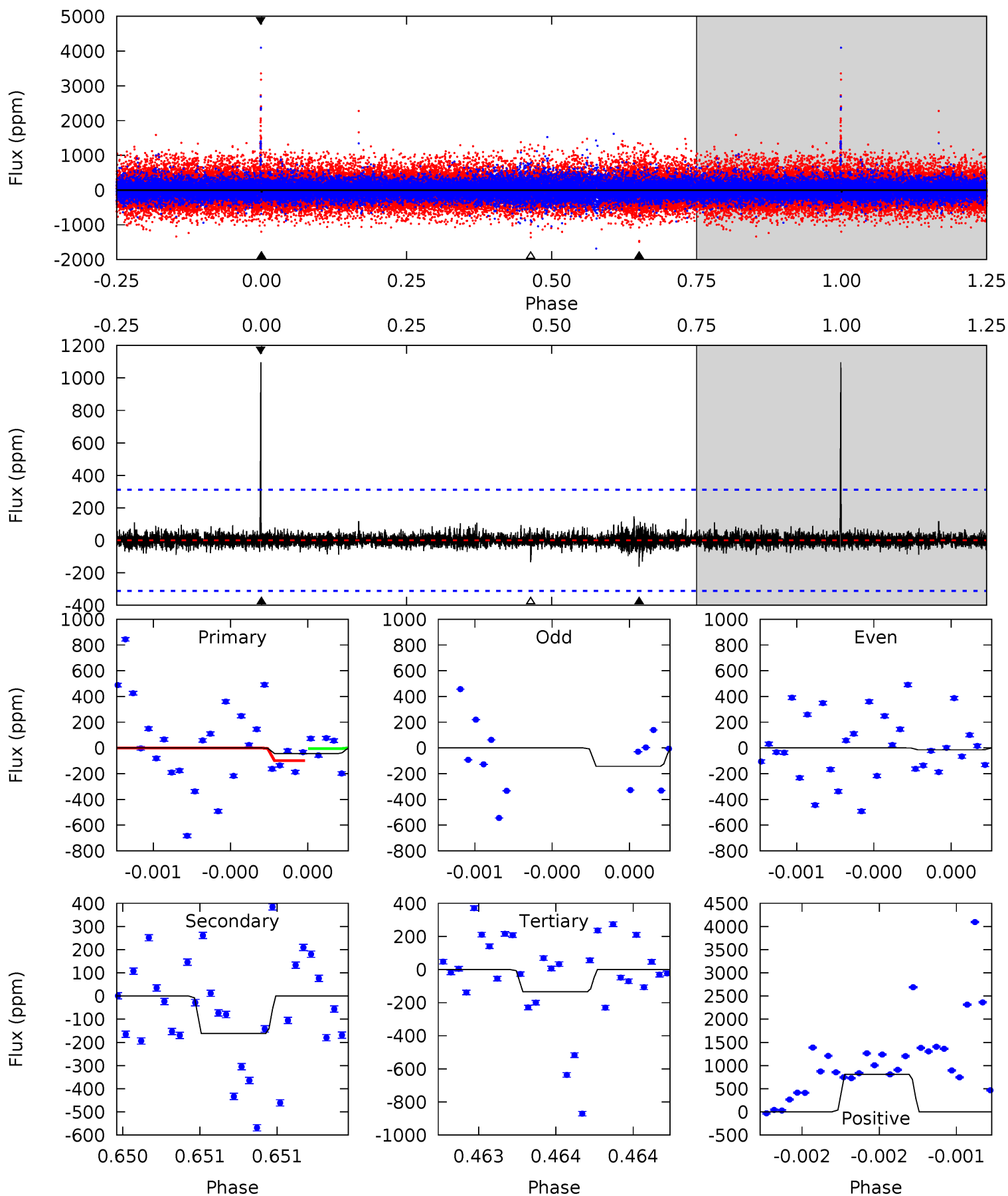
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.69	23.8	21.5	18.7	5.35	3.13	5.48	-15.8	-13.0	2.31	5.18	3.70	1.84	0.44	1.96



Alt Model-Shift Uniqueness Test

008572338-03, P = 526.014324 Days, E = 333.656500 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.77	2.90	2.42	14.5	5.59	3.51	0.62	-1.65	-13.7	0.49	-11.6	0.82	1.95	0.87	0.81



Stellar Parameters For KIC 008572338

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4857^{+146}_{-146}	$4.750^{+0.030}_{-0.027}$	$-1.700^{+0.300}_{-0.200}$	$0.516^{+0.026}_{-0.023}$	$0.547^{+0.030}_{-0.022}$	$5.593^{+0.685}_{-0.611}$
	+3%/-3%	+1%/-1%	+18%/-12%	+5%/-4%	+5%/-4%	+12%/-11%
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 008572338-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2660 ± 112	$1.64^{+0.83}_{-0.73}$	211^{+7}_{-7}	6306^{+2587}_{-1089}	$585636^{+1308275}_{-321227}$
Alt.	-162 ± 56	$0.72^{+0.68}_{-0.49}$	210^{+7}_{-6}	4747^{+3678}_{-1047}	$169561^{+1418797}_{-126027}$

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

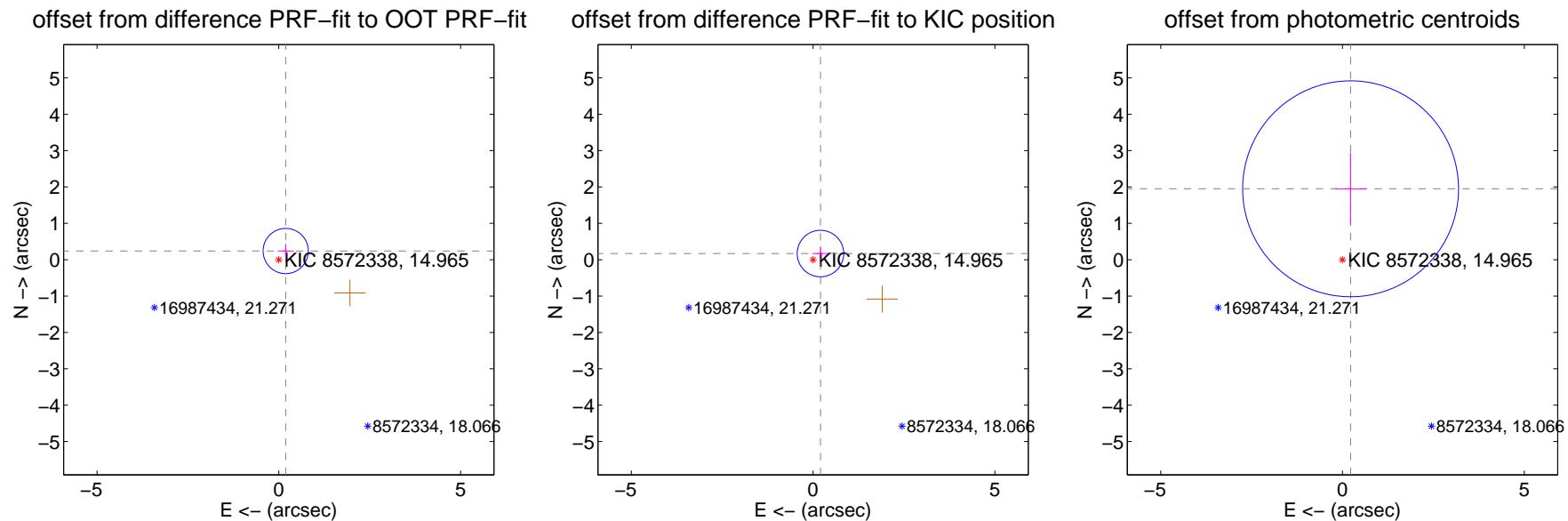
DV Centroid Data

Supplemental centroid analysis for 008572338-03. Kepler magnitude: 14.96. Transit SNR 5.04

There are 0 quarters with good PRF difference image offsets

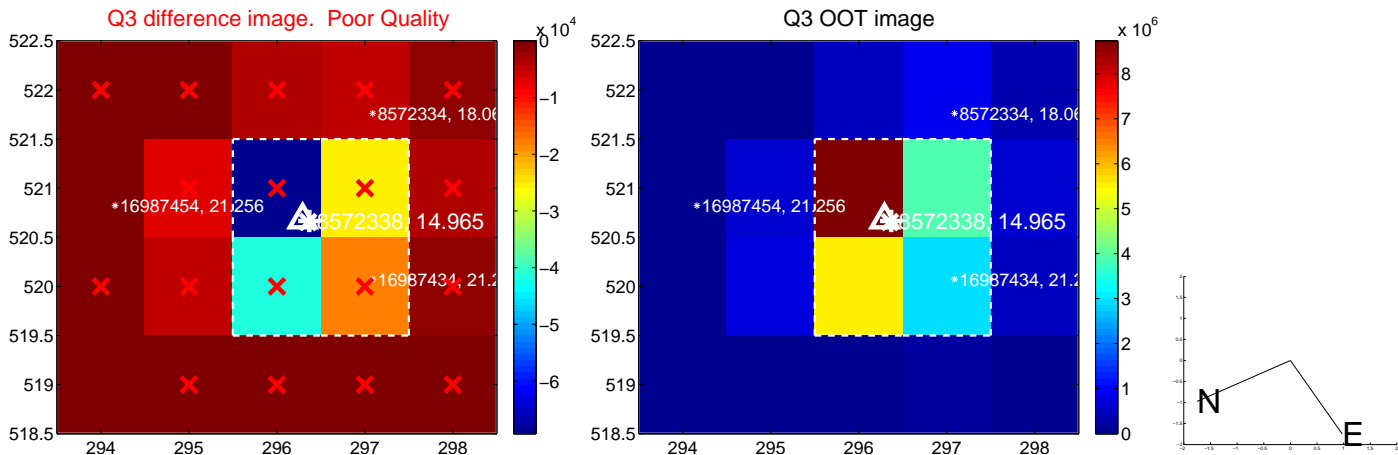
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.305 ± 0.207	1.47	-0.189 ± 0.225	0.239 ± 0.195
PRF-fit source offset from KIC position	0.263 ± 0.213	1.24	-0.202 ± 0.225	0.169 ± 0.195
photometric centroid source offset	1.96 ± 0.99	1.98	-0.22 ± 0.44	1.95 ± 0.99



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.

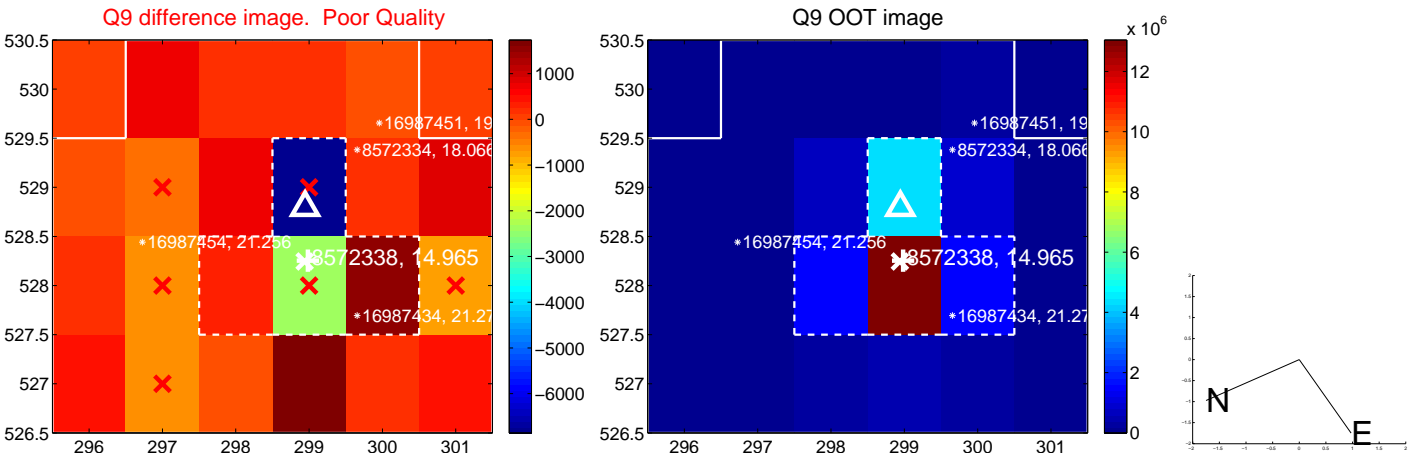
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



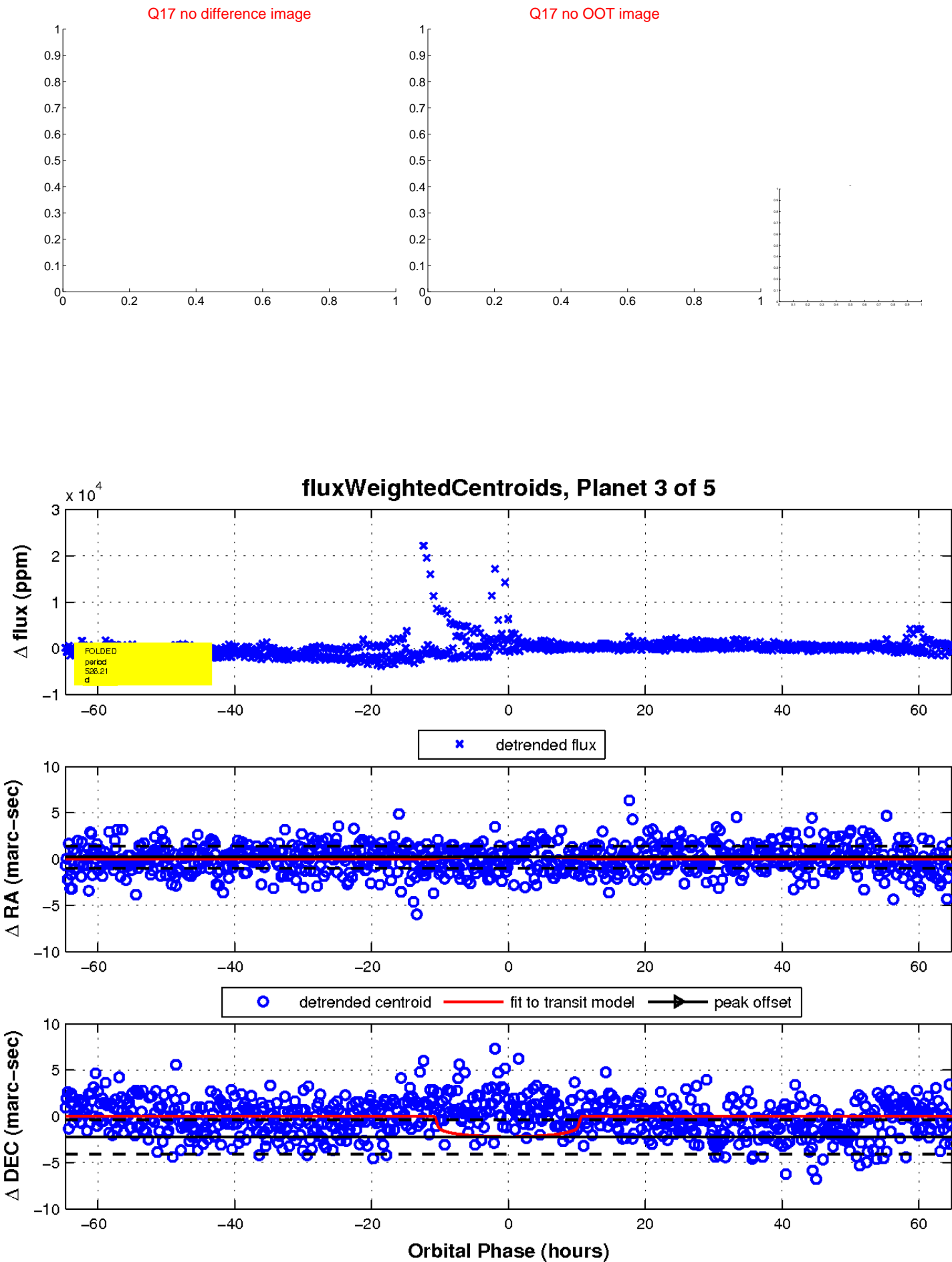
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

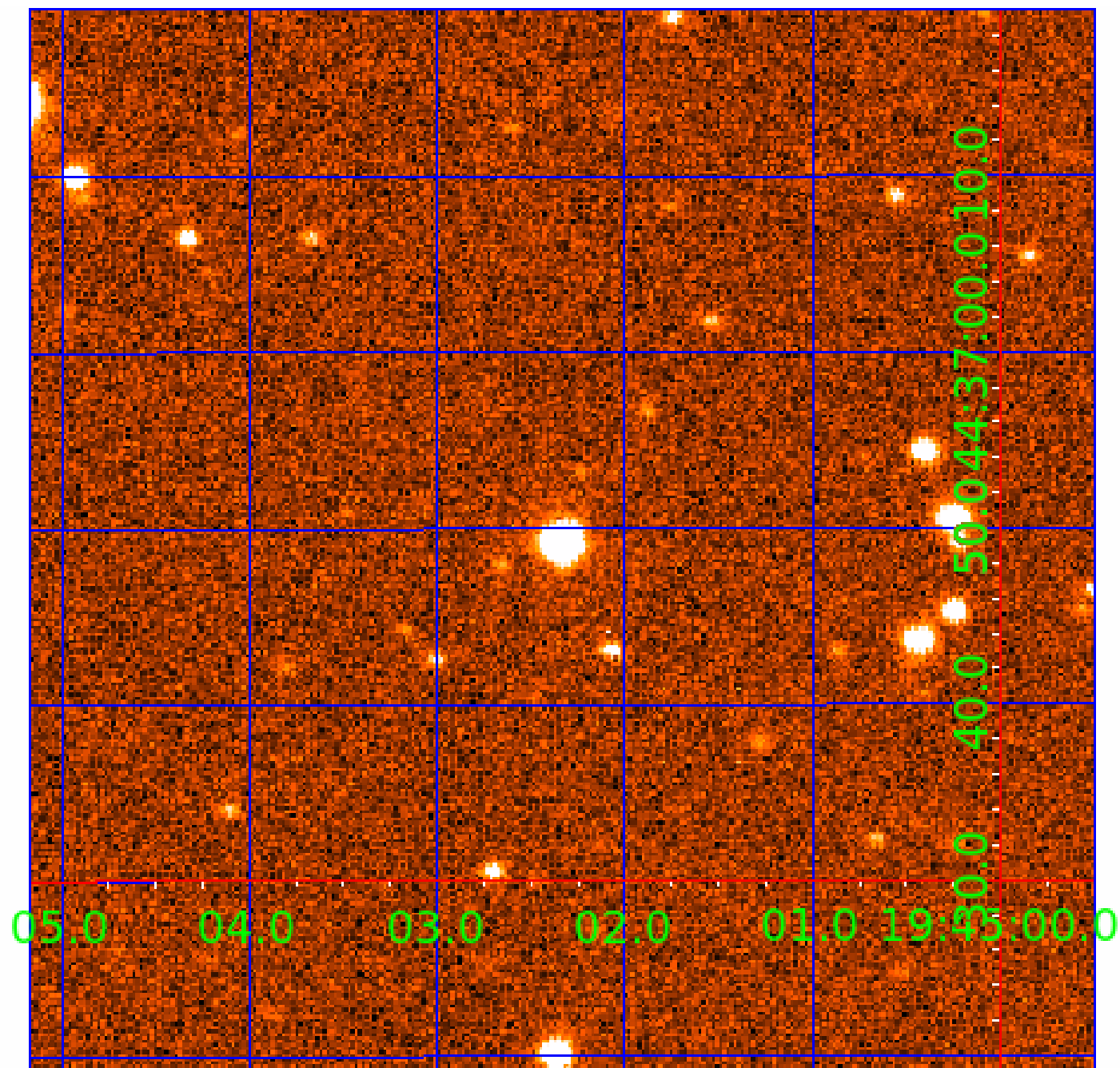


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008572338

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})
008572338-01	OBS	No	347.133522	399.962067	1211.8	7.797	14.3	6.8	0.52	4857	1.81	0.21
008572338-02	OBS	No	508.973662	241.617925	1193.7	6.555	10.8	7.3	0.52	4857	2.09	0.13
008572338-03	OBS	No	526.214472	333.302769	1041.0	21.596	10.7	5.0	0.52	4857	1.66	0.12
008572338-04	OBS	No	414.970835	177.896671	1059.3	8.187	12.7	7.5	0.52	4857	1.71	0.17
008572338-05	OBS	No	546.482419	308.171104	1007.9	7.064	10.2	5.9	0.52	4857	2.72	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008572338-01	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
008572338-02	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—CENT_FEW_DIFFS
008572338-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008572338-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008572338-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

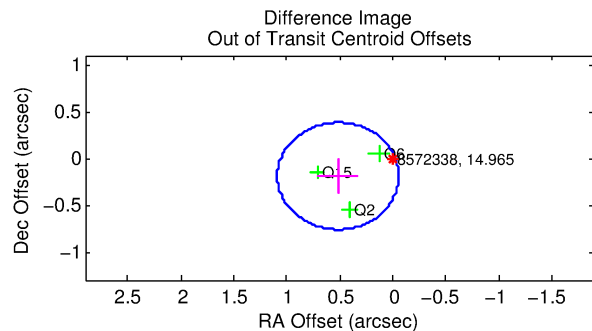
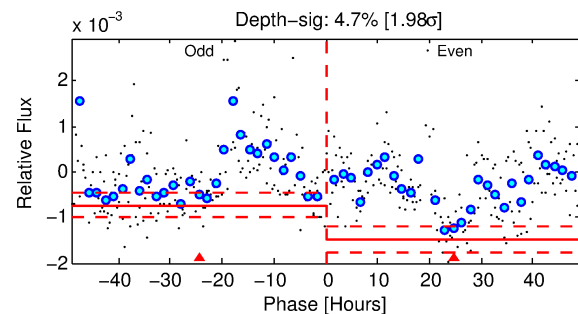
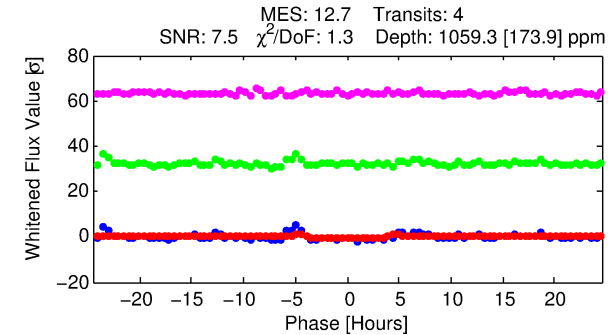
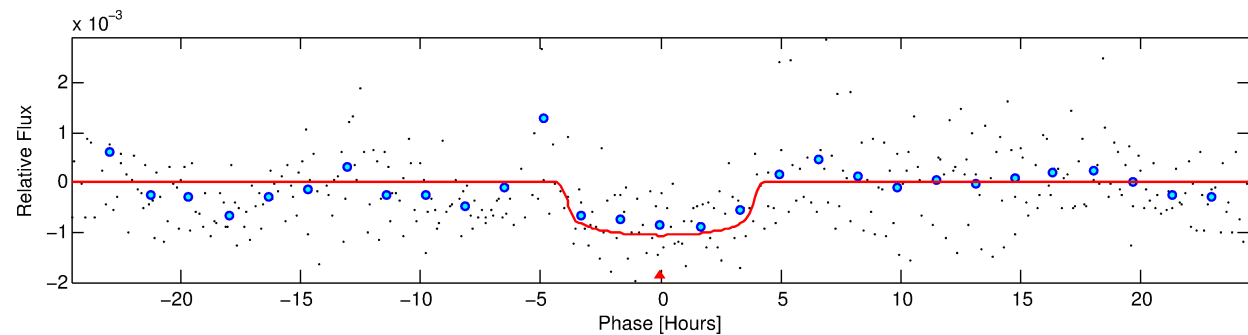
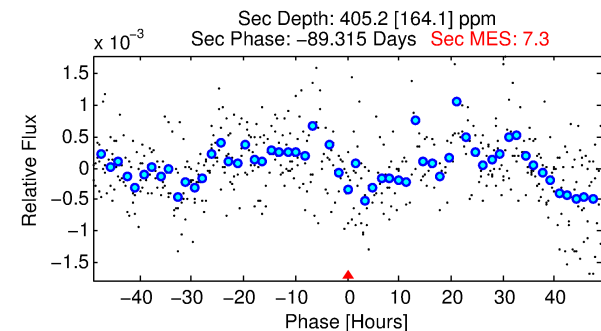
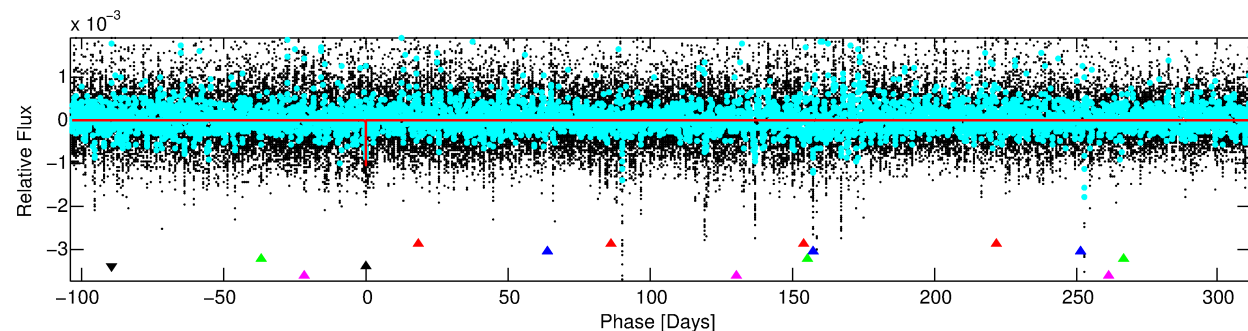
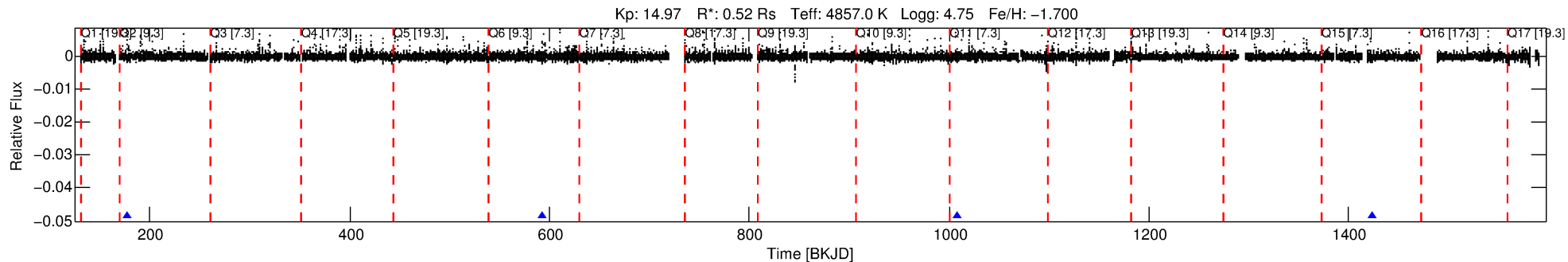
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008572338-04

No Significant Match Found

DV One-Page Summary

KIC: 8572338 Candidate: 4 of 5 Period: 414.971 d



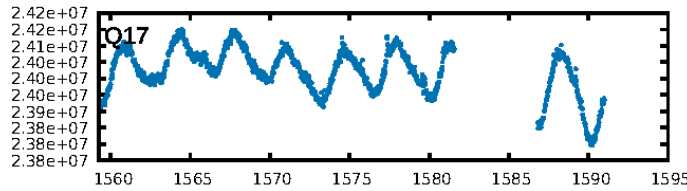
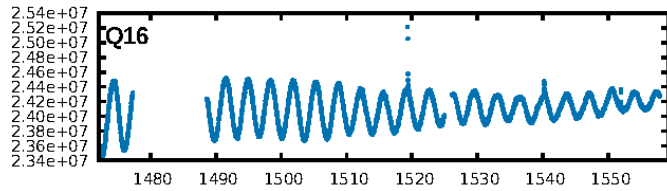
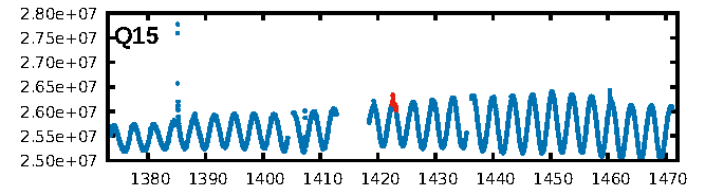
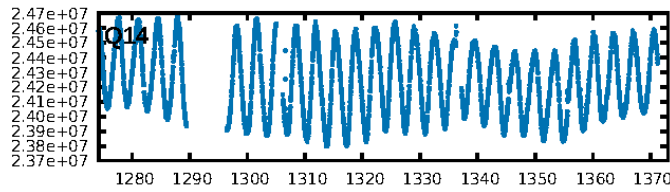
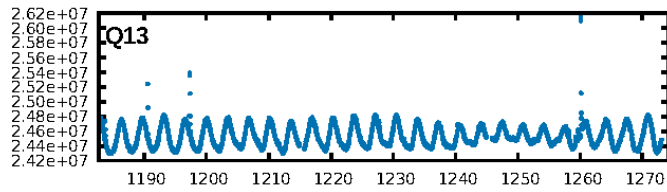
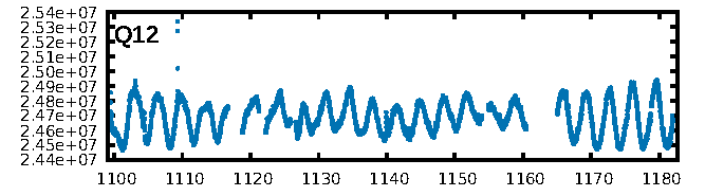
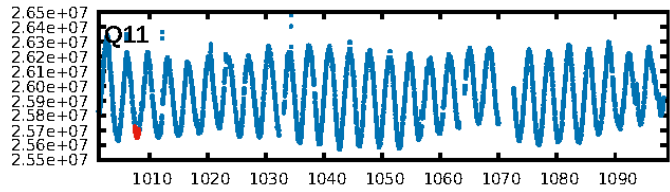
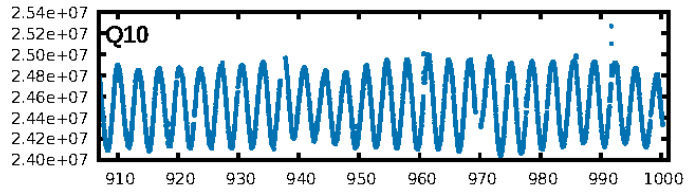
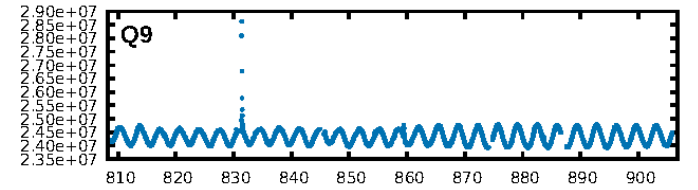
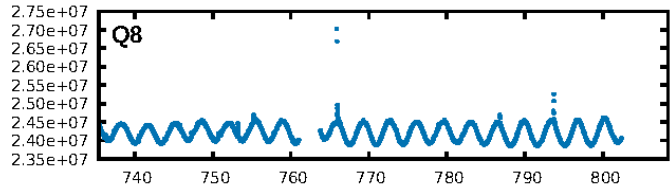
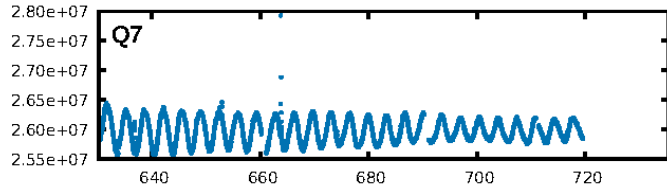
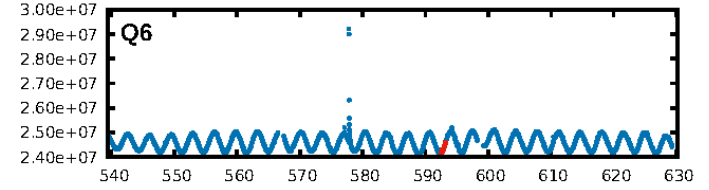
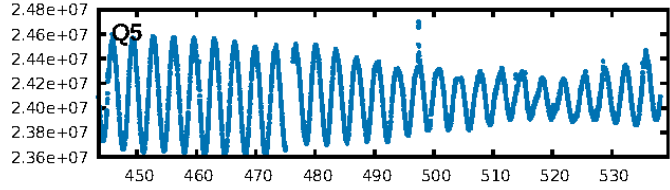
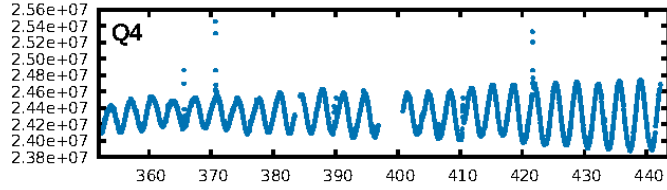
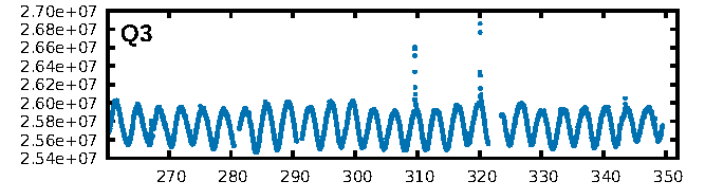
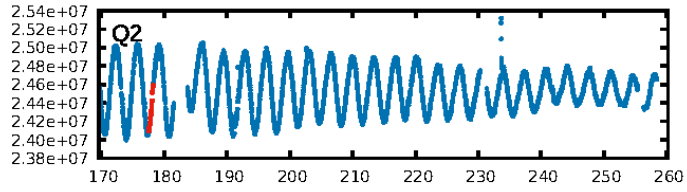
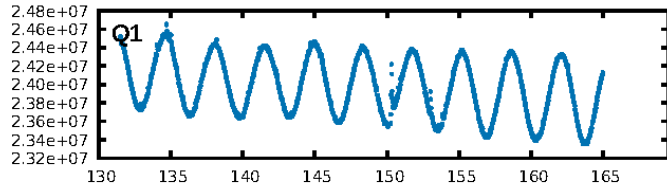
DV Fit Results:

Period = 414.97083 [0.00450] d
Epoch = 177.8967 [0.0087] BKJD
Rp/R* = 0.0304 [0.0203]
a/R* = 359.71 [1134.27]
b = 0.45 [5.69]
Seff = 0.17 [0.02]
Teq = 163 [5] K
Rp = 1.71 [1.14] Re
a = 0.8902 [0.0363] AU
Ag = 60260.90 [84049.17] [0.72σ]
Teffp = 3952 [1382] K [2.74σ]

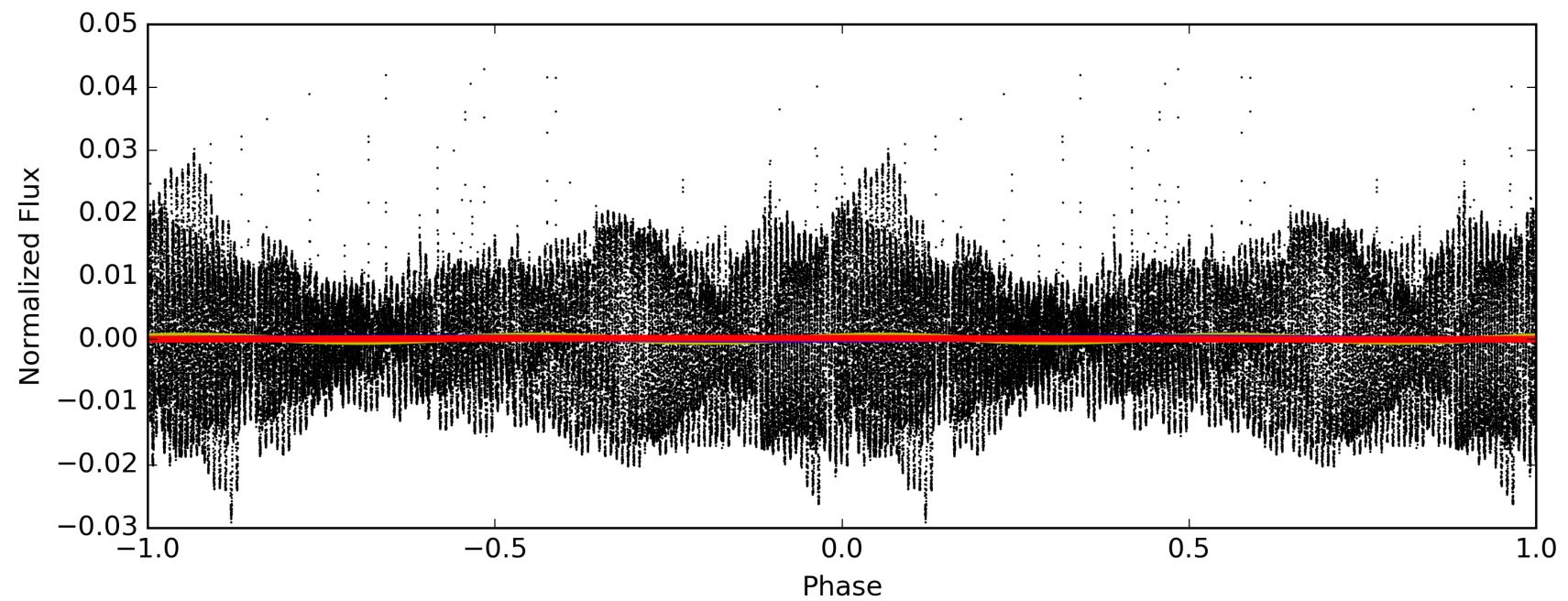
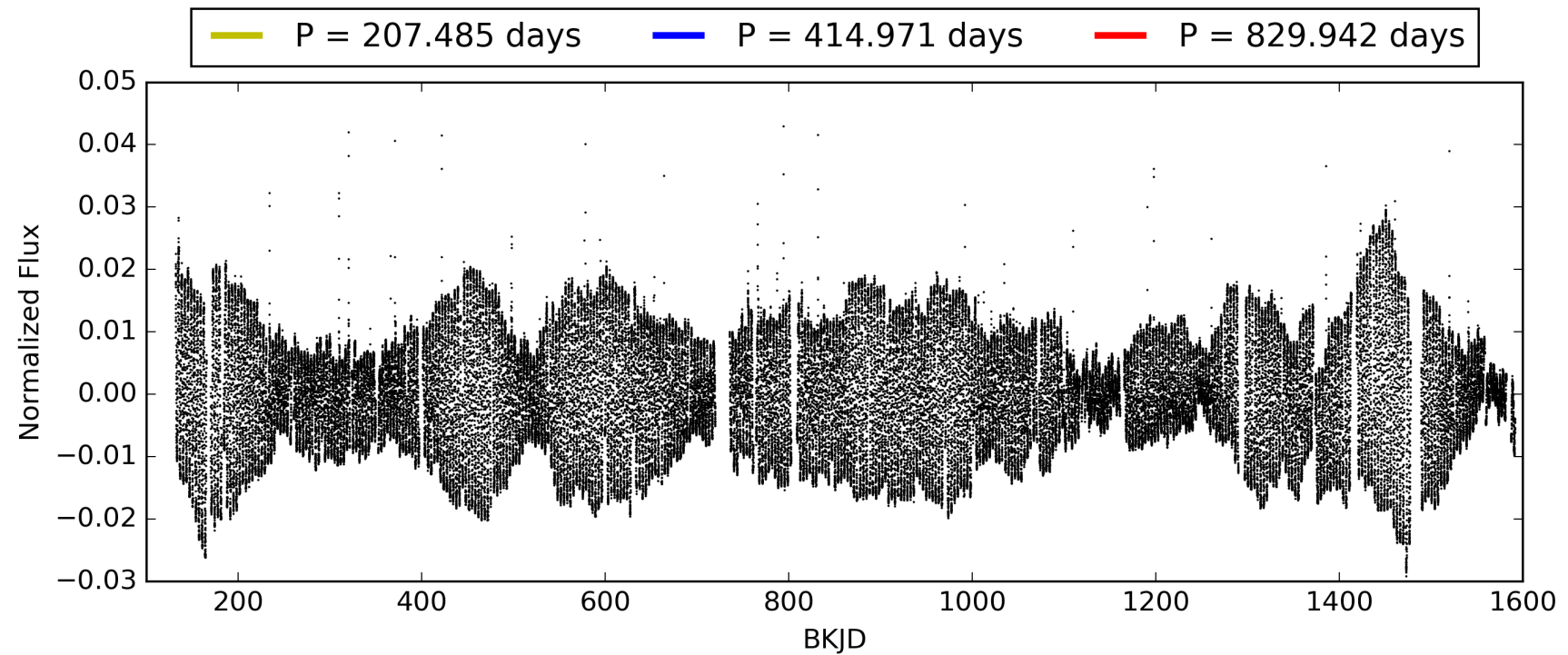
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [144.00σ]
LongPeriod-sig: 100.0% [215.11σ]
ModelChiSquare2-sig: 0.7%
ModelChiSquareGof-sig: 84.1%
Bootstrap-pfa: 3.07e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.897
Centroid-sig: 43.8%
Centroid-so: 0.699 arcsec [0.86σ]
OotOffset-rm: 0.549 arcsec [2.88σ]
KicOffset-rm: 0.575 arcsec [2.71σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 008572338-04, PDC Light Curves

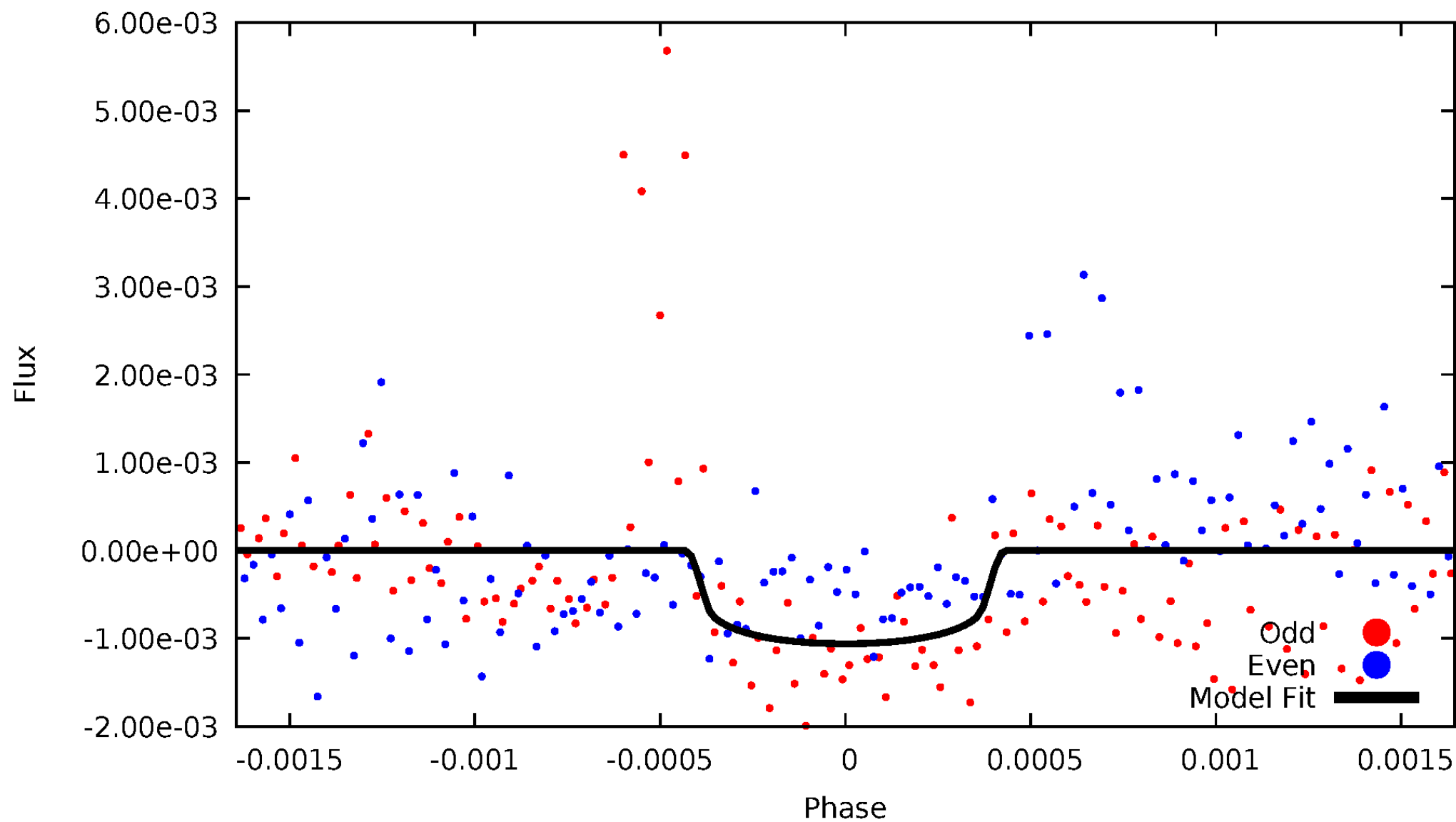


TCE 008572338-04



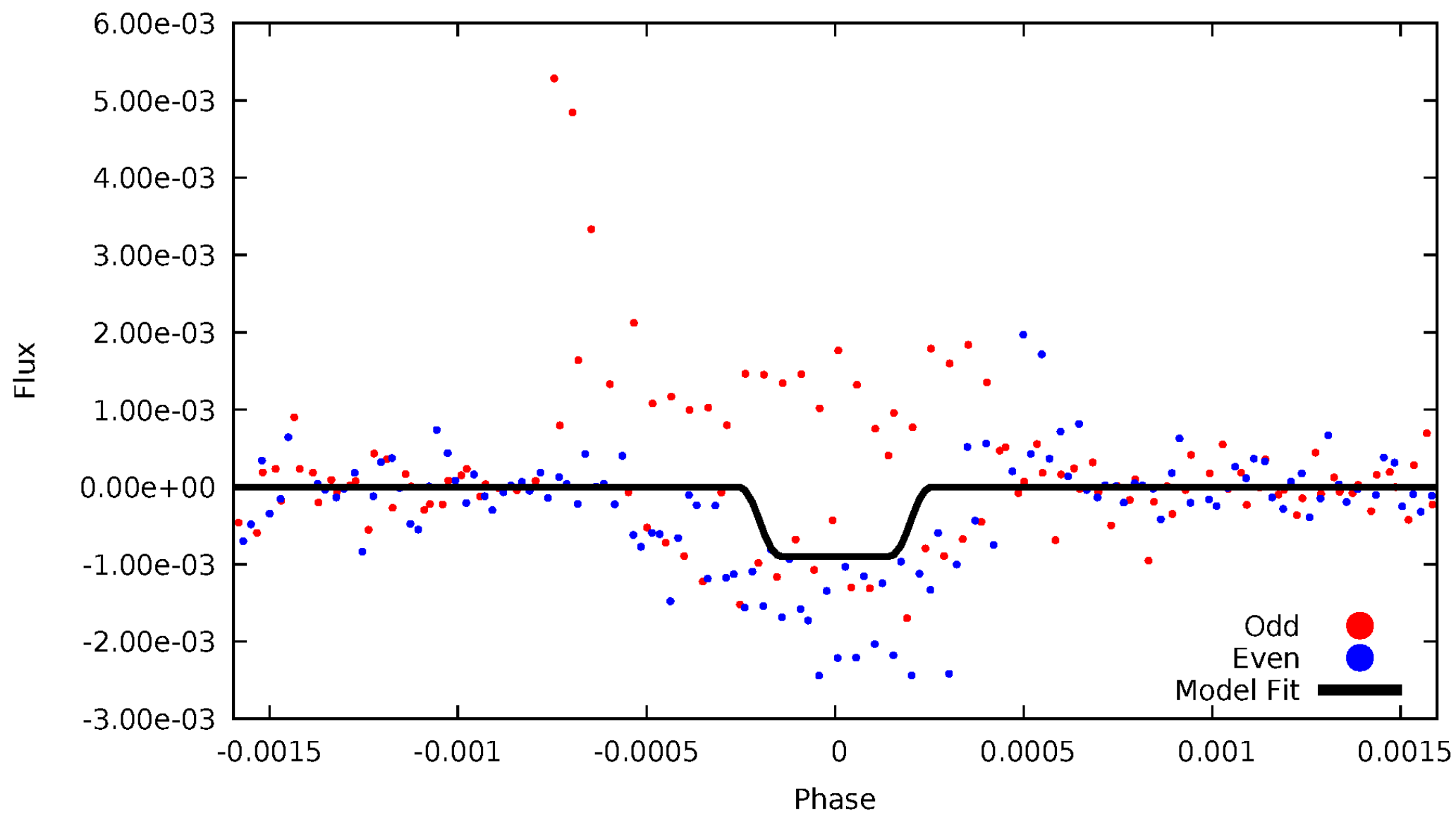
DV Odd/Even

TCE 008572338-04



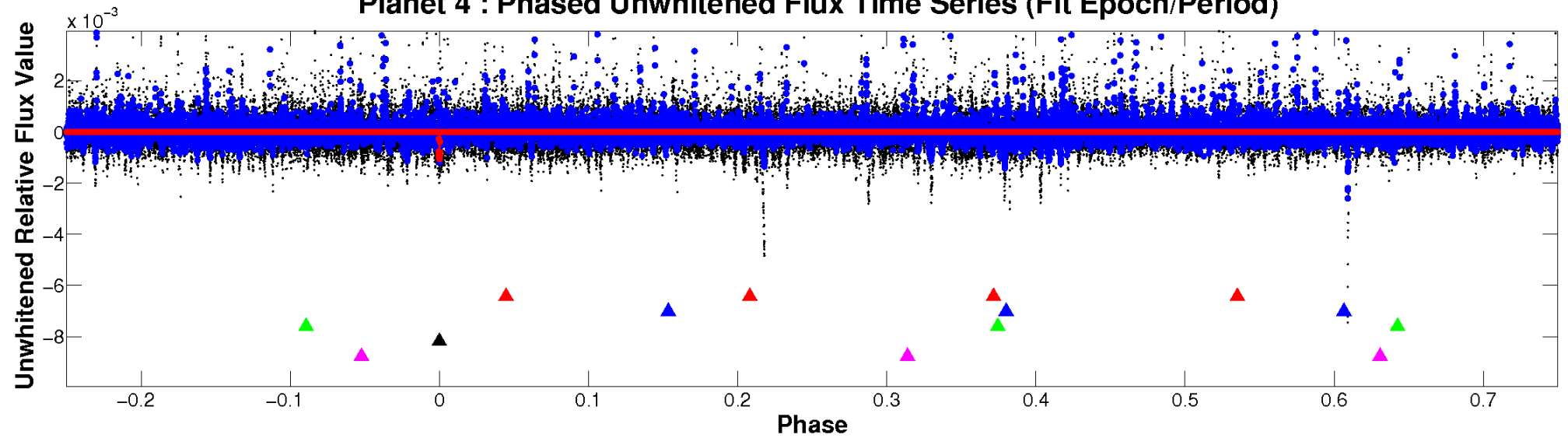
ALT Odd/Even

TCE 008572338-04

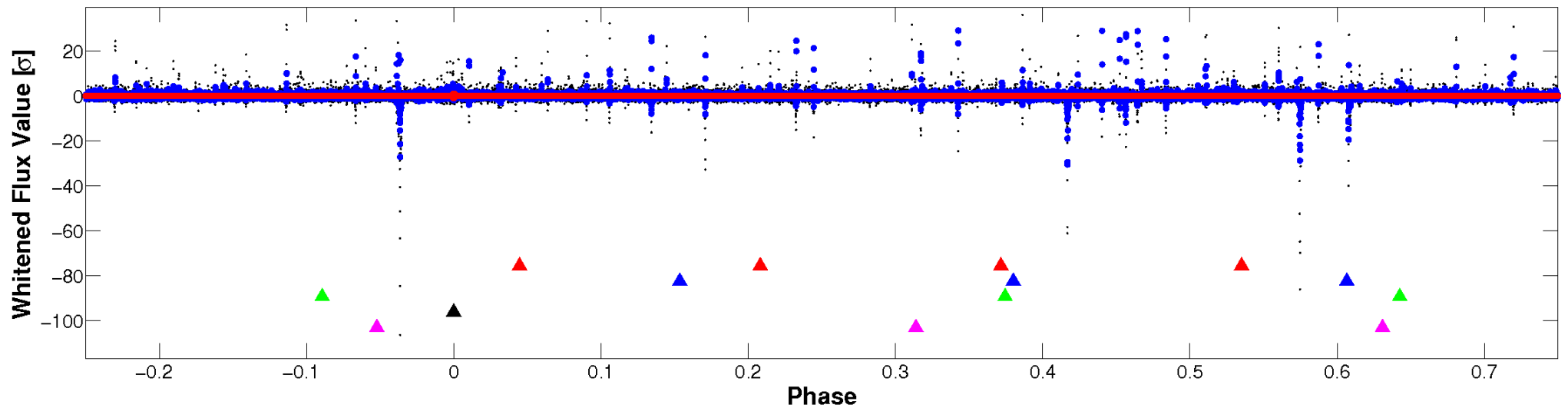


Non-Whitened Vs. Whitened Light Curve

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

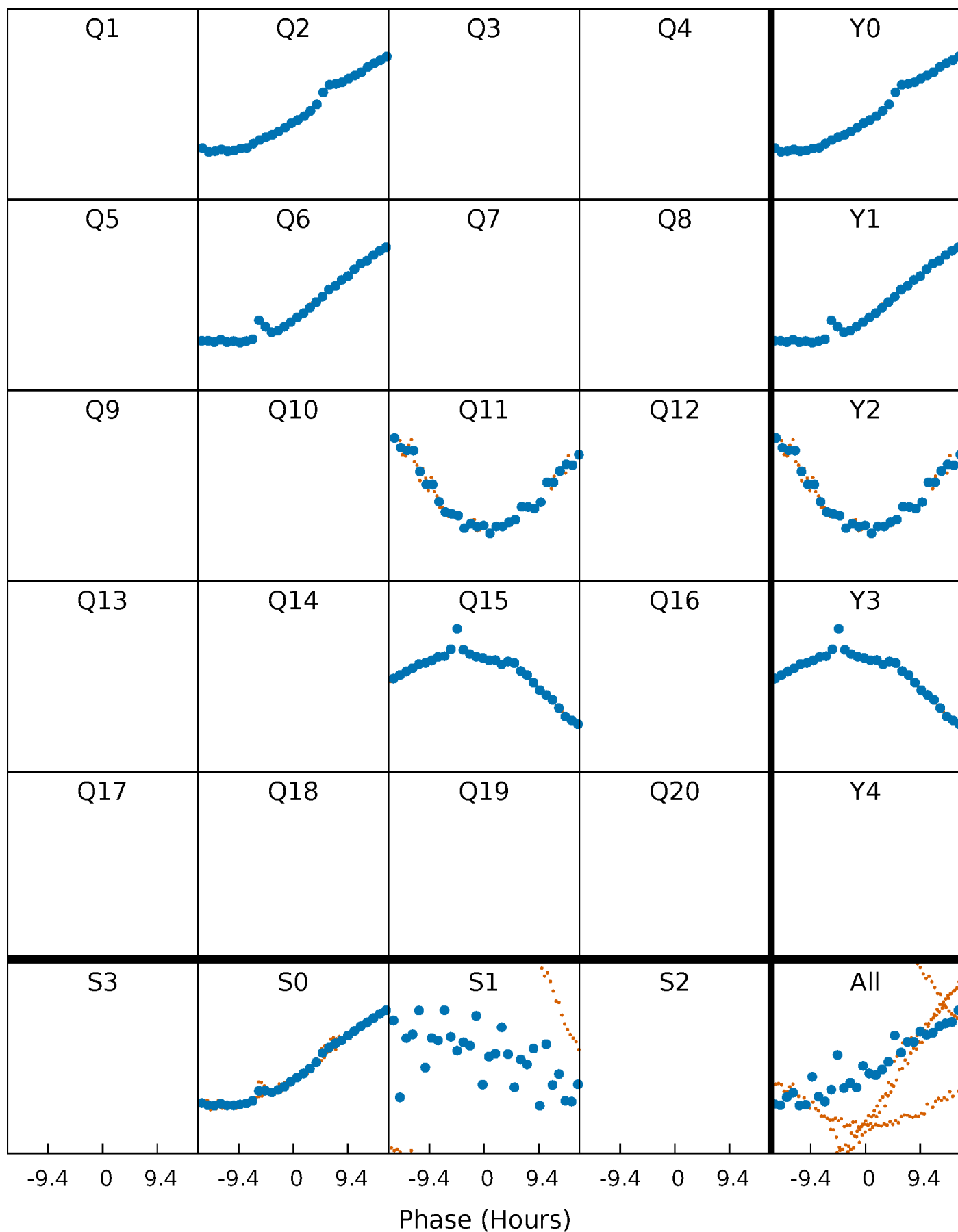


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



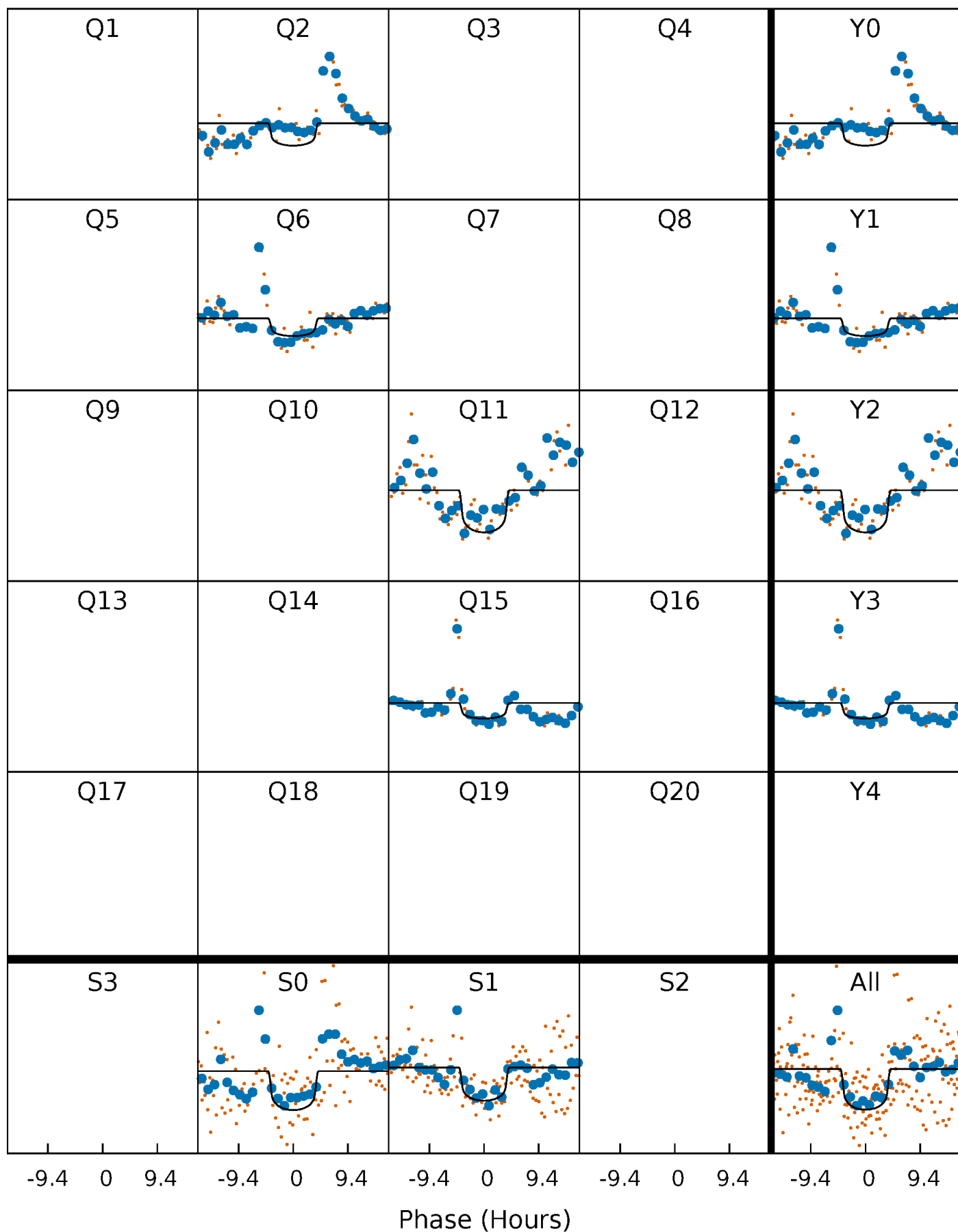
PDC Quarter-Phased Transit Curves

TCE 008572338-04 P=414.970835 Days $T_0=177.896671$ (BKJD)



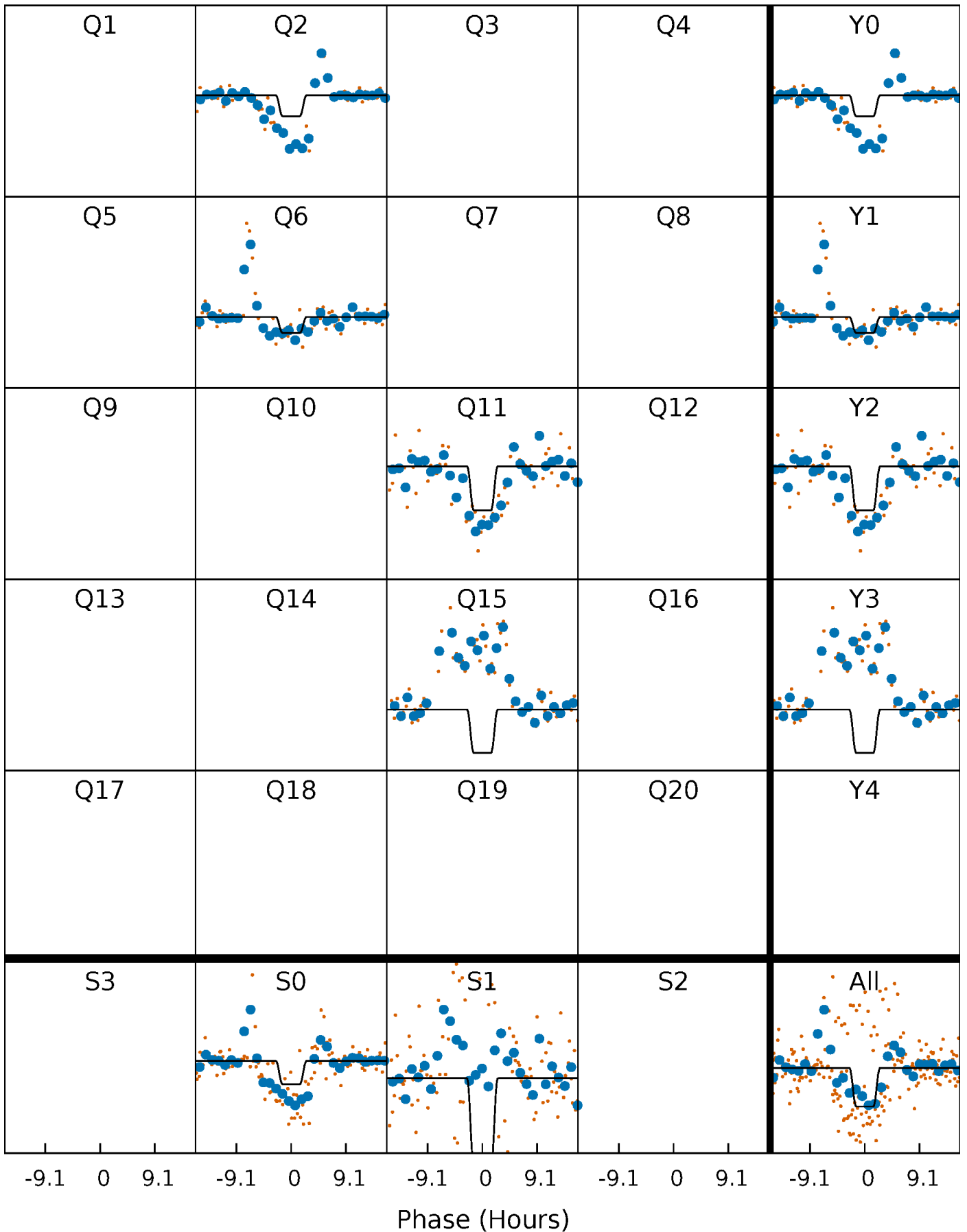
DV Quarter-Phased Transit Curves

TCE 008572338-04 $P=414.970835$ Days $T_0=177.896671$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

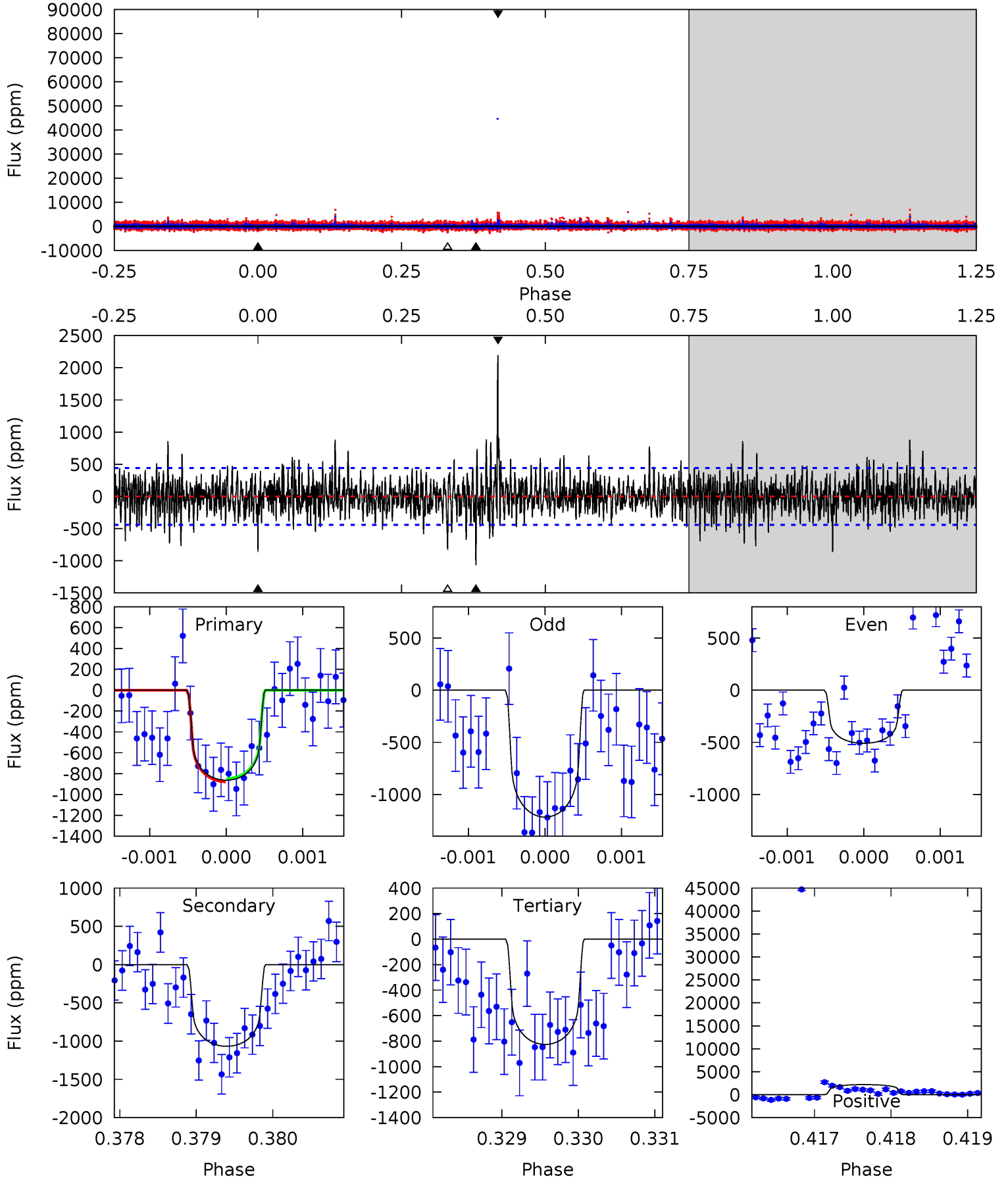
TCE 008572338-04 P=414.971548 Days $T_0=177.956643$ (BKJD)



DV Model-Shift Uniqueness Test

008572338-04, P = 414.970835 Days, E = 177.896671 Days

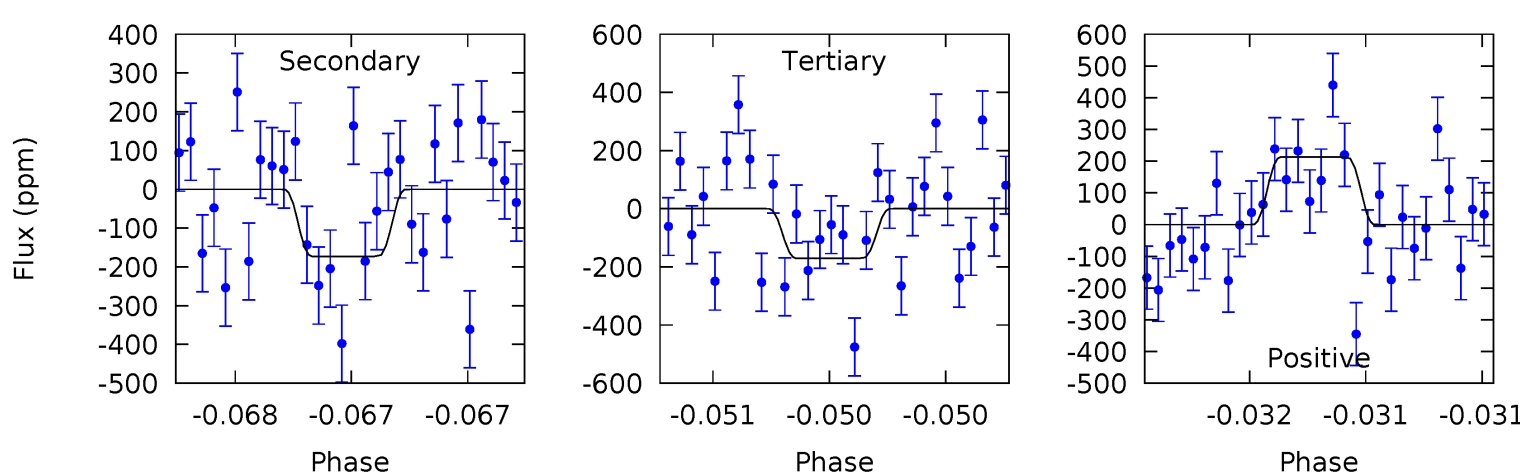
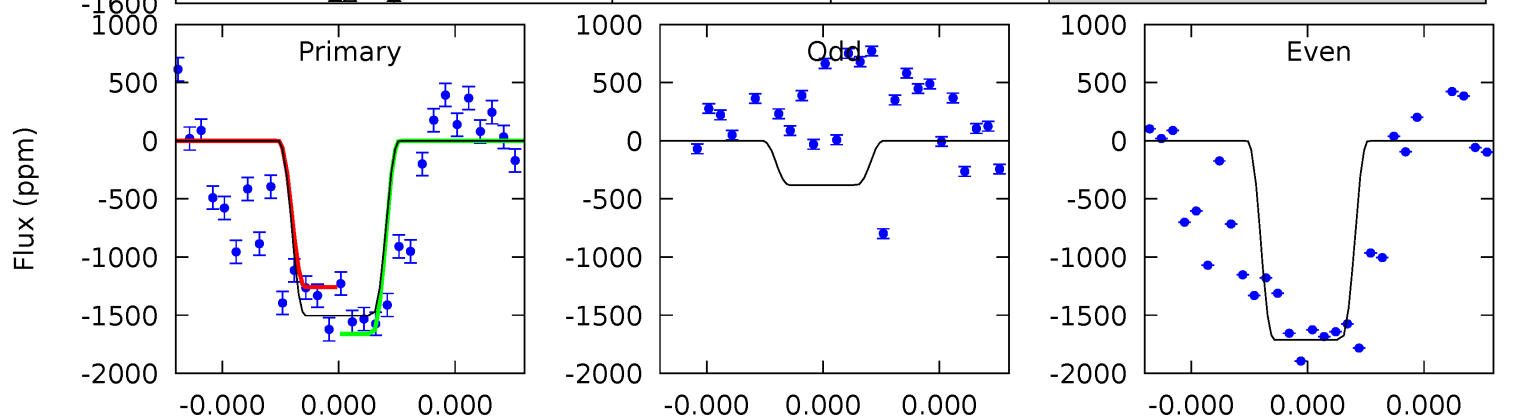
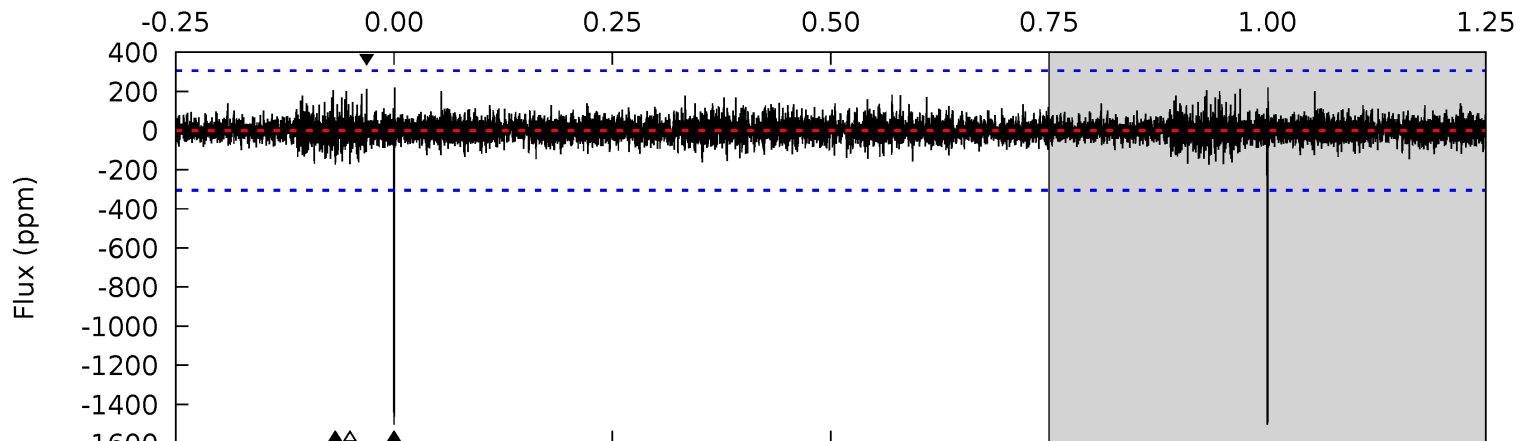
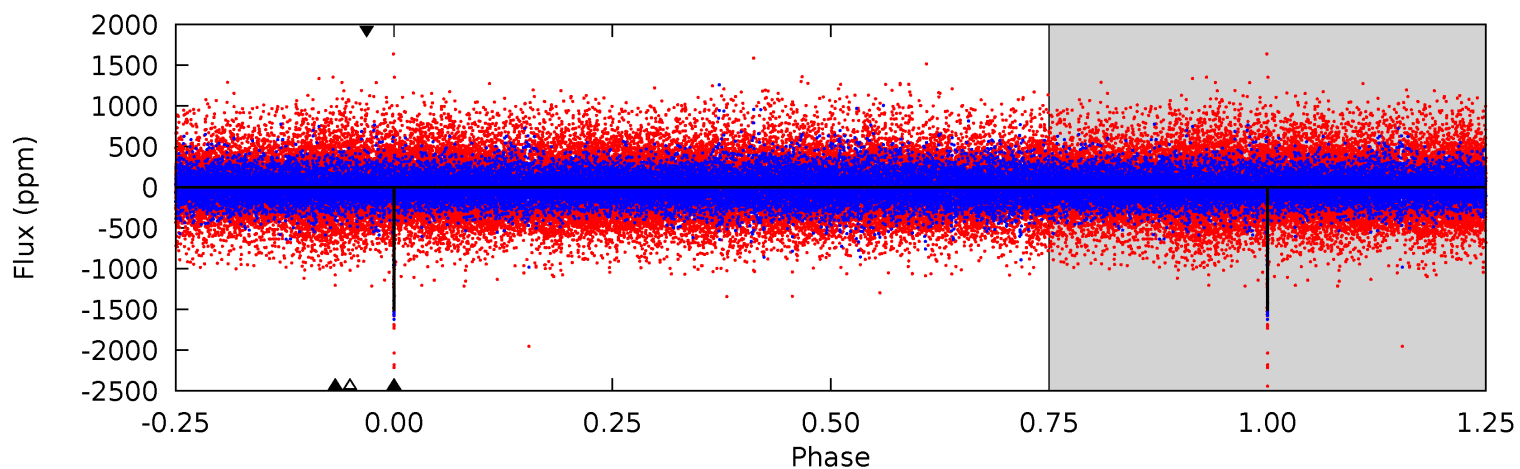
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	13.2	10.2	27.2	5.48	3.34	2.74	0.46	-16.5	2.99	-14.0	2.90	0.91	0.67	0.19



Alt Model-Shift Uniqueness Test

008572338-04, P = 414.971548 Days, E = 177.956643 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.4	3.15	3.11	3.89	5.58	3.48	0.71	24.3	23.5	0.04	-0.73	13.9	0.70	0.13	3.62



Stellar Parameters For KIC 008572338

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4857^{+146}_{-146}	$4.750^{+0.030}_{-0.027}$	$-1.700^{+0.300}_{-0.200}$	$0.516^{+0.026}_{-0.023}$	$0.547^{+0.030}_{-0.022}$	$5.593^{+0.685}_{-0.611}$
	+3%/-3%	+1%/-1%	+18%/-12%	+5%/-4%	+5%/-4%	+12%/-11%
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 008572338-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1067 ± 81	$1.85^{+1.02}_{-1.02}$	228^{+7}_{-8}	4853^{+2359}_{-768}	$138996^{+536853}_{-82849}$
Alt.	-173 ± 55	$1.88^{+1.07}_{-1.06}$	228^{+7}_{-7}	3466^{+1136}_{-475}	21501^{+82066}_{-13528}

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

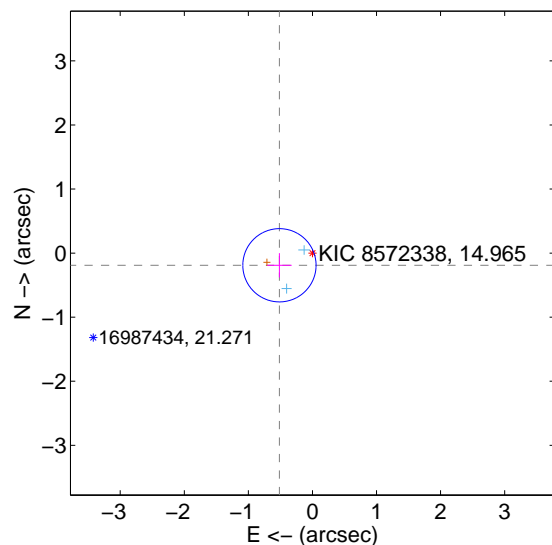
Supplemental centroid analysis for 008572338-04. Kepler magnitude: 14.96. Transit SNR 7.54

There are 2 quarters with good PRF difference image offsets

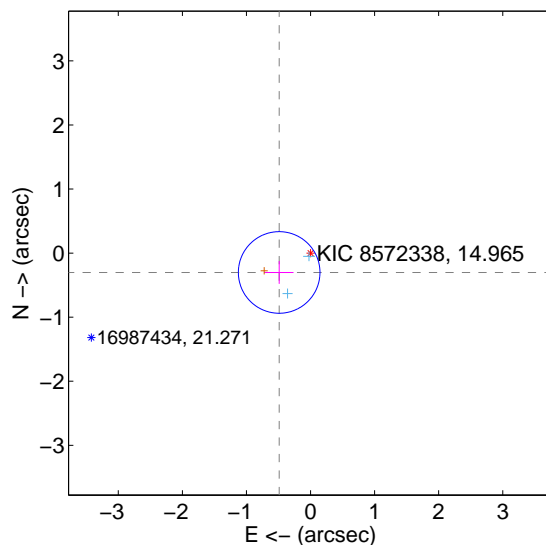
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.549 ± 0.191	2.88	0.515 ± 0.191	-0.190 ± 0.190
PRF-fit source offset from KIC position	0.575 ± 0.212	2.71	0.490 ± 0.224	-0.302 ± 0.178
photometric centroid source offset	0.70 ± 0.82	0.86	-0.26 ± 0.57	-0.65 ± 0.85

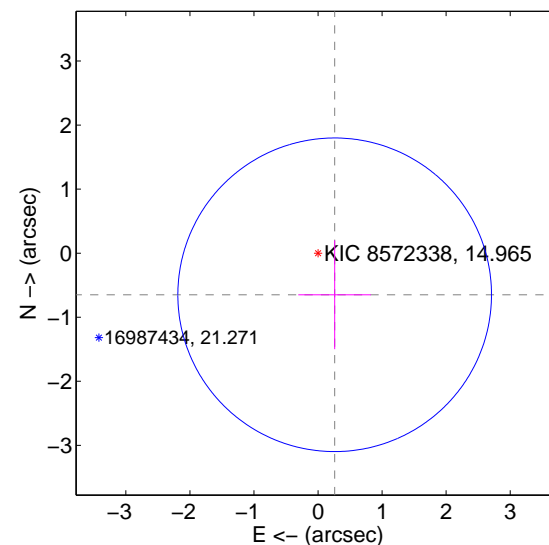
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

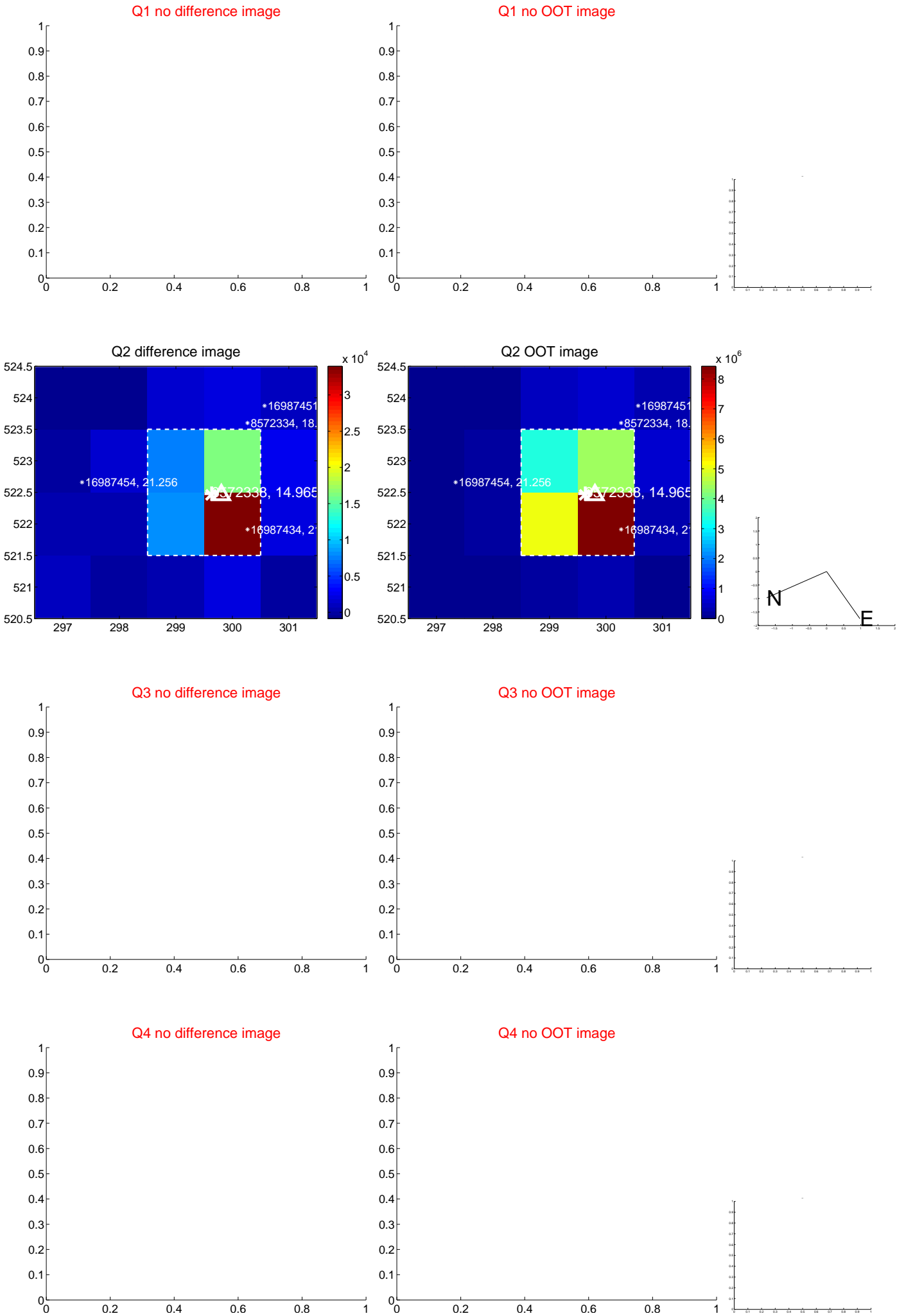


offset from photometric centroids



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.

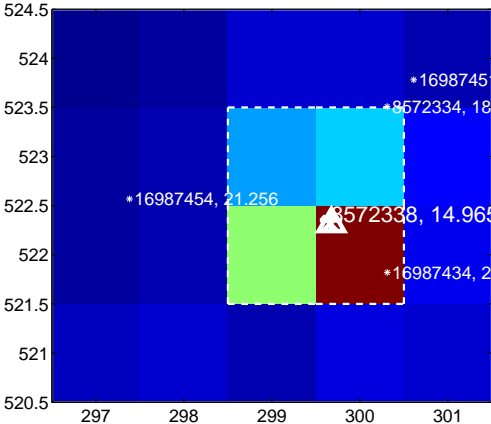
Q5 no difference image



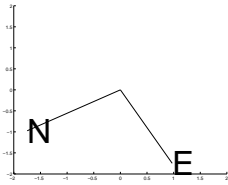
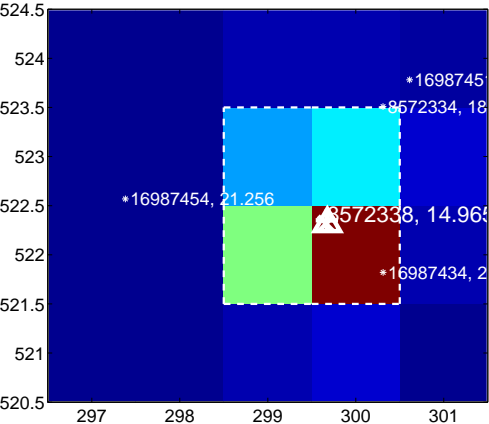
Q5 no OOT image



Q6 difference image



Q6 OOT image



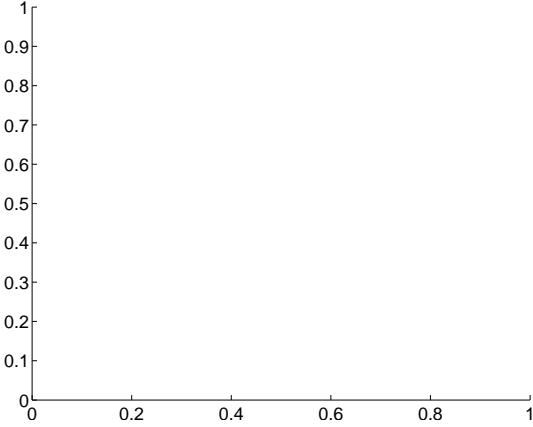
Q7 no difference image



Q7 no OOT image



Q8 no difference image



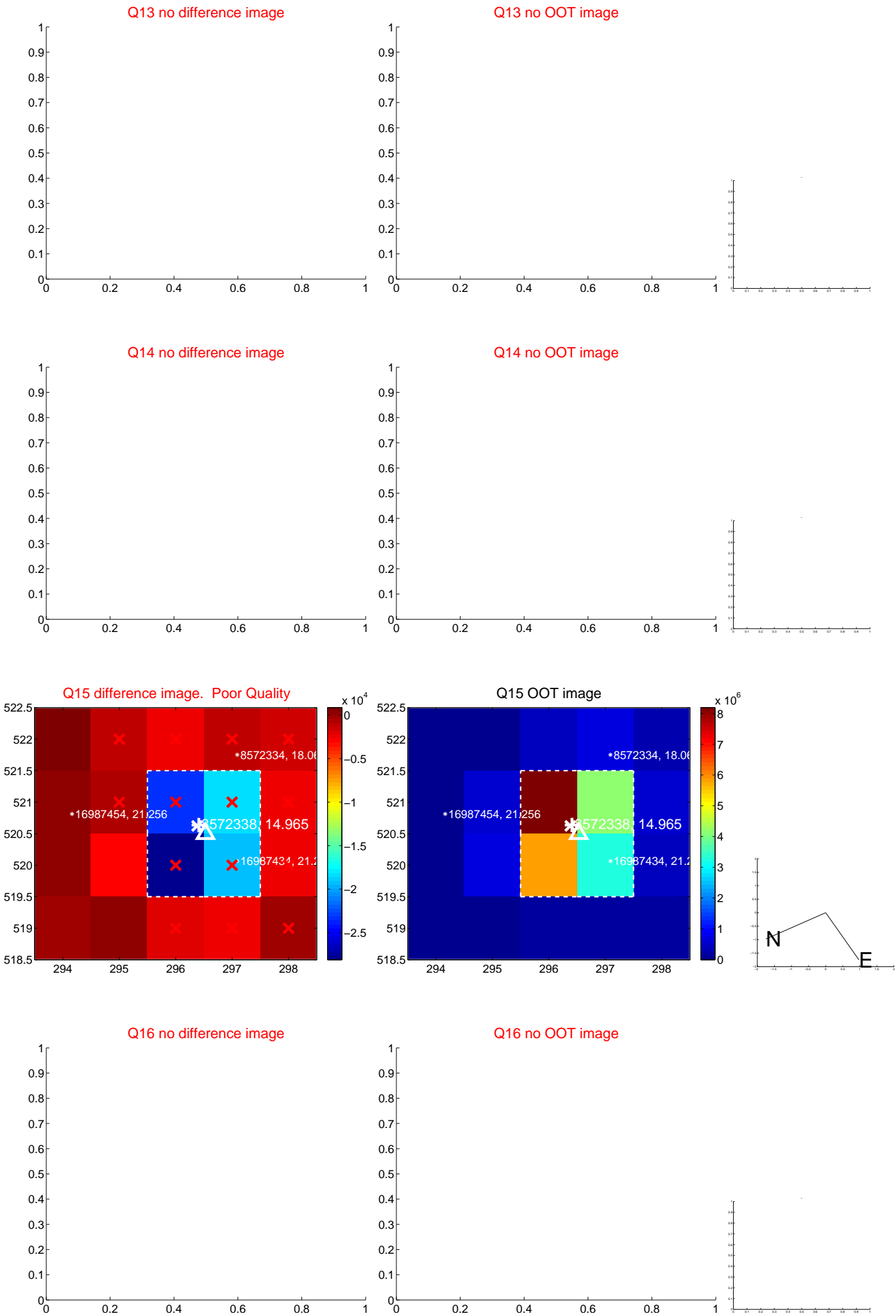
Q8 no OOT image



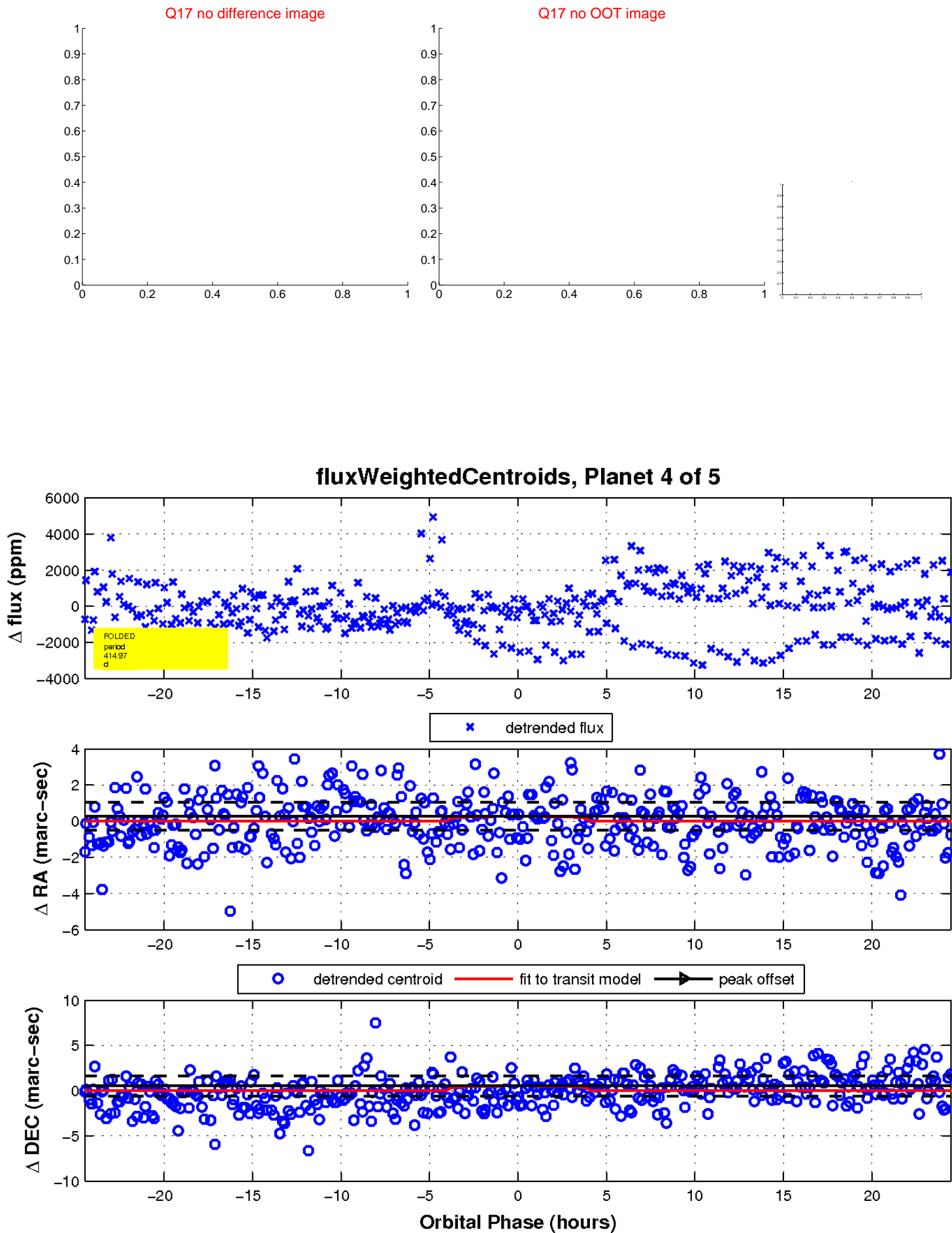
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

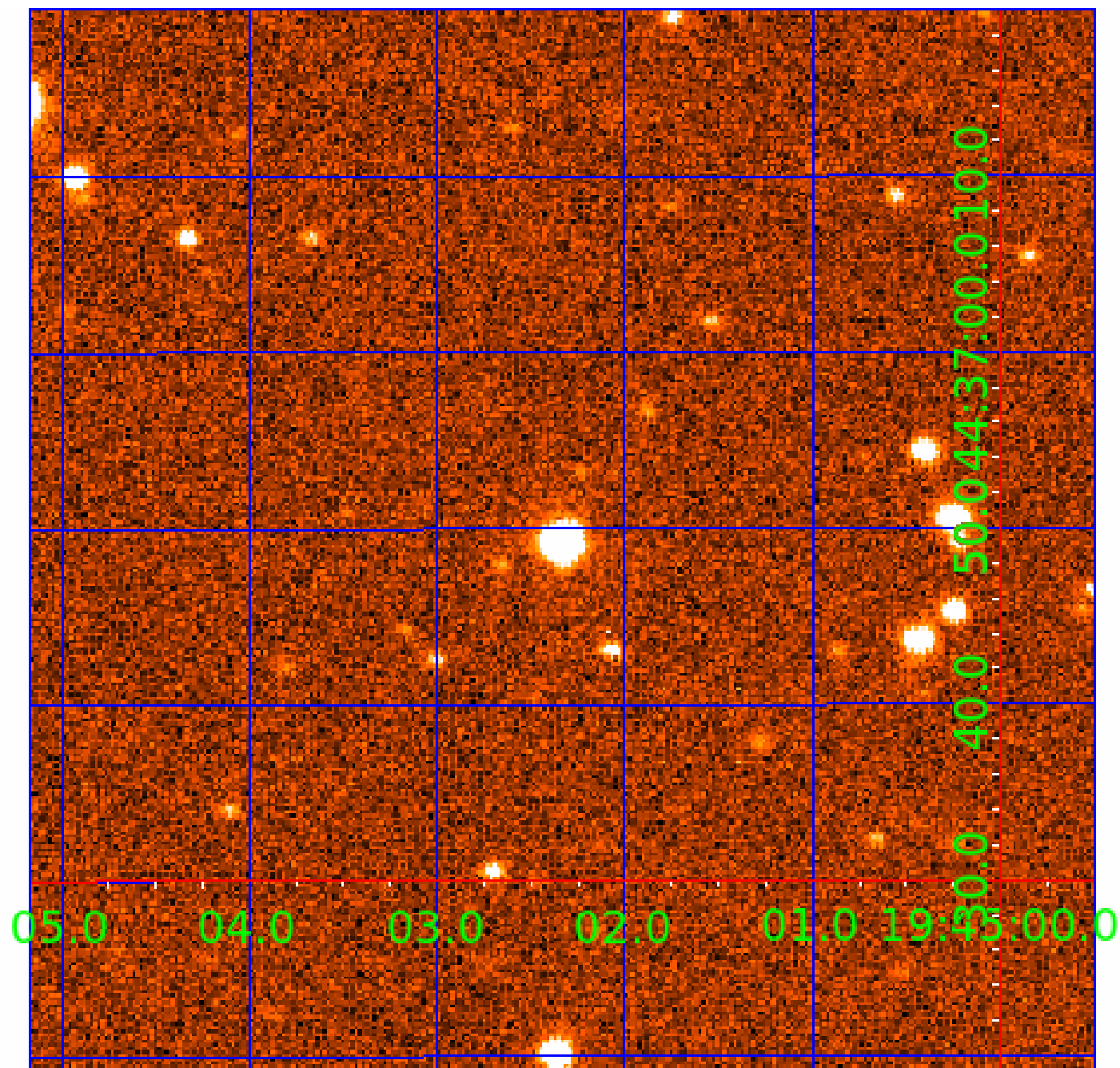


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008572338

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})
008572338-01	OBS	No	347.133522	399.962067	1211.8	7.797	14.3	6.8	0.52	4857	1.81	0.21
008572338-02	OBS	No	508.973662	241.617925	1193.7	6.555	10.8	7.3	0.52	4857	2.09	0.13
008572338-03	OBS	No	526.214472	333.302769	1041.0	21.596	10.7	5.0	0.52	4857	1.66	0.12
008572338-04	OBS	No	414.970835	177.896671	1059.3	8.187	12.7	7.5	0.52	4857	1.71	0.17
008572338-05	OBS	No	546.482419	308.171104	1007.9	7.064	10.2	5.9	0.52	4857	2.72	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008572338-01	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
008572338-02	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—CENT_FEW_DIFFS
008572338-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008572338-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008572338-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

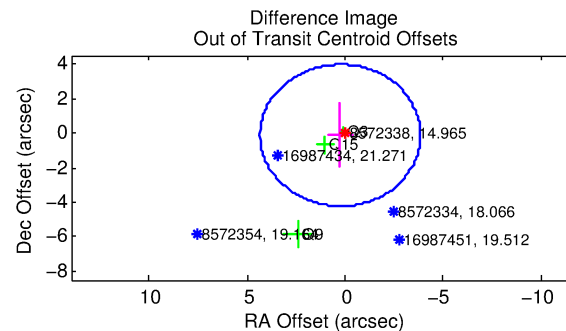
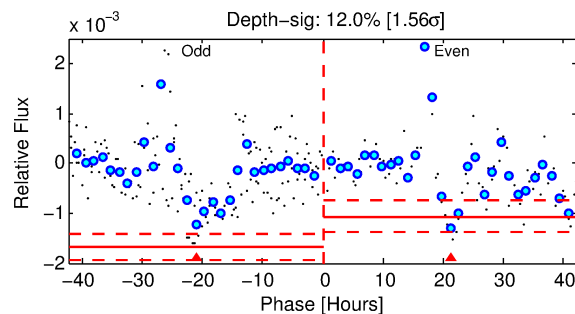
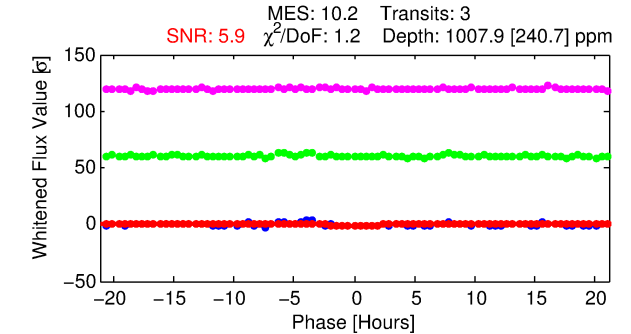
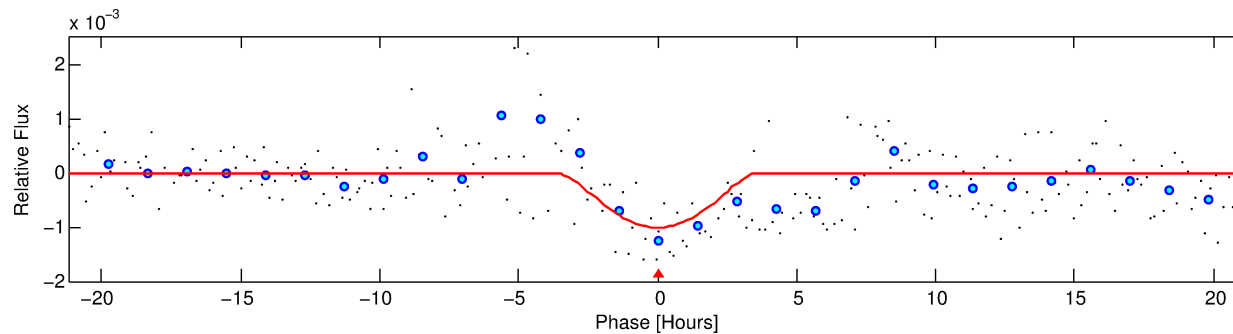
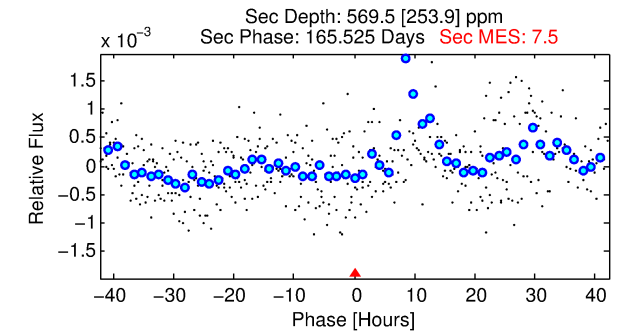
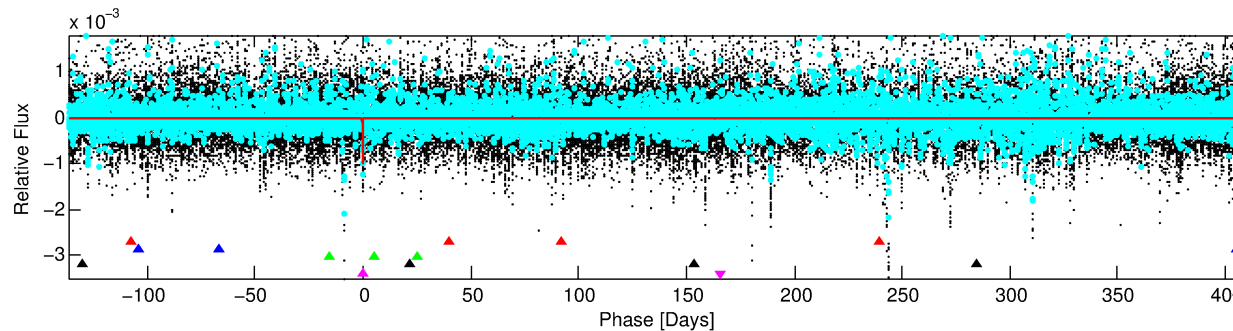
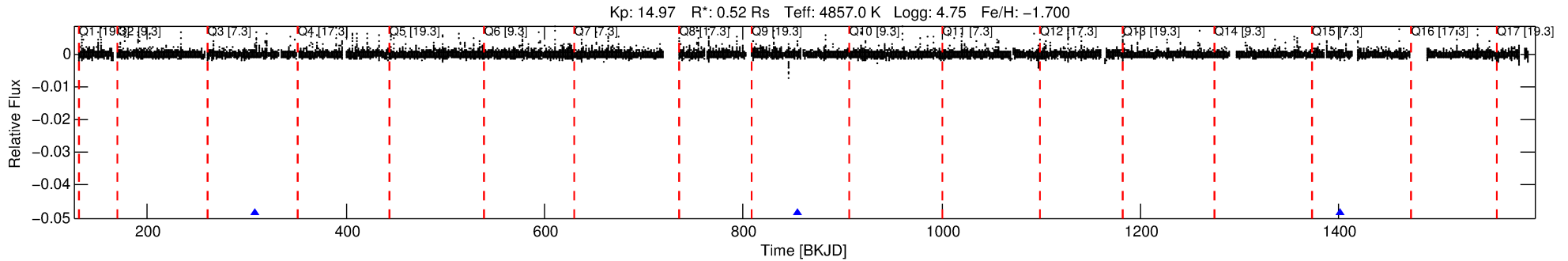
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008572338-05

No Significant Match Found

DV One-Page Summary

KIC: 8572338 Candidate: 5 of 5 Period: 546.482 d



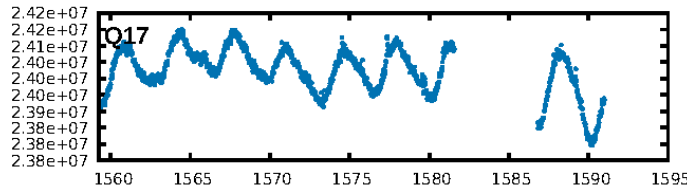
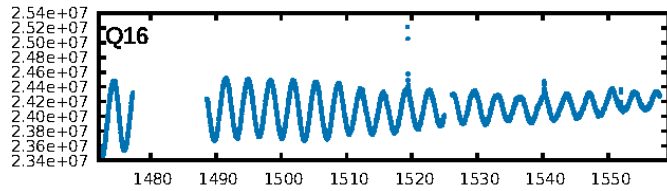
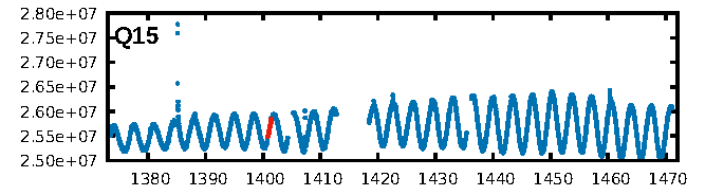
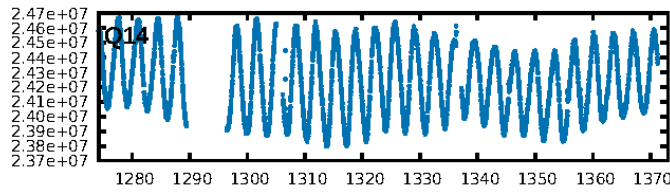
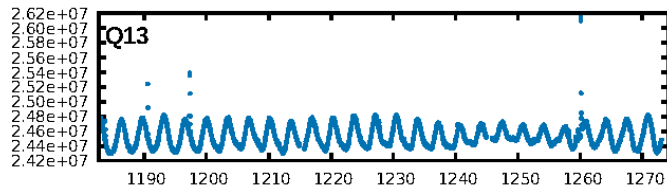
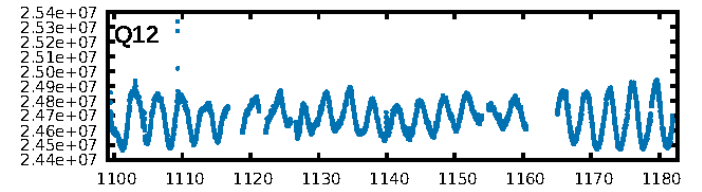
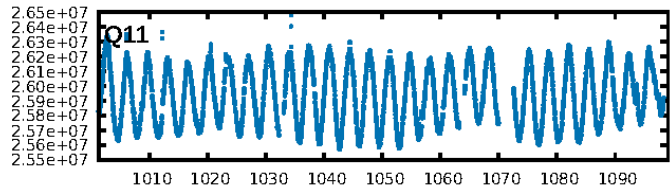
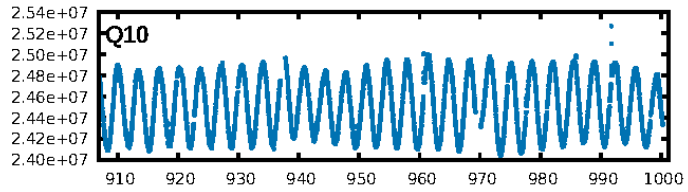
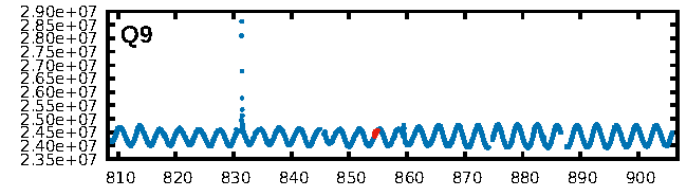
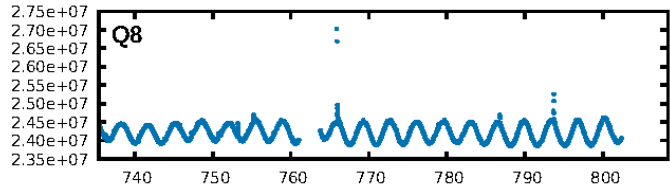
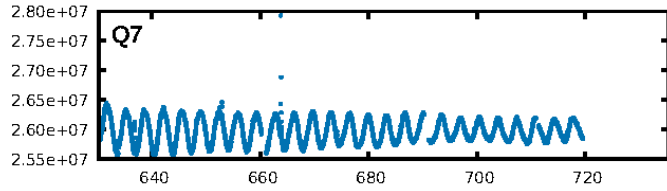
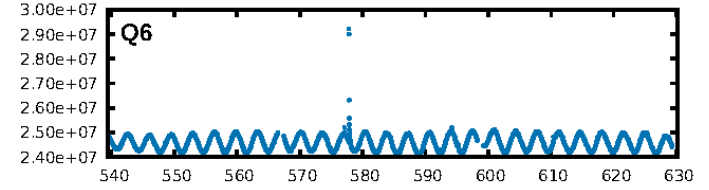
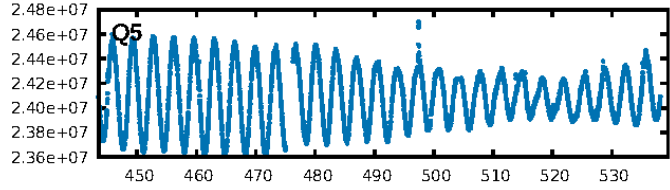
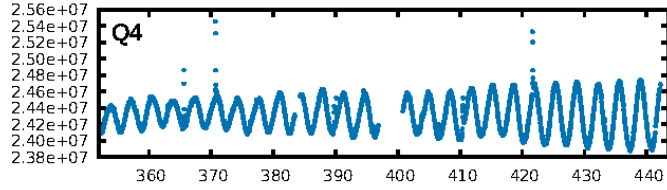
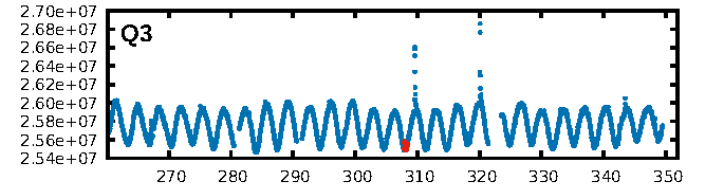
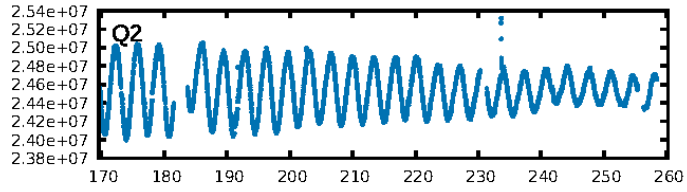
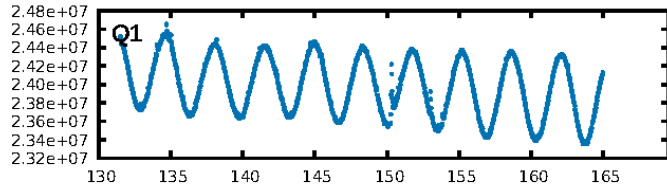
DV Fit Results:

Period = 546.48242 [0.01630] d
Epoch = 308.1711 [0.0205] BKJD
Rp/R* = 0.0483 [0.1291]
a/R* = 208.47 [171.84]
b = 0.99 [0.22]
Seff = 0.12 [0.02]
Teq = 149 [5] K
Rp = 2.72 [7.27] Re
a = 1.0695 [0.0436] AU
Ag = 48360.80 [259199.07] [0.19σ]
Teffp = 3412 [4573] K [0.71σ]

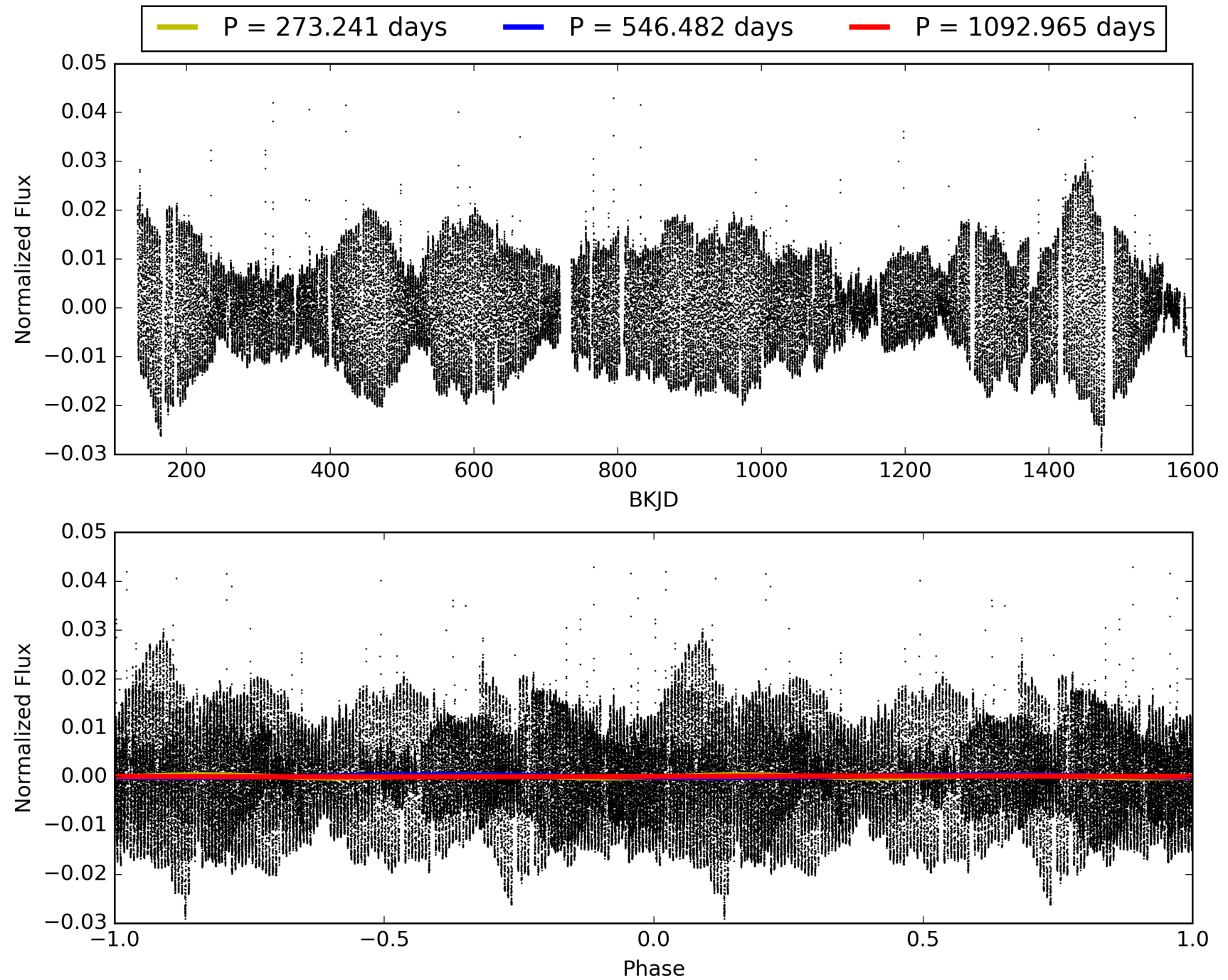
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [21.41σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.7%
ModelChiSquareGof-sig: 97.8%
Bootstrap-pfa: 1.87e-07
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.5261
Centroid-sig: 56.4%
Centroid-so: 0.598 arcsec [0.45σ]
OotOffset-rm: 0.282 arcsec [0.21σ]
KicOffset-rm: 0.357 arcsec [0.23σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 008572338-05, PDC Light Curves

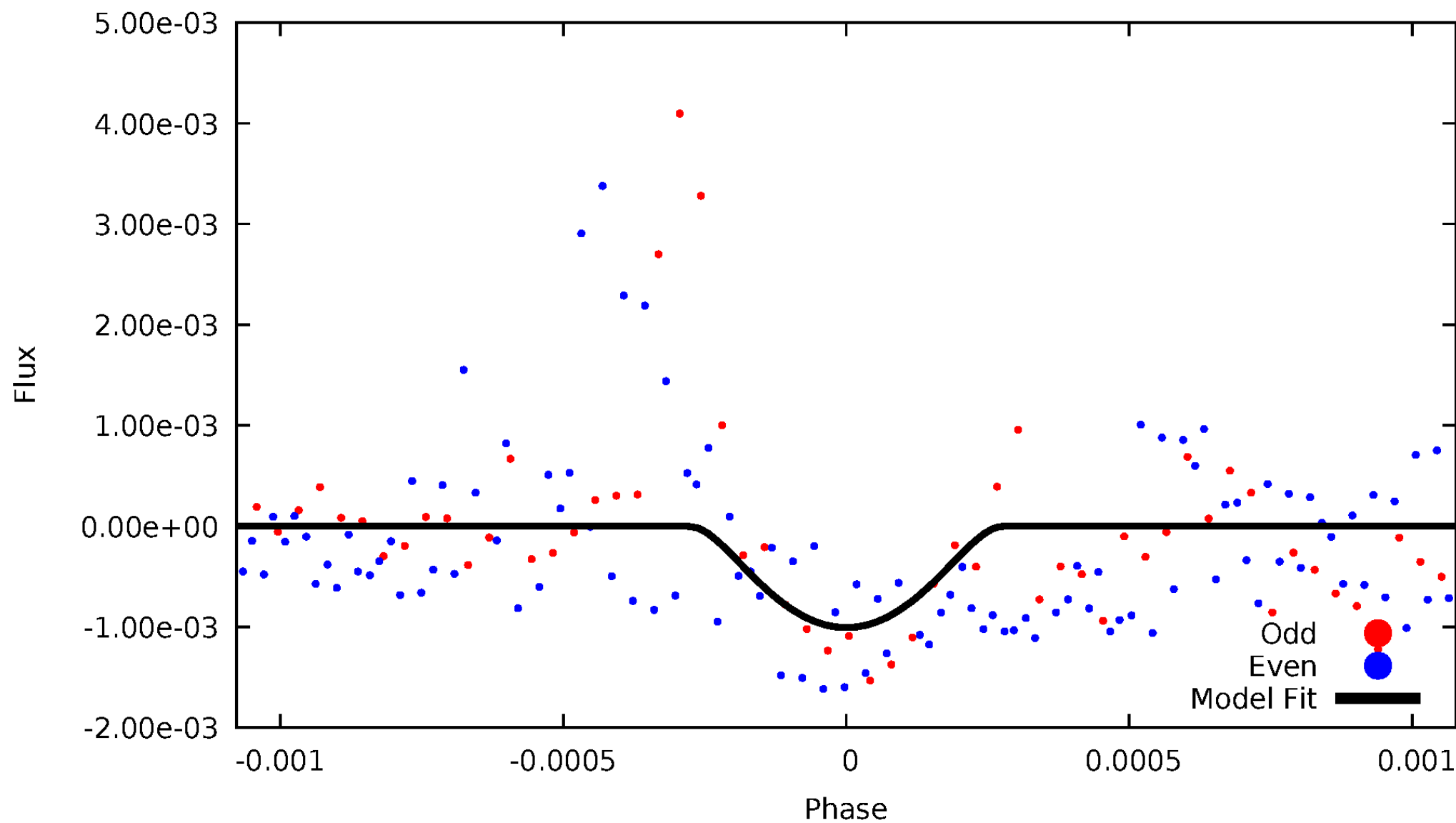


TCE 008572338-05



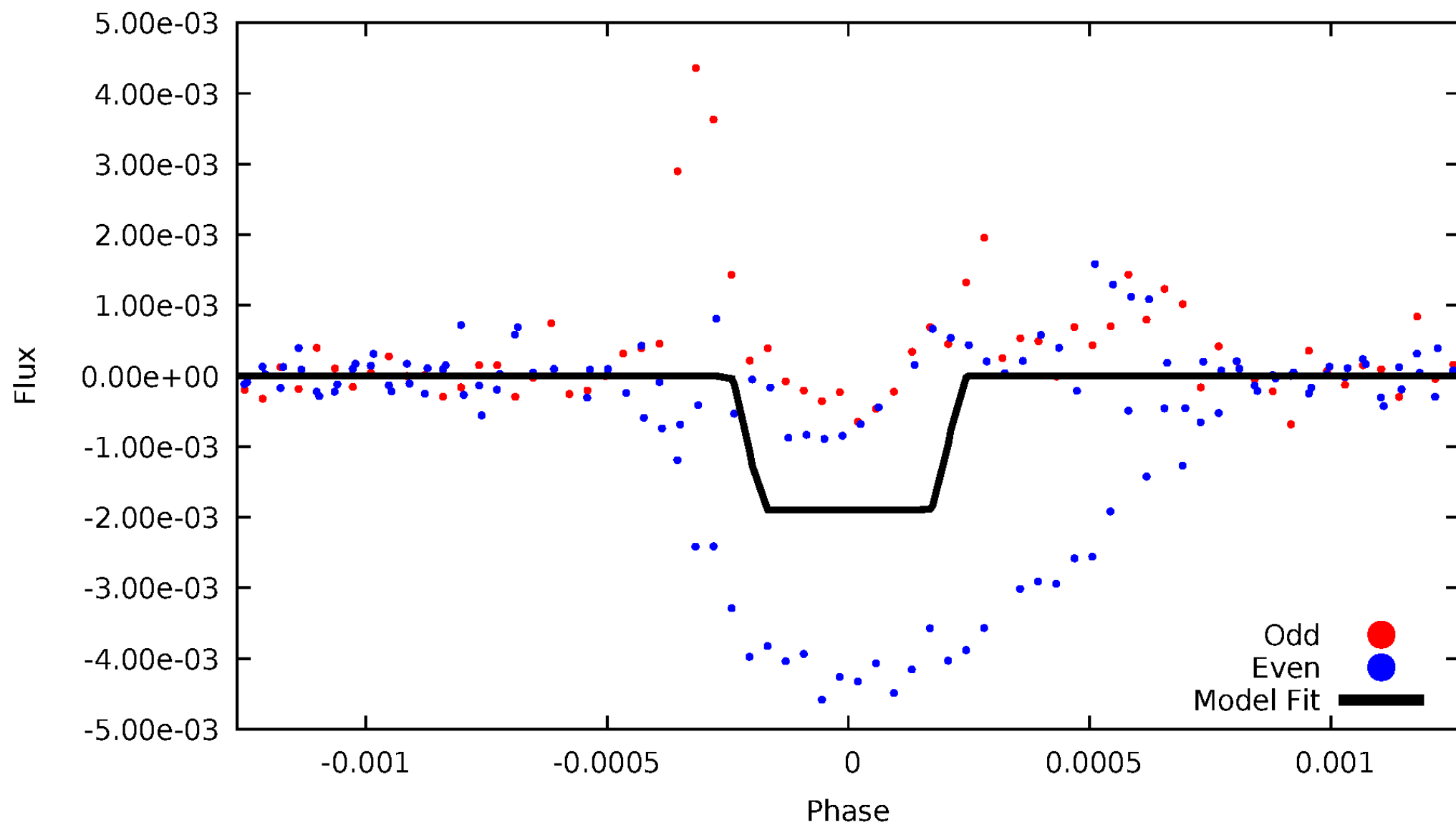
DV Odd/Even

TCE 008572338-05



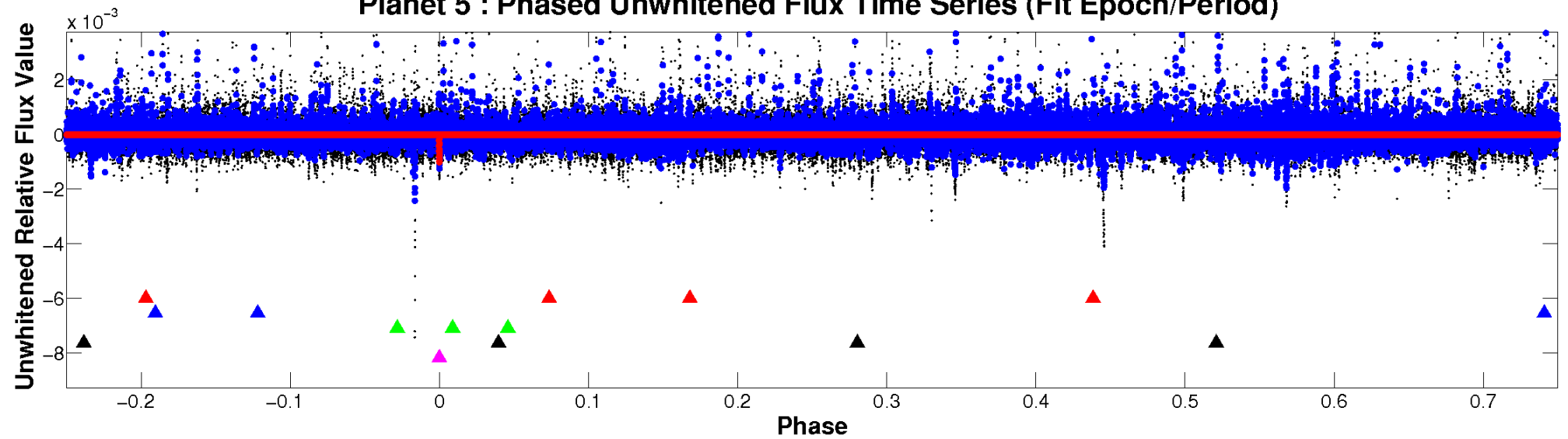
ALT Odd/Even

TCE 008572338-05

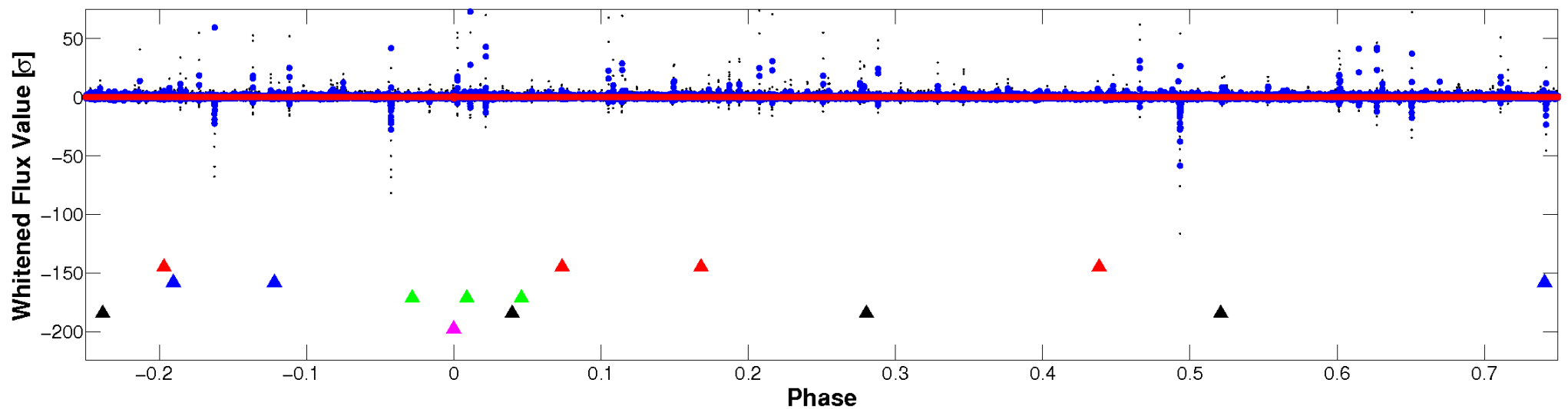


Non-Whitened Vs. Whitened Light Curve

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

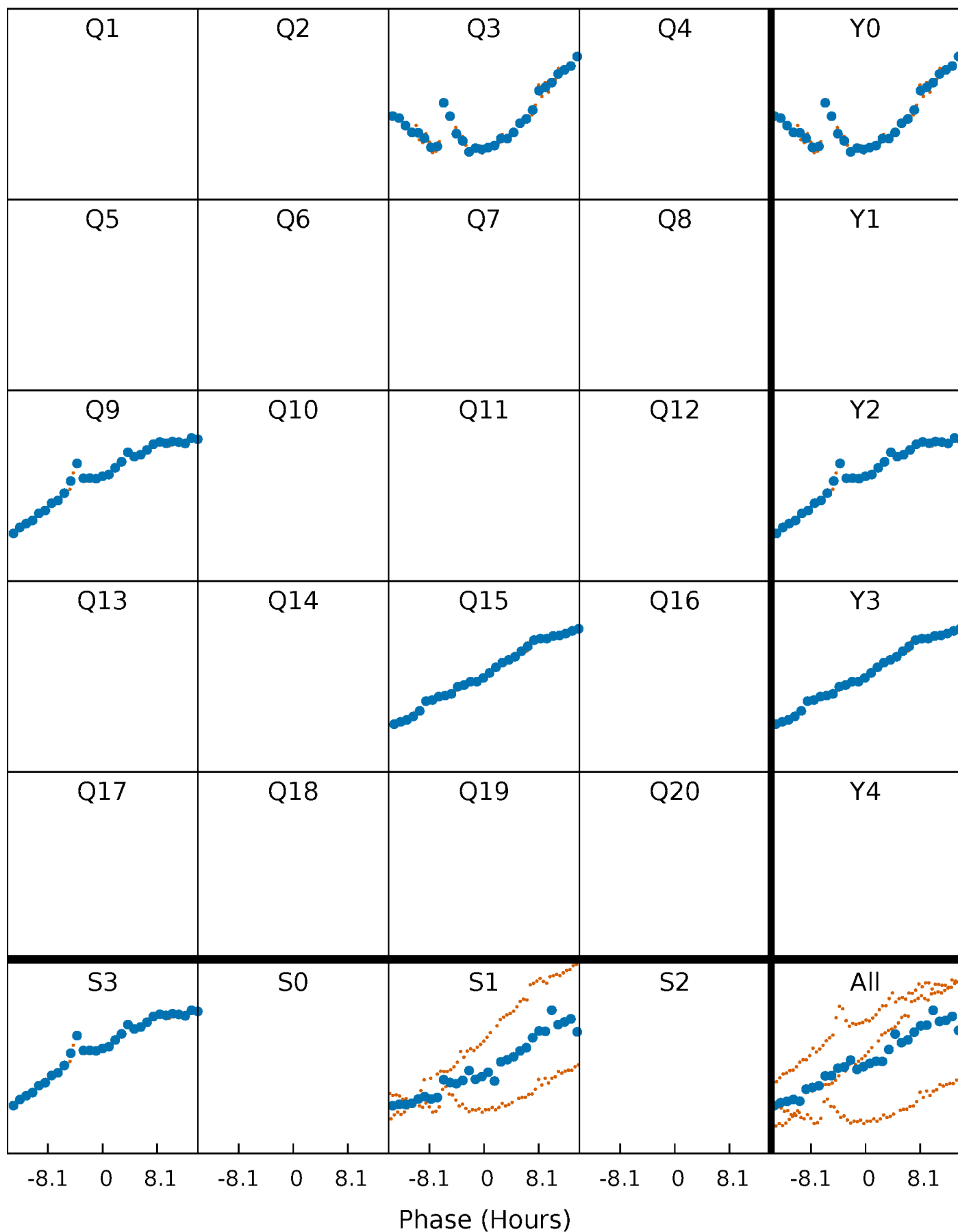


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



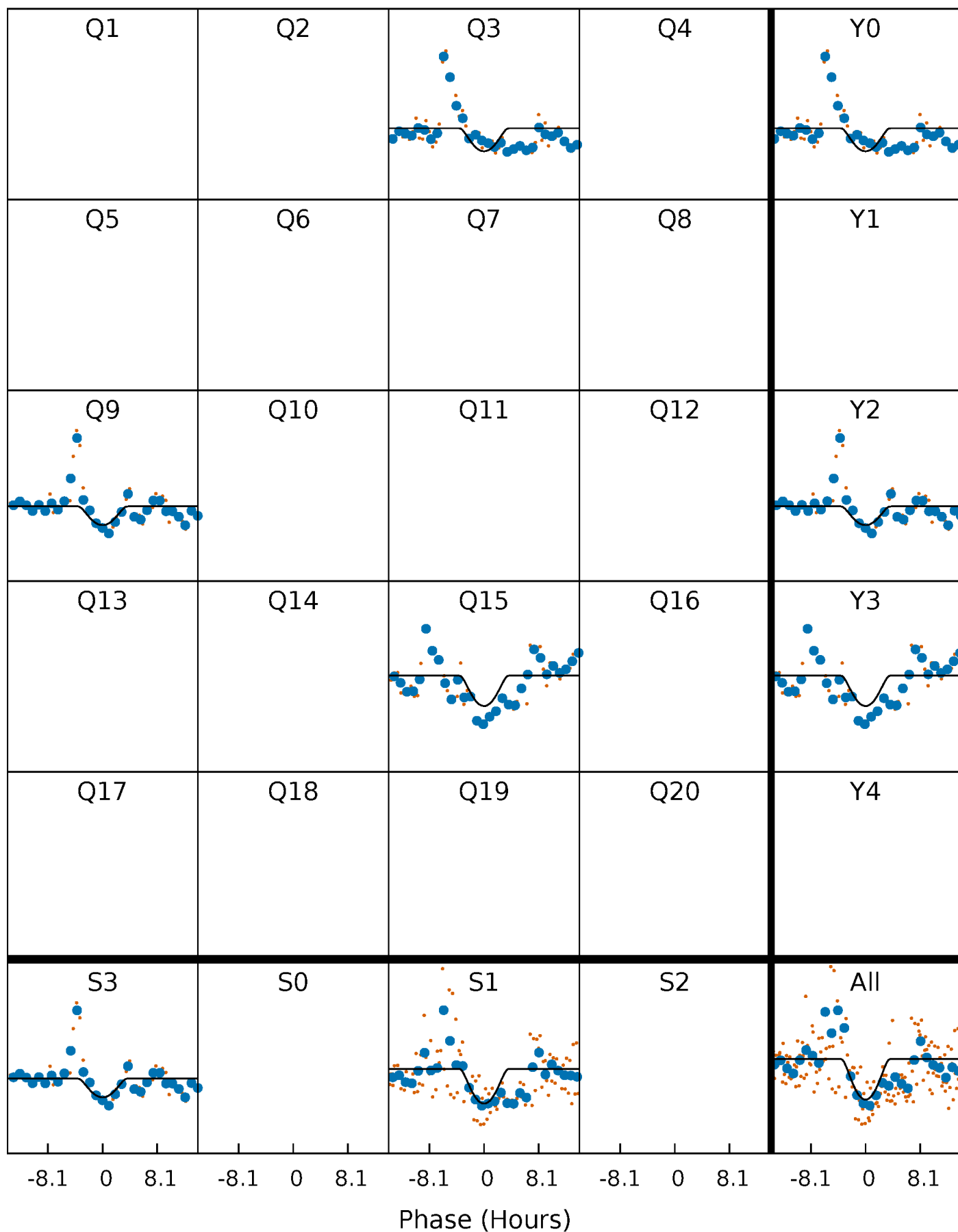
PDC Quarter-Phased Transit Curves

TCE 008572338-05 $P=546.482419$ Days $T_0=308.171104$ (BKJD)



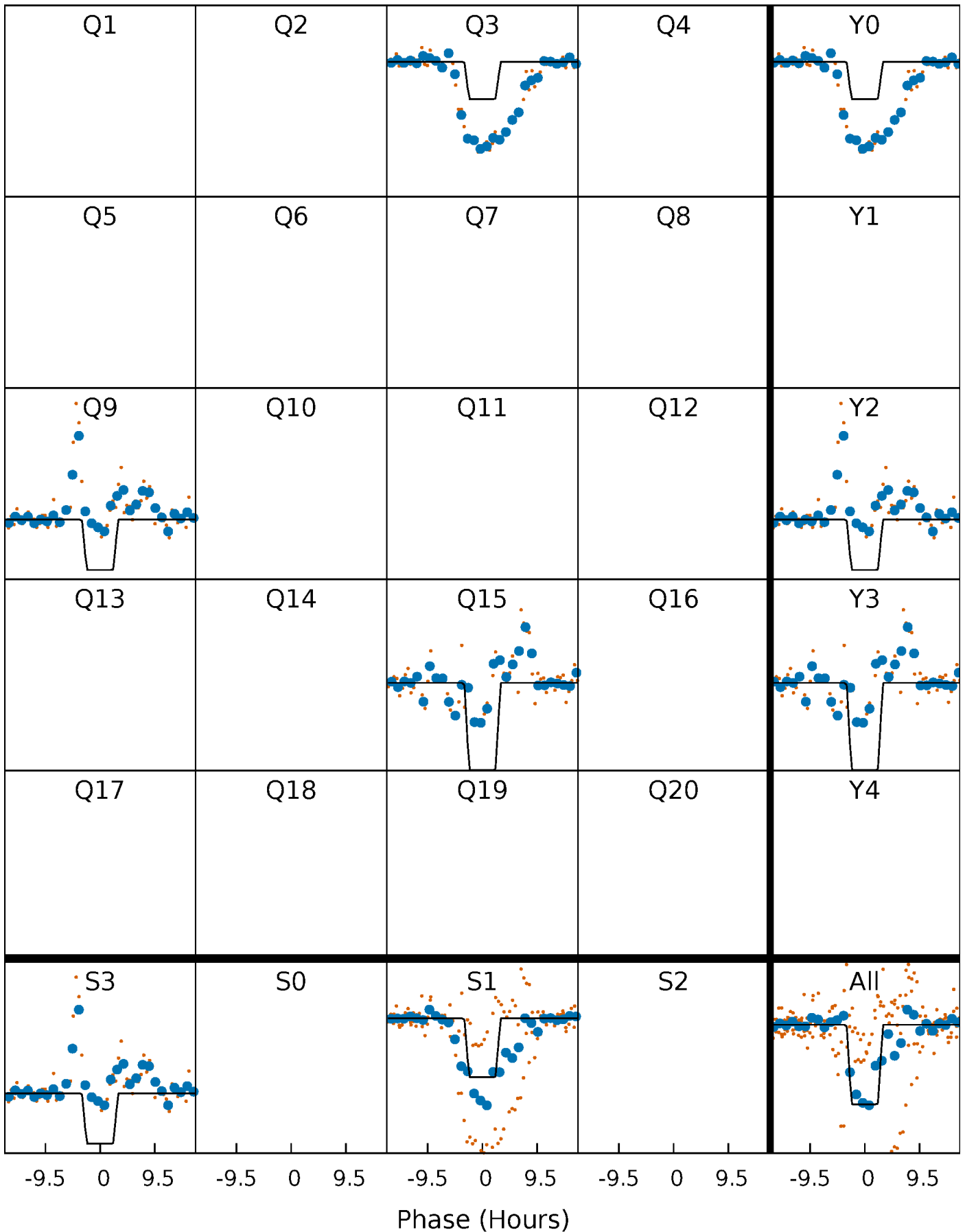
DV Quarter-Phased Transit Curves

TCE 008572338-05 $P=546.482419$ Days $T_0=308.171104$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

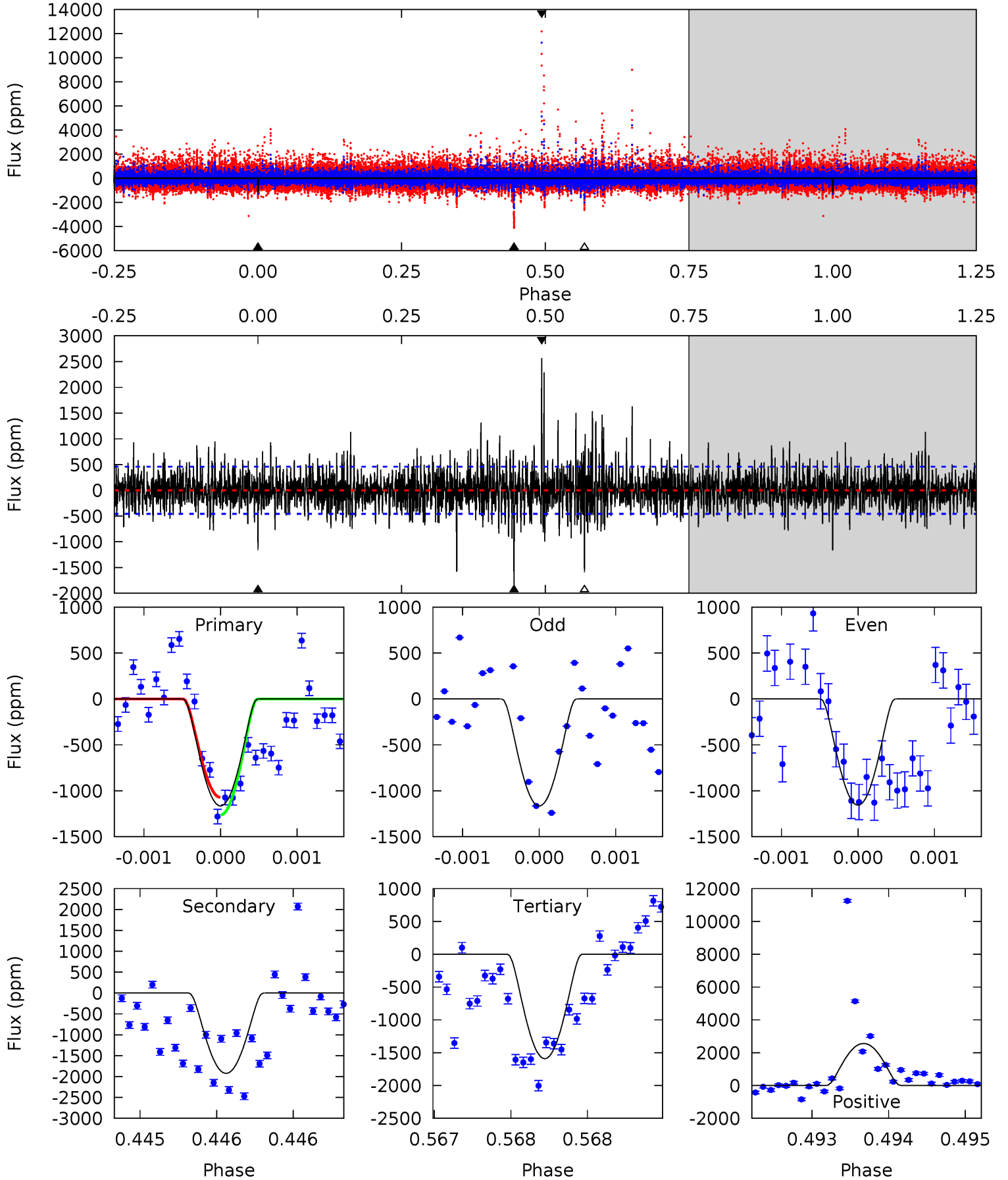
TCE 008572338-05 $P=546.475129$ Days $T_0=308.190651$ (BKJD)



DV Model-Shift Uniqueness Test

008572338-05, P = 546.482419 Days, E = 308.171104 Days

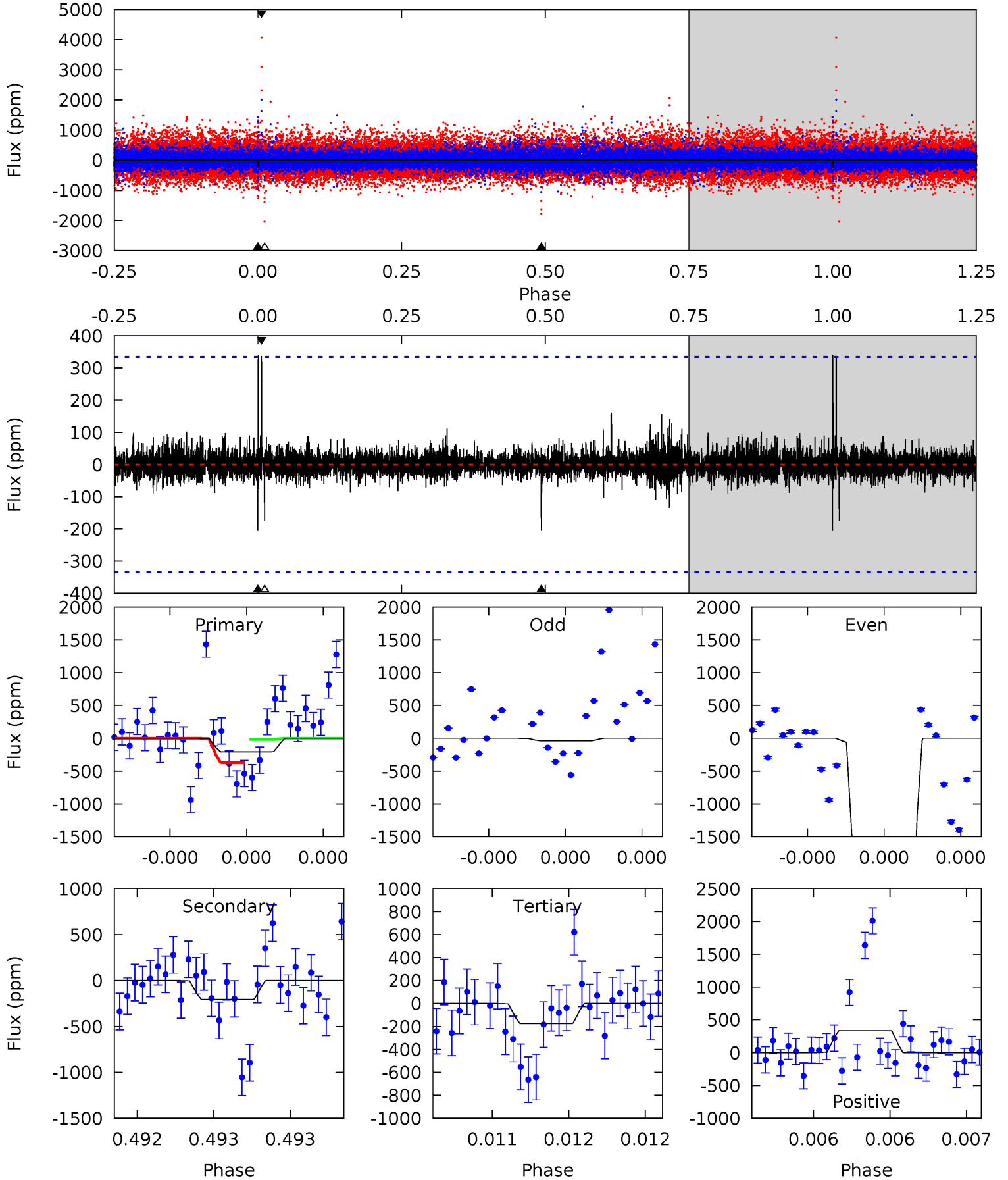
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	23.3	19.3	31.1	5.55	3.44	3.53	-5.16	-16.9	4.04	-7.73	0.02	1.01	0.57	1.17



Alt Model-Shift Uniqueness Test

008572338-05, P = 546.475129 Days, E = 308.190651 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.44	3.44	2.93	5.62	5.58	3.49	0.40	0.51	-2.18	0.51	-2.18	23.3	4.01	0.62	2.95



Stellar Parameters For KIC 008572338

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4857^{+146}_{-146}	$4.750^{+0.030}_{-0.027}$	$-1.700^{+0.300}_{-0.200}$	$0.516^{+0.026}_{-0.023}$	$0.547^{+0.030}_{-0.022}$	$5.593^{+0.685}_{-0.611}$
	+3%/-3%	+1%/-1%	+18%/-12%	+5%/-4%	+5%/-4%	+12%/-11%
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 008572338-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1924 ± 82	$6.09^{+5.79}_{-4.18}$	208^{+7}_{-7}	3518^{+1997}_{-631}	$33011^{+303840}_{-24416}$
Alt.	-206 ± 60	$6.19^{+5.39}_{-4.28}$	208^{+7}_{-6}	2550^{+1039}_{-379}	3419^{+32957}_{-2564}

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 $A_{obs} \gg 1.0$

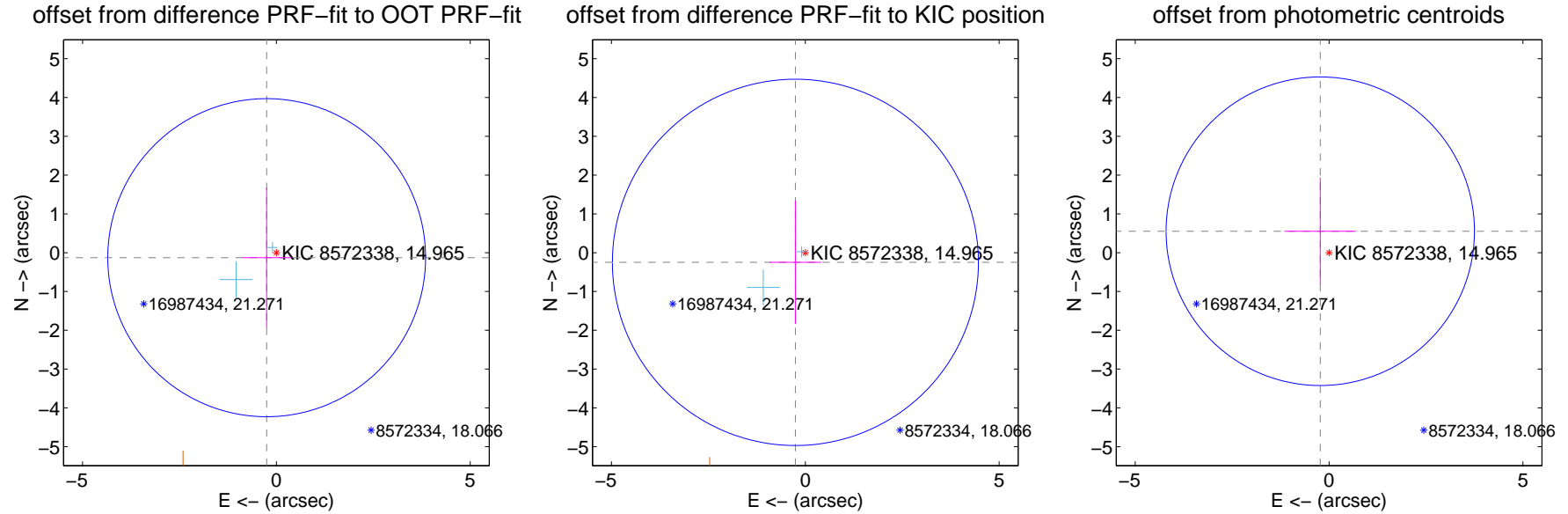
DV Centroid Data

Supplemental centroid analysis for 008572338-05. Kepler magnitude: 14.96. Transit SNR 5.85

There are 2 quarters with good PRF difference image offsets

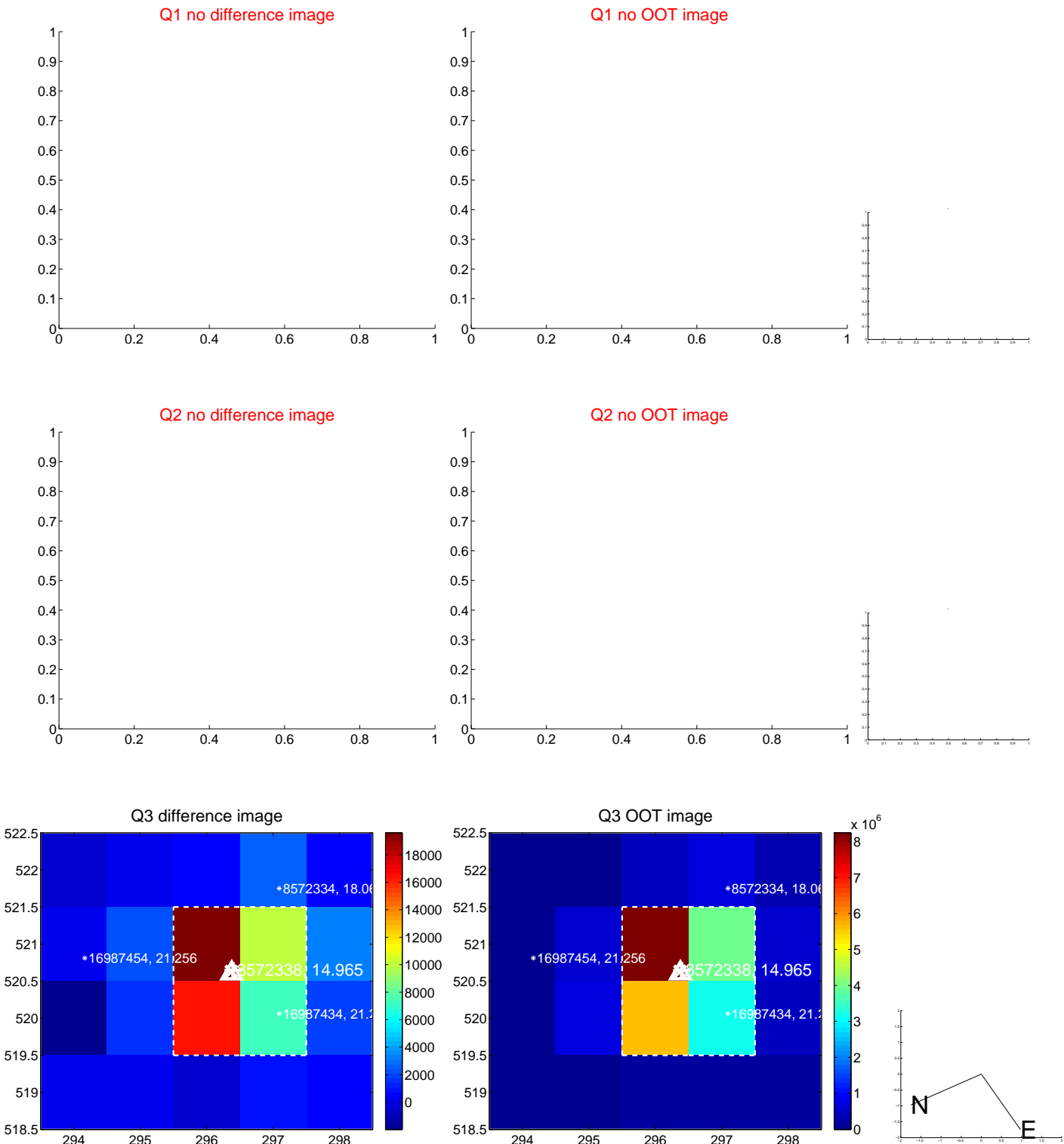
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.282 ± 1.367	0.21	0.251 ± 0.638	-0.129 ± 1.812
PRF-fit source offset from KIC position	0.357 ± 1.574	0.23	0.255 ± 0.663	-0.249 ± 1.588
photometric centroid source offset	0.60 ± 1.33	0.45	0.23 ± 0.92	0.55 ± 1.38



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.

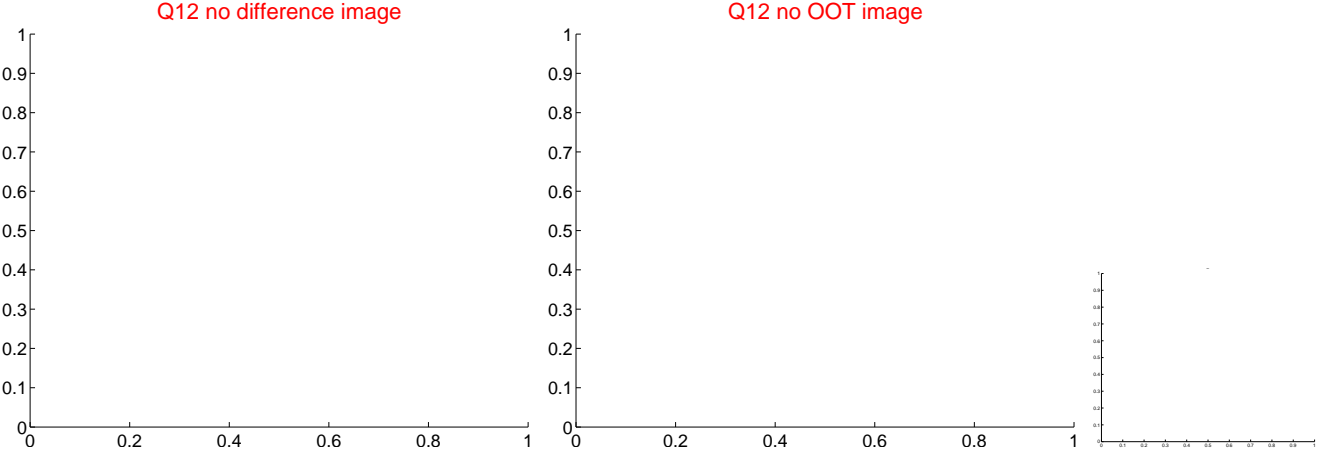
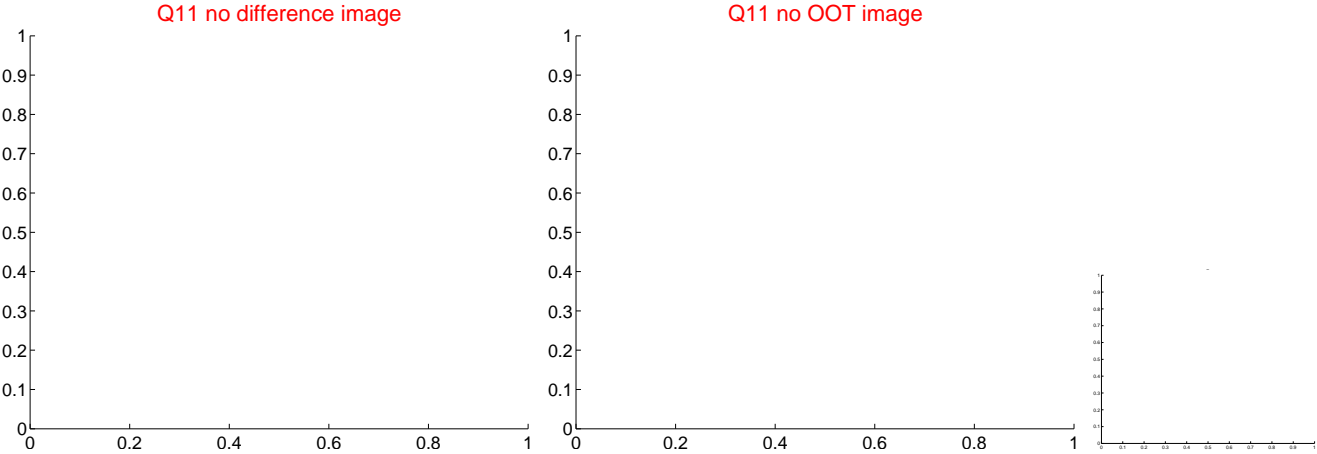
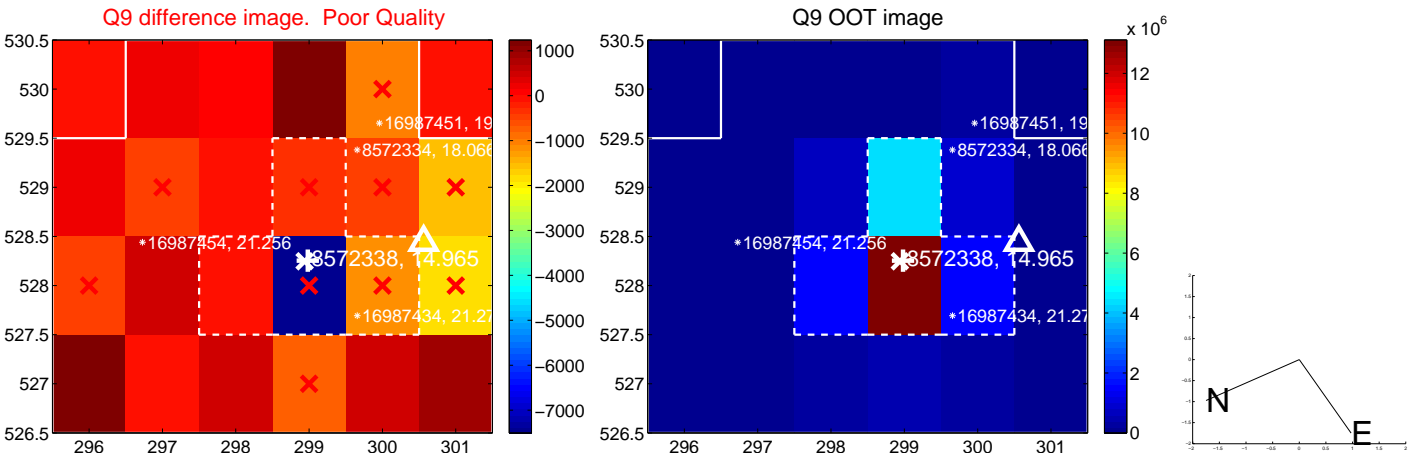
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



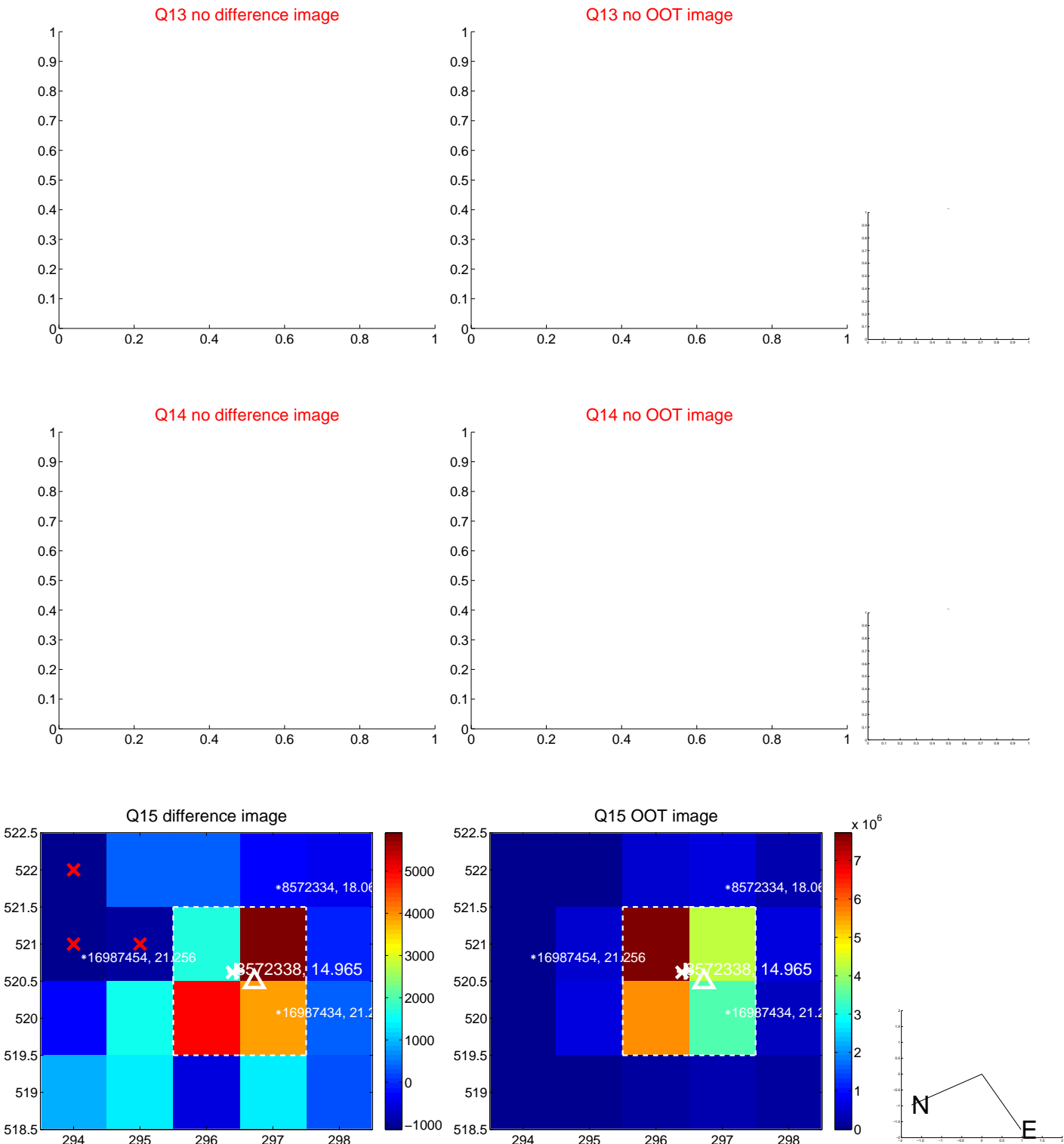
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



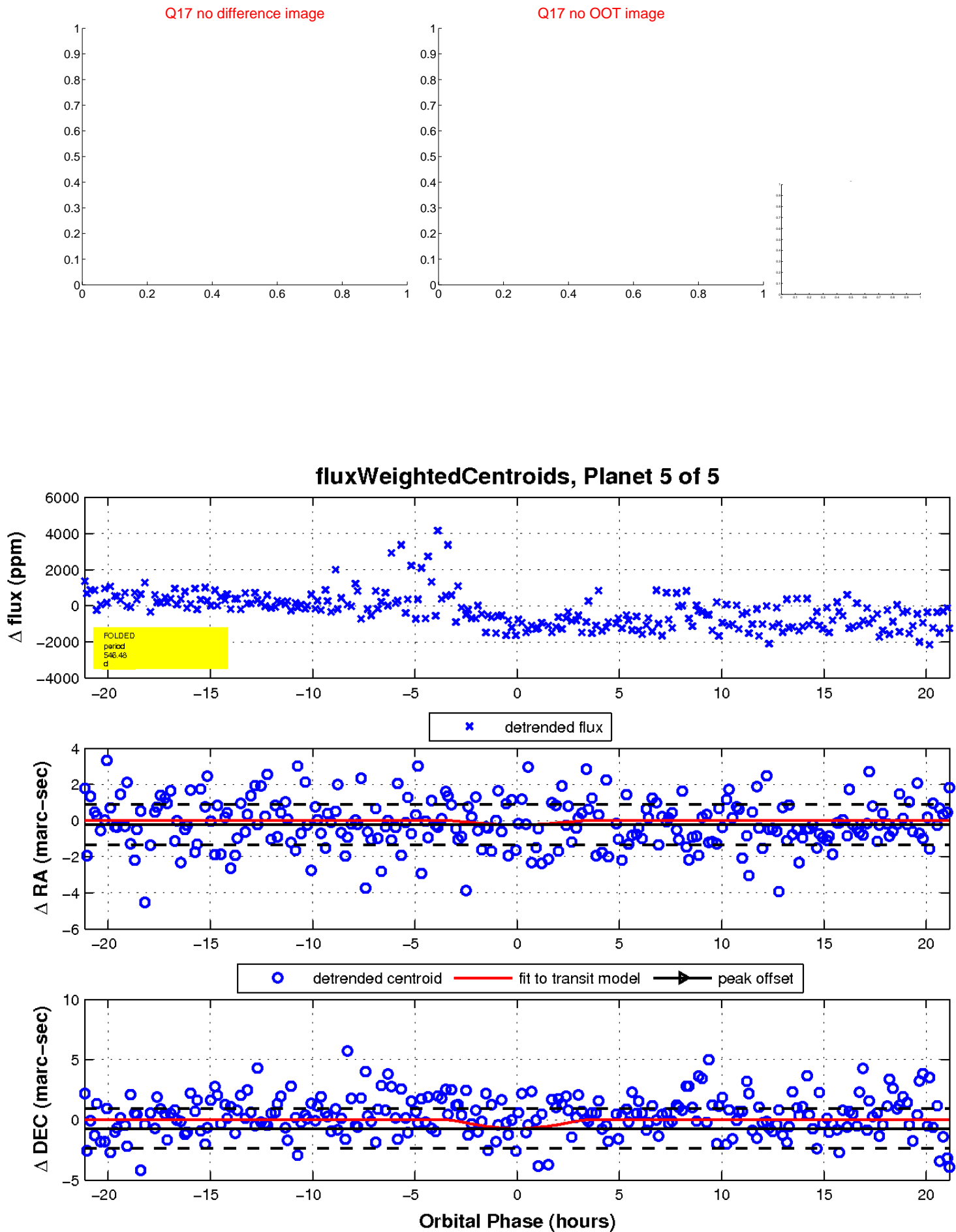
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

