

KIC 008308911

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})
008308911-01	OBS	No	369.680100	233.744992	884.5	12.021	8.3	7.6	0.74	5711	2.29	0.59
008308911-03	OBS	No	560.485336	235.425116	813.0	19.078	8.7	7.3	0.74	5711	2.19	0.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008308911-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
008308911-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_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.

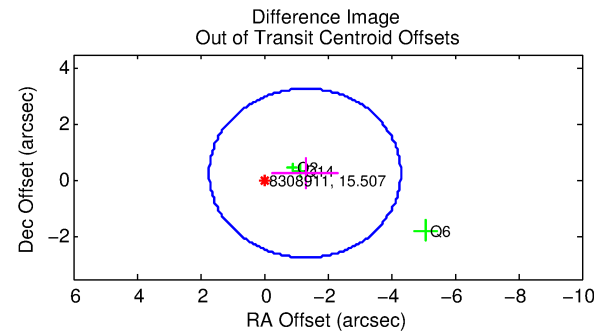
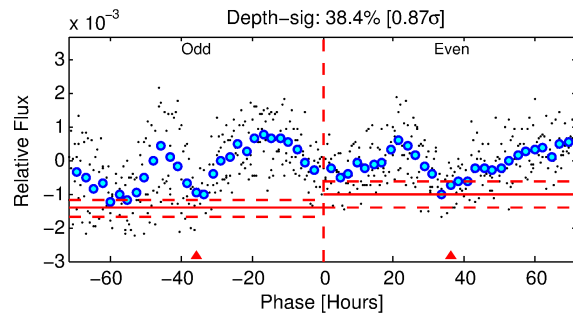
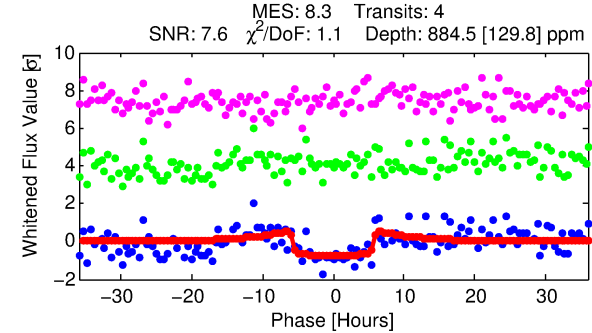
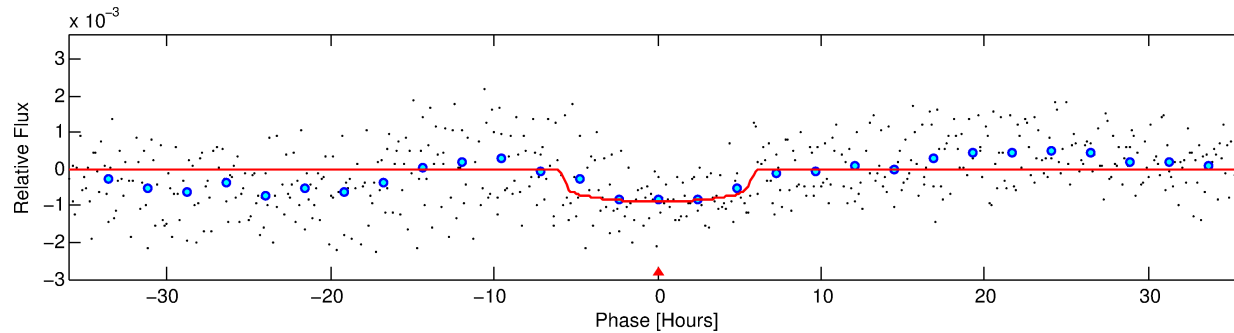
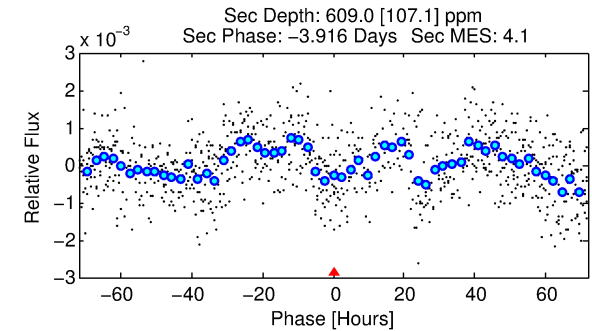
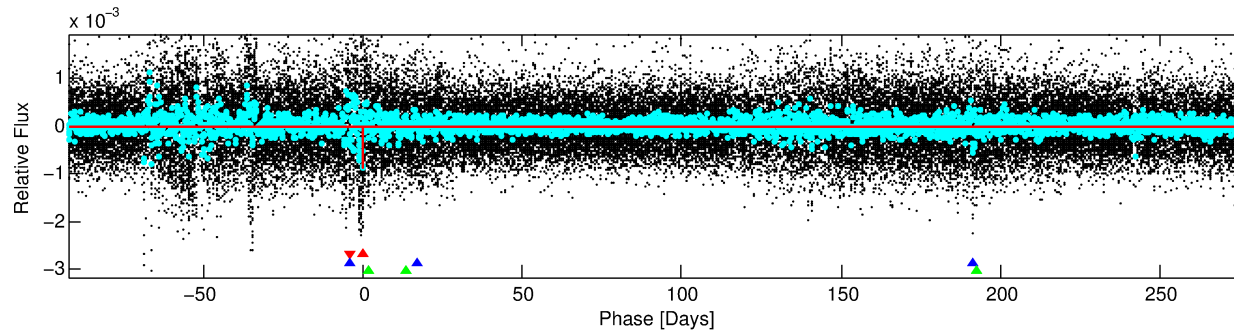
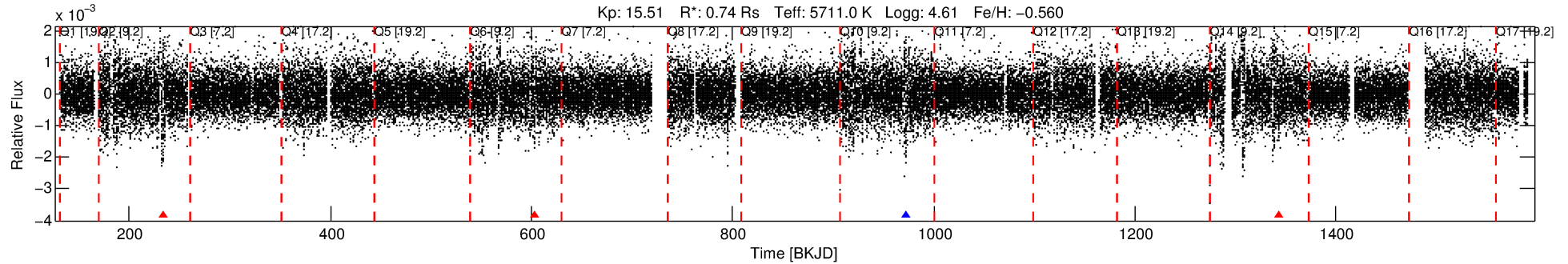
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008308911-01

No Significant Match Found

DV One-Page Summary

KIC: 8308911 Candidate: 1 of 3 Period: 369.680 d



DV Fit Results:

Period = 369.68010 [0.00767] d
Epoch = 233.7450 [0.0147] BKJD
Rp/R* = 0.0281 [0.0126]
a/R* = 204.85 [418.54]
b = 0.54 [2.65]
Seff = 0.60 [0.18]
Teq = 224 [17] K
Rp = 2.29 [1.15] Re
a = 0.9427 [0.1794] AU
Ag = 56860.01 [54146.14] [1.05σ]
Teffp = 5348 [1229] K [4.17σ]

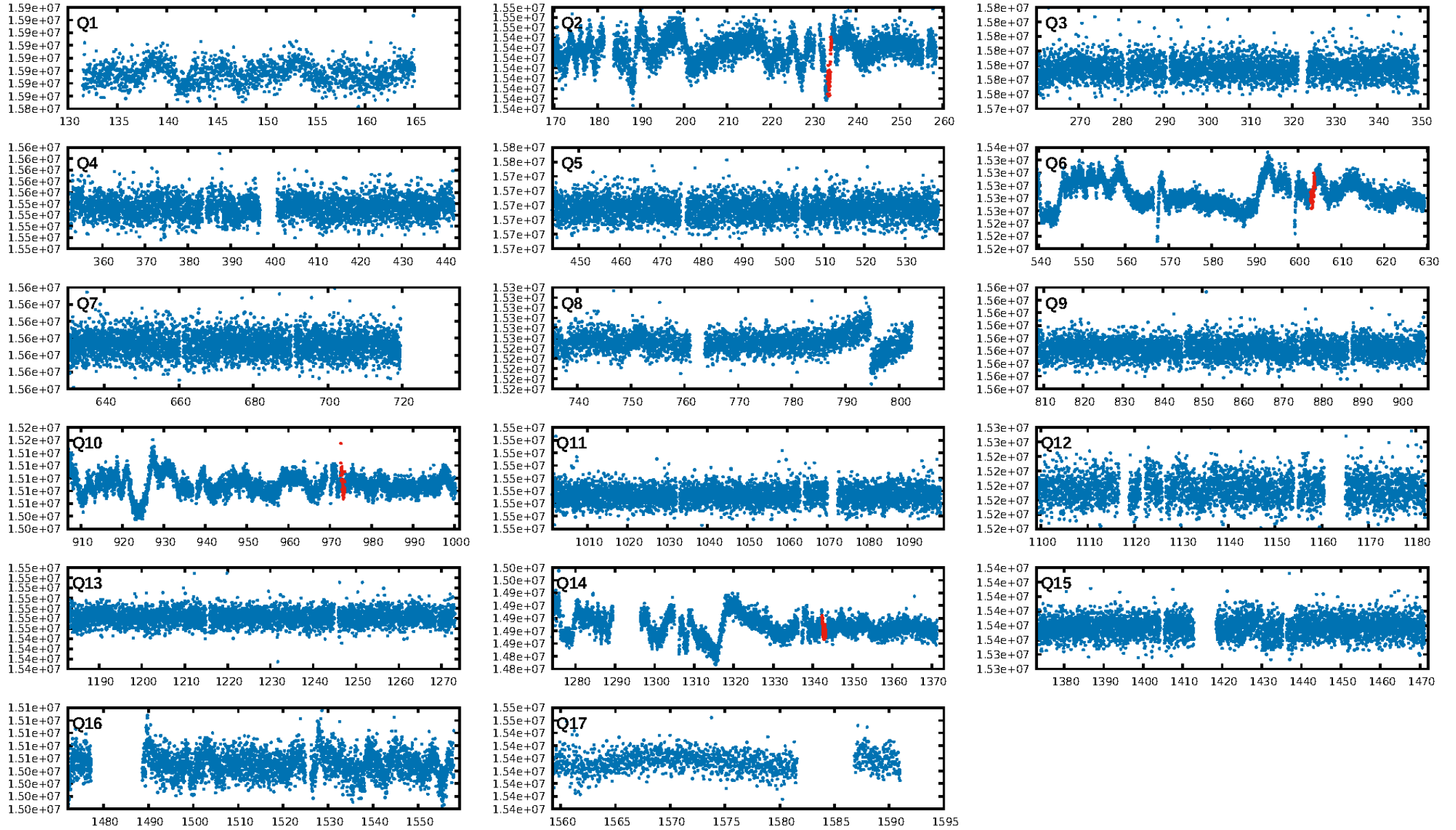
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [253.31σ]
ModelChiSquare2-sig: 14.9%
ModelChiSquareGof-sig: 96.3%
Bootstrap-pfa: 5.28e-11
RollingBand-fgt: 0.25 [1/4]
GhostDiagnostic-chr: 1.732
Centroid-sig: 69.9%
Centroid-so: 1.904 arcsec [0.71σ]
OotOffset-rm: 1.323 arcsec [1.32σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-rm: 1.500 arcsec [1.49σ]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [4/4]

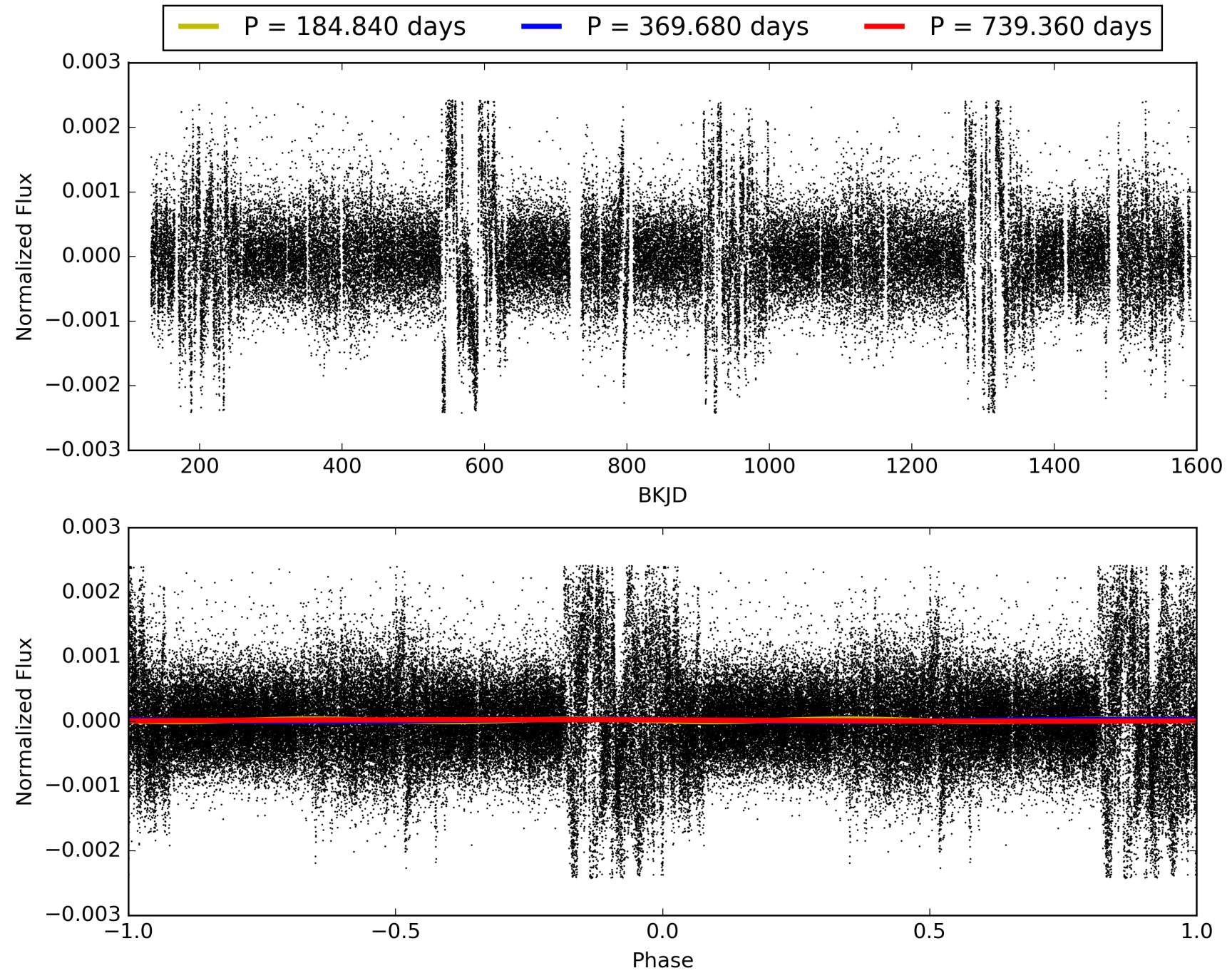
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:14:42 Z

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

TCE 008308911-01, PDC Light Curves

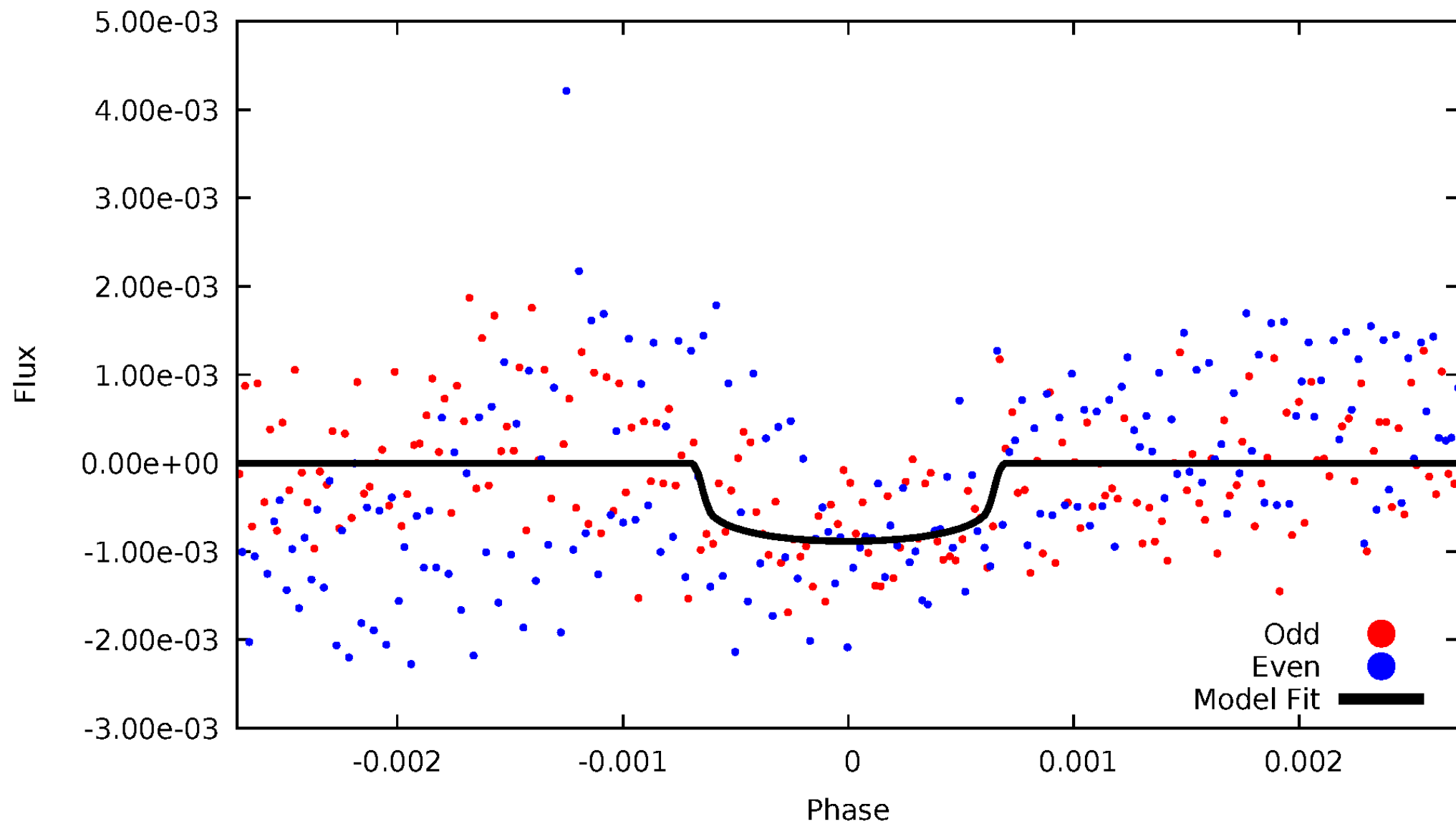


TCE 008308911-01



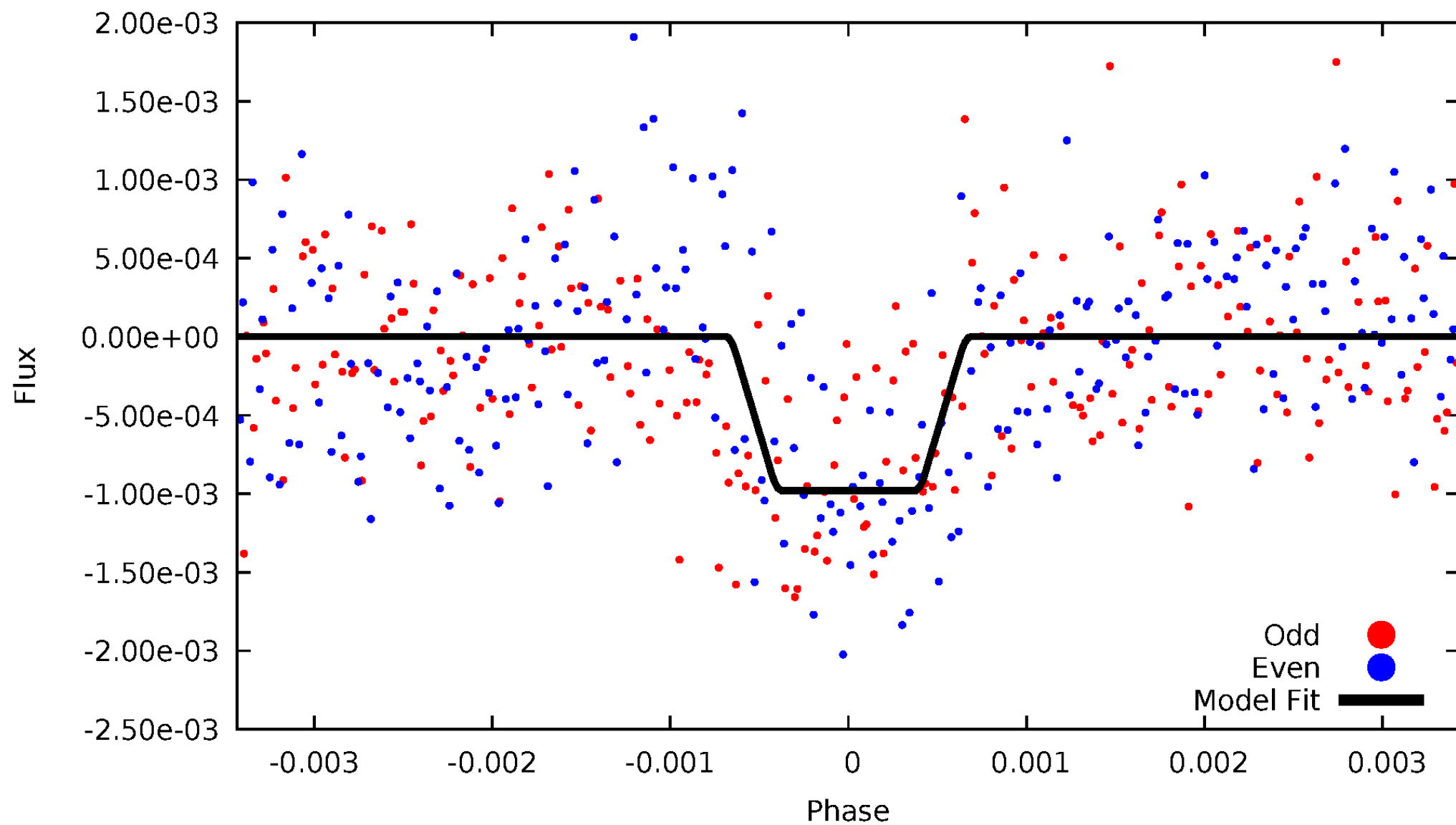
DV Odd/Even

TCE 008308911-01



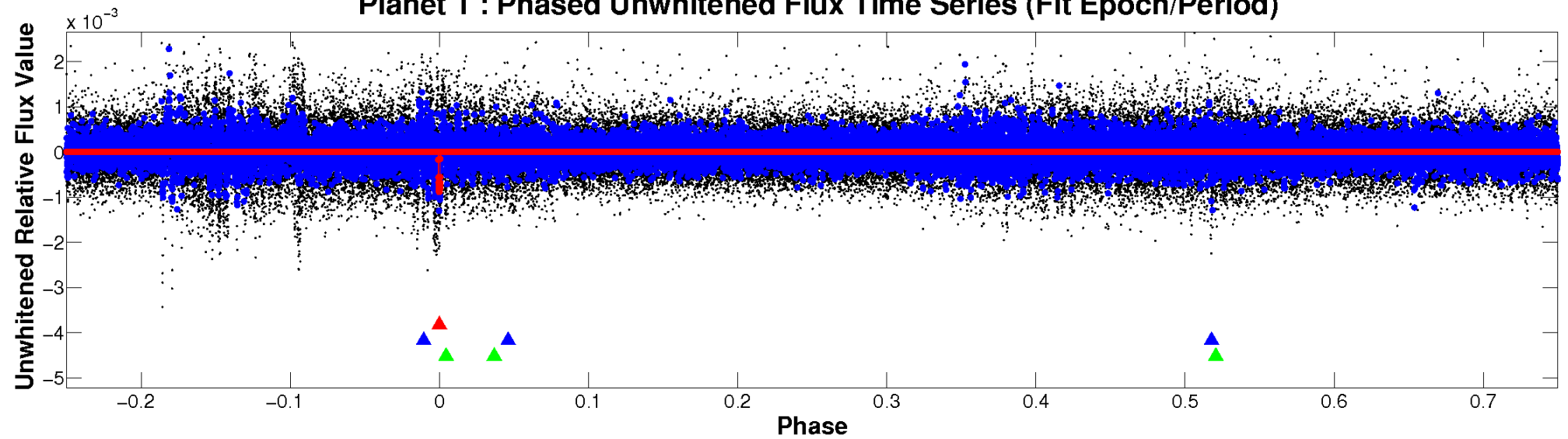
ALT Odd/Even

TCE 008308911-01

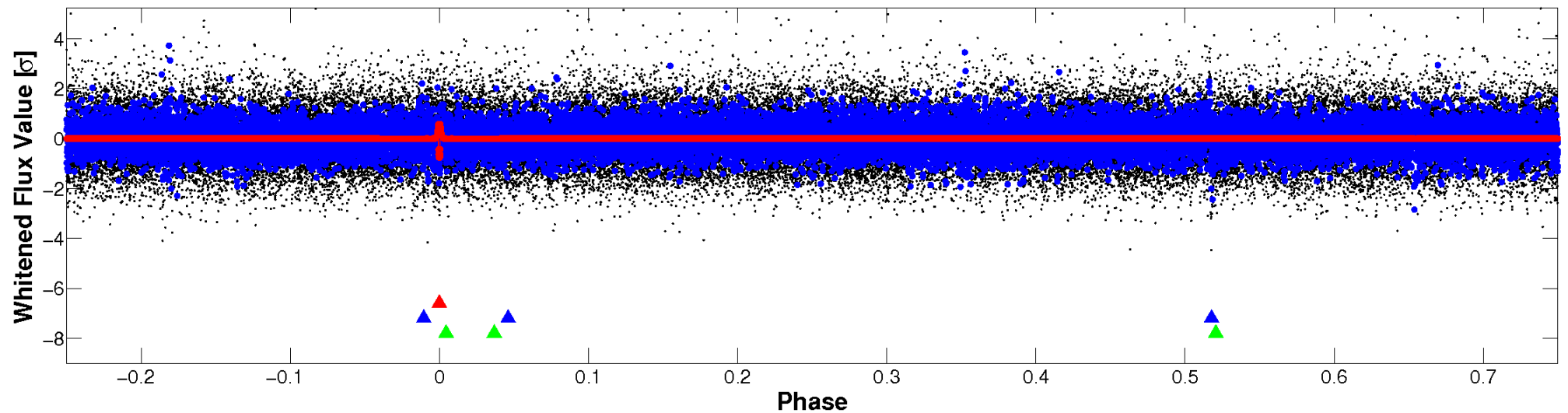


Non-Whitened Vs. Whitened Light Curve

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

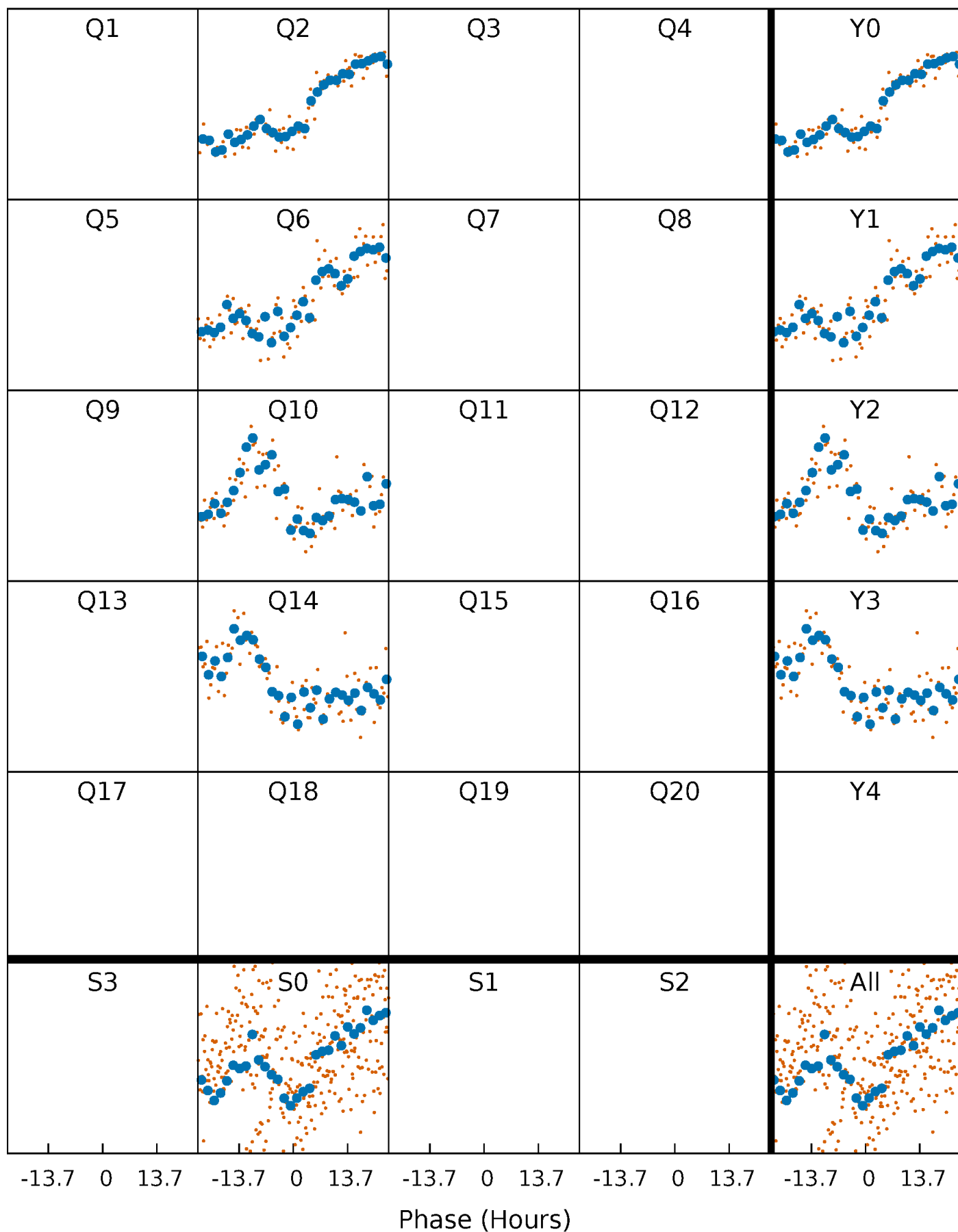


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



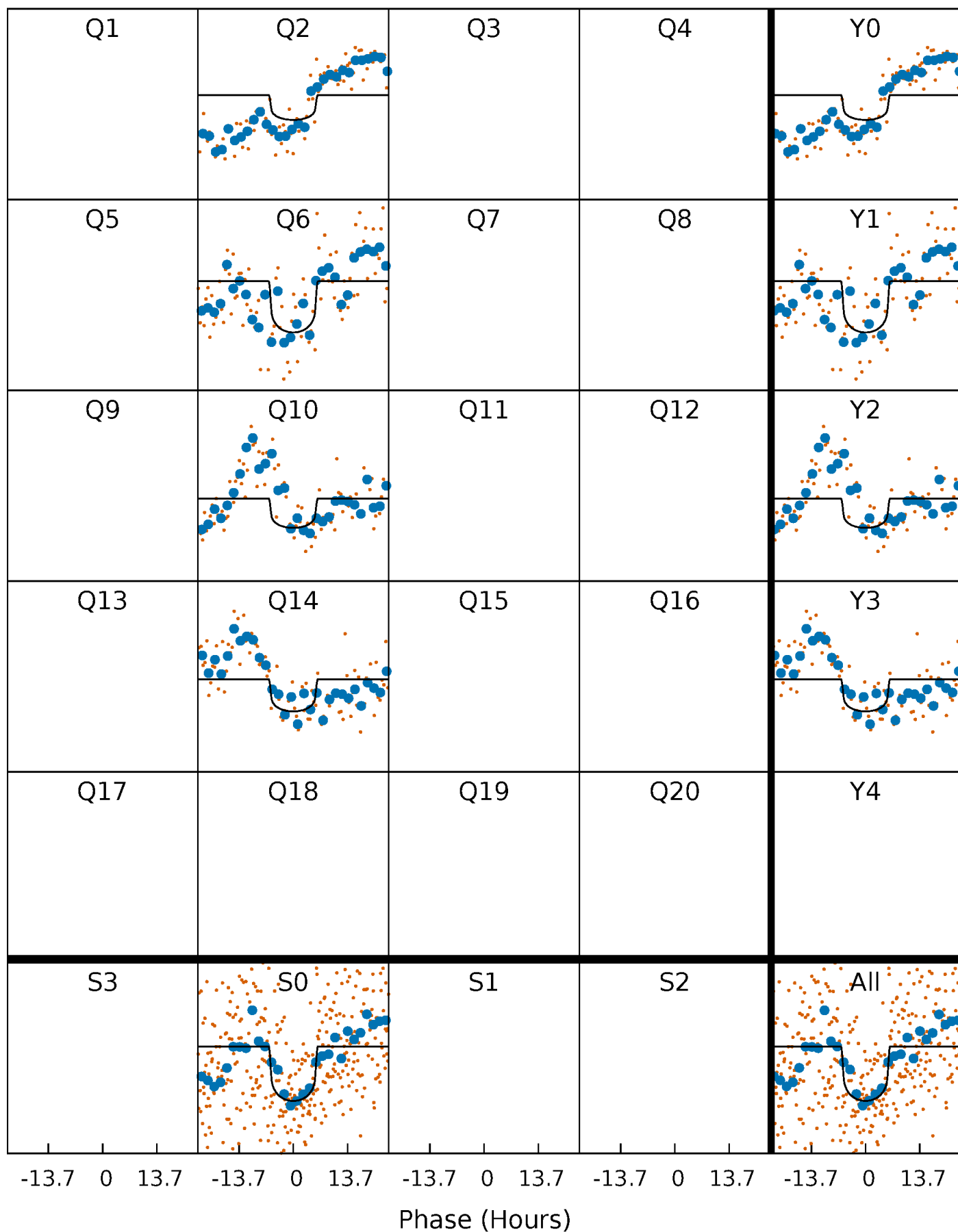
PDC Quarter-Phased Transit Curves

TCE 008308911-01 P=369.680100 Days $T_0=233.744992$ (BKJD)



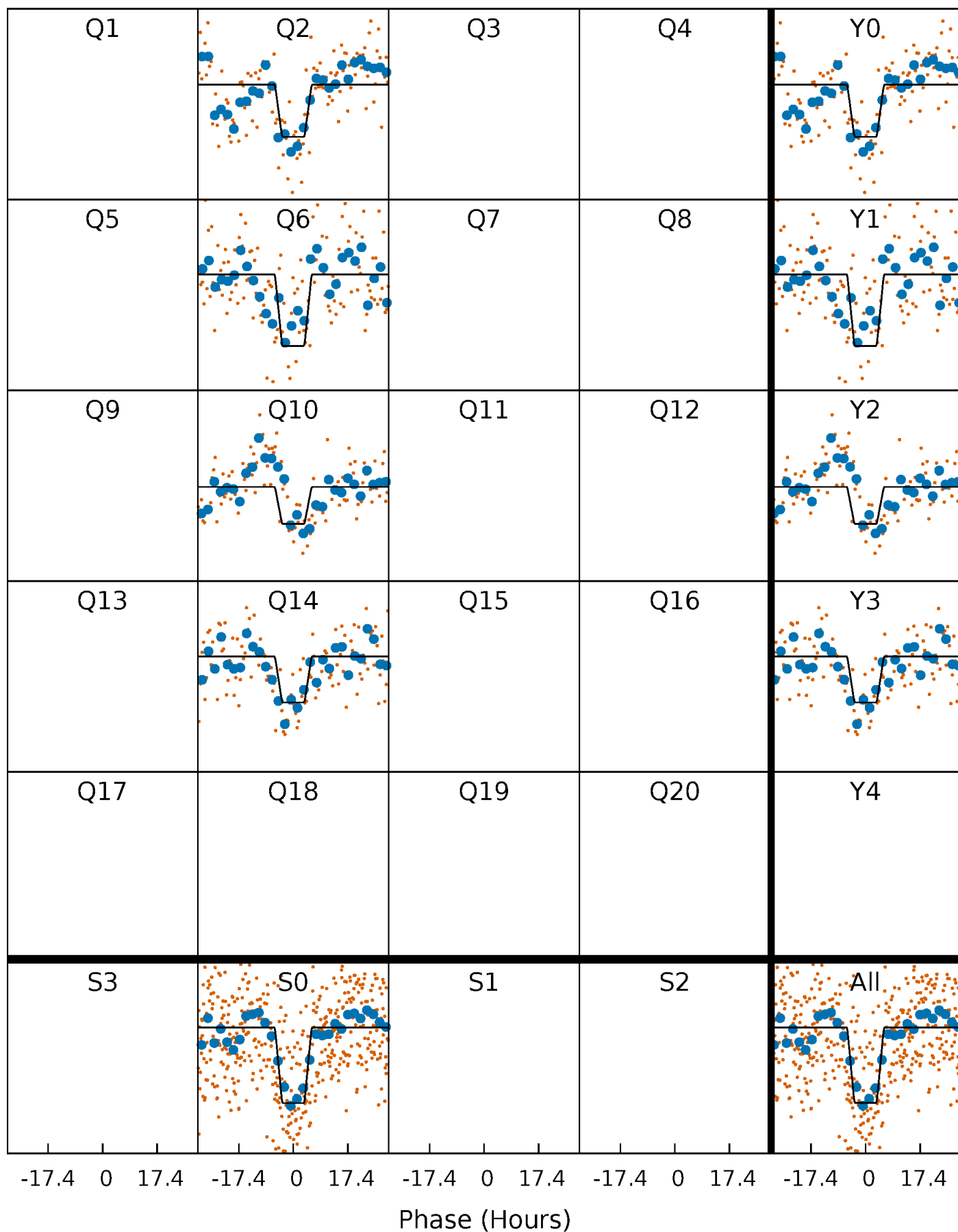
DV Quarter-Phased Transit Curves

TCE 008308911-01 P=369.680100 Days $T_0=233.744992$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

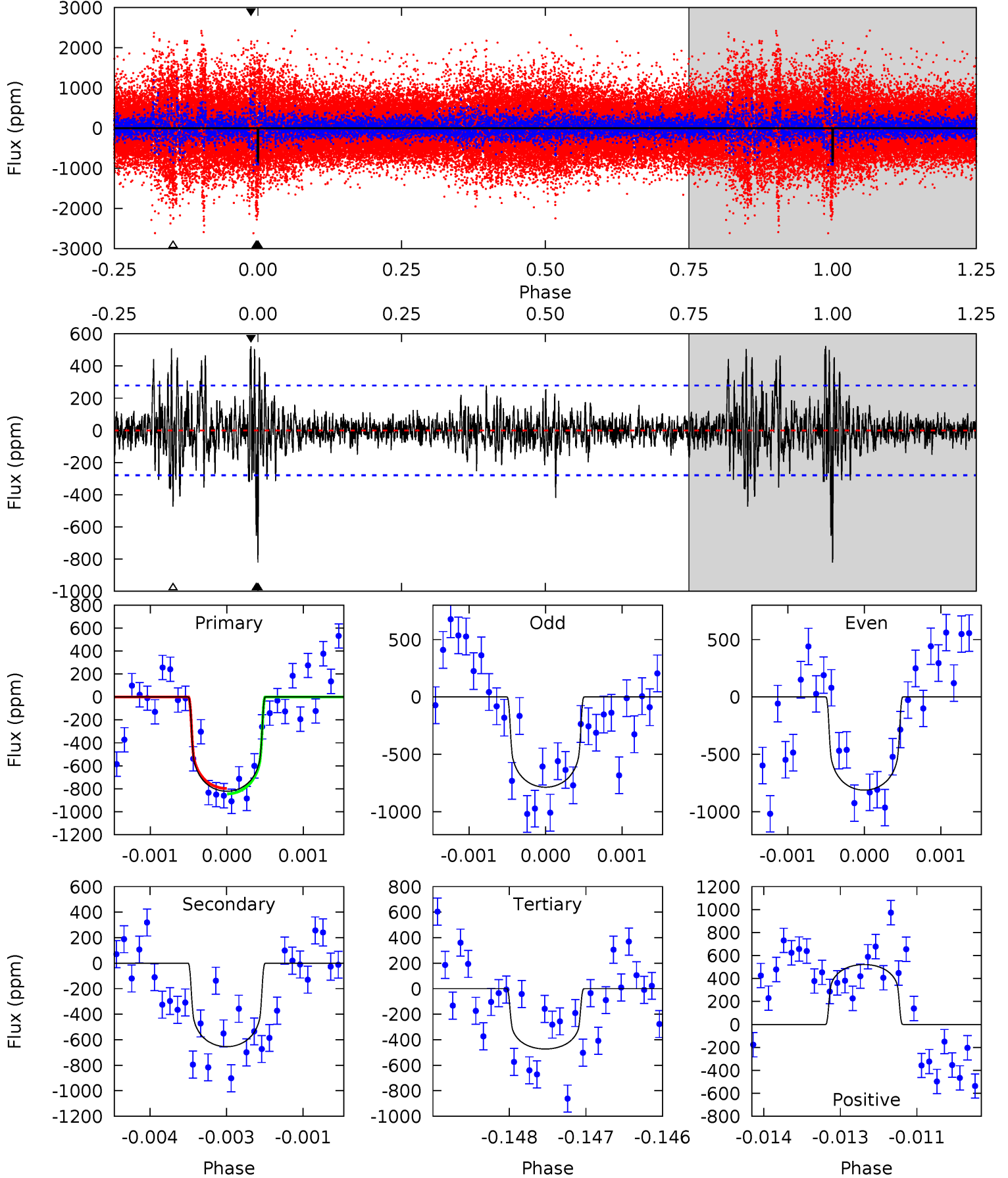
TCE 008308911-01 P=369.677156 Days $T_0=233.754388$ (BKJD)



DV Model-Shift Uniqueness Test

008308911-01, P = 369.680100 Days, E = 233.744992 Days

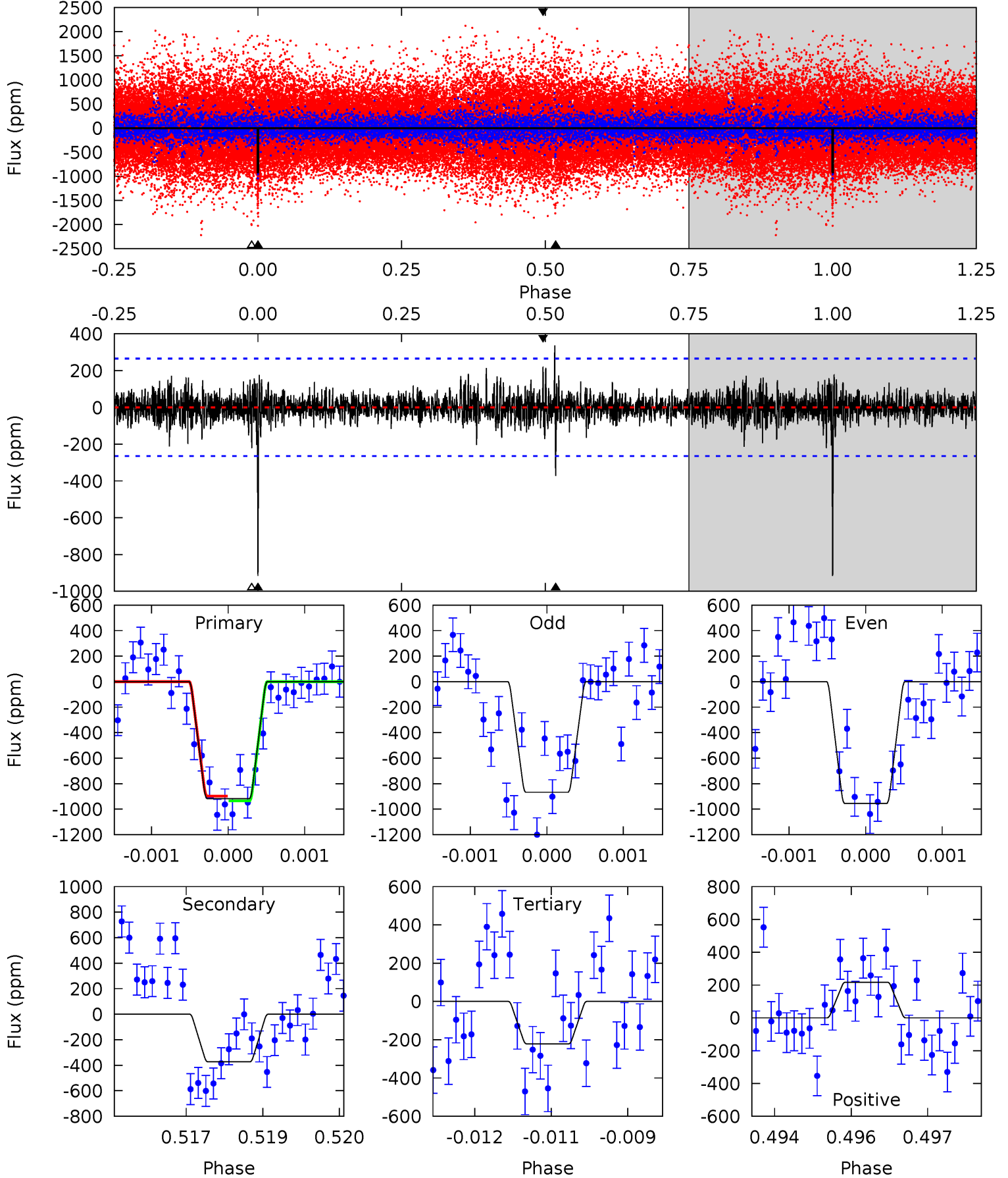
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.9	12.7	9.14	10.1	5.39	3.19	1.86	6.74	5.80	3.52	2.57	0.25	1.02	0.39	0.45



Alt Model-Shift Uniqueness Test

008308911-01, P = 369.677156 Days, E = 233.754388 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	7.60	4.51	4.43	5.40	3.21	1.04	14.2	14.2	3.09	3.17	0.89	1.01	0.27	0.38



Stellar Parameters For KIC 008308911

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5711^{+173}_{-173}	$4.606^{+0.038}_{-0.152}$	$-0.560^{+0.300}_{-0.300}$	$0.745^{+0.168}_{-0.056}$	$0.823^{+0.079}_{-0.079}$	$2.802^{+0.520}_{-1.115}$
	+3%/-3%	+1%/-3%	+54%/-54%	+23%/-8%	+10%/-10%	+19%/-40%
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 008308911-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-654 ± 52	$2.41^{+1.12}_{-1.10}$	319^{+18}_{-13}	5468^{+1957}_{-827}	$54287^{+121597}_{-29502}$
Alt.	-373 ± 49	$2.59^{+1.13}_{-1.14}$	319^{+17}_{-14}	4658^{+1320}_{-565}	26135^{+59406}_{-13113}

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 $A_{obs} \gg 1.0$

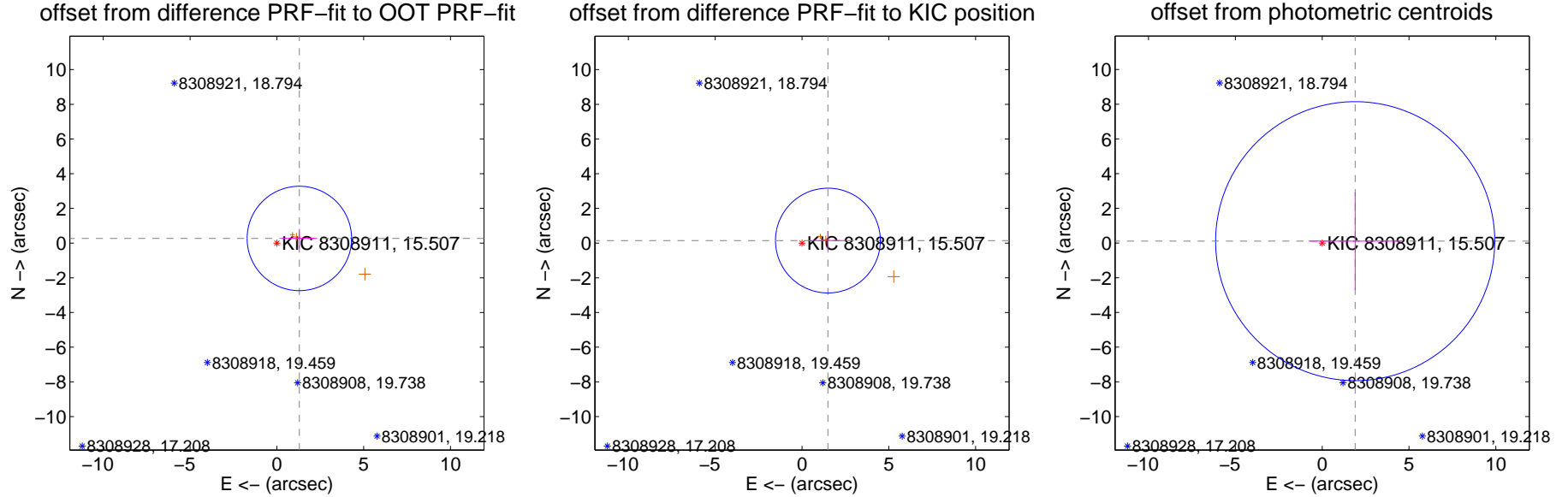
DV Centroid Data

Supplemental centroid analysis for 008308911-01. Kepler magnitude: 15.51. Transit SNR 7.65

There are 0 quarters with good PRF difference image offsets

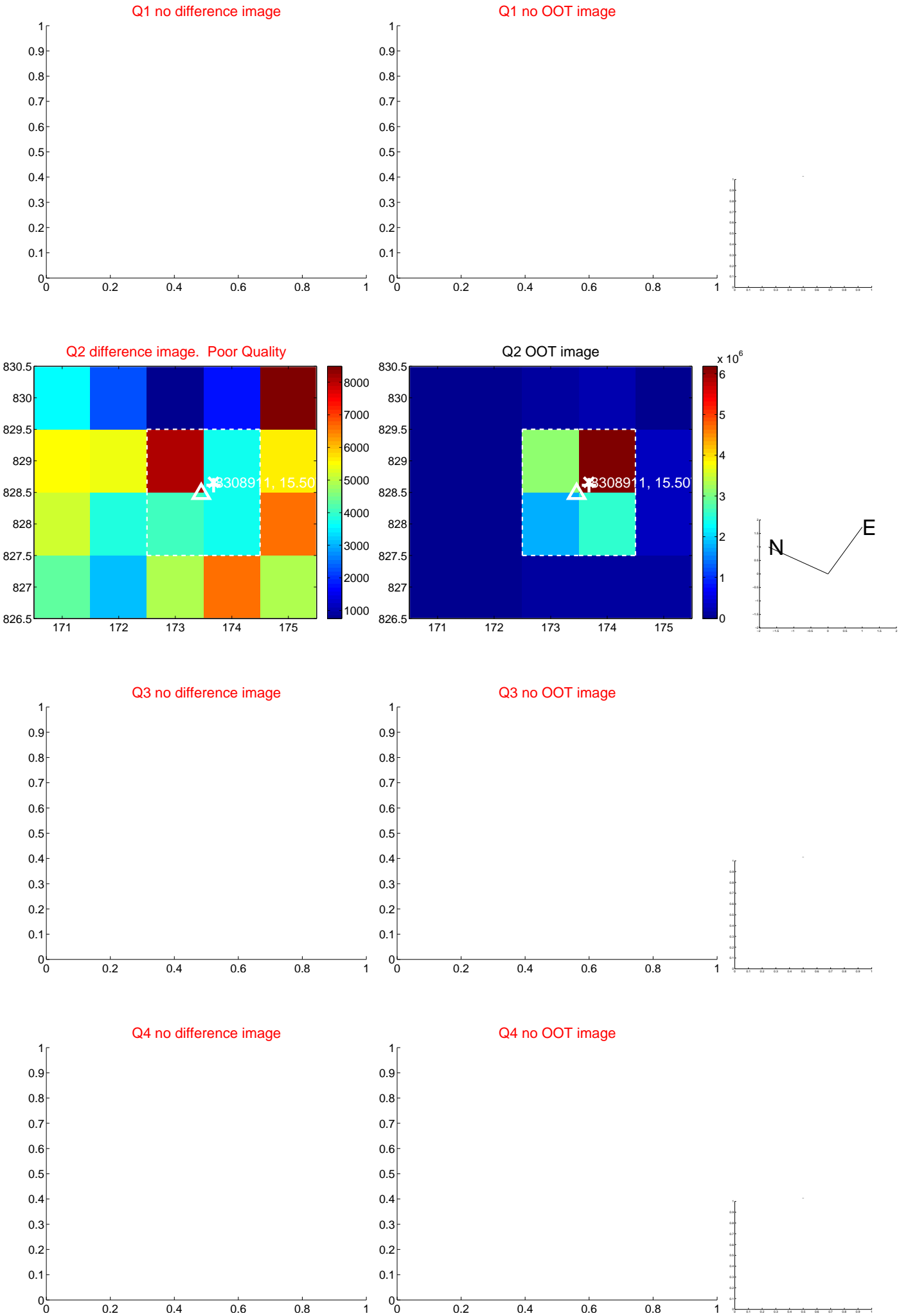
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.323 ± 1.003	1.32	-1.296 ± 1.018	0.268 ± 0.550
PRF-fit source offset from KIC position	1.500 ± 1.007	1.49	-1.493 ± 1.010	0.145 ± 0.549
photometric centroid source offset	1.90 ± 2.68	0.71	-1.90 ± 2.68	0.11 ± 2.82

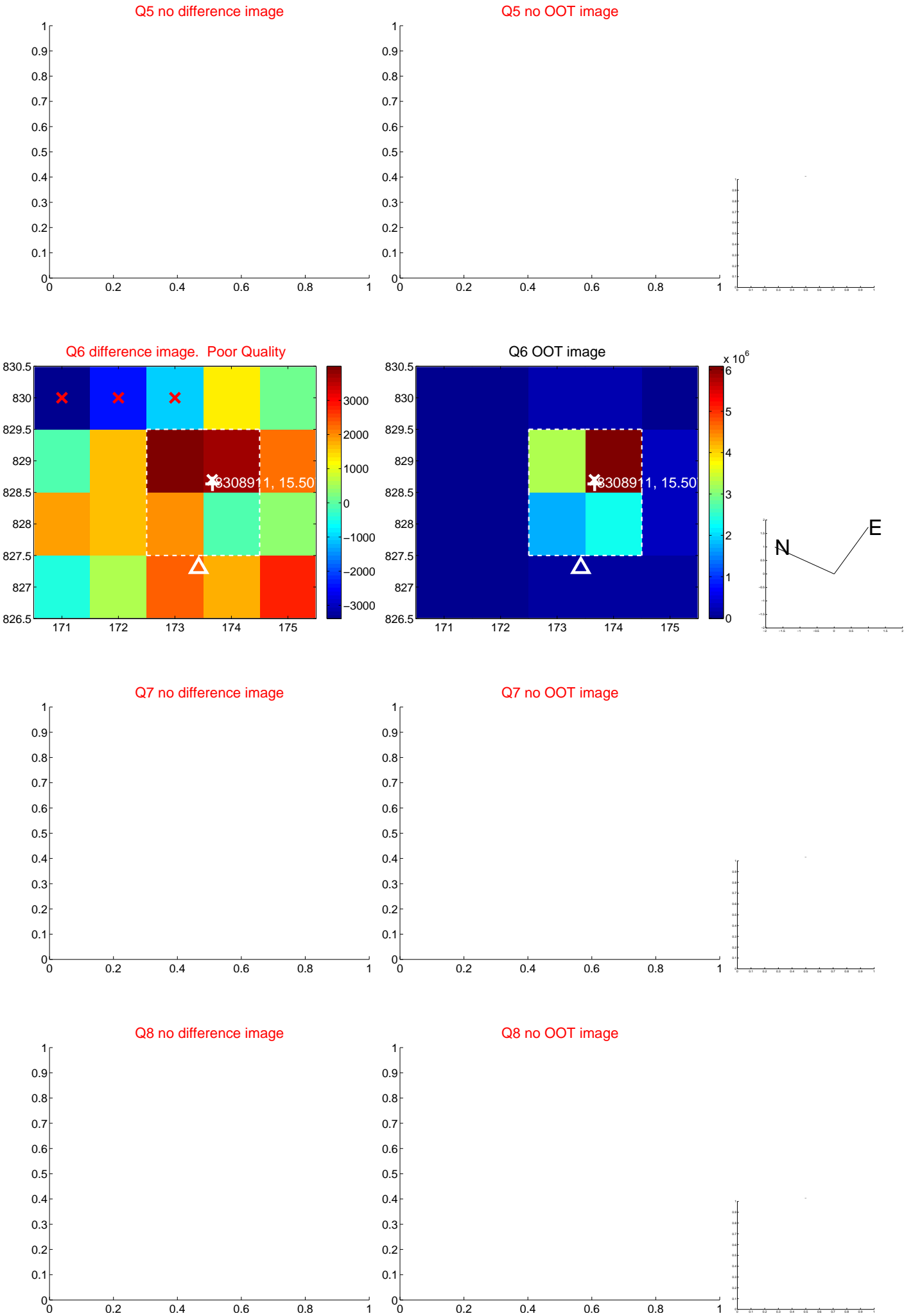


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

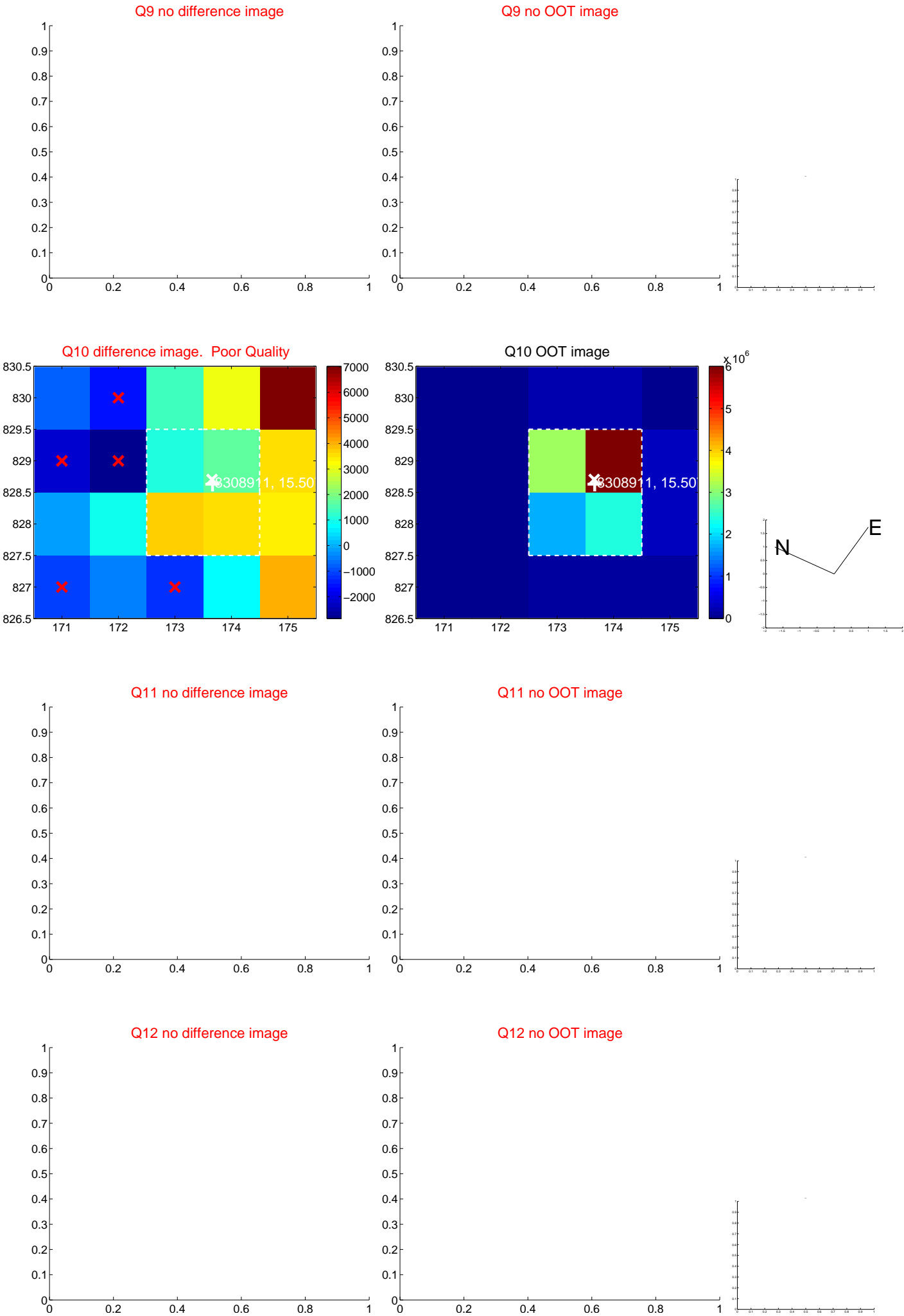
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



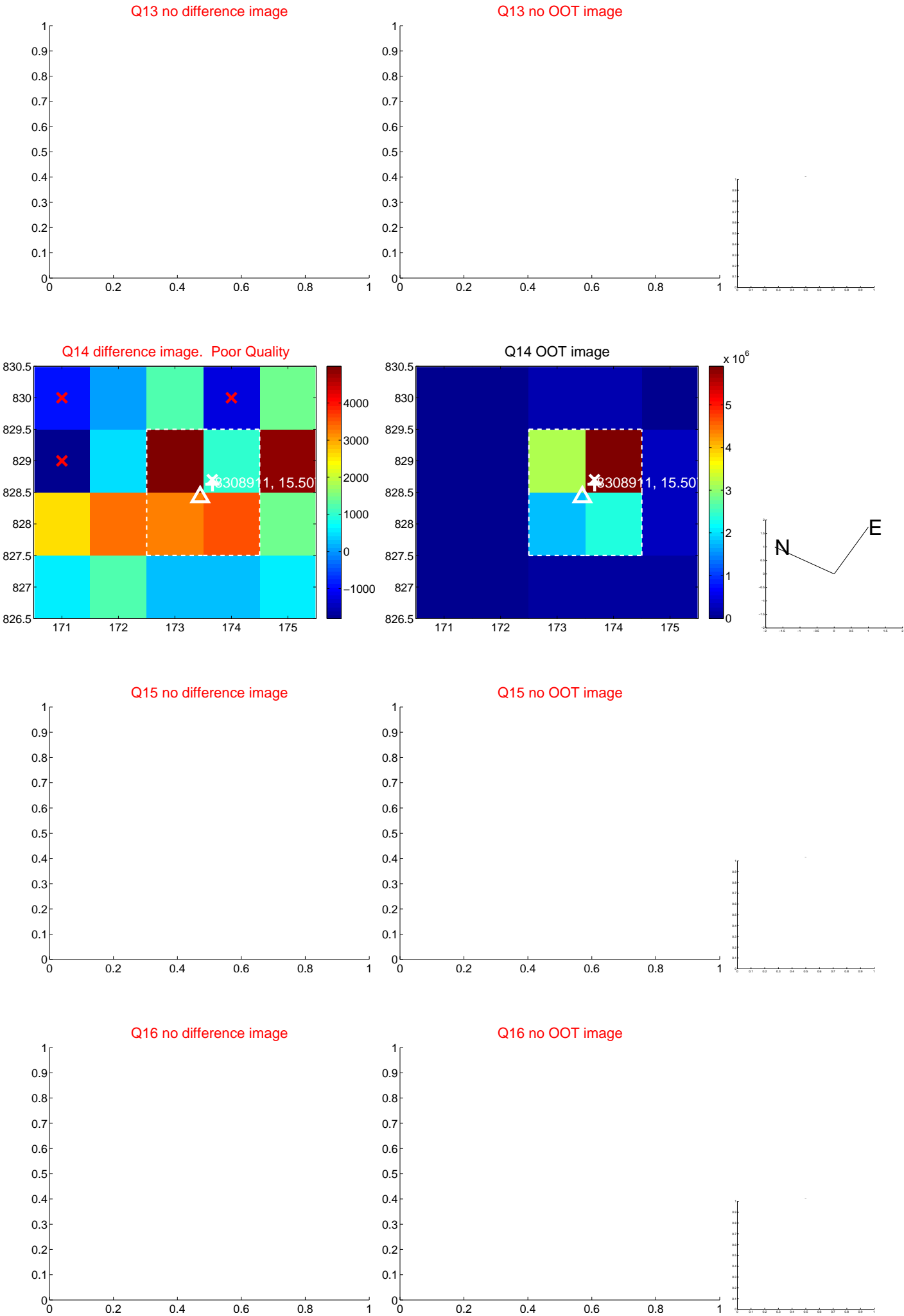
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



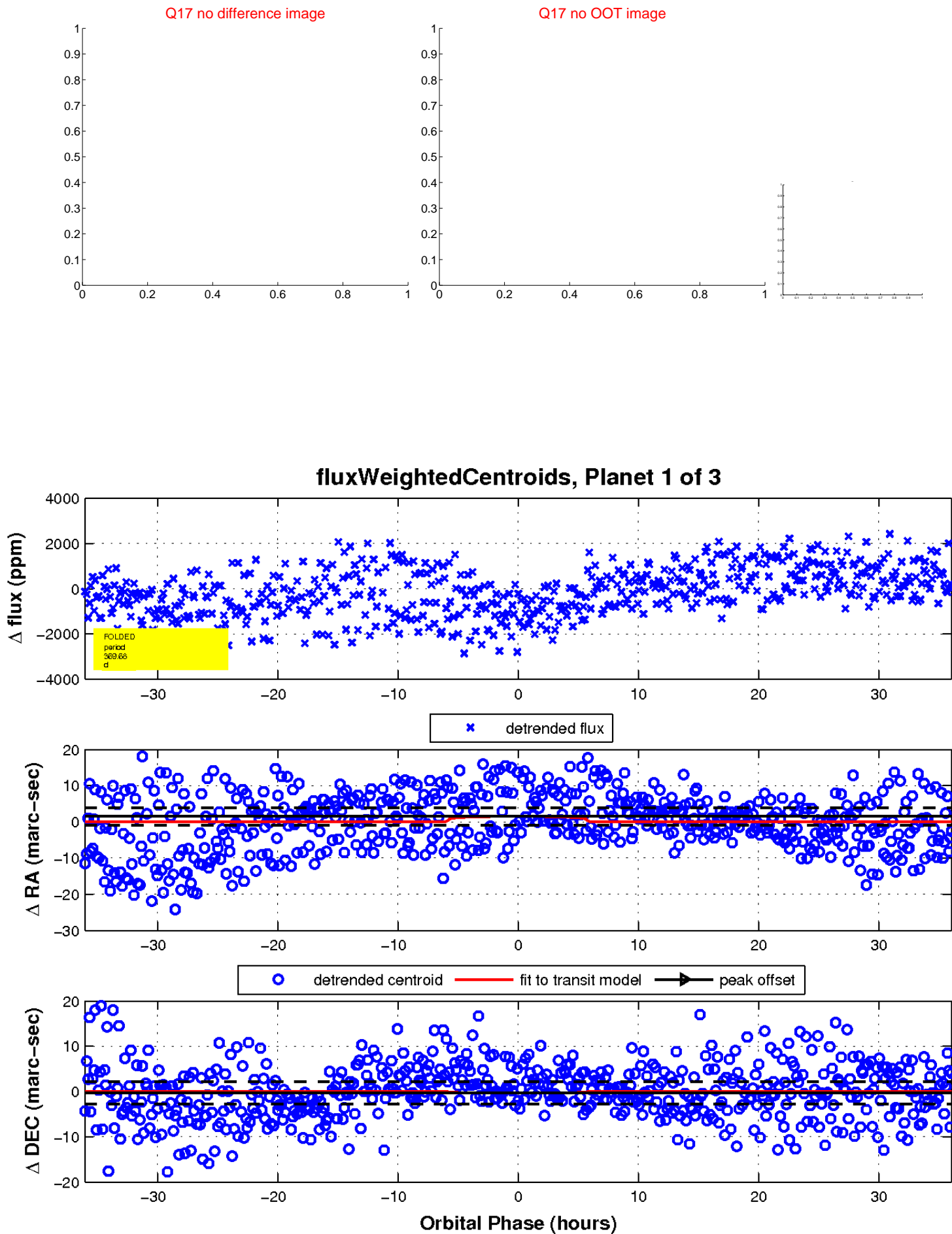
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

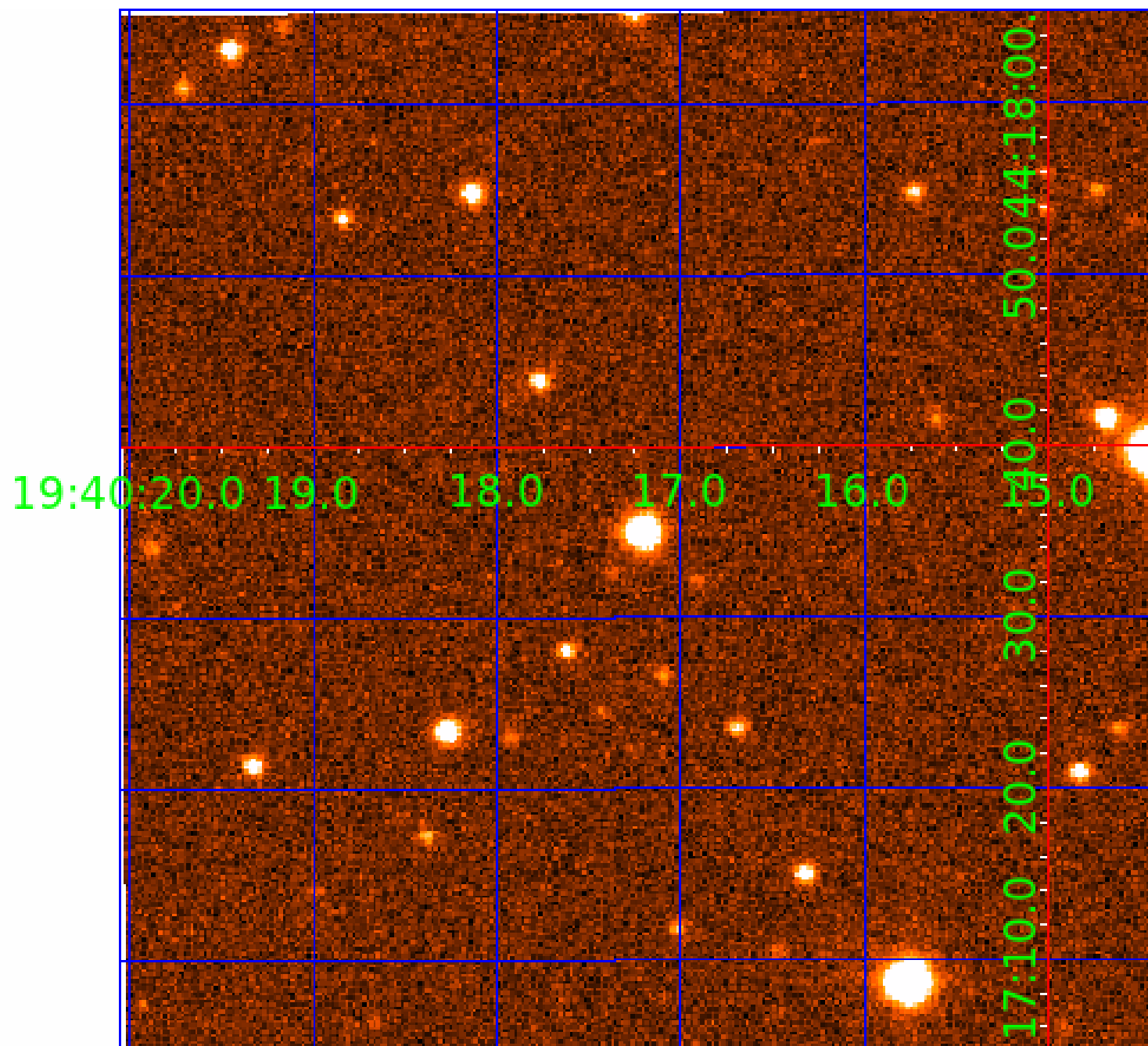


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008308911

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})
008308911-01	OBS	No	369.680100	233.744992	884.5	12.021	8.3	7.6	0.74	5711	2.29	0.59
008308911-03	OBS	No	560.485336	235.425116	813.0	19.078	8.7	7.3	0.74	5711	2.19	0.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008308911-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
008308911-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_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.

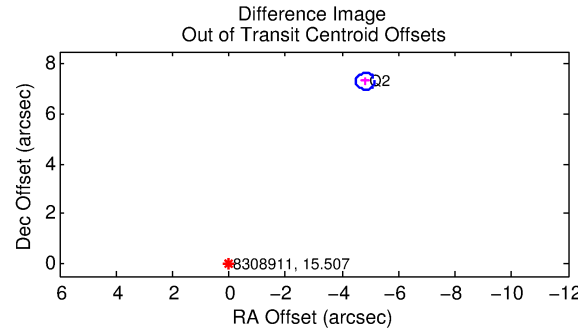
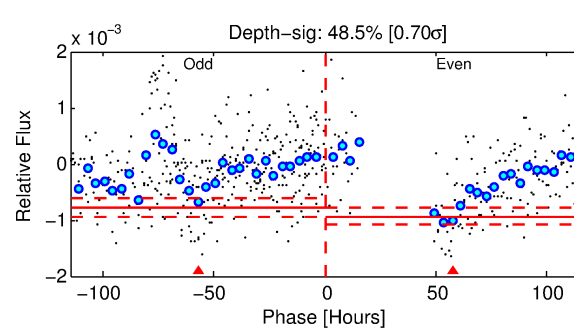
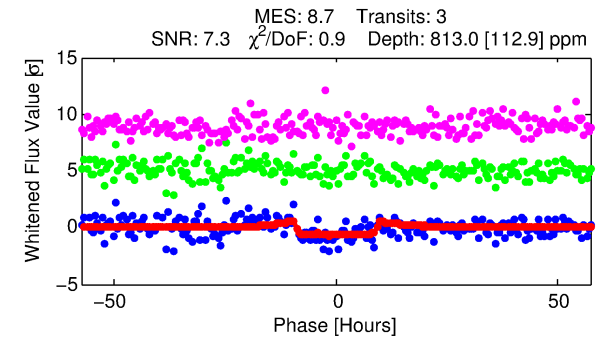
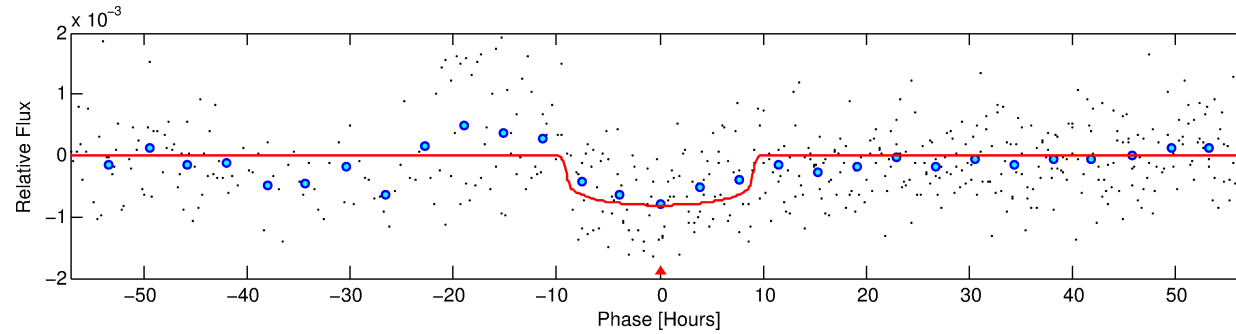
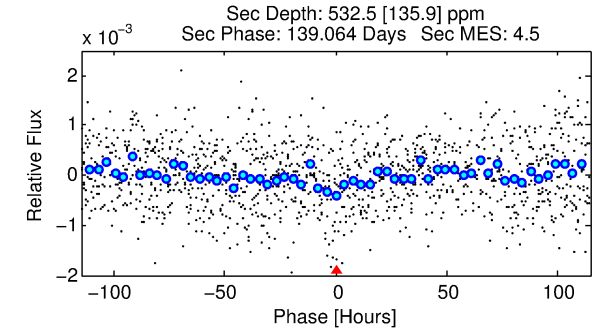
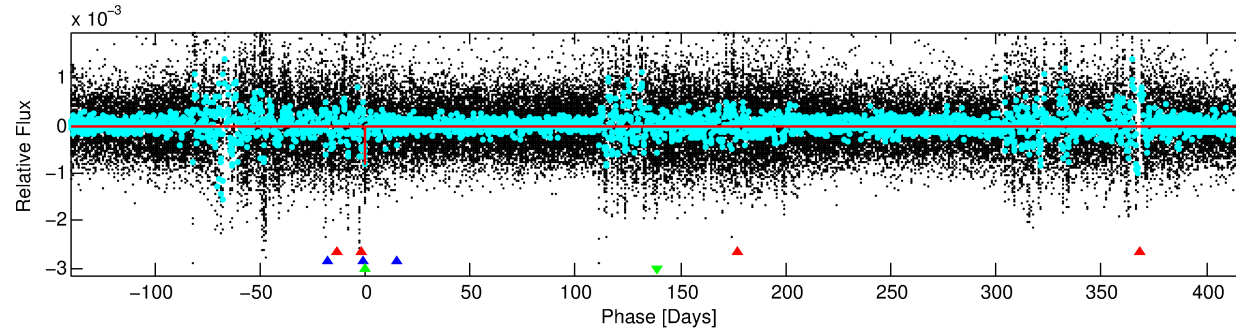
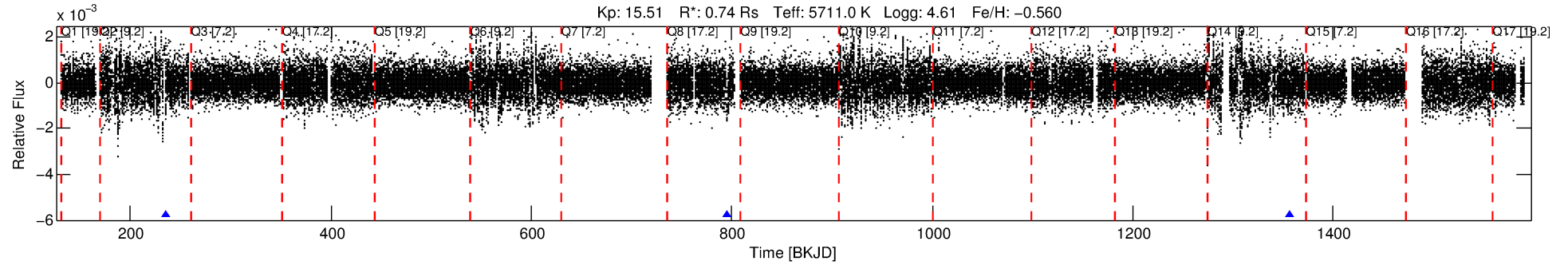
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008308911-03

No Significant Match Found

DV One-Page Summary

KIC: 8308911 Candidate: 3 of 3 Period: 560.485 d



DV Fit Results:

Period = 560.48534 [0.01431] d
Epoch = 235.4251 [0.0201] BKJD
Rp/R* = 0.0270 [0.0092]
a/R* = 195.81 [306.39]
b = 0.54 [2.04]
Seff = 0.34 [0.10]
Teq = 195 [15] K
Rp = 2.19 [0.90] Re
a = 1.2441 [0.2367] AU
Ag = 94319.16 [73658.47] [1.28σ]
Teff = 5283 [977] K [5.21σ]

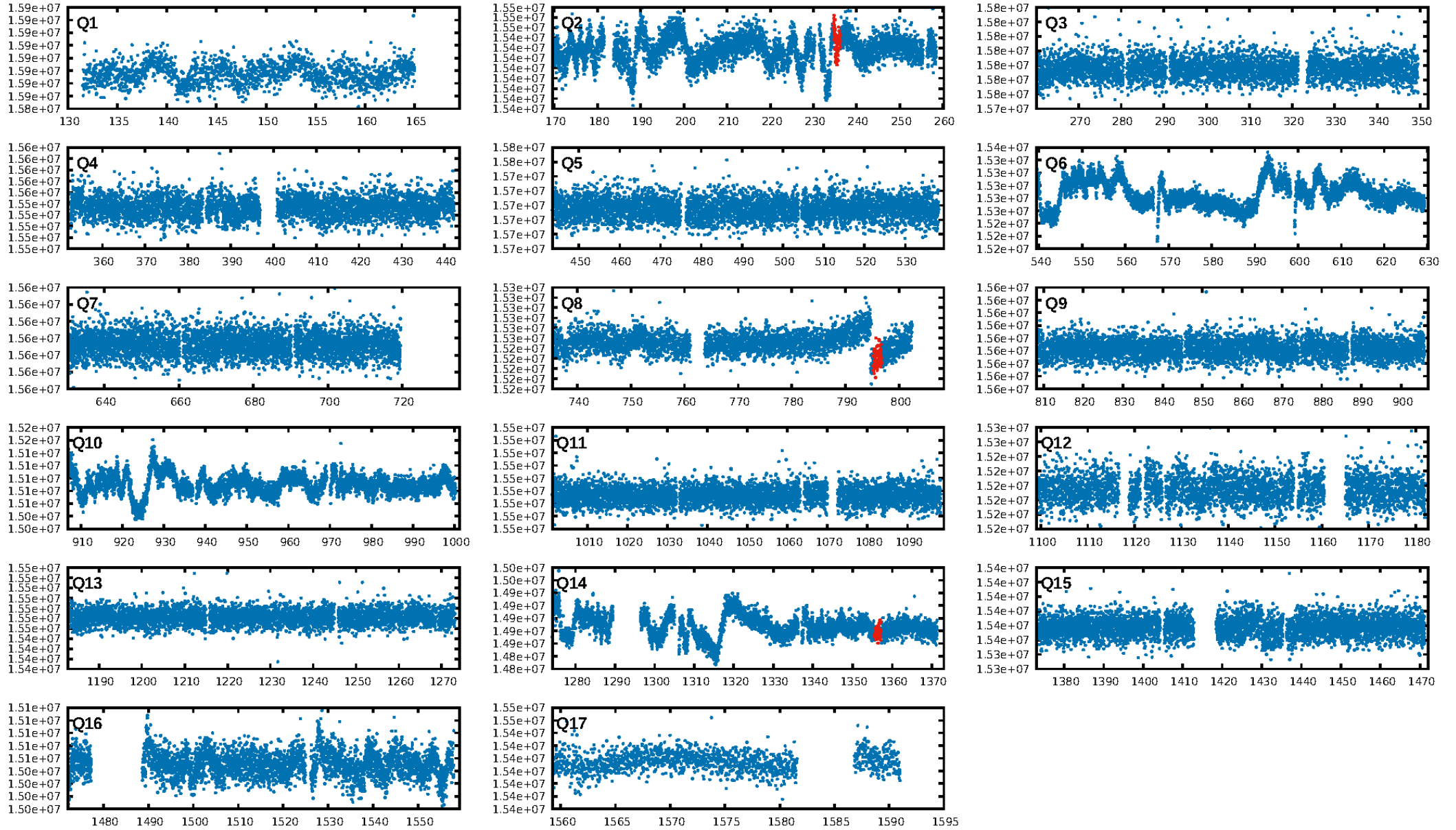
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.78σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 14.7%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 3.48e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.395
Centroid-sig: 43.9%
Centroid-so: 1.832 arcsec [0.81σ]
OotOffset-rm: 8.750 arcsec [79.13σ]
KicOffset-rm: 8.756 arcsec [79.11σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.67 [2/3]

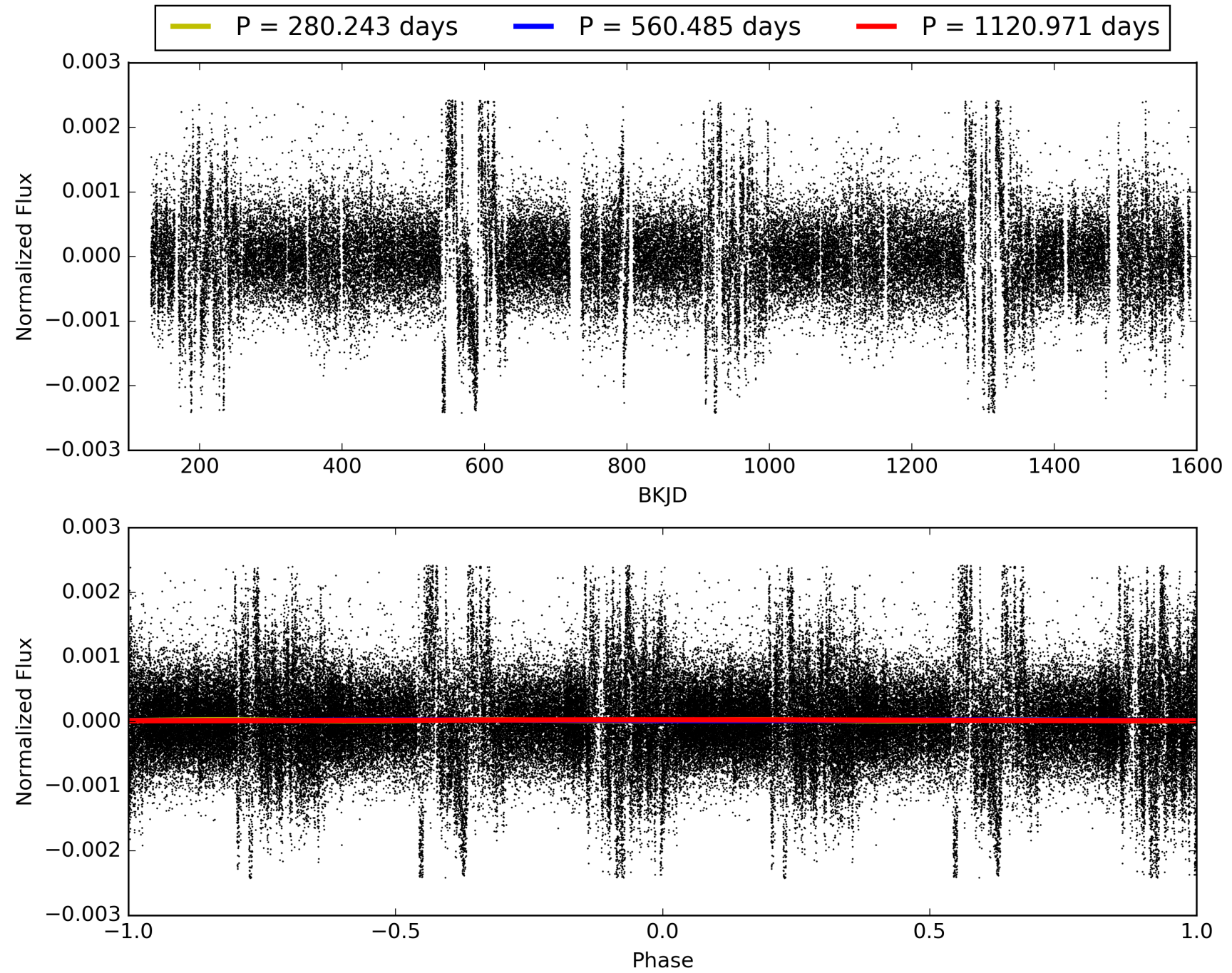
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:15:03 Z

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

TCE 008308911-03, PDC Light Curves

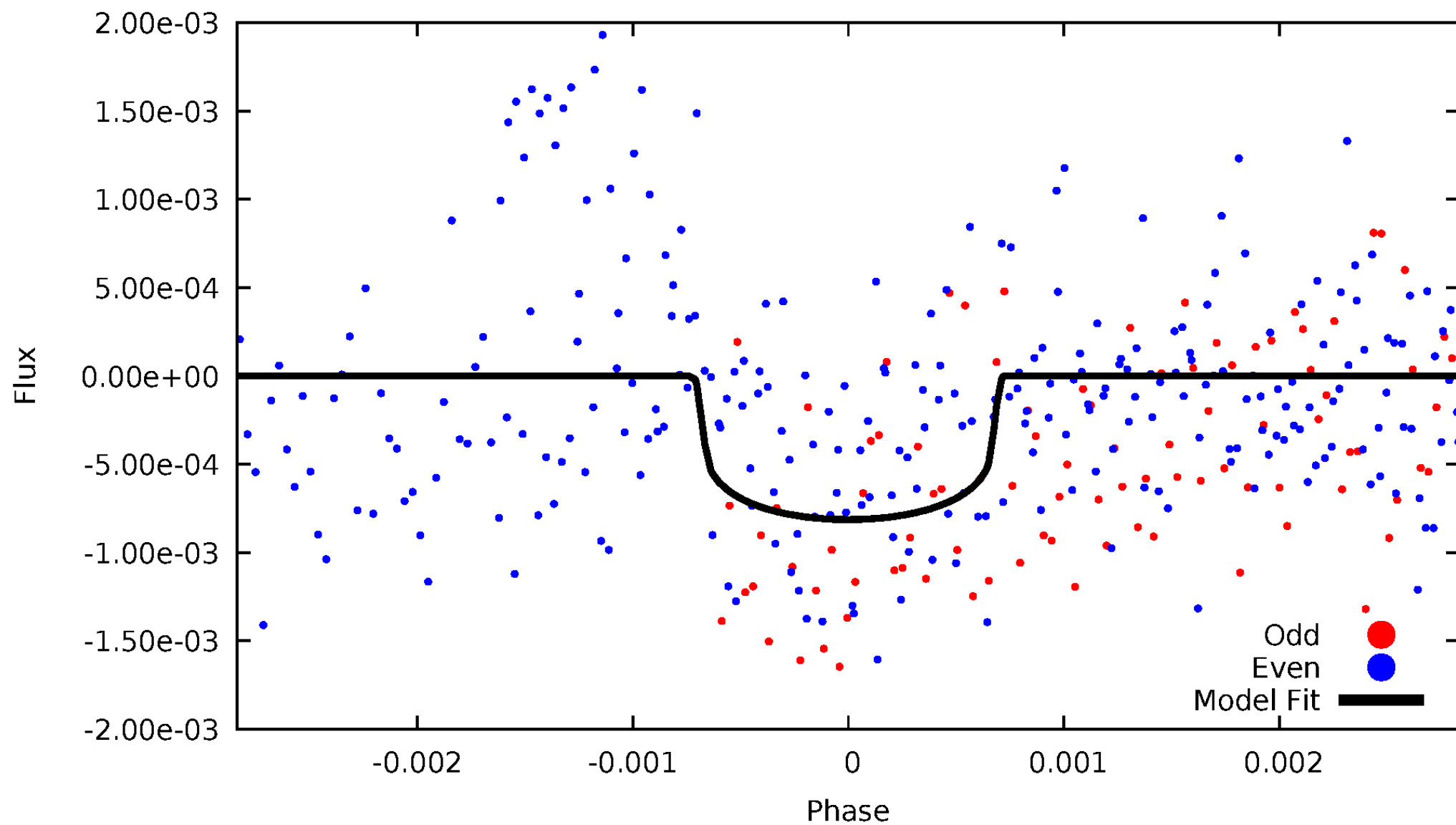


TCE 008308911-03



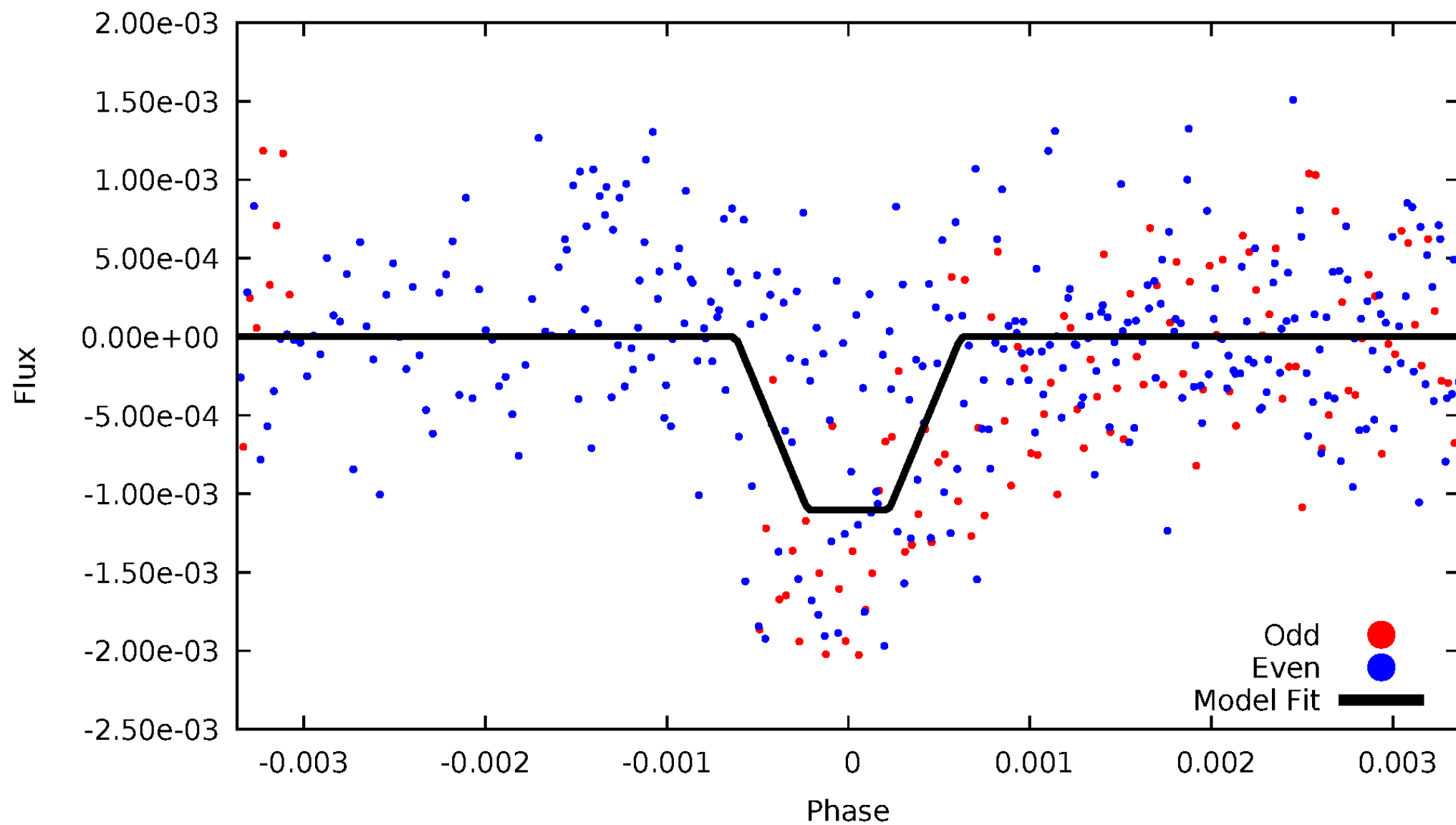
DV Odd/Even

TCE 008308911-03



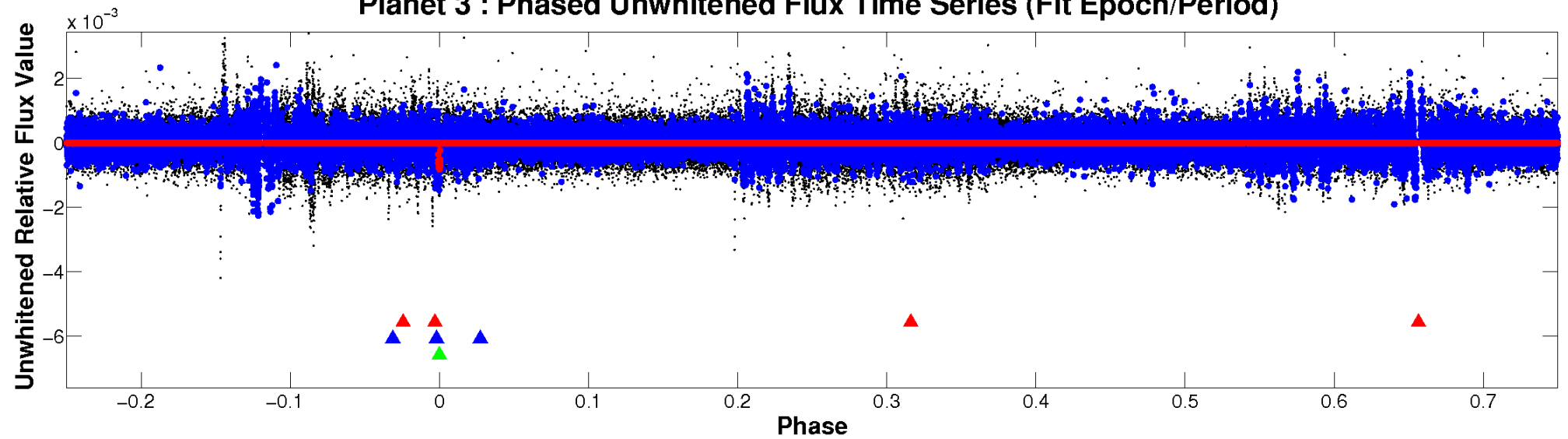
ALT Odd/Even

TCE 008308911-03

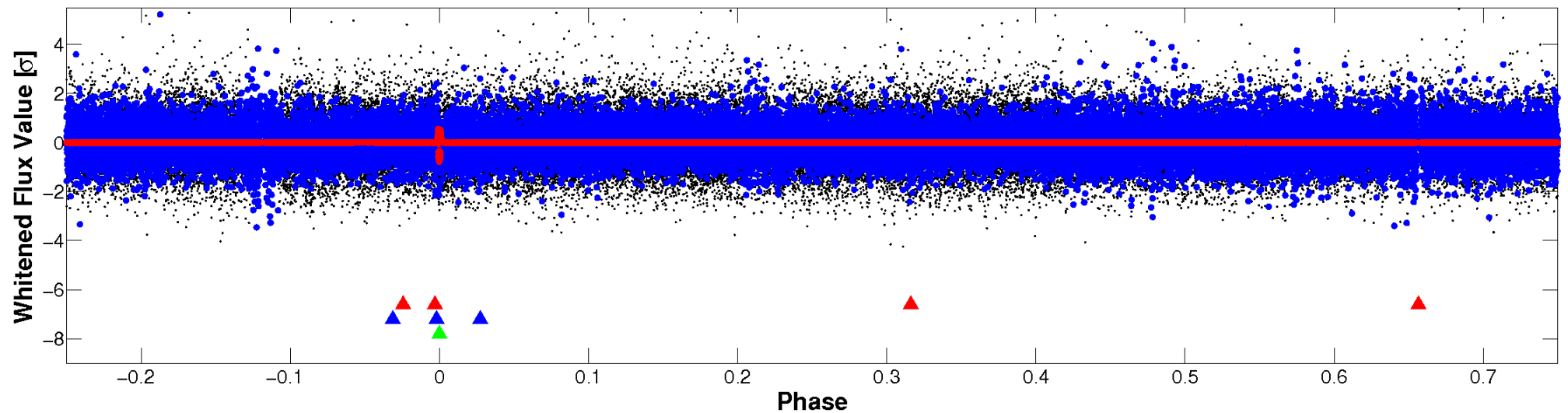


Non-Whitened Vs. Whitened Light Curve

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



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



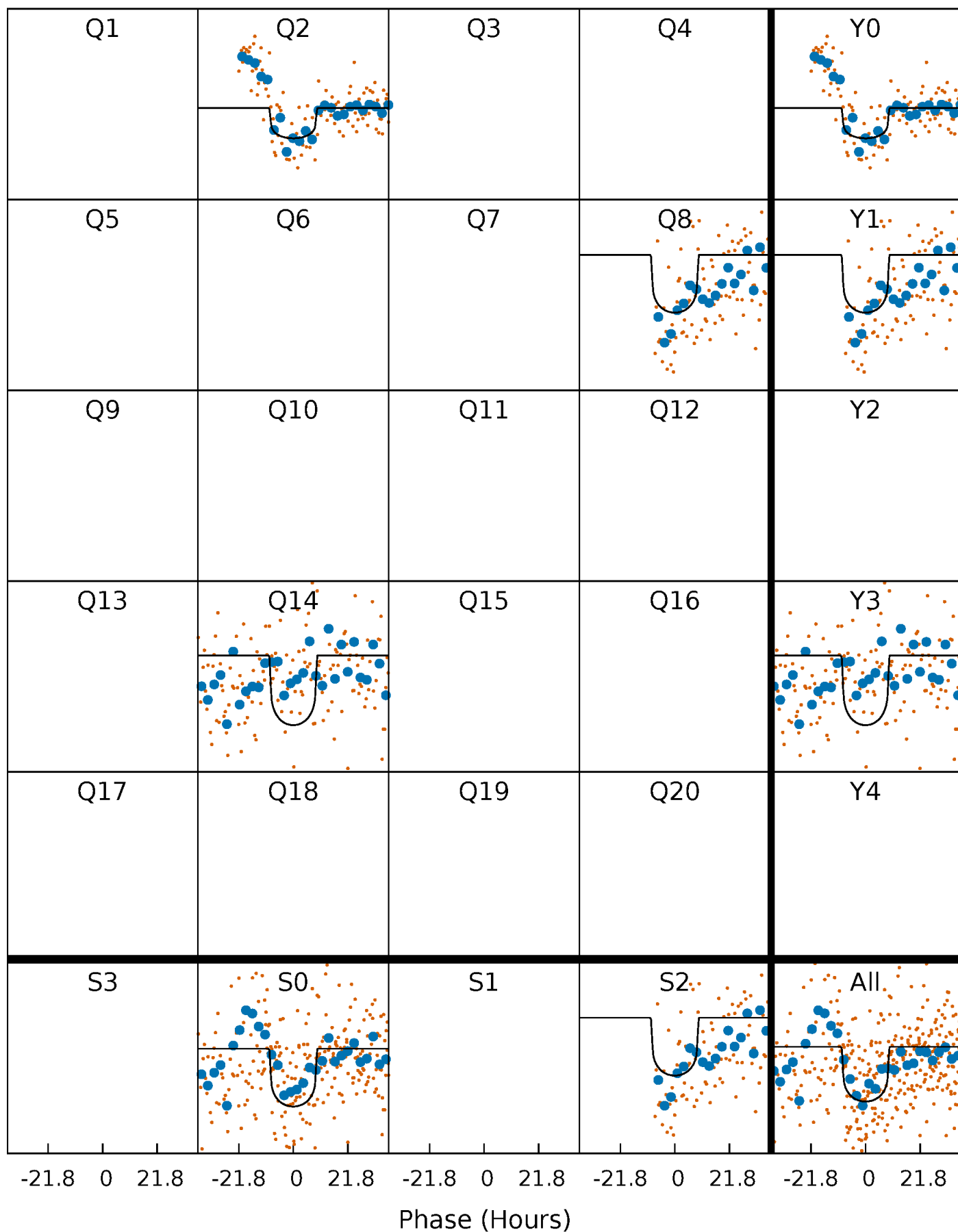
PDC Quarter-Phased Transit Curves

TCE 008308911-03 $P=560.485336$ Days $T_0=235.425116$ (BKJD)



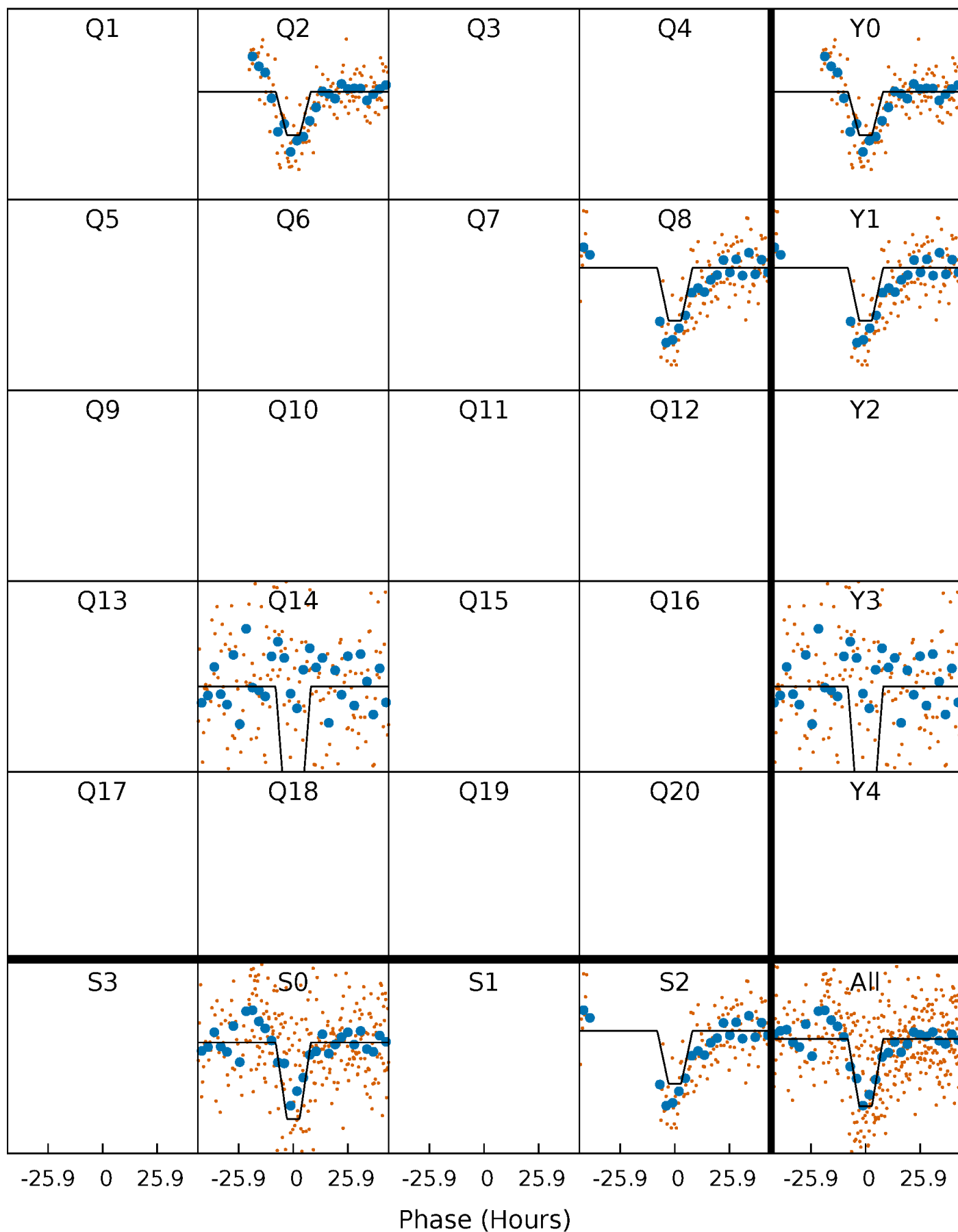
DV Quarter-Phased Transit Curves

TCE 008308911-03 $P=560.485336$ Days $T_0=235.425116$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

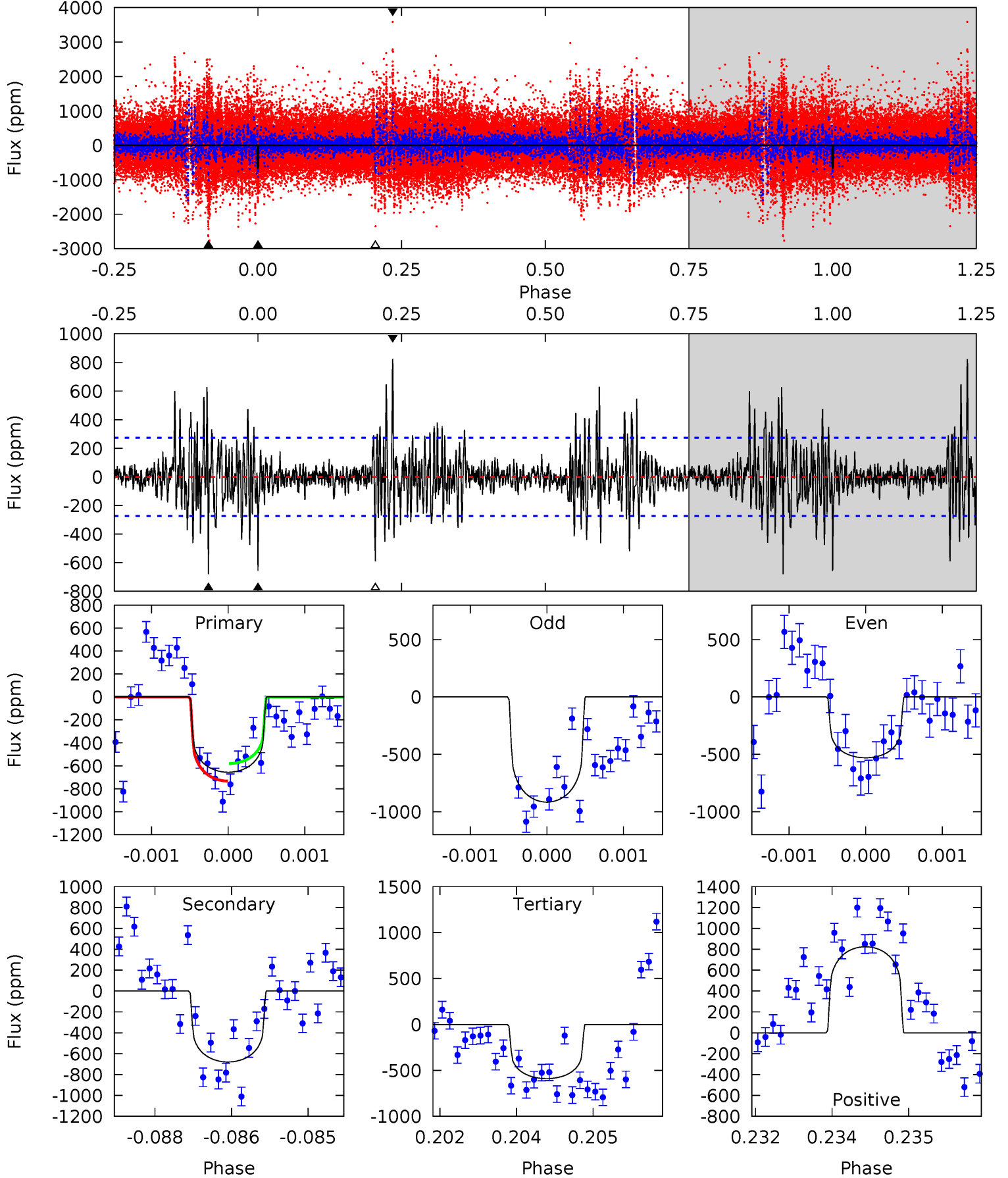
TCE 008308911-03 P=560.465306 Days $T_0=235.389565$ (BKJD)



DV Model-Shift Uniqueness Test

008308911-03, P = 560.485336 Days, E = 235.425116 Days

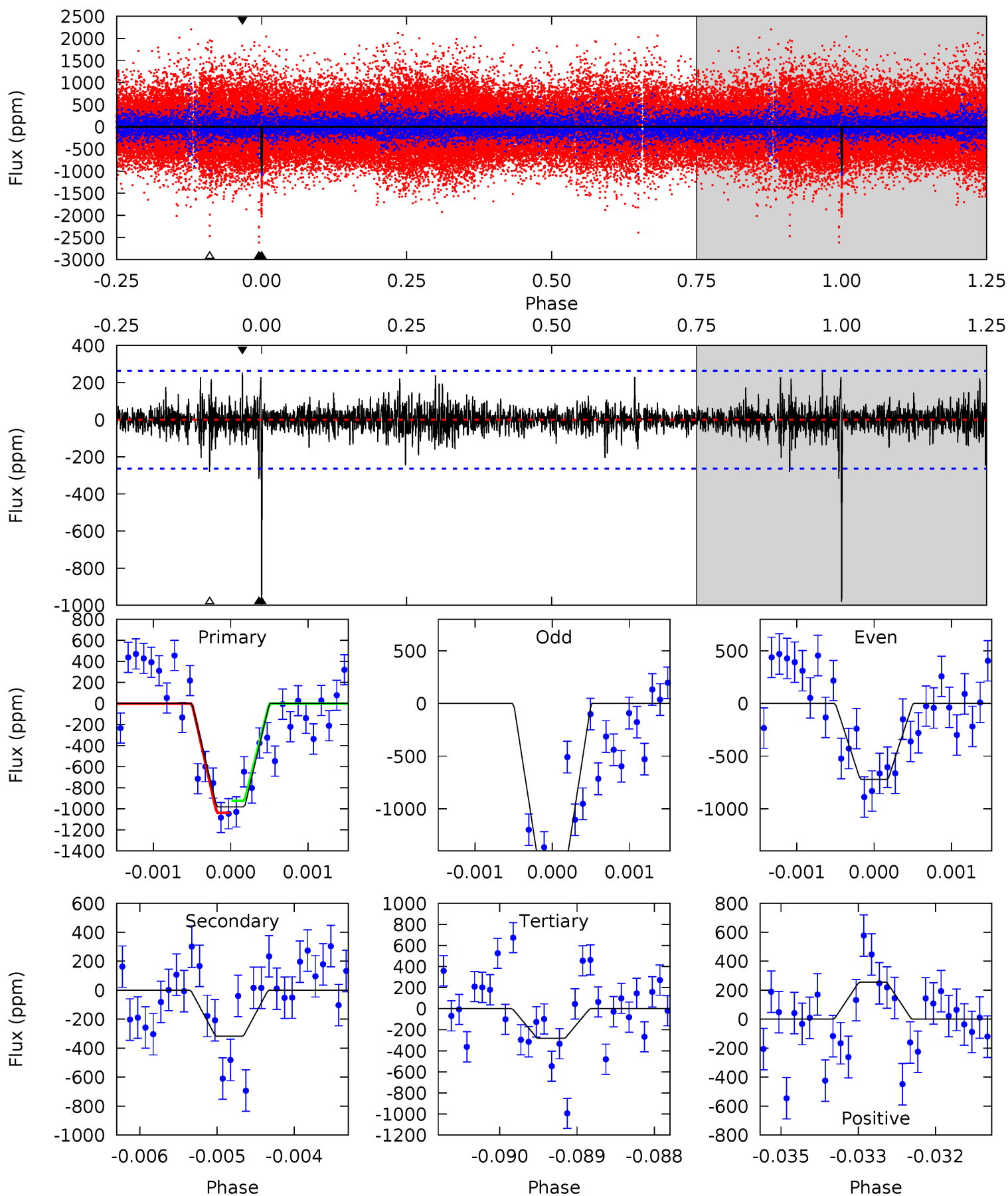
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	13.4	11.6	16.2	5.39	3.19	2.67	1.31	-3.31	1.77	-2.85	3.51	0.82	0.55	1.49



Alt Model-Shift Uniqueness Test

008308911-03, P = 560.465306 Days, E = 235.389565 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	6.51	5.78	5.24	5.41	3.23	1.03	14.4	14.9	0.74	1.27	7.68	0.67	0.21	1.18



Stellar Parameters For KIC 008308911

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5711^{+173}_{-173}	$4.606^{+0.038}_{-0.152}$	$-0.560^{+0.300}_{-0.300}$	$0.745^{+0.168}_{-0.056}$	$0.823^{+0.079}_{-0.079}$	$2.802^{+0.520}_{-1.115}$
	+3%/-3%	+1%/-3%	+54%/-54%	+23%/-8%	+10%/-10%	+19%/-40%
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 008308911-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-679 ± 51	$2.31^{+0.79}_{-0.80}$	277^{+15}_{-11}	5611^{+1390}_{-715}	$110057^{+138372}_{-50783}$
Alt.	-317 ± 49	$2.79^{+0.88}_{-0.84}$	277^{+16}_{-12}	4404^{+678}_{-419}	34740^{+36349}_{-14954}

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

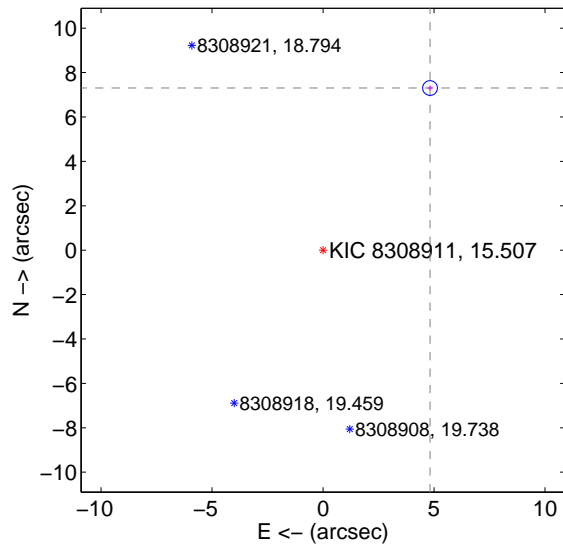
Supplemental centroid analysis for 008308911-03. Kepler magnitude: 15.51. Transit SNR 7.34

There are 1 quarters with good PRF difference image offsets

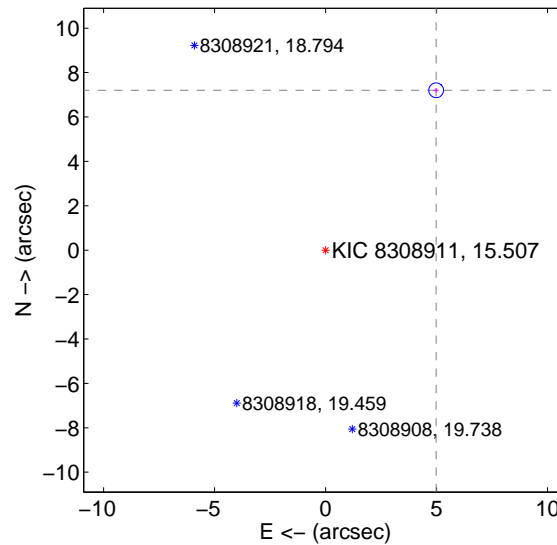
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.750 ± 0.111	79.13	-4.818 ± 0.114	7.304 ± 0.109
PRF-fit source offset from KIC position	8.756 ± 0.111	79.11	-4.980 ± 0.114	7.202 ± 0.109
photometric centroid source offset	1.83 ± 2.26	0.81	1.39 ± 2.11	-1.20 ± 2.45

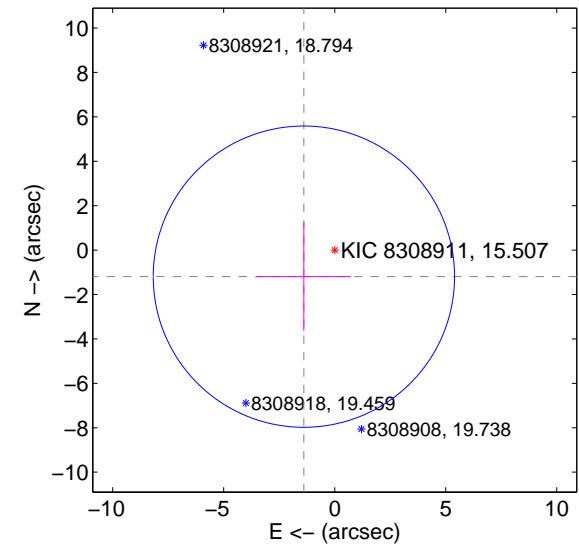
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



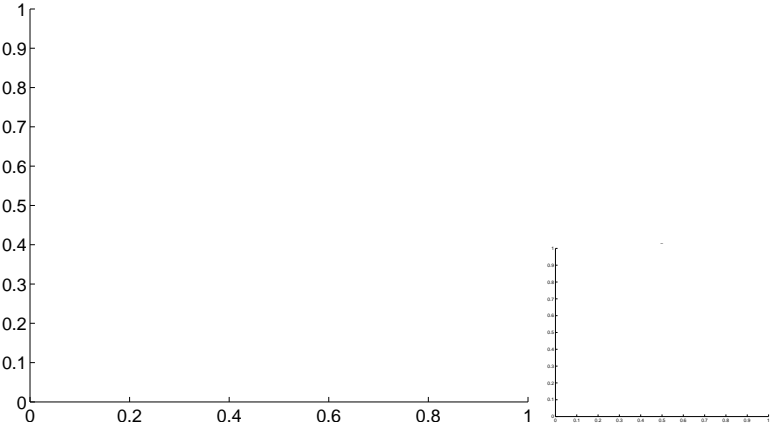
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

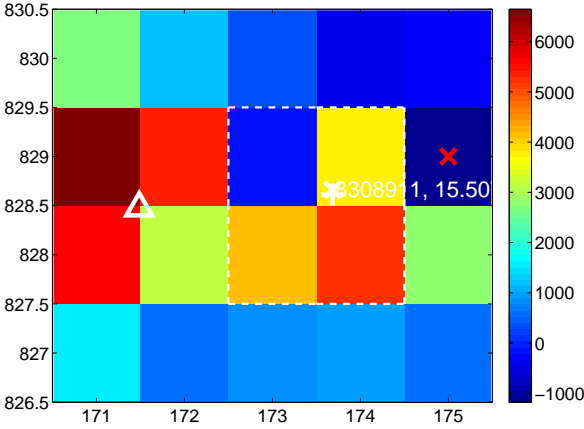
Q1 no difference image



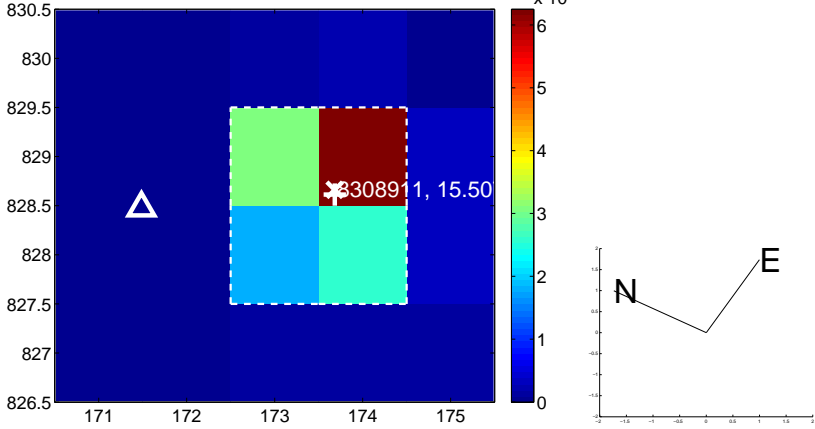
Q1 no OOT image



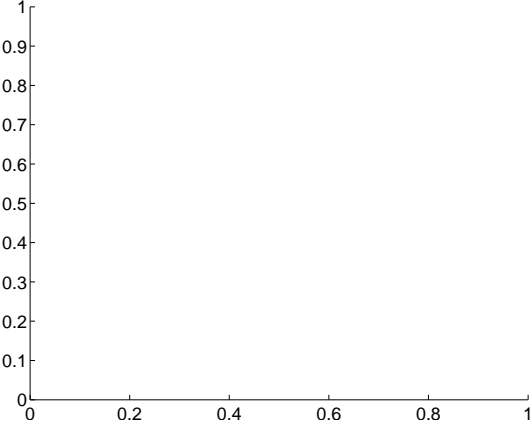
Q2 difference image



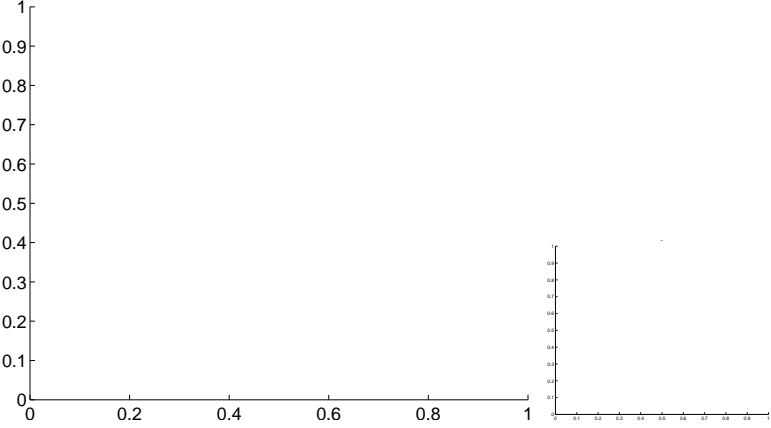
Q2 OOT image



Q3 no difference image



Q3 no OOT image



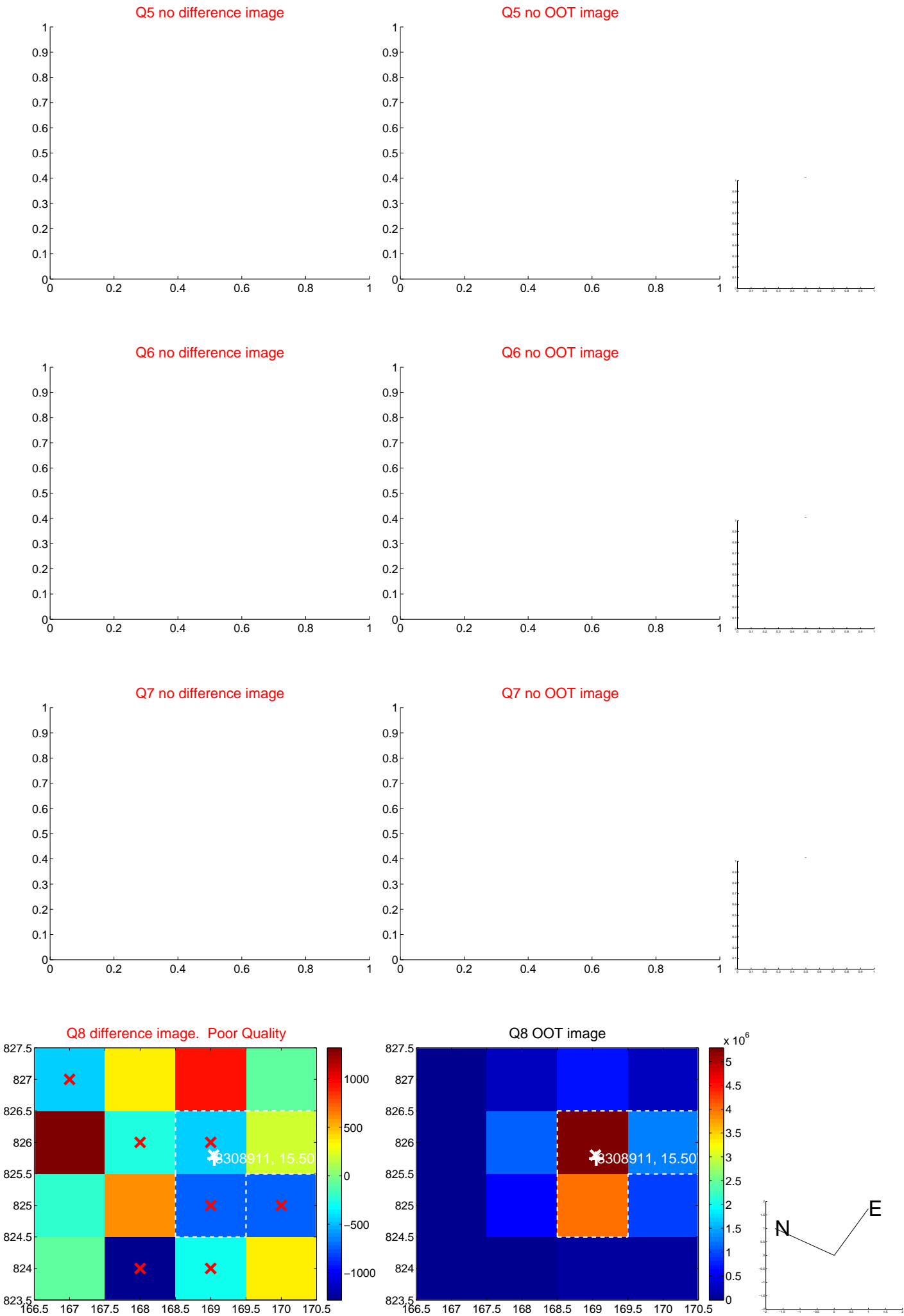
Q4 no difference image



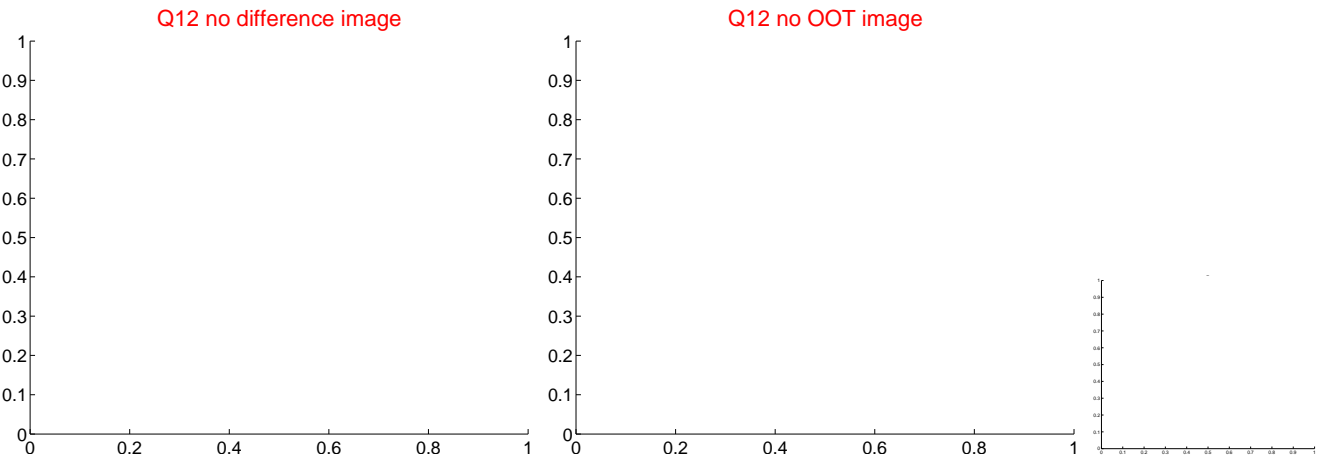
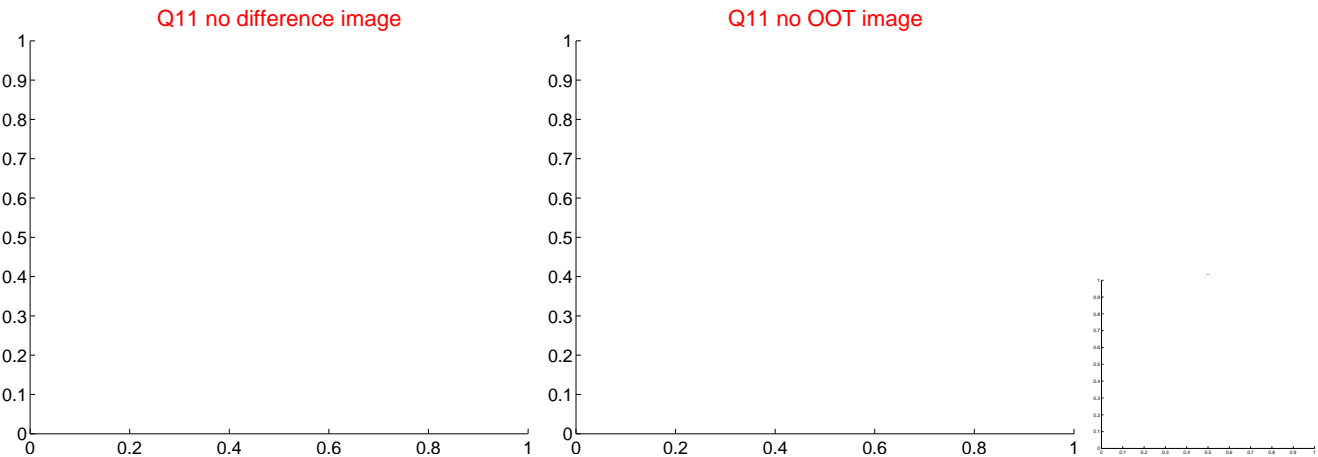
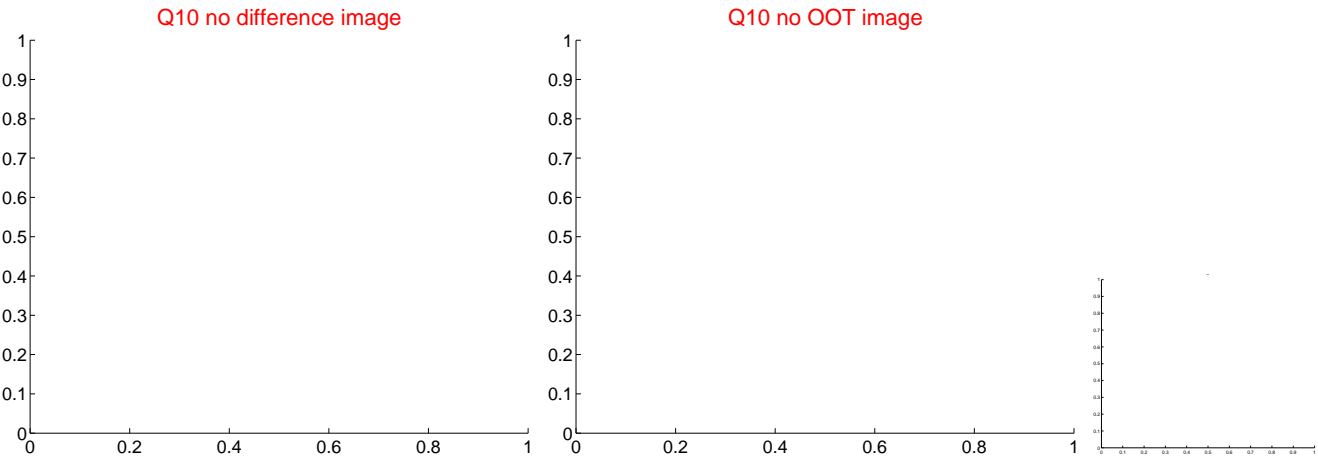
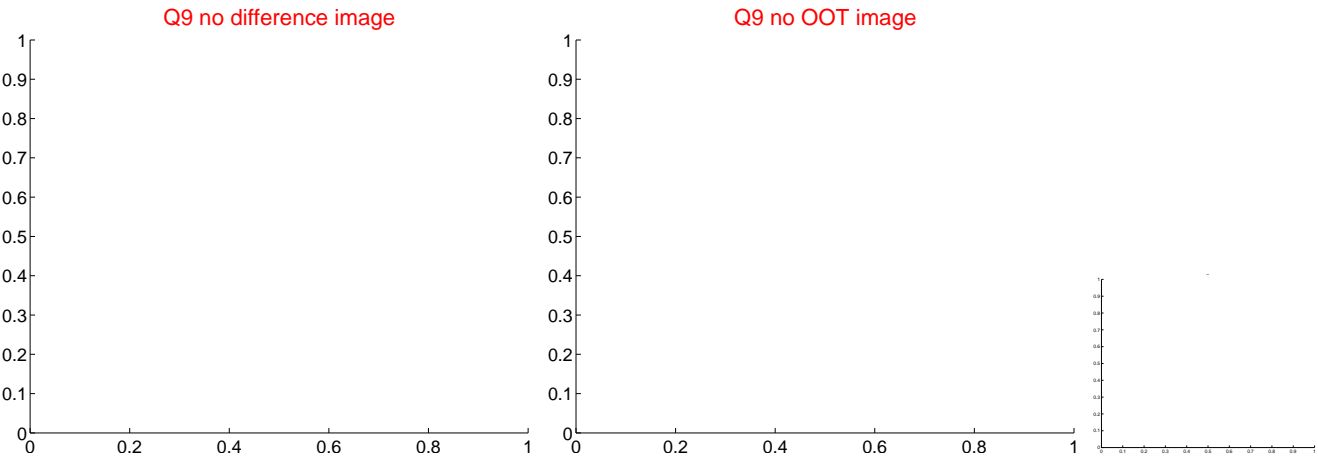
Q4 no OOT image



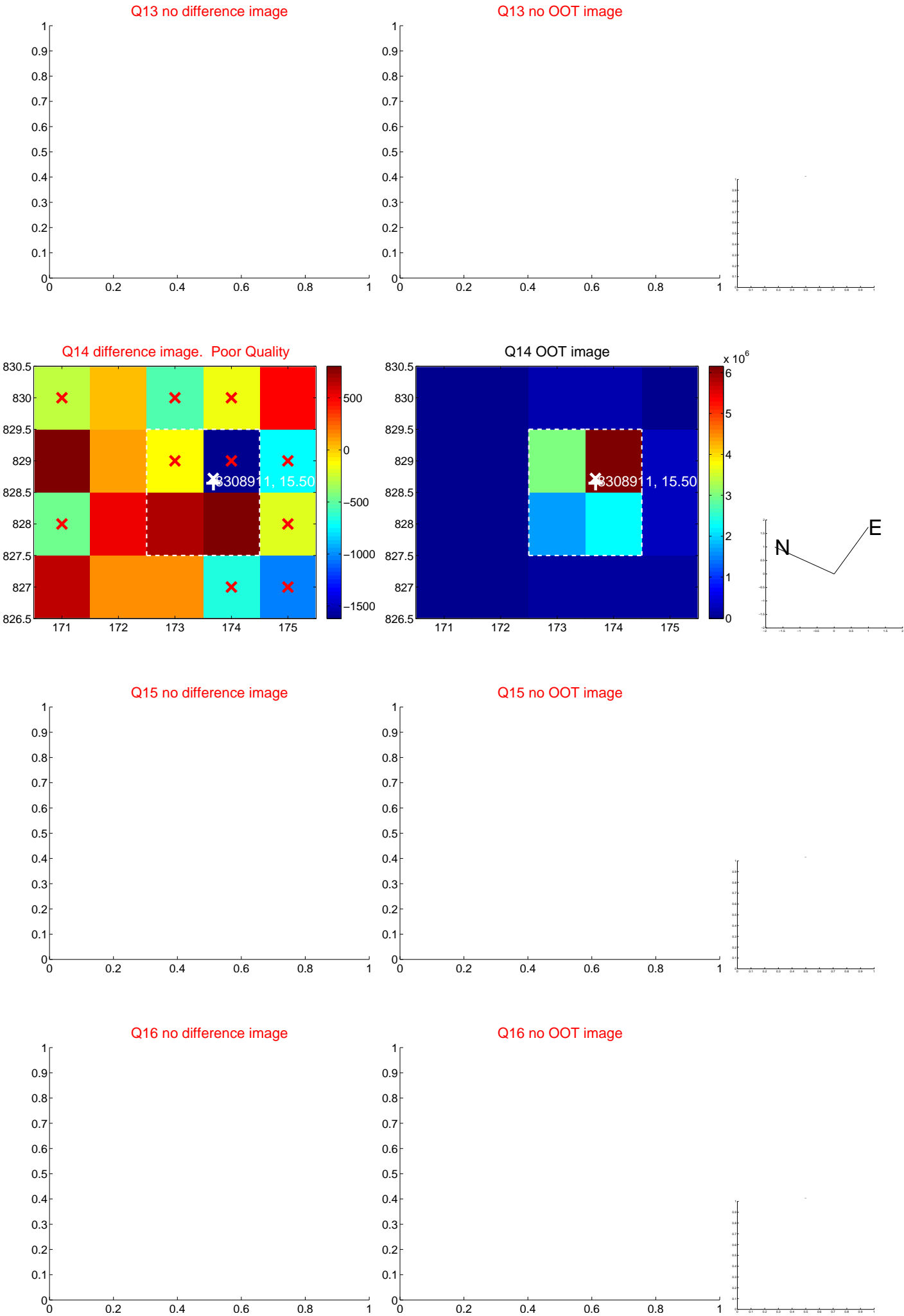
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



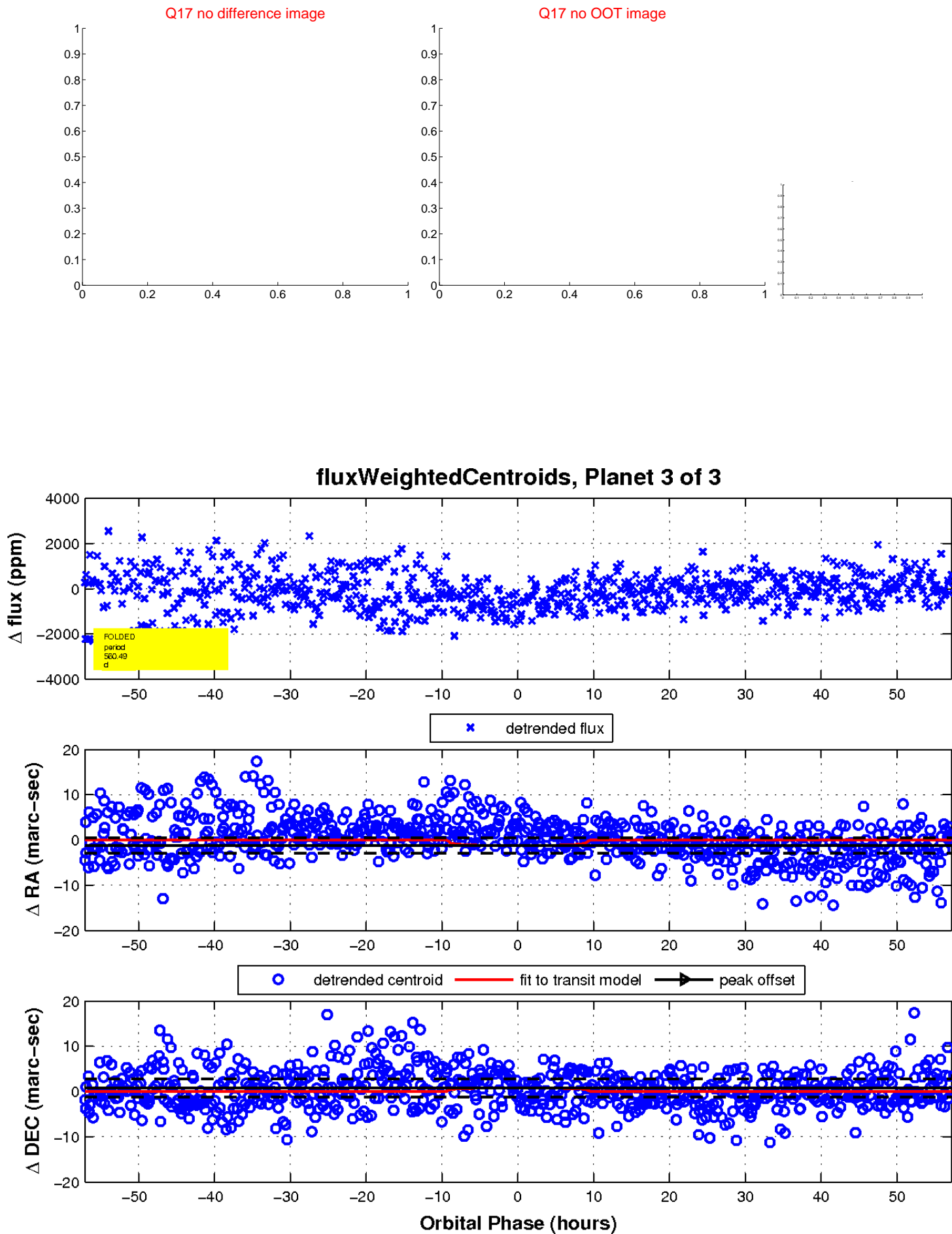
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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

