

KIC 009239211

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})
009239211-01	OBS	No	2.199115	132.811184	99.9	17.320	13.9	17.5	2.21	7449	2.95	8522.39
009239211-02	OBS	No	3.704319	135.032028	2553.2	3.000	153.9	-1.0	2.21	7449	11.32	4252.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009239211-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
009239211-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

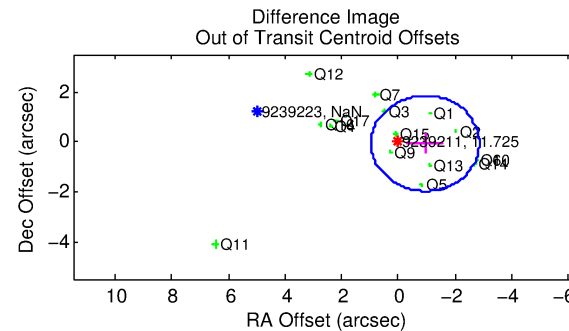
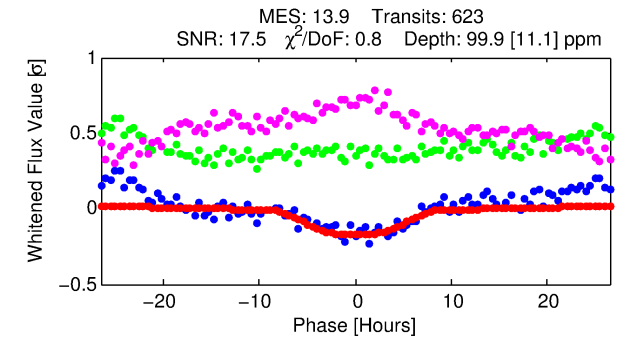
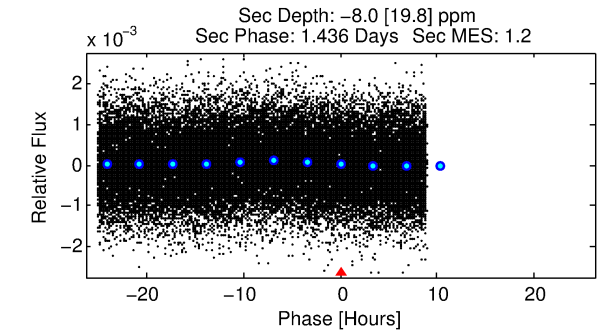
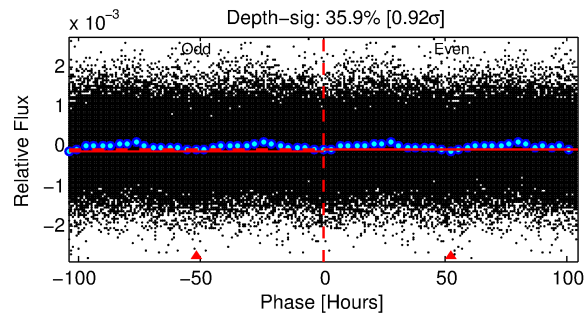
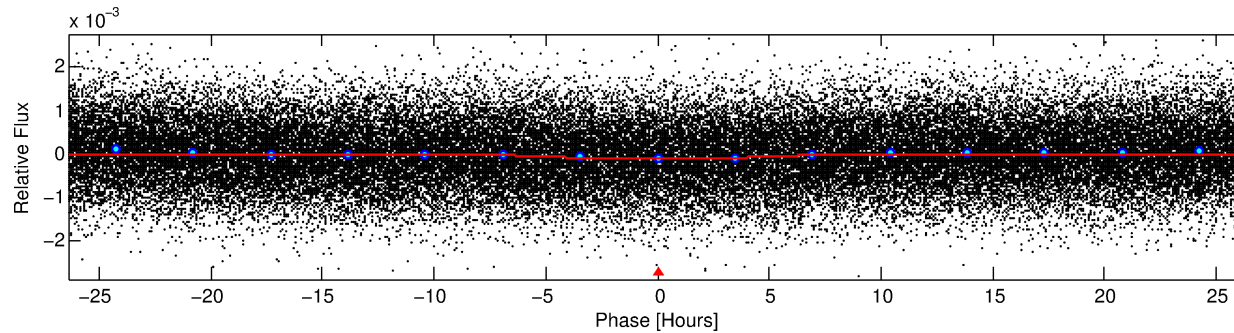
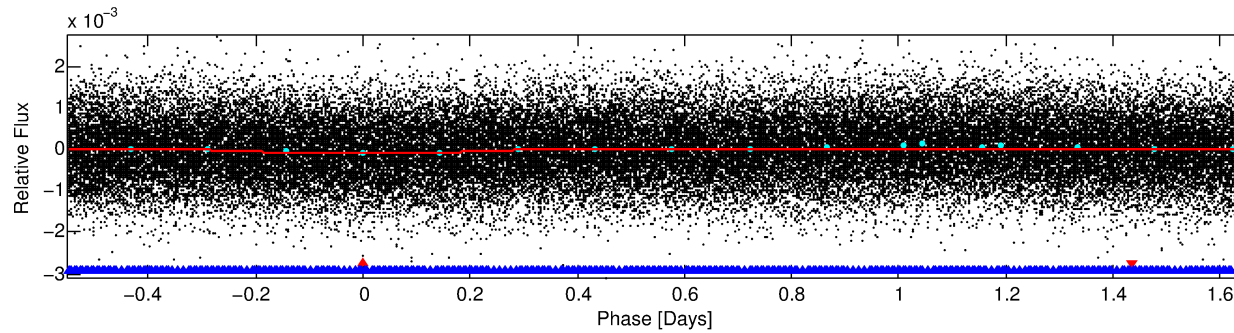
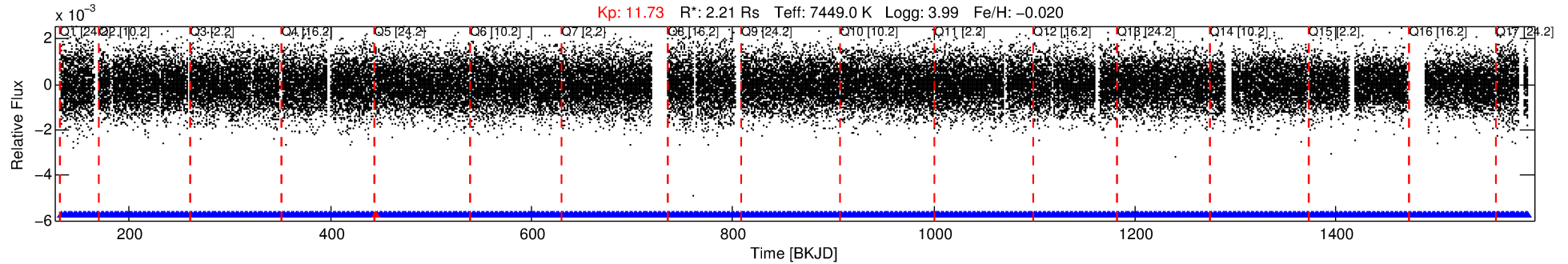
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009239211-01

No Significant Match Found

DV One-Page Summary

KIC: 9239211 Candidate: 1 of 2 Period: 2.199 d



DV Fit Results:

Period = 2.19911 [0.00007] d
Epoch = 132.8112 [0.0250] BKJD
Rp/R* = 0.0122 [0.0009]
a/R* = 1.02 [0.00]
b = 0.99 [0.00]
Seff = 8522.39 [3691.49]
Teq = 2450 [265] K
Rp = 2.95 [0.90] Re
a = 0.0397 [0.0103] AU
Ag = N/A
Teffp = N/A

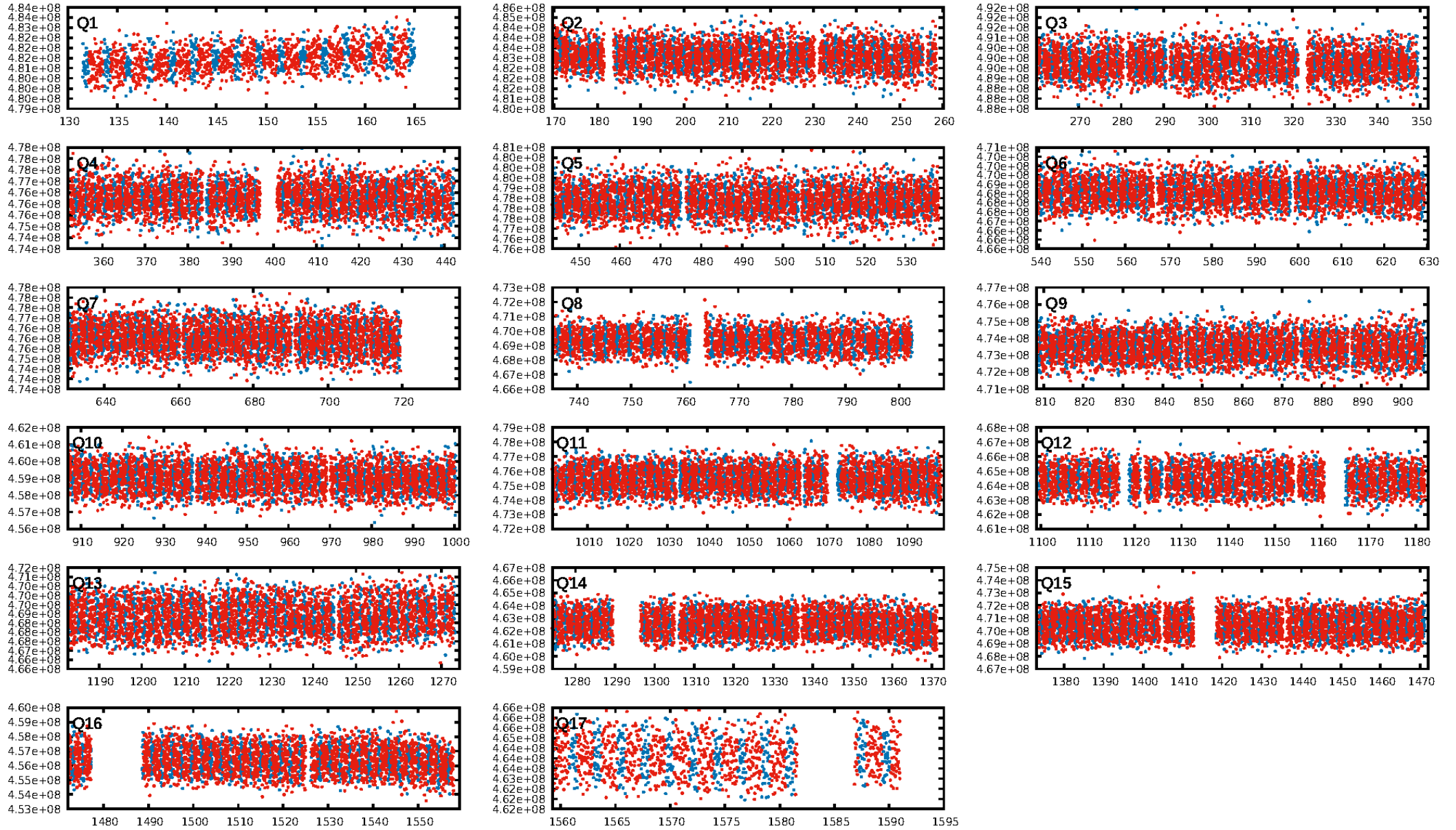
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 96.0% [2.06 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [595/596]
GhostDiagnostic-chr: 1.952
Centroid-sig: 95.3%
Centroid-so: 0.129 arcsec [0.97 σ]
OotOffset-rm: 0.957 arcsec [1.50 σ]
KicOffset-rm: 1.048 arcsec [1.58 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 1.00 [17/17]

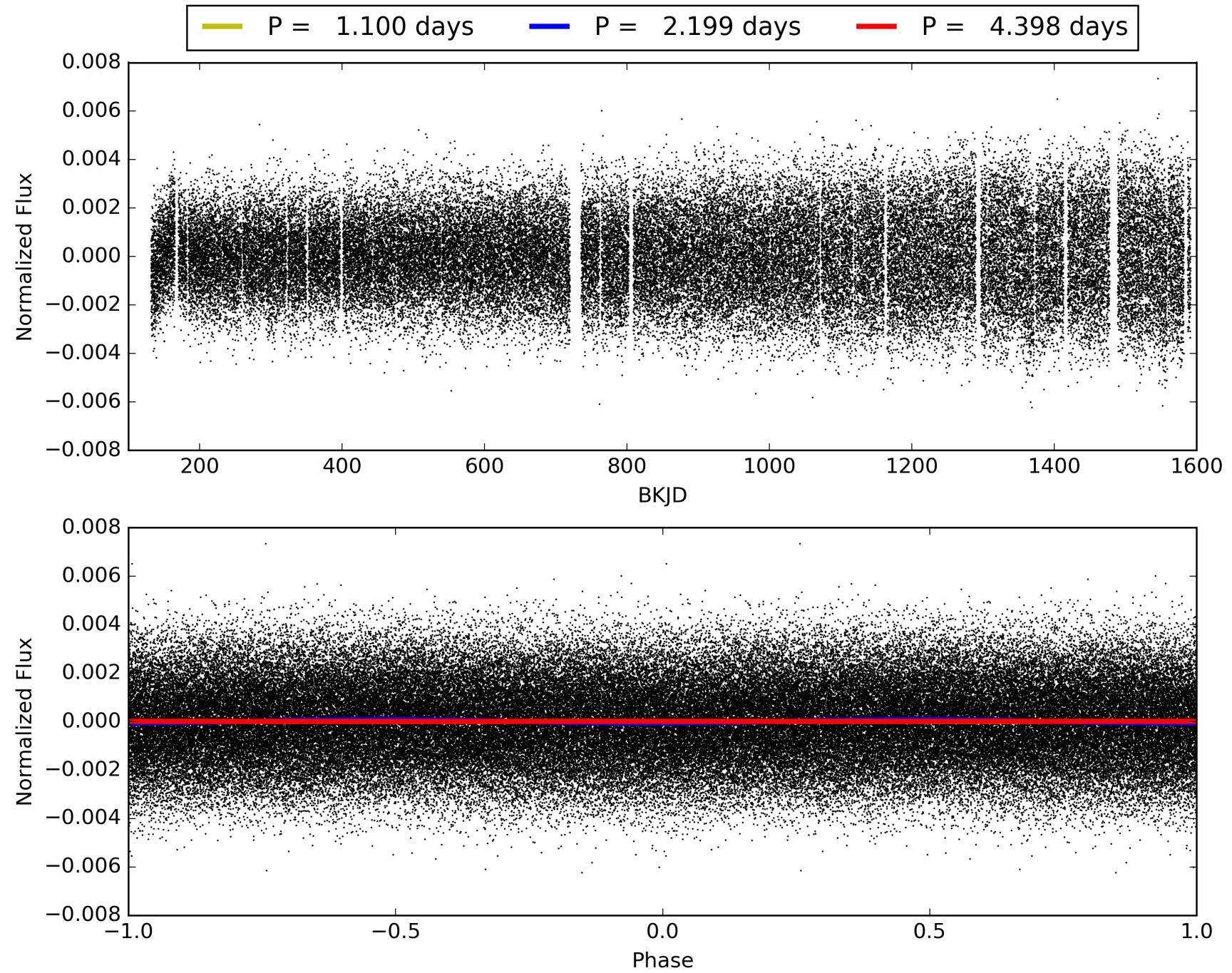
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:23:38 Z

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

TCE 009239211-01, PDC Light Curves

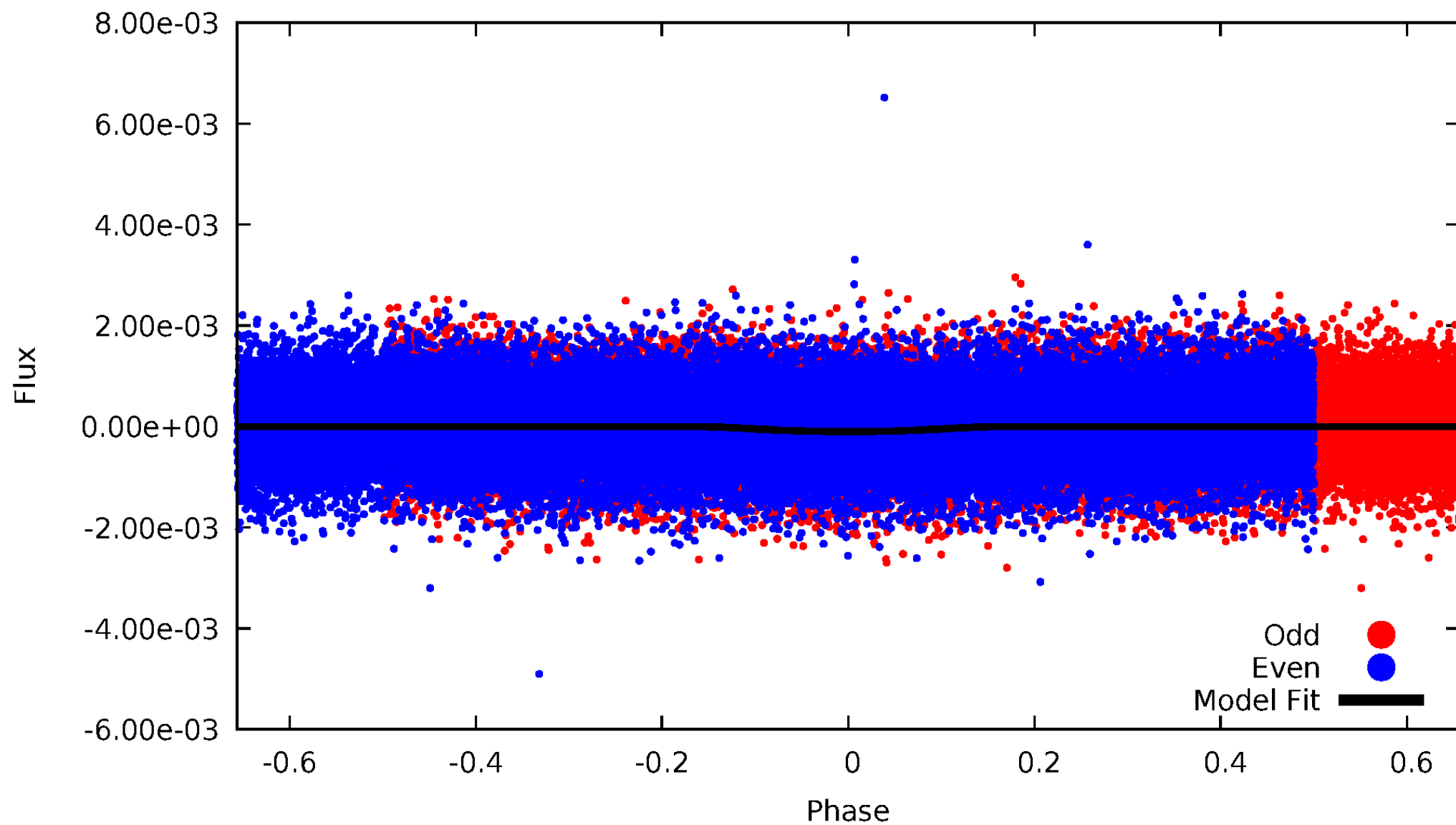


TCE 009239211-01



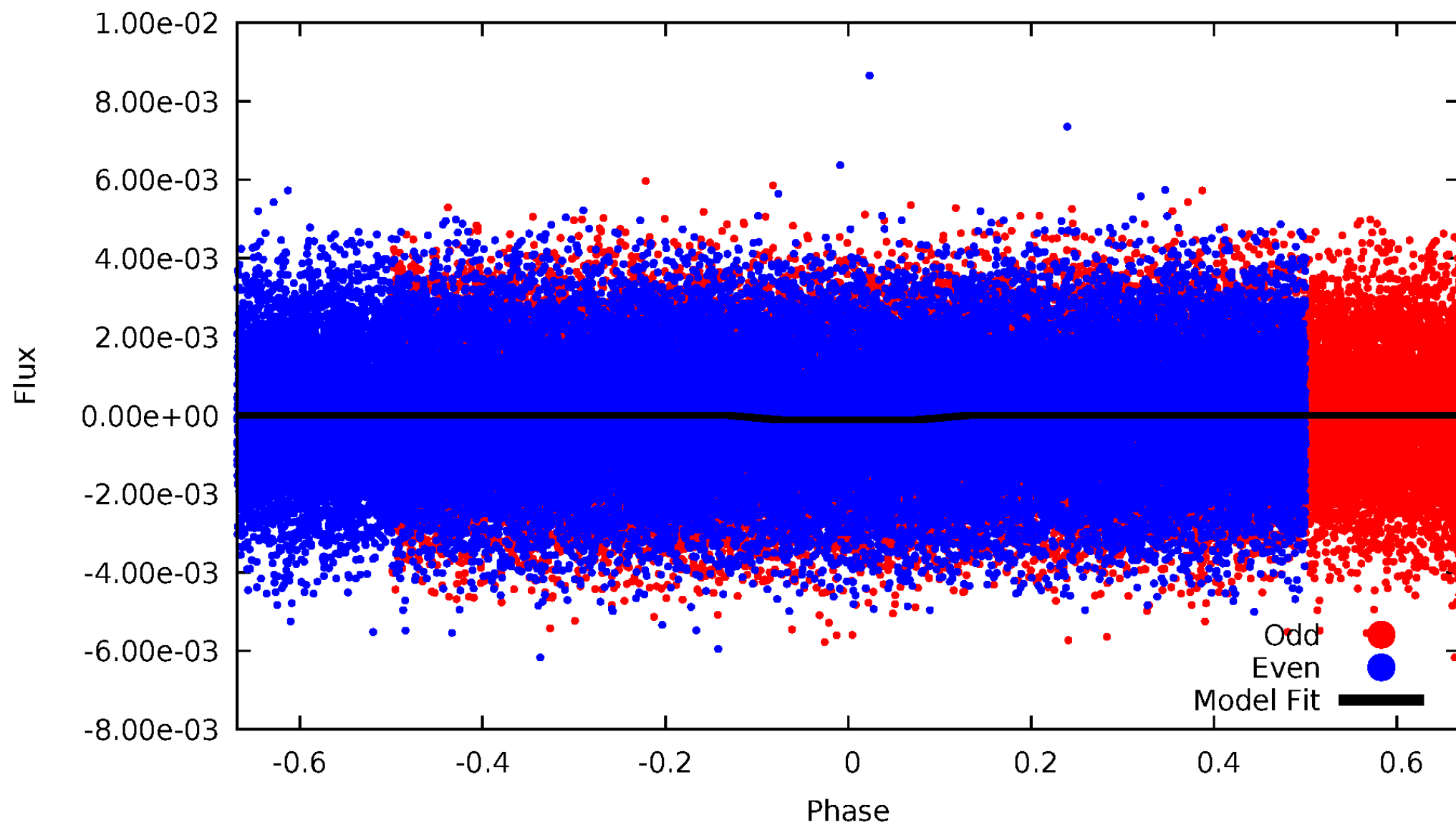
DV Odd/Even

TCE 009239211-01

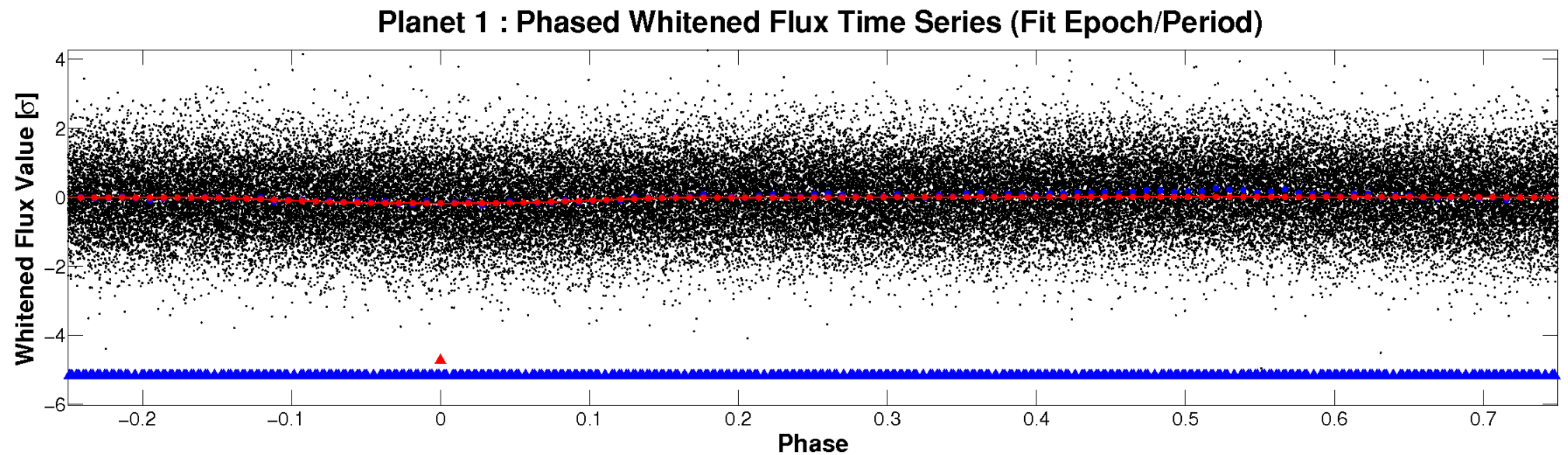
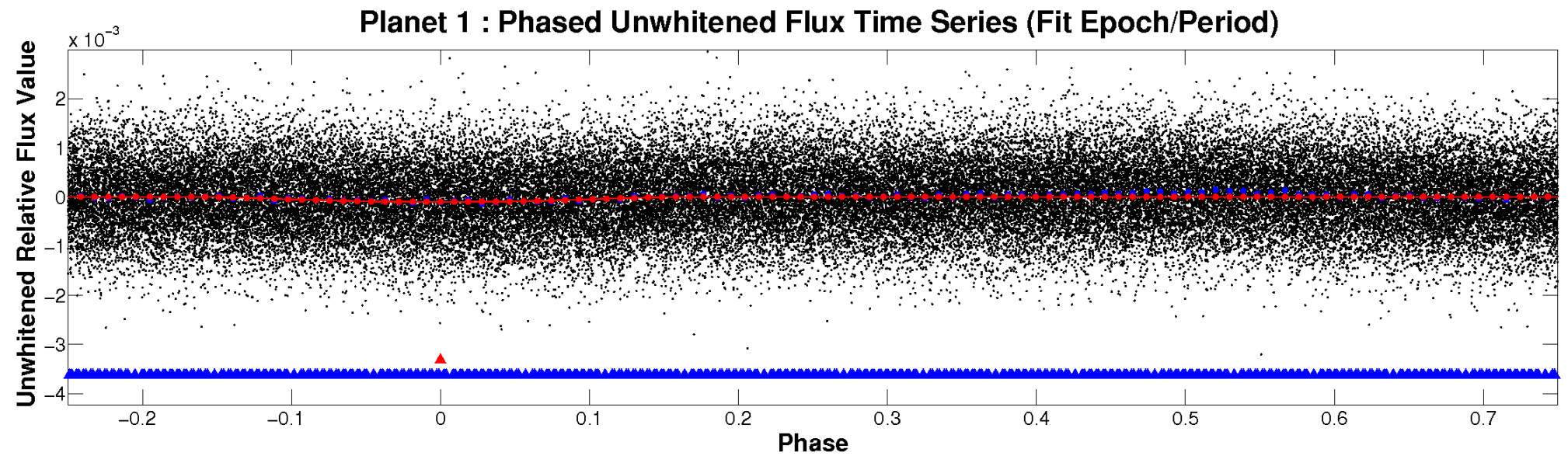


ALT Odd/Even

TCE 009239211-01

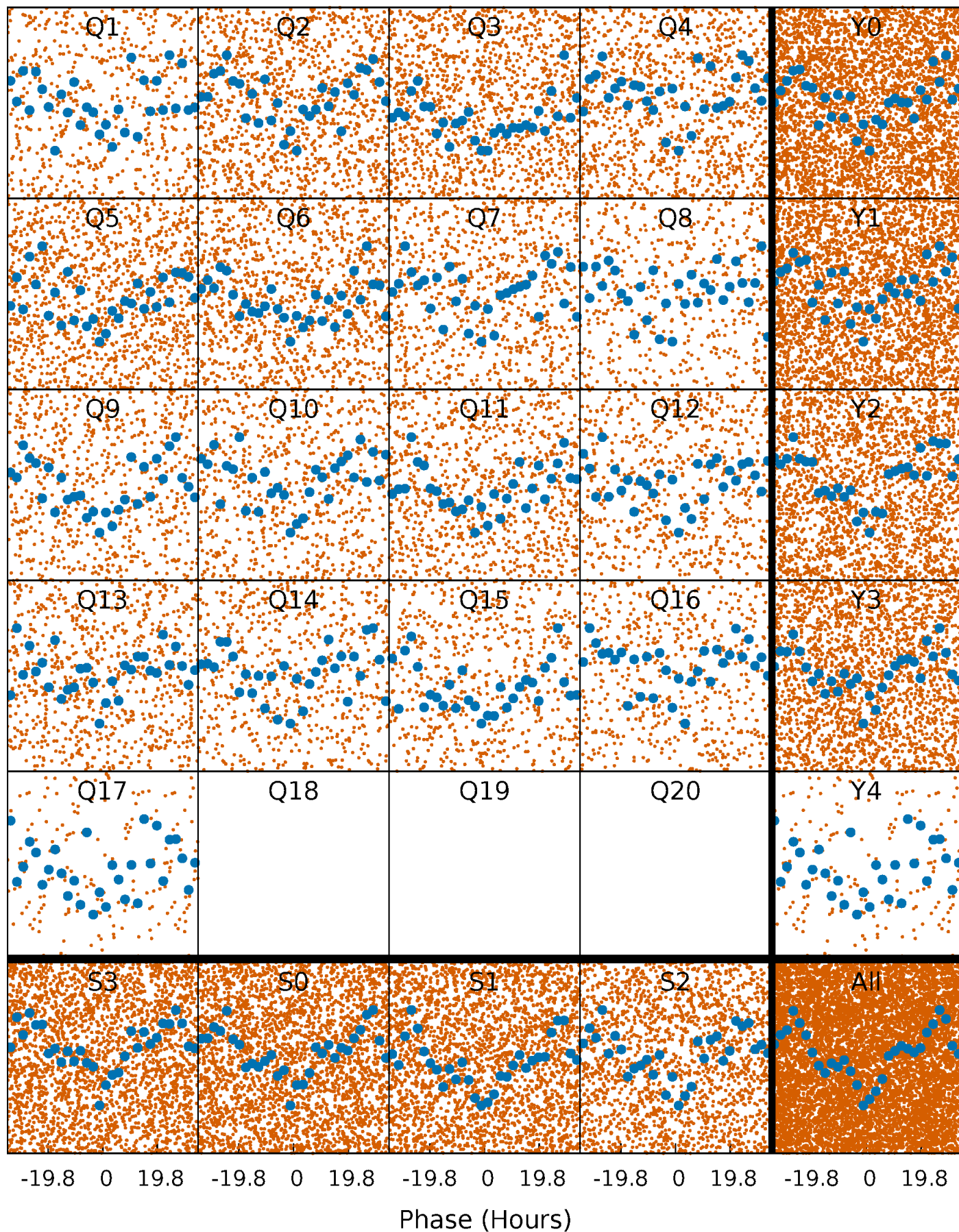


Non-Whitened Vs. Whitened Light Curve



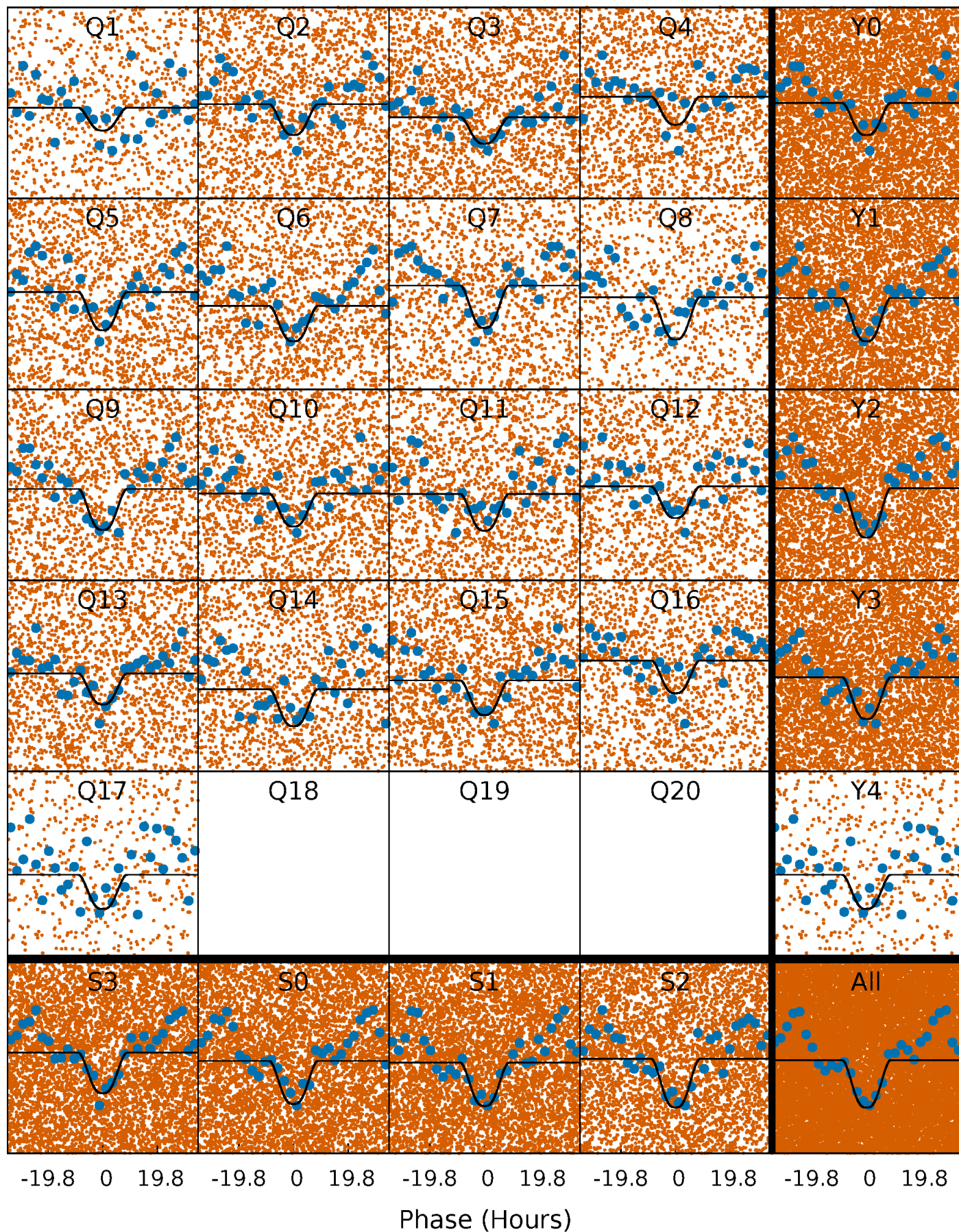
PDC Quarter-Phased Transit Curves

TCE 009239211-01 P= 2.199115 Days $T_0=132.811184$ (BKJD)



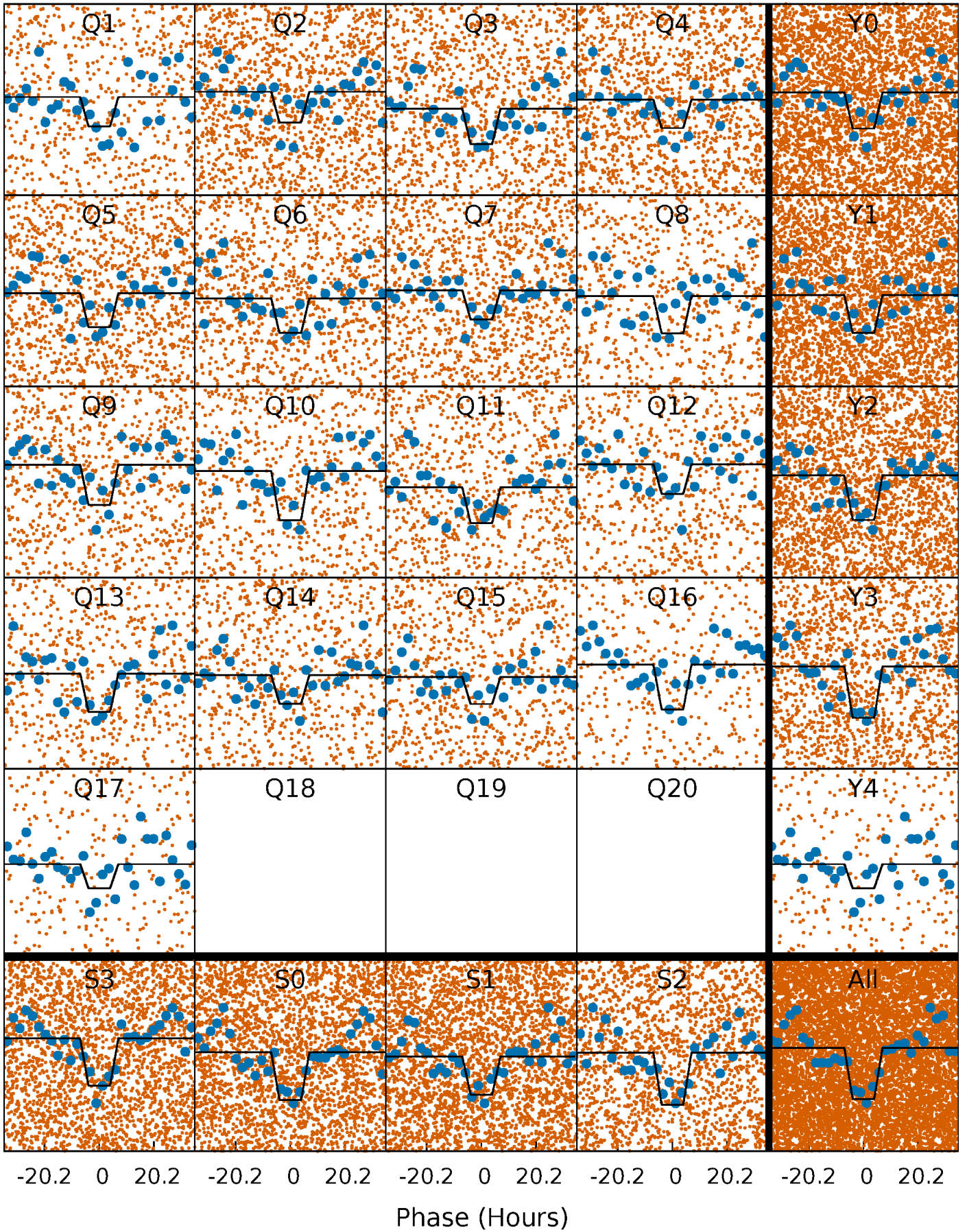
DV Quarter-Phased Transit Curves

TCE 009239211-01 P= 2.199115 Days $T_0=132.811184$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

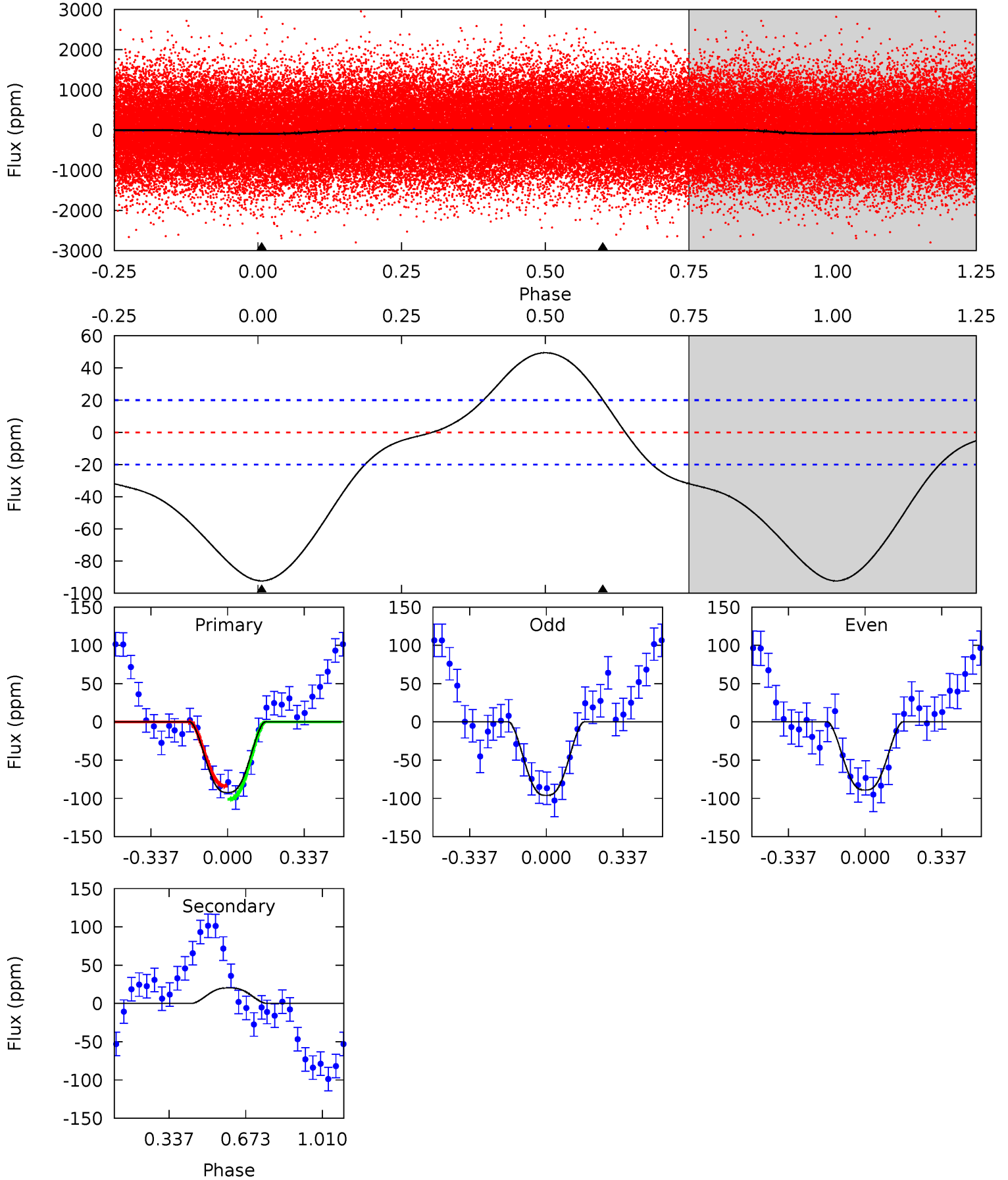
TCE 009239211-01 P= 2.199194 Days $T_0=132.798793$ (BKJD)



DV Model-Shift Uniqueness Test

009239211-01, P = 2.199115 Days, E = 130.612069 Days

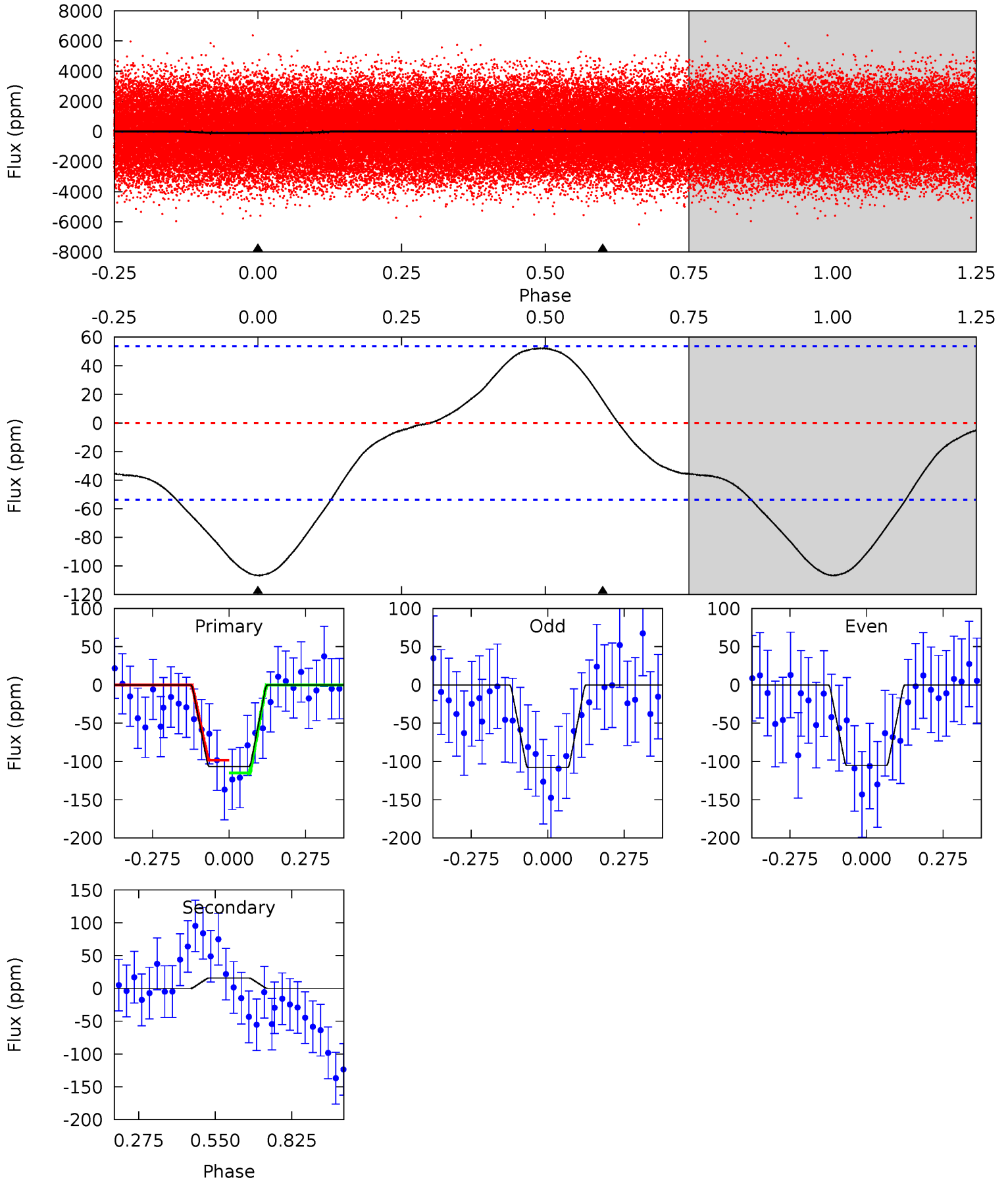
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.8	-4.36	0	0	4.30	0.96	0.79	19.8	19.8	-4.36	-4.36	0.75	0.65	0.35	1.81



Alt Model-Shift Uniqueness Test

009239211-01, P = 2.199194 Days, E = 130.599599 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.63	-1.29	0	0	4.35	1.09	0.35	8.63	8.63	-1.29	-1.29	0.11	1.10	0.33	0.68



Stellar Parameters For KIC 009239211

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7449^{+207}_{-337}	$3.987^{+0.222}_{-0.148}$	$-0.020^{+0.200}_{-0.350}$	$2.205^{+0.533}_{-0.651}$	$1.720^{+0.186}_{-0.346}$	$0.226^{+0.316}_{-0.102}$
	+3%/-5%	+6%/-4%	+1000%/-1750%	+24%/-30%	+11%/-20%	+140%/-45%
Source	KIC0	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 009239211-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	20 ± 5	$2.91^{+0.53}_{-0.45}$	3399^{+261}_{-252}	-4696^{+260}_{-273}	$-1.981^{+0.681}_{-0.851}$
Alt.	16 ± 12	$2.56^{+0.42}_{-0.46}$	3384^{+253}_{-280}	-4730^{+1022}_{-602}	$-2.050^{+1.738}_{-2.169}$

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 $A_{obs} \gg 1.0$

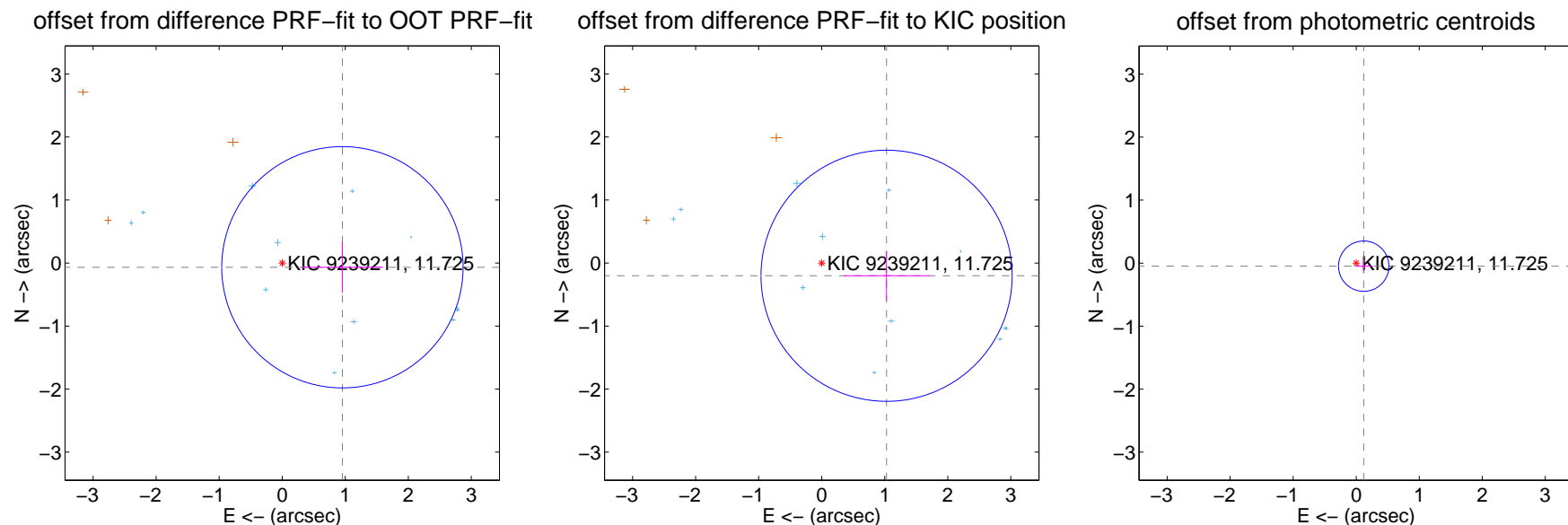
DV Centroid Data

Supplemental centroid analysis for 009239211-01. **Kepler magnitude: 11.72.** Transit SNR 17.48

There are 12 quarters with good PRF difference image offsets

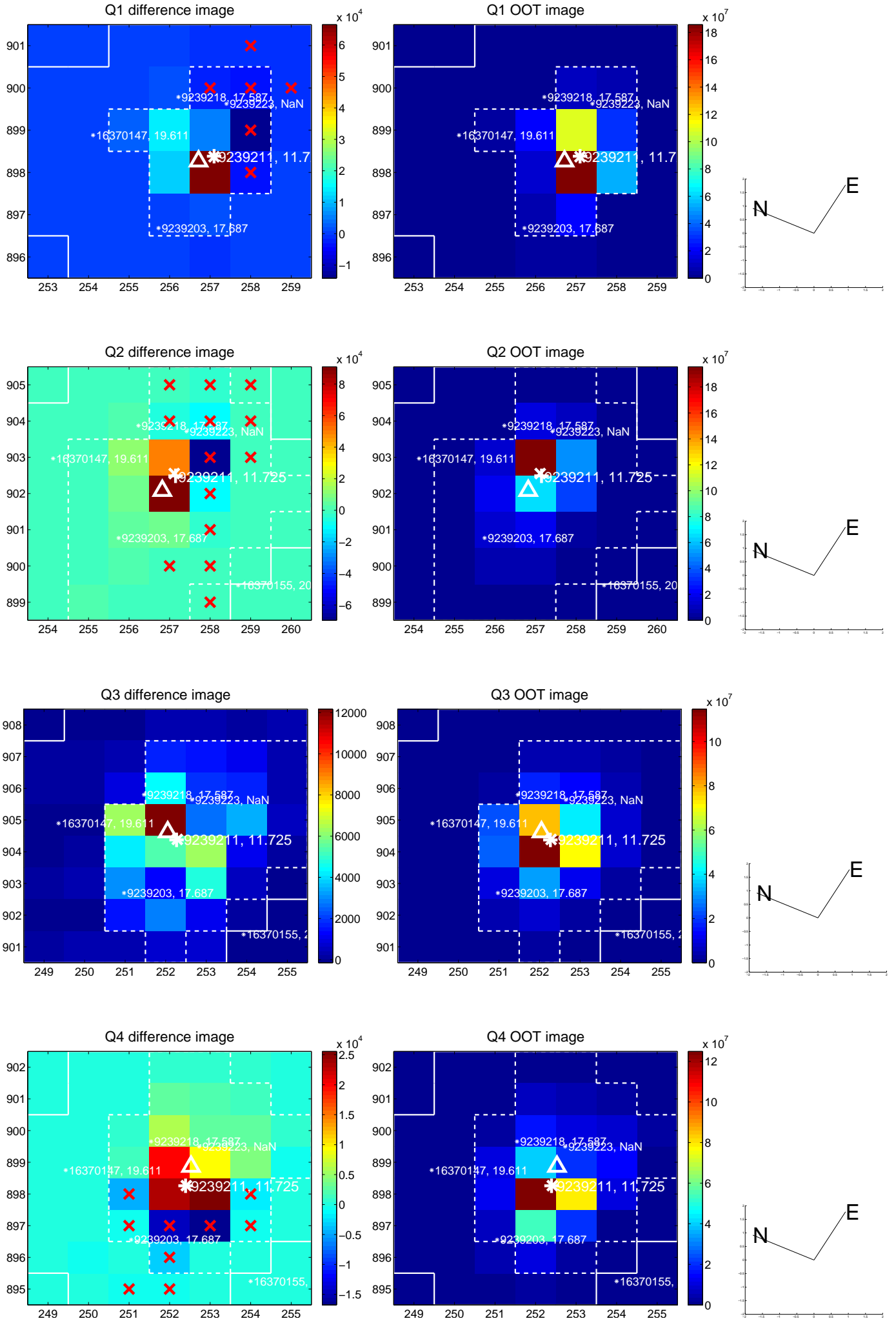
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.957 ± 0.638	1.50	-0.955 ± 0.642	-0.067 ± 0.406
PRF-fit source offset from KIC position	1.048 ± 0.664	1.58	-1.029 ± 0.678	-0.202 ± 0.395
photometric centroid source offset	0.13 ± 0.13	0.97	-0.12 ± 0.14	-0.05 ± 0.11

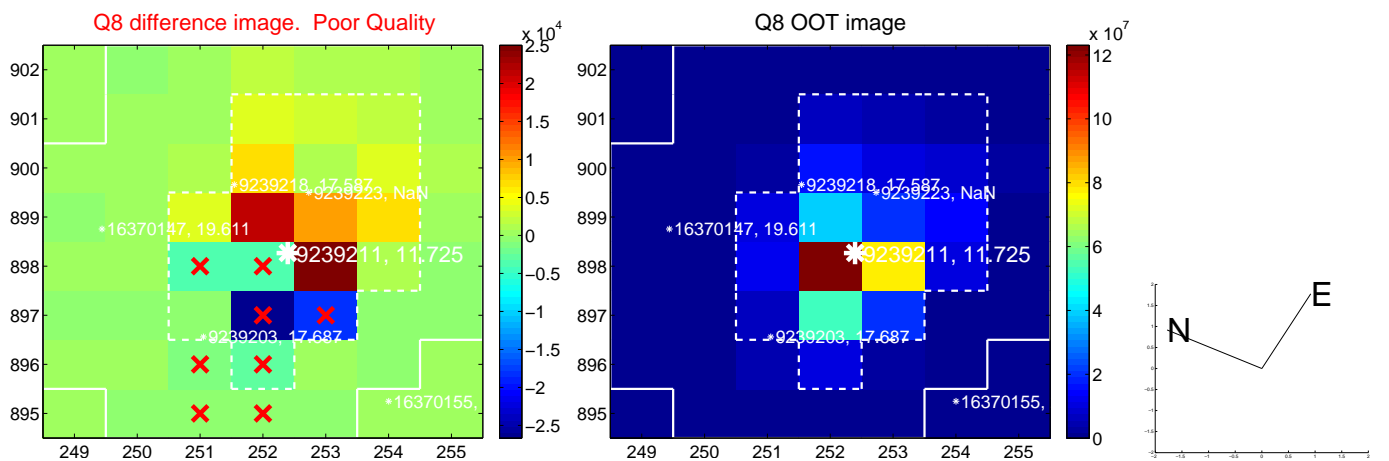
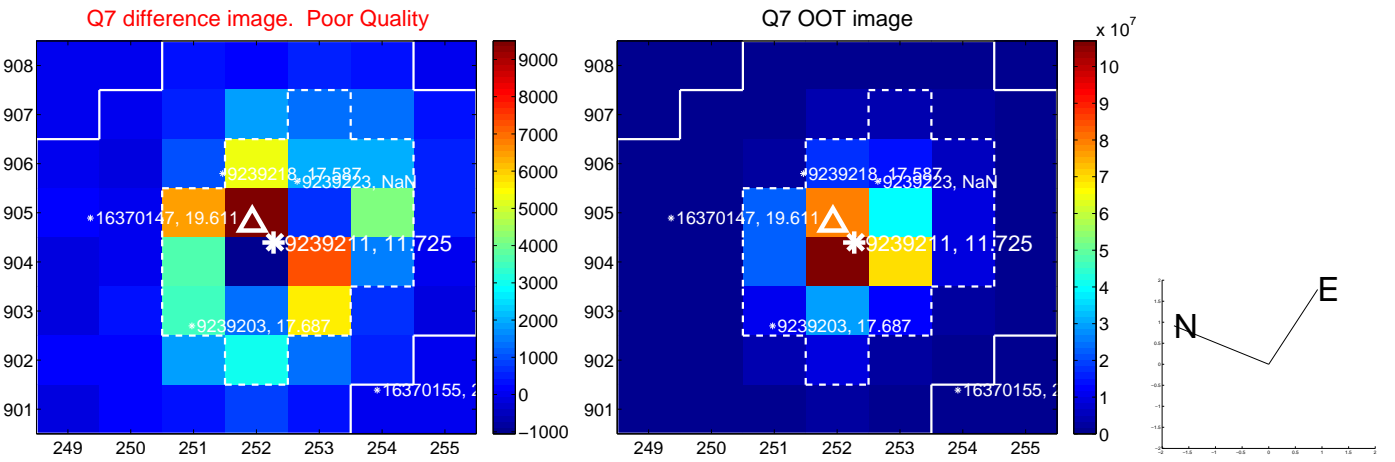
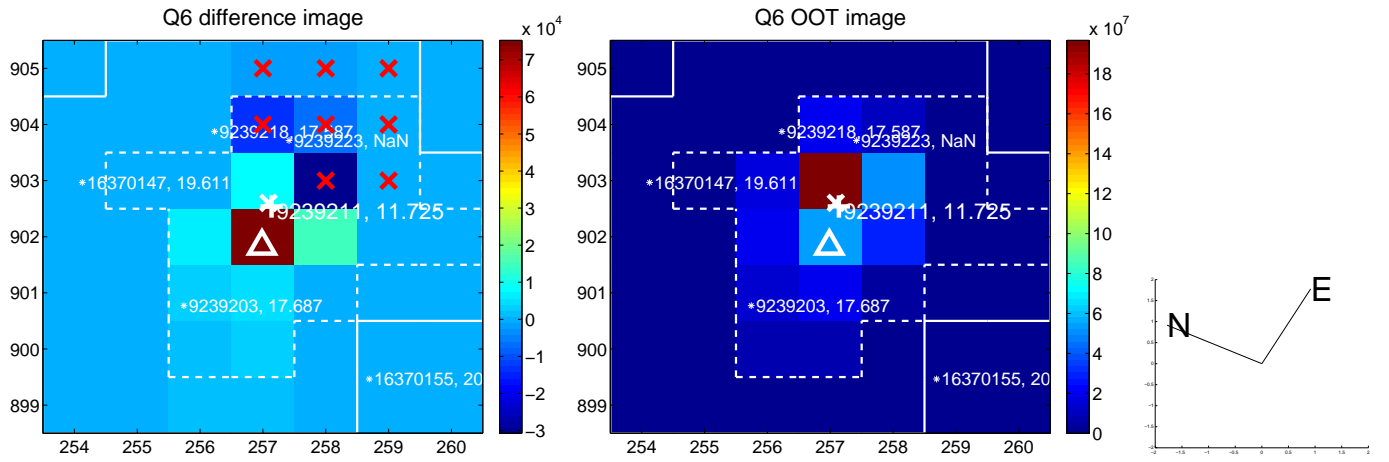
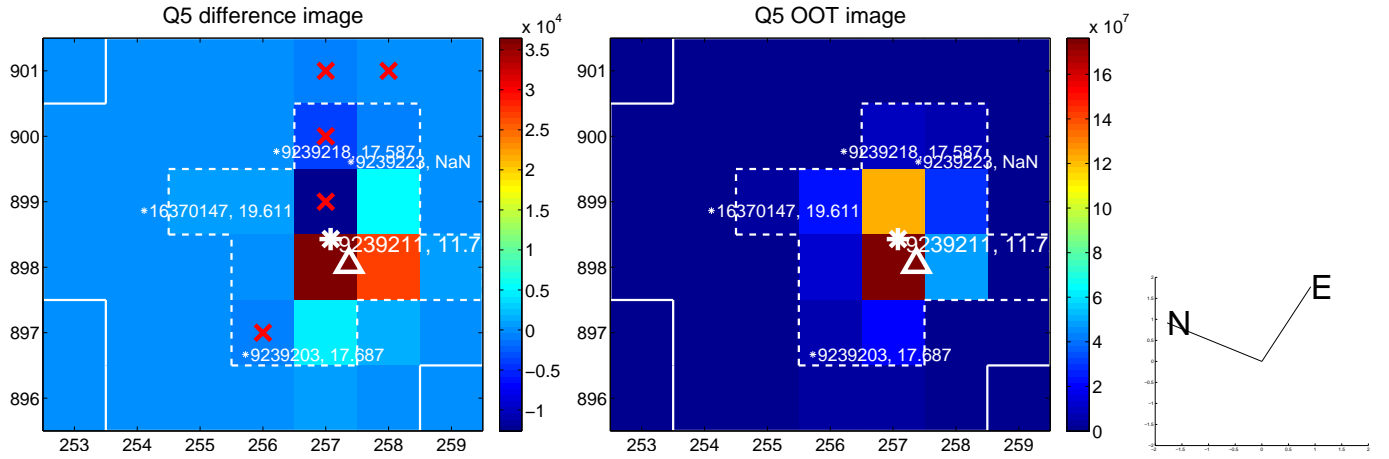


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

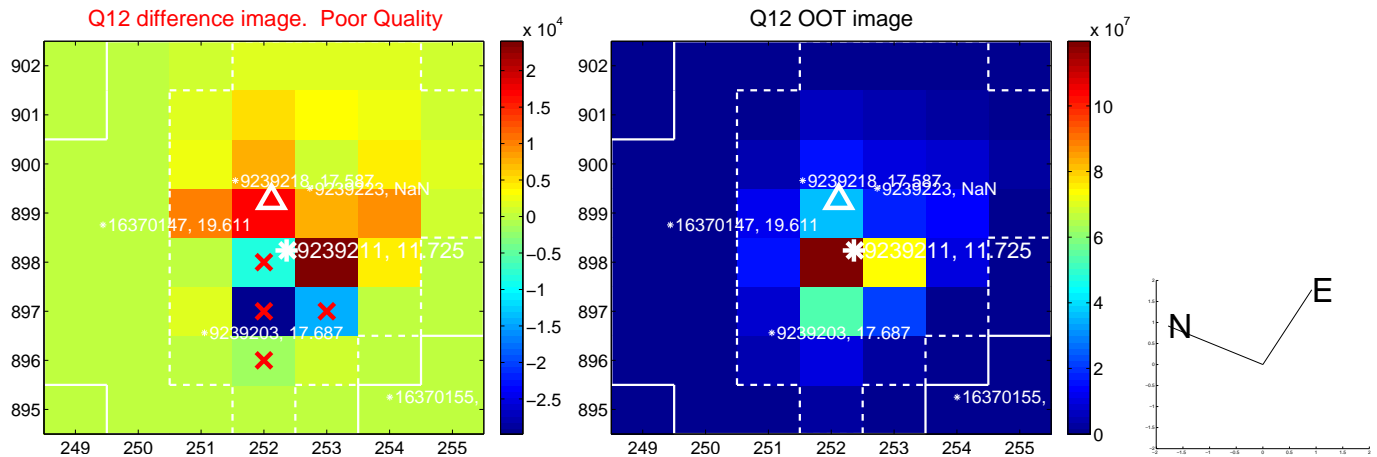
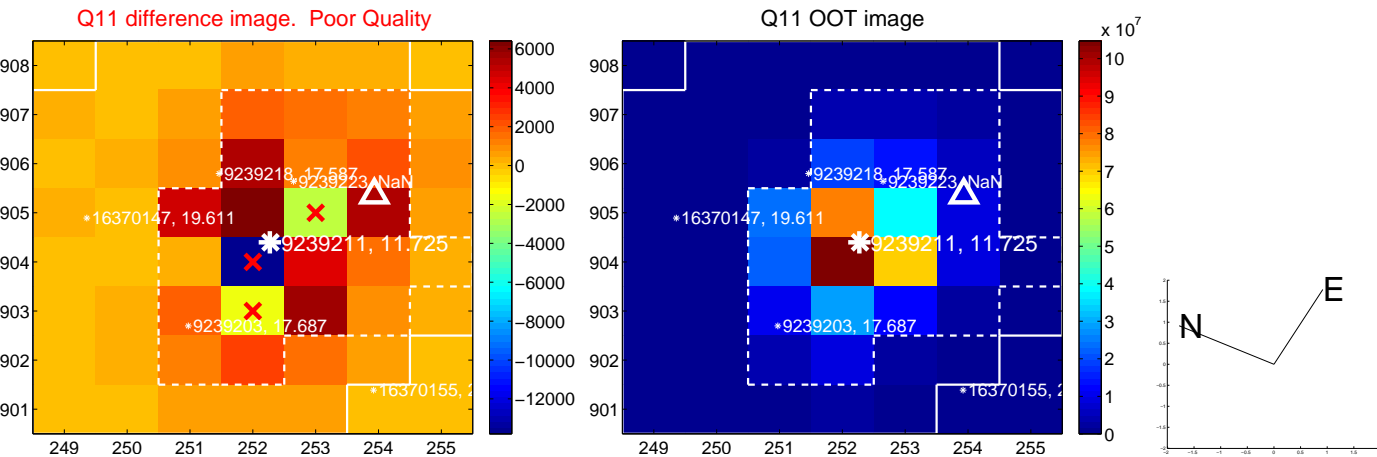
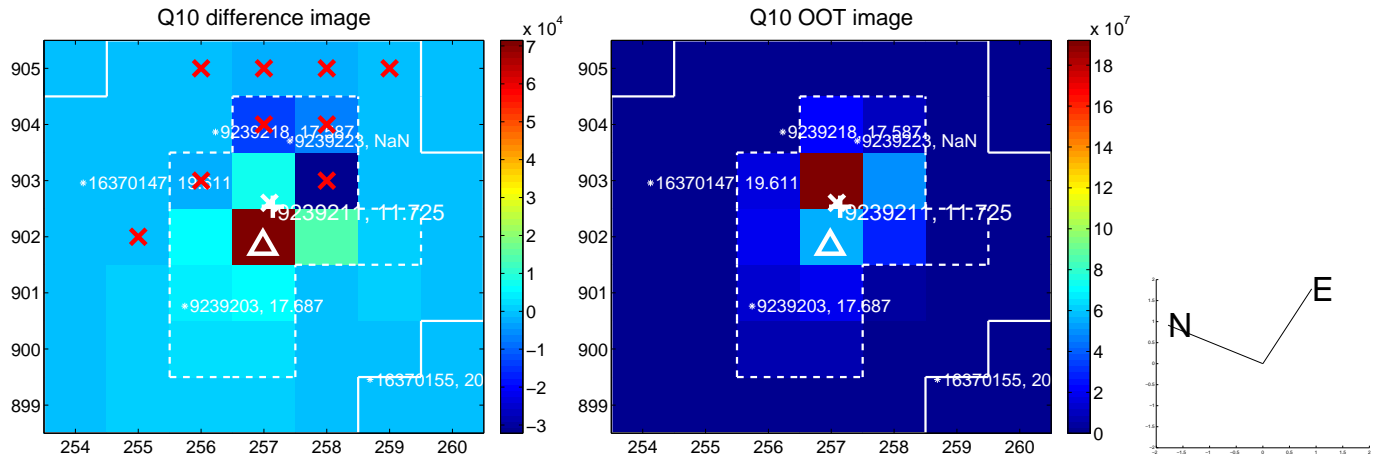
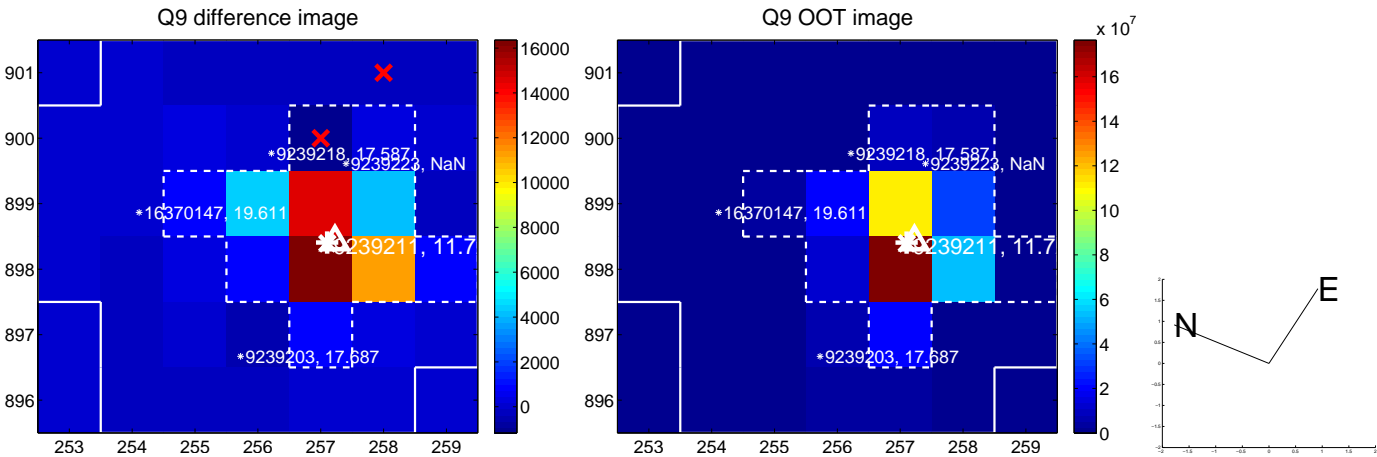
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



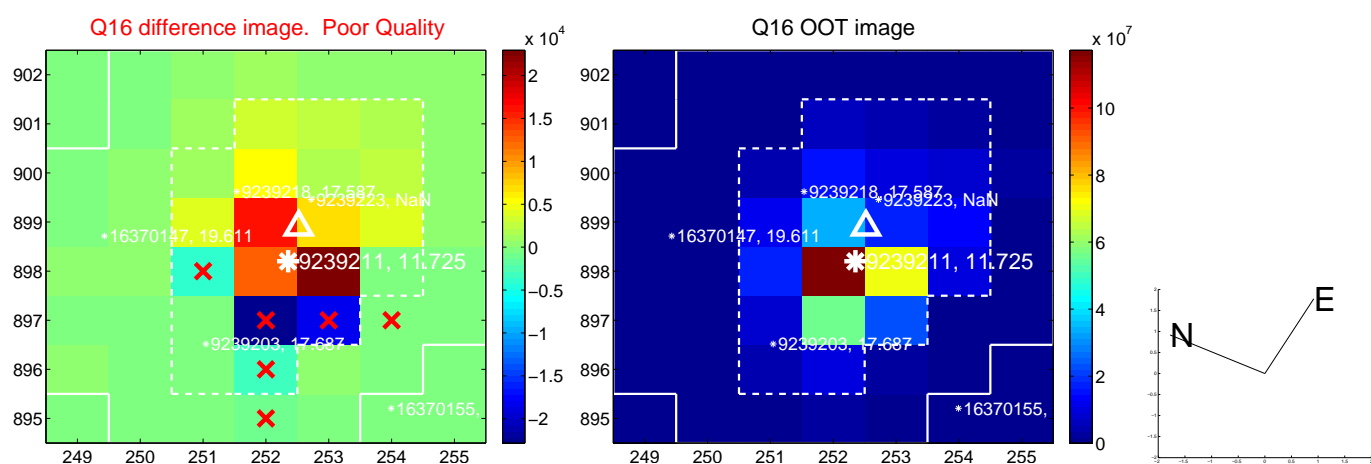
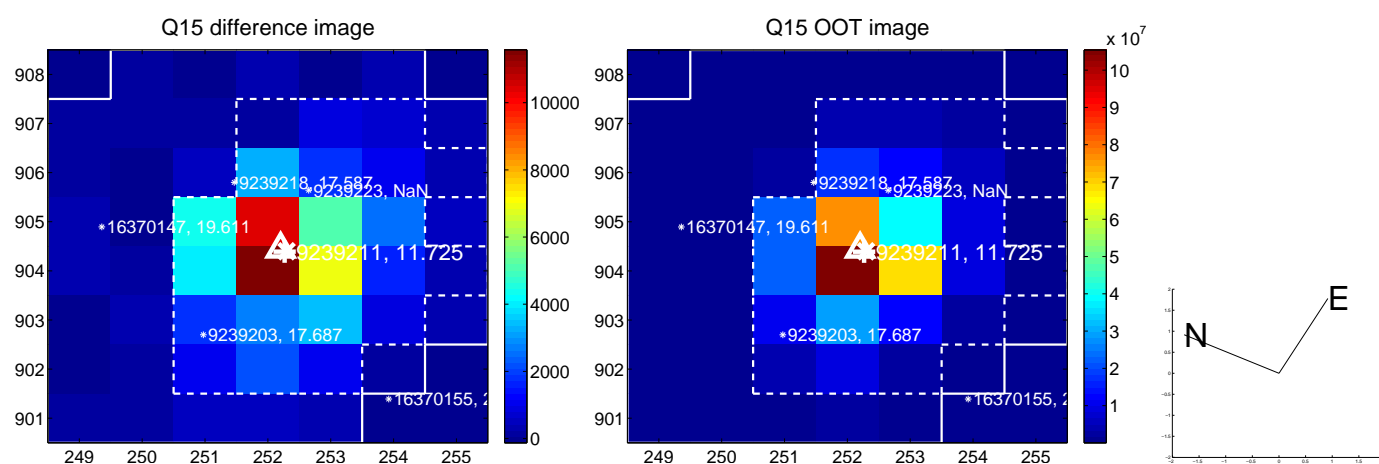
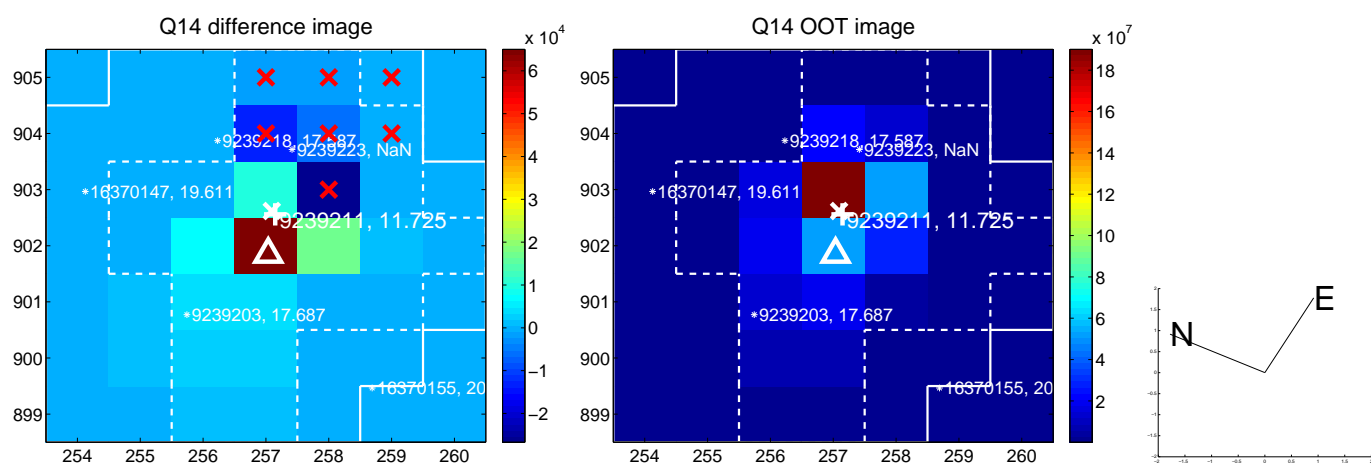
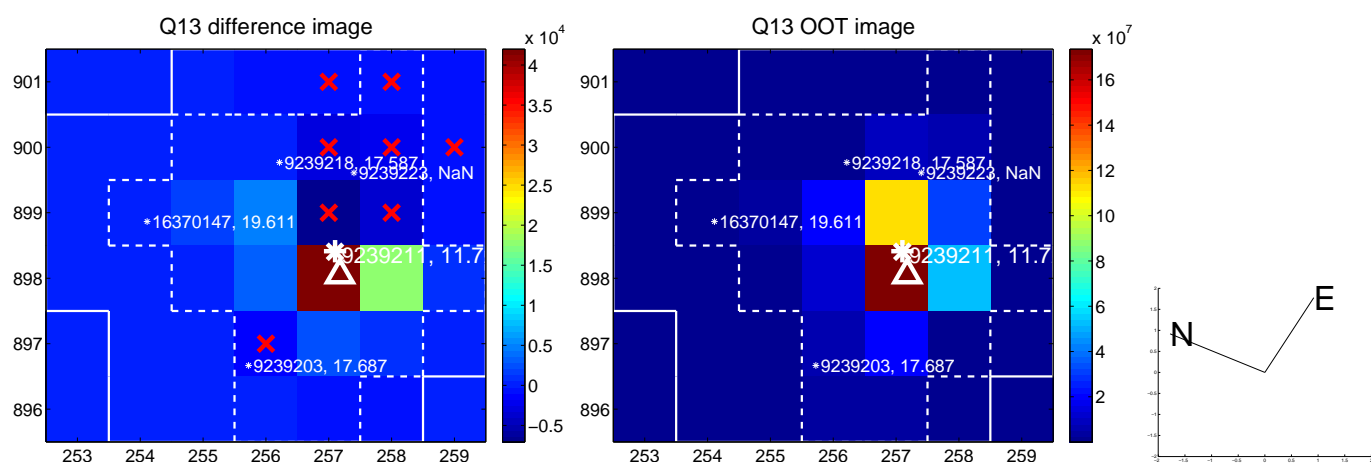
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



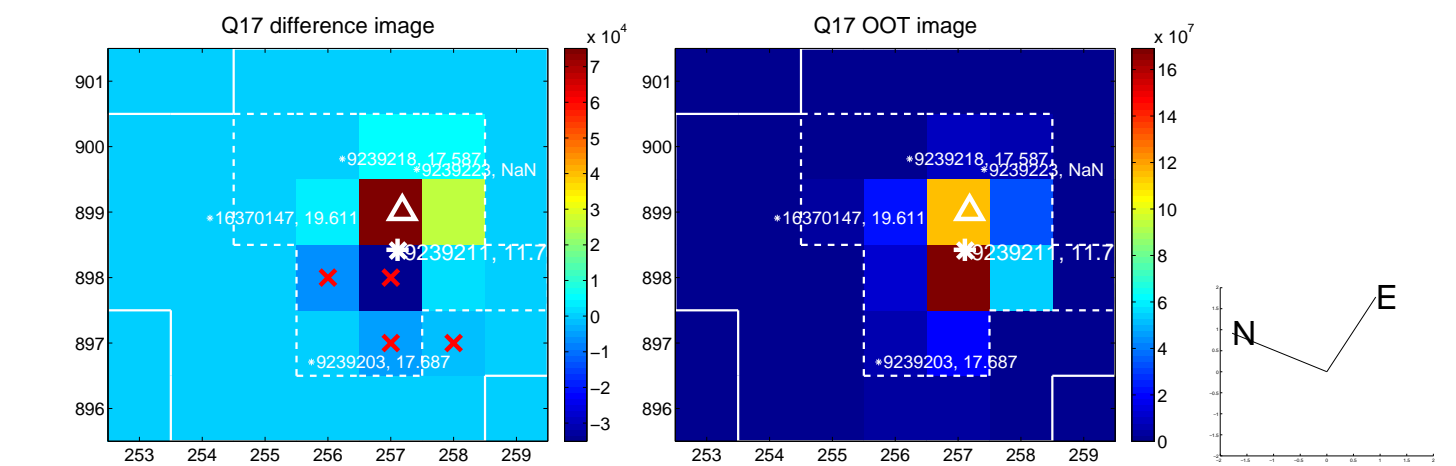
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



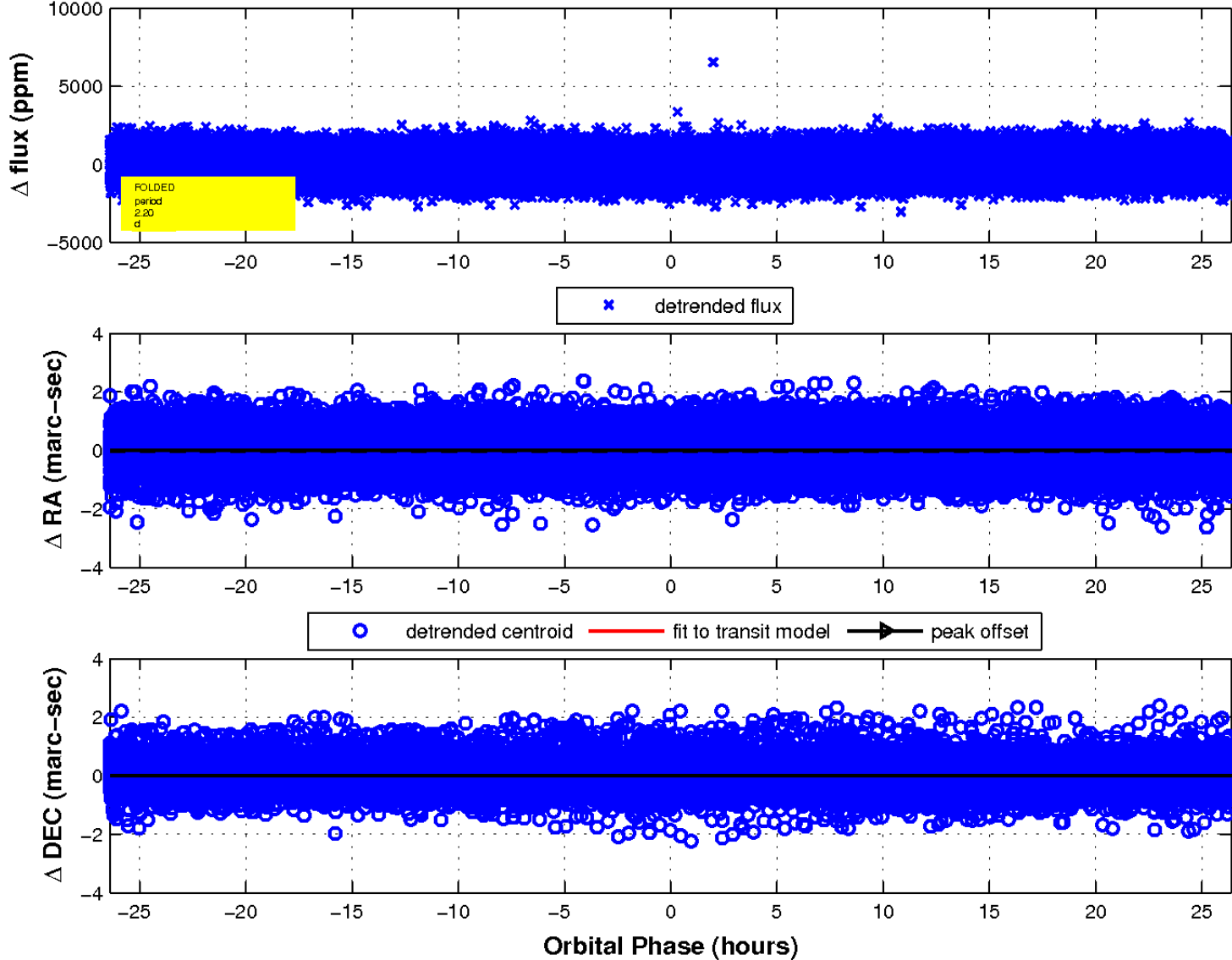
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

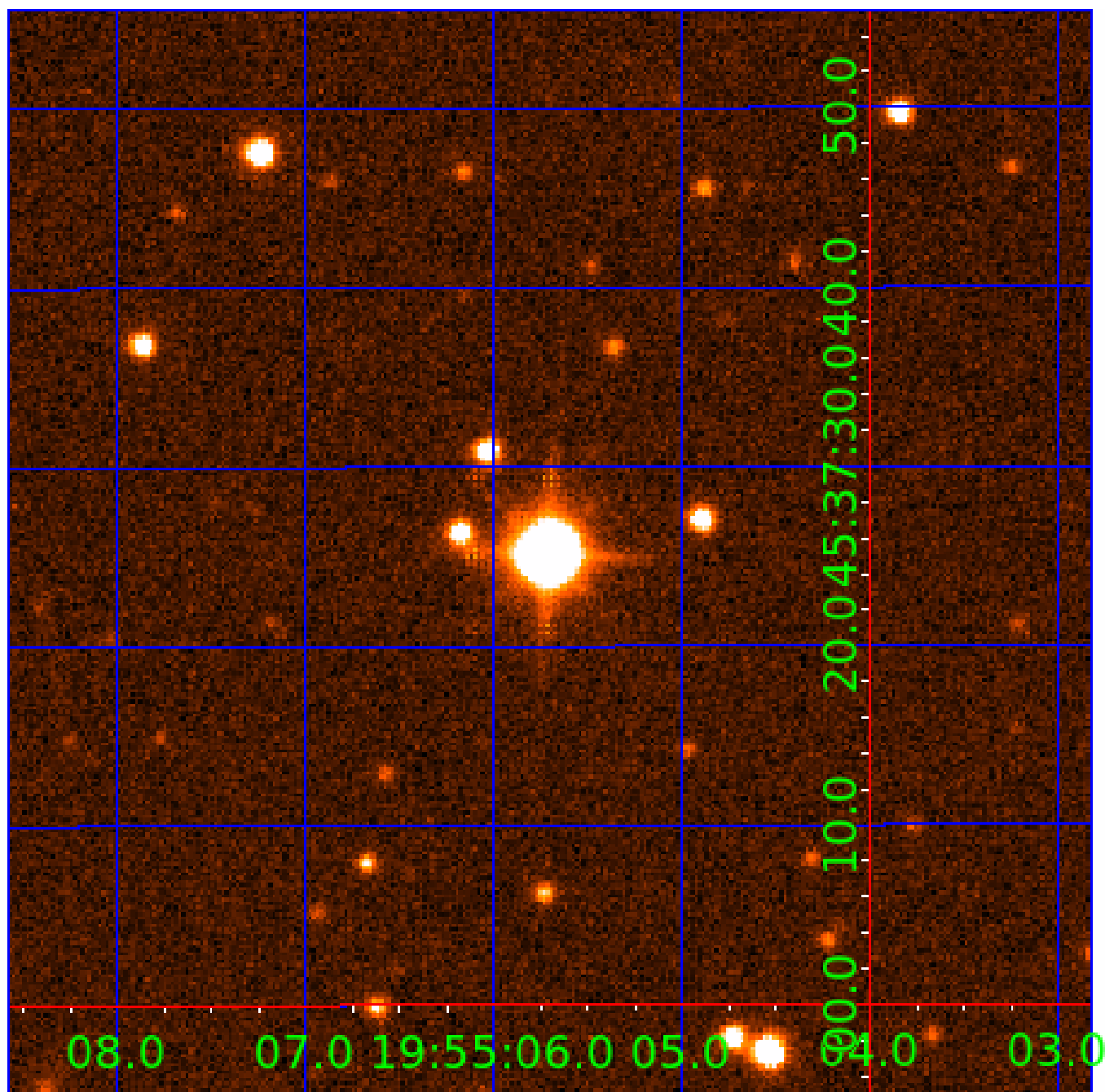


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 009239211

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})
009239211-01	OBS	No	2.199115	132.811184	99.9	17.320	13.9	17.5	2.21	7449	2.95	8522.39
009239211-02	OBS	No	3.704319	135.032028	2553.2	3.000	153.9	-1.0	2.21	7449	11.32	4252.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009239211-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
009239211-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

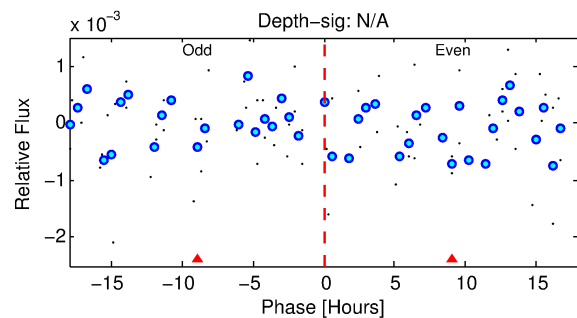
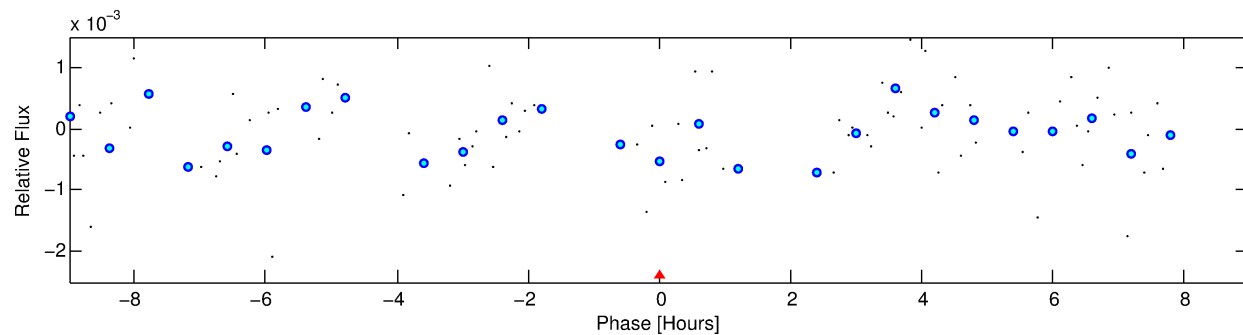
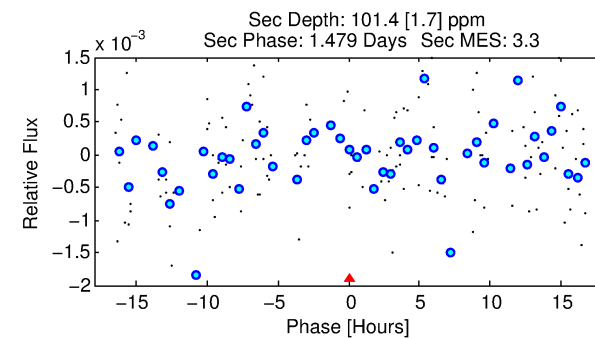
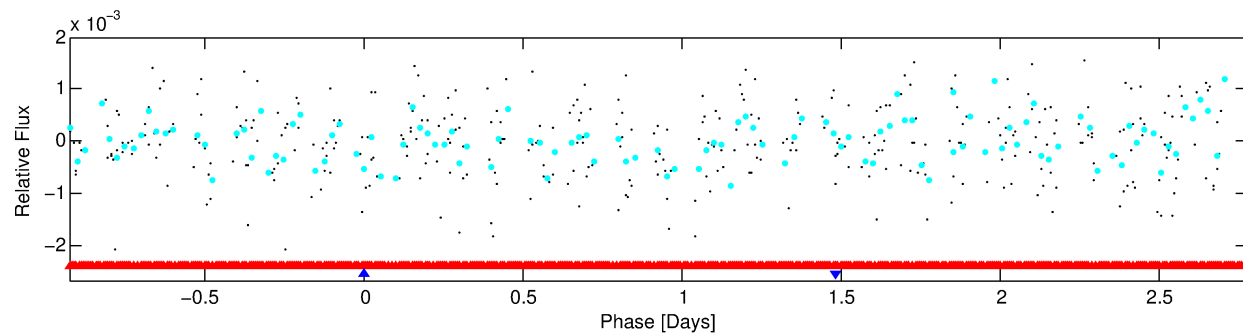
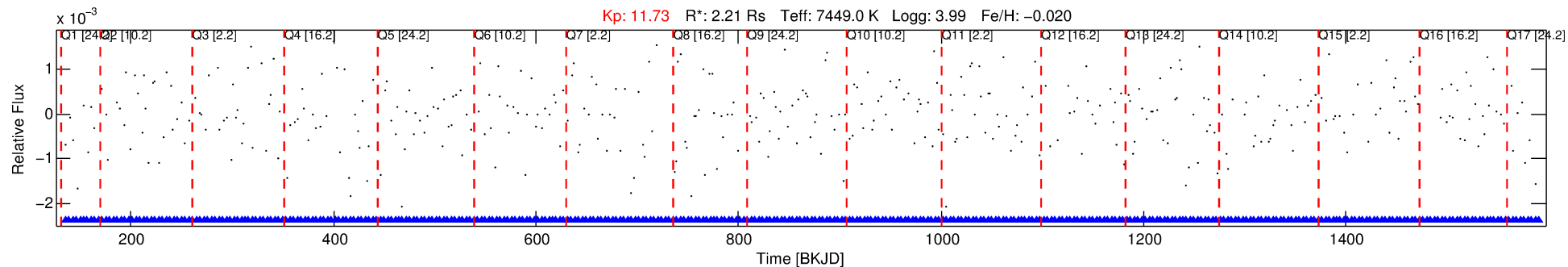
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009239211-02

No Significant Match Found

DV One-Page Summary

KIC: 9239211 Candidate: 2 of 2 Period: 3.704 d



TPS TCE Results:

Period = 3.70432 d
Epoch = 135.0320 BKJD

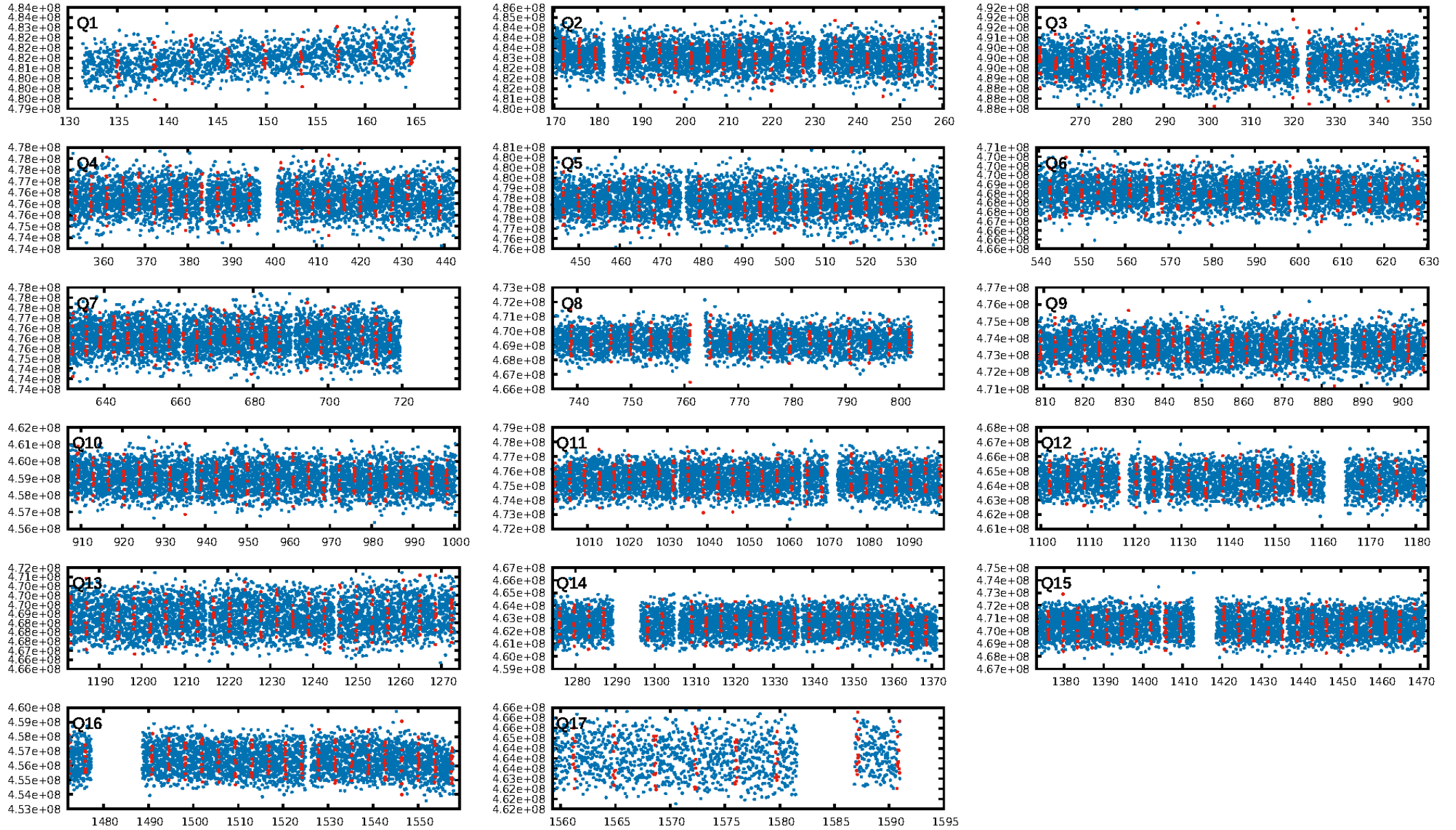
DV fit results are unavailable

DV Diagnostic Results:

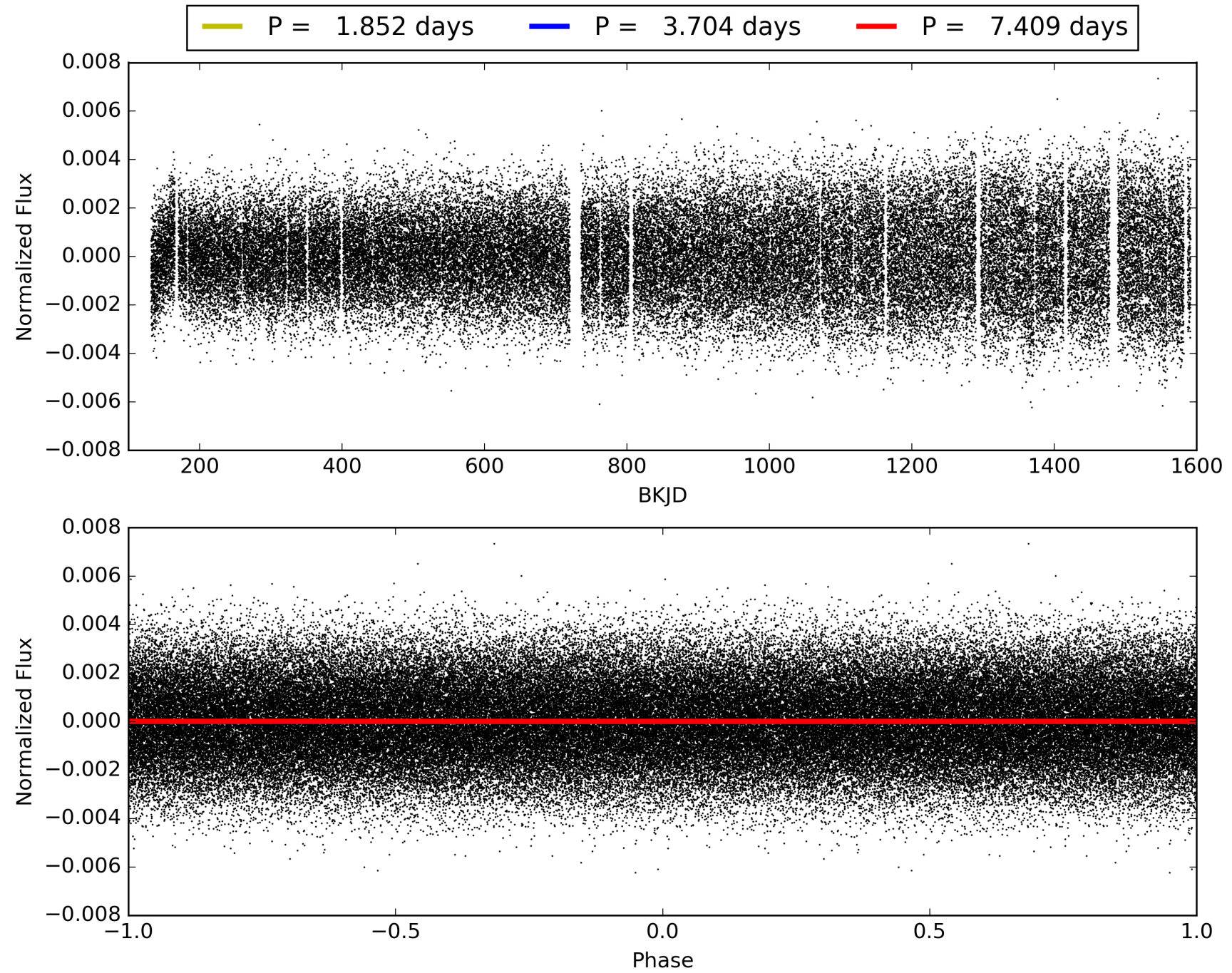
ShortPeriod-sig: 96.0% [2.06 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: N/A
GhostDiagnostic-chr: N/A

Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

TCE 009239211-02, PDC Light Curves

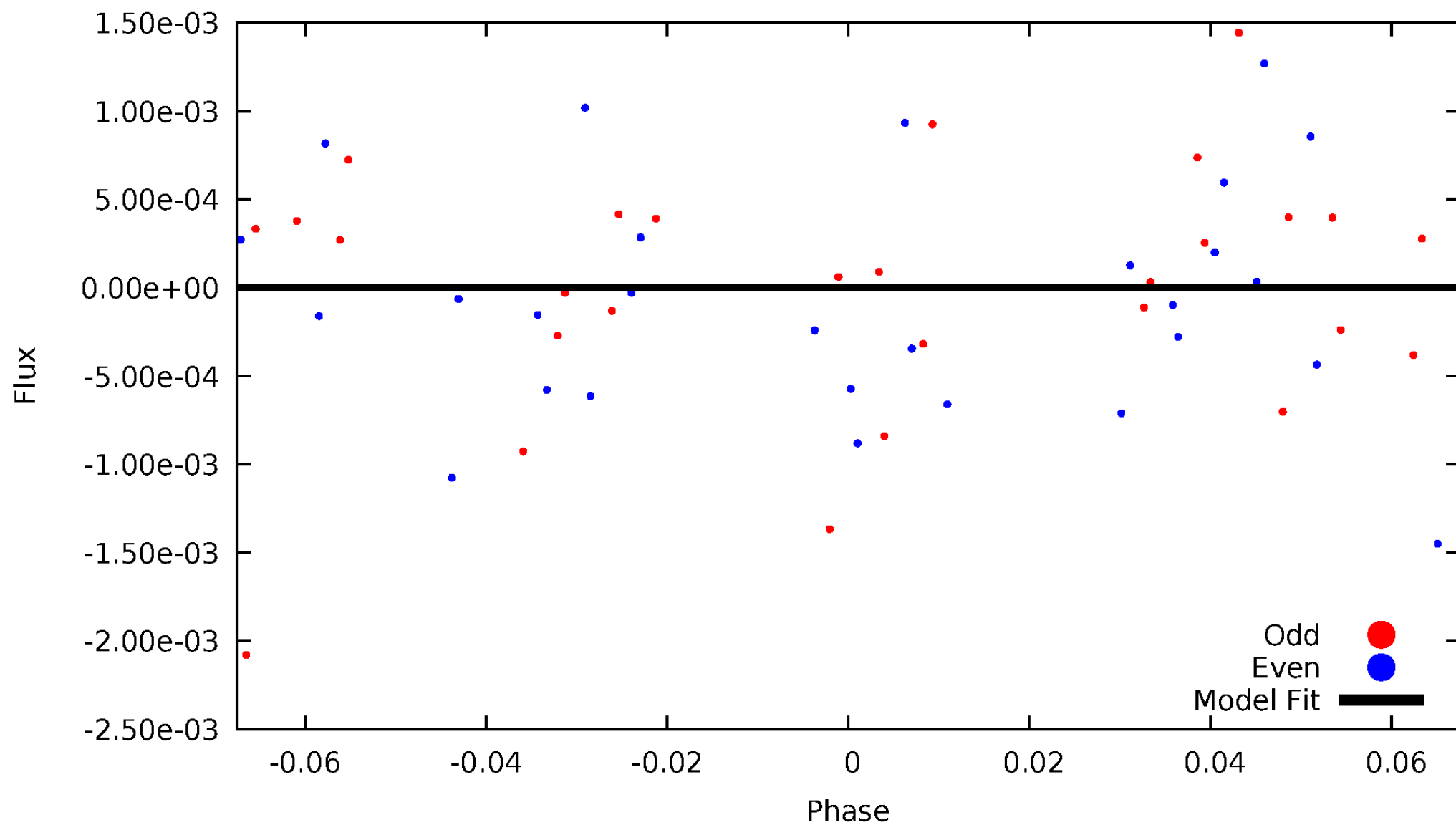


TCE 009239211-02



DV Odd/Even

TCE 009239211-02

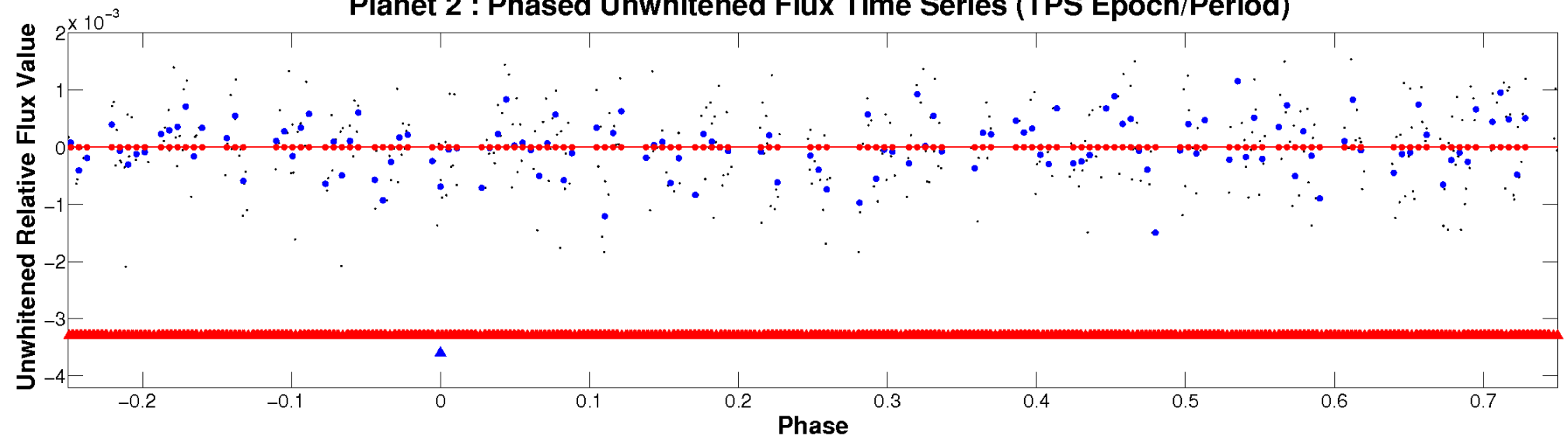


ALT Odd/Even

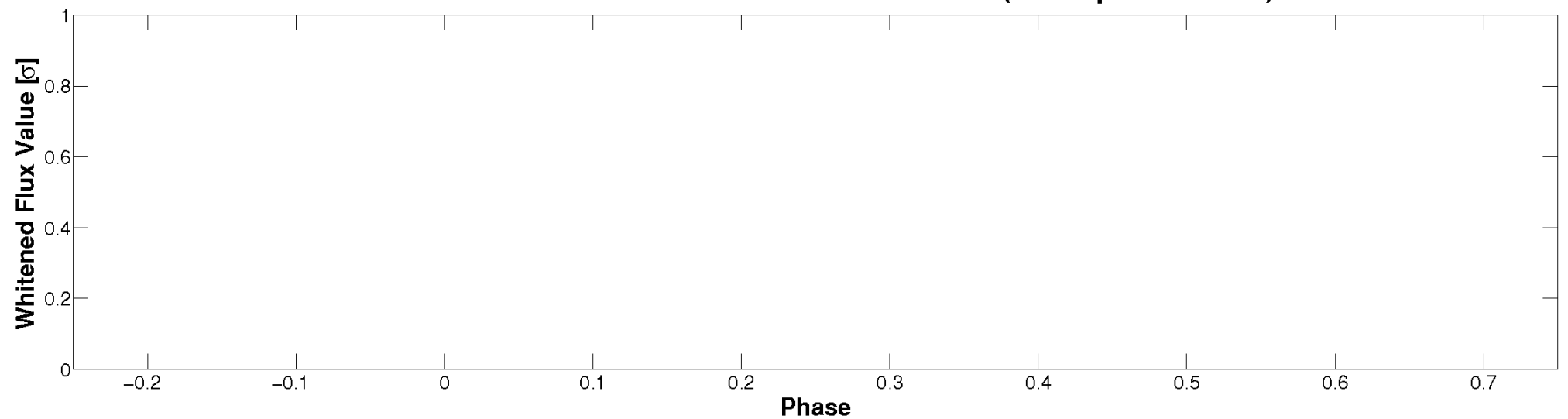
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

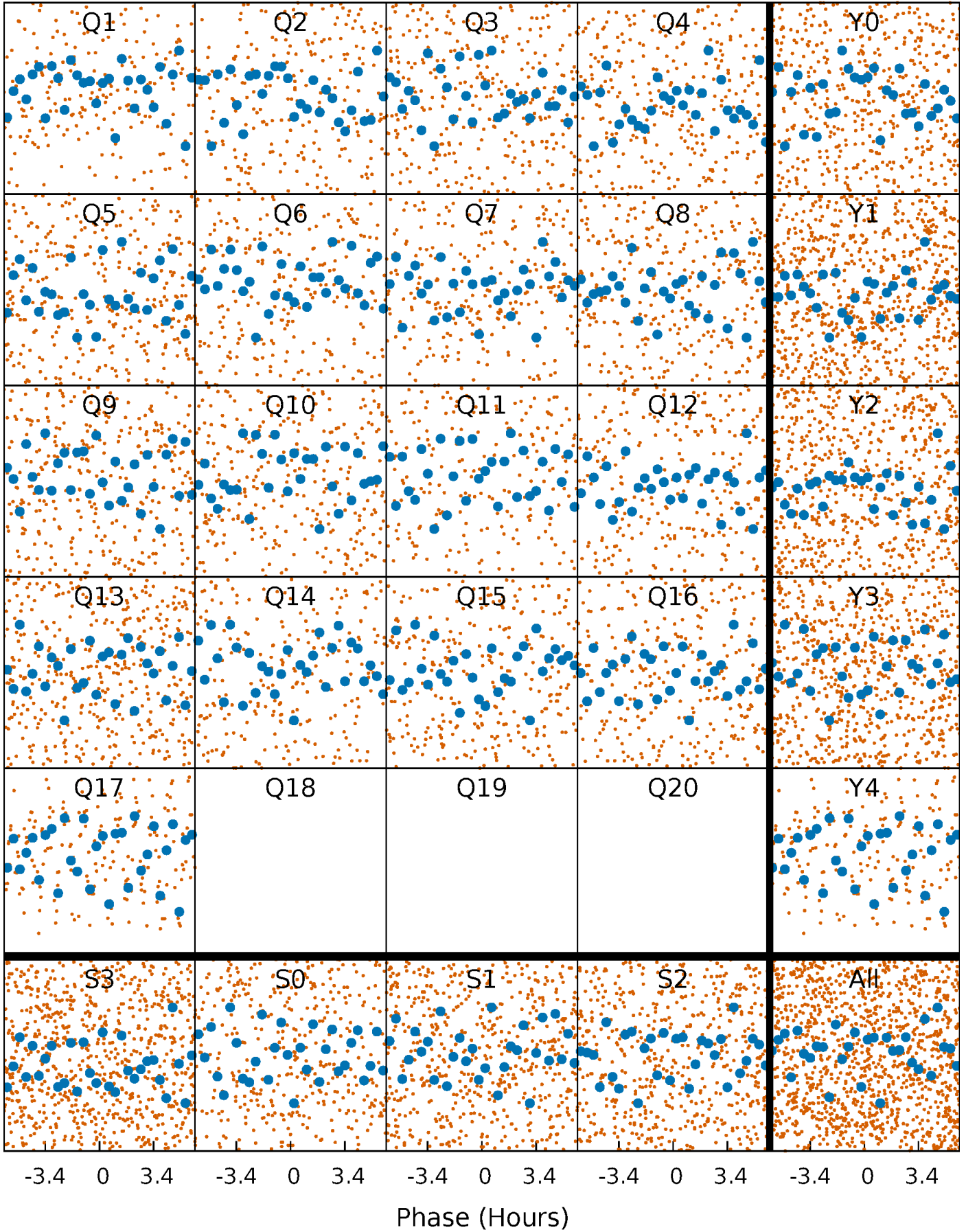


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



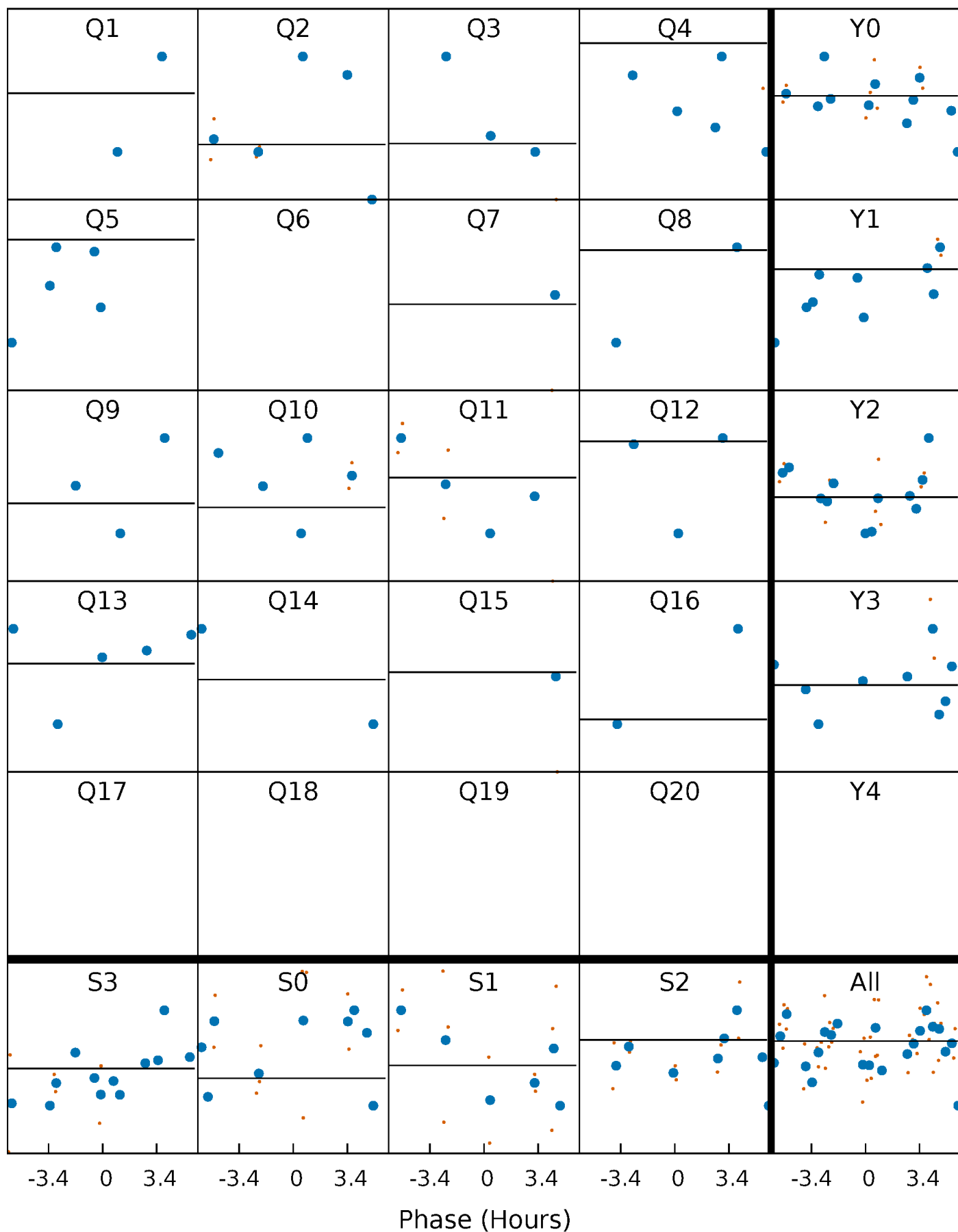
PDC Quarter-Phased Transit Curves

TCE 009239211-02 P= 3.704319 Days $T_0=135.032028$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009239211-02 P= 3.704319 Days $T_0=135.032028$ (BKJD)

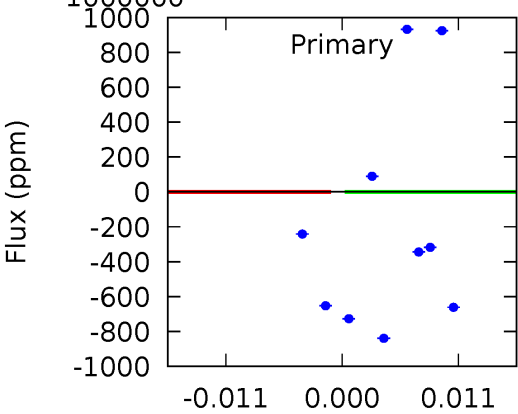
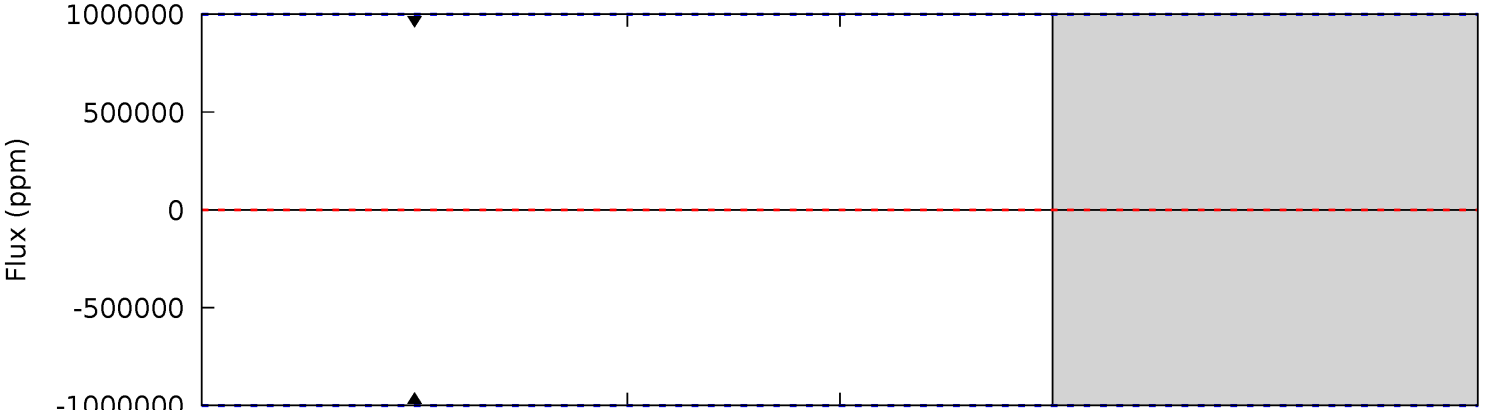
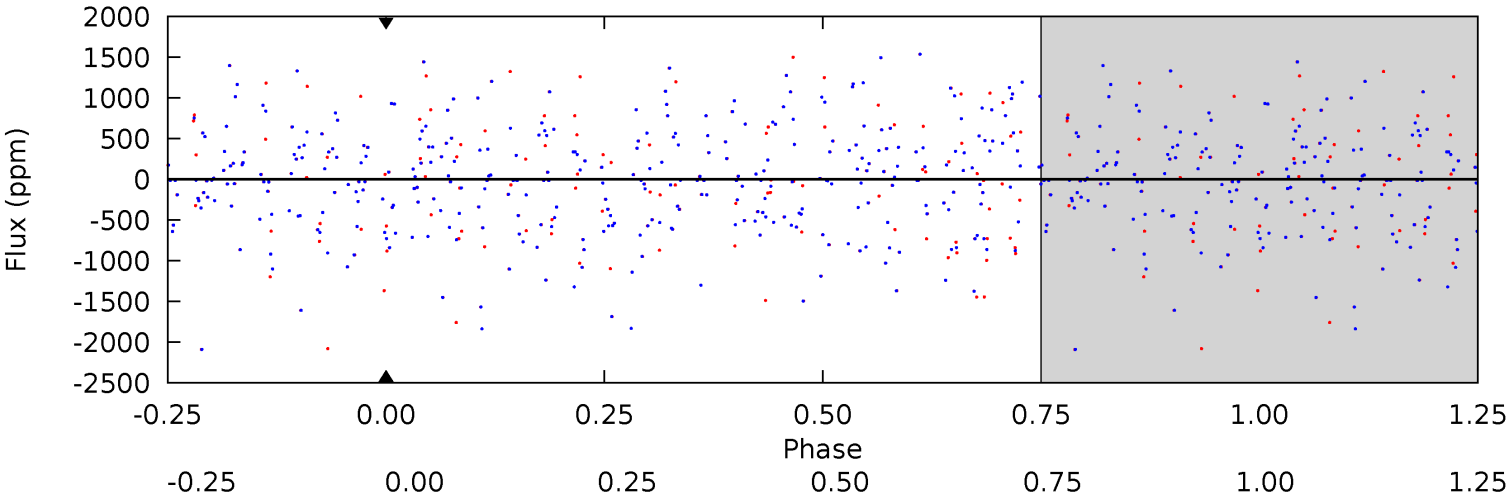


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009239211-02, P = 3.704319 Days, E = 131.327709 Days

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



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 009239211

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7449^{+207}_{-337}	$3.987^{+0.222}_{-0.148}$	$-0.020^{+0.200}_{-0.350}$	$2.205^{+0.533}_{-0.651}$	$1.720^{+0.186}_{-0.346}$	$0.226^{+0.316}_{-0.102}$
	+3%/-5%	+6%/-4%	+1000%/-1750%	+24%/-30%	+11%/-20%	+140%/-45%
Source	KIC0	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 009239211-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$19.91^{+21.08}_{-13.81}$	2824^{+219}_{-220}	5560^{+26610}_{-33448}	$9.583^{+780.474}_{-669.192}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

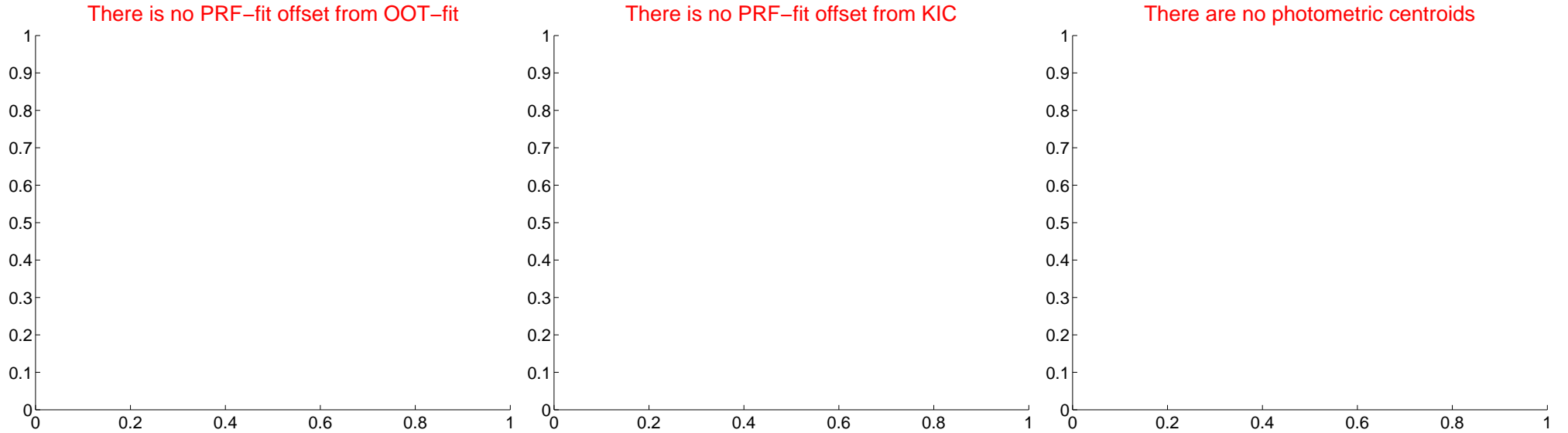
DV Centroid Data

Supplemental centroid analysis for 009239211-02. **Kepler magnitude: 11.72.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

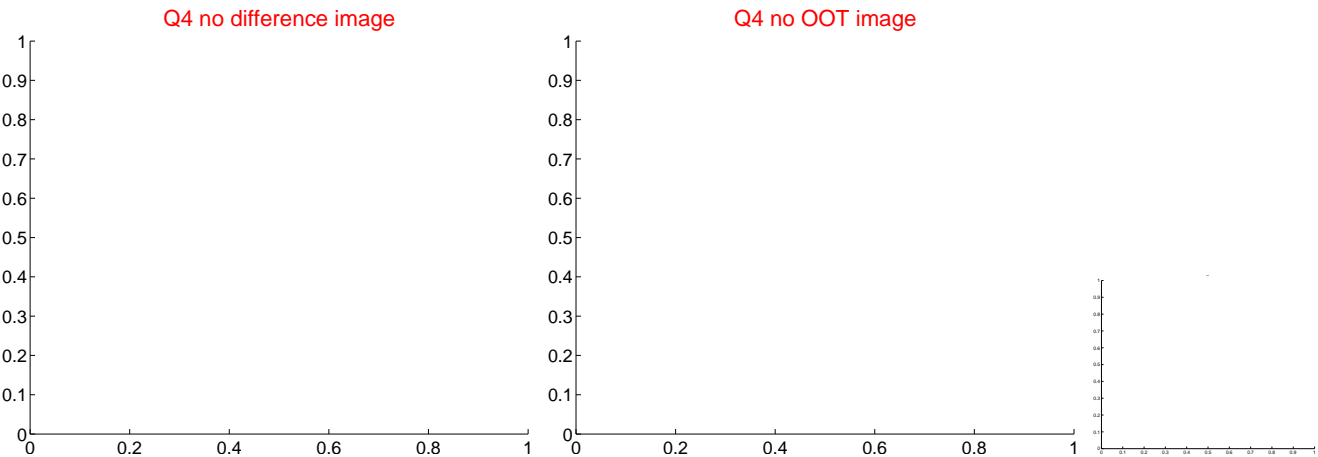
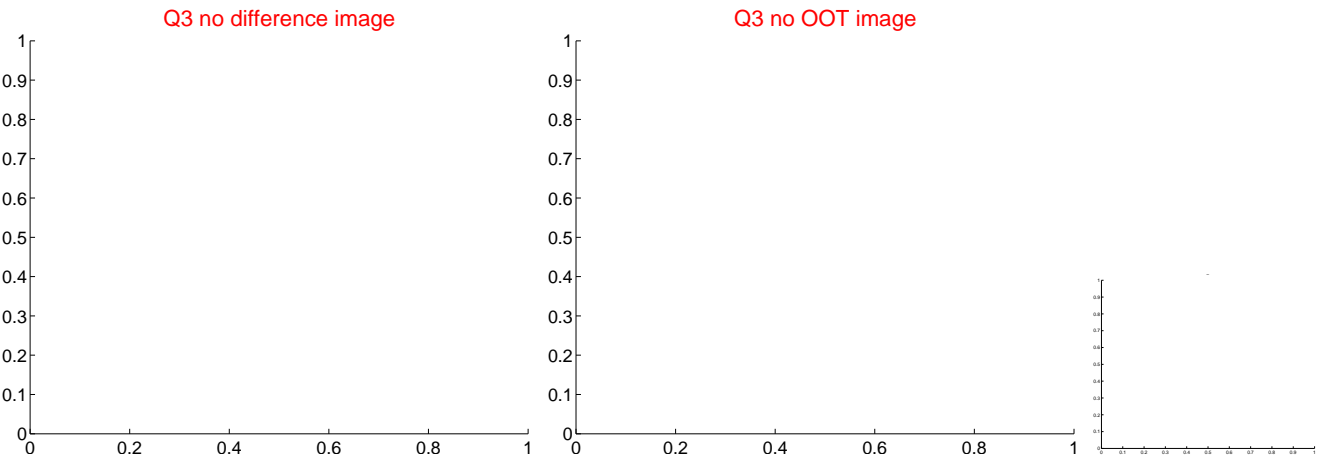
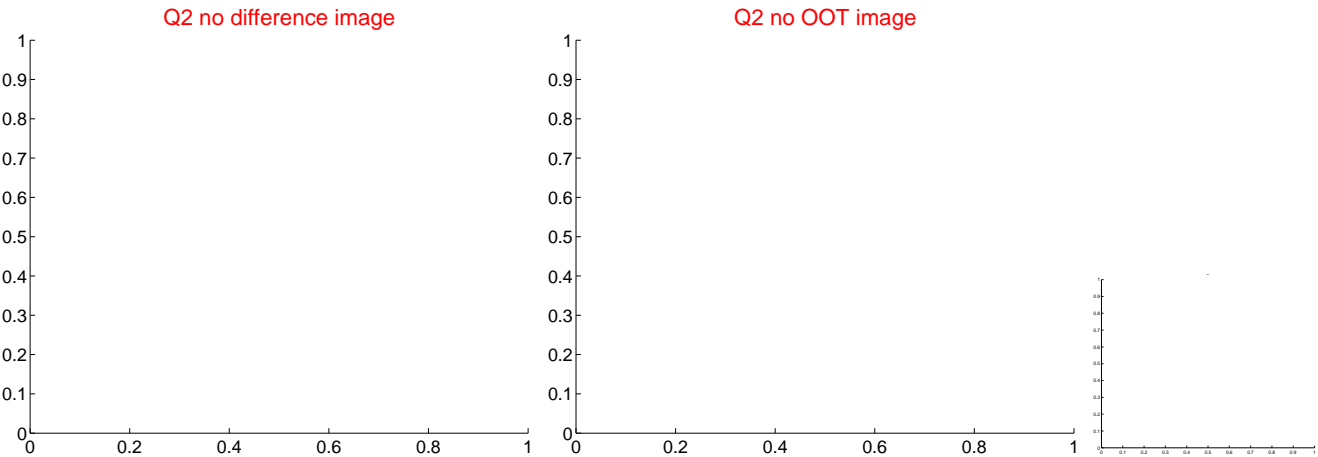
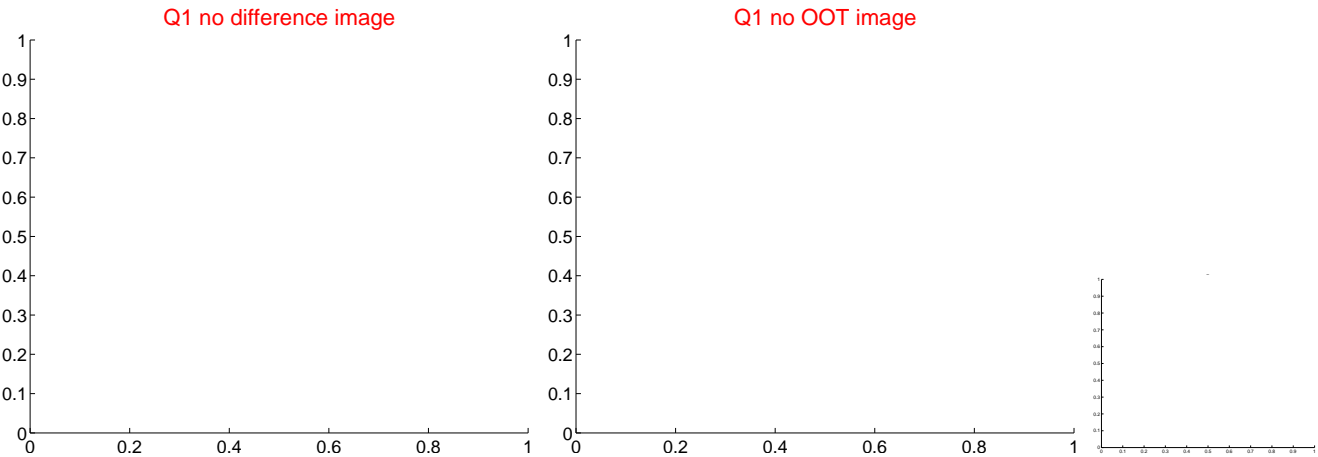
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—

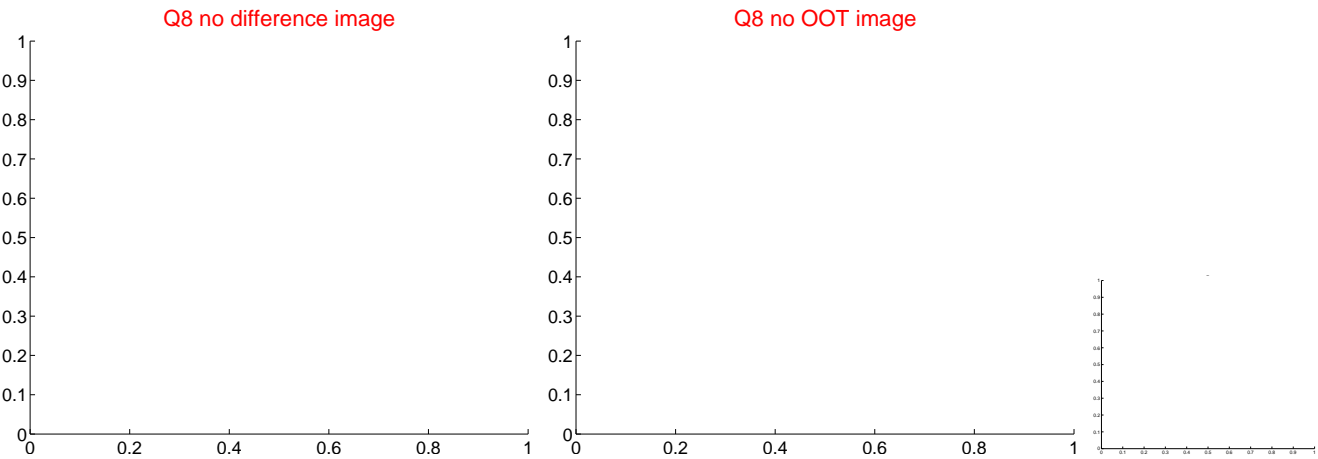
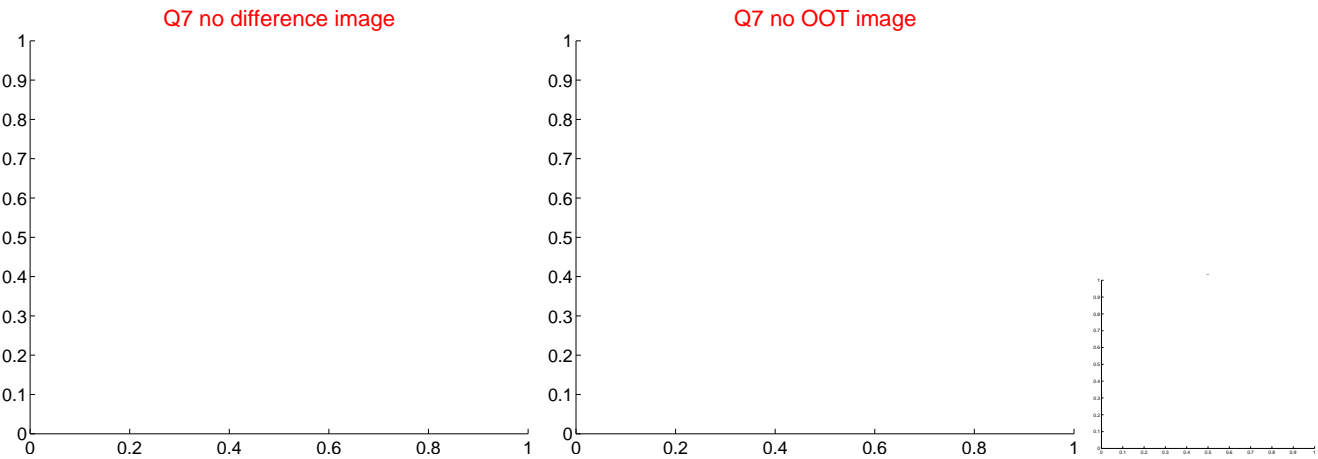
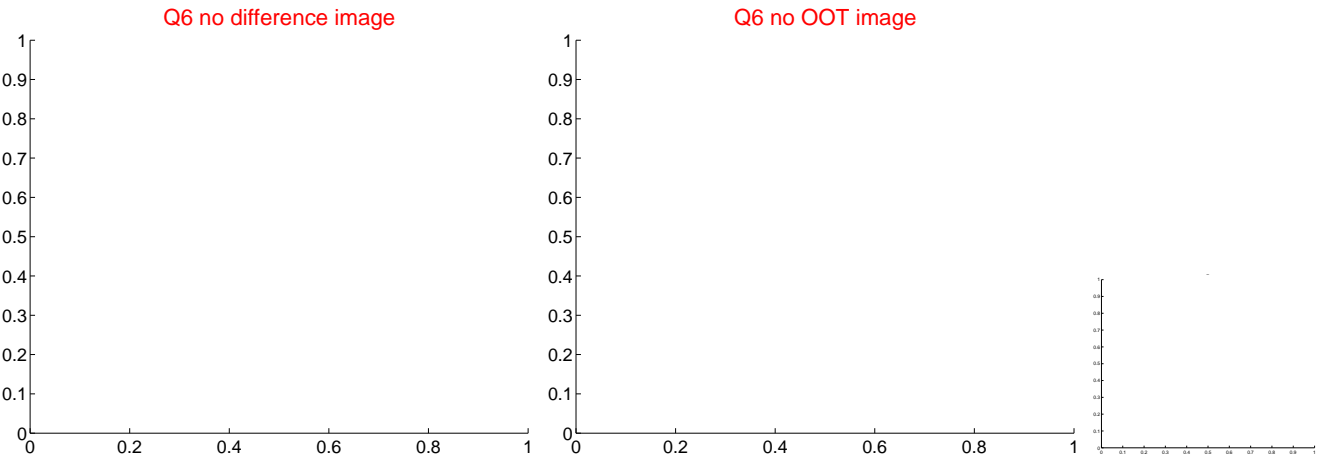
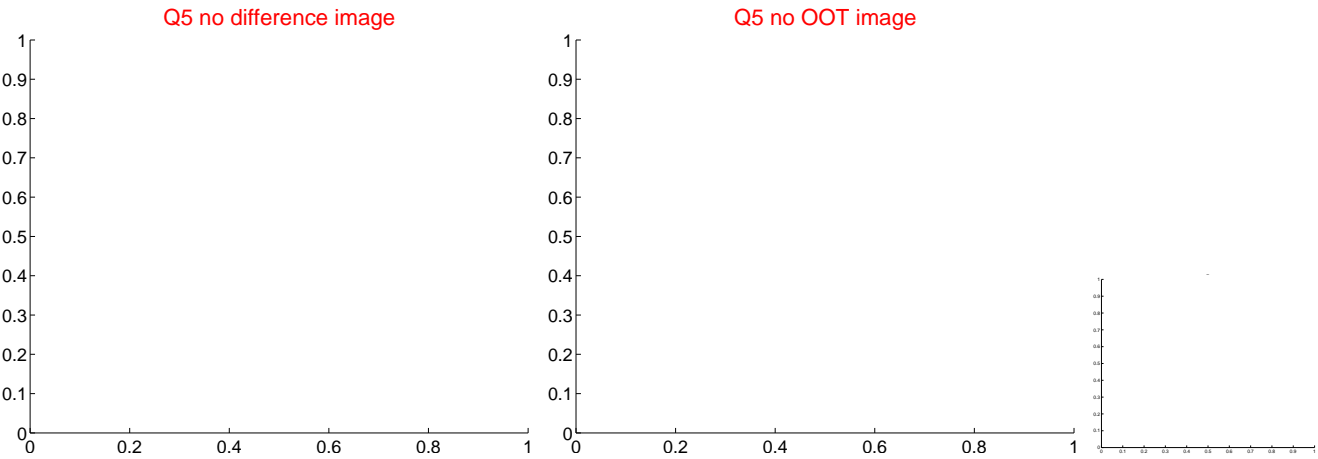


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

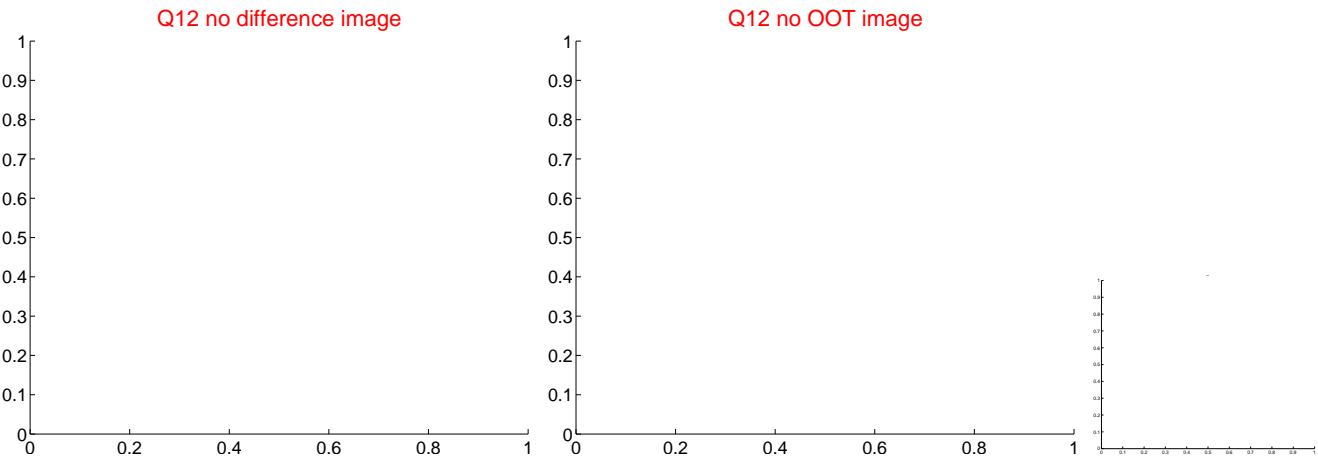
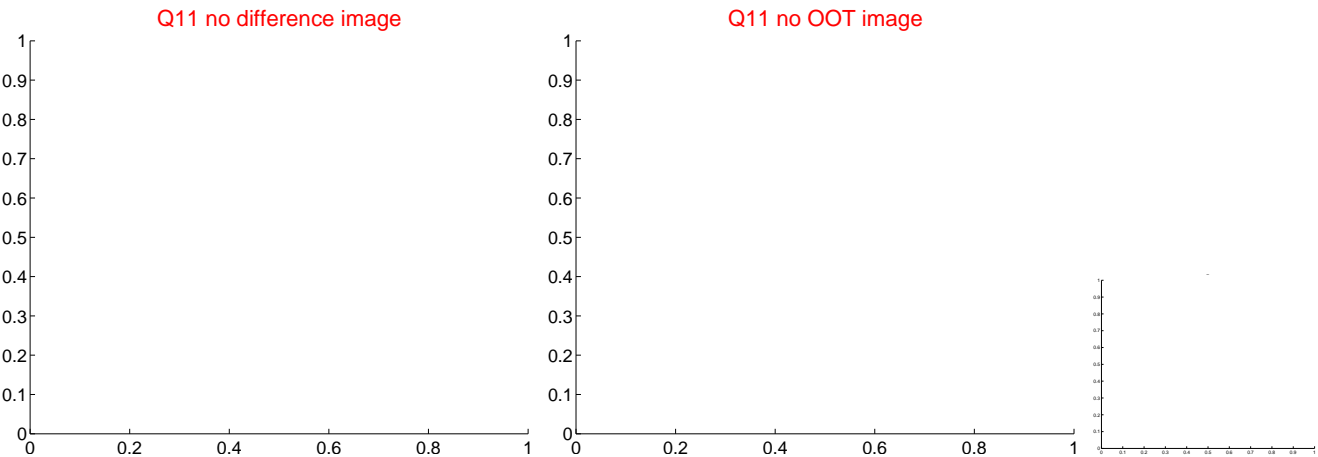
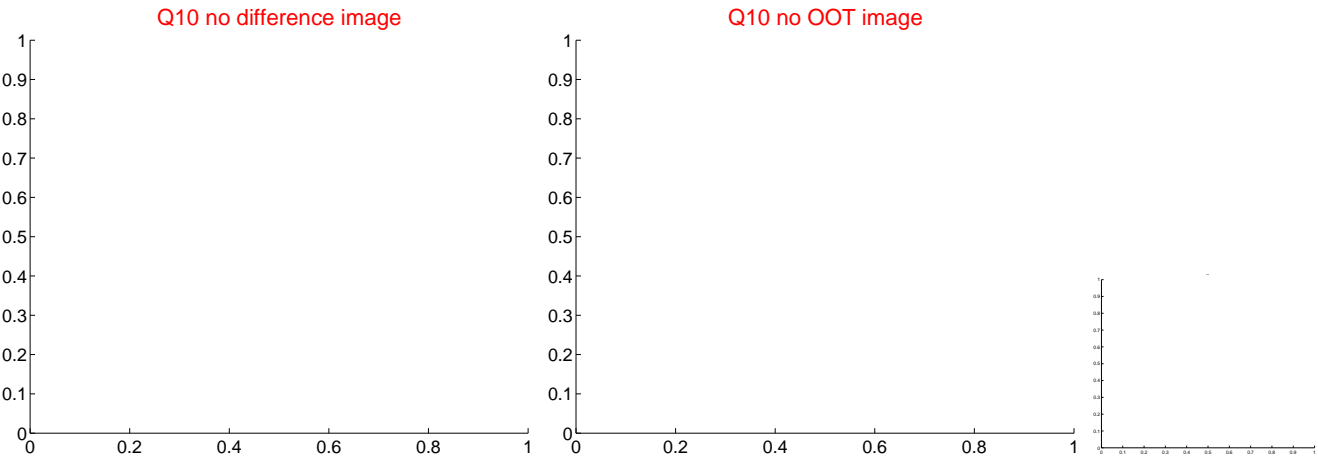
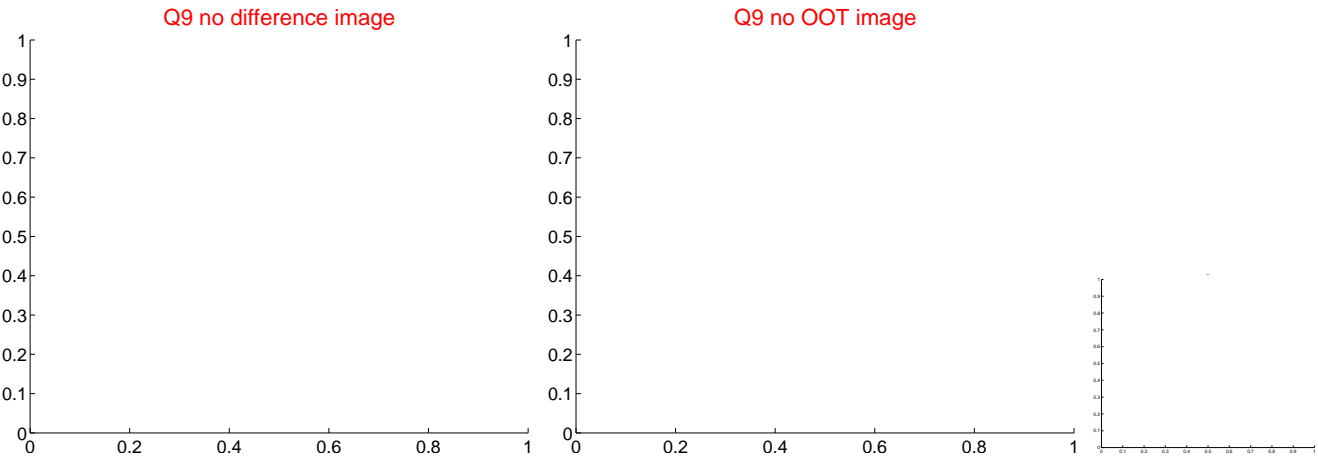
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



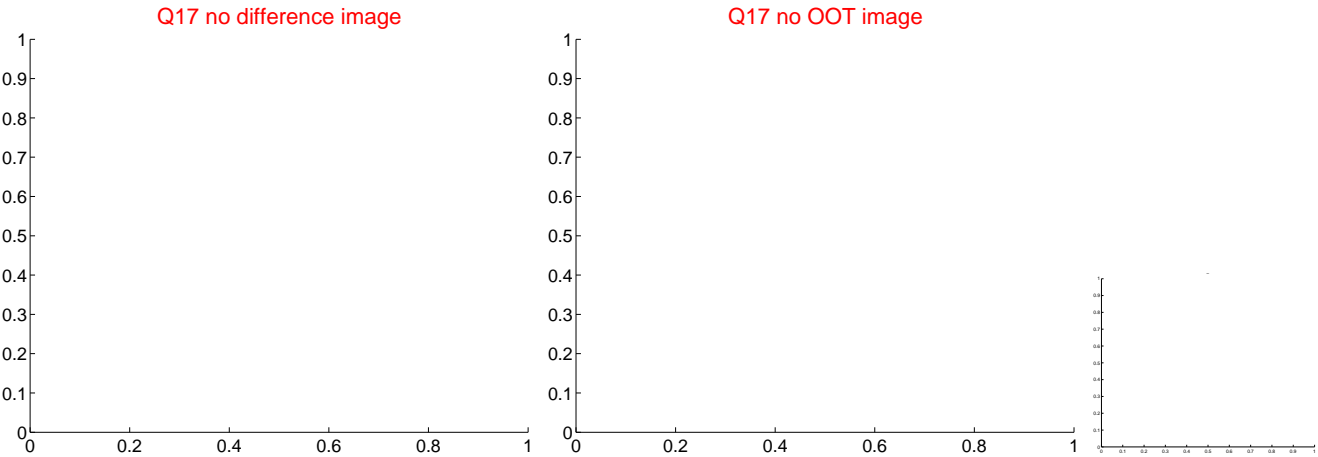
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

