

KIC 012690208

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})
012690208-01	OBS	No	339.191501	251.394579	811.6	10.993	20.4	3.1	1.01	5596	2.93	1.13
012690208-03	OBS	No	371.736999	276.334236	1422.8	4.717	14.6	6.7	1.01	5596	3.78	1.00
012690208-04	OBS	No	521.794130	507.277557	1355.1	9.261	14.1	5.6	1.01	5596	3.86	0.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012690208-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012690208-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
012690208-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

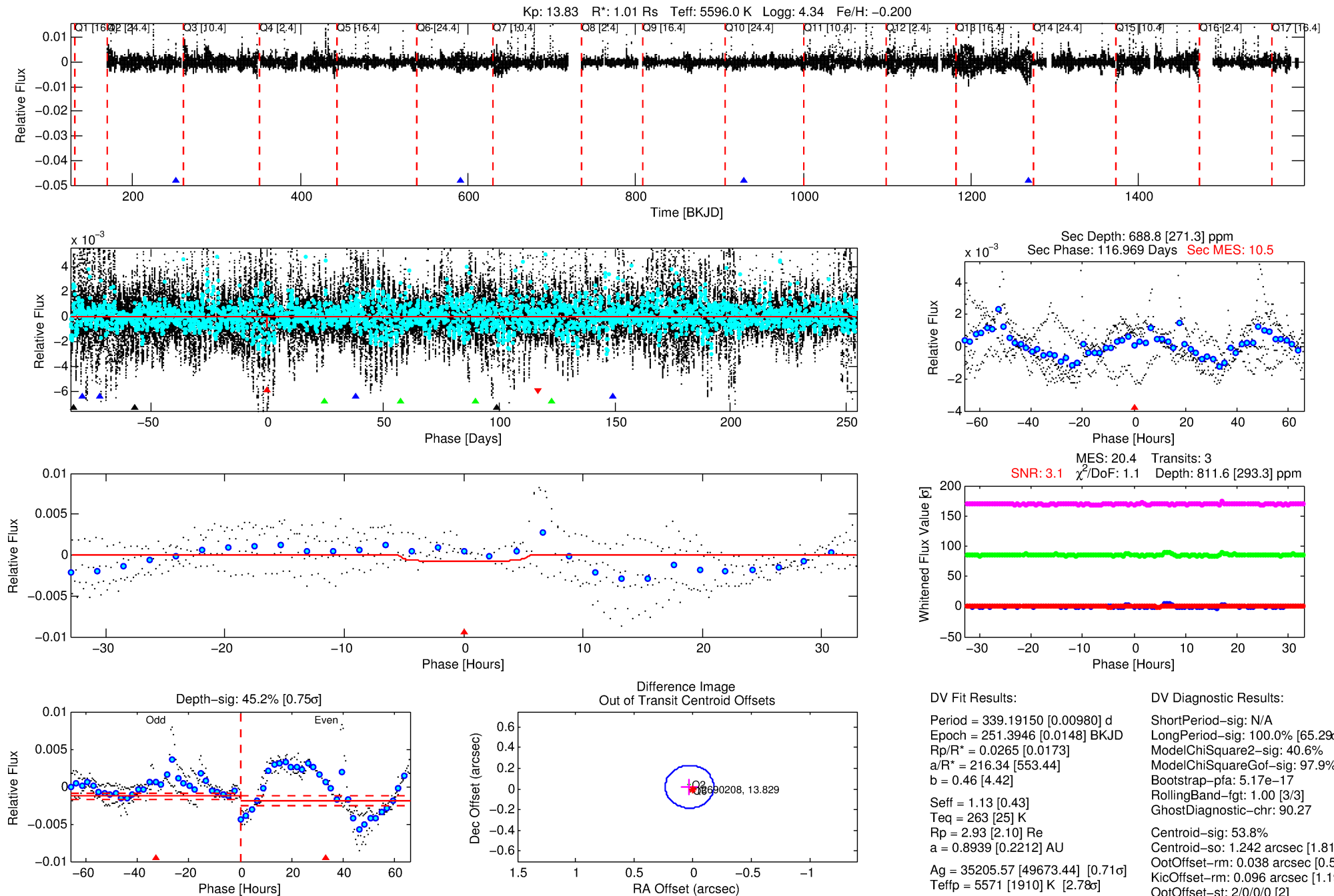
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012690208-01

No Significant Match Found

DV One-Page Summary

KIC: 12690208 Candidate: 1 of 4 Period: 339.192 d



DV Fit Results:

Period = 339.19150 [0.00980] d
Epoch = 251.3946 [0.0148] BKJD
Rp/R* = 0.0265 [0.0173]
a/R* = 216.34 [553.44]
b = 0.46 [4.42]
Seff = 1.13 [0.43]
Teq = 263 [25] K
Rp = 2.93 [2.10] Re
a = 0.8939 [0.2212] AU
Ag = 35205.57 [49673.44] [0.71σ]
Teff = 5571 [1910] K [2.78σ]

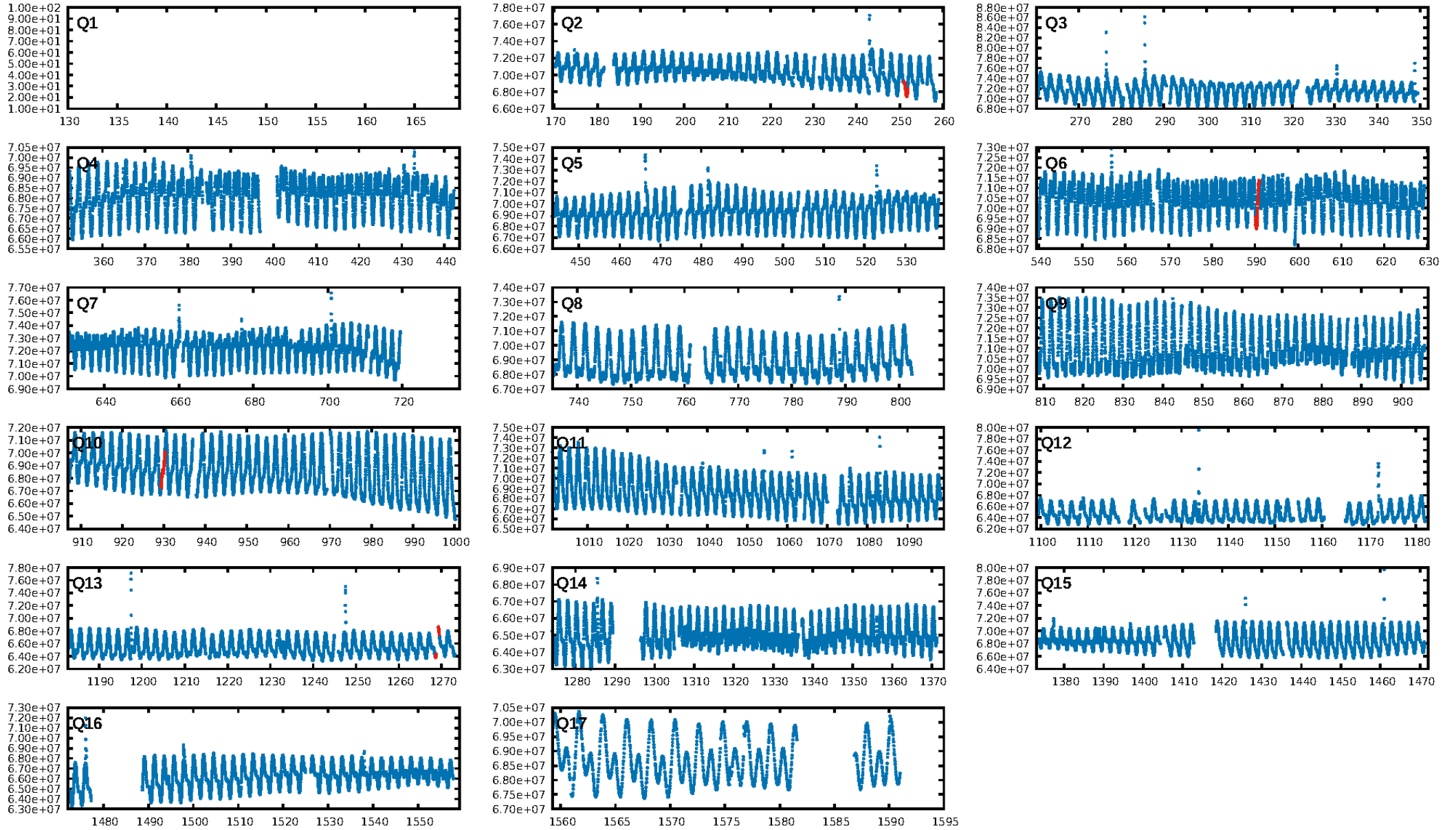
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [65.29σ]
ModelChiSquare2-sig: 40.6%
ModelChiSquareGof-sig: 97.9%
Bootstrap-pfa: 5.17e-17
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 90.27
Centroid-sig: 53.8%
Centroid-so: 1.242 arcsec [1.81σ]
OotOffset-rm: 0.038 arcsec [0.55σ]
KicOffset-rm: 0.096 arcsec [1.19σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

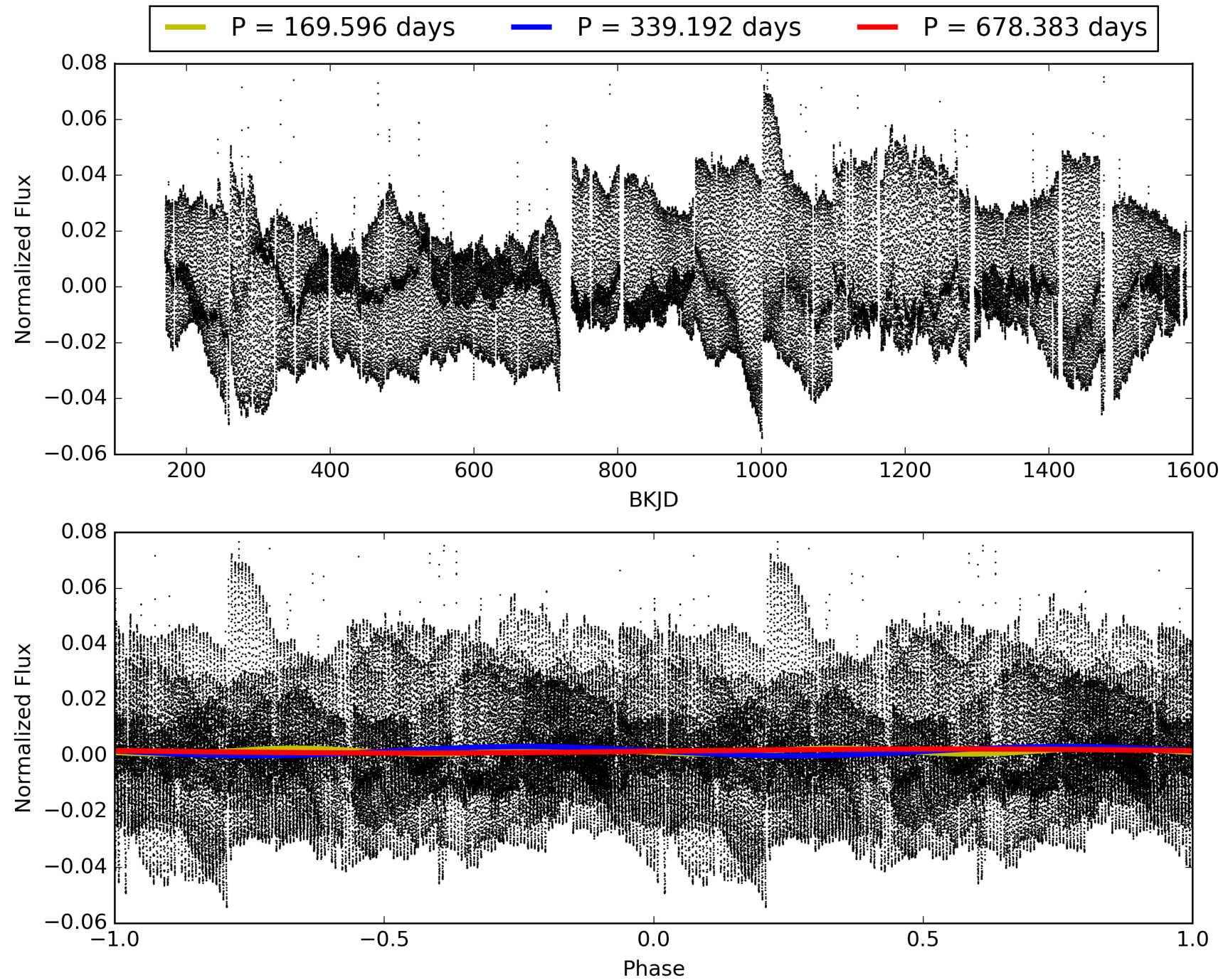
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:20:02 Z

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

TCE 012690208-01, PDC Light Curves

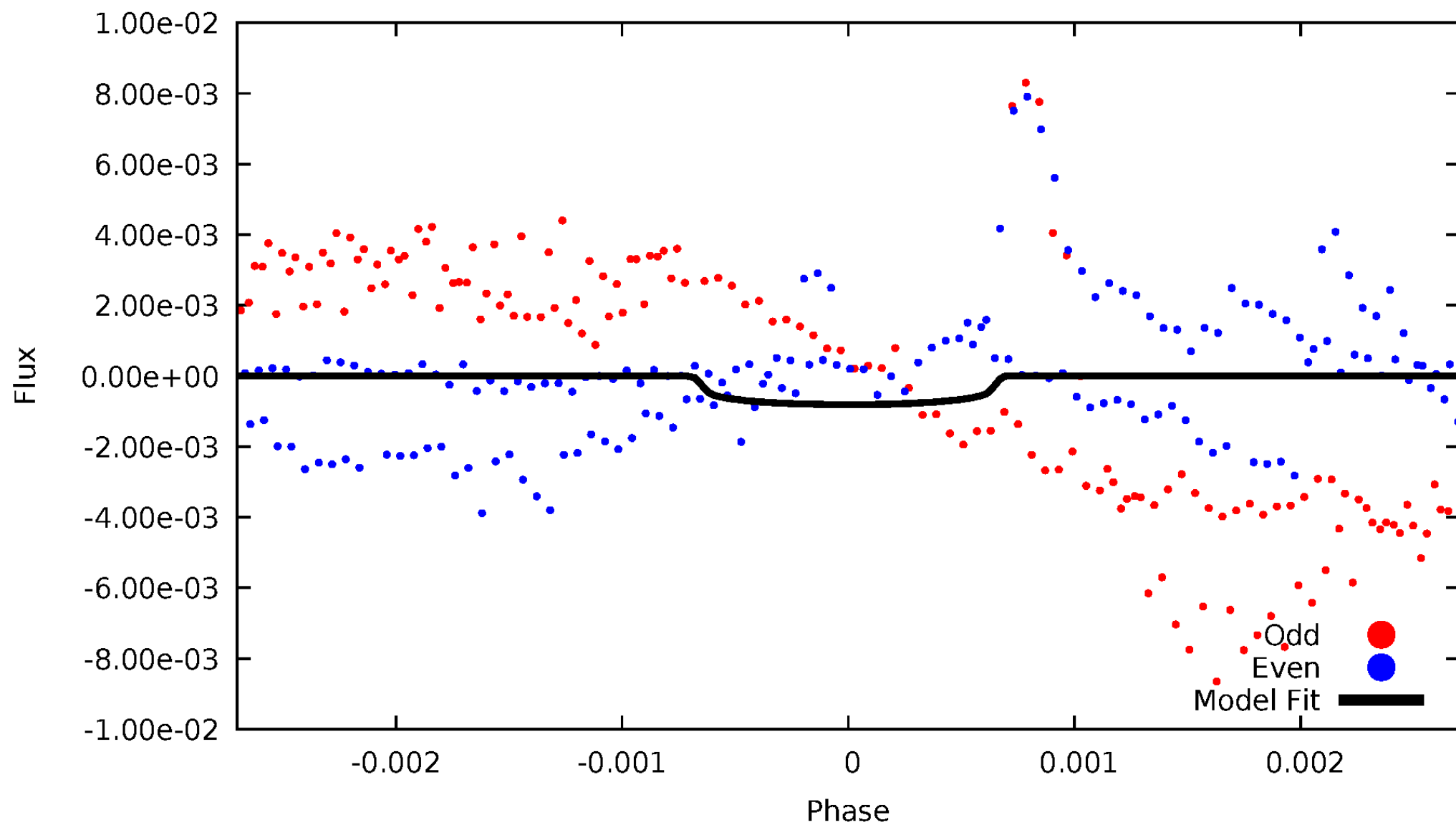


TCE 012690208-01



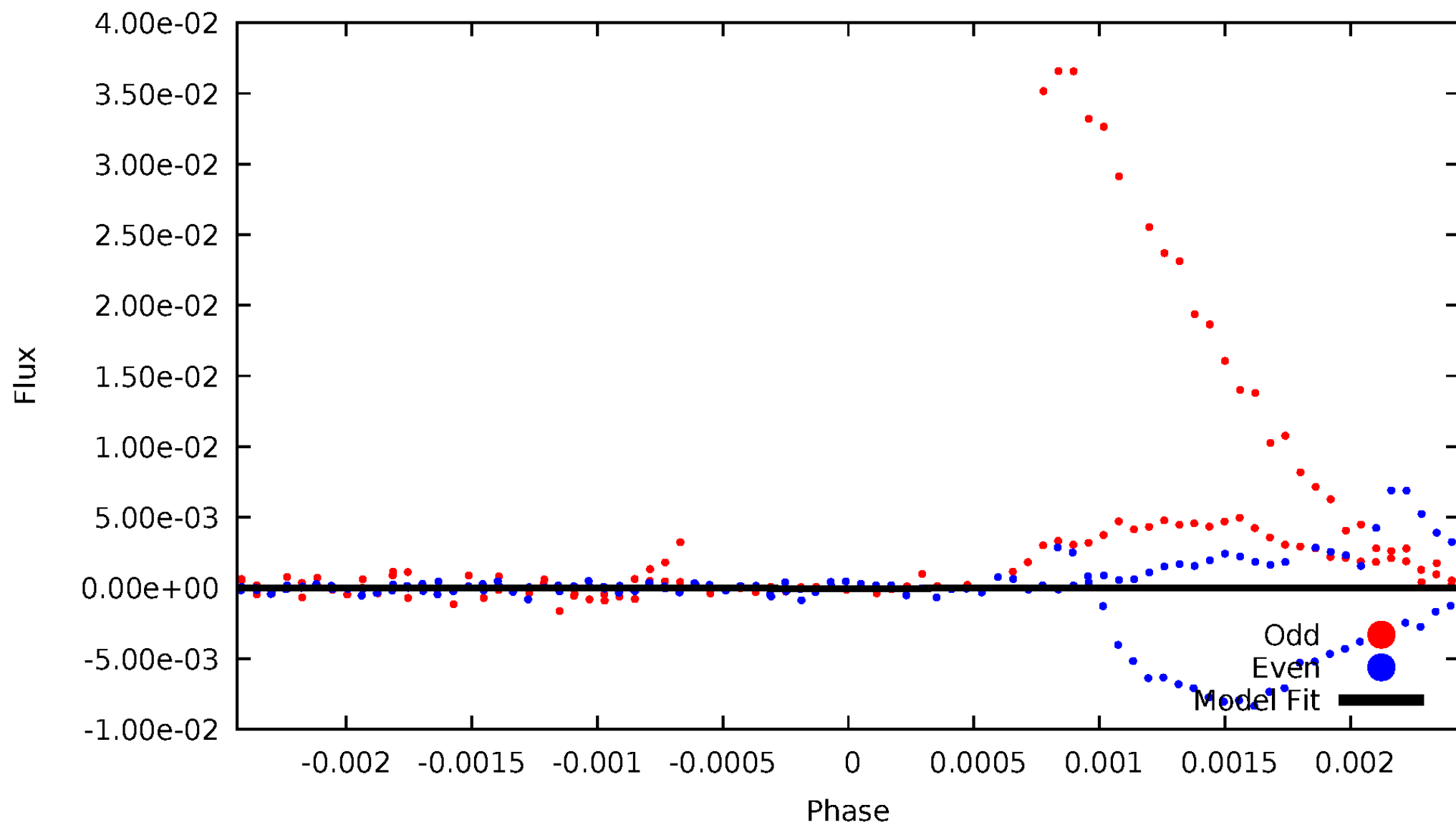
DV Odd/Even

TCE 012690208-01



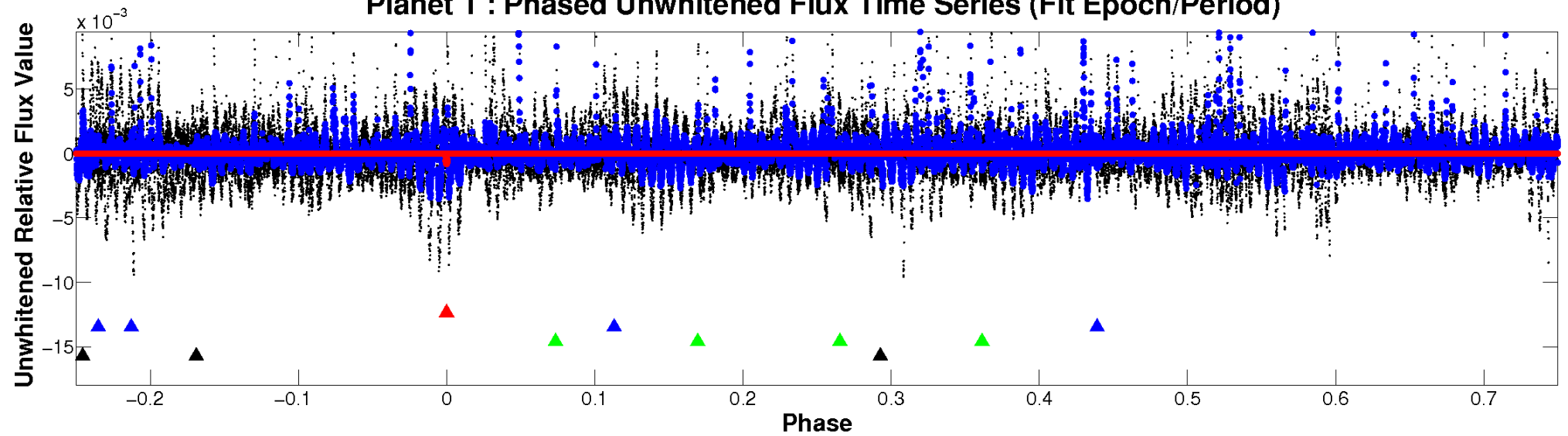
ALT Odd/Even

TCE 012690208-01

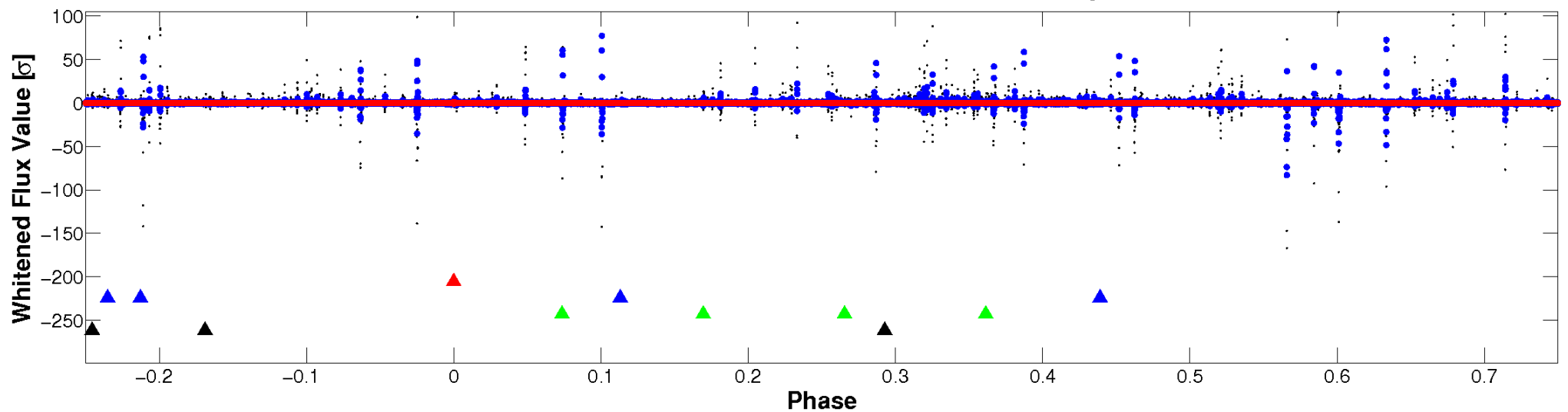


Non-Whitened Vs. Whitened Light Curve

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

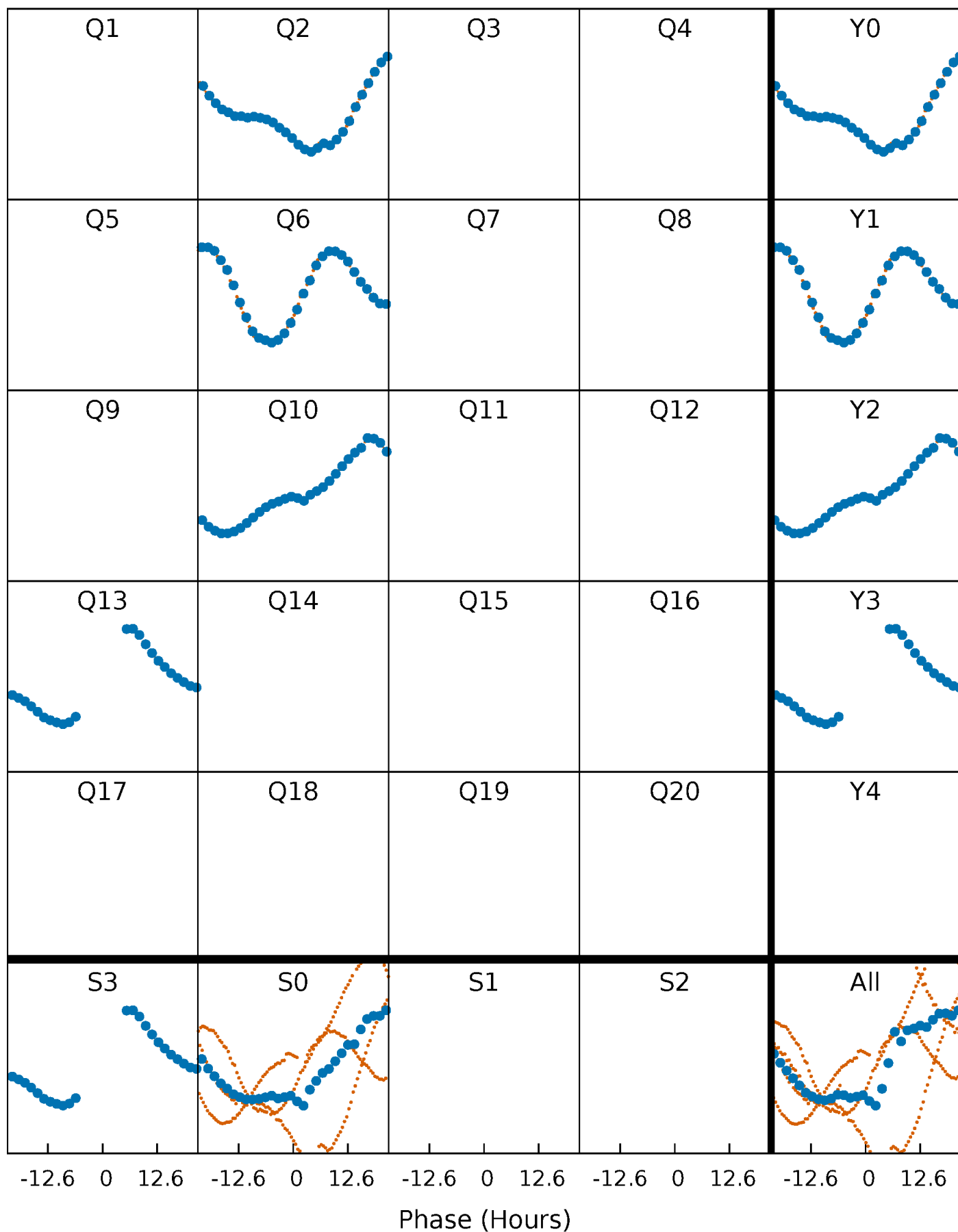


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



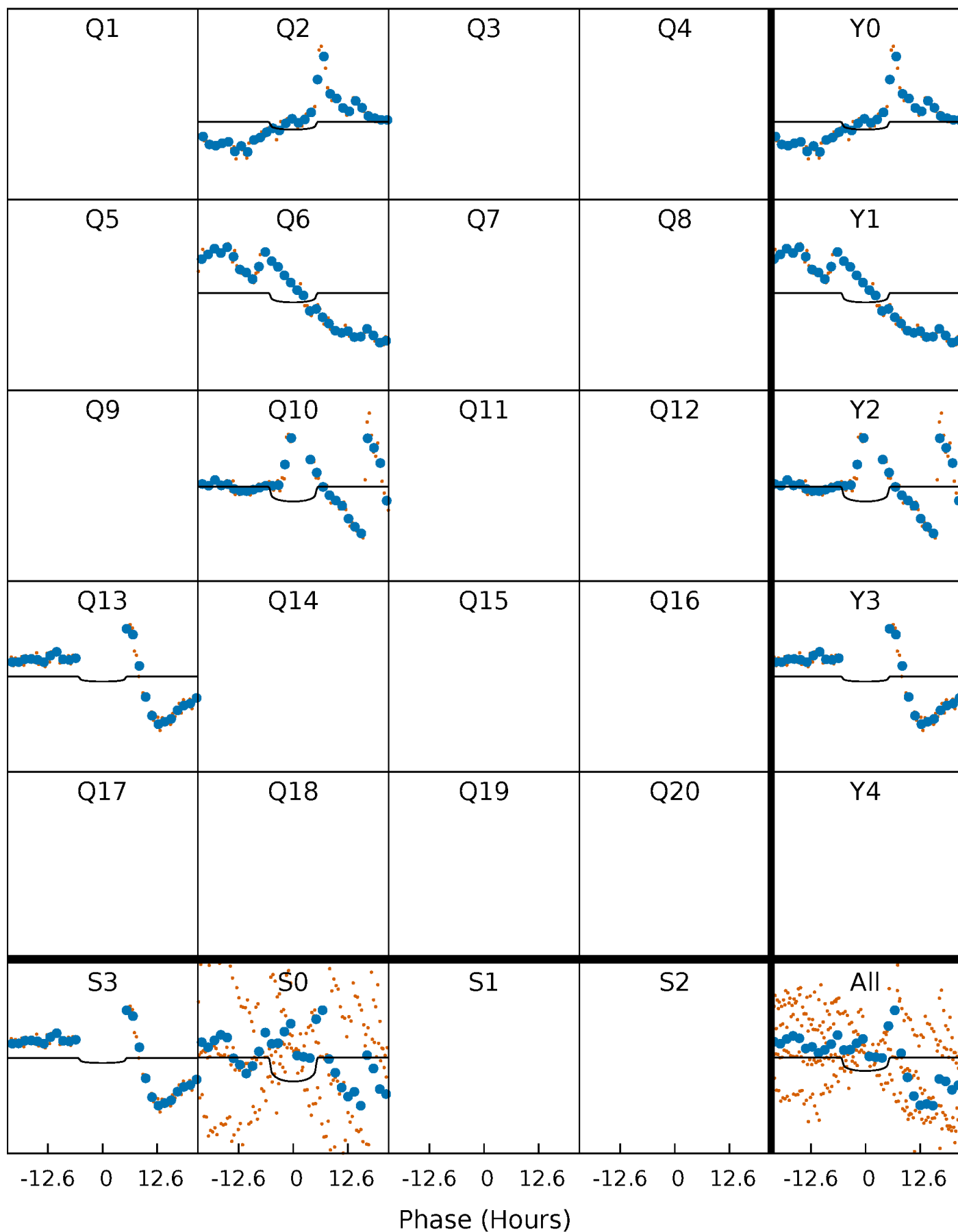
PDC Quarter-Phased Transit Curves

TCE 012690208-01 P=339.191501 Days $T_0=251.394579$ (BKJD)



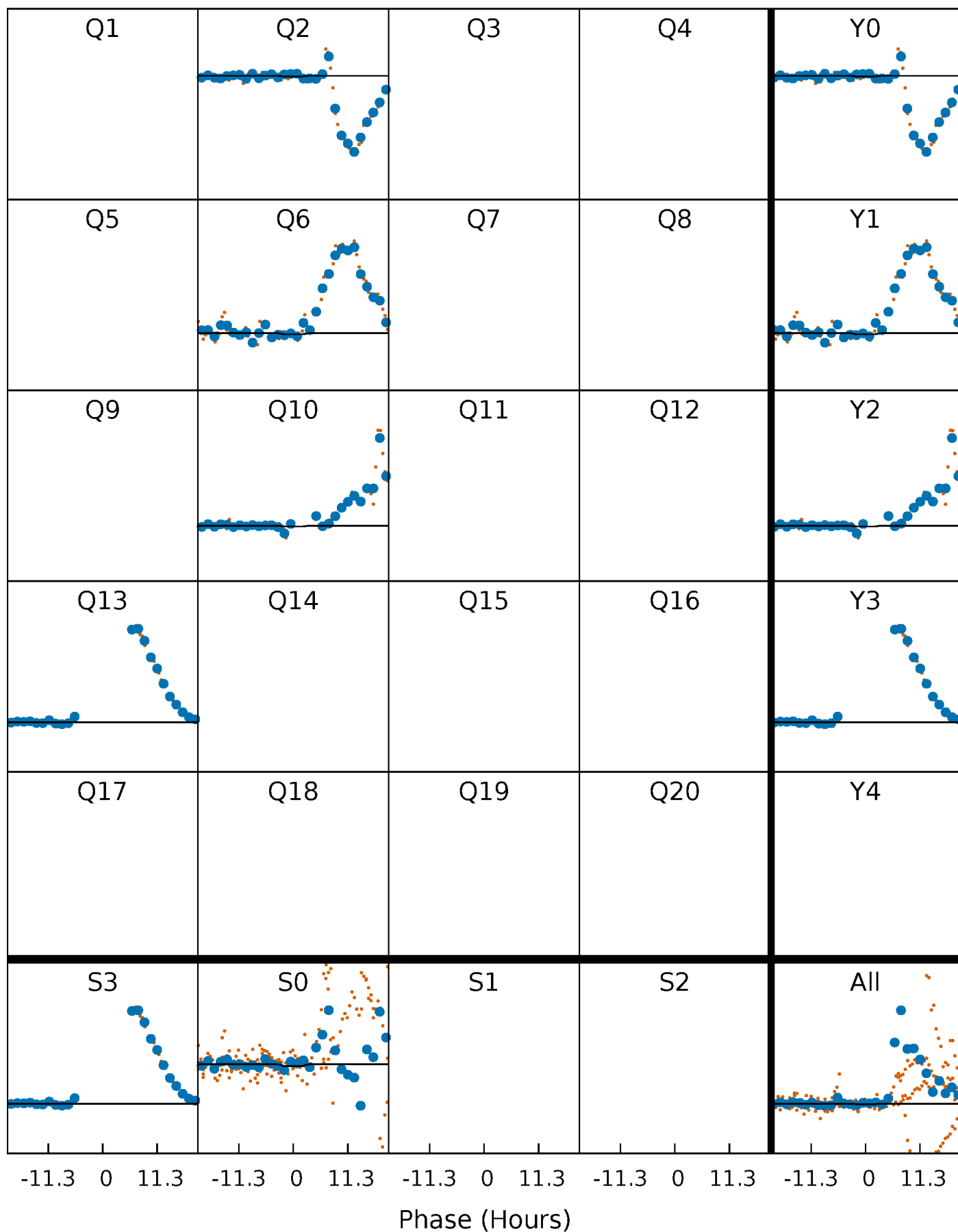
DV Quarter-Phased Transit Curves

TCE 012690208-01 P=339.191501 Days $T_0=251.394579$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

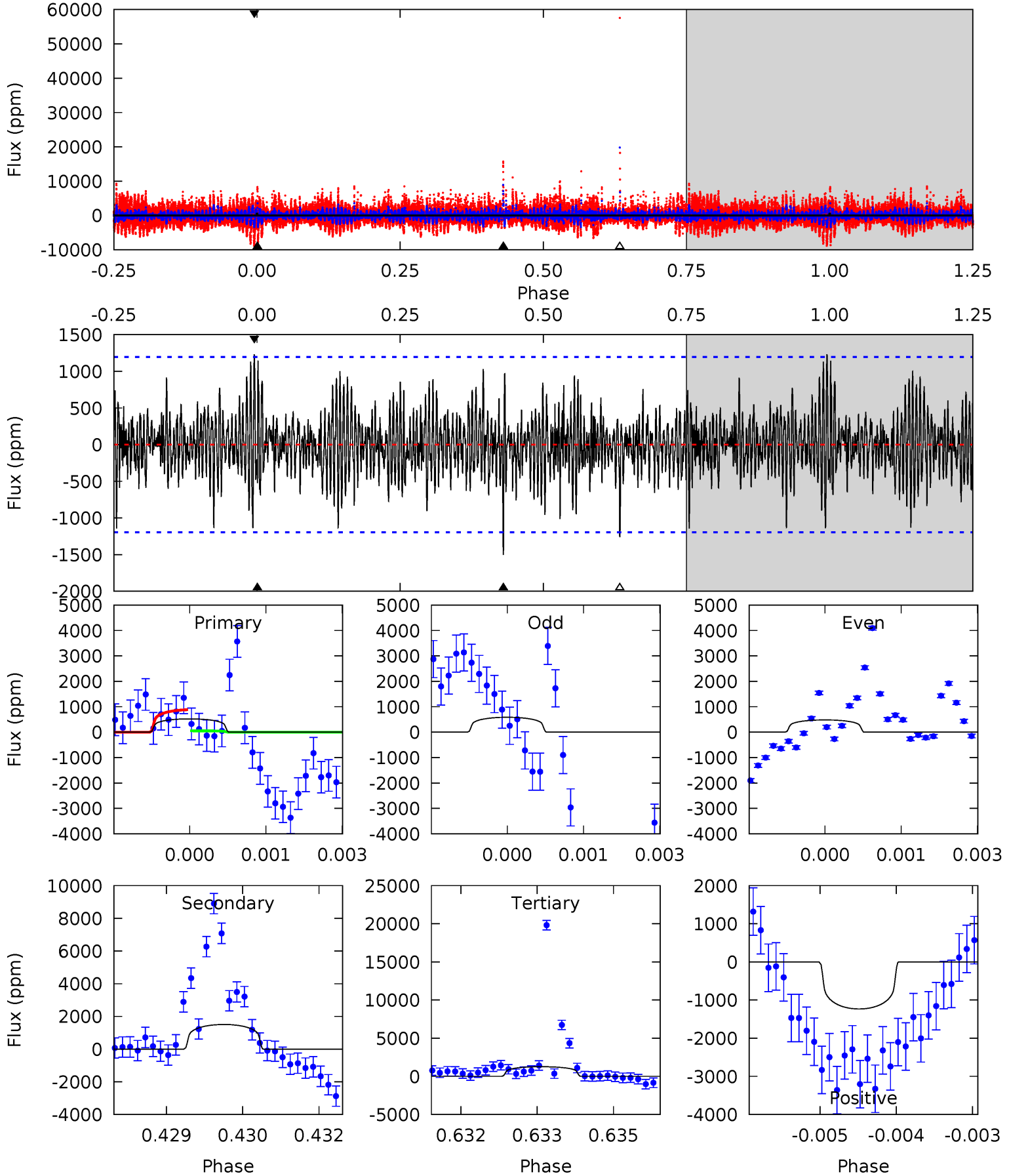
TCE 012690208-01 P=339.197096 Days $T_0=251.359803$ (BKJD)



DV Model-Shift Uniqueness Test

012690208-01, P = 339.191501 Days, E = 251.394579 Days

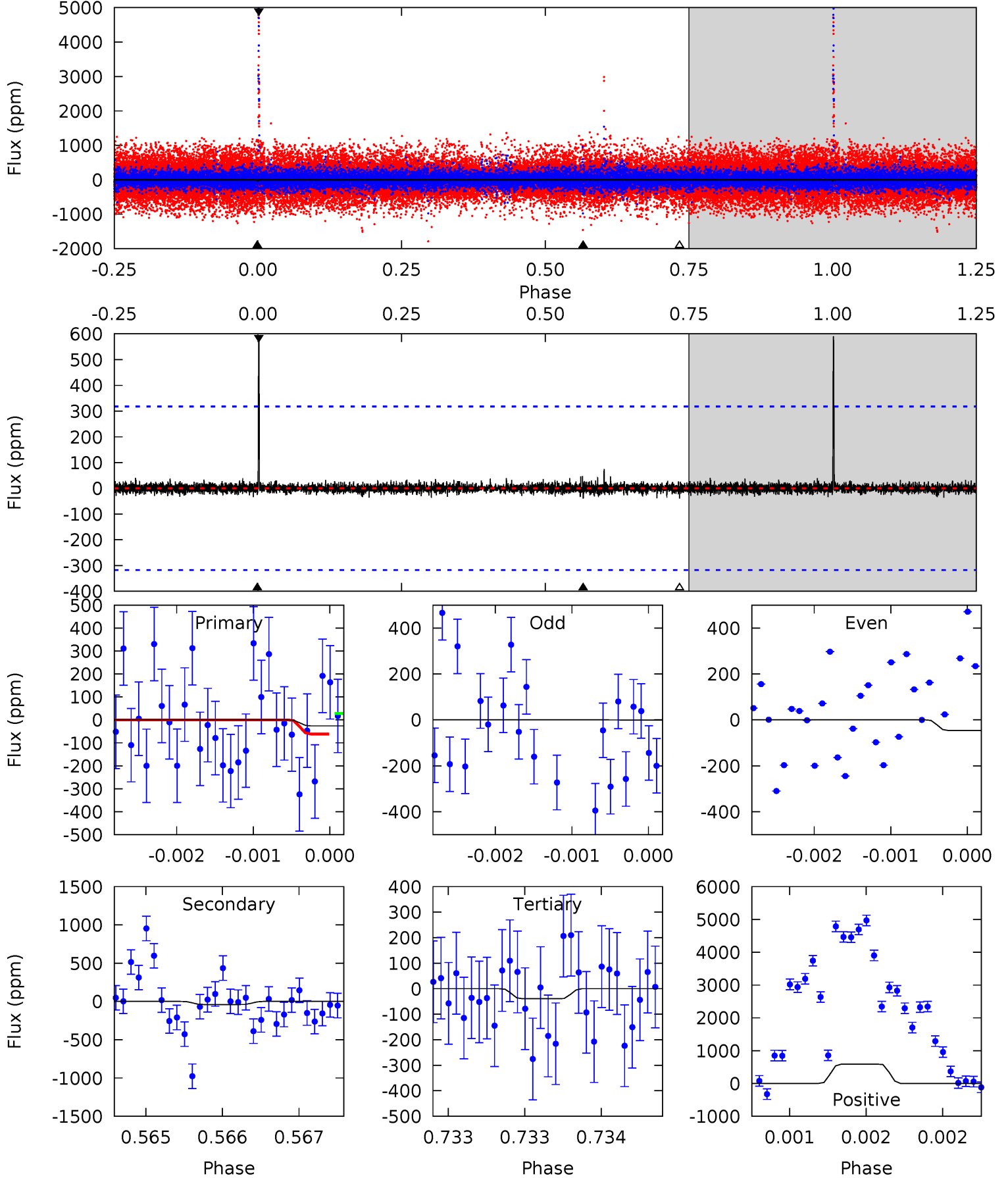
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.35	6.79	5.68	5.56	5.40	3.20	1.53	-3.33	-3.21	1.10	1.22	0.20	1.09	0.45	1.90



Alt Model-Shift Uniqueness Test

012690208-01, P = 339.197096 Days, E = 251.359803 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.45	0.68	0.68	10.2	5.50	3.36	0.27	-0.23	-9.78	0.00	-9.55	0.35	-157.4	0.94	0.30



Stellar Parameters For KIC 012690208

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5596^{+186}_{-186}	$4.343^{+0.195}_{-0.195}$	$-0.200^{+0.300}_{-0.300}$	$1.015^{+0.300}_{-0.200}$	$0.829^{+0.125}_{-0.063}$	$1.115^{+1.106}_{-0.599}$
	+3%/-3%	+4%/-4%	+150%/-150%	+30%/-20%	+15%/-8%	+99%/-54%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 012690208-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1505 ± 222	$2.99^{+1.99}_{-1.62}$	368^{+30}_{-26}	6691^{+4722}_{-1401}	$74549^{+296251}_{-47782}$
Alt.	-39 ± 58	$1.65^{+1.56}_{-1.11}$	368^{+34}_{-26}	3650^{+2290}_{-6978}	3983^{+38864}_{-6047}

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

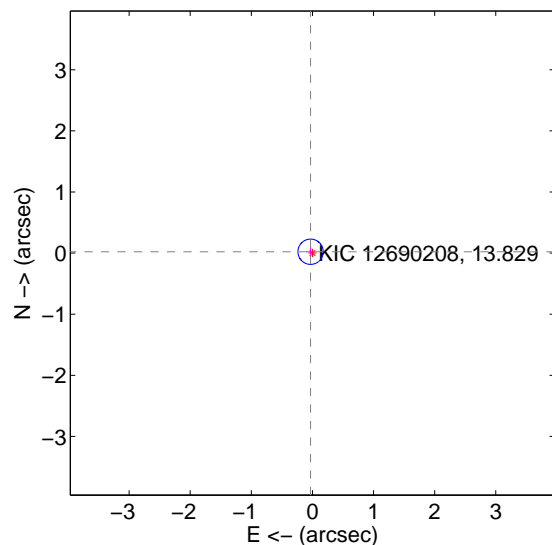
Supplemental centroid analysis for 012690208-01. Kepler magnitude: 13.83. Transit SNR 3.14

There are 2 quarters with good PRF difference image offsets

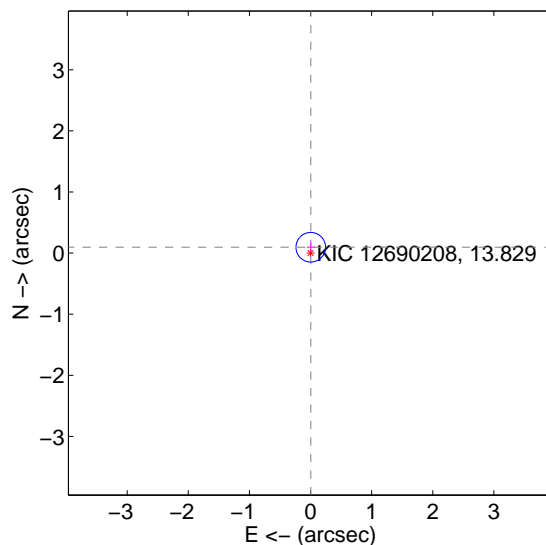
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.038 ± 0.069	0.55	0.031 ± 0.067	0.022 ± 0.073
PRF-fit source offset from KIC position	0.096 ± 0.081	1.19	-0.004 ± 0.067	0.096 ± 0.081
photometric centroid source offset	1.24 ± 0.69	1.81	-0.73 ± 0.65	1.00 ± 0.70

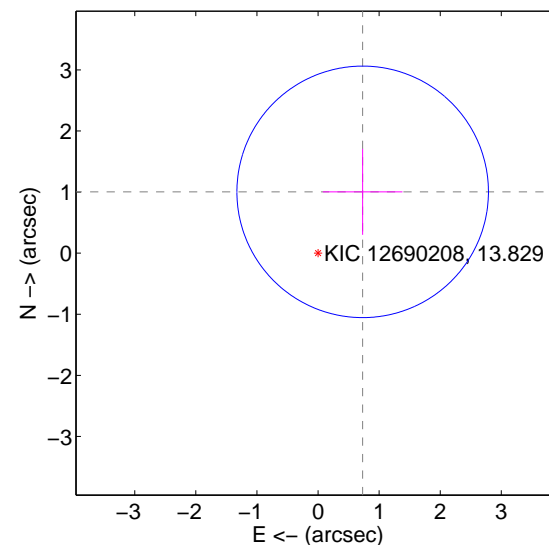
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

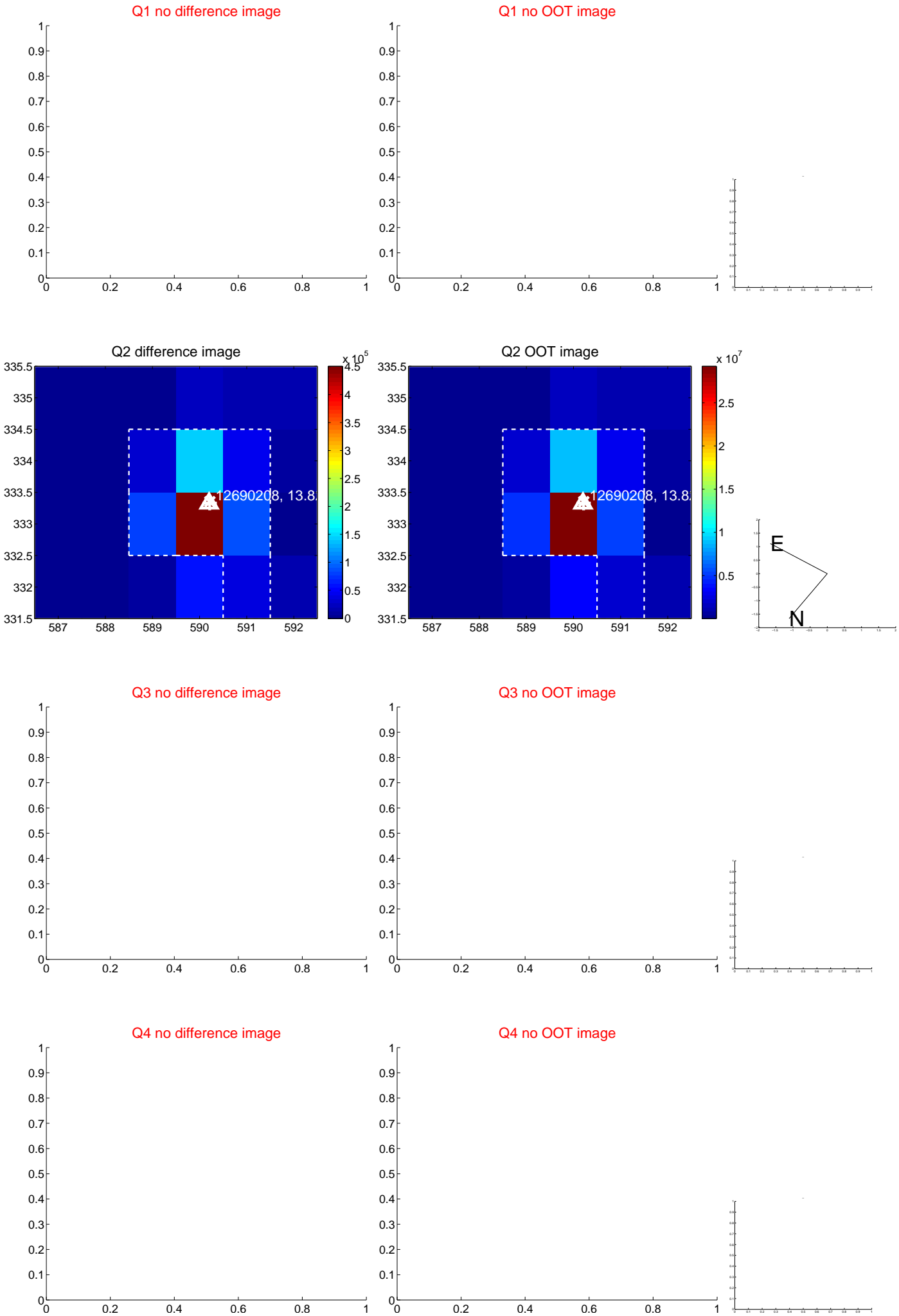


offset from photometric centroids



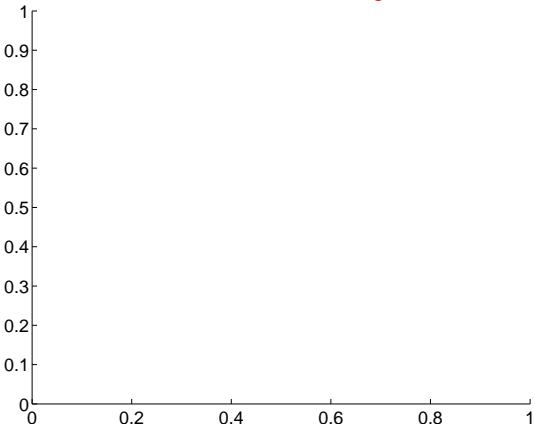
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

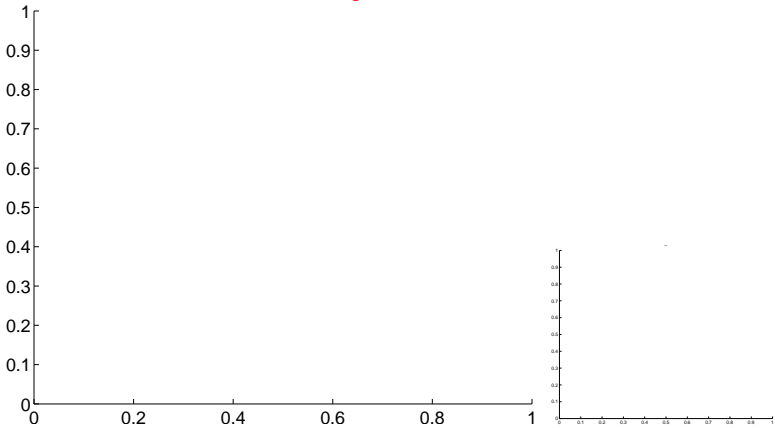


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

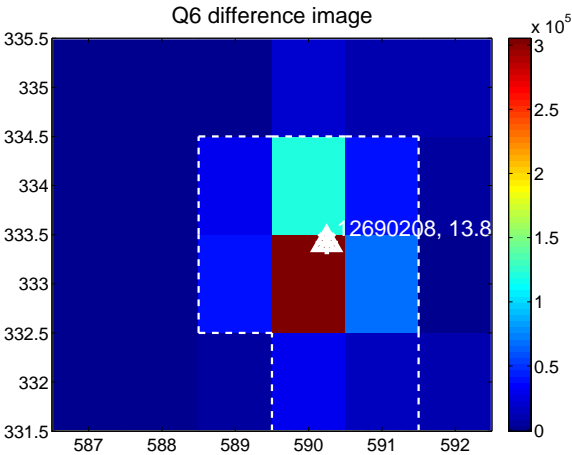
Q5 no difference image



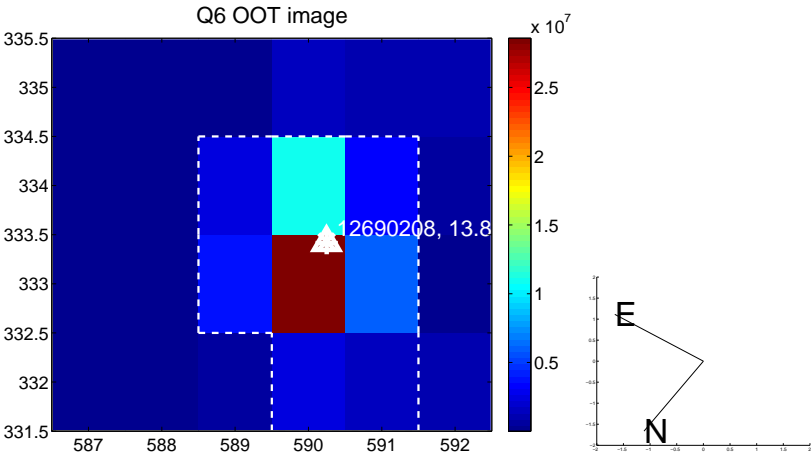
Q5 no OOT image



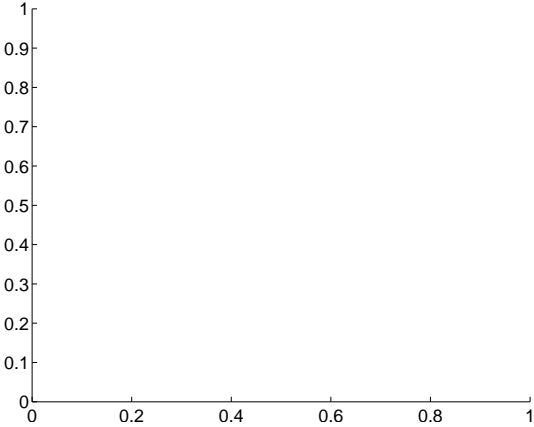
Q6 difference image



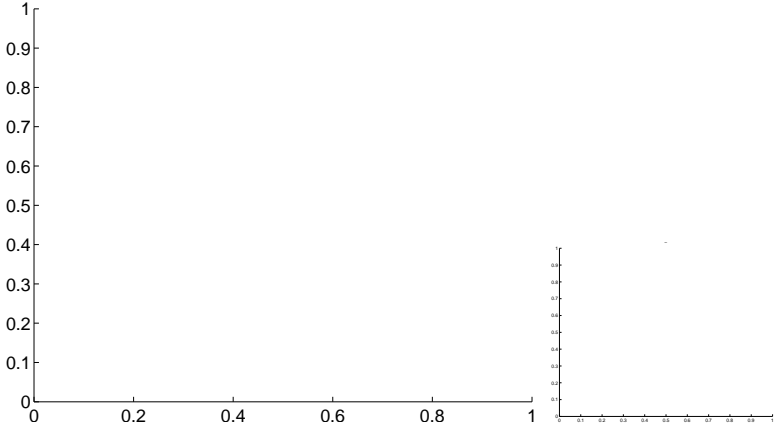
Q6 OOT image



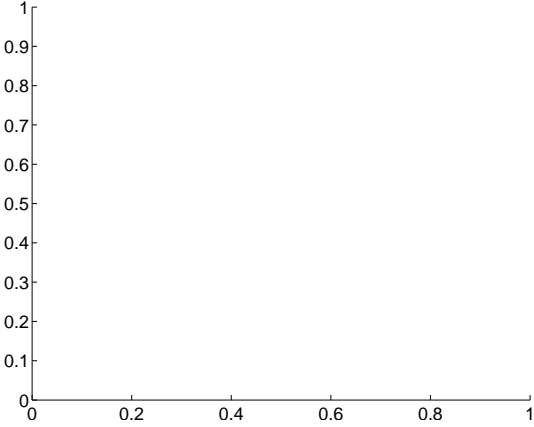
Q7 no difference image



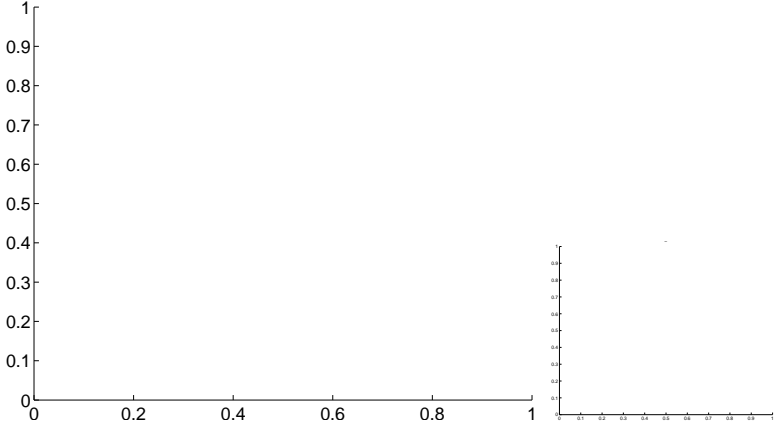
Q7 no OOT image



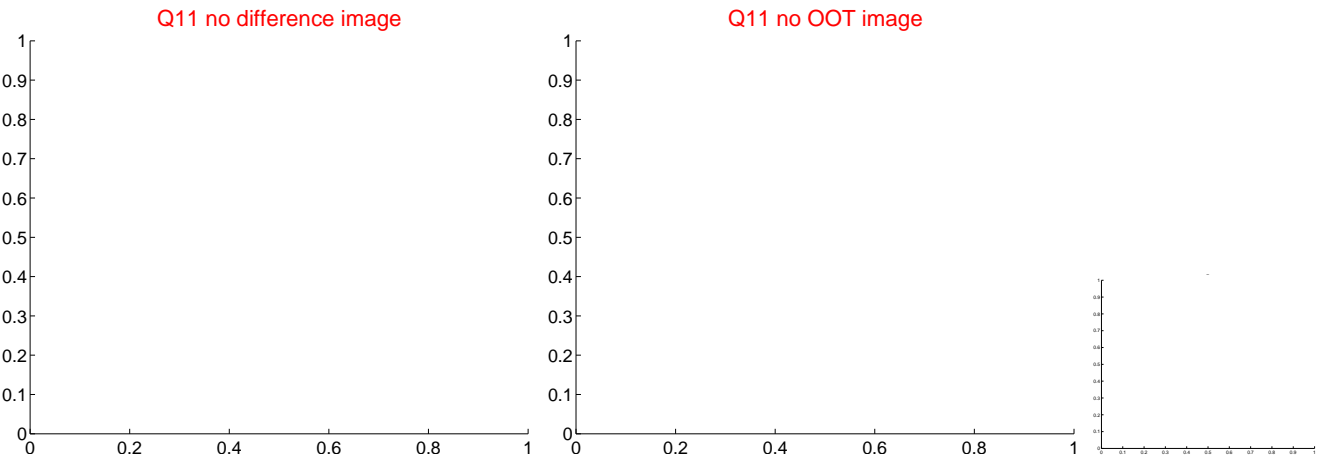
Q8 no difference image



Q8 no OOT image



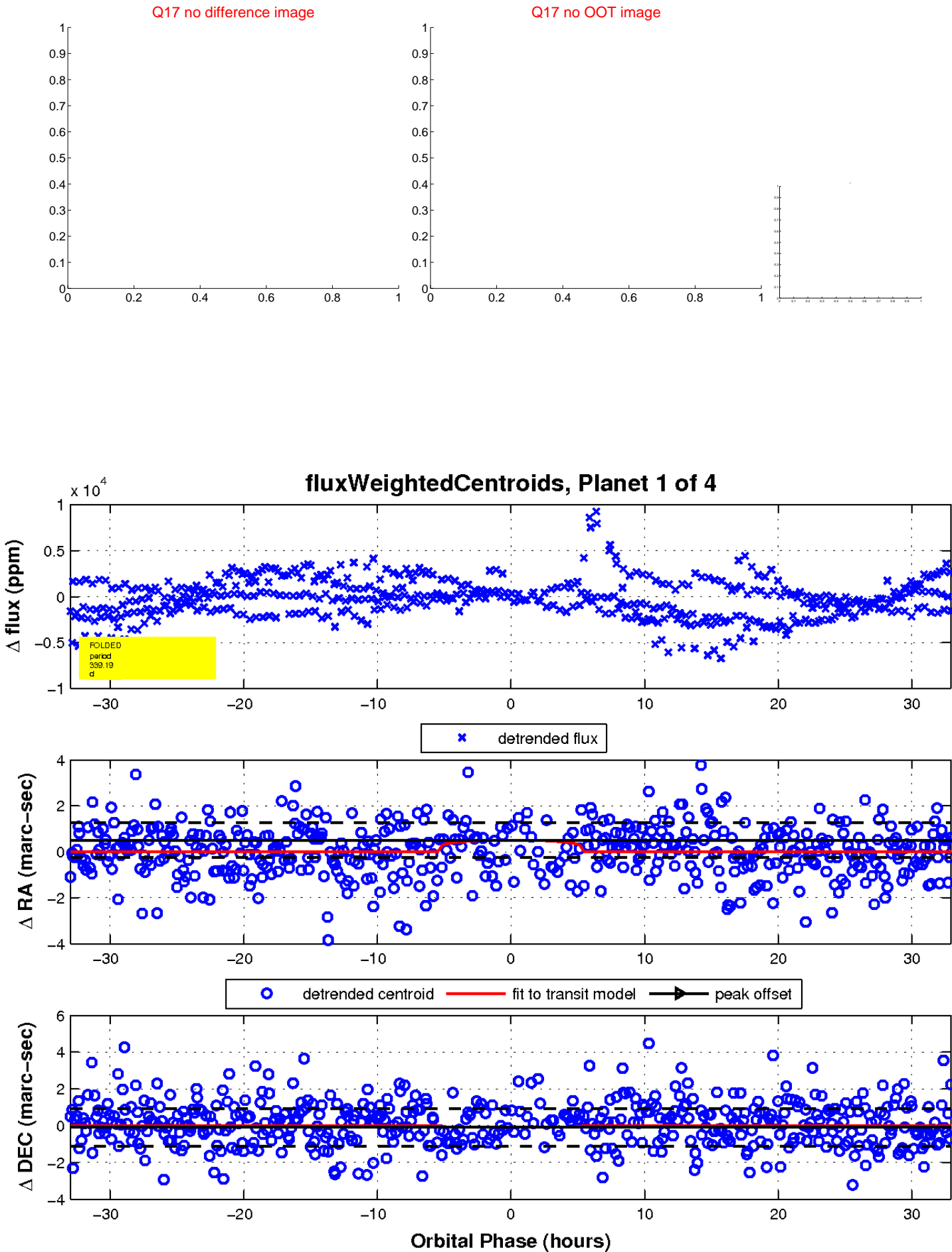
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

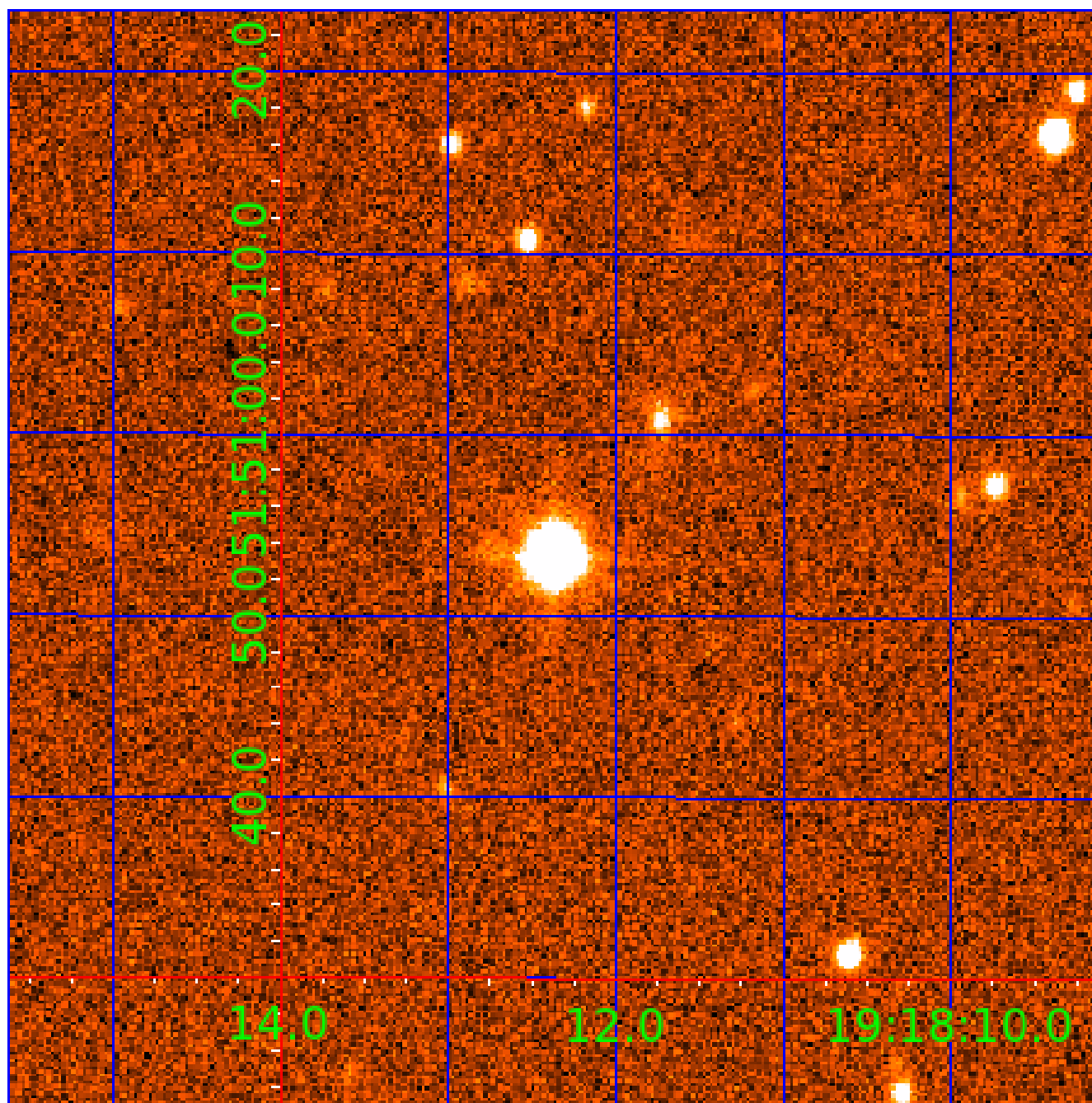


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012690208

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})
012690208-01	OBS	No	339.191501	251.394579	811.6	10.993	20.4	3.1	1.01	5596	2.93	1.13
012690208-03	OBS	No	371.736999	276.334236	1422.8	4.717	14.6	6.7	1.01	5596	3.78	1.00
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012690208-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012690208-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
012690208-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

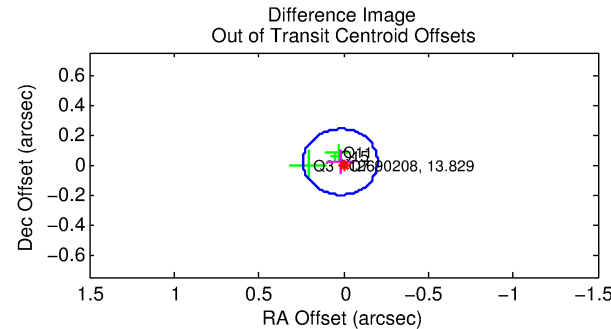
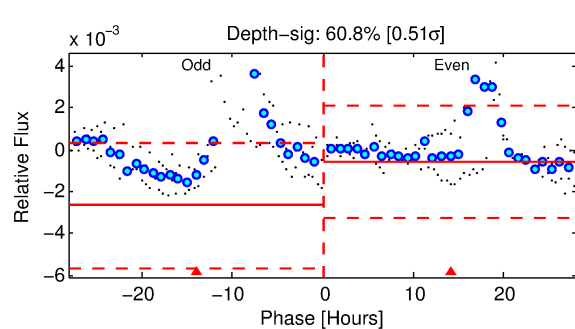
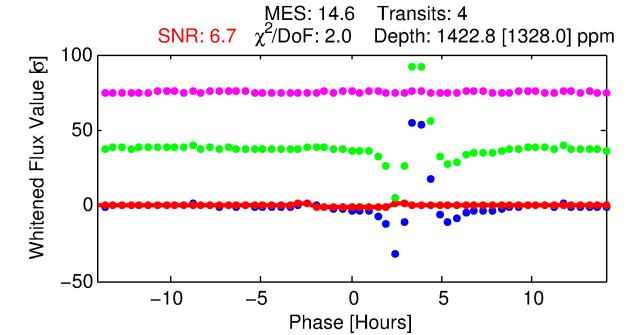
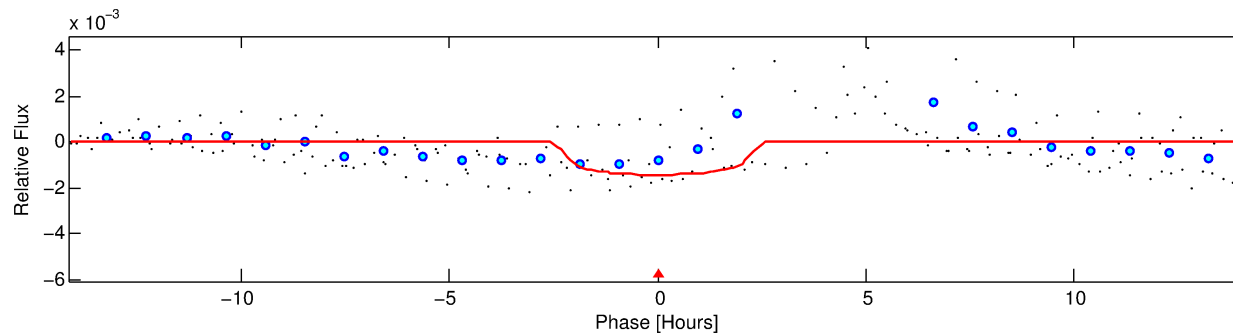
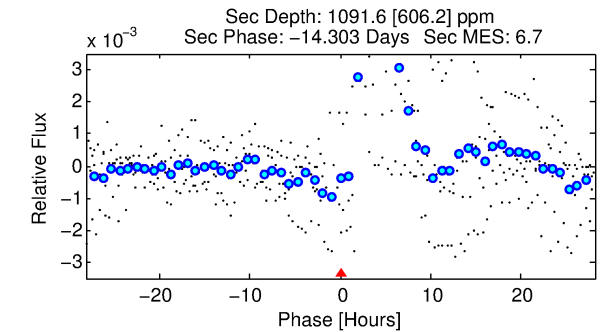
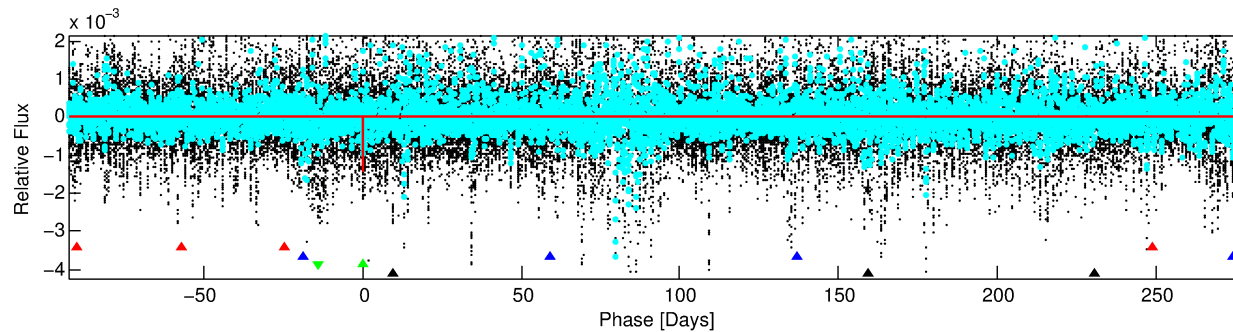
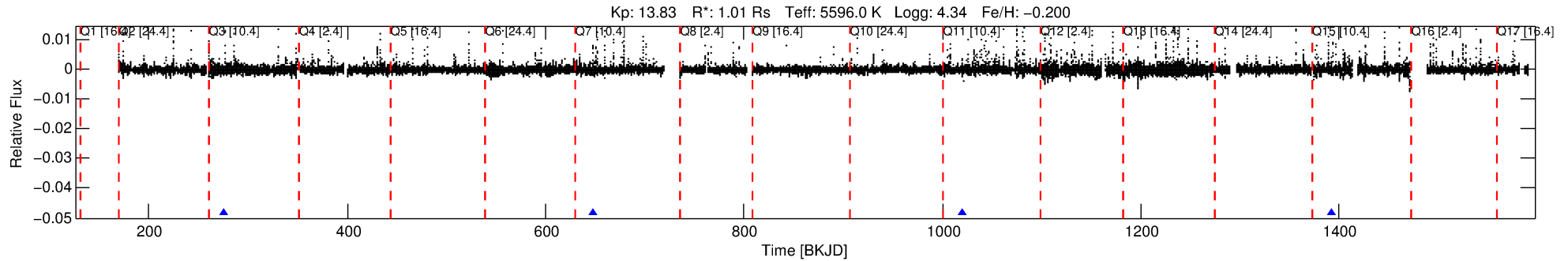
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012690208-03

No Significant Match Found

DV One-Page Summary

KIC: 12690208 Candidate: 3 of 4 Period: 371.737 d



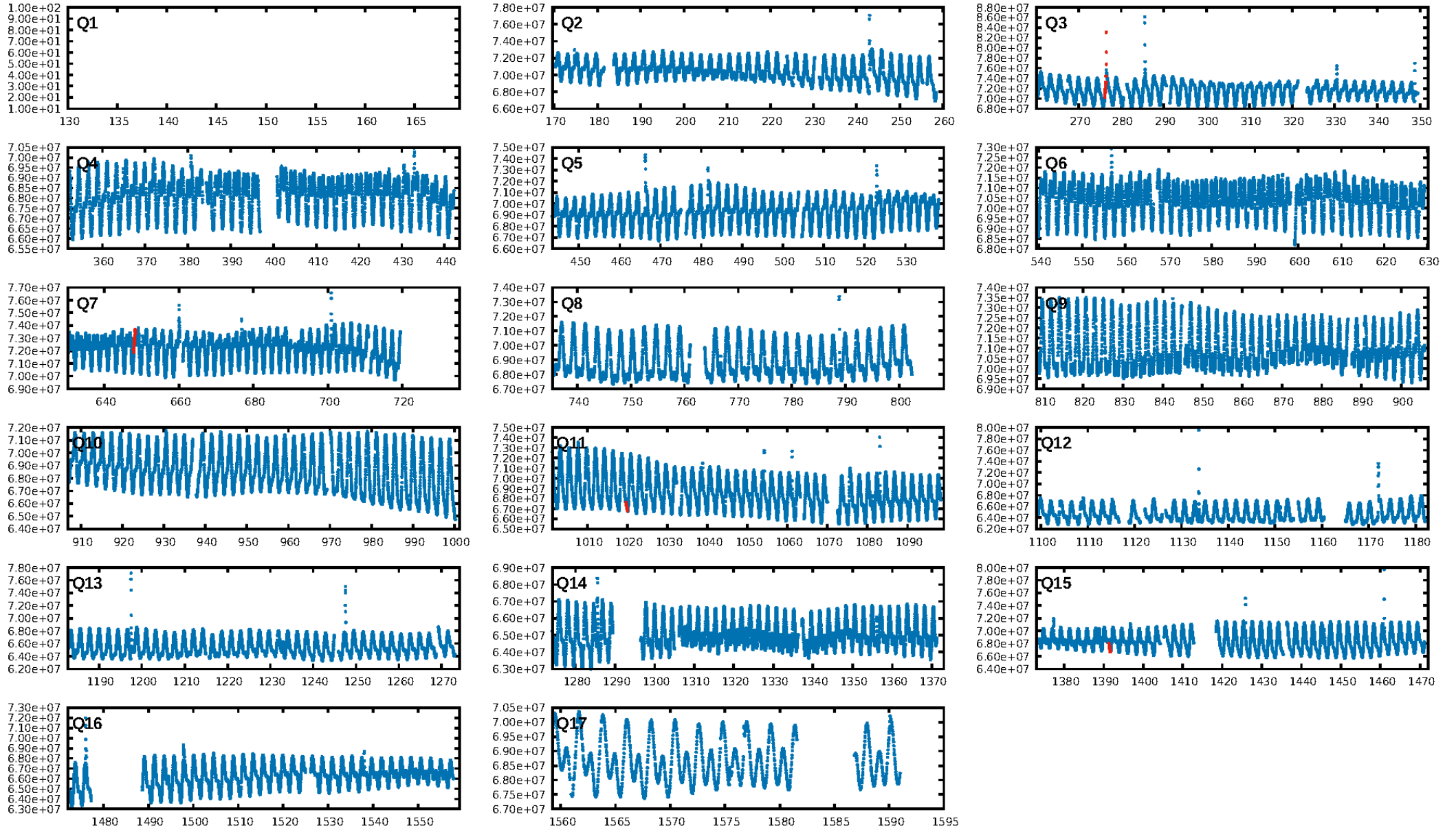
DV Fit Results:

Period = 371.73700 [0.01634] d
Epoch = 276.3342 [0.0368] BKJD
Rp/R* = 0.0341 [0.2386]
a/R* = 621.12 [18284.82]
b = 0.07 [413.02]
Seff = 1.00 [0.38]
Teff = 255 [24] K
Rp = 3.78 [26.45] Re
a = 0.9502 [0.2351] AU
Ag = 37905.45 [530370.58] [0.07σ]
Teffp = 5504 [19249] K [0.27σ]

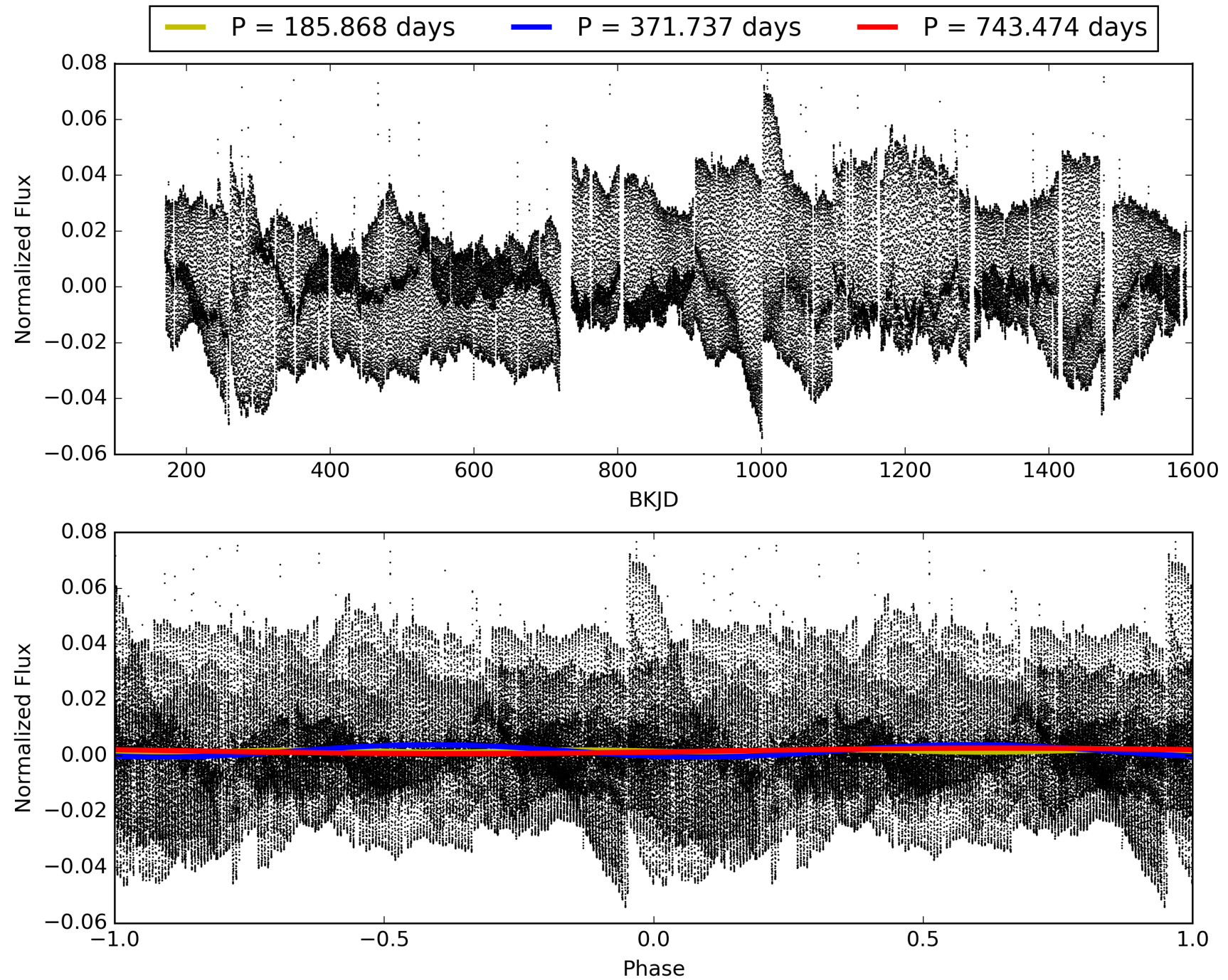
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [65.29σ]
LongPeriod-sig: 100.0% [336.17σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 54.5%
Bootstrap-pfa: 1.04e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.953
Centroid-sig: 0.9%
Centroid-so: 1.554 arcsec [3.57σ]
OotOffset-rm: 0.027 arcsec [0.36σ]
KicOffset-rm: 0.117 arcsec [1.57σ]
OotOffset-st: 0/4/0/0 [4]
KicOffset-st: 0/4/0/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 012690208-03, PDC Light Curves

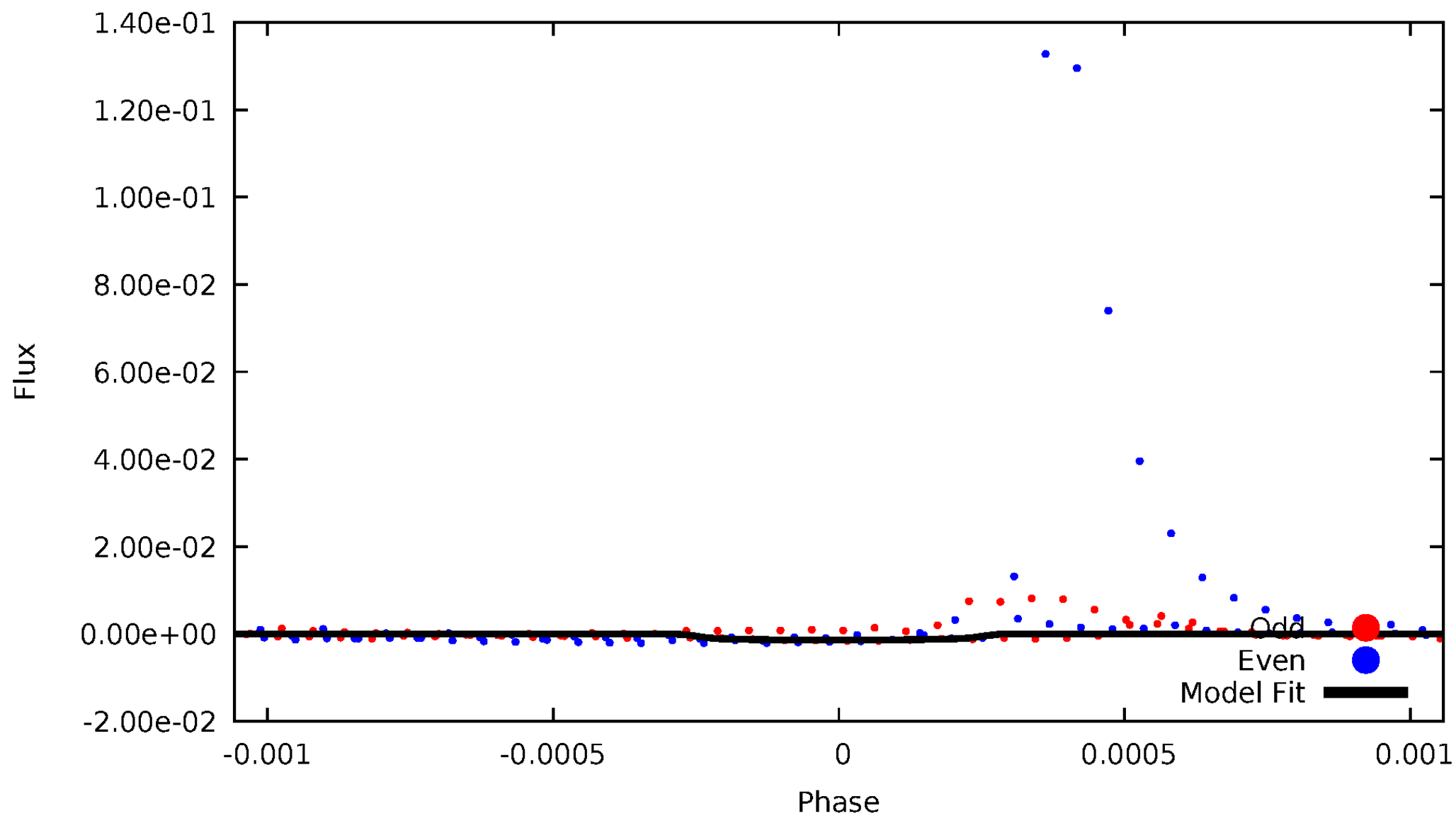


TCE 012690208-03



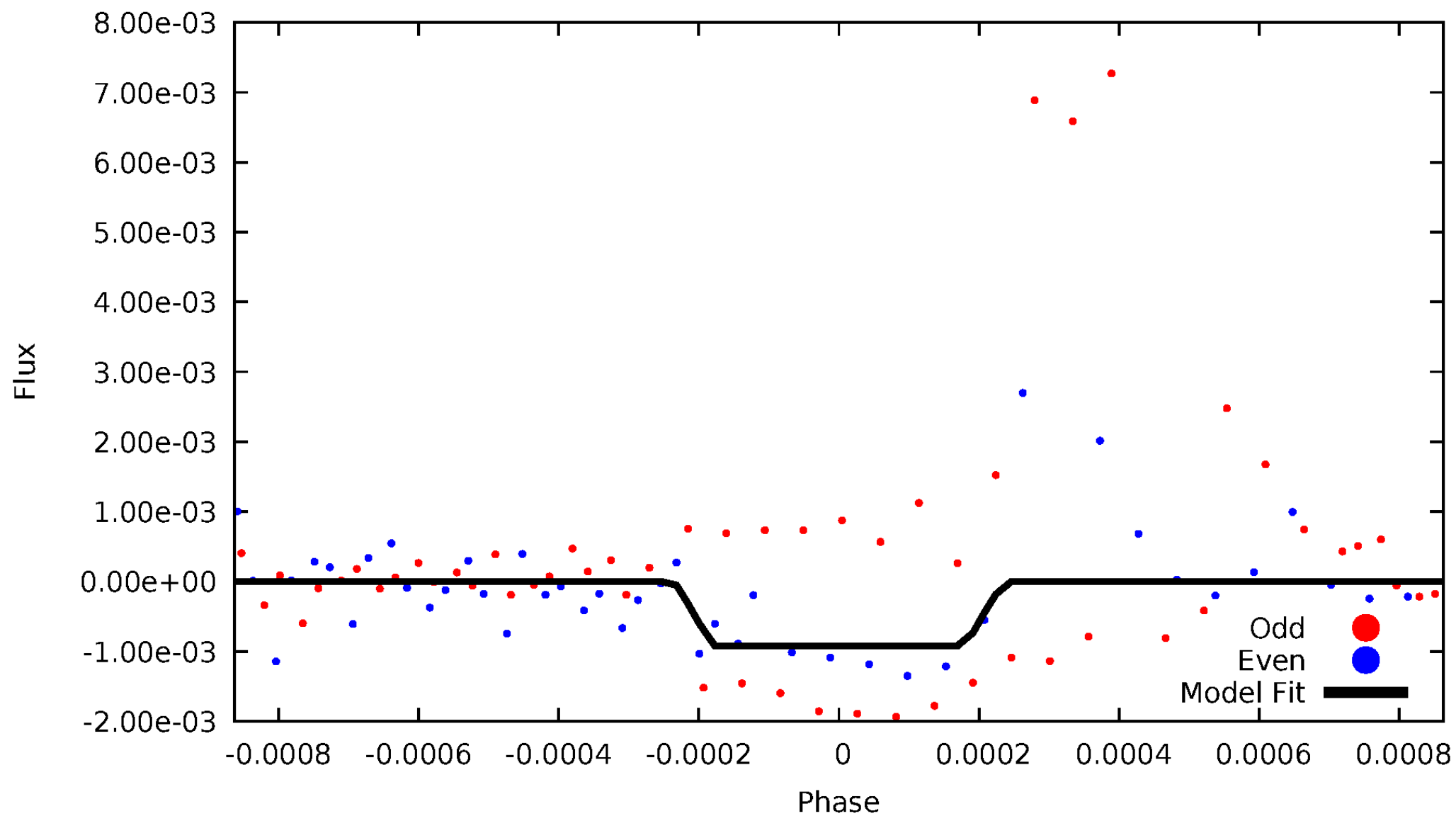
DV Odd/Even

TCE 012690208-03



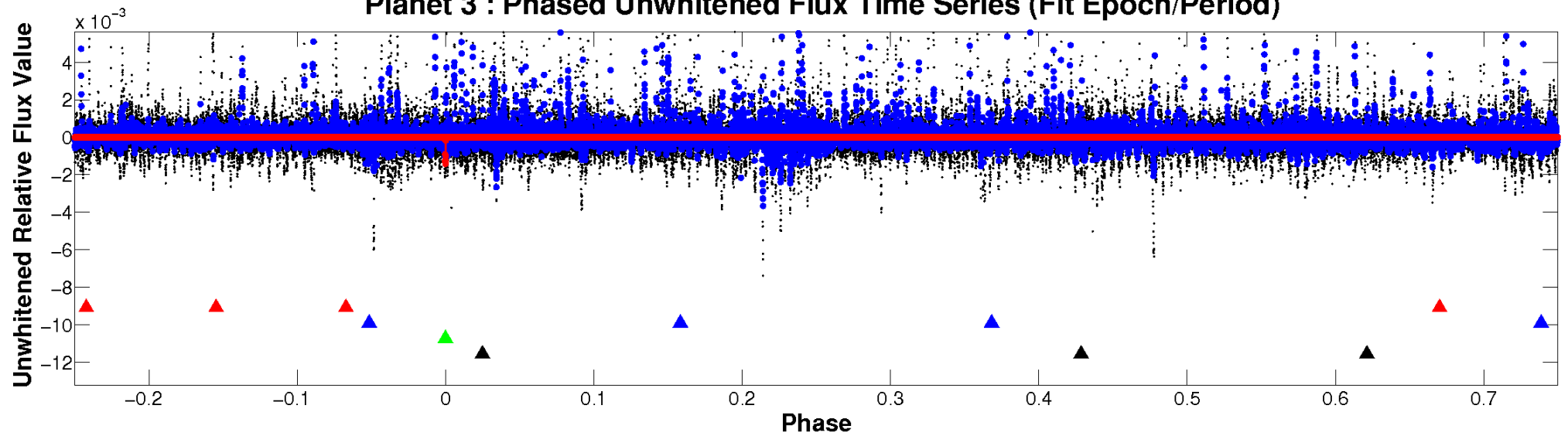
ALT Odd/Even

TCE 012690208-03

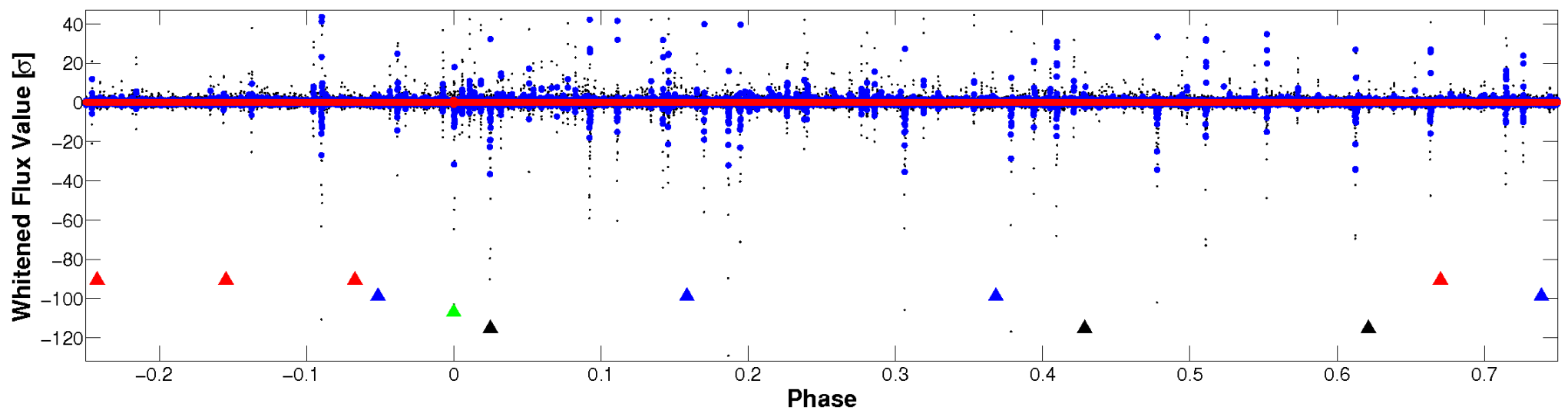


Non-Whitened Vs. Whitened Light Curve

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

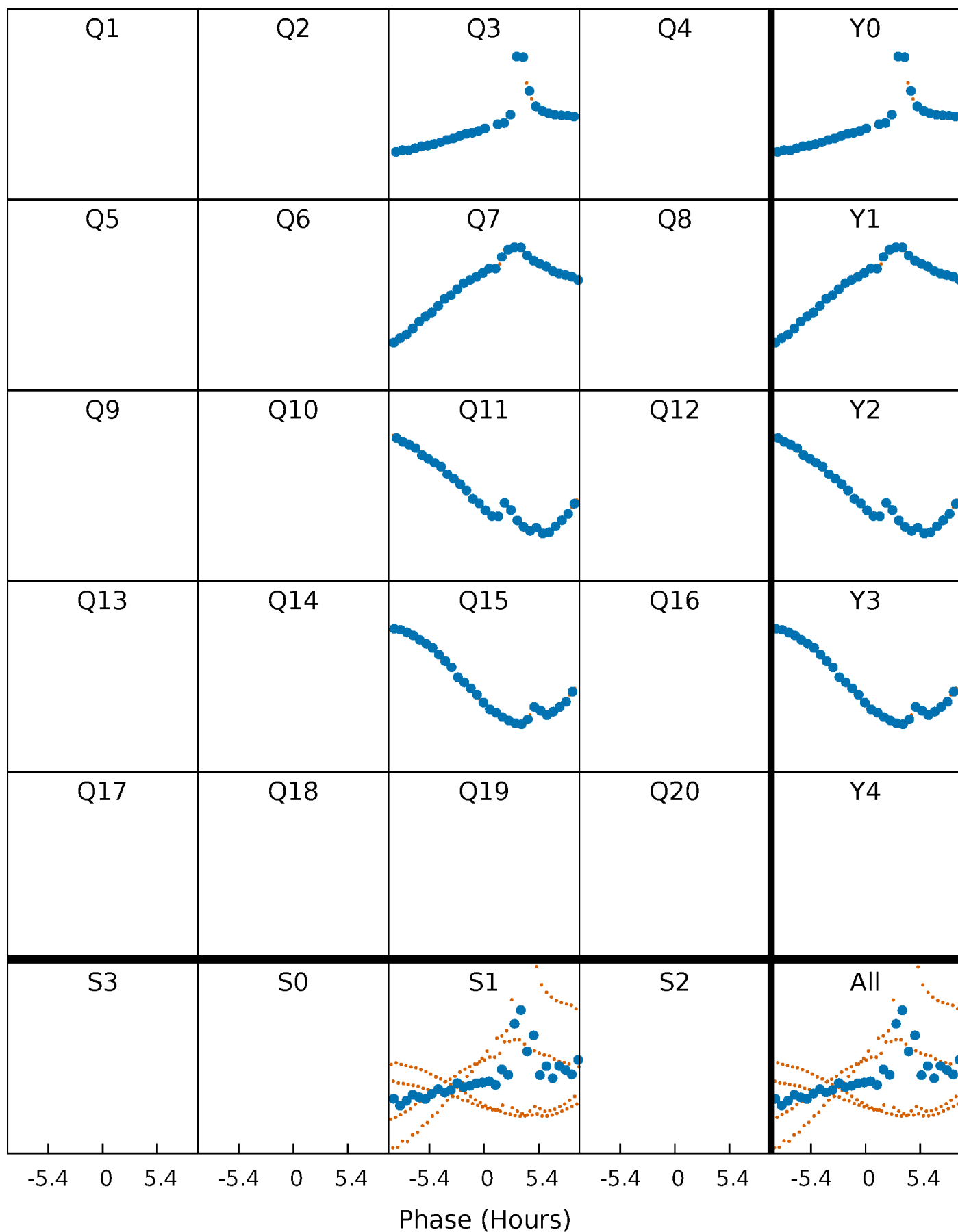


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



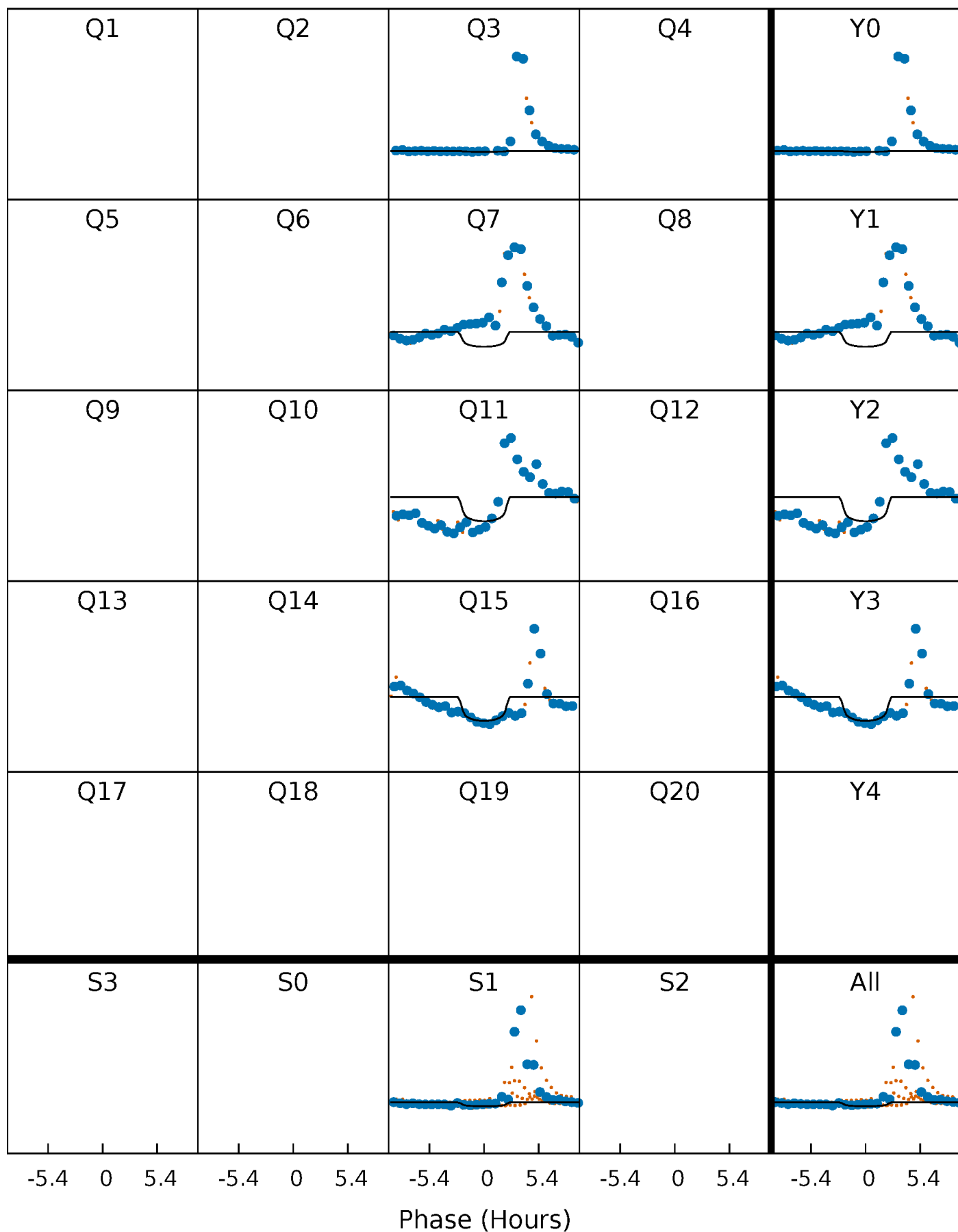
PDC Quarter-Phased Transit Curves

TCE 012690208-03 $P=371.736999$ Days $T_0=276.334236$ (BKJD)



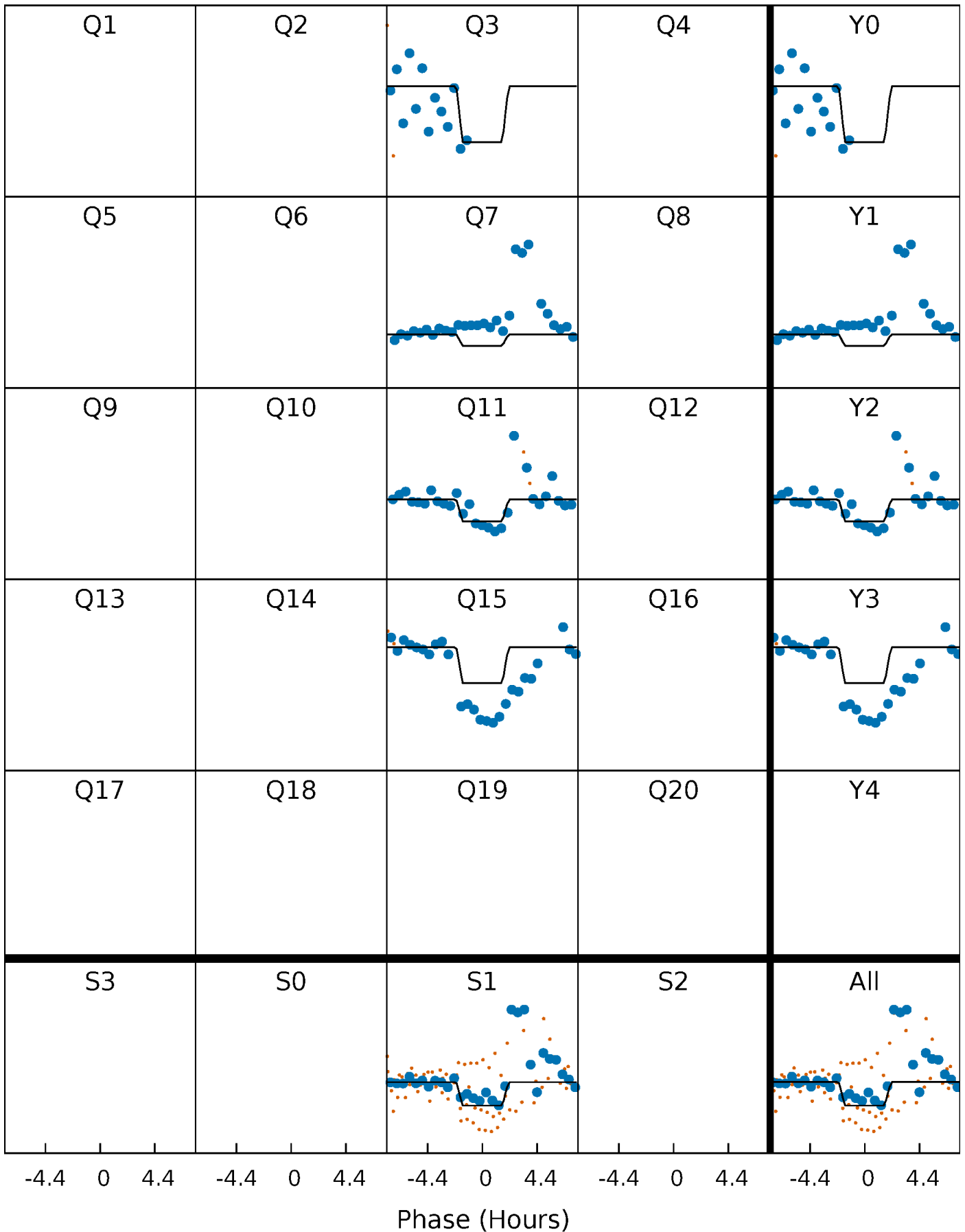
DV Quarter-Phased Transit Curves

TCE 012690208-03 P=371.736999 Days $T_0=276.334236$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

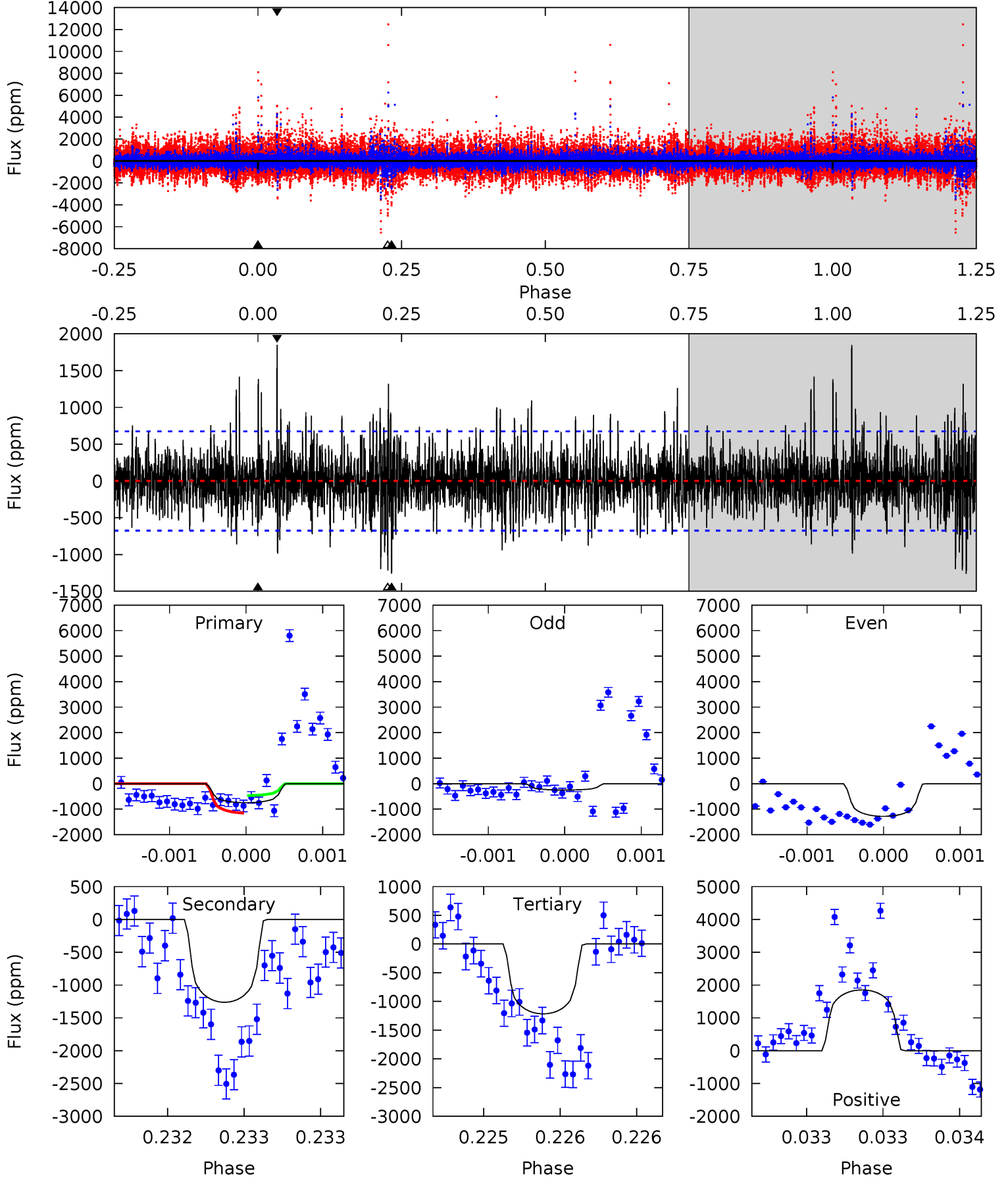
TCE 012690208-03 $P=371.734135$ Days $T_0=276.317934$ (BKJD)



DV Model-Shift Uniqueness Test

012690208-03, P = 371.736999 Days, E = 276.334236 Days

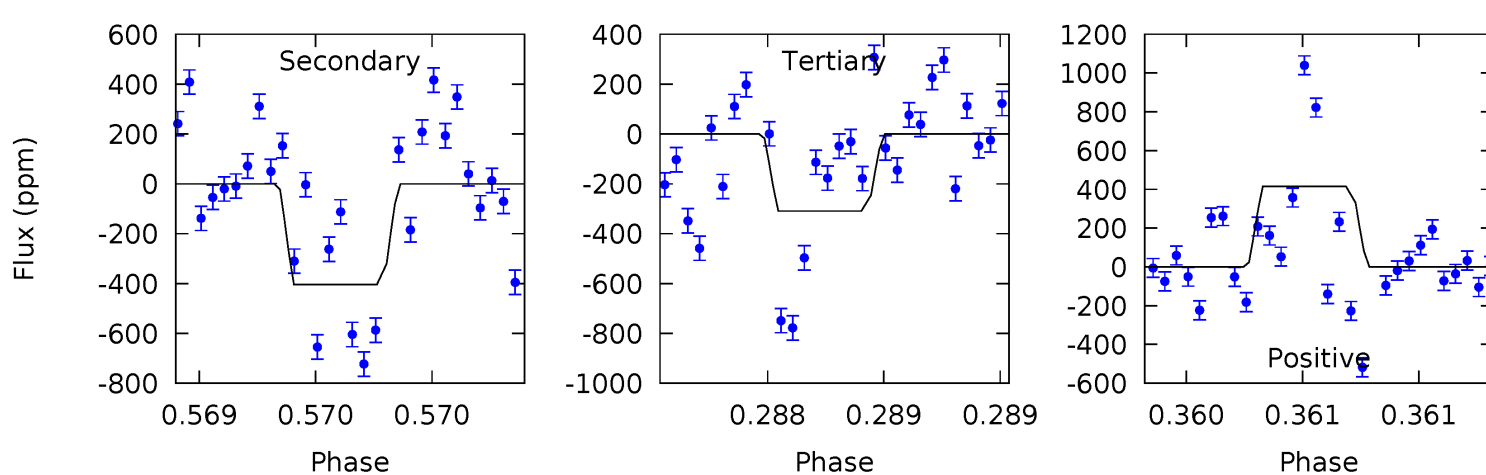
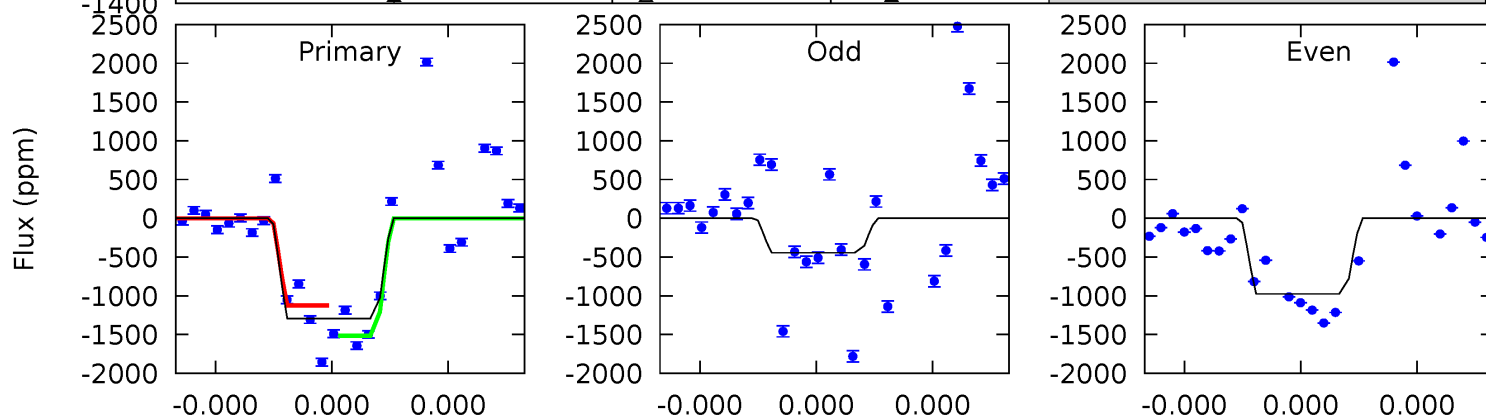
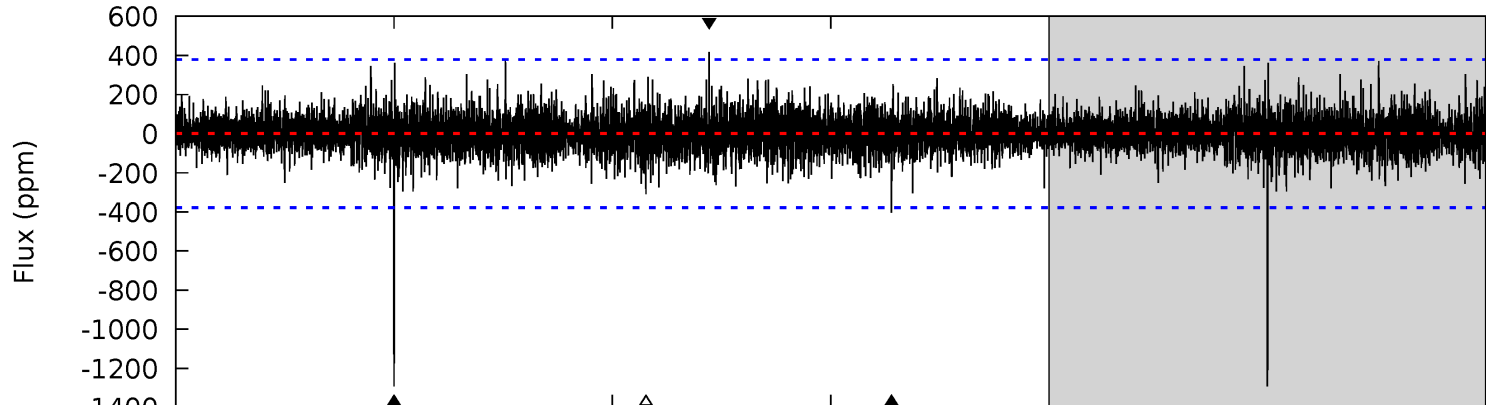
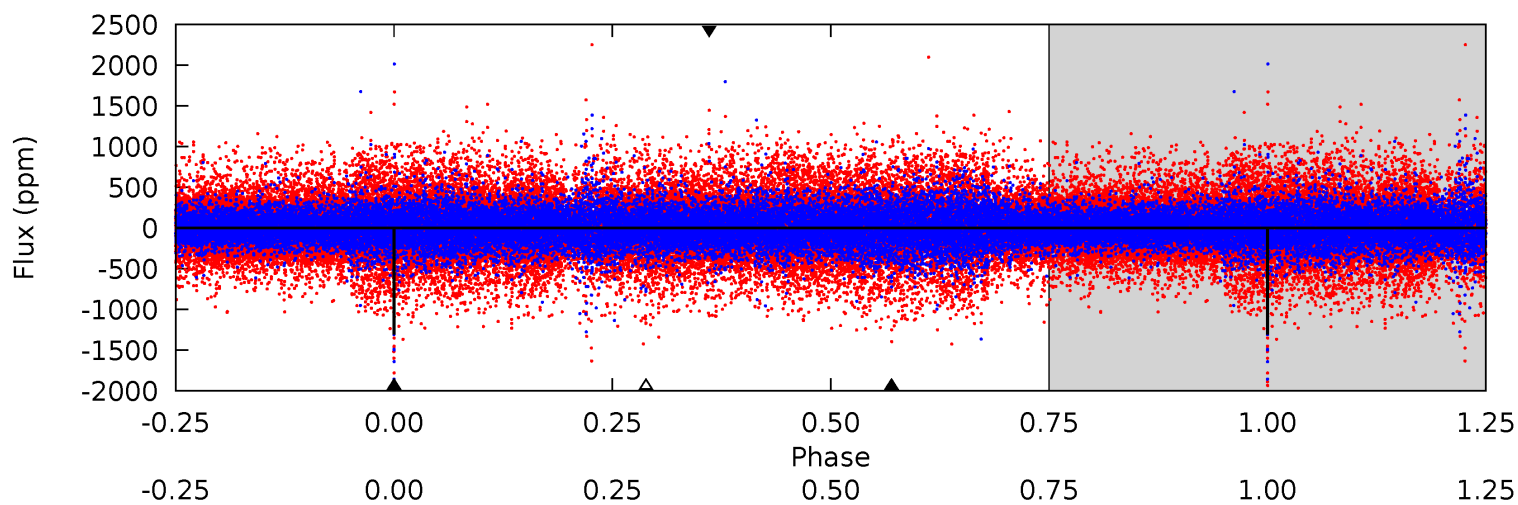
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.15	10.4	10.0	15.2	5.55	3.45	2.31	-3.86	-9.09	0.38	-4.85	2.50	0.46	0.59	2.80



Alt Model-Shift Uniqueness Test

012690208-03, P = 371.734135 Days, E = 276.317934 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	5.95	4.56	6.14	5.59	3.50	1.07	14.5	12.9	1.39	-0.19	4.24	0.75	0.24	2.91



Stellar Parameters For KIC 012690208

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5596^{+186}_{-186}	$4.343^{+0.195}_{-0.195}$	$-0.200^{+0.300}_{-0.300}$	$1.015^{+0.300}_{-0.200}$	$0.829^{+0.125}_{-0.063}$	$1.115^{+1.106}_{-0.599}$
	+3%/-3%	+4%/-4%	+150%/-150%	+30%/-20%	+15%/-8%	+99%/-54%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 012690208-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1262 ± 121	$19.50^{+19.02}_{-13.78}$	356^{+28}_{-24}	3150^{+1587}_{-577}	1654^{+18620}_{-1242}
Alt.	-403 ± 68	$19.44^{+20.60}_{-13.83}$	356^{+30}_{-24}	2685^{+1221}_{-431}	533^{+6047}_{-404}

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 $A_{obs} \gg 1.0$

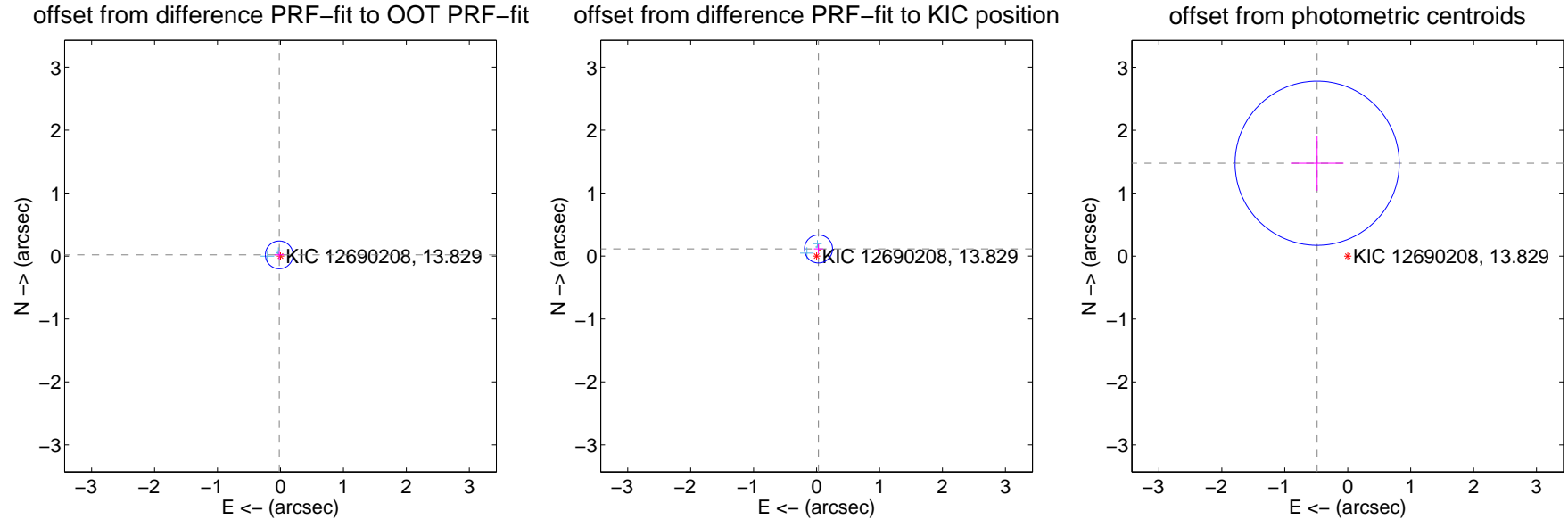
DV Centroid Data

Supplemental centroid analysis for 012690208-03. Kepler magnitude: 13.83. Transit SNR 6.74

There are 3 quarters with good PRF difference image offsets

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

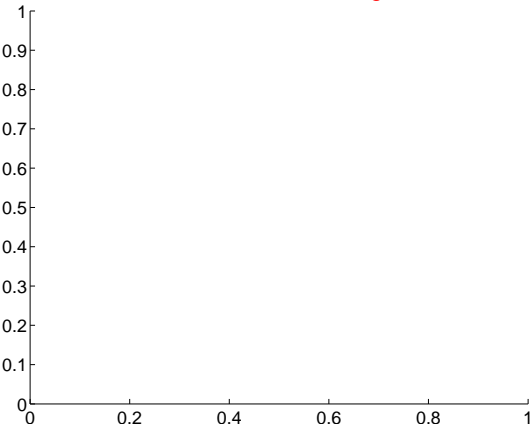
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.027 ± 0.073	0.36	0.019 ± 0.074	0.018 ± 0.072
PRF-fit source offset from KIC position	0.117 ± 0.074	1.57	-0.031 ± 0.072	0.113 ± 0.073
photometric centroid source offset	1.55 ± 0.43	3.57	0.49 ± 0.42	1.48 ± 0.44



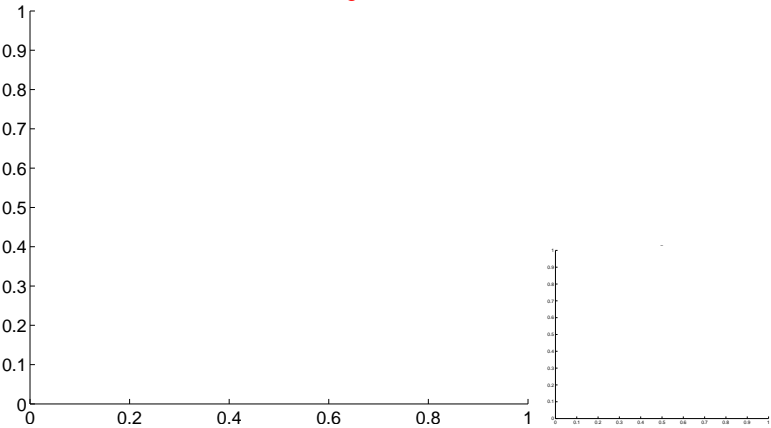
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

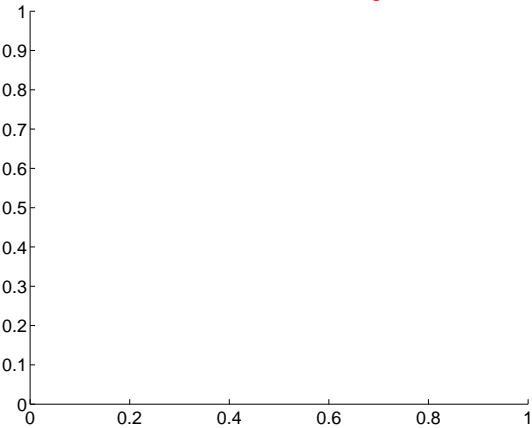
Q1 no difference image



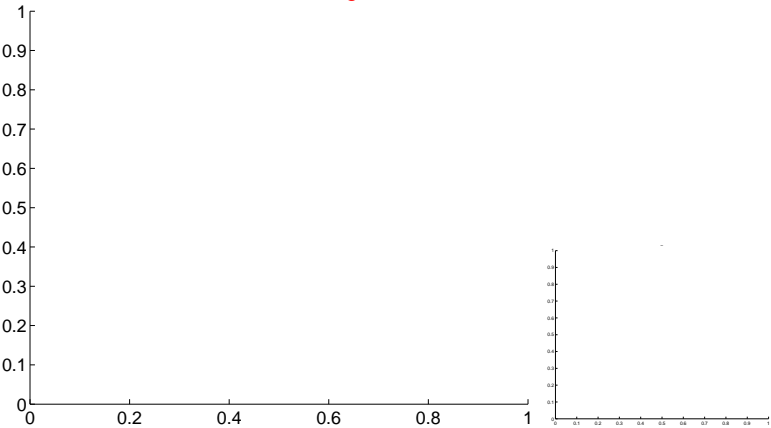
Q1 no OOT image



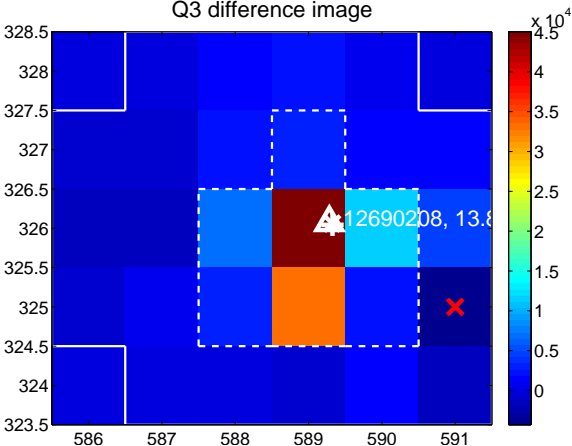
Q2 no difference image



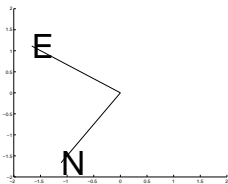
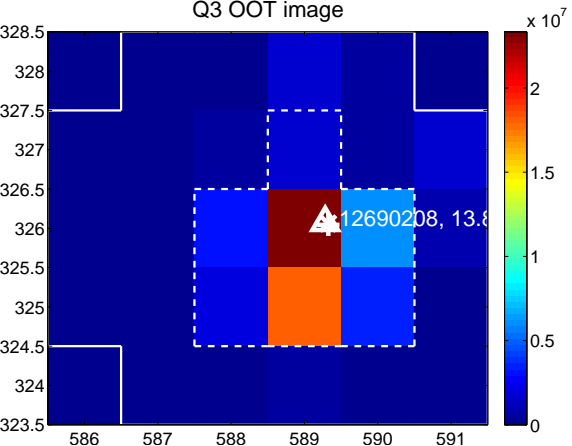
Q2 no OOT image



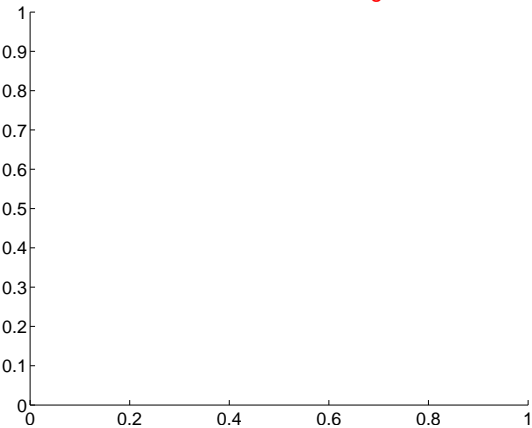
Q3 difference image



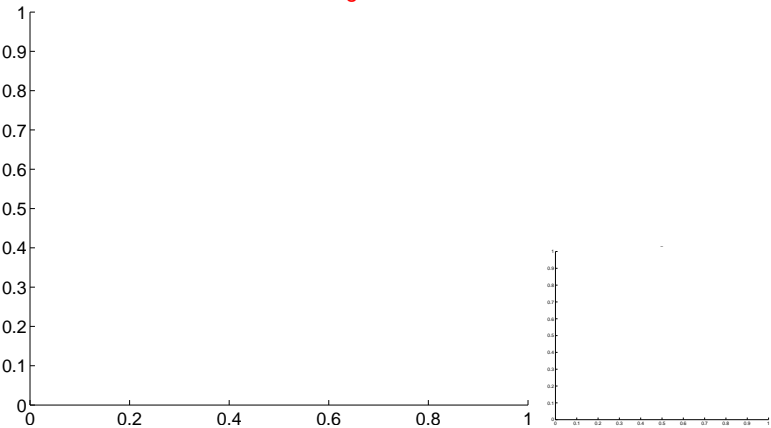
Q3 OOT image



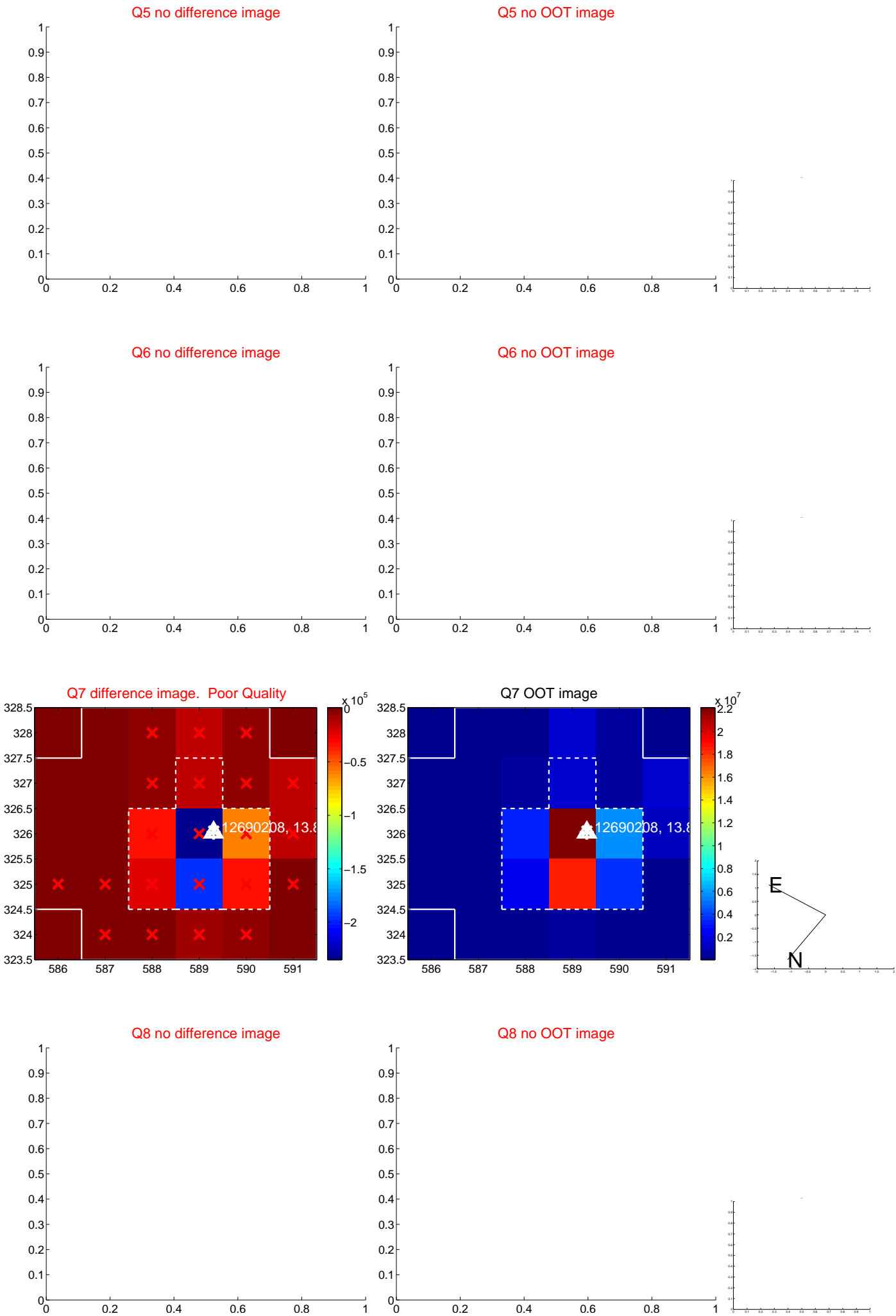
Q4 no difference image



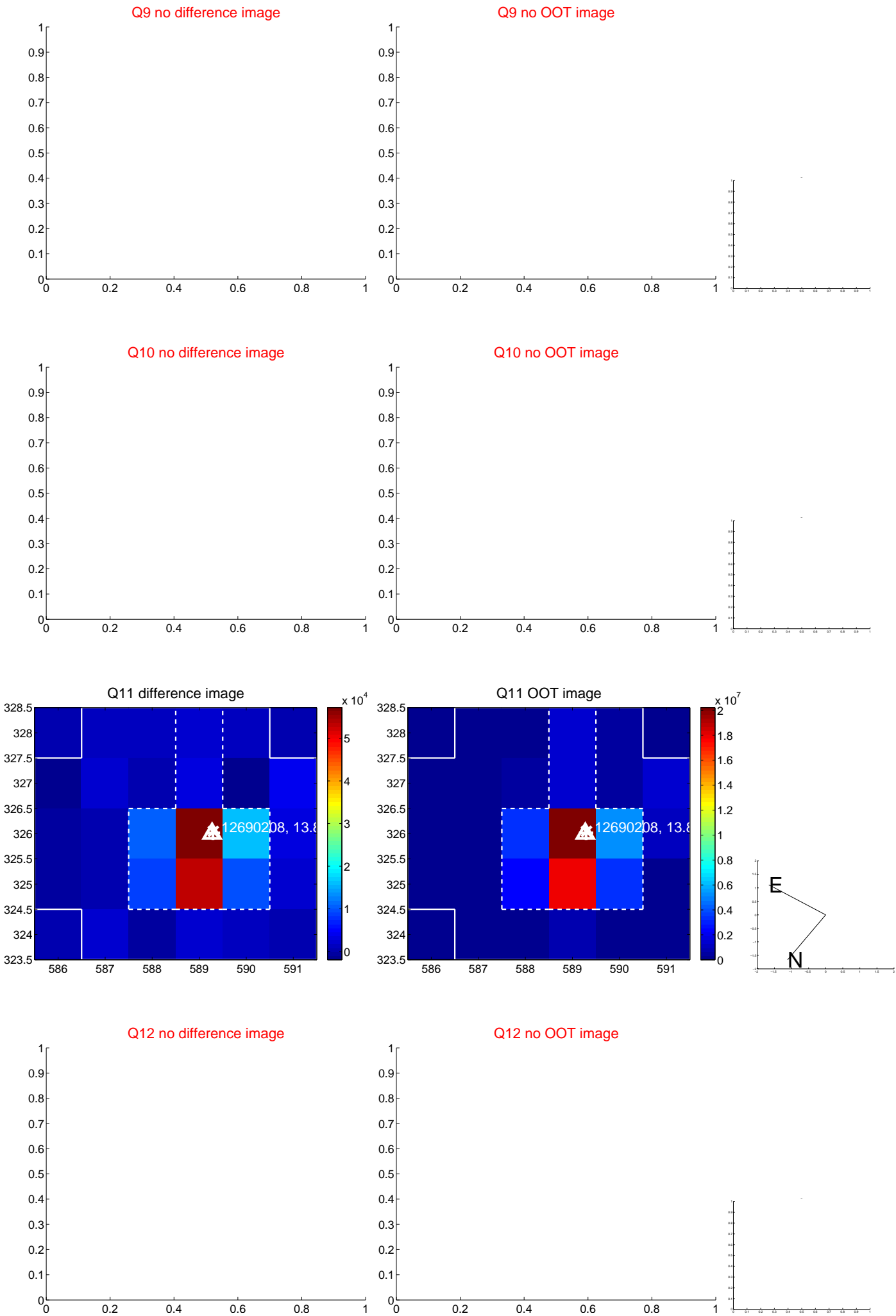
Q4 no OOT image



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

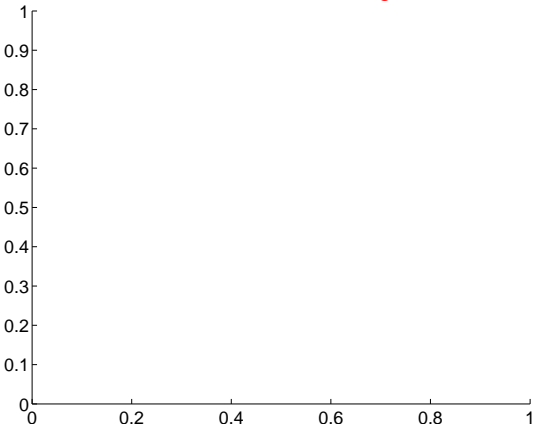


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

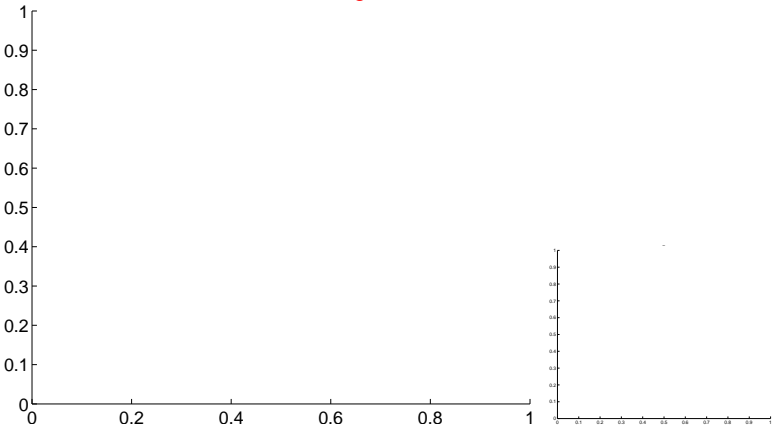


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

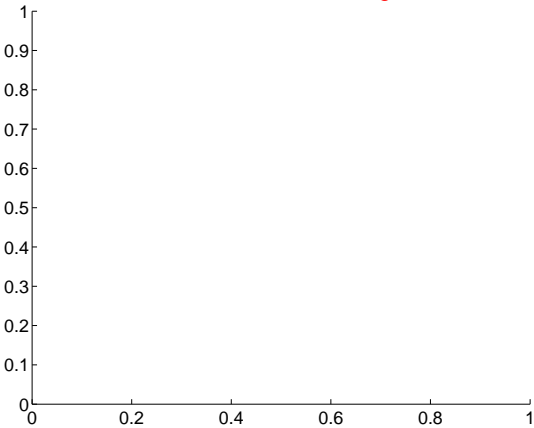
Q13 no difference image



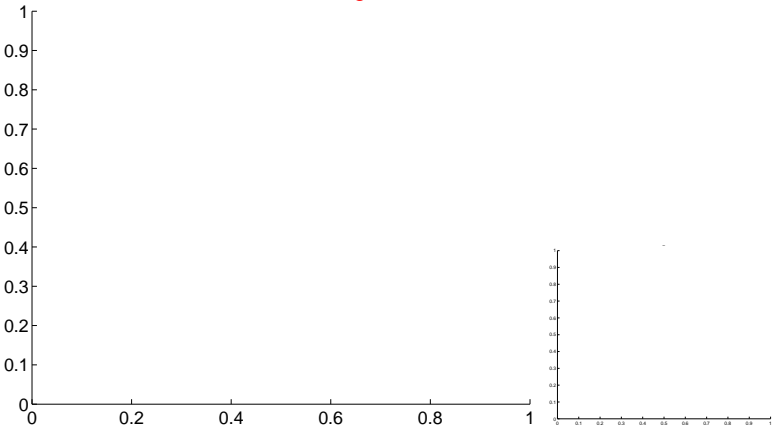
Q13 no OOT image



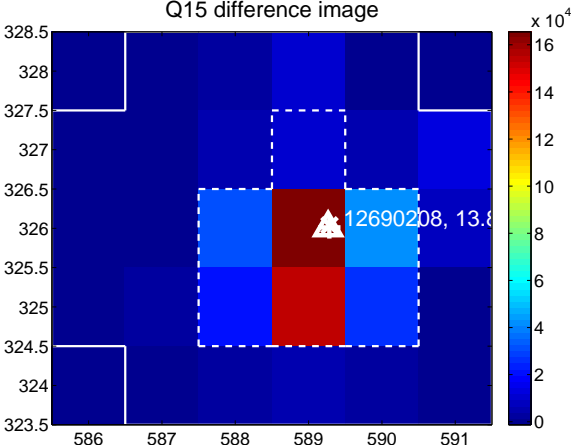
Q14 no difference image



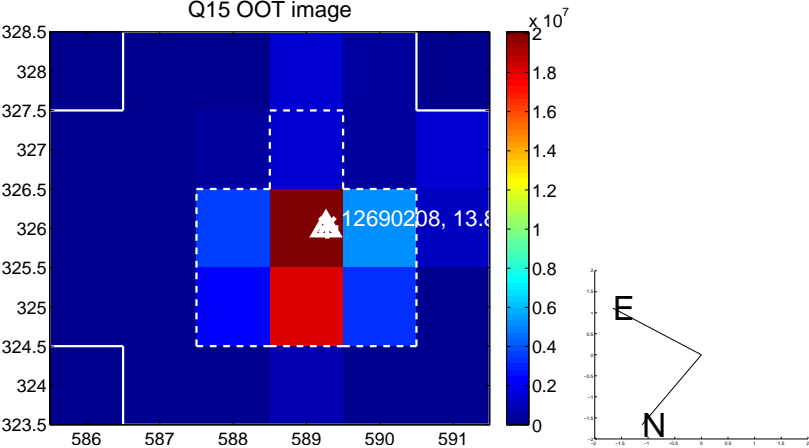
Q14 no OOT image



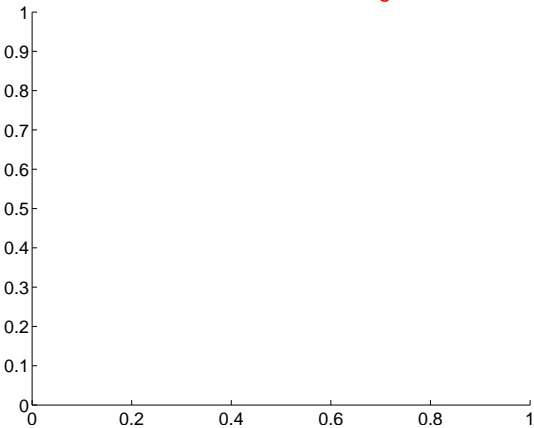
Q15 difference image



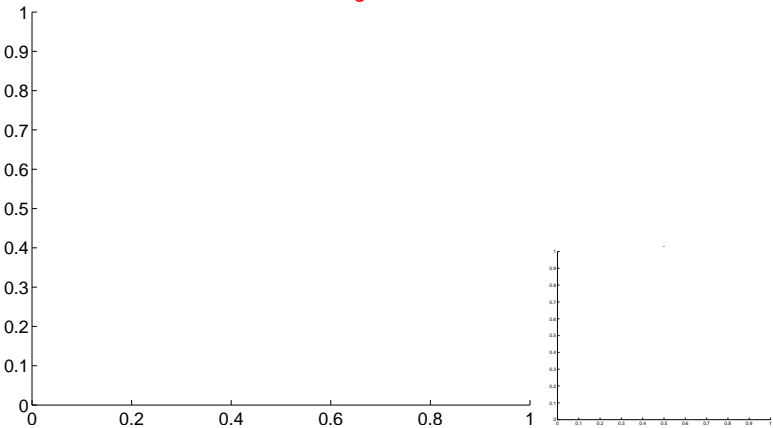
Q15 OOT image



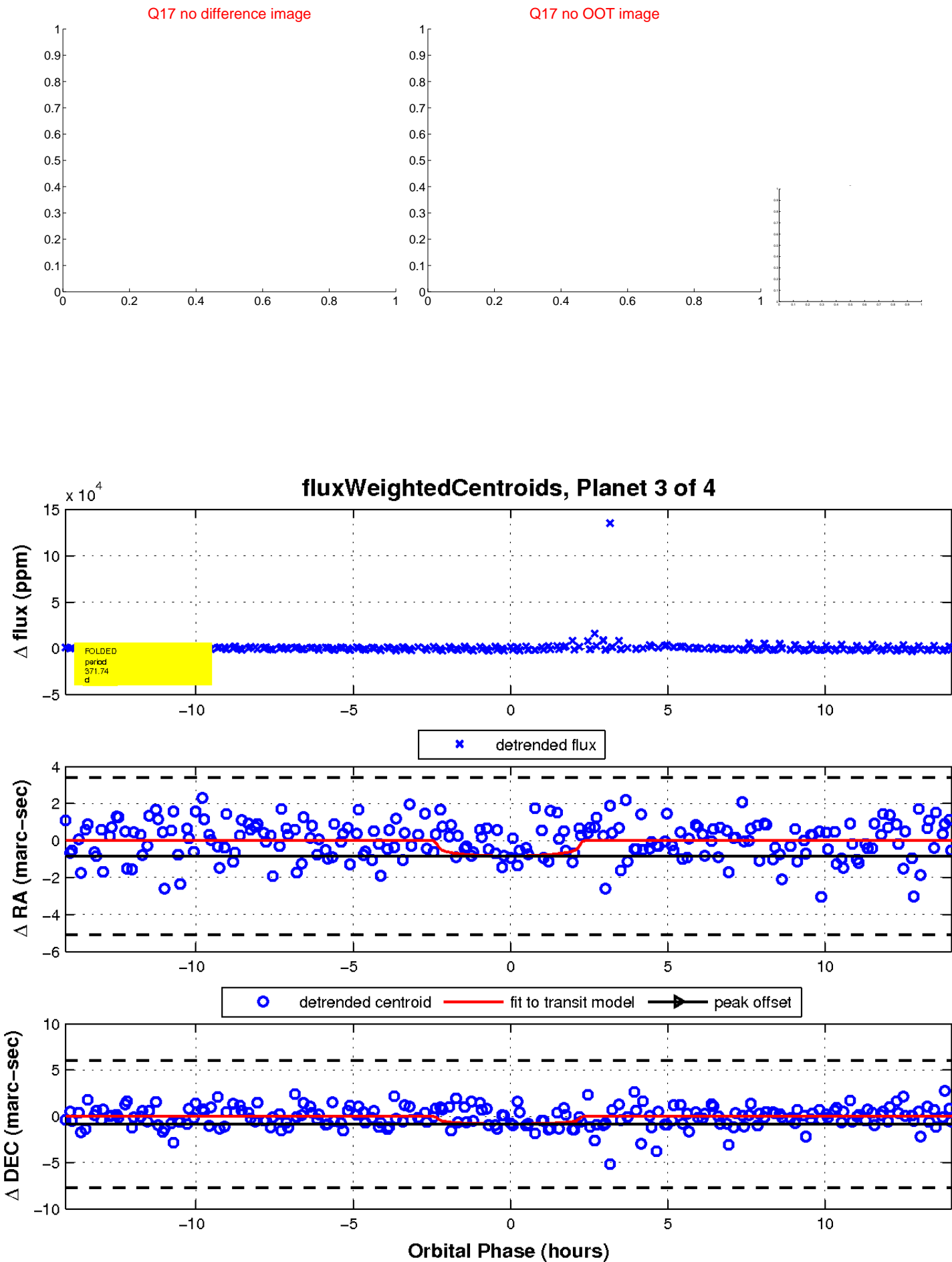
Q16 no difference image



Q16 no OOT image

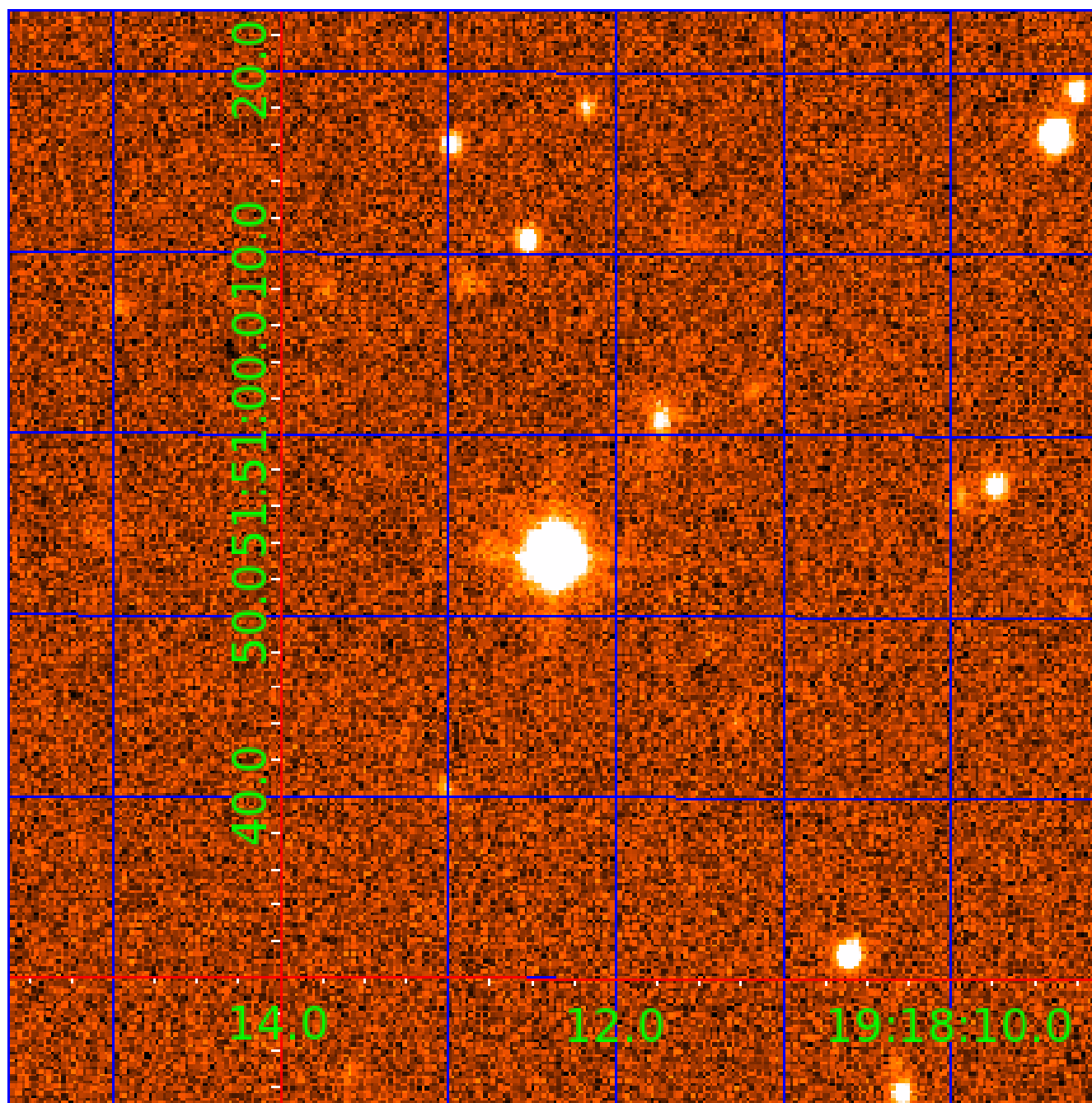


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012690208

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})
012690208-01	OBS	No	339.191501	251.394579	811.6	10.993	20.4	3.1	1.01	5596	2.93	1.13
012690208-03	OBS	No	371.736999	276.334236	1422.8	4.717	14.6	6.7	1.01	5596	3.78	1.00
012690208-04	OBS	No	521.794130	507.277557	1355.1	9.261	14.1	5.6	1.01	5596	3.86	0.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012690208-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
012690208-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
012690208-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

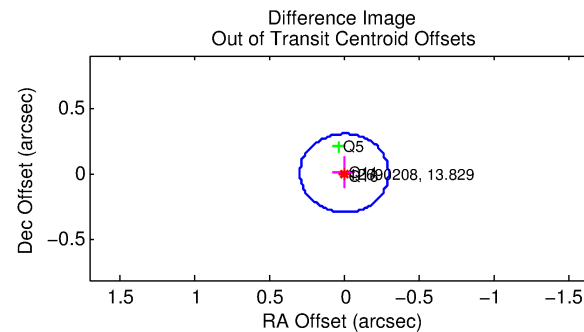
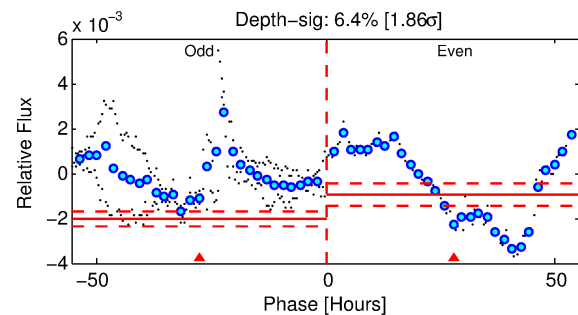
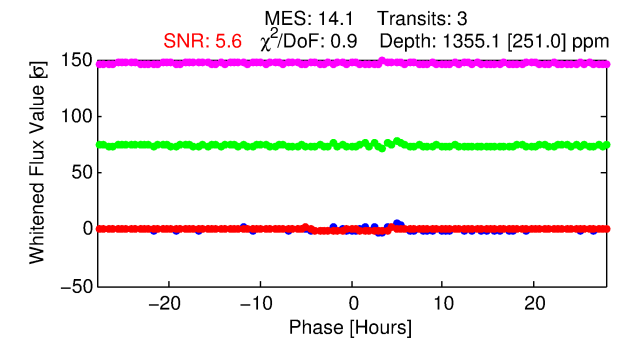
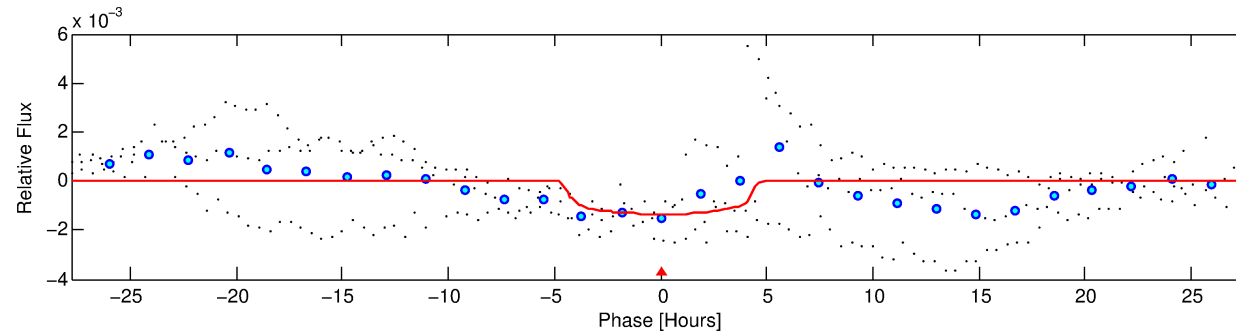
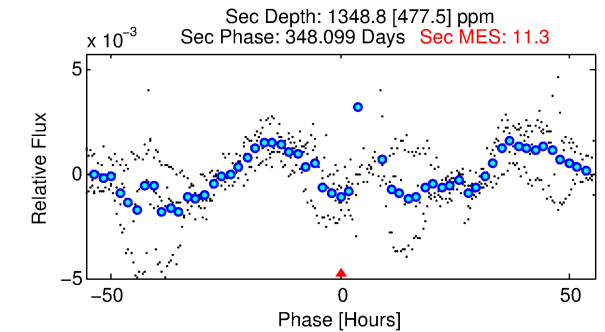
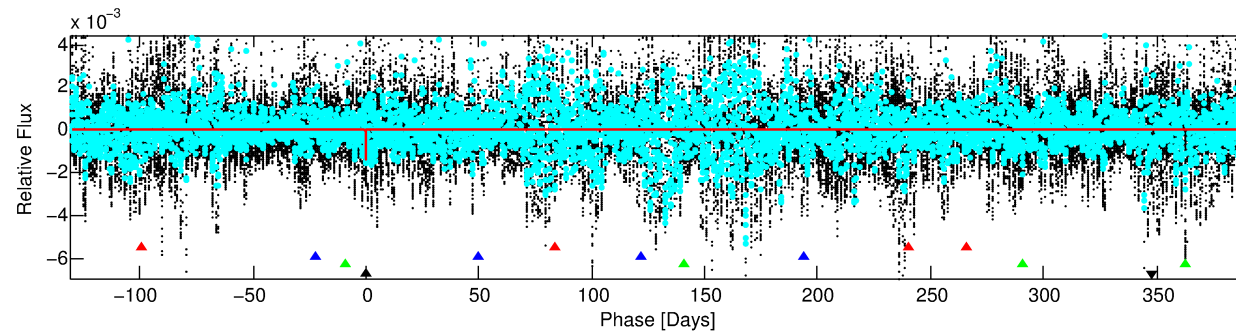
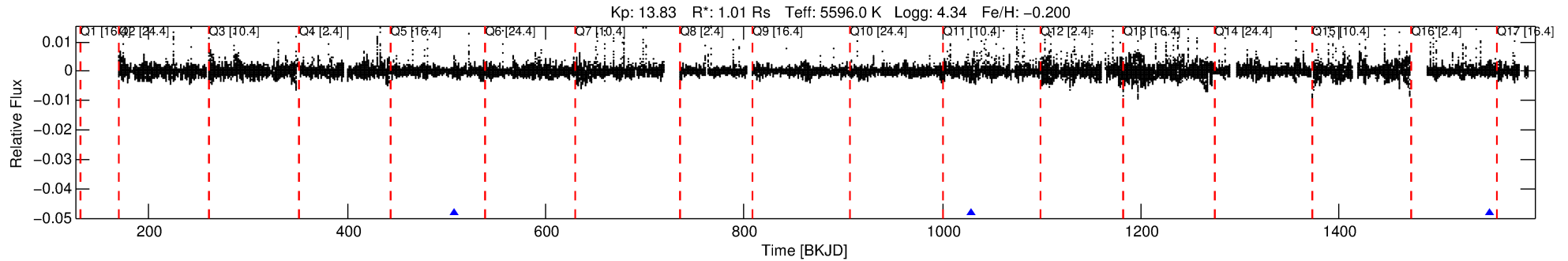
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012690208-04

No Significant Match Found

DV One-Page Summary

KIC: 12690208 Candidate: 4 of 4 Period: 521.794 d



DV Fit Results:

Period = 521.79413 [0.00473] d
Epoch = 507.2776 [0.0068] BKJD
Rp/R* = 0.0348 [0.0080]
a/R* = 372.01 [289.33]
b = 0.57 [0.93]
Seff = 0.64 [0.24]
Teq = 228 [22] K
Rp = 3.86 [1.44] Re
a = 1.1913 [0.2948] AU
Ag = 70714.05 [48179.26] [1.47σ]
Teffp = 5745 [854] K [6.46σ]

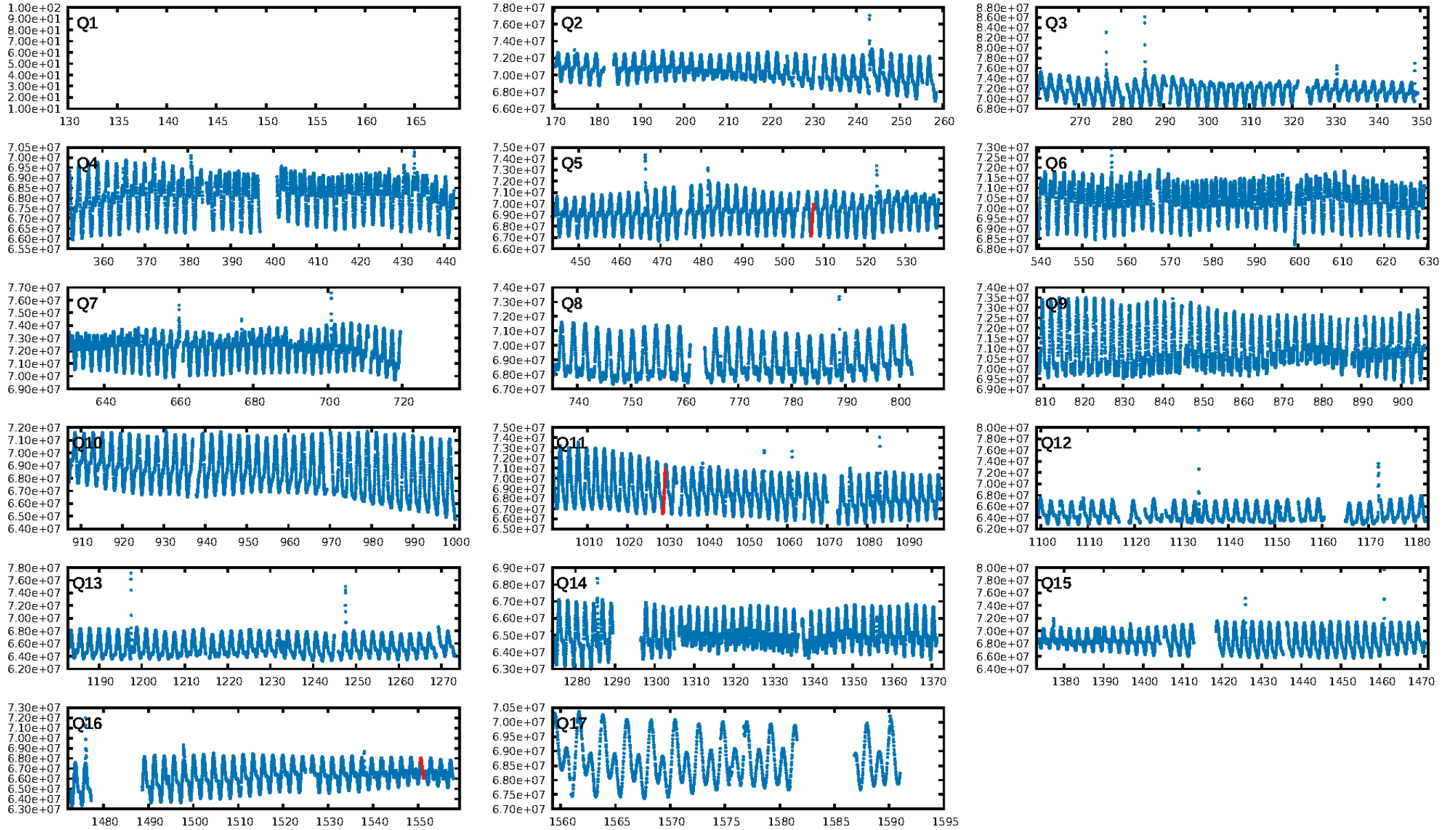
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [177.87σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 34.0%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 7.16e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -17.17
Centroid-sig: 24.2%
Centroid-so: 1.249 arcsec [2.43σ]
OotOffset-rm: 0.010 arcsec [0.10σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 0.134 arcsec [1.83σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

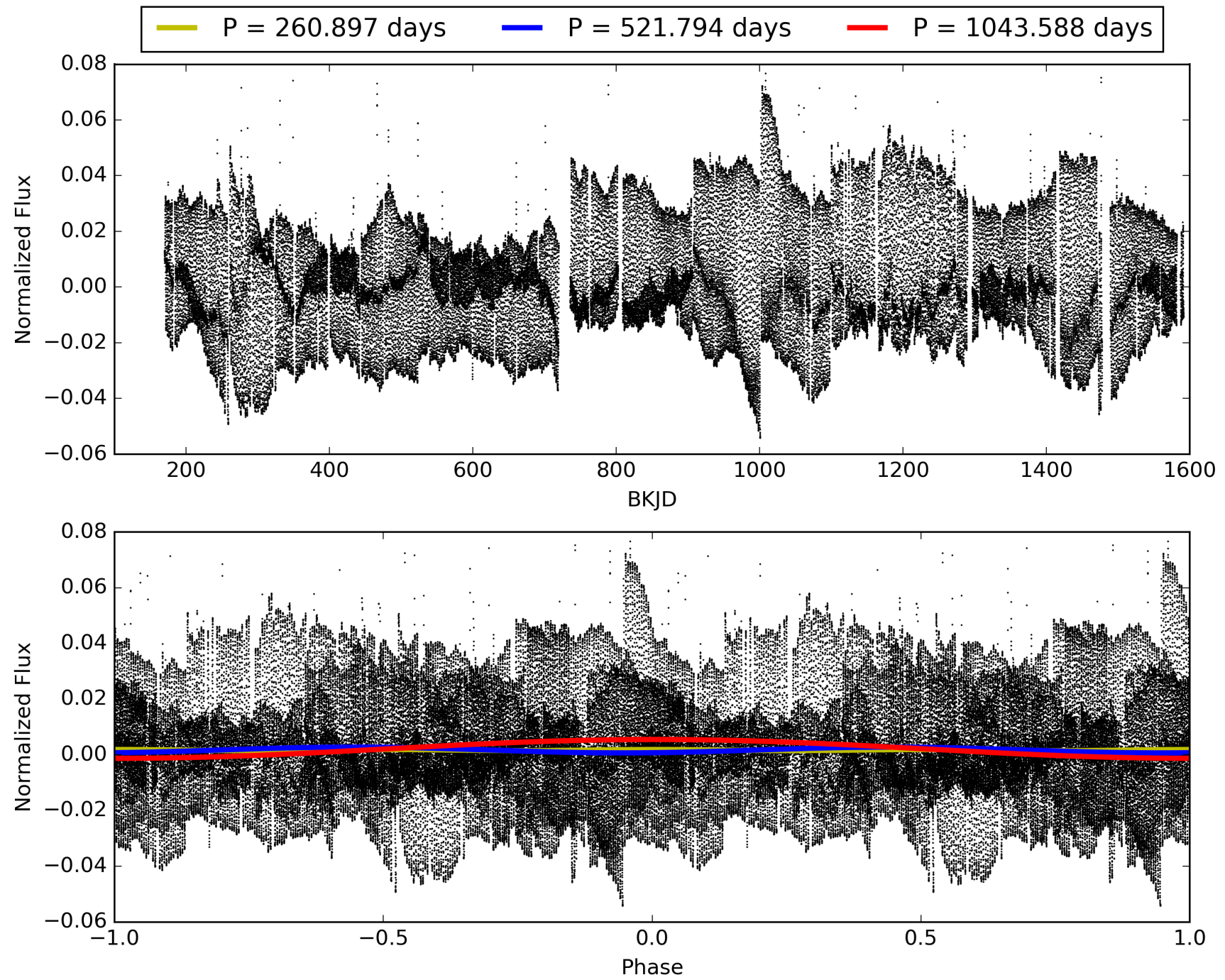
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:20:46 Z

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

TCE 012690208-04, PDC Light Curves

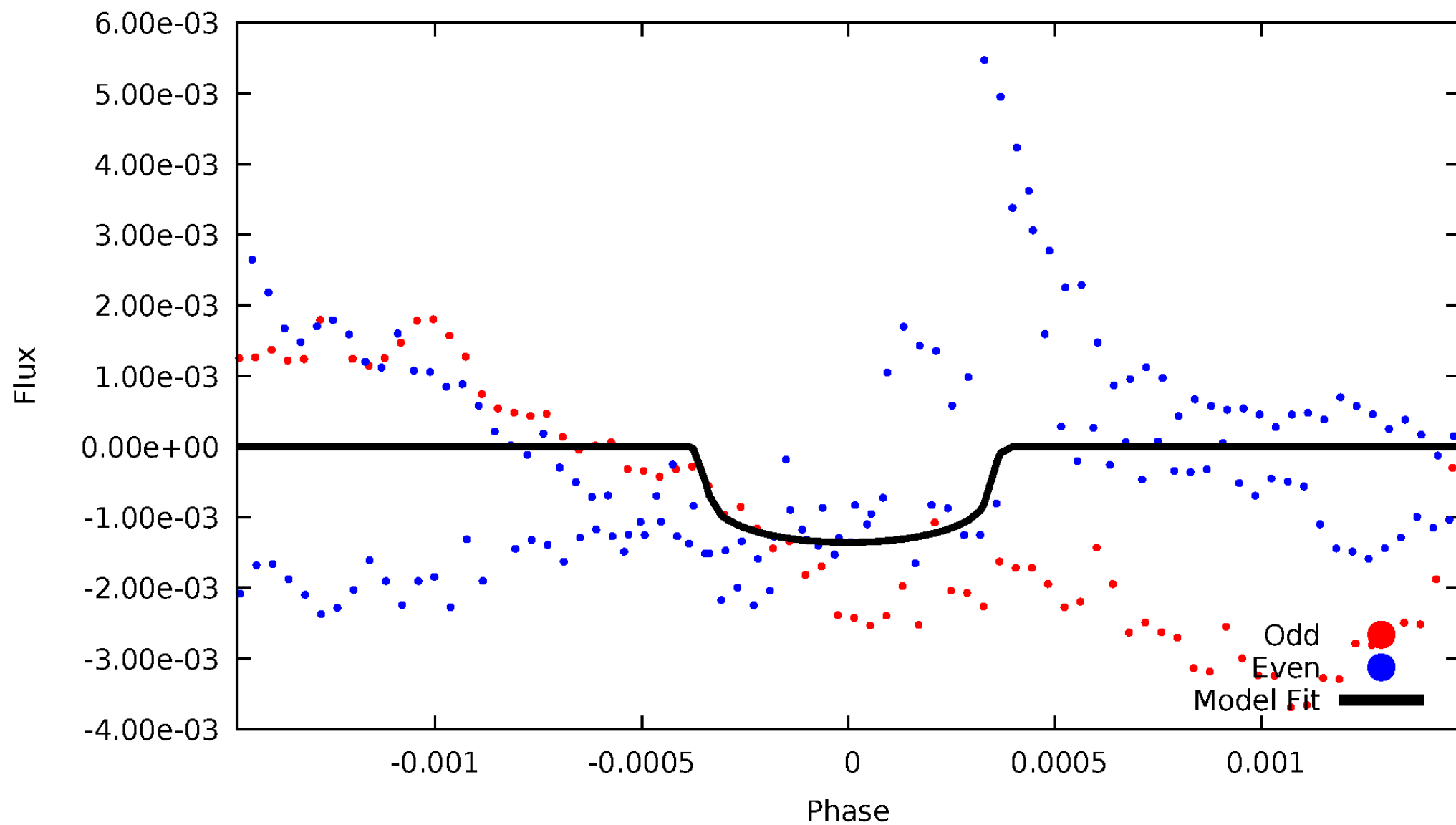


TCE 012690208-04



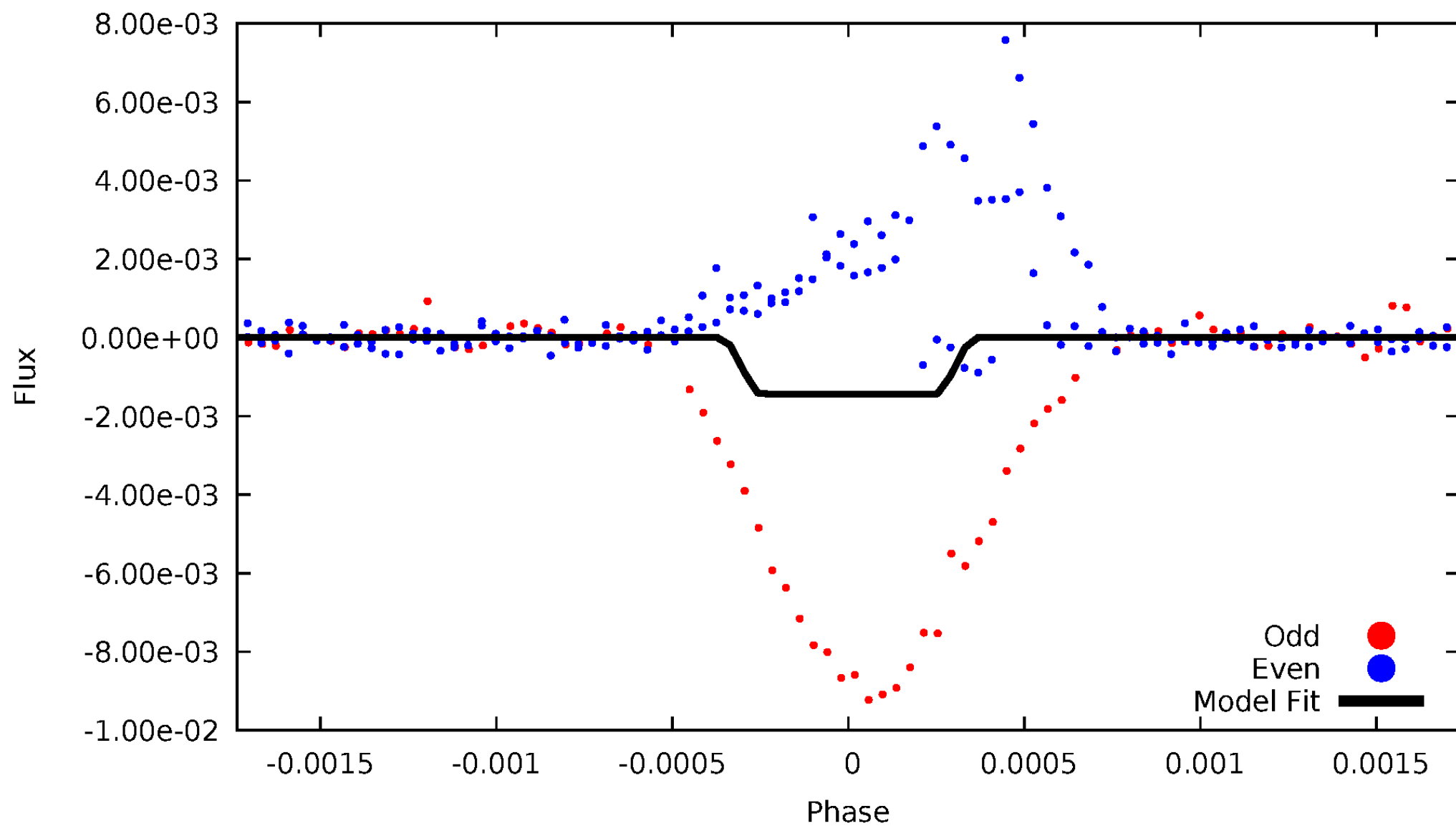
DV Odd/Even

TCE 012690208-04



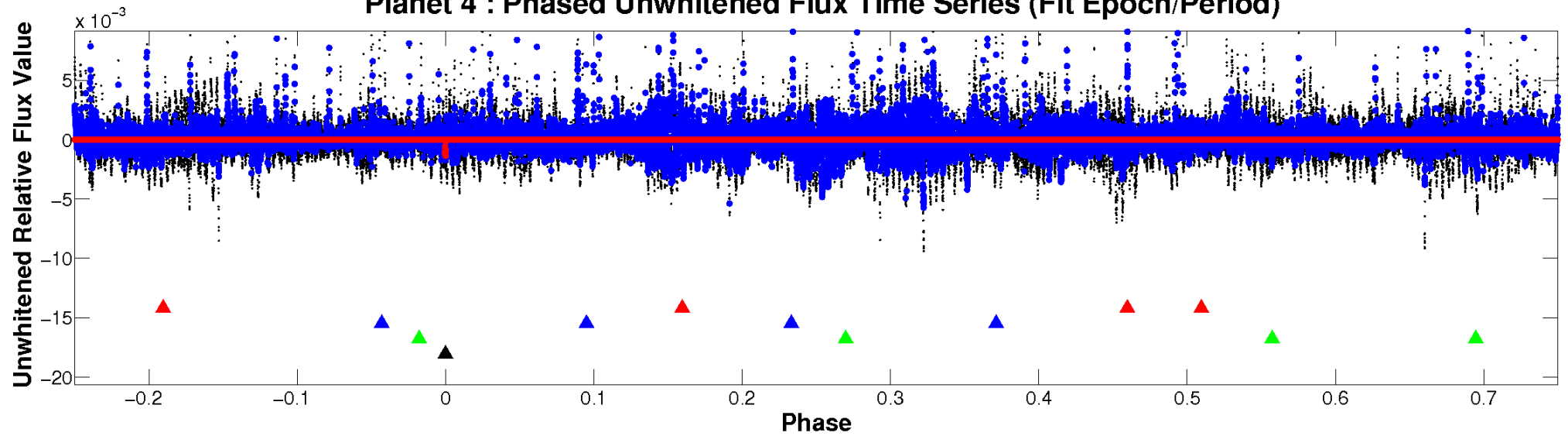
ALT Odd/Even

TCE 012690208-04

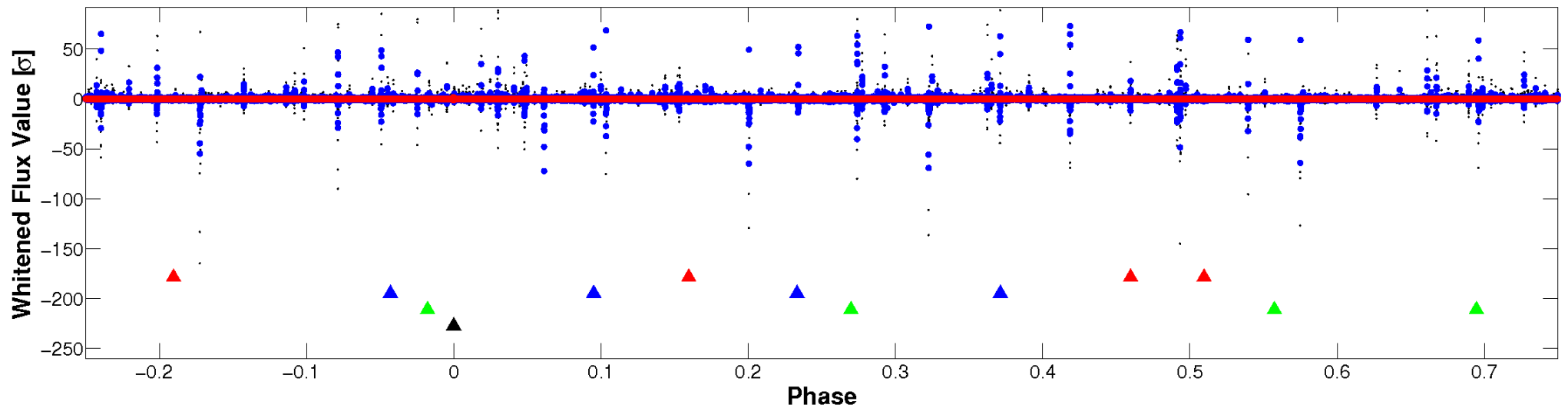


Non-Whitened Vs. Whitened Light Curve

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

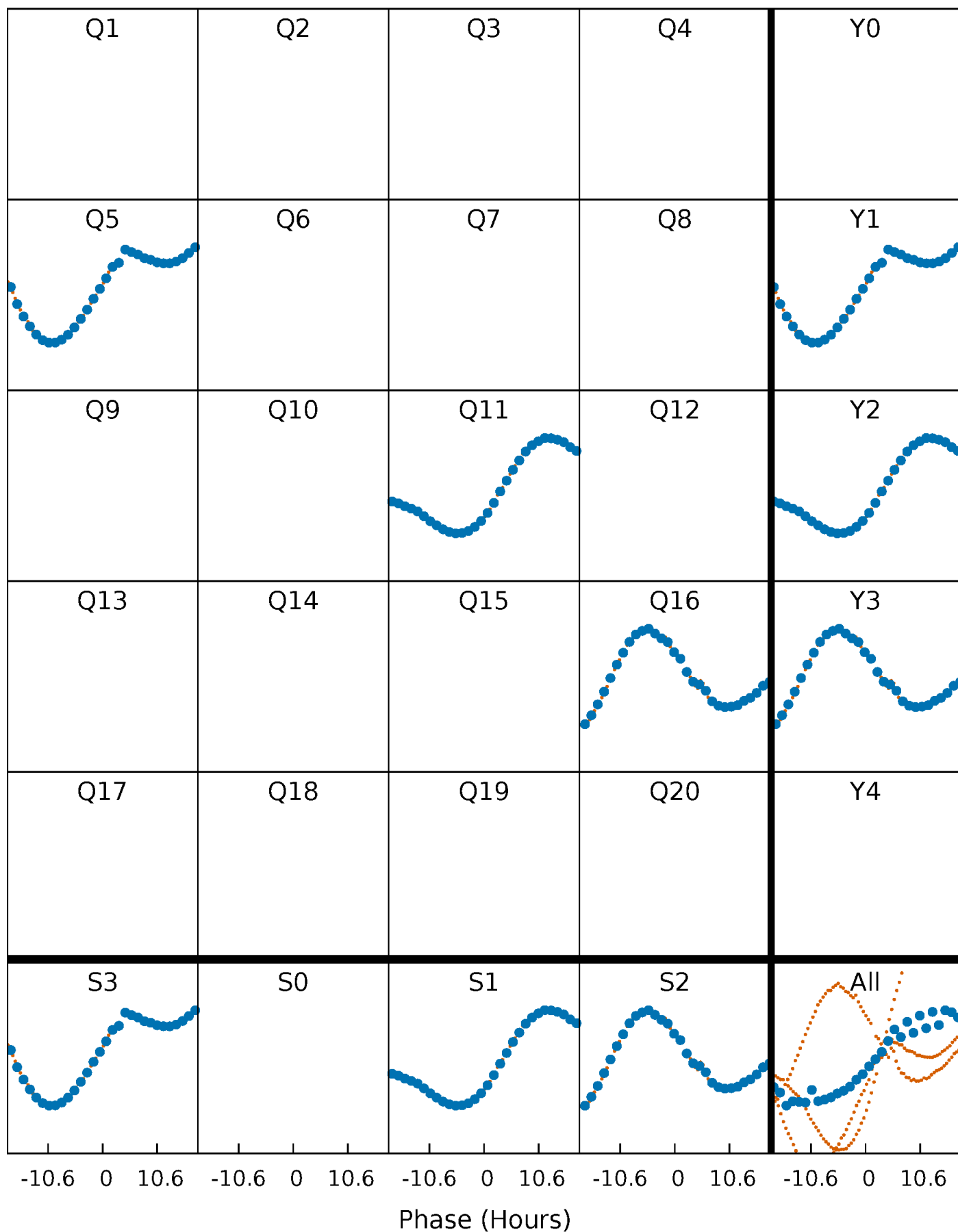


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



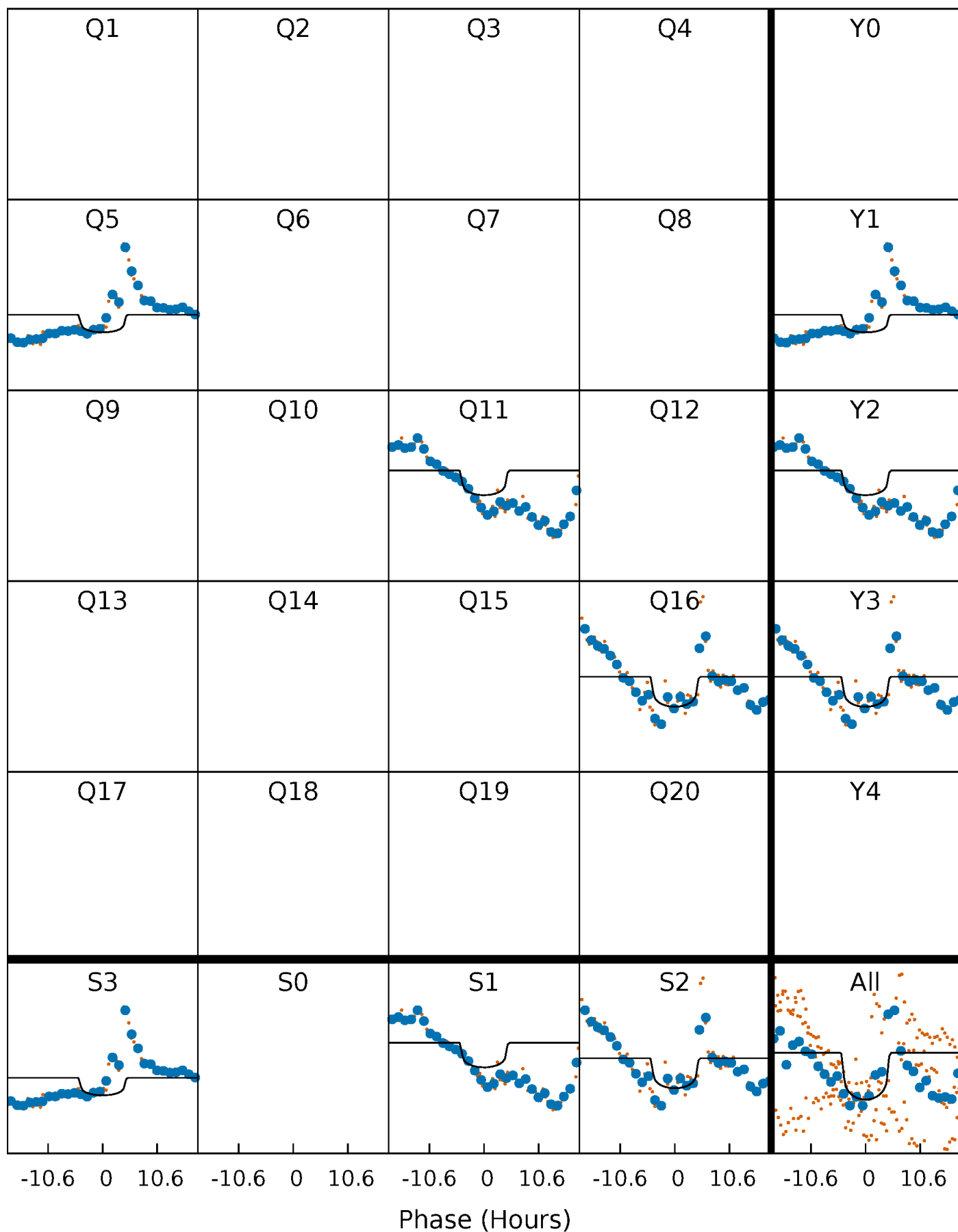
PDC Quarter-Phased Transit Curves

TCE 012690208-04 P=521.794130 Days $T_0=507.277557$ (BKJD)



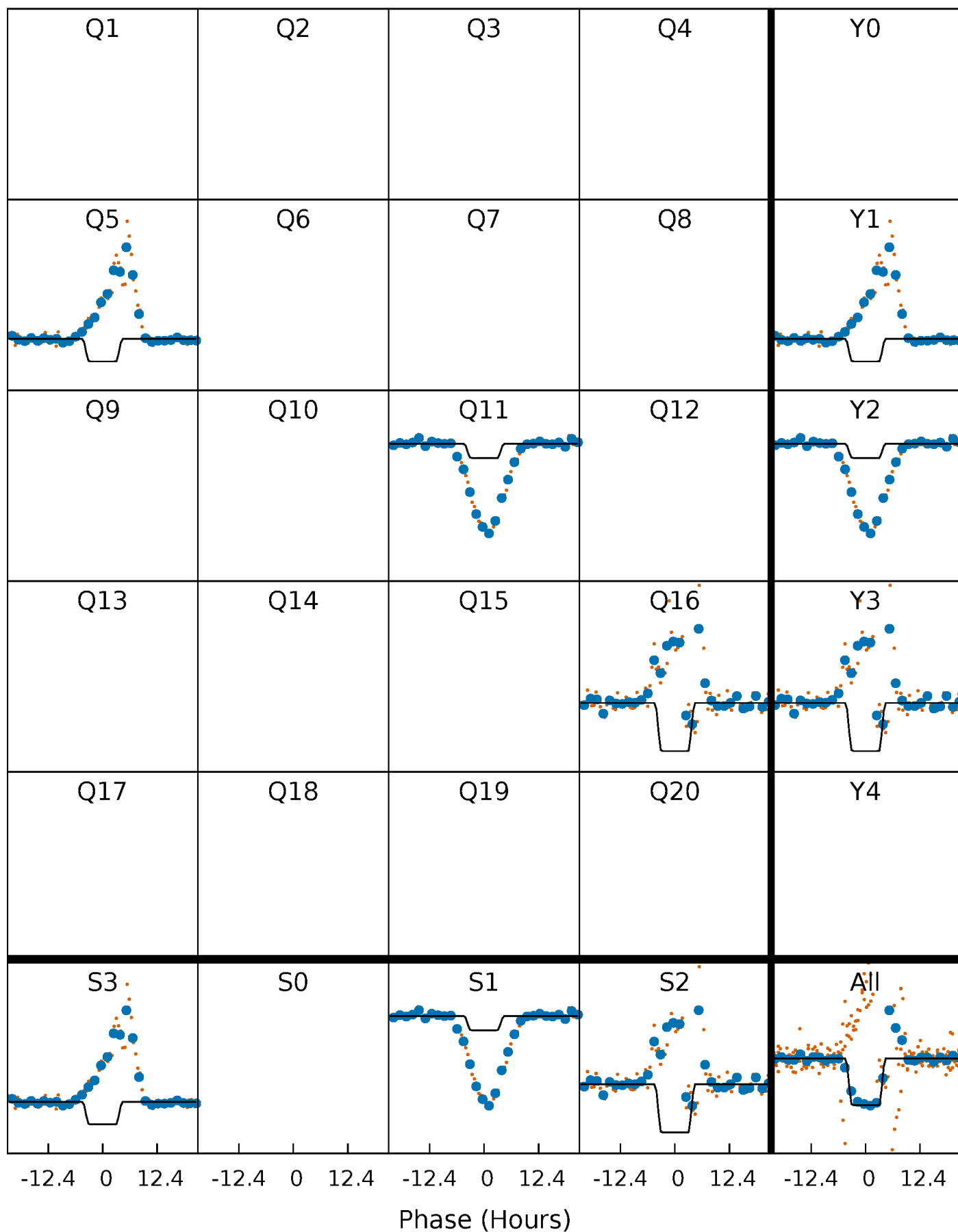
DV Quarter-Phased Transit Curves

TCE 012690208-04 $P=521.794130$ Days $T_0=507.277557$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

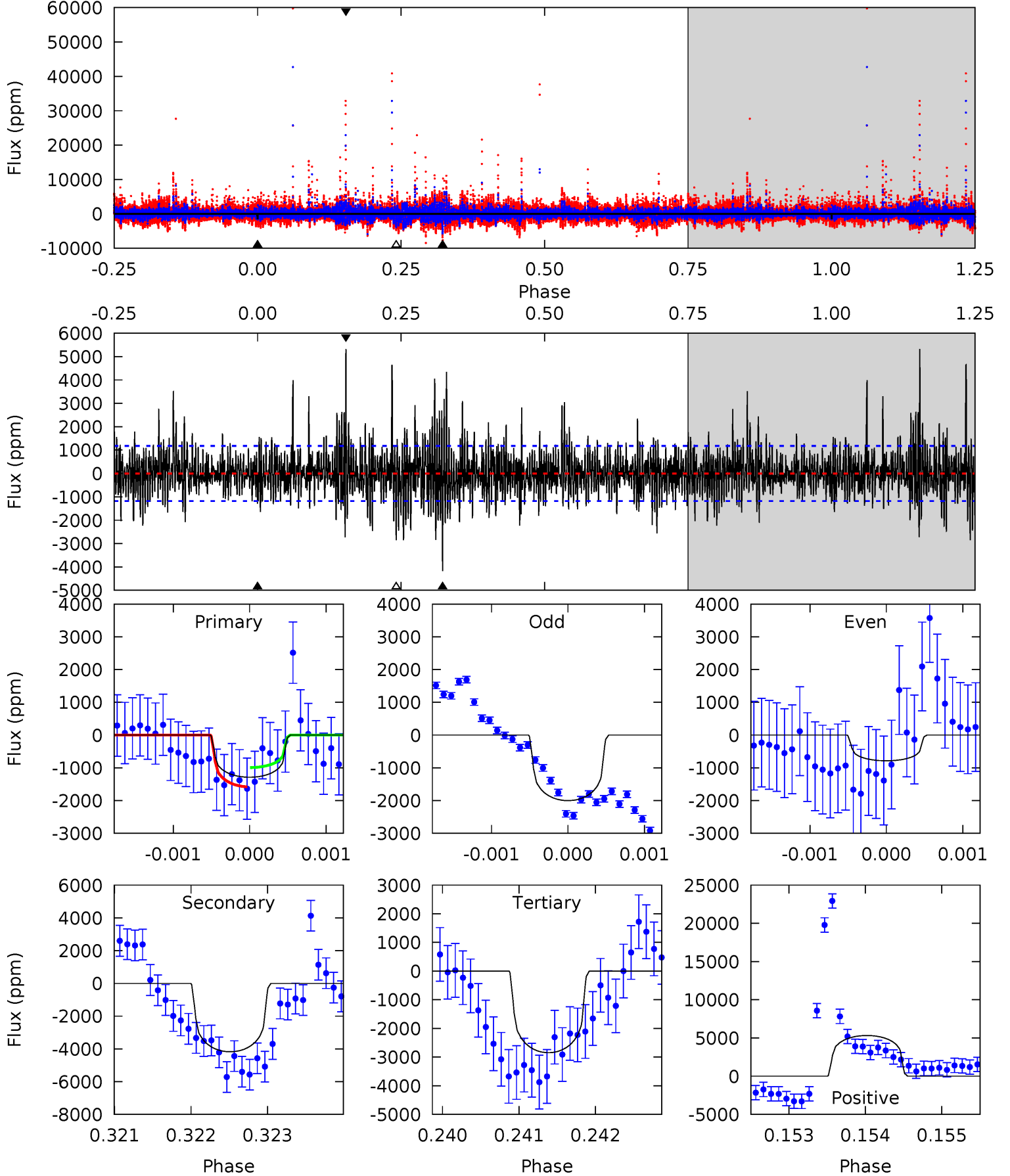
TCE 012690208-04 $P=521.811822$ Days $T_0=507.216280$ (BKJD)



DV Model-Shift Uniqueness Test

012690208-04, P = 521.794130 Days, E = 507.277557 Days

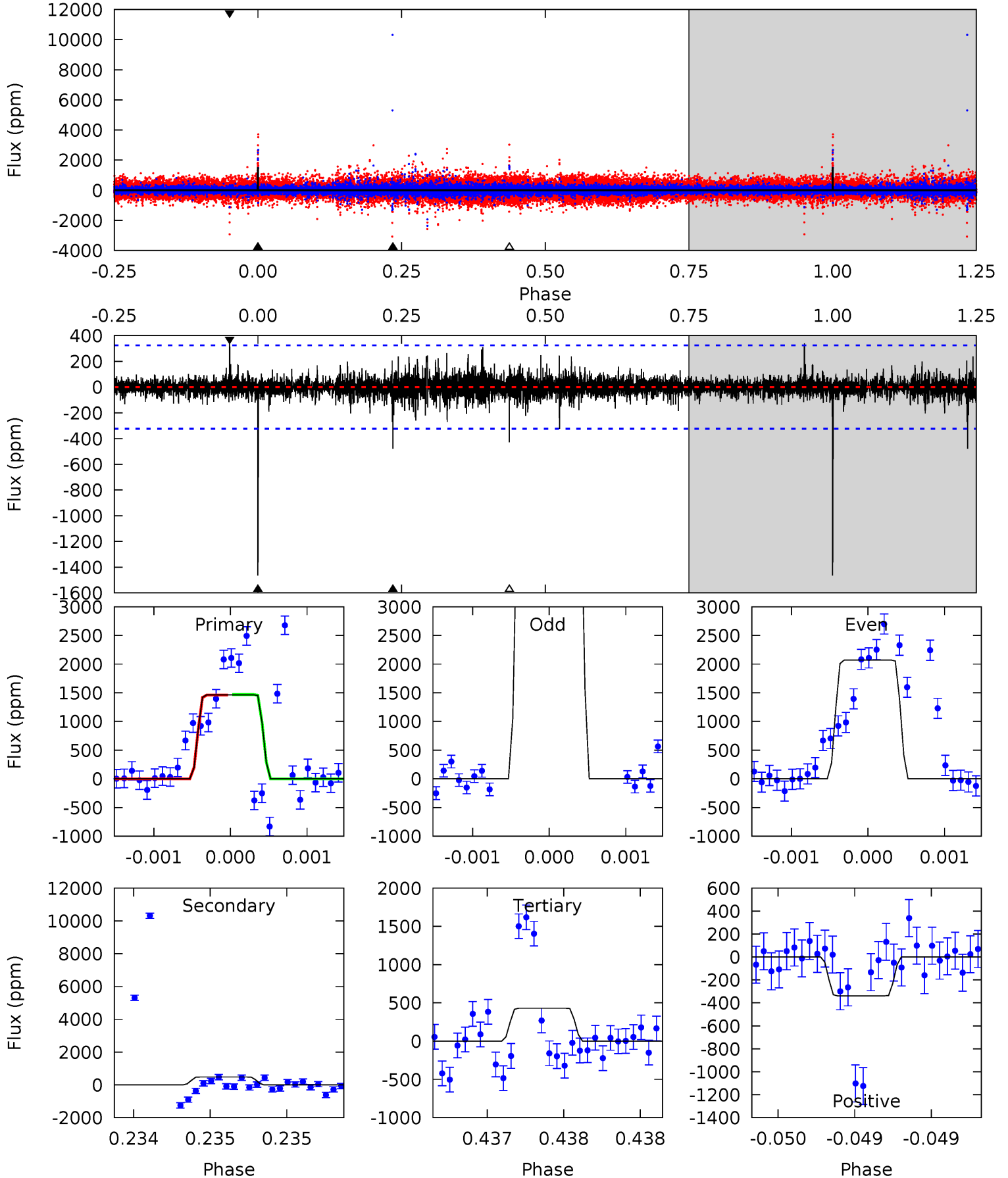
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.01	19.5	13.3	24.8	5.50	3.37	3.84	-7.27	-18.8	6.20	-5.35	1.42	0.80	0.56	1.35



Alt Model-Shift Uniqueness Test

012690208-04, P = 521.811822 Days, E = 507.216280 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	8.13	7.31	5.77	5.51	3.39	0.81	17.6	19.1	0.83	2.36	40.3	-1.01	0.19	0



Stellar Parameters For KIC 012690208

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5596^{+186}_{-186}	$4.343^{+0.195}_{-0.195}$	$-0.200^{+0.300}_{-0.300}$	$1.015^{+0.300}_{-0.200}$	$0.829^{+0.125}_{-0.063}$	$1.115^{+1.106}_{-0.599}$
	+3%/-3%	+4%/-4%	+150%/-150%	+30%/-20%	+15%/-8%	+99%/-54%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 012690208-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4176 ± 214	$3.88^{+1.13}_{-1.02}$	319^{+27}_{-21}	7788^{+1606}_{-939}	$222042^{+193604}_{-88804}$
Alt.	-478 ± 59	$4.16^{+1.17}_{-0.99}$	317^{+25}_{-22}	4450^{+444}_{-354}	22064^{+16005}_{-9006}

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

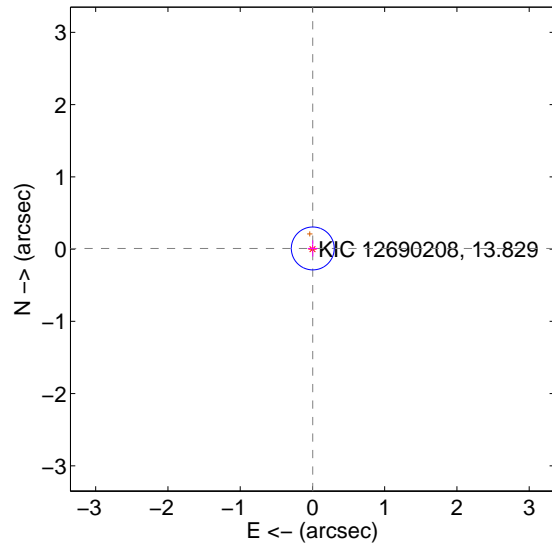
Supplemental centroid analysis for 012690208-04. Kepler magnitude: 13.83. Transit SNR 5.64

There are 1 quarters with good PRF difference image offsets

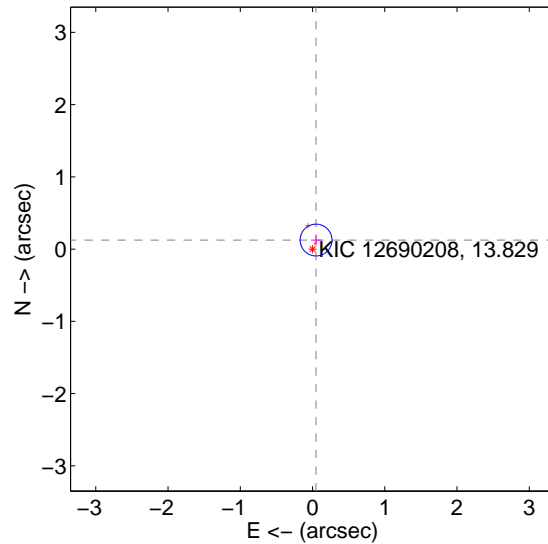
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.010 ± 0.099	0.10	-0.005 ± 0.069	0.009 ± 0.113
PRF-fit source offset from KIC position	0.134 ± 0.073	1.83	-0.049 ± 0.068	0.125 ± 0.077
photometric centroid source offset	1.25 ± 0.51	2.43	0.35 ± 0.43	1.20 ± 0.52

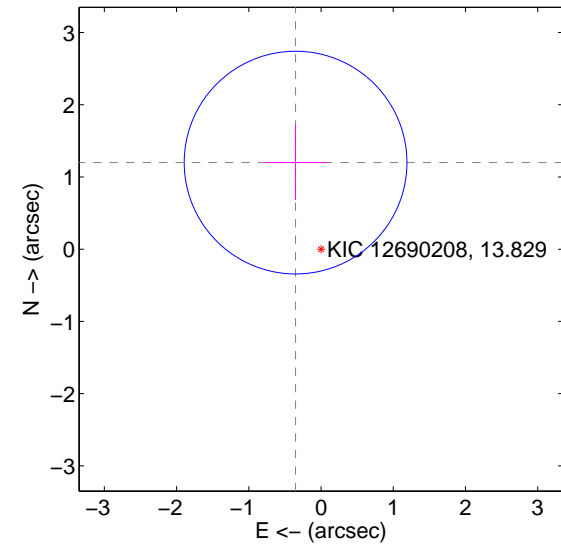
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

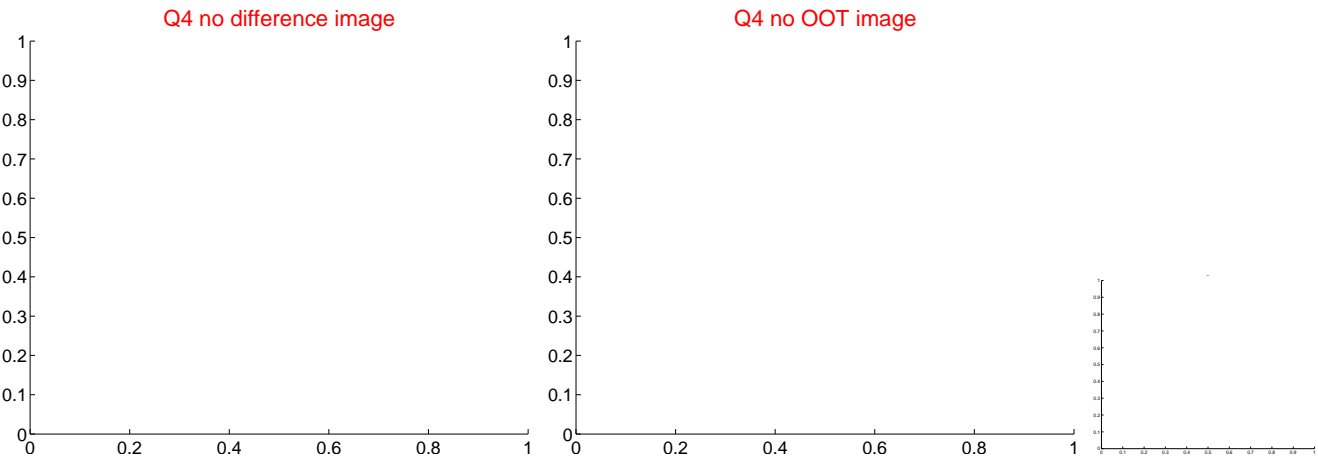
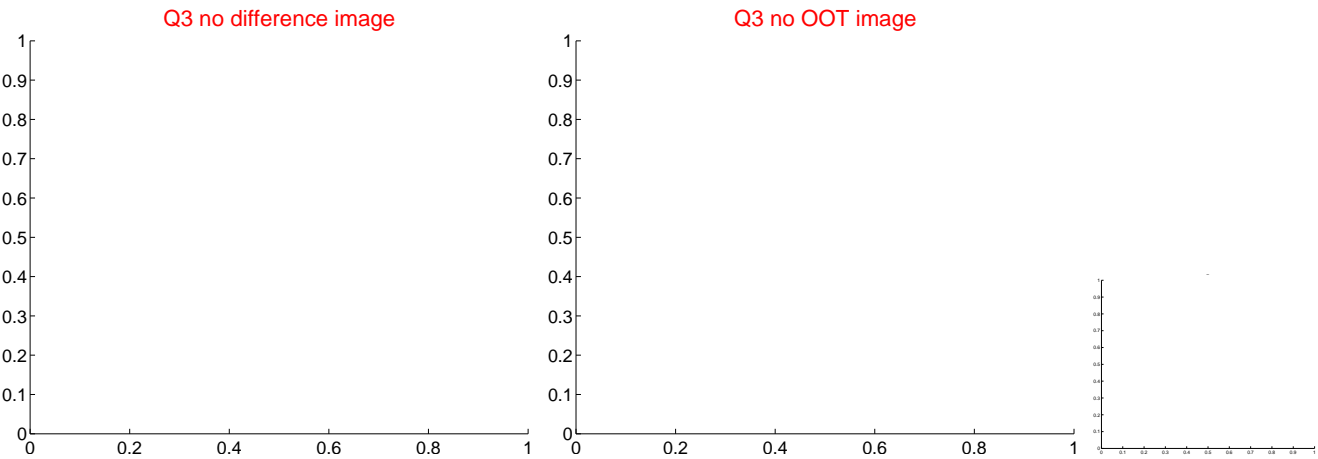
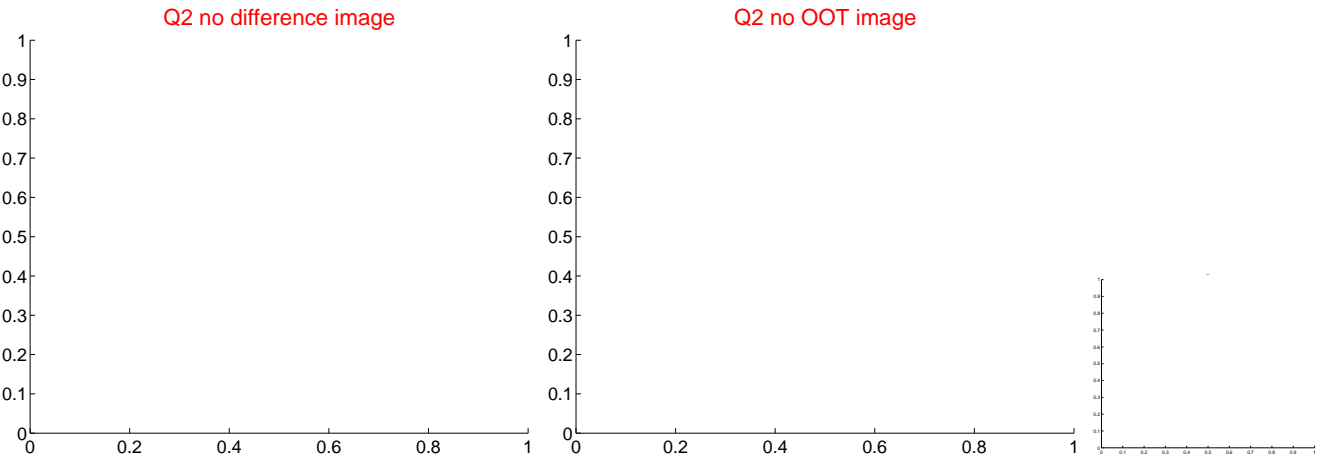
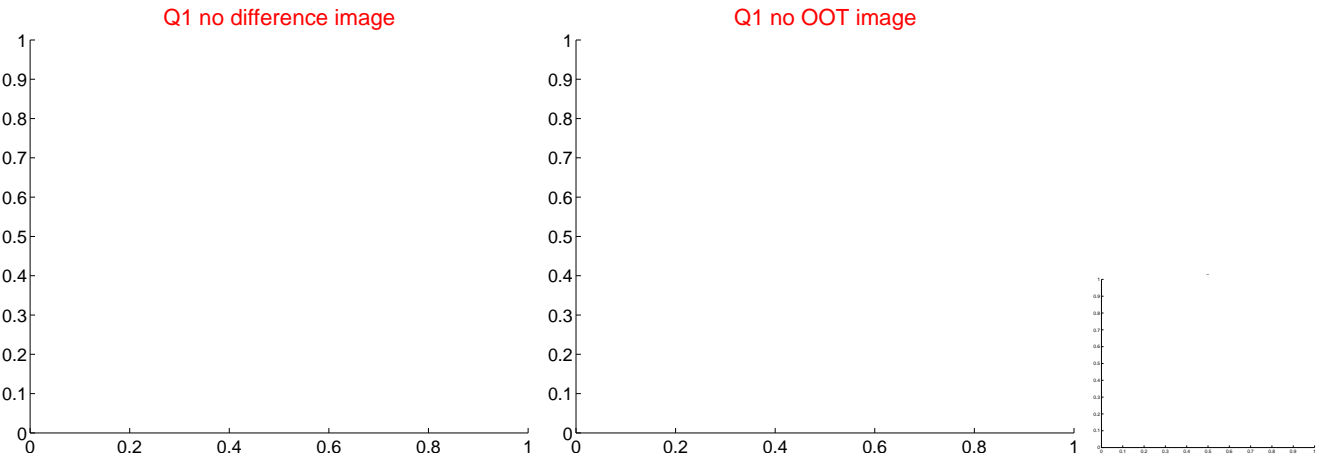


offset from photometric centroids

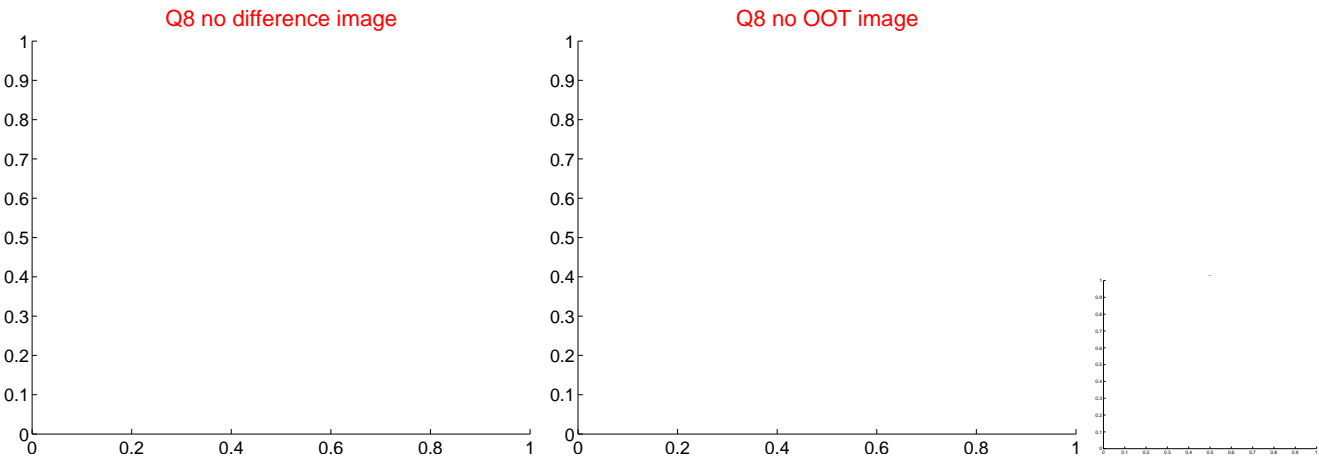
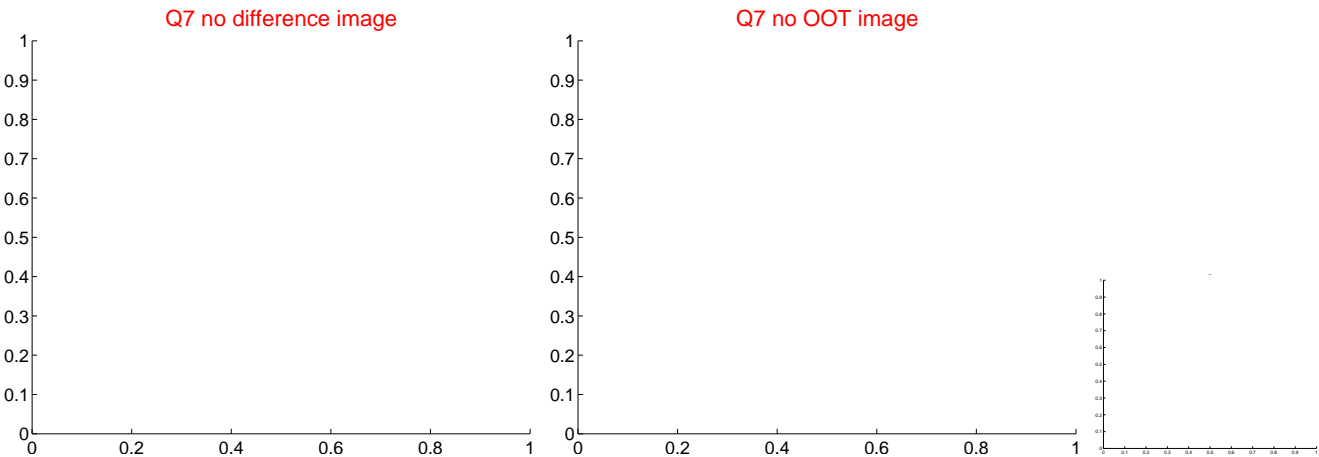
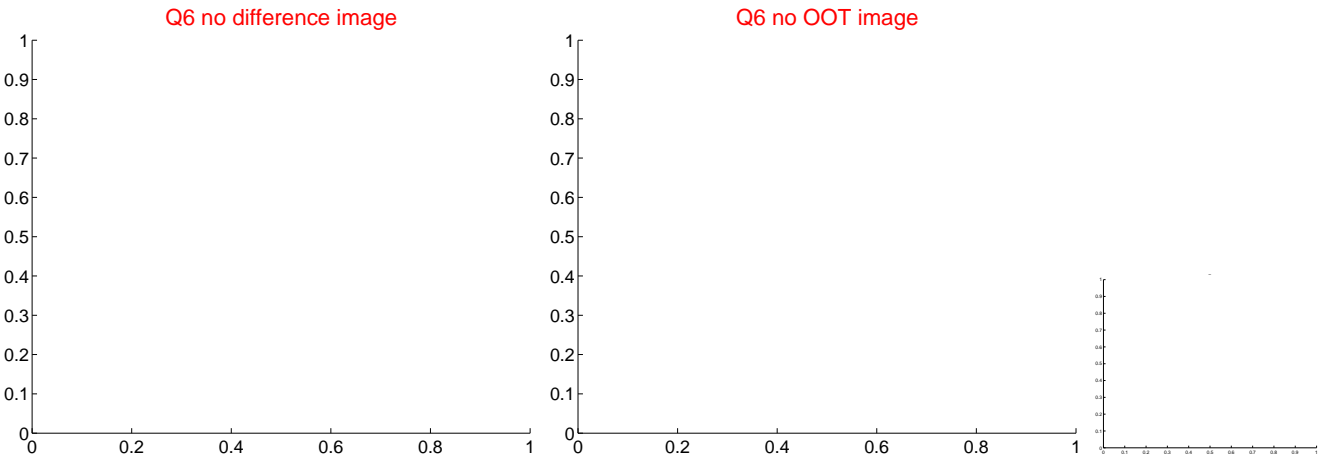
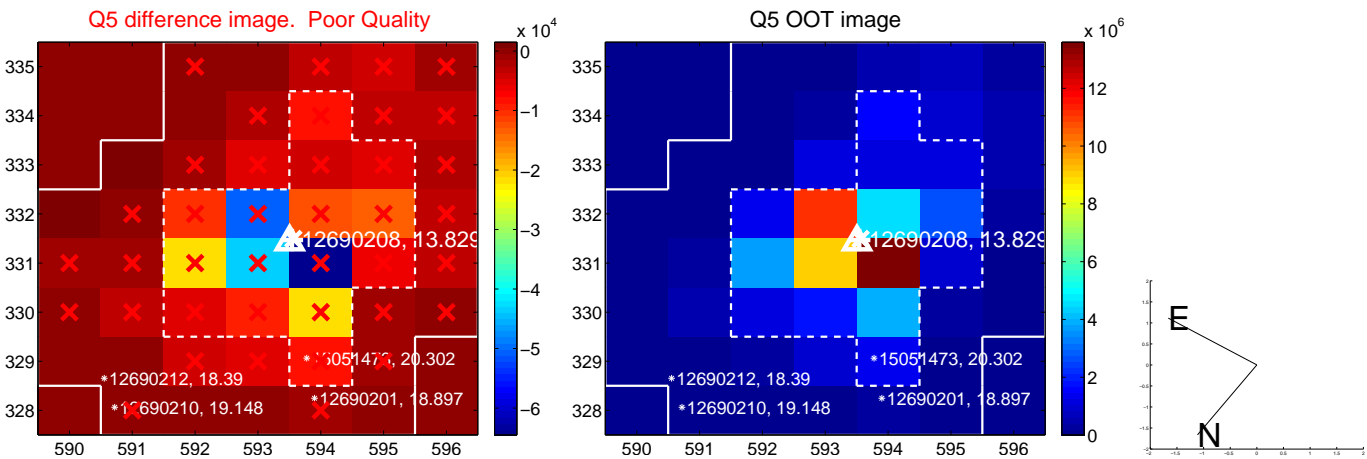


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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

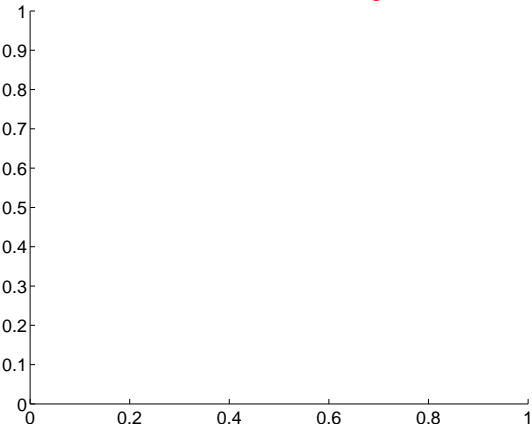


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

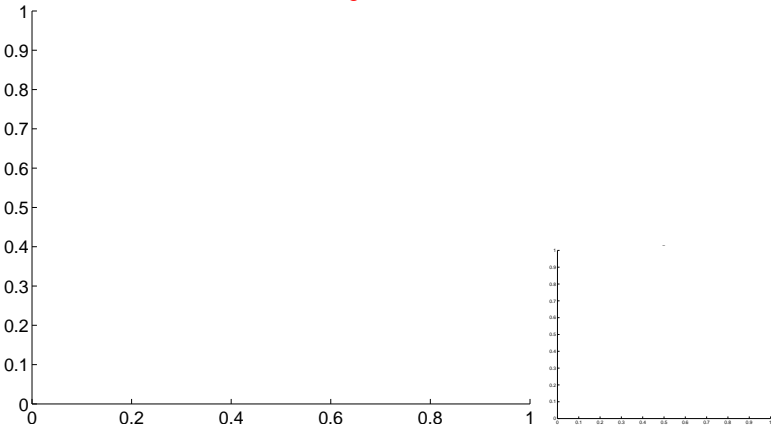


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

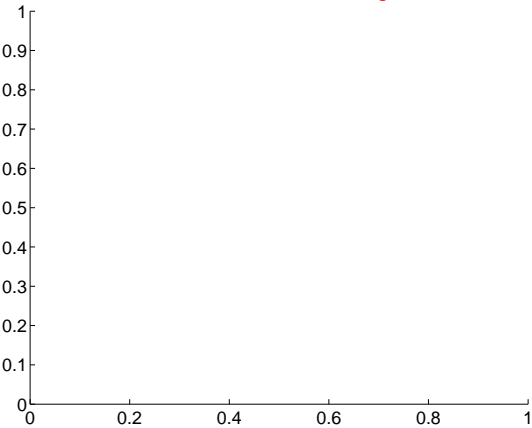
Q9 no difference image



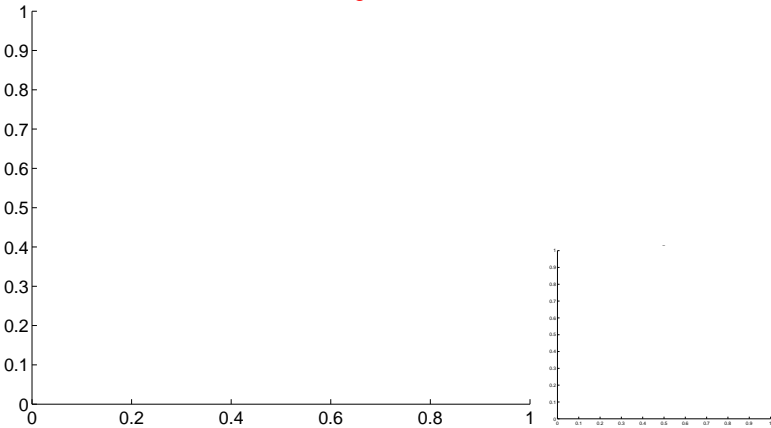
Q9 no OOT image



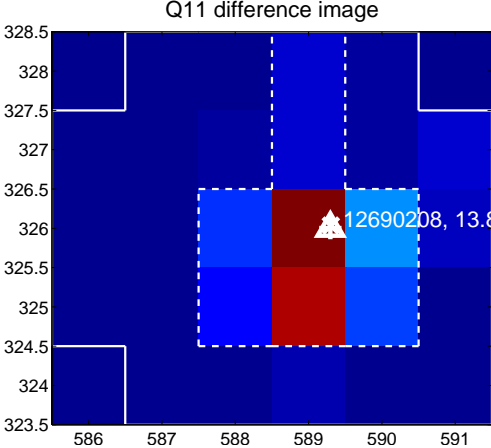
Q10 no difference image



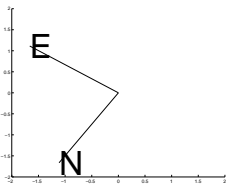
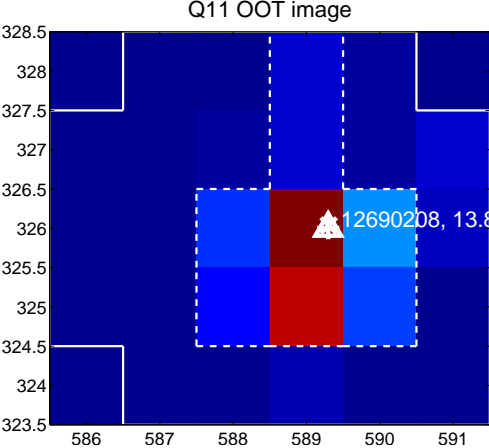
Q10 no OOT image



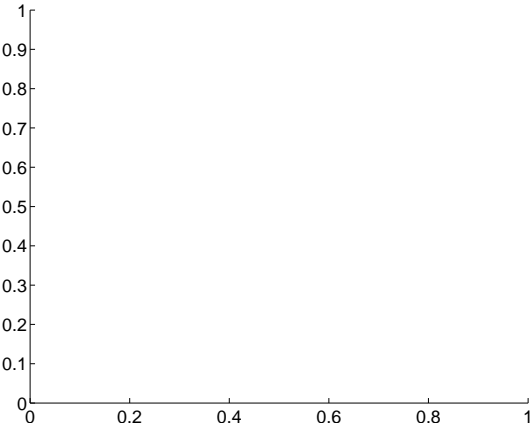
Q11 difference image



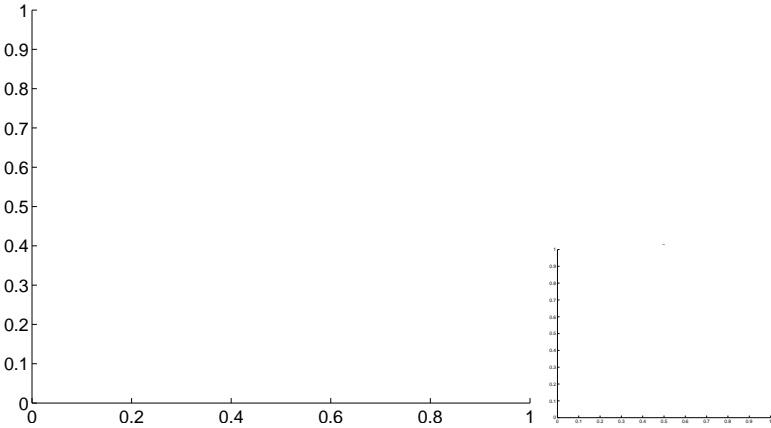
Q11 OOT image



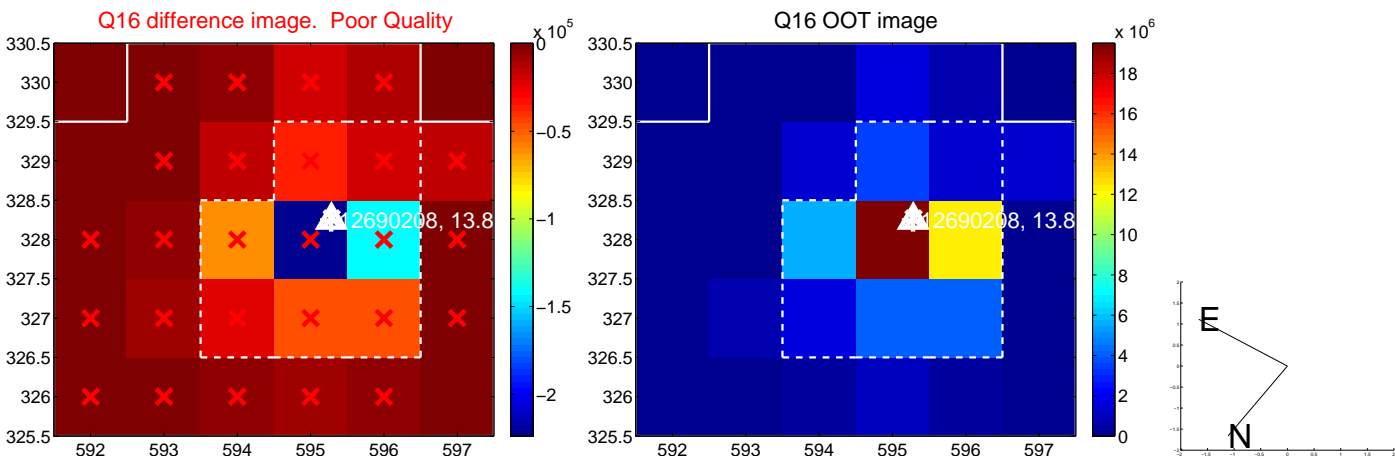
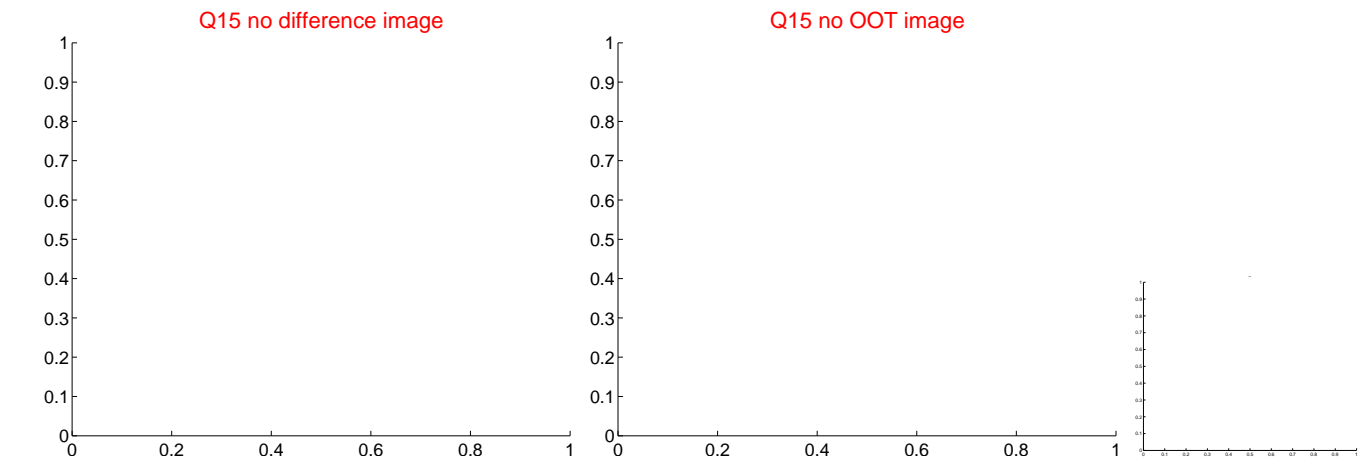
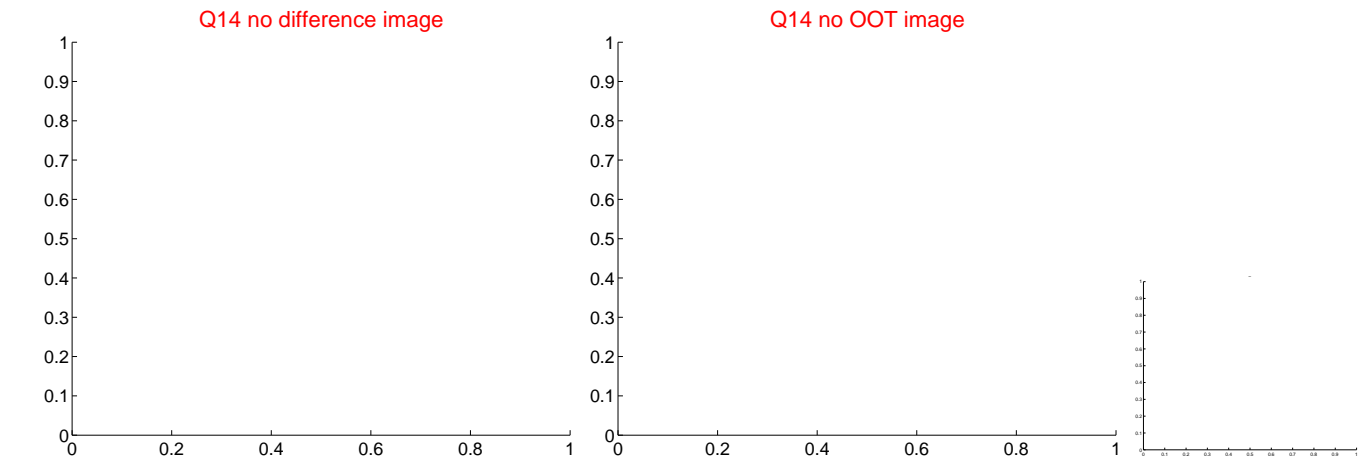
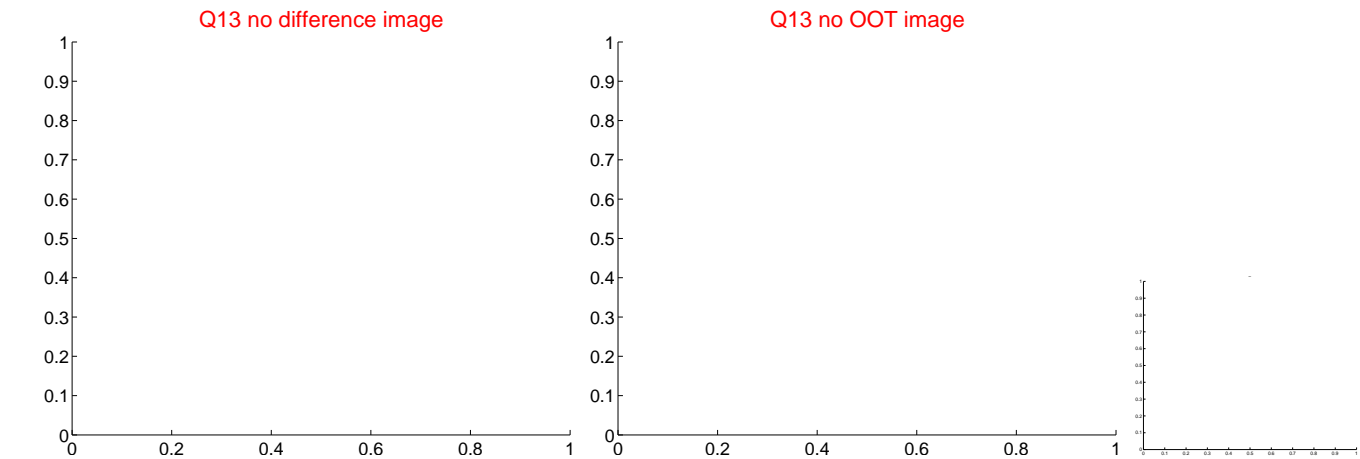
Q12 no difference image



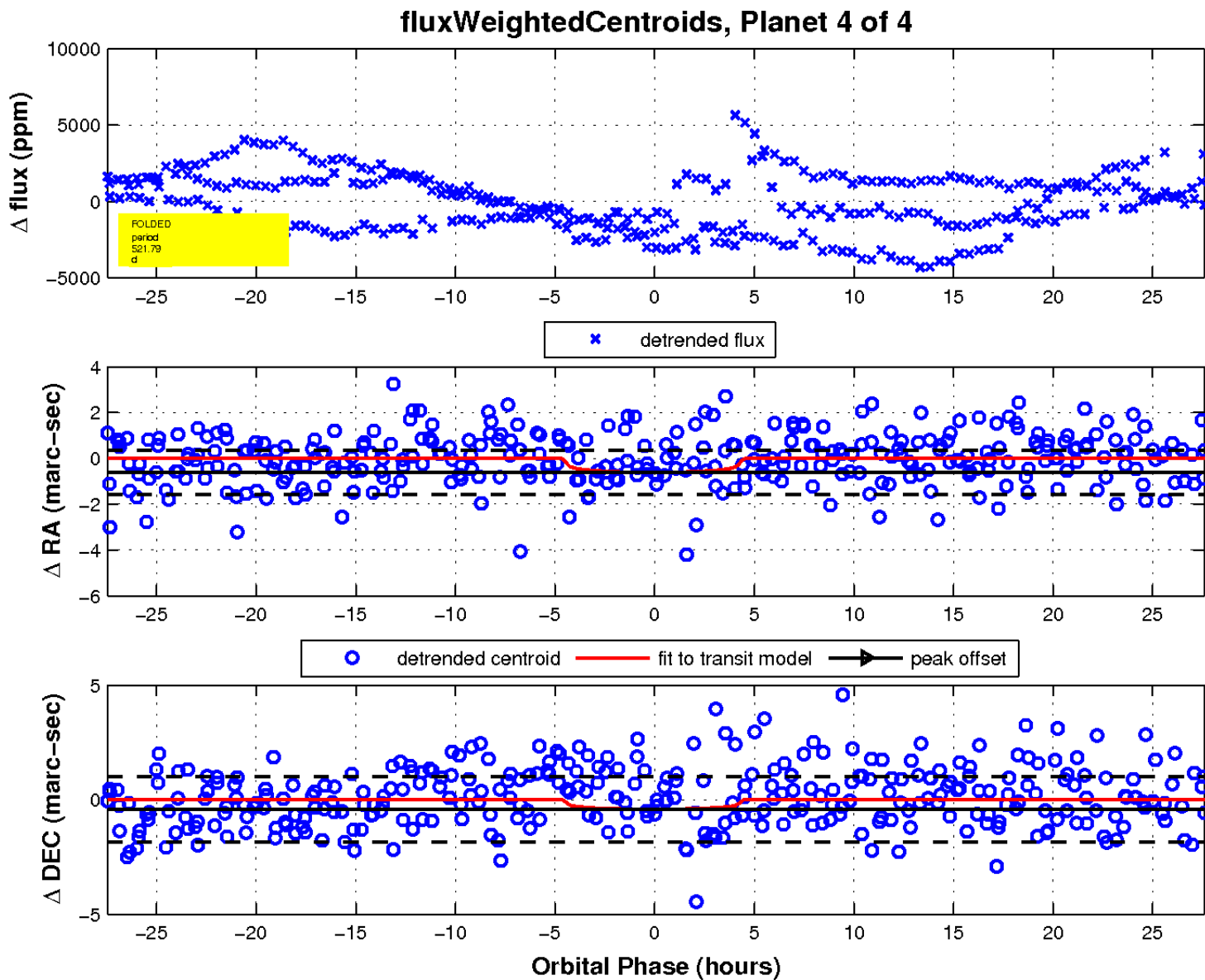
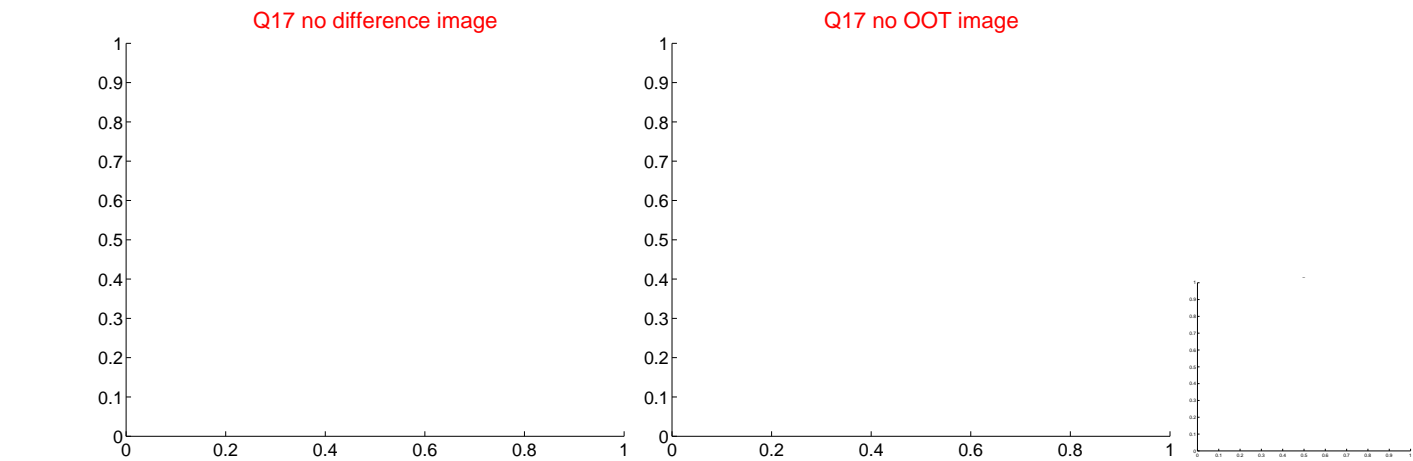
Q12 no OOT image



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



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



UKIRT Image

