

KIC 006962977

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})
006962977-01	OBS	1364.02	7.055660	132.521454	663.1	3.135	26.1	27.7	0.81	5296	2.23	101.14
006962977-02	OBS	1364.03	11.978854	143.032243	682.9	4.548	22.1	23.7	0.81	5296	2.74	49.94
006962977-03	OBS	1364.01	20.834079	144.371136	750.1	4.744	19.9	21.5	0.81	5296	2.62	23.87
006962977-04	OBS	1364.04	3.715435	132.632860	317.8	3.235	14.9	16.3	0.81	5296	2.00	237.84
006962977-05	OBS	1364.05	2.580802	132.852773	249.2	2.107	13.4	13.9	0.81	5296	1.37	386.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006962977-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-04	OBS	PC	0.86	0	0	0	0	NO_COMMENT
006962977-05	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

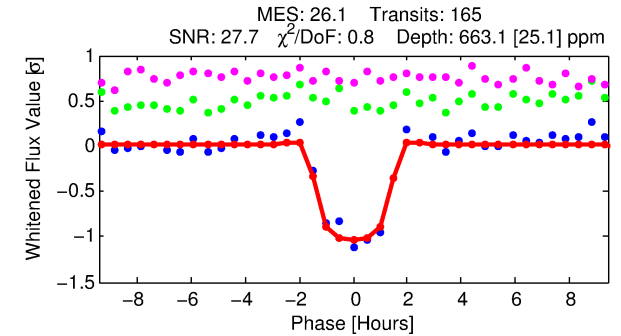
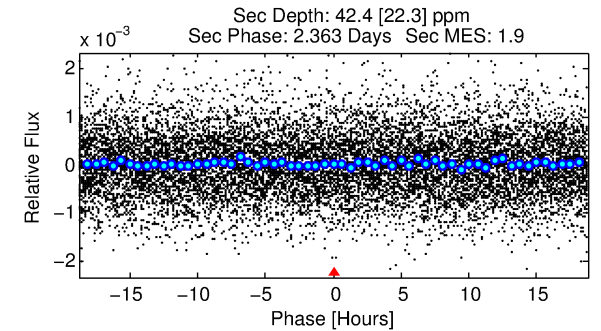
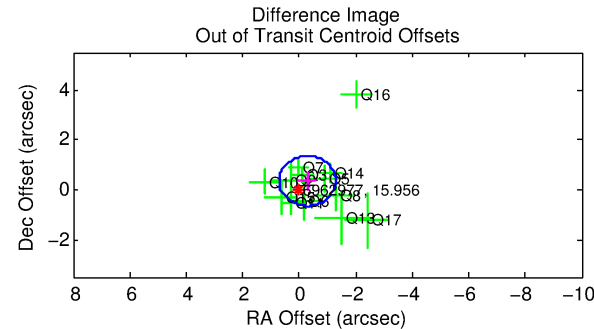
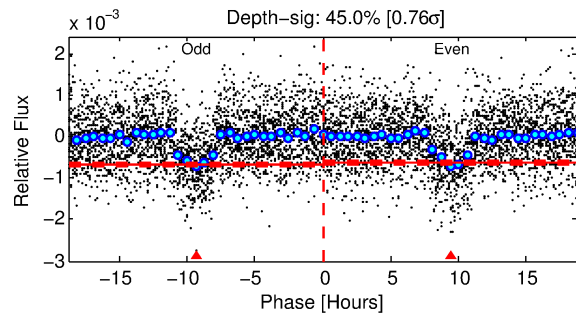
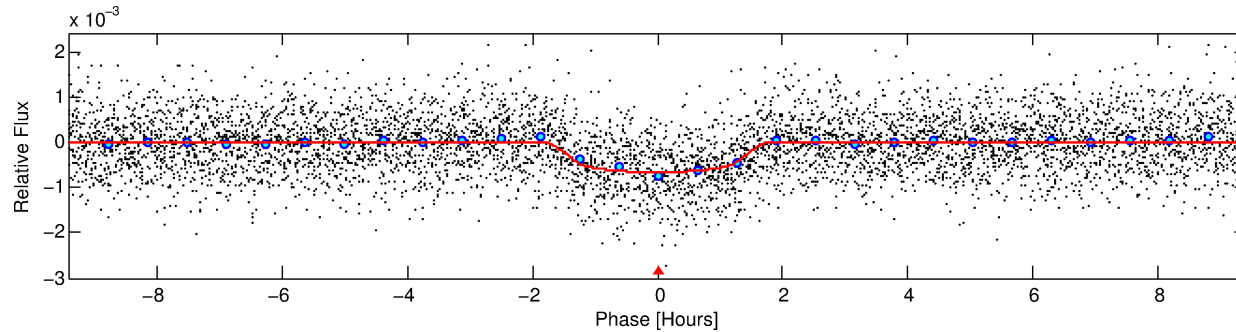
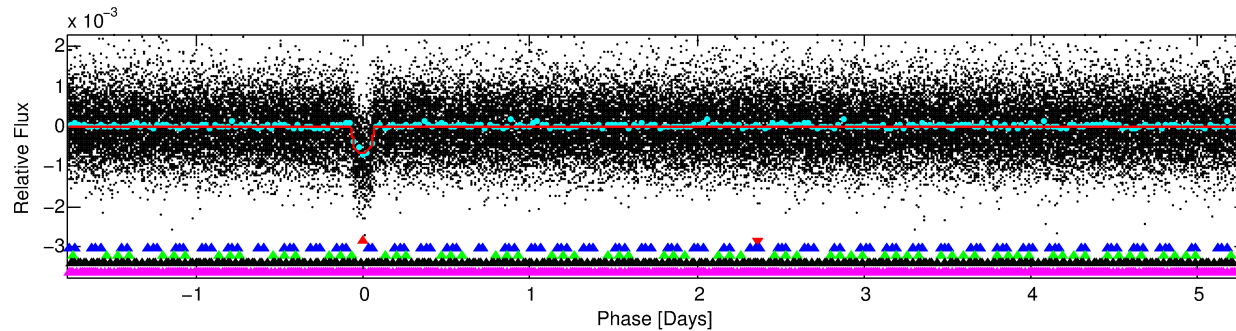
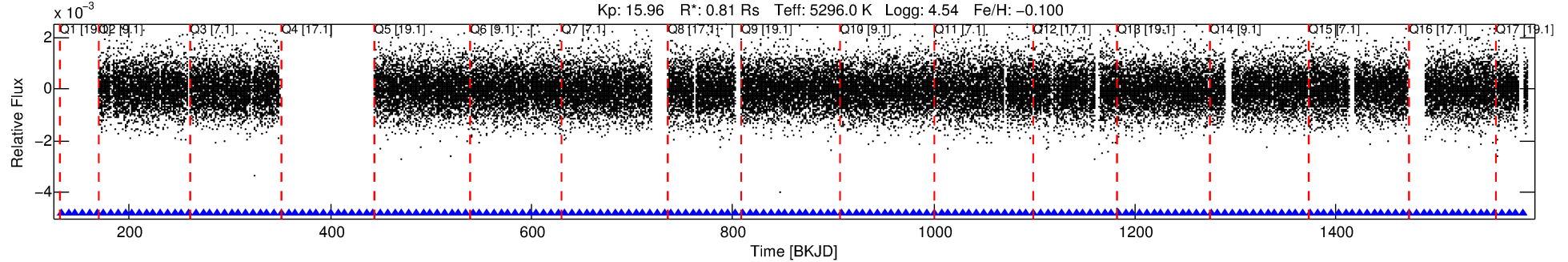
Ephemeris Match Information For 006962977-01

No Significant Match Found

DV One-Page Summary

KIC: 6962977 Candidate: 1 of 5 Period: 7.056 d
KOI: K01364.02 Name: Kepler-292d Corr: 0.996

Kp: 15.96 R*: 0.81 Rs Teff: 5296.0 K Logg: 4.54 Fe/H: -0.100



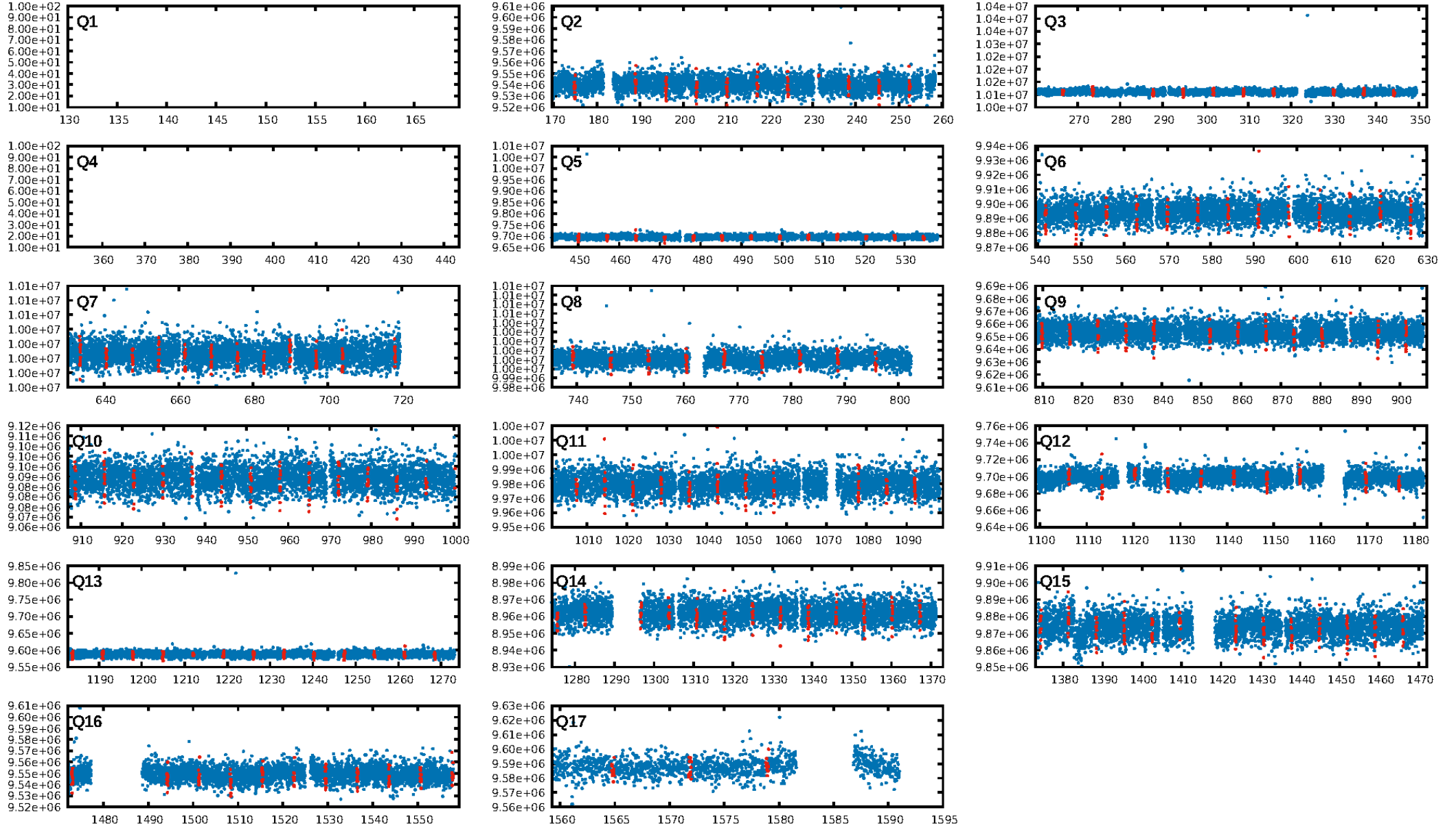
DV Fit Results:

Period = 7.05566 [0.00002] d
Epoch = 132.5215 [0.0024] BKJD
Rp/R* = 0.0253 [0.0130]
a/R* = 12.76 [25.14]
b = 0.71 [1.42]
Seff = 101.14 [13.43]
Teq = 809 [27] K
Rp = 2.23 [1.16] Re
a = 0.0675 [0.0046] AU
Ag = 21.36 [24.85] [0.82σ]
Teffp = 2688 [780] K [2.41σ]

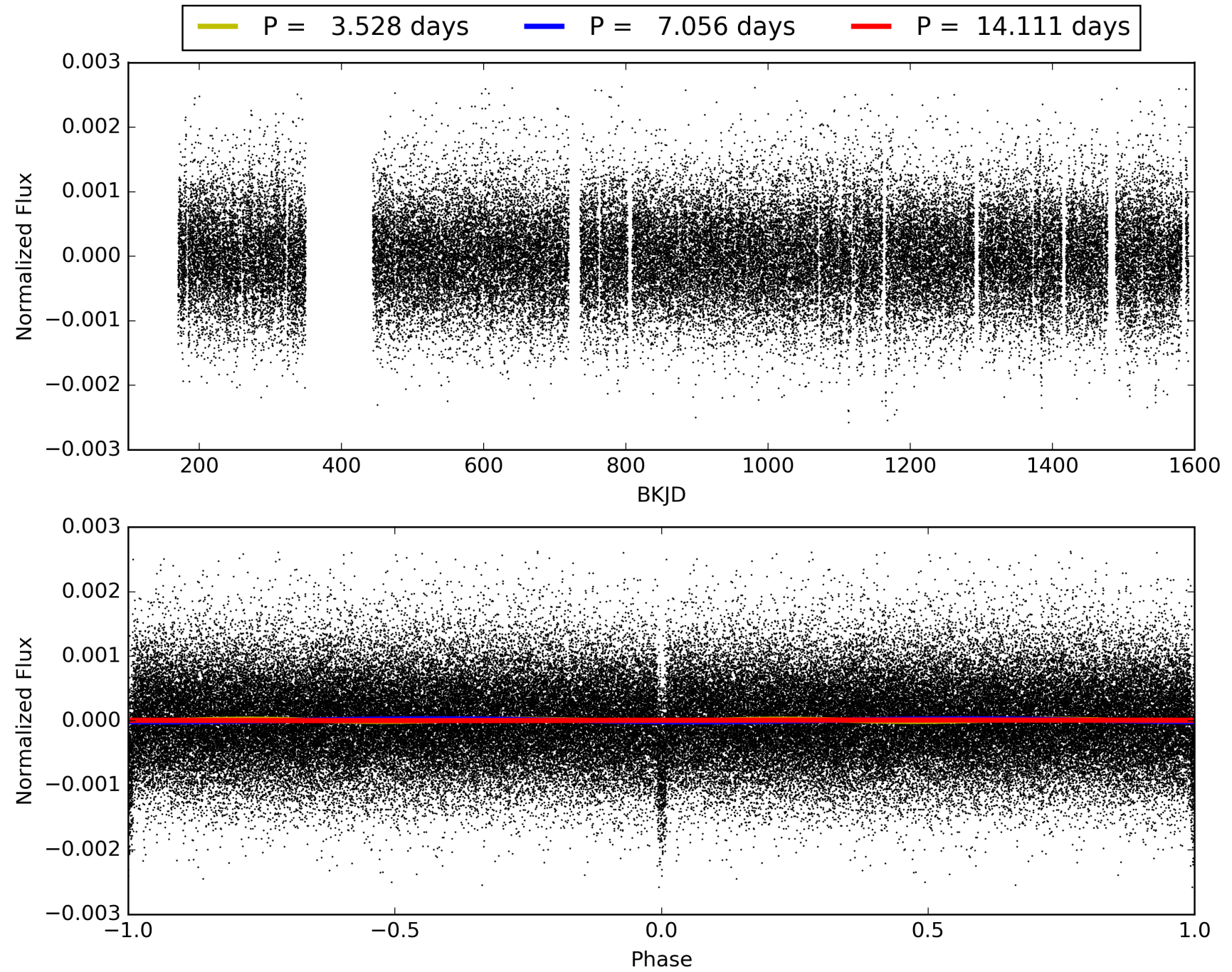
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.80σ]
LongPeriod-sig: 100.0% [21.39σ]
ModelChiSquare2-sig: 99.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.12e-152
RollingBand-fgt: 1.00 [162/162]
GhostDiagnostic-chr: 4.887
Centroid-sig: 99.6%
Centroid-so: 0.103 arcsec [0.21σ]
OotOffset-rm: 0.443 arcsec [1.33σ]
KicOffset-rm: 0.500 arcsec [1.46σ]
OotOffset-st: 4/4/2/3 [13]
KicOffset-st: 4/4/2/3 [13]
DiffImageQuality-fgm: 0.85 [11/13]
DiffImageOverlap-fno: 1.00 [15/15]

TCE 006962977-01, PDC Light Curves

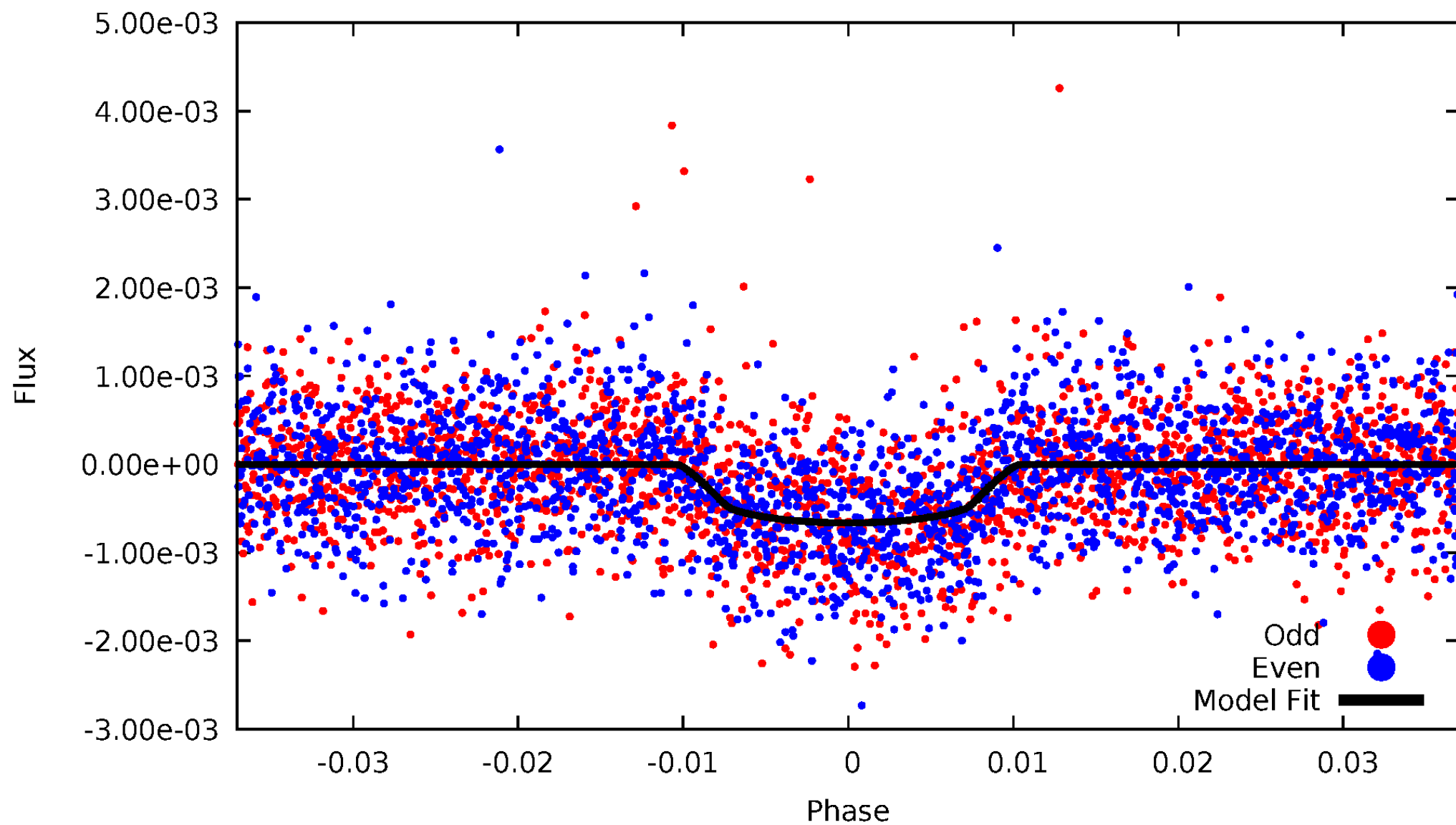


TCE 006962977-01



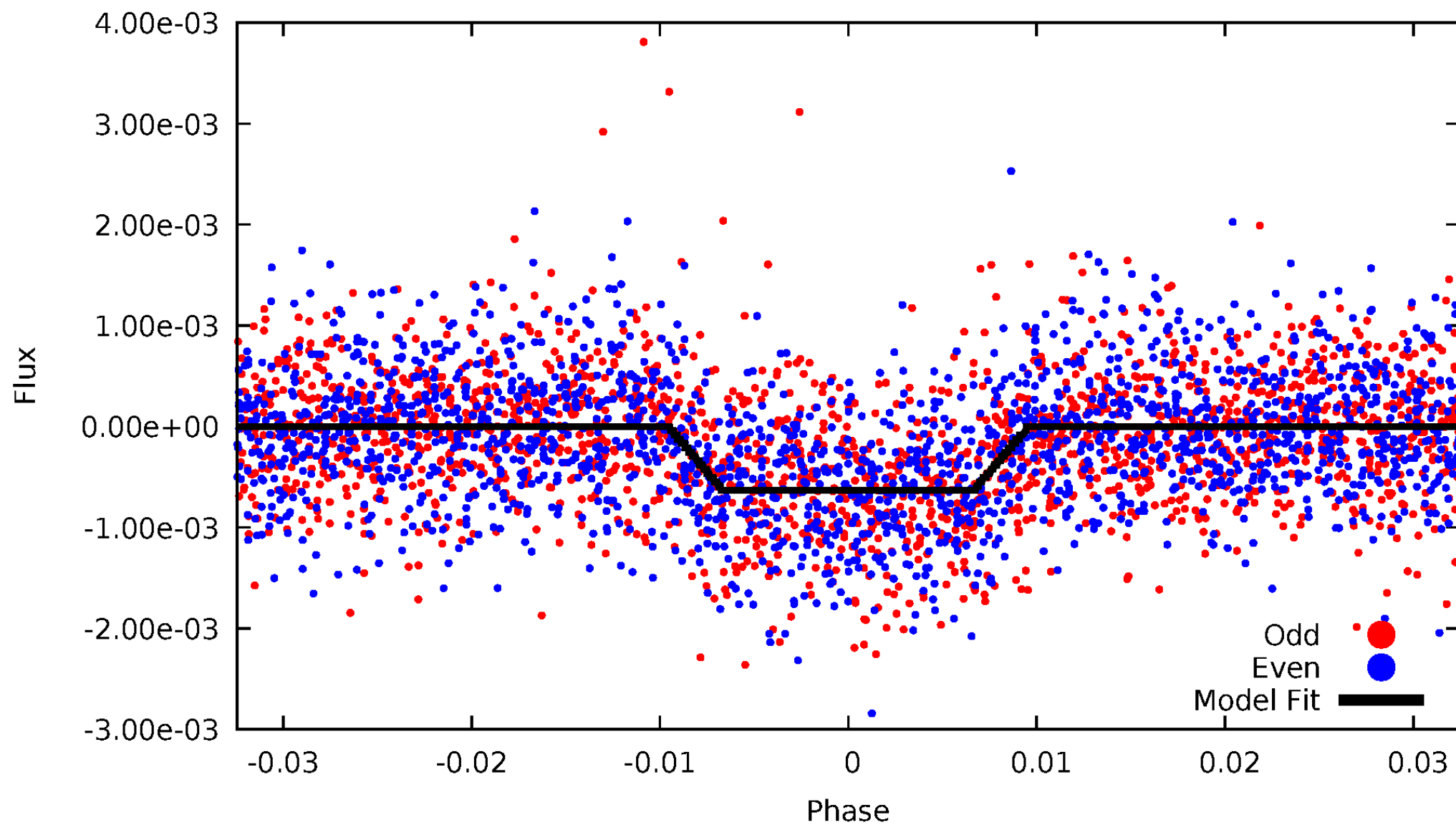
DV Odd/Even

TCE 006962977-01



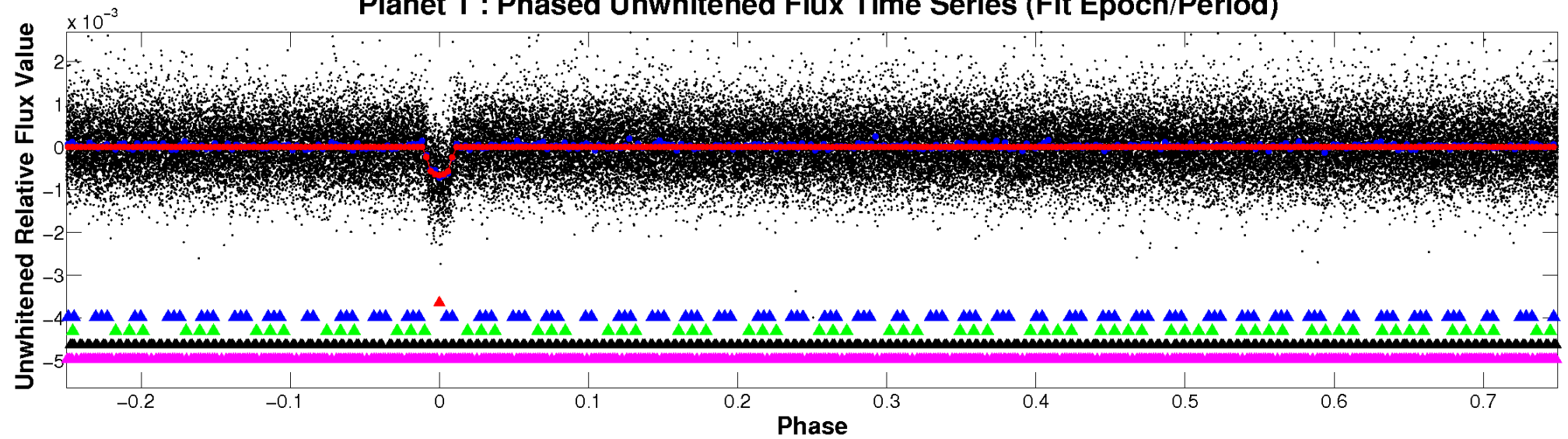
ALT Odd/Even

TCE 006962977-01

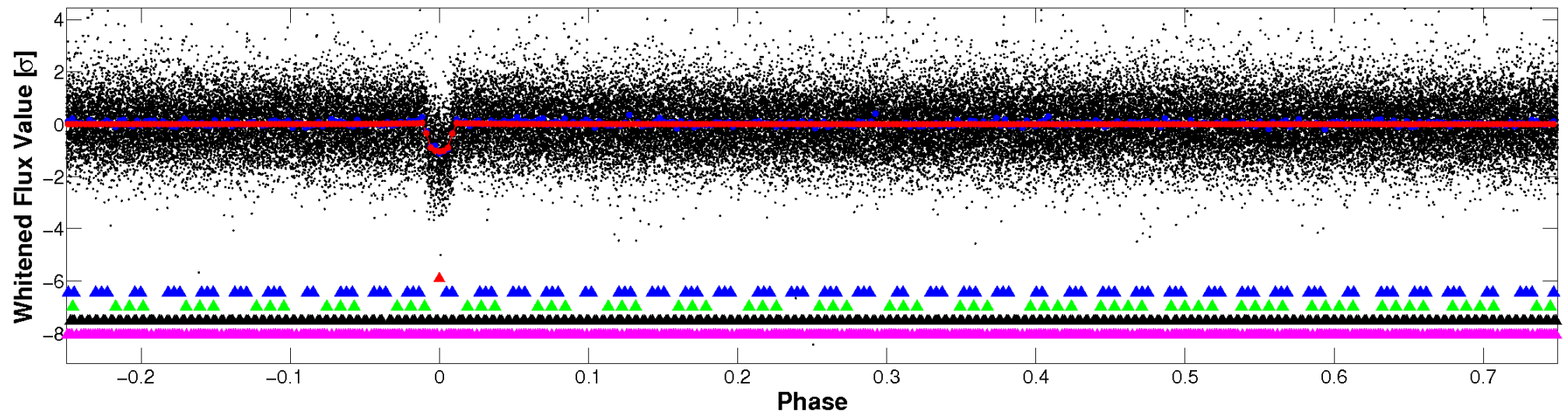


Non-Whitened Vs. Whitened Light Curve

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

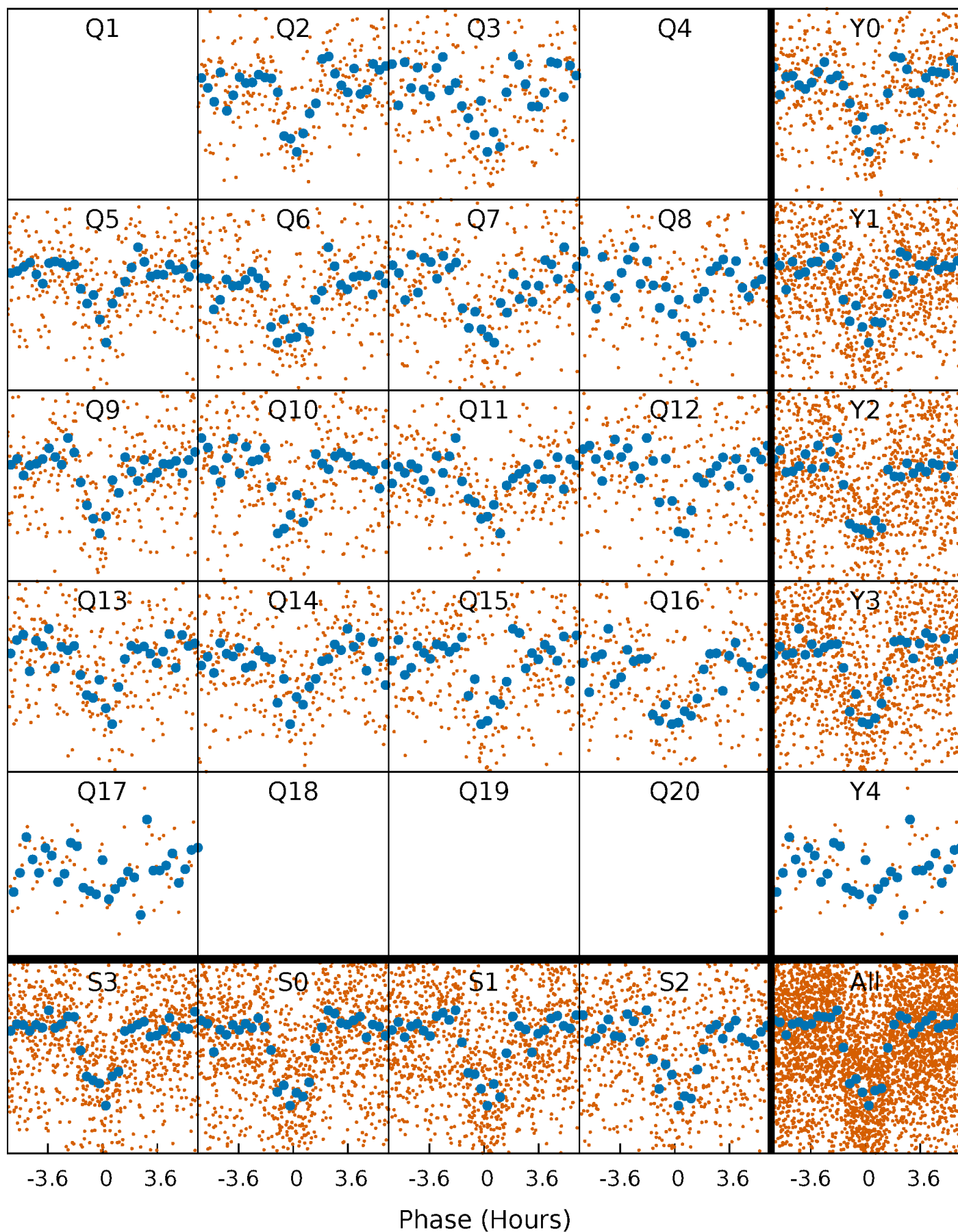


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



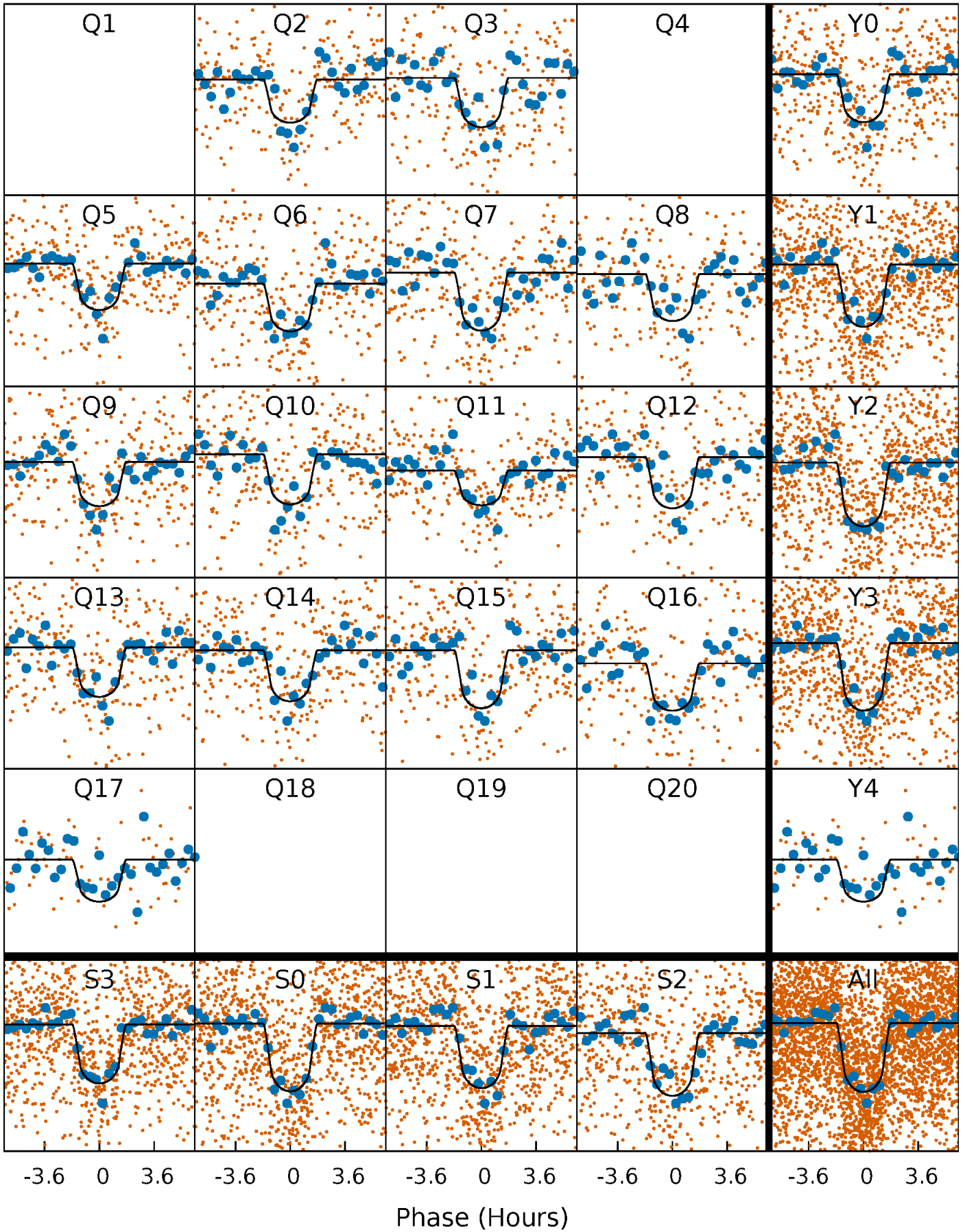
PDC Quarter-Phased Transit Curves

TCE 006962977-01 P= 7.055660 Days $T_0=132.521454$ (BKJD)



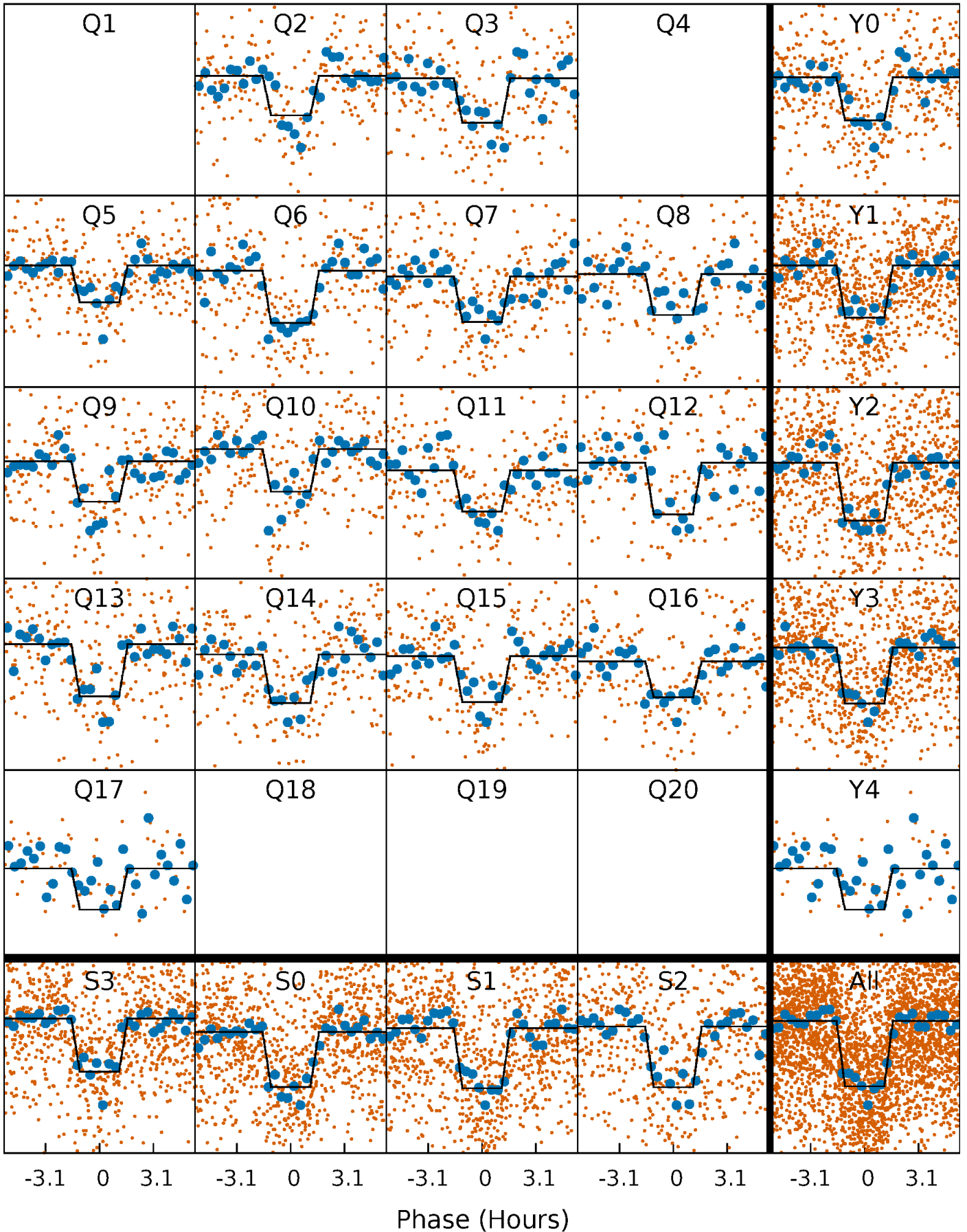
DV Quarter-Phased Transit Curves

TCE 006962977-01 P= 7.055660 Days $T_0=132.521454$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

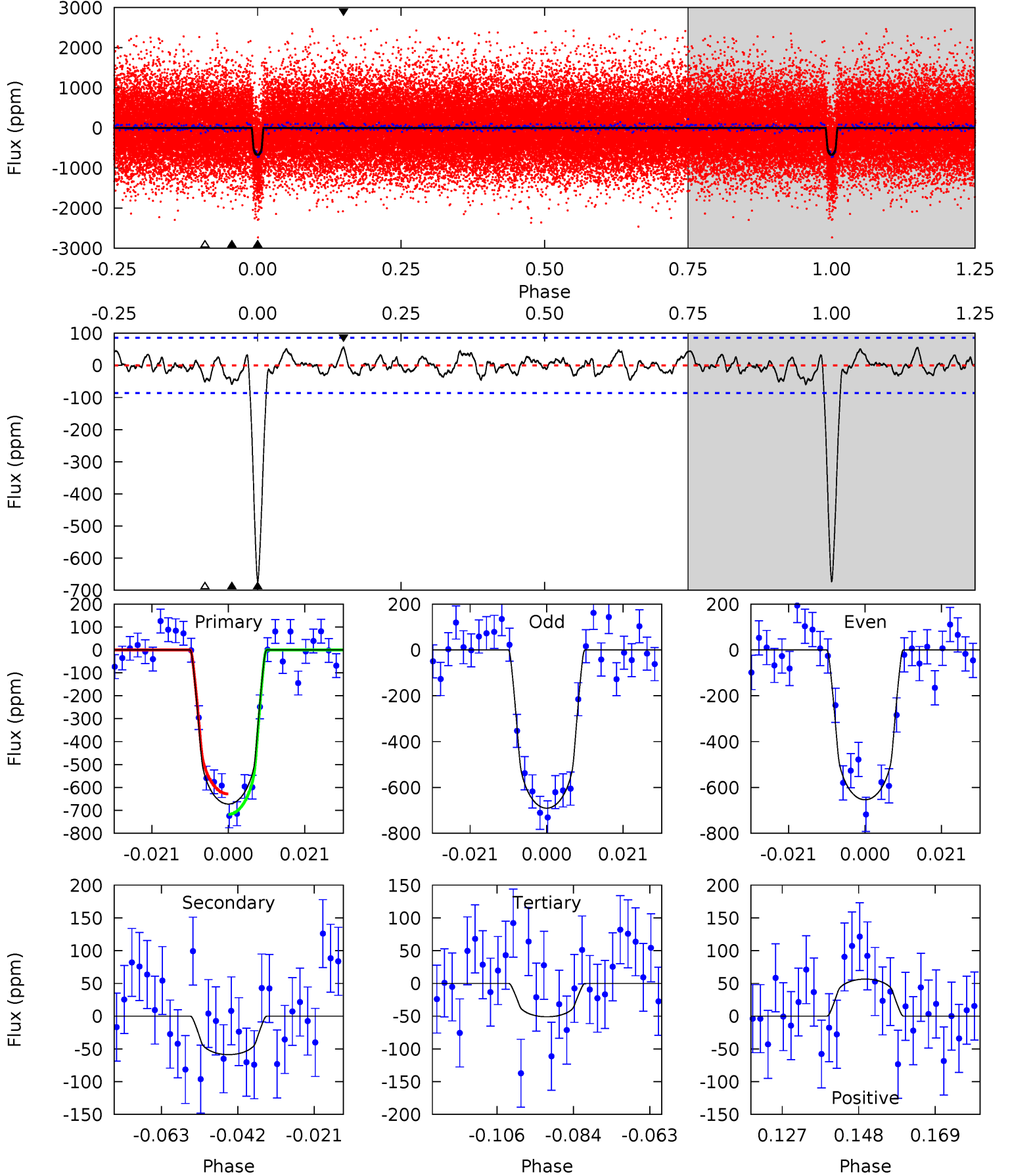
TCE 006962977-01 P= 7.055712 Days $T_0=132.515879$ (BKJD)



DV Model-Shift Uniqueness Test

006962977-01, P = 7.055660 Days, E = 132.521454 Days

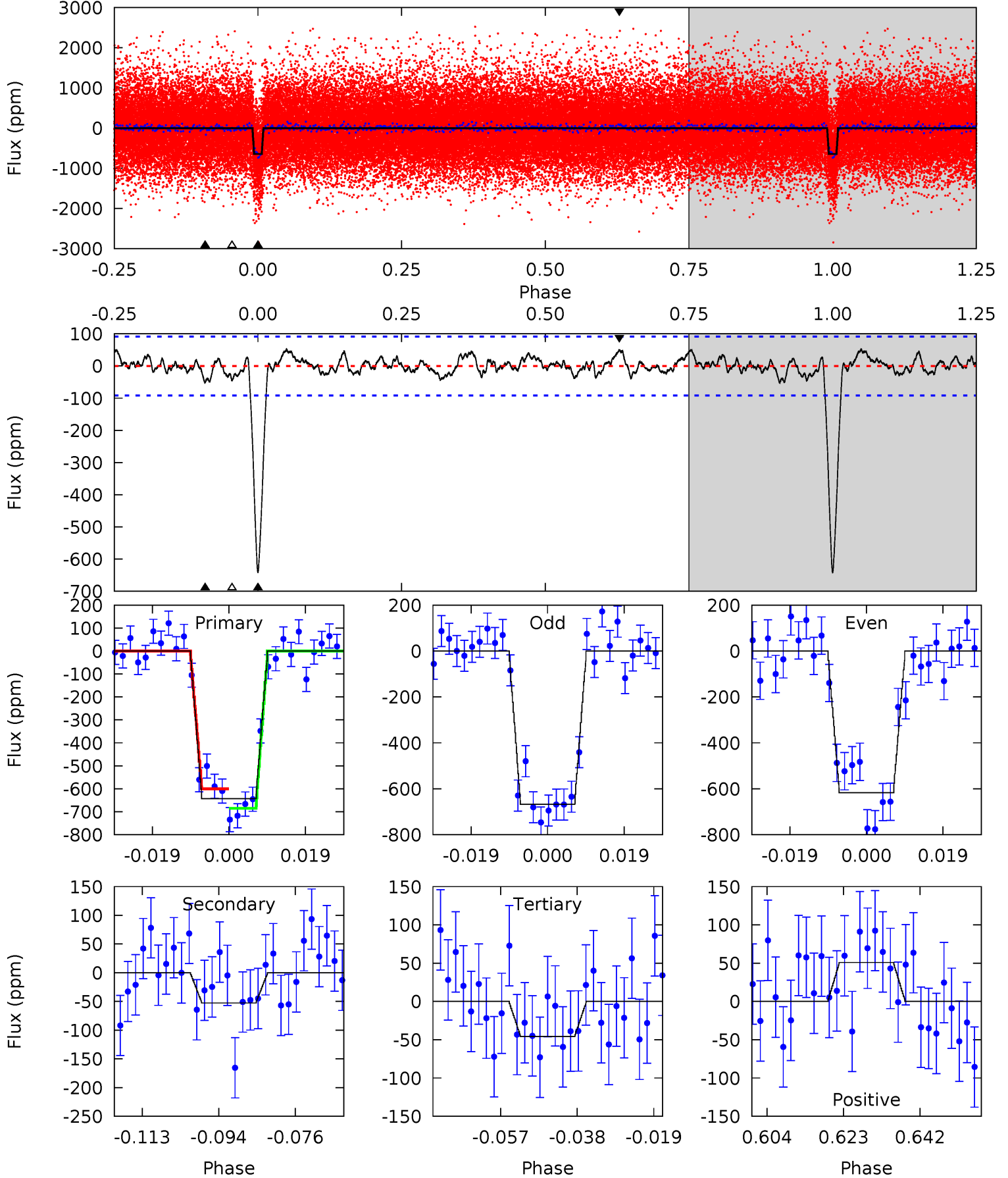
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.2	3.34	2.90	3.21	4.88	2.31	1.14	35.3	35.0	0.44	0.13	1.04	0.95	0.08	2.54



Alt Model-Shift Uniqueness Test

006962977-01, P = 7.055712 Days, E = 132.515879 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.5	2.82	2.46	2.73	4.90	2.35	1.06	32.0	31.8	0.36	0.09	1.37	0.99	0.08	2.28



Stellar Parameters For KIC 006962977

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5296^{+106}_{-106}	$4.538^{+0.044}_{-0.061}$	$-0.100^{+0.150}_{-0.150}$	$0.808^{+0.060}_{-0.049}$	$0.821^{+0.052}_{-0.042}$	$2.191^{+0.392}_{-0.399}$
	+2%/-2%	+1%/-1%	+150%/-150%	+7%/-6%	+6%/-5%	+18%/-18%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 006962977-01 / KOI 1364.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-59 ± 18	$2.23^{+1.19}_{-1.18}$	1130^{+35}_{-29}	3397^{+1062}_{-425}	28^{+106}_{-17}
Alt.	-53 ± 19	$2.26^{+1.09}_{-1.14}$	1134^{+30}_{-33}	3318^{+889}_{-391}	25^{+78}_{-15}

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

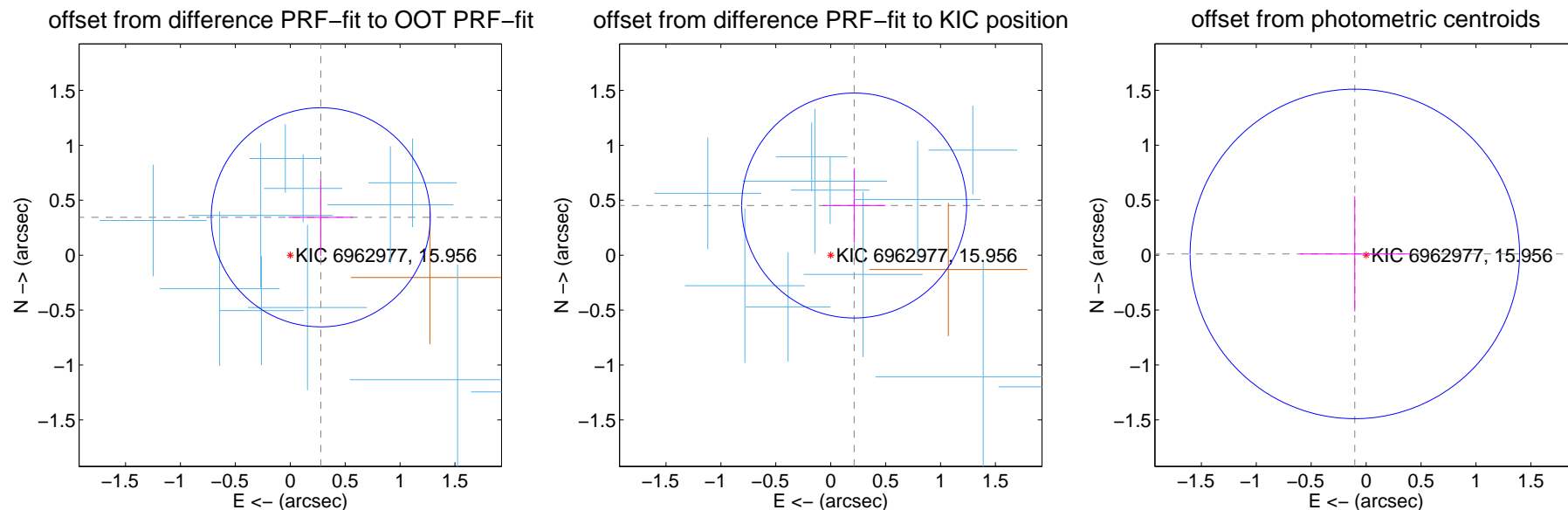
DV Centroid Data

Supplemental centroid analysis for 006962977-01. Kepler magnitude: 15.96. Transit SNR 27.70

There are 11 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.443 ± 0.333	1.33	-0.278 ± 0.295	0.345 ± 0.352
PRF-fit source offset from KIC position	0.500 ± 0.341	1.46	-0.214 ± 0.287	0.452 ± 0.339
photometric centroid source offset	0.10 ± 0.50	0.21	0.10 ± 0.50	0.01 ± 0.52



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.

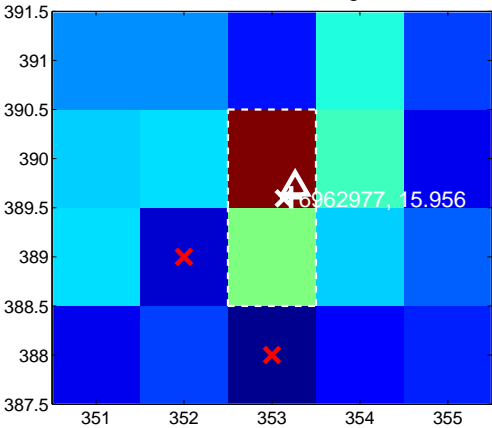
Q1 no difference image



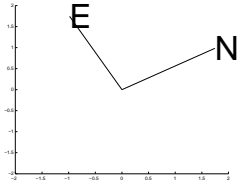
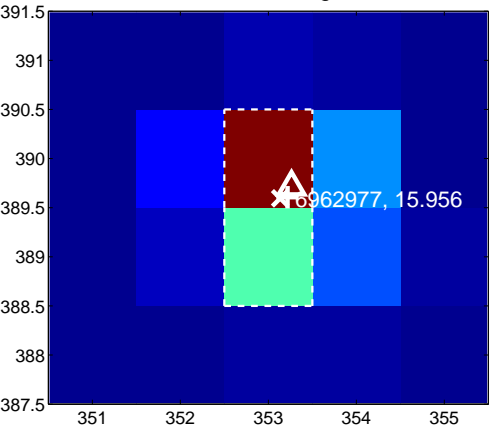
Q1 no OOT image



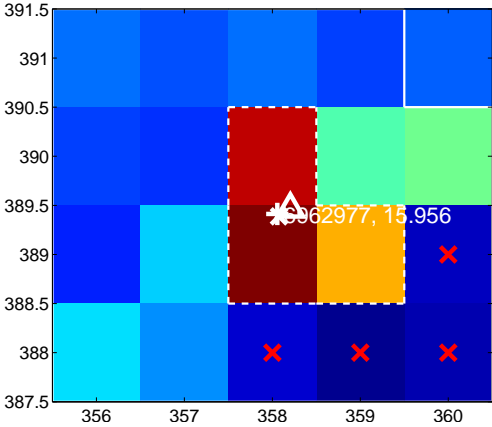
Q2 difference image



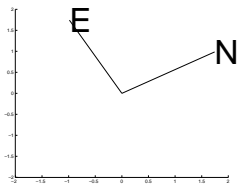
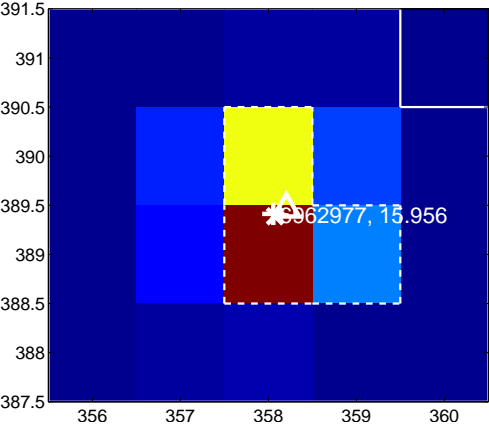
Q2 OOT image



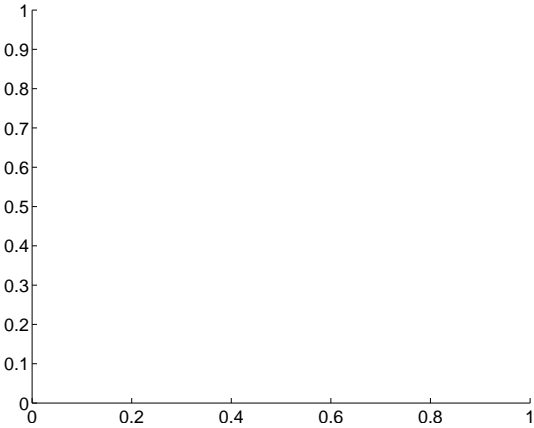
Q3 difference image



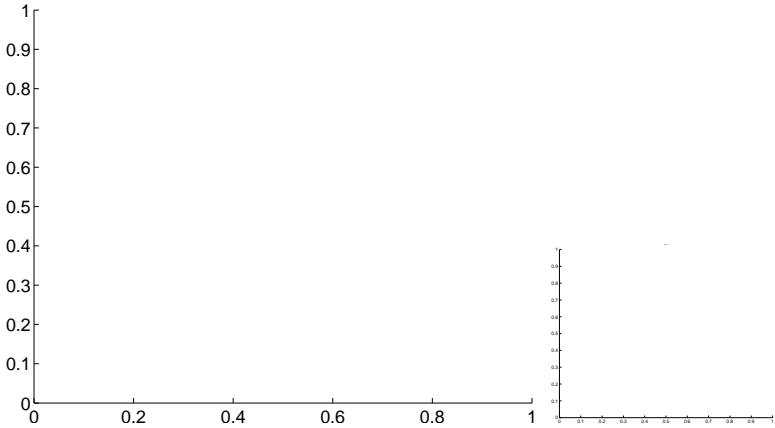
Q3 OOT image



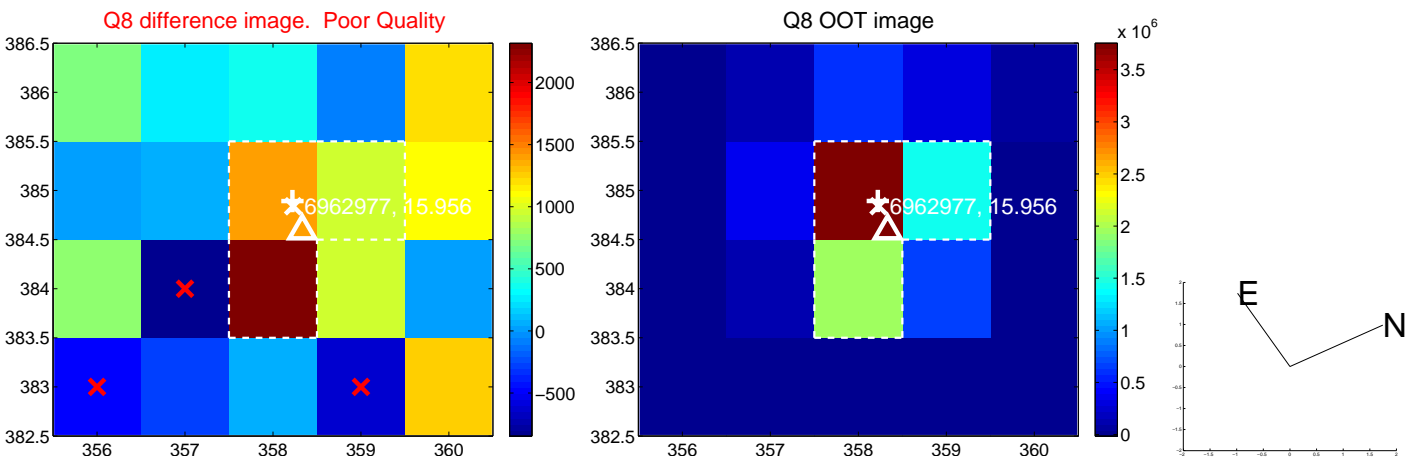
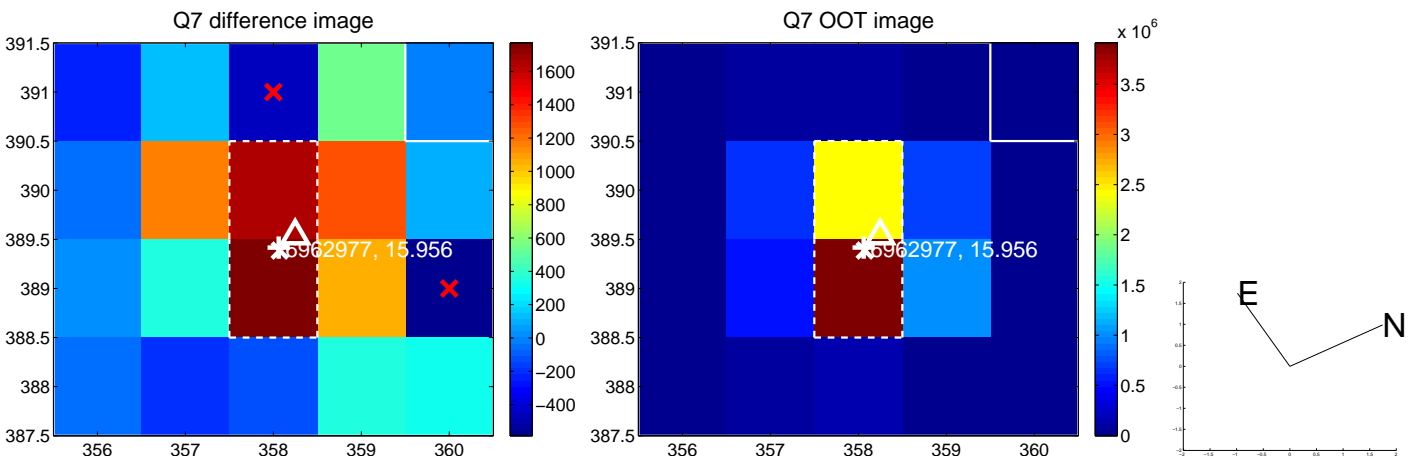
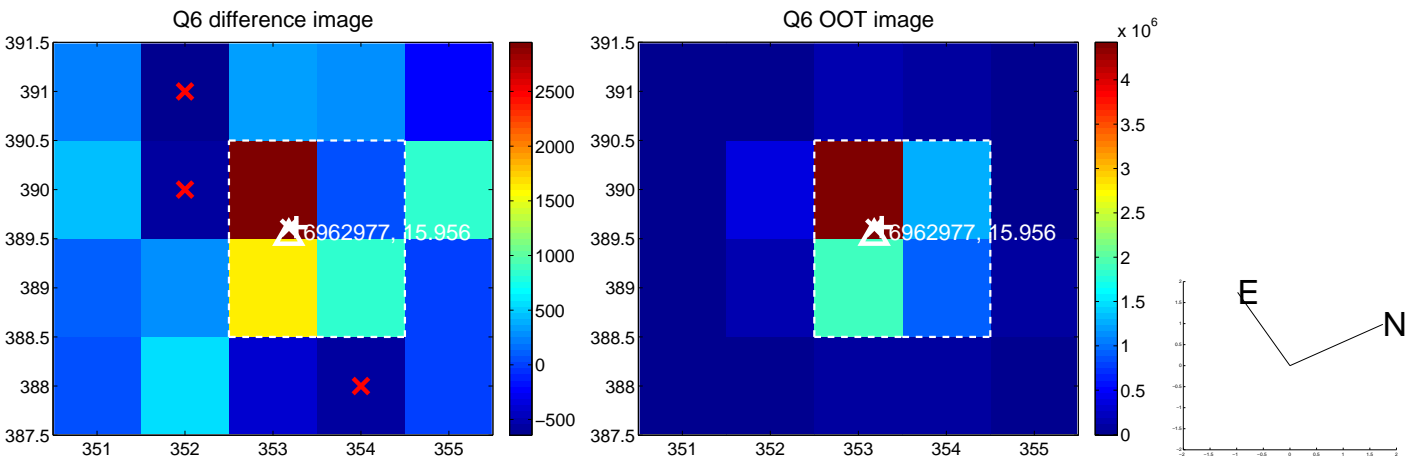
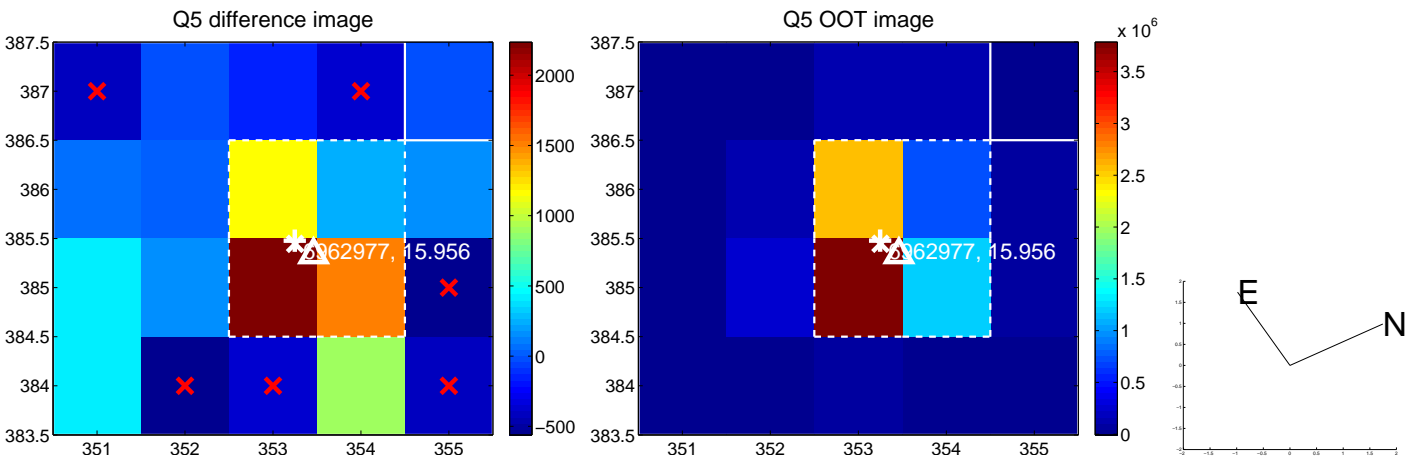
Q4 no difference image



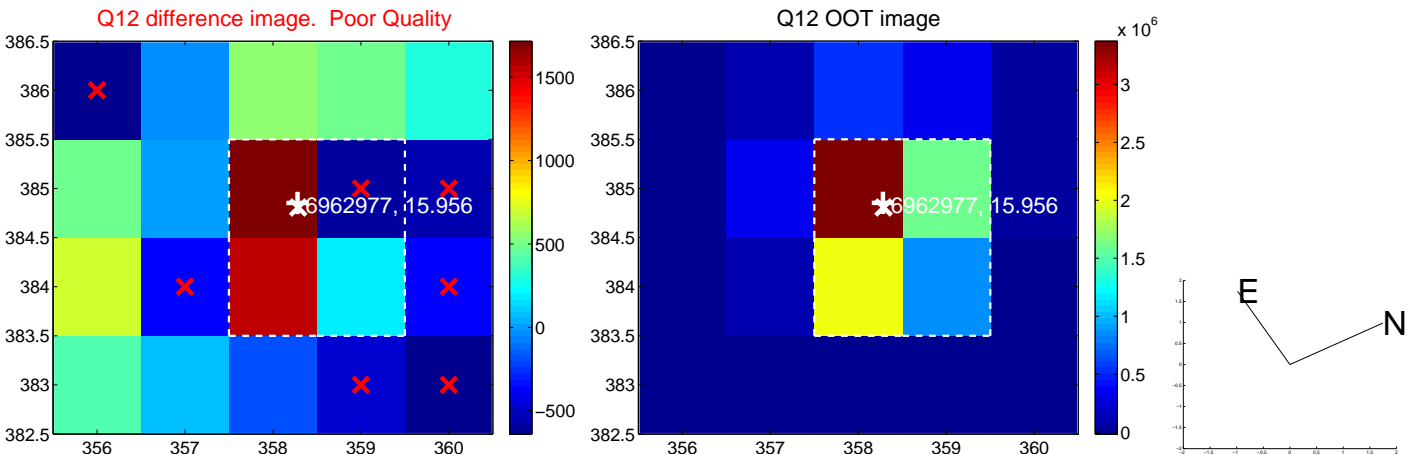
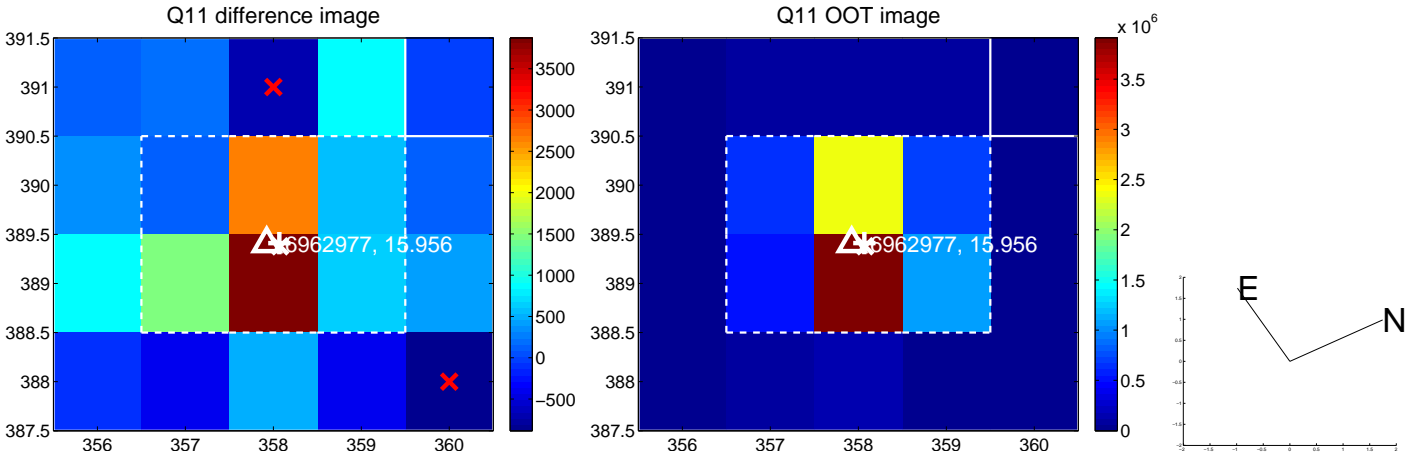
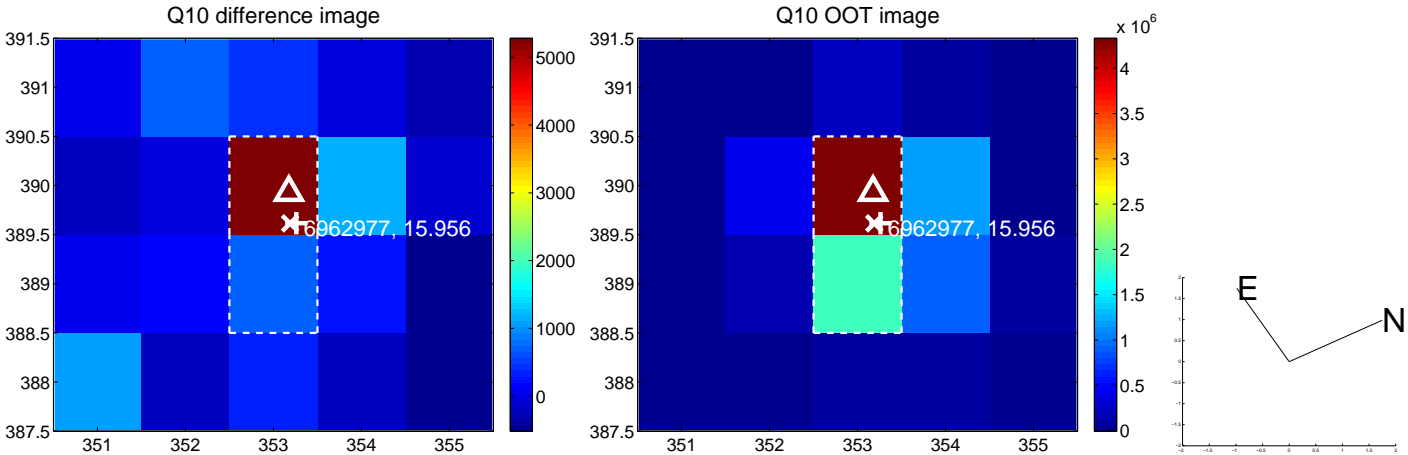
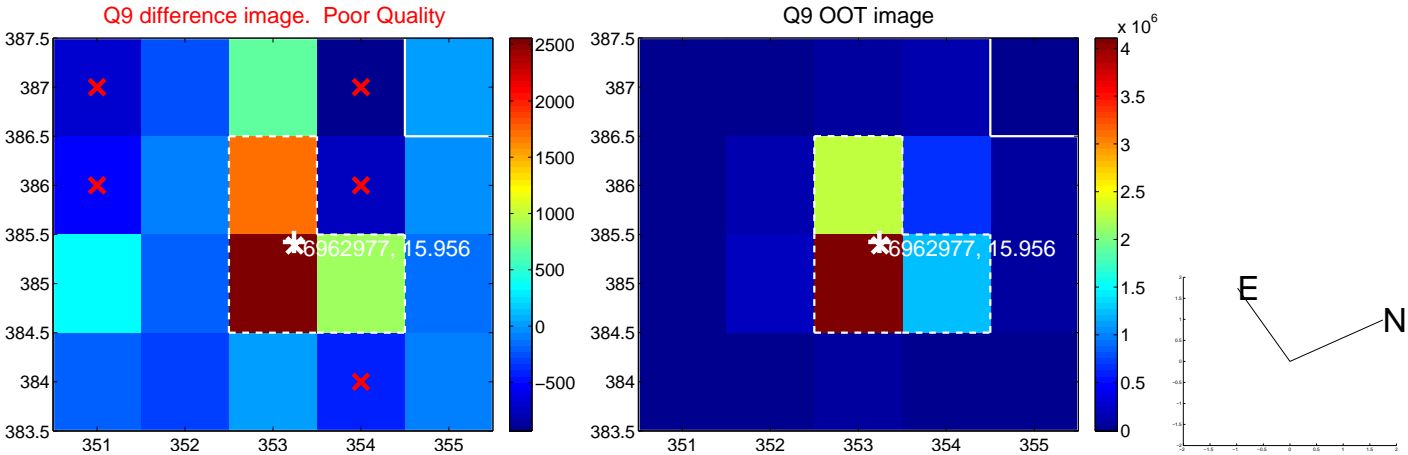
Q4 no OOT image



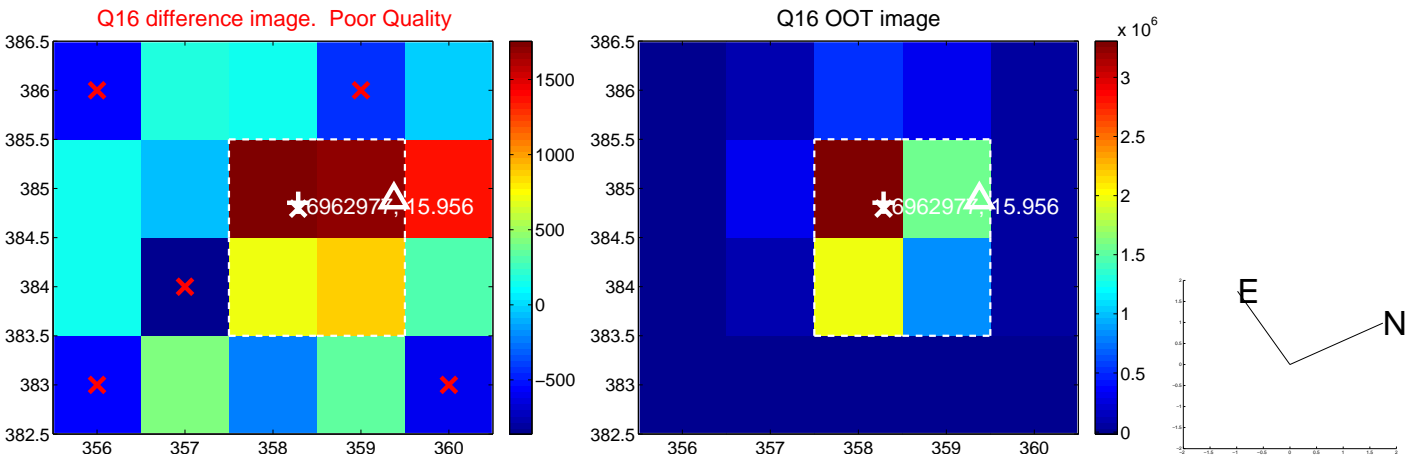
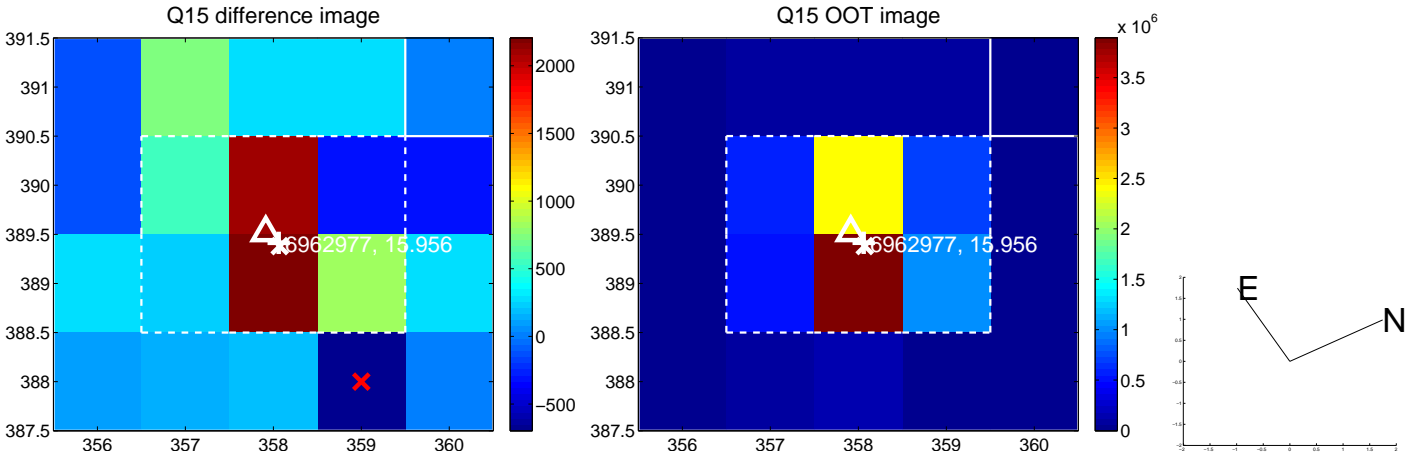
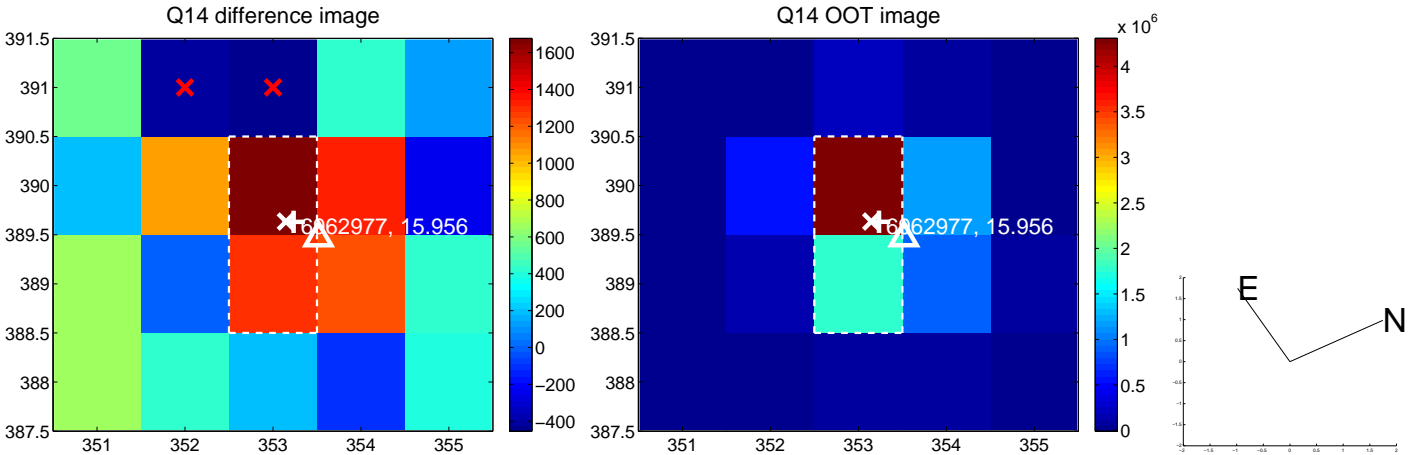
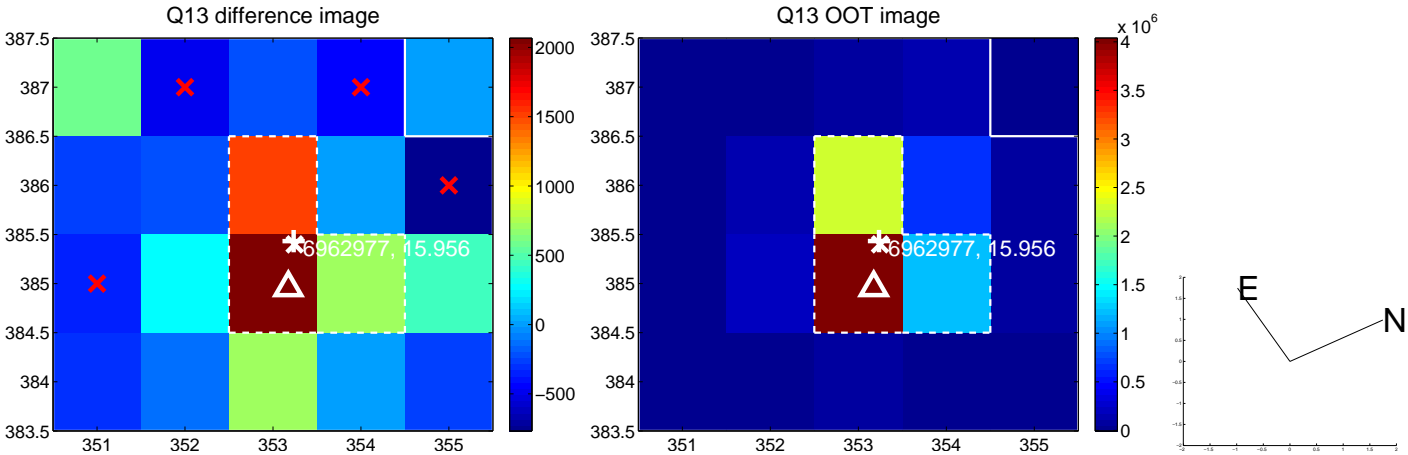
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



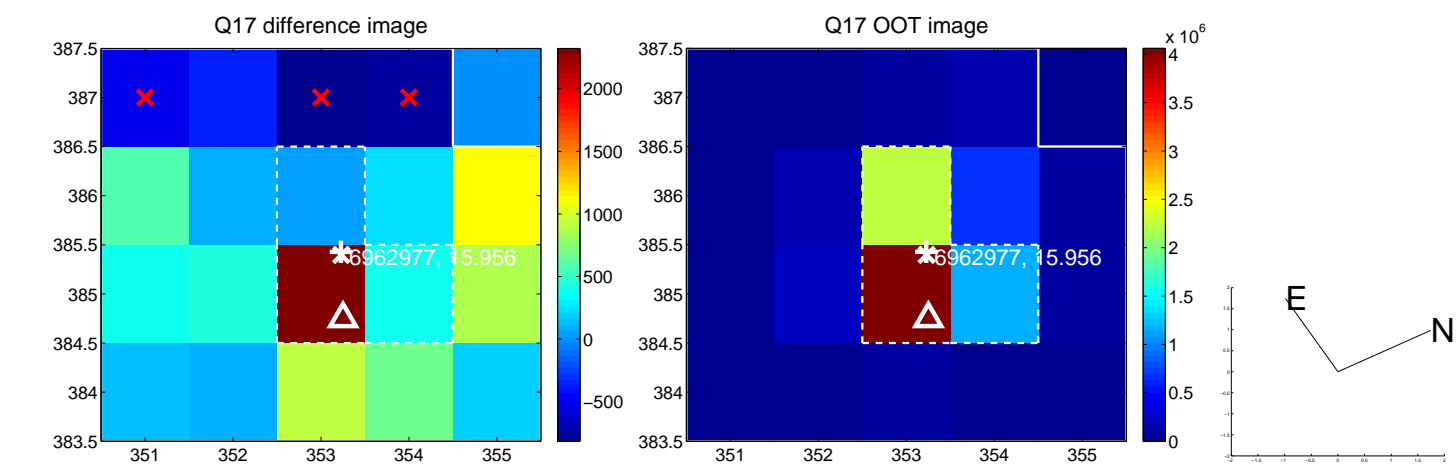
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



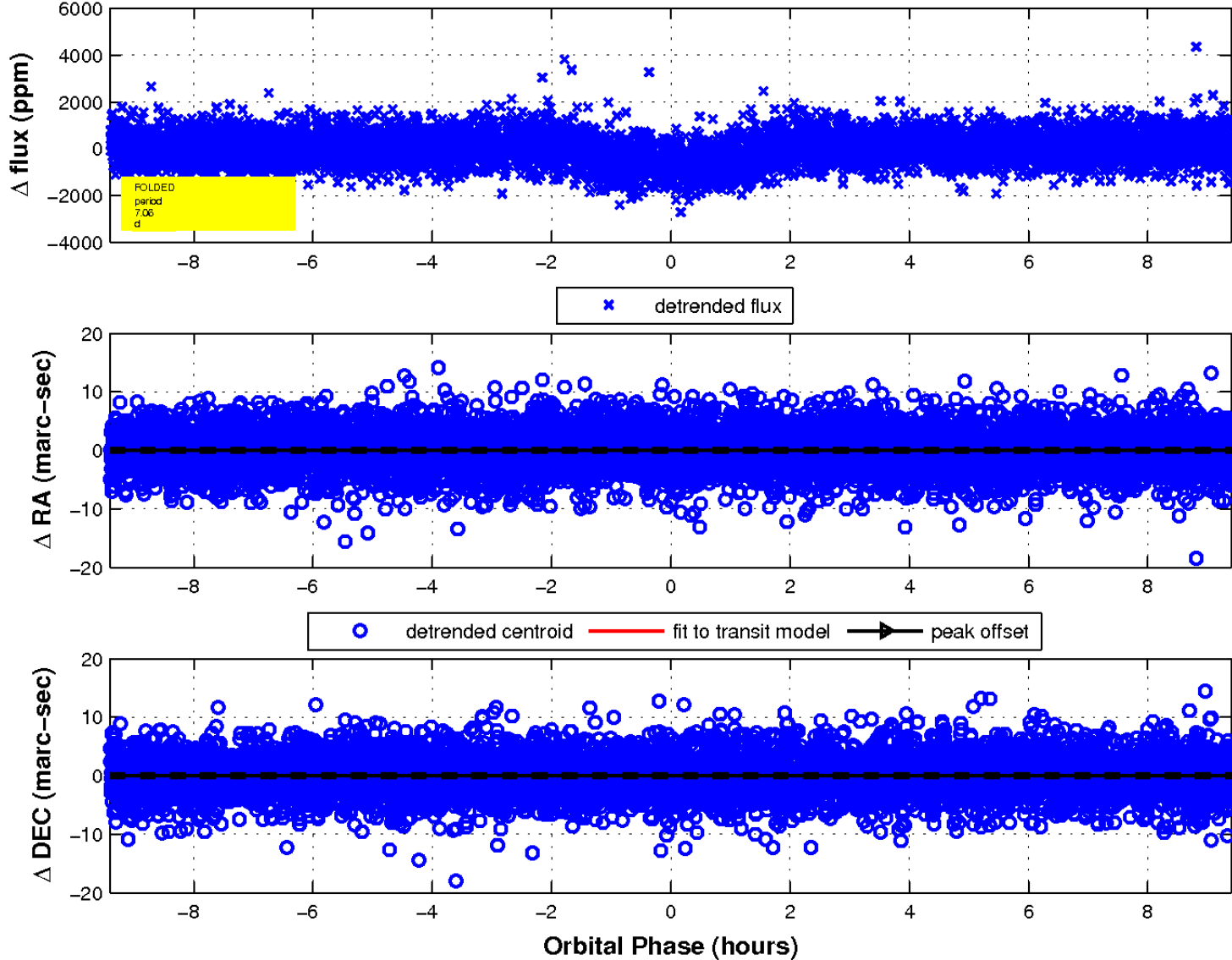
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

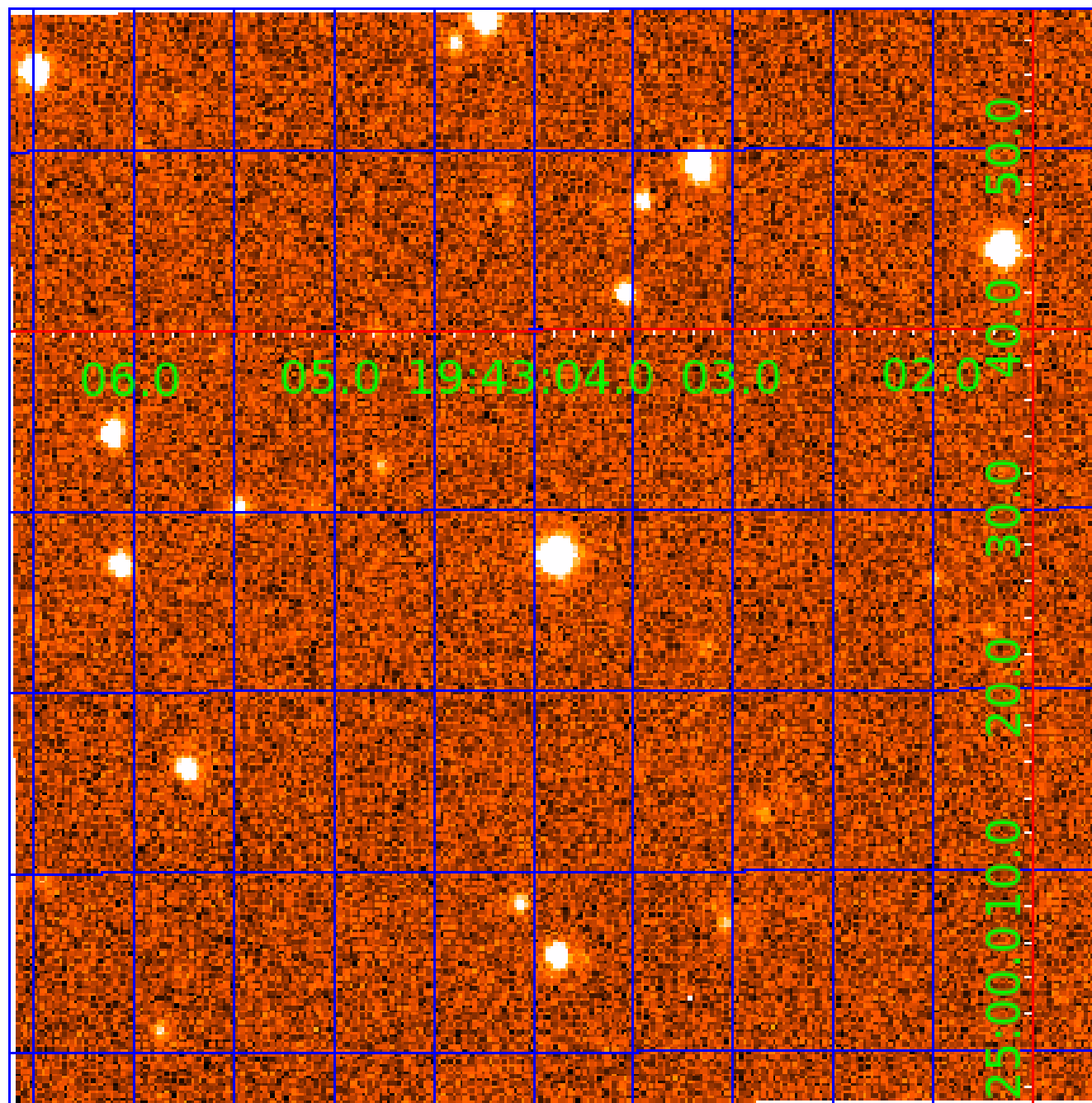


fluxWeightedCentroids, Planet 1 of 5



UKIRT Image

Declination



KIC 006962977

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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006962977-04	OBS	1364.04	3.715435	132.632860	317.8	3.235	14.9	16.3	0.81	5296	2.00	237.84
006962977-05	OBS	1364.05	2.580802	132.852773	249.2	2.107	13.4	13.9	0.81	5296	1.37	386.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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006962977-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-04	OBS	PC	0.86	0	0	0	0	NO_COMMENT
006962977-05	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

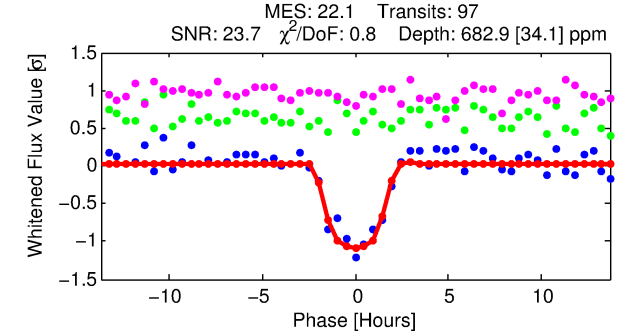
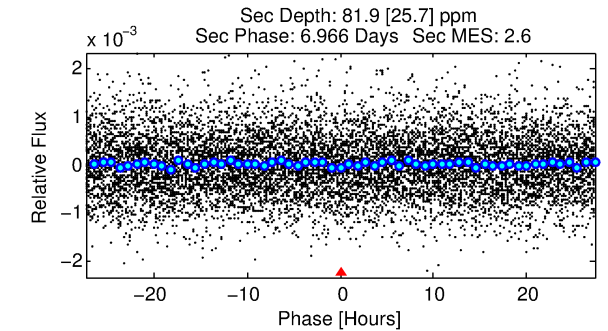
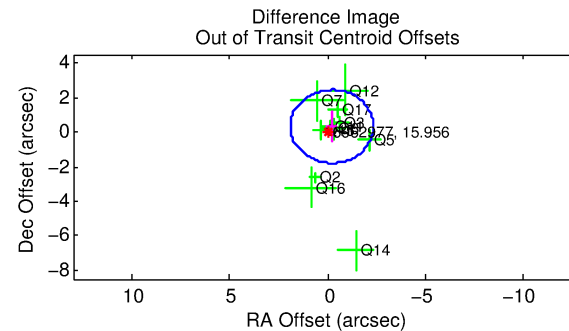
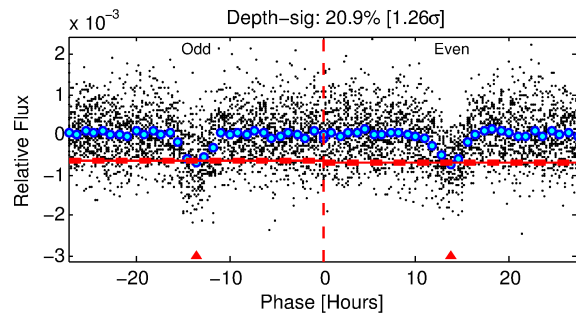
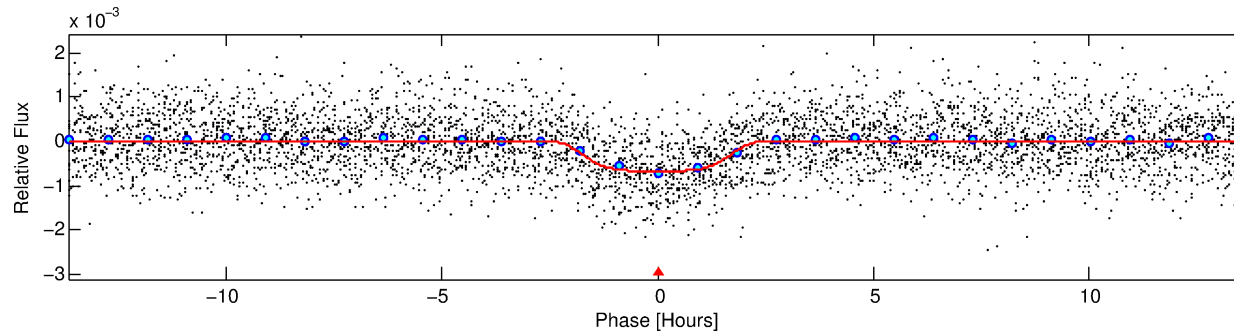
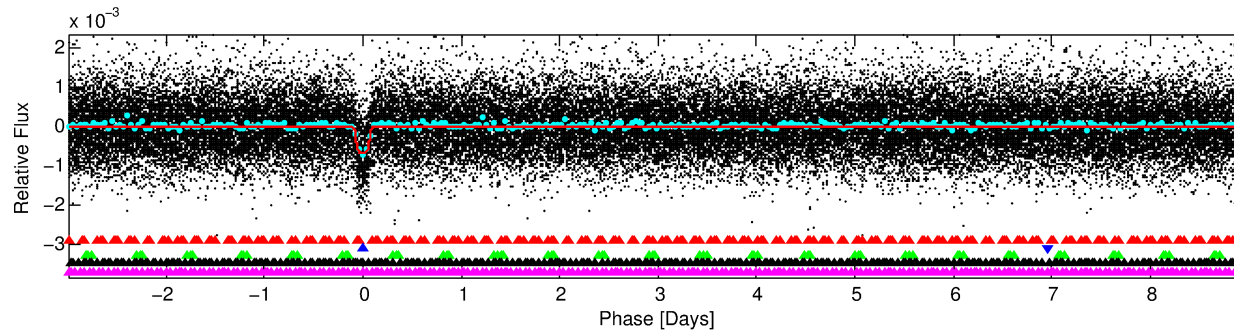
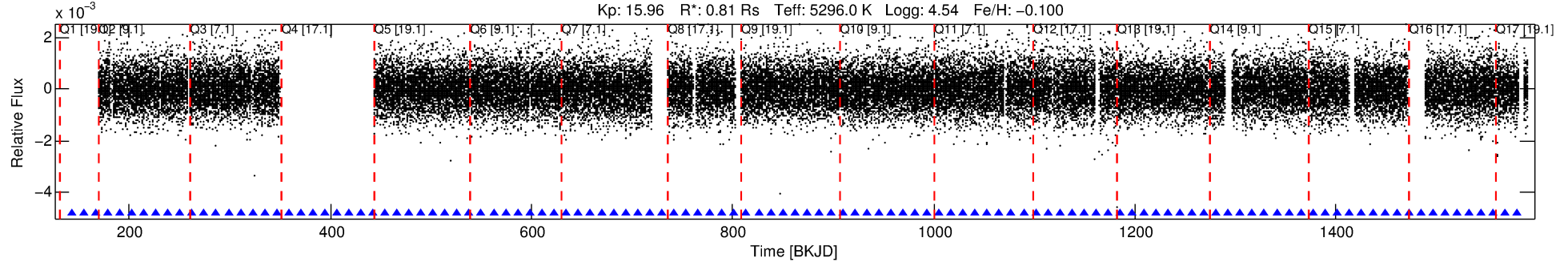
Ephemeris Match Information For 006962977-02

No Significant Match Found

DV One-Page Summary

KIC: 6962977 Candidate: 2 of 5 Period: 11.979 d
KOI: K01364.03 Name: Kepler-292e Corr: 0.930

Kp: 15.96 R*: 0.81 Rs Teff: 5296.0 K Logg: 4.54 Fe/H: -0.100



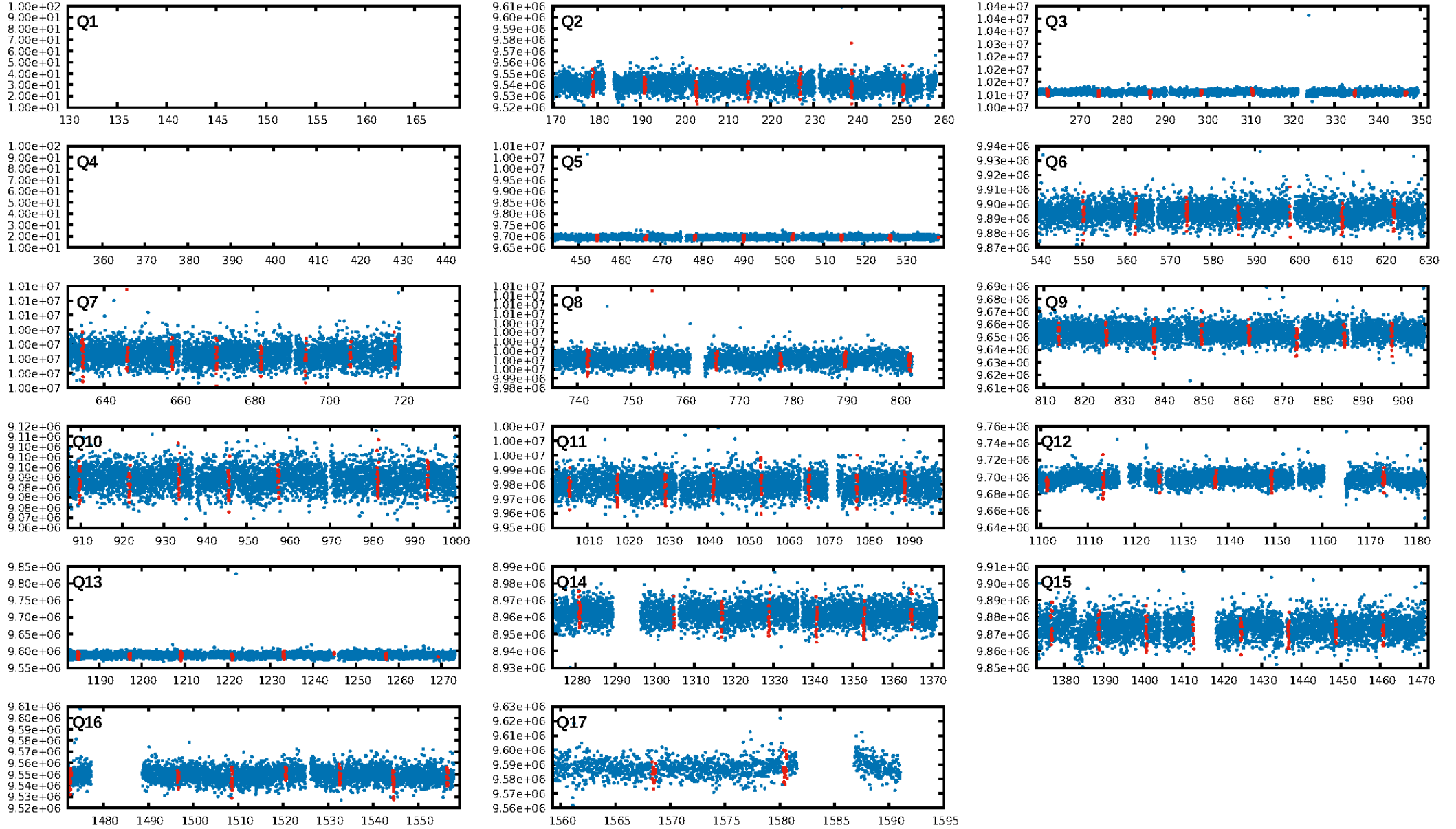
DV Fit Results:

Period = 11.97885 [0.00007] d
Epoch = 143.0322 [0.0048] BKJD
Rp/R* = 0.0311 [0.0015]
a/R* = 8.13 [1.12]
b = 0.95 [0.02]
Seff = 49.94 [6.63]
Teq = 678 [22] K
Rp = 2.74 [0.24] Re
a = 0.0960 [0.0065] AU
Ag = 55.28 [19.03] [2.85σ]
Teffp = 2858 [241] K [9.01σ]

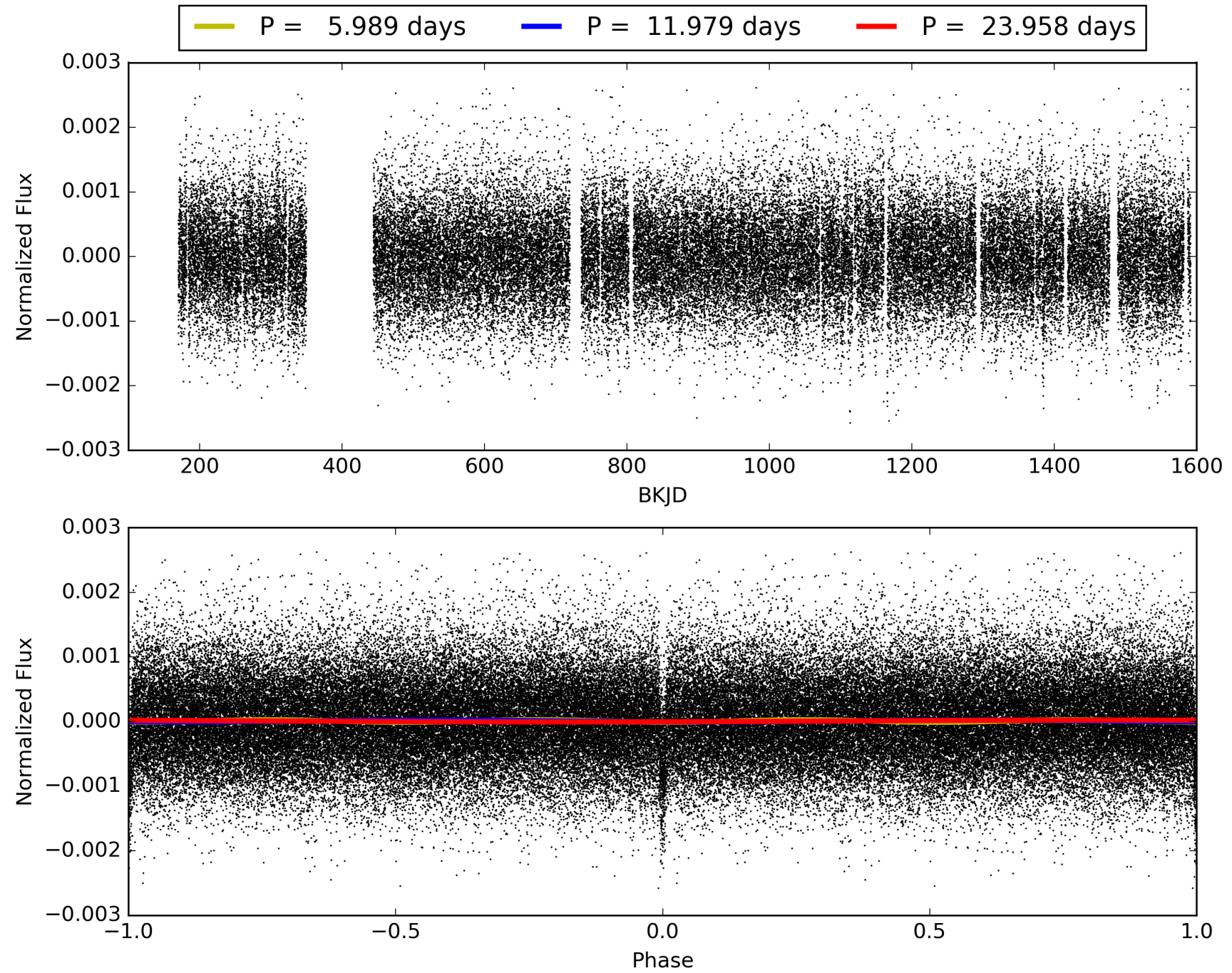
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [21.39σ]
LongPeriod-sig: 100.0% [32.34σ]
ModelChiSquare2-sig: 99.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.68e-110
RollingBand-fgt: 1.00 [95/95]
GhostDiagnostic-chr: 9.839
Centroid-sig: 0.1%
Centroid-so: 1.275 arcsec [2.14σ]
OotOffset-rm: 0.387 arcsec [0.55σ]
KicOffset-rm: 0.375 arcsec [0.46σ]
OotOffset-st: 3/4/2/2 [11]
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DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 1.00 [15/15]

TCE 006962977-02, PDC Light Curves

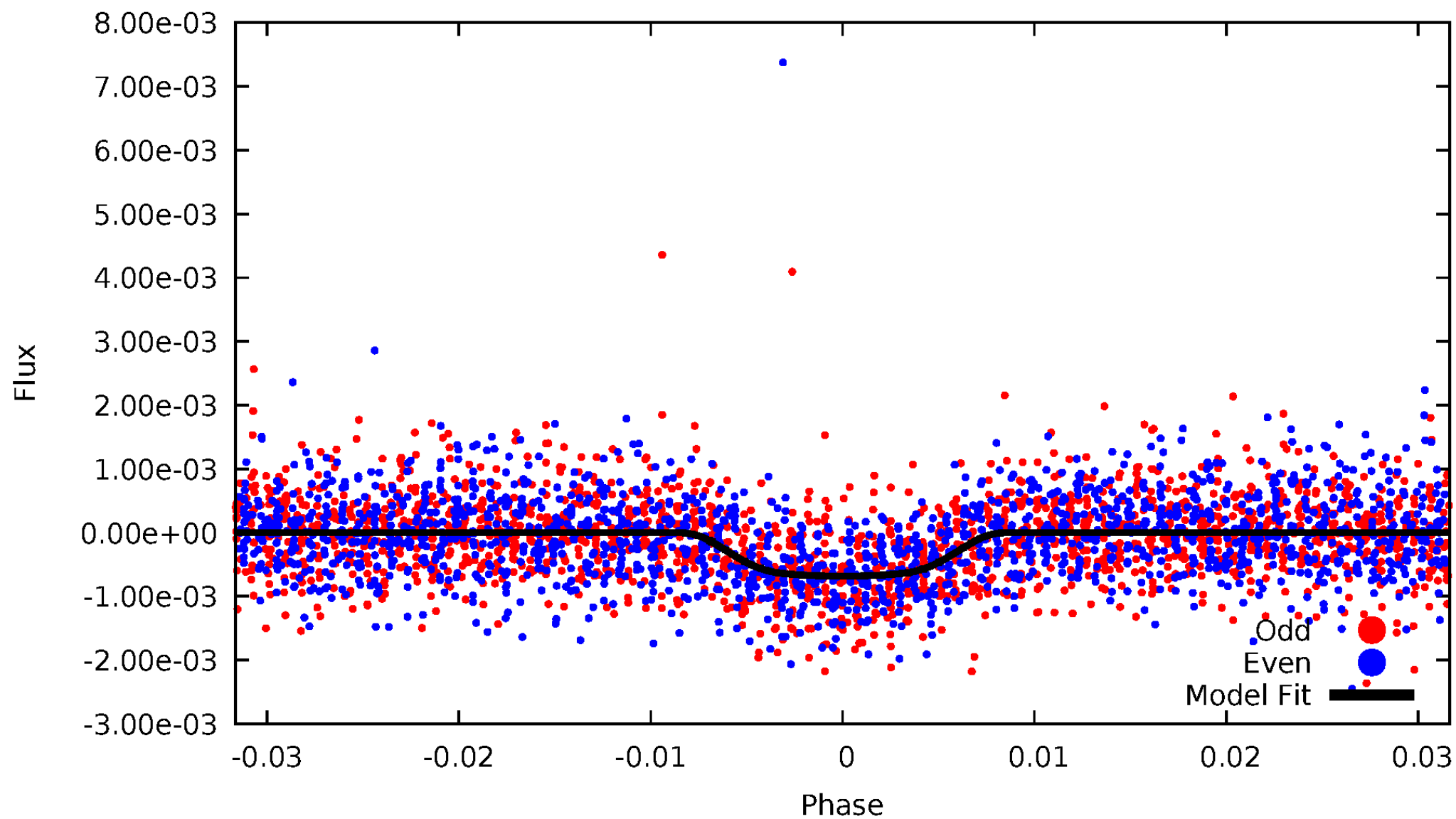


TCE 006962977-02



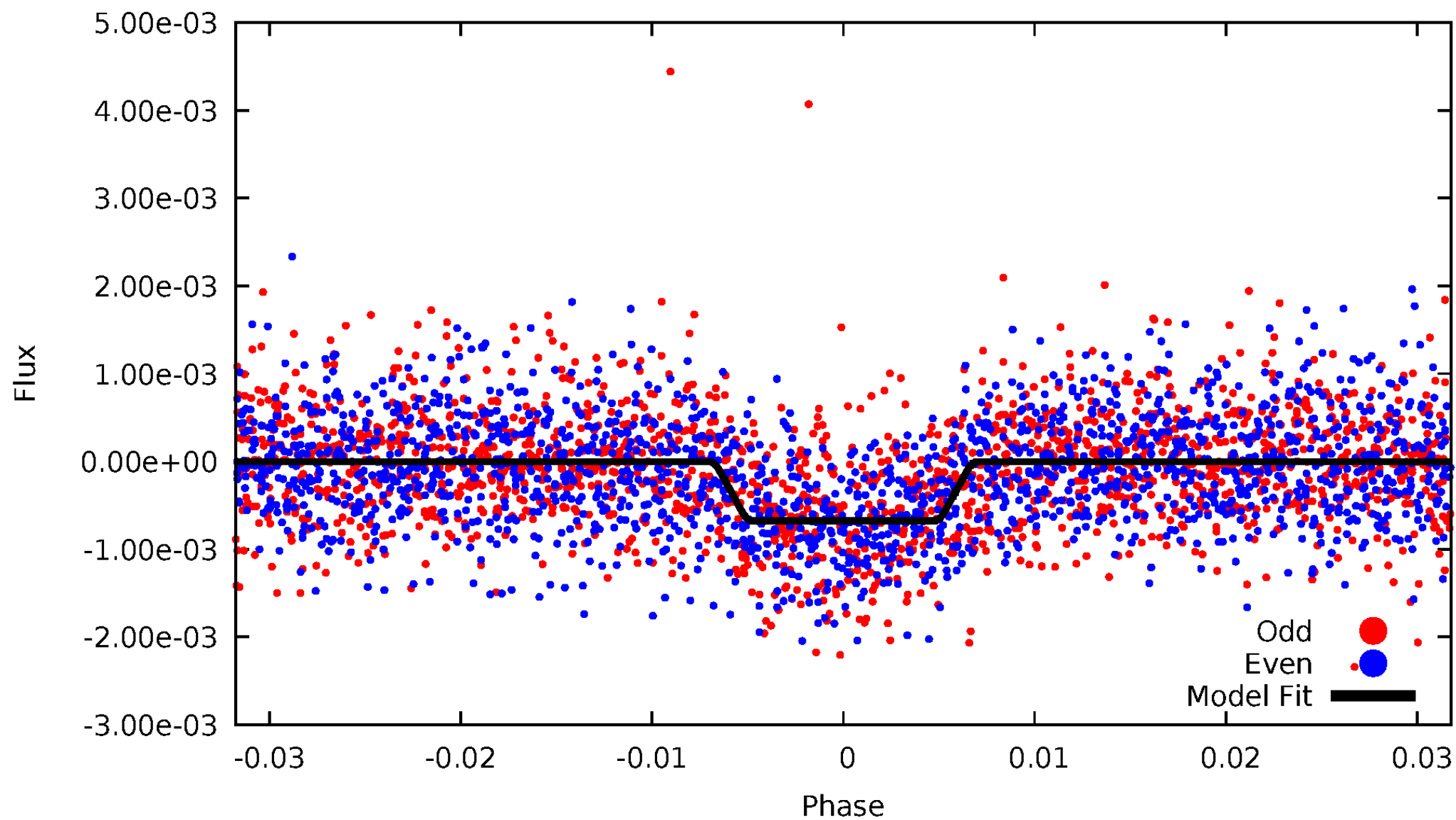
DV Odd/Even

TCE 006962977-02



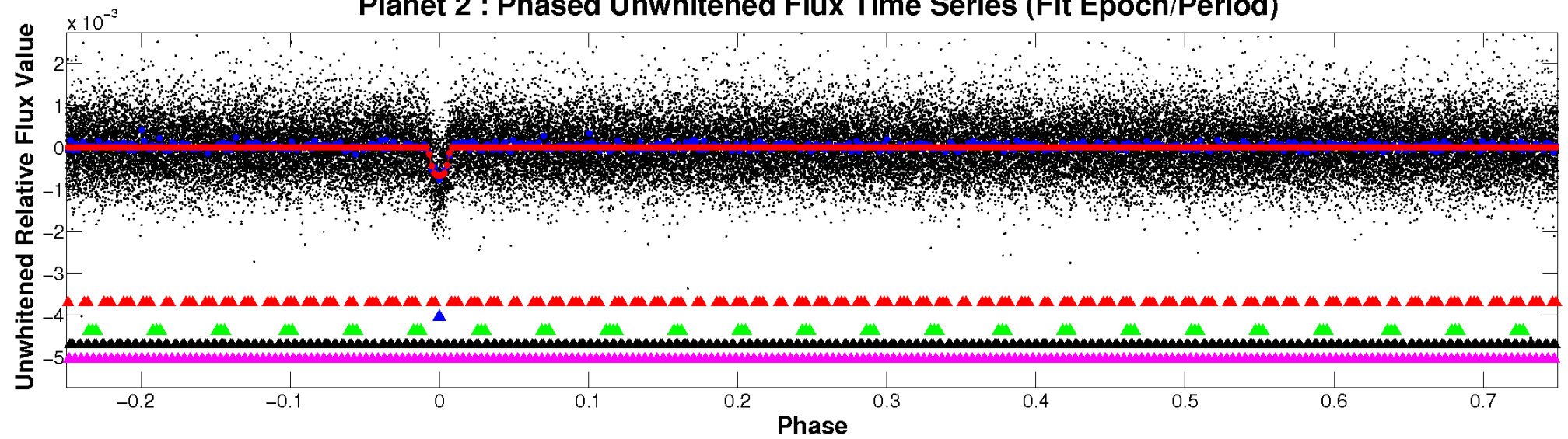
ALT Odd/Even

TCE 006962977-02

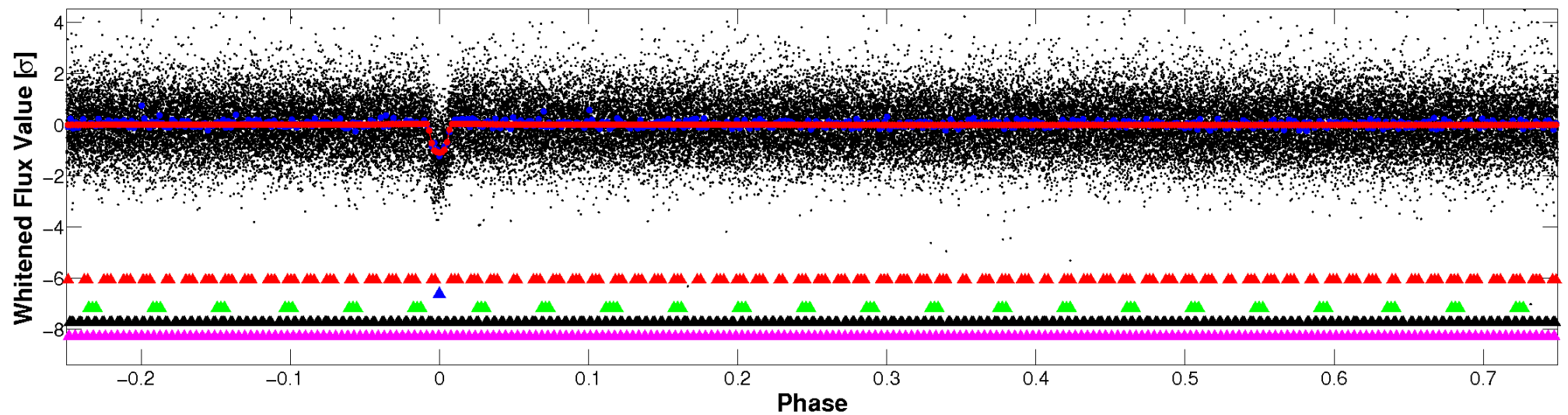


Non-Whitened Vs. Whitened Light Curve

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

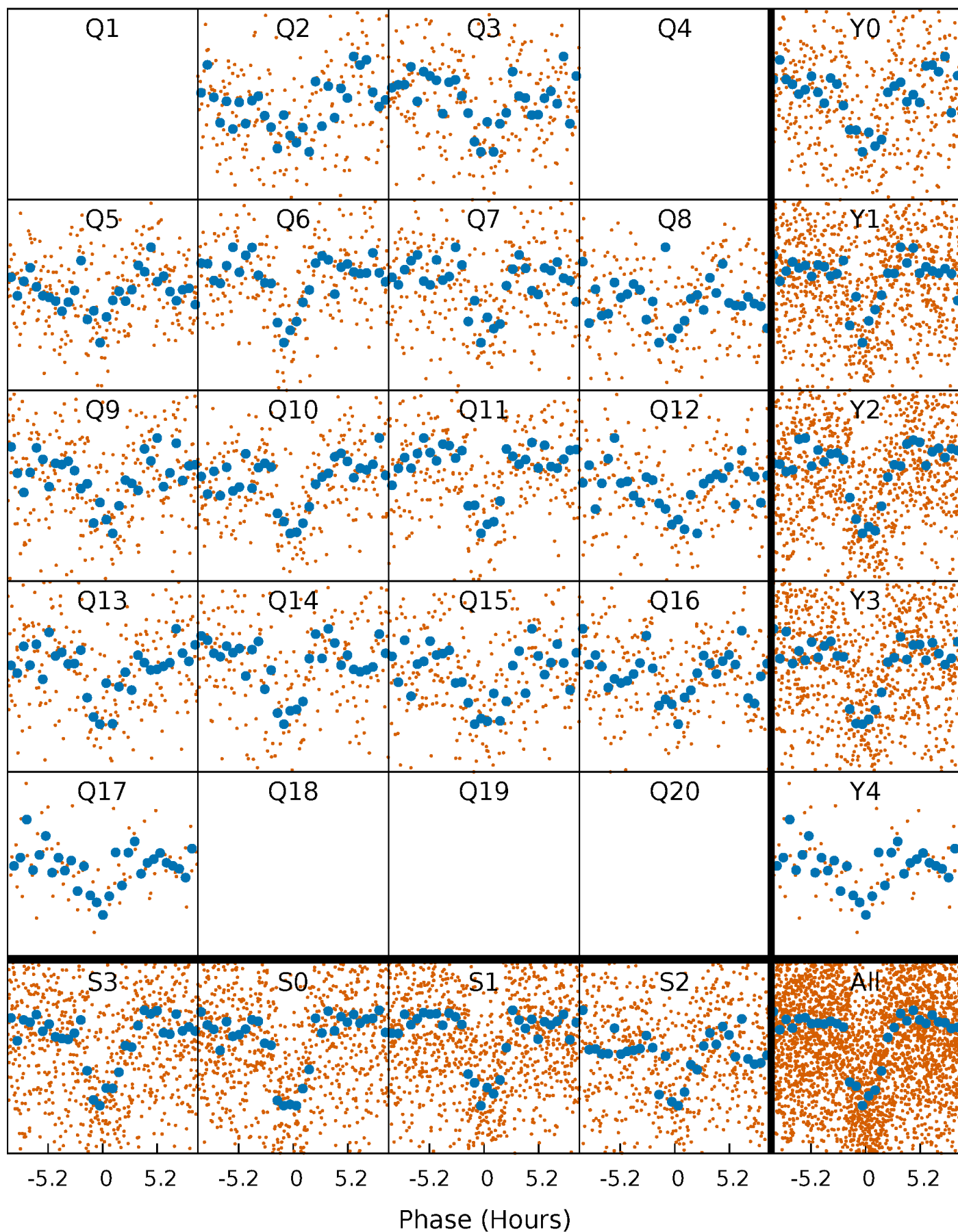


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



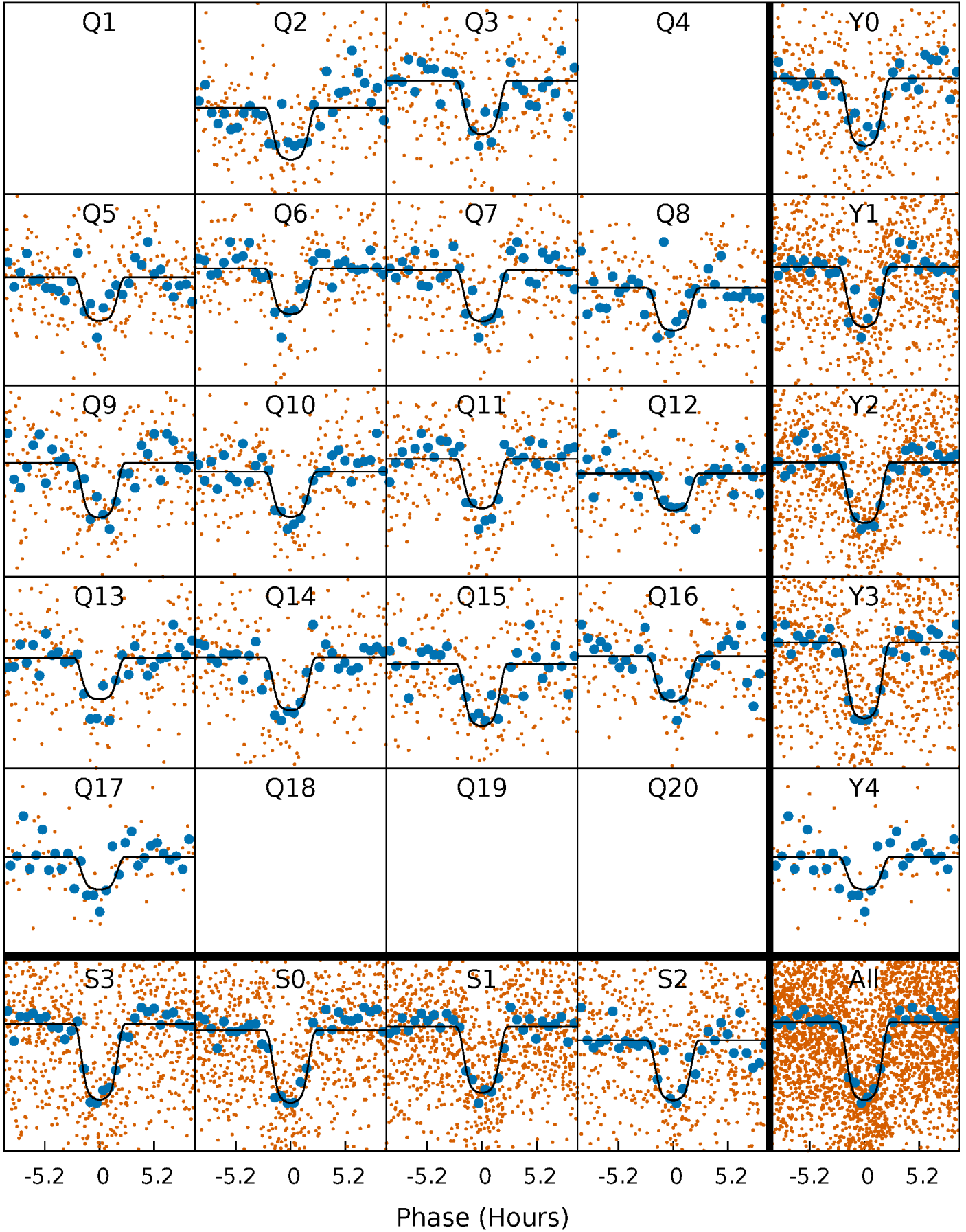
PDC Quarter-Phased Transit Curves

TCE 006962977-02 P= 11.978854 Days $T_0=143.032243$ (BKJD)



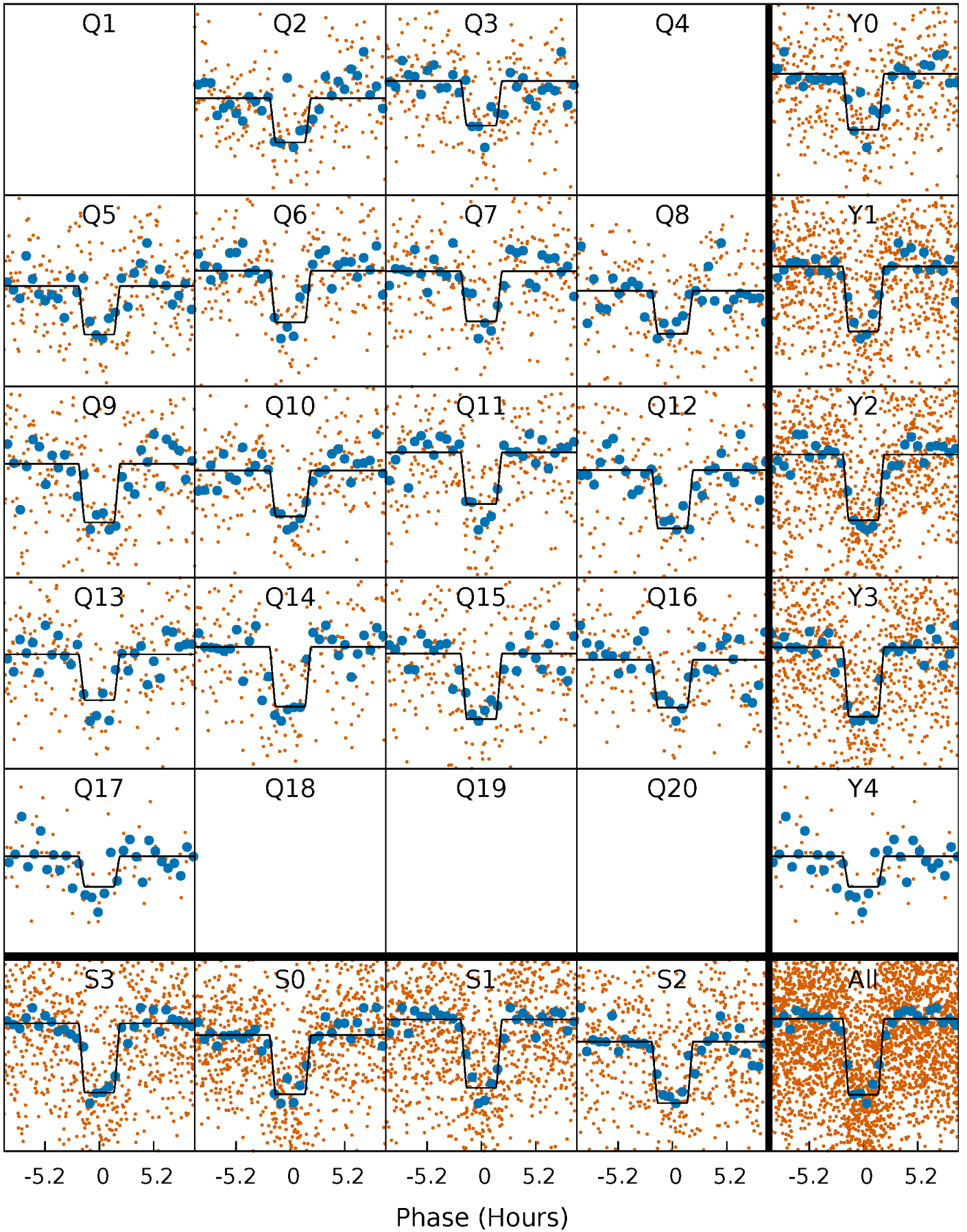
DV Quarter-Phased Transit Curves

TCE 006962977-02 P= 11.978854 Days $T_0=143.032243$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

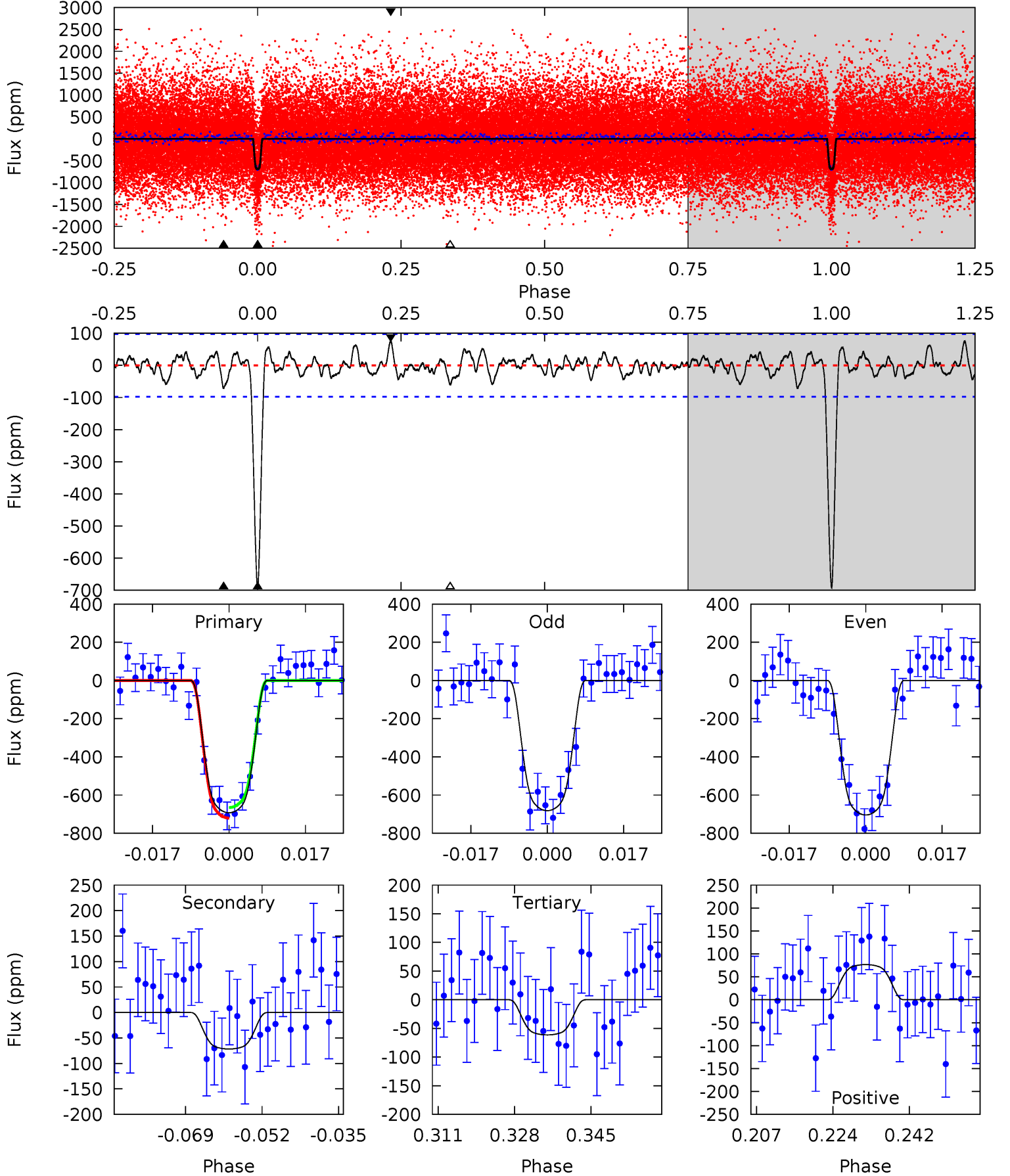
TCE 006962977-02 P= 11.979012 Days $T_0=143.021254$ (BKJD)



DV Model-Shift Uniqueness Test

006962977-02, P = 11.978854 Days, E = 143.032243 Days

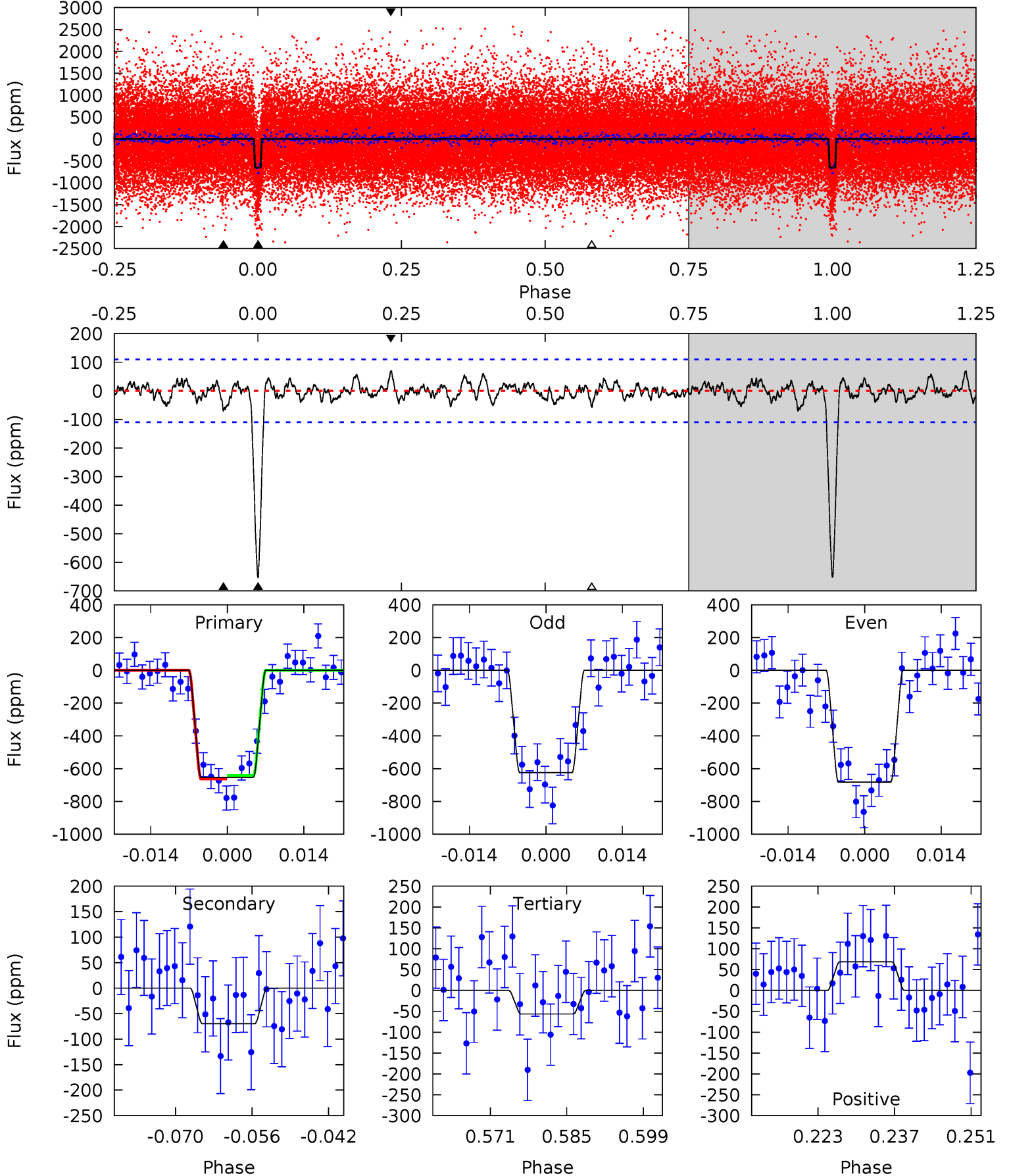
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.9	3.61	3.09	3.86	4.92	2.38	1.16	31.8	31.1	0.52	-0.25	0.57	0.93	0.10	1.39



Alt Model-Shift Uniqueness Test

006962977-02, P = 11.979012 Days, E = 143.021254 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.5	3.16	2.55	3.09	4.96	2.46	0.97	26.9	26.4	0.61	0.06	1.31	1.01	0.09	0.48



Stellar Parameters For KIC 006962977

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5296^{+106}_{-106}	$4.538^{+0.044}_{-0.061}$	$-0.100^{+0.150}_{-0.150}$	$0.808^{+0.060}_{-0.049}$	$0.821^{+0.052}_{-0.042}$	$2.191^{+0.392}_{-0.399}$
	+2%/-2%	+1%/-1%	+150%/-150%	+7%/-6%	+6%/-5%	+18%/-18%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 006962977-02 / KOI 1364.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-72 ± 20	$2.76^{+0.17}_{-0.19}$	950^{+28}_{-27}	3295^{+158}_{-176}	48^{+16}_{-14}
Alt.	-70 ± 22	$2.31^{+0.17}_{-0.15}$	952^{+26}_{-27}	3477^{+190}_{-210}	67^{+25}_{-21}

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

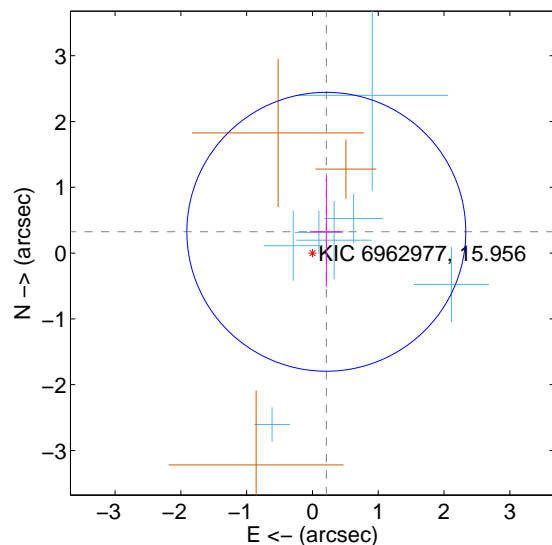
Supplemental centroid analysis for 006962977-02. Kepler magnitude: 15.96. Transit SNR 23.67

There are 7 quarters with good PRF difference image offsets

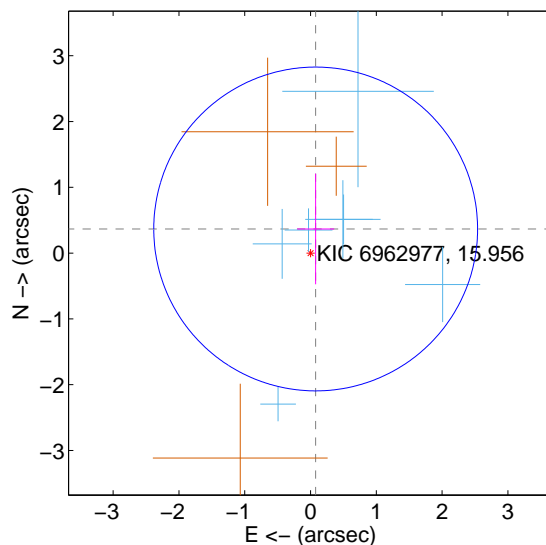
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.387 ± 0.707	0.55	-0.211 ± 0.251	0.324 ± 0.835
PRF-fit source offset from KIC position	0.375 ± 0.820	0.46	-0.078 ± 0.282	0.367 ± 0.842
photometric centroid source offset	1.27 ± 0.60	2.14	0.64 ± 0.57	-1.10 ± 0.61

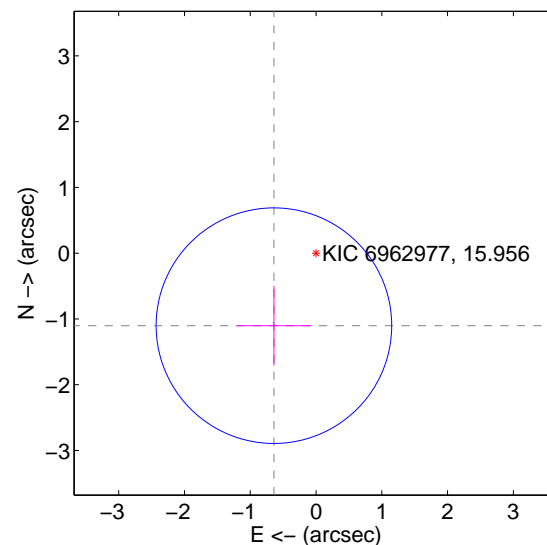
offset from difference PRF-fit to OOT PRF-fit



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.

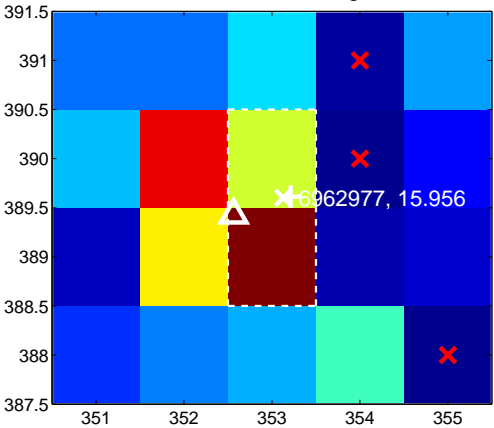
Q1 no difference image



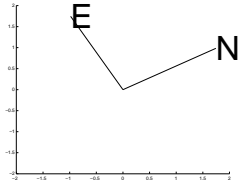
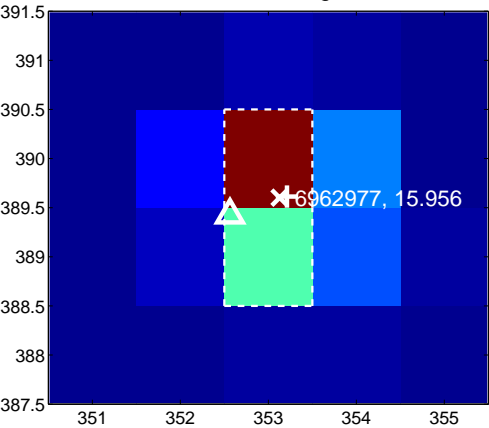
Q1 no OOT image



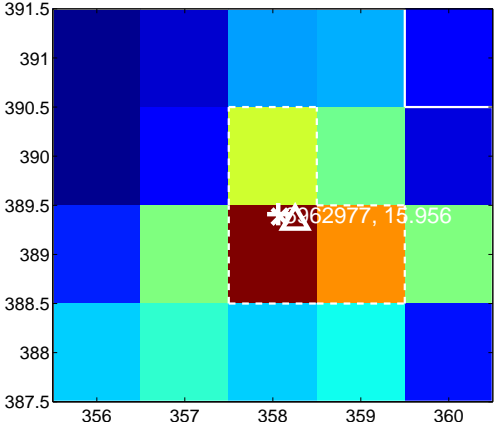
Q2 difference image



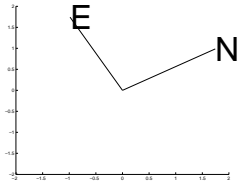
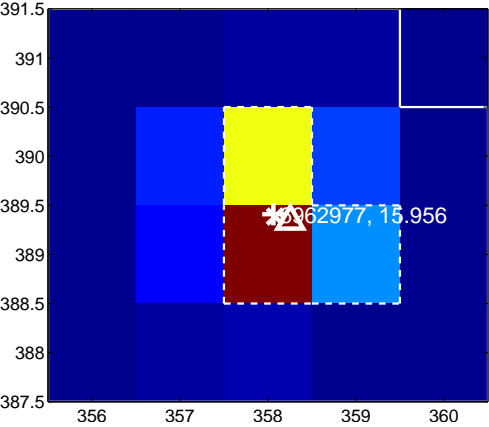
Q2 OOT image



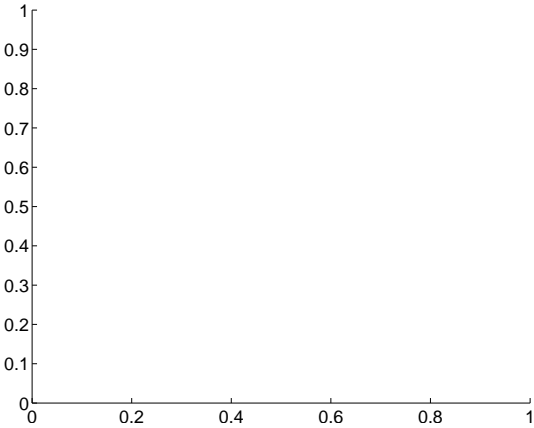
Q3 difference image



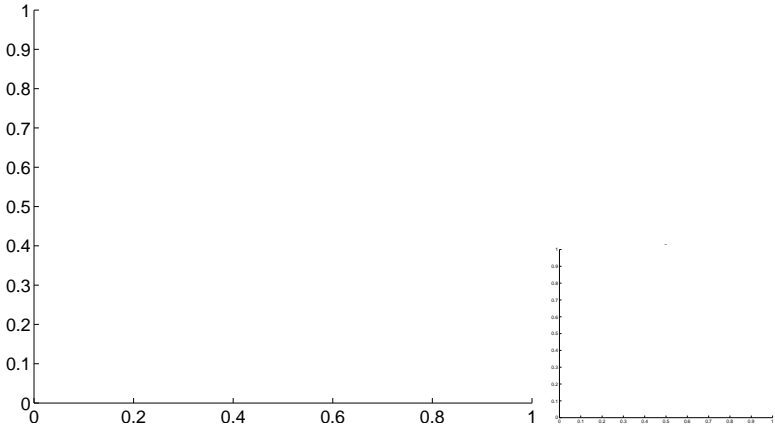
Q3 OOT image



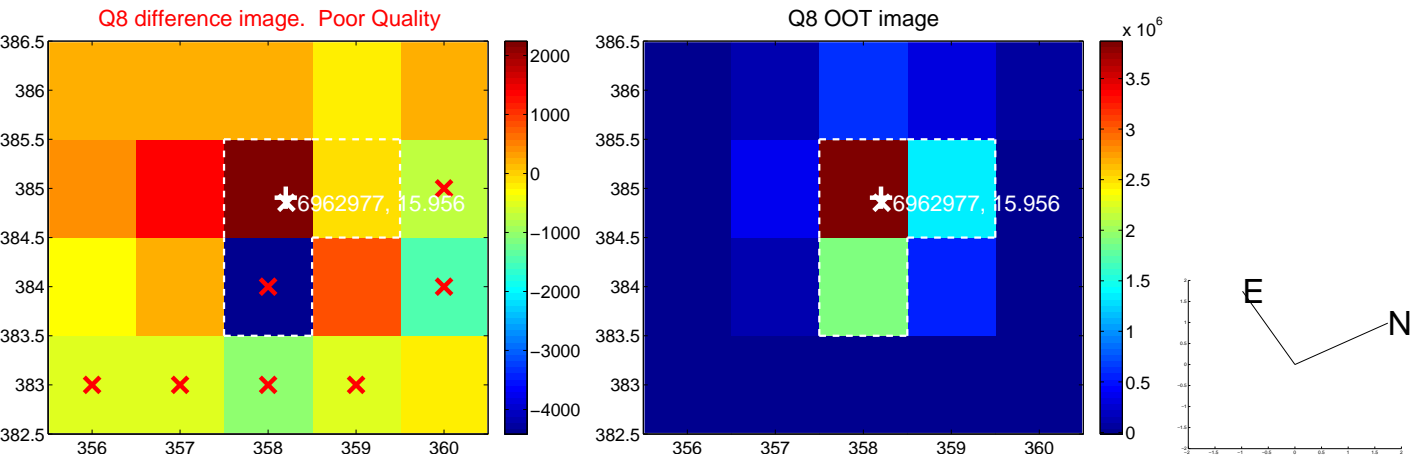
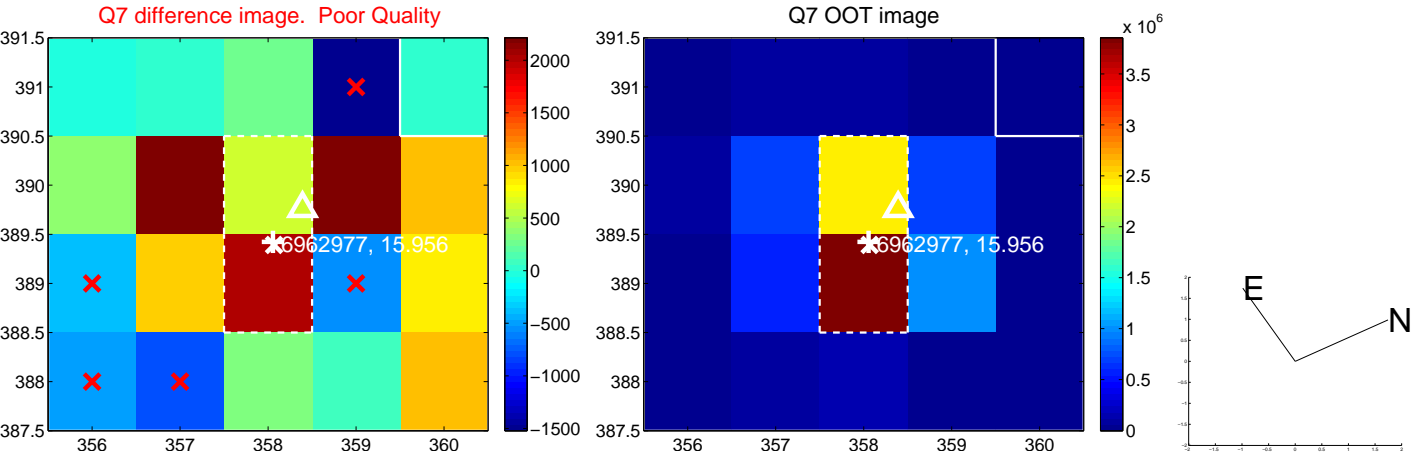
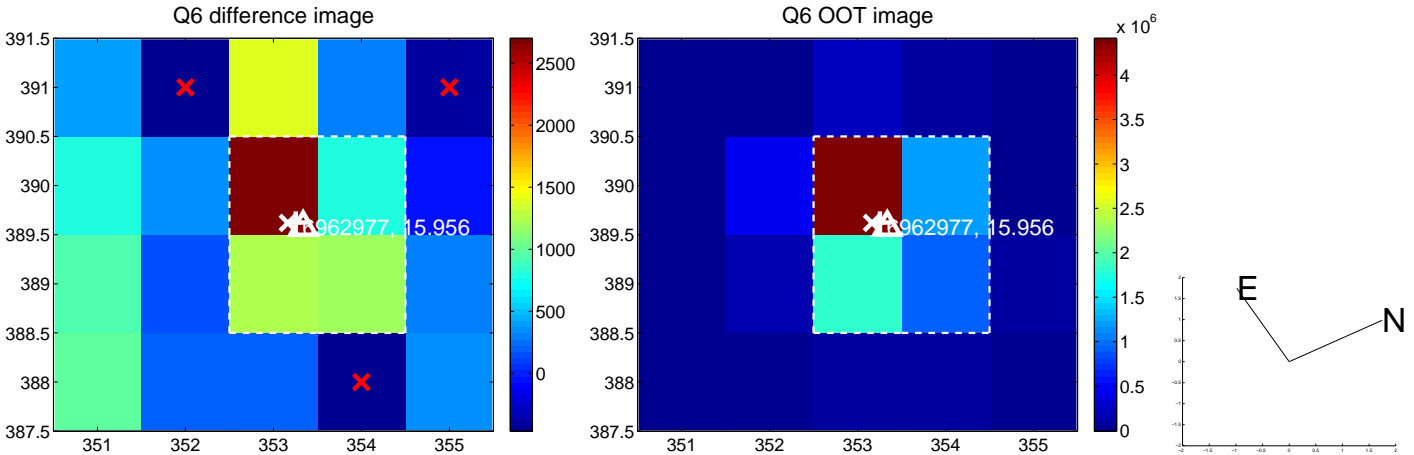
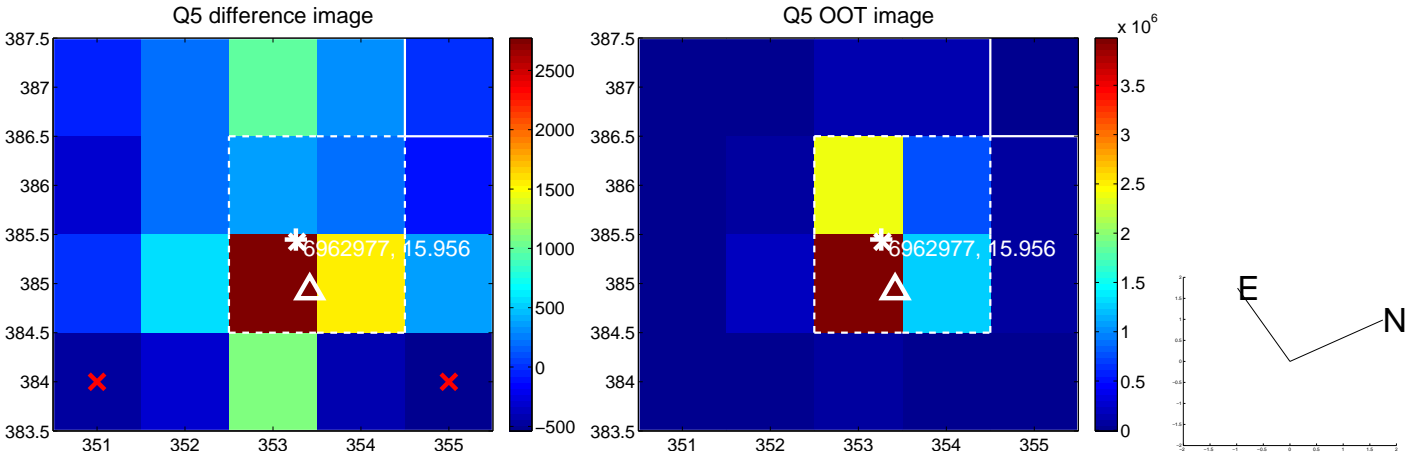
Q4 no difference image



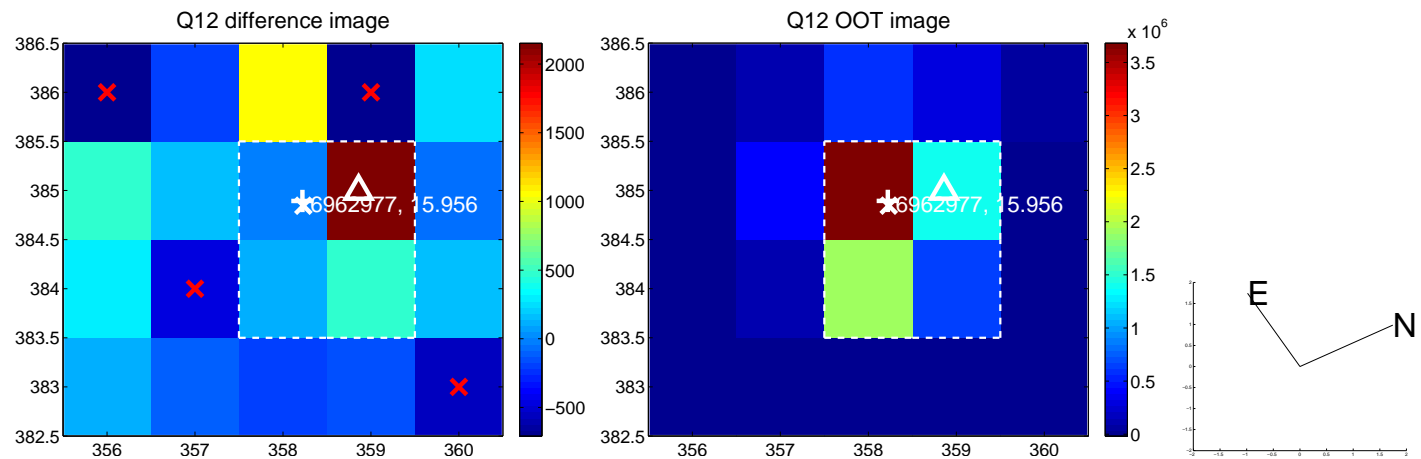
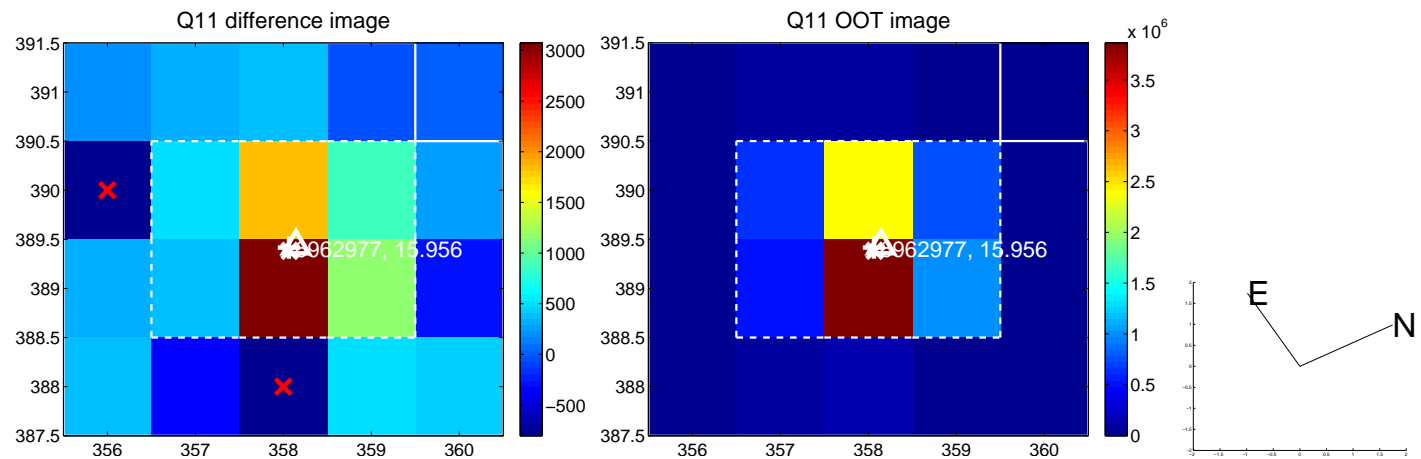
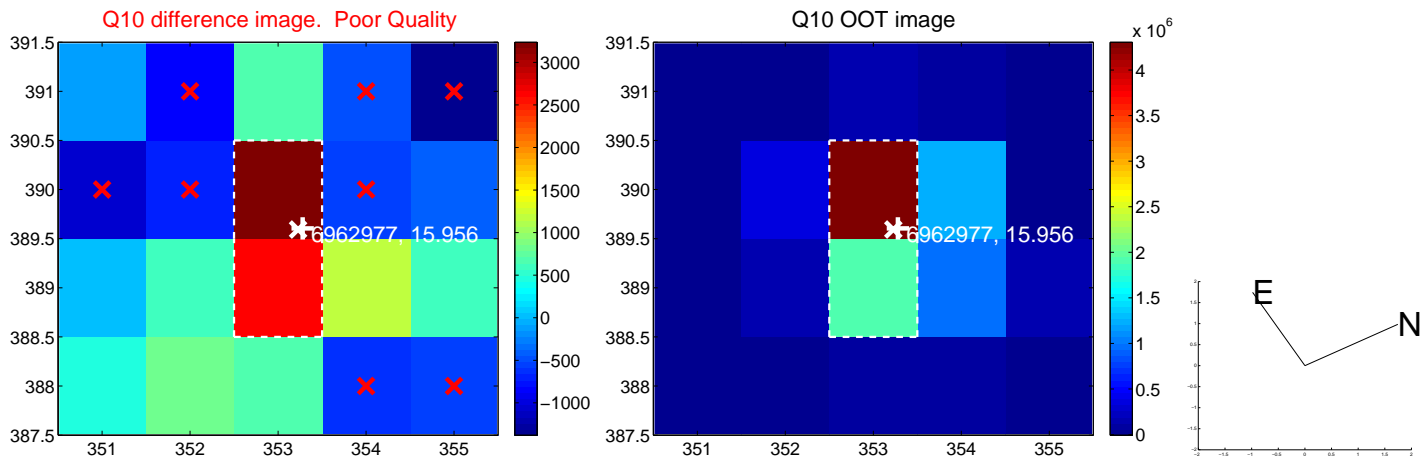
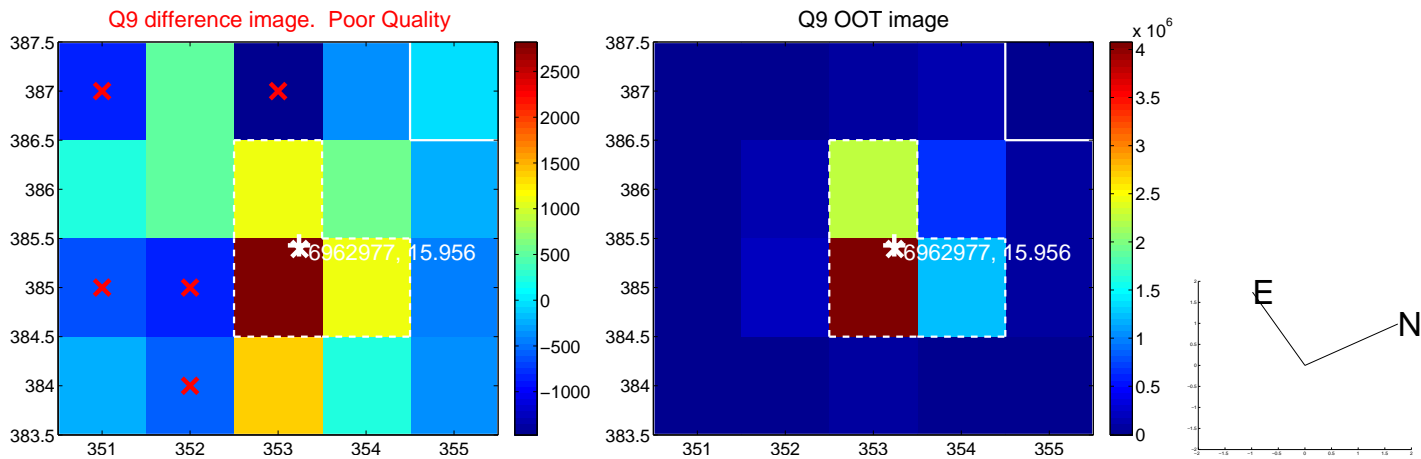
Q4 no OOT image



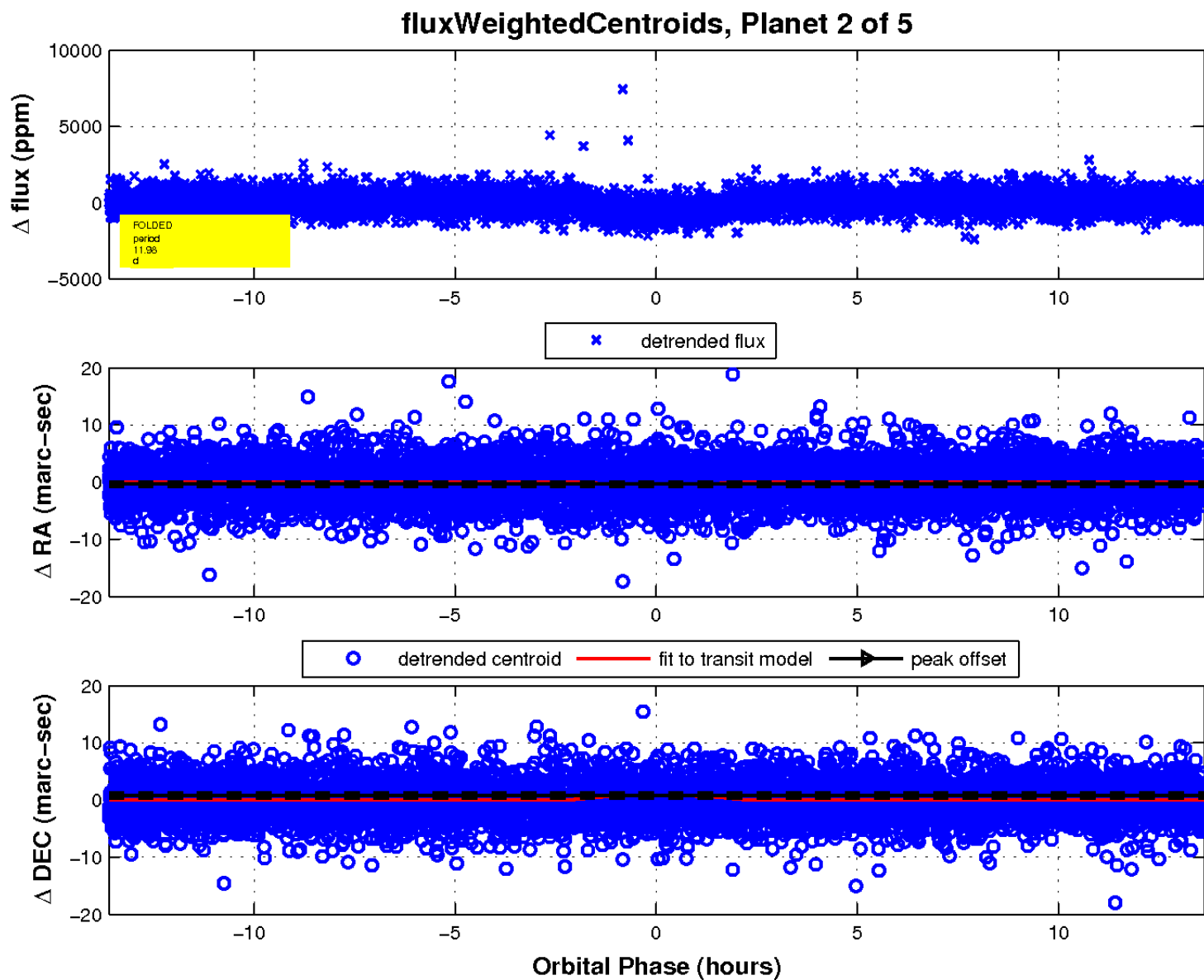
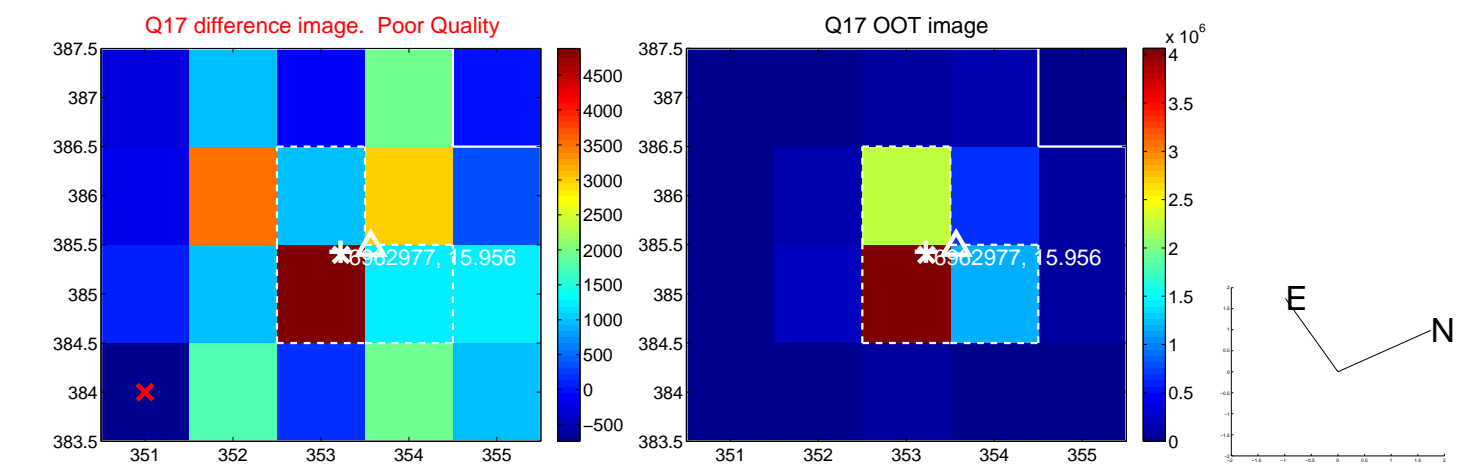
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

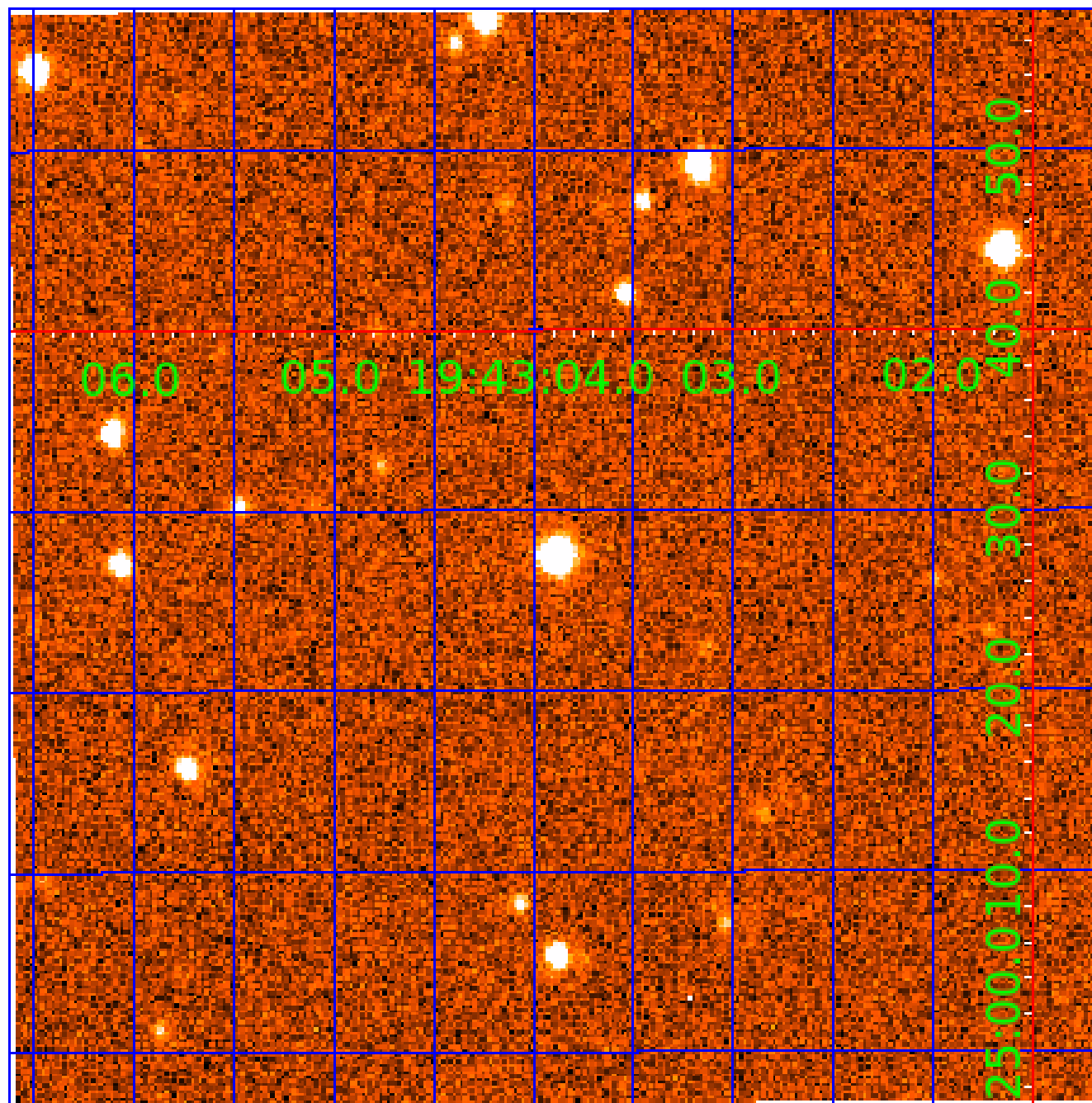


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006962977

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})
006962977-01	OBS	1364.02	7.055660	132.521454	663.1	3.135	26.1	27.7	0.81	5296	2.23	101.14
006962977-02	OBS	1364.03	11.978854	143.032243	682.9	4.548	22.1	23.7	0.81	5296	2.74	49.94
006962977-03	OBS	1364.01	20.834079	144.371136	750.1	4.744	19.9	21.5	0.81	5296	2.62	23.87
006962977-04	OBS	1364.04	3.715435	132.632860	317.8	3.235	14.9	16.3	0.81	5296	2.00	237.84
006962977-05	OBS	1364.05	2.580802	132.852773	249.2	2.107	13.4	13.9	0.81	5296	1.37	386.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006962977-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-04	OBS	PC	0.86	0	0	0	0	NO_COMMENT
006962977-05	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

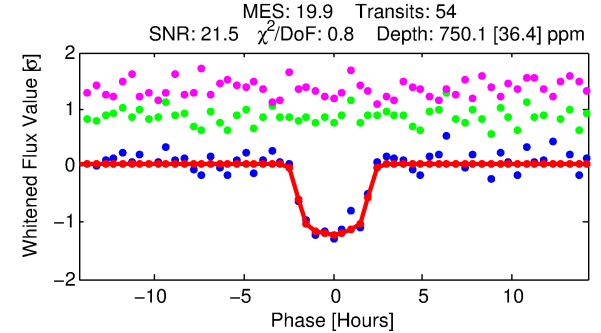
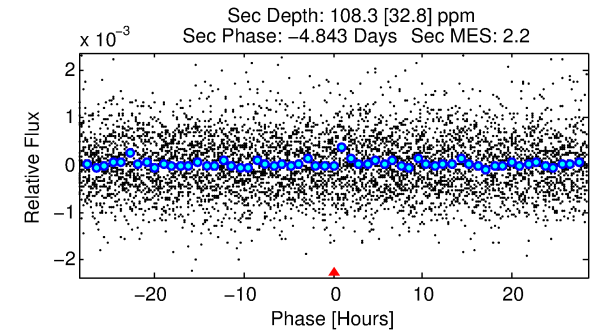
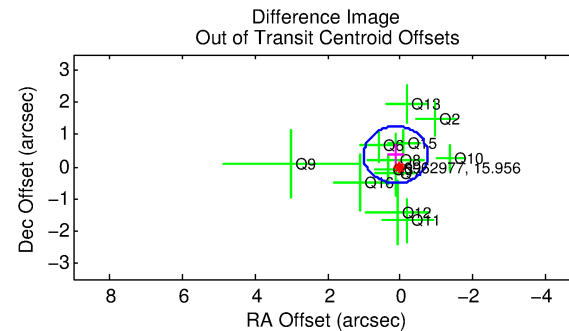
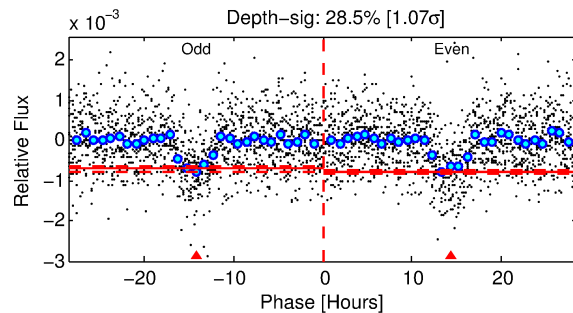
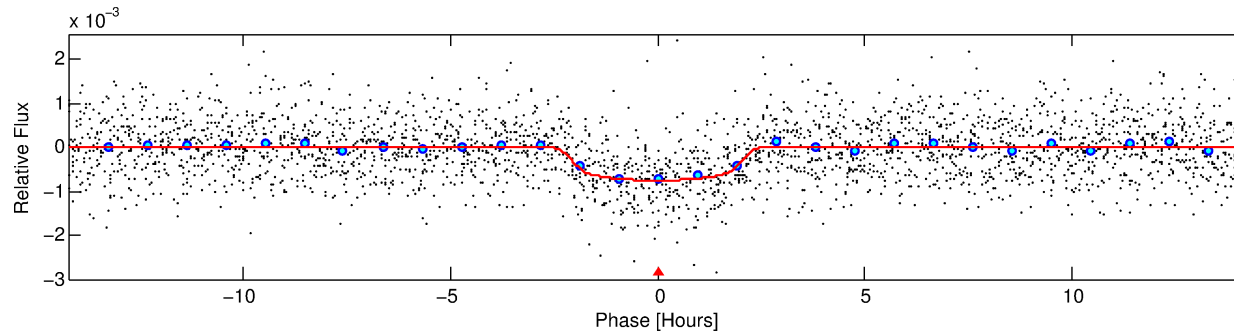
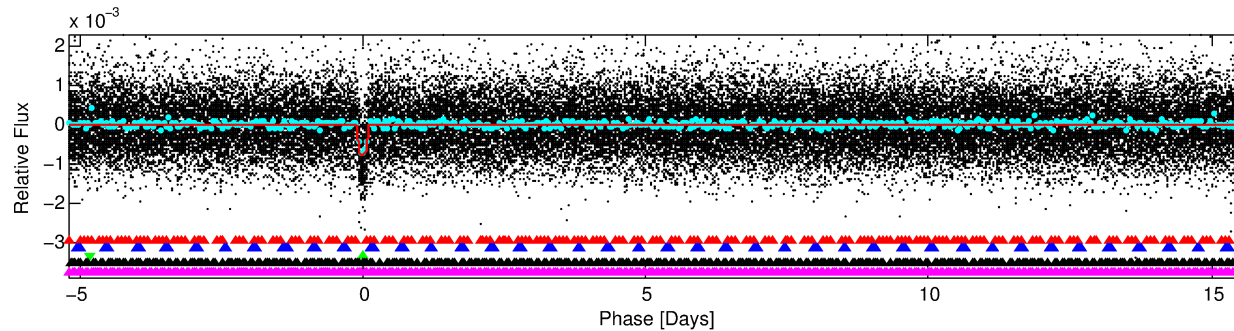
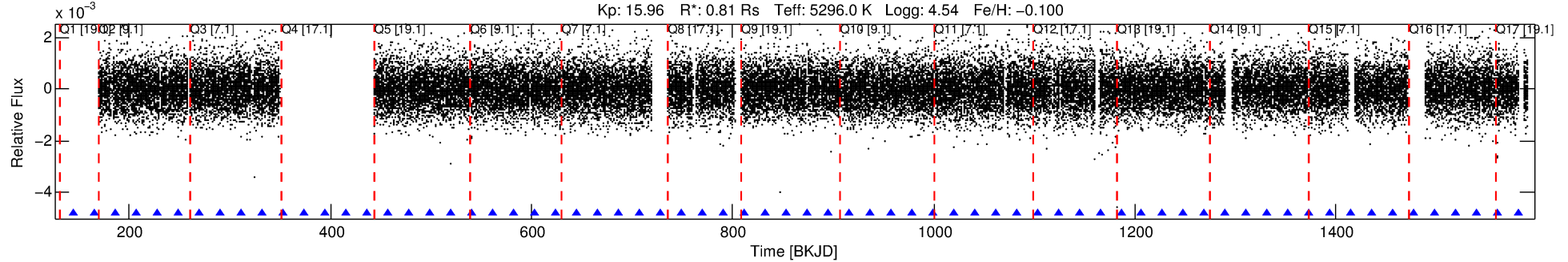
Ephemeris Match Information For 006962977-03

No Significant Match Found

DV One-Page Summary

KIC: 6962977 Candidate: 3 of 5 Period: 20.834 d
KOI: K01364.01 Name: Kepler-292f Corr: 0.963

Kp: 15.96 R*: 0.81 Rs Teff: 5296.0 K Logg: 4.54 Fe/H: -0.100



DV Fit Results:

Period = 20.83408 [0.00014] d
Epoch = 144.3711 [0.0053] BKJD
Rp/R* = 0.0297 [0.0035]
a/R* = 17.80 [8.32]
b = 0.88 [0.12]
Seff = 23.87 [3.17]
Teq = 564 [19] K
Rp = 2.62 [0.37] Re
a = 0.1388 [0.0095] AU
Ag = 167.21 [66.73] [2.49σ]
Teffp = 3134 [308] K [8.33σ]

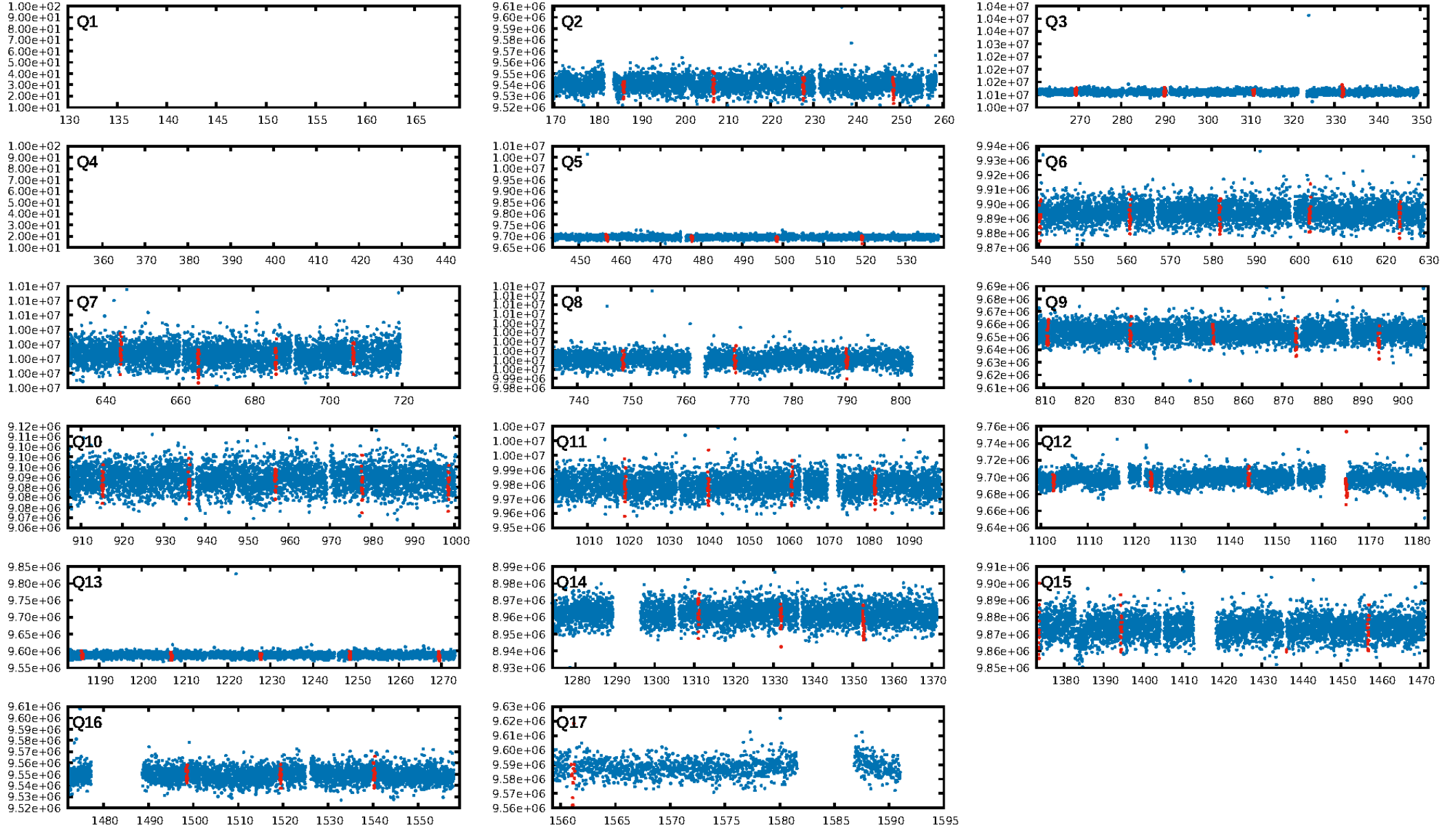
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [32.34σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.53e-90
RollingBand-fgt: 1.00 [53/53]
GhostDiagnostic-chr: 4.465
Centroid-sig: 0.0%
Centroid-so: 1.818 arcsec [2.81σ]
OotOffset-rm: 0.390 arcsec [1.32σ]
KicOffset-rm: 0.571 arcsec [1.83σ]
OotOffset-st: 3/4/3/2 [12]
KicOffset-st: 3/4/3/2 [12]
DiffImageQuality-fgm: 0.75 [9/12]
DiffImageOverlap-fno: 0.69 [9/13]

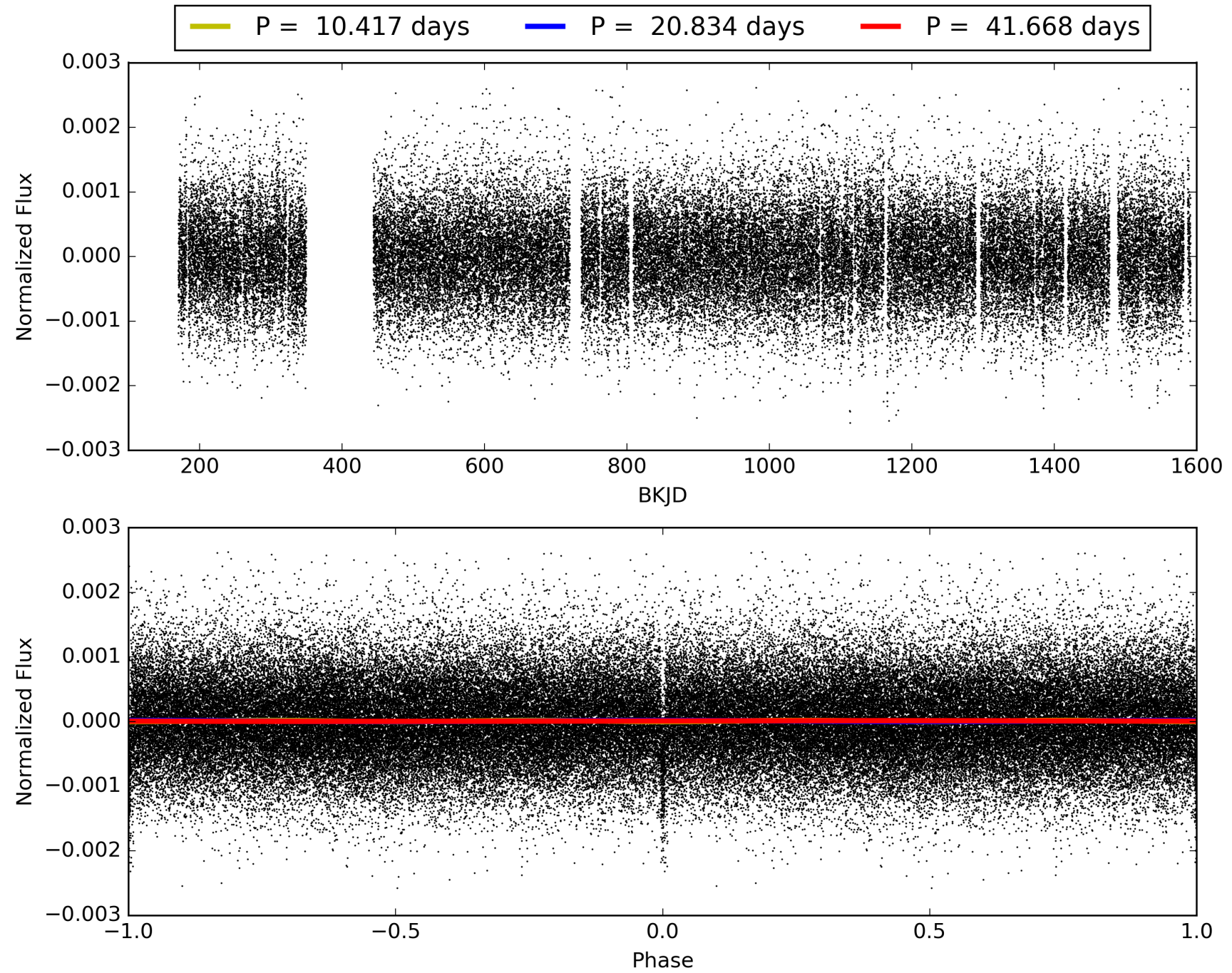
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:50:08 Z

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

TCE 006962977-03, PDC Light Curves

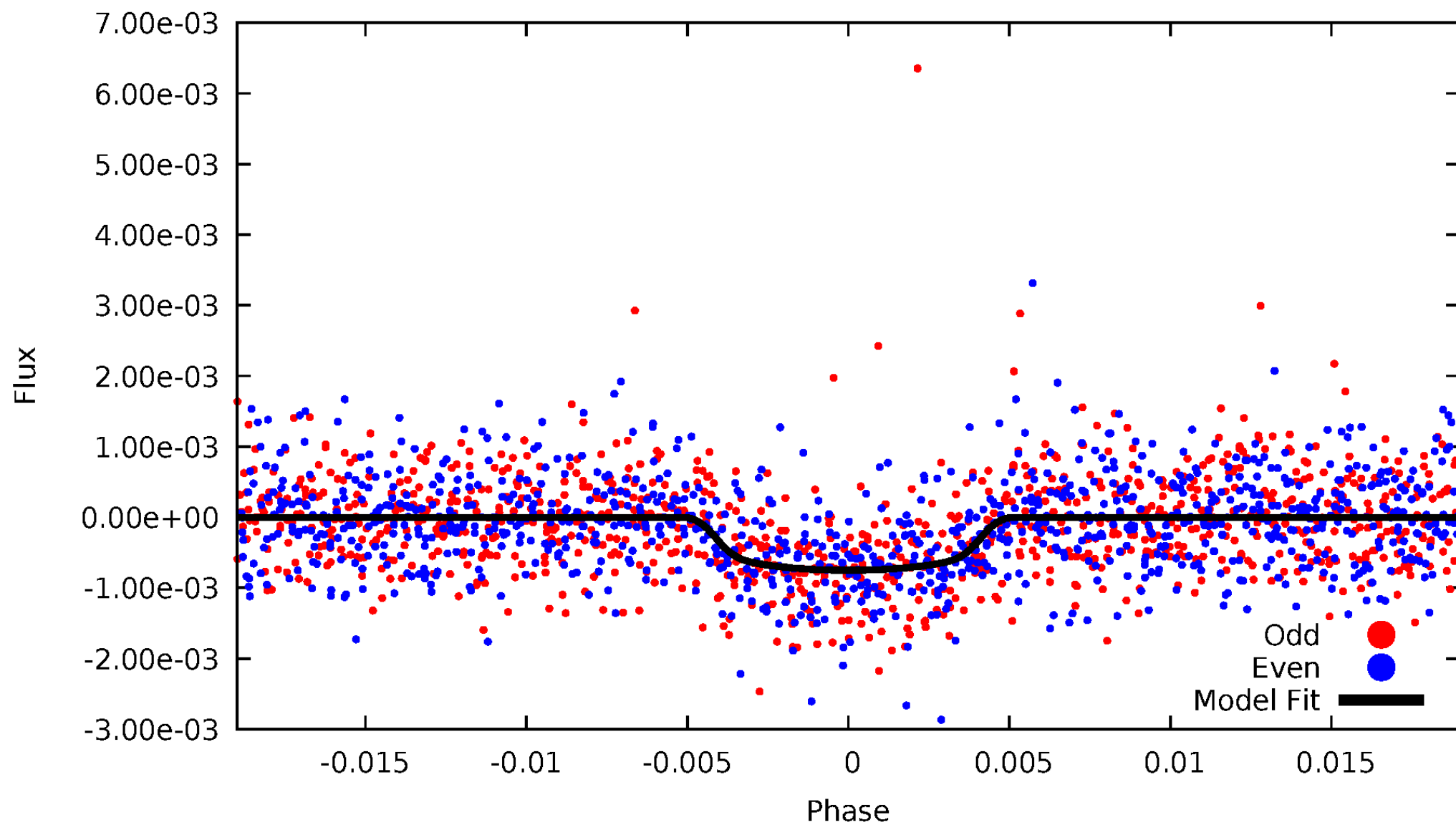


TCE 006962977-03



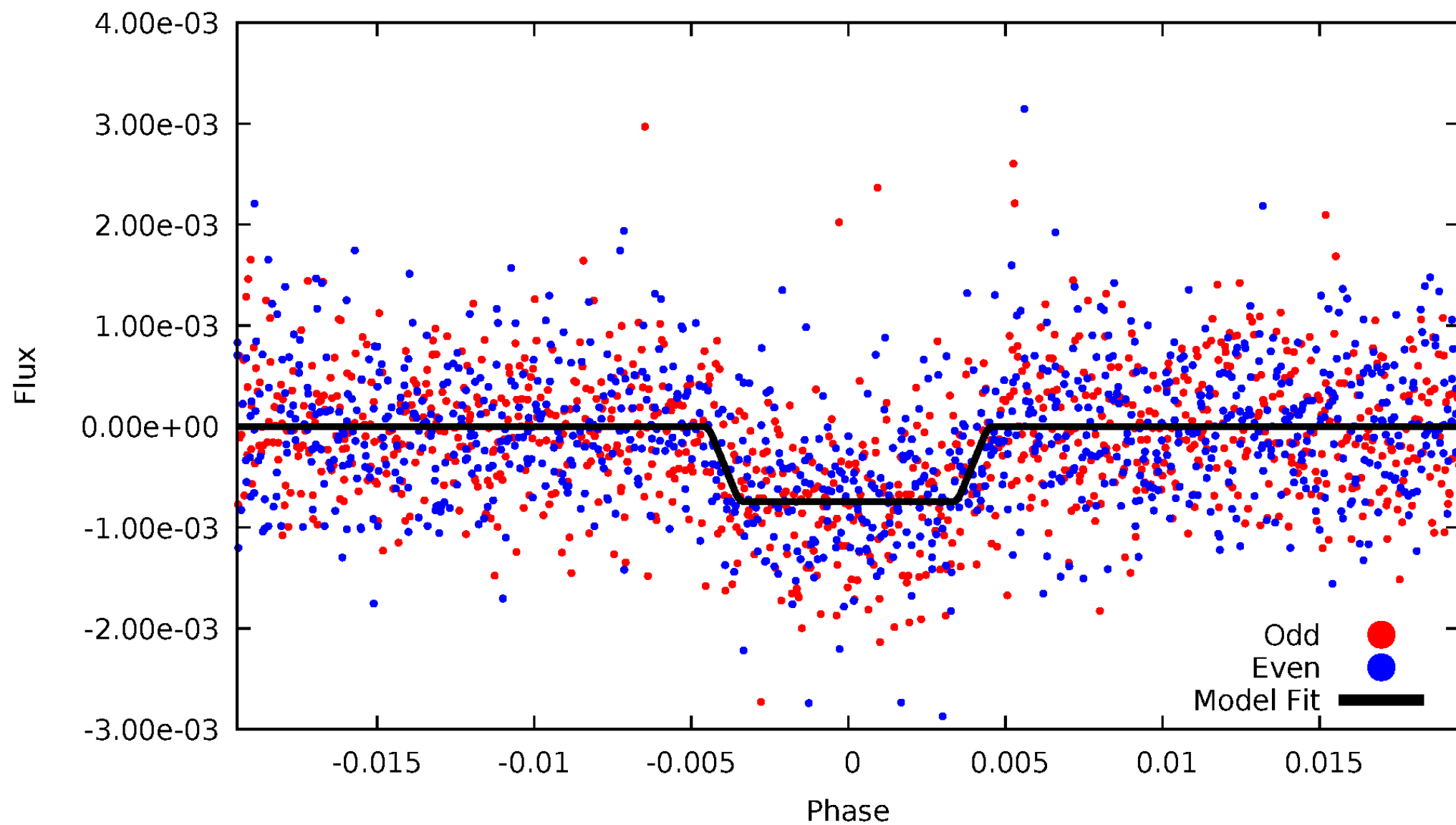
DV Odd/Even

TCE 006962977-03



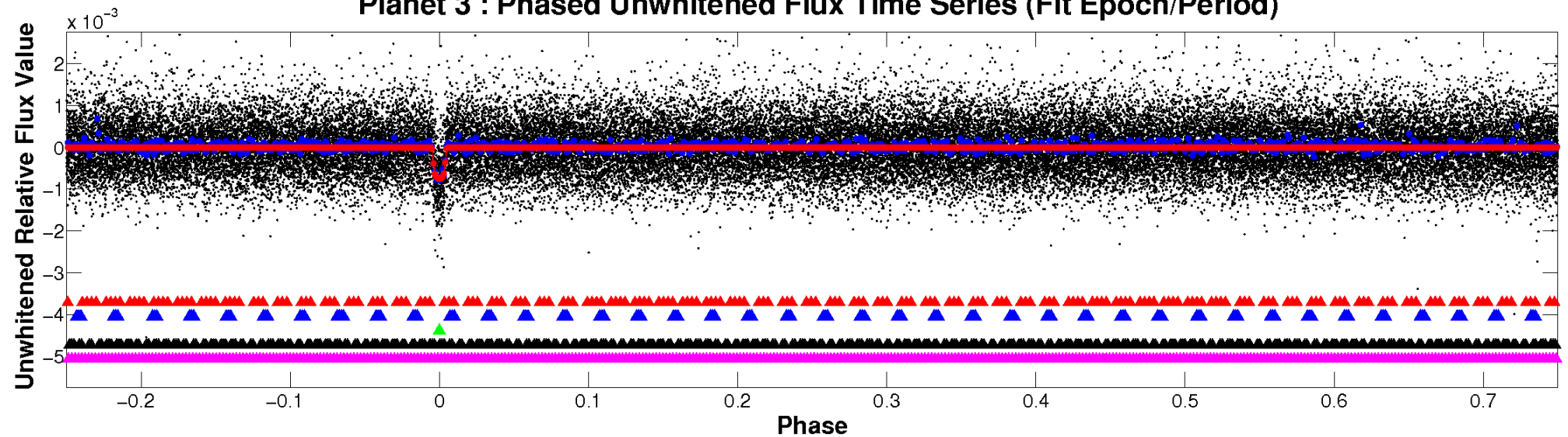
ALT Odd/Even

TCE 006962977-03

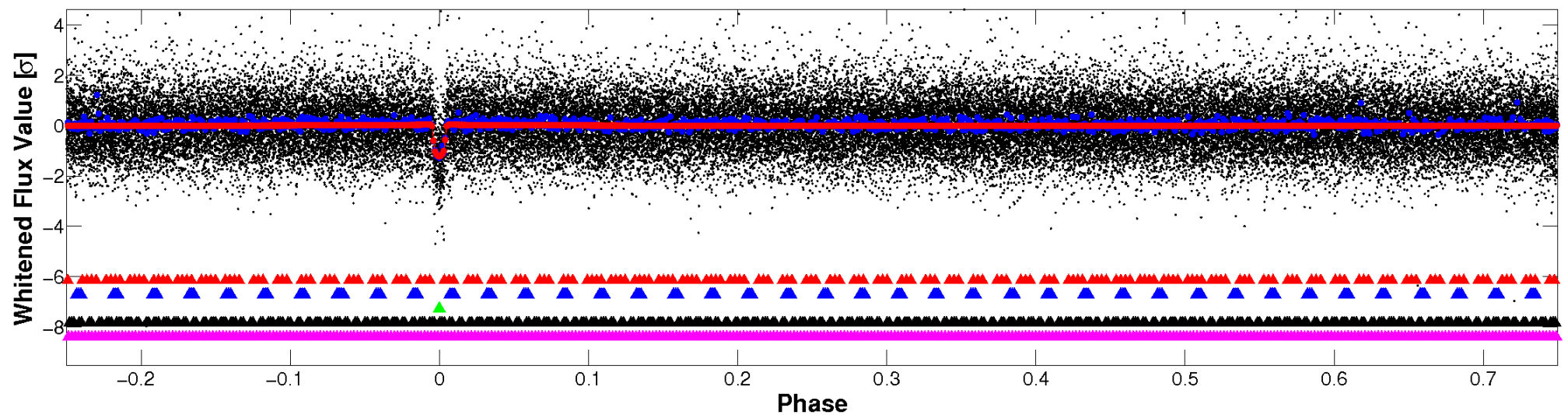


Non-Whitened Vs. Whitened Light Curve

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

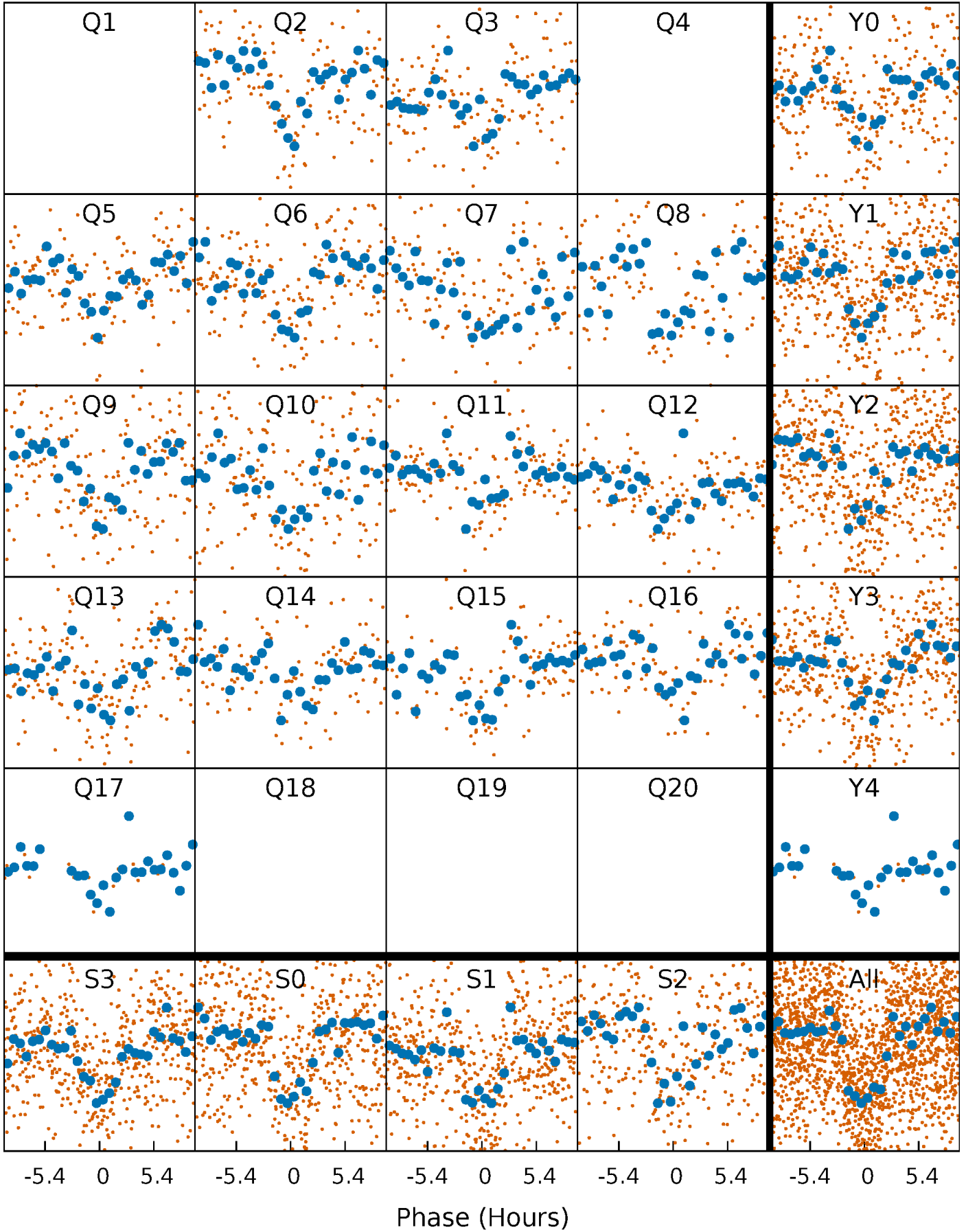


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



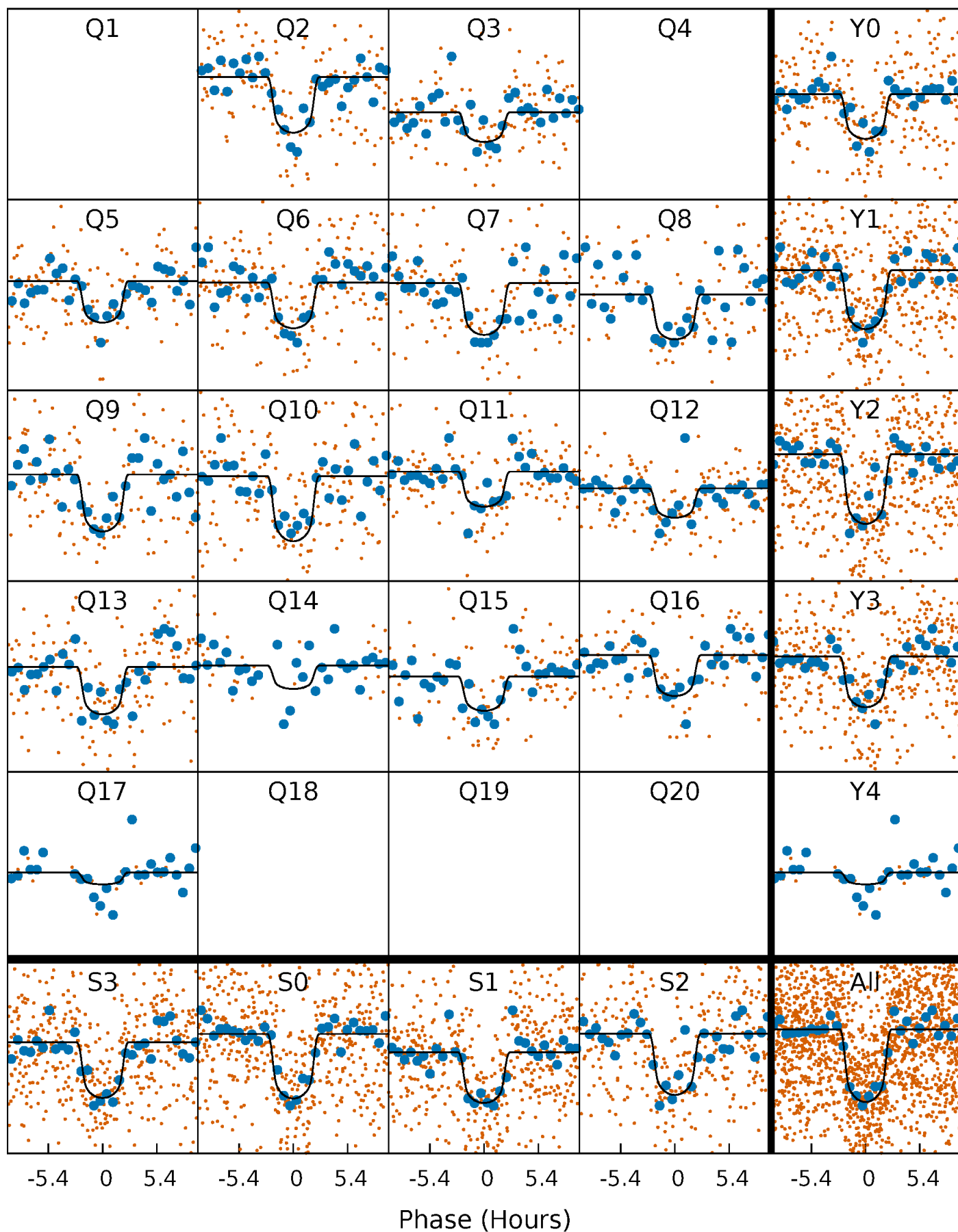
PDC Quarter-Phased Transit Curves

TCE 006962977-03 P= 20.834079 Days $T_0=144.371136$ (BKJD)



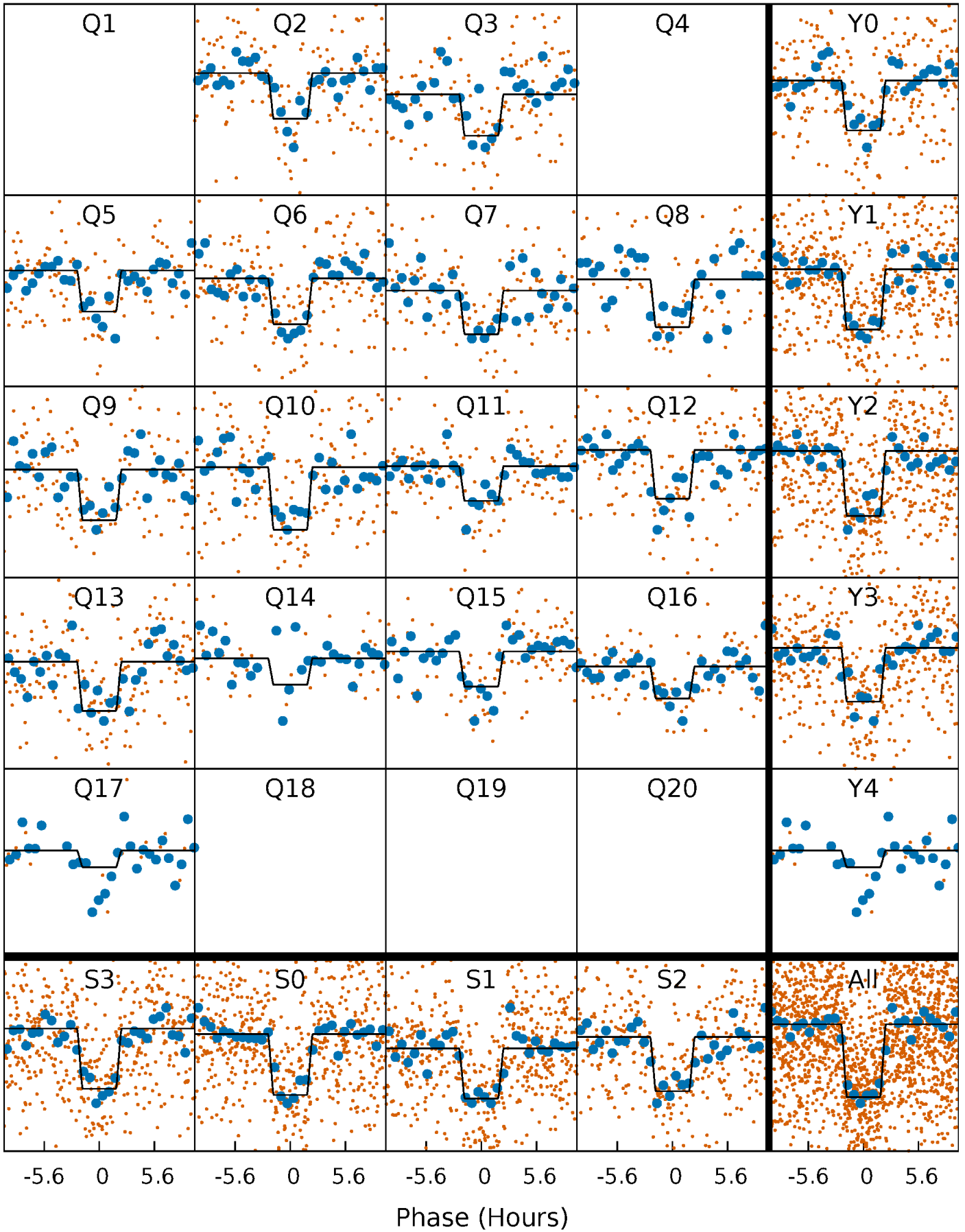
DV Quarter-Phased Transit Curves

TCE 006962977-03 P= 20.834079 Days $T_0=144.371136$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

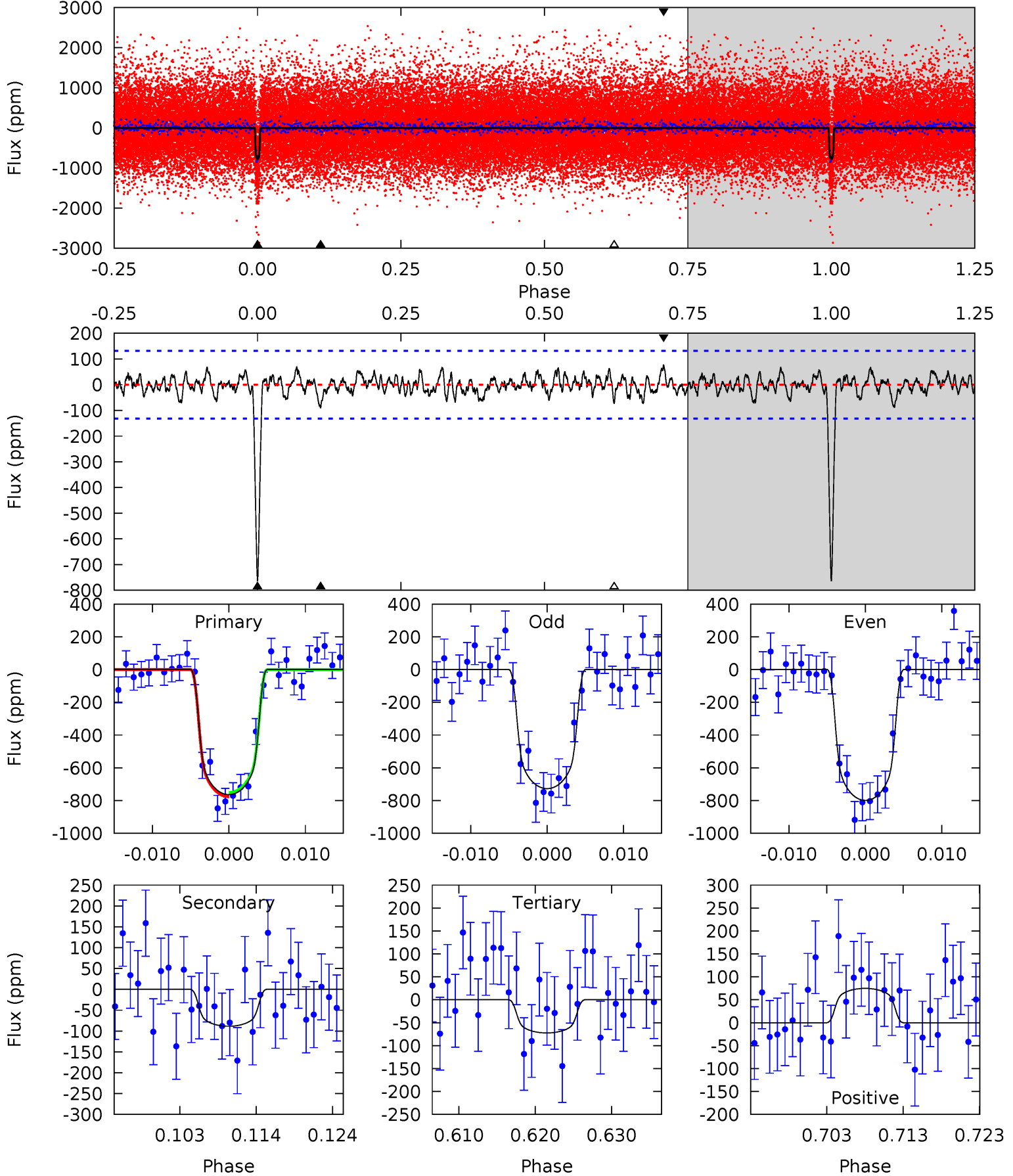
TCE 006962977-03 P= 20.834176 Days $T_0=144.367026$ (BKJD)



DV Model-Shift Uniqueness Test

006962977-03, $P = 20.834079$ Days, $E = 144.371136$ Days

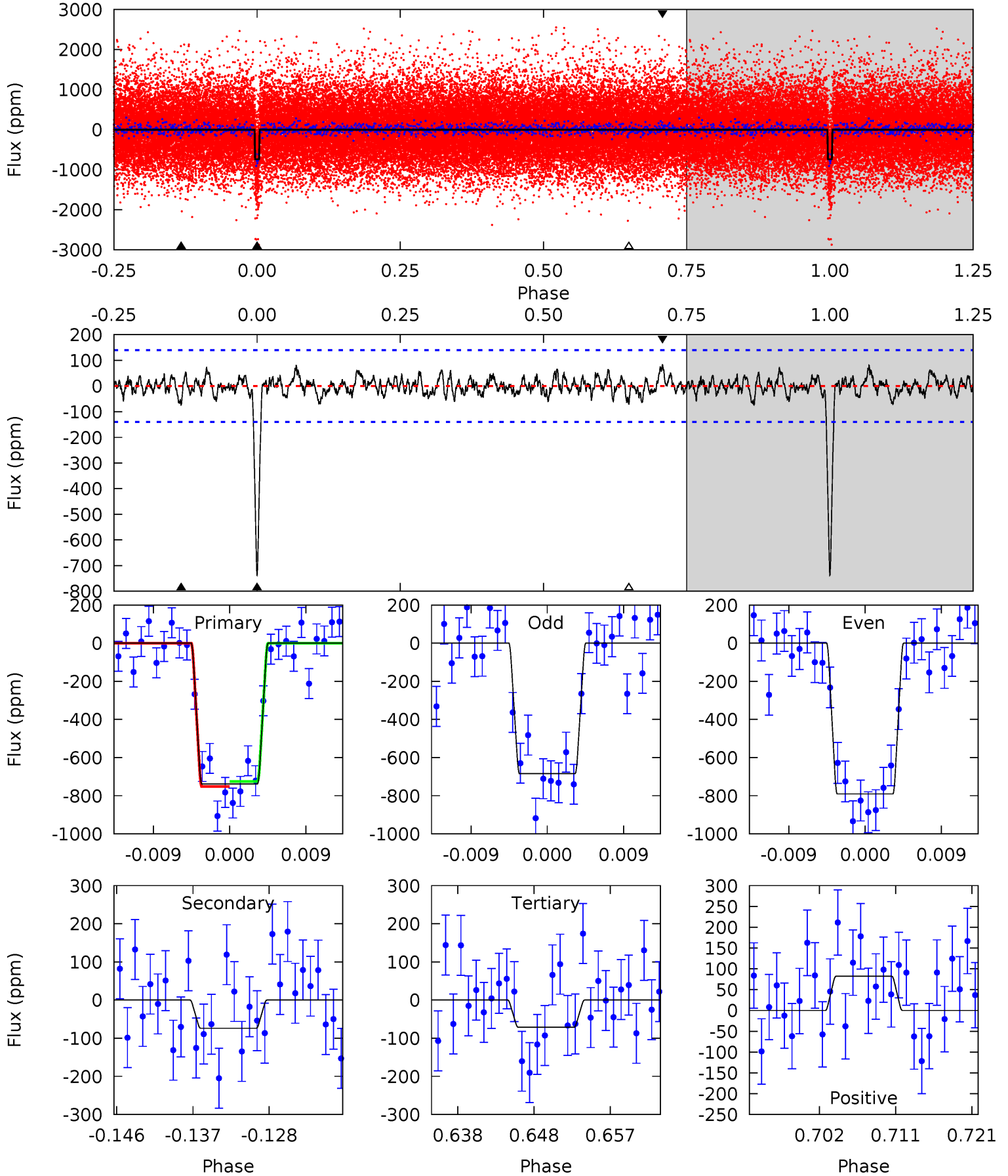
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.1	3.38	2.76	2.85	5.02	2.56	1.05	26.4	26.3	0.62	0.53	1.38	0.99	0.09	0.49



Alt Model-Shift Uniqueness Test

006962977-03, P = 20.834176 Days, E = 144.367026 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.6	2.66	2.58	2.96	5.04	2.61	0.95	24.0	23.6	0.09	-0.30	1.92	0.97	0.10	0.48



Stellar Parameters For KIC 006962977

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5296^{+106}_{-106}	$4.538^{+0.044}_{-0.061}$	$-0.100^{+0.150}_{-0.150}$	$0.808^{+0.060}_{-0.049}$	$0.821^{+0.052}_{-0.042}$	$2.191^{+0.392}_{-0.399}$
	+2%/-2%	+1%/-1%	+150%/-150%	+7%/-6%	+6%/-5%	+18%/-18%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 006962977-03 / KOI 1364.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-89 ± 26	$2.67^{+0.30}_{-0.34}$	790^{+21}_{-21}	3436^{+235}_{-206}	130^{+65}_{-42}
Alt.	-74 ± 28	$2.44^{+0.35}_{-0.32}$	790^{+24}_{-19}	3426^{+251}_{-250}	127^{+70}_{-51}

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 $A_{obs} \gg 1.0$

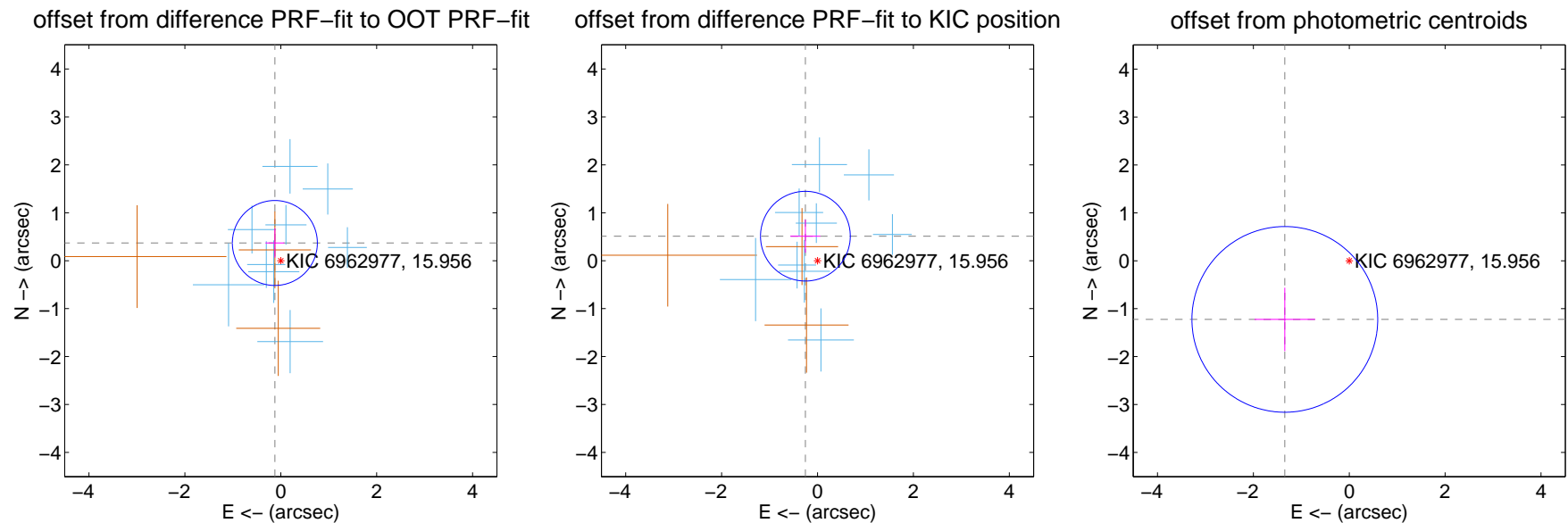
DV Centroid Data

Supplemental centroid analysis for 006962977-03. Kepler magnitude: 15.96. Transit SNR 21.52

There are 9 quarters with good PRF difference image offsets

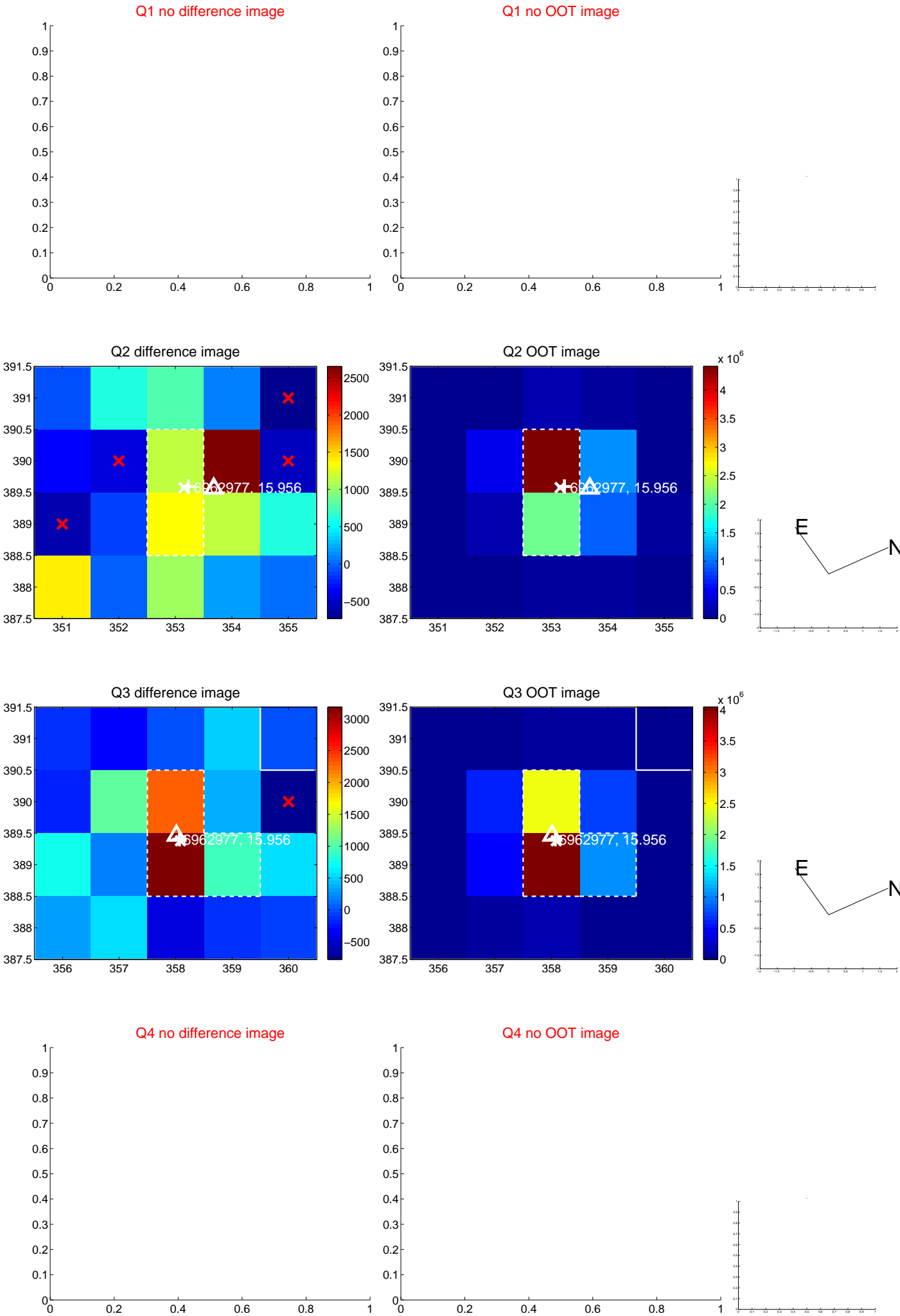
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.390 ± 0.295	1.32	0.124 ± 0.196	0.370 ± 0.305
PRF-fit source offset from KIC position	0.571 ± 0.312	1.83	0.253 ± 0.314	0.512 ± 0.345
photometric centroid source offset	1.82 ± 0.65	2.81	1.34 ± 0.63	-1.22 ± 0.66

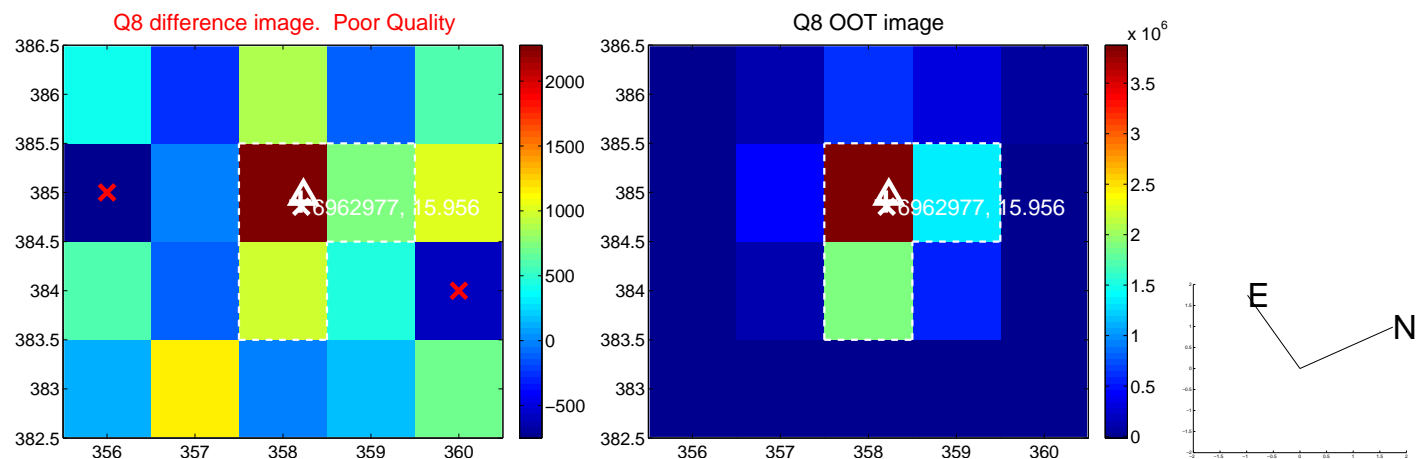
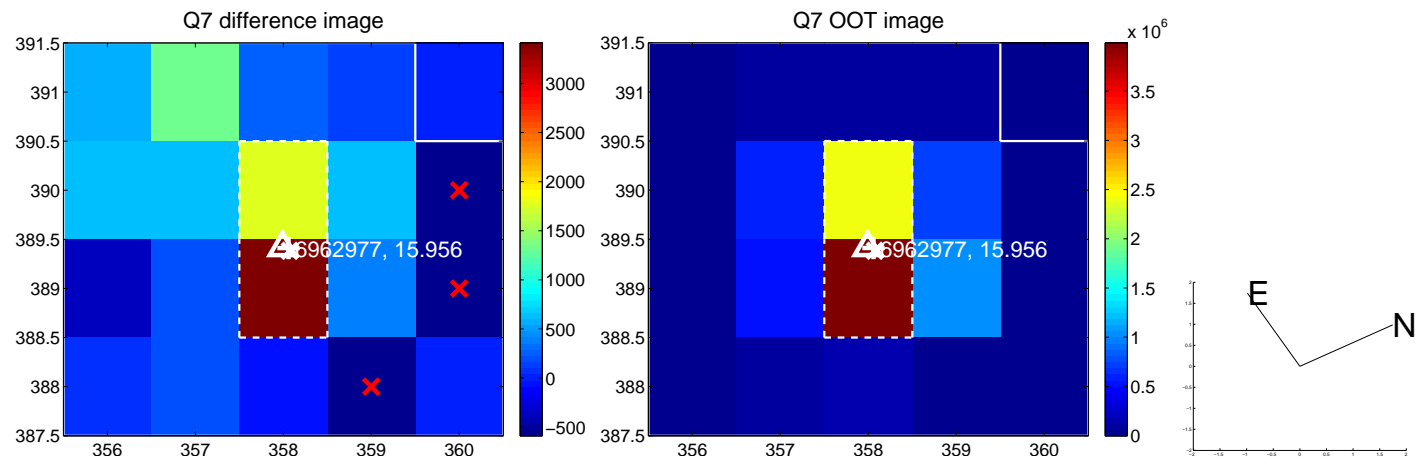
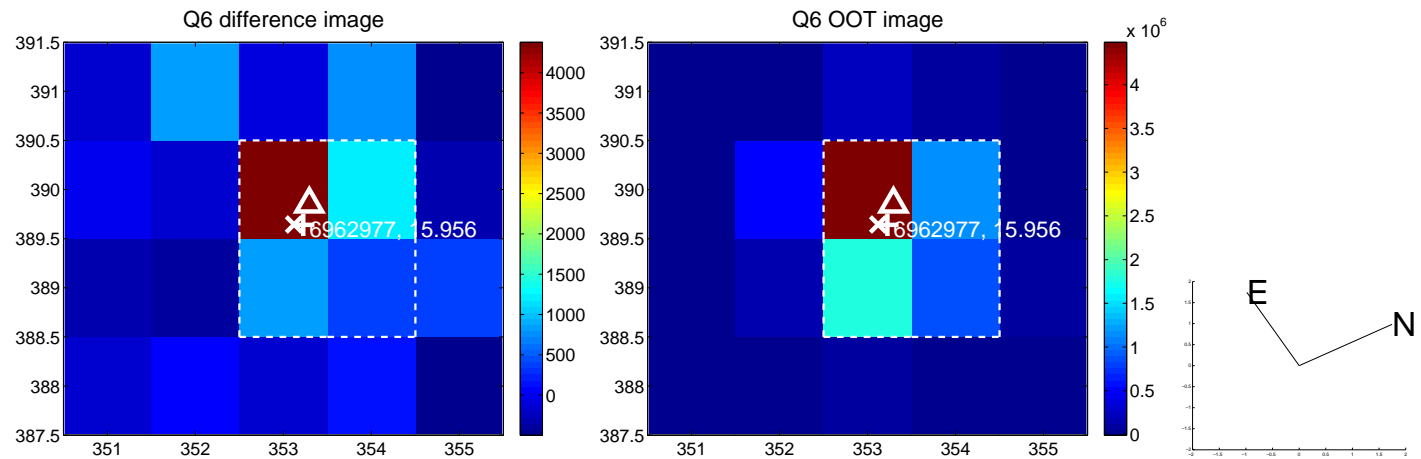
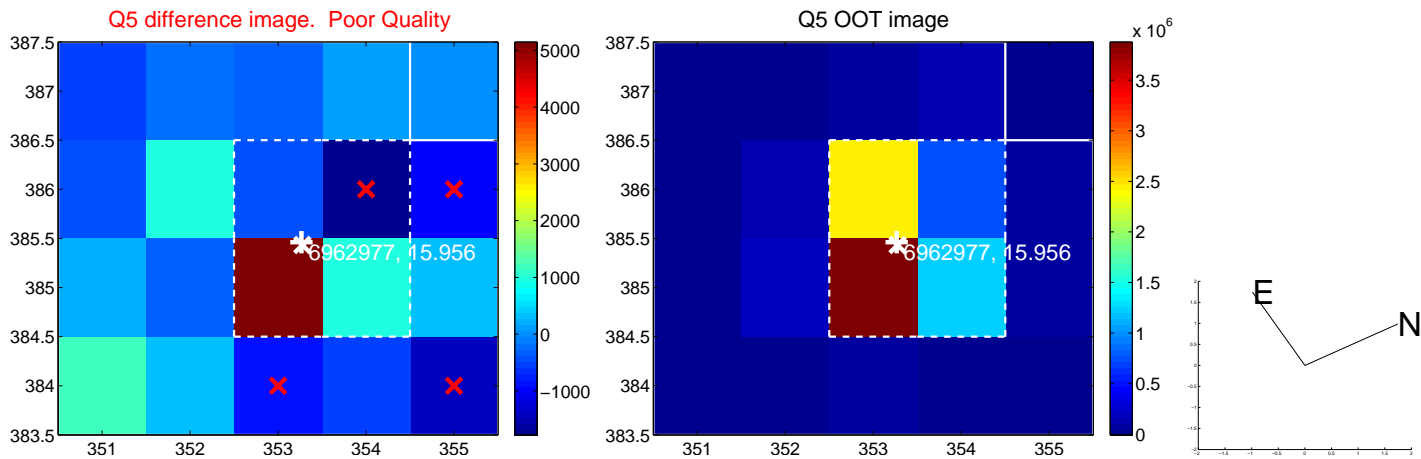


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

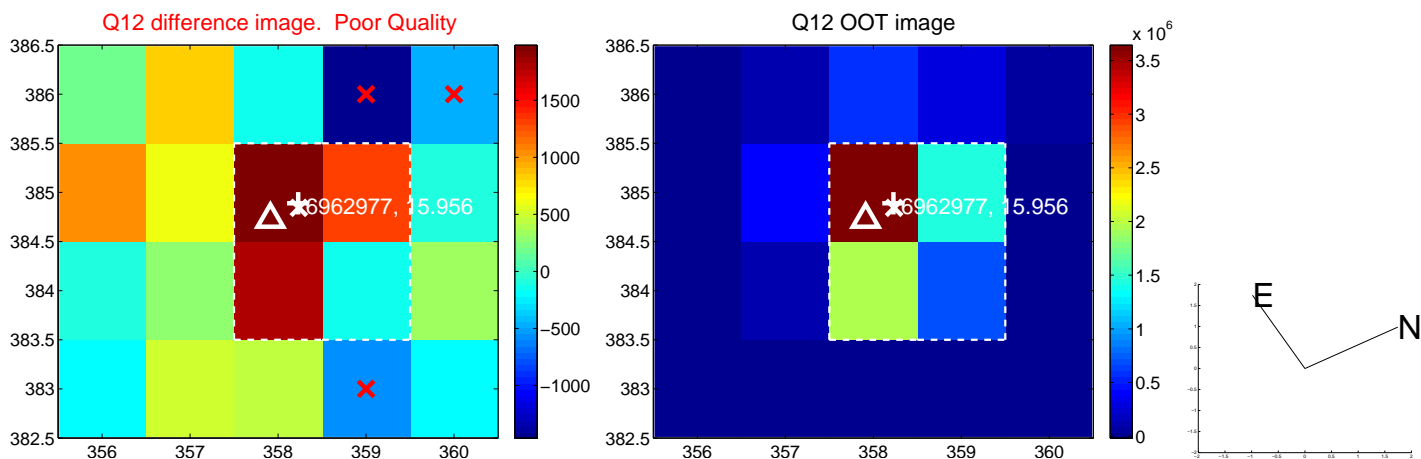
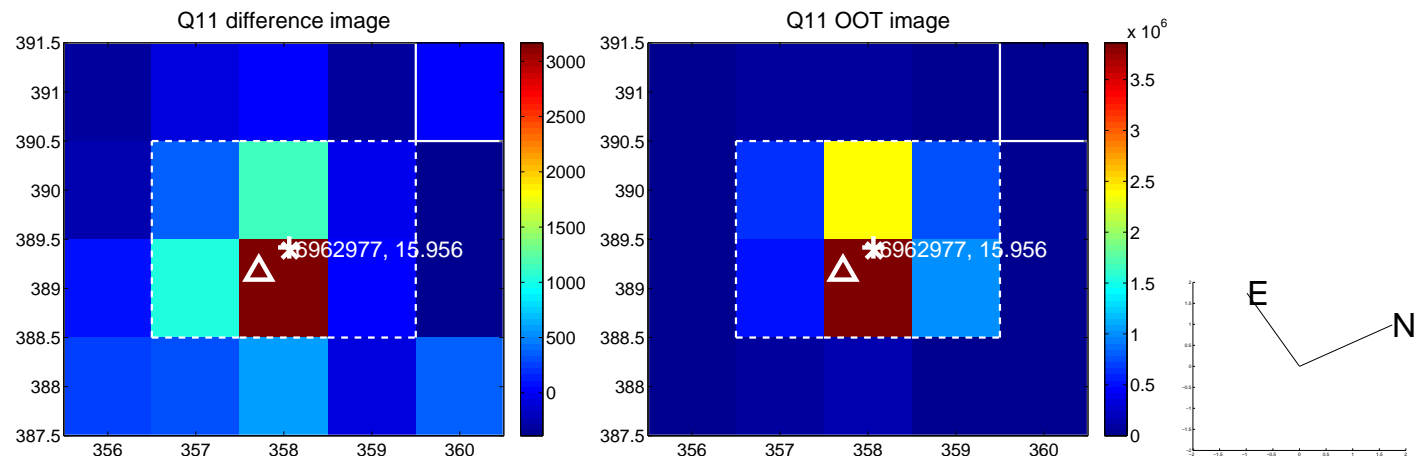
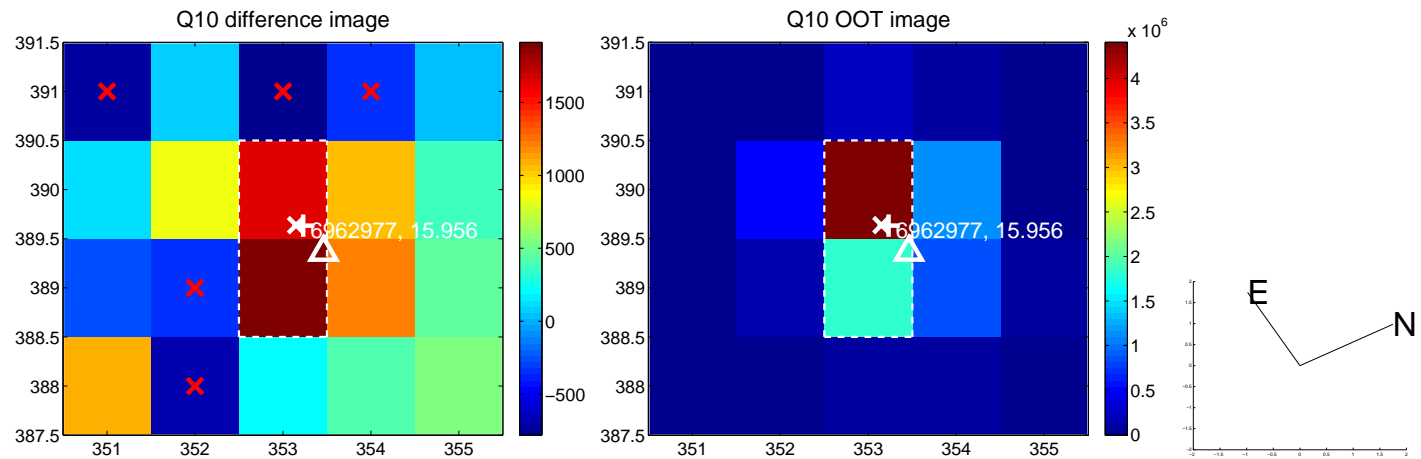
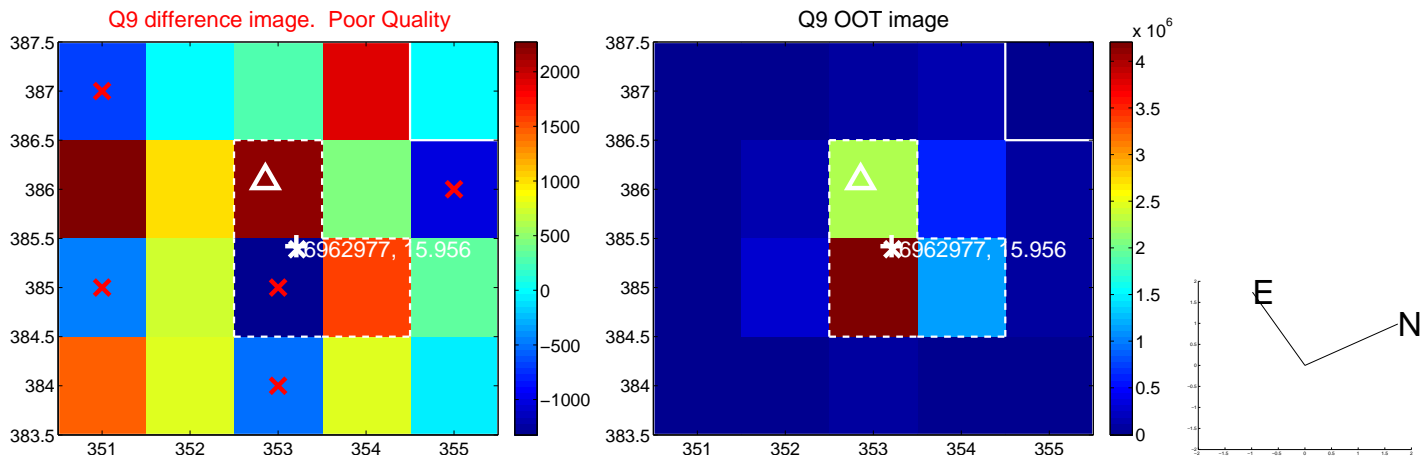
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



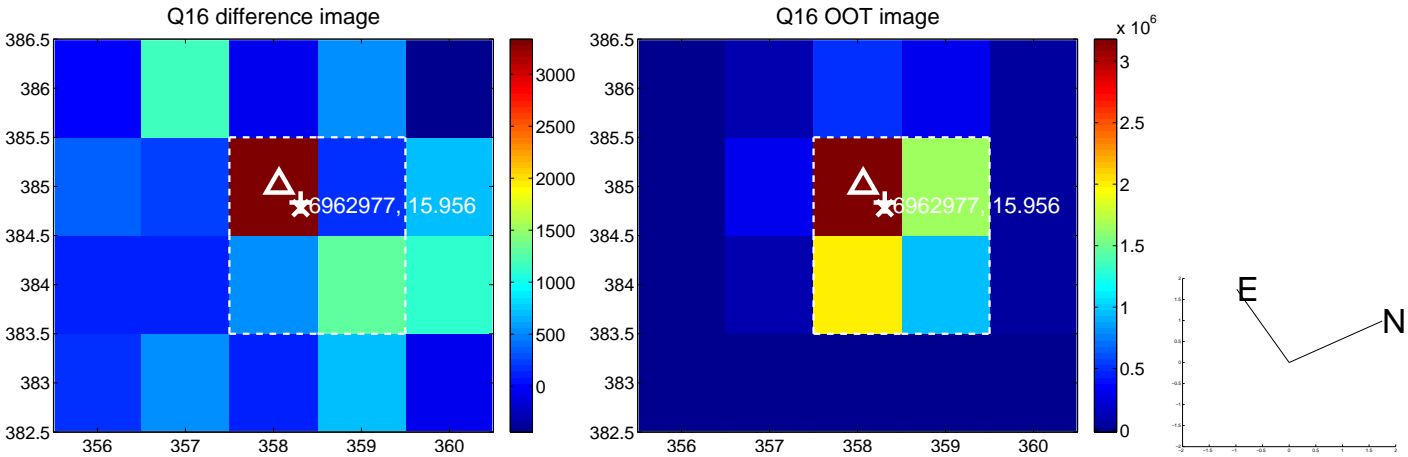
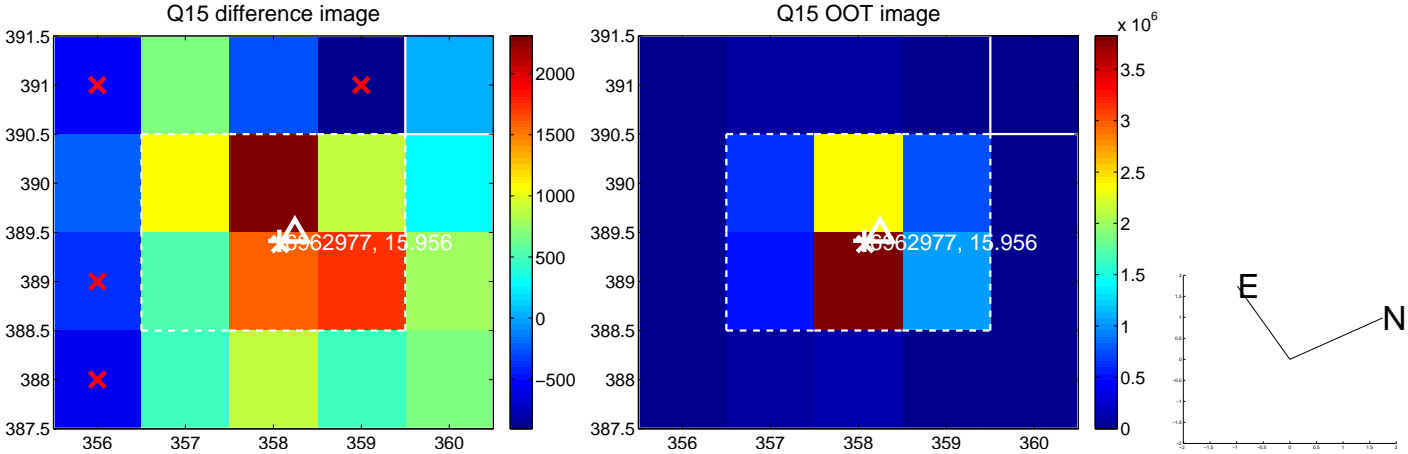
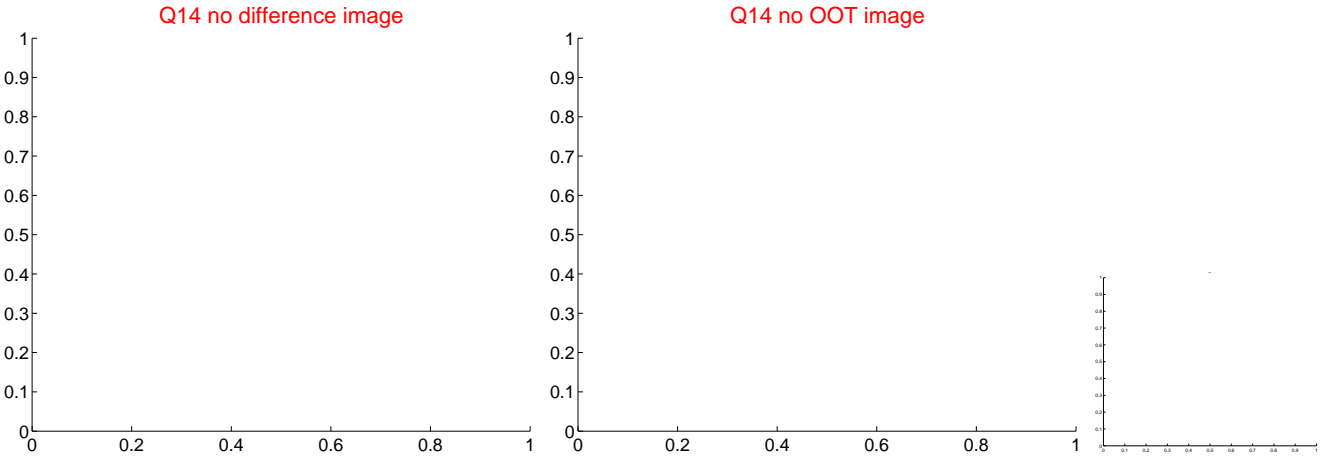
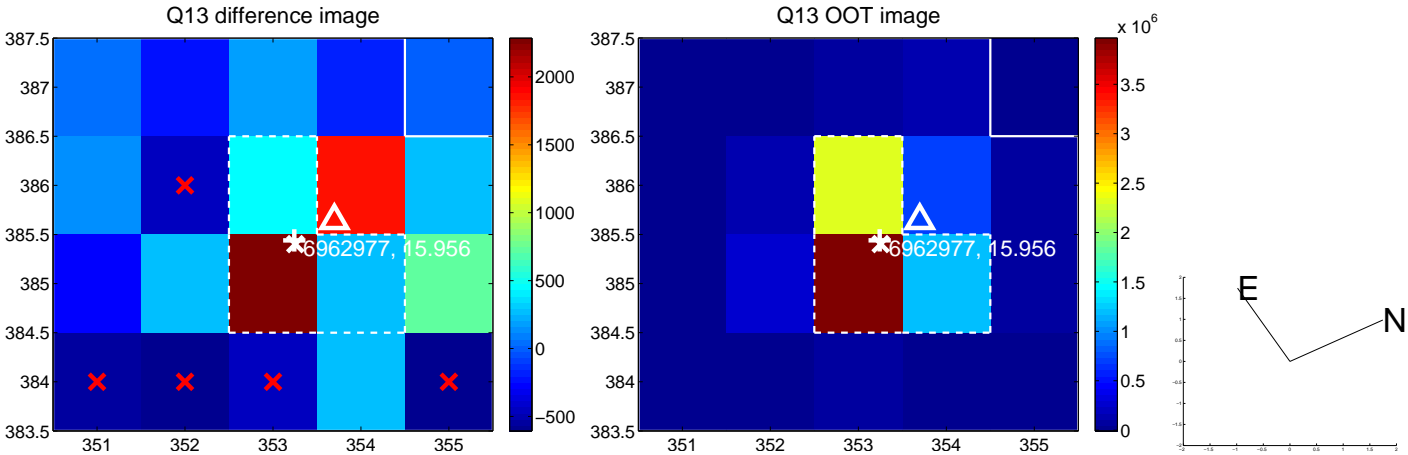
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



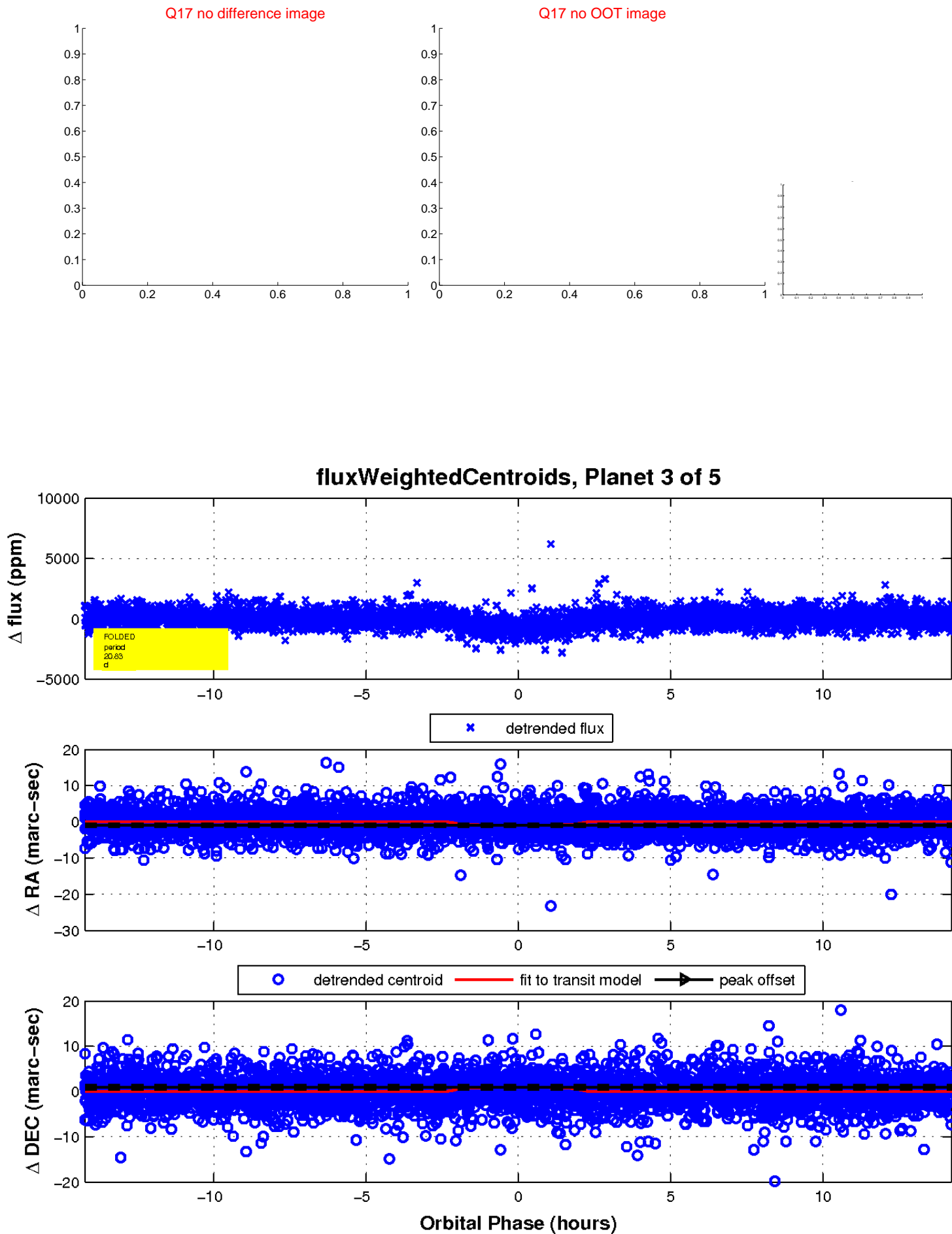
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

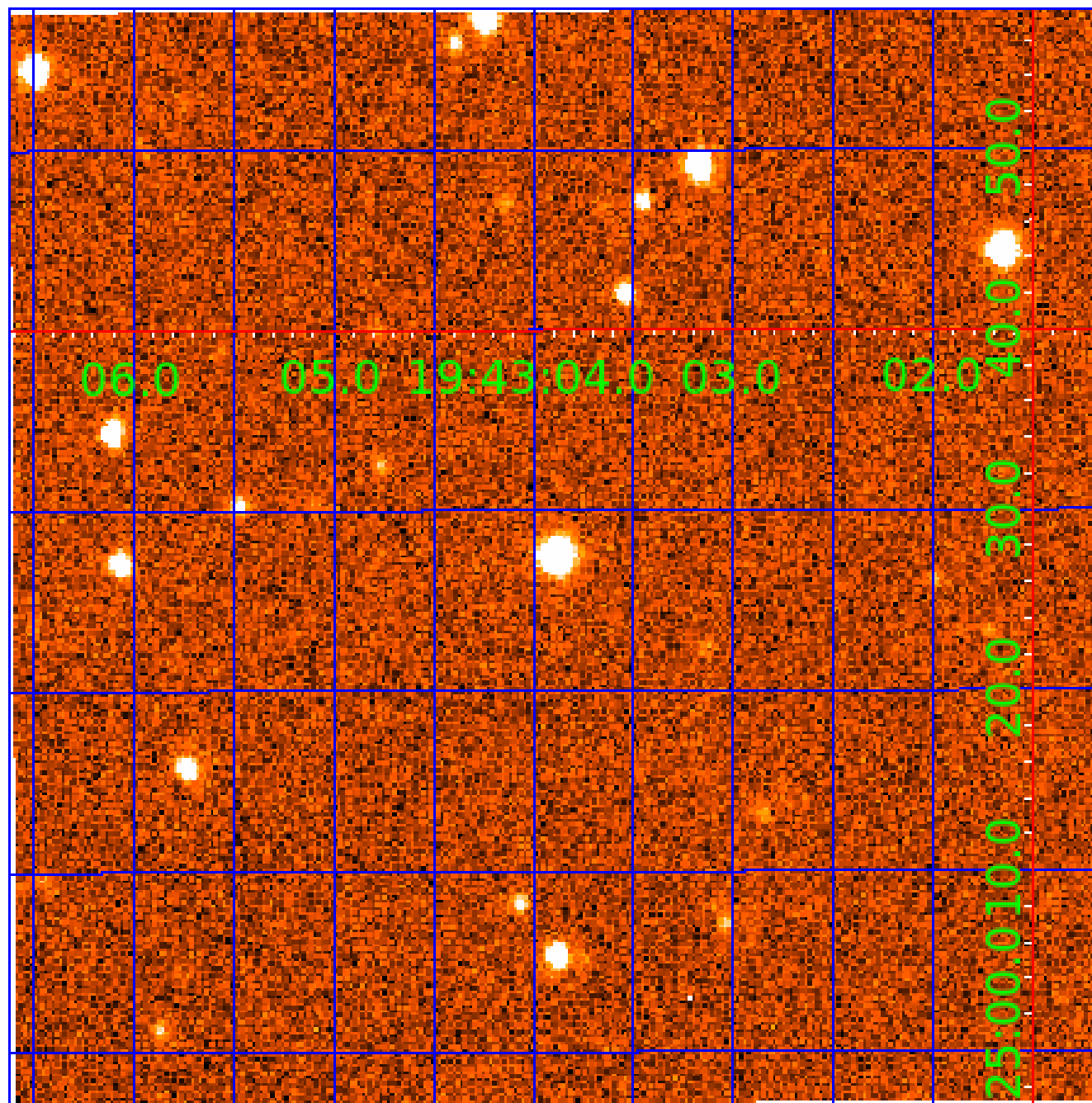


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006962977

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})
006962977-01	OBS	1364.02	7.055660	132.521454	663.1	3.135	26.1	27.7	0.81	5296	2.23	101.14
006962977-02	OBS	1364.03	11.978854	143.032243	682.9	4.548	22.1	23.7	0.81	5296	2.74	49.94
006962977-03	OBS	1364.01	20.834079	144.371136	750.1	4.744	19.9	21.5	0.81	5296	2.62	23.87
006962977-04	OBS	1364.04	3.715435	132.632860	317.8	3.235	14.9	16.3	0.81	5296	2.00	237.84
006962977-05	OBS	1364.05	2.580802	132.852773	249.2	2.107	13.4	13.9	0.81	5296	1.37	386.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006962977-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-04	OBS	PC	0.86	0	0	0	0	NO_COMMENT
006962977-05	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

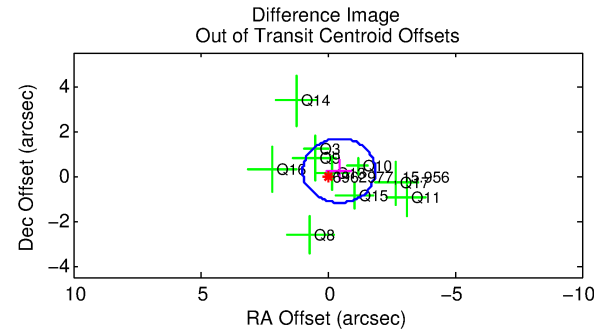
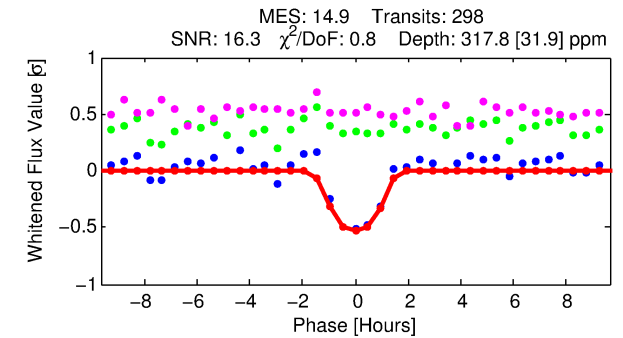
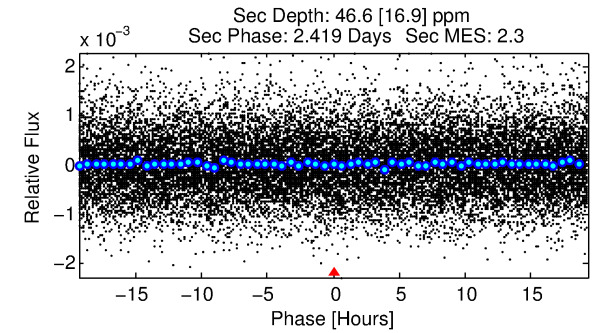
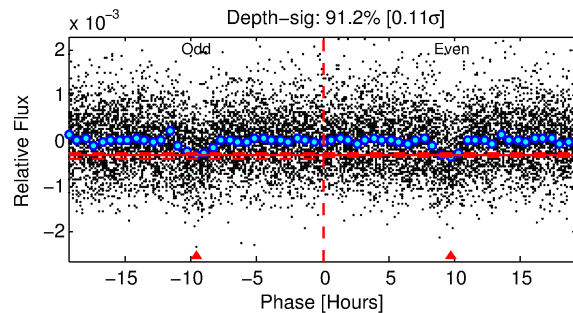
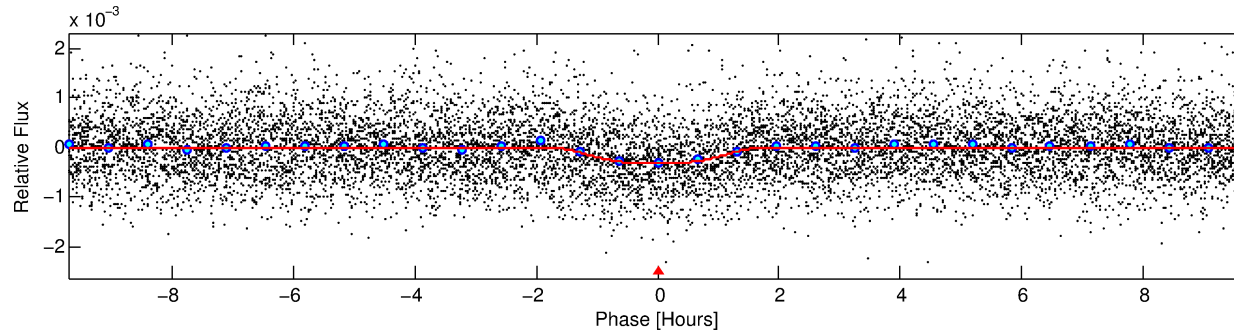
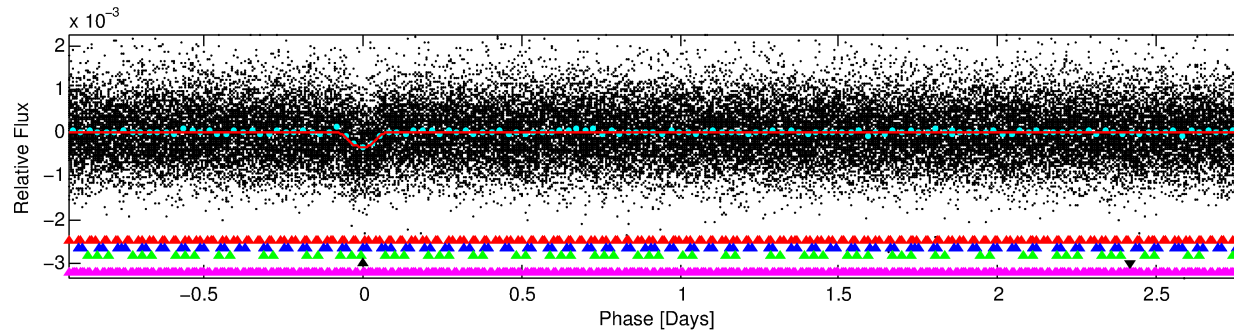
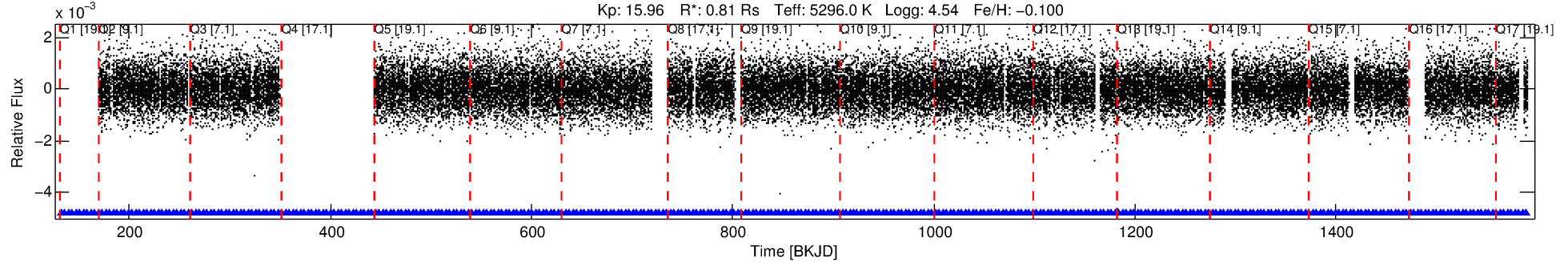
Ephemeris Match Information For 006962977-04

No Significant Match Found

DV One-Page Summary

KIC: 6962977 Candidate: 4 of 5 Period: 3.715 d
KOI: K01364.04 Name: Kepler-292c Corr: 0.883

Kp: 15.96 R*: 0.81 Rs Teff: 5296.0 K Logg: 4.54 Fe/H: -0.100



DV Fit Results:

Period = 3.71543 [0.00002] d
Epoch = 132.6329 [0.0044] BKJD
Rp/R* = 0.0227 [0.0018]
a/R* = 2.90 [0.46]
b = 0.97 [0.01]
Seff = 237.84 [31.58]
Teq = 1001 [33] K
Rp = 2.00 [0.22] Re
a = 0.0440 [0.0030] AU
Ag = 12.42 [5.10] [2.24σ]
Teffp = 2906 [294] K [6.43σ]

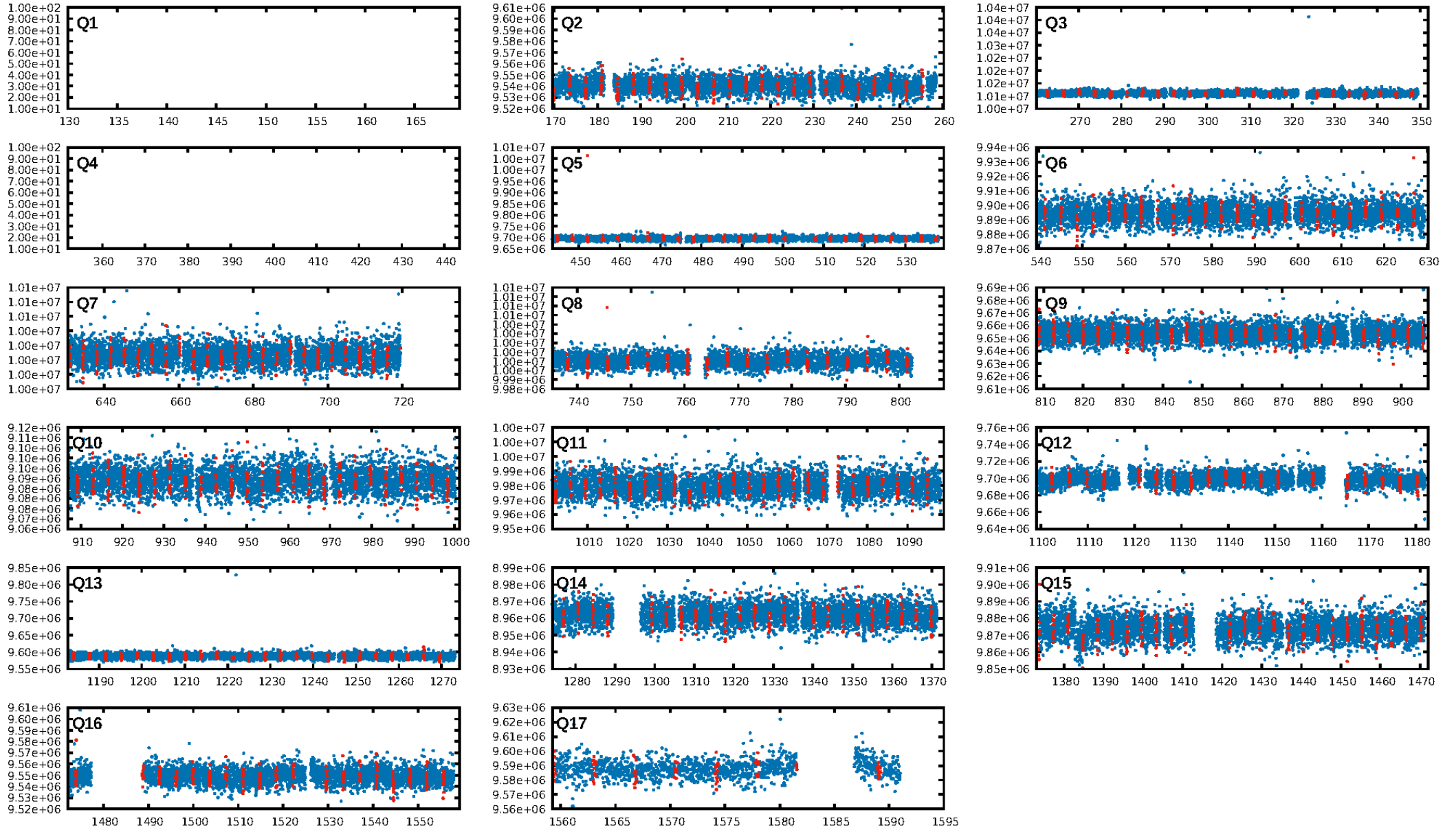
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.05σ]
LongPeriod-sig: 100.0% [17.80σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.68e-54
RollingBand-fgt: 1.00 [290/290]
GhostDiagnostic-chr: 9.936
Centroid-sig: 58.2%
Centroid-so: 0.565 arcsec [0.67σ]
OotOffset-rm: 0.508 arcsec [1.07σ]
KicOffset-rm: 0.532 arcsec [1.12σ]
OotOffset-st: 2/3/2/3 [10]
KicOffset-st: 2/3/2/3 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 1.00 [15/15]

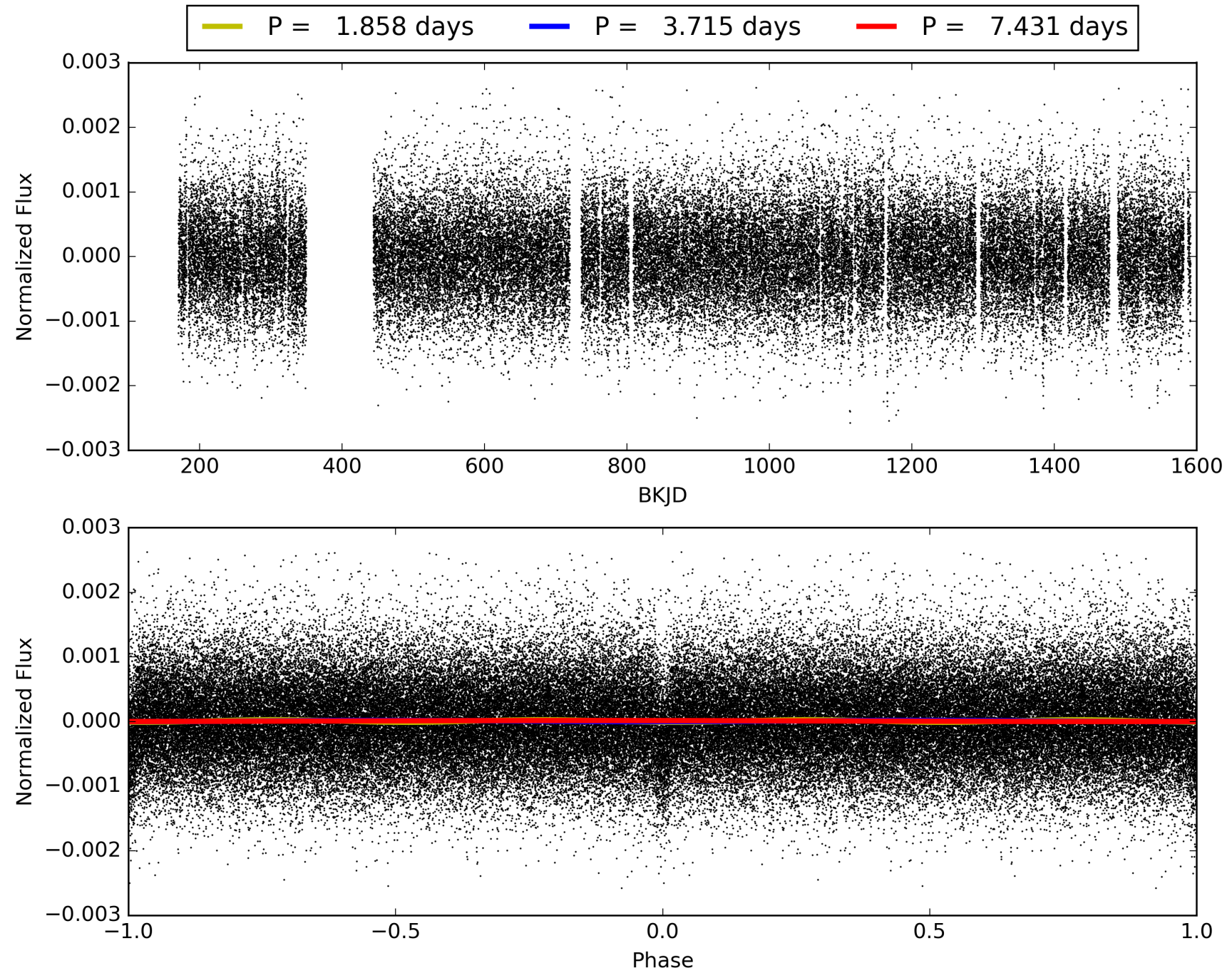
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:50:14 Z

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

TCE 006962977-04, PDC Light Curves

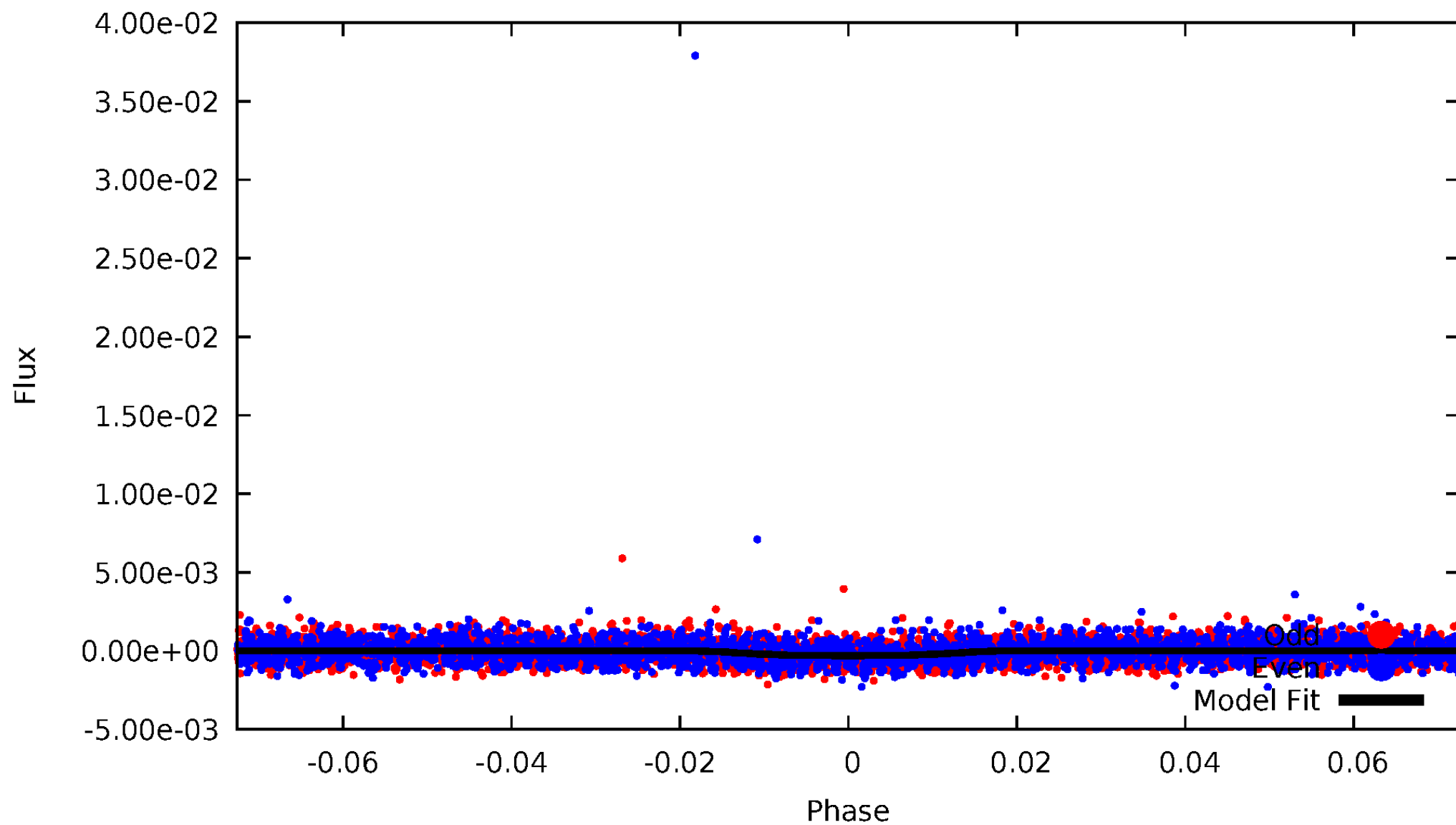


TCE 006962977-04



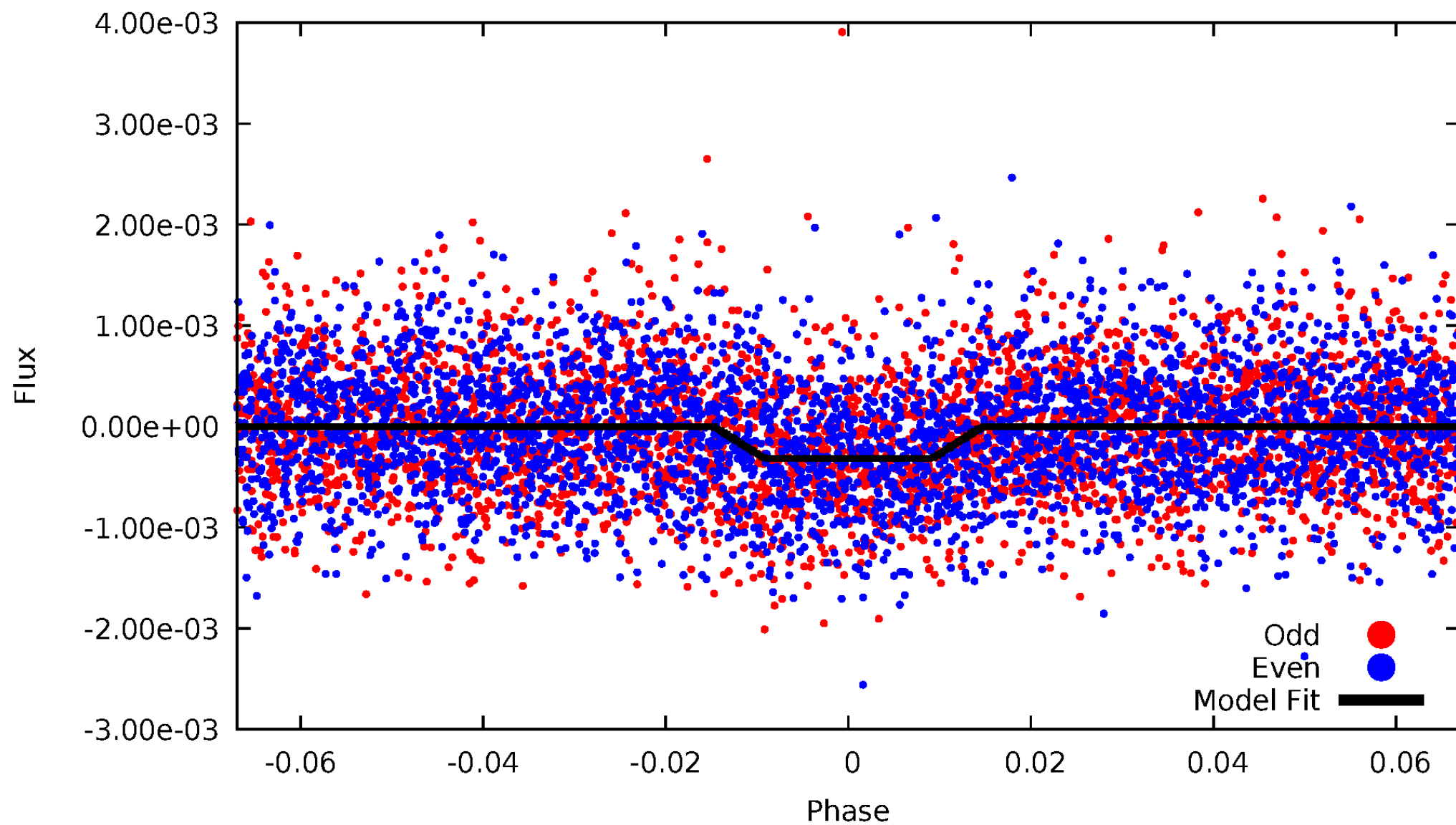
DV Odd/Even

TCE 006962977-04



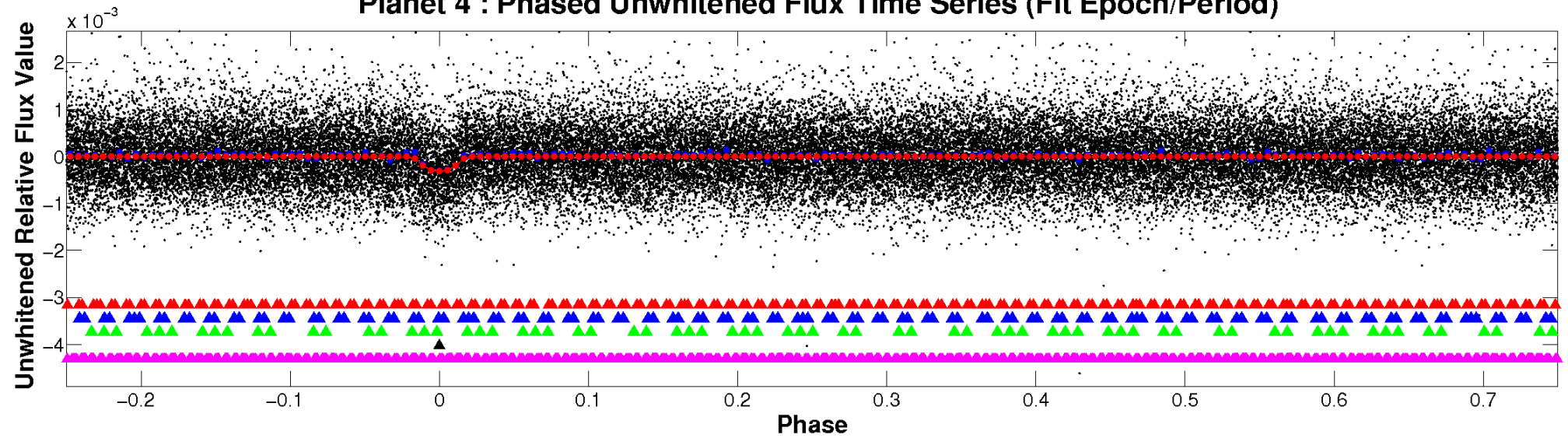
ALT Odd/Even

TCE 006962977-04

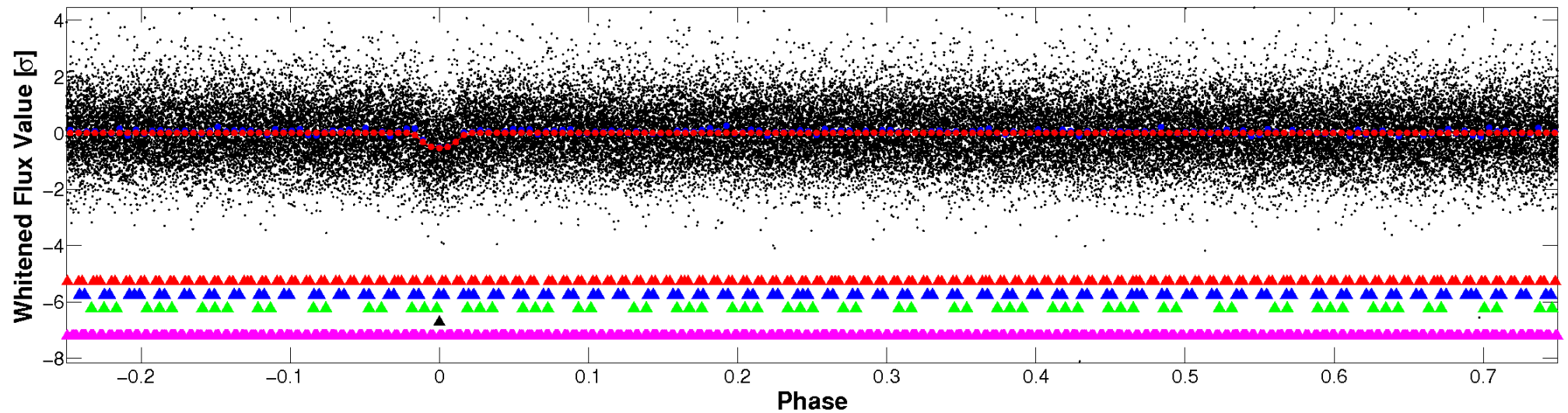


Non-Whitened Vs. Whitened Light Curve

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

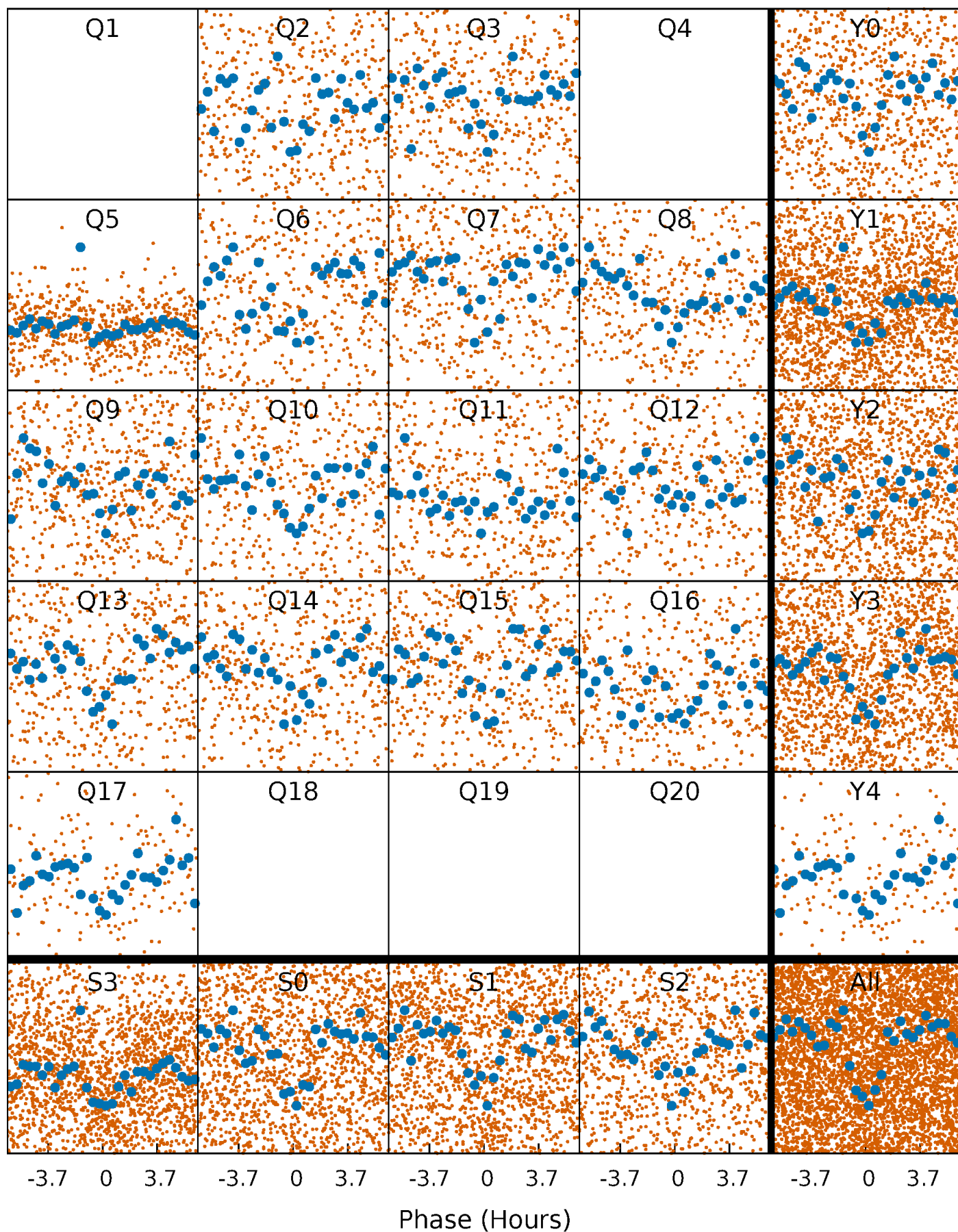


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



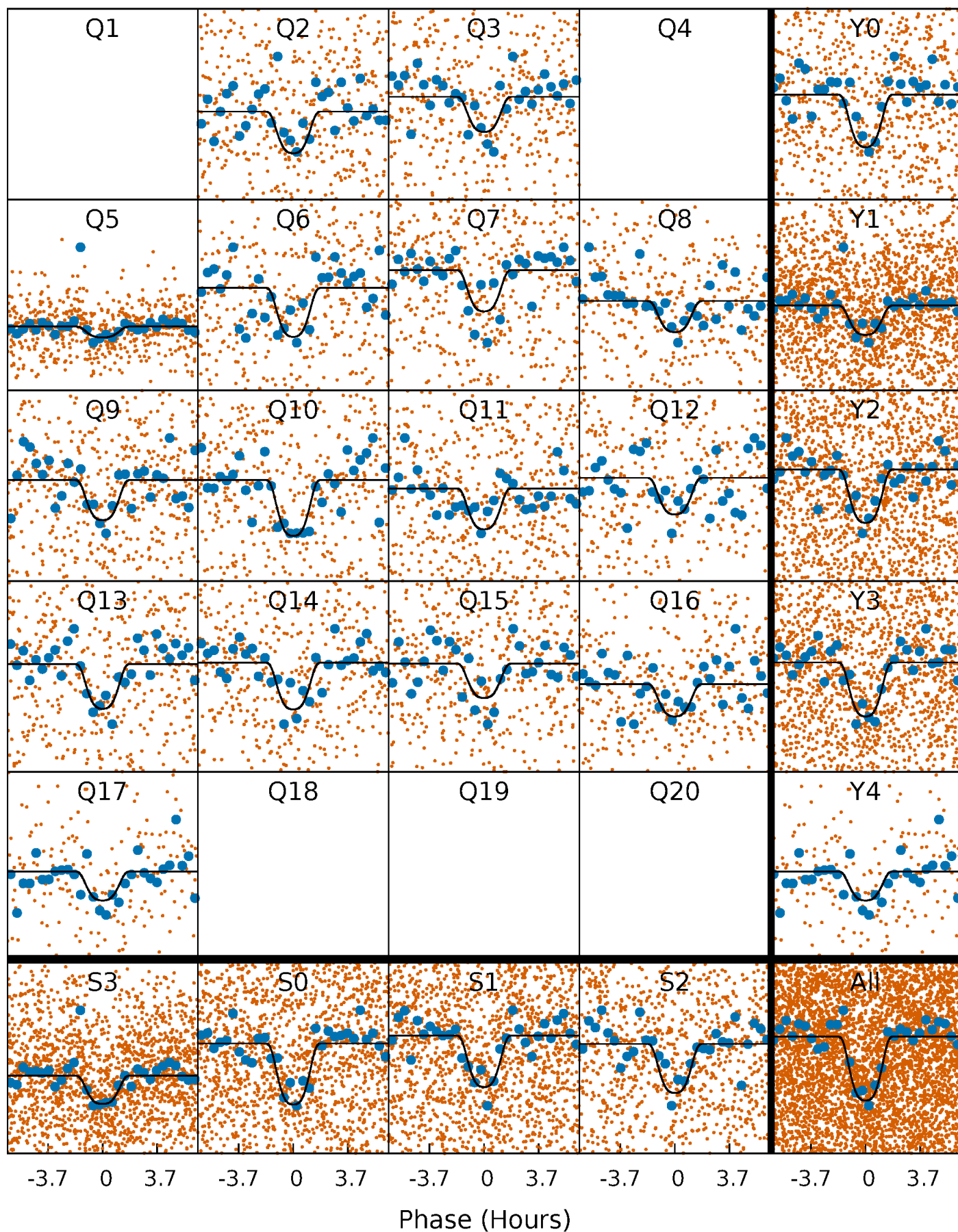
PDC Quarter-Phased Transit Curves

TCE 006962977-04 P= 3.715435 Days $T_0=132.632860$ (BKJD)



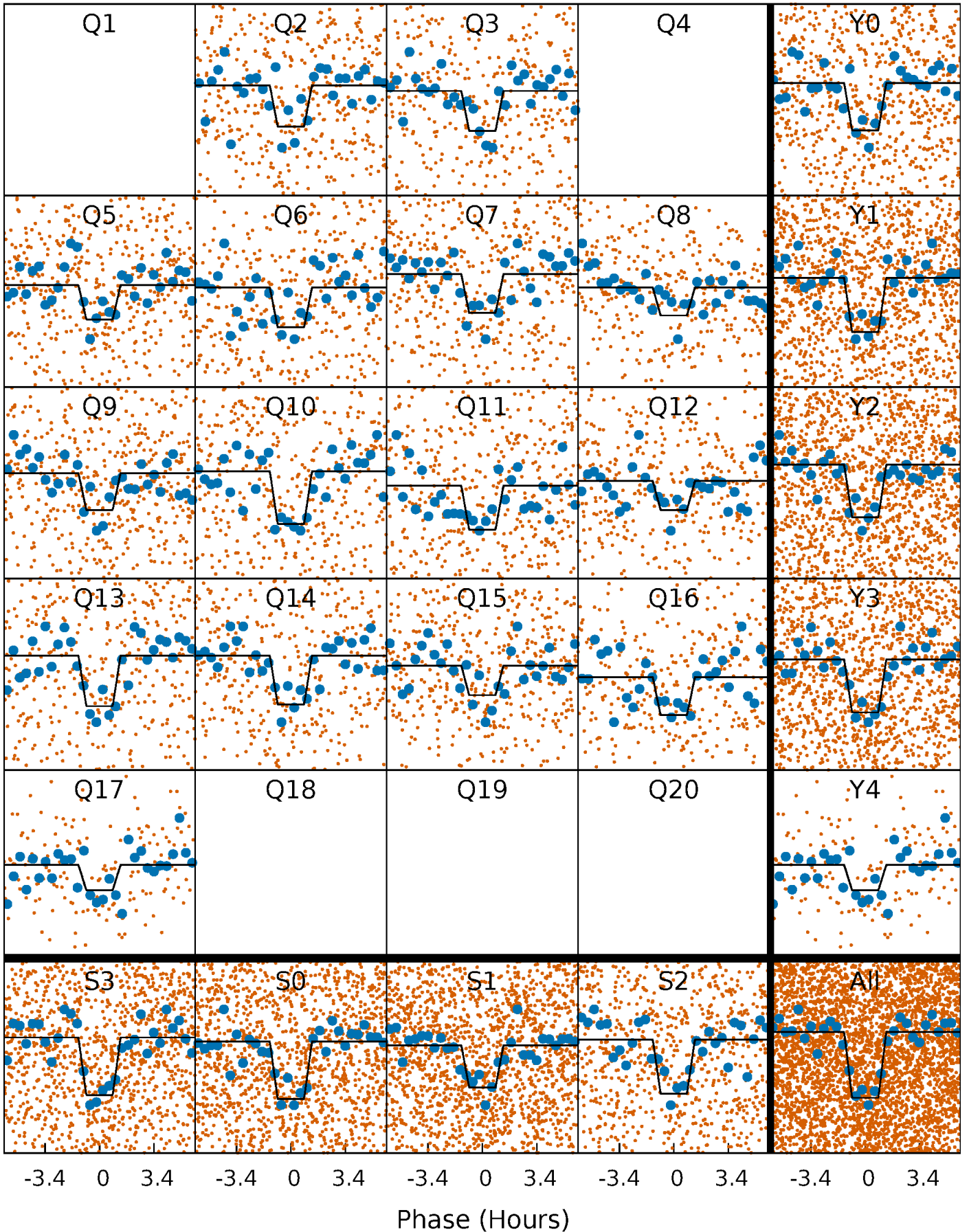
DV Quarter-Phased Transit Curves

TCE 006962977-04 $P = 3.715435$ Days $T_0 = 132.632860$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

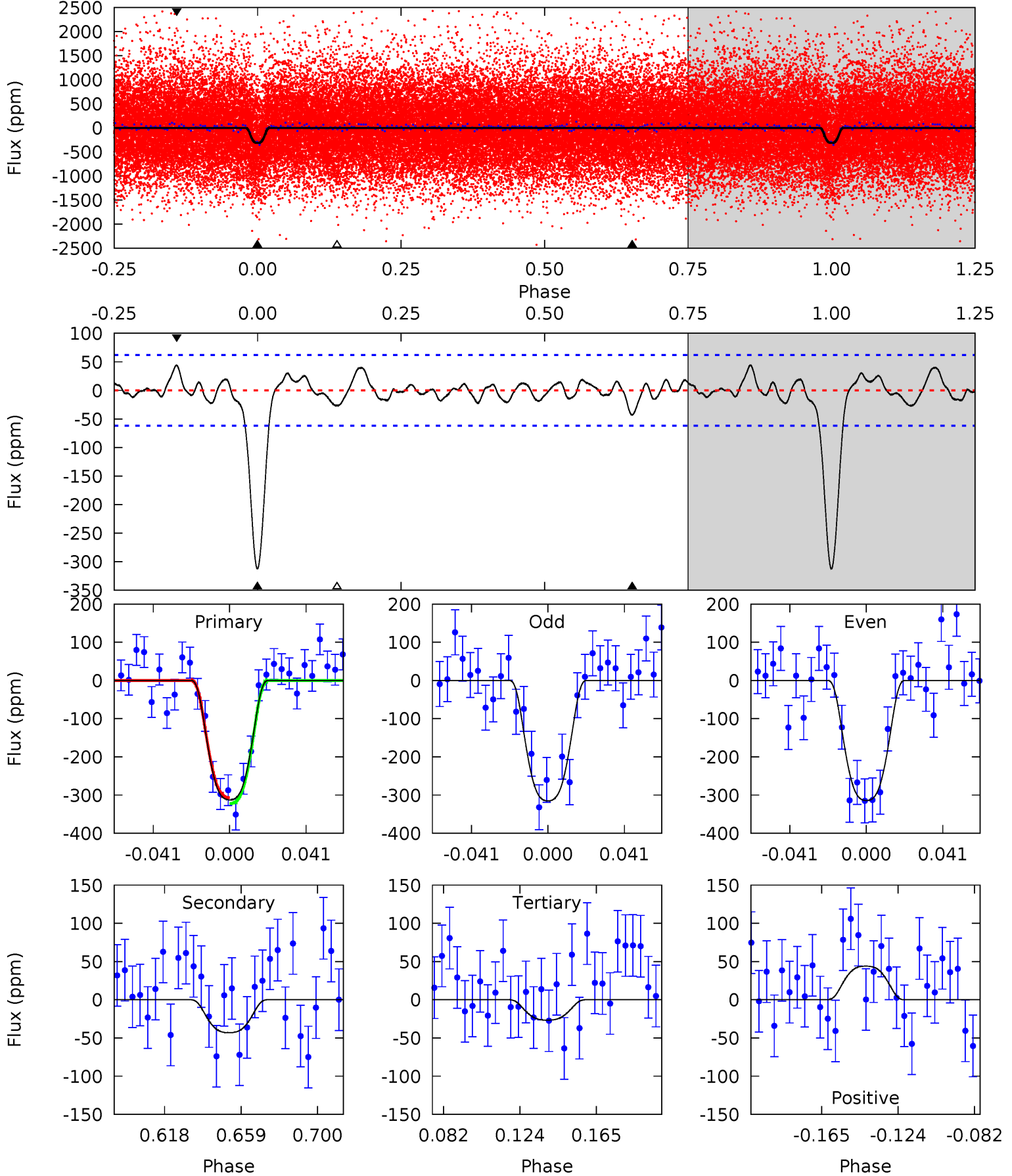
TCE 006962977-04 $P = 3.715427$ Days $T_0 = 132.634386$ (BKJD)



DV Model-Shift Uniqueness Test

006962977-04, P = 3.715435 Days, E = 132.632860 Days

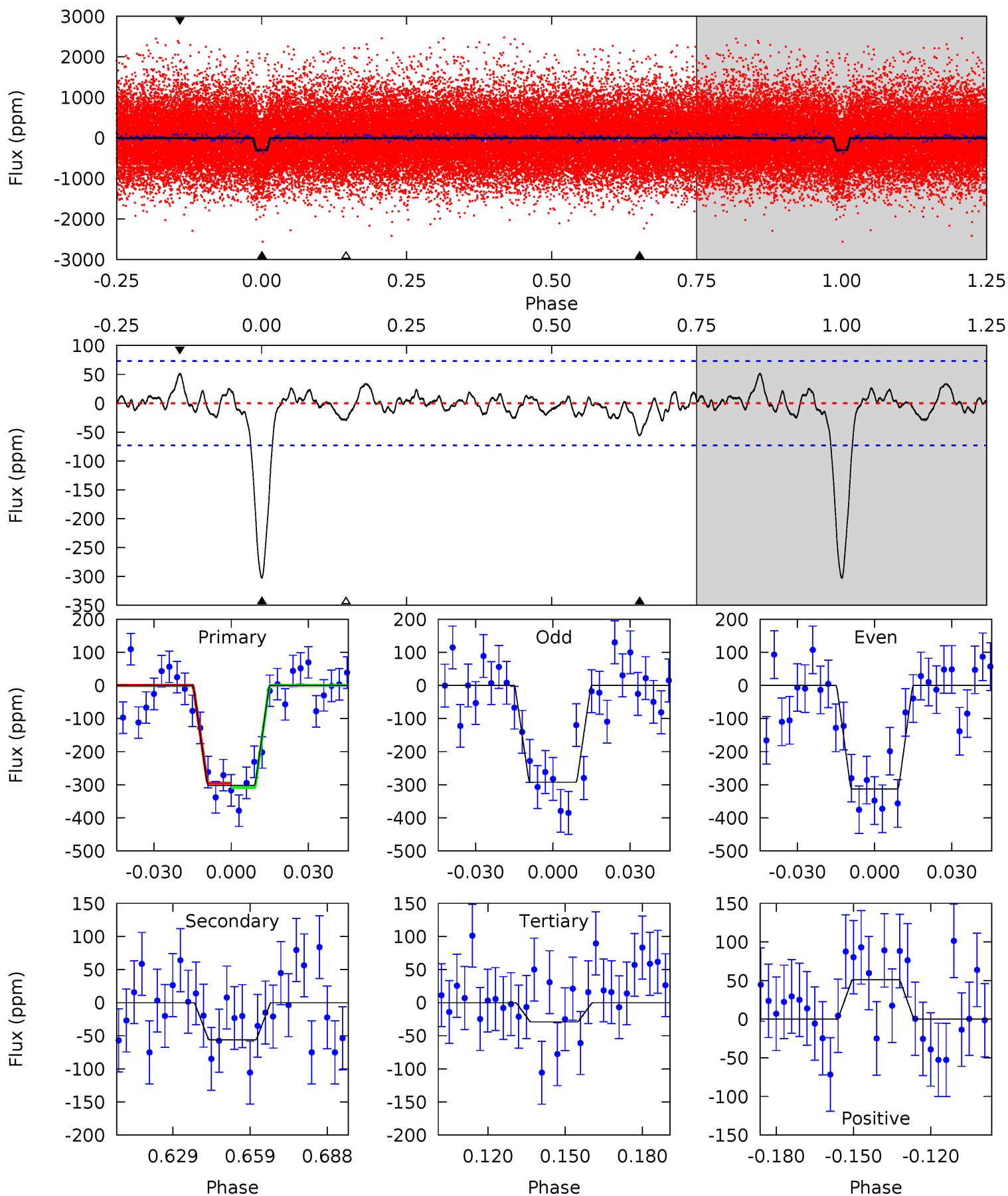
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	3.30	2.04	3.37	4.75	2.04	1.07	22.0	20.6	1.26	-0.07	0.04	1.00	0.12	0.59



Alt Model-Shift Uniqueness Test

006962977-04, P = 3.715427 Days, E = 132.634386 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.9	3.69	1.92	3.36	4.81	2.17	0.93	18.0	16.5	1.78	0.33	0.66	1.01	0.14	0.46



Stellar Parameters For KIC 006962977

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5296^{+106}_{-106}	$4.538^{+0.044}_{-0.061}$	$-0.100^{+0.150}_{-0.150}$	$0.808^{+0.060}_{-0.049}$	$0.821^{+0.052}_{-0.042}$	$2.191^{+0.392}_{-0.399}$
	+2%/-2%	+1%/-1%	+150%/-150%	+7%/-6%	+6%/-5%	+18%/-18%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 006962977-04 / KOI 1364.04

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-43 ± 13	$2.01^{+0.18}_{-0.19}$	1403^{+39}_{-36}	3342^{+172}_{-200}	11^{+4}_{-4}
Alt.	-56 ± 15	$1.59^{+0.16}_{-0.18}$	1402^{+40}_{-35}	3776^{+240}_{-207}	24^{+9}_{-8}

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

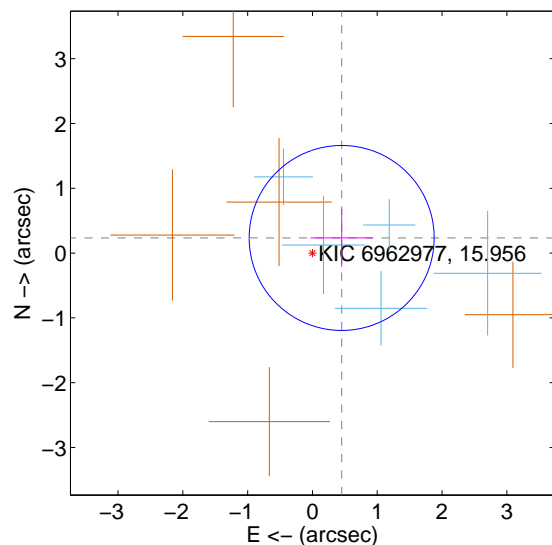
Supplemental centroid analysis for 006962977-04. Kepler magnitude: 15.96. Transit SNR 16.29

There are 5 quarters with good PRF difference image offsets

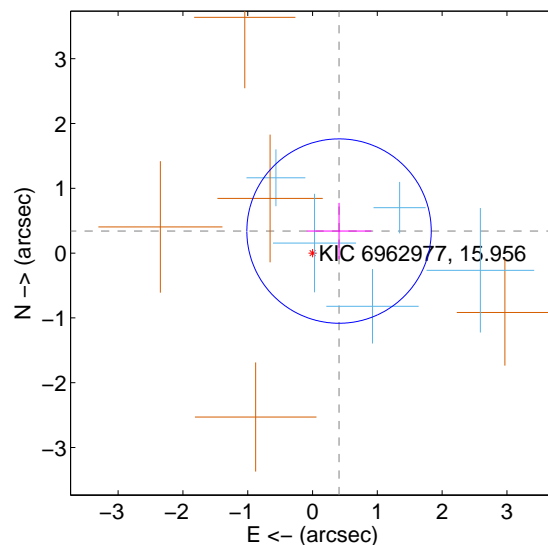
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.508 ± 0.476	1.07	-0.451 ± 0.483	0.234 ± 0.445
PRF-fit source offset from KIC position	0.532 ± 0.474	1.12	-0.409 ± 0.499	0.340 ± 0.435
photometric centroid source offset	0.57 ± 0.85	0.67	-0.52 ± 0.84	0.22 ± 0.88

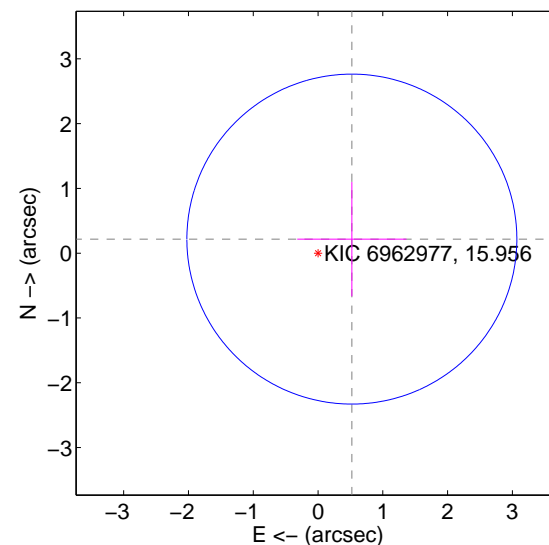
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

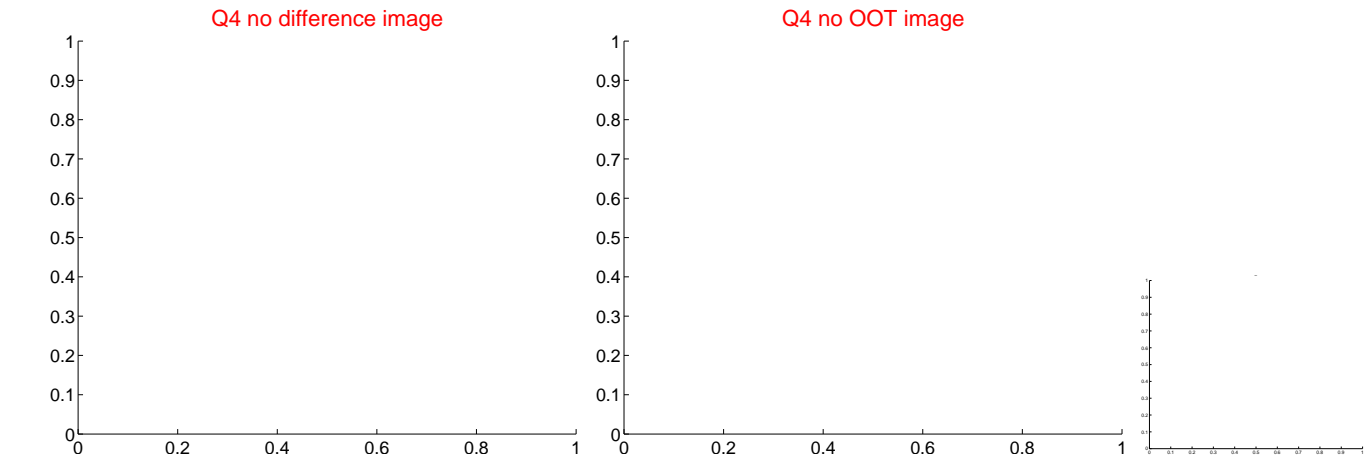
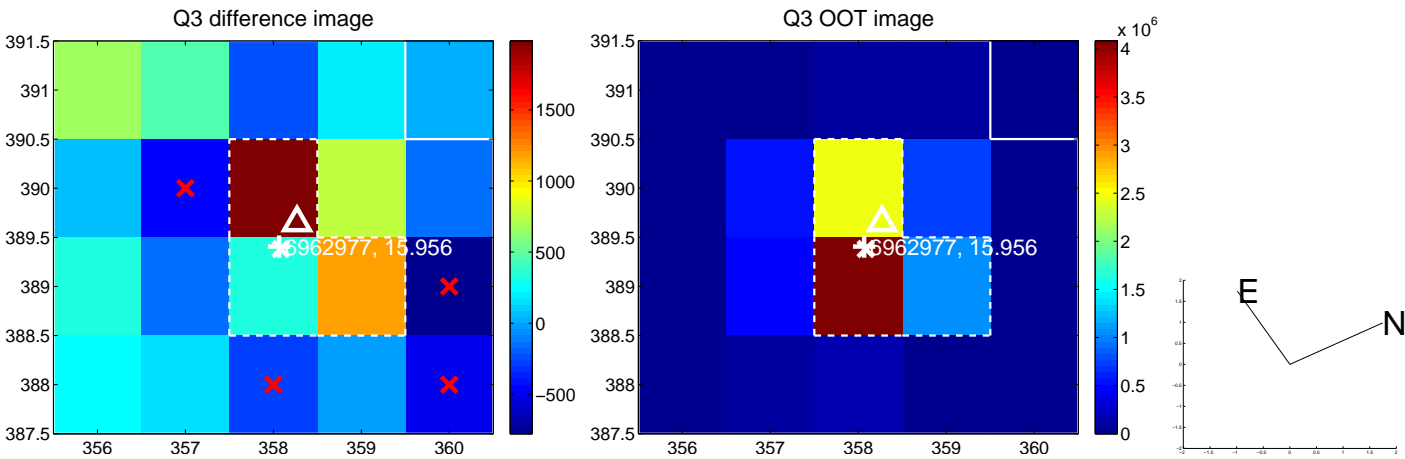
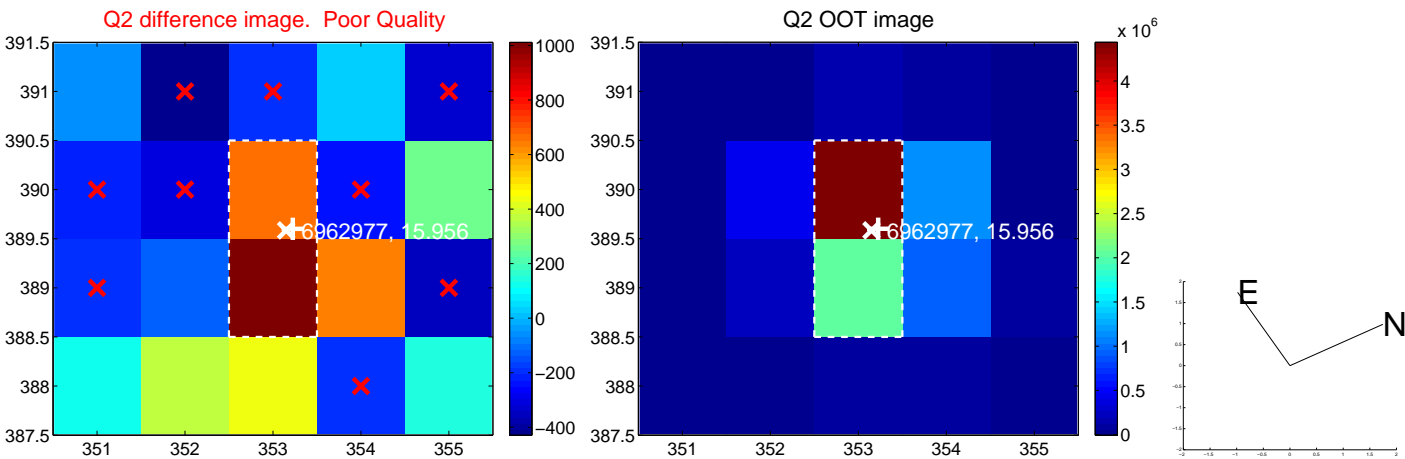
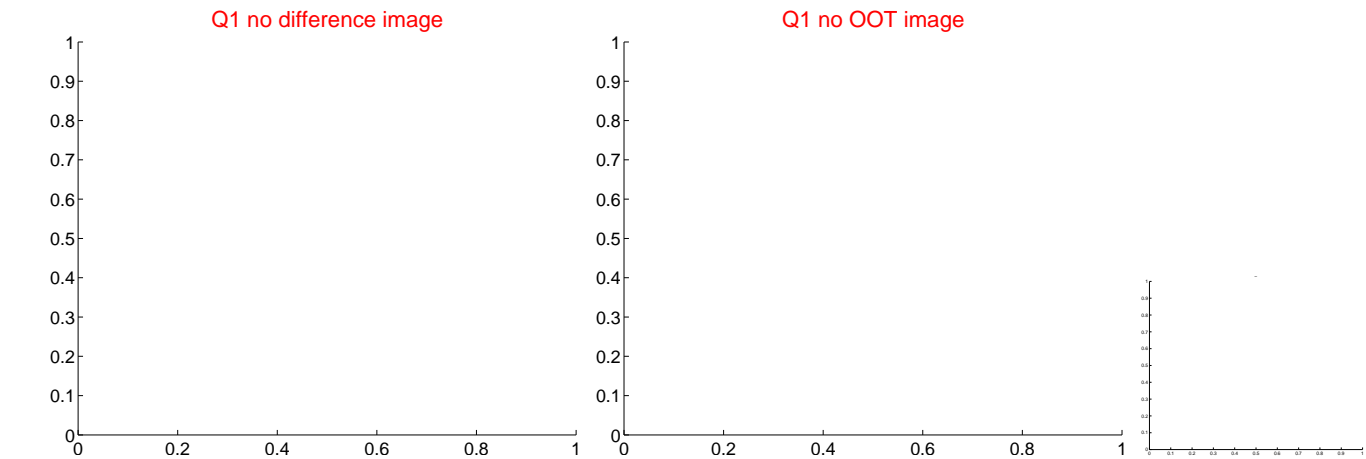


offset from photometric centroids

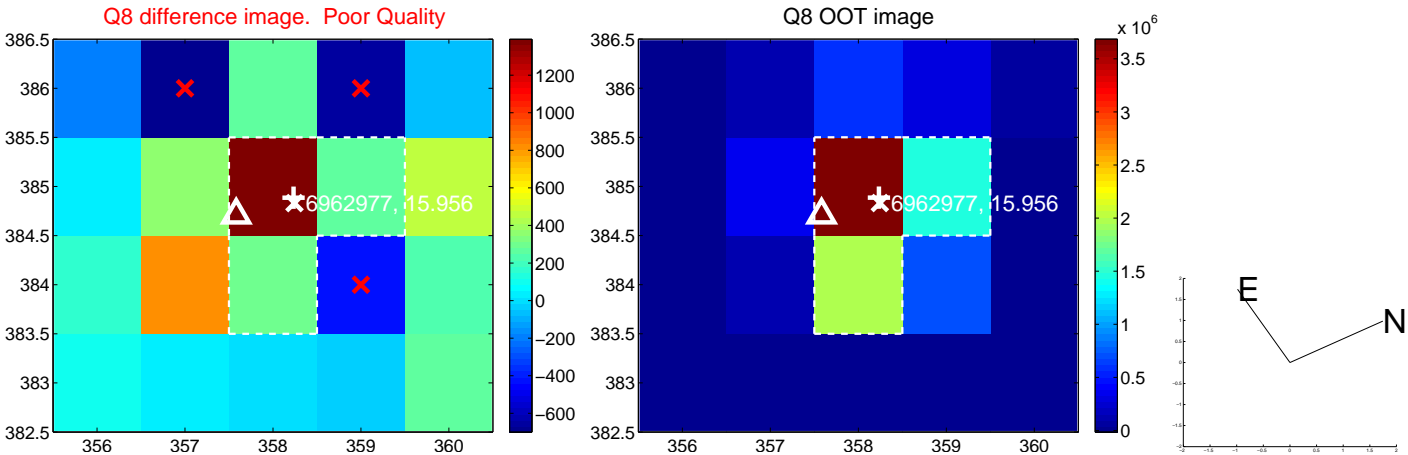
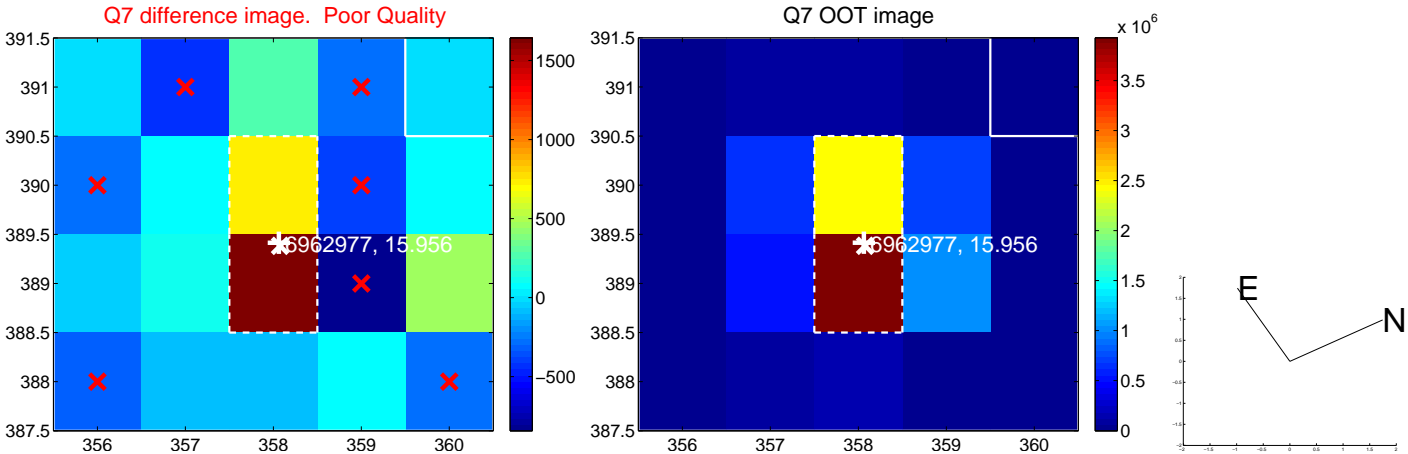
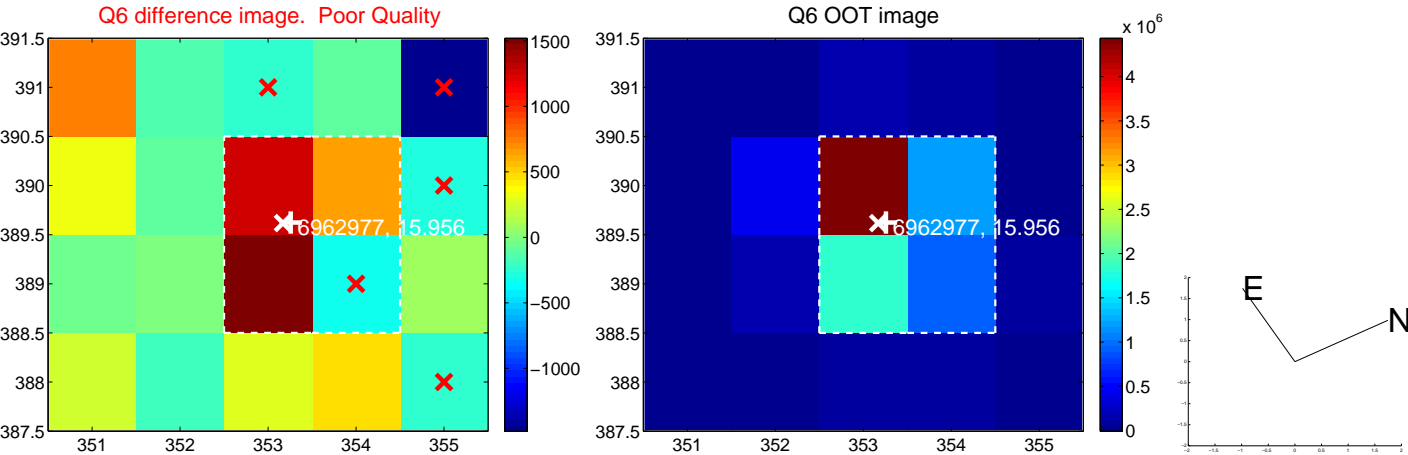
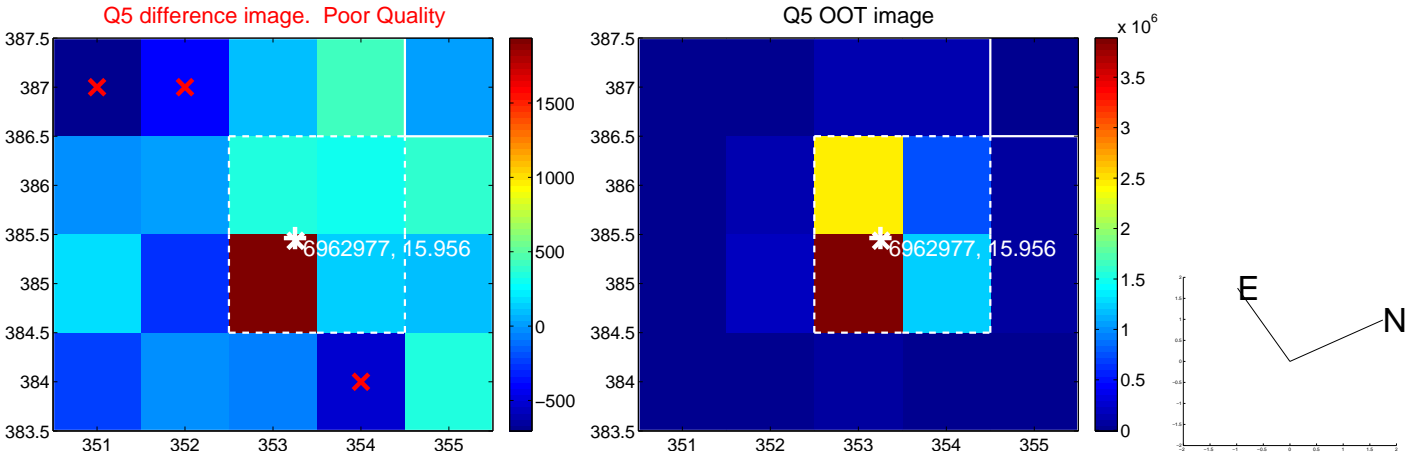


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

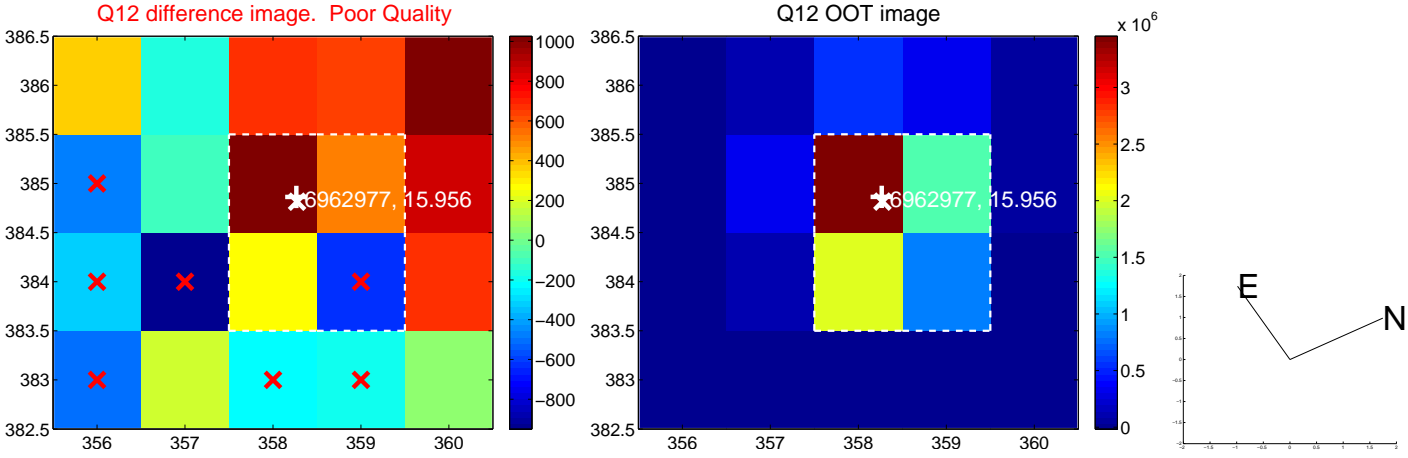
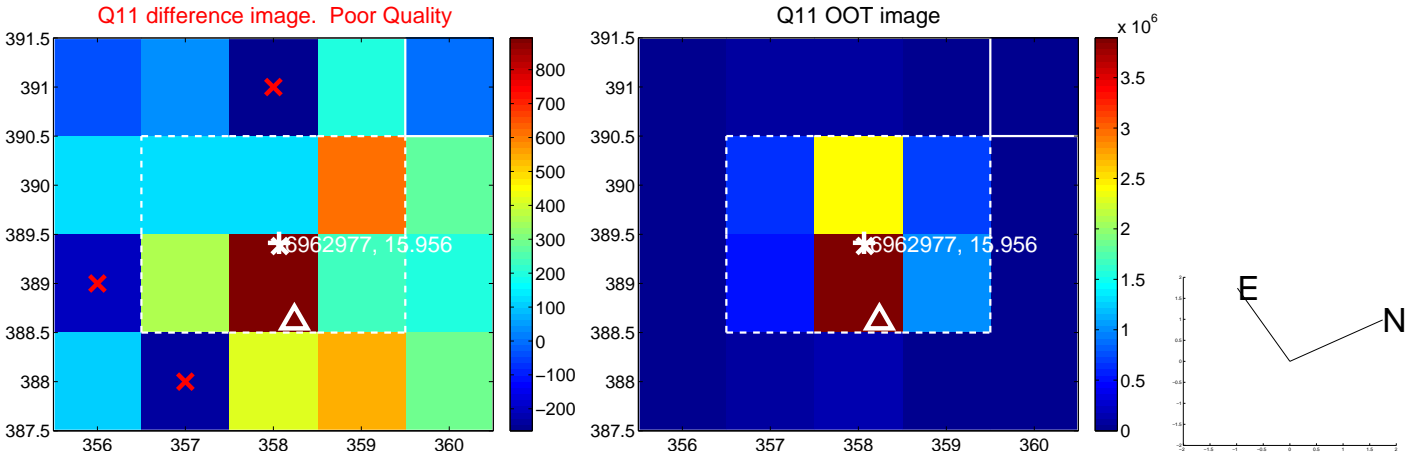
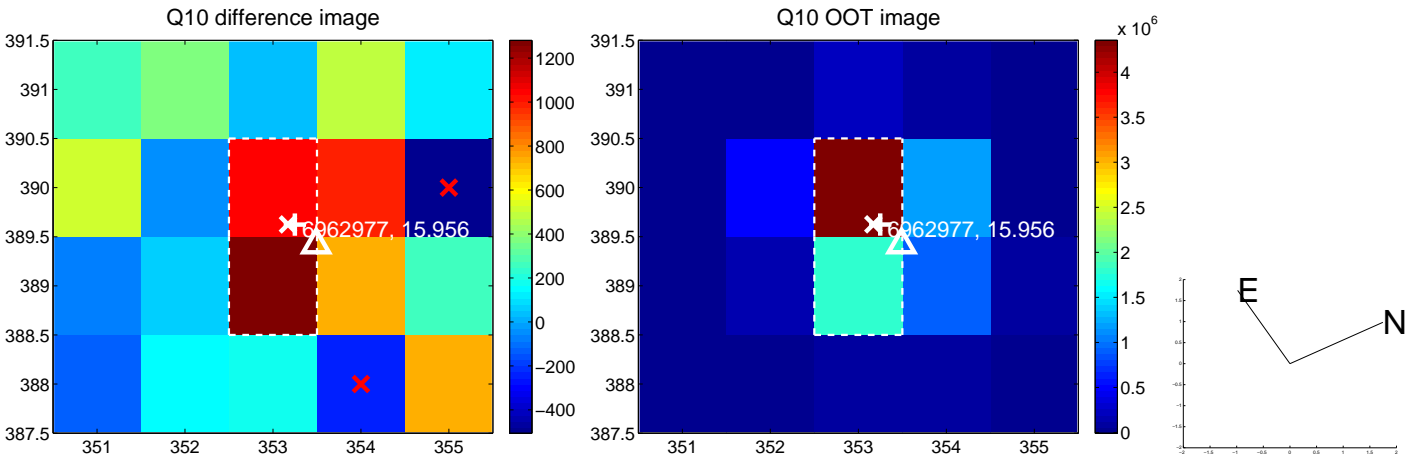
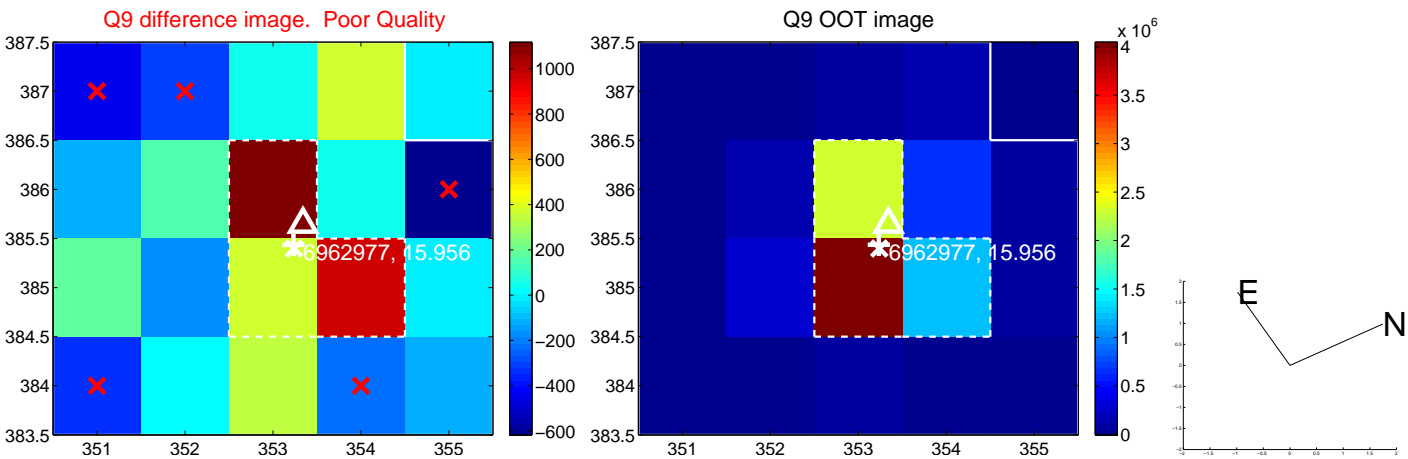
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



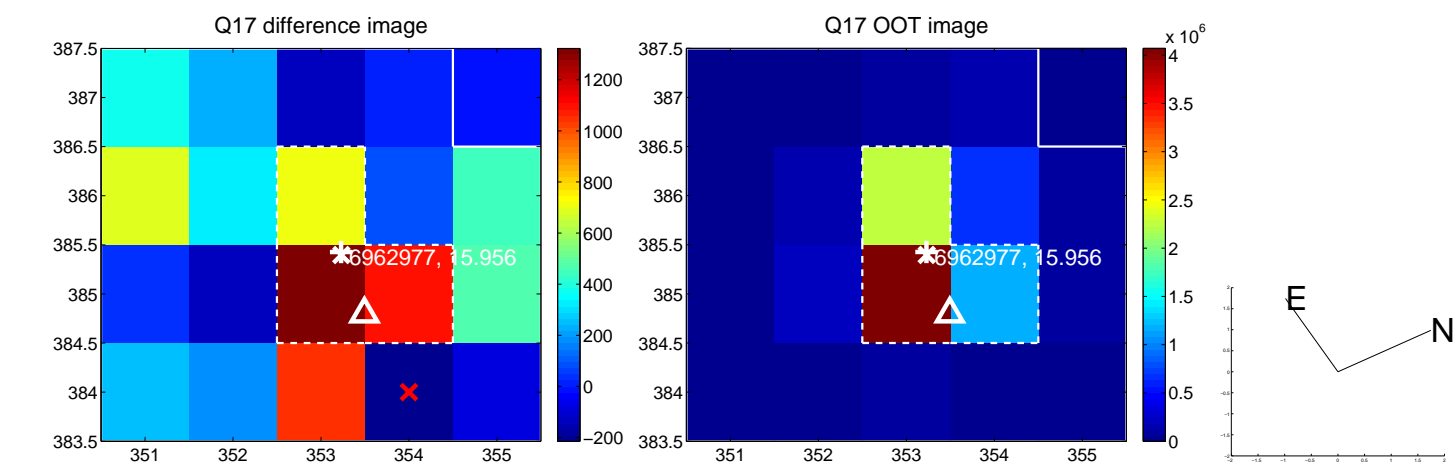
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



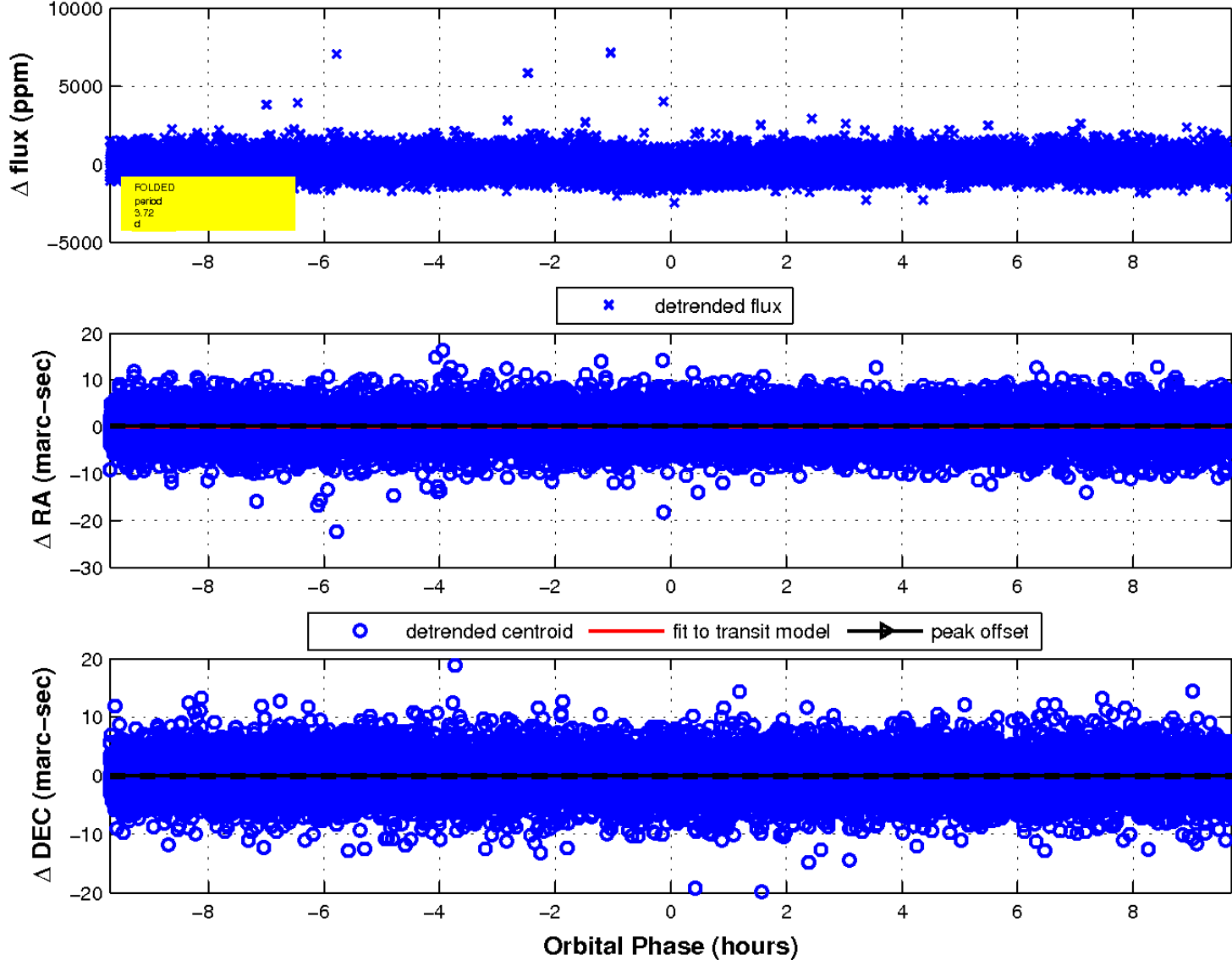
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

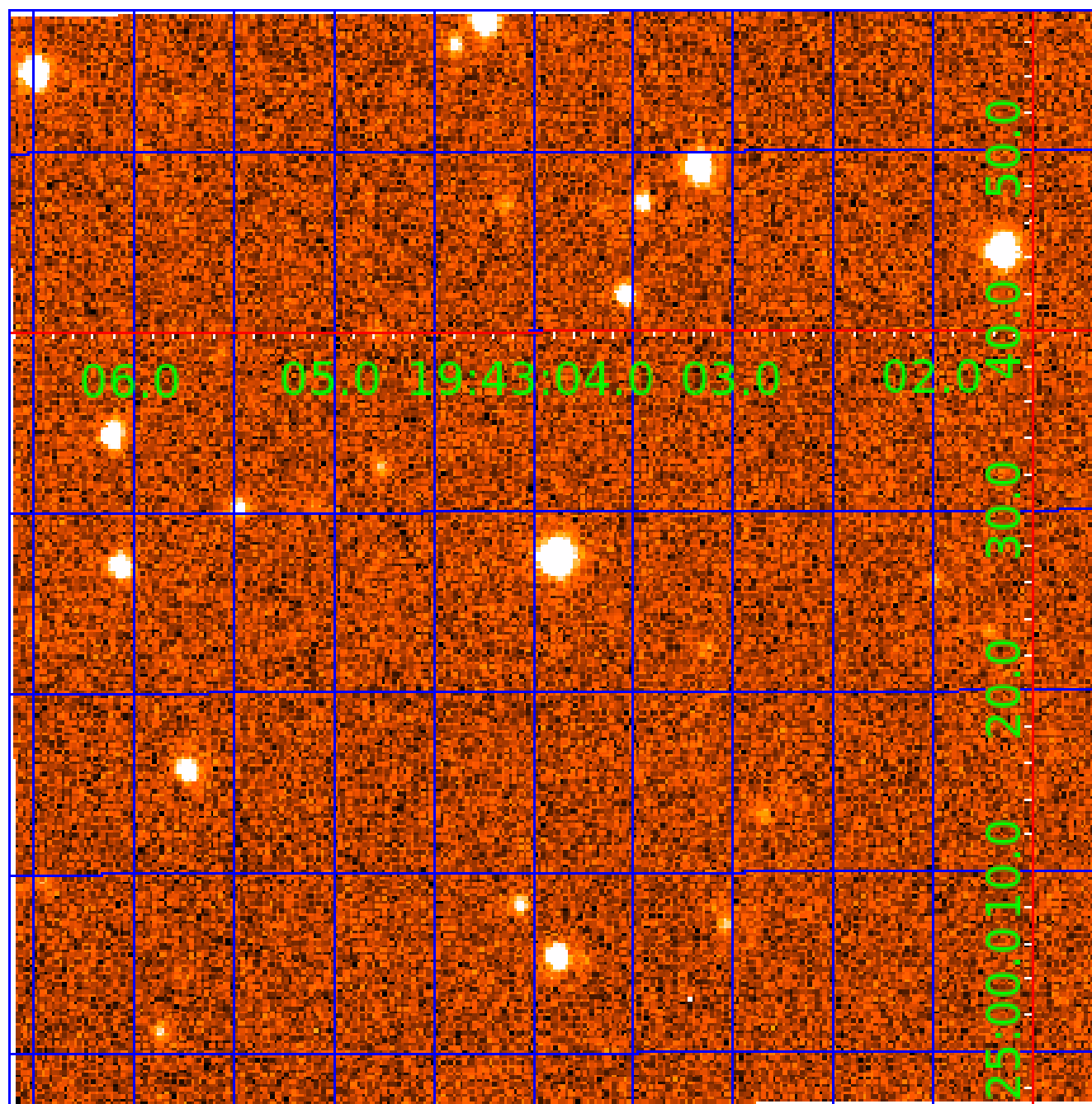


fluxWeightedCentroids, Planet 4 of 5



UKIRT Image

Declination



KIC 006962977

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})
006962977-01	OBS	1364.02	7.055660	132.521454	663.1	3.135	26.1	27.7	0.81	5296	2.23	101.14
006962977-02	OBS	1364.03	11.978854	143.032243	682.9	4.548	22.1	23.7	0.81	5296	2.74	49.94
006962977-03	OBS	1364.01	20.834079	144.371136	750.1	4.744	19.9	21.5	0.81	5296	2.62	23.87
006962977-04	OBS	1364.04	3.715435	132.632860	317.8	3.235	14.9	16.3	0.81	5296	2.00	237.84
006962977-05	OBS	1364.05	2.580802	132.852773	249.2	2.107	13.4	13.9	0.81	5296	1.37	386.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006962977-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006962977-04	OBS	PC	0.86	0	0	0	0	NO_COMMENT
006962977-05	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

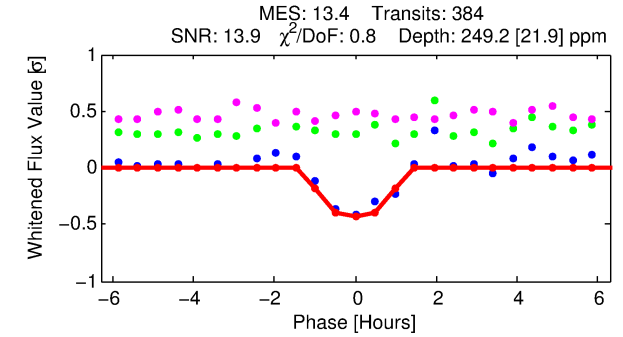
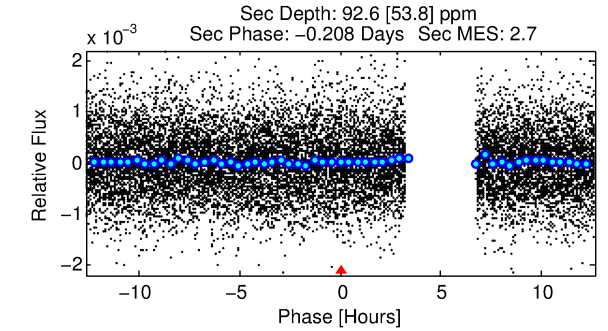
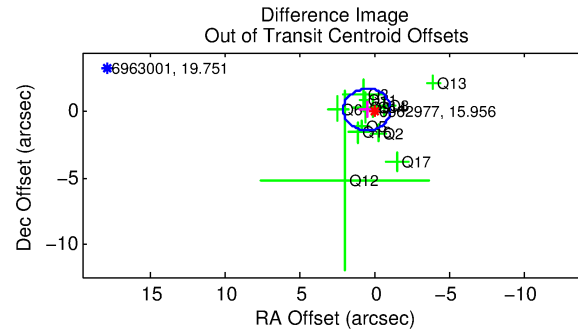
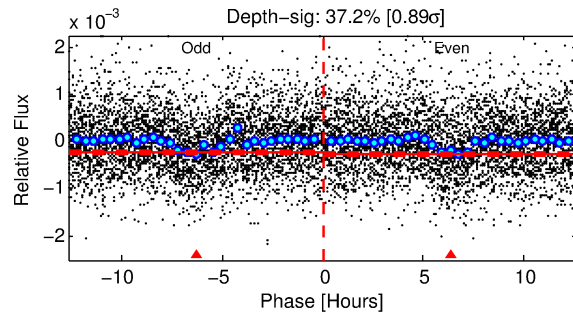
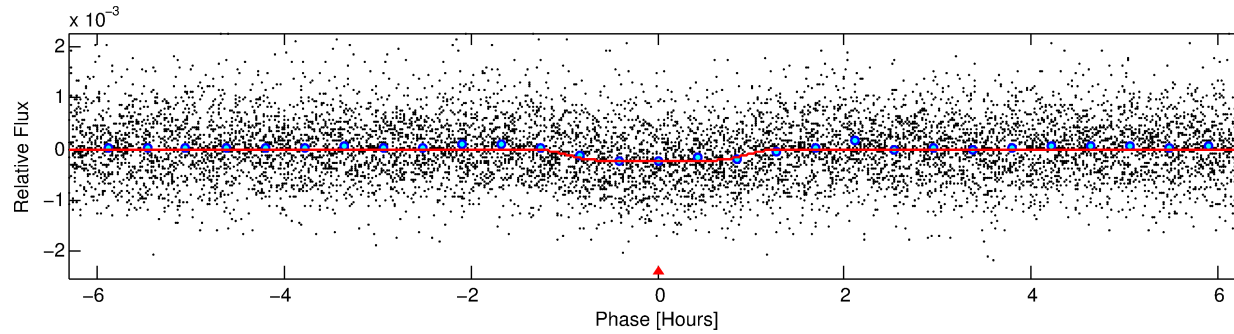
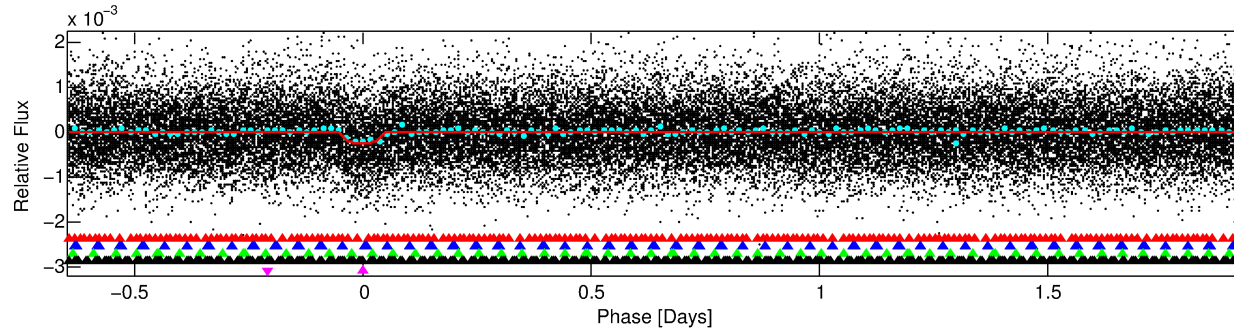
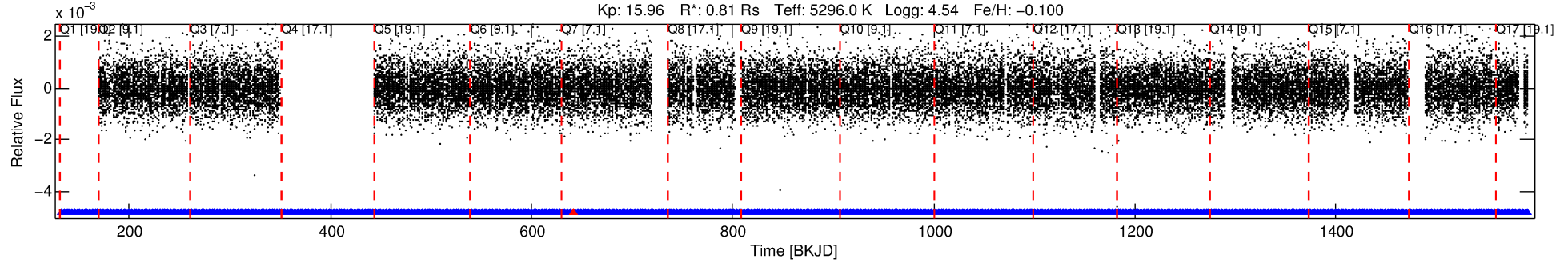
Ephemeris Match Information For 006962977-05

No Significant Match Found

DV One-Page Summary

KIC: 6962977 Candidate: 5 of 5 Period: 2.581 d
KOI: K01364.05 Name: Kepler-292b Corr: 0.957

Kp: 15.96 R*: 0.81 Rs Teff: 5296.0 K Logg: 4.54 Fe/H: -0.100



DV Fit Results:

Period = 2.58080 [0.00001] d
Epoch = 132.8528 [0.0027] BKJD
Rp/R* = 0.0155 [0.0163]
a/R* = 6.85 [27.09]
b = 0.71 [2.90]
Seff = 386.62 [51.33]
Teff = 1131 [38] K
Rp = 1.37 [1.44] Re
a = 0.0345 [0.0024] AU
Ag = 32.42 [70.80] [0.44σ]
Teffp = 4172 [2276] K [1.34σ]

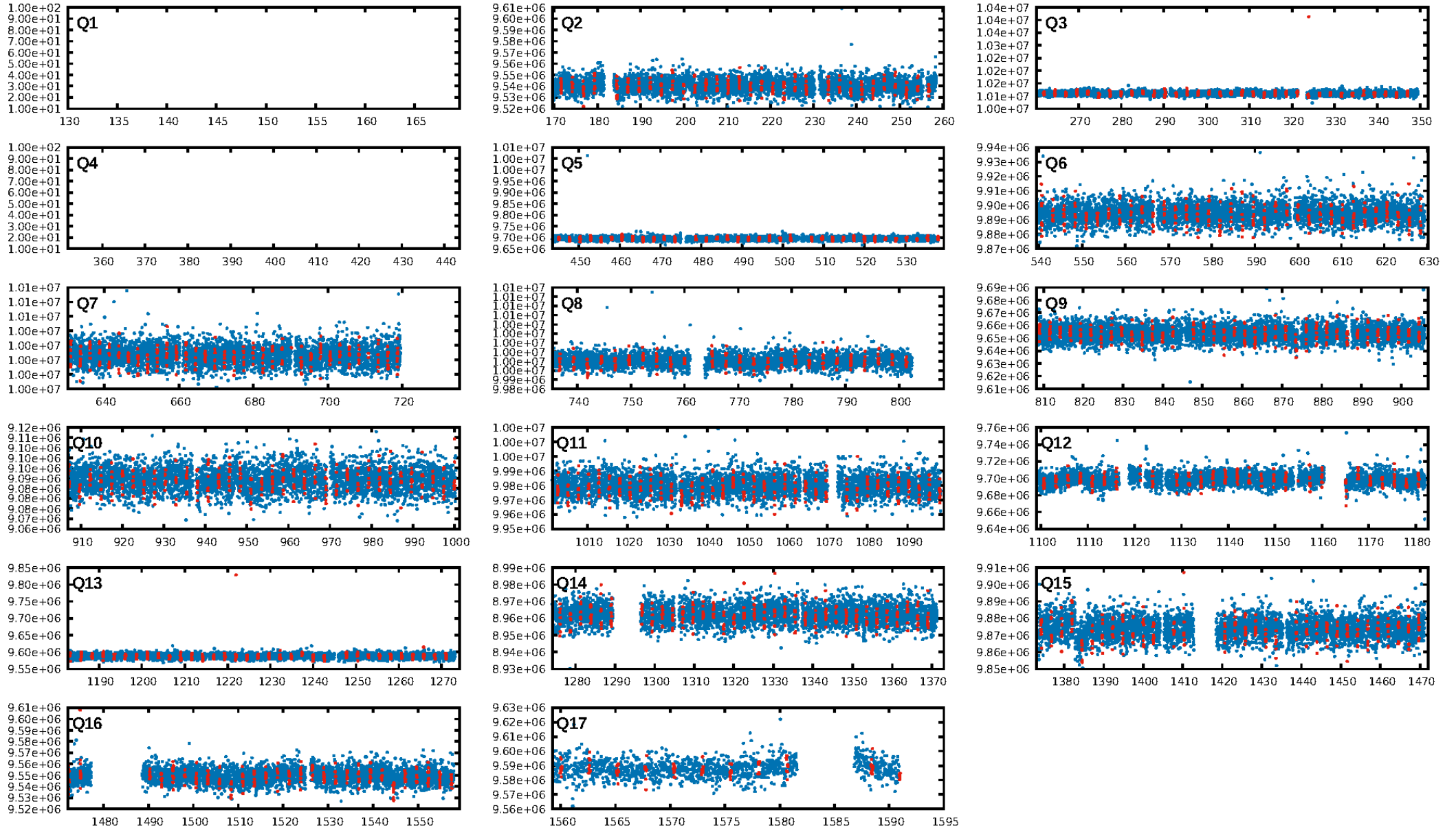
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [7.05σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.76e-43
RollingBand-fgt: 1.00 [375/376]
GhostDiagnostic-chr: 2.969
Centroid-sig: 0.0%
Centroid-so: 2.505 arcsec [2.57σ]
OotOffset-rm: 0.515 arcsec [0.98σ]
KicOffset-rm: 0.627 arcsec [1.18σ]
OotOffset-st: 3/2/3/4 [12]
KicOffset-st: 3/2/3/4 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [15/15]

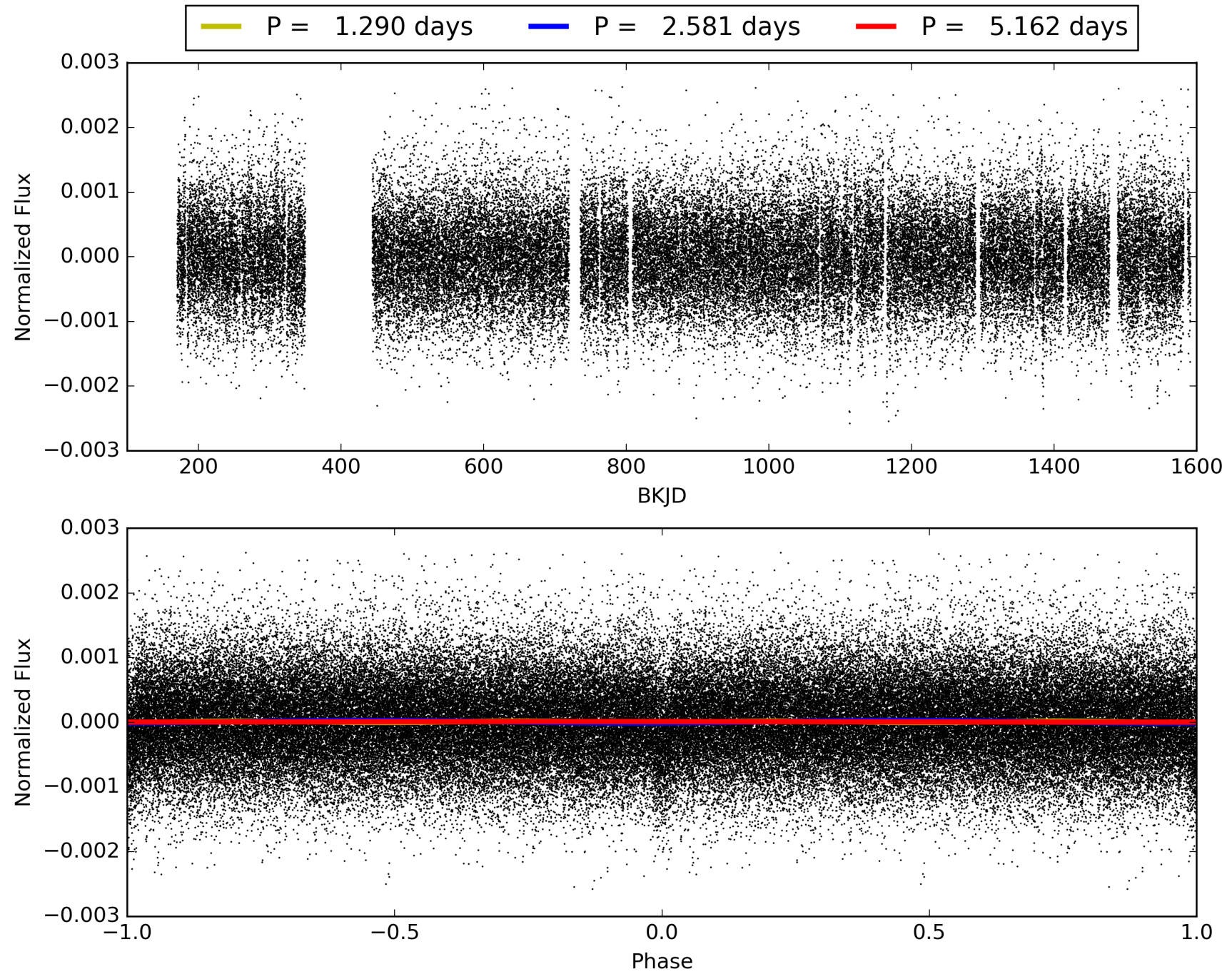
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:50:22 Z

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

TCE 006962977-05, PDC Light Curves

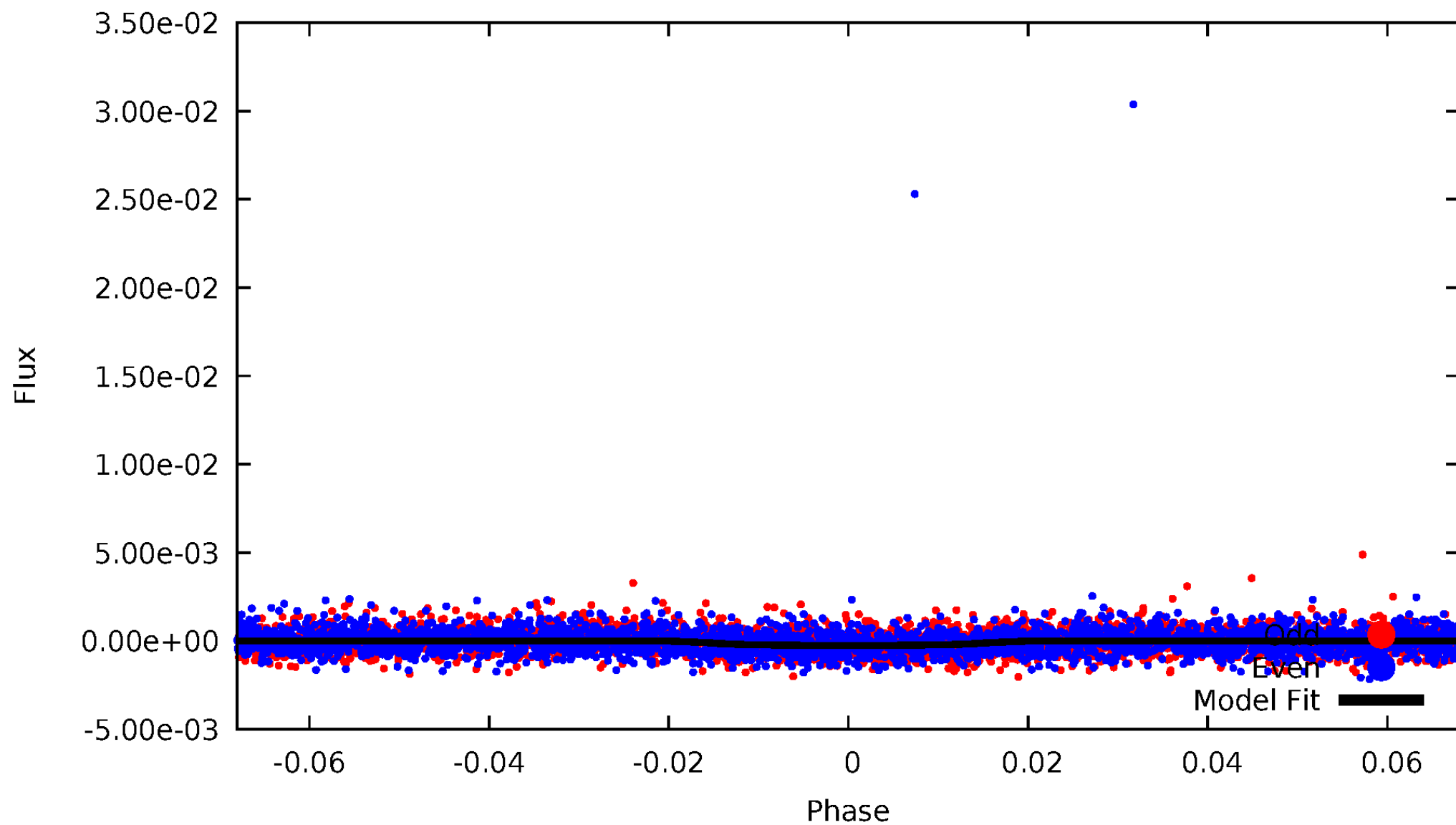


TCE 006962977-05



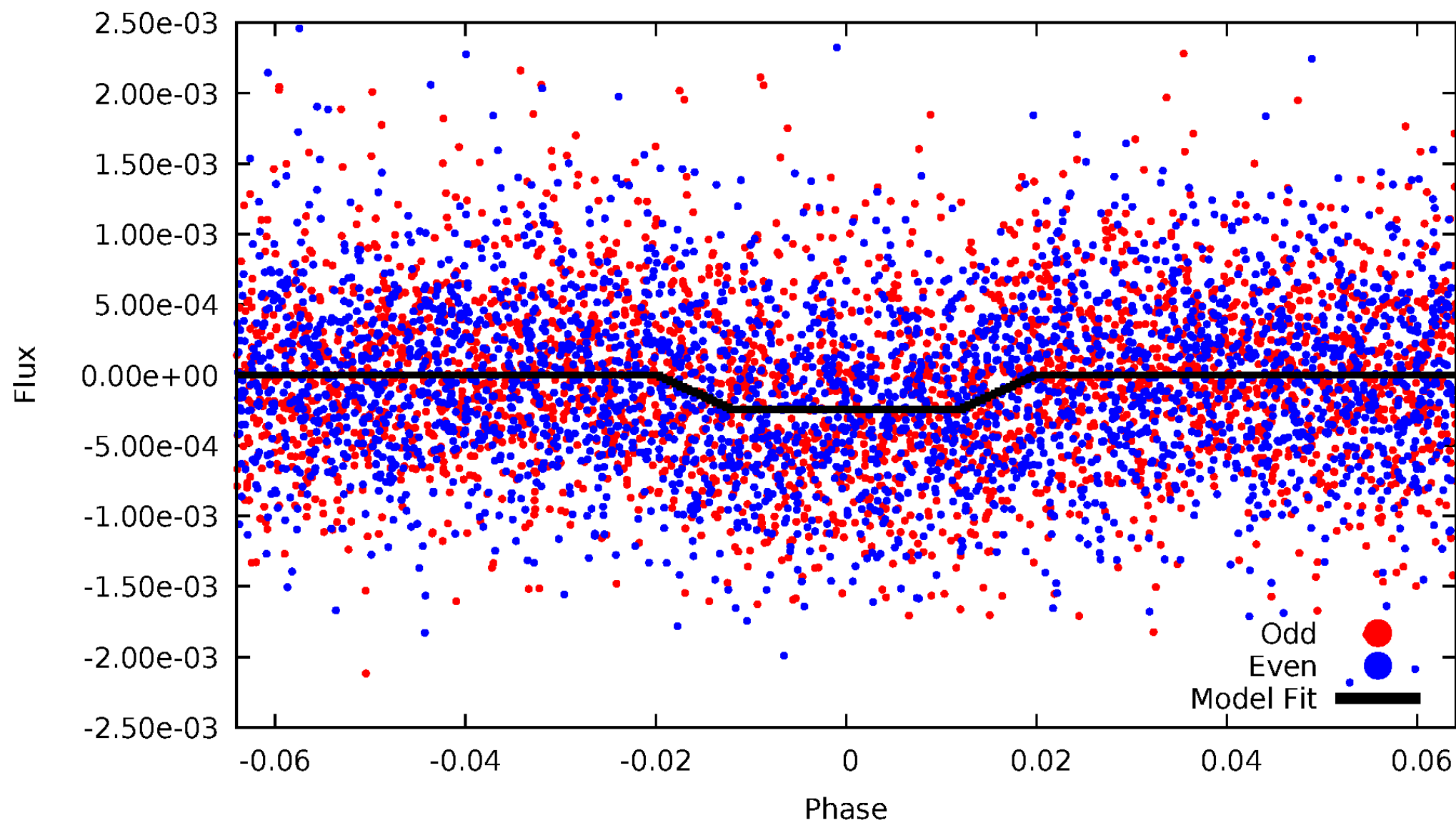
DV Odd/Even

TCE 006962977-05



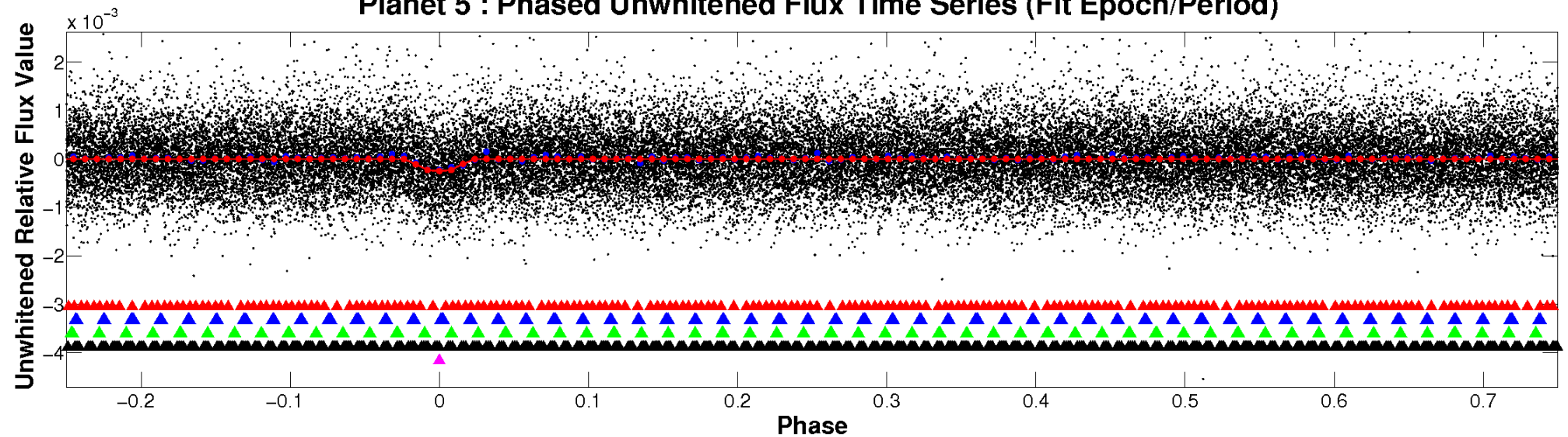
ALT Odd/Even

TCE 006962977-05

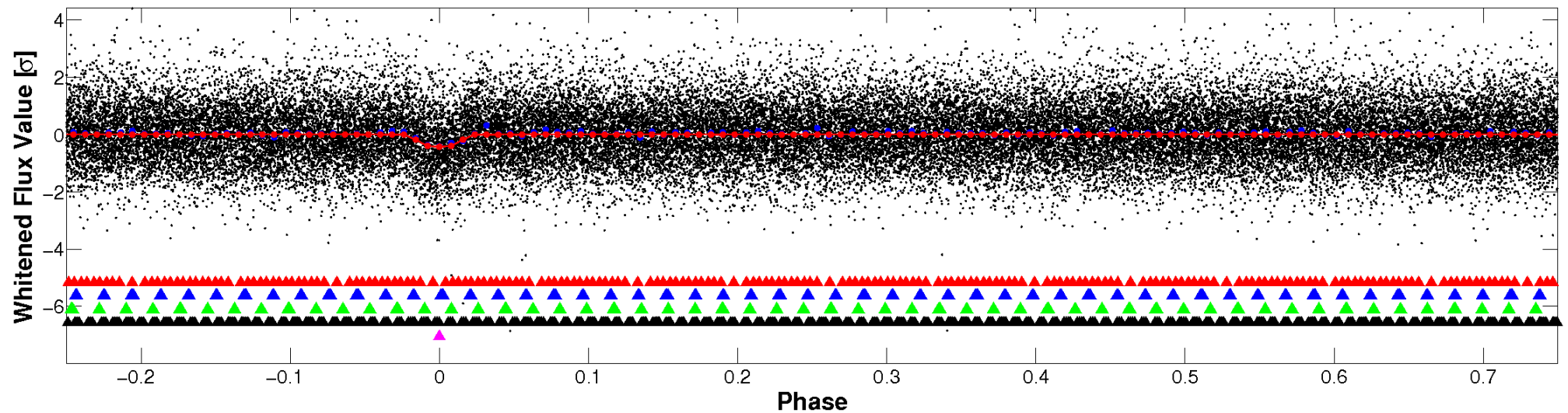


Non-Whitened Vs. Whitened Light Curve

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

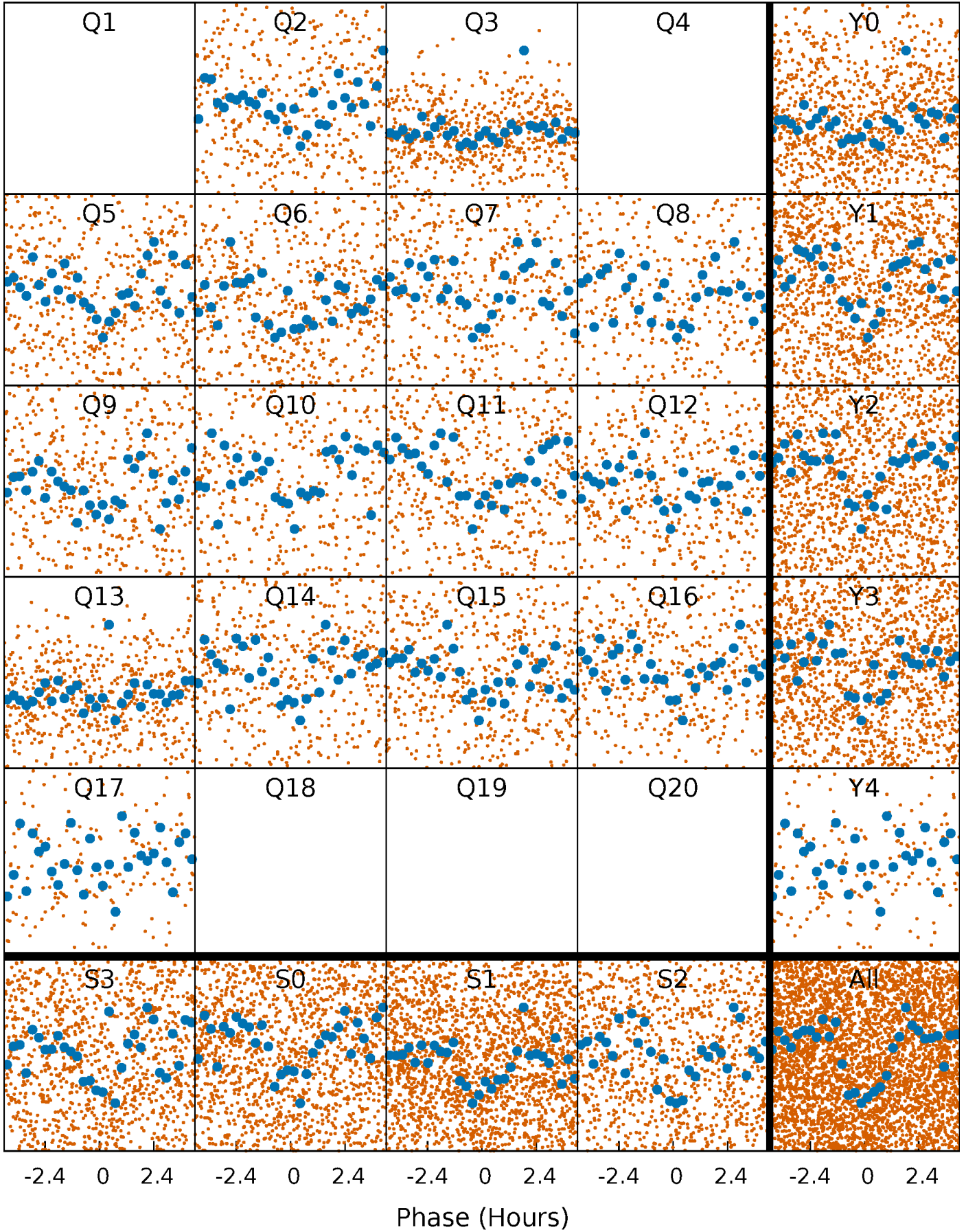


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



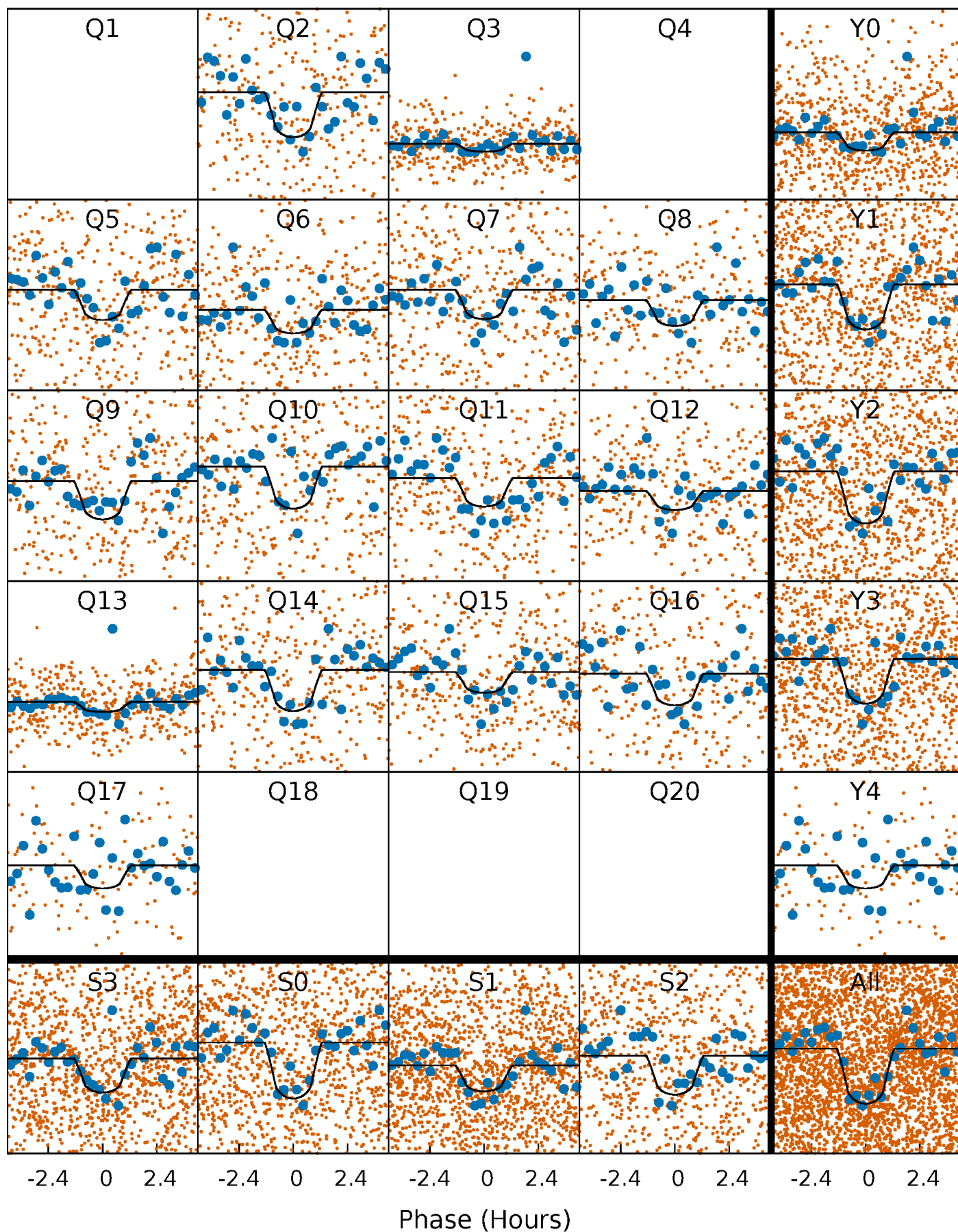
PDC Quarter-Phased Transit Curves

TCE 006962977-05 P= 2.580802 Days $T_0=132.852773$ (BKJD)



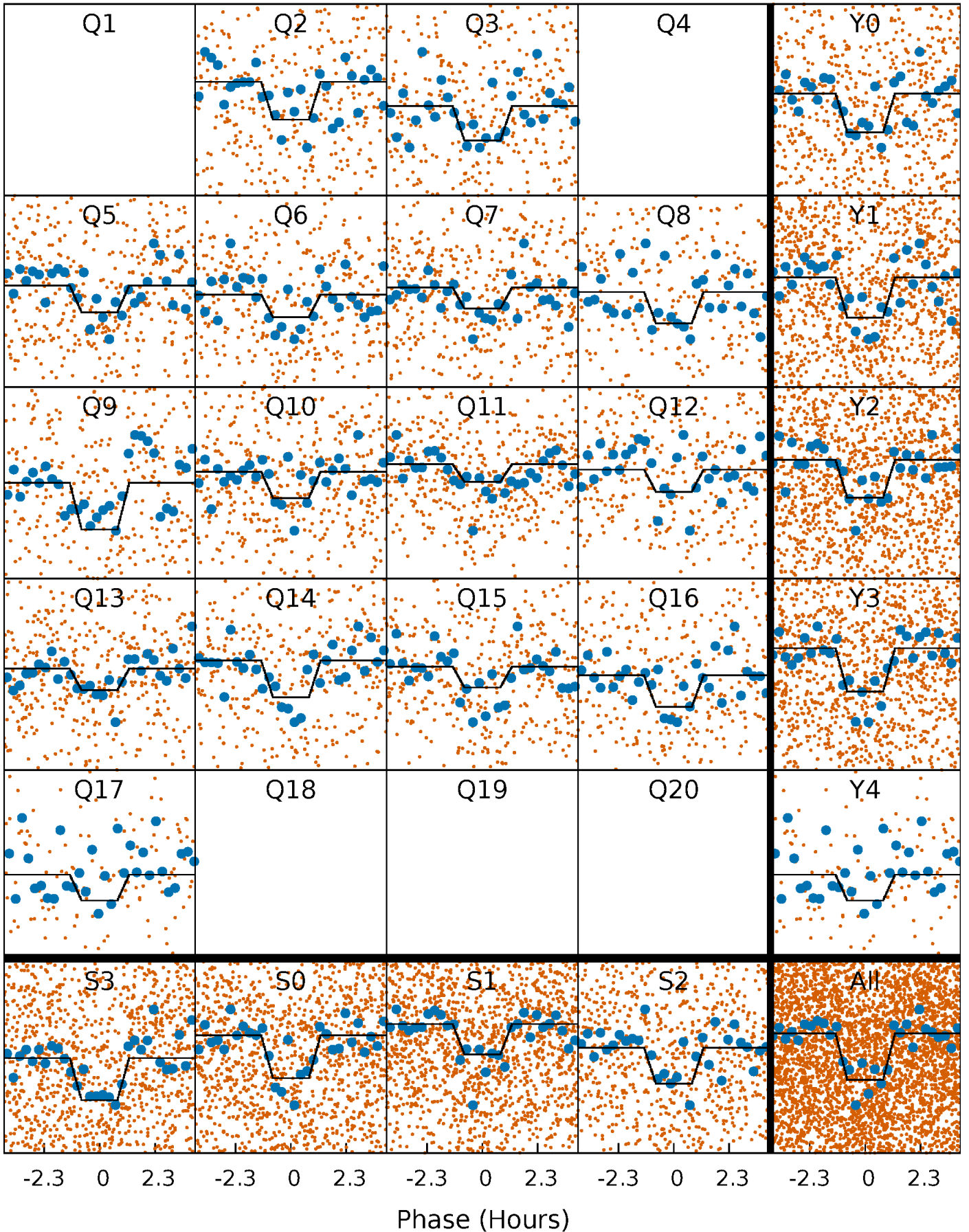
DV Quarter-Phased Transit Curves

TCE 006962977-05 P= 2.580802 Days $T_0=132.852773$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

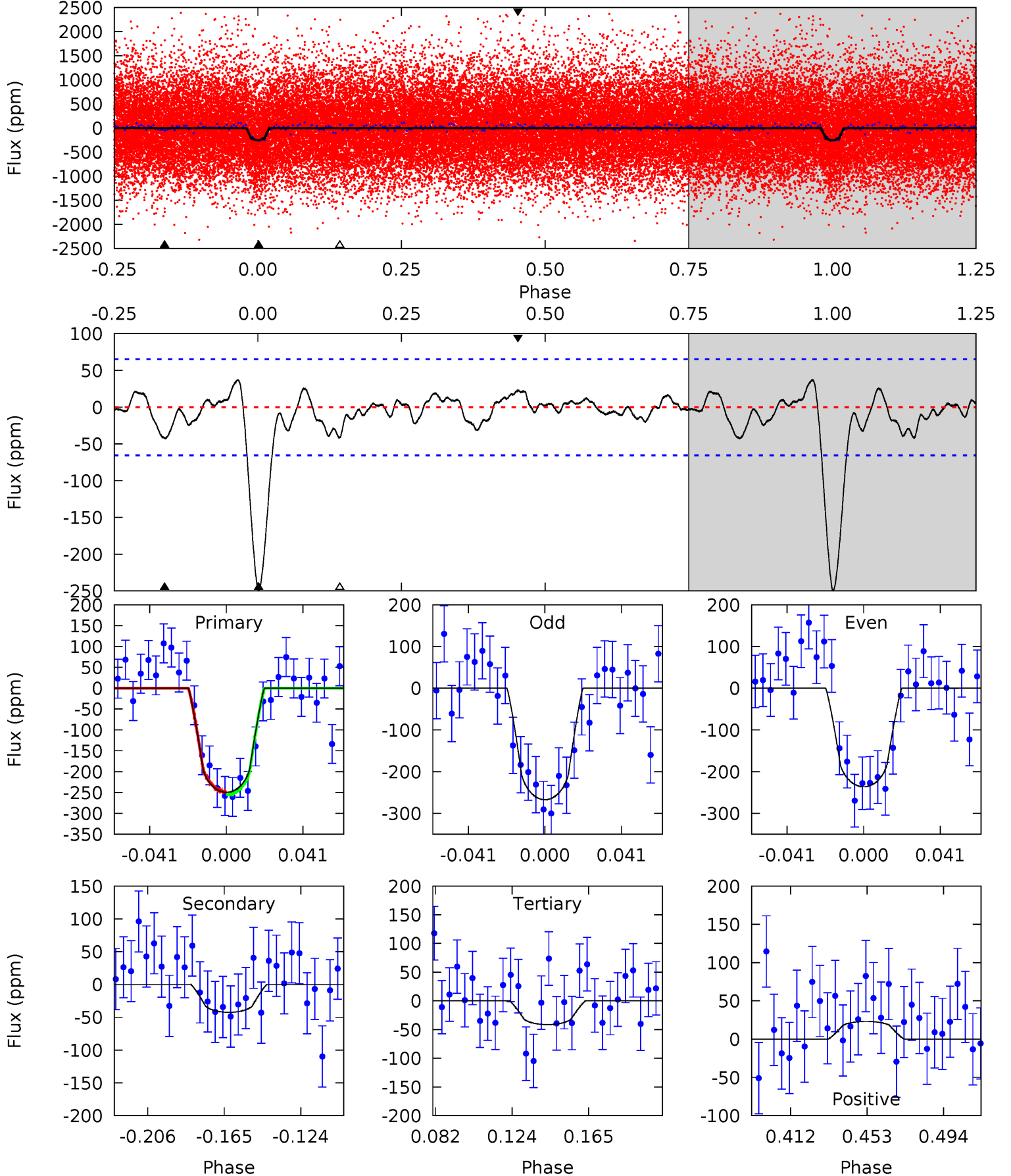
TCE 006962977-05 $P = 2.580845$ Days $T_0 = 132.842055$ (BKJD)



DV Model-Shift Uniqueness Test

006962977-05, P = 2.580802 Days, E = 132.852773 Days

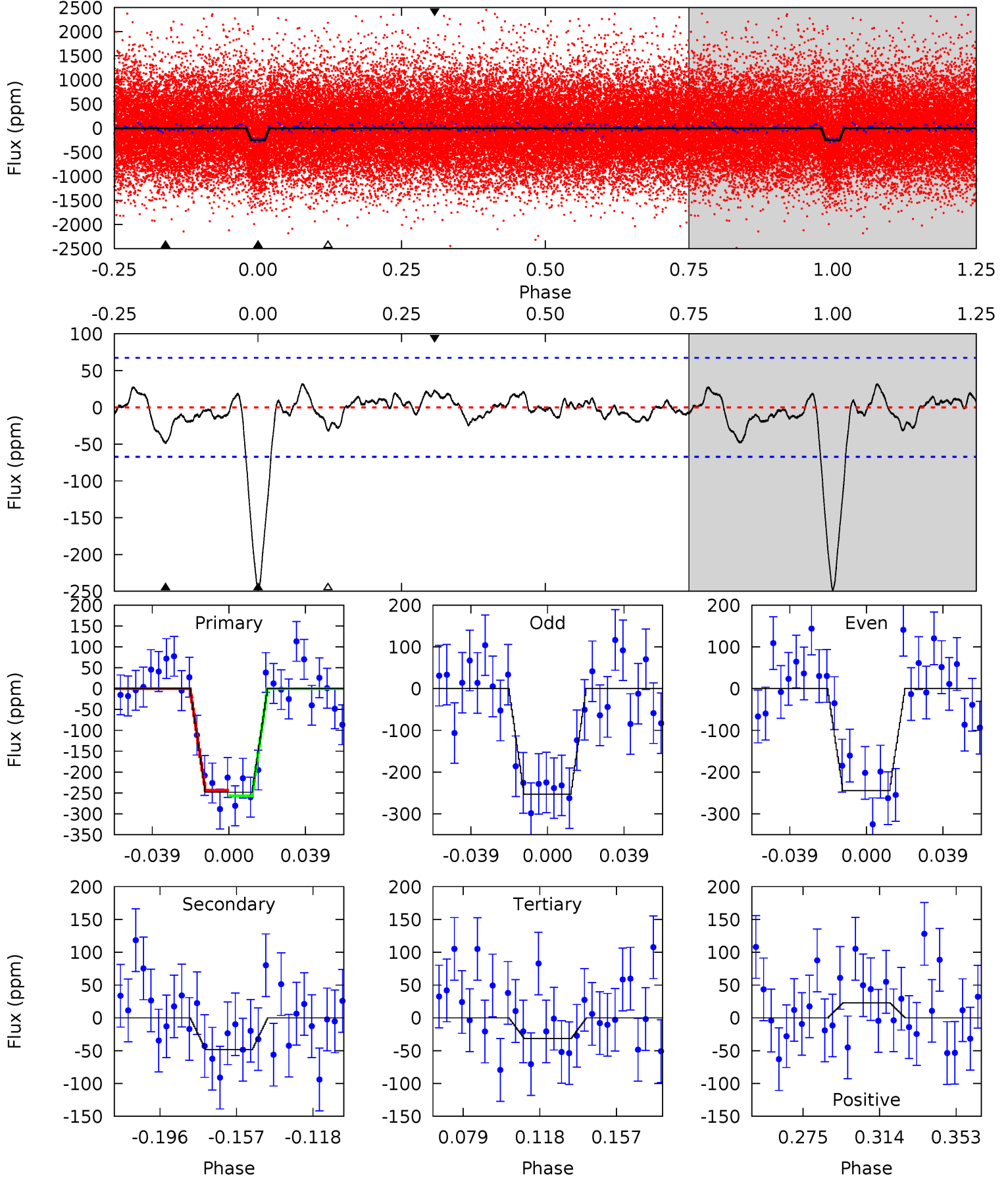
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	3.09	3.00	1.68	4.75	2.04	1.02	15.1	16.4	0.09	1.41	1.13	0.89	0.13	0.28



Alt Model-Shift Uniqueness Test

006962977-05, P = 2.580845 Days, E = 132.842055 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	3.43	2.25	1.63	4.76	2.06	0.86	15.3	15.9	1.18	1.80	0.30	0.91	0.11	0.47



Stellar Parameters For KIC 006962977

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5296^{+106}_{-106}	$4.538^{+0.044}_{-0.061}$	$-0.100^{+0.150}_{-0.150}$	$0.808^{+0.060}_{-0.049}$	$0.821^{+0.052}_{-0.042}$	$2.191^{+0.392}_{-0.399}$
	+2%/-2%	+1%/-1%	+150%/-150%	+7%/-6%	+6%/-5%	+18%/-18%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 006962977-05 / KOI 1364.05

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-43 ± 14	$1.62^{+1.28}_{-1.05}$	1582^{+48}_{-40}	3571^{+1720}_{-624}	11^{+72}_{-7}
Alt.	-48 ± 14	$1.72^{+1.31}_{-1.05}$	1585^{+45}_{-43}	3573^{+1549}_{-603}	10^{+59}_{-7}

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 $A_{obs} \gg 1.0$

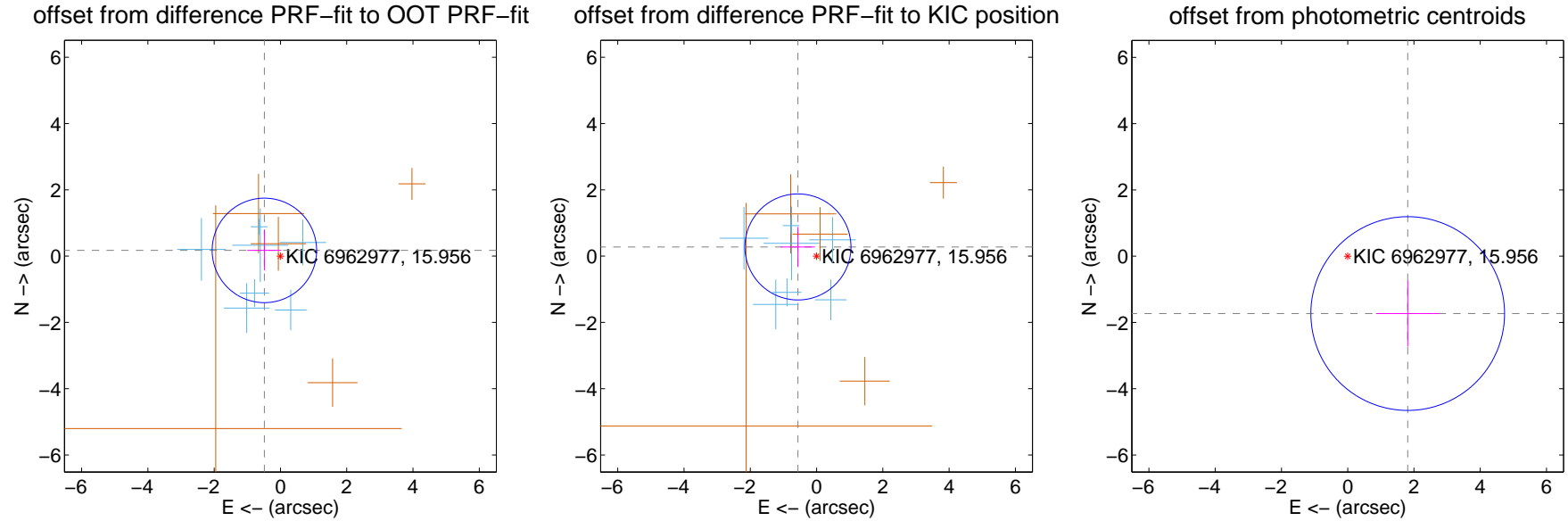
DV Centroid Data

Supplemental centroid analysis for 006962977-05. Kepler magnitude: 15.96. Transit SNR 13.92

There are 7 quarters with good PRF difference image offsets

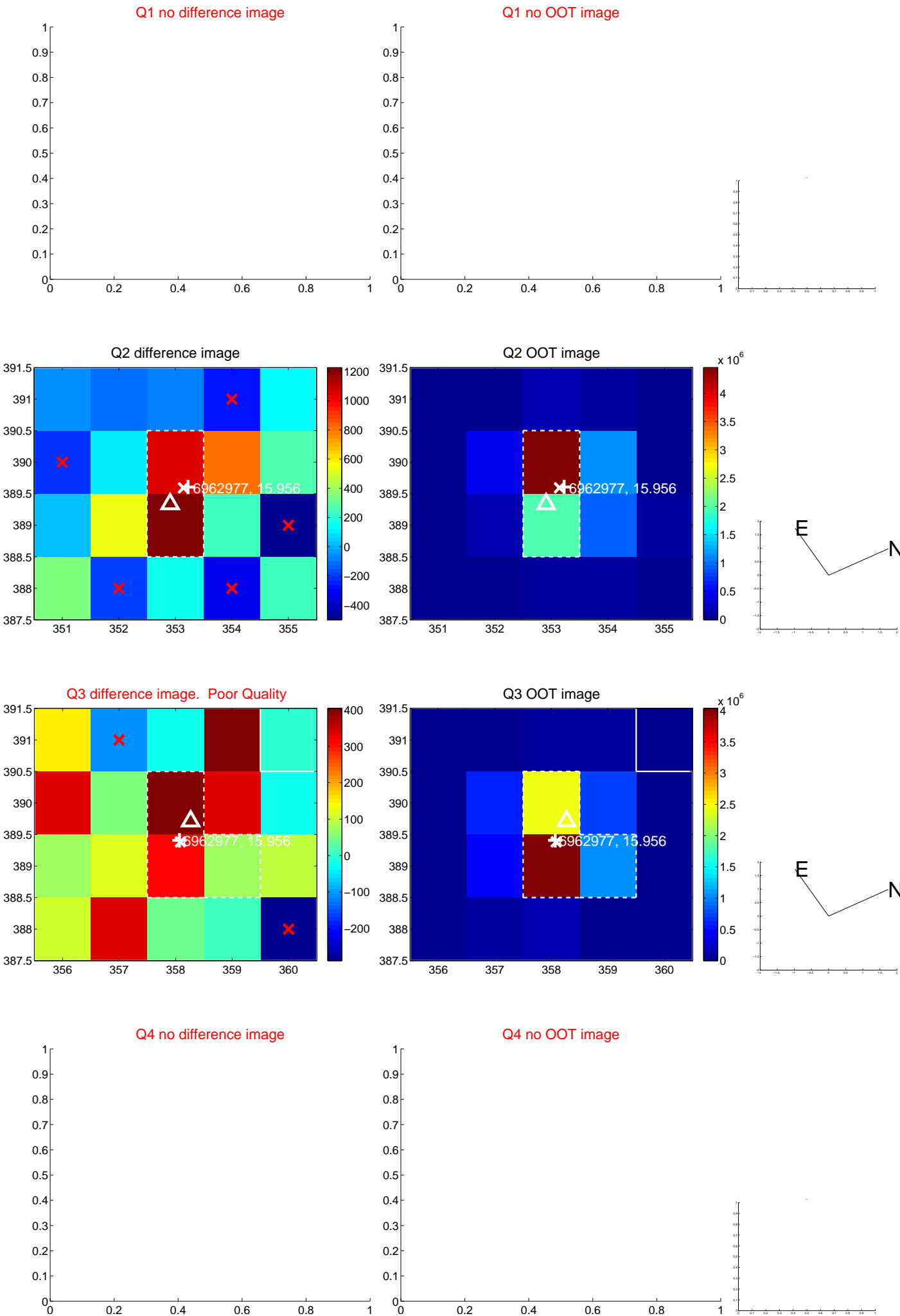
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.515 ± 0.525	0.98	0.485 ± 0.515	0.173 ± 0.604
PRF-fit source offset from KIC position	0.627 ± 0.533	1.18	0.563 ± 0.515	0.277 ± 0.604
photometric centroid source offset	2.51 ± 0.97	2.57	-1.81 ± 0.95	-1.73 ± 1.00

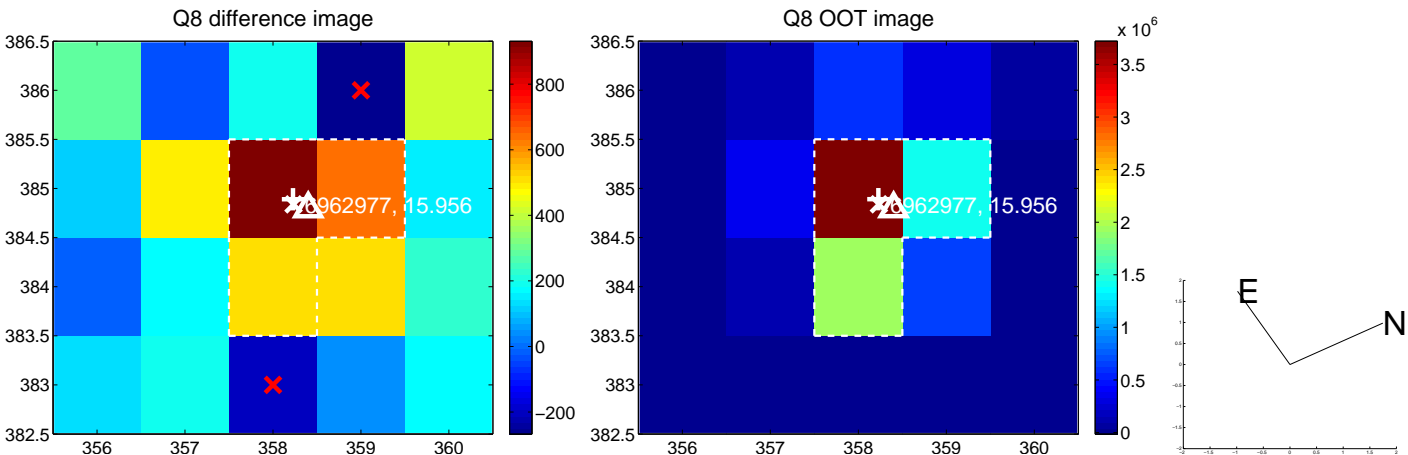
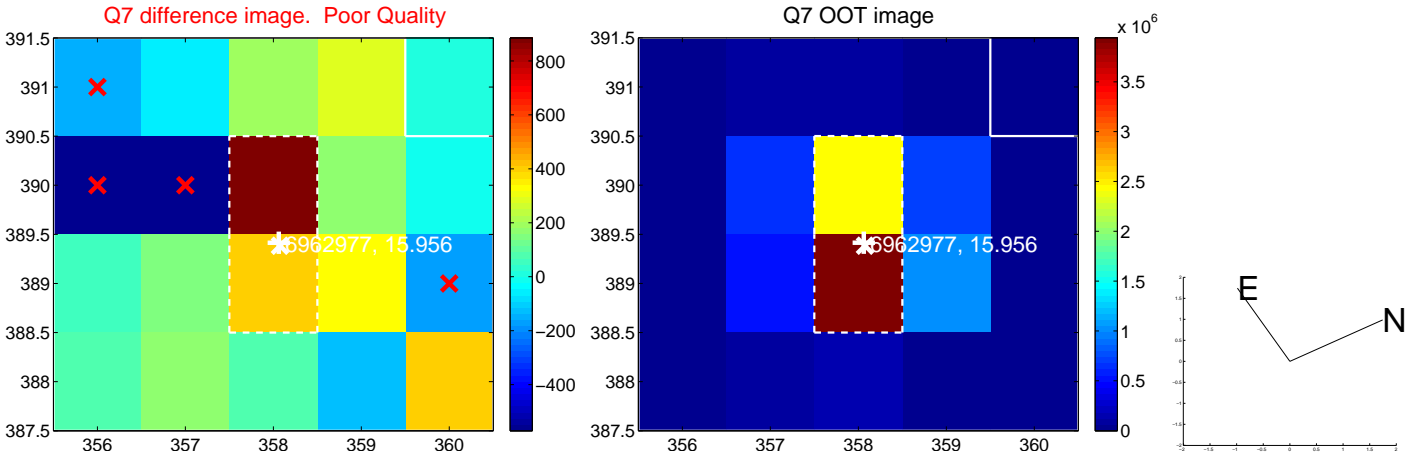
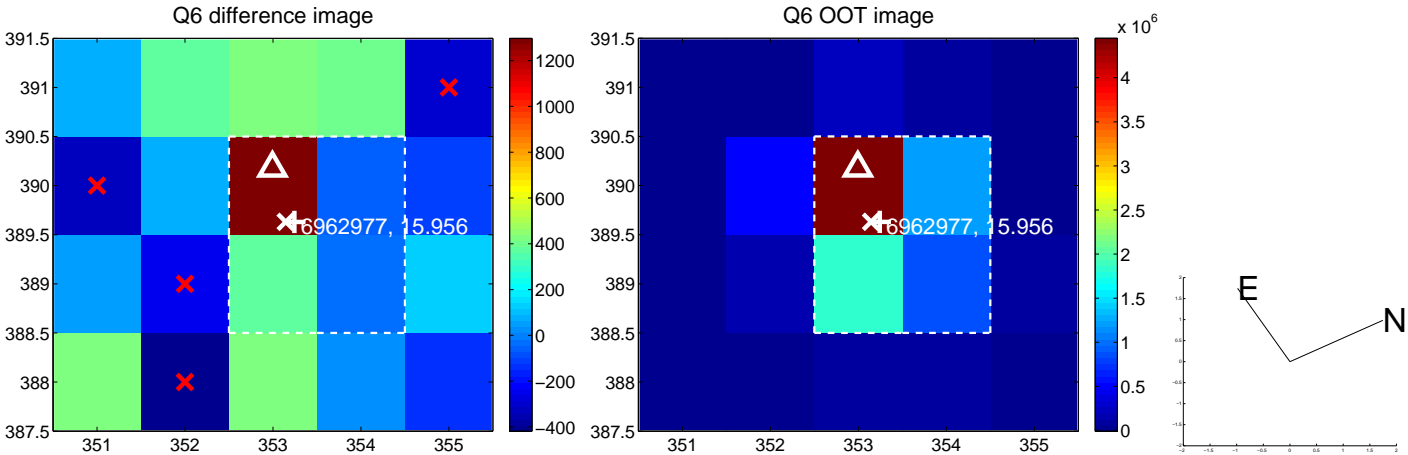
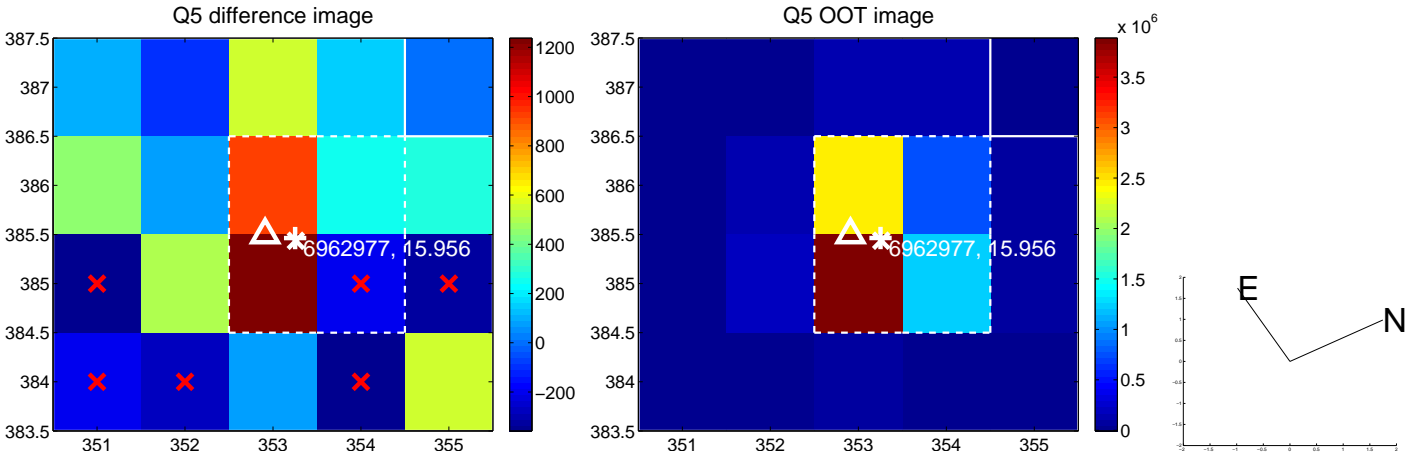


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

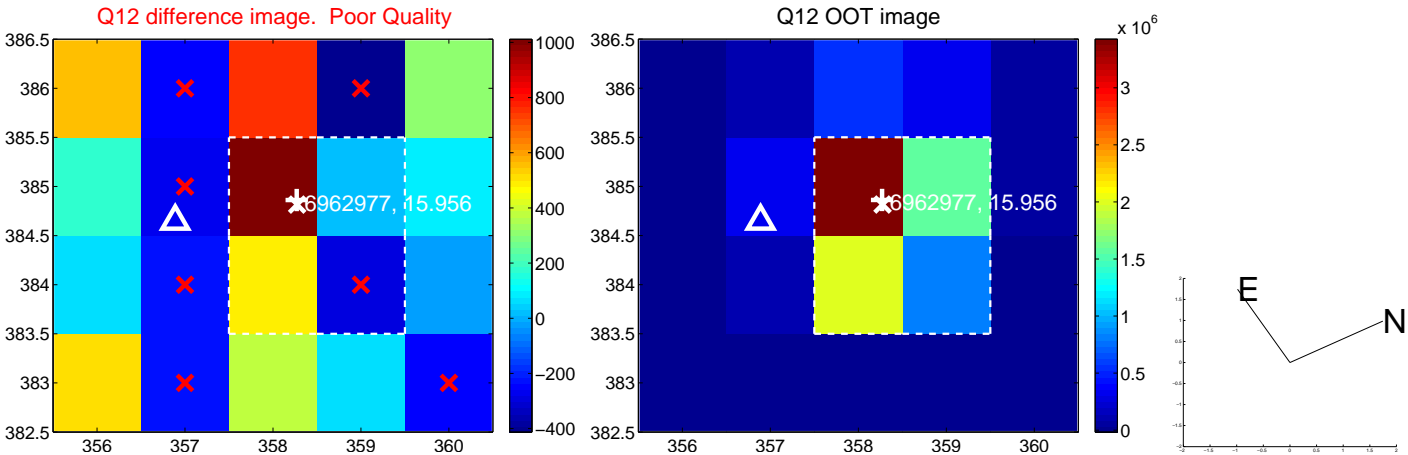
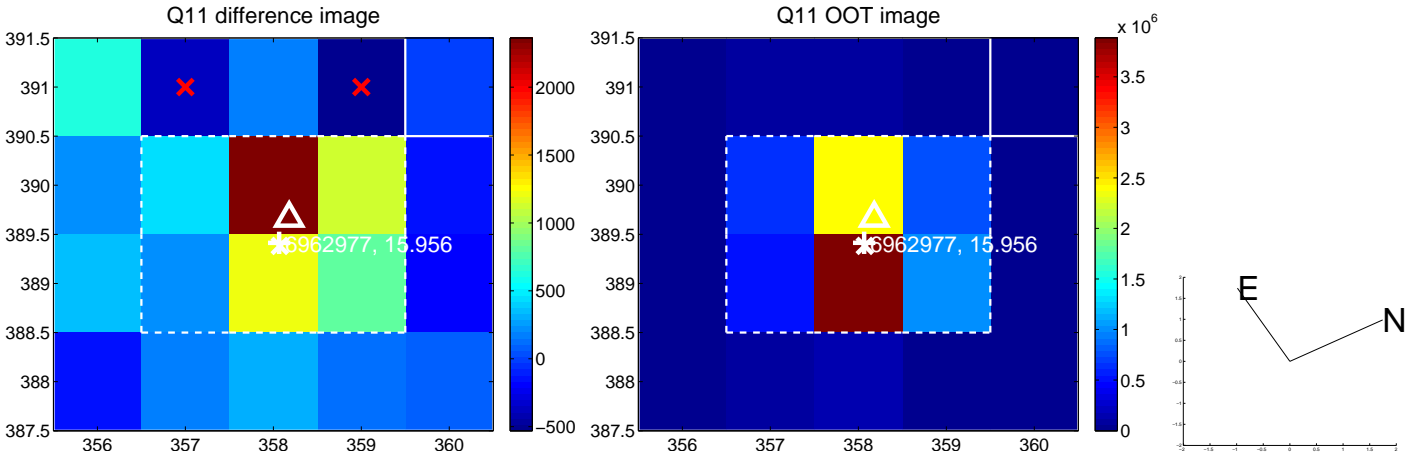
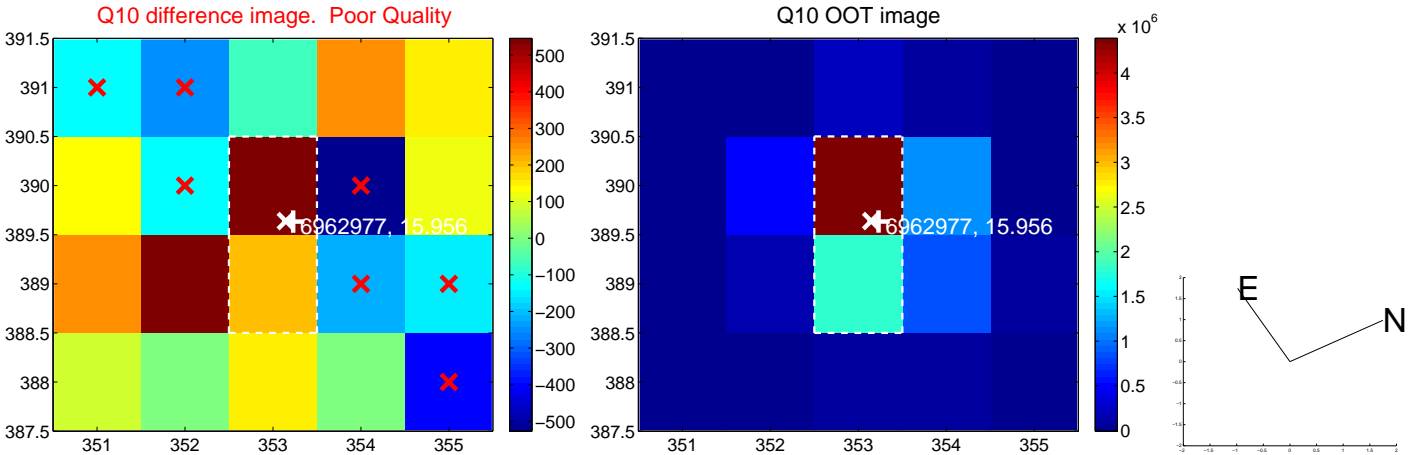
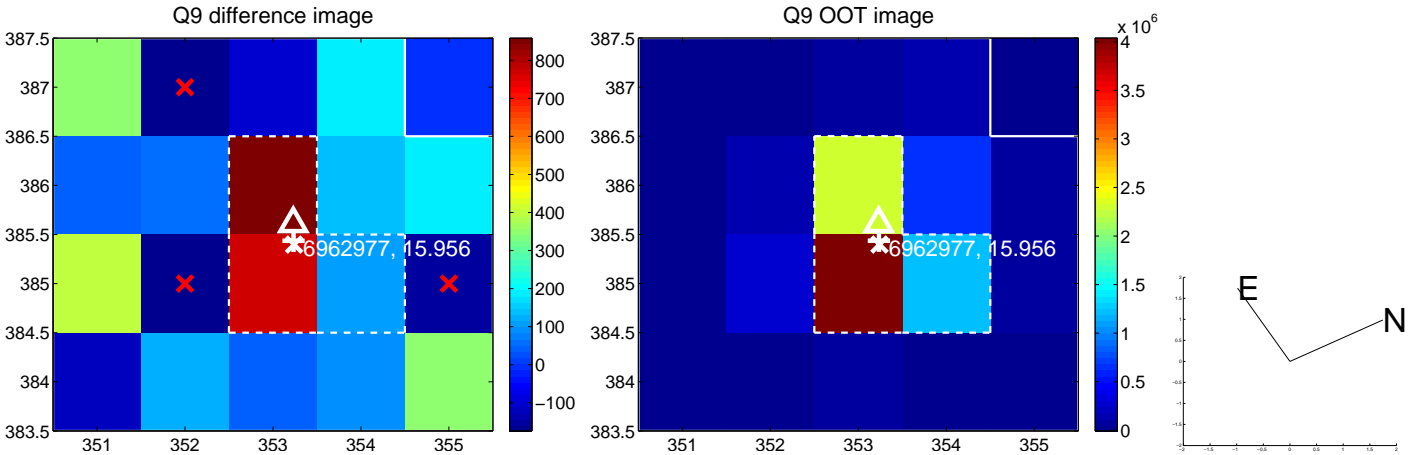
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



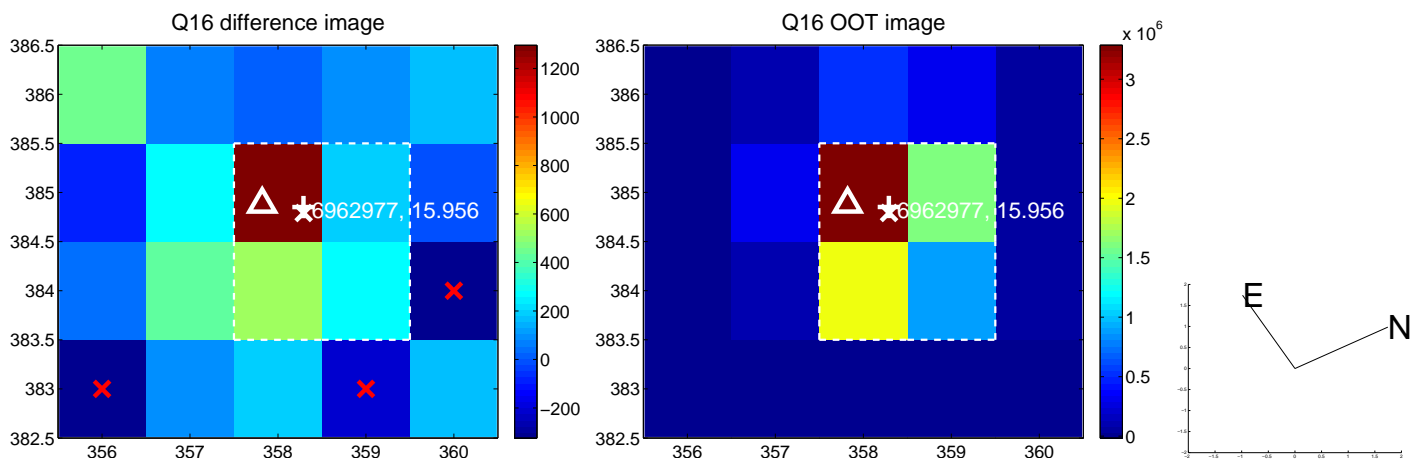
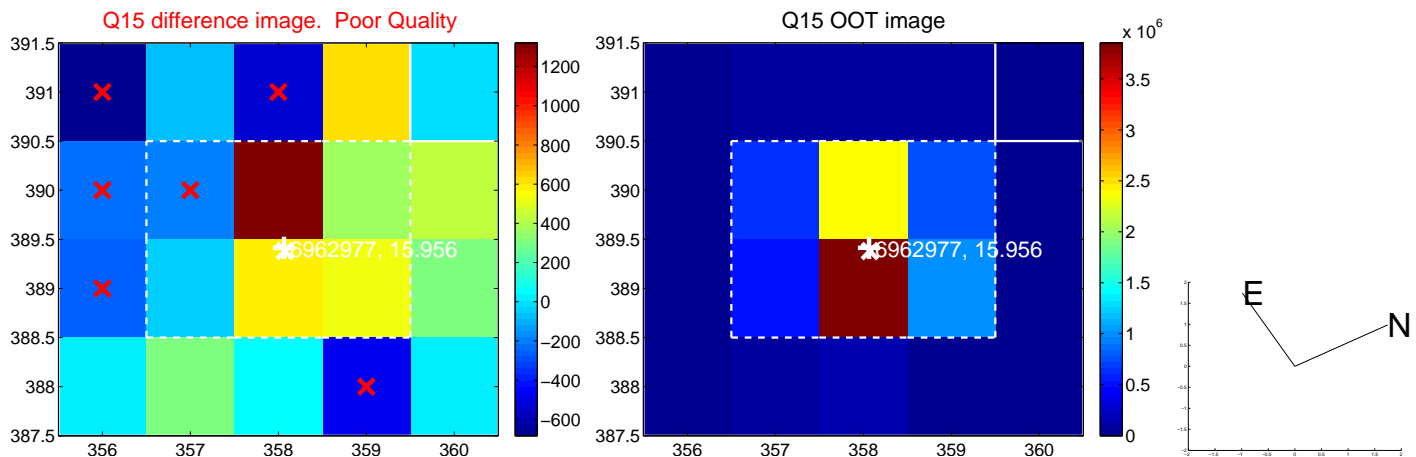
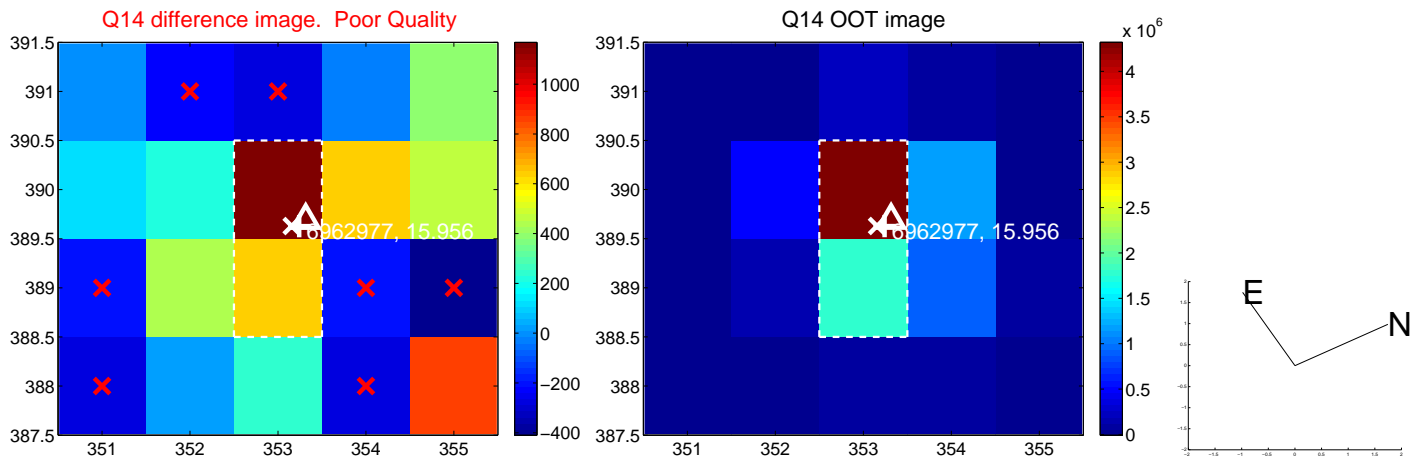
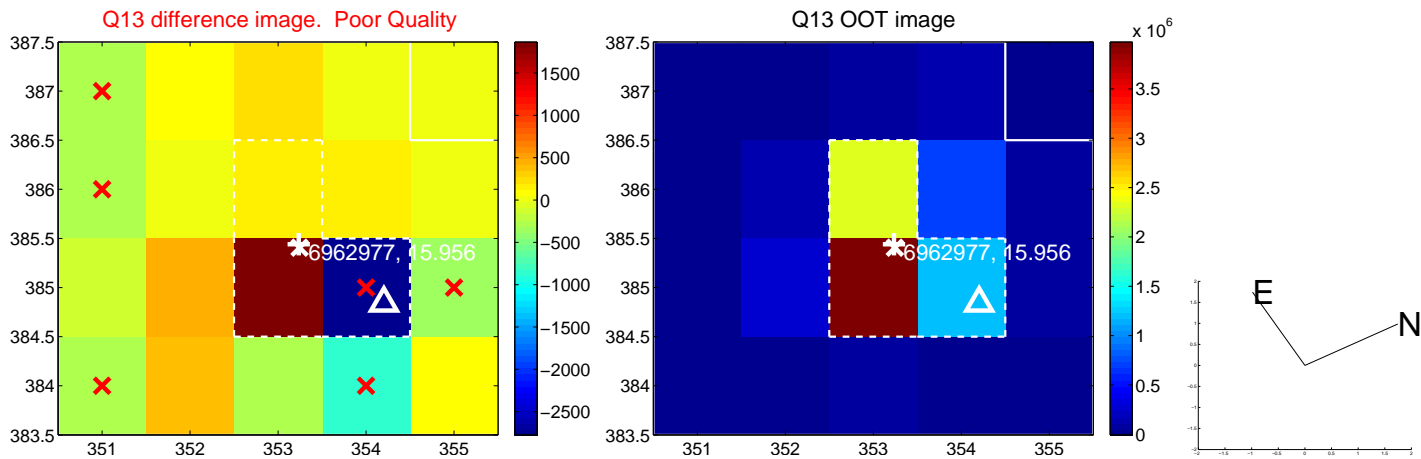
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



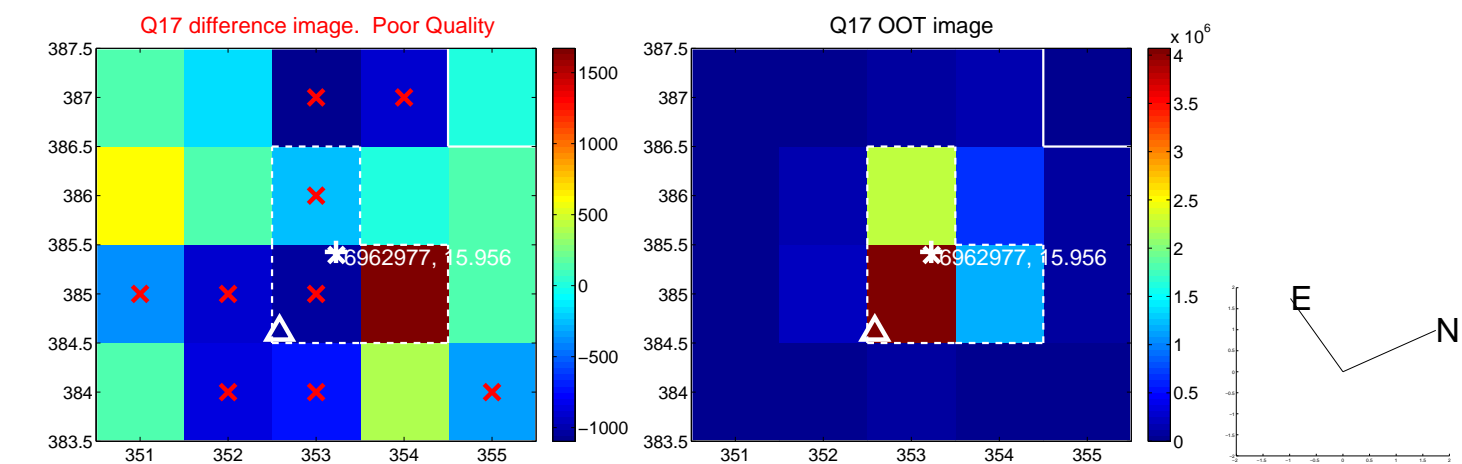
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



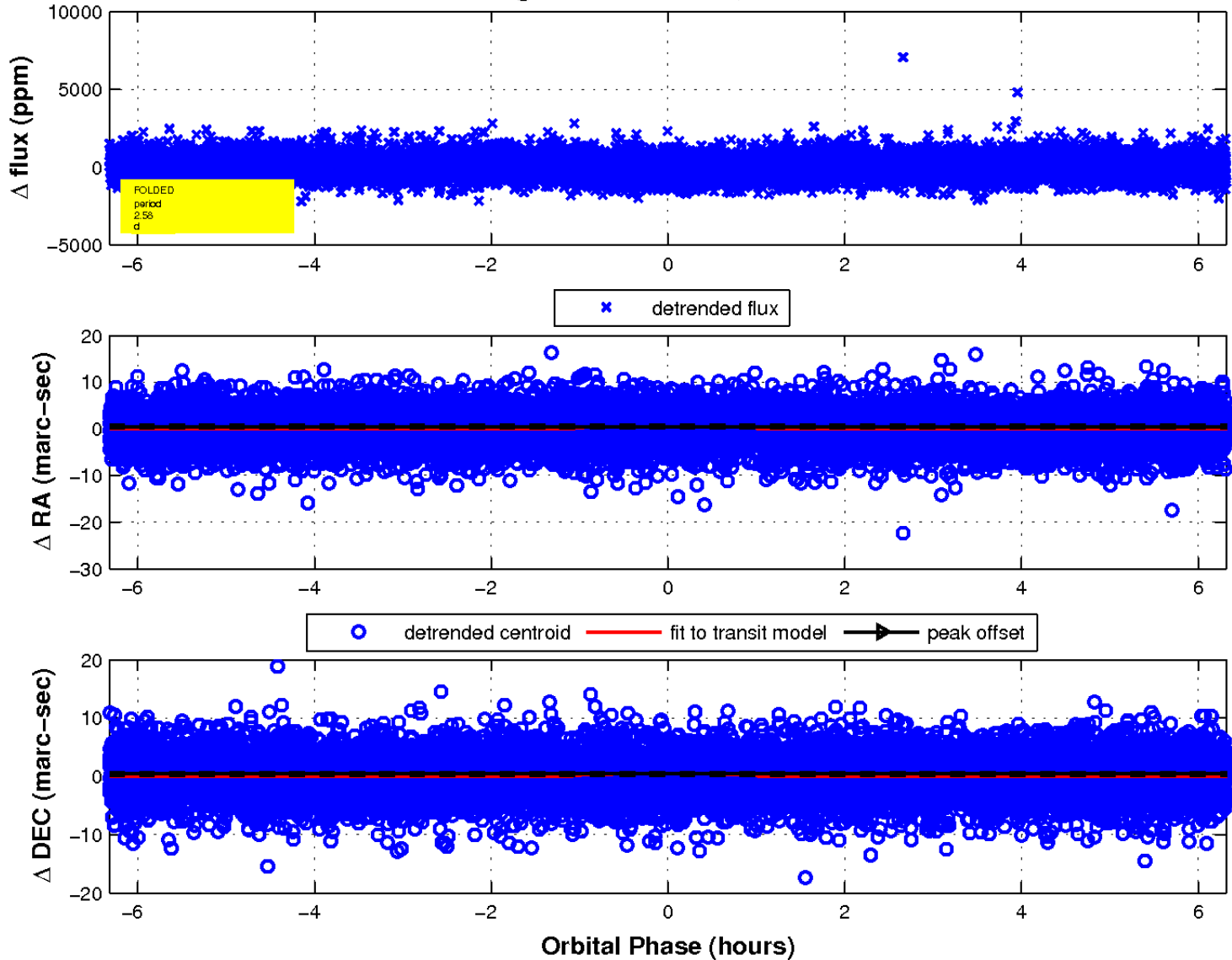
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 5 of 5



UKIRT Image

Declination

