

KIC 008686975

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})
008686975-01	OBS	No	1.254151	131.585917	130.4	4.500	8.5	-1.0	2.94	7516	3.40	30114.84
008686975-02	OBS	No	0.648401	131.609693	25.1	2.860	9.4	7.2	2.94	7516	1.50	72575.21
008686975-03	OBS	No	100.935820	176.191703	452.7	4.561	8.0	6.2	2.94	7516	11.70	86.67
008686975-04	OBS	No	31.445632	146.644542	293.2	3.973	8.5	8.7	2.94	7516	6.51	410.36
008686975-05	OBS	No	50.669126	176.299343	115.3	2.354	8.6	2.8	2.94	7516	3.64	217.23
008686975-06	OBS	No	94.233865	157.280879	528.6	3.613	9.7	7.3	2.94	7516	12.72	94.98
008686975-07	OBS	No	55.965597	166.515075	351.9	2.005	7.3	6.4	2.94	7516	6.46	190.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008686975-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008686975-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008686975-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008686975-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008686975-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

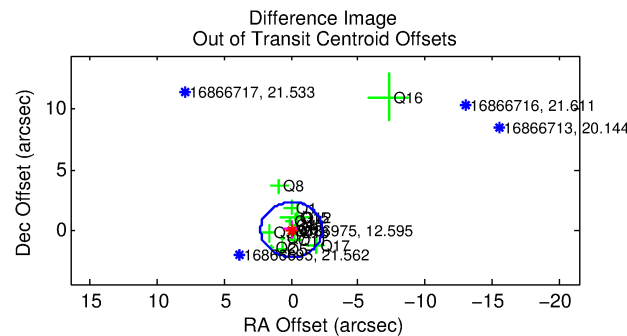
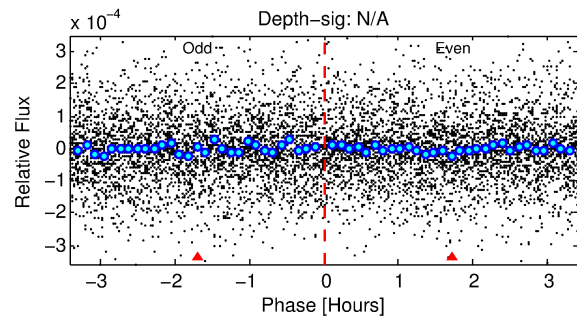
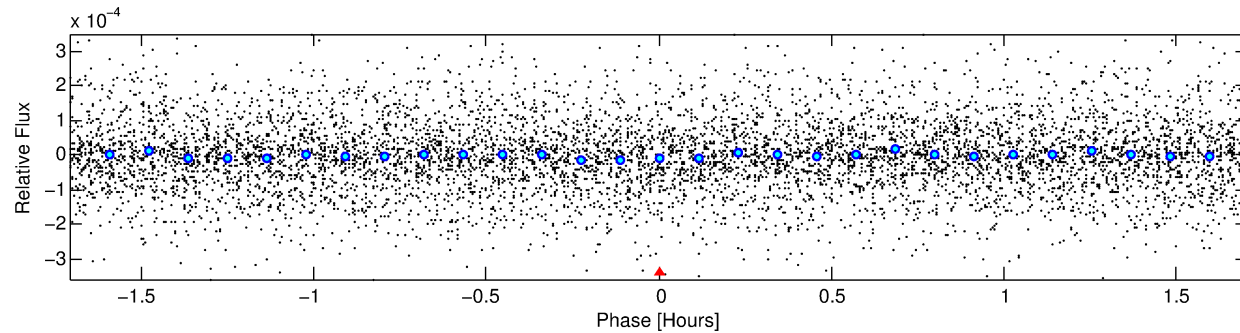
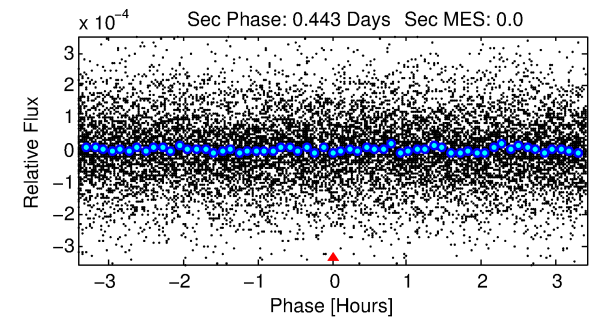
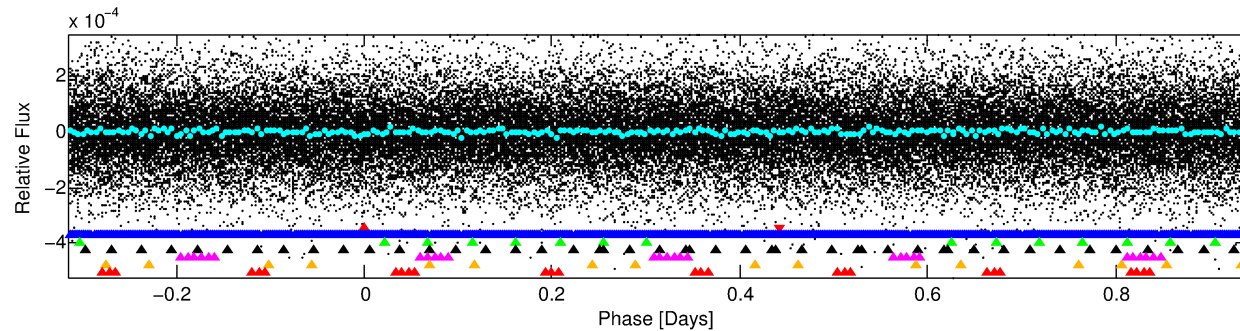
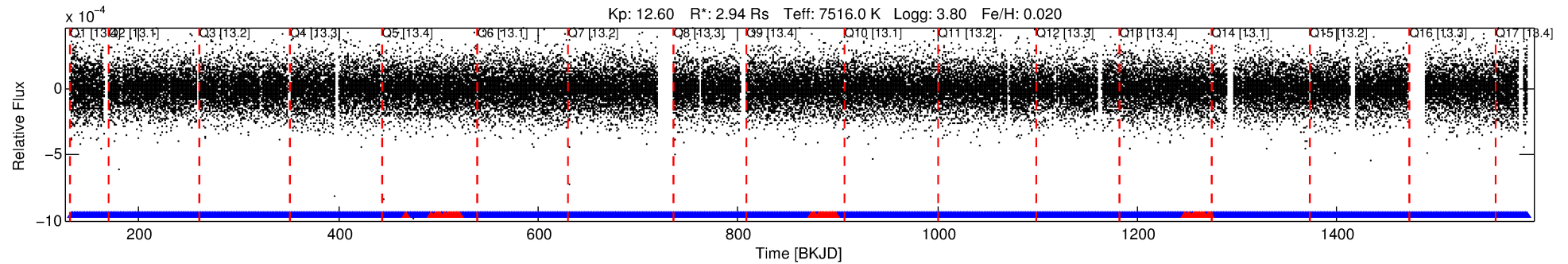
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008686975-01

No Significant Match Found

DV One-Page Summary

KIC: 8686975 Candidate: 1 of 7 Period: 1.254 d



TPS TCE Results:

Period = 1.25415 d
Epoch = 131.5859 BKJD

DV fit results are unavailable

DV Diagnostic Results:

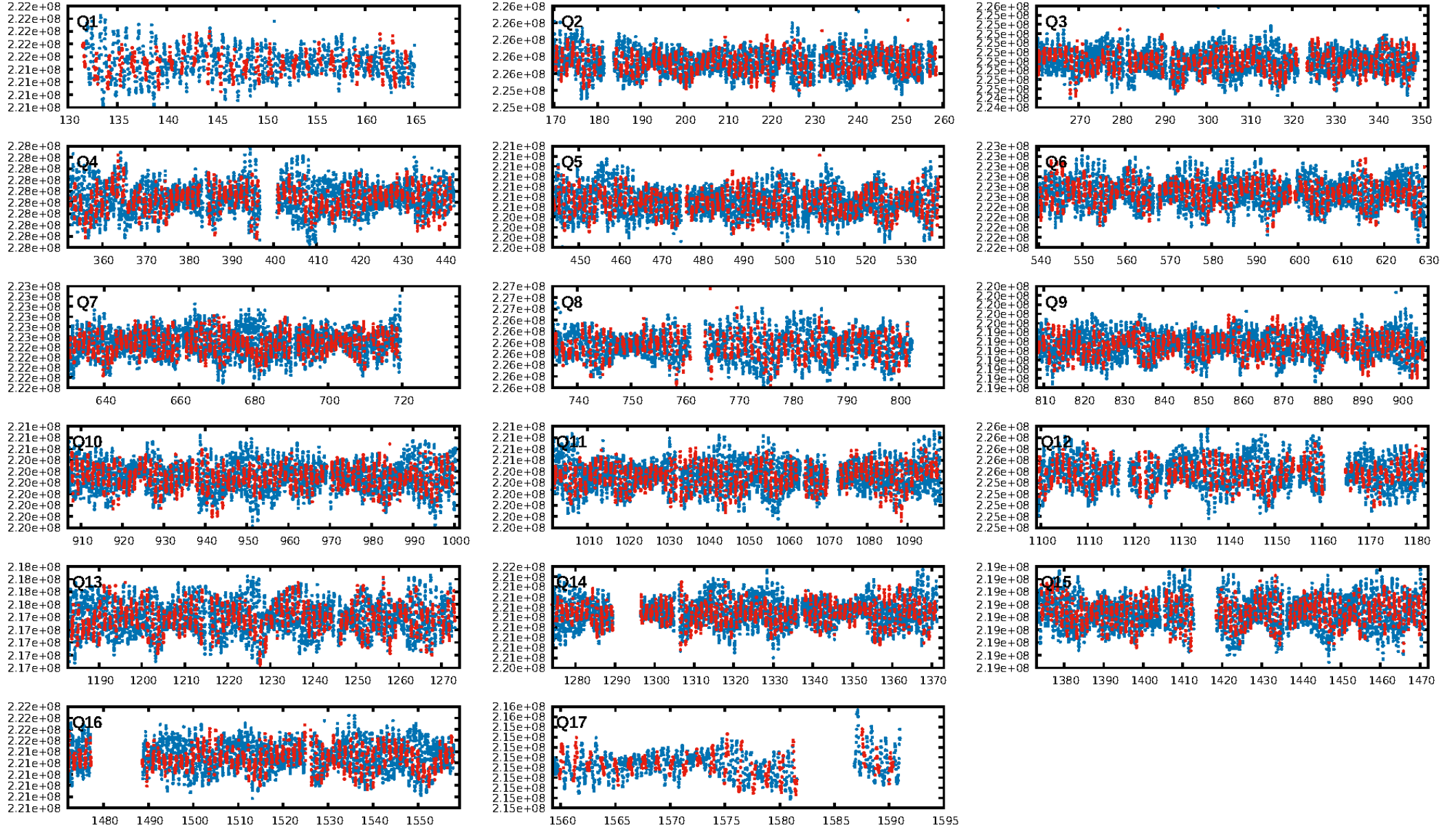
ShortPeriod-sig: 99.4% [2.73 σ]
LongPeriod-sig: 100.0% [120.71 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.15e-16
RollingBand-fgt: 0.95 [971/1021]
GhostDiagnostic-chr: 1.21

Centroid-sig: N/A
Centroid-so: 5.310 arcsec [0.94 σ]
OotOffset-rm: 0.020 arcsec [0.03 σ]
KicOffset-rm: 0.165 arcsec [0.24 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.29 [5/17]
DiffImageOverlap-fno: 1.00 [17/17]

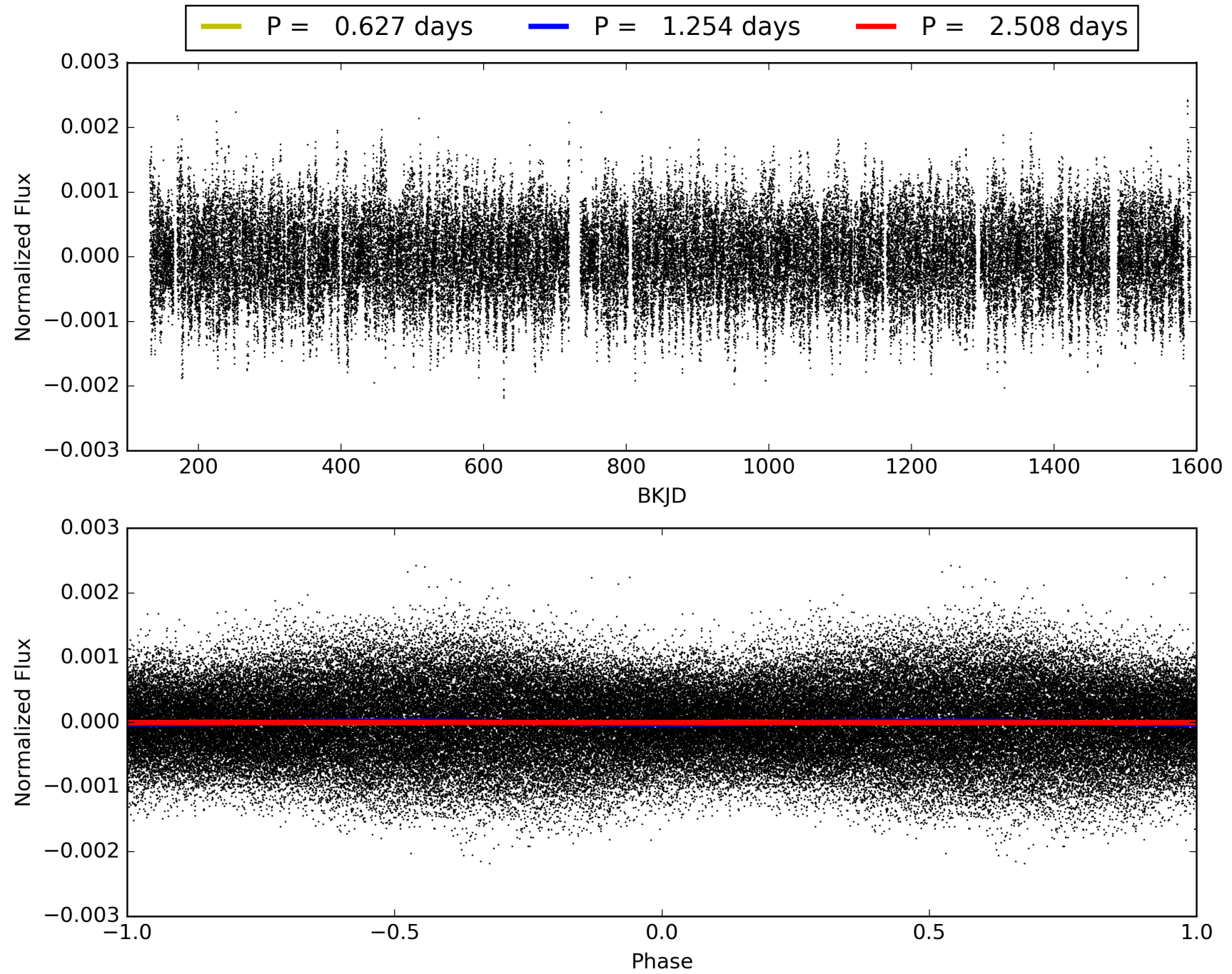
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:27:21 Z

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

TCE 008686975-01, PDC Light Curves

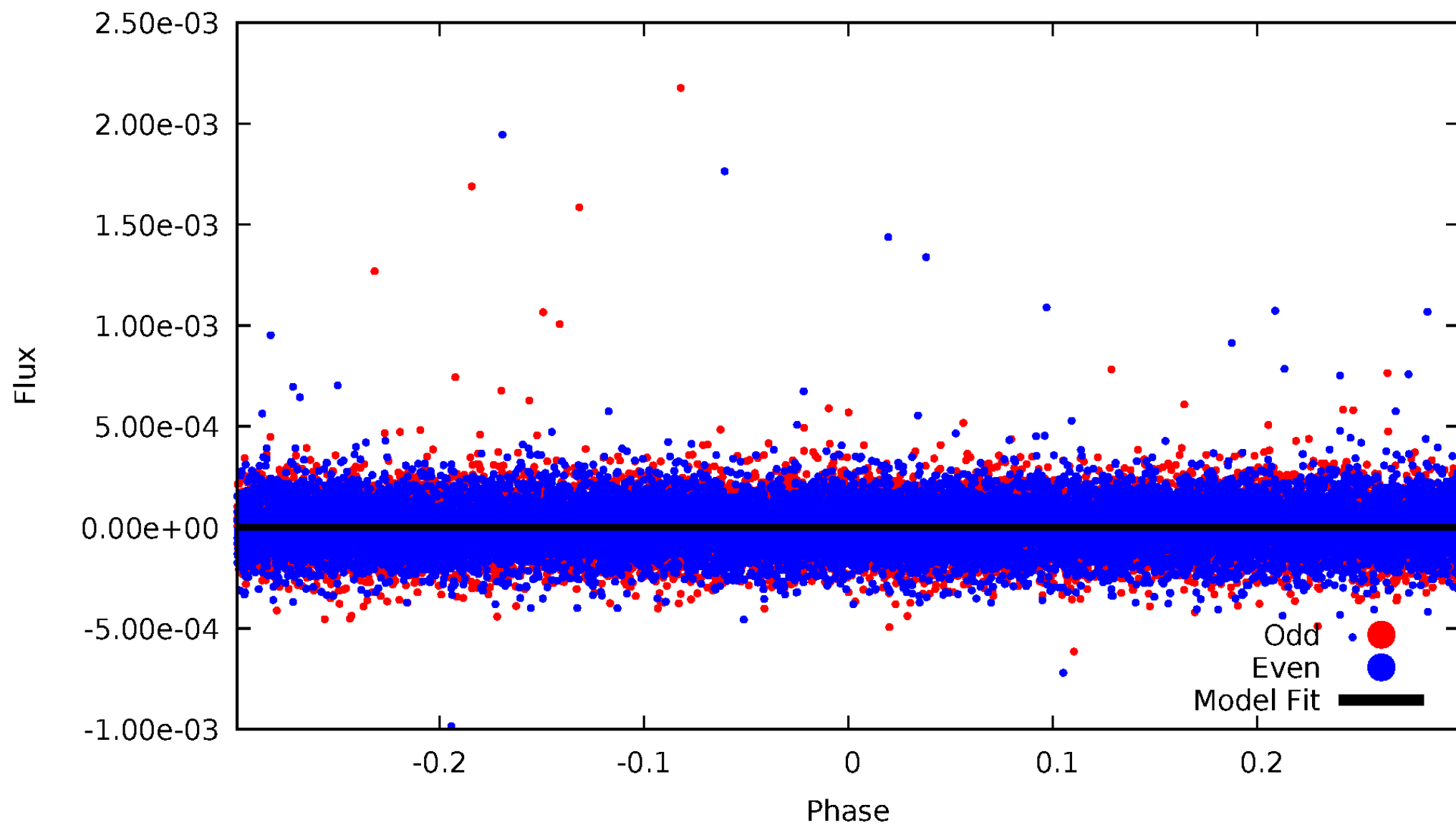


TCE 008686975-01



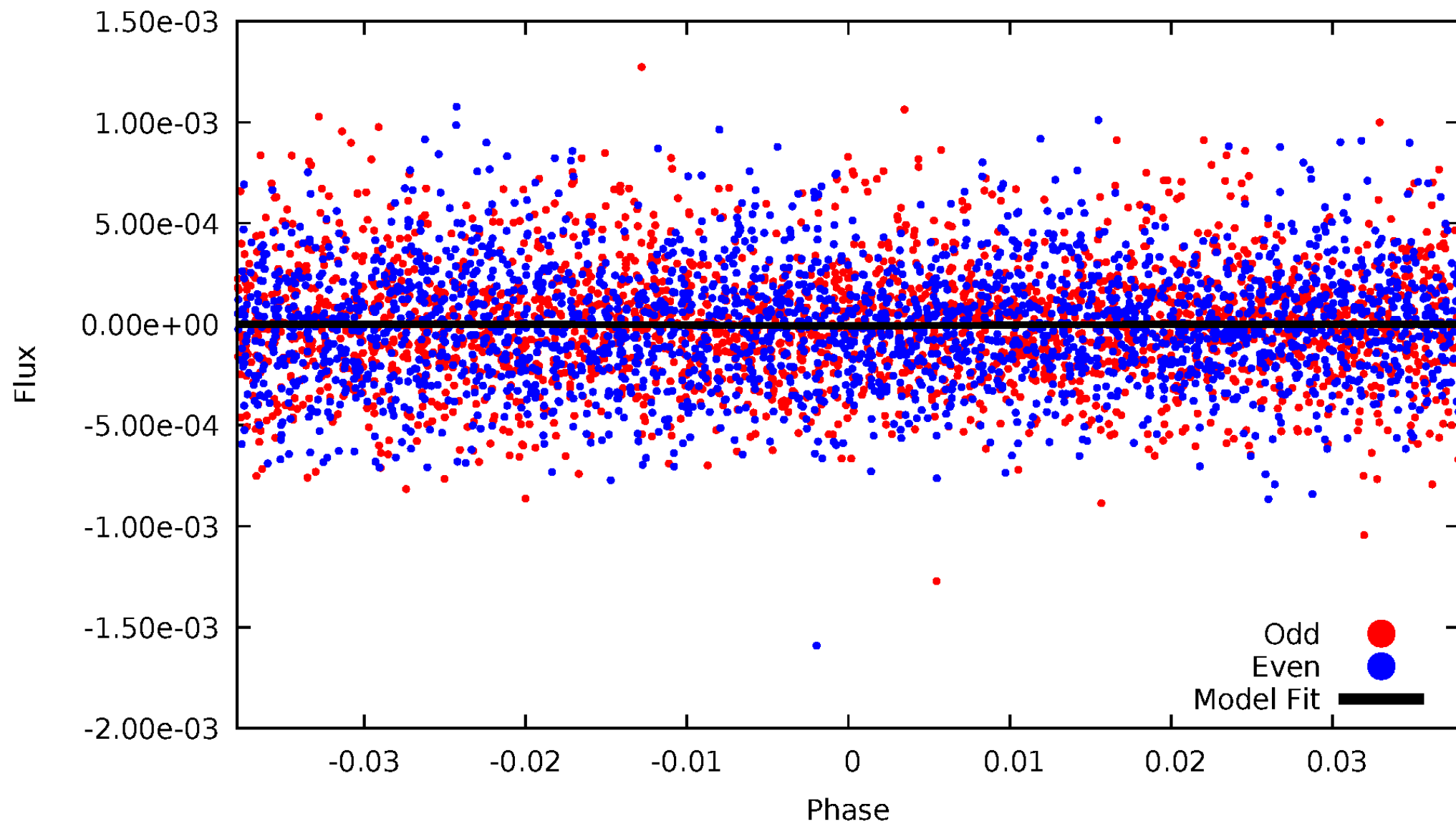
DV Odd/Even

TCE 008686975-01

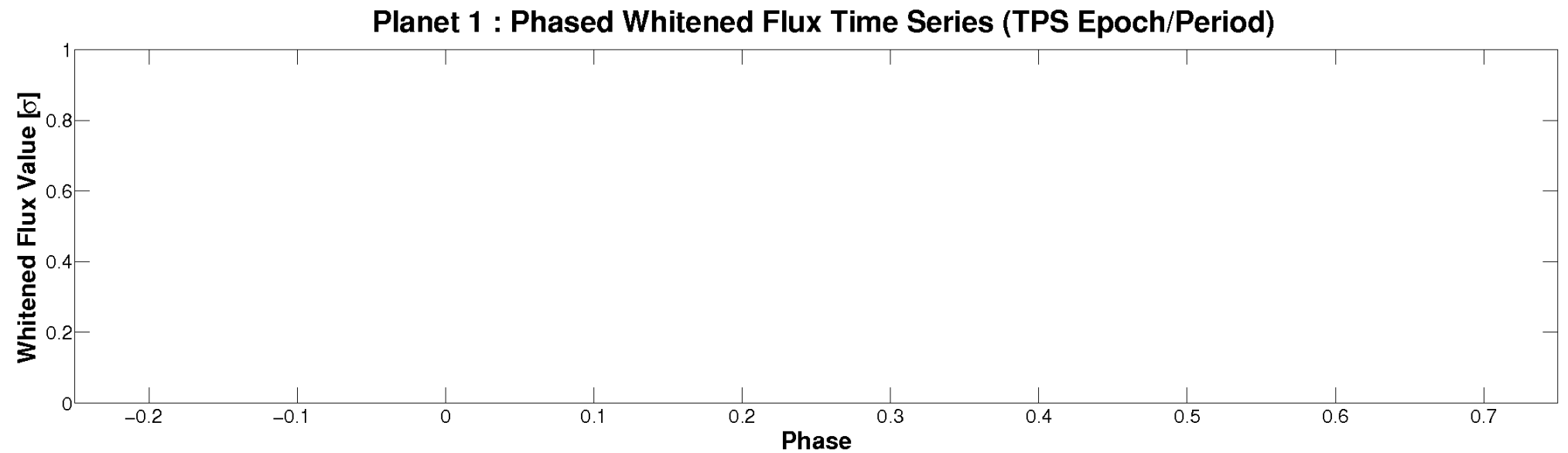
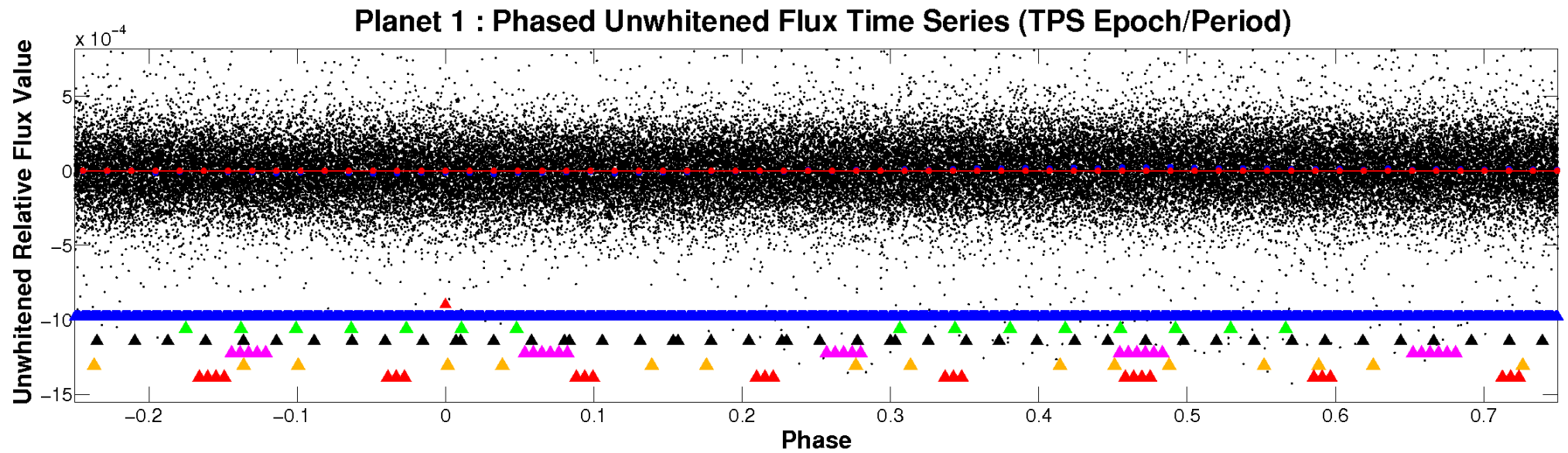


ALT Odd/Even

TCE 008686975-01

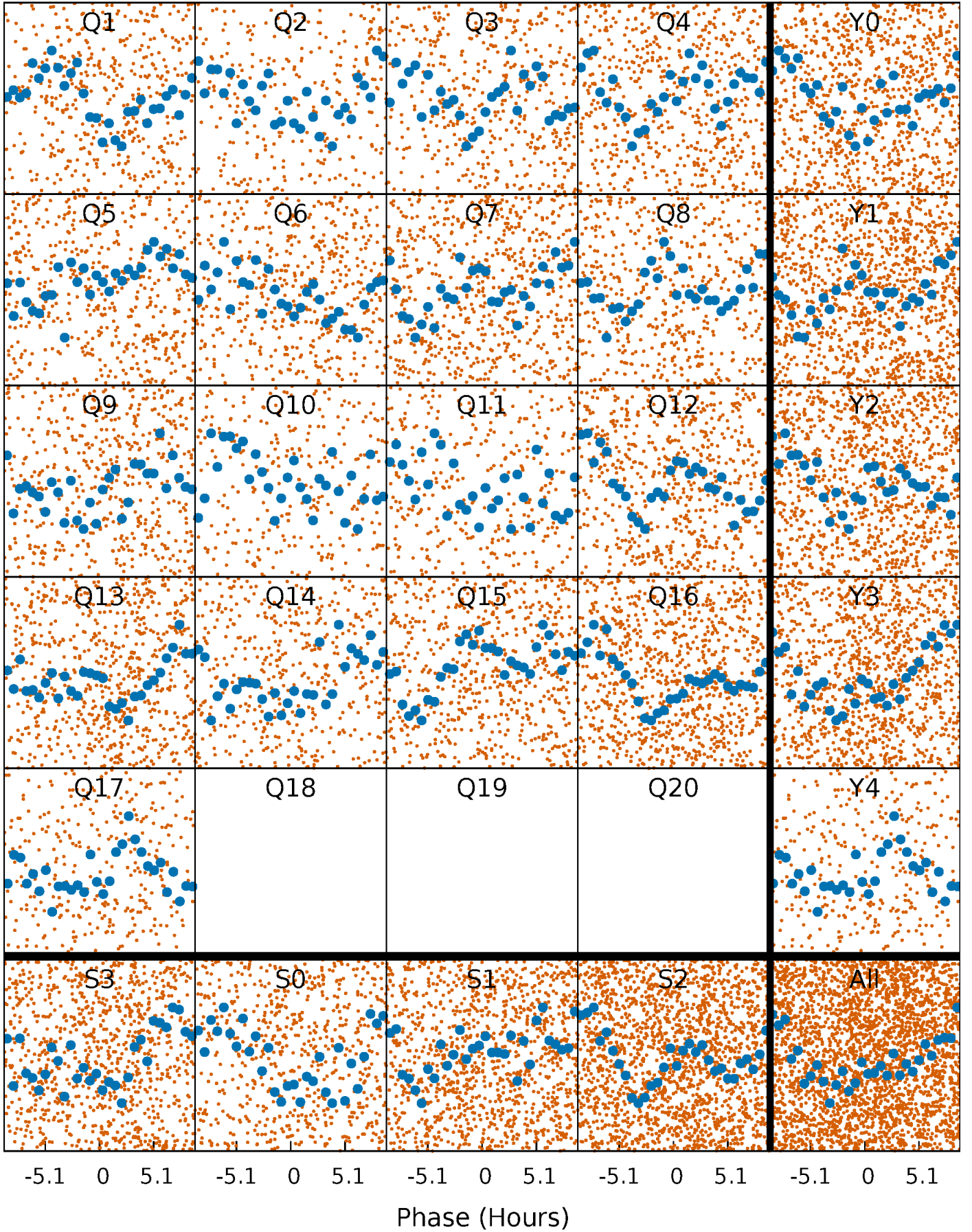


Non-Whitened Vs. Whitened Light Curve



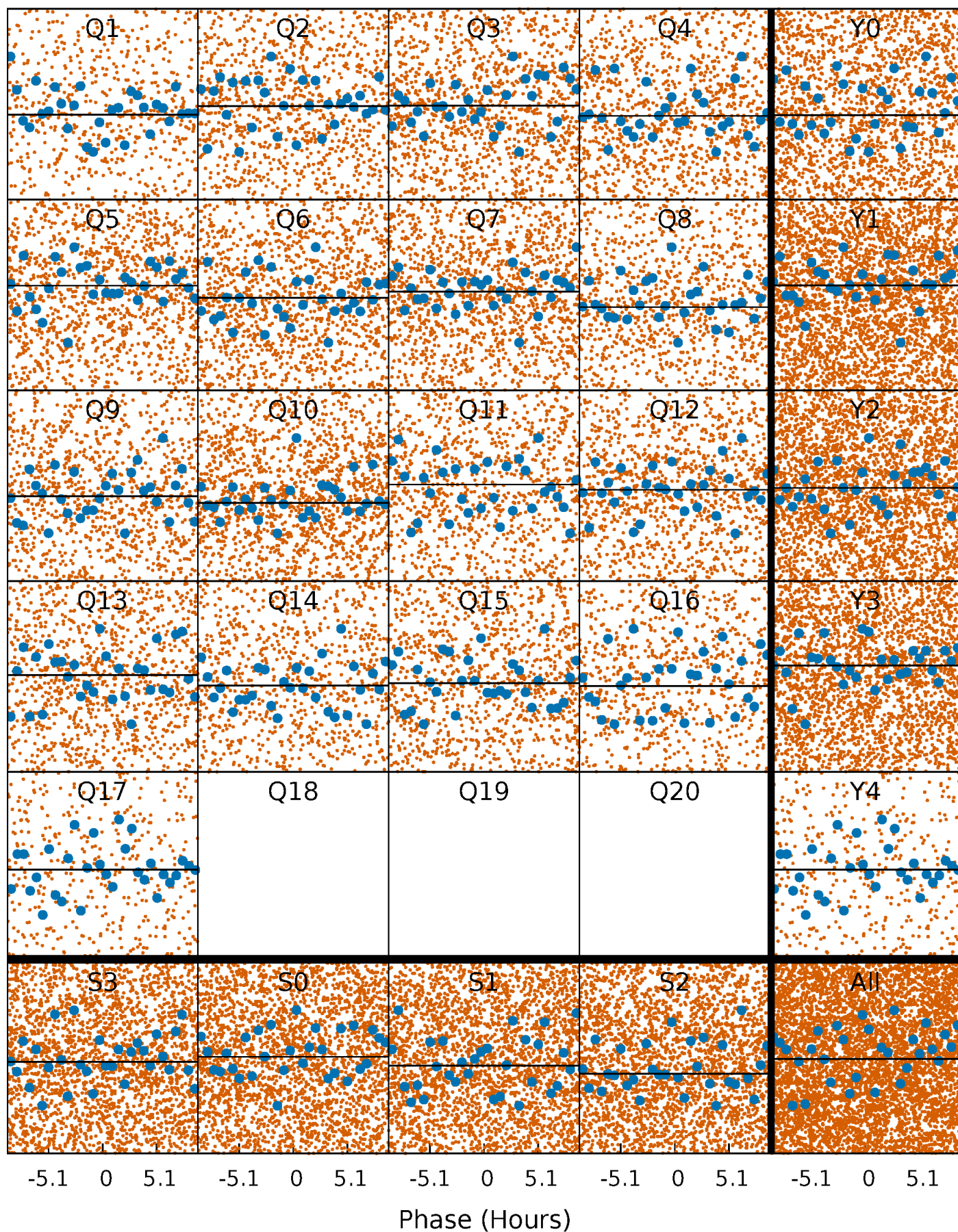
PDC Quarter-Phased Transit Curves

TCE 008686975-01 P= 1.254151 Days $T_0=131.585917$ (BKJD)



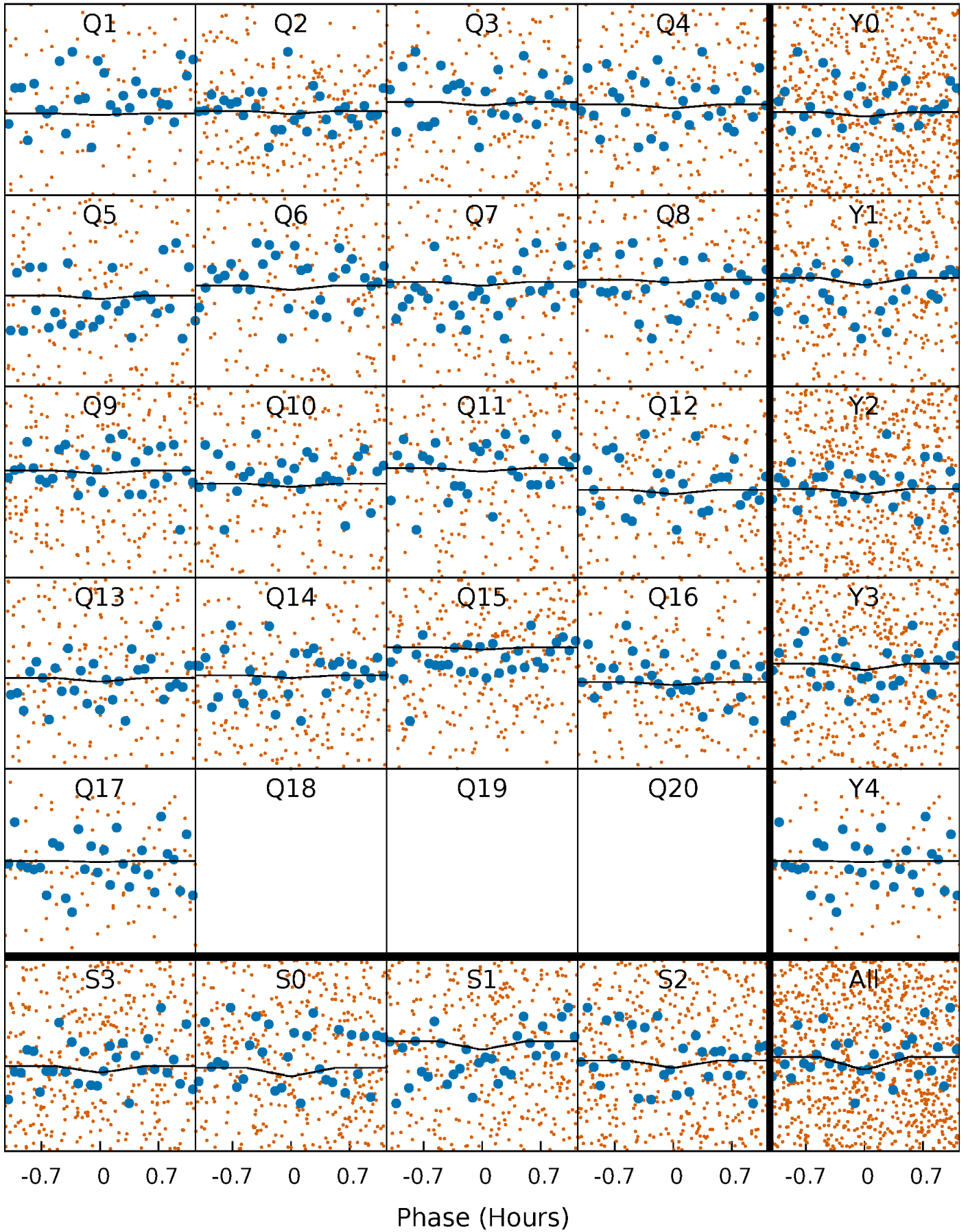
DV Quarter-Phased Transit Curves

TCE 008686975-01 P= 1.254151 Days $T_0=131.585917$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

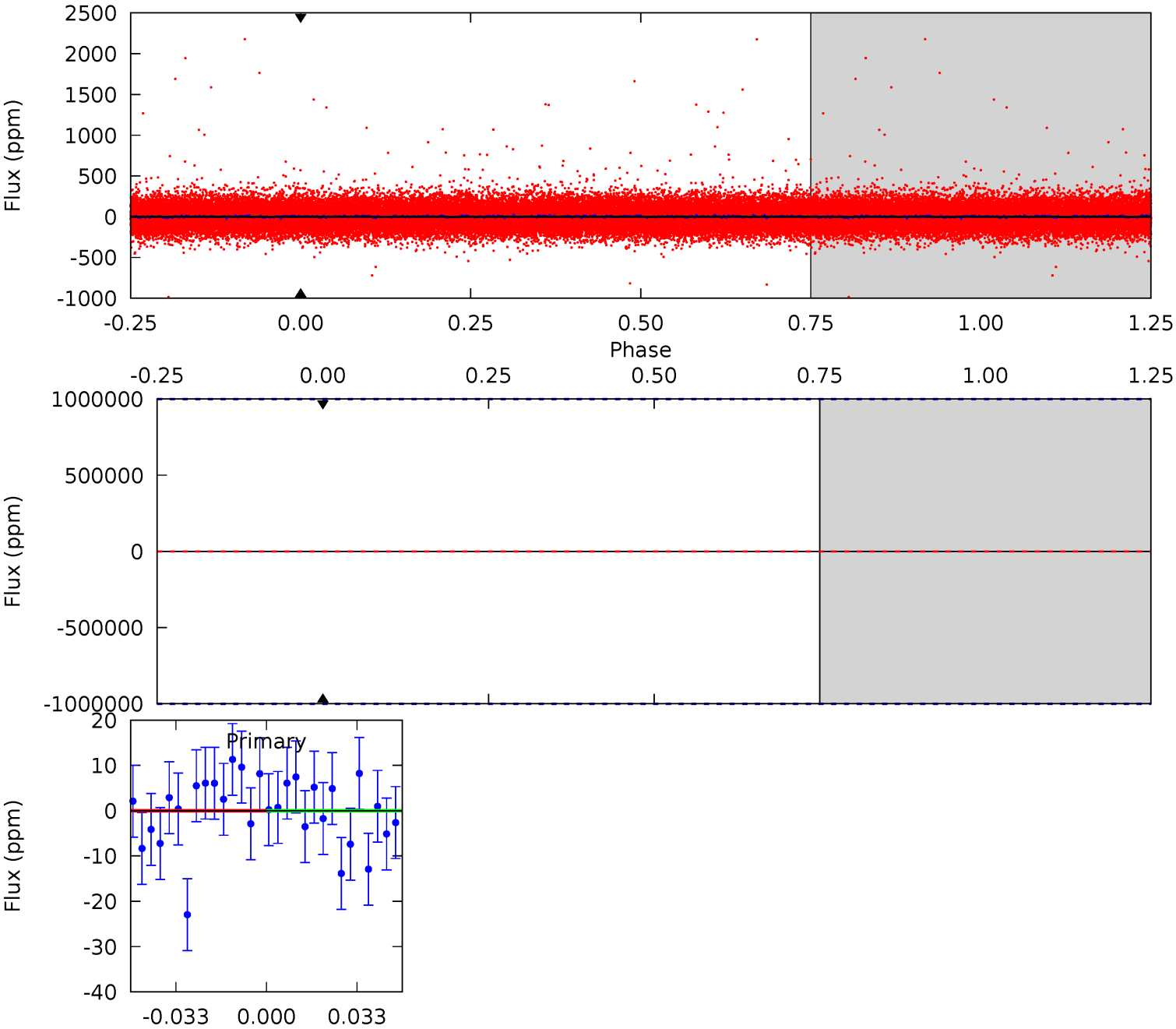
TCE 008686975-01 P= 1.254151 Days $T_0=132.598930$ (BKJD)



DV Model-Shift Uniqueness Test

008686975-01, P = 1.254151 Days, E = 130.331766 Days

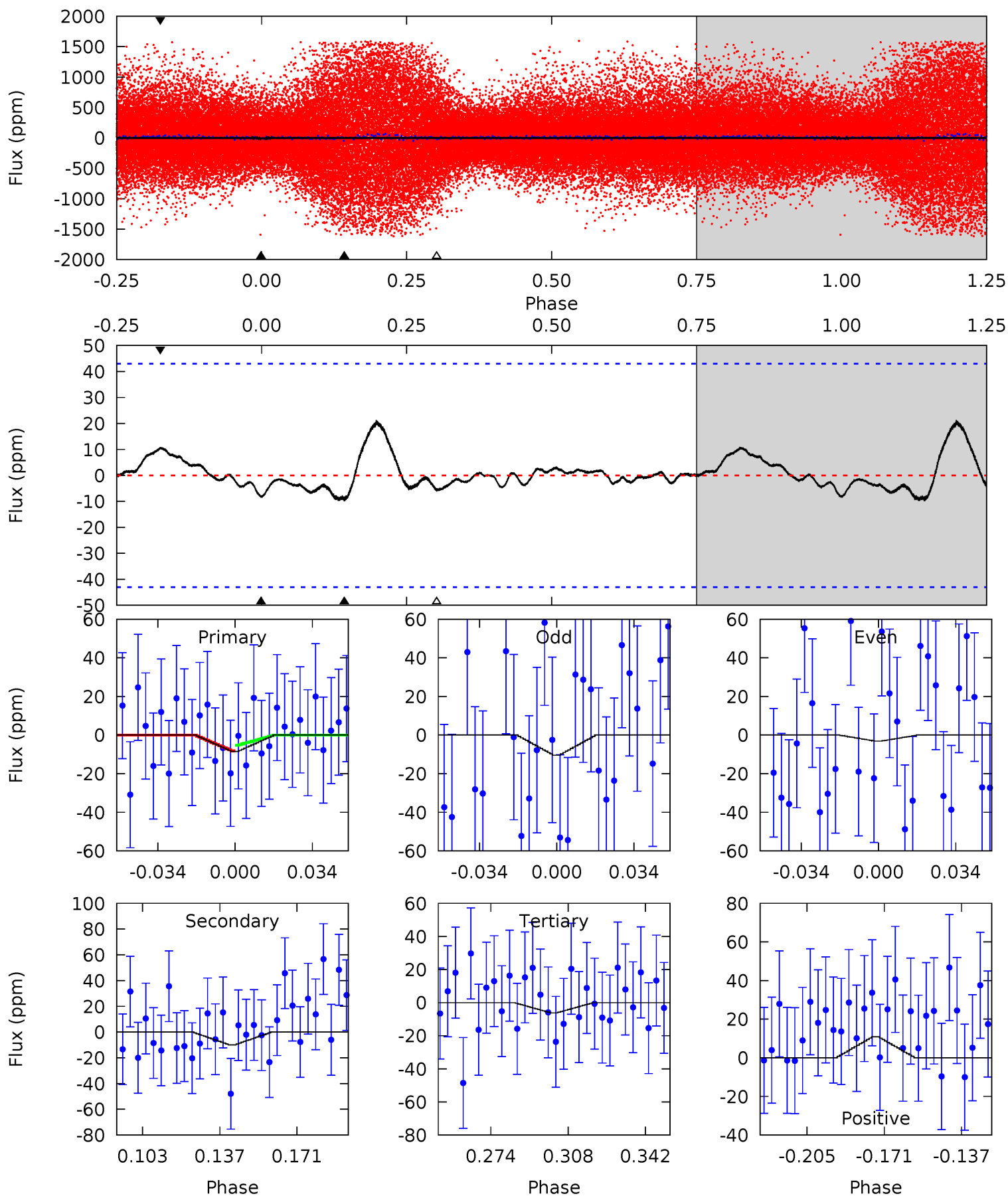
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008686975-01, P = 1.254151 Days, E = 131.344779 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.95	1.10	0.69	1.21	4.78	2.12	0.57	0.26	-0.27	0.41	-0.11	0.41	0.47	0.68	0.16



Stellar Parameters For KIC 008686975

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7516^{+209}_{-313}	$3.800^{+0.352}_{-0.110}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.412}_{-1.236}$	$1.978^{+0.096}_{-0.478}$	$0.110^{+0.279}_{-0.038}$
	+3%/-4%	+9%/-3%	+1000%/-1750%	+14%/-42%	+5%/-24%	+254%/-35%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008686975-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$20.32^{+21.84}_{-13.75}$	4583^{+314}_{-479}	5995^{+43648}_{-36972}	$2.264^{+231.585}_{-123.731}$
Alt.	-10 ± 9	$21.10^{+21.27}_{-14.41}$	4609^{+306}_{-536}	-3967^{+478}_{-221}	$0.007^{+0.074}_{-0.007}$

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 $A_{obs} \gg 1.0$

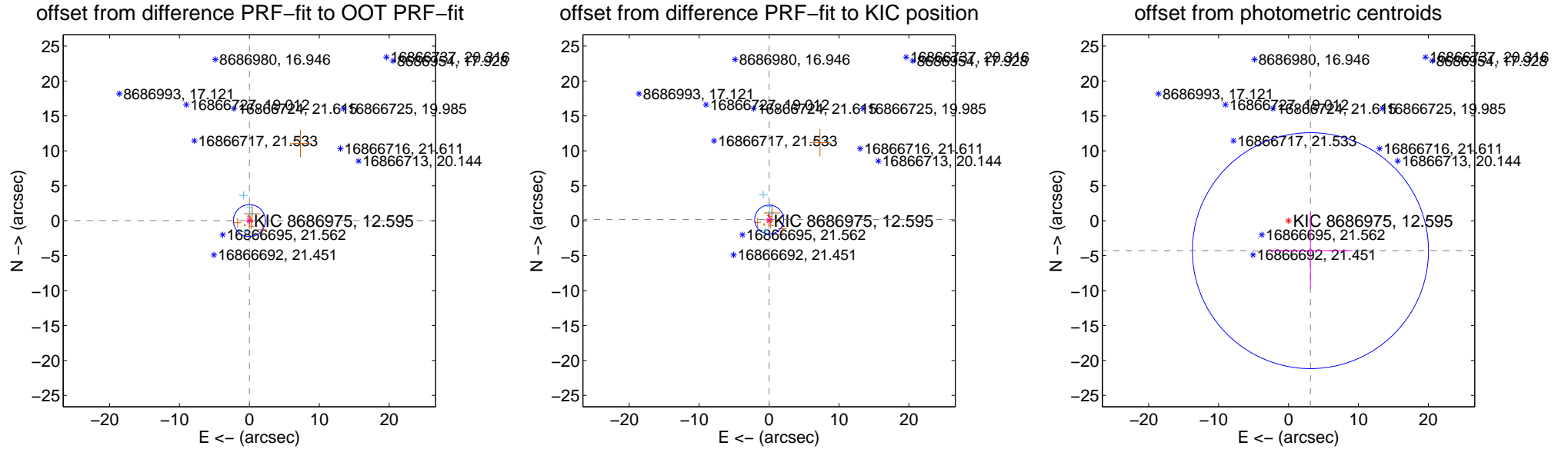
DV Centroid Data

Supplemental centroid analysis for 008686975-01. Kepler magnitude: 12.60. Transit SNR -1.00

There are 5 quarters with good PRF difference image offsets

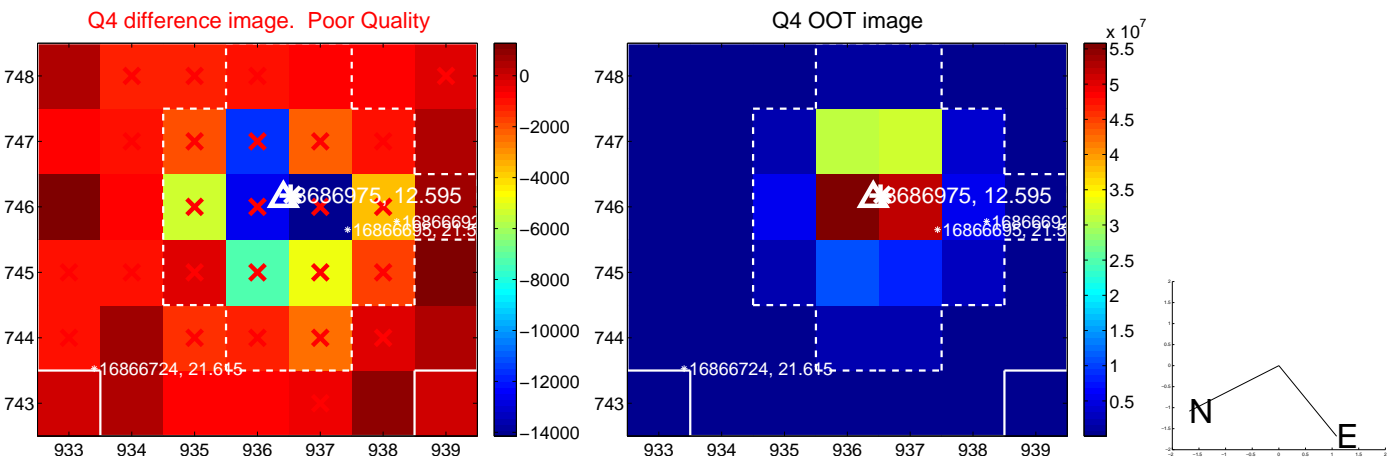
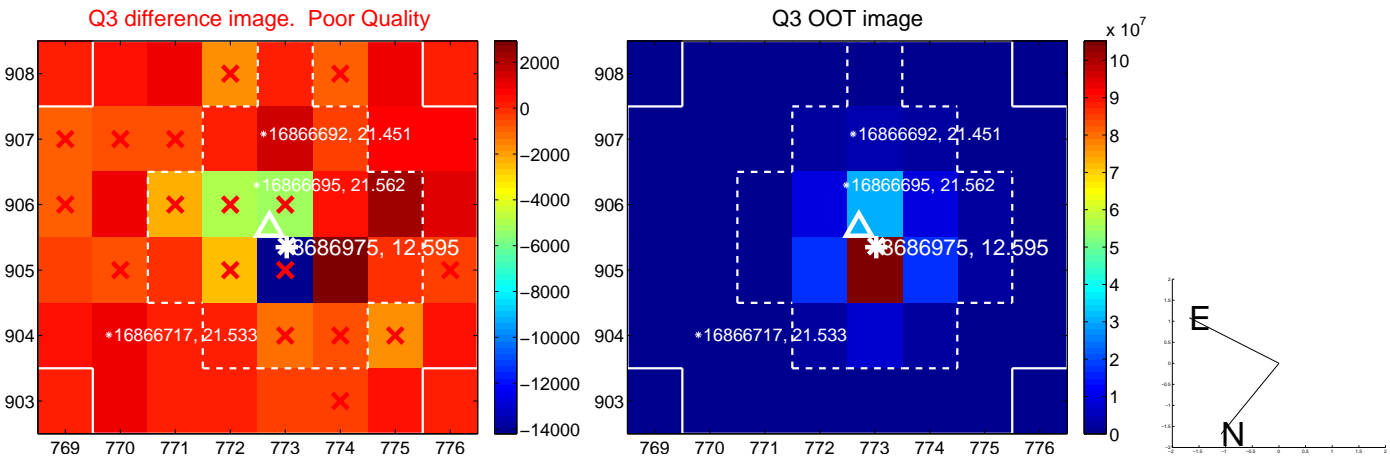
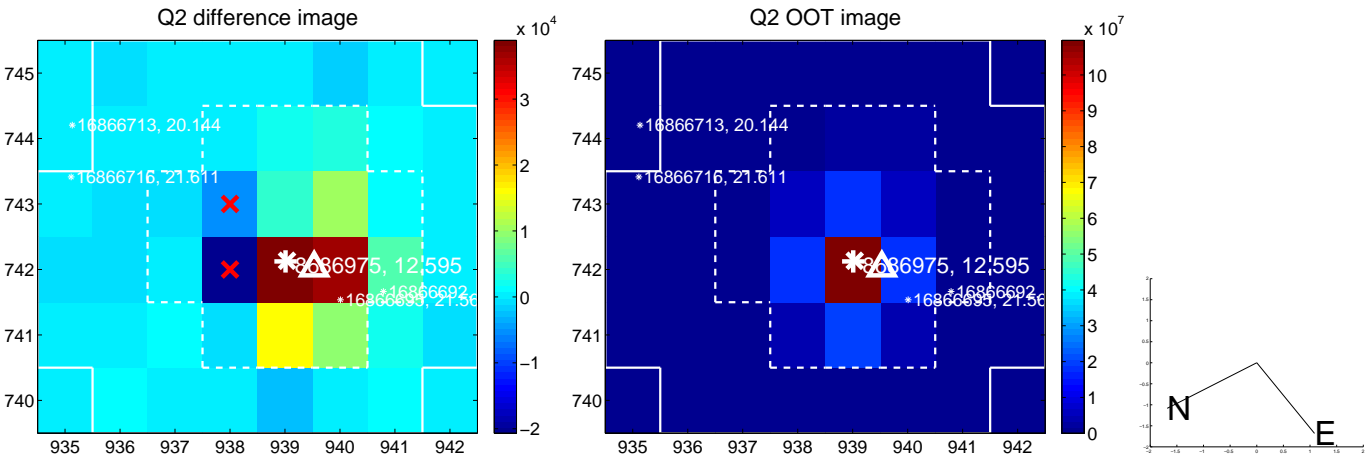
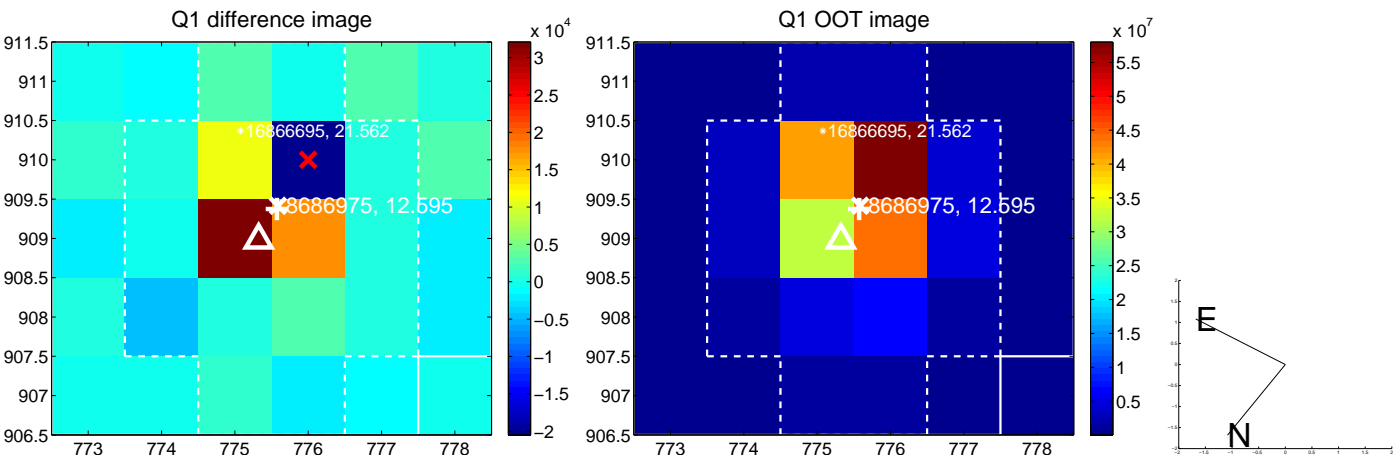
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.020 ± 0.762	0.03	-0.010 ± 0.446	0.017 ± 0.667
PRF-fit source offset from KIC position	0.165 ± 0.689	0.24	-0.008 ± 0.463	0.165 ± 0.672
photometric centroid source offset	5.31 ± 5.63	0.94	-3.14 ± 5.99	-4.28 ± 5.42

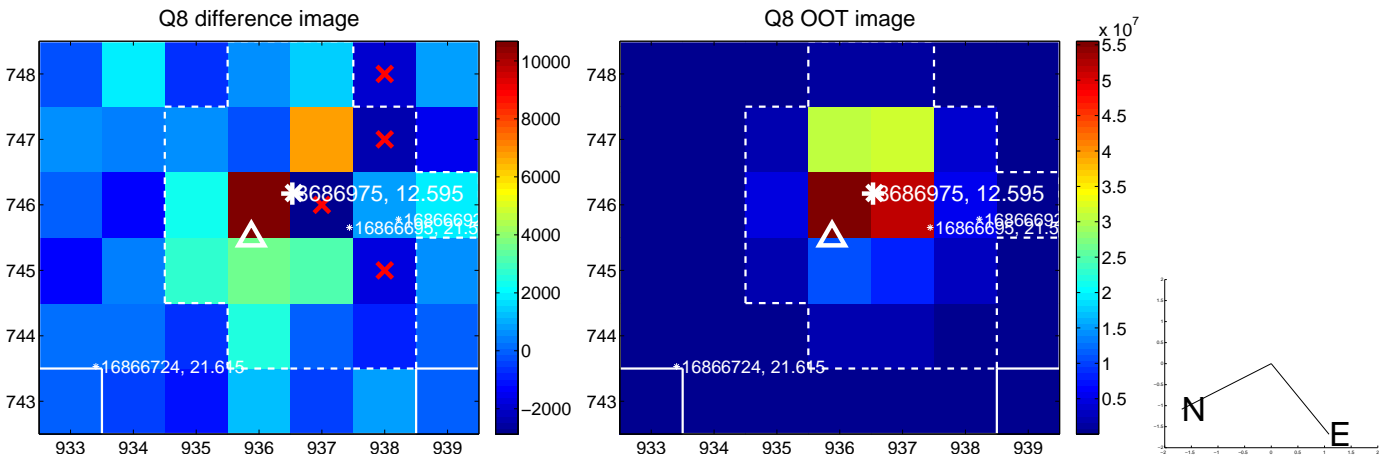
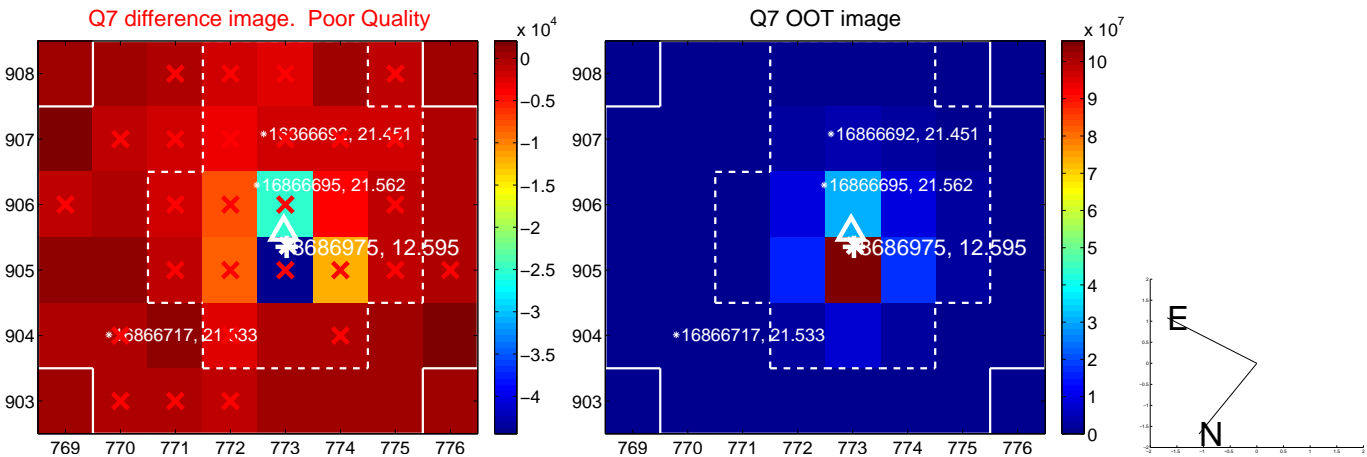
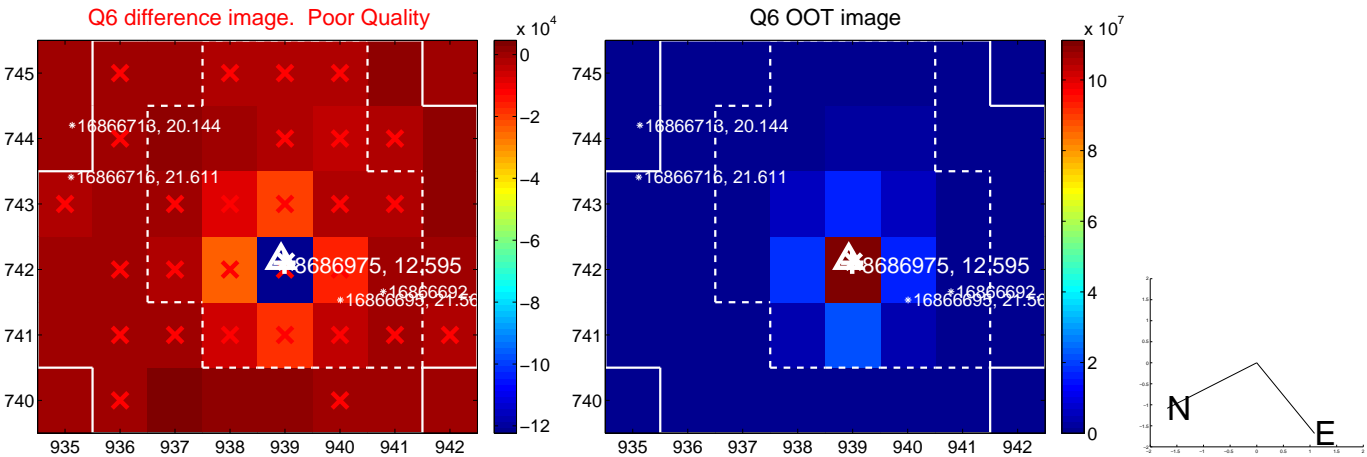
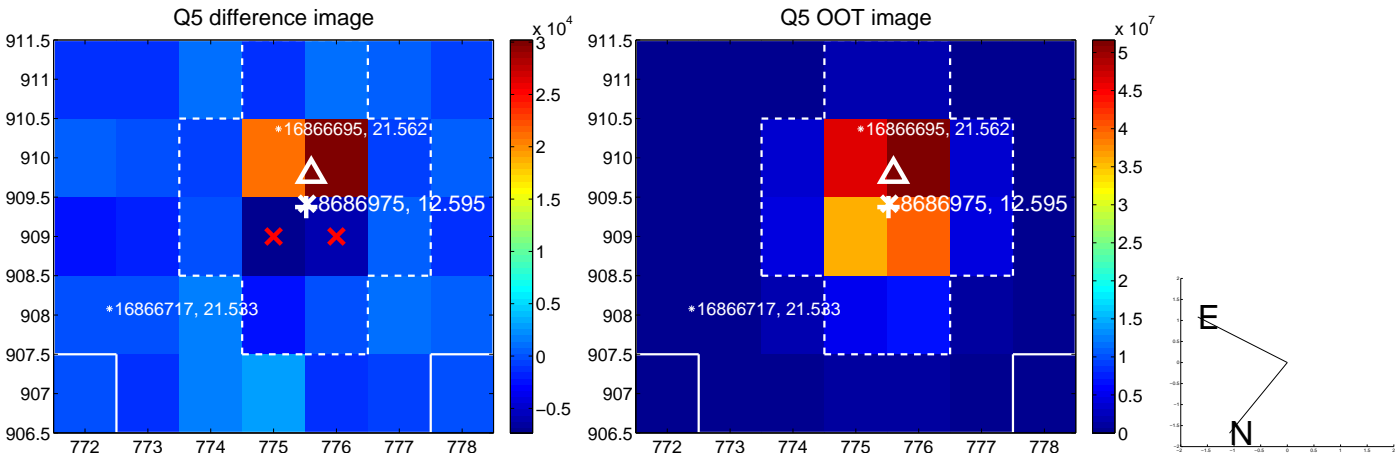


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

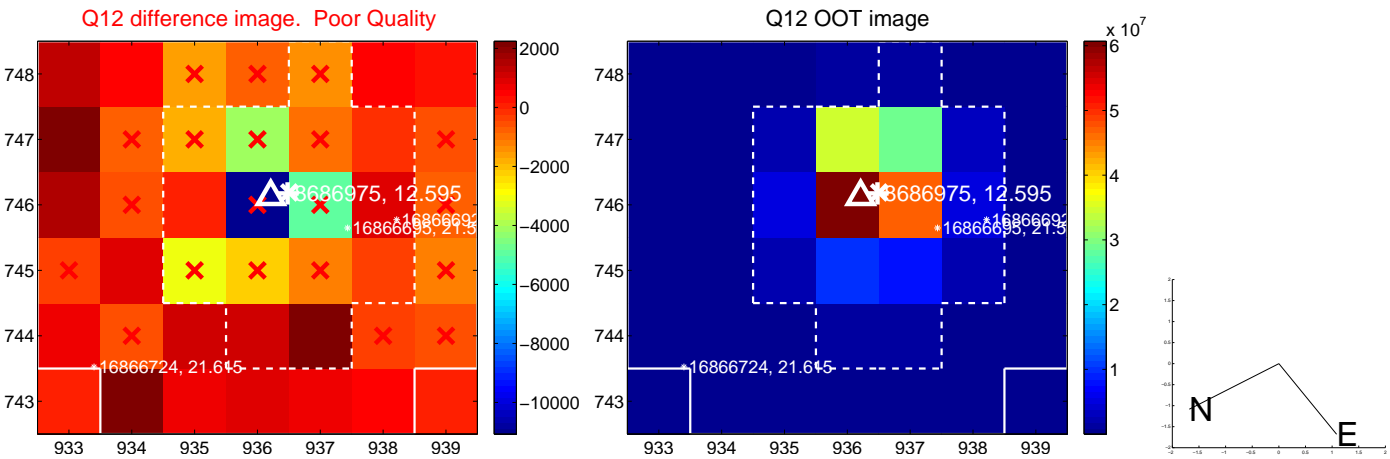
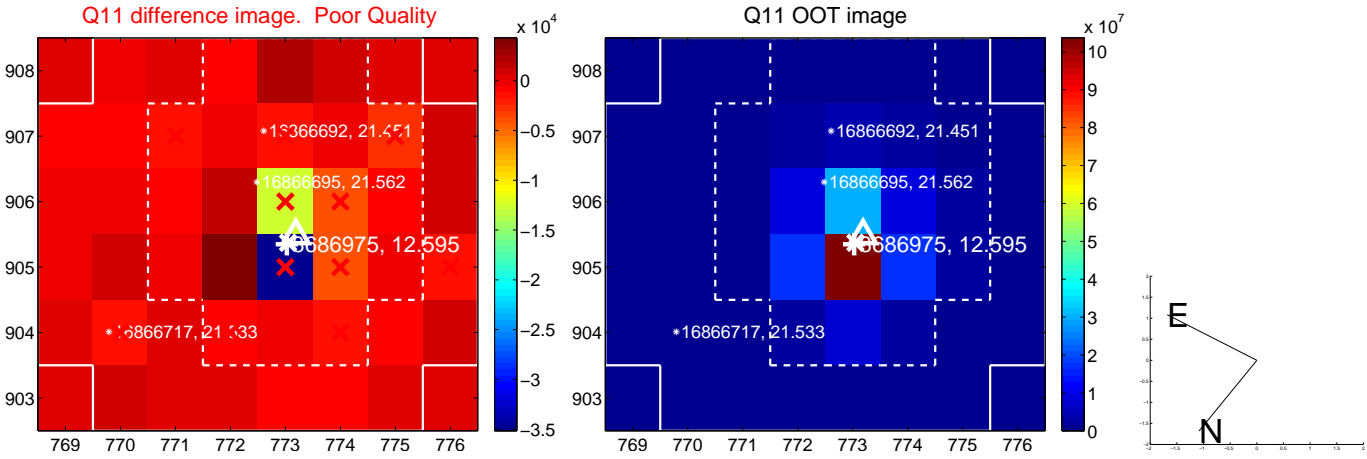
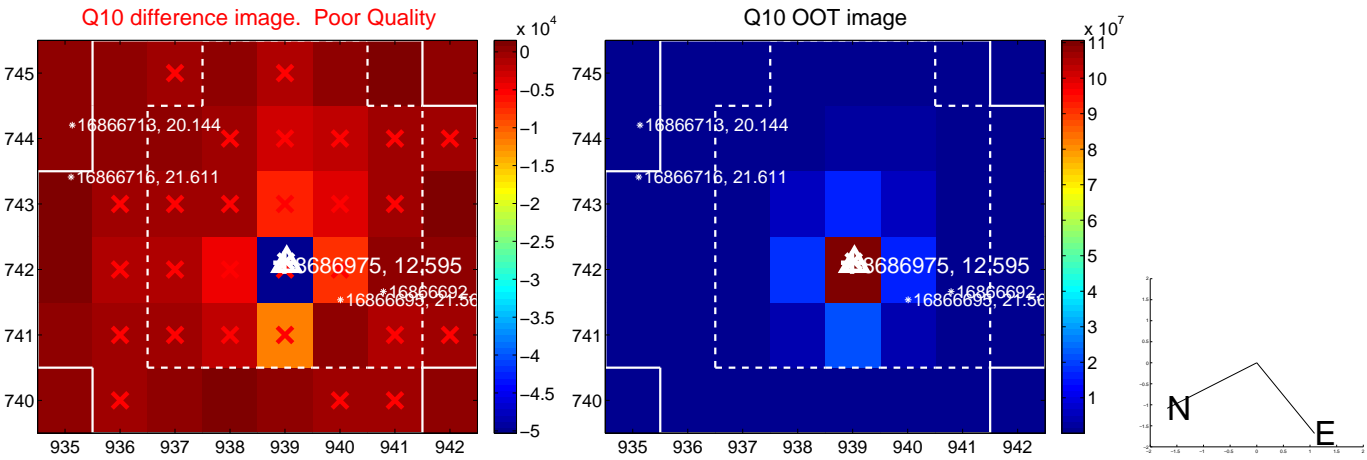
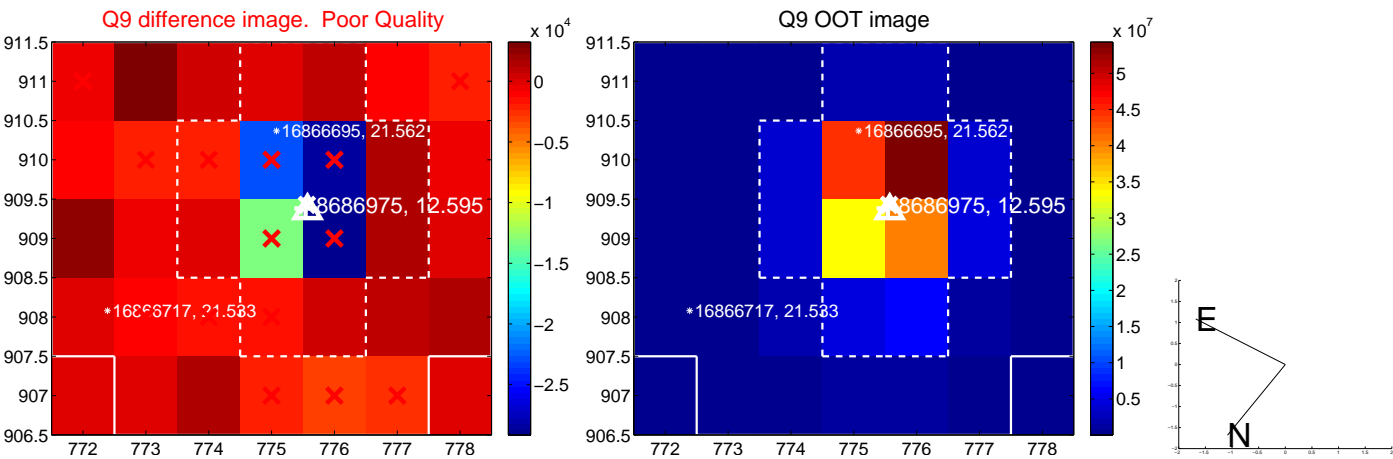
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



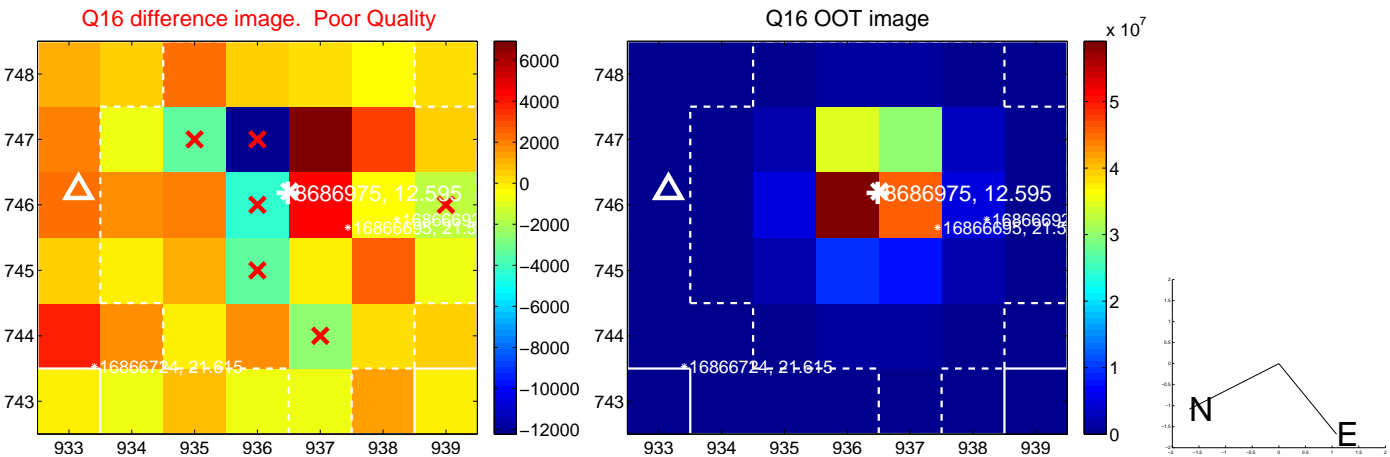
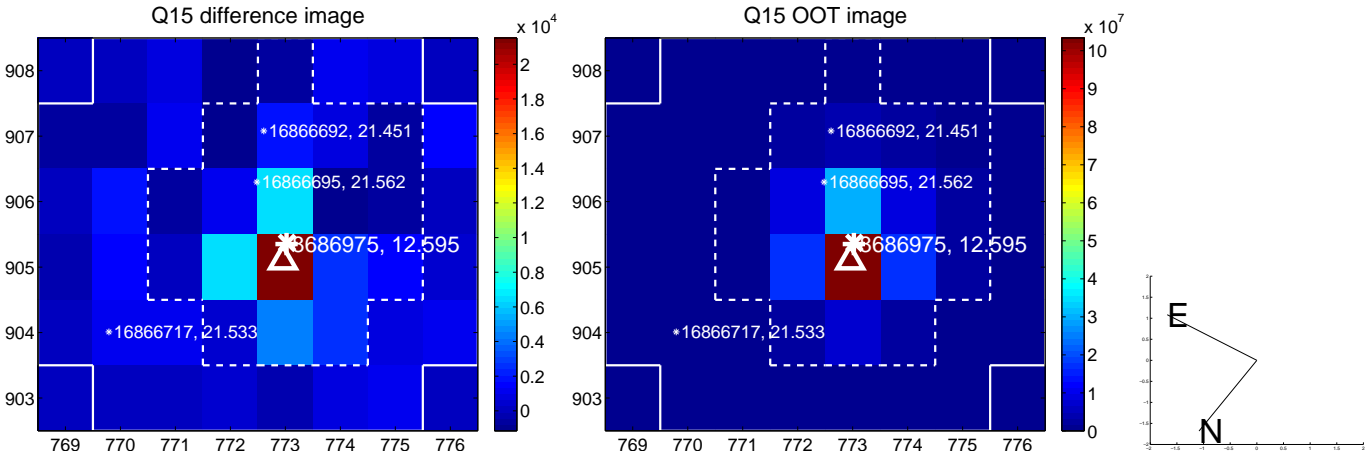
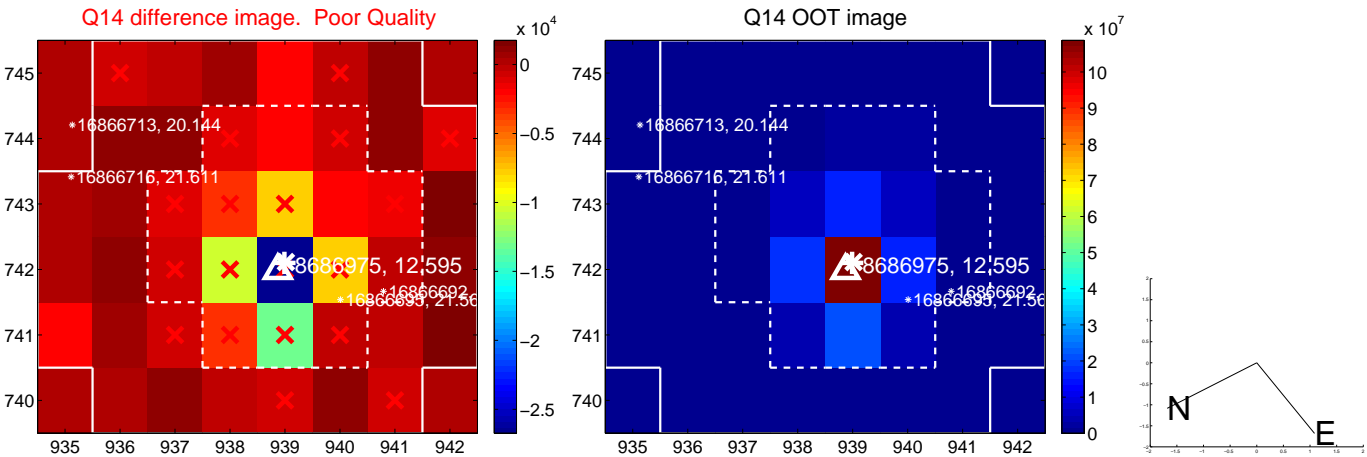
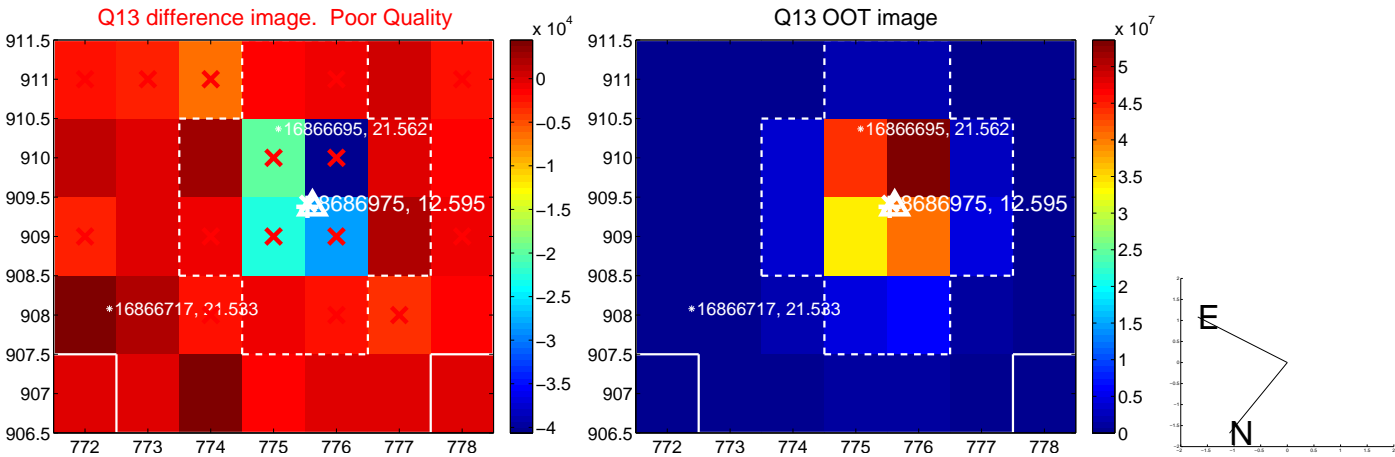
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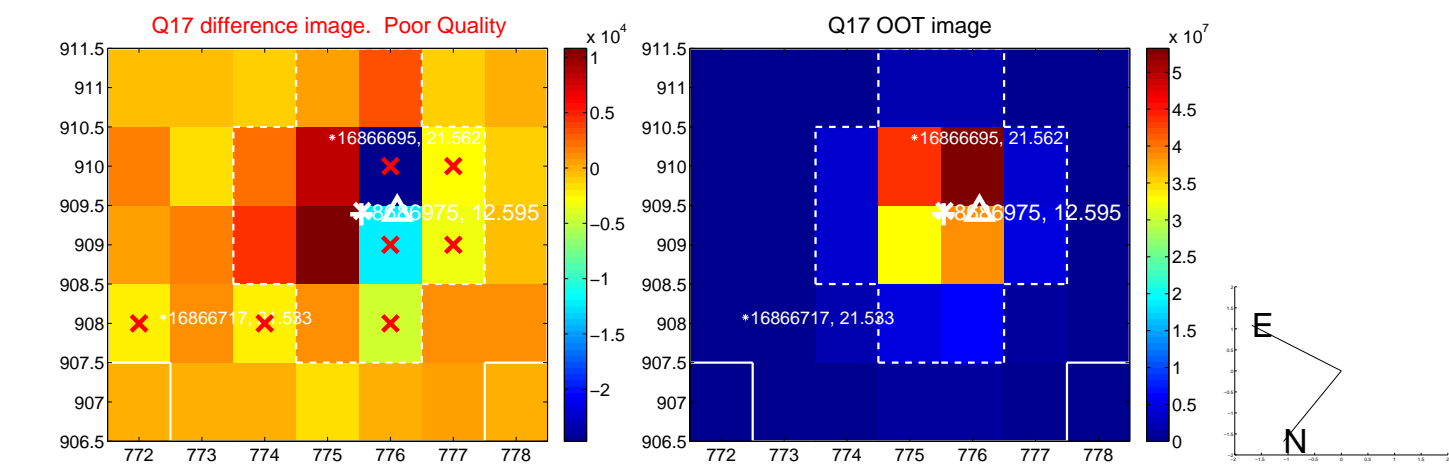
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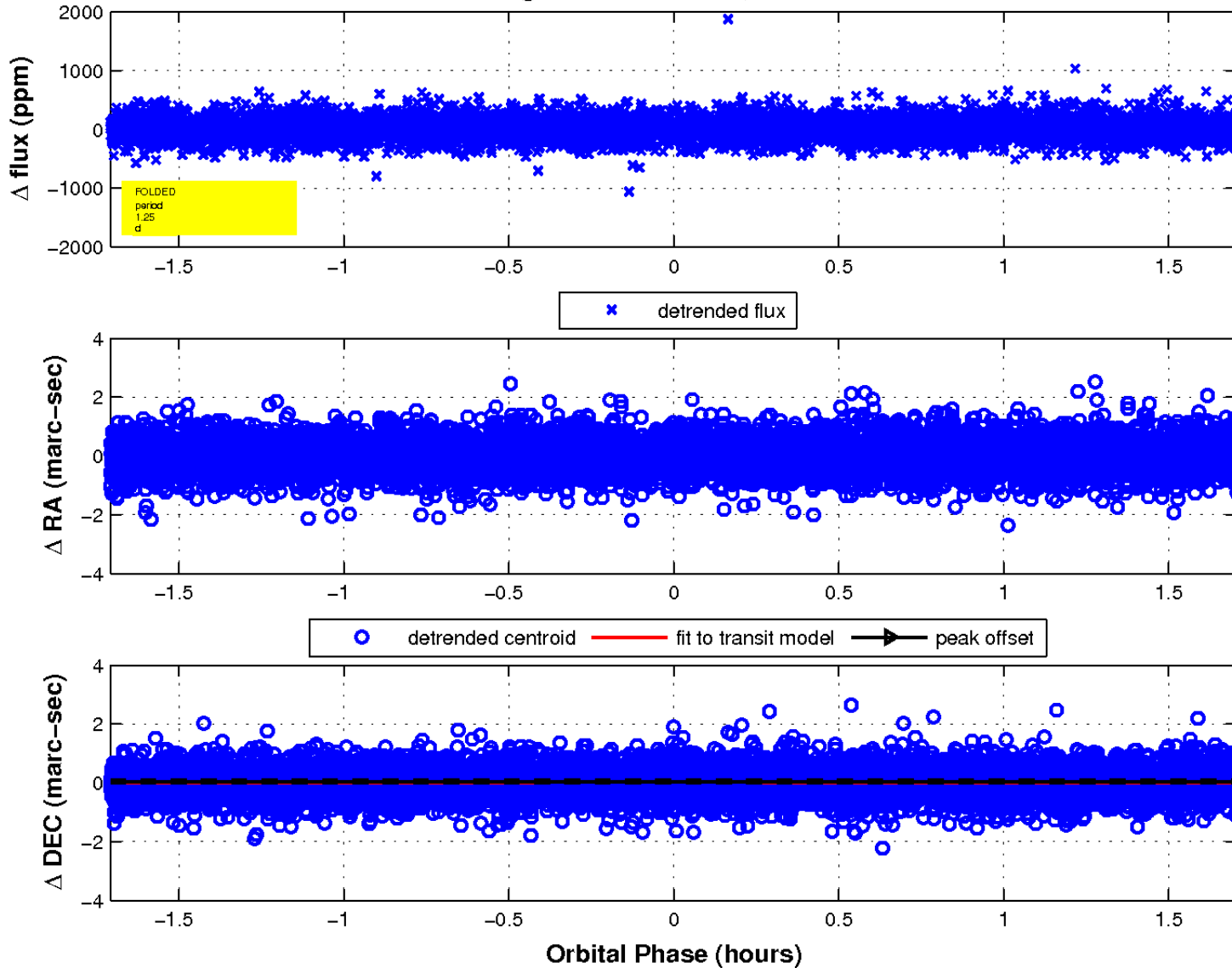
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

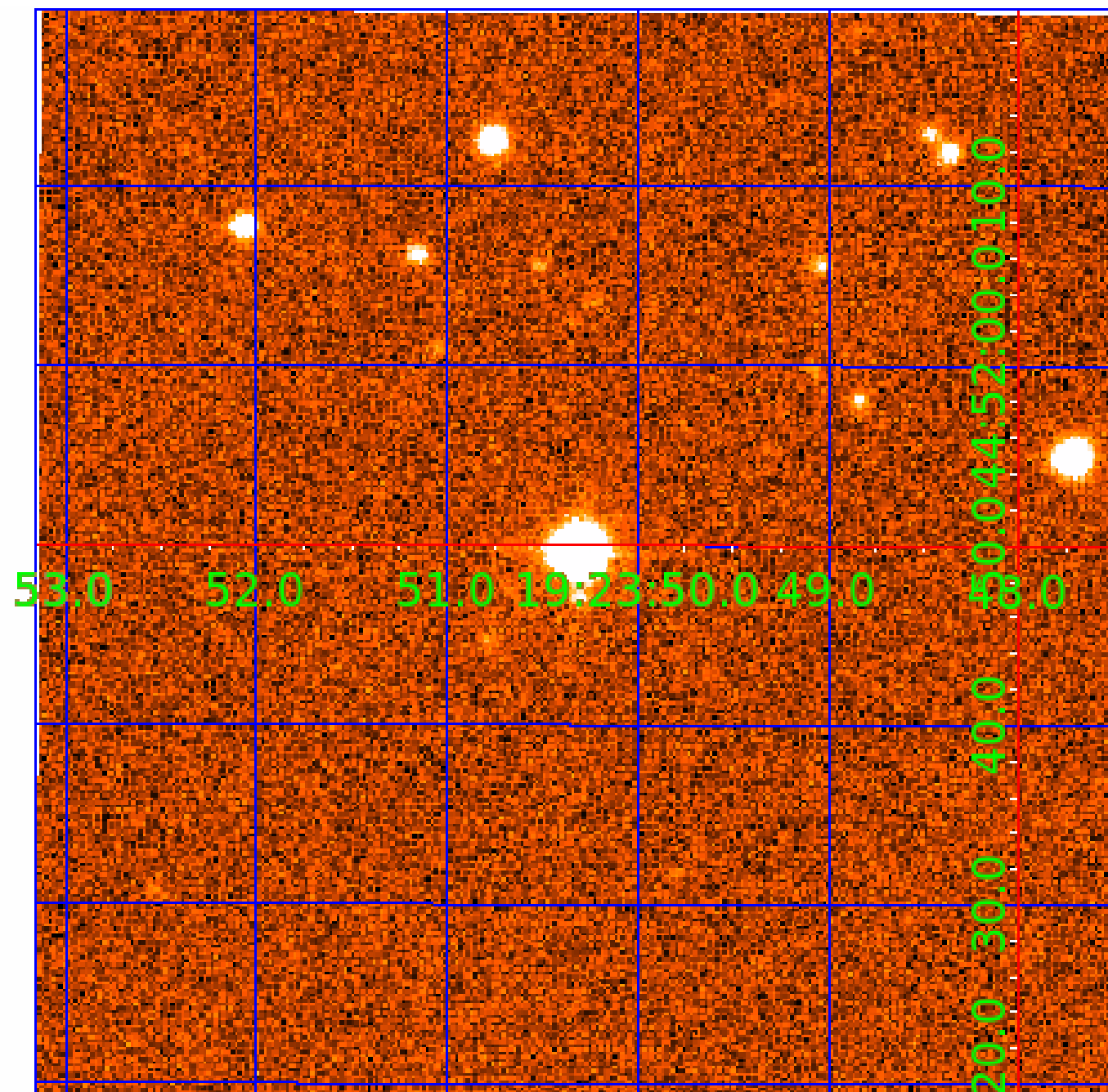


fluxWeightedCentroids, Planet 1 of 7



UKIRT Image

Declination



KIC 008686975

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

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008686975-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008686975-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
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008686975-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008686975-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

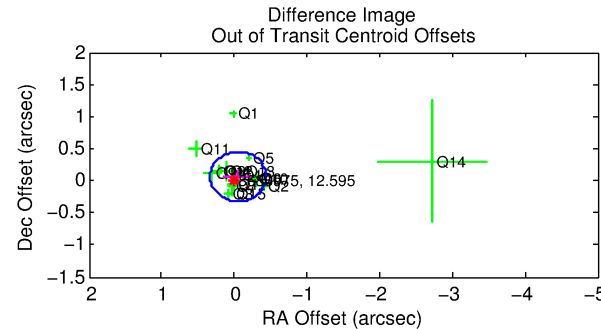
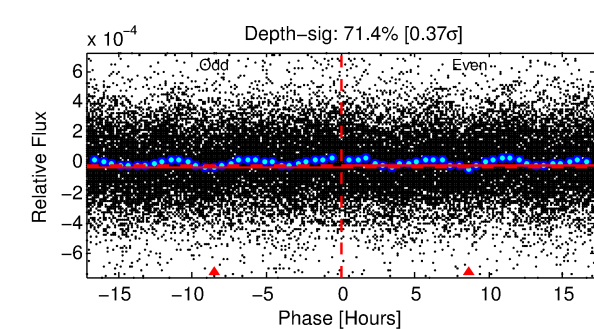
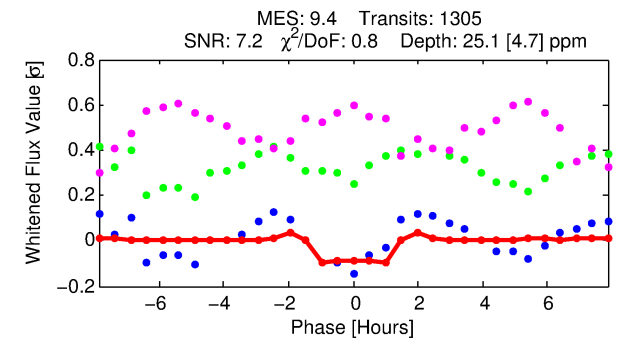
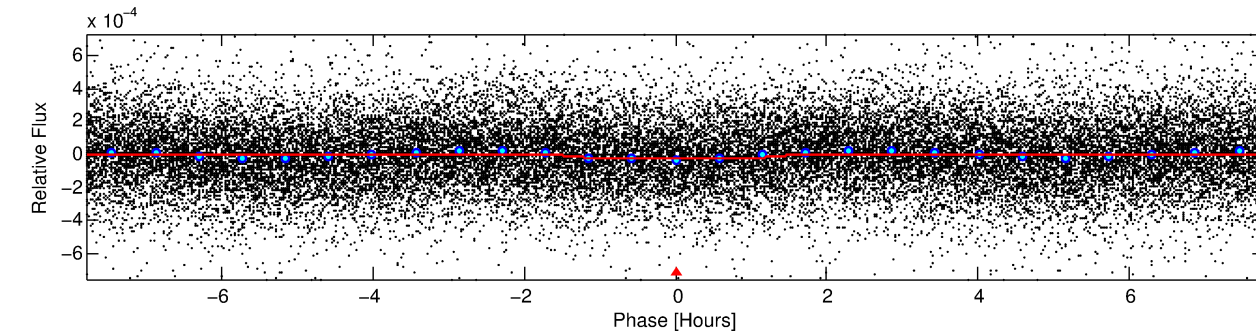
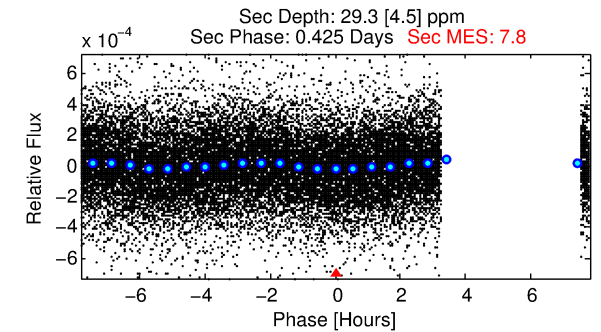
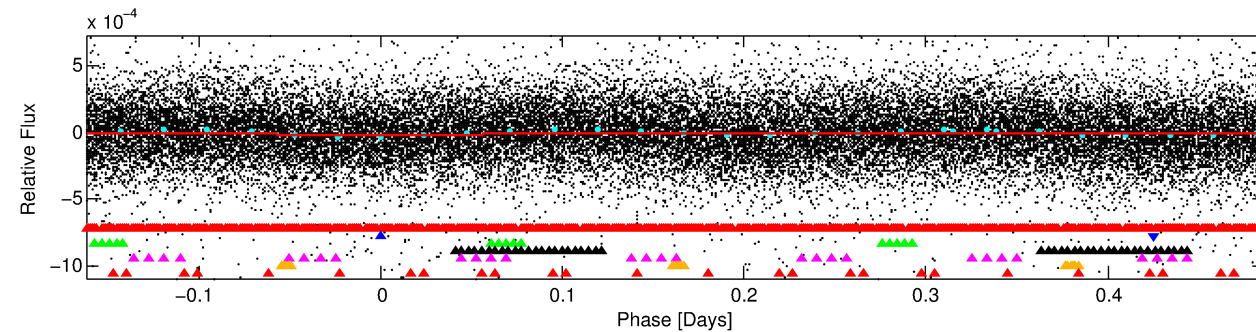
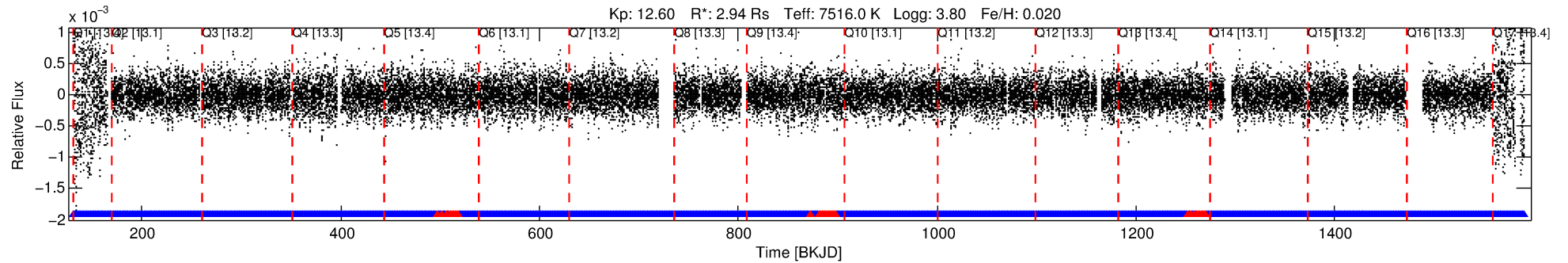
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008686975-02

No Significant Match Found

DV One-Page Summary

KIC: 8686975 Candidate: 2 of 7 Period: 0.648 d



DV Fit Results:

Period = 0.64840 [0.00001] d
Epoch = 131.6097 [0.0029] BKJD
Rp/R* = 0.0047 [0.0023]
a/R* = 1.78 [3.51]
b = 0.32 [8.29]
Seff = 72575.20 [45816.50]
Teq = 4185 [661] K
Rp = 1.50 [0.98] Re
a = 0.0184 [0.0072] AU
Ag = 2.42 [2.84] [0.50σ]
Teffp = 8074 [2045] K [1.81σ]

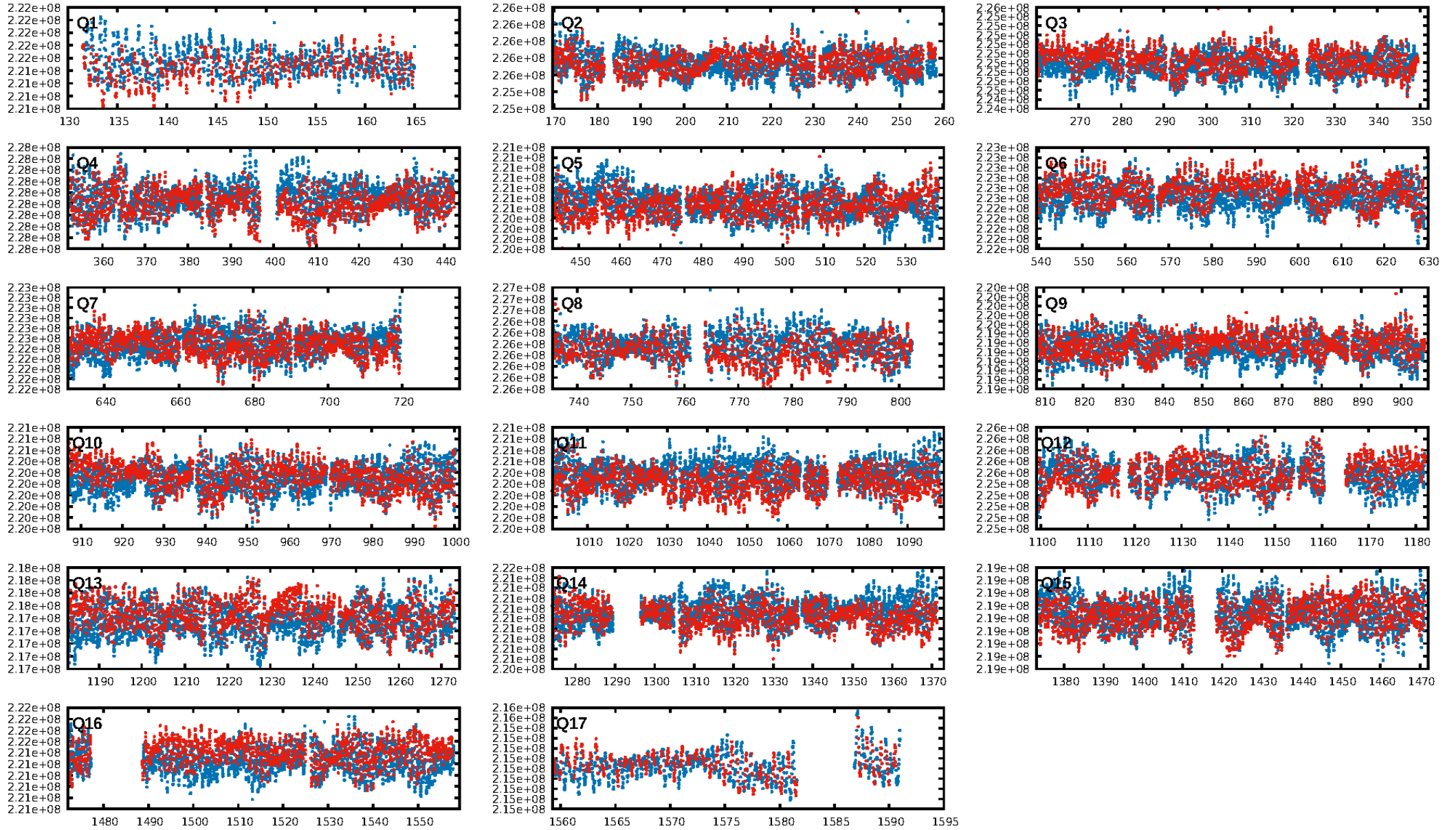
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.4% [2.73σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.33e-15
RollingBand-fgt: 0.97 [1202/1244]
GhostDiagnostic-chr: 4.509
Centroid-sig: N/A
Centroid-so: 0.458 arcsec [0.75σ]
OotOffset-rm: 0.078 arcsec [0.61σ]
KicOffset-rm: 0.188 arcsec [1.68σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 1.00 [17/17]

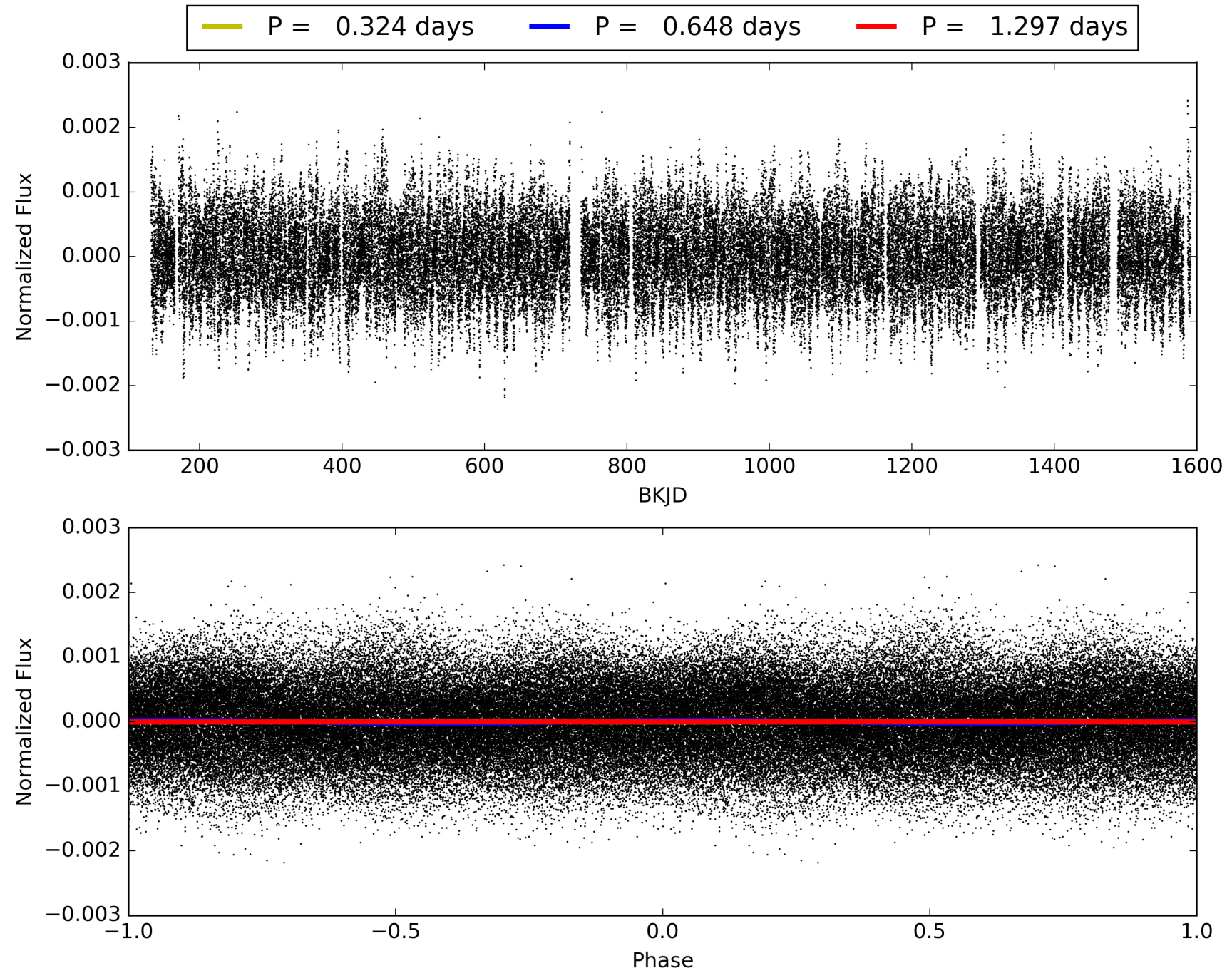
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:27:30 Z

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

TCE 008686975-02, PDC Light Curves

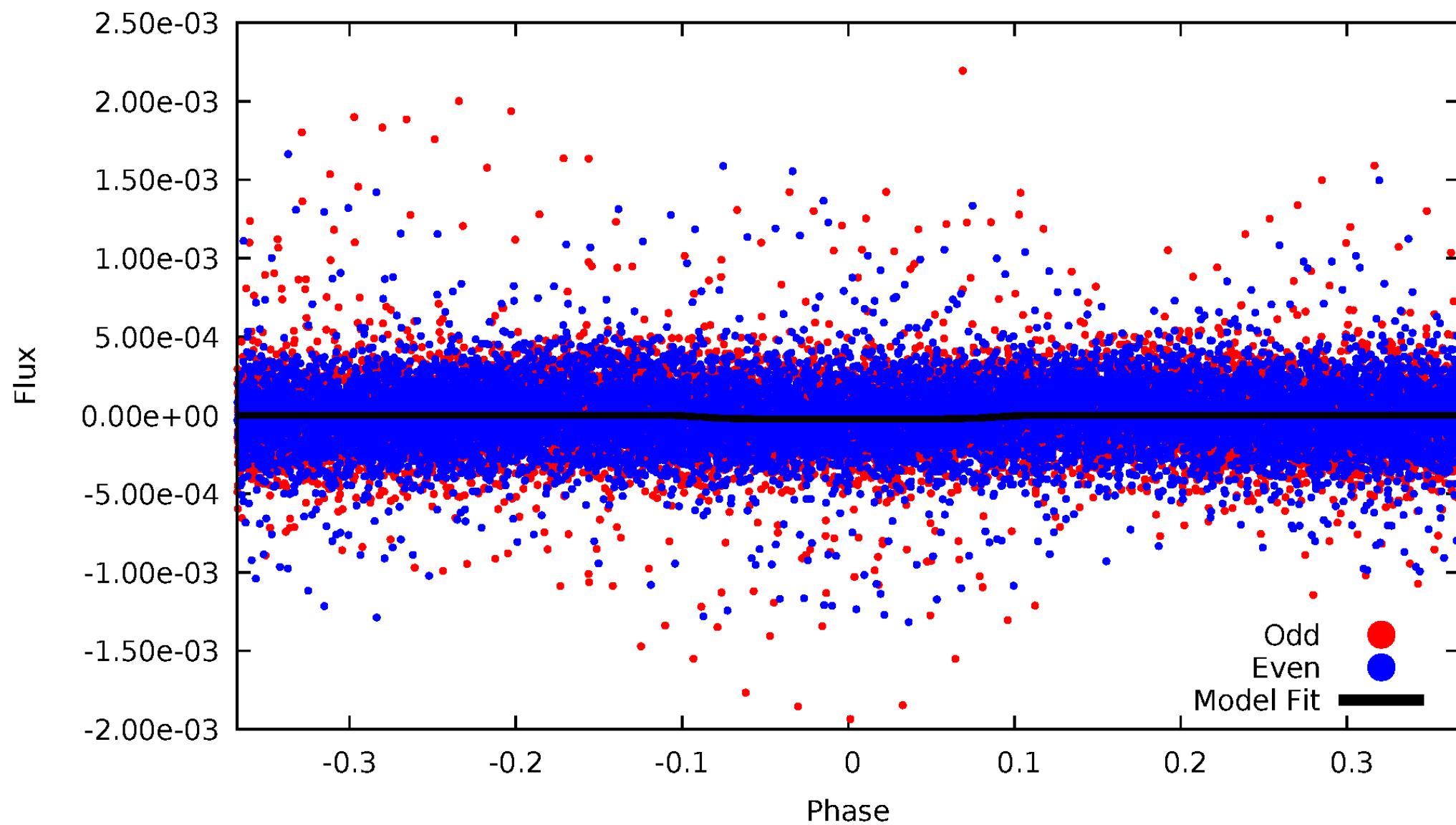


TCE 008686975-02



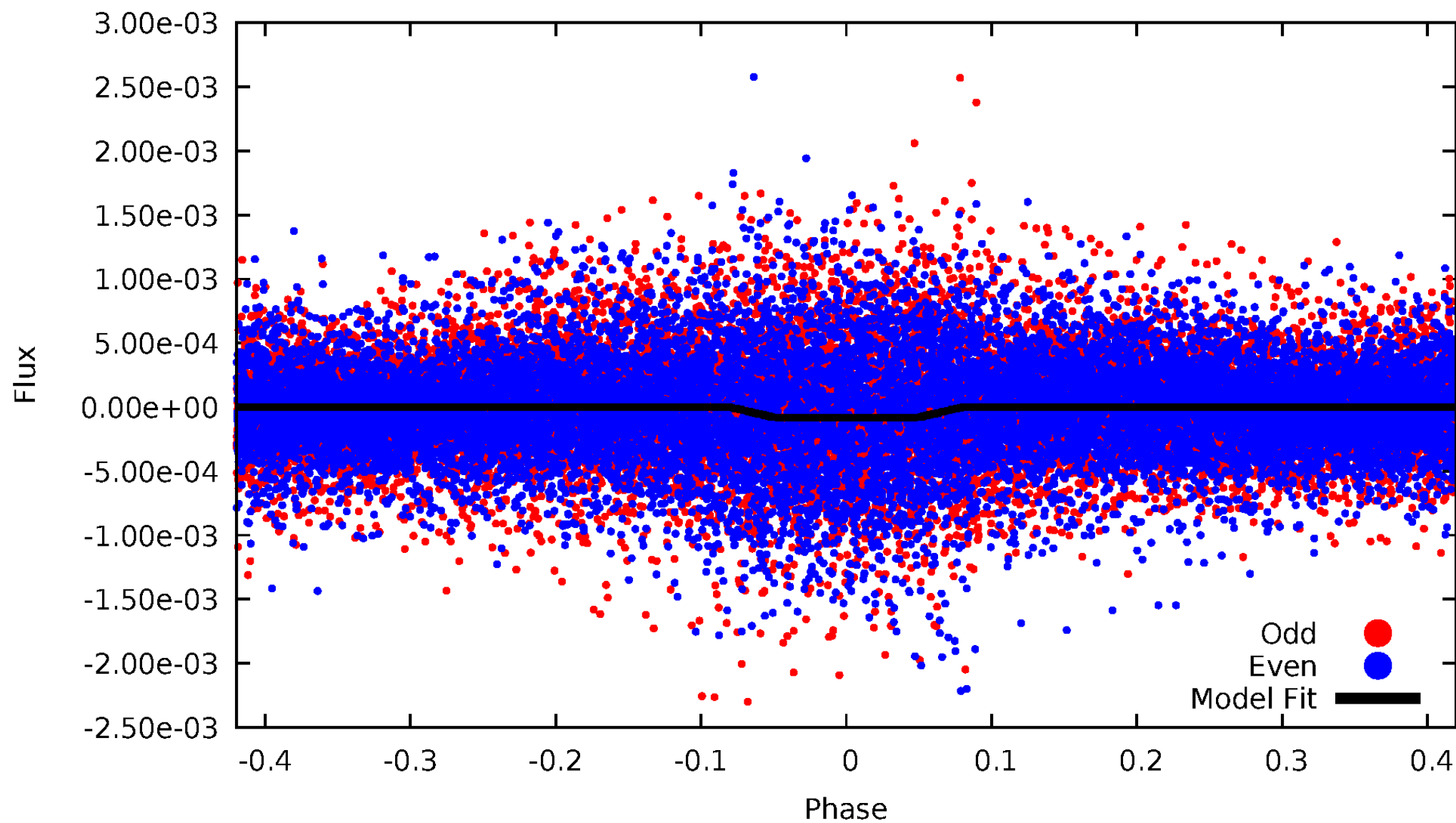
DV Odd/Even

TCE 008686975-02



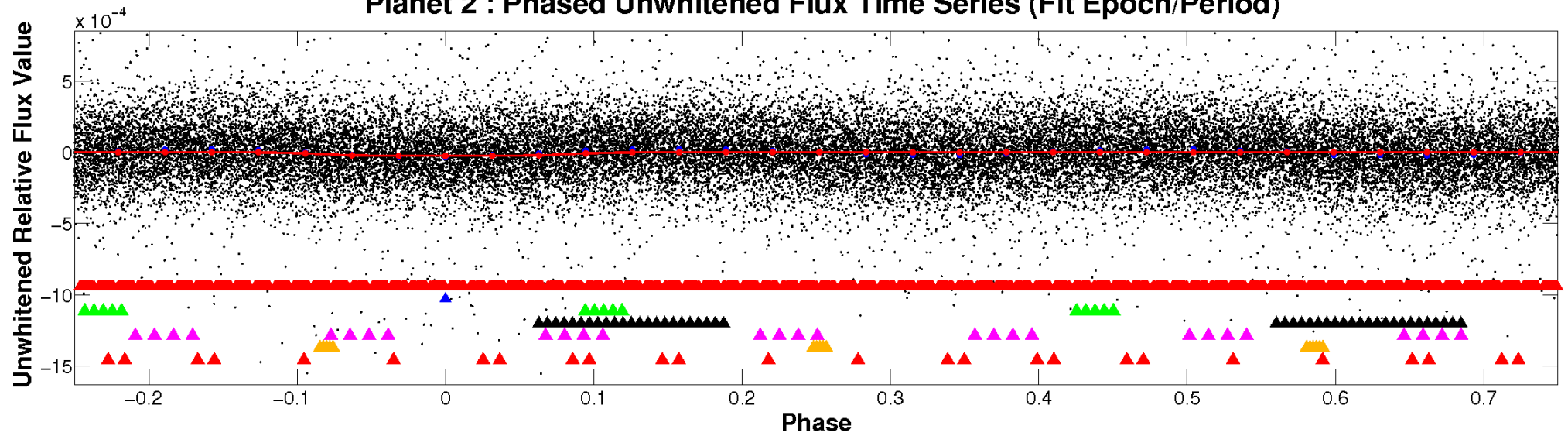
ALT Odd/Even

TCE 008686975-02

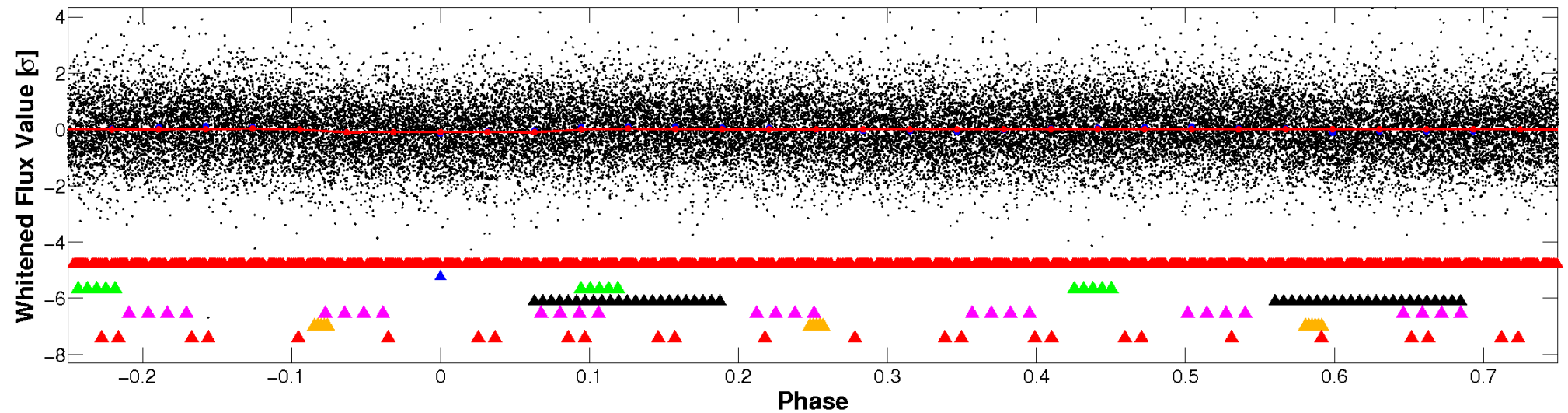


Non-Whitened Vs. Whitened Light Curve

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

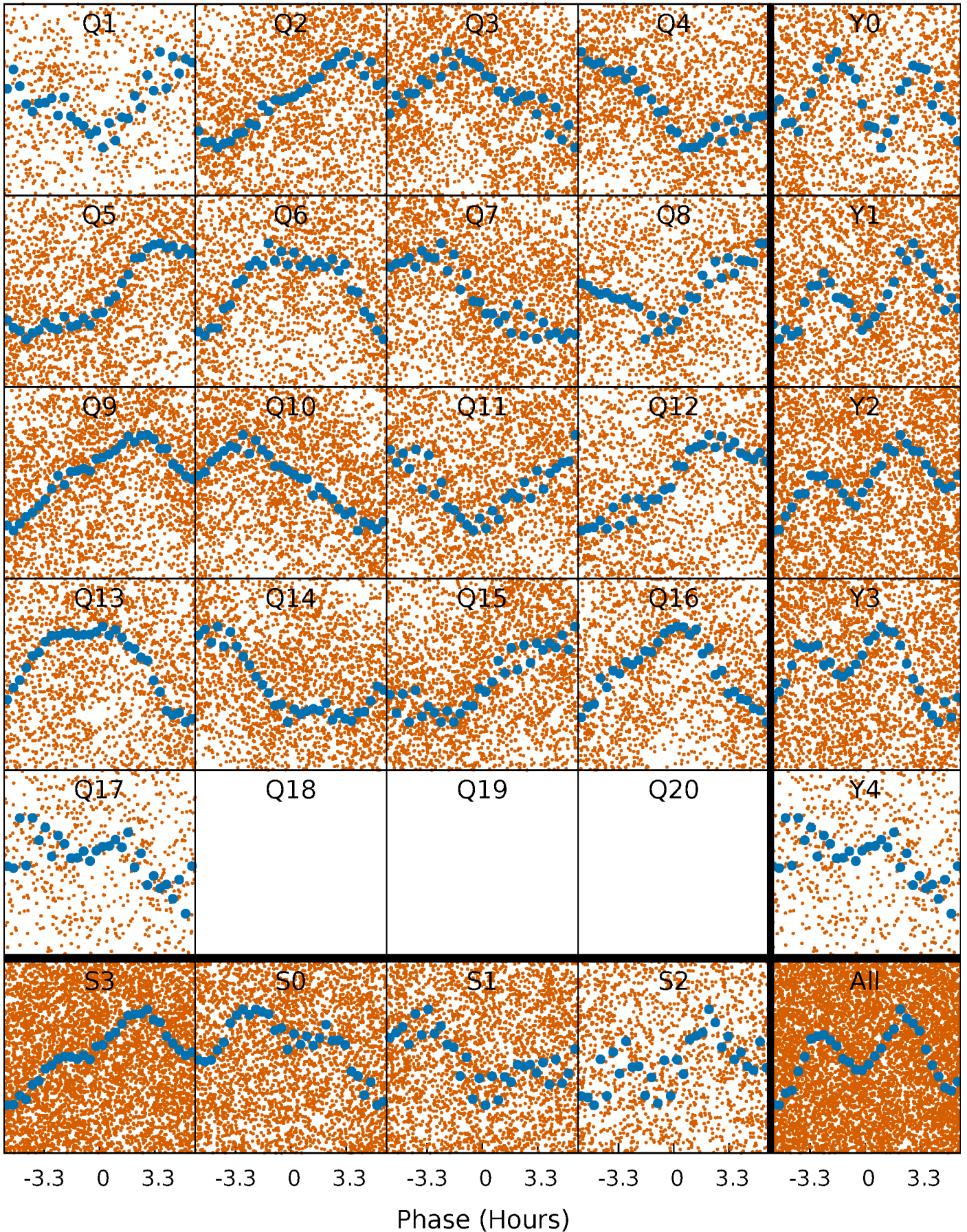


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



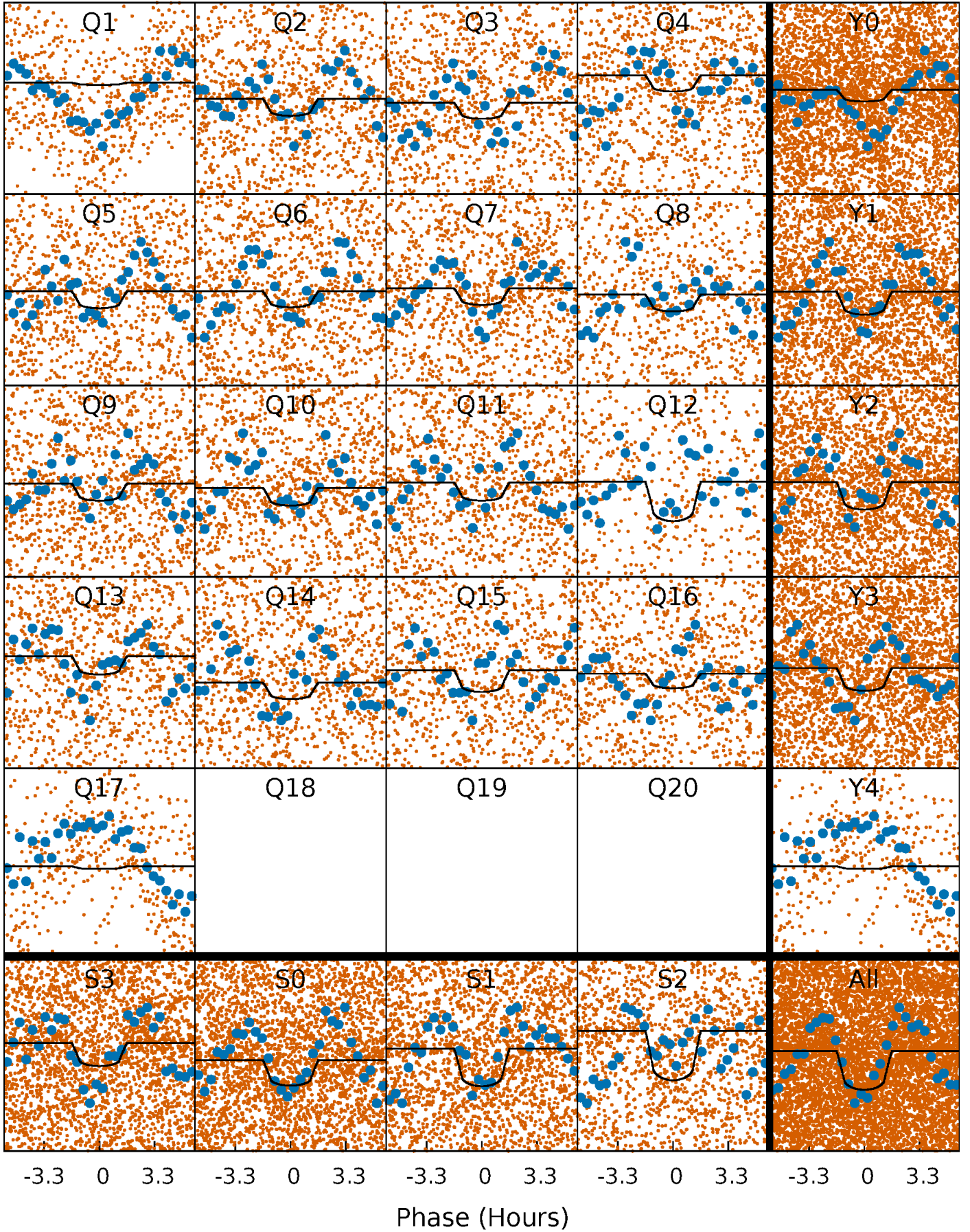
PDC Quarter-Phased Transit Curves

TCE 008686975-02 P= 0.648401 Days $T_0=131.609693$ (BKJD)



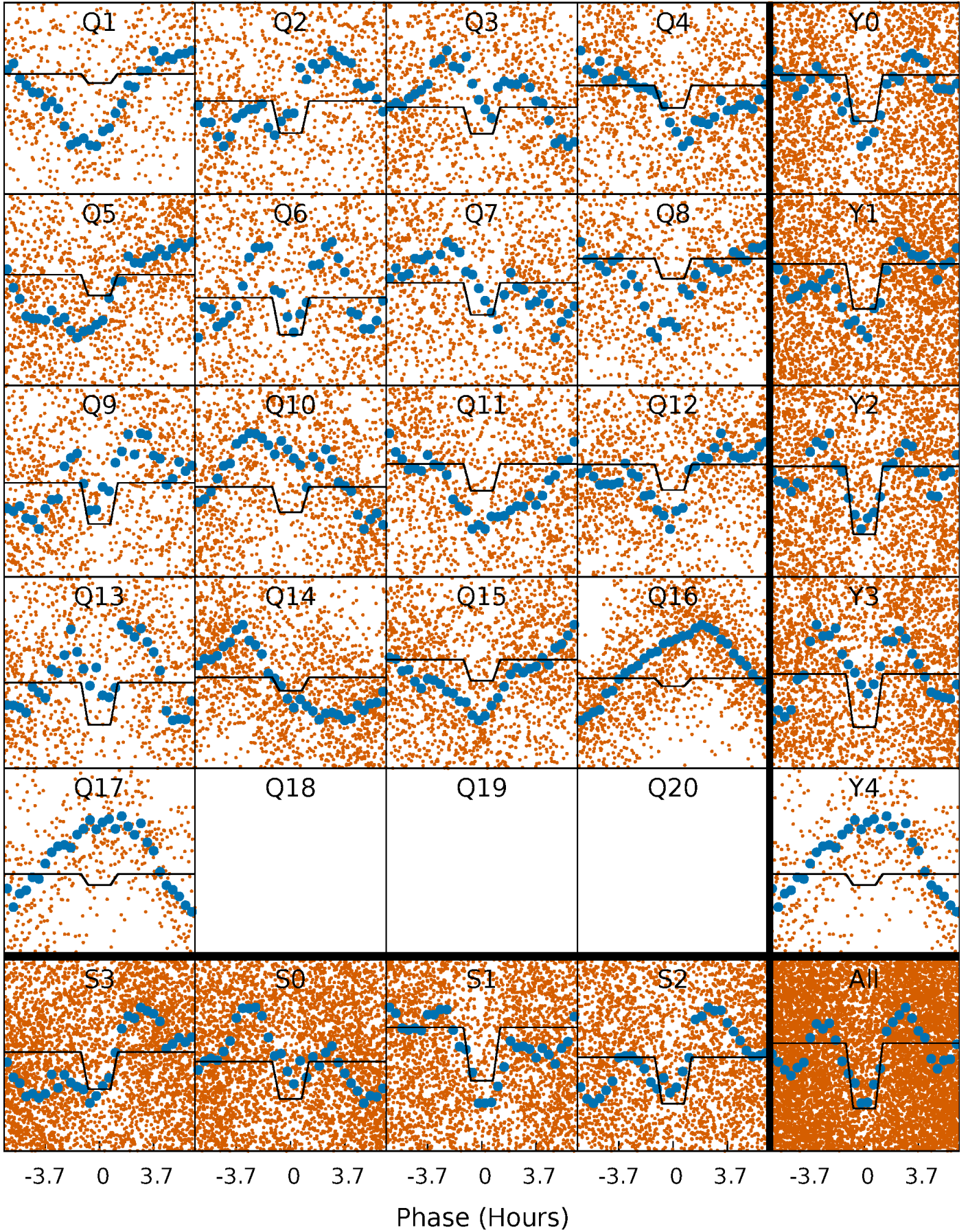
DV Quarter-Phased Transit Curves

TCE 008686975-02 P= 0.648401 Days $T_0=131.609693$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

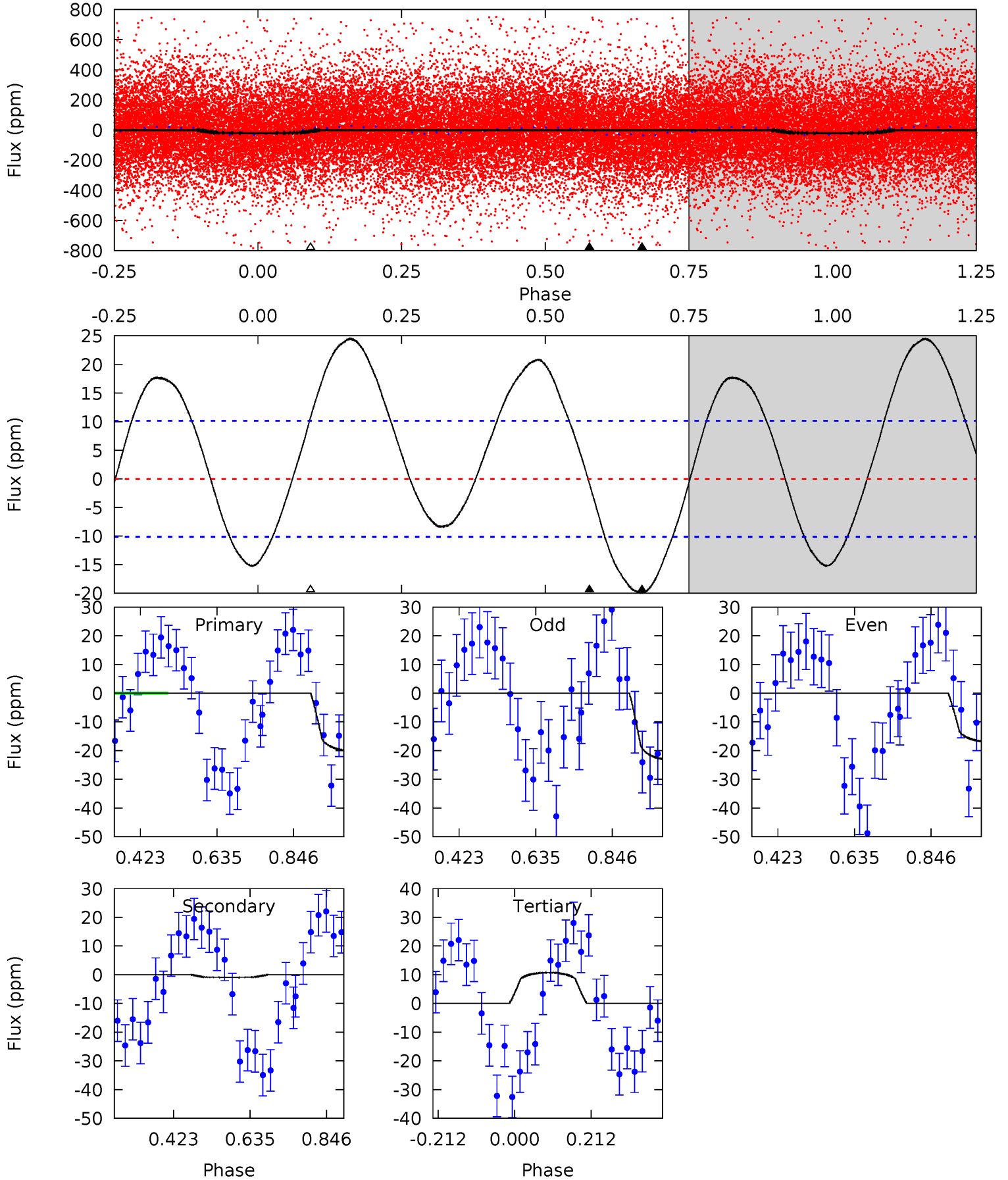
TCE 008686975-02 P= 0.648365 Days $T_0=131.638725$ (BKJD)



DV Model-Shift Uniqueness Test

008686975-02, P = 0.648401 Days, E = 131.609693 Days

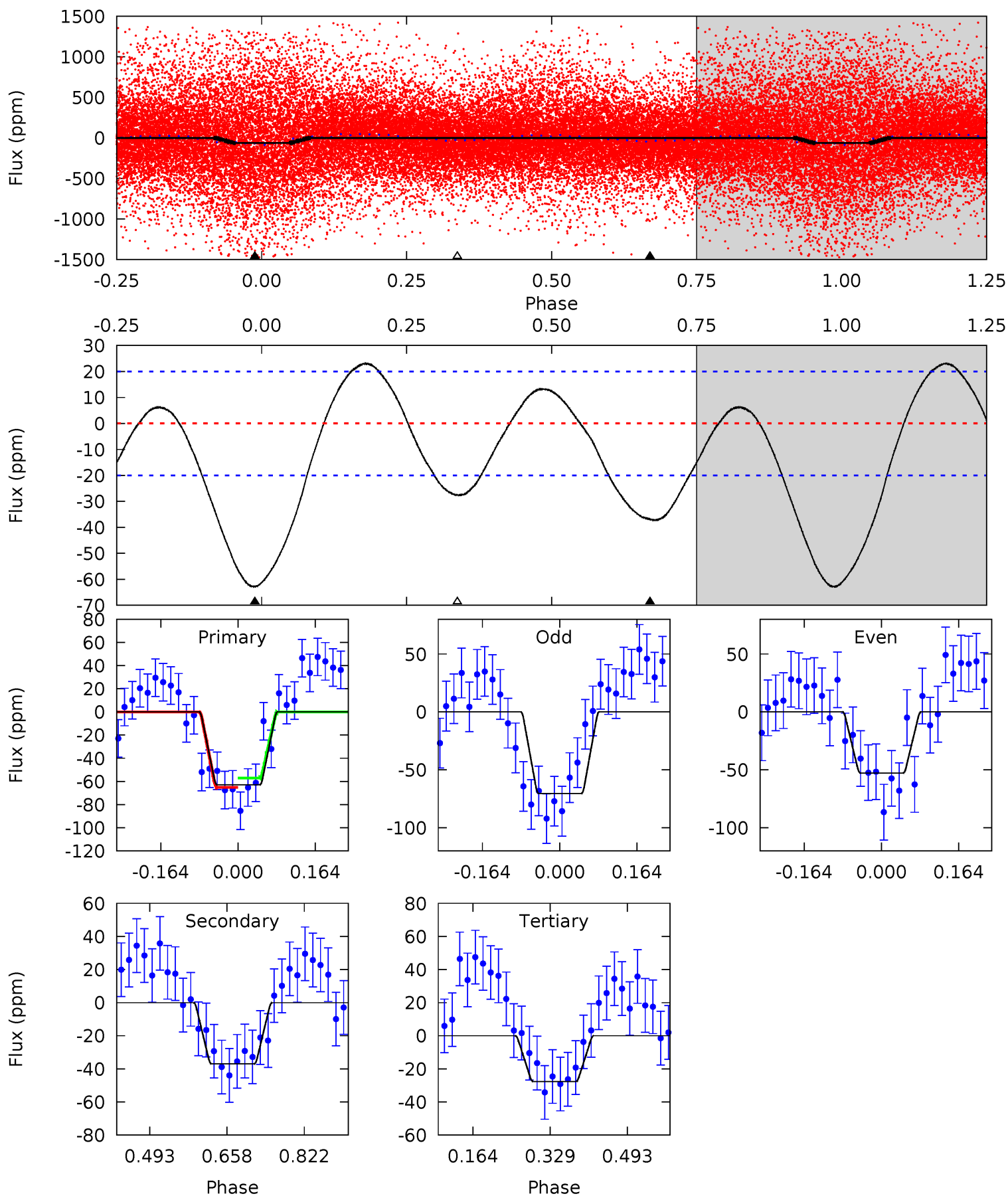
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.69	0.41	-4.68	0	4.40	1.25	5.44	13.4	8.69	5.09	0.41	1.35	0.84	0.55	1.86



Alt Model-Shift Uniqueness Test

008686975-02, P = 0.648365 Days, E = 131.638725 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	8.26	6.17	0	4.46	1.39	3.82	7.88	14.0	2.09	8.26	1.96	0.97	0.27	0.89



Stellar Parameters For KIC 008686975

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7516^{+209}_{-313}	$3.800^{+0.352}_{-0.110}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.412}_{-1.236}$	$1.978^{+0.096}_{-0.478}$	$0.110^{+0.279}_{-0.038}$
	+3%/-4%	+9%/-3%	+1000%/-1750%	+14%/-42%	+5%/-24%	+254%/-35%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008686975-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1 ± 2	$1.39^{+0.74}_{-0.67}$	5728^{+388}_{-581}	-4395^{+8474}_{-737}	$0.091^{+0.381}_{-0.211}$
Alt.	-37 ± 4	$2.69^{+0.90}_{-0.83}$	5736^{+397}_{-625}	5456^{+1163}_{-1004}	$0.912^{+0.975}_{-0.403}$

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

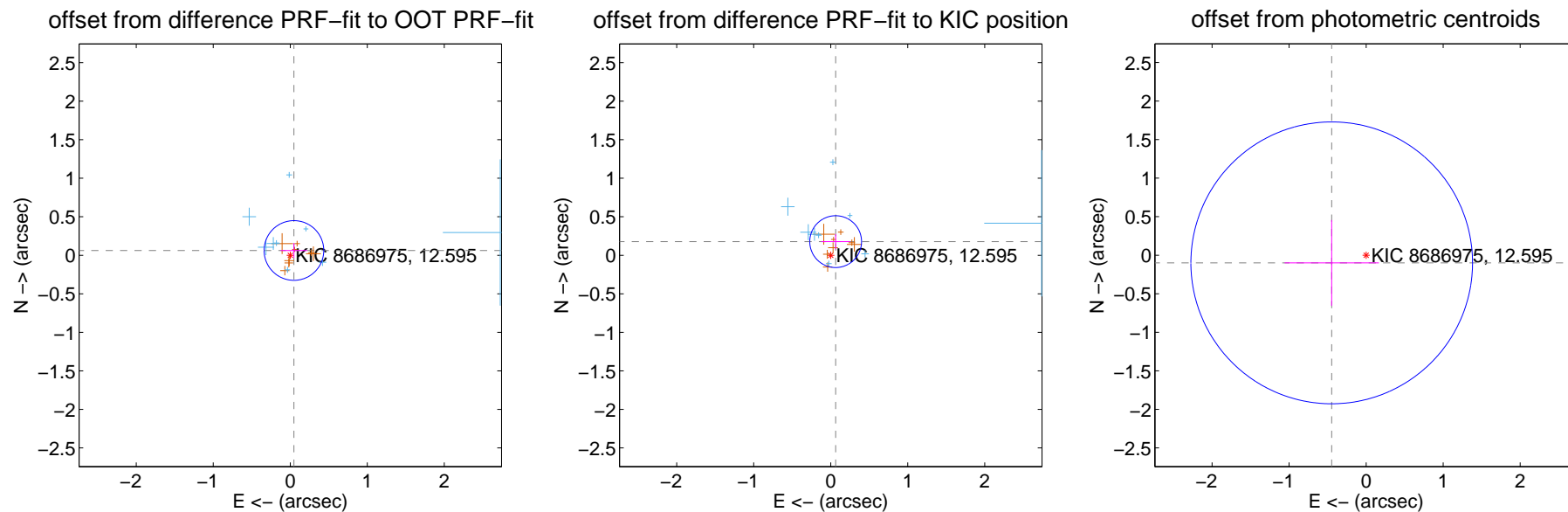
DV Centroid Data

Supplemental centroid analysis for 008686975-02. Kepler magnitude: 12.60. Transit SNR 7.21

There are 9 quarters with good PRF difference image offsets

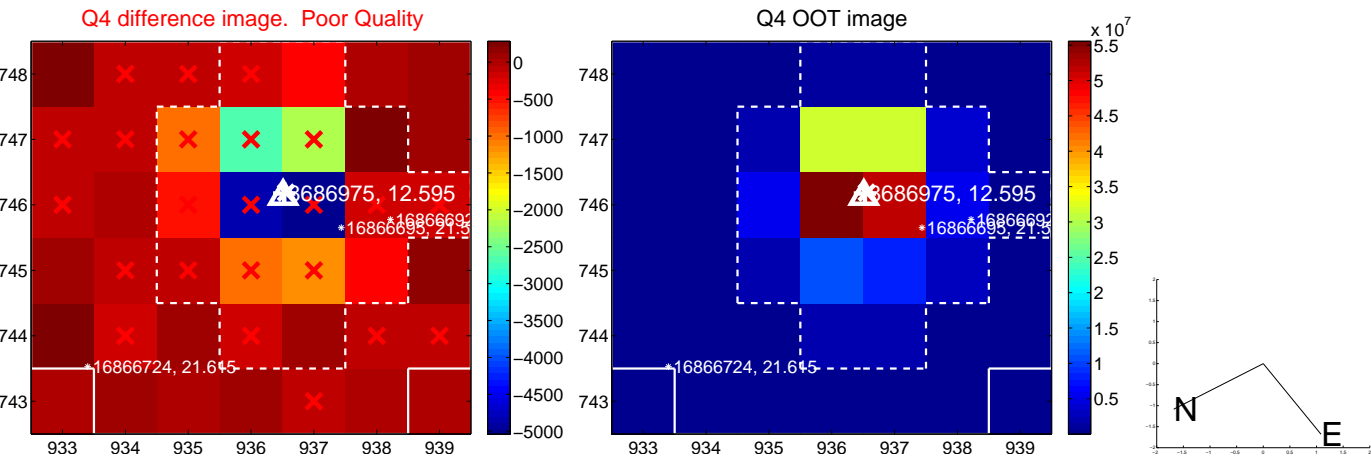
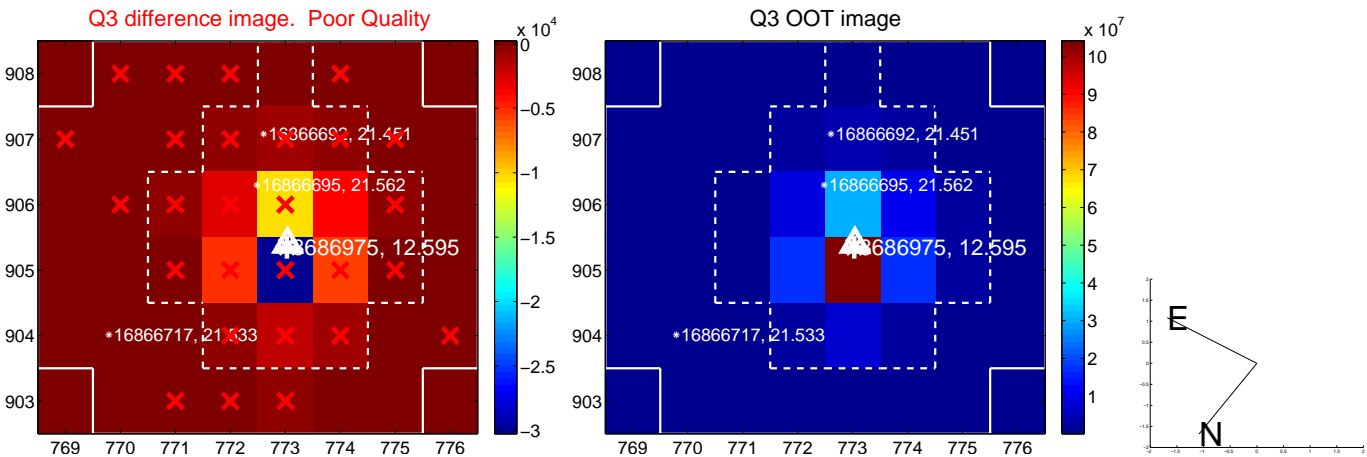
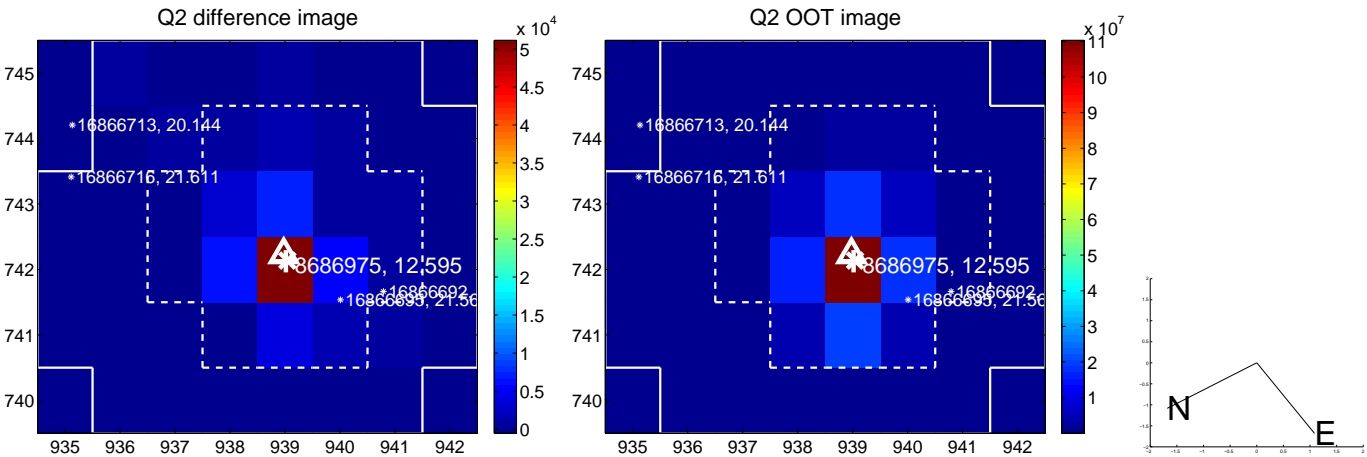
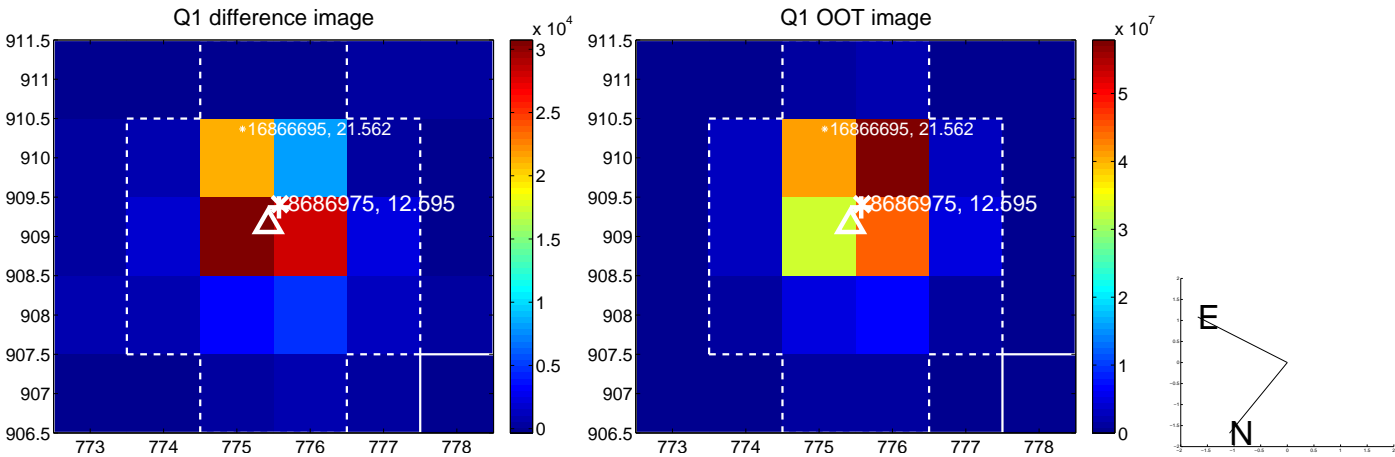
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.078 ± 0.129	0.61	-0.048 ± 0.172	0.062 ± 0.097
PRF-fit source offset from KIC position	0.188 ± 0.112	1.68	-0.064 ± 0.186	0.177 ± 0.098
photometric centroid source offset	0.46 ± 0.61	0.75	0.45 ± 0.61	-0.10 ± 0.56

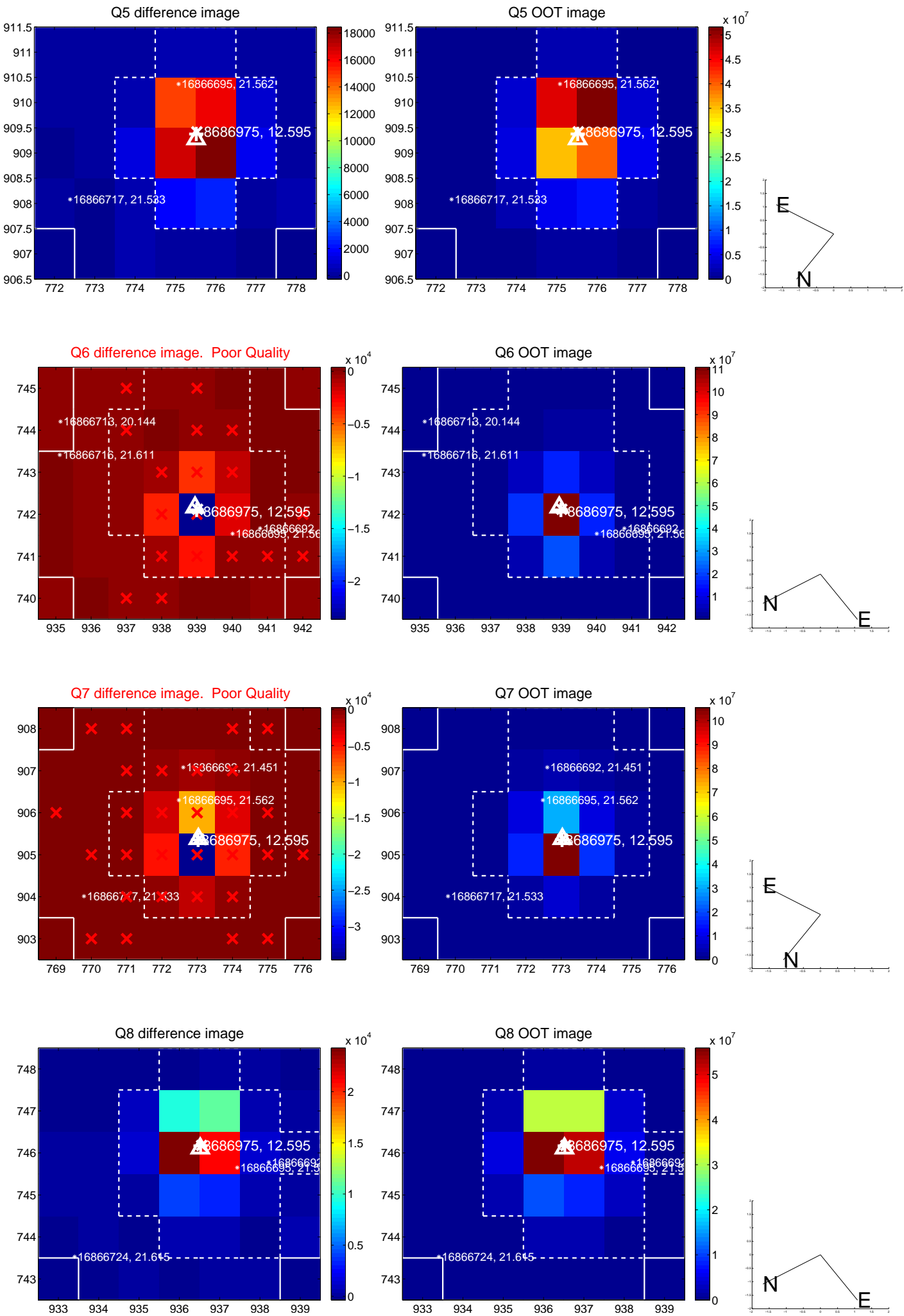


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

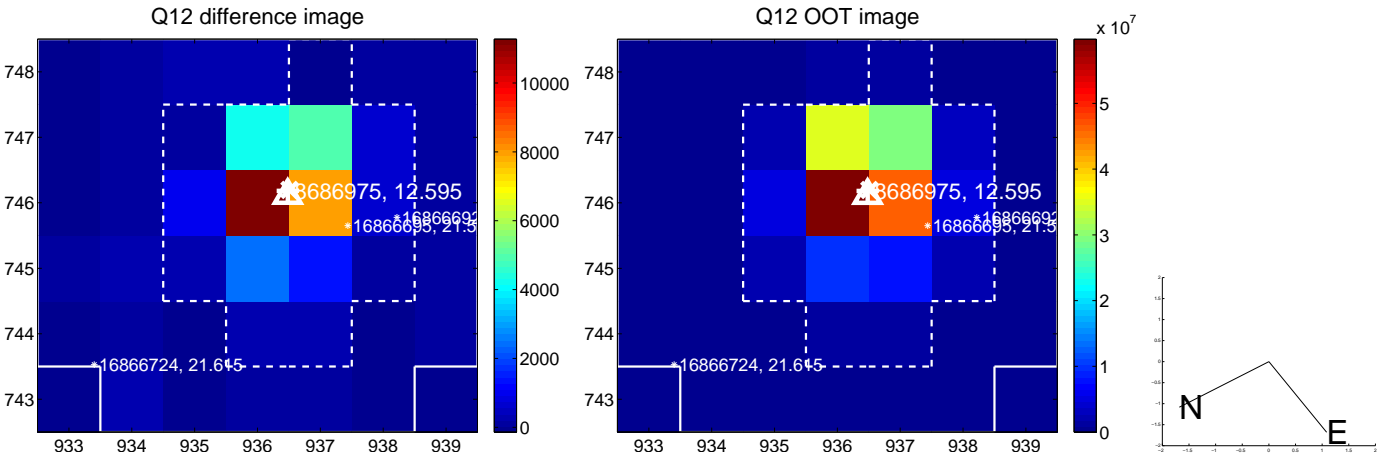
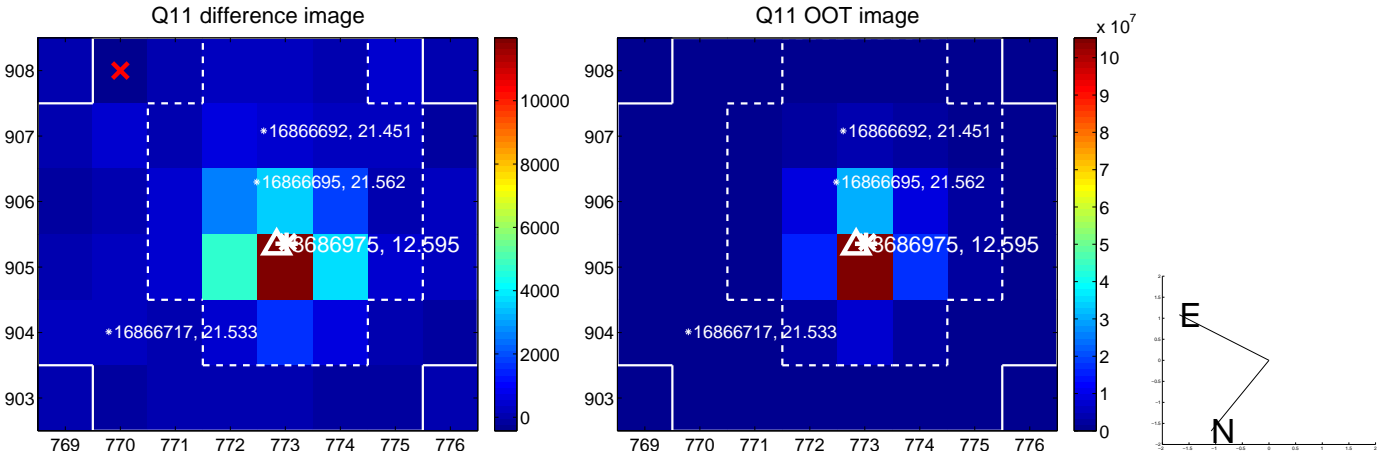
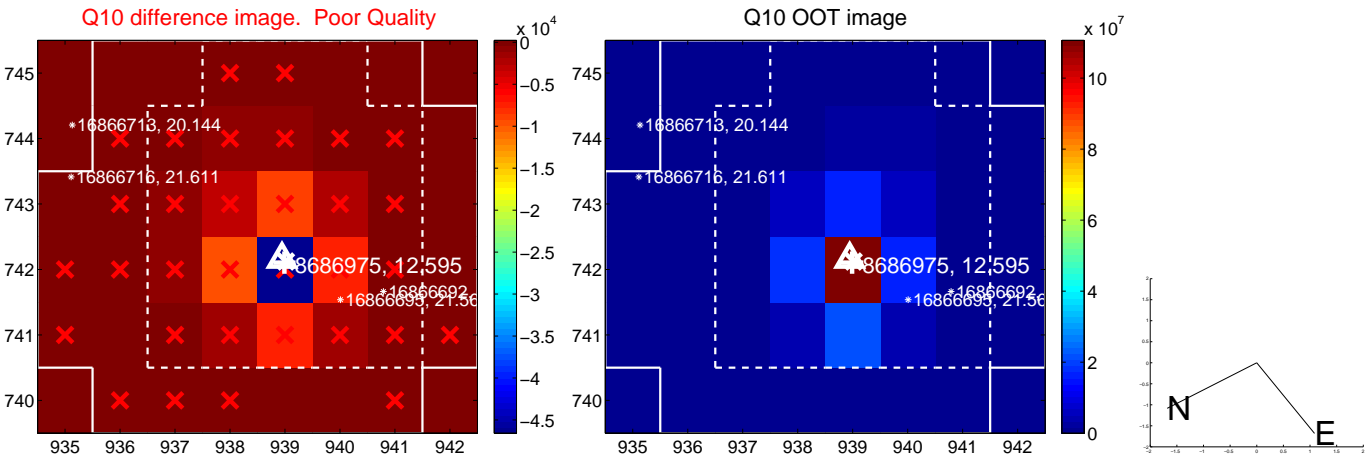
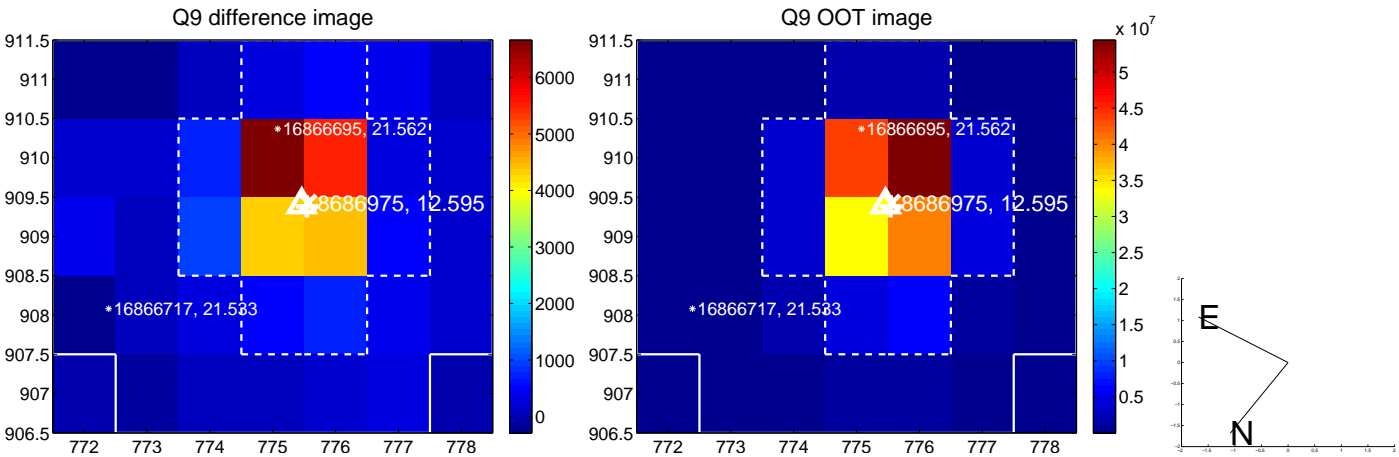
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



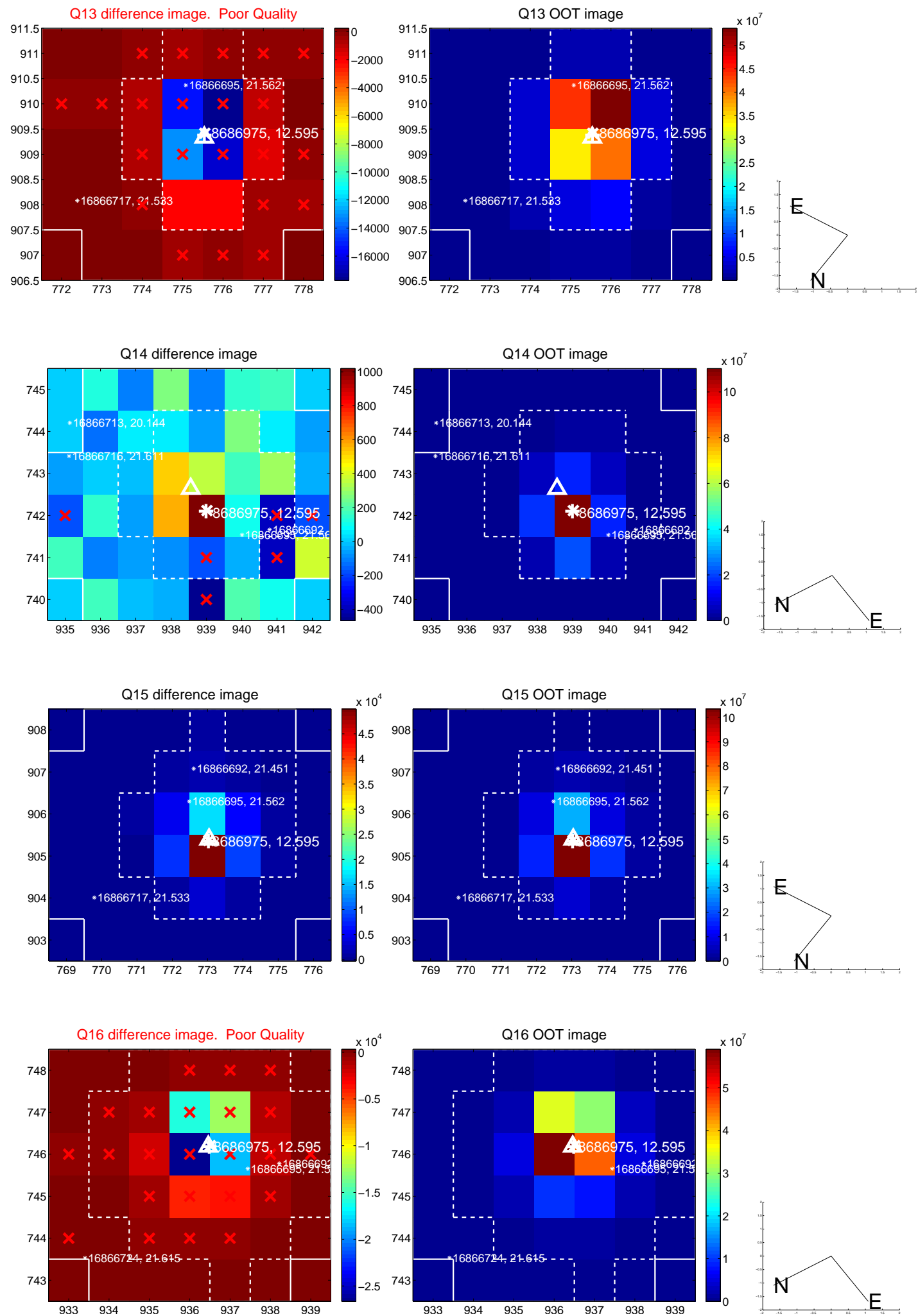
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



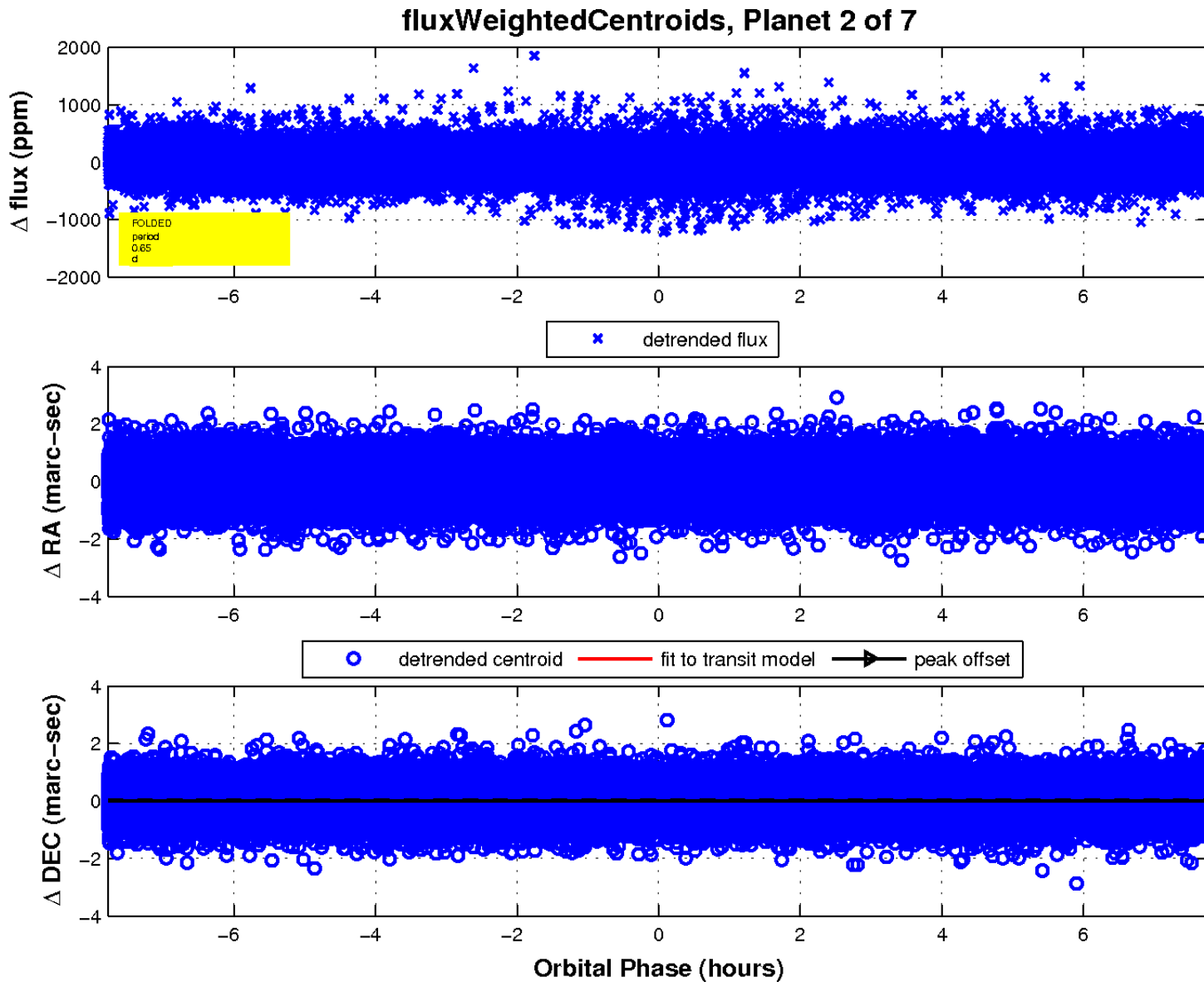
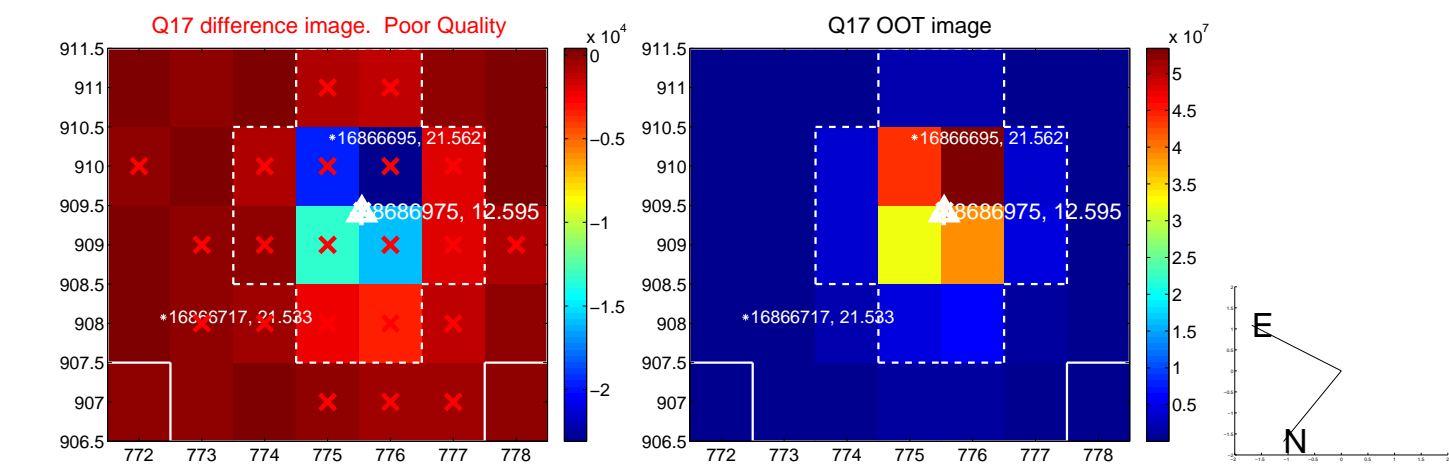
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

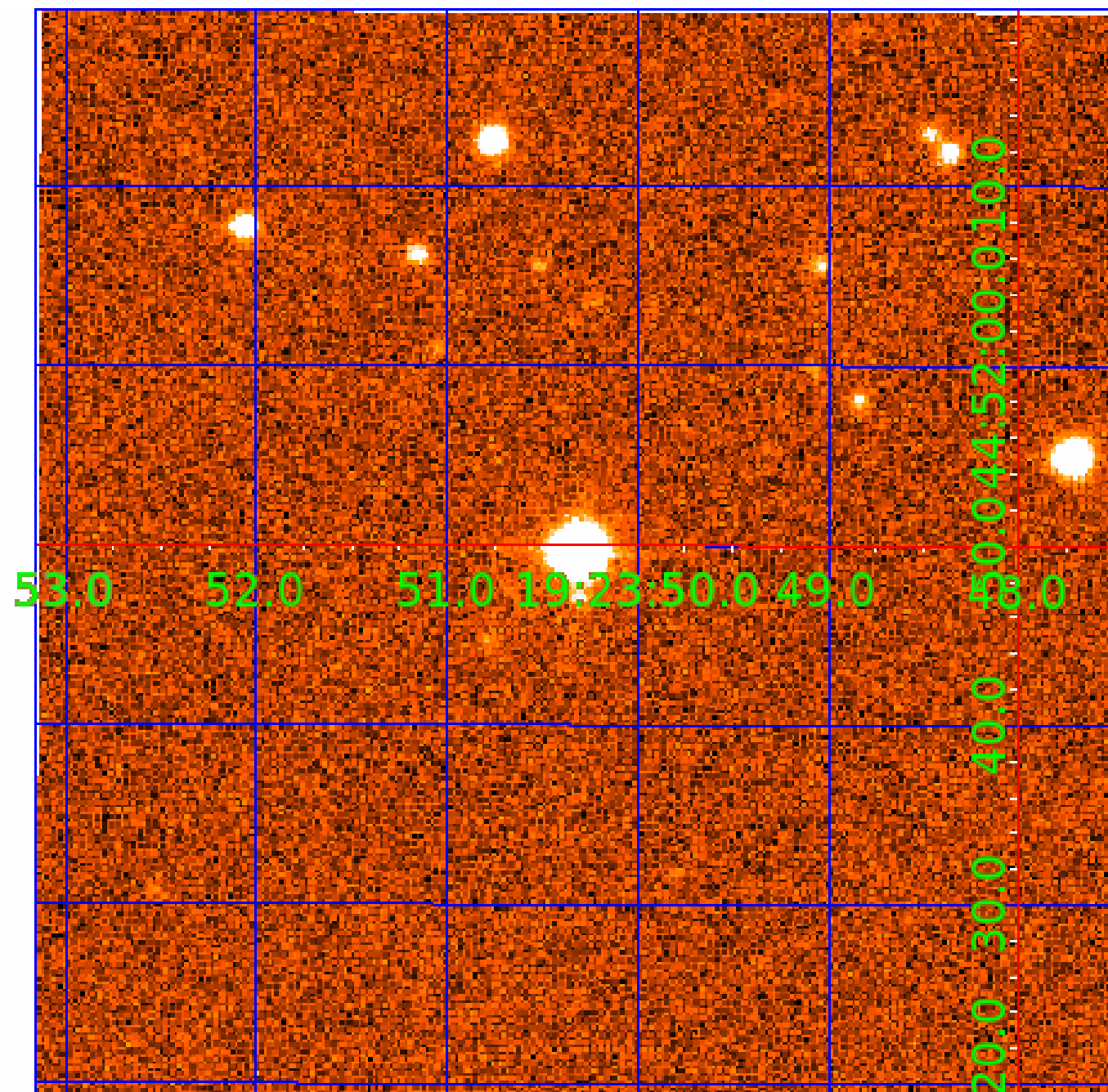


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008686975

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})
008686975-01	OBS	No	1.254151	131.585917	130.4	4.500	8.5	-1.0	2.94	7516	3.40	30114.84
008686975-02	OBS	No	0.648401	131.609693	25.1	2.860	9.4	7.2	2.94	7516	1.50	72575.21
008686975-03	OBS	No	100.935820	176.191703	452.7	4.561	8.0	6.2	2.94	7516	11.70	86.67
008686975-04	OBS	No	31.445632	146.644542	293.2	3.973	8.5	8.7	2.94	7516	6.51	410.36
008686975-05	OBS	No	50.669126	176.299343	115.3	2.354	8.6	2.8	2.94	7516	3.64	217.23
008686975-06	OBS	No	94.233865	157.280879	528.6	3.613	9.7	7.3	2.94	7516	12.72	94.98
008686975-07	OBS	No	55.965597	166.515075	351.9	2.005	7.3	6.4	2.94	7516	6.46	190.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008686975-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008686975-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008686975-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008686975-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008686975-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

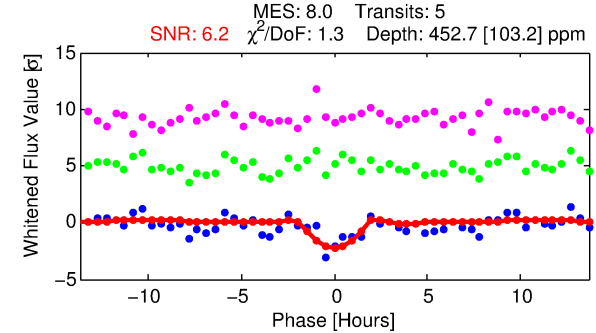
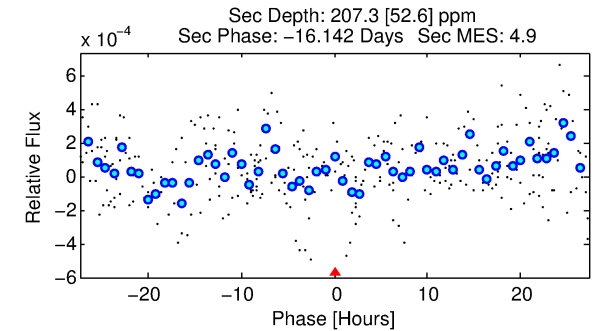
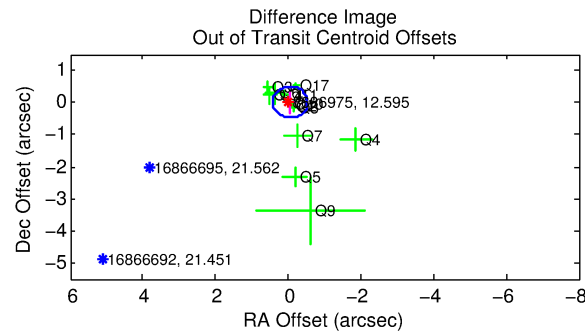
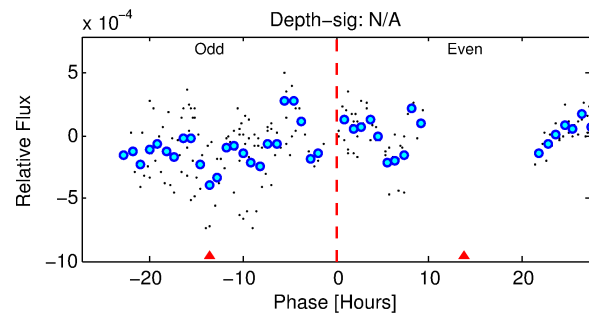
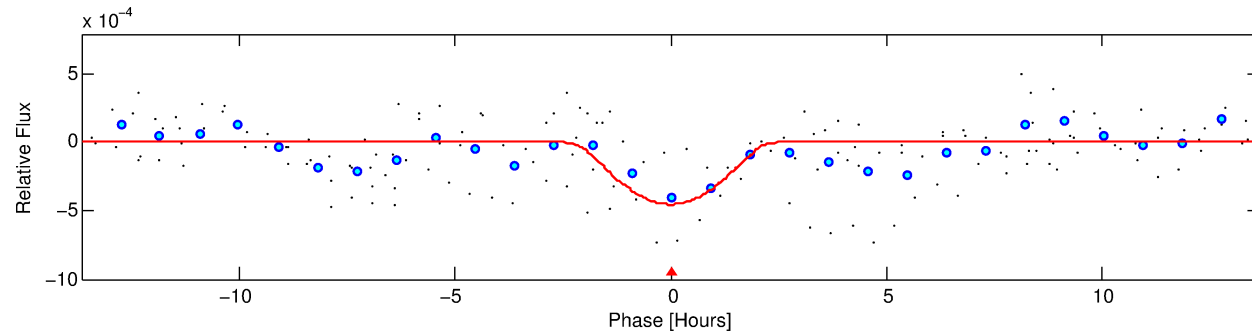
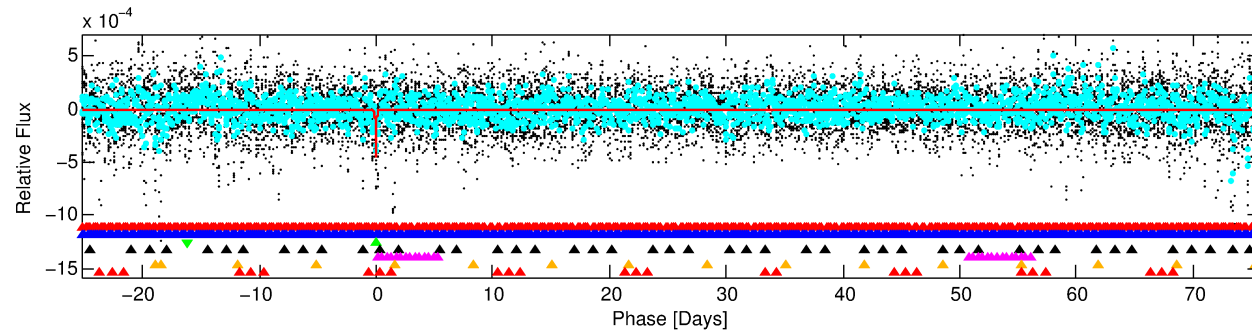
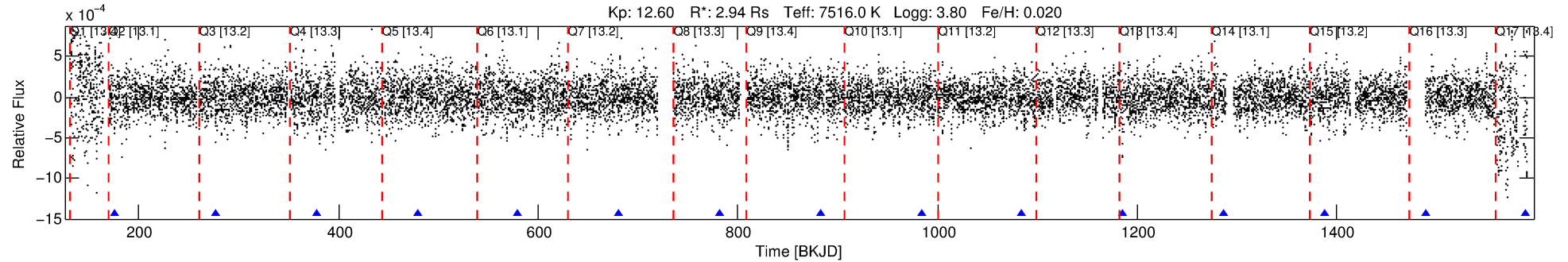
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008686975-03

No Significant Match Found

DV One-Page Summary

KIC: 8686975 Candidate: 3 of 7 Period: 100.936 d



DV Fit Results:

Period = 100.93582 [0.00223] d
Epoch = 176.1917 [0.0181] BKJD
Rp/R* = 0.0365 [0.1281]
a/R* = 46.55 [42.71]
b = 1.00 [0.19]
Seff = 86.67 [54.71]
Teq = 778 [123] K
Rp = 11.70 [41.32] Re
a = 0.5331 [0.2077] AU
Ag = 236.66 [1666.49] [0.14 σ]
Teffp = 4718 [8277] K [0.48 σ]

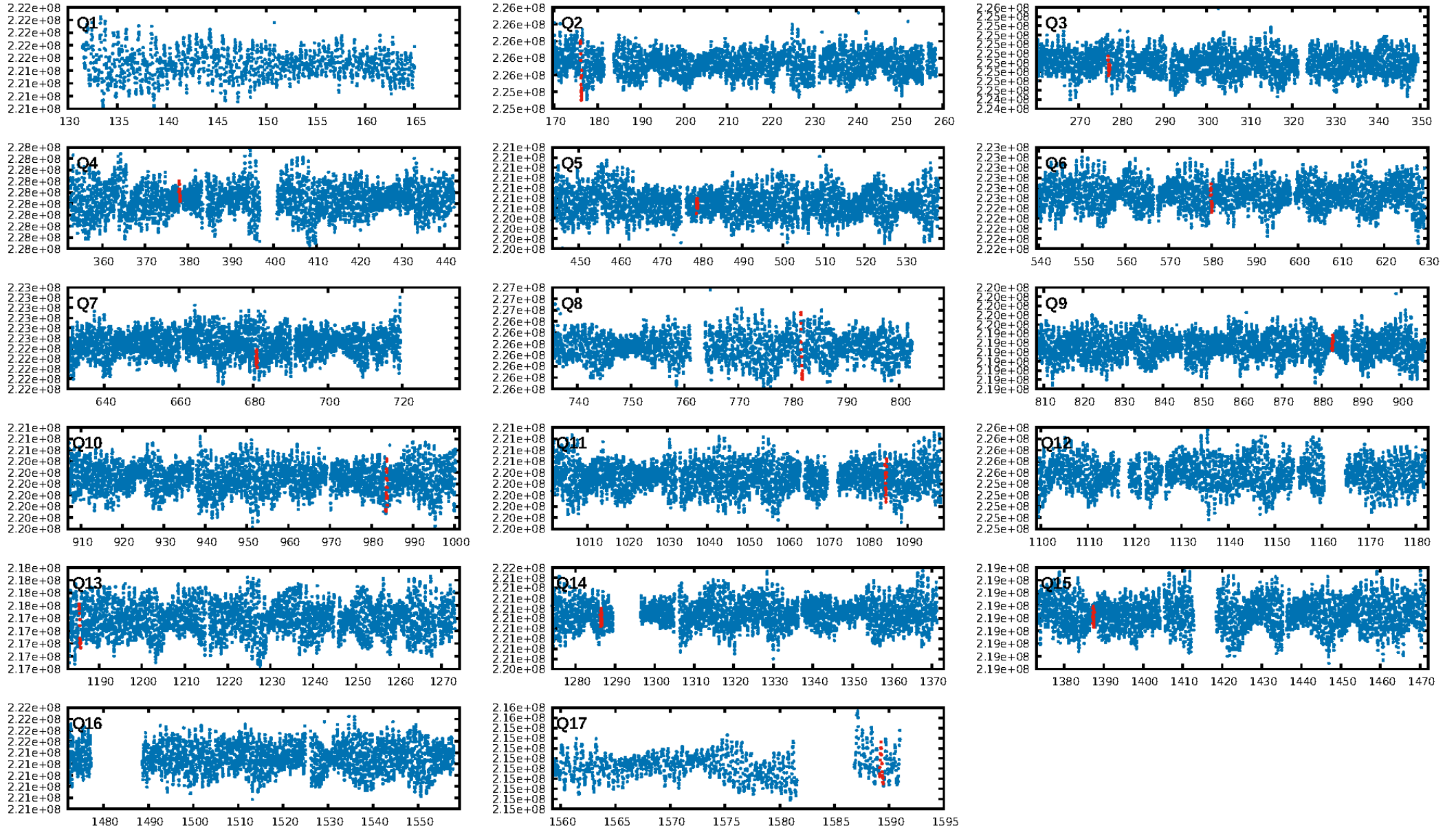
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [27.65 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.0%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 4.14e-10
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.067
Centroid-sig: N/A
Centroid-so: 0.337 arcsec [0.73 σ]
OotOffset-rm: 0.046 arcsec [0.29 σ]
KicOffset-rm: 0.130 arcsec [0.49 σ]
OotOffset-st: 4/3/2/3 [12]
KicOffset-st: 4/3/2/3 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 0.00 [0/12]

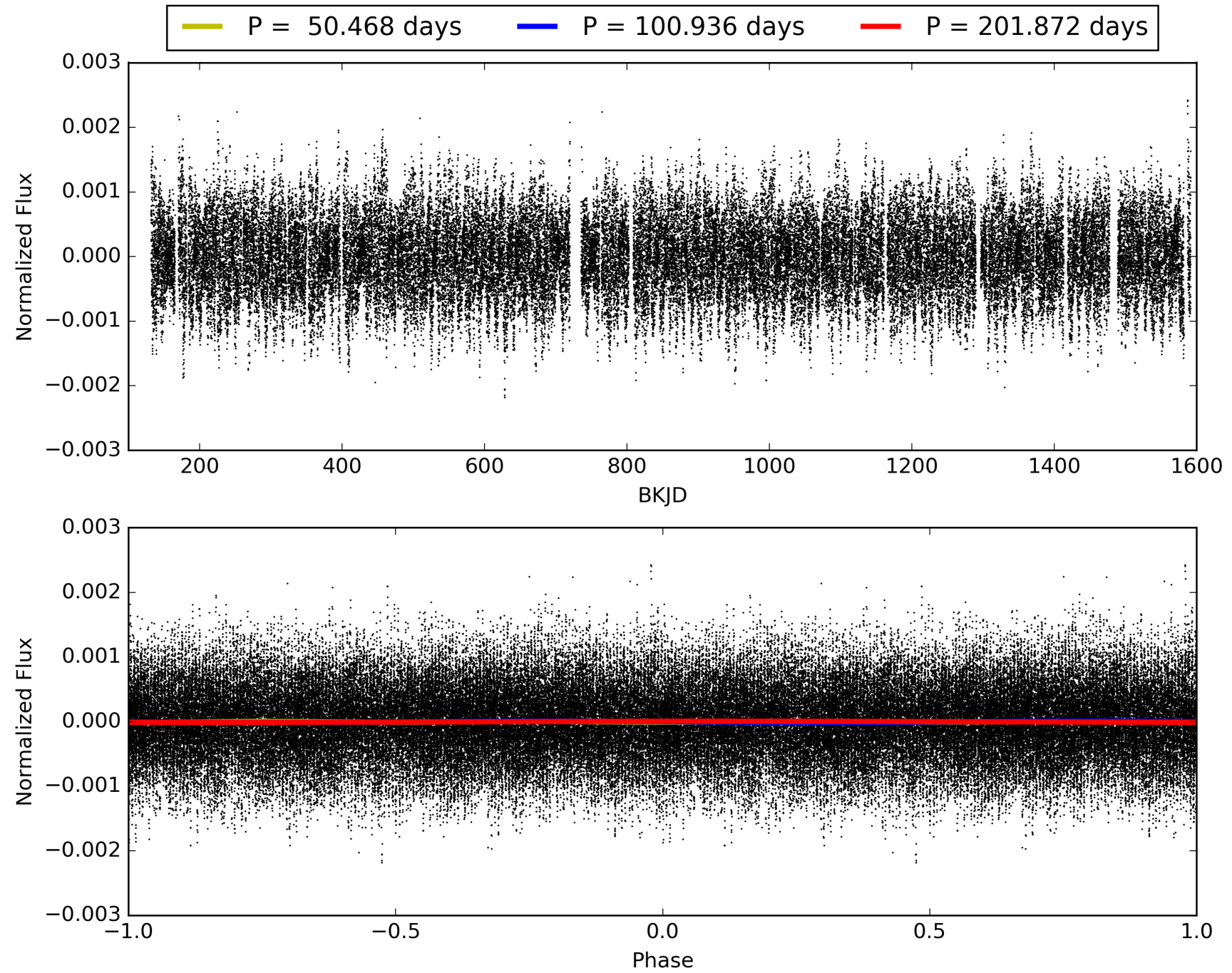
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:27:38 Z

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

TCE 008686975-03, PDC Light Curves

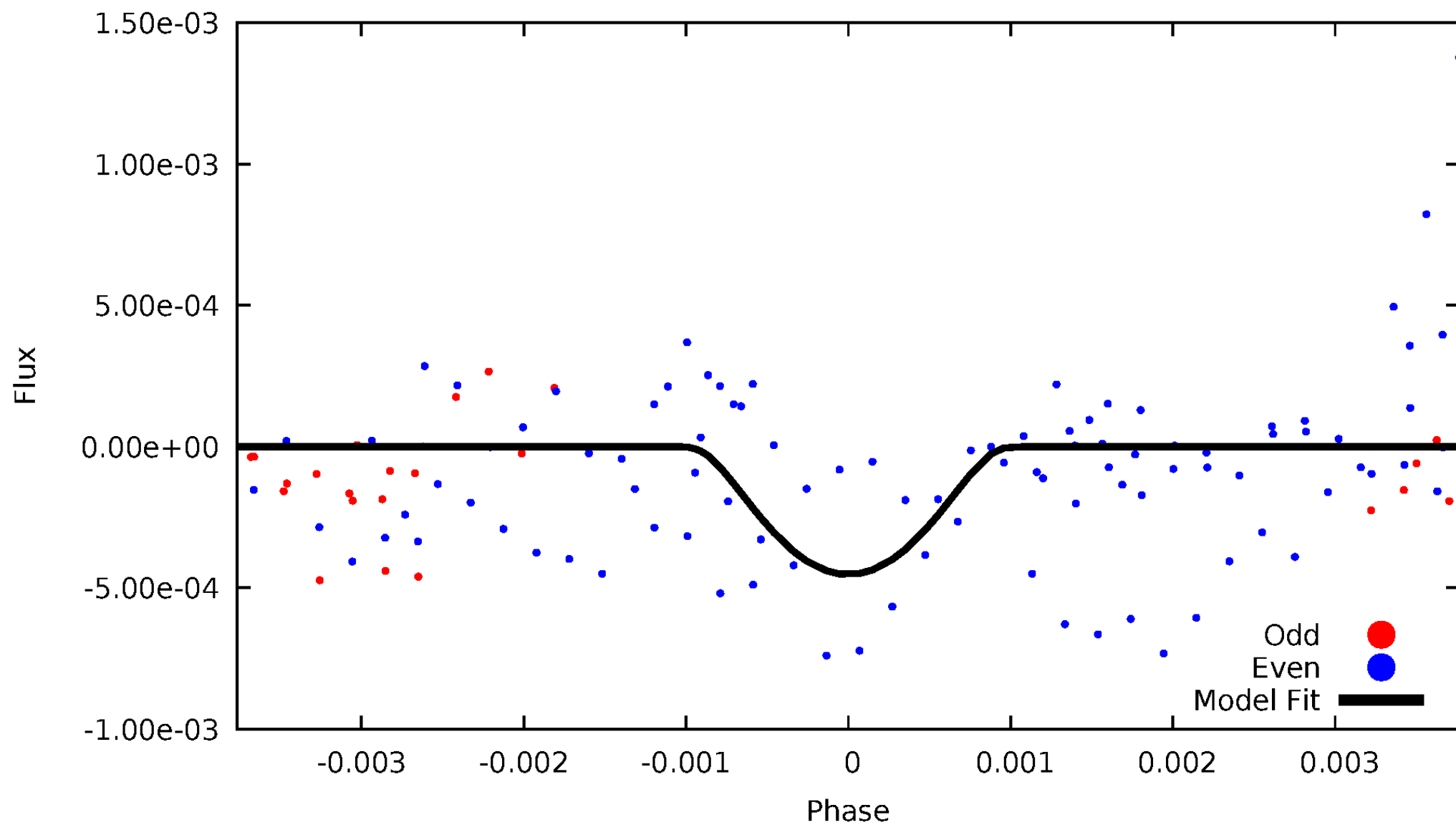


TCE 008686975-03



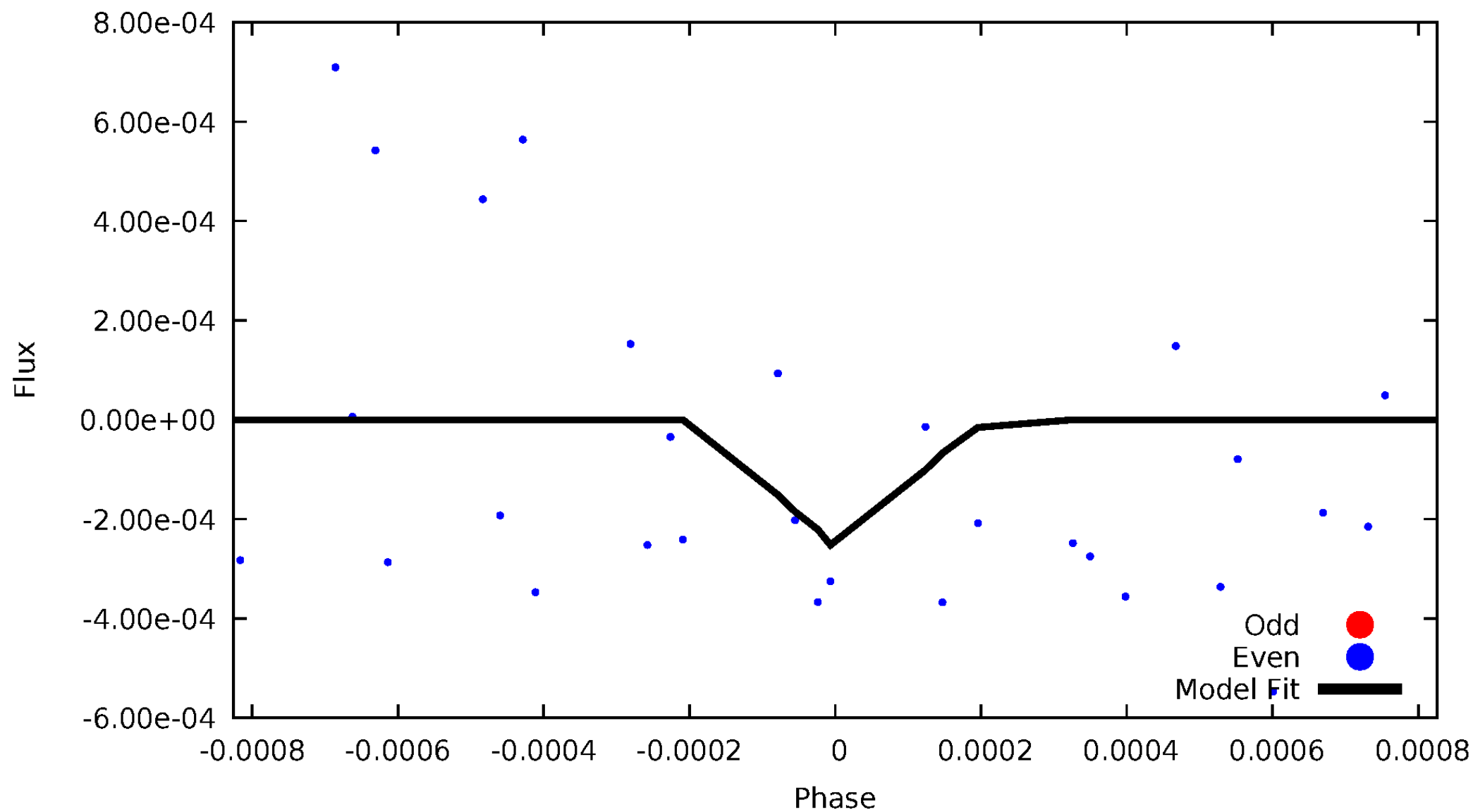
DV Odd/Even

TCE 008686975-03



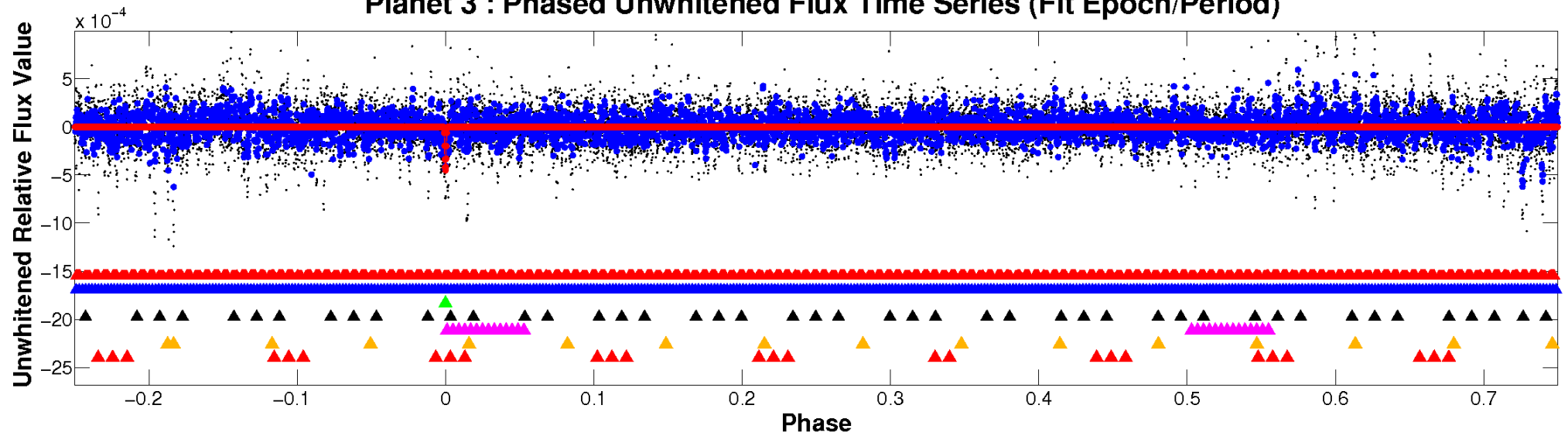
ALT Odd/Even

TCE 008686975-03

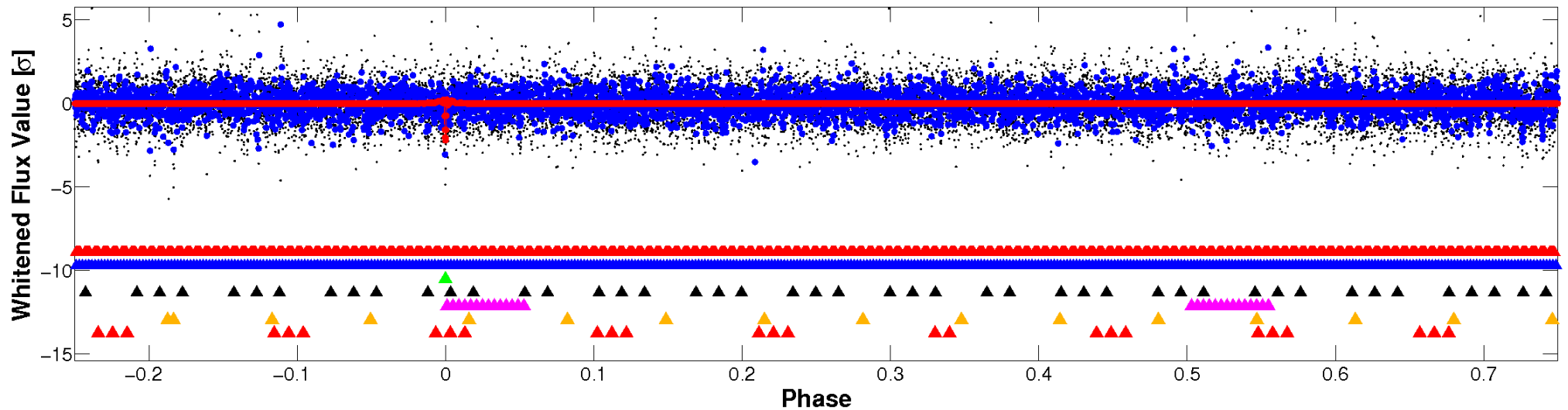


Non-Whitened Vs. Whitened Light Curve

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

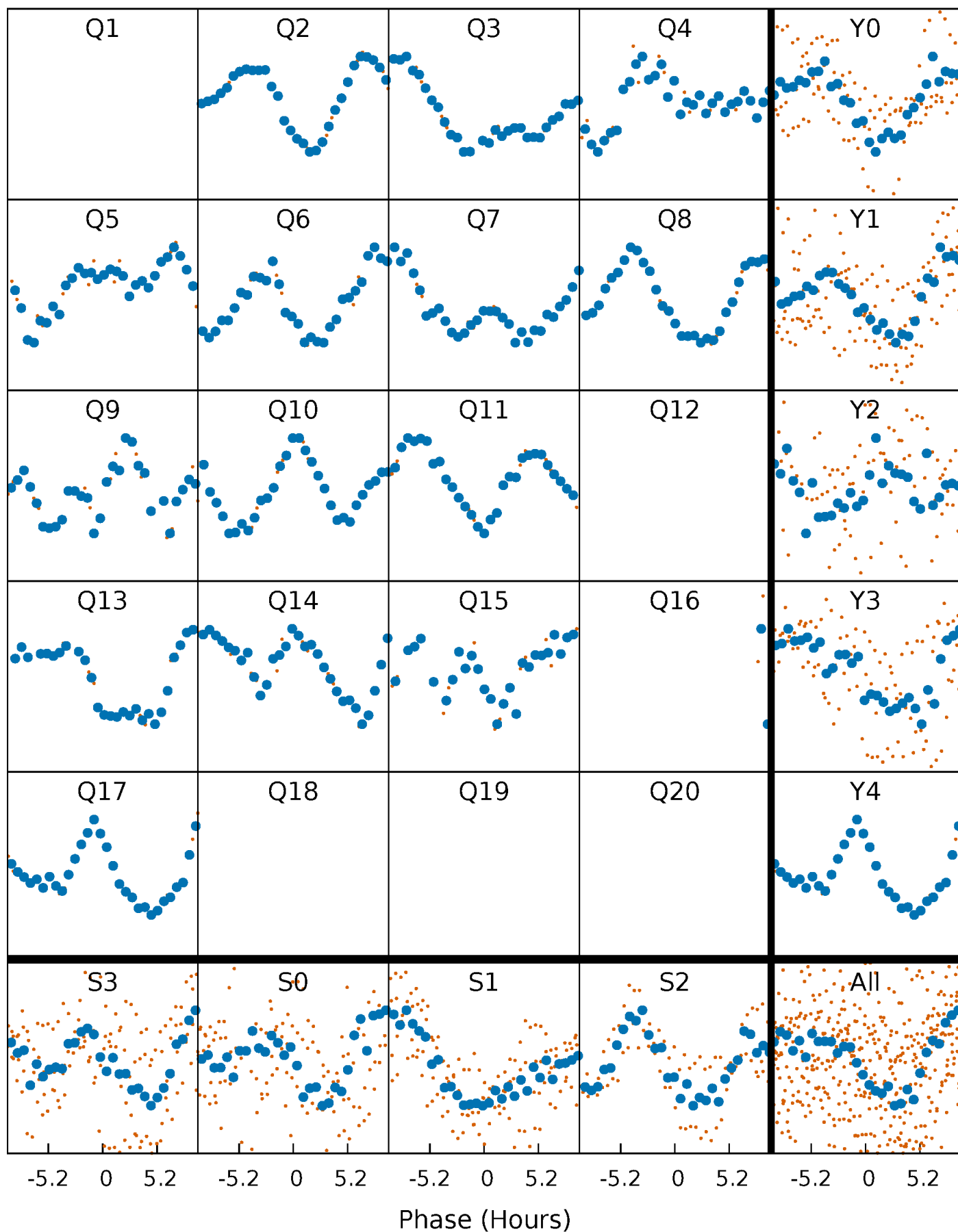


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



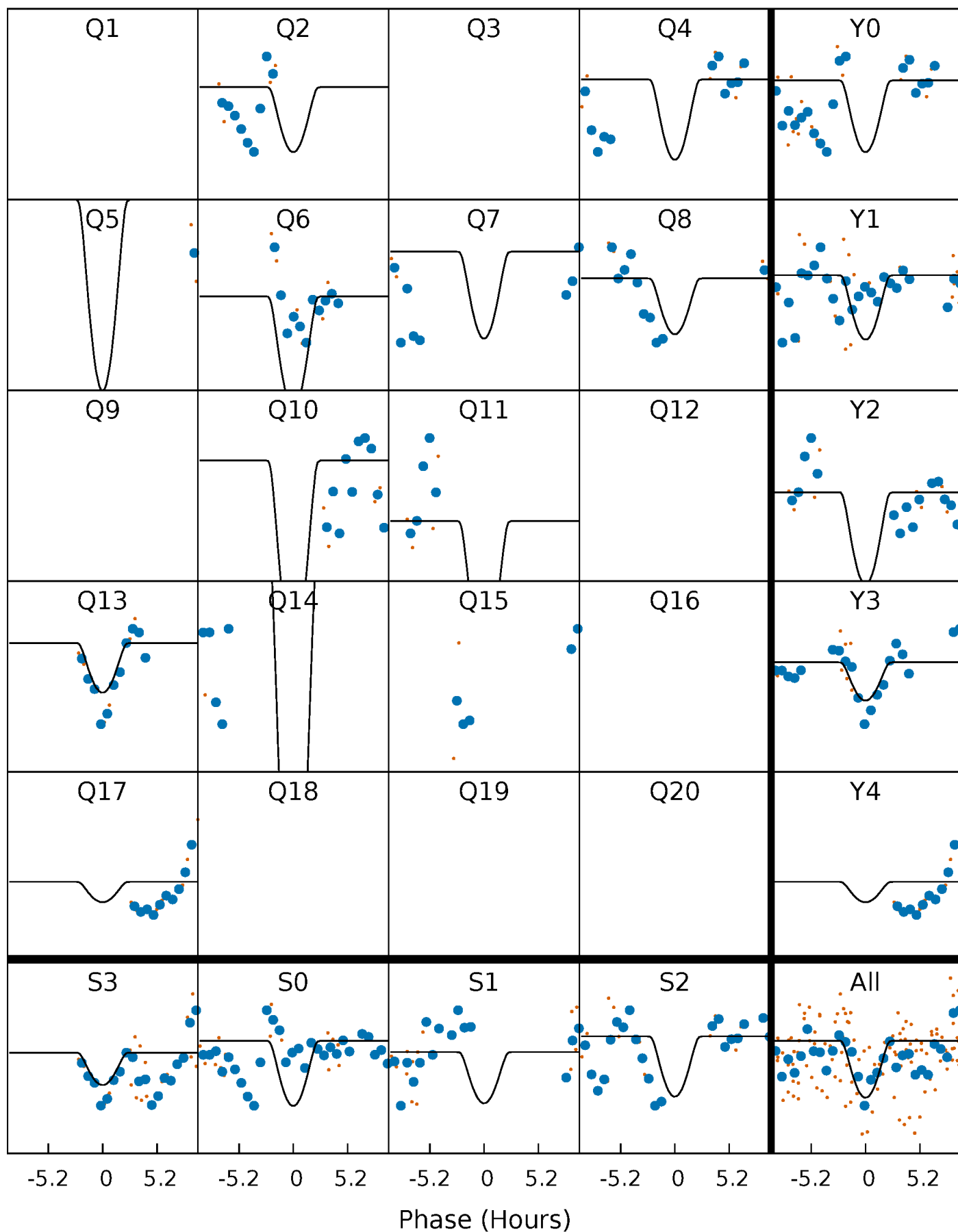
PDC Quarter-Phased Transit Curves

TCE 008686975-03 $P=100.935820$ Days $T_0=176.191703$ (BKJD)



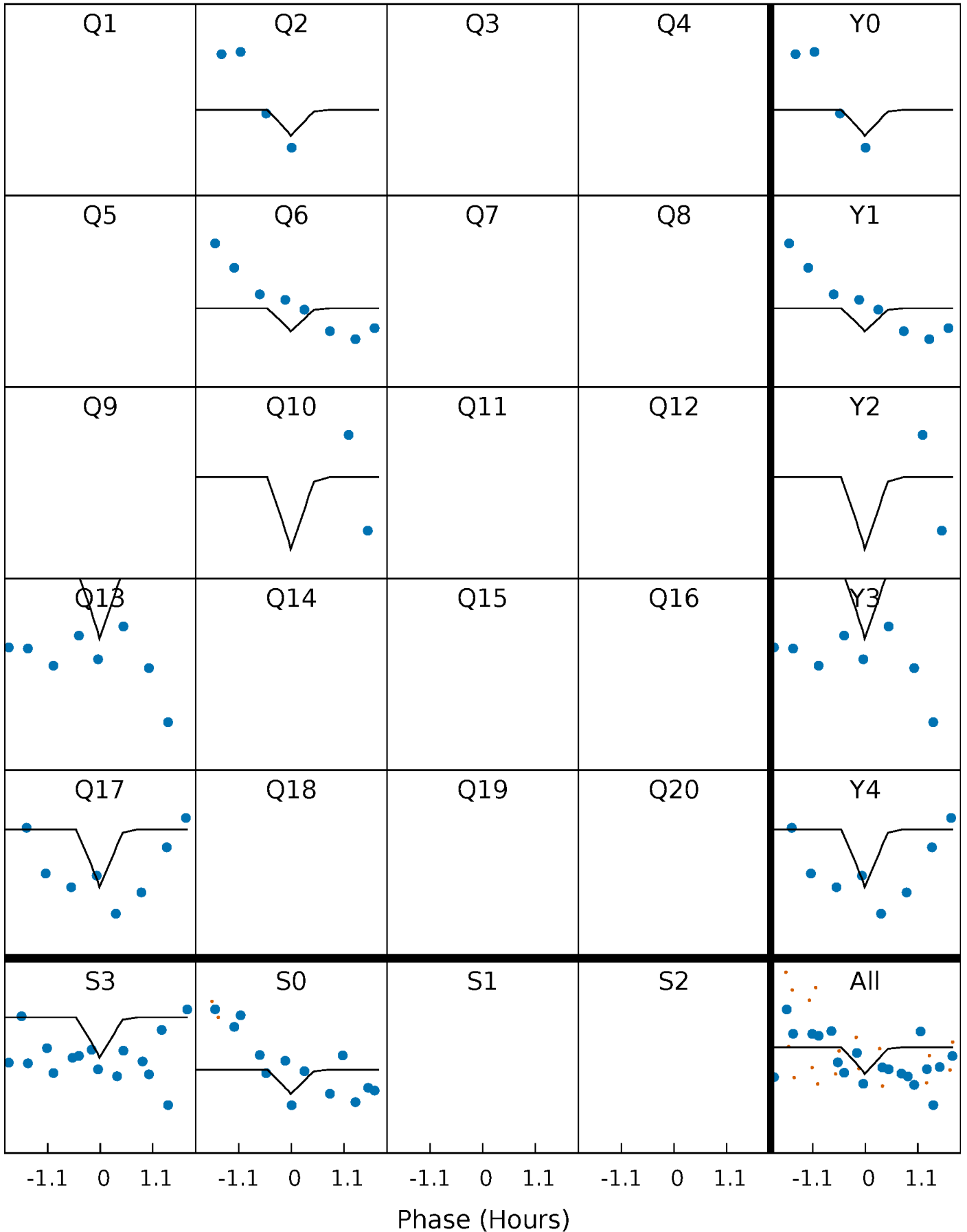
DV Quarter-Phased Transit Curves

TCE 008686975-03 P=100.935820 Days $T_0=176.191703$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

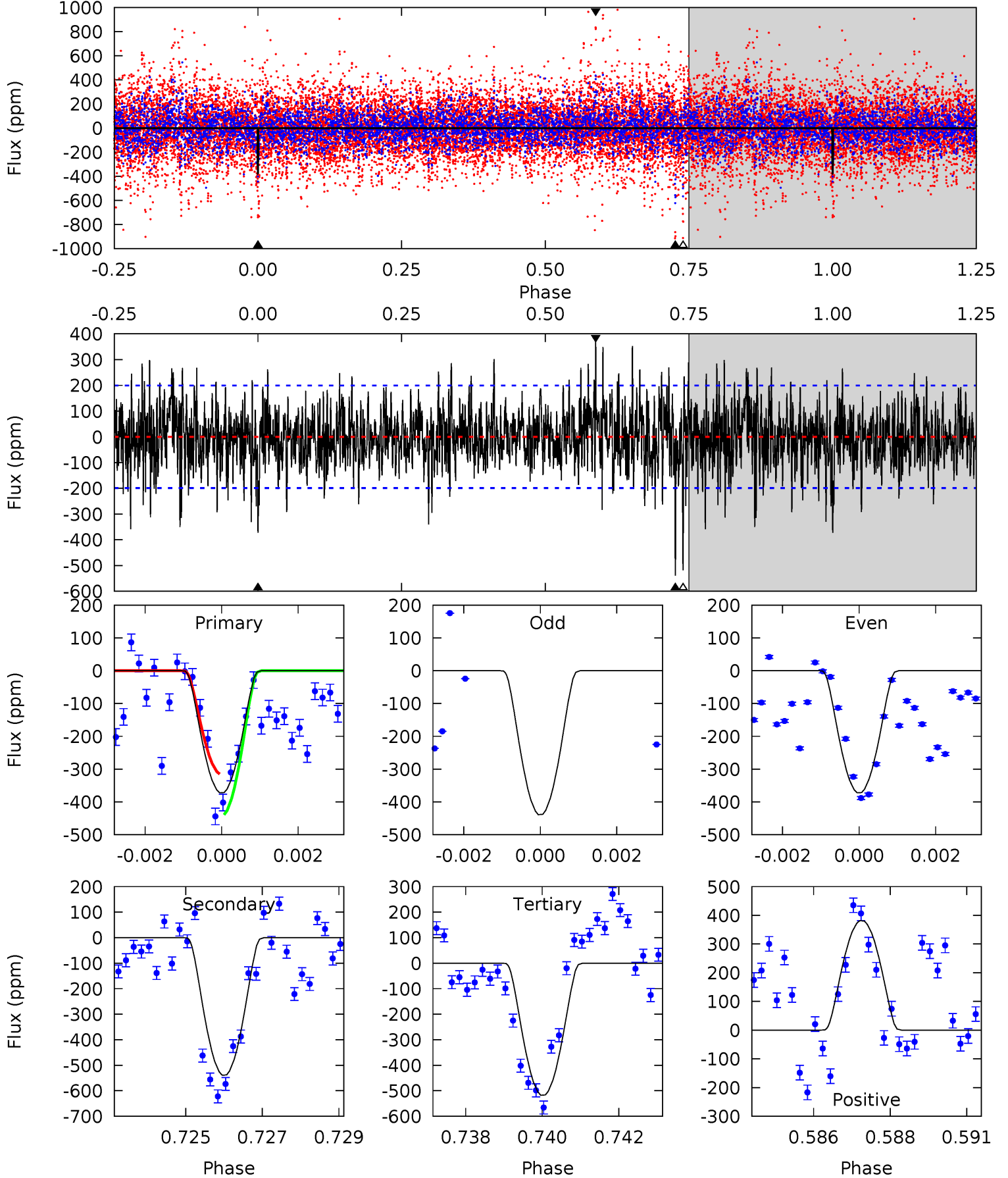
TCE 008686975-03 P=100.953693 Days $T_0=176.122692$ (BKJD)



DV Model-Shift Uniqueness Test

008686975-03, P = 100.935820 Days, E = 75.255883 Days

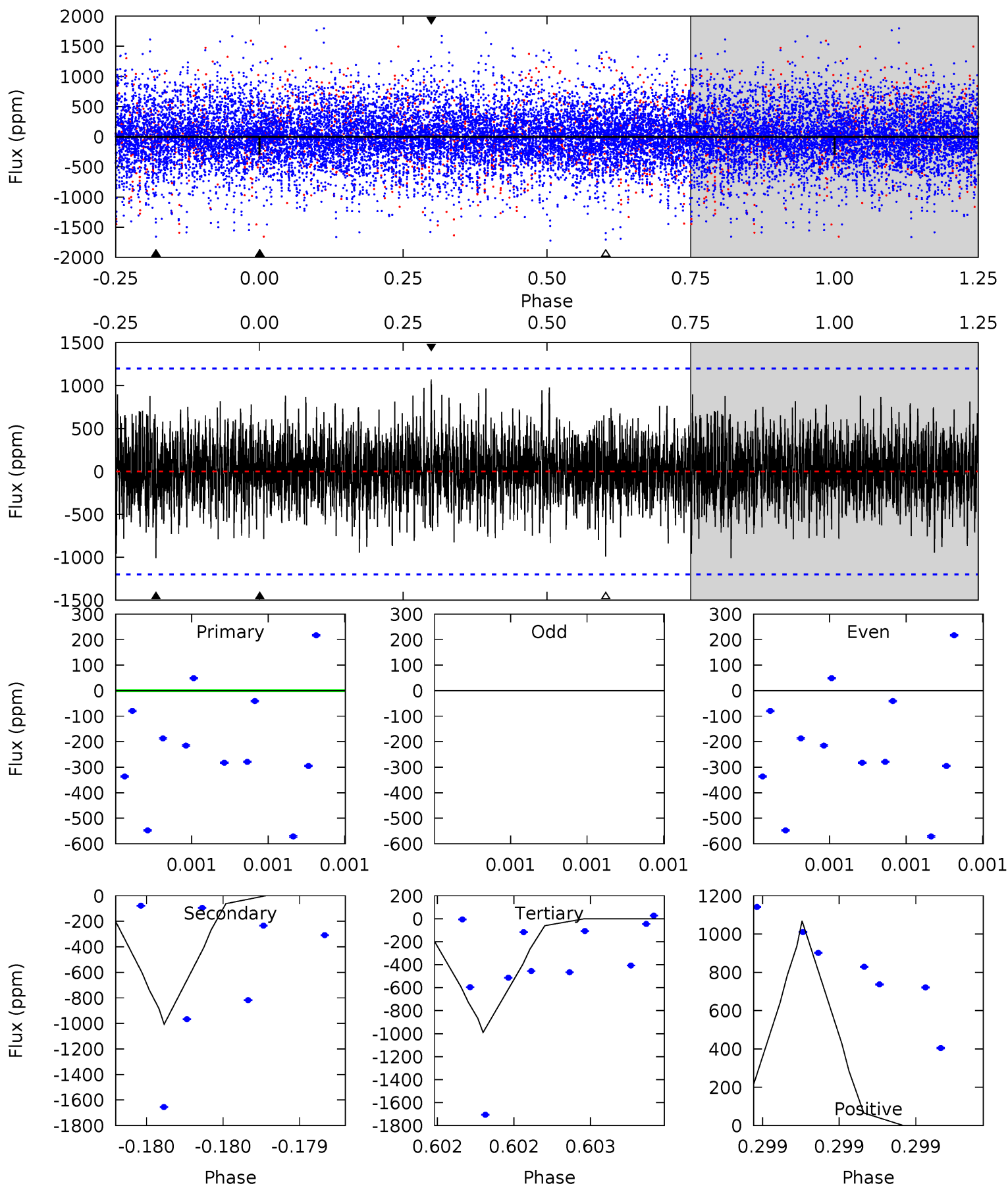
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.97	14.4	13.9	10.2	5.32	3.08	2.64	-3.88	-0.24	0.57	4.22	0.96	1.77	0.41	1.65



Alt Model-Shift Uniqueness Test

008686975-03, P = 100.953693 Days, E = 75.168999 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.40	4.78	4.70	5.07	5.69	3.66	1.33	-3.30	-3.67	0.08	-0.29	0.27	0.64	0.51	0.19



Stellar Parameters For KIC 008686975

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7516^{+209}_{-313}	$3.800^{+0.352}_{-0.110}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.412}_{-1.236}$	$1.978^{+0.096}_{-0.478}$	$0.110^{+0.279}_{-0.038}$
	+3%/-4%	+9%/-3%	+1000%/-1750%	+14%/-42%	+5%/-24%	+254%/-35%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008686975-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-539 ± 37	$30.78^{+30.87}_{-22.05}$	1067^{+74}_{-108}	3874^{+2624}_{-812}	87^{+948}_{-65}
Alt.	-1007 ± 211	$27.74^{+30.54}_{-19.88}$	1064^{+73}_{-105}	4489^{+3524}_{-1034}	207^{+2162}_{-162}

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 $A_{obs} \gg 1.0$

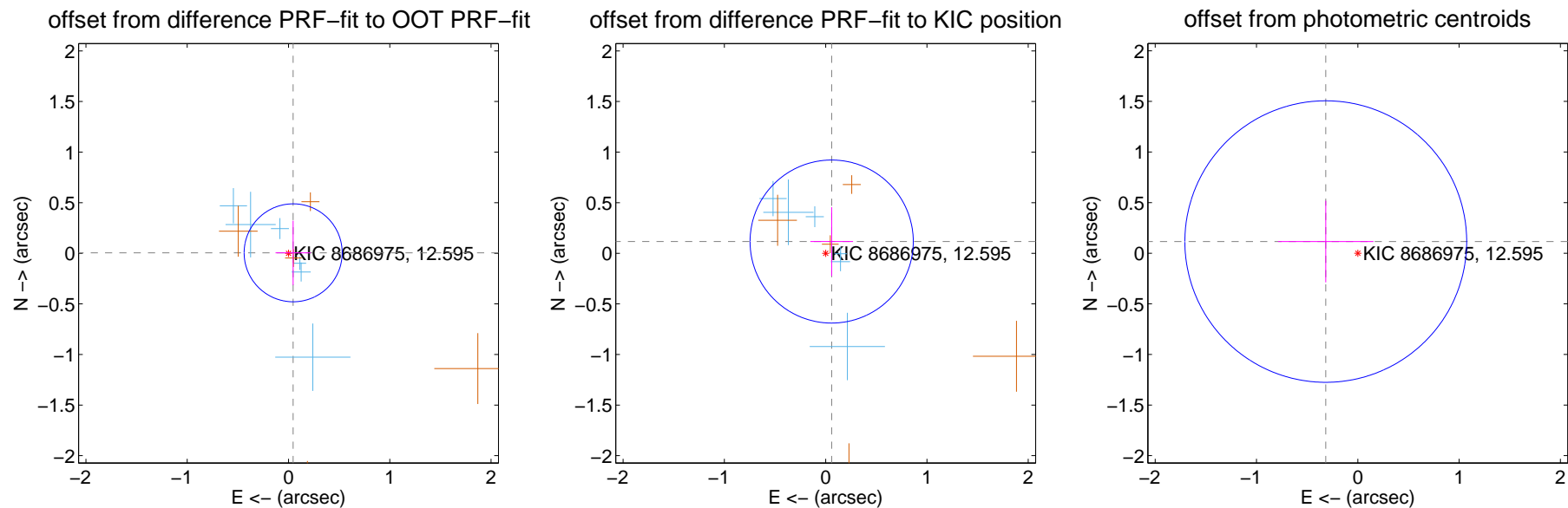
DV Centroid Data

Supplemental centroid analysis for 008686975-03. Kepler magnitude: 12.60. Transit SNR 6.21

There are 6 quarters with good PRF difference image offsets

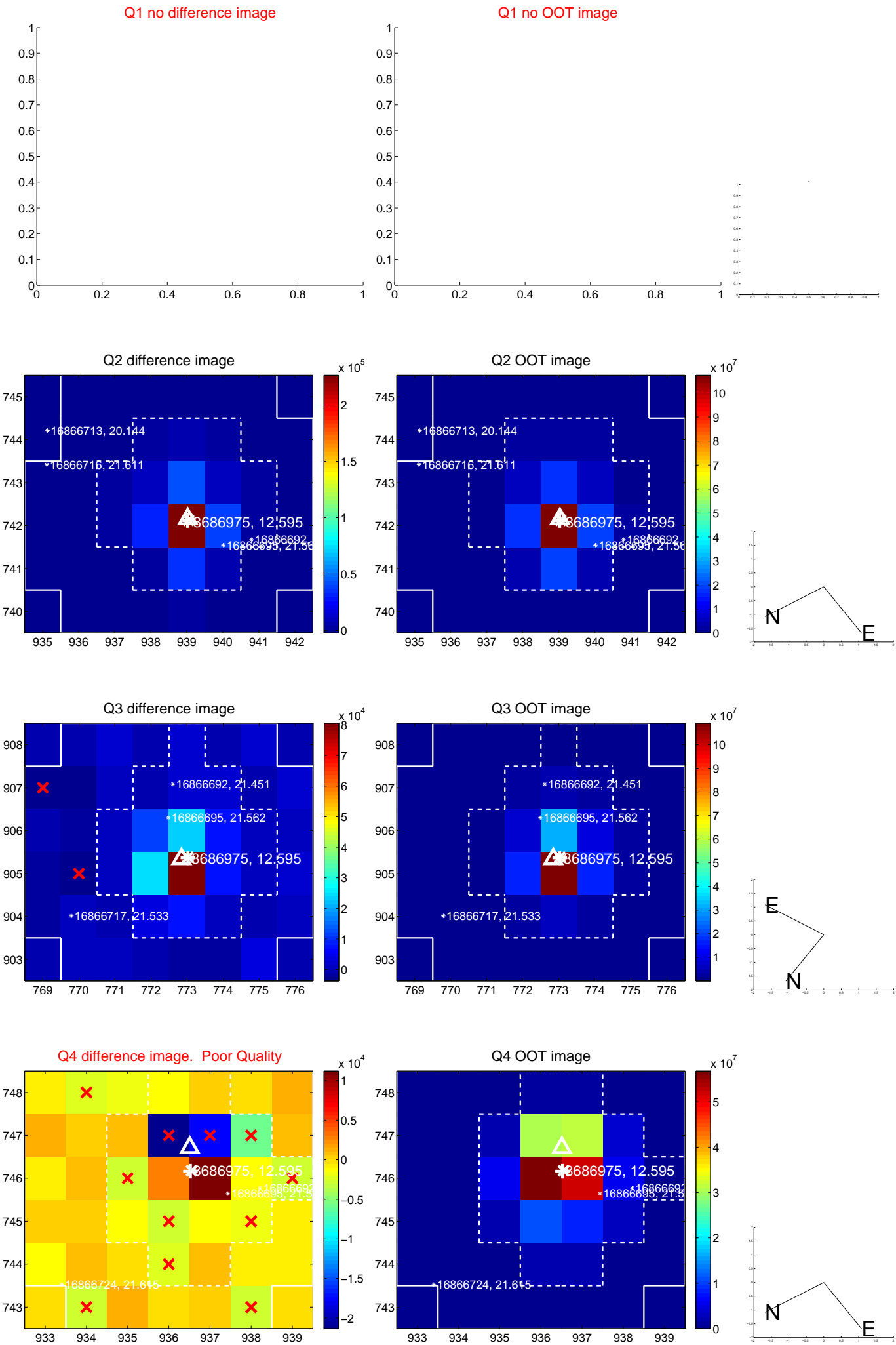
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.046 ± 0.161	0.29	-0.046 ± 0.174	0.005 ± 0.318
PRF-fit source offset from KIC position	0.130 ± 0.269	0.49	-0.059 ± 0.211	0.116 ± 0.340
photometric centroid source offset	0.34 ± 0.46	0.73	0.32 ± 0.47	0.12 ± 0.40

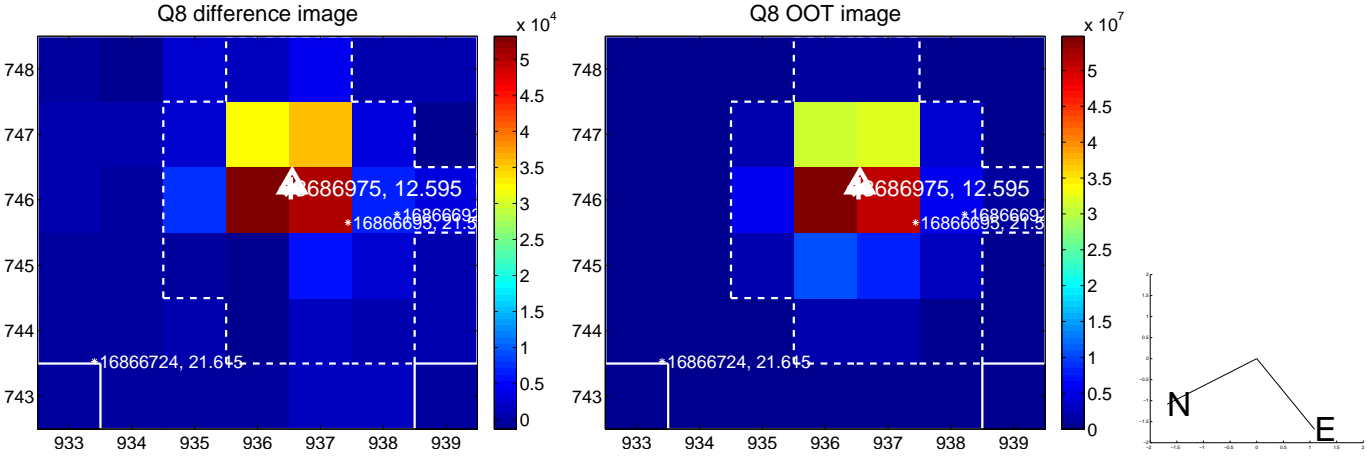
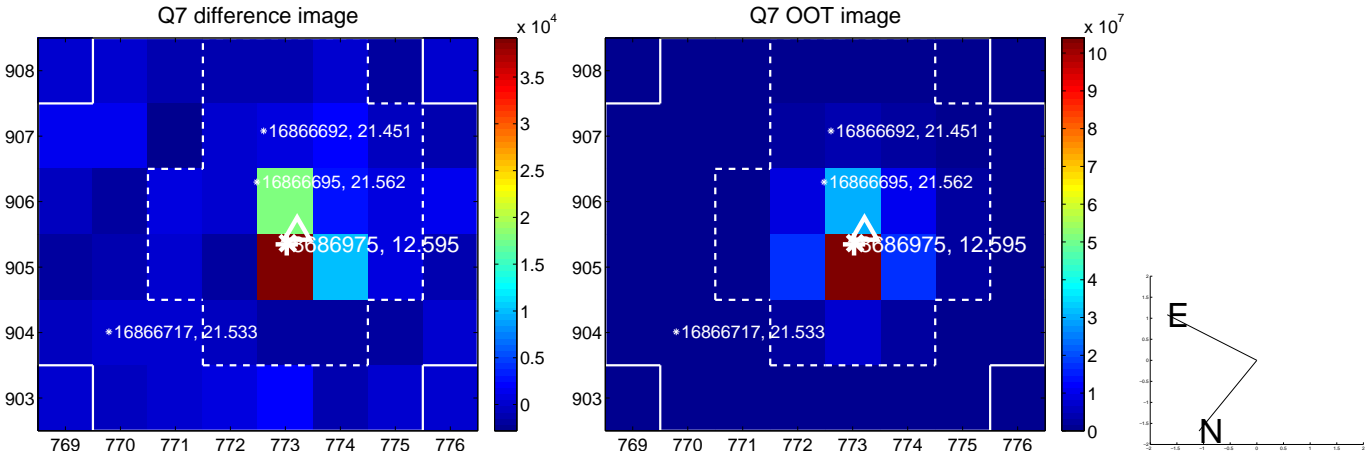
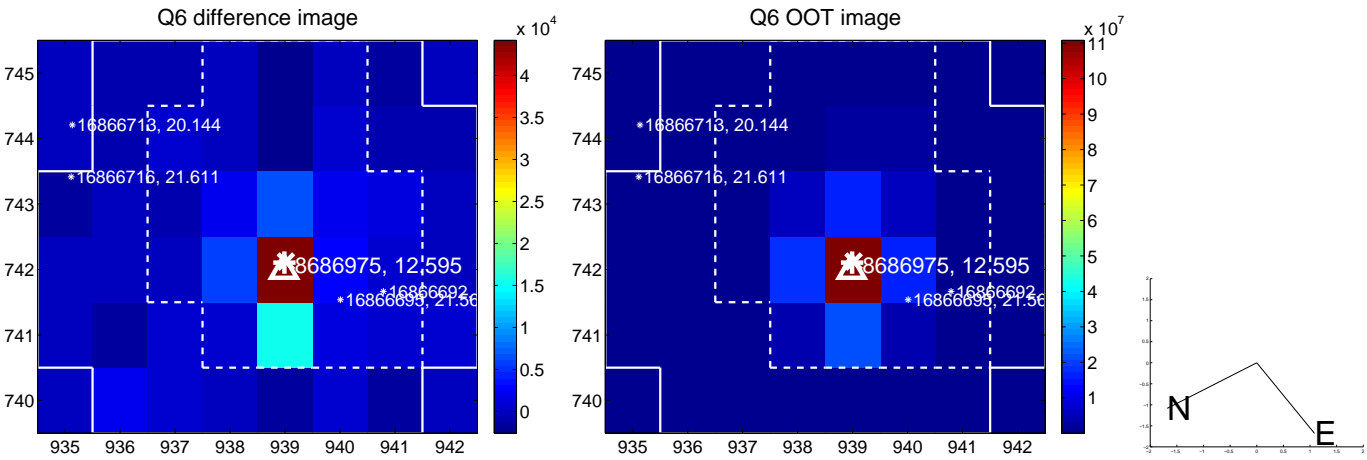
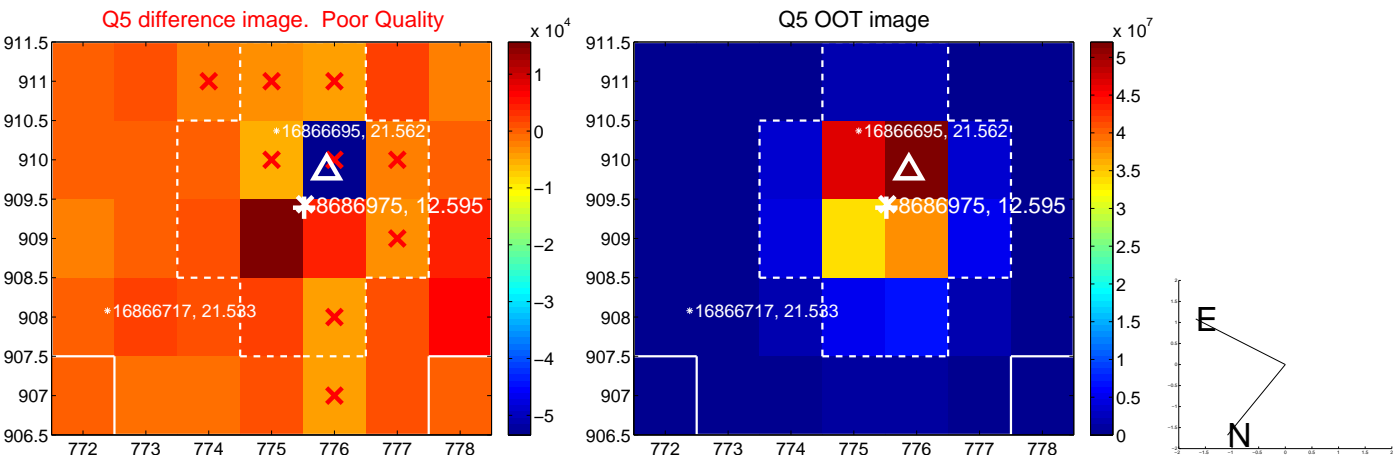


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

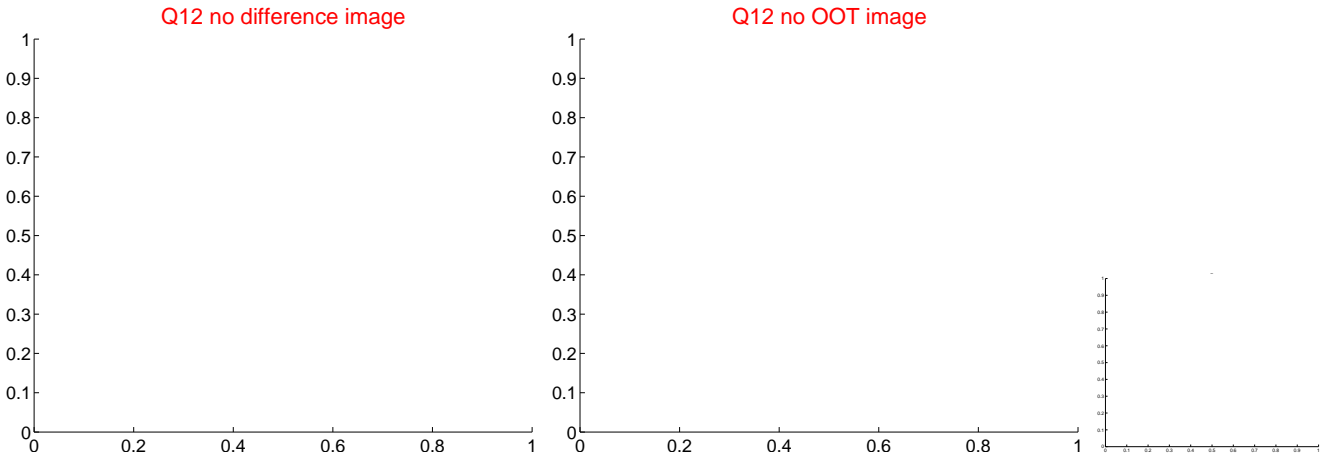
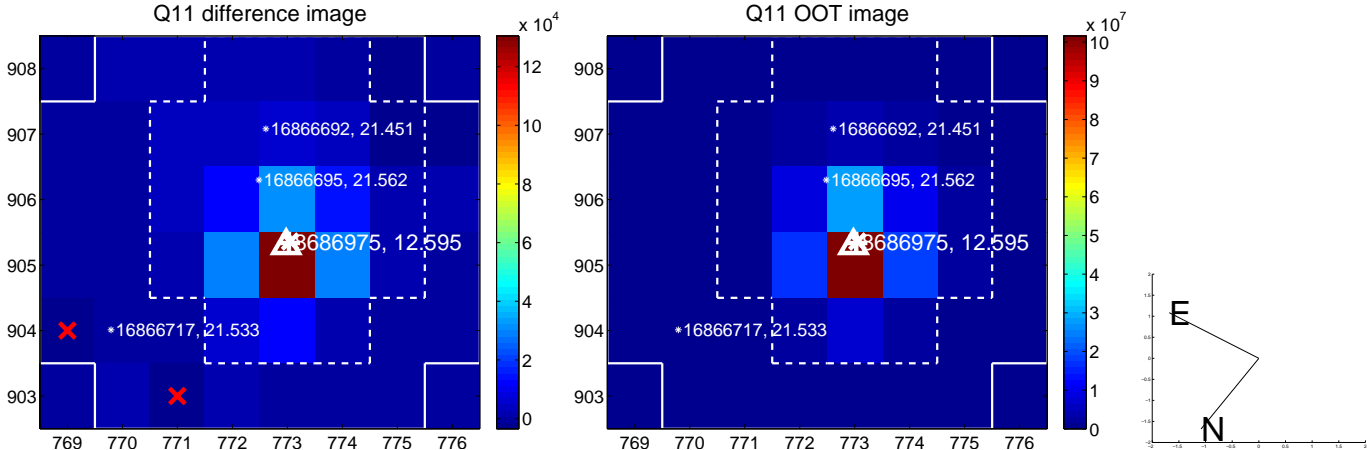
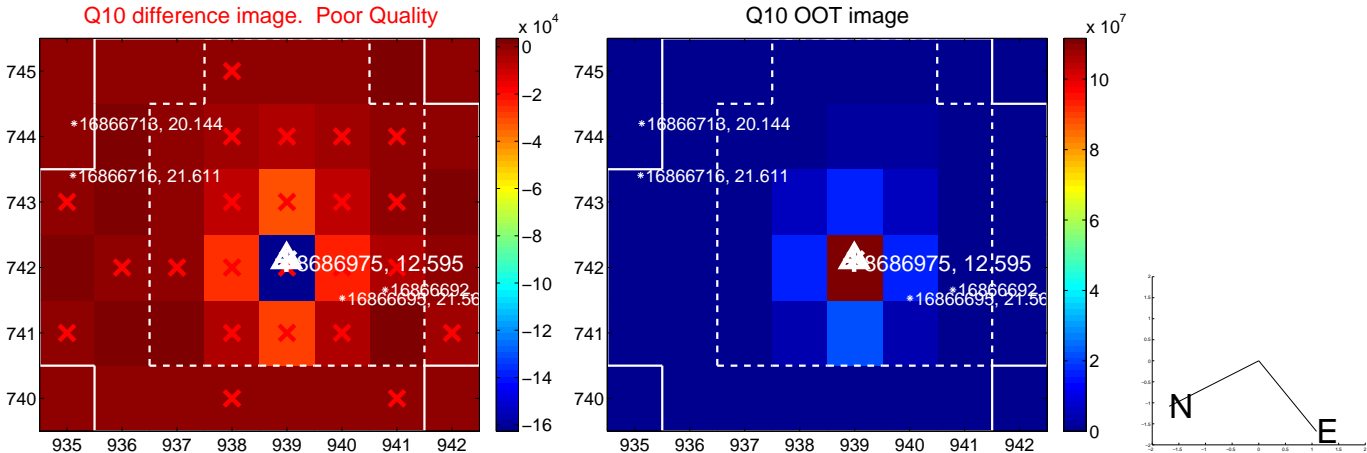
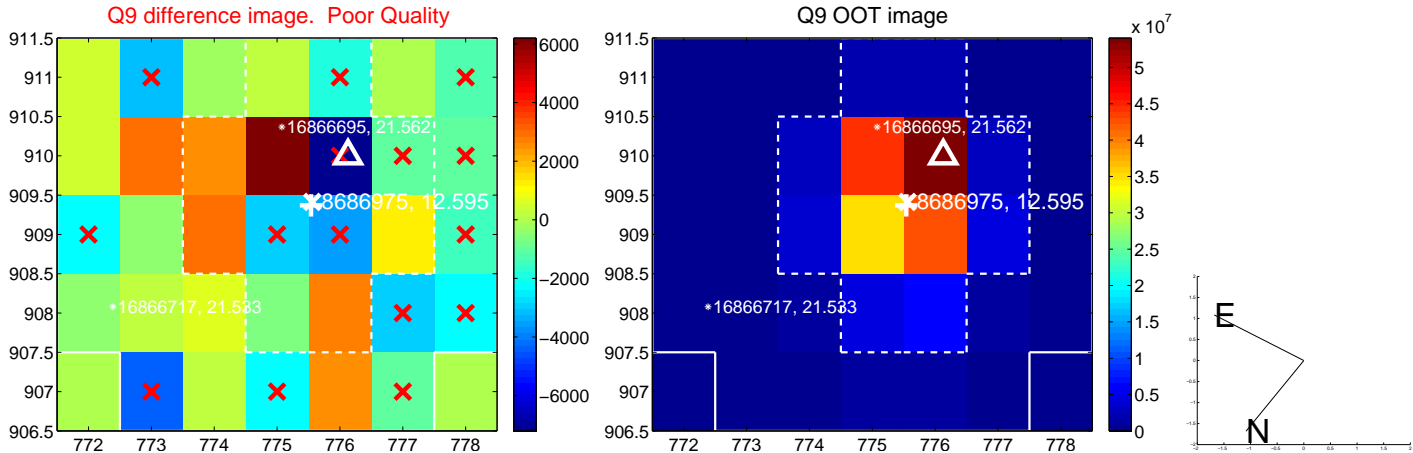
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



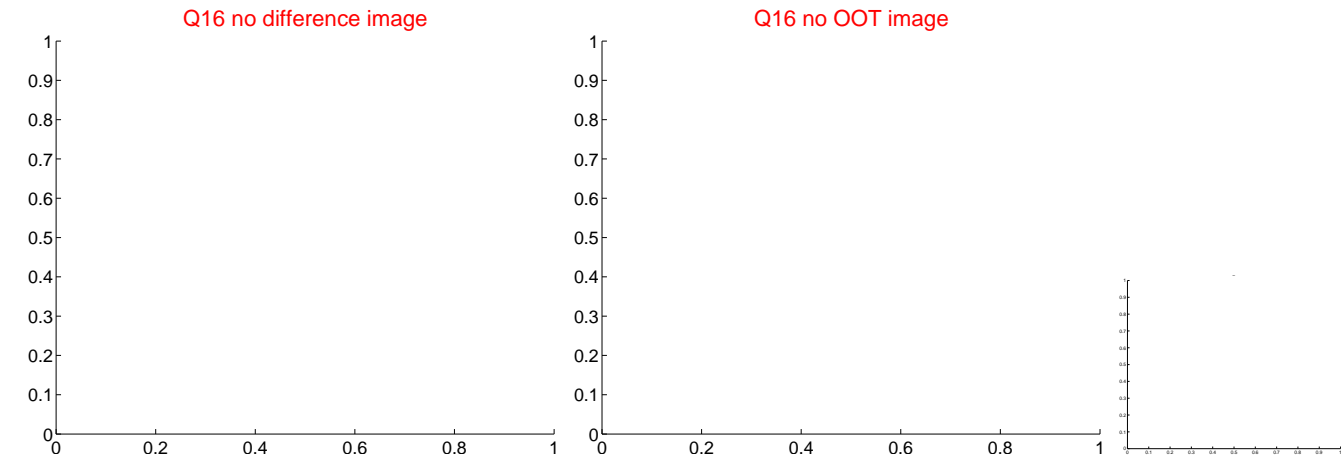
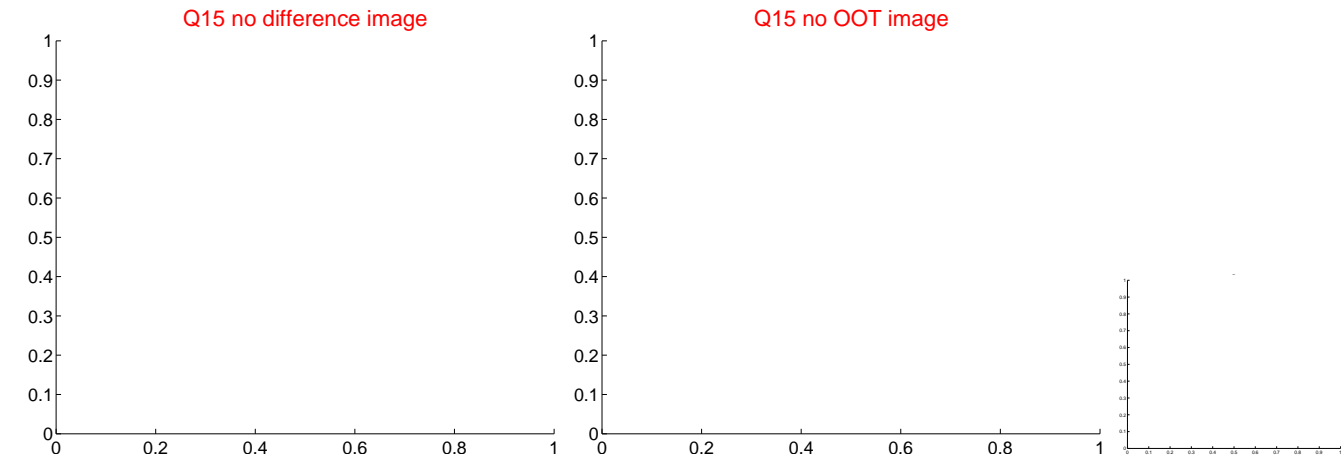
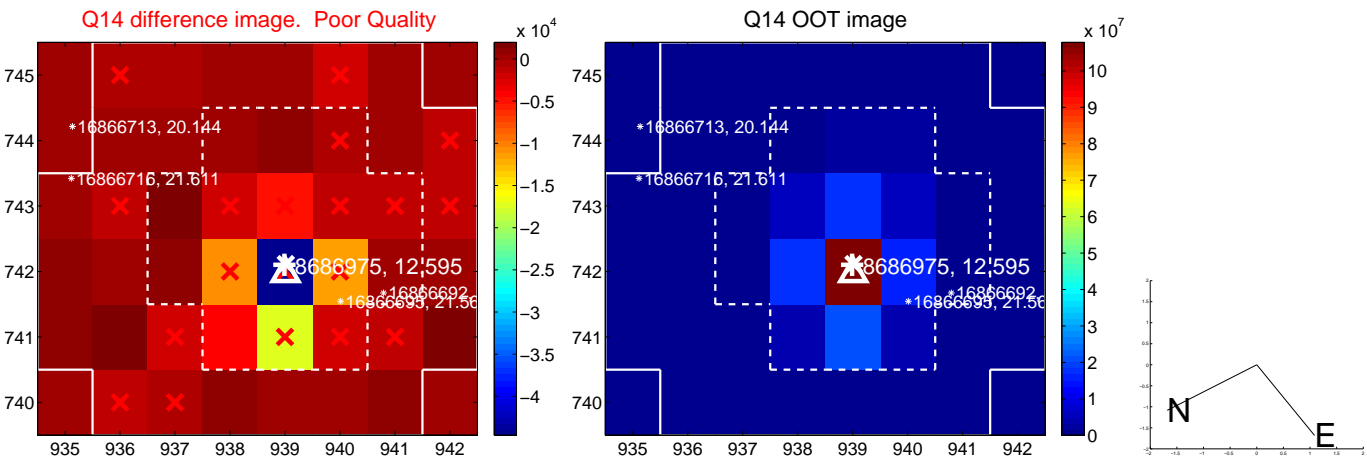
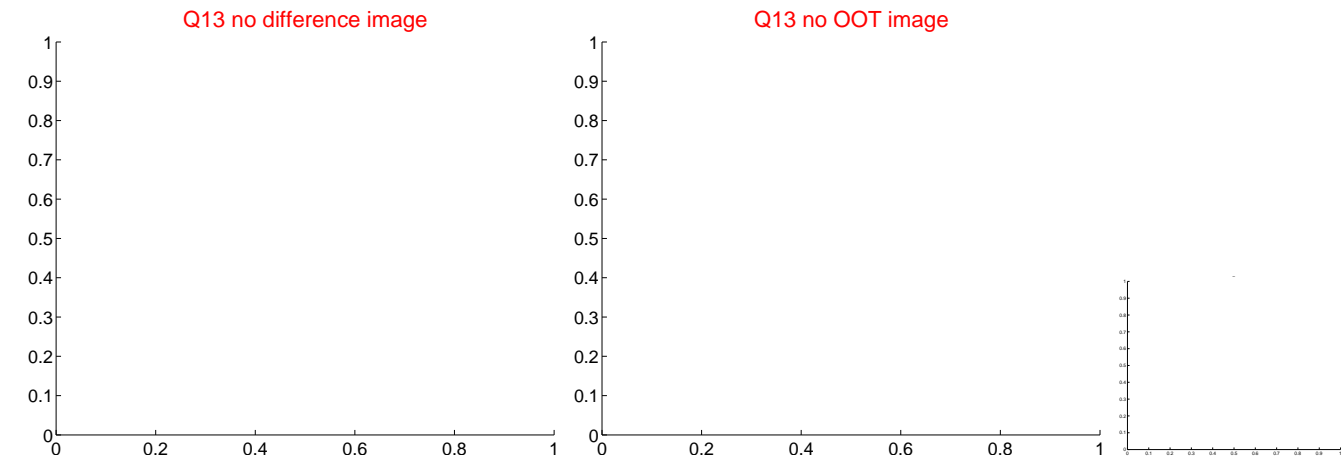
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



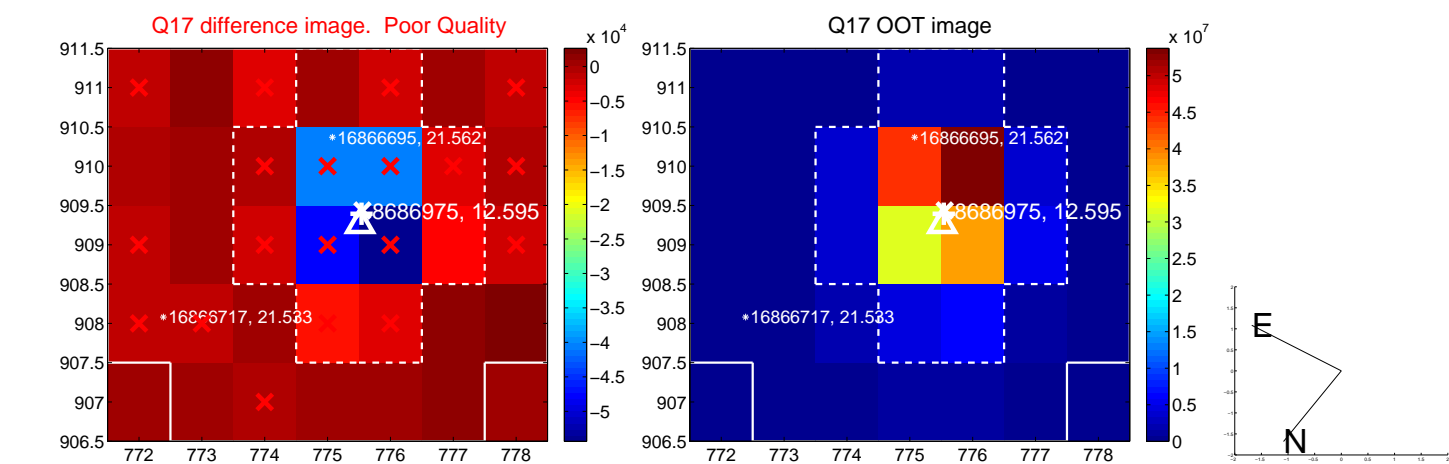
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



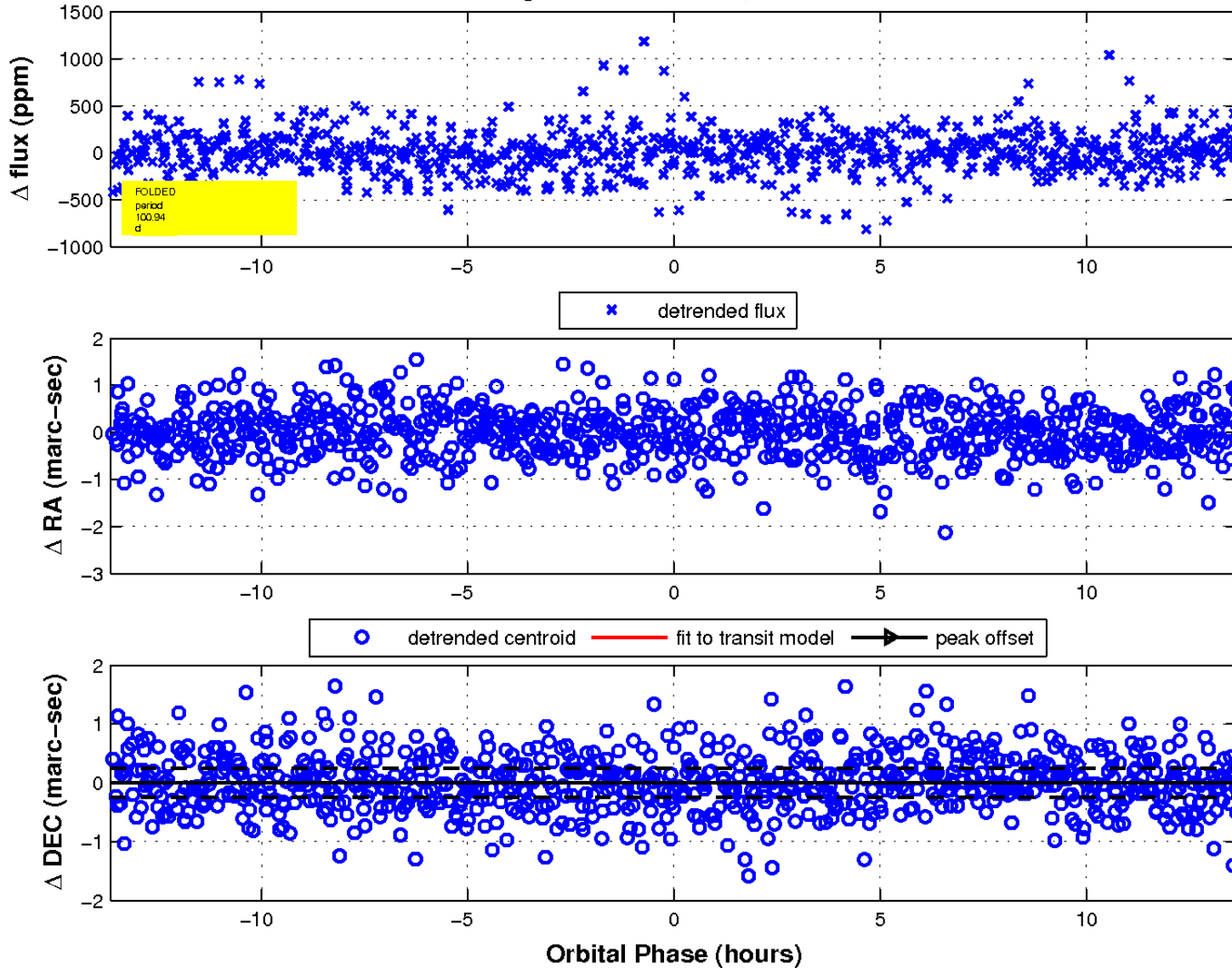
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

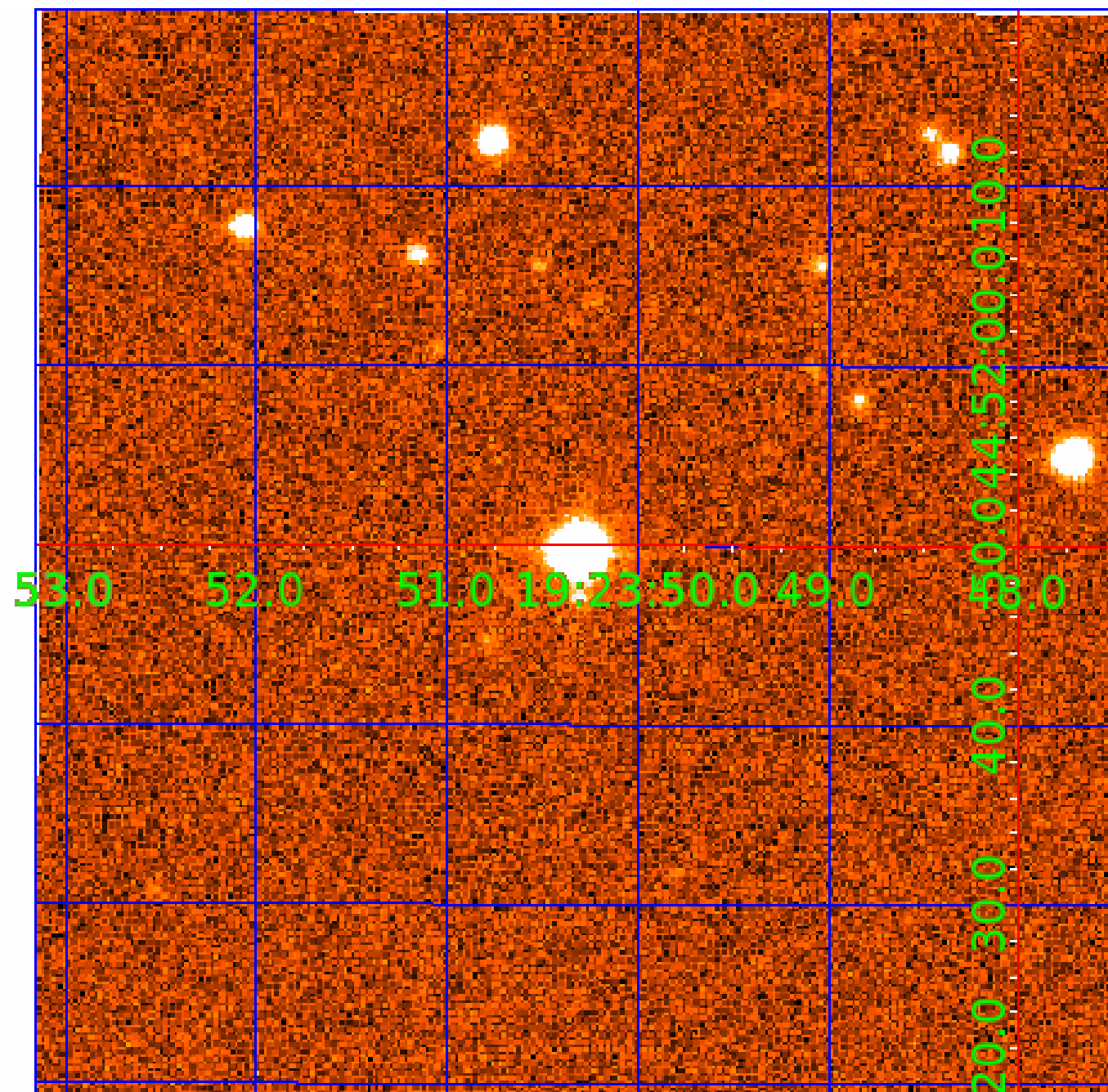


fluxWeightedCentroids, Planet 3 of 7



UKIRT Image

Declination



KIC 008686975

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})
008686975-01	OBS	No	1.254151	131.585917	130.4	4.500	8.5	-1.0	2.94	7516	3.40	30114.84
008686975-02	OBS	No	0.648401	131.609693	25.1	2.860	9.4	7.2	2.94	7516	1.50	72575.21
008686975-03	OBS	No	100.935820	176.191703	452.7	4.561	8.0	6.2	2.94	7516	11.70	86.67
008686975-04	OBS	No	31.445632	146.644542	293.2	3.973	8.5	8.7	2.94	7516	6.51	410.36
008686975-05	OBS	No	50.669126	176.299343	115.3	2.354	8.6	2.8	2.94	7516	3.64	217.23
008686975-06	OBS	No	94.233865	157.280879	528.6	3.613	9.7	7.3	2.94	7516	12.72	94.98
008686975-07	OBS	No	55.965597	166.515075	351.9	2.005	7.3	6.4	2.94	7516	6.46	190.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008686975-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008686975-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008686975-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008686975-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008686975-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

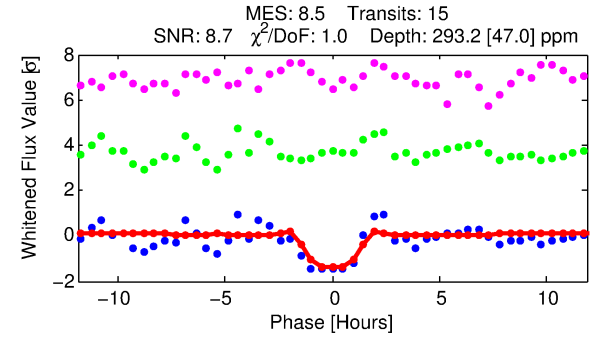
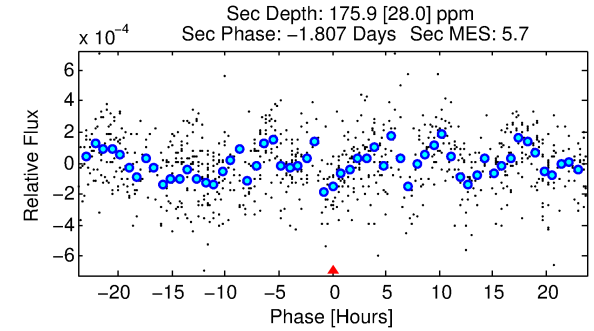
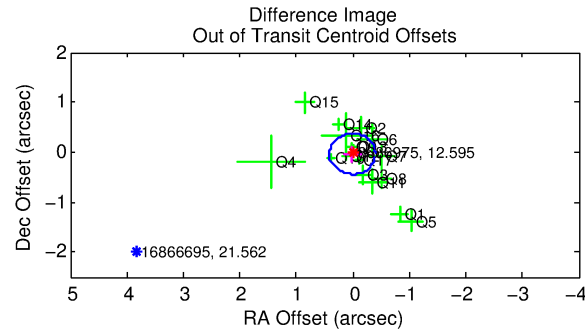
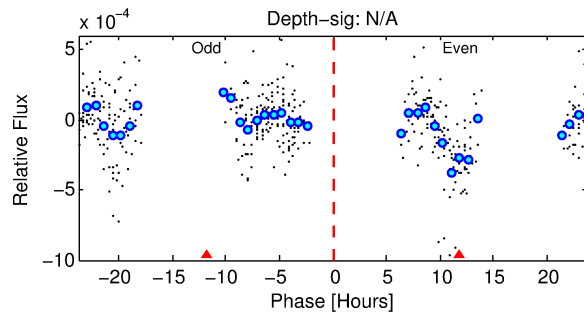
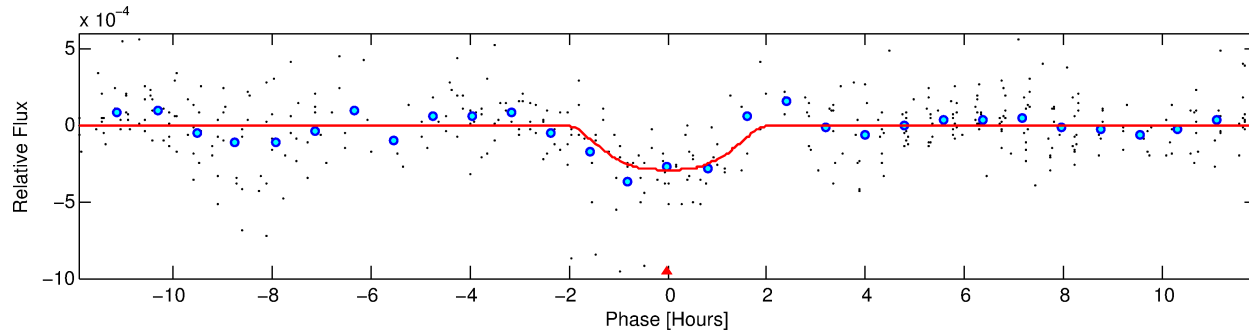
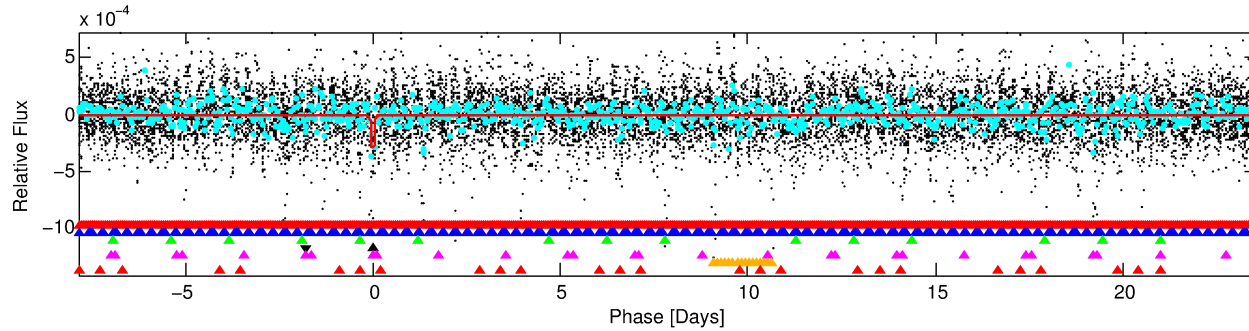
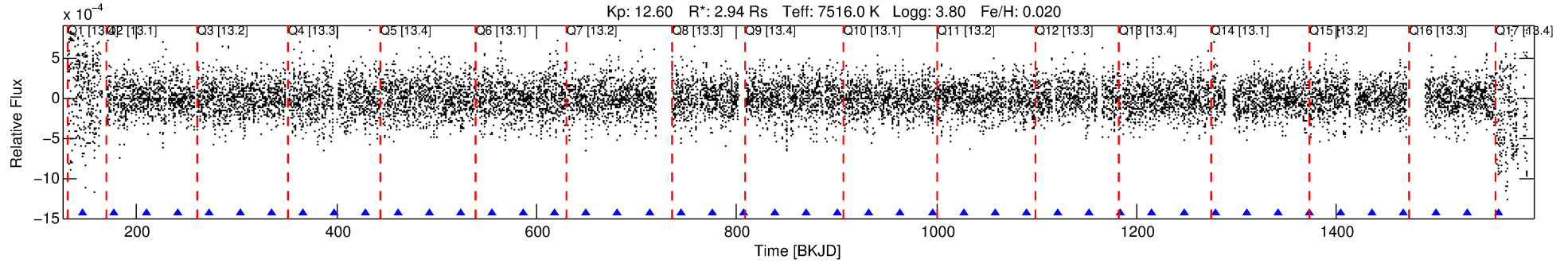
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008686975-04

No Significant Match Found

DV One-Page Summary

KIC: 8686975 Candidate: 4 of 7 Period: 31.446 d



DV Fit Results:

Period = 31.44563 [0.00049] d
Epoch = 146.6445 [0.0139] BKJD
Rp/R* = 0.0203 [0.0021]
a/R* = 17.69 [3.94]
b = 0.98 [0.01]
Seff = 410.36 [259.06]
Teq = 1148 [181] K
Rp = 6.51 [2.82] Re
a = 0.2450 [0.0955] AU
Ag = 137.17 [90.99] [1.50σ]
Teffp = 6073 [473] K [9.73σ]

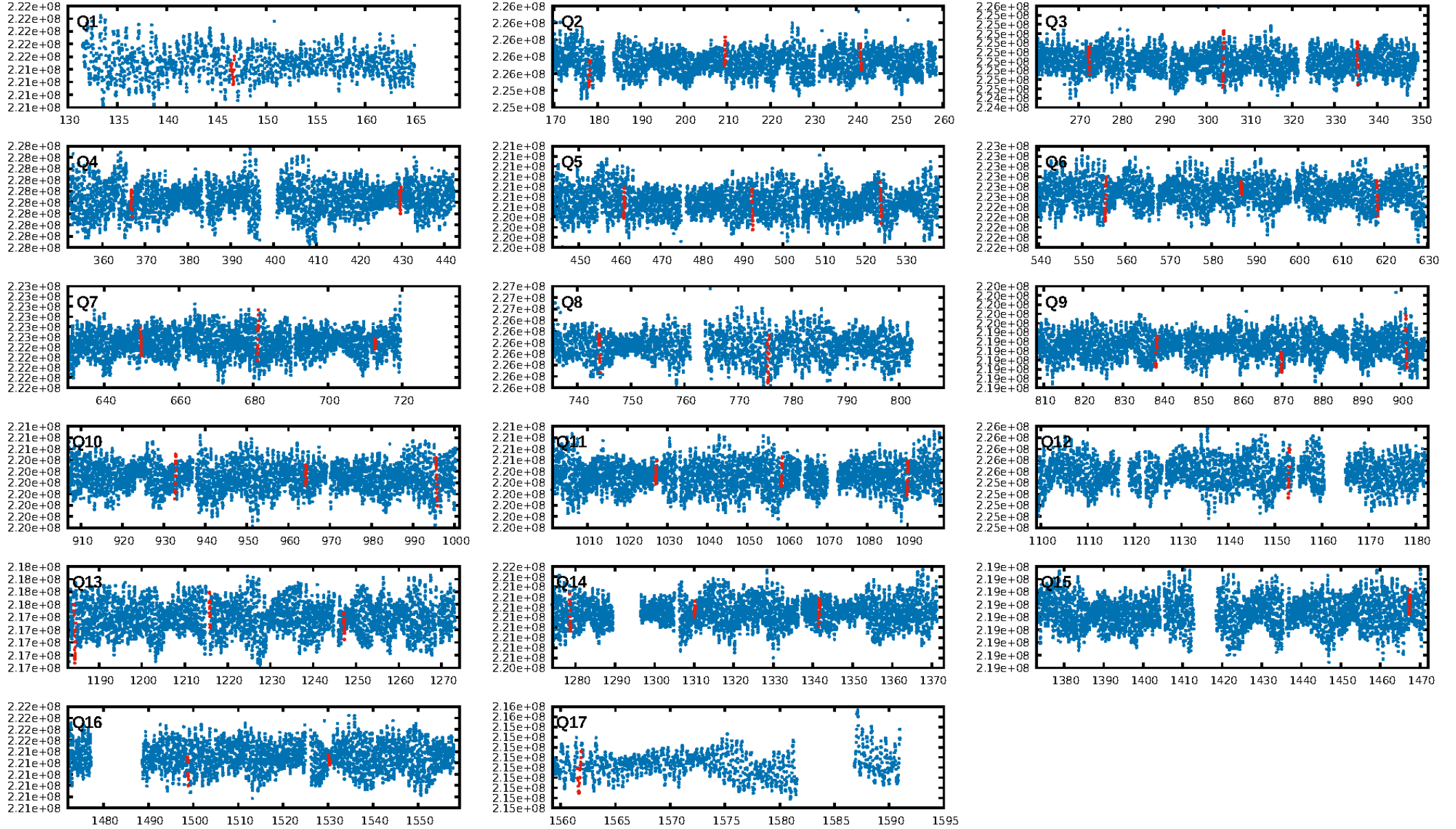
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [120.71σ]
LongPeriod-sig: 100.0% [99.91σ]
ModelChiSquare2-sig: 58.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.65e-11
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: -0.1588
Centroid-sig: N/A
Centroid-so: 0.628 arcsec [1.75σ]
OotOffset-rm: 0.037 arcsec [0.27σ]
KicOffset-rm: 0.110 arcsec [0.84σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 0.00 [0/17]

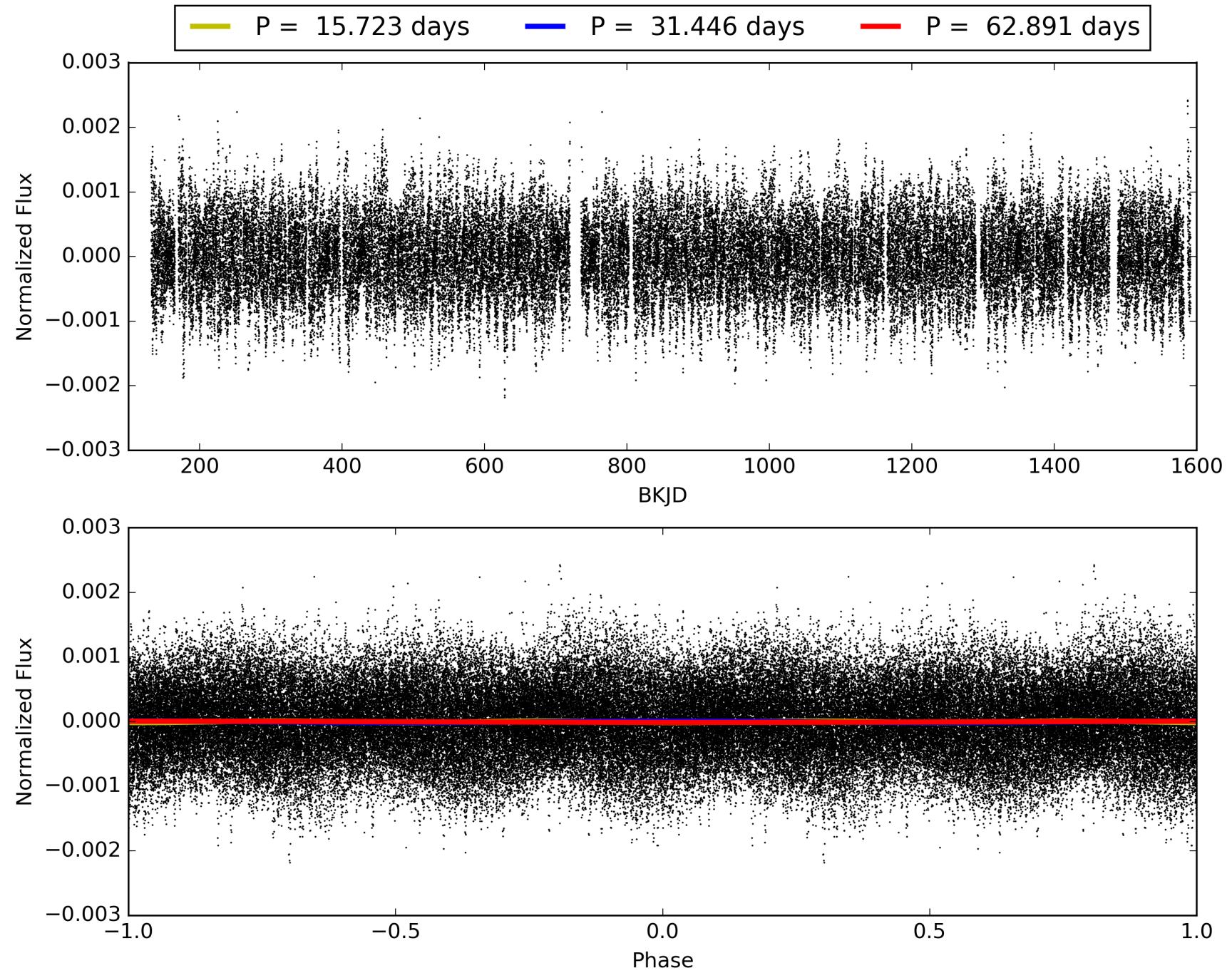
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:27:42 Z

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

TCE 008686975-04, PDC Light Curves

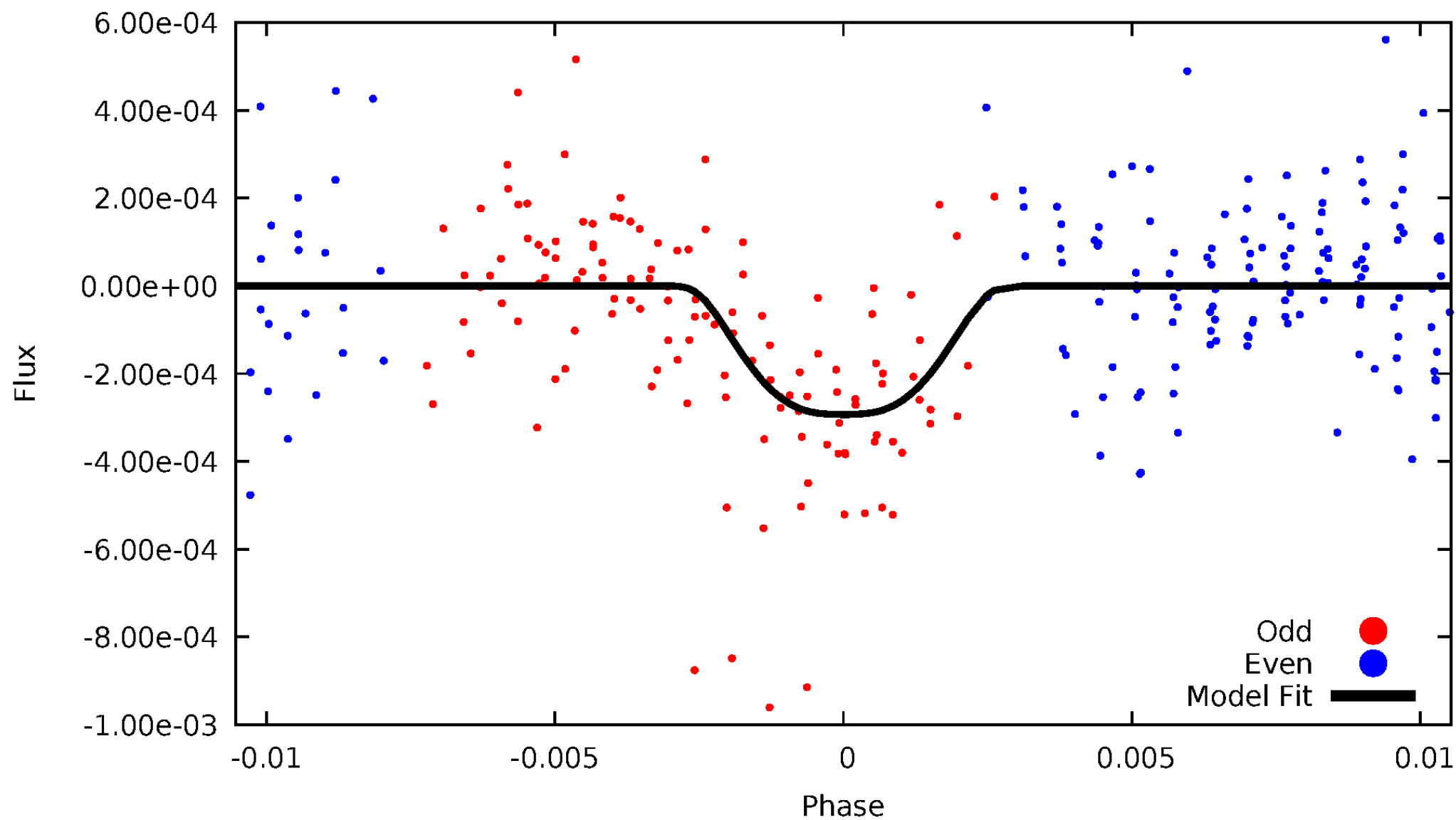


TCE 008686975-04



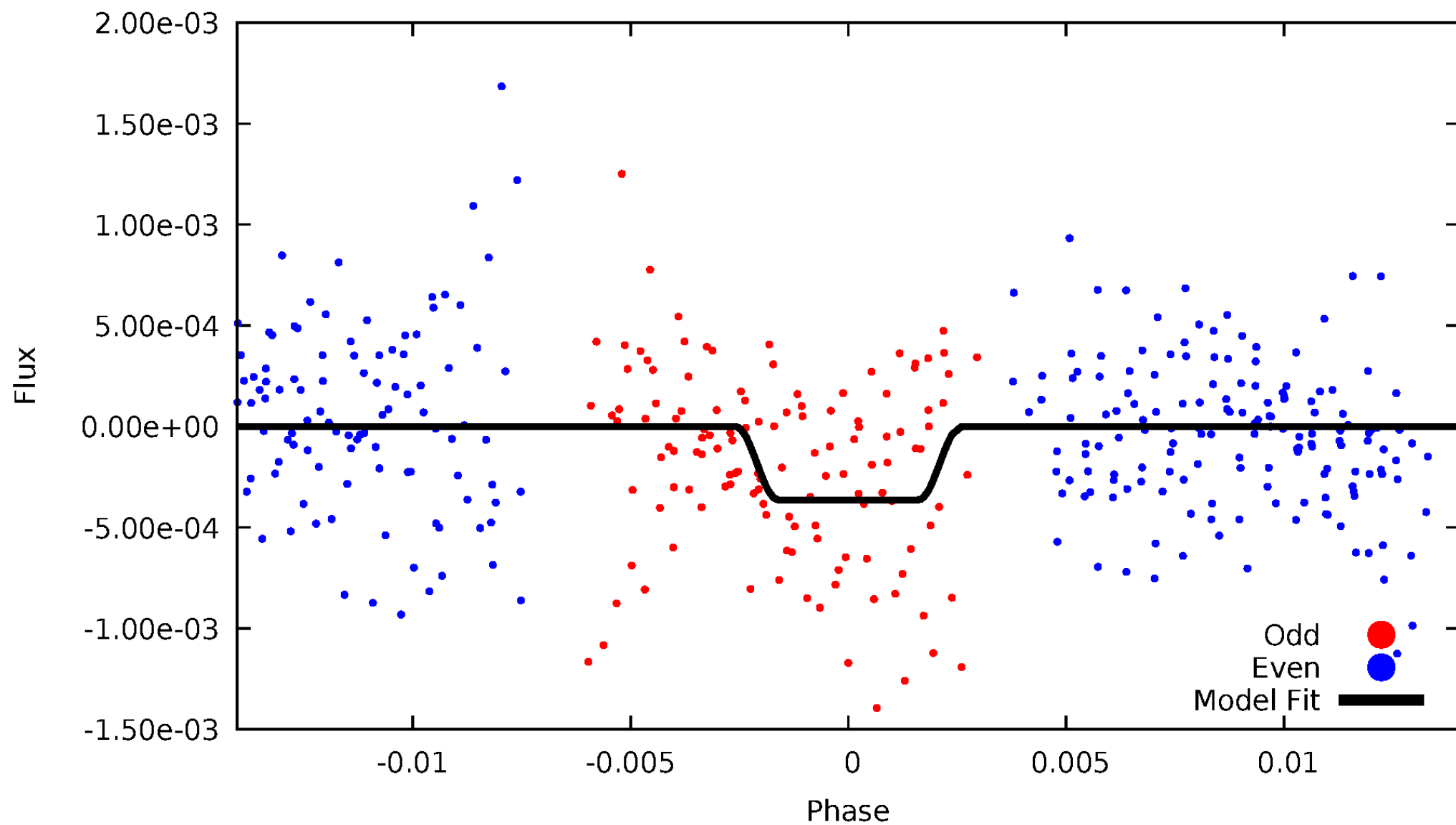
DV Odd/Even

TCE 008686975-04



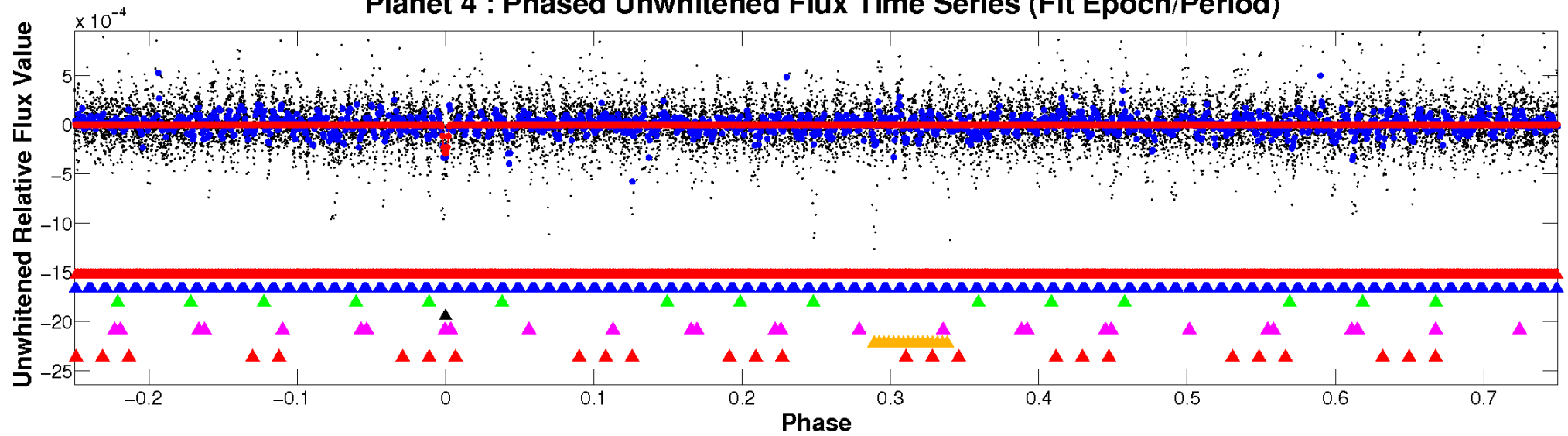
ALT Odd/Even

TCE 008686975-04

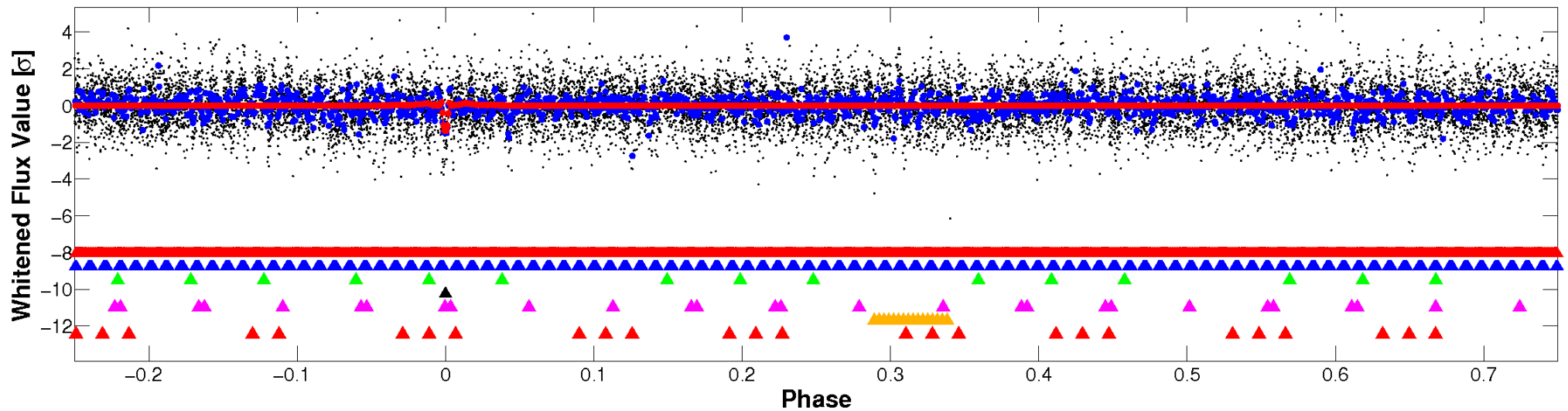


Non-Whitened Vs. Whitened Light Curve

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

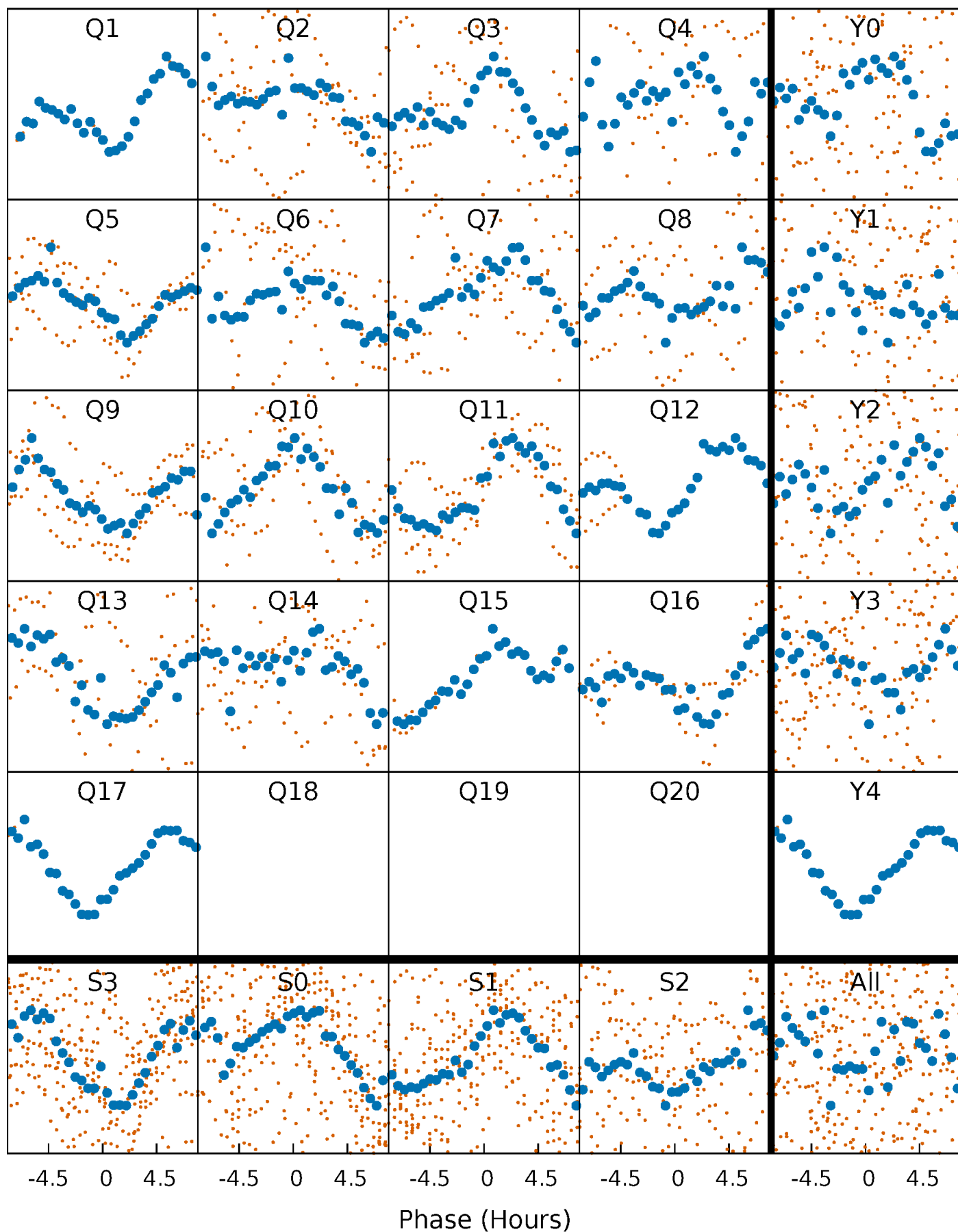


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



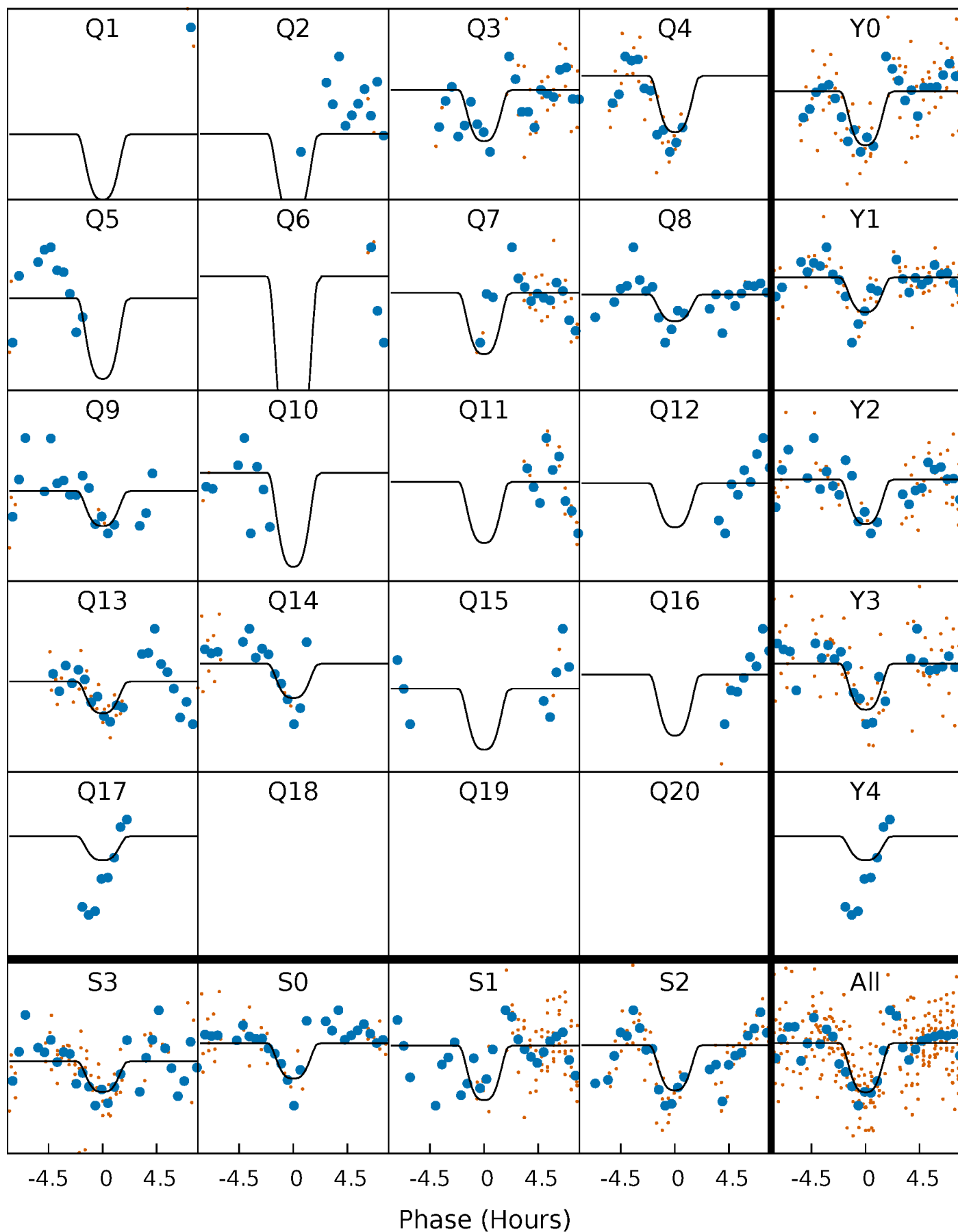
PDC Quarter-Phased Transit Curves

TCE 008686975-04 P= 31.445632 Days $T_0=146.644542$ (BKJD)



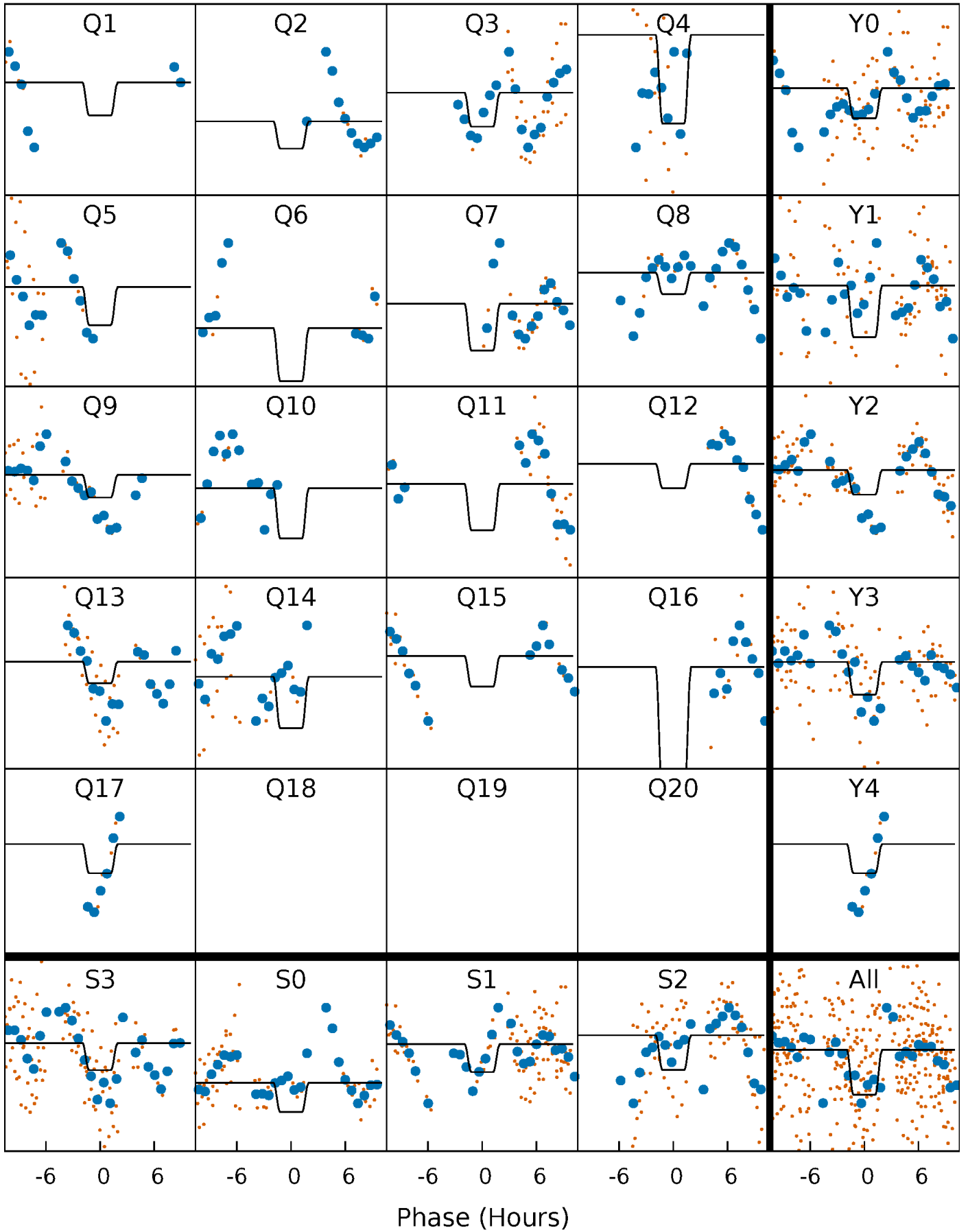
DV Quarter-Phased Transit Curves

TCE 008686975-04 P= 31.445632 Days $T_0=146.644542$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

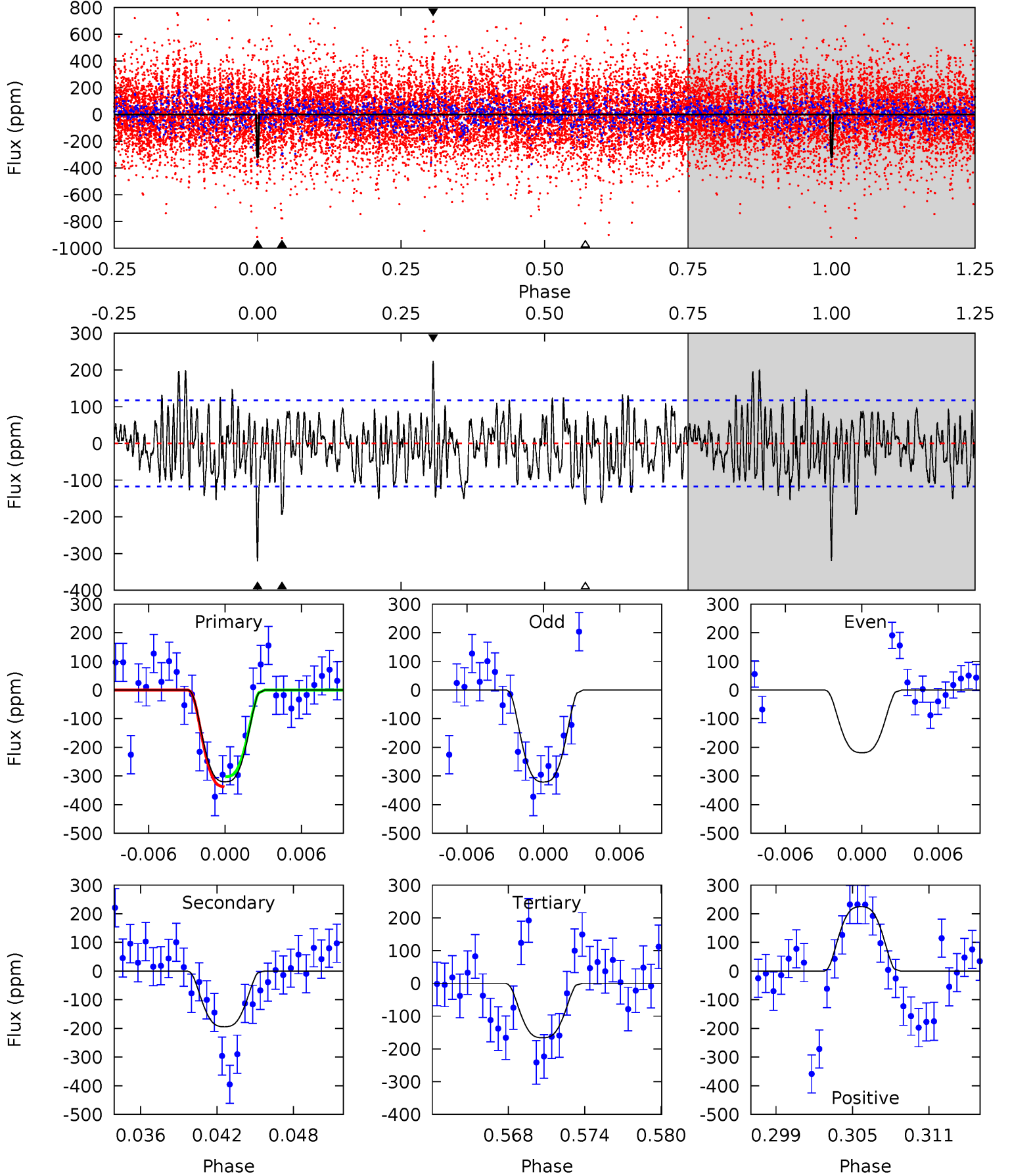
TCE 008686975-04 P= 31.446389 Days $T_0=146.599907$ (BKJD)



DV Model-Shift Uniqueness Test

008686975-04, P = 31.445632 Days, E = 115.198910 Days

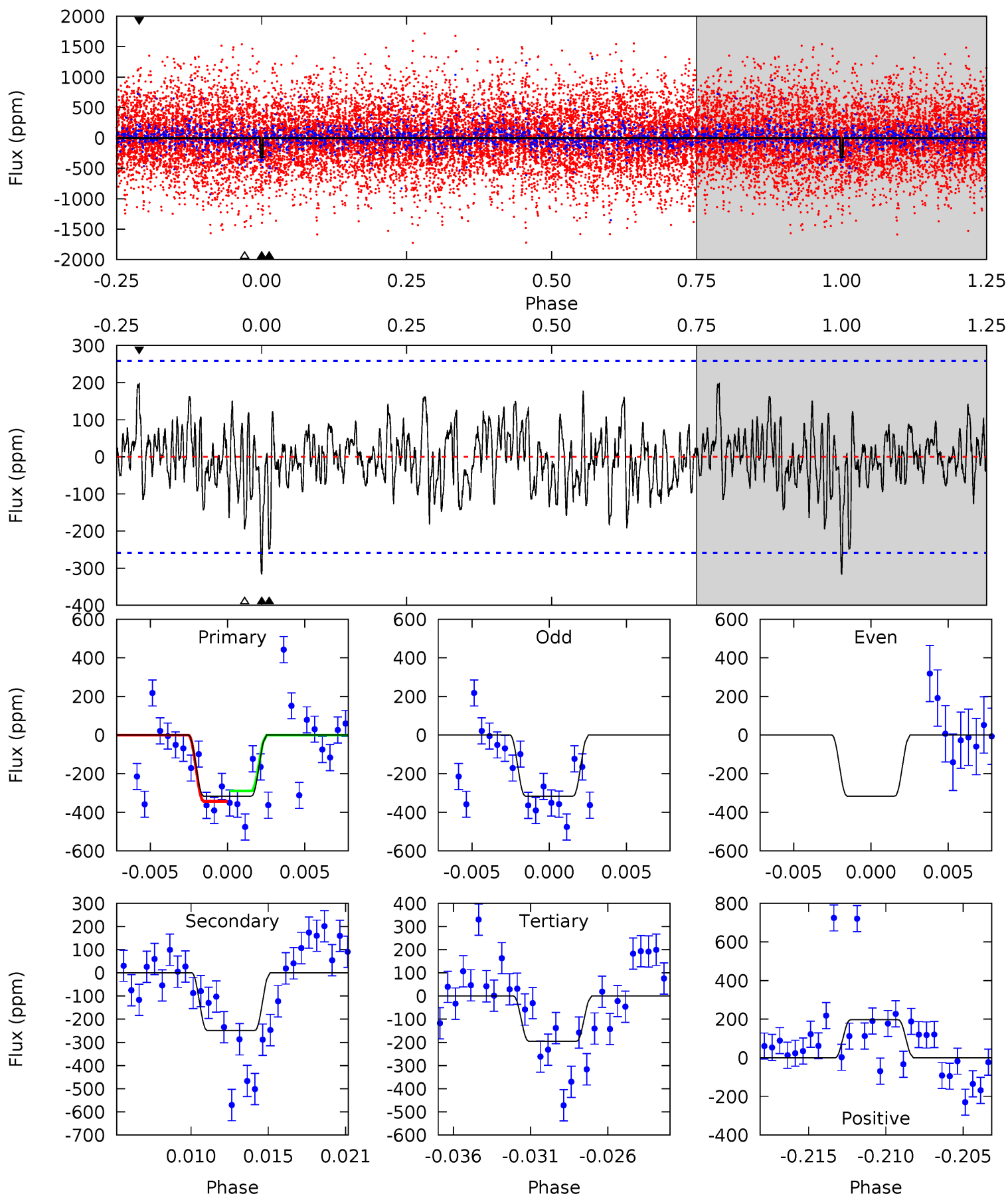
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	8.48	7.24	9.80	5.12	2.75	2.62	6.73	4.17	1.23	-1.32	0.74	1.13	0.41	0.76



Alt Model-Shift Uniqueness Test

008686975-04, P = 31.446389 Days, E = 115.153518 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.31	4.95	3.89	3.92	5.15	2.80	1.31	2.42	2.38	1.06	1.03	0	1.16	0.38	0.54



Stellar Parameters For KIC 008686975

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7516^{+209}_{-313}	$3.800^{+0.352}_{-0.110}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.412}_{-1.236}$	$1.978^{+0.096}_{-0.478}$	$0.110^{+0.279}_{-0.038}$
	+3%/-4%	+9%/-3%	+1000%/-1750%	+14%/-42%	+5%/-24%	+254%/-35%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008686975-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-194 ± 23	$6.21^{+1.14}_{-1.29}$	1571^{+104}_{-145}	6077^{+429}_{-360}	160^{+86}_{-43}
Alt.	-249 ± 50	$5.79^{+1.15}_{-1.29}$	1577^{+111}_{-170}	6738^{+631}_{-539}	241^{+156}_{-74}

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 $A_{obs} \gg 1.0$

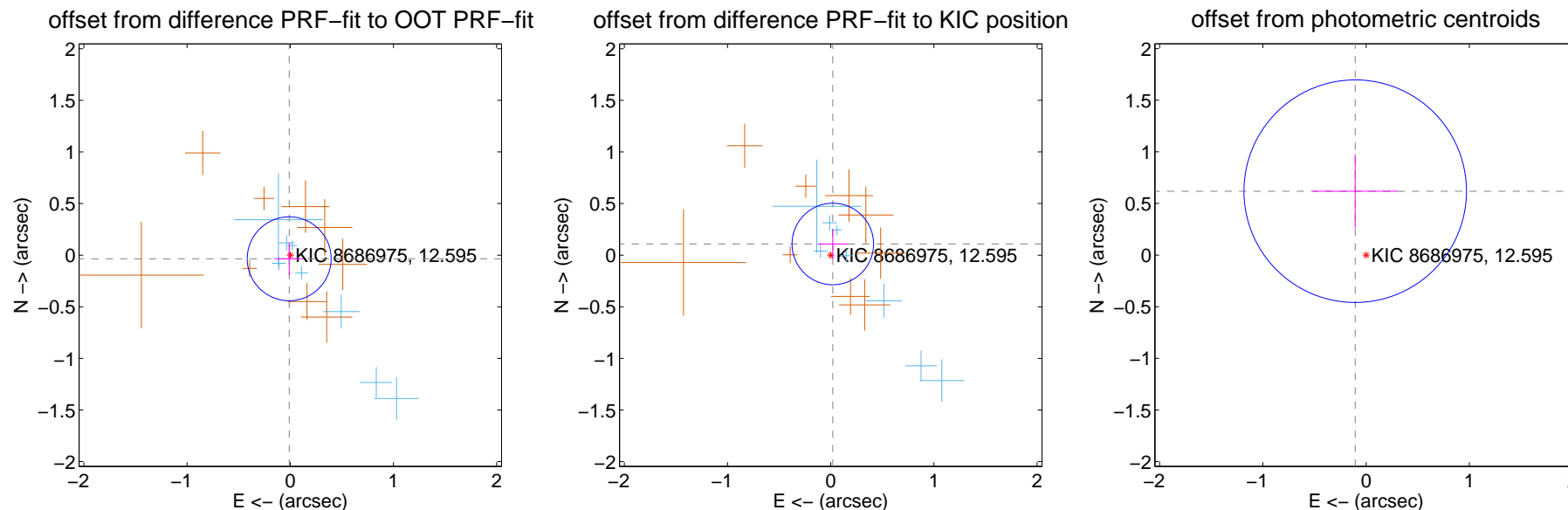
DV Centroid Data

Supplemental centroid analysis for 008686975-04. Kepler magnitude: 12.60. Transit SNR 8.71

There are 8 quarters with good PRF difference image offsets

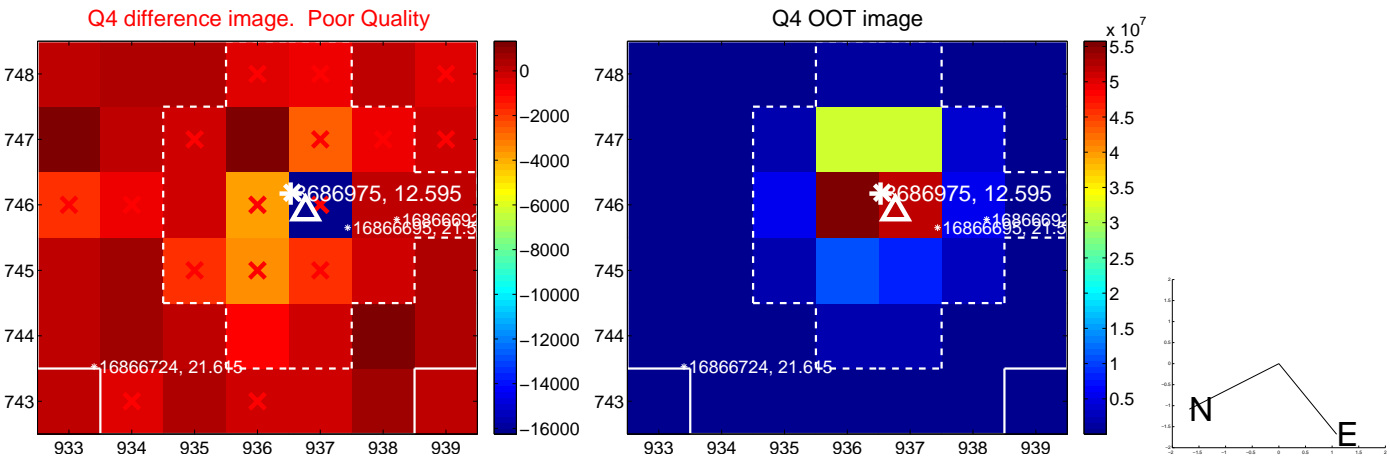
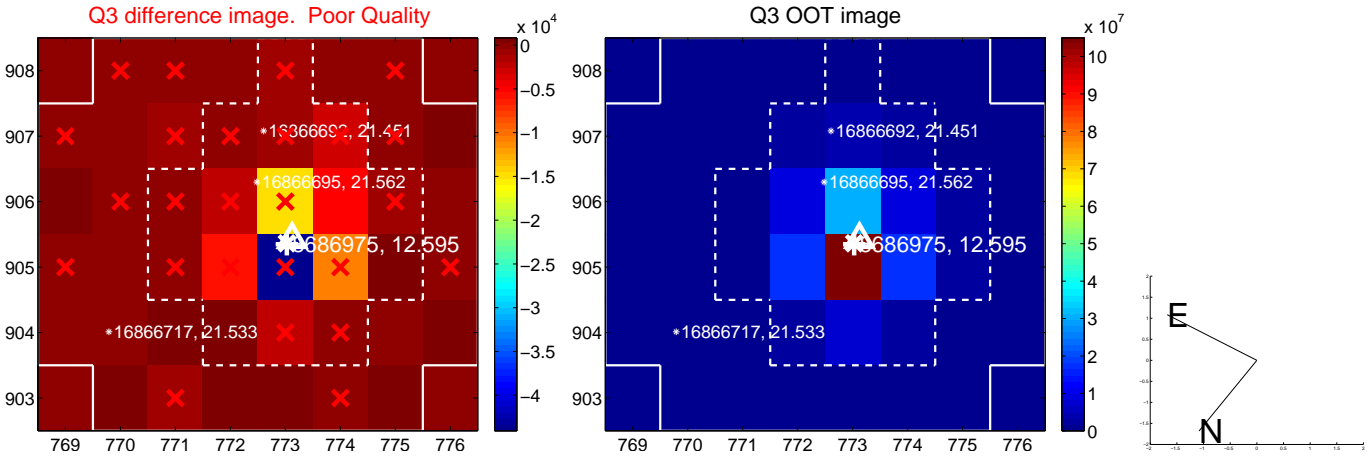
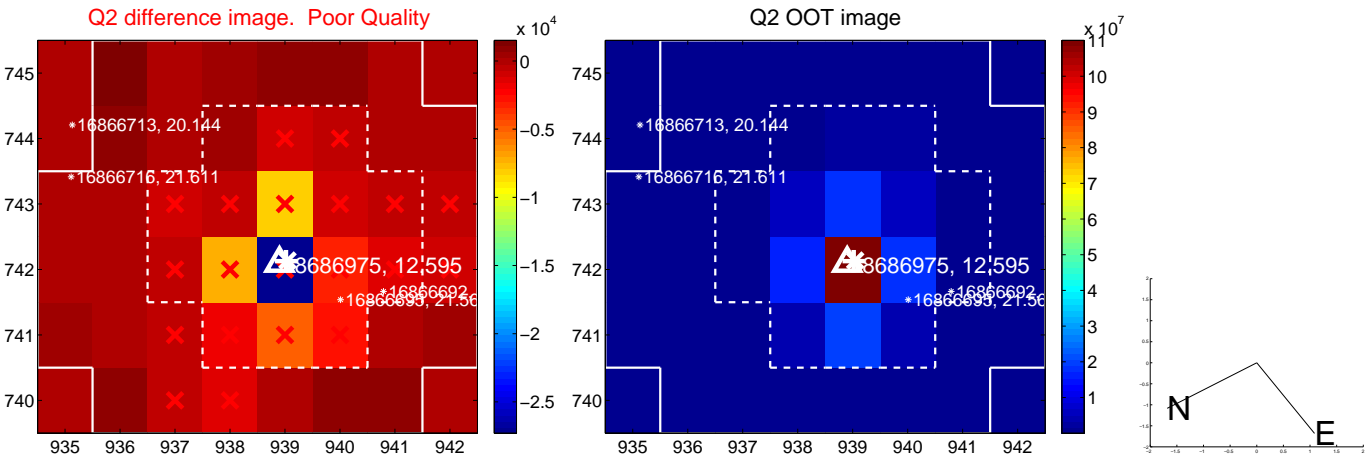
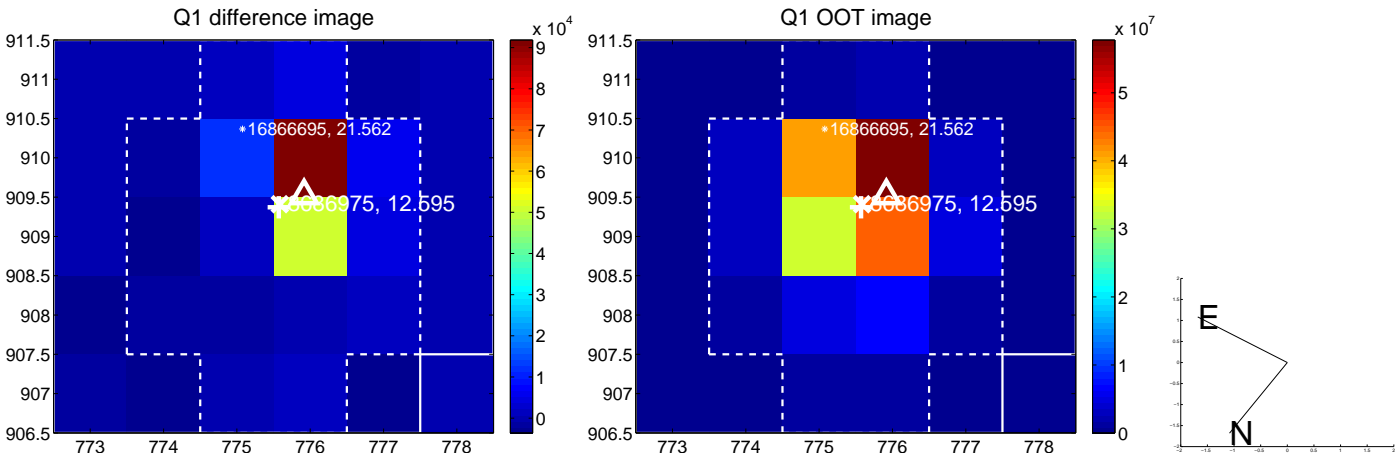
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.037 ± 0.136	0.27	0.010 ± 0.144	-0.035 ± 0.157
PRF-fit source offset from KIC position	0.110 ± 0.132	0.84	-0.020 ± 0.149	0.108 ± 0.146
photometric centroid source offset	0.63 ± 0.36	1.75	0.11 ± 0.41	0.62 ± 0.36

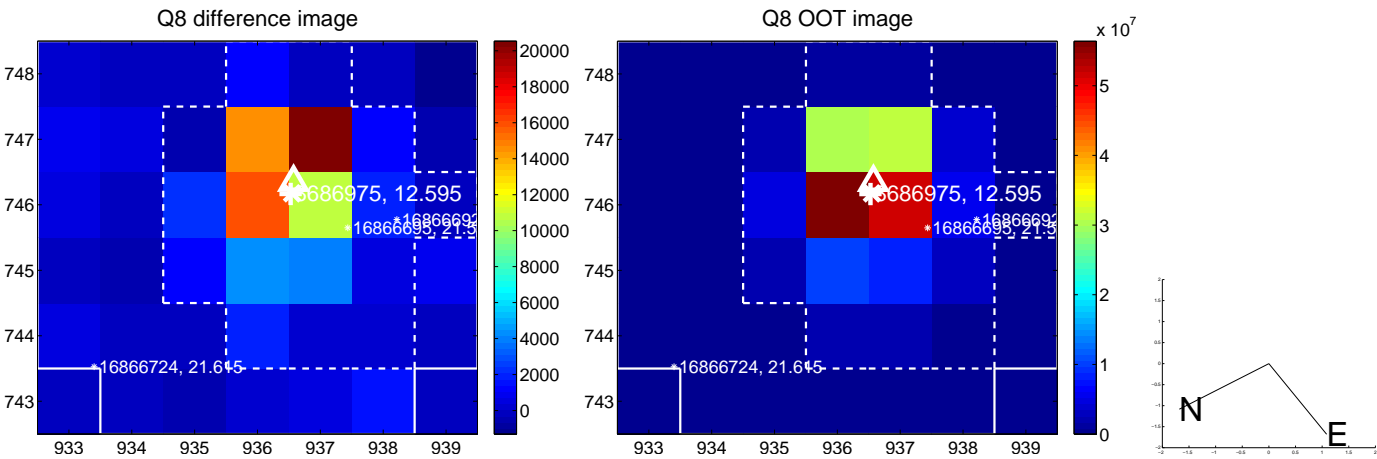
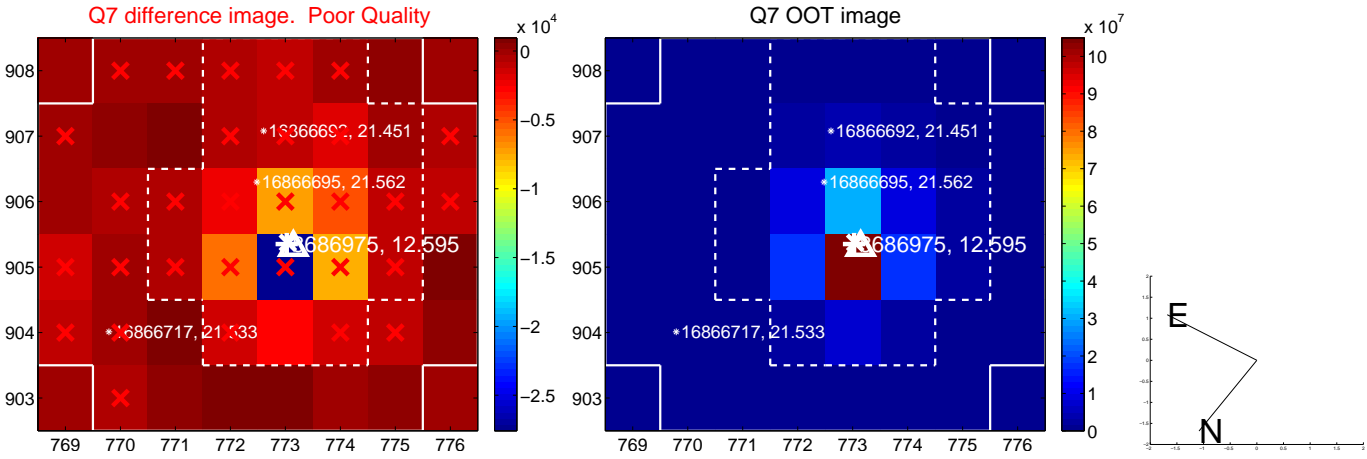
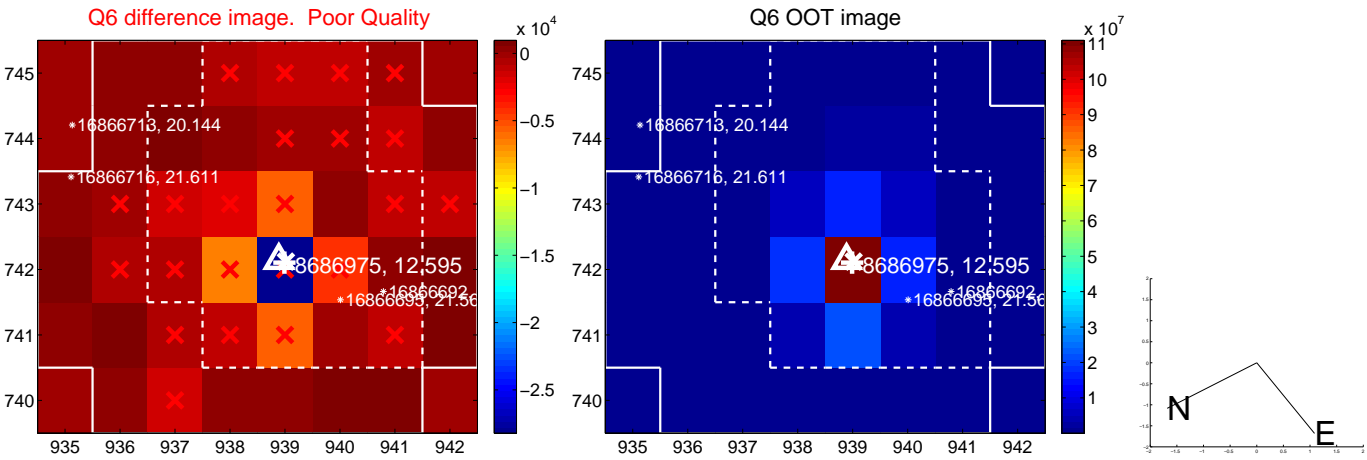
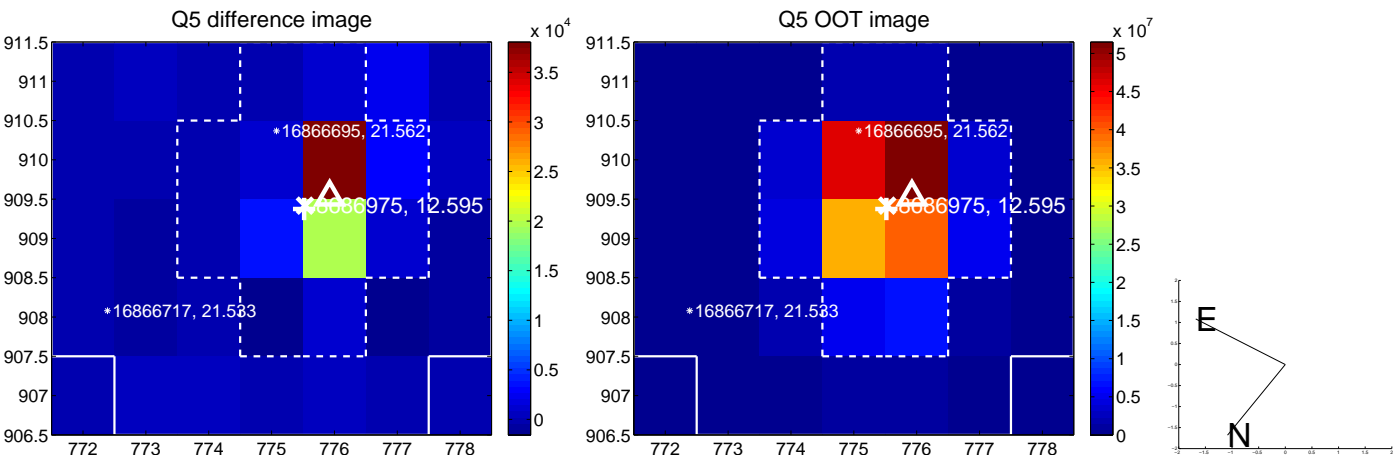


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

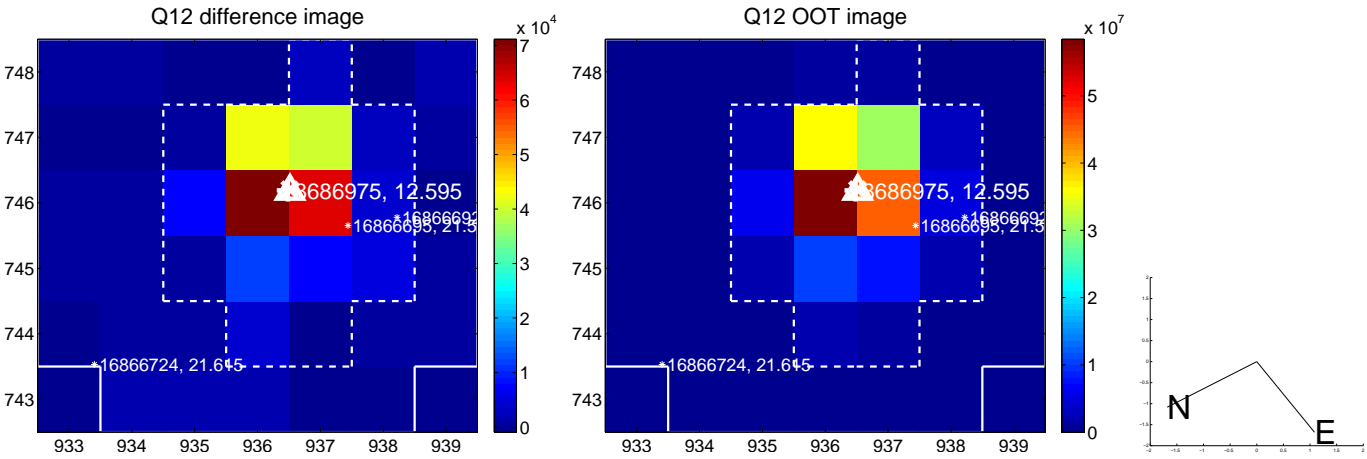
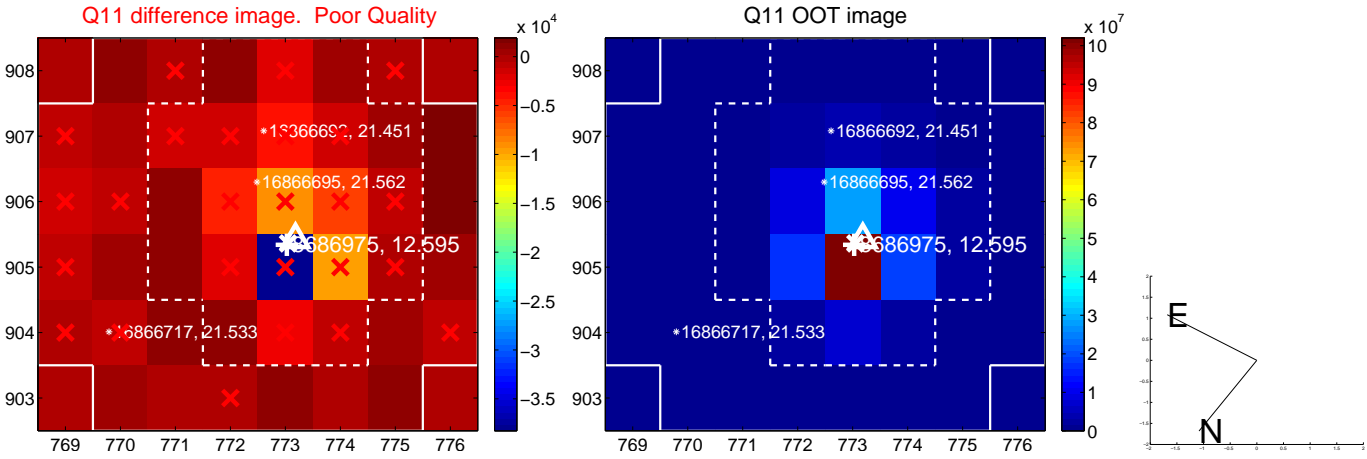
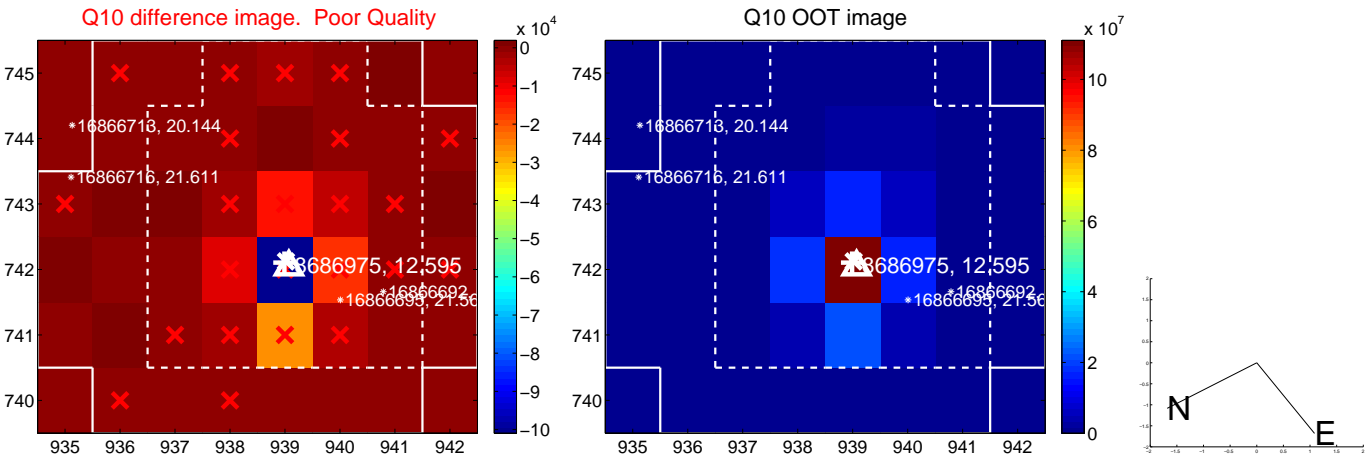
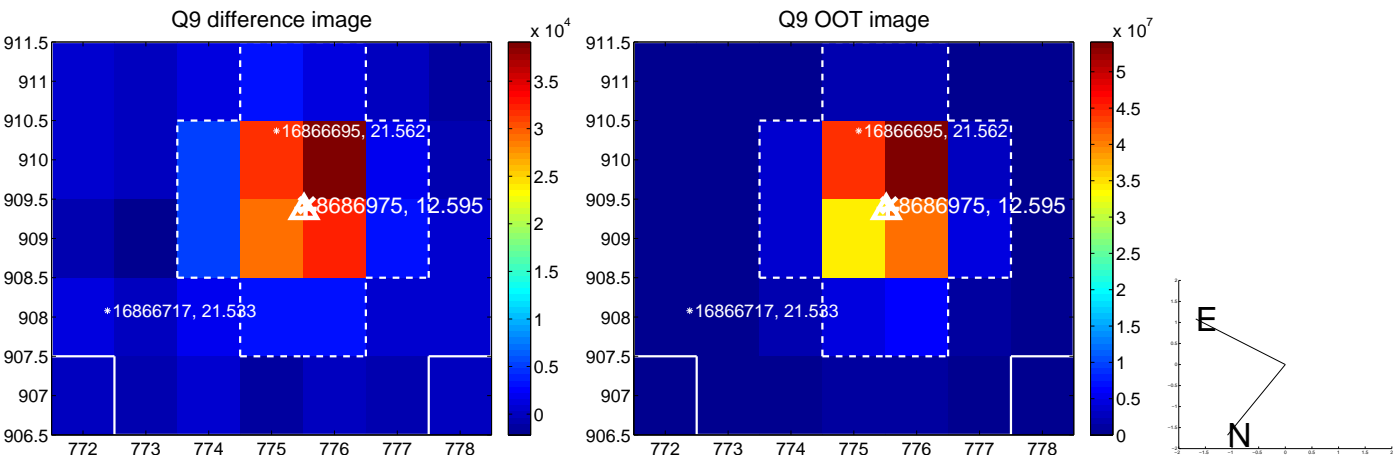
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



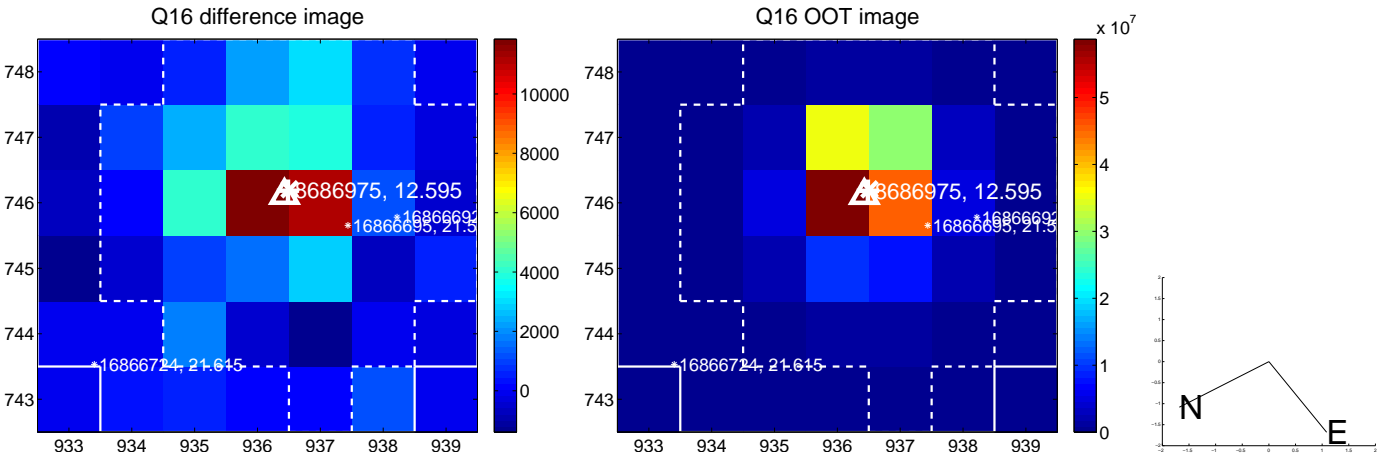
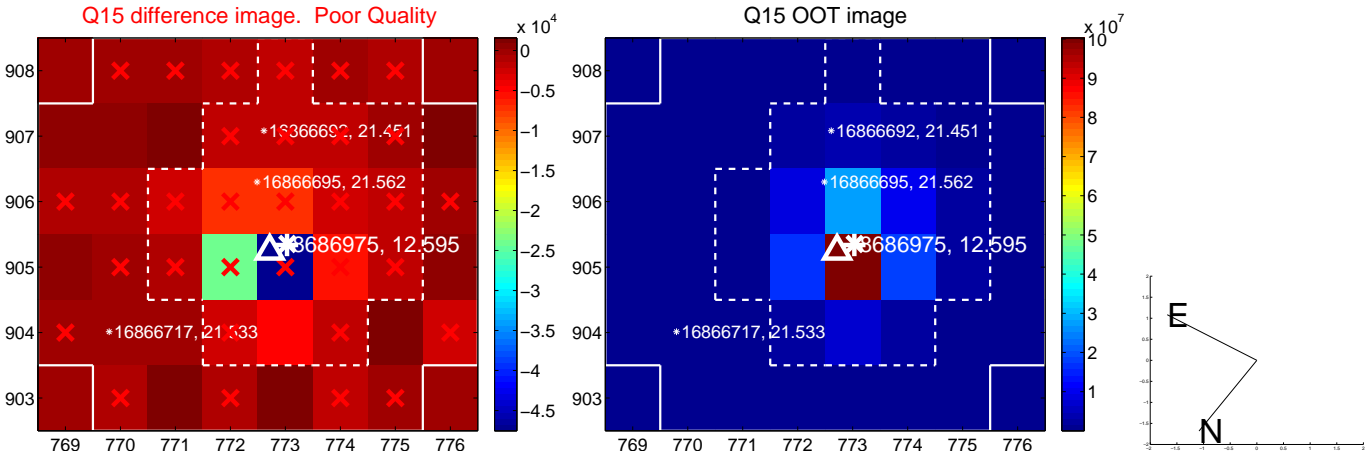
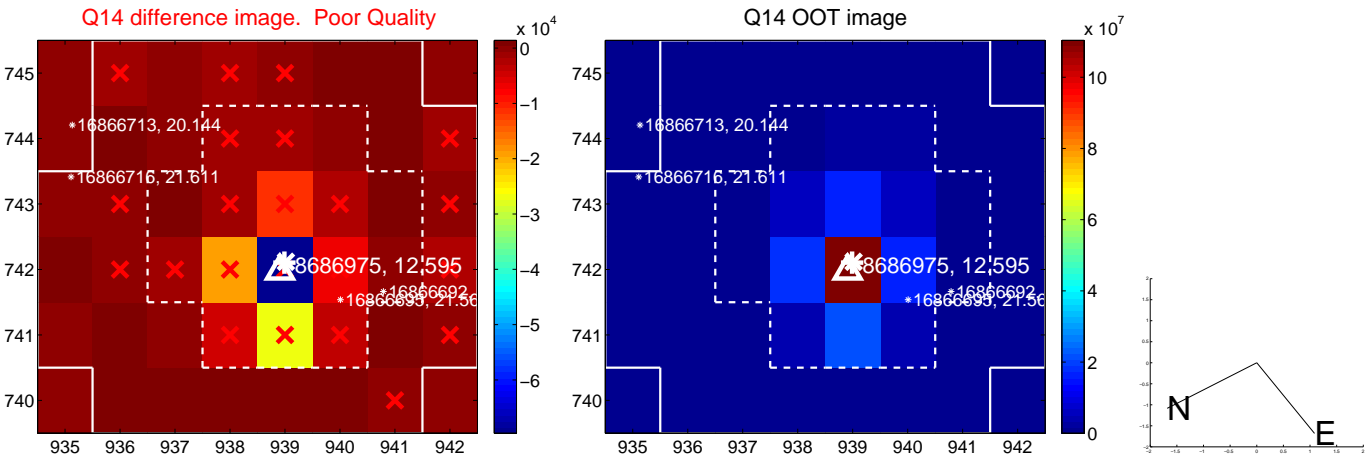
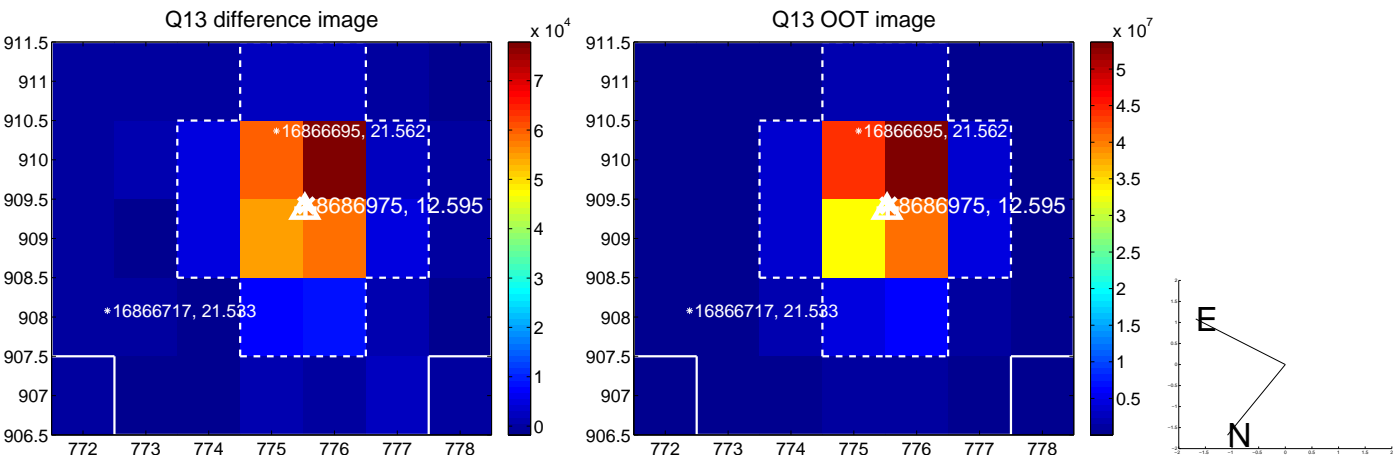
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



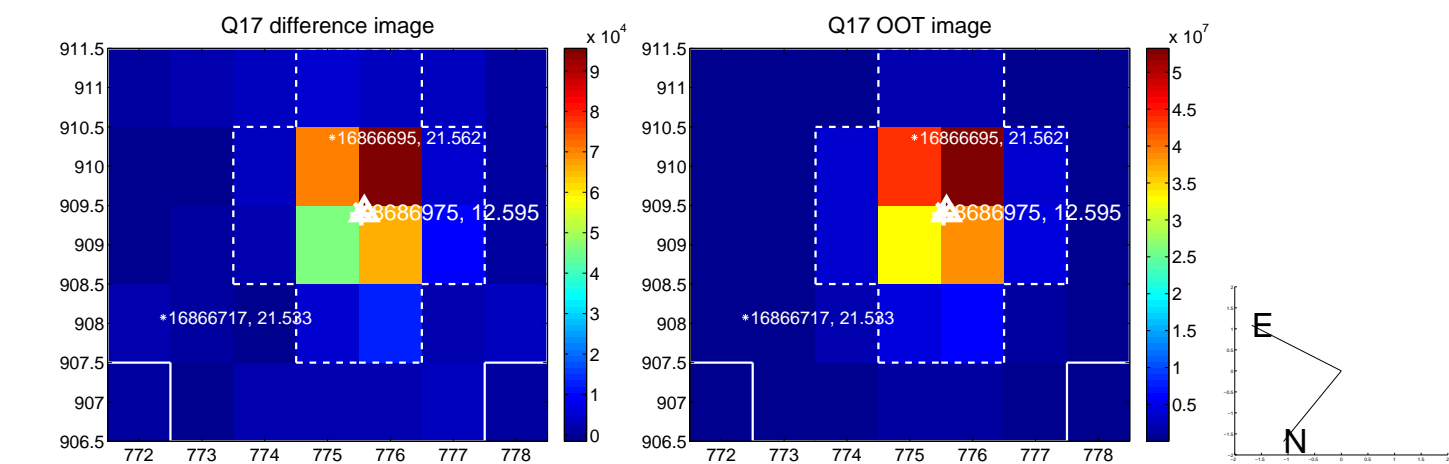
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



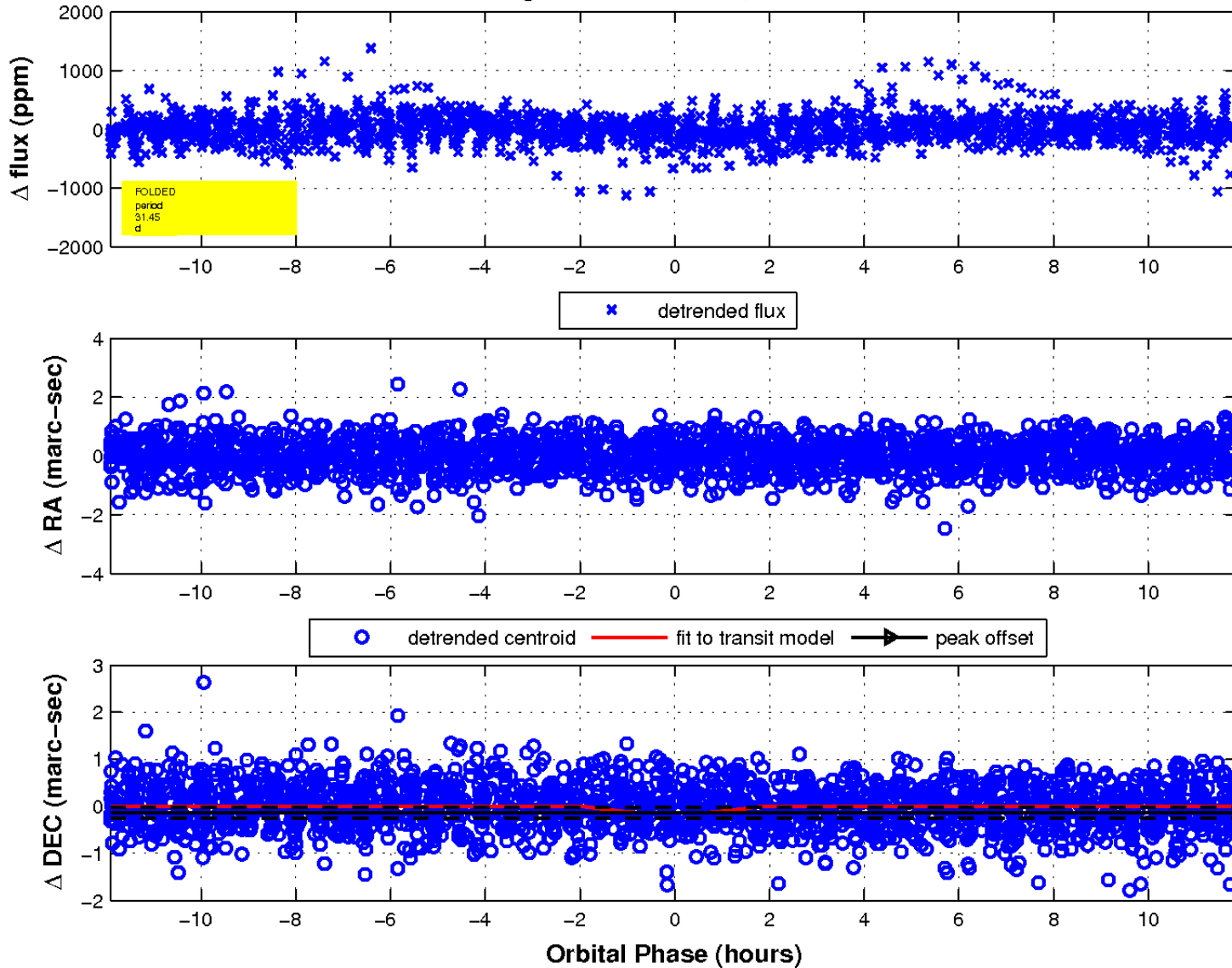
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

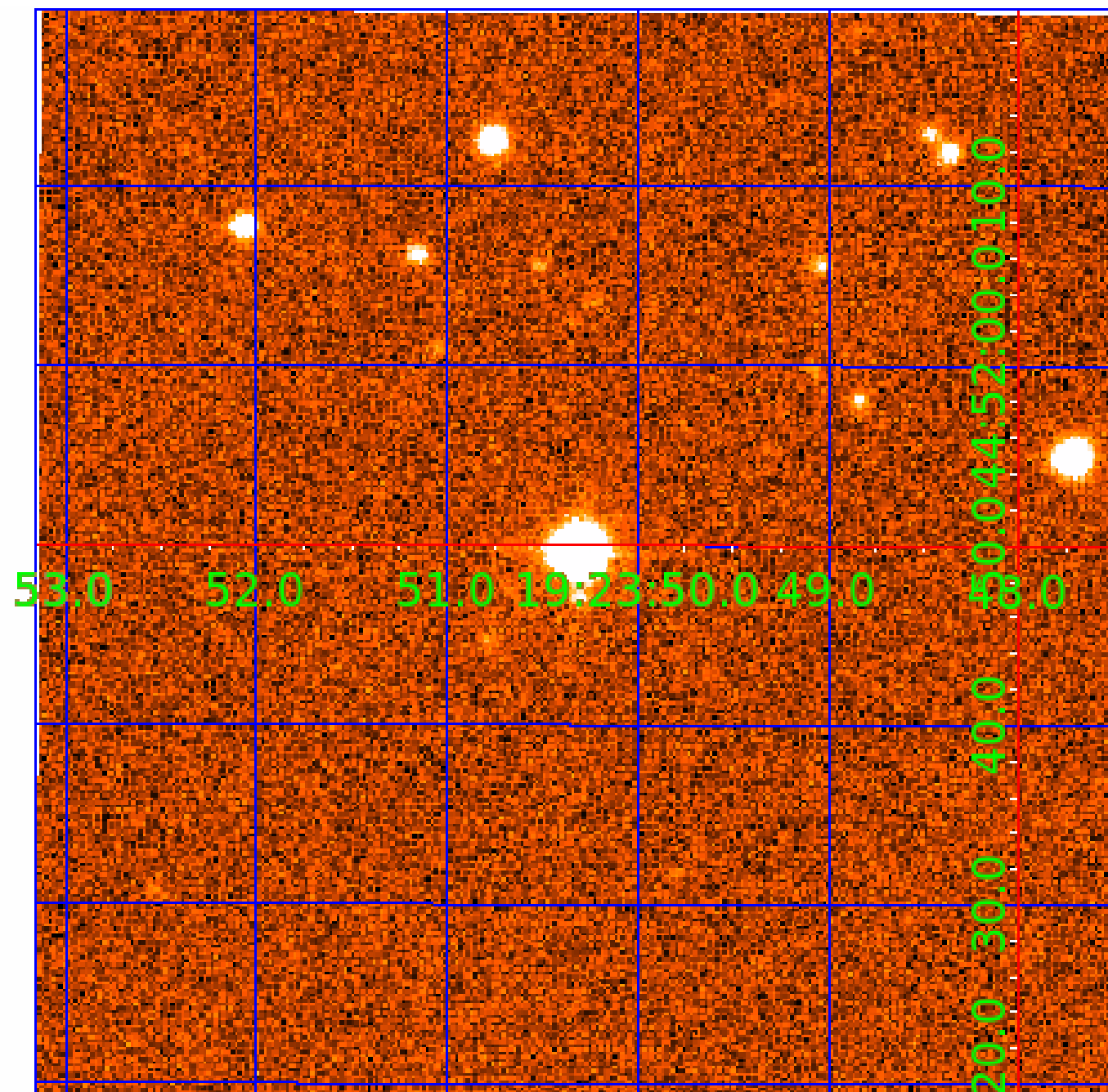


fluxWeightedCentroids, Planet 4 of 7



UKIRT Image

Declination



KIC 008686975

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})
008686975-01	OBS	No	1.254151	131.585917	130.4	4.500	8.5	-1.0	2.94	7516	3.40	30114.84
008686975-02	OBS	No	0.648401	131.609693	25.1	2.860	9.4	7.2	2.94	7516	1.50	72575.21
008686975-03	OBS	No	100.935820	176.191703	452.7	4.561	8.0	6.2	2.94	7516	11.70	86.67
008686975-04	OBS	No	31.445632	146.644542	293.2	3.973	8.5	8.7	2.94	7516	6.51	410.36
008686975-05	OBS	No	50.669126	176.299343	115.3	2.354	8.6	2.8	2.94	7516	3.64	217.23
008686975-06	OBS	No	94.233865	157.280879	528.6	3.613	9.7	7.3	2.94	7516	12.72	94.98
008686975-07	OBS	No	55.965597	166.515075	351.9	2.005	7.3	6.4	2.94	7516	6.46	190.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008686975-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008686975-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008686975-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008686975-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008686975-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

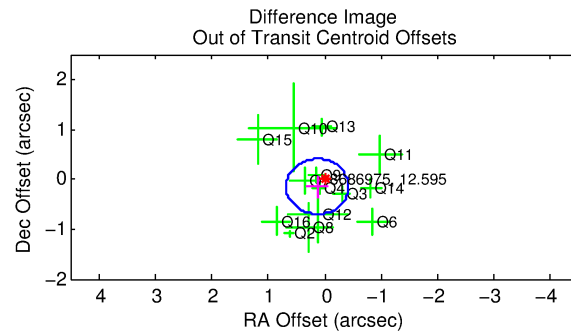
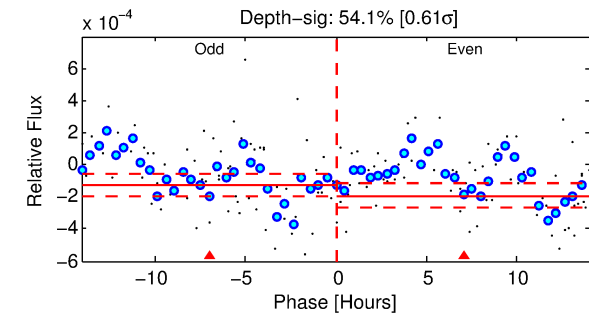
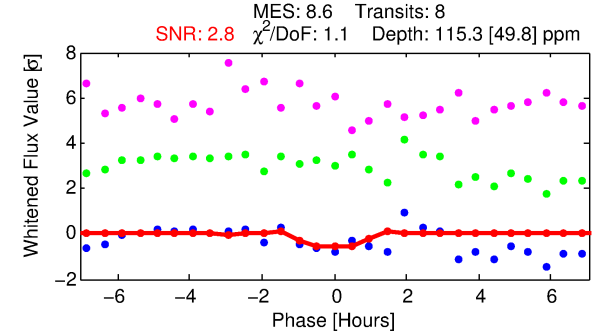
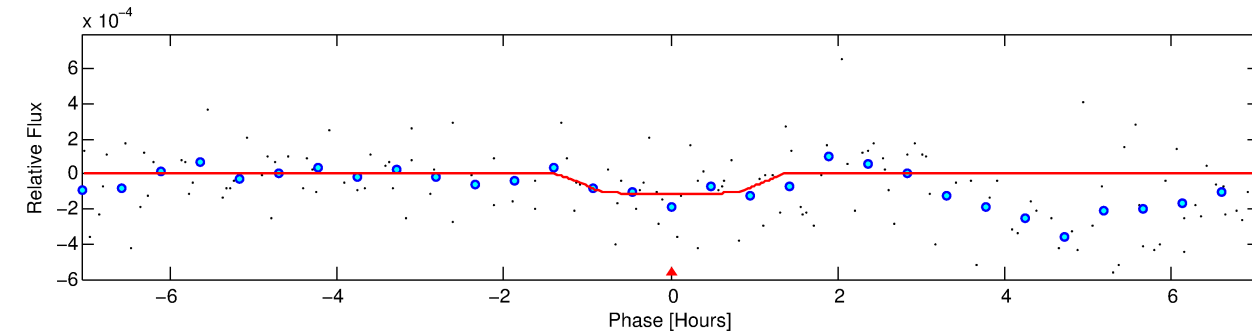
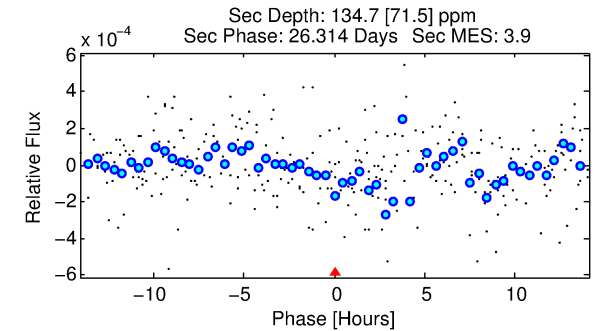
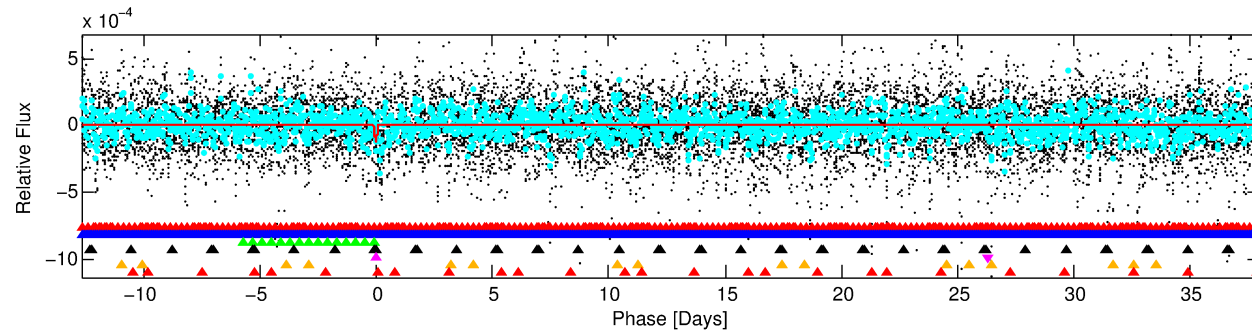
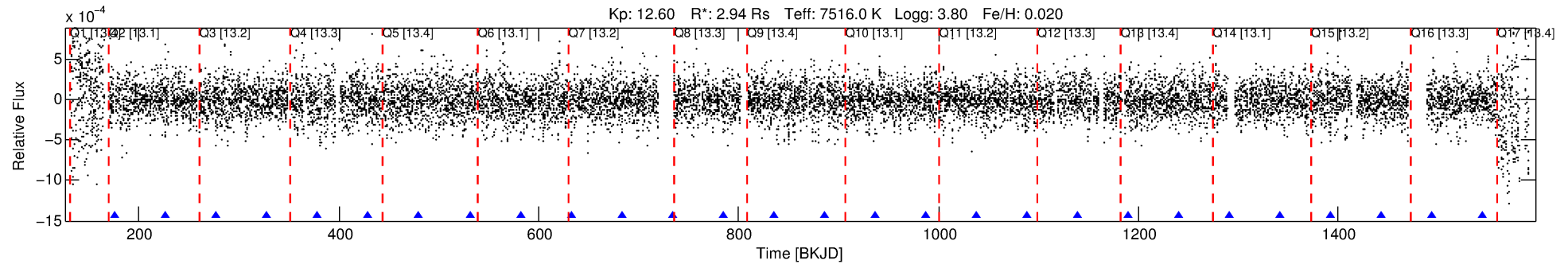
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008686975-05

No Significant Match Found

DV One-Page Summary

KIC: 8686975 Candidate: 5 of 7 Period: 50.669 d



DV Fit Results:

Period = 50.66913 [0.00140] d
Epoch = 176.2993 [0.0261] BKJD
Rp/R* = 0.0114 [0.0182]
a/R* = 77.55 [792.23]
b = 0.89 [2.29]
Seff = 217.23 [137.14]
Teq = 979 [155] K
Rp = 3.64 [6.02] Re
a = 0.3367 [0.1312] AU
Ag = 633.22 [2089.30] [0.30σ]
Teffp = 7593 [6163] K [1.07σ]

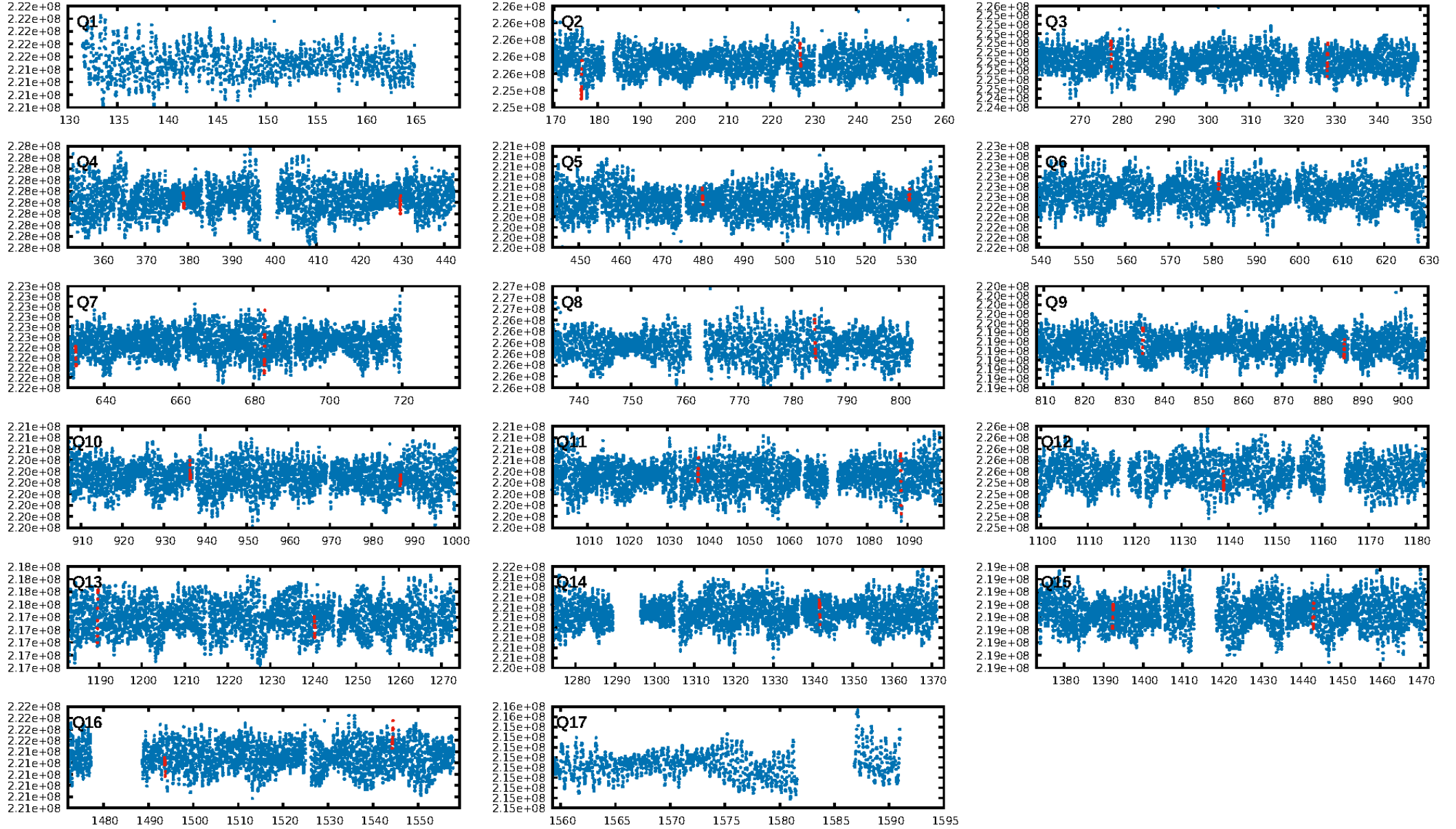
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [99.91σ]
LongPeriod-sig: 100.0% [41.11σ]
ModelChiSquare2-sig: 58.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.98e-11
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -0.6742
Centroid-sig: N/A
Centroid-so: 0.515 arcsec [0.42σ]
OotOffset-rm: 0.199 arcsec [1.08σ]
KicOffset-rm: 0.127 arcsec [0.71σ]
OotOffset-st: 4/4/4/2 [14]
KicOffset-st: 4/4/4/2 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 0.00 [0/15]

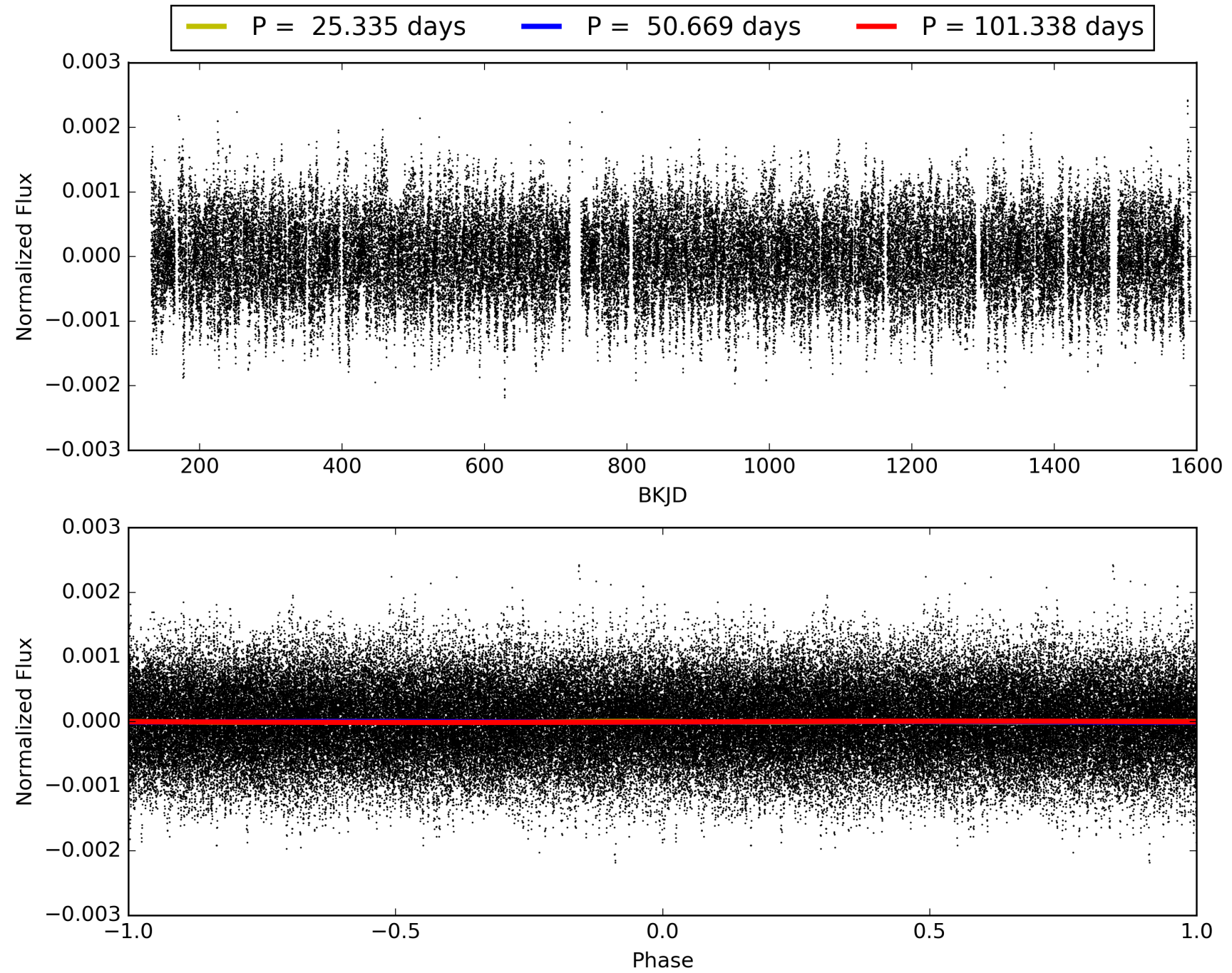
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:27:46 Z

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

TCE 008686975-05, PDC Light Curves

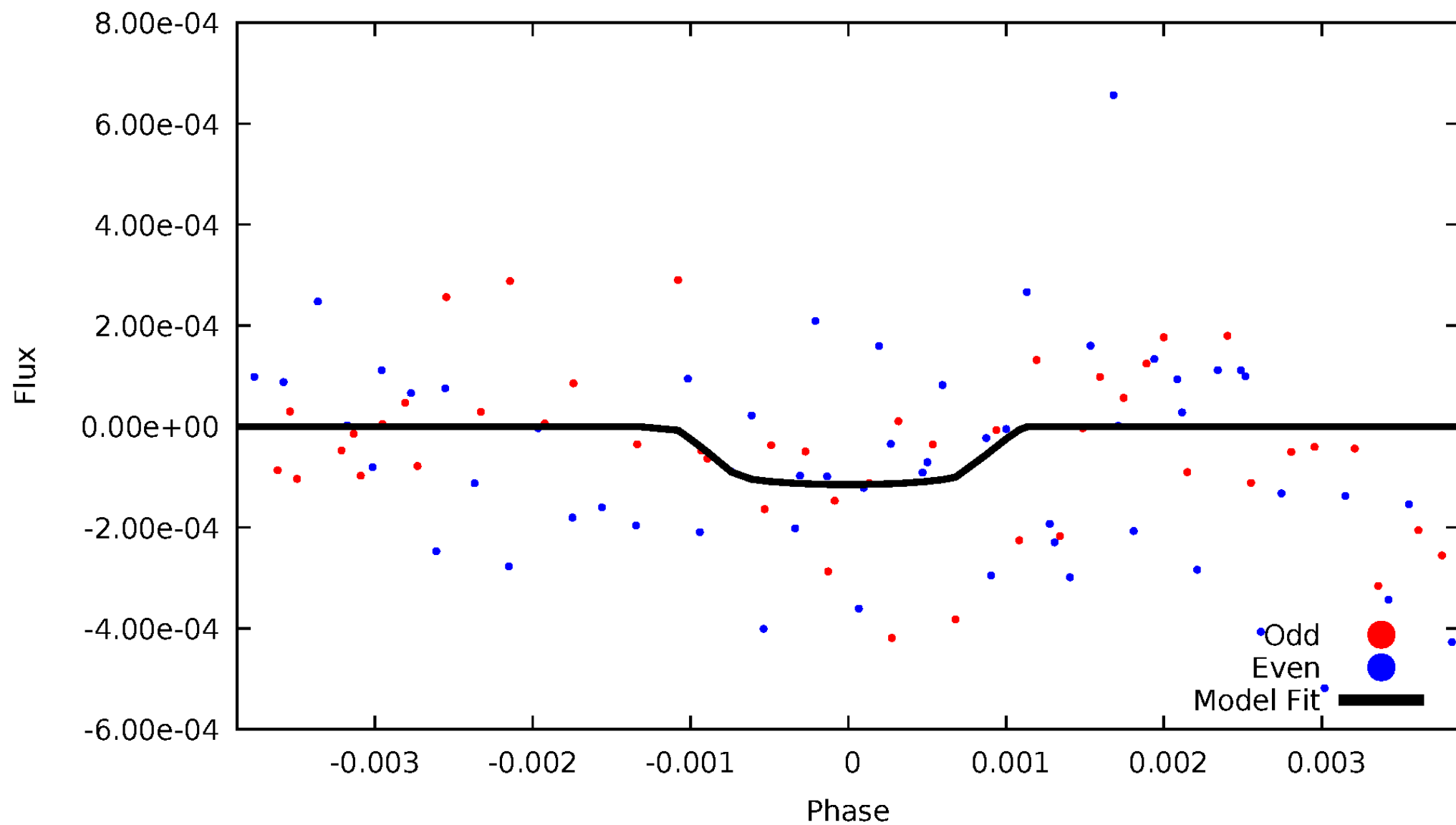


TCE 008686975-05



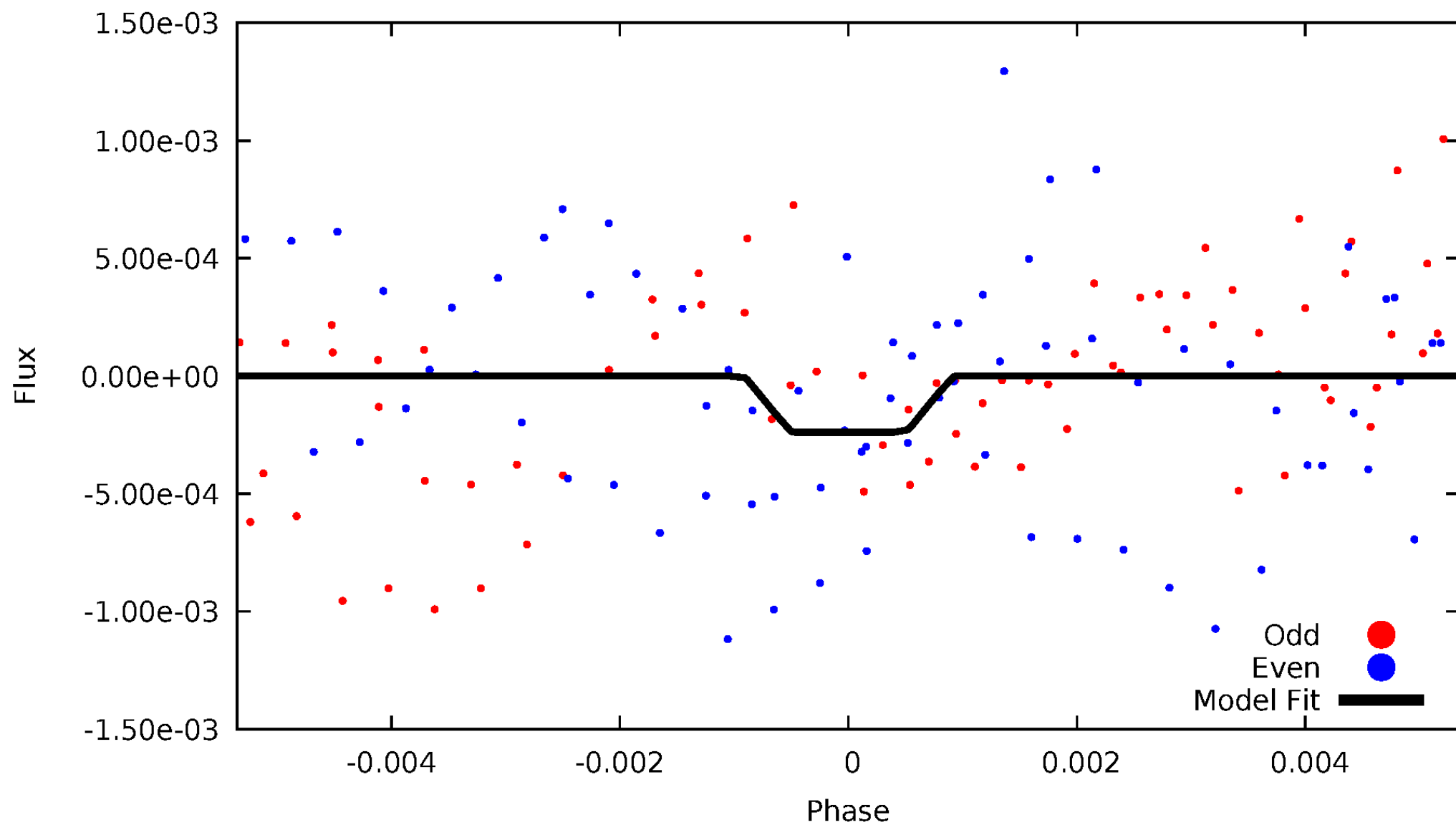
DV Odd/Even

TCE 008686975-05



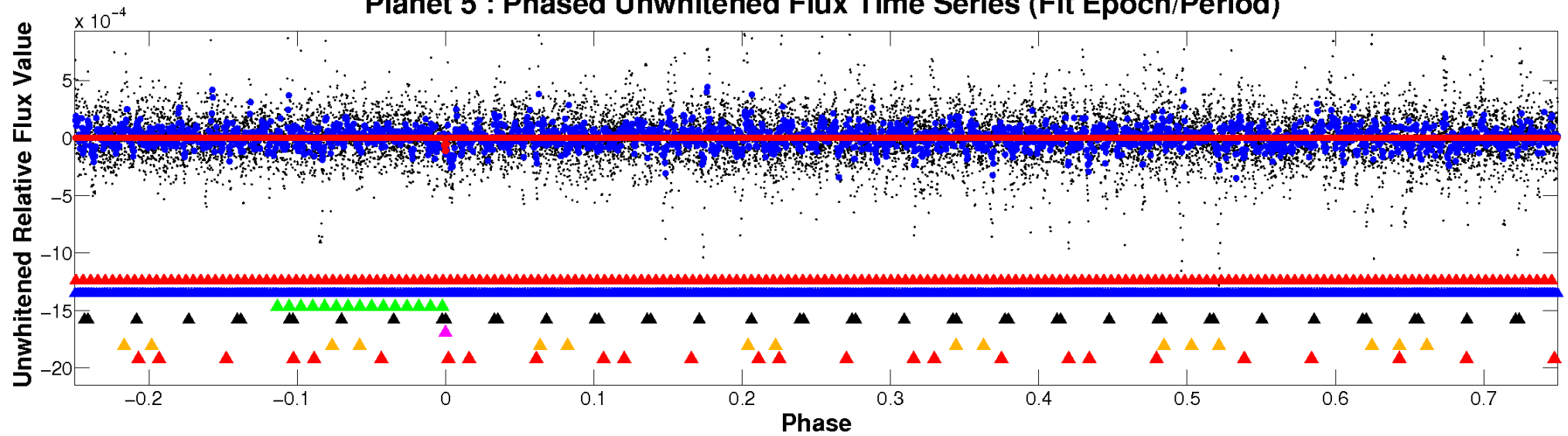
ALT Odd/Even

TCE 008686975-05

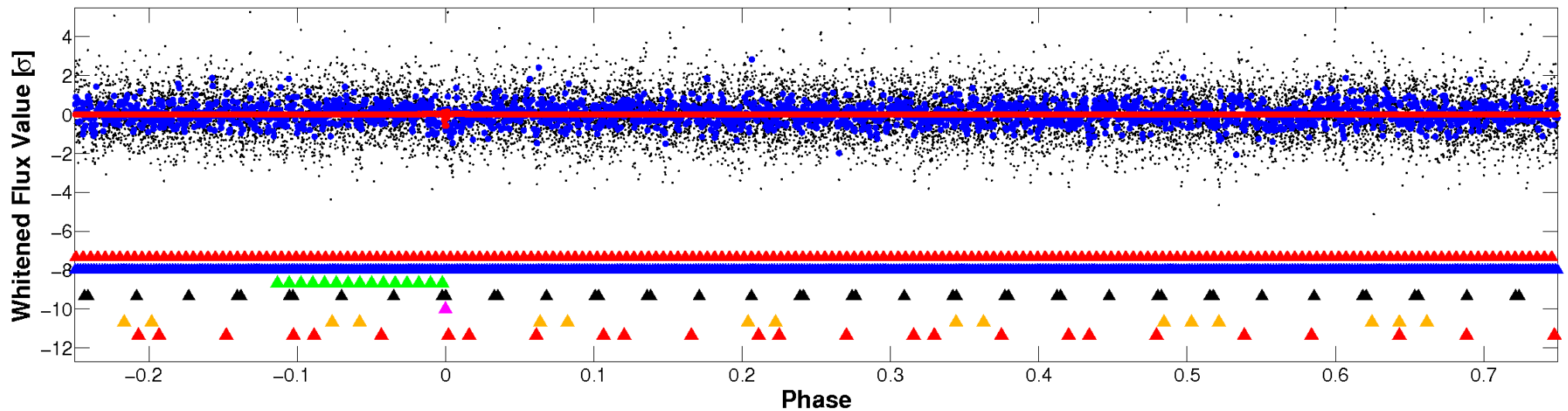


Non-Whitened Vs. Whitened Light Curve

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

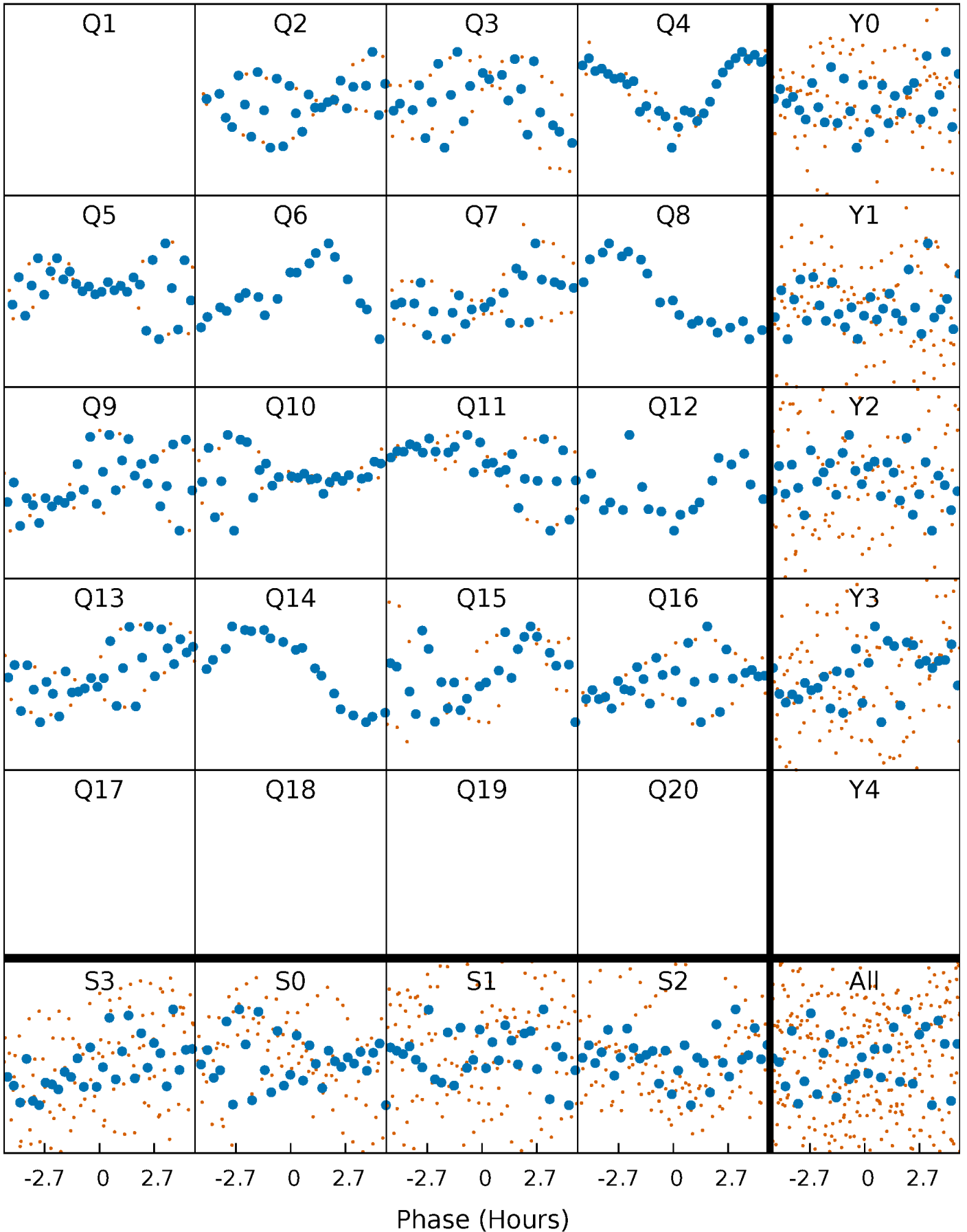


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



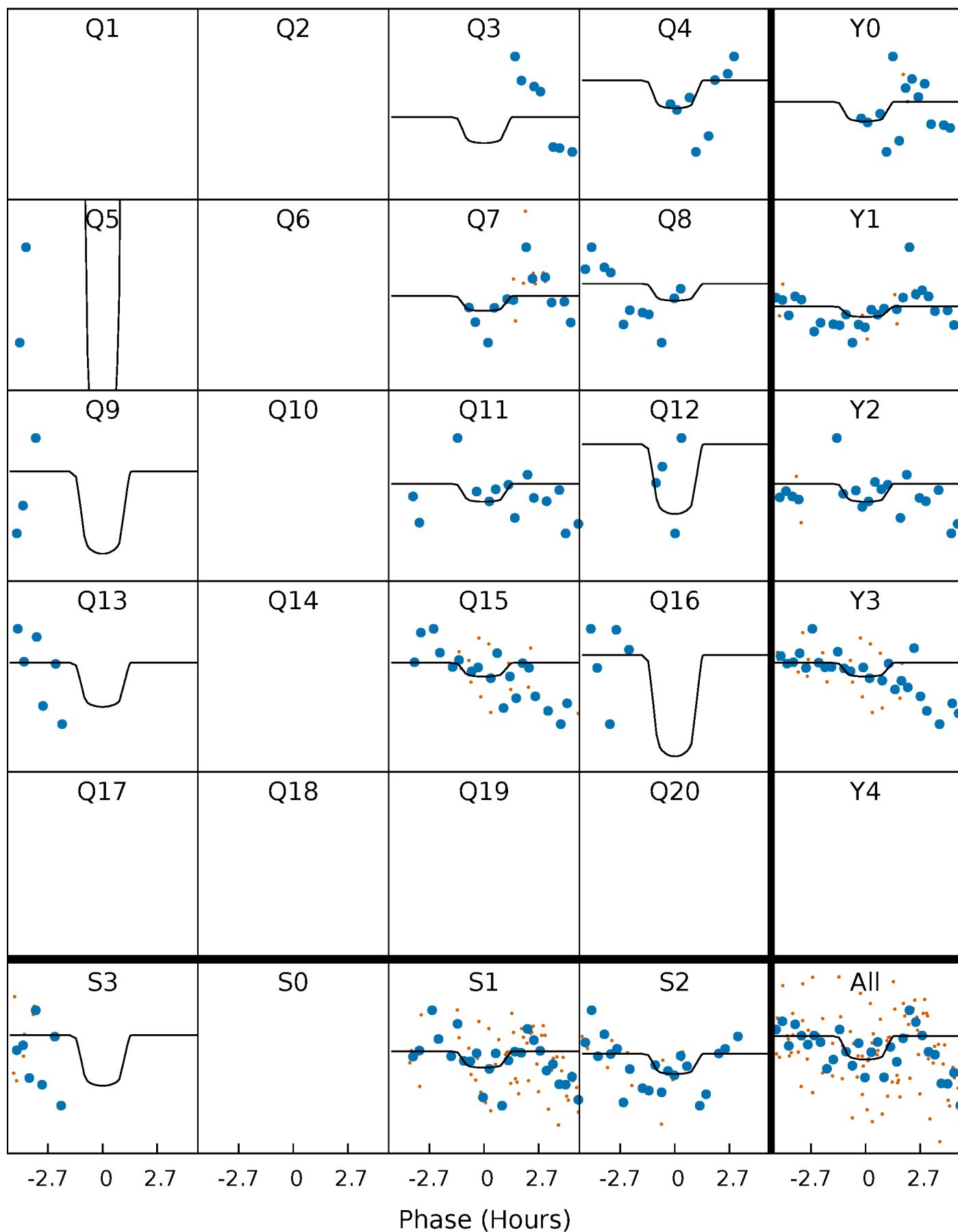
PDC Quarter-Phased Transit Curves

TCE 008686975-05 $P = 50.669126$ Days $T_0 = 176.299343$ (BKJD)



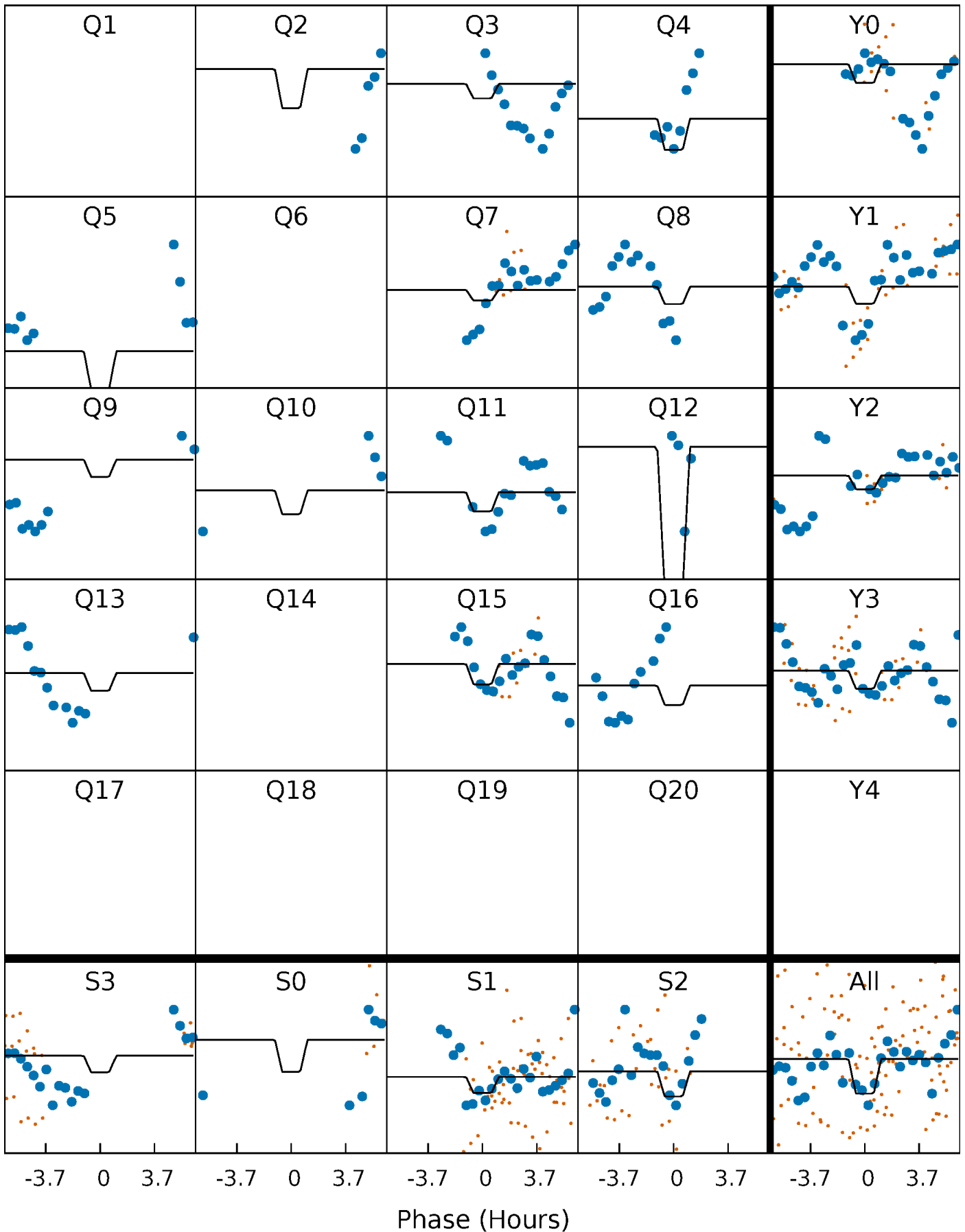
DV Quarter-Phased Transit Curves

TCE 008686975-05 $P = 50.669126$ Days $T_0 = 176.299343$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

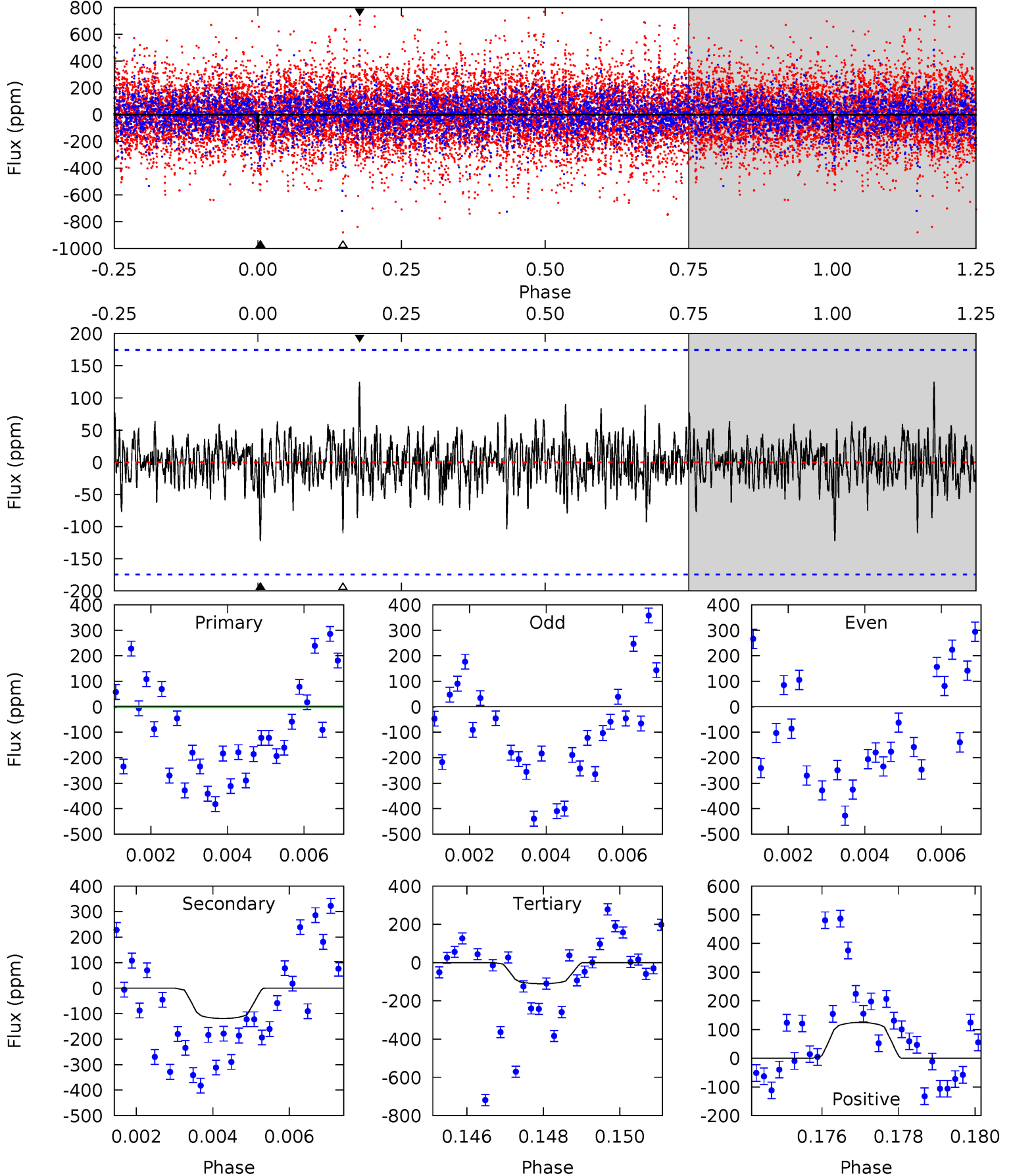
TCE 008686975-05 $P = 50.663885$ Days $T_0 = 176.367744$ (BKJD)



DV Model-Shift Uniqueness Test

008686975-05, P = 50.669126 Days, E = 125.630217 Days

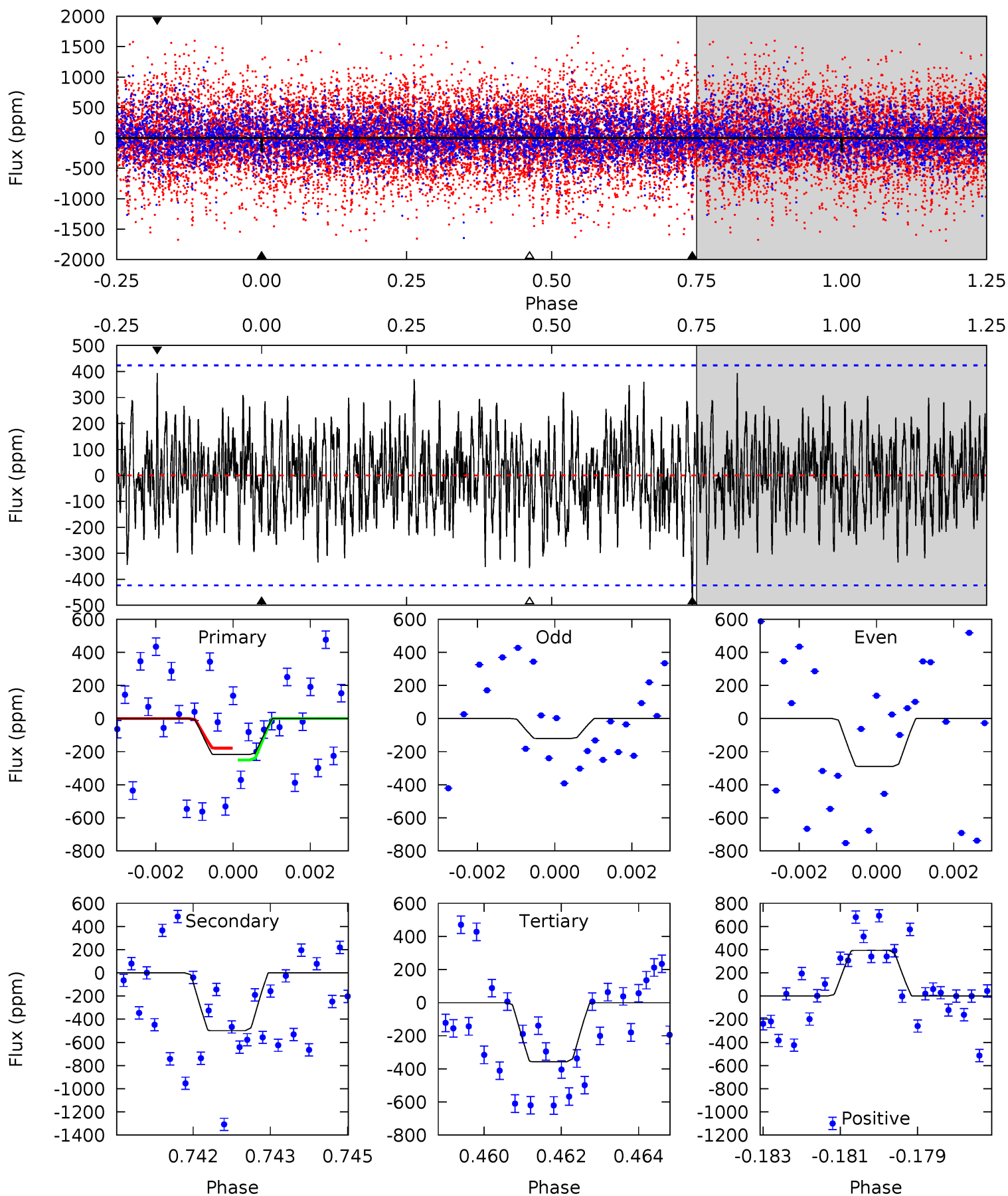
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.72	3.62	3.36	3.80	5.31	3.07	0.85	0.36	-0.08	0.27	-0.18	1.09	0.90	0.51	0.09



Alt Model-Shift Uniqueness Test

008686975-05, P = 50.663885 Days, E = 125.703859 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.75	6.29	4.50	4.96	5.34	3.12	1.60	-1.75	-2.21	1.79	1.33	1.05	0.61	0.44	0.45



Stellar Parameters For KIC 008686975

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7516^{+209}_{-313}	$3.800^{+0.352}_{-0.110}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.412}_{-1.236}$	$1.978^{+0.096}_{-0.478}$	$0.110^{+0.279}_{-0.038}$
	+3%/-4%	+9%/-3%	+1000%/-1750%	+14%/-42%	+5%/-24%	+254%/-35%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008686975-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-119 ± 33	$5.08^{+4.85}_{-3.42}$	1341^{+91}_{-132}	5818^{+5824}_{-1452}	262^{+2356}_{-196}
Alt.	-499 ± 79	$5.97^{+5.29}_{-3.58}$	1341^{+93}_{-134}	7832^{+7584}_{-2102}	858^{+3932}_{-620}

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

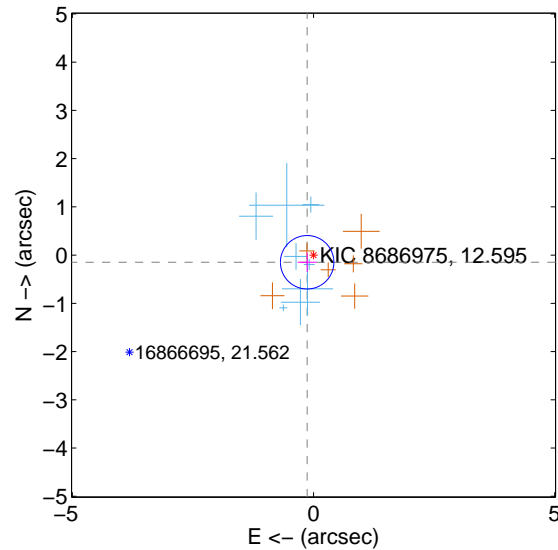
Supplemental centroid analysis for 008686975-05. Kepler magnitude: 12.60. Transit SNR 2.85

There are 8 quarters with good PRF difference image offsets

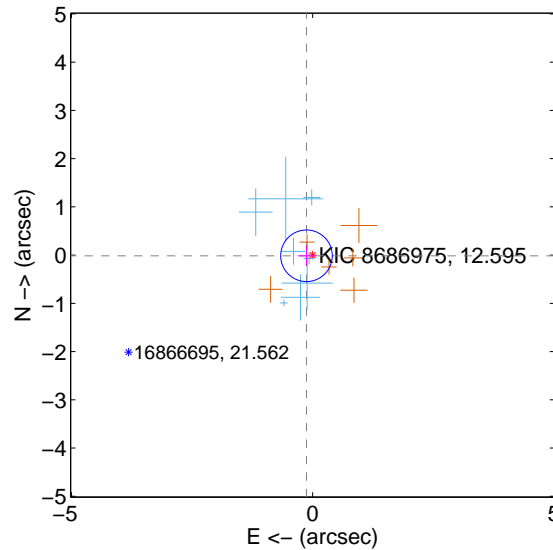
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.199 ± 0.185	1.08	0.132 ± 0.197	-0.149 ± 0.201
PRF-fit source offset from KIC position	0.127 ± 0.178	0.71	0.127 ± 0.178	-0.014 ± 0.210
photometric centroid source offset	0.51 ± 1.22	0.42	0.17 ± 1.39	-0.49 ± 1.20

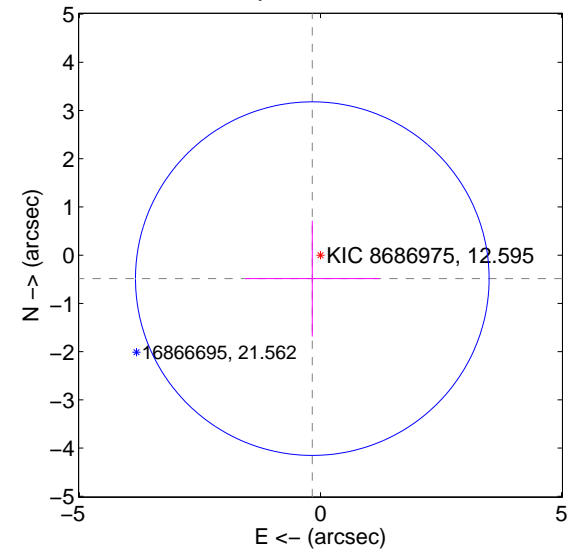
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

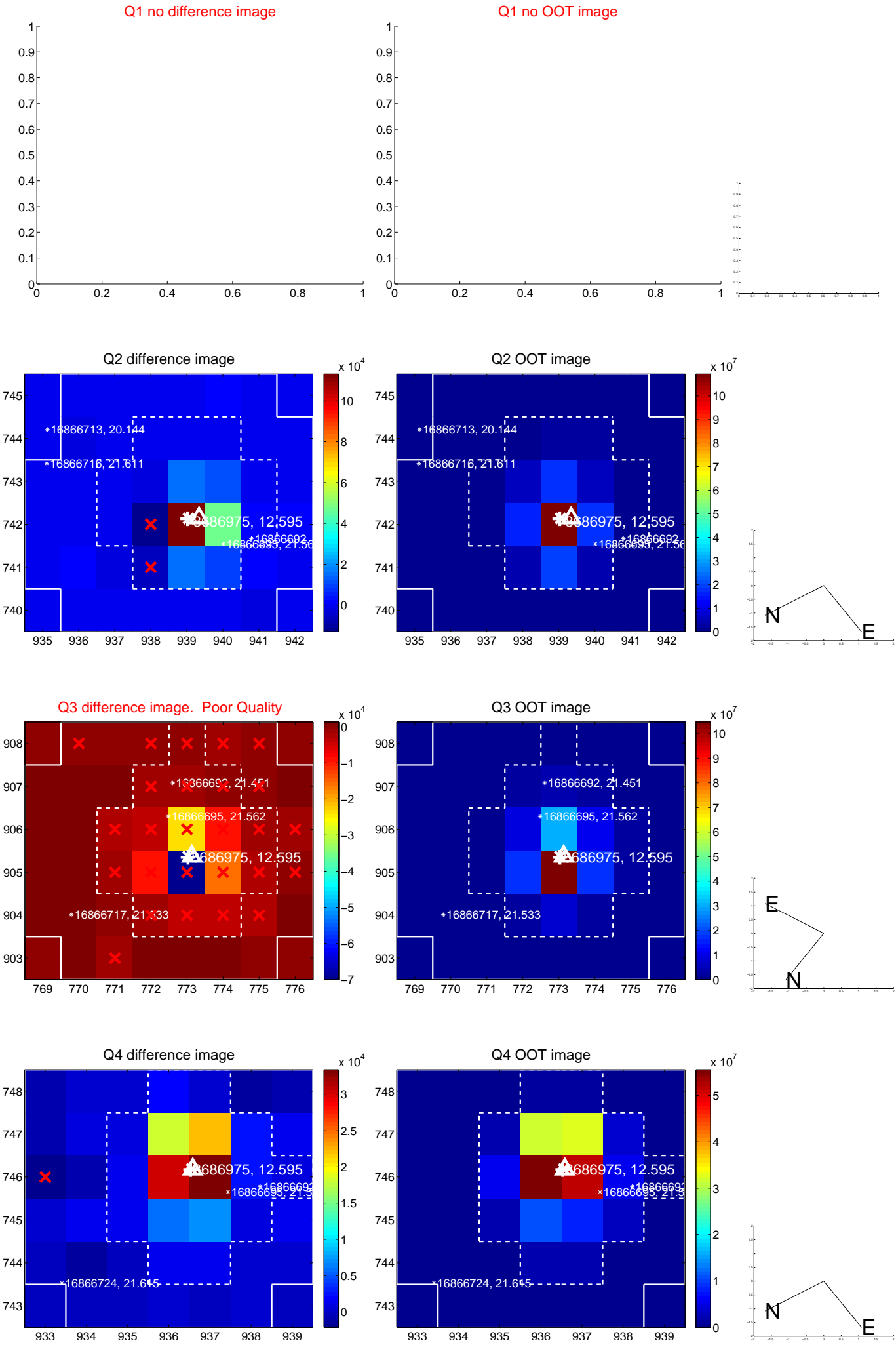


offset from photometric centroids

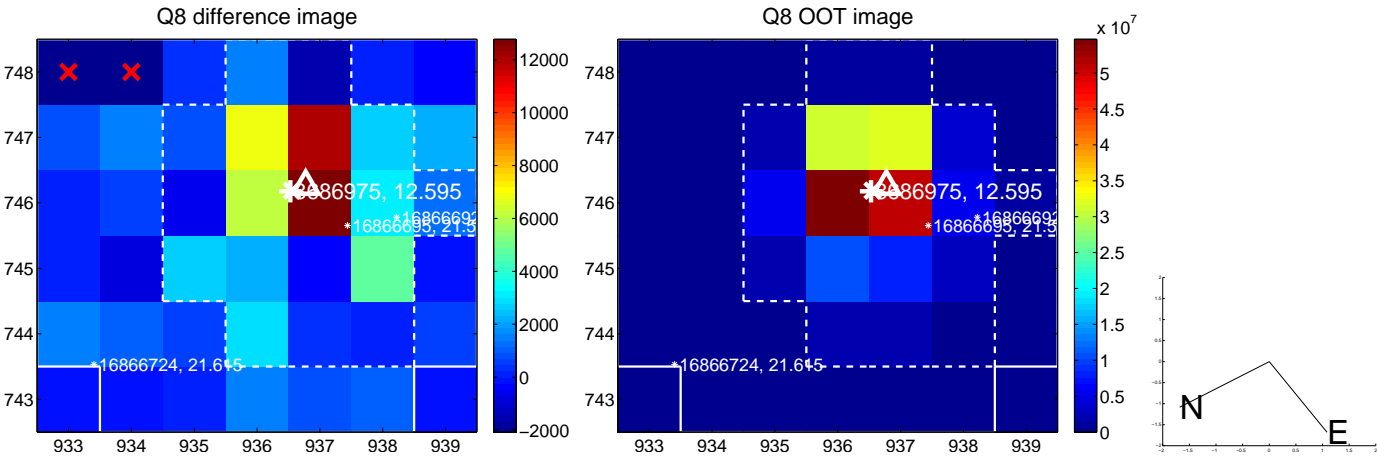
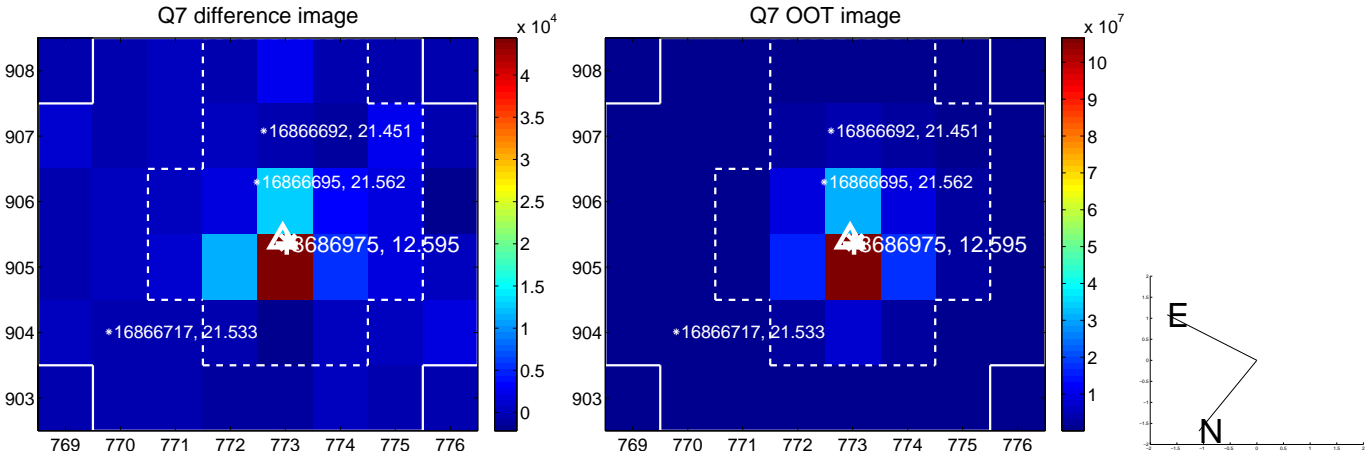
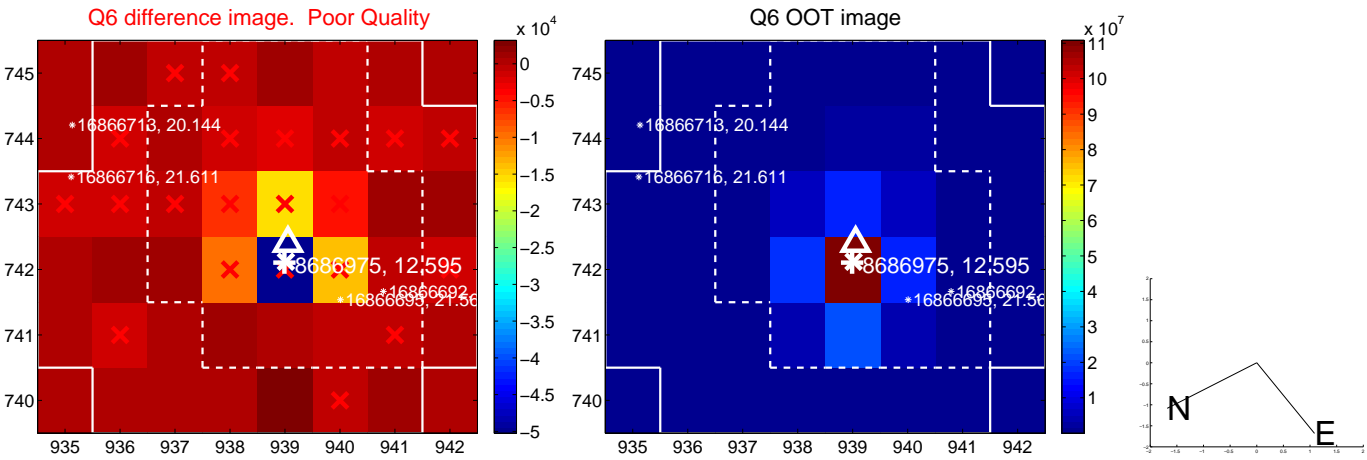
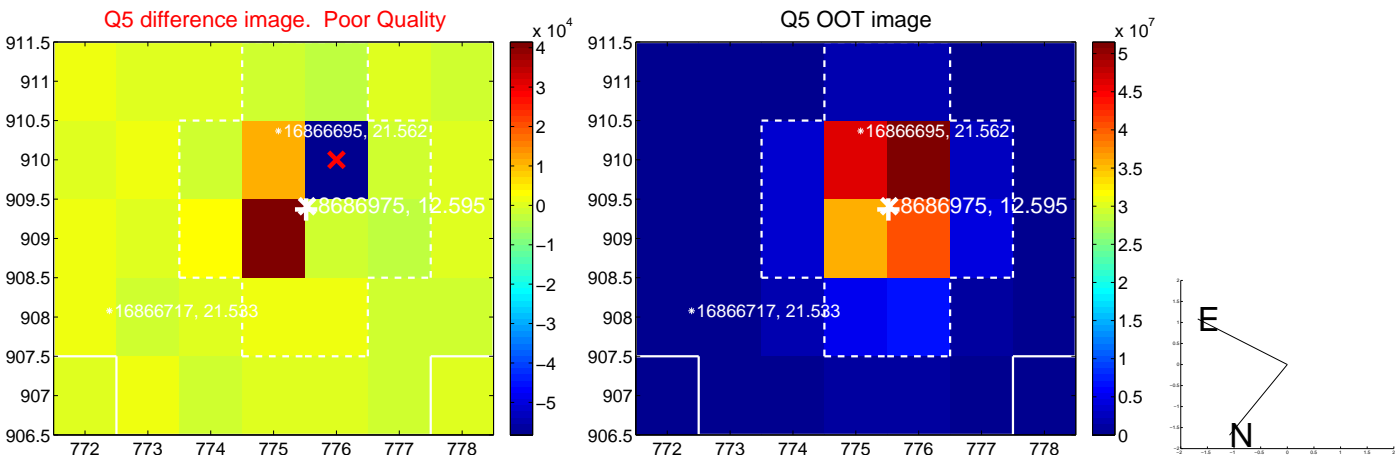


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

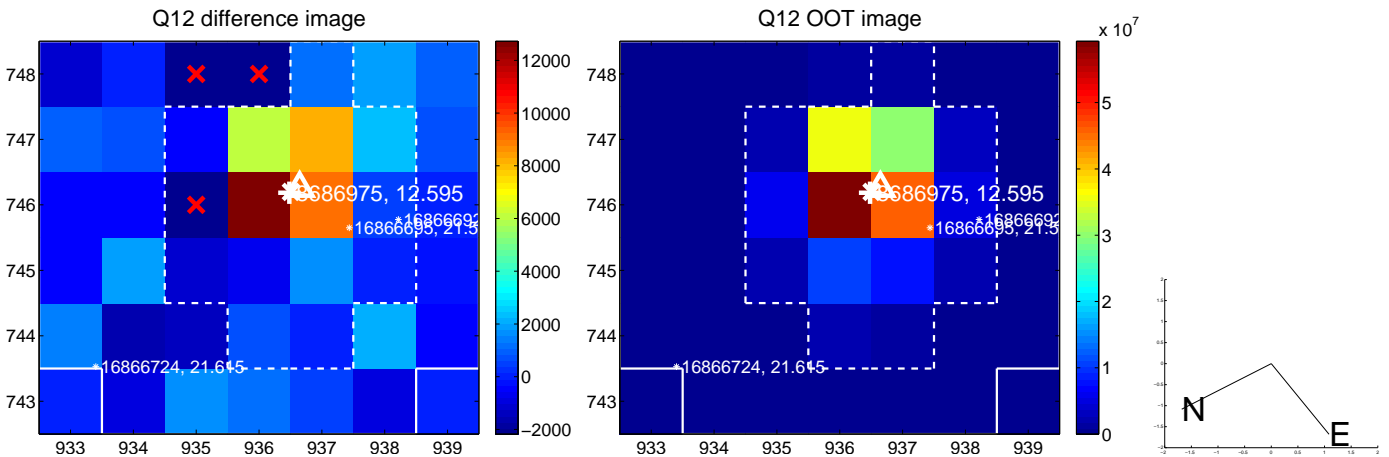
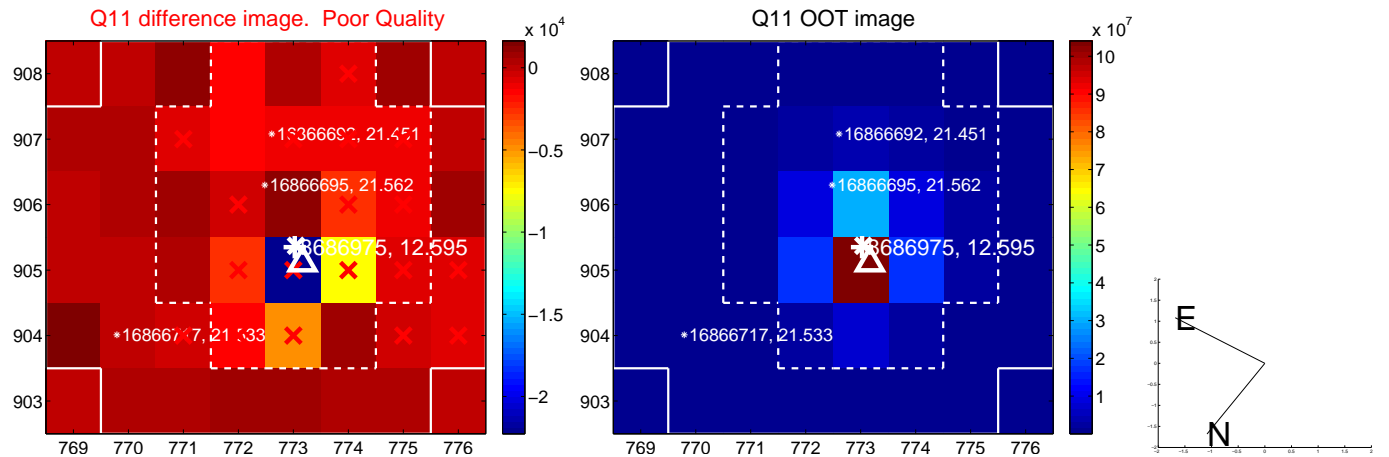
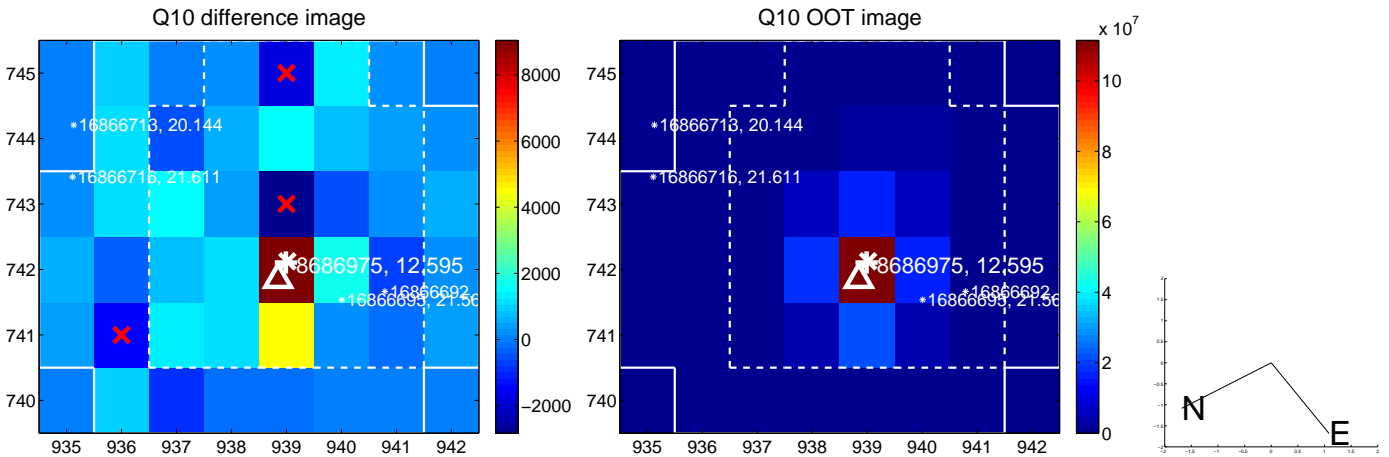
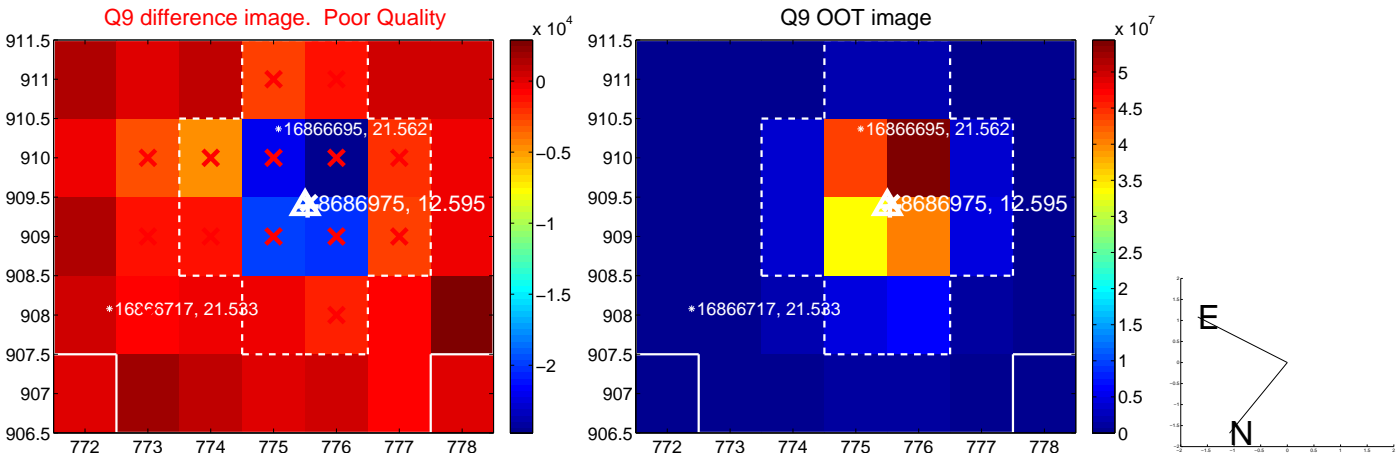
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



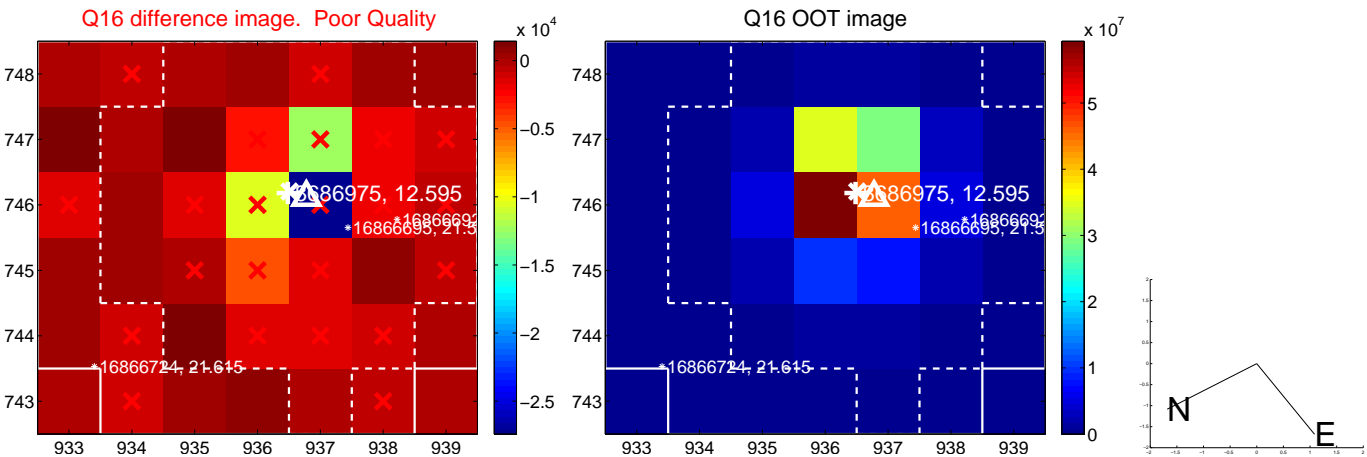
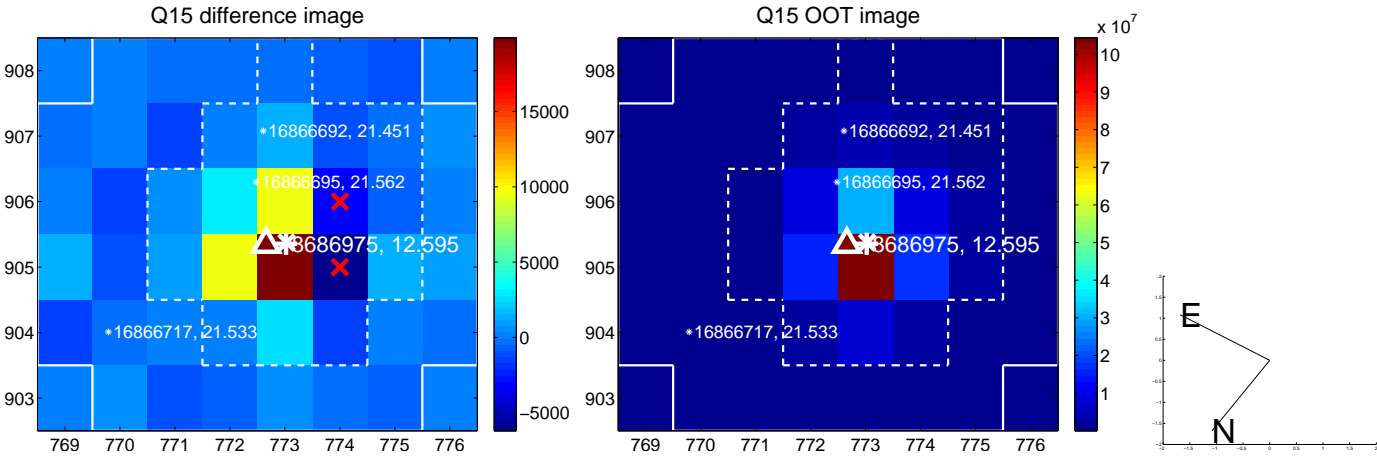
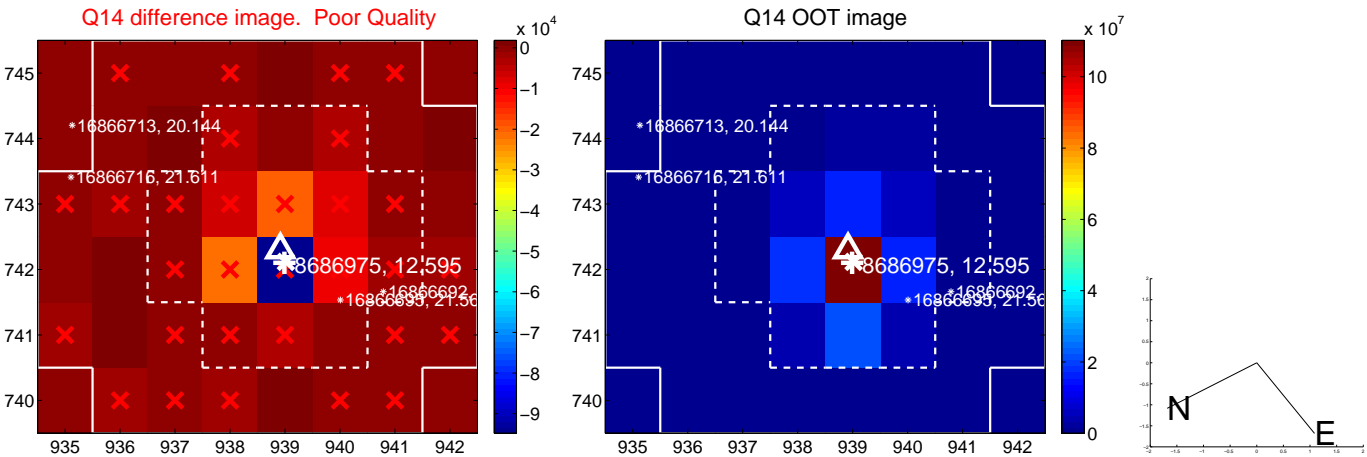
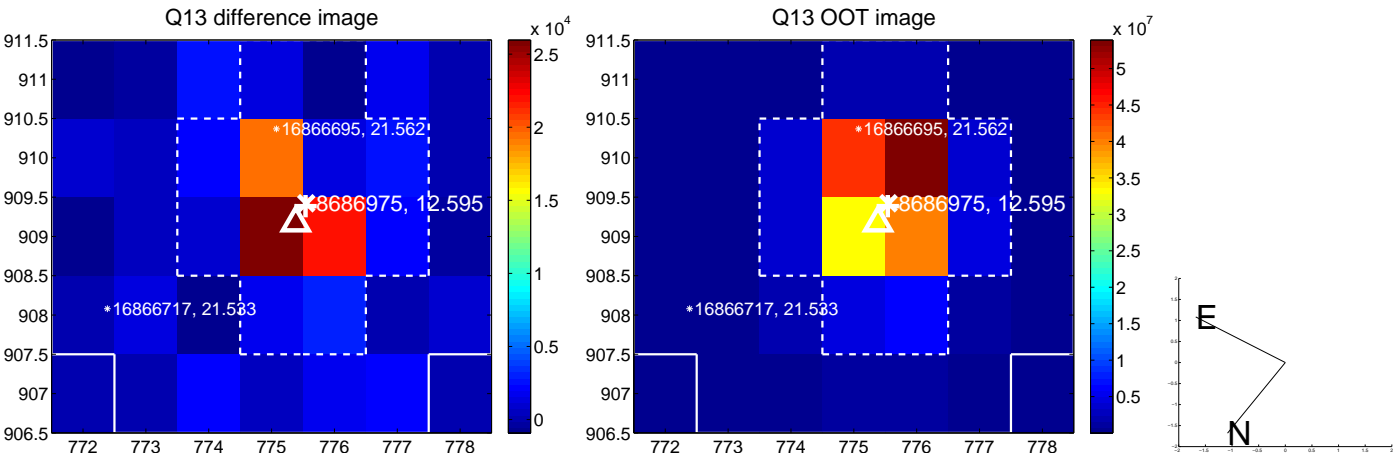
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



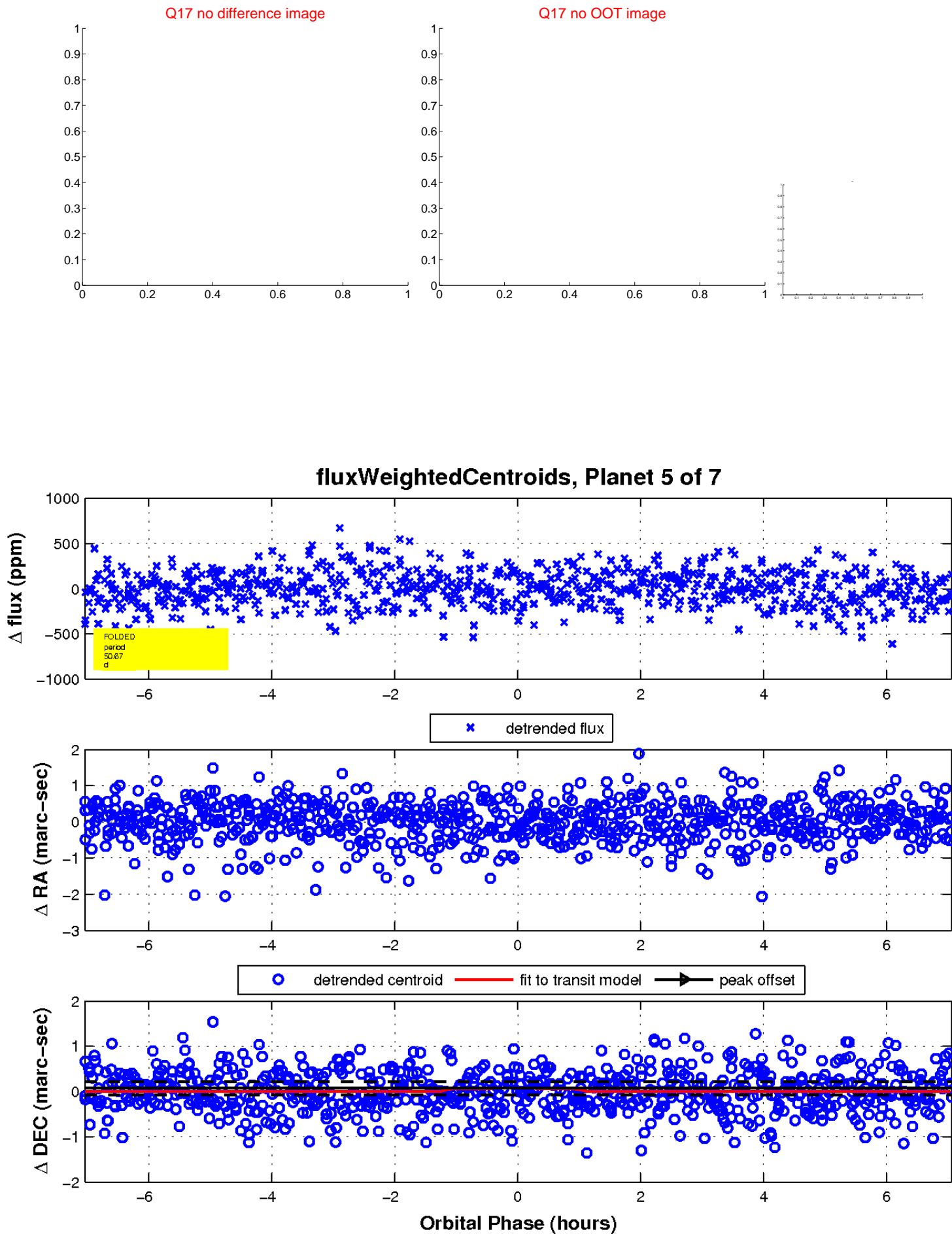
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

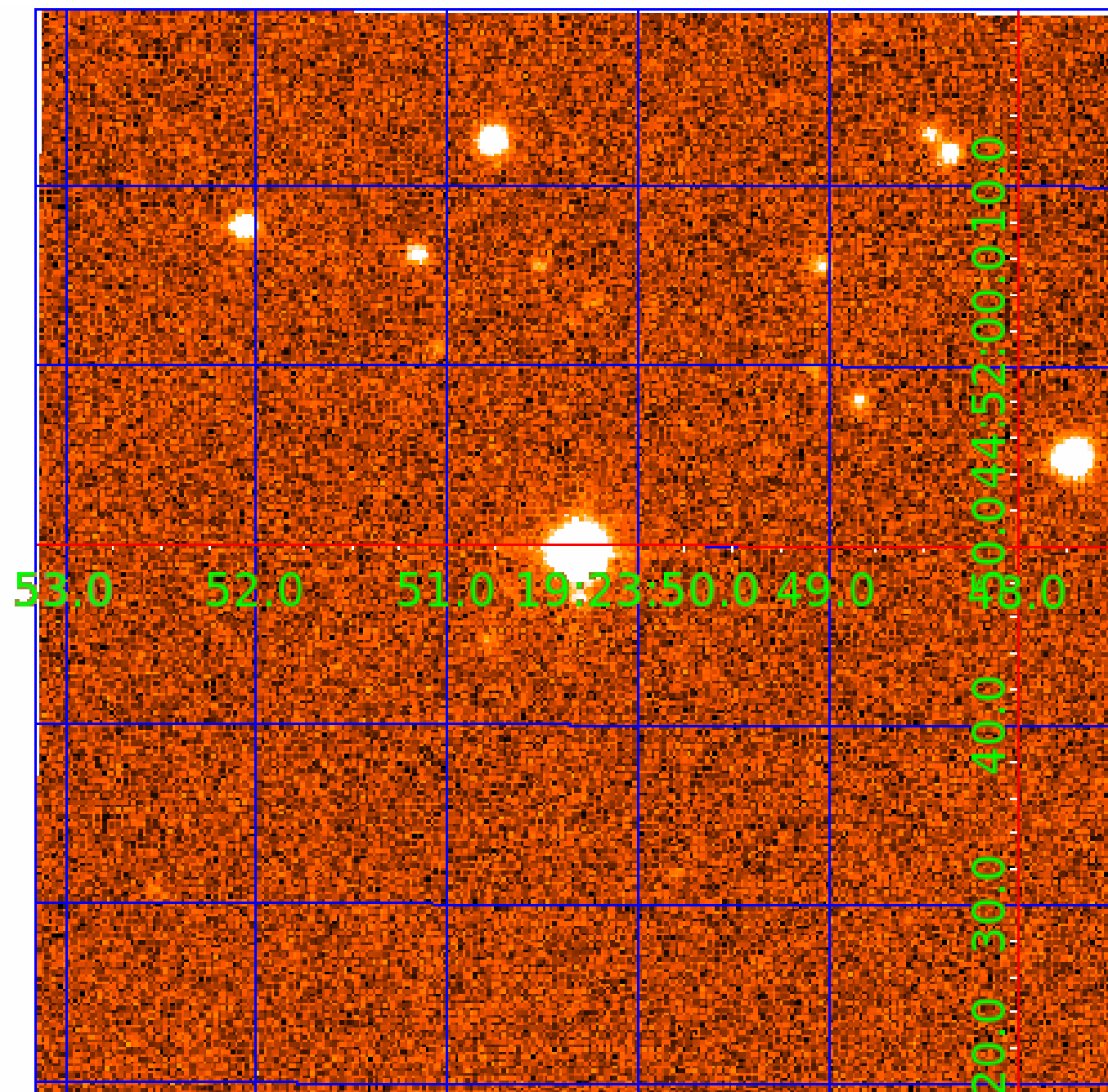


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008686975

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})
008686975-01	OBS	No	1.254151	131.585917	130.4	4.500	8.5	-1.0	2.94	7516	3.40	30114.84
008686975-02	OBS	No	0.648401	131.609693	25.1	2.860	9.4	7.2	2.94	7516	1.50	72575.21
008686975-03	OBS	No	100.935820	176.191703	452.7	4.561	8.0	6.2	2.94	7516	11.70	86.67
008686975-04	OBS	No	31.445632	146.644542	293.2	3.973	8.5	8.7	2.94	7516	6.51	410.36
008686975-05	OBS	No	50.669126	176.299343	115.3	2.354	8.6	2.8	2.94	7516	3.64	217.23
008686975-06	OBS	No	94.233865	157.280879	528.6	3.613	9.7	7.3	2.94	7516	12.72	94.98
008686975-07	OBS	No	55.965597	166.515075	351.9	2.005	7.3	6.4	2.94	7516	6.46	190.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008686975-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008686975-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008686975-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008686975-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008686975-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

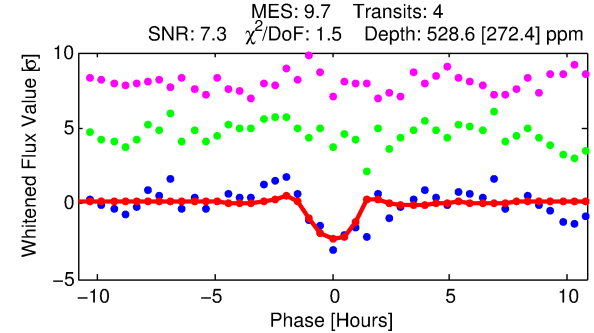
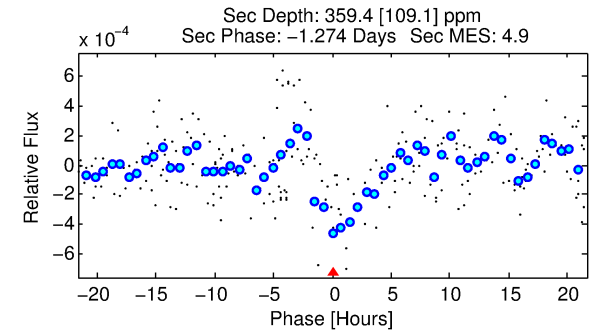
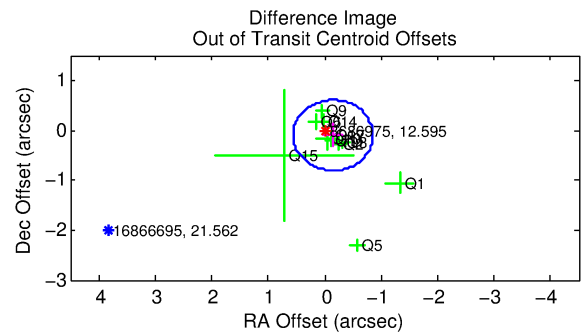
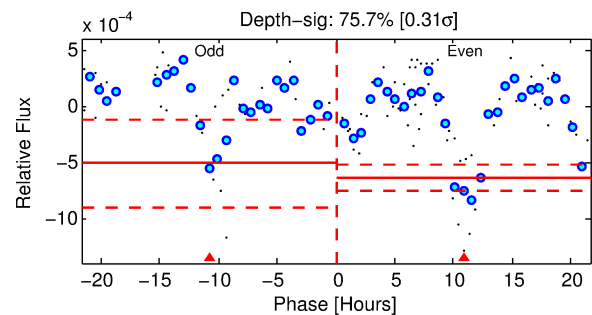
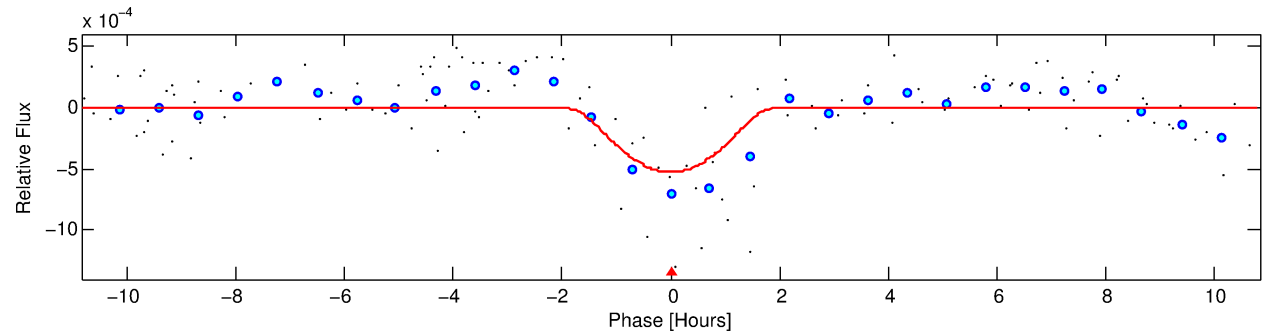
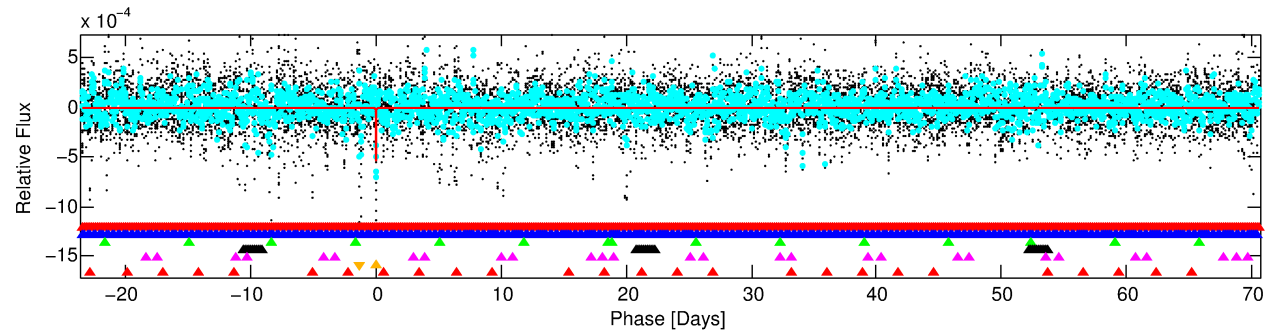
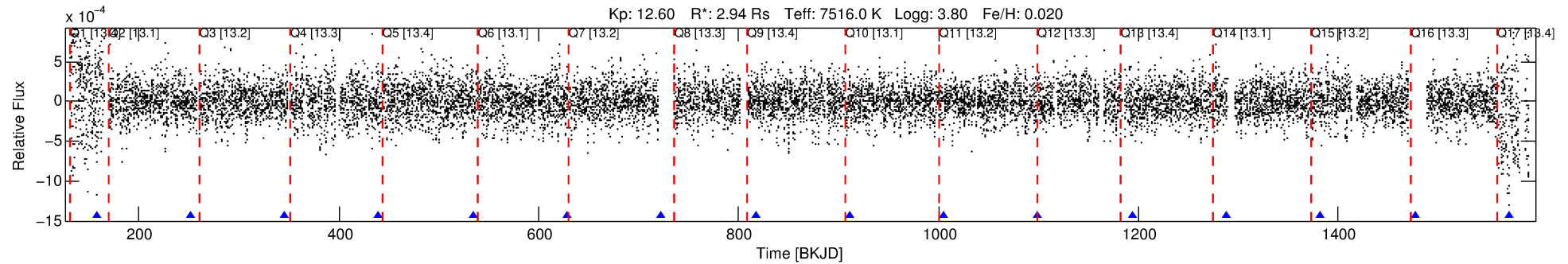
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008686975-06

No Significant Match Found

DV One-Page Summary

KIC: 8686975 Candidate: 6 of 7 Period: 94.234 d



DV Fit Results:

Period = 94.23387 [0.00122] d
Epoch = 157.2809 [0.0117] BKJD
Rp/R* = 0.0397 [0.1807]
a/R* = 56.88 [66.75]
b = 1.00 [0.28]
Seff = 94.98 [59.96]
Teq = 796 [126] K
Rp = 12.72 [58.13] Re
a = 0.5092 [0.1984] AU
Ag = 316.68 [2889.04] [0.11σ]
Teffp = 5192 [11817] K [0.37σ]

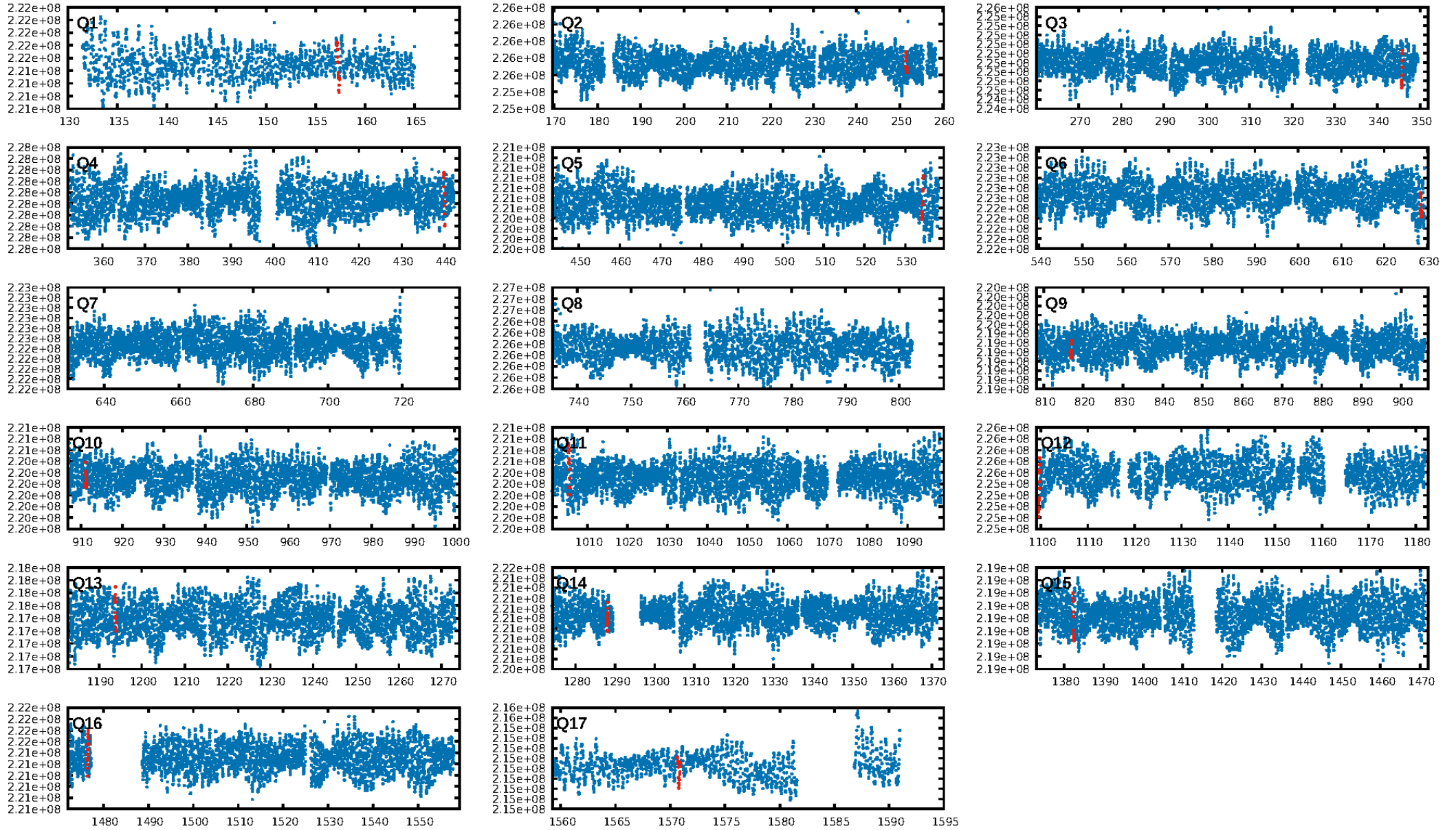
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [222.29σ]
LongPeriod-sig: 100.0% [27.65σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 75.3%
Bootstrap-pfa: 6.73e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -3.59
Centroid-sig: N/A
Centroid-so: 0.331 arcsec [0.77σ]
OotOffset-rm: 0.177 arcsec [0.75σ]
KicOffset-rm: 0.165 arcsec [1.07σ]
OotOffset-st: 4/3/0/4 [11]
KicOffset-st: 4/3/0/4 [11]
DiffImageQuality-fgm: 0.73 [8/11]
DiffImageOverlap-fno: 0.00 [0/12]

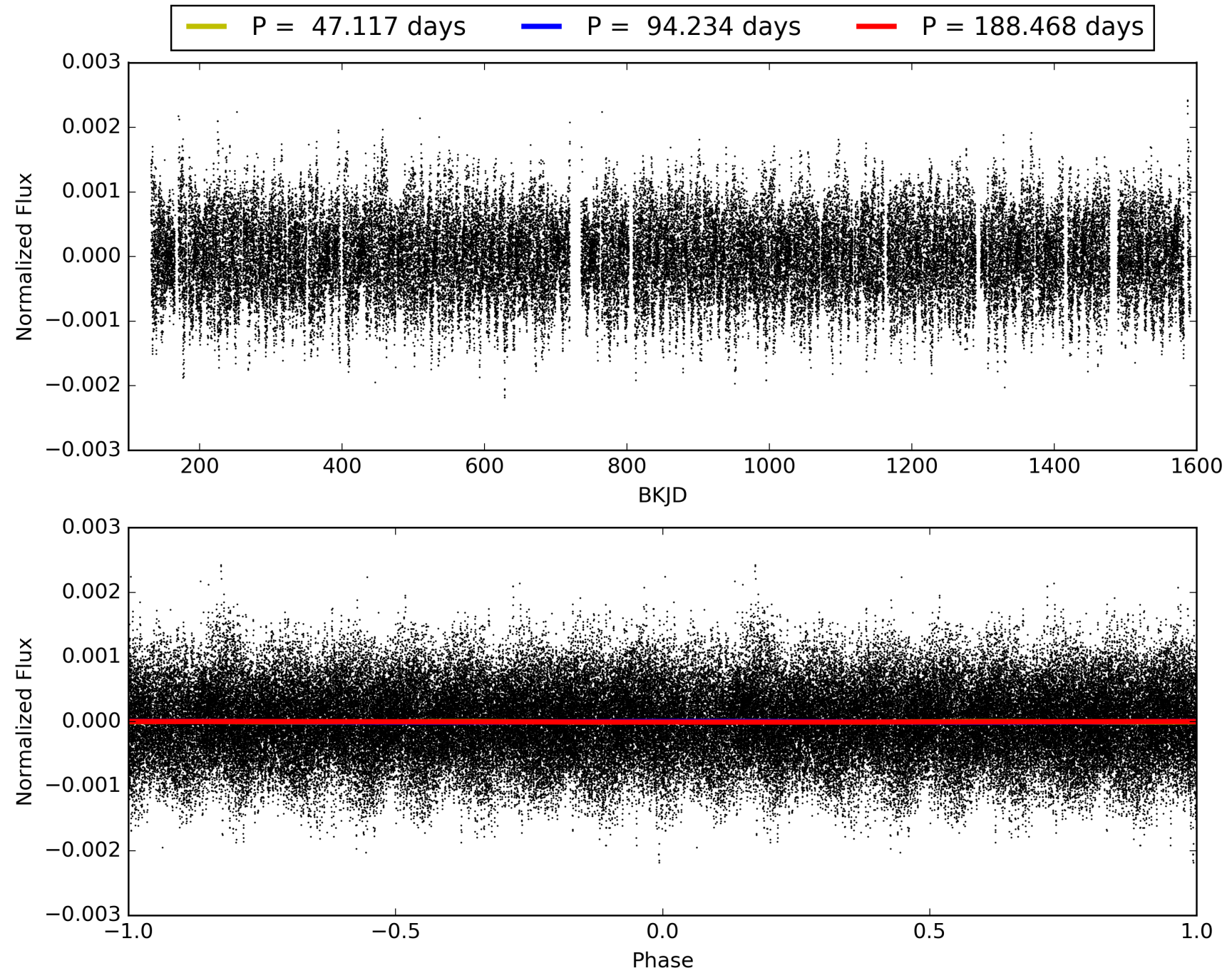
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:27:50 Z

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

TCE 008686975-06, PDC Light Curves

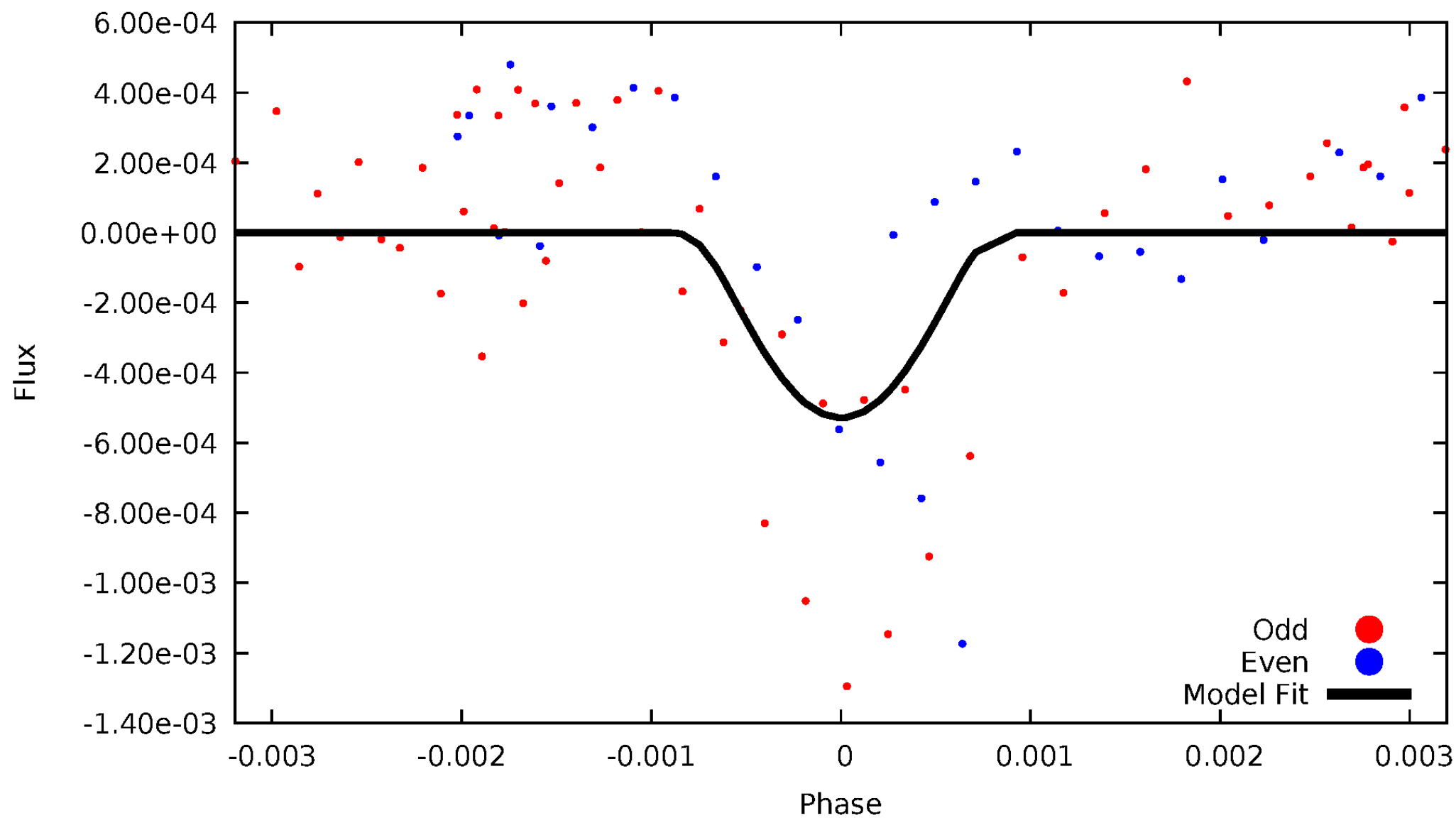


TCE 008686975-06



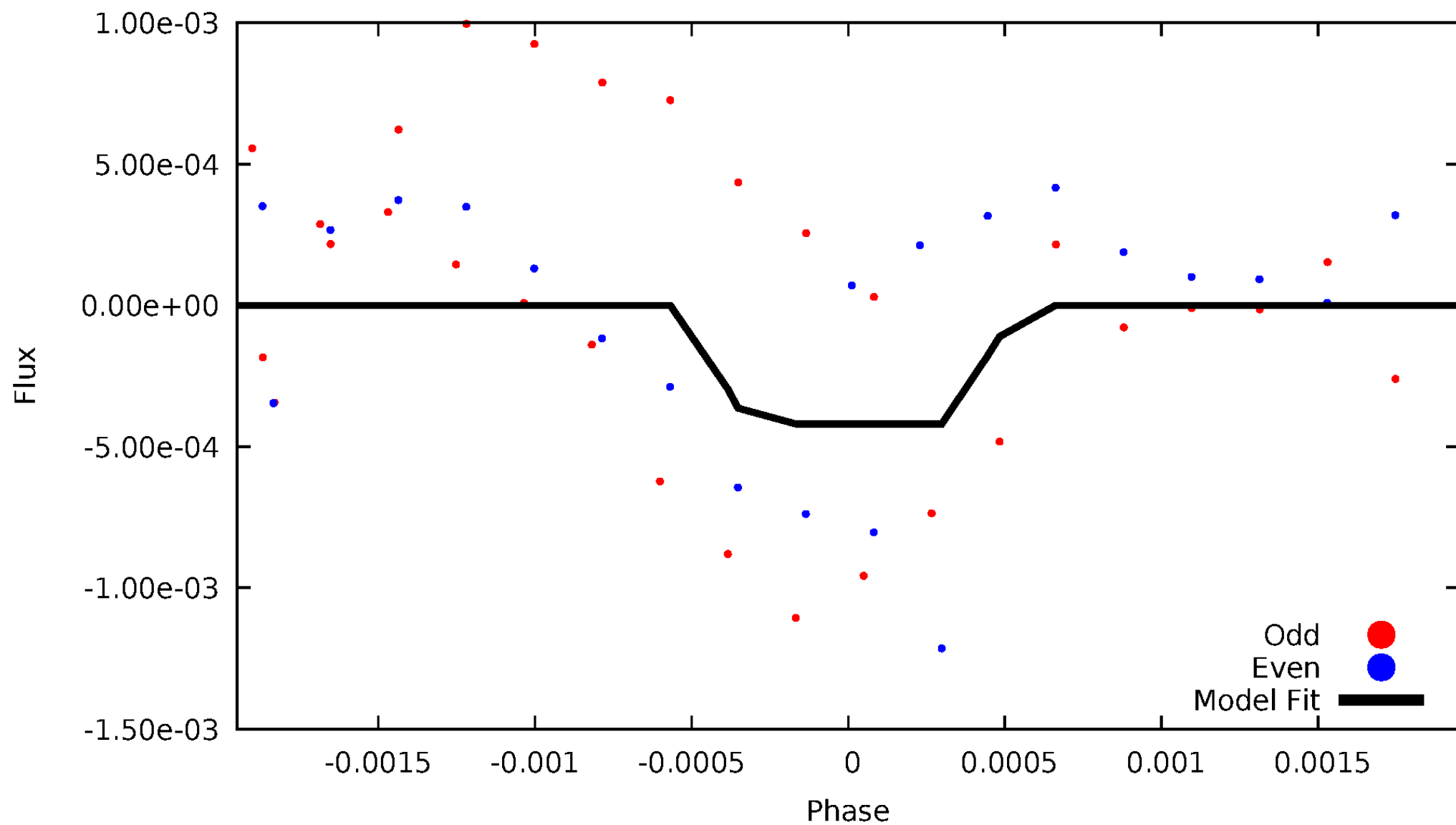
DV Odd/Even

TCE 008686975-06



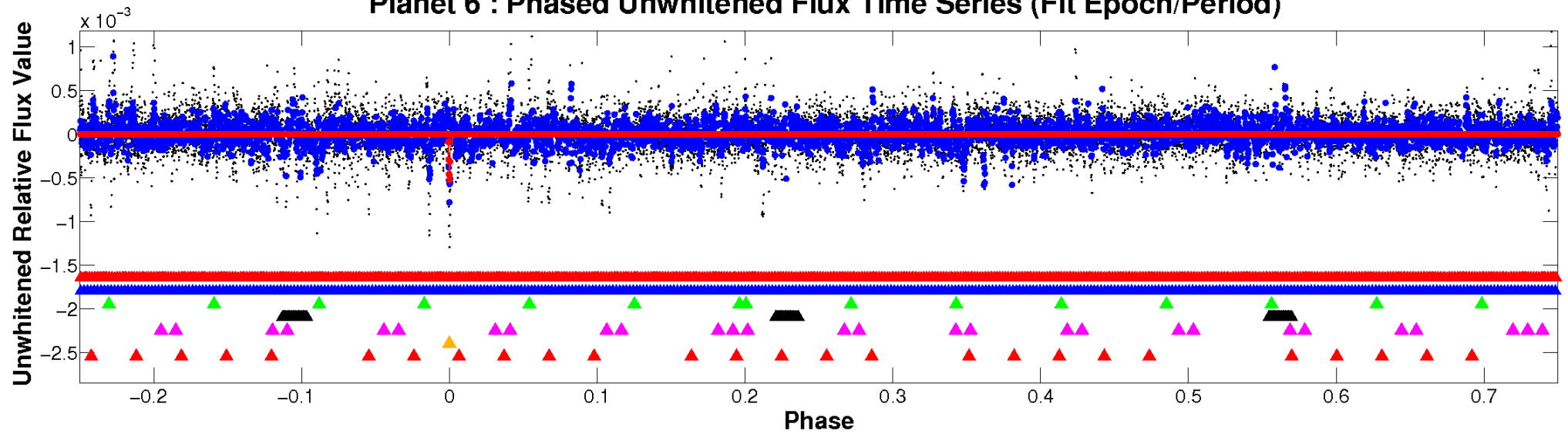
ALT Odd/Even

TCE 008686975-06

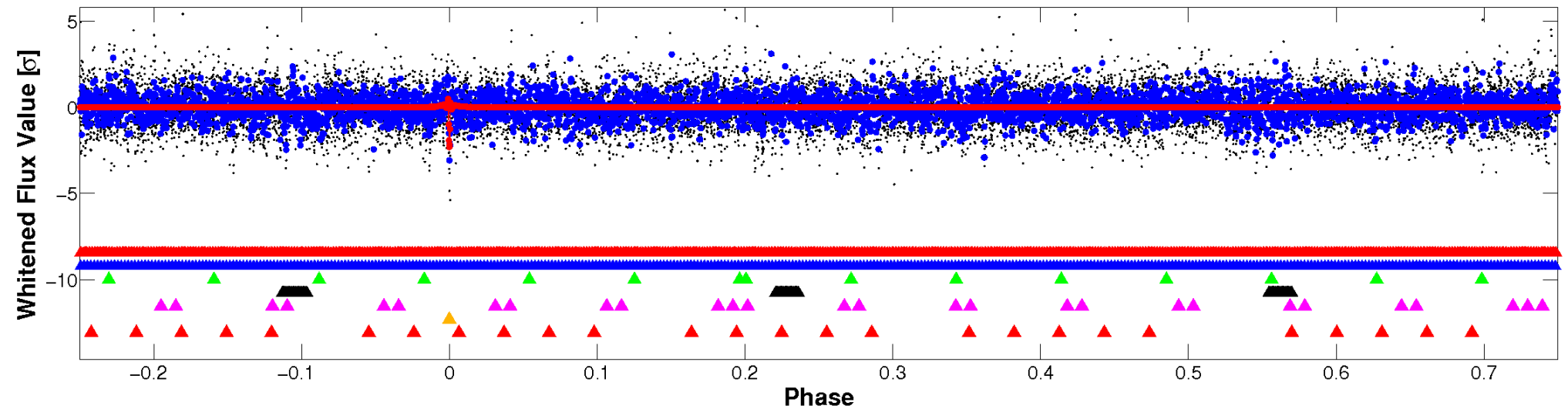


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

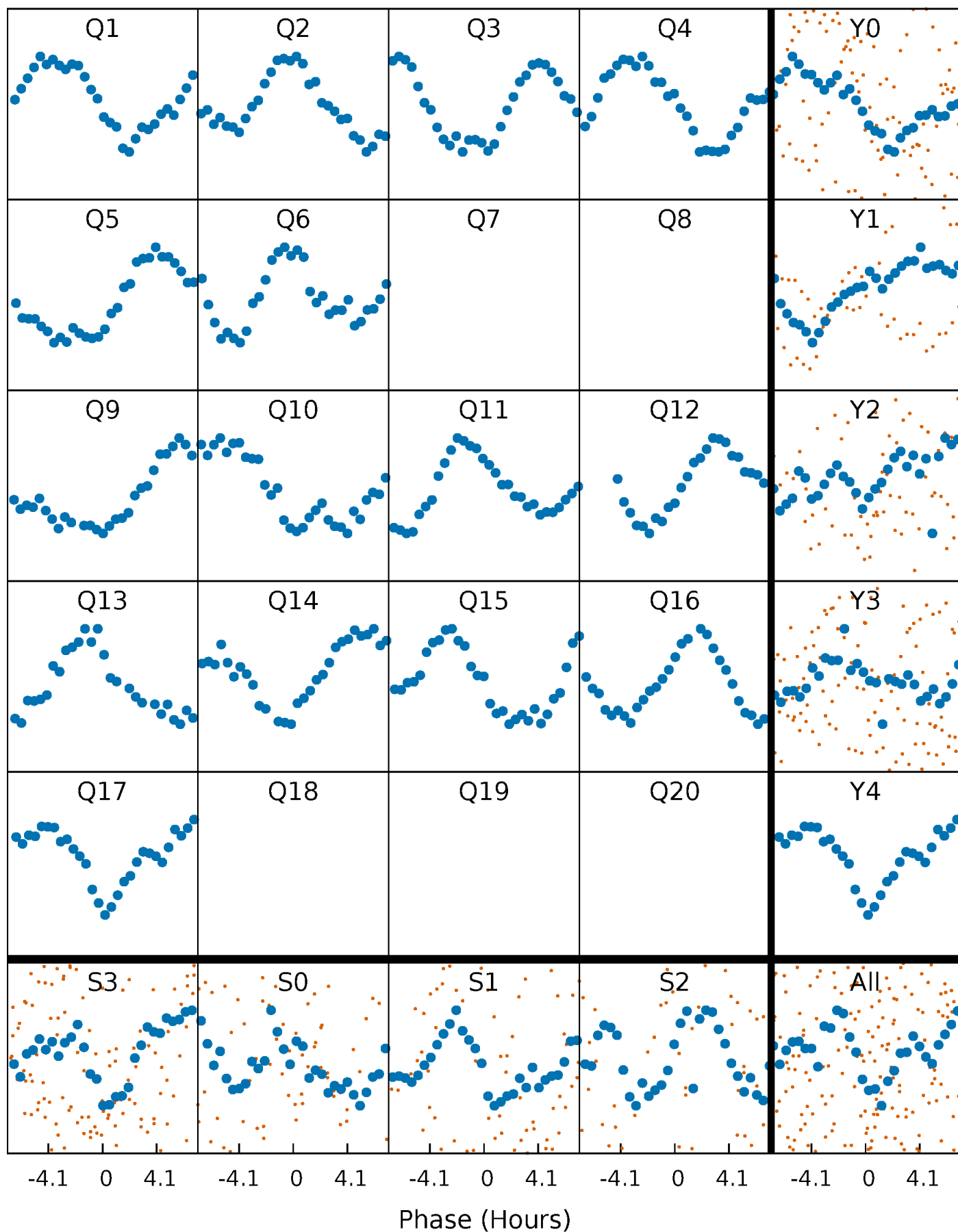


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



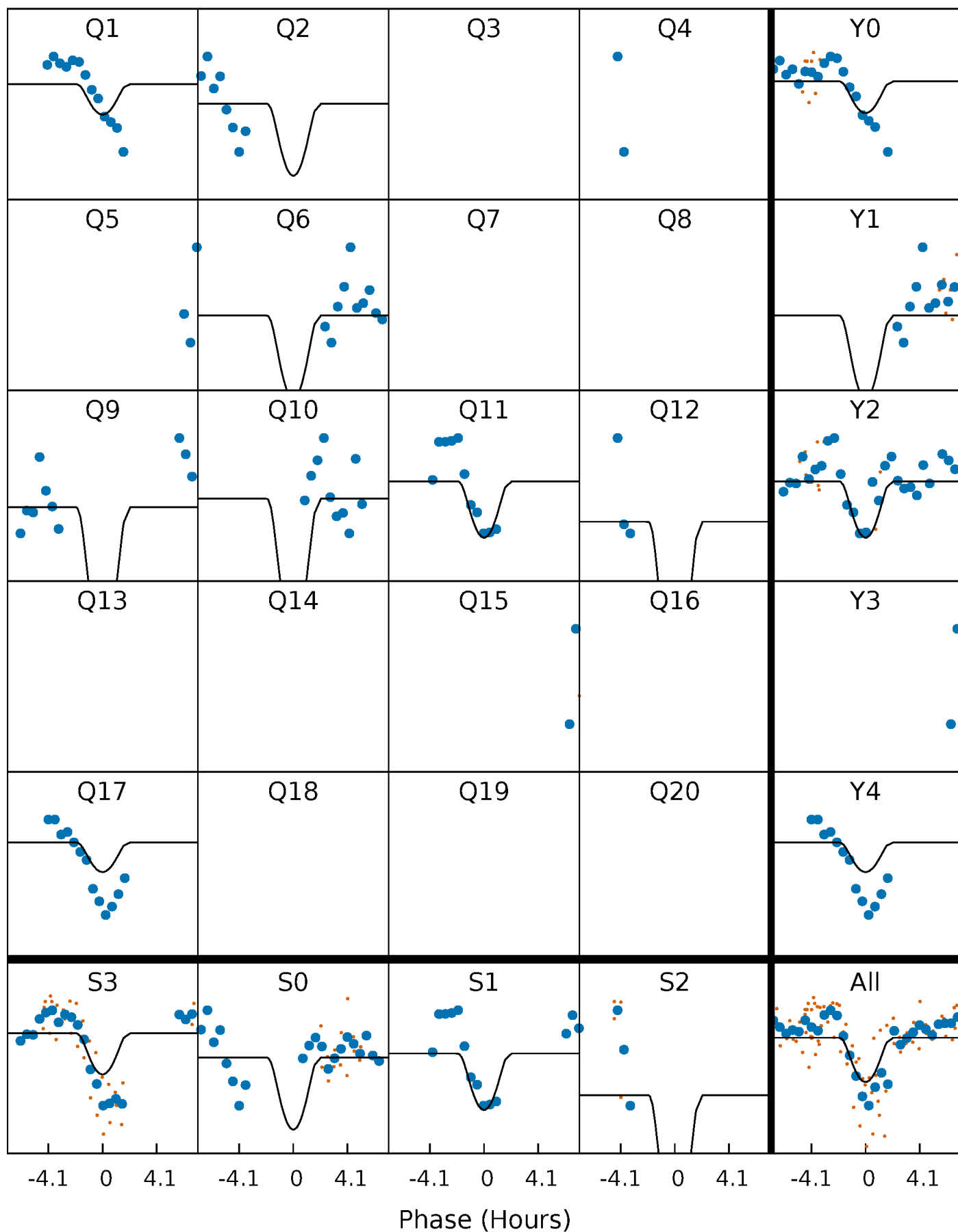
PDC Quarter-Phased Transit Curves

TCE 008686975-06 P= 94.233865 Days $T_0=157.280879$ (BKJD)



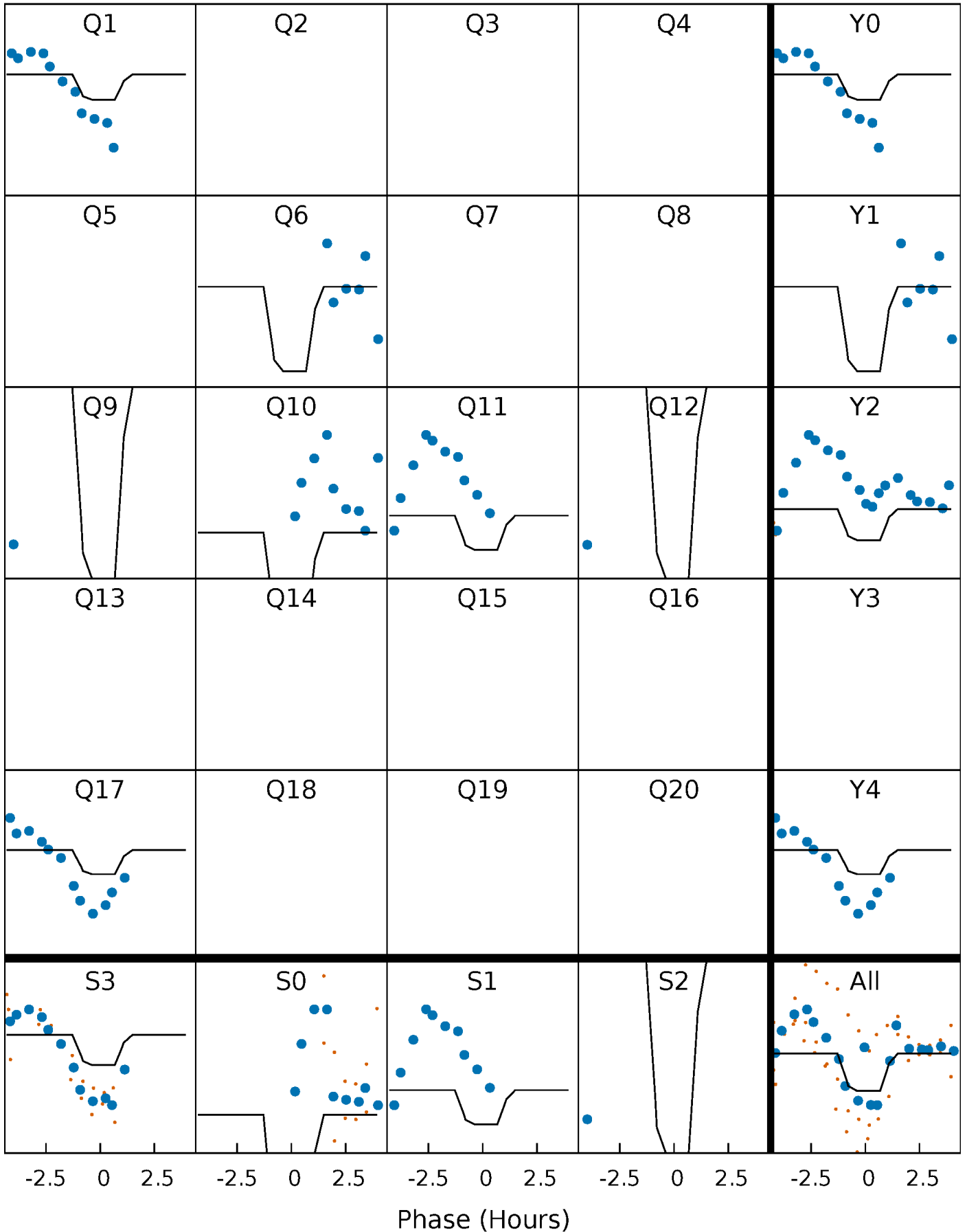
DV Quarter-Phased Transit Curves

TCE 008686975-06 P= 94.233865 Days $T_0=157.280879$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

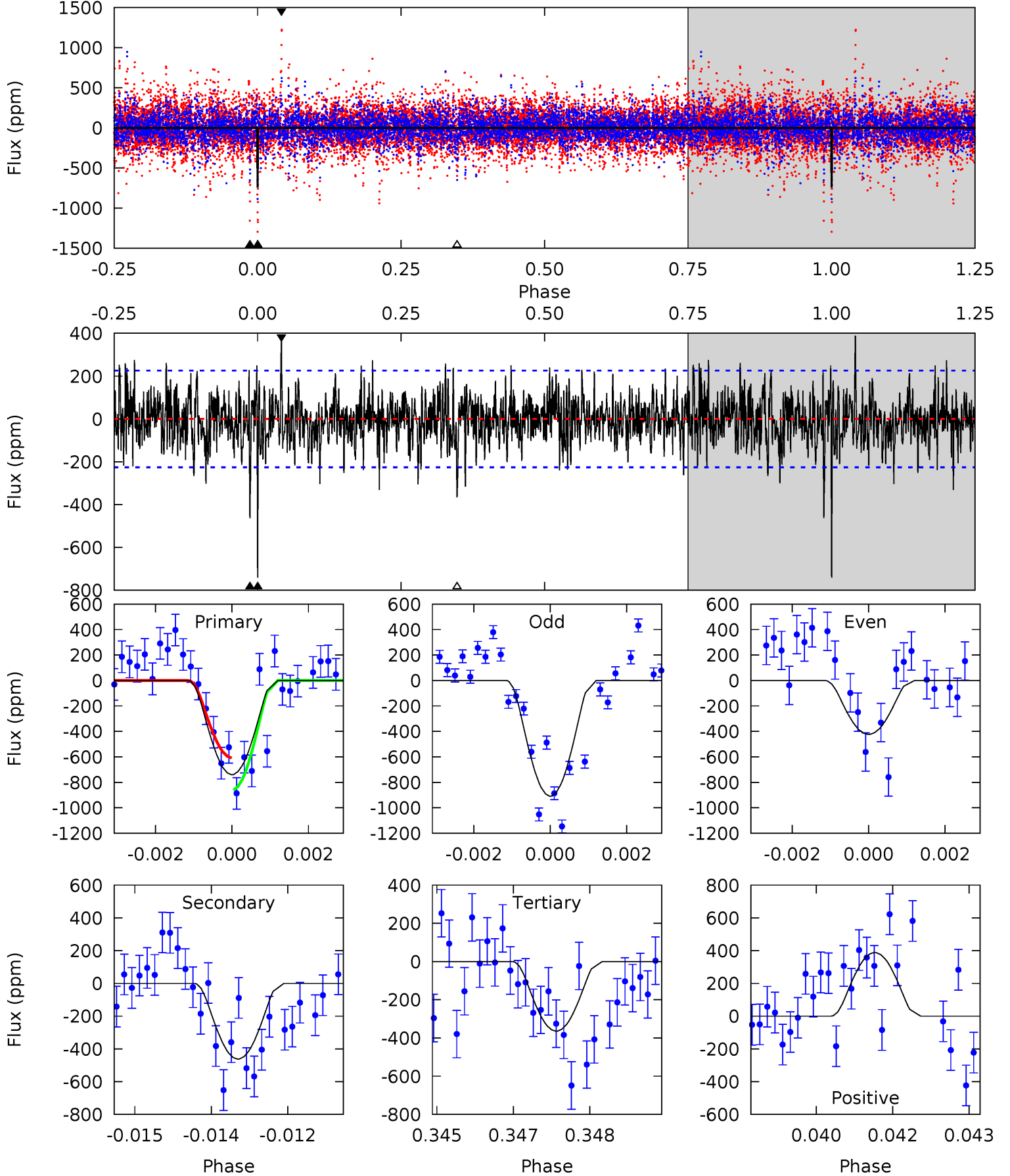
TCE 008686975-06 P= 94.232964 Days $T_0=157.313200$ (BKJD)



DV Model-Shift Uniqueness Test

008686975-06, P = 94.233865 Days, E = 63.047014 Days

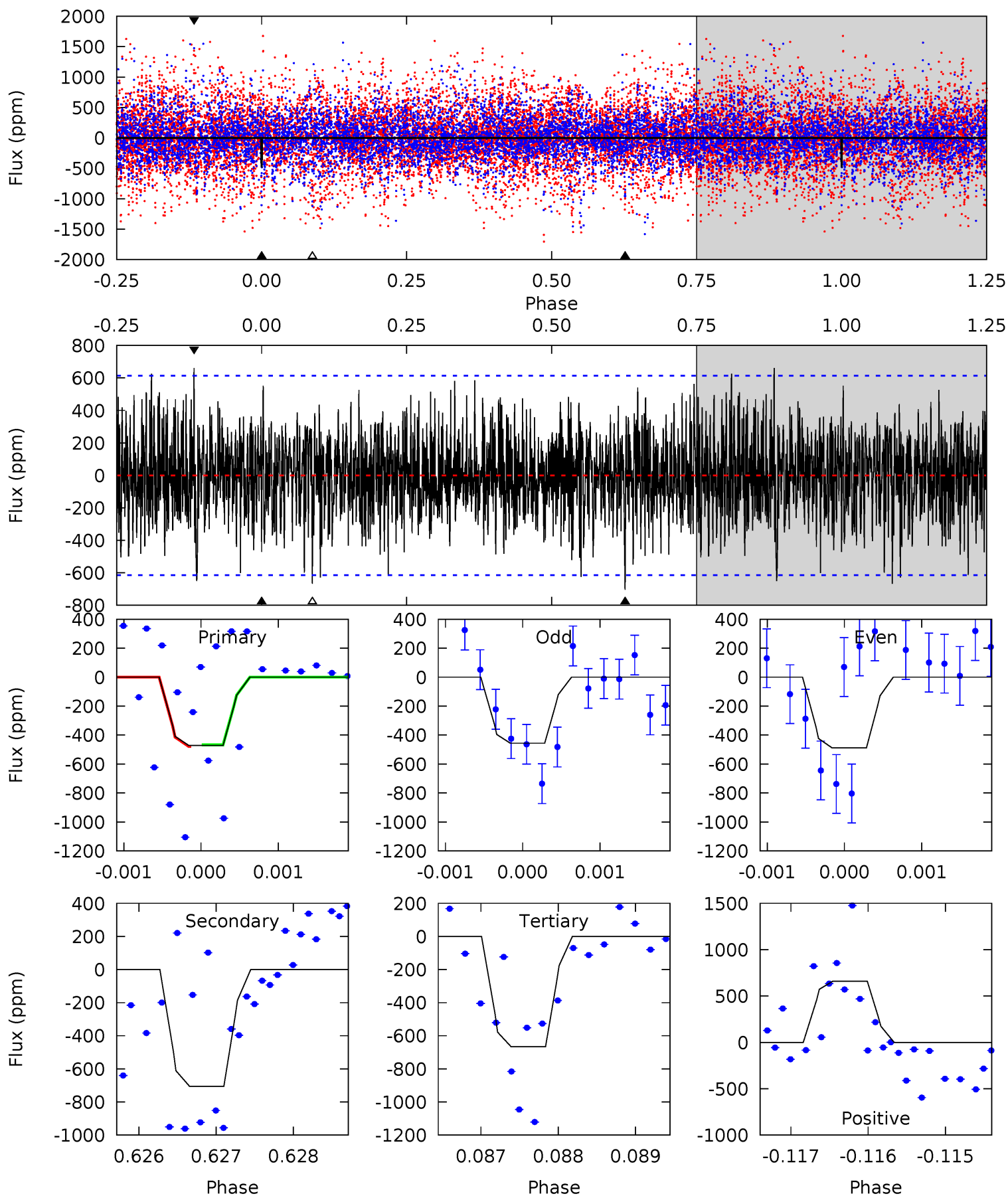
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	11.0	8.68	9.25	5.37	3.17	2.12	8.95	8.38	2.33	1.76	5.51	1.07	0.34	3.00



Alt Model-Shift Uniqueness Test

008686975-06, P = 94.232964 Days, E = 63.080236 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.18	6.25	5.91	5.85	5.44	3.28	1.82	-1.73	-1.67	0.34	0.40	0.14	1.04	0.48	0.04



Stellar Parameters For KIC 008686975

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7516^{+209}_{-313}	$3.800^{+0.352}_{-0.110}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.412}_{-1.236}$	$1.978^{+0.096}_{-0.478}$	$0.110^{+0.279}_{-0.038}$
	+3%/-4%	+9%/-3%	+1000%/-1750%	+14%/-42%	+5%/-24%	+254%/-35%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008686975-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-463 ± 42	$39.75^{+45.05}_{-29.14}$	1091^{+70}_{-116}	3434^{+2197}_{-666}	41^{+521}_{-32}
Alt.	-705 ± 113	$37.93^{+42.33}_{-25.33}$	1089^{+76}_{-110}	3736^{+1914}_{-762}	68^{+550}_{-53}

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 $A_{obs} \gg 1.0$

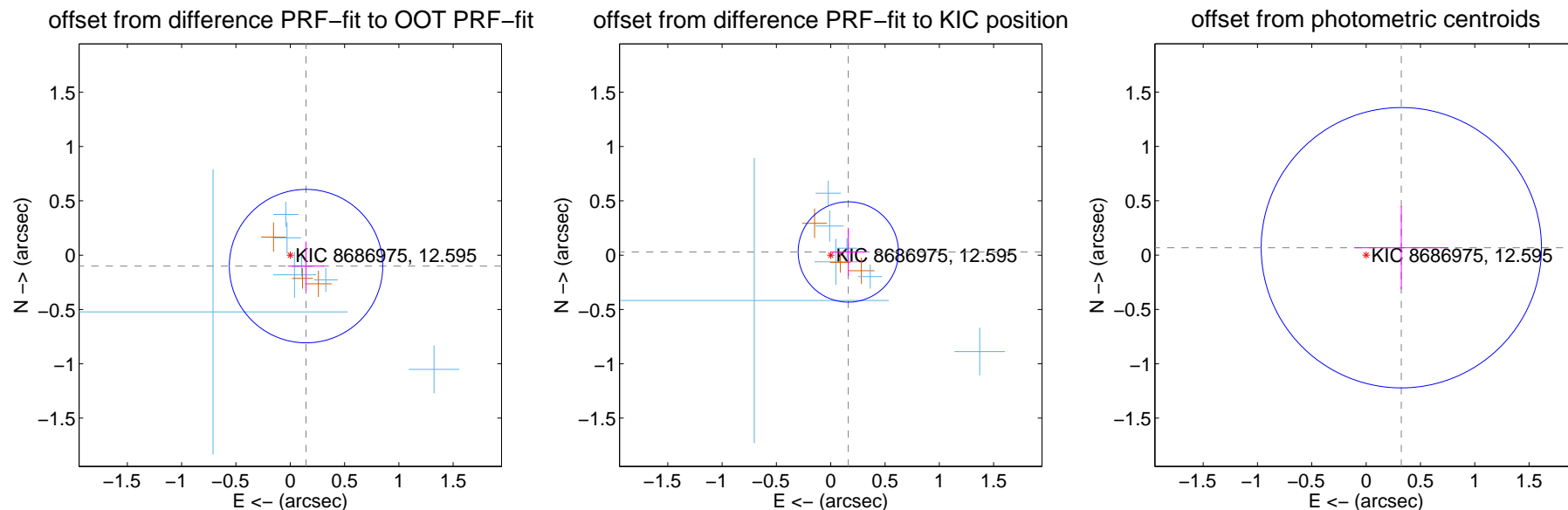
DV Centroid Data

Supplemental centroid analysis for 008686975-06. Kepler magnitude: 12.60. Transit SNR 7.29

There are 8 quarters with good PRF difference image offsets

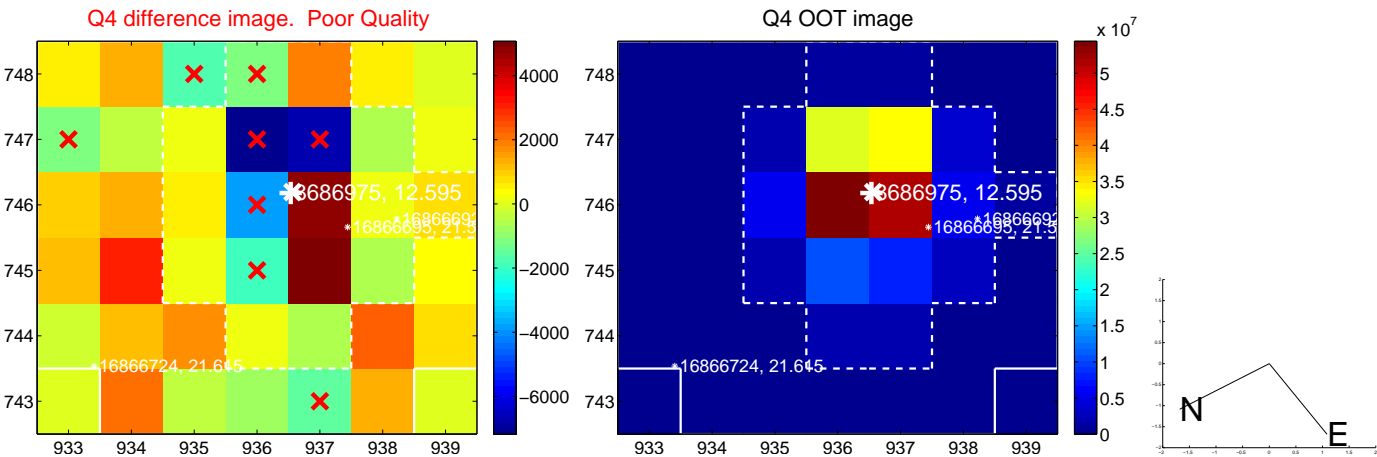
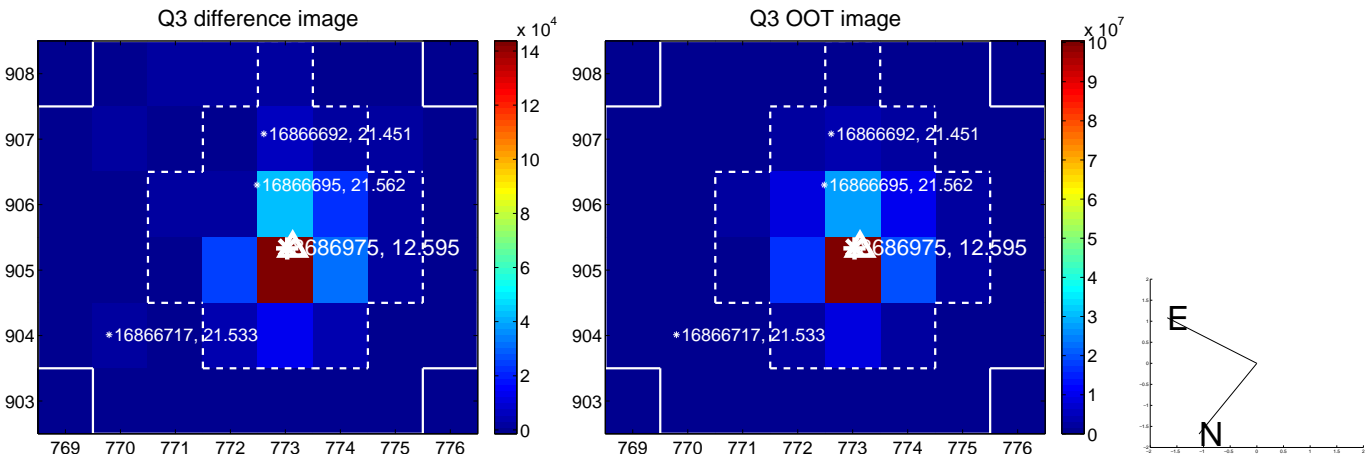
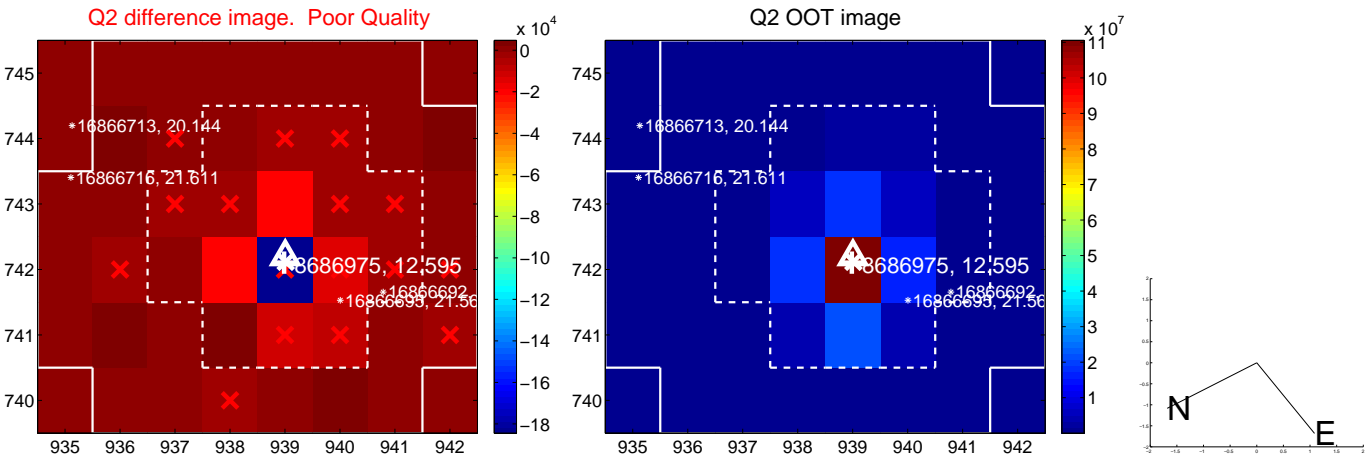
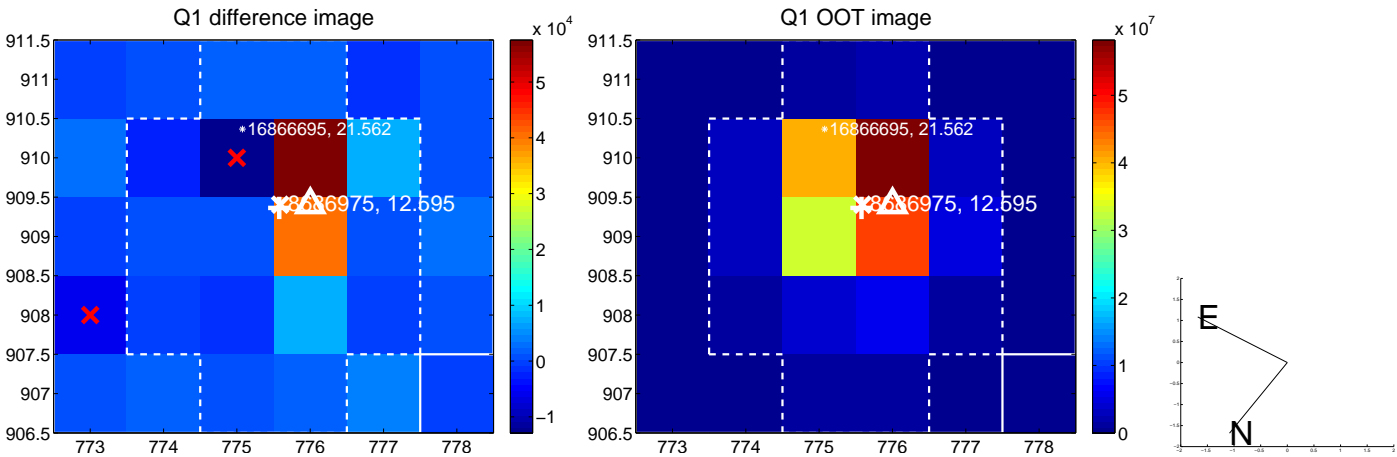
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.177 ± 0.235	0.75	-0.145 ± 0.168	-0.101 ± 0.227
PRF-fit source offset from KIC position	0.165 ± 0.154	1.07	-0.162 ± 0.167	0.029 ± 0.223
photometric centroid source offset	0.33 ± 0.43	0.77	-0.32 ± 0.43	0.07 ± 0.38

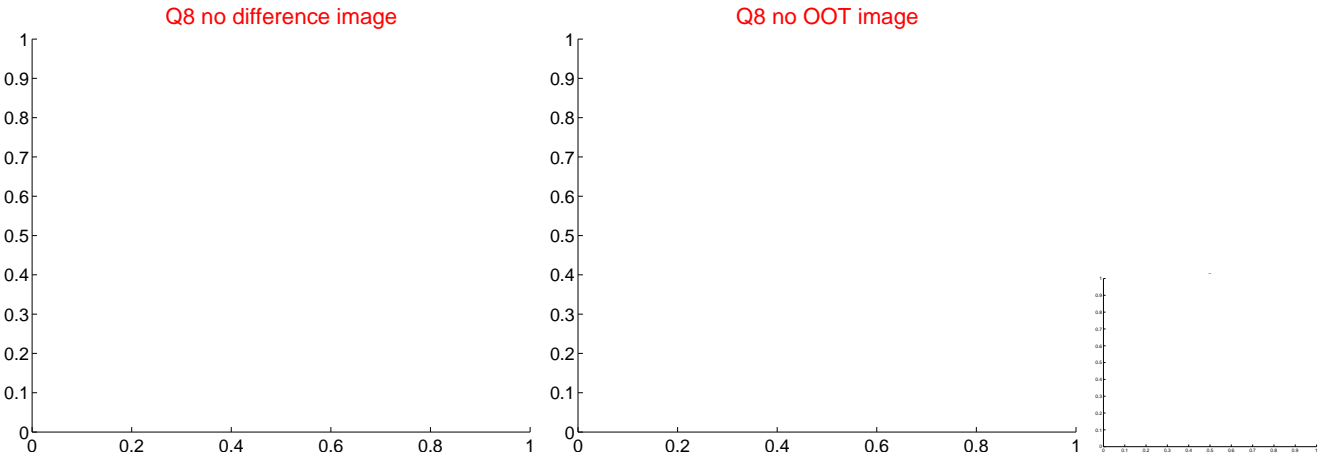
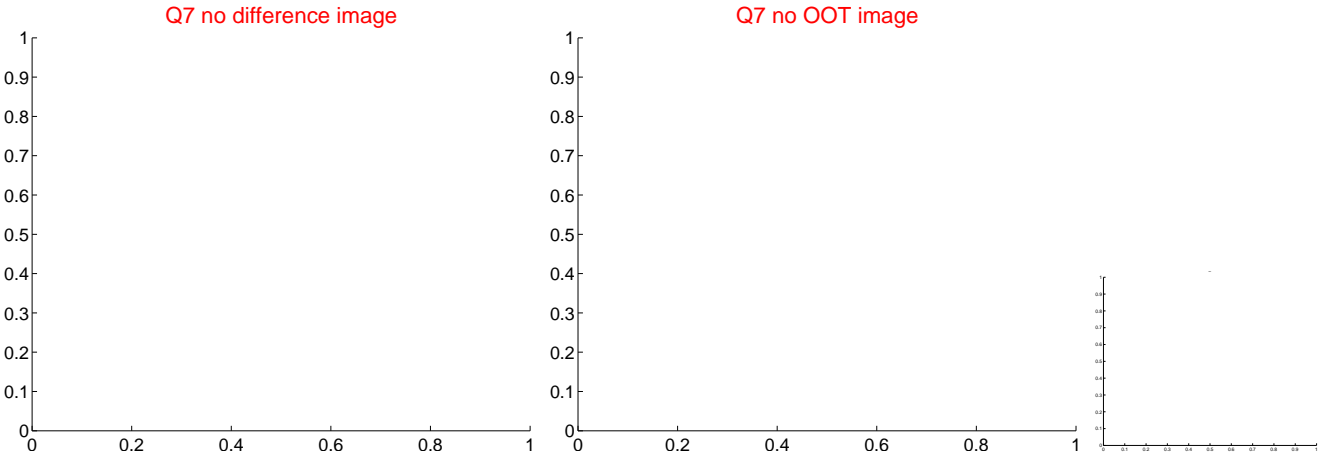
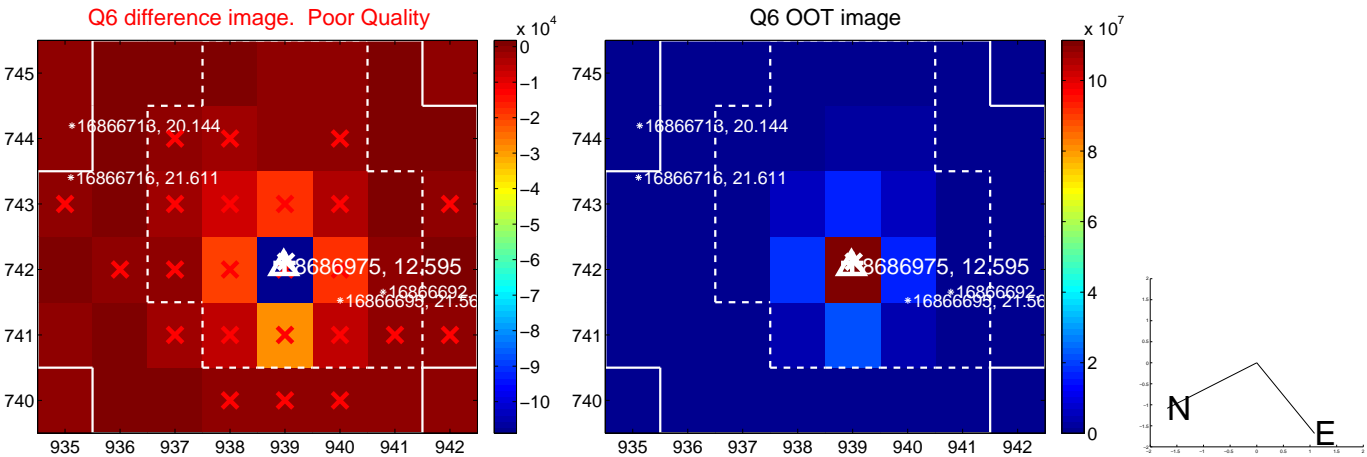
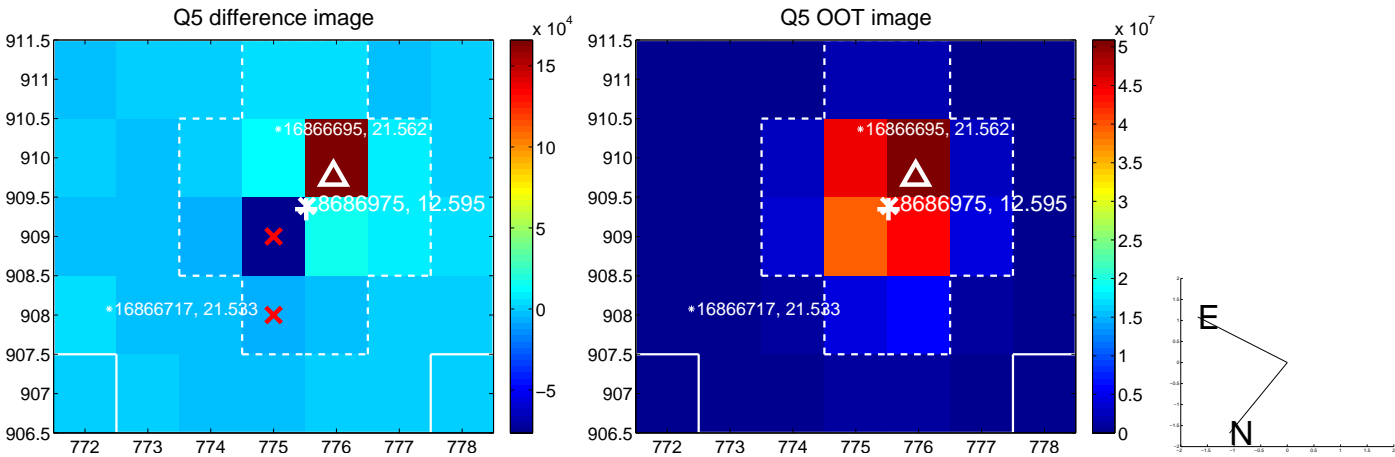


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

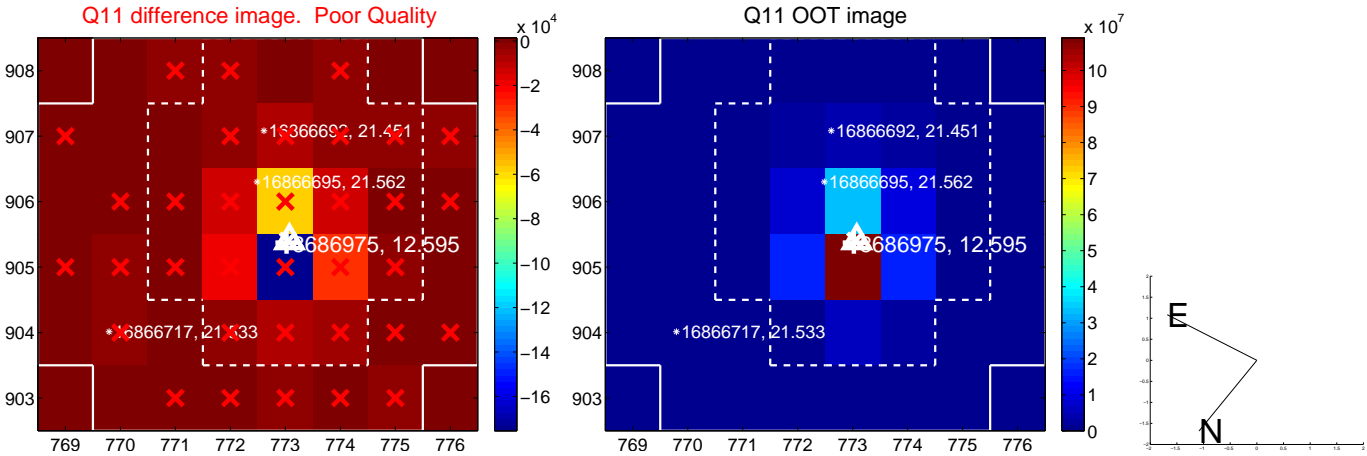
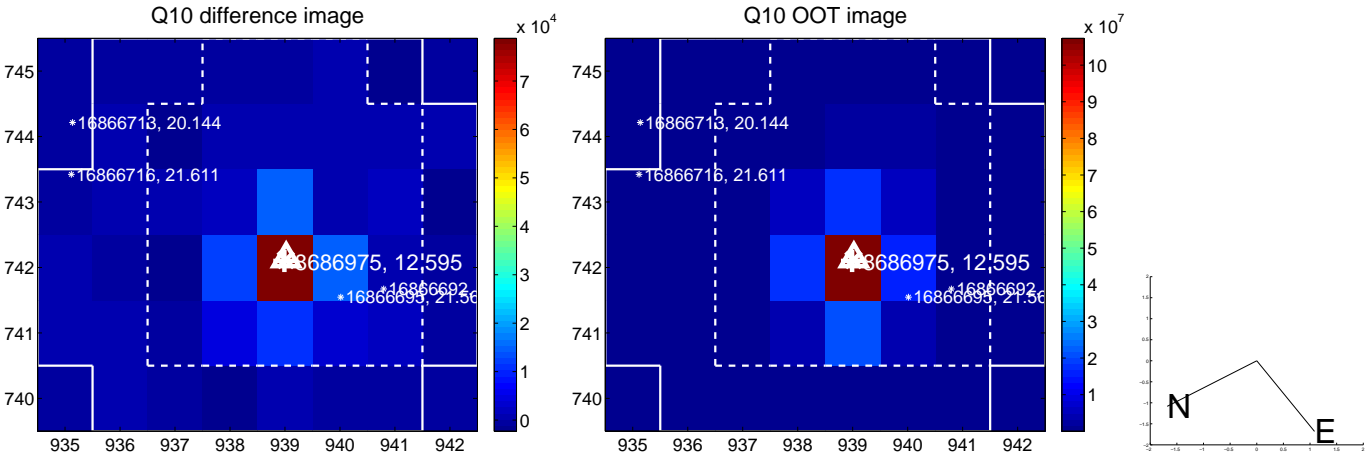
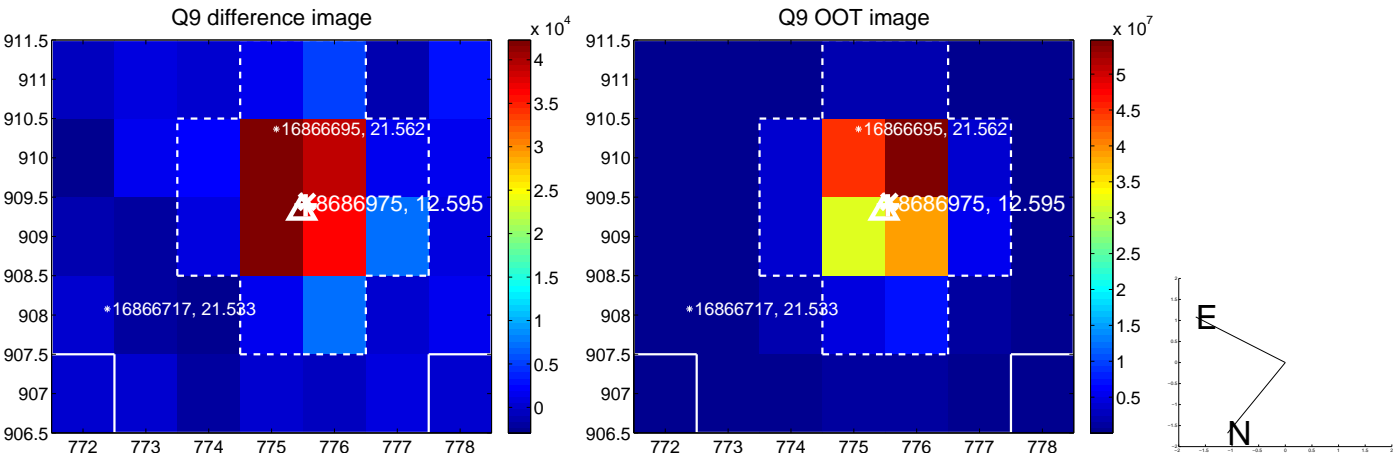
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



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

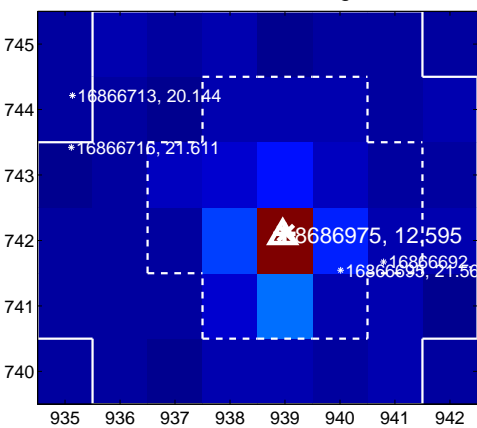
Q13 no difference image



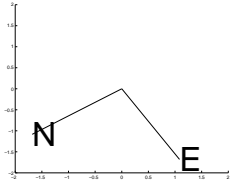
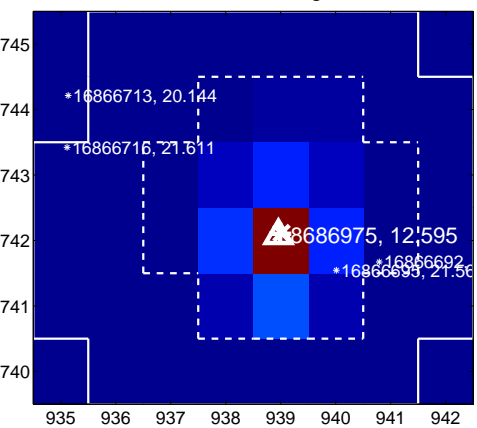
Q13 no OOT image



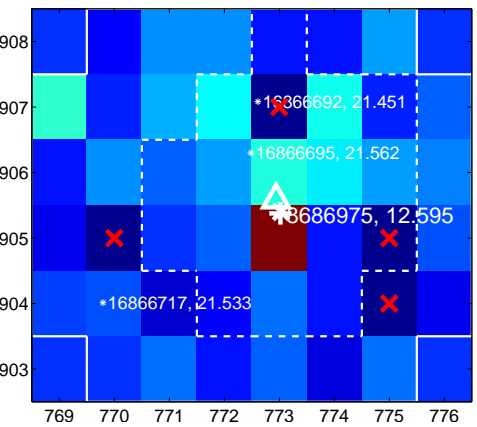
Q14 difference image



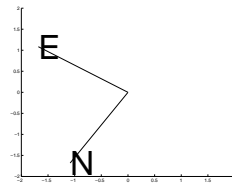
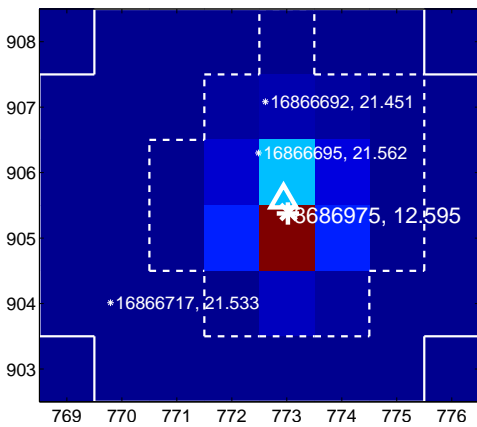
Q14 OOT image



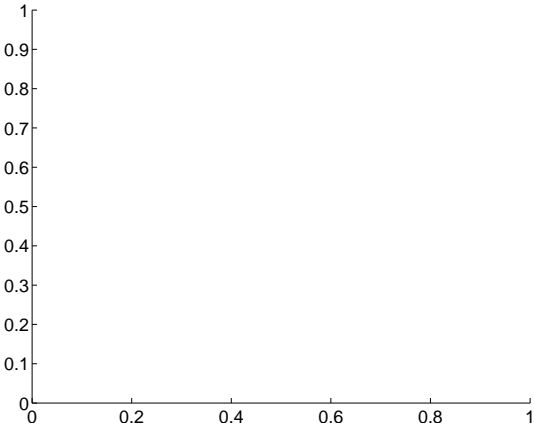
Q15 difference image



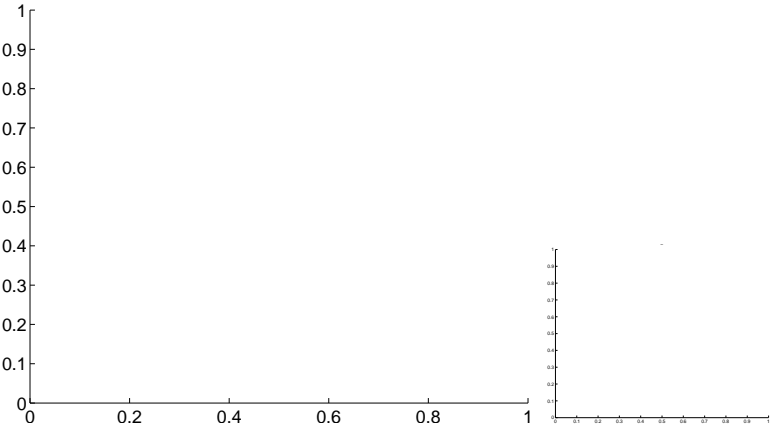
Q15 OOT image



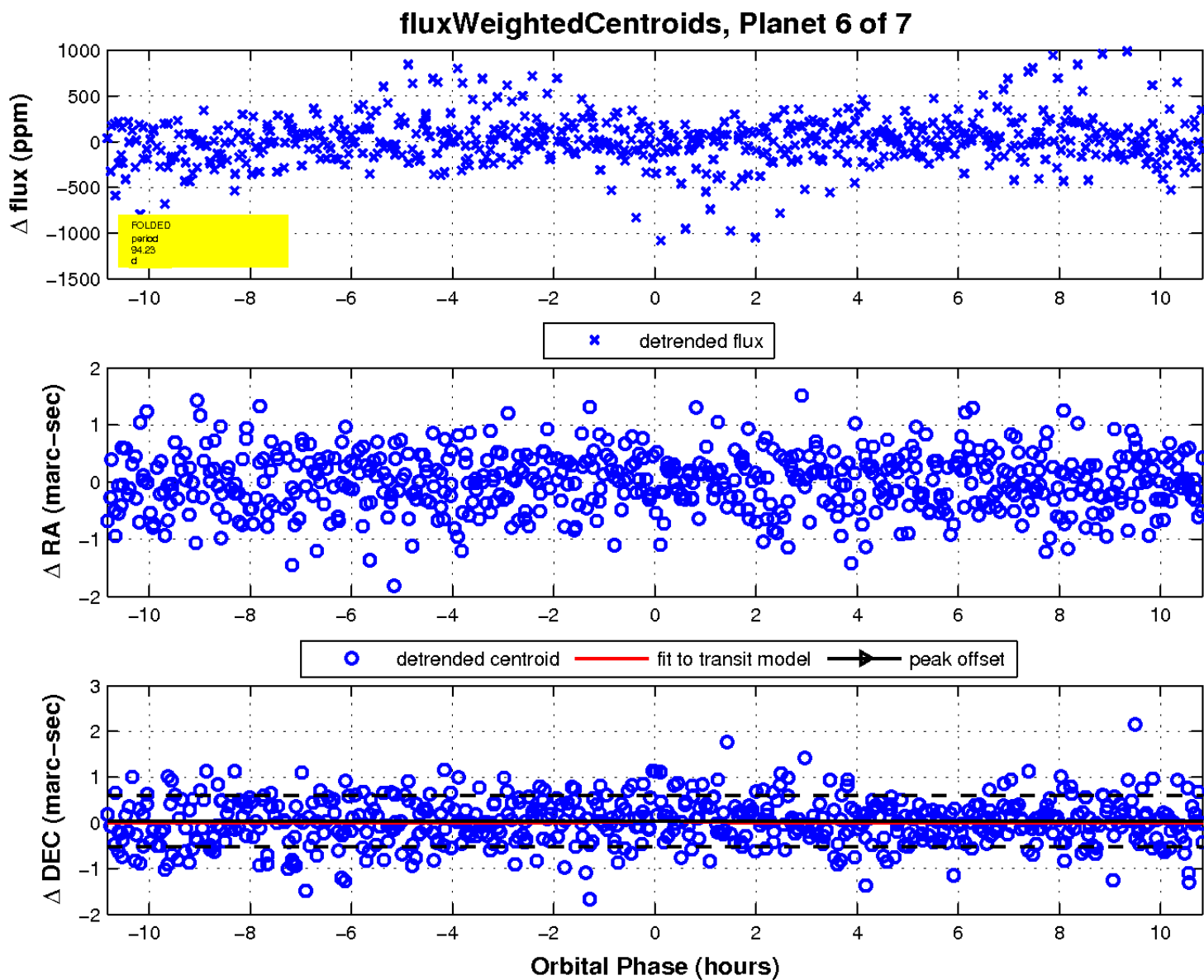
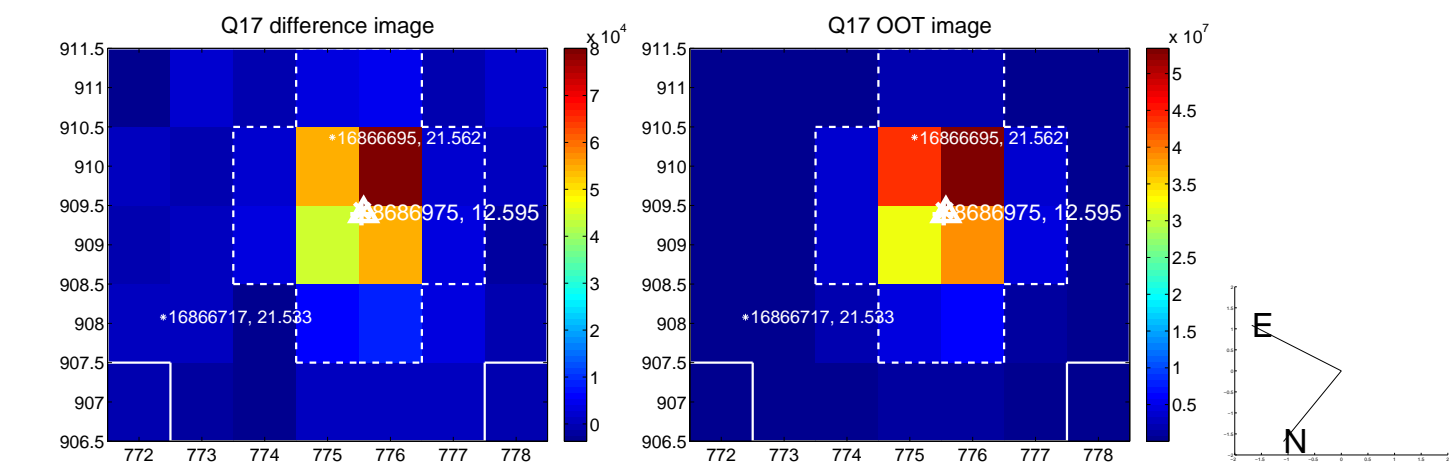
Q16 no difference image



Q16 no OOT image

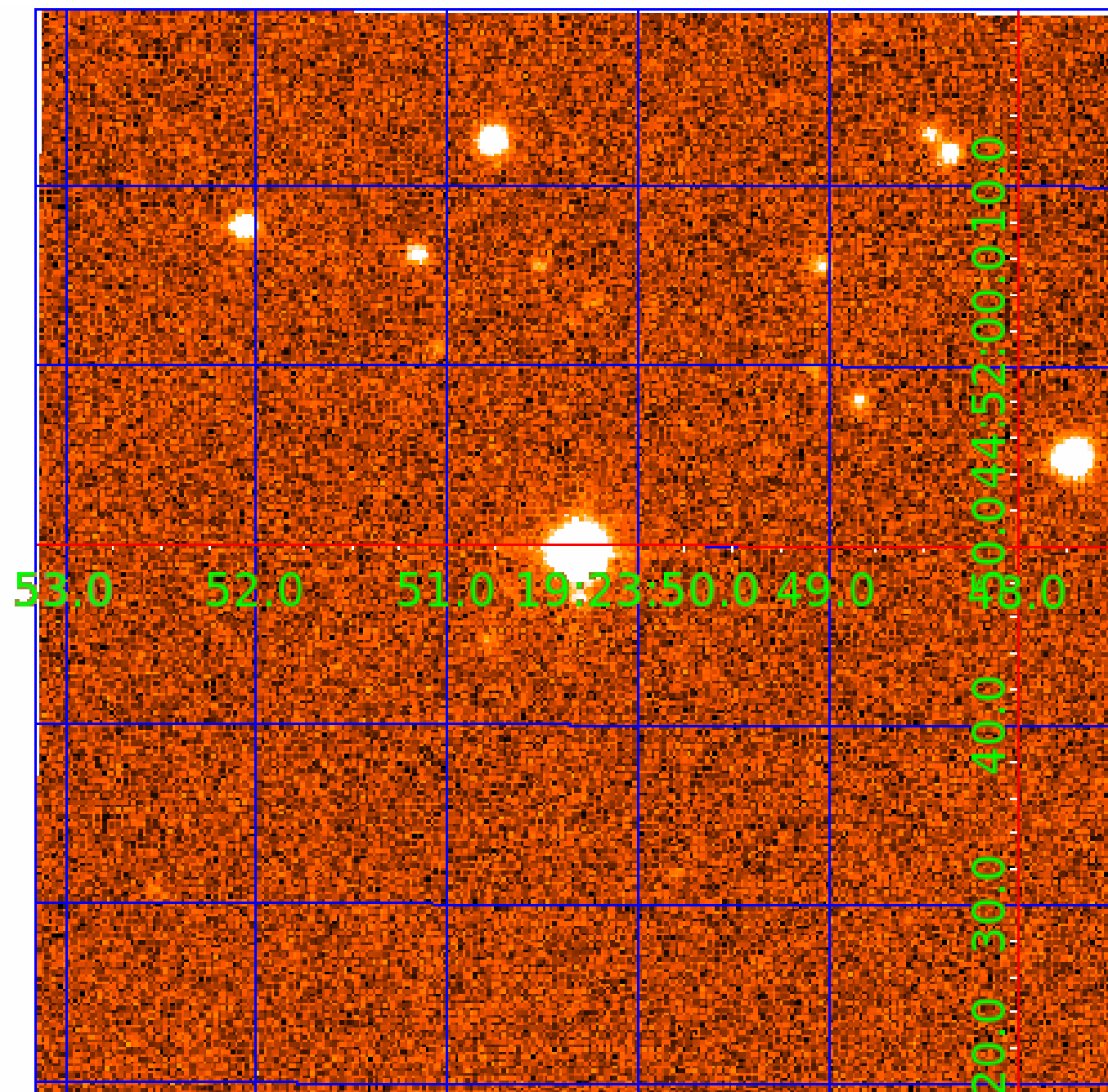


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008686975

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})
008686975-01	OBS	No	1.254151	131.585917	130.4	4.500	8.5	-1.0	2.94	7516	3.40	30114.84
008686975-02	OBS	No	0.648401	131.609693	25.1	2.860	9.4	7.2	2.94	7516	1.50	72575.21
008686975-03	OBS	No	100.935820	176.191703	452.7	4.561	8.0	6.2	2.94	7516	11.70	86.67
008686975-04	OBS	No	31.445632	146.644542	293.2	3.973	8.5	8.7	2.94	7516	6.51	410.36
008686975-05	OBS	No	50.669126	176.299343	115.3	2.354	8.6	2.8	2.94	7516	3.64	217.23
008686975-06	OBS	No	94.233865	157.280879	528.6	3.613	9.7	7.3	2.94	7516	12.72	94.98
008686975-07	OBS	No	55.965597	166.515075	351.9	2.005	7.3	6.4	2.94	7516	6.46	190.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008686975-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008686975-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008686975-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
008686975-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008686975-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008686975-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

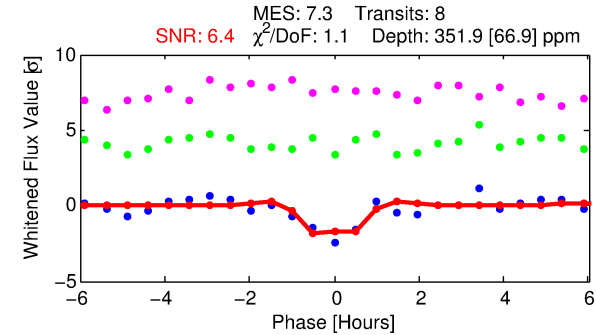
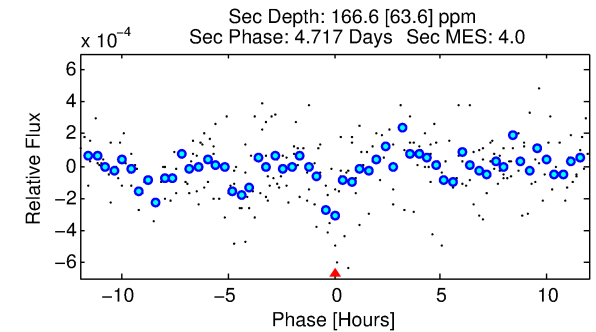
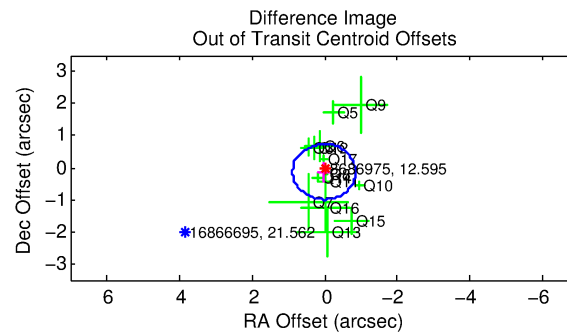
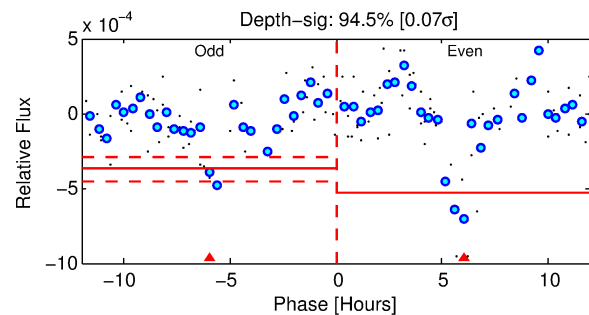
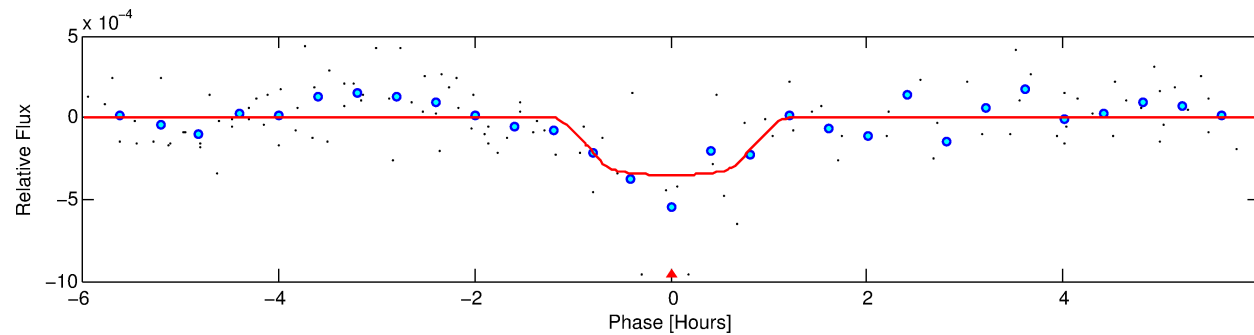
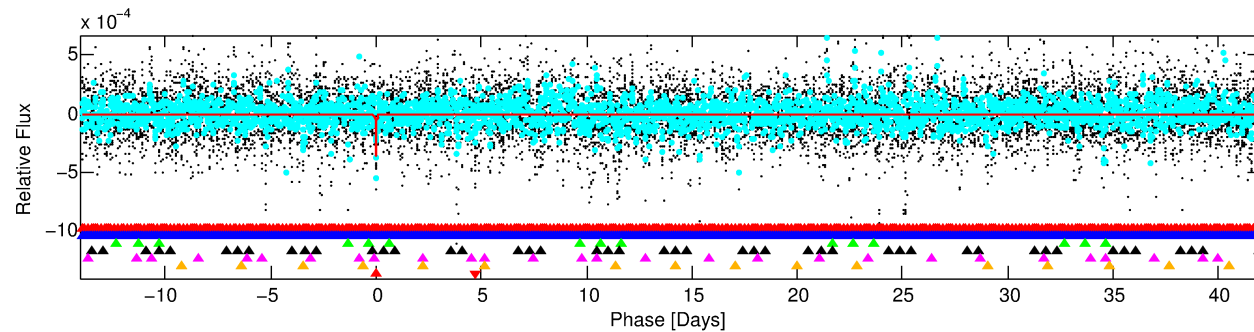
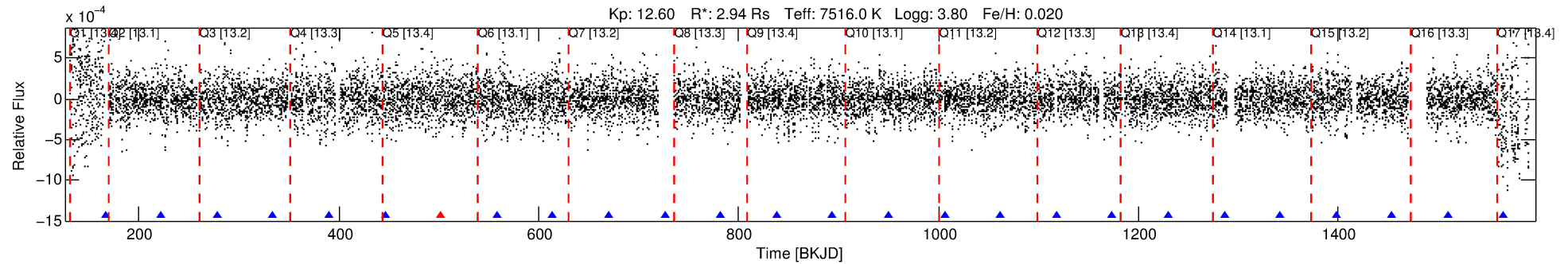
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008686975-07

No Significant Match Found

DV One-Page Summary

KIC: 8686975 Candidate: 7 of 7 Period: 55.966 d



DV Fit Results:

Period = 55.96560 [0.00066] d
Epoch = 166.5151 [0.0109] BKJD
Rp/R* = 0.0202 [0.0143]
a/R* = 97.28 [436.57]
b = 0.91 [0.83]
Seff = 190.26 [120.11]
Teq = 947 [149] K
Rp = 6.46 [5.31] Re
a = 0.3598 [0.1402] AU
Ag = 284.61 [451.56] [0.63 σ]
Teffp = 6014 [2217] K [2.28 σ]

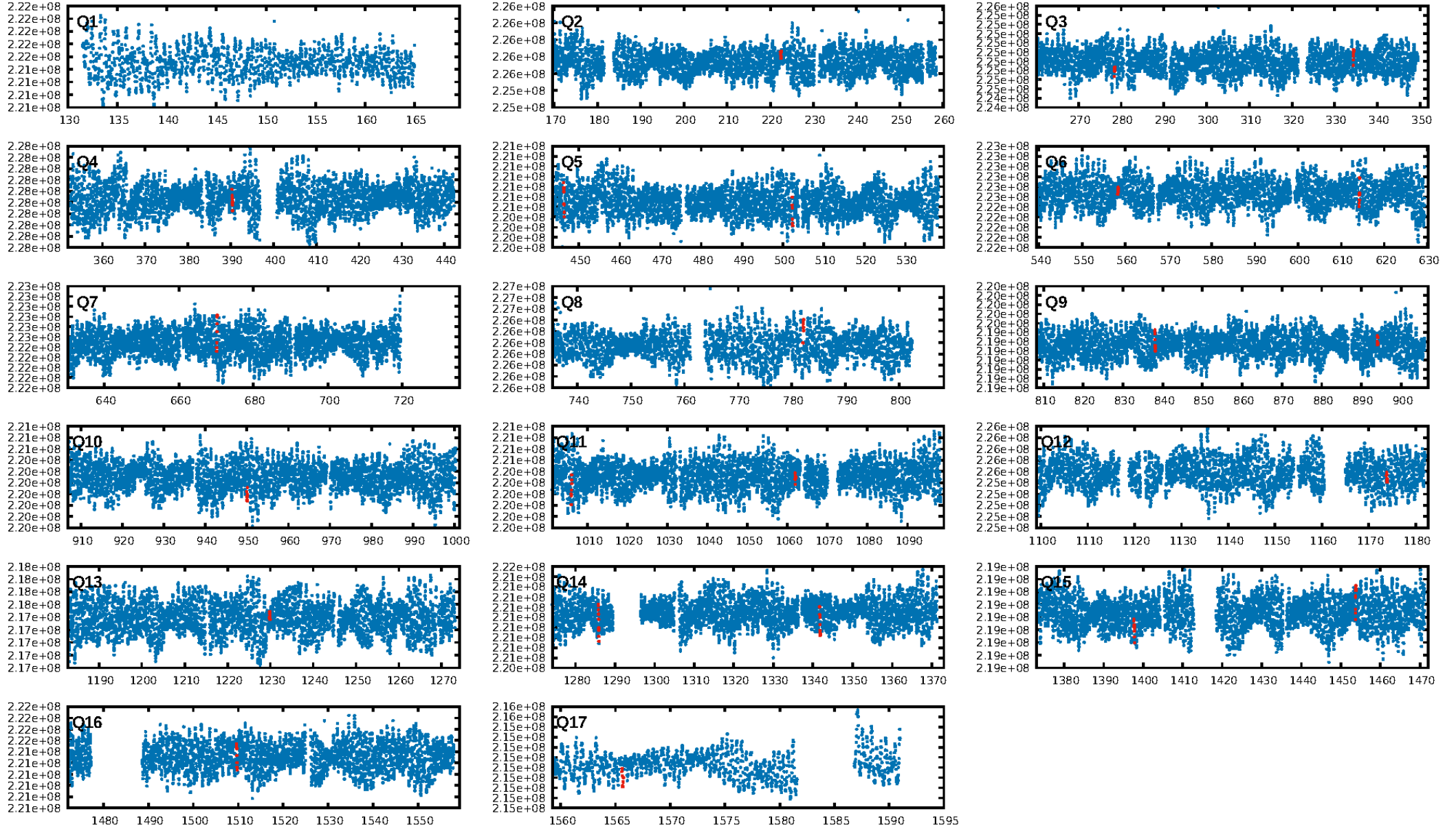
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [41.11 σ]
LongPeriod-sig: 100.0% [222.29 σ]
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 7.25e-09
RollingBand-fgt: 0.86 [6/7]
GhostDiagnostic-chr: 0.03762
Centroid-sig: N/A
Centroid-so: 0.481 arcsec [1.06 σ]
OotOffset-rm: 0.132 arcsec [0.46 σ]
KicOffset-rm: 0.012 arcsec [0.04 σ]
OotOffset-st: 3/4/3/4 [14]
KicOffset-st: 3/4/3/4 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 0.00 [0/16]

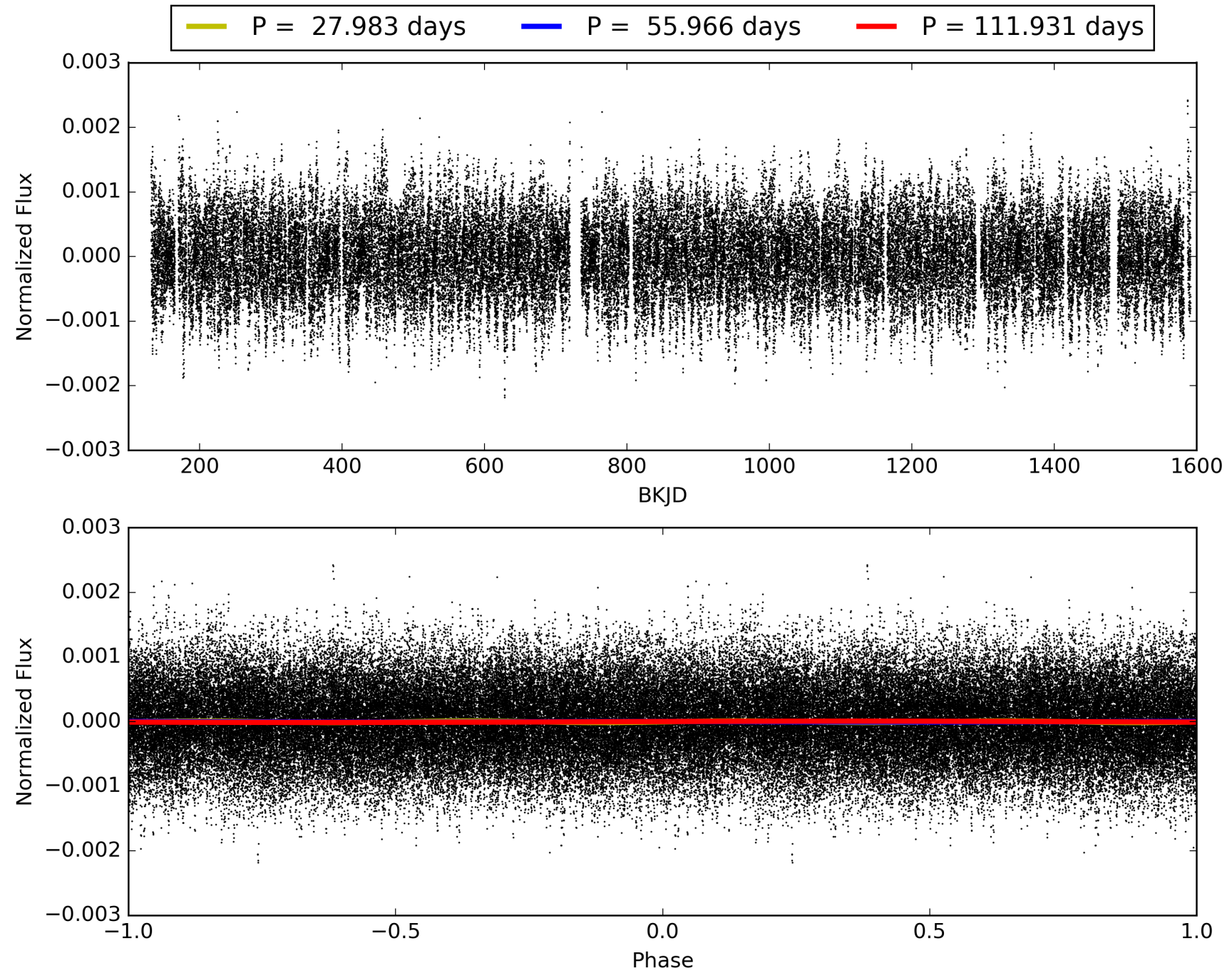
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:27:54 Z

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

TCE 008686975-07, PDC Light Curves

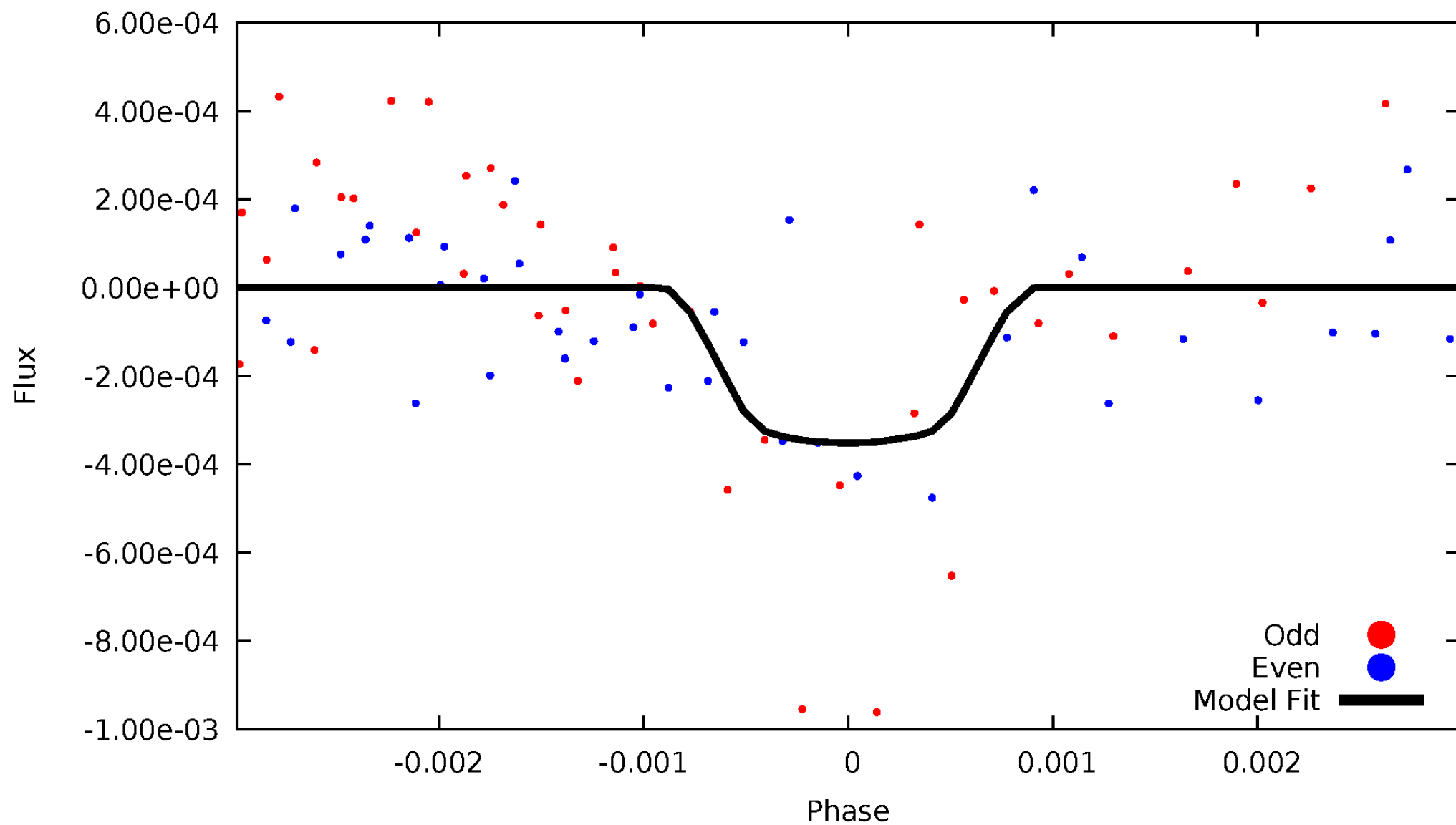


TCE 008686975-07



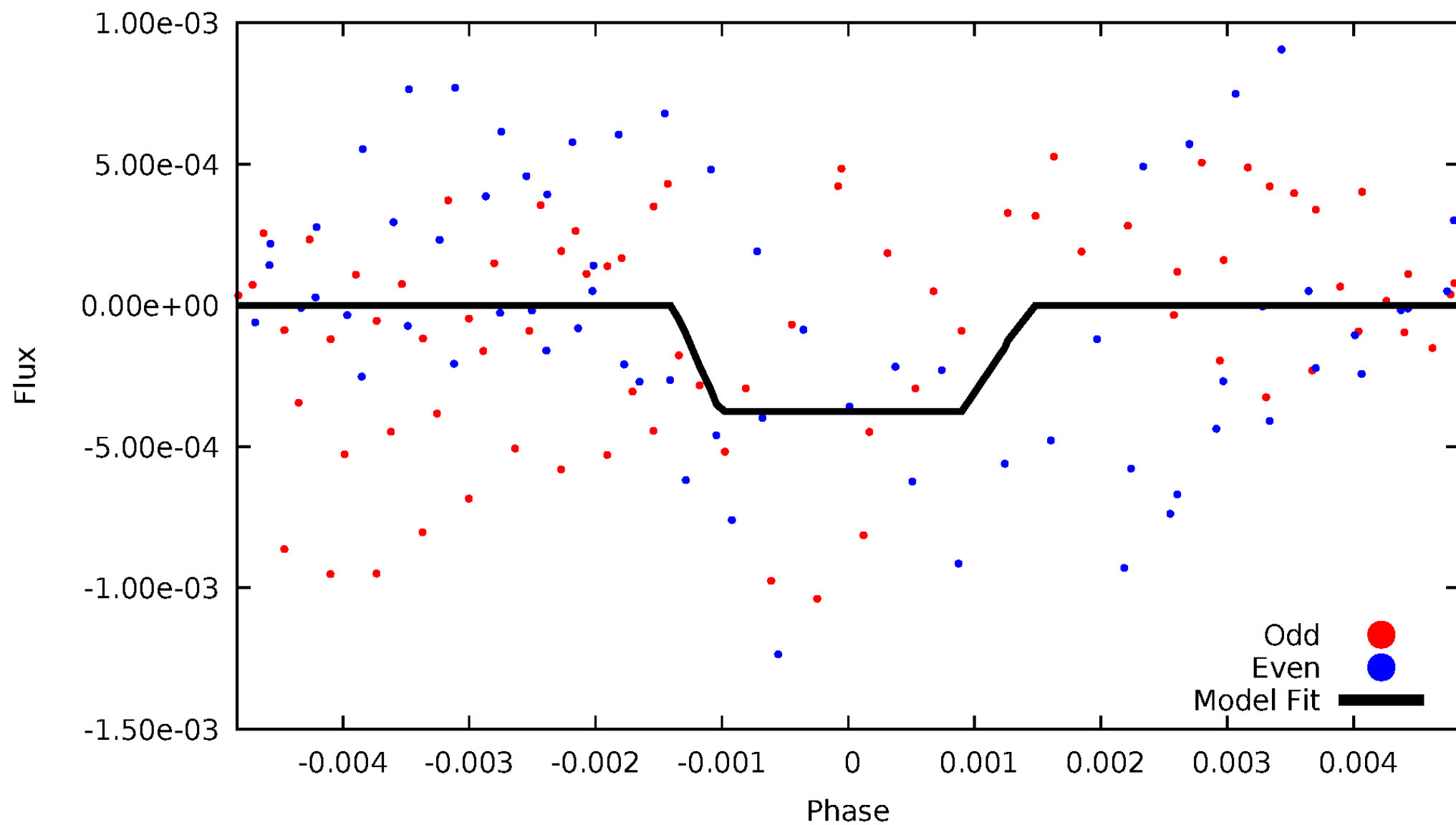
DV Odd/Even

TCE 008686975-07



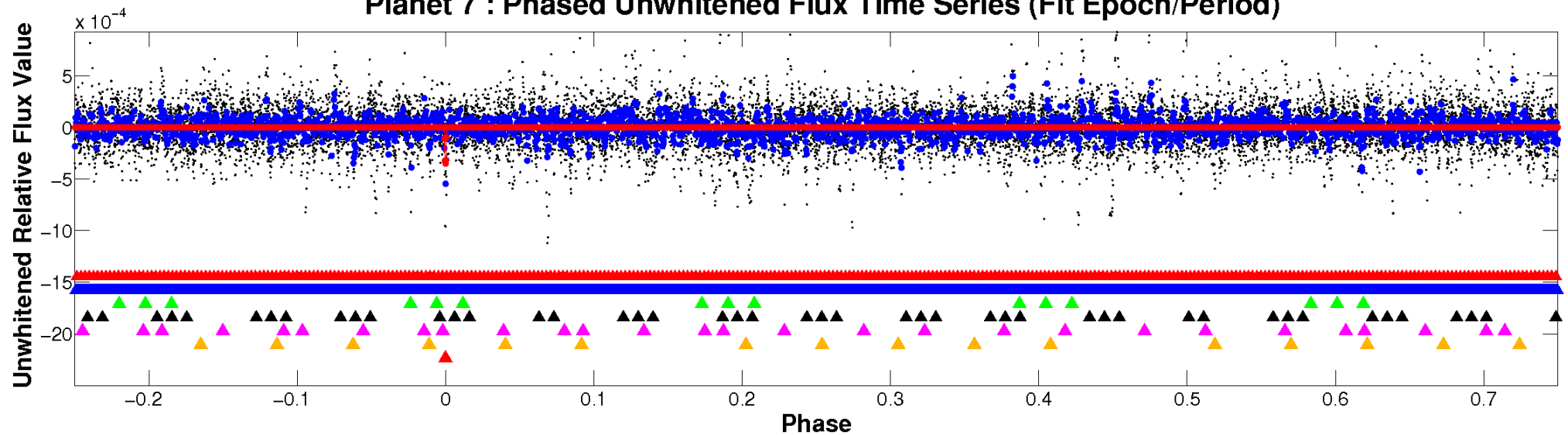
ALT Odd/Even

TCE 008686975-07

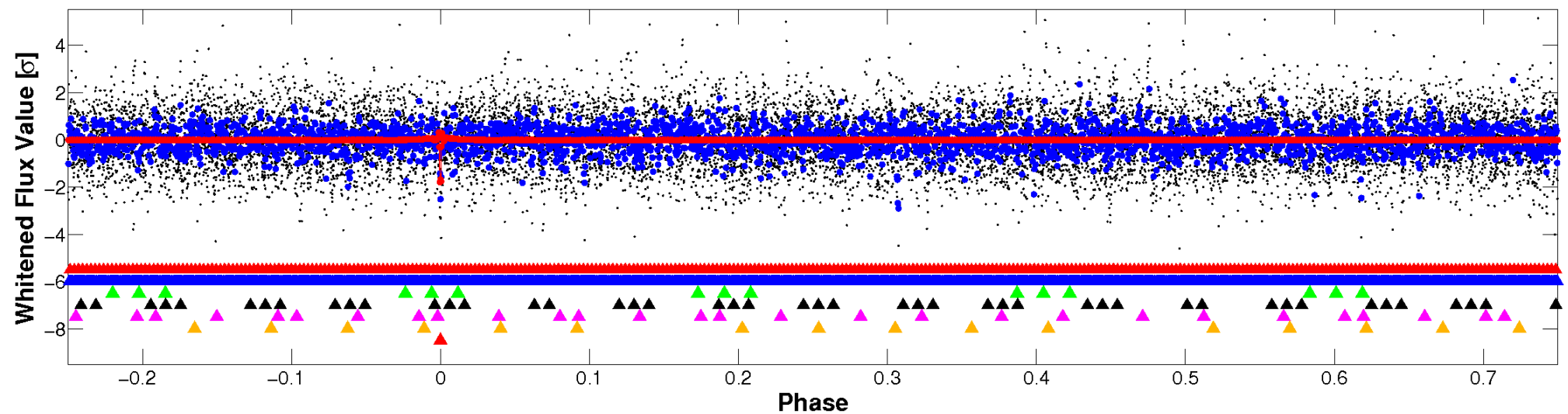


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

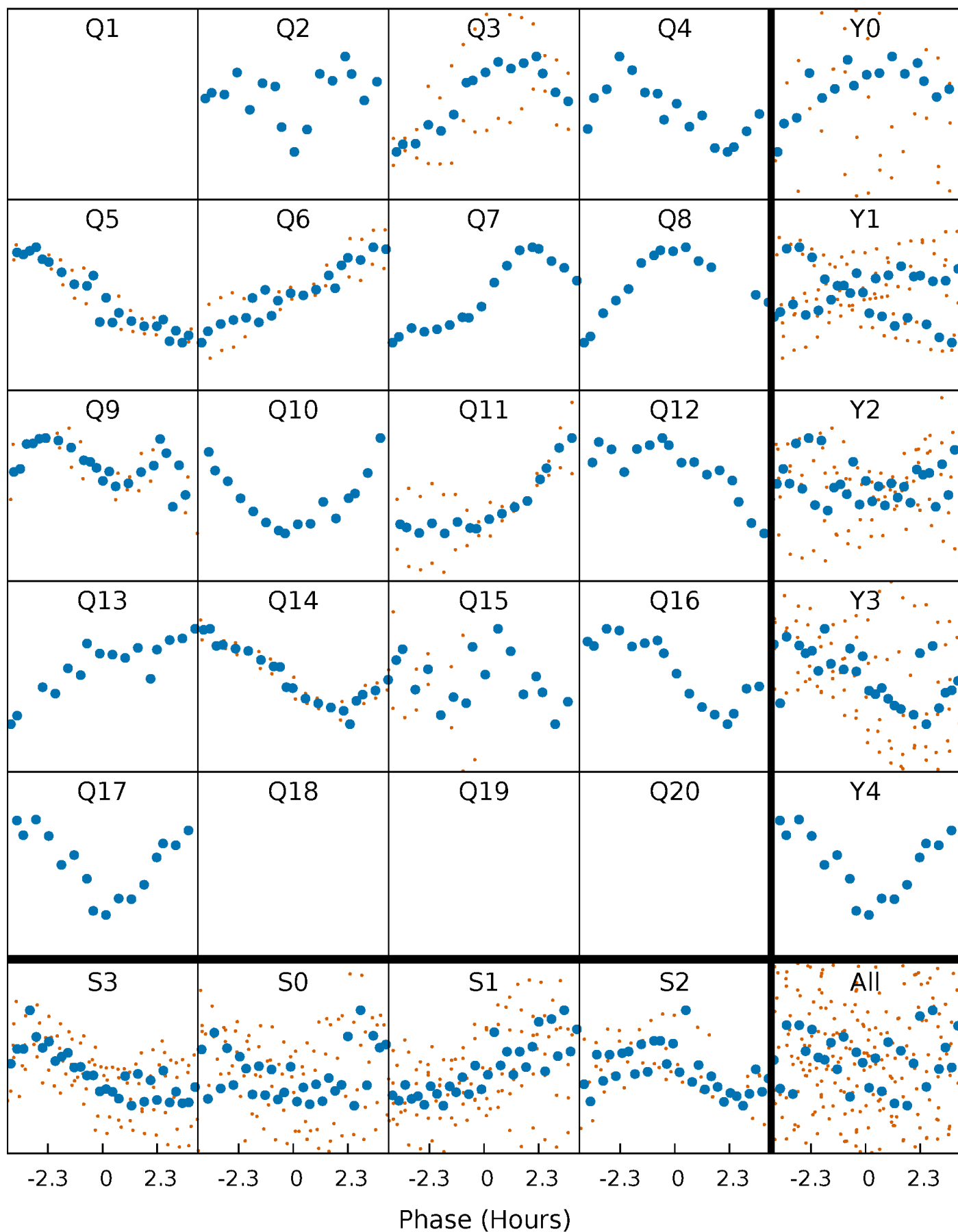


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



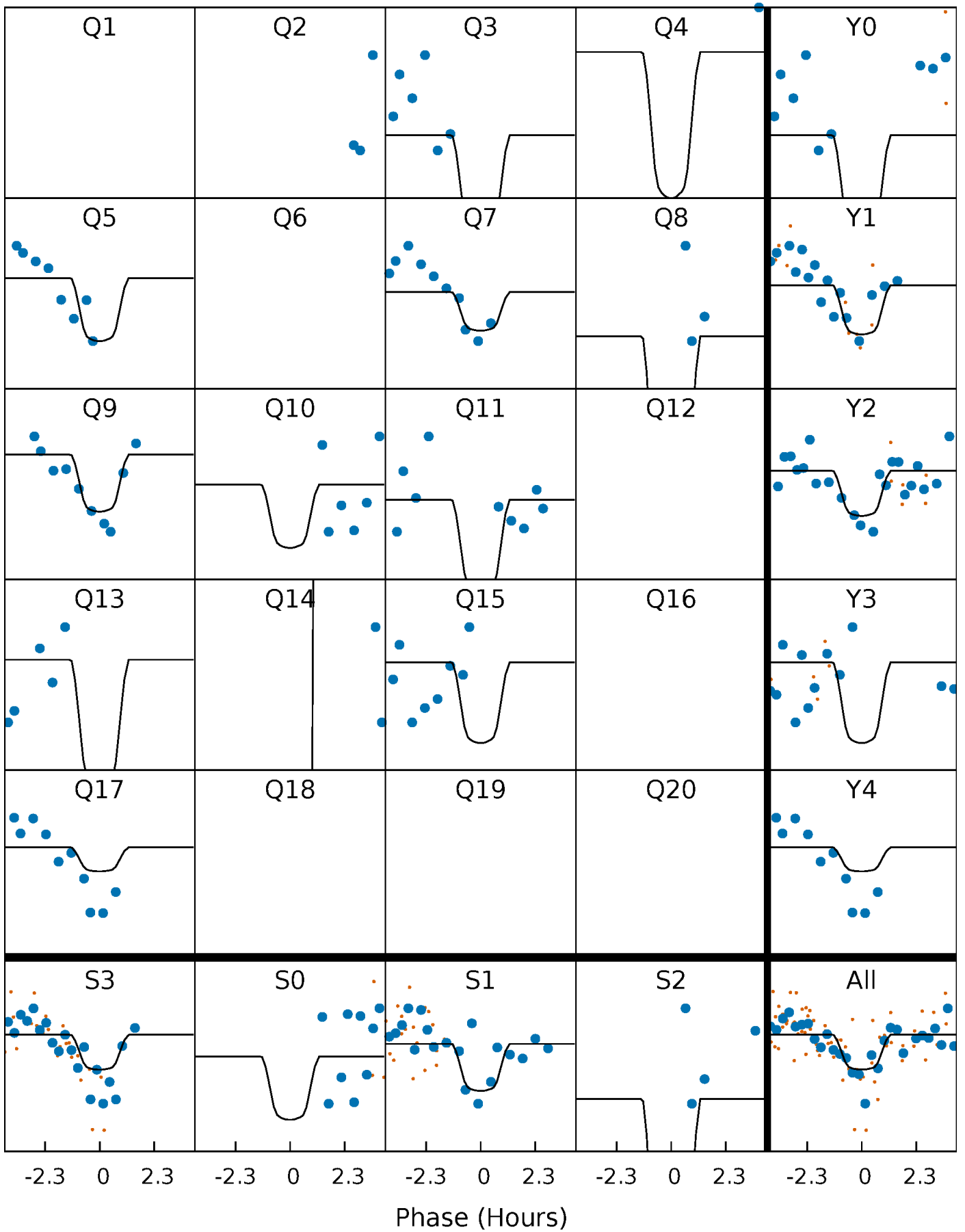
PDC Quarter-Phased Transit Curves

TCE 008686975-07 $P = 55.965597$ Days $T_0 = 166.515075$ (BKJD)



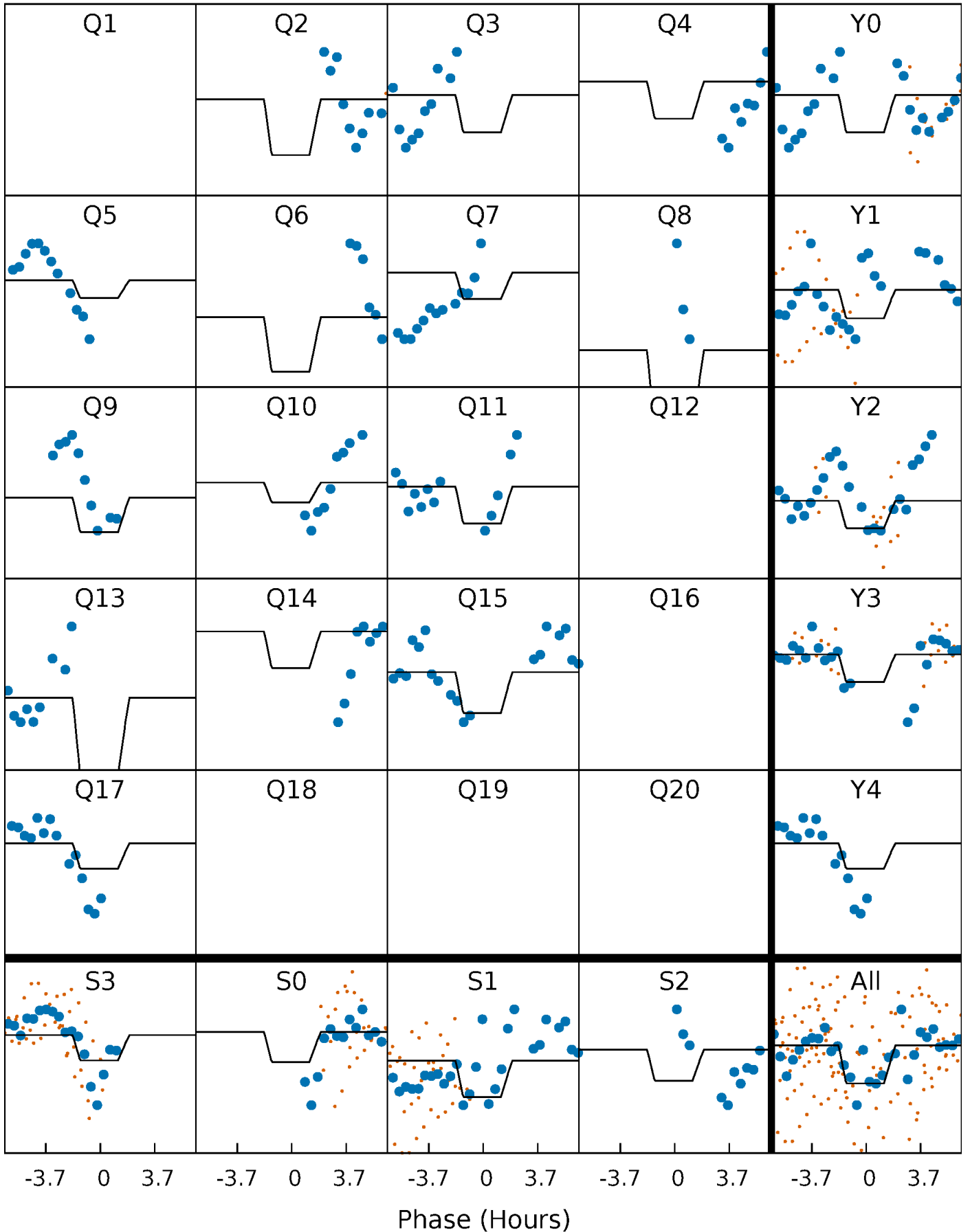
DV Quarter-Phased Transit Curves

TCE 008686975-07 P= 55.965597 Days $T_0=166.515075$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

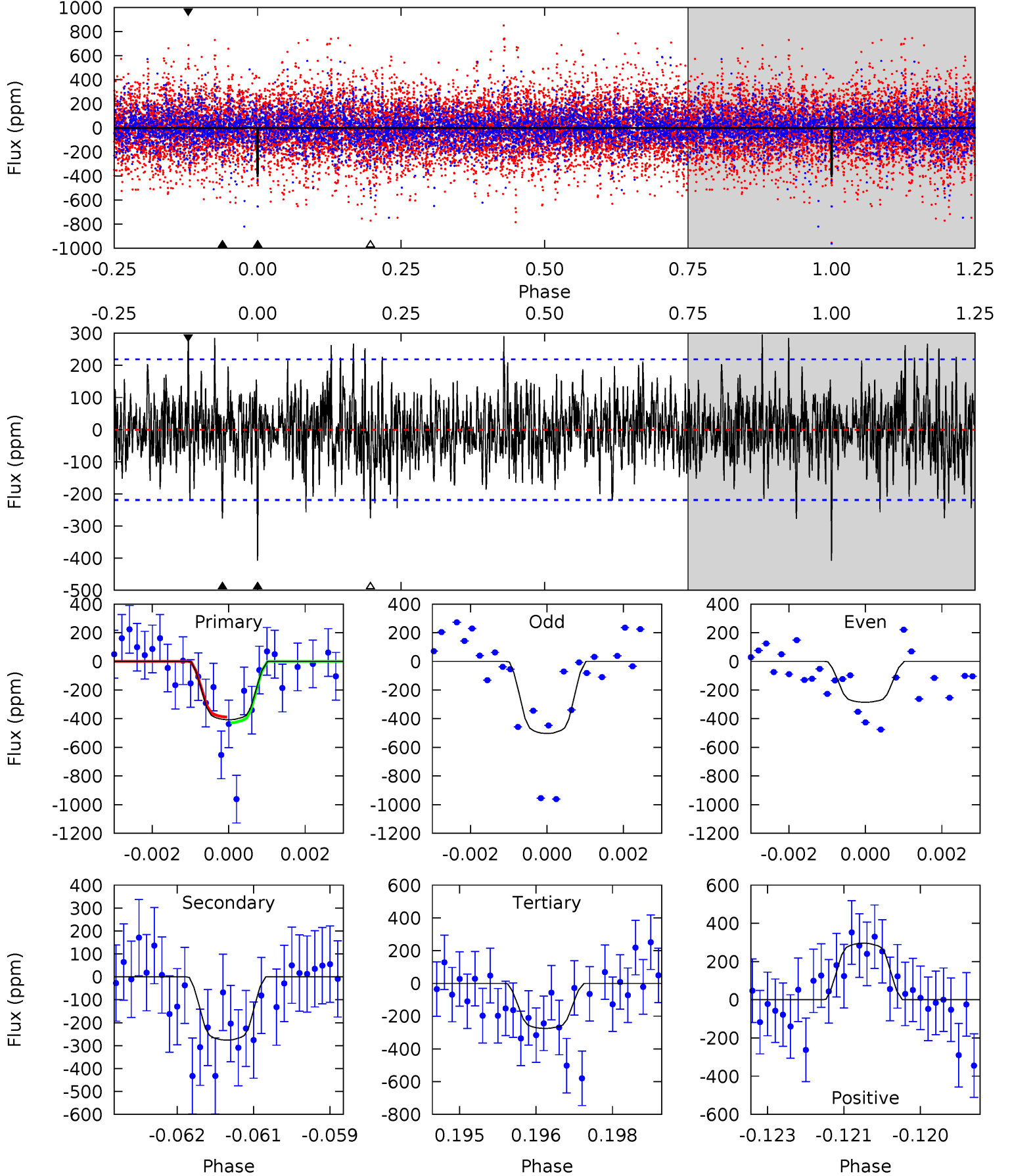
TCE 008686975-07 P= 55.965530 Days $T_0=166.538351$ (BKJD)



DV Model-Shift Uniqueness Test

008686975-07, P = 55.96597 Days, E = 110.549478 Days

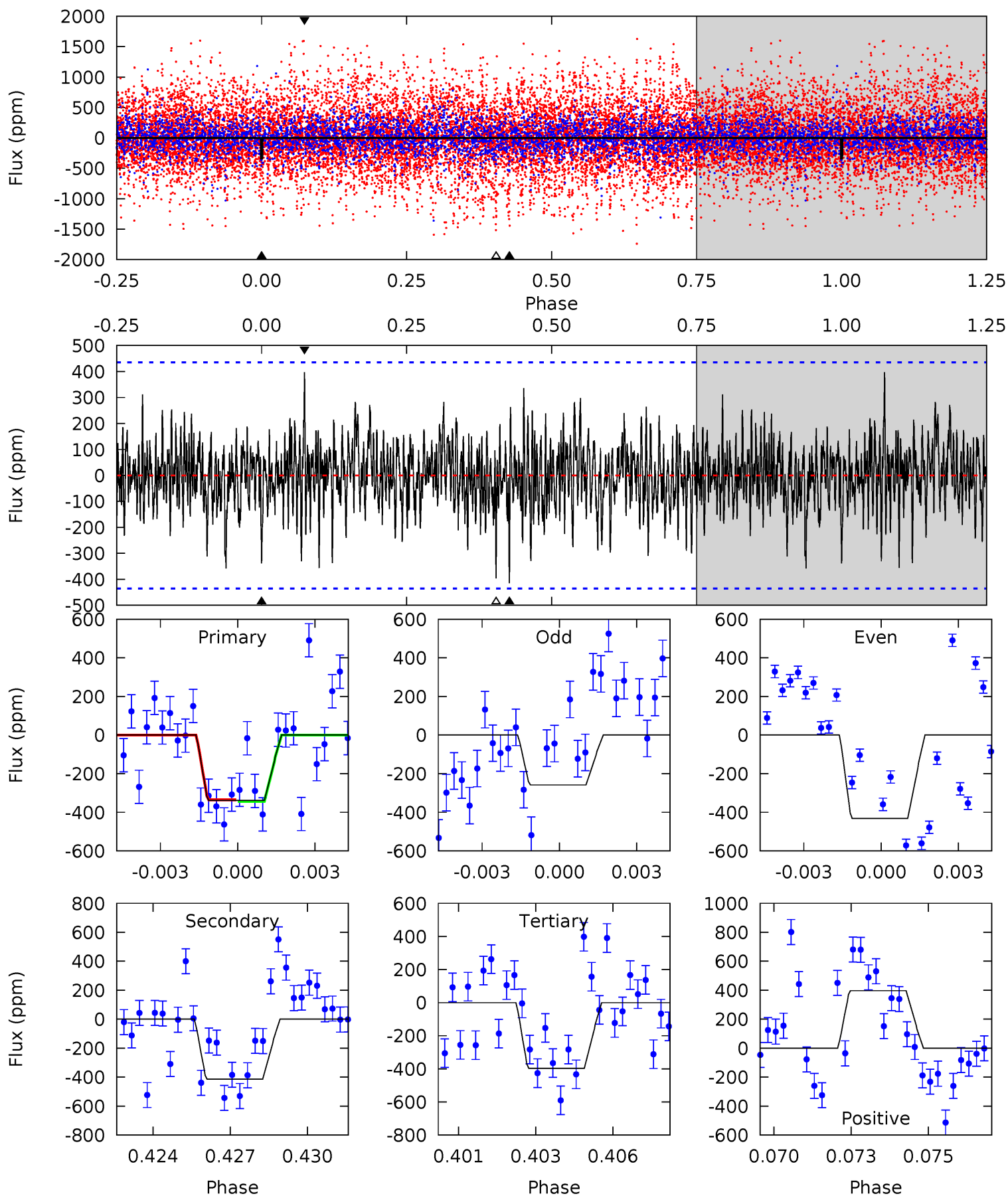
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.95	6.74	6.71	7.23	5.35	3.12	1.87	3.24	2.73	0.03	-0.49	2.60	0.90	0.42	0.49



Alt Model-Shift Uniqueness Test

008686975-07, P = 55.965530 Days, E = 110.572821 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.11	5.03	4.81	4.82	5.28	3.01	1.27	-0.70	-0.71	0.22	0.21	1.05	1.19	0.49	0.05



Stellar Parameters For KIC 008686975

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7516^{+209}_{-313}	$3.800^{+0.352}_{-0.110}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.412}_{-1.236}$	$1.978^{+0.096}_{-0.478}$	$0.110^{+0.279}_{-0.038}$
	+3%/-4%	+9%/-3%	+1000%/-1750%	+14%/-42%	+5%/-24%	+254%/-35%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008686975-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-276 ± 41	$6.16^{+4.41}_{-3.49}$	1297^{+89}_{-141}	6546^{+4500}_{-1422}	498^{+2216}_{-332}
Alt.	-414 ± 82	$6.54^{+3.83}_{-3.84}$	1300^{+84}_{-139}	7130^{+5569}_{-1538}	681^{+3083}_{-431}

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 $A_{obs} \gg 1.0$

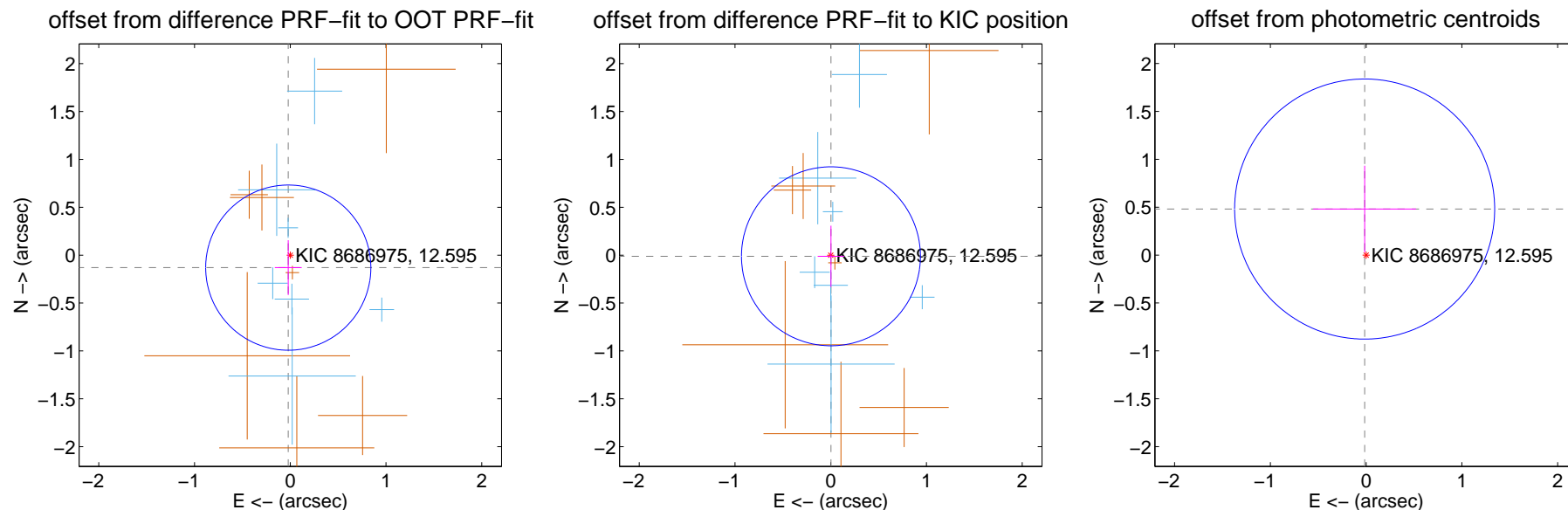
DV Centroid Data

Supplemental centroid analysis for 008686975-07. Kepler magnitude: 12.60. Transit SNR 6.35

There are 7 quarters with good PRF difference image offsets

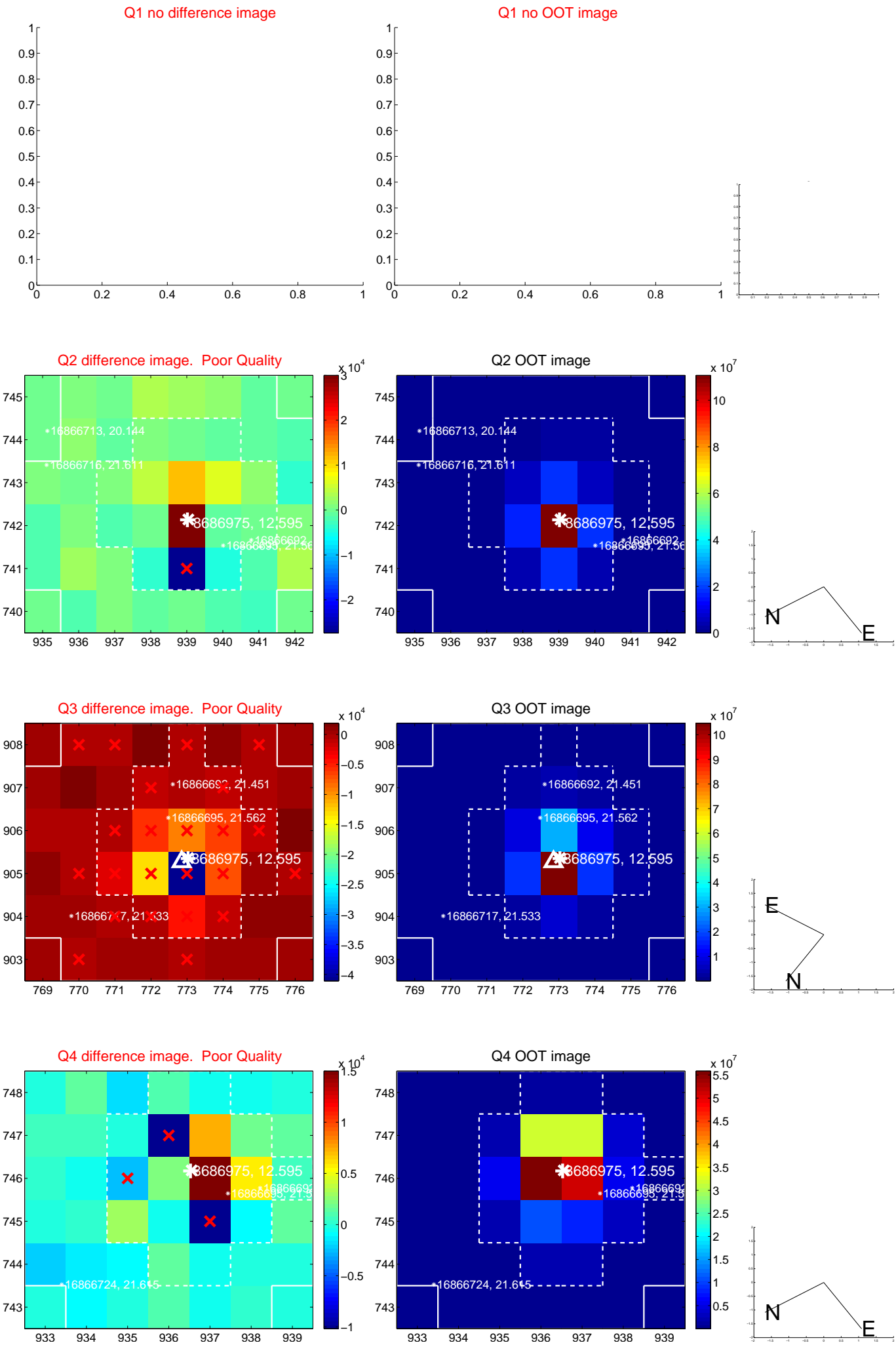
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.132 ± 0.288	0.46	0.021 ± 0.141	-0.130 ± 0.286
PRF-fit source offset from KIC position	0.012 ± 0.312	0.04	-0.002 ± 0.138	-0.012 ± 0.320
photometric centroid source offset	0.48 ± 0.45	1.06	0.02 ± 0.54	0.48 ± 0.45

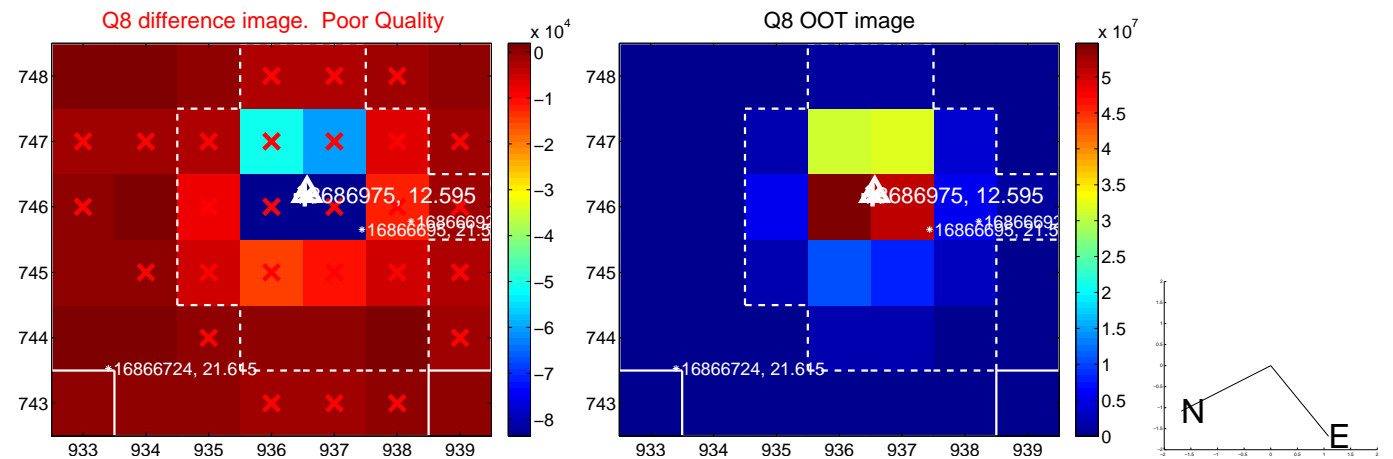
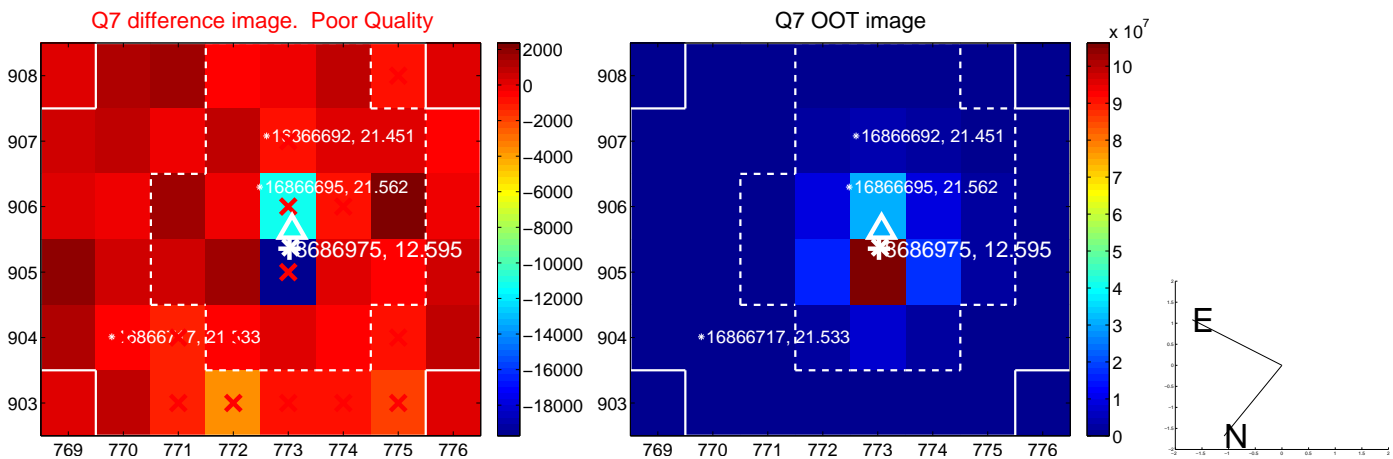
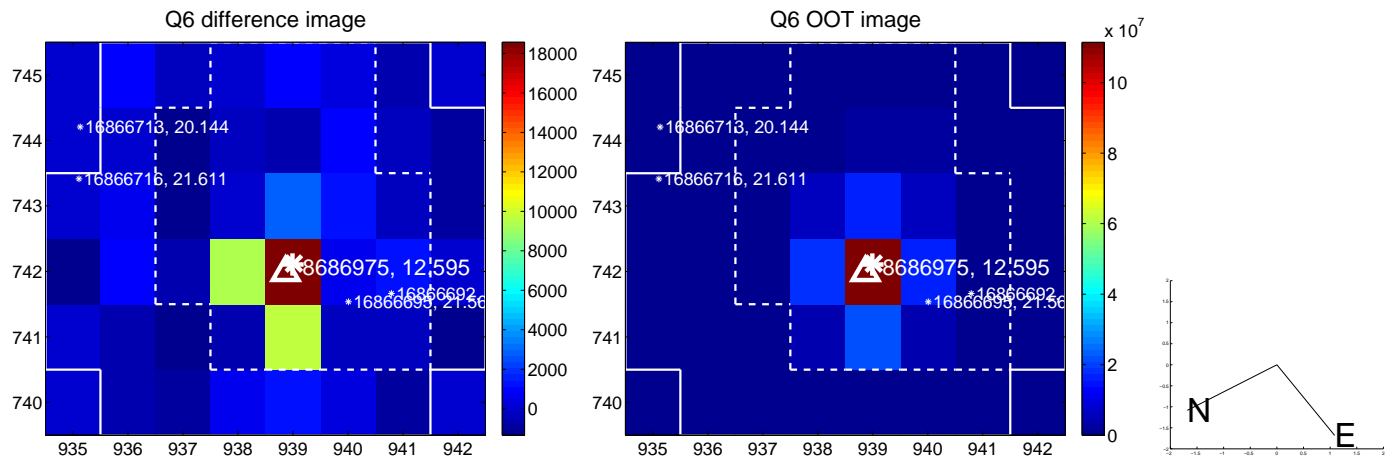
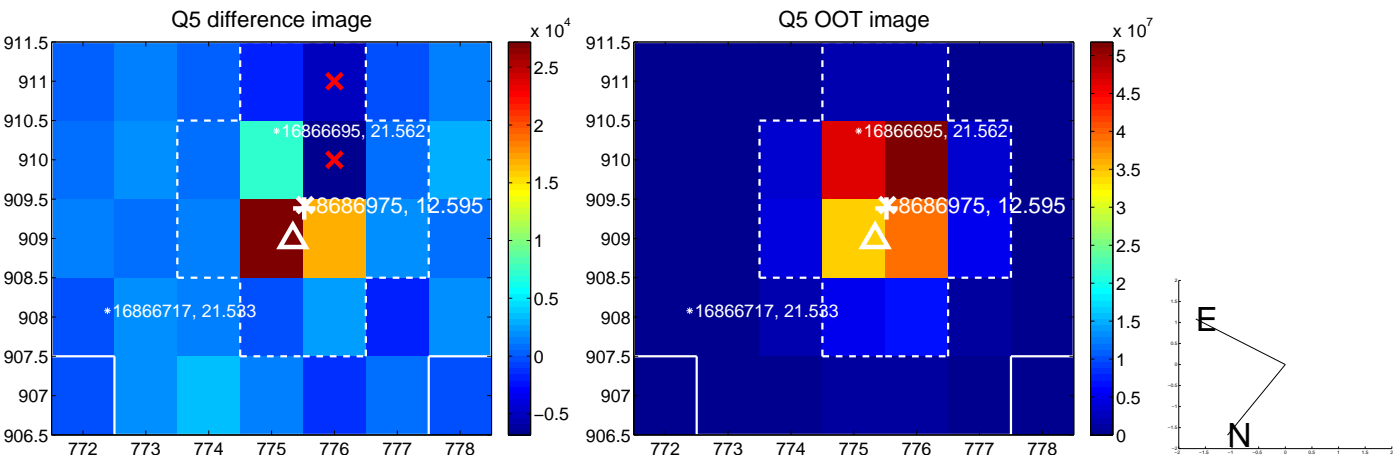


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

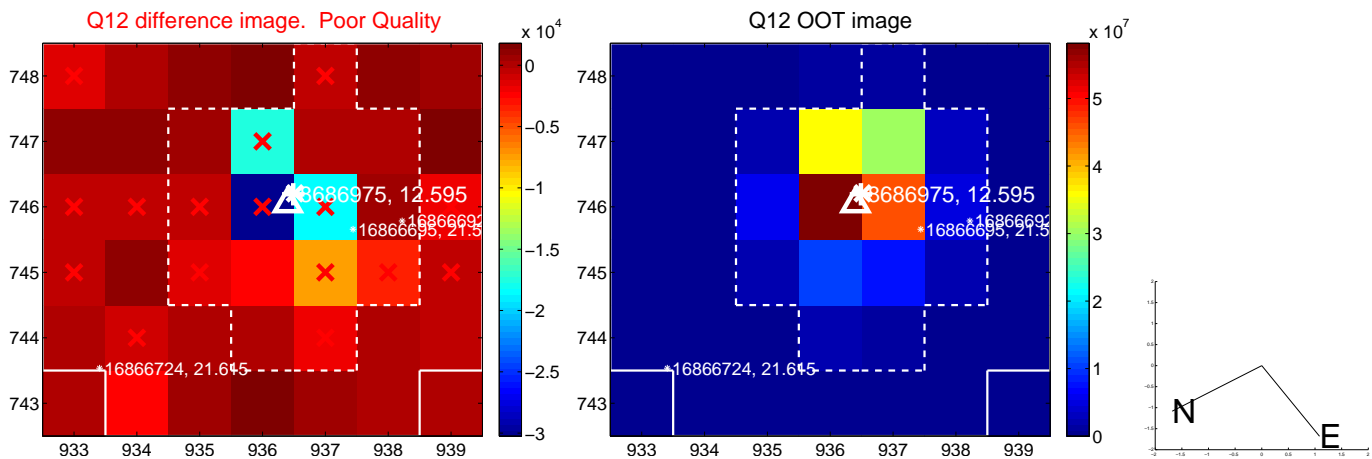
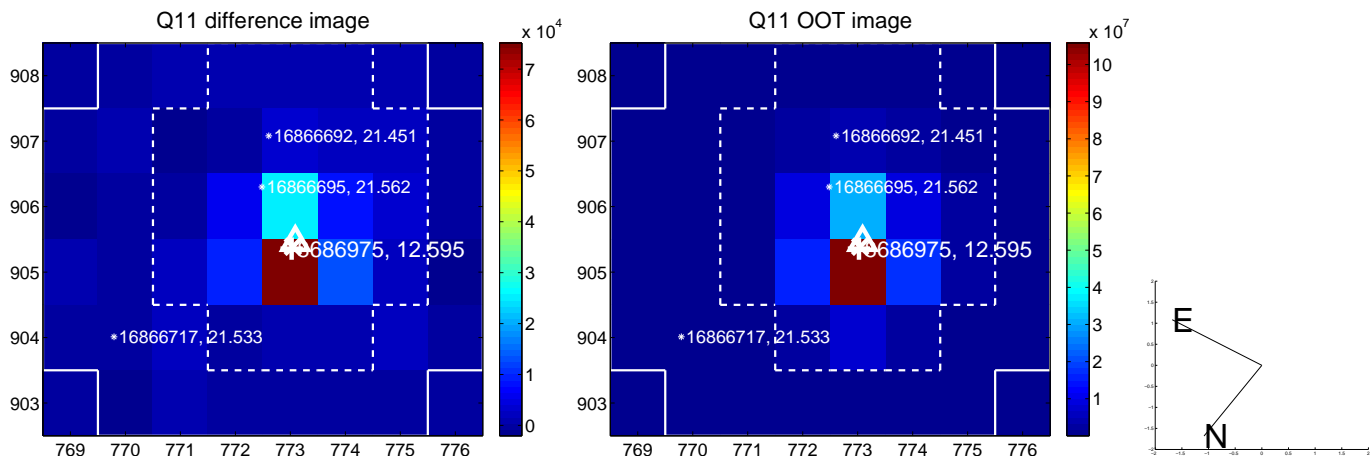
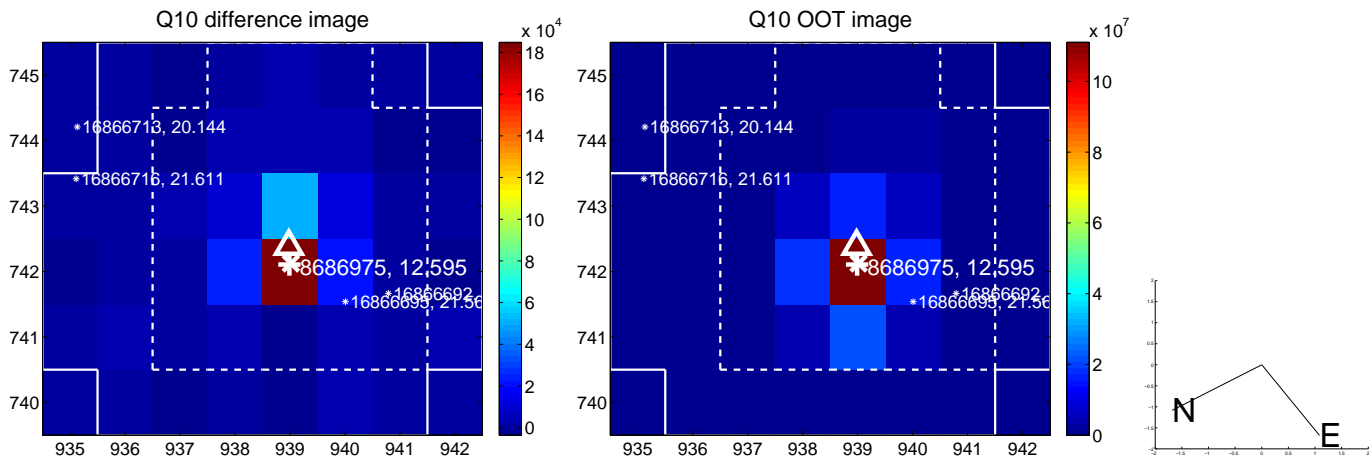
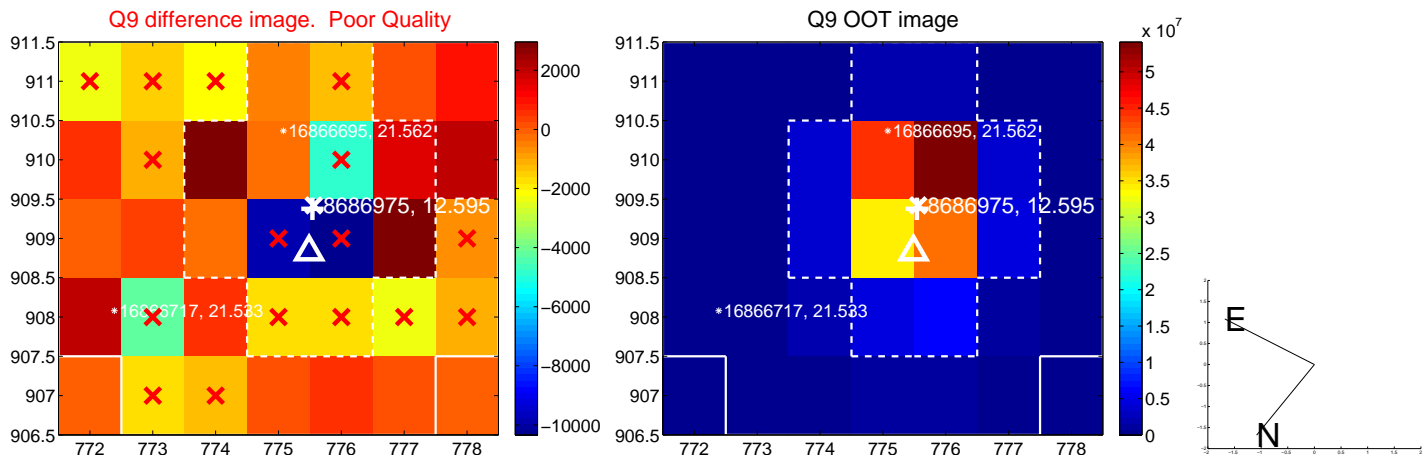
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



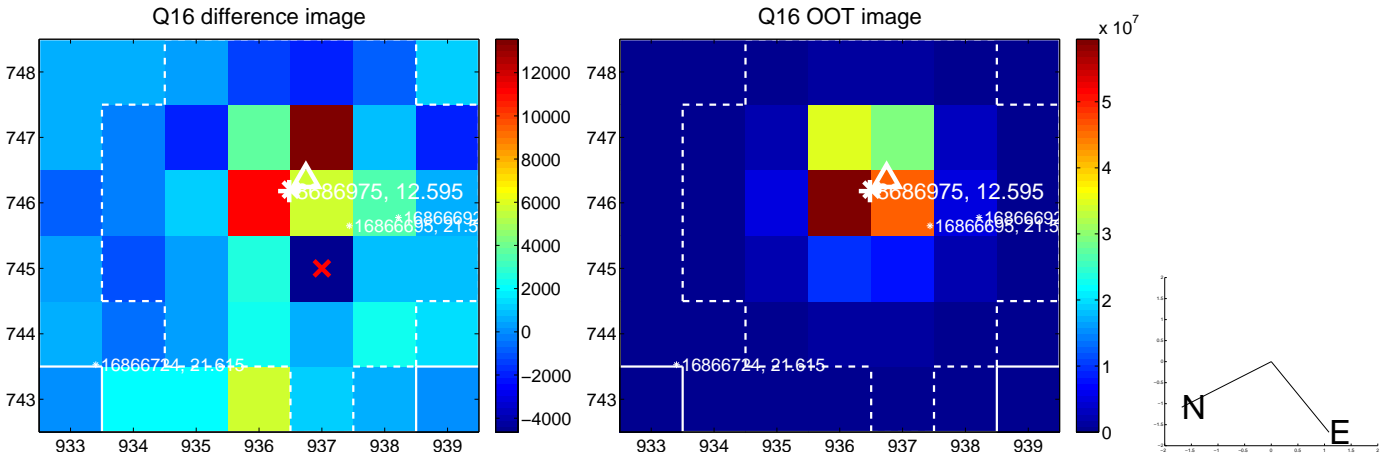
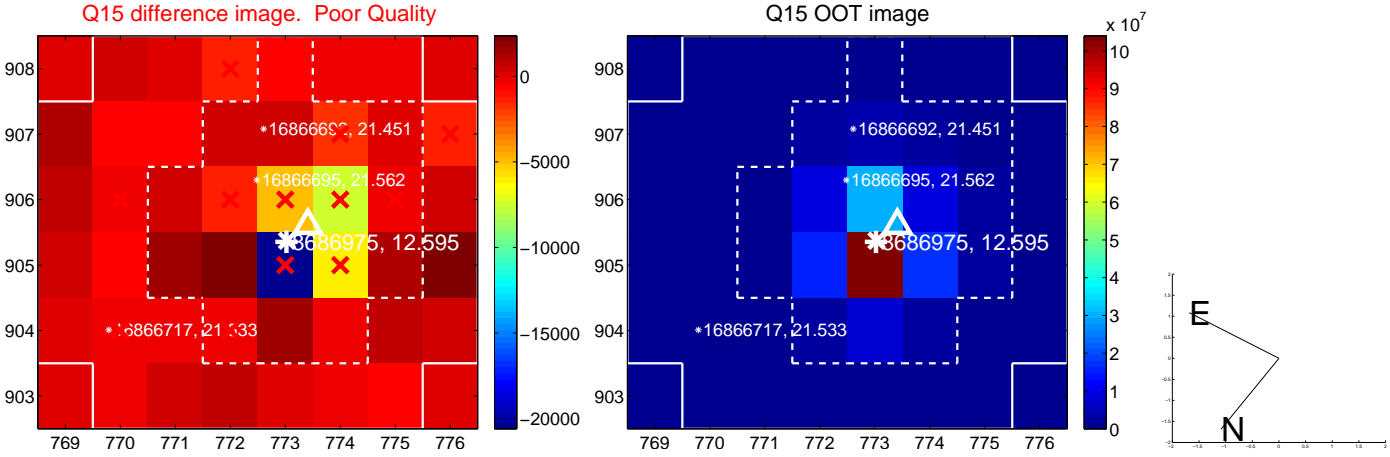
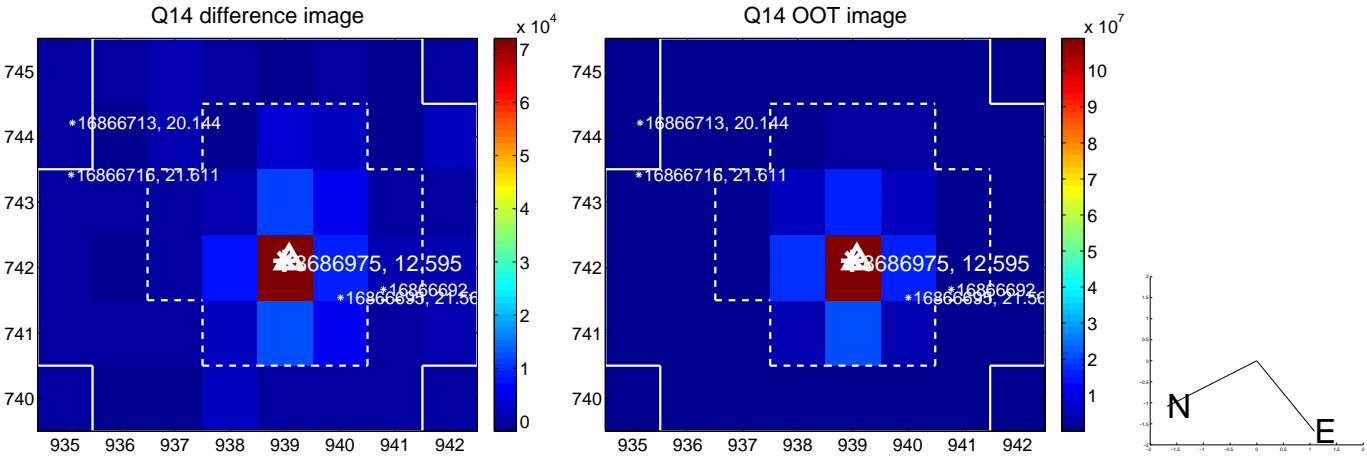
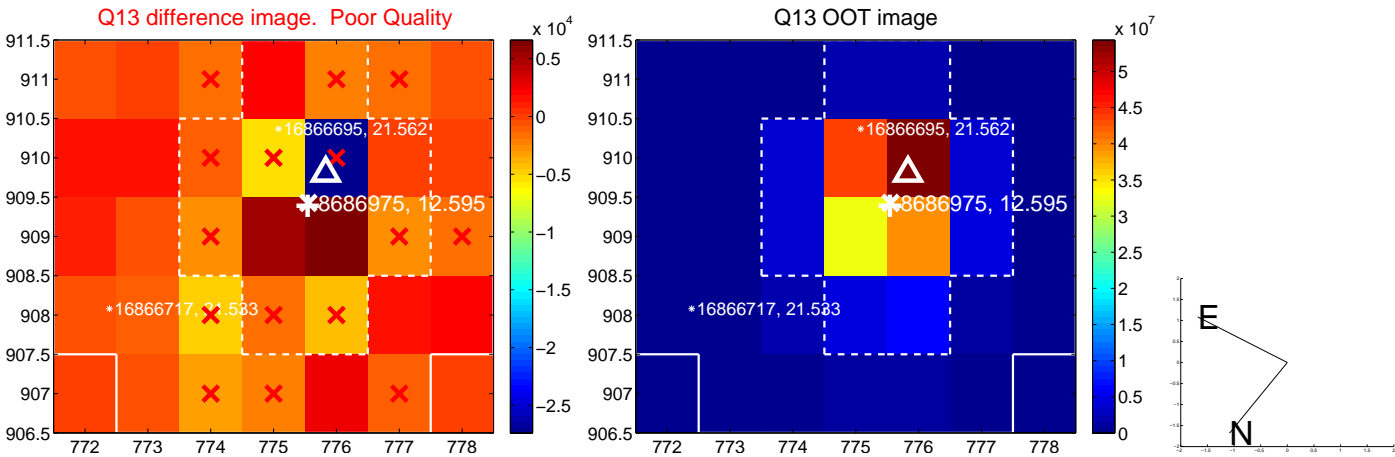
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



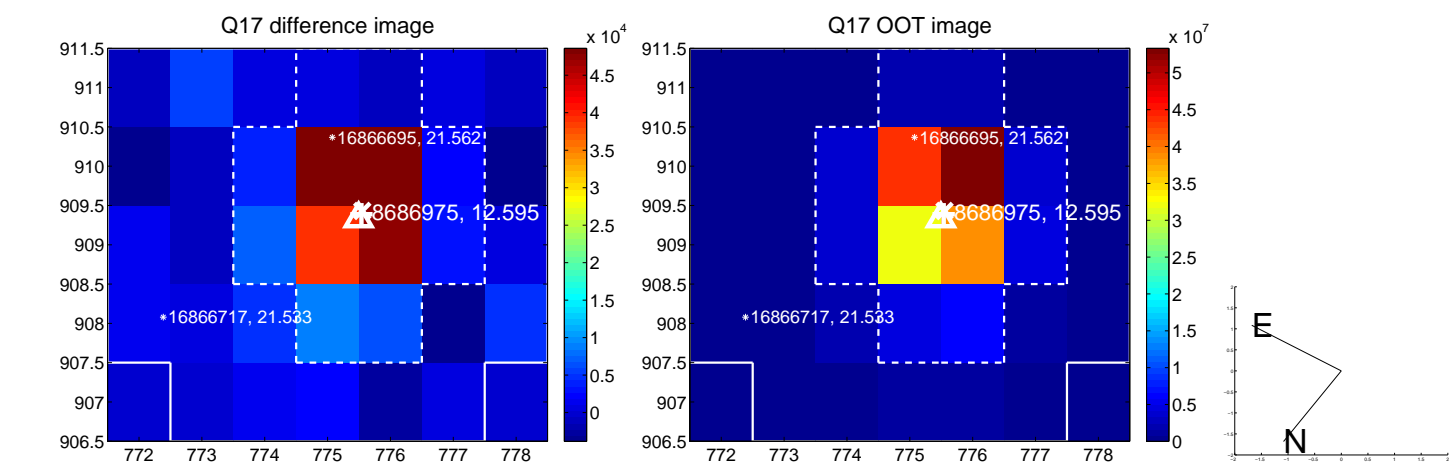
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



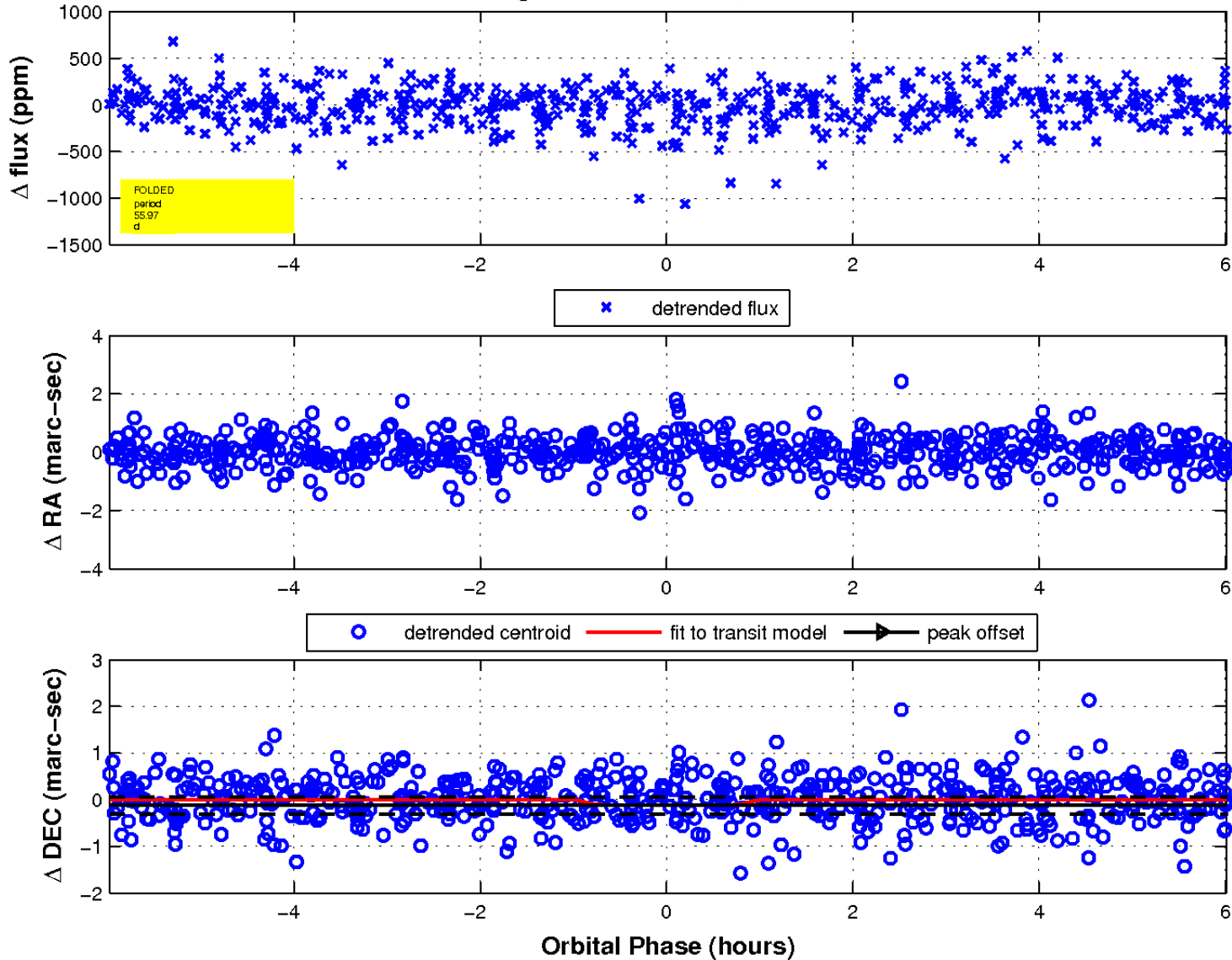
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 7 of 7



UKIRT Image

Declination

