

KIC 008908977

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})
008908977-01	OBS	No	1.382190	131.854730	34.0	3.764	11.0	11.6	1.37	5937	0.85	3698.35
008908977-02	OBS	No	1.382189	132.852969	32.2	4.059	11.8	12.2	1.37	5937	0.95	3698.35
008908977-03	OBS	No	81.107105	156.681026	331.9	2.315	7.1	7.9	1.37	5937	2.94	16.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008908977-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008908977-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
008908977-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

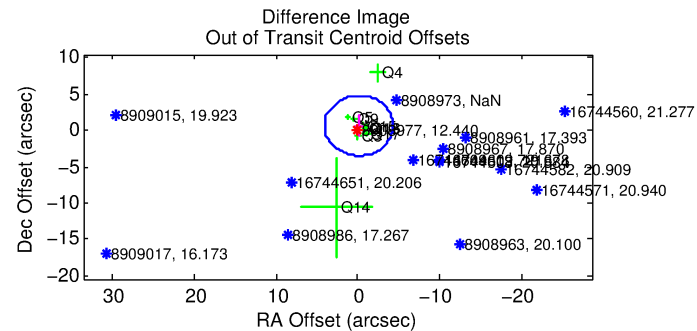
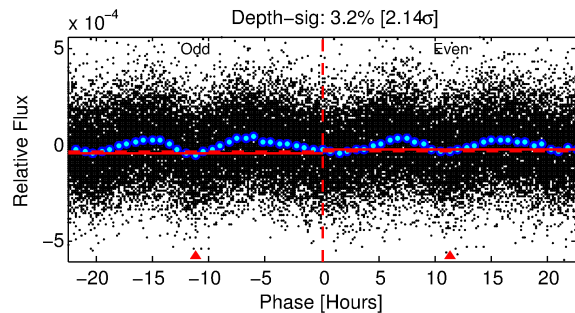
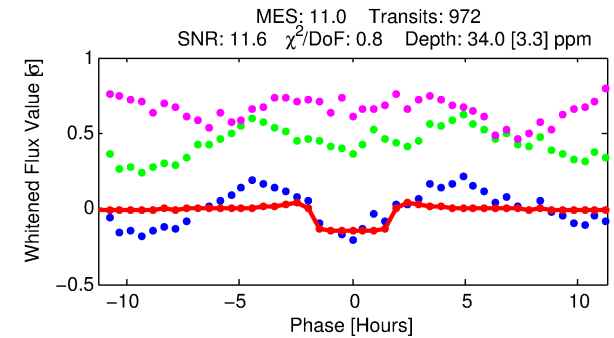
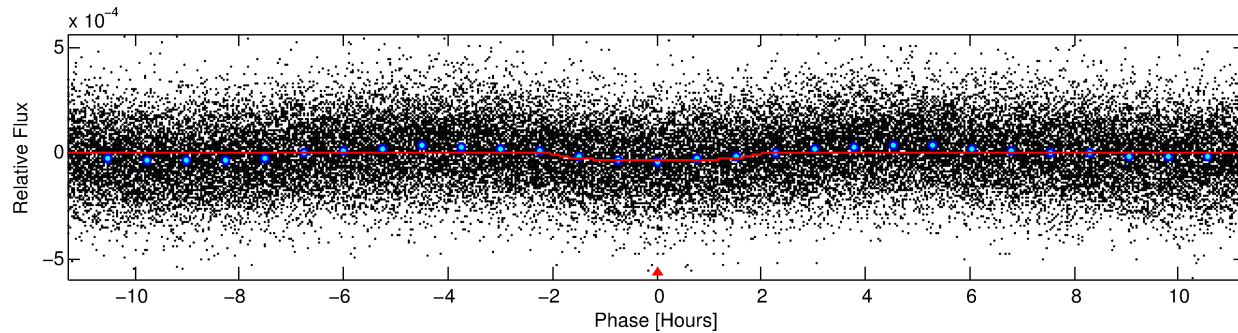
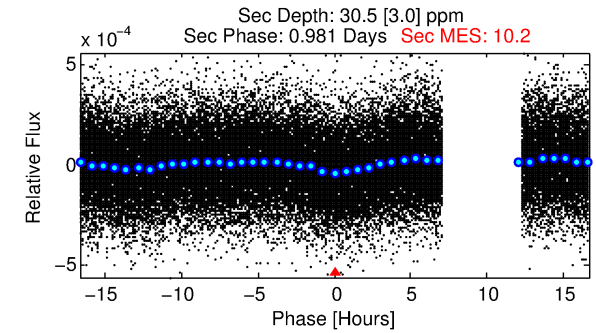
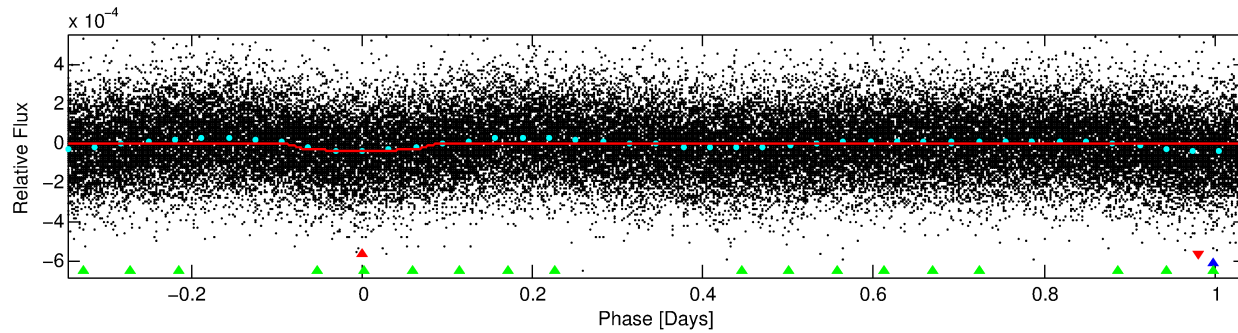
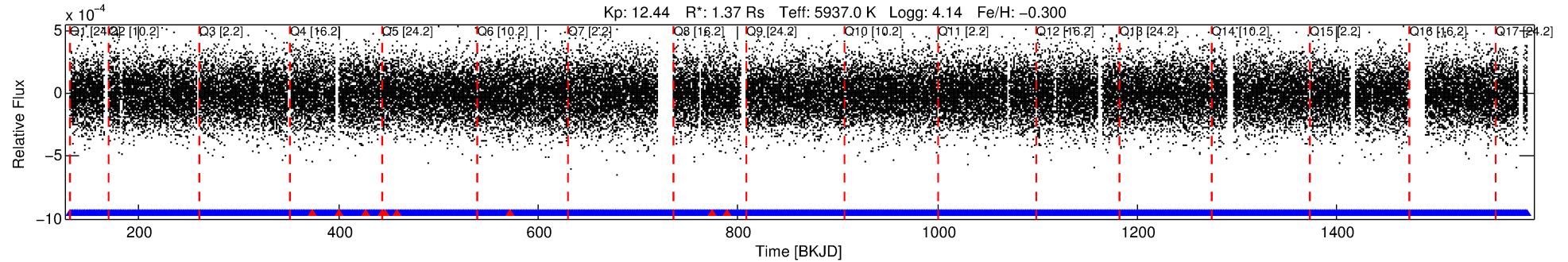
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008908977-01

No Significant Match Found

DV One-Page Summary

KIC: 8908977 Candidate: 1 of 3 Period: 1.382 d



DV Fit Results:

Period = 1.38219 [0.00001] d
Epoch = 131.8547 [0.0027] BKJD
Rp/R* = 0.0057 [0.0011]
a/R* = 2.26 [1.69]
b = 0.67 [0.78]
Seff = 3698.35 [2079.11]
Teq = 1989 [279] K
Rp = 0.85 [0.33] Re
a = 0.0238 [0.0079] AU
Ag = 13.21 [8.98] [1.36σ]
Teffp = 5862 [624] K [5.67σ]

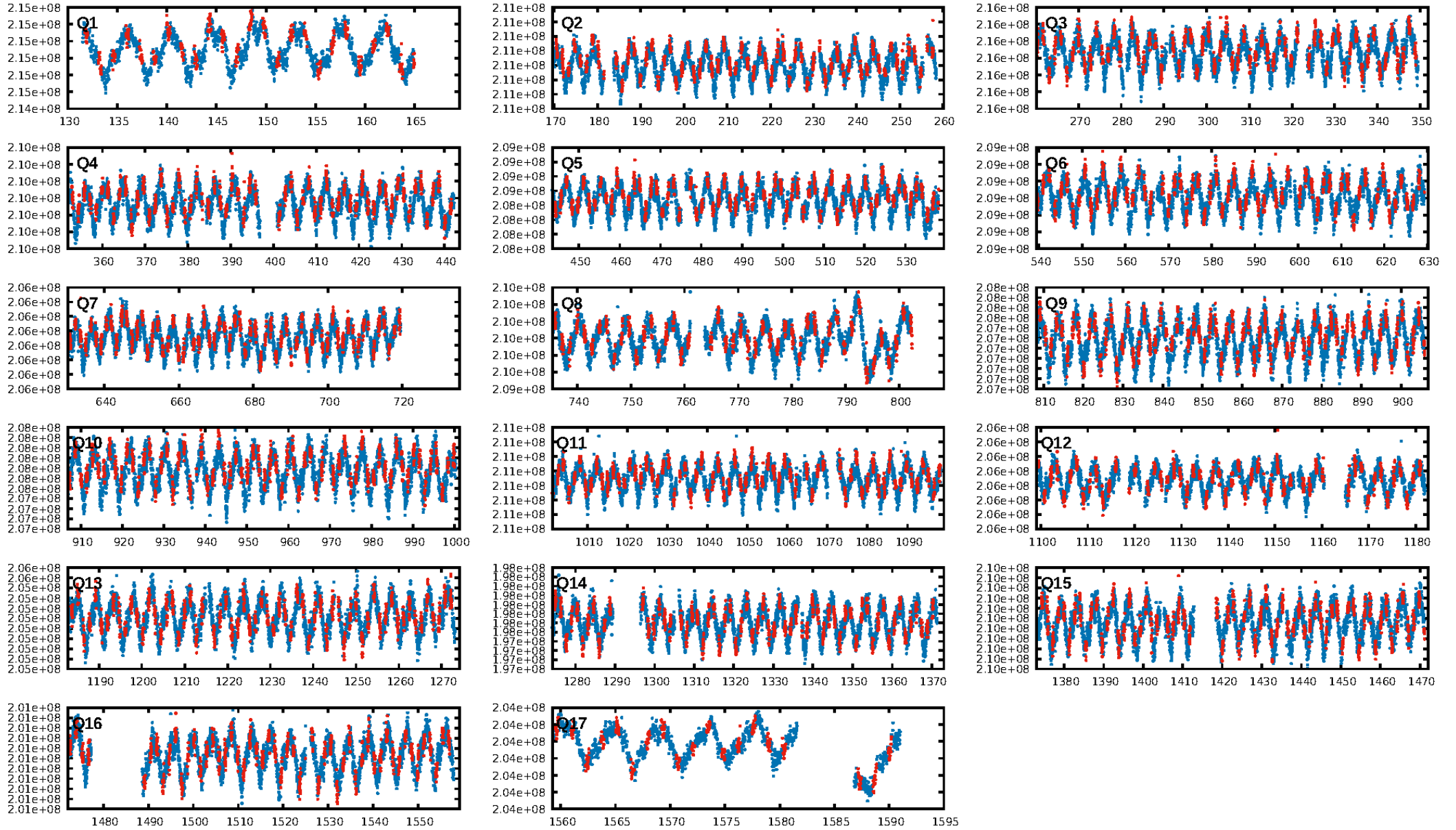
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [432.98σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.20e-21
RollingBand-fgt: 0.99 [919/928]
GhostDiagnostic-chr: 3.559
Centroid-sig: 0.0%
Centroid-so: 2.455 arcsec [4.01σ]
OotOffset-rm: 0.662 arcsec [0.48σ]
KicOffset-rm: 0.745 arcsec [0.53σ]
OotOffset-st: 1/2/3/3 [9]
KicOffset-st: 1/2/3/3 [9]
DiffImageQuality-fgm: 0.78 [7/9]
DiffImageOverlap-fno: 0.00 [0/17]

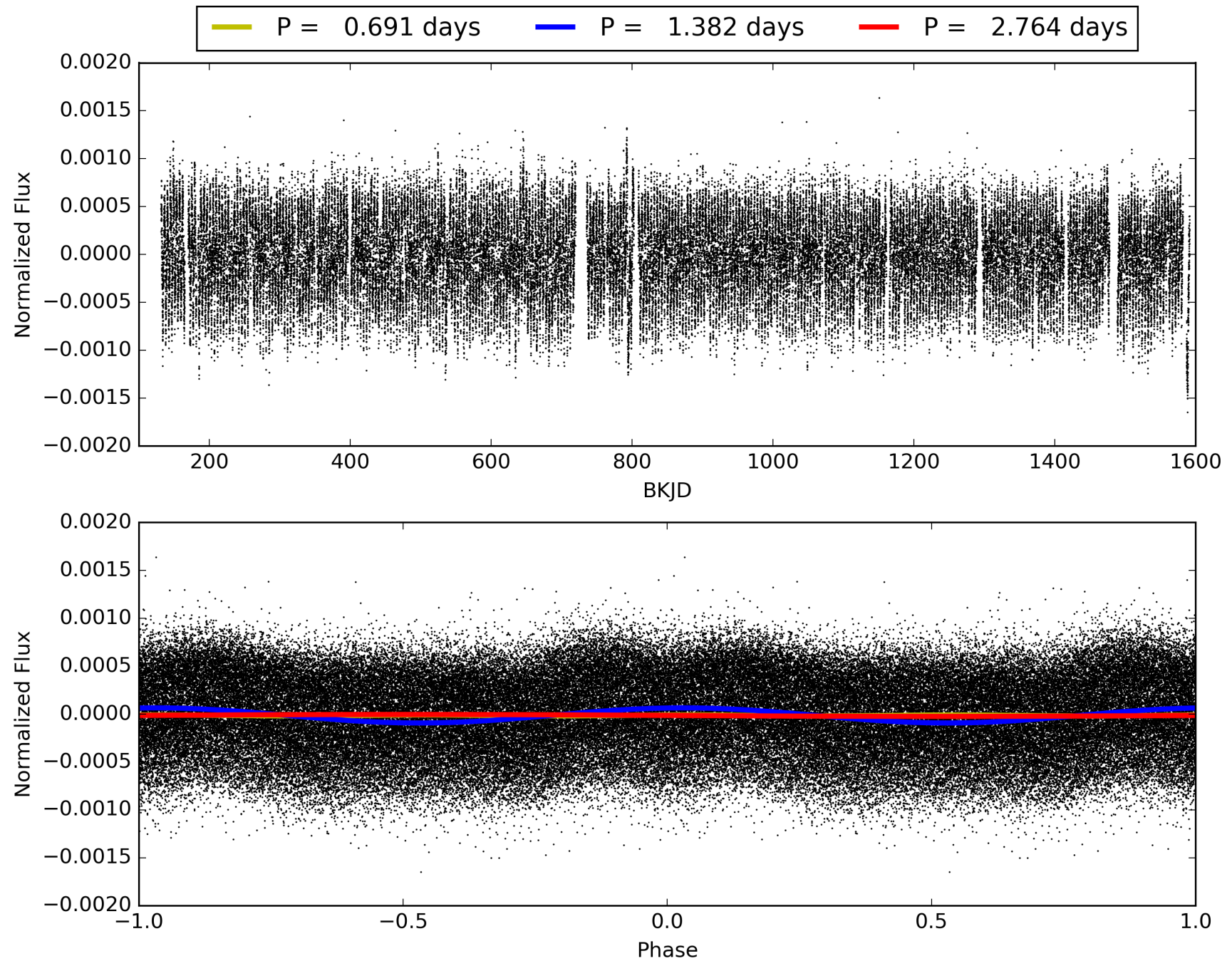
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:49:08 Z

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

TCE 008908977-01, PDC Light Curves

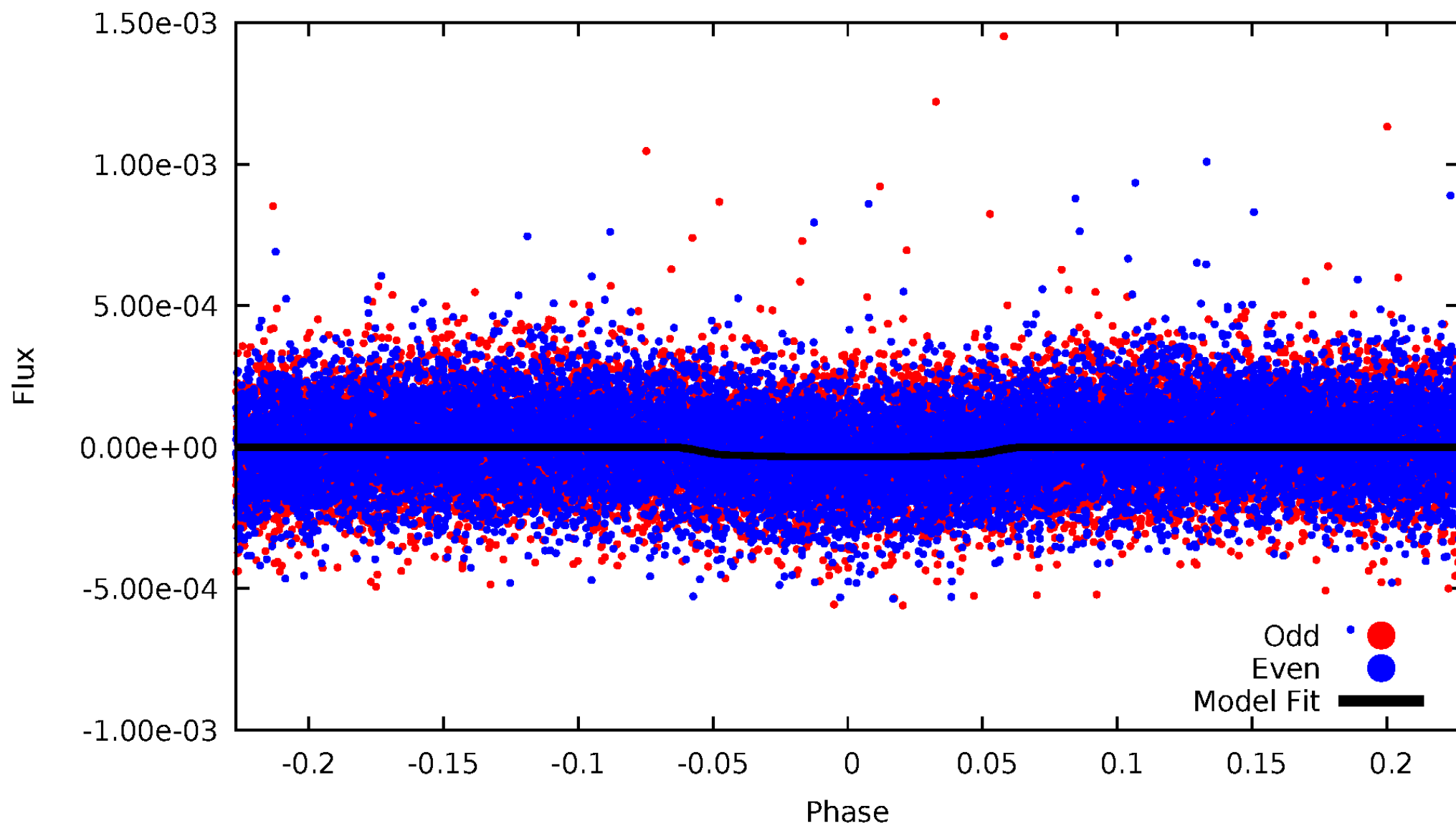


TCE 008908977-01



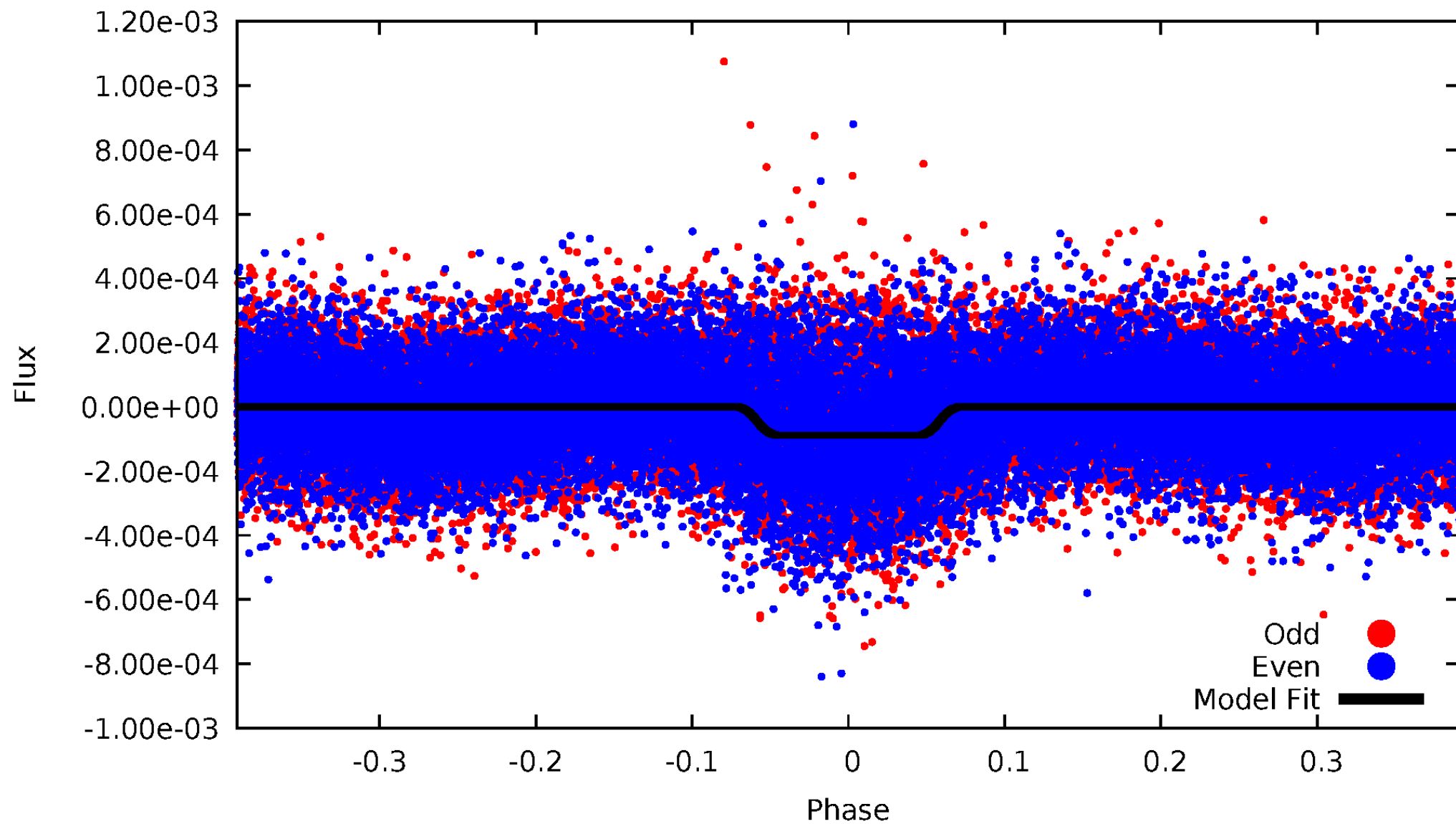
DV Odd/Even

TCE 008908977-01



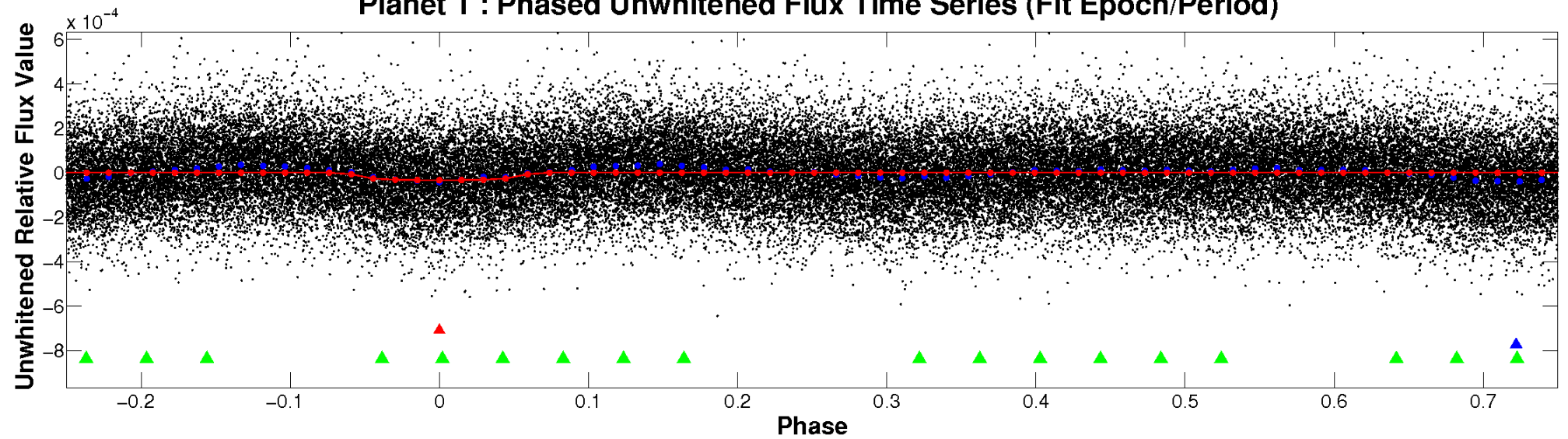
ALT Odd/Even

TCE 008908977-01

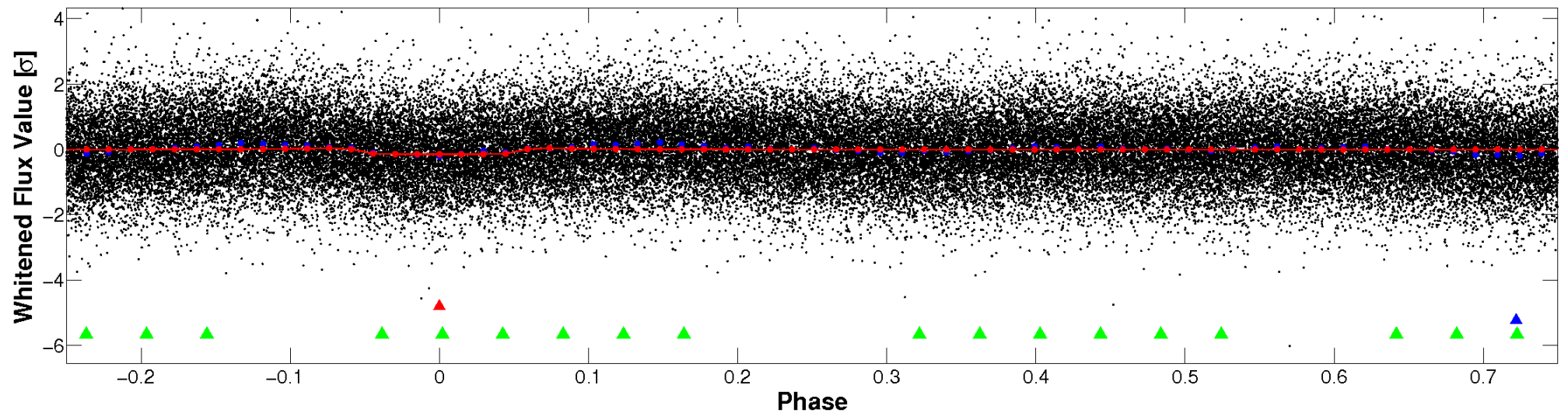


Non-Whitened Vs. Whitened Light Curve

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

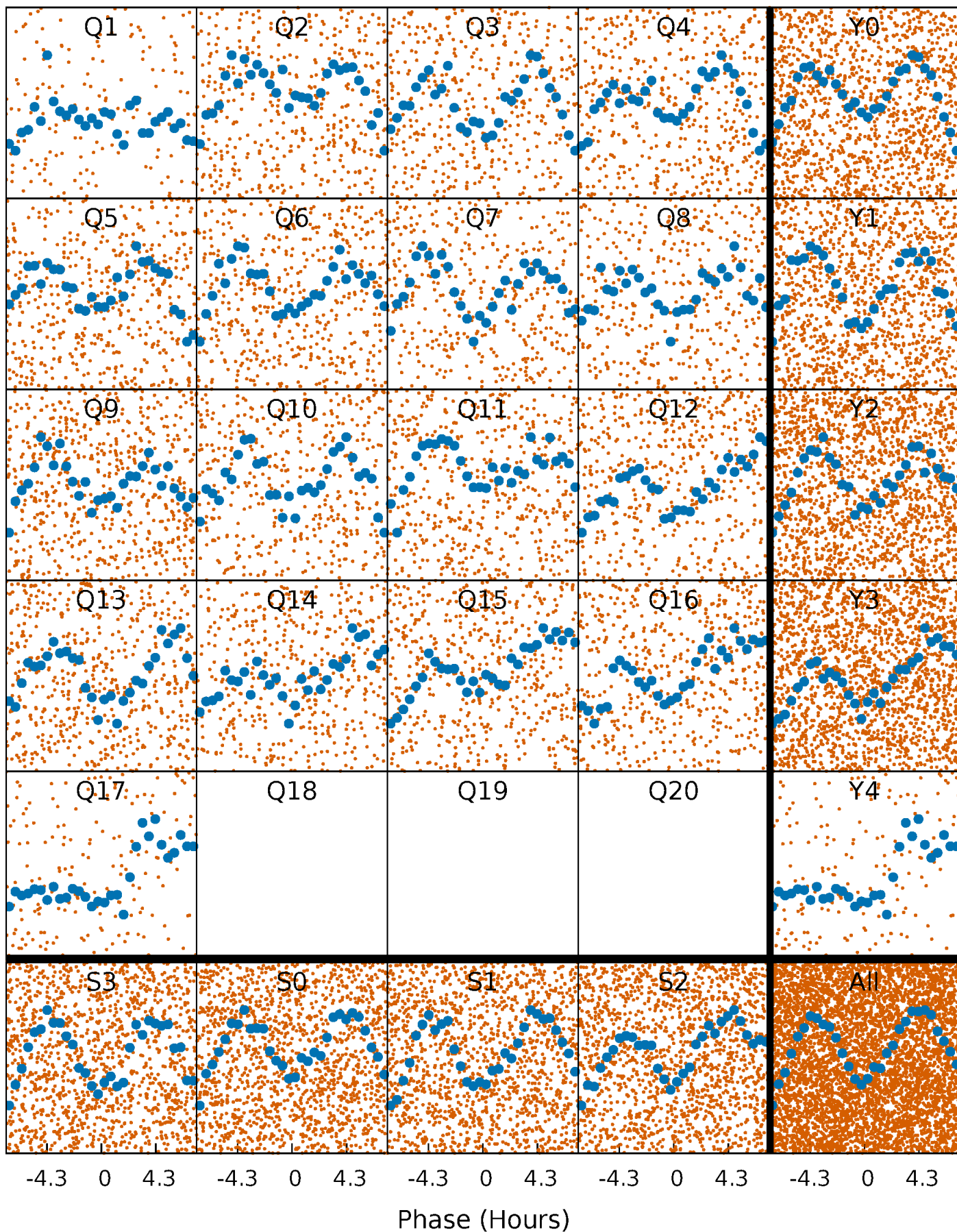


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



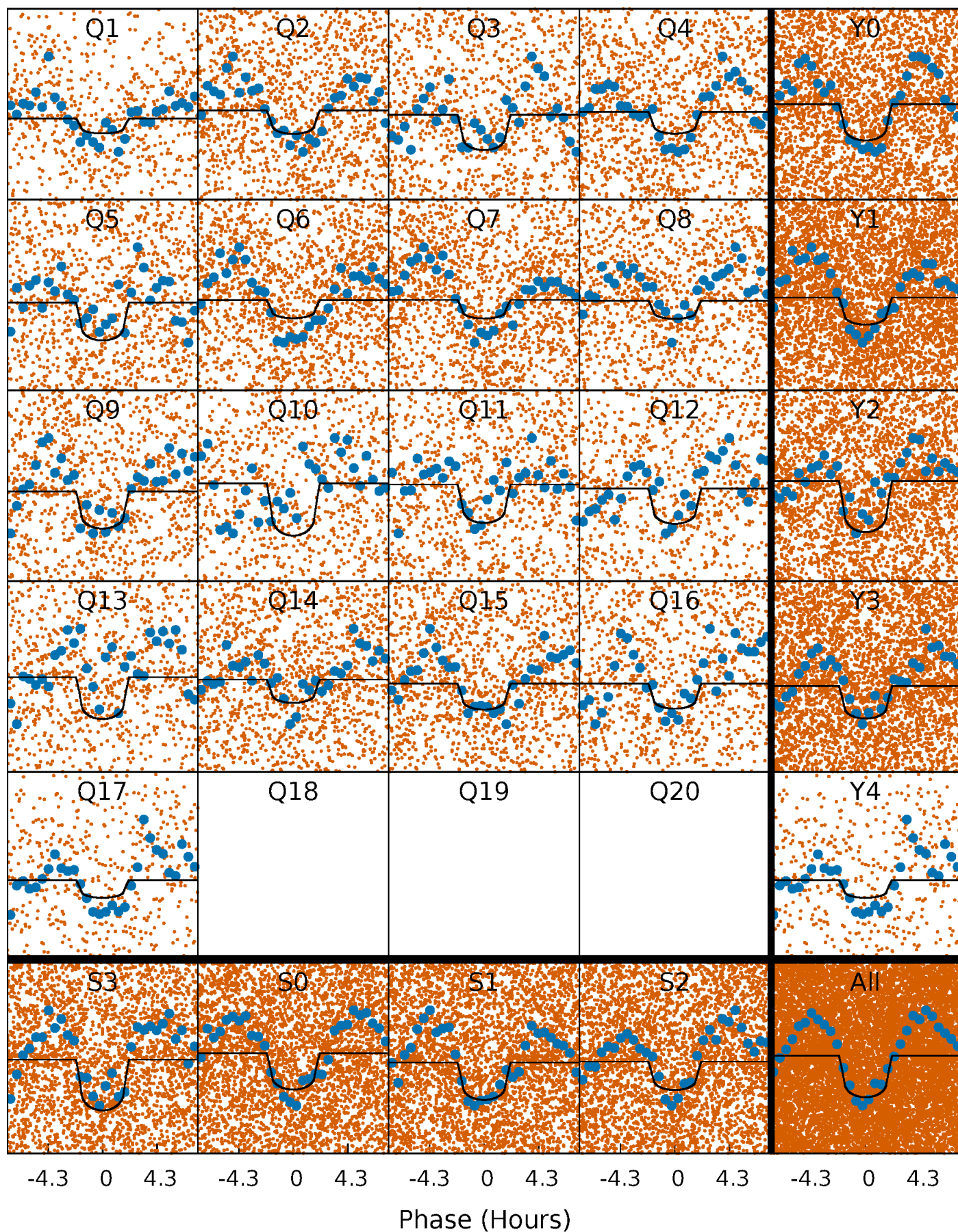
PDC Quarter-Phased Transit Curves

TCE 008908977-01 P= 1.382190 Days $T_0=131.854730$ (BKJD)



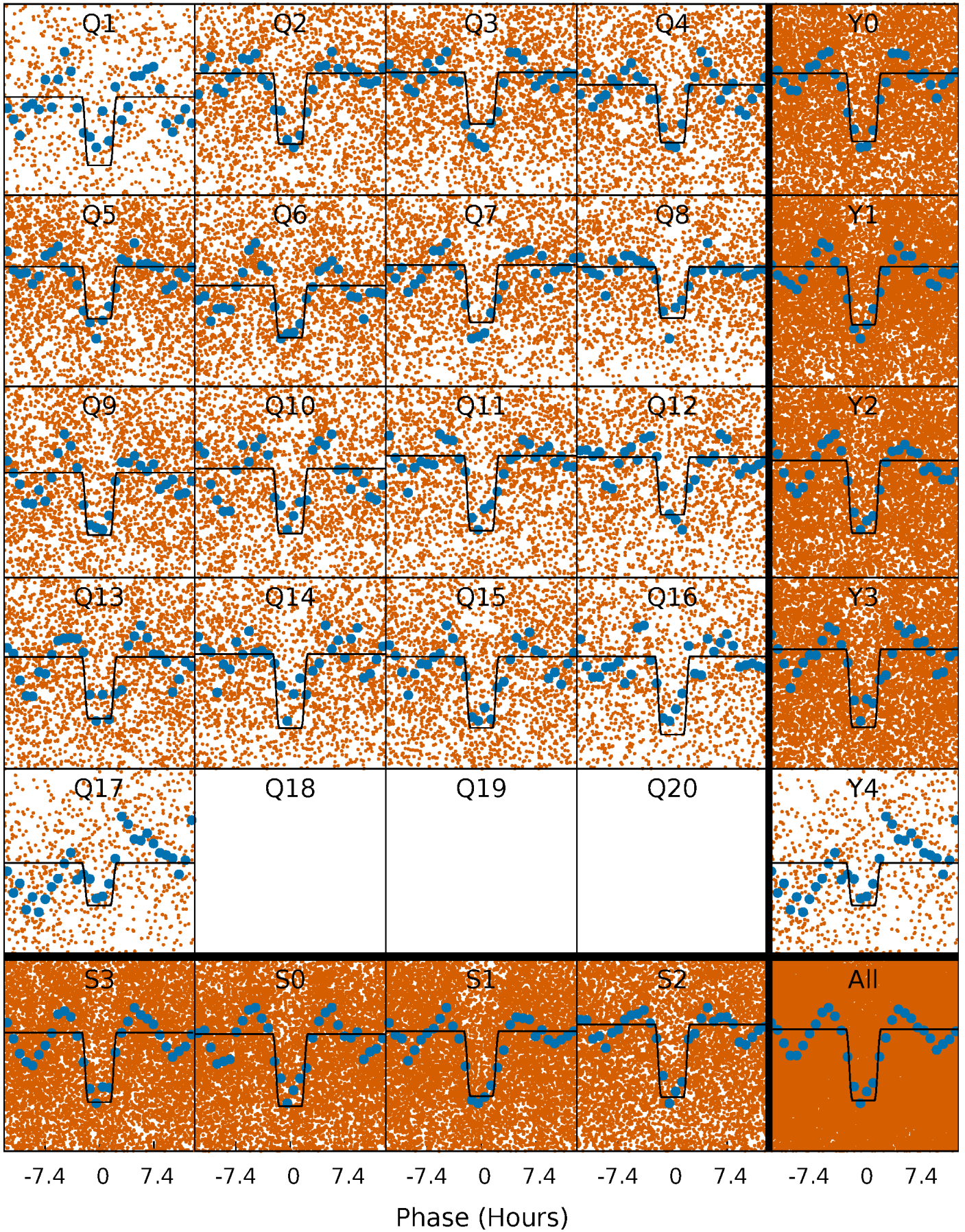
DV Quarter-Phased Transit Curves

TCE 008908977-01 P= 1.382190 Days $T_0=131.854730$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

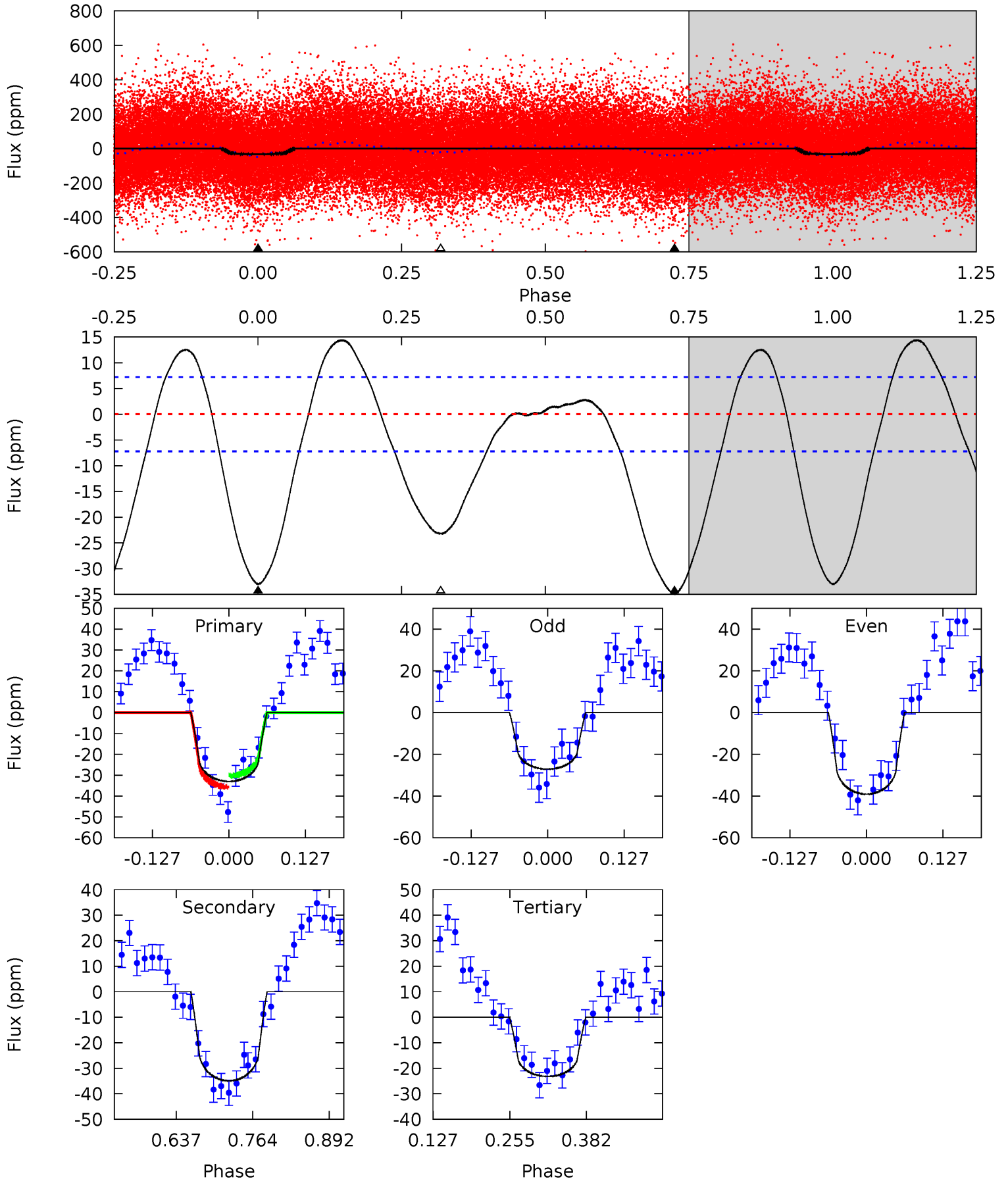
TCE 008908977-01 P= 1.382191 Days $T_0=131.861044$ (BKJD)



DV Model-Shift Uniqueness Test

008908977-01, P = 1.382190 Days, E = 130.472540 Days

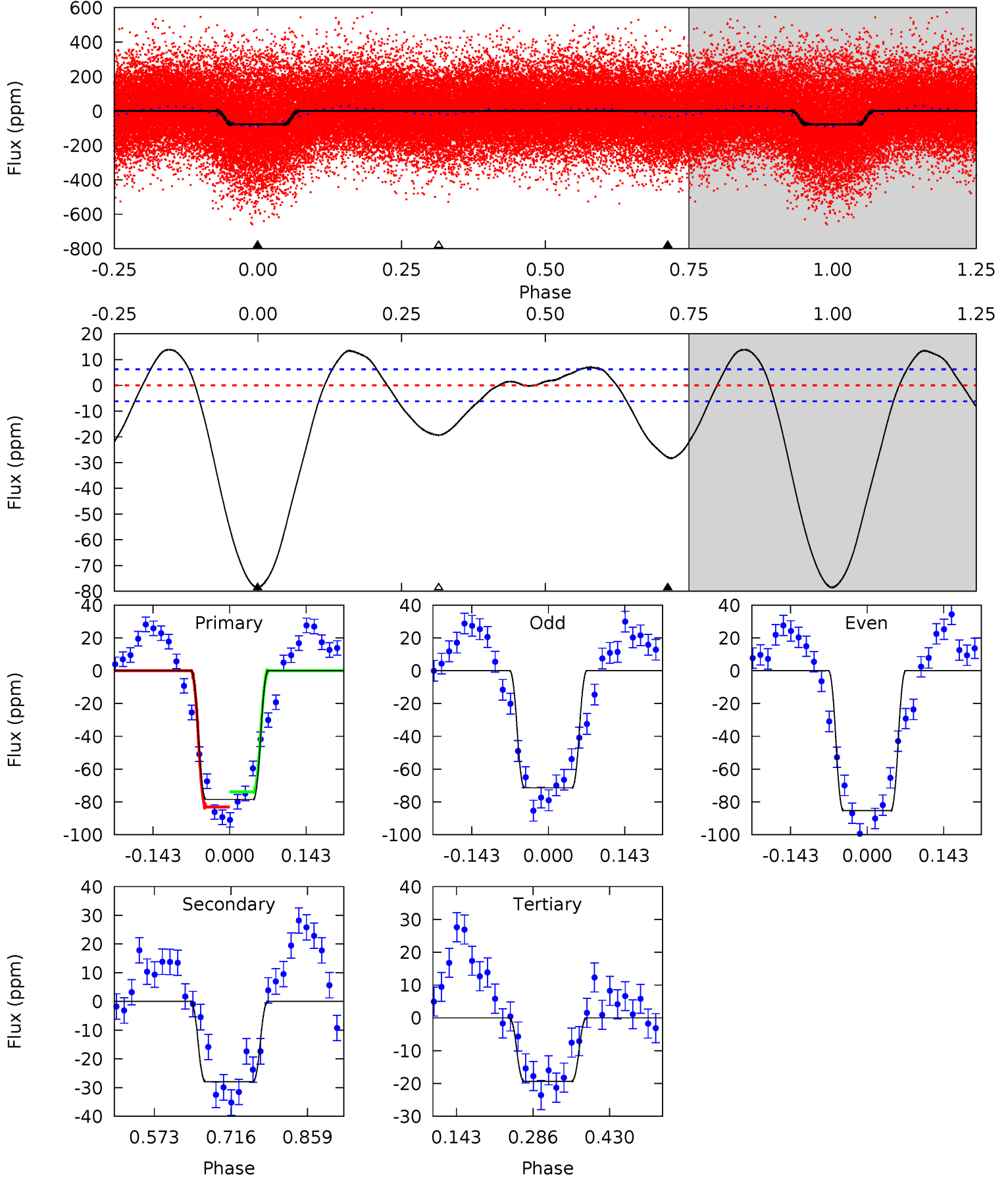
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	21.8	14.5	0	4.51	1.52	6.86	6.13	20.6	7.33	21.8	3.76	1.01	0.29	1.69



Alt Model-Shift Uniqueness Test

008908977-01, P = 1.382191 Days, E = 130.478853 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.7	20.2	14.0	0	4.49	1.46	6.89	42.7	56.7	6.19	20.2	5.00	0.95	0.15	3.32



Stellar Parameters For KIC 008908977

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5937^{+197}_{-197}	$4.136^{+0.325}_{-0.175}$	$-0.300^{+0.300}_{-0.300}$	$1.369^{+0.374}_{-0.457}$	$0.936^{+0.142}_{-0.106}$	$0.513^{+1.144}_{-0.244}$
	+3%/-3%	+8%/-4%	+100%/-100%	+27%/-33%	+15%/-11%	+223%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008908977-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-35 ± 2	$0.82^{+0.24}_{-0.20}$	2749^{+237}_{-255}	6015^{+700}_{-534}	16^{+12}_{-6}
Alt.	-28 ± 1	$1.38^{+0.31}_{-0.28}$	2750^{+227}_{-256}	4531^{+277}_{-223}	$4.664^{+2.531}_{-1.516}$

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

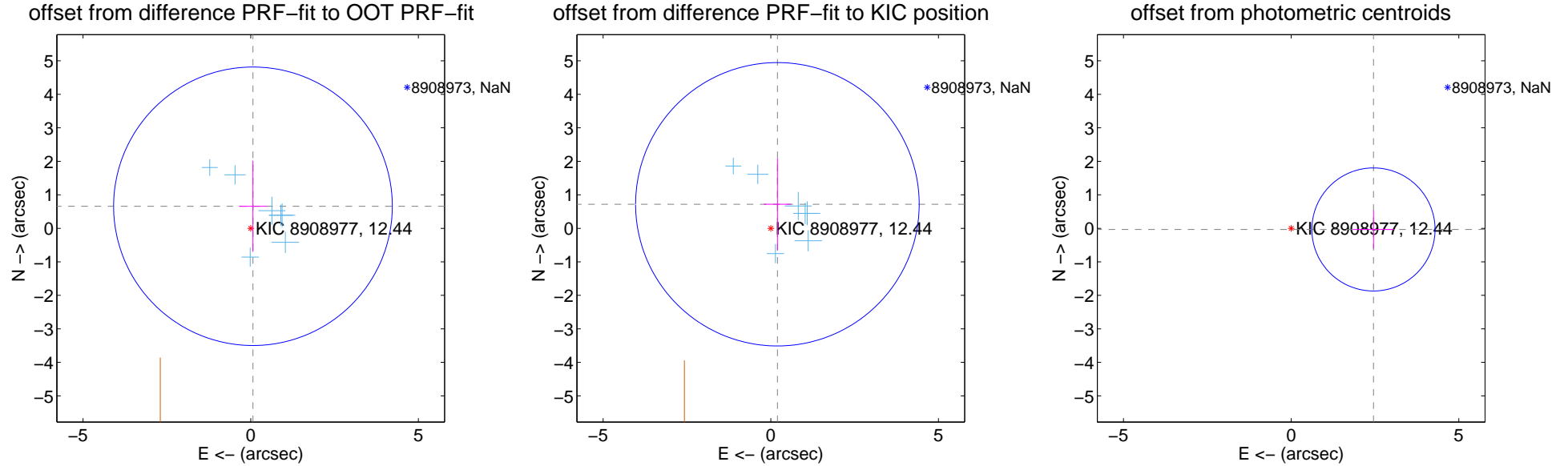
DV Centroid Data

Supplemental centroid analysis for 008908977-01. Kepler magnitude: 12.44. Transit SNR 11.59

There are 7 quarters with good PRF difference image offsets

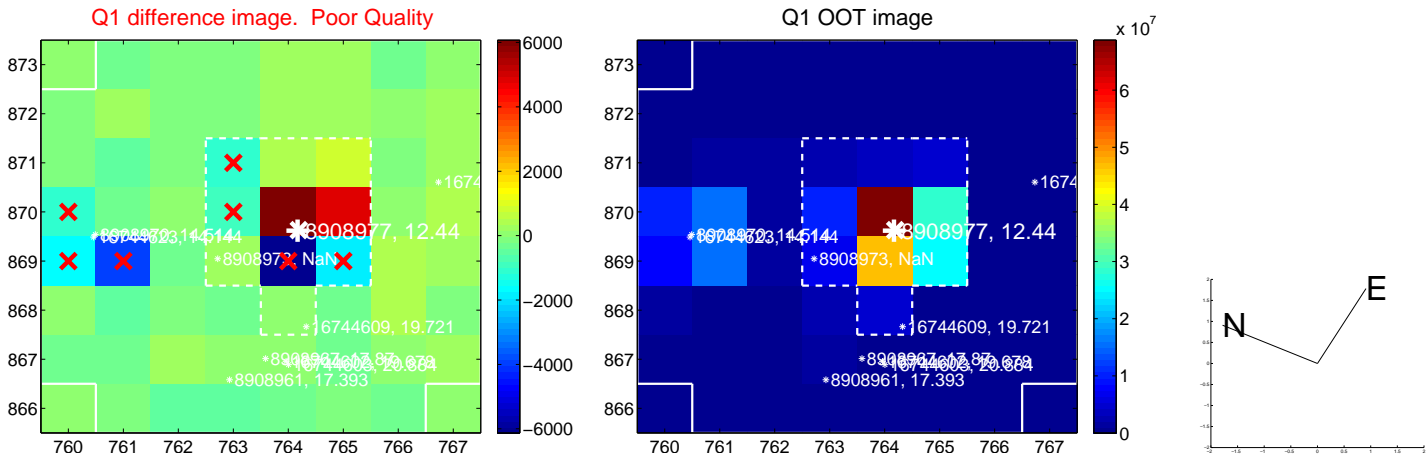
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.662 ± 1.385	0.48	-0.067 ± 0.418	0.659 ± 1.362
PRF-fit source offset from KIC position	0.745 ± 1.410	0.53	-0.197 ± 0.410	0.718 ± 1.377
photometric centroid source offset	2.46 ± 0.61	4.01	-2.46 ± 0.61	-0.03 ± 0.57

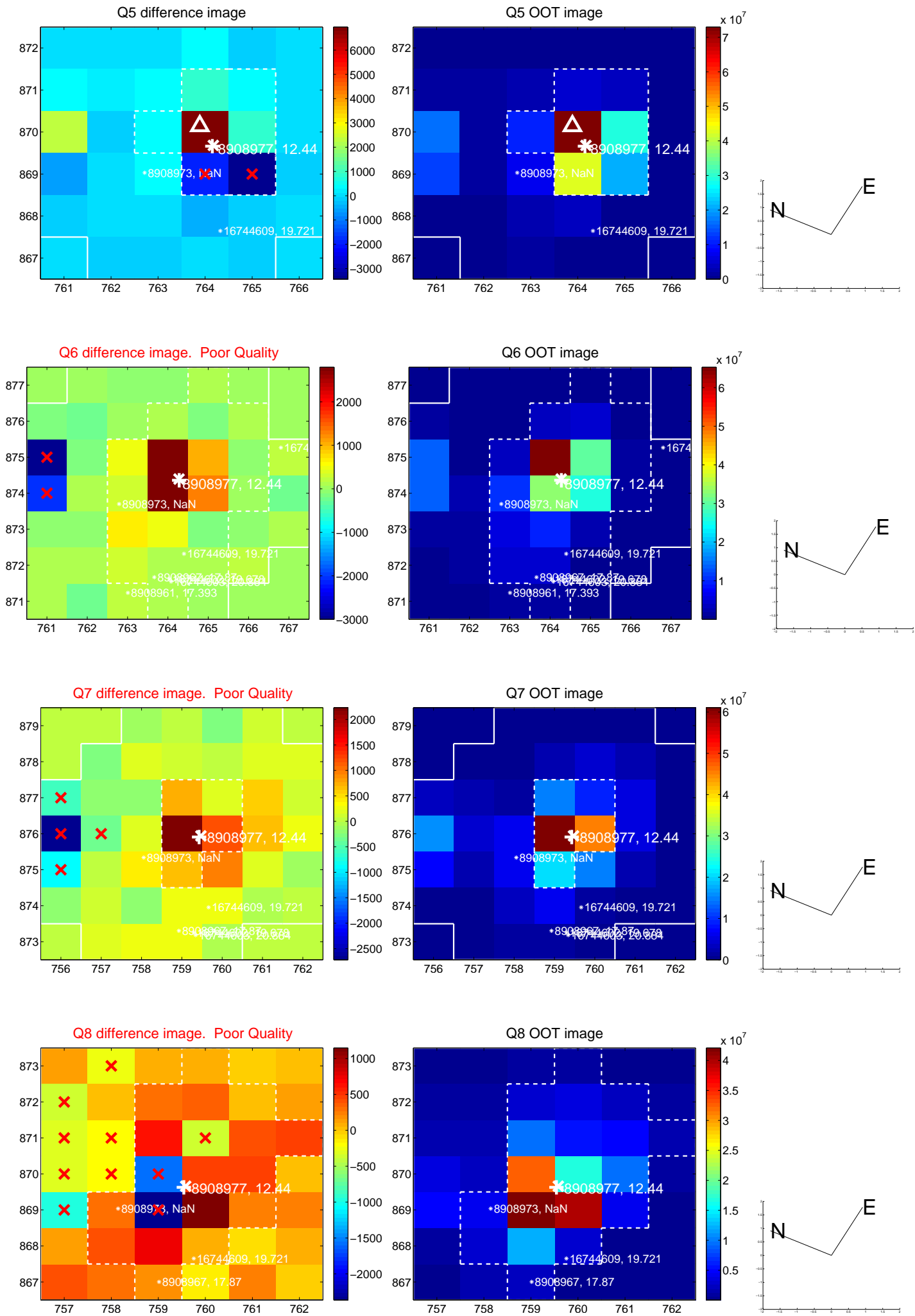


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

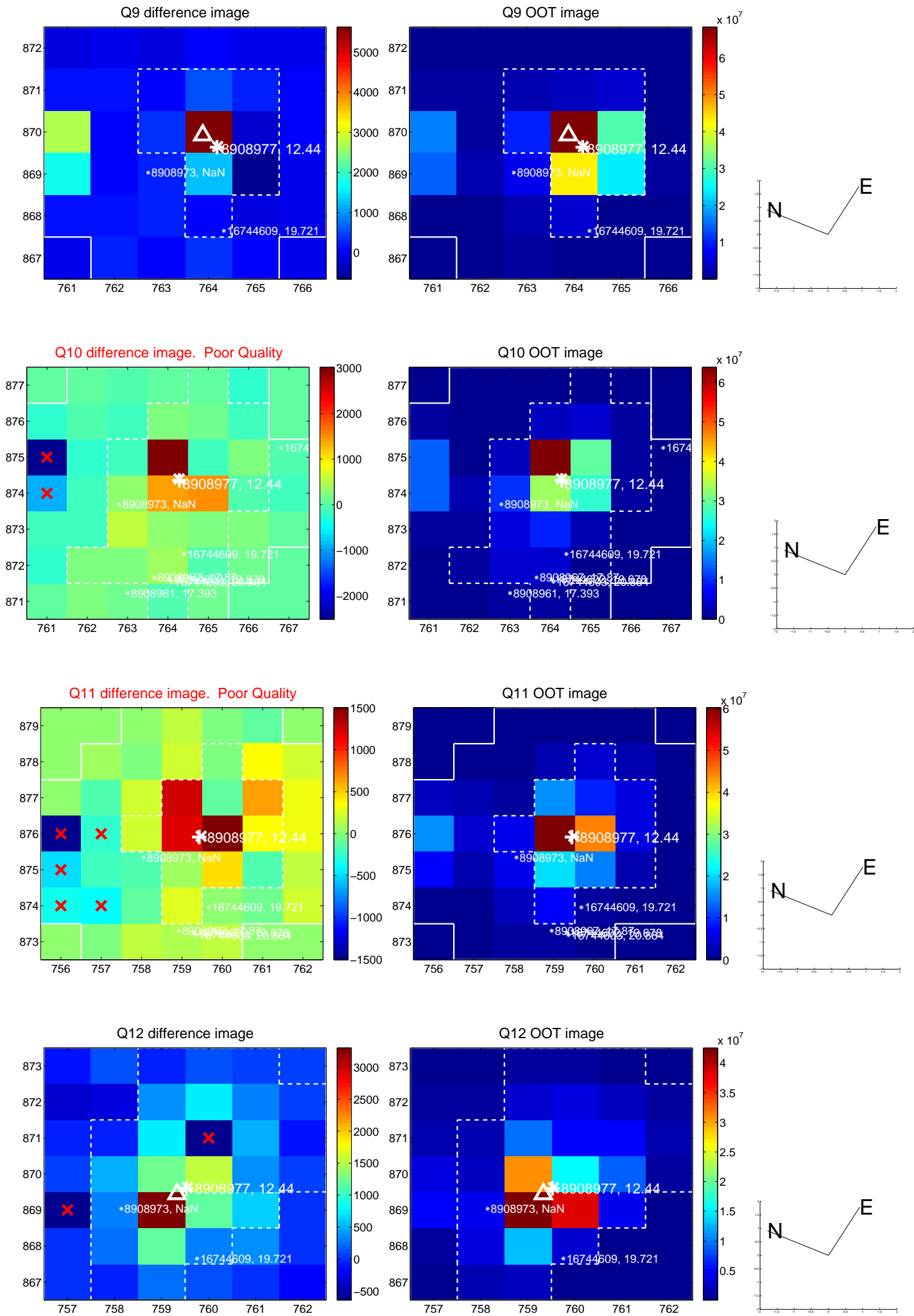
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



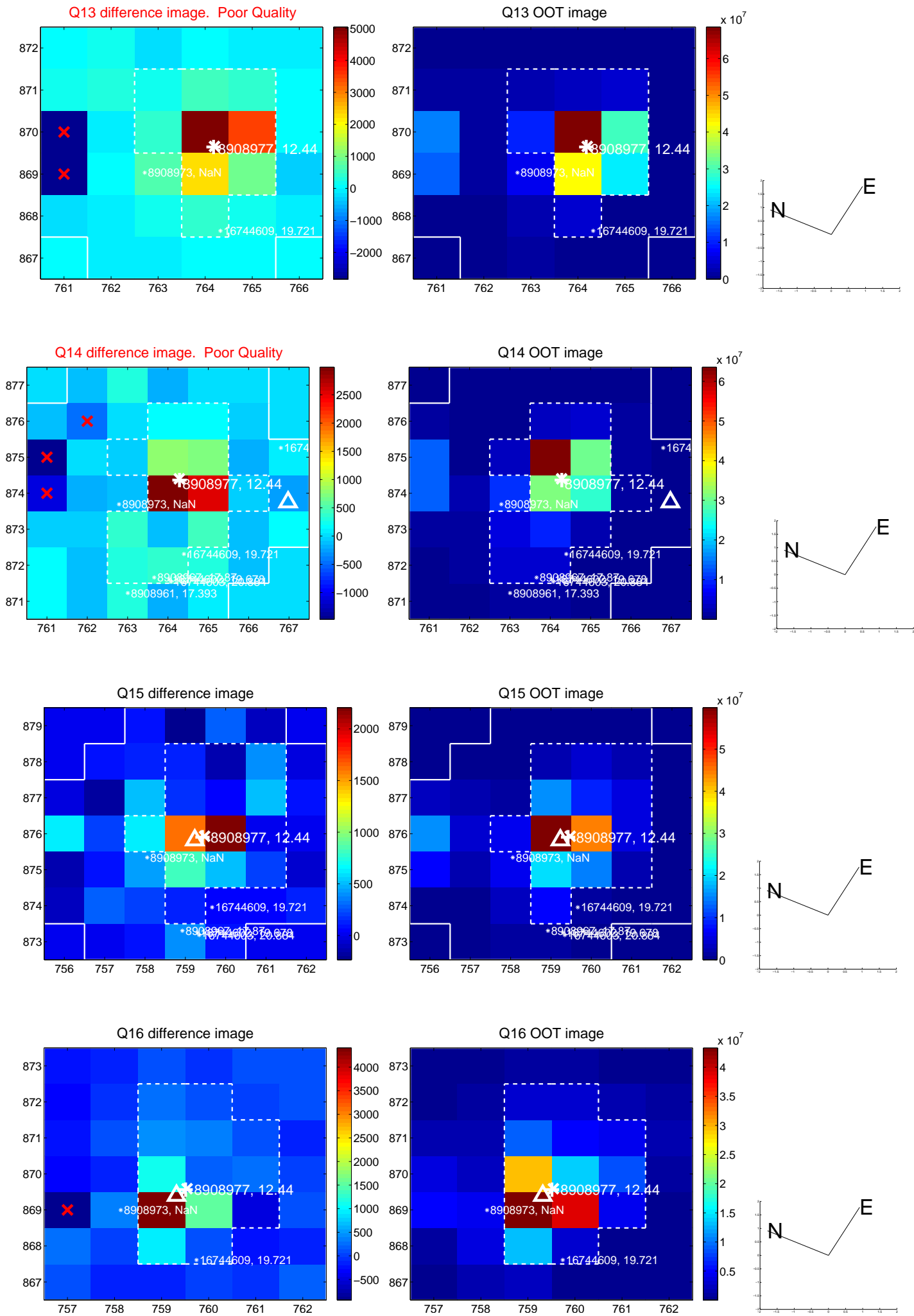
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



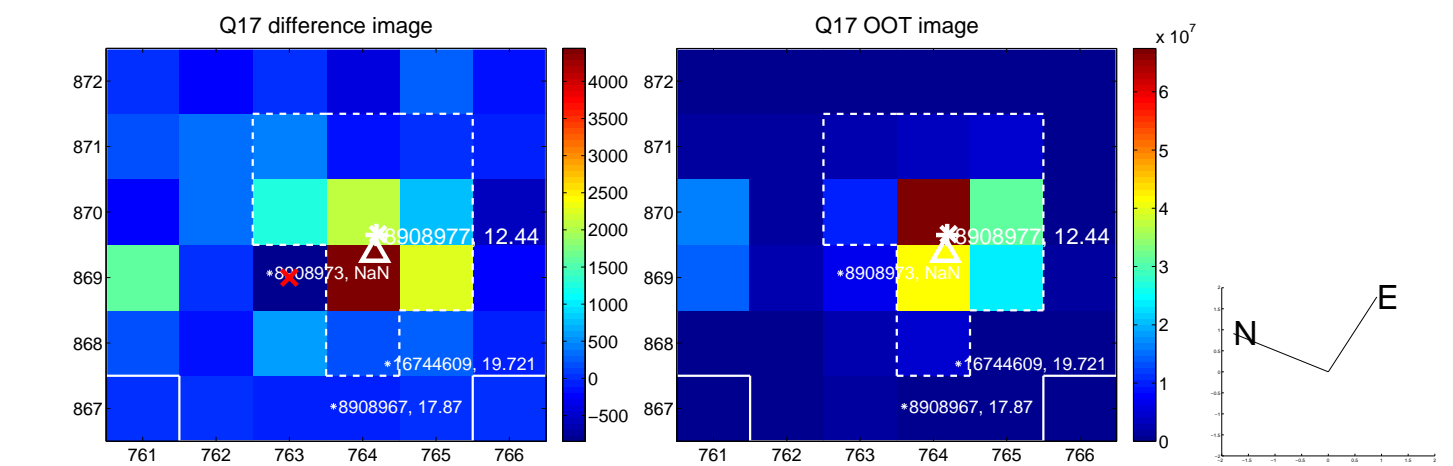
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



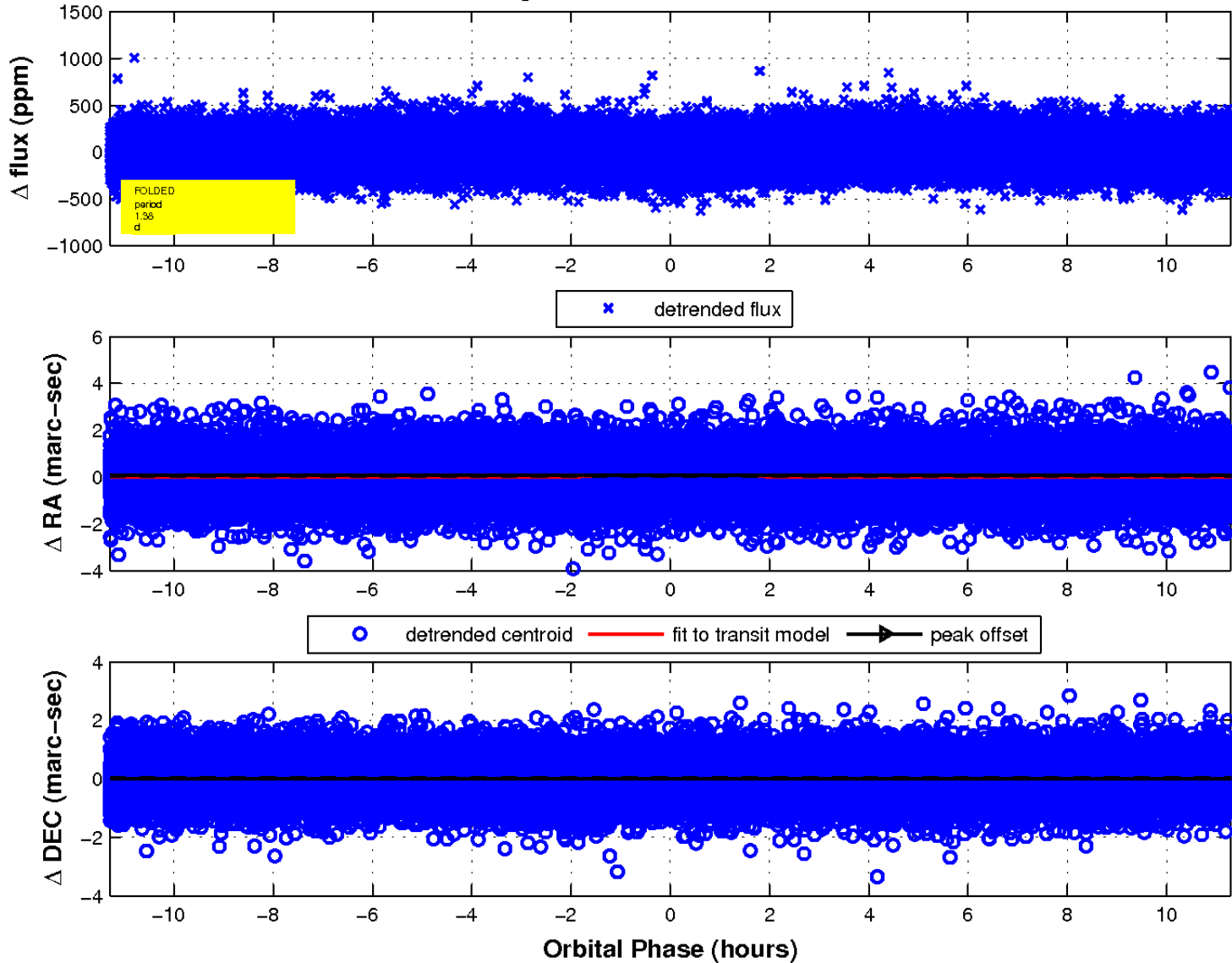
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

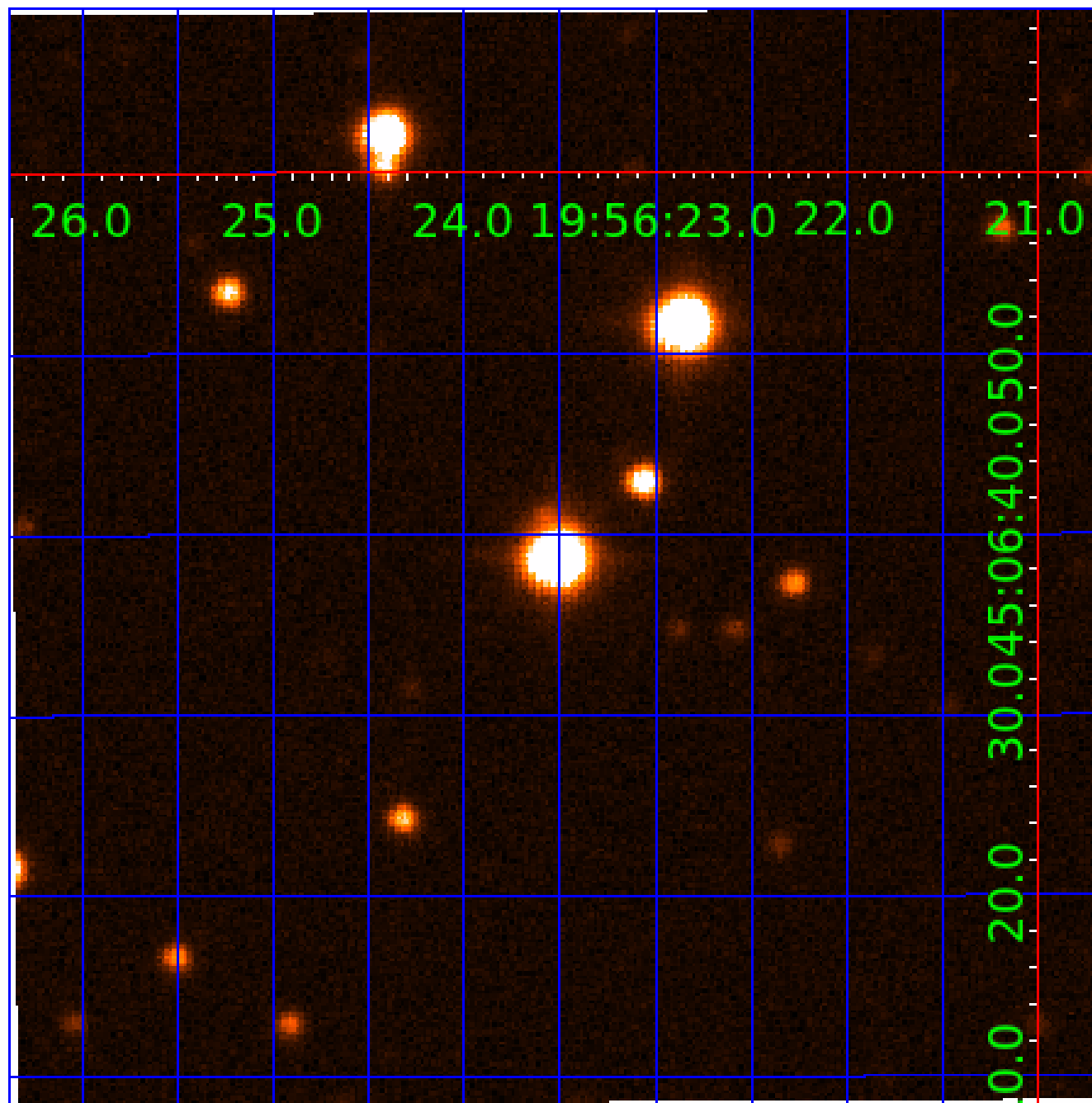


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 008908977

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})
008908977-01	OBS	No	1.382190	131.854730	34.0	3.764	11.0	11.6	1.37	5937	0.85	3698.35
008908977-02	OBS	No	1.382189	132.852969	32.2	4.059	11.8	12.2	1.37	5937	0.95	3698.35
008908977-03	OBS	No	81.107105	156.681026	331.9	2.315	7.1	7.9	1.37	5937	2.94	16.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008908977-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008908977-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
008908977-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

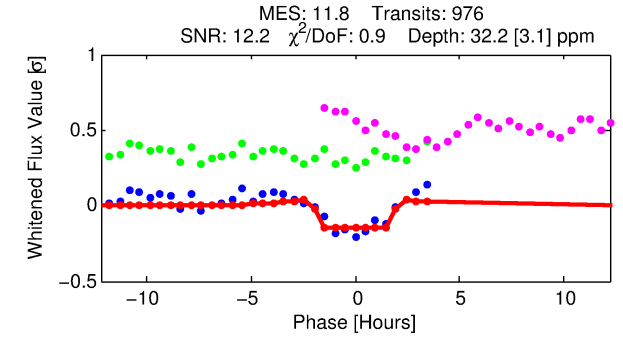
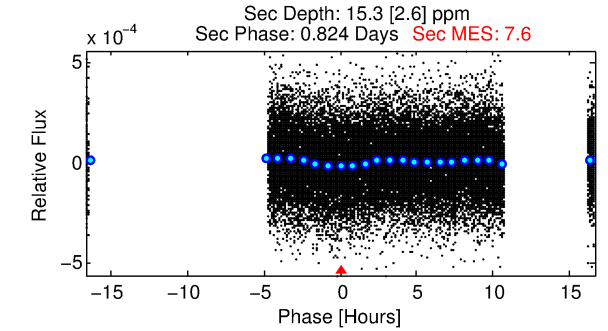
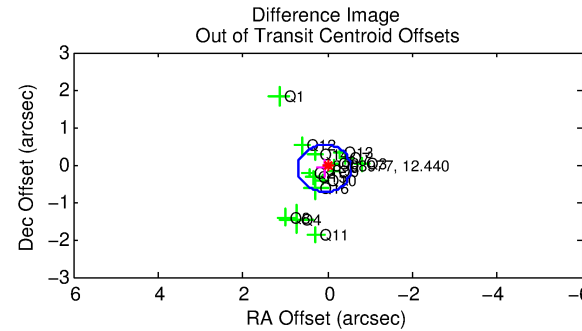
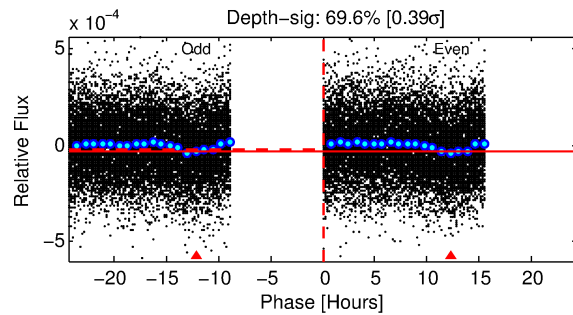
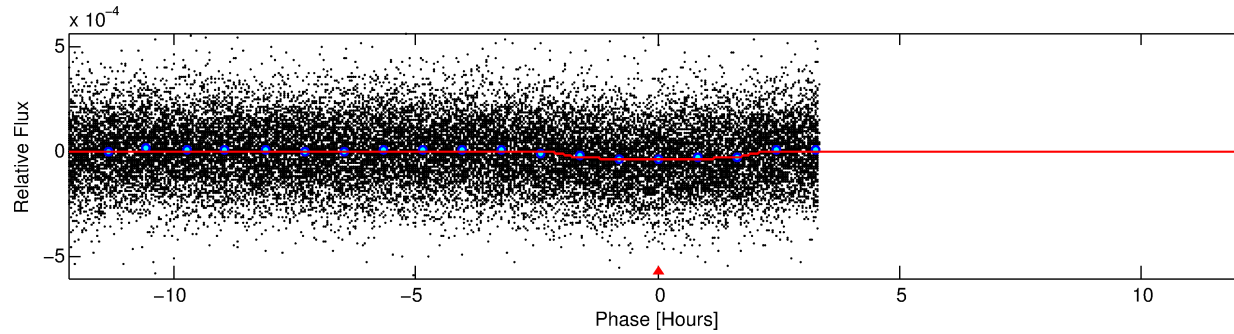
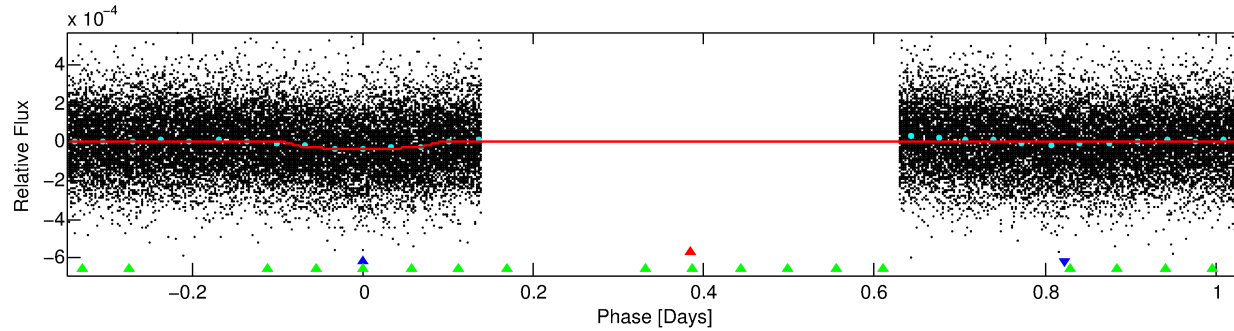
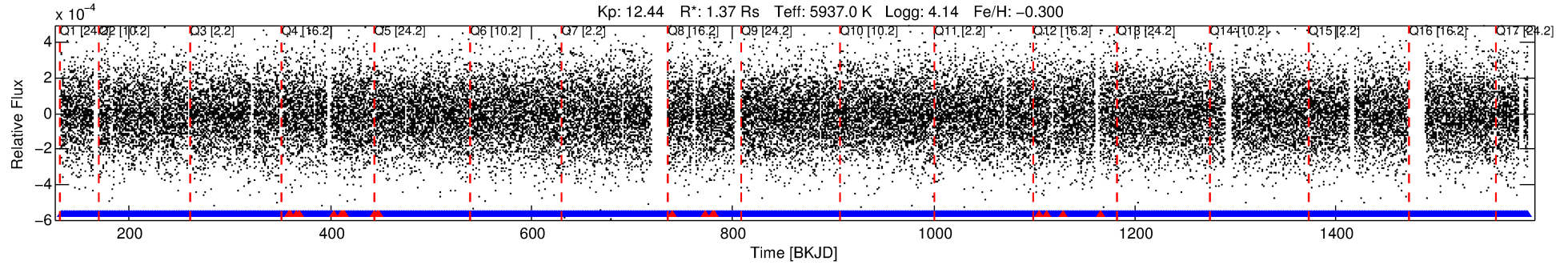
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008908977-02

No Significant Match Found

DV One-Page Summary

KIC: 8908977 Candidate: 2 of 3 Period: 1.382 d



DV Fit Results:

Period = 1.38219 [0.00001] d
Epoch = 132.8530 [0.0029] BKJD
Rp/R* = 0.0064 [0.0015]
a/R* = 1.35 [0.81]
b = 0.94 [0.17]
Seff = 3698.35 [2079.11]
Teq = 1989 [279] K
Rp = 0.95 [0.39] Re
a = 0.0238 [0.0079] AU
Ag = 5.20 [3.90] [1.08 σ]
Teffp = 4644 [616] K [3.93 σ]

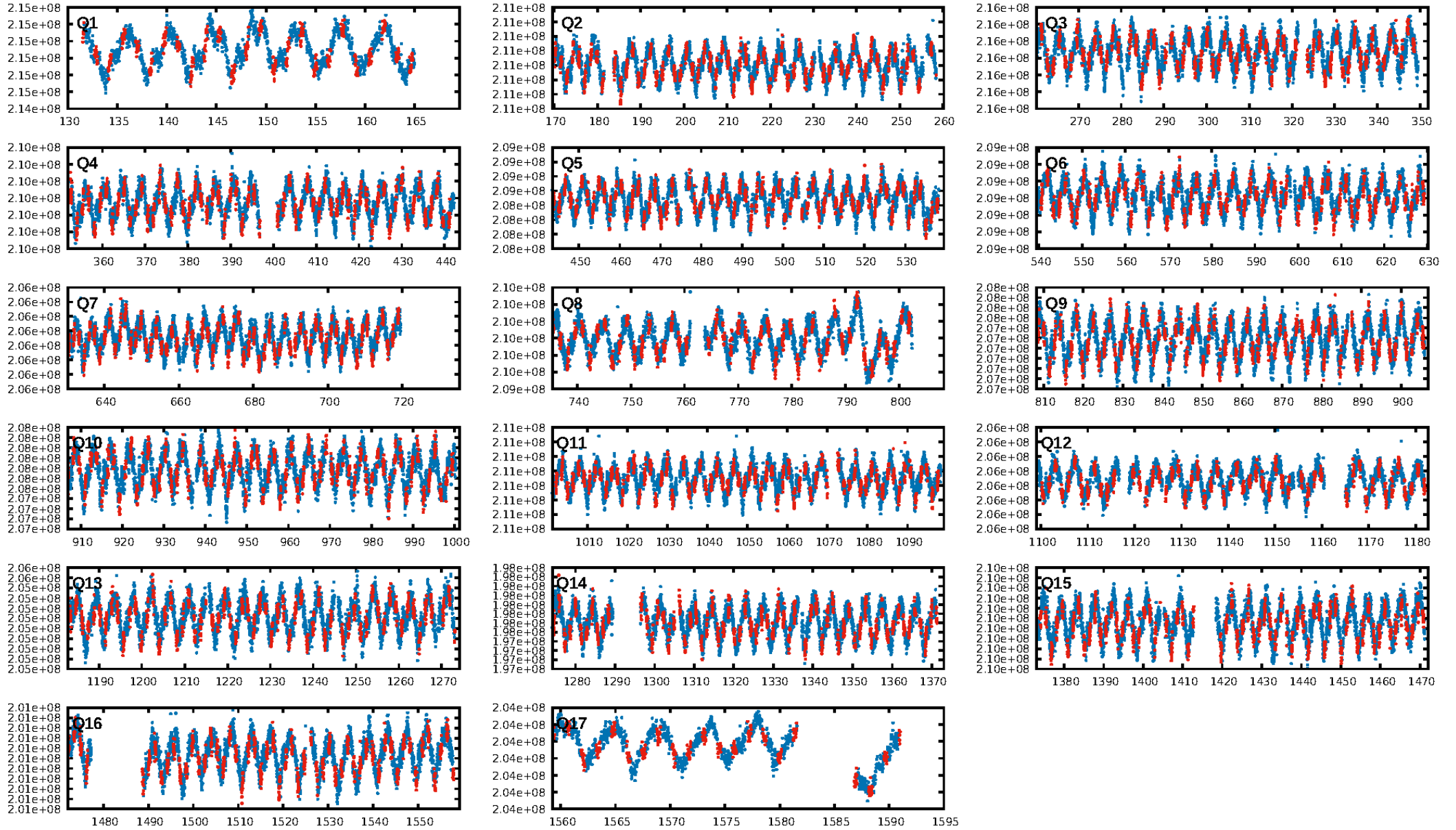
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.65e-24
RollingBand-fgm: 0.98 [911/930]
GhostDiagnostic-chr: 1.618
Centroid-sig: 0.6%
Centroid-so: 1.659 arcsec [2.73 σ]
OotOffset-rm: 0.123 arcsec [0.59 σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-rm: 0.109 arcsec [0.51 σ]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 0.00 [0/17]

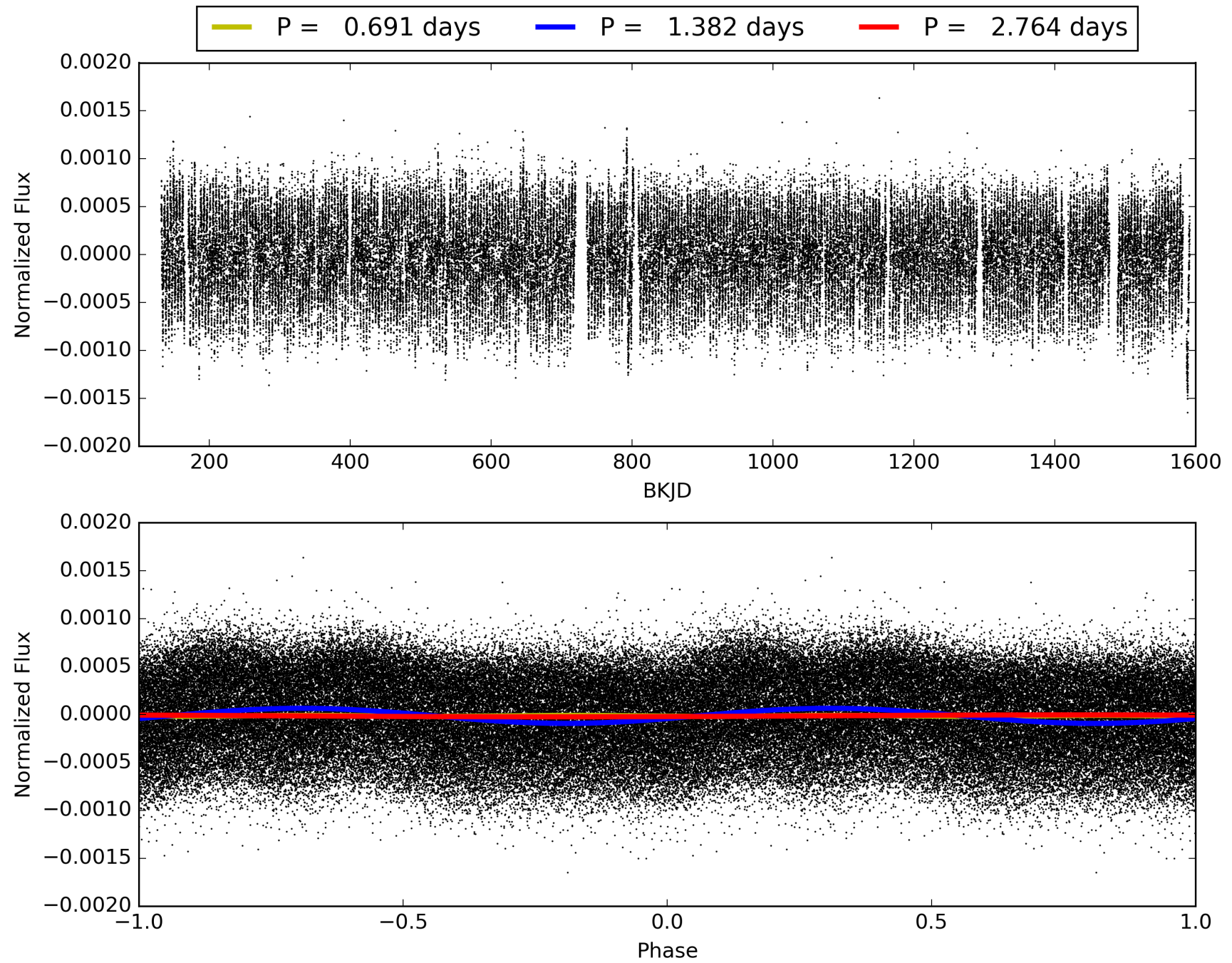
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:49:19 Z

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

TCE 008908977-02, PDC Light Curves

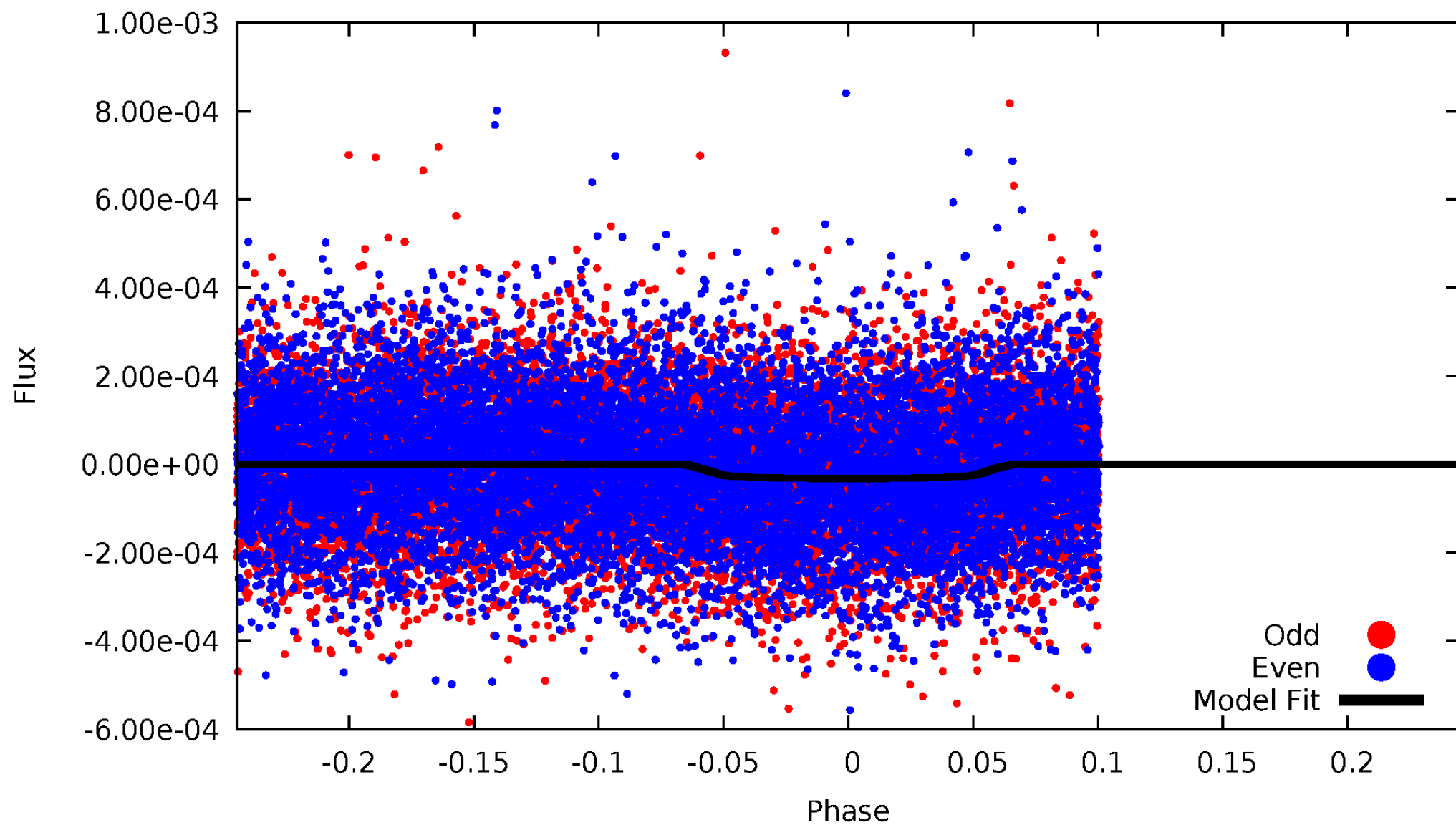


TCE 008908977-02



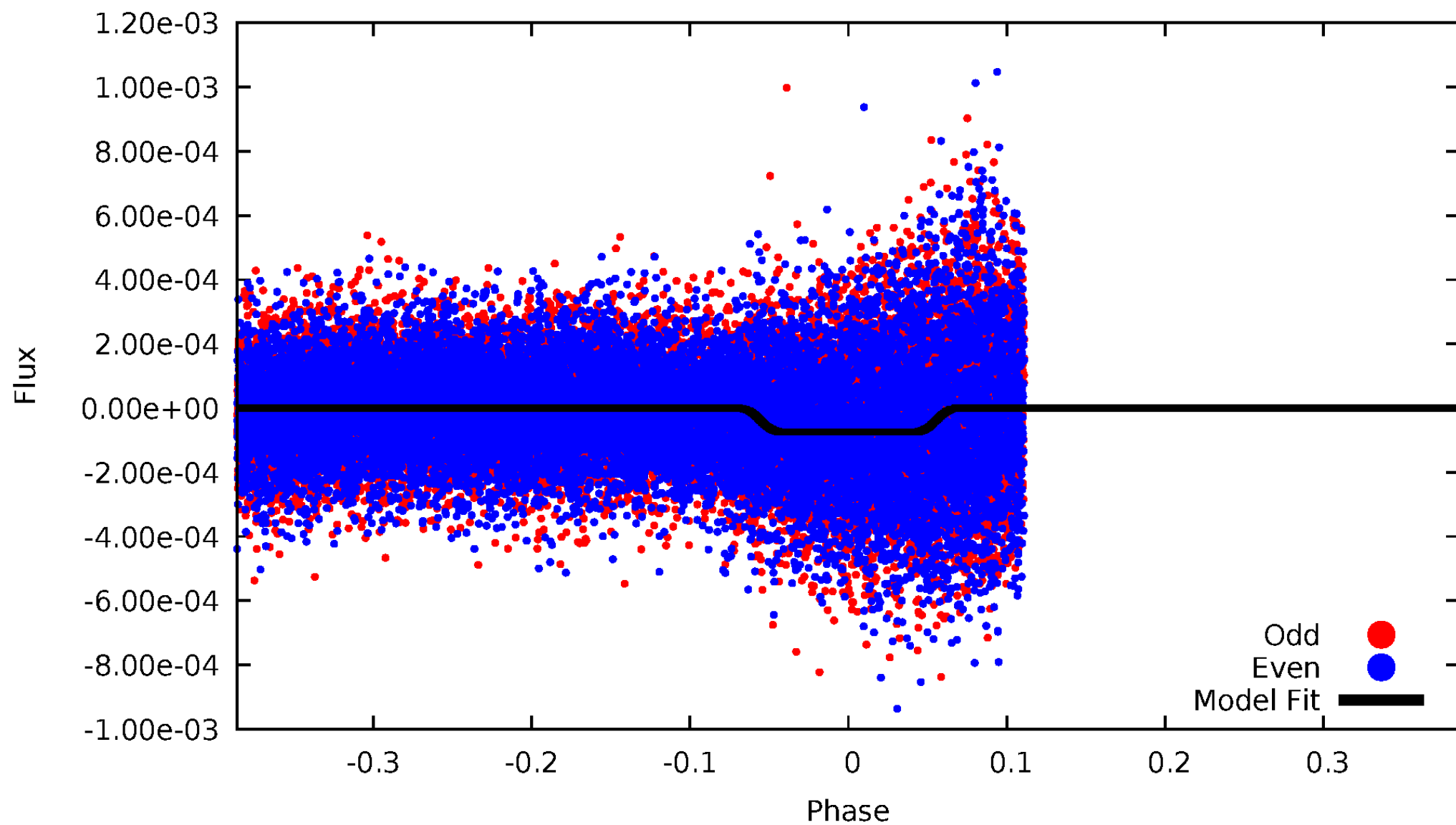
DV Odd/Even

TCE 008908977-02



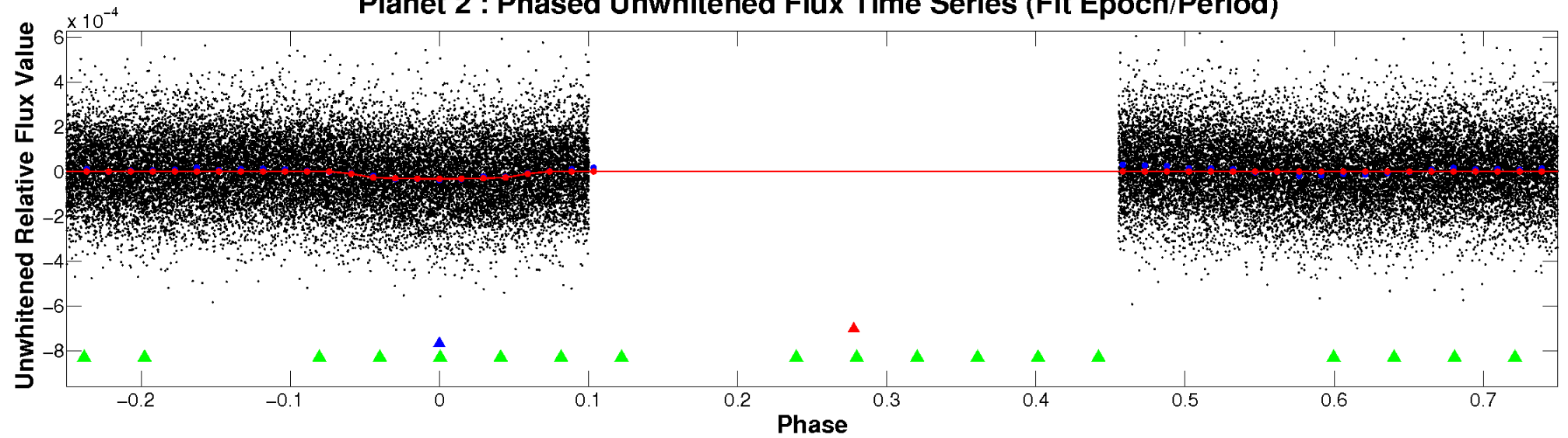
ALT Odd/Even

TCE 008908977-02

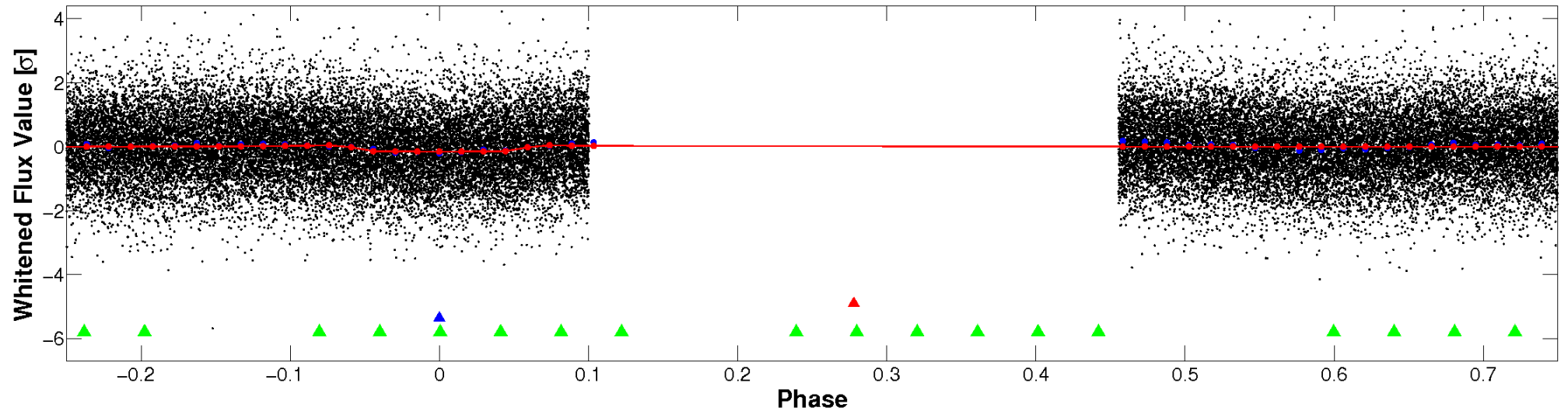


Non-Whitened Vs. Whitened Light Curve

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

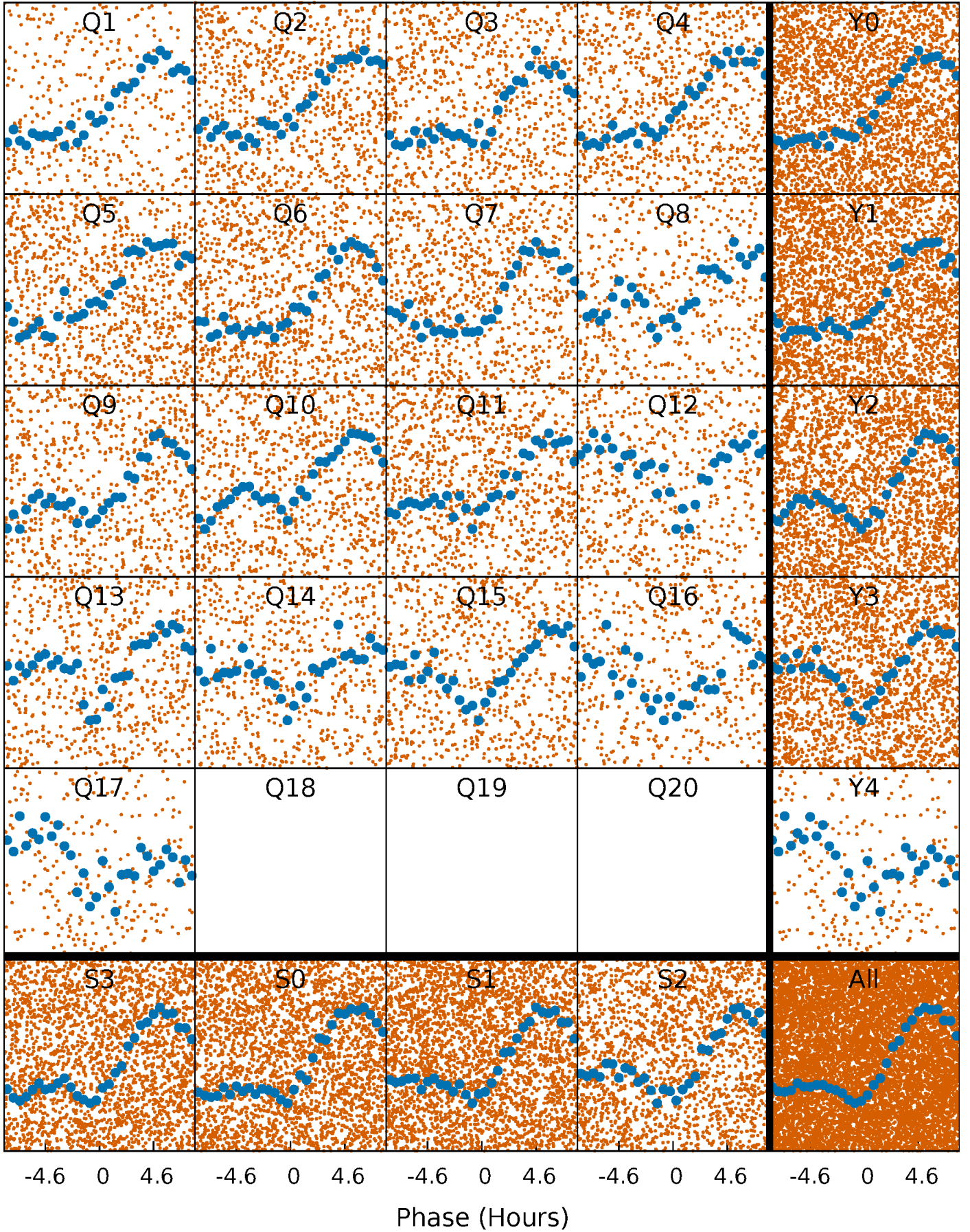


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



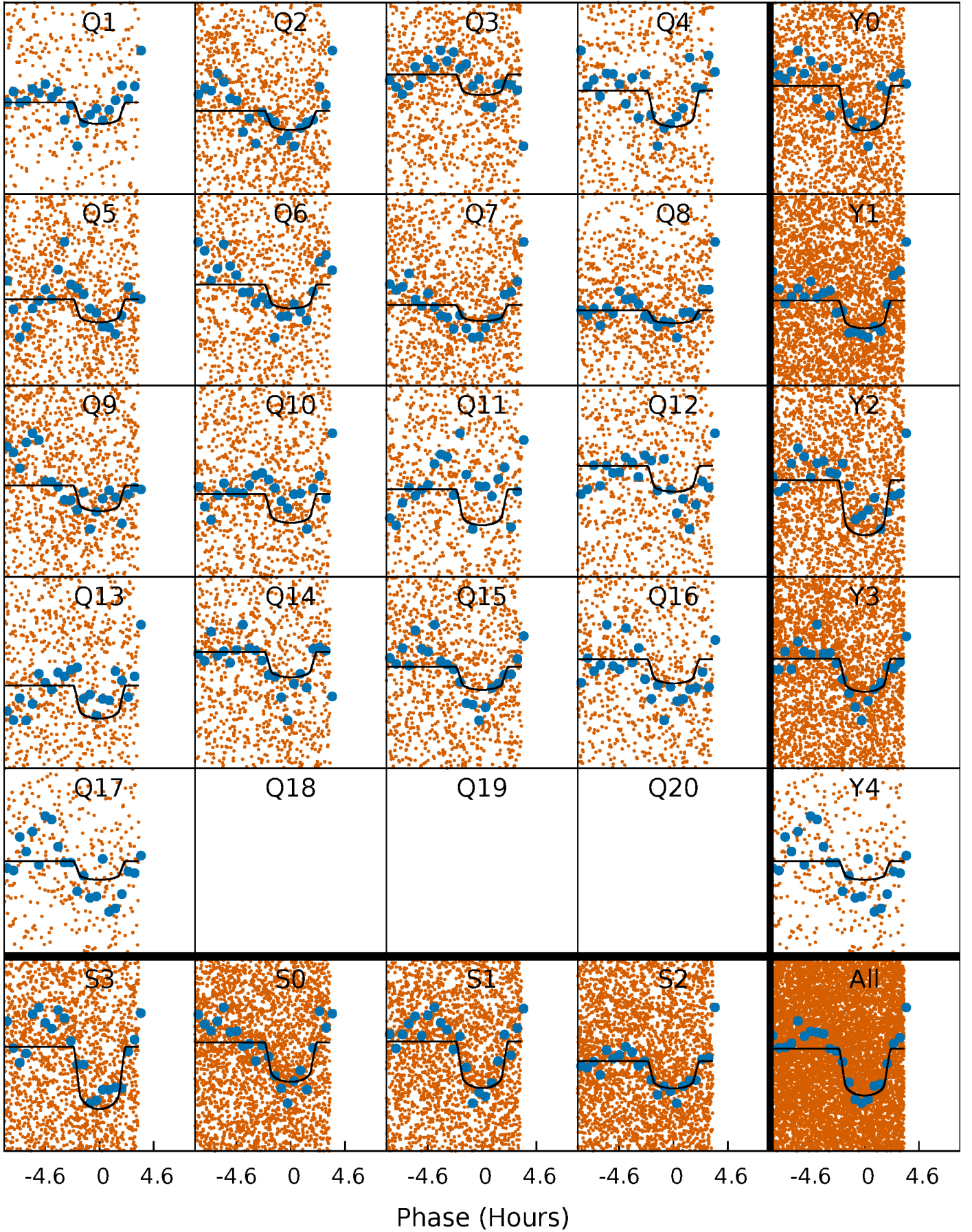
PDC Quarter-Phased Transit Curves

TCE 008908977-02 P= 1.382189 Days $T_0=132.852969$ (BKJD)



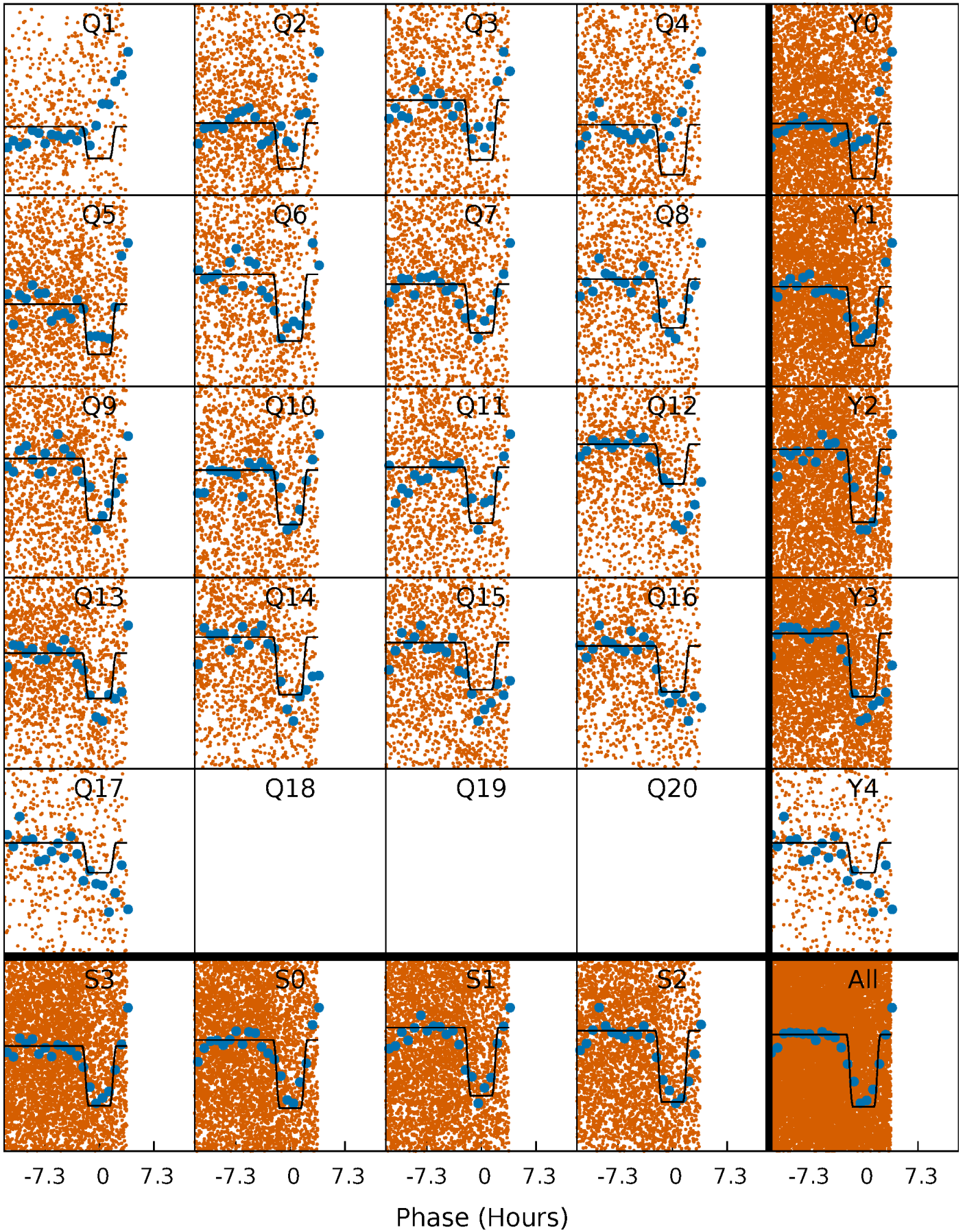
DV Quarter-Phased Transit Curves

TCE 008908977-02 P= 1.382189 Days $T_0=132.852969$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

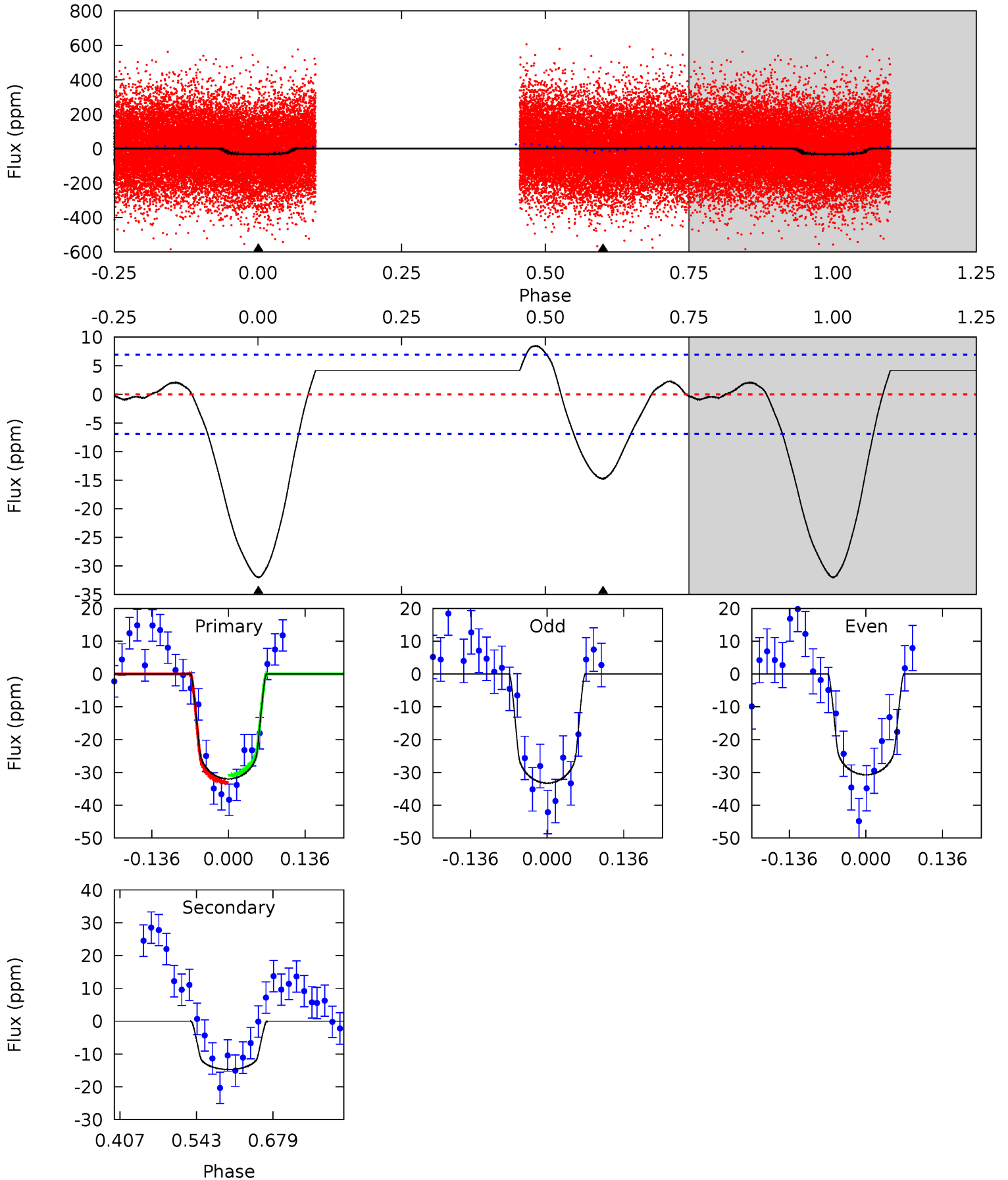
TCE 008908977-02 P= 1.382191 Days $T_0=132.837690$ (BKJD)



DV Model-Shift Uniqueness Test

008908977-02, P = 1.382189 Days, E = 131.470780 Days

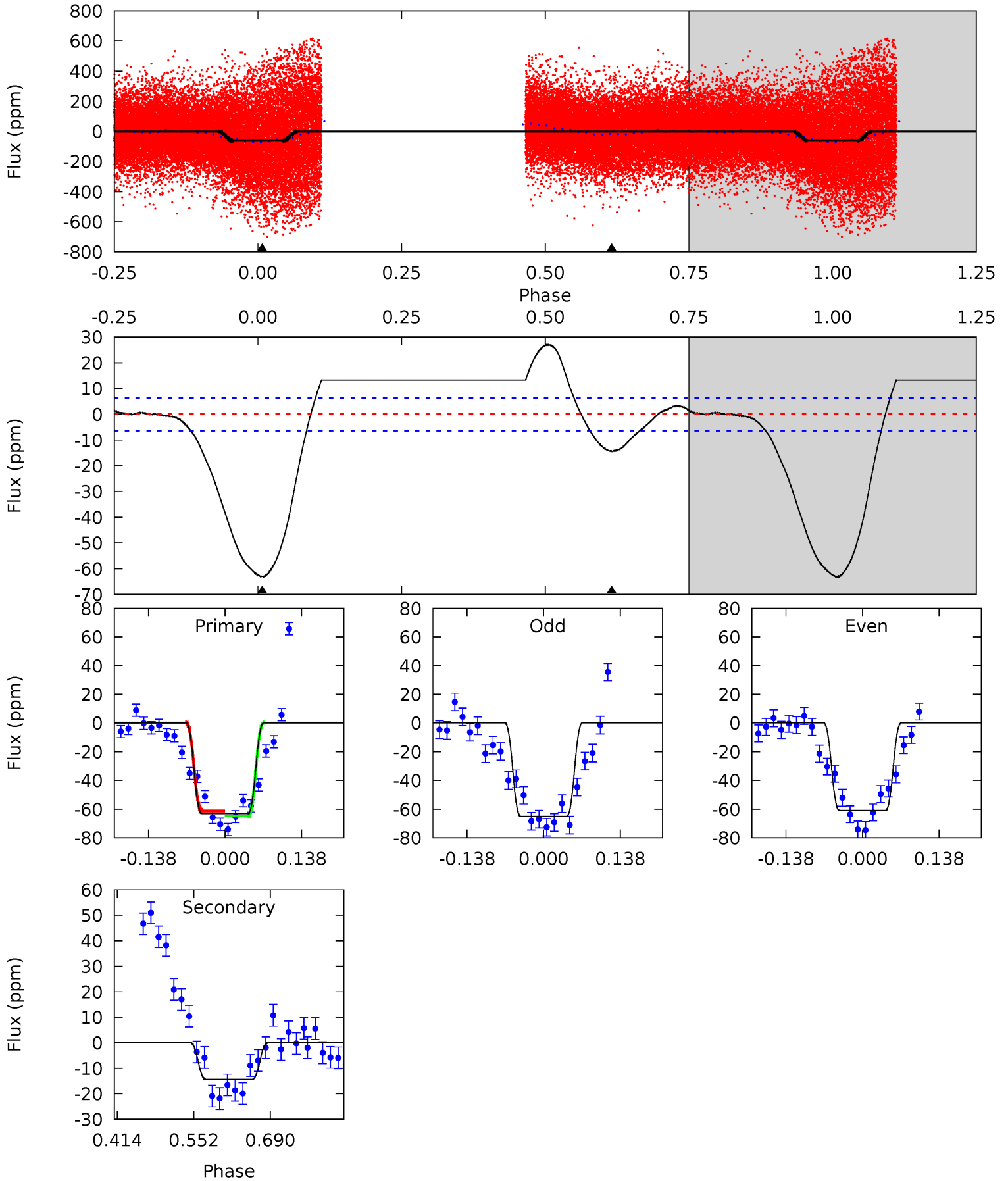
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.8	9.59	0	0	4.50	1.49	1.05	20.8	20.8	9.59	9.59	0.82	0.90	0.21	0.72



Alt Model-Shift Uniqueness Test

008908977-02, P = 1.382191 Days, E = 131.455499 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.4	10.1	0	0	4.50	1.48	3.54	44.4	44.4	10.1	10.1	1.44	0.89	0.30	0.82



Stellar Parameters For KIC 008908977

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5937^{+197}_{-197}	$4.136^{+0.325}_{-0.175}$	$-0.300^{+0.300}_{-0.300}$	$1.369^{+0.374}_{-0.457}$	$0.936^{+0.142}_{-0.106}$	$0.513^{+1.144}_{-0.244}$
	+3%/-3%	+8%/-4%	+100%/-100%	+27%/-33%	+15%/-11%	+223%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008908977-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-15 ± 2	$0.93^{+0.30}_{-0.28}$	2759^{+237}_{-252}	4697^{+678}_{-429}	$5.442^{+5.801}_{-2.343}$
Alt.	-14 ± 1	$1.24^{+0.33}_{-0.30}$	2742^{+230}_{-256}	4112^{+391}_{-282}	$2.877^{+2.212}_{-1.032}$

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

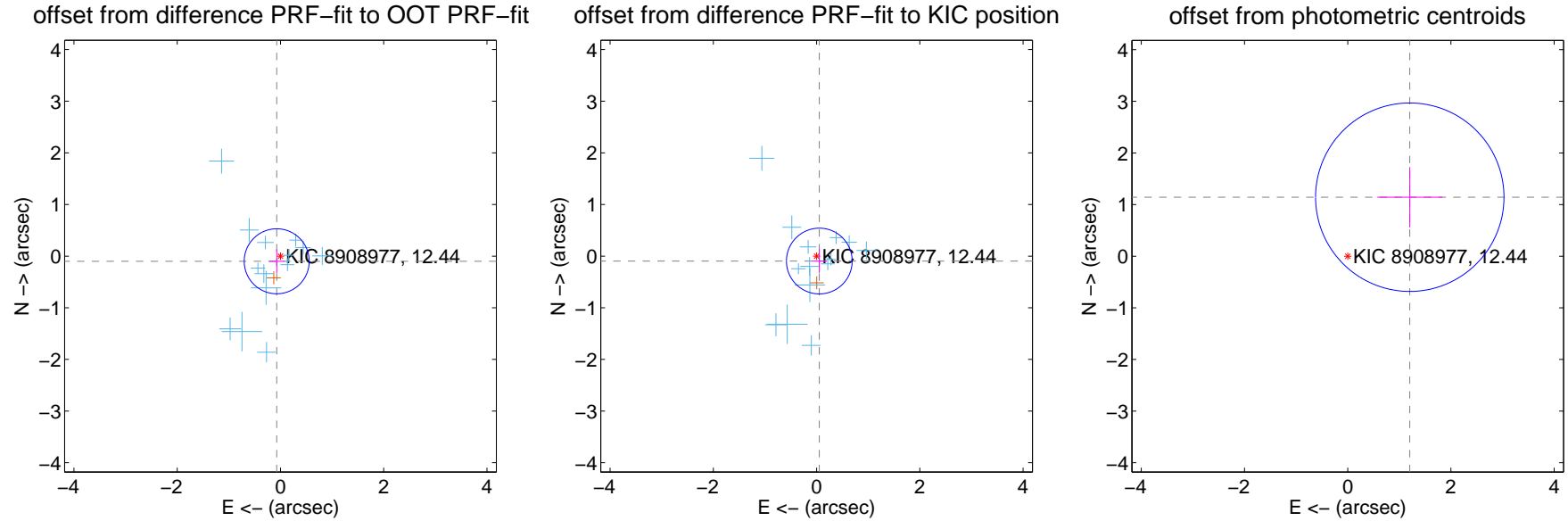
DV Centroid Data

Supplemental centroid analysis for 008908977-02. Kepler magnitude: 12.44. Transit SNR 12.20

There are 14 quarters with good PRF difference image offsets

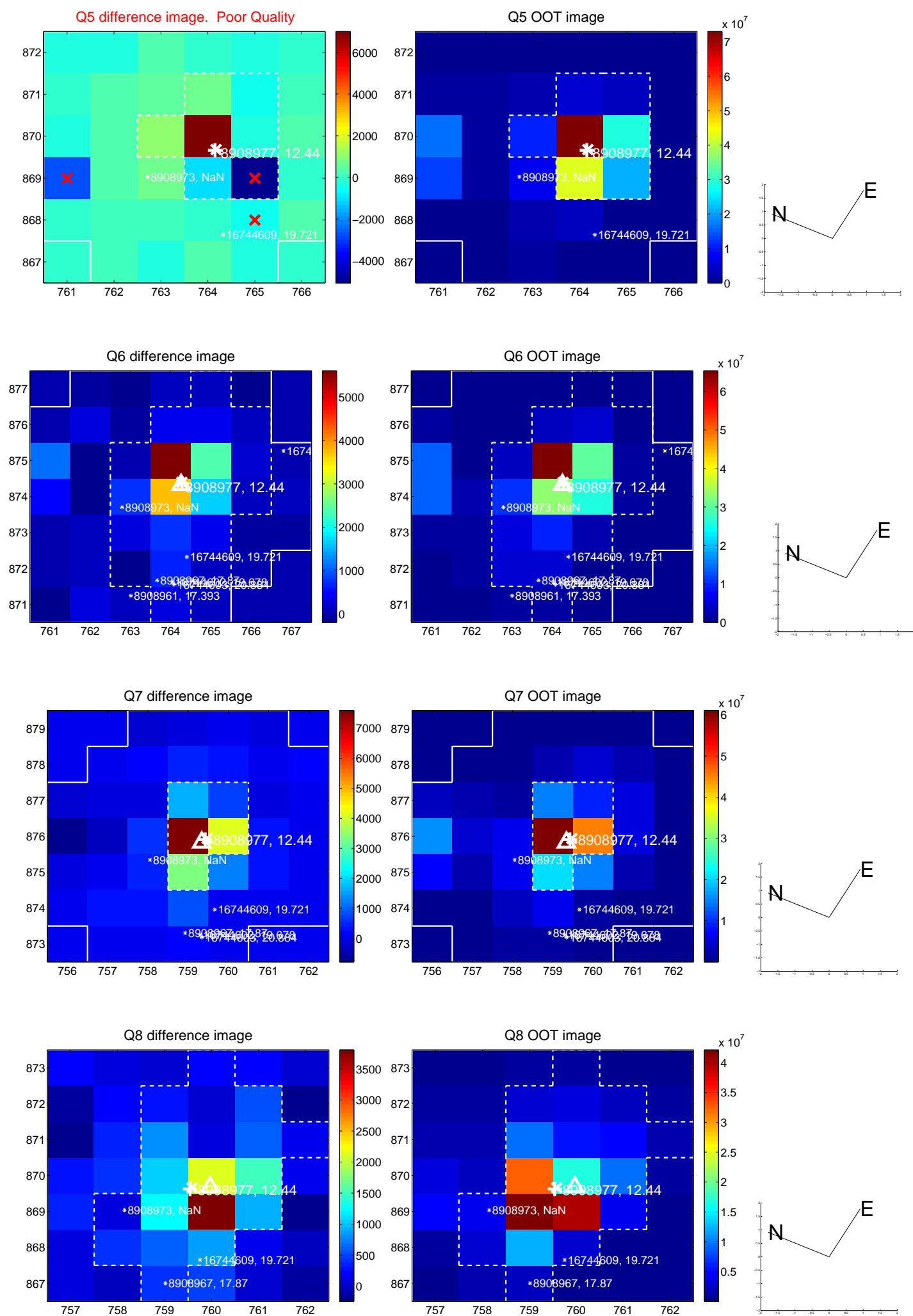
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.123 ± 0.210	0.59	0.073 ± 0.148	-0.100 ± 0.233
PRF-fit source offset from KIC position	0.109 ± 0.212	0.51	-0.053 ± 0.149	-0.095 ± 0.229
photometric centroid source offset	1.66 ± 0.61	2.73	-1.20 ± 0.63	1.14 ± 0.58

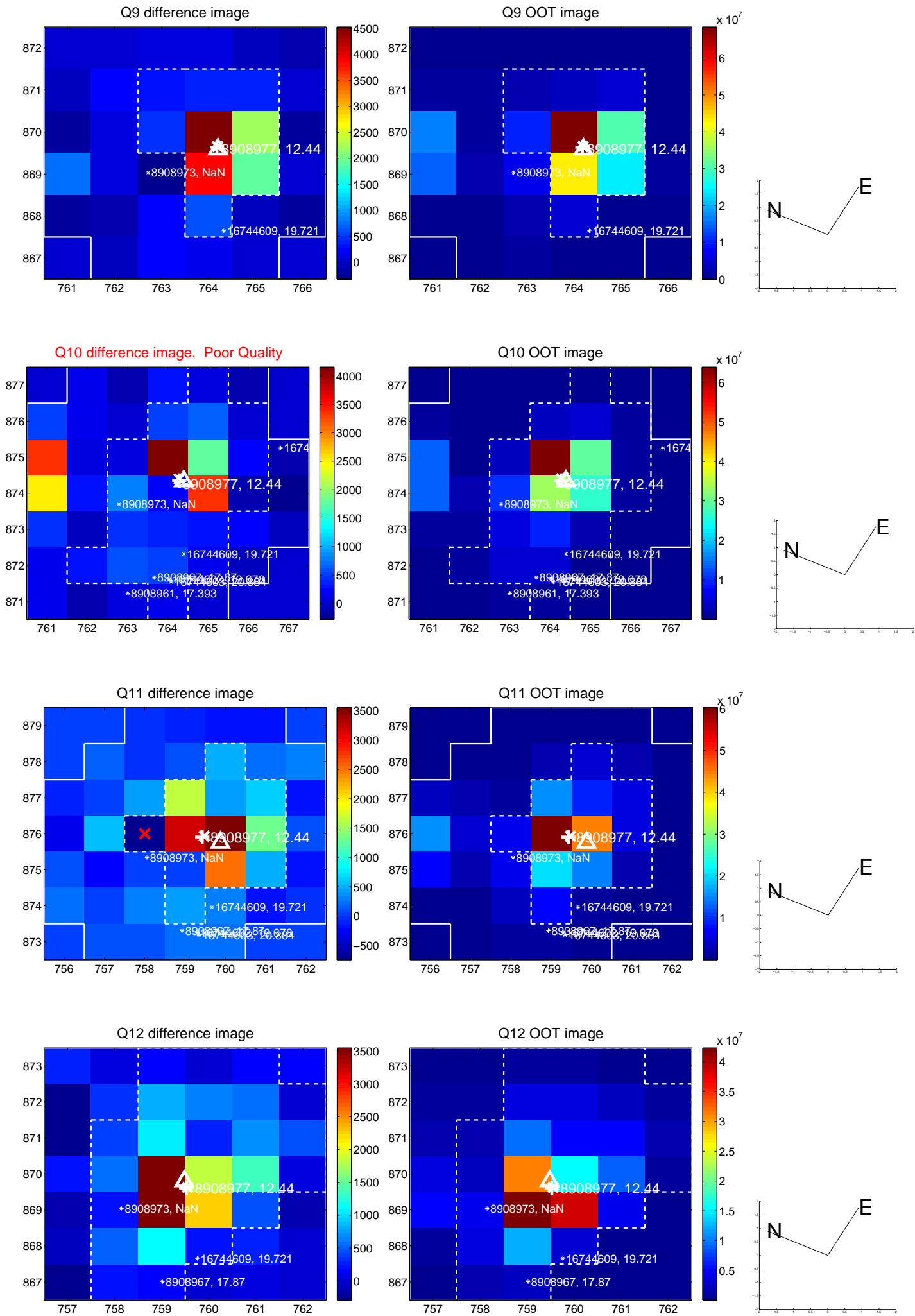


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

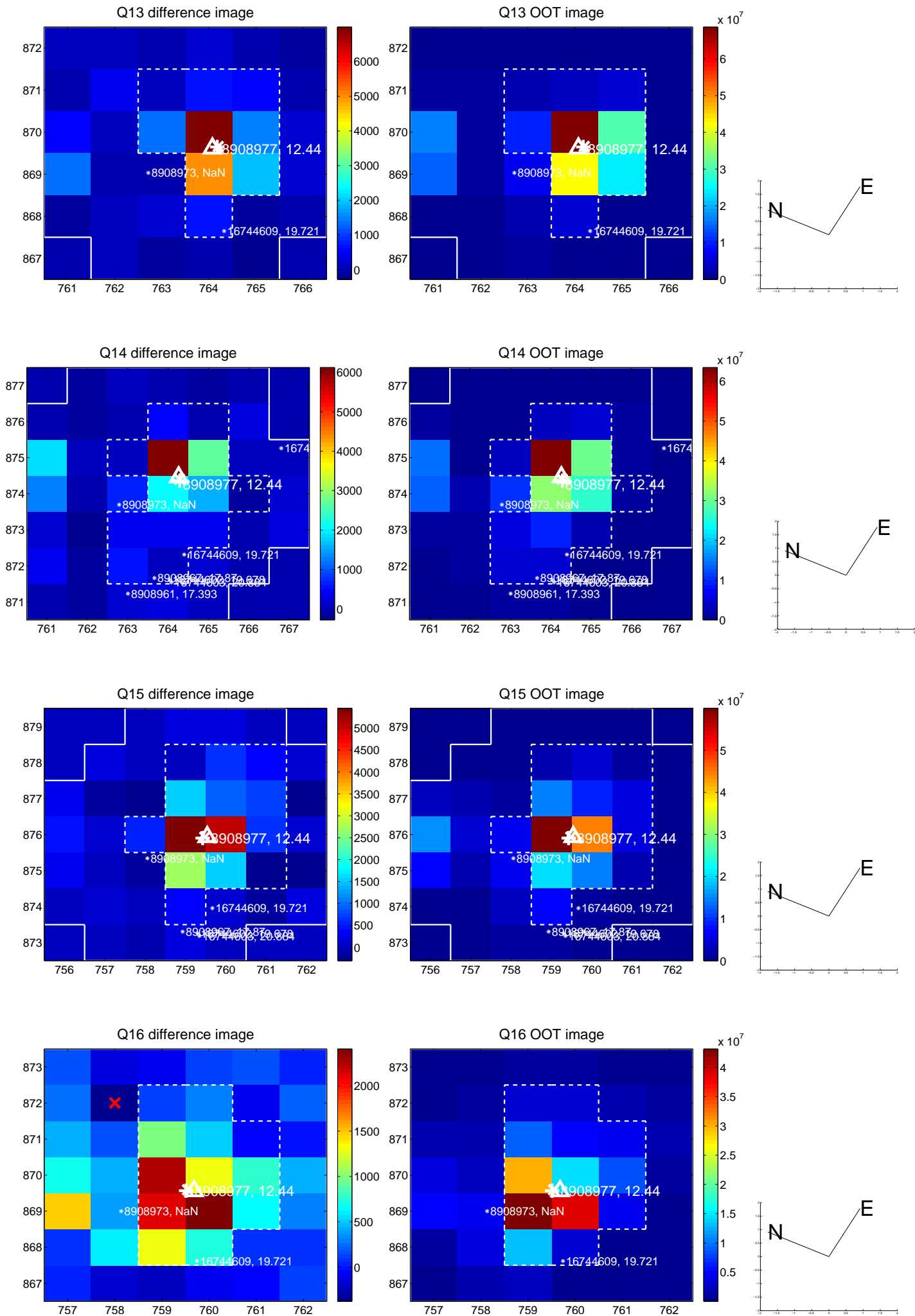
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



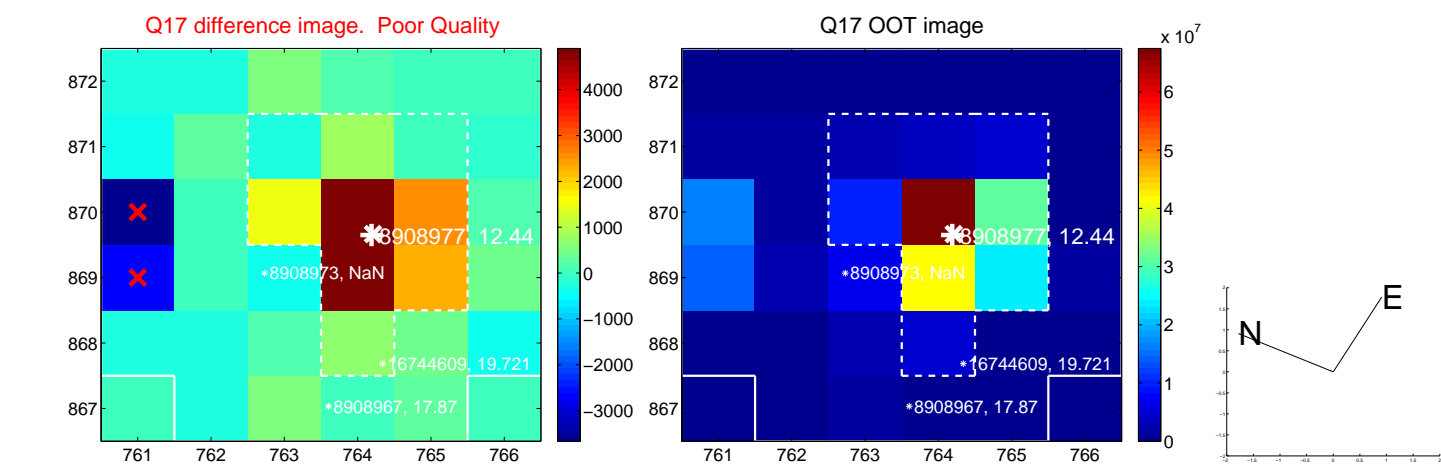
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



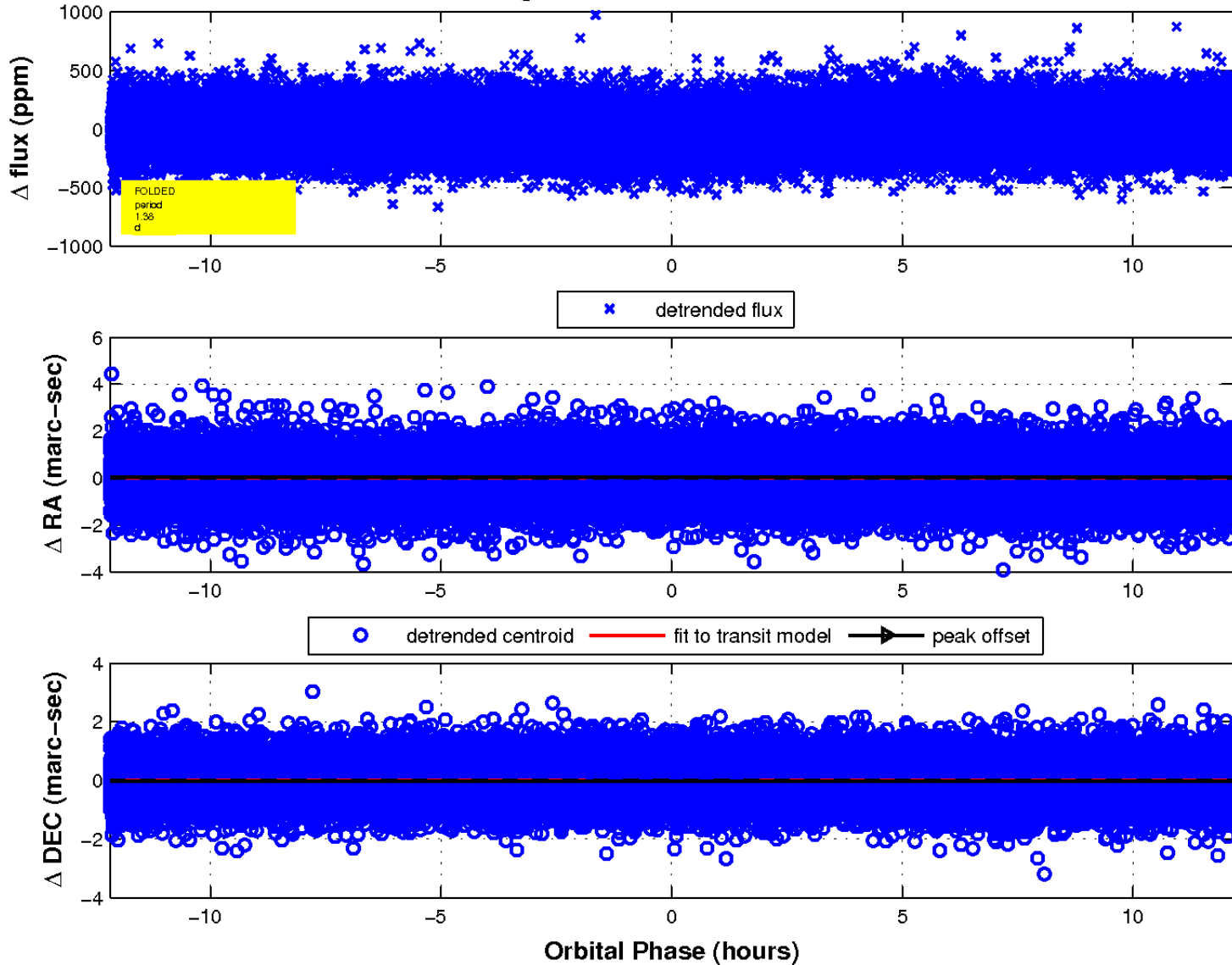
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

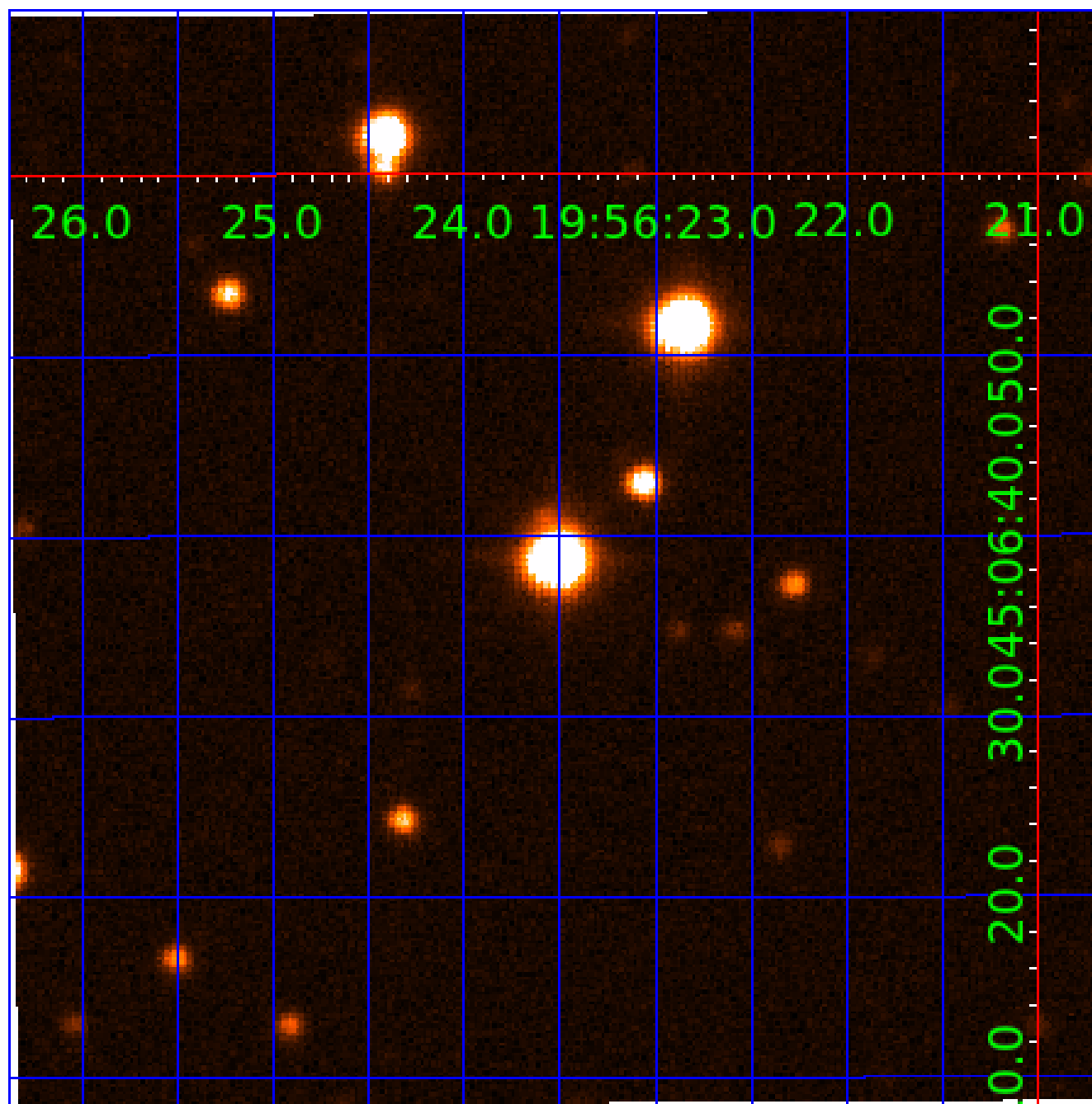


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 008908977

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})
008908977-01	OBS	No	1.382190	131.854730	34.0	3.764	11.0	11.6	1.37	5937	0.85	3698.35
008908977-02	OBS	No	1.382189	132.852969	32.2	4.059	11.8	12.2	1.37	5937	0.95	3698.35
008908977-03	OBS	No	81.107105	156.681026	331.9	2.315	7.1	7.9	1.37	5937	2.94	16.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008908977-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008908977-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
008908977-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

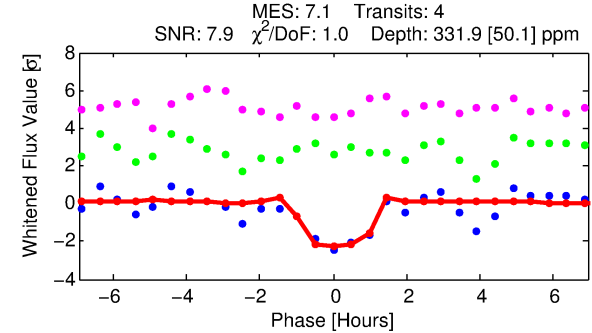
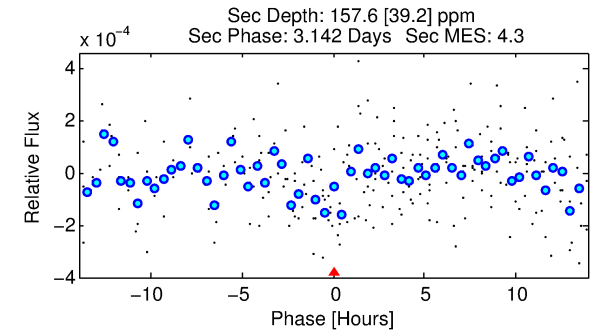
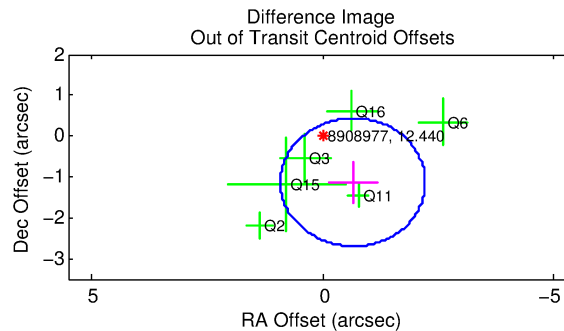
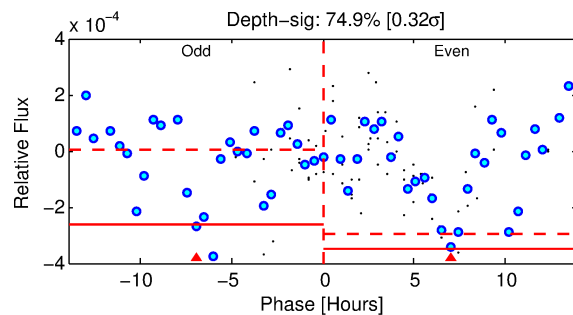
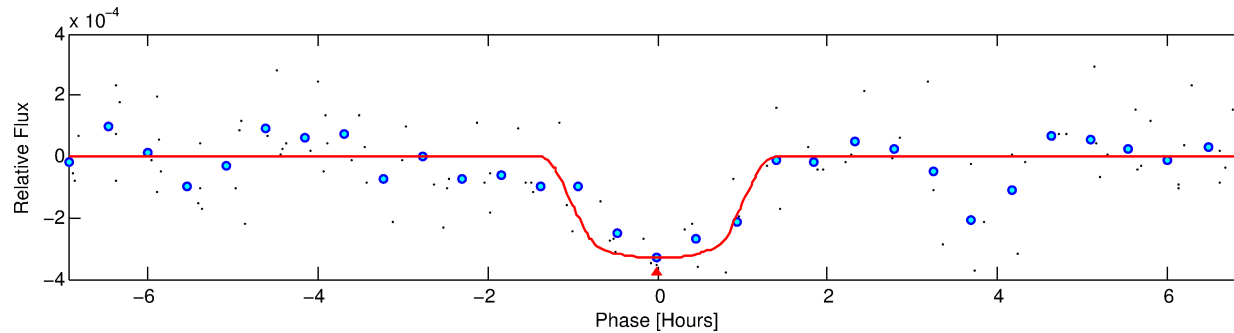
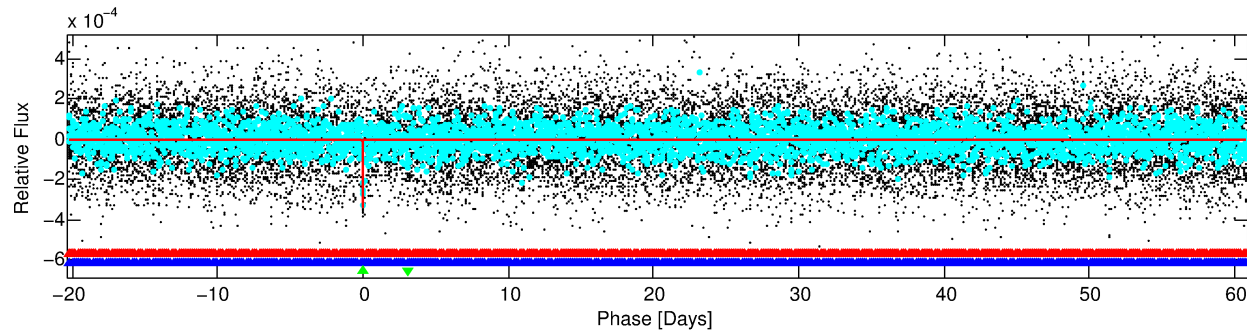
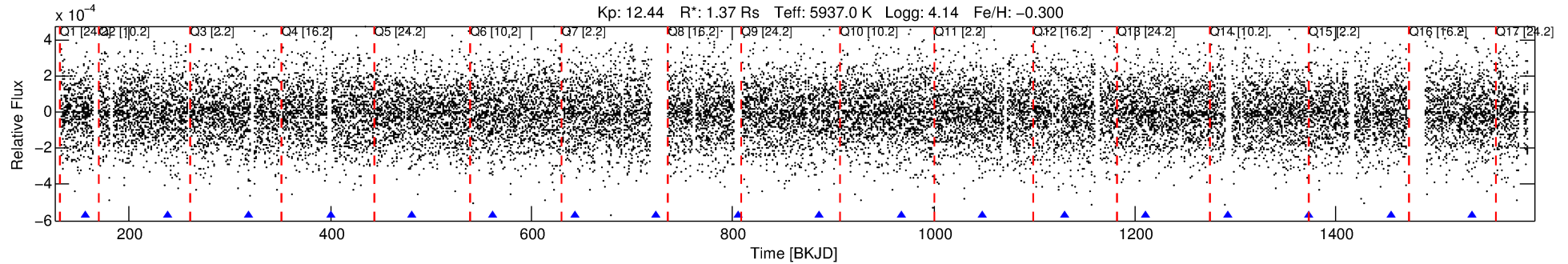
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008908977-03

No Significant Match Found

DV One-Page Summary

KIC: 8908977 Candidate: 3 of 3 Period: 81.107 d



DV Fit Results:

Period = 81.10711 [0.00076] d
Epoch = 156.6810 [0.0076] BKJD
Rp/R* = 0.0197 [0.0140]
a/R* = 128.34 [466.49]
b = 0.90 [0.78]
Seff = 16.22 [9.12]
Teq = 512 [72] K
Rp = 2.94 [2.31] Re
a = 0.3587 [0.1199] AU
Ag = 1287.59 [1989.22] [0.65 σ]
Teff = 4739 [1719] K [2.46 σ]

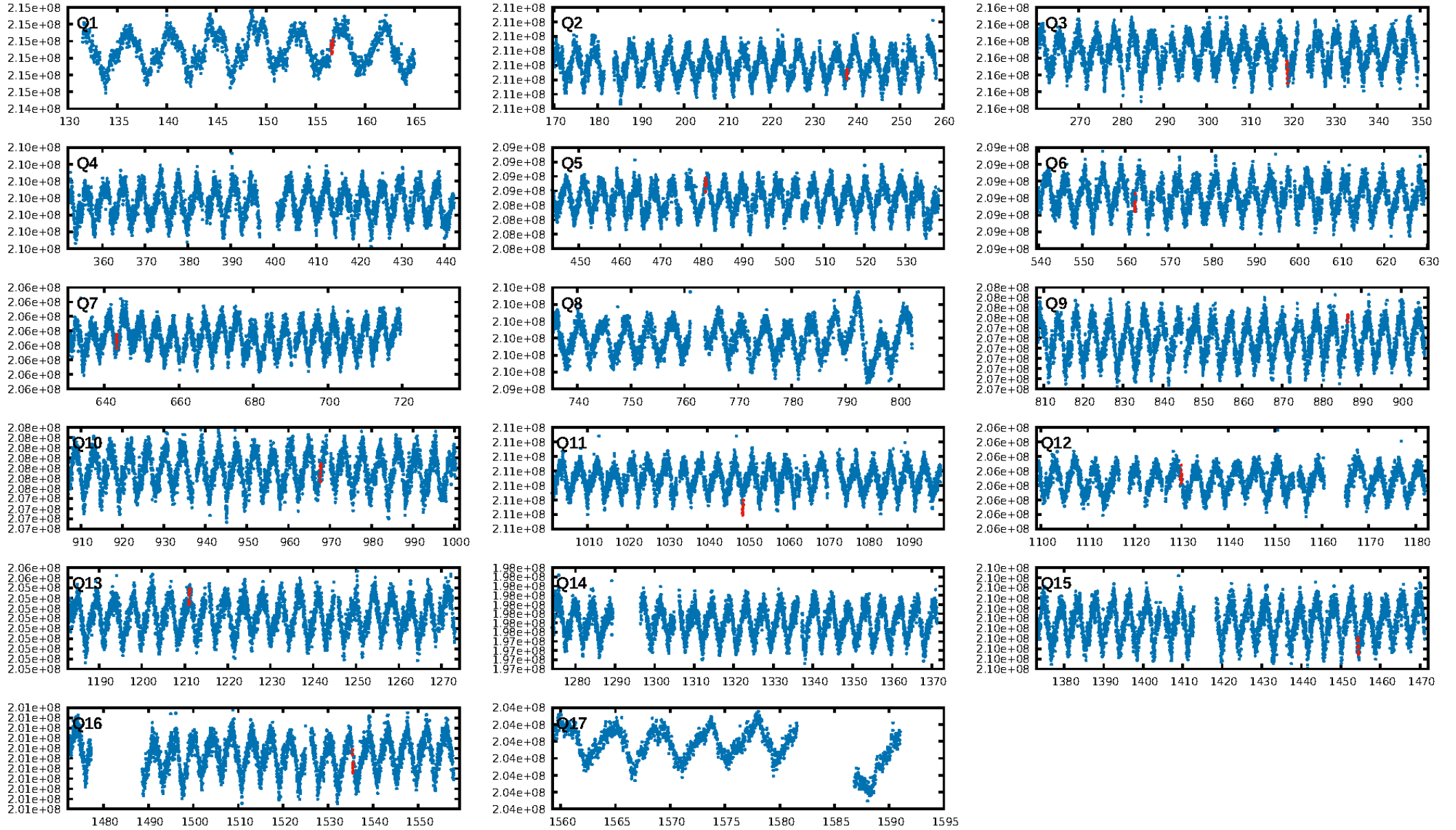
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [432.98 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 58.5%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 3.04e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.241
Centroid-sig: 1.3%
Centroid-so: 1.189 arcsec [1.71 σ]
OotOffset-rm: 1.309 arcsec [2.50 σ]
KicOffset-rm: 1.341 arcsec [2.58 σ]
OotOffset-st: 2/3/1/0 [6]
KicOffset-st: 2/3/1/0 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 0.27 [3/11]

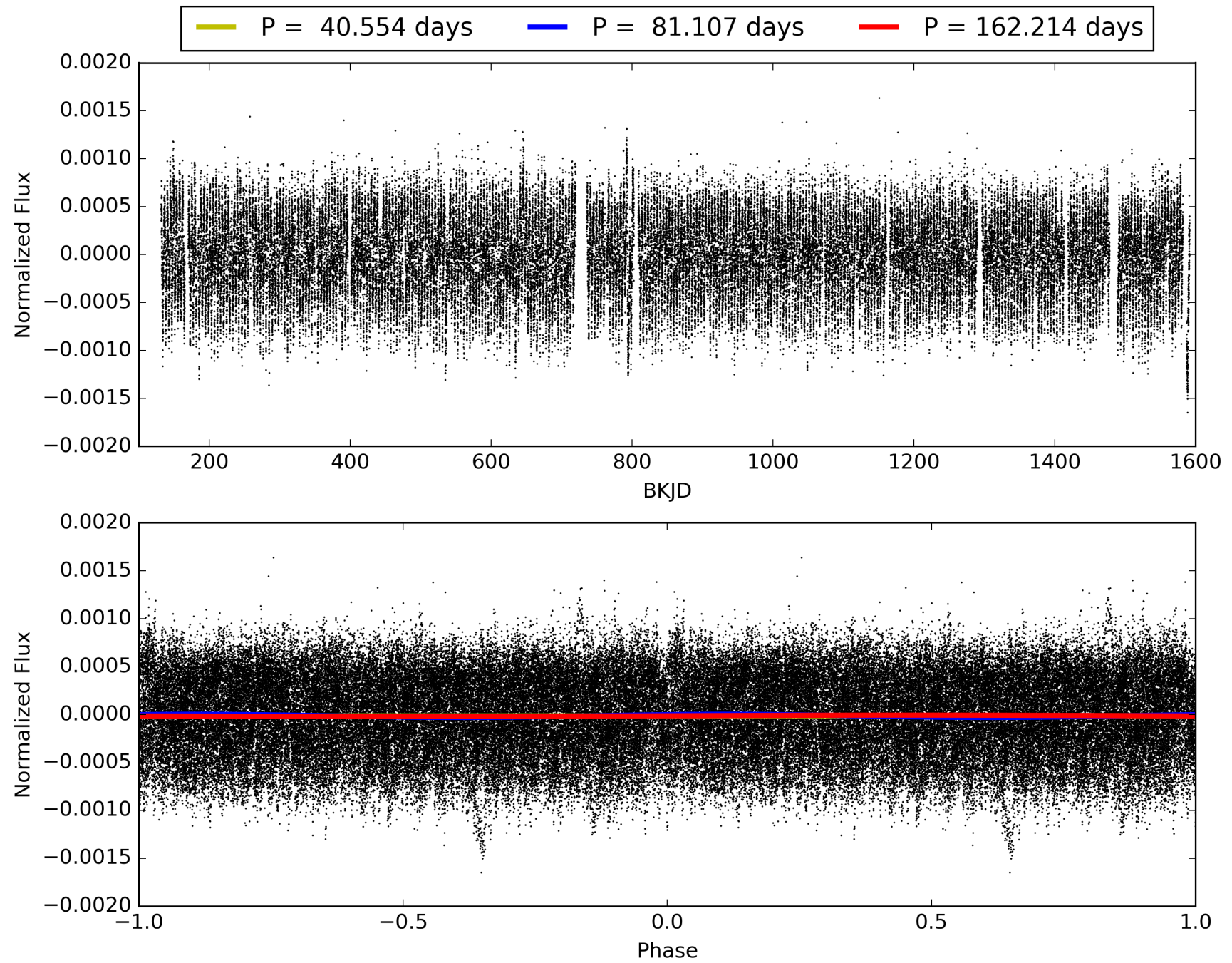
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:49:27 Z

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

TCE 008908977-03, PDC Light Curves

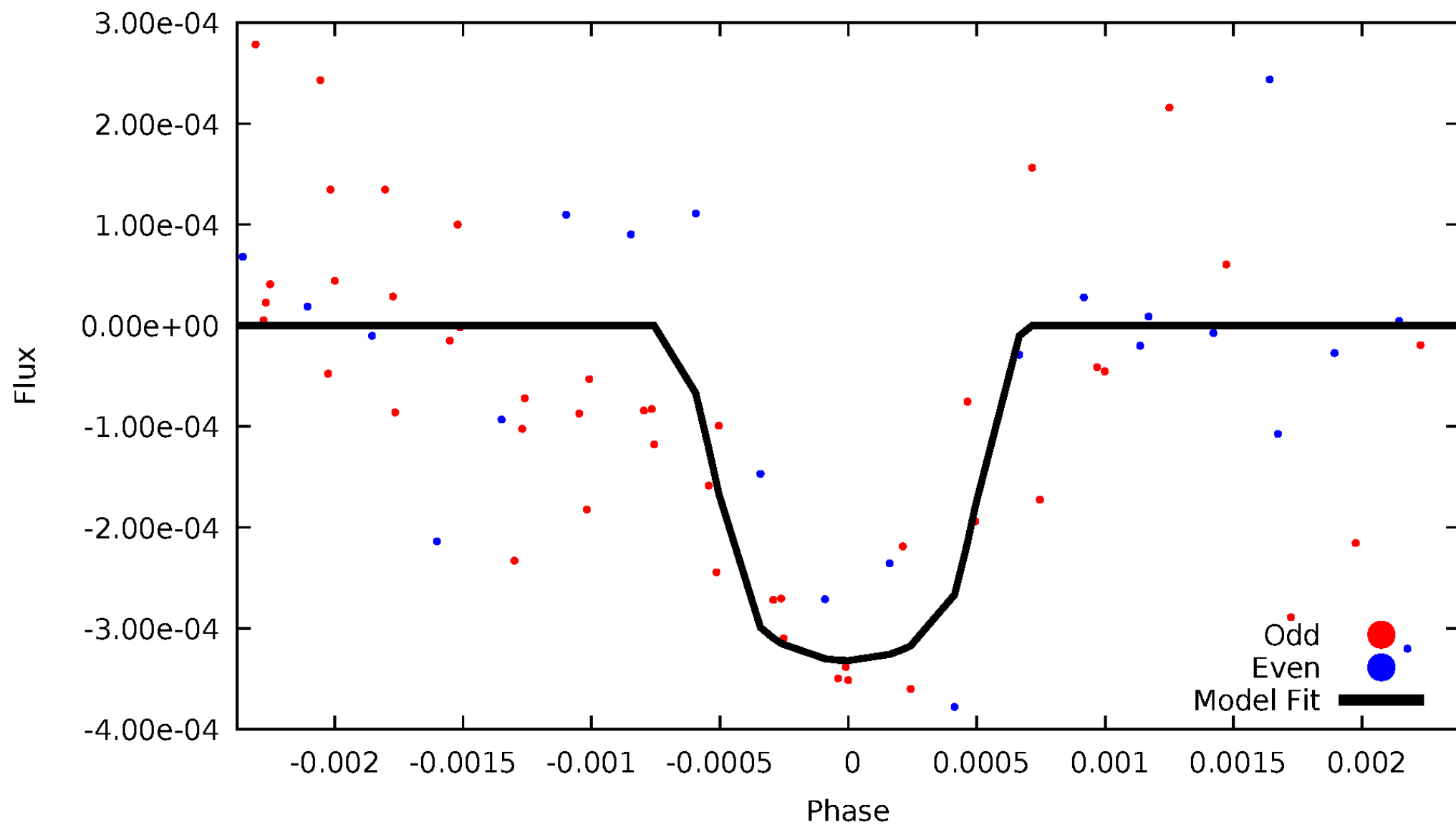


TCE 008908977-03



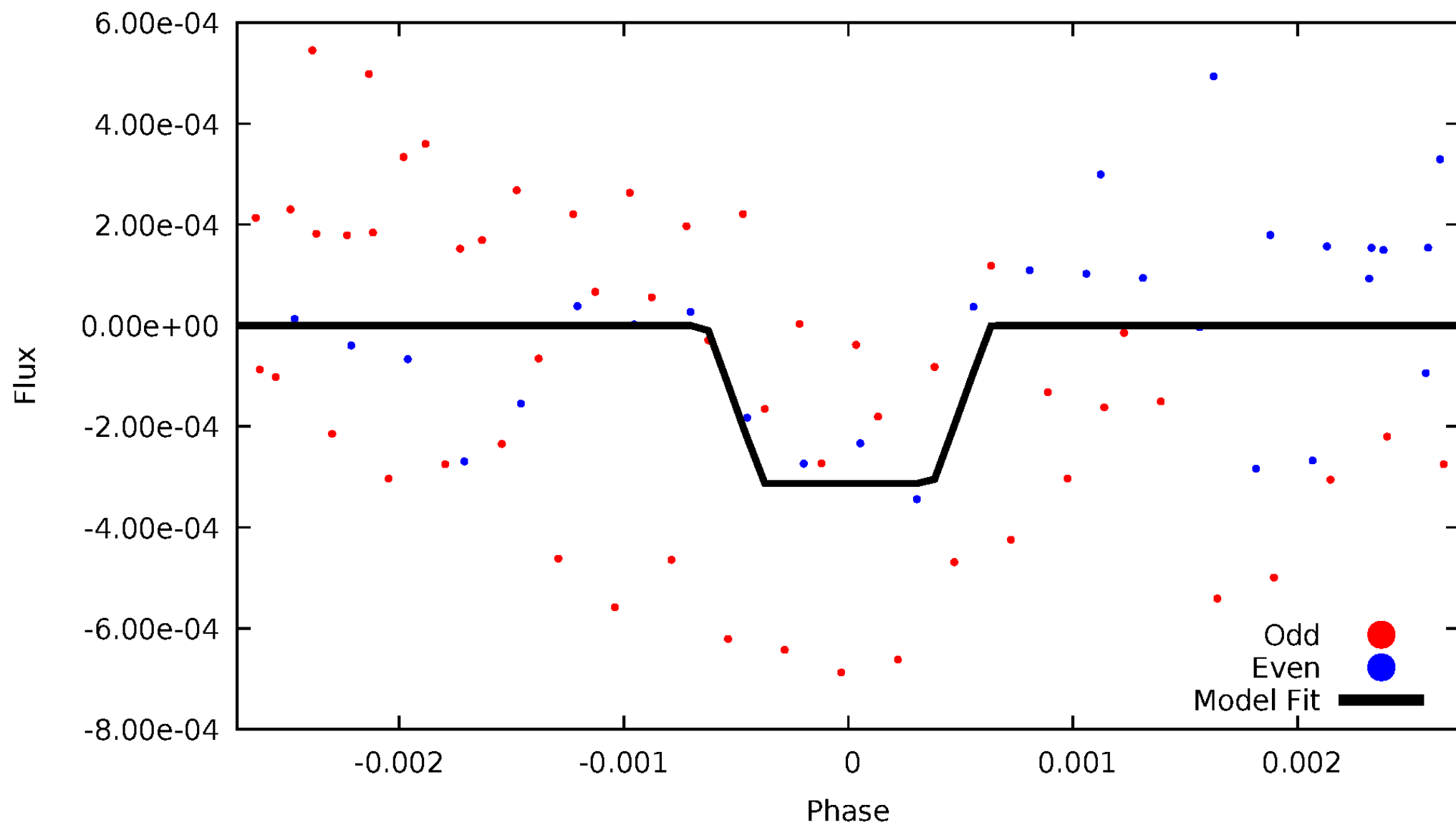
DV Odd/Even

TCE 008908977-03



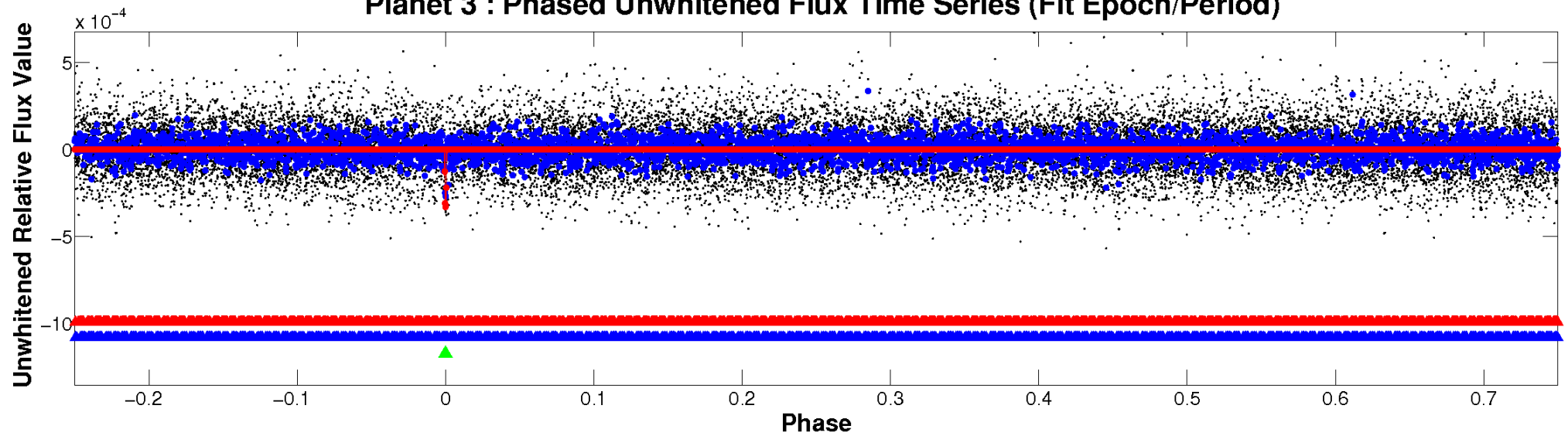
ALT Odd/Even

TCE 008908977-03

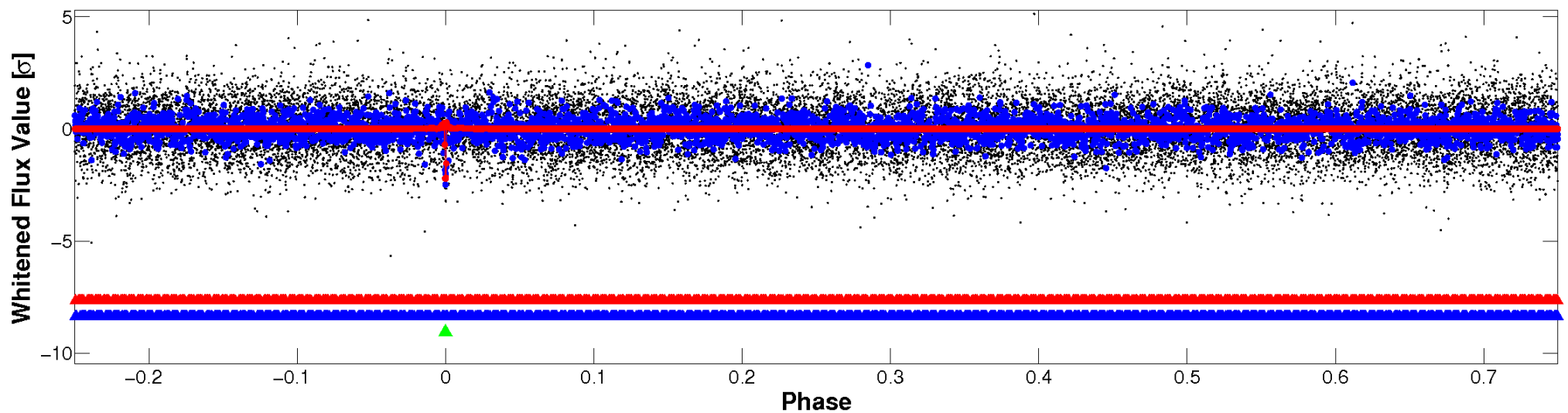


Non-Whitened Vs. Whitened Light Curve

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

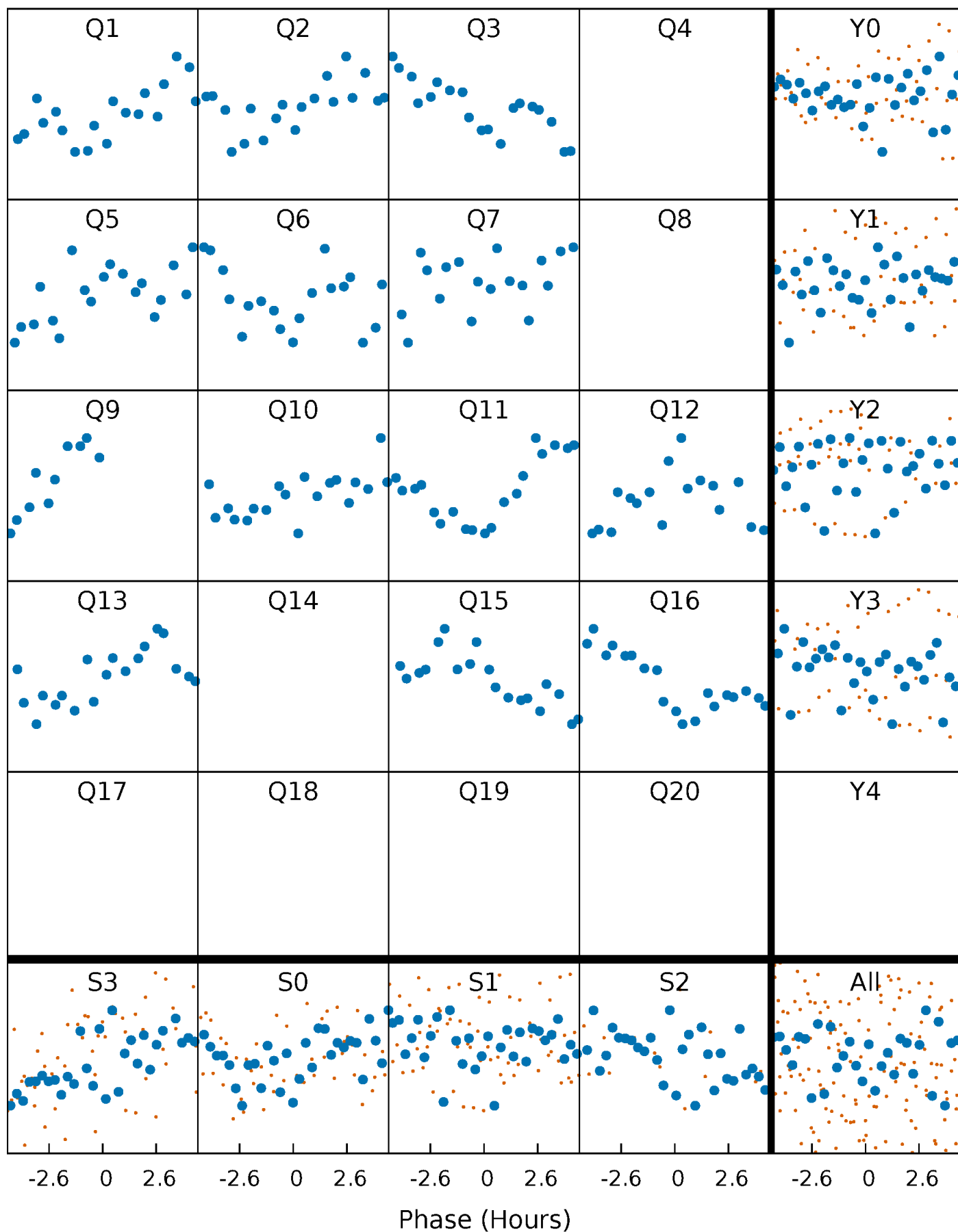


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



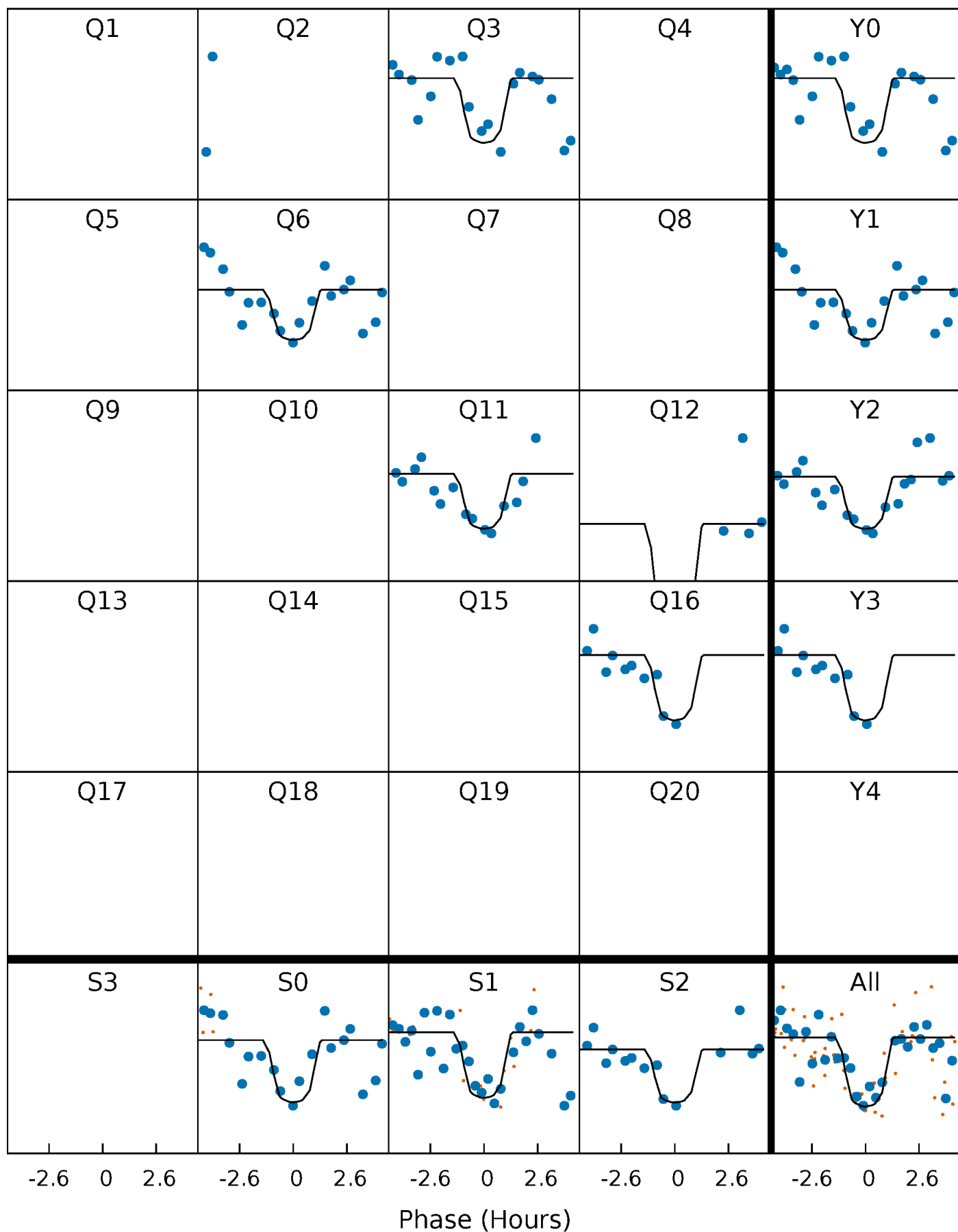
PDC Quarter-Phased Transit Curves

TCE 008908977-03 $P = 81.107105$ Days $T_0 = 156.681026$ (BKJD)



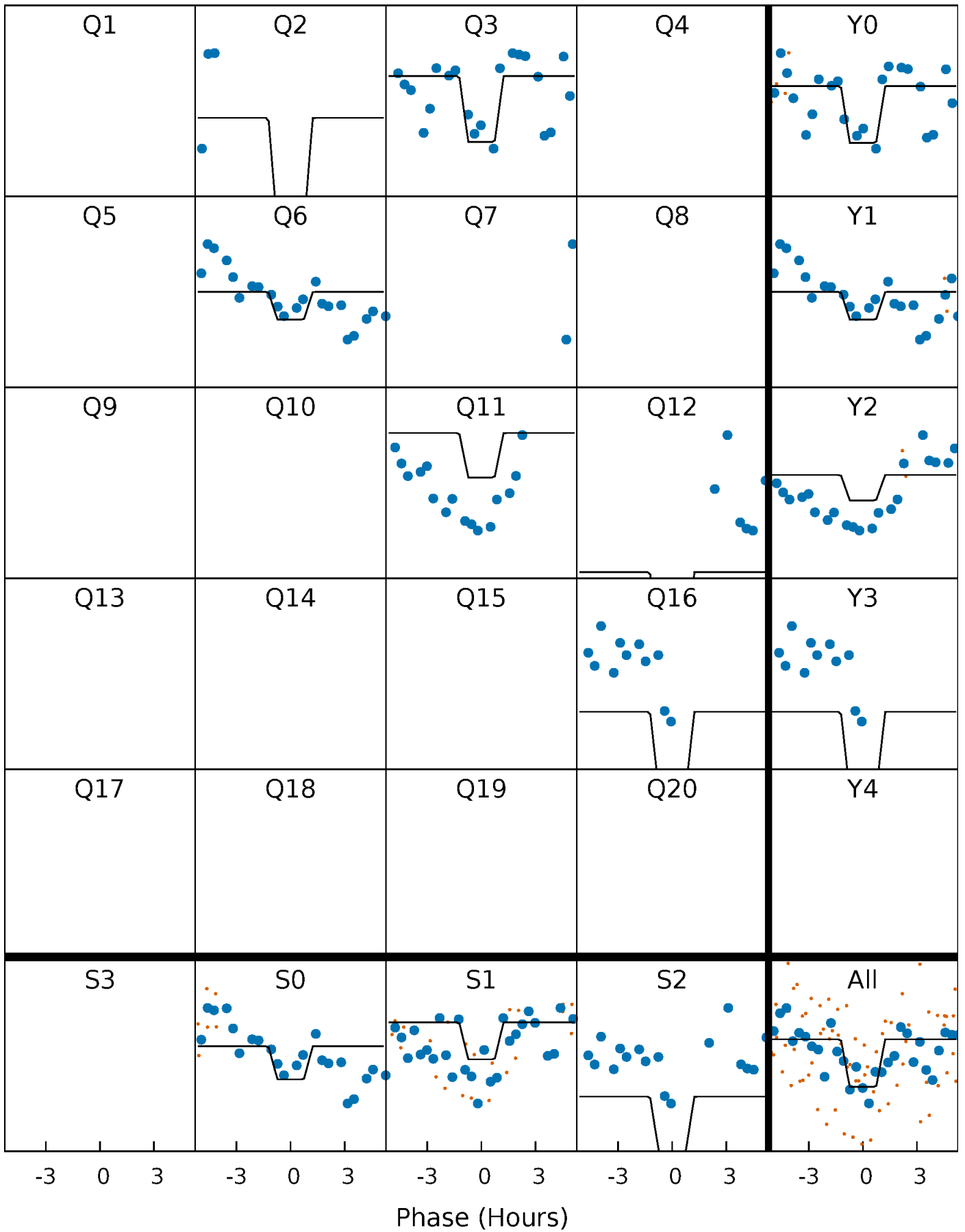
DV Quarter-Phased Transit Curves

TCE 008908977-03 P= 81.107105 Days $T_0=156.681026$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

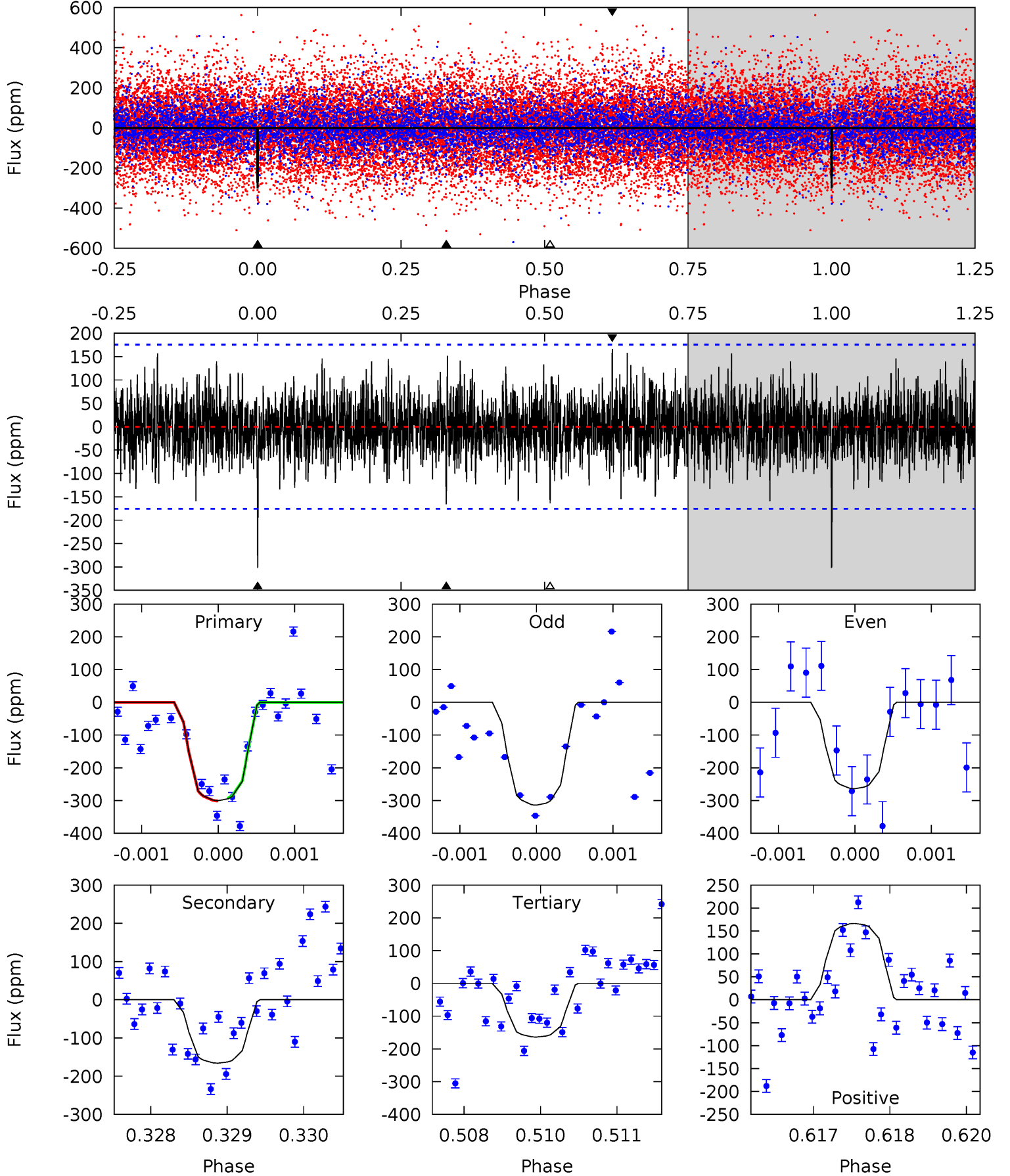
TCE 008908977-03 P= 81.106327 Days $T_0=156.691377$ (BKJD)



DV Model-Shift Uniqueness Test

008908977-03, P = 81.107105 Days, E = 75.573921 Days

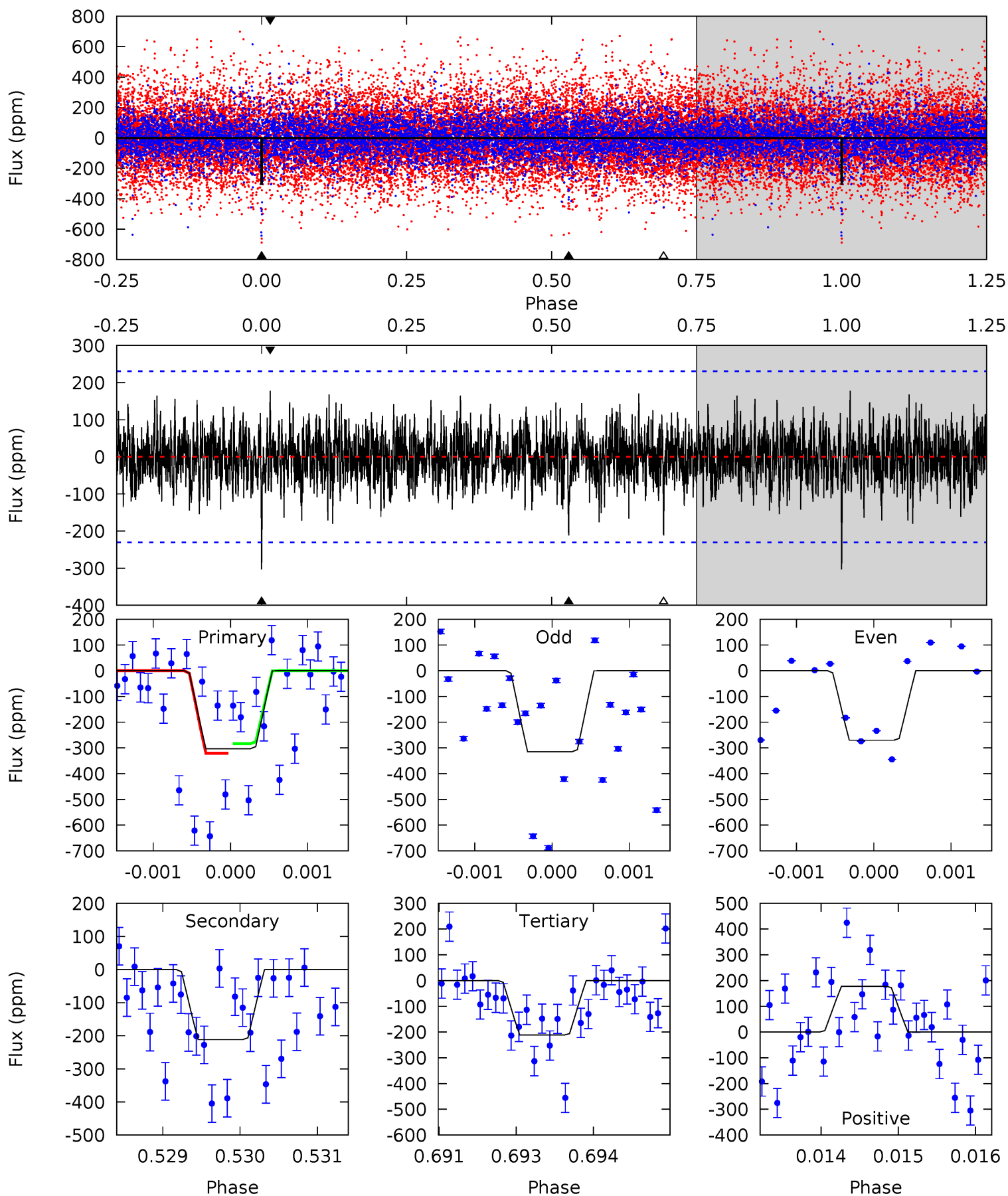
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.24	5.10	5.04	5.12	5.40	3.21	1.40	4.20	4.11	0.06	-0.02	0.69	1.01	0.36	0.12



Alt Model-Shift Uniqueness Test

008908977-03, P = 81.106327 Days, E = 75.585050 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.12	4.97	4.97	4.17	5.42	3.25	1.23	2.14	2.95	0.00	0.80	0.49	1.25	0.37	0.44



Stellar Parameters For KIC 008908977

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5937^{+197}_{-197}	$4.136^{+0.325}_{-0.175}$	$-0.300^{+0.300}_{-0.300}$	$1.369^{+0.374}_{-0.457}$	$0.936^{+0.142}_{-0.106}$	$0.513^{+1.144}_{-0.244}$
	+3%/-3%	+8%/-4%	+100%/-100%	+27%/-33%	+15%/-11%	+223%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008908977-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-166 ± 33	$3.01^{+2.09}_{-1.67}$	708^{+60}_{-74}	4735^{+2238}_{-760}	1337^{+5353}_{-895}
Alt.	-212 ± 43	$2.72^{+2.02}_{-1.66}$	710^{+57}_{-67}	5234^{+3271}_{-1019}	2076^{+10225}_{-1435}

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

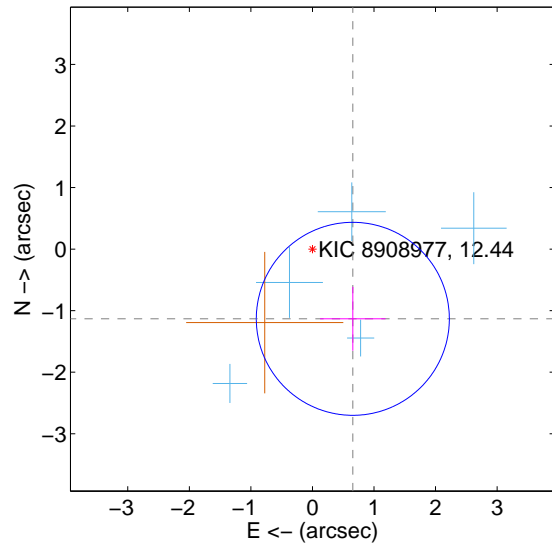
Supplemental centroid analysis for 008908977-03. Kepler magnitude: 12.44. Transit SNR 7.94

There are 5 quarters with good PRF difference image offsets

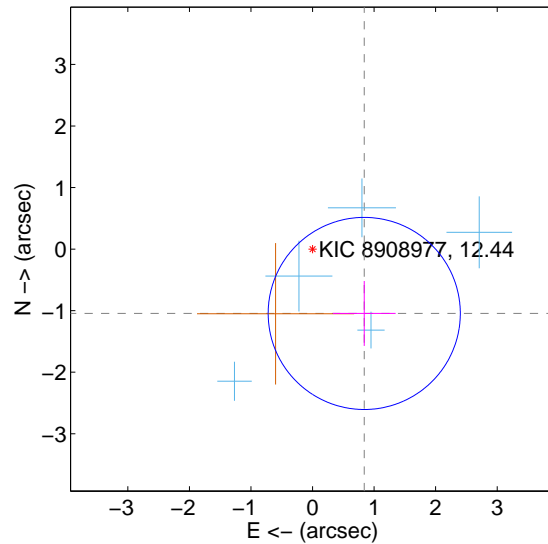
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.309 ± 0.523	2.50	-0.656 ± 0.533	-1.133 ± 0.519
PRF-fit source offset from KIC position	1.341 ± 0.520	2.58	-0.840 ± 0.509	-1.045 ± 0.527
photometric centroid source offset	1.19 ± 0.70	1.71	-1.04 ± 0.71	-0.58 ± 0.65

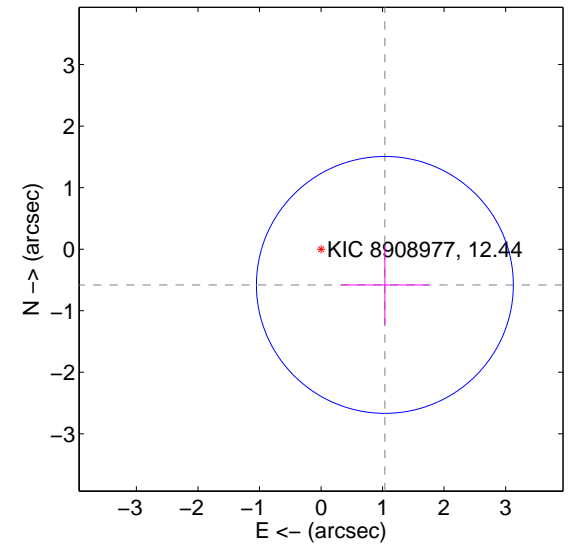
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

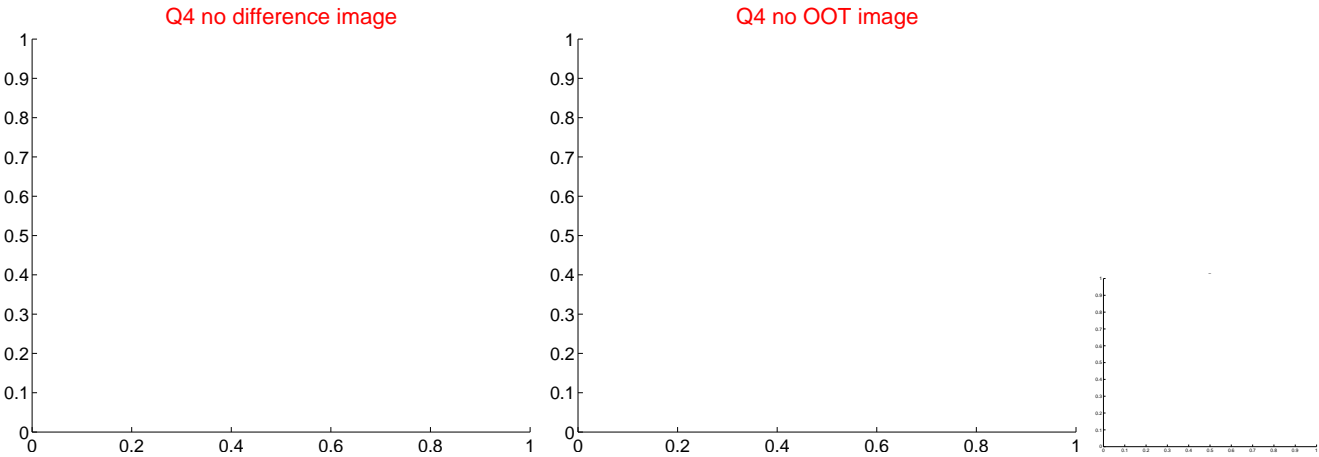
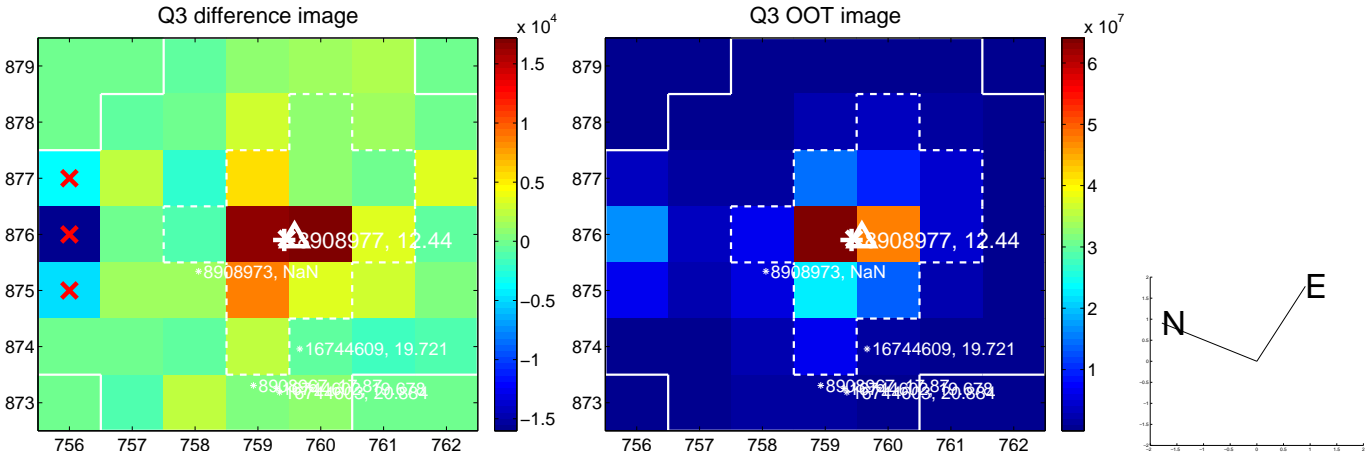
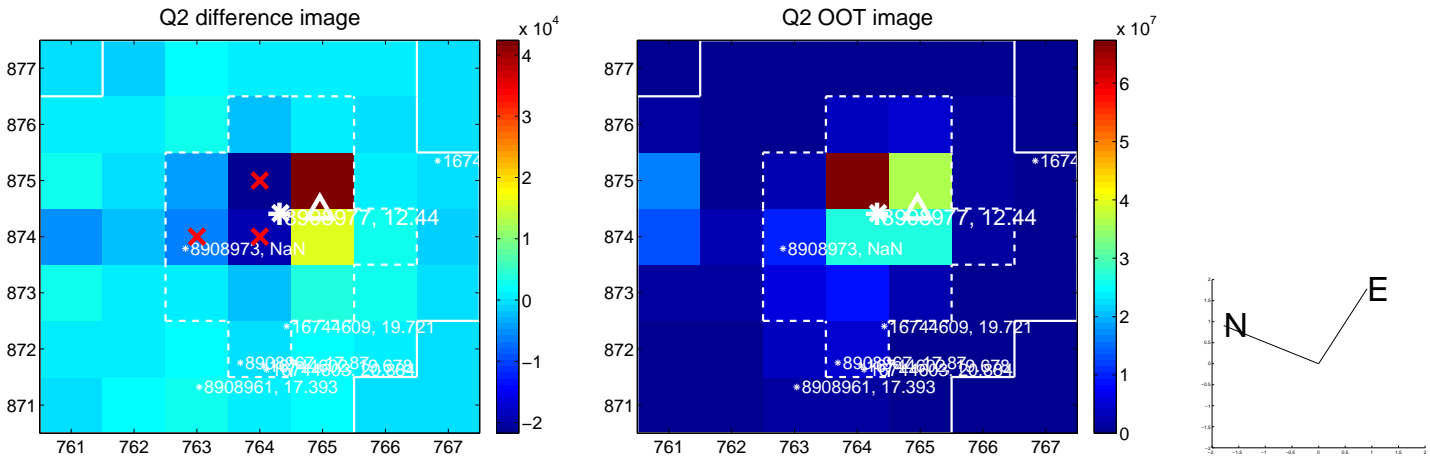
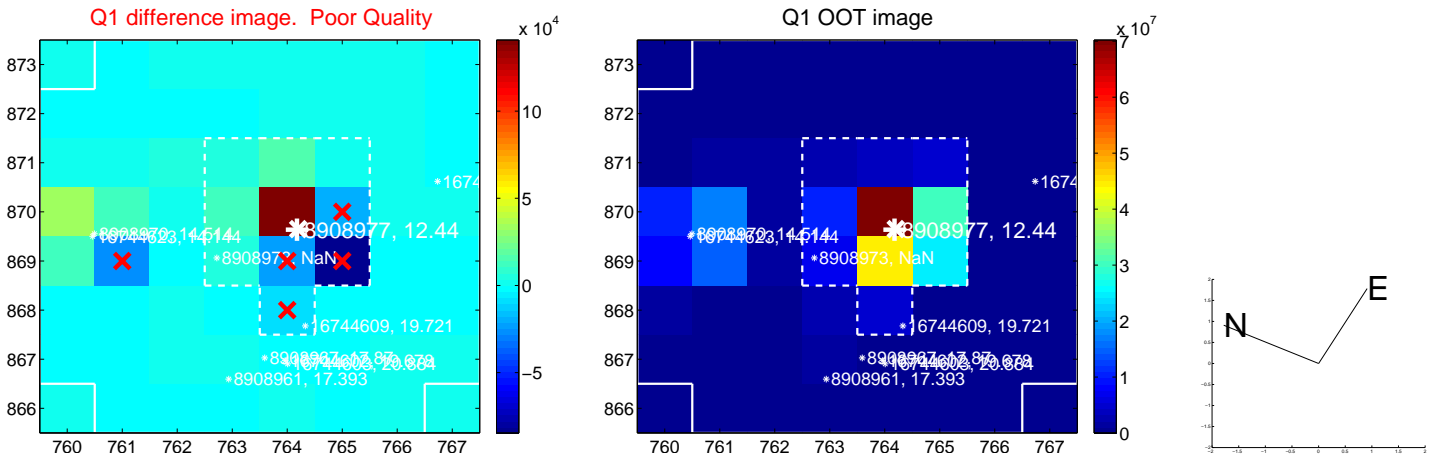


offset from photometric centroids

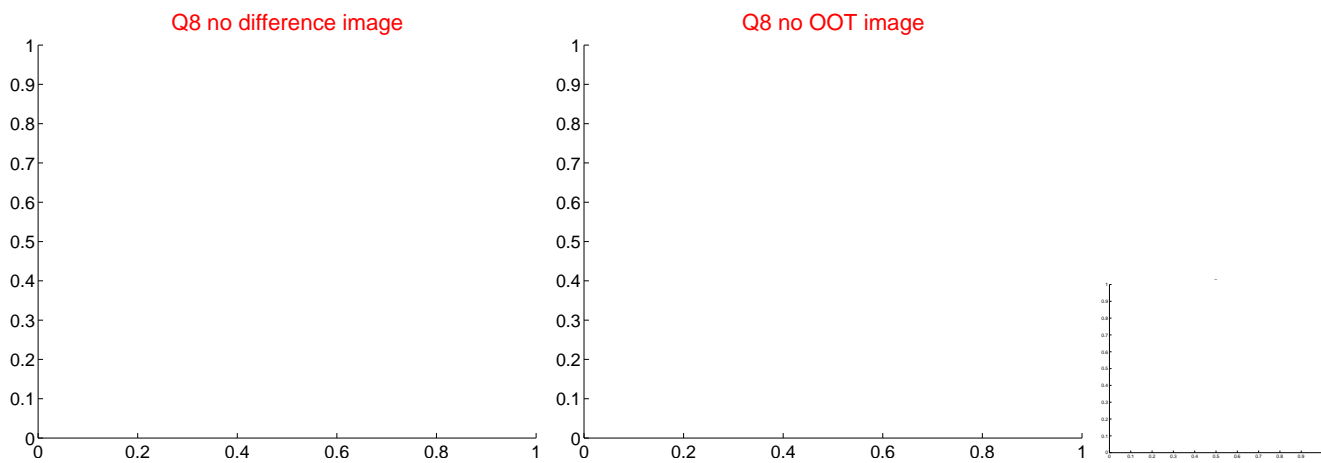
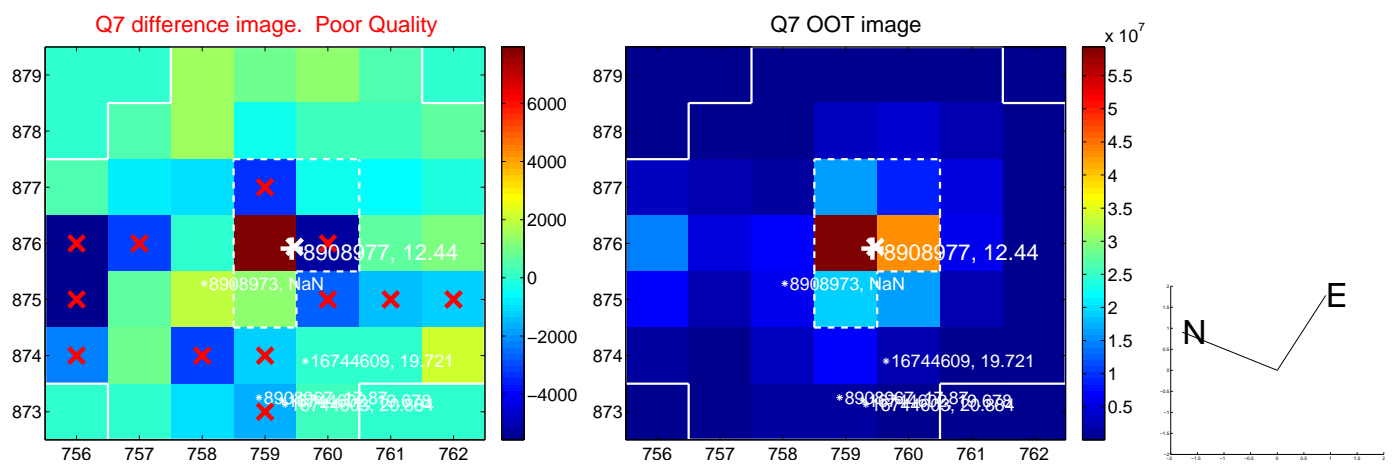
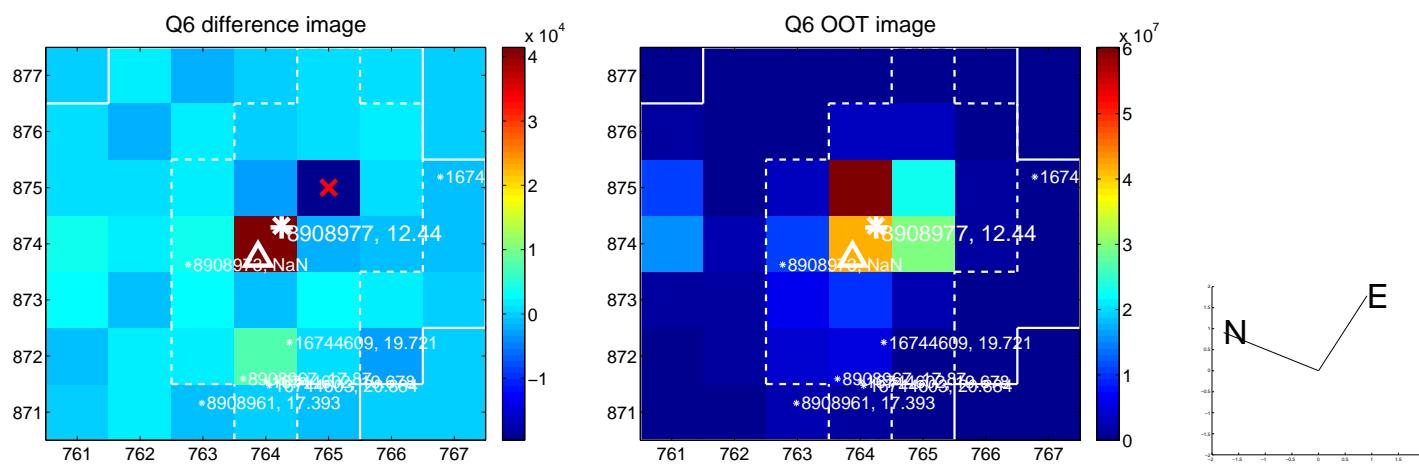
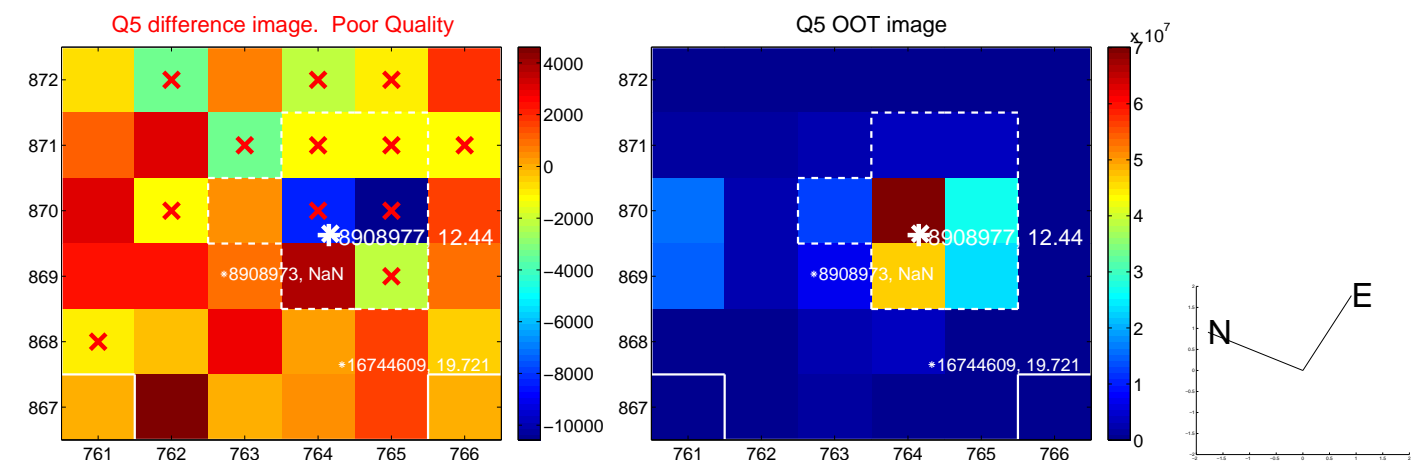


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

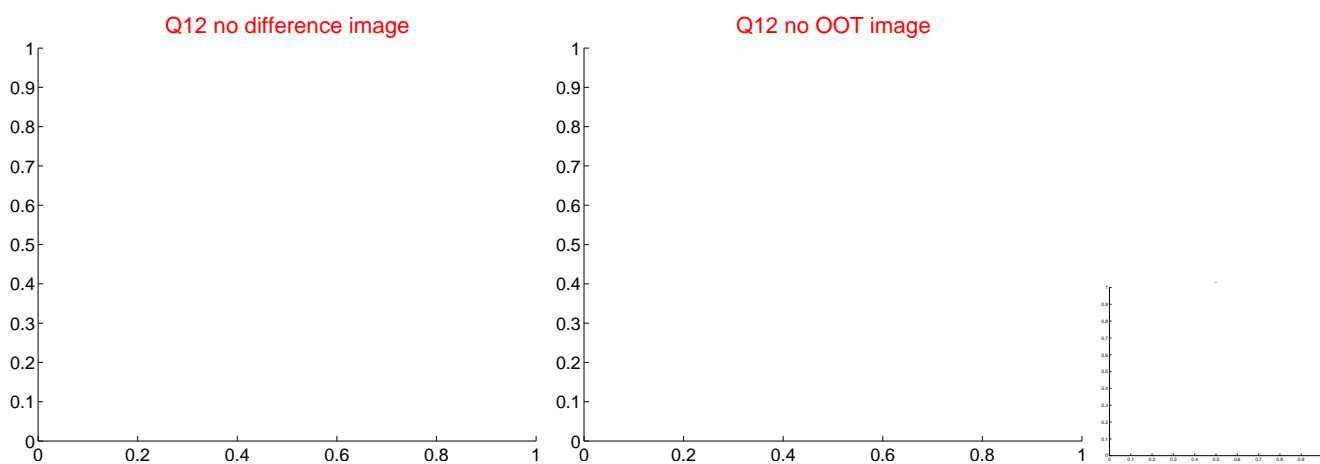
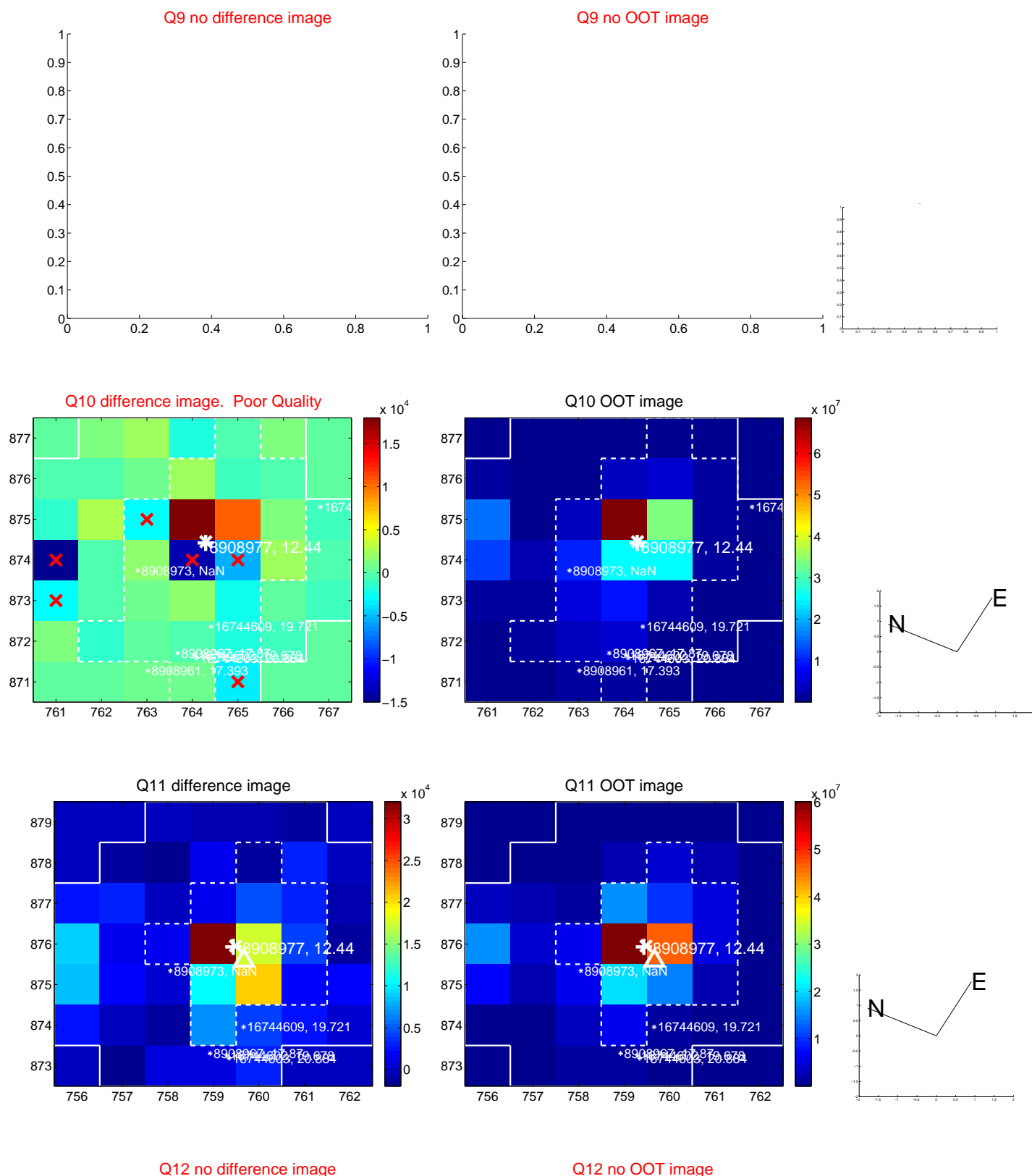
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



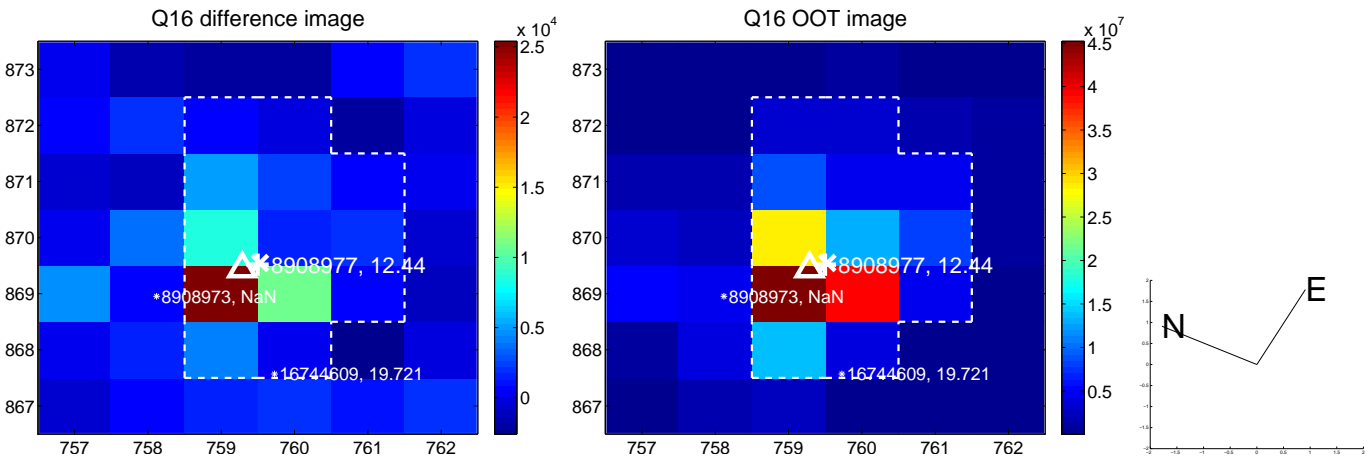
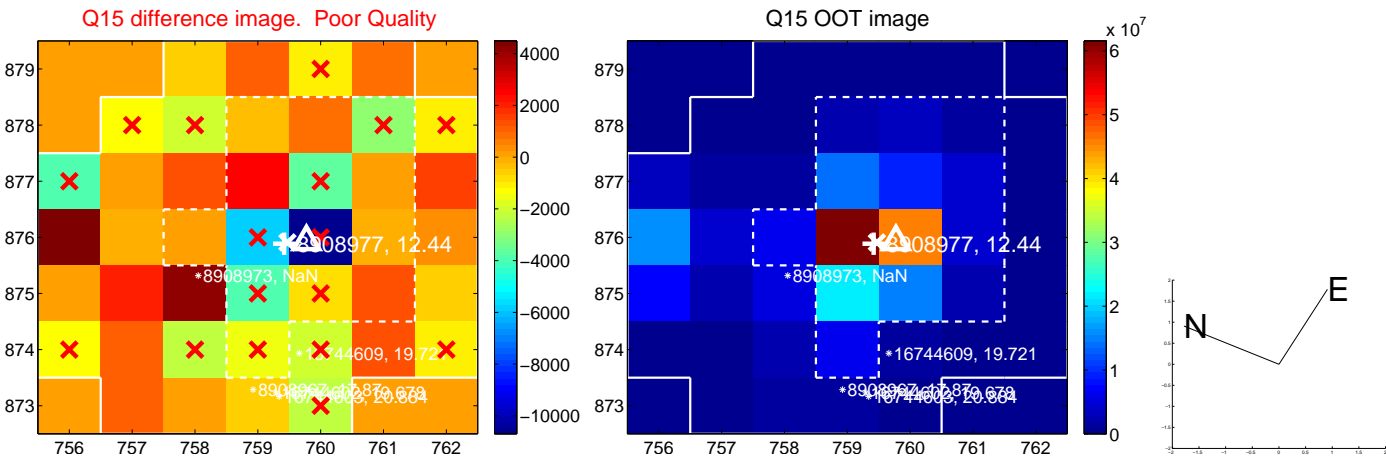
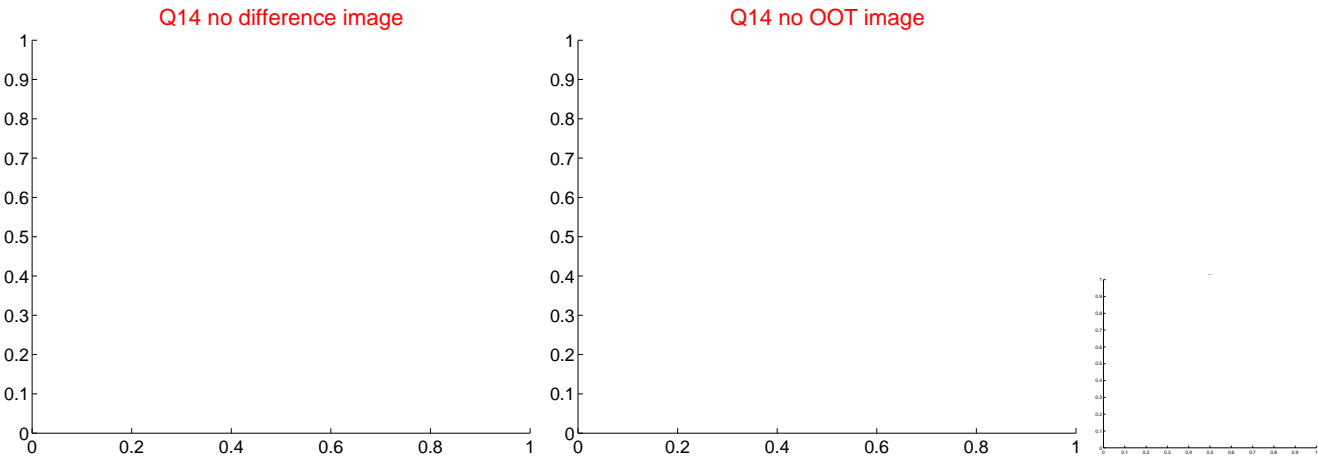
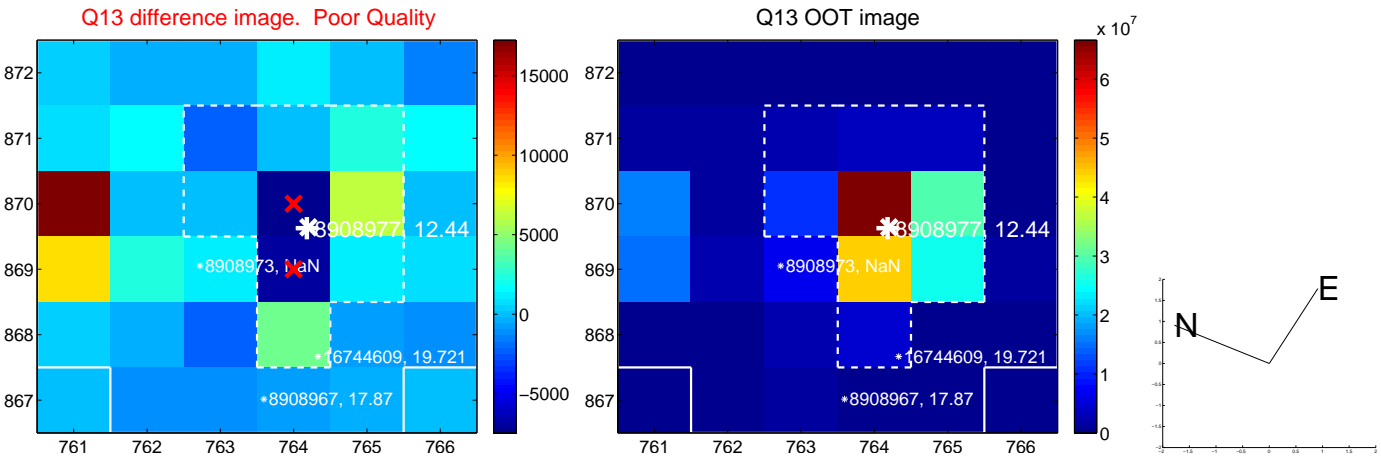
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



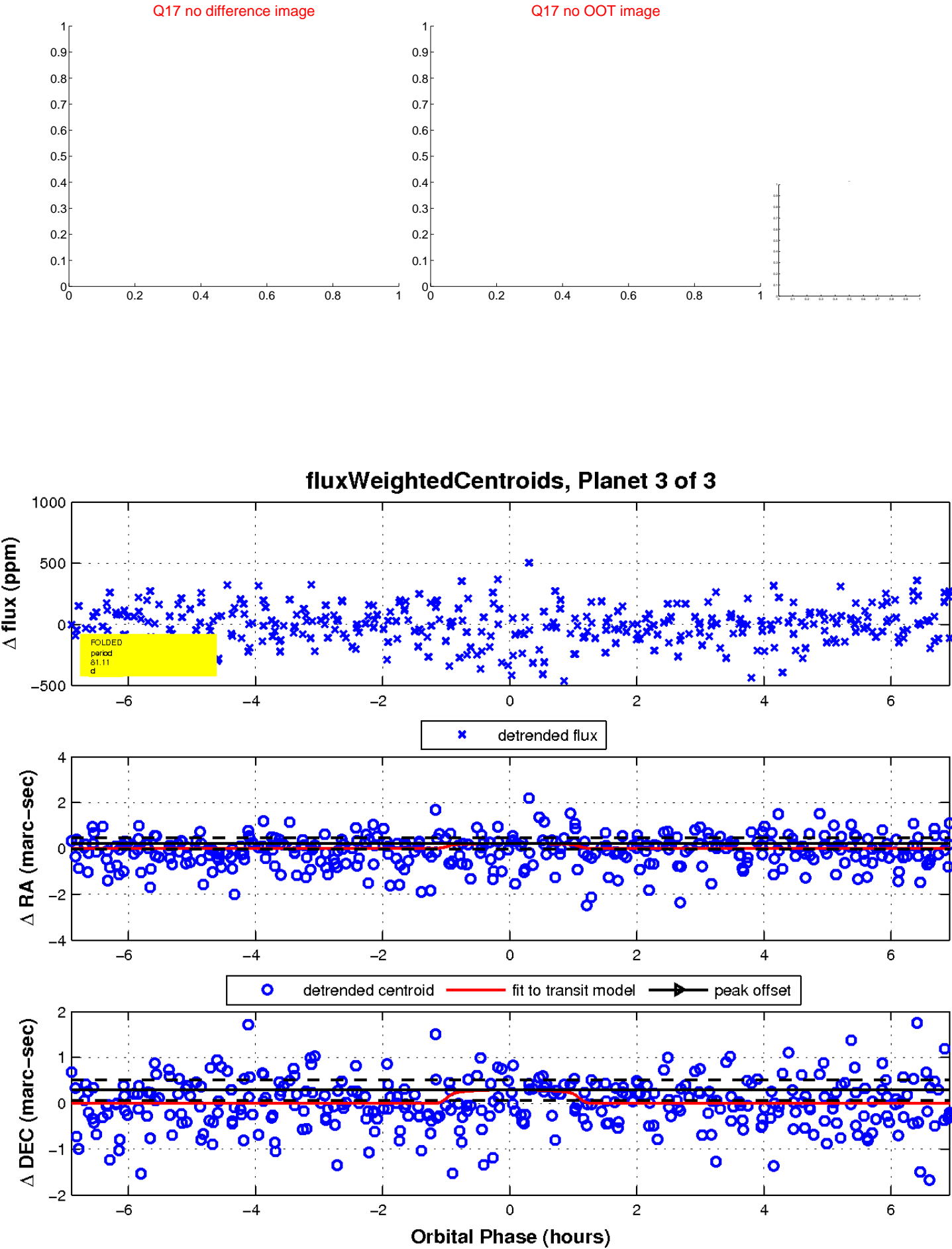
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

