

KIC 006975466

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})
006975466-01	OBS	No	0.574566	131.909247	117.1	1.707	11.9	13.6	1.93	7426	2.15	38889.48
006975466-02	OBS	No	2.105292	132.797046	62.9	11.816	10.0	7.0	1.93	7426	1.55	6884.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006975466-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006975466-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

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

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

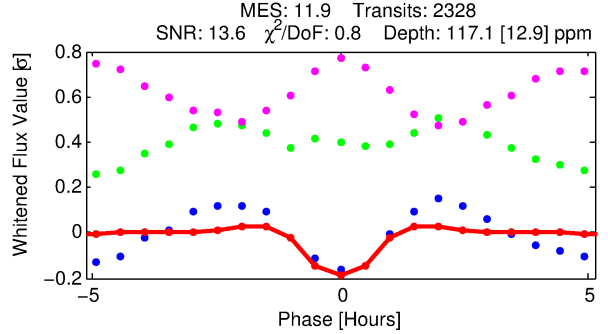
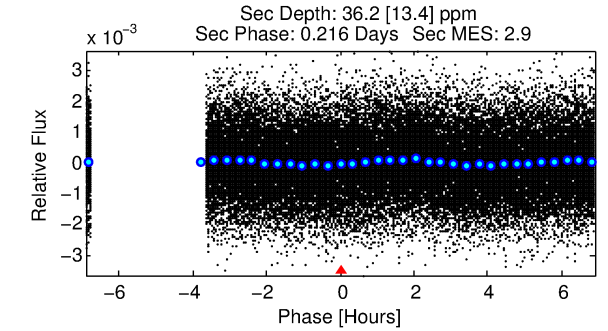
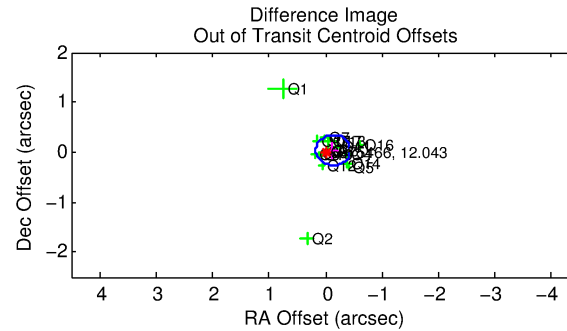
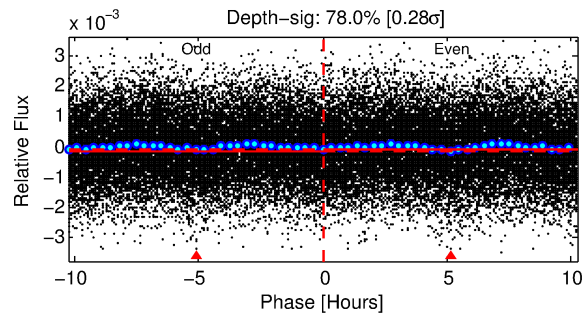
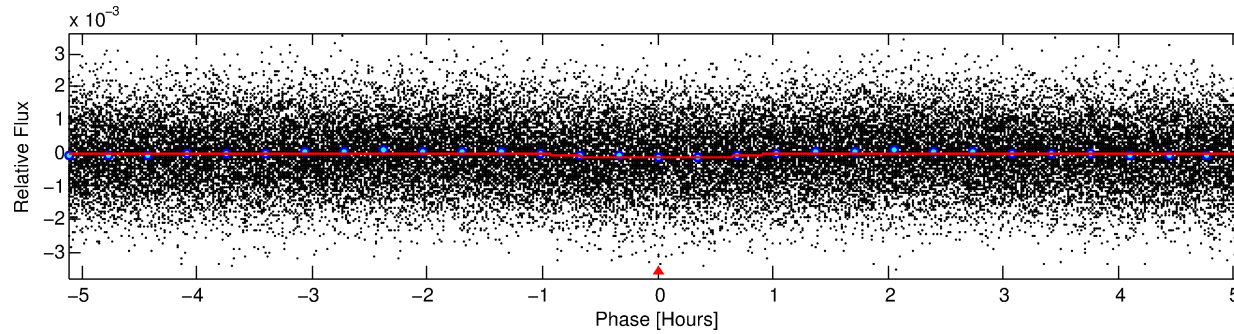
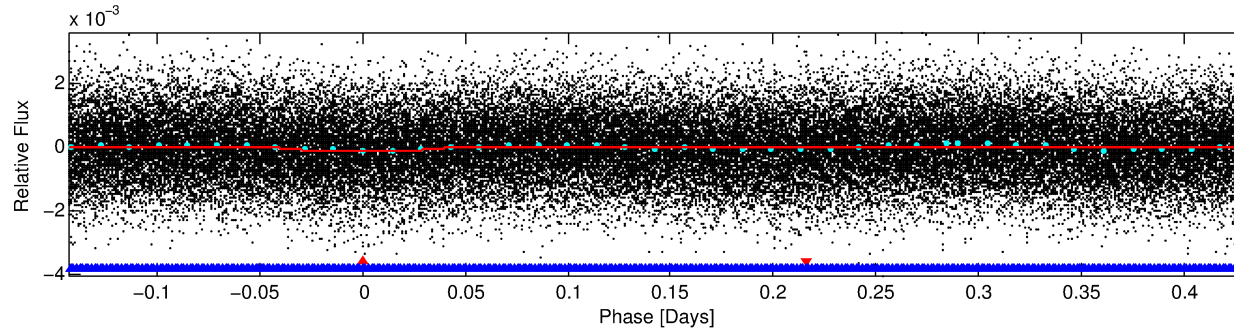
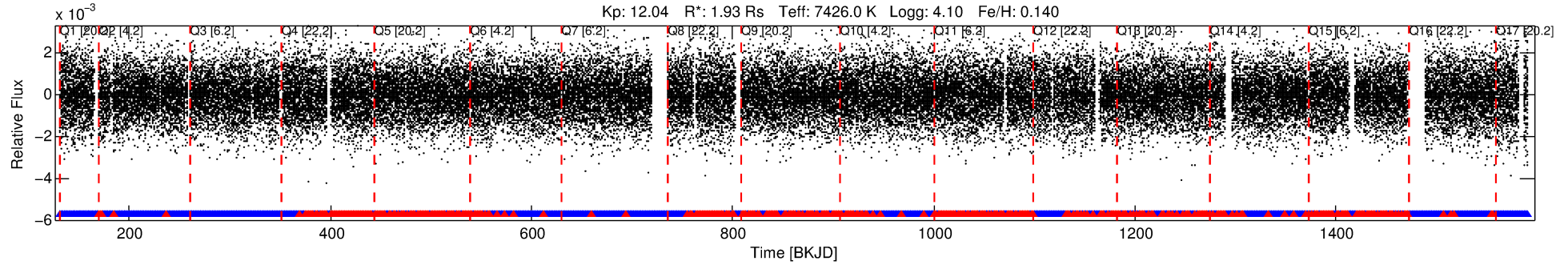
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006975466-01

No Significant Match Found

DV One-Page Summary

KIC: 6975466 Candidate: 1 of 2 Period: 0.575 d



DV Fit Results:

Period = 0.57457 [0.00001] d
Epoch = 131.9092 [0.0018] BKJD
Rp/R* = 0.0102 [0.0057]
a/R* = 2.49 [7.15]
b = 0.39 [7.38]
Seff = 38889.48 [14944.93]
Teq = 3581 [344] K
Rp = 2.15 [1.36] Re
a = 0.0162 [0.0038] AU
Ag = 1.12 [1.38] [0.09 σ]
Teffp = 5694 [1704] K [1.22 σ]

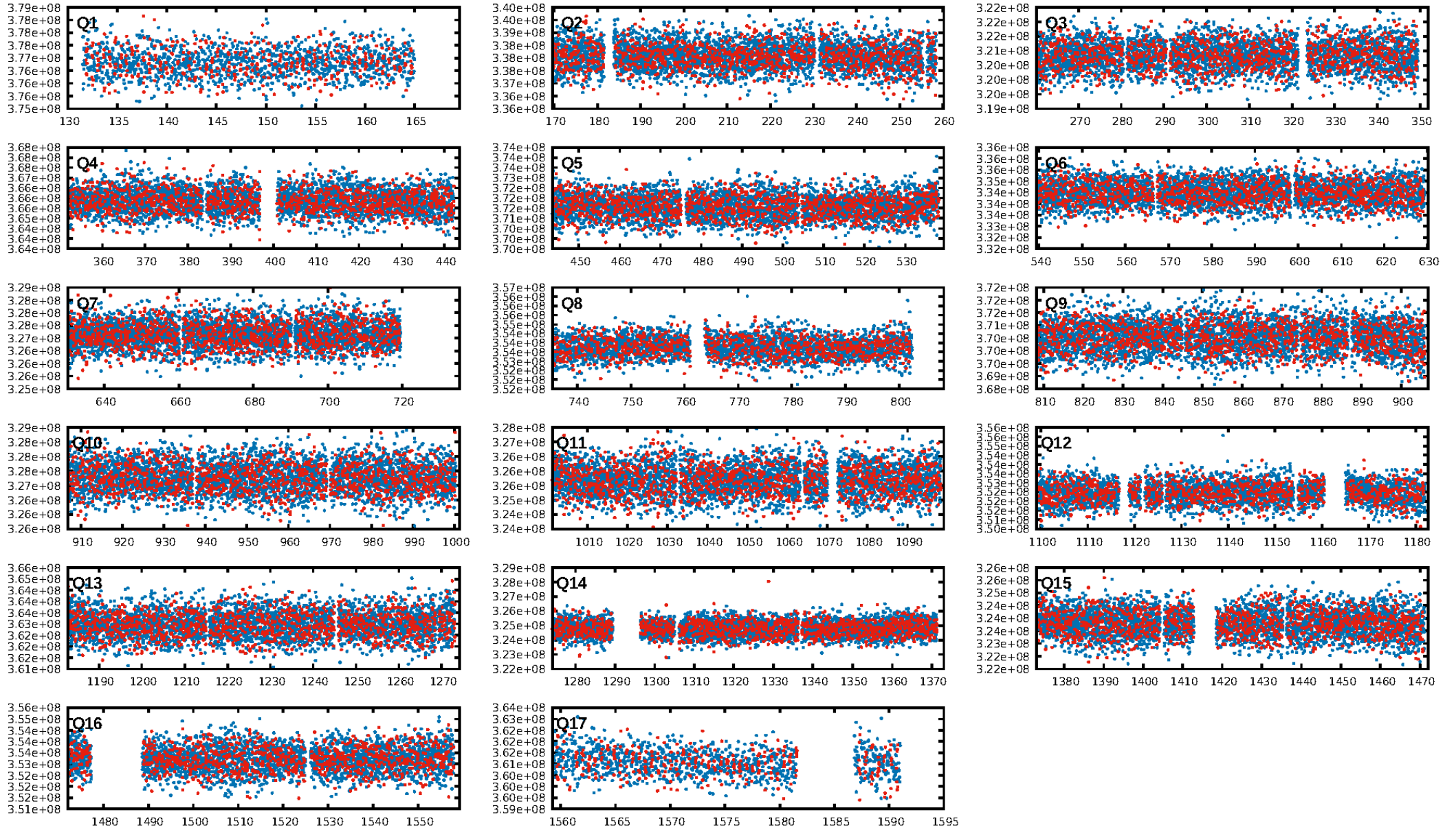
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.8% [3.08 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.84e-17
RollingBand-fgt: 0.75 [1670/2224]
GhostDiagnostic-chr: 2.165
Centroid-sig: 0.1%
Centroid-so: 0.234 arcsec [1.81 σ]
OotOffset-rm: 0.137 arcsec [1.36 σ]
KicOffset-rm: 0.248 arcsec [2.00 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

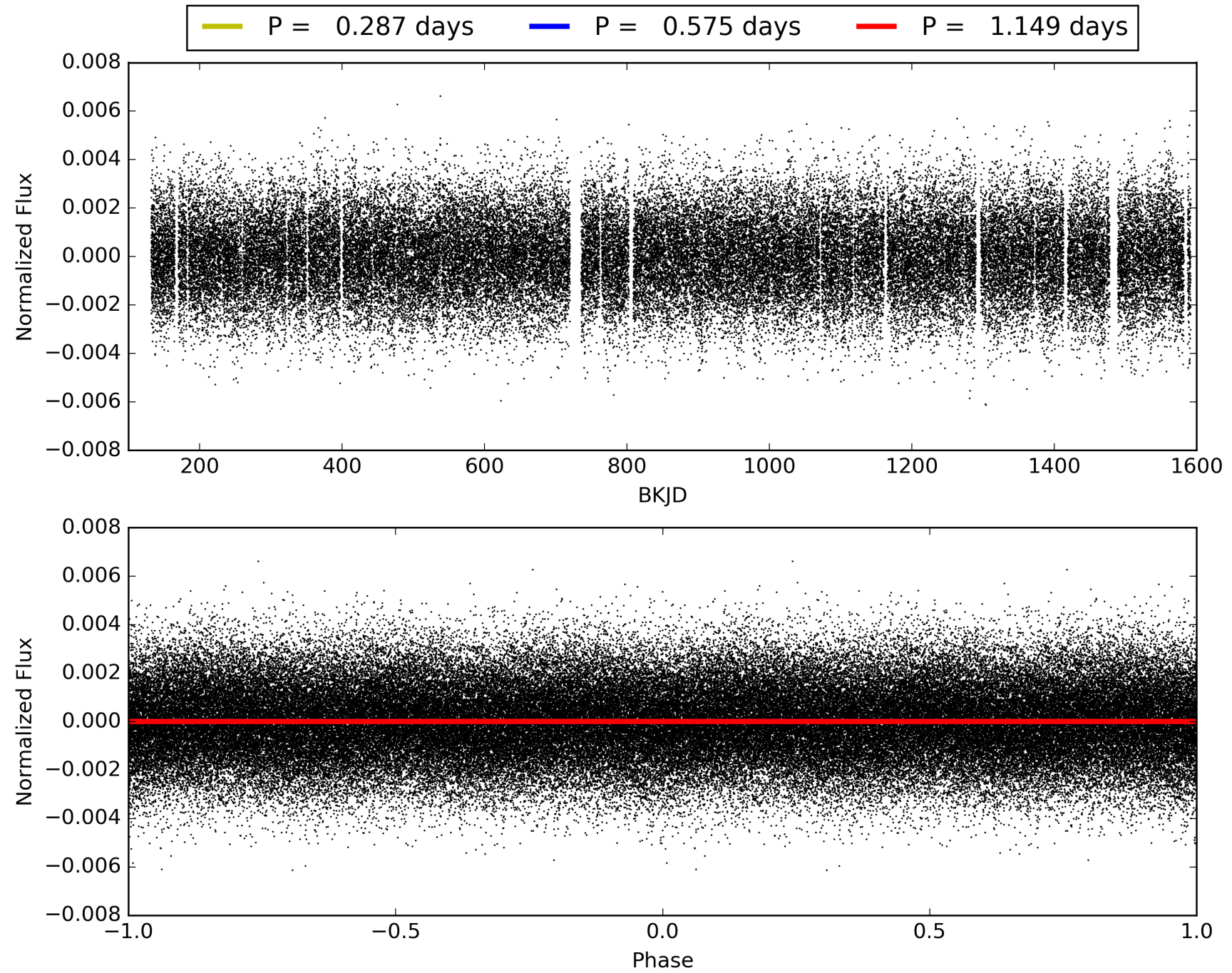
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:12:13 Z

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

TCE 006975466-01, PDC Light Curves

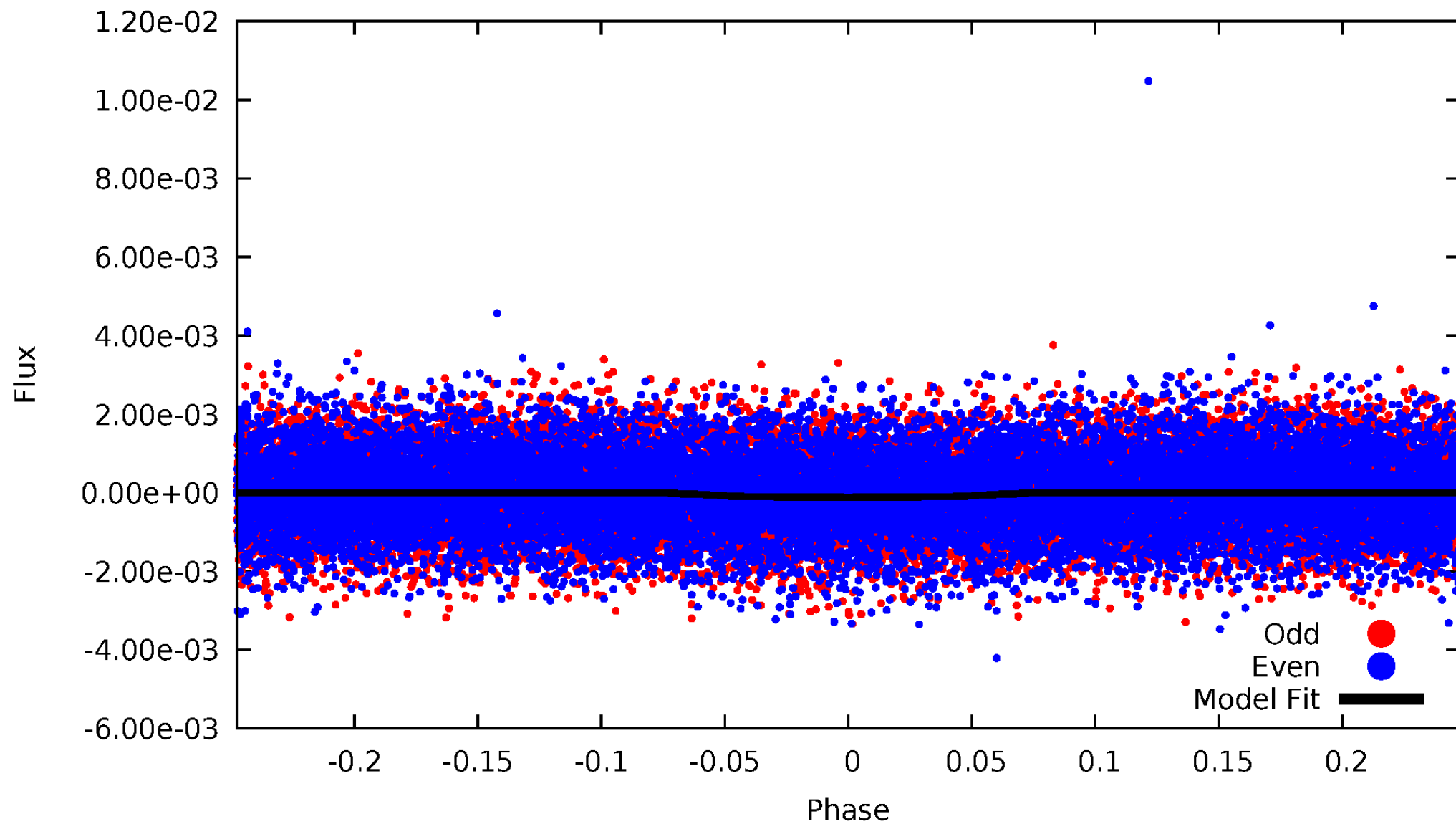


TCE 006975466-01



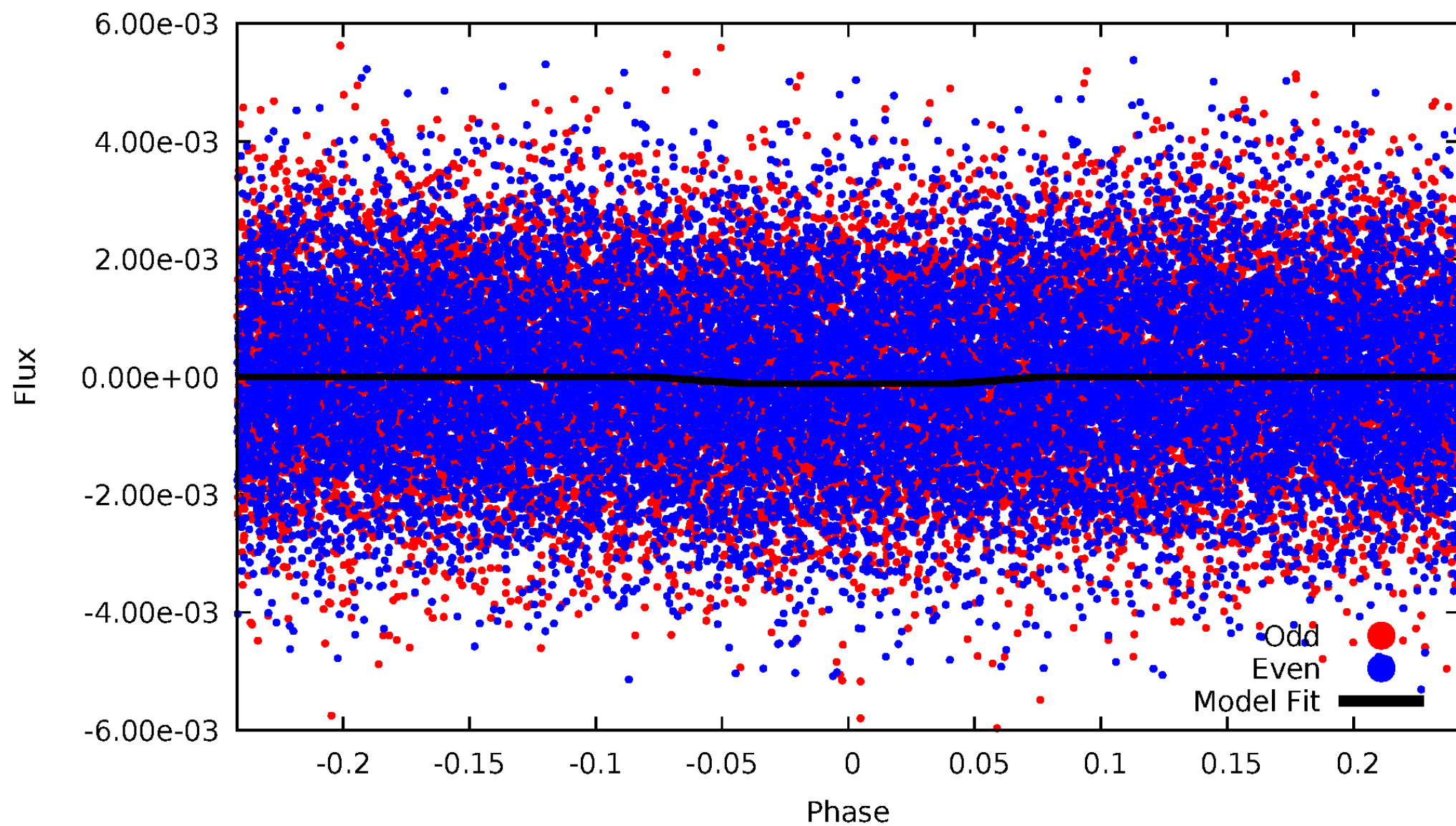
DV Odd/Even

TCE 006975466-01

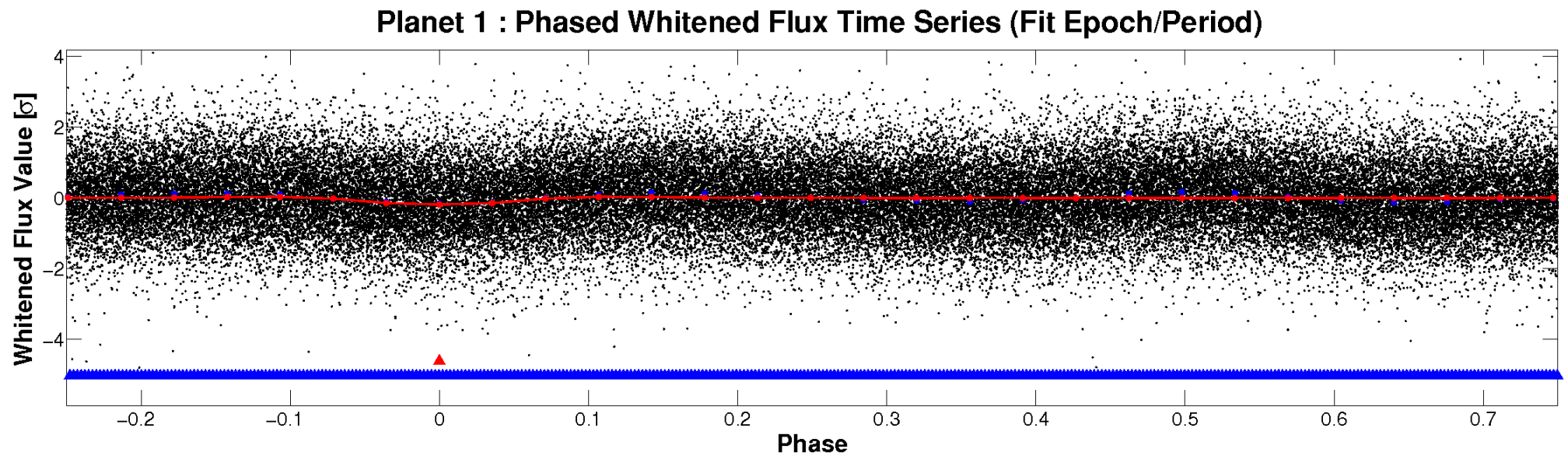
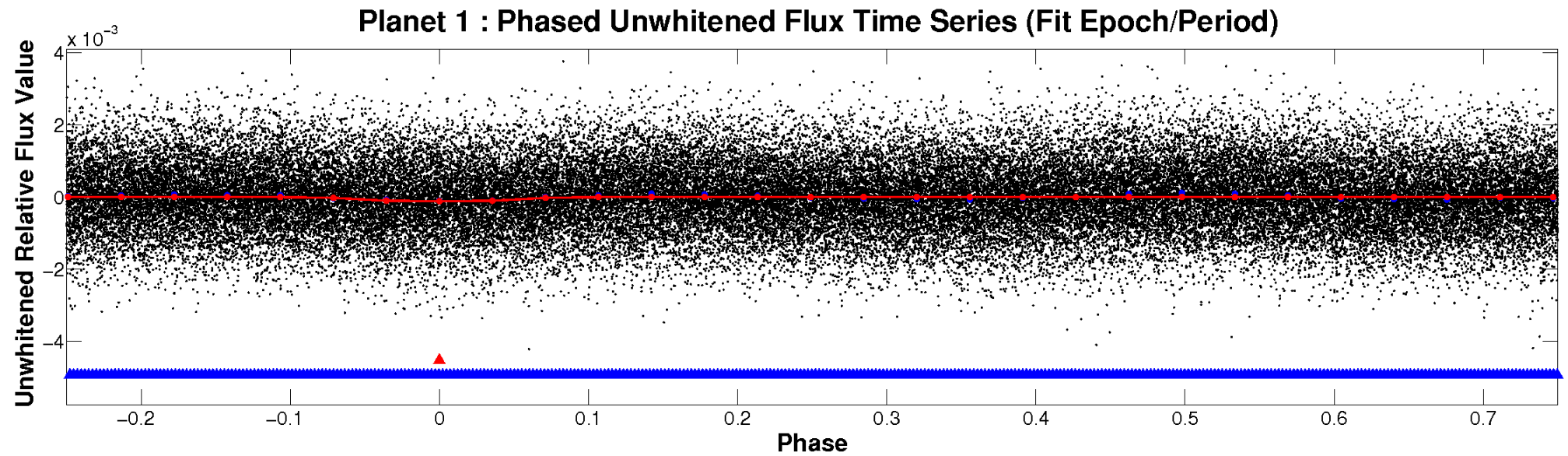


ALT Odd/Even

TCE 006975466-01

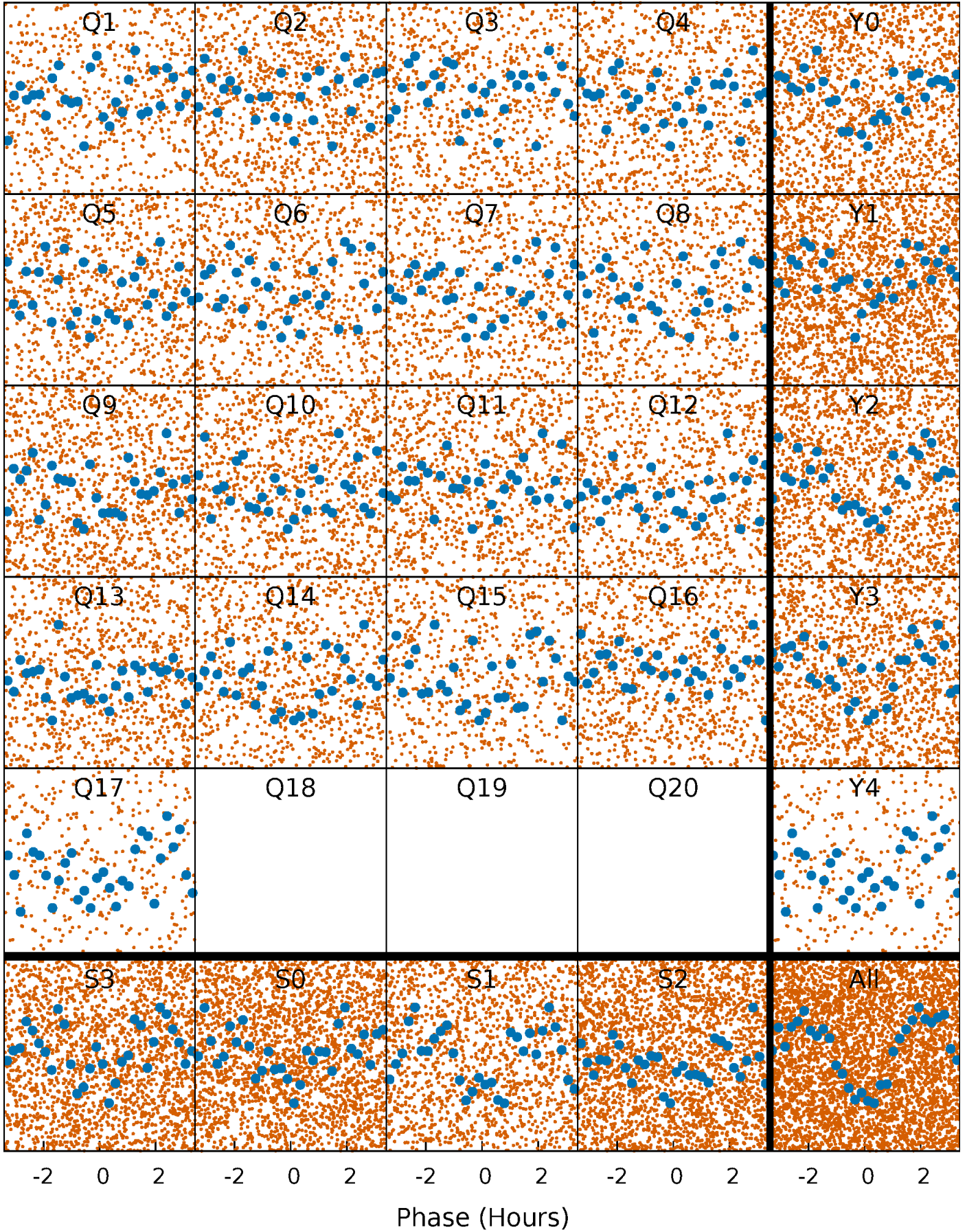


Non-Whitened Vs. Whitened Light Curve



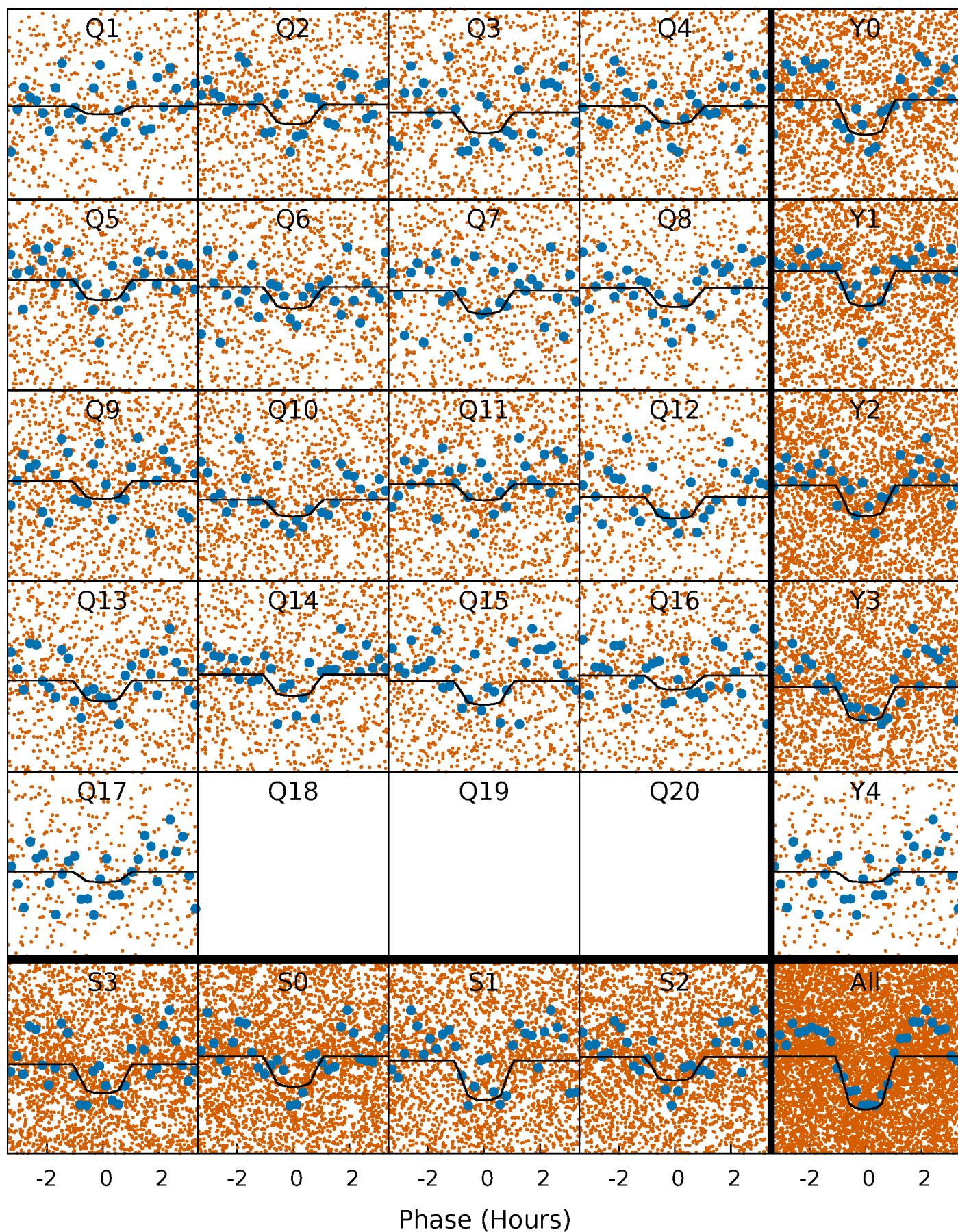
PDC Quarter-Phased Transit Curves

TCE 006975466-01 P= 0.574566 Days $T_0=131.909247$ (BKJD)



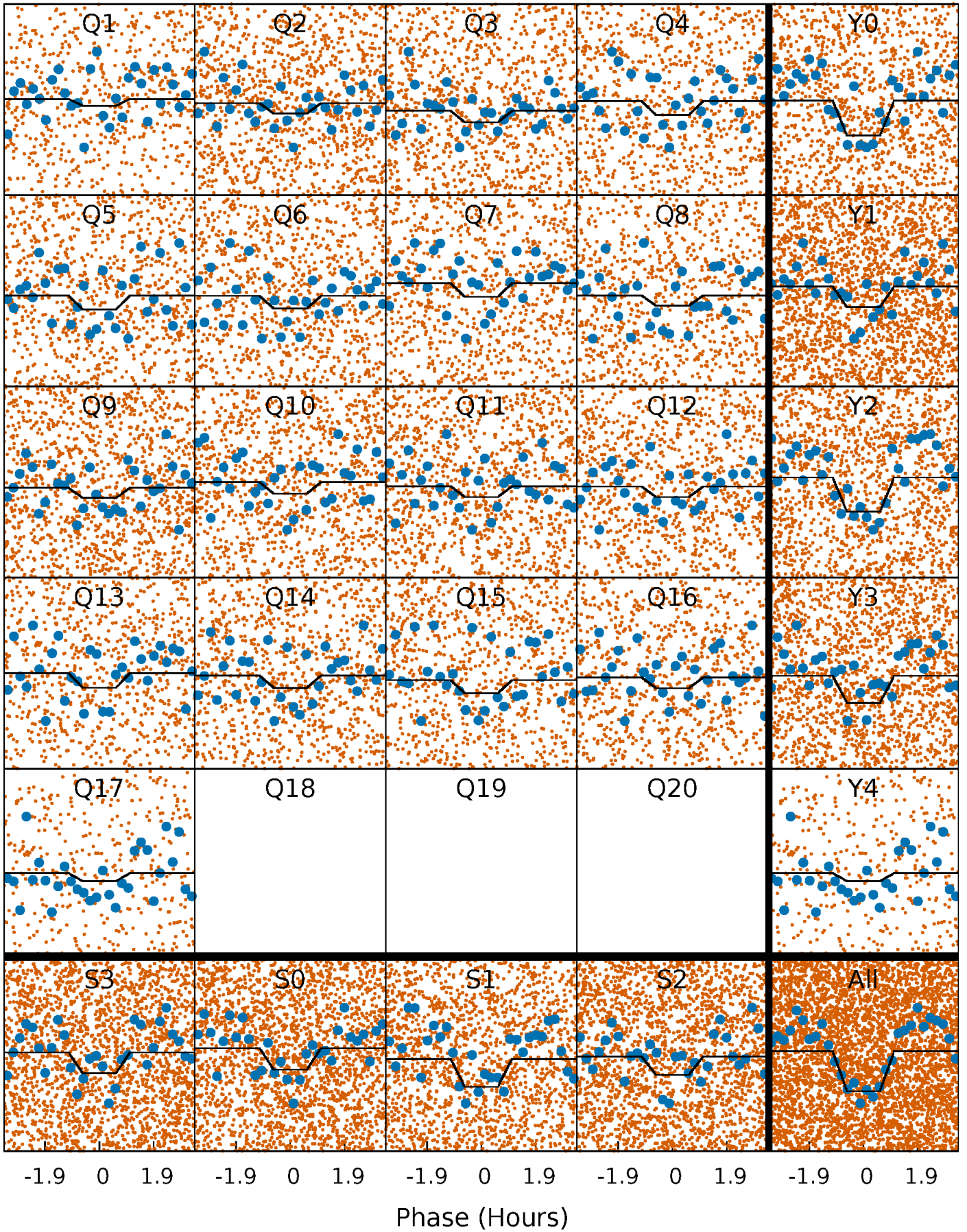
DV Quarter-Phased Transit Curves

TCE 006975466-01 P= 0.574566 Days $T_0=131.909247$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

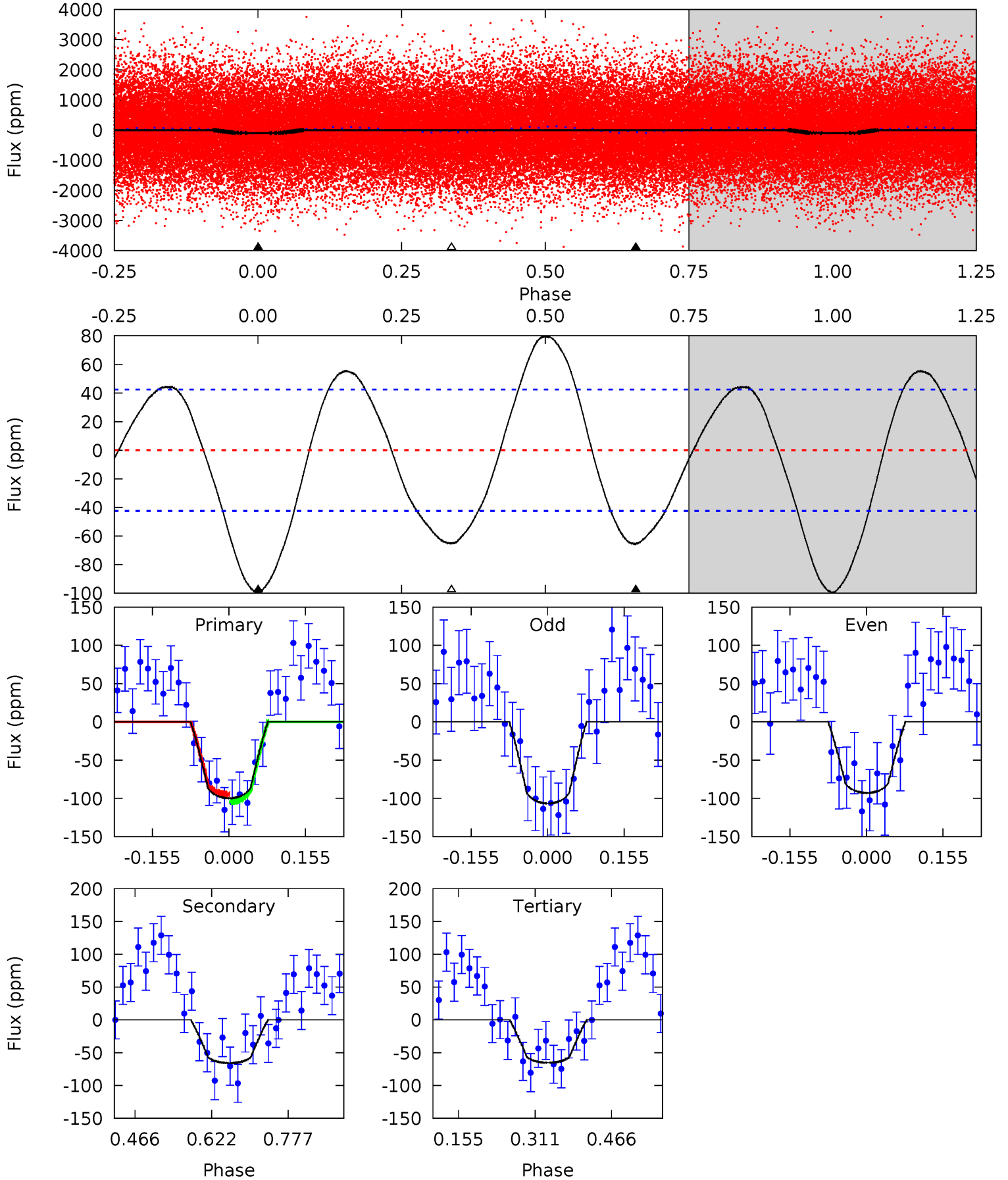
TCE 006975466-01 P= 0.574568 Days $T_0=131.908364$ (BKJD)



DV Model-Shift Uniqueness Test

006975466-01, P = 0.574566 Days, E = 131.334681 Days

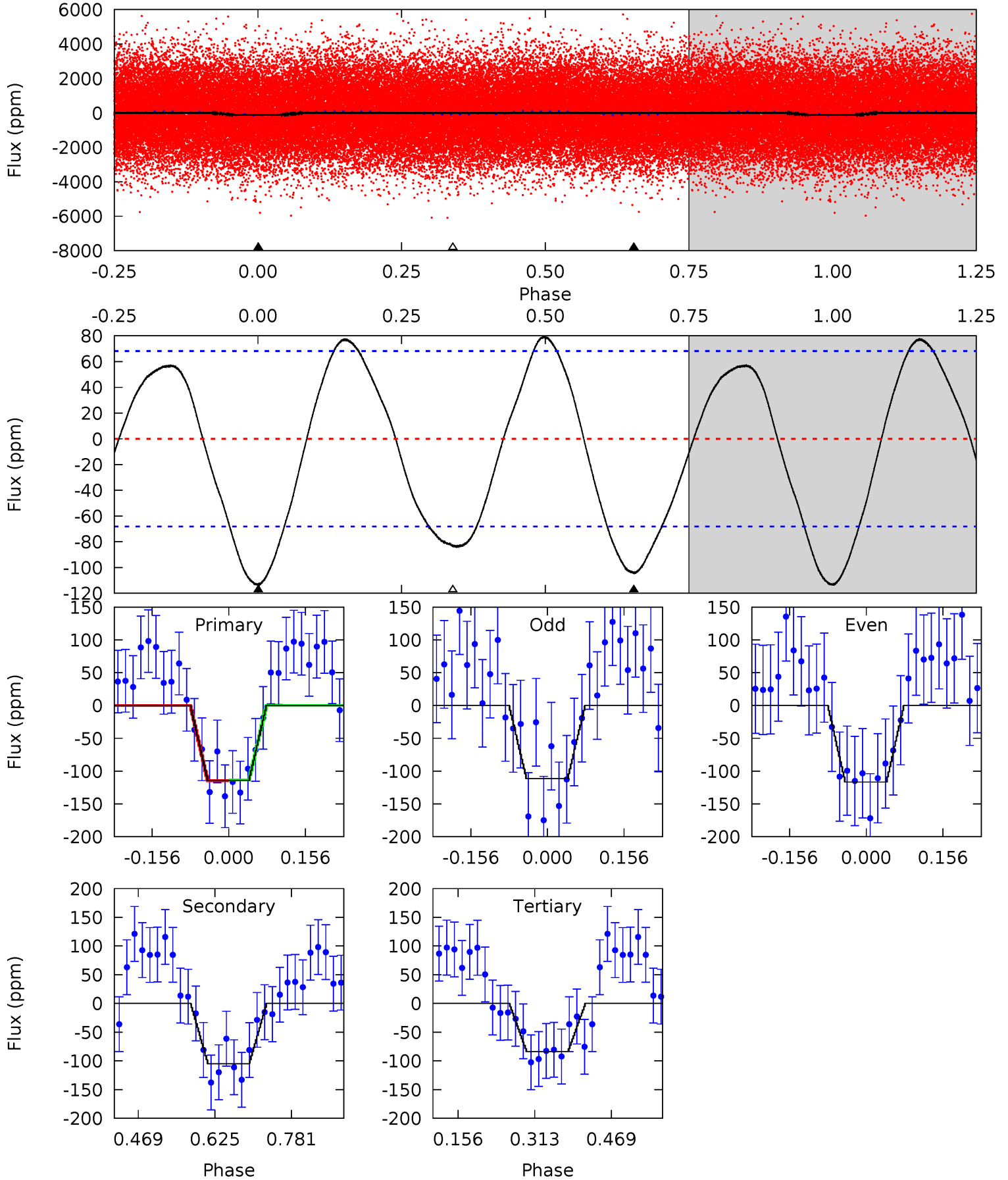
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	6.94	6.89	0	4.47	1.42	4.91	3.63	10.5	0.05	6.94	0.73	1.06	0.44	0.55



Alt Model-Shift Uniqueness Test

006975466-01, P = 0.574568 Days, E = 131.333796 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.48	6.88	5.51	0	4.47	1.42	3.70	1.97	7.48	1.37	6.88	0.17	0.93	0.41	0.04



Stellar Parameters For KIC 006975466

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7426^{+206}_{-324}	$4.098^{+0.124}_{-0.186}$	$0.140^{+0.200}_{-0.350}$	$1.930^{+0.547}_{-0.365}$	$1.701^{+0.207}_{-0.253}$	$0.333^{+0.223}_{-0.154}$
	+3%/-4%	+3%/-5%	+143%/-250%	+28%/-19%	+12%/-15%	+67%/-46%
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 006975466-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-66 ± 9	$2.27^{+1.24}_{-1.08}$	5005^{+380}_{-313}	6095^{+3154}_{-1502}	$1.828^{+4.618}_{-1.089}$
Alt.	-105 ± 15	$2.26^{+1.23}_{-1.13}$	5015^{+356}_{-322}	6900^{+4662}_{-1552}	$2.894^{+9.168}_{-1.670}$

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 $A_{obs} \gg 1.0$

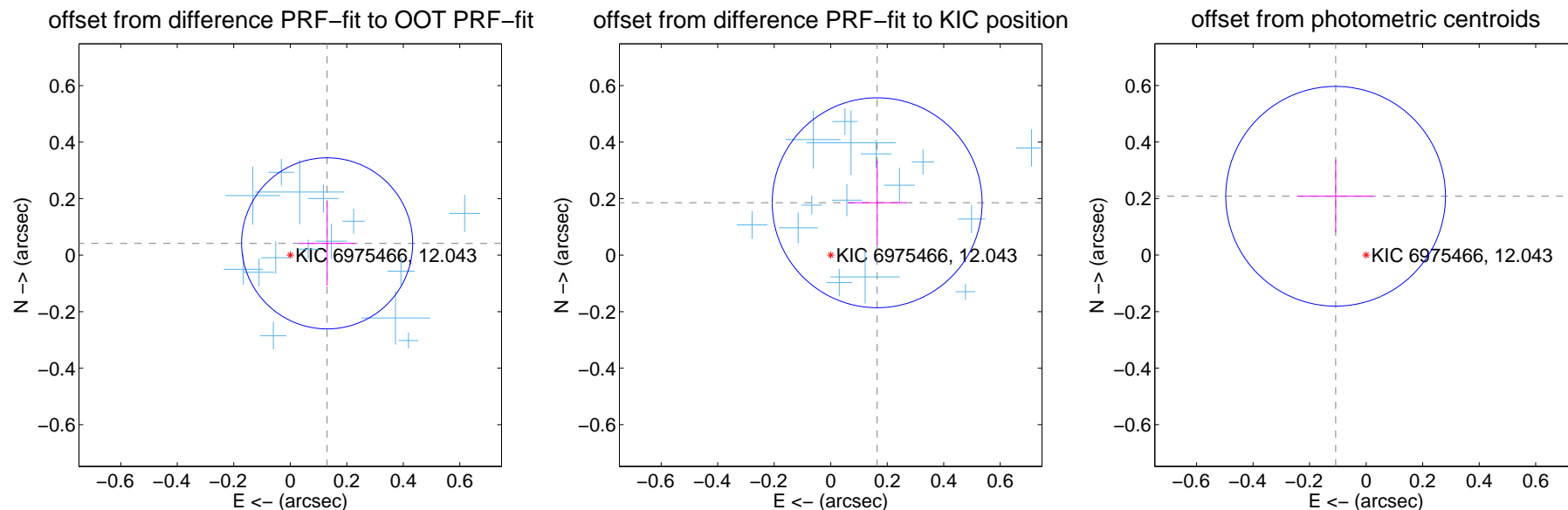
DV Centroid Data

Supplemental centroid analysis for 006975466-01. Kepler magnitude: 12.04. Transit SNR 13.60

There are 17 quarters with good PRF difference image offsets

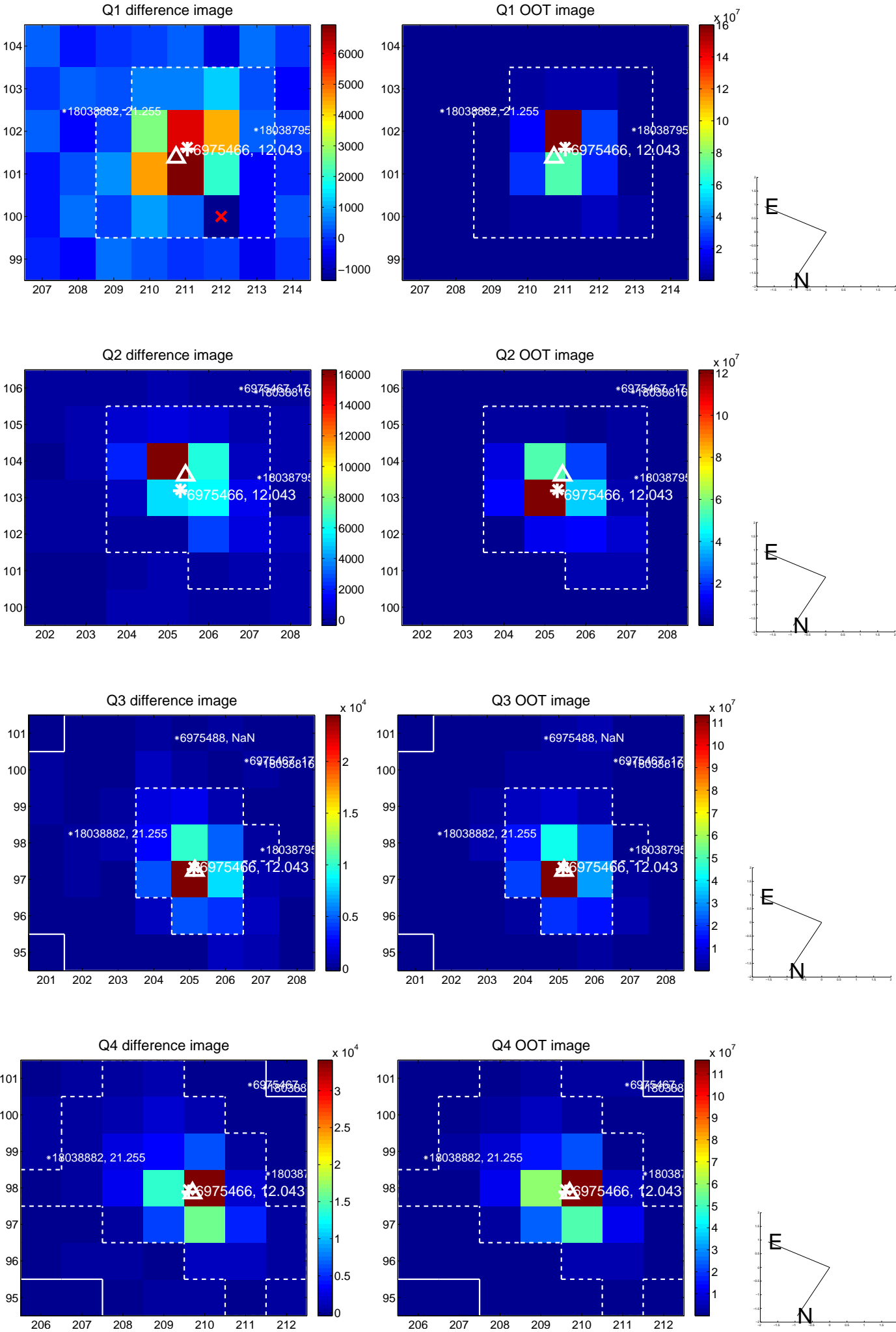
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.137 ± 0.101	1.36	-0.131 ± 0.099	0.042 ± 0.150
PRF-fit source offset from KIC position	0.248 ± 0.124	2.00	-0.164 ± 0.103	0.185 ± 0.150
photometric centroid source offset	0.23 ± 0.13	1.81	0.11 ± 0.13	0.21 ± 0.13

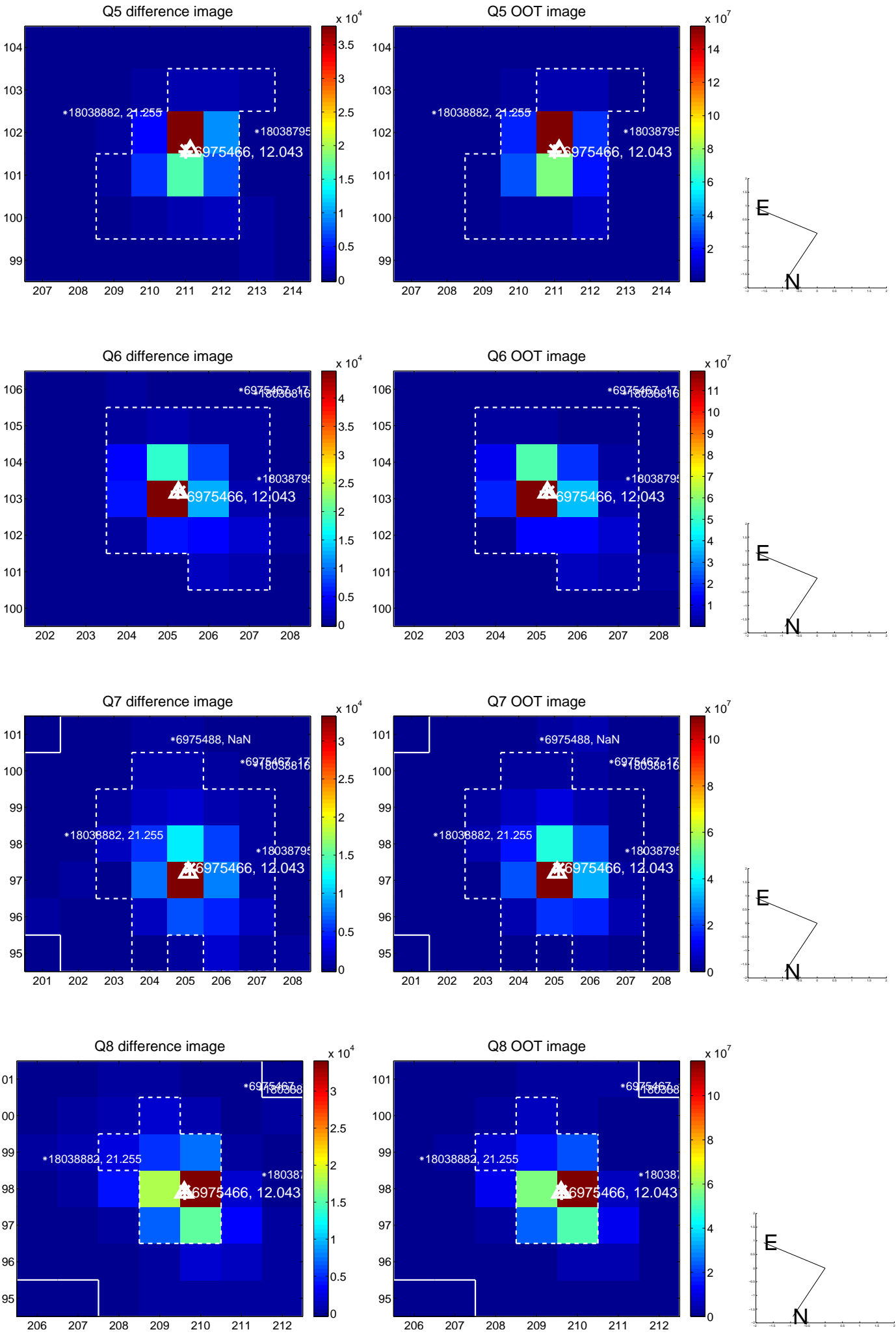


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

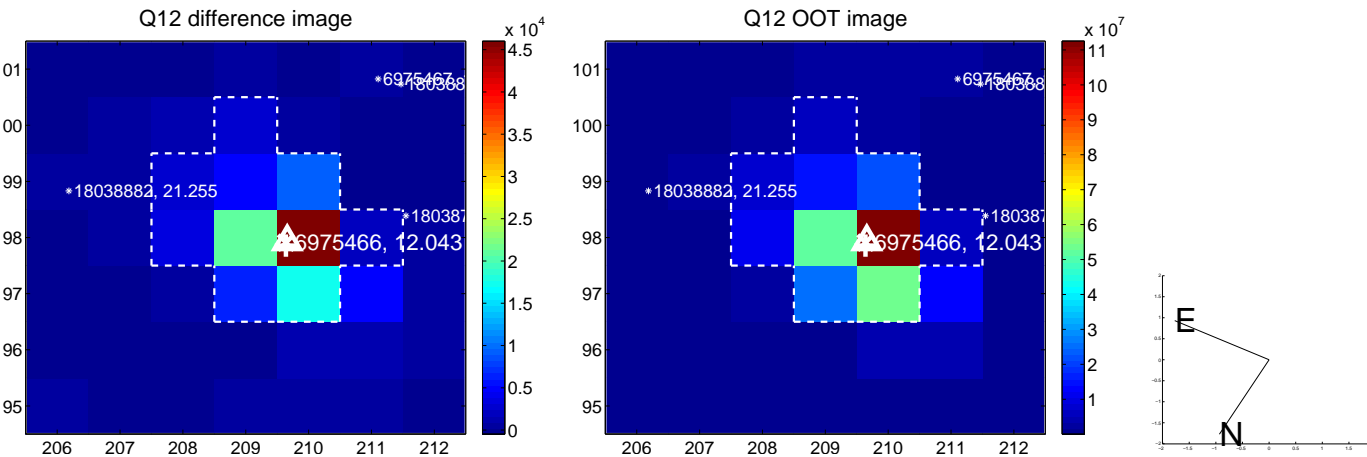
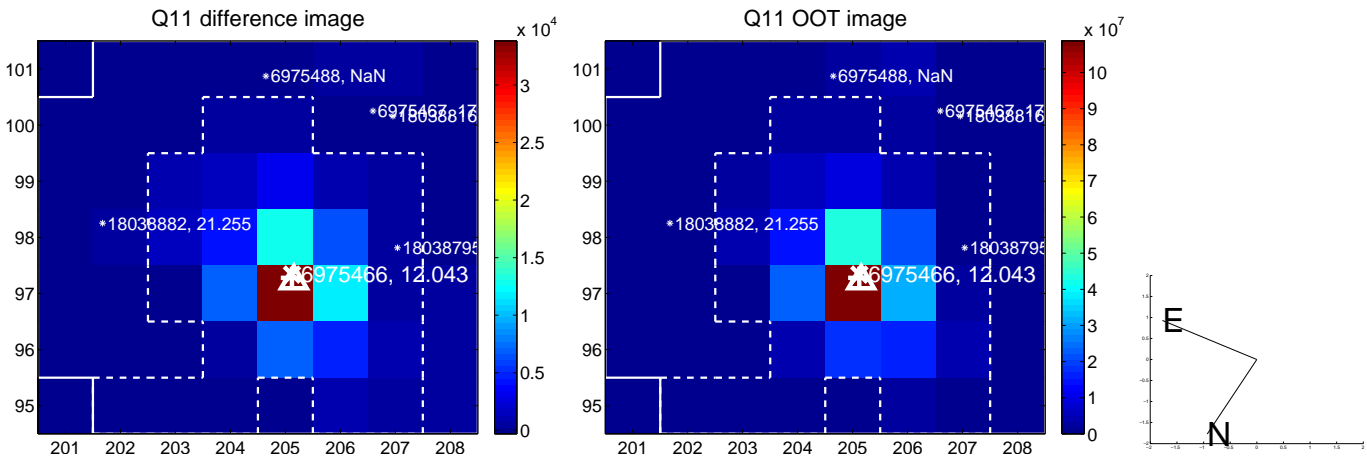
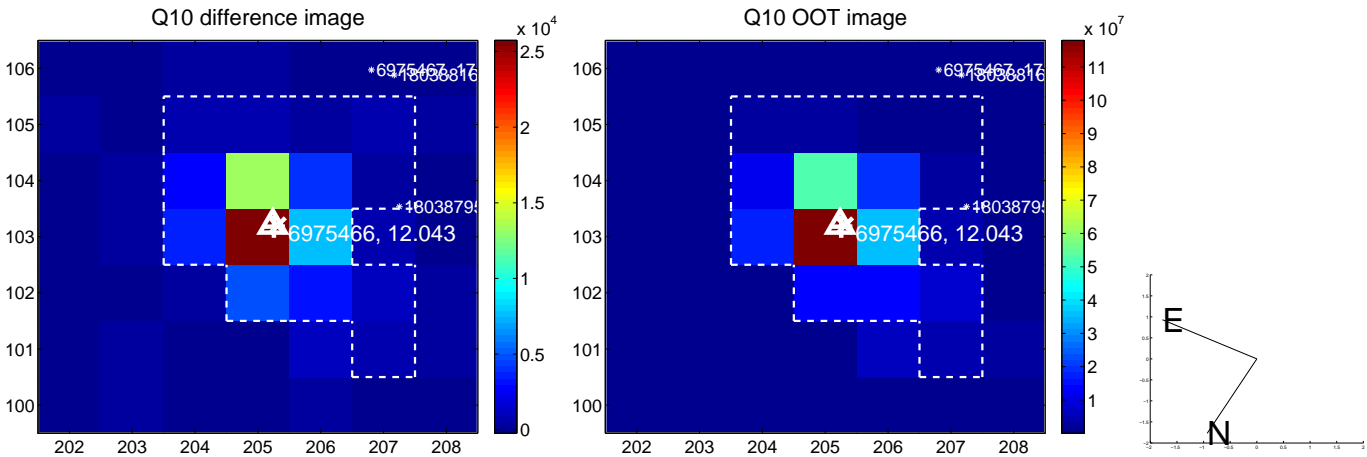
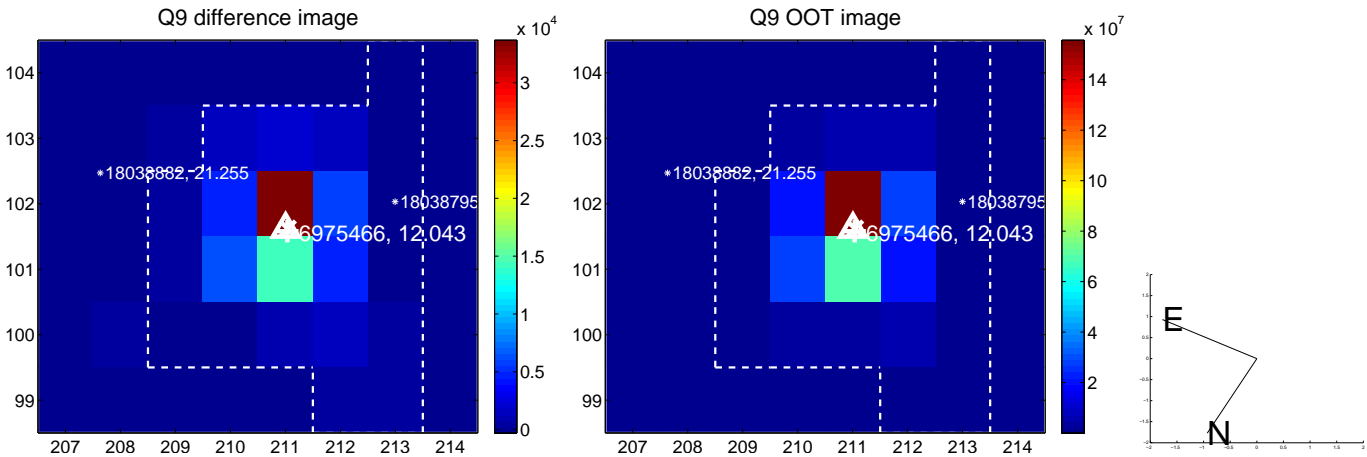
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



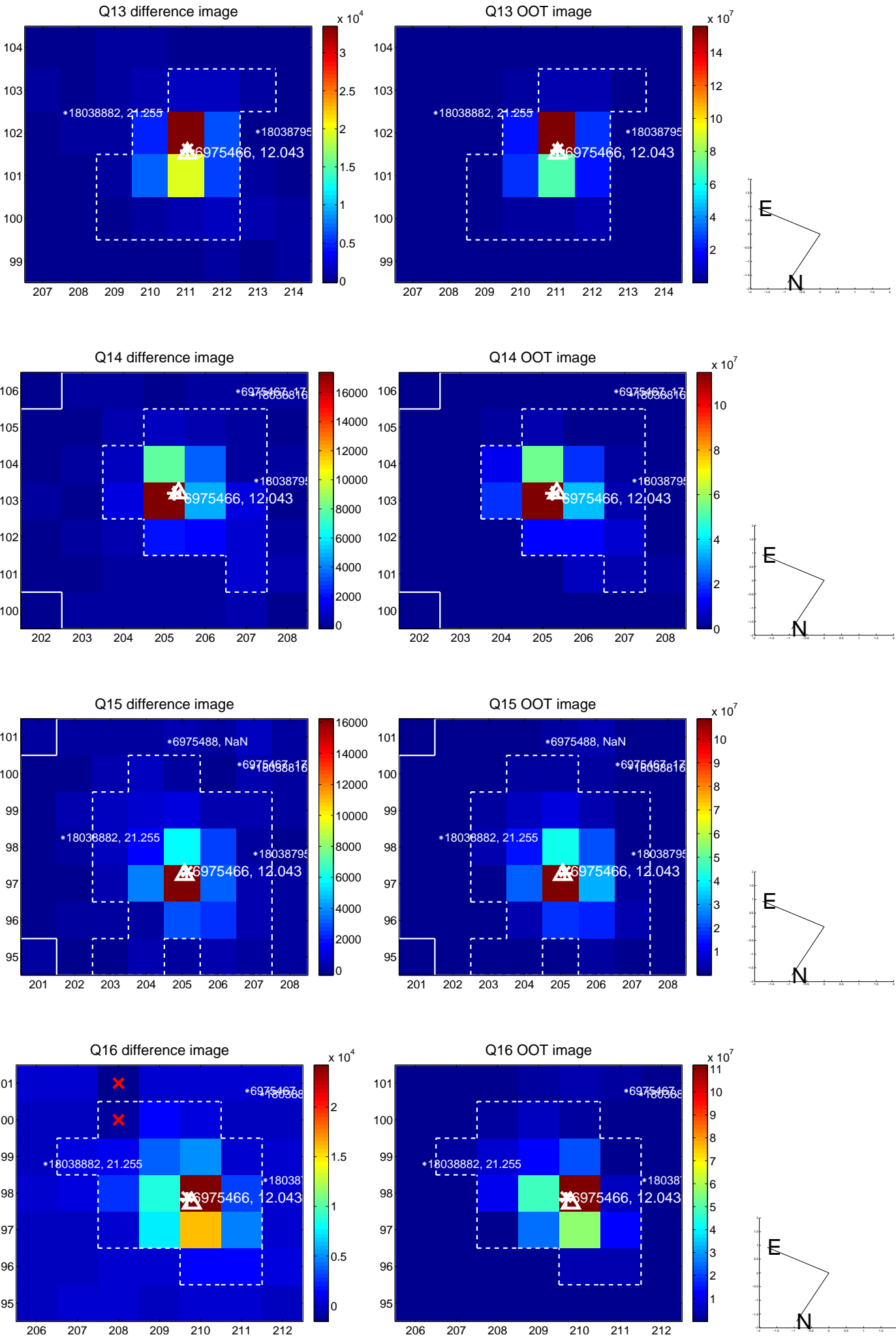
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



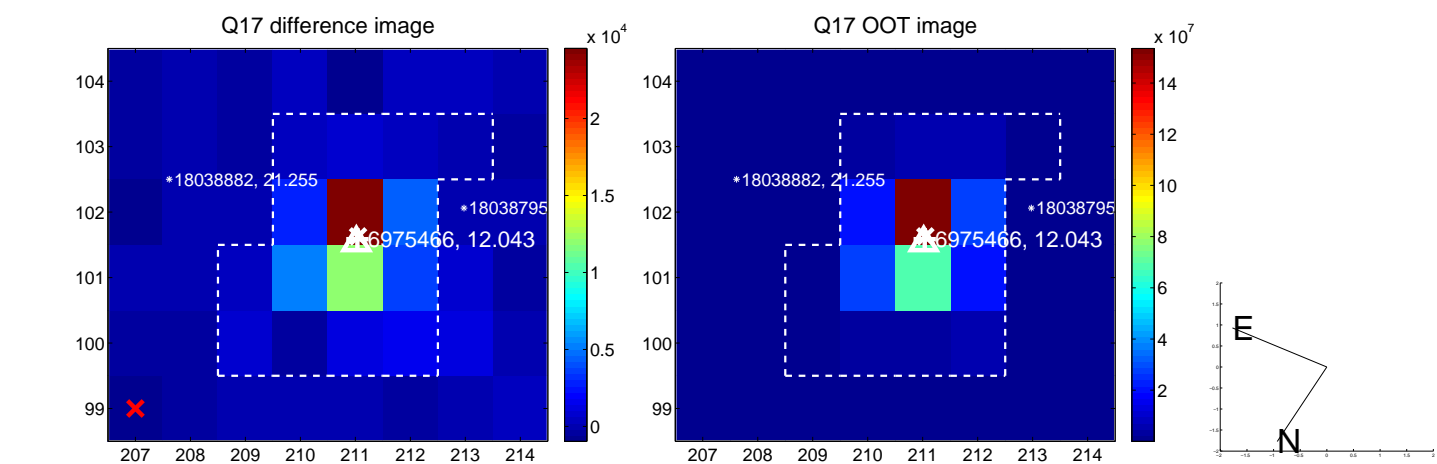
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



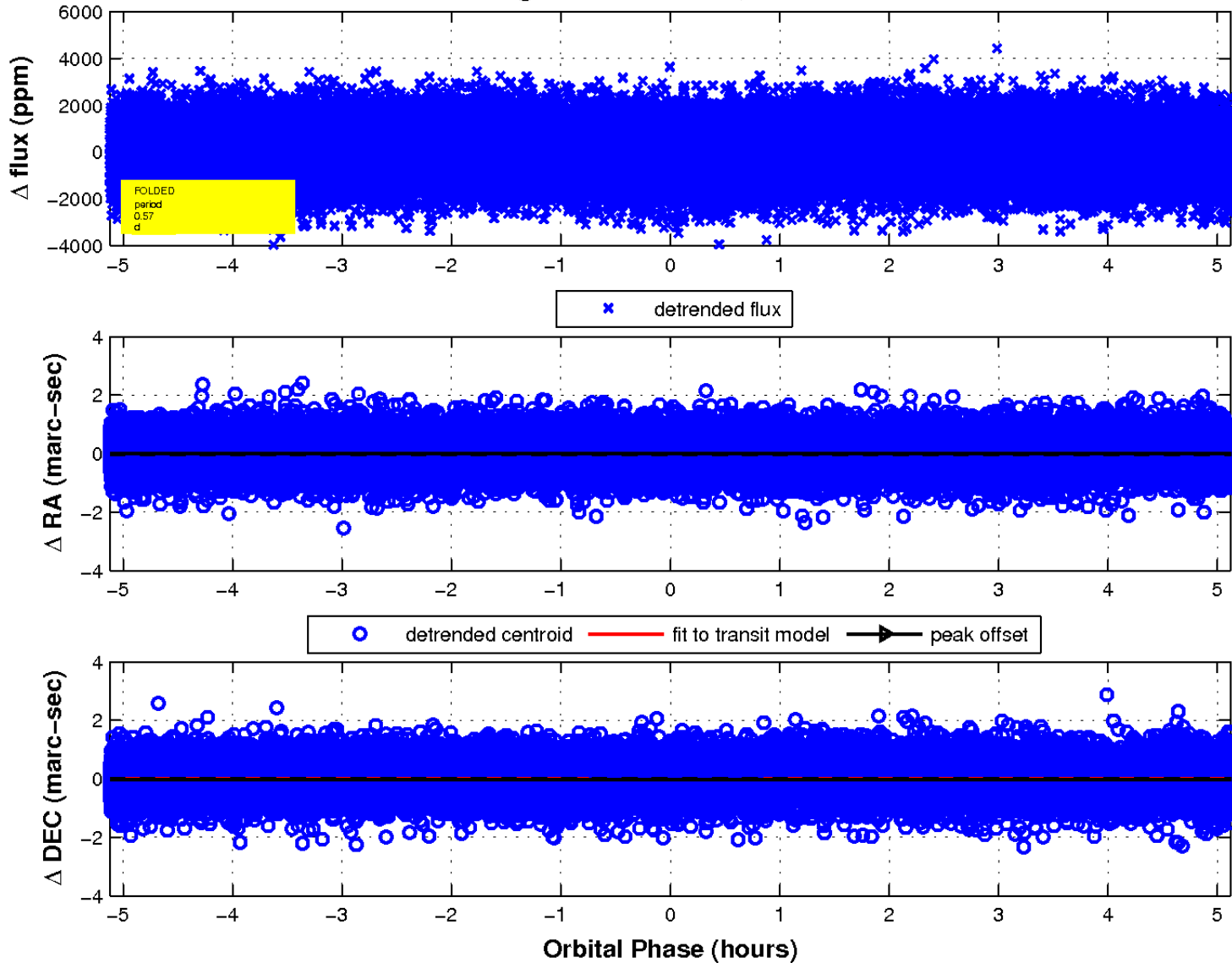
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

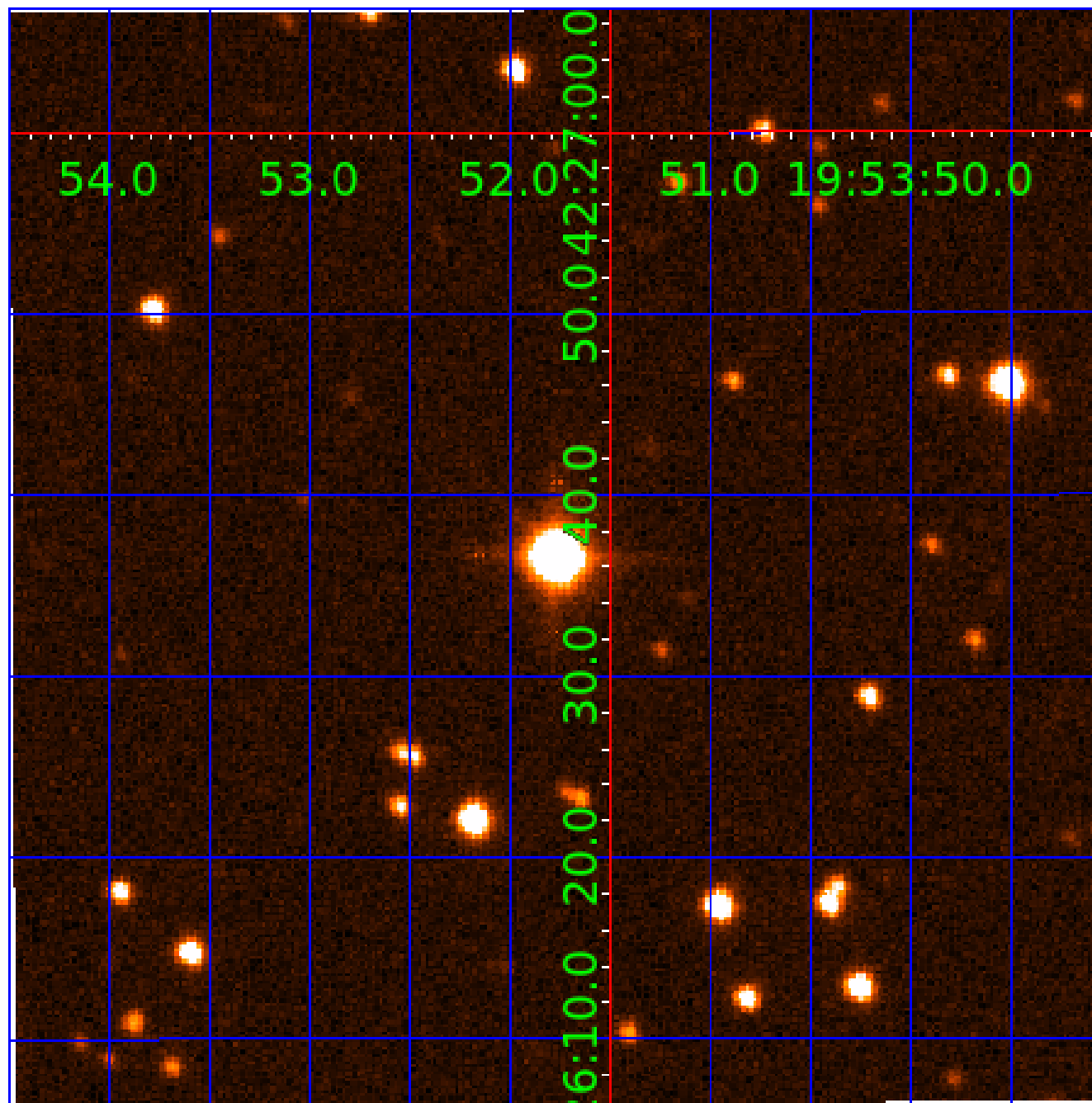


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 006975466

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})
006975466-01	OBS	No	0.574566	131.909247	117.1	1.707	11.9	13.6	1.93	7426	2.15	38889.48
006975466-02	OBS	No	2.105292	132.797046	62.9	11.816	10.0	7.0	1.93	7426	1.55	6884.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006975466-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006975466-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

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

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

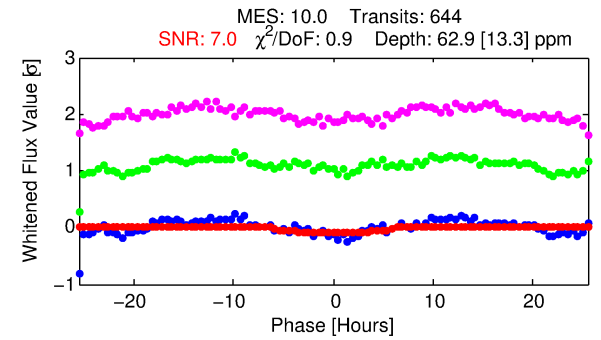
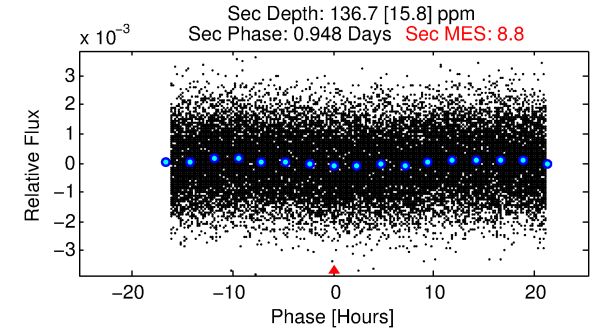
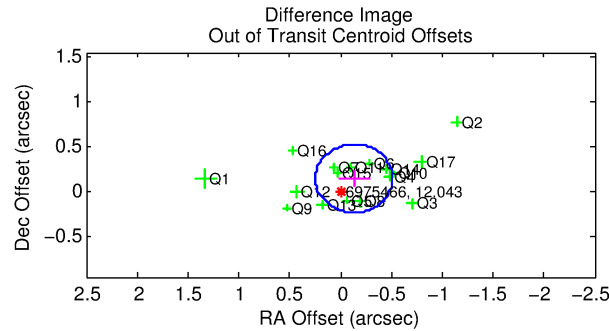
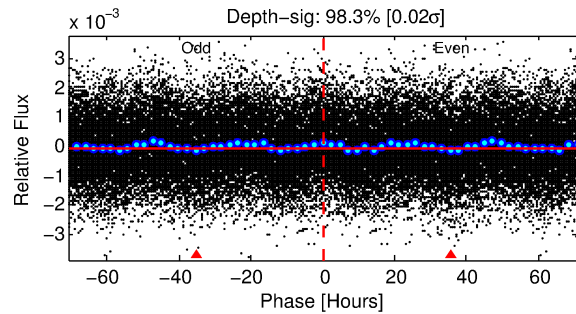
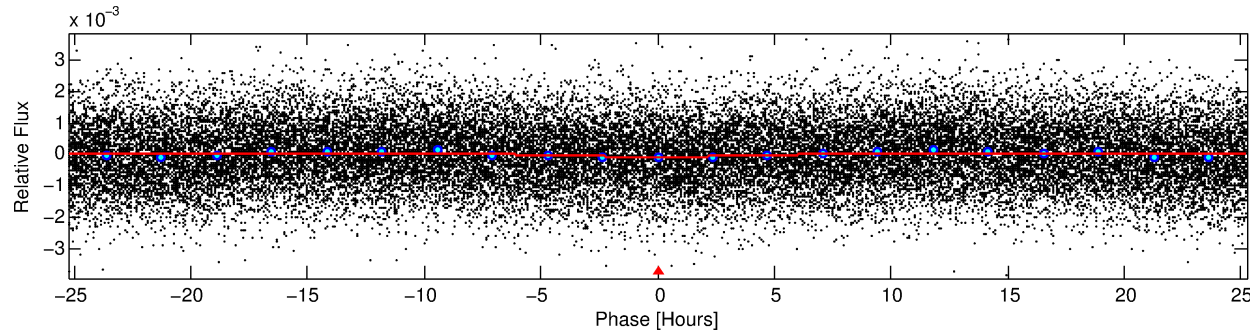
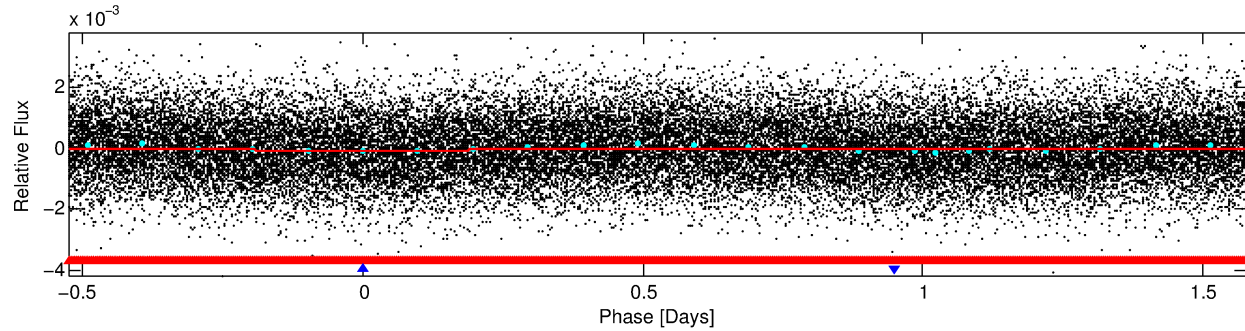
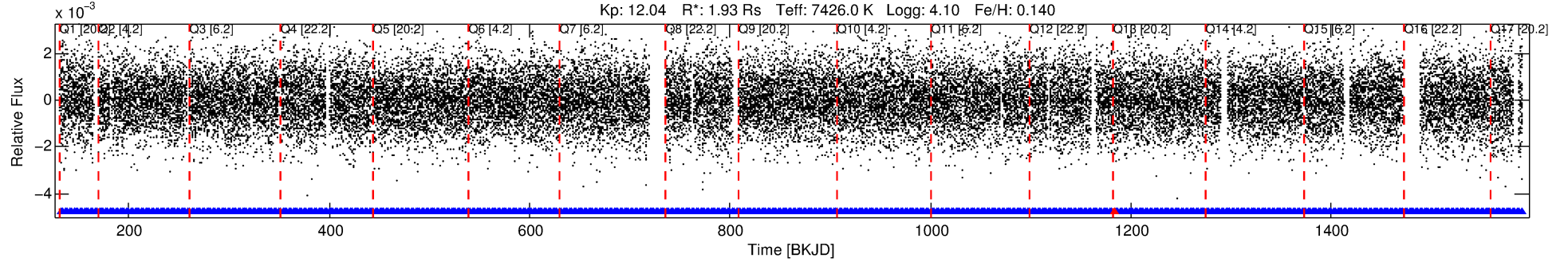
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006975466-02

No Significant Match Found

DV One-Page Summary

KIC: 6975466 Candidate: 2 of 2 Period: 2.105 d



DV Fit Results:

Period = 2.10529 [0.00006] d
Epoch = 132.7970 [0.0175] BKJD
Rp/R* = 0.0074 [0.0152]
a/R* = 1.50 [10.44]
b = 0.01 [909.77]
Seff = 6884.45 [2645.64]
Teq = 2323 [223] K
Rp = 1.55 [3.22] Re
a = 0.0384 [0.0091] AU
Ag = 46.04 [190.25] [0.24 σ]
Teffp = 9354 [9640] K [0.73 σ]

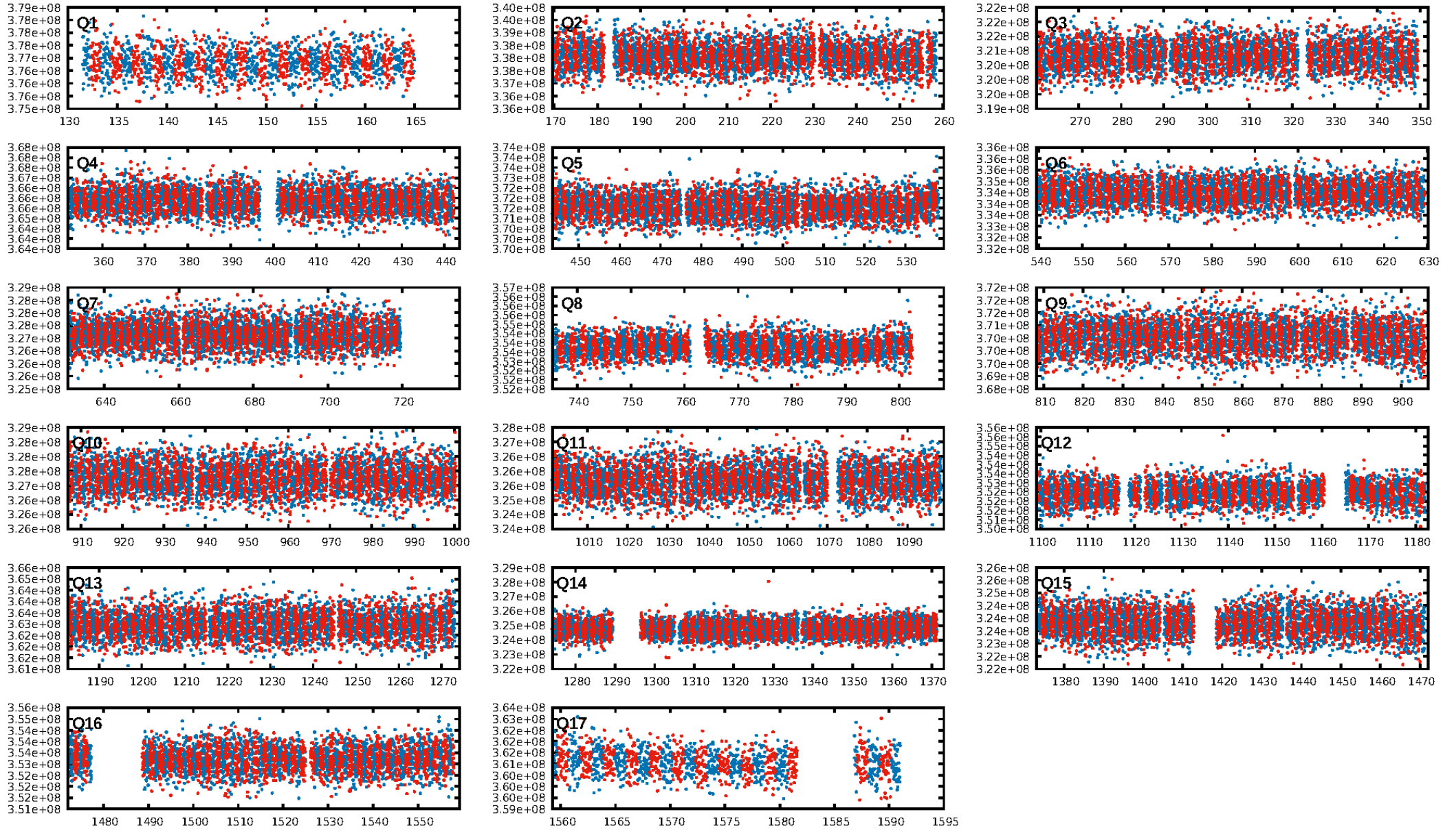
DV Diagnostic Results:

ShortPeriod-sig: 99.8% [3.08 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.89e-12
RollingBand-fgt: 1.00 [614/615]
GhostDiagnostic-chr: 1.461
Centroid-sig: 0.0%
Centroid-so: 0.603 arcsec [2.87 σ]
OotOffset-rm: 0.196 arcsec [1.55 σ]
KicOffset-rm: 0.346 arcsec [3.07 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

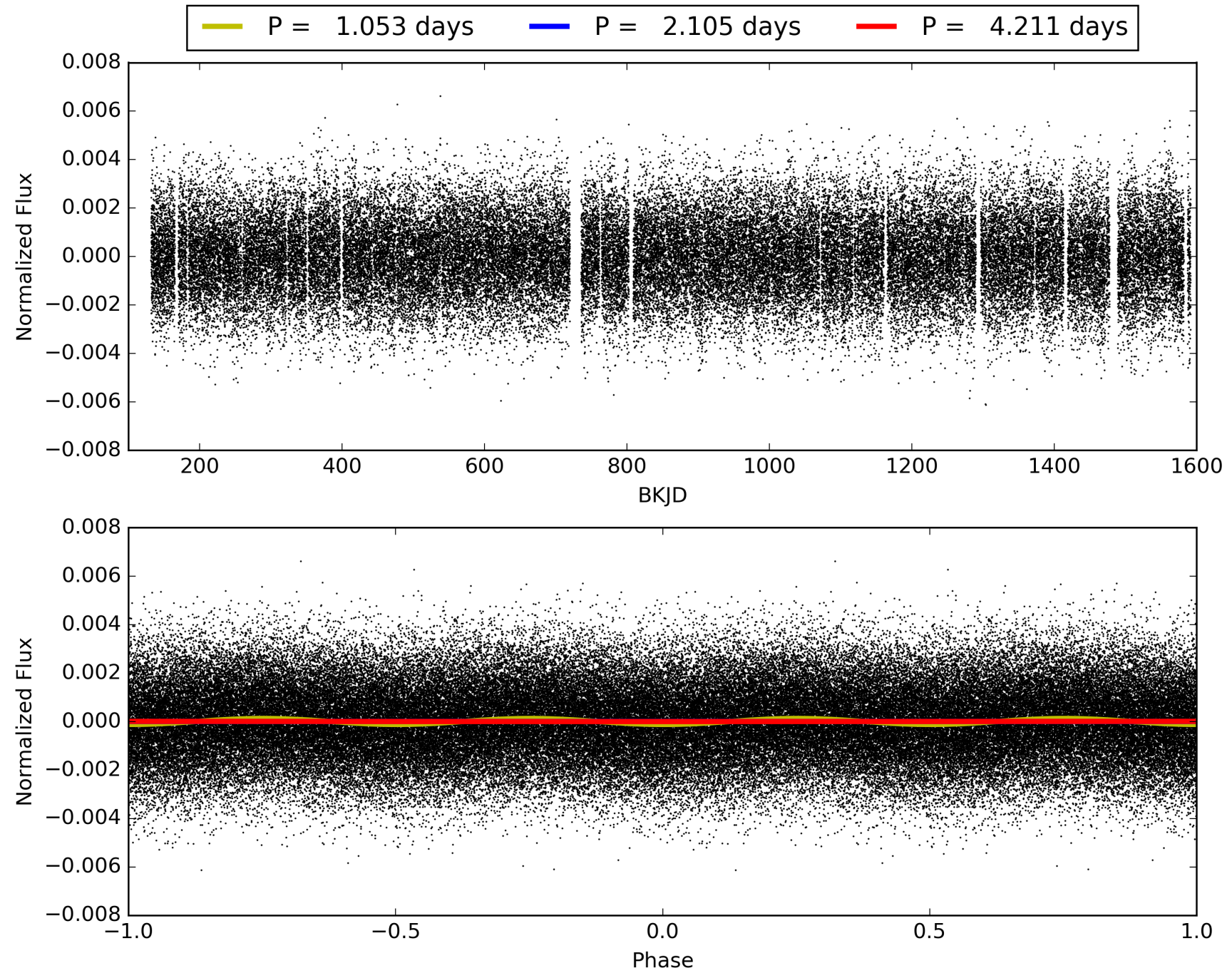
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:12:25 Z

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

TCE 006975466-02, PDC Light Curves

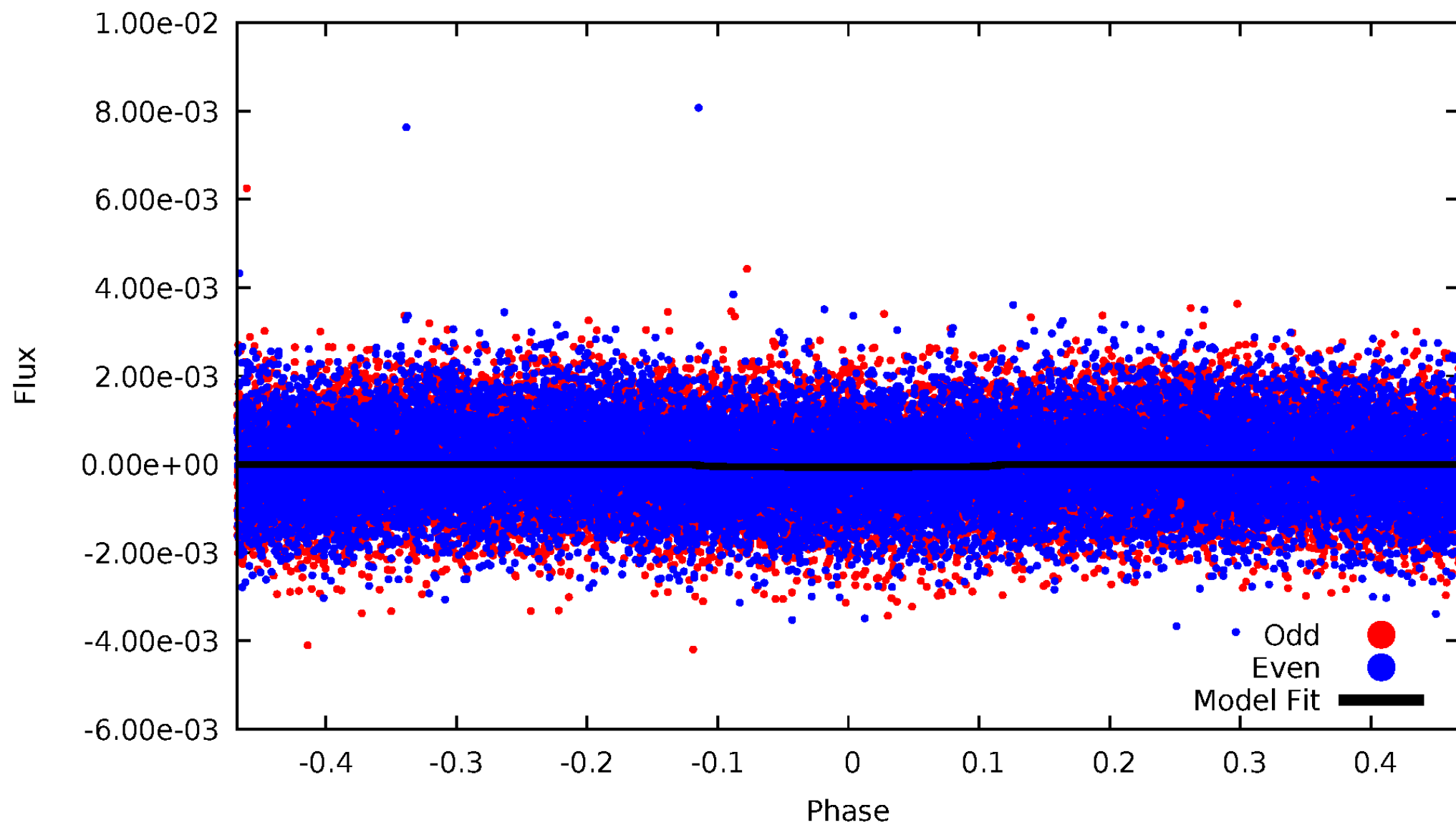


TCE 006975466-02



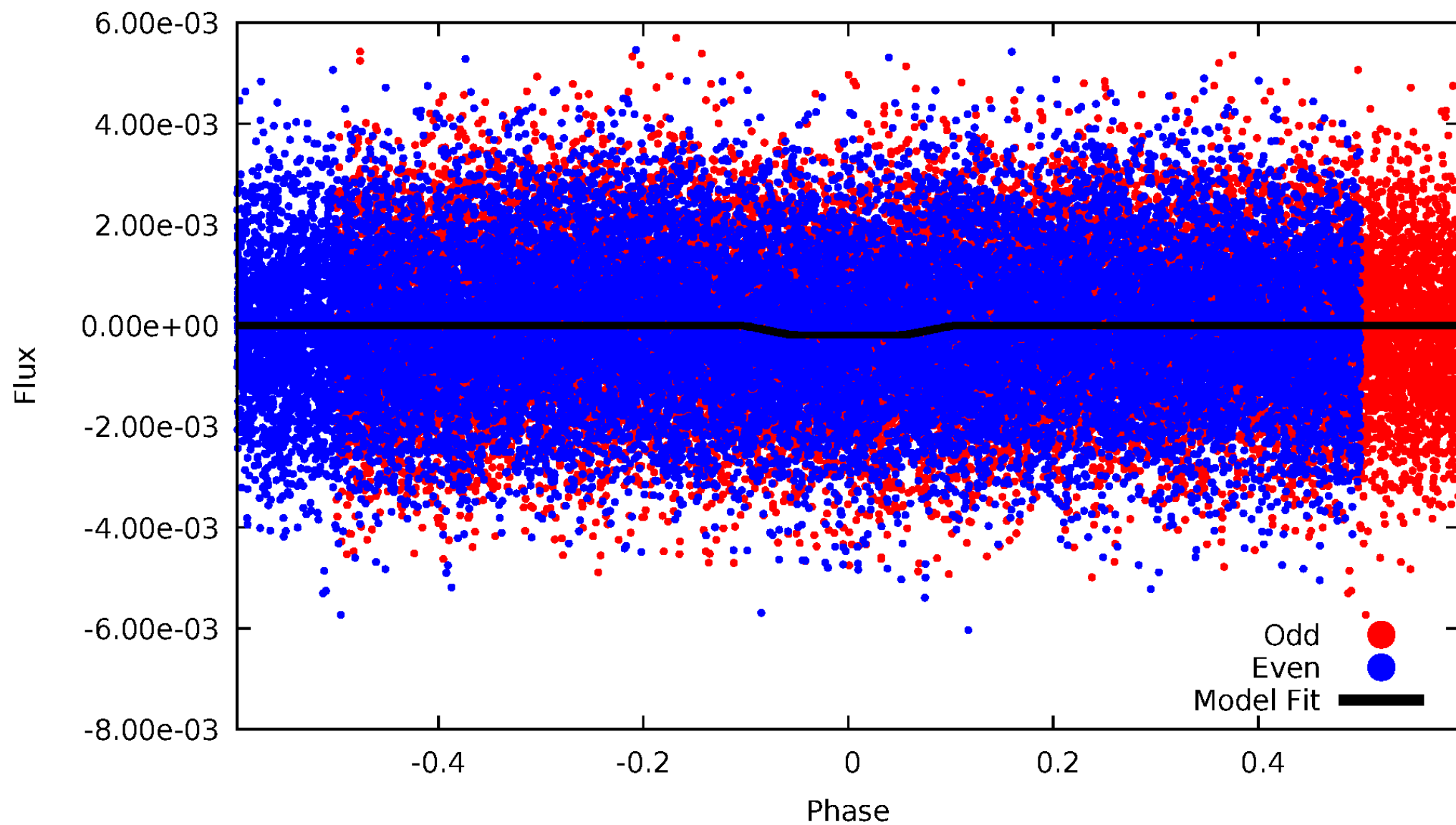
DV Odd/Even

TCE 006975466-02



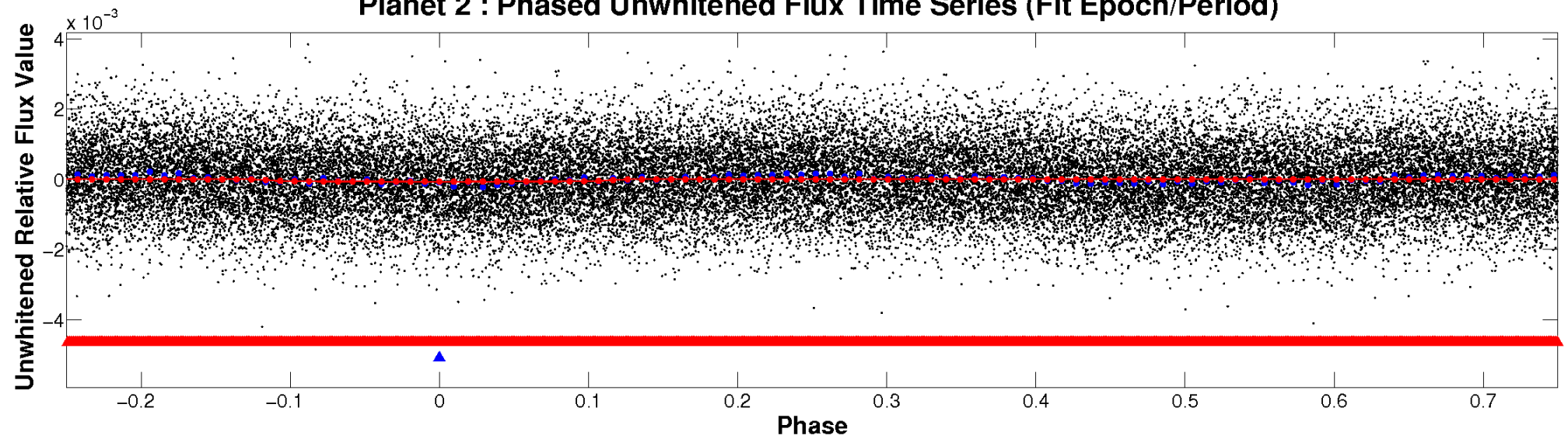
ALT Odd/Even

TCE 006975466-02

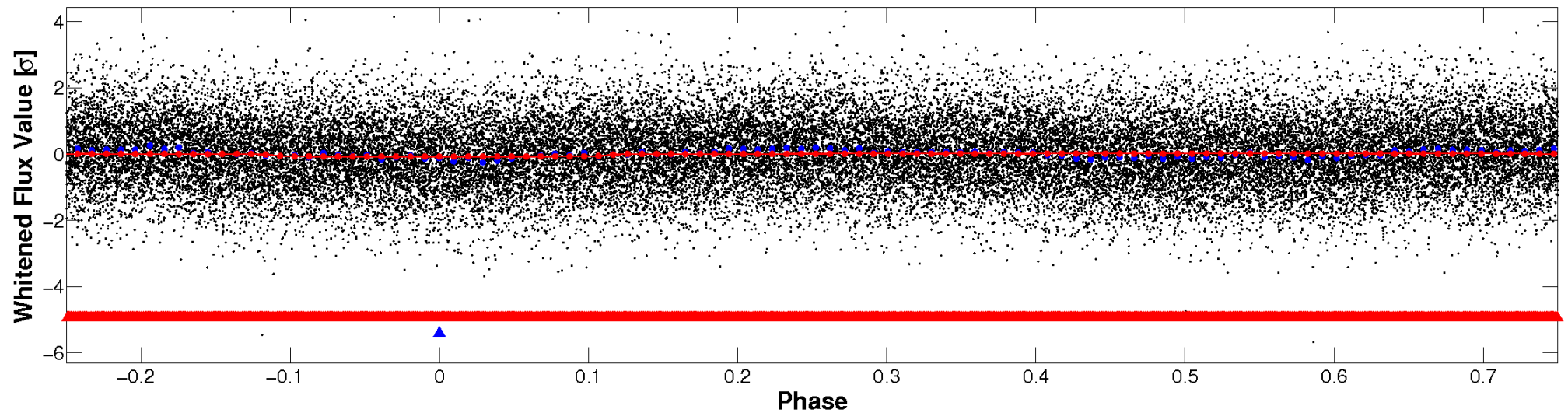


Non-Whitened Vs. Whitened Light Curve

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

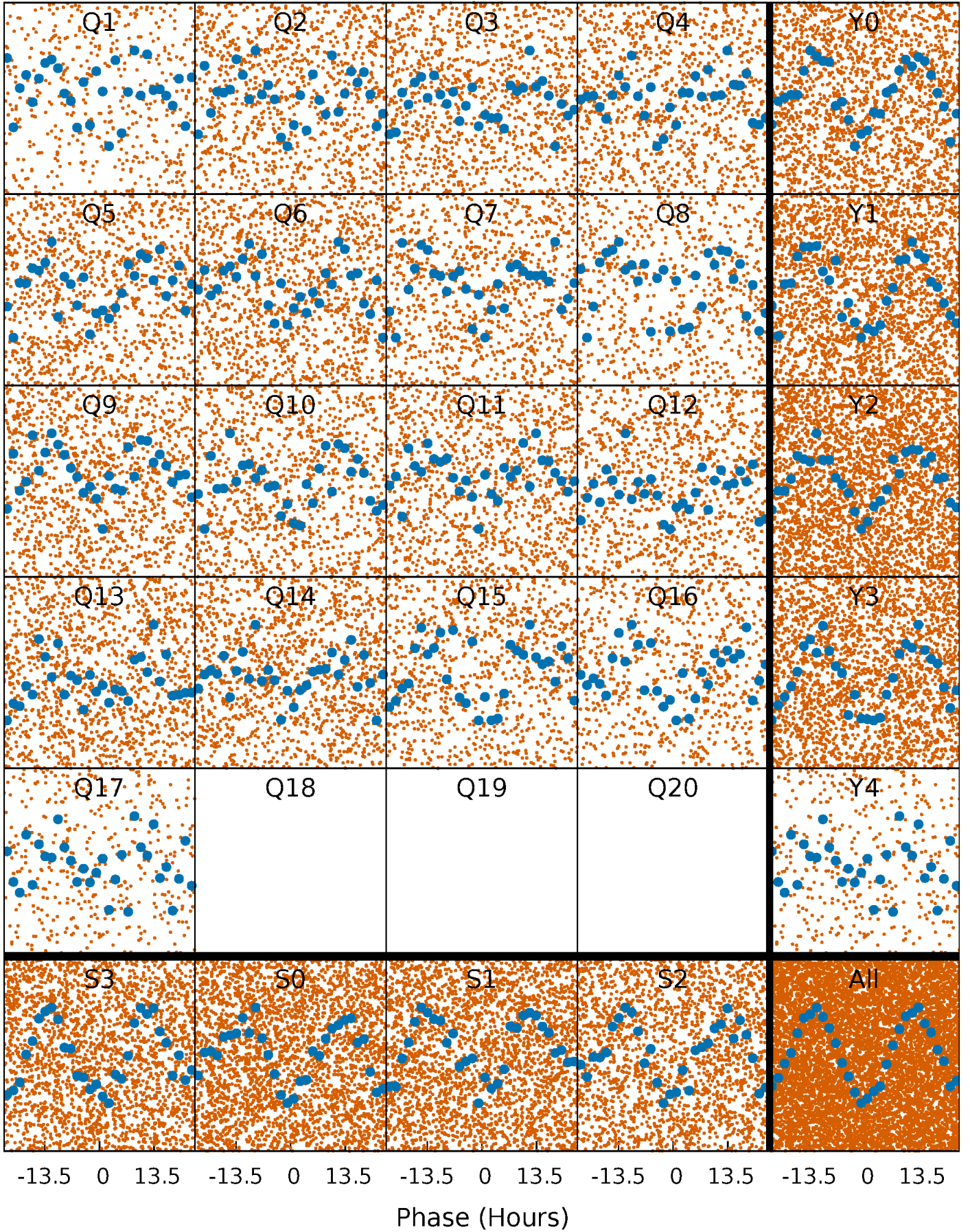


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



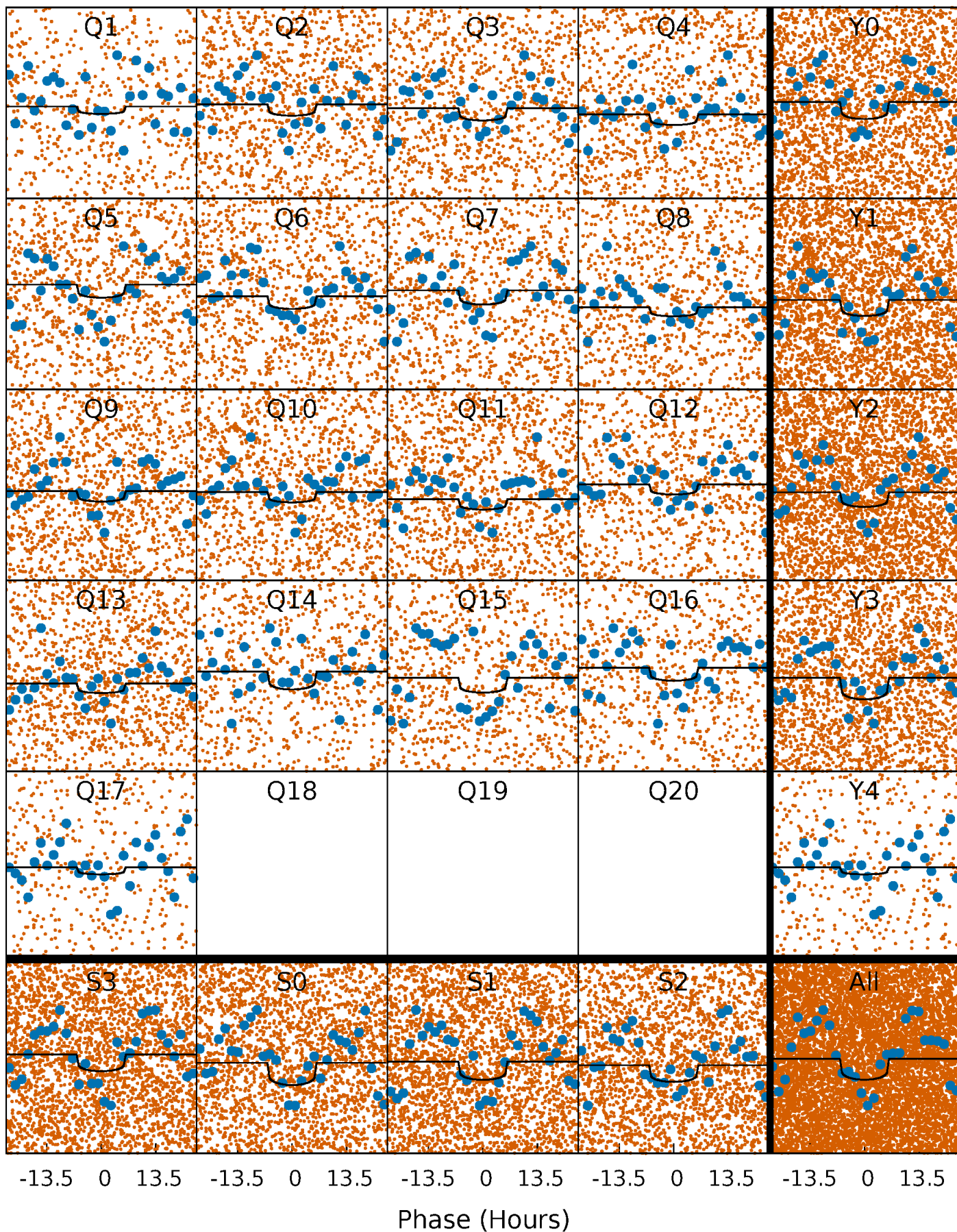
PDC Quarter-Phased Transit Curves

TCE 006975466-02 P= 2.105292 Days $T_0=132.797046$ (BKJD)



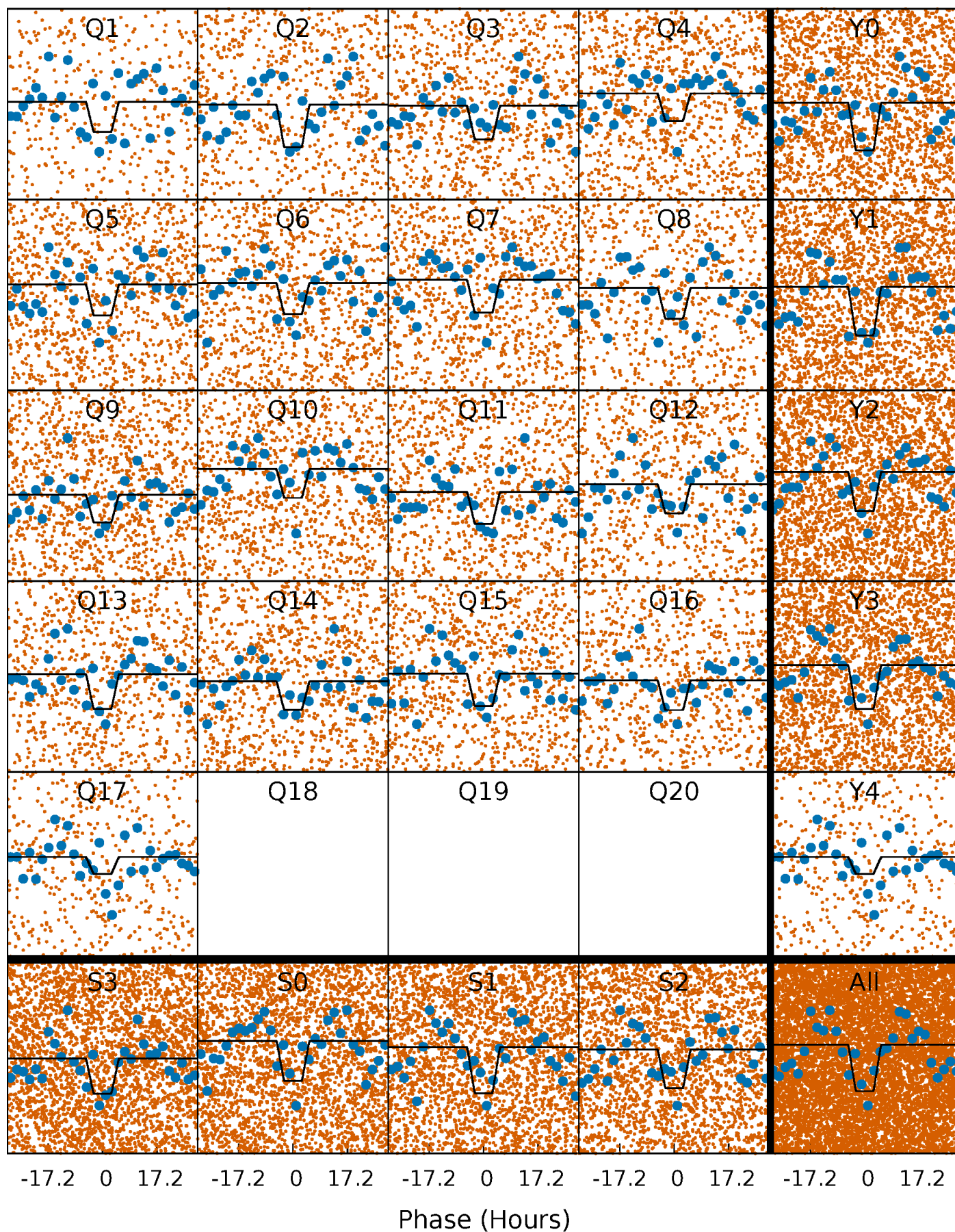
DV Quarter-Phased Transit Curves

TCE 006975466-02 P= 2.105292 Days $T_0=132.797046$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

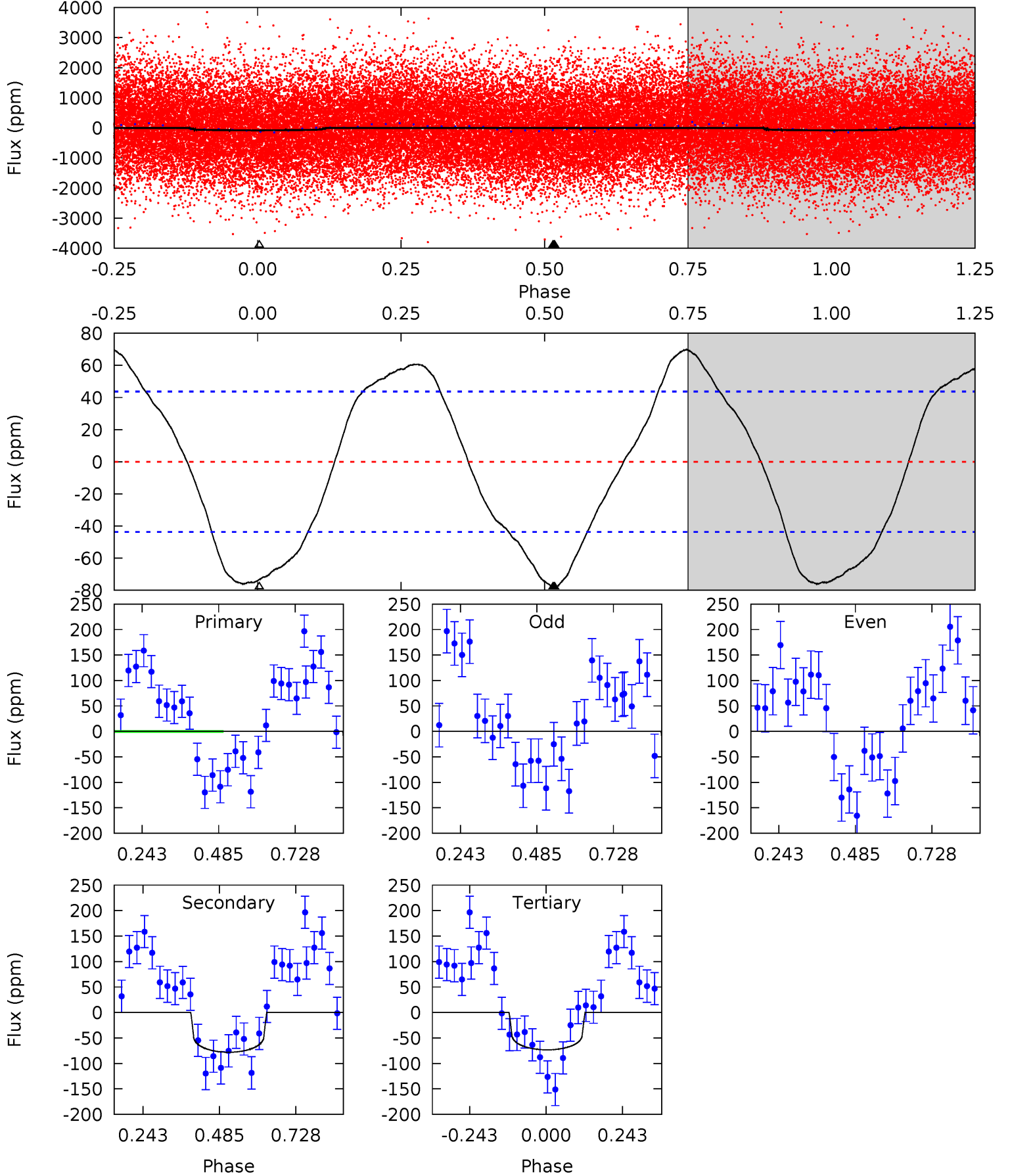
TCE 006975466-02 P= 2.105441 Days $T_0=132.755146$ (BKJD)



DV Model-Shift Uniqueness Test

006975466-02, P = 2.105292 Days, E = 130.691754 Days

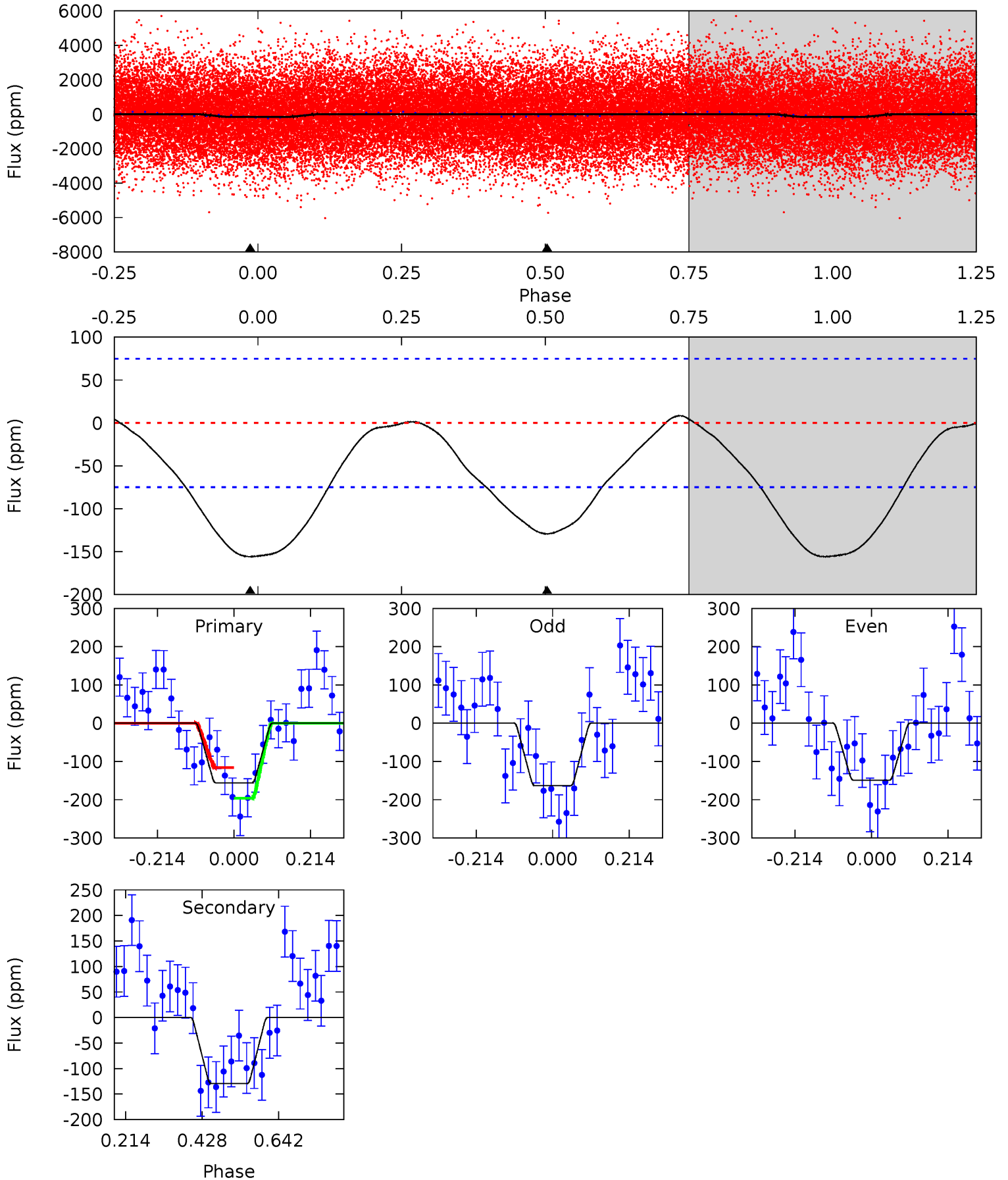
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.84	7.82	7.34	0	4.38	1.17	5.00	0.50	7.84	0.47	7.82	0.30	1.00	0.47	0.83



Alt Model-Shift Uniqueness Test

006975466-02, P = 2.105441 Days, E = 130.649705 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.17	7.60	0	0	4.40	1.24	0.26	9.17	9.17	7.60	7.60	0.42	0.95	0.05	2.33



Stellar Parameters For KIC 006975466

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7426^{+206}_{-324}	$4.098^{+0.124}_{-0.186}$	$0.140^{+0.200}_{-0.350}$	$1.930^{+0.547}_{-0.365}$	$1.701^{+0.207}_{-0.253}$	$0.333^{+0.223}_{-0.154}$
	+3%/-4%	+3%/-5%	+143%/-250%	+28%/-19%	+12%/-15%	+67%/-46%
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 006975466-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-78 ± 10	$3.01^{+2.75}_{-1.96}$	3255^{+217}_{-208}	5650^{+5029}_{-1403}	$6.723^{+47.968}_{-4.827}$
Alt.	-129 ± 17	$3.62^{+2.96}_{-2.24}$	3260^{+255}_{-212}	5924^{+4698}_{-1416}	$7.960^{+48.842}_{-5.591}$

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

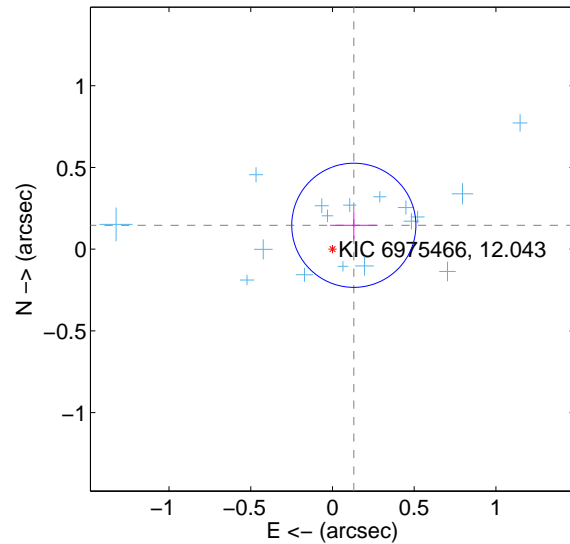
Supplemental centroid analysis for 006975466-02. Kepler magnitude: 12.04. Transit SNR 6.95

There are 17 quarters with good PRF difference image offsets

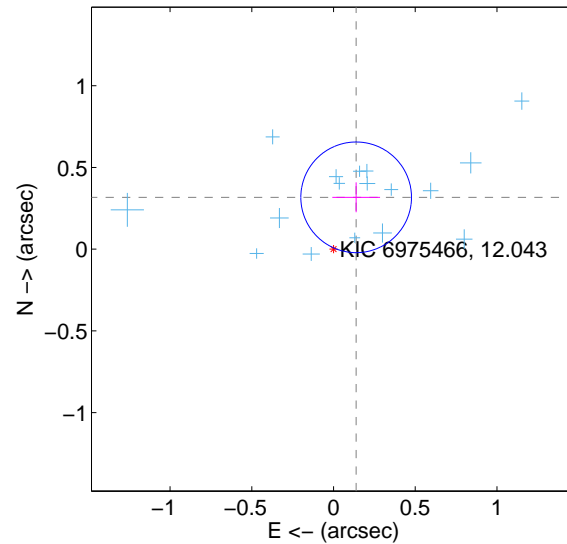
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.196 ± 0.127	1.55	-0.131 ± 0.146	0.146 ± 0.086
PRF-fit source offset from KIC position	0.346 ± 0.113	3.07	-0.138 ± 0.146	0.317 ± 0.091
photometric centroid source offset	0.60 ± 0.21	2.87	-0.40 ± 0.22	0.45 ± 0.20

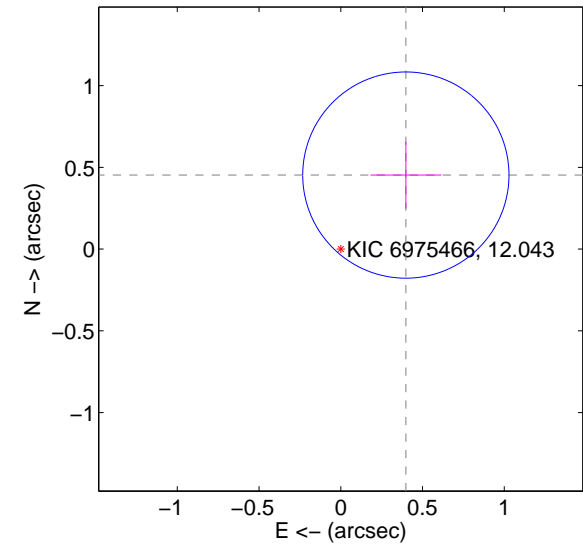
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

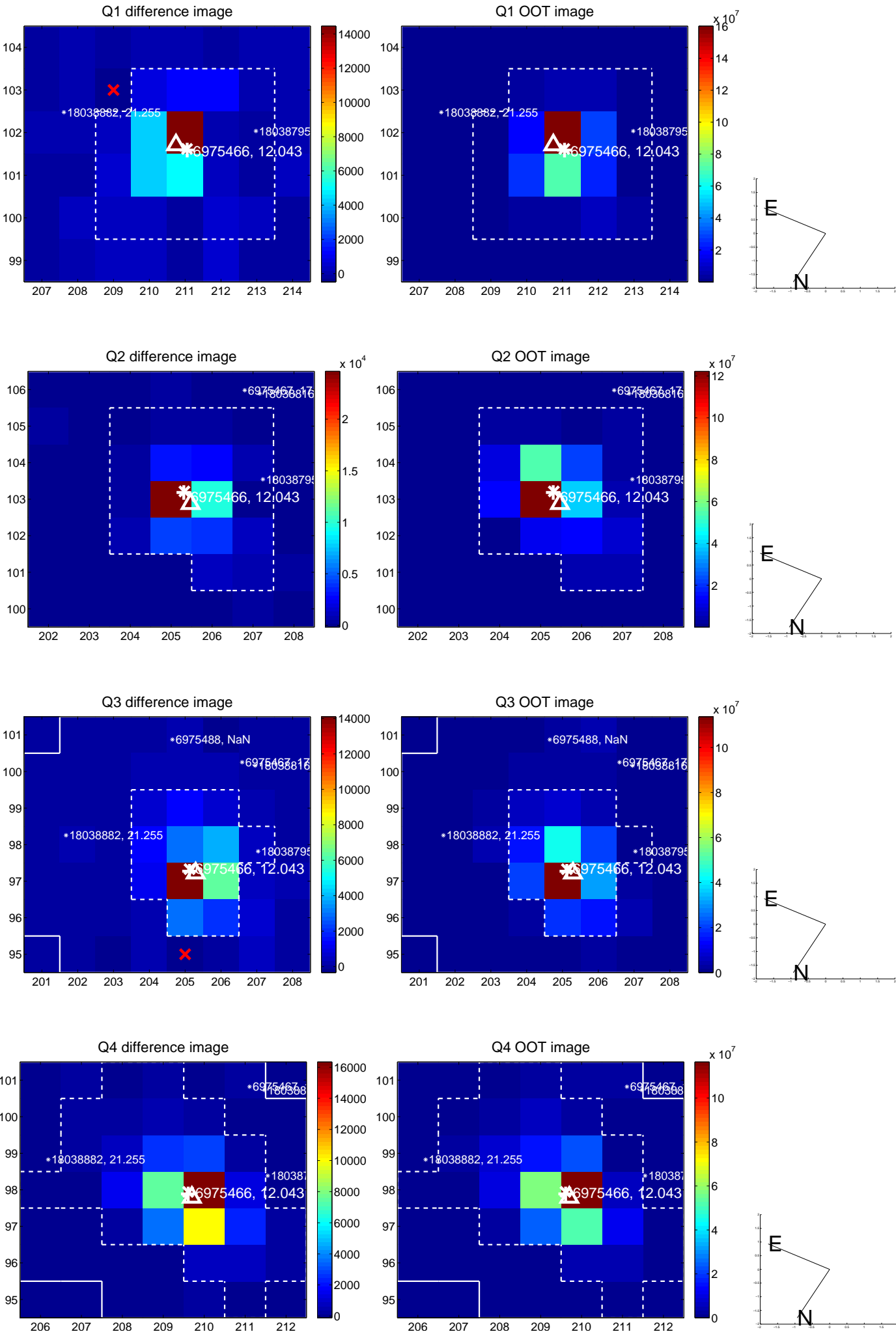


offset from photometric centroids

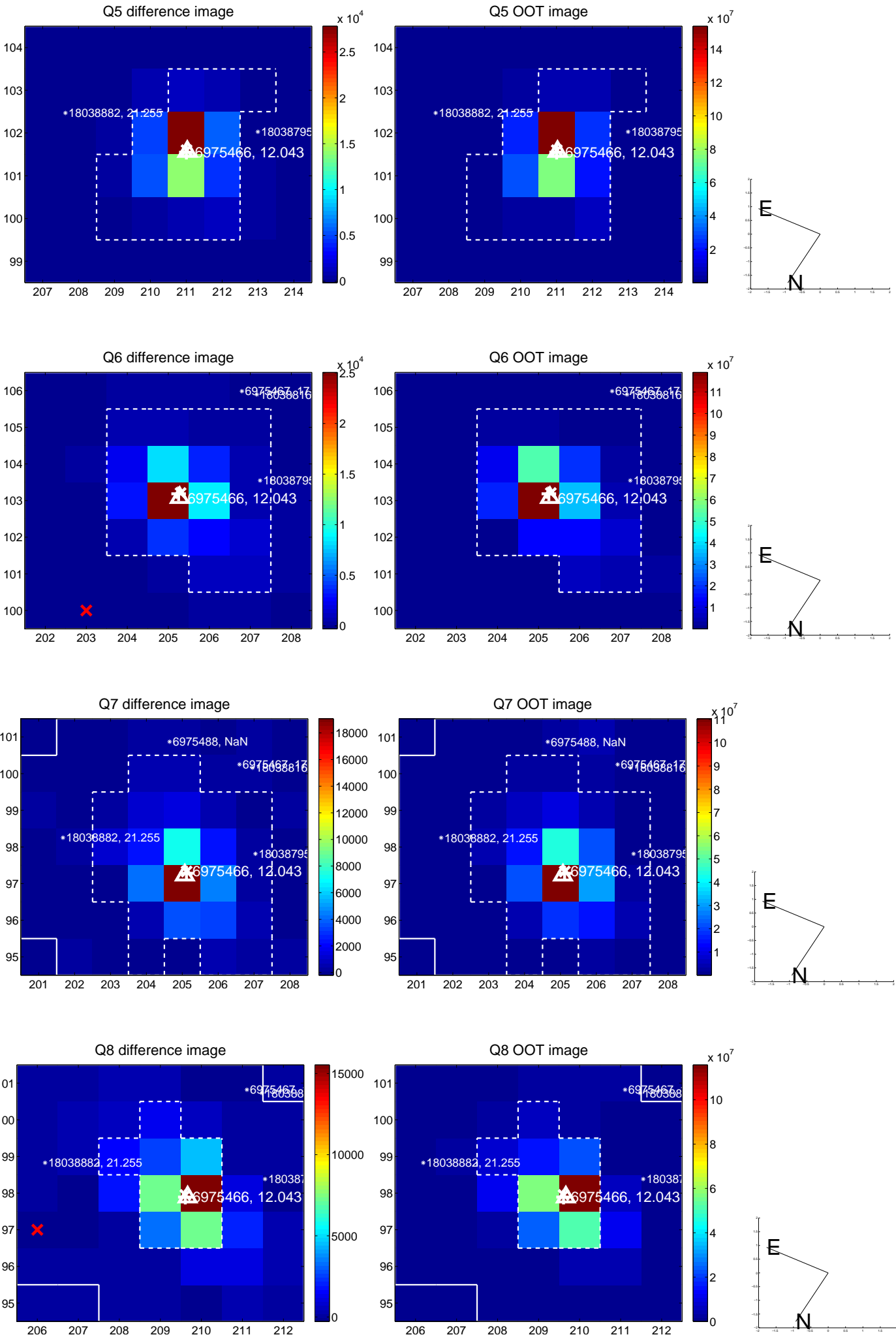


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

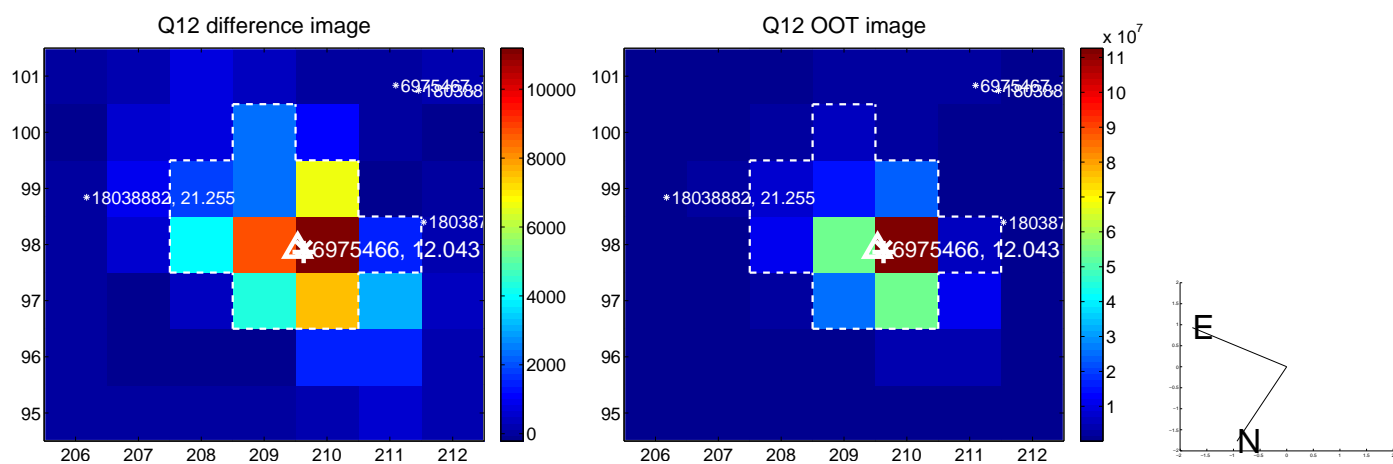
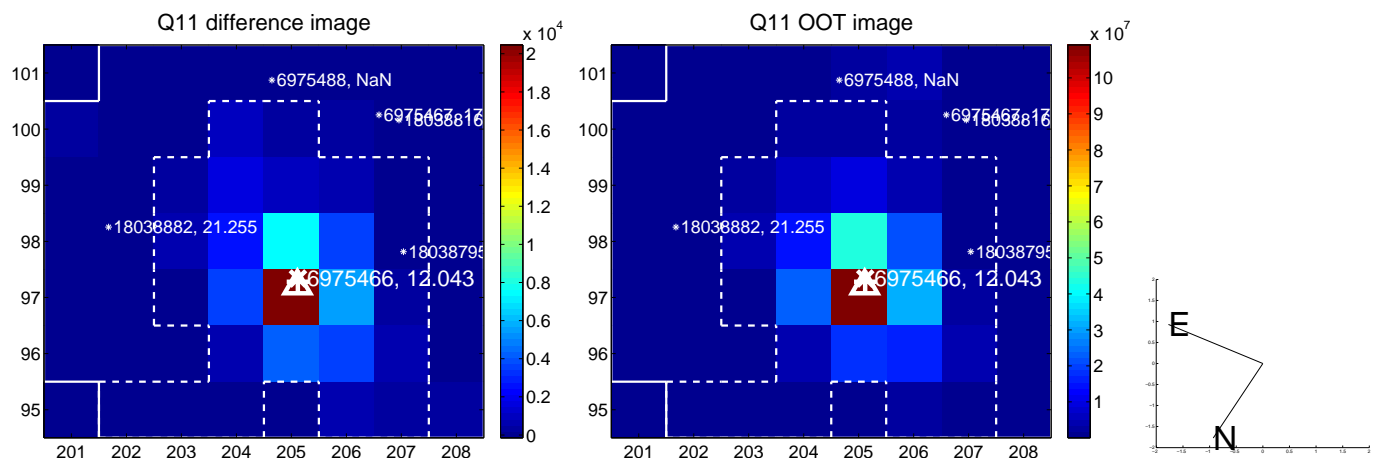
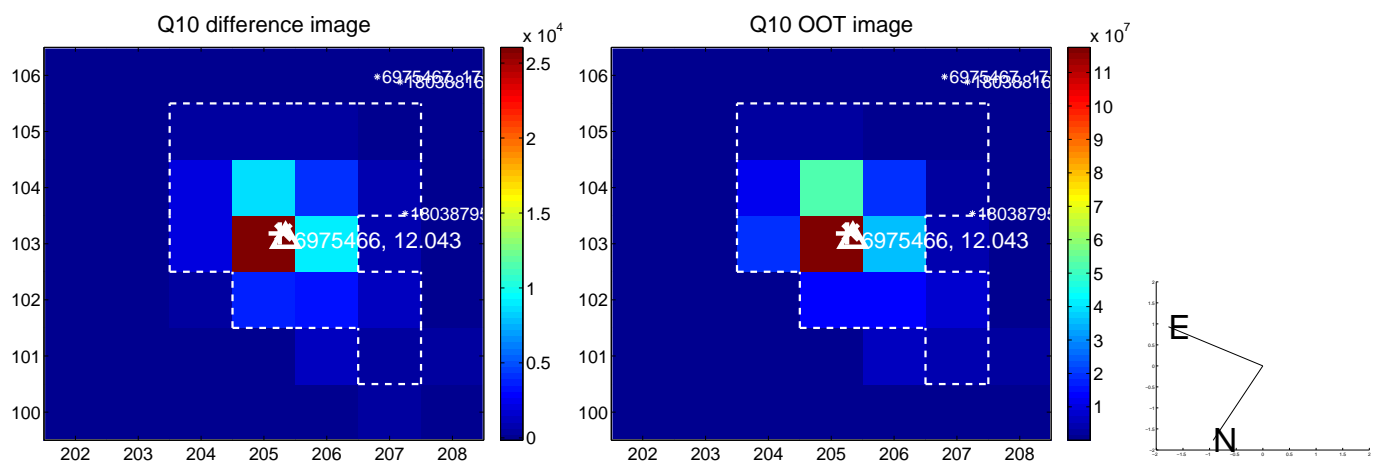
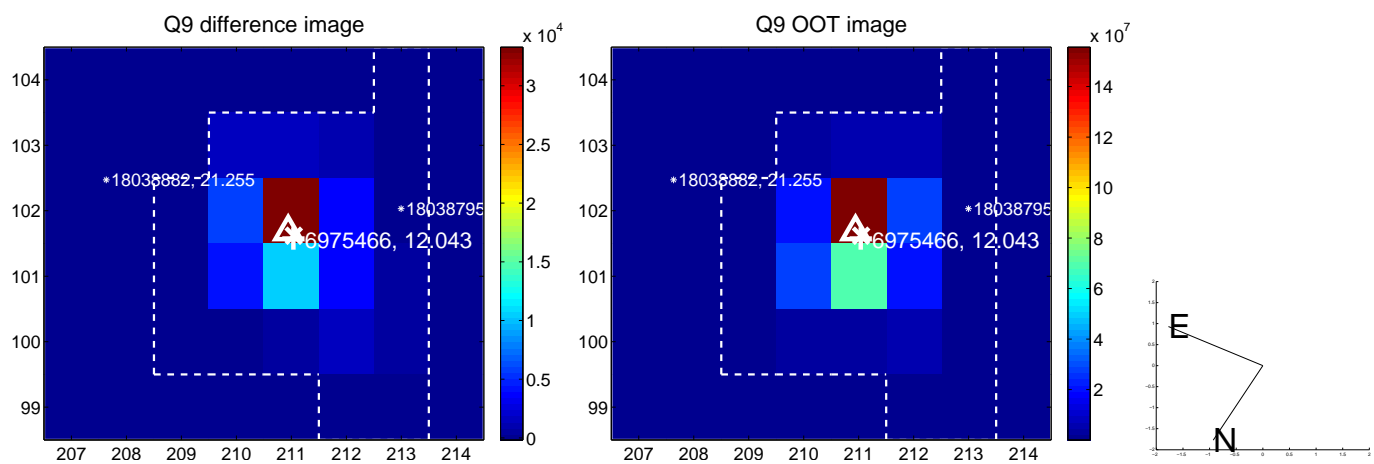
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



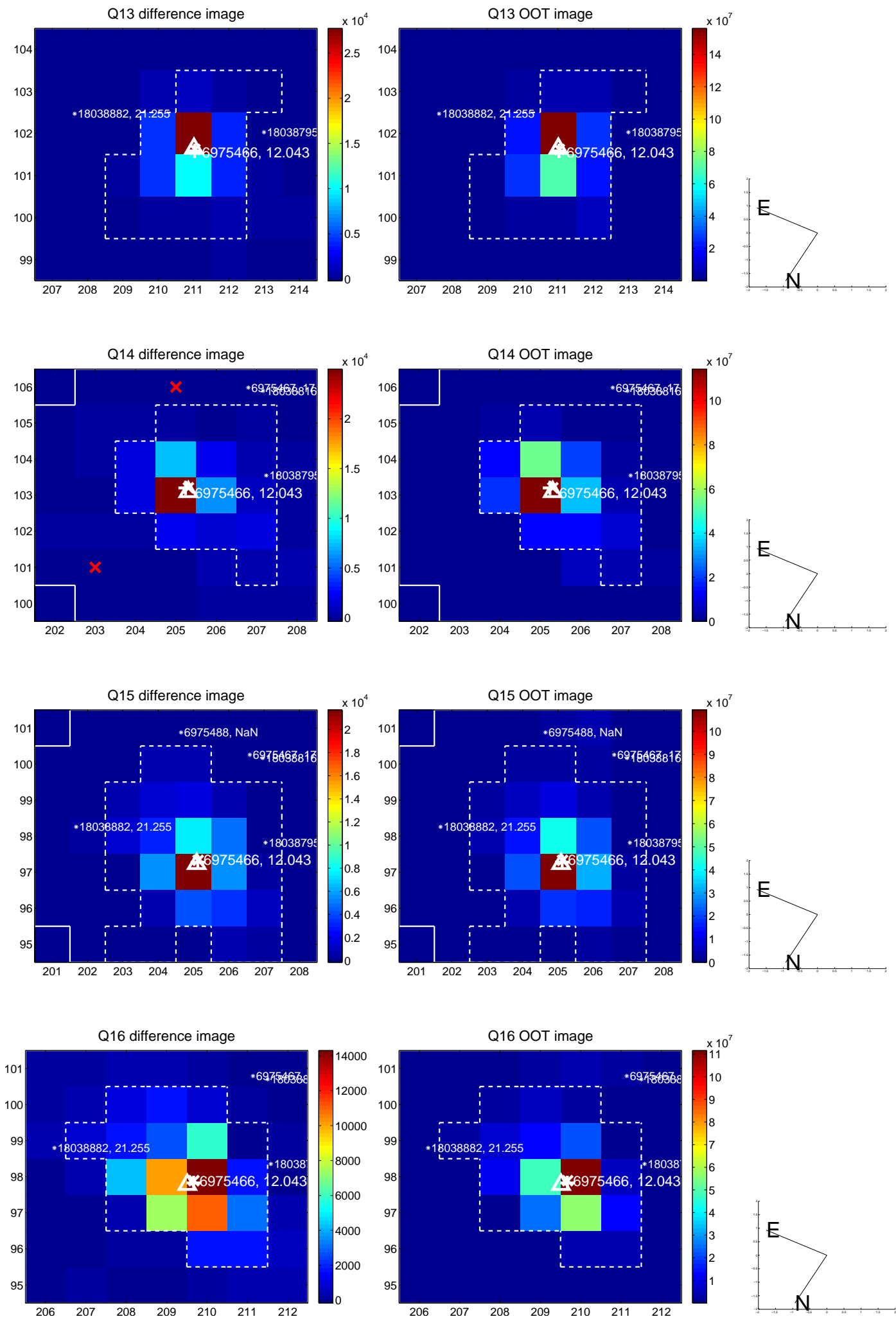
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



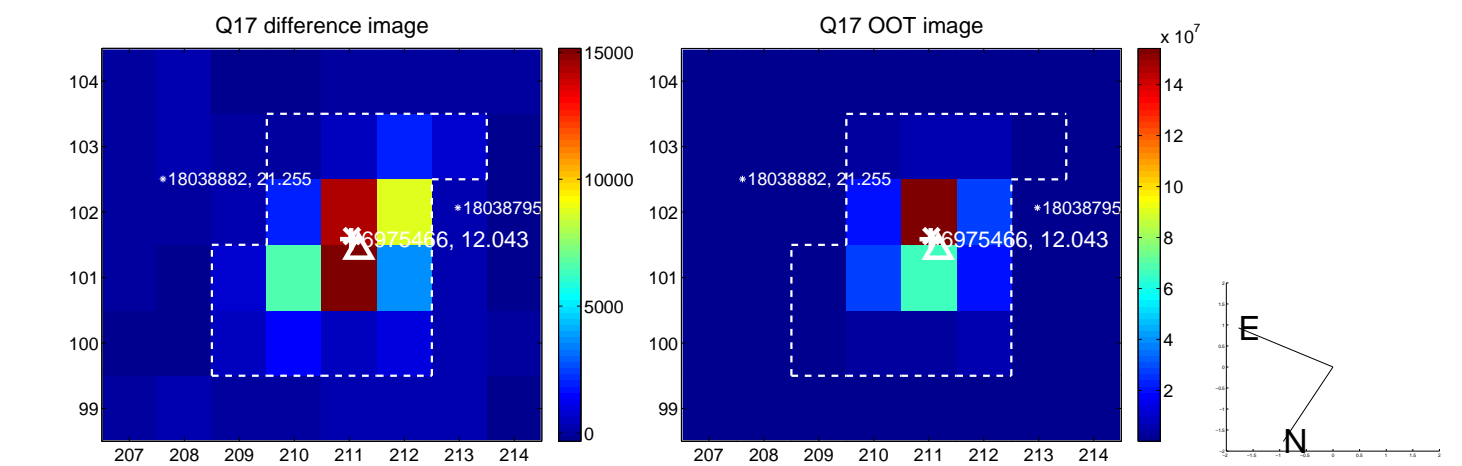
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



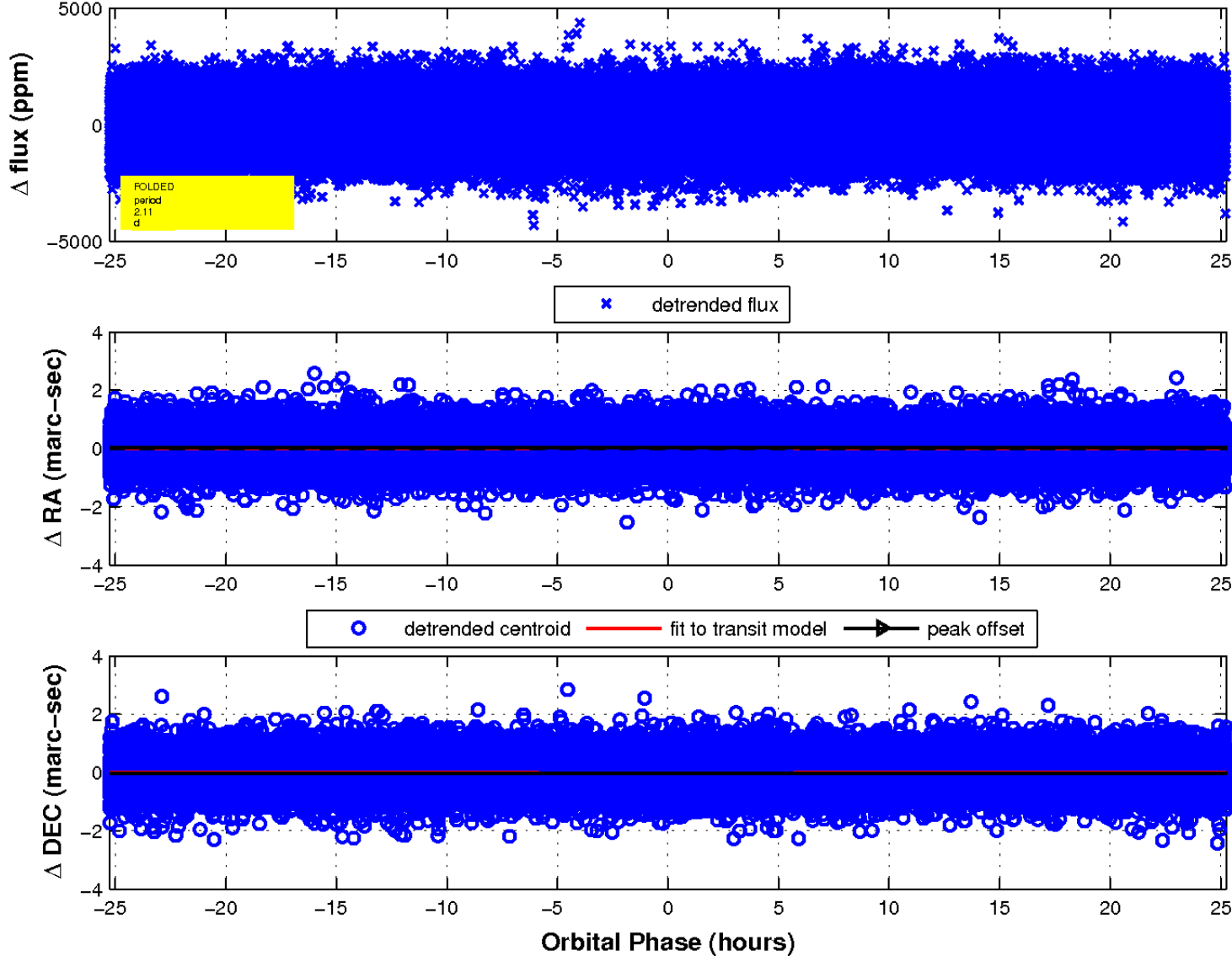
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

