

KIC 011967004

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})
011967004-01	OBS	7499.01	1.941641	133.107299	68246.8	2.351	5666.7	3471.5	1.16	6525	33.40	2109.66
011967004-02	OBS	No	1.941603	132.146031	973.0	1.759	160.8	73.6	1.16	6525	4.37	2109.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011967004-01	OBS	FP	0.02	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
011967004-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

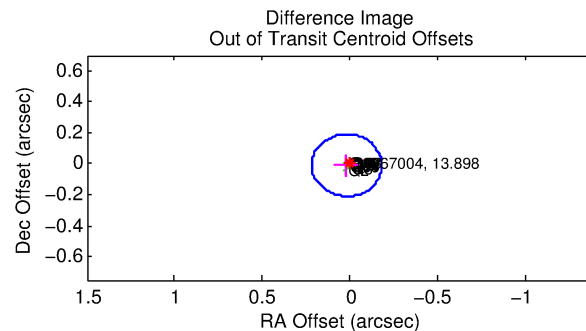
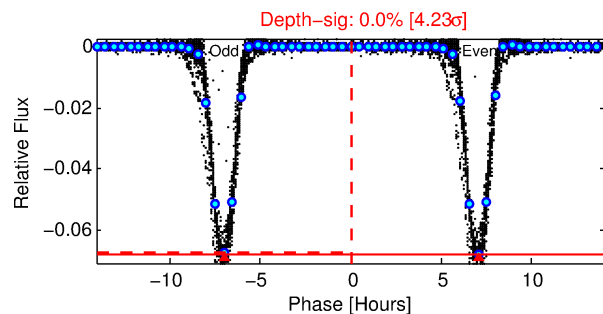
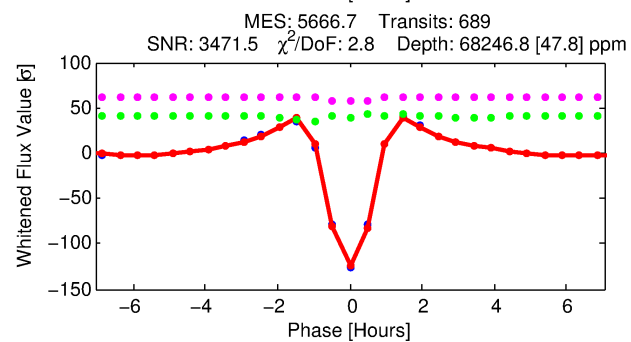
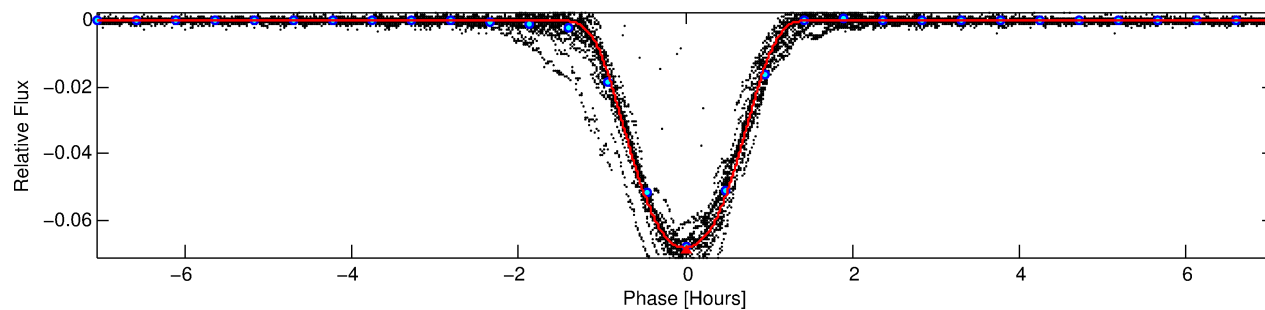
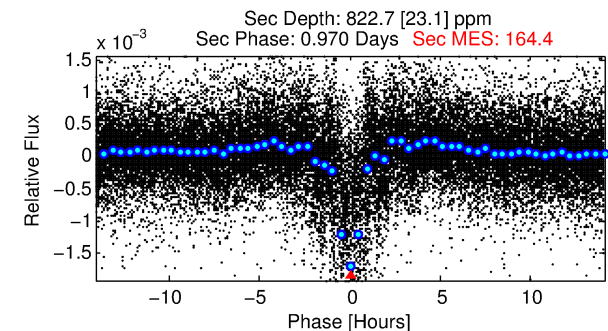
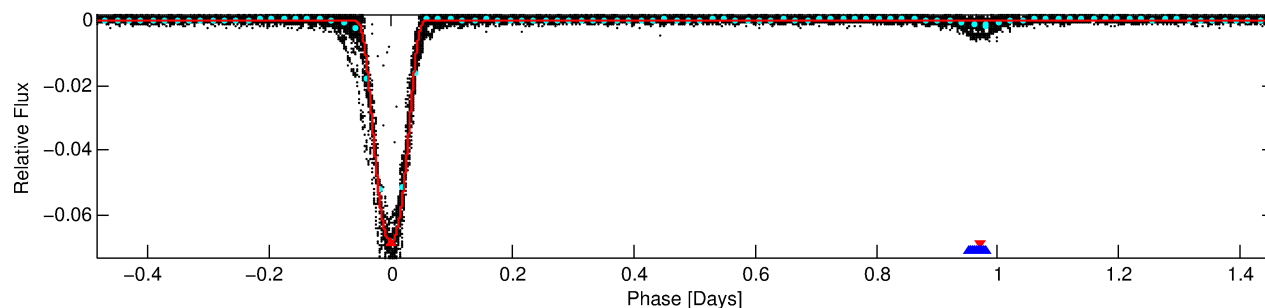
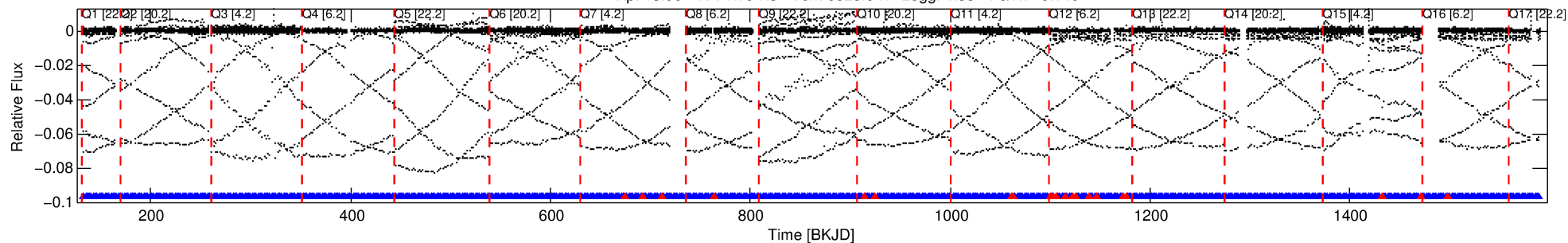
Ephemeris Match Information For 011967004-01

No Significant Match Found

DV One-Page Summary

KIC: 11967004 Candidate: 1 of 2 Period: 1.942 d
KOI: K07499.01 Corr: 0.980

Kp: 13.90 R*: 1.16 Rs Teff: 6525.0 K Logg: 4.38 Fe/H: -0.140



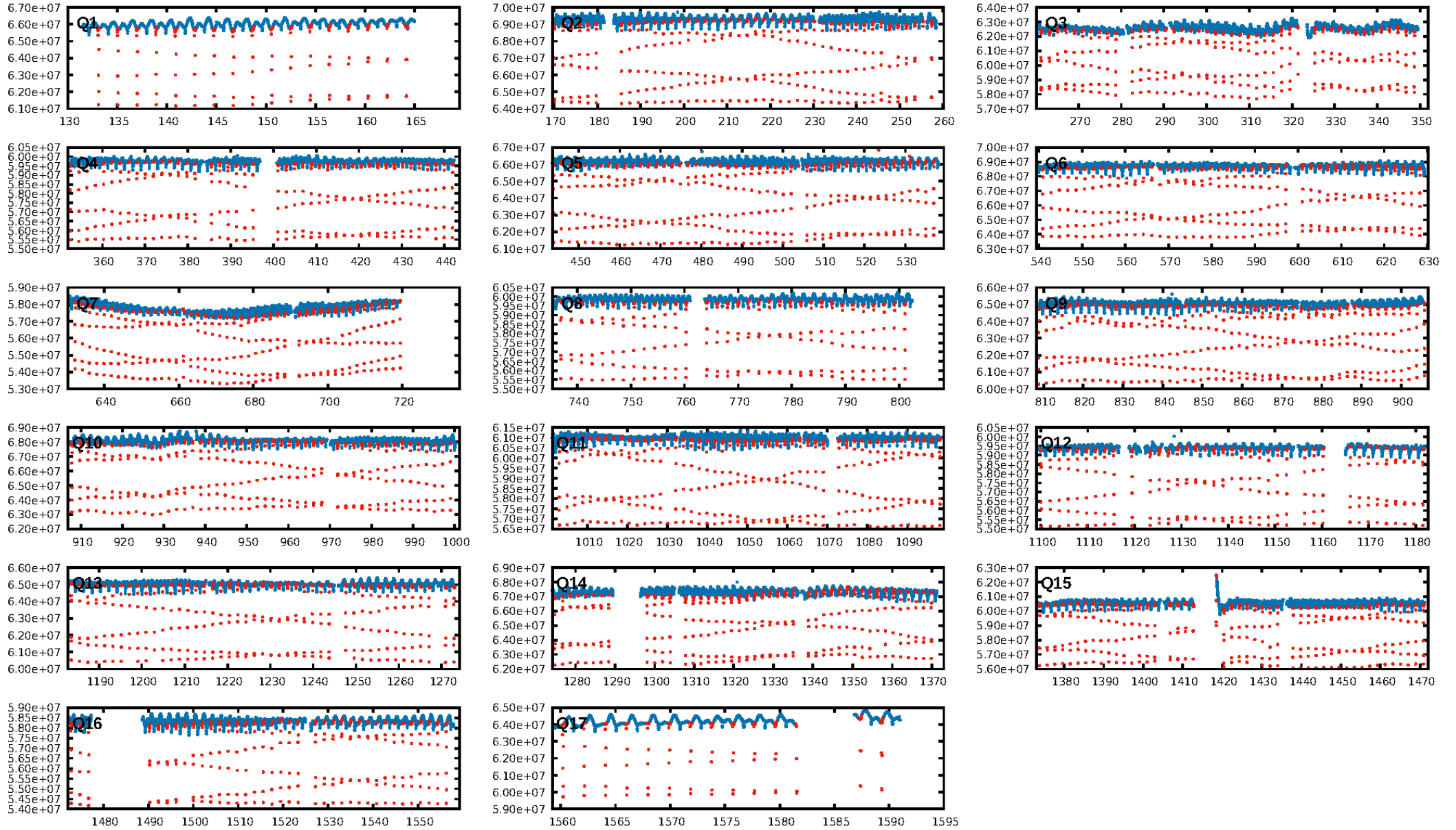
DV Fit Results:

Period = 1.94164 [0.00000] d
Epoch = 133.1073 [0.0000] BKJD
Rp/R* = 0.2636 [0.0002]
a/R* = 6.59 [0.01]
b = 0.73 [0.00]
Seff = 2109.66 [848.73]
Teff = 1728 [174] K
Rp = 33.40 [11.10] Re
a = 0.0322 [0.0087] AU
Ag = 0.42 [0.16] [-3.60σ]
Teffp = 2152 [71] K [2.26σ]

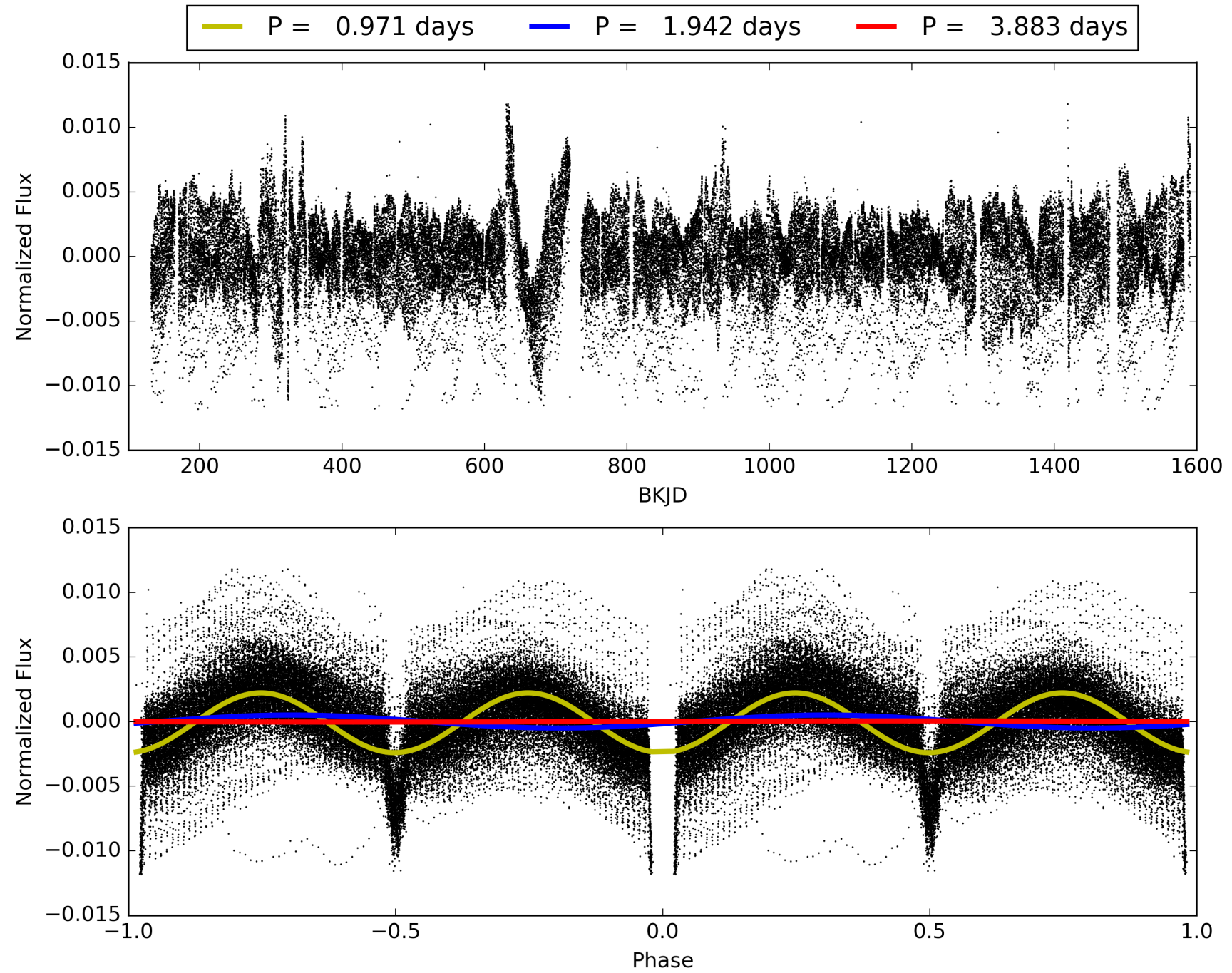
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [637/658]
GhostDiagnostic-chr: 2.765
Centroid-sig: 0.0%
Centroid-so: 0.194 arcsec [150.51σ]
OotOffset-rm: 0.022 arcsec [0.34σ]
KicOffset-rm: 0.228 arcsec [3.36σ]
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]

TCE 011967004-01, PDC Light Curves

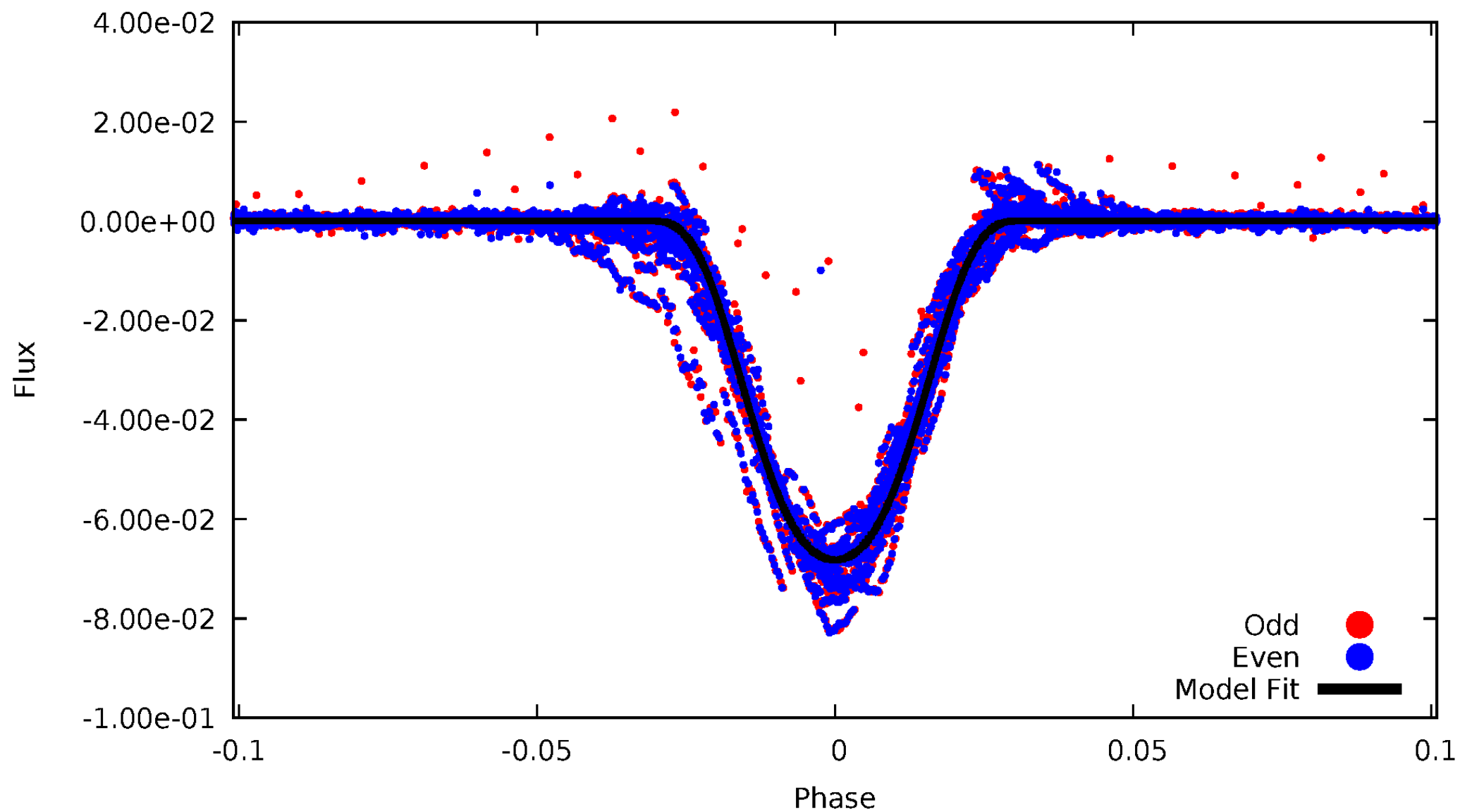


TCE 011967004-01



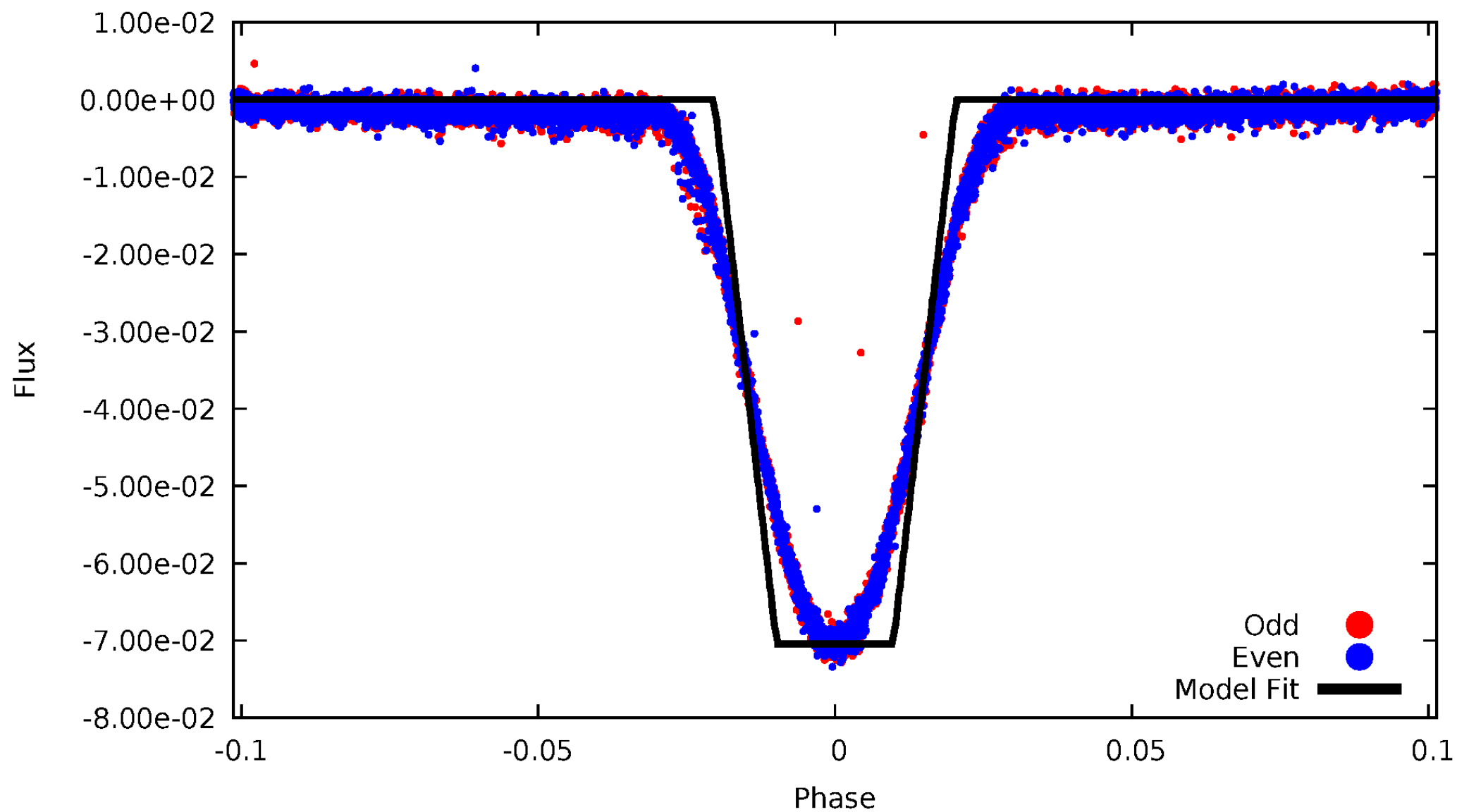
DV Odd/Even

TCE 011967004-01



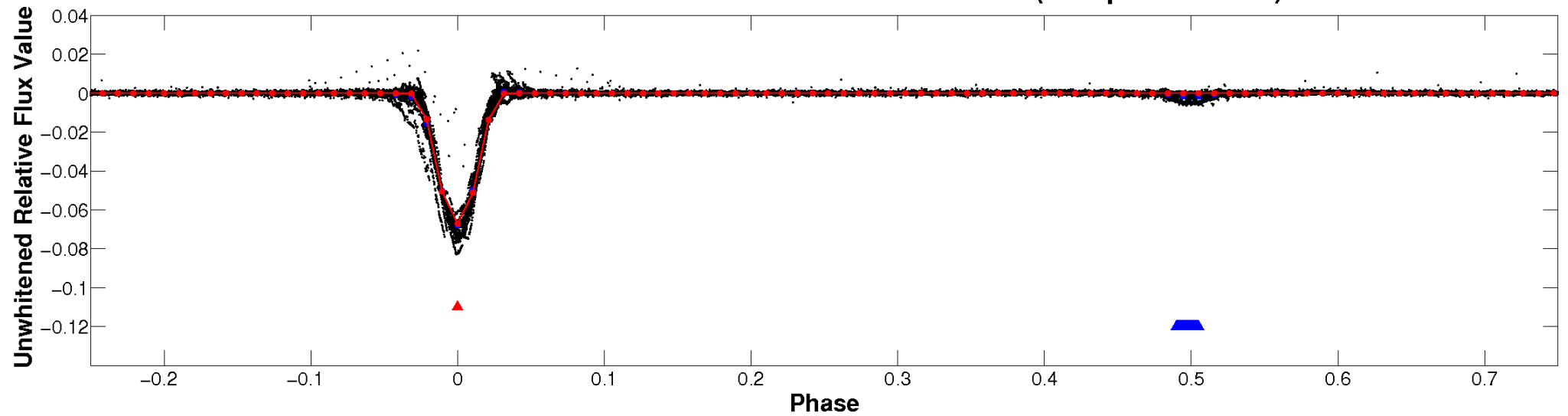
ALT Odd/Even

TCE 011967004-01

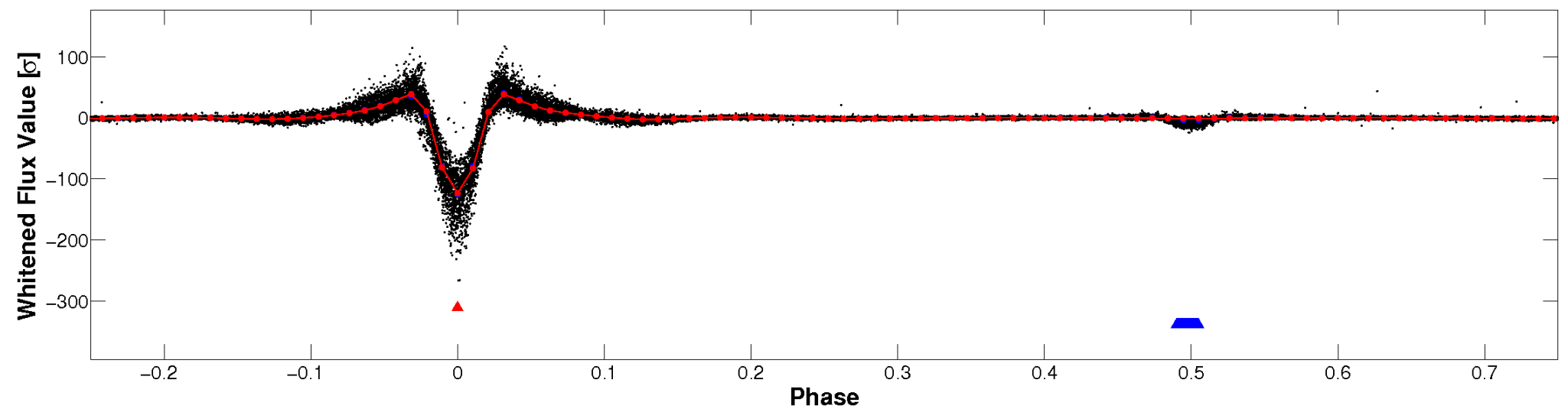


Non-Whitened Vs. Whitened Light Curve

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

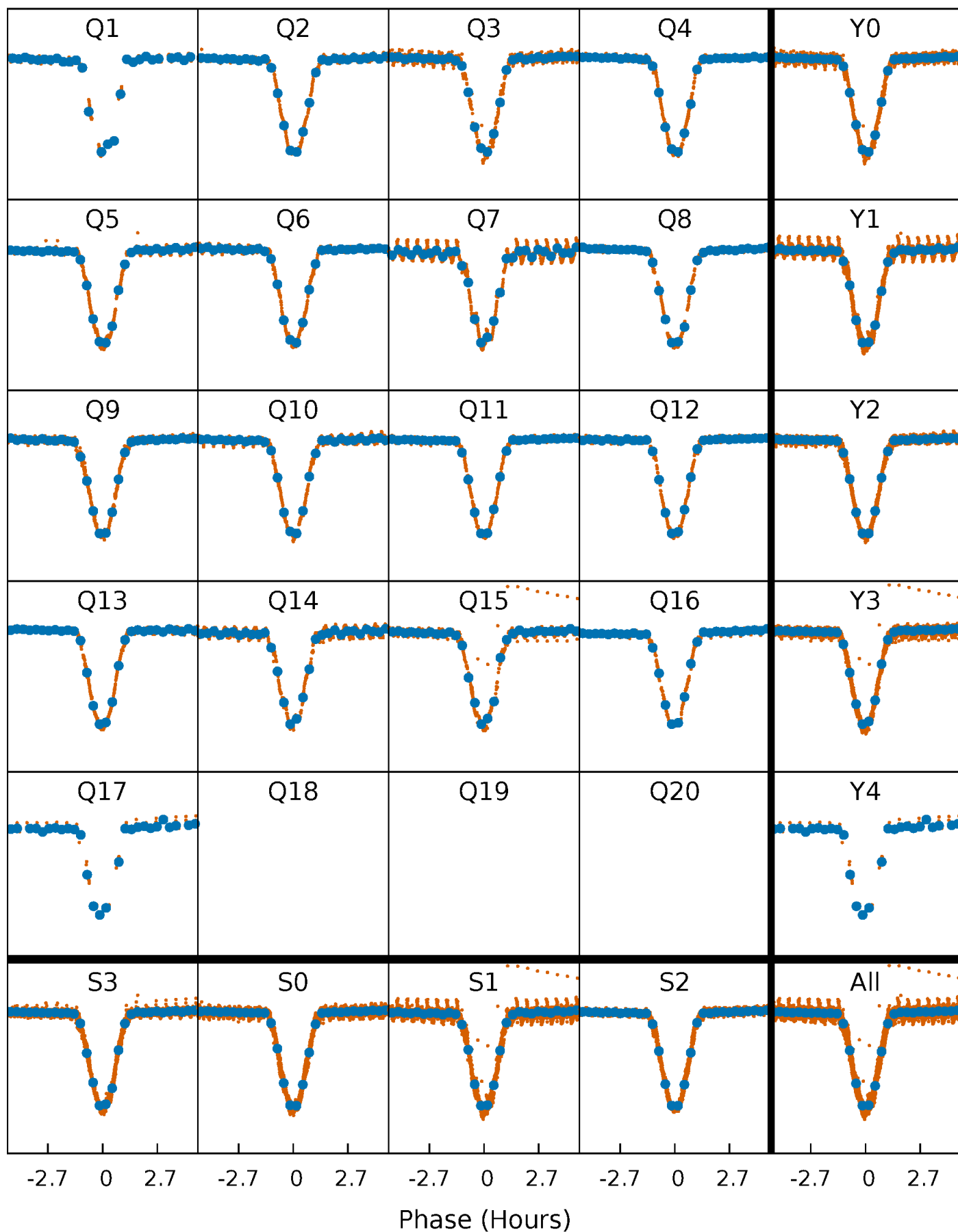


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



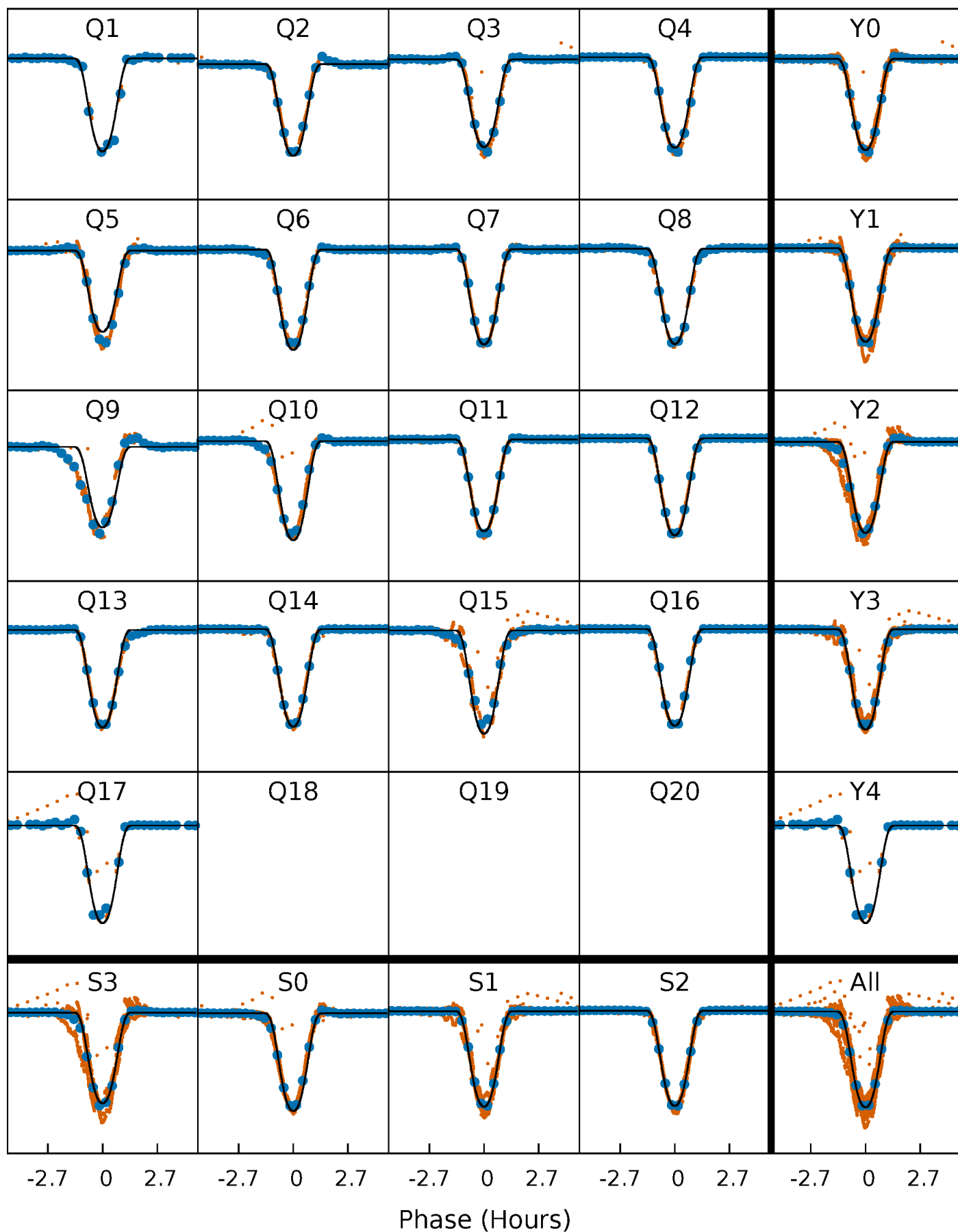
PDC Quarter-Phased Transit Curves

TCE 011967004-01 P= 1.941641 Days $T_0=133.107299$ (BKJD)



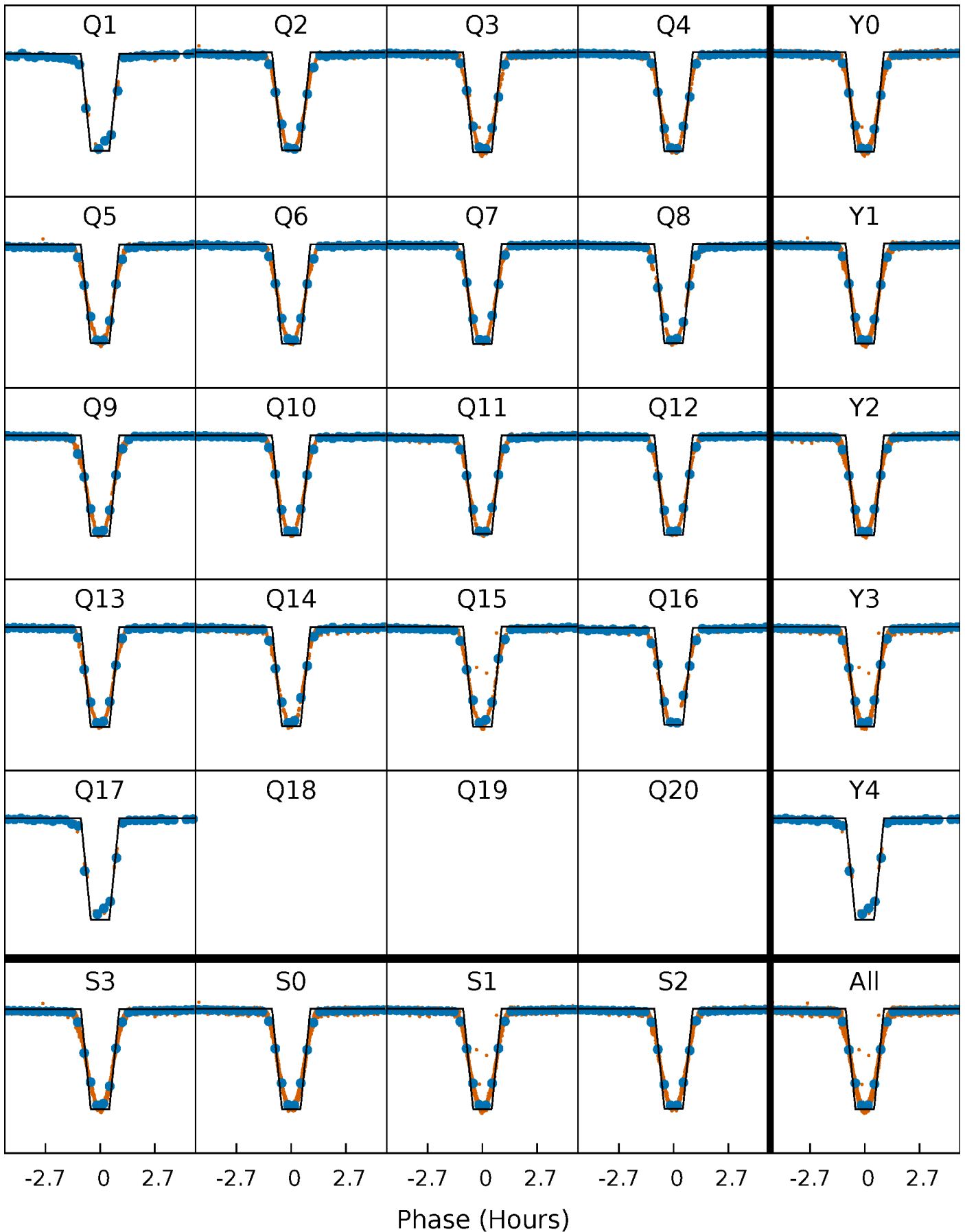
DV Quarter-Phased Transit Curves

TCE 011967004-01 P= 1.941641 Days $T_0=133.107299$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

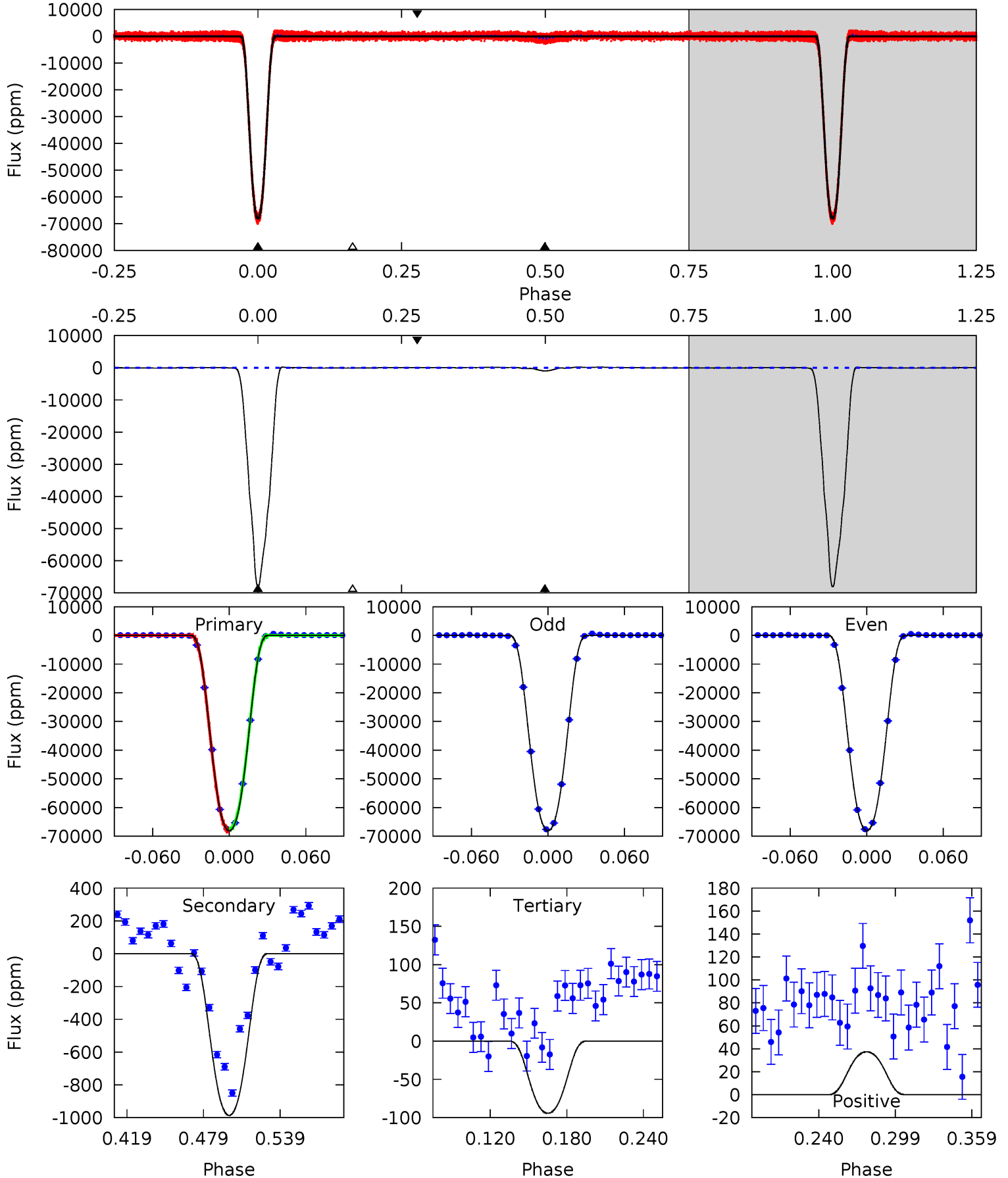
TCE 011967004-01 P= 1.941638 Days $T_0=133.108962$ (BKJD)



DV Model-Shift Uniqueness Test

011967004-01, P = 1.941641 Days, E = 131.165658 Days

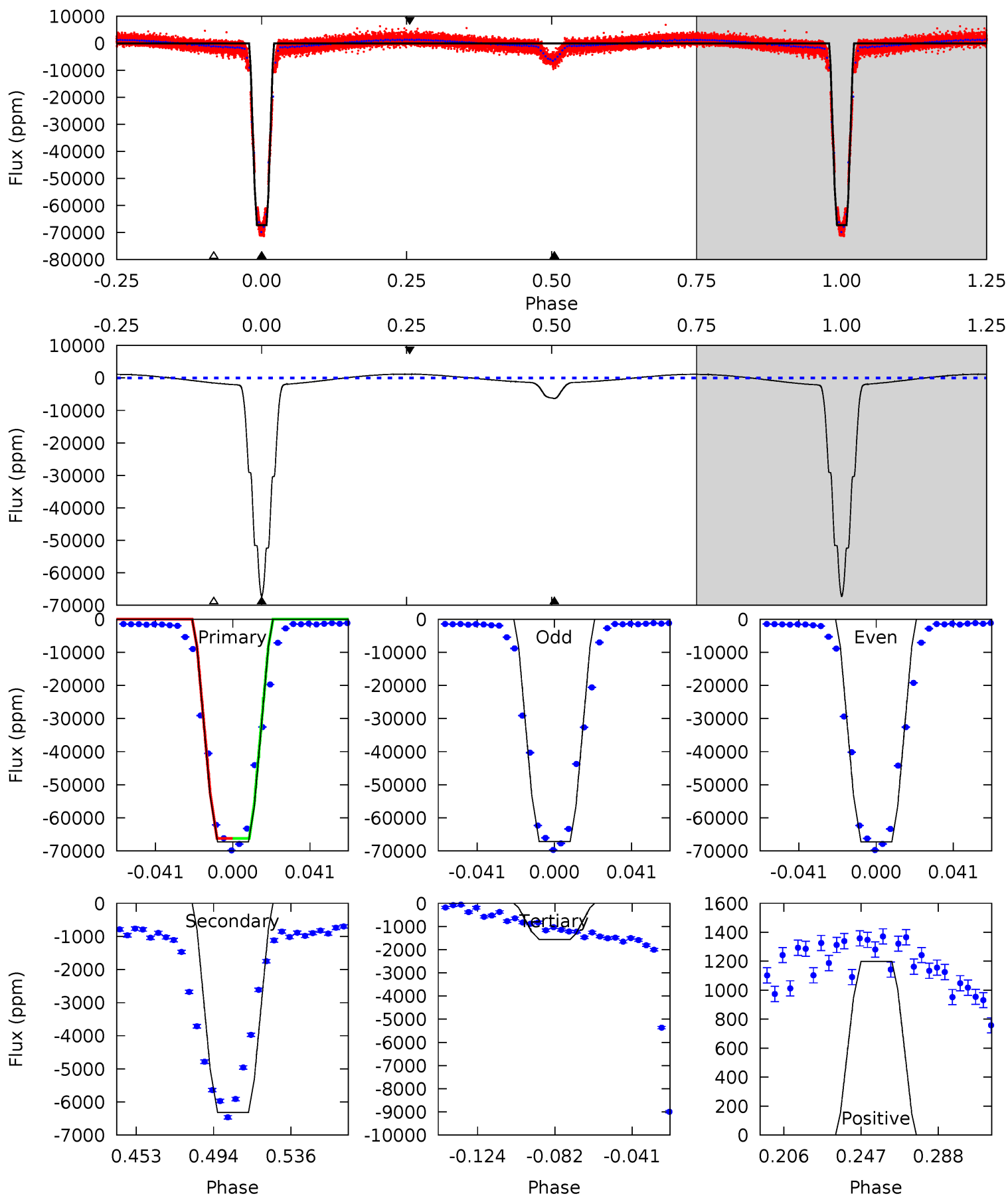
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6056	87.7	8.38	3.32	4.67	1.88	6.22	6047	6052	79.4	84.4	1.11	1.01	0.00	0



Alt Model-Shift Uniqueness Test

011967004-01, P = 1.941638 Days, E = 131.167324 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2248	211.3	52.1	40.1	4.75	2.04	32.1	2196	2208	159.2	171.2	0.97	1.00	0.02	0.24



Stellar Parameters For KIC 011967004

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6525^{+145}_{-210}	$4.381^{+0.067}_{-0.202}$	$-0.140^{+0.250}_{-0.300}$	$1.161^{+0.386}_{-0.129}$	$1.183^{+0.178}_{-0.162}$	$1.065^{+0.317}_{-0.580}$
	+2%/-3%	+2%/-5%	+179%/-214%	+33%/-11%	+15%/-14%	+30%/-54%
Source	PHO1	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 011967004-01 / KOI 7499.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-986 ± 11	$33.96^{+6.21}_{-2.46}$	2448^{+190}_{-114}	2578^{+71}_{-247}	$0.477^{+0.073}_{-0.119}$
Alt.	-6321 ± 30	$33.93^{+6.47}_{-2.43}$	2443^{+189}_{-114}	3840^{+64}_{-86}	$3.073^{+0.400}_{-0.801}$

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

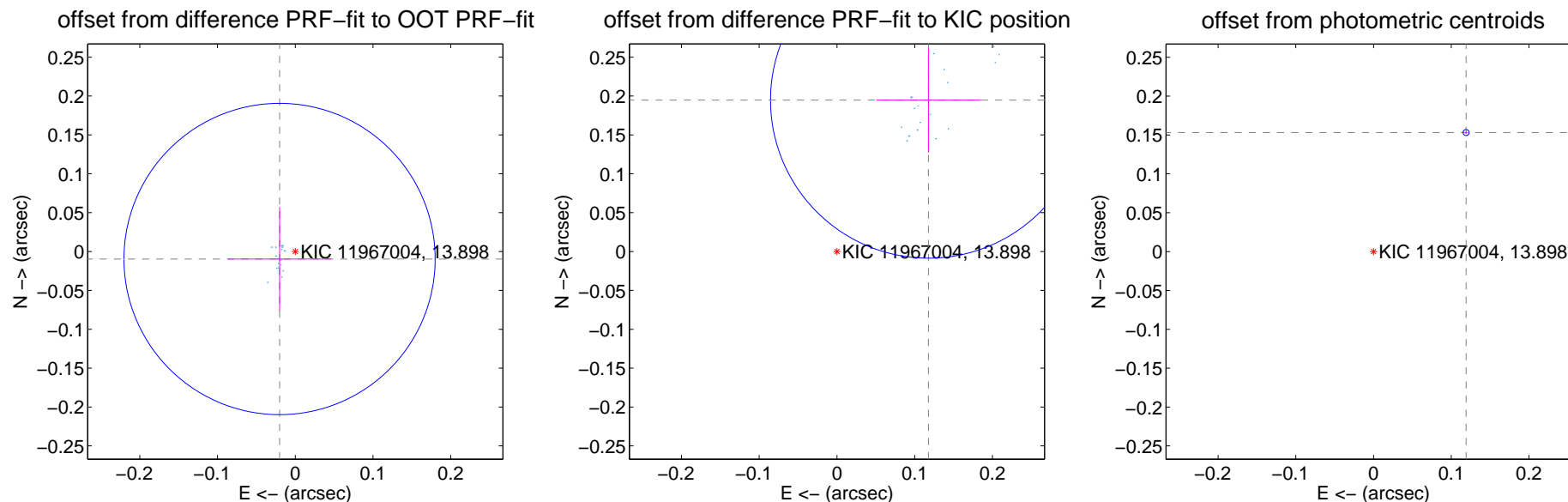
DV Centroid Data

Supplemental centroid analysis for 011967004-01. Kepler magnitude: 13.90. Transit SNR 3471.54

There are 17 quarters with good PRF difference image offsets

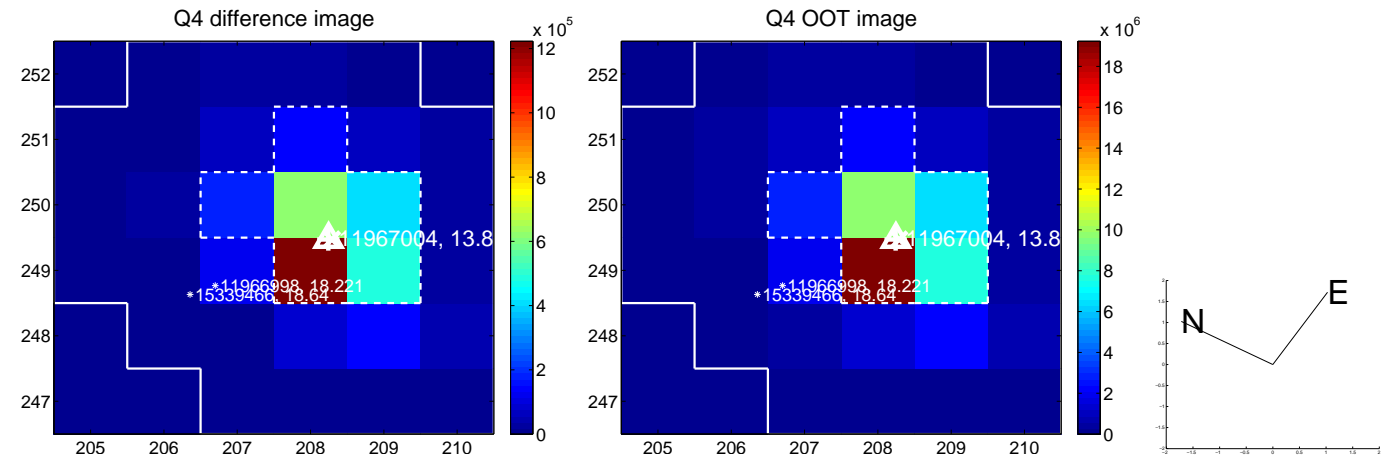
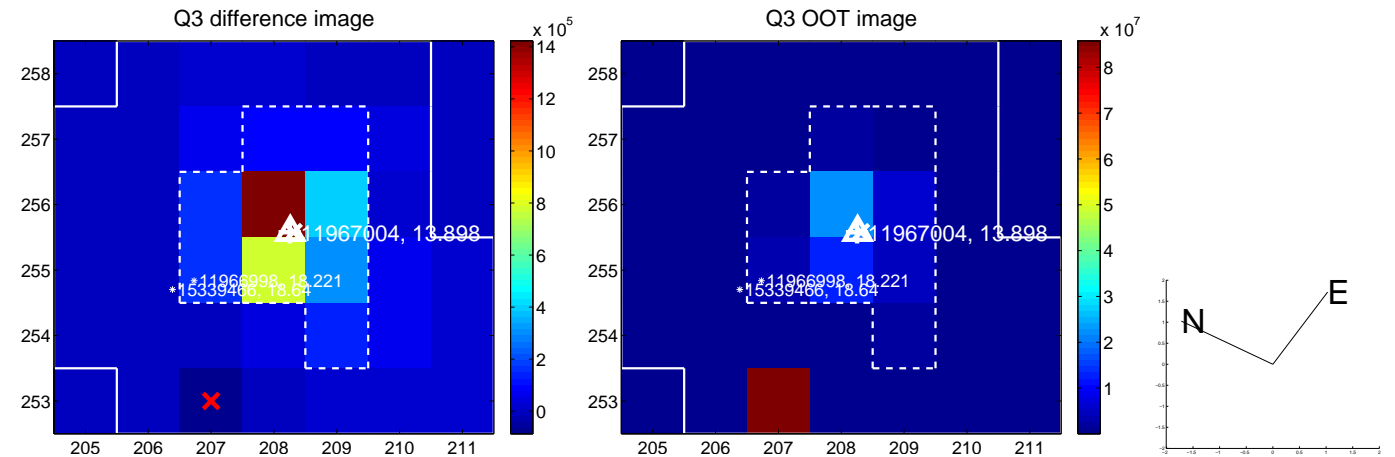
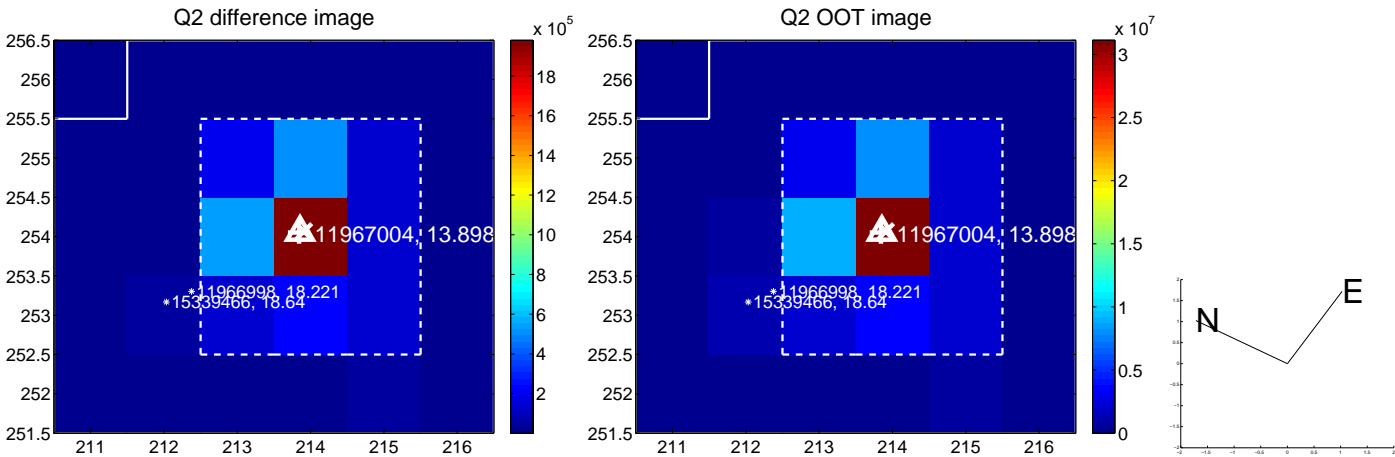
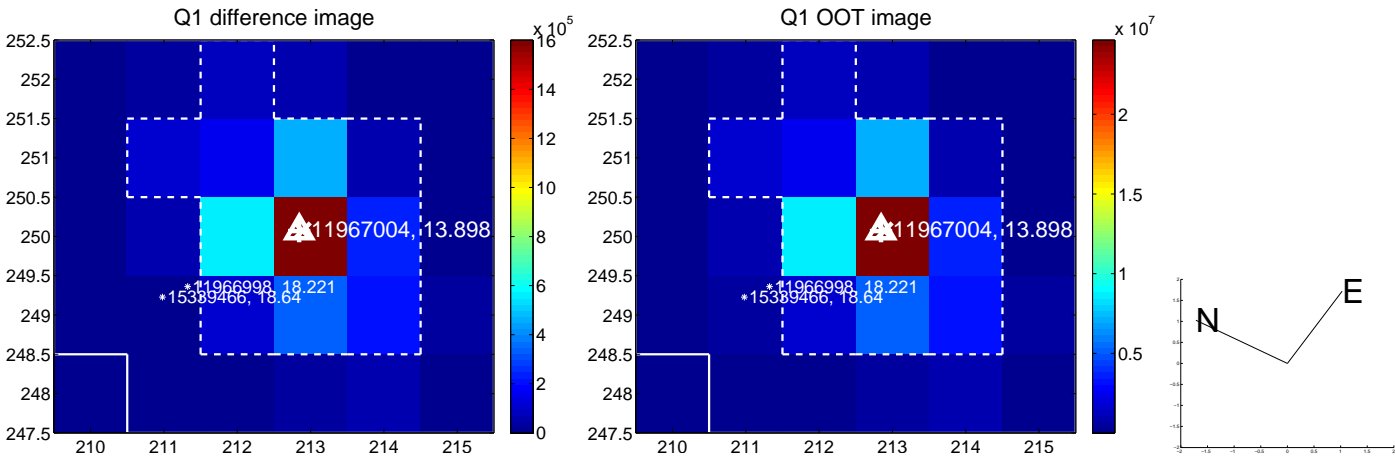
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.022 ± 0.067	0.34	0.020 ± 0.067	-0.010 ± 0.067
PRF-fit source offset from KIC position	0.228 ± 0.068	3.36	-0.118 ± 0.067	0.195 ± 0.067
photometric centroid source offset	0.19 ± 0.00	150.51	-0.12 ± 0.00	0.15 ± 0.00

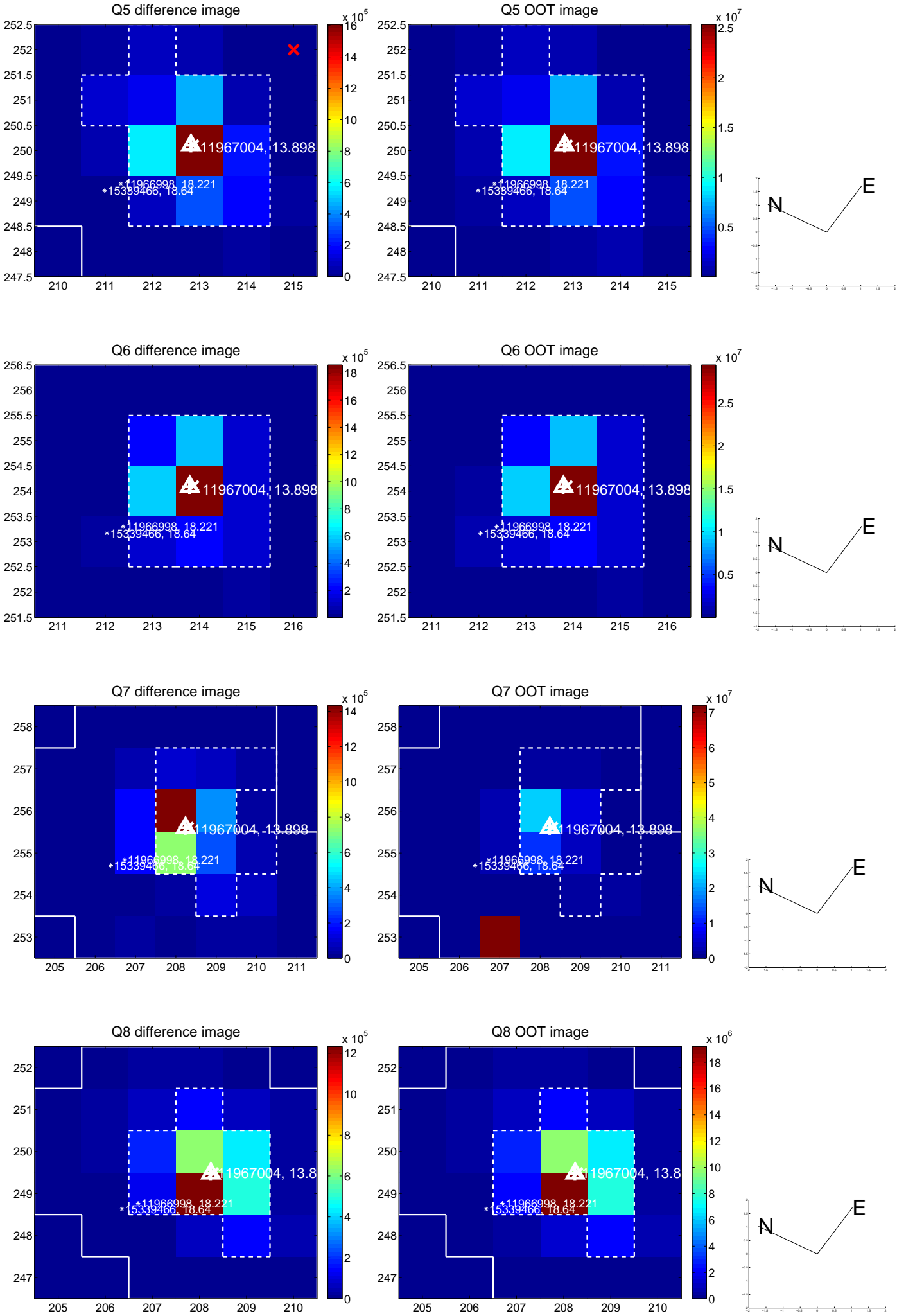


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

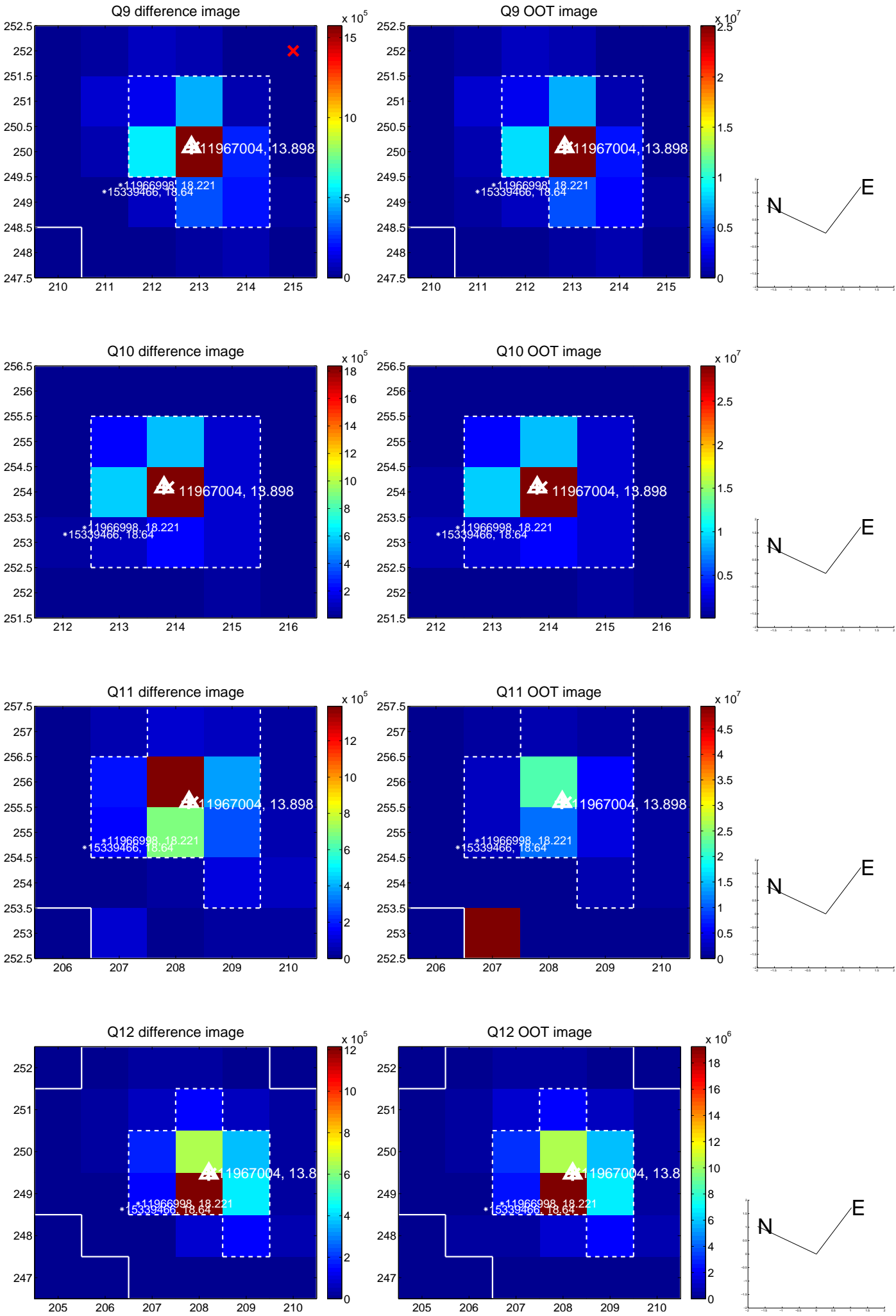
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



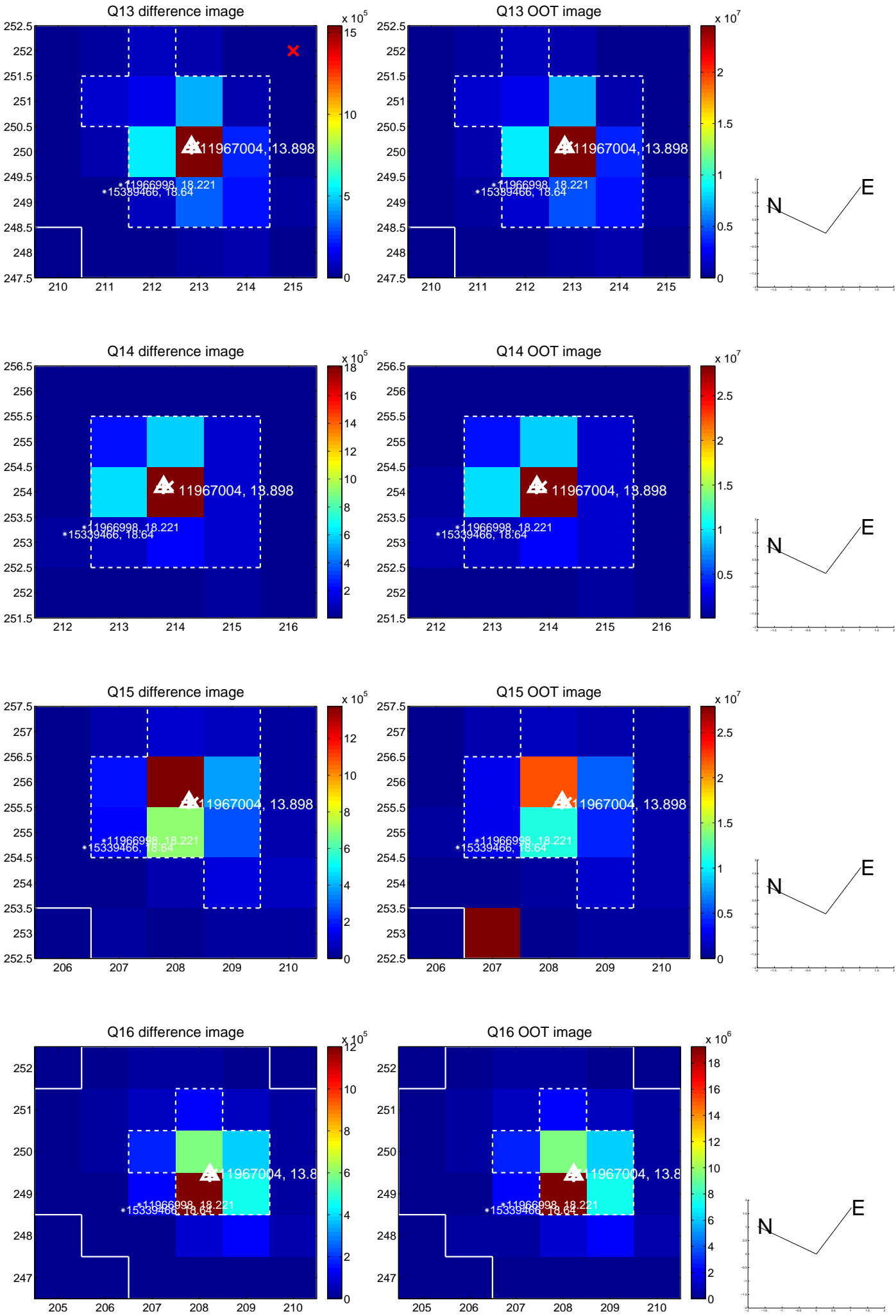
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



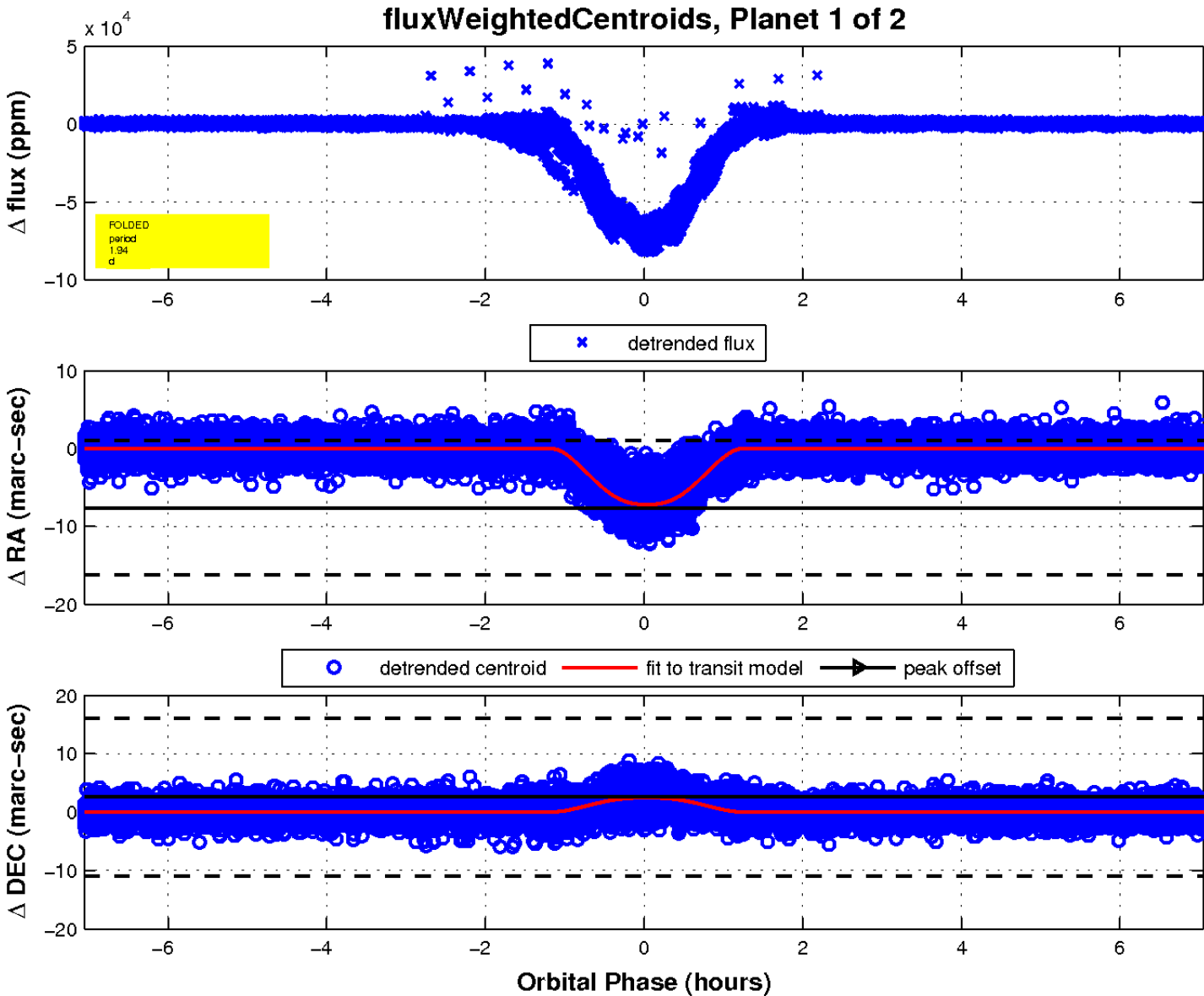
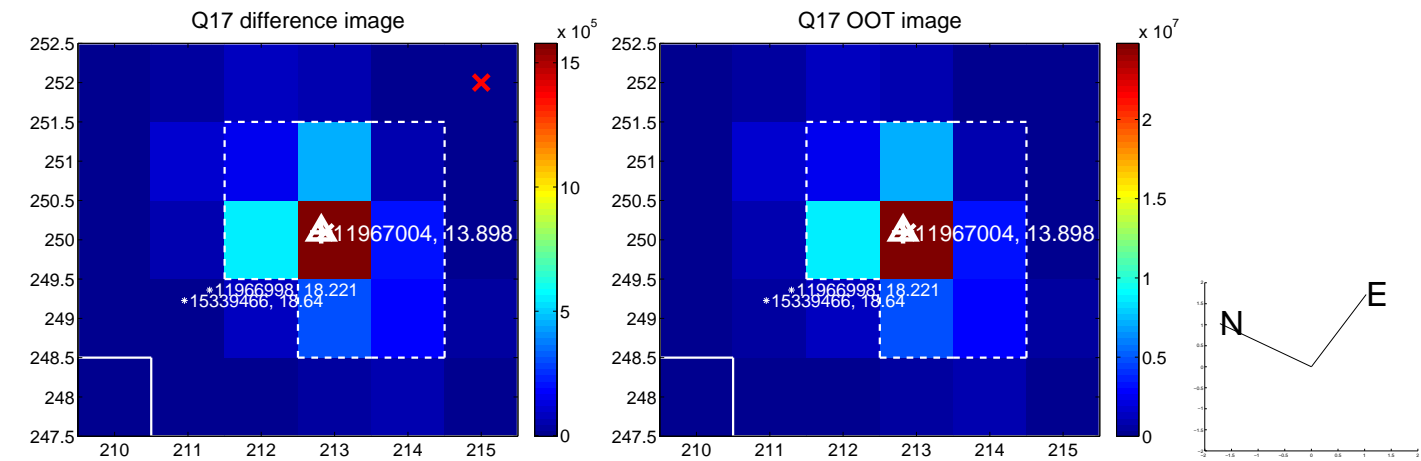
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

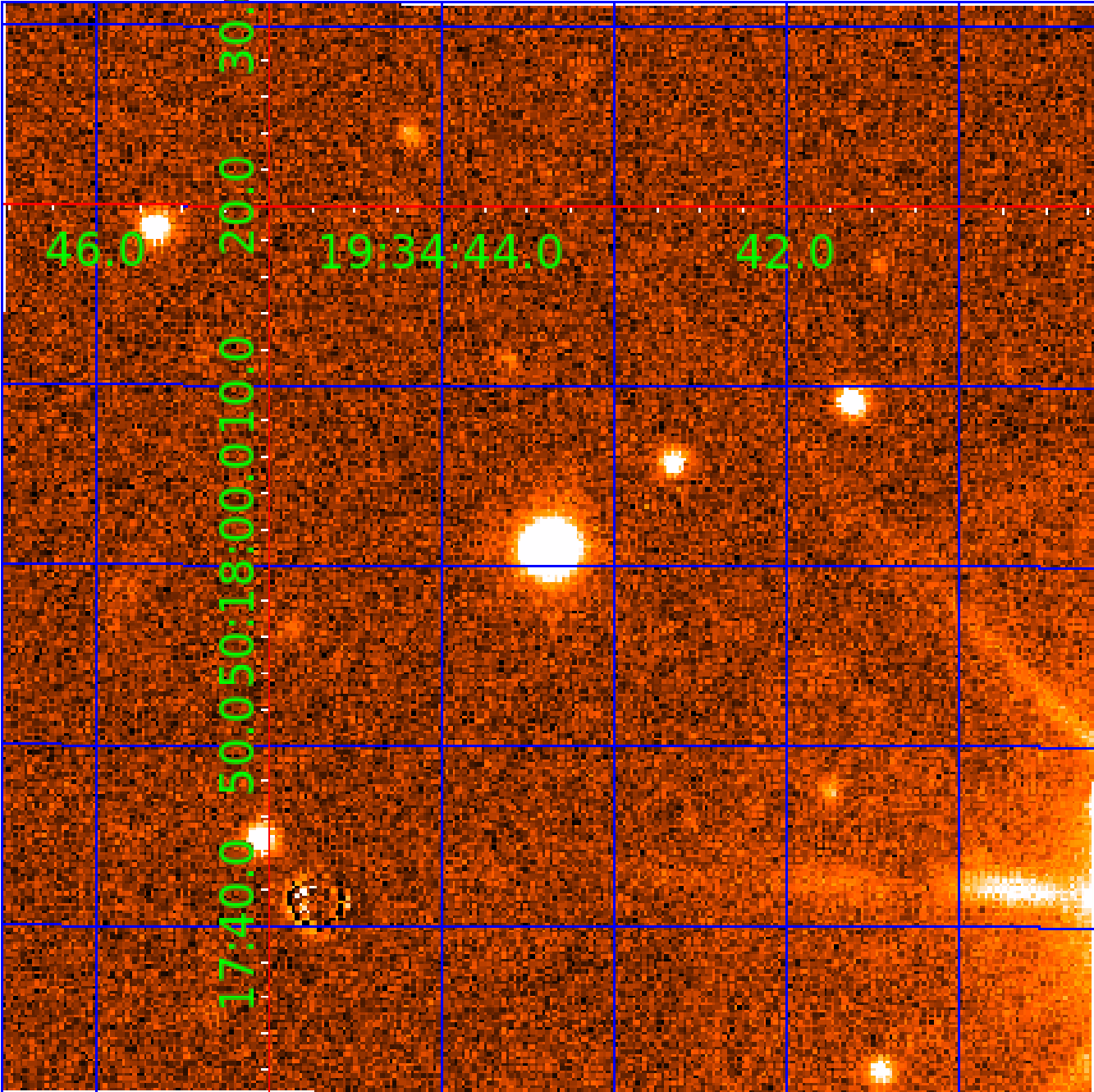


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011967004

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})
011967004-01	OBS	7499.01	1.941641	133.107299	68246.8	2.351	5666.7	3471.5	1.16	6525	33.40	2109.66
011967004-02	OBS	No	1.941603	132.146031	973.0	1.759	160.8	73.6	1.16	6525	4.37	2109.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011967004-01	OBS	FP	0.02	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
011967004-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 011967004-02

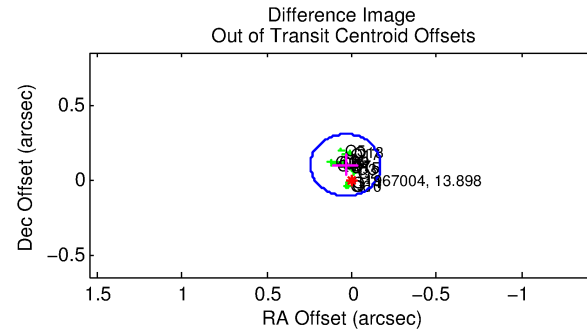
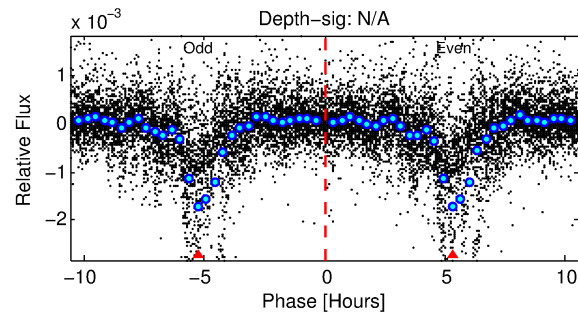
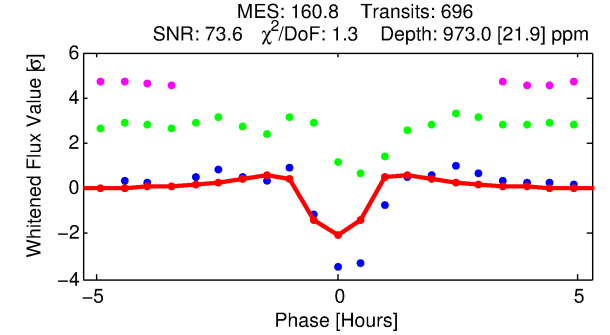
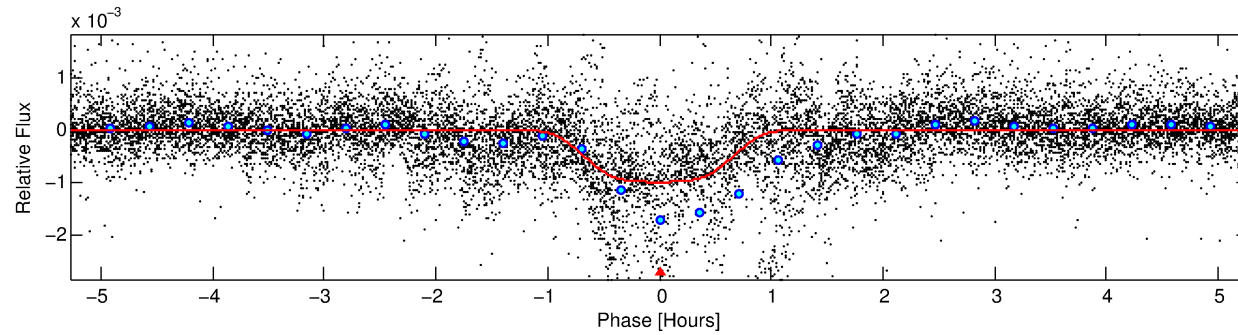
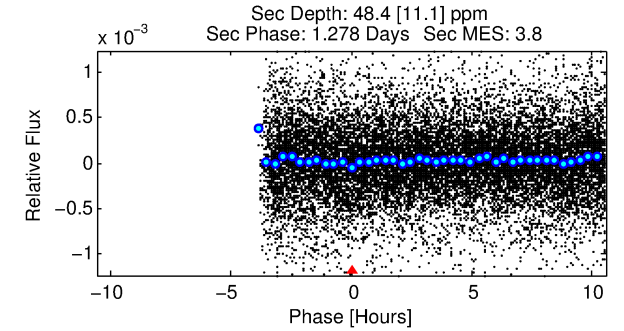
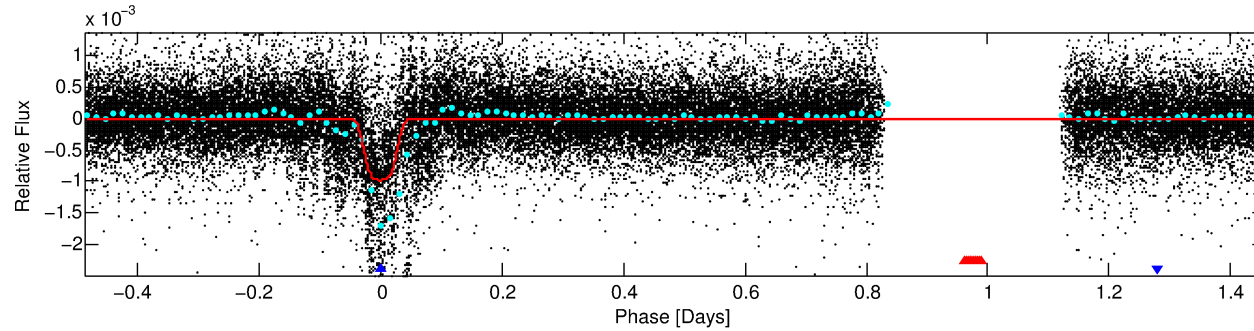
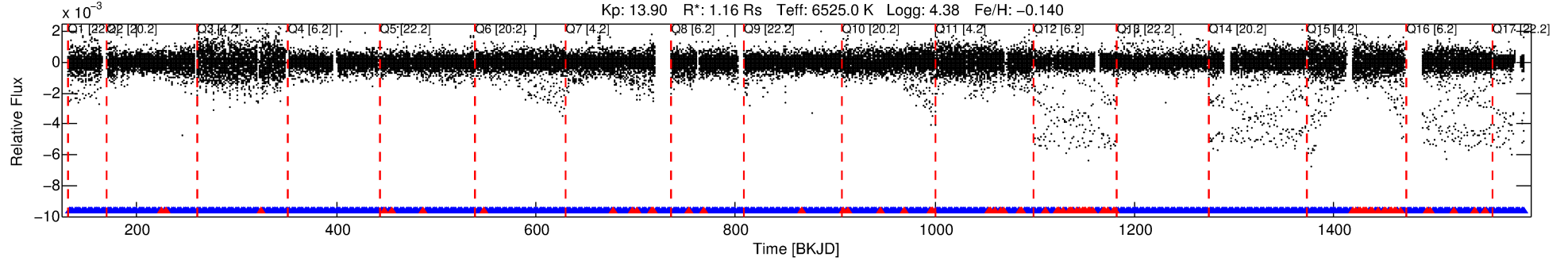
No Significant Match Found

DV One-Page Summary

KIC: 11967004 Candidate: 2 of 2 Period: 1.942 d

KOI: K07499 Corr: No Ephemeris Match

Kp: 13.90 R*: 1.16 Rs Teff: 6525.0 K Logg: 4.38 Fe/H: -0.140



DV Fit Results:

Period = 1.94160 [0.00000] d
Epoch = 132.1460 [0.0003] BKJD
Rp/R* = 0.0345 [0.0009]
a/R* = 3.96 [0.41]
b = 0.93 [0.02]
Seff = 2109.72 [848.75]
Teff = 1728 [174] K
Rp = 4.37 [1.46] Re
a = 0.0322 [0.0087] AU
Ag = 1.45 [0.65] [0.69σ]
Teffp = 2931 [196] K [4.59σ]

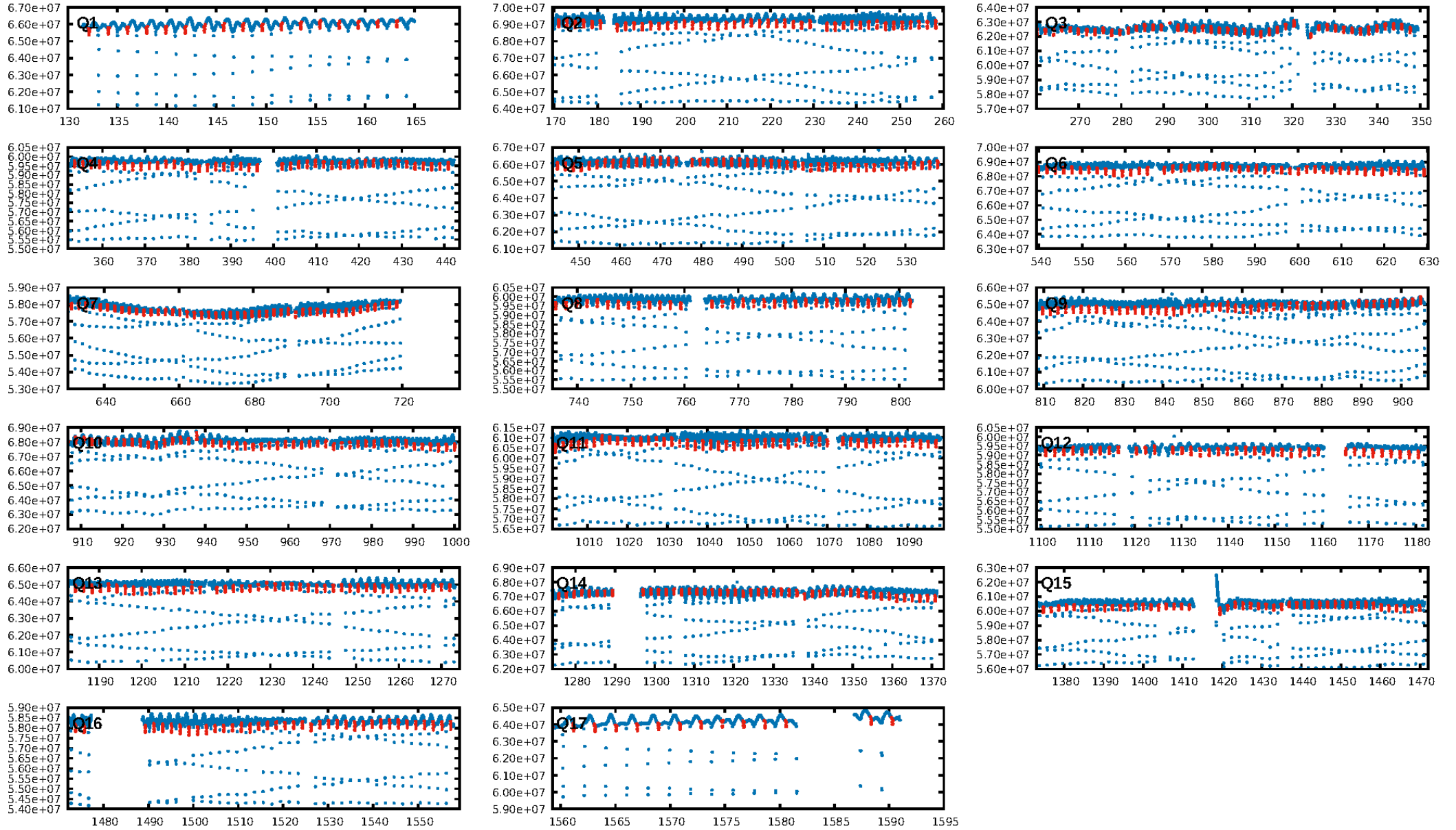
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.89 [595/665]
GhostDiagnostic-chr: 1.337
Centroid-sig: 0.0%
Centroid-so: 0.651 arcsec [7.57σ]
OotOffset-rm: 0.105 arcsec [1.52σ]
KicOffset-rm: 0.324 arcsec [4.71σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

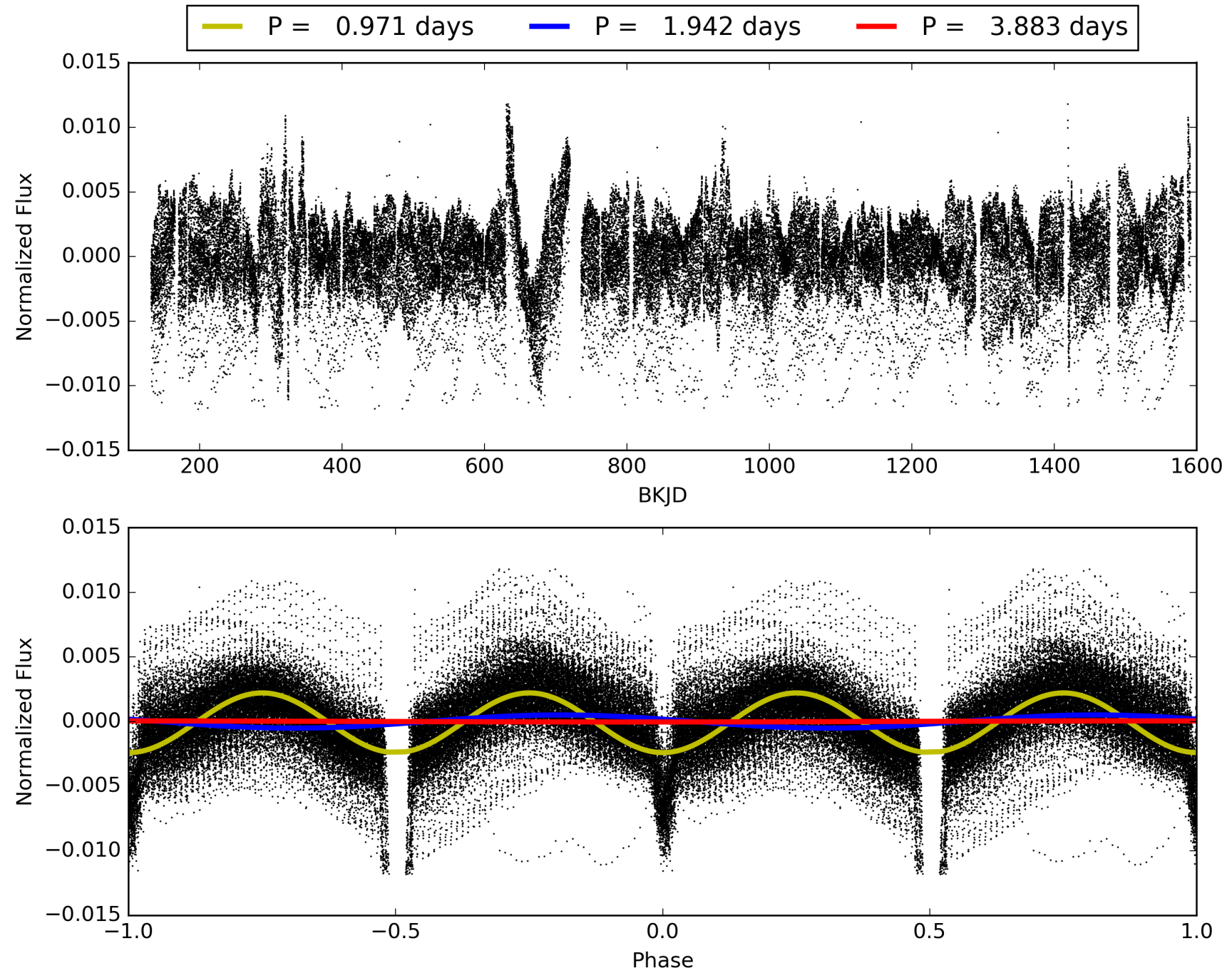
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:38:04 Z

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

TCE 011967004-02, PDC Light Curves

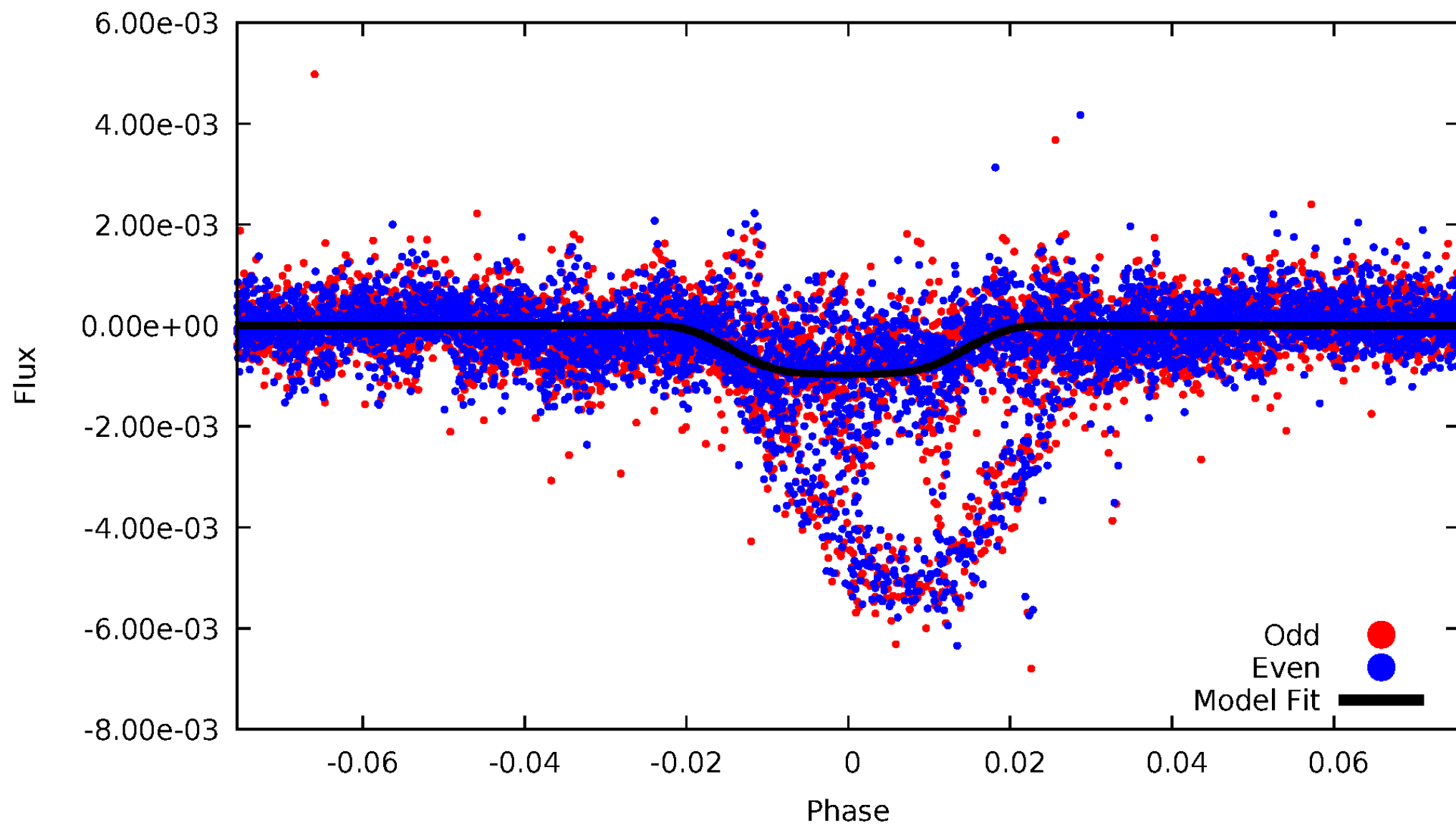


TCE 011967004-02



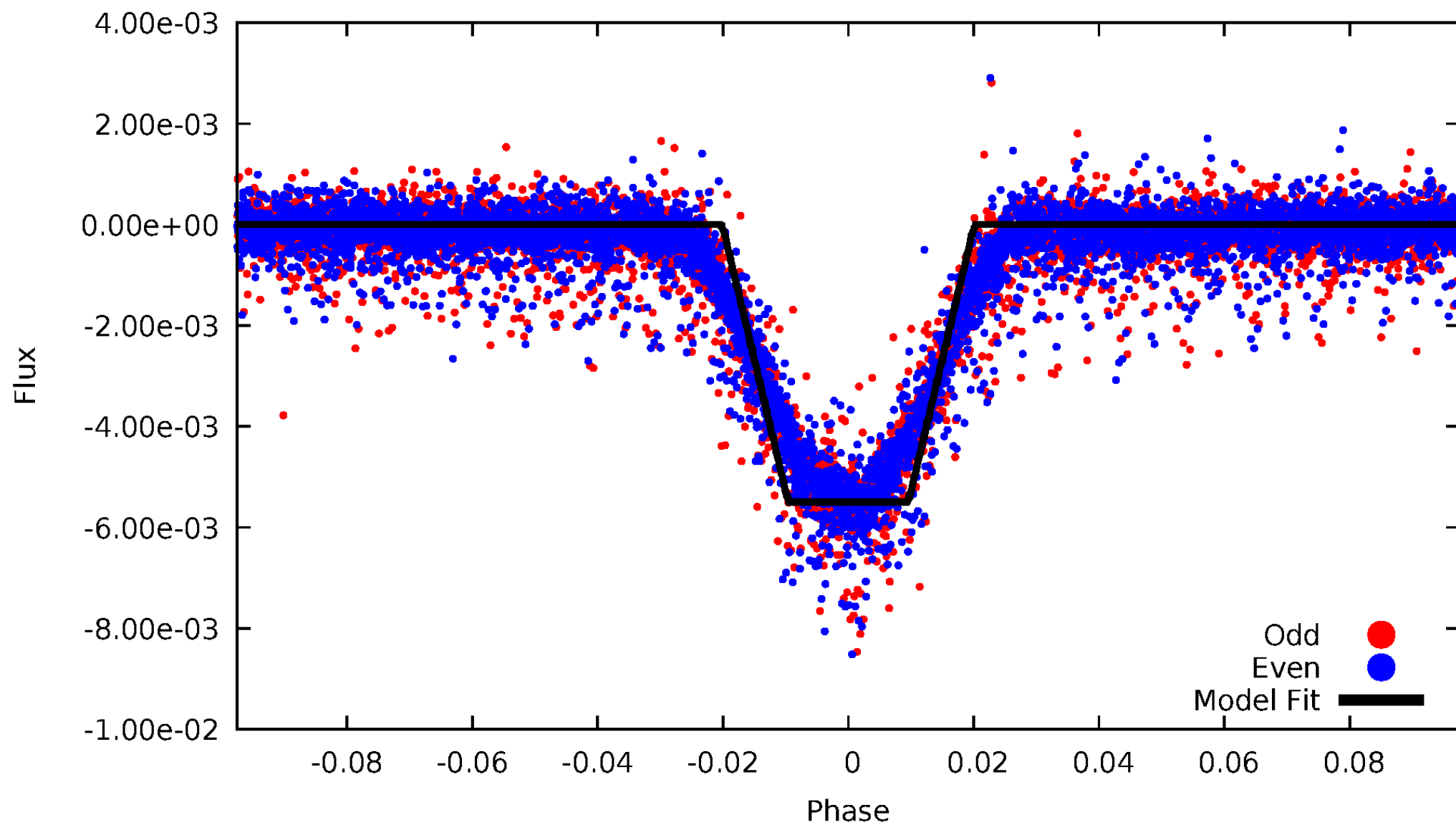
DV Odd/Even

TCE 011967004-02



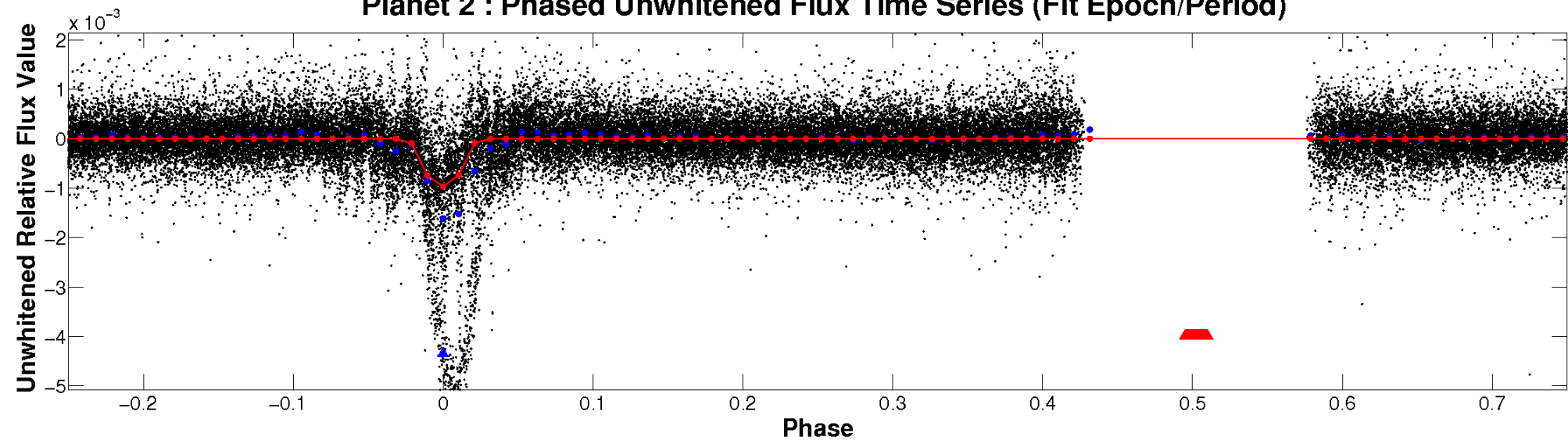
ALT Odd/Even

TCE 011967004-02

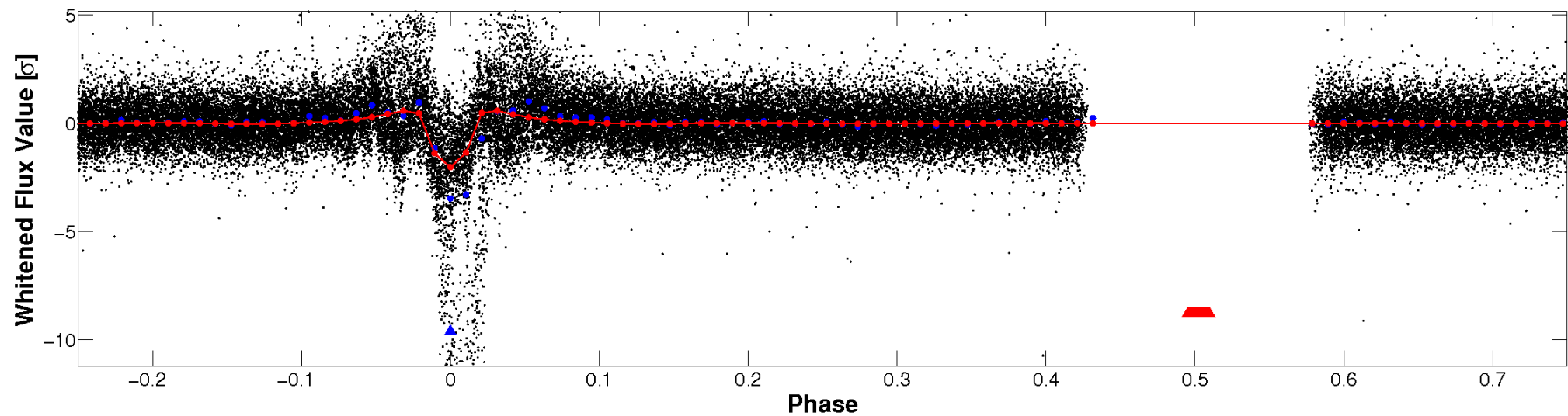


Non-Whitened Vs. Whitened Light Curve

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

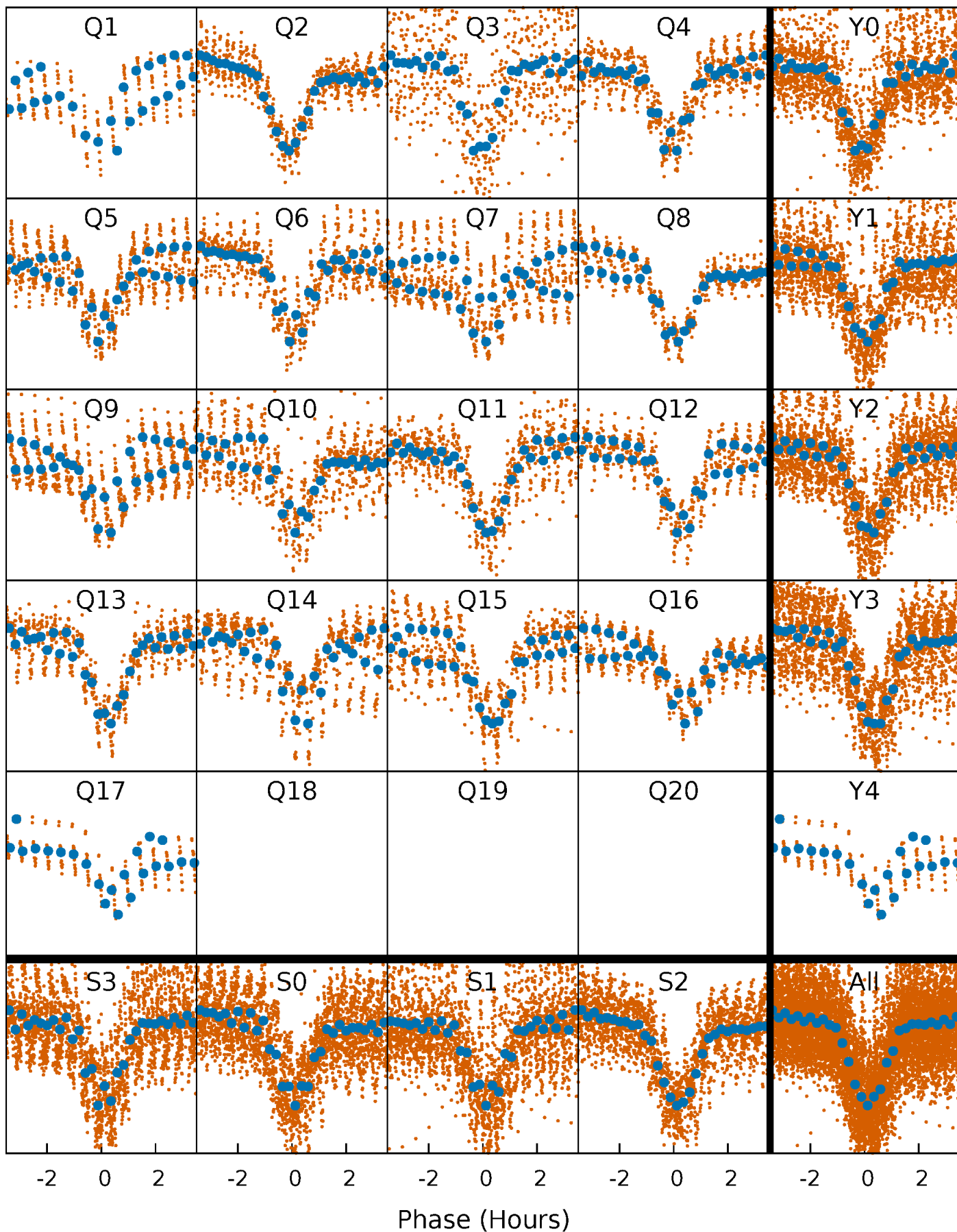


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



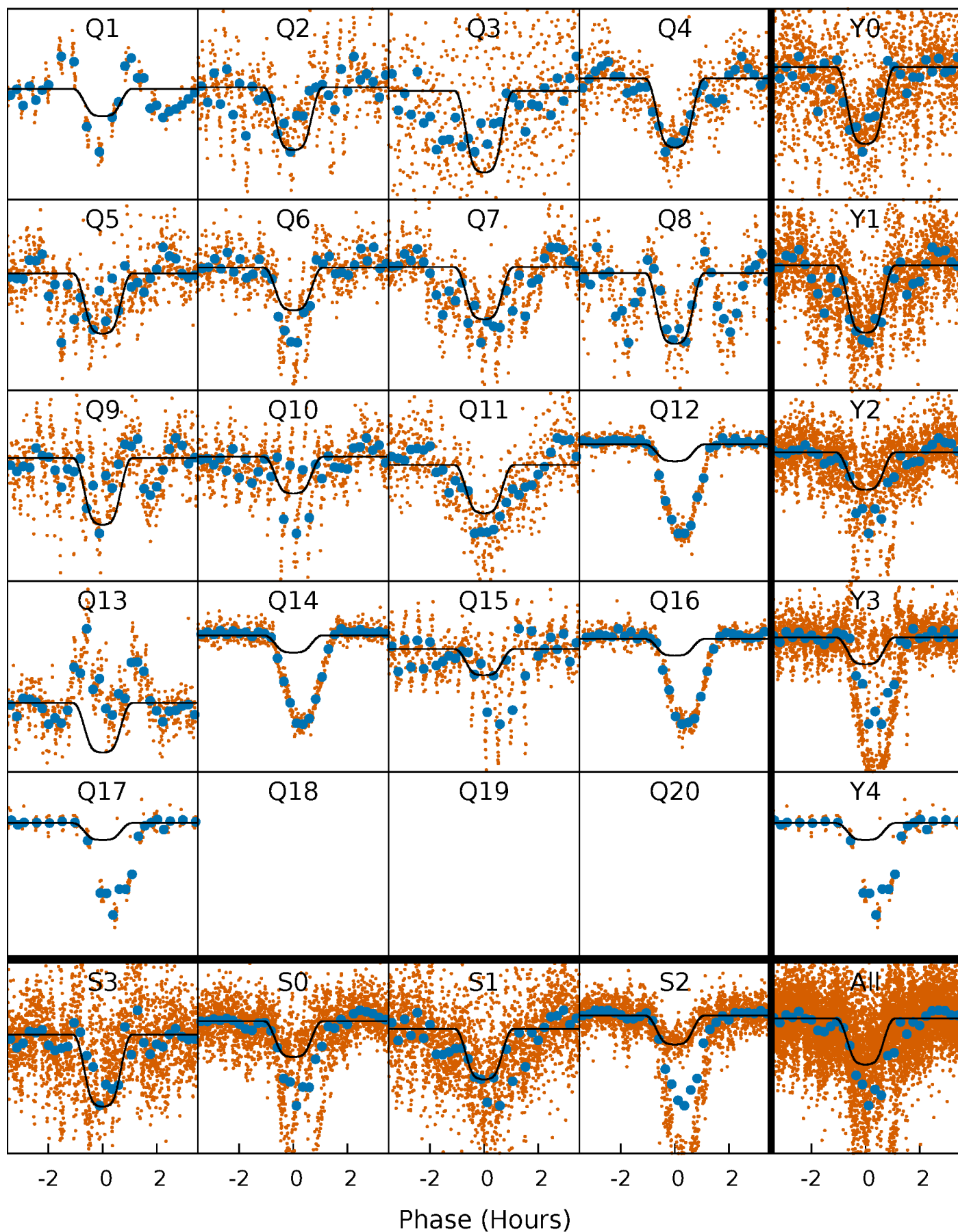
PDC Quarter-Phased Transit Curves

TCE 011967004-02 P= 1.941603 Days $T_0=132.146031$ (BKJD)



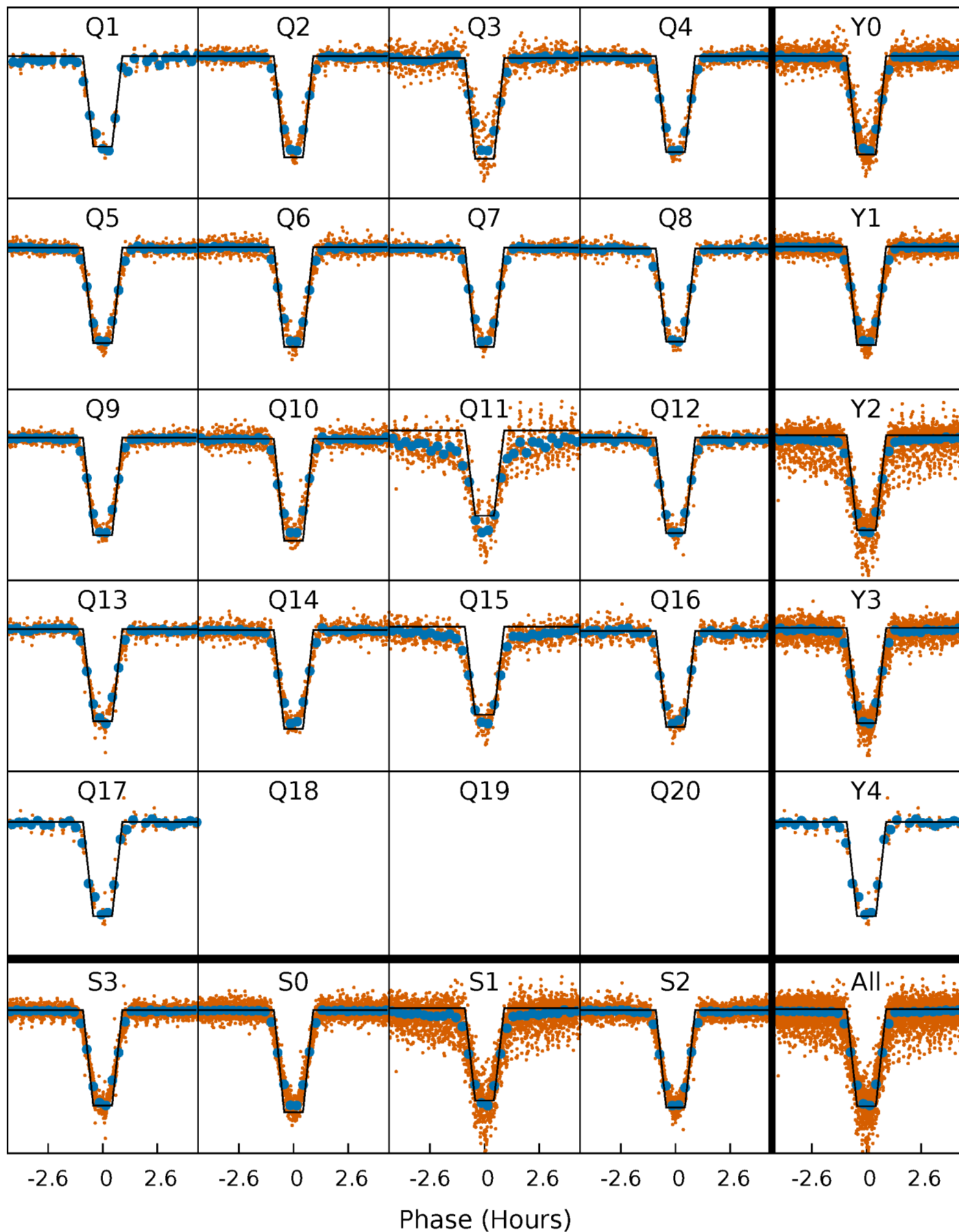
DV Quarter-Phased Transit Curves

TCE 011967004-02 $P = 1.941603$ Days $T_0 = 132.146031$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

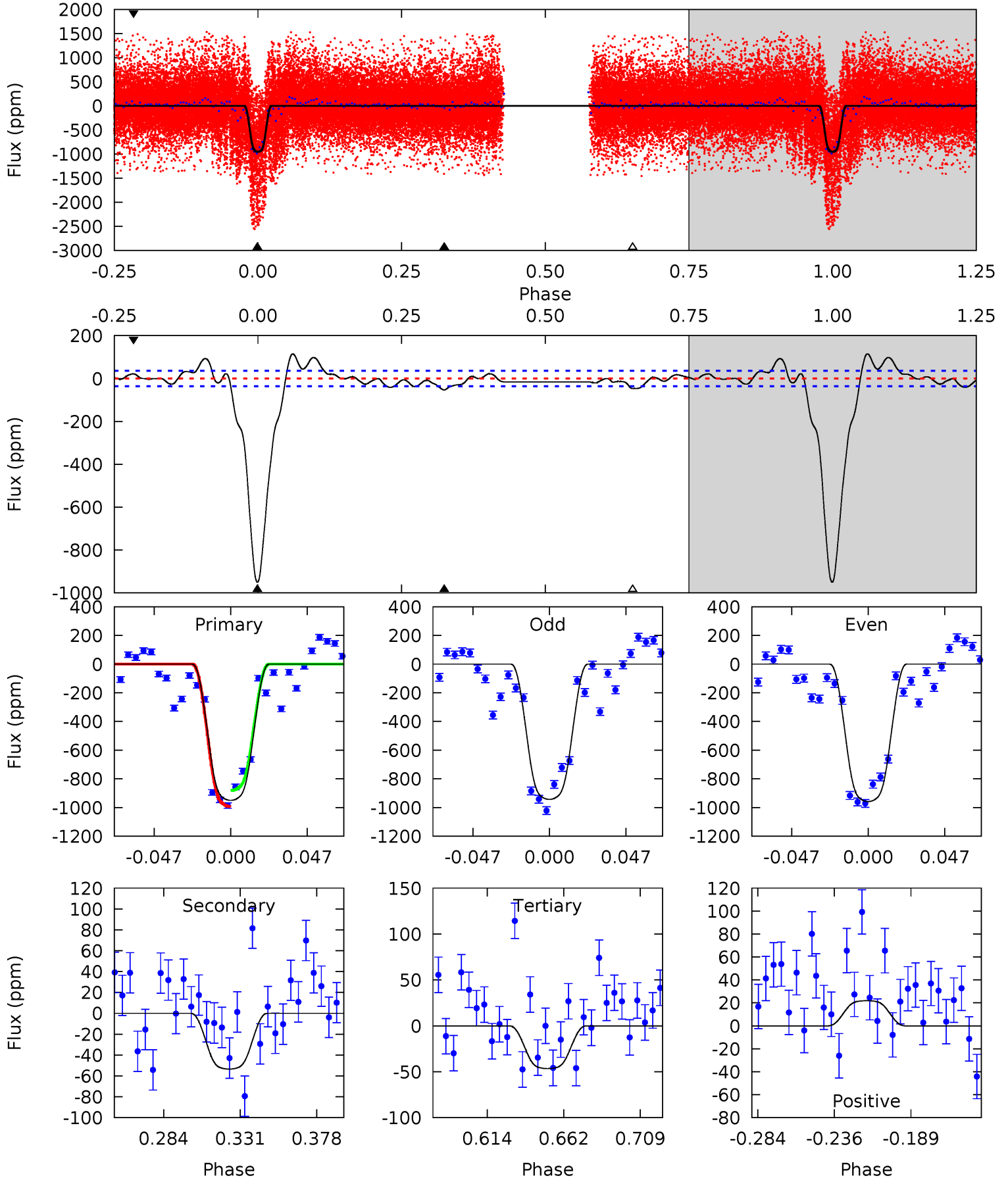
TCE 011967004-02 $P = 1.941638$ Days $T_0 = 132.138354$ (BKJD)



DV Model-Shift Uniqueness Test

011967004-02, P = 1.941603 Days, E = 130.204428 Days

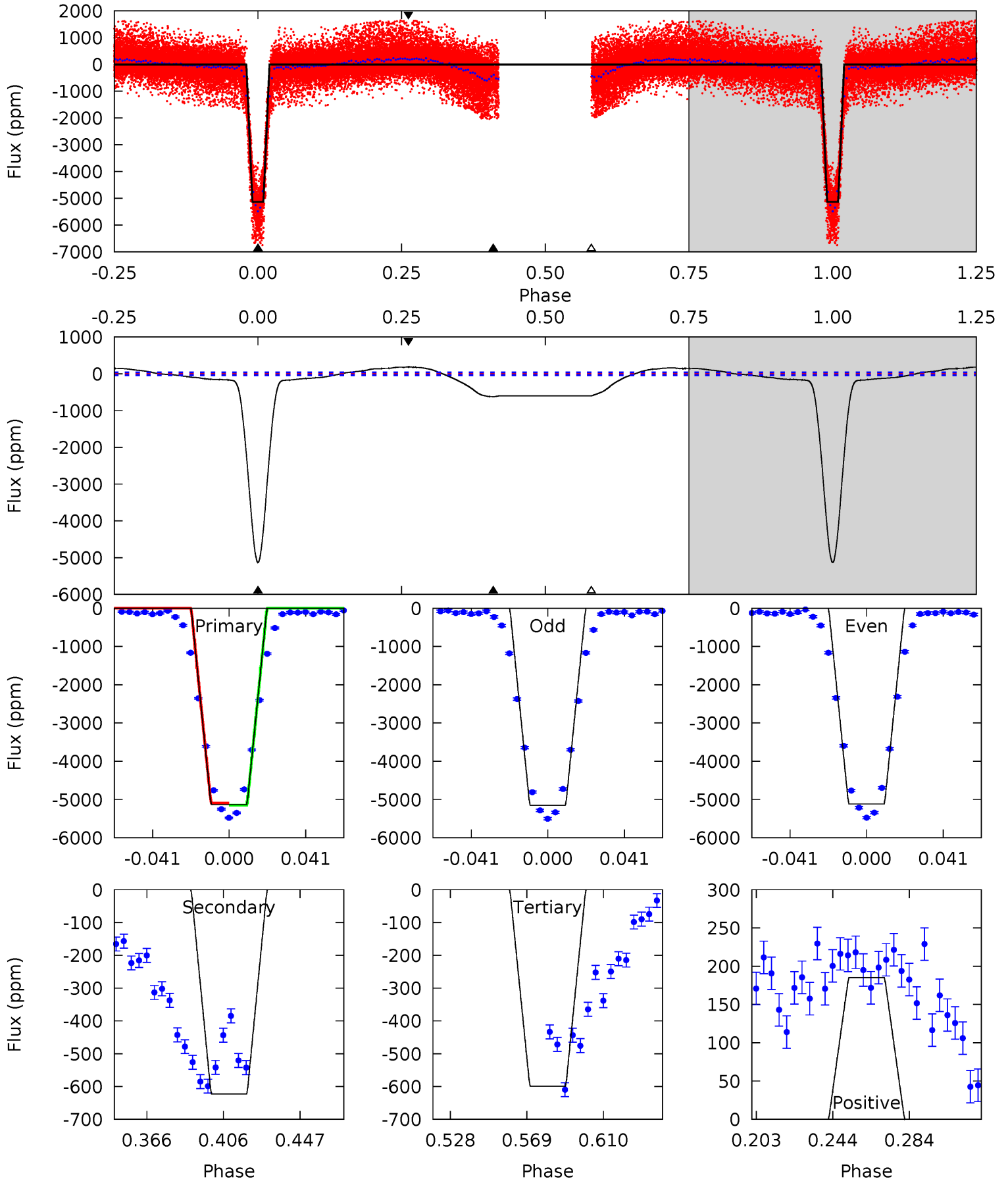
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
124.5	7.01	6.10	2.87	4.72	1.98	4.37	118.4	121.6	0.90	4.14	0.98	1.57	0.11	0



Alt Model-Shift Uniqueness Test

011967004-02, P = 1.941638 Days, E = 130.196716 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
616.8	74.8	72.0	22.3	4.75	2.05	19.1	544.8	594.6	2.83	52.6	1.94	1.02	0.03	3.20



Stellar Parameters For KIC 011967004

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6525^{+145}_{-210}	$4.381^{+0.067}_{-0.202}$	$-0.140^{+0.250}_{-0.300}$	$1.161^{+0.386}_{-0.129}$	$1.183^{+0.178}_{-0.162}$	$1.065^{+0.317}_{-0.580}$
	+2%/-3%	+2%/-5%	+179%/-214%	+33%/-11%	+15%/-14%	+30%/-54%
Source	PHO1	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 011967004-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-53 ± 8	$4.45^{+0.79}_{-0.38}$	2452^{+179}_{-118}	3349^{+110}_{-126}	$1.440^{+0.397}_{-0.374}$
Alt.	-623 ± 8	$9.52^{+1.64}_{-0.73}$	2443^{+169}_{-109}	4006^{+72}_{-87}	$3.808^{+0.618}_{-0.894}$

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

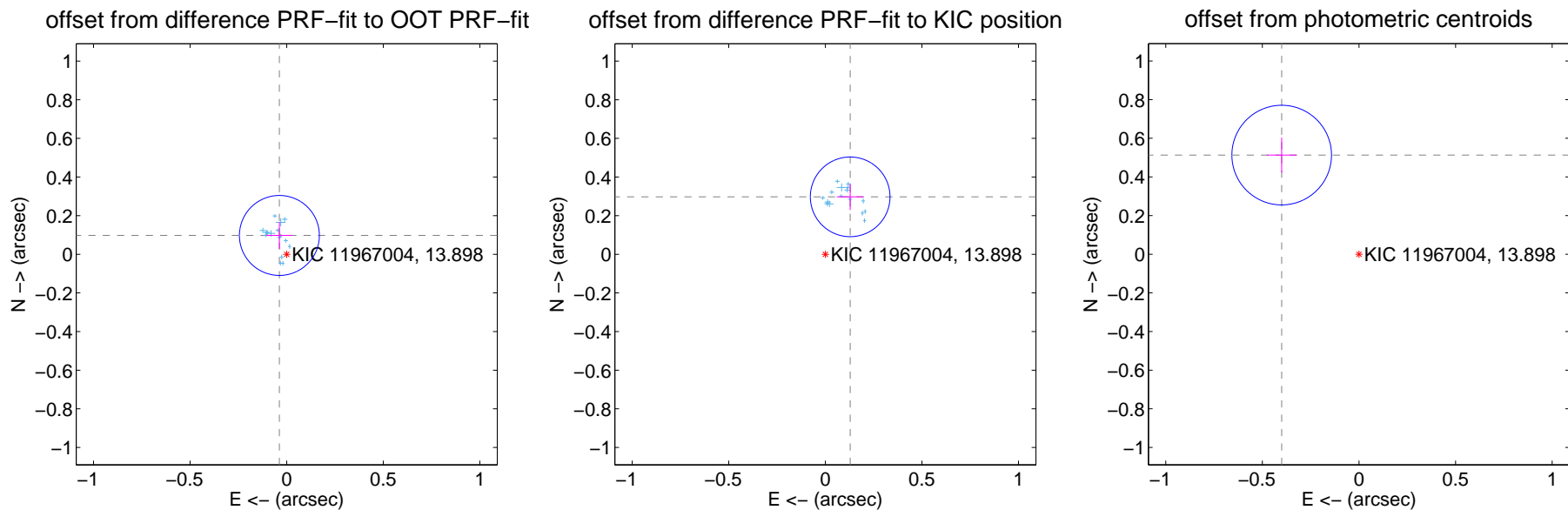
DV Centroid Data

Supplemental centroid analysis for 011967004-02. Kepler magnitude: 13.90. Transit SNR 73.57

There are 16 quarters with good PRF difference image offsets

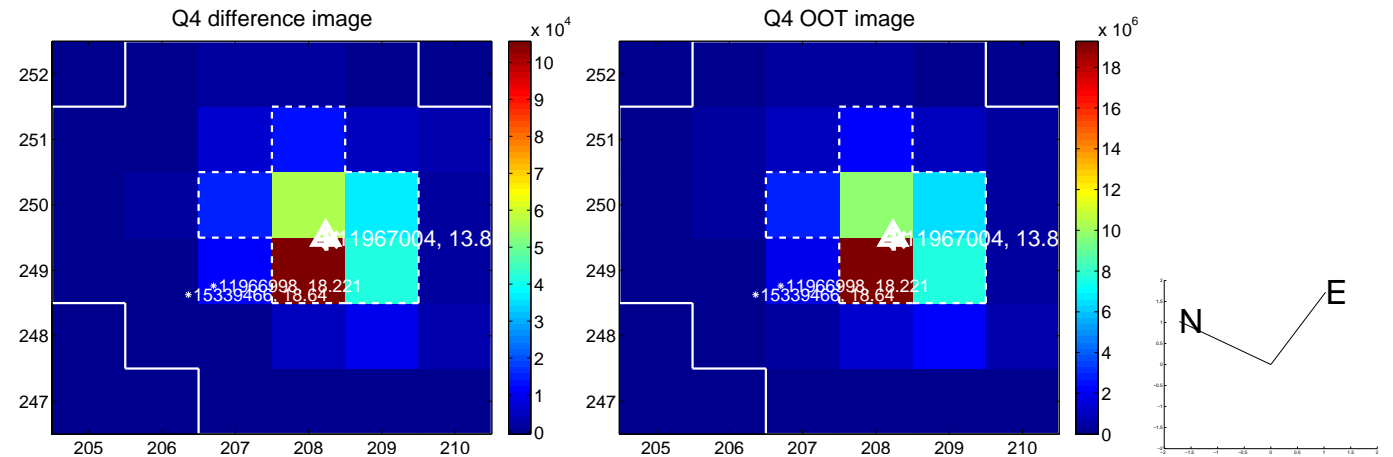
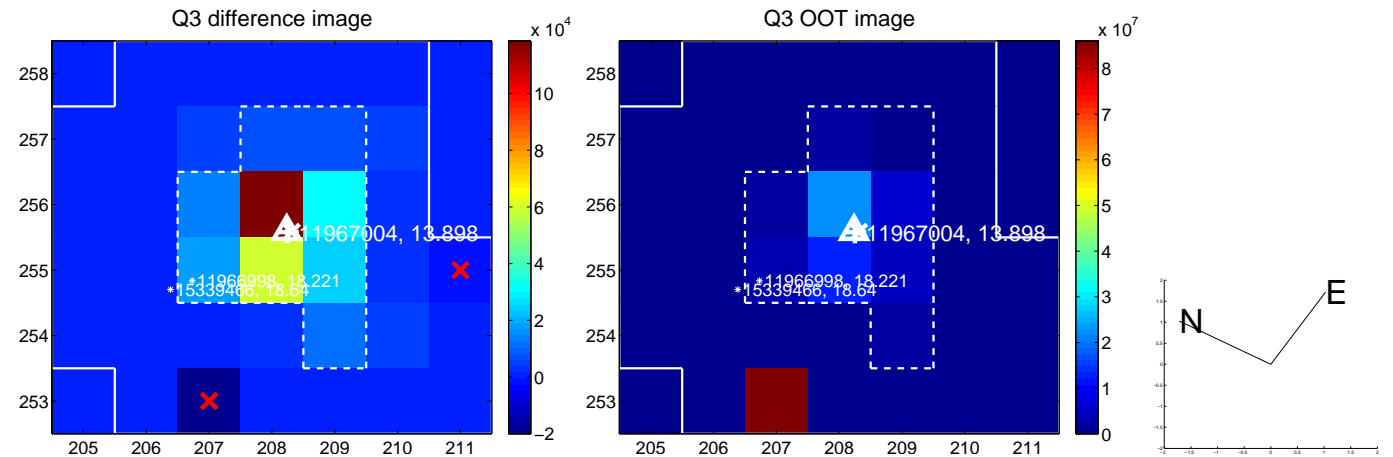
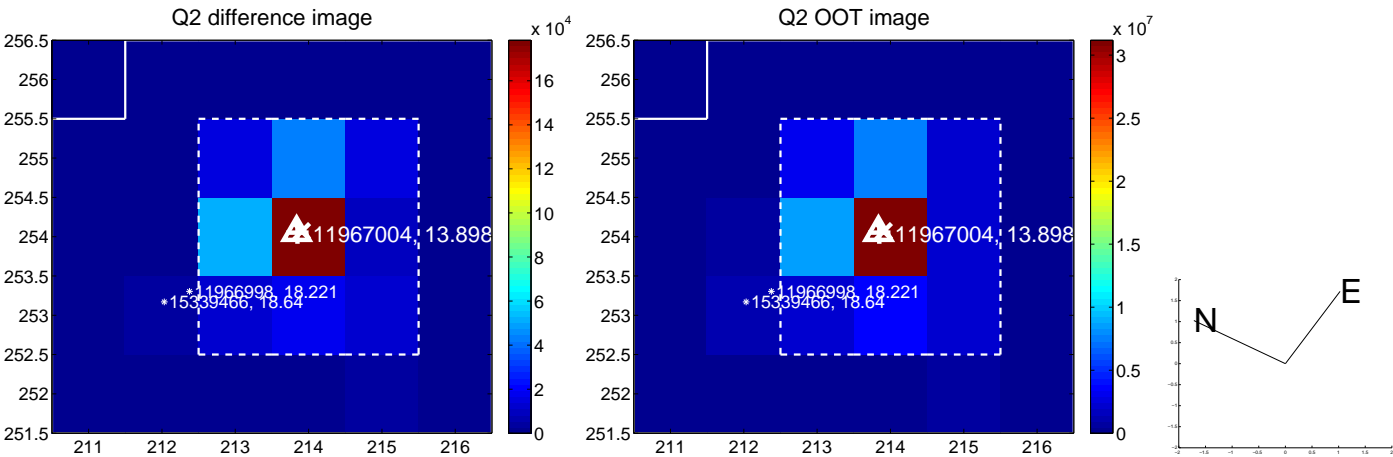
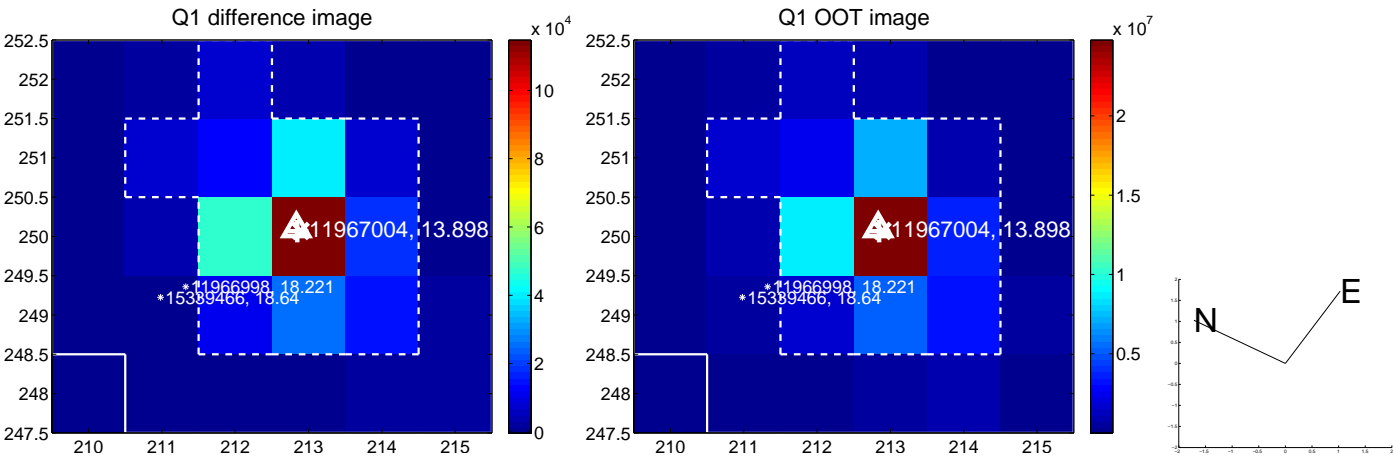
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.105 ± 0.069	1.52	0.038 ± 0.068	0.097 ± 0.069
PRF-fit source offset from KIC position	0.324 ± 0.069	4.71	-0.129 ± 0.070	0.297 ± 0.069
photometric centroid source offset	0.65 ± 0.09	7.57	0.40 ± 0.08	0.51 ± 0.09

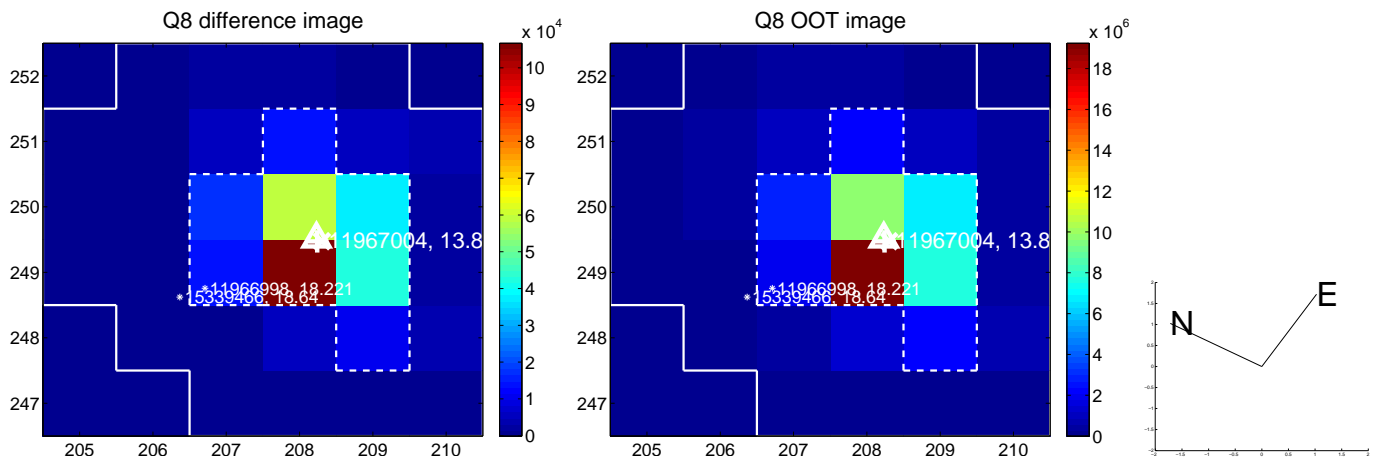
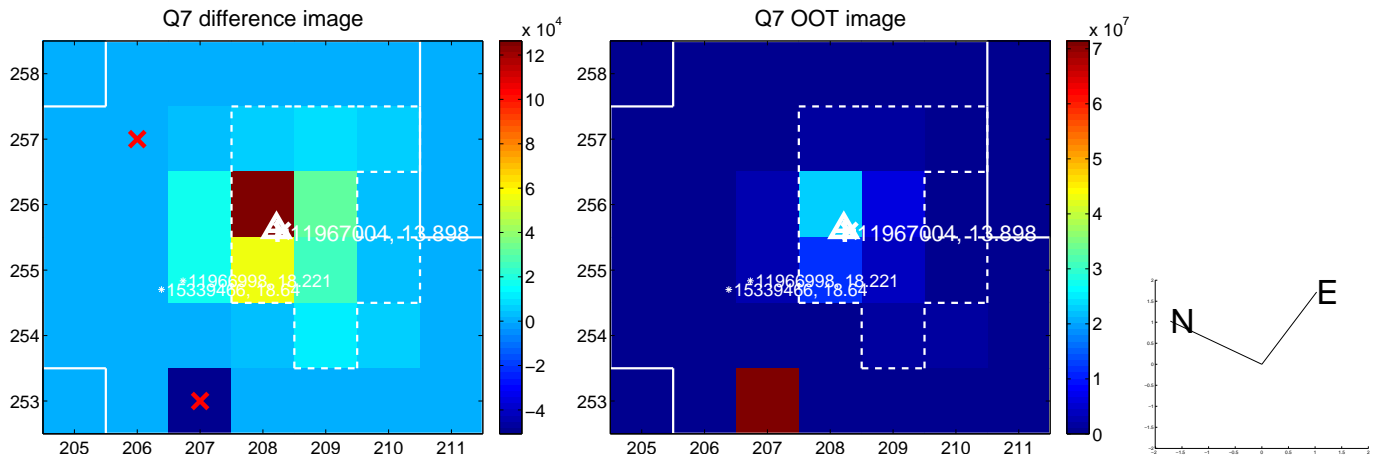
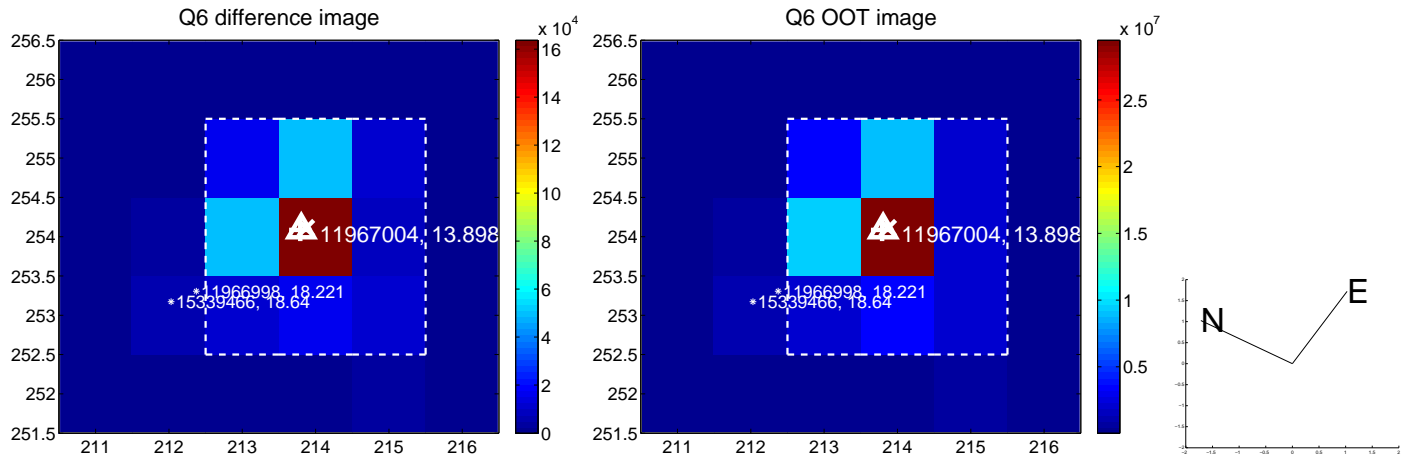
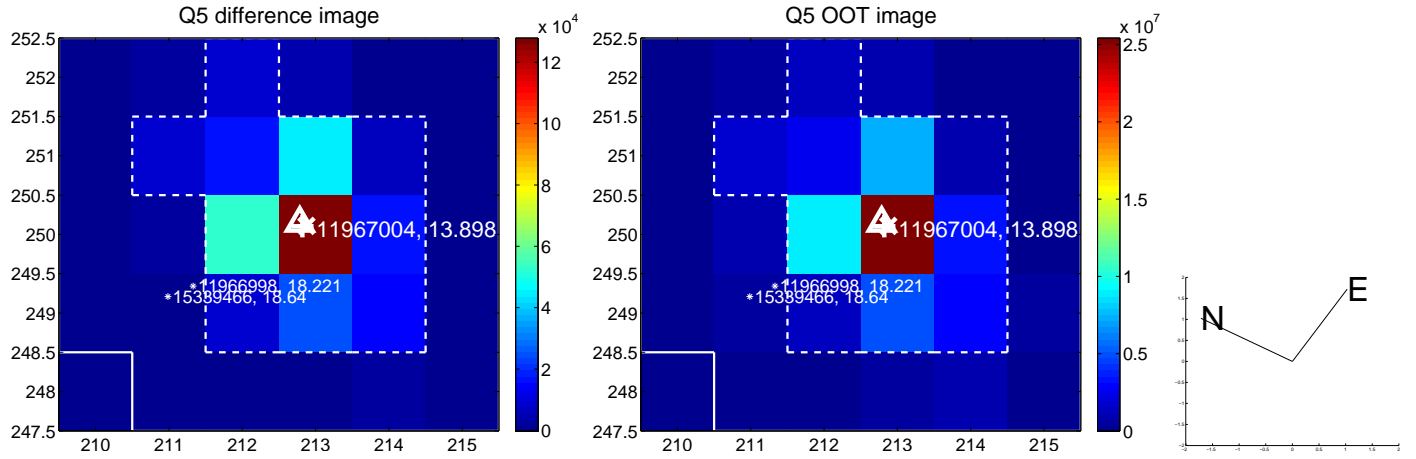


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

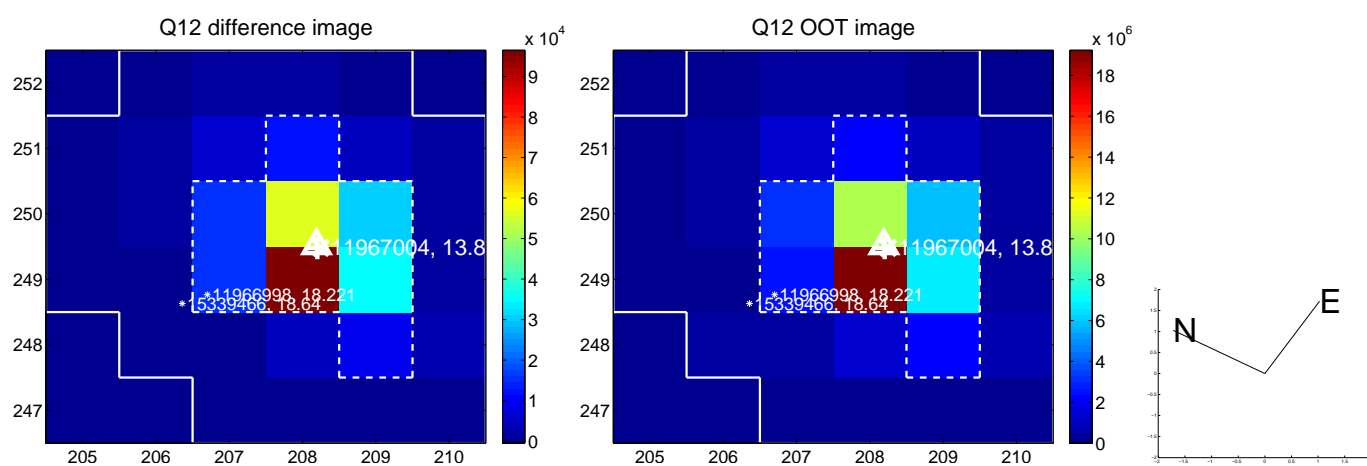
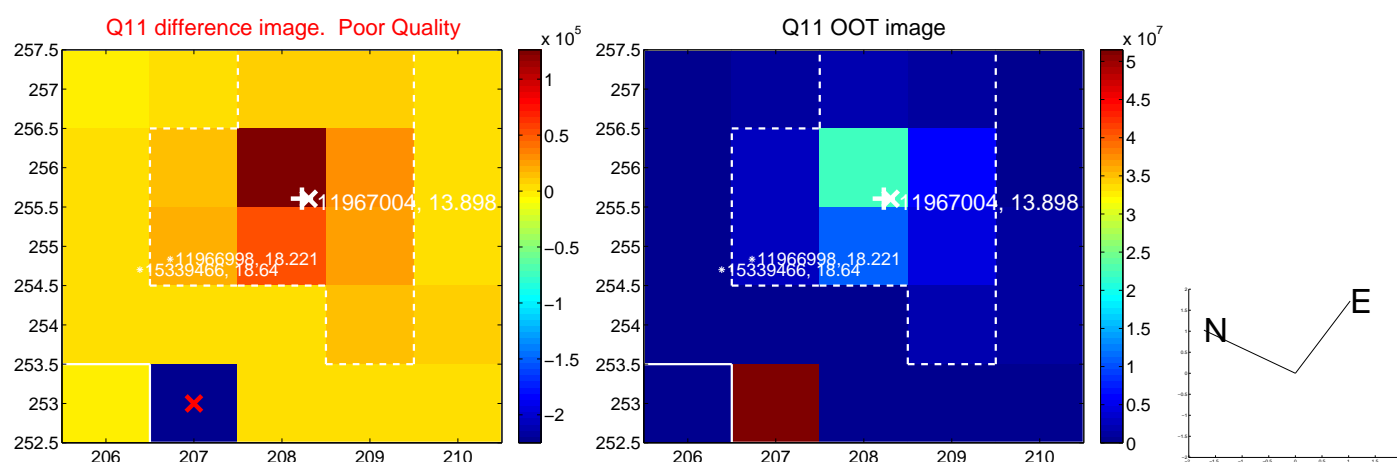
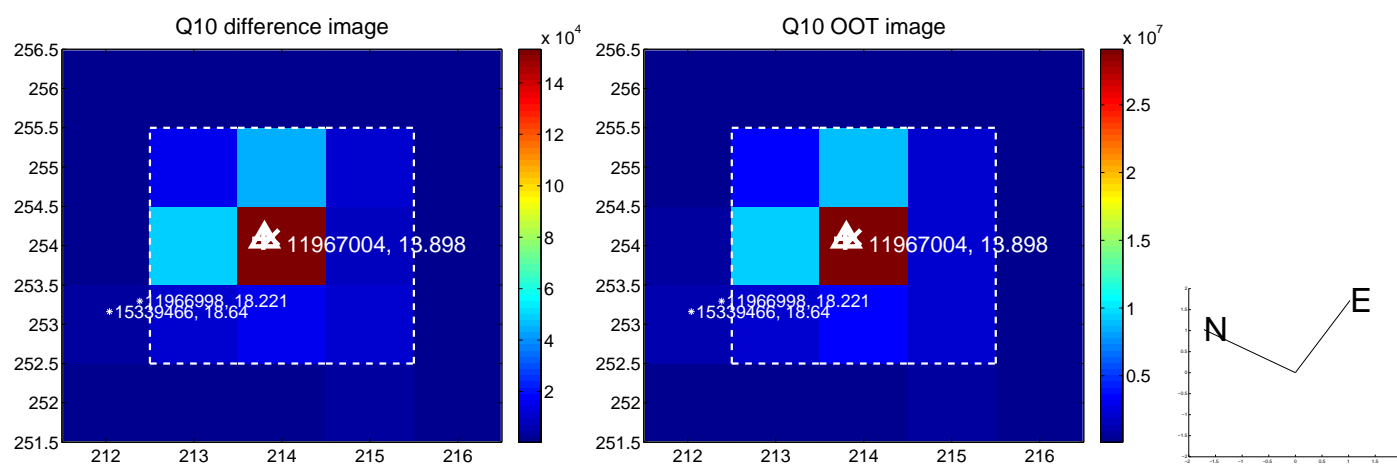
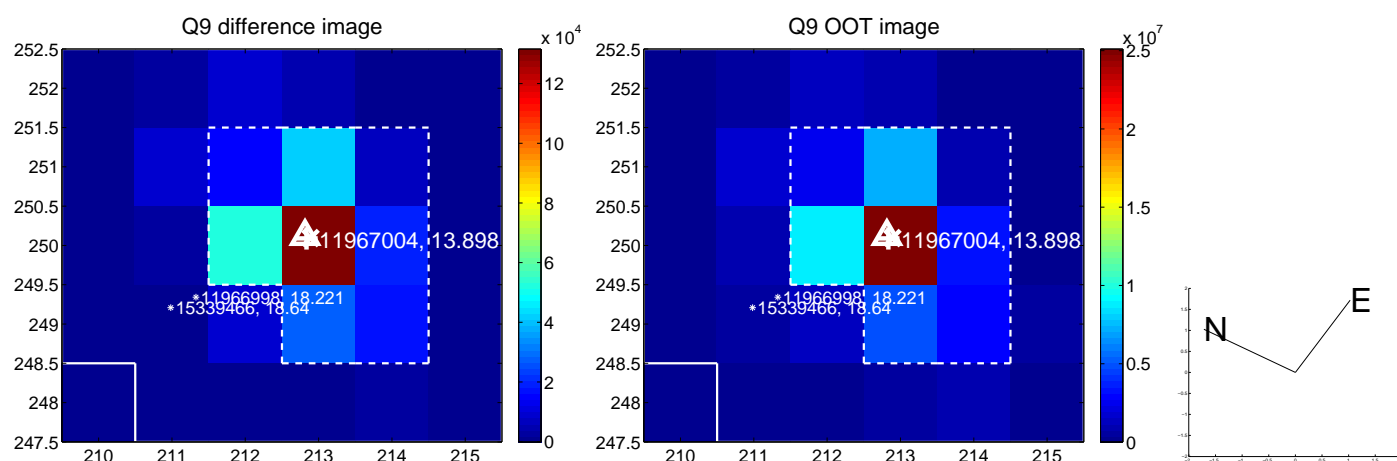
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



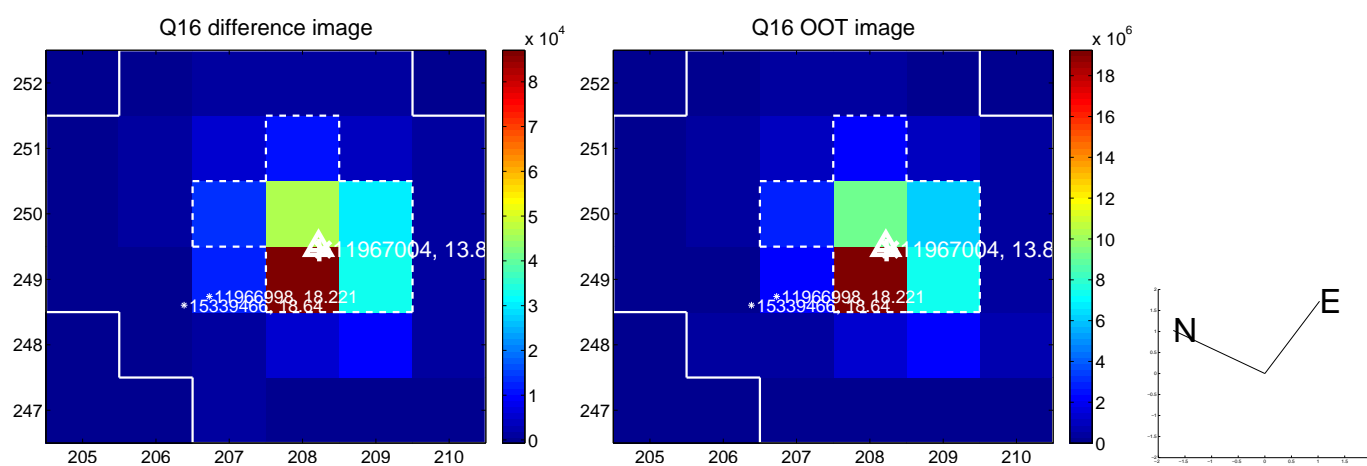
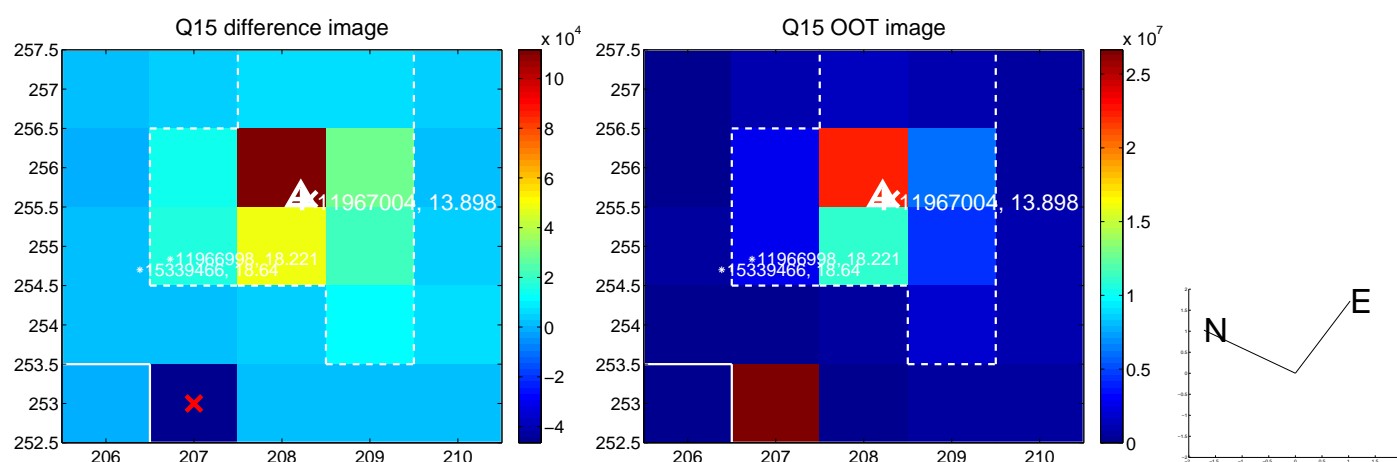
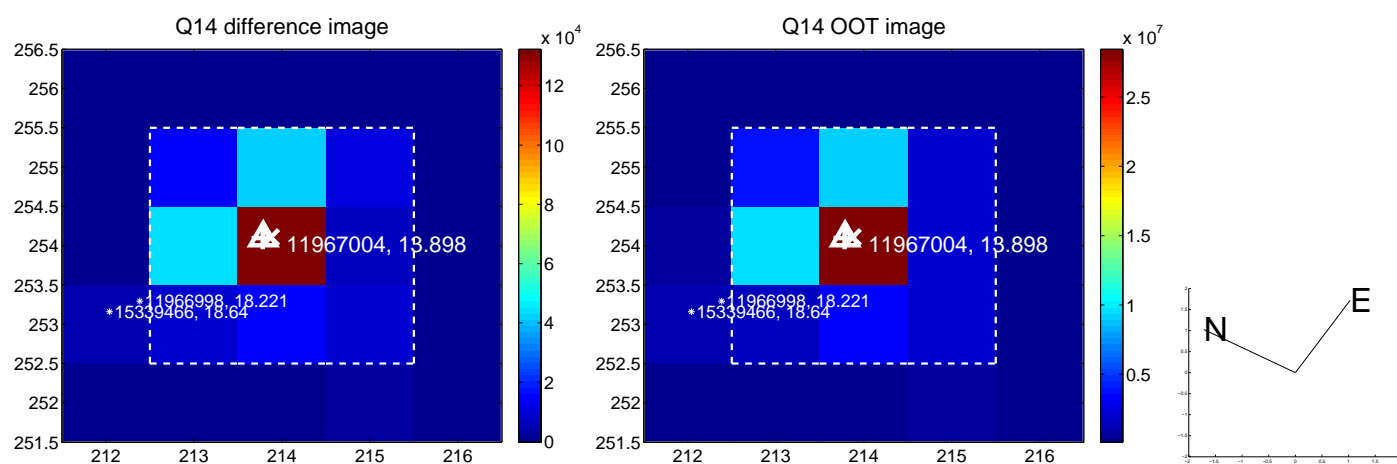
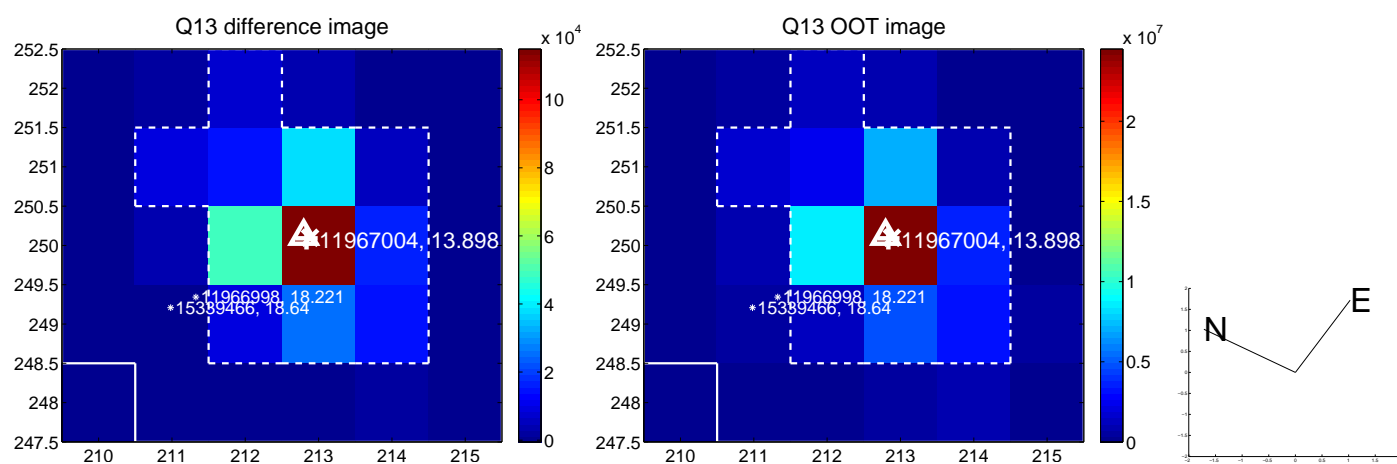
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



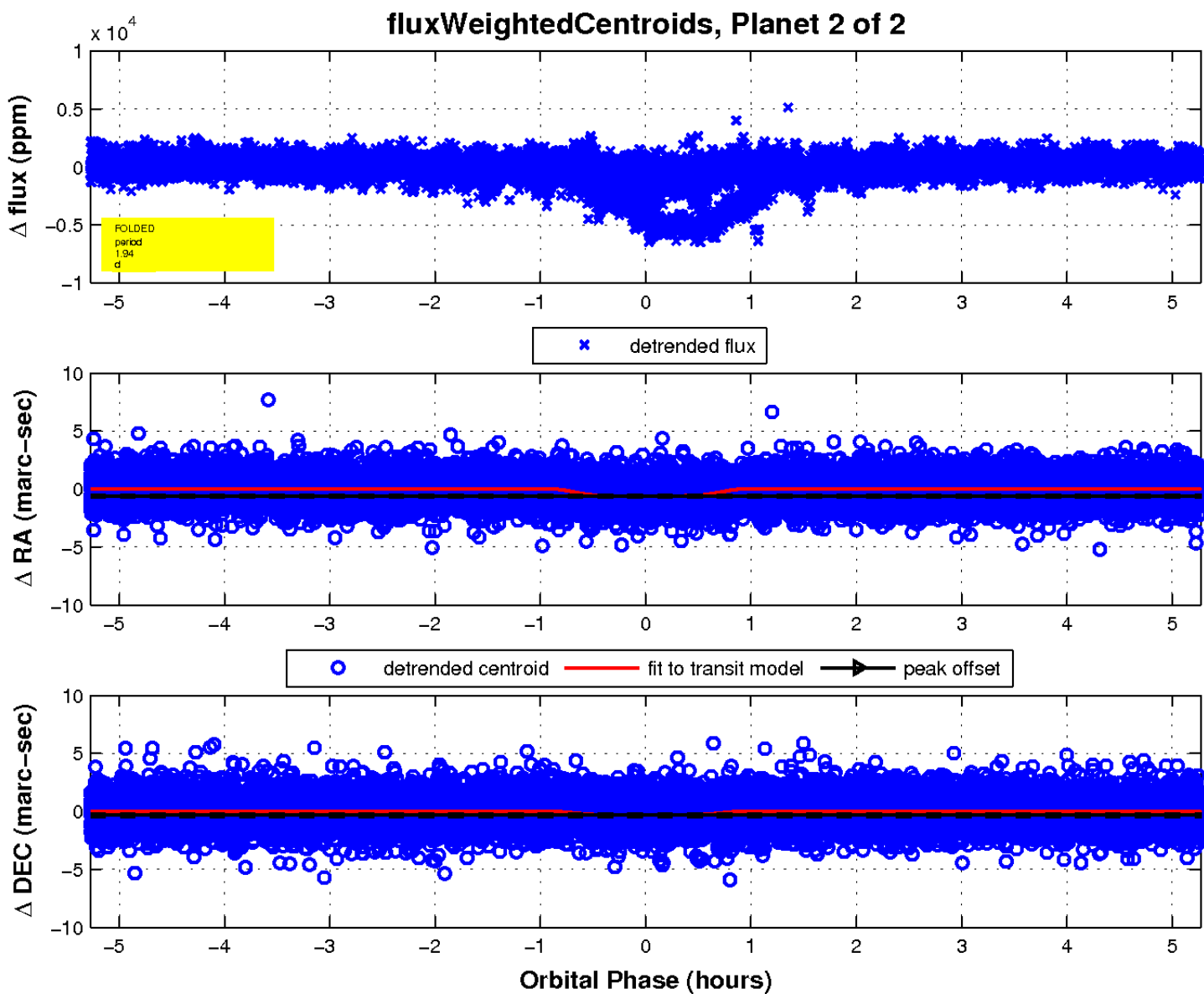
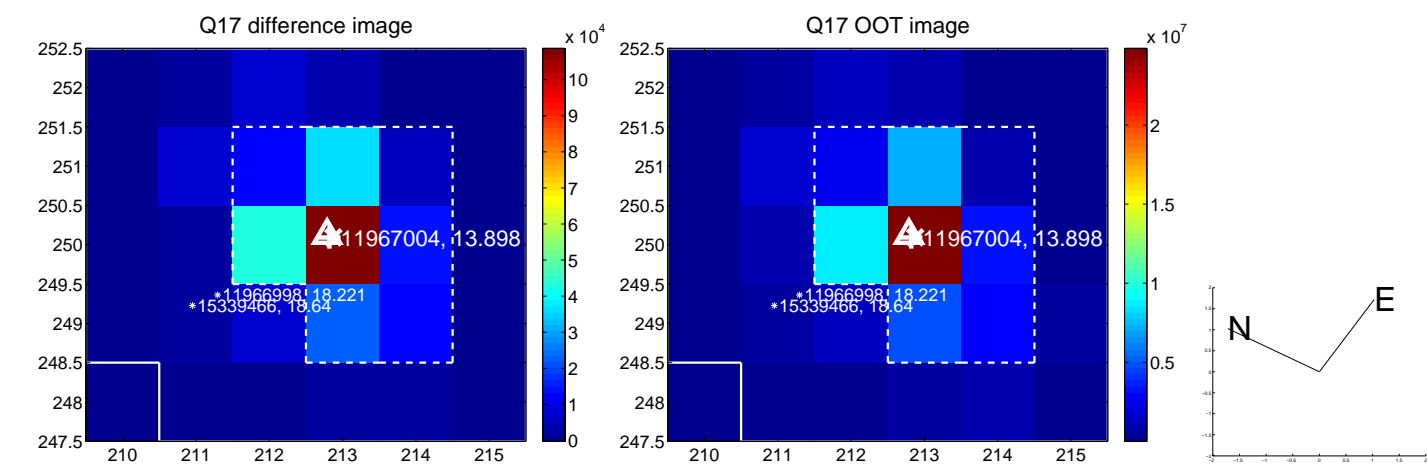
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

